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READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria and Sugar; Light, Roentgen, Radium, *X* Rays; Status Lymphaticus and Thymus; Eye, Ophthalmia and Vision; Bicycle and Cycle; Motor and Automobile; Association, Institution, and Society; Paris, France; Berlin, Prussia, Germany; Vienna, Austria, etc. To still further assist the reader, subjects dealt with under the various main headings in the JOURNAL have been set out in alphabetical order under their respective headings—for example, "Act, Workmen's Compensation," "Correspondence," "Leading Articles," "Literary Notes," etc.; while under "Original Articles," will be found a list of those who have contributed papers on scientific and clinical subjects, with the title of their contributions.

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Remarks
ON
A CASE OF SPOROTRICHOSIS.

BY

NORMAN WALKER, M.D.,

PHYSICIAN FOR DISEASES OF THE SKIN, THE ROYAL INFIRMARY, EDINBURGH;

AND

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(With Special Coloured Plate.)

CLINICAL, BY DR. NORMAN WALKER.

IN December, 1910, Dr. McKerrow, of Workington, wrote asking me to admit to my ward a patient suffering from peculiar ulcerative growths on the arm, who was steadily getting worse in spite of assiduous treatment. The patient was admitted on January 14th, and the cast, which is reproduced in the coloured plate, was taken two days later by my secretary, Miss Rae. With the exception of an unbroken lesion just above the elbow, the cast shows the whole extent of the disease.

Robert B., aged 46, a strong, healthy man, married, seven healthy children, is a native of the Isle of Man, and his father and mother are both hale and hearty at the age of "about" 80.

He works eight hours a day in the open air, and his work consists in mixing iron ore with lime and coke, filling the mixture into barrows, and wheeling these to a lift which raises them and tips the contents into the furnaces.

On August 3rd last, when working on night duty, instead of shovelling the ore as usual, he was packing his barrow, by hand, with large pieces of ore, and accidentally bruised the knuckle of his right forefinger with a piece of limestone. He took no notice of the trifling bruise until three or four days later, when it commenced to fester. He applied domestic remedies, including soap and sugar, but no improvement resulted, and about a fortnight later a number of little pimples appeared on his forearm. These did not interfere with his working capacity, and it was only their persistence and steady increase in size which sent him, ten weeks after the injury, to consult Dr. McKerrow. Dr. McKerrow painted the spots with iodine and ordered him to stop work. The spots seemed to "go back," and he resumed work a week later. But with the resumption of work the spots again began to enlarge, and poultices were ordered. Several of the lesions were incised and dressed with lint; to others ointment was applied. But no treatment seemed to do any good. The lesions simply stood still; they got neither better nor worse. During the three weeks prior to his admission to hospital the lesions did, if anything, somewhat diminish.

Although I had never seen a case—this is, indeed, the first reported in this country—the appearances so closely resembled those shown in a photograph in Stellwagon's latest edition that I at once suspected that we had to do with a case of sporotrichosis. One of the lesions—the only one not shown in the plate—had not broken down, and from it cultures and inoculations were made, which are described later by Dr. Ritchie. It suffices here to state that they confirmed the suspicion.

The credit of first recognizing this disease belongs to Dr. Schenk, who published in the *Johns Hopkins Bulletin* of December, 1898,[1] a paper on "Refractory Subcutaneous Abscesses caused by a Fungus probably related to the *Sporotricha*."

The case was that of a male who, on November 30th, 1896, presented himself at the Surgical Clinic of the Johns Hopkins Hospital with an infection of an unusual nature of the right hand and arm. The disease first showed on the index finger, extended up the radial side of the arm, and gave rise to several circumscribed indurations. Three months previously the patient had scratched his finger with a nail while reaching into a red lead keg. The lesions were treated with antiseptic solutions, but were very refractory to treatment. On examination there was evidence of extensive tuberculosis of the lungs and there were bacilli in the sputum. The fungus was cultivated from the pus.

Another case was published by Hektoen and Perkins in the *Journal of Experimental Medicine*, 1900 (page 77).[2]

A boy of 5 suffered from a sore on the left index finger, where he had struck himself with a hammer. The injury did not heal up, and, as in Schenk's case, a chain of nodules developed up the line of the lymphatics. The pus from the lesions was of a mahogany colour, thick and tenacious.

These authors refer to a case, described by Brayton in the *Indianapolis Medical Journal*, 1899,[3] and comment upon the similarity of the lesions developing after comparatively trifling injuries—a scratch with a nail, a blow with a hammer, and a puncture by a wire.

The disease was next recognized in France, where a case was described by de Beurmann and Ramond in 1903 under the title, "Multiple subcutaneous abscesses of mycosic origin."[4] This report was rapidly followed by reports of other cases, and the disease was found to be widespread in France, for in 1909 no fewer than six columns of the *Bibliographical Annexe* to the "*Annales de Dermatologie*" are occupied with references to it.

In 1907 cases were reported in Brazil, and since then it has been observed in Germany, Switzerland, Austria, Belgium, and Madagascar.

The case now described is, I believe, the first definite case recognized in this country, though Dr. v. Ofenheim published in the *Lancet* of March 11th, 1911,[5] a case in which a fungus resembling in many respects a sporothrix was found. He notes that it grew better at room temperature than in the incubator. The principal lesion was over the tibia, and when opened the cavity contained semi-gelatinous material.

Various clinical types are recorded. The earliest cases seem to have very closely resembled that now described, there being a history of a minor injury on the hand and a spread from this of lesions up the line of the lymphatics. Later, other types have been noted, especially in France, where multiple wide-spreading abscesses, both hypodermic and dermic, have been observed. These are described as syphiloid or tuberculoid in type, and it seems more than likely that some of us have overlooked earlier cases and classed them with one or other of the diseases suggested by these names.

The lesions are characterized by multiplicity of form, indolence, firm feeling, suggestive of new growth, crateriform surface, and the presence of viscid yellow-grey pus. It is exceptional to find any enlargement of the glands, and the general health is as a rule unaffected. But the disease is not confined to the skin and subcutaneous tissue; cases have been recorded where it has appeared on the mucous membranes, in the joints, in the epididymis, and in the periosteum. In the affections of the mucous membrane, for example, larynx, etc., the ulcerated lesions do not produce destruction of tissue, as do those of tubercle and syphilis. Some observers have noted the similarity of the lesions to those produced by other fungus diseases, such as ringworm in the kerion form, actinomycosis, blastomycosis, etc.

Diagnosis.

The diagnosis as a rule is easy, provided one is familiar with the existence of this disease, and the main object of this paper is to make the practitioners of this country familiar with a disease which will probably before long be appearing widely among us.

In the first type of case the diagnosis should really present no difficulty. The history of a slight injury to the hand, followed by the appearance of a chain of gummatoid lesions up the arm, should suggest the possibility, and fortunately the investigation is in such instances an easy one. In the more widespread cases the diagnosis is more difficult. But, although the lesions resemble those of tubercle and syphilis, there is usually a something about them which leads one to hesitate before arriving at an absolute diagnosis. Once that doubt is recognized, and the possibility of this disease considered, investigation will lead to its detection.

In various discussions which have taken place in the Parisian Dermatological Society—and it is important to note, as evidence of the increased prevalence of the disease in France, that the number of cases shown to the Dermatological Society is becoming less—attention has been drawn to various points in connexion with the diagnosis. These nearly always centre around that to which I have already alluded—the more or less close resemblance of the lesions to those of tubercle and syphilis. In some cases the crateriform character suggestive of the syphilitic gumma is dwelt upon; in others the violet coloration with which one is familiar in the slow-growing tuberculous gumma. Other cases have resembled warty lupus. Again and again the speakers draw attention to the importance of not confusing the disease with either of these, and more especially with syphilis. If that disease is diagnosed and iodides are administered, the benefit produced confirms the physician in his wrong diagnosis to the great detriment, moral and physical, of the patient.

Attempts have been made to devise a sort of von Pirquet reaction, but up to now these have not been attended with much success. Pautrier,[6] in 1909, injected a killed culture and produced a general reaction with a rise of temperature and local congestion. Widal and Abrami[7] obtained an agglutination by the use of serum from an affected patient; unfortunately, only less marked than with the serum from other individuals. There is some reason to hope that the Wassermann type of reaction may prove more useful. De Beurmann, Gougerot, and Vaucher[8] have suggested another diagnostic test: the injection of a culture intraperitoneally in the rat sets up an orchitis, just as does the injection of the bacillus of glanders in the guinea-pig.

Reactions of the Pirquet type are not easily attained with fungi. Dr. Low has been for some years endeavouring in vain to get definite results in cases of ringworm and favus.

Prognosis.

The prognosis is good, unless the patient's health is bad, and it is reported that diabetes is a specially unfavourable complication. There is no tendency to spontaneous cure.

Treatment.

Schenk's earliest case was treated surgically, and not very much stress is laid by him upon its results; his paper is rather devoted to the scientific aspect of the disease.

The remedy which is generally admitted to be almost specific in its action is the iodide of potassium. Its use was first suggested in 1903 by M. Sabouraud—always ready and resourceful—on account of its good effects in actinomycosis. It is very important that iodide should not be commenced until a definite diagnosis is arrived at, for its administration has an almost immediate effect upon the vitality of the fungus and makes it exceedingly difficult to cultivate. Once the diagnosis is made it should be administered freely, internally and externally. The dose should be liberal and, if necessary, run up to as much as a drachm three times a day, and it should be continued for some time after all clinical evidence of the disease has disappeared.

According to de Beurmann the drug has no direct effect upon the fungus, which may indeed be grown in a medium which contains iodine; it therefore only acts indirectly by stimulating absorption. Locally, iodine in the form of Gram's solution has a useful effect, and there is no objection to surgical measures, such as scraping, although they are not really necessary.

The treatment above indicated was pursued in the case of my patient. As Dr. Ritchie will describe, the fungus was found without any difficulty and we were able to commence treatment early. Under doses of iodide, running up to 80 grains per diem, the lesions rapidly involuted and the patient was able to return home on February 28th, with directions to continue the medicine at home until all the lesions had disappeared.

Etiology.

I leave the discussion of the fungus and its relations to Dr. Ritchie, but it is an important practical point to know that it may apparently exist as a saprophyte on vegetables and parasitically upon caterpillars and flies.

Careful inquiry was made in the hope of throwing some light on a possible source of infection. The patient, whose political views were not inquired into, was inclined to blame "foreign" ore, which is largely mixed with the native article, but he was quite certain that the original injury was with a piece of "home-grown" limestone. He lives a little out of the town of Workington in a four-roomed house with a garden, and he keeps a few hens, but he has nothing to do with any animals. It may be that the abraded knuckle was infected by something in the food of the hens on which the fungus was growing.

It will be noticed in the plate that the nails of the second and fourth fingers are not healthy. Their appearance suggested the fungus affection of the nails of which we have lately had so many cases, and the examination of scrapings showed abundance of fungus, indistinguishable by the microscope from that of ringworm. This condition had lasted to the patient's knowledge for fifteen years.

This discovery of a fungus in the nails at first interested us greatly, for it seemed possible that it might throw light upon the disease as a whole. My colleague, Dr. Cranston Low, recently published[9] a remarkable series of cases of fungus affections of the nails which have occurred in my clinic during the last three years, and it seemed just possible that these might prove the forerunners of an outburst of sporotrichosis. But that possibility has been exploded by the careful investigations which Dr. Low made on the fungus from the nails of this patient, which proved to be one of the less familiar forms of ringworm (*Trichophyton rosaceum*), and in cultivation had no resemblance to the fungus which was causing the disease of the skin.

It is, however, interesting to note that de Beurmann and Gougerot produced experimentally lesions resembling those of sporothrix, by the inoculation of *Trichophyton gypseum*; and Thibierge and Weissenbach, Gaucher and Fouquet observed cases where the lesions were exceedingly suggestive of kerion.

DESCRIPTION OF COLOURED PLATE.

Fig. A.—Cast of arm on admission to hospital. Note primary lesion at base of index finger and other lesions secondary to that distributed along the lines of lymphatics. Note also ringworm of nail of middle finger.

Fig. B.—Low power view (×40) of section from back of hand showing granuloma with giant cells and plasma cells. Here and there are also collections of polymorphonuclear leucocytes = commencing abscess formation. Stained with haematoxylin and eosin.

Fig. C.—Oil-immersion view (× 1000) of granuloma from mouse which had been inoculated six weeks previously with culture from patient. Stained with pyronin and methyl green. Note masses of grouped spores. Cells with red protoplasm are plasma cells.

Fig. D.—Growth on maltose peptone agar (Sabouraud's proof medium) inoculated direct from lesion—twelve days old.

Fig. E.—Growth on potato inoculated direct from lesion—ten days old.

Pathological, by Dr. James Ritchie.

Morbid Anatomy.

A small piece of tissue was excised from one of the lesions on the forearm and fixed in formalin. On microscopic examination, it was found to consist of a granuloma in which there was a central area with a rather sharply differentiated margin; in this area a diffuse necrotic process was going on (see Plate, Fig. B). The neigh-

TO ILLUSTRATE DR. NORMAN WALKER'S PAPER ON SPIROTRICHOSIS.

A

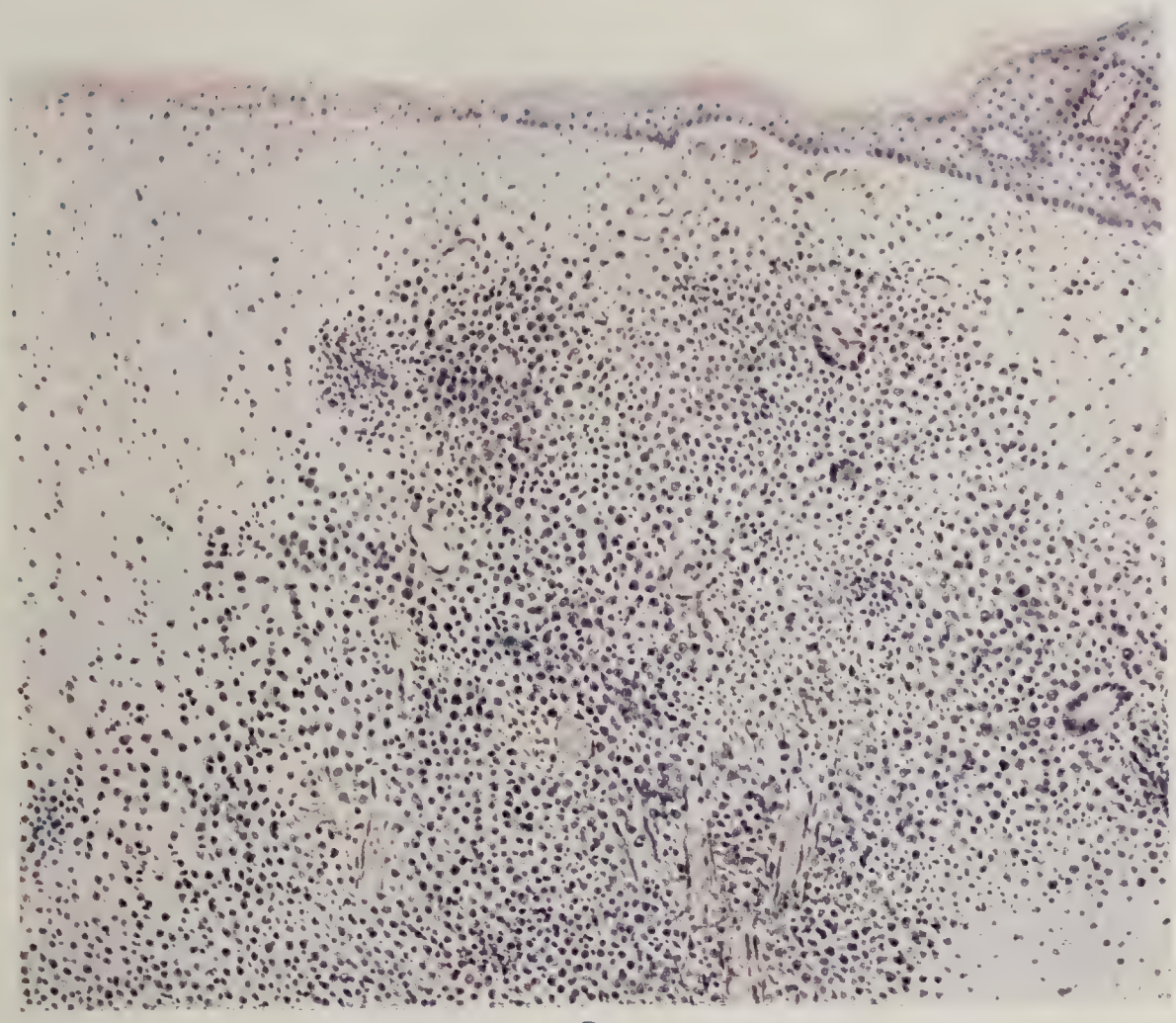

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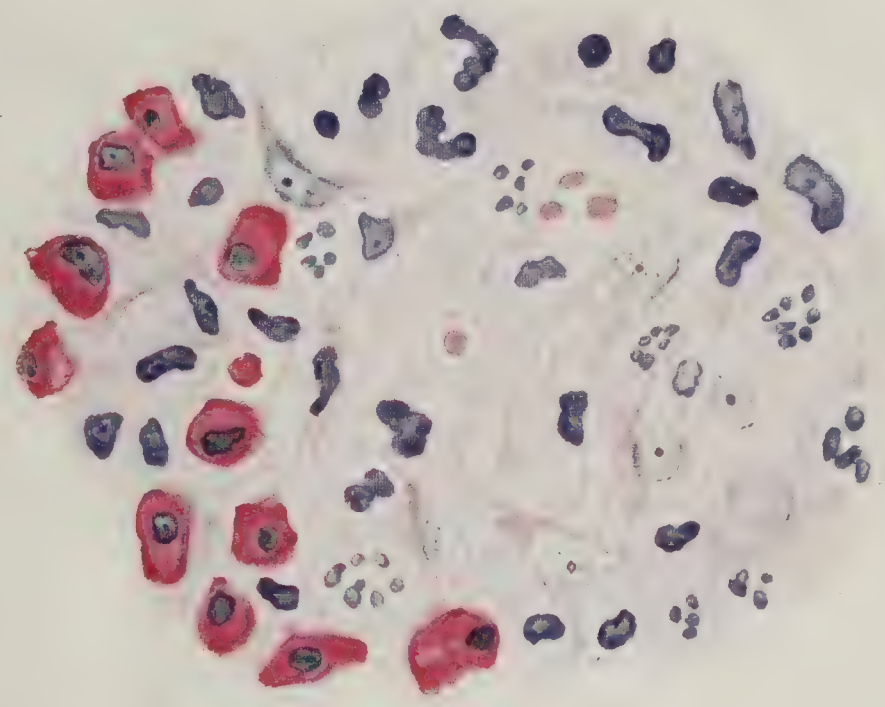

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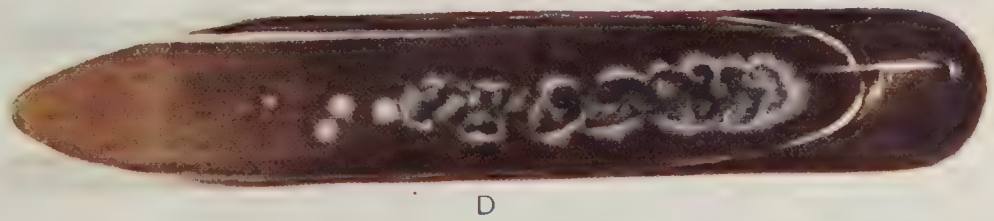

D

E

bouring epithelium was normal or slightly thickened, but over the central necrotic mass it was thinned out and on the point of rupturing. In the tissues bordering on the central area the vessels were congested and the tissue packed with young connective tissue elements and many plasma cells staining well with Pappenheim's stain, but there was here very little leucocytic exudation. In the central area the tissue was more open, fibroblasts and cells being embedded in a fibrinous-like exudate (*fibrilles collagènes* of Beurmann). Many of the cells were undergoing degeneration and necrosis, and there was a very pronounced leucocytic exudation, consisting chiefly of polymorphs, spreading along the capillaries coming from the deep layers of the skin, there being here and there microscopic abscesses. Some of these seemed to be forming in the capillaries, as many of the latter could be seen plugged with leucocytes. There was a considerable number of giant cells scattered irregularly throughout the granuloma. Generally speaking, the lesions bore a resemblance to what is found in actinomycosis of the chronic variety, such as develops, for instance, in the jaw of the ox. Though many different staining methods were employed, no mycelium could be demonstrated, but there were scattered—singly or in groups throughout the newly-formed tissue—bodies corresponding in size and appearance with sporotrichon spores. A probable explanation of the absence of mycelium will be given later. The recognition of the presence of spores is rendered very difficult by the frequency of karyorrhexis in the tissue cells. The fragmentation of nuclei thus occasioned originates appearances closely resembling those of phagocyted spores (Plate, Fig. C). A careful examination of sections has, however, convinced us that cells containing spores do exist in the lesions. One such cell taken from the edge of an experimental lesion in a mouse is seen in Text Fig. 1.

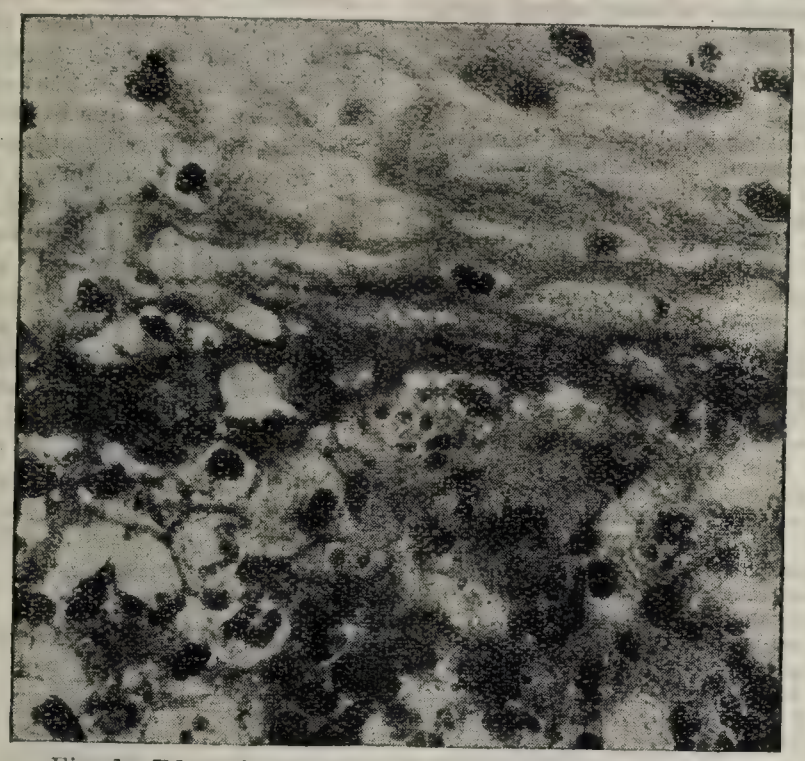

Fig. 1.—Edge of granuloma from mouse killed six weeks after inoculation. Near centre is seen a cell containg a group of spores. × 650.

Cultural Characters of the Sporotrichon.

On January 21st, 1911, the skin over one of the lesions which had not yet ulcerated was carefully purified and the granuloma incised. From the breaking-down material expressed, potato and plain agar tubes were inoculated and incubated at 22° C. No growth was visible until the fourth day, when, on the potato, small, white, woolly colonies appeared. During the next few days the whole potato became covered with a growth gradually developing a brown pigment (Plate, Fig. E) and becoming tortuously heaped up so as to resemble cerebral convolutions, as has been described by other authors. On microscopic examination the growth was found to consist of a felted mycelium bearing numerous spores. A similar growth appeared on the agar tubes (compare Text Fig. 2). No other organism was present.

The organisms grew readily on all the ordinary media. On *potatoes* the characters were those just described, but a striking feature was the variability in the amount of pigmentation. Sometimes the growths remained quite white. In others they preserved a light brown appearance, whilst in others again they were almost black. These variations cannot at present be completely accounted for, but one factor appears to be the amount of moisture present in the air surrounding the growth, the lighter appearances being associated with a deficiency or excess of water vapour, and the darker with an intermediate and optimum moisture. In old potato cultures a pigmented growth may lose its colour and become white; this appearance may wholly or in part be due to the occurrence of pleomorphism. On *ordinary agar* (+ 10 on Eyre's scale and free from sugar) the growth appears at first as a finely grained, matt-surfaced, grey film, easily scraped off, and this appearance may persist; but here and there, on an agar slope, especially where the surface has been wounded, heaped-up, dense growth occurs, with a black centre, and this cannot be easily removed without detaching some of the medium along with it. Under a hand lens the whitish growth is seen to consist of groups of colonies, each of which presents a coarsely stellate radiation from a centre. The pigmented parts have a similar appearance, but the radiation is finer, and has a spiky appearance. Old agar cultures tend to present a dirty greyish colour. On *glucose agar* the growth was more abundant, soon presenting a heaped-up appearance, and becoming markedly pigmented. On *maltose agar* (Sabouraud's proof medium) growth readily took place (Plate, Fig. D), with the heaped-up appearance, and formation of pigment. On a *gelatine stab*, at room temperature, an abundant growth appeared of an inverted fir-tree order, and no liquefaction was observed even after two months.

In *peptone solution containing various sugars* free growths occurred. Acid formation was specially noticeable with inulin, and was also observed with glucose, maltose, galactose, raffinose, saccharose and mannite, but with lactose, dulcite, inosite, adonite, sorbite, and salicin, the medium remained alkaline. In no case was there any gas formation. In other *ordinary solid media* no characteristics other than those described were disclosed. *No indol formation* was observed. *The organism was definitely aërobic.* No growth occurred on agar in a tube from which the oxygen had been removed, and in fluid cultures, the growth was most abundant on the surface of the medium.

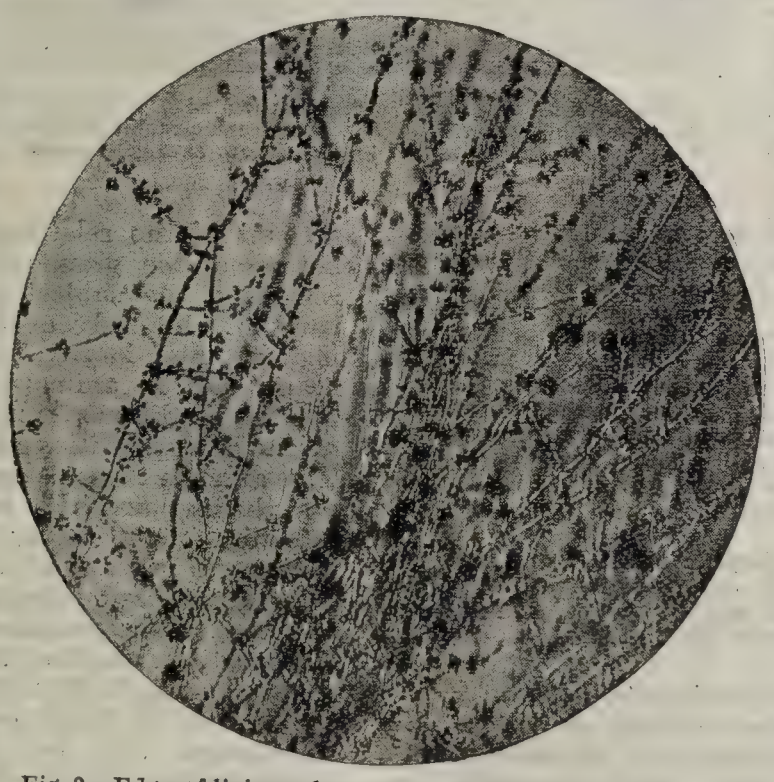

Fig. 2.—Edge of living colony on agar hanging-drop, five days at 22° C. × 200.

Relation of Growth to Temperature.

During the period of observation growth was much more luxuriant at a temperature of 22° C.—this being true of the primary as well as of the secondary cultures—than at 37° C. For four months after isolation a scanty growth at the latter temperature was observed, taking several days to be visible and never advancing beyond the stage of forming a thin film on the surface of the medium. On transferring the cultures to 22° C., or growing subcultures at this temperature, vegetative activity was regained.

Pleomorphism.

On cultures on potato, ordinary agar and maltose agar, after several months, white centres appeared on the pigmented growth. On subculture from these, a white growth of a very vigorous character and showing much less tendency to pigmentation was obtained. The microscopic characters were, however, unchanged, except that possibly there was a greater tendency to the formation of the large round bodies described below.

Microscopic Appearances in Cultures.

The microscopic appearances were best studied in hanging-drop agar cultures. (Text Fig. 2.) Free mycelium formation is here observed, the filaments passing out from the centre of growth in long strands usually not quite straight. They measure about 1 μ in thickness, are irregularly septate, and often contain fine granules. Lateral branches are given off sometimes at regular intervals, sometimes irregularly. Even in the youngest filaments

spore formation is much in evidence. The spores are oval with a pointed free extremity, and measure from 3 μ to 4 μ long by 1.6 μ to 3 μ broad. They are often set singly on stalks about half their long diameter in length on the lateral aspects of the filaments. Spore formation also takes place in whorls round a main filament at the end of a short branch. In the latter case the filament is often continued from the centre of the whorl, and after growing for a short distance may produce a new whorl at the extremity. In the older filaments the spores are set so thickly together as to give the appearance of ropes of these bodies.

In older cultures, especially in sugar solutions and in cultures on solid media showing pleomorphism, appearances were seen which suggested another form of spore formation. In one part of a mycelial thread, there might be seen a chain of usually short segments of twice or three times the ordinary breadth. In the middle of these there frequently occurred, sometimes singly, often in pairs, large circular elements, 5-6 μ in diameter and resembling the zygospores seen in Mucedineae. In the interior of these a large oval body was frequently seen, and when two of the containing cells were present on a thread, these contained bodies were frequently situated at the point of contact of the cells. In a preparation presenting such appearances, single circular bodies containing groups of spore-like bodies could be seen. Whether this represents a sexual stage in the life-history of the fungus cannot as yet be determined.

When fresh agar was inoculated with a mixture of filaments and spores, there was evidence that the former soon degenerated, and fresh growth apparently only took place from the spores. At 22° C., these during the first twenty-four hours assumed a circular form and increased in size, and at the end of that time could be seen throwing out a filamentous sprout, the first segment being often shaped like an Indian club attached at its broad end to the parent spore by a short stalk. During the next twenty-four hours these increased in size; usually a second, and sometimes a third, sprout appeared from the parent spore, and, from these, filaments as described above were continued. Frequently by the time the filament had attained a length of 20-25 μ, the lateral spore formation was commencing.

At 37° C. direct division of the spores could be seen to occur, in certain cases short, sausage-like elements being formed. This suggested an attempt at mycelium formation, but no filaments such as occurred at 22° C. were observed. Instead the spores usually developed into round bodies which attained a size of about 5 μ. After a day or two fresh spores began to sprout off from those round bodies to which they were attached by short stalks, a complete circle of spores being sometimes seen round the larger bodies (Text Fig. 3). The larger bodies seemed to represent the filaments seen in a growth at 22° C., as after the spores had sprouted from them they could be observed degenerating like the filaments in old cultures. It is obvious that these observations may be important from the point of view of the absence of mycelium in the granulomata. Probably, at the body temperature, mycelium formation was in abeyance, and this was borne out by the fact that short mycelial threads were occasionally seen in the superficial parts of ulcerated areas in mice—that is, where the temperature was probably below that of the body.

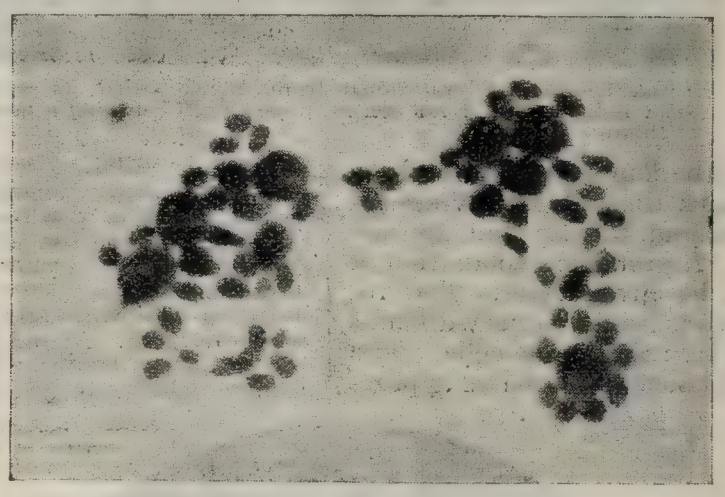

Fig. 3.—Film from agar culture grown at 37° C. for ten days. Gram's stain. × 1,025. Note large circular bodies with spores sprouting off; also a few sausage-shaped elements.

The organism possesses considerable vitality, and was successfully subcultured from dried cultures on potatoes three months old. It stained by all the ordinary dyes, and retained the stain in Gram's method. It was not acid-fast.

Inoculation Experiments.

The material used was a brown culture on potato. Six mice were inoculated subcutaneously, one intraperitoneally, three rats subcutaneously, one intraperitoneally, one rabbit intravenously, and one guinea-pig subcutaneously.

During a period of three months' observation, no lesions occurred except in the mice subcutaneously inoculated. In all of these in about ten days a subcutaneous nodule developed which tended to break down and ulcerate through the skin. The mice were killed at various intervals up to six weeks, at the end of which time emaciation was beginning to be pronounced. In all except one case (in which ulceration and septic infection had occurred), the sporotrichon was isolated from the granuloma. The characters of the latter were in every case identical with those already described in the human lesion. Again the absence of mycelium formation was noteworthy, but in one case a few short threads were seen in the purulent floor of an ulcer of some duration. If the inability to form a mycelium at body temperature is the cause of its absence in the granuloma, the thermal condition of parts exposed to the air may explain a commencing mycelial formation in the ulcer.

The organism described above corresponds closely with those isolated by Schenk,[1] Hektoen, and Perkins,[2] and later by de Beurmann,[4] from various human lesions. Though the general morphological and cultural characters of the various strains isolated by different authors generally correspond, individual differences have been observed. In our case, the most important character is that it has always grown better at 22° C. than at 37° C., thus differing from that of Hektoen and Perkins; further, it differs from de Beurmann's strains in growing very readily on ordinary sugar-free agar. An important point of variation in different strains is the behaviour on gelatine. Those of Schenk and Hektoen and Perkins had liquefying capacity, although Foulerton,[10] working with a subculture supplied by Hektoen, found this quality wanting. Page, Frothingham, and Paige[11] note that a strain isolated by them sometimes liquefied gelatine and sometimes did not, so that the liquefying quality may be variable. In this respect our organism corresponds with the description given by de Beurmann. If, as is probable, this group of sporotricha has a widespread distribution on decaying vegetable matter, it is possible that a number of allied species exist, and this may explain the variations observed. Meantime, pending further knowledge, it is convenient to adopt the convention of denominating the organism, *Sporotrichon beurmanni*. Its botanical relationships are as yet unknown, as its full life-cycle has not been worked out, and it is to be placed in the indefinite group of the Fungi imperfecti.

The evidence for the pathogenicity of the *Sporotrichon beurmanni* rests on its invariable presence in certain pathological lesions, on its isolation from these in pure culture, on its reproducing lesions of the same order in animals, and on its being recoverable from the experimental lesions.

The organism was originally isolated by Schenk[1] in 1898 from refractory subcutaneous abscesses in man; and from 1903 onwards great attention has been paid to the subject, especially by de Beurmann and his co-workers, on account of the relationship of the fungus to a somewhat heteromorphic group of skin granulomata. Gougerot,[12] reviewing the subject, gives cases of infection of other parts of the body also—the mucous membrane of the pharynx and larynx, muscle, bone, and synovial membrane, and in animals, both under natural and experimental conditions, generalized granulomatous infections of the serous cavities and solid organs have been observed. The animals most susceptible to experimental infection are the rat and the mouse, and in them a generalized infection may occur; local lesions have also been originated in the cat and the monkey. In connexion with generalized infections it may be mentioned that in one case of disseminated skin granulomata the organism was isolated from the blood (Landouzy[19]).

The lesions, both natural and artificial, are granulomata which tend to break down to form abscesses, at first of microscopic size, but later assuming a size clinically recognizable. Some observers have attempted to claim for the sporothrix granuloma special histological features. In our opinion this is not justified by facts, and the recognition of the presence of sporotrichosis must rest on the isolation of the organism. The granuloma shares with many other similar lesions the character of a diffuse connective tissue proliferation, not characterized by being formed by the confluence of smaller foci, as is the case with many tuberculous lesions. The presence of caseation is not a marked feature, and the necrosis which occurs is not massive, but is essentially a matter concerning individual cells, living and dead cells being freely intermingled. The softening of the necrobiotic areas is related to the microscopic abscesses described.

The presence of spores in the granulomata with an absence of mycelial development has been noted by all observers. Whether the explanation put forward to account for this phenomenon in our case is generally applicable we cannot say. It has been recorded, as stated above, that certain strains grow best at 37° C., but, so far as the published accounts go, little attention appears to have been paid to the relationship of the temperature factor to the microscopic characters of the fungus.

Serum Reactions.—In sporotrichosis, as in other diseases, the properties of the serum have been studied—in this case by Widal,[18] who recommends that a portion of an agar culture, four to six weeks old, should be emulsified and filtered through filter paper, so as to give a concentration of from 130 to 150 spores per field of a microscopic magnification of about 400 diameters. With such an emulsion a reaction has been observed with serum in a dilution of from 1 in 200 to 1 in 400, or even higher. Complement deviation has also been observed, the antigen being the above emulsion of spores, used in a proportion of 1 part of emulsion to 2 parts of serum. In the case of both the agglutination and complement deviation tests, however, the position is complicated by the fact that the serum of patients suffering from other mycotic infections—for example, thrush, actinomycosis—reacts to *Sporotrichon beurmanni*.

The *Sporotrichon beurmanni* has been found living on decaying vegetable material (de Beurmann and Gougerot),[13] and recently considerable attention has been paid to the part which it plays in animal disease. Gougerot and Caravan[14] have described three cases of sporotrichosis in the dog, in two of which there were ulcerating granulomata in the neck, and in the third an affection of the peritoneum, the liver, and lungs. Spontaneous epidemics have also been observed in the rat. The most important observations, however, relate to the discovery of a sporotrichon as a causal agent in epizootic lymphangitis in the horse—a condition characterized by superficial granulomata bearing a resemblance to glanders, but of a benign nature. Whether all cases of the disease which go under this denomination are due to the same cause seems as yet undetermined. The condition is often associated with the presence in pus from the lesions of a large body said to be capsulated, usually referred to as the "cryptococcus of Rivolta." The botanical relationships of this organism have not been worked out, but it has been grouped amongst the blastomycetes, as, for instance, by Tokishige.[15] In America (Page, Frothingham, and Paige[11]) certain cases of epizootic lymphangitis have, however, been traced to a sporothrix apparently identical or closely related to that of de Beurmann, and similar results have been obtained in Madagascar by Carougeau.[16]

Hyde and Davis[17] have considered the possibility of such observations being important from the standpoint of human pathology, as in one case of sporotrichosis in man there was a strong suspicion that infection had arisen from a horse; and they note that during the last seven or eight years twelve human cases have occurred in the southern part of North Dakota, a district in which sporotrichosis in the horse has probably been fairly common.

Pathological Diagnosis.—It is stated that if the pus of a sporotrichon lesion be examined without staining, the spores can be recognized as highly refractile double-contoured objects. It is further stated—by Landouzy[19]—that if, after inoculating a sloped agar tube, a droplet of the pus be smeared on the naked glass opposite the medium, sprouting of mycelium from the contained spores can be observed with a low power of the microscope.

The diagnosis, however, essentially rests on the isolation of the organism. For this purpose tubes of potato or of glycerinated carrot, of plain sloped agar and glucose agar, should be inoculated, preferably from a non-ulcerating lesion. One set of tubes should be incubated at 37° C., and another at 22° C., and kept under observation for at least a week.

It is evident that cases of sporotrichosis can easily be overlooked. To ensure that the primary cultures shall be pure, material from unbroken lesions must be obtained and the difficulty of microscopically demonstrating the fungus in the lesions, the necessity in many cases for the use of media containing sugar, the special thermal relationships of the organism, the non-appearance of visible growth till several days after inoculation, the peculiar microscopic appearances which often suggest the presence of yeasts, the relative insusceptibility of the guinea-pig to inoculation, all open up paths for the organism being missed. Further, the marked therapeutic effect of potassium iodide may suggest a diagnosis of syphilis and obscure the recognition of the true condition present. It is obvious, however, that in all granulomata, especially of the skin, which cannot be clearly attributed to the ordinary causes of such lesions, the possibility of sporotrichosis should be kept in view. Usually, if such precautions as those we have detailed be observed, little difficulty will be experienced in the fungus being isolated, if it be present.

We must acknowledge our great indebtedness to Dr. R. Cranston Low for the drawings of which reproductions appear in the coloured plate. We also owe our thanks to the Carnegie Trust for a grant from which the expenses of the inoculation experiments were defrayed.

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CARCINOMA OF THE LARYNX

*EXTIRPATION OF PRIMARY AND SECONDARY GROWTHS: GLANDULAR RECURRENCE: TREATMENT WITH THYROID EXTRACT: DISAPPEARANCE OF GROWTHS.**

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MR. CHAIRMAN AND GENTLEMEN,—I should not trouble you with a paper on so well-worn a subject as extirpation of the larynx, were it not that the following case has points of quite exceptional interest.

The patient, M. W. L., aged 51, was sent to me by Dr. William Hamilton, of Boyle, in November, 1909. He complained of pain and difficulty in swallowing for about two months, the pain latterly increasing in severity and shooting towards the right ear, while the dysphagia was so great that only fluid and so-called semi-fluid foods could be taken.

The patient had a very intolerant throat, and examination could only be conducted after cocaine had been applied. The right side of the larynx was seen to be occupied by a large growth having an ulcerated surface presenting backwards and outwards towards the sinus pyriformis and the opening of the gullet. A gland or two over the carotid sheath at the level of the upper border of the thyroid cartilage were palpably but not greatly enlarged. There was no history of syphilis or any other important complaint. A diagnosis of malignant disease was made, and a portion of the growth removed for microscopic examination. Dr. Earl, to whom it was submitted, reported it to be a flat-celled carcinoma. Sir Charles Ball saw the patient in consultation with Dr. Hamilton and me, and agreed that total extirpation of the larynx offered the only hope of saving the patient's life. This course was agreed to by the patient.

With a view to lessening the severity of the sepsis which necessarily follows such an operation, it was decided to

* A paper read before the Surgical Section of the Royal Academy of Medicine in Ireland, May, 1911.

administer a vaccine beforehand. Accordingly, a swab was taken from the patient's throat, and found by Professor O'Sullivan to contain a variety of micro-organisms, the most numerous being *Staphylococcus albus;* but *Staphylococcus aureus* and a streptococcus were also found. His index for *Staphylococcus albus* was taken and found to be 0.9. A vaccine was made from these organisms containing 30 million *albus*, 15 million *aureus*, and about 8 million of the streptococcus in 0.5 c.cm. This dose was injected into the back between the shoulders two days before operation. The index for *Staphylococcus albus* of the blood taken thirty hours after injection was 1.2.

Operation was performed on November 27th, 1909, Professor E. H. Taylor assisting. Tracheotomy was first performed, and the anaesthetic administered through the tracheotomy tube during the subsequent steps. The larynx was opened in the middle line, and an examination made in order to see if it would be possible to take away the growth without sacrificing the whole organ. The tumour occupied the whole of the right wall of the larynx, and involved the back wall so extensively that anything short of total extirpation was out of the question. The larynx was accordingly removed, and the trachea sutured to the skin above the suprasternal notch. A rubber tube, 9 mm. in diameter, was introduced through the nose into the stomach. The sac of the pharynx was sutured in the middle line so as to shut off the food and air passages the one from the other. The operation lasted a little over two hours. His pulse and colour were both good when he was put back to bed.

The patient went on fairly well for some days. His temperature remained below 100° F., but he suffered considerably from cough and bronchitis accompanied by profuse purulent liquid expectoration, and his sleep was meagre. Two days after operation the patient was seized with a fit of coughing, in which the feeding tube was expelled through the nose. It was replaced successfully though with some difficulty. On the third day the character of the expectoration changed. It became thicker, and more like muco-pus. He still slept badly—about four hours per diem—and never more than half an hour at a time. On the fourth day some superficial necrosis showed itself in the wound, and the skin for a considerable distance round the tracheal opening was acutely inflamed.

On the fifth day, while dozing after a hypodermic injection of morphine, a gush of blood came from near the base of the tongue. It was stopped by pressure and adrenalin. At 4 a.m. on the sixth day bleeding again took place, this time fairly profusely, but it yielded to the same treatment. Later on I was summoned, to find that the plug, which had been put in to stop the bleeding, had nauseated him, and in his distress he had pulled out both it and the trachea tube; and in the coughing which followed, the stomach tube was expelled through the wound in the throat. The dressings, etc., were replaced, except that, as the pharyngeal stitches had given way, the feeding tube was introduced through the neck wound, to the patient's great relief; he was intolerant from the very first of the tube passing through the pharynx.

The quantity of blood lost in these haemorrhages did not exceed 2 pints. There was no obvious defect in its clotting power. His pulse and respirations remained quiet, and the temperature varied between 98° and 100° F. It was observed about this time that the wound showed no tendency to repair, but rather to extend its boundaries. The anterior surfaces where they had been stitched together had failed to adhere, and the granulations were of the poorest quality. It looked, in fact, as if the tissues were slowly melting away. A silkworm suture by which the trachea was anchored to the skin in front of the suprasternal notch, cut through, and the resulting ulcer, so far from healing, gradually eroded the skin until it reached the dimensions of a half-crown piece. Some calcium iodide was given in a mixture.

At 5 a.m. on the eleventh day there was a little more haemorrhage, but it was easily controlled. At 3.30 a.m., at 6.30 a.m., and again at 10.30 a.m., on the twelfth day there were more haemorrhages. Some calcium chloride was administered in the hope of checking the bleeding, though it appeared to be caused rather by the ulcerative process described above than by any defective blood condition. At this time the wound presented a startling appearance. Every stitch had cut through, and no two surfaces had united. The trachea was isolated and surrounded by sloughing areolar tissue, through which it rose and fell with great amplitude of movement during coughing. The pus from the sloughing tissues was very profuse, and it was only by unremitting care on the part of the nurses that it could be kept from overflowing into the trachea. A suction apparatus, such as was devised by me, and described in the *Transactions of the Royal Academy of Medicine in Ireland*, vol. xiv, 1896, rendered the most admirable service.

On the sixteenth day after operation a decided improvement took place in the appearance of the granulations. They began to grow abundantly, and from this date the wound filled in with wonderful rapidity.

By the end of December healing was practically complete, but the upper borders of the trachea and gullet had epithelialized, thus establishing a fistula between the two tubes. His cough had disappeared; he was able to sit up for seven hours daily, and the general condition was excellent. On January 19th, 1910, with Sir Charles Ball's assistance, I closed the fistula, but no union took place and the edges separated.

By this time the glands over the right carotid sheath had grown to a considerable size, and it was obvious that their removal—postponed in the hope of our being able to close the fistula—could not be much longer delayed. This operation was carried out on January 29th, Sir C. Ball assisting. One of the glands was so adherent to the jugular that it was necessary to excise between 2 in. and 3 in. of that vein. The glands when examined were found to be cancerous. The wound healed by immediate union.

During all this time food was given by the tube introduced through the fistula. In February I devised a tracheal tube on the principle of Hahn's cannula, by which a rubber covering could be inflated so as to block the fistula, and permit swallowing by the mouth. This worked quite successfully, and on February 21st he tasted his first meal of half a dozen oysters. He left the nursing home on March 19th, and was recommended to present himself for examination at least monthly.

The patient was examined repeatedly after this time. The fistula remained open, but owing to the inflating device on the cannula swallowing could be carried on quite comfortably, while at other than meal-times the presence of the fistula enabled him to talk with quite a good voice. In fact, the advantage of being able to talk far outweighed any inconvenience resulting from the fistula, and the patient decided not to have it closed. He was seen at intervals until early in July, 1910. Examination then revealed no recurrence of the disease either in the throat or in the glands.

The patient's next visit was three months later, when, on October 19th, a tumour of considerable size—about that of a walnut—was found on the right side of the neck, the centre of the growth corresponding to the level of the bifurcation of the carotid. It was stony hard, and an obvious recurrence of the disease. There was no ulceration in the pharynx.

It was decided that an attempt should be made to remove it, and on October 22nd the patient was again anaesthetized, Dr. Mulloy of Kensington being present. When the tumour was defined and separated from the tissues in front and at its inner and outer sides, we found that, as not uncommonly happens, the condition was worse than appeared from external examination. The growth involved not only the common carotid artery but the prevertebral muscles. Professor E. H. Taylor, who assisted, entirely agreed with me that it was inadvisable to proceed further. Complete removal could only be accomplished by exposing a healthy portion of the common carotid, ligaturing it, and dissecting the cancerous mass up from below, and sacrificing the pneumogastric nerve—an operation that would almost certainly have been fatal, while it gave little or no prospect of eradicating the disease. The lower portion of the mass involved the thyroid gland. Accordingly, the operation was abandoned, except that a small portion was removed for microscopic examination. This proved to be cancerous.

On October 28th I asked Sir Charles Ball to see the patient with me in consultation. He suggested that thyroid extract should be given, and quoted two cases of inoperable cancerous lymphatic glands in which that

remedy had been tried with success, though he had tried it in others without any good effect. Three-grain doses of the extract in the form of tabloids (B. W. and Co.) were prescribed three times daily.

On November 22nd—that is, a calendar month after the last operation—the patient came to me complaining of discomfort at the front of the neck low down to the right of the tracheal opening. The skin was tense and fluctuating, but there was no redness of the skin or tenderness. This fluctuating tumour was separated from the hard mass above by a groove which had apparently been caused by the tracheotomy tape. A small incision was made and several drachms of curdy whitish matter evacuated. It was obviously not pus, and I considered it was caused by some necrotic process taking place in the growth; and I remember thinking it strange that if necrotic softening were taking place it should not preferably start where the tumour was bulkiest and most remote from the blood supply. The possible influence of the patient's thyroid gland did not then occur to me. After daily examination for three or four days no more discharge appeared, and the wound was allowed to close.

The patient returned on December 12th with the same symptoms as on November 22nd. The same treatment was carried out, but this time the discharge persisted longer; the wound was finally allowed to close in the first week of January.

The treatment by thyroid extract was continued without interruption from October 28th. At the end of three months (January 24th, 1911) it appeared to me that the growth was not quite so large, but I hardly trusted my observation. At the end of four months there was no possible room for doubt on the matter. The infiltration round the glands had disappeared, and the glands themselves were certainly smaller; and at this time (February 27th, 1911) the patient reported that for the last week he had been quite free from the shooting pains on the right side of the neck which had been in existence for a considerable time previously.

The glands continued to diminish in size. Early in March the dose of thyroid was increased to 12 grains per diem. The patient had previously tried to take this amount, but could not tolerate it. On March 27th there was no more than a suspicion of any abnormality in the neck, and six months after the treatment was started no evidence of tumour could be felt. Sir Thornley Stoker saw the patient with me in consultation at this time, and advised the continuation of the thyroid treatment.

So far as I know, the only cases in which success by this treatment has been recorded have been those of lymphatic recurrences where the primary growth was first extirpated.

This, the most recent of a series of well-authenticated cases of cancerous recurrences in lymphatic glands cured by thyroid extract, opens up some very important and interesting questions.

1. What is the nature of the influence of the thyroid extract, and by what process did the tumour melt?
2. How far does the existence of such cases go to prove that one of the conditions necessary for the occurrence of cancer in an individual is some defective or abnormal internal secretion?
3. Why does thyroid extract cure a few cases and leave others unaffected?
4. What was the influence, if any, of the vaccine on the subsequent suppuration?

Whatever answers are given to these questions, we must keep in view the important fact that cancer can sometimes be made to undergo a recessional cure under the influence of an animal extract, and that such a fact justifies us in looking forward with confidence to the time when the secret of its existence will be wrested from this scourge of humanity, and its prevention, or at least its cure, merely a question of the knowledge and the drug.

IN view of the disadvantages accruing to the Chealsea Hospital for Women from the noise of traffic and lack of adequate space for nurses' accommodation and out-patient work, Earl Cadogan has presented the institution with a new site. It is over an acre and a quarter in extent, and though within short distance of present building, is very quiet.

A Clinical Lecture

ON

SOME CASES OF CHRONIC JAUNDICE IN WHICH OPENING THE DUODENUM WAS REQUIRED.

DELIVERED AT THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

BY

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MY observations will be based upon ten cases in which I have found it necessary to explore the duodenal end of the bile duct to unravel the cause of a more or less persistent jaundice.

In proceeding to make a diagnosis in chronic jaundice it must be remembered that jaundice is not a symptom of stone in the gall bladder. It is not present unless there is some associated infection spreading to the hepatic or common ducts related or not with the passage of a stone which has left the gall bladder on its way downwards to the bowel; should this be suspected, the recovery of a stone from the faeces would solve the riddle, but in many instances when a stone has passed into the common duct it remains retained there. The accidental jaundice occurring with stone in the gall bladder will, as a rule, be of only a transient character.

Now, retained stones in the common bile duct may be of fair size and yet not produce any special diagnostic symptoms. This is frequently found in operating on a "gall bladder" case; the additional duct stones will most probably occupy the supraduodenal or widest part of the duct. In most cases, however, one would expect special symptoms to be present, which may be as follows.

Pain may not be particularly complained of. If present, it may be specially referred to the epigastrium or to the back; it may be associated with a typical colic with vomiting, but the latter symptoms are in many cases due really to a still present stone in the gall bladder.

Jaundice is a characteristic symptom and varies in intensity and duration. The attacks of jaundice may extend over a long period with intermissions, and in other cases the jaundice, although slight, may never completely disappear. The jaundice is caused not only by the blocking due to the stone, but by the attendant inflammatory swelling of the mucous lining in the presence of an infection. After a while dilatation of the duct and reduction of the catarrhal swelling allow the onward passage of the bile and subsidence of this symptom.

Fever with the jaundice is common, and may be only of a mild continued type; but what is most striking when it occurs is the intermittent form with big rises and falls resembling that of malaria, and to which our attention has been drawn by the writings of Charcot, Osler, and others. This intermittent fever may be accompanied or not by rigors and sweating, and usually at the time there is an increased depth of the jaundice. These attacks are explained by a renewed activity of a bacterial infection, while in the intervals of more or less immunity the severe symptoms may completely pass away, except perhaps a slight jaundiced tinge, only to reappear after a varying interval with the same type of attack faithfully reproduced.

Marked loss of flesh is a feature. In the intervals of the severe symptoms the patient may not feel ill, and may manage to do his work. Itching may be very troublesome.

The liver may or may not be to some extent enlarged and tender; in the majority of cases, owing to its contraction, the gall bladder will not be able to be palpated.

In a large proportion of cases there is an associated pancreatitis, demonstrated by the presence of Cammidge's urinary reaction.

If a stone completely blocks the duct there will be no bile in the faeces. As in many cases there is a varying

amount of jaundice without complete obstruction, the bile entering the intestine will be detected. Should a stone in the duct or swelling of the pancreas obstruct the pancreatic duct the stools will be loose and fatty.

In rare cases a septic thrombosis may start in the veins of the wall of the duct, leading to a portal pyaemia with multiple liver abscesses. The severe illness of the patient with, in addition to local signs, evidence of pyaemic infection, will point to this complication and to an unfavourable prognosis.

Having thus reviewed in general the symptoms that may point to a stone in the common duct, it will be noted that they vary. Upon what may this variation depend? Several factors may be considered—the position, the size, the mobility, and the number of the stones, and also the anatomical arrangement of the terminations of the common bile and pancreatic (Wirsung's) ducts. Owing to the reduced calibre of the bile duct as it passes in relation with the head of the pancreas and then through the wall of the duodenum, a stone is more likely to obstruct here; the larger the stone the greater the probability of its remaining stationary: it will be probably attended in the first instance by acute complete obstructive symptoms. A moderate sized single round stone—Fenger's ball-valve stone—will generally be associated with the intermittent febrile attacks, especially if its surface be rough and irritating. Multiple stones are, as a rule, of smaller size, faceted, and thus angular and more smooth and are better tolerated, but they also, "floating" in the bile stream, may be attended by attacks of jaundice.

The following are the modes of termination of the two ducts: (1) The common bile duct dilates beneath the duodenal mucous membrane to form the ampulla of Vater, into which Wirsung's duct also opens; (2) they may open separately into a small pit; (3) they may open separately at the apex of a papilla; and (4) they may unite before piercing the duodenum into a common channel, and statistics show this is the rarest form. When a stone is placed in the transduodenal part it may be almost impossible for the surgeon to say with certainty with which of the four varieties he has to deal, but if the stone is superficial and just under the mucous membrane this favours the presence of a true ampulla. If an ampulla of Vater is present a stone so placed may not prevent the downflow of bile from the common duct, although it will interfere with its exit into the intestine; here the bile may regurgitate into the pancreatic duct and set up an acute inflammation, most likely of the haemorrhagic type; this complication could also occur in variety (4) if a stone blocked the united ducts. In both (2) and (3) this will not occur; there may be pressure on the pancreatic duct from the stone causing retention of secretion and probably pancreatitis, which in its turn further obstructs both ducts.

Having, then, formed the opinion that the obstruction of the bile duct is at its lower end and probably due to stone, before establishing this diagnosis other causes must be considered and dismissed; among these would be a stricture of the duct due to previous ulceration or malignant disease, or pressure from an enlarged head of the pancreas, simple or malignant. If the jaundice is persistent and gets progressively deeper, apart from any other clinical evidence, it would point to an increasing block such as malignant disease of the head of the pancreas, or the contraction of a simple or malignant stricture. If a developed jaundice tends to diminish, or even to almost entirely disappear—which may occur on several occasions—it is with little doubt stone or chronic inflammation of the pancreas. The two will probably co-exist, but when the latter is present one would not expect that variation in the intensity of the jaundice as should be the case with only a stone. With a progressive permanent obstruction, as from the causes in the first group, there will be a gradual distension of the bile passages and gall bladder, unless the latter should have become previously contracted from chronic inflammation. This last fact being such a feature of chronic gall-stone trouble, it follows that with a stone at the lower end of the duct a non-palpable gall bladder is the rule. This conclusion is embodied in what is known as Courvoisier's law, where, if with a chronic jaundice there is made out no enlargement of the gall bladder, stone is the probable cause; whereas if it is dilated, it is due to some other cause, especially malignant disease. This generalization holds good in about 80 per cent. of the cases, exception being met with where there has not been previous contraction, and where, in addition to the common duct obstruction, there is an associated block of the cystic duct.

It is not my intention to say anything about the numerous cases in which I have removed stones from the common duct by choledochotomy. Of the ten cases in which I have had to open the duodenum, nine proved to have cholelithiasis, and the other was a malignant growth of the papilla.

In the BRITISH MEDICAL JOURNAL, June 28th, 1902, my first two cases are reported in full, but as they illustrate many important features previously stated in this paper I quote some of the important points in their clinical history.

CASE I.

Male, aged 46. In December, 1899, he had his first attack of biliary colic without jaundice; in February, March, and May, 1900, attacks of colic with jaundice which disappeared in the intervals. On May 30th he was explored by the late Mr. Anderson, who found no stone in the gall bladder, which was drained, and the omentum sutured to the left margin of the wound. Other attacks followed, and in August he came under my care. Recognizing that the intermittent jaundice was probably due to a ball valve stone in the duct, I operated, but the dense adhesions and the abnormally placed omentum took so long to separate that the man's condition did not allow of anything further then being attempted; it was definitely ascertained that there were no calculi in the gall bladder, cystic duct, or supraduodenal part of the common duct. The gall bladder was still drained. Three weeks after he had a rigor with marked temperature and sweating, which confirmed my opinion, but after this passed off he was very much better, so he was sent to a convalescent home to recruit. He did not return to the hospital till December, and then he had recently had other rigors and a varying amount of jaundice; the latter was still present, and his temperature was normal. On December 20th I again operated, and fortunately found that the adhesions were now very limited and structures could be distinctly defined. Through the duodenum some thickening was detected at the end of the duct, so the gut was opened by a vertical incision, and a projection was found of the inner wall at the site of the papilla. This was incised, and an almost circular stone like a marble was removed. It was a light, lemon-coloured, cholesterin stone, $\frac{5}{8}$ in. in diameter, nearly smooth, and without any facets; it was the only one present. The man did quite well afterwards, and completely lost his symptoms.

Here the stone was in the ampulla, was single, and in fact the only one in the biliary passages.

CASE II.

Female, aged 43. First attack in January, 1900, of epigastric pain, vomiting, jaundice, pale motions, and dark urine. These symptoms persisted for about four months and then disappeared. In January, 1901, there was a similar attack, with the addition of repeated rigors, lasting several weeks, while the other signs remained. She was sent to me from South Africa by Dr. J. Rouillard at the beginning of October, and she then had jaundice, with an enlarged tender liver and an enlarged gall bladder, and complained of pain in the epigastrium and back. After admission into St. Thomas's Hospital she had for several days a characteristic intermittent fever without rigors. At the operation on October 16th the gall bladder, cystic and common ducts were found distended without any stone. A lump was felt through the duodenum, so it was opened and the papilla defined. Just above this was a projection of the bowel wall, which was incised and a stone extracted. A second stone was then detected, and in removing this it was felt to be definitely drawn through a more constricted part of the duct, which was at the level of the upper end of the first stone, and seemed the undoubted site of junction of the transduodenal and pancreatic portions of the duct. The upper stone was $\frac{3}{4}$ in. long and $\frac{7}{16}$ in. in diameter; the lower stone was 1 in. long and $\frac{3}{8}$ in. in diameter, and their adjacent ends articulated; they had an almost smooth blackened cortex with an interior of orange-stained cholesterin. She made good progress after the operation and all her symptoms subsided.

In this case it seemed that the lower stone occupied the duodenal part of the duct rather than an ampulla, and further it will be noted that the gall bladder was distended and that there were no other stones. The shape of the two stones suggested that they must have become moulded in the duct by secondary deposit.

CASE III.

Male, aged 55. In 1892 a severe attack of colicky pain in the right side and sweating. In 1895 several similar attacks with jaundice and stones passed. In May, 1901, he had several attacks in a fortnight, and then remained well till the middle of July, 1902, when he had an attack, with shivering. He was admitted into St. Thomas's on August 7th, when he then had a normal temperature, no jaundice or ascites, no enlarged liver or gall bladder, but he complained of loss of flesh. On the 12th and 13th he had painful colicky attacks, his temperature on the

latter day rising from normal to 101° F., but it dropped again immediately; there was jaundice, with dark urine and epigastric tenderness, but no enlarged liver. On the 15th he passed a stone, buff-coloured and faceted, and the size of a pea. On August 16th I operated on him, and found a small contracted gall bladder, from which three stones were removed. The pancreas was generally very hard, and a hard gland was found in the gastro-hepatic omentum; no other stones could be felt in the ducts. The gall bladder was drained. After a week he had another attack, with jaundice, and I considered then that there was, after all, probably an impacted stone in relation with the thickened head of pancreas. On the 28th I again opened the abdomen and incised the duodenum vertically. There was no thickening about the papilla or above suggesting a stone, so I closed both the duodenal and abdominal wounds. He got a localized infection about his duodenum, with free suppuration, from which he died on September 15th. At the autopsy there was found subphrenic suppuration, with a small fistulous opening in the diaphragm; the common duct was much dilated, and in it were two small stones freely movable; the pancreas was very firm, but its duct was not dilated.

In commenting on this case it would have been better, in face of the symptoms, to have done a choledochotomy at the first operation, as thereby the stones might have been removed, although not felt, and the enlargement of the pancreas would not have induced me to open the duodenum.

CASE IV.

Female, aged 53. For eighteen months she had had violent attacks of abdominal pain starting just above the right hip and then going to the mid abdomen and then back again to the hip and up to the right shoulder. The attacks were periodic, coming on between 10 and 11 a.m., and lasting for about twelve hours, and this occurred every six or seven days. Some of the attacks had been accompanied by shivering and sweating, and slight jaundice. Ten months ago she had an attack in which jaundice was most pronounced, and it lasted eight weeks. Just before coming to the hospital she had had a bad attack, and had lost flesh. On admission on September 29th, 1902, she was very thin, with slight yellowing of skin and conjunctivae. There was some rigidity and tenderness above and to the right of the umbilicus. The liver was a little enlarged, and there was slight bile reaction in the urine and bile in the faeces. The temperature on the night of admission was 101° F., but normal the next morning. On October 2nd she had an attack followed by a slightly jaundiced tinge. I operated on October 8th, and found a contracted gall bladder with a stone in it, which was removed. The stone was the size of a small cherry, composed of cholesterin with a black cortex. There was a great deal of matting from adhesions about the neck of the gall bladder and gastro-hepatic omentum, and in separating them another stone was felt, which slipped out of the way apparently as I considered down the duct. As it could not be felt, and as there was a suspicious fullness through the duodenal wall, I opened the gut, and without slitting up the papilla I failed to feel anything like a stone, so I closed it again. Further exploration requiring much more separation of adhesions, and the patient's condition not being satisfactory, I had to close the abdomen. She progressed favourably afterwards, except that on the 13th she had another shivering attack with fever, as before. This being repeated a few days later, I decided to try again to find the stone, which I did on the 28th. After separating adhesions I located the escaped stone now in the neck of the gall bladder, and from there removed it. It was barrel-shaped, with the end to the duct smaller than the other. Her progress was most successful afterwards; there were no further attacks, no more temperature, and she gained flesh rapidly, and said she felt quite different.

CASE V.

Female, aged 52. She first had pain in the right side at 26, and then on and off for the next ten years. Two years ago it returned, and continued intermittently afterwards, particularly after exertion. There was a feeling of fullness and distension in the liver region, pain lasting from two to four hours, and on the next day dark urine and some jaundice. She had never since been absolutely free from a jaundiced tinge, with constipation and indigestion; she often vomited in the attacks, and had lost weight. There was no history of any shivering. She was sent up to me at the hospital by Sir Thomas Crosby, on April 19th, 1904, with jaundice and dark urine; there was then no pain, no rigidity or tenderness over the rectus, and no evident enlargement of the liver or gall bladder. The temperature was normal. I operated on her on April 25th, and found the hepatic flexure firmly adherent to the under surface of the liver and gall bladder, and this was with difficulty separated. There was a well-developed Riedel's lobe, and the gall bladder was very contracted; from its neck four calculi were removed. There were two small stones found embedded in the peritoneum on the right side of the great omentum, having at some previous time escaped from the bladder by ulceration. The gall bladder was drained. There were no special symptoms after, except some difficulty in getting the bowels to act. On May 2nd there was still some bile in the urine. On the night of the 15th there was a rise of temperature to 102.4°, which dropped in the morning to normal, without the development of any other marked symptoms except the slight jaundice. As this continued I again explored her on June 6th. No stone being felt in the common duct, I opened the duodenum by a transverse incision. There was a well-marked papilla, and a projection under the mucous membrane just above it. This was incised and a stone removed from the ampulla. The stone being soft unfortunately broke up in removal; there were some small faceted stones behind it in the duct, which a scoop easily extracted. The main stone was almost circular, and of the size of a small marble. The patient did perfectly well after the operation, with no special symptoms to record and no temperature. She quite lost her jaundice and all traces of bile in the urine.

The points to be noted in this case were the long duration of the symptoms, and, although there was a stone in the ampulla, the only signs suggesting this were the continuance of a slight jaundice with bile in the urine; there were no distinctive rigors or marked rises of temperature.

CASE VI.

Female, aged 25. She was first admitted into St. Thomas's Hospital in August, 1903, and a diagnosis of gall stones was made, but at that time she was pregnant, and no operation was done. She was again admitted under Dr. Acland on February 22nd, 1904, with a history that her confinement had taken place seven weeks before, and that fourteen days afterwards she had lost her appetite, had a dull, aching pain under the right costal margin, and vomited. A fortnight before admission she had paroxysmal pain with sweating, radiating to the right shoulder, and she became jaundiced; there was itching, light-coloured stools, and dark urine. On admission she was lemon-coloured, with some purpuric looking spots about the abdomen, and there was increased resistance in the right hypochondrium. On February 25th pressure in the mid-line in the epigastrium gave a sensation of crepitus. She remained in much the same condition, except for an irregular hectic temperature, until March 11th, when the temperature became normal, and remained so until March 15th, when there was another rise to 102°, and immediate fall to normal. On this day I was asked to see her in consultation, and formed the opinion that she had a stone in the common duct, and advised operation without delay. This was performed on March 17th, when the abdomen was opened by the vertical rectus incision. There were delicate adhesions uniting the hepatic flexure to the fundus of the gall bladder, but no more. The gall bladder was rather small and contracted, and its exploration proved it empty of stones. The foramen of Winslow was free, and the common duct, which felt a little thickened, contained no stone. A bossy lump was made out in connexion with the head of the pancreas, which suggested a calculus, and through the posterior layer of the meso-colon the same lumpiness also was felt in connexion with the pancreas. The duodenum was opened transversely, and a projection found on its inner wall in the papilla, which was incised and a stone extracted; the scoop removed a second stone, but there were no others. The lower stone was practically circular, and measured $\frac{3}{4}$ in. long and had a diameter of $\frac{5}{8}$ in.; it was a very light stone of cholesterin in radii, and had a small facet on its upper end. The upper one was of the same character, but more barrel-shaped, and it measured $\frac{3}{4}$ in. long and had a diameter of $\frac{5}{16}$ in. The wound was closed as usual, but a plug was left down to the duodenum. In the evening she vomited some blood, and was restless, but had no pain, and she then progressed all right. On March 21st the plug was removed, and it was found that there was a localized suppuration, which was drained. On March 24th she again vomited some blood, and her pulse rose to 124, and her temperature to 103.6°, and she died on that day.

At the necropsy there was found a local purulent peritonitis, with the duodenum sound; the common bile and cystic ducts were rather dilated, and also the bile ducts in the liver; the gall bladder was small, and its walls thickened, but the pancreas was normal.

CASE VII.

Female, aged 31. She had typhoid and pneumonia in 1890. She was troubled with dyspepsia, and her appendix was removed at another hospital in August, 1907, but her symptoms remained the same. Three weeks before her admission into St. Thomas's on May 25th, 1908, she had epigastric pain radiating round the right hypochondrium to the back, and a week later jaundice and increased pain. On admission her jaundice was said not to be so intense as it had been. There was indefinite hardness, tenderness, and resistance below the costal margin. The temperature and pulse were natural. At 7 p.m. on the 28th there was an attack of severe pain and vomiting, and on the 30th several small calculi were found in the faeces. On June 1st there were several severe attacks of pain, with more jaundice and bile in the urine, and during the following week there were several colicky attacks, but less jaundice. On June 9th she was operated on by my late colleague, Mr. Clutton, who removed a small stone from the common duct, and also removed the contracted gall bladder, and left a drain in the common duct. The bile on culture proved to contain *B. coli*.

The jaundice almost disappeared, and the faeces contained plenty of bile, when on July 1st she had a severe attack of pain in the epigastrium and back with more bile in the urine but normal temperature. On July 11th and 16th there were again attacks of pain and vomiting as before the operation; there was also increase in pulse and temperature. Owing to my colleague's illness she was now under my care, and considering that she must have a stone at the duodenal end of the duct I explored her again on July 17th. The old rectus incision was opened and lengthened; there were many adhesions under the upper part of the wound, and the omentum, which had become tucked up under the liver and over the duodenum, separated.

The first part of the duodenum was very firmly adherent to the liver in front of the gastro-hepatic omentum, and especially in the groove which had contained the gall bladder. The small liver was at last drawn out, and the gastro-hepatic omentum well defined; there were very few adhesions about the foramen of Winslow, so the finger could be easily passed into the lesser sac, and between the two fingers a stone could be felt at the end of the duct. The duodenum was opened transversely, and a stone was felt in the duodenal wall. The latter was incised, and a small circular stone was lifted out of the ampulla with a scoop. The stone was circular, with a diameter of $\frac{1}{16}$ in. It was light yellow in colour, and of cholesterin, and non-faceted. She made rapid improvement afterwards, lost her jaundice, and had no further attacks.

This case calls for no particular comment, except that it was of a mild type and one very easy to misinterpret.

CASE VIII.

Male, aged 41. He had had good health till eighteen years before, then had an attack of what was diagnosed as gall-stone colic, with vomiting and no jaundice, and no stones were found in the faeces. Since there had been about seven attacks of epigastric pain, relieved by pressure, with shivering and sweating, but these occurred in the early part of the period at intervals of three months to a year. He was otherwise quite well till April, 1910, when he was seized with sudden violent pain in the right hypochondrium shooting down into the hypogastrium. This attack lasted two hours; he had profuse sweating but no vomiting, and he was quite "doubled up," to use his own words. The pain was not specially in the epigastrium. He was better in the evening, but two days later he became jaundiced, with clay-coloured stools, which have kept so since. During the month there have been three such attacks, with shivering, epigastric pain, but no vomiting, and slight jaundice, and in the intervals he has felt quite well. On May 13th he was admitted into St. Thomas's under Dr. Sharkey in the middle of an attack, which lasted from 9.30 a.m. till 4 p.m., with again no vomiting. His face had a slight tinge and tongue furred; the temperature was 101° F., pulse 104, and respirations 24. The abdomen looked a little full, but the respiratory movements were good; there was tenderness, particularly in the right hypochondrium, and some rigidity. No lump could be felt. There was bile in the urine. His appetite was generally poor, and he had lost over 1 st. during the last year. On the evening of May 13th his temperature rose to 104° F., with pulse 104, and it then dropped again to normal; for three nights after it reached 100° F., but was normal in the morning. On the evening of the 17th there was a marked rigor, temperature 104.6° F., and pulse 120, with severe pain. The evening temperatures on May 18th, 19th, and 20th were 100.8°, 103°, and 102.6° F. respectively, but on May 21st, 22nd, and 23rd normal.

This intermittent fever pointed strongly to a stone in the common duct, and I was asked to see him. Operation was decided on, and performed on May 23rd. Numerous adhesions of the stomach, duodenum, hepatic flexure and omentum had occurred to the under surface of the liver. With their separation a thickened contracted gall bladder was exposed, and on incising it no stone was found. There were no stones to be felt in the common duct, but a hard body was made out through the duodenal wall at the site of the papilla. The duodenum was opened transversely, and a stone was felt just above the opening of the duct; an incision was made on to it, and a stone about the size and shape of a small date stone removed, evidently from the ampulla. Exploration with a scoop showed no other stones, nor were there any facets on the stone. The shrunken gall bladder was removed, and its stump had a tube fixed in for drainage. The stone was smooth, $\frac{7}{16}$ in. long and $\frac{5}{16}$ in. diameter. He made good progress afterwards, and lost all his symptoms; he had a little local suppuration in the kidney pouch, probably from infection from the gall bladder, but this soon subsided.

This case was a very typical one, illustrating the intermittent fever and limited jaundice, and also the marked loss of flesh, which at his time of life might have suggested malignant disease.

CASE IX.

Female, aged 40. She was quite well until April, 1910, when one night she had an attack of epigastric pain with vomiting and shivering; this attack passed off without any jaundice. She kept well till last December, when she had another attack with pain under the shoulders and jaundice. After this the jaundice persisted, but varied a little with repeated attacks of pain, vomiting, and shivering; the stools were said to have shown very little evidence of bile. She was sent up to me by Dr. Tonking, of Camborne, Cornwall, on February 8th, and then was well nourished, had no pain, was jaundiced, with bile in the urine, and with temperature 98° F. and pulse 84. There was nothing abnormal to be made out on abdominal palpation, and no tenderness. On February 10th she passed a few stones the size of a pea in the faeces, but she had no colicky attack. On February 11th there was less jaundice and she felt much better, as she had had no attack of pain for a week, and on that night four more stones were found in the faeces. On February 16th she had less jaundice and no further pain, but she had a positive Cammidge urinary reaction.

As I came to the opinion that she must most probably have other stones in the gall bladder, and also in the common duct, I decided to explore, which I did on February 20th. The liver was so small and the gall bladder so deep down that I had to make an incision below the ribs running out from my previous rectus one, and even then the gall bladder and liver could not be brought out of the wound. The gall bladder was very contracted and packed full of small stones, which were cleared out; no stones could be felt in the common duct, but through the duodenal wall at the site of the papilla there was a hard fixed lump. The duodenum was opened transversely and at the inner side of the duct's opening was a hard lump, which, on being cut into, proved to be a tough whitish growth, looking very like carcinoma. I did not remove a piece, as I did not wish for a larger raw surface for infection, and I felt certain it was malignant. Palpation showed the head of the pancreas very hard and thickened, and the lump in the duodenal wall was apparently continuous with it. The gall bladder was drained. She progressed exceedingly well after the operation, and lost all her jaundice before she left for home on March 18th, and has remained so up to the present date.

The clinical history in this case very much resembled that of a stone in the common duct, although none were present at the operation. The jaundice, if obstructive, was caused by the lump in the duodenal wall or the swollen head of the pancreas; its speedy disappearance after the operation pointed to a pancreatitis, the presence of which was supported by Cammidge's reaction. The mass in the bowel wall was probably an accessory piece of pancreas.

The last case in my series is one of carcinoma of the duodenal end of the bile duct, which showed some important clinical features and points of contrast with the previous cases.

CASE X.

Male, aged 65. History of malignant disease in brother and sister. Previously to December, 1906, he had always enjoyed excellent health; then, while at his work of a carpenter, he suddenly felt ill and had severe shivering and sweating; he had to stay in bed for five months with jaundice without pain and marked itching, and although he got quite well, this last symptom had remained. Six months before admission in February, 1909, he began to have discomfort in the epigastrium, and in December, 1908, there was pain without jaundice. On February 6th jaundice developed, but it faded again in twenty-four hours, and on the 8th there was a severe rigor with pain; there was no vomiting, but the motions were loose, white, and greasy-looking. He also complained that recently he had been very flatulent, and had had odd attacks of shivering. On admission (February 10th) there was a light-coloured jaundice, with the liver definitely felt below the ribs and a little tender, and some enlargement of the gall bladder; the urine had bile in it and was non-albuminous. Temperature, 98.6° F. After a few days of a varying jaundice with epigastric pain, on the 16th there was a rise of temperature to 100.8° F. Cammidge's reaction C was positive and the faeces were dry and hard, not greasy. On March 7th very marked enlargement of the gall bladder was detected.

On March 14th there was a severe rigor, with temperature 102° F. and more jaundice. My colleague, Dr. Turney, asked me to see the patient, and it was thought desirable to explore, which was done on March 16th. On opening the abdomen a very large gall bladder presented, and the liver came well below the costal margin; on tapping the gall bladder the fluid in it was thin and almost colourless, with some turbid mucus in it. There were no peritoneal adhesions. No stones could be felt in the bile passages, but through the duodenum a lump could be felt on its inner wall, elastic with a rounded margin; it was considered to be growth. No enlarged glands could be felt. The duodenum was opened transversely and there was found a carcinoma of the papilla, for which nothing could be done radically; the duodenum and gall bladder were anastomosed and the omentum tucked in round the union. He died after a rigor on March 19th.

At the autopsy the result of the anastomosis was found to be good. There was a ring of carcinoma surrounding the opening of the bile duct. The lungs were extremely congested and oedematous.

In the treatment of these calculus cases it will be noticed that in many of them the removal of the stone via the duodenum was only effected at a second operation. This is almost inevitable unless, when stones have been removed from the gall bladder and none can be felt elsewhere, an exploratory choledochotomy is done at the same time. Even then, if the stone is fixed at the lower end of the duct, although it might be detected with a sound, its removal cannot be effected without opening the duodenum. It would be certainly better to do the choledochotomy in any case in which the symptoms suggested a stone in the common duct, and thus avoid the second exploration; if it is not done the consideration of this possibility, symptoms warranting it, should prove a serious deterrent to removing the gall bladder unless it is evident that the cystic duct is absolutely impervious.

It will be noticed that in all the cases since the beginning of 1904 I have made use of a transverse incision in opening

the duodenum, as advocated by Zeller.[1] This gives a better view into the bowel; its wall can be more securely closed, and as an additional protection the peritoneum passing between the walls of the duodenum and the transverse colon, which is often loose and redundant, can be drawn up over the wound.

REFERENCE.

[1] Zeller, *Berl. klin. Woch.*, September, 1902.

ON TWO CASES OF REMOVAL OF PART OF THE PERICARDIUM, AND ITS REPAIR BY MEANS OF THE PECTORAL MUSCLE.

BY

A. W. MAYO ROBSON, D.Sc., F.R.C.S.

THE two cases I am about to relate present points of interest both from a surgical and a physiological point of view.

In looking through the most recent textbooks I can find no reference to cases in which a considerable portion of the pericardium has been removed, nor does the question appear even to have arisen as to how repair of the pericardial sac may be effected in case of the gap being so large that the edges of the incision into it cannot be brought together.

In my first case the operation for removal of a tumour of the fifth rib was begun with the knowledge that it might be necessary to open the pericardial sac, but without any intention of having to take away a considerable portion of it.

In the second case the operation was deliberately undertaken with the expectation of having to remove part of the pericardium, which my previous experience had shown might be safely done.

CASE I.—*Columnar-celled Carcinoma Involving the Pericardium.*

Mrs. T., aged 72, was sent to me by her medical adviser on March 21st, 1905, when she gave the history that she had been well up to September of the previous year, at which time she noticed a pain round the left side of the chest and a swelling was then discovered a little below and just external to the nipple. The pain steadily increased, and when she was sent to me her sufferings were severe. In October and November, 1904, she was treated for stomach trouble and also for sciatica, but no definite disease could be found on physical examination of the abdomen or on rectal and vaginal examination. When I saw her the swelling was smooth and firm. It appeared to be fixed to the fifth and sixth ribs and to project between them and was situated a little below the left nipple.

A diagnosis of sarcoma was made, which diagnosis agreed with that of her own medical man and a consultant whom she had previously seen. As the patient was suffering severely, and as no other disease could be found in the abdomen or elsewhere to suggest that this was secondary growth, the question of operation was put to the patient, who, after consulting with her medical adviser and her friends, decided to have it done.

Operation.

On March 22nd, 1905, I freely exposed the tumour by a U-shaped flap extending well over the sternum and with the base external. The tumour appeared to be a large sarcoma, growing from the sixth rib and projecting both externally and internally between that and the fifth rib. I therefore divided the sixth rib an inch external to the tumour, and then carefully separated the pleura from it. On separating the growth towards the sternum the pericardium was found to be adherent, in fact, the growth had already perforated it. The separation of the growth, including the pericardium, was continued onward until the sternum was reached, and the corresponding portion of pericardium was removed, leaving only healthy tissues. On separation of the tumour, by dividing the costal cartilage close to the sternum, a large gap in the front wall of the pericardium was left, fully exposing the heart, which was seen beating, the apex rotating to the right with each beat. From the size of the gap it at once became evident that it would be impossible to close it by bringing together the edges, and the question arose as to how the operation must be completed. I decided to cover in the gap by separating from the chest wall the pectoral muscle and sliding it over, taking care to ligature every bleeding point and to leave the wound perfectly dry. After bringing over the muscle and stitching it in position so as to leave the heart in a closed cavity, the flap of skin with the subcutaneous tissue was brought back into position and fixed there by silkworm-gut sutures and Michel's clips. The patient gave no anxiety during the whole course of the operation, except at the moment of opening the pericardium, when the anaesthetist, Dr. Maynard Horne, told me that the pulse suddenly flagged for a short time. On putting the patient back to bed the pillows were raised so as to allow of her being in a semi-recumbent position. Recovery was uninterrupted, and the wound healed by first intention.

The growth removed presented the naked eye appearance of sarcoma, but on microscopic examination it proved to be a columnar-celled carcinoma undergoing colloid degeneration.

A further examination of the abdomen and also a vaginal and rectal examination failed to discover any primary growth, though doubtless there must have been one.

I saw the patient again on May 5th when she returned from the seaside. She was then complaining of pain down the left thigh and of vague spinal pains, but there was still no evidence of local growth to be made out, and there was no recurrence of the chest trouble. She appeared otherwise to be fairly well, and was able to call and see me. Though I did not see her again, I heard that she lived for some months and ultimately died from metastases in the bones. As there was no *post-mortem* examination it was impossible to state the site of the primary growth.

CASE II.—*Chondro-Sarcoma Involving the Pericardium.*

The second case was that of a lady, aged 33, who was brought to see me by a surgeon who had himself removed, fifteen and again eight months previously, what was supposed at first to be an enchondroma of the sternum and left fifth costal cartilage; the tumour had returned rapidly after each operation. It had been noticed a year before the first removal, or a little over two years before I saw the patient, and the course of the disease throughout had been painless. An examination of the growth removed showed it to be a chondro-sarcoma.

On examining the patient, who otherwise was in perfect health, a hard, somewhat irregular tumour was found involving the fifth rib and costal cartilage closely adjoining the sternum. It was firmly fixed to the deeper parts, but was free from the skin and cicatrices of the old operations. From the description given of the previous operations it was quite clear that no operation for the removal of the growth could be undertaken without the possibility of its involving interference with the pericardial sac. This was explained to the patient, who knew the nature of the disease, and it was quite clear that as the tumour had recurred twice, no partial operation could do any good. After other opinions had been taken, and the husband and other relations had been made aware of the dangers likely to be incurred, the patient decided to submit to operation, which was performed on June 5th, 1907.

First Operation.

A dome-shaped incision was made and a flap reflected from the front of the sternum and left ribs, leaving the tumour projecting in the centre. This was laid bare quite down to the sternum and the ribs. The fifth and sixth ribs were divided by bone forceps, and by means of a Hey's saw the sternum was deeply grooved half an inch from the margin of the tumour. The ribs, with the tumour attached, were then gently raised and the finger and a raspatory were passed behind it, separating the pericardium as far as possible. When the tumour was reached the pericardium could no longer be separated from it, as it was firmly fixed to and incorporated with the growth. It could not, therefore, be removed without taking away a portion of the anterior wall of the pericardium, which was deliberately done. Bone forceps were employed to divide the remaining portion of the sternum along the groove originally made by the saw. When the pericardium was opened the pulse failed somewhat and the patient became rather livid, but as soon as the growth had been completely taken away the pulse again became regular, though the heart was fully exposed to view. The torn edges of the pericardium were cut away and the margins approximated as far as possible by iodized catgut, but it was impossible to make the edges meet, the gap being in one place fully an inch across. The pectoral muscle was then freed from the chest wall for some distance and the muscular flap was brought over the gap and fixed there so as to completely shut in the pericardial sac, after which the superficial skin flap was placed in position and fixed by silkworm-gut sutures and Michel's clips. The patient, on being put back to bed in the semirecumbent position, suffered for the first forty-eight hours from slight dyspnoea, but had very little pain. The pulse remained good and the temperature was normal throughout, the wound healing by first intention. Her general health remained good. An examination of the tumour showed it to be a sarcoma blended with cartilaginous elements, the tumour having a capsule and being apparently of a low form of malignancy.

Second Operation.

I did not see her again until a year later, when I had a note to say that there was a suspicious lump on the costal cartilage below the point of the previous removal. Her general health was still good, and there was no evidence of enlargement of glands.

At first I was disinclined to operate again, knowing the extensive character of the former operation; but her own medical man, supported by a well-known physician, thought that an operation ought to be undertaken, especially as the patient and her friends wished it.

On April 28th, 1908, I again operated, removing a portion of the seventh and eighth costal cartilages, and also the lower end of the body of the sternum, all of which seemed to be involved. On this occasion it was not necessary to open the pericardium, which was, however, fully exposed and appeared to be normal.

The tumour removed on this occasion proved to be composed principally of fibrous tissue without any cellular infiltration or

excessive overgrowth of cartilage. The parts removed extended wide of the growth. The patient made a satisfactory recovery from the operation and was quite well for nearly a year. She wore a metal shield covered with wash leather to protect the cardiac region where the natural bony and cartilaginous covering was missing.

The patient is still living, but is suffering from recurrence of growth in the chest wall too extensive for removal.

These cases serve to show that it is quite safe to remove even a considerable portion of the pericardial walls, and that the gap in the fibro-serous sac can be efficiently covered in by a flap taken from the pectoral muscle.

The apparent limitation of growth in both cases and its seemingly complete removal gave hope at the time that operation might be completely successful.

Had it been possible to know the nature of the growth before removal in the first case it would have been recognized as hopeless, since carcinoma of the ribs is a secondary affection, though curiously the primary disease was never found, either when the patient was under my observation or during the later months of life.

The encapsuled nature of the sarcoma in the second case and its apparently complete removal made the recurrence a year later a matter of great disappointment to every one concerned.

Although the actual operation in these two cases was attended with immediate success, the after-progress of the cases was not such as to make one desirous of repeating what was necessarily a very anxious procedure, both for surgeon, anaesthetist, and patient.

I have related these cases from a sense of duty rather than as an example to be followed, and because I think it is an interesting fact worthy of note that the pectoral muscle seemed to answer perfectly as a substitute for the deficient pericardium.

THE SULPHUR MINERS OF SICILY: THEIR WORK, DISEASES, AND ACCIDENT INSURANCE.

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In the spring of 1910 I visited Sicily, with the object of studying upon the spot the conditions under which sulphur mining is carried on, and its effects upon the men and boys employed. I was the guest of Dr. Alphonso Giordano of Lercara, a gentleman whose professional life has been spent amongst the sulphur miners, and who is regarded as the greatest authority on the diseases of the mining classes. Unusual opportunities were thus afforded me, not only of descending into the mines and of seeing the men and boys at work, but of discussing with Dr. Giordano and mine managers what steps should be taken to improve the conditions under which the work is carried on. On my way to Sicily, in passing through Rome, I had an audience of the Prince de Scalia, Under Secretary of State, who was kind enough to ask me to favour him with a report upon the sulphur miners and their work, accompanied by such recommendations as I thought fit to make. This request was subsequently complied with.

Lercara is situated in one of the sulphur-bearing areas near the centre of Sicily. On our way from the station we passed carts laden with large blocks of sulphur, mules carrying similar loads, and near Lercara a few worked-out mines. In consequence of several of the mines having become exhausted, and partly, too, in consequence of American competition, sulphur mining in Sicily has not been prosperous during recent years. There are therefore fewer mines working in Lercara than formerly.

Many of the mines are in the hands of small proprietors, and in them the conditions under which the work is carried on are bad. They are not ventilated. The descent into these, as well as into even most of the large and partly ventilated mines, is by steps cut out of the rock. At one large mine there are 1,000 such steps. Immediately on entering the cave-like opening which leads into a mine the descent at once begins, and as many of the steps have become worn away, are irregular and broken, and have become greasy as the result of the myriads of bare feet which have travelled down and up the steps, ingress and egress in the feeble light with which the mine is supplied are difficult and not free from danger.

In sulphur mines the men who bring down the ore, mostly by means of a pick, are known as *piconniers;* their work is carried on in a stifling atmosphere and in a high temperature. The exertion required is so great and the attendant circumstances are so trying—although the men work without any clothing—that they are obliged to rest after every fifteen to twenty minutes. I took the body temperature of the men, and found it slightly elevated—37.2° C. (99° F.), pulse rate 91, and respirations 28 to 34. The *piconniers* perspire freely, and drink from eight to ten pints of water daily.

The ore got by the men is carried on the shoulders of barefooted, scantily-clad boys up the steep and worn steps to the surface. As these *carussi* are not always given lights, the journeys up and down are made in the dark. Many are the sad accidents which have taken place owing to the *carussi* slipping. The boys and their burden roll down the steps, entangling in their descent other *carussi* who may be ascending. On coming out of the mine to deposit their burden of ore, these boys are seen to be panting for air, their breathing is quickened, and for the moment they are somewhat distressed. I found the respiratory rate of the *carussi* almost doubled—30 instead of 16—their heart beating at the rate of 128, and their temperature 38.1° C. (100.5° F.). The effect upon the boys of having to carry upon their shoulders such heavy loads of ore as 50 kilos, or a little over 110 lb., and frequently more, is seen in the undersize of the lads and the peculiar distortion of their spine. Formerly boys entered the mines at 7 years of age; now the age required is 12, but the law is not rigidly enforced. The *carussi* not only become hunchbacked and deformed in their legs, but worse; owing to the hard nature of their work, the inhuman treatment by the men, the long hours and monotony of their employment, mental development and physical growth do not keep pace with age, and as a consequence their manhood is arrested. In addition to the boys transporting the ore, the work is also done by men who commenced life in the mines as *carussi*, and who, as the result of having for years carried ore upon their shoulders, present a large hump on their back upon which the ore rests, a deflected spine, deformed lower extremities, and a distorted chest. So diminutive in stature are these men, and so deformed physically, that the Government can hardly obtain in a sulphur-mining district conscripts for the army. In going through the streets of a sulphur-mining town on a summer evening, or better on a Sunday when the men are all standing about, one is struck by the short stature and defective development of the men who transport the ore on their shoulders. Some of the men whom I measured, although 30 years of age and upwards, were only 4 ft. high, and in mental development were but as children. Partial or complete loss of vision is not uncommon among the miners as the result of injuries to the eyes.

The *carussi* are often harshly treated by the *piconniers* and by the men generally. Those who work in the small mines live at home or in lodgings, but at the large mines further away in the country the boys are housed with the men in barracks, the windows of which are barricaded during the day, so that sunlight never enters, and ventilation of the rooms hardly ever takes place. No females are employed to look after the rooms or bedding; men and boys feed together in a canteen, their food being bread, oil, and macaroni, with vegetables, dried beans, and lentils. The men have meat on Sundays, and they drink wine freely that day. So tired are the *carussi* and the *piconniers* after their ordinary day's work in the mines in the country away from the ordinary attractions of the towns, that they retire early to rest. A *carusso* pays 6d. a day for his food.

Sulphur miners work nine hours a day. The boys can make 1 franc a day, or a little more, according to age and physical fitness; the men carriers 1.80 francs, and the miners 3 francs. House rents are cheap in Lercara. One transporter whom I visited in his home paid 2 francs a month for his house; his wife had had eight children, four of whom were alive. The muscles of this man's back were enormously overgrown and the skin of the left

shoulder thickened. The *piconniers* do not reach a great age. They die from heart and kidney disease, partly owing to the hard nature of the work, and in some instances in consequence of excessive indulgence in cheap wine, half a pint of which can be obtained for less than a penny. This wine contains from 12 to 18 per cent. of alcohol. Considering the arduous nature of their work, it cannot be said that the sulphur miners are, on the whole, a drunken class. They have little time and less money during the week to spend in drink, but on Sundays many of them indulge freely.

Piconniers run all the risks to health attendant upon working in high temperatures; there occurs chilling of the body when perspiring, also bronchial irritation from exposure to cold and from inhalation of sulphur vapour. They are also liable to a form of fibrosis of the lungs, called *theapneumokoniosis*, the result of breathing an atmosphere ladened with minute particles of mineral rock and sulphur.

Occasionally a fire breaks out in a mine, owing to firing of the sulphur dust by the use of ordinary powder or other explosives. The sulphur fumes are exceedingly irritating not only to the bronchial tubes, but to the eyes, hence the frequency of conjunctivitis amongst the men. This inflammation of the eyes is worse in some mines than in others. At the small mines no provision is made against fires, but at the Trabonelli mine, near Caltanissetta, the owners have a well-equipped store-room containing the Gelsenkirchen safety apparatus, as used in the Westphalian coal mines. Men are trained to wear this apparatus, and have drilling exercises every fortnight. On several occasions, when fires have broken out in the Trabonelli mine and the men had become overpowered by the fumes, they have been rescued by their comrades wearing the safety apparatus. Mr. Bassi, the manager, informed me that the apparatus had never gone wrong or disappointed him at a critical moment. During the drills the men wear the apparatus for two hours in the mine, and they do not complain of its weight. The employers have always at hand several cylinders of oxygen, also Bratt's oxygen automatic apparatus for the revival of persons suffocated by gas. At the Trabonelli mine there is an excellent first-aid department. It is managed by the Red Cross Society. There is a qualified surgeon, Dr. Vitrano, who wears the uniform of a military medical officer, with trained men to assist him. The society is a branch of the military service, and appointment in it carries rank. The surgeon is paid by the Insurance Syndicate, of which mention will be made later. Dr. Vitrano's assistants dress the wounds of the men. There are three rooms in the accident station. One assistant sleeps in the house, so that medical and surgical aid can be secured by day and night.

In addition to the presence of sulphurous acid vapour in the mines, sulphuretted hydrogen is occasionally met with, inhalation of which is extremely dangerous. At one of the mines eleven men lost their lives from this cause a few months previous to my visit. One lad who had been rescued and whom I examined had been unconscious for several days; he had been the subject of recurrent convulsions for weeks, and had also lost, but had regained, his speech. In a badly-ventilated mine, where the air is stagnant, the presence of sulphuretted hydrogen is a source of immediate danger to life. Added to the risks which I have already enumerated, the sulphur miners of Sicily occasionally suffer from ankylostomiasis, or the miners' worm disease. In this malady health rapidly deteriorates in consequence of the parasite having gained an entrance into the small intestine, from which it extracts the blood of its host.

From Lercara I proceeded to the still more important sulphur-bearing district of Caltanissetta. Here there are 8,000 men and boys employed in the mines. The mines are large, and although the general conditions under which the work is carried on are better, they are still far behind Great Britain in matters relating to hygiene and care for the workmen. Although in some of the mines there are lifts for the ore, the miners have still to go down and have to climb up after a hard day's work several hundred steps. The men come out of the mine perspiring and often wearing nothing but a blanket thrown around their body. There are altogether about 40,000 sulphur miners in Sicily. As already stated, the numbers have somewhat declined during recent years, and the output, which used to be 500,000 tons, has correspondingly diminished. Formerly 120,000 tons of sulphur were exported to America, but by the opening out of the mines of Louisiana and California this market has become closed to Sicily. At the time of my visit a ton of sulphur was selling for £4 10s. The landowners receive a royalty of 14 to 16 per cent.

Where smelting of the ore is carried on the air for a considerable distance around the mine is impregnated with the vapours of sulphur, and vegetation is often blighted. The farmers occasionally obtain compensation for injury to their crops, the damage being assessed by an expert. This usually takes place in the early part of the spring, as once the crops become yellow no harm is said to be inflicted upon them by the sulphur vapour, and no compensation can then be awarded.

At Caltanissetta I had the opportunity of meeting M. Pompei Colojanni, the head of the insurance syndicate of the sulphur miners, to whom, as well as to M. Olivieri, owner of the Giona Sulphur Mines near Raculmuto, to M. Federo Caico, son of the distinguished authoress, and last, but not least, to Dr. Alphonso Giordano, my friend and host, as well as my fellow traveller through Sicily, I take this opportunity of tendering my warmest thanks.

My visit to Caltanissetta was largely undertaken with the object of having a conversation with M. Colojanni, to whose unremitting efforts the sulphur miners are indebted for the insurance fund, also for medical attendance and for the general and sympathetic interest which is taken in their welfare. The Sulphur Miners' Insurance Society is not a State-managed fund, although it is obligatory upon employers and leaseholders to contribute to it. The workmen do not contribute to the fund. The tariff is 2 francs per ton of melted sulphur. The amount of money raised from employers is 800,000 francs per annum. Of this, 250,000 francs are spent upon medical and surgical requisites, including payments to doctors and their assistants. The Red Cross Society receives a special allowance of 100,000 francs a year. There are in Sicily 112 medical men connected with the insurance society, but all doctors must, according to law, render first aid, if called upon to do so, and for this service they receive 7 francs. In Caltanissetta there is a consulting staff of 3 medical men, each of whom receives 3,000 francs a year. It is the duty of these medical men to visit the injured and to furnish a report to the director of the insurance fund. In 1909 over 2,000 medical visits were made.

The benefits of the insurance fund are only extended to men and boys who have been injured in, or in connexion with the sulphur mines, and to relatives of persons who have succumbed to injuries. If death supervenes after an accident, five years' wages are paid to the relatives of the deceased miner; the average amount paid is 3,000 francs, but this sum is regulated by the wages which had been received by the workman. Every injured miner is entitled to 2.40 francs per day. For ordinary sickness little provision has as yet been made; but in the event of an acute illness, such as pneumonia, employers will frequently render financial assistance to a sick miner, in the hope that, when he returns to work, deductions can be made from his weekly wages. To the establishment of the insurance fund there was considerable opposition on the part of the employers on account of expense; but a more beneficent scheme could hardly be conceived. It is now regarded by all as an excellent institution, one in which are highly reflected the foresight, ability, and humanity of M. Colojanni.

The syndicate has appointed three experienced inspectors to visit the mines and to offer suggestions to the owners as to the means whereby accidents may be prevented. These appointments have been productive of good. After every accident a report is sent to the State Mining Office, the Police, and the Insurance Fund. It is sufficient if the announcement is sent by telegram. In addition to the above there are also fourteen under-inspectors, who are paid by the fund to assist in a general way. These men frequently assist the surgeons in dressing wounds, etc. In the event of an accident proving fatal, a *post-mortem* examination is always made; this is attended by two medical men, one of whom is an official of the insurance fund, while the other is appointed by the magistrate of the district.

Since the establishment of the insurance fund, lawsuits, which used to number 200 a year, have fallen to 60. In 1905 the accidents numbered 9,000; in 1909 they had fallen to 5,000, owing to greater care, improvement of methods, and mine inspection. The period of temporary invalidity after accident used to be twenty-five days; the year before last it was sixteen and a half days. Injured miners receive pay from the first day of the accident. In consequence of the frequent visits of the official surgeons, whose report is final, malingering has been reduced to a minimum. An injured miner has one alternative, and that is to apply to a judge, who, if he deems it necessary, can send a doctor to examine the patient, and if the medical report is contrary to that of previous examiners, the judge may reopen the case and settle it. Lawsuits are tried in Caltanissetta and appeals are heard in Palermo.

The cost of the administration comes to 140,000 francs a year. The sum paid to injured workmen in 1905 was 700,000 francs; in 1909 it was 300,000 francs. M. Colojanni maintains that the terms arranged for the injured sulphur miners of Sicily are better than those for the ordinary miner in Germany.

The principal accidents are fracture of arms and legs due to falls of stone from the roof, fractures of the bones of the feet and injuries to the head by falls of stone. Beyond conjunctivitis due to irritation of the eyelids by sulphurous acid and sulphuretted hydrogen, eye affections are not common. Trachoma is sometimes met with. The men are occasionally asphyxiated through unexpectedly inhaling sulphuretted hydrogen and carbon dioxide gases given off from the bituminous clay and the naked lights used in the mine by the men and boys.

The *carussi* frequently fall down the steep and worn steps which lead into the mines. Of the 5,000 accidents which occur annually, 1,200 happen to these boys; 50 per cent. of the accidents occur among the *piconniers*, and 26 per cent. among the *carussi*. Of the latter 2 per cent. are fatal.

An Invalid Fund has been or is about to be opened for the sulphur miners. This will be managed by the State. To it owners and leaseholders will contribute 1.5 francs per ton of sulphur. It is stated that this fund will not be contributed to by the workmen.

Of the good results which have followed the introduction of the Accident Insurance Fund among the sulphur miners of Sicily I again repeat that I cannot speak too highly.

EXPERIMENTS ON THE RESTORATION OF PARALYSED MUSCLES BY MEANS OF NERVE ANASTOMOSIS.*

BY

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[ABSTRACT.]

RESTORATION of voluntary co-ordinated movements after "nerve crossing," first demonstrated by Flourens, has since been from time to time the subject of investigation. The conclusions of Flourens have been confirmed by Rawa, Stefani, Howell and Huber, Langley, and myself. A practical application in surgery was first suggested by Létiévant, and within the past twelve years considerable development has taken place in this direction.

During the past two years I have performed about 30 experiments on monkeys and dogs in order to investigate several points from the physiological standpoint. These experiments fall naturally into three groups. The first deals with the methods of cross union or anastomosis between the peripheral segment of a divided facial nerve and a suitable motor nerve in the neighbourhood. The second series of experiments deals with anastomosis in the fore limb of dogs, in order to investigate some aspects of the question not overtaken by previous work on this part of the subject. The third series deals with the brachial plexus, its functions, and the methods of anastomosis applied to it.

The present communication is confined to an account of experiments with the facial nerve, of which there have been 10 performed. Of these 10, 6 were primary anastomoses and 4 secondary anastomoses—that is to say, in 6 the facial was cut, and its peripheral segment immediately anastomosed with the central segment of the substitute nerve, while in 4 the facial was cut and left unattached for a period, precautions to prevent spontaneous reunion being taken, and then at the end of that period re-exposed and united to the substitute nerve.

Primary Anastomosis.

In the primary anastomoses two were in monkeys and four in dogs. Of the two monkeys, in one the facial was cut and attached to the side of the spinal accessory, and in the other it was attached to the side of the hypoglossal nerve. Voluntary dissociated movements of the face commenced to return in the former in 58 days, and in the latter in 32 days, and each of the animals had complete voluntary closure of the eye at about 100 days.

Of the four dogs, in two the spinal accessory was the substitute nerve, and in two the hypoglossal. Of the two spino-facial anastomoses one was an end-to-side and one an end-to-end, and the same variation was practised with the two hypoglosso-facial anastomoses.

The two spino-facial anastomoses commenced to recover voluntary dissociated movements of the face at 105 (end to side) and 90 (end to end) days respectively, and were almost complete as regards power to close the eye at 116 and 123 days respectively.

The two hypoglosso-facial anastomoses commenced to recover power to close the eye at 55 (end to side) and 84 (end to end) days respectively, and were very complete as regards closure of the eye at 142 and 107 days respectively.

Association movements of the face, on the normal distribution of the substitute nerve being innervated by the animal, were observed only in two of the experiments, one a spino-facial (end to side) in a monkey, and one a hypoglosso-facial (end to side) in a dog. In the latter case, every rapid movement of the tongue, as in eating, licking the lips, etc., was accompanied by a wink.

Secondary Anastomosis.

The secondary anastomosis experiments were performed in one monkey and three dogs. The monkey had spino-facial anastomosis (end to end) performed one month after section of the facial, and commenced to recover power to close the eye by means of the orbicularis at 46 days, and there was good reflex closure of the eye at 65 days.

In the three dogs the facial nerve was cut close to the stylo-mastoid foramen and precautions taken to prevent reunion, and anastomosis performed after the lapse of one month in two of the dogs, and after 100 days in the remaining dog. Of the two in which the interval of one month had elapsed, in one, a spino-facial (end to end) anastomosis, no recovery of voluntary function had taken place at 69 days, when the animal died. In the other in which a month's interval had elapsed, a hypoglosso-facial (end to end) anastomosis, voluntary dissociated closure of the eye commenced to return at 60 days and was complete at 93 days.

In the dog in which 100 days elapsed before substitution, an end to end spino-facial anastomosis was performed, and voluntary closure of the eye commenced to return at 124 and was complete by 167 days.

In every case except two a physiological examination was made, and proved that the recovery of movements which had taken place in the face was wholly due to impulses reaching the face via the substitute nerve. In both cases in which the examination was not made before death the animals died unexpectedly. In one of these no voluntary function had returned (dog), and in the other, in which restoration had taken place (monkey), the *post-mortem* examination showed that there had been no reunion with the central end of the facial, as the stylo-mastoid foramen was found completely obliterated by a bone plug which had been hammered into it at the operation.

As an addendum, reports of two cases of spino-facial anastomosis are given. The first is a report twelve years after the operation performed in a woman, and published in the *Philosophical Transactions* in 1901, in order to show the ultimate result. The second is a report of a case of facial paralysis of three years' standing in

* A paper read before the Royal Society on June 1st. The expense of this research has been defrayed by a Government grant from the Royal Society.

which spino-facial anastomosis was performed, and in which recovery commenced about three years after the operation.

Conclusions.

The following general conclusions follow from the observations which are recorded in the full paper:

1. In any case of facial paralysis due to division or compression of the facial nerve, the best procedure, should spontaneous recovery fail, or be deemed impossible, is to attempt restoration of the damaged nerve.

2. Should efficient restoration of the nerve be impossible or be deemed impossible, anastomosis with the spinal accessory or hypoglossal holds out the most favourable prospects of recovery, given that the facial muscles are still recoverable from the point of view of duration of complete severance from the nutritive influence of the central nervous system.

3. Of the two substitutes, spinal accessory and hypoglossal, when the latter is used the restoration appears to commence sooner, but there does not seem to be a great difference in the ultimate result of the two substitutes, as far as the recovery of the face is concerned.

4. Of the new paralysis produced as a result of cutting the substitute nerve that which is produced when the spinal accessory is cut is much less objectionable than that produced when the hypoglossal is cut, and when the paralysis is to be left as a permanent defect, namely, when the peripheral segment of the substitute nerve is to be left unattached, the hypoglossal paralysis is not justifiable.

5. When, in consequence of the anastomosis, association movements are present in addition to voluntary co-ordinated and dissociated movements, these associated movements give no trouble and are not noticeable with ordinary movements when the spinal accessory has been used, but, if present, may be most objectionable and noticeable with ordinary movements when the hypoglossal has been used.

6. As regards the interval during which the paralysis has lasted before anastomosis has been performed, there appears to be no difference in the date of commencing recovery and ultimate result, whether anastomosis immediately follows section of the facial, or whether one month's interval at least is allowed to elapse before the anastomosis is performed after the facial has been cut.

7. The only way to make an efficient union between two nerves is completely to cut across all the nerve fibres in both nerves; methods such as Manasse's, designed to maintain the integrity of the nerve fibres, give inefficient unions.

8. In the course of recovery of independent voluntary co-ordinated movements, the orbicularis palpebrarum is first to exhibit recovery, and usually is the muscle which recovers best, and in no case has a perfect recovery in the movements of the face been proved to take place.

9. Reunion of the facial nerve is to be preferred to restoration by means of an anastomosis, as the latter involves interference with the distribution of another nerve, and association movements are sometimes troublesome.

10. The distribution of the facial nerve is, in dogs and monkeys, limited to its own side of the face, and recoveries cannot therefore be attributed to a supply from the opposite facial.

11. The distal segment of the divided facial, except for a short period immediately following division, on being irritated gives no response in the muscles, if no connexions at a subsequent date have been made with the centres, either through its own central segment or by some other path, and, conversely, the occurrence of muscular responses on irritating the peripheral segment is proof that such connexions have been established.

Dr. Kennedy has kindly furnished us with the following details of the two cases referred to in his paper:

CASE I.—SECTION OF FACIAL NERVE: SPINO-FACIAL ANASTOMOSIS.

A. *Abstract of Report published in "Phil. Trans." in 1901.*

In a woman, aged 46, the right facial nerve was divided for the relief of severe facial spasm, and spino-facial end to side anastomosis was immediately performed for the cure of the facial paralysis produced by the section of the facial.

Recovery of the orbicularis palpebrarum commenced on the forty-ninth day, and gradual improvement took place. At a year and a quarter she could voluntarily completely close the right eye. The right side of the forehead could be very slightly moved and inco-ordinated movements of the cheek and mouth could be made. In blowing, the aperture of the mouth could not be made circular. In repose there was no sign of facial paralysis.

All these movements were independent of those of the shoulder, and it was only after a year and a quarter that it was discovered that association movements were present; but it was only at the moment of suddenly and violently raising the arm that association movements were present, and they passed off although the arm was continued to be held up.

B. *Present Condition.*

(*a*) *Electrical Examination.*—All the muscles of the right side of the face give normal faradic responses both when irritated through the nerve and directly. The minimal responses are evoked by very nearly the same strength of current. The same is found in the sterno-mastoid and trapezius. The responses to the galvanic current are also normal quantitatively and qualitatively.

(*b*) *Movements.*—Further improvement has taken place in the facial movements, especially as regards the lower part of the face. The eye at present can be completely closed voluntarily with some degree of tightness and quite independently of shoulder movements, as was the case in 1901. Winking takes place synchronously in the two eyes. The lips can form a round aperture as in whistling or blowing, and the mouth can be filled with air under pressure without any escaping between the lips. On compressing the cheeks it is through the right side of the mouth that the escape takes place. Food does not tend to collect between cheek and gums. There is still defective movement in the muscles of the right side of the forehead. Smiling is possible without showing much defect, but any extreme emotional movement brings out asymmetry.

As regards the present state of the association movements, these are exhibited only on violent elevation of the shoulder, but pass off quickly, and the shoulder can be kept held up without any association movements showing in the face.

CASE II.—FACIAL PARALYSIS (OTITIS): SPINO-FACIAL ANASTOMOSIS.

In this case the patient, a girl aged 3½ years, had suffered from left-sided facial paralysis since 6 months old in consequence of otitis media. In the course of the otitis media there had been an infection in the neck, which had destroyed the function of the left spinal accessory.

When the case was first seen there was typical left-sided facial paralysis. The eye could not be closed, but the eyeball was rolled upwards on attempts at closure being made. The cheek was flaccid, and the left angle of the mouth drooping.

At the operation on April 25th, 1907, no responses in the muscles could be got by stimulating the exposed facial nerve, but trivial responses were got in the muscles by stimulating them directly on the muscle substance by the galvanic current.

The spinal accessory central segment was identified anatomically, in the absence of all electrical responses, due to the lesion. It was cut, turned up, and attached to the peripheral segment of the facial, previously also divided—that is, an end to end union was made.

No improvement resulted for three years, when the eye began to show voluntary closure. This advanced, and now at four years the eye can be voluntarily closed almost completely, and there is no irritation of the conjunctiva, as foreign bodies do not readily get access to the eye, the winking movements being efficient.

Other facial muscles have also developed, and the lips can be held close together, so as to prevent the escape of air held in the mouth under pressure. On compressing the distended cheeks the air escapes by the mouth with a report. There is but little appearance of facial paralysis in repose.

No association movements can be discovered.

There has not been any satisfactory electrical examination since the operation, as it is necessary for this to have the child under an anaesthetic.

A SUBTEMPORAL DECOMPRESSION OPERATION FOR INTRACRANIAL PRESSURE.

BY

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CASES of recovery from this operation are still sufficiently rare to make this one of interest. It is also worth recording on account of the case being under close observation from the time of the injury and the interesting development of signs and symptoms leading up to the operation.

A man, aged 37, was admitted at 12.30 on March 10th. He and a fellow workman had been injured by the fall of a crane. The fellow workman was at once in a desperate condition. The crane had fallen across his chest, fracturing several ribs, which crushed into his lungs. When the ambulance wagon arrived

to remove him, it was with difficulty the subject of this paper could be got into the mind to go to the hospital. He said he was "all right," and had only the back of his head grazed.

State on Admission.

He ultimately did go, and walked alone from the ambulance wagon up to the wards without difficulty. His head was dressed, and dinner being just served he asked for some dinner. He ate the meal, and afterwards walked about the ward, and chatted to several of the inmates whom he knew. They remarked that he was in good spirits.

In a short time, within an hour, his condition became "hilarious." Then he vomited his dinner, and it was noticed that some blood was mixed with the food. Drowsiness came on. He mentioned some stiffness in the right leg and arm. He asked to go to bed, and within two hours after walking into the hospital he was comatose.

Operation.

On being brought into the theatre, six hours after the accident, he was still comatose. Pulse 50 per minute. The left pupil was dilated. It was decided to do a decompression operation.

Dr. W. H. Hender Bennett, Dr. Russell, and Dr. Keighley assisted. The usual preliminaries—shaving, toilet, and painting with iodine solution—having been carried out, an obliquely-vertical incision was made through the scalp and subcutaneous tissues. A point 1½ in. behind the external jugular process of the frontal and 1½ in. above the zygoma was cleared. We found a fracture of the vault crossing our exposed area, and a trephine 1 in. in diameter was used. On removing the "disc" it was found that we were dealing with an extradural haemorrhage. We came upon large clots at once. Failing to find a bleeding point we trephined again behind and below, with the object of examining the posterior branch of the middle meningeal artery. The intervening bone between the two "dics" was broken through by bone forceps. The whole exposed area was cleared of blood clot.

Result.

The effect of these measures was immediate. The pulse improved to 72. The dilatation of the left pupil disappeared. The breathing changed its character. Within a few minutes he moved his right arm and leg. The improvement was so great that it was decided not to do the bilateral operation. The case made an uninterrupted recovery. The man is now walking about as usual, without any ill effects of his injuries.

BLUE SCLEROTICS AND BRITTLE BONES.

BY

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THE following genealogical history is of interest, as it points definitely to a connexion between fragility of the bones and blue sclerotics.

At a recent meeting of the Section for the Study of Disease in Children, Dr. J. D. Rolleston,[1] to whom I am indebted for the references in this article, showed a child who had blue sclerotics, and who had sustained when a few months old a so-called spontaneous fracture of the humerus. The child's mother and the mother's sister both had blue sclerotics, and the maternal grandmother is said to have been similarly affected. But in this case there was no family history of fragilitas ossium; and, as the child had congenital syphilis, it is uncertain whether the fracture was due to the syphilis or to a constitutional peculiarity.

That there is a connexion, however, between thin sclerotics and fragilitas ossium was first suggested by Dr. Eddowes,[2] to whose original communication Dr. Rolleston referred. Dr. Eddowes mentioned the case of a young woman who had markedly dark sclerotics, and who had suffered from several broken bones. Her father had similar eyes, and also had sustained many fractures. In another case a child with very dark sclerotics had nine fractures within the space of two years.

Dr. Eddowes offered the suggestion that the translucency of the sclerotics indicates a want of quantity or quality of the fibrous tissue forming the framework of the various organs of the body, and probably explains the want of spring or toughness in the bones of these peculiar individuals. And it has been shown by Dr. L. Buchanan[3] that the condition of blue sclerotics is due to deficiency of fibrous tissue in the sclerotic, whose thinness and translucency allows the underlying choroidal pigment to be seen.

In the pedigree at the foot of this page, which represents four generations, two interesting facts may be observed. In the first place there is no instance of transmission of blue sclerotics except from a parent who actually showed that condition. The children of those members of the family who had white sclerotics themselves had white sclerotics without exception.

Secondly, not a single case of fracture was known to have occurred among the members who had normal sclerotics; although the other individuals suffered with exceptional frequency from broken bones. The two members of the family to whom I am indebted for the details were very well aware of the two family peculiarities, but they had not noticed how often they were associated. The fractures had, in many instances, been caused by relatively slight violence. For example, a child sat down suddenly on the nursery floor, and was found to have broken its femur. A lady thought she had reached the bottom of the stairs when there was one step more, and she fractured her tibia.

It will be observed that of the 29 individuals concerned 13 had blue sclerotics, and of these no fewer than 9 suffered from brittle bones.

No details are obtainable with regard to Cases 10 and 11. Among the remaining 14 individuals, who had white sclerotics, there was not a single one who was known to have sustained a fracture.

Of the 9 cases which are said to have had brittle bones 7 have suffered from multiple fractures, and there is a sufficiently definite history of the condition. In Case 4 there is a positive history of only one injury causing fracture of both bones of the forearm, but the two members of the family to whom I am indebted for the pedigree believe that she sustained other fractures during her life. In Case 23 there was only one broken bone, but as in this case the femur was broken by very slight violence—by the child sitting down suddenly on the nursery floor—it is fairly safe to assume that he would have broken more bones if he had lived to adult age.

It may be well to mention that many people, especially when young, have a shade of blue in the sclerotic coat of the eye. But this is distinct from the pathological condition of blue sclerotics. In the latter the sclerotic is coloured a pale china blue, and the appearance is so striking that one's attention is drawn to it at once on looking at the patient.

REFERENCES.

[1] *Proc. Roy. Soc. Med.*, April, 1911, p. 96. [2] BRITISH MEDICAL JOURNAL, 1900, vol. ii, p. 222. [3] *Trans. Oph. Soc.*, 1903, vol. xxiii, p. 267.

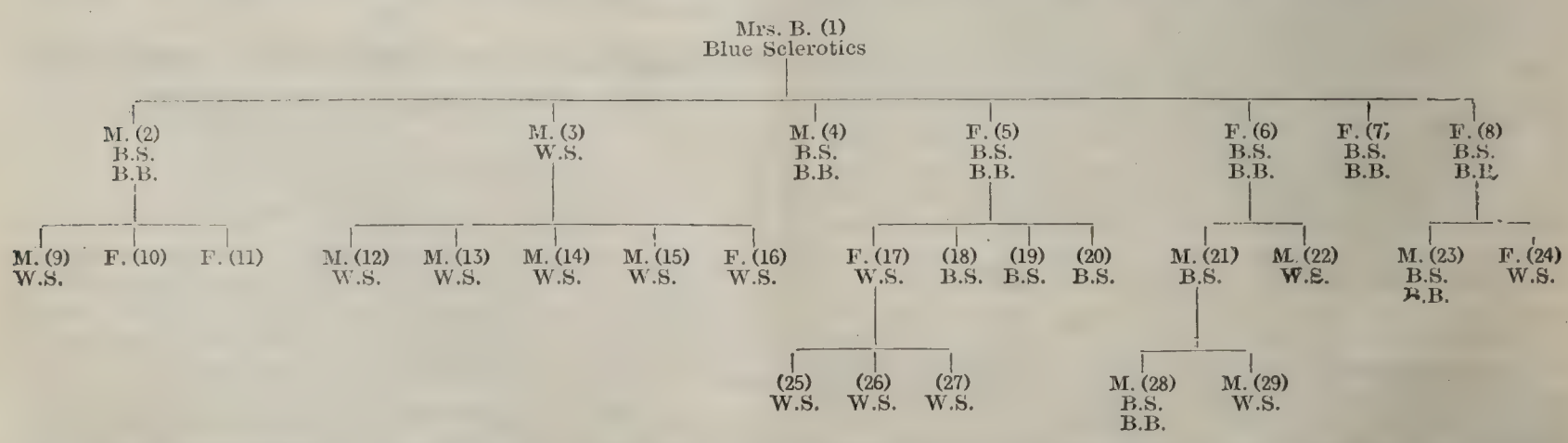

B.S. denotes blue sclerotics; W.S. denotes white sclerotics; and B.B. indicates a history of brittle bones. The individuals are numbered consecutively for convenience of reference.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TEMPERATURE IN CROUPOUS PNEUMONIA.

IN acute febrile conditions the evening temperature is usually higher than the morning record; in critical pyrexia the most restless and trying time is generally at night, and the crisis is often reached during that period. In a case of pneumonia of recent date these conditions were reversed, the morning temperatures being higher than on the previous evenings, and the accompanying symptoms appeared aggravated during the day.

J. T., aged 15 years, was first seen on the evening of April 4th. He had kept his bed since the night of April 1st, but his mother had thought him to be suffering from a cold. He was seriously ill, with congested face, respirations 36, pulse 100, irritable cough, and acute pain in the right side of thorax, accompanied by râles. The temperature was higher each morning and fell in the evening. Crisis took place during the daytime of April 7th.

Date.	Morning.	Evening.
April 4th	—	101°
April 5th	103°	101°
April 6th	104°	102.5°
April 7th	103.5°	99.5°
April 8th	99°	98.4°

The youth, who had been at work twelve months, had been employed at night time in a mine, and afterwards in an iron foundry, also working at night. Whether this had anything to do with the peculiar variation in temperature I cannot say, but it is the only solution I can find. Possibly in night workers the temperature chart is upset in this way. It would be interesting to know if practitioners in attendance on men whose employment takes them on duty at night have observed a similar phenomenon.

Handsworth Wood. WM. DOWNING, M.R.C.S.

GASTRO-INTESTINAL HAEMORRHAGE IN A NEWBORN INFANT.

MR. MILLS'S note of a case of this nature and its alleged rarity (BRITISH MEDICAL JOURNAL, April 29th, p. 993) induce me to put on record a similar case which has recently occurred in my practice.

The child, a male, was born after a normal labour, the membranes remaining intact until just before the head was born, birth taking place at 11.55 p.m. No interference of any kind was necessary. Both parents are healthy, the mother being a primipara, aged 32. Next day the child was apparently quite well, but in the early afternoon of the day following I went to the house, as the result of an urgent message, to find that the child had passed per rectum a large amount of soft red blood clot and vomited bright fluid blood. The child, when I saw it, was apparently little the worse for this loss of blood, and was taking the breast. This haemorrhage was shortly followed by another, even larger, from the bowel, and a small amount by the mouth. The baby was then blanched and evidently suffering abdominal pain. I could, however, detect nothing abnormal on examination, and the bowels had acted quite normally before the bleeding first occurred.

Believing that this haemorrhage was of the nature of a general oozing rather than due to rupture of a large vessel or vessels, the treatment I adopted was to stop breast feeding, and give in its place a fair quantity of water and albumen water, directing a given quantity of gelatine to be dissolved in the former. I also gave calcii chlorid. gr.j, with tinct. camph. co. mij, every four hours. Haemorrhage ceased after twenty-four hours, the child began to make headway, and is now in every respect, to all appearances, quite normal.

It is quite probable that if all cases of this nature which are met with by medical practitioners were put on record, it would be found that the condition is not so rare as the textbooks assert.

Bakewell. THOMAS FENTEM.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

CITY HOSPITAL, ABERDEEN.

A CASE OF MULTIPLE INFECTION BY THE DIPHTHERIA BACILLUS.

(Reported by GEORGE S. BANKS, M.B.Edin., D.P.H., Resident Physician.)

IT may be of interest to report on a case of diphtheria recently discharged from this hospital, which showed a multiple infection by the specific bacillus.

The patient was a girl aged 7 years, who was admitted on March 14th with a history of having suffered since the beginning of the year from chronic ulcerous condition of the skin round the inner canthus of the right eye.

History.—The mother described the ulcer as having begun like a sty at the extreme inner end of the lower eyelid. This, despite treatment, developed into the comparatively extensive ulcer which was present on admission. The persistence of the condition had led to a suspicion of diphtheria, and the bacteriological report was corroboratory.

State on Admission.—The ulcer was found to extend from the inner canthus to about the middle of the side of the nose. The lower edge was about a sixth of an inch below the margin of the eyelid, and extended to about the centre of the lid. The appearance was that of an indolent ulcer, the base being formed by small unhealthy granulations. There was no formation of pseudo-membranous exudate, doubtless owing to the continuous treatment. The edges were red, raised and rolled. The neighbouring conjunctiva was injected, and there was slight epiphora, but there seemed to be no definite specific involvement of that mucous membrane. The papilla lachrymalis was normal.

The throat was distinctly congested, but showed no exudation.

The facial appearance of the patient was that usually associated with a chronic naso-pharyngeal obstruction due to adenoids. On examining the nose the turbinated bodies were found to be much congested and swollen, and there were several easily-detached flakes of muco-pus on the surface of the inferior bodies. There was no actual rhinorrhoea.

The fourth locality was the vulva. On the inner aspect of each labium majus there was a raised, reddened, somewhat indurated area, with a serpiginous margin, the condition on the left labium being rather more extensive and advanced than on the right. The skin papillae showed as white points on this red surface. There was no extension beyond the labia majora.

Bacteriology.—Swabs from these four localities—eye, throat, nose, and vulva—were all reported positive on examination by Dr. Watt, City Bacteriologist, Marischal College.

Treatment and Result.—This consisted of diphtheria antitoxin and the application of pure phenol to the vulva and the ulcer at the corner of the right eye. The nose and throat were treated in the routine way. In three weeks the ulcer was healed, and the vulva was practically normal. The nose was more intractable and the turbinal bodies were still swollen when the patient was discharged after two consecutive negative swabs from the nose.

Remarks.—It only remains to speculate on the sequence of events. Probably the throat or nose was the first habitat of the bacillus. From the nose it is conceivable that infection travelled by nasal duct and lacrymal canaliculus to the eye, though it is at least equally possible that it was conveyed thither indirectly through the agency of the fingers. The labia majora might have been infected at any stage.

UNDER the will of the late Colonel Francis Haygarth, St. George's Hospital, the Belgrave Hospital for Children, King Edward's Hospital Fund for London, and the Great Northern Central Hospital each receive a sum of £1,000, half such sum going also to the Westminster Hospital.

A COMMITTEE has been formed to collect funds for the erection of a monument to the late Professor S. Arloing, of Lyons. Full information on the subject may be obtained from Professor Nicolas, of the Medical Faculty, 19, place Morand, Lyons.

UNDER the will of the late Sir John Edward Dorington, of Stroud, Gloucestershire, Stroud Hospital, Gloucester Infirmary, and the Westminster Hospital receive bequests of £500, £200, and £100 respectively.

Reports of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Friday, May 26th, 1911.

R. H. WOODS, P.R.C.S.I., President, in the Chair.

Carcinoma of the Larynx.

THE PRESIDENT (Mr. R. H. Woods) read a paper on a case of carcinoma of the larynx treated with thyroid extract, which is printed in full at p. 5. In the discussion which followed Mr. P. J. DEMPSEY said he had read of successes by thyroid treatment, and he had read of failures, and the long period mentioned by Mr. Woods before any change was noticed—practically three months—suggested that the failures might have been due to the treatment not being extended long enough. The removal of the thyroid gland for the cure of cancer had been reported, with some cures, but they were cases of primary growths, not of secondary glandular affections. Dr. PEARSON said he had been present at all the operations, and his own impression at the last was that the patient had not very long to live. He was surprised to see the patient later in a theatre, looking in good health, and showing very little sign of swelling about his neck. He would like to know what symptoms of intolerance the patient displayed when put on the 12 grains of thyroid extract every day. Dr. H. STOKES asked whether the curious form of ulceration could have been due to any other organism that got in after the operation. Recently he had seen a bladder case in which the bacillus was isolated, and after inoculation with it everything cleared up. He understood that, in giving Coley's fluid for sarcoma, much benefit was not got until the growth began to break down; it was probable that the thyroid extract had the same effect as Coley's fluid. The PRESIDENT, in reply, said that the thyroid extract affected the patient by causing nausea. A culture was made from the pus of the suppurating wound, and was found to be pure *Staphylococcus albus*. With regard to the influence of the injection beforehand, he thought it was open to suspicion that that might have been the cause of the suppuration. He did not think they knew where they were in vaccine therapy, and in future he would use it much more sparingly than in the past.

Salvarsan Treatment.

Mr. BLAYNEY, in a paper by Mr. P. J. DEMPSEY and himself, recorded a number of cases in which salvarsan had been administered, with very good results in all but one. The exceptional case was one of tertiary infiltration of the larynx, and in this no improvement followed the injection. They recommended a second injection after an interval of five or six days in all cases. Colonel BURT said that in about 100 cases he had an opportunity of watching in the army there had been only one absolute failure. This was a case of hereditary syphilis with interstitial keratitis. Two or three cases had undergone relapses several weeks after injection, but a second injection gave good results. Captain FROST said he was convinced that two injections were necessary, and that the second should be larger. Dr. MOORE thought the question of the repeating of the dosage could only be arrived at by testing the Wassermann reaction. Continental observers stated that the action of "606" was intensified by mercury, and cases had done best in his own wards when a course of intramuscular injection of mercury was given before the "606." Dr. PUGIN MELDON said he had tried subcutaneous injection with very disappointing results. He injected about 0.45 gram in a neutral solution. The next day the rash came out, and a fresh crop of syphilis appeared, and he put the patient on mercury again. Since then he had injected intravenously. He had repeated in about three cases, making the second dose smaller in the case of a man. In a case of primary syphilis, if there was much induration one would expect that the place where the spirochaetes would not have a chance of coming in contact with the blood would be in the sore, and he thought it was wise to excise the sore. In women with fat arms it was very troublesome to get into the vein. It was often necessary to expose the vein, and then put a needle into it. Mr. W. I. DE C. WHEELER said the difficulty of the intramuscular method was very much less than that of the intravenous method. In his experience, if a perfectly sterile injection was put into the muscles of the back, and the place was massaged, there would not be the slightest trace of hardness or pain after the injection. He had had a case where the needle was in the vein, and nothing would persuade the solution to go in by gravitation. It might be that the needle was transfixed in the lateral wall of the vein. In another case a good deal of the solution got into the tissues of the arm, though massage brought it down. These were difficulties of the intravenous method, and should be pointed out. If the intramuscular method was efficacious without difficulties, then it was the right method, though the weight of evidence was in favour of the intravenous method. Dr. PEARSON asked if Mr. Blayney considered it wise to give an intravenous injection to an out-patient, or whether he considered the patient should be confined to bed for at least twenty-four hours. One case which was given a mercury injection prejudiced him against the intramuscular method. The patient developed a very hard swelling, and though it subsided they decided at the Adelaide Hospital to abandon the intramuscular method. Dr. O'FARRELL said he found the amount of alkali recommended was not enough to dissolve the solution, and he had found it necessary to add more. Dr. CHARLES found that after "606" patients did well with the combination of mercury. He was in favour of the intramuscular method; it was so much easier. The PRESIDENT said he had used "606" in about twenty cases, chiefly in hospital. The method he employed was practically the same as Mr. Blayney's, with the difference that he used a small glass filter in the middle of the tube between the reservoir and the needle, which stopped anything gross or mechanical from getting into the vein. He had had a difficulty in striking the vein in some of his earlier cases, especially in well-nourished women. It occurred to him to have the arm steeped in hot water to dilate the vein, and this had made a great difference. In addition, he tied a strip of bandage above the elbow to congest the forearm. He had had a special case of a boy, now about 20, who was brought to him as a child suffering from congenital syphilis. His infection must have been virulent. Although a very decent boy himself, he was brought up in bad surroundings, and had been badly nourished. He had gummata in various parts of his body, one of which nearly choked him. He lost practically every bone in his nose. He had no septum, and the base of his skull and pharynx were obvious. He treated him by every possible method, but on each occasion when they got him well he relapsed. He determined that if he could get hold of a dose of "606" he would give it to the boy. He gave him the first dose that came into the country by subcutaneous injection, and he was now in perfect condition. The lupoid cases were the most resistant to the influence. He had had only one case of recurrence, in a lactating woman. In three weeks' time she was as bad as ever, but he gave a second intravenous injection combined with mercury, and since then she was perfectly well. He noticed an extraordinary improvement in the health of the child. The most terrible of all cases of syphilis were those where it attacked the organs of a special sense. In one or two cases he had the satisfaction of finding the hearing in labyrinthine disease improve to a considerable degree. It was, of course, much better to get patients in hospital if it could be managed; but it was better to give the injection and let the patient go, with proper instructions, than not to give it at all. Mr. BLAYNEY, in reply, said an improvement in the general condition of the patient had been noticed apart altogether from the improvement in the local lesions. Interstitial keratitis seemed to be the syphilitic lesion most difficult to treat. In advanced phthisis bleeding took place after injections, and early lung trouble required their cautious administration. In a certain number of cases after injection there had been a lesion of the auditory nerve. Further experience showed that this was not the result of arsenical poisoning. Such a lesion was amenable to further syphilitic treatment, and was really a recurrence of the syphilis. The recommendation apparently now was that the second injection should be given five or six days after the first. The real question between the two methods was which was the better, and it was not a question of relative difficulty, but of results. The amount of alkali required

seemed to vary; apparently there was not an absolutely fixed amount, and the directions given were evidently only approximate.

ROYAL SOCIETY OF MEDICINE.

SECTION OF SURGERY.

Tuesday, June 13th, 1911.

Mr. RICKMAN J. GODLEE in the Chair.

Resection of Posterior Spinal Roots.

MR. E. W. HEY GROVES read a paper on resection of the posterior spinal roots in the treatment of spinal neuralgia, locomotor ataxia, and allied conditions. His first case was one of lightning pains in association with a Charcot's joint, in which he resected the third, fourth, and fifth lumbar and the first three sacral roots. A fortnight later the joint was excised without anaesthesia. The pains were relieved, but not abolished. The second case was operated on for pain due to an ulcer following on puerperal phlebitis; the pain persisted, even in the anaesthetic area. As applied to visceral crises, he had not had very brilliant results from the operation. In one case of tabes the gastric crises were improved. In a case of Little's disease he had obtained some improvement after orthopaedic measures had failed. In a case of spastic hemiplegia, in which he divided the second and fourth lumbar and the first and third sacral roots at one operation, he had had the blood pressure measured, and had not found evidence of shock. It was permissible, therefore, to open the theca at the time of the performance of the laminectomy. His most successful case was one of spastic paraplegia, in which great improvement was effected. The osteoplastic flap method was not to be advised. In the neck hemilaminectomy sufficed. The roots should be approached at their junction with the cord, and not at their exit from the dura. Professor FÖRSTER (Breslau), after acknowledging the work of Horsley, Bennett, Head, and Sherrington, discussed the general principles of his operation and showed a series of lantern pictures illustrative of his very successful cases. His selected cases of spastic palsy showed excellent functional results. Obviously some pyramidal fibres must be persisting if the relief of the spasm was to be of any material benefit to the patient. Prolonged after-treatment, in the way of special education and physical exercises, were necessary to obtain satisfactory terminations. Dr. OTTO MAY showed a case of spastic palsy operated upon by Mr. Clogg, in which, although only six weeks had elapsed, decided improvement in the bodily movements had occurred. Mr. BALLANCE had had no experience of the operation for spasm or tabes. His first case was one of herpes with pain; section of the first dorsal posterior root relieved, but did not cure it. The second case was for the relief of hyperaesthesia of the sole of the foot, and the third for pain in a scar associated with epilepsy. Sir Victor Horsley had previously divided the peripheral nerve involved, without success. Dr. PURVES STEWART pointed out that the only conditions which could be affected by the operation were those dependent upon an intact reflex arc; in so far as severance of the posterior roots interrupted the arc, it was effective. Gastric crises might be benefited, but from lightning pains it was idle to expect complete relief. Caution was necessary in selecting spastic cases for the operation; unless it was certain that there were enough unaffected muscles left to function after the abolition of spasm, the operation was not justified. One case of his operated by Mr. William Turner for gastric crises was a success; one by Mr. Trotter for the pains of tabes gave no improvement, whilst one of spastic paralysis by the same surgeon showed fair success. Mr. AITKEN asked Professor Förster in what condition he preferred root-division to ordinary orthopaedic measures which had attained considerable success in spastic cases. Dr. HINDS HOWELL mentioned a case of his, operated on by Mr. Warren Low for gastric crises, which was not permanently benefited. The PRESIDENT asked Professor Förster if he would advise division of posterior roots in cases due to Pott's disease. Professor FÖRSTER said his operation was devised for extreme spasticity, and was employed only after orthopaedic measures had failed. He would not operate in tuberculous cases unless assured that the disease was perfectly quiescent.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, June 14th, 1911.

Dr. HAULTAIN, President, in the Chair.

Chylous Mesenteric Cyst.

PROFESSOR KYNOCH described a case of chylous mesenteric cyst simulating a pelvic tumour. It formed a nodulated tumour filling up the left iliac fossa, and extending for some distance past the middle line. On vaginal examination the cyst seemed to be connected with the uterus. On operation the peritoneum over the swelling was incised, and the cyst enucleated. Its wall consisted of connective tissue with some muscular fibres, and had no epithelial or endothelial lining. Mesenteric cysts, the author pointed out, might also be serous, hydatid, haemorrhagic, or cystic sarcoma. They were most prominent near the umbilicus, exhibited extreme mobility, and on percussion were surrounded by a resonant area, and frequently crossed by a resonant band. They might cause pain, repeated attacks of vomiting, and diarrhoea, and if chylous might lead to extreme wasting.

Repeated Caesarean Section.

Dr. JOHN MCGIBBON, in a communication on repeated Caesarean section for contracted pelvis, described a case in which the operation was thrice performed successfully to mother and child. The first pregnancy was terminated by craniotomy and double cleidotomy. In the second pregnancy, Caesarean section was planned for a date a week before labour was expected, but its earlier onset necessitated the operation being done during labour. The child died suddenly three weeks afterwards. Towards the end of the third and fourth pregnancies, the operation was successfully repeated. On the last two occasions there were no adhesions, and little sign of a scar in the uterine wall. At the third operation sterilization of the patient was procured. Dr. McGibbon traced the development of the Porro and the conservative operations, and described the extraperitoneal methods of Franck and Döderlein. He believed that the last was no safer than the intraperitoneal operation, even in infected cases, but that in such Sellheim's method of producing a utero-abdominal fistula, stitching the edges to the abdominal wound without closing the uterus, should be kept in mind. Utero-visceral adhesions rendered a subsequent operation difficult, but utero-parietal adhesions, if complete, facilitated the opening of the uterus to such a degree that some obstetricians had deliberately tried to produce them. The uterine wound should be carefully sutured, the stitches penetrating in aseptic cases through the whole thickness of the wall. Rupture had frequently occurred during a subsequent labour, and even on rare occasions during pregnancy. In the absence of pelvic disease, sterilization at the first Caesarean section was not advisable. The operation should be done three, four, or five times. Dr. BERRY HART said that he first pointed out the possibility of stripping the peritoneum off the bladder during pregnancy, and this was the basis of all the extraperitoneal operations. Professor KYNOCH said that in infected cases he always performed craniotomy. He had invariably sterilized the patient at the first Caesarean section, though now he might postpone it till the second. If he wanted to repeat the operation, he would try by means of fixation to produce adhesions between the uterus and the abdominal wall. Dr. FERGUSON said that extraperitoneal methods did not appeal to him in infected cases. Two useful suggestions had been made—to wash out the uterine cavity with saline solution before delivery, and to remove the placenta and membranes *per vias naturales*. Fixation added considerably to the dangers in a subsequent pregnancy, and everything should be done to prevent adhesions. Dr. BALLANTYNE said the extraperitoneal route was not to be recommended. He noted that one obstetrician made the abdominal incision above the umbilicus. Dr. FORDYCE considered that Caesarean section should not be carried out if the child had previously undergone severe treatment with the forceps. Dr. LACKIE said that in two instances he had found no trace of a scar resulting from a previous operation. The PRESIDENT said that if the infection was well marked craniotomy or Porro's operation by Lawson Tait's method should be carried out. He was against the sterilization of the patient if she was willing to take an operation risk of 2 per cent. Dr. MCGIBBON replied.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on June 5th Mr. BIDWELL, in a paper on the *Immediate and ultimate results after gastro-enterostomy* for gastric and duodenal ulcer, summarized the 180 cases on which he had operated. The immediate mortality after the operation was about 7 per cent., but in most of the fatal cases the operation had been performed for haemorrhage, the mortality in uncomplicated cases being practically nothing. Of the cases which recovered and could be traced, about 80 per cent. were completely cured, 10 per cent. were relieved, and 10 per cent. derived little benefit. Attention was drawn to the necessity for the occlusion of the pylorus in cases of duodenal and pyloric ulcer, since the operation of gastro-enterostomy alone was likely to be followed by a recurrence of the ulcer. It was also pointed out that gastro-enterostomy alone was useless in the case of an ulcer situated at a distance from the pylorus. In such cases it was advised that the ulcer should be excised at the same time that the gastro-enterostomy was performed. In conclusion, operation was recommended in every case of duodenal ulcer and in cases of gastric ulcer which had resisted medical treatment. Dr. CROOKSHANK considered that cases of gastric ulcer, if treated properly by drugs, etc., would not show a mortality anything like 10 per cent., the mistake in failing to properly diagnose them accounting for many which ultimately required surgical treatment. With regard to duodenal ulcers he thought most cases with established diagnosis should be operated on early.

Reviews.

IN AND OUT OF PARLIAMENT.

IT has become of late years so much the fashion to publish autobiographies and recollections that it almost becomes a duty if one passes seventy years to write something about one's life. Thus is a new terror added to old age, mitigated possibly by the thought that the reading public gains in some instances information and amusement. Our old friend the Right Hon. ROBERT FARQUHARSON has like others succumbed to the influence of the reminiscent mood, and, in a handsome volume of some 330 pages, tells us of his life *In and Out of Parliament*.[1]

There are few more pleasant ways of spending leisure than having a gossip with a contemporary on the past and comparing notes of experiences and events in bygone years. To the older generation this book will bring fresh life into memories now growing dim, and for the younger readers there will be found plenty of pleasant talk of men of a former day, with shrewd comments from time to time which condense the garnered wisdom of a varied life.

Dr. Farquharson was the son of an Edinburgh doctor of good standing, and so was brought up in the modern Athens under the most favourable conditions. He gives us in the early chapters an introduction to the manners and customs of Edinburgh in the middle of the last century, and brings us into close contact with many of the distinguished men who adorned the social and literary life of the city in those days. It is all very pleasant gossip, which somehow leaves us unsatisfied, because there is so much left out. After all, this may be a great merit, for these chapters and the book generally create an appetite for a wider and deeper knowledge. If the authors of graver works had this faculty, what a blessing it would be to students of every age!

After a somewhat desultory education our author became a medical student of the Edinburgh School, and worked under the great men who then made the school famous—Goodsir, Simpson, Syme, Bennett, Christison, Spence, J. H. Balfour, Laycock, Millar, and Matthews Duncan. They all trip across the pages and come in for comment—good natured, but often searching. Christopher North, Blackie, Alexander Smith, Chalmers, Cockburn, were all living heroes in those days, and the young Farquharson had the stimulus of watching and studying close at hand a whole group of literary giants. Edinburgh was then an unrivalled place of study, because the intellectual environment stirred up the ambitions of even the moderately-minded. In due time our author became qualified, first as L.R.C.S. in 1857 and as M.D. the following year. These dates have to be found in the *Medical Register*, for one of the defects of the book is an absence of dates, so that one is continually wanting, as it were, to know the time. With reference to his medical education, there is a wise comment as follows:

> The part of my education that I remember most gratefully was the dispensary practice. Every day after seeing the patients under Gairdner and Begbie and Matthews Duncan, I was given a bundle of addresses of patients who had to be visited at their homes, and in cases of doubt or difficulty I had these eminent men to consult, and freely did I make use of the privilege. This was an admirable preparation for family practice, and contrasts most favourably with the method pursued in London, where the student, after long probation in the out-patient department, where chronic dyspepsia, and rheumatism, and winter coughs, and ulcerated legs are the staple commodity, is ushered upstairs into the wards, where he sees mysterious and difficult cases, and acute ailments past their early stages, and he is therefore quite unable to diagnose many of the commoner ailments, or to recognize the danger-flag held out at the start, when treatment does most good.

To enlarge his experience he was packed off to Paris for a winter, and there came to know something of Trousseau, Nélaton, Velpeau, Bouillou (meaning Bouillaud), and Piorry, who taught mediate percussion, and mapped out, as is shrewdly said, "the heart exactly with the accurate precision, real or assumed, of the Nauheim school, who make a diagram of the dilated ventricle, and show it contracted under treatment the next day." The next step in what our author calls his "varied life" was to enter the Army Medical Service, and after a short time in the Royal Artillery he became attached to the Coldstream Guards. His life in London and Dublin while in the Guards brought him into contact with the heads of the profession in both places, and so, as we read the pages, we get glimpses of Gull, Todd, Budd, Fergusson, Forbes Winslow, Frank Buckland, and Jenner, while Wilde, Banks, and Corrigan of Dublin are also named. Farquharson appears never to have cared much for soldiering, and so, when the offer of the post of medical officer to Rugby School came to him, he accepted it and served under the great Temple.

> The very day I arrived (he tells us) Yardley, the well-known cricketer, was seedy, and I was unable to give a dogmatic opinion. On which I was summoned to Jove's awful presence, and the head master, in his most abrupt and grating tones, snapped out, "You damage yourself by want of decision."

The lesson—a most useful one for a young practitioner—bore good fruit, for our author tells us that afterwards he always assumed a confident tone. When Temple left Dr. Farquharson resigned and spent some time on the Continent, studying at Berlin and Vienna.

On his return he started practice in Brook Street, passed the examination for the Membership of the College of Physicians, and in due course became a Fellow. He seems to have but little love for the College, for he criticizes rather severely the conduct of business at the Comitia, but makes some very interesting remarks on Jenner and Andrew Clark. The British Medical Association, to which, while at Rugby, Dr. Farquharson became attached, comes in for appreciative comments, and he describes with just praise the great work of Mr. Ernest Hart as Editor of the JOURNAL and Mr. Francis Fowke as Secretary in raising the Association to its present influence and authority. He betrays, however, but scanty knowledge of the early struggles of the Association and the arduous work of a body of devoted men, who served on its Council for many years both before and after the advent of Fowke, and built up little by little the greatest medical organization which the world has ever seen. In their respective positions Hart and Fowke were invaluable, if not indispensable, but only those who were in constant touch with the affairs of the Association from 1865 to 1885 can estimate the self-sacrifice and labour of the earnest band of workers by which the great result seen to-day was attained.

So much for Farquharson the doctor; we now come to the Laird and the M.P. In 1878 his father died, and he inherited Finzean, and we have given us a pleasant description of the estate and the home to which he is naturally so devoted. He tells us much about the estate and its management, the shooting, and his neighbours, all in the easy gossiping style which makes the book attractive,

[1] *In and Out of Parliament. Reminiscences of a Varied Life.* By the Right Hon. Robert Farquharson, P.C., M.D., LL.D. London: Williams and Norgate. 1911. (Med. 8vo, pp. 338. 12s. 6d.)

with many a good story and plenty of personal anecdotes. Now comes the part of the book which is decorated with portraits of the author. We have "The Doctor," as he was always familiarly called in the House of Commons, in all the respectable dignity of frock coat, drawn by Mr. Leslie Ward, as the new M.P. for West Aberdeenshire. Again we have him in an early caricature drawn by the kindly pencil of Harry Furniss. Next, another picture in the glory of evening dress, drawn by E. T. Reed, and suggestive of our friend laughing at a good story after dinner; and yet another showing the Laird on his mountain from the pencil of the same brilliant artist, with Toby of *Punch* in attendance, as he was in the House of Commons when the Doctor happened to mention that he "owned a mountain!" This does not exhaust the list, for Harry Furniss portrays the Doctor as an interested listener in his place on the back bench of the House of Commons, with his feet well up on the bench in front and his eyes closed in that meditative mood so often begotten by speeches in Parliament. Lastly we have three excellent photographs of the Doctor as he is known in these days; one in the full glory of the kilt, called the "Laird in his Garden"; a second, also in the kilt, speaking at Finzean; while the third shows him as we have often met him in his fur coat in Pall Mall.

The chapters about the House of Commons will prove to ordinary readers informing and amusing. To a politician they contain little that is not well known, but they are full of pleasant comments and amusing stories. There are many canny remarks on the men he met in the House, and in some instances very good analyses of their special qualities as debaters or orators. From time to time, too, a summary is given of the value of their work, and in some instances criticisms on policy and methods. Dr. Farquharson spent over a quarter of a century in the House, and so gained a thorough knowledge of its characteristics, and a wide, and in many instances a close, acquaintance with its chief men. In the chapter "Some of my Contemporaries" there are sprightly sketches of M.Ps. of all degrees and classes, and the reader who has known these men will in many instances recognize the justice of the pictures. If not very original, they are always good-natured, and serve to preserve many quaint sayings and odd stories of men who have joined the majority. As a speaker, "The Doctor" was not a frequent performer, but he was nearly always there when wanted for any question of public health or matter affecting the medical profession. He often made very useful speeches on the Army Medical Department in Committee of Supply. One service that he performed must always be remembered with gratitude—when in 1893 he told against Mr. Hopwood's motion to repeal compulsory vaccination. On that occasion the Liberal Government left the vote an open question, and refused to put on their tellers, and I, who then held the office of Parliamentary Secretary to the Local Government Board, was therefore left without the usual official support, and had to defend vaccination not only against the usual Opposition, but against a section of my own side. In this I was successful, and several members who had come down to defeat the Government turned over and voted against Mr. Hopwood in the division. Dr. Farquharson made a useful speech on that occasion, and gallantly volunteered to act as teller. He ignores this service in his book, and therefore it is only fair to put it on record. He tells, however, of other services, and mentions an excellent speech he once made on the opium question, which, as he says, "greatly disturbed the minds of some of my best constituents, but which, in a prophetic way, foreshadowed in every respect the line taken by the Royal Commission a few years later." He also mentions his services in introducing deputations with reference to substantial rank for army doctors, and another for the teaching of hygiene in schools. Where he got the 47,000 (*sic*) medical men from, who, he says, signed the memorial, it passeth the wit of even a statistician to discover. In his last session his popularity was shown by his unanimous selection to be chairman of the Scottish Liberal party. This and his elevation to the rank of Privy Councillor stamp his parliamentary career as a success, but, oddly enough, he does not include either in his "two most darling ambitions." The first was reached when he was made a Railway Director for the Great North of Scotland Railway, and the second when he was still more gratified by an invitation "to assist at the annual banquet at the Royal Academy." With the naïveté which is the great charm of the book, he tells us the inner mechanism by which these two ambitions were accomplished.

It is the same simplicity of character which shines out on nearly all the pages, and makes the book a photograph of the author's mind and genial disposition. Old friends who read the volume will chuckle in good-humoured delight at the self-revelations which a smaller and less worthy man would have avoided, while those readers who have never known "the Doctor" will make friends with the simple and genial nature of a fine Scot.

The book might have been more carefully and deliberately written. It shows marks of haste in many places, and is marred too by inaccuracies, and once at least by the omission of quotation marks. These are, however, minor blemishes, and I only name them to secure greater accuracy and care in the next edition. The author says in his Epilogue:

> I have enjoyed writing this book, opening up cells of long-forgotten memory; mourning over those comrades who have fallen by the way, and perhaps sighing now and then over a lost opportunity. On the whole, I am fairly content with my stocktaking, and if my life has not been a more brilliant success, it has not been a conspicuous failure, and I at all events have derived a good deal of fun out of it.

Some of this fun he manages to convey to his readers.

ILKESTON.

TSETSE FLIES.

THE trustees of the British Museum have issued *A Handbook of the Tsetse Flies*,[2] by Mr. E. E. AUSTEN, assistant in the Department of Zoology, Natural History Museum. A monograph of the tsetse flies by the same author was published by the trustees in 1903. It has been out of print for some time, and the knowledge of the genus *Glossina* has increased considerably during the interval. In the handbook the subject has been brought up to date, and the Keeper of Zoology, Dr. Harmer, in a short preface expresses the hope that it will be found not only a reliable contribution to systematic literature, but of use to medical officers and others engaged in the struggle with disease in Africa. As Mr. Austen points out, the insects of the genus are of great importance to the prosperity and future development of tropical Africa. Until recently it was believed that sleeping sickness was disseminated solely by *Glossina palpalis*, but the occurrence of a number of isolated cases of the disease in the Nyasaland Protectorate and the valley of the Luangwa River, North-Eastern Rhodesia, from both of which localities *G. palpalis* is believed to be absent, has caused grave suspicion to attach to two other species, *G. morsitans* and *G. brevipalpis*.

Stephens and Fantham published in a recent issue of the *Annals of Tropical Medicine* (Series T.M., vol. iv, No. 3) a paper in which evidence was produced to show that a trypanosome found in a Rhodesian case of human trypanosomiasis is different from the *T. gambiense*; they consider that it is in all probability a new species. Experiments made on different animals by Dr. Warrington Yorke with this trypanosome (which he and Stannus have described from Nyasaland also[3]) show that it is extremely virulent, and strongly support the suggestion that the parasite is a new species. Mr. Newshead has recently described three new species of *Glossina*, and the number of species may yet be considerably increased.

It has been known for some time that the trypanosomiasis of domestic animals can be conveyed by the bites of several species of tsetse flies including *G. palpalis*, so that the possibility of *Trypanosoma gambiense* being conveyed to man by more than one insect vector must not be ignored. While recognizing that certain authorities believe that the Rhodesian parasite is specifically distinct, Mr. Austen points out that should such a differentiation of the actual causative agent of the disease be established, the probability that more than one species of *Glossina* is acting as a carrier would thereby only be increased. It therefore becomes highly important that colonial medical officers and other officials in tropical Africa should have

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[2] *A Handbook of the Tsetse Flies* (Genus Glossina), by Ernest Edward Austen. With ten coloured plates and illustrations in the text. London: Printed by the order of the Trustees of the British Museum, and sold by Longmans and Co., B. Quaritch, Dulau and Co., and at the British Museum (Natural History). 1911. (Sup. roy. 8vo, pp. 110. 5s. 6d.)

[3] BRITISH MEDICAL JOURNAL, June 24th, p. 1465.

placed at their disposal every possible assistance in recognizing and accurately identifying the tsetse flies found in their districts. This necessary assistance the *Handbook* will, it is believed, supply. The book contains seven chapters. The first is on the general characteristics and distribution of the genus, illustrated by a map, which shows how extraordinarily wide this distribution has now been proved to be, especially in the river valleys, so that in fact the map looks like a sketch of the rivers of central Africa. In the second chapter the external characters of the genus are described, and in the third the four groups into which the flies are divided are indicated. The remaining chapters deal with the species recognized in each group, full descriptions being given to enable the species to be identified. In connexion with each species particulars of its haunts and habits are given except in the case of *G. palpalis*. In this case Mr. Austen refers his readers to the monthly *Bulletin of the Sleeping Sickness Bureau* on the ground that the mass of literature in existence is already very large, and is increasing week by week. The summary made by Dr. Bagshawe, the Director of the Bureau, bringing the matter down to the beginning of 1909, has been reprinted from the bulletin, and can be obtained from the Sleeping Sickness Bureau, Royal Society, Burlington House, London, W. The ten admirable coloured plates and the illustrations in the text contained in the *Handbook* have been done by Mr. A. J. Engel Terzi. The book is, of course, indispensable to medical officers in tropical and central Africa, and its possession will help them and others to reply to the series of questions contained in the circular issued by the Entomological Research Committee, with the view of obtaining accurate information as to the habits of *G. morsitans* and its alleged dependence upon big game.

HODGKIN'S DISEASE.

TAKING them as a class, the blood diseases so-called are among those least well understood and least satisfactorily classified. Just as "pernicious anaemia" is a title that serves to conceal a number of different identities, so is the name "Hodgkin's disease" a cloak enwrapping a variety of morbid conditions that will some day, one may hope, be differentiated. The latest word[4] on Hodgkin's disease, by Dr. KURT ZIEGLER, of Breslau, summarizes what is known about it, and throws enough light on this obscure subject to make its darkness visible. He defines it as:

> A specific inflammatory disease, for the most part chronic, which almost always attacks the lymphatic system first, leading to a progressive and finally almost universal swelling of its constituent parts. Secondarily, it involves the most various organs, and is accompanied by anaemia, cachexia, fever, and peculiar phenomena in the skin and mucous membranes.

He finds that its clinical and histological features form a characteristic picture when combined, and he has himself seen 70 cases, with 15 obductions. He divides the course of the disease into two stages. In the first, painless enlargement of a single set of lymphatic glands takes place, in the neck in half the cases, and pruritus is common. After a variable period of weeks, months, or years (as many as fifteen) the second stage begins, characterized by the propagation or generalization of the glandular swelling; the spleen enlarging in 65 to 70 per cent. of the cases, the liver in 60 per cent. It is in the second stage that the general signs appear—cachexia, anaemia, fever. The duration is twelve months in nearly half the cases, three months or less in 18 per cent.

Ziegler goes carefully through the special symptomatology of Hodgkin's disease and distinguishes eight separate types—the acute, the local, the generalized, the mediastinal, the larval or typhoid, the splenomegalic, the osteo-periostitic, and a residual category of other mixed types. He devotes several pages to consideration of the question how far mycosis fungoides and Hodgkin's disease are one and the same disorder, and concludes, on both clinical and histological grounds, that the former is a special form of the latter. He gives forty-six pages to the pathological anatomy of Hodgkin's disease, adding a number of observations of his own and going very thoroughly into the naked-eye and the microscopical features that may be met with. He concludes that there must be some specific organism which produces Hodgkin's disease, but that it has hitherto escaped detection. As regards treatment, he has nothing new to suggest; arsenic is still the least unsatisfactory drug to administer, and salvarsan has proved disappointing; surgical interference is of little avail, but the Roentgen rays often produce a marked but temporary improvement. Over 700 references to the literature are given, and the book ends with a plate of temperature curves and four more plates with twenty-two excellently reproduced but somewhat diagrammatic coloured figures displaying the histological appearances of Hodgkin's disease. Dr. Ziegler is to be congratulated on his work; it is well written, comprehensive, and indispensable to the student of the disease.

[4] *Die Hodgkinsche Krankheit.* Von Dr. Kurt Ziegler. With 4 figures and 9 curves in the text, and 5 lithographic plates. Jena: G. Fischer. 1911. (Sup. roy., 8vo, pp. 273. M.9.)

ALCOHOLIC FERMENTATION.

To that excellent series of monographs on biochemistry which is edited by Drs. PLIMMER and HOPKINS, Dr. HARDEN has made a valuable contribution—an essay on alcoholic fermentation,[5] a subject on which he ranks as first authority. The opening chapter contains an admirable historical introduction.

From far-away prehistoric ages man has been in possession of alcoholic liquors. In the days of the alchemists "the subtle changes in properties permeating the whole mass of material, the frothing of the fermenting liquid, seemed to them the very emblems of the mysterious process by which the long-sought-for philosopher's stone was to convert the baser metals into gold."

In 1789 Lavoisier applied to the study of alcoholic fermentation the principle which he regarded as the foundation of experimental chemistry—"that there is the same quantity of matter before and after the operation." He drew up an equation between the quantities of carbon, hydrogen, and oxygen in the original sugar and in the resulting substances—alcohol, carbon dioxide, and acetic acid. The result "must be regarded as one of those remarkable instances in which the genius of the investigator triumphs over experimental deficiencies, for the analytical numbers employed contained grave errors, and it was only by a fortunate compensation of these that a result so near the truth was attained."

Dr. Harden thus puts the matter in a very pleasant way. We cannot help wondering whether the genius of Lavoisier, who had proved his principle in simpler reactions, possibly made him cook his results in this particular case. Down to 1837 "no suspicion appears to have arisen in the minds of those who had occupied themselves with the study of fermentation that this change differed in any essential way from many other reactions familiar to chemists." Then no less than three observers hit almost simultaneously upon the secret of fermentation, and declared that yeast was a living organism—Cagniard-Latour, Theodor Schwann, and Kützing. The scorn of Berzelius, Wöhler, and Liebig was thrown upon their heretical views. In 1857 Pasteur commenced his classical researches, which resulted in the final overthrow of Liebig. "I am of opinion that alcoholic fermentation never occurs without simultaneous organization, development, multiplication of cells, or the continued life of cells already formed." From materials supplied by Liebig himself he undertook to produce in a synthetic medium as much yeast as could reasonably be desired. This challenge was never taken up, and formed the last word of the controversy. Moritz Traube, in 1858, enunciated in the clearest way that all fermentations produced by living organisms are caused by definite chemical substances—ferments—produced in the cells of the organism. Pasteur and others in vain tried to separate ferment from organism, a separation which in 1897 was effected by Eduard Buchner. By grinding yeast with sand and *Kieselguhr* and squeezing the mass in a hydraulic press he obtained an active yeast juice. Yeast juice can be precipitated by adding 10 times the volume of acetone, centrifugalizing, washing the sediment with ether and acetone, and drying over sulphuric acid. The powder, when required for use, is dissolved in a weak glycerol solution.

Dr. Harden's analysis of the process of alcoholic fermentation by yeast juice shows that the phenomenon is one of

[5] Monographs on Biochemistry. Edited by R. H. Aders Plimmer, D.Sc., and F. G. Hopkins, D.Sc., F.R.S. *Alcoholic Fermentation.* By Arthur Harden, Ph.D., D.Sc., F.R.S. London, New York, Bombay, and Calcutta: Longmans, Green, and Co. 1911. (Post quarto, pp. 128. 4s.)

great complexity, in which "an enzyme and a co-enzyme, a second enzyme-hexose-phosphatase, and, in addition, sugar, phosphate, and the hexose-phosphate formed from these" are concerned. It is probable that the supply of free phosphate is partially provided by the action of proteoclastic ferments on phospho-proteins. The complex carbohydrates of the juice, including glycogen and dextrin, and a diastatic ferment for converting these into fermentable sugar, also come into the reaction during antefermentation of the juice.

Harden and Young made the notable discovery that a soluble phosphate acts as an activator of the fermentation, increasing it as much as twenty-fold. They consider that in the presence of an enzyme and a co-enzyme two molecules of the hexose are each decomposed primarily into two groups:

$$2C_6H_{12}O_6 + 2\,R_2HPO_4 = 2CO_2 + 2C_2H_6O + 2H_2O + C_6H_{10}O_4\,(PO_4R_2)_2.$$
(hexose-phosphate)

Of the four groups thus produced two go to form alcohol and carbon dioxide, and the other two are synthesized to a new chain of six carbon atoms, which forms the carbohydrate residue of the hexose-phosphate.

In the case of the living yeast we may conceive that "the sugar which has diffused into the cell unites with the fermenting complex and undergoes the characteristic reaction with phosphate, already present in the cell, yielding carbon dioxide, alcohol, and hexose-phosphate." The latter is then decomposed, and the liberated phosphate again enters into reaction. Dr. Harden's work is far from done. He concludes that in every direction fresh problems present themselves, and the investigation of the complex action of the yeast cell will prove of fundamental importance for our knowledge of the mode in which chemical change is brought about by living organisms. Every one interested in the chemistry of alcoholic fermentation must read this important monograph.

CANCER.

MR. BLAND-SUTTON has long been recognized as the author of the most readable work on new growths known to the present generation. On that account the medical public must hail with interest the issue of a new edition of *Tumours, Innocent and Malignant*,[6] expecting with confidence an able digest of recent researches on the pathology, clinical characters, and treatment of new growths. They will not be disappointed. They will find, for example, under lipoma some mention of the hibernating gland described by Hatai, Shattock, and Bonnot. The chapters on hypernephroma and tumours of the adrenal, so well prepared in the last issue, have been carefully revised, and the researches of Edington and Trotter taken into consideration. In short, the author does full justice to Grawitz and to those who have followed up his work. On the other hand, we find no mention of the writings of Henschen and some British observers who have recently reported cases of blood cysts of the suprarenal body—tumours which were known to pathologists of a bygone age, yet later on almost forgotten. Again, Mr. Bland-Sutton's views on Mr. Shattock's recently enunciated theories concerning teratoma and dermoids would interest his readers, but we find no mention of them, and in the chapters on ovarian tumours the author retains his favourite denomination, "dermoids (embryomas)," and leaves the paragraphs on the nature of the ovarian dermoid (Chapter XLIX) unaltered. Turning to the chapters on uterine fibroids, the reader will observe that Mr. Bland-Sutton, like several other London gynaecologists, maintains his preference for subtotal hysterectomy over total removal of the diseased uterus. Although a skilled pathologist, he retains the name "fibroid," probably holding, not without reason, that it signifies something more than the presence of a fibromyoma in the uterus, as certain secondary complications such as haemorrhages and neuroses are often more serious clinically than the new growth. The most important innovations in the new edition, as might be expected, are to be found in the section on cancer. The author includes Neve's remarkable relation, published in the JOURNAL last September (p. 589), of epithelioma caused by the kangri or fire basket, which the natives of Kashmir wear under their clothes in cold weather, and mentions Rowntree's studies of *x*-ray carcinoma, not omitting that writer's grave statement that since the introduction of *x*-ray treatment for lupoid ulcers the percentage of cases in which such ulcers have become carcinomatous has materially increased. Mr. Bland-Sutton also adds new paragraphs on trauma in relation to malignant tumours, and has more to say on cancer of the lips in relation to pipe smoking. The author further reports Dr. Bryden Glendining's researches on the spread of carcinoma by the Fallopian tube, largely founded on a case in which Mr. Bland-Sutton removed two ovarian cysts from a woman subject to well-marked cancer of the stomach. Berkeley and Bonney's clinical researches showing the relation of kraurosis and leukoplakia of the vulva to cancer have not been overlooked. We note that in the chapter on epithelial tumours of the liver, gall bladder, and bile ducts, the author has modified his former statement that primary cancer of the common duct is an excessively rare affection. In this edition we find that, "even excluding cancer arising in the ampulla, the common duct is the one most frequently affected." From the above relation of additions and modifications conspicuous in this new edition our readers will see that it is, as we have already observed, an able digest of recent researches on tumours innocent and malignant, most judiciously revised.

[6] *Tumours, Innocent and Malignant: their Clinical Characters and Appropriate Treatment.* By J. Bland-Sutton, F.R.C.S., Surgeon to and Member of the Cancer Investigation Committee of the Middlesex Hospital. Fifth edition. London, New York, Toronto and Melbourne: Cassell and Co., Ltd. 1911. (8vo, pp. 686; 360 illustrations. 21s.)

The diagnosis of malignant disease of the abdominal organs is admittedly a matter of considerable difficulty, and Dr. RUDOLF SCHMIDT[7] is justified from his experience as head of Professor von Neusser's wards for ten years and since as surgeon of the Empress Elizabeth's Hospital in Vienna, in giving the profession the results of his experience. In his book on the subject he urges with justice that this is a question that concerns general practitioners even more than specialists, as they see cases in the earlier stages, when alone perhaps successful treatment is possible. He thinks more notice ought to be taken of the importance of the early symptoms, especially the subjective symptoms and the history. In the examination of patients he recommends that the head should be flat, not raised even by the lowest pillow; if possible the abdomen should be examined fasting and after the bladder and rectum have been emptied. The patient should be made to breathe with the diaphragm only. He considers the value of percussion as overrated, while that of auscultation is hardly sufficiently appreciated, believing that much may be learnt by detecting murmurs in vessels or friction sounds. To *x* rays he assigns a subordinate place in this field of diagnosis. The presence of Boas's bacillus in cancer of the stomach he believes to be highly diagnostic, although exceptions occur, and he gives three instances—two of cicatricial stenosis of the pylorus and one of cancer of the gall bladder. On the other hand, the absence of Boas's bacillus in coffee-grounds vomiting is strongly against the diagnosis of cancer of the stomach. The presence of sarcinae points to pyloric stenosis, and, where there is a short history, to this being cancerous. Ehrlich's diazo reaction is, he holds, of real value in distinguishing between tuberculous peritonitis and cancer. Fever of unexplained origin in old persons should, he urges, suggest the possibility of cancer, but it generally implies a secondary infection of the growth. He thinks that the belief that cancer develops frequently from a simple ulcer of the stomach is due to a misinterpretation of the anatomical facts; cancer of the stomach, in his opinion, often begins as a malignant ulcer. He believes that infectious diseases confer some degree of immunity to cancer, as he has often noticed that those persons who suffer from cancer late in life have escaped many of the infectious diseases of childhood. With regard to prophylaxis, he would recommend persons who have a hereditary tendency to cancer to give particular care to the mouth and teeth, to avoid local irritants such as spirits, to be temperate in eating, and to reside in a hot and dry climate. Nearly half the book is taken up with an appendix containing cases illustrating the different kinds of abdominal new growths.

[7] *Interne Klinik des boesartigen Neubildungen der Bauchorgane.* Von Priv.-doz. Dr. Rudolf Schmidt. Berlin and Vienna: Urban and Schwarzenberg. 1911. (Sup. roy. 8vo, pp. 363, 1 table. M. 12.)

It is a valuable work of reference, written by a man of considerable experience, who takes a common-sense view of his subject.

One of the most ardent advocates of the parasitic origin of cancer is Dr. ROBERT BEHLA, and in a recent pamphlet[8] he sums up what appears to him the conclusive evidence in favour of this theory. His arguments are based on proofs drawn from a number of different sources—historical, statistical, cultural, and microscopical. He believes that the cancer parasite is one of the myxomycetes, and can be grown from the juicier parts of mammary or testicular carcinomas. It must be cultivated on solid and liquid media alternately, on the surface of the medium and in the air. The first growths of the parasite take the form of chains of micrococci and cocci; these can be further developed, on solid media containing peptone and grape sugar, into amoeboid vacuolated organisms. These may become encysted, develop into plasmodial strands, throw off sporangia and capillitial plexuses, zoocysts, and sporocysts. The parasite is both intra- and extra-cellular; it produces ferments which cause proliferation of the tissues of the host, and so give rise to the growth of a cancer. The paper ends with twenty-two references to other writings on the subject by Dr. Behla, and will not escape the attention of those who are interested in the etiology of malignant disease.

In his book on experimental researches upon malignant tumours, Dr. CLUNET[9] approaches a difficult subject in a cautious and broad-minded spirit, and contributes to the experimental data of cancer reports of some interesting and painstaking research. Without experimentation, as he truly remarks, anatomical and clinical observations are not likely to make much progress in discovery, just as experiment is not likely to hit the mark when it does not take due account of the important data accumulated by anatomical and clinical methods. The search for a parasite is tempting and fascinating, but "parasitology is possibly not the whole of pathology"; and, though the parasitic theory may one day be verified, the worker who limits his outlook by the desire to discover a parasite is at present searching in the dark. More data as to the nature of the disease, whether occurring spontaneously or produced experimentally, must be accumulated before a scientific method can be devised for elucidating its causation. Dr. Clunet commences his experimental records with an account of various spontaneous and grafted tumours, obtained mostly from mice. He describes morphological variations encountered in the course of grafting experiments, discusses metastasis from grafted tumours, and considers the various conditions which tend to confer immunity against a grafted neoplasm. The second half of his book is occupied with observations on the influence of x rays upon malignant growths. He is, of course, covering ground which has already been explored pretty thoroughly by numerous investigators, and it cannot be said that he has discovered anything particularly new. But his book is interesting because it bears the impress of a man who studies his laboratory material with a simple and whole-hearted desire for instruction, and with little or no inclination to enter into the asperities of controversy or wrangle over claims of priority. Without the familiarity which is only to be gained by actual laboratory work, it is difficult to form an impartial opinion about experimental cancer; those who feel this difficulty, but have not the opportunity to work at the subject themselves, will gain from Dr. Clunet's book at least some of the laboratory flavour requisite for focussing the whole subject with accuracy and discrimination.

DIETETICS.

As more and more attention is paid to dietetics it becomes important that practitioners should have a handbook from which to construct diets for the various conditions they have to treat. Just such a guide is the work on the dietetics of internal diseases,[10] which has been compiled by Professor THEODOR BRUGSCH. Commencing with an outline of what has been done in recent years to place the subject on a scientific basis, he proceeds to deal with the dieting of particular diseases—gout, diabetes mellitus and insipidus, Bright's disease and other urinary disorders, stomach diseases, and fevers. With regard to the use of purin-free diet in gout, while not insisting upon the absolute exclusion of all purin-containing articles of diet, he thinks they should be permitted only in so far as tolerance is proved by test meals; he is emphatic in stating that the purin-free diet must not be poor in albumen, but his model diet seems to contain an excessive amount of butter and cheese to the proportion of bread. A great merit of the book is the number of tables, giving the composition and calorific value of various kinds of food. There are three tables giving the purin contents of different articles, based on the work of J. Schmid and G. Bessau, Walker Hall and Hesse; and it may be useful to note that the following fish are poor in purin—sole, cod, eel, hake, and herring. In the dieting of diabetes he follows von Noorden and regards his oatmeal cure as of value where acetonuria persists, but it should be used for three or four days only, and be preceded and followed by a vegetable cure. He holds that in no circumstances should the amount of albumen exceed 120 grams daily, which implies that the amount of meat should not exceed 1 lb. per day. In diabetes insipidus he suggests the trial of a diet free from salt and containing little nitrogen. In dieting oxaluria he would exclude tea, spinach, red cabbage, gooseberries, plums, and the crust of bread, in which he says oxalic acid is formed during baking, and to diminish lime he would exclude milk, eggs, and cheese. In phosphaturia he would forbid milk and eggs, and enjoins the sparing use of green vegetables, even potatoes and most fruits, especially strawberries, plums, figs, dates, pears, and apples—the patient living mainly upon meat, bread, and fat. For hyperchlorhydria he recommends a lacto-vegetarian diet and forbids alcohol. In ulcer of the stomach he objects to Lenhartz's diet, as he thinks it over-stimulates the secretion of the gastric juice, but he agrees with him in giving a more liberal diet early in the case, though he would not feed by the mouth until three or four days after a haematemesis. The last chapter of the book, devoted to cookery, does not strike us as being remarkable.

Last year we reviewed Dr. GOURAUD's book in the original French edition (JOURNAL, July 16th, 1910, p. 143), and we then expressed a favourable opinion of it as an easily written book obviously intended for the medical profession in which there is much recent information respecting diet, adding: "In fact, it tells medical men much that they ought to know if they would satisfy the inquiries constantly made by their patients." The present American translation, with the title *What Shall I Eat?*[11] is well written, but there is a long list of errata, and several passages are not intelligible, while in others the author's meaning seems to have been misunderstood. Thus it is obviously a mistake to say (p. 8) that the mean ratio of 38 calories per kilogram in a day is too low for heavy weights—it is, on the contrary, too high; nor is it too high for children under 15—it is, in fact, too low, and a reference to the original French shows that the translator is at fault. On page 9 the figures in the final column seem meaningless, but they are the decimals detached and put in a row by themselves! On page 24, line 17, "excretion" should be "secretion." We have no idea what is meant by "uropoietic tapping," but again a reference to the French text shows that the author wrote "*fonction uropoiétique*"; the printer made it "ponction," and the translator, having apparently no glimmering of the author's meaning but relying on his dictionary, put "tapping." On page 47, under the heading "Horsemeat," we read "its composition stands no comparison with beef on account of the small amount of glycogen it contains"; but this is contrary to fact, as horsemeat is exceptionally rich in glycogen (Marcel Labbé). On page 74, line 4, "not" has been omitted, the author saying that meat juice must (*not*) be heated or boiled for fear of losing its therapeutic properties. On page 77 "esophagus" should be oesophageal. In speaking of the sterilization of milk

[8] *Die Bestätigung der künstlichen Züchtung des Krebserregers.* Von Dr. R. Behla. 1910. Berlin: R. Schoetz. ($6\frac{3}{4}$ in. by 10 in., pp. 50.)

[9] *Recherches expérimentales sur les tumeurs malignes.* Par le Dr. Jean Clunet. Paris: G. Steinheil. 1910. (Roy. 8vo, pp. 336, with illustrations. 8 fr.)

[10] *Diätetik innerer Erkrankungen.* Von Professor Dr. Theodor Brugsch. Berlin: Julius Springer. 1911. (Demy 8vo, pp. 251. M. 4.80; bound, M. 5.60.)

[11] *What Shall I Eat? A Manual of Rational Feeding.* By Dr. F. X. Gouraud. Translated by Francis J. Rebman. London and New York: Rebman, Limited. 1911. (Demy 8vo, pp. 395, table 1. 6s. net.)

(p. 105), he says "a few yeast spores of casein remain behind," which is nonsense; but the French text speaks of some "spores of the casein ferment," which is a very different matter. On page 292 it is said that "honey proves to be harder on diabetics on account of a slight preponderance of laevulose," but as diabetics assimilate laevulose somewhat better than dextrose the reverse should be the case. On page 323 an unfortunate translation is given of "aperients" for "*aperitifs*." We are unable to understand what is meant by saying (p. 340) "that beer may be justly called a non-calorific beverage"; the French text speaks of it as "*une boisson froide*," which means non-exciting. Altogether it is evident that the translator has undertaken a task for which he was hardly qualified.

NOTES ON BOOKS.

DR. KLEINSCHROD is a strong upholder of the vitalistic theory of life, and in his recently published *Inherent Law of Life*,[1] an English translation of which has been prepared by Dr. LOUISE APPEL, he has given expression to his views at length. The book is a philosophical treatise, and contains much cogent reasoning, but tails off not infrequently into trivialities. The author sets himself to prove that there is an essential difference between the living world and the non-living world, and he comes to the conclusion that that difference consists in the fact that lifeless objects are in a state of equilibrium, and that the activities of the inanimate world involve a reduction of kinetic energy or living force, as he terms it, while living matter is able to overcome this tendency towards equilibrium, and to produce living force. There is thus an essential or inherent law of life which is not to be interpreted in terms of inanimate laws. The interpretation, indeed, if attempted, should be in the converse direction. Viewed in the light of this law, all the great phenomena of life have their meaning made clear; evolution, the struggle for existence, the purposiveness of life, are all manifestations of the action of this law, and are the inevitable consequences of the inherent necessity of obeying it. The book has for subtitle, *A New Theory of Life and Disease*, but there seems little justification for the latter part of this claim. The text of the new theory of disease is the Hippocratic rule—πρῶτον τὸ μὴ βλάπτειν. The law of life and the law of disease are one and the same. Life possesses sufficient recuperative power to overcome disease, except when it is weak. The ideas are certainly sound enough, but wherein their novelty lies is not easy to determine.

Dr. WALTER K. HUNTER has published in a volume his three "Dr. James Watson Lectures" on *Recent Advances in Haematology*,[2] delivered in Glasgow at the close of 1910, and originally published in the *Glasgow Medical Journal*. The lectures are based on the standard textbooks of haematology for the most part, and also on the literature of the subject. Dr. Hunter seems to have confined his attention exclusively to what has been written about the blood in England and America, to judge by the references given in his book, and has left the mass of Continental literature, excepting Arnit's translation of Ehrlich and Lazarus's manual, severely alone. The first lecture gives a summary of the constitution of the blood and the methods of examining it; the second and third deal with a number of blood diseases and with the origin of the different blood cells. An appendix gives the methods of fixing and staining blood films. The coloured plate contains 42 reproductions of variously stained blood corpuscles, magnified, it is stated, 700 diameters.

The name of the translator and editor of the second American edition of Sahli's *Diagnostic Methods*[3]—Dr. POTTER—now deservedly appears upon the cover as well as the title page. The fifth German edition, from which this is derived, is a greatly altered work. Three hundred new pages of text and almost 100 new figures afford room for very thorough revision, and in the present case the revision is double, for the American editor and his specialist assistants have gone over the ground a second time and carefully filled lacunae. The increase in size of the ponderous tome is scarcely noticeable, but the quality of the paper and the print has suffered a little. It is unnecessary to indicate the scope of this well-known work, the popularity of which, says Dr. Potter, has exceeded in the translated form even that of the original. Among the many subjects that have required new treatment may be noted icterus, oedema, with the work of Starling, cutaneous electric resistance, Mackenzie's work on the heart and circulation, cardiolysis in relation to its physical indications, the Wassermann reaction, the Cammidge reaction (dismissed by the editor-translators as worthless), urinary separators, exploratory cranial punctures, new aspects of the utility of *x*-rays, and a hundred others. The book deserves, and will doubtless obtain, continued appreciation.

[1] *The Inherent Law of Life.* By F. Kleinschrod, M.D. Translated by Louise C. Appel, F.T.S., B.Sc., M.B., B.S. London: G. Bell and Sons. 1910. (Pp. 214. 3s. 6d.)

[2] *Recent Advances in Haematology, being the Dr. James Watson Lectures for 1910.* By Walter K. Hunter, M.D., D.Sc. London: H. Kimpton. 1911. (Med. 8vo, pp. 127, with a coloured plate. Price, 5s. net.)

[3] *A Treatise on Diagnostic Methods of Examination.* By Professor Dr. Hermann Sahli. Edited, with additions, by Nathaniel Bowditch Potter, M.D. Second edition. Authorized translation from the fifth, revised and enlarged, German edition. Philadelphia and London: W. B. Saunders Co. 1911. (Demy 8vo, pp. 1229; figs. 472. 27s. 6d.)

SCIENCE NOTES.

AN important contribution to the pathology of fishes has been made by Dr. H. C. Williamson in the latest annual report of the Fishery Board for Scotland. He deals with a variety of peculiar and interesting conditions. One of the most remarkable of these is the case of an angler-fish with only one eye. Judging from appearances the condition was congenital. The left optic nerve was entirely absent, and the orbit was filled with a mass of muscle, probably representing the eye muscles. The pituitary body was also considerably displaced. Otherwise the fish was almost perfectly symmetrical. A number of abnormal conditions in the cod are described, amongst which the most interesting are cases of hermaphrodism, which appears to be not uncommon in this fish. In each instance the testes and ovaries were both functional, and self-fertilization seems a not unlikely occurrence. Stone in the bladder is a more uncommon condition, and it is somewhat remarkable to meet with urinary calculi differing in no respect from those in man. In the case recorded by Dr. Williamson the stone measured nearly 3 in. in length. Tumours in fish are now so frequently met with that their occurrence excites little remark. They may be of a benign or malignant nature, and in histological structure bear a close resemblance to those met with in mammals. A number of these new formations are described in the present report. Of more unusual interest is the occurrence of sand-eels and crabs encysted in the body cavity of cod and haddocks. The explanation of this curious phenomenon appears to be that these animals on being swallowed by the fish pierce the wall of the stomach or one of the pyloric caeca and expire in the body cavity, where they are surrounded by a fibrous investment of inflammatory origin. The remarkable thing is that such an accident does not rapidly cause the death of the fish. It appears, however, to be not uncommon. Worm parasites are responsible for many pathological conditions in fishes, amongst which Dr. Williamson records a spotted condition in the skin of the cod, whiting and lythe, caused by a peculiar fluke parasite. He also notes the occurrence of threadworms in cod fillets, a condition which has not infrequently given rise to much perturbation amongst fish-curers in Aberdeen. The vitality of these worms is exceptional, and they are often found living a week after the fish has been pickled and cured. Several notes on the eggs and development of various fishes complete Dr. Williamson's interesting report.

What promises to be of useful application for museums and demonstration purposes is a solution invented by Wickerschener, of the Berlin Zoological Museum, for fixing and preserving plants and animals in their natural colours. The solution is prepared by dissolving in 3 litres of boiling water 100 grams of alum, 25 of sodium chloride, 12 of potassium nitrate, 60 of potassium carbonate, and 10 of arsenious acid. To this 1,200 c.cm. of glycerine and 300 c.cm. of methyl alcohol are added. Objects preserved in this liquid retain their form, colour, and suppleness to a remarkable degree. Even after a considerable lapse of time muscular tissue retains its fresh appearance, and can be cut as in the fresh state, and ligaments remain perfectly pliable, permitting the demonstration of movements as in life. The solution was patented by the inventor, but according to *La Nature* the Prussian Government bought the patent in order to make it common property.

ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1910.*

THE general arrangement of subjects in this annual report is the same as that adopted in the two previous reports.

Great Britain having become a signatory to the Berne Convention of 1906 the White Phosphorus Matches Prohibition Act, 1908, came into operation on January 1st, 1910. It cannot be said that the match trade has been adversely affected as a consequence. It was hoped that other match manufacturing countries would have become adherents, but Sweden, Norway, Belgium, the United States, and Japan still remain outside the Convention, a circumstance which makes it difficult for this country to deal with the import trade of India.

Accidents.

The subject of accidents again receives careful consideration. The Accidents Committee appointed in 1908 to investigate accidents in places under the Factory and Workshops Acts reported in February last. From 1897 to 1907 the accident risk apparently remained nearly constant, any slight increase due to the extended use of machinery and greater pressure of work was counteracted by improved inspection and by greater care resulting from the operation of the Workmen's Compensation Act. Since 1907 the decline in the number of accidents has been partly due to the more efficient guarding of machinery adopted by employers; but, taking the accident statistics generally, it would appear that while there was a decrease during 1908 and 1909 owing to slackness of trade, in 1910, with the increased volume of manufacture, there came an increase. The fatal accidents for 1907, 1908, 1909, and 1910 were respectively 1,179, 1,042, 946, and 1,080, the total number of accidents being for the same years 124,325, 122,154, 117,500, and 129,550. The total number of accidents for 1910 was 4 per cent. greater than for 1907, the highest previous record, when a considerable part of the excess was largely the result of "minor" accidents. It is gratifying to note that the fatal accidents were 8.4 per cent. fewer. For many of the accidents the increasing use of machinery is responsible. The hours between 10 and 12 a.m. and 3 and 5 p.m. are those in which the largest number of accidents takes place. The large number of accidents for which shipbuilding is responsible is a matter recently recognized. In this industry more accidents happen to men under the age of 25 than to their elders. The inspector of the Midland Division draws attention to the fact that the number of accidents followed by blood poisoning is increasing. Slight wounds or abrasions which do not interfere with work at the time become infected, and are occasionally followed by a fatal result. Until lately we have heard little of "needle puncturing" accidents. The subject is alluded to by one of the lady inspectors, who states that perforation of the hand by sewing-machine needles occurred in 40 instances last year. The greatest number of accidents occurred between the ages of 18 and 25, the group next in order being between 14 and 16. Very few of the accidents happened to workers over 25 years of age. As regards the trades in which the accidents occurred, blouse-making headed the list, this together with skirt-making being responsible for 50 per cent. of the total accidents. The largest number of such accidents apparently occurs at the prime of working life when machines are run at the highest speed, and this is mostly in the blouse and skirt making trades. The substitution of electro-plated for ordinary sewing-machine needles is said to contribute to safety, as they do not break so readily, and if the finger is punctured less serious results follow. Cigarette making as a home industry is said to be on the increase in London, a practice undesirable from all points of view, and yet one with which it is difficult to cope. The greatest offenders are workers of Russian and Polish origin.

Lead Poisoning.

Dr. T. M. Legge's report contains much interesting information. A most capable and enthusiastic coadjutor is found in L. Collis. The total number of cases of lead poisoning for 1910 was 505, with 38 deaths, as against 553 cases, of which 30 ended fatally, in 1909, and 646, with 32 deaths, in 1908. China and earthenware trades were responsible for 77 cases, with 11 deaths, whitelead for 34 cases and 1 death, and coachbuilding for 70 cases and 6 deaths. Among house painters and plumbers, not included in the above notifications, were 232 cases of plumbism and 35 deaths. At the Brussels Congress, Drs. Agasse-Lafont and Heine, of Paris, read papers upon the condition of the blood in the presaturnine state, or what might be called latent saturnism, in which, while the system is impregnated by lead, as shown by the presence of the metal in the urine, the reaction on the part of the organism is so slight as almost to pass unobserved. They contend that in this presaturnine state, though the white corpuscles show nothing abnormal beyond a slight increase in the number of mononuclear cells in the blood, the red corpuscles, on the other hand, in addition to being slightly diminished in number, exhibit almost constantly basophile granules, and that some are also nucleated. Against this it is stated that neither Sir Thomas Oliver, Drs. King Alcock nor K. W. Goadby have obtained any practical assistance from this as a sign of plumbism. The subject, however, is one which requires further investigation.

The use of non-poisonous paints has proved so satisfactory in several of the large railway carriage works that the experiment is well worth extending. It yet remains to be seen how far lead sulphate can replace the carbonate and be free from risk. The use of lead paint for stencilling letters on goods wagons by means of aerographs is a source of danger.

Arsenic, Mercury, and Anthrax.

Arsenic and mercury as industrial poisons still claim victims, but fewer than formerly. There were 51 cases of anthrax reported in 1910, compared with 56 for the previous year, the mortality rates being respectively 17.6 and 21.5.

Classification of Industrial Diseases.

Dr. Legge draws special attention to the difficulties experienced in attempting to classify industrial poisons satisfactorily. He suggests that while classification should take account of the relative toxicity of compounds and of the various processes in which they are used, classification for medical purposes might follow the particular tissues or organs of the body principally affected—for example, the blood; nervous, respiratory, circulatory, urinary, muscular systems; the skin and organs of sense. Dr. Legge, acting upon a suggestion by Dr. Fischer of Hamburg, would classify industrial poisons by their mode of action: (1) By irritation of the mucous membrane and skin; (2) destruction of the normal character of the red blood cells; and (3) by affections of the brain and nervous system.

Skin Diseases.

Considerable space is devoted to the subject of occupational dermatitis—a circumstance which suggests that skin affections in consequence of employment are on the increase. An interesting appendix on dermatitis caused in the manufacture of roll tobacco is from the pen of Dr. Collis. The eruptions were traced to the olive oil used in the process of spinning. The thin skin between the fingers and on the back of the hand and forearm becomes affected. The worker first feels the skin hot and irritable; it subsequently becomes dry and scaly; later it cracks, becomes red and inflamed, and pustules form. Apart from pain, the irritation of the skin causes a considerable amount of sleeplessness. The malady resembles eczema, and may spread by intercellular infection from the area originally affected. Removal from exposure to the olive oil is generally followed by recovery without further treatment, while resumption of the old work is followed by a relapse.

The annual report of 1910 is quite equal to its predecessors, and is a record of good work honestly done, and of which any Government may justly be proud.

* Wyman and Sons, Ltd., Fetter Lane, E.C. (Price 2s. 4d.)

THE College of Medicine and Surgery of the University of the Philippines has put out a circular announcing its intention of issuing a publication on the surgery of tropical diseases, and asking for contributions of facts from the personal experience of doctors who have lived and studied in the tropics.

From a photograph by] **Strathpeffer Spa.** *[J. Thomson, Inverness.*

THE HIGHLANDS IN JUNE.

[FROM A SPECIAL CORRESPONDENT.]

THREE weeks ago the writer went a journey of some 1,300 miles, and three weeks ago, less three days, he was back again in London. The man who went weighed the same, and probably looked the same, as the man who returned; but nevertheless they were different persons. To the man who went, every inch of pavement in his particular section of London seemed drearily familiar; in the man who returned the same streets evoked a pleasing sense of curiosity. The man who went slept fitfully until five; the man who returned slept soundly until seven. The man who went ate his breakfast because it was set before him; the man who returned rang the bell for more. The man who went did his day's work in the steady going fashion begotten of long custom; the man who returned shied a trifle at his task, but soon found that he was doing it with zest.

Now all this is not an allegory, but a statement of fact, and as such may be permitted to pass as a prelude to the rendering of an account of a commission received and completed. The man who went was not, as might be suggested, a person in need of a 5-grain pill, but an ordinary London worker, in ordinary London health, on an errand of a kind such as he had often performed before, and the journey was one which any man may take who will, though the distance travelled would be better spread over a somewhat longer period in order to secure more opportunity for exercise and explorations afoot. It is this fact that makes it seem worth while to dwell on what would otherwise be a mere detail of none but personal interest.

The writer's errand was triple: To be present at a local function; to examine, from the point of view of a physician with a patient, what Strathpeffer has to offer; and to see how the Highlands frame in early June.

On the first point nothing need be said except that a Highland host manages somehow to make his guests feel more at home than they commonly would in similar circumstances south of the border; and that in the course of the proceedings Mr. Vasey, of the *Lancet*, summed up the situation neatly when he claimed that, be their politics what they may, medical men should be protectionists in the matter of spas, since whatever their patients might require and could find abroad, they could also find at home. Now that the authorities of health resorts in Great Britain have awakened to what is required and have shown their readiness to supply it, this is a statement that can truthfully be made. At Strathpeffer, for instance, though the bath establishment is small, it is very complete. Arrangements for practically every kind of hydropathic treatment are provided, and the water drinking hall is pleasantly disposed in a garden with plenty of open-air shelters in addition to a club house and tennis and bowling greens.

There are a good many springs, the more important containing the sulphides of sodium and potassium and large proportions of H_2S, and others the carbonate of iron, and among the drinkers observed on this occasion were a fair proportion of local people. This is a point to which the writer has grown to attach some importance in assessing the practical value of a spring when divorced from the factors of change of life and general environment. But apart from its possession of springs, the situation of Strathpeffer and its meteorological records equally support its claims as a climatic health resort. Ensconced on the hillside, at the head of a well-wooded valley, the impression which it quite truthfully creates is one of brightness and cleanliness. As a village it is quite a tiny place, but what between the scattered hotels and private houses it covers a fair area. Close above it, on one of the hills, is a golf course of eighteen holes with some very sporting hazards; and there are plenty of temptations to take other outdoor exercise. Within easy reach are Inverness and the Fraser country, Ben Wyvis, and the Beauly and Moray Firths. The visitor can also drive about the peninsula known as the Black Island, and wonder why Rosyth was preferred to the immense natural harbour represented by Cromarty Firth.

As for living accommodation, it is on a par with that to be found at like places elsewhere; indeed, some of that recently provided is entitled to the term *de premier ordre*, so dear to the heart of the foreign hotel keeper. As for accessibility, though it lies in the true Highlands, Strathpeffer is perfectly easy to reach. In the present instance the writer got into a London and North-Western train at Euston at 11.50 p.m., surveyed the Lowlands and Stirling Castle over a cup of tea between 6 and 7 in the morning, and had breakfast at Perth at 9.20. The sleeping cars, it is to be noted, are of a more comfortable kind than most of those on the Continent, and, similarly compared, the arrangements for third-class

passengers are also good. Unlike their fellows on the Continent, the authorities of these northern lines, including the North British, Highland, and Caledonian railways, are not sparing in the matter of the rolling stock to be used on any long journey. From Perth, if the traveller leaves London on a Monday, he can reach Strathpeffer in four hours, or, if he pleases, can rest awhile at one of the hamlets in the district which has been called the sanatorium of Scotland. Of these Aviemore Junction, where there is an excellent hotel, is a good example.

Nor need the visitor, his visit completed, return south by the same route that he came. He can, and should, make a detour due west, travelling by the Skye branch of the Highland Railway to Strome Ferry on the other coast of Scotland, then run down between Skye and the mainland on a McBrayne steamer to Mallaig, and thence back to Perth viâ Crianlarich, first on the North British and then over the Caledonian line. Even starting from Perth, the whole of this journey could be done within the day, and it is a little curious that the four bodies concerned do not combine to place such a day trip within the reach of local people. It would be likely to prove popular, for the country traversed is highly interesting and extremely and variously picturesque.

Of most countries of this type little can be seen by the train traveller, but in North Britain the reverse is the case. The railways, having been for the most part built before the days of great tunnel driving, follow the line of least resistance. They thus wind round and round the hills, much as did the bridle paths that preceded them, so that the whole journey is an endless panorama of glen and mountain, loch, and moor. Indeed, the country to be seen in this detour is among the best in Scotland. What makes it even more attractive, perhaps, is the mental recreation it affords; but into this question, entailing as it does information of the guide book order, the writer is not disposed to enter. His main purpose is to emphasize the fact that the Highlands can be visited with advantage not merely in autumn by the sportsman, nor in the late summer by the man who has many weeks at his disposal, but will well repay a visit at any time from early May onwards by any one who can snatch even a week from his work.

In such space of time, or even, as the writer has proved for himself, in no more days than are covered by a long week-end, not only can a good idea be obtained of the physical aspect of the Highlands, but a glance can be got at a multitude of places historically familiar to nearly every one. The Pass of Killicrankie, the Palace of Scone, Stirling Castle, the battle grounds of Culloden and Inverlochry, and the Glenfinnan gathering place of the clans which rose in 1745, are some instances in point. In addition, the man who in his youth has conned his Scott with care, and has since read Crockett, Stevenson, and Ian McLaren, will descry, practically every mile or two, some spot of which he at least knows something; while the politically minded will gain a notion as to why the Highland chieftain of the past preferred raiding his neighbour's land to any other form of occupation, and as to why the crofter of the present tends to become an emigrant.

As for climatic conditions, the writer can only speak of the Highlands as he found them; possibly it is not always fine in May and June, but on this occasion, at any rate, the weather was as bright as could be desired. The gorse was in full bloom, the atmosphere most invigorating and curiously transparent; and to its warmth an added charm was lent by an occasional glimpse of wintry white on the distant mountain peaks.

A WOMAN doctor has been appointed medical officer to the town of Gyula in Hungary.

THE Abyssinian Representative, Dijasmatch Kassa, and his suite have paid a long visit to St. Thomas's Hospital, going very fully into the details of administration and tl e rteatment of patients. They also visited the Nurses' Homes and Medical School, and were particularly interested in the teaching of the nurses in the preliminary training school and in the thorough training of the students, making many inquiries in regard to the teaching of anatomy. At the conclusion of the visit Dijasmatch Kassa expressed the great pleasure he had experienced and his desire to make a donation of £100 to the funds of the hospital.

MOTOR CARS FOR MEDICAL MEN.

A YEAR'S COST OF RUNNING A MOTOR CAR LIMOUSINE, COMPARED WITH THAT OF A BROUGHAM.

F.R.C.S.ENG. writes that a year ago he changed his brougham for a motor car. The brougham, two horses and coachman, and all other expenses, including all renewals, cost on an average £210 a year. The mileage was estimated at 4,000 = 1s. 0½d. a mile. The carriage was used for the purposes of the practice only—one horse in the morning and the other in the afternoon.

Initial cost of 15-h.p. Daimler Limousine, ready for the road, with spare wheel, and all accessories, was	£543
The initial cost of brougham, 2 horses, harness, etc., would be nearly	£300

The first year's expenditure on the car, including chauffeur (£90), insurances, rent, rates, petrol, new tyres, and all other expenses, amounted to £201 2s. 1d., to which £108 12s. 2d. must be added for depreciation (that is, 20 per cent. of initial cost); the total expenses for one year were therefore £309 14s. 3d.

The miles run in the year were 5,203, of which 1,128 were for pleasure and 4,075 for professional purposes. The cost of running per mile works out at 1s. 2¼d. Therefore £241 19s. may be stated as the cost of the car for one year to the practice as compared with £210 for the brougham.

The total petrol used for all purposes was 294 gallons, or 17⅔ miles to the gallon. As 500 miles were run with a defective carburetter which gave only 10 miles to the gallon in the town with frequent stoppings and only 13 miles in the open country, and as on a holiday 816 miles were run on 35 gallons (equal to 23⅓ miles to the gallon), it is obvious that the mileage per gallon of petrol now will be about 20 in the town, in which the motor runs about 14 miles a day and stops and starts about thirty times

The tyres of the steering wheels are an expensive item. The four wheels of the car and one spare wheel were, to begin with, fitted with Continental tyres, with the following results:

1 front wheel plain tyre is still running at 5,293 miles.
1 front wheel plain tyre burst at 5,160 miles.
1 rear wheel studded tyre split at 1,851 miles.
1 rear wheel studded tyre ran only 2,565 miles, when most of the studs were out and the cover was worn through.

Avon tyres were then tried:

1 rear wheel studded tyre ran only 2,245 miles, when most of the studs were out; it was retreaded and put on a front wheel.
A rear wheel cross-grooved Avon has run only 1,300 miles and is now off for repairs, it having a big cut in it, as well as a patch of the canvas exposed. Other tyres of the same makes gave like results.

Many of the streets of this town are paved with rough cobble setts, which I think pull out and wear the studs quickly. I am therefore using now plain tyres on the back wheels as well as on the front. Altogether I spent £30 6s. 7d. on tyres in the twelvemonth.

The only mechanical breakdown in the year was caused by the breaking of a ball race, which prevented the use of the car for a day and a half.

I should say that to a busy man an experienced, steady, and trustworthy chauffeur is a *sine quâ non*. It occupies the chauffeur two to three hours each day to keep the car smart and in running order.

The great advantages of the car are obvious, namely:

1. Greater speed and therefore saving of more time each day for either leisure or study.

2. Ease and comfort in travelling, and also more light in a limousine.

3. The rapid motion through the air is exhilarating, whilst trundling along in a brougham is somewhat depressing.

4. The car never tires as horses do. Long journeys do not upset the day's work as formerly, since they can be taken in so short a time.

The advantages of a limousine over a landaulette or open body are: No need to alter one's dress, nor to wrap up in cold or wet weather; with the windows down between the body and the chauffeur there is no draught, yet there is more light than in a brougham. All the parts being fixed they do not rattle loose as in a landaulette, nor does dust blow into the body nor on to the occupant. Then there is the pleasure and health derived from touring, and the advantages of having a rapid mode of travelling at one's command at any time during the day or night. With a Silent Knight engine the absence of vibration and noise is a great advantage to a doctor and his patients.

Nova et Vetera.

SOME ROYAL DEATH-BEDS.

(Continued from vol. i, 1911, page 1436.)

GEORGE IV.

GEORGE IV was born in 1762. In 1811 he became Prince Regent owing to the insanity of his father, George III, and in 1820, on the death of that sovereign, he ascended the throne. A life of dissipation wrecked a naturally fine constitution, and from 1810 to the time of his death Sir Henry Halford was in regular, almost daily, attendance upon him. His dependence on his physician is illustrated by the following lines, quoted in Munk's *Life of Sir Henry Halford*. The author is said to be Henry Luttrell.

The Regent, sir, is taken ill,
And all depends on Halford's skill.
"Pray what," inquired that sage physician,
"Has brought him to this sad condition?"
When Bloomfield ventured to pronounce,
"A little too much Cherry Bounce."

The Regent, hearing what was said,
Raised from his couch his aching head,
And cried, "No, Halford, 'tis not so—
Cure us, O Doctor—Curaçoa."

Among other doctors who attended the King occasionally were Sir Walter Farquhar, Sir Gilbert Blane, Sir William Knighton, Sir Matthew Tierney, and Dr. H. H. Southey. Tierney was the one most frequently associated with Halford. A day or two after George IV's accession to the throne he was struck down with an acute illness. He had an attack of pneumonia, which ran a normal course; he was not sufficiently well to attend the funeral of his father on February 15th, 1820.

The following letter from George IV to Sir William Knighton shows the bad state of his health in 1827: [1]

Royal Lodge, June 18th, 1827.

As to myself, I am pretty well bodily; but I have little or no use of my poor limbs, for I can neither walk up nor down stairs, and am obliged to be carried, and in general to be wheeled about everywhere; for my powers of walking, and even of crawling about with crutches, or with the aid of a strong stick, are not in the smallest respect improved since you last saw me,—at the same time that my knees, legs, ankles, and feet swell more formidably and terribly than ever. This, I am sure you will agree with me, ought now to be seriously attended to without delay by some plan devised and steadily acted upon, in order to stop the further progress, and to remedy it effectually and finally; for there is no question there is an increasing and progressive evil (at least so I fear), unless steps be found, and that speedily too, of averting it.

The following account of his death is taken from Munk: [2]

"During the whole ten years of the king's reign his Majesty's health was a subject of anxiety to his physicians, and especially to Sir Henry Halford, to whom exclusively in all ordinary circumstances the king was pleased to entrust the medical charge of himself. It was generally known that his Majesty's health had been in an unsatisfactory state for a considerable period, but as it did not render confinement necessary, it did not excite alarm until directions were given in consequence of the increase of the malady, to countermand the preparations for the festivities with which the royal birthday was to have been celebrated at Court in April. It had been known for some time by the physicians that the king had disease of the heart, which could have no other than a fatal termination, and its course, which was very similar to that of the Duke of York, was foreseen and anticipated. The first bulletin was issued on the 15th of April, and announced that his Majesty was suffering under a bilious attack, accompanied by embarrassment of breathing. The symptoms varied a good deal from time to time, his Majesty enjoying temporary intervals of comparative ease, but they were not giving way, and brought with them such bodily debility as rendered even the slightest personal exertion painful. Additional symptoms which manifested a breaking-up of the constitution, and foremost among these, dropsy, began to show themselves, and after a time puncturing of the legs was had recourse to, and gave temporary relief. The king suffered, too, from violent attacks of coughing, so severe that on more occasions than one death appeared to be imminent. The king died early in the morning of Saturday, June 26th, 1830, and more suddenly than was expected. Feeling a sudden thrill of pain he exclaimed, 'This is death! send directly for Halford'; and the King expired in the act of making a friendly inclination of the head to Sir Henry on his entering the apartment."

In the *History of the Four Georges and William IV.*, by Justin McCarthy and Justin Huntly McCarthy,[3] it is said that the royal physicians "kept issuing bulletins, but they were so vague in their terms that it is impossible to believe they were not made purposely deceptive." George IV. had the same nervous objection to any admission by himself or on his behalf of there being any ground for alarm as to the state of his health that has been manifested by so many of his family. The public was still kept in doubt as to the truth till on May 24th a message was sent in the King's name to both Houses of Parliament to the effect that the King no longer found it convenient to sign State papers with his own hand. For some time no one but Knighton had been able to induce him even to sign the necessary documents of State. He lay all day in bed and passed his nights in restless wakefulness. He kept his room at a high temperature and drank excessive quantities of cherry brandy. By February of 1830 he had become partially blind, and his singular delusions, such as that he had commanded a division at Waterloo and ridden a winning race at Goodwood, became stronger. On April 12th he drove out for the last time. Those about him knew, though he did not, that he was sinking. In May the Duke of Wellington caused the Bishop of Winchester to attend on him to prepare him for his end. Though Knighton thought he might rally, Halford and Tierney had given him over. The rupture of a blood vessel proved to have been the immediate cause of death, but ossification of some of the vessels near the heart had begun years before, and a complication of disorders had gradually developed. At the time of his death George IV was in his 68th year.

Justin McCarthy [4] relates the following curious story:

Shortly before his death, George made an earnest request to the Duke of Wellington, who was in constant attendance, that he should be buried in the night-shirt which he was wearing at the time. The Duke was somewhat surprised at this request, for . . . the garment in question did not seem likely to commend itself as a shroud even to a sovereign less particular as to costume than George the Fourth had been. During his later years, however, as we learn from the testimony of Wellington himself, the King . . . had got into the way of sleeping in uncleanly night-shirts, and particularly dirty night-caps. When the King was dead, Wellington noticed that there was a red silk ribbon round his neck beneath his shirt. The ribbon was found to have attached to it a locket containing a tiny portrait of Mrs. Fitzherbert.

The physicians who had been in attendance on the King were sharply criticized in some of the public prints for the bulletins they had issued, which, it was contended, were calculated, even if they were not intended, to mislead. Sir Henry Halford took an early opportunity of refuting the imputation and justifying himself and his colleagues for their part on that occasion. At the same time he considered generally the duty and conduct of the physician towards a patient suffering from mortal disease. The subject of medical bulletins has, at various times, exercised the mind of the profession. The question of the information which the doctor should give a patient as to his condition has also frequently been discussed. It may not, therefore, be out of place to quote at length the opinions on both these matters expressed by a man of such large experience and such sagacity as Halford. In an essay "On the Influence of Some Diseases of the Body on the Mind," which he read at one of the evening meetings of the College of Physicians in February, 1831, he said:

"You will forgive me perhaps if I presume to state what appears to me to be the conduct proper to be observed by a physician, in withholding or making his patient acquainted with his opinion of the probable issue of a malady manifesting mortal symptoms. I own, I think it my first duty to protect his life by all practicable means, and to interpose myself between him and everything which may possibly aggravate his danger.[5]

"And, unless I shall have found him averse from doing what was necessary in aid of my remedies, from a want of

[1] *Memoirs of Sir William Knighton*, London, 1838, vol. i, p. 375.
[2] *Life of Sir Henry Halford*, London, 1895, p. 176.
[3] Vol. iv, p. 119.
[4] Op. cit.
[5] "At hoc ne homines probi faciunt, ut amicis impendentes calamitates praedicant, quas illi effugere nullo modo possint: et medici, quamquam intelligunt saepe, tamen nunquam aegris dicunt illo morbo eos esse morituros. Omnis enim praedictio mali tum probatur cum ad praedictionem cautio adjungitur."—Cicero, *De Divinatione*, ii, 25.

a proper sense of his perilous situation, I forbear to step out of the bounds of my province in order to offer any advice which is not necessary to promote his cure. At the same time, I think it indispensable to let his friends know the danger of his case the instant I discover it. An arrangement of his worldly affairs, in which the comfort or unhappiness of those who are to come after him is involved, may be necessary; and a suggestion of his danger, by which the accomplishment of this object is to be obtained, naturally induces a contemplation of his more important spiritual concerns, a more careful review of his past life, and such sincere sorrow and contrition for what he had done amiss, as justifies our humble hope of his pardon and acceptance hereafter. If friends can do their good offices at a proper time, and under the suggestions of the physician, it is far better that they should understand them than the medical adviser. They do so without destroying his hopes, for the patient will still believe that he has an appeal to his physician beyond their fears; whereas, if the physician lay open his danger to him, however delicately he may do this, he runs a risk of appearing to pronounce a sentence of condemnation to death, against which there is no appeal, *no hope;* and *on that account*, what is most awful to think of, perhaps the sick man's repentance may be less available.

"But friends may be absent, and nobody near the patient in his extremity, of sufficient influence or pretension to inform of his dangerous condition. And surely it is lamentable to think that any human being should leave the world unprepared to meet his Creator and Judge, 'with all his crimes broad blown.' Rather than so, I have departed from my strict professional duty, and have done that which I would have by myself, and have apprised my patient of the great change he was about to undergo.

"In short, no rule, not to be infringed sometimes, can be laid down on this subject. Every case requires its own considerations; but you may be assured, that if good sense and good feeling be not wanting, no difficulty can occur which you will not be able to surmount with satisfaction to your patient, his friends and yourselves.

"Advice on some of these points, at least, corresponding with that which I have presumed to offer you, is to be found in the beautiful chapter of Hippocrates, *περι ευσχημοσύνης (De decenti ornatu);* and I assure you it will amply repay you for the trouble of referring to it, by the gravity and striking deportment which it recommends.

"But if, in cases attended with danger in private life, the physician has need of discretion and sound sense to direct his conduct, the difficulty must doubtless be increased when his patient is of so elevated a station that his safety becomes an object of anxiety to the nation. In such circumstances the physician has a duty to perform, not only to the sick personage and his family, but also to the public, who in their extreme solicitude for his recovery sometimes desire disclosures which are incompatible with it. Bulletins respecting the health of a sovereign differ widely from the announcements which a physician is called upon to make in humbler life, and which he entrusts to the prudence of surrounding friends. These public documents may become known to the royal sufferer himself. Is the physician, then, whilst endeavouring to relieve the anxiety or satisfy the curiosity of the nation, to endanger the safety of the patient, or, at least, his comfort? Surely not. But whilst it is his object to state as accurately as possible the present circumstances and the comparative condition of the disease, he will consider the conjectures respecting its cause and probable issue are not to be hazarded without extreme caution. He will not write one word which is calculated to mislead; but neither ought he to be called upon to express so much as, if reported to the patient, would destroy all hope and hasten that catastrophe which it is his duty and their first wish to prevent.

"Meanwhile, the family of the monarch and the Government have a claim to fuller information than can, with propriety or even common humanity, be imparted to the public at large. In the case of His Majesty King George the Fourth, they were apprised, as early as April 27th[6] (I hold in my hand the original letters which gave the information to the Prime Minister), that His Majesty's disease was seated in his heart, and that an effusion of water into his chest was soon to be expected. It was not, however, until the latter end of May—when his Majesty was so discouraged by repeated attacks of embarrassment in his breathing, as to desire me to explain to him the nature of his complaint, and to give him my candid opinion of its probable termination—that an opportunity occurred of acknowledging to His Majesty the extent of my fears for his safety.

"This communication was not necessary to suggest to the King the propriety of religious offices, for His Majesty had used them daily. But it determined him, perhaps, to appoint an early day to receive the sacrament. He did receive it, with every appearence of the most fervent piety and devotion, and acknowledged to me repeatedly afterwards that it had given him great consolation—true comfort.

"After this, when 'he had set his house in order,' I thought myself at liberty to interpret every new symptom as it arose in as favourable a light as I could, for His Majesty's satisfaction; and we were enabled thereby to rally his spirits in the intervals of his frightful attacks, to maintain his confidence in his medical resources, and to spare him the pain of contemplating approaching death, until a few minutes before His Majesty expired.

"Lord Bacon, one of the wisest men who has lived, encourages physicians to make it a part of their art to smooth the bed of death and to render the departure from life easy, placid, and gentle.

"This doctrine, so accordant with the best principles of our nature, commended not only by the wisdom of this consummate philosopher, but also by the experience of one of the most judicious and conscientious physicians of modern times—the late Dr. Heberden—was practised with such happy success in the case of our lamented sovereign that at the close of his painful disease 'non tam mori videretur' (as was said of a Roman emperor), 'quam dulci et alto sopore excipi.'"

As we have said more than once, the public has a right to know the truth about the health of the Sovereign when the illness is sufficiently serious to cause anxiety. But it need not be told the whole truth, and certainly it would be most improper on every ground that the "many-headed" should be allowed to share the suspicions and doubts of the physicians, or that the secrets of the sick-room should furnish matter for "descriptive journalism." It is necessary, therefore, for the sake of the patient as well as for other reasons, that bulletins should be drawn up in guarded terms. They should not, however, be misleading or so attenuated as to mean practically nothing. This only tends to arouse the suspicion of an ill-advised diplomacy.

Pallida mors aequo pulsat pede pauperum tabernas,
Regumque turres.

It would be a bad day for monarchy if the people ceased to take an interest in the health of the Sovereign.

[6] His Majesty died on June 25th.

MEDICINE IN CANADA.

By ANDREW MACPHAIL, M.D.,
Montreal.

ON April 24th the end came to the long struggle for consolidation of the medical profession in Canada. For ten years the matter has been before the various provincial legislatures and the Dominion Parliament, and it seemed to become more confused as time went on. On the date mentioned, however, the Dominion Senate formally passed certain amendments to the Canada Medical Act, and the leaders of the profession have obtained the desire of their hearts.

The moment, therefore, seems opportune for setting forth the new situation which has been created; but, as a preliminary, a retrospect of the various legislative enactments and the disabilities which they were meant to remedy will be necessary for a complete understanding of the case. To state the matter shortly, the whole affair was a struggle to obtain freedom of practice in the nine provinces for all physicians who are properly qualified to practise in any one. This has now been accomplished.

The question was further complicated by being bound up with reciprocity in medical degrees with Great Britain, and that difficulty had first to be removed. This only made the situation still more anomalous; for, whilst a means had been found by which reciprocity could be

obtained between the various provinces and parts of the empire outside of Canada, there was none by which reciprocity could be obtained between the various provinces themselves.

For ten years the attempt to obtain a full measure of reciprocity between Canada and England, or between the nine provinces themselves, ended in failure. This was due to the fact that under the British North America Act of 1867, which governs the confederation of Canada, all matters pertaining to education—elementary, scholastic, and professional—lie within the authority of the various provinces; and Quebec, which is French and Catholic, and in possession of a system of education specially adapted to those conditions, has guarded this right with jealous care.

To all requests for reciprocity the General Medical Council of Great Britain made the obvious reply that the provinces of Canada should first agree among themselves in establishing one standard of entrance to the study of medicine and one standard of final qualification. To this Quebec would not agree. That would be to surrender the inalienable right to the control of education.

To meet this difficulty the Medical Acts Order of 1906 was passed by the Privy Council, under which each province of Canada was constituted a separate State for the purpose of negotiation. Nova Scotia and Prince Edward Island immediately applied. They granted, and received, a measure of reciprocity, under which their qualifications were registrable in Great Britain, and, therefore, in both provinces; and practitioners registered in England were free to practise in those provinces. Quebec also applied for, and offered, reciprocity. This was mutually agreed to, after provision had been made for adequate preliminary education, and to prevent a graduate who had for cause been refused the Quebec licence from registering in England, and so evading the local regulations. It is now open to any province to apply for reciprocity with England.

When the disability that men from Great Britain with the highest medical qualifications were unable to practise in Canada without passing the examinations of a provincial board was removed, the anomaly was still more curious that a medical man who was acknowledged in one province as fully qualified could not practise in another province without passing the local examinations and requirements. The inconvenience was especially felt by McGill University, which has always been of Continental reputation, and necessarily derives a large proportion of its students from outside the province in which it is situated.

In 1902 the Canada Medical Act was carried through the Dominion Parliament by Dr. T. G. Roddick, at that time Dean of the Medical Faculty of McGill University and member for St. Antoine Division of Montreal. It aimed at a "one-portal" system for entrance to the medical profession in Canada, and passed into law. But its operation was restricted by the provision that it would not go into effect until its terms were accepted by the legislatures of the nine provinces, and Quebec would not agree.

To remedy this disability a suggestion was made at the meeting of the Canadian Medical Association in Winnipeg in 1909 to the effect that, when five or more provinces agreed to accept the terms of the Act, a plan of registration for those provinces could be established. Quebec objected on the grounds that it was being coerced by a threat of isolation; but eventually Quebec was satisfied, mainly by the provisions that the matter of preliminary education should be left in the hands of the provinces, and that the Dominion Council should relegate to assessors the supervision of the primary examinations, as they are now held in the various universities.

In the original Act it was provided that a properly qualified person who had been engaged for six years in the practice of medicine in any one of the provinces should be entitled to registration without examination. The amendment extended this period to ten years, and allowed to the medical council of any province the privilege of exacting an examination in final subjects. The scheme of representation on the Dominion Medical Council, originally based on census returns, would, under the new proposal, give two representatives to each of the provinces and, on account of their greater size, one additional to Ontario and Quebec. The universities, as originally proposed, were to have one representative and the Governor-General-in-Council was to appoint three members, each of whom should reside in a different province. In addition, there were to be three members elected by such practitioners in Canada as, by the laws of the province wherein they practised, were recognized as forming a particular and distinct school of the practice of medicine, and, as such, were by the same laws entitled to practise in the province. This clause apparently was intended to meet the views of persons who are known as "homoeopaths." Everthing was in readiness for the passing of these amendments, which would have consolidated the profession in Canada, when the council of British Columbia demanded delay, and protested that it was unwilling to proceed before the proposals had been submitted to the entire body of the profession in that province. As the time for presenting bills had already nearly expired, there was no alternative but to postpone the introduction of the amended Act until the present session.

Meantime, Dr. Roddick, with a committee, was at work upon the subject. This committee was composed of members from each of the provincial councils; it met in Winnipeg in August, 1909, and again in Montreal in November, when every province save Saskatchewan and Alberta was represented. At the final meeting in Toronto in June, 1910, the representation was complete.

As a result of much discussion and many compromises, an amendment to the Canada Medical Act of 1902, and known as "The Roddick Bill," was offered in the House of Commons by Dr. J. B. Black, M.P. for Hants, on November 28th, 1910, at the request of Dr. Roddick, who was no longer in the House but was as much concerned as ever about putting into effect the completed provisions of the Act. The amending bill was read for the first time, and was referred to a special committee which was to meet at such time as would give ample opportunity for all medical councils which so desired to make their opinions known.

The amendments passed the special committee on March 3rd, but only after a fresh difficulty had been met. Provision was made for representation on the Dominion council of the various universities, but as there are no universities with medical schools in British Columbia, Alberta, and Saskatchewan, those provinces felt aggrieved. By way of compromise it was provided that of the three members of the council to be appointed by the Government two should be from those provinces. Finally the bill passed both Houses on April 24th, and all that now remains is to have it put into effect by formal acceptance on the part of the various provinces, all of which, it is understood, have already expressed approval of the measure.

The main provisions of the law are contained in the following clauses:

1. The purposes of the council shall be to promote and effect:
(*a*) The establishment of a qualification in medicine, such that the holders thereof shall be acceptable and empowered to practise in all the provinces of Canada.
(*b*) The establishment of a register for Canada of medical practitioners, and the publication and revision from time to time of such register.
(*c*) The determination and fixing of the qualification and condition necessary for registration, the examinations to be undergone with respect to professional subjects only, and generally the requisites for registration.
(*d*) The establishment and maintenance of a board of examiners for examination and granting of certificates of qualification.
(*e*) The enactment, with the consent and at the instance of the medical councils of the various provinces of Canada, of such provincial legislation as is necessary to supplement the provisions of this Act and to effect the foregoing purposes.
2. The council shall be composed of:
(*a*) Three members who shall be appointed by the Governor-in-Council, each of whom shall reside in a different province.
(*b*) Two members representing each province, who shall be elected under regulations to be made in that behalf by the provincial medical council.
(*c*) One member from each university or incorporated medical college or school in Canada having an arrangement with a university for the conferring of degrees on its graduates engaged in the active teaching of medicine, who shall be elected by the university or by such college or school under such regulations as may govern in that behalf.
(*d*) Three members who shall be elected by the "homoeopathic" practitioners in Canada, each of whom shall reside in a different province.

This Act shall not come into force until the legislatures of all the provinces shall have enacted legislation accepting its provisions.

3. The establishment, maintenance, and effective conduct of

examinations with respect to professional subjects only, for ascertaining whether candidates possess the qualifications required, the number, times, and modes of such examinations, the appointment of examiners, and generally all matters incident to such examinations, or necessary or expedient to effect the objects thereof.

4. The subjects of examination shall be decided by the council, and candidates for examination may select to be examined in the English or French language. A majority of the committee conducting the examination of any candidate shall speak the language in which the candidate elects to be examined.

Examinations may be held only at those centres at which there is a university, or college actively engaged in the teaching of medicine, or having hospital facilities of not less than 100 beds.

5. Every one who passes the examination prescribed by the council, and otherwise complies with all the conditions and regulations requisite for registration as prescribed by this Act and by the council, shall, upon payment of the fees prescribed in that behalf, be entitled to be registered as a medical practitioner.

Any person who has received a licence or certificate of registration in any province previous to the date when the council shall have been first fully constituted under this Act, and who has been engaged in the active practice of medicine in any one or more provinces of Canada, shall, after ten years from the date of such licence or certificate, be entitled to be registered under this Act as a medical practitioner, without examination, upon payment of the fees and upon compliance with the other examinations and regulations for such cases prescribed by the council. Provided that if the medical council of any province is not satisfied with the period of years prescribed by this subsection, such medical council may as a condition to provincial registration exact an examination in final subjects from practitioners registered under this subsection.

6. No amendment of this Act, or of the Act hereby amended, may be proposed on behalf of the council, unless previously accepted by the provincial medical councils.

7. At each annual meeting of the council, the council shall appoint a board of examiners to be known as the Medical Council Examination Board, whose duty it shall be to hold the examinations prescribed by the council, subject to the provisions hereinbefore contained.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

PREPARATIONS FOR AMENORRHOEA AND OTHER WOMEN'S COMPLAINTS.

In a previous article (British Medical Journal, 1907, vol. ii, p. 1653 et seq.) the results of analyses of a number of pills and other medicines advertised for the cure of amenorrhoea and other ailments peculiar to women were published. We now give a report on a further selection from the very large number of these nostrums advertised more or less obtrusively in newspapers and magazines or otherwise.

There appears to be a greater number of nostrums of this class than of almost any other, and this is no doubt due to the specially remunerative nature of the business. Obviously, any one buying a remedy of this kind wishes to obtain a certain definite result—namely, the reappearance of the menses, suppressed or overdue, and there can be no doubt about whether this result is attained or not. But, if it does not occur after taking the medicine supplied, it by no means follows that the vendor loses a customer; in fact, quite the contrary is likely to happen; in practically every case the medicine first sent is accompanied by a recommendation of some "stronger" preparation, which is sure to be successful if the first one fails, as, of course, the vendor usually knows it is likely to. The disappointed purchaser is thus worked on to try the "stronger" preparation, for which a higher price is charged, and in most cases a "still stronger" (at a still higher price) is held in reserve. In this way a nostrum which is advertised at a low price, such as 1s. 1½d., or as a "free sample," serves as an introduction for a means of extracting from 5s. to one or it may be several guineas. Many of these nostrums are put forward with thinly veiled suggestions that they will be efficacious in averting an undesired pregnancy, and it cannot be doubted that they are often bought with this object. This enables a higher price to be extorted, and the medicines are also made to serve as an introduction for a price list of various appliances for preventing conception, which are nearly always supplied at very remunerative rates.

In the formulae which follow, no quantities are named in all those cases where it is not practicable to separate definite compounds, that can be weighed or measured, from the mixture of substances examined. It will be readily understood that in the case of a pill containing such a drug as aloes (consisting of many ill-defined constituents), with perhaps powdered liquorice and ginger, an essential oil, soap, and one or more substances (sugar, gum, a vegetable extract, etc.) added as excipient, the various portions into which the mass can be separated by analysis will not correspond in amount with the several ingredients taken in making it up, and only indirect evidence can be obtained as to the amounts of some, at least, of the constituents present; in such cases it is better not to give any quantities for the ingredients found. In some cases, also, in dealing with such pill masses, it is not possible to say with certainty whether a given constituent is present or not; and in most of the cases given below there is a possibility of small quantities of other ingredients, of "extractive" or other ill-defined character, having been present. But no doubt can exist in regard to most drugs having important medicinal activity.

Mrs. Shaffer-Bennyon's Remedy.

This is supplied by Mrs. Shaffer-Bennyon (London) at 4s. 8d. per box, containing fourteen suppositories.

It is advertised in the following terms:

Ladies! Ladies!!

Mrs. R. Shaffer-Bennyon, the Eminent Lady Specialist, has much pleasure in announcing that her Remedy Without Medicine is the only Positive, Safe, Certain, and Speedy one known. It acts almost immediately, and does not interfere with household duties. Send at once stamped addressed envelope for full particulars and most convincing testimonials (guaranteed genuine under a penalty of £1,000).

On application to the address given, various circulars were sent, in which it is stated that:

The method is by means of Soluble Cones, which are inserted into the Rectum, and lying there, are allowed to slowly melt, thus acting directly and continuously on the required organs. The method is simplicity itself, as the Cone glides into the Rectum with the most perfect ease by means of a little pressure from the finger, and brings about all that is desired in the course of a few hours. . . .

This Remedy has met with the most unprecedented success, and is truly described as a "Boon to Women." It has been used in an immense number of cases, in all parts of the world, and has never been found wanting. In fact, so successful is it that I am able to

Guarantee This Remedy Certain to Benefit

in every case, no matter what has previously been tried and failed.

The principle of this Remedy is based upon sound common sense, as a moment's consideration will show that a Remedy that lies in close juxtaposition to, and acts primarily and in full strength on the desired organs themselves, must be much more certain and powerful in its action than remedies which, before they can act at all on the parts required, have to travel through the stomach and entire system.

It appears that there is a further preparation—

Special Cones, price 11s. 2d. per case. . . . Recommended for long standing and obstinate cases.

In a printed letter sent with the cones the following directions are given:

Syringe freely with an Enema and plenty of warm water up the Vagina (which means the front passage) three times a day, morning, mid-day, and night, using the Long Vaginal Tube on the Enema. After that place a cone in the Rectum (which is the back passage) and with the finger press it as far up as possible. This means you must syringe 3 times daily and use 3 Cones daily.

On the wrapper of the box it was stated that:

These Cones are composed of Theobrama, Cerum, Fer Lac. Sol. Quinae, Sulph, Ol, Rutae, Crab, Etc.

(the stops being as here given).

The fourteen suppositories had an average weight of 14.2 grains each. Analysis showed them to contain:

Quinine sulphate	...	5.1 per cent.
Boric acid	...	4.9 ,,
Oil of theobroma	...	90 ,,

They had a slight green tint, and a faint odour which may have been due to a trace of oil of rue. No iron was

* Previous articles of this series were published in the following issues of the British Medical Journal: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 982, 1350, 1928; 1911, vol. i, pp. 26, 91, 823, 1324.

present (Fer Lac. being presumably some form of iron), and no "crab" was found. Each suppository thus contains quinine sulphate 0.73 grain, boric acid 0.70 grain. The estimated cost of the materials for fourteen suppositories is 1d.

MRS. STAFFORD-BROOKES' PELLOIDS.

These are supplied by Mrs. Stafford-Brookes (London), at 4s. 6d. per box, containing sixteen pessaries.

The resemblances between this preparation and the former one are far too numerous to be accidental. The name of the proprietor, the nature of the claims made, the wording of the advertisements, the general appearance of the package supplied, and the style and wording of all the circulars, are very similar in the two cases. The chief difference is that the cones are placed in the rectum in the one case and in the vagina in the other; but it can make no practical difference where the ones about to be described are placed.

The "Pelloids" are advertised as follows:

Ladies
Send at once for Particulars

Irregularities, &c., removed by an entirely new and absolutely certain method without medicine. No pills, mixtures, or nauseous drugs to take. The greatest discovery of modern medical science. Guaranteed harmless. It is positive, safe, certain, and speedy. Does not interfere with household duties. Every case guaranteed. Do not experiment with useless remedies. Send at once a stamped addressed envelope for full particulars and testimonials, guaranteed genuine under a penalty of £1,000.

The circulars which were sent on application to the address given, set forth that

This treatment is not an accident, but the ripe fruit of industry and study, and has proved of incalculable benefit to thousands of suffering women throughout the civilized world. It is the latest adaption [*sic*] of modern medical science, and consists of "Pelloids" of a conical shape, which are inserted in the Vagina (which means the front passage) by means of a slight pressure of the finger, the body remaining in repose for a few minutes, the "Pelloid" gradually dissolves and diffuses itself over the affected parts, and Does Not Interfere with Domestic Duties, Causing No Inconvenience Whatever.

These "Pelloids" are guaranteed absolutely harmless, and cannot possibly cause any injury, and may be used with the utmost safety and ease, without any previous knowledge or experience.

They Cause No Pain, Sickness, or Purging, or any of those distressing symptoms which so often follow the use of medicines, and will undoubtedly have the desired effect in a very short space of time.

Which can be guaranteed by no other method or treatment. . . . Now it must be perfectly clear to the most casual thinker that ailments incidental to women cannot be cured by means of stomach treatment, because the affected parts have no relation with the stomach, and are not situated near that organ, their position, therefore, must render stomach treatment more or less ineffectual, and thus it becomes apparent WHY MEDICINES DO NO GOOD.

It appears that in this case also there is a "Special" variety, consisting of "Special Pelloids, 11s. per box," which "are more than 3 times as strong as the Ordinary Boxes and I Specially Recommend Them For Long Standing and Obstinate Cases."

The directions are:

Insert one of the "Pelloids" up the Vagina (which means the front passage) three times a day, morning, afternoon, and night, passing it gently up with the finger. It is also highly beneficial and therefore strongly recommended to syringe up the Vagina with an Enema, using plenty of warm water, for a few minutes at a time, 3 times a day, just before inserting each "Pelloid."

On the package appears the statement:

These Pelloids are Guaranteed Harmless and contain Sulph. Quinae., Ol. Theobroma, Rad. Anchusae, Myrrh, A. Bor, etc., etc.

The "Pelloids" consisted of suppositories, or pessaries, of an average weight of 14.2 grains, coloured pink with a preparation of alkanet (Rad. Anchusae); analysis showed them to contain 2.3 per cent. of boric acid, with oil of theobroma, and a minute trace of quinine, not sufficient to give the slightest perceptible bitter taste; no myrrh or any other ingredient could be detected.

Each "Pelloid" thus contains: Boric acid, 0.37 grain.

The estimated cost of the materials for the sixteen pessaries is 1d.

MRS. LYDIA E. PINKHAM'S VEGETABLE COMPOUND.

This preparation is supplied by the Lydia E. Pinkham Medicine Co. (London) at 2s. 9d. and 4s. 6d. per bottle; the package is marked, "Made in U.S.A." A bottle was found to contain nearly 7 fluid ounces.

The compound is advertised in the following terms:

A Woman's Cure for Women's Ills.

Those terrible sufferings which many women endure can be cured by Lydia E. Pinkham's Vegetable Compound. This grand remedy, the medicine for all women's ailments, which has stood the test for thirty years' success, owes its origin to Mrs. Pinkham, whose whole life was spent in relieving the sufferings of women, and her grand remedy has been the means of relieving untold suffering.

It will give quick relief, and effect a permanent cure in all cases of irregularity, faintness, headaches, chlorosis, megrims, displacements, periodic bearing-down pains, dizziness, palpitation, depression, pains in the back, and those dull and listless days when you feel fit for nothing.

A small book of 80 pages is supplied gratis, entitled, *Lydia E. Pinkham's Private Textbook upon Ailments Peculiar to Women*, in which the following account of the origin of the medicine and the business is given:

Fortunately, it is seldom necessary for a woman, if she know where best she may look for help from a sister woman, to consult medical men in these troubles. In rare cases, of course, nothing will avail save the surgeon's skill, but almost always there is more certain help to be had from a woman than any medical man knows how to provide.

One woman, Mrs. Lydia E. Pinkham, was often called to help her neighbours and friends who suffered from the diseases and ailments of women. It was only the friendly unpaid service given freely to those who naturally turned for help to the first woman whom they could trust, but she delighted in rendering it, and gave the subject much careful thought and study.

So, after a time, she learned to select the most potent roots and herbs, and to steep and compound from them a simple medicine, but one which almost always relieved and cured even when physicians failed. Nothing else would do the good which this medicine did. She gave it away freely, and more and more its fame was spread by grateful women. It became plain that it was needed throughout the world, and that it would be wrong not to have the knowledge of so great a blessing spread far and wide. . . .

Lydia E. Pinkham made it known that all who would write her in confidence she would answer fully and without charge. Letters began to pour in. Each letter was carefully considered, and as carefully answered—a great task. But she kept careful notes of her answers. In those rare cases involving some knotty point which she could not answer as she wished, she consulted a good physician and kept notes of what he said. Thus, after a while, she had met almost every possible case of women's ailments, and when new letters came she seldom found much to do except to look back for a like case and answer from the notes which she had preserved.

This lightened the work, but it rapidly became too great for any one person to deal with alone. From hundreds the letters grew to thousands, then to tens of thousands, until there came a year in which to the great laboratory came more than one hundred thousand of these letters. To deal with this mass of correspondence Lydia E. Pinkham first called for the help of the women of her own family. Then she employed other women as secretaries to write for her, and at her dictation, the answers. Gradually she trained suitable women to classify the cases presented, and to select from the storehouse of knowledge in her notes the fit answer. Mainly from this storehouse letters are still answered, as wisely and as fully as ever they have been.

The directions are: "A tablespoonful every four hours through the day." It is stated on the label that

For all weaknesses of the generative organs of either sex it is second to no remedy that has ever been before the public, and for all diseases of the kidneys it is the greatest remedy in the world. . . .

Prepared specially for the British Market, adapted to British and Continental climatic conditions and people, and in strict accordance with the well known formula of Mrs. Lydia E. Pinkham.

Analysis showed it to contain 19.3 per cent. by volume of alcohol, and only 0.6 per cent. of solid substances; the ash was 0.06 per cent., and consisted of the constituents usual in vegetable preparations; traces of a tannin and ammonia were present, and a small quantity of a reducing sugar; no alkaloid was present, and no evidence was obtained of any active principle except a trace of a bitter substance soluble in ether; the remainder (0.3 or 0.4 per cent.) was vegetable extractive, possessing no distinctive characters.

NURSE HAMMOND'S IMPROVED REMEDIES.

These are supplied by H. Hammond, London, at the prices mentioned below.

The "free sample" method is adopted in this case. An advertisement runs as follows:

A Reliable Remedy. Free to Ladies.

On receipt of stamped envelope I will send a Free Sample and particulars of Nurse Hammond's Improved Remedies for Ladies which act in a few hours when all else fails. Surprisingly Effective. Success Guaranteed.

On application to the address given, a pamphlet entitled *What a Woman Wants to Know* was sent, with a circular letter in which it is stated that—

The Remedy is Effective but Harmless, at once having an effect upon the System which will produce the desired result. I can unhesitatingly state, if my treatment will not cure you nothing on earth will.

The "free sample" of the remedies, "which act in a few hours when all else fails," consisted of three pills, with the directions "Two at night," and the addition "N.B.—This sample is scarcely sufficient for a fair trial." In view of the nature of the pills, described below, "scarcely sufficient" does not appear to be an exaggerated expression.

In the pamphlet it is stated that

the treatment invariably surprises ladies who have tried it by its swift and unfailing success. While each case in some respects is marked by symptoms and conditions different from all others, yet it has been found possible to reduce the many kinds of cases to three groups or classes, and to formulate a suitable remedy for each class. So that Nurse Hammond's Remedies are put up in *three forms* and distinguished as Treatment No. 1, Treatment No. 2, and Treatment No. 3.

Treatment No. 1.

A strong and thoroughly effective remedy, suitable for all ordinary cases.

It will bring about a healthy Menstrual flow *in all cases* where the patient is easily affected by medicines, and where the suppression is only of a few weeks standing.

Price 5s. 6d., Post Free.

Treatment No. 2.

Is designed and specially prepared for cases of long standing, and for all obstinate and stubborn suppressions. Stronger and more powerful remedies are used in this treatment, which act quickly and satisfactorily. Ladies who have reason to think themselves difficult to relieve should invariably choose *Treatment No. 2.*

Price 10s. 6d., Post Free.

Treatment No. 3.

Is the very strongest *medical* compound, and is especially prepared for the most *obstinate and unyielding cases*, and *all cases of long standing*. The most powerful remedies are used in their most concentrated and strongest forms, and each dose is the condensed extract of the pure drugs. I have had such remarkable success with this Treatment that I guarantee it to relieve ninety-nine cases out of a hundred. Many ladies select this treatment to ensure *speedy and immediate relief*.

Price 21s., Post Free.

Other extracts from the pamphlet are:

Most ladies feel a delicacy about confiding these matters to their local physician, even though the *cause* be perfectly innocent. They frequently prefer entrusting the matter to some one at a distance, and do it wholly by correspondence, as in that manner they can tell plainly, and without reserve, what their modesty and embarrasment might lead them to withold if they were to have a personal interview. To such, the facilities offered by myself will be welcome. . . .

No doubt, at some time or other, other so-called Remedies have been tried without success, and bitter disappointment has been the result. . . .

When sending for treatment, it will be well to describe your case thoroughly, and to assist you in this a list of questions are given on a special "Order Form," which is sent with this book.

The questions on the "Order Form" are given below, and the replies which were made to the questions are printed in italics.

Age?—*32.*
Appearance, plump or thin?—*Plump.*
Married, single, or widowed?—*Married.*
Any children?—*Five.*
Your occupation?
Usually regular to date?—*Yes.*
Any pain in abdomen?—*No.*
Date last unwell?—[See below.]
Any morning sickness?—*Yes.*
Is menstruation usually easy, difficult, or painful?—*Easy.*
Treatment selected, *No. 2.* Amount sent, *10s. 6d.*

The "date last unwell" which was given was three months before the date on which the order was sent in; this fact, and the reference to morning sickness, might well have suggested that the patient was pregnant. A small footnote on the order form, in smaller type than any other part and likely to be unread, is as follows:

The powerful and certain action of these preparations necessitates the warning that they should not be taken by those expecting to become mothers, as they are very liable to cause a miscarriage, and this order is only accepted on that basis.

It is not easy to see why any one expecting to become a mother should send for a medicine intended to restore menstruation unless for the very purpose of avoiding the prospective offspring, and this footnote is tantamount to a recommendation for the medicine for that purpose, so worded as to provide a plausible line of defence for the vendor.

"Directions and suggestions" which were sent contain the following:

While a few doses of this treatment often bring relief, it is sometimes the case that the patient will find it necessary to obtain a second package, or even a third; therefore, in beginning this course of treatment, do not lose confidence in the virtue of the medicines if you find a single package does not bring about relief. . . .

Two tablespoonfuls of gin in hot water before going to bed, will help the treatment, and be of benefit to the patient.

Hot mustard baths are of great benefit to ladies while taking the treatment. If it is not possible to get into a deep bath and lie covered with water, then sit in hot water and soak the feet nightly in hot mustard water. Always make it as hot as possible, and remain in it for fifteen minutes. Plenty of exercise is advisable. Long walks, horse-back riding, and any vigorous out-door sports will aid nature.

The use of an injection is imperative, and ladies who do not follow up my instructions to the smallest detail, will only have themselves to blame if they are not cured by the treatment.

The "Treatment No. 2" which was sent for the case described above consisted of an 8-oz. bottle of liquid, 16 tablets, and 16 pills. The directions on the mixture were: "One tablespoonful to be taken three times a day, between meals." A second label headed "Warning" conveyed a remark about those expecting to become mothers similar to that quoted above.

The Mixture.—The bottle contained 8 fluid oz. Analysis showed the liquid to contain 2.8 per cent. by volume of alcohol, between 2 and 3 per cent. of glycerine, and a very little extractive; the latter possessed no characters by which it could be identified, but its smell and taste, slight acidity, and alkaline ash, and the presence of a reducing sugar in moderate amount, all suggested the presence of a small quantity of wine. No active principle of any sort could be detected beyond a minute trace of an alkaloid, and there was no evidence of any other medicinal substance.

The Pills.—Sixteen pills were sent, the directions being "two to be taken at night." The pills were coated with talc, and after removal of the coating had an average weight of 2.9 grains. Analysis showed the principal ingredient to be ferrous carbonate, which formed 17 per cent. of the pill; other ingredients were soap (1 per cent.), powdered liquorice root, wheat starch, sodium sulphate (formed in the production of the ferrous carbonate), and excipients. No alkaloid or other active principle was found. The pills were thus a form of Blaud's pill, somewhat weaker than the official iron pill.

The Tablets.—Sixteen tablets were sent, the directions being "One tablet to be taken three times a day, after meals." They were coated with a mixture of talc, carbonate of magnesia, sugar and starch, and coloured pink externally. After removal of the coating they had an average weight of 4.1 grains. Analysis showed the presence of aloin, powdered tansy herb, powdered liquorice in considerable quantity, and talc. No alkaloid was present, and no other constituent was detected.

GAUTIEUR'S FEMALE PILLS.

Gautieur's, or Gautier's, pills are supplied by Baldwin and Co., Herb and Drug Stores, London. They are described on the package as "Emilie Gautieur's Female Pills, of Apiol, Tansy, Rue, etc.," and on a circular as "Gautieur's Female Pills, composed of Apiol, Pennyroyal, Steel, and Tansy," while a circular letter sent with them purports to be signed, "Emilie Gautier." The price is 7½d. and 2s. 3d. per box; a 7½d. box contained twelve pills. A "strongest" pill is put forward at 4s. 6d. per box.

It appears that there is also a mixture which it is desired to sell to the patient, as the circular letter sent on receipt of an order for the pills commences:

Agreeably to your request I am sending the pills. It happens in some cases, due to various causes, that the pills themselves are hardly suited to bring about all that is desired. For which I strongly recommend my Special Effective Mixture to be taken in connexion with the pills. . . . I shall be pleased to send you

the medicine, safely and securely packed, with full instructions, if you will kindly fill in the Order Form (on back) and return to me with P.O. for 5s. and 6d. postage.

In another circular it is stated that these pills—

Are the safest and most effectual Pills for All Ailments Peculiar to Women.
They Regulate the System.
In cases of Hysteria, Anaemia, Sallow Complexion, Pains in the Limbs, Nervousness, Headache, Neuralgia, Faintness, Palpitation, Depressed Spirits, Cold Feelings, Fatigue, Functional Amenorrhoea, and all Female Irregularities they are most beneficial.

On a sample packet it is stated that "One or two pills at bedtime is the dose." On the box which was bought the dose is given as "Two to be taken night and morning."

The pills were ovoid in shape, coated with talc coloured pink; after removal of the coating they had an average weight of 3.8 grains. Analysis showed the presence of a very small quantity of an aromatic essential oil, which appeared to consist of oils of pennyroyal and rue, and possibly tansy; the quantity was far too small for its components to be separated and identified positively. A small quantity of apiol appeared to be present, but this substance possesses no characters by which it can be positively identified in such a mixture; the principal constituents were exsiccated sulphate of iron—forming 10 per cent. of the pill—and soap—present to the extent of 11 per cent., and probably added to assist in incorporating the apiol and essential oils; powdered liquorice was present to the extent of about 30 per cent., and a little powdered ginger; traces of other vegetable tissue were to be seen, but in such small quantity that it was probably only accidental; a bitter substance was present in small quantity, which was apparently (but not quite certainly) Socotrine aloes.

NURSE GREY'S AMERICAN COMPOUND TABLETS.

These "tablets," or more properly ovoid pills, are supplied by Nurse Grey, American Drug Stores, London, S.W., at 1s. 3d. and 2s. 9d. per box. A 1s. 3d. box contained twenty-six ovoid pills.

This preparation is advertised in the following terms:

"To Ladies.
Do you want a guaranteed remedy for all irregularities?
Do you want something far superior to steel and pennyroyal, bitter apple, and all English preparations?
If you do, send for Nurse Grey's Renowned American Compound Tablets. A truly wonderful discovery, affording surprising results even in the most obstinate cases.
Prices 1s. 3d. and 2s. 9d. (treble quantity) in plain wrapper."

It is thus clearly conveyed that the marvellous superiority to all English preparations is in the tablets; but in reality they are made to open the way for a more expensive preparation not mentioned in the advertisement. The tablets were sent with a circular letter, from which the following are extracts:

The tablets are certain to do good, and they frequently afford complete relief, though this supply may be insufficient to test their real worth . . .
Mixtures are MUCH more effective than pills, because they commence to act upon the system IMMEDIATELY, whereas pills have to dissolve before any benefit can be obtained. The Tablets, therefore, cannot ALWAYS be supposed to accomplish what a 4s. 9d. bottle of medicine will, and who would regret so small an outlay, which may be the means of saving pounds. . . . You are anxious for a certain cure, and this is JUST the medicine you require. It has cured thousands and will cure you. There are only the two prices, namely, 4s. 9d., and Special Compound 10s., post free, securely packed from observation.

In another circular it is stated that:

I have travelled years abroad. I have come in contact with some of our most eminent physicians, and then it was only by accident I discovered that which has proved of priceless value to me. Because one has failed or a thousand have failed to find a true remedy, that is no proof that it cannot be found.
I believe that I have the only true scientific female medicine that has ever been discovered.

The directions are: "Two to be taken three times a day after meals."

The pills were thinly coated with gelatine coloured black, and had an average weight of 2.5 grains. Analysis showed the principal constituent to be ferrous carbonate, of which they contained 20 per cent. (like the official form of Blaud pill); talc was present to the extent of 19 per cent., with glucose and starch; all the constituents besides the carbonate of iron appeared to be of the nature of excipient, and no other medicinal substance could be detected.

The wholesale price of 5-grain Blaud pills coated is about 3d. per gross.

DR. PATTERSON'S FEMALE PILLS.

These are supplied by L. Jackson, London, in boxes at 2s. 9d.; "special extra strong," 4s. 6d. A 2s. 9d. box contained twenty-seven pills. The same firm advertises: "Given away to adults. The Wives' and Husbands' Handbook." Another firm of similar name—namely, Constantine and Jackson, Limited, London, sells "Dr. H. Paterson's Pills for Female Ailments," and also issue "The Wife's Handbook"; there is also a "Mrs. Emily Constantine," or "Constantine and Co.," London, who advertises "Conoids" for the same purpose. Each of these three firms—if they are three—sends out with their circulars a price list of "rubber appliances," anti-conception pessaries, etc., in great variety.

Dr. Patterson's Pills are thus advertised:

Important to Ladies.
A Free Trial Packet will be sent Post Paid of Dr. Patterson's Famous Pills, which correct Irregularities, etc., by simple means in a few hours. Recommended by eminent Physicians and thousands of Ladies, being the only Genuine Remedy. To prove the correctness of the above statement, we will send the Free Sample Packet securely packed, with medical certificate and genuine testimonials. Sold in Boxes, 2s. 9d. Special Extra Strong 4s. 6d. Secretly packed. Send at once. Delay is dangerous. Write or call.

In a circular it is stated that:

THESE PILLS were used with unvarying success in the treatment of all Female Ailments during Dr. Patterson's 30 years' experience in some of the largest Female Institutions abroad. They restore females to their usual health, when Pennyroyal and Steel, Pil Cochiac, and Bitter Apple, etc., fail; they have the approval of the Medical Profession, and are in daily use at home and abroad.

These pills were accompanied by a recommendation of a third variety—of course, at a still higher price—as follows:

Dear Madam,
If the Pills should not prove strong enough to correct the irregularity, I would strongly advise you to send at once for Dr. Patterson's Special XX Pills at 11s. per Box. They save all further TIME, WORRY, and EXPENSE, and take effect in a few hours without fail. They are also guaranteed quite harmless.

Yours faithfully,
THE MANAGERESS.

The pills were coated with talc, and coloured pink. After removal of the coating, they had an average weight of 3.2 grains. Analysis showed them to contain sulphate of iron, Barbadoes aloes, soap, powdered ginger, cardamom, and cinnamon. All these ingredients except the soap occur in the official aloes and iron pill; the amount of iron found corresponded to about 70 per cent. of the latter mass in the pills under examination. A slight aroma other than that from the constituents named may have been due to a trace of oil of rue, and a small quantity of apiol may have been present, but no positive evidence of its presence was obtained.

NURSE MANN'S REMEDY.

This is supplied by Nurse Mann, London, W., at 4s. 6d. per box for the "Extra Special." It is advertised as follows:

Free to Ladies.
A Sample of the Most Reliable Remedy ever discovered for irregularities and suppressions can be had, post free. Thousands of letters of thanks testifying to their speedy efficacy after all other things have been tried in vain. Each purchaser sends back testimonials, as they afford relief in every instance. Or write for our Extra Special Treatment at 4s. 6d., which we guarantee to cure every case from any cause whatever (genuine). Guaranteed effective in a few hours. Impossible to fail. Delay is dangerous. Send at once.

Apparently this emphatic "guarantee" was intended to be forgotten as soon as a first transaction had occurred, since, on sending for a 4s. 6d. box of "Extra Special," a box of pills was sent accompanied by a hectographed letter as follows:

Dear Madam,
If the pills should not prove strong enough to correct the irregularity I should strongly advise you to send at once for my special No. 3 treatment at 21s., which takes effect in a few hours and saves all further worry and expense.
It is perfectly harmless.

Yours faithfully,
NURSE MANN.

The 4s. 6d. box contained 48 pills; the dose was given on the label as "2, three times a day, after meals."

The pills were coated with talc; after removal of the coating they had an average weight of 3.2 grains. Analysis showed them to contain the same ingredients as the preceding one—namely, sulphate of iron, Barbadoes aloes, soap, powdered ginger, cardamom, and cinnamon. The amount of iron in this case corresponded to 88 per cent. of the official aloes and iron pill; in this case also there was some ground for suspecting traces of oil of rue and apiol, but without positive evidence of either.

HORTON'S BENEDICT PILLS.

These are supplied by Horton and Co., 68, Aston Road North, Birmingham, at 1s. 1½d. and 2s. 9d. per box. A 1s. 1½d. box contained forty-nine pills.

An advertisement of these pills is as follows:

Free to Ladies.
Horton's Original Benedict Pills
In a few days correct all irregularities and also cure Anaemia, and cause no injury; to the married or single are invaluable. By post 1s. 1½d. or 2s. 9d.

Although it is thus stated that the pills sold at 1s. 1½d. per box "correct all irregularities," on sending for a supply they arrived accompanied with a pamphlet, from which it appears that this is not so. It contains statements about three kinds of remedy:

Horton's Original Benedict Pills (for females only). . . . No female should be without a box of these Pills, for if taken when young they prolong life, and give health and vigour to the body, and will remove all obstructions, no matter how obstinate. . . .

G. D. Horton's Special Pills (for females).
No. 1 and No. 2 Strong.
. . . They are Nature's great assistant, and rarely ever fail to produce menstruation, no matter how obstinate. . . . Price: No. 1, 5s.; No. 2, Strong, 7s. 6d.

It appears also that the same firm has a "Horton's Famous Female Corrective Mixture," "price 10s. per bottle. Concentrated (three times the quantity), one guinea."

The directions for the Benedict pills are: "Take two Pills night and morning."

The pills had an average weight of 4 grains; analysis showed them to contain sulphate of iron, Socotrine aloes, powdered ginger in considerable quantity, and a small amount of another vegetable powder which appeared to be gentian. The amount of iron corresponded to 10 per cent. of the exsiccated sulphate.

BLANCHARD'S APIOL AND STEEL PILLS.

Blanchard's Pills are supplied by Leslie Martyn, Ltd., 34, Dalston Lane, London, at 1s. 1½d. per box, containing twenty-four.

They are advertised in the following terms:

Every woman should send 1d. stamp for a free sample of Dr. Blanchard's wonderful Pills, which correct irregularities, etc., by simple means in a few hours. Recommended by eminent physicians and hundreds of ladies as being the only genuine remedy. They afford relief in every case. Volumes of testimonials have been received testifying to their efficacy.

In this case, as in others, the pills, which "afford relief in every case," are used as a means of introducing a more expensive preparation, which is thus referred to:

I wish to impress upon you the advisability of at once giving my medicine a trial after all else has failed. The price is within the reach of all, Medicine and Pills 7s. 6d., and is safe, sure, and speedy, bringing about all that is desired.

The directions for taking the pills are: "Two pills to be taken three times a day."

The pills were coated with talc, and after removal of the coating had an average weight of 1.9 grains. Analysis showed the presence of sulphate of iron, soap, Barbadoes aloes, powdered ginger, cardamom, and cinnamon; evidence was also obtained of the presence of a little apiol, but the characters of this substance are not sufficiently well defined for the amount to be determined quantitatively. The soap was 3 per cent. of the pill, and was no doubt added to assist in incorporating the apiol; the other ingredients represent the official aloes and iron pill, present to the extent of about 80 per cent.

MAXWELL'S CANADIAN PILLS.

These pills were advertised as supplied by the "Maxwell Canadian Remedy Company, . . . London, and at Montreal, Toronto, and Winnipeg"; when, however, an order was sent for some, the pills were received from "The Maxwell Pill Company, . . . London, W." A 2s. 9d. box contained sixteen pills.

They are advertised in the following terms:

Ladies! Ladies! Ladies!
Remarkable Canadian Remedy for Female Troubles, which ensures Positive, Safe, and Certain Cure, relieving even most obstinate cases within six hours. Over 1000 testimonials received last month. Prepared from formula supplied by French-Canadian nurse. Avoid all useless free trials. Send without delay.

The pills were accompanied by a written letter, conveying the usual recommendation of something at a higher price:

In cases of extreme obstinacy and where the menses are considerably overdue we have an extra strong pills (black) which although harmless has had wonderful results, and has even cured when a patient has been 3½ months overdue these pills are sold in boxes at 4/9 and will save you worry, trouble and pain.

The directions are:

Dose. Two each night at bedtime for two nights, then leave two days and repeat.

The pills were coated with talc; after removal of the coating they had an average weight of 5.1 grains. Analysis gave some evidence, not quite conclusive, of the presence of Socotrine aloes; powdered cinnamon was present in considerable quantity, with a smaller proportion of another vegetable powder which did not agree in histological characters with any of the drugs in ordinary use; a resinous substance was present, a trace of alkaloid, and extractive; it was not found possible to detect any definite ingredients besides those named.

NURSE LILLY'S FEMALE PILLS.

These pills are supplied by Page Woodcock, Limited, Lincoln, at 1s. 1½d. and 2s. 9d. per box; a 1s. 1½d. box contained thirty-three pills. They are thus described in a circular enclosed in the package:

For Disorders and Irregularities of the Female constitution *these Pills are a never-failing remedy in the most troublesome disorders to which the Female Sex is liable.*

Young Persons will find these pills invaluable.

They are the most efficient medicine ever discovered in producing that regularity so necessary to female health, and taken regularly according to the directions, will bring about all that is desired.

In Dropsy, General Debility, Pains in the Loins, Swelling of the Feet and Legs, and in all cases depending on debility, they invariably afford relief; they produce a good appetite, with increased vigour of constitution, and give to the complexion that clear rosy hue characteristic of female health and beauty.

Where females are obliged to sit much, or keep late hours, they should not omit to take these Pills, which may truly be said to be the best female protector.

They are the best preservative against that fearful complaint, Consumption, and will cure it if not very far advanced. During the "Change of Life" they are the most valuable medicine that can be taken, relieving, after only a few doses, from Giddiness in the Head, Indigestion, Faint Perspirations, Coldness of the Feet, Flutterings at the Stomach, &c., and all those varied symptoms common at that period of life.

The directions are:

Females from 11 to 17 may take *one Pill* three times a day. After that age *two Pills* two or three times a day. To be taken between mealtimes and at bedtime.

The pills were coated with talc, and after removal of the coating had an average weight of 1.9 grains. Analysis showed the presence of sulphate of iron (12 per cent. of the exsiccated salt), Socotrine aloes, cinchonine sulphate (3.3 per cent.), powdered capsicum (about 30 per cent.), and a little powdered ginger and oil of pennyroyal; a small quantity of a powdered beetle was also present, probably due to the capsicum having been beetle-infested (so-called "worm-eaten").

MATROZONE.

This is a preparation for a different purpose from those preceding. It is supplied by the Vianozone Company, North Shields, at 5s. 6d. per package containing two bottles marked A and B, each holding one fluid ounce.

The purpose for which it is intended is indicated by the statement on the first page of the booklet which is sent with it:

Matrozone Promotes Natural, Rapid, and Easy Confinement. Ensures Healthy, Beautiful, and Bright Children.

The booklet proceeds to give an account of the origin of the medicine. In a copy of the pamphlet sent out in 1908 it is stated that:

This treatment is the result of the patient investigation of a Minister of Religion. . . . When a young man pursuing his studies with a view to qualifying for the Medical Profession he was profoundly impressed by the death of a young wife, closely associated with his family, in her first confinement.

Realizing vividly both the pain and peril involved in child-bearing, he turned to see if any possible help could be given to the mother by appropriate drugs—if her system could be gently and scientifically prepared for the great strain to be brought upon it. While turning from the medical profession to enter the Christian Ministry, he did not for a moment relinquish his scientific and medical studies, or abandon his quest.

Through one pastorate, extending over thirty-three years, he kept his purpose in view.

But in a copy of the booklet sent out in 1911 the statement appears thus:

Matrozone (pronounced "Maytrozone") is the result of the prolonged and patient investigation of a Scientist. When a young man, pursuing his duties with a view to qualifying for the Medical Profession, he was profoundly impressed by the death of a young wife, closely associated with his family, in her first confinement, etc.

And the references to his "turning from the medical profession," and to the pastorate of thirty-three years are omitted. In the following extracts there is no difference of importance between the two pamphlets:

Drug after drug was examined, studied, and carefully experimented with, until several gave proof when accurately and proportionately combined, of their power to render incalculable help in every case experimented upon.

His first impulse was to make widely public the result of his observations and experiments, but riper consideration showed him that this was quite impracticable. Such a publicity could not possibly be obtained. The great majority of the people would certainly never hear of it.

Then the preparations were most delicate. They had to be made not only with skill, but with extreme conscientiousness, and they had to be administered in a carefully ascertained order. Only trained pharmacists could prepare them, and without oversight or check, they might be prepared carelessly, and so rendered abortive. . . .

The first great function of "Matrozone" in its two forms is to facilitate parturition; or, in other words, to ensure natural, speedy, and easy childbirth. . . . In all the cases in which it has already been tried, and of which notes have been carefully kept, it has proved itself of inestimable service. In many cases the child has been healthily born Before the Doctor Has Arrived, the mother has made a quick and spontaneous recovery, and the babe has proved sound, bright, and thriving. . . . It powerfully but naturally regulates the health of the mother during the later months of gestation. It corrects the tendency to hysteria, and to hysteric headaches. It has a specific and remarkable power to obviate false presentations. . . . A second great function of "Matrozone" is to induce vigour, buoyancy, physical beauty, and intellectual brightness in the child. This is one of its most remarkable and beneficent achievements. . . .

Length of Treatment.

To obtain its best effects in the hour of labour it should be used daily for at least a month before the accouchement is expected. It would be much safer, however, to commence its use six weeks before, especially where difficulties are anticipated, and in first confinements.

Dose.

"Matrozone" may be better described as an elegant and scientific treatment than as a single preparation. Its ingredients are so subtle, and have such a distinct and delicate action, that it is prepared in two forms—A and B. Ten drops of the preparation A should be taken in a little tepid water every morning, half an hour before breakfast, and ten drops of the preparation B should be taken in a little tepid water every evening half-an-hour before food.

Analysis of the liquid in the bottle marked A showed it to contain 68.9 per cent. (by volume) of alcohol, and water. The total solid matter was too small in amount to be weighed (unless by working on a large amount of the liquid), and might easily be accounted for by tap water having been used to dilute the alcohol. No trace of alkaloid was shown by the most delicate test. The residue showed a minute trace of organic matter, but it was, of course, impossible to say whether this was due to an infinitesimal quantity of some plant extract, etc., or to dust and other chance contamination of the liquid.

The liquid in the bottle marked B contained only 60.3 per cent. by volume of alcohol, but in other respects resembled that in the other bottle.

The cost of the alcohol in the two bottles together would be about 3½d.

LITERARY NOTES.

ALEXANDER MACMILLAN, the famous publisher, whose life has been well told by Mr. Charles L. Graves, was a man of deep religious sentiments and of the finest humanity. But on the question of vivisection he held decided views, to which he gave plain expression to Edward Augustus Freeman when the historian submitted an article for publication in *Macmillan's Magazine* in which that method of research was condemned. We quote the letter, which is dated February 18th, 1874, as it shows how the fanaticism which places the comfort of an animal before the welfare of the human race strikes a man of unbiassed judgement:

Grove has just been in with your paper on Vivisection saying that he cannot put it into the *Magazine*, and I confess I think he is right. Surely it is wholly wrong to speak of scientific men in the same breath with cock and dog fighters, or even with sportsmen. I know Michael Foster well, and know that he would not hurt the feelings of man or beast out of mere wantonness, or on any ground but the deepest in wisdom and goodness. The very passage which you adduce as not being plain English contains what to all who have studied the question is the amplest justification of their action. The complaint which is called Diabetes is one of the most dreadful that ever afflicted humanity, and I would not object to undergo as much pain as any dozen cats could if a glimpse of light could be thrown on its mysterious origin. To make out one point like this is more important than to give you or me an extra chop for the rest of our lives—or even a chop at all.

You wrong the scientific men; they are not cocky, and surely Foster's article is not. Their use of words which convey the facts of their science is no more conceited than that of Historians.

Please, my dear Freeman, think that when thoughtful men vindicate their action in this matter they are speaking with knowledge which neither you nor I possess. I wish you would read the article over again.

To understand the true significance of this letter it should be borne in mind that Freeman was, in his own sphere, one of the "cockiest" of men. Moreover, like so many antivivisectionists, he seems to have felt a kind of sensual pleasure in inflicting pain on the fellow creatures who had the misfortune to differ from him on matters of history, architecture, or anything else. The truculence with which he exposed the inaccuracies of a rival historian, Froude, would of itself justify a charge of cruelty, which is made all the worse by the fact that, as has been shown by Mr. Herbert Paul, his criticisms were often grossly disingenuous. Freeman lived at Wells, and there is a story that the Dean of the day, who did not like him, had to propose his health at a public dinner. In proposing the toast he spoke of Freeman with a studied ambiguity, which delighted many of those present, as the eminent historian who so vividly brings before us the manners of our savage ancestors!

Dr. Francis Heckel's recently published book on *Grandes et Petites Obésités* has already attracted a certain amount of attention in France, and bids fair to become a handbook to those to whom an ever-increasing weight is a fruitful source of anxiety. The May number of *L'Hygiène* contains a most interesting account of the author's theories as to the causes and treatment of obesity, which he looks upon as a dangerous disease, arising for the most part from defective nutrition and accompanied by a number of intestinal and nervous disorders. The only hope of a permanent cure lies in going to the root of the trouble by removing its cause, and this Dr. Heckel claims to accomplish by a careful regulation of the diet and exercise of his patients. So far his experiments have been remarkably successful, and the "régime de Heckel" may one day be considered as effectual a method of getting rid of a surplus of avoirdupois as a visit to Carlsbad or Ems. Other items of interest are not lacking in the May number of *L'Hygiène*. Madame Augusta Moll-Weiss (the foundress and directress of the "Ecole des Mères," which is doing so much for the working women of Paris) gives some sound advice on the sleeping accommodation and morning toilette of young children, and incidentally puts in a plea for a more substantial breakfast than is at present usual in French nurseries. M. Carlos Fischer, in his amusing article "Chez l'Ami Fritz," vigorously refutes the charge of greediness which is so often brought against the bourgeois of Alsace, whilst Dr. Demelin has contributed an excellent account of the relations which have existed between health and fashions in dress in every age and in every clime.

British Medical Journal.

SATURDAY, JULY 1st, 1911.

THE ANNUAL MEETING.

The date of the annual meeting of the British Medical Association is approaching rapidly; the arrangements are well advanced, and the Birmingham committees look forward hopefully to the maturing of their plans for the comfort and convenience of visitors.

The Representative Body will meet in the large theatre of the Midland Institute close to the Town Hall, only a few hundred yards from New Street Station, so that it is as central as could be desired, and the accommodation it affords will, it is believed, prove satisfactory to the Representatives themselves. The business to be brought before the Representative Body in the ordinary course is set out in the agenda paper published in the Supplement of June 3rd, page 318, but in addition a report will be presented on the progress of events with regard to the National Insurance Bill since the Special Representative Meeting on May 31st and June 1st. The session will commence on Friday, July 21st, at 10 a.m., and the Representatives' Dinner will be held at the Grand Hotel in the evening, at 7.30, with Dr. Maclean, the Chairman of the Representative Body, in the chair. The meeting will be resumed next morning, Saturday, July 22nd, at 9 a.m. A generous invitation has been received from Droitwich to entertain fifty or sixty members of the Representative Body from Saturday, July 22nd, to the morning of Monday, July 24th, which will enable many Representatives who have no other engagements to spend an enjoyable week end in the country.

We may recall to the recollection of readers the letter of Dr. Mason, the Mayor of Leamington, published in the Journal of May 20th, p. 1213, wherein he drew attention to the excellent hotel accommodation and train service of Leamington, and spoke of the promise of the Great Western Railway Company to give a special train service if the number of members stopping in Leamington reached 150. Members proposing to stay at Leamington should intimate their intention by a letter addressed to the Mayor of Leamington, Council House, Leamington Spa. On Monday, July 24th, the Representatives will resume their work at 10 a.m. The dinner and conference of the Branch Secretaries will be held in the evening at the Grand Hotel at 7 o'clock, and at 8 o'clock the President-elect gives a dinner at the same hotel.

On Tuesday, at 9 a.m., at the Bingley Hall, which is within easy access, the exhibition of surgical instruments, drugs, and foods will be opened. The Representative Body will meet at 9.30, and at 2 p.m. the Annual General Meeting will be resumed for the installation of the President (Professor Saundby) and the election of the President for 1912-13.

At 3.30 on the same afternoon there will be religious services at the Pro-Cathedral, where the Bishop of Birmingham will preach, and at the Church of the Oratory of St. Philip Neri, Edgbaston, where the sermon will be preached by the Right Reverend Monsignor Henry Parkinson, D.D., Rector of Oscott College.

After the services garden parties will be given by Lady Lodge at Mariemont, Westbourne Road, and by Mrs. Saundby, at 68, Hagley Road, Edgbaston. At 8.30 there will be a reception in the Grand Hall of the University at Bournbrook, when the President will receive the foreign guests and delegates from overseas Branches, and will deliver his inaugural address. As this occasion will not afford sufficient opportunity for seeing the University buildings, it has been arranged that on Thursday afternoon, after the Degree Congregation, to which all members of the Association are invited, the whole of the University buildings shall be thrown open, and every facility given for inspecting the arrangements and equipment.

The work of the Sections will begin on Wednesday morning, the session lasting from 10 to 1. All the Sections will meet in the class-rooms of the University Building, Edmund Street. At 12.30 Dr. Byrom Bramwell will deliver the Address in Medicine. An excursion to Lichfield, limited to 150, will leave about 2 p.m., and there will be a golf match at Little Aston, between the visitors to the Meeting and the Birmingham Medical Golfing Society.* In the afternoon, Messrs. Cadbury will hold a large reception at their model village, Bournville. A special train will take members from New Street Station, and the number of guests for whom accommodation will be provided is up to 1,000. A garden party will also be given by Mrs. Gilbert Barling at 35, Augustus Road, Edgbaston. At 8.30 the Lord Mayor and Lady Mayoress of Birmingham will receive the members of the Association at the Council House and Art Gallery.

On Thursday, at 8 a.m., the National Temperance League Breakfast will be held at the Grand Hotel, with the President, Professor Saundby, in the chair. The Sections will meet from 10 to 1, and at 12.30 the Address in Surgery will be delivered by Professor Jordan Lloyd in the large theatre of the Midland Institute. At 1.55 an excursion, limited to 150, will go to Lady Warwick's Horticultural College for Women at Studley Castle. At 3.30 there will be a special Degree Congregation in the University Hall, Bournbrook, open to all members, when tea will be provided and the buildings thrown open for inspection. At the same time there will also be a special exhibition of scientific films at the Picture House, New Street. The annual dinner will be held at the Grosvenor Rooms of the Grand Hotel, at 7.30, while for ladies and those members unable to go to the dinner there will be a special performance of Edmond Rostand's play, *The Fantastics*, presented by Mr. Harcourt Williams's Company at the Theatre Royal.

On Friday morning the Sections will meet again from 10 to 1. In the afternoon there will be a golf competition at Handsworth, and an excursion, limited to 300, will go to Coventry about 2 o'clock. This excursion is by invitation of the Coventry Division, and the party will be met at Coventry Station by motor cars and taken to the Daimler and Rover Works, St. Mary's Hall, and St. Michael's Church. From thence they will be conducted to Colonel Wyley's, the Charter House, where tea and refreshments will be provided in the garden. On the same afternoon a reception will be given at Aston Hall—a beautiful Jacobean mansion, the property of the City of Birmingham—by Mr. and Mrs. Frank Marsh; while Dr. and Mrs. Stacey Wilson will give a garden party at Wyddrington, Edgbaston. At 8.30 p.m. there will be a reception at the Botanical

* Full particulars of the arrangements are published in the Supplement.

Gardens, Edgbaston, given by the Reception Committee, when the gardens will be illuminated and there will be a display of fireworks.

Saturday will be devoted entirely to excursions, of which a list appears in the SUPPLEMENT.

MEDICAL WITNESSES.

To most people the position of witness in a law court is a trying experience. To medical practitioners it is often made particularly unpleasant by browbeating counsel or an unsympathetic judge. All of us are liable to be called upon to give evidence, and it is well to know some of the snares into which we may fall by carelessness or may be lured by the art of a forensic tactician.

In Alfred Swaine Taylor's *Principles and Practice of Medical Jurisprudence*, the sixth edition of which appeared not long ago under the supervision of Dr. F. J. Smith, some useful hints are given, which, though familiar enough to all who are accustomed to the ordeal of the witness-box, may be helpful to others. The first and most important recommendation is that the witness should have the subject matter clear in his own mind. It has been well said that unless a man has looked at the subject before with a purpose to understand it, comprehending its extent, weight, and relations, he will find it suddenly to have assumed an importance he had not suspected, just at the time when the discovery will add to his confusion. Then a witness should give direct answers to the questions asked. Medical witnesses are sometimes disposed to anticipate many questions by one general answer. This, it is pointed out, simply creates confusion, and the witness will be told by counsel to keep to the question, and that he is coming to the other matters presently. Most of the questions put in cross-examination will admit of an answer Yes or No, and some counsel are particularly insistent on receiving such a categorical answer, and will try to prevent any qualification by telling the witness not to make speeches. If the witness feels that the simple affirmative or negative might be misleading, he should, after giving the answer, appeal to the judge to be allowed to qualify it or add to it any matter within his own knowledge which is relevant to the case. Some witnesses have a habit of not answering the question that is asked, but one which is not asked. On this a judge made the following remark: "When a witness does not answer a question but answers something else it leads persons accustomed to courts of justice to believe that he prefers not to answer the question, but to put a different point upon the counsel." Again, there are witnesses who begin to answer before the question is completed; others push conciseness to the point of obscurity; some, on the other hand, are too voluble. A witness who is profuse of information generally supplies abundant matter for a long and troublesome cross-examination. No opinion should be expressed for which the witness is not prepared to give reasons, and except by permission of the court no medical opinion should be expressed on facts or circumstances observed by others. If the witness has any reasonable doubt about the matter at issue, it is his duty to express it at once instead of allowing it to be extorted from him by a series of questions. The witness should never argue with counsel. Even when the form or manner in which the questions are put seems to be intended to provoke argument, the temptation should be resisted. It is pointed out that there is a difference between evidence and testimony. "A medical witness sometimes gives much in the form of testimony which amounts to very little as evidence. When he does not attend to the questions, he testifies to a variety of subjects which have no bearing on the case, and do not constitute evidence." In all cases of what he may consider unsatisfactory questions a medical witness should appeal to the president of the court. Replies should be given as far as possible in plain language understanded of the people. A black eye should not be described as an ecchymosis of the subcutaneous tissues about the eye. "Covering of the gut" is better than peritoneum; the aorta should be spoken of as the principal blood vessel coming from the heart, and so forth. Exaggeration should be avoided. "This," it is said, "is particularly difficult to avoid in many cases, owing to the unfortunate habit medical men have of interlarding reports with adjectives and adverbs, which pass unnoticed in medical assemblies, but assume great importance when legal minds have to interpret the ideas intended to be conveyed. If a part is simply inflamed, it is frequently described as "intensely" inflamed. A witness may speak of patches of ulceration as "extensive." This kind of thing throws a doubt upon the whole of the witness's evidence. It is suggested that in writing a report a very good plan is to write it in the rough and then correct it by striking out about 90 per cent. of the qualifying adjectives and adverbs. The witness should never under any provocation lose his temper. To lose one's temper in the witness-box is to lose the battle.

An important point, of which no mention is made in the textbook which we have been using as a basis, is never to volunteer evidence. This is well illustrated from the practice of Taylor himself, as described by Serjeant Ballantine in telling the story of a case of poisoning in which he was engaged.[1] "I do not propose to go through the details of the trial. It is sufficient to say that a minute quantity of arsenic was discovered in the body of the deceased, which, in the defence, I accounted for by the suggestion that poison had been used carelessly for the destruction of rats. Mr. Baron Parke summed up not unfavourably to the prisoner, dwelling pointedly upon the small quantity of arsenic found in the body, and the jury, without much hesitation, acquitted her. . . . Dr. Taylor, the professor of chemistry and an experienced witness, had proved the presence of arsenic, and, as I imagine, to the great disappointment of my solicitor, who desired a severe cross-examination, I did not ask him a single question. He was sitting on the bench and near the judge, who, after he had summed up and before the verdict was pronounced, remarked to him that he was surprised at the small amount of arsenic found, upon which Taylor said that if he had been asked the question he should have proved that it indicated, under the circumstances detailed in evidence, that a very large quantity had been taken. The professor had learnt never to volunteer evidence, and the counsel for the prosecution had omitted to put the necessary question. Mr. Baron Parke, having learnt the circumstance by accidental means, did not feel warranted in using the information, and I had my first lesson in the art of 'silent cross-examination.'"

Finally, medical witnesses should always bear in mind the importance of not being too cocksure or self-opinionated. Sir Francis Galton says in his *Memories of My Life* that when he was a medical student he delighted in forensic medicine. It had a Sherlock Holmes fascination for him, while the instances given as cautions, showing where the value of too confident

[1] *Some Experiences of a Barrister's Life.* By Mr. Serjeant Ballantine.

medical assertions had been rudely upset by the shrewd cross-questioning of lawyers, confirmed what he was beginning vaguely to perceive, that doctors had the fault, equally with parsons, of being much too positive. We fear there is an element of truth in this. There is much in the region of medicine that is obscure, perhaps still more that is unknown. A medical witness, above all others, should follow the advice given by Cromwell on one occasion to his officers when he said to them, "For God's sake, gentlemen, conceive it possible you may be mistaken."

THE MEDICAL SERVICE OF THE ROYAL NAVY.

We understand that the recommendations of the committee which sat under the presidency of Vice-Admiral Sir John Durnford, K.C.B., to consider the conditions of service of the Medical Department of the Royal Navy, including medical officers, sisters, and sick-berth staff, have been practically accepted in their entirety and will shortly be promulgated. The changes recommended and now approved are far-reaching in their effect, and will, it is anticipated, bring contentment to the medical service of the premier fighting force of the nation, in which the King was bred, and in which his personal interest has never diminished. The new regulations provide not only for improved conditions of service in the Medical Department, but also for increased facilities for post-graduate professional study, and accelerated promotion for those officers who show special merit. In Queen Alexandra's Royal Naval Nursing Service the age of entry has been raised, the rates of pay increased, and an intermediate grade of Superintending Sister instituted. In the sick berth staff improvements are made as regards entry, training, examination, and special allowances for certain special work.

ORGANIZATION OF THE PROFESSION IN NEW SOUTH WALES.

At the present time, when the profession in England is engaged in a serious conflict with the Chancellor of the Exchequer over the provisions of the State Insurance Bill, it may be interesting to recall what has been accomplished in New South Wales as a result of the operation of the New South Wales Branch of the British Medical Association in securing the organization of the profession. Several years ago the profession in New South Wales was threatened with the establishment of the Australian Natives' Association as an active institution, demanding from the medical profession medical attendance and medicines under friendly society conditions. It was recognized by the profession that this association was a political organization which sought to gain accession of strength and cohesion among its members by tacking on to its patriotic aims the provision of medical attendance and medicine for its members. This association was thus totally different from the ordinary friendly society, which is, of course, founded upon a philanthropic basis. It sought, moreover, to include in its membership all sorts and conditions of men, irrespective of financial position, without any provision for an income limit. The New South Wales Branch of the British Medical Association, however, realizing that this was not a society which had any claim upon the profession, decided that it should be "black listed," as an organization detrimental to the best interests of the profession, and no member of the New South Wales Branch of the British Medical Association was allowed to become a medical officer of the Australian Natives' Association and remain a member of the British Medical Association. In spite of repeated attempts on the part of the Australian Natives' Association to secure medical officers, it failed to get men of the stamp desired by members, and consequently the society has been a complete failure in New South Wales. This result has been attained solely by the active organization of the profession by means of the New South Wales Branch of the British Medical Association. Moreover, this organization is so complete now that the friendly societies realize that it is useless for them to try to get efficient medical officers who are not members of the British Medical Association, or who will not conform to the requirements of the Branch. This result is an object lesson on what may be secured by organization of the medical profession, and should induce many medical men in Great Britain who are not members of the British Medical Association to join at once, and so strengthen the hands of those who are fighting the battle for the profession at the present time.

THE NEW BUILDING OF THE BRITISH MEDICAL ASSOCIATION IN SYDNEY.

The new building erected by the New South Wales Branch of the British Medical Association in Elizabeth Street, Sydney, has now been completed. This marks the completion of a project which has exercised the minds of many members for years past. It was felt that the Association should have a home of its own, but the question of finance had always been the difficulty. In his presidential address two years ago Dr. G. H. Abbott outlined a scheme which, with the assistance of the Honorary Treasurer (Dr. W. H. Crago) and other members of the Council, has been successfully carried out. A block of land in a central part of the city was bought for about £6,000, and a six-storied building erected thereon at a cost of about £24,000—a total expenditure of £30,000. To meet this, £12,000 has been raised from members of the Branch by £10 debentures, to bear interest at 4 to 5 per cent.; and £18,000 has been raised by mortgage on the building. Some £300 to £400 have been given as donations to the building fund. The building—called the "British Medical Association Building"—has a frontage of 64 ft. and a depth of 80 ft.; it rises to a height of 97 ft. above the footpath level. There is a handsome entrance hall, beautifully finished in three local marbles. The floor has been paved with true mosaic tiling, the marble chippings having been laid down and rubbed to a smooth surface, according to Italian usage. This is said to be amongst the first pieces of work of the kind in Sydney. The ground floor is divided into two suites of rooms and offices, one of which is now occupied by Messrs. Allen and Hanburys, Ltd. The first floor contains a large, beautifully finished reading-room on one side and an equally well finished smoke-room on the other, with a balcony between. By means of a mezzanine landing additional access can be gained to the main hall from the reading-room. This hall is 40 ft. square and 18 ft. high. It is well finished and well lighted, with a large stained glass window at one end, and soft tints on the walls. The ceilings are in metal of a very attractive pattern. The books belonging to the library will be placed in the hall, metal shelving being fitted around the wall to hold 20,000 volumes. The whole of this floor is occupied by the Branch. The upper floors are divided into suites of offices, a large number being provided with strong rooms. New South Wales has thus one of the finest of the Association's buildings yet erected outside London.

ANNUAL EXHIBITION OF SPECIMENS AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

As has been the custom for many years, the specimens added to the Museum of the Royal College of Surgeons of England during the last twelve months will be placed on exhibition at the College, Lincoln's Inn Fields, during the election of members to the Council on Thursday, July 6th, from 10 a.m. to 5 p.m. The exhibition, which is particularly interesting and extensive this year, is open to all medical men, not only on the day of the election, but also

on the two following days (Friday, July 7th, from 10 to 5, and Saturday, July 8th, from 10 to 1). Its chief feature is the series of splendid specimens which have been added to the pathological collection. A complete exemplification is given of the remarkable alterations undergone by all the tissues of the body in acromegaly. A series of drawings, presented by the President, Sir Henry Butlin, Bart., illustrates well the clinical appearances seen in cancer of the tongue and conditions which may be mistaken for cancer. The additions to the gynaecological series are valuable and numerous, and include the collection of deformed pelves presented by the Royal Society of Medicine. The preparations added to the series of malformations and dissections of the human body are well worth a visit. Visitors will be supplied with a guide to the specimens, and the services of the Conservator and of his colleagues will be freely at their disposal.

PRESIDENT TAFT AND THE MEDICAL PROFESSION.

AT a banquet and reception recently given to the President of the United S ates by the Medical Club of Philadelphia, Mr. Taft said that since 1898 and the Spanish war the people of the United States had become responsible for the welfare of Cuba, Porto Rico, the Isthmus of Panama, and the Philippines. No sooner did they take control of Cuba than the most strenuous efforts were directed towards clearing it up as a pest-hole, and changing its character as a neighbourhood dangerous to health. A like task fell upon them in assuming possession of Porto Rico, in undertaking the government and improving the conditions in the Philippines; and, finally, in the preparation of the canal zone for the construction of the canal. In the first three of these tasks of hygienic reform the control of Governmental methods devolved in the first instance on the army. In consequence the health regeneration in these three colonies became the work of the medical corps of the army; and so well was it performed, that when the necessity for cleaning up the canal zone and making it healthful became apparent, they put an officer of the Army Medical Corps in charge. After speaking of the discovery of the mode of conveyance of yellow fever by mosquitos, which had revolutionized the sanitary condition of Cuba, the President went on to say that at Porto Rico the principal disease they had to contend with was tropical anaemia. Dr. Bailey K. Ashford discovered that this was due to the presence of hookworms in the intestines, and that the disability produced by the disease could be avoided by comparatively simple specific treatment. Under this treatment half a million people had recovered, and a second campaign was now being planned which it was hoped would rid the island of the disease. In the Philippines they did not encounter yellow fever, but they found there "in glorious exuberance" cholera, bubonic plague, beri-beri, malaria, small-pox, amoebic dysentery, and leprosy. By improving the water supply, by regulations as to the food supply, by a new sewage system in Manila, by the introduction of methods of safe disposal of the sewage in the smaller towns and villages, and by the use of inoculation with cholera lymph, they had greatly reduced the number of victims from cholera in the islands. By a wholesale vaccination of the Philippine population they had practically stamped out small-pox in the islands where the disease in its most virulent form was rife before the Americans took possession. By careful attention to the destruction of the mosquito they had greatly mitigated the scourge of malaria, and while amoebic dysentery continued to be a most dangerous and lingering form of disease in the Philippines in many cases, it could, if treated in time, be controlled and cured by the remedies adopted there. When they went to the Philippines lepers were at large. There were indeed leper hospitals in Manila, Cebu, and some other parts of the country, but the sickening character of them beggared description. The Americans had segregated the lepers in all provinces in the islands to the number of 4,000 and had taken them to Culion, a beautiful island in the southern seas, had given them almost a self-governing colony, and had made them so comfortable that there was now no difficulty in inducing persons afflicted with the disease to join the colony. The effect of this segregation had been to reduce the new cases of leprosy annually to 16 per cent. of what they formerly were. The change of food from polished to unpolished rice had practically stamped out beri-beri in the Philippines. The President went on to say that investigations made by American physicians into the character of the intestines of the native Filipinos showed that they might be called veritable "zoological gardens" of micro-organisms that greatly enfeebled the race. These might by proper treatment be eliminated, thus strengthening the constitutions of the people, and he did not doubt that this method of strengthening the race would be pursued with ever-increasing success. Referring to the canal zone in Panama, Mr. Taft said that Colonel Gorgas had changed a pest-ridden place into a district as free from disease as any of the Southern States. He stamped out yellow fever so effectually that for more than four years now there had not been a case on the isthmus, and he reduced the prevalence of malaria to such a point that the percentage of deaths in the foreign population was considerably less than in the large cities of the Union. Colonel Gorgas had made the zone a pleasant and healthful place. Mr. Taft concluded by congratulating the medical profession on having had the opportunity of making such progress in relieving the sufferings of the human race, and becoming in so conspicuous a way the benefactors of mankind.

NOSTRUMS FOR AMENORRHOEA.

THE report on a number of proprietary medicines advertised for "female complaints," published elsewhere in this issue (p. 32), gives good grounds for thinking that more of the evils connected with the sale of nostrums are to be found in this class than in any other of those yet dealt with. The number of vendors of medicines of this kind is evidently very large; this is no doubt due in part to the great facilities which exist for any one to go into the business, and in part to the exceptional opportunities which it offers for extracting from the purchaser a comparatively large sum in return for a few pills or suppositories of almost negligible cost. Many nostrums among those which we have previously reported on, and possibly some of those now under consideration, are made by the proprietors, and appear to be put forward in a sort of good faith, ignorance being largely responsible for the excessive nature of the claims made for them. But this is certainly not the case with many of the nostrums advertised for amenorrhoea. Pills similar to those described in our report are made in large quantities by firms who are simply manufacturers. They can be purchased wholesale (either in bulk or ready boxed) by the firms or individuals who, under the guise of "Nurse So-and-so," or other real or fictitious name, retail them to the public through the post. All that is required by these retailers is an address from which to carry on the business, and a small capital to pay for a little printing and a few advertisements in the press; there is no need to spend large sums on showy advertisements describing diseases, symptoms or cures, and advertisements of these medicines are, in fact, almost always small. No knowledge of the true properties of the drugs entering into the composition of the pills is required, and no originality; in fact, the instances cited show how one advertiser copies from another. The method of extracting money by working on the feelings of the purchaser—in the case of these drugs a woman—is practically the same in every instance. An article is advertised as a certain remedy,

guaranteed to afford relief in a few hours, and the only really effective medicine for the purpose, and either a low price, such as 1s. 1½d. is named, or a free sample is offered. Any one who is thus induced to send for the article in question is then supplied with copious printed matter, including large numbers of what profess to be testimonials to its efficacy, though usually initials only are attached, or the addresses of the persons who are supposed to have written them are not given. At the same time, a second or "specially strong" pill or mixture is referred to, which is recommended in all obstinate cases; its price is usually from five to ten shillings, and, if the purchaser proves willing to incur this further expense, a third preparation is usually brought on the scene at prices varying from ten shillings to a guinea. The victim is thus led on by promises of speedy relief to be given by the next supply, and then the next, for as long as money is forthcoming. The class of periodical in which these nostrums are most advertised, and very often some adroit wording of the advertisement itself, make it seem probable that many of the purchasers are, or believe that they may be, pregnant, and are having recourse to drugs with the intention of preventing the pregnancy following its normal course; the letters and circulars sent are sometimes so worded as to hold out prospects of this object being attained, while saving the advertiser from any unpleasant consequences which might ensue from putting forward such inducement in an unambiguous way. At the same time, price lists and recommendations of various devices for preventing conception are often supplied, and a highly lucrative secondary business may thus be opened up. It is hardly necessary to say that the drugs used are largely the same in most of these nostrums: iron sulphate or carbonate, aloes, apiol, and oil of pennyroyal are the chief, with a few aromatic carminatives; two of the preparations were liquids, and in neither of them could any active substance be discovered, but one contained about 20 per cent. of alcohol; two others were suppositories—one for rectal and the other for vaginal use—and these contained a very little boric acid, and one of them a very little quinine also. If the matter were less serious, it would be amusing to note how each advertiser claims to have "the only positive, safe, certain, and speedy" remedy, and refers to the probability that the purchaser has already tried other advertised medicines, with only disappointing results. References to the medical profession are less frequent than with some other classes of nostrums. There is a certain naïveté in the statements made in the account which is given of the genesis of one of the preparations, of American origin, professedly made by a woman: "Almost always there is more certain help to be had from a woman than any medical man knows how to provide"; "she learned . . . to compound . . . a simple medicine . . . which almost always relieved and cured even when physicians failed"; "in those rare cases involving some knotty point which she could not answer as she wished, she consulted a good physician and kept notes of what he said." Surely, according to the earlier of these statements, the consultation should have been the other way round!

STUDLEY CASTLE HORTICULTURAL COLLEGE.

Among the entertainments which are being offered to the members attending the Birmingham Meeting is an invitation from the Countess of Warwick to receive 150 guests at Studley Castle on the afternoon of Wednesday, July 26th, when she hopes to be present. The students of the college will perform a pastoral play most suitable to the Forest of Arden, and the arrangements of the college will be open to the inspection of the guests. It is no doubt Lady Warwick's desire to make the college better known to the medical profession, as it is especially suited to the physical training and improvement of delicate girls. It is under the superintendence of Dr. Lilias Hamilton, formerly Physician to the late Ameer of Afghanistan and Physician to the Dufferin Hospital in Calcutta. Although Miss Hamilton no longer practises, her medical training and experience qualify her in an eminent degree to supervise the work of growing girls. Students are prepared for the examinations of the Board of Education and the Royal Horticultural Society, and their practical work includes private and market gardening, orcharding, surveying, landscape, and French gardening. Students trained at Studley make excellent gardeners, and many are now earning their living in this most primitive of occupations. Although we are not told to what extent Adam received the collaboration of his help-mate, the modern Eve is taught not only horticulture but agriculture, the care of a dairy, butter and cheese making, poultry-keeping, cooking and laundry work, bee-keeping, carpentry, and nature study. Studley Castle is an eighteenth century mansion of considerable size, standing in a beautiful park, with extensive gardens and out-buildings, which include a dairy, apiary, poultry pens, jam factory, and carpenters' shops. It is in the heart of the Forest of Arden, its little railway station seeing few trains, which take about forty-five minutes to reach it from Birmingham. Apart from the special attractions which will be provided at Studley Castle on July 26th, the college is well worth a visit, as it affords a training which possesses distinct therapeutic characteristics in suitable cases.

A SICK CLUB SIXTY-FIVE YEARS AGO.

Dr. Robinson of Sunderland has sent us a copy (omitting the full names) of a circular, which he has in his possession. As he points out, it shows how little change there has been in the rates for medical attendance since 1846. Mr. A. indeed seems even to have done better than some of his successors:

Mr. A

Desires to convey his sincere thanks to his Friends in and near

S,

For the liberal support he has received during the last Ten Years, in which he has practised in the neighbourhood: and, trusting that he will still retain, as it shall ever be his study to deserve, their confidence, and in compliance with the wishes of many of his friends, respectfully announces his intention of establishing

A SICK CLUB

for the benefit of the labouring classes in the district, on the annexed terms.

S., Oct. 20th, 1846.

RULES
of
Mr. A's SICK CLUB.

1. That this Club be established for the purpose of furnishing Medical Relief, in sickness, to the Miners, Labourers, Farm and Domestic Servants (Male or Female), residing in the district.

2. That the pre-payment of One Shilling per Quarter entitle any such single person:—the pre-payment of Two Shillings per Quarter entitle a man & his wife:—Three shillings per Quarter entitle a man, his wife, and their children, under 15 years of age, to Medical Attendance and Medicines in sickness.

3. Persons must be healthy on joining the Club, or an adequate consideration made for their existing illness.

4. Children above fifteen years to enter as single persons.

5. Sick Members to furnish their own Leeches, Bottles, Bandages, etc., & to attend, when able, at the Surgeon's residence; but when unable, to be visited at their own abode.

6. By neglecting the Quarterly Payments upwards of month, the benefits of the Club are forfeited until arrears are discharged.

7. Attendance at Child-birth is not included.

PUBLIC BATHS.

How near cleanliness lies to godliness and all the virtues is a thought that rarely strikes the unobservant Britisher, who is apt to take his daily tub, his weekly bath, or in extreme cases his yearly bar of soap and the sea, as a matter of course. Not so the painstaking German, however. We have been favoured by the reprint of a paper[1] read last year to the International Congress at Brussels by Dr. Berger of Crefeld, in which he heartily sets out all the benefits to body and soul that may be expected from the provision of public bathing establishments throughout the country. It is no small scheme that Dr. Berger advocates, no half measures are to be employed. With the co-operation of the State, the province, the district, the parish, the employers' union, and the benefit clubs, he would set up public baths in every town and village, in connexion with every public elementary school, hospital, and factory. Bathing for school children should be made obligatory, the teachers should be correspondingly trained, and school doctors should be appointed. In order to make the baths more attractive, they should include light and air baths, reading rooms, gymnasiums, playgrounds, etc. Near the bathing establishment should be a laundry, so that the body linen may be purified during the bathing time. Dr. Berger tells us that the average bath takes two and twenty minutes (*Gesamtbadedauer*), so clearly the laundry maids will have their work cut out for them. While he thinks that the State ought to pay for every bath taken, Dr. Berger recognizes that it will be unable to do so. Men are therefore to pay a penny for a bath with towels, etc., while the women and children are to pay a halfpenny for a bath without towels, etc. Dr. Berger does not make it plain how or why the women and children are to wash and dry themselves without soap and towels, but contents himself with saying that this is the most practical arrangement. His statistics show him that while every inhabitant of Berlin takes one bath in over three years, in Tokio 400,000 persons take a bath every day. The possibility that the dwellers in town or country should prefer to wash or take baths at home rather than in public does not seem to have occurred to him, nor does he mention the probability that many of them actually do so. Accustomed as he no doubt is to a paternal Government, he naturally believes that the way to inculcate bodily cleanliness is to make it compulsory. Dr. Berger writes as an enthusiast and dreamer; it warms the heart to read his generous plans for improving mankind, and for training the child to be a single-hearted and good man by teaching it to wash itself.

THE TERRITORIAL FORCE.

THE officers of the 1st and 2nd London Divisions of the Territorial branch of the Royal Army Medical Corps gave a very successful dinner on June 26th at the Connaught Rooms, their guests including a number of officers belonging to the Army Medical Service and to the various Colonial corps now visiting England in connexion with the Coronation. Among them were Surgeon-General W. Babtie, V.C., Deputy Director-General Army Medical Service, General A. H. Henniker-Major, the Officer in Command of the 1st London Division, Colonel A. Peterkin, Principal Medical Officer of the London District, and Colonel C. J. E. Risk, Commandant of the Army Medical College. The chairman of the evening was Colonel P. B. Giles, C.B., who was supported by the following among other officers of the two Divisions: Colonels Andrew Clark, Administrative Medical Officer of the 2nd Division, and C. E. Harrison; Lieutenant-Colonels Makins, Sleman, Harper, and Monckton Copeland; Majors Mayo Robson and W. H. Battle; Captains E. Hurry Fenwick and C. A. Ballance. What may be regarded as the principal toasts of the evening, those to Their Majesties, to the Royal Family, and to the Naval and Military Forces of the Crown, were proposed in short speeches by the Chairman himself. They were followed by a good many others, the dominant note throughout the evening being that consolidation of the Empire was desirable, and in view of the affection of the Colonies for the Mother Country also possible, and that a system of universal military service was greatly needed. It was especially evident in the replies by Colonels Fotheringham, Ryan, and Foster to the toast to "The Visitors," proposed by Colonel Andrew Clark. The former, speaking of the military history of Canada, said that one of the most pernicious legacies left behind by Cromwell was the theory that the civil liberties of the people would be menaced by the raising of large bodies of troops. It was now being broken down, and in Canada, the school children having shown themselves anxious to be trained on military lines, the Government had taken steps to provide for such training. Large columns of children had marched past Sir John French during his recent visit to the Dominion with the precision of veterans. Since Canada looked on the Mother Country as a model to be copied, he earnestly hoped that she would soon introduce compulsory service. Colonel Ryan (Victoria), who followed, pointed out that Australia had already effected this progress. The people themselves brought it about despite the consideration that it raised the annual charge for military purposes from 4s. to 20s. a head. The fact was that the Australians had discovered that their country was worth keeping, and had thus taken the steps necessary to defend it in the hour of need. Colonel G. L. Foster (Canada) similarly laid stress on the value and importance of territorial or militia organizations. He found that men who came to Canada after serving as territorial soldiers in Great Britain joined the militia force as soon as they were settled, and he believed immigrants from home would continue to do so if they had been trained as soldiers under a compulsory system. In Canada they had come very near to universal service, and he looked forward to it being definitely established before very long. The evening concluded with a toast to "The Chairman," which was proposed by Lieutenant-Colonel Makins, and accorded musical honours. Early in the evening allusion to the decoration conferred on Colonel Giles by His Majesty the King had been made by General Henniker-Major. It was, he said, a well-merited reward, and an honour not only to Colonel Giles but to all the officers and men of the branch of the Royal Army Medical Corps to which he belonged. The arrangements for the dinner were made by Major Eustace M. Callender, R.A.M.C. (T.F.).

MEDICAL INSPECTION AND TREATMENT IN LONDON.

AMONG the services which the Prime Minister has rendered is to give currency to the term "sloppiness" in practical politics. The occasions for using it are numerous, and the President of the Board of Education, when replying to the deputation from the British Medical Association which had an interview with him on June 27th, must have been glad to have it at hand when expressing his official opinion of the methods of the London County Council in respect of medical inspection of school children. Sir Victor Horsley, who was the spokesman of the deputation, had shown that the Board of Education had practically adopted the schedule of minimum requirements drawn up by the British Medical Association when medical inspection was instituted some four years ago, and that the London County Council had at an early date, in spite of the official sanction the schedule had received, replaced it by a shortened and inadequate form which its medical inspectors were instructed to use. He had shown also that even this abbreviated form was not consistently employed, but that the County Council was satisfied that a part of the inspection should consist of merely looking at the children, the form of return supplied to the inspectors having a special

[1] *Mittel und Wege zur Förderung der Körperpflege auf dem Lande.* Von Kreisarzt Dr. H. Berger. Berlin: A. Hirschwald. 1910. (Med. 8vo, pp. 40; M.1.)

column for such entries. Mr. Runciman told the deputation that the full schedule had been adopted by practically every local education authority in the country except the London educational authority, and admitted the truth of the statement Dr. Addison, M.P., made in introducing the deputation, to the effect that the County Council had scamped the inspection, and that consequently defects which might have been detected had the inspection been careful were to a large extent overlooked. With regard to medical treatment, Sir Victor Horsley pointed out that the County Council had, by failing to report to the Board of Education, tacitly admitted that its hospital scheme had failed. On this point Mr. Runciman said that the power of the Board of Education with respect to treatment was indirect, being limited to criticizing or approving any scheme of medical treatment which the London County Council might undertake. Mr Runciman, in fact, accepted all the contentions of th deputation, and contented himself with expressing the expectation that the resolutions of the London County Council were to be taken seriously, and that its promise to improve the staff, improve the records, and improve the co-ordination of inspection and treatment would be fulfilled in the near future. Probably the head of a State department could not have uttered a stronger condemnation of a local authority, and we may hope that Mr. Runciman's words will have the weight they deserve with the London County Council. A full report of the deputation will be found in the SUPPLEMENT, page 24.

THE ANNUAL MEETING.

A LIST of hotels and lodgings available for members attending the Annual Meeting of the Association in Birmingham is published in the SUPPLEMENT of this week. It will be observed that accommodation will, in addition, be afforded for about fifty ladies and gentlemen in the Hall of Residence for University Women Students, close to the New University buildings at Bournbrook; at two minutes' walk from the Hall there is a convenient service of trams which run to the Reception Room in about twenty minutes. The SUPPLEMENT also contains a form of notification of attendance, which all members of the Association, including those resident in Birmingham and the district, who intend to take part in the Annual Meeting, are requested to fill up and return as soon as possible to Mr. Albert Lucas, the Medical Institute, Birmingham. On receipt of this form a voucher will be sent enabling the member and those accompanying him to obtain railway tickets at reduced fares.

MR. LLOYD GEORGE AND THE ASSOCIATION.

ON Wednesday afternoon the executive committee of the Sickness Insurance Committee of the British Medical Association had an interview with the Chancellor of the Exchequer for the discussion of the amendments desired by the Association. The interview was prolonged, but, as the discussion of all the points was not concluded, it was resumed on Thursday afternoon, and we are therefore not in a position to publish any details. It is understood that the Chancellor of the Exchequer will give notice of his official amendments this week, and will announce the procedure the Government proposes to adopt in the Committee stage early next week.

DANGER OF DRUGGED WINES.

AT the annual meeting of the Scottish Licensed Trade Defence Association, some statements were made as to the enormous rise in the drug wine traffic, and the dangers associated with it. It was stated that cheap port formed the basis of these "tonics," and disguised as medicine they were consumed by young girls and women who would never think of taking the same amount of vintage wine; that much of this so-called wine was manufactured in this country, paying no duty, and its wholesale price was 1s. 6d. a gallon; that its strength was about four times that of beer, and that so long as this was permitted to continue it was not surprising that there was a great increase in the sale of "port" at 1s. an imperial quart.

Medical Notes in Parliament.

Lead Poisoning.—On the Home Office vote on Monday last Mr. Hills called attention to the prevalence of lead poisoning in the Potteries. He pointed out that for some years from 1896, following legislation, the number of cases of lead poisoning fell from 400 to 200, and subsequently to about 100 a year, but during the last ten years there had been no further decrease, the figures remaining stationary round about 100. That might not seem a very large number, but the total harm to the community was not measured by the actual figures. Where women were attacked their liability to miscarriage was very largely increased, and stood about three times as high as the average of the general community. It was clear, he thought, that the regulations were not being observed as they ought, and, above all, that they were not having the effect that was expected. They had tried regulations for ten years, and were promised, as the result, that lead poisoning would be extirpated. He urged the Home Secretary to consider whether the time had not come when some different means of treating this problem ought to be tried. Personally, he was inclined to think that the only real solution was the prohibition of the use of raw lead glazes either in all manufacture or in certain scheduled articles, and he invited the Home Secretary to take advantage of the next International Labour Conference to ventilate this subject and see if an international agreement could not be arrived at for the purpose of putting down this evil. Mr. Wedgwood complained of lead poisoning being worse in the coach-building trade than in the pottery trade, and said the medical inspection, instead of being a farce, must be made a real inspection. There was a great deal of discontent in the whole of North Staffordshire with the present system of certifying surgeons. The factory inspectorate was far too small for the large number of factories, and sometimes a factory went on for sixteen years before it was inspected. He condemned the system by which the inspection of factories containing machinery was left to youths from the universities who did not know a piston rod from a pump-handle. Mr. Churchill said, in reply, that, as regards the evil of lead poisoning, he quite agreed that, although the number of cases was small, the evil was great and preventable to a very large extent, and it was their duty to exert themselves to stamp it out altogether. The Departmental Committee appointed in 1908, after a very thorough investigation, made a report, which was published last autumn, and that report had, on the whole, been well received by the trade. Some of the proposals in the report led to representations being made from the manufacturers, and it was thought the best way to deal with them would be to call the Committee together to consult them again through their chairman, who had taken an immense amount of trouble, and the result was that a few modifications of detail had been approved. Regulations following on the Committee's recommendations were about to be issued in draft. He had asked whether they would be ready for this debate, and heard they were in the last stage before they went to the printer. Mr. John Ward, referring to lead poisoning in the Potteries, asked when it was proposed that the rules suggested by the Committee should be put into operation. The sooner this was done the better. As to the absolute prohibition of the use of lead, he admitted that he had been forced to the conclusion that it was impracticable. A more systematic and exhaustive examination of the workers could not be a genuine means of preventing poisoning. Poisoning might be detected in its earlier stages, and that was all. Moreover, unless some kind of compensation was provided for a man excluded from his employment on account of poisoning, there would be attempts to conceal the symptoms. The recommendations of the Committee were the best line to proceed along. The factories should be constantly looked after, the floors made so that they could be properly swilled, and dust prevented from arising by means of damp. Experiments had shown that the disease was inhaled through the dust in the factories and that efficient

ventilation was highly important in the attempt to check it. Mr. C. Duncan mentioned the men engaged in zinc smelting in the Swansea district and their liability to contract lead poisoning from the dust and the high temperature of the factories. These men worked seven days a week, with a total of 79½ hours, in the most dangerous employment as far as lead poisoning was concerned. No sick benefit society would receive these men, and he expressed a hope that some regulations would be made by the Home Office recognizing the trade as a dangerous one and making it less harmful to the health of the men than it had been in the past. After this, a division was taken and the vote agreed to.

Patent Medicines (Description).—Mr. Chancellor asked the Home Secretary whether he had received a communication from the Royal College of Physicians recommending that manufacturers and vendors of patent medicines should be compelled to print on the labels of the bottles or other vessels the exact composition of such medicines and the amount of each constituent; and whether, if he gave effect to this recommendation, he would take steps to make the rule applicable to the various vaccines and serums imported from abroad and those manufactured in this country. Mr. Churchill said that he had been in correspondence with the Royal College of Physicians on this subject. He had no authority to take the step suggested, but he thought that the question of the conditions of the sale of patent medicines might usefully be considered by a Select Committee next session. He could not at present express any opinion as to whether the inquiry should be extended to vaccines and serums.

Sick Fees in Post Office.—Mr. Robinson asked the Postmaster-General the average number of days' sickness per man per annum for two years of men employed in Post Office work for whom a medical officer's fee of 8s. 6d. per annum was paid. Mr. Herbert Samuel replied that the figures for the male force (excluding clerical and supervising classes) were approximately as follows:

1909.		1910.	
Staff.	Sick-rate.	Staff.	Sick-rate.
115,731	6.06 days.	118,216	5.96 days.

Clerical and supervising officers were not provided with free medical attendance unless their wages fell below a certain limit. The available returns of the sick leave of these two classes did not distinguish between men entitled to and those not entitled to free medical attendance, and the information desired by the hon. member as regards these classes could therefore only be obtained by calling for further elaborate returns from the whole country, which he would probably scarcely think necessary.

Medical Examination of Taxicab Drivers.—Mr. Lansbury asked the Home Secretary if he was aware that the Chief Commissioner of Police had issued new instructions relating to the medical examination of men wishing to act as drivers of taxicabs, etc.; and if he was aware that the circular had caused dissatisfaction amongst the men now engaged in that industry who would require to renew their licences on July 1st or soon after; and whether, in order that the organized workers' views might be stated to him, he would receive a small deputation from the trade unions representing the men and discuss the matter with them. Mr. Churchill said he was not aware that this regulation, which was made in the interests of the public and of the cabdrivers alike, had caused any dissatisfaction amongst the men engaged in this industry. The Commissioner had not, he believed, received any communication to that effect; but he would, of course, be ready to receive and consider any representations from the union.

Measles (School Attendance).—Mr. Snowden asked the President of the Local Government Board if, under the regulations issued by the Chief Medical Officer of the Board, children might attend the public schools although they came from homes in which at the time other children were suffering from measles; and if the President was aware that the school attendance officers, acting under instructions from the local medical officers of health, whose action in this matter was governed by the Local Government Board regulations, insisted upon a child attending school if it had once had measles, although its brothers and sisters might be suffering from the disease; and, in view of the loss of child life from measles, if he would take steps to make the regulations for dealing with this disease more stringent. Mr. Burns replied that no regulations on this subject had been issued, but a Memorandum was prepared jointly by the medical officers of the Local Government Board and Board of Education, which contained rules for the guidance of the officials concerned. These rules were based on present medical knowledge, and he was advised that such knowledge would not justify a modification of the rules in the direction suggested in the question.

Small-pox and Chicken-pox.—Mr. Crawshay-Williams asked whether any inquiry was made in cases of certified deaths from chicken-pox with a view to ascertain if such cases of deaths in children were in reality due to small-pox and not chicken-pox, as alleged by the Registrar-General in his forty-sixth and other reports; and whether such inquiry had confirmed the opinion generally held by medical authorities that deaths from chicken-pox were of very rare occurrence indeed. Mr. Burns replied that the doctor who granted a death certificate was required to state the cause of death, and, as a general rule, no inquiry was made to check the correctness of his statement. When small-pox was prevalent in a district, chicken-pox was frequently added to the list of notifiable diseases, with the object of discovering whether any cases supposed to be chicken-pox were really small-pox. In such cases it would rest with the medical officer of health of the district to make such inquiries as he considered necessary in regard to any deaths certified to be due to chicken-pox.

Vaccination Fees.—Mr. Joynson-Hicks asked the President of the Local Government Board whether, seeing that the proper charge for public vaccination was 4s. 2d. at the surgery and 6s. 8d. at the patient's house, he had sanctioned Dr. Jaynes, one of the public vaccinators of the district of Bermondsey, charging 6s. 8d. for each child and adult he vaccinated at a place other than the patient's home; and whether of the total amount of fees for vaccination paid to the three public vaccinators in Bermondsey for the years 1908, 1909, and 1910, the fees payable to Dr. Jaynes amounted to half? Mr. Burns replied that Dr. Jaynes had been appointed by the Board as an authorized teacher of vaccination. In this capacity he received, as prescribed by the General Order of the Board of June 19th, 1899, a fee of 5s. in respect of every successful primary vaccination of any child, which might be performed elsewhere than at the home of the child vaccinated, but at a place and subject to conditions which the Board had approved. Dr. Jaynes was only concerned with the vaccination of adults in his capacity of public vaccinator, and the fee in respect of such cases was 2s. 6d. when the operation was performed elsewhere than at the home of the patient. In addition, the public vaccinator received a birth fee of 1s. 8d. in respect of each child born within his district. The answer to the second part of the question was in the affirmative.

Plague in India.—In reply to Mr. Ginnell, Colonel Seely said that the returns of plague seizures in India did not distinguish cases where the symptoms were bubonic from those that took septicaemic or pneumonic forms. But it might be said that more than 90 per cent. of the cases took the bubonic form. There was no intention to convene an international medical conference in India to deal with the question of plague prevention. The scientific problems had already been elucidated by the Joint Commission organized by the Royal Society and the Lister Institute, and the practical application of the Commission's discovery was a matter for the Indian Government.

Canada.

[*FROM OUR SPECIAL CORRESPONDENT.*]

THE ROYAL VICTORIA HOSPITAL, MONTREAL.

DR. GEORGE E. ARMSTRONG has been appointed to the position of surgeon to the Royal Victoria Hospital, Montreal, which was rendered vacant by the death of Dr. James Bell. Accordingly, Dr. Armstrong resigns from the staff of the Montreal General Hospital, to which he has been attached for many years. He is a member of the medical faculty of McGill University, and has been professor of clinical surgery since 1896. He has been attending surgeon at the Montreal General Hospital, consulting surgeon of the Western Hospital and the Protestant Hospital for the Insane. He is a past president of the Montreal Medico-Chirurgical Society, and is president of the Canadian Medical Association. He has contributed largely to surgical literature, and presented the first important paper on the surgical treatment of haemorrhage from the stomach before the British Medical Association. He has also written a number of special essays on various branches of surgery for standard surgical works. Dr. Armstrong is one of the best known surgeons in Canada, and especially successful as a clinical teacher.

Dr. A. Howard Pirie of St. Bartholomew's Hospital has been appointed director of the *X*-ray and medical electrical department of the Royal Victoria Hospital, Montreal.

MCGILL UNIVERSITY.

A convocation for conferring degrees in the faculty of medicine, McGill University, was held on June 5th. At the same time the honorary degree of Doctor of Laws was conferred upon Lewellys Franklin Barker, M.D., Professor of Medicine, Johns Hopkins University; William Thomas Councilman, M.D., Professor of Pathology in Harvard University; Emmanuel Persillier Lachapelle, M.D., Dean of the Faculty of Medicine, Laval University, and President of the Quebec Provincial Board of Health; Archibald B. Macallum, M.B., F.R.S., Professor of Physiology and Physiological Chemistry, University of Toronto; Richard A. Reeve, M.D., Professor of Ophthalmology and Otology, University of Toronto; Allen Smith, M.D., Professor of Pathology and Dean of the Medical Faculty of the University of Pennsylvania; John Stewart, M.D., Halifax; John Collins Warren, M.D., ex-Professor of Surgery, Harvard University.

THE MONTREAL GENERAL HOSPITAL.

The corner stone of the new building of the Montreal General Hospital was laid by His Excellency the Governor-General on June 6th. This building is the first of a series which are projected to replace those now in use. The date was well chosen, as on June 6th, 1821, ninety years ago, the corner stone of the present building was laid, with considerable pomp and ceremony, by Sir John Johnson.

THE CANADIAN MEDICAL ASSOCIATION.

The forty-fourth annual meeting of the Canadian Medical Association was held in the new medical building, McGill University, at Montreal, June 7th, 8th, and 9th, 1911. The attendance was the largest in the history of the Association, over 470 being present. In the absence of the retiring president, Dr. Adam H. Wright of Toronto, the general meetings were presided over by Dr. George E. Armstrong of Montreal.

The opening meeting began on Wednesday morning. Addresses of welcome were given by the Mayor, Dr. Guerin, and Principal Petersen, of McGill University. After various reports the election of the Executive Council was proceeded with, and the following were chosen: Drs. George E. Armstrong, Montreal; Ingersoll Olmstead, Hamilton; F. N. G. Starr, Toronto; J. H. Elliott, Toronto; John Stewart, Halifax; Alex. McPhedran, Toronto; R. A. Reeve, Toronto; Murray McLaren, St. John; Alexander McNeill, Summerside, Prince Edward Island; F. G. Finley, Montreal; J. G. Adami, Montreal; Low, Regina; Whitelaw, Edmonton; R. E. McKechnie, Vancouver; H. G. McKid, Calgary; and Jasper Halpenny, Winnipeg. The report of the Milk Commission was then read by Dr. J. H. Elliott, Toronto, and it was moved by Mr. Irving Cameron of Toronto, that the report be received and that the Commission be continued in office. This was seconded by Dr. Adami and carried.

At the second general meeting, held June 8th, at 2 p.m., owing to the illness of Dr. Armstrong, his address was read by Dr. Hutchison. Dr. Alex. Primrose, of Toronto, then delivered the address on Surgery, in which he discussed conservatism in surgery, basing his remarks mainly on the work of Lister in overcoming the prejudices of his contemporaries. Dr. Primrose made a plea for a broad scientific training in the early part of the medical course. In the absence of Dr. William Mayo, of Rochester, his paper, "Cholelithiasis: Natural History and Complications," was read by title. In the evening of the same day the address in Medicine was delivered by Sir James Barr, of Liverpool, upon "Preventive Medicine: the Medicine of the Future." The address was published in the JOURNAL of June 10th, p. 1357. At its conclusion a reception was held in the rooms of the Art Association of Montreal, in which building the address was delivered.

The final general meeting was held on Thursday at 12.15 p.m., when general business and the election of officers was proceeded with. At the close of the meeting, Dr. F. G. Finley, on behalf of the Finance Committee, presented Dr. Andrew MacPhail, the editor of the *Canadian Medical Association Journal*, with a copy of the first number of the *Journal*, handsomely bound and containing an illuminated inscription.

The election of officers resulted as follows:

President.—Dr. H. G. McKid, Calgary.
Vice-Presidents.—The Presidents of the provincial societies (*ex officio*).
Vice-President for Quebec.—Dr. O. F. Mercier, Montreal.
Local Secretary for Quebec.—Dr. Hemford McKee, Montreal.
General Secretary.—Dr. E. W. Archibald.
Treasurer.—Dr. H. Beaumont Small, Ottawa.
Finance Committee.—Drs. F. G. Finley, Montreal (Chairman); S. J. Tunstall, Vancouver; Ingersoll Olmstead, Hamilton; J. G. Adami, Montreal; Murray McLaren, St. John; F. N. G. Starr, Toronto; and Whitelaw, Edmonton.

Edmonton was chosen as the place of meeting for 1912.

Two important resolutions were carried, namely:

(*a*) That the association urges the adoption by federal and provincial governments of proper measures to avoid infection of rivers by sewage; and also that they instruct all municipalities coming under their jurisdiction to purify their drinking water before distribution.

(*b*) That the association desires to call the attention of the Railway Commission to the general insanitary condition of railway management, and to urge the importance of having a sanitary expert connected with the said commission.

The scientific business of the meeting was conducted in six sections: Medicine, surgery, obstetrics and gynaecology, ophthalmology and oto-laryngology, laboratory workers, and preventive medicine. In several of the sections discussions had been arranged; in the section of obstetrics and gynaecology there were two special discussions on uterine displacements and on temperature in the puerperium respectively. In the section of medicine a discussion on acute poliomyelitis and a discussion jointly with the sections of preventive medicine and laboratory workers on typhoid fever and water supply. Among the papers read in the section of medicine was a preliminary note on the specific micro-organism of scarlet fever by Dr. A. E. Vipond of Montreal. With regard to this paper Dr. J. Coulson Howie (Southend-on-Sea, England) has sent us a note from Canada to the following effect:

Dr. Vipond stated that he had found a bacillus in seven cases of scarlet fever, obtained from the lymph nodes in every instance. This bacillus was inoculated into five monkeys and two rabbits. Scarlet fever was reproduced in every case, and the same bacillus recovered in the lymph nodes. A smear taken from the lymph nodes of all these monkeys and rabbits, stained by methylene blue, was found to contain large numbers of bacilli identical in morphological characters with those in the stained smear from the nodes of the human subjects.

In the monkeys and rabbits the same clinical symptoms were produced by the inoculation with cultures from the human nodes as existed in the patients—namely, high fever, scarlatina rash, strawberry tongue, congestion of the pharynx and inflammation of the tonsils, inflamed lymphatic buboes, and scarlatinal desquamation.

This discovery, when further confirmed by future investigation, will be of great significance in the treatment of scarlet fever, as it will enable the medical profession to prepare a serum for scarlet fever on the same lines as the antitoxins used for the prophylaxis and treatment of diphtheria and other diseases.

THE ONTARIO MEDICAL ASSOCIATION.

The thirtieth annual meeting of the Ontario Medical Association was held at Niagara Falls on May 30th, 31st, and June 1st, 1911. There were 200 members present, and every division was well filled with interesting and important papers. The meeting lasted three days. The officers elected for 1911-12 are:

President: Dr. H. A. Bruce, Toronto.
First Vice-President: Dr. F. W. E. Wilson, Niagara Falls.
Second Vice-President: Dr. William Hall, Brantford.
Third Vice-President: Dr. F. P. Drake, London.
Fourth Vice-President: Dr. George Field, Cobourg.
Treasurer: Dr. J. Heurner Mullin, Hamilton.
General Secretary: Dr. F. Arnold Clarkson, Toronto.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

IRISH MEDICAL ASSOCIATION.

THE annual meeting of the Irish Medical Association took place on June 13th, 14th, and 15th, in the fine new Science Hall of University College, Cork. There was a very large and representative attendance of members from all parts of Ireland. It is now twelve years since the annual congress of the Irish Medical Association was held in Cork, and since then many changes and many developments have taken place in the medical and scientific world.

On the opening day of the Congress the newly-elected President of the Association, Dr. J. Cotter (Cork) entertained the members and their friends to luncheon in St. Anthony's Hall, and after luncheon Dr. Windle, President of the College, conducted the members and visitors on a tour of inspection of the college buildings and grounds, after which Mrs. Windle entertained the party to afternoon tea.

At the business meeting held the same afternoon, the annual report for the year (the seventy-second) was read. It included the report of Special Committee on Poor Law Reform, and an outline of a scheme which was thoroughly approved of by the Committee. Its principal clauses are that:

1. A national medical service should be established for Ireland, and the salaries paid out of the Consolidated Funds.
2. Entrance should be by competitive examination, and a rota kept.
3. A Board of Control or Central Administrative Council with representatives from the examining bodies on it should be formed, to administer the scheme and deal with all-important questions of promotion, removal, censure, or dismissal, and of remuneration and superannuation, subject to Treasury approval of scale of payment.
4. There should be adequate graded salaries, and all officers should be pensionable.
5. Whole-time officers should be provided for in large towns and whenever possible.
6. Union infirmaries should be converted into district hospitals, and co-ordinated with the county infirmaries.
7. Whole time county medical officers of health should be appointed possessing special qualifications (D.P.H.), with analytical and bacteriological experience.
8. Only members of the National Service should be eligible for appointment as medical inspectors.

The British Medical Association has joined with the Irish Medical Association to further the views of the joint committee relative to the formation of a national medical service, the former association granting £300, while the latter laid aside £200 for helping on the cause. As regards finance, the Association seems in a fairly good condition, the loss on the journal being the heaviest drain.

Dr. J. B. Story and Dr. T. J. Higgins moved the adoption of the report, which was carried. Sir Thomas Myles, outgoing president, delivered a valedictory address, and in suitable words introduced the president for the year, Dr. J. Cotter, who delivered an able address.

A discussion arose later on the National Insurance Bill, introduced by Dr. J. M. Day, and after some debate the terms which the delegates in Dublin decided on were put to the meeting and adopted.

1. A total income limit of £2 per week for those entitled to medical benefits.
2. Free choice of doctor by patient, subject to consent of doctor to act.
3. Medical and maternity benefits to be administered by local Health Committees and not by friendly societies.
4. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions necessary.
6. Proportionate medical representation amongst the Insurance Commissioners in the Central Advisatory Committee and in the local Health Committees, and statutory recognition of a local Medical Committee, representative of the profession in the district of each Health Committee.
7. That a special Insurance Commission be instituted for Ireland.

It was decided to make arrangements for holding a mass meeting on June 30th in Dublin.

On June 14th the County Cork Branch of the Irish Medical Association arranged for a river excursion to the visitors on board *ss. America*, and the Lord Mayor of Cork held a reception in the City Hall the same evening. On June 15th the High Sheriff of Cork gave a garden party to the doctors and their friends to which many of the residents in Cork and the neighbourhood were invited. Altogether the members of the Irish Medical Association had a remarkably pleasant reunion this year in the city by the Lee.

NEW COLLEGE OF SCIENCE, DUBLIN.

It has been officially announced that the King will open the new College of Science buildings, Dublin, on Saturday, July 8th. The foundation stone of these buildings, which are ultimately to open on Upper Merrion Street, was laid by King Edward VII on the occasion of his visit to Dublin in 1904. The buildings are on an extensive scale; the main edifice, measuring 360 ft. in length, is flanked by large projecting wings, There are four stories, on which are disposed the various laboratories and lecture rooms, while immediately behind the entrance hall there is a large lecture theatre. The fitting of the laboratories is to be carried out in the most complete manner, and is estimated to cost £15,000. A specially devised system of ventilation has been installed. The architects are Sir Aston Webb of London and Mr. Manley Deane of Dublin.

TYPHOID FEVER AND COCKLES.

Sir Charles Cameron has stated in a letter to the press that he has recently traced six cases of typhoid fever to the eating of raw cockles, and warns those who indulge in shellfish to be careful to boil them before consumption.

DEATH OF SIR GEORGE O'FARRELL.

Much regret is felt in Dublin at the death of Sir George O'Farrell, which occurred last week, after a short illness, at the residence in Surrey to which he had recently retired. Sir George O'Farrell lived in Dublin for many years, while he held the post of Inspector of Lunatic Asylums, and was universally popular. In recognition of his distinguished services as a medical expert on insanity, he received the honour of knighthood in 1899. Many reforms in the management of Irish asylums were initiated during his period of office as inspector.

DIPHTHERIA IN BELFAST.

An unusual number of cases of diphtheria have occurred in Belfast during the last month. Many of them were in the Antrim Road district, and of sixteen which have been notified lately nearly all received milk from the same dairy. Other households supplied with this milk did not develop the disease, and cases were discovered where this milk was not used. A diphtheria case has, however, been discovered amongst the workers in the dairy, and precautions were immediately taken to deal with the matter. In addition, during the very dry weather many of the sewers became unsealed, and the smell in places was very objectionable. The drainage in some parts of this locality had been condemned previously; in one case a sewer had a fall the wrong way. The Health Committee has now insisted on these matters being put right. Although the bacteriological examination has proved the existence of true diphtheria there are also a large number of cases of general sore throat. So far only one death has occurred.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Association of School Medical Officers.

A general meeting of the Association of School Medical Officers for Scotland was held in Dunfermline on June 17th. At the business meeting the president, Dr. Ernest T. Roberts, was in the chair. Thirty-four members were present. Twenty-five ladies and gentlemen were duly elected members of the association.

A demonstration by students of the Physical Training College was given in the gymnasium. The accurate movements, the correct positions, and the perfect rhythm of the Swedish drill, the exceedingly well-executed series of balance movements, and the graceful dancing of the women students attracted much attention and applause. The men students gave a very finished exhibition, comprising a varied series of exercises on the Swedish horse, pommelled horse, horizontal bar, and parallel bars, in addition to a display of fencing and Swedish gymnastics.

In the afternoon, through the courtesy of Dr. Louis D. Cruikshank, Chief Medical Officer, Carnegie Dunfermline Trust, the members were enabled to visit the school clinic, the dental clinic, the baths, and the gymnasium, the various objects of interest in these institutions being exhibited and explained by members of the staff. Dr. Cruikshank read a most interesting and instructive paper on the Function and Management of the School Clinic. After discussion on the paper, Dr. Roberts proposed a vote of thanks to Dr. Cruikshank for his paper and the trouble he had taken in arranging such an interesting and instructive programme; also thanking Dr. Ross, the chairman of the Carnegie Dunfermline Trust, for the hospitality extended to the members of the association. By the kindness of the Carnegie Dunfermline Trust the members of the association were entertained to luncheon, and later to tea in the Pittencrieff Park.

Incidence of Enteric Fever in Scottish Towns.

The Local Government Board for Scotland has just issued a report by Dr. Dittmar, one of the medical inspectors, on the incidence of enteric fever in the larger towns of Scotland. The investigation, of which this report is the result, was made with a view to ascertaining why enteric fever should be much more prevalent in the west of Scotland than in the east.

Decrease in Notifications.

Dealing with the notifications of enteric fever for the past thirteen years, the reporter finds that the relatively greater incidence is about two to one. The mean annual notification-rate of enteric fever per 1,000 of the population in the eastern towns in the ten years 1897-1906 was 0.6, while the similar rate in the western towns was 1.2 per 1,000. When the figures for the three years 1907, 1908, and 1909 are examined it is found that the incidence of the disease has declined greatly on both sides of the country; the mean annual notification-rate per 1,000 in the eastern towns having been 0.2, while in the case of the western towns it has fallen to 0.6 per 1,000.

Greater Prevalence in Western Towns.

Though a great decrease is noted during these three years on both sides of the country, the relative incidence of enteric fever in the case of the western towns is seen to have been even greater than before, the disease having been thrice in place of twice as frequent as in the eastern towns. Exclusive of certain factors likely to influence the notification statistics, such as the omission of local epidemic outbreaks and of Glasgow and Edinburgh, does not appear to affect the research appreciably.

Decrease in Deaths.

An examination of the death-rates from enteric fever leads to a similar conclusion, though it is a matter for satisfaction that during recent years a well-marked and continuous diminution of the death-rate from the disease has occurred in the principal towns in both the east and west of Scotland.

Causes of Greater Prevalence in Western Towns.

The reasons for the greater prevalence of enteric fever in the west of Scotland are reviewed, and four possible causes are separately discussed.

Inquiry is first made regarding the meteorological conditions that prevail in eastern and western towns, as greater rainfall, accompanied by higher temperature, may be considered to be conducive to the development of the organism that causes enteric fever. The inquiry on this point does not show any sufficient reason for the excess of enteric fever in the west of Scotland.

As regards housing conditions, a table is given showing the percentage of the population living in one-room and two-room houses in certain towns in the west and east of Scotland. A comparison of the averages given in this table shows that the proportion of the population living in one-room and two-room houses is considerably higher in the western than the eastern towns. There is, therefore, more likelihood of infectious diseases being disseminated in these western towns, but, as Dr. Dittmar says,

> the disproportion *quoad* enteric fever between eastern and western towns appears to be greater than one would expect from the relative proportion of their inhabitants who live in houses of one and two apartments.

The third possible cause investigated is that of water supplies. It is shown, however, that with four exceptions the water supplies of all the towns dealt with are not likely to give rise to enteric fever, as the sources are free from liability to specific pollution. The four exceptions are Aberdeen and Perth in the east, and Airdrie and Coatbridge in the west. In Aberdeen, Airdrie, and Coatbridge, however, enteric fever has not been traceable to the water supply; but it is pointed out that in Perth, which takes its water from the Tay opposite the town, certain high death-rates in 1880 and 1882 from enteric fever and diarrhoeal diseases were most probably due to the water supply.

Another cause investigated as a contributing factor was shellfish and uncooked vegetable food. The inquiries make it evident that the consumption thereof gives rise to a small proportion only of the cases of enteric fever that occur in Scotland.

Middens.

The last possible cause investigated by Dr. Dittmar is the method of dealing with excretal refuse, and he finds in this the reason why enteric fever is more prevalent in the western towns. The information collected makes it apparent that privies and privy middens have been for a long time more numerous in the western towns, and even yet in some of these towns such insanitary methods of disposal still exist. When such receptacles become infected with enteric excreta they favour the spread of the disease. Had Dr. Dittmar's investigations not elicited the fact that these privy middens still exist, one would hardly credit their being allowed to survive. This is what Dr. Dittmar says on this point:

> The type of privy midden or privy which was all too common in Scottish towns (and more especially in western towns, in some of which it is still met with) up till recently is well adapted to favour the spread of enteric fever when the disease has been introduced. It consists of a large, and often open, ashpit, that is emptied at intervals of longer than a week as a rule. A number of seats screened from view, and often not partitioned off from one another, is usually provided on one side. The receptacle may, and often does, receive all the refuse, both "wet" and "dry," of the whole "tenement" or "land." As many as twenty, or even thirty or more, families may be served by a single privy midden.

It must, however, be admitted that the contrast between eastern and western towns in methods of dealing with human excreta is largely a thing of the past, and it is interesting to note that the wholesale abolition of privies and middens in the western towns in the last ten to fifteen years coincides with a marked diminution in the number of cases of enteric fever.

Conclusions.

The conclusions that Dr. Dittmar thinks can be drawn from the facts submitted in his report are the following:

1. From the continuous and uninterrupted diminution in the death-rate in towns on both sides of the country, it may be concluded that enteric fever does not tend to increase in prevalence periodically, as, for example, scarlet

fever does. In other words, enteric fever is a disease that can be controlled by properly guided efforts.

2. From the experience of towns in the west of Scotland it may be inferred that conservancy methods of dealing with human excreta favour the spread of enteric fever. This is largely due to the opportunity provided by conservancy methods for repeated reinfection of the soil in the neighbourhood of dwelling houses, and the opportunity thus given for infection of food by flies and other natural agencies.

3. A factor of some importance in determining the greater relative incidence of enteric fever among the population of the western towns of Scotland is the circumstance that a larger proportion of the population of these towns is accommodated in houses of one and two apartments than in the eastern towns. It is in connexion with houses of this kind that privies, etc., used to be so common in the western towns of Scotland.

4. Urban communities should abolish conservancy systems of dealing with human excreta and replace them by efficient systems of drainage and public scavenging.

Food Poisoning in Edinburgh.

On Saturday evening, June 17th, or on Sunday, June 18th, about a hundred persons in the Lauriston district of Edinburgh were taken suddenly and urgently ill. Apparently the severest sufferers were the inmates of the Catholic Working Boys' Home, where one boy died. St. Catherine's Convent, with a considerable boarding school for girls, also suffered. Several doctors in the district were also seized with what at first seemed a somewhat mysterious malady, and many theories were advanced. The outbreak has now subsided, and the public health authorities have satisfied themselves that the poisoning was of a bacteriological character and that the particular food that was the vehicle of the poison was milk.

The Precedence of the Colleges of Physicians and Surgeons of Edinburgh.

Recalling the interlocutor of the Lord Lyon King-of-Arms, the First Division of the Court of Session at Edinburgh dismissed the petition in which the Royal College of Surgeons of Edinburgh asked a decree declaring that it was entitled, in all public and ceremonial proceedings, to precedence over the Royal College of Physicians of Edinburgh. The Lord Lyon King had found that he had jurisdiction so far as concerned a claim to a right of precedence, and sent the case to the Roll to consider as to relevancy and further procedure. The College of Physicians appealed against that judgement. The Division recalled the interlocutor of the Lyon King-of-Arms and dismissed the petition.

New Prizes at Glasgow University and Royal Infirmary.

Mrs. Herkless, the widow of Professor Herkless, who formerly held the Chair of Jurisprudence in St. Mungo's College, has bequeathed a sum of £500 to the Glasgow Royal Infirmary for the foundation of a "Herkless Prize" in whichever branch of medicine the governors may deem best; and a sum of £500 for a "Herkless Prize" in Glasgow University, to be given to the best woman graduate of the year in the Faculty of Arts.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WEST YORKSHIRE.

The New Bradford Infirmary.

It is announced that the assessor, Mr. Keith D. Young, F.R.I.B.A., has given the first award for competitive plans for the new Bradford Royal Infirmary to Mr. William A. Pite, F.R.I.B.A., of London. The second award he has given to Mr. E. R. Halford, also of London, and the third to Mr. A. Marshall, of Nottingham. Mr. William Pite designed the new King's College Hospital. The main specifications put before the competitors pointed out that the area of the site was about 24 acres, that the infirmary must be built on the pavilion system, and that the ward pavilions must not consist of more than two stories. It was stipulated that the dispensary, casualty, and out-patient departments should be at the east end of the site—the end nearest the Duckworth Lane tramway. It was arranged that access should be provided to the isolation block and the pathological department from Smith Lane on the north, and that the boiler houses and laundry should be placed toward the north-east, since the prevailing wind is north-westerly.

Mr. Pite's plans provide for a hospital with 382 beds, with possible extensions to increase the accommodation to 500 beds. The administrative block will occupy the central portion of the site, and will have a depth of about 400 ft., running across two-thirds of the site from south to north. The front of the infirmary will fall almost due south. From the entrance hall and the administrative block various offices will radiate right and left. In the administrative block will be a chapel to seat 120 persons, secretary's offices, board-room, matron's rooms, library, and other apartments. Further back will be the kitchen block. At the north side will be the servants' home, and on the west side a nurses' home with accommodation for 120 nurses. On the east side of the administrative block will be two children's wards and four medical wards, each ward containing 22 beds. On the west side will be eight surgical wards, and behind them four operation theatres, two on each floor. Each ward is approached from the main corridor by a "cut-off" corridor, and swing doors will be fitted throughout. There will also be an isolation block for males and females, and the nurses in attendance will be isolated from the other departments of the infirmary. A separate maternity block for 10 beds is included in the scheme. On the first floor over the administrative block rooms will be furnished for ten resident medical officers. Careful arrangements have been made in regard to lighting, heating, and ventilation. Electric lifts will be provided for patients and stores, and every possible improvement in hospital arrangements adopted.

Tuberculosis Exhibition in Bradford.

A most successful exhibition in connexion with the national campaign against tuberculosis has recently been held in Bradford. The National Association's exhibits were housed in St. George's Hall, and the local exhibits in the Mechanics' Institute. The exhibition was opened on May 25th, when a most interesting address was given by Sir R. Douglas Powell, Bart. The exhibition remained open for eight days, and was visited by between thirty and forty thousand people. The local exhibits were a striking feature, and created the greatest interest. A series of lectures were given daily by well-known experts on every aspect of the tuberculosis question. The educational effect of the whole crusade has been of the greatest utility to the city, and will lead to the best results in the future.

Halifax Open-air School.

The report of Dr. D. M. Taylor, Assistant School Medical Officer in Halifax, on this school is very interesting. Last year 124 children attended, most of them for the full six months. In every case some physical gain was recorded, while the increased mental activity and receptivity were remarkable. Dr. Taylor thinks that the open-air school is an important factor in the solution of the great problem of tuberculosis. The number of tuberculous cases was small—25, but the results were significant. Tuberculous glands were cured in 50 per cent. of the cases and early phthisis arrested in 64 per cent. It has been found that after return to ordinary schools there is in some cases a retrogression in these children. Mr. and Miss Oates have generously made provision for residential care for special cases after leaving the open-air school, and it is anticipated that as a result the advantages produced will be permanently retained.

THE French Congress of Surgery will hold its twenty-fourth annual congress in Paris in October next (2nd to 7th), under the presidency of M. Paul Segond, Professor of Clinical Surgery in the University of Paris. The following questions are proposed for discussion: Diagnosis and treatment of chronic appendicitis; the treatment of acute peritonitis; the operative treatment of simple fractures.

Correspondence.

THE ELECTION OF DIRECT REPRESENTATIVE.

SIR,—I wish to thank the medical practitioners of England and Wales for choosing me to be their direct representative on the General Medical Council at the recent election rendered necessary by the regretted death of Dr. McManus. Immediately after the result of the election was declared I was called upon to attend the session of the Council at which the National Insurance Bill was discussed, and the report upon certain of its medical aspects prepared, which drew from the Chancellor of the Exchequer the reply published last week.[1] The consideration of the bill by the British Medical Association in the Representative Meeting and the Special Committee has made such great inroads on time and energy that my friends will, I am sure, forgive the delay in returning my thanks; though tardily expressed my gratitude is none the less sincere.

It shall always be my endeavour to justify the confidence my brother practitioners have shown by electing me to so responsible a position at this critical time.—I am, etc.,

Taunton, June 26th. J. A. MACDONALD.

STATE SANATORIUMS.

SIR,—Dr. Allison, in the BRITISH MEDICAL JOURNAL of June 17th, p. 1449, suggests a figure of £250 a bed as the cost to be allowed in the erection of State sanatoriums as against Mr. Lloyd George's proposal that the cost should not exceed £100. Our experience at the Maitland Sanatorium works out exactly halfway between these estimates, as we have accommodation for sixty patients, men, women and children, at a total cost of £10,500, or £175 per bed. This includes the purchase or erection of:

(1) A 40-acre farm with farm buildings.
(2) Pavilions (some wood, some brick), furnished and equipped for adult patients and staff, with several sleeping shelters.
(3) A children's house.
(4) A fully-equipped steam laundry.
(5) Acetylene and petrol gas installations.

Our buildings are mostly of a very simple character, and we have found it necessary to improve the type in the more recent additions. A State sanatorium could hardly be erected for as little as has been spent here, so that probably £200 a bed is quite the lowest figure that could be counted upon, however simple the arrangements were.

The possession of a farm and its equipment is an invaluable asset to a sanatorium from the point of view of "graduated labour." The cost of maintenance should not be reckoned at less than 30s. a week if the sanatorium scheme is to contain the principle of employing its ex-patients as members of the staff in every possible direction, becoming thus to some extent a labour colony as well as a sanatorium. I cannot speak too strongly of the importance of this as an integral part of sanatorium life: (1) The presence of apparently cured patients is a constant encouragement and stimulus to the others; (2) the opportunity offered to patients to test their working capacity, while still sheltered by the supervision of the sanatorium staff, speaks for itself; (3) the discipline and moral tone of the sanatorium is greatly helped by this body of non-commissioned officers between patients and authorities. They are able to educate the ordinary patients in innumerable ways not possible to nurse or doctor. On the other hand, the liability to breakdown, and the necessity for consequent overlapping arrangements, slightly raises the cost per head. At 30s. a week, however, the sanatorium can be maintained with very careful management and very little, if any, margin.—I am, etc.,

ESTHER CARLING,
Medical Superintendent.

Maitland Sanatorium,
Peppard Common, Oxon., June 26th.

THE PROVISION OF SANATORIUMS AND THE ENDOWMENT OF RESEARCH.

SIR,—The article on this subject published in the JOURNAL of June 10th, p. 1392, contains the following: "The sanatoriums have applied the knowledge provided by the schools of research," and infers that it is more especially on the work of Koch and the bacteriologists that sanatorium treatment is founded. Again, it is stated that "It is only by giving expert medical authorities the power of carrying on investigations that an advance towards the extinction of consumption can be hoped for."

First, we beg to ask, What schools of research provided Bodington, Brehmer, Otto Walther, and the other pioneers with the knowledge and acumen they applied when first they carried out that *common-sense* treatment of consumption which has revolutionized our treatment of the disease, and which is quietly revolutionizing medicine? It would be difficult to exaggerate the importance of Koch's great discovery, but his work and that of his followers were subsequent to the first advocacy of the principles of sanatorium treatment which are now so widely accepted.

Secondly, do we not already possess a knowledge of the methods by which the extinction of tuberculosis can be brought about? The educational influence of sanatoriums has a great preventive value. This, and such measures as the establishment of dispensaries, where it is of especial importance that arrangements for the free examination of sputum should be made, give good hope of extinguishing tuberculosis, now that means are being found for carrying out the methods advocated. It is of great importance, therefore, at the present juncture, that authoritative medical pronouncements should indicate the proper distribution of the means provided.

We would not in the least detract from the great value of past researches, nor from the advisability of pursuing further investigations, but one of the most fortunate circumstances in this whole question is that the methods which are applicable for bringing about the recovery of the consumptive are largely identical with those proved to be most advantageous for prevention. We, therefore, cannot agree that research, important as it is and always must be, "can alone point the way to its prevention." The methods to use for prevention are already clear.—We are, etc.,

JANE WALKER.
F. W. BURTON-FANNING.
NOEL BARDSWELL.
S. VERE PEARSON.

June 12th.

THE VACCINATION DEBATE.

SIR,—In my letter of June 17th I pointed out that childhood above the age of 5 years was the least fatal period of life for small-pox, so that for this age-period the need for vaccination was not very urgent. Dr. Cameron, however, wishes me to consider the case of very young children and especially infants. I admit that, in the case of the latter, small-pox, when it does attack, is very serious, but my point is that the risk of attack in infants is comparatively small—judging, at least, from the experience of Leicester. In the last twenty-eight years, since vaccination was practically abandoned in Leicester, there have been only 5 deaths of infants from small-pox and 10 deaths in the age-period 1 to 5 years, surely not a very heavy penalty to pay when it is remembered that, on the other side of the balance-sheet, considerably over 100,000 infants have escaped the risks of vaccinia. I have no wish to exaggerate these risks, but in the aggregate they are very far from being a negligible quantity. Moreover, I would point out that in any case compulsory vaccination does not now protect the first six months of life—and never protected the first three months—so that it would not be fair to attribute all the small-pox deaths in infancy to neglect of vaccination.

Now, I am far from being alone in thinking that in the case of infants and very young children compulsory vaccination is not very urgent. Some of your readers may not be aware that five years ago the Honorary Secretary of the Jenner Society (Dr. F. T. Bond) and the Honorary Secretary of the Imperial Vaccination League (Mrs. Garrett Anderson) wrote a joint letter to the *Times* (April 26th, 1906), in which they admitted that there was

> a growing opinion that, in consequence of altered social conditions and improved sanitary administration, it is not absolutely necessary to have infants of a few months old vaccinated, except in the presence of epidemic small-pox;

and they therefore advocated the postponement of vaccination until school age. There is a great deal to be said for this proposition, and I am glad to range myself alongside such stalwart provaccinists in advocating it. In view,

[1] SUPPLEMENT, June 24th, page 474.

however, of the fact mentioned above that the age-period 5 to 20 years is the least fatal period of life as regards small-pox, I would go further than Dr. Bond and Mrs. Garrett Anderson and suggest that the age limit might with reasonable safety be raised to 20 years, and at that age, according to Dr. Cameron, there would be no harm in allowing people to choose for themselves. As a matter of fact, there is a perfectly sound argument in favour of such a proposal. Small-pox is essentially a disease which is spread by adults rather than by children; at least this has been our experience in Leicester. Where children fall victims to it it is usually because they have been infected by adults. Hence the remarkable immunity of the elementary schools in Leicester. It is therefore the adults rather than the children that really need the protection afforded by vaccination. But it is agreed that infantile vaccination is useless, so far as protection from attack is concerned, after twenty years (in my view it is often worse than useless, because of the danger of "missed" cases), so that if vaccination is only going to be performed once in a lifetime—and we all admit that universal revaccination is out of the question—the ideal period would be in adolescence rather than infancy. Moreover, primary vaccination at that period of life would probably be more lasting than when performed in infancy.

Dr. Stansfield seems to think that because I believe in vaccination and use emergency vaccination as part of the "Leicester method" it is an argument in favour of compulsory infantile vaccination. I am unable to follow his reasoning here, so must pass the point; but I may say that he is quite in error when he asserts that when small-pox breaks out in Leicester "nearly all the inhabitants go off in hot haste to get vaccinated." It would have been better if Dr. Stansfield had verified this point before using it as an argument. I speak from knowledge when I say that in Leicester, apart from the better-class residential districts, the amount of vaccination during an epidemic is almost negligible. I had a special house-to-house inquiry made at the close of the 1903 epidemic, and I found that, excluding the houses actually attacked, only 3 per cent. of the inhabitants had been vaccinated since the epidemic began. In the 1904 epidemic the amount of vaccination performed was even less. It can hardly be suggested that this small amount of vaccination could have played any appreciable part in bringing the epidemic to a close. Dr. Stansfield must understand that in Leicester we do not try to make a "scare," when a few cases of small-pox occur, in order to frighten people into getting vaccinated. The putting up of startling posters, magnifying the fact that a case of small-pox has occurred, and urging people to get vaccinated, is emphatically not part of the Leicester method, and, incidentally, it is apt to do serious injury to trade. It is methods such as this which tend to make an outbreak of small-pox a much more expensive matter in many towns than is the case in Leicester. Dr. Stansfield falls back, as so many have done before him, upon the experience of Gloucester as a set-off against that of Leicester. This is most unfair. Will any one seriously suggest that the methods which have proved so successful in Leicester were fairly tried at Gloucester? It is notorious that they were not, so that the unfortunate experience of Gloucester proves nothing as to the adequacy of those methods.

I am quite prepared to admit this, however. If in any community at any time small-pox really got out of hand, I should certainly advise that, *as a last resort*, wholesale vaccination of the general population, at least in the affected districts, should be immediately carried out. Given a free hand, and in the absence of the present bitter prejudice against vaccination, engendered by compulsion, such a general vaccination, as an emergency measure, should be quite feasible, and would cut short any epidemic in a few weeks. But with increasing public health efficiency throughout the country, the necessity for such a drastic step should very rarely, if ever, arise. Nevertheless, it could be done (it has been done before now), and it constitutes, if I may say so, the trump card of those of us who, whilst we believe firmly in vaccination, do not believe in the necessity for our present irritating, inefficient, and half-and-half system of compulsory vaccination. Provided the people of Leicester, or of any other town which neglects infantile vaccination, will get vaccinated if and when the necessity for it really occurs, they have no need to fear being decimated by small-pox, in spite of Dr. Stansfield's gloomy forebodings. I am aware that there is this present danger; the "man in the street" has so often been urged to get vaccinated when no real necessity for it existed, as shown by subsequent events, that he has to a large extent lost faith in medical advice on the question of vaccination. This, however, would right itself under the new régime, and, vaccination only being advised when really necessary, neglect to follow medical advice would bring its own punishment, which at present is certainly not the case.

In concluding this letter, Sir, allow me to thank you for according me so much of your valuable space. This question of vaccination is not so simple as many medical men believe. So much time has been lost in debating it with those who disbelieve in it—who regard the whole thing as a vast delusion—that the issues now being raised have hitherto not been discussed, or only very inadequately. It is desirable that they should be discussed, and some one must assume the responsibility of challenging orthodox teaching. My only excuse for putting myself forward to do so is that in consequence of my position as Medical Officer of Health for Leicester, I have had an experience which is certainly exceptional, and probably unique.—I am, etc.,

C. KILLICK MILLARD,
Leicester, June 24th. Medical Officer of Health.

SIR,—Dr. Millard thinks we need not be very concerned if we have to abandon compulsory infantile vaccination, and I quite agree with him if it were made compulsory to vaccinate all suspects in case of an outbreak. I have been led to form that opinion (1) from my faith in vaccination; (2) from the strict quarantine regulations and the perfection of our public health authorities; (3) from the fact that the infant is apt to have diseases for which vaccination is blamed; and, lastly, because stopping infantile vaccination might perhaps pacify the most rabid anti-vaccinationists, whose clamour cannot be entirely disregarded.—I am, etc.,

Hawick, June 21st. JOHN HADDON, M.D.

*** While ready to receive any correction of an error of fact, we cannot undertake to continue this correspondence.

MEDICAL OFFICERS OF HEALTH AND OFFICIAL DUTIES.

SIR,—Among the advertisements in the BRITISH MEDICAL JOURNAL of June 24th will be found an invitation for applications for the post of medical officer of health and school medical officer for the borough of Hartlepool, at the salary of £250 per annum, to be increased by yearly increments of £10 to the maximum of £300. The successful candidate will not be allowed private practice, but will be allowed to hold any of the offices mentioned in Section 3 of the Memorandum of the Local Government Board, 1910, "if any applicant is successful in obtaining the same." That is to say, the officer appointed will be allowed to supplement his salary by means of such other extras as are afforded by the posts of Poor Law medical officer, public vaccinator, police surgeon, post office medical officer, and certifying factory surgeon.

The next Representative Meeting of the British Medical Association will be asked to confirm the resolutions of its Central Council in (1) That medical officers of health be confined to official duties; (2) that the system of part-time appointments (except that of medical officer of health) for general practitioners be maintained.

To us it seems that the two resolutions cannot possibly be compatible. Obviously if the medical officer of health be confined to "official duties" the "official duties" will be embraced by the various part-time offices held at present by men in general practice.

The inevitable result will be a system illustrated by the concrete example given above.

Now, Sir, it may fairly be asked, What will be the future policy of the British Medical Association? Will it support the recommendations of the Local Government Board, and favour medical officers of health getting all the official appointments so that they can obtain some approximation to a living wage? and if so, how will that policy reconcile itself to the other—that all part-time appointments, with

the exception mentioned, be conserved to general practitioners?

Of course, publicly elected bodies will go to the cheapest market, and it seems likely that they will obtain what they want simply because a new and distinct body of medical men will be created who will be pure officials, out of touch with men in practice, and wholly dependent on their official salaries.

The results will certainly be harmful to the general body of practitioners, from whom it is sought to take away an important source of revenue to subsidize a body of officials at an average salary of about £200 a year.

Surely it will not be pretended that it is in the interests of public health to create important posts at such remuneration.—We are, etc.,

RASHELL DAVISON,
Chairman.
DAVID A. BELILIOS,
Honorary Secretary,
Association of Medical Officers of Health.

Wimbledon, S.W., June 24th.

INSTINCTIVE ANTIPATHY.

SIR,—If any of your readers have had an experience of any case or cases similar to the following I should be extremely interested to receive an explanation.

The subject under discussion is one of "instinctive antipathy." My wife has since birth suffered from an absolute horror of spiders—in childhood this used to give rise to fearful screaming fits, lasting until the offending spider was removed—and at the present time the horror has not abated at all.

Only two nights ago I was hastily summoned to our bedroom, and was requested to "find the spider." As I have frequently been the subject of similar requests in the past, all I asked her to tell me was, "Which side of the room is it?" A short search revealed a large spider at rest on a dark patch on the wall-paper, and all the time that it remained there my wife evidenced this horror of it. The signs by which she tells are a peculiar spinal thrill, and then a kind of mental "aura" proclaims the presence of the spider. The test is, so far as I have in four years been able to prove it, infallible, as I have never been needlessly summoned, and, moreover, she can tell at once in an absolutely dark room on which wall it is probably crawling—at any rate, which of the four corners it is nearest. Her father's sister suffers from a similar faculty, only not nearly so well developed.

It seems to me that, in the absence of any other explanation, the phenomenon should be regarded as an extra sense. My wife frequently laughingly says that she must have been a "fly" in a previous state of existence. Can any of your readers supply a parallel, or an explanation?—I am, etc.,

June 18th. GOLD MEDALLIST.

CONCENTRATED INFUSION OF QUASSIA.

SIR,—The following paragraph appears in the *British Pharmaceutical Codex*, 1907 edition, page 953, line 24 et seq.:

> An infusion of quassia (1 in 20) or liquor quassiae concentratus mixed with an equal quantity of water is used as an injection for the thread worms of children.

Infusion of quassia 5 per cent. is found at page 541, and contains 20 per cent. of 90 per cent. alcohol; and liquor quassiae concentratus, at page 640, contains quassia wood in No. 40 powder 10.00, alcohol (20 per cent.) sufficient to produce 100.00. I generally use the ordinary infusion, but on June 16th, for a child aged nearly 4 years, I used 5 oz. of concentrated infusion of quassia diluted up to 10 oz. with warm water. In twenty minutes alarming symptoms of acute alcoholic poisoning supervened and lasted nearly four hours, fortunately followed by complete recovery. The infusion which I used was supplied by a well-known firm of druggists who have since informed me that it contains 23.4 per cent. of 90 per cent. alcohol, equal to 37 per cent. proof spirit. The label on it (and no doubt that of other firms) reads:

> To make infusion of quassia, add 1 part to 7 parts of water.

Infusion of quassia contains no alcohol; therefore the label is not strictly accurate. There is no doubt that concentrated infusions or the liquor quassiae concentratus should not be used as injections for children, on account of the high proportion of alcohol present.—I am, etc.,

Tamworth, June 19th. C. H. JOY, M.D., B.S.

Universities and Colleges.

UNIVERSITY OF OXFORD.

DR. C. THEODORE WILLIAMS, Honorary Fellow of Pembroke College, has offered to the university a sum of £2,500 upon trust to apply the income to the encouragement of the study of pathology and bacteriology in relation to medicine. It is proposed to found two scholarships, each tenable for two years. A decree has been introduced in Convocation gratefully thanking the donor.

UNIVERSITY OF CAMBRIDGE.

Degrees.

THE following were among the degrees conferred at a meeting of the Senate in June:

M.D.—Alfred L. Sachs.
M.D., B.C.—Lancelot Bromley.

UNIVERSITY OF LIVERPOOL.

Diploma in Ophthalmic Surgery.

THE Council of the University has established a diploma in ophthalmic surgery on the recommendation of the Senate and the Faculty of Medicine. A candidate must possess a qualification or diploma in medicine which entitles him to registration in the United Kingdom, and must subsequently to obtaining the diploma have attended (*a*) a three months' course of study in the anatomy, physiology, and pathology of the eye in the university; (*b*) a course of instruction extending over not less than three terms in an ophthalmic clinic recognized by the university.

The subjects of the examination, which will be held twice a year, at the end of the summer and autumn terms, are: (1) The anatomy and histology of the visual organs and centres; (2) the physiology of vision; (3) the physiological optics; (4) bacteriology in relation to diseases of the eye; (5) the morbid anatomy of diseases of the eye; (6) the diagnosis and treatment of diseases of the eye; (7) the estimation and correction of errors of refraction.

The fee for the examination is £5 5s.; for each subsequent examination £3 3s.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The Fellowship.

THE following candidates have been approved at the examination indicated:

FINAL FELLOWSHIP.—J. B. Reid, F. T. Talbot, E. C. Bevers, D. W. Smith, R. J. L. Sladen, A. E. A. Loosely, G. C. Adeney, H. A. Kisch, C. W. Greene, G. S. Thompson, C. M. Kennedy, W. H. Miller, J. P. Buckley, E. G. Gauntlett, D. D. Baria, W. E. Wilks, A. H. Crook, W. E. Haigh, B. Hughes, G. Jefferson, B. C. Roy, H. C. Bazett, J. Morley, H. Fearnley, E. F. Finch, G. M. Gray, A. R. Jordan, T. B. Mouat, H. C. Wilson, A. C. T. Woodward, C. Yorke.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—†H. H. Budd, *†R. F. Eminson, *†A. A. E. Newth.
MEDICINE.—*N. S. Adler, *L. K. Edmeades, *†R. F. Eminson, *†C. C. Messiter, *†A. A. E. Newth, *†G. H. Varley.
FORENSIC MEDICINE.—R. F. Eminson, C. C. Messiter, A. A. E. Newth.
MIDWIFERY.—H. Cox, R. F. Eminson, A. A. E. Newth, J. E. Taylor.
* Section I. † Section II.

The diploma of the society has been granted to Messrs. H. H. Budd, R. F. Eminson, A. A. E. Newth, and G. H. Varley.

PROFESSOR KLEMENS, FREIHERR VON PIRQUET, of Breslau, has been appointed to the Chair of Children's Diseases in the University of Vienna, in succession to the late Professor Escherich.

THE third International Congress on the Hygiene of the Dwelling will be held at Dresden next October (2nd to 7th). The work of the congress will be distributed among nine sections as follows: (1) Town planning; (2) construction and buildings; (3) internal arrangements of the dwelling; (4) sanitation; (5) town dwelling houses; (6) country dwelling houses; (7) school buildings, boarding schools, prisons, hotels, lodging houses, convalescent homes, baths, churches, theatres, and other public buildings; (8) workrooms and workshops; (9) legislation, executive, statistics. Communications relative to the congress should be addressed to the General Secretary, Herr Stadtrat Dr. Hopf, 4 Reichstrasse, Dresden.

Obituary.

SIR RUBERT W. BOYCE, M.B.LOND., F.R.S.,

HOLT PROFESSOR OF PATHOLOGY, UNIVERSITY OF LIVERPOOL.

THE untimely death of Professor Sir Rubert W. Boyce, M.B., F.R.S., who passed away after a brief illness, at his residence in Liverpool, on June 16th, has already been announced. He was at work in the Pathological Laboratory of the Liverpool University only the day before, and although many of those who were his intimates were in some measure prepared for the sad announcement, the news of his death will come as a shock to many not only in this country, but also in tropical regions of the empire, and, indeed, in scientific and medical circles everywhere. He was 49 years of age, and leaves a young daughter.

Sir Rubert Boyce was the son of Mr. Robert Henry Boyce, C.B., formerly principal surveyor of buildings in the consular and diplomatic service, who was decorated for valuable work accomplished in the course of a distinguished career as an engineer in many parts of the world. Sir Rubert came of a family of doctors. His grandfathers on both sides were medical men who had practised in Ireland.

Entirely Irish by birth, at school for a short time at Rugby, afterwards in France, he acquired an education very little on the beaten lines. It was when at work with Sir Victor Horsley in the laboratories in the University College of London that he began to show promise of his real powers, his early scientific work being noted by those who were most able to discern. His appointment to the new Chair of Pathology at Liverpool in 1894 gave him his opportunity; everything there on the high educational ground was in the origins and in the making. He had youth, untiring energy, endless perseverance, a clear vision, and unbounded courage. He learnt to handle men, and particularly business men of the city, interesting them in the work of the university, and by absorbing them into his far-seeing schemes, acquired their influence and practical co-operation for the development and utility of the university.

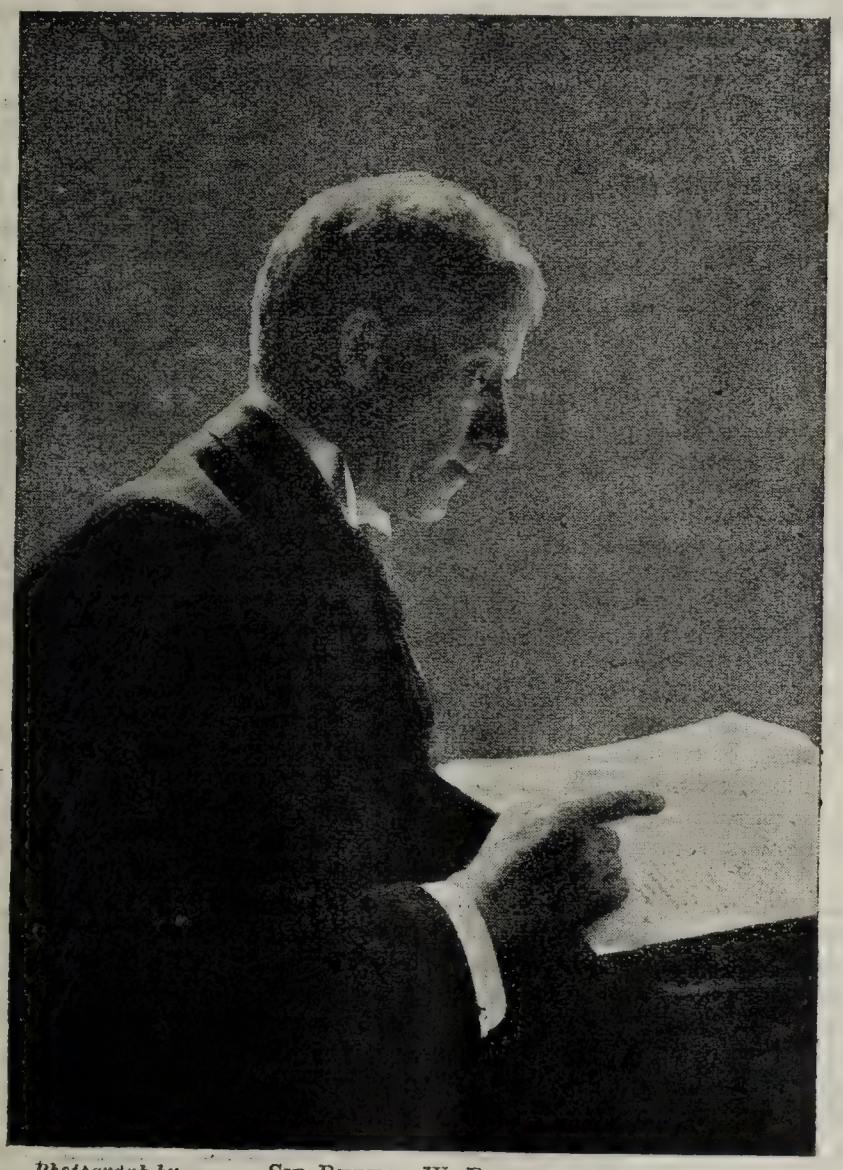

Photograph by SIR RUBERT W. BOYCE. [*Lafayette, London.*

His first creation was the School of Hygiene as a natural offshoot from the School of Pathology. Municipal pathological work became part of the University pathological department, and his work as Bacteriological Analyst to the city was directed mainly to the purity of the water supply, which he and his staff examined week by week, and to investigations into the question of plague in rats as affecting the shipping and the great seaport generally. He was also Chairman of a Special Commission of the Liverpool Medical Institution along with Professors E. W. Hope, R. J. M. Buchanan, E. E. Glynn, Annett, and others in reference to the purity of the milk supply to the voluntary hospitals of the city. He was also a member of the Royal Commissions on Tuberculosis and Sewage Disposal.

His great work lay in the foundation, nurturing, and development of the Liverpool School of Tropical Medicine. In this direction he saw boundless prospects and possibilities; it was his greatest success, and became the all-absorbing passion of his later years. When the circular suggesting the formation of a School of Tropical Medicine in London, partially subsidized by the Government, was issued by Mr. Joseph Chamberlain in 1898, as Colonial Secretary, Boyce immediately grasped the importance of founding such a school in Liverpool in view of its geographical position, its intimate connexion with the tropics, and the energy of its citizens. Enlisting in his service and companionship to this end the late Sir Alfred Jones, a man as spirited, far-seeing, and energetic as himself, money was forthcoming and a suitable professional staff obtained, and the appointment as director of Sir Ronald Ross, who was at the moment on his way home from India, was a true example of Sir Rubert's clear vision and certainty of correct choice. On April 21st, 1899, the school was officially opened by Lord Lister. In the first six years of its existence it spent over £50,000, and no fewer than seventeen expeditions had been sent out to the tropics. Up to the present time twenty-eight expeditions have been organized by this school. The value of these expeditions and the work done in opening up what had hitherto been almost uninhabitable countries is of world-wide renown. Sir Rubert served on several of these expeditions personally; he visited New Orleans to investigate an outbreak of yellow fever there. At the request of the Colonial Office, he visited British Honduras to investigate yellow fever and advise as to the prophylactic measures which should be taken. He also visited British Guiana, the West Indian Isles, and West Africa.

Sir Rubert was at the forefront in the establishment of an independent university on advanced and varied lines in the City of Liverpool. It is said that his happiest public hours were spent amid a small band of colleagues and friends who shared in this special movement. In the University Club the cause was fostered and ripened, and in a few years the university was launched with high ideals on the career which is ever-growing in power and usefulness.

Rubert Boyce's first appearance as an author was in 1892, when he brought out *A Textbook of Morbid Histology*, and his earlier scientific publications were on neurological subjects. His later works indicate the growth of his interest in tropical medicine; he published a volume of collected papers on tropical sanitation in 1904–5, a volume which was in the best sense popular on *Mosquitos or Man* in 1909, and another on *Yellow Fever and Its Prevention*, of the same type, only this year. He was also the author of a report on the *Yellow Fever Outbreak, British Honduras*, in 1905, and on *Health Progress and Administration in West Indies*, in 1909.

In the year 1902 Boyce's life was darkened, for he lost his wife, to whom he had been married only twelve months, and who died after the birth of her little daughter. His wife was the daughter of Mr. Johnston, the well-known shipowner of Bromborough. To commemorate her life Mr. Johnston, by a magnificent gift to the university, provided new laboratories, which became the home of the Tropical School, the School of Bio-chemistry, Cancer Research, and Comparative Pathology. He established also the new Chair of Bio-chemistry for Research, the first in this country. Mr. Johnston also founded in memory of his daughter the Ethel Boyce Research Scholar

ship in Gynaecology. As Professor of Pathology Sir Rubert worked conscientiously and well. He looked upon that chair as a centre from which widespread enterprise and research should be guided and governed, so that his main work became less confined to the laboratory and more directed in tropical medicine and allied sciences.

On November 9th, 1906, he received a knighthood in recognition of his work, and the honour came shortly after and during convalescence from a serious illness—a paralytic stroke—which laid him aside from active labour for twelve months, an illness from which few people thought he would recover sufficiently to resume his arduous duties. He made a remarkable recovery, and during the latter years of his life seemed to have lost none of his energy and enterprise. His house was unique in its artistic decoration, where his collection of ancient Persian tiles and other curiosities were significant of his father's travels and of his own chief private hobby. It was a charming and secluded residence, where he entertained with wide hospitality visitors from many cities, countries, and climes. One of his most intimate colleagues tells us that the day before his death he was entertaining a West African magistrate, originally a medical man like himself, and two of his old colleagues and close friends.

"His vivacity and intellectual sympathies, his opinions on Nature and man, his criticisms of antiquated and futile methods, whether on the coast or in the universities, were as fresh, searching, piquant, and independent as before." His last illness came on suddenly, was very brief, and his end was peaceful.

A large and representative gathering of his university colleagues, of professional and lay friends in the city of Liverpool and from many other parts of the country, paid their last tribute of respect to one whose labours and energy had been herculean, and who, if "Time" be regarded as velocity of thought, must in his brief sojourn here, in comparison to the average being, have lived far beyond the prophet's space.

Sir JAMES BARR writes to us from Liverpool:

I should like to add a few impressions to your obituary notice of Sir Rubert Boyce, whom I have had the pleasure of reckoning among my intimate friends since his first appearance in Liverpool.

He was a distinct personality, and one who, from his force of character, sterling merit, and honesty of purpose, drew around him a greater number of friends and admirers than perhaps any other man in this city. Ample testimony to this was borne by the enormous number of mourners at his funeral, every one of whom was ready to pay a loving tribute to his memory.

His central idea was the advancement of the Liverpool University, and no one played a greater part in collecting the funds which have materially contributed to placing it in its present prominent position among English universities. In all his seeking after the welfare of the University personal aggrandizement was placed in the background, and he was quite satisfied with the glory reflected from his good work. Those who were induced by him to contribute to the upbuilding of the University will willingly testify that he never pushed his own department to the front, but encouraged the predilections of the donors and rejoiced at the success of every department. Although he frequently disapproved of the methods of some of his colleagues he was ever ready to concede to them the credit for honesty of conviction which he claimed for himself.

It was only to be expected that a man of his strong, impetuous temperament—one who hated intrigue and all underhand dealing—should occasionally come into collision with those actuated by baser motives, and thus he became a strong hater as well as a warm and loyal friend. Some of those who merited his resentful ire he never forgave. False aspersions on his character he treated with contempt, and left those of us who knew him better to deal with his traducers as we thought best. His clear, intuitive perception of the devious paths pursued by some in their struggle for place and power made him a force that had to be reckoned with. He was a true seeker after absolute truth, and pragmatism found no place in his soul. He was ever ready to recognize true merit and do all in his power to assist its possessor.

In my last conversation with him, the day I left for Canada, the topic which chiefly engrossed his attention was not his own health, but what we could best do for a mutual friend. Within his brusque exterior he carried a warm heart, and oft did good by stealth and blushed to find it fame.

His indomitable energy and pluck, and his firm determination to rise superior to his environment were all displayed in his career since an attack of cerebral thrombosis with left hemiplegia some years ago. An attack of this kind would have placed most men *hors de combat*, but to Boyce it seemed to act as a stimulus to renewed energy. Since then all his best work in the tropics has been accomplished. He was a very difficult patient to control; although he was always ready to be guided by advice when he felt ill, and rigidly carried out any plan of treatment which promised success, yet when he felt better his natural Irish restlessness assumed the mastery, goaded him on to work, and he never allowed personal convenience to interfere with his public duties. At the beginning of May he had an attack of motor aphasia while attending a committee meeting in London, and was brought home by Dr. Prout. He made a quick and excellent recovery, but here again, although the danger signal was pointed out to him, when he got better no amount of persuasion would prevent him from resuming his duties at the university. When I last saw him on May 27th he was in excellent health and spirits, and he made all manner of promises about taking life more easily, but his idea of taking life easily differed from the usual medical standard. When I returned from Canada, just in time to attend his funeral, I was sadly grieved but not surprised to hear of his death. I can truly say of him that he was a man who earnestly and strenuously strove to leave the world a little better than he found it, and I think in his own line succeeded.

He took a warm interest in the eugenic movement which we have recently started in Liverpool, and one of his latest literary contributions was a vigorous letter in support of the eugenic principle. He was rather a prolific writer, but he had no pretensions to any literary polish; his works commanded success on account of their practical value, his careful and accurate observations, and his true deductions from well-ascertained facts. He has left a memory to live with many of us, and I am anxious that his good work should not be interred with his bones.

THERESA DE G. MILLER, M.B., B.S.DURH.

WE record with much regret the death of Miss Theresa de G. Miller, of Reading, who was stricken with widespread secondary malignant disease just as she had attained her life-wish to help the advancement of scientific medicine by devoting herself to research work.

She received her medical education at the London School of Medicine for Women and Royal Free Hospital, and spent two years at Newcastle, where she took the degrees of M.B., B.S.Durh. in July, 1909. There she worked at pathology under Professor Macdonald, and in October last entered the cancer research laboratories at the Middlesex Hospital, under Dr. Lazarus-Barlow, who soon recognized the good quality of her work. She intended to enter for the M.D. examination in July, and with dogged perseverance and heroic courage she continued her work until finally deterred by pain and emaciation, she passed away on June 12th, at the age of 41.

She was singularly unobtrusive, of an earnestly religious mind, and unostentatiously practised a life of philanthropic, kindly work, leaving with many a fragrant memory of a beautiful and gentle character.

Dr. LAZARUS-BARLOW writes: Miss Miller was one of those who attract by their own personality, and I well remember thinking, when she first applied for leave to work in the cancer research laboratories, that, whether her work were brilliant or not, it would be thoroughly reliable and would be conducted with perseverance, and that she herself, as an individual, would be a welcome addition to the staff of workers. Time showed that I was fully justified; the small research on Altmann's granules which was passing through the press as she lay on her death-bed gives evidence of an attention to detail which would have borne much good fruit had she been spared; while the deep regret with which news of her illness and death was received by her colleagues was ample evidence

of the respect and affection with which she was regarded. Diffidence of her own attainments, a delicate humour, a lighting of the eye at approval when some difficulty had been overcome, a keen interest in all aspects of the cancer problem earned her the thorough appreciation of all. And when at length we learnt that her interest in cancer research had largely been actuated by knowledge of the disease in herself, we recognized that she had, in addition, set us all an example in altruism which we should do well never to forget.

WE regret to have to record the death of a well-known and highly-respected Forfarshire practitioner, Dr. DICKSON, of Carnoustie. Dr. Dickson had been an invalid for some months, but hopes were entertained that by rest and change of air his condition might improve, but this was not to be, and he died at his home in Carnoustie. Dr. Dickson had a distinguished career as a student at Edinburgh University, taking the degrees of M.B. and C.M. with honours in 1882, proceeding for his M.D. in 1889. He was Tyndall-Bruce Bursar in Materia, Medica, and Pathology, and Murchison Scholar in Clinical Medicine. He succeeded his father in Carnoustie about 25 years ago, and held most of the public appointments in connexion with the burgh and district. Dr. Dickson was a man of culture and of literary tastes, somewhat reserved in manner. He was of a most kindly disposition. He leaves a widow and two sons, one being a member of the medical profession. Much sympathy will be extended to members his family by their many friends in the district.

The Services.

R.A.M.C. TERRITORIAL TRAINING GRANT.

THE General Officer Commanding in Chief, Scottish Command, has made allotments to the Highland and Lowland Divisions and mounted brigades for extra training and services from 1st April, 1911, to March 31st, 1912. The commanders of the Highland and Lowland Divisions will each earmark the sum of £350 of their allotments for training the R.A.M.C. Territorial Force in their respective areas.

GLASGOW UNIVERSITY OFFICERS' TRAINING CORPS.

THE Glasgow University contingent of the Officers' Training Corps will go into camp on July 3rd. Both infantry and engineer units will attend the Royal Review at Windsor, and thereafter the infantry will proceed to Shorncliffe and the Engineers to Chatham. The former will have eight officers and 250 rank and file, the latter 3 officers and 83 rank and file. Both units will return to Glasgow on July 17th.

GLASGOW R.A.M.C. UNITS.

THE Glasgow units of the Royal Army Medical Corps, Territorial Force, held a combined field day at Blackhill Manœuvre Ground on June 10th, when field work and exercises were practised by the various units. Lieutenant-Colonel W. F. Somerville was in command. On June 11th the units had their Church Parade, which by the courtesy of the Court and Senate of the University was held in the Bute Hall. The service was conducted by the Rev. Dr. T. Adamson, Chaplain to the Corps, who preached a sermon on patriotism. Lieutenant-Colonel Somerville was in command, and a number of the officers and of the professors of the university were present.

Public Health AND POOR LAW MEDICAL SERVICES.

SCIENTIFIC RESEARCH FOR THE LOCAL GOVERNMENT BOARD.

THE President of the Local Government Board has authorized the following special researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease:

1. A research into the causes of premature arterial degeneration in man, by Dr. F. W. Andrewes, Pathologist to St. Bartholomew's Hospital.
2. An inquiry by Dr. J. H. Thursfield, of St. Bartholomew's Hospital, into the causes of death in measles.
3. A comparison by Professor Nuttall, F.R.S., Quick Professor of Biology at the University of Cambridge, of the number and kind of fleas found on rats.
4. A continuation by Dr. C. J. Lewis, of Birmingham University, of his investigation into the degree of prevalence and the characteristics of micro-organisms known as non-lactose fermenters in the alimentary canal of infants.
5. An investigation into the same subject by Dr. D. M. Alexander, of Liverpool University.
6. An inquiry by Dr. Graham Smith, of Cambridge University, into the incidence of non-lactose fermenters in flies in normal surroundings and in surroundings associated with epidemic diarrhoea.
7. A study by Dr. F. A. Bainbridge, of the Lister Institute, of the anaërobic bacteria in the alimentary canal of infants.
8. An investigation by Dr. Graham Smith into the possibility of pathogenic micro-organisms being taken up by the larva and subsequently distributed by the fly.

DOMICILIARY VACCINATION.

JACOBUS.—We known of no case in which payment has been claimed from the person making a "request" to visit for the purpose of vaccinating on the prescribed form. If the child is over 4 months old it would be the duty of the public vaccinator to call, and no payment could be demanded even though the parent had forwarded the "request" and afterwards changed his mind. In the case of a child under 4 months there is no obligation on the part of the public vaccinator to call at the house without such "request," and a parent who sends a request for a visit under such circumstances and declines vaccination when a visit is made, might properly be charged a fee for the visit. Whether such fee would be legally recoverable does not appear to have been tested in any case.

Medical News.

DR. CHARLES BOULLÉ, formerly Mayor of Saint Valérien (Yonne), celebrated his 101st birthday on March 3rd. A great ball was given to the young people of the district in honour of the occasion.

MAJOR F. F. CARROLL, M.B., Royal Army Medical Corps, who is serving with the Egyptian Army, has been appointed by the Khedive of Egypt to the 4th Class of the Imperial Ottoman Order of the Osmanieh.

AT the meeting of the Manchester South Division on June 16th, on the motion of Dr. Grant Davie from the chair, the Secretary was instructed to convey to Dr. Sawers Scott the meeting's sincere sympathy with him in his recent severe accident, and its earnest hope for his speedy recovery.

THE medals and prizes will be distributed to the students of Guy's Hospital by the Right Hon. Alfred Lyttelton, K.C., M.P., on Tuesday next, at 3 p.m., when a garden party will be held and the laboratories, museums, and college and the Henriette Raphael Nurses' Home and wards will be open to inspection.

THEIR Excellencies the Lord Lieutenant and the Countess of Aberdeen will attend the opening of the Congress of the Royal Sanitary Institute at Belfast on July 24th. The Earl of Aberdeen, as Patron, will install the Right Hon. Lord Dunleath as President of the Congress, and will open the Health Exhibition.

IN a reference to the future home of the Cardiff Medical School at page 1401 of our issue for June 10th, Dr. Berry Haycraft was mentioned both as Professor of Physiology and as Dean of the Medical Faculty. It is the former office Dr. Haycraft fills, that of Dean of the Medical Faculty being held, and having been held for some eight years past, by the Professor of Anatomy (Dr. David Hepburn), Vice-President of the Anatomical Society of Great Britain and of the Royal Physical Society of Edinburgh.

THE museum committee of the annual meeting of the British Dental Association, to be held in the University of London on August 3rd-5th, is desirous of obtaining on loan specimens illustrating affections (infections and growths) of the periodontal membrane. Those willing to lend specimens are asked to communicate with Mr. F. Coleman, 129, Harley Street, London, W., honorary secretary of the museum, who will forward notices giving further particulars, including an outline of the classification proposed to be adopted.

IN his report for the four weeks ending June 10th the medical officer for the City of London mentions that on a recent occasion a meat inspector at Smithfield, while examining the carcasses of pigs for tuberculosis, observed one presenting lesions suggestive of anthrax, and that, thanks to the establishment not long ago of a completely-equipped laboratory at the Central Markets, a definite diagnosis was made within fifteen minutes and all necessary measures promptly taken. He also observes that pathological lesions in pigs dead of anthrax may often be so slight as to escape recognition without microscopic examination.

THE Medical Golfing Society held its Annual Tournament on June 15th at Canons Park at Edgware, by kind invitation of Edgware Golf Club. The Henry Morris Challenge Cup and the Medical Golfing Society's Gold Medal were won by M. J. Bulger (4) with 3 up. The cup presented by Mr. Canny Ryall for the best score against bogey played from scratch was tied for by M. J. Bulger and R. Creasy (2) all square, Mr. Kolesar (+1) being 1 down. On playing off the tie, R. Creasy won, so M. J. Bulger took the first prize in Class I, and H. MacCormac (12), who tied with R. Creasy at 1 up, took the second prize. The prize for the best last nine holes in this class was tied for by R. Creasy, F. A. Juler (5), and J. Mechan (10), with 2 up, the winner of this to be decided by F. A. Juler and J. Mechan playing off the tie. In Class II, E. I. Spriggs (16) was first with 2 up, while A. D. Williams (18) was second with all square; the prize for the last nine holes was tied for by E. I. Spriggs, A. D. Williams, and C. R. Salisbury (15), with 1 up; C. R. Salisbury took this prize. For the prize for the best first nine holes presented by the medical members of Edgware Golf Club, M. J. Bulger was 4 up, while E. F. Buzzard (7), H. MacCormac, and E. I. Spriggs were 1 up. E. F. Buzzard took this prize.

As already announced, the meeting of the Oxford Ophthalmological Congress for this year will take place at Keble College, Oxford, on Thursday and Friday, July 13th and 14th. The members will meet informally at dinner in Keble Hall on the evening of Wednesday, July 12th, and those who propose to attend the congress are asked to communicate their intention as early as possible to Mr. Sydney Stephenson, F.R.C.S., honorary secretary, 33, Welbeck Street, London, W. On Thursday morning the congress will be welcomed by the Master, Mr. R. W. Doyne, F.R.C.S., and addresses will be delivered by Professor Arthur Thomson, Dr. Lieven, and Major R. H. Elliot, I.M.S. After luncheon at Keble College there will be demonstrations and operations at the Eye Hospital, and at 4.30 tea in Balliol College garden. At 7.30 p.m. the dinner of the congress will take place in Keble Hall under the chairmanship of Sir William Osler, Bart., F.R.S. On Friday morning addresses will be given by Professor Francis Gotch, F.R.S., and Dr. Harold Low, and a lantern demonstration by Dr. StClair Thomson. In the afternoon there will be demonstrations at the Eye Hospital, a visit to the colleges and to the Clarendon Press, and dinner in Keble Hall, followed by a smoking concert in the common room. On both days the museum of the congress will be opened in the department of physiology, and demonstrations will be given. On Saturday there will be an excursion by river to Reading or Henley.

AT the annual dinner of the University of Durham Medical Graduates' Association, held at the Imperial Restaurant, London, on June 17th, Dr. Inglis Parsons, who was in the chair, dwelt on the part played by the association in connexion with the recent alteration in the constitution of the university. Thanks in a large measure to its efforts, the College of Medicine was now properly represented on the Senate, and by combining with Armstrong College on any particular question, could command as many as sixteen votes. Dr. Brunton Angus, who spoke on the same subject as representative of the northern council of the association, regarded the representation of medical graduates as still inadequate, and hoped for very much stronger representation in convocation at an early date. The toast to the visitors was proposed by Dr. F. W. Sandwith, who drew attention to the excellent work being carried out by Dr. Eric Pritchard in his endeavours to establish the system of infant consultations. He spoke also of the unity of purpose at present prevailing in the medical profession, as represented by its individual members and by the great medical journals, the *Lancet* and the BRITISH MEDICAL JOURNAL. It was of great importance on all occasions, and of the highest importance at the present crisis, which probably was merely the commencement of a new phase of medical life. Both private practitioners and hospitals as voluntary charities were threatened, and to emerge successfully all must work together for the common good. Other speeches came from Sir Henry Morris, who, in responding for the guests, pointed out some interesting features in the history of Durham, and spoke of the success of the students in its medical faculty at examinations; from Dr. F. S. Palmer, who responded to the toast to the University of Durham; from Dr. Edridge-Green, who mentioned that reciprocity in the matter of clubs existed between Oxford, Cambridge, and Durham; and from Mr. Charters Symonds, who, speaking as president of the Medical Society of London, proposed the toast to the chairman. The evening ended with the singing of "Auld Lang Syne."

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

R. A. C. would be very grateful for any advice as to the treatment of an obstinate case of phosphaturia, in which the mineral acids, ammonium benzoate, dieting, etc., etc., have proved of no avail. He would highly appreciate any help, especially in the direction of checking the error of metabolism, which is most probably the cause of this condition. Apart from this trouble the patient is in perfect health.

ANOTHER ARSENIC COMPOUND FOR SYPHILIS (HYDRARSAN).

DR. W. HARDMAN (Blackpool) writes: On p. 1429 of the JOURNAL of June 17th is a recommendation of a new and complex compound of mercury, arsenic, and sodide of potassium. Is the compound resulting from the ingredients merely a mixture, or is it a definite chemical compound? If it is a definite chemical compound, what is its formula? Prima facie, I see no chemical reason why an organic compound should result from such a mixture. The organic compounds of arsenic and mercury are not formed so easily as this. If they were, 10s. a dose for an organic compound of arsenic seems a pretty stiff price to pay. Dr. McWalter does not say if "Hydrarsan" can be used hypodermically or intravenously. I presume not. May I remark that the name "hydrarsan" does not seem particulary well chosen, as it does not recognize one of its important constituents—iodine? If we are to have a made-up name, let us have all the active ingredients duly represented. How would hydrarsiod do?

ANSWERS.

J. J. H. H.—We are not aware of any fee being payable to a midwife for notifying a birth under the Notification of Births Act. It may be done in some places as an act of grace and to encourage notification, but the Health Committee is under no obligation to pay a fee.

"SECONDS" FLOUR.

J. E. B.—"Seconds" flour is principally produced from the outer layers of the grain just below the bran; it contains a larger proportion of protein than the whiter flours (known as "patents," "whites," etc.) from the same wheat, which are principally produced from the inner and more starchy portions. The difference in protein content is by no means constant, depending partly on a more or less arbitrary line of separation between the grades, which may vary according to the practice in different mills, and partly on the very wide differences between different kinds of wheat. A "seconds" flour from one wheat may easily contain less protein than a "whites" from another.

LETTERS, NOTES, ETC.

A MAL-PRESENTATION OF VOWELS.

SENEX OBSTETRICUS.—We plead guilty to a "mal-presentation" of vowels in "Sybil" (p. 1396), and thank our correspondent for calling attention to the slip. But may we in turn say with Holofernes, that we smell false Latin in the pseudonym he has chosen? The classical form of the adjective is *obstetricius*, and even then we fancy that such a description as *Senex Obstetricius*, if it did not make Quintilian stare and gasp, would have been to the ears of Cicero *pingue quiddam sonans atque peregrinum*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address

ON

THE NECESSARY INFLUENCE OF THE MEDICAL PROFESSION IN THE HOME, THE SCHOOL, AND THE STATE.

BEING THE PRESIDENT'S ADDRESS AT THE ANNUAL MEETING OF THE SOUTH MIDLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

BY

CLEMENT DUKES, M.D.LOND., F.R.C.P.LOND.,

CONSULTING PHYSICIAN TO RUGBY SCHOOL, AND SENIOR PHYSICIAN TO THE HOSPITAL OF ST. CROSS, RUGBY.

INTRODUCTION.

GENTLEMEN,—My first and most pleasing duty is to thank you for placing me in the gracious position to offer the members of the South Midland Branch of the British Medical Association a hearty welcome to a spot renowned, as Rugby is, as a famous centre of teaching for three centuries and a half—that is, since 1567.

Our credentials to public recognition are almost equally remarkable in other diverse aspects. From Rugby radiated the influence of the revered Thomas Arnold, permeating and directing the methods and aims of every school; and through the schools the universities; and through the universities public life itself. From Rugby, too, has emanated the most famous and most living book upon school life in any language—*Tom Brown's School Days*.

And from the physical side—so essential as a basis of intellectual and moral soundness—where has a game been devised which equalled Rugby football, with its varied exercise, its cultivation of courage and self-reliance, its resourcefulness, its teaching of self-control, and disciplined obedience and co-operation, and the lesson it enforces as applicable to the entire course of useful effort in the mergence of the individual into the general good?

I need not enlarge upon the historial fact that, during the last half century the school has provided for the Church two Archbishops of Canterbury—Archbishops Tait and Temple—and had a share in the making of a third Archbishop—Archbishop Benson, who commenced life as an assistant master in this great school—and also many bishops.

And finally, but far from least, our great King Edward, the Peacemaker, very shortly before his death, honoured us by opening the fine speech room in which we are now assembled by the courtesy of the head master. You will not be surprised, accordingly, if we in Rugby carry our heads a little high in sympathy with these notable traditions.

Naturally, we are proud that our school has ever striven, and successfully—and never more vigorously than under the rule of the present chief—to train boys to become genuine and sagacious leaders of men, to assume, with fitness, high office in the service of the State, and to perpetuate the work of Arnold by educating masters and boys for governing positions in other schools.

Such an institution must exert a powerful effect over the boys committed to its charge by reason of its noble history, for the whole spirit of the place elevates all who become associated with it, and your humble servant himself pleads guilty to an influence which forty years' service has induced, and which should be translated *l'amour propre*.

HEALTH AT SCHOOL.

Our primary national interest is the physical and mental vigour of our boys and girls; health consequently counts first in every system of education. I accordingly propose to devote the brief time at my disposal—for the active sight of Rugby and its school life is naturally more attractive, and will impress you more, than the possible listening to an address—to the consideration of health at school, and the wide implications which the subject involves. What are we doing to promote it?—remembering that the question concerns the home doctor equally with the doctor of the school.

Health at school! So complex is the content of this expression, that it can only be classed among the terms which Liebing styled "symbolic"—indicative merely, and incapable of complete unfolding, comprising, as it does, the *effects* of the past, the *efforts* of the present, and the *ideals* of the future; and merging all individual meaning in a national, and, indeed, universal sense.

The general expansion of popular opinion, the modifications and fresh directions of view, which have occurred in every department of civil, ecclesiastical, and scientific thought; and the gradual widening of traditional and narrow conceptions into ampler and more adequate forms of truth—all these movements in public modes of estimation and judgement, though often apparently remote from the special region of school administration, have, nevertheless, in consequence of their embracing compass, necessarily and materially affected this particular sphere. Every *generic* change of aspect must obviously comprise *specific* changes; a new *habit* of thought modifies every individual thought. Besides the inclusion of school management and aims within the range of this more intelligent survey, specific influences have been concurrently in operation. A steady development has continued in every branch of education with far-reaching results, not simply upon the true scope and end of education itself, but also upon the appropriate methods demanded for the realization of that end.

Moreover, as might have been anticipated, distinct improvements have been introduced into comparatively extrinsic portions of school organization, and in none more than in that which relates to the physical well-being of the child. It is only during the present generation that the health of the child, on which his intellectual and moral welfare and usefulness essentially depend, has received adequate consideration.

HEREDITY.

But unjust censure is frequently bestowed by parent and pupil upon the schools, where about twelve years of the child's life are spent, and those the years which are the most susceptible to wise or thoughtless physical and moral influences. Mutual recriminations will not remove the difficulties. Their solution is only possible by a due consideration of the child's antecedents, in conjunction with the teaching and the training of the school. For it is constantly forgotten that schools are not all-powerful as agents, since the element of heredity is deeply embedded in the history and prospects of the child.

The material of which the child is made; the die in which his body is cast, and his consequent possibilities; the mental capacities inherent in him, involving the parental constitution; his individual disposition and idiosyncrasy of temperament; and the parental antecedents, varying according to Mendel's law in their children—all these factors compel a parent's thoughtful consideration of the extent to which his and his ancestors' training, tendencies, and acts are responsible for the character and capacity of each youthful life.

Moreover, we none of us have cause to pride ourselves unduly upon any virtues or powers we may possess. We may have helped to make or mar ourselves by our own industry or laziness, by our own steadfastness in goodness or addiction to evil. Even this use or abuse is not exclusively the product of our individual efforts, but largely results from inheritance and environment beyond our personal selection or control. If naturally inferior ability is, by the persistency of its exercise, raised into praiseworthy strength, even that determining power of persistency itself is largely a descended gift. Our frequent expression of boastfulness should rather be lost in a humble confession of thankfulness. For every child is the product of many generations, and the constitution and working of all its cells, fibres, and tissues show the ancestral nature and habits which form their source.

In the law of hereditary transmission as enunciated by Mendel, parents contribute about one-half, grandparents about one-quarter, and great-grandparents one-eighth, and so on, of the qualities and powers, worthy and disastrous, with which each successor is endowed.

These facts were applied very impressively by Priestley Smith in answer to an inquiry as to the probable results of a patient's contemplated marriage. He said: "You yourself are affected with an hereditary disease. If you should have a child, the chances for or against that child

having the affection are exactly even; the same will be true for each subsequent child. Should you have a large family, it is probable that about one-half will be affected. Should you be so unwise as to marry a person affected in the same way as yourself, the probability then will be that, of any children born of this marriage, three out of four will be affected, and there is the further probability that of every three such affected children one will inherit the affection from both parents, and will, in consequence, transmit it to *every* child which he or she may have."

ENVIRONMENT.

The power of heredity is impressive; greater far than that of environment. Inherent qualities largely surpass, in intensity and permanence, those which are acquired. In fact, inborn capacities form the materials which environment fashions and directs. But, although the struggle for existence and the survival of the fittest are mainly based upon heredity, it is equally true that the modifying power of environment is wide and deep in its range and influence, especially when it is exercised during the plastic period of youth; hence the abiding and beneficent results which hygiene has effected in the amelioration and development of the conditions of life at school.

In the problem of school life both aspects must be weighed. For if a youth fail to issue from school as fully equipped in all respects as his parents and friends desire, the school régime and environment tend to be blamed; while, on the other hand, the teacher laments the imperfect material for his fashioning which parents have supplied.

THE CHILDREN TO BE EDUCATED.

The thoughtful work on *The Family and the Nation*, by Mr. and Mrs. Whetham, merits the study of every parent, teacher, and doctor. There they marshal facts, which I shall largely quote, with their interpretations and suggestions, which no one can afford to ignore. I shall have done well if I can only induce you to read and re-read this significant work for yourselves, and, after pondering its contents, instil its lessons practically in the homes of your patients.

The Registrar-General's returns show that, for a population to maintain its numbers unaltered, about four children must be born to each productive marriage. Of these four, on the average of large numbers, two will either die early or have no children; and the other two will be left to continue the race.

In this volume of Whetham's, parents are urged to take into account *how* they breed their children, as well as the environment in which they place them. It is a fact beyond all question that the children of the feeble-minded and the physically weak reproduce themselves faster than the better bred. If one section of a community establish a higher and more rapid rate of reproduction than others, that section, with ever increasing speed, shows a relatively augmented growth, and eventually dominates the whole.

In the past, the stronger, abler stocks had more children and a better chance of rearing them. The weaker, unsound strains were suppressed and their inferior qualities tended to disappear.

Where this natural selection is defeated, disastrous consequences must attend an artificial selection, which favours the reproduction of undesirable elements. And what is happening now? In the generation now growing up large families are rare in the upper classes and among the higher ranks of the skilled artisan; but they continue in the thriftless ranks of unskilled labour and among the feeble-minded. And thus, year by year, it must come to pass that, in ever-increasing numbers, the "ables" must support the "unables"—the idle who will not work, the unskilful who cannot work, and the untrustworthy or criminal. It behoves the statesman to ask, "How quickly have the different strains which make up our people been reproducing themselves relatively to each other?" for on that answer hangs our position in the world.

It is proved that the average number of children per family which now use the public elementary schools is about four, whereas in the degenerate families whose children are passed over to the special schools the average is 7.3, not including in the total number of the family those who are stillborn. So that the nation spends more per head on the education of the failures than on the children of healthy parents. This is an urgent national question which demands the most earnest consideration. There is, too, undoubtedly a very high mortality amongst the offspring of the mentally defective. Yet, even with this additional check, their unrestricted fertility constitutes a serious menace to the race.

This forms a serious condition at any time in the history of a nation, but more so when the decline in the birth-rate among the better educated and more self-respecting classes is so unmistakable as to cause alarm even to statesmen.

In the Registrar-General's report for 1909 it is stated that within the last thirty years there has been a fall in the crude rate of births in Great Britain equal to 27.5 per cent. And, even more startling, in the triennial period 1900 to 1902, the fertility of English wives was lower than that recorded in any other European country except France.

Thus, while the failures grow at an increasing rate, the parents of good stocks are checking their own rate of growth, with the loss of personal responsibility. It is readily seen, therefore, that the struggle for life tends to modify the character of a people; a nation must either be losing or gaining ground. This, too, is a statesman's question.

The inborn qualities of body, mind, and soul depend on heredity, and can be modified alone by the slow process of selective parenthood; and a misguided selection destroys a race more surely than environment.

In the process of natural selection, unhindered by the care of degenerates, a competitive struggle is incessantly persistent, where the opposing strains seek supremacy, through the acquisition of a preponderating rate of reproduction. Thus, unless the fittest to survive transmit their qualities to a larger number of descendants than the number left by the failures, natural selection cannot act. Until recent years success in life's race among men has in general meant an increased number of offspring, and a superior chance for their survival. But now the growing restriction of the birth-rate in the successful classes in all ranks of society has separated the two essential concomitants of progress.

Natural selection, throughout Nature, improves the breed by eliminating the unfit and permitting the more adequately equipped individuals to become preponderantly the parents of the succeeding generation.

If Nature be thwarted in her scheme, deterioration is assured, and the nation in which this violation of process occurs must inevitably succumb to nations whose arrangements are more closely accordant with Nature's modes.

If the reduction in the birth-rate among the entire population were as low as that which prevails among its superior sections, national concern would be assured; but a vastly deeper concern should be manifest when the birth-rate is only maintained by the birth of the most inferior elements in the nation. Our medical profession keeps alive this decadent portion of the nation, and the State facilitates, or fails to avert, its breeding.

As long as the feeble-minded and the habitual criminal are allowed to multiply at will so long will a section of the community remain parasitic on the general organism, and a fertile aid in its gradual degeneration. We must secure either a rightly directed selective birth-rate—since it is evident that the natural fertility of the nation has not diminished—or be prepared for Nature enforcing her own methods in the removal of the unfit. While the children of the successful classes have been halved in number, the children of the unsuccessful have been nearly doubled.

Hitherto the duty of the State to support the falling and fallen has been so unduly and exclusively emphasized that its still more important obligation to the able and competent has become obscured.

SOME CONSIDERATIONS NECESSARY BY THE MEDICAL PROFESSION.

Would-be parents must be taught earnestly to consider, more conscientiously than they have hitherto felt, the qualities which they are transmitting to their descendants, and it is the duty of our profession to aid them in this paramount obligation.

The character of a nation is simply the average character of its individual members. The virtues of civilization should constitute the form of development of increasing numbers of the highest types of mankind. In

the pages of history, in the study of existing tribes and races, the process is manifest in the gradual evolution of the finer physical, intellectual, and moral qualities.

In the process of civilization density of population enters largely, and only becomes a danger when its necessary safeguards are ignored by the unintelligent, the inactive, and the unwilling. In the long, unconscious ages of human development natural selection takes charge of the process.

If natural selection is permitted to cease or to move in the wrong direction, if the worst strains establish a preponderant fertility and the race breeds to its lowest types, though the previous accumulation of knowledge and material wealth may for a time support the nation, degeneration is inevitable and the population ceases to be able to support its numbers.

As soon as the competent become too few and the incompetent too many, the incompetent cease to be able to obtain a living and general poverty ensues. Heredity shows this inevitableness. Civilization entails the obligation to extend support; but it is concurrently necessary to provide that the incompetent, thus protected, shall not reproduce themselves in unlimited numbers of burdensome and useless members. For it means that competent parents have now to consider how they can support not only their own but other people's children as well.

The process of *evolution* being the survival of the fit, the process of *civilization* is the survival of the unfit, by the sedulous care which they receive. This is just; but it is equally just that the State should adopt reasonable means of segregation, so that the unchecked breeding of the unfit may not imperil the character and vigour of the nation as a whole.

PRE-NATAL CONSIDERATION OF THE CHILD.

In the consideration of the child the pre-natal environment is vastly important, as has been markedly emphasized during the last few years by Dr. Ballantyne of Edinburgh, and demands the thoughtful reflection of every member of our profession.

The child has not yet been regarded continuously from the period of conception to manhood; but motherhood must assume its distinctive place and be recognized by women as their greatest honour, their highest duty, and their noblest privilege, involving, like all exalted attributes, special cost to themselves, in endeavouring to secure the finest attainment of health and vigour for their offspring. Maternal duties during infancy, pre-natal and post-natal, demand alert and unceasing attention.

The maternity question is supreme, for the coming generation depends vitally upon the physique of the mother and the antenatal entourage of the child.

If the health of the pregnant woman receive adequate consideration, she will not only produce superior offspring, but be enabled to suckle it, and the artificial feeding of the infant, during the first year of life, would largely and happily disappear, together with its appalling toll of sickness and mortality. For it is during this period of infancy that hereditary tendencies can be thwarted or intensified.

THE CARE OF THE CHILD AT HOME.

The care bestowed at the nursery age is of easier accomplishment, from the fact that by this time the child is fed at the parents' table, has endeared itself to its parents, and has thus engendered closer solicitude for its welfare.

THE SERIOUSNESS OF INFECTIOUS DISEASE TO THE YOUNG CHILD.

Following the period of appropriate nourishment the era of infectious disease then supervenes. And here the hope of successful prevention is immeasurably strengthened when we consider how an intelligent knowledge of the natural history of infectious diseases has succeeded in diminishing the general mortality from this cause by reason of the prevention of such diseases during the early years of childhood, when their fatality attains a maximum, and their postponement until a later period of childhood or youth, when the resistiveness of the constitution has become more fully established.

THE PRINCIPLES OF HYGIENE SHOULD BE TAUGHT IN SCHOOLS.

The question then arises of the environment which schools and school life present as formative factors in propitious or retarded development.

The problem for solution by the genuine educator is the mode and method of educing the finest type of character and ability which a rational and sympathetic system of education can effect—in rougher terms, the adapted application, *mutatis mutandis*, to the youthful human being of those scientific methods which have been so efficiently adopted in the rearing of domestic animals.

In place of this rational course, the practice is still too prevalent of endeavouring to pass all pupils through a uniform mechanical process, in disregard of differences of individual nature and capacity, with the result that the capabilities of many pupils remain dormant, stagnant, or deteriorate, while others are forced beyond the compass of their powers.

The aim of paramount necessity in the efficient rearing of the young for their life work is the sagacious application of the principles of hygiene to school life. This can only be accomplished when the teacher is as adequately and specially equipped for his service as the soldier, the sailor, the lawyer, and the doctor.

In the primary schools of Great Britain the teacher, before entering upon his duties, is now taught the science of teaching, and is imbued with the elements of hygiene, which he is thus fitted to expound to his pupils.

But in the secondary schools this wise plan is conspicuous by its absence. Some acquaintance with physiology in its relation to the structure and functions of the brain to be controlled and guided, as well as the elements of hygiene for the attainment of the soundest forms of health, would prove of equal moment to the educator in the exercise of his profession in secondary schools. Were the rudiments of physiology and the elements of hygiene required as a necessary condition of the appointment of teachers in all schools and of all grades, a gradual and permanent revolution in the mental and physical treatment of the young from the sanatory side of education would be achieved.

PHYSICAL EDUCATION.

The aim and end of the education question is the efficient equipment of the teachers themselves in the science and art of teaching in its mental, moral, and physical aspects, and the methods of persuasive and rational administration. The mental and moral side of education has been in force for centuries; it is only of recent years that the physical side has received serious consideration. And, in taking a survey of my professional career, I may be permitted, without affectation or personal eulogy, to record that one of my most cherished memories is the fact that I have been enabled, through unremitting and protracted efforts, to enforce successfully the practical recognition of this enduring aspect.

But if we are to attain the complete advantage of the physical side of education, it is imperative that the methods pursued shall be purified of all possibly attendant errors—in excess or defect. The intervention of the medical officer is accordingly necessary to ascertain the physical fitness of each child, with concurrent power of control, so that exercise may be exactly adjusted to age and physique. Hence the necessity of the medical examination of the pupils in all schools of whatever grade at their entrance upon school life. The purpose of this preliminary test is the provision that, in the process of physical education, which occurs at the most vulnerable period of life, the sound child may leave school uninjured, or rather the more developed, by the physical system which exists; while the delicate child shall be invigorated, and its physical defects relieved, or altogether removed.

Since action forms the essence of life, the teacher's work pertains to the natural and graduated unfolding and directing of the child's activities.

Although the subject of physical education is pre-eminent as part of Nature's own teaching, its definite and thoughtful treatment has too long been deferred, and the blame must be shared between parents and teachers. Nor can the medical profession itself be acquitted.

The question, then, confronts us of the most suitable mode of devising a systematic education of this character which shall intelligently and fitly secure the objects we have in view. One clear indication is the avoidance of faulty postures by bestowing attention upon the amount and situation of the light in class-rooms; by providing suitable seats and desks, which do not compel the body to assume constrained and unnatural attitudes; by frequent breaks

in work, and the consequent relief of the muscles from prolonged and fixed positions (I once heard a child say "he ached with sitting"); by a more intelligent and common-sense attention to the kind of print of books; and by the avoidance of the practice of carrying books under the arms while the hands are in the trousers pockets—a custom which finds its result in a race of hunchbacks.

Some of these suggestions may seem to possess the appearance of commonplace; but a little reflection will show how essentially little things are involved in the production of great events, and how pertinently and minutely the entire work of the world, and particularly the work of the microcosm of the school, depends for its efficiency upon the application not of high-sounding principles, but of ordinary common sense.

The next requisite is closer attention to the organization of games. Games, which mean recreation, should be the main element in physical education for the prevention of acquired deformities. Physical drill is excellent for *remedying* defects already produced.

Those who desire to know in full detail the meaning of the organization of school games, should read the life of the great schoolmaster, Almond of Loretto, a man whom, although I never saw him, I knew intimately from our correspondence, and whom I loved for his transparently faithful concern in the well-being of every boy committed to his charge. Those who knew him well will confirm my judgement that, notwithstanding his numerous peculiarities, he formed men!

The Medical Inspection of Schools and Scholars.

The medical examination of boys and girls on their entrance upon school life is one that now concerns a large proportion of members of the profession. A quiet revolution is proceeding in this country in the physical care of its youth, as we observe in the systematic medical inspection and the physical training of the children educated by the State. And it is clear that the youth of both sexes in the secondary schools cannot be omitted from this purview. In 1897 the governing body of this great school acceded to my request by establishing the principle of a physical examination of every boy on admission to the school—a decision which has borne valuable results, and in which our honoured school was the laudable pioneer.

This physical examination should be preceded at an earlier age by the home examination of children by the family medical adviser, and thus an accumulation of benefit and foresight for the child be produced.

Physical examination for school purposes is merely relevant to the pupil's fitness for the endurance of school training during the ensuing five to ten years. It reveals his vigour and defects, his vulnerability to disease, his capacity for work and play, and thus avoids various pitfalls which interfere with their attainment.

In considering the welfare of youth, the physical conditions which are necessary for mental effort, and the modes of securing or thwarting those conditions, have not hitherto received sufficient recognition. And the medical and hygienic inquiry insisted on for all children in all classes of schools, it need scarcely be added, is related, not merely to the promotion of a sound intellectual state, the easier acquisition of knowledge, the clearer perception of its application, and the gradual appreciation of method, in place of mechanical and unvaried rules, but also bears a definite relation to the moral development of character. So that the medical examination is a valuable asset in the hands of the educator, which should be utilized from the beginning of school life.

At the physical examination the medical examiner should be in possession of the medical history of the previous health of the child, together with all the important items of the family history. For, although the child may be sound, yet he may be vulnerable in some special way from family predisposition or previous illness, and require protective measures. A fact ascertained at the examination is the deplorable deficiency in weight, as proportioned to age and height, which occurs in many children sent to school and of which parents, as a rule, seem to be completely ignorant. Thus, the necessity of parents consulting the home doctor periodically is evident. Some of these children are unfit for systematic education, and should lie fallow for a year, until the natural balance between age, height, and weight has become re-established, to their infinite gain.

Even in the most vigorous youths, if too continuous or too strenuous a demand be made upon their vital powers, their capacity for resistance becomes enfeebled. The scale and measure are the surest instruments of the educator, for they indicate, as nothing else can, the state of health and vigour throughout the school career. In cases where great discrepancy exists between the height and weight, and where the chest measurement is deficient, the examiner must not only examine minutely and ponder thoughtfully, but re-examine periodically. For failure in height, weight, or chest measurement is the surest sign that the child is not thriving, or that incipient disease is imminent.

There is one method, and one method only, that would remove many of the unreasonable disabilities in school life—I mean the possession by the educator, as I have urged, of a reasonable knowledge of the elements of physiology and hygiene. But, if the teaching of hygiene in schools is to prove serviceable, it must be carried into practice in the daily life at school.

For what is the physiological sense of teaching the necessity of fresh air in the maintenance of health and in the prevention of disease when the child is compelled to spend many hours a day in the unsavoury atmosphere of an ill-ventilated, overcrowded schoolroom, or in the still more enfeebling air of a cubicle or dormitory?

What is the hygienic use of teaching a class the virtues of personal cleanliness, when its practical non-observance is too frequently visible?

What is the purpose, except derision, of expounding in class the significance of proportional brain work and brain rest in the physiological construction of the brain, when the hours of school work are too prolonged and the hours of sleep too curtailed for the younger members of the school?

What is the physiological wisdom of instilling the need of daily exercise and recreation in the formation of character, in the development of the body and the proper performance of its functions, when work is so arranged that no time is allotted for this purpose, or is taken away for the "writing of lines"; or where the games are so ill-organized that it is no one's business to see that every boy has an opportunity of playing?

What is the rationality of teaching neatness, thoroughness in work, and punctuality, when the actual practice of these virtues is not enforced?

What an incongruous and disastrous vision is presented, if we glance at the system of school discipline as regards punishments! Could that absurdest of all punishments, "writing lines," exist for a single hour if any physiological instinct existed in the educator?

What a lack of "copy" there would be for the press in "the silly season" if the school diet question were settled by masters and mistresses possessing and exercising the requisite skilled knowledge of the physiological needs of the body, and scrupulous fairness in its execution? They would then also see that food preceded work, arrange for short intervals between meals, and insist upon adequate time for eating.

What would be the sagacity of inculcating the physiological import of purity of life, when boys are given meat, cheese, and beer for supper, just before bedtime?

When I visited the magnificent primary schools in Germany some time since, I noticed in a corner of each of these fine class-rooms a spittoon containing sawdust. In answer to my inquiry respecting their use, I was informed they were provided for the expectorations of the teachers! What an example for children!

I have no hesitation in saying that, if teaching the young be the profession of schoolmasters and schoolmistresses, they should fit themselves for this vocation, and wipe out the ignorance which, in many instances, they display in education and in the general care of and sympathy with children. And, further, those who undertake the boarding of boys and girls should be educated and interested in domestic science, and in hygiene, sanitation, and questions of health generally.

It therefore behoves every one who has regard for the nation's welfare to take heed to the researches of our profession into the immutable laws of life and of health, for *Magna est veritas et praevalebit.*

THE MECHANICAL CONTROL OF PNEUMOTHORAX DURING OPERATIONS ON THE CHEST,

*WITH A DESCRIPTION OF A NEW APPARATUS.**

BY

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THE unexampled increase in the possibilities of surgical treatment which followed upon an understanding of the causes of wound infection has been of universal applicability to all regions of the body, with one notorious exception—the thorax. The surgery of the nervous system, the bones, the joints, has grown more and more elaborate and enterprising and been able to set before itself higher and higher standards of efficiency, while the surgery of the thorax has until quite recently remained almost as primitive and timid as it had been before Pasteur and Lister. The reason is obvious enough. The principles of asepsis gave to the abdominal surgeon freedom of access to the diseased parts and allowed him to elaborate his measures against the actual disease, secure in the knowledge that the primary intervention was in itself practically free from risk. The possibility of carrying out a safe exploratory laparotomy once established, the development of abdominal surgery was assured. To the surgeon of the thorax, however, no such freedom of access was given. The execution of a safe and thorough exploratory thoracotomy was barred by an unsolved physiological problem of quite another sort.

A free opening of the abdomen in itself produces no disturbance in the functioning of the contained organs, whereas a free opening of the chest under ordinary conditions produces, by causing a complete collapse of the lung, an immediate and dangerous interference with the vital mechanisms which depend directly upon the integrity of the pleural cavities. Until the disturbance consequent upon a pnemothorax could be prevented, it was impossible for the surgery of the thorax fully to share in the general progress of the art.

As a preliminary to the consideration of this problem, an understanding of the elementary facts of the mechanism of respiration is essential. The respiratory movements are not concerned merely with the single function of the aëration of the lungs, but contribute a factor essential to the normal maintenance of the pulmonary circulation and of considerable importance to that of the systemic. There are certain pronounced differences in the mechanics of the pulmonary and systemic circulations. The latter consists essentially of a pump driving blood under high pressure into an elastic reservoir, the arteries; and the current of blood is mainly influenced by variations in the elasticity of the latter affected through the vasomotor apparatus. The pulmonary circulation, on the other hand, consists of a pump driving blood under comparatively low pressure into a reservoir, the lungs, which is constantly varying in size with respiratory movements. This variation, moreover, in its effects on the circulation is an active one, drawing blood into the lungs during inspiration and expelling it during expiration. Thus the pulmonary circulation may be regarded as made up of two parts, each of which is in active pulsation, the ventricle impelling the blood onward with the rapid pulsations of the cardiac rhythm, while the lungs contribute the slower but more voluminous impulses of the respiratory cycle. It should be clear from the foregoing that interference with the pulmonary circulation will be produced by collapse of one lung,† and that although this lung might have its aërating capacity restored by mechanical inflation, the embarrassment of the pulmonary circulation would still remain unless the normal respiratory movements of the lung were re-established.

In this connexion it is appropriate to refer to the most obvious of the expedients that have been devised to maintain the function of the lungs after the chest has been opened. As long ago as the middle of the sixteenth century Vesalius[1] recognized the possibility of aërating the blood after the chest had been opened, by passing a continuous current of air through the lungs, whilst in 1667 Hook read before the Royal Society a paper entitled, "An Account of an Experiment made by Mr. Hook of Preserving Animals Alive by Blowing through their Lungs with Bellows,"‡ of which the following is an abstract:

I did heretofore give this Illustrious Society an account of an Experiment I formerly tryed of keeping a Dog alive after his *Thorax* was all display'd by the cutting away of the *Ribs & Diaphragme; &* after the *Pericardium* of the Heart also was taken off. But divers persons seeming to doubt of the certainty of the Experiment (by reason that some Tryals of this matter made by some other hands, failed of success) I caus'd at the last Meeting the same Experiment to be shewn in the presence of this *Noble Company, &* that with the same success, as it had been made by me at first; the Dog being kept alive by the Reciprocal blowing up of his Lungs with *Bellowes, &* they suffered to subside, for the space of an hour or more, after his *Thorax* had been so display'd, *&* his *Aspera Arteria* cut off just below the *Epigolotis, &* bound in upon the nose of the Bellowes.

And because some Eminent Physicians had affirm'd, that the *Motion of the Lungs* was necessary to Life upon the account of promoting the Circulation of the Blood, *&* that it was conceiv'd, the Animal would immediately be suffocated as soon as the Lungs should cease to be moved, I did (the better to fortifie my own *Hyphothesis* of this matter, *&* to be the better able to Judge of several others) make the following additional experiment; . . . [Hook fixed another bellows unto the first so as to be able to keep up a constant blast of air.] This being continued for a pretty while, the dog, as I expected, lay still, his eyes being all the time very quick, *&* his heart beating very regularly. But upon ceasing this blast, *&* suffering the Lungs to fall *&* lye still, the Dog would immediately fall into Dying convulsive fits; but be as soon revi'd again by the renewing the fulness of his Lungs with the constant blast of fresh Air. . . . [At the end of the operation Hook cuts off a piece of the lung and finding that the blood is still circulating in it says:] Which seem to be Arguments, that as the *bare* Motion of the lungs *without fresh Air* contributes nothing to the life of the animal, he being found to survive as well when they were not mov'd, as when they were; so it was not the subsiding or movelesness of the Lungs that was the immediate cause of Death, or the stopping the circulation of the Blood through the Lungs, but the *want* of a sufficient *supply of fresh Air.*

I shall shortly furthur try, whether the suffering the Blood to circulate through a vessel, so as it may be openly exposed to the fresh Air, will not suffice for the Life of an Animal; *&* make some other Experiments, which, I hope, will thoroughly discover the *Genuine use of Respiration; &* afterwards consider of what benefit this may be to Mankind.

Mechanical respiration, as is of course well known, has been used for a long time, and extensively in experimenting on animals for the inflation of the lungs when it is required to open the chest. It has proved of great value by lowering the high mortality that must necessarily result if the operations are carried out with the lungs collapsed and an uncompensated pneumothorax present. That the method is in itself the cause of a small percentage of the deaths that result from the experiments, is not a sufficiently great objection to outweigh its advantages. But in human beings such a danger must necessarily be an absolute contraindication.§

By means of mechanical respiration the lungs are rhythmically inflated by a current of air blown into the trachea and respiratory undulations in the arterial pressure are still produced. But the effect of the inpumping of the air in mechanical respiration (the substitute for inspiration) is exactly the reverse of that of a normal inspiration. In the latter, after the initial fall of blood pressure, there is a steady rise during the rest of inspiration, and continued into the beginning of expiration, and this is succeeded by a fall which continues until the next inspiration has begun. When the lungs are inflated mechanically, the intrathoracic pressure is increased instead of decreased, and the arterial pressure, after the initial rise, falls. Thus mechanical respiration reverses the normal influence of the respiratory movements on the pulmonary circulation. Such a reversal of the normal process is at least undesirable, seeing how delicate the respiratory mechanism is known to be in many during anaesthesia. Mechanical respiration produces a condition of apnoea, and it is conceivable that the additional effect of the toxic influence of chloroform might prevent the centres from resuming their normal activities.

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* From the Research Laboratories, University College Hospital Medical School.

† We are here considering collapse of the lungs as such without reference to dislocation of the mediastinum or other possible factors.

‡ Read before the Royal Society, October 24th, 1667. Published in the *Philosophical Transactions*, 1667, page 539.

§ Tuffier and Hallion speaking, however, of mechanical respiration, say: "The success of this method on animals justifies its use in man."

Further, interstitial emphysema is a not infrequent sequela of mechanical respiration.

The grave symptoms which follow when a large opening is made in the chest wall are not, however, entirely due to the loss of the physiological function of the lung: they are in part the result of the pathological complication of an open pneumothorax.

Garré[2] has shown that an opening in the chest wall produces no serious consequence in itself so long as the size of that opening is less than the size of the glottis. Air enters the pleural cavity with each inspiration and the lung collapses gradually, but this collapse is neither complete nor maintained. The lung by virtue of its elasticity is greatly reduced in size, yet with each inspiration and expiration there is some slight alteration in volume, and during forced expiratory efforts — for example, coughing— some of the air from the sound lung is forced over into and expands the collapsed lung. The amount of movement in the lung, though not great, assists in the maintenance of the pulmonary circulation and in the aëration of the blood passing through the collapsed lung, and further, the size of the thoracic opening is not sufficient to allow the mediastinum to flap to and fro. But when a large opening is made through the chest wall the lung at once collapses and the alarming symptoms of an uncompensated pneumothorax at once appear and progress to a fatal termination. Garré attributes the symptoms of an uncompensated pneumothorax—cyanosis, dyspnoea, and rapid irregular beating of the heart— to the flapping to and fro of the mediastinum and its contents, the heart, and large vessels, etc., with each inspiration and expiration. This to-and-fro flapping occurs as the result of the negative pressure between the pleural surfaces of the unaffected lung and the atmospheric pressure on the mediastinum, which is not a rigid body. During inspiration, therefore, since the pressure in the sound lung is less than atmospheric, the mediastinum is pushed across to that side, but during expiration the intrapulmonary pressure is greater than atmospheric, and so the mediastinum is pushed back towards the affected side.

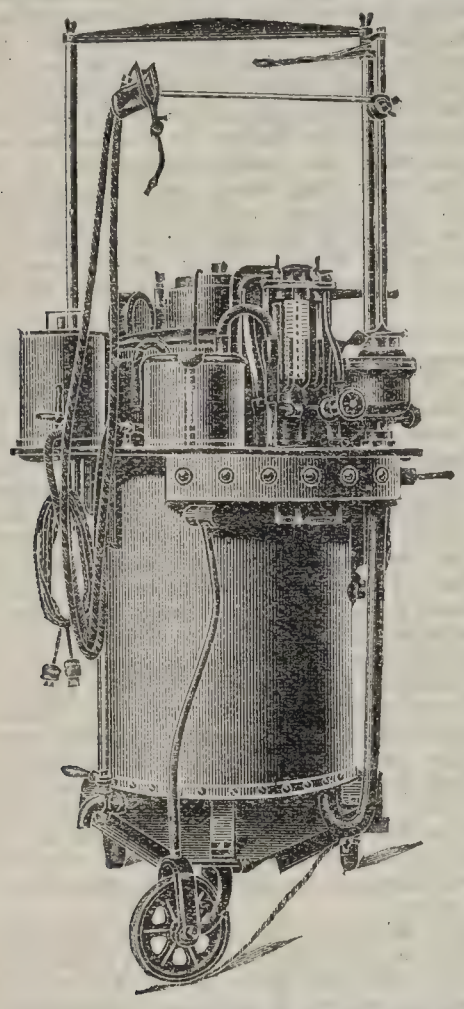

Fig. 1.—Front view of author's hyperatmospheric apparatus. Air chamber empty.

Sauerbruch,[3] on the other hand, considers that this is not the most important cause of the cyanosis and dyspnoea of an uncompensated pneumothorax, and attributes these phenomena to the alterations in the pulmonary circulation produced by collapse and loss of movement of the lung.

The pulmonary circulation differs very considerably from the systemic, and is dependent on: (1) The force of the right heart. (2) The difference of the pressure in the pulmonary veins and arteries; this increases with the increase in negative pressure during inspiration and decreases during expiration. (3) The diameter of the vessels. (4) The pressure in the lung.

During expiration the difference in pressure between artery and vein is lessened, and associated with the increase of pressure in the lung the diameter of the vessels is diminished. But if the lung is collapsed as the result of an uncompensated pneumothorax there is loss of the most important influences controlling the pulmonary circulation on that side, and the forces which now act on the vessels are directly antagonistic to the proper aëration of the blood. Thus the absence of the intrathoracic variation of pressure on the affected side prevents the constant alteration in the difference in pressure in the pulmonary veins and arteries, and in the alveoli and alveolar vessels, while the alveolar vessels dilate, as they are no longer compressed by the difference between the intrabronchial and pleural pressure, and are easily distensible by virtue of their elasticity. These changes result in a considerable increase in the capacity in the blood vessels of the collapsed lung, the presence of which increase has been also demonstrated by injections and by the estimation of oxygen in cases of unilateral lung collapse due to an open pneumothorax.

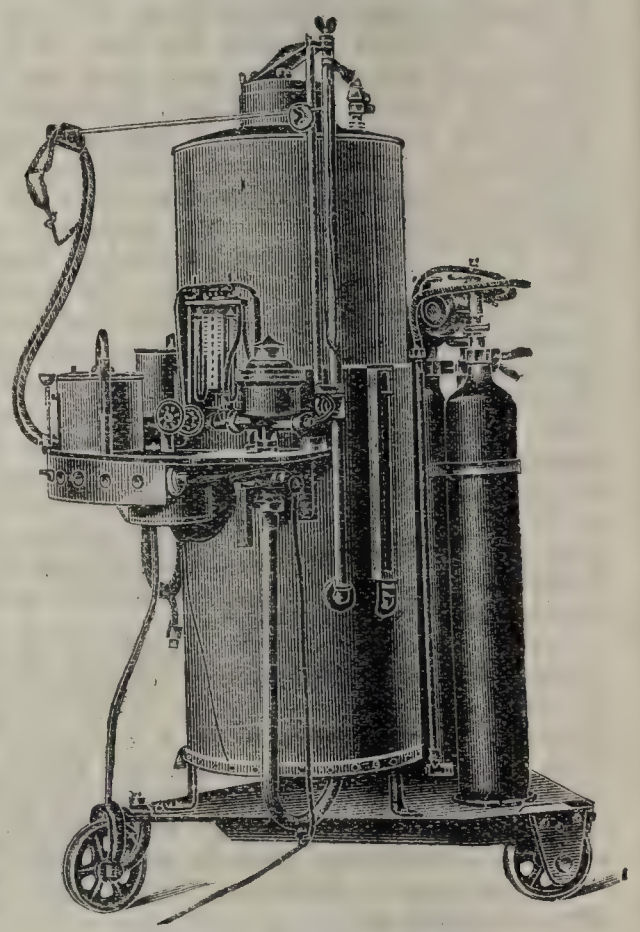

Fig. 2.—Side view of author's hyperatmospheric apparatus. Air chamber full.

It is to this hyperaemia of the collapsed lung that Sauerbruch attributes the dyspnoea of an uncompensated pneumothorax. The lung on the unaffected side is still able efficiently to aërate all the blood that passes through it, but as the result of the collapse of the other lung, and the associated increase of the size of the vessels, more than half the blood in the pulmonary system circulates through that lung and returns to the heart unoxygenated; there is a rapid increase of the carbonic oxide in the blood which, stimulating the respiratory centres, produces the dyspnoea.

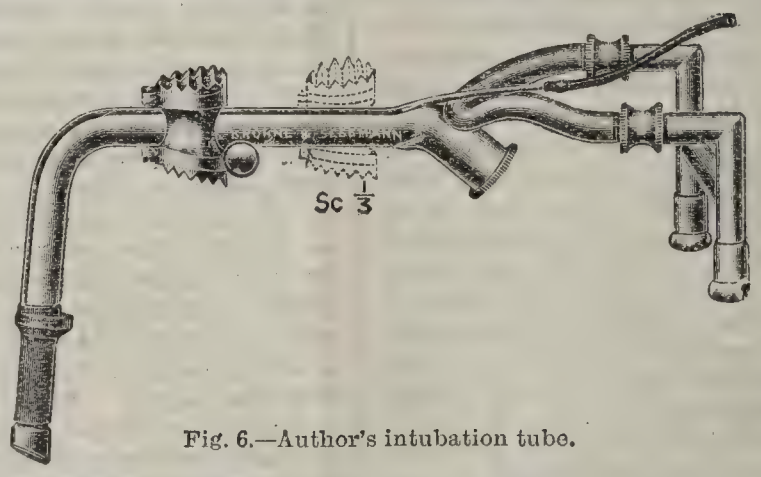

Fig. 6.—Author's intubation tube.

It is to the genius of Mikulicz that we owe the first systematic attack on the physiological difficulty which beset the surgery of the thorax. At his suggestion Sauerbruch began in 1903 a series of experimental researches which have amplified our knowledge of the physiological problems concerned, and have given us a practical solution of them which has already enlarged the possibilities of surgery. The apparatus he set himself to design must, if it was to satisfy the requirements of the problem, provide not only for the prevention of collapse of the lung, but also for the continuance of active respiration and for the prevention of any serious displacement of the mediastinum upon one pleural cavity being freely opened. These conditions are satisfiable only if there is maintained a difference between the pressure of the air entering the trachea and the pressure on the surface of the lung, the latter being always negative in relation to the former.

Such difference need never be great—approximately that of the elastic recoil of the lung, 7½ to 9 mm. Hg—and it must be capable of being continuously and steadily maintained throughout the period during which the chest is open. It is obvious that these requirements can be fulfilled in two ways: First, the patient may be caused to breathe air of a tension greater than that of the atmosphere, so that when the chest is opened and the lung exposed to atmospheric pressure, this is less than that of the air the patient is breathing by an amount greater than the elastic recoil of the lung; and, secondly, while the patient is breathing air at atmospheric pressure, his body is exposed to air of pressure less than atmospheric, so that when the chest is opened there is no increase of pressure on the lung but the normal respiratory difference is maintained. It must be clearly understood that in the first-mentioned method (hyperatmospheric or *ueberdruck*) the increased pressure of the respired air is slight and is constant, there being no intention of inflating the lungs as in mechanical respiration, but rather the reverse of this,

A very brief description of the working principles of the Sauerbruch chamber and the Brauer machine must be given.

The hypoatmospheric chamber of Sauerbruch is an airtight room with an air lock for entrance and exit. The ventilation is regulated by a pump, but the air in the chamber is always maintained at a negative pressure equal to 7 to 9 mm. Hg below atmospheric. The operator and his assistants work in the chamber. The operating table is fixed against one wall, and opposite the head end there is an opening in the wall partially closed by a rubber sleeve. When the patient is placed on the table his head is passed out through the sleeve, which is then adjusted round the neck so as to be airtight. Thus the body of the patient is inside and is exposed to a negative pressure, while the head is outside in the normal atmosphere; the anaesthetist is also outside, and communication between those outside and those inside can be carried on by telephone. The legs and lower part of the patient's body are further enclosed in a rubber sack which communicates with the outer air, so as to exclude the greater part of the systemic circulation from the influence of the diminished atmospheric pressure. When the thorax is opened under such conditions the movements of inspiration and expiration continue, and the lung on the ex-

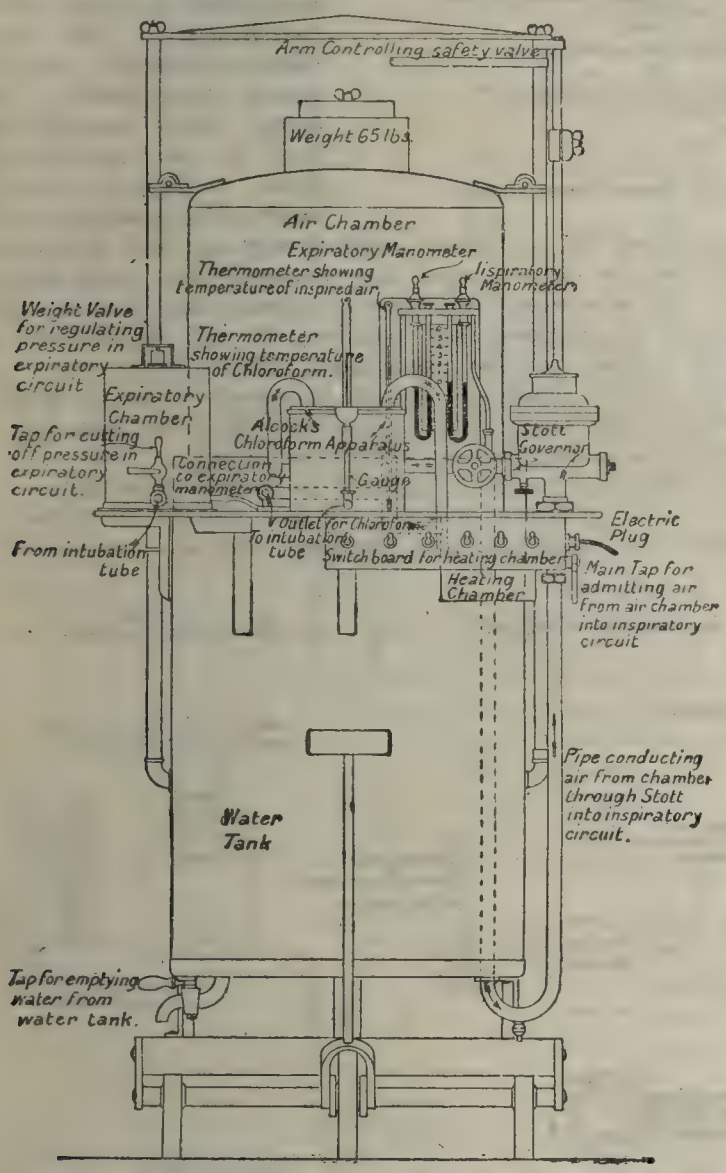

Fig. 3.—Scale drawing of front view of author's apparatus.

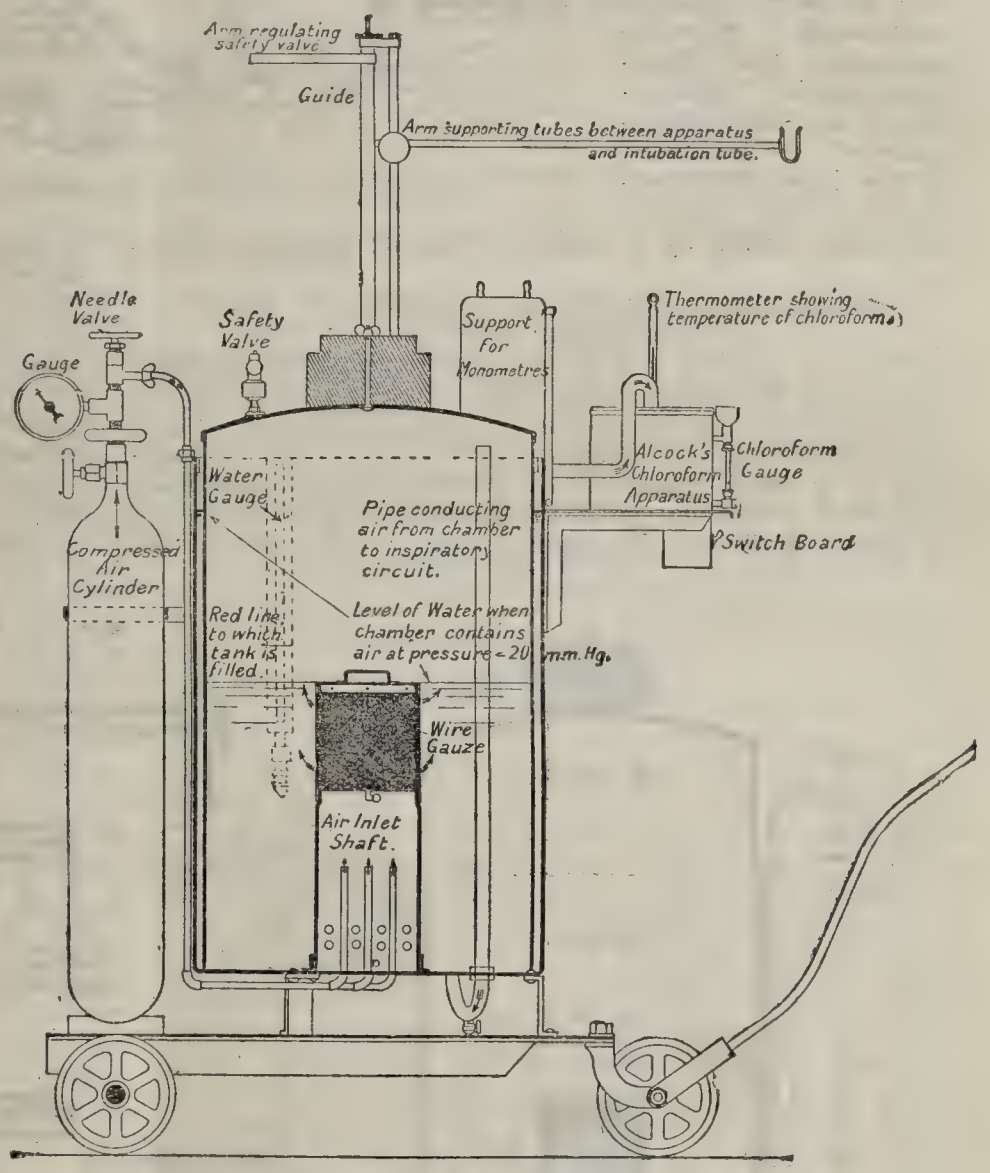

Fig. 4.—Scale drawing of sagittal section of author's apparatus.

the object being simply to maintain the normal respiratory difference, so that normal active respiration may continue undisturbed. Sauerbruch experimented with both of these systems, and in 1904 completed a hypoatmospheric as well as a hyperatmospheric apparatus, with both of which he was able to carry out much successful experimental work. The former apparatus (*unterdruck Kammer*) is designed so that while the patient breathes air at atmospheric pressure, his chest, and after thoracotomy the surface of his lung, is exposed to a pressure less than that of the air. The latter apparatus (*ueberdruck Apparat*) allows of the patient breathing air greater than that of atmospheric pressure, while his body is exposed to normal atmospheric pressure.

While, however, Sauerbruch soon gave up his hyperatmospheric apparatus from preference of his hypoatmospheric chamber, Brauer[4] also in 1904, and working independently of Sauerbruch, produced his model of a machine working on the hyperatmospheric system. This *ueberdruck Apparat* of Brauer was thus the first based on this system to come into general use.

posed side remains in apposition to the chest wall. None of the phenomena of an uncompensated pneumothorax appear.

The Brauer hyperatmospheric apparatus works on the reverse principle—that is to say, that instead of a negative pressure of about 8 mm. Hg formed outside the exposed lung the lungs are kept charged with a positive pressure of the same amount. The apparatus consists of a motor (or pump worked by hand)which forces air into a large bellows-like chamber expanding against springs; from this the air, at a pressure above that of the atmosphere, passes into a casket in which the head of the patient is enclosed. The casket has a glass top and two side openings fitted with rubber sleeves into which the anaesthetist inserts his hands and arms for the manipulation of the anaesthetic. The anaesthetic enters by a separate tube from a Roth-Dräger apparatus, and the pressure in the Roth-Dräger system and in the casket are equalized by a special device. The expired air passes out through a tube fitted with a lever valve. This valve controls the pressure in the casket by permitting of escape of air when it exceeds the required pressure.

Since the introduction of these two types of differential pressure mechanisms there have been other various forms invented about which a few words must be said before a comparison of their merits can be made. The apparatus devised by Karewski[5] resembles closely the Brauer *ueber-*

druck and needs, therefore, no further mention. Willy Meyer[6] has had constructed a big chamber whereby he can operate either with a positive or negative pressure. Two other types of hyperatmospheric apparatus, the Tiegel-Henle[7] and the Lötsch,[8] must be noticed because both have been brought forward with a view to putting on the market a simple, cheap, and portable mechanism * for the prevention of uncompensated pneumothorax in intrathoracic surgery. The former of these introduces the air by means of a tightly-fitting mask, the latter by mask or intubation tube. In both the expired air passes out through a column of water, and the pressure is regulated by the height of this column. There are thus two distinct types of differential pressure apparatus the hypoatmospheric (*unterdruck*) and hyperatmospheric (*ueberdruck*). In the latter the compressed air reaches the lungs either by a casket, mask, or intubation tube.

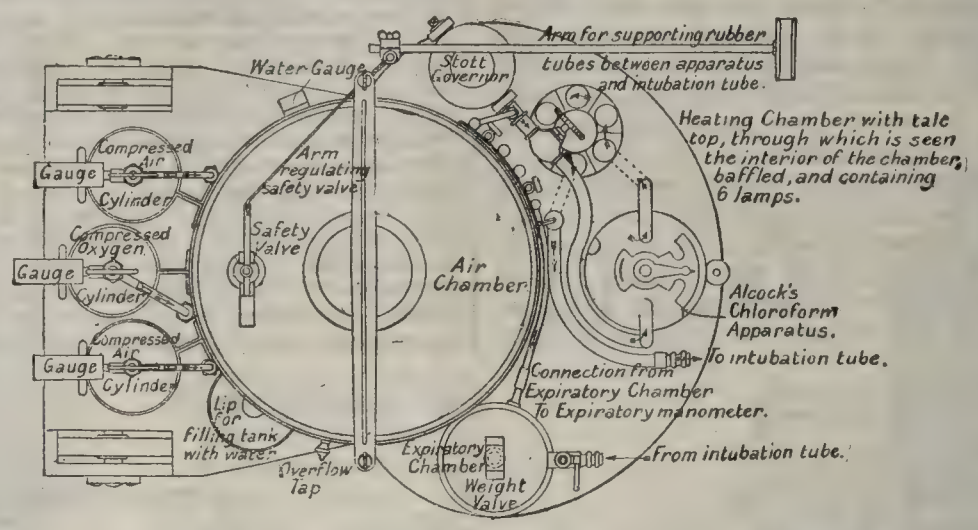

Fig. 5.—Scale drawing of author's apparatus, viewed from above.

COMPARISON OF THE HYPOATMOSPHERIC AND HYPERATMOSPHERIC SYSTEMS.

There is no doubt that the hypoatmospheric chamber reproduces the physiological state, when the chest wall is opened, more nearly than the hyperatmospheric apparatus, and Sauerbruch and Robinson[9] and Haecker have demonstrated in their experimental pneumectomies on animals that there is less danger of the animal dying from effusion of serous fluid into the pleural cavity on the side of the operation when the experiment has been done in a hypoatmospheric chamber than when the hyperatmospheric system has been used. But on the other hand it has been shown from a series of experiments with the two types of apparatus[10] that there is no material difference in the effect on the blood pressure or on the respirations during the operation. The great disadvantage of the hypoatmospheric apparatus is its size.

COMPARISON OF THE CASKET, THE MASK, AND THE INTUBATION TUBE.

It may at once be said that the mask is highly unsatisfactory, even when that form is used which has a vomit bag connected with it. It is difficult to make a mask to fit so well as to be airtight. It is most uncertain that all the vomit, should vomiting occur during the anaesthesia, will go into the special bag attached to the mask, and if some of the vomit is inhaled, or if the tongue falls back, it is quite impossible to remedy these serious complications without removing the mask, and with it the increased pressure, whereas a constant maintenance of pressure is obviously essential.

The casket and the intubation tube are both satisfactory. In the casket, however, which must necessarily be large, the anaesthetic has to be introduced from a separate apparatus; the patient's neck is surrounded by a rubber band firmly applied to ensure against escape of air, and the anaesthetist must carry out all the necessary manœuvres inside the casket with his hand surrounded by rubber; if he withdraws a hand to attend to the apparatus, the rubber sleeve is at once turned inside out by the pressure of the air in the casket, and has to be reinvaginated before he can again attend to the patient's head with that hand.

The objections raised against the intubation tube are that it may produce oedema of the glottis, is difficult to insert and restricts the air-way; unless considerable irritation of the larynx is produced by careless intubation, there need be no fear of this complication, as has been shown by the extensive use of intubation by O'Dwyer and Kuhn, and the possibility of the use of the large instruments required for bronchoscopy and intrabronchial operations. With the finger on the glottis as a guide, the tube is easily inserted, and the constant stream of air amply compensates for the slight restriction of the air-way. The advantages of the intubation tube are considerable; the head is freed of all cumbersome enclosures with guarded apertures through which all the attention necessary for the administration of the anaesthetic, the holding

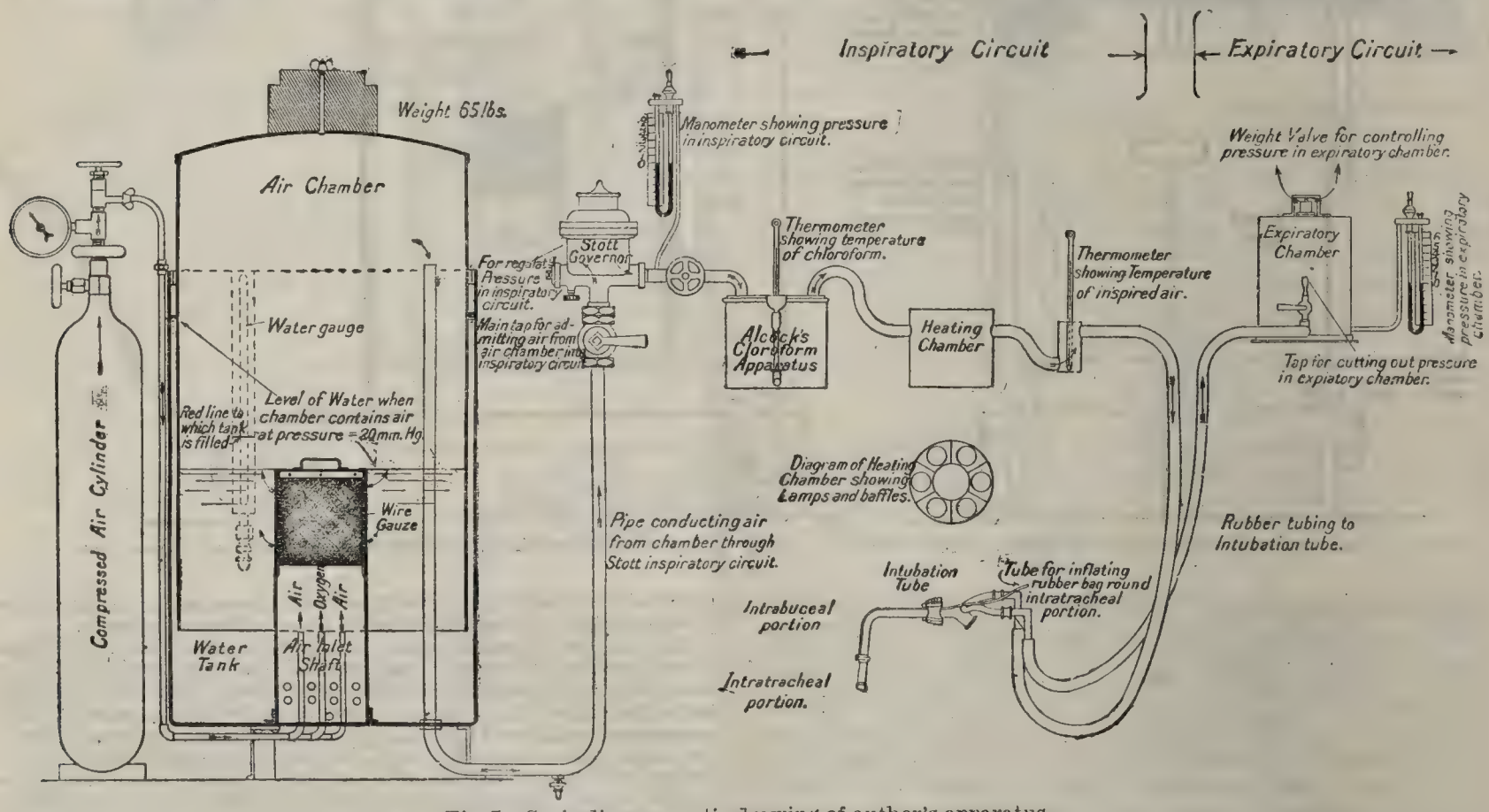

Fig. 7.—Scale diagrammatic drawing of author's apparatus.

* The Brauer with motor costs ... about £90
The Tiegel-Henle with 1 cylinder costs about £21
" " with 2 cylinders costs ... £26
The Lötsch costs ... ... about £18

up of the jaw, keeping forward of the tongue, removal of saliva and vomit from the mouth and pharynx, must be done; there is no danger of vomit entering the trachea, and once the tube is in position only one hand is required to keep it there. There is no constriction of the neck, which must tend to produce venous congestion of the brain and stormy respiration.

Before describing my own hyperatmospheric apparatus mention must be made of Meltzer's insufflation method.[11]

Meltzer uses a long tube of about two-thirds the diameter of the trachea, which is passed down through the larynx to just above the bifurcation of the trachea. Air is pumped through this by bellows, and the returning air escapes between the tube and trachea. The method is said by those who have used it to answer its purpose, but Meltzer himself admits ignorance of the pressure of the air in the tube, and that, owing to the cyanosis and change in pulse-rate which develops, the lungs have to be allowed to collapse, and be then re-expanded once every few minutes. The method, then, would seem to be rather like mechanical respiration done with an irregular pump and a leaky apparatus.

My reasons for designing a new type of hyperatmospheric apparatus are as follows. The recognition of the necessity of being able to do intrathoracic operations without the constant anxiety of the risks of an uncompensated pneumothorax made me investigate the existing machines very fully. The *unterdruck* chamber of Sauerbruch needed so much space as to make it impracticable. Of the existing hyperatmospheric machines there were three different types to choose from—the Brauer; Tiegel-Henle; or Lötsch. Neither of these latter two suited my requirements, as in both of them, in my opinion, too great sacrifices have been made in order to secure cheapness and portability, and neither of them can be relied on for giving accurate working and a constant pressure throughout a long operation; in neither of them, therefore, can the maximum degree of security be said to be obtained. This does not imply that they cannot be used with considerable success, but it does suggest that by the inaccuracy and inconstancy of the pressure there is danger of increasing the shock of the operation. That the patient has often sufficient reserve to enable him to overcome remediable deficiencies of the instrument in no way justifies his being loaded with them in addition to the unavoidable necessities of the operation. In a department of surgery such as this, where so much as to the conditions of successful treatment is as yet unknown, it seems to me most important that the highest standard of accuracy should be insisted upon with mere mechanical apparatus, and that no elaboration should be grudged which gives any possibility of increased safety.

Compared with these the Brauer machine is vastly superior; but there are certain objections to it. I have already suggested that the employment of a casket for the conveyance of the air at a positive pressure is not altogether satisfactory. The whole Brauer apparatus consists not of one but of two pieces of machinery, the Roth-Dräger chloroform machine with the intercommunicating pressure equilibrator, and the hyper-pressure part with its motor, air chamber, casket, and exit air valve, etc. As the air chamber is a large bellows working against the resistance of springs, the pressure of the air entering the casket must constantly vary, and the whole responsibility for maintaining uniformity of pressure in the casket rests on the respiratory valves. Lastly, the apparatus is very costly.

It seemed to me to be possible, working on a principle quite different from any of those already in use, to produce an apparatus by which absolute constancy in the flow and pressure of air could be combined with simplicity of working at a cost considerably lower at any rate than that of the Brauer type.

In designing such a machine, the following were the essentials which had to be determined on: the method of obtaining the air, the method of obtaining the pressure, the control of the pressure, the manner of conveying the air to the lungs, the administration of the anaesthetic.

For the reasons above given I decided on using an intubation tube in preference to the casket or mask, but the use of the intubation necessitates the exclusion of the mouth, nose, and pharynx from the air circulation, and it is therefore necessary that the air shall be moistened and warmed before passing into the trachea. Further, intubation necessitates an expiratory and inspiratory circuit, both under accurate and easily regulated pressure control. Neither rubber bags nor bellows expanding against the resistance of springs give constancy of pressure; the greater the distension of the rubber or the compression of the springs the greater the pressure, but an air chamber made on the principle of a gasholder with a suitably weighted inner cylinder will give an equal pressure, whatever the height of the cylinder. But the pressure of the air in the cylinder must always be as great as, and preferably greater than, the maximum pressure ever required, and some mechanism, therefore, is required to cut down the pressure to a constant quantity, yet allow of variation if required. This want is supplied by the Stott gas governor, which gives a constant pressure independently of the rate of flow; the pressure can be increased or decreased according as certain weights are increased or decreased. The supply of air is easily obtained from compressed-air cylinders, and either air or oxygen, or a mixture of the two, can be given as required. As Alcock's chloroform apparatus is worked normally by driving air through it with bellows, and as it permits of accurate reading of the percentage of chloroform given according to the temperature of that fluid, it was possible, after a few minor alterations, to connect it up in the inspiratory circuit of my machine, and it has proved itself to be most satisfactory. Lastly, it was necessary that the various parts should be readily accessible for cleaning purposes, and so assembled that everything is within view and reach of the anaesthetist.

AUTHOR'S HYPERATMOSPHERIC APPARATUS.

The main features of the machine are an air chamber working on the principles of a gasholder and fed from compressed air and oxygen cylinders; the air in this chamber is at a greater pressure than that required in the bronchial tubes, but after it leaves the chamber passes through a governor and the pressure is there regulated to the required amount; it then passes through Alcock's chloroform box, then through a heating chamber, and so into the trachea by an intubation tube. The expired air leaves the trachea again by the exit pipe of the intubation tube and enters the expiratory chamber, where the pressure is again regulated by a weight valve.

Figs. 1 and 2 are woodcuts from photographs of the machine. Figs. 3, 4, 5 are scale drawings showing the various details. Fig. 6 is a woodcut of the intubation tube. And Fig. 7 illustrates the apparatus in diagrammatic form.

The whole apparatus rests on a steel triangular base with three wheels; the front wheel has a pivot action, and a handle is fixed to it by which the machine is moved about. The main air chamber consists of an inner and outer cylinder made of copper, tin lined. The outer cylinder or water tank is filled with water up to a mark shown on the water gauge, and the water serves both to control the air within the air chamber and to moisten the air as it enters the chamber. Attached to the base is the air inlet shaft, the lower part formed of tinned copper and perforated by holes round the bottom to admit free circulation of the water; the upper part consists of wire gauze; the top is closed by a cap, which is just below the surface of the water when the chamber contains air under pressure. Within this shaft open the three pipes from the compressed air and oxygen cylinders and the air as it escapes from these has to pass through the water and through the wire gauze.

The inner or air chamber rises and falls according to the volume of air inside it, and is kept steady by runners working on guides. The weight of this cylinder together with an extra weight of 65 lb. on the top of it keeps the air in the chamber at a pressure equal to 10 in. of water (approximately 20 mm. Hg). This cylinder is prevented from being lifted beyond a certain height by means of a valve which is opened automatically by a lever and allows the excess of air to escape. This valve can also be opened by hand when, should the chamber be full of air, oxygen is required; the replacement of air by oxygen when the chamber is full takes eight seconds and affects in no way the pressure in the inspiratory circuit. When the air chamber reaches its maximum capacity and before it reaches the minimum an electric contact is formed and a small buzzer rings.

To the back of the air chamber are attached three rings which hold two 40 ft. compressed-air cylinders and one 40 ft. compressed oxygen cylinder, which communicate by way of pressure gauges, needle valves, and flexible metal tubing, with the pipes entering into the bottom of the air chamber.

On the front of the air chamber is a tray which carries the rest of the apparatus. An inch outlet pipe conducts the air from the air chamber into the governor. This pipe is U-shaped, and has a small tap at the bottom to allow the escape of any water which may collect in the pipe and the escape of condensed steam during cleaning. The main tap for connecting the air chamber with the inspiratory circuit is on this outlet pipe just below the governor. The governor is a half-inch Stott; the pressure is regulated by weights, and remains constant independently of the rate of flow. The pressure is shown by a manometer connected with the pipe immediately beyond the governor. The air is then conducted into Alcock's chloroform apparatus, which allows of accurate control of the percentage of chloroform used at various temperatures. The air

charged with the required amount of chloroform passes next through a copper chamber containing six 16-candle power electric bulbs; this chamber is baffled so that the air must circulate round each lamp before it leaves. Each of the lamps has a separate switch; usually two lamps only are sufficient to produce the required temperature of about 85° F., but the additional number allows for the possibility of a fuse blowing or a broken filament. When the air leaves the heating chamber it is conducted past a thermometer, and then by a rubber tube to the intubation tube, which will be described presently.

In the expiratory circuit the air passes from the intubation tube into a metal box connected with a manometer and fitted with an expiratory valve which can be weighted to the required pressure. On the tube leading into this box there is a tap which can be opened if it is required suddenly to reduce the pressure.

The two manometers are arranged so that the ascending limbs are side by side; these and the thermometer are in a row, and the light from the electric lamps of the heating chamber fixed beneath the shelf shining through a talc disc illuminates them.

A movable arm fitted to one of the guides supports the rubber tubing between the apparatus and the patient.

The whole apparatus can be easily taken to pieces for cleaning.

The intubation tube consists of an intratracheal part fitted with a collar which rests on the glottis; a curved intrabuccal and an extrabuccal part. The intratracheal portion is surrounded by an airtight rubber sleeve which communicates with a very small pipe, through which it can be blown up. The intratracheal and buccal sections consist of a single tube ending externally in an open expansion, which is closed with a screw cap. The inlet and exit tubes which are joined up with the inspiratory and expiratory circuits enter the main tube just below the expansion.

Before the patient is intubated, the screw cap is disconnected and the patient breathes, and is given the anaesthetic through the opening of the expansion until the time when the pleura is about to be opened. The air is then turned on from the chamber, and as soon as it is flowing freely the screw cap is fixed, and the hyperatmospheric circuit thereby closed.

A movable gag is attached to the buccal portion of the intubation tube, so that the teeth can be made to hold the tube in position by putting a bandage round the jaw and head.

I have used this hyperatmospheric apparatus both on animals and men with complete success. The lungs are kept properly distended, the movements of inspiration and expiration continue unaltered, the pulse remains good as regards quality and frequency, the blood pressure is maintained, and there has been no trace of dyspnoea, even though the chest has been widely opened for one and a quarter hours in man and two hours in animals. During the operations oxygen has only occasionally been given. The details of the operations I hope to publish later.

My justification for publishing a detailed account of this apparatus is that it offers a certain combination of advantages not possessed by other hyperatmospheric machines. The pressure of the air remains constant, yet can be altered at will; the manometer in the inspiratory circuit shows only the slightest inspiratory and expiratory oscillations when the chest is opened, while the expiratory manometer shows a rise and fall of ½ in. to 1 in. with each expiration and inspiration, according to the depth of the patient's respirations, and thus offers a very satisfactory guide to the condition of the patient and the depth of the anaesthesia. The pressure of air is regulated in both the inspiratory and expiratory circuits. The machine is extremely simple in its working, and the anaesthetist can reach and control every part of the apparatus with his right hand, the left being sufficient to steady the patient's head and the intubation tube. There are no motive forces such as motors, which may fail at any moment. The cost is about two-thirds that of the Brauer *ueberdruck*. It is capable of transport, and can be used in any theatre or operating room. Finally, its efficiency has been demonstrated by use.

I should like to take this opportunity of expressing my thanks to Mr. Rood for the trouble and care he has taken in the administration of anaesthetics for me with this apparatus.

Throughout I have profited greatly by the interest shown and the many valuable suggestions given me by Mr. Wilfred Trotter.

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A NOTE CONCERNING THE TREATMENT OF TUBERCULOSIS BY "RADIO-ACTIVE IODINE AND MENTHOL."

BY

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AT the last Hungarian National Medical Congress Professor Szendeffy laid before his colleagues the results he had obtained during the two preceding years with a new chemical body with a basis of iodine and radium. He cited a large number of facts tending to prove that it was possible with this chemical product to arrest *in vitro* the development of the most virulent cultures of the bacillus of Koch, and also to stop the progress of tubercle in animals which had been experimentally inoculated with the bacillus.

Professor Szendeffy and Dr. Kertez-Aba, Physician to the Austro-Hungarian Court, together communicated a large number of clinical observations which proved that the hypodermic injection of radio-active iodine and menthol was well tolerated by patients, and also that this compound had a very powerful phagocytic action in patients with tubercle who improved under treatment and made progress towards recovery. Wishing to have his statements controlled by an independent expert, Professor Szendeffy asked the help of Dr. S. Bernheim, of Paris, President of the Oeuvre de la Tuberculose Humaine, who had a vast field for testing the new treatment among the numbers of patients who attended the various dispensaries and sanatoriums supported by this charity. During the last twelve months Dr. Bernheim, with the help of Drs. Dieupart, Hervé, Diamantberger, Michalovici, Baud, and others, has applied the treatment to a large number of patients, and clinical reports of the cases were recently communicated to the Société Internationale de la Tuberculose, the French Clinical Society, and other scientific bodies.

In the opinion of Dr. Bernheim, the action of this chemical product invented by Professor Szendeffy is due more especially, and almost exclusively, to the volatility of radium, which is eliminated slowly by the lungs. Dr. Bernheim believes that there is a true selective action, a fixing of helium at the site of the tubercles in the lung, and considers it not astonishing that this radio-activity should neutralize the harmful action of the bacilli of Koch and of the associated microbes. According to Dr. Bernheim, this radio-activity also paralyses the harmful influence of the toxins. Considering the rapidity with which Koch's bacilli are destroyed by the sun's rays, and also how easily the development of bacilli is arrested when in contact with radium, a comparison between these two physical phenomena is justifiable.

Dr. Bernheim described to me the three following recent cases, which have a great clinical importance and interest.

CASE I.

A lady in society, aged 24 years, tuberculous herself and having tuberculous parents, during her five years of married life had had three miscarriages. Pregnant for the fourth time, and being in the fifth month of pregnancy, she was given injections of radio-active iodine and menthol, and received two series of injections (eighty in all). Her condition improved, and she was able to carry to term, and was confined of a living child, weighing 3 kilos.

CASE II.

A similar case in a woman of the working classes, aged 44 years, tuberculous, a patient at the Dispensaire Antituberculeux at St. Denis, who had had seven miscarriages, and who had contracted tubercle from her husband. She was treated by injections of radio-active iodine and menthol from the beginning of the third month of pregnancy. It proceeded to term, and she was confined of a living child.

CASE III.

Dr. Dieupart recently treated a patient sent to him by a *dispensaire antituberculeux*, who had phthisis with bacilli in the sputum, and also tuberculous disease of the left wrist, which had prevented any use of the joint for several months. After twelve injections the swelling of the radio-carpal joint completely disappeared, and the patient recovered all the normal movements at the wrist-joint.

The authors, in their original communication, came to the following therapeutic conclusions:

1. That "radio-active iodine and menthol" destroys the bacillus of Koch. In all the cases in which the sputum has been systematically examined microscopically before and after the injections, it was found, first, that the bacillus took the stains less well, that it was in a degenerating condition, and that it became rarefied, and finally disappeared.

2. That radio-active iodine and menthol has a powerful action on streptococci. In tubercle, the existence of a mixed infection implies generally a bad prognosis: streptococci and staphylococci seem to increase the toxic secretion of the bacillus of Koch. Radio-active iodine with menthol destroyed streptococci very rapidly. In two grave cases of sore throat with streptococci Dr. Kaminski found on the third day that the throats were cured, and that no streptococci were present. Dr. Bernheim has noticed that after the injections the streptococci, which were numerous in the sputum in some cases of phthisis, diminished in numbers, and eventually disappeared.

3. That radio-active iodine and menthol improved the general condition of the patients. In these conditions the destruction or attenuation of the bacilli, *ipso facto*, brought about the disappearance from the organism of the toxins secreted by them. Every patient—even hopeless cases—felt a great improvement in his general condition. He found that patients who were exhausted and could no longer walk, were, after treatment, able to walk without fatigue; hopeless cases, which could not be cured, could take walks; those with intense dyspnoea were again able to breathe freely. Many patients had returned to work, feeling stronger and more cheerful.

4. That this product seems to possess a dynamogenic action. The radio-active emanation appeared to be manifested in the patients by facts that could be, so to speak, mathematically proved. They were imbued with a feeling of strength and renewed life. This increased strength was remarked in practically all the cases. Neither menthol nor iodine could cause this, and it could only be explained by the emanations of radio-active barium chloride, which thus confirmed the opinion of Szendeffy, Wickham, and Degrais.

5. That this product caused an increase in weight; this increase, which was observed in every case, was fairly rapid. Some increased a pound a week; others who came in bad condition, their sputum teeming with bacilli, put on weight in a remarkable way; even patients with cavities, and in whom the prognosis was fatal, also increased in weight.

6. That the beneficial effect of the product persisted in spite of intercurrent affections. Some of the patients had influenza, or dry pleurisy, and had to stay in bed and stop the injections for several days; these acute attacks were mild and of short duration; there was simply an interruption in the radio-active treatment, without any aggravation of the local or general symptoms.

7. That radio-active iodine and menthol cured tuberculous glands. Several cases were quoted in support of this.

8. That the treatment had an action on tuberculous laryngitis. The authors quoted two cases in which the improvement was manifest; at the beginning of the treatment the voice was weak, raucous, and broken; gradually after the injections the normal timbre of the voice returned.

9. That the product acted locally on tuberculous lesions, diminished the quantity of sputum, suppressed the cough, and caused the fever and night sweats to disappear.

10. That the treatment made the gastric functions more regular. In many of the cases bad appetite had been the rule for a long period; there were some cases with occasional vomiting, and absolute intolerance on the part of the stomach, so that such cases could not be treated by hyperalimentation. After the radio-active treatment the appetite always returned.

The experiments with radio-active iodine and menthol are not of recent date, as some writers have stated, but have been carried on for more than three years. This compound, after laboratory experiments, has been applied, followed and controlled by a large number of independent medical men, working in open and public sanatoriums, dispensaries, and hospitals, and its action has been proved, so that it is impossible to doubt of its efficacy.

The composition of the compound is given as follows:

Peptonized iodine...	0.75 gr.
Menthol	0.06 gr.
Radium barium chloride	
One-tenth of a drop of ether solution.	

The compound is put up in sterilized tubes of 1 c.cm. each, and is given by Dr. Bernheim by intramuscular injection in the gluteal region. The injections are given in series of forty—one every two or three days for five or six injections, to test the susceptibility of the patient, and then one every day till thirty have been given; then one injection every other day. After ten days' interval a new series of forty injections is given.

It is now being tried in numbers of the hospitals in Paris and elsewhere, and this is doubtless but the beginning of fresh researches in radio-activity, analogous to those already carried out by Dr. Danlos, in the Paris hospitals, and by Drs. Wickham and Degrais at the Radium Institute. It is almost certain that this method will be improved, the doses of radium injected being gradually and with prudence increased, but the profession will read with interest the results already obtained from scientific research and clinical observation.

ON CAESAREAN SECTION: WITH NOTES OF TEN CASES.

BY

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I PRESENT very brief notes of the cases. These notes are arranged in the form of a table. This arrangement is the one adopted by Dr. Amand Routh in his report to the recent International Congress of Obstetrics and Gynaecology held in St. Petersburg, and he has kindly given me permission to make use of it.

Every case in which I have performed Caesarean section is included in the table appended to this paper. All the operations were performed in the Queen's Hospital. All the mothers recovered. The children were all born alive, with one exception. In this case the patient had been in labour many hours, and forceps had been tried unsuccessfully. The child was known to be dead, as the cord was prolapsed and pulseless, and the reason that Caesarean section was done rather than craniotomy was that the head was high above the pelvic brim and the uterus in a state of violent tetanic contraction, which appeared to presage rupture; indeed, on examining the uterus after removal of the child an extensive effusion of blood under the peritoneum on its right lateral aspect seemed to show that rupture was already taking place, and hysterectomy was performed.

Of the children born alive, two died in hospital, one on the day of its birth, and the other, which was probably premature, on the twenty-third day from diarrhoea and vomiting. This case will be referred to later.

Of the women operated on, five were in labour at the time of operation, and of these, in two cases the membranes were ruptured; the other five were not in labour. In four of the five cases in labour the operation was performed between 1 a.m. and 3 a.m.

I do not in this paper propose to discuss the indications for Caesarean section or the alternative procedures which may be adopted, but rather to consider the method of its performance.

The first question is as to the time of operating; it was formerly taught that it was better to wait until labour had begun to ensure that the cervix would be open for drainage, but experience of operations performed before the onset of labour shows that this advantage is rather theoretical than practical, and the cervix can readily be dilated, if this is thought necessary, by passing the finger or a Hegar's

No.	Date.	Age of Patient.	No. of Previous Labours.	Indications for Operation.	Condition of Patient at Time of Operation.	Operative Technique.	Result.		Remarks.
							Mother.	Child.	
1	July 11, 1901	23	Primip.	Contracted pelvis; rickety dwarf; C.V. 2½ in.	Full term, not in labour	C.S. followed by supra-vaginal hysterectomy	Good	Good	—
2	Aug. 21, 1903, 3 a.m.	32	2-para	Contracted pelvis	In labour 12 hours; membranes ruptured 7 hours; attempts at forceps delivery before admission	C.S. followed by supra-vaginal hysterectomy	Good	Still-born	Craniotomy on two former occasions.
3	Nov. 30, 1905	23	1-para	Labour obstructed by dermoid tumour	At term, labour commencing	Conservative C.S. removal of dermoid, not sterilized	Good	Born alive; died in hospital	Has had living child *per vias naturales* since operation.
4	Feb. 14, 1906	33	6-para	Contracted pelvis; C.V. 3½ in.	At full term, not in labour	Conservative C.S. sterilization by excising piece of each tube	Good	Good	Previous labours: Craniotomy twice; induction of labour in hospital (C.E.P.) four times; two living children.
5	Aug. 25, 1907	25	2-para	Contracted pelvis; C.V. 3¼ in.	At full term, not in labour	Sterilization by supra-vaginal amputation of uterus	Good	Good	Previous labours: First, craniotomy; second, induction at 7 months, dead child.
6	Feb. 6, 1908	29	2-para	Contracted pelvis; C.V. 3¼ in.	Full term, not in labour	Conservative C.S.; sterilization by excision of piece of each tube	Good	Good	Craniotomy on two previous occasions.
*7	Feb. 22, 1909, 1 a.m.	39	Primip.	Labour obstructed by fibroid tumour	In labour 24 hours; membranes ruptured 10 hours; os could not be reached	C.S. followed by supra-vaginal hysterectomy	Good	Good	Fibroid growing low down on posterior wall; could not be pushed up.
8	Aug. 22, 1909, 2.30 a.m.	29	1-para	Contracted pelvis; C.V. 2¾ in.	In labour; os well dilated; membranes unruptured; head above brim	Conservative C.S.; sterilization by excising uterine end of each tube	Good	Good	Child weighed 8½ lb.; craniotomy on former occasion.
9	Nov. 29, 1909, 2 a.m.	28	1-para	Contracted pelvis	In labour 4 hours; membranes unruptured	Conservative C.S.; no sterilization	Good	Good	Craniotomy at first confinement.
10	July 23, 1910	35	Primip.	Contracted pelvis (rachitic); C.V. under 3 in.	Not in labour; supposed full term	Conservative C.S.; no sterilization	Good	Born alive	Child premature; died in hospital on 23rd day, from diarrhoea and vomiting. (See special note.)

* This case was published in the *Lancet*, June 5th, 1909.

dilator into it from the uterine cavity; in my opinion this is not required.

A great advantage of not waiting for labour to commence is that everything can be prepared as for any other abdominal section, and the operation done under most favourable circumstances as regards light and surroundings. There is only one disadvantage in operating at a fixed date, before labour has commenced, and that is that the patient may have made a misstatement as to the date of her last menstruation. If this is the case it is practically impossible to rectify the error in the calculation of the date of the expected confinement by palpating and measuring the gravid uterus, because in the rickety woman the uterus is kept to a higher level than normal by the inability of the head to lie in the pelvic brim.

The last case, No. 10 on the list, is an instance of the serious consequences which may follow a miscalculation. The child was evidently premature when born; it did well at first, but, though every care was taken of it, it developed diarrhoea and vomiting, and died on the twenty-third day. The mother, unfortunately, was unable to suckle. In all the other cases in which the operation was done on a fixed day the child was, to all appearance, at full term.

In my opinion rubber gloves should always be worn by the operator and his assistant and the nurse. The usual preparation of the abdomen having been carried out, the incision is made sufficiently long—about 7 in. will usually suffice; it may have the umbilicus above its centre, and should always be made so as to skirt well round the umbilicus and not to encroach on the tissues of the latter. The peritoneum should be divided to the full extent of the skin incision and its edges held here and there with catch forceps.

The uterus now comes into view, and it will often be found rotated, so as to bring the left appendages nearer to the middle line; it must be put straight before it is incised. It has been advised by Müller and others that the uterus should be brought entirely outside the abdominal incision before it is opened, and in my first case I did this; but, on the whole, I do not think that its advantages compensate for the increased length of the incision required, and I did not do it again; in this connexion it may be pointed out that the uterine contents are sterile so long as the amniotic sac remains intact.

The next step is to open the uterus. I have always preferred the vertical median incision; for some time the transverse fundal incision of Fritsch came into favour, and seemed as though it would displace the vertical incision, but now most operators appear to be going back to the latter.*

The great danger of this part of the operation is the liability to excessive haemorrhage. Various ways of diminishing the bleeding have been suggested; thus some advise tying an elastic ligature round the lower part of the uterus; it has also been suggested that a flat Hodge's pessary should be pressed firmly on the uterine wall, and the incision made in the centre of the area thus made less vascular. The former device is dangerous, as the constriction of the uterus may paralyse it and prevent its satisfactory contraction after the child is delivered, and I should imagine that the latter manœuvre would be of little use, though I have not tried it. There is bound to be bleeding until the uterus is emptied, and the only satisfactory way of dealing with it is to make the incision of the uterine wall and the extraction of the fetus as rapidly as possible.

The incision with the scalpel may be about 1½ in. long,

* Lately what has been called extra-peritoneal or supra-symphysary Caesarean section has been strongly advocated by Sellheim and other German authorities. This resembles closely the laparo-elytrotomy of the textbooks of my student days, and is advised particularly for cases advanced in labour and those that have been subjected to prolonged obstetrical interference. In this operation the skin incision is different, being made parallel to Poupart's ligament, and the distended and thinned-out lower uterine zone is incised instead of the fundus. I have no personal experience of this operation.

and may be continued until the membranes are seen to protrude; the scalpel can then be laid aside, and the incision rapidly enlarged with scissors, or the whole incision may be completed by the scalpel; personally I prefer the former method. If the membranes are already ruptured, care must be taken that the fetus is not injured by the scalpel in making the uterine incision. In two cases I enlarged the incision by tearing with the fingers, and I found that the resulting wound presented no difficulties in suturing. When the incision is completed the membranes should be opened by scalpel or scissors and the fetus seized, preferably by the feet. If the placenta is encountered in the incision it should be rapidly separated by the fingers.

A most valuable manœuvre at this stage is for the assistant to hook up each end of the incision by passing an index finger into it during the extraction of the child; this prevents the uterus falling back into the abdomen as soon as it is emptied, and enables it to be readily brought out through the abdominal incision.

It is well to arrange beforehand that some one shall take charge of the child, otherwise, in the excitement of the moment, it may not receive proper attention. As soon as the child is removed the cord should be clamped in two places with long-bladed pressure forceps, and divided between; this saves time, and the tying can afterwards be done by the person to whom the care of the child is entrusted.

The placenta and membranes should be carefully detached and peeled off the uterine wall, and while this is being done the uterus should be enveloped in sterilized hot cloths, and gently kneaded to ensure contraction. This is usually sufficient to arrest haemorrhage, but if it continues, the assistant should grasp the broad ligament on each side with the finger and thumb whilst the operator continues to knead the uterus. Although the haemorrhage during the uterine incision and the extraction of the child looks very alarming, good contraction usually ensues as soon as the uterus is completely emptied and kneaded by the hand, and I have had no really dangerous haemorrhages in any of my cases.

We have now to decide the question of sterilization; it is particularly in cases of contracted pelvis that this question arises, for in cases such as my third, in which the cause of obstruction can be effectually removed, sterilization is, of course, not required. Even in cases of contracted pelvis many authorities are now opposed to sterilization, and several cases have been published in which Caesarean section has been repeated two or more times on the same patient.

This is a question in which the wishes of the parents should be allowed to have weight, and the prospects of the offspring from the eugenic point of view should be taken into consideration; this last point of view seems to have been entirely overlooked in a case operated on by Sir William Sinclair, and published in the *Journal of Obstetrics and Gynaecology of the British Empire*, January, 1904; the patient, who was extremely deformed by rickets and hip-joint disease, was of a low order of intelligence and had spent nearly all her life in workhouse infirmaries. Caesarean section was performed three times, a living child resulting on each occasion.

In my own cases the following course was pursued as regards sterilization:

In two of the cases, Nos. 3 and 7, the operation was performed for other conditions than contracted pelvis—in No. 3 for labour obstructed by a dermoid cyst; in this case sterilization was not performed, and the patient has since been delivered successfully of a live child, *per vias naturales*. In No. 7 labour was obstructed by a fibroid; the tumour was situated low down on the posterior uterine wall, and had a wide attachment, and, as myomectomy seemed inadvisable, supravaginal hysterectomy was performed.

This leaves eight cases of contracted pelvis. In two, the first and fifth on the list, supravaginal hysterectomy was performed, surely to obtain sterilization; in No. 2 the same operation, partly because there was evidence of commencing rupture of the uterus. Sterilization by excising a piece of each tube was performed in three cases, Nos. 4, 6, and 8, and in the last two cases, Nos. 9 and 10, no sterilization was performed.

The following methods of obtaining sterilization have to be considered: Oöphorectomy, hysterectomy, ligature of the Fallopian tube, excision of a piece of each Fallopian tube.

Oöphorectomy is not a method to be recommended. Hysterectomy is a method which has the approval of Mr. Bland-Sutton, but in the opinion of most operators it is too severe a proceeding when sterilization alone is aimed at. Tying the tubes has been proved to be quite ineffectual. Excision of a portion of each tube appears to be, on the whole, the method which is to be preferred and most in favour. I have met with a case in which pregnancy occurred in a patient who had undergone Caesarean section, with excision of a portion of each tube, in Queen Charlotte's Hospital eight years previously; and other cases have been recorded, though the instances must be very rare. Sterilization is made more certain if the uterine end of the tube is excised and the incision in the uterine wall closed by sutures.

Hysterectomy is indicated in cases in which there is reason to think that the uterus is already infected, or in which there is rupture of the uterus. If the operation is performed, the supravaginal amputation with intraperitoneal treatment of the stump should be considered the operation of selection.

For suturing the uterine wall I used silk in all my cases, except the last, in which I used chromic gut for the deeper sutures. I have not met with any ill result from the use of silk, and I prefer it to any other material. I have in every case sutured in two layers, the deeper one including the peritoneum and muscular wall, but not penetrating the mucous membrane, and the superficial layer taking peritoneum only and being applied in Lembert's fashion.

Drainage was not used in any of the cases. The abdominal wall was closed in layers in every case. The abdominal wound healed by first intention in all except one; the case which suppurated was No. 2, the case which had been longest in labour, and the only one in which prolonged attempts at forceps delivery had been made.

The danger of Caesarean section increases enormously with the length of time the patient has been in labour and the amount of manipulation she has undergone, and when performed on a patient who has been infected by septic hands or instruments, the death-rate is high, but in uninfected cases the operation gives most satisfactory results.

ON THE TREATMENT OF THE EXCESSIVE VOMITING OF PREGNANCY.

BY

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DURING my term of residence as senior house-surgeon in the Glasgow Maternity and Women's Hospital seventeen cases of the excessive vomiting of pregnancy or hyperemesis gravidarum were sent in for treatment, and in each case the diagnosis of the family doctor was confirmed by observations at the hospital.

All the patients before admission had for several weeks been treated with the usual "stomach drugs," and in two cases rectal feeding had been tried for some days without any improvement. One case was admitted very ill and died. On admission she could retain nutriment neither by the mouth nor the rectum. She was in that hopeless condition described by Dubois, "characterized by increased prostration, constant headache, impairment of vision, tendency to somnolence, and derangement of the intellectual faculties. To operate in these circumstances would only bring obloquy on our art and perhaps hasten the patient's end."

On referring to textbooks regarding the treatment of this distressing complication of pregnancy, one is struck by the number and variety of drugs that are all strongly recommended. I doubted the efficacy of this drugging, and it seemed to me that other treatment should be adopted.

On admission the patient's history was carefully gone into. A thorough examination of all the symptoms was made, particular attention being paid to the condition of the alimentary canal, vagina, uterus, and appendages.

In view of the recent writings on appendix dyspepsia, this point was investigated, but the result was negative in all. Bad teeth and chronic constipation were found associated in every case.

The patient was strictly confined to bed, and was assured

that her disorder was only temporary, and that under treatment she would entirely recover. By means of the stomach tube the stomach was washed out thoroughly with warm water at a temperature of 100° F. No alkali was used in the washing, as I did not wish in any way to disturb the gastric secretions until I had examined the result from the test meal. In every case the large quantity of mucus obtained was surprising. Sips of cold water were allowed that night, and an enema of soap and water (ʒxxx) was administered. A test meal was given next morning, and withdrawn one hour after by the stomach tube. In no case was the test meal returned, and in one patient no vestige of the test meal was obtained even by again washing out the stomach.

The filtrate from the test meal was examined, free HCl was present in every case, and, except in three patients, the free HCl and total acidity were normal; in these three exceptions the free HCl and total acidity were slightly below normal. The motor activity of the stomach was tested in five cases by the salol method and was found normal. Microscopic examination proved negative, and the reaction for lactic acid was never present.

I therefore came to the conclusion that the drugs bismuth carbonate, cerium oxalate, etc., recommended in textbooks were not required for these 16 cases of hyperemesis gravidarum. For several days the patients were put on peptonized milk and milk and soda, and were thereafter given light diet. No hard and fast rule was laid down as to the day of treatment on which the patient was advanced to a light or a full diet; each case was considered separately and dieted accordingly. The patients were not allowed up until they had been on light diet for two days. A powder containing 1 grain of mercury-with-chalk powder and 3 of sodium bicarbonate was given thrice daily. For chronic constipation, in conjunction with the above powder I found magnesium sulphate in hot water every second morning the best aperient. If a satisfactory motion was not obtained, then a soap and water enema (ʒxxx) was given. The septic condition of the mouth was treated with a mouth wash of carbolic acid solution 1 in 80, used frequently and always immediately before and immediately after food. The patients were encouraged to drink copiously of milk and soda, weak tea, and imperial drink.

This treatment was quite successful in the 16 cases, the average duration of residence in the hospital being seventeen days. One patient was treated in hospital for about ten days with the textbook drugs without improvement. She was then treated as above and at once improved. She was dismissed well within three weeks thereafter. She had no return of vomiting, went to full term, and was delivered of a healthy child. In another case there was retroversion of the uterus with tendency to prolapse; the uterus was not interfered with, and she made a complete recovery. Five cases presented a well marked acetone odour. Several cases returned to hospital at full time in labour, and had had no return of the vomiting.

A point worthy of notice is that 15 of these cases were admitted to hospital during the months of November and December, 1909, and January and February, 1910. The weather in Glasgow and neighbourhood during the first three months mentioned was extremely inclement, and did not conduce to out-of-door exercise. The continuance of fog and excessive cold was such that the death-rate in the city was on several occasions over 30 per 1,000 a week. With improved weather 2 cases only were sent into hospital from March 1st to May 31st, 1910. I am of opinion that in hyperemesis gravidarum, as in eclampsia, prophylactic treatment is of prime importance, and recommend the following as the important points:

1. Bowels to be moved at least once per diem.
2. Prevention of oral sepsis.
3. Good plain well-cooked food, daintily served at regular hours.
4. Kidneys and skin to be kept active.
5. Gentle exercise in the open air daily if weather at all suitable, and a good supply of fresh air night and day.

Summary of treatment when hyperemesis gravidarum has developed:

1. Wash out the stomach.
2. Bowels, kidneys, and skin to be kept active.
3. Nutriment at regular hours.
4. Fresh air night and day.

THE TREATMENT OF AORTIC ANEURYSMS.

BY

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Aortic Reflexes.

In 1904[1] I demonstrated that, if one made forcible concussion of the seventh cervical spine, the normal aorta could be brought to contraction (aortic reflex of contraction), and that, if the last four dorsal vertebral spines were struck a series of sharp vigorous blows, a dilatation of the aorta (aortic reflex of dilatation) ensued. A like response was observed in aortic aneurysms.

It occurred to me that the aortic reflex of contraction could be utilized in the treatment of aortic aneurysms. Forty cases of aneurysm of the thoracic and abdominal aorta have thus far been treated, and have all been symptomatically cured in a brief period of time. Some of the patients were seen after a period of four years with absolutely no recurrence of symptoms.

I desire to emphasize the following facts:

1. Aneurysm was only diagnosed when the classic symptoms of the disease could be demonstrated by physical and skiascopic methods of examination.
2. Pressure symptoms were present and the disease was in an advanced stage in all the patients.
3. The only treatment employed was concussion of the seventh cervical spine. Not even rest was enjoined, although the patients were instructed to avoid straining at stool and exertion.

In the therapeutic elicitation of the aortic reflex of contraction an apparatus which gives a percussion stroke must be employed; all other motions, such as oscillations, shaking, and friction, interfere with results. The pad of the apparatus can be applied directly to the seventh cervical spine, or indirectly if the skin is sensitive, by interposing a piece of lint or linoleum. The daily sittings of concussion last about fifteen minutes, but the treatment must be interrupted to avoid irritation of the skin. If a suitable apparatus is not available, a pleximeter of rubber, wood, ivory, or linoleum is applied to the seventh cervical spine and struck a series of rapid and moderate blows by means of a strong percussion hammer. I use the plexor of Déjerine.*

The subsidiary centre of the vaso-constrictor nerves of the aorta is in the spinal cord, in proximity to the spinous process of the seventh cervical vertebra (third dorsal segment of the spinal cord); and by stimulation of this centre by concussion the normal as well as the abnormal aorta may be brought to contraction. Other stimuli have been tried, but the most effective stimulant to elicit the reflex is concussion. The aortic reflexes are mediated through the vagus; they are accentuated after a hypodermic injection of pilocarpin (0.0065 gram) and inhibited by atropin (0.001 gram).

To illustrate the rapidity of results achieved by this method, three cases will be cited:

Patient of Dr. L. St. John Hely.[2]—Aneurysmal tumour which protruded from the chest measured 2½ in. in diameter at the base. After the fourth treatment there was an absolute disappearance of all symptoms (incessant dyspnoea, cyanosis, choking, cough). At the end of a week the size of the tumour was reduced 25 per cent., and further treatment was discontinued, insomuch as the patient regarded himself as cured. This patient was observed after fourteen months with no return of subjective symptoms.

Patient of Dr. Hubert N. Rowell.—Pronounced pressure symptoms. Before treatment could not get more than three hours' sleep at night, owing to paroxysmal attacks of coughing and choking. After the first treatment he could sleep the entire night, and after two weeks' treatment the patient was practically well, and had gained 10 lb. in weight. This patient was seen after three years, with absolutely no return of symptoms.

Patient of Dr. Wm. Clark.—In addition to the conventional objective signs of aneurysm, there was a pronounced exophthalmos. The subjective signs were dyspnoea, incessant cough, dysphonia, and the patient was subjectively conscious of the aortic bruit. All the subjective symptoms disappeared within several days after treatment was commenced, and after five weeks' treatment the patient was practically discharged. After a lapse of more than two years the patient is absolutely well.

*The method of treatment is discussed in detail in the author's book, *Spondylotherapy*, 1910, Philopolis Press, San Francisco.

CONCLUSIONS.

1. Elicitation of the aortic reflexes aid the diagnosis of aortic aneurysm.

2. Elicitation of the aortic reflex of contraction results in the symptomatic cure of aortic aneurysms, and the results are so astonishingly rapid that one is warranted in concluding that the method is practically a specific.

3. If results are not achieved, there is either an error in diagnosis or the aneurysm is beyond restitution.

4. By aid of skiascopy, skiagraphy, percussion, and auscultation one may determine objectively the improvement of the patient, although the reduction in the area of the aneurysmal tumour is not in proportion to the amelioration of the subjective symptoms.

5. It is reasonable to assume that like results may be achieved in aneurysms of other vessels, insomuch as plethysmography, sphygmography, and other observations by the author show that all the arteries of the body are brought to contraction by definite stimuli applied to the seventh cervical spine.

REFERENCES.

[1] Abrams, *American Medicine*, April 2nd, 1904; *Medical Record*, September 16th, 1905. [2] Abrams's Method in the Treatment of Aneurysm of the Aorta, *Medical Record*, May 21st, 1910.

HYPERTROPHIED PAPILLAE OF MORGAGNI CAUSING RECTAL SYMPTOMS.

BY

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THE papillae of Morgagni are situated at the ano-rectal junction, and though absent in the majority, are yet present in a considerable proportion of individuals. They are normally small white glistening papillae, pyramidal or triangular, with the apices directed upwards and inwards towards the lumen of the gut. In number they vary from one to six, and are situated either at the upper extremities of the columns of Morgagni or on the edges of the valves intervening between the upper ends of these columns. Their length varies from $\frac{1}{8}$ in. to $\frac{1}{3}$ in.

Stroud[1] describes them as consisting of myelinated and non-myelinated nerve fibres, with a considerable number of ganglion cells and very little connective tissue. They are covered by a stratified epithelium.

When hypertrophied, the papillae much resemble in shape and size the writing end of an ordinary lead pencil. They must be distinguished from the small fibrous polyp which sometimes forms on the top of an internal haemorrhoid.

Stroud has shown that these papillae are peculiar to man, occurring at all periods of life, having been seen in the fetus, and in patients of advanced years. They are not found in the lower animals, though search has been made for them. They are considered to be accessory sense organs, aiding and warning the anal sphincters. When these functions become unduly developed and the papillae are hyperaesthetic, they give rise to symptoms. Andrews[2] speaks of them as "special sense organs of the rectum," and mentions their removal as one of the causes of incontinence which sometimes occurs subsequent to Whitehead's operation for haemorrhoids.

While realizing that the out-patient department of a rectal hospital is not the place to investigate the normal rectum, I have examined fifty patients with the speculum, as far as possible in consecutive order. In this series papillae were present in nineteen instances, or 38 per cent. of the cases. The age of the patients examined ranged from 12 to 68 years with an average of 39 years, and the average age of those in whom papillae were present was 38 years. The number of papillae varied from one to six with an average of two.

The symptoms attributable to the hypertrophied papillae are as follows:

1. *Irritation.*

This is by far the most frequent cause of complaint, and in a large percentage of patients suffering from pruritus ani these hypertrophied papillae greatly augment the trouble, if indeed they are not the sole cause. This is demonstrated by the beneficial effect of cauterization or removal, as in practically all cases the patients are greatly relieved and many cured. In a series of 53 patients suffering from pruritus ani attending the out-patient department of St. Mark's during the six months June to November, 1910, hypertrophied papillae were present in 13 cases—that is, in 25.6 per cent.

The papillae were cauterized more or less thoroughly in all these cases, and in only one was there lack of improvement. The majority of cases made two subsequent attendances, reporting great relief, and then ceased to attend. One case of a Jewess was particularly marked. She had irritation of eight months' duration; she had the typical hard plicated skin surrounding the anus common in people who suffer from irritation. Two papillae were cauterized, and from that time the irritation ceased, and a month later she had suffered no return, and discharged herself cured. It has yet to be proved whether this benefit is to be permanent.

2. *Pain.*

During the same six months I have collected 12 cases in which the complaint was of (*a*) pain in the lower part of the back, aching in character; (*b*) shooting pain in the rectum; (*c*) intense pain when the bowels acted, differing from that produced by fissure or fistula in that, instead of a sharp burning or stabbing pain of considerable duration, it is a sensation of sharp pricking which soon passes off. Careful examination in all these cases revealed nothing except hypertrophied papillae.

In every case cauterization afforded relief. Of the three types of pain mentioned, the shooting pain in the rectum, extending up to the base of the spine, is the most usual, while the dull aching pain and that present when the bowels act seem to be about equal in frequency.

3. *Sensation of Mass in the Rectum.*

This is a very common symptom, and, as a rule, the patient says that he feels as though the bowel protrudes on defaecation, but that nothing actually emerges. In these cases, again, the symptoms disappear on cauterization of the papillae. In all these 12 cases the patients complained of pain of one of the three types above mentioned, and also of the sensation of a lump in the rectum.

When much hypertrophied the papillae can be readily recognized by digital examination as small, shotty nodules. They can always be seen at the ano-rectal junction by means of a speculum.

Treatment.

Cauterization is undoubtedly the simplest, quickest, and most effective method of destroying the papillae; other methods I have tried, such as snipping off with scissors and destruction with nitric acid and other caustics, have no advantages, and are not so complete. The pain attendant upon cauterization is slight, and may be abolished by insufflating some analgesic powder through a speculum and allowing it to remain in the rectum for ten or fifteen minutes, after which cauterization is absolutely painless. The method used at St. Mark's Hospital is to pass a Kelly's speculum into the rectum and then withdraw it until the papillae stand up at the inner end, when they can be successively touched with the electric thermo-cautery. One application is generally sufficient, but in three cases I have recauterized two weeks later.

It is remarkable that none of the works on rectal surgery gives any attention to the symptoms caused by these papillae. They were mentioned as a separate disease in the annual report of St. Mark's Hospital for the first time in 1908, when eleven cases were treated as in-patients.

In one book of rectal surgery[3] only are they mentioned, near the end of a long list of causes of pruritus, but I have been unable to find any mention of them in connexion with other symptoms.

I am much indebted to Messrs. Mummery, Baldwin, and Gordon Watson, the surgeons in charge of the out-patients, for their kindness in allowing me to use their cases, and particularly to Mr. Gordon Watson for his suggestion that I should collect these cases, and for the assistance he has given in these investigations.

REFERENCES.

[1] Anatomy of Anus, *Annals of Sugery*, July, 1896, by B. B. Stroud of Cornell University, U.S.A. [2] *Surgery of Rectum*, Andrews, p. 303. [3] *Diseases of the Rectum*, Allingham, p. 240.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

GASTRO-INTESTINAL HAEMORRHAGE IN A NEWBORN INFANT.

I WAS much interested in reading in the JOURNAL of April 29th the report of Dr. Mills's case of gastro-intestinal haemorrhage (melaena neonatorum), having seen a similar case two days before, though, I am happy to say, the result was more fortunate. The symptoms were almost identical, the haemorrhage coming on thirty-six hours after birth; the labour was normal (second confinement), and not unduly delayed—there was no interference. The parents were healthy. After birth the child took the breast well, but thirty-six hours afterwards began to vomit bright blood, and also pass blood and clots very frequently from the bowel. It became very blanched with very cold extremities, and appeared to be dying of collapse. Brandy was rubbed on the gums. She was kept quiet and warm, and gradually revived. In twelve hours she was sleeping comfortably, her colour was better, and she began to take the breast again; the motions after twenty-four hours were again normal, and without any trace of blood, and vomiting had not recurred. The interest of this case is chiefly in the rarity of the disease, and in the recovery of the child, the mortality in these cases being about 60 per per cent. What was particularly remarkable was the enormous quantity of blood passed (fifteen cloths saturated) and the quick recovery after such a loss. There were no symptoms of ulcer of stomach, or duodenum, before or after the haemorrhage, and it was too sudden for capillary oozing. One must attribute the cause to embolism of the umbilical vein near the liver, extending into its branches for some distance (Landau). There was no evidence that the blood came from the mother's breast; there was no jaundice.

Budleigh Salterton. HENRY F. SEMPLE.

SEVERE INJURY OF HAND: OPERATION: RESULT.

THE following case seems worth recording, both on account of the unusual nature of the injury and because of the result of treatment, in circumstances which at first did not appear very promising.

The patient, a farm labourer, aged 25, was admitted to the Leominster Cottage Hospital on December 28th, 1910, having had his right hand caught in a truss binder.

State on Examination.—There was a lacerated transverse wound on the dorsum of the hand. A comminuted fracture of the index-metacarpal bone was also present. Hanging free out of the wound were the whole lengths of the extensor tendons of the index and middle fingers, a small portion of its muscular belly being attached to each tendon. The machinery had evidently gripped the tendons on the dorsum of the hand, and the "drag" had caused them to rupture high up in the forearm, and to be pulled downwards in their sheaths, and out at the wound.

Treatment.—Under an anaesthetic the wound was thoroughly cleansed. A loose fragment of the index-metacarpal was removed. Reposition, *in situ*, of the tendons was out of the question, owing to their lacerated and dirty condition. They were therefore cut off short, about the level of the wrist. An incision was then made upwards for about 4 inches from the middle of the wound, skin flaps were reflected, and the extensor of the ring finger exposed. The distal cut end of the middle finger tendon was then stitched into a short longitudinal slit in the ring finger tendon. The communis tendon of the index was fixed to the ring tendon rather higher up. Lastly, the extensor indicis tendon was sutured into a slit in the side of the middle finger extensor. Catgut sutures were used. The open sheath of the ring tendon was sutured, and the skin wounds closed, a small tube drain being inserted in the lower wound. A palmar splint was applied, fixing fingers and wrist in a position of hyperextension.

Result.—Passive movement was begun in about a week, and active movements shortly afterwards. The splint was removed in three weeks. The hand wound had of necessity to heal partially by granulation. The patient left hospital on January 30th, 1911. In the middle of April there was almost perfect power of extension of the index and middle fingers, in spite of the scar being rather adherent. The fracture of the index-metacarpal was also firmly consolidated.

In view of the septicity of the wound, and the possibility of adhesions it was thought unwise to suture the index tendons to the extensor longus pollicis tendon (and thus perhaps compromise the movements of the thumb), though this would have been a simpler procedure than was adopted. During a rather long experience of casualty work at the Leeds General Infirmary I do not recollect a similar case, and for this reason thought it of sufficient interest to record.

GORDON W. THOMAS, M.B., B.S.Lond., F.R.C.S.Eng.,
Hon. Surgeon to the Leominster Cottage Hospital;
Late Casualty Officer, Leeds General Infirmary.

PEPPERMINT OIL IN CORYZA.

IN the EPITOME OF CURRENT MEDICAL LITERATURE of June 10th Dr. Laurens's conclusions on the use of menthol in coryza, rhinitis, etc., are given, in which he says he considers that menthol is a valuable remedy in such diseases, but that it has fallen into disrepute owing to its irritating effects on the mucous membrane.

I was much interested in this, as I have been trying oleum menthae piperitae instead of menthol for coryza, and have had extremely good results from the treatment.

The first case I used it in (two and a half years ago) was one of cold in the head with severe headache from pressure in the frontal sinuses, and my chief object was to try if possible to relieve the headache. Both nostrils were occluded by swelling of the mucous membrane, and a clear watery discharge was constantly running from the nose. I put a few drops of peppermint oil in a saucer, and heated it over a candle till the fumes rose, and got the patient to try to breathe this up her nose. This inhalation was kept up continuously till there was a clear passage through both nostrils, and shortly after this occurred she had a feeling as if something broke in her head, a few drops of fluid came down her nose, and the headache disappeared. This result was so much better than I had expected that I made her continue inhaling the fumes for a couple of hours longer, and I also added a few drops of Jeyes' fluid, as I thought it would be a useful antiseptic when volatilized. I told her when the saucer became nearly dry to add a few drops more of both, and continue the heating, so that fumes might be pretty continuously inhaled. The patient went to sleep that night with her nose free and headache gone, and woke next morning with no signs of a cold. I might mention that the treatment was started about 6 or 7 p.m., and stopped, I should think, between 10 and 11 p.m.

I have not tried whether in other cases cure would be as quick, but have made patients continue the treatment longer, and in the early stages of colds with congested mucous membrane and watery discharge I have found it very successful. Unless too strong a sniff is taken after the passages are opened, peppermint oil volatilized in this way does not cause discomfort.

The essential part of the treatment is to continue it after the nose has become clear, and not to allow the passage for air to become obstructed again for some hours.

London, N. RONALD T. HERDMAN, M.D.

LATE CONCEALED *POST-PARTUM* HAEMORRHAGE.

MRS. A., aged 31, was confined of her eighth child on April 5th, 1911. She was attended by a midwife. Nothing abnormal noted during the puerperium or at labour. She got up on the tenth day, and went out for the first time on April 26th. She was taken suddenly ill in the street, and had to be brought home in a cab in a state of collapse. When first seen by me she was pallid and pulseless and the extremities were cold. She made no complaint of pain in the abdomen, and there was no external haemorrhage. The uterus, enlarged and soft, reached to the level of the umbilicus. I was at a loss to account for this. Raising the legs, hot applications to the abdomen, and sipping hot water—the friends had given her about 3 oz. of brandy—revived her temporarily. I had to leave, but gave orders not to move her off the couch on which she was lying for at least an hour. She felt so much better, however, that she begged to be taken upstairs to bed; the friends did this about fifteen minutes after I had left. When I saw her fifteen minutes later she was in bed in a moribund state. She died in about ten minutes.

A limited *post-mortem* examination was made. The distended uterus was full of dark blood clot.

The case is one of a kind not mentioned in the text-books I have consulted. Firm kneading of the uterus had

no effect in diminishing the size, and no clots were passed by the vagina. The friends noted "only a spot of blood" on the napkin. Owing to the lapse of time—three weeks—it would not have been justifiable to have tried there and then to clear out the clot by the vagina; the shock would have been too great.

Nottingham. A. CHRISTIE REID, M.D.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

DONCASTER ROYAL INFIRMARY.

A CASE OF EPITHELIOMA OF THE TONGUE IN A YOUNG WOMAN.

(Reported by HENRY J. CLARKE, Jun., M.A., M.B., B.C.Cantab., M.R.C.S.Eng., L.R.C.P.Lond., Honorary Surgeon to the Infirmary.)

THE following case upon which I operated presents several features of interest. One is the occurrence in a woman of epithelioma of the tongue, a rare event in itself, and another is the absence of anything which might have caused irritation, such as a decayed or ill-formed tooth, badly fitting dental plate, or the use of a clay pipe. It also emphasizes two points: (1) That the enlargement of the lymphatic glands in the first instance is usually due to septic absorption and not to malignant infection. (2) That in all suspicious ulcers of the tongue which do not yield quickly to treatment a small portion should be excised and examined microscopically.

The patient, a married woman, aged 30 years, saw me at the out-patient department on November 10th, 1910. There was an ulcer situated on the right edge of her tongue at about the junction of its anterior and middle thirds. It was the size of a sixpenny piece, with raised indurated edges and a sloughy base. Enlarged lymphatic glands were felt at the angle of the jaw and along the course of the carotid vessels of the right side of the neck. She said that it started as a small whitish ulcer about seven weeks before, and had gradually increased in size; it was very painful and caused her considerable difficulty in eating her food. Her father had died of cancer of the liver.

On account of the suspicious character of the ulcer and also of the enlarged glands, I painted the ulcer with cocaine and then snipped off several fragments. These were sent to the Clinical Research Association and the following report was returned: "This growth is a squamous-celled epithelioma of the tongue. It is composed of branching epithelial ingrowths with cell nests. Although the tissue is small in amount the growth is quite clear."

I decided to operate in two stages. At the first operation the glands were removed, and at the second half the tongue.

First Operation, November 29th, 1910.—Two incisions were made: (1) From the angle of the jaw to the symphysis menti, (2) from the angle of the jaw along the anterior border of the sterno-mastoid muscle to a point about 1½ in. above the sterno-clavicular articulation. A triangular flap of skin was thus marked out and reflected. The following glands were then removed: (1) Those at the angle of the jaw, (2) the submaxillary gland, (3) the submental gland, (4) the chain of glands situated along the carotid vessels. The wound was then closed and healed in a few days by first intention. The removed glands were then sent to the Clinical Research Association for examination and the following was received: "These glands show inflammatory changes only, with a small suppurating focus beginning in one. They are very vascular, the lymph channels are dilated and the lymphoid tissue is proliferating. The salivary gland shows no change. We find no deposit of growth."

Second Operation, December 6th, 1910.—The anaesthetic used was chloroform administered by a Junker's inhaler. No preliminary laryngotomy was performed. The right half of the tongue was removed by Whitehead's method, the cross section being made fully half an inch behind the growth. There was not a great deal of haemorrhage, possibly due to the fact that several branches of the external carotid were ligatured during the previous operation. The portion of tongue removed was examined by the Clinical Research Association, who reported that it was an epithelioma infiltrating the muscle coats of the tongue. The patient made a most excellent recovery, her speech being but little affected.

My friend and colleague, Dr. Christy Wilson, very kindly assisted me at the operation.

Reports of Societies.

THE ROYAL SOCIETY.

Thursday, June 15th, 1911.

Sir ARCHIBALD GEIKIE, K.C.B., President, in the Chair.

Glomerular Activity.

THE Croonian Lecture on A New Conception of the Glomerular Activity was delivered by Dr. T. G. BRODIE, F.R.S., Professor of Physiology in the University of Toronto. Dr. Brodie said that all the more recent work upon the kidney had proved conclusively that Ludwig's explanation of the glomerular function—namely, that the glomerulus is a filtering mechanism — was incorrect. The structural details of this highly characteristic portion of the renal apparatus strongly suggested that in some way or other the blood pressure was made use of in the work of the glomerulus. Having excluded filtration in this connexion, there was yet another way in which it could be directly utilized—namely, in setting up a pressure-head by means of which the watery part of the urine could be driven through the very long and narrow tubule. In reference to this side of its activity, it was suggested that the glomerulus be termed a "propulsor." An approximate calculation of the pressure-head necessary to drive the fluid along the tubule during the height of activity proved that one about equal to that present within the glomerular capillaries was required. Evidence of the action of a high intratubular pressure was at once obtainable from the microscopic examination of a kidney after activity. The capsules of Bowman were greatly distended and approximately spherical in shape, the glomeruli were moderately enlarged and no longer filled the capsular spaces. The tubules were straightened out, stretched, and possessed a conspicuous lumen. All these changes were exaggerated by any procedure which favoured the action of this intratubular pressure, such as a high arterial blood pressure, obstruction to the outflow of urine from the ureter, or the stripping of the capsule from the kidney. Further, the kidney during activity was tense and hard, and distended its capsule to the utmost. This conception of the glomerular function afforded a complete explanation of the existence of a firm and inextensible capsule surrounding the kidney, as also of such phenomena as the maximum ureter pressure, the dependence of the rate of discharge of urine from the kidney upon the general blood pressure, and the degree of dilatation of the renal arterioles, etc. Applying this theory to the study of the action of diuretics in animals in which the blood pressure had been lowered so far that propulsion could no longer occur, evidence as to the parts of the renal tubules acted upon by these different substances was obtained.

Alkaloids of Senecio (Ragwort).

Dr. ARTHUR R. CUSHNY, F.R.S., in a paper on the action of senecio alkaloids and the causation of hepatic cirrhosis in cattle, pointed out that various species of senecio (ragwort) had been shown to induce fatal poisoning in cattle and horses in South Africa, Canada, and New Zealand. The alkaloids of one of these species were isolated by Watt, and their pharmacological examination showed that they induced the same symptoms as the entire plant. The senecio species in this country proved non-toxic, except the common groundsel (*S. vulgaris*), and extracts from the ragwort grown in Canada, where the plant is poisonous, proved devoid of action also. This might, however, be due to the season at which the plant was gathered.

PROFESSOR PAUL EHRLICH has been created an Effective Privy Councillor, with the title of "Excellenz," which corresponds to "Right Honourable."

Reviews.

DISEASES OF THE FIFTIES.

OLD age and youth each have their special diseases. To Dr. LECLERCQ the fifties are a period of particular danger, and he has written four volumes dealing with the pathology of this epoch of life.[1] A person aged from 50 to 59 is prone to arterio-sclerosis; escaping that he may fall into heart disease. If the arteries and heart are untouched, he may become diabetic, and if all these fail, albuminuria still lies in wait for him during these years.

In the volume on arterio-sclerosis Dr. Leclercq contends that the expression is essentially false, or represents only a part of the truth. He regards the changes in the arteries or in the vascular system as being after all only the remote consequences of changes situated elsewhere. According to him the liver is the principal seat of the disease. In consequence of disturbances of alimentary metabolism this organ gives rise to the arthritic diseases such as gout, gravel, obesity, and diabetes—affections which are in themselves defensive procedures employed by nature to guard against the passage into the circulation of those waste products which pollute the blood and sclerose the organs. The arterial system undergoes at first a hypertrophy of its muscular coat and later sclerosis; alcohol plays a part in its production by lowering the function of the liver cells; the chief cause of arterio-sclerosis is liver disorder, and the chief agent alcohol. Under such conditions there can be no question of cure, but the disease may be prevented by appropriate alimentary hygiene. The book is highly theoretical, but may appeal to some readers.

In the volume on diabetes the author attempts to establish that diabetes is not a disease dependent upon sugar, but that the presence of sugar in the blood and urine is only one symptom of a general condition due essentially to disease of the bulb, that is to say, the disease is primarily nervous. He recognizes in diabetes two stages: in the first a disorder of function, and in the second, organic change, and his treatment consists in a thorough application of the principle of opotherapy, by using extracts of all the organs which he supposes to be involved, including the thyroid gland, the ovaries, the medulla and spinal cord, and the pancreas. He believes in a diabetes which is of salivary origin, another of ovarian, a third of thyroid, and a fourth of suprarenal origin; there is also one which has its origin in the pituitary body, but all these glandular disturbances are under the influence of the nervous system, and are dependent upon some primary nervous trouble. The volume also contains a brief account of exophthalmic goître, which is also, according to the author, a neurosis, affecting at first the function and later the structure of the thyroid gland. Although the volume has been "crowned" by the French Academy of Medicine, it does not commend itself to us as likely to advance our knowledge of the diseases of which it treats.

The fourth volume is devoted to albuminuria, or rather to renal disease in general. It is divided into two parts, seven chapters, countless headings and subheadings, and is described by the author as a corollary to the three other volumes of the series. Like so many manuals in the French tongue, it is admirably written and convincing to read; the author is never at a loss for an explanation, and the explanation always appears to be lucid. For example, the explanation of the apparently selective excretory power possessed by the kidneys may be quoted; this power is attributed "to an elective action of autonomous sensibilisation," and the renal tubules "make this selection with such speed that there is no longer any physico-chemical equivalence between the two when the blood and the urine are separately examined" (pp. 20-21). To attribute the disregard of the laws of osmosis, shown by the renal epithelium, to the speed with which it acts, is a triumph of ingenuity that needs some thought before its falsity becomes apparent. Dr. Leclercq's book is full of striking antitheses, paradoxes, phrases, that remain in the memory long after their precise meaning has passed from the mind; indeed, any reader may be excused when he asks himself what an "acetogelatinified albuminuria" is, how an "alternating primary hepatic albuminuria" is to be distinguished from a "substitutive albuminuria," and how far he ought to believe in "the solidarity of renin and adrenalin in the sollicitation of the arterial tension." But for these and many similar phrases, there seems to be little that is new in Dr. Leclercq's book; and we take leave of it still wondering in our own mind whether the two ideas of "elective action" and "autonomous sensibilisation" are not, in point of fact, mutually incompatible. *Quien sabe?*

[1] *Les maladies de la cinquantaine.* Par Dr. A. Leclercq. Paris: O. Doin et fils. 1911. (Post 8vo.) [Diseases of the Fifties: Vol. i, Arterio-sclerosis, pp. 335; vol. ii, Heart Disease; vol. iii, Diabetes, pp. 450; vol. iv, Albuminuria and its Treatment, pp. 265.]

VICIOUS CIRCLES IN DISEASE.

MANY of the constituent chapters of Dr. JAMIESON B. HURRY'S book have already appeared in our columns. He claims to be the first to deal systematically with the phenomena of *Vicious Circles in Disease*.[2] His claim will doubtless be allowed in so far as the collection of well-known facts into a single volume is concerned. The volume itself, with its fully gilt edges and its remarkably handsome type, ornamented with initial letters, etc., cannot fail to attract attention.

Vicious circles are defined as "morbid processes in which two or more disorders are so correlated that they act and react reciprocally on each other." The writer follows out the association of such circles with each of the great systems in order, and classifies them into generic groups, such as the mechanical, the infective, the neurotic, etc.

The term "vicious circle" has been used by most writers, and Dr. Hurry has for the most part utilized extracts from the best-known works to define and describe each circle, in preference to giving definitions of his own. Thus, the reaction whereby intracranial haemorrhage produces cerebral compression, which in turn leads to further circulatory disturbance, is described by quotation from Dr. Leonard Hill, while the vicious circle set up by nephritis, which causes retention of waste products, which in their turn irritate the kidneys, finds expression by quotation from Professor Adami.

The organs of the various systems are passed in review, and the vicious circles brought about by disorder of their function are duly traced out and demonstrated in the same manner. In the final chapters the author points out the means by which Nature and Art respectively are able to break up such circles; or, in other words, he reproduces information, culled from the best sources, as to spontaneous cure and the results of treatment.

As a whole the volume is of interest as embodying a train of thought and observation which has not previously been presented in collective form to medical readers, although all teachers have described and all students have recognized the existence of such vicious circles in the diseases which they must have respectively taught and studied.

[2] *Vicious Circles in Disease.* By Jamieson B. Hurry, M.A., M.D.Camb., ex-President Reading Pathological Society. London: J. and A. Churchill. 1911. (Demy 8vo, pp. 14; 186 illustrations. 6s. net.)

IMMUNITY.

OWING to the rapid output of work on immunity, Drs. KRAUS and LEVADITI, editors of the textbook of the technique and method of work on immunity,[3] have already found it necessary to issue a supplementary volume consisting of twenty-five sections. In each of these the literature of the subject under treatment is brought up to date. Dr. Schick contributes an interesting note on the estimation of diphtheria antitoxin by the intracutaneous method. The advantage claimed for this, as against the subcutaneous method, is that an extremely sensitive reaction is obtained with very minute doses. In a chapter on the toxins and antitoxins of cholera Dr. Salimbeni recommends the use of antitoxic serum for the treatment of this disease. Some use of it was made in Russia during the epidemic of 1908-9. The author treated 42 patients in St. Petersburg, including 19 very severe cases, with a

[3] *Handbuch der Technik und Methodik der Immunitätsforschung.* Herausgegeben von Professor Dr. R. Kraus und Dr. C. Levaditi. Erster Ergänzungsband. Jena: Gustav Fischer. 1911. (Roy. 8vo, pp. 664, with illustrations.)

mortality of 28.8 per cent.; this compared favourably with the average case-mortality for the same period, which was officially recorded as 45.6 per cent. Here we may note that Dr. Leonard Rogers, in his book on *Cholera and its Treatment*, casts doubt on the interpretation of these results obtained by Dr. Salimbeni:

> Unfortunately [Dr. Rogers remarks] he used, in addition to the serum, large injections of saline solutions, both subcutaneously and intravenously, and much of the relief of the symptoms, which he appears to attribute to the action of the serum, such as the disappearance of cramps, is also always afforded by saline solutions alone. It is thus impossible to say how far the good results obtained were due to the saline injections and how far to the specific serum.

This criticism hardly seems to be quite apposite, because we find from Dr. Salimbeni's article (p. 77) that "the injections with physiological saline solution were given to all the patients, whether treated with serum or not." There is an important article by Dr. St. Baecher on meningococcus serum. The details of its preparation are fully given, and statistics are quoted to show the diminution in mortality which has followed its use. Dr. Levaditi has a chapter on phagocytosis and opsonins, in which lengthy consideration is given to the technique and theories of Sir Almroth Wright and his school. The article also embodies the recent work of those who are disposed to criticize the opsonists, and, on the whole, gives an impartial and well-balanced account of the subject. Tuberculosis receives treatment in several articles by well-known authorities. Professor von Pirquet gives an account of the local tuberculin reactions, and Professor Vallée discusses the cutaneous and conjunctival tuberculin reactions in cattle. Professor Römer deals with "bovovaccine" and other preparations which have been tried for the purpose of immunizing cattle against tuberculosis. The preparation of the numerous varieties of tuberculin which have been put upon the market at one time or another is described by Dr. Loewenstein, who also summarizes recent work on antibodies in tuberculosis. Other articles deserving special mention are one on the organism of variola, by Dr. Paschen, and an account by Dr. Ranzi of the attempts which are being made to find a specific serum reaction in malignant disease. We are glad to hear that this useful volume will be followed from year to year by others, prepared with the special object of keeping the subject up to date. The title is perhaps a little misleading, as the contributors have a good deal to say about the results of immunity investigations, and by no means limit themselves to questions of technique and method.

In a series of twenty-five lectures on infection and immunity,[4] Professor MÜLLER covers a very wide field, his object being to give a general and at the same time fairly comprehensive account of modern facts and theories concerning the mechanism of infective processes. The chapter which discusses sources of infective material and conditions determining its dissemination contains a useful tabular statement of the probable paths of infection in the more important infective diseases affecting man. A few of the entries in this table might have been made more definite. For example, it has been definitely proved that bovine tuberculosis is one of the sources of the disease in human beings, and that cow's milk often contains the infective germs; but in the column headed "infection through food," we find milk and butter queried as being doubtful sources of tuberculous infection, and a similar doubt is raised, in the columns devoted to animals infective for man, as to the dangers of tuberculous cattle. The chapters on localization of toxins in the organism, incubation period, virulence, and the invasive powers of bacteria are rather dull and elaborate statements of elementary and well-known facts. In dealing with phagocytosis, Professor Müller makes a laudable endeavour to hold the balance impartially between Metchnikoff and his rival German school, but his treatment of the subject is too brief to be really interesting. The discovery of "opsonins," as he observes, has done much to reconcile the apparently antagonistic "bactericidal" and "phagocytic" theories. The claims of the opsonists and the main criticisms which have been directed against them are temperately and succinctly described in Chapter X. German writers, as a rule, are notoriously slow to recognize the merits of any new line of research which takes origin in a country other than their own, and, until the last few years, the pioneer work of the English investigators on phagocytosis and immunity received but scant recognition at their hands. At length there is evidence, both in this and in several other recently issued German textbooks, that German research cannot afford to ignore or neglect the contributions which have been made in this country, under the stimulus of Wright, to the science of immunity. Ehrlich's work deservedly occupies a prominent position. His side-chain theory is fully and clearly explained, and there is an excellent chapter on the interaction between toxin and antitoxin and the rival theories of Ehrlich and Arrhenius. Taken as a whole, the book may be described as a compact and masterly review of a very difficult and complicated subject. It is particularly suitable for readers who want more than is contained in the smaller textbooks of bacteriology but have not the time to consult original monographs.

[4] *Vorlesungen über Infektion und Immunität.* Von Dr. Paul Th. Müller. Dritte erweiterte und vermehrte Auflage. Jena: Gustav Fischer. 1910. (Roy. 8vo, pp. 451, with 21 illustrations in the text.)

EVERYDAY TREATMENT.

THE little *Handbook of Medical Treatment* by Dr. JAMES BURNET[5] appears to be one of a series of medical publications issued by the same publisher on subjects likely to be useful to medical students. It is arranged alphabetically in paragraphs dealing with the treatment of diseases from a medical as distinguished from a surgical point of view. It includes some diseases, such as beri-beri, cholera, Malta fever, and tropical dysentery, upon which the writer can hardly expect to speak with authority, and the space gained by their omission might have been otherwise devoted with advantage. We should not suppose that vaccine treatment "given by the mouth" for acne would be likely to yield "any very striking results." In tapping for ascites there may be a difference of opinion as to whether it should be undertaken early or late, but Southey's trocar is not an efficient instrument with which to perform the operation. In the treatment of asthma more attention might have been paid to the question of causation, as it is by searching out and remedying this that the best results are obtained. In the treatment of boils we are not sure that yeast is so "absolutely worthless" as the author believes, but the use of iodine should have been mentioned. In the treatment of constipation we are unable to understand why potatoes and milk puddings are forbidden, and we note the absence of any attempt to classify the conditions under which it occurs. The statement that impetigo contagiosa is "practically always due to pediculosis" is remarkable, as it frequently occurs on the face or in children who are beyond suspicion in the matter of cleanliness. Under lumbago we are told that "nothing gives so much relief as rest in bed," but from long and painful experience we maintain that bed is the least comfortable place, and that it is infinitely better to get about with the lumbar muscles fixed by a belt. In the treatment of scabies the value of unguentum styracis for the disease in children might have been mentioned. In dilatation of the stomach it seems strange to say that "surgical measures are not to be hastily resorted to in cases unassociated with malignant disease of the pylorus"; if the author had written that they were not to be hastily resorted to in cases unassociated with pyloric stenosis he would probably have found more people to agree with him. No doubt a book of this kind is one in which every reader will find much with which to disagree or which seems trite and commonplace; but it must be remembered that it is intended for students, and as an introduction to the treatment of disease will doubtless prove useful.

[5] *Handbook of Medical Treatment: A Guide to Therapeutics for Students and Practitioners, with an Appendix on Diet.* By James Burnet, M.A., M.D. Edinburgh: John Currie. 1911. (Fcap. 8vo, pp. 173. 3s. 6d. net.)

MEDICINE AND THE OLD TESTAMENT.

DR. JULIUS PREUSS, in his exhaustive work on the medicine of the Bible and Talmud,[6] claims that this is the first time that a physician who has gathered his information from the original sources has investigated the subject. He gives a very complete account of all those diseases which

[6] *Biblisch-Talmudische Medizin.* Von Dr. Julius Preuss. Berlin: S. Karger. 1911. (Sup. roy. 8vo, pp. 735. M.20.)

appear to have been known to the ancient Hebrews, and incidentally tells much about ancient medicine generally. At the same time he warns us that there is no Jewish medicine in the sense in which we speak of Egyptian or Greek, nor is there any medical treatise in the Talmud which could be considered similar to the work of Galen. The writings of the Jewish physicians among the Arabs are the first really medical works by Jews of which there is any knowledge.

Perhaps the chapters most interesting to the physician of to-day are those dealing with what may be called Biblical hygiene and with the elaborate system of laws regulating not food alone, but almost every incident of the daily life of the Hebrew. The laws concerning sexual relations have, as befits the importance of the subject, a chapter to themselves. These relations took such a paramount place in the lives and even in the public worship of the Eastern nations of antiquity, that it is little to be wondered at that the Jewish lawgiver framed an elaborate code of rules for their regulation. A study of the book before us shows that while every form of unnatural vice, whether in man or woman, was sternly reprobated, the purity and simplicity of the intercourse between the sexes was carefully guarded; and in dealing with this subject light is thrown on many points in connexion therewith which may have hitherto been obscure.

Discussing the question of food, and the laws of the forbidden and permitted, Dr. Preuss is on more familiar ground, and the details as to anatomical or pathological abnormalities which render an animal "trephah" and unfit for food are the more interesting from the fact that they are held to be binding upon Jews to-day. In addition, the whole question of the dietary of the Hebrews in Biblical and Talmudic times, and the rules concerning it, are freely dealt with.

Altogether, most of the points in the Bible or Talmud which could be of use in modern medical inquiry are to be found referred to somewhere in this work, which also contains a very complete bibliography of the subject.

DR. FORBES WINSLOW'S RECOLLECTIONS.[7]

DR. FORBES WINSLOW has lived amongst lunatics almost from his infancy; it was therefore inevitable that his memoirs should be largely composed of his experiences as an expert in mental diseases, both in private practice and also in his more or less public capacity in connexion with criminal lunacy cases. But it must not be supposed that the author has confined himself to reminiscences of purely professional interest. He has plenty to say about places he has visited and people he has met. One of the most famous of these was Lombroso, whose zeal in the pursuit of his favourite investigations manifested itself even whilst he was examining candidates for their degrees at the University of Turin. On such occasions the founder of "criminal anthropology" seems often to have displayed far more interest in the shape of the candidate's head than in such knowledge as it might happen to contain. He "would say to the student with a small and badly-formed head: 'You have mistaken your calling; you are a degenerate.' To another he would say: 'From the formation of your head you are an epileptic.' Whilst to a third he would remark: 'From your general aspect, demeanour, and sly appearance, you are a moral pervert.' Unless the students agreed with all Lombroso said, they were sure to be plucked." We leave the responsibility for the truth of this story on the shoulders of Dr. Winslow, but it is not intrinsically improbable, for a scientific enthusiast, like a minor prophet, is *capable de tout*.

It must be said that Dr. Winslow's book does not furnish altogether pleasant reading. In spite of much that is interesting and a good deal that, with proper handling, might have been amusing, the greater part of the *Recollections* is made irritating by the unnecessarily defiant attitude which its author has seen fit to adopt, and dull by his conspicuous lack of humour. Being himself "heedless of public opinion and the consequences of jealousy," he has not hesitated to hit "straight out from the shoulder, as every true-born Englishman should do," and the result is decidedly wearisome. One becomes tired of what Falstaff would—with justice in this case—call the "damnable iteration" of his grievances against judges, the Home Office, and the police. He seems to wish to produce the impression that all murderers during the past generation have been unjustly convicted. Why does he not stretch his elastic theory of madness so as to supply at least an extenuating circumstance of the stupidity which he imputes to those who have to administer the law? Dr. Forbes Winslow claims to have solved the problem of the identity of Jack the Ripper, but the evidence on which he rests his claim is flimsy. We are sorry to see such a monstrosity as "aura haematoma" twice repeated in a formal report signed by an LL.D. of Cambridge and an Honorary D.C.L.Oxford—degrees which, in Dr. Forbes Winslow's opinion, are of far more value to him than the greatest medical distinctions that could have been offered to him.

[7] *Recollections of Forty Years.* Being an account at first hand of some famous criminal lunacy cases, English and American; together with facsimile letters, notes, and other data concerning them. With 19 illustrations. By L. Forbes Winslow, M.D., D.C.L., LL.D. London: John Ouseley, Limited. 1910. (Pp. 384.)

NOTES ON BOOKS.

THE handbook by Dr. LEMOINE on medical emergencies,[8] might, as he says, be called a handbook of medical minor surgery, as it is devoted to those small operations which every practitioner must on occasion find it necessary to perform. It includes such subjects as the use of counter irritants, giving in detail the method of application of such agents as iodine, sinapisms, the actual cautery, blistering, fixation abcesses, and injections of air, distilled water, and alcohol for neuralgia; under "derivatives" he describes bleeding, cupping (wet and dry), leeches, baths and enemata. Under "paracentesis" he deals with puncture of the pleura, the pericardium, the peritoneum, the spinal canal, and with scarification. In the other chapters he describes washing out the stomach, irrigation of the intestine, the use of baths, packs, affusions, hypodermic medication, including medicinal injections under the skin, into the muscles, into the larynx and veins. We notice the omission of any description of salvarsan or of the method of using it, and we must express surprise that aspiration by means of a vacuum is still the method recommended for the removal of pleural effusions. For tapping the abdomen the author recommends that the patient should lie on his left side and the puncture be made midway in a line between the umbilicus and the anterior superior spine. In the description of intravenous injections for the treatment of diabetic coma it is misleading to say that their use has been followed by "numerous successes." A good feature of the book is that each chapter is preceded by a brief historical account of the method under consideration, which we commend to all readers as being of considerable educational value.

In his volume on *Diagnostic and Therapeutic Technic*[9] Dr. MORROW has endeavoured to bring together a large number of procedures employed in diagnosis and treatment which are in everyday practical use by hospital residents or general practitioners. He is of opinion that so far no single book contains all the information which he has incorporated in this work. Perhaps the best method of giving an idea of its scope is to enumerate the subjects of the twenty chapters which it contains. Chapter 1, Administration of general anaesthetics; 2, local anaesthesia; 3, sphygmomanometry; 4 and 5, the transfusion of blood and the infusion of normal salt solution; 6, hypodermic medication, administration of antitoxin, vaccination, acupuncture, venesection, scarification, subcutaneous drainage for oedema, cupping and leeching; 7, Bier's hyperaemic treatment; 8, collection and preservation of pathological material such as blood, sputum, urine, and stomach contents; 9, exploratory punctures; 10, aspirations; 11, examination of and various minor operations on the nose and accessory sinuses; 12, the ear, its examination and treatment; 13, larynx and trachea; 14, oesophagus; 15, stomach; 16, rectum and colon; 17, urethra and prostate; 18, bladder; 19, kidneys and ureters; 20, female generative organs. The text is illustrated by numerous figures, and there is a good index. The descriptions are easy to follow, and the amount of information contained in the work, as shown by the above enumeration of its chapters, is very large.

The sixteenth volume of the *Johns Hopkins Hospital Reports*[10] contains just five papers, which together occupy

[8] *Les interventions médicales d'urgence.* Par G. Lemoine. Paris: Vigot Frerès. 1911. (Demy 8vo, pp. 376. Fr. 6.)

[9] *Diagnostic and Therapeutic Technic.* A Manual of Practical Procedures employed in Diagnosis and Treatment. By Albert S. Morrow, A.B., M.D. Philadelphia and London: W. B. Saunders Co. 1911. (Sup. roy. 8vo, pp. 775; 815 illustrations. 21s.)

[10] *The Johns Hopkins Hospital Reports.* Vol. xvi. Baltimore: The Johns Hopkins Press. 1911. (Cr. 4to, pp. 675.)

nearly 700 pages and share some 150 illustrations. As, however, each of the papers is practically an elaborate monograph on the subject with which it deals, the space allotted to them is by no means too generous. In point of novelty the paper by Dr. John Staige Davis deserves first mention, since it deals in very comprehensive fashion with comparatively untouched ground—scalping accidents from a historical, clinical and experimental standpoint. Preceding this are two papers by Dr. George Walker, the first of which records studies in the experimental production of tuberculosis in the genito-urinary organs. There are two initial points he concludes at which tuberculous processes commence, the glomeruli of the kidneys and the tubules of the epididymis, and from the point of view of practical surgery these are the only sites which need be taken into consideration. Primary tuberculosis of the bladder never occurs, though infection from the kidney is common. Tuberculosis may descend also from the vesicles and prostate to the epididymis, but ascension from the epididymis to these organs is much more common. This paper is followed by an excellent bibliography of the subject. Dr. Walker's second paper deals with the effect on breeding power of removal of the prostate gland or of the vesiculae seminales. The conclusions to which his experiments seem to point are that when both the prostate and the vesiculae are removed sterility results, but the structure and functions of the testes and sexual capacity are unaffected. The two concluding papers are by Drs. J. Hall Pleasants and P. D. Cameron respectively. The first deals with obstruction of the vena cava from various causes, from both the clinical and experimental standpoints, and reports in detail 18 cases in human subjects. The second is an account of some very careful physiological and pharmacological studies on cardiac tonicity in mammals. The whole volume is of much interest and an admirable example of the work being carried on under the auspices of the institution from which it emanates.

MEDICAL AND SURGICAL APPLIANCES.

Inhaler for Use in the Semi-open Method.

DR. W. J. MCCARDIE (Birmingham) sends a description of a two-sized and valved inhaler for the administration of anaesthetics by the semi-open method; it is a modification of one he described some years ago. In order, he writes, to make respiration more audible and prevent the waste of anaesthetic caused by expiration through the sponge or gauze in the inhaler, I have had added to it a reversible inspiratory valve inside and an expiratory valve at each end. A coarse moist sponge or some dry gauze should be loosely packed into the inhaler above the inspiratory valve. I usually first breathe through the inhaler myself to make sure that respiration is easy. If a mixture be used, it is advisable to wring out or change the sponge or put in fresh gauze at intervals, in order to prevent accumulation of chloroform. I find this modified inhaler very useful for administering ether by what is practically the open method, and also for E_2C_1. It is small, easy to handle, and readily sterilizable; hence it is especially convenient in operations about the head or neck. Messrs. Salt and Son, Limited, of Birmingham, have well carried out my ideas in regard to this modification.

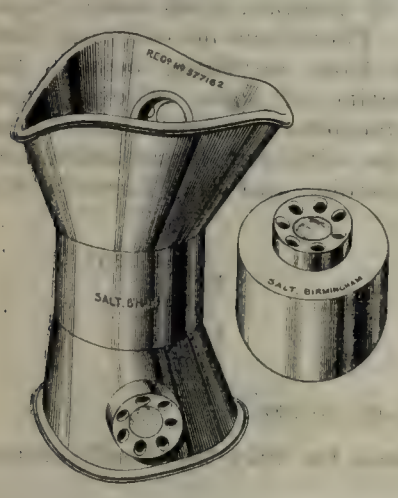

A Microscope Slide.

Dr. C. L. BIRMINGHAM (Westport, co. Mayo) writes to draw attention to a form of microscope slide which he has used for some years, and which he regards as both convenient and time-saving. The device consists in having about half an inch of one extremity of an ordinary slide bent upwards at an angle of 40 degrees. When such a slide is used for smear work it will be found, he says, that (1) the fingers do not get stained, (2) the slide can be dried by simply inverting it, and (3) there is no doubt as to which side contains the film. He adds that it is specially convenient for taking sputum specimens at the bedside, and that they can easily be fixed at once, preferably by "spiritine." The slides can be obtained from Messrs. Baird and Tatlock, Cross Street, London, E.C., at little over the ordinary cost of plain slides.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

KIDNEY MEDICINES.

THE results of analyses of some of the nostrums largely advertised for the cure of kidney troubles have already been published (BRITISH MEDICAL JOURNAL, December 8th, 1906, p. 1645; *Secret Remedies*, pp. 66–75)). The present report gives particulars of certain others which appear to be equally widely advertised and sold.

HOLDROYD'S GRAVEL PILLS.

These are supplied by Holdroyd's Medical Hall, Cleckheaton, in boxes at 1s. 1½d., containing twenty-five.

They are advertised as:

A positive cure for Gravel, Pains in the Back, Dropsy, Diseases of the Kidneys, Gout, Sciatica.

Some extracts from circulars enclosed in the package are:

Have you Pains in the Back, Between the Shoulders, In the Joints? If so, don't go on suffering day after day when you can be quickly and permanently cured by Holdroyd's Gravel Pills, which are guaranteed to give Immediate Relief in all cases of Gravel, Lumbago, Pains in Back, Dropsy, Wind and Water Complaints, Rheumatism, Gleet, Kidney Disease, Gout, Sciatica, etc.

They have never been known to fail and never can. They have cured diseases after long years of suffering, when various remedies, hospitals, and medical men, have tried in vain. A steady perseverance with these marvellous Pills has effected wonderful cures.

The directions are:

Two Pills three times a day, morning, afternoon, and night.

The pills were not regularly coated, but had a thick covering of loosely-adhering magnesia, more or less impregnated with oil of anise and colouring matter from the pill. After removal of this layer their average weight was 4.3 grains. Analysis showed the presence of oil of anise, soap, sodium carbonate, and powdered rhubarb. The proportions of the different ingredients were determined as nearly as possible, and the following formula was arrived at:

Soap	40 per cent.
Dried sodium carbonate	20 ,,
Powdered rhubarb	20 ,,
Oil of anise	10 ,,
Syrup	10 ,,

Estimated cost of ingredients for twenty-five pills, ⅓d.

DR. DE ROOS' COMPOUND RENAL PILLS.

These pills are supplied by the Dr. De Roos Medicine Co., London, N.W., at 1s. 1½d. per box, containing fifteen pills.

They are advertised as follows:

Dr. De Roos' Compound Renal Pills have over Fifty years' reputation as the most safe and speedy remedy for Pains in the Back, Gravel, Lumbago, Gout, Rheumatism, Weakness across the Loins, Sandy or other deposits, Stone, Stricture, and Diseases of Kidneys and Urinary Organs generally.

And in a pamphlet enclosed in the package it is stated that:

By their use alone many thousands are annually restored to health, and the agonies of gout and rheumatism may now be considered a voluntary affliction, as no one need suffer these excruciating torments if they will only have recourse to these Pills, which are confidently recommended by the proprietor as the only real specific, and being entirely free from colchicum, mercury, and other injurious ingredients, may be taken with perfect safety by sufferers of either sex. For weakness across the loins, sandy, or other deposits, discharges, and diseases of the urinary organs generally, they are altogether unrivalled. They correct acidity of the stomach, promote the functions of the kidneys, thereby preventing stone in the bladder, and many other serious disorders to which these important organs are liable. Many complaints, long supposed to be nervous, often arise solely from contamination of the blood with certain impurities which should have been carried off by the kidneys. Several unsightly eruptions of the skin and face also arise from the same cause, and may be as readily removed by these Pills.

Varying directions are given for different cases, the dose varying from "one or two" to "two or more" to be taken

* Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 982, 1350, 1928; 1911, vol. i, pp. 26, 91, 823, 1324; vol. ii, p. 32.

either every night, or every morning, or both night and morning.

The pills were not regularly coated but had a thick covering of powdered liquorice. After removing this, their average weight was 4.5 grains. Analysis showed the presence of soap (34.2 per cent., calculated as anhydrous), sodium carbonate (19.7 per cent. of the dried salt), a resin (3.3 per cent.), and a small quantity of vegetable tissue with moisture and extractive. The resin did not contain colophony, and did not show the characteristic behaviour of galbanum, but may have been derived from ammoniacum. It possessed no characters by which its source could be determined. The vegetable tissue appeared to be derived from a leaf, but could not be identified with any drug in ordinary use. No other active ingredient was found.

RED CROSS PILLS.

Red Cross Pills are supplied by Fox and Co. (Liverpool), Limited. The address on the package and in a circular enclosed is 8, Hope Chambers, Leather Lane, Liverpool, but a communication sent with the pills is headed "Registered and Head Office: 11 Chapel Walks, South Castle Street, Liverpool," and the first part of this address is crossed out, and "151 Dale Street" typed in instead. A 2s. 9d. box was found to contain sixty-one pills.

An advertisement of the pills is as follows:

Red Cross Pills are the Wonder of the Day. Cure for Kidney, Bladder, Backache, Gravel, and all discharge from any cause. 30 years Reputation. Thousands of Testimonials. Send 2s. 9d. postal order.

A box of the pills was sent for, no reference being made to the purpose for which they were required. They were received by post with the following letter (the punctuation is unaltered):

Dear Sir,

We thank you for your letter, Pills herewith. You will make better progress if you do not touch any intoxicants drink Soda and Lime Juice or a little Claret instead; at home plenty of Barley Water, if can help you in any way, please write to us, and we will do our best for you in the way of advice. With our best wishes for a speedy cure. Yours truly,

The following is an extract from a pamphlet enclosed in the package:

If you suffer from pains in the back and Lumbago, take the Red Cross Pills; thousands have been cured by their use.

If you suffer from Gravel, the Kidneys, and Inflammation of the Bladder, take the Red Cross Pills; thousands have been cured by their use.

If you suffer from old standing ailments which are the curse of manhood, and which bring premature decay of Nervous and Physical Strength, such as Strictures, Spermatorrhoe, Nocturnal Emissions, Prostate Affections, &c, &c, take the Red Cross Pills; thousands have been cured by their use.

If you suffer from what is generally known to be red sand deposit in the urine, or urine unclear and cloudy, take the Red Cross Pills; thousands are relieved every day by their use for the same complaints.

If you suffer from want of energy caused by old standing ailments and impurity of the Blood, take the Red Cross Pills; thousands have been cured by their use.

If you suffer from Gonorrhoea, Gleet, or discharges of any description, accidental, recent, or chronic cases, arising from any causes, take the Red Cross Pills; thousands have been cured by their use.

The Red Cross Pills are warranted to be purely vegetable and not to contain a particle of mercury.

Directions are given in which the dose varies from two pills twice a day to three pills three times a day. The pills were sugar-coated, and coloured pink externally. After removal of the coating they had an average weight of 2.6 grains. Analysis showed the presence of a resin (24.3 per cent.) which appeared to be copaiba resin, a much smaller quantity of oil of copaiba, magnesia (about 8 per cent.), with liquorice and starch; no other active ingredients were found. The principal constituent thus appears to be copaiba, from which most of the oil has been removed to facilitate its preparation as a pill, the remainder being apparently of the nature of excipient. Such pills sugar-coated, can be obtained wholesale at about 1s. per gross.

THE HOME DOCTOR BACKACHE AND KIDNEY PILLS.

These pills belong to a series called "The Home Doctor Remedies," supplied by Wm. S. Rice, R.S., Ltd., London, E.C. In a previous report (BRITISH MEDICAL JOURNAL, October 17th, 1908, p. 1193; *Secret Remedies*, pp. 158–160) we have referred to the advertisements of this firm in regard to the cure of rupture, and to the "Lymphol" supplied as part of the treatment; the connexion of these with "the Home Doctor Remedies" is thus described in a pamphlet sent to a person who had previously purchased an appliance for rupture:

In successfully treating rupture it is necessary to take into consideration the other physical disabilities of the patient as well as devoting attention to the rupture, and as there are some diseases which directly, and others indirectly, affect the cure of rupture, we have found it necessary to give special attention to those which are most likely to delay a cure.

We are not general Patent Medicine dealers, but we are Specialists in the Treatment and Cure of Rupture and it is to the fact that we give the closest attention to all the various conditions connected with each individual case that we have been able to attain such remarkable success in curing rupture. Whenever we find any complication that has any tendency to delay the cure, we endeavour to overcome this complication, so that the cure of the rupture may proceed without interruption. To that end we have gradually evolved a series of medicines for these complications, accepting none that had not been thoroughly tested and recommended by the best authorities, or that could in any way be harmful to the patient. The ingredients of each of our formulas are practically all vegetable products, and the formulas themselves are recommended and used by medical men of high standing.

We, ourselves, can strongly recommend these remedies, and patients can use them with confidence, knowing that in them they have the very best that actual experience can produce.

We supply these remedies at Prices which cannot be equalled where results are considered.

There are six other "Home Doctor Remedies" besides the Backache and Kidney Pills. The latter are thus referred to:

Our remedy for backache cannot be surpassed. In nearly every other remedy used it is necessary to gradually increase the size of the dose, as well as the frequency of it. With our remedy the same dose is taken at all times and will give exactly the same results. It is absolutely harmless and will at once relieve all disagreeable symptoms, and induce the kidneys to perform their proper functions.

The price is 1s. 9d. per bottle, post paid; a bottle was found to contain fifty-three pills, ovoid in shape, and coated with gelatine coloured black. After removal of the coating the pills had an average weight of 3.3 grains. Analysis showed the presence of potassium nitrate, powdered capsicum, a very little oil of juniper, with soap, sugar, magnesia, starch, and gum. There was no evidence that the extractive present came from anything besides the capsicum, but a small quantity of some other extract possessing no distinctive characters might have been present. The quantities of the different ingredients were determined as nearly as possible, and the formula was found to be, approximately:

Oil of juniper	3 per cent.
Potassium nitrate	26 ,,
Magnesia	8 ,,
Powdered capsicum	20 ,,
Sugar	17 ,,
Soap	1 ,,
Starch, gum, moisture, etc.	to 100

Estimated cost of ingredients for fifty-three pills, about ½d.

DR. KILMER'S SWAMP-ROOT.

This preparation is stated to be prepared only by Dr. Kilmer and Co., London, E.C.; the package, however, bears the words, "made in U.S.A." The price of the small size bottle is 1s. 1½d., and this was found to contain just over 3 fluid ounces.

An advertisement in an English periodical is headed:

Are your kidneys weak? Thousands of Men and Women have Kidney Trouble and Never Suspect It.

And other statements which follow include:

Most people do not realise the alarming increase and remarkable prevalence of kidney disease. While kidney disorders are the most common diseases that prevail, they are almost the last recognised by patient and physicians, *who content themselves with doctoring the effects*, while the *original disease* undermines the system. . . . In taking Swamp-Root, you afford natural help to Nature, for it is the most perfect healer and gentle aid to the kidneys that has ever been discovered.

On the front page of a pamphlet enclosed in the package appears the following:

How To Find Out.

Fill a bottle or common glass with urine and let it stand twenty-four hours; a sediment or settling indicates an unhealthy condition of the kidneys. When urine stains linen it is evidence of kidney trouble. Too frequent desire to urinate, scanty

supply, pain or dull ache in the back, is also convincing proof that the kidneys or bladder are out of order.

What To Do.

There is comfort in the knowledge so often expressed, that Dr. Kilmer's Swamp-Root, the great kidney, liver, and bladder remedy, fulfills every wish in quickly relieving pain in the back, kidneys, liver, bladder, and every part of the urinary passage.

And on the package it is stated that

This great specific cures Acute and Chronic Diseases of the Kidneys, Liver, Bladder or Urinary Organs, Kidney Complaint and all Uric Acid Troubles. Cures Bright's Disease. Dissolves, expels Gravel, Stone in Bladder. It heals and cures Irritation, Inflammation, Ulceration or Catarrh of Bladder, Blood or Mucus in Urine, Retention of Urine, Pain in Urinating, Frequent Calls, Highly Coloured Urine, Brick Dust in Urine, Stoppage of Urine, Thick, Sluggish, Scanty Urine. Builds up a run down Constitution and is the *Best Remedy* and most reliable for Liver Complaint, Torpid Liver and Biliousness, Expels Gall Stones, Diabetes, Dropsy. It cures Enlargement of Prostate Gland, Seminal Weakness, Spermatorrhoea, Impotence, Generative Debility and General Languor. Drives Malarial Poison out of system. Gravel. It removes the causes producing Nervousness. Sleeplessness, Headache, Neuralgia, Slime Fever, Inward Heat and Thirst, and cures when all other remedies have failed. It purifies the blood!

The contents of this bottle is a PURE MEDICINE, and contains *more effectual doses*, and each dose contains MORE MEDICINE than any other remedy at the same price.

Contains the active medicinal properties of Swamp Roots, Field Herbs, Sea Weeds, Native Balms and Balsams, possessing the rarest Electric and Therapeutic properties in a very concentrated form.

The directions on the label are:

May Take one, two, or three teaspoonfuls before or after meals, and at bedtime. Children less according to age. May commence with small doses and increase to full dose or more, as the case would seem to require.

The liquid was brown in colour and turbid, giving a small deposit on standing. Analysis showed that 100 parts by measure contained 48.9 parts by weight of solid matter, of which 46.5 parts consisted of sugars; 10.5 per cent. of alcohol (by measure) was present, with a trace of oil of wintergreen. The mineral constituents only amounted to 0.05 per cent., and consisted of the elements usually found in vegetable drugs; no alkaloid was present. The extractive was bitter, and contained emodin, agreeing in these respects with extract of cascara sagrada. A liquid containing 2 parts of extract of cascara sagrada and 0.5 part of oil of wintergreen in 100 parts by measure, together with sugar and alcohol in the proportions found in the original, agreed well with it in regard to degree of bitterness and the strength of the wintergreen flavour. The sediment of the original mixture, when examined with the microscope, showed traces of vegetable tissue in considerable variety.

KAROX COMPOUND.

This is supplied by the Karox Manufacturing Co., Moorside, near Manchester, in bottles containing one fluid ounce, price 1s. 1½d.

The method of advertising chiefly employed in this case is the insertion in newspapers of small paragraphs having the appearance of news paragraphs, and so worded as to appear to be disinterested information supplied by the paper to its readers. The following is an example of such a paragraph:

We have recently published a prescription for the relief and cure of Kidney and Liver Diseases, Rheumatism, &c. We regret to learn from some of our readers that in some cases the prescription has not been accurately dispensed, one of the ingredients being apparently substituted by other cheaper drugs for the sake of extra profit. As it is essential that the prescription should be dispensed accurately if the remedy is to be beneficial, we desire to warn the readers of this paper against such substitution, and would advise them to have the prescription dispensed only by chemists of well-known standing, or purchase the ingredients separately and mix them at home by shaking well in a bottle. The correct prescription is Tincture of Buchu, 1 oz; Karox Compound, 1 oz; Syrup of Lemons, 2 oz. Dose: One teaspoonful in a wineglass of water three times daily after meals, and at bedtime.

On the wrapper of the package "Karox Compound" is described as:

A Natural Remedy invaluable for promoting the regular action of the Liver, Kidneys, Bowels, and Kindred Organs, purifying the blood and building up the whole body.

Karox Compound is not a cure-all.

A large proportion of disease is the direct result of Sluggishness of the Liver and Kidneys and by gently stimulating these important organs it cures Biliousness, Headaches, Constipation, Indigestion, Jaundice, Offensive Breath, Skin Eruptions, Pains in the Back, Female Ailments, &c.

In a circular enclosed in the package it is stated that:

This Preparation is a valuable soothing and healing remedy in all cases affecting the vital organs of the body. . . . Karox Compound is always prescribed according to the following prescription to get the best results:

Tincture of Buchu	...	... one ounce.
Karox Compound	...	... one ounce.
Syrup of Lemon	...	... two ounces.

. . . Patients frequently suffer from dyspepsia or indigestion which serves to aggravate the disorder. In such cases a slightly different prescription should be taken so as to correct this trouble before proceeding with the former remedy.

Glycerine of Pepsin	...	... two ounces.
Karox Compound,	...	... one ounce.
Compound syrup of hypophosphites		one ounce.

. . . In response to many inquiries for a remedy suitable for persons suffering from Coughs, Colds, Bronchitis, Hoarseness, Tickling in the Throat, and Lung Troubles, we advise the following Prescription. Be careful that the various ingredients are fresh:—

Syrup of Squills	...	... one ounce.
Karox Compound	...	... one ounce.
Syrup of Virginian Prune		... two ounces.

The dose of each of these three mixtures is given as one teaspoonful, representing one-quarter of that quantity of Karox Compound.

The contents of several bottles of this preparation were examined, and were found to differ very considerably in composition. The ingredients found were magnesium sulphate, potassium citrate, alcohol, spirit of nitrous ether, sugars, vegetable extractive, and faint traces of alkaloid and formaldehyde. The magnesium sulphate varied from 1.45 to 6.87 parts per 100 parts by measure, and the potassium citrate from 4.76 to 6.55; the sugars were about 8 per cent., and the alcohol in one specimen was found to be 6 per cent. by volume. The liquid smelt strongly of spirit of nitrous ether and gave qualitative evidence of the presence of nitrite, but the amount was not sufficient to give any nitric oxide when tested in a nitrometer. The vegetable extractive was between 1 and 2 per cent., but showed no characters indicative of its source. There was a trace of sediment in the liquid, and microscopical examination of this showed the presence of yeast or yeast-like cells and the minute plants known as desmids.

EPSOM COLLEGE.

SIR HENRY MORRIS presided at the fifty-eighth annual general meeting of governors of Epsom College, held at 37, Soho Square, on June 30th.

The SECRETARY, having read the report of the scrutineers as to the successful applicants for pensionerships and foundation scholarships, a resolution in regard to the adoption of the annual report was proposed by the CHAIRMAN, who mentioned in the course of his remarks that he had recently invited the members of the General Medical Council to visit the college at Epsom, and those who were able to accept the invitation inspected the various laboratories and interviewed the science teachers. As a result they expressed the satisfaction and pleasure which their visit had given them, one of the members stating at the last meeting of the General Medical Council, when supporting a motion in reference to placing approved secondary schools on the list of institutions in which medical study may be commenced, that it was impossible to go round Epsom College without recognizing that the whole system of scientific teaching there was of a higher order than that found in the average medical school.

The report stated that the council desired to place on record their deep regret at the death of Sir Constantine Holman, M.D., who for over thirty years had been an active member of the Council, and for nineteen years of that period had held the office of treasurer, promoting the interests of the college by his energy and wisdom. The Council were glad that the report which they had to make to the governors was satisfactory, and whilst expressing the cordial thanks of the governors to all who had rendered assistance, they earnestly asked for a continuation of their help, since a sum of close upon £5,000 had to be obtained

by means of annual contributions in order that the full number of fifty pensionerships and fifty foundation scholarships might be maintained. In accordance with the Acts of Parliament, the following ten members of the Council had to retire at that meeting, and they would be proposed for re-election for a further period of three years: Dr. W. Collier, Sir Frederic S. Eve, Dr. Clement Godson, Mr. W. F. Haslam, Mr. G. H. Makins, Dr. F. Needham, the Rev. E. W. Northey, Mr. Bilton Pollard, Dr. Frederick Taylor, and Dr. Nestor Tirard. Since the last annual general meeting Miss F. W. Fletcher had been elected a Brodie Sewell Pensioner, and Mr. J. B. Kennedy had been elected a France Pensioner. There were at present on the books of the college forty-nine Ordinary Pensioners, eight Pugh Pensioners, ten France Pensioners, fourteen Da Silva Pensioners, three Morgan Annuitants, five Highett Pensioners, of whom two receive £30 and three receive £10 a year, one R. R. Cheyne Annuitant, and four Brodie Sewell Pensioners. The election that day would bring the number of ordinary pensioners up to fifty. Under the will of the late Mrs. Mary Helen Christie, of Ribsden, Windlesham, Surrey, who died in February last, a legacy of £3,200 had been bequeathed to the college to provide two pensions of at least £40 each for medical men. The Council also had pleasure in reporting the receipt of a donation of £50 from Miss Esther Du Bois, the interest thereon to be spent in prizes for boys on the foundation in memory of Anne Du Bois. The general work and the discipline had been satisfactory; the various games had been played with the usual enthusiasm; and the school institutions were in a flourishing condition. The study of aëroplanes and the problems of flight had proved to be very popular with the boys. A team again went to Bisley to shoot for the Ashburton Shield, and took the thirty-ninth place out of fifty-five schools; there was an unmistakable improvement in the shooting, and the Officers' Training Corps was doing excellent work. Since the last annual general meeting the Council had inquired very carefully and exhaustively into the administration of the college infirmary, as well as into the questions of sleep, dress, dietary, and medical inspection of the boys, so that the governors might rest assured that such matters would be brought into line with modern requirements. An inspection of the whole school was held in June, 1910, by the Oxford and Cambridge Schools Examination Board, and the report received by the Council was most satisfactory. The examiners also commented on the efficiency of the masters, and on the fact that they so conducted their classes as to attract the intelligent interest and attention of the boys in their work. Six boys had passed the whole or a part of the first examination for medical degrees of the University of London since the last report was issued, fourteen had passed the Matriculation examination of that University; nine had gained the Higher Certificate of the Oxford and Cambridge Schools Examination Board, and twenty-five had gained the Lower Certificate. Last year the Du Pasquier Scholarship was awarded to C. W. S. Davies-Jones, the Stone Scholarship was given to W. F. Marshall, and the Jenks Memorial Scholarship was awarded by the Royal College of Surgeons of England to G. Gibbons. The Hospital Scholarships were awarded as follows: St. Bartholomew's, M. S. Beaumont; London, J. N. Deacon; Middlesex, H. Wearne; St. Mary's, R. M. Handfield-Jones; St. Thomas's, G. M. Kendall; and University College, together with the Carr Exhibition which goes with it, H. Ll. G. Hughes.

THE *Year Book* of Livingstone College, published as a Coronation number, affords as usual a good idea both of the training in tropical medicine, hygiene, and modern surgery which its missionary students undergo, and of the sort of use to which they put their knowledge. The latter information is furnished by extracts, classified under the headings "personal experiences," "medical experiences," "surgical experiences," from letters of old students recording their doings. The editorial review of the year's work in tropical medicine includes a good account of personal prophylactic measures against malaria and yellow fever, and a reference to Professor Rogers's permanganate treatment of cholera. The value of the work done at the college is well indicated by the fact that one of its old students has discovered a new mosquito now officially known as *Culex pettigrewii*. Copies of this booklet can be obtained at price 6d. on application to the college at Leyton.

EPIDEMIC ACUTE POLIOMYELITIS.

THE epidemic of poliomyelitis in 1907 was the first to occur in any of the larger American cities; in fact, the first American epidemic of poliomyelitis in a densely populated district. The number of cases estimated to have occurred in New York and its vicinity during the summer and autumn of 1907 was at least 2,500. Recognizing the importance of the subject, the New York Neurological Society appointed in October, 1907, a committee to study the epidemic of that year, the committee being composed of representatives from the New York Neurological Society, the Pediatric Section of the New York Academy of Medicine, the Rockefeller Institute of Medical Research, and the Department of Health of the City of New York. Its report has just been issued as one of the admirable "Nervous and Mental Disease Monograph Series."[1]

In order to obtain statistical information, the committee sent 4,000 post cards to medical practitioners in the city and its vicinity, and the 470 practitioners who in return stated that they had some cases of infantile paralysis were sent blank forms to fill up with regard to each case. The fact that forms dealing with 752 cases were returned and found fit for careful analysis, and that the questions asked entered into minute details involving the expenditure of much time and trouble by the recorders, is sufficient evidence of their hearty co-operation and goodwill. The analysis and compilation of statistics were entrusted to Dr. Leader, and subcommittees were formed for the study of definite divisions of the subject. One subcommittee investigated the epidemiology, another the prodromal symptoms and period of onset, another the symptomatology and course of the disease, another pathology, and another the therapeutic results recorded.

The result is a complete study of this grave disease, which must be regarded as of the highest authority. Instead of publishing an array of statistics, the committee decided to limit these as far as possible, and to present only those which were thought important as a basis for the conclusions drawn. Broadly, their conclusions were as follow: "That epidemic poliomyelitis differs widely from the old-time conception of infantile paralysis; that it is an infectious—if not contagious—disease which may involve the lower portion of the brain axis as well as the spinal cord; that it behaves like other acute infectious diseases of childhood; that in some instances the general symptoms of infection are as prominent as the symptoms of paralysis; that it is a more fatal disease than was supposed, and yet recoveries are more common than was suspected; that meningeal symptoms are unusually common in the earlier stages of the disease, and that epidemic polioencephalomyelitis occurs, though rarely enough."

Epidemiology.

The report of the subcommittee on epidemiology showed that the epidemic spread rapidly along the ordinary routes of travel; that it was impossible to discover any susceptibility to the disease according to nativity (race), and that it was moderately communicable—about as much so as epidemic cerebro-spinal meningitis. With regard to diet, the most important result was that of the infants affected under two years of age, 42 per cent. were entirely breast fed, thus apparently eliminating food infection as a factor in the production of the disease.

Symptomatology.

As to symptomatology, the subcommittee saw no reason to depart from the former conception of the disease as one in which "the paralysis, however widely distributed or however narrowly limited, and in whatever part of the body, comes on after an acute onset marked by fever, vomiting, and convulsions." Moreover, "the paralysis is associated at an early date with atrophy, with changes in the electrical reactions, and with a loss of reflex activity in the paralysed parts." As to the time when the paralysis was first noted, the results were in entire agreement with former knowledge. Thus in 462 cases paralysis was developed within the first week of onset, and in 518 within the first fortnight. The lower extremities were first affected in 370, and the upper extremities in 83, the face

[1] *Epidemic Poliomyelitis.* Report of the Collective Investigation Committee on the New York Epidemic of 1907. Nervous and Mental Disease Monograph Series, No. 6. "Journal of Nervous and Mental Disease" Publishing Company. New York. 1910. (Pp. 119.)

in 7, and the neck in 2. Although flaccid paralysis is typical of this disease, rigid paralysis was reported in 38 patients. As to speech disturbances, the subcommittee say that in general they belonged to the dysarthrias, and may thus be regarded as indicating bulbar localization or cerebral involvement. In 7 cases no paralysis occurred, and the subcommittee considers it important to note that acute poliomyelitis may be present without palsy. The left side of the body was affected more frequently than the right; whilst both legs alone were affected in 168, the bladder was affected in only 87, and the rectum in 52. From this it was concluded to be probable that the central grey matter regains its normal function more rapidly than the anterior grey matter.

A point of some diagnostic value is that in 42 per cent. there was no pain; in the 58 per cent. in whom pain was mentioned the pains were in the joints and muscles in 90 per cent., and in the muscles in 7 per cent.; in only 3 per cent. was the pain located in the peripheral nerves. The subcommittee therefore concludes that the peripheral nerves are rarely the seat of pain in the early stages of poliomyelitis. With regard to recovery and as a correction to a general pessimism, it is pointed out that there was a marked regression of all symptoms except the residue of paralysis in 47.6 per cent., and a complete disappearance of paralysis in 5.3 per cent.

Pathology.

Drs. Simon Flexner and P. A. Lewis, of the Rockefeller Institute of Medical Research, furnish a review of their experimental results in monkeys, and Dr. J. Strauss gives a careful account of the pathological findings in eight cases which occurred in the 1907 epidemic and a general discussion of the whole subject of the pathogenesis of acute poliomyelitis. Drs. Flexner and Lewis preface the account of their own experiments by an outline of those of Landsteiner and Popper, who injected into the peritoneal cavities of monkeys an emulsion in salt solution of the spinal cord of a 9 years old child who had died from infantile paralysis. Paralysis of the extremities of the animals ensued; it was due to lesions closely resembling those present in the spinal cord in cases of infantile paralysis; they failed to transfer the disease from the affected monkeys to healthy ones, and inclined to the view that the virus had diminished in virulence on being passed through the animal first inoculated. These results were later confirmed by Knoepfelmacher. Dr. Flexner describes his own experiments, carried out in collaboration with Dr. Wollstein, upon monkeys, made with cerebro-spinal fluid from cases in all stages of the disease. In order to favour the transmission to monkeys the brain was chosen as the site of inoculation, which was made under anaesthesia through a small trephine opening. The results are shown in two charts, which show unmistakably that by employing the intracranial method of inoculation it is possible to carry the virus of poliomyelitis successfully through an indefinite series of monkeys. They show also that not only is the spinal cord active but the cerebral cortex also, and that a delayed or unsuccessful inoculation may be converted into a successful one by reinoculation with an active virus. The experiments also showed that infection is possible by many different avenues—for example, by intravascular injection, by subcutaneous injection, intraneural injection, and by injection into the abdominal cavity. Careful film preparations and sections were made, but without finding either bacterial or protozoal parasites, and, as has already been stated in earlier issues of the JOURNAL, the conclusions to which these investigators came was that the infecting agent belongs to the class of minute and filterable viruses which have not yet been demonstrated under the microscope with certainty. The animal experiments pointed to an incubation period varying between four and thirty-three days. It was found that the spinal cord from a human case retained its virulence after being kept constantly at −2° C. to −4° C. for forty days. This result, the authors hold, indicates that in epidemics of poliomyelitis, the reduction in cases which occurs with the onset of cold weather does not depend upon the destruction of the virus, though the cold may affect its multiplication. Reinoculation experiments showed that an attack confers definite immunity.

The principal results of Dr. Strauss's careful study of the pathological changes found in 8 cases which occurred during the epidemic of 1907 and in the summer of 1909 were (1) That the vessels play a very important part, the vessels, arteries, veins, and capillaries being markedly congested, in some cases excessively distended, the hyperaemia being found at all levels of the cord. Haemorrhages occurred in some cases. (2) That next to the hyperaemia the striking feature of the vascular change was a perivascular infiltration, this infiltration being adventitial and composed of small lymphocytes, derived in the author's, as in Goldscheider's, opinion from the fixed mesoblastic cells of the adventitia. (3) That, dependent upon these changes, interstitial changes had occurred in the grey matter, both diffuse and local, the diffusely infiltrated cells appearing to come from both peripheral and central vessels, and the collections of cells or foci always lying in proximity to the branches of some vessel, generally vein or capillary. (4) That changes in ganglion cells were found to be an important factor but of only secondary importance. In Dr. Strauss's words:

> The most recent investigations have shown that the old view which held that the lesion in the ganglion cells is the essential one, and that the interstitial lesion is secondary, is incorrect. The pathological process in acute poliomyelitis concerns primarily the vessels and secondarily the ganglion cells.

It should be added that though the brain cortex showed evidences of vascular irritation and of cellular infiltration in some cases, the ganglion cells in the medulla, pons, and basal ganglia generally escaped serious morphological alterations, even when near foci of infiltrated tissue.

Bacteriology.

Although little space is given in Dr. Strauss's report to the important matter of bacteriology, he makes reference, after a succinct review of the results obtained by others, to Schulze's observation of an organism which he believed to be the Jaeger-Weichselbaum meningococcus. He says:

> Despite the incomplete character of the identification this has been handed down in the literature as a case of poliomyelitis due to the meningococcus, and as supporting the theory of a relationship between infantile spinal paralysis and cerebro-spinal meningitis.

He then relates certain investigations he made in collaboration with Huntoon; a specific organism was not found, but Gram-positive cocci were seen, and a Gram-negative, slightly motile bacillus, which proved to be due to contamination. Thus, they conclude, since the disease is only positively recognizable with the onset of paralysis, attempts at immunization should be directed towards lessening the spread of the disease in the central nervous system, and to offset the toxic action on the ganglion cells at as early a period as possible.

Therapy.

There being no specific treatment the subcommittee advised the relief of prominent symptoms, the promotion of elimination, the employment of the ice-cap, and, from the moment of the occurrence of paralysis, prolonged hot baths, the patient being placed in a bath of 100° F., raised gradually to 104°, and kept in it fifteen minutes every four hours. The baths, they say, relieve pain, promote sleep, and may possibly have a beneficial action upon the congested spinal cord. As anodynes the most efficient are the bromides, antipyrin, or phenacetin, with chloral or codeine. Although there is very little evidence of excessive pressure of the spinal fluid, lumbar puncture, when it has been tried, seems to have been of use. In the after-treatment efforts have to be directed mainly to averting deformity from contraction. Baths and exercises are recommended and described, and, failing these, surgical correction. Faradic stimulation, they maintain, is of little use.

The report as a whole, because of its unusually wide field of investigation into a disease which has deeply engaged the scientific curiosity of medical men all over the world, because of the authoritative standing of the investigators, and because of the careful partition of the labours of the committee and subcommittees, commands attention. It will for long stand as a model of organized medical effort, and the editors of this excellent series of monographs are to be congratulated upon the selection of their sixth number.

RESEARCH DEFENCE SOCIETY.

THE annual meeting of the Research Defence Society was held in the Library of the Royal College of Physicians of London on Monday, June 19th. The EARL OF CROMER, president of the society, was in the chair. Among those present were the Duke of Wellington, Lady Dorothy Nevill, Lord Claud Hamilton, Sir Henry Knollys, the Bishop of Oxford, the Master of the Temple, Mr. Anthony Hope Hawkins ("Anthony Hope"), Sir Frank Lascelles, and Sir James Dewar.

Letters of regret for inability to attend were received, among others, from the Duke of Abercorn, Sir Lawrence Alma-Tadema, Sir William Anson, Lord Avebury, Miss Balfour, Sir Robert Ball, Canon Barnett, Lord Bath, Lord Blyth, the Dean of Canterbury, Lord Hugh Cecil, Lord Robert Cecil, the Bishop of Chichester, the Dean of Christ Church, Sir Savile Crossley, the Bishop of Ely, the Bishop of Exeter, Lord Faber, Sir Luke Fildes, Mr. W. W. Jacobs, Lord Kilmorey, the Bishop of Kingston, Lord Malmesbury, Sir Herbert Maxwell, Sir Gilbert Parker, the Bishop of Rangoon, Lord Sanderson, the Bishop of Stepney, Lord Waldegrave, Mr. W. F. D. Smith, and the Dean of Westminster.

Report.

The report was read by the Hon. SYDNEY HOLLAND. Referring to it, he spoke of the increase in the numbers of the society, and of the work of the past year. He went on to say it was shameful that the antivivisection shops lately opened in London should exhibit stuffed animals, put in position for imaginary experiments, without any intimation that no operation was permitted on any animal in this country unless the animal was under the influence of an anaesthetic.

After Dr. SANDWITH had presented the Honorary Treasurer's statement, Sir FREDERICK TREVES moved the adoption of the report. He said the last twenty-five or thirty years had witnessed an advance in the science of medicine which in magnitude and in value of results had never been approached since healing became an art. This great advance had led to the saving of innumerable lives, to the relief of unmeasurable pain, and to the providing of a cure for a series of diseases which were but a short while since regarded as beyond hope. This progress had been in the main accomplished by experiment on animals. More than that, without such a method of research the present measure of success could never have been attained. These experiments had not only led to a widely extended knowledge of the general processes of disease, but they had had an immediate, wide, and beneficent effect upon practical medicine. Methods of diagnosis had been rendered simple and exact. Methods of treatment, hitherto undreamed of, had been made not only possible, but safe and successful. So striking and valuable had been the results of that line of inquiry with which this society was directly concerned, that it was unnecessary at the present day to give specific instances to enforce the fact; but it was hard to resist the temptation of referring to the incalculable service which experiments on animals had rendered in the investigation of sleeping sickness. Without such experiments it was impossible to see how that investigation could have proceeded, and it was possible to say that without this process of research the mass of useful knowledge now available could never have been acquired. It was by experiments on animals that the various methods of transmission of the trypanosome had been learnt. It was upon these experiments that the pathology of the disease had been largely founded, and it was by these means that the lines of possible treatment were being, in great measure, followed out. At the present moment the disease was stayed in Uganda by clearing the northern shores of the lake of its human inhabitants. It was evident that this measure could only be a temporary one, and that it could not be regarded as curative, or even as satisfactory. It was known that the tsetse flies around the northern shores of the Victoria Nyanza still retained their infectivity for sleeping sickness, in spite of the fact that the native population was removed from the lake shore some three years ago. It was therefore absolutely necessary to ascertain if the animals which were found habitually by the shore of the lake were capable of acting as hosts of the parasite of the disease. It would be interesting to know what measures the opponents of research would advise if experiments upon animals were to be excluded from an inquiry so urgent and so essential to the saving of human life. Sir Frederick Treves went on to say that the history of the past showed that every great progressive movement was attended by the opposition of a few who appeared to think that by mere clamour the advance of the tide could be stayed. The man of science, absorbed in his work, was apt to be unmindful of the clamour outside his laboratory windows. But mere clamour, if loud enough and persistent enough, might do harm, and it had been one object of the society to inform the world what value should be attached to this particular outcry. The society had, at the same time, been able to enlighten the public mind on the subject of modern medicine, to make intelligible the difficulties encountered, the elaborate means by which those difficulties had been overcome, and the priceless benefits to humanity which had resulted from the research involved.

Mrs. GARRETT ANDERSON, in seconding the adoption of the report, referred to the amount of the society's work, as shown by 150,000 papers distributed during the year and 90 addresses and lantern lectures given. It was extraordinary that research should need to be defended; but this need was due to "uninstructed conscientiousness," that bane of the world's progress.

Address by Lord Cromer.

Lord CROMER, in his presidential address, said that in considering the position which the society occupied to-day, it should be borne in mind that in the process of educating the public mind the scientists, confident in the benevolence of their intentions and secure in the uprightness of their cause, allowed the antivivisectionists to get a long start. The reports which had been read afforded, however, abundant proof that no effort had been spared during the last three years to make up for lost time. The number of subscribers had been steadily increasing. Among these he noticed with special pleasure the name of Agha Khan, whose generous support testified to the fact that their cause met with sympathy among the most enlightened of their Indian fellow subjects. He did not propose to dwell on the magnificent results so far achieved by the experimental method in the saving of lives and the preservation of health both of human beings and of animals. In that respect their case had been proved up to the hilt. The objects which the society sought to attain were two-fold. They wished not only to point to the results obtained by the experimental method, but also to make known the facts as to experiments on animals in this country and the regulations under which they were conducted. That was a most important object, because they had to recognize that there were a considerable number of distinguished men and women in this country who, it might readily be admitted, were animated by very high moral sentiments, and who in more or less decisive tones condemned their proceedings. They represented an aspect of the case which not only demanded fair consideration, but which, in so far as the general principle involved was concerned, would, he felt assured, excite the active sympathy of all civilized human beings. Was it not almost a contradiction in terms to say that the members of a profession whose main work in life was to relieve suffering should themselves be indifferent to the sufferings of others in the persons whether of human beings or of the brute creation? If such an accusation was occasionally made by ill-informed persons, the explanation, he thought, was in a large measure to be found in the circumstance that many of those who made it were ignorant of the true facts. It was one of the most important duties of the society to instruct them. Their opponents might be divided into several different categories. There were those who distorted facts and wilfully calumniated the whole of the noble profession with a view to holding its members up to the unmerited odium of an ill-informed public. There was another category, who, although he thought they adopted an ethical standard both irrational and practically unobtainable, were at the same time much more deserving of respect than the former. He took as an example the evidence given before the Royal Commission by the Rev. Lionel Lewis, who thought it would be "a very great injustice" to inquisitors of the Middle Ages to compare

them to modern vivisectors. The reason he gave was strange. It was that the inquisitors believed that the pain they inflicted was for the good of the soul of the person upon whom it was inflicted, whereas the vivisectors could not claim that they wished to do any good to the dogs, rabbits, and guinea-pigs whom they put to death. Lord Cromer had always thought that the inquisitors sought a moral justification for their conduct in the paramount necessity of preventing the spread of infection, and in the belief that by burning a few heretics they would save the souls of the unburnt and far more numerous residuum, just as the vivisector, by inflicting a painless death on some few animals, saved the lives of other animals of the same species, not to speak—and the addition was not devoid of importance—of the lives of numberless human beings. A third category of critics admitted the necessity of experiments on living animals, but urged the necessity of obviating by all possible means the infliction of pain. They were, happily, able to meet these critics on common ground. In dealing with this branch of the subject, the question at once arose of the extent to which pain was now inflicted. He did not say it was altogether absent, but he honestly believed it was reduced to a minimum. He invoked the testimony of the late Sir Guillum Scott, formerly chairman of the Society for the Prevention of Cruelty to Animals. The attention of that gentleman was drawn to the views expressed by the society of which he was the chairman, before the passing of the Act of 1876, at a time when the law in respect of vivisection was far less stringent than now. At that time the secretary of the society, whilst holding that experiments were at times performed which were in their nature beyond the legitimate province of science, at the same time readily acknowledged that he did not know a single case of wanton cruelty, and that in general the English physiologists had used anaesthetics where they thought they could do so with safety to the experiment. Sir Guillum Scott was asked if the experience of the society was still in that direction. To this he gave a decisive reply, "Personally I say so certainly." Sir Guillum Scott added that in only one solitary instance had his society since its foundation instituted a prosecution for cruelty connected with the experiments on animals. That case happened only a few days after the Act of 1876 came into operation, and was in no way connected with any alleged physiological cruelty. The person against whom the prosecution was instituted held no licence. This important admission made by the chairman of a society specially created to watch over the interests of animals, was of itself almost sufficient to sweep away at one stroke all the sensational fiction at times heard about imaginary tortures inflicted in physiological laboratories. Lord Cromer went on to say that he quite admitted that all reasonable safeguards even against occasional abuses should be instituted, and if the Commissioners, whose report they had for so long been anxiously expecting, could suggest any unobjectionable safeguards in addition to those which already existed, the public might feel assured that the scientific world would give to their proposals fair and even sympathetic consideration. But it was essential, to quote the words of the Royal Society, uttered through the mouth of their spokesman, Lord Rayleigh, that these safeguards "should be so framed as not unnecessarily to interfere with the advance of knowledge." Unnecessary restrictions would, Lord Rayleigh added, "not only cripple or arrest the growth in this country of an important branch of biological science, but in so doing would reduce the efficiency of both physician and surgeon to mitigate or cure disease." Considering the eminence of the gentlemen who composed the Commission, Lord Cromer could not doubt that full weight would be given to that essential condition. In any case, their duty as a society was clear. It was to welcome any well-considered and innocuous change in the existing law, but to offer a strenuous opposition to any measures that would retard the advance of knowledge and result in displacing this country from the position it ought to occupy in the van of scientific and beneficient progress.

The report was adopted unanimously by a show of hands.

In proposing a vote of thanks to Lord Cromer, Sir FRANK LASCELLES referred to the recent meeting of the Royal Society for the Prevention of Cruelty to Animals, when a resolution had been passed adverse to Lord Cromer's vice-presidency of that society. He was very glad that Lord Cromer had upheld the principle that there was no opposition between the objects of the Research Defence Society and those of the Society for the Prevention of Cruelty to Animals.

Dr. SANDWITH, in seconding the motion, bore testimony as an eye witness to the reforms in the treatment of animals in Egypt which Lord Cromer, by his personal influence among Europeans and Egyptians, had been able to bring about. He had established on a sound footing the Cairo Society for the Prevention of Cruelty to Animals, and until he left Egypt had taken the closest interest in the work of that society. When that beneficent reform had been in existence a dozen years, no fewer than fifteen branches of the society had been started in Alexandria, and the other chief towns of Lower and Upper Egypt. One of the last reports stated that during one year 3,574 suffering animals were admitted to the hospital in Cairo provided by by the society for their reception.

The vote of thanks was carried by acclamation.

Lord CROMER, in acknowledging it, said, with reference to the recent action at the meeting of the Society for the Prevention of Cruelty to Animals, that it would be a mistake to attach much importance to the little skirmish between himself and Mr. Coleridge. His only wish had been to save that society from the clutches of its more extreme supporters, and he hoped that his action had produced that effect. He went on to speak of the proposal that there should be more inspection under the Act. The Research Defence Society would give careful consideration to such a proposal. The society could not support any proposal for such inspection as might hinder or harass men of science in their work. Speaking of the proposal that dogs should be exempted from experiment, he said he believed it was founded on sentiment, not on reason. He did not see that it was in any way worse for a dog to die under an anaesthetic in a physiological laboratory than in the lethal chamber at Battersea. There were certain experiments, very limited in number, for which it was necessary that dogs should be used, and these experiments were of very great value to mankind.

LITERARY NOTES.

THE late Dr. J. Frank Payne was recognized as one of the most scholarly of the physicians of his day. He was a great collector of old books on medical subjects, and his library contained nearly everything of special value in that department of literature. Many medical collectors will doubtless be interested to learn that the library is to be sold by auction by Messrs. Sotheby, Wilkinson, and Hodge, at 13, Wellington Street, Strand, on Wednesday, July 12th, and two following days. The sale will begin at 1 o'clock each day. The collection may be viewed two days before the opening of the sale. The catalogue, which occupies ninety-five pages, may be procured on application to Messrs. Sotheby, Wilkinson, and Hodge. Among the rare works to be offered for sale we note the first edition, in black letter, of Andrew Boorde's *Dyetary of Health* (1562) and his *Breviarie of Health* (1575); William Bulleyn's *Bulleins Bulwarke of Defence against all Sicknesse, Soarnesse, and Woundes that doe dayly Assaulte Mankinde Whiche Bulwarke is Kept with Hilarius the Gardener and Health the Phisicion, with the Chirurgians to helpe the Wounded Souldiours*, in black letter, 1579; Sir Thomas Elyot, *The Castell of Health*, in black letter (1541); the *Tabulae Anatomicae* of Eustachius, edited by Lancisi (1714); the *Lilium Medicine* of Bernard de Gordon, in gothic letters (1496); *Select Observations on English Bodies of Eminent Persons in Desparate Diseases first written in latin by Mr. John Hall Physician, after Englished by James Cook, author of the Marrow of Chirurgery, etc.* (Dr. Hall married Shakespeare's elder daughter Susanna, and many of the cures were performed at Stratford-on-Avon, among his patients being his wife, his daughter, and Drayton the poet): several copies of the works of William Harvey, among them the limited edition of his *Opera Omnia*, published by the London College of Physicians in 1766, which has on the fly-leaf a Latin inscription in the handwriting of Mark Akenside which shows that the edition was sug-

gested and supervised by the poet-physician; the original edition of the *Essay on Gleets*, by J. P. Marat, the French Revolutionist, dedicated "To the Worshipful Company of Surgeons in London" (1775); several editions of the famous *Regimen Sanitatis Salerni*, and a large number of works on the plague. There is also a collection of 470 portraits of eminent physicians, surgeons, anatomists, etc., from the earliest times to the present day, arranged in alphabetical order; many of these are rare. Another interesting feature of the collection is a number of old diplomas, chiefly Italian. Messrs. Sotheby, Wilkinson, and Hodge's Catalogue does not contain Dr. Payne's Miltons or his herbals, of each of which he had, we understand, a most valuable collection. We are informed by Dr. Norman Moore that Dr. Payne bequeathed to the Royal College of Physicians of London the following manuscripts: (1) A copy of the *Antidotarium* of Nicholas of Salernum, one of the best known books of that school; (2) *Compendium Medicinae* of Gilbertus Anglicus, a very rare manuscript; (3) The original MS. of Edrych, *In libros Pauli Æginetae*, in a beautiful handwriting; (4) *De simplici medicina*—Dr. Payne thought perhaps this might be a work of Roger Bacon; (5) *Nicholas Falcutius*, and two later MSS.; (6) Medical Receipts; (7) Nath. Butter, *Choice of Sundry Medicines*. Dr. Payne also bequeathed the following two printed books: Brown, *On the New Cure of Fever*, 1691; and Choulant, *Handbuch der Bücherkunde*.

In a note on the late Sir W. S. Gilbert, which appeared in *Truth* of June 7th, Mr. Labouchere, speaking *in propria persona*, says that he always thought Dr. Quin the wittiest man of the mid-Victorian period and next to him Charles Lever. Gilbert, he says, was a very pleasant companion, and amusing in conversation. It is noteworthy that, in the opinion of so good a judge, the two wittiest men of the middle of the last century were members of the medical profession. Quin, who was the first homoeopathic physician in England, was a Doctor of Medicine of Edinburgh, and Lever was a Bachelor of Medicine of Trinity College, Dublin. Gilbert, if we are not mistaken, was the son of a medical man.

In an American book to which reference was made in the JOURNAL of May 27th—*Getting On: The Confessions of a Publisher*, issued in this country by T. Werner Laurie, Clifford's Inn—Mr. John Adams Thayer tells the story of his campaign for "clean advertising." He took as the basis of his operations the principle that all patent medicine, objectionable and doubtful matter must be declined. His difficulty was where to draw the line. Fraudulent advertising, as he says, is objectionable always, but objectionable advertising is not always fraudulent. There are grades in advertising matter as in conduct. Black and white are easily distinguished. It is with the greys that doubt comes. He gives an amusing example:

> It happened that one of these neutral cases arose soon after my coming, and I saw in it a chance for an object lesson more forcible than a Niagara of verbal argument. There turned up one day an order for a hair restorer, an advertisement which had found the *Delineator* a friendly medium for years. I decided to decline this order; but I wanted the company to know what I was doing. The official I picked out to consult was bald.
>
> As I put before him the large advertisement of the hair restorer, with its "Before" and "After" cuts of a man as ill thatched as himself, I told him that the order amounted to three thousand dollars, that we had space for it, that it had run for many years past. I added that to me, however, it seemed a grave error to accept it unless it could do the things it promised. "Do you believe in such things?" I asked. "Ay," he exclaimed. "Do you think that if there was a remedy I'd have stayed bald for thirty years?"

Thayer goes on:

> There was nothing half way about our reform. It struck clear to the root of the evil. Many advertisers promised impossible values for trivial amounts, and it was not long before we announced that not only patent medicines and objectionable advertisements would be declined, but all which were extravagantly phrased. . . . The word "cure" had to be stricken from every advertisement before it appeared in our columns. If a well-known make of vaseline was said to "cure" sunburn, we obtained the advertiser's consent to change the word to "relieve" or declined his money.

So far from losing by this policy, what Mr. Thayer calls "high-grade advertising" came in good volume, and by the close of the second year after the initiation of the campaign their total income from that source was nearly £20,000 more than the year before. Mr. Thayer's ambition extended much further. He wanted to see this "much-needed purge" universal. Nearly all the general magazines inserted advertisements of liquors, patent medicines, and other matter as questionable, and, with one exception, the weeklies were also transgressors, the religious organs being in some cases worse than any others. The chief sinners of all were the great daily newspapers. On October 8th, 1902, Mr. Thayer delivered an address before the Sphinx Club, an association of men devoted to various advertising interests. Of the numerous humbugs the newspapers had helped to foist upon the public, he chose three conspicuous examples, only one of which—the Divine Healer, Francis Truth—concerns us here. The story is worth telling, as it gives a vivid picture of the quack at work.

> It is the press of New England which should bear the odium of Francis Truth's shameless success. This quack, schooled to unusual cunning, among fakers of the most dangerous type, easily found complaisant publishers to print his advertisements, headlines and all, in the guise of news. Thanks to their trumpeting of his miraculous "cures" he established himself luxuriously in one of Boston's best sections and surrounded himself with scores of clerks who with series of manifolded letters "treated" the stricken and deluded thousands who could not flock directly to his door. To those who did come he showed a trophy room decorated with discarded canes, crutches, and braces. Among these convincing relics were also displayed the charred ends of many expensive cigars, for even the smoking habit came within the range of his divine activities. When the crash came the office boy testified that these stumps had been smoked by the Healer himself after his exhausting labours for ailing humanity. But there were profits before the crash, ten months of profits which accumulated at the astounding figure of thirty thousand dollars (£6,000) a week. Then Francis Truth was placed under arrest. The publishers escaped.

Thayer adds that a bill introduced recently in the Massachusetts Legislature to prohibit the publication of certain paid matter in newspapers unless marked as an advertisement will be a corrective of many similar frauds. Notwithstanding the partial success of his efforts Mr. Thayer failed in an attempt to found a society for the suppression of fraudulent and objectionable advertising. His endeavours to enlist the co-operation of prominent men in the advertising business were met with answers like those of the invited guests in the parable of the wedding feast. Nevertheless he continued the fight and did all in his power to induce the publishers of other periodicals to follow his example. Here he scored one far-reaching success.

> Among the letters I sent out was one to *Collier's Weekly*. It was of the "Constant Reader" brand, which sometimes has an influence with the publisher. It ran: "I see *Collier's* every week, and I find in it patent medicine and other advertisements which *The Ladies' Home Journal* and *The Delineator* do not insert. Why do you accept such advertising? I am sure you do not need the money." A Philadelphia man fathered the communication, and the response duly forwarded to me was cheering. "Upon receipt of your letter," it read, "I called our advertising staff together and we have decided as soon as certain contracts are completed, to discontinue the insertion of such advertising." The letter was signed by Robert Collier, the brilliant son of the founder of this great house. Occupied as editor, this advertising phase had not been seriously considered by him. He needed but this word of mine to set him thinking. Filled with crusading zeal himself, Mr. Collier not only drove every doubtful advertisement from the pages of his famous weekly, but enlisting the trained intelligence of Mr. Samuel Hopkins Adams, printed the series of articles entitled "The Great American Fraud." These, combined with the vigorous attack made by *The Ladies' Home Journal*, dealt patent medicine advertising the severest blow it ever received.

Dr. K. N. Macdonald (Edinburgh) has sent us the following interesting extract from St. Vincent of Lerins (Lerinum, off Cannes). Writing in the fifth century, St. Vincent (as quoted by Alban Butler in his *Lives of the Saints*) says that "heretics are like those poisoners or quacks who put off their destructive potions under inscriptions of good drugs and under the title of infallible cures. They imitate the father of lies who quoted scripture against the Son of God." This extract, we suppose, is taken from his *Commonitorium adversus profanas omnium haereticorum novitates*, written three years after the Council of Ephesus, in which he lays down the famous text of orthodoxy, *quod ubique, quod semper, quod ab omnibus creditum est.*

The *Cambridge Manuals of Science and Literature*, edited by Dr. P. Giles and Mr. A. C. Seward, F.R.S., are not intended primarily for school use or for young beginners. The educated reader often experiences a difficulty in obtaining short books in which recent discoveries or modern tendencies are treated in a semi-popular and broad style; it is with a view to meet this difficulty that the series is designed. It is published by the Cambridge University Press. Among the volumes that have already appeared are: *The Coming of Evolution*, by Professor J. W. Judd, F.R.S.; *Heredity in the Light of Recent Research*, by L. Doncaster, M.A.; *Plant-Animals: A Study in Symbiosis*, by Professor F. W. Keeble, Sc.D.; and *An Introduction to Experimental Psychology*, by Dr. C. S. Myers. There will be only one volume on natural science in the September issue, namely, *Beyond the Atom*, by Professor J. Cox, who will describe the theories of modern science which have been elaborated in order to explain such phenomena as radium, etc. Science, however, will be more adequately represented in the batch of volumes to appear towards the end of the year, when monographs on *Primitive Animals*, by Mr. Geoffrey Smith, and *Hypnotism*, by Dr. Betts Taplin, Vice-President and Past-President of the Psycho-Medical Society, will appear. Among other volumes in preparation are *Prehistoric Man*, by Dr. W. L. H. Duckworth; the *Psychology of Insanity*, by Dr. Bernard Hart; and the *Wanderings of Peoples*, by Dr. A. C. Haddon, F.R.S.

The *Australasian Medical Gazette* of May 20th states that during recent excavations at Swanport, on the Murray River, large numbers of aboriginal skeletons were unearthed. It is added that a local resident remembers having heard from the blacks many years ago that a great sickness had at one time swept away half their number, and that those who died were buried hastily. To this epidemic, which from the description of the symptoms he believed to be small-pox, he attributes the vast collection of bones discovered. At other parts by the side of the same river there are said to be similar accumulations of human remains. It cannot now be determined with certainty whether these bones mark the sites of old burial places, or whether they are the relics of people who perished in some devastating outbreak of disease. "It is, however, of great interest," says our contemporary, "to recall that Taplin, writing in 1879, mentions having found mounds along the Coorong, which opens into the Murray mouth, and that the natives had told him that here were buried those carried off by a great sickness. This illness he, likewise, believed to have been the small-pox. From various sources there are reasons for attributing the date of occurrence of this disease to a time at, or rather a little before, the settlement of Adelaide. It is quite possible that the small-pox which decimated the aborigines round Sydney soon after the colonization of New South Wales and appeared among them again in 1833, swept through part of the continent and at this period affected the tribes of the Murray."

SCIENCE NOTES.

THE recent capture and arrival at Billingsgate of a giant halibut, weighing over 700 lb., has served to draw attention to this valuable and justly esteemed food fish. It is one of the largest of our fishes, and it is easily the largest of the flat fishes, its nearest rival being the turbot. An interesting point of difference between these two fishes is that the turbot has its eyes on the right side of its head, the halibut on the left. Most of the common flat fishes, such as the plaice, flounder, and brill, resemble the turbot in this respect. The flat shape and peculiar situation of the eyes in those fishes is in correlation with their habits. They live at the bottom of the sea, and are for the most part "ground feeders." Their food, nevertheless, is extremely varied, a matter which has received much attention from fishery authorities. In the last annual report of the Fishery Board for Scotland, for instance, an interesting account of the food of the halibut is given by Dr. Scott. More than a thousand fish were examined, and the majority were found to have been feeding on other fishes. The haddock and whiting seem to be the favourite food of the halibut, but crabs and lobsters of various kinds are also frequently eaten. Worms and shellfish are disdained, but cuttlefish, which make a fair mouthful, find considerable favour. Other recent investigations of the same nature have been undertaken by Johnstone in the Irish Sea, and on a very large scale by Todd from Lowestoft. Johnstone devoted most attention to the plaice, and found that its food consisted, to a preponderating extent, of shellfish, and in particular the razor-shell (*Solen*). Todd found the same thing on the East Coast, but he showed further that the younger fish lived chiefly on crustaceans and worms, and that it was only as they grew older that they took to shellfish. Another interesting point he made out was that plaice practically stop feeding in November, and do not resume to any extent till March. He also found that the turbot feeds almost exclusively on fishes. These observations are more than matters of curiosity—they throw light on the habits of fishes, the trade in which is a source of considerable revenue.

It is not always a safe experiment to introduce animals into a new country, and especially animals which are known to be prolific in their natural haunts. The disastrous consequence of the introduction of rabbits into Australia is too well known to need more than mention, while the sparrow pest has become a public menace in America. It is only sixty years ago since some British emigrants in Ohio, in the sentimental desire to make their new country more like home, decided to bring over some of their familiar song-birds. A few pairs of nightingales, warblers, and so forth were accordingly dispatched, and amongst the lot were two or three pairs of sparrows. Some of the birds took to their new home, but in a couple of years the nightingales and warblers had died out. Not so the sparrows. They found the new conditions much to their liking, and throve and multiplied abundantly. In ten years they became a public nuisance and a source of great economic loss. Soon a price was on their heads, but they prospered notwithstanding, and spread far and wide in the temperate parts of the States and Canada, from the Atlantic to the Rockies, and they have made their way as far west as California. The direst persecution has failed to make much impression on their numbers, and to-day they constitute one of the most serious difficulties which the agriculturist has to face. At the same time they provide a remunerative form of sport for the younger American generation, who bag them at the rate of 2 cents a brace; and as a further means of getting quits it is even suggested by some that sparrow-pie should form the staple dish of the poorer classes.

We learn from *Nature* that during Whit-week a conference was held in the zoological laboratory of the University of Utrecht for the purpose of founding an International Embryological Institute. Austria, Belgium, England, France, Germany, and Holland were represented at the meeting by workers in the domain of vertebrate embryology; and letters were received from Switzerland and the United States in support of the scheme adumbrated by the conveners of the meeting. Professor R. Bonnet, of Bonn, was elected first president of the institute, and it was decided that the first aims of the new institution should be (1) the collection of complete series of well-preserved embryos of every mammalian order; and (2) a more intimate co-operation between embryologists for the purpose of attaining a uniformity in nomenclature, and the solution of the special difficulties in this field of investigation. This organization appears to embody the idea of the late Professor His of Leipzig, who suggested the establishment in each country of a central institute which should have for its chief aim the organization and the co-ordination of biological research in its own territory, and serve as a means of co-operation with similar institutions in other countries. In other words, his far-reaching scheme implied the establishment of a regular organized army to attack the problems of living matter, which are being assailed at present only by the wasteful methods of guerilla warfare. During the last decade this proposal has been put to a practical test in the United States and Europe (except Great Britain) by the establishment, or recognition, of certain institutions as centres for co-ordinating researches upon the brain, under the direction of the "Brain Commission" of the International Association of Academies. The success already attained in this domain of biology has no doubt encouraged the embryologists to follow in the footsteps of the neurologists.

BRITISH MEDICAL ASSOCIATION.

ANNUAL SUBSCRIPTION.

Those Members who have not already paid their Subscription for the current year are requested to forward to 429, Strand, London, a Cheque or Post Office Order for 25s. in favour of the British Medical Association, crossed London County and Westminster Bank. Members joining as from July 1st should forward 12s. 6d.

British Medical Journal.

SATURDAY, JULY 8TH, 1911.

THE AMENDMENT OF THE INSURANCE BILL.

THE House of Commons commenced the Committee stage of the Insurance Bill on Wednesday, and a note of the course of the discussion will be found in the SUPPLEMENT. From the decisions arrived at and the general course of the debate, conclusions of some importance may be drawn as to the probable course of events in respect of matters more directly affecting the alterations desired by the British Medical Association than those discussed on the first day. From the medical standpoint, the bill is no doubt improved by Mr. Joynson-Hicks's amendment, which was adopted without a division. It restricts those who may become voluntary insurers to those whose total income from all sources does not exceed £160 a year; when read with the definition of "employed" contributor in the first schedule to the bill, this means that the class to be insured under the bill is restricted to those whose income does not exceed the income tax limit, with, however, the important exception of persons engaged in manual labour, who are to be compulsorily insured whatever their annual income. It is as well to say plainly that Mr. Joynson-Hicks's amendment, though diminishing the injury which the bill as at first drafted would have done to the medical profession, does not meet its demands with respect to the income limit as regards medical benefits. A most important section of private medical practice is concerned with persons whose income lies between 30s. and £3 a week, and the £2 limit is the highest which the profession can accept as equitable. A matter which merits the attention of the profession is the reception given by the House of Commons to Mr. Wedgwood's proposal to substitute "may" for "shall" in the third line of the first clause. This raised at the very opening of the debates in Committee the question of the compulsory principle, for, had his amendment been adopted, compulsory insurance under the bill would have been done away with. Only three members gave any countenance to Mr. Wedgwood's proposal, and it was negatived without a division. It is important, therefore, from the point of view of practical politics to recognize that in this matter of State interference in relation to national insurance, the profession has to reckon not with the present Government only, but with, practically, the whole of the present House of Commons.

The State Sickness Insurance Committee of the British Medical Association met on May 22nd, June 2nd, and July 3rd, but in order that the work referred to the committee should be carried on promptly and continuously, the committee appointed an executive subcommittee, consisting of its Chairman, Dr. Maclean, Chairman of Representative Meetings; Mr. T. Jenner Verrall, Deputy Chairman of Representative Meetings; Dr. J. A. Macdonald, Chairman of Council; Mr. C. E. S. Flemming, Dr. E. Rowland Fothergill, Dr. R. A. Lyster, and Dr. J. H. Taylor. After the matter had been fully considered, the amendments published in the SUPPLEMENT of June 24th, and referred to again in connexion with Dr. Addison's amendments last week, were drawn up covering the points settled by the Special Representative Meeting. Arrangements were then made for an interview with the Chancellor of the Exchequer; this interview began on June 28th, and was concluded on June 29th. Mr. Lloyd George accepted on behalf of the Government the amendments respecting the free choice of doctor desired by the Association subject to the provision that if the Insurance Commissioners are satisfied that the practitioners included in any list are not such as to secure an adequate medical service in any area, the Commissioners may dispense with the necessity of the adoption of the system as respects that area, and authorize the Health Committee to make such other arrangements as the Commissioners may approve. He also agreed to include among the Insurance Commissioners one or more medical practitioners having personal experience of general practice—that is to say, if the Insurance Commission is, as appears to be intended, a very small body, only one practitioner will be appointed. He accepted also the Association's proposal that the Advisory Committee to be appointed to assist the Insurance Commissioners should include registered medical practitioners having similar experience in practice. With regard to medical representation on the local Health Committees, he agreed that the registered medical practitioners in the area of each Health Committee should themselves elect two medical practitioners as members of the committee, and that, in addition, the Insurance Commissioners should include at least one registered medical practitioner among such members of each committee as are to be appointed by them. He also accepted the principle of local Medical Committees, but held that these committees should be organized not by the Insurance Commissioners, but by the profession, and stated that he was prepared to put down a form of words which would provide that in every district in which a local Medical Committee was elected by the local medical profession this committee should have a statutory right to be consulted by the local Health Committee on questions of medical employment generally.

With regard to freedom from friendly society control, the Chancellor of the Exchequer indicated his agreement in principle with the Association's amendments, the effect of which would be to place the administration of medical and maternity benefits in the hands of the local Health Committees, thus freeing the profession from friendly society control, but he

did not see his way to put down amendments in the name of the Government. He pointed out, as he had previously stated to the deputation from the County Councils Association and the Association of Municipal Corporations on June 27th,[1] that he had secured the adhesion to this principle of the Hearts of Oak, that the collecting societies and industrial insurance companies intended to follow the same course, and that in this way the administration of medical benefit by the local Health Committees was assured in respect of a large number of insured persons, estimated by him to amount to about one-half. Though he declined to put down amendments on behalf of the Government, he undertook to leave this matter to the judgement of the House of Commons, and personally to support it. As stated last week, amendments of the form desired have been put down by Dr. Addison; similar amendments have also been put down by Dr. Hillier and by Mr. G. Barnes; and as these gentlemen belong respectively to the Liberal, Unionist, and Labour parties, it will be seen that the principle commands the support of members holding very different political views. Similar amendments have also been put down by Sir Philip Magnus and the Earl of Ronaldshay.

With regard to the question of income limit in respect of medical benefits, the Chancellor of the Exchequer not only declined to accept the amendments desired by the Association, fixing the limit at £2 a week, but intimated his intention to oppose them.

SLEEP.

FEW biological problems are more obscure and, perhaps by reason of that obscurity, more fascinating than that of sleep. For ages the object of poetic wonderment and of philosophic speculation, and since the advent of scientific methods of research its concomitant bodily manifestations have been investigated by physiologists, its disorders described by physicians, and its psychic phenomena analysed by psychologists, yet there is no agreement as to its fundamental nature and origin. For some the essential somatic factor is a circulatory alteration—a cerebral anaemia; for others a partial intoxication, and consequent immobilization of neuro-cerebral tissues by the products of the daily metabolism; whilst others regard it as an instinctive process deeply implanted upon living matter by the recurring sequences of night and day. The facts upon which these theories have been based are, of course, complementary rather than contradictory, and the theories themselves may be not simply parallel, but convergent to an as yet undiscovered solution.

For long, sleep has been regarded as a partial suspension of bodily and mental activities as a negative phase of being, a temporary death—that is, it has been described as the opposite of certain known bodily and mental states. But for some time psychologists like De Sanctis, Forel, O. Vogt, and particularly Claparède, have maintained that sleep is not a negative or a passive state, but a positive function of reflex order.

One of the most noteworthy and original expositions of this view of sleep has been given recently by Dr. Albert Salmon of Florence.[2] In a book which must have taken him many years to prepare he marshals an astonishing array of biological, physiological, and psychological facts. He gives excellent reasons for believing that the vascular changes are the accompaniments and not the causes of sleep. Also, though devoting much space to psychic theories—including in these the conception of sleep as an instinct (Claparède, Gorter, Brunelli, and others)—and admitting that quotidian slumber is preceded by various psychic processes, he is able to adduce very cogent reasons against their acceptance. The general conditions which favour sleep are opposed to mental activity. Many great intellectual workers have been small sleepers—witness Cicero, Napoleon, Voltaire, Kant, Goethe, Chatterton, and Schiller—whereas in infancy, in idiots, in the voracious insane and in old age, sleep is intense. Of greater worth is the toxic theory, but this, again, fails to explain how one may be awakened from profound slumber and resume mental operations with entire lucidity. Further, the injection of the blood of fatigued into non-fatigued animals causes great fatigue, but not sleep.

Briefly, according to Dr. Salmon's theory, sleep is an active, nutritive, organic or vegetative function, secretory in nature, and presided over by an organ of internal secretion; indeed, he says, sleep may be very well defined in the terms of Hippocrates: *Somnus labor visceribus, motus in somno intro vergent.*

The first point, that sleep is a nutritive and reparatory process, is one which will be generally conceded, though with a certain reservation as to Dr. Salmon's interpretation of the fact. *Qui dôrt dine* is an old adage, and the connexion between obesity and sleep is notorious: "Let me have men about me that are fat; sleek men and such as sleep o' nights," said Caesar, whereas those with a "lean and hungry look," are said to think too much and sleep little. Further, Dr. Salmon says, there is a seasonal variation—sleeping, eating, and the sexual appetite all attaining their apogee in spring in accordance with the old saying, "dolce Aprile, dolce dormire"; and lastly, drugs which favour nutrition favour sleep.

It may be argued that the nutritive gains are the result of the sleep, but Dr. Salmon maintains that neither is the cause of the other, but that both are due to one cause—an internal secretory process. In an interesting argument by analogy, he lays stress upon the fact that, like sleep, most secretory processes are submissive to psychic stimulation; thus, lacrymation, salivation, the mammary and the spermatic secretions, may be each excited by psychic stimuli, though fulfilling their acts by reflex mechanisms. Still more notable examples are gastric and urinary secretion. He quotes Pawlow as saying that the *primum movens* of the normal neuro-glandular mechanism of the stomach is the desire for food—"*l'appétit, c'est du suc*"—and says that in precisely the same way the mechanism of sleep is set in motion by, among other psychic factors, the desire or appetite for sleep. Both appetites arise from co-anaesthetic sensations; the processes themselves both exhibit periodicity or rhythm—a characteristic mark of secretory processes—and both give "curves of work" which are strikingly analogous. Further, sleep and gastric secretion undergo parallel physiological and pathological modifications, augmenting and diminishing in the same measure under identical conditions, even drugs, to take an extreme example, which determine gastric hypersecretion acting as hypnotics, and those which lessen gastric secretion—atropine, for example—provoking insomnia. Even more demonstrative, in Dr. Salmon's hands, is the analogy between sleep and urinary secretion; but as his arguments in this case are similar to those given above, no more need be said.

Another analogy is furnished by the remarkable

[1] SUPPLEMENT, July 1st, p. 4.
[2] *La fonction du sommeil.* By Dr. Albert Salmon of Florence. Paris: Vigot Frères. 1910. (Pp. 235.)

phenomenon of hibernation. Like the quotidian form, hibernal sleep is preceded by instinctive or psychic acts; its course, if plotted diagrammatically, is found to give a "curve of work" perfectly analogous to that of ordinary sleep, and the two processes have the same biological significance—a retardation of the metabolism of the body and a saving suspension of certain bodily and mental activities. In hibernating animals, however, there is one organ whose activity is in marked contrast with the quiescence of the rest of the body. The so-called "hibernal gland," a lobulated and highly vascular organ lodged beside the thymus gland, and containing in its structure granules of a fatty body said by Engelmann to be lecithin, so waxes with the approach of winter that it may reach from the level of the axilla the whole length of the vertebral column, and so consumes itself during hibernation that at the end of that period it is reduced to a mere shred of fibrous tissue. The investigations of Carlier, Serbelloni, Engelmann, and others leave no doubt that this body is the scene of the greatest nuclear activity during hibernation, that in addition to "labile fat" it is rich in chromatin, and that it contains also a colloid substance which has been found in the blood of hibernating, and only in the blood of hibernating, animals.

All of these facts are certainly suggestive, but Dr. Salmon is able to push his argument very much further. He brings forward clinical, pathological, and experimental evidence in proof of the considerable part played by the hypophysis or pituitary body in the production of sleep. In subjects with hypophyseal tumours, with and without acromegaly, persistent and irresistible somnolence, relieved in some cases by extirpation of the tumour, has been recorded by numerous observers. In cases of physiological or pathological alterations of other organs—for example, in myxoedema—such as are combined with hyperactivity of the hypophysis, there is somnolence; whereas, in opposite conditions of these same organs—for example, in exophthalmic goître—joined, as a rule, to diminished actions of the hypophysis, there is insomnia, relieved by pituitary extract. Further, slow intoxications of gastric, intestinal, renal, or hepatic origin, which have been experimentally shown to be attended by a hypersecretion by the hypophysis, so great that at times they lead to a hypertrophy of its parenchyma, excessive sleeping is a common feature. Further, the experiences of a long list of experimenters quoted by Dr. Salmon tend to show that pituitary extract, whether administered orally or injected directly into healthy animals, produces, among other changes, increased tendency to sleep.

It is not to be understood from the foregoing that in Dr. Salmon's view sleep is the immediate result of the secretion by the hypophysis of some substance which exerts a direct immobilizing influence on nervous tissues. Such a conception would again resolve sleep into a negative phase of being; whereas he maintains that it is a positive, active, and restorative function. The true function of the hypophysis in the production of sleep, according to Dr. Salmon, ranges itself alongside the other results of its activity, as shown by its widely-known adipogenic and osteogenic action—that is, in its antitoxic and trophic influences upon the metabolism and nutrition of the body in general, which possibly it may share with other glands of internal secretion. These antitoxic and trophic influences bear upon the nervous elements of the cerebral cortex, as well as on other tissues of the body; but it is in the cortical cells of the brain that Dr. Salmon finds the fundamental condition of sleep. The nature of this process is secretory and restorative, and, in so far as the nerve cell is glandular in function, it consists in the elaboration and secretion of the chromatic substance or chromatophile granules—a substance which is admitted to be nutritive in function, and whose accumulation, Dr. Salmon maintains, offers a solid barrier to the cellular conductivity which its disintegration favours.

When one falls asleep, therefore, according to this theory, one does not do so because of exhaustion, not even because of the consumption of stores of nutritive material in the tissues of the brain—intimately tied as these may be to the integrity of cerebral action—but because of the beneficent secretion by the cortical cellules, in response to extracerebral stimulation, of substances which inhibit their action, which lay a soothing finger upon the mental activities of to-day, while they provide for the necessities of to-morrow.

TROUBLES IN TRINIDAD.

IN our issue for January 28th we set forth at some length the main features of an inquiry which had recently been held in Trinidad as the result of certain allegations made in the local House of Legislature against the head of the medical department of the island, and we stated that the final decision in the matter rested with the Secretary of State for the Colonies. That decision has now been forwarded to Trinidad, and is of a kind most satisfactory, not only to Surgeon-General Clare and his friends, but to all those who have at heart the good name of the medical profession, the efficiency of public medical services, and just administration everywhere. In regard to Dr. Clare, who since the termination of the inquiry has been upon leave, the decision of the Secretary of State is that he can return to the colony and his work with the assurance that after the most searching inquiry nothing has been proved against his personal honour or against his professional ability, and that he is entitled to be indemnified for the expenses which he was forced to incur through the appointment of the Commission and the procedure adopted. On some of the points raised at the inquiry the Secretary of State did not feel in a position to decide for himself; he therefore referred them to the Local Government Board as being the highest authority on all matters relating to disorders which come under the operation of the quarantine acts. These concerned the conduct of medical officers finally responsible for advising a Government as to quarantinable diseases and the conduct of those who initially report such cases. In both connexions the President of the Local Government Board reported entirely in favour of Dr. Clare's actions, the net outcome being a decision by the Secretary of State that all the allegations against Dr. Clare's methods in regard to quarantinable diseases were based, like most of the other charges, more on unsupported suspicion than on any solid foundation of fact. In short, there are only two small details in respect of which Surgeon-General Clare's actions are not absolutely upheld by the Secretary of State—namely, his overlooking the desirability of transmitting to Government a copy of a covering letter received by him with a report concerning one of his subordinates, and his view that once a death has been certified as due to a certain cause such certification must not, under the quarantine convention, be modified, even if subsequently proved to be inaccurate. Inquiries such as this are always very worrying, and the chief medical officer concerned in this particular case is all the more to be congratulated on its result, because the inquiry was held on lines which might easily have spelt ruin to any man, however strong his initial position, however great his popularity, and

however admirable his conduct. On this particular point we had something to say when we referred to the matter last January, and we need now merely observe that the Secretary of State takes the view then expressed. He holds that the Commission was not judiciously constituted, that one of its members should have been a medical expert unconnected with the island, and that, before it was held, the issues it was to try should have been determined, instead of the cart being put before the horse by the charges being formulated when the evidence had been completed. The recognition by the Secretary of State of the desirability of a medical expert forming part of such a court is especially worthy of note, as it is a point often overlooked. But of still greater interest, perhaps, is the fact that the action of Mr. Harcourt in this matter proves that medical officers in the service of the Crown Colonies and officers in all other departments have at their head a Caesar to whom, if their actions have been right, they can appeal without fear. The Colonial Office, in short, has at its head a man who is both strong and just, and one who, when the career of an officer is at stake, can be trusted to act with absolute impartiality. There have been Secretaries of State for the Colonies who in such and many other connexions have invariably taken the path of least resistance, and others who have not hesitated to sacrifice both individuals and justice in the presumed interests of more highly placed officials, or in order to meet local prejudices. But Mr. Harcourt has shown that he is of neither of these types. In addition he has made it clear that he is prepared to insist on adherence to accepted methods of determining the rights and wrongs of any disputed case, and will not countenance either insubordination or disloyalty on the part of members of a service, however much private influence they may possess. These are facts which must make for efficient administration and more contented officers throughout the whole colonial service.

"RADIO-ACTIVE IODINE AND MENTHOL."

WE are glad to be able, in response to numerous inquiries, to publish this week a paper by Dr. Leonard Robinson, Physician to the Hertford British Hospital, Paris, on the treatment of tuberculosis introduced by Professor Szendeffy and Dr. Kertez-Aba of Budapest. The treatment has been in use in Paris, under the direction of Dr. Bernheim, for some time past, and we understand that he will shortly visit London in order to demonstrate the treatment at the Brompton Hospital for Consumption and at the London Hospital. Some obscurity exists as to the composition of the injections, and the formula as given by Dr. Leonard Robinson is too vague in regard to the amount of radium, and is defective in giving no vehicle in which the ingredients are to be dissolved or suspended; moreover, the first item—peptonized iodine—is not only an unknown but an impossible compound. In a letter which appeared in the *Times* of June 3rd Dr. A. de Szendeffy, who introduced the treatment, says, "We do not use iodine in a free state, but in an associated condition; with the different albumen iodines and those which are known as peptone iodines." From this it may be inferred with some approach to certainty that iodized peptone is intended. Many organic compounds containing iodine have been introduced in recent years, and it has been claimed for them that they possess advantages over iodides; among these is a peptone compound containing about 15 per cent. of iodine, which is probably what is intended to be used here. The term "radium barium chloride" should be more precisely defined, as such a preparation can be obtained of different strengths, the proportion of radium contained in it varying. One-tenth of a drop of ether solution is ordered, but the strength of the solution is not stated. The menthol, of course, presents no difficulty, but it does not appear possible to name a vehicle in which all the ingredients would dissolve; probably the best procedure would be to suspend the iodo-peptone in sterilized oil in which the other ingredients had been dissolved. It is not clear whether the quantities named are intended for one dose. In a circular referring to "Dioradin, Preparation No. 3," bearing Dr. de Szendeffy's name, which is supplied with boxes containing six ampoules of the injection, and costing 8 francs 50 cents, it is stated that "the Preparation No. 3 of the Dioradin contains both terpins and iodine salts. The antiseptic and stimulant effects of the terpins show as well their excellent action on phagocytosis." The formula quoted does not include any "terpins," which presumably means terpenes, but any essential oil containing terpenes could be added if the vehicle were oil. We hope that more specific information as to the composition of the remedy will be given by Dr. Bernheim when he visits this country. Meantime, it may be said that such evidence of the value of the remedy in respect of pulmonary tuberculosis as has been at present produced is of a very unconvincing character.

A NEW NIGHT TERROR.

THE motor is now, we suppose, a necessity of life to many, but it cannot be denied that it has also added a new weapon to the armoury of Death. We do not speak here of the ever-lengthening tale of accidents which it causes, or of the various forms of disease which, rightly or wrongly, are placed to its discredit. The Londoner is condemned to live his laborious days in a pandemonium of noise, to which the motor contributes a large share. But at night—at least in the outlying districts where so many citizens now dwell—it ceases to trouble. To those, however, who live in the quarters where the fiend of fashion holds revelry, London becomes a veritable "city of dreadful night." Sir Henry Morris, therefore, deserves the thanks of the public for having called attention (in the *Times* of June 22nd) to the heedlessness with which chauffeurs, rushing through the squares and streets of the West End after midnight, murder sleep for the brain workers who live there by their totally unnecessary hootings in every variety of discordant tones. As he says: "The offence has of late become more intense and more distressing than ever; and many persons living in this district have told me that they, like myself, are paying penalty in lack of sleep and quietude at night. After the lull in simultaneous and in rapidly recurring noises of this kind in all directions which midnight brings, and after an hour or so of that sleep which is begotten of the sheer fatigue of the day, one is aroused by the variety of fearsome sounds which the motor horn is capable of producing. From 1 to 2 o'clock, from 2 to 3 o'clock, and later in the early morning these repellent noises are renewed at frequent intervals. They strike the ear, and, indeed, it may be said they bruise the brain, much as a hot and vivid flash of light affects the eye, or the plunge of a knife hurts the flesh." Sir Henry Morris says that for the most part it is private motors which make the most frequent and the worst noises. They are bearing the votaries of pleasure to and from balls and receptions, and the chauffeurs sound their horns apparently in pure lightness of heart. The wearied people who are trying to find the "balm of hurt minds" might say, like the frogs in the fable to the boys amusing themselves by throwing stones into the pond, "What is sport to you is death to us." If to those who are only tired the noise is unbearable, what must it be to the sick whose chance of recovery may depend on their getting a few hours of unbroken sleep? How real the evil is of which he complains is shown by the way in which the question has been taken up by members of the public, by the press, and by the Automobile Club. The matter is one that calls for decisive action on the part of the police. We are glad to note that a bill has been

brought in by Captain Murray, Liberal member for Kincardineshire, to amend the law in respect of warning instruments on motor vehicles. The object of the bill is to give the President of the Local Government Board power to make regulations defining the nature of the warning instruments which may be used in certain areas at certain times. We earnestly hope that this bill will became law.

A NEW DEVELOPMENT OF VEGETARIANISM.

SWIFT attributed the "strange vertigo in's head," which made his life a burden, to eating too much fruit in his youth. This theory Johnson dismisses with the unsympathetic comment that probably every one eats as much fruit as he can get. This, as a general statement, is not strictly true, for there are fruits and fruits, and not all fruits are either palatable or beneficial to all persons. But *pace* our fruitarian friends, fruits have always been held in high esteem by the medical profession. The "grape cure" is well known. Strawberries are said by some to be of great efficacy in gout, rheumatism, and certain disorders of the liver and bladder; it is a pity that the crop is so much at the mercy of our variable climate, and the season in any case so short that the sufferer has, in a figurative sense, to follow Herrick's advice and gather the rosebuds while he may. Pears, apples, apricots, all of which contain malic acid, have also their therapeutic uses. Gooseberries and oranges have a place in the dietary of invalids. Citron juice is serviceable in scurvy and often in Barlow's disease and lumbago. Of prunes and figs nothing need be said, for their virtues—though their reputation, after all, is founded as much on tradition as on experience—are generally acknowledged. Nor have the therapeutic and dietetic uses of vegetables been left to be discovered by modern faddists. Cato regarded cabbage as the sovran'st thing on earth for every ailment and hurt, from a fever to a fracture. At the present day the banana and the potato are held in high repute by some physicians as adjuvants in the treatment of rheumatism; the potato has, moreover, been raised by a French physician to the rank of a specific for diabetes. A larger field for the therapeutic action of vegetables is reported to have lately been opened up in France. In this, as far as we can make out, each vegetable is credited with a specific therapeutic action. The carrot, for instance, seems to hold a large place in the system, as to it is attributed the property of curing bilious attacks. Vegetables, it is said, act not only on the functions of the body, but on the temper and character, and even on domestic conditions. Thus, if a man is afflicted with a troublesome mother-in-law, the treatment is to send her to Vichy and feed her on carrots. But we seem to remember a proverb to the effect that it is easy to lead a certain animal to the water, but not so easy to make it drink. A plate of spinach is an excellent remedy for a too dictatorial character; it will also mitigate too aggressive amorous proclivities. But the system goes even beyond this. Artistic taste and sentimental feeling may be cultivated, and as it were grown, by eating French beans. The potato helps to maintain the mental equilibrium. It may therefore be prescribed to enthusiasts of all kinds. The remedy, however, must not be abused, as too much potato—and this we can well believe—causes in the patient the development of a desire to do nothing. This action might, however, have a distinct advantage in the case of too ardent reformers. Lord Melbourne, whenever it was suggested to him that something in the British constitution, or in the general scheme of things, needed mending, used to ask, "Can't you leave it alone?" This attitude does not tend to progress, but it is often expedient. For instance, massive doses of potato might perhaps be useful in preventing a politician in a hurry from pushing through a far-reaching measure without adequate discussion. The system would seem to have been partly foreshadowed by Gilbert in *Patience*, where Bunthorne sings that:

> A sentimental passion of a vegetable fashion must excite your languid spleen.

MORE NOSTRUMS FOR KIDNEY DISEASES.

THE secret remedies dealt with in the analytical report published this week (p. 77) comprise a further selection from those advertised for the cure of backache and kidney disorders. Several of those which were described in the previous report on nostrums of this class were pills, nearly all containing potassium nitrate and oil of juniper. Of the four pills now reported on, only one contains these ingredients; two consist chiefly of soap and sodium carbonate, and the fourth contains copaiba as the only active substance found; this, although advertised for backache and kidney troubles, appears to be principally put forward for gonorrhoea, gleet, and similar disorders. Neither of the two liquids described in the report appears to contain any very active substance; one of these, of American origin, and stated to contain more effectual doses and more medicine in each dose than any other remedy at the same price, proved to contain 10.5 per cent. of alcohol and 46.5 per cent. of sugars, with only 2.4 per cent of vegetable extractive, which appeared to be partly derived from cascara sagrada, a trace of oil of wintergreen giving an aromatic flavour to the whole. Needless to say the claims advanced for this combination do not show more modesty than is displayed in other cases, including as they do the assertions that it cures Bright's disease, expels gall stones, cures impotence, drives malarial poison out of the system, is the best remedy for liver complaint, torpid liver, and biliousness, and possesses the rarest electric and therapeutic properties in a very concentrated form. The other liquid preparation appears to depend chiefly on magnesium sulphate and potassium citrate, with a very little sweet spirit of nitre and some vegetable extractive in which no active substances were recognized. The extraordinary carelessness with which the ingredients of nostrums may be thrown together is shown by comparing the contents of different bottles; one contained five times as much magnesium sulphate as the other. This preparation is foisted upon the public as an ingredient in a "prescription," which is published in various papers in the guise of an item of information; readers are advised to take it only to "chemists of well-known standing," in order to avoid some other ingredient being substituted for one of those named; probably chemists of well-known standing who received such a "prescription" would take good care to inform the purchaser that one of the ingredients was a secret nostrum and not a recognized preparation of known composition like the others, and our analysis may allow of a little further information being now given. One of the pills reported on is one member of a series called "The Home Doctor Remedies," which furnishes a good illustration of the advantage to the proprietor of a nostrum in supplying directly to the public. In this case the proprietor is a limited company—though using the name of an individual—claiming to be "Specialists in the Treatment and Cure of Rupture," and inviting every one suffering from rupture to submit particulars and measurements, etc., in order to be supplied with an appliance and the application, shown in a previous report to be a tincture of capsicum with certain essential oils, which is to "cure" the rupture. In this way large numbers of names and addresses are doubtless obtained, and the persons applying are not only furnished with particulars of the rupture "treatment," but also—in due course—with the particulars of "The Home Doctor Remedies" for various disorders, remedies said to have been evolved for the treatment of complications

interfering with the cure of rupture; they no doubt provide a remunerative subsidiary business. The pamphlet describing them contains the statement "we have no large advertising expenses, and are thus in a position to exclude all but the very best quality of articles used in their manufacture, and still supply the articles at a reasonable price;" how reasonable the price is may be seen by comparing the estimated cost of the ingredients (about ½d.) with the price charged for the pills (1s. 9d.).

CORPORAL PUNISHMENT.

It has been said that in these days of humanitarian sentimentalism it is not safe for a school master to flog any one but the son of a duke. Even in public schools the *Zeitgeist* has softened the manners of the Busbys and Keates whose *a posteriori* arguments were so strenuously directed to the formation of the minds of the governing classes of more robust generations. There are still, it is true, parents who have a robust belief in the corrective and stimulating effects of the birch. Bishop Welldon, the Dean of Manchester, speaking at the annual conference of the National Association of Head Teachers the other day, said that when he was head master of Harrow a parent wrote to him: "Whenever you find it necessary to flog my son at school, I shall give him another flogging at home." On the other hand, parents of board school children who have no scruple about ill-using their offspring themselves, have developed an abnormal sensitiveness in regard to corporal punishment administered by a school teacher. A great outcry was made a short time ago, and, if we remember right, was echoed in Parliament, about the survival of flogging in the navy. This turned out to be nothing more than the occasional use of corporal punishment in the case of boys who could not be brought to observe discipline in any other way. Corporal punishment is expressly forbidden in French schools, and we gather that not a few masters look with envy on the powers of punishment still possessed by the British teacher. We do not wish to be taken for apologists of the brutal floggings which used to be so common in schools. Corporal punishment is not applicable with advantage in all cases; before it is applied it is essential that the school medical officer should determine whether the misconduct or idleness of the child is not due to some pathological condition. The constitution of the boy has also to be taken into account, and also the relative strength of him and his master. The sensibility of children varies immensely. Readers of Rousseau's *Confessions* will remember the nervous excitement produced in him and his cousin by what seems to have been a mild flogging compared with one in our public schools, and it must be unpleasant to a man of any refinement to hear himself called *Carnifex* by a boy whom he has just whipped. Corporal punishment is of different kinds, and there are some which should never be used. To this class belongs the old-fashioned method of boxing the ears, which may easily do permanent damage to the organ of hearing. But the applications of the tawse or cane to the hand, if light, are harmless, and for serious misdeeds Nature has provided a part to which the moral appeal of the master may be made effectually without causing physical injury. The limits of permissible corporal punishment may, however, easily be overstepped, and it may readily degenerate into cruelty. Just as there are children to whom it is inapplicable, so there are teachers by whom it should never be applied. Masters sometimes do not realize their own strength; and there may be a physical pleasure in exercising it on the body of a boy just as there is in the cricket field or at football. The punishment should never be inflicted in anger. Hence the rule at public schools that delinquents should be "sent up" to the head master for the flogging is a wise one. But even the head master cannot always be trusted. It was said of Busby, the schoolmaster of Dryden, that it must have been a drawback to his idea of Heaven that the cherubs are represented as lacking the region on which he was so zealous an operator. Keate, again, was so indiscriminating in his use of the birch that on one occasion, finding some two dozen boys waiting at his room door to be instructed for confirmation, he flogged the lot, assuming they had been sent there for the purpose. It is characteristic of the British public schoolboy that the lads took their punishment as a natural part of the established order of things. It may be that the excessive humanitarian sentiment of the age has something to do with the decadence of the manliness which was formerly so marked in the English character, although it must be admitted that the precept "Spare the rod and spoil the child" was pushed too far in former days. But if our ancestors were brutal, we are in danger of becoming effeminate. A dainty device for the removal of the objections to flogging to which we have alluded is described by a writer in a recent number of the *Progrès Médical*, who credits British ingenuity with the invention. This is the "orthomatic castigator," which is a chair on which the delinquent is fixed. A system of slides and panels exactly marks out the portion of his anatomy to be operated on, while a delicate mechanism regulates the number and intensity of the blows which are applied by an extremely supple cane. At the same time an Edison phonograph pours out upon him moral maxims, reproaches, and exhortations. Most "soaring human boys" would probably find the preachments a greater punishment than the "orthomatic" castigation. The advantage of the instrument is said to be that the amount of punishment inflicted can be exactly regulated, and that everything is done mechanically without the personal intervention of the teacher. We have never heard of the apparatus before, and we confess the whole thing sounds to us like one of those amazing discoveries which the French so often make as to our manners and customs. Still the idea is ingenious.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

With praiseworthy punctuality, the July part of Sir James Murray's great undertaking, the *Oxford English Dictionary*,[1] makes its appearance, and carries the alphabetical rubrics from *Team* to *Tezkere*. It brings with it its quota of medical terms, and amongst these are to be found, as usual, words which are of interest either from the standpoint of their origin, or of their changing meaning, or by reason of the well-chosen illustrative quotations which accompany them in the pages of the *Dictionary*, now so familiarly known as the *N. E. D.* It is somewhat remarkable that so few English words have come from the Greek τέκνον, a child; and the ones that have so come into the language are all rare technical terms; there is *tecnoctonia*, child murder; and there is *tecnogonia*, with its two meanings of pregnancy and the age of a father at his eldest child's birth. *Teething* is a comparatively modern word, the first illustrative quotation given bearing the date 1732, and coming from Arbuthnot's *Rules of Diet*—"When the Symptoms of Teething appear, the Gums ought to be relax'd by softening Ointment." A *teething bannock* or *plaster* is defined as "an oatmeal cake given in Scotland to a child beginning to cut its teeth." *Teichopsia*, as one might expect, is a still more modern term; it is the temporary blindness which sometimes accompanies ophthalmic headache; the first illustrative quotation is dated 1872. *Telaesthesia* has its birth ten years later in 1882; it is defined as "perception at a distance," and a quotation of 1908 speaks of "telepathy, telaesthesia,

[1] *A New English Dictionary on Historical Principles.* Edited by Sir James A. H. Murray. Team—Tezkere. Vol. ix. Oxford: at the Clarendon Press; London, Edinburgh, Glasgow, New York, Toronto, and Melbourne: Henry Frowde. July 1st, 1911. (5s.)

and the subliminal part of man's mental being as playing a vast part in all these curious psychical phenomena." The *tele-* words occupy nearly nineteen columns of the *Dictionary*; in *Johnson's Dictionary* there were two of them, *telescope* and *telescopical*, and ten lines served for their discussion and illustration. There is, therefore, no sign of a falling birth-rate in this family of words, but, as a matter of fact, very few of them are medical. There is *telegony*, however—the phenomenon which has been defined as the wireless telegraphy of antenatal life, and which Sir James Murray, with Scots caution, has described as "the (hypothetical) influence of a previous sire seen in the progeny of a subsequent sire from the same mother." Under the word *temperament* there is much that is of interest in the history of medicine, and especially of that part of it which deals with the belief in the humours; we are taken back to the time when "our minds were perpetually wrought on by the temperaments of our bodies," but the *New English Dictionary* has the comforting note that "in modern use the term 'temperament' and the names of the four temperaments continue, without any theory of combination of humours." *Tenaculum* is a term which seems to be employed only in surgery and entomology; its uses are illustrated by quotations. For the definition of *tenesmus*, Sir James Murray has been happy in his selection of a quotation from a work bearing the date 1527; here it is, in all its homeliness of diction: "Payne of the gutte of the fondament named tenasmus, that is whan a man thynketh that he wolde go to stole, but he can do nothyng." Milton has ruthlessly dragged "tenesmus" over, in a figurative sense, into his *Apology for Smectymnuus*, where he writes of "this Tetter of Pedagoguisme that bespreads him with such a tenasmus of originating," which, as Pepys said about the clergyman's prayer with the phrase, "the hereditary curse of child-bearing," seems "a pretty strange expression." Amongst the more purely technical terms defined are *tenonian fascia* or *capsule*, and *tenonitis* (inflammation of Tenon's capsule), *tentorium* (the membranous partition between the cerebrum and cerebellum), *terebra* (the boring part of a trephine), *teredo* (a disease in plants caused by the boring of insects), and *tetrascelus* (a monster in which the legs are duplicated). A most interesting short account is given of *tent*, with its old meaning of a probe and its more recent one of an instrument for dilating the cervix uteri; its derivation is somewhat obscure. *Teratology*, from the Greek τέρας a marvel, and the words associated with it (for example, *teratical*, *teratism*, *teratogenesis*, *teratoid*, *teratoma*, *teratoscopy*, *teratological*, etc.), are fully described and illustrated; *terata*, *teratogenesis*, and *teratoma* are marked as not naturalized, whilst the others are passed into the group of fully naturalized words—a conclusion to which we should hardly have come without the editor's guidance. The medical, or rather the obstetrical meanings of *term* are correctly stated, as is the pathological signification of *tertiary*. It will be news to many of us that the etymology of *testicle* and *testis* is uncertain; here is the note on the subject: "An assumed identity with *testis*, witness (quasi 'the evidence or witness of virility') is rejected by Walde, who suggests connexion with *testa*, pot, shell, etc." *Tewel* or *tuel*, meaning the anus or rectum, especially of horses, is not marked as an obsolete word; but surely it is very seldom used. Finally, *tetter*, meaning a cutaneous disease, is interestingly discussed, both with regard to its derivation and its precise signification; the little family of associated words, *tetterberry*, *tetterous*, *tetter-worm*, and *tetter-wort*, is not forgotten.

BONESETTING IN GERMANY.

IN this free and enlightened country the bonesetter is abroad—sometimes, as the law reports show, very much abroad. In France, where—on paper—the law against unqualified practice is very strict, he flourishes almost unrestrained, indeed often encouraged, in most rural districts. But it is surprising to learn that in Germany—that "sapient nurse of finer arts," where life is everywhere overshadowed by the policeman, and where all sorts of legal terrors are supposed to lie in wait for the professor of the art of healing who has not been admitted *in nostro docto corpore* according to the prescribed rubric—the bonesetter should ply his trade. That such is the case, however, we learn from the *Therapeutische Rundschau*, which relates the following edifying story. A bonesetter doing a large business was lately sent to prison for fourteen months for breaking the law against unqualified practice. The sentence excited much indignation among his patrons. A petition praying for its remission, to which more than three thousand signatures were attached, was sent to the Emperor, and a fund was collected for the benefit of the bonesetter. Whether this was intended to defray his legal expenses or to indemnify him for what Kruger would have called the "moral damages" he had suffered we are unable to say. Nor, unfortunately, can we state what was the result of the petition. The interesting fact is that the German law should have been able to lay a bonesetter by the heels.

A MEMORIAL TO EUSTACHIUS.

A COMMITTEE has been formed at Sanseverino, a small town in the province of Macerata, in the Marches of Italy, to take steps for the suitable commemoration of the 400th anniversary of the birth of the famous anatomist, Bartolomeo Eustachio, who saw the light there in 1520. The chairman of the committee is the Marquis Giovanni Giacomo Luzi. Full information as to the celebration can be obtained from the Secretary to the Committee, Signor Nicolà Crivelli, Sanseverino. Little is known of the life of Eustachius, except that in 1562 he was professor of medicine in the Collegio della Sapienza, in Rome. He died in poverty in 1574. He gave his life to science. His splendid *Tabulae Anatomicae*, drawn by himself, are said to be the first anatomical plates on copper. They were completed in 1582, but Eustachius was unable, doubtless owing to the want of a patron, to publish them. For 130 years the plates remained buried in the Papal Library in Rome. When discovered they were presented by Clement XI. to his physician, Lancisi, who published them with notes of his own in 1714. In 1740 they were issued under the direction of Cajetan Petrioli. Four years later they appeared under the direction of Albinus. His edition was reissued in 1761. The entire text of the work, which would have given the author as great fame as an anatomist as Vesalius, is lost. The anatomical writings of Eustachius were published in his lifetime in 1564.

UNIVERSITY COLLEGE, READING.

THE endowment fund of the University College, Reading, was raised to a quarter of a million sterling by gifts announced last week. The College was founded in 1892 as a university extension college, to include the schools of science and art, and in 1902 it first received a grant from the Treasury fund. Two years later the College was transferred to new buildings on a site in the centre of Reading, presented by Mr. Alfred Palmer, who has now added four acres, at present leased from him by the College, and used for horticultural purposes. The Right Hon. G. W. Palmer presented the "George Palmer Endowment Fund" of £50,000 to the College in 1905, and he and Mrs. Palmer have now given £100,000. Mr. Alfred Palmer has given £50,000, in addition to his other benefactions, which include St. Andrew's Hall, a place of residence for women students. Lady Wantage, who presented Wantage Hall for men to the College in 1908, has now given £50,000 to the Endowment Fund. The College

carries on work of university standard in arts, science, and agriculture, and its council hopes eventually to obtain a university charter.

THE Royal Society of Arts has awarded silver medals for papers during the past session to, among others, Dr. Leonard Hill and Mr. James Cantlie. Dr. Hill dealt with caisson sickness and compressed air, and Mr. Cantlie with plague.

IT is reported that, on the recommendation of Major-General Leonard Wood, Chief of Staff of the United States Army, the American Secretary of War has directed that hereafter all recruits under 35 years of age must submit to antityphoid vaccination, the treatment to be given as soon as practicable after enlistment. It is said that this is the first step taken by the American army authorities to make the treatment obligatory.

OWING to the many expenses imposed on the British Medical Association in connexion with the National Insurance Bill, it is particularly requested that those members who have not already paid their subscription for the current year or half-year will forward a remittance without delay. Cheques should be made payable to the British Medical Association and crossed London County and Westminster Bank. The subscription payable to members joining as from July 1st is 12s. 6d.—that is, half the annual amount.

IN the advertisement pages of this week (pp. 7, 8, 9, and 10) will be found a list of hotels and lodgings available for members attending the annual meeting of the Association in Birmingham, together with the notification form which it is desired that members proposing to attend the meeting should fill up and forward at their earliest convenience to Mr. Albert Lucas, F.R.C.S., Medical Institute, Birmingham. On receipt of this form a voucher will be sent enabling members and those accompanying them to obtain railway tickets at reduced fares.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Public Health (Ireland) Bill.—Friday in last week was the last private members' day, and the Public Health (Ireland) Bill came in for a lively discussion. The bill provides in its first clause, which is the pith of the measure, for the inspection of meat on sale in each urban district, so as to protect the consumer from diseased carcasses. The bill was required because in some districts where public slaughter-houses have been erected by the local authority, the butchers have not used them and there has consequently been insufficient protection against the sale of meat unfit for human food. The power to force inspection under the bill will, it is hoped, lead to more sanitary methods of slaughter and prevent diseased, especially tuberculous, meat being sold. Mr. Booth and Sir F. Banbury criticized the proposals of the bill, but after considerable discussion all amendments were withdrawn, the report stage passed, and the bill read a third time.

The Protection of Animals Bill in the charge of Mr. George Greenwood came on for report on the same day. The measure was described by its promoter as mainly a consolidating bill, dealing generally with cruelty in the treatment of animals, and not touching the vexed subject of vivisection. After several drafting amendments had been made, Mr. Booth and Dr. Hillier moved to leave out Clause 7, which forbids the use of dogs for the purposes of draught. It was contended that a dog harnessed to a toy cart, or so harnessed for a fête for charitable purposes, would come under the bill, but it was shown that there was no alteration in the existing law in this respect, and the amendment was withdrawn. Several amendments were made, and finally the bill was read a third time and passed.

The Public Health (Scotland) Act (1897) Amendment Bill.—The object of the bill is to give statutory commissioners power within their own districts to lay and carry water pipes in exactly the same way as a local authority has power within its district under the Public Health Act to lay and carry sewers. Sir Frederick Banbury opposed the bill, and wished to alter it so that a proprietor might have power to prevent the use of his land for water mains. The Lord Advocate refused to consent to any such amendment, and after discussion it was negatived, and the bill was read a third time and passed.

Workmen's Compensation and Myelitis.—Mr. Hamilton Benn asked the Under Secretary for War whether his attention had been called to the case of ex-Stoker Trist, who was permanently incapacitated by paralysis the result of an attack of acute transverse myelitis, which had been certified by two army doctors to be directly attributable to the nature of his employment as a stoker; whether he was aware that ex-Stoker Trist had nevertheless been refused adequate compensation on the technical ground that myelitis was not a scheduled disease under the Act; and would he state what steps he intended to take in the matter. Colonel Seely said that the army medical authorities did not concur in the view that myelitis was a disease to which stokers were peculiarly liable, and the Treasury after consulting their medical referee was not satisfied that the disease from which Trist suffered was attributable to his employment. Trist had already received injury pay under departmental regulations for six months at the rate of half his average weekly earnings, and had been awarded a compassionate grant of £10. He regretted that the regulations did not allow the Army Council to grant a pension in this case. In answer to a further question, Colonel Seely said that as he had explained on previous occasions, some doctors said the disease was due to his employment, but other doctors and finally the Treasury referee gave it as their opinion that it was not. If the hon. gentleman asked him whether it was a hard case he said at once it was, and it was for that reason that a compassionate grant of £10 had been given. A pension could not be given without altering the law. He would draw the attention of the Treasury to the case.

Vivisection.—Mr. George Greenwood asked the Secretary of State for the Home Department if he would state when the return of experiments on living animals for the year 1910 would be issued; and whether he was aware that, having regard to the fact that no proceedings for an offence under the Cruelty to Animals Act, 1876, could be instituted after the lapse of six months from the time when the matter of complaint arose, and that such returns were practically the only means whereby the public could obtain any information as to whether any such offence had been or appeared to have been committed, the withholding of such return for more than six months after December 31st, 1910, precluded all possibility of instituting any prosecution for such offences, if any, as might have been committed during the year aforesaid. Mr. Churchill said that the return had been completed and would be issued in a few days. It had been prepared with all possible dispatch, and he regretted that, owing to the labour involved, he could not hold out any hope that the publication could be accelerated. As regards offences by licensees, any contravention of the Act was reported to the Secretary of State as soon as it was discovered, and proceedings could and would be instituted at once if the circumstances appeared to call for action of this nature.

A note on the first day of the Committee stage of the National Insurance Bill will be found in the SUPPLEMENT.

ON Tuesday next, at 4 p.m., Mrs. Bramwell Booth will open a discussion on the management of the inebriate woman, at a meeting of the Society for the Study of Inebriety, to be held at the house of the Medical Society of London, 11, Chandos Street, Cavendish Square.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

CERTIFIED TRAINED FEVER NURSES.

THE Local Government Board for Scotland has issued a circular stating that it has been represented to the Board that it would be of material benefit to the local authorities and to nurses trained in fever hospitals if the Board were to grant to such nurses certificates similar to those now given to nurses trained in Poor Law hospitals. The Board has therefore decided to institute regular examinations for fever nurses, and has framed a syllabus of study. The scheme is entirely voluntary. Probationers whose training has begun before the adoption of the Board's scheme will not be required to pass a preliminary examination. The Board will be prepared to admit to the examination for certificates such fever nurses as have completed their training, provided that such training has, generally speaking, been in terms of the Board's scheme.

NEW RULES GOVERNING THE COURSE OF MEDICAL STUDY AT GLASGOW UNIVERSITY.

For some months the Senate and Medical Faculty have had under discussion proposals for amending the regulations for degrees in medicine. The resulting scheme has now received the approval of the University Court, and will apply to students who will begin their course of medical study on or after October, 1911. The alterations are intended to improve the teaching along two lines. The rules affecting the earlier part of the course are designed to ensure that the student will concentrate his attention on the subjects he is studying; he will not be allowed to attend qualifying courses of instruction in any subject or subjects included in any subsequent professional examination. Thus, a student who has not passed the examinations in two at least of the four subjects (zoology, botany, chemistry, physics) of the first division will not be allowed to attend any part of the qualifying course in physiology except the practical course in histology in the third or summer term. If the student has not passed the examinations in the subjects of the second division (anatomy and physiology) he will not be allowed to attend a qualifying course in surgery till after the end of the ninth term, that is, three complete years, whereas the student who has passed in anatomy and physiology may take out a qualifying course in surgery after his sixth term, that is, during his third year. The scholastic year is now divided into three terms, the summer session being equivalent to one term, and the winter session to two terms. The grouping of the subjects in the third and fourth divisions has been altered. Materia medica and therapeutics have been separated from anatomy and physiology, and are now bracketed with pathology as the third division, while medical jurisprudence and public health have been taken out of the third division, and are now included in the fourth or final division. The candidate has the option, however, of passing in medical jurisprudence and public health, apart from the other final subjects—medicine, surgery, and midwifery—but not earlier than the end of the twelfth term. The student may not commence his qualifying hospital attendance till after the end of his sixth term. The number of the obligatory courses of practical clinical tuition in special subjects has been extended, and the following are now prescribed: Practical instruction in *post-mortem* examinations, infectious diseases, gynaecology, diseases of children, ophthalmology, diseases of the ear and throat, dermatology, mental diseases. The regulations in regard to instruction in practical midwifery have been brought into line with the rules laid down by the General Medical Council. The candidate must present a certificate from a recognized teacher of clinical surgery, testifying that, after having received theoretical instruction in anaesthetics, the candidate has acquired practical experience in their administration.

UNDER the will of the late Sir Thomas Andros de la Rue, first baronet and head of the firm of wholesale stationers of that name, the Royal Hospital for Diseases of the Chest, City Road, receives a bequest of £1,000, and the London Fever Hospital and St. George's Hospital sums of £250 each. The total value of the estate was £822.000 gross and £811,840 net.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

ROYAL INSTITUTE OF PUBLIC HEALTH.

ON August 15th next the Royal Institute of Public Health will for the third time hold its annual congress in Dublin. The congress will be under the presidency of Lady Aberdeen, and will hold its meetings in the buildings of Trinity College. An extensive programme of papers has been promised, and in addition numerous garden parties and other social entertainments have been arranged. It is generally anticipated that the congress will be one of the largest and most successful that has been held.

RATING OF UNIVERSITY COLLEGE, CORK.

In the King's Bench Division, Dublin, Mr. Justice Madden, Mr. Justice Kennedy, and Mr. Justice Wright delivered judgement in favour of the respondents in the case of the Commissioner of Valuation, appellants, and Governing Body of University College, Cork, respondents, which had been argued some time ago. It was a special case stated by the Recorder of Cork at the instance of the Commissioner of Valuation, and raised an important question as to the liabilities of the lands and premises of University College, Cork, to be rated in respect of poor rate under the provisions of the Irish Valuation Act. The old Queen's College buildings were regarded as exempted buildings, being founded for public purposes. When transferred to the governing body under the Irish Universities Act of 1908, the Commissioner of Valuation, at the instance of the Corporation of Cork, took them out of the category of exempted buildings, and for purposes of rating they were assessed at over £800, which roughly meant a payment in rates of a sum of over £400 a year. The governing body of the college appealed from the assessment, and the college was reinstated in the class of exempted buildings; from that decision appeal was made. It was contended on behalf of the Commissioner of Valuation that the fact that fees were charged for instruction deprived the institution of the character of a public one, and deprived the buildings altogether of the character of public buildings; and also that, under the circumstances, the institution was also deprived of an exclusively charitable character. The decision of the King's Bench was watched with considerable interest, as the matter affected also the position of the National University, the University of Belfast, and the college at Galway. The satisfactory ending to the case will be of no little value to the various colleges affected.

CO. CORK SANATORIUM FOR CONSUMPTION.

At the meeting of the Conjoint Board, held on July 1st, it was unanimously decided to admit paying patients to the benefits of the sanatorium. The Resident Medical Superintendent was empowered to deal with all applicants for admission to the sanatorium and make such terms as he might think advisable; the minimum rate for paying patients from the county of Cork was fixed at 25s. a week, and for patients outside the county at 30s. Reference was made to Mr. Lloyd George's Insurance Scheme and the inclusion of sanatoriums for poor people, and it was decided to call a meeting of the whole board to consider whether the Chancellor could not be approached to give them the first slice of the three millions labelled for that purpose, as they were the pioneers of the sanatoriums for Ireland. It was also reported that fourteen patients had been admitted and twelve discharged during the month.

MR. A. S. PERCIVAL, Surgeon to the Eye Infirmary, Newcastle-on-Tyne, has published in the *Ophthalmoscope* for June, 1911, an article on visual efficiency, intended to serve as a guide to insurance companies. From the tables in the paper it appears that a person who had insured his eyesight for £100 should receive the sum of £33 6s. 8d. if the visual acuteness of each eye were reduced to six-twelfths. Mr. Percival also suggests another form of policy that might be held in which account would be taken not only of the sufferer's loss of efficiency, but also of his loss of wage-earning capacity.

Correspondence.

CONCENTRATED INFUSIONS.

SIR,—Dr. Joy's note in the JOURNAL of July 1st adds another count to the indictment against the use of concentrated infusions. As I pointed out last February in a paper read before the Pharmaceutical Society,[1] these products of dilution differ in many respects from freshly prepared infusions. They are much darker in colour, and of lower specific gravity on account of their alcohol content; they vary greatly in their yield of extractive matter, and, in some cases, of alkaloidal content; indeed, in no case can a dilution of a concentrated infusion be said to resemble a freshly-made preparation. Conscientious pharmacists, as a rule, prepare all infusions fresh, but habit is a great salver of conscience, and the temptation to use the concentrated preparation is very great. Medical men, when prescribing an infusion, would therefore be well advised to add the word "*recent*" in order to ensure the correct dispensing of their prescription.—I am, etc.,

Edinburgh, July 3rd. THOS. STEPHENSON, F.C.S.

STATE SANATORIUMS.

SIR,—Dr. Esther Carling, in the BRITISH MEDICAL JOURNAL of July 1st, p. 50, is in error in saying that I "suggest a figure of £250 a bed as the cost to be allowed in the erecting of State sanatoriums, as against Mr. Lloyd George's proposal that the cost should not exceed £100."

The error consists in comparing the *total cost* of sanatoriums with the *building cost*. Mr. Lloyd George was speaking of the cost of building, and under favourable circumstances I see no reason to question his figures. Personally I would not hesitate to build a sanatorium at the sum mentioned—namely, £100 per bed.

But with public control, and with large committees, the building cost will probably be at least £150 per bed, and this was the figure I gave in a previous issue. On the other hand, with a farm as the site, and for a sanatorium (built, completed, and furnished) for 100 patients, I put the total cost at £250 per bed. But it is obviously unfair to contrast my total cost with the Chancellor's building cost.

Dr. Carling's figures of £175 per bed are, however, comparable as a total cost with mine. But the farm in her case is only of 40 acres, whereas mine (to give sufficient milk, etc., for 100 patients) was of 150 acres. This difference alone, at £35 per acre, would bring Dr. Carling's cost up to £240 per bed, so that her estimate of £200 is much too low. The character of the building also differs completely. Thus I was speaking of substantial buildings of brick, stone, or concrete block, not of "pavilions (some wood, some brick) of a very simple character." I therefore venture to think that my figures will in practice be found reliable as a working minimum.

The cost of maintenance I put at 25s. per patient weekly, whilst Dr. Carling puts it at 30s. Our cost for 50 patients at Stannington is 15s. weekly, and, no profit being needed, 25s. a week seems reasonable. But it greatly depends, of course, upon locality, circumstances, and management.

A farm as a site is almost an essential in the treatment of tuberculosis; and, though it needs almost as much skill in management as an empire, yet a sanatorium without one is very much like a cab without a horse. There is no motive power in the way of supplies of milk, butter, and cream, whilst the presence of an exercise ground is an obvious necessity for the patients. I also strongly advocate substantial rather than simple buildings, as they are practically as cheap—sometimes cheaper—are better from a medical point of view in our changeable climate, and are not so subject to fire and repairs.

I also hope that legal control of milk, spray, and sputum—that is, of the means of spreading infection—will enable us to stamp out tuberculosis in the course of the next twenty years. Then the State sanatoriums could well become State convalescent homes, for phthisis and its mournful victims would have ceased to fill the buildings, which could easily enough be disinfected.

We all, of course, recognize that research is essential to the progress of medicine, and in every large hospital a man of original mind should be set apart to work out the problems of disease. But tuberculosis and typhoid are alike in this—both resist curative treatment, but both can and ought to be stamped out by purely practical methods; and as these methods are well known and are entirely within our power, it only needs State help and local enthusiasm to carry them, and with them the campaign against tuberculosis, to both a speedy and a successful conclusion.—I am, etc.,

Newcastle-on-Tyne, July 1st. T. M. ALLISON, M.D.

MEDICAL OFFICERS OF HEALTH AND OFFICIAL DUTIES.

SIR,—The letter published in your last issue on the above subject is most important. Motion 44 on the agenda for the Representative Meeting at Birmingham runs as follows:

> That in the general interests of public health and of the medical profession it is desirable that medical officers of health should be required to devote their whole time to *official* duties.

It is very necessary that the meaning of "official" should be properly defined. I have always understood that "official" here meant duties appertaining to the office of medical officer of health, as laid down by statutory orders and otherwise. A recent circular of the Local Government Board has suggested that the salaries of the present part-time medical officers of health might be increased by endowing them with certain other public appointments now held by general practitioners. The duties arising under these additional appointments might easily be described as "official."

Is it to be understood that "official" in the above-quoted motion is to include the latter duties? If so, it is inconsistent with Motion 46 (iv):

> That in every form of public medical service (other than that of medical officer of health) the system of part-time appointments of medical practitioners should be maintained as far as such appointments can be made consistently with the requirements of the service.

If the principles embodied in the Local Government Board circular were consistently carried out, it would mean destruction to most of the part-time offices now held by medical practitioners, and not for the betterment of these, but in order to give the medical officer of health a bigger salary. It would also reintroduce many of the objections urged by the profession against part-time medical officers of health.

As district medical officer (Poor Law), a medical officer of health might be found quite as objectionable to the general practitioners of the neighbourhood as one of the present part-time medical officers of health. The abuse, too, of a medical officer giving certificates to himself for which he is paid a fee would be perpetuated and largely increased.—I am, etc.,

MAJOR GREENWOOD,
Honorary Secretary, Poor Law Medical Officers' Association.

London, E.C., July 1st.

INSTRUCTION OF SCHOOL CHILDREN IN HYGIENE.

SIR,—The Executive Councils of the National League for Physical Education and Improvement and of the National Health Society have had under their consideration Dr. Addison's bill, which provides for instruction in hygiene and in the care of infants, and they have authorized us to express their earnest hope that the bill may be allowed to become law.

If the health of the people is a great national asset, provision for the due care of that health is an act of national insurance. To neglect the conditions which secure health is perilous, but the neglect which is so prevalent is due, not to heartlessness, but to ignorance. Due instruction, therefore, in the laws of health should not be a casual subject, but a necessary subject of education in our schools. It is therefore, in our judgement, fitting that, to quote the terms of the bill—

> Each local education authority shall arrange, as hereinafter provided, that during each school term simple instruction in hygiene and the care of health, suitable to the age and under-

[1] *Pharmaceutical Journal*, 1911, i, p. 255.

standing of the children, shall be given to all children attending public elementary schools, and in particular shall arrange that each girl of the age of twelve years or more shall be adequately instructed in the care and feeding of infants.

We therefore cordially welcome Dr. Addison's bill, and trust that it may receive the unhesitating support of all who desire national well-being.

Signed, on behalf of the Executive Councils of the above societies,

W. B. RIPON. HENRY KENWOOD.
LAUDER BRUNTON. F. N. KAY MENZIES.
JOHN TWEEDY. A. WELLESLEY HARRIS.
MARY SCHARLIEB. F. LANKESTER.

London, W.C., June 28th.

TREATMENT OF APPENDICITIS IN CHILDREN.

SIR,—Although I am not an operating surgeon, I wish to enter an emphatic protest against the general adoption of the principle and practice advocated in the last sentence of Dr. Rees's article.[1]

In the interests of the patient a surgeon should not be limited as to what he is to do or is not to do in any particular case, more especially if the stipulation be made by a layman, even on the opinion of the family attendant.

Principles of surgery, experience, and the actual general and local conditions found at these operations, which are often more or less exploratory at first, should and do guide us. In the interests of the patient no unnecessary fetters should bind and cramp the individual responsibility and efforts of the operator. Further, as a question of policy and ethics I do not think that there should be any attempt either to impose or accept these conditions and stipulations.—I am, etc.,

JAMES C. HOYLE.

Upham, June 23rd.

WHITEHEAD'S OPERATION FOR HAEMORRHOIDS.

SIR,—As I have for years practised Mr. Whitehead's operation, I am always interested in reading the opinions of other surgeons on the subject. In the BRITISH MEDICAL JOURNAL of May 6th I had the privilege of reading a very interesting address delivered by Mr. Stanmore Bishop in support of this procedure. But I confess I was disappointed in coming across the following: "First, it is doubtful if sufficient stress is laid upon the preliminary dilatation of the sphincter," "which is necessary to secure free evacuation afterwards." To carry this out mention is made of "long levers," "ratchet and screw," etc.

As my experience in this operation happens to be four times (512 cases) greater than that (127 cases) of Mr. Stanmore Bishop, I trust the author of the classical paper, "The Eye as a Joint," will not accuse me of any petty criticism when I state that I am firmly convinced that any dilatation, further than the introduction of an index finger for exploratory purposes, is a mistake, in that it unduly and unnecessarily enlarges the whole operative field, obfuscates the anatomy of the part, encourages troublesome and even serious haemorrhage, renders accurate separation of mucous and submucous coats from surrounding structures absurdly difficult, and converts a simple, bloodless five to ten minutes' operation into a bloody one of thirty, not to mention a much larger wound to heal up, with increased risk of sepsis.

My experience enables me to guarantee that the preliminary production of an equine rosette is unnecessary as far as post-operative evacuation of the bowel is concerned if a small dose of calomel is given on the second evening, followed by 1 oz. of castor oil next morning.

I think it a pity that surgeons like Mr. Stanmore Bishop who practise Mr. Whitehead's method when speaking or writing about it do not enter more fully into operative detail, for I know that many students educated at London hospitals have never seen the operation performed. Yet in many foreign countries it is the operation of choice.—I am, etc.,

JOHN O'CONOR, M.A., M.D., T.C.D.,
Senior Medical Officer, British Hospital, Buenos Aires.

Buenos Aires, June 5th.

[1] BRITISH MEDICAL JOURNAL, June 24th, p. 1460.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Examinations.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., PART I (*Chemistry*).—C. G. Ainsworth, G. A. Back, S. H. Barnett, R. C. Bentley, S. L. Bhatia, J. C. Bramwell, I. R. R. Brogden, A. A. Cockayne, E. H. Dendy, W. F. Eberli, J. S. Ellis, J. S. Eloff, A. L. Evans, G. A. Fisher, G. H. FitzGerald, G. A. Goolden, E. A. Green, J. C. N. Harris, E. P. Hicks, J. H. Le Brasseur, F. G. Lewtas, A. V. Lister, C. R. Mackenzie, H. D. McIlroy, H. B. Padwick, F. A. Phillipps, A. L. Platts, I. M. Rattray, J. Rickman, M. K. Robertson, W. F. R. Schloss, W. G. A. Schüddekopf, C. Shaw, J. A. D. Skinner, O. S. Thompson, H. S. Whitmore, O. T. Williams, A. G. P. Wills, J. P. Wills, C. B. Wilson.

FIRST M.B., PART II (*Physics*).—C. G. Ainsworth, G. A. Back, S. H. Barnett, W. S. Bawdon, G. T. M. Bevan, S. L. Bhatie, J. C. Bramwell, E. D. Broster, H. C. H. Bull, J. G. Davies, W. F. Eberli, A. L. Evans, L. E. A. B. Farr, R. W. Fawcett, J. D. Gabb, R. W. Gosse, E. A. Green, E. P. Hicks, J. M. Howlett, J. H. Le Brasseur, H. D. McIlroy, F. P. Nicholas, I. M. Rattray, J. Rickman, M. K. Robertson, W. F. R. Schloss, W. G. A. Schüddekopf, C. Shaw, O. S. Thompson, W. J. Walters, H. S. Whitmore, H. A. Whyte-Venables, G. C. Williams, U. G. Williams, J. P. Wills, C. B. Wilson.

FIRST M.B., PART III (*Biology*).—K. H. Ashby, G. A. Back, B. S. Bland, J. T. Bleasdell, A. L. Bodley, I. R. R. Brogden, E. H. Dendy, J. R. Earp, W. F. Eberli, J. S. Ellis, J. S. Eloff, W. Haig Ferguson, G. A. Fisher, S. G. Galstaun, C. Gardiner-Hill, J. R. Harris, E. H. V. Hensley, E. P. Hicks, L. W. Jones, G. L. Loo, L. C. H. Master, G. L. Maule, E. O. Morrison, W. D. Newcomb, F. P. Nicholas, P. E. D. Pank, I. M. Rattray, K. Reynolds, W. F. R. Schloss, W. G. A. Schüddekopf, J. A. D. Skinner, J. G. T. Thomas, H. A. Whyte-Venables, G. C. Williams, C. B. Wilson.

SECOND M.B. (*Human Anatomy and Physiology*).—A. C. Ainsley, S. G. Askey, M. L. Atkinson, K. B. Bellwood, H. J. Bower, I. M. Brown, B. Burnside, H. A. Crouch, E. V. de Souza, E. Donaldson, B. J. L. Fayle, C. H. M. Gimlette, C. H. Gow, B. Graves, N. Gray, L. M. Ingle, R. W. P. Jackson, B. B. Jareja, A. S. L. Malcolm, J. B. Matthews, G. C. Metcalfe, S. H. Miles, S. C. Miskin, A. V. O'Keefe, C. F. Pedley, J. R. Rees, E. C. W. Starling, W. G. Thompson, L. H. D. Thornton, G. S. Trower, R. L. M. Wallis, T. Warrington, G. C. Wells-Cole, F. B. Winfield.

THIRD M.B., PART I (*Pharmacology and General Pathology*).—D. S. Bryan Brown, E. Calvert, C. G. H. Campbell, G. W. B. Garrett, B. Haigh, R. Heaton, J. M. Jarvie, R. H. Mawhood, H. M. B. Nicoll, M. J. Petty, N. P. Pritchard, A. H. Richardson, R. M. Soames, G. W. Spencer, H. M. Stephenson, P. Verdon, H. Walker, S. Wood.

THIRD M.B., PART II (*Surgery, Midwifery, and Medicine*).—R. L. Barker, A. W. Bourne, H. Bowring, R. D. D. D. Brownson, H. G. P. Castellain, H. J. M. Cursetjee, F. C. Davies, K. J. A. Davis, H. T. Depree, S. Dixon, G. H. Dunn, C. Ede, R. Gamlin, E. StG. Goodwin, J. P. Hill, G. Hoffmann, J. C. John, A. C. Johnson, R. J. B. Leney, D. N. McLeod, W. G. Marsden, O. de B. Marsh, R. M. Miller, A. H. Moore, A. F. Morcom, H. M. B. Nicoll, P. A. Opie, B. A. Playne, J. B. Pulling, A. H. Richardson, F. H. Robinson, A. Sandison, W. Shipton, C. Strickland, F. H. Watson, V. T. P. Webster, V. J. Woolley.

M.C.—H. Chapple, A. H. Crook.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on June 14th.

Election of Vice-Chancellor.

Sir William J. Collins, M.D., F.R.C.S., was elected Vice-Chancellor for the year 1911-12.

Recognition of Teachers.

The following were recognized as teachers of the University in the subjects and at the institutions indicated:

St. Bartholomew's Hospital Medical School.—Dr. Francis Arthur Bainbridge (Pharmacology).

Middlesex Hospital Medical School.—Dr. Charles H. Bond (Mental Diseases), Dr. Charles E. Lakin (Pathology).

Charing Cross Hospital Medical School.—Dr. William A. Brend (Forensic Medicine).

University College Hospital Medical School.—Dr. Charles Bolton (Pathology), Mr. Bernard Hart (Mental Diseases).

King's College Hospital Medical School.—Dr. Walter D'Este Emery (Pathology and Bacteriology).

Amendment of Regulations.

It was resolved that the regulations with respect to exemption from the normal course of study and examination in medicine be amended so that internal students who have passed the B.Sc. Honours Examination in Chemistry and external students who have passed in Organic and Applied Chemistry shall be exempted from the course of study for the second examination for medical degrees, Part I, and from that examination.

In respect of the subject of medicine for the M.B., B.S. Examination for internal and external students it was resolved:

That no candidate shall be approved in this subject who does not satisfy the examiners both in the papers and in the practical portion of the examination. (The practical portion shall be understood to comprise the case report and the clinical, oral and viva-voce examinations.)

It was resolved:

That paragraphs (i), (ii), (iii) of the regulations for the degree of M.D. in State Medicine set out on pages 175 and 176 of the Red Book

September, 1910, and on pages 233 and 234 of the Blue Book, September, 1910, be amended by the substitution of the words "having obtained a registrable qualification to practise medicine" for the words "taking these degrees."

Appointment.

Professor W. E. Dixon, M.D., B.S., B.Sc., was appointed chairman of the Board of Examiners in Pharmacology for the second examination for medical degrees, Part II, for internal and external students in March and July, 1912.

Chadwick Lecturers.

Dr. Charles Creighton has been appointed Chadwick Lecturer in Hygiene, to deliver a course of three or four lectures on the History of the Plague.

Sir Alexander Binnie, F.G.S., M.Inst.M.E., has been appointed Chadwick Lecturer in Engineering, to deliver a course of three or four lectures on some subject dealing with recent advances in municipal engineering in their relation to sanitary science.

Studentship in Physiology.

The university studentship in physiology has been awarded to Miss Ruth Filby Skelton, B.Sc., of University College.

Obituary.

SIR GEORGE O'FARRELL, M.D.,

LATE COMMISSIONER OF CONTROL AND INSPECTOR OF LUNATIC ASYLUMS, IRELAND.

THE death of Sir George Plunkett O'Farrell, M.D., which occurred at his residence at Oxshott, Surrey, has brought with it a keen sense of personal loss to his numerous friends throughout the United Kingdom. He contracted a chill, on which heart failure supervened, and, after a struggle of two or three days, he passed peacefully away on June 22nd.

Sir George O'Farrell was the second son of Dr. Harward O'Farrell, J.P., of Tangier, Boyle, co. Roscommon, who for many years had a large consulting practice throughout the province of Connaught.

At an early age he gave proof of inheriting his father's ability. At Trinity College, Dublin, where he was educated, he obtained the First Senior Moderatorship in Experimental and Natural Science, and also the Travelling Medical Scholarship of his year. He made good use of the advantages thus gained, and, after further study in London and on the Continent, he settled down in Boyle and succeeded his father in his extensive practice.

In 1885 he was appointed Medical Inspector to the Irish Local Government Board, and for three years had medical charge of the province of Munster. Here his relations with the Poor Law medical officers were characterized by consideration and helpfulness. So successfully did he discharge these duties, requiring tact and versatility, that in 1888, on the occurrence of a vacancy in the General Prisons Board (Ireland), he was appointed to the post, to which at the same time was added the care of the Reformatory and Industrial Schools.

His administrative capacity had now become so evident that in 1890, after the Mitchell Commission on Lunacy Administration in Ireland, he was selected, in conjunction with his colleague, Dr. Courtenay (who has just retired), to be Commissioner of Control of Lunatic Asylums and Inspector of Lunatics.

The report of the Mitchell Commission had shown how much asylums in that country stood in need of reform. Here was a great field of usefulness, and to it he devoted the best years of his official life. Twenty years ago the Irish lunatic asylums were places of detention; the popular designation of the "madhouse" fairly represented the ideas current as to their condition and utility. But with the newly constituted department came new views; asylums became hospitals for mental disease, where hopes of cure could be entertained and treatment rather than detention became the dominant object, and where even hopeless cases could spend the remainder of their days in comparative comfort. Airing courts were practically abolished, and nearly every asylum obtained additions of land, so that agriculture, the chief customary occupation of the inmates, could again give them congenial work. Improved dietaries, a feeling of comparative liberty, and employment for almost every one ultimately proved so beneficial that governing bodies, which had with reluctance consented to these innovations, came to recognize the wisdom as well as the humanity of the changes inaugurated. It has frequently been observed that while the population of Ireland has been decreasing there has been a gradual increase in the number of admissions to asylums. This fact—and it is a fact—is partly due to the improvement in asylum management. So well known is the care with which the insane are treated that the stigma formerly attached to such institutions has departed, and the friends of the mentally afflicted gladly make use of the refuge, in which they have every confidence.

In 1899 Sir George O'Farrell received the honour of knighthood in recognition of the services he had rendered to the State. He acted on several commissions, notably on the Commission on the Care and Control of the Feeble-minded, and he was the official delegate from Ireland to the International Congress on the Mentally Deranged held at Vienna in 1908.

In his private capacity he was endeared to very many. He had a true and warm heart for his comrades and friends, and an unfailing courtesy and consideration for all.

Dr. GRAHAM, Resident Medical Superintendent, District Asylum, Belfast, writes:

It is now over twenty years since my first meeting with Sir George O'Farrell. That meeting was purely official, but as time passed the acquaintance ripened into warm friendship, which through all the intervening time was never dimmed by misunderstanding or weakened by any estrangement. He had a genius for friendship, and in a world so complex as this higher praise is hardly possible. What his loss means to those who were admitted to the intimacies of his thought and feeling I may hint at but cannot bear to dwell upon. Yet some effort must be made to let others know the manner of man he was.

Sir George O'Farrell belonged to that small group of rare souls of whom it is difficult to write without seeming to exaggerate. For knowledge of his mind and character always ended in enthusiastic admiration and rebuked the pessimism which passes judgement upon humanity in Hamlet's phrase, "Man pleases me not nor woman either." Behind a not very robust physical exterior and a rather shy and retiring manner he hid a tenacity of purpose and strength of intellect that bore him irresistibly to the goal on which he had set his eye.

Tender-hearted, humane, sympathetic as he was, especially towards the weak, the handicapped in life's struggle, the physically or mentally inferior, he yet was no pseudo-sentimentalist incapable of passing an ethical judgement as to what ought to be. His own sense of duty had been highly developed and he loved to recognize it in others. Yet he was no Pharisee apologizing for indulgence towards himself by extra severity towards others. On the contrary, his great characteristic was leniency towards human weakness, was that fine consideration for others which is the mark of a true gentleman. He was lifted above the last infirmity of noble minds which is fame and that signal manifestation of small minds which is envy. He cared little or nothing about honour or distinction for himself, but he rejoiced when his co-workers received their meed of praise.

His humanitarianism was shown not so much in words, as in a life of restrained enthusiasm for every agency or scheme which tended to ameliorate the lot of the insane. As was said in an address presented to him on his retirement by the officials of all ranks in the Irish Lunacy Service—"As Howard was known as 'the prisoner's friend,' you, Sir, deserve a title of equal honour—'the friend of the insane.'" And the closing incident of his career sealed the truth of these words. For it was while making preparations for a large garden party in his beautiful grounds at Oxshott in the interests of the After-Care Association of the Insane that he caught a chill which brought on the complications that ended fatally. One cannot but think that the secret of his unassuming greatness lay in the deliberate consecration of his energies to the cause of humanity, and more specifically to the cause of suffering afflicted humanity. Such was the high ideal of his life, and it served to keep clean and pure and strong the springs of character.

Nor was he without interest in the wider concerns of cultivated men. He was himself an excellent scholar, and while repudiating all claim to speak as an artist or as a man of letters, he nevertheless knew a good picture, and found time to familiarize himself with the best that

was being done in literature and science. In the historic reunions held at the house of the late Lord Justice Fitzgibbon, who assembled such distinguished wits as John Morley, W. E. H. Lecky, Lord Ashbourne, Lord Rathmore, and Father Healy, a warm welcome was extended to O'Farrell. I have reason to believe that he thought more highly of his association with these and like-minded spirits than he did of any more material distinction that he had ever received.

Turning to another side of a many-sided personality, I was struck and at times startled by the keenness of his perception, his insight into character. He had that intuitive power which we are accustomed to call "feminine"; he seemed to have the gift of reading the soul, of getting at the essence of a man's character, not by any processes of elaborate reasoning, but by a sort of instinct. This quality would have made him formidable had it not been balanced by a largeness of mind and heart that could make allowance for faults and failings. For him the French proverb held a great meaning—"To understand all is to forgive all." Thus his nature was singularly well balanced, modest, and unassuming, yet without a trace of weakness, sympathetic yet free from all confusion of moral judgement, devoted to his life-calling yet conscious of a larger world and of the deeper questions that ever challenge the thoughtful spirit. His relations to his fellow men can best be summed up in the simple words of an ancient book—"He went about doing good." And thus he bore the white flower of a blameless life. Others will take his place and discharge the duties that were his delight, but it will not be the same. The unique personality, so winsome and so gracious, is gone, and it is as if the shadows of an eclipse fell on all those who, with the writer of these lines, were privileged to catch a glimpse of that high sphere of duty, of self-sacrifice, and of moral idealism in which he lived and moved and had his being.

DR. DAVID NICOLSON, C.B., Lord Chancellor's Visitor in Lunacy (England) writes:

Your request that I should send a short personal tribute to add to your notice of my dear friend, Sir George O'Farrell, is to me, as it would be to all who knew him, nothing short of a command; for his personality was of the kind that our thoughts love to dwell on, "vibrating," like music, "in the memory." Called upon, after a brilliant university career, to follow his father's footsteps in the practice of a profession whose worthiness and self-respect are seriously threatened by Lloyd-Georgian methods, Sir George was, as I believe, "discovered" by the late Mr. King-Harman, and appointed to the Civil Service, where, five-and-twenty years ago, he became Senior Inspector of Lunatics and Commissioner of Control of Asylums. In this office, along with his able and experienced colleague, Dr. Courtenay, he carried out a most useful public work, for which the insane in Ireland will for all time have occasion to bless him.

Sir George excelled as an official. When difficulties or problems arose he readily saw the situation, and, having made up his mind as to the course to be pursued, he worked steadily to attain his object—and he seldom failed. He had the all-important knack of saying "No"—if he ever did say "No"—without giving offence, and as if he were conferring a favour. Gifted with a strong personality, and with a sagacity which enabled him to give due consideration to the opinions of others, the secret of his success lay in his sound and practical common sense, coupled with a quiet, persuasive, and convincing manner which went far to disarm opposition.

As in his public, so in his private, life Sir George's personal charm and thoughtfulness were his all-prevailing characteristics. In their house in Fitzwilliam Square Sir George and Lady O'Farrell dispensed a generous hospitality to a very large circle of private and official friends.

Sir George made no serious pretensions to being a wit, but he had a quaint, dry sense of humour and a fund of anecdote, which stood him in good stead, while his mirthful smile and twinkling eye fairly made the fun infectious. He was fond of his country, and could tell many a good tale of the Irish in the higher as well as in the more humble ranks of life. Although a much appreciated member of the Royal St. George's Yacht Club, where he was often seen at his best, he was not fond of yachting, nor did he shoot or fish. No one liked a game of whist in the old days, or of bridge latterly, more than he did. He was not only a fine player, but a pleasant one, and a good card holder to boot. In outdoor games he took little part, but he enjoyed Continental travel and roaming about a countryside. He felt it to be his duty to think he liked golf, and to take his golf clubs about with him for exercise, but he never made progress at the game. When asked what his handicap was he loved telling about his having won a considerable sweepstake when staying with a coterie of friends at Greenore. In order to induce him to join in the sweep he had been allowed a handicap of forty or fifty, and he won by one stroke. Another Greenore golf story which he delighted in telling had reference to the late Lord Justice Fitzgibbon, good soul! and a general. When Sir George asked a caddie which of the two played best, the reply was, "Well, sor, the ginral is the better player, but the Lord Justice can argyfy best."

Never robust, Sir George's health had always been somewhat of the "creaky hinge" type which is often associated with longevity. And so his friends had thought; but it has proved otherwise, and it is left for us to mourn the loss of one whose sterling worth and kindly and sympathetic disposition endeared him to all classes.

THE death is announced of Dr. JOSEPH AMY, who was in practice in Paisley for over thirty years. About five years ago his health failed, and after undergoing an abdominal operation he returned to Jersey, his native place, to recruit. On regaining strength he entered the service of one of the Ocean Line of steamships. He died on board the *Ghoorkha* on May 31st on a voyage to East Africa, and was buried at sea. He leaves a widow and grown-up family, his son being an officer of the Royal Army Medical Corps. He was a genial and kindly practitioner of artistic temperament and with musical talent of a high order, and will be mourned by a large circle of friends.

DR. MOSES THOMAS, formerly Superintendent of the Royal Infirmary, Glasgow, died on June 8th in his 82nd year. He retired from the Royal Infirmary in 1902, after thirty-five years' service. He was appointed Superintendent in 1867, too late to see the beginning of Lister's great work there; but he saw its progress, and in 1874 published a complete account of the results of amputations in the infirmary, which showed the enormous improvement due to the adoption of Lister's methods. During his tenure of office, too, the system of nursing was revolutionized. He was buried in Glasgow Necropolis on June 11th, a large number of his professional brethren paying their last token of respect.

DR. AIMÉ GUINARD, Surgeon to the Hôtel-Dieu, Paris, who was recently shot by a former patient and succumbed to his injuries, was beloved by his pupils and was very popular among his brethren. He had a very large practice, and it is an irony of fate that a man who constantly impressed on students the necessity of dealing tenderly with sufferers and making every allowance for their fears and fancies, should have been the victim of a patient. The man who shot him had been operated on a year ago for anal fistula, but his mind seems to have dwelt with morbid intensity on some infirmity, real or imaginary, which had remained. This led him to haunt the clinics of different hospitals and to consult a number of practitioners. His state of mind is to be inquired into by a committee of experts. M. Guinard contributed largely to surgical literature; among his writings the principal are monographs on cancer of the stomach, the ligature of arteries in cases of aneurysm, and surgical affections of the abdomen. He was 55 years of age. His obsequies took place on June 21st at the expense of the City of Paris. Funeral orations were delivered at the grave by the Prefect of the Seine, the President of the Municipal Council, and the Director of the Assistance Publique. All the speakers laid stress on his kindness to his patients and his devotion to their interests. It is proposed to erect a public memorial in recognition of his character as a man not less than of his skill as a surgeon.

Medico-Legal.

WORKMEN'S COMPENSATION ACT.

A Trap for a Malingerer.

IN the Marylebone County Court a man claiming compensation for personal injuries said that in consequence of his collarbone having been broken, though reunited he could not close his fist, and his grip had become less firm. He was called up to the bench beside His Honour (Sir W. Lucius Selfe). Dr. Oldfield, for the Law Accident Assurance Company, directed the applicant to place his left hand in the judge's right, palm to palm, push his own right hand well into his breeches pocket, and stand tip-toe on both feet. Having assumed this position, the surgeon gave him a slight push forward, and, to save himself from falling, he clenched his fist so firmly that His Honour squirmed, and called out, "That grip is firm enough," at which there was much merriment.

"REASONABLE" NOTICE.

G. M. H. O.—An assistant writes that he was engaged by his principal at a salary of £100 per annum, but he is paid weekly. He wishes to know what length of notice is required on his side in event of his desiring to give up his post.

*** The general rule in such cases is that a "reasonable" notice must be given. This may sometimes have to be decided by a jury, but in most cases the test is the periods for which the instalments of salary are payable, for example, an assistant engaged at a salary of £100 a year, and paid monthly, must give a month's notice. This is a custom so well established in the case of monthly payments that it could not be disputed, but it would not follow that, where the payments were weekly, the same rule must necessarily be applied, as it might be held that in the circumstances a week's notice was not "reasonable." Our correspondent would therefore be wise to give a month's notice, which would stand little risk of being set aside as "unreasonable."

Medical News.

THE Cremation Bill which recently passed the Lower House of the Prussian Diet by a majority of one, has now passed the Upper House by a majority of six (ninety votes to eighty-four).

THE distribution of prizes at the London Hospital Medical College will be made by the American Ambassador, the Honourable Whitelaw Reid, in the Library of the College, on Thursday next, at 3 p.m. The annual dinner for old students of the same hospital will be held on October 3rd at the Hotel Cecil. The dinner has been increasingly popular during the past few years, and arrangements have been made to make it even more attractive on the present occasion. The chairman will be Mr. Douro Hoare. The secretaries are Dr. Lewis Smith and Mr. Frank S. Kidd.

THE Princess Christian's Farm Colony, Hildenborough, Kent, will be opened by Her Royal Highness on Tuesday next at 3.30 p.m. Persons desiring to be present should send their names to the Secretary of the National Association for the Feeble-minded, Denison House, Vauxhall Bridge Road, S.W.

WE are requested to state that the last date at which names can be received for the Scandinavian tour of the E.M.I. Association is July 15th. The party leaves Paris on August 12th, the tour ending at Berlin on August 30th. The address of this medical touring society is 12, Rue François Millet, Paris.

THE Local Government Board has issued a Blue Book (Public Health and Medical Subjects; new series, No. 52; price 1s. 3d.) containing a report by Dr. Bulstrode on suspected pneumonic and bubonic plague in man in East Suffolk and Essex and on the prevalence of plague in rodents (rats and hares); a report by Dr. C. J. Martin and Mr. Rowland on a special investigation they carried out in East Suffolk in November and December; and a report on the pathological and bacteriological examination of rodents by Drs. G. F. Petrie and G. H. Macalister, assistant bacteriologists to the Lister Institute. We propose to refer more at length to some of the points in these reports in an early issue.

IN the communication from our special correspondent in Canada, which appeared in our issue for July 1st, it was stated that Dr. Howard Pirie, of St. Bartholomew's Hospital, had been appointed Director of the *X*-ray and Medical Electricity Department of the Royal Victoria Hospital, Montreal. This statement, however, we now learn, is somewhat misleading. All that has occurred so far is that Dr. Howard Pirie has been offered the appointment in question. At present he has not accepted it and is continuing his duties at St. Bartholomew's Hospital, Mount Vernon Hospital, and other places at which he has hitherto customarily worked.

PROFESSOR P. UHLENHUTH, Director of the Bacteriological Department of the Imperial Health Institute, Berlin, will deliver the Harben Lectures of the Royal Institute of Public Health at the institute, 37, Russell Square, W.C., on July 17th, 18th, and 19th, at 6 p.m. on each day. The first lecture will deal with experimental studies on syphilis, the second with the precipitin reaction, and the third with hog cholera.

THE Children's Country Holiday Fund is responsible for giving a fortnight's country holiday to 46,000 children. Canon Barnett, the Chairman of the Fund, informs us that there is this year a difficulty in finding cottages to take his children for whom 5s. a week is paid. The Fund desires to enlist the assistance of doctors or their wives in finding cottagers who will take children and do well by them. The children are inspected before leaving home, and are insured against sickness; the experience is generally enjoyed by hosts and children. The address of the Fund is 18, Buckingham Street, Strand, W.C.

WE are asked to state that pay wards for the reception of patients who may not be in a position to pay consultant's fees or to provide adequate nursing for themselves in time of sickness or operation, have been for some years in use at the Great Northern Central Hospital, Holloway Road, London, N., and have, it is considered, supplied a real want. Application has to be made to the secretary at the hospital, and every applicant must supply evidence of his or her fitness on financial grounds, together with a medical certificate from a private doctor. This evidence, we are informed, is closely scrutinized by the committee, on which the medical staff of the hospital is represented. The charges vary from £1 5s. to £2 2s. a week, according to the circumstances of each case, and there are no extras or medical fees.

MR. WALTER HILL, 67, Southampton Row, London, W.C., has produced a *Souvenir Guide to Carnarvon*, price 2d., which will be of use to those who propose to be present in that ancient town on July 13th, when the investiture of the Prince of Wales in Carnarvon Castle takes place. The guide is short and well illustrated. The most interesting part to the ordinary Englishman will be a little essay on place names in North Wales, with an alphabetical list of the names of Welsh railway stations, giving their pronunciations and meanings, compiled by Mr. T. B. Grierson, M.Inst.C.E. Looking through the list we see Ebbw Vale means "the Valley of Talk," and that there is a place with so long a name that even the natives call it Llanfair P.G.; we forbear from copying the full Welsh name, but Mr. Grierson asserts that it means "The fair church at the pool of the white seagull near the alder grove where the fodder for the oxen is stored in the red barn."

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on June 16th, Dr. de Havilland Hall in the chair. During the last few months the sickness claims have been fairly numerous, but for the most part of short duration, so that the total amount of sick pay disbursed by the society has been well under the amount expected and provided for by the rates of contribution. The number of new entrants has been larger than in any similar period of the working of the society, and, in addition, an unusually large number of members have availed themselves of the powers given by recent alterations in the rules to increase the amount of weekly sick pay they had secured. A considerable addition has in this way been made to the premium income of the society. Some years ago the society made a donation of 100 guineas, and has since subscribed 20 guineas per annum, to Epsom College, the votes thereby obtained being given to members of the society or their families, and in this way have materially contributed to the successful candidature of the sons and in some cases the widows of deceased members. At the election just ended the son of an old member of the society was elected as a foundation scholar. The funds of the society cannot be used for any directly charitable purpose, but with the view of assisting those of its members who may have to apply for such aid the committee has resolved to subscribe 100 guineas a year to the British Medical Benevolent Fund, and trust in this way to mitigate the hardships of some of the cases of distress which come under their notice. Prospectuses and all further information on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

J. M. L. B. asks to be recommended a compact treatise, reliable and not expensive, on *x*-ray work.

A., who has been in general practice in mining districts for thirteen years and has attended a large number of confinements, including many instances of abnormality, has recently suffered from the inconvenience that he is immediately attacked by flatulence when called to even an ordinary confinement. He recognizes that it is of purely nervous origin, and it is worse when he has to wait. When called upon to deal with a serious case necessitating chloroform and the use of instruments the flatulence immediately disappears. He would be grateful for advice.

ANSWERS.

CASE OF PHOSPHATURIA.

MR. J. BENSON-COOKE (Wakefield) writes: In reply to "R. A. C." I would recommend a trial of hexamethylen-tetramin ("urotropine") in his case of phosphaturia, in 7½ grain or 10 grain doses, three times a day in half a pint of water. The large quantity of water with each dose is essential. Permanent disappearance of the symptoms has followed this treatment in some of my cases.

PHOSPHATE writes: Let "R. A. C." wash out the bladder with 3j acid. nit. dil. in half a pint of warm sterile water. There may be a septic condition of the bladder, in which case 10 to 15 grains boric acid internally in solution (not powder or tablet) three times a day will be useful, or urotropine or helmitol if preferred. If the bladder is irritable, hyoscyamus or buchu, the latter in large doses, will be indicated.

ANOTHER ARSENIC COMPOUND FOR SYPHILIS (HYDRARSAN).

DR. J. C. MCWALTER (Dublin), writes: Replying to Dr. W. Hardman's query, the substance called "hydrarsan" is a chemical compound, and not a mere mixture, but I cannot give its formula. I have no experience of its use hypodermically or intravenously, and should not advise it. Some seventy years ago Donovan, of Dublin, showed that somewhat massive doses of mercury with arsenic and iodine, combined as a double salt, could be used with benefit in certain syphilitic manifestations. Donovan's solution has been used all over the world ever since. Hydrarsan is scarcely more than the substance formed by the addition to Donovan's solution of the organic compound phenyl-di-methyl-isopyrazolone. An equivalent of the liquor arsenici hydrochloricus *B.P.* may be used for the arsenic required.

LETTERS, NOTES, ETC.

ACCIDENT INSURANCE.

FOREWARNED sends the following note of two cases which have recently come to his notice, and have caused him to reflect seriously on the methods of accident insurance companies:

In the first case a patient of mine, aged 64, met with an accident while attending to a horse in a stable. He sustained a fractured clavicle and two fractured ribs. He has paid premiums for over twenty years, and has only once claimed before; but now, on his recovery, the company have refused to renew his policy. In the second case another patient, aged 80, was recently knocked down by a runaway horse. In his case also the company have refused to renew his policy although he has paid premiums for nearly fifty years, during which time he has only made one claim, and that for twelve weeks, whereas he was ill for nearly a year.

*** A company is no doubt within its rights in declining to renew an accident insurance, and is not bound to give any reason, but the wisdom of the policy pursued, by some companies at least, in this respect, is much open to doubt. Directly and indirectly it inflicts a hardship on old clients, and tends to shake such confidence as the public retains in the equity with which insurance business is conducted. The companies might remember the disgust of the farmer who killed the goose which laid the golden eggs.

THE VACCINATION DEBATE.

DR. F. W. STANSFIELD (Reading) writes: Dr. Millard, in the JOURNAL of July 1st, p. 50, quotes me inaccurately as saying that "when small-pox breaks out *in Leicester* nearly all the inhabitants go off in hot haste to be vaccinated." What I said was that "when small-pox breaks out in *a locality* nearly all the inhabitants (that is, of the locality) go off," etc. Most of your readers, I think, would understand me as meaning by a locality *the immediate neighbourhood* of *the outbreak*, and not necessarily the whole of a large town. Dr. Millard tells us that, excluding the houses actually attacked, only 3 per cent. of the inhabitants were vaccinated during the epidemic of 1903. But why exclude the houses attacked? Surely they are the most important of all to be included. However, to take Dr. Millard's own figures: 3 per cent. of the whole population of the town would represent probably some five or six thousand people, in addition to those already vaccinated before the epidemic began. If, as experience shows to be most probable, these persons were mostly drawn from the immediate neighbourhood of the infected foci, they would constitute by no means a negligible factor in stopping the spread of the disease. Dr. Millard appears to have forgotten the contention advanced in his letter of June 3rd, "that in an entirely unvaccinated community the problem (that is, of preventing small-pox) might actually be easier." Whether he has brought forward sufficient ground for this contention, I leave your readers to judge.

AMATEUR DETECTIVES.

A CORRESPONDENT in London sends us a letter he has received from the master of a country workhouse which is an example of the over-zeal sometimes displayed by Poor Law officials, an example not isolated in our experience. The letter of the master invites our correspondent to assist in discovering the parents of a deserted child, aged 2½ years. A reward of one guinea is offered for such information as will lead to proof of birthplace and identity. Our correspondent has intimated to the master of the workhouse that no medical man of repute would disregard professional secrecy in this respect. We have no doubt that this will be the view taken by all medical men into whose hands the circular may find its way.

GEORGE III.

DR. D. WALLACE SMITH (Brixton), referring to the statement in the JOURNAL of June 17th, p. 1434, that "the reign of George III was, with the single exception of that of Queen Victoria, the longest in English history," writes: "Surely a rudimentary knowledge of 'English' history might keep such an absurd statement from being made. George III was a British king and Queen Victoria was British—not English." Surely a very moderate degree of attention might have enabled our esteemed correspondent to see that the statement is absolutely accurate. The two reigns referred to were the longest in "English" history. It is nothing to the purpose that George III. and Queen Victoria were "British" sovereigns. Why, by the way, if we are to speak by the card, is Ireland excluded from their title of sovereignty? We might also ask why Dr. Wallace Smith is so inconsistent as to write in what seems to our "rudimentary knowledge" to be English? Surely to be consistent he should write in British.

"A MODERN WATER DOCTOR."

WITH reference to a paragraph which appeared under this heading in the JOURNAL of June 17th (p. 1456) Dr. T. Duncan Newbiggin (Abington, Lanarkshire) writes: I would like to give the story about the "stars" its finishing touch as I heard it and as I believe it actually occurred. The patient was a man with chronic Bright's disease. The doctor in attendance was an old doctor in Paisley, since dead, but in life noted for his quiet humour as well as shrewd skill. He did not tell the patient what was wrong, but told his people. The patient, however, like many another at that time, was advised to go and see this "famous" doctor in Glasgow. This he did without telling his Paisley doctor. Result as stated. Dr. Quack let him look through his microscope, and showed him some star-shaped crystals of uric acid, saying the whole of his trouble was the presence of these stars. Patient, indignant, goes to his Paisley doctor and talks to him, saying, "Why did you not tell me these stars were in my urine?" Old Dr. —— let him have his fling, and then said: "Did Dr. S—— show you these stars?" "Yes." "Ah! Weel, weel. Ye maun awa' hame, but tak' ma wurd fur it, a man that's piddling stars canna be faur frae the Kingdom o' Heaven."

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Clinical Lecture

ON

THREE CASES OF CARDIAC FAILURE WITHOUT EVIDENT DILATATION OF THE HEART.

BY

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PHYSICIAN TO THE BIRMINGHAM GENERAL HOSPITAL.

THE three cases recorded in this paper illustrate muscular failure of the heart without marked enlargement and without valvular disease, and as cardiac failure without dilatation is apt to cause some embarrassment as regards diagnosis and treatment, their publication may be of interest.

The association of these three cases together is a natural one, for they were all admitted to the hospital within the same thirty-six hours. The first of the three was a fairly simple and common case of heart failure following rheumatism. A man, aged 25, was admitted to the hospital with acute rheumatism, from which he had been suffering for a fortnight. The attack was not a severe one and yielded to sodium salicylate, the temperature coming down on the third day, only rising above normal once afterwards. The heart never seemed very strong, and three weeks after admission he was apparently convalescent and was feeling quite well, and wanting to go out of the hospital and back to work. An examination of the heart at this time showed the following condition:

The apex was in the fifth interspace, well within the nipple line, and there was a very feeble impulse to be felt. There was no enlargement of the heart to the right, the liver dullness was smaller than normal, and there was no epigastric pulsation.

There was no fullness of the veins of the neck. There was a localized systolic murmur, audible at the base of the heart, over the sternal end of the second left interspace, and also in the third interspace, but no murmur at the apex or elsewhere.

The pulse was rather weak, but otherwise normal in rate, character, and rhythm.

So far, therefore, there was little evidence of any contra-indication to the man getting up and walking about. One portion of the heart, however, has not yet been referred to, and, as a matter of experience, this part is one of the first to give evidence of weakness in a numerous class of cases of cardiac failure. I refer to that portion which lies under the third rib and the third space just to the left of the sternum.

Anatomically, this part is the anterior wall of the right ventricle just below the origin of the pulmonary artery, and it is sometimes conveniently called the "conus arteriosus" of the right ventricle. On studying a heart *post mortem* it will be seen that in this situation the muscular wall of the ventricle is thinner than it is elsewhere. If, therefore, the power of resisting dilatation depended upon the muscular wall alone, we should expect this to be the first part of the ventricle wall to become overstretched in cases where excess of intraventricular pressure was tending to produce dilatation of its cavity. Now in the adult there is evidence that the fibrous tissues of the heart and pericardium play an important, and perhaps the most important, part in supporting the heart wall and counteracting any tendency to dilatation. In the heart, therefore, with strong fibrous tissues we do not find that the portion of the anterior wall of which we are speaking shows any exceptional tendency to dilate. In puberty and adolescence, however, where the fibrous tissues are developing, and have not attained to their adult resisting power, the heart has to rely mainly upon its muscular wall, and under these circumstances we do not find that this thin portion of the anterior wall is the first part of the right ventricle to dilate when the intraventricular pressure becomes excessive.

On carefully percussing this patient's heart when the lungs were emptied during full expiration it was possible to detect some upward increase of the cardiac area, for there was relative cardiac dullness for about three-quarters of an inch in the second space, and 2 in. (as against a normal 1½ in.) in the third interspace. In the fourth interspace there was only about 2 in. of relative dullness instead of the normal 2½ or 3 in., showing not only the absence of any left ventricular dilatation but suggesting the presence of some diminution in the size of that part of the heart.

Coupled with this increase of the right ventricle upwards and to the left, the systolic pulmonary murmur which is usually associated with it was audible in the second and third left interspaces near the sternum. The theory of the production of this murmur, which is associated with the name of the late Dr. Foxwell, is so well known that I need not refer further to it here. This small amount of upward dilatation and the accompanying pulmonary murmur, associated with a weak pulse and a small left ventricle, were distinctly suggestive of myocardial damage as a result of the rheumatic fever. The second sound of the heart was not abnormally loud in the pulmonary area, and there was nothing to suggest any greatly increased resistance to the passage of blood through the lungs from failure of the left ventricle or other cause.

The condition, therefore, is suggestive of a right ventricle so weak that it is on the point of becoming dilated in its attempt to carry on the normal circulation while the patient is confined to bed. If he were to get up it would be certain to produce a very marked dilatation. In a precisely similar case I have seen the heart rapidly dilate when the patient began to walk about, and show some inches of dullness with well-marked pulsation in the second left interspace.

The treatment here must consist of rest in bed and tonics, etc., thus giving the heart muscle time to recover from the effects of the rheumatic poison. After two weeks the relative cardiac dullness lessened in the second and third interspaces and increased in the fourth, and the heart got stronger, and the patient, though not fit for work, was well enough to leave the hospital for a month in the country.

The second case is also a fairly simple one. The patient was a stoutish, red-faced man, aged 44, whose work as an agent involved a good deal of bicycling. For many months he had noticed an increasing breathlessness, and he had been unable to do much bicycling for more than a year. Within the last few weeks his breathlessness had been so troublesome that he came to the hospital and was admitted. There had been no swelling of the ankles and no fainting attacks. On admission the most evident sign of cardiac failure was fullness of the veins of the neck with well-marked pulsation in them as far up as the angle of the jaw. The pulse was small in volume and wanting in vigour, the tension was rather high, and the blood pressure as tested by the sphygmomanometer was 160 mm. of mercury. As regards the heart, instead of finding distinct dilatation and perhaps a tricuspid murmur, as might be expected under such circumstances, percussion showed the cardiac area to be normal, and on palpation and inspection the cardiac action and impulse were found to be more feeble than normal. Auscultation confirmed this, for the heart sounds were decidedly weak, and those at the apex were short and sharp, suggesting feebleness, and there was also a very faint systolic murmur present.

The right ventricular sounds, while rather better than those at the apex, were not so loud as normal. As regards the lungs there was no emphysema, but there was a good deal of bronchial wheeze, suggestive of bronchial catarrh, with some bronchial spasm. Here, again, we were dealing with a case of heart failure without manifest dilatation, although some dilatation of the right auricle, and possibly of the right ventricle, might nevertheless exist. The explanation of such a case is probably as follows: The man had been suffering more or less for some time from a gradual rising blood pressure, the result probably of failing kidney action or an injudicious dietary, and the nutrition of the heart had not been sufficient (owing to faulty coronary arteries) to enable it to keep pace with the extra work thus thrown upon it. Had it done so there would have been a measure of hypertrophy with heart sounds louder than normal. The final cause of his breakdown was doubtless his bronchial trouble. The fact of having a heart of normal size and weak action in face of a blood pressure of 160 mm. of mercury suggests myocardial degeneration from malnutrition. The distension and pulsation of the

veins shows that the right ventricle was relatively strong and was endeavouring to compensate for the defective action of the left heart. As regards the treatment: The bronchial catarrh and spasm, though only slight, had to be dealt with, and also small doses given of such a drug as strophanthus, which, while not increasing arterial contraction, does increase the vigour of the cardiac action, and so tend to improve the cardiac nutrition. Digitalis would, of course, not be desirable. A very important part of the treatment of such a case is the lessening of the peripheral resistance by means of drugs such as the salicylates. In such a case as this, however, the prognosis is not very hopeful. This was shown by his rate of progress, for, although the heart sounds gained in vigour after three weeks' rest in bed combined with the treatment described, the man progressed but slowly.

The third case of heart failure without any obvious cardiac dilatation or murmur was that of a woman aged 61. She had been short of breath for several years, and of late had been gradually getting worse. Recently she had rapidly got weaker, and the day before admission she had a serious fainting attack—the first of the kind she had had. There was no history of any previous illnesses, and her present condition had developed gradually. Her state on admission was as follows: A rather stout woman, very pale, not breathless when lying in bed with a moderately high bed-rest, but breathless on exertion, and unable to lie flat in bed. There was no dropsy and no cyanosis.

The pulse was decidedly small, but of good strength, and was of the strikingly collapsing character usually associated with aortic regurgitation. Although its volume was small it came up under the finger with suddenness and force, and subsided again with equal suddenness, leaving the artery empty to the touch between the heart-beats. On testing it with the sphygmomanometer, it was found that the pulse wave would withstand a pressure of nearly 160 mm. of mercury. On testing the collapsibility of the pulse when the arm was raised or lowered it was found that elevation of the arm did not (as in aortic regurgitation) increase the collapsing character of the pulse. On looking at the neck there was not only no pulsation of the veins, but there was a hollowing above the clavicles which suggested undue emptiness of the vessels.

As regards the heart there was no visible or palpable impulse anywhere, the cardiac area was small, decidedly less than normal, and the liver was not enlarged. The cardiac sounds were decidedly weak, and there was no murmur. The lungs and other organs appeared quite healthy.

This patient was evidently suffering from weakness of the heart muscle, and its degree was worse than in the second case described, for the heart had not sufficient strength to keep the superior cava and neck veins distended and pulsating as in the last case.

The diagnosis was heart weakness due to fatty degeneration, the result probably of diseased coronary arteries. A more complete analysis of the symptoms would have led to an even fuller diagnosis, but the importance of the collapsing pulse and the systolic pressure of 160 mm. coupled with the empty veins was not recognized till after the *post-mortem* examination revealed the true nature of the case.

The patient was given small doses of strophanthus and strychnine, and seemed to be improving when suddenly she had another fainting attack, five days after admission, and died a few hours later in a second attack. The earlier of the two attacks came on at 4 p.m. There was marked dyspnoea and cyanosis, with pain over the heart and left chest. The pulse was almost imperceptible. She rallied somewhat, but became worse an hour later. In this second attack she suddenly sat up in bed and then fell back dead.

At the *post-mortem* examination there was fatty degeneration involving the right ventricle, due to atheroma mainly involving the one coronary artery. The condition of the muscles of the left ventricle was good, and the artery of supply was patent. Here, then, was the explanation of the small powerful collapsing pulse.

The right side of the heart was too feeble to force the proper amount of blood through the lungs, and, as the condition had evidently developed slowly, the amount of blood in circulation had presumably diminished *pari passu* with the diminution in the strength of the right ventricle, and thus venous plethora, which might have been expected, had the failure of the right ventricle been less gradual, was not produced. The left ventricle was therefore underfilled at each beat, and, in order to get as large an amount as possible into the capillaries of the brain and elsewhere, the blood was thrown out of the ventricle suddenly and with force, the arteries being kept as contracted as possible. The rapid collapse of the pulse wave and the emptiness of the artery between the beats were due to the abnormally small volume of blood causing the pulse wave.

This case illustrates well the main signs upon which diagnosis of a fatty right ventricle with a fairly strong left ventricle is to be based—namely, great dyspnoea and weak right ventricular sounds coupled with absence of well-marked venous pulsation in the neck in combination with a regular and not very rapid pulse of small volume and fair strength. Where some amount of arterio-sclerosis is present, as in a case I saw some months ago, the rapid and great collapse of the pulse may not be noticeable, but where present, as in the case here noted and in one I have subsequently seen, its diagnostic importance is great. The prognosis, it is needless to add, is in such a case extremely grave.

These, then, are the three cases. The first showing heart weakness with diminution in the size of the cardiac area from damage to the heart muscle from the toxins or micro-organisms of acute rheumatism. In this case the left ventricle was rather weaker than the right, and the latter showed a slight amount of the adolescent type of dilatation and a pulmonary artery murmur. The second case was one of the muscular failure of the heart, without evident dilatation, due to malnutrition presumably from atheroma of the coronary arteries. In this case the left ventricle was more affected than the right.

The third case was exceptionally interesting owing to the limitation of the fatty degeneration to the right ventricle as well as from the absence of physical signs of cardiac failure except those associated with a relative emptiness of the heart and great vessels, and the weakness of the cardiac sounds, especially those heard over the right ventricle.

A CASE OF OBLITERATIVE ENDO-ANEURYSMORRHAPHY FOR POPLITEAL ANEURYSM.

BY

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ENDO-ANEURYSMORRHAPHY in its most recent form, as elaborated by Dr. Matas of New Orleans, is still so uncommon an operation in this country that the publication of even a single case in which it was employed needs no apology. The reasons for abandoning the old method of Antyllus in the treatment of aneurysm in favour of the classical Hunterian operation are familiar to all British surgeons. But the grounds for a return, more or less, to the direct operation on the aneurysm practised by Antyllus require some justification. These are so ably set forth in the writings of Dr. Matas that they need not be dealt with in any detail here. I will only recall the fact that in the Antyllian operation the artery was tied above and below the aneurysmal sac, and that the latter was laid widely open, packed, and allowed to heal slowly from the bottom by granulation. In the days before the Listerian era the risks of this procedure were obviously very great. In the first place sepsis at the point ligated was almost certain to be followed by severe haemorrhage, and sepsis in a ragged cavity such as the open sac, whatever material it was stuffed with, was most likely to occur in communication with an open wound. Moreover, severe haemorrhage could occur from the branches opening into the sac which belonged to the free anastomosis around it. The probability that under modern aseptic conditions these chief risks would disappear, as well as his experiences in the case of several traumatic aneurysms treated by direct opening of the sac and closure of the entering arteries from within, led Dr. Matas to the conclusion that much would be gained if aneurysms could be immediately obliterated on the principles of Antyllus, but without leaving the sac open to granulate up as he did, with all the risks of sepsis and of haemorrhage from the ligated main

branches or the unligatured branches communicating with the sac. At all events, in this way a minimum of interference with the collateral circulation would be secured, the main arteries and branches being severed at their entrance into the aneurysmal sac, and the latter would run but little risk of sloughing with a closed aseptic wound. Further experience convinced him that not only was "obliteration" of an aneurysm on these lines possible and safe, but that in those cases of sacculated aneurysms in which only a part of the circumference of the vessel had been expanded into the tumour, it was possible to "restore" the continuity of the parent vessel by suturing the walls of the sac over the opening in two firm rolls, the remainder of the sac being obliterated by suture from within. A further extension of this method led Dr. Matas to "reconstruct" an arterial channel between the afferent and efferent mouths of the parent artery from the walls of the sac in fusiform aneurysms. His success in this field and that of those surgeons who followed his methods has placed these procedures on a tolerably firm basis, and there appears to be good ground for the belief that further experience will show that the Matas method in one or other of its forms—the "obliterative," the "restorative," or the "reconstructive"—will give the best results in most aneurysms.

In the following case the obliterative method was the only one feasible, and in operating on it I followed as closely as possible the details to be found in Dr. Matas's publications.

Mrs. M., aged 51, was admitted into University College Hospital on May 23rd, 1911. She complained of a painless swelling behind the left knee present for six years. For the last year the lower part of the limb and foot had been swelled as well, and this gradually increased so much that she was obliged to take to her bed six weeks before admission, being unable to walk. On admission the swelling in leg and foot had subsided a good deal, but the tumour behind the knee was larger than ever, and the leg was somewhat dusky. The patient appeared to be generally healthy. In 1894 Mr. C. Heath removed a tumour from the right orbit, which was suspected to be a sarcoma but turned out to be a gumma. A rash twenty years ago and scars below the left knee also pointed to syphilis, for which at that time she was treated with the usual remedies.

On admission, a large tumour occupied the whole popliteal space, and could be seen from the front to swell out on each side of the knee, and to pulsate strongly. All the common symptoms of aneurysm of unusually large size were present. An excellent skiagram showed that it lay upon the posterior broad surface of the femur, which was slightly eroded by it, and was sacculated and perfectly round, reaching high up and low down. The leg below the knee was oedematous and dusky, and neither anterior nor posterior tibial arteries could be felt in the affected limb though plainly palpable in the other. There was no anaesthesia of the leg. The arteries of the rest of the body appeared normal.

After rest in bed on moderate diet for a fortnight, digital compression was carried out for ten hours without any apparent effect on the aneurysm.

On June 7th I performed Matas's operation, closely following the details laid down by him. Spinal analgesia relaxed all the tissues perfectly. An Esmarch's bandage high up the thigh controlled all haemorrhage. A 9-in. incision in the middle line of the ham was necessary to expose the large aneurysm. The most prominent part of the sac was at once opened, and a large quantity of soft dark clot and then masses of more or less decolorized fibrinous material were evacuated. The sac was then seen to be incorporated with the periosteum of the posterior broad surface of the femur, and to be very thin at this part. The rest of it was thicker. The posterior part was very thick, and it was found that the popliteal vein was obliterated in it. The afferent and efferent arterial openings were widely separated, entering on the posterior aspect above and below in such a way as to forbid any attempt to restore the continuity of the vessel. The entering artery was closed by fine linen thread (No. 90), just at its junction with the sac, and the leaving mouth similarly. After careful search only one collateral branch could be found entering the sac from below on the inner side, and this was closed from within. The vein which had been mistaken for the artery at first was also tied above the sac, but being then found obliterated in the sac wall was not tied below. The walls of the sac, which had been left undisturbed with their surroundings as far as possible during the operation, were now wiped clean, and were folded and drawn together from within by several series of mattress sutures of the same fine linen thread. The rubber tourniquet was now removed, and a few very small bleeding points were secured. One small artery in the lower angle of the wound spouted freely, showing that the collateral circulation was good. The whole long wound was now closed from end to end without drainage. The limb was well packed with cellulose wadding and lightly bandaged, the foot being separately wrapped in cotton-wool.

Convalescence was absolutely uninterrupted. Warmth and colour returned and the swelling of the foot subsided rapidly. There were no abnormal sensations in the leg. The stitches were taken out of the skin on the tenth day, when primary union was perfect without a flaw.

It was noticed during the operation that some collateral vein had apparently taken up the work of the obliterated popliteal vein, which relieved my anxiety when the latter was seen to be obliterated.

As to the ultimate result *qua* recurrence of the aneurysm, it is too soon to speak. There seems to be no abnormality of the conditions of the parts so far, and I hope to present the patient for examination at one of the societies later on. On this point Dr. Matas's figures are encouraging. Out of 85 aneurysms treated by his method, there were 28 popliteal treated by this obliterative procedure, in none of which were there any recurrences. It was among the "reconstructive" operations alone that relapses of the aneurysm occurred. In 13 such cases there were 4 relapses. As in my case a typical "obliterative" operation was done, there is every hope that it will be as permanent a cure as in all the other cases of this variety of the procedure recorded.

Here in London one has a natural, but perhaps too deeply rooted, feeling in favour of the classical Hunterian operation at a distance from the aneurysm.

But it must be admitted that the conditions under which operations are now done have marvellously altered for the better since Hunter's time, and our views as to the nutrition of diseased arteries have been modified. I confess I have been much impressed by the reasoning which Dr. Matas applies to this subject and by the results which have been obtained by his method. The case now recorded, though the first in which I have followed Dr. Matas (the only one, indeed, operated on by this method in our hospital), has impressed me much by the simplicity of the procedure and the result as contrasted with many other cases in which I have operated by older methods.

A CASE OF ANTHRAX TREATED BY SCLAVO'S SERUM.

BY W. MANSON FERGUSSON, M.B., CH.B.ABERD.,
ASSISTANT VISITING SURGEON, CHALMERS' HOSPITAL AND BANFF DISTRICT ASYLUM.

THE patient in the following case, a farmer, called to consult me about his hand on April 10th. It presented on the dorsum just above the wrist a typical malignant pustule about the size of a shilling. On hearing my diagnosis he said that he had had an outbreak of anthrax at his farm, but had not connected that fact with the sore on his hand.

History.

On March 29th one of his heifers died of anthrax, and as is the custom in this district, he cut off its ear to supply the veterinary surgeon with a sample of blood. While he was doing so blood from the ear ran over the back of his hand. On March 31st and April 1st two other cattle died, but he did not again help the veterinary surgeon.

On April 8th he noticed a pimple on the back of his left hand, but it was so insignificant and absolutely painless that he thought nothing about it. The following day it was a little bigger, but still painless, and he applied a poultice to it.

On April 10th, having noticed a small lump in the hollow of his elbow, he came on his bicycle to see me.

Treatment.

I made up my mind to excise the pustule, but as the patient's temperature was quite normal and he was feeling very well, I thought I had better get the Medical Officer of Health, Dr. Ledingham, to see it. We finally decided to cauterize the pustule and to wire for Sclavo's serum. The pustule was duly cauterized and he went home cycling.

Progress.

When he went to bed, two hours after seeing me, he felt quite well, but in the night his wife thought he was very warm, and, on taking his temperature, found it to be 103.8° F. in his axilla. She immediately sent to me a message to that effect, and I sent him out 5 grain quinine powders, one to be taken four-hourly. The following morning he was looking quite well, but his temperature was 102.6° F. The serum arrived, and that evening about 7 p.m. we injected 40 c.cm. of it—10 c.cm. in four different places under the skin of his abdomen. He was looking very ill by this time, was unconscious every now and then; his pulse was very weak and his temperature 105.6° F. We practically gave him up.

One hour after the dose of serum he began to rally, and his temperature began to fall until, at 12 midnight, it was 101° F.

At 3 a.m. the temperature rose to 104° F., and his wife, knowing that cattle always have a rise of temperature before death, got alarmed and sent for me.

I arrived there about 4 a.m. and found him very much better—temperature down to 102° F., and pulse, though still weak, much better than in the previous evening. His subsequent progress is best seen in the annexed chart.

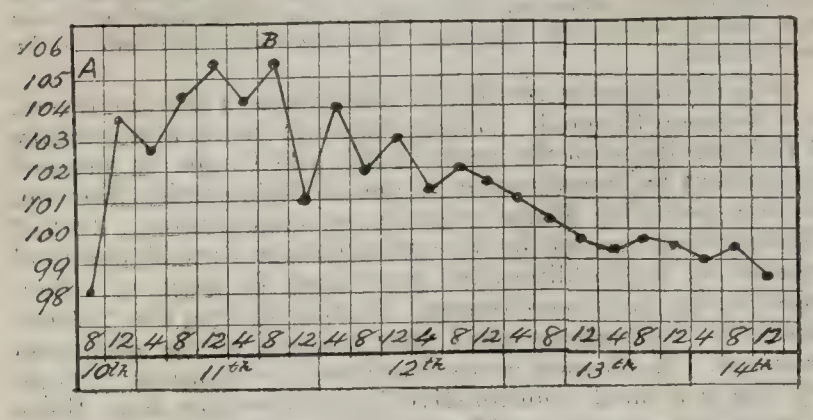

A, Cauterized with carbolic acid. B, 40 c.cm. serum.

At the same time as the serum was injected we injected a few minims of liquefied carbolic acid in three places, about ½ in. to the proximal side of the pustule.

Result.

There was great enlargement of the glands in the axilla and elbow for several days after the injection, but it gradually subsided.

REMARKS.

The chief points of interest about this case are:

1. The apparently long incubation period—ten days—if counted from the date that the man got the blood of the anthrax-infected animal over his hand; he was certainly cleaning the byre after the third animal's death, but had not the same opportunity of getting infected that he had on the 29th.

2. The rapid amelioration of the symptoms after the injection of the serum.

3. Recovery without excision of the pustule. Most cases of recovery after treatment by Sclavo's serum have been treated by excision as well. Herley reported 8 cases of anthrax treated by Sclavo's serum and excision, with only one death. In one case only was excision not performed.[1]

REFERENCE.

1 *Lancet*, December 4th, 1909.

INTRAMUSCULAR AND INTRAVENOUS INJECTIONS OF ANTIMONY IN TRYPANOSOMIASIS.*

BY C. N. B. CAMAC, M.D.,

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THE following experience is published now in order to place it within reach of those engaged in the study and treatment of trypanosomiasis; later a record of three and a half years' observation upon this case of trypanosomiasis, in whom antimony treatment was carried out, will be published in full.

Intramuscular Injection.—The preparation used was metallic antimony in Lambkin's oily medium, received from Sir Patrick Manson, who procured it from Mr. Plimmer, who had tested it in the Lister Institute and used it in the treatment of syphilis in one of the British military hospitals. Ten minims, representing one-half grain, of the precipitated metallic antimony were injected into the muscles of the left buttock. Within an hour the patient experienced great local discomfort, which increased till the whole buttock was greatly swollen, painful and tender to such a degree that the least pressure of his body upon the bed, where he was compelled to remain, caused him to call out with pain. Even with such cause removed the pain was so intense that morphine had to be used frequently. This condition, accompanied with sleeplessness, lasted for ten days, when the swelling, pain and tenderness gradually subsided, and within fourteen days from the date of injection the patient was able to walk about, and two days later all inconvenience had disappeared. When the area of swelling had lost the tenderness sufficiently to allow of palpation, it was found to be tense, hard, and fairly sharply defined to a circular area of about 18 to 20 cm. in diameter. There was no necrosis. The temperature was as shown in Chart 1.

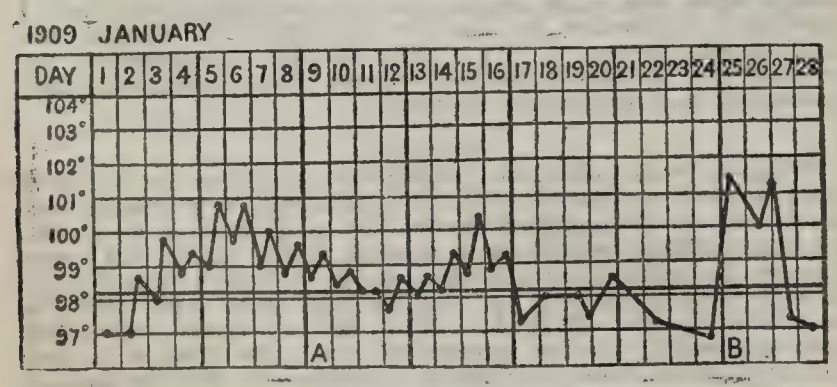

Chart 1.—January 3rd, 1909. Intramuscular injection (buttock) 10 minims = ⅙ grain of precipitated metallic antimony in Lambkin's oily medium. Followed immediately by severe local pain and swelling—no necrosis. Duration of symptoms, two weeks. A, Fever due to antimony; B, fever due to trypanosomes.

Sir Patrick Manson had recommended the use of the injection "once every one, two, three, or four weeks," the maximum dose being "20 minims (5 per cent. mixture), equal 1 grain," beginning with "10 minims." From the experience here recorded such treatment was, however, impossible, even had the patient not refused, which he did most emphatically.

Intravenous Injection.—The preparation used was antimony sodio tartrate, also received from Sir Patrick Manson, who had procured it from Mr. Plimmer. One-sixth of a grain in normal saline was injected into a vein of the arm. From November 10th, 1909, to February 1st, 1910, thirteen injections were given with intervals of about four days; on one occasion there was an interval of sixteen days, on another an interval of eight days. The thirteenth injection was received at about 11 a.m. on February 1st, 1910. About twenty minutes after leaving the laboratory, while on his way home, he was suddenly seized with nausea and great weakness. He managed to reach his home unaided. Before I could reach him he had had a chill and violent abdominal pain. When I saw him he was greatly prostrated, complained of intense headache, and had a temperature of 103.6° (see Chart 2). This lasted five or six hours, when it subsided to normal.

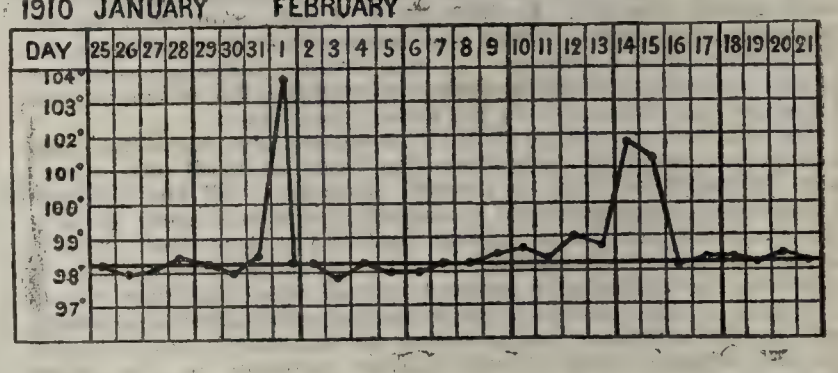

Chart 2.—February 1st, 1910. Twenty minutes after intravenous injection of ⅙ grain antimony sodio tartrate (being the thirteenth injection since November 10th, 1909) the patient was seized with violent nausea, abdominal pain, chill, and great weakness. Temperature as above. Symptoms persisted five or six hours. February 14th, same symptoms (less severe) as those of February 1st. Trypanosomes absent. Indican in great excess. From October 9th, 1909, to January 31st, 1910, 1½ to 2 grains (in 3 pints of water) antimony lithium tartrate, by mouth daily.

The blood was negative for trypanosomes. The urine showed great excess of indican, otherwise it was normal. For twelve days the weakness and abdominal distress continued, and on the thirteenth day from the former paroxysm he had, for six hours, a similar but somewhat less severe attack. Trypanosomes were not found at the time of this second fever, and have been absent upon all subsequent examinations.

Blood and spinal fluid inoculations into monkeys (Rhesus), rats, and mice have been attended by negative results.

From October 9th, 1909, to January 31st, 1910, he took daily by the mouth 1½ to 2 grains of antimony lithium tartrate in three pints of water in addition to the intravenous injections.

Similar sudden, but less severe and never alarming, outbreaks of toxic symptoms occur (according to Todd †) with the administration of mercury. In the case here reported the manifestations were severe, alarming, and entirely without warning. The great excess of indican, had it been noted before the last injection, might have been a warning.

The urine had been watched carefully for signs of disturbed renal function, but with negative results.

The behaviour of the disease subsequent to the antimony poisoning was most important. From June, 1907, to November, 1909 (prior to the intravenous administration of the antimony), there were twenty-six febrile paroxysms associated invariably with trypanosomes in the peripheral blood. From that date the active antimony treatment, as recorded

*Presented as a preliminary report before the meeting of the Association of American Physicians, 1911.

† Private communication—unpublished.

above, was begun, and except for the two rises of temperature occurring with the other symptoms of poisoning, no fevers have occurred, and trypanosomes have not been found in the peripheral blood or in animals inoculated with blood and spinal fluid. That is, parasites and fever have been absent for one and a half years.

THE TREATMENT OF SERUM SICKNESS OCCURRING IN DIPHTHERIA.

BY
JOHN R. KEITH, M.D.ABERD.,
DRIFFIELD.

THOUGH "serum sickness" in the great majority of cases is not attended by danger, the symptoms are in the highest degree unpleasant. When a patient who seems to be making rapid progress towards recovery is suddenly seized with pain, more or less severe, accompanied by signs of great prostration, a conspicuous eruption and a high temperature, forming a clinical picture as sinister in aspect to the lay mind as any previously present in the disease, it is not to be wondered at that such a condition, lasting in all its intensity for several days, should lead the uninitiated to think that the cure is as bad as, if not worse than, the disease. The following is an example:

CASE I.

O. P., aged 7 years, was treated with 16,000 units of antitoxin (given in four doses) for an attack of diphtheria. She improved rapidly and was progressing favourably when, a week after the last injection, she was suddenly attacked in the middle of the night with abdominal pain. A few hours later the temperature, previously normal, was found to have risen to 102°, whilst the pulse was 125. The pain increased in severity and extent, invading the upper and lower limbs and back. There was also swelling of the neck and tongue, while the face, trunk, and extremities were covered with a typical urticarial eruption. This condition lasted for fully three days.

In this case the pain was considerably relieved by the application of heat in the form of poultices and fomentations. Calcium lactate given in 5-grain doses every three hours caused the disappearance of the rash, but no other effect was seen. The two following cases, however, responded to treatment in a much more gratifying manner.

CASE II.

Wilfred A., aged 5 years, received 14,000 units. Ten days after the first injection severe pain developed in the fasciae and tendons of both lower limbs, while an urticarial rash appeared on the chest, the temperature being raised several degrees. After eight 5-grain doses of sodium salicylate, given every three hours, the pain and eruption completely disappeared, while the temperature fell to normal. Uninterrupted recovery followed.

CASE III.

Harry D., aged 12 years, was treated with 14,000 units. The diagnosis of diphtheria in this, as in the two previous cases, was confirmed by a bacteriological examination made in the laboratories of the Clinical Research Association.

The patient's progress was satisfactory until about twelve days after the first injection, when he was seized with severe pain in the abdomen and right groin, accompanied by stiffness in the knee, ankle, and shoulder joints, and in the muscles of the neck. The temperature rose rapidly from normal to 102.2°, while the pulse was 114. There was also a well-marked urticarial eruption.

Five grains of aceto-salicylic acid were given every three hours. Next morning the temperature was normal, and the pulse 72, while the pain and rash had entirely vanished. No more unfavourable symptoms followed.

In Dr. Goodall's interesting and valuable article which appeared in the JOURNAL of February 11th we are reminded of the special liability of asthmatics to abnormal reaction after the injections of antitoxin. In connexion with this the following suggestive remark occurs:

> The symptoms lead one to suspect that there may be an affection of the respiratory mucous membranes like the urticaria which comes out at the same time all over the skin.

Does not this point to the presence of an angioneurotic factor playing a leading part in the etiology (essentially the same both in the ordinary type of "serum sickness" and in the particular class of cases referred to in the above quoted sentence, though these may differ somewhat in their attendant circumstances), which in its turn may be due to an abnormal condition of the blood?

SOME NOTES ON THE ABSORPTION OF IRON.

BY D. G. McLEOD MUNRO, M.D., C.M., M.R.C.P.EDIN.,
HONORARY CLINICAL PATHOLOGIST, CHELTENHAM GENERAL HOSPITAL.

WITH a view to assisting in the settlement of the still vexed question of the relative absorbability of the inorganic iron salts and the so-called organic preparations, I have been making a number of clinical tests in cases of chlorosis. The selected cases were quite typical of the condition, although only in one instance were the symptoms at all severe. The results obtained include the improvement in the blood condition, as estimated by a count of the red blood corpuscles and the percentage of haemoglobin, as well as an average daily estimate of the amount of iron excreted in the faeces on a fixed dose of each preparation of iron administered, over and above the food iron. In the series of cases referred to in this paper I used two well-known organic preparations of iron which shall be named respectively Preparation A* and Preparation B† and two of the inorganic salts of iron most commonly employed, that is, Blaud pill freshly prepared, and a solution of the ammonium citrate of iron. Of these, Preparation A, in which the iron is in combination with vegetable albumen, was taken as the standard; and the dosage of the other preparations used was based upon the amount of iron in each tablet of A. This I found to be approximately 0.75 grain of iron which on testing yielded 0.63 grain in the ferrous state. The other preparations, therefore, were administered so as to give the equivalent of ¾ grain of iron three times daily.

Blood examinations were made in each case before treatment and after a period of treatment, and produced some interesting results. But the main object of the inquiry was to note the amount of iron excreted in the faeces as a daily average, and, after making allowance for a fixed amount of iron in the food, what the comparative ratio of absorption was. With the object of obtaining a food-constant excretion of iron, all the patients were first placed upon Schmidt's dietary for a week until in every case the typical stools were obtained—smaller and less bulky than those resulting from milk diet or a mixed dietary, and weighing on an average 80 grams. As will be seen below, the amount of food iron excreted in the faeces was fairly constant in each case, being on an average 0.0022 gram in the fresh faeces, and 0.0089 gram in the dry state.

CASE I.—*Treated with Preparation A.*

Before treatment:	
Red blood corpuscles...	3,400,000
Haemoglobin...	70 %
Faeces—	
(*a*) Fresh	0.0028 % iron
(*b*) Dry	0.0097 ,, ,,
After treatment for a month:	
Red blood corpuscles...	4,272,000
Haemoglobin...	88 %
Faeces—	
(*a*) Fresh	0.031 % iron
(*b*) Dry	0.112 ,, ,,

CASE II.—*Treated with Pil. Blaud.*

Before treatment:	
Red blood corpuscles...	3,800,000
Haemoglobin...	70 %
Faeces—	
(*a*) Fresh	0.0031 % iron
(*b*) Dry	0.010 ,, ,,
After treatment for a month:	
Red blood corpuscles...	3,848,000
Haemoglobin...	72 %
Faeces—	
(*a*) Fresh	0.075 % iron
(*b*) Dry	0.218 ,, ,,

CASE III.—*Treated with Ammonium Citrate of Iron.*

Before treatment:	
Red blood corpuscles...	3,808,000
Haemoglobin...	70 %
Faeces—	
(*a*) Fresh	0.0016 % iron
(*b*) Dry	0.0090 ,, ,,

* The preparation known as Ferroglidine. † Haematogen.

After treatment for a month:

Red blood corpuscles...	3,844,000
Haemoglobin...	75 %
Faeces—	
(*a*) Fresh	0.163 % iron
(*b*) Dry	0.815 ,, ,,

CASE IV.—*Treated with Preparation B.*

Before treatment:

Red blood corpuscles...	3,042,000
Haemoglobin...	45 %
Faeces—	
(*a*) Fresh	0.0020 % iron
(*b*) Dry	0.0082 ,, ,,

After treatment for a month:

Red blood corpuscles...	3,820,000
Haemoglobin...	76 %
Faeces—	
(*a*) Fresh	0.014 % iron
(*b*) Dry	0.048 ,, ,,

Several estimations of the percentage of iron in the faeces were made in each case in the period of time over which the investigation extended, and in every case approximated closely to those given. Although not included in this paper, two other cases treated with Preparation A as controls gave practically identical results, both as regards the rapid improvement in the red cells, and the comparatively small average amount of iron excreted in the faeces, over and above the food iron. The striking difference in the cases treated by Preparation A from the results of treatment by the inorganic preparations of iron used seems to me worth noting. The improvement in the blood count in the latter is hardly worth mentioning, while the amount of iron pased in the stools, over and above the food iron, exceeds greatly the amount excreted in those cases treated by the organic preparations referred to.

As practically nine-tenths of the iron present in the food, or taken medicinally, are excreted by the intestinal canal, and the remaining one-tenth only, by the kidneys, it was thought permissible to disregard the latter altogether in the estimations made. As stated above, the patients were placed on a fixed dietary—Schmidt's—and from an average weight of faeces the iron content in the stools of all the patients was fairly constant before any medicinal treatment was undertaken.

Case I, treated by Preparation A, would seem to show that on an average more than half the amount of iron given per diem was absorbed, while much the same result followed in Case IV, treated by Preparation B. In Case II, treated by pil. Blaud, more than twice as much iron was excreted in the faeces as compared with Case I, while in Case III, in which a standardized solution of the citrate of iron was given, a calculation shows that on an average, from the amount present in the stools, not more than one-seventh of the total iron given per diem was absorbed.

These results, therefore, and the other cases under treatment, so far as they have gone, would seem to show that small doses of the organic preparations of iron, as tested against equal doses of the most commonly used and trusted inorganic salts of iron, are absorbed in much greater proportion to the total given per diem.

The giving of very large doses of the ordinary salts of iron, judged by these results, would seem to be quite unnecessary, and may even prove injurious. The iron taken into the system, so far as we know, passes by way of the duodenum to the lymph channels, and thence to the blood stream. It is then deposited first in the spleen and later on in the liver. There it is temporarily stored, and the excess is then excreted by the epithelial cells of the colon and caecum. There is no proof, at all events, that the organism can make any immediate use of the excessive doses of the inorganic preparations of iron sometimes administered.

Further, it has been estimated that the average total iron in the human body is only about 2.5 to 3 grams, a quantity barely sufficient to make a small nail. The greater proportion of this, too, is in the form of haemoglobin. The average content of food iron on a mixed dietary, indeed, is, according to Herter, not more than one-twelfth to one-sixth of a grain, and this small quantity suffices to maintain the iron equilibrium. These facts taken together appear to me to greatly strengthen the argument for the administration of iron, preferably in some such form as Preparation A referred to in this series of cases, and in small enough doses to be efficient without disturbing digestion. I am fully aware that these few cases are not sufficient in themselves to justify final conclusions, but at all events they encourage one to proceed with the investigation on similar lines, in order, if possible, to find some means of obtaining the greatest benefit from one of the most valuable, but often most abused, remedies in the pharmacopoeia.

TREATMENT OF PULMONARY TUBERCULOSIS BY MEANS OF CARBOLIC ACID INJECTIONS.

BY HAROLD VALLOW, M.D.,
RESIDENT MEDICAL OFFICER, LEEDS SANATORIUM FOR CONSUMPTIVES.

MY attention was first drawn to the value of carbolic acid in the treatment of pulmonary tuberculosis while using tuberculin. I was giving a patient the bacillary emulsion, using normal saline as diluent, but she made no satisfactory progress. Having no saline to hand, I used a 0.5 per cent. solution of carbolic acid in sterilized water. This was followed by an immediate benefit. The patient felt better; her general condition was greatly improved after a few doses, and tubercle bacilli disappeared from the sputum. I was so much impressed with this case that I resolved to try the injection of carbolic acid by itself. I have given the injections now for seven months, and in the majority of the cases the patients have received much benefit. One of the patients, who had slight but undoubted signs on admission to the sanatorium, was passed for a soldier a few days ago. In the case of another patient, whose condition for the first three weeks after admission to the sanatorium was very unsatisfactory, improvement ensued immediately after commencing carbolic acid injection, and after six months' treatment he had gained 21 lb. in weight, and is about to commence work.

Method.

Dose.—0.1 to 0.2 c.cm. of a 1 per cent. solution of pure carbolic acid in sterilized water. One hypodermic injection is given each week.

Site of Inoculation.—Between the shoulders.

Sterilization of the Syringe.—Drawing olive oil into the barrel at a temperature of 150°. This is Wright's method.

Sterilization of the Patient's Skin.—One drop of lysol is placed on the skin at the site of inoculation, and the needle is plunged through the drop.

The following points have been carefully noted in examining the results of these cases: Weight, temperature, sputum, physical signs, and the general condition of the patient.

Weight.—Twenty-five patients gained weight; seven lost weight, but only a small amount. All the patients who lost weight were suffering from advanced disease.

Temperature.—In no case was the temperature affected.

Sputum.—In 16 cases the sputum disappeared, in 2 cases it was increased in amount, and in all the others it was appreciably lessened. In 1 case tubercle bacilli disappeared from the sputum.

Physical Signs.—In 9 cases the physical signs entirely disappeared, and with the exception of 7 they were markedly diminished in the others. The *general condition* of all but 5 was much improved.

Results.—One of the patients is now working as a commercial traveller. A second has just been passed for a soldier. A third is working for one of the local daily papers. A fourth is working part time. Three other men are about to commence work. Many of the women patients are now doing their household duties.

Conclusions.

I have come to the following conclusions from these cases:

Early cases treated by this method give the best results.
The weight is increased regularly each week.
The appetite is much improved.
The physical signs are diminished, and in some cases entirely disappear.
The amount of sputum is lessened.

As all these cases were treated at first at the sanatorium, it might be said that the improvement was due to the ordinary sanatorium treatment. I have had patients treated on the ordinary sanatorium lines with marked benefit, but the benefit has been more marked when carbolic acid has been given as well.

The following are notes of three cases showing the value of the treatment:

CASE I.—M. B., aged 18. History of haemoptysis. No family history. Impaired note and râles at the right base. V. Pirquet's test definite. After fourteen weeks' treatment the râles had entirely disappeared. Increase of 15 lb. in weight. Has enlisted as a soldier.

CASE II.—F. B., aged 18. History of loss of weight and cough. Brother had pulmonary tuberculosis. Impaired note and weak breathing at the right apex. Apical percussion change above the right clavicle. Von Pirquet's test positive. Gained 7½ lb. in nine weeks. He is now working as a commercial traveller.

CASE III.—A. R., aged 40. Flattening, diminished movement and impaired note over the right side of the chest. Tubercle bacilli in the sputum. Râles over the right side of the chest. There was no improvement for a few weeks, and he was steadily losing weight until carbolic acid was given; he then immediately began to improve and gain weight. Before he left the sanatorium he was looking after the greenhouses and acting as postman. This is one of the advanced cases which received benefit from the treatment.

In conclusion, I would like to thank Dr. Woodcock and Dr. Watson, honorary physicians to the Leeds Sanatorium for Consumptives, for allowing me to publish these cases.

A REPORT ON FIFTY CASES OF TRACHOMA TREATED WITH CARBON DIOXIDE SNOW.

BY G. MONTAGU HARSTON, M.D.LOND.,
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FROM time to time various skin affections, warts, rodent ulcers, etc., new growths, such as naevi and other cutaneous affections, have been reported in the JOURNAL as cured by means of the application of carbon dioxide snow. I now report a series of 50 cases of trachoma which have been treated by me at the Tung Wa Hospital, Hong Kong, with the same remedy. The cases are all Chinese. In addition I have treated a number of cases in private with equally successful results. My attention was first called to this method by Mr. Bishop Harman, who exhibited a case he had treated, at the last annual meeting of the British Medical Association (July, 1910). The case he then showed was completely cured, the conjunctiva exhibiting a smooth cicatricial appearance with no trace of the disease beyond the scarring inevitable in the process of cure when the disease has persisted for any length of time.

Method of Procedure.

The snow is collected from a 28-lb. cylinder of the liquefied gas by means of a Prana cage. The cage is then detached from the cylinder and the snow is rammed down tightly into the cylindrical mould attached to the cage; I then hammer down the snow in the mould to compress it as much as possible, and to facilitate subsequent shaping of the resulting pencil. The pencil is now extruded with the stick provided for the purpose, and subsequently shaped with a blunt knife into the form of a sharpened pencil, the sloping point being made as long as possible, but thick enough to avoid fracture when applied to the everted conjunctiva. This is an important point, as considerable pressure has to be applied to secure the maximum of efficiency. The surgeon stands behind the patient and everts the lids in the ordinary way; holding the lids everted with the fingers of the left hand, he takes up the pencil of snow with the right hand and applies it to the conjunctiva, taking care to avoid contact with the cornea, and at the same time directing the patient to look down as much as possible, so that the snow may be applied to the transitional fold of conjunctiva in the fornices. After treating the fold of transition the snow is applied to the tarsal conjunctiva, an interval being allowed to elapse so that the effect may pass off from the fornices before applying any pressure on the tarsal conjunctiva. The reason for this will be easily appreciated by the surgeon should the patient inadvertently raise the eyeball; the cornea is then apt to come into contact with the excess of snow deposited. Pain immediately ensues, and blepharospasm naturally follows, markedly exaggerating the discomfort of the patient. In the same way, after applying the snow to the tarsal conjunctiva, an interval is allowed to elapse before replacing the everted lid.

At the first application the snow is applied to each part for fifteen seconds; later, when the patient is accustomed to the treatment, for as long as twenty, twenty-five, and thirty seconds. The pain caused passes off at the end of two minutes, and is infinitesimal compared to the pain caused by bluestone, silver nitrate, and such like caustics. The disease is considerably shortened in its course, and the resulting scarring is considerably less than when other caustics have been used. In the following series of cases the applications were made once weekly. Provided Bowman's membrane is intact, pannus and corneal ulceration clear up rapidly in the majority. The worst cases to treat are those of acute trachoma, with much oedema of the lids and conjunctivae and much purulent secretion. The cases which respond most rapidly are those which have already become chronic, with slight discharge, and with slight scarring—that is to say, those cases in which Nature has already attempted a cure. Of the papillary and granular types of the disease, the latter is, in my experience, the more readily amenable to the treatment with snow.

Amongst the cases treated was one of typical xerosis, which improved considerably, the dryness of the cornea having now completely disappeared. Hitherto this condition has been quite intractable as far as treatment is concerned, and, while it may be considered somewhat rash to draw conclusions from one case, perhaps other observers may be able to report further on this hopeless sequel to trachoma.

I append a list in brief of the cases treated.

Table of Cases.

No. of Case.	Description.	No. of Applications.	Result.
1	Acute papillary, much congestion of conjunctiva, cornea clear	15	Cure.
2	Chronic, slight discharge, scarring commencing	5	Cure.
3	Incipient, follicles in fornices only	5	Cure.
4	Acute papillary (vide Case 1)	15	Cure.
5	Incipient (vide Case 3)	7	Cure.
6	Chronic, pannus, and corneal ulceration	16	Cure.
7	Ditto	12	Cure.
8	Incipient (vide Case 3)	8	Cure.
9	Chronic, pannus	8	Cure.
10	Chronic, corneal ulceration	8	Cure.
11	Chronic, granular, corneal ulceration	9	Cure.
12	Chronic, papillary, corneal ulceration	15	Cure.
13	Chronic, granular, scarring, nebulae on cornea	11	Cure.
14	Chronic	4	Did not continue.
15	Chronic, granular, pannus	10	Cure.
16	Acute papillary	17	Cure.
17	Chronic, encysted follicles, expression of upper lid	7	Cure.
18	Acute velvety	9	Cure.
19	Chronic, granular, nebulae	8	Cure.
20	Chronic, papillary	12	Cure.
21	Chronic, scarring advanced	4	Cure.
22	Ditto	5	Cure.
23	Follicles confined to fornices, some ulceration of right cornea	11	Cure.
24	Chronic, granular, complete pannus in left eye causing blindness; partial pannus in right eye	15	Vision of right eye saved; lids cured.
25	Chronic granular	10	Cure.
26	Incipient	6	Cure.
27	Chronic, granular, pannus	12	Cure.
28	Chronic, scarring advanced	4	Cure.
29	Ditto		Cure.

Table of Cases (continued).

No. of Case.	Description.	No. of Applications.	Result.
30	Chronic	6	Cure.
31	Chronic, granular, pannus left eye	9	Cure.
32	Vide 28	7	Cure.
33	Ditto	6	Cure.
34	Chronic, papillary	2	Did not return.
35	Chronic, scarring advanced	6	Cure.
36	Ditto	7	Cure.
37	Entropion vision P.L.	1	Did not return.
38	Acute papillary	18	Cure.
39	Chronic, papillary	14	Cure.
40	Chronic, scarring advanced	9	Cure.
41	Acute papillary	10	Still under treatment.
42	Old cicatrices in lids, pannus	7	Cure.
43	Vide 40	8	Still under treatment.
44	Chronic granular	9	Cure.
45	Ditto	13	Cure.
46	Old case, expression done	5	Cure.
47	Acute papillary	8	Under treatment.
48	Acute granular, corneal ulceration in right eye; no ulceration, slight pannus left eye	7	Ulceration healed; under treatment.
49	Chronic xerosis	8	Xerosis cured; under treatment.
50	Acute granular	5	Improved under treatment.

Result refers to the lid condition only where not otherwise stated. The pannus improved in all cases, but persisted in some. In private I treat the pannus with *x* rays, which invariably cause complete disappearance provided Bowman's membrane is intact.

ADMINISTRATION OF SERUM BY THE MOUTH.

BY G. I. CUMBERLEGE, M.D.DURH.,
CARDIFF.

DURING the last few months there has been a good deal of controversy in the pages of the JOURNAL with regard to the relative merits of diphtheritic antitoxin given hypodermically and by the mouth.

As one who has almost entirely used the later method, I feel it may be of benefit to state why to my mind it is a better method than by hypodermic injection. My own experience, unfortunately, only dates back four years; but I first learnt of this method when assistant to Dr. Hunton of Sedgefield, co. Durham—a method which he had used entirely for a considerable number of years in his own private practice and as medical officer in charge of a fairly large fever hospital to which patients were sent from a very large and populous mining district.

During the four years, more especially the year spent at Sedgefield, I have come across a considerable number of cases, and up to the present have been fortunate enough to only have one death, a fact which in itself surely speaks well for mouth treatment. Moreover, the one and only death was in the case of a child aged 7 years, who had already been ill five days, death occurring from a sudden syncopal attack half an hour after she had been admitted to the hospital.

To sum up the points in favour. First of all with regard to efficacy, I have always found results of its action within a few hours after being given, and even if hypodermic injection is more speedy, so long as the infection is not of many days' duration, an hour or so difference can surely matter little, and that results are quick and good is borne out by the two cases mentioned.

As to dosage, I believe it is customary in hypodermic injections to give many thousand units on the supposition that, owing to possible untoward results arising from the serum, it is better to get it all in at once.

Given by the mouth a far smaller dose is required, and I have never given more than 4,000 units at a time; a dose of 2,000 units, followed up, if necessary, by a further dose, is the usual amount given.

Again, the chief cause of death is due to heart failure, owing to the effects on the muscle of the diphtheritic toxins. As diphtheria is chiefly a disease of childhood, the pain caused by and fear of the needle usually means a struggle with the patient, and consequently there is an always present risk of too much strain upon the heart. Given by the mouth this risk is entirely obviated, and if given in a little water it seems to make a quite palatable mixture which young children take without any difficulty.

By giving it in this way, too, it is possible to give continued dosage by making into a mixture and ordering it to be given every two or four hours as the case may be. Shortly after giving the serum there is in most cases a diaphoresis and fall in temperature and pulse-rate, and also the patient falls into a deep sleep. Both these results I have noticed when giving serum other than diphtheritic, and I have often wondered whether the serum itself could have any narcotic effect, or whether it was due to the fall in temperature and rapid neutralization of toxins.

With regard to the action on serum by the gastric juices I am not able to speak, not having had any opportunity of making chemical tests; but, whatever the action may be, results seem to point towards no harm being done to the serum, whether given after food or on an empty stomach.

Another point in favour is that no patient treated by me by mouth has shown signs of serum sickness, whereas either a rash or joint pains, or both, has nearly always occurred after the few cases injected. It has been stated that serum causes paralyses, and if that is so, mouth treatment in that respect is no better and no worse than by injection, for it does occur, but practically only after bad cases, which probably, but for serum, would have died. The two following cases will help to bear out the efficacy of mouth treatment:

CASE I.

A boy, aged 15, when first seen had already been ill four days. On examination the throat contained one large sloughing mass extending over the whole of the pharynx, covering both tonsils and passing forwards on to the buccal mucous membrane. The nose was completely blocked, so that breathing was extremely difficult, whilst pieces of membrane could be seen protruding from the nostrils. There were the accompanying severe signs of toxaemia, with enormous swelling and matting together of glands in the neck. Within eight hours of the first dose (4,000 units) there were already signs of improvement in his general condition, breathing was much easier, and there were even fears of haemorrhage owing to the large shreds of membrane being coughed up; 4,000 units more were given, and next morning nasal breathing was quite easy, and the boy, to his intense relief, was able to blow his nose.

Altogether 30,000 units were given by small doses, morning and evening, for six days, by which time all traces of membrane had disappeared, and the boy seemed quite well.

I have since thought the boy would have done equally well on a smaller quantity of serum. In this case it was given night and morning till the boy was well. In other cases I have given an initial dose, and, providing toxic signs were clearing away, even though the temperature had not come down to normal within twelve hours, waiting another twelve hours often had the desired effect without giving more serum.

CASE II.

A girl, aged 13 years. Seen on second day of illness. Temperature, 102.2°; pulse, 102. Complained only of feeling ill. The girl showed toxic signs, had enlarged glands in the neck and large masses of membrane on both tonsils. Serum, 2,000 units, was given, and by morning the temperature had fallen to 100.8°, pulse 96. By the evening the temperature had only fallen to 100.4°, pulse 92, and as the girl still felt and looked ill, another 2,000 units was given. Next morning the temperature was 99.2°, pulse 84, and by evening the temperature was normal. The child felt perfectly well and the membrane was rapidly clearing away.

From this onwards the temperature kept slightly subnormal and convalescence was non-interrupted.

INTRATHYROID HAEMORRHAGE FOLLOWED BY ACUTE DYSPNOEA AND DEATH.

BY

S. GURNEY CHAMPION, M.D., C.M.EDIN.,

AND

C. B. MOORING ALDRIDGE, M.A.CAMB., M.R.C.S.ENG.,

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As the following case is of rather an exceptional character, its narration may perhaps prove interesting.

The patient was a domestic servant, aged 24, who had been employed for the previous three weeks at the Lowther Road Hospital, Bournemouth, and who jumped off a tram travelling about eight miles an hour at 8 p.m. on Thursday, April 20th. She fell on the left side of the face, receiving two small cuts, one on the outer side of the left orbit, with a marked surrounding ecchymosis, the other on the under side of the chin; there was comparatively little bleeding from either of these cuts.

When helped up she was perfectly conscious, and acknowledged that the accident was due to her own carelessness. She remounted the tramcar with the assistance of the conductor, and was taken to a doctor's house twenty yards away. The doctor being busy with other patients at the time, the girl's injuries being apparently trivial, the hospital where she was engaged being only a few hundred yards off, her appearance not bad enough to excite alarm, and she herself professing to be quite well, she was allowed to return to the hospital about five hundred yards distant.

Soon after she commenced walking more urgent symptoms appear to have arisen, for, a quarter of an hour later, she was found on the doorstep of the hospital in a collapsed condition, breathing with great difficulty and clutching at her throat.

Her noisy inspirations were heard at some distance and attracted the attention of the sister in charge, who, with the nurse, came to her help. It was during the next few minutes that she related the history of the accident.

Within five minutes one of us was present, and realizing the urgency of the symptoms, telephoned for the other's assistance.

State on Examination.

We found the girl lying in a supine position, with head slightly raised on a pillow; she was unconscious. The noisy inspiratory dyspnoea was then the most pronounced symptom; each inspiration was accompanied by a throwing forward of the neck.

The thyroid gland was markedly enlarged, and we understood that she had previously suffered from a simple goitre, which had given her very little trouble; there was no localized area of fluctuation over the gland.

Her face was very pallid; the pulse was regular, rate 100, and small tension. The pupils were equal, somewhat contracted, and did not react to light. She had had incontinence of urine, but not of faeces. The skin was moist.

There was no exophthalmos, no marked flaccidity or rigidity of the limbs; there were no convulsive movements of any kind.

Treatment and Result.

We did everything that we thought suitable for relieving the profound shock present and the urgent dyspnoeic symptoms. Oxygen was freely given, but the heart-beats became steadily more rapid and more feeble, reacting for a short time only to the various remedies. There was no vomiting, no haemorrhage from the nose, mouth, or ear, and no escape of cerebro-spinal fluid. The pupils continuing equal, became slowly dilated and insensitive to light.

Finally she died at 9.30 p.m., an hour and a half after the accident, respirations having continued after the heart had stopped.

Necropsy.

At the necropsy held two days later the following condition was found: The body was well nourished. On one of the legs was the scar of an operation for varicose veins. On removal of the skull cap the cortical vessels of the brain were found to be much engorged, but there was no fracture or intracranial haemorrhage; both middle meningeal arteries were intact.

The examination of the chest revealed a healthy heart, with competent valves; there was no effusion of blood present. The abdomen was normal; the various organs were found to be healthy.

On the examination of the neck the thyroid gland was found to be much enlarged, the main bulk of the gland being formed by a haemorrhagic cyst with very definite walls, chiefly occupying the middle line, but also encroaching on the lateral lobes. Its approximate measurements after escape of its contents are 7.5 cm. by 4. This thyroid haemorrhagic cyst was situated low down, between the upper portion of the manubrium sterni in front and the lower cervical and upper dorsal vertebrae behind. There was no extravasation of blood into the surrounding tissues.

The thyroid gland itself was much diminished in size after the escape of blood. It weighed 5¼ oz., against the normal 1 to 2 oz. There was no obliteration or displacement of the trachea.

One or a combination of the following theories is suggested as a cause of death:

(*a*) Death from double shock—first the shock of the accident due to the violent impact of the head upon the ground, and, secondly, the shock of the sudden onset of dyspnoea.

(*b*) From the direct pressure on the trachea during life, this cause not being apparent *post mortem*.

(*c*) From thyroid poisoning due to the sudden tearing of the glandular substance, thus liberating an excessive quantity of thyroid secretion into the general vascular system.

(*d*) From pressure on the vagus nerve producing an inhibitory effect upon the heart.

(*e*) From pressure on the middle and inferior cervical sympathetic ganglia with a reflex effect upon the heart via the cardiac nerves to deep cardiac plexus.

The following cases are interesting with reference to the above, but in none of them is it related that the dyspnoea was preceded by a severe accident.

CASE I.—In the BRITISH MEDICAL JOURNAL for May 1st, 1909, there is a case of a Chinese male, aged 25, who had a sudden enlargement of the thyroid with dyspnoea. This man recovered without operation in about three days' time.

In the *Lancet*, November 16th, 1907, Berry narrates the following cases:

CASE II.—That of a boy of 17, who had chronic severe dyspnoea due to a thyroid. Postponed operation till it was too late. Very little blood was lost; but just after the thyroid tumour was removed, he collapsed and died.

CASE III.—Another in a woman, aged 68, who, after the operation of removal of the thyroid gland for the relief of dyspnoea, died from cardiac failure without any sign of respiratory distress.

CASE IV.—Still another one is mentioned of a girl of 14 who had a bilateral parenchymatous goitre, noticed only three weeks. On Berry's arrival the girl was deeply cyanosed and unconscious. Fortunately he had everything ready for operation. Thyroidectomy was performed; the patient recovered, not regaining consciousness, however, for one hour after the termination of the operation.

CASE V.—He relates, too, a case of a young woman with thyroid enlargement attending as an out-patient at one of the London hospitals who died on the doorstep of the hospital from sudden dyspnoea. *Post mortem* there was found to be present an extensive haemorrhage into an encapsuled tumour of the thyroid.

CASE VI.—Osler, in his book on *The Principles and Practice of Medicine*, fifth edition, mentions a fatal case from haemorrhage into the thyroid gland and cellular tissue.

The cases mentioned above nearly all occurred in young people. Monnier says that the prognosis is very bad in urgency operations for dyspnoea resulting from sudden enlargement of a thyroid gland.

THE DISCRIMINATION OF COLOUR.*

BY

F. W. EDRIDGE-GREEN, M.D., F.R.C.S.,

BEIT MEDICAL RESEARCH FELLOW.

(From the Institute of Physiology, University College.)

IN a paper on the relation of light perception to colour perception,[1] and in previous writings,[2] I have stated that if a portion of the spectrum be isolated, it will appear monochromatic, the length of the monochromatic region varying with the intensity and wave-length of the light and the colour perception of the observer. Most normal-sighted persons make about eighteen such divisions in a bright spectrum.

In a paper in the *Proceedings of the Royal Society*,[3] Lord Rayleigh, whilst agreeing that the facts were as I stated in the conditions described by me, expressed the opinion that he could distinguish between the wave-lengths included in a monochromatic division to the extent of discriminating between the colours of the two D lines. Lord Rayleigh kindly lent me the colour box with which he had made the experiments, and on repeating them in the manner described by him I arrived at similar results. I hope, however, to be able to show that the results obtained by Lord Rayleigh were due to the

* Read before the Royal Society.

admixture of small quantities of white and coloured light and to certain physiological influences which had not been taken into consideration, and which prevented him from arriving at a correct interpretation of the colours.

If a prism, even of the finest polish, be examined with a strong light against a dark background, numerous small particles and irregularities of the surface, which irregularly disperse the light, will be seen. The reflections from the sides of the prisms, lenses, and sides of the box have also to be taken into consideration. The amount of this irregularly dispersed light is small, but is a very important factor taken in conjunction with other facts. It is necessary, therefore, in order to get rid of the greater part of this irregularly dispersed light, to allow the light included in a monochromatic region to pass through a second aperture, such as that in my spectrometer. When this is done, I have found it impossible by any method which I have adopted to distinguish between the various waves included in the monochromatic region. I have magnified the image of this region with eyepieces of different power, making a corresponding increase in the light to make up for the loss of luminosity caused by the magnification. I have also obstructed the central portion of the monochromatic region with a screen, and the remaining portions have still appeared monochromatic. The most conclusive experiment, however, is the examination of the monochromatic region with an achromatic double image prism, the intensity of the source of light being increased as before. By this method two rectangular monochromatic fields are seen, and can be arranged so that they are side by side and just touch.

The portion belonging to the red side of the spectrum of one can be made to touch the portion belonging to the violet side of the spectrum of the other. This position is therefore most favourable for the detection of any difference, and yet I cannot detect any, neither can any other observer to whom I have shown the experiment. The experiment can be observed objectively in the following manner: An arc light being used for the illuminating source, a pure spectrum is obtained; a portion of this spectrum, forming a monochromatic region, is allowed to pass through an adjustable slit. Two images of this monochromatic region can be thrown with the aid of a double image prism upon a screen and made of any required size. The varying size of the monochromatic regions with different persons can by this means be demonstrated to a large number.

Another point which I found with Lord Rayleigh's apparatus is the difficulty of obtaining both fields of similar intensity. The slightest movement of the eye also causes an alteration in the number and kind of rays which enter the eye. When two fields are of unequal intensity the physiological effect of contrast is evoked, which causes an erroneous judgement of the colours under observation. In fact, weak orange light may, by contrast with bright red light, appear green. In making experiments on the discrimination of colour, the rays of light from the two regions to be compared should strike the eye at as nearly as possible the same angle; the fixation point of the eye should be in the centre between the two regions, so that one region may not be more influenced by the pigment of the yellow spot, or the blood in the retina, than the other; and equal amounts of light from each region should enter the eye.

The importance of the irregularly dispersed light in association with contrast in dealing with questions of colour has been overlooked by many physicists, as several instruments have been constructed for the investigation of colour and colour vision, which are defective on this ground. It was this irregularly dispersed light, as shown by Helmholtz,[4] which caused the apparent change in the colours of the spectrum observed by Brewster, and which led him to suppose—erroneously—that there were three kinds of solar light.

In conclusion, when special means are taken to have as pure a spectrum as possible, I can find no method which will enable me to distinguish as separate colours the wave-lengths in a monochromatic region. I therefore regard the appearance of the monochromatic region as a fundamental physiological fact, as I stated over twenty years ago.

REFERENCES.

[1] *Proc. Roy. Soc.*, B. 1910, vol. lxxxii, p. 458. [2] *Colour Blindness and Colour Perception*, International Scientific Series. [3] December, 1910. [4] Poggendorff's *Annalen*, 1852, No. 8.

MENORRHAGIA IN VIRGINS: A MEDICINAL TREATMENT.

By FRANCIS HARE, M.D.,

LATE CONSULTING PHYSICIAN, BRISBANE GENERAL HOSPITAL.

In the EPITOME for March 4th reference is made to a paper by Sireday and Lemaire on menorrhagia in young virgins. In this many factors are mentioned, but one of great importance is omitted.

The proximate cause of the menstrual flow is vascular distension of the uterine mucosa, in which there are at least three physiological factors: (1) The force of the heart; (2) the dilatation of the uterine arteries; and (3) the absence of arterial dilatation elsewhere—or, in other words, the maintenance in other areas of the average amount of vaso-constriction or vascular tone. The last factor, though, of course, fully recognised in physiology, is apt to be overlooked, or, at least, not allowed for, in practice. Hence vaso-constrictors rather than vaso-dilators are nearly always employed in seeking to arrest haemorrhage.

We may assume that the force of the heart remains unchanged during menstruation; at least, there is no reason to assume otherwise. It has also been shown in some cases of normal menstruation that the general blood pressure is unchanged.[1] It follows that in such there is a slight increase in the average vaso-constriction in the undilated areas (a slight general increase of vascular tone), though such increase would doubtless be far too small to admit of instrumental measurement.

Now, suppose an exaggeration of this normal slight increase of general vaso-constriction. Two results would follow: (1) An increase in the general blood pressure; and (2) a marked increase in the vascular distension of the internal genitalia. The former could be demonstrated by the manometer; the latter would cause symptoms. The increase of vascular distension in the ovaries and uterine adnexa would be indicated clinically by an increase in the ovarian and pelvic pain, which in some slight degree may be regarded as symptomatic of normal menstruation; the increase of vascular distension in the uterus would be indicated clinically by menorrhagia.

That marked menstrual exaggerations of general vaso-constriction are common is rendered probable by the well-known tendency to excessive vasomotor irritability which obtains in young females, and by the fact that hysterical girls who complain of pain, etc., during menstruation have a steady rise of 20 mm. during the flow.[2]

The conception that excessive menstrual losses may depend upon exaggerated vascular tone broadens the etiological basis of menorrhagia. While not forgetting the undoubted influence of local lesions and general diseases, we have to include amongst probable causes all the factors of exaggerated and impulsive (inadequately inhibited) vasomotor action—a series of factors too long to be here considered. Meanwhile we may work on proximate factors. From the fact that exaggerated general vaso-constriction increases the menstrual loss, it follows that a reduction thereof will diminish the loss; whereupon we at once think of the nitrites.

The effect on menstruation of an inhalation of amyl nitrite, the most rapidly acting of the class, is in strict accordance with, probably exceeds, anticipation. Synchronously with the flushing of the face, the clinical index of inhibition of the general vascular tone, the flow ceases; nor does this return until the next period, unless the inhalation has been administered during the first day or two of the process. In several cases a single administration of 3 minims on three or four successive menstrual periods has been sufficient to effect permanent relief from the tendency to excessive losses. In others the effect has been temporary only. In these latter it has been necessary, and usually sufficient, to give during the menstrual period a regular course of nitroglycerine, according to the practice recently advocated by Gowers in his article on Vagal and Vasovagal Attacks, in the *Lancet* of June 8th, 1907.

It is superfluous to add that the success of the nitrites in menorrhagia should never lead to the neglect of local conditions. But these, of course, are quite frequently not examinable.

REFERENCES.

[1] *Clinical Study of Blood Pressure*, Janeway, 1907, p. 127. [2] Ibid., p. 257.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

FRACTURE OF TIBIA WITHOUT SEPARATION.

A MAN aged 45 was sent to the Liverpool Royal Infirmary in October, 1904, by Dr. Casey of St. Helens for an opinion as to his right leg, which showed bowing and apparent thickening of the tibia for a length of about eight inches. It was evident that the deformity had resulted from some temporary yielding of the bone under his weight, for he had continually gone about on it. Some form of ostitis had apparently existed, and the question was, Had the bone become inflamed as the result of accident or disease? He stated that in June, four months earlier, he had tripped heavily down some steps, but did not knock his leg. A suspicion of fracture which he might have overlooked arose during the inquiry, and to throw light on the condition of the bone an *x*-ray photograph was taken the same day on a large plate. In the print a transverse streak could be seen in the most prominent part of the bend, proving pretty clearly the existence of a well-united fracture, probably incomplete.

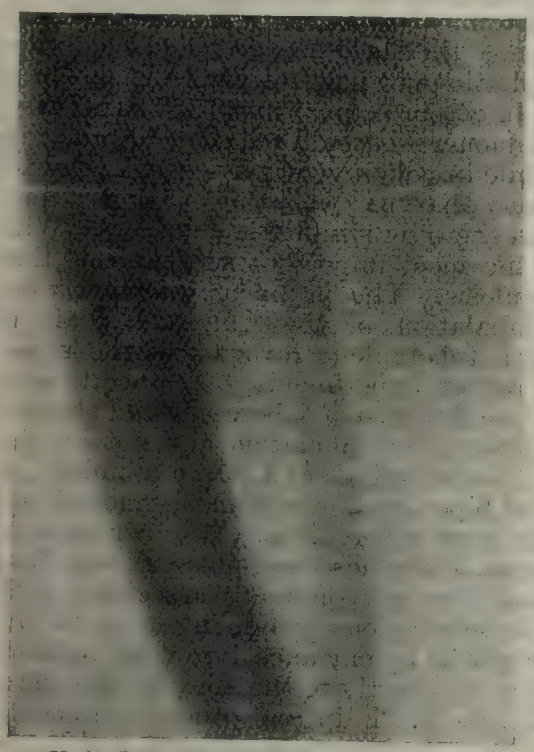

United transverse fracture of right tibia, probably incomplete. Indistinct in photograph after 4 months. Situation scratched on plate. Bend in the bone quite evident.

The large plate has been lost, but the accompanying illustration was photographed from the large print. As the transverse streak was insufficiently distinct for reprinting here, its exact locality has been scratched on the plate, and shown here as an artificial line, which, however, bears no resemblance to the wider streak of rarefied bone, originally found, and partly still visible.

It seems certain that the case was one of fracture caused by a violent jar as he tripped, unaccompanied by a fall, but breaking the tibia transversely about a third below the knee, without separation, and not disabling him sufficiently to compel his serious attention. He managed to get about with an aching leg, and firm union occurred; but meanwhile a bend took place that led him to complain four months after the accident.

There was nothing further to be done. His leg had become quite strong, and when reassured as to the distinct but not very prominent bowing, and given to understand that this interesting but not disabling deformity was due to his own fortitude in having put up with a fractured bone, which naturally yielded under the pressure of his weight while undergoing the inflammation necessary for union, he became quite content.

Liverpool. RUSHTON PARKER.

HYPERTENSION, BLOOD VISCOSITY, AND CAPILLARY SPASM.

THE whole question of hypertension and arterio-sclerosis daily draws steadily increasing attention to itself from the medical world. The recent very detailed analysis of Professor Clifford Allbutt puts most of this very complex problem before us. His discourse is all the more valuable as he is no mean contributor to the elucidation of some phases of the question. What, however, struck me was that he totally ignored one very important branch of the subject. When we have to deal with such a section of hydrodynamics as the circulation we have to consider three fundamental parts of the mechanism: (1) The motive power; (2) the conduits; (3) the fluid. With the first—the heart—he has fully dealt; with the second he has carefully discussed the safety valves or the kidneys and the larger arteries, but I do not consider he has paid proportionate attention to the capillaries. Finally, of the fluid to be moved he said nothing.

The energy required to force a fluid through a conduit is in a definite ratio to the viscosity of the fluid and the sectional area of the tubes conveying it. In large arteries slight variations in the blood viscosity have relatively little influence, but as the capillaries are reached a slight rise in the viscous inertia of the blood is of paramount importance. This is often, in my experience, the prime cause of hypertension, which by its persistence either ends in arterio-sclerosis of the larger arteries or in heart failure, or perhaps both.

The increased viscosity of the blood in most cases is due to toxaemia by uric acid and its allies and associates. Get rid of this chronic toxaemia, and arterial tension falls. This explains the remarkable fall in blood pressure that takes place by drinking a suitable vehicular water such as Vittel (Grande Source), combined with the modified diet and hygienic life during the cure. Help this action by suitable massage, baths, or skin circulation stimulants, and the heart and large arteries are given a chance to recover themselves. Again, with a delayed circulation of toxic blood bathing the capillary walls, the constituent cells of these will swell and further obstruct the flow, whilst spasm will be constantly kept up so as to constitute an ideal vicious circle of obstruction.

How to measure this capillary delay and obstruction is still a moot question. Any attempt to estimate it by withdrawal of blood I consider misleading, for we there institute bio-chemical changes that mar the attainment of our object, and measure rather the coagulability of the blood. I prefer the old method of timing the capillary reflux, taking care to observe identical conditions at each observation.

Only last month a lady consulted me for a series of very disquieting symptoms, including unpleasant heart sensations, "neuritic" pains in her arms, etc., and cold extremities. I found a failing heart, a relatively low blood pressure, and an astounding capillary reflux of 10 sec., (3 sec. as normal). In ten days, on a modified Vittel cure, the capillary reflux had fallen to 5 sec., the heart was rapidly recovering, the pains had disappeared, and the blood pressure had remained the same. Here the relieved capillary spasm and greater blood fluidity, which should have reduced the blood pressure below normal, was compensated for by the more vigorous action of the rested heart muscle. That lady was saved at the very brink of the precipice of "heart disease." Equal success will attend similar treatment of capillary obstruction and retardation and high blood pressure, but drugs simply superpose one toxaemia on another.

Vittel. H. J. JOHNSTON-LAVIS.

TREATMENT OF PNEUMONIA.

IN reference to the article by Dr. Frank M. Pope on The Importance of Pneumonia as a Cause of Death, I feel compelled to give my experience of this disease.

During sixteen years of practice in a working class community, consisting largely of millworkers and colliers, I have not lost a case of pneumonia. Treatment consists of: Open window (day and night), sponging every four hours (more often if considered necessary, or the patient asks for it, which he often does), and poulticing for the first two or three days. The diet consists of milk, coffee, tea, oxo, bovril, with as drinks water (cold), barley water, home-made lemonade. The drugs used are phenacetin and quinine sulphate āā gr. j every hour (Burney Yeo).

I seldom have any trouble with a case. The nursing is generally done by the housewife. Crisis, more often than not, occurs about the seventh day. Convalescence is rapid, and I allow the patient to go outside (if the weather be not absolutely atrocious) as soon as he can walk downstairs.

The treatment seems so simple that I cannot help thinking that I have been lucky, but the facts remain.

Atherton. JAMES MARSH, M.B., C.M.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

THE PUBLIC HOSPITAL, PERTH, AUSTRALIA.

SUPPURATING HYDATID CYST OF THE BROAD LIGAMENT.

(Reported by ARTHUR J. NYULASY, M.R.C.S.Eng., Gynaecologist to the institution.)

THE patient in the following case, a childless female West Australian aborigine, aged about 20 years, was admitted to hospital on April 10th, 1911, suffering from severe abdominal pain.

State on Examination.

The abdomen presented a rather centrally situated rounded tumour extending to about the umbilicus, and evidently springing from the pelvis. It was markedly tender. On vaginal examination an exquisitely sensitive fluctuating swelling was discovered occupying Douglas's pouch.

Operation.

The next day, on opening the abdomen, a distinctly rounded fluctuating swelling, about 5 in. in diameter, was revealed. After many recent omental and intestinal adhesions had been broken down, the tumour was found to originate on the right side, although extending well over to the left of the mid-line; it reached upwards nearly to the level of the umbilicus. An exploring syringe drew out clear fluid from the antero-superior part of the tumour; a large trocar plunged in the site of exploration gave exit to some collapsed hydatid daughter-cysts; and on enlarging the opening greenish-yellow pus poured out in quantity. With the emptying of the cyst its relations gradually became more evident; it was clearly growing in the right broad ligament, the flattened and broken-up remains of the right ovary lying on the antero-superior surface, out towards the infundibulo-pelvic ligament. At the right uterine cornu and over the corresponding part of the fundus uteri the cyst had lifted up the peritoneum, so that on opening the abdomen the uterus was shut off from view and driven forward into a strongly anteverted position. The cyst being emptied after some trouble—for it was divided into several loculi—I began enucleating it, but the mother-cyst wall (endocyst and ectocyst) was so densely adherent to the posterior layer of the broad ligament that this layer was inevitably perforated in two places where it had become somewhat thinned out.

After a very tedious enucleation, I got away all the mother-cyst wall, except about two square inches right at the base of the broad ligament resting on the ureter and uterine vessels. The posterior layer of the broad ligament was also very densely and extensively adherent posteriorly to the rectum and the parts to the right of the bowel, so that its separation was difficult and dangerous. Finally I cut away most of the posterior layer of the broad ligament, this structure being in parts fully 1 in. thick and requiring much ligaturing. Of the peritoneum raised up off the cornu and fundus uteri I removed what was redundant, and closed the gap with a continuous catgut suture.

On examining the left appendages, I discovered an adherent 2 in. pyosalpinx, which extended down to Douglas's pouch. This burst during enucleation, and, with the ovary, was rapidly removed. The uterus was now clearly defined and was found to have three subperitoneal fibroids, varying from 1 in. to 2 in. across. The two larger were enucleated, but a small one on the posterior surface was left on the score of urgency. After the pelvis had been swabbed out, Douglas's pouch and adjacent parts were packed with iodoform gauze, the ends being brought out through a split rubber tube passing into the vagina through the posterior cul-de-sac. As soon as practicable the patient was placed in the Fowler position and the "drip-saline" made use of.

After-Progress.—On the sixth day after operation the gauze and tube were removed, and a day later a faecal fistula into the vagina developed, and a small quantity of faecal matter oozed from the lower end of the abdominal wound, which later showed suppuration in its deeper parts. The patient was placed on 15 grains of bismuth every two hours and the fistulae rapidly closed, while the suppuration in the wound soon ceased.

REMARKS.

As already stated, a small portion of the wall of the hydatid cyst was left at the base of the broad ligament. Whether this will give rise to trouble in the future time alone can tell, although I am hoping that the suppuration will have prevented the possibility of a fresh hydatid the growth. The case was interesting not merely because of extreme rarity of hydatid of the broad ligament—this being the first I have met with in over 200 abdominal operations carried out as Gynaecologist to the Perth Public Hospital—but also on account of the presence of the uterine fibroids in a West Australian aborigine, in whom, Dr. Hope (the Principal Medical Officer of the State) informs me, such neoplasms are only very exceptionally encountered.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, July 5th, 1911.

DR. BYROM BRAMWELL, President, in the Chair.

The Air Passages as Avenues of General Infection.

DR. LOGAN TURNER, opening a discussion on the part played by the upper air passages as avenues of general infection, said that in cases of pyogenic meningitis the middle ear was still apt to be forgotten as a focus of suppuration. The spread of infection might be by direct spread through bone or by venous and lymphatic channels. There was some anatomical evidence in favour of lymphatic connexion between the naso-pharynx and the brain, but spread by a lymphatic path had not yet been shown in clinical conditions. In cerebro-spinal meningitis the naso-pharynx was a commoner source than the nose or its accessory sinuses, while in poliomyelitis it was the view of Flexner that the naso-pharynx was the original focus, spread occurring from there by lymphatic channels. With regard to the lungs, the most important subject was that of pulmonary tuberculosis. The paths of infection were the air passages by inhalation, or the lymphatic chain of cervical glands from a tuberculous invasion of the upper air passages. The recent experiments of Cobbett with guinea-pigs exposed to a fine dust of tubercle bacilli showed that the lungs were infected by inhalation and not by the lymphatic chain. The average of a large number of examinations was that 6 per cent. of adenoids removed and 8 per cent. of tonsils were tuberculous. His own experience with cases of lupus of the nose and pharynx was that pulmonary tuberculosis was not commonly associated with them. With regard to tuberculous glands in the neck, the spread to the lung might be by entrance into veins and by way of the right heart, or directly to the apex of the lung, as maintained by Dr. R. W. Philip and others. He could not agree with the view. In infections of joints and bones Poynton had isolated the same organism from inflamed tonsils and from the affected joints; and another case was reported lately where an acute streptococcal abscess developed at the site of a simple fracture, and this organism was simultaneously found in the tonsillar crypts and the blood. In intestinal conditions, G. Sutherland had lately spoken of a connexion between rheumatism, tonsillitis, and appendicitis; while in general septic infections numerous cases had been described originating from muco-purulent nasal catarrh, empyema of the antrum of Highmore, and morbid conditions of the tonsils and naso-pharynx.

In the discussion which followed, Dr. R. W. PHILIP said that theoretically the tubercle bacillus might penetrate any point of the mucous surfaces of the respiratory and alimentary tracts, but the commonest site of entrace was where these two tracts were confluent, that is, in the naso-pharynx and tonsillar regions. In the child—and it was in childhood that the tuberculous history began in a majority of cases—the mucous surface was specially absorbent, and was often partially devitalized by unhygienic conditions. The different stages were a tuberculous infection of the tonsil or adjoining regions; a tuberculous infiltration of the cervical chain of glands extending to those in the supraclavicular triangle; and from thence a direct infection of the apical pleura and lung. These clinical observations had been exactly confirmed by the experiments of Woodhead and others. But he excepted the surgical suppurating tuberculous glands, where the essential tuberculous infection was diminished or arrested by the complication of suppuration. Mr. E. S. CARMICHAEL said that tuberculous glands in children could be divided into several groups. In infants under one year the glands affected were those surrounding the spinal accessory nerve, and were nearly always associated with tuberculous middle-ear and mastoid disease. Discharge from the ear might be present or not. These were always bottle-fed babies, the spread being from

infected milk in the throat via the Eustachian tube. Another group was in children over one year, where the group of glands under cover of the posterior belly of the digastric were enlarged, secondarily to tuberculous tonsils; many of these tonsils were not enlarged. His practice in operation was in every case to clear out both the above groups of glands, and also those at the posterior border of the internal jugular vein, whether enlarged or not. In the course of operation he had never found evidence of pulmonary adhesions, and did not support Dr. Philip's views. Dr. J. S. FOWLER said there was no doubt as to the great frequency of slight glandular enlargement in the neck in children. But he was doubtful whether so many of these were tuberculous as Dr. Philip believed; and, further, *post-mortem* evidence was wanting of the association of tuberculous condition of the lung apex with these enlarged glands. Mr. C. W. CATHCART doubted whether it was wise to remove all glands in the operation area during an operation, whether obviously tuberculous or not; he regarded glands as a protective material or barrier against tuberculous spread. Dr. SHENNAN said that, in reference to a lymphatic spread from the pharynx, it was interesting that in adults it was rare to find a retropharyngeal gland. The tonsils were now found to be the source of some obscure septicaemias, and typhoid fever was regarded by some as a primary blood infection by the tonsil, with secondary intestinal lesions. Dr. CHALMERS WATSON said that the work of Ford Robertson had indicated the possibility of some chronic diseases of the nervous system being due to latent undiagnosed bacterial infections, and many nervous diseases might be brought in the future into the same group. Dr. J. MILLER said that the bovine bacillus was generally cultivated from the cervical tuberculous glands, but never from the lung. This was against Dr. Philip's view unless a transformation from the bovine to the human type took place in the lungs. Dr. GEORGE WILSON (New Zealand) described a condition of infective rhinitis not uncommon among the Maoris and Samoans. Smears from the nasal discharge showed gonococci. The conjunctivae were also infected, and a condition indistinguishable from trachoma was produced. The contagion was given from person to person by the habit of rubbing noses. The condition could be cured by excision of the tear sac. Dr. MITCHELL, as a result of histological and experimental investigations on enlarged tonsils and glands in the neck, said that frequently an apparently simple enlargement was proved by animal experiment to be tuberculous. Dr. EASON said that in a few rare cases the two portions of the basi-sphenoid did not unite, and that in this way infection might be conveyed by blood channels from the throat to the central nervous system. Dr. BURN-MURDOCH had rarely found in children with tuberculous glands in the neck the sequel of pulmonary phthisis, either at the time, or later in adult life. The PRESIDENT said that for some years he had been impressed, in cases of acute rheumatism, with the frequent previous occurrence of sore throat.

Lymphadenoma and Salvarsan.

Drs. GULLAND and GOODALL read a paper on a case of lymphadenoma in which there had been marked temporary improvement from intravenous injections of salvarsan.

GLASGOW AND NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETIES.

Friday and Saturday, June 16th and 17th.

Dr. A. W. RUSSELL (Glasgow), President, in the Chair.

Procidentia Uteri.

THIS was a combined meeting of the societies named and lasted two days, the subject of discussion being the operative treatment of procidentia uteri. It was opened by Professor J. B. HELLIER (Leeds), who asked those present to focus their attention on the one question, "What method of treatment gave the best results as regards the permanent cure of the condition?" He first considered the chief difficulties of the problem. The uterus was in whole or in part outside the vulva, and in a position of retroflexion or retroversion, so that the first part of the problem was to secure the uterus in a position of anteversion or flexion. Secondly, he pointed out that in procidentia the uterus was hypertrophied, the enlargement being due to elongation of the supravaginal cervix, to the body of the uterus itself, and to the enlargement of the labia cervicis, especially where there were old-standing lacerations. These uterine conditions, in his opinion, required attention during the operation for the radical cure. Thirdly, he pointed out the prolapsed state of the vaginal walls—cystocele and rectocele—and urged that no operation was of any use where these conditions were left untreated. He referred to the changes taking place after the menopause, and showed how such changes caused a procidentia or made an existing one worse. The most serious difficulty was the effect of further child-bearing on cases that had been operated on. He doubted if there was any operation that was free from risk or difficulty in a labour following or where relapses would not occur. The best results were obtained after the menopause or where sterilization was performed. He thought sterilization justifiable in patients over 40 years of age, but not in young women. Regarding the operative treatment he advised a combination of operative measures. Anterior colporrhaphy or colpo-perineorrhaphy were always necessary—not alone, but in combination with fixation of the uterus. Fixation of the uterus without the plastic operations was useless. Vaginal hysterectomy did not cure the condition. He then described his own surgical procedure in such cases:

A flap of mucous membrane is resected from the anterior vaginal wall, the width of the flap depending on the size of the cystocele. The bladder is pushed well up and out of the way. The utero-vesical space is packed with gauze, the peritoneum being not yet opened. Amputation of the hypertrophied cervix is then performed. The gauze is now removed from the utero-vesical pouch, the peritoneum opened, and the fundus uteri brought into the vaginal wound. The appendages are inspected and partial salpingectomy performed. Catgut sutures are then passed through the anterior uterine wall and through the cut vaginal edges at each side. They are then tied. The remainder of the vaginal mucous membrane is closed by a continuous catgut suture. This continuous suture may take up some of the anterior uterine wall. The last step is to perform a colpo-perineorrhaphy; in doing so building up a good perineal body and stitching the edges of the levator ani muscle together was recommended.

Continuing, the speaker stated that 88 to 90 per cent. were cured, in 5 or 6 per cent. the results were not up to expectation, and 5 per cent. showed some degree of failure.

Dr. W. L. REID (Glasgow) reviewed the different operations he had performed for procidentia. In his earlier days he removed the uterus in whole or in part, but soon gave up that operation as the results were so unsatisfactory. Fair success could be obtained by the Alexander-Adams method, but relapses were common, especially in those who were not careful of themselves. In cases of procidentia at the present he always performed anterior colporrhaphy and a colpo-perineorrhaphy by Lawson Tait's method. During these operations he urged that a strictly aseptic technique was essential to obtain a good result. In most cases the plastic operations were sufficient, but in some cases where the uterus tended to come down again he advised a ventrifixation, even in view of all that had been said against it.

Dr. D. LLOYD ROBERTS (Manchester) advised anterior, lateral, and posterior colporrhaphies. In performing these operations he always aimed at extreme narrowing of the vagina, as he found the canal sometimes after operations tended to become dilated again. He strongly objected to the removal of the uterus in such cases, as there was always a tendency later to prolapse of the small intestines, and also objected to shortening of the round ligaments. The hypertrophied cervix he left alone, because after the restoration of the uterus to its normal position, the cervix, relieved from irritation and traumatism, diminished quickly. Only in exceptional cases did he perform ventrifixation, as it often caused pain and difficult urination.

Dr. JOHN CAMPBELL (Belfast) divided his patients requiring operative treatment for procidentia into three groups—namely: (1) Those still in the child-bearing period of life; (2) those beyond the child-bearing period, but who were still strong and active; (3) those old and frail and who were unlikely to stand a major operation. For Group 1 he performed amputation of the cervix where necessary, and anterior colporrhaphy and colpo-perineorrhaphy and round ligament suspension (Gillian's operation); for Group 2 he performed the same vaginal operation as Group 1, together with a ventrifixation;

and in Group 3 he performed colporrhaphies so as to tighten the vaginal canal as much as possible.

Dr. ROBERT JARDINE (Glasgow) said he understood Dr. Hellier to say that the operation should never be done on a woman who might bear a child. He agreed with this. He condemned fixation of the uterus in a woman who might become pregnant, on account of the difficulty which would most probably arise during labour. He had seen six cases of labour after this operation, and in only one was delivery of a living child possible through the natural passages. Caesarean section or craniotomy were necessary in the others. Sterilization of a young woman was not justifiable, and the operation of ventrifixation for procidentia should only be performed after the menopause.

Dr. DONALD (Manchester) said he had performed anterior and posterior colporrhaphy in at least 500 cases. He had found those measures so satisfactory that he did not find it necessary to open the abdomen either by laparotomy or by the vagina. He thought the operation described by Dr. Hellier as suitable for cases of prolapse in women past the menopause was too severe, and was not necessary, inasmuch as excellent results in these cases could be obtained by colporrhaphy. The operation of colporrhaphy was safe, it gave no trouble at a subsequent confinement, and even the subsequent confinement did not always destroy the result of the operation. The colporrhaphy, he said, must be done thoroughly, and the vagina must be contracted high up.

Dr. BLAIR BELL (Liverpool) entirely disapproved of any operations such as the Duhrssen-Martin-Mackenrodt (or Schauta-Wertheim, as Dr. Hellier called it) in sexually functional women, who never ought to be sterilized for such a condition. It was bad surgery, he thought, to operate on cases where ulcers of the vaginal walls were present. He always performed extensive anterior and posterior colporrhaphies and fixed the uterus by a modified Gillian's operation. In some of his cases pregnancy had occurred, but no relapses had taken place. Sometimes he performed ventrifixation in cases where the round ligaments were useless.

Professor KYNOCH (Dundee) thought that all mutilative measures should be avoided, as they were dealing with a condition which was a source of discomfort and not of danger. Any operation in a child-bearing woman that involved fixation of the uterus should not be performed, and sterilization of such women he held was not justifiable. In child-bearing women he performed an extensive anterior colporrhaphy and a colpo-perineorrhaphy, and, if necessary, amputated the cervix. In women after the menopause he performed a ventrifixation and also the vaginal plastic operations. He had performed the operation that Dr. Hellier had described, but his experience of it had been too recent to express an opinion on the late results.

Dr. MUNRO KERR (Glasgow) stated that he was opposed to abdominal fixation of the uterus except in unusual circumstances. He had only once seen trouble follow at a subsequent parturition, but still he thought the treatment crude. He specially referred to the treatment of fixing the uterus between the bladder and anterior vaginal wall, which had been so fully referred to by Dr. Hellier. He had performed the operation in chosen cases, but in two of his own cases a serious pelvic inflammation supervened. This inflammation was due, he thought, to the fact that it was extremely difficult to cleanse the field of operation and also to the presence of blood which became infected.

Dr. FOTHERGILL (Manchester) had noticed, after treating prolapse by anterior colporrhaphy and perineorrhaphy, that those cases in which the uterus remained retroverted after the operation generally recurred, while the prolapse did not return in cases in which the anterior colporrhaphy brought about anteversion. In performing anterior colporrhaphy he removed a very wide portion of mucous membrane. This brought together in front of the cervix the parametric and paravaginal tissues, with the result that the cervix was forced up and back into the hollow of the sacrum so that there was no room for the uterus in the pouch of Douglas. With such an operation opening of the abdomen was not essential.

Dr. BALFOUR MARSHALL (Glasgow) said no operation had been devised to cure all cases. An abdominal fixation alone was of no use. In cases of prolapse he always performed anterior and posterior colporrhaphies with the Gillian round ligament operation and ventrifixation of the uterus in women over 40 years of age. He considered a simple colporrhaphy useless to cure a cystocele. He agreed with Dr. Fothergill in that the colporrhaphies must be extensive. In cases associated with hypertrophy of the cervix he was of the opinion that amputation was unnecessary.

Dr. OLDFIELD (Leeds) said that plastic operations alone were sufficient, but an additional support and a more permanent result could be attained by adding vaginal or abdominal fixation. He performed a vaginal fixation in fat women with a large cystocele and a retroflexed uterus, but never before the menopause. In patients who were robust and under 50 years of age he performed a ventrifixation with the vaginal plastic operations. He had injected quinine solution into the base of the broad ligament in one case and found the immediate result good.

Dr. SCOTT CARMICHAEL (Edinburgh) said that a vaginal fixation was, in his opinion, the best operation for the cure of cystocele. Abdominal fixation was unsatisfactory. He had experience of 20 or 30 cases and believed that the operation of vaginal fixation was a good one. He only performed it in women who were over 40 years of age, although there was little risk in future child-bearing. In cases of complete procidentia hysterectomy after Mayo's method gave good results.

Dr. W. ARNOLD LEA (Manchester) said that in women during the child-bearing period posterior colporrhaphy gave good results, but, if the uterus were much enlarged, a better result was obtained by supplementing a fixation of the uterus. He thought the cervix should be amputated when necessary. In old women he removed the uterus and at the same time performed extensive anterior, lateral, and posterior colporrhaphies. In his 28 cases he had had no relapses. Wertheim's vaginal fixation was not a good operation.

Professor MURDOCH CAMERON (Glasgow), Dr. GRIMSDALE (Liverpool), and the PRESIDENT (Dr. A. W. Russell) also took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Friday, May 19th, 1911.

Dr. A. H. BENSON, President, in the Chair.

Vaccines and Pus.

PROFESSOR WHITE read a paper, and exhibited some smears of pus, illustrative of a new method of controlling the timing and dosage of vaccines, with special attention to post-operative suppuration. The principle of his method was, that by a study of the pus, both before and after inoculation, with a view to testing the phagocytic power of the cells, and the power of growth of the organisms, a sufficiently accurate indication could be obtained as to the correct size of the dose, and the time for its administration. He had observed that as the opsonic index rose, phagocytosis became more active, and the powers of growth of the organisms progressively less. On the second and third days after an appropriate dose, it would be found that phagocytosis was complete—all the organisms in a smear of pus would be seen engulfed within such pus cells as were still alive, and, furthermore, inoculation of an agar tube with some of the pus would give no growth in twenty-four hours. Within the next few days extracellular organisms would again be found, and, *pari passu*, colonies would appear on the agar tube, while the index would be found on the down grade. These were the signals for a fresh inoculation. In the earlier cases he had made the three sets of observations concurrently. In the later cases he had given his inoculations guided by the pus alone, and the result was completely successful. The method would be found particularly useful in cases of mixed infections. Professor SCOTT considered the method represented a most important advance in opsonic work. The older method was accurate, but tedious and expensive. Professor White's method could be carried out with a very much smaller amount of energy, and while it might not tell everything, it would tell all that was wanted to be known in about half the

cases. Dr. BOXWELL said he had seen one of the cases referred to by Professor White. For nearly a year after the operation, one for appendix abscess with peritonitis, the patient, a robust-looking young woman before her illness, continued to discharge pus from a sinus in her flank. She was by that time reduced to a skeleton, and apparently at death's door. From the first inoculation she began to improve, and she was now practically well. He had had the privilege of seeing the cultures from day to day, and it certainly was amazing how Professor White seemed to control the organisms, herding them at will within the pus cells, by his inoculations. His process of control, as far as he was aware, was quite new, and was a great advance on anything he had heard of in the practical application of vaccines.

Renal Tumour.

Mr. L. G. GUNN exhibited a specimen of renal tumour, as an example of the commonest form of malignant disease affecting the kidney—hypernephroma. It was a typical example, and showed the yellow masses with haemorrhages in some of them. Such tumours were about 50 per cent. of all the renal malignant tumours. The structure very closely followed the structure of the suprarenal capsule, and in parts it looked almost sarcomatous. They all followed a very constant type, and varied practically only in size. They might exist for years without causing symptoms. The earliest symptoms were bleeding and possibly local pain. The prognosis as regards removal was not very good, as secondary deposits were apt to occur, commonly in the lungs. The patient had had several attacks of haemorrhage in the past two years. She came under his care shortly after one of these attacks. He cystoscoped her, and saw the bleeding was from the right kidney; the next day he catheterized both ureters, and examined the character of the urine from each. It was practically normal on both sides. There were one or two red blood corpuscles from the side from which the kidney was afterwards removed, and the amount of urine passed was somewhat small. One could feel a quite definite tumour. They looked as carefully as possible for any signs of bone deposits, but could find none. The patient had made a good recovery. Professor MCWEENEY said that, looking at the specimen, he would have no hesitation in diagnosing hypernephroma on account of three features, which he had always observed in the cases he had seen: (1) The nodular nature of the growth; (2) its position in the hilus of the kidney, pushing the kidney substance to one side, so that the poles of the kidney were fairly well preserved, while the middle portion was thinned out; (3) the tendency to haemorrhage. He might add a fourth feature of somewhat more doubtful character—it was the yellow colour of some of the nodules.

ROYAL SOCIETY OF MEDICINE.

ANNUAL MEETING.

THE annual general meeting of the Royal Society of Medicine was held on July 7th at 15, Cavendish Square, Sir HENRY MORRIS, Bart., President, in the chair. The Council's report, which was unanimously adopted after the accounts had been explained by Sir WILLIAM CHURCH, senior honorary treasurer, showed that during the year 88 new Fellows and 26 members had been elected, while 30 Fellows and 14 members had died, and 51 Fellows and 48 members had resigned. The membership roll of the society therefore now numbered 2,327 Fellows (town 1,320, country 834, foreign 173), and 919 members of sections (town 241, country 532, foreign 146). The society's new house was expected to be sufficiently advanced for plastering to commence on August 1st, and the whole building completed by December. Donations towards the expenditure thereon stood at £12,788, the amount still required being somewhat over £17,000. Subscription income continued to increase, having reached £8,138, as against £7.958 in the preceding year. General expenses, which included rental of the society's temporary premises in Hanover Square, had also increased to £5,359, but the cost of publication of the *Proceedings* had fallen by £247, and there was a diminution of £107 in the expenditure on the library. The net outcome, therefore, was a balance on the year's working of £202 6s. 5d. During the year 2,527 books had been added to the library; the number of readers was 6,693, and the number of books borrowed 6,805. The librarians were preparing lists of modern and standard works with a view to partial arrangement of the new library according to subjects, and the plan of supplying references and abstracts free of cost to Fellows resident abroad had worked well and been warmly appreciated.

Elections.

The following officers and members of Council for the year 1911–12 were then elected:

President: Sir Henry Morris. *Vice-Presidents* (being the presidents of the various sections): W. J. McCardie (Anaesthetics); G. H. Thompson (Balneological); G. A. Sutherland (Children); Sir William Osler, F.R.S. (Clinical); Sir Malcolm Morris (Dermatological); A. D. Reid (Electro-therapeutical); Theodore Thomson (Epidemiological); StClair Thomson (Laryngological); Frederick Taylor (Medical); F. W. Mott, F.R.S. (Neurological); Amand Routh (Obstetrical); H. Lloyd Williams (Odontological); W. Milligan (Otological); R. T. Hewlett (Pathological); Clinton T. Dent (Surgical); W. E. Dixon, F.R.S. (Therapeutical). *Honorary Treasurers:* Sir W. S. Church and Sir F. H. Champneys. *Honorary Librarians:* Rickman J. Godlee and Norman Moore. *Honorary Secretaries:* Arthur Latham and H. S. Pendlebury. *Other Members of Council:* Sir William Allchin, R. A. Gibbons, J. Warrington Haward, W. P. Herringham, R. Clement Lucas, D'Arcy Power, H. D. Rolleston, Charters J. Symonds, and E. F. White.

The President's Address.

The PRESIDENT then addressed the meeting on the work of the session and the prospects of the society, referring in detail to the value of the work done by some of the Fellows who had died during the year. The general work of the society had been carried on with some difficulty owing to the cramped space in the temporary premises. Of the 118 meetings which various sections had held, 42 had taken place in the rooms of the Medical Society of London. Owing to the same cause it had not proved possible to hold any general discussion among all the sections, but many of the sections had held meetings at which discussions of general interest had taken place. There was every prospect that the new building would be completed by December 1st, this being the date fixed by the contract with the builders, so at the next annual meeting the speaker might be able to report on the work carried on in the new building for six months. He hoped the deficiency of £17,000 on the building fund would be made up before the opening of the new premises; if not, the sum required would be raised on loan. That circumstance would not put the society into financial straits, as the interest on the borrowed sum would be counterbalanced by the saving in rent which was now being paid for temporary premises. Nevertheless, the society would be somewhat hampered in providing many of the advantages for which it was instituted—for instance, a standard reference library in addition to the lending library already owned by the society. It would be a great boon, too, to Fellows if the privilege already conferred on those resident abroad in respect of abstracts could be accorded also to those resident at home. The work of the society was being maintained at a good level, and no one could doubt its great usefulness and service. Money, however, was required, and the occasion was exceptional, so it was very fitting to ask members to do all they could to secure for the society such a measure of pecuniary support as would place it in a firm and sound financial position. Nobody could deny that there were good grounds for asking those outside to assist an institution which was of national and scientific importance, and they were not exceptional in taking that course. During the last few days a society, very analogous to their own in some respects—namely, the Royal Geographical Society—had put forth, through its distinguished president, a claim for support, not only from Fellows of the society, but also from the friends of the society, and from the oversea members of the empire who were in this country at the present moment. Although there were 5,000 Fellows in the Geographical Society Lord Curzon had not hesitated to say that most of them were not in a financial position to aid in supplying the large sum of money wanted, and he therefore appealed to the wealthy to come forward to assist that society. But though the Royal Society of Medicine was a national, as well as metropolitan institution of a very useful order, and could thus reasonably hope to receive some assistance from the public, it was to its own Fellows and members that it must chiefly look for the sum required to wipe off the deficit on the building fund. Finally, Sir Henry Morris

expressed his thanks to the honorary and other officers of the society for the way in which they had carried on their work, and mentioned that it was hoped that the secretary, Mr. MacAlister, who had recently undergone a serious operation, would be able to return to his duties with renewed strength and undiminished energy by the beginning of August.

The meeting then concluded with a vote of thanks to the retiring vice-presidents—Messrs. W. B. Bacon, J. Mitchell Bruce, E. Cautley, A. H. Cheatle, T. Colcott Fox, T. F. Gardner, R. J. Godlee, H. Macnaughton-Jones, J. A. Ormerod, P. Watson-Williams, and Sir Alfred Pierce Gould.

UNITED SERVICES MEDICAL SOCIETY.

AT a meeting on June 14th, Colonel Sir DAVID BRUCE, C.B., F.R.S., in the chair, Major C. F. WANHILL, R.A.M.C., in a paper on the *Supply of water in the field*, pointed out the disadvantages of very large units, such as the brigade sterilizing unit, and concluded that the best unit was a half battalion sterilizing cart. The desiderata for such a cart were that it should be mobile, simple and rapid in action, and should not contain any fragile parts which, if broken, would render the machine useless. Taking these points into consideration, candle filters, ultra-violet ray apparatus, heat exchange sterilizers, and chemical methods of sterilizing were all unsuitable for the provision of large quantities of drinking water in the field, though chemical methods had their uses in the purifying of small quantities of water for detached individuals. Experiments at the Royal Army Medical College and at Aldershot had resulted in the devising of an apparatus which depended for its action on the precipitation of the mud in the water by means of alum; the water so treated was passed through flannelette and the mud became deposited on the flannelette, forming a layer which acted in much the same way as the zoogloea layer on a sand filter. The clarified water which passed through had 60 to 80 per cent. of the original germs removed, and if it was necessary to remove all the germs, as might happen in the presence of specific contamination, the clarified water could be further passed through porous candles; the candles which were used would only remove 30 per cent. of the germs in untreated water and they became blocked almost at once, but with clarified water the whole of the remaining germs were removed and the output, at the rate of 120 gallons per hour, was constant. The author then gave a demonstration of a water cart built to fulfil the indications described.

FROM the thirty-sixth annual report of the Mission to Lepers in India and the East, it may be gathered that the good work done by the society continues to secure for it a satisfactory amount of financial support. The fund, which has recently extended its work to Korea, and hopes to be able to start work soon in Arabia and Persia also, is now responsible for the maintenance of 51 asylums, containing some 4,000 lepers, and for the support and education of nearly 600 children born of leper parents but themselves untainted. The reports which the society receives incline its council to believe that the results of nastin treatment are not very favourable. The expense of the society's work is relatively small; about £5 will support an adult leper in India for a year, and a sum of between £100 and £200 will build a small home for the untainted children of lepers. The London address of the society is 33, Henrietta Street, Covent Garden.

THE Governor of Malta has made representations to the Secretary of State for the Colonies with regard to the use of the term "Malta fever." The Governor pointed out that the disease in question, which is called "Mediterranean fever" by some authorities and "undulant fever" or "undulating fever" by others, so far from being peculiar to Malta, occurs all over the Mediterranean littoral, being found in Egypt, Cyprus, Greece, Crete, Sicily, Italy, France, Spain, Algeria, Tunis, and Tripoli, as well as in other countries, such as India and South and Central Africa, which do not border on the Mediterranean Sea, and urged that the name "Malta fever" was inappropriate and likely to operate to the disadvantage of the island by conveying the impression that Malta was the only place where it prevails. The Governor's views have been brought by the Secretary of State to the notice of the London and Liverpool Schools of Tropical Medicine and the Academy of Medicine in France, as well as the War Office and the Admiralty, with the result that all these institutions have agreed to abandon the use of the term "Malta fever."

Reviews.

HUCHARD'S MEDICAL CONSULTATIONS.

IN an era like the present, when the most active minds are busying themselves with chemical and pathological research, and the whole science of treatment seems likely to be revolutionized by the results of their discoveries, it is interesting to turn aside for a moment and look back upon the changes that medical thought has undergone during the past few decades. Hence we can cordially commend the perusal of the clinical works of Dr. H. HUCHARD,[1] of the Necker Hospital in Paris, of which the third volume, dealing with diseases of the respiratory and digestive systems, is now before us.

More than forty years have passed since Trousseau's *Clinical Medicine* was introduced to English readers by the New Sydenham Society, and in spite of its age and its manifest errors, it still preserves its charm for the reader. Dr. Huchard's chapters are written in much the same style as that which has proved such a lasting success in the case of Trousseau, and although it must be noted that his quotations are taken from the older rather than the contemporary school of writers, still he is by no means a *laudator temporis acti* only. In common with the majority of men of long experience, he lays the greater stress upon the diagnosis and treatment of the patient, and does not of necessity regard the derangement of an organ as an evidence of disease in the organ itself. Fully alive to the extent and value of modern research, he is careful throughout all his "consultations" to point out the limitations within which they may be applied at the bedside.

In the first part of the present work he discusses the diseases of the respiratory organs, or some of them, and this section is particularly interesting in that he devotes his attention chiefly to those conditions which are less frequently met with and more open to controversy. Beginning with pulmonary oedema, he describes its occurrence in association with diseases of other organs, but insists upon the recognition of an acute form of which nothing is known apart from its physical features. He notes the appearance of salmon-coloured tinting of the watery sputa in such cases as showing that the process involves some destruction of red blood cells, although actual blood does not appear. Venesection, "cardiac massage," and injection of strychnine, promptly applied, may cut short an attack.

The occasional incidence of haemoptysis in cases of chronic arthritic inflammation would seem to have come frequently under the author's notice, and he is inclined to follow Trousseau in the belief that such haemorrhages may be of vicarious nature, and he would further maintain that non-tuberculous haemoptysis may take place even in a tuberculous person. He considers that the relation between intestinal irritation and pulmonary congestion, in which microbic infection probably takes the chief part, is often overlooked, and the result is sometimes treated instead of the cause. Influenzal pneumonia is closely examined from the clinical aspect, and the general relation between infectious diseases and inflammation or irritation of the upper air passages is discussed. Experience has, he says, taught that active disinfection of these passages is a successful method of treatment, and it is to be effected by means of actual injection into the trachea and by continued inhalation. Similar views have of late been expressed in our columns.

Every year brings fresh information as to the results of the modern treatment of consumption, and Dr. Huchard's comments upon them are interesting, if somewhat sweeping and dogmatic. Never a supporter of sanatorial systems, he maintains that they have proved themselves to possess an educational value, but nothing more. Equally disparaging are his comments on mineral water health resorts, but he admits that they may prove useful in mitigating catarrh and other troublesome symptoms. The treatment of the patient should be the first consideration, and special symptoms may sometimes have to be

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[1] *Maladies de l'appareil digestif et de l'appareil respiratoire.* By Dr. H. Huchard, Physician to the Necker Hospital, Paris. (Consultations Médicales.) Paris: J. B. Baillière et Fils. 1911. (Med. 8vo, pp. 504. Fr. 12.)

disregarded in view of the general requirements of the case. Of the results of tuberculin injections he says nothing.

The second part of the book deals with the clinical study of dyspepsia and dyspeptics. The author makes a good deal of sarcastic merriment over the apparent futility of the chemical and theoretical dicta of past times, and again emphasizes his view that clinical observation is in every case the best guide to successful treatment. From the clinical standpoint, therefore, he passes in review the very numerous phases of dyspepsia, dealing also at some length with tumours, swellings, and indurations of the stomach wall, which he classifies as false cancer. Morbid conditions of the liver and gall bladder, and of the pancreas, are in turn examined, and the final chapters of the work are devoted to the clinical study of renal affections and albuminuria.

Dr. Huchard's book savours too much of times past to be altogether acceptable to the student of to-day, but it contains a vast amount of shrewd observation and comment which will interest and sometimes amuse the middle-aged reader who has learnt by experience that the human organism is a machine which is subject to variations beyond his ken.

VERTIGO.

THE late Professor E. HITZIG's monograph on vertigo[2] has been re-edited by Drs. J. R. EWALD and R. WOLLENBERG of Strassburg, and gives as clearly written an account of this complex subject as one can hope to meet with.

The first half of the book deals with the physiology of the subject, and has been edited by Dr. Ewald. He defines vertigo as "a diminution of our static consciousness," and says that as it may be brought about by purely psychical causes it must have a centre in the brain; this centre is connected with the centre for equilibration in the medulla, but at present cannot be localized. The medullary centre receives and issues all the nervous impulses that have to do with the static and dynamic equilibrium of the body; and it is in this centre that the impulses producing the signs and symptoms of vertigo originate, when it is reached by abnormal nervous impulses either from the conjectural vertigo centre in the brain (cerebral vertigo), from the eyes (ocular vertigo), and particularly from the vestibule (labyrinthine vertigo), when it is stimulated mechanically, electrically, by rotatory movements, or by the application of heat or cold. In the same way vertigo results when the impulses emitted from the centre for equilibration fail to effect their purpose, as may occur in cerebellar disease. As the centre for equilibration in the medulla and the cerebral vertigo centre are connected together, but can also act independently, the objective signs of vertigo may be seen in an unconscious subject, and also dizziness may be felt when there is no disturbance of motility. Sea-sickness is excited by labyrinthine stimuli that reach the medullary centre for equilibration, and thence the centre for vomiting; the cure for sea-sickness is to be found in diminution of the excitability of the labyrinth.

The second half of the book, edited by Dr. Wollenberg, considers vertigo from the pathological point of view, and its connexion with disease of the vestibular apparatus, with organic brain disease, with neurasthenia and hysteria, and with other morbid conditions. The etiology and pathology are very fully considered, and numbers of illustrative cases are quoted. Two pages are given to diagnosis and treatment, and the literature is fully quoted. To any medical man who wishes to understand the theory of vertigo this book is indispensable. For the benefit of the practitioner its solitary prescription may be quoted. Professor Hitzig has seen great benefit result in the treatment of senile (arterio-sclerotic or anaemic) vertigo by the prolonged daily exhibition of half a grain of digitalis combined with 15 grains of potassium iodide.

PREVENTION AND CURE.

ONE of the chief objects of Dr. SYDNEY MACILWAINE in writing a small volume to which he has given the title *Medical Revolution*,[3] is to plead for the classification of diseases on the basis of causation, and to state once more that until there is a practical recognition of the fact that the whole science of medicine ought to be founded on the elucidation of causes, empiricism, which is closely allied to quackery, must continue to hold its sway. We believe that there is a very general recognition of the fact that much of modern medicine is, and must be in the present state of the sciences on which medicine is founded, empirical. Dr. MacIlwaine thinks that modern pathology and modern specialism are based on a fallacy contained in the declaration of Virchow that "every disease is rooted in an organ," and that, relying on this dictum, medical men have contented themselves with illusory diagnoses which are often only names attached to a symptom-complex. True diagnosis is defined as the correlation of cause and effect in each case. Thus, when typhoid fever or lead poisoning is diagnosed, we may be said to attach the strict meaning to the word. On the other hand, to say that a person is suffering from Bright's disease, and to point out that the kidneys are cirrhotic, and to hold that one has thereby framed a diagnosis, is to diagnose falsely, for the condition of cirrhosed kidney may be caused by lead poisoning, or a faulty constitution, or a score of other causes, and until the primal and contributory causes, whether intrinsic or extrinsic, have been traced, symptoms only and not true diseases have been named, and this is what occurs in the vast majority of cases. All this is among the commonplaces of October Introductory addresses, and we all agree that there can be no other natural basis except causation on which we can define our conception of the specific disease. The difficulty is that the knowledge requisite to provide this common basis is not yet available, and is only very slowly being obtained in the face of much opposition from sentimentalists. The author contends that the art of medicine, founded on what he calls illusory diagnoses, must of necessity be empirical; and though random cure may be effected in the absence of true diagnosis—that is, in the absence of a full knowledge of causation—prevention is impossible, which is a truism. Our hospital system, he affirms, is confined to trying to cure to the almost complete neglect of prevention, and he therefore concludes that it must fail to deal with the problem of the preservation of the health of the community; and in this there is a great deal of truth. He believes it might be possible to establish in the areas surrounding our great hospitals groups of family physicians, whose primary duty would be to discover, from first-hand knowledge of the people in their own homes, why the diseases there prevalent arise. He advocates a change in the system of medical education and a system of scientific organization whereby the information obtained in the course of ordinary practice could be properly digested, and used as a basis for concerted action directed not only towards cure, but towards prevention of disease, the primary requisite being true diagnosis, not the illusory diagnosis which is so common.

That there is a great deal of truth in what is said about illusory diagnosis is, of course, self-evident; and though it has been said again and again, it cannot be said too often. The author, perhaps, does not sufficiently realize the difficulties that surround the attempts to arrive at primal causes, and does less than justice to the large body of workers engaged in the attempt at present. A good opportunity now presents itself in connexion with a national insurance medical service. The Insurance Bill provides that money shall be available for special research work, but the suggestion that there should be a periodical inspection of all insured persons for preventive purposes has, so far, not received much attention. The book will have well served its purpose if it stimulates the attempt to arrive at true diagnosis on the basis of causation; for on this depends the medical revolution which the author is preaching.

THE DIAPHRAGM.

THE monograph on the diaphragm by Dr. HANS EPPINGER[4] which forms one of the supplements to Nothnagel's encyclopaedia of special pathology and therapeutics, is admirably

[2] *Der Schwindel (Vertigo).* Von weil. Geh.-Med.-R. Professor Dr. E. Hitzig; als zweite Auflage neu herausgegeben und bearbeitet Von J. Rice Ewald und Robert Wollenberg. Nothnagel's Spezielle Pathologie und Therapie, continued by Professor von Frankl-Hochward. Vienna and Leipzig: A. Holder. 1911. (Sup. roy. 8vo. Pp. vi. 142, with 12 illustrations. M. 3.)

[3] *Medical Revolution.* By Sydney W. MacIlwaine, M.R.C.S., L.R.C.P. London: P. S. King and Son, Westminster. (Cr. 8vo, pp. 162. 2s. 6d. net.)

[4] *Allgemeine und spezielle Pathologie des Zwerchfells.* Von Privat-Dozent Dr. Hans Eppinger in Wien. Mit 31 Abbildungen im Texte. Wien und Liepzig: Alfred Hoelder. 1911. (Post quarto, pp. 268. I r 650c.)

written and illustrated, and comprises practically all that is at present known respecting this organ. The author gives a careful description of its anatomy and function, especially describing the movements as studied recently by means of the Roentgen screen. He lays down clearly the conditions which are necessary for the diaphragmatic movements, and classifies the changes by which these are affected. He discusses at length the so-called Williams's phenomenon—that is, where there is a deposit of tubercle in the apex of one lung, the movements of the diaphragm on the affected side are impaired. It is not constantly present; it may be absent where the lesion is of considerable size, or present where this is quite small. Various explanations have been suggested, but Dr. Eppinger is inclined to accept the view that it depends upon diminished retraction of the lung, although he is not sure that this is sufficient to account for its occurrence in slight cases. An interesting chapter is that on the relation of the diaphragm to enteroptosis; it is based mainly upon the work of Professor Arthur Keith, with which English readers are familiar. He describes the Oliver-Cardarelli symptom of enteroptosis, which is that during inspiration there is systolic traction upon the larynx, due to the fact that the heart is no longer supported by the diaphragm, but hangs from its vessels and the trachea, so that systole during inspiration produces a perceptible movement of the larynx. Wenckebach noticed also that there is systolic swelling of the veins of the neck due to the same cause. Pericardial adhesion and adhesion of the pericardium to the surrounding structures in the anterior and posterior mediastina cause impaired diaphragmatic movements, affecting the circulation of the blood in the abdomen, and favouring the occurrence of engorgement of the portal system, swelling of the liver and jaundice. The remainder of the book contains descriptions of the various diseases of the diaphragm, of their symptoms and treatment, and taking it altogether we know of no more complete discussion of these subjects than can be found in these pages.

BOYCE'S "YELLOW FEVER."

A BOOK entitled *Yellow Fever and its Prevention*, by the late Sir RUBERT BOYCE,[5] gives a very good and full account of the many different points of interest in this disease. Readers will remember the work by the same author, *Mosquito or Man?* where the question of the prevention of yellow fever was also dealt with and the part mosquitos play in its spread explained. Out of this Sir Rubert Boyce's last book may be said to have arisen. It gives a summary of the author's experiences in New Orleans, British Honduras, and Central America; the matter being treated historically, geographically, and from the point of view of symptomatology and treatment, pathology, diagnosis, epidemiology, entomology, and prophylaxis. The manual, its author hoped, would be of value to the young medical man who intends taking up work in the tropics, and there is no doubt that a good knowledge of the subject is important for all proceeding abroad, especially for those who may be called upon to diagnose sporadic or early epidemic cases. The question of the occurrence of the disease on the West Coast of Africa—a question very thoroughly threshed out at recent meetings of the Society of Tropical Medicine and Hygiene—is dealt with in considerable detail, and whether Sir Rubert was right in his contentions or not the focussing of attention on doubtful cases will do no harm and probably a considerable amount of good. There have been outbreaks of yellow fever on the West Coast of Africa—small, perhaps, in number as compared with those in the New World—but still the possibility of larger and more serious epidemics is always present, and the early recognition of the first cases is the only way to prevent them. The destruction of the intermediate host is also necessary, and all must agree with Sir Rubert Boyce's views on this matter. Excellent photographs of the measures adopted for the destruction of the *Stegomyia* in the last New Orleans epidemic are given in the chapter on prophylaxis, and should be carefully studied by all who may have to carry out similar methods. The book is clearly and well written, and the amount of useful material contained within its pages is very large. Sir Rubert Boyce had done much excellent work, and if he had been spared there is no doubt that his energy and influence would have carried through many useful sanitary reforms urgently required in many of the British Colonies.

[5] *Yellow Fever and its Prevention.* A Manual for Medical Students and Practitioners. By the late Sir Rubert Boyce, M.B., F.R.S. With illustrations. London: John Murray, Albemarle Street, W. 1911. (8vo, pp. 396, figs. 61. Price 10s. 6d.)

A MISSIONARY IN PAPUA.

IT is not often that the daily events in the life of a missionary clergyman can be said to form a subject of absorbing interest to the ordinary layman. Occasionally, however, the unexpected happens, and the record of "the trivial round, the common task" of life on a foreign mission station proves infinitely more engrossing than many a tale of travel and adventure. This is emphatically the case with regard to Mr. ARTHUR KENT CHIGNELL'S charming book, *An Outpost in Papua*.[6] This outpost of Christianity is Wanigera, a village on the north-east coast of Papua, discovered by the missionaries in 1898, where even now there are but two white men on the whole station, and the native population is as yet untouched by any trace of Western civilization. Mr. Chignell, who for the last four years has been the shepherd of this primitive flock, describes his life in its midst with delightful humour, and with a sympathetic understanding of the native mind which is as rare as it is attractive.

Though Mr. Chignell has chosen to labour so far from the busy hum of men, his life certainly lacks neither variety nor excitement; nor are his dealings with his parishioners by any means confined to spiritual affairs alone. Not the least of his duties is the doctoring of the sick, a difficult task in a land where the patient appears to be constitutionally incapable of carrying out instructions, and leaves his bandages at home for fear of getting them soiled, or, having been dosed with hot drinks and Dover's powders and put to bed with plenty of blankets in order to get rid of a bad chill, is discovered half an hour later "sitting on the verandah wearing nothing but a loin cloth, trying 'to get cool again.'" Moreover, a sick Papuan, though clean enough at other times, never dreams of washing himself throughout the whole course of his illness! Is this to be taken as evidence that the "Higher Bacteriology" has penetrated to Papua or that the Papuan has anticipated its teachings? Mr. Chignell, who is not equally advanced, thinks it

> fortunate for everybody in New Guinea, and not the least for *le médecin malgré lui*, that the country is free from some of the worst scourges common enough in other lands. Malaria is our only serious trouble, and . . . the natives do not suffer much inconvenience from this disease.

Nor need the white man, as Mr. Chignell has discovered by personal experience, if he will but take ordinary precautions and rid himself of the delusion that he can lead the same kind of life in the tropics as he does at home with impunity. *An Outpost in Papua* would be worth reading if it were only for the account of this amateur doctor's adventures amongst his strange patients, and for the ardent tribute of admiration paid by the author to the men who have done so much towards rendering the fever-haunted tropics habitable for Europeans. The book is beautifully illustrated with numerous photographs, and contains a preface by the Archbishop of Brisbane.

NOTES ON BOOKS.

IT is six years since we reviewed (JOURNAL, December 9th, 1905, p. 1527) the third edition of Dr. WEGELE'S book on the treatment of diseases of the stomach and intestines,[7] and we can now congratulate him on the appearance of the fourth edition, which has been carefully revised, with especial attention to the chapters on gastric ulcer, atony and gastroptosis, disturbances of secretion, chronic constipation, dysentery, appendicitis, intestinal intoxications, and their surgical aspects, in which he acknowledges the assistance of Professor Henle of Dortmund. We need only repeat our general commendation of the book as a standard authority on the subject of which it treats.

[6] *An Outpost in Papua.* By Arthur Kent Chignell, Priest of the New Guinea Mission. With a preface by the Archbishop of Brisbane, Metropolitan of the Province of Queensland. Illustrated. Published by Smith, Elder, and Co., 15, Waterloo Place, London. 1911. (Pp. 375. Price 10s. 6d. net.)

[7] *Die Therapie der Magen und Darmerkrankungen.* Von Sanitätsrat Dr. Carl Wegele. Jena: Gustav Fischer. 1911. (Med. 8vo, pp. 548. M.7.50.; bound, M.8.50.)

SCIENCE NOTES.

IT is no new discovery which Professor O. Lehmann has to offer in his book, *Die neue Welt der flüssigen Kristalle*.[1] Most of the interesting facts as to fluid crystals have already been published in an earlier work by the same author in 1904, but they have not received the widespread attention which their importance deserves. The actual discovery of this novelty in physics dates from 1890, when Lehmann published his first communication on the subject. Since then he has made it particularly his own, and the present volume represents the accumulated experience of over twenty years. The general idea of a crystal is a solid, homogeneous, anisotropic body of polyhedral shape, which is formed from a saturated solution. Such bodies possess certain optical and other physical properties which differentiate them from substances of an amorphous and colloidal nature. These properties serve to distinguish them from liquids and solutions. Lehmann, however, showed that there are certain substances—amongst which may be mentioned ammonium oleate—which possess all the properties of a crystal, and yet are in a fluid, or, rather, viscous state. They are soft, and can be bent or twisted into various shapes without disturbing the molecular structure, whereas such treatment in the case of an ordinary crystal leads to destruction of the molecular homogeneity. These bodies are formed from saturated solution, take on a definite shape, and possess the property of polarizing light. The discovery of such a phenomenon introduced a new conception into physics, and Lehmann now seeks to correlate it with other natural phenomena. He refers to the remarkable formations, first noted by Virchow as long ago as 1854, which can be obtained from myelin. This can be pressed out from nerves in the form of drops, and when placed in water the drops begin to grow out into all manner of contorted shapes. These myelin formations possess the crystalline property of polarizing light, and thus they bear a certain resemblance to Lehmann's fluid crystals. They are not identical, however, for they really consist of a thin layer of myelin enclosing water, and their formation is apparently due to osmosis. They are thus identical with Leduc's osmotic formations.[2] Lehmann expresses much the same opinions as Leduc, although, it must be confessed, not in such a clear and entertaining manner. He deals with various biological problems, offering theories and suggestions based on analogy with fluid crystals. He thus devotes short chapters to such subjects as "latent life and soul," "atom souls," "muscle power," and "the growth of life"; but they do not contain anything of very convincing importance. They are, nevertheless, not without interest as affording evidence of the part which physics may play in interpreting vital phenomena.

The nature of spirochaetes forms the second part of Professor DOFLEIN'S *Probleme der Protistenkunde*,[3] originally communicated to the International Congress of Hygiene at Berlin in 1907. This interesting account has been brought up to date and published in separate form. From a systematic point of view the spirochaetes are a most difficult group, and Professor Doflein, after weighing carefully the somewhat scanty information we possess, takes up the view that they are more closely allied to the bacteria than to the protozoa. The general structure of the body resembles that of the bacteria, but the absence of a definite limiting membrane is an important point of distinction. The latter feature indicates a relationship to the protozoa. Very little is known of the mode of reproduction of spirochaetes, and there has been some dispute as to whether division takes place by longitudinal or transverse fission. Some chance observations led to the view that fission took place longitudinally after the manner of trypanosomes, and this view, gaining ground, strengthened the plea for the protozoal nature of spirochaetes. Doflein looks upon these observations with great distrust and regards transverse fission, which has been demonstrated in numerous species, as the normal method of division. He is prepared, however, to admit that both methods may occur, but fuller and more accurate investigation of the occurrence of longitudinal division is necessary. With regard to other forms of reproduction, no cycle of development has been demonstrated in the case of any spirochaete. Sexual forms have been described, but on no very good grounds. Resting forms have also been met with. These resemble protozoan cysts more than bacterial spores, but many authors have cast doubt on the interpretation of these bodies as resting stages and regard them as effete forms. In this connexion Doflein makes no mention of the infective granules which were met with by Leishman in the case of *Spirochaeta duttoni*, and which apparently represent a stage in the life-history of the parasite. These have also been observed by Balfour in the case of the fowl spirochaete and by Bosanquet in *Spirochaeta anodontae*. It seems at present impossible to elaborate any satisfactory method of classifying spirochaetes. Doflein suggests that they may be divided into three groups—namely, those possessing a central filament, those with a *crista*, and those with a *lamella*. The pathogenic forms may be included in the first group. Professor Doflein concludes by discussing the affinities of the spirochaetes with the *Oscillatoria*, a group of micro-organisms which they much resemble. The article is a concise and impartial summary of a scattered and imperfectly understood mass of observations, which, although mainly of biological interest, are not without importance to medicine.

[1] *Die neue Welt der flüssigen Kristalle*. By Dr. O. Lehmann. Leipzig: Akademische Verlagsgesellschaft, m.b.H. 1911. (Royal 8vo, pp. vi and 388; 246 text and fig. 9.)

[2] Vide BRITISH MEDICAL JOURNAL, 1910, p. 1080.

[3] *Probleme der Protistenkunde. II Die Natur der Spirochaeten*. By F. Doflein. Jena: Gustav Fischer. 1911. (Post 4to, pp. 36; 17 text figures. M. 1.20.)

MOTOR CARS FOR MEDICAL MEN.

SMALL CARS.

WE have received a letter from Dr. S. M. Dowling (Woodford Green) speaking well of the 12-h.p. Motobloc (15-h.p. R.A.C. rating) and stating that it is a good hill-climber and very economical of petrol, running from 28 to 32 miles on the gallon. Speaking generally, we may remind our readers that a low petrol consumption means that a car in actual running is developing something very materially less than its nominal horse-power. The heat value of a gallon of petrol and the utmost efficiency of explosion engines both being known, whilst the losses by friction, etc., are approximately calculable, the amount of horse-power obtainable for an hour out of a gallon of petrol is pretty well determined. The efficiency of engines varies, as do the losses in transmission in different forms of cars, so a low petrol consumption speaks well for a car, but it must not be supposed that a 12-h.p. car running twenty-eight miles on a gallon has been developing 12-h.p. for the hour or more that it has been running.

CHOICE OF A BODY.

It has been pointed out to us that the term "double-purpose" as applied to motor car bodies has been adopted by the De Dion Company as descriptive of the particular body introduced by them, which has been favourably noticed in our pages, and that the letter of "G. W." which appeared in our issue of March 18th might be read as implying that the De Dion bodies are not satisfactory. We have always been careful in any editorial comments not to institute comparisons, nor do we suppose that our correspondent whose letter we printed had it in mind to depreciate any special form of body capable of being used either as an open or a closed carriage. The expression "double-purpose" is a somewhat short way of expressing what was meant, and he wished to convey that the form which he possessed gave him full satisfaction.

THE "AUTOCAR."

The *Autocar*, which it is rather surprising to be reminded is sixteen years old, having been established in 1895 when legislation required a self-propelled vehicle to be preceded by a man with a red flag, has from time to time given particular attention to the requirements of medical men, and in connexion with the exhibition of surgical instruments, drugs, and foods, including motor cars, to be opened in the Bingley Hall during the Annual Meeting of the British Medical Association at Birmingham, our contemporary will issue a special "doctors' number" bearing date July 22nd. This issue will contain a section devoted to motoring for medical men, including the experience of doctors who use motor cars regularly; it will also contain a comparison of the cost per mile of motor cars and horse vehicles based upon actual experience. The *Autocar* will have a stand in the exhibition where the periodical and a number of books and maps likely to be useful to motorists will be obtainable, and a member of the staff of the paper will attend at specified times to give information as to the running cost of cars of various sizes for professional use.

UNDER the will of the late Mr. William Jones, of Birkdale, Lancashire, the Southport Infirmary and the Southport Convalescent Hospital and Sea Bathing Infirmary each receives a bequest of £1,000. The total value of his estate was £243,065.

THE FIRST IMPERIAL HEALTH CONGRESS.

THE first Imperial Health Congress held in this country took place at the Caxton Hall last week, under the auspices of the Women's Imperial Health Association. The object of this association, which was founded in the autumn of 1908, and was to a large extent inspired by the Women's National Health Association of Ireland, is "to instruct the women of the empire in the elementary principles of hygiene, and to impart knowledge regarding the care and nurture of children." The work is carried out by means of simple lectures on personal and domestic hygiene delivered to the women of the working classes in different parts of London and the provinces. For this purpose also the association has organized caravan tours whereby experienced lecturers can go from village to village in country districts and teach the female portion of the population how to preserve their own and their children's health. Local branches of the association have been opened in various places to deal with questions concerning such matters. So great has been the success of the experiment that it is now proposed to extend the work of the association throughout the empire, particularly in India, and thus better the conditions not only of white women in the overseas dominions, but also that of the native population. This proposal, which has been received with marked approval, was the subject of considerable attention at the different meetings of the congress. It should be added that the association is taking a prominent part in the present agitation for free lavatory accommodation for women in this country.

The work of the congress was done in four sessions, two of which were held on Thursday, July 6th, and two on the following day.

SESSION I.

Address by Lord Ilkeston.

The first session, which was held on Thursday morning, July 6th, was presided over by Lord ILKESTON, P.C., one of the vice-presidents, who in his opening address described the association as inspired by original ideas, putting forward novel methods of work, and indicating a new departure in the great crusade against dirt and disease. An essential part of their work was to enlist the sympathy of voluntary workers. With regard to India, he urged that not only should wise and skilled women teachers be sent, but that these health missioners should instruct their native sisters to become teachers in their turn. The National Insurance Bill now being discussed in the House of Commons opened up new vistas for voluntary workers in connexion with the Health Committees it was proposed to establish all over the country, and which would have great influence in teaching people the laws of health and how to avoid infringing them. These Health Committees would be bodies even more aggressive than any of their present health authorities in the direction of preventing disease. The moment they made it the duty of the State to look after the health of the people on economic grounds they had got down to the bedrock on which they could build the superstructure of success. And a much better result than the saving of money was that they would rear a healthier, stronger, and a purer race.

Tropical Diseases in Women and Children.

Lord Ilkeston's speech was followed by an interesting discussion on "Tropical Diseases as they Affect Women and Children," which was opened by Dr. C. W. DANIELS, who began by pointing out that it was remarkable that women acclimatized themselves to the conditions of tropical life far less easily than men. When a woman first went out to join her husband, or take up a post—as was so much more frequently done by women nowadays than formerly—she was usually active enough at the outset. The hot climate, the enervating conditions of life, and the lack of any real interests in the case of those who were accustomed to the demands of housekeeping made on their energies at home, soon induced women to slackness, and they gave way. Lolling on lounge chairs during the greater part of the day soon made a woman discontented and dispirited, however well-intentioned her motives might be. It was even nowadays not at all unusual to find that a man was obliged to send his wife home after two or, at the most, three years' exile. One of the chief secrets of a healthy life in the tropics for women, as well as men was an open-air existence. The new discoveries made in tropical medicine might make life, in fact, as healthy near the equator as it was in England. Malaria was one of the tropical diseases which affected women more than men. [The appearance of the microbe of malaria in the blood was here shown on a screen, and the difference pointed out between the various types of the fever which was responsible for so many children's lives in hot countries where mosquitos flourished.] The special form of malaria which had the effect of making the red corpuscles of the blood adhere to the tiny blood vessels was a type very common among children, who died of convulsions owing to the stoppage of circulation in the brain. The difficulty in recognizing signs of malaria in small children, while the disease might still be in the curative stages, lay in the absence of any of the symptoms of shivering, which made an attack evident in the case of a grown-up person. Children became pettish and out of sorts. Convulsions then developed, which frightened nurses, and parents might mistakenly treat in the ordinary way by giving hot baths instead of administering quinine. Immunity from malaria, as every tropical exile knew nowadays, was to be gained only by eliminating the mosquito, or at least by keeping water-courses and irrigation canals clear of vegetation near dwelling-houses, where the insects bred in thousands. Dr. Daniels proceeded to discuss the danger of sleeping sickness as applied to the woman settler in the tropics. This disease had the effect of producing the particularly deadly form of anaemia known as "profound" or "pernicious" anaemia.

Protection lay, not only in the destruction of the breeding places of the tsetse fly, but in the choice of suitable clothing. Dr. Daniels showed by means of a lantern slide a representation of the fly which, he said, had been proved to be the cause of sleeping sickness. It was not in appearance much unlike the ordinary fly, excepting that when at rest the wings folded close instead of spreading over the hind legs. Sleeping sickness was not now in certain stages the hopeless disease it had once been regarded. The success, so far, in dealing with it had not been very brilliant. The fly frequented river banks in the tropics, and as it was the habit of those travelling on the rivers to keep close to the banks to avoid currents, the fly got into the canoes and affected the occupants.

The Care of the Teeth.

The morning session concluded with a paper read by Dr. J. SIM WALLACE on the Care of the Teeth. He said that modern research showed that bad teeth in children were often due to sticky foods. Foods in early life should be chosen which stimulated the development of the jaw. It was always noticeable that in the case of children who did not masticate their food on both sides of the jaw the teeth on the unused side began to degenerate. Another important factor in the preservation of teeth in children was the prevention of mouth-breathing. Adenoids were often caused by cold and damp air. It was most important that the ingress of cold or damp air into children's bedrooms at night should be prevented, especially after influenza or colds. He went on to say that there were two classes of foods. One of these—starchy foods—caused fermentation; the other acted as a cleanser. To the former category belonged the bread and milk, bread and jam or marmalade, honey, and sweets. Among cleansing foods might be mentioned fish, meat, poultry, crusty bread, toasted bread, savouries, fresh fruit, and particularly butter. Whenever a baby's teeth appeared it should be given bread, toast, and butter, besides milk, instead of the soft foods on which young children were nearly always fed. When a child was 2 or $2\frac{1}{2}$ years old it should be restricted to three meals a day, with four to five hours between. The longer time allowed to elapse between meals the more complete would be the digestion. An experiment was recently made on fourteen children between the ages of 5 and 7. They were fed on an ideal teeth-cleansing diet, the result being that on examination in not one case were signs of decay shown in the teeth. The glass of milk with a sweet biscuit or stick of chocolate which so many children were given the last thing at night was one of the first causes of decay. Instead of these carbohydrates the last meal should be composed of foods which acted as teeth cleansers.

SESSION II.

The second session was held on the afternoon of July 6th, and was presided over by Sir WILLIAM BENNETT, K.C.V.O.

The Training of the Oriental Child.

The opening paper was read by Mr. S. G. KIRKBY-GOMES, who had chosen for his subject "The Moral and Civic Training of the Oriental Child." He desired to emphasize the fact that it was the aim of the association to instruct the women of the empire in the elementary principles of hygiene and to impart knowledge regarding the care and nurture of children through the medium of branches in various parts of the empire. In regard to the subject immediately under consideration, he saw everywhere in Asia a thirst for progress. Japan had already worked out her own salvation; China had awakened from her long slumber; and India was all but awake.

Dr. WALSH, who spoke next, said it was proposed that the Women's Association should send a representative to the forthcoming Durbar, with a view to founding an Indian branch for the purpose of spreading knowledge of the laws of health throughout the empire. In India the first great need of the child was education, and the next great need a knowledge of the laws of health. Both were among the first essentials of an adequate scheme of moral and civic training.

Some of the Indian speakers who followed advocated the adoption of the principle of universal and compulsory education in India, and laid stress upon the fact that the women of India themselves were most anxious to profit by the benefits of Western civilization, not only on their own account, but for the sake of their children and of their race.

SESSION III.

The third session of the congress was opened on Friday morning, July 7th, by MURIEL, VISCOUNTESS HELMSLEY, the President of the association. Speaking of the dissemination of the medical knowledge in regard to maternity, she said there was yet a great deal of work to be done by the lay women of England. The object was to teach women, factory workers, laundry hands, and others who had not time to attend lectures.

The Countess of Dufferin's Fund.

In the absence of Lieutenant-Colonel Sir Warren Crooke-Lawless, late Surgeon to the Viceroy and Governor-General of India, Lady HELMSLEY read a memorandum on the work that was being accomplished by women for the relief of disease in India. Through the National Association for Supplying Medical Aid to the Women of India, more commonly known as "The Countess of Dufferin's Fund," there was not a town of any size which had not its small hospital or ward where women could be treated by their own sex. In almost every State there were well-equipped and endowed hospitals under female supervision, which were doing a great work. In 1888 the patients treated were 100,000, while twenty years later these numbers had extended to 2,248,362, and there had been a gradual increase up to the present time. Perhaps the most important innovation, however, was the change which had been wrought during the last few years amongst the native midwives. The superstitious ignorance of these women and their blind attachment to ancient customs had been the cause of countless deaths in the past. Nowadays, a large proportion were properly trained and qualified, and in many instances the results were entirely satisfactory.

The Endowment of Maternity.

A discussion followed on the Endowment of Maternity and its Relation with Eugenics, in the course of which Dr. MURRAY LESLIE, the Chairman of the Women's Imperial Health Association, remarked that indirect methods would be of more avail in preventing the fall of the birth-rate than an actual endowment of the mother for having produced a child. If the social conditions could be so readjusted as to render earlier marriages and larger families possible, there would be no need for monetary inducements to maternity. If the endowment of motherhood was to be a definitely eugenic measure it must have an effect in so altering the conditions of life that the best men and women should be the parents of an ever-increasing, instead of an ever-diminishing, number of our citizens. The present restrictions upon the marriage of fit persons must be abolished, whether such persons were teachers, shop assistants, Post Office clerks, or engaged in any similar capacity. In a large number of trades and professions the existence of encumbrances practically meant disqualification, and in this respect some of the Government departments were the worst offenders. It ought to be a penal offence for a young man or a young woman to be dismissed by an employer simply on the plea of marriage. The most serious indictment brought against the State Insurance Bill was the injustice to married women. It was iniquitous that a married woman should be deprived of participating in benefits which she had paid for. He thought that a scheme might be devised by which the benefits due to her from her various premiums should be paid to her in a form of bonuses at the birth of her children.

Dr. SALEEBY objected that the idea of State endowment of motherhood was liable to minimize the responsibility of the father. He would deplore anything which interfered with this principle, which was older than human marriage.

Another speaker who followed remarked that some years ago America had been in exactly the same position as England is to-day, but that in the course of time things had readjusted themselves satisfactorily. Married men with families had at one time found it almost impossible to get a post, or even to rent a house, but now employers and landlords were beginning to prefer married men to bachelors as being steadier and more likely to do their work to the best of their ability, because of those dependent upon them. Referring to the prevalent belief that the higher education of women acted as a deterrent to maternity, the speaker declared this to be a fallacy. Statistics had proved that the American college woman married later in life than her less educated sisters, and perhaps had fewer children, but these children, as a rule, compared most favourably with those of other marriages, both from the mental and the physical standpoint.

SESSION IV.

The fourth and last session, at which the Hon. JOHN MCCALL, M.D., Agent-General for Tasmania, presided, was held on Friday afternoon.

The Prevention of Plague.

Dr. F. M. SANDWITH gave a most interesting address on "The Prevention of Plague," with lantern-slide illustrations. After a rapid sketch of the origin and different types of bubonic plague, he described the preparation of the serum which was now used as its antidote. He reminded his hearers that it was due to the experiments of the much-maligned vivisector that it was now possible to render people immune in regard to plague. He added that in common fairness they should remember that the men who made experiments on animals had never hesitated to do so on themselves, and that the pity that was lavished so freely upon rabbits and guinea-pigs might well be extended to the scientists, who, after all, were only labouring for the good of mankind.

Nursing in Australia.

The session terminated with a discussion on "Nursing in Australia," in which Miss AMY HUGHES gave the results of her inquiry into the state of the nursing profession there. She said that by their training the nurses were made health agents wherever they went. Australian women were peculiarly well adapted to nursing, and as regarded the preparation of nurses Australia's example might be followed in this country.

Fête at the Botanic Gardens.

The congress was preceded by a charming *fête* which was held at the Botanic Gardens on the afternoon of Wednesday, July 5th. Owing to the absence through illness of Her Royal Highness Princess Louise, Duchess of Argyll, the patron of the Women's Imperial Health Association, the opening ceremony was performed by the Duke of Argyll, who was received at the main entrance by Lady Helmsley, the President, Dr. R. Murray Leslie, the Chairman, Lady Ilkeston, and several others, and escorted to the terrace at the end of the Long Walk, where the "Florence Nightingale," one of the health caravans belonging to the association, was camped under the guard of Crimean veterans. This caravan was afterwards on view to the public, and proved a model of ingenuity and

comfort. A daylight cinematograph display showing the work done in crêches was given by Lady Helmsley from the "London Parks Van," a roomy vehicle used by the association to illustrate open-air lectures on health in the various open spaces about London; whilst the St. John Ambulance and the Women's Sick and Wounded Convoy Corps excited much admiration by the promptitude and dispatch with which they came to the assistance of mimic street accidents. A field hospital showing the reception of the wounded and the system of treatment in separate wards proved a great centre of attraction; and the afternoon's programme also included morris dancing, musical and dramatic entertainments, and some interesting exhibits of Irish lace, Scottish tweeds, and work done by Welsh cottagers, native Christians in India, and members of the Incorporated Institute of Hygiene.

UNIVERSITY COLLEGE, READING.

Allusion was made last week to the splendid endowment of a quarter of a million pounds of which University College, Reading, has been the recipient. As this gift is likely to lead to great developments of what is already an important educational centre in the south of England, some further details will be of interest.

The college originated in 1892 when the Oxford University Extension Centre and the local schools of science and art were amalgamated so as to form a University Extension College, the impetus to such an amalgamation coming from Christchurch, Oxford, who offered the services of Mr. H. J. Mackinder (now M.P. for the Camlachie Division of Glasgow), Reader in Geography to the university, as principal. From the good seed thus sown has sprung a great university college with extensive equipment for the teaching especially of arts and sciences and agriculture, a highly-qualified staff, and a considerable body of students, over one hundred of whom are preparing for the B.A. or B.Sc. degree in the University of London.

There are faculties of letters and science, and departments of agriculture and horticulture, fine art, music, and commerce. Various technical subjects are also taught, and there are evening classes for wage-earning men and women.

Apart from the fees paid by students, the college receives annual grants from the Treasury, from the Board of Agriculture, the Board of Education, the Council of the County Borough of Reading, and from the County Councils of Berks, Bucks, Hants, and Oxford. Large sums contributed by munificent donors have been expended on buildings used by the college, although these are still in several respects incomplete.

Great importance is attached by the authorities to residential arrangements for the students, and in this respect University College, Reading, is singularly well equipped. An imposing hostel for men students has been erected by Lady Wantage in memory of the late Lord Wantage, the first president of the college; and a second large hall of residence for women has lately been placed at the disposal of the college by Mr. Alfred Palmer. There are in addition two smaller hostels.

Although generous donations have been available for building purposes, the college has hitherto been weak from the point of view of endowment, and without such a source of strength there appeared little prospect of its further ambitious prospects being realized—namely, a charter empowering the granting of degrees, instead of the associateship which is now conferred on successful students.

The splendid endowment of a quarter of a million has raised hopes in Reading that ere long the University College may evolve into an independent and chartered university, which its founders hope may not only render national service, but prove a great benefit to Reading and to the counties around. In addition to the facilities which the college possesses for studies in letters and in science, it has developed a sound educational scheme in agriculture and horticulture, having purchased for this purpose an experimental farm and fruit station of nearly 150 acres.

During the year 1910 the University of Paris conferred the degree of Doctor of Medicine on thirty-one women, of whom twenty were foreigners.

FINAL REPORT OF THE ROYAL COMMISSION ON TUBERCULOSIS.

The final report of the Royal Commission on human and animal tuberculosis was issued on July 11th. The Committee was appointed in 1901, under the chairmanship of Sir Michael Foster. On his death in 1907 his place was taken by Sir W. H. Power, then medical officer of the Local Government Board. Interim reports were published in 1904, 1907, and 1909, and duly noted in these columns at the time, and various appendices on special subjects have also been noticed as issued. The final report is a document of 54 pages.* It contains a concluding section in which the results obtained by the Commission during its prolonged inquiry are considered.

The reference to the Commission was under three heads, which are indicated in the following extracts:

I.—Whether Tuberculosis in Animals and Man is One and the Same.

It is pointed out that the human and bovine types of tubercle bacilli are morphologically indistinguishable, but appreciably different in respect of their cultural characters and their capacity for causing disease in various species of animals. The report then continues as follows:

The only difference in respect of cultural characters between the two types is that the human type exhibits a greater luxuriance of growth on all the different media which we have employed in making comparisons, and that although this difference is not maintained with absolute constancy, we have not in our cultural experiments observed any case in which the mode of growth of the one type became so far modified as to be indistinguishable from the mode of growth usually exhibited by the other. But the point must be emphasized that the bacilli which we have referred to the bovine type vary considerably among themselves in respect of luxuriance of growth, and that the gap which separates those of them that grow most abundantly from bacilli of the human type is not a wide one.

The bovine tubercle bacillus produces a fatal tuberculosis in cattle, rabbits, guinea-pigs, chimpanzees, monkeys, goats, and pigs.

The human tubercle bacillus readily produces a fatal tuberculosis in guinea-pigs, chimpanzees, and monkeys, but causes, even when administered in large doses, only slight and non-progressive lesions in cattle, goats, and pigs. Its effect on rabbits is not uniform, for whilst in the majority of cases these animals are only slightly affected, in others extensive and fatal tuberculosis results in them from the inoculation of the human tubercle bacillus.

In other words, we have always found that guinea-pigs, chimpanzees, and monkeys are all highly susceptible to to the effects of either the human or the bovine tubercle bacillus, and that the disease produced in these animals by both types is histologically and anatomically identical.

Obviously it has not been permissible to induce tuberculous disease experimentally in the human subject by the injection of bovine tubercle bacilli, and no opportunity presented itself to us of examining any case of accidental infection in which the bovine tubercle bacillus entered the human body through the skin and set up a generalized disease. But we have investigated many instances of fatal tuberculosis in the human subject in which the disease was undoubtedly caused by a bacillus of the bovine type and by nothing else. We have compared the lesions from such cases with those obtained from parallel cases of fatal tuberculosis in which the human tubercle bacillus alone was discovered. Except for the difference in the type of bacillus found in them, these two groups of cases presented similar features; the clinical histories of the patients were alike, the cases all terminated fatally, and the lesions examined after death were found to be anatomically indistinguishable. Man must therefore be added to the list of animals notably susceptible to bovine tubercle bacilli.

Chief among the differences between bovine and human tubercle bacilli is, of course, difference of virulence towards certain animals. Why, it may be asked, is the human bacillus, though as virulent for the monkey and the guinea-pig as is the bovine, far less virulent than that bacillus for the calf, goat, and pig? Is the human bacillus a bovine bacillus which, through some cause or combination of causes, has become modified, and, if so, is its degradation in this sense permanent?

*(Cd. 5761). Price 6d.

Repeated attempts were made to transmute bovine into the human bacillus, and vice versa. Most of these failed, a few only were equivocal. The report then continues as follows:

We found indeed that under the conditions contrived by us both types of bacilli remained remarkably stable, alike as regards their growth on artificial media and their virulence for animals. Thus, we are inclined to regard transmutation of bacillary type as exceedingly difficult if not impracticable of accomplishment by laboratory procedure, though in view of certain instances in which we obtained from one and the same human body both types of bacillus, we are not prepared to deny that the transmutation of one type into another may occur in Nature.

With respect to the question of the stability of the pathogenic properties which distinguish the two types, we must again refer to the exceptional characters possessed by certain of the bacilli which were isolated from cases of lupus and equine tuberculosis. In some of these cases the bacilli had the ordinary cultural characters of the bovine type, associated with a degree of virulence for the calf and rabbit no greater than is usually exhibited by the human type. We have already given reasons for declining to accept these exceptional bacilli as distinct fixed types, and if that view of them is excluded they must be regarded as either modified human or modified bovine bacilli. On the former assumption they had acquired the character of growth ordinarily exhibited by the bovine type, and on the latter assumption they had lost the higher degree of virulence for certain animals which is characteristic of the bovine type. The latter appears to be the more probable explanation, and if that view be accepted the discovery of these exceptional bacilli makes it impossible to regard difference of virulence for the calf and rabbit as sufficient to establish the non-identity of the human and the bovine types.

There would therefore remain only slight cultural differences on which to found the conclusion that the human and the bovine types represent two distinct organisms. We prefer to regard these two types as varieties of the same bacillus, and the lesions which they produce, whether in man or in other mammals, as manifestations of the same disease.

But while we regard the point which we have just considered as one concerning which there is room for difference of opinion, there is an aspect in which tuberculosis in men and in cattle must unquestionably be pronounced one and the same disease. Whether one prefers to regard bovine tuberculosis and the cases of tuberculosis in man which are caused by the human type of bacilli as varieties of the same disease or as independent diseases, there can be no question that human tuberculosis is in part identical with bovine tuberculosis. Our researches have proved that in a considerable proportion of cases of the human disease the lesions contain, and are caused by, bacilli which are in every respect indistinguishable from the bacilli which are the cause of tuberculosis in cattle. In all such cases the disease, therefore, is the same disease as bovine tuberculosis.

There remains the question whether avian tuberculosis and bovine tuberculosis, or avian tuberculosis and the tuberculosis caused by the human type of bacillus, are one and the same disease. In this matter there does not appear to us to be in the present sufficient ground for answering the question in the affirmative.

II.—Communication from Man to Animals and Animals to Man.

The second term of reference was whether animals and man can be reciprocally infected with tuberculosis; that is, whether the disease known as tuberculosis can be communicated direct from man to animals and from animals to man

Upon this the Commission reports as follows:

By subcutaneous inoculation the human type has been found transmissible in some degree to many different species of animals, but for most of them transmission has been effected only by the employment of large doses. And, moreover, in some species of animals the lesions thus induced were either local or sparsely distributed and non-progressive in character. The animals that we have found to be especially refractory to the human tubercle bacillus administered by subcutaneous inoculation are cattle, pigs, and fowls, and these animals are often even more refractory, or are indeed practically immune, when the bacilli are administered, even in large amounts, with their food. Corroboration of this high degree of resistance to human tubercle bacilli on the part of cattle, pigs, and fowls is afforded by the circumstance that, so far as our investigation of tuberculosis naturally occurring in the lower animals has gone, we have not in a single instance detected the human type of tubercle bacillus in cattle or in fowls, and but rarely in pigs. Rabbits are not so resistant to the human tubercle bacillus, which is capable of producing in them progressive and fatal tuberculosis.

In strong contrast to this small liability of certain of the lower animals to tuberculosis of the human type is the susceptibility of animals generally to infection by the bacillus of the bovine type (whatever the source, lower animals or man, of such bacillus). Over a very wide field of experiment in this connexion, the only animals that we have found at all uniformly resistant to this type of bacillus are the common fowl, the rat and (to a less extent or at least uniformly) the dog. And similarly our investigations of tuberculosis naturally occurring in lower animals indicate the great preponderance of the bovine type among them.

In cattle suffering from tuberculous disease acquired other than by experimental means we have in no single instance detected any but the bovine bacillus. This is also the type of bacillus found in progressive tuberculosis in the pig, though this animal is capable of harbouring (while perhaps not encouraging) the human and avian types of tubercle bacillus. So far as our experiments show, the chimpanzee, an animal closely related to man, is equally susceptible to the bovine and human tubercle bacillus, the effects produced by them in this animal both by feeding and inoculation with parallel doses being closely alike.

As regards the avian type of tubercle bacillus, reciprocity among animals to this infection hardly calls for notice. Though the fowl and other birds are highly susceptible to tuberculosis of this type, mammals generally, with the exception of the rabbit and mouse, and, perhaps to a less extent, the pig and goat, would appear almost absolutely resistant to it. The monkey and the guinea-pig, both of them highly susceptible to bovine and human tubercle bacilli, are notable instances of this.

Taking these facts into consideration, together with those others already discussed in relation to the first term of our reference, and for the above reason excluding the fowl and other birds from further consideration in this connexion, we must conclude that mammals and man can be reciprocally infected with the disease (tuberculosis). The possible danger to man through reciprocity in this sense was, of course, the more important question presented to us, and as we have conclusively shown that many cases of fatal tuberculosis in the human subject have been produced by the bacillus known to cause the disease in cattle, the possibility of such infection cannot be denied.

And the importance of this conclusion is not diminished by the fact that the majority of such cases examined by us occurred in young children, or by the merely local results following the administration of the human type of bacillus to bovine animals. Bovine animals are not completely immune to the human tubercle bacillus, and adult human beings can be infected with the bovine type, even the pulmonary form of the disease in man being sometimes caused by the bovine tubercle bacillus.

III.—Conditions Governing the Transmission of Tuberculosis from Animals to Man.

The third term of reference was: "Under what conditions, if at all, the transmission of tuberculosis from animals to man takes place, and what are the circumstances favourable or unfavourable to such transmission."

The Commission points out that transmission of tuberculosis from animals to man must obviously be mainly dependent on the susceptibility of any given animal to this disease, and on the opportunities afforded such animal for transferring its acquired and developed infection to the human subject. Man must clearly be regarded as being liable to risk of infection from at least two of the three types of tubercle bacilli, the human and the bovine.

Avian Tuberculosis.

The avian tubercle bacillus was not found in any instance in the lesions of tuberculosis in the human being, and the monkey proved highly resistant. The avian bacillus was found in lesions of naturally acquired tuberculosis in the pig only, and it is pointed out that the possible danger to man from this source would appear to depend on the ability of the pig to bring about modification of the avian type of bacillus greatly increasing its virulence for man, an ability

not demonstrated. The Commissioners' conclusion, therefore, is that the unmodified avian tubercle bacillus is a negligible factor in the product of human tuberculosis.

The report continues as follows:

Human Tuberculosis.

In so far as tuberculosis of this type in animals lower than man has resulted from infection contributed to them by man himself, man has been multiplying in bodies other than his own that type of tubercle bacillus to which he is seemingly most prone, and thus increasing his chances of death by tuberculosis. But, as has been shown, animals, domestic and other, which have been found capable of suffering from severe generalized tuberculosis of the human type are comparatively few; and, further, none of these active multipliers of human tubercle are common food animals. The bovine animal, for instance, is not an active multiplier of the human tubercle bacillus, being highly refractory to this infection; and the cow herself, however prone she may be when the subject of bovine tuberculosis to excrete bovine bacilli in her milk, has never under natural conditions been convicted of eliminating in this way the human tubercle bacillus. Experimentally, it is true, the human bacillus has been made to appear in the milk of the cow and goat, but for securing this end very large doses of culture have been requisite. Probably only when the cow or goat has received a large dose of tuberculous material derived from man does the human tubercle bacillus escape into the blood stream of the animal, reach her milk sinuses, and become eliminated with her milk.

Nevertheless, it is not to be affirmed with confidence that man is wholly free from risk through animal food of infection with that type of tubercle bacillus to which he appears most prone, though the degree of danger to him in this sense must remain for the present undetermined. The pig, though not capable in our experimental experience of fostering tubercle bacilli of the human type except in a minor degree, may have to be regarded as a possible source of the disease caused in man by that type of bacillus, for the reason that particular glands of the pig's body, which are likely to enter into certain prepared foods, do on occasion yield tubercle bacilli of the human type.

Bovine Tuberculosis.

Before dealing with the conditions affecting the direct transmission of tuberculosis from bovine animals to man, one other potential source of infection of man with the bovine type of the tubercle bacillus must be referred to. The pig is, besides the bovine, the only animal commonly used for food by man in which during our investigation we have found the bovine tubercle bacillus producing the progressive lesions of the natural disease. We found this bacillus in a number of cases of swine tuberculosis sufficient to justify us in calling attention to the danger without entering into a discussion as to its extent. Bovine tubercle bacilli are infective to human beings, and we have no reason to suppose that they can be rendered less so by previous residence in the bodies of pigs.

During the course of our inquiry we investigated material obtained either *post mortem* or by operation from 146 individual cases of persons suffering from tuberculosis; a total which does not include the two viruses consisting of sputum collected daily from a varying number of patients. But some of those 146 have been excluded from our final conclusions for reasons already set out on page 9, and certain others of them, though dealt with in detail in our appendix, are not considered in this report, the investigations in which material from them was employed having but an indirect bearing on the terms of our reference. Thus the actual number of cases, representing the various clinical manifestations of tuberculosis commonly found in man, that have passed under strict observation and on which our conclusions are based, is 128.

So far as these 128 cases have been examples of tuberculosis in the adult, and especially when they have been cases of pulmonary tuberculosis, the lesions of the disease when fatal have been referable with few exceptions to human bacilli. Only rarely has a pulmonary lesion in adult man yielded the bovine bacillus. Our experience of abdominal tuberculosis in the human subject has been very different, especially as regards children. Of young children dying from primary abdominal tuberculosis, the fatal lesions could in nearly one-half of the cases be referred to the bovine bacillus, and to that type alone. In children, too, and often also in adolescents suffering from cervical gland tuberculosis, a large proportion of the cases examined by us could be referred to the bovine tubercle bacillus. We have already in an earlier portion of this report referred to the importance of infection by the bovine type of tubercle bacillus in cases of lupus occurring in adolescents and children.

Whatever, therefore, may be the animal source of tuberculosis in adolescents and in adult man, there can be no doubt that a considerable proportion of the tuberculosis affecting children is of bovine origin, more particularly that which affects primarily the abdominal organs and the cervical glands. And, further, there can be no doubt that primary abdominal tuberculosis, as well as tuberculosis of the cervical glands, is commonly due to ingestion of tuberculous infective material.

Judging by our feeding experiments, there would appear to be strong presumption that, as regards most animals, comparatively large doses given either singly or by frequent repetition are necessary to produce by ingestion acute progressive generalized tuberculosis, though we have recorded instances in which a very small dose administered but once has produced this result. Applying a like presumption to man (and our observations on the monkey and chimpanzee in this connexion afford warrant for so doing) it may be asked in what way are children, the members of the human family who are especially liable to exhibit acute fatal tuberculosis commencing as an abdominal affection, most likely to obtain a large and fatally infective dose of tubercle bacilli?

As already indicated by us, to this question there can be but one answer—namely, that the evidence which we have accumulated goes to demonstrate that a considerable amount of the tuberculosis of childhood is to be ascribed to infection with bacilli of the bovine type transmitted to children in meals consisting largely of the milk of the cow.

In many cases of abdominal tuberculosis and in tuberculosis of the cervical glands, however, it must be recollected that the child may be injured by the ingestion of bovine tubercle bacilli in milk without a fatal result occurring. The cases of abdominal tuberculosis examined by us had all been fatal—that is, death occurred from a generalized tuberculosis or from some local condition resulting, with possibly two exceptions, from tuberculosis of the abdomen. But many cases of abdominal tuberculosis in children recover, though what proportion of these is due to the bovine bacillus and what to the human, we have no means of knowing at present. The cases of cervical gland tuberculosis investigated by us were all cases that recovered or were recovering after operation, and a large proportion of them were bovine in origin.

Although the potency of tuberculous cow's milk in the causation of the tuberculosis of infancy and childhood is clearly demonstrated, in our examination of material from 55 cases of tuberculosis in adolescents and adults we have found rarely in the former and extremely seldom in the latter the bovine bacillus colonizing the fatal lesions.

Instead we found abundantly in these lesions none but the human bacillus—a circumstance, which, if considered alone, might tend to discount the extent of the danger to the adult human subject not only of the milk of tuberculous cows but also of the flesh of that and other animals capable of fostering the bovine tubercle bacillus. But must be remembered that we have found cases of tubec ulosis in adult man, sufficiently extensive to incapacitate the patient for the ordinary duties of life and in two instances ending fatally, in which we were able to attribute the disease solely to the effects of the bovine tubercle bacillus. Though of the 55 cases of adolescent and adult tuberculosis which came under scrutiny no more than 5 yielded bacilli of the bovine type, we cannot say that this figure adequately represents the proportion of like cases obtaining among the tuberculous population generally.

ADMINISTRATIVE MEASURES.

The Commission considers that, in view of the evidence adduced, it is not called upon to pronounce on administrative measures required in the present for obtaining security against transmission of bovine tubercle bacilli by means of food, and makes the following observations:

In the interests, therefore, of infants and children the members of the population whom we have proved to be especially endangered, and for the reasonable safeguarding of the public health generally, we would urge that existing regulations and supervision of milk production and meat preparation be not relaxed; that, on the contrary, Government should cause to be enforced throughout the kingdom food regulations planned to afford better security against the infection of human beings through the medium of articles of diet derived from tuberculous animals. 287° 287°

More particularly we would urge action in this sense in order to avert or minimize the present danger arising from the consumption of infected milk. And in this connexion it

may be convenient for us to repeat certain facts observed by us in reference to the conditions tending to the elimination by the cow of bovine tubercle bacilli in her milk; facts in our opinion of such importance that they formed the subject of our Third Interim Report.

Bovine tubercle bacilli are apt to be abundantly present in milk as sold to the public when there is tuberculous disease of the udder of the cow from which it was obtained. This fact is, we believe, generally recognized though not adequately guarded against. But these bacilli may also be present in the milk of tuberculous cows presenting no evidence whatever of disease of the udder, even when examined *post mortem*. Further, the milk of tuberculous cows not containing bacilli, as it leaves the udder may, and frequently does, become infective by being contaminated with the faeces or uterine discharges of such diseased animal. We are convinced that measures for securing the prevention of ingestion of living bovine tubercle bacilli with milk would greatly reduce the number of cases of abdominal and cervical gland tuberculosis in children, and that such measures should include the exclusion from the food supply of the milk of the recognizably tuberculous cow, irrespective of the site of the disease, whether in the udder or in the internal organs.

SANATORIUM TREATMENT OF TUBERCULOSIS.

THE WELSH MEMORIAL SCHEME.

IN September last a conference of leading Welshmen was held at Shrewsbury to decide upon the form which the national memorial to the late King should take. On the proposal of Mr. David Davies, M.P. for Montgomeryshire, it was unanimously agreed to inaugurate a campaign against tuberculosis in the Principality. Mr. Davies himself led off with a subscription of £25,000. An executive committee was appointed, with Mr. Davies as Chairman, and included the following, among other members: Lord Kenyon (Treasurer), Lord Glenesk, Colonel Cornwallis West, Dr. E. D. Evans (Wrexham), Mr. Lynn Thomas (Cardiff), Mr. J. E. Greaves (Lord Lieutenant of Carnarvonshire), Lady St. Davids, Mr. Haydon Jones, M.P., the Lord Mayor of Cardiff, the Mayor of Swansea, Lord Mostyn, and Dr. J. Robinson (Chairman of Health Committee, Cardiff Corporation). During the last eight months the campaign has been prosecuted with vigour, and nearly £200,000 has been received.

The Executive Committee of the Memorial Fund outlined a plan of campaign, embracing (1) educational propaganda by means of lectures and a travelling exhibition, (2) machinery for early detection of the disease, for example, by means of dispensaries or clinics, (3) sanatorium treatment for incipient cases and hospital or other treatment for advanced cases, and (4) after-care of discharged patients. The movement had gone thus far when the Chancellor of the Exchequer introduced his Insurance Bill. The tuberculosis clauses of the bill will naturally affect the policy of the Welsh campaign. The Executive Committee has drafted an amendment to the Insurance Bill which proposes that Wales and Monmouthshire shall be treated as a single administrative unit for the purpose of tuberculosis, and that the Edward VII Memorial Association shall be incorporated by charter and made a thoroughly democratic body, containing on its council representatives of county and county borough councils, the local Health Committees, the medical profession, and the subscribers to the fund. This scheme has been approved by the Welsh members of Parliament of all parties, and will immediately be laid before the Chancellor of the Exchequer by a deputation from them. In the meantime some confusion has been caused in the public mind by the constant use of the term "sanatorium" in the bill without anything to indicate that more than buildings are intended. The Welsh Committee is particularly anxious that the educational propaganda shall not be lost sight of. The claims made for tuberculin has raised a further question upon which the Welsh Committee has obtained the following reasoned statement defining in non-technical language the part which the sanatorium might be expected to play in an organized campaign:—

STATEMENT.

The Value of Sanatorium Treatment.

The public has formed a wrong impression of the value of sanatorium treatment, for it has not grasped the facts which prove that, in many cases, owing to the severity of the disease present, it must be useless; that in a few instances it is actually harmful; and that in many cases this method of treatment need not be carried out at an institution. Again, a number of people are under a misapprehension as to the meaning of sanatorium treatment. In many quarters it is considered to be synonymous with an existence under open-air conditions together with an excessive supply of nourishing food. Fresh air and food play an important part it is true, but the cardinal factor in the treatment is the constant and skilled regulation of the amounts of rest and exercise prescribed from day to day for each individual patient.

In order that these misapprehensions may be cleared away it is necessary to point out what takes place during the arrest of consumption in a given patient, and what are the principles of treatment. Consumption, as is well known, is due to the presence of minute organisms, called tubercle bacilli, in the lung. The only protection we have against these invaders is what may be termed comprehensively the defensive forces of the body. What these forces are we do not exactly know; but they have representatives in the blood and other fluids of the body, the tissue cells, the blood cells, etc. There is no drug which has a specific action upon tuberculosis. The vaccine known as tuberculin has a specific action, but there are a number of limitations to its power; one which may be mentioned here is that in many cases of consumption we have to deal not only with the tubercle bacillus, but also with other organisms against which tuberculin exerts no protective action.

The defensive forces of the body successfully combat and defeat the tubercle bacillus in an overwhelmingly large proportion of cases. That this is so is shown by the result that practically every man or woman over 35 bears evidence—available after death—of having suffered from tuberculosis. In the vast majority of these cases the tubercle bacillus has been routed, and this even without the individual ever knowing that he has contracted the disease.

What determines whether the defensive forces or the bacilli are to prove victorious? Naturally the defensive forces must be put in the best possible condition to fight. They require a constant supply of pure fresh air. Wind should also be avoided, as it increases the tendency to cough. Again, the defensive forces require a proper supply of good nourishing food with sufficient fatty food, such as milk, cream, butter, potatoes, etc., together with a careful regulation of the digestive processes.

These requirements do not, of course, in themselves necessitate a sanatorium, but, in the majority of cases amongst the working classes, it is difficult to provide them except in such an institution.

The chief reason which makes treatment in an institution a necessity is the need for constant supervision. This can only be explained by a consideration of certain pathological processes. The bacilli manufacture a poison—called tuberculin. This poison has a local effect on the lung in which they are present, causing destruction of tissue and so leading to cough, expectoration, blood spitting, and the signs detected by the stethoscope. The local action of the poison also stimulates a response from the local defensive forces. A more important fact is that some of the poison manufactured by the bacillis is absorbed by means of the lymph stream into the general circulation of the blood. If this poison in the blood stream is in excess of the powers of the defensive forces of the body to deal with, it leads to lassitude, loss of appetite, loss of weight, sweating and fever. If the dose of poison is a small one, the defensive forces of the body are stimulated to attack the bacilli. They go to the seat of conflict, surround the bacilli, and as the result of repeated stimulation by further small doses of poison eat up the weakened bacilli, and so in time arrest the disease. If the dose of poison is a larger one than the defensive forces can deal with, the latter are overpowered; the bacilli are left in command, multiply, cause the disease to spread in the lung, and pour out more poison, which, as already said, leads to fever, sweating, loss of weight and appetite, and all the distressing symptoms of advancing consumption.

Treatment must obviously be directed then to keep the dose of poison absorbed from the diseased area into the blood at such an amount that it stimulates and does not

paralyse the defensive forces of the body on which we are so dependent.

The amount of poison absorbed depends in large part upon the amount of lymph and blood which goes through the diseased portion of the lung in a given time. A larger quantity of lymph and blood must automatically sweep out a larger quantity of poison. The quantity of lymph and blood which goes through the lung in a given time depends largely on the physiological law that the more work an organ has to do the greater must be its supply of blood and lymph. If a lung moves more than usual, as in coughing, it receives immediately a larger supply of blood. If a man walks several miles, more blood and lymph will go through his lung, and, consequently, in the case of a diseased lung, more poison will be swept out than if he lay quietly on a sofa during the same period of time.

Movement, therefore, determines the quantity of blood and lymph which goes through the lung; this in turn determines the amount of poison swept into the general circulation, and this again determines the task which the defensive forces have to meet. In treatment, therefore, if the bacilli are not to be allowed to spread, and the disease to extend, the amounts of rest and exertion must be carefully and constantly regulated according to the ever-varying symptoms of the patient.

It follows that in all cases of consumption where the dose of poison absorbed is capable of being in excess of the powers of the defensive forces—that is, in the majority of such cases in the class chiefly affected by the Insurance Bill—constant skilled medical supervision is only possible in the institution which is usually called a sanatorium. It also follows that this constant supervision is not so essential in cases in which the defensive forces are fully capable of dealing with the poison absorbed into the general circulation.

Cases of consumption may be roughly divided into four classes.

Class I. Those patients who become infected and recover without knowing that they have been infected. In these the dose of poison absorbed is practically never beyond the capacity of the defensive forces, and so acts as a stimulant.

Class II. Those who would recover if given a holiday at the seaside or some measure of outdoor treatment. In these cases the defensive forces want assistance. The insanitary conditions, want of food, etc., under which the patient lives, diminish the capacity of his defensives forces, and so enable the bacilli to make further inroads. When the patient is removed from these devitalizing conditions his defensive forces automatically become able to fight better, and to deal adequately with such doses of poison as may be absorbed. Consequently, in such cases, were we in a position to gauge the exact condition of affairs, treatment in a sanatorium would be unnecessary. This in the majority of instances we cannot do. It is the best policy, therefore, to send such cases to a sanatorium in the first place. When such supervision is possible the duration of treatment will of course be much shorter than in the case of those who properly come under Class III.

Class III. Those who need careful treatment in a sanatorium. In this class the dose of poison is generally greater than the capacity of the defensive forces, and therefore the amounts of rest and exercise to be taken require constant supervision.

Class IV. Those who are going to die from infection, whatever may be done for them. This failure is probably due to:

1. The incapacity of the defensive forces to respond.
2. The excess of the absorbed poison even in absolute rest is beyond the capacity of the defensive forces.

These conditions can be ascertained only after skilled and close observation.

It is clear, then, in the treatment of cases of consumption in which recovery is not going to occur spontaneously, the defensive forces require careful nourishment, in the shape of fresh air and good food, and, above all, the amount of rest and exertion must be carefully regulated from hour to hour.

It does not require much thought to see that, in a national campaign dealing with persons whose income is below £160, treatment in efficient sanatoriums is a vital necessity.

It is asserted that tuberculin, used in dispensaries for patients who continue to work, gives results as good or better than treatment in a sanatorium. Treatment by tuberculin in Class I or in Class II is well known to give excellent results, but so does practically any other form of treatment. In Class III, where doses of poison are, on the whole, in excess of the capacity of the defensive forces, tuberculin cannot safely be used except under *constant* supervision. If the regulation of the absorption of a man's own poison—his own tuberculin—requires constant supervision, it follows that the administration of prepared tuberculin requires the same close observation.

The success of the so-called tuberculin dispensaries rests largely on the fact that Class I and Class II are chiefly treated at them. A further part of their success is due to the many instances in which the diagnosis of the presence of active disease is faulty, with the result that many persons are treated with tuberculin and labelled as cures in whom the disease has previously been arrested. The fact that the physicians attached to the hospitals for diseases of the chest send their patients to sanatoriums is a strong testimony to their usefulness; for it is much more lucrative (to the physician) to give tuberculin than to send patients to be treated elsewhere. Of the value of tuberculin there is no question. Its use is of great value, not only in Class II, but also in Class III—that is, in patients who require sanatorium treatment. We come, therefore, to the conclusion that neither sanatorium treatment nor tuberculin should be depended upon solely, but that both should be used under conditions which facilitate the closest supervision.

It sanatorium treatment has not hitherto met with universal acceptance as efficacious in a campaign against consumption, the mistrust is due to a number of causes. In the first place the majority of existing so-called sanatoriums are inefficient, and the treatment given is not "sanatorium treatment," but a treatment in an institution labelled a sanatorium, and consisting of little more than fresh air and abundance of nourishing food, but without adequate medical supervision and the necessary regulation of rest and exercise. The results obtained by these inefficient sanatoriums have been regarded by the public, and by many members of the medical profession, as the results of efficient sanatorium treatment, and have done much to discredit it. The second reason is that sanatorium treatment has been asked to do the impossible, and has been regarded in some quarters as sufficient in itself, and as a certain cure for every case of consumption. No responsible member of the medical profession, no level-headed layman, has ever regarded the treatment in this light. The sanatorium is an important link, but only a link, in a comparatively long chain. Unless it forms a part of a carefully thought out system, embracing, amongst other things, dispensaries, hospitals, homes for advanced cases and the dying, careful disinfection and after-care of patients when they leave the sanatorium, together with assistance to the breadwinner's family whilst he is under treatment, it cannot help us much to eradicate consumption. Even sanatorium treatment does not cure all forms of pulmonary tuberculosis, and we can scarcely anticipate that any form of treatment ever will prove very efficacious in advanced and long-standing disease. Is it fair to condemn sanatorium treatment because it cannot accomplish the impossible? Again, if a working man in an early stage of consumption is sent to an efficient sanatorium, there is every prospect of the disease being arrested; but, if he is allowed to return to those conditions under which he contracted the disease—hard work, bad air, insufficient food—the disease will almost certainly relapse. Is it fair, when this happens, to say that sanatorium treatment is of no avail?

The third reason is the fact that in the past the erection and maintenance of sanatoriums have cost far too much. This objection no longer holds, as, apart from the cost of land, a sanatorium of a permanent character can be erected and equipped for a little over £100 a bed. The cost of maintenance and administration should amount to rather less than 25s. a week per patient. The fourth reason has been the difficulty of making such arrangements for maintaining the family when the breadwinner is away, that the patient may be persuaded to go to a sanatorium early enough, and to stay long enough. Much of this difficulty, however, should be swept away by an intelligent administration of the Insurance Bill.

Sanatorium treatment, as a link in a chain, confined to those who are capable of being cured within a reasonable period and supervised by a competent and special trained medical man with administrative capacity, is one of the most valuable offensive weapons we have to-day in our fight against consumption. We have shown that its value in the past has been obscured for several reasons—the inefficiency of many sanatoriums, improper selection of cases, inadequate length of treatment, inadequate "after-care," and the like. In the future most of these defects should be removed by efficient administration. In the past many men did not apply for treatment because they knew there was no likelihood of it being obtained in time, as the sanatorium accommodation was insufficient for more than about 1 per cent. of the consumptive population. Under the new Act there should be much greater accommodation, and this in itself should do much to secure treatment in the earlier stages of the disease and to rehabilitate sanatorium treatment in the opinion of the general public.

(Signed) CLIFFORD ALLBUTT.
LAUDER BRUNTON.
ARTHUR LATHAM.
WILLIAM OSLER.

PENSIONS FOR PROFESSIONAL MEN.

GOVERNMENT officials are, generally speaking, entitled to a pension on retirement, and most important business institutions have some scheme of superannuation for their staff, but, as a rule, a medical man has no retiring allowance to look forward to after a strenuous life unless he has had sufficient foresight to provide it out of his income.

The average man who desires to set aside, say, £50 per annum to supplement his income on retirement and replace capital sunk in a practice requires the help of some system, or there is very apt to come a time when he fails to carry out his intentions.

There are two courses open to medical men who intend to save a part of their income. They can invest through the Stock Exchange, earn a remunerative rate of interest, and take their chance of appreciation or depreciation in the amount they save. To follow this plan with any degree of success it is almost essential to have some special training in finance, and a great deal of time must be spent in selecting and watching the investments made. It would, of course, be necessary to reinvest the dividends as soon as received if compound interest is to be secured. After allowing for tax, brokerage, etc., it would be hard to realize more than 3½ per cent. as a net yield in this way.

Let us suppose that, after allowing for income tax and brokerage, £50 per annum is successfully accumulated at the net rate of 3½ per cent. compound interest for twenty years, then the amount invested at the end of that period would be £1,463. In the event of death before completion of the twenty years, only the savings to date with the interest thereon would be receivable.

Under the alternative plan of effecting a pension policy with a life assurance company, the result from an investment point of view is much the same, but the responsibility and work are thrown upon the company. A pension policy, however, presents two aspects—saving and protection. That is to say, a part of every premium paid is being saved for the assured, as in a savings bank, to be returned to him at a later date with compound interest, and the other part secures protection until the pension age is reached, so that in the event of premature death the capital amount is payable in full. The benefits thus secured under a pension policy in the event of death before maturity outweigh those obtainable by ordinary investment apart from the question of security.

It would be necessary to spend more on the pension policy to produce the same result, because in the event of premature death the full sum assured with bonuses to date would become payable. To provide £1,463, or a pension of £128 (nearly £2 10s. a week) at age 60 in the case of a healthy person aged 40 next birthday, a pension policy for £1,060 could be effected in a good office with bonuses at an assumed rate of about 38s. per cent. per annum, namely, £403.

	£	s.	d.
The annual premium would be ...	58	15	9
Less income tax abatement at 9d. in the £	2	4	1
	56	11	8
As compared with the annual saving	50	0	0
So that the cost of the cover is only ...	£6	11	8

This may seem a large sum to pay annually, but the diagram shows that the extra covering is considerable. Only about 70 of every 100 can expect to live to the maturing age, so that the chance of reaping a benefit is not a small one.

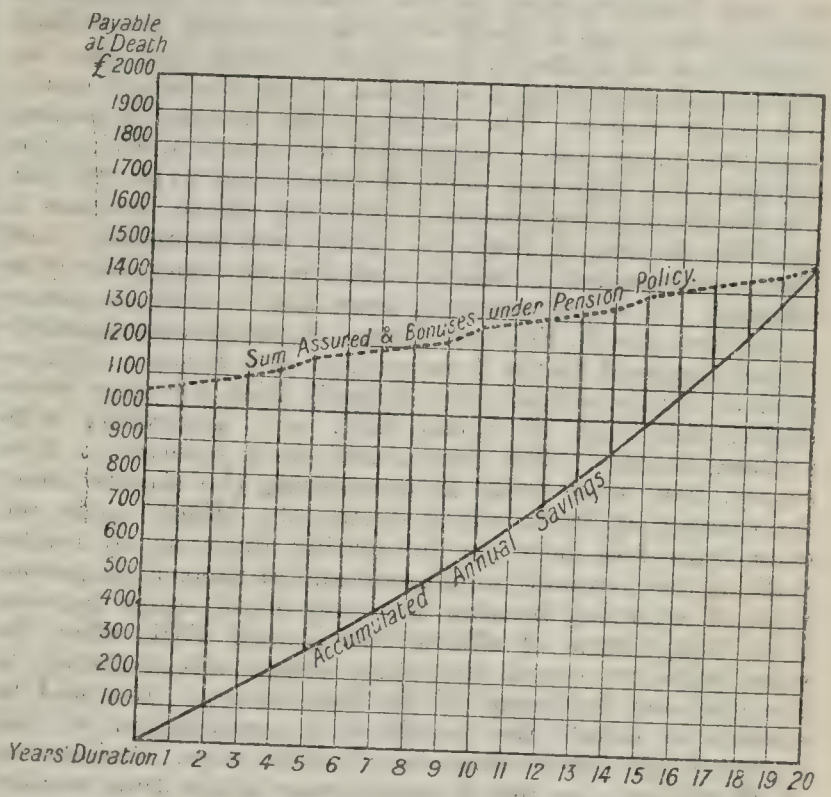

Diagram showing comparative sums payable at death under: (1) With profit endowment assurance for £1,060 effected on a healthy person aged 40 n.b.d. with "clerical" bonus (annual premium £58 15s. 9d.), payable at age 60 or at previous death. (2) £50 per annum savings accumulated at 3½ per cent.

In the above diagram the dotted line represents the sum assured by the pension scheme with the bonuses at the rate already mentioned, while the continuous line shows the corresponding sum in hand each successive year by the system of annual savings. The distance represented by the perpendicular line is therefore the extra amount receivable at death, which, it will be seen, starting at over £1,000, gradually diminishes during the twenty years till in the end the two results are the same.

A pension policy may fitly be described as a scientific form of saving. No trouble is involved, and there are no incidental expenses, the one important factor being the prudent selection of an office. The protection afforded during the period of saving should appeal specially to medical men. Another point not to be lost sight of is that the contract is elastic—the amount saved can be realized in a lump sum, or as a guaranteed pension, as circumstances demand. If it be desired or necessary to discontinue the annual payments, a paid-up assurance can be secured proportionate to the number of annual payments already made. Thus five payments made out of twenty secure five-twentieths of the original sum contracted for.

On such policies the Medical Insurance Committee are in a position to allow a substantial reduction off the first annual premium. Full particulars will be forwarded on application to the Secretary, Medical Insurance Committee, 429, Strand, London, W.C.

MRS. MAX BEERBOHM appeals for contributions to the Necessitous Ladies Holiday Fund, established to give sea or countryside holidays to governesses, typewriters, hospital nurses, secretaries, musicians, actresses, and ladies engaged in other professions, who, unable to provide holidays for themselves, and without the possibility of earning money in the summer months, are left behind in London exposed to the sufferings attendant on poverty. All contributions sent to Mrs. Beerbohm, at 48, Upper Berkeley Street, W., will be acknowledged.

LITERARY NOTES.

A. C. FIFIELD of Clifford's Inn, E.C., announces the publication of a work entitled *Racial Decay*, "a Compilation of Evidence from World Sources," by Mr. Octavius Charles Beale, Royal Commissioner of the Commonwealth of Australia and of the State of New South Wales. It embodies the results of an extended investigation of work begun as a Royal Commissioner, and is practically an unofficial International Blue Book on racial decay, and on all the important literature of Neo-Malthusianism (to which the evil is chiefly traced) in the English and Continental languages.

The casual visitor, who has been accustomed all his life to hear Paris vaunted as the cleanest and brightest of cities, is apt to get a shock when he finds that the French capital can be quite as gloomy as London, and that its citizens are beginning to complain of the insanitary condition of its streets. The situation has become so serious that two years ago a suggestion was made to divide the city into five districts, each of which was to be put into the hands of a responsible contractor, whose business it would be to keep it properly "swept and garnished," and there seems reason to believe that this plan may shortly be adopted. It is interesting to learn that it is by no means a new idea, for M. Edmond Cleray, in an interesting article which appeared in the June number of *L'Hygiène*, tells us that a similar scheme was actually tried for some years during the reign of Louis XIV, and apparently with striking success. The contractors, who received a fixed salary, took such pride in beautifying the streets under their care that Paris, which during the Middle Ages and even later had been so intolerably dirty as to render walking an extremely unpleasant and at times a dangerous form of exercise, became the envy of all other nations. This happy state of affairs lasted until 1701, when for some unknown reason the whole system was abolished, to the grievous detriment of the Paris streets. It would be curious to watch the result of a resuscitation of this ancient form of the commission of public ways. Besides that of M. Cleray, the list of contributors to the June number of *L'Hygiène* includes several well-known names. Some charming descriptions of Sicilian scenery are to be found in M. André Maurel's "L'Art de Voyager in Italy," whilst Dr. Maurice de Fleury has devoted a couple of pages to the different forms of insomnia, and Dr. G. Linossier expounds his theories on the poisons contained in various foodstuffs. Moreover, Madame Augusta Moll-Weiss, in addition to an excellent article on the subject of first aid in the nursery, has contributed some useful hints on the cuisine of the sick room; and for those who do not fear experimenting in culinary matters, there are some ancient Poitevin receipts which have been carefully gathered together by Madame Lucile-Laurence.

It is only of comparatively recent years that backwardness in children has come to be regarded as a sign of anything more serious than natural stupidity, and even now, in many instances, the old belief seems to die hard. Dr. George H. Savage, whose interesting article on "Backward Children" appears in the July number of *The Child*, confesses that he sometimes feels "when I am addressing parents regarding backward children, that I am preaching a sermon about the misunderstood"; and he goes on to point out the various types of arrested mental development and the confusion which constantly arises between them and cases of positive mental deficiency. This confusion often leads to much unnecessary suffering on the part of the child, and has frequently the most disastrous results; for whilst on the one hand the chances of cure for the defective children are practically nil, on the other there is every hope that with careful treatment the backward boy or girl may grow up a useful and normal member of society. Dr. Savage gives much sound advice concerning the education of such children, particularly with regard to those whose backwardness is confined to one subject, such as classics or mathematics. It is well known, of course, that deafness and adenoids are frequent causes of apparent dullness in a child, and these conditions are both dealt with by Mr. A. J. Story in his article on "The Deaf Child," and by Dr. Eugene S. Yonge in his account of "Throat Conditions in Infancy and Childhood." Another article which treats of the education and proper treatment of school children is by Dr. Allan Warner, whilst Dr. C. F. Marshall writes on "Syphilis as it affects the Child," and Mr. William Baker has contributed an interesting account of the work that is being done by Dr. Barnardo's Homes for Destitute Children.

BRITISH MEDICAL BENEVOLENT FUND.

AT the June meeting of the above Fund 25 cases were considered, and grants amounting to £183 made to 23 of the applicants. Appended is an abstract of the cases relieved:

1. Wife, aged 43, of M.R.C.S., L.S.A., who has been incapacitated for some time past, and is at present in an asylum. Has supported herself by typewriting, but owing to the removal of her employer has been obliged to accept a very indifferently paid post. Voted £5.

2. Widow, aged 78, of L.R.C.P.Edin. Only income a small annuity, which is insufficient to meet quite unavoidable expenses. Voted £12.

3. Widow, aged 39, of M.B., Ch.B.Edin. Lost her husband a few months ago, after a long and expensive illness. Income £17 10s. per annum, and hopes to support herself and her delicate mother by establishing a small business. Voted £5.

4. Daughter, aged 66, of late L.F.P.S.Glas. Has maintained herself for several years by dressmaking, but now, on account of ill health, is obliged to depend on letting rooms. Is allowed £10 a year by Hutcheson's Hospital. Voted £5.

5. Widow, aged 53, of M.R.C.S. Quite unprovided for at recent death of husband from new growth, and is at present not well enough to support herself. Voted £10.

6. Daughter, aged 58, of M.D.Edin. Takes boarders if able to obtain them, and receives slight help from friends. Voted £5.

7. Daughter, aged 32, of late M.R.C.S. Gave up a situation as governess a year ago to nurse her father, recently deceased, and spent all her savings on him. Now asks for help to purchase a suitable outfit for another post abroad which she expects to obtain. Voted £10 if situation is obtained.

8. Widow, aged 43, of L.R.C.P. Is endeavouring to get her two daughters elected to St. Anne's School, and asks for a little help towards expenses of canvassing. Voted £5.

9. Daughter, aged 68, of late M.R.C.S. Supported herself by teaching for 43 years, and now only able to do a little knitting. Relieved three times, £36. Voted £12.

10. Widow, aged 60, of L.R.C.P.Lond. Supports herself by letting rooms, but asks for help towards expenses of training her daughter in domestic economy. Relieved four times, £20. Voted £5.

11. Daughter, aged 54, of late L.R.C.P.Edin. Has for several years been quite unable to do any remunerative work on account of continued ill health, and is entirely dependent on two younger sisters who have to support themselves. Relieved six times, £56. Voted £10.

12. Daughter, aged 58, of late M.D.Edin. Is a governess by occupation, but at present has no post and endeavours to support herself by sewing. Relieved nine times, £45. Voted £5.

13. Widow, aged 61, of M.D.St. Andrews. No income; lets lodgings. Children unable to help. Relieved seven times, £84. Voted £12.

14. Daughter, aged 60, of late M.R.C.S. Is allowed 5s. a week by friends, and earns about the same by needlework. Eyesight failing. Relieved four times, £54. Voted £10.

15. Widow, aged 64, of L.R.C.P., L.R.C.S.Edin. Has endeavoured to support herself since husband's death, fifteen years ago, by taking boarders, but is now in bad health and dependent upon a sister and a daughter who is an elementary school teacher. Relieved four times, £39. Voted £5.

16. Daughter, aged 39, of late M.R.C.S. For some time had a post as shorthand typist at an institution, but was obliged to leave when the staff was reduced, and has been unable to obtain another situation. Relieved once, £5. Voted £5.

17. Widow, aged 65, of L.F.P.S.Glas. Quite unprovided for at husband's death several years ago, and has tried to maintain herself by nursing, but is in very feeble health. Receives £10 a year from the Hutcheson Hospital and slight help from friends. Relieved seven times, £70. Voted £10.

18. Daughter, aged 55, of late M.R.C.S. No income. Health only allows of occasional light work. Relieved five times, £50. Voted £10.

19. Daughter, aged 50, of late M.R.C.S. Had to give up a post owing to temporary ill health, and requires a little help whilst seeking fresh work. Relieved five times, £30. Voted £5.

20. Deserted wife, aged 50, of M.R.C.S. Maintained herself by nursing for some years, but is now in indifferent health. Slight help from daughters. Relieved four times, £13. Voted £5.

21. Widow, aged 33, of L.S.A. Supports herself by private nursing, but has been incapacitated since a severe attack of influenza four months ago. Three children, of whom two are at St. Anne's School. Relieved three times, £25. Voted £10.

22. Daughter, aged 70, of late L.R.C.P.Edin. Has maintained herself by teaching for many years. No income. Relieved once, £12. Voted £12.

23. Widow, aged 50, of M.D.Edin. Has taken resident patients, but now, owing to a breakdown in health, is in serious difficulties. Relieved once, £10. Voted £10.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

BRITISH MEDICAL ASSOCIATION.

ANNUAL SUBSCRIPTION.

Those Members who have not already paid their Subscription for the current year are requested to forward to 429, Strand, London, a Cheque or Post Office Order for 25s. in favour of the British Medical Association, crossed London County and Westminster Bank. Members joining as from July 1st should forward 12s. 6d.

British Medical Journal.

SATURDAY, JULY 15TH, 1911.

THE AMENDMENT OF THE INSURANCE BILL.

WHEN the House of Commons adjourned early on Wednesday evening the discussion on the paragraph of Clause 8 defining sanatorium treatment was concluded. The Chancellor of the Exchequer resisted an amendment to extend the benefit of treatment in sanatoriums to the wives and children of insured persons, but undertook to propose on a later clause to authorize local authorities to give such treatment to wives and children of insured persons when and if the funds at disposal were adequate. Immediately before the adjournment he accepted an amendment by Mr. Lees Smith to replace the words *other institutions* by the word *otherwise*, so that the definition of sanatorium treatment stands, "treatment in sanatoria or otherwise when suffering from tuberculosis," etc. This alteration would appear to make it possible under the scheme to meet the views of those who have contended that there ought to be power to treat advanced cases of open tuberculosis with a preventive purpose in institutions, and to provide special facilities for the treatment of the disease in communities. With this exception few amendments to the bill have been actually carried, and none of these seem to have special medical importance since the amendment to Clause 1, excluding from voluntary insurance persons whose total income from all sources exceeds £160 a year. The discussion in Committee will be resumed on Monday next, but it may be gathered from Mr. Lloyd George's observations that Clause 14 (Administration of Medical Benefit) will not be taken until after the Representative Meeting at the end of next week.

The Chancellor of the Exchequer gave notice late on Tuesday evening of a number of amendments intended to carry out his promises to the Association in respect of certain of the points as to which, as stated last week (JOURNAL, p. 86), agreement had been reached.

With regard to free choice of doctor the Chancellor's amendments would make the first part of Clause 14 read as follows:

CLAUSE 14.—*Administration of Medical Benefit.*

(1) Every approved society and local Health Committee shall, for the purpose of administering medical benefit, make arrangements with duly qualified medical practitioners in accordance with regulations made by the Insurance Commissioners.

(2) The regulations made by the Insurance Commissioners shall provide for the arrangements made being subject to the approval of the Insurance Commissioners, and being such as to secure that insured persons shall receive adequate medical attendance and treatment from the medical practitioners with whom arrangements are so made, and shall require the adoption by every local Health Committee of such system as will secure—

(*a*) The preparation and publication of lists of medical practitioners who have agreed to attend and treat insured persons whose medical benefit is administered by the committee and resident within the area to which the list relates.

(*b*) A right on the part of any duly qualified medical practitioner who is desirous of being included in any such list as aforesaid being so included, except in cases where the Insurance Commissioners, after inquiry, are satisfied that his inclusion or continuance in the list would be prejudicial to the efficiency of the medical service of the insured.

(*c*) A right on the part of any insured person of selecting from the appropriate list the practitioner by whom he wishes to be attended and treated, and, subject to the consent of the practitioner so selected, of being attended and treated by him.

(*d*) The distribution amongst the several practitioners whose names are on the lists of the insured persons who after due notice have failed to make any selection, or who have been refused by the practitioner whom they have selected.

Provided that if the Insurance Commissioners are satisfied that the practitioners included in any list are not such as to secure an adequate medical service in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area, and authorize the committee to make such other arrangements as the Commissioners may approve.

The Chancellor of the Exchequer has also given notice of amendments with regard to the Insurance Commissioners and the Advisory Committee, providing that one at least of the Commissioners "shall be a duly qualified medical practitioner who has had personal experience of general practice," and that the Advisory Committee shall contain "duly qualified medical practitioners who have personal experience of general practice." He has also given notice of an amendment to Clause 43, raising the number of members of a local Health Committee to not fewer than twelve or more than twenty-four; and of a further amendment making subclause 5—that referring to the medical members of the Health Committee—read as follows:

(5) Of the remaining members of the Committee who shall not exceed in number one-fourth of the members appointed in manner aforesaid, two shall be elected in manner provided by regulations made by the Insurance Commissioners, either by an association of the duly qualified medical practitioners resident in the county or county borough which may have been formed for the purpose under such regulations, or, if no such association has been formed, by such practitioners; and the others, of whom one at least shall be a duly qualified medical practitioner, shall be appointed by the Insurance Commissioners.

Notice has also been given by various members of amendments to provide that the Commissioners and the Advisory Committee should include one or more women, and Dr. Addison proposes that one of the Advisory Committee shall be a registered midwife. There are also amendments to provide that women should be among the members of the local Health Committees, and Dr. Addison would provide that one should be a duly certified midwife. There are also

amendments to provide that the pharmacists shall have a representative, or representatives, among the Insurance Commissioners and on the Advisory and local Health Committees.

The Council of the British Medical Association has addressed a letter to the Chancellor of the Exchequer, to which he made reference in the House of Commons on Tuesday, expressing its gratification that he had undertaken to provide for free choice of doctor by the patient, for the inclusion among the Insurance Commissioners and the Advisory Committee of medical practitioners having personal experience of practice among the classes from whom the insured would chiefly be drawn, and for increasing the medical members of each local Health Committee. These are matters as to which, as above shown, the Chancellor of the Exchequer has given notice of amendments. The Council also expressed its gratification that Mr. Lloyd George had agreed to the organization of local Medical Committees, recognized by the Insurance Commissioners, and having a statutory right to be consulted by the local Health Committees on questions of medical employment. As to this we do not observe that Mr. Lloyd George has put down any amendment, but Dr. Addison has given notice of an amendment to insert a new clause, which is practically in the form desired by the Association.

The Council has expressed to the Chancellor of the Exchequer its regret that he has not seen his way to propose on behalf of the Government that the administration of medical and maternity benefits shall be placed, like that of sanatorium benefits, in the hands of the local Health Committees; at the same time it notes with pleasure that amendments proposed by private members to exclude approved societies will be left by the Government to the judgement of the House, and will have Mr. Lloyd George's personal support. A memorial containing a paragraph recommending this alteration is being signed by members of the House of Commons.

The Council has informed the Chancellor of the Exchequer that it had learnt with great regret that on the question of the income limit for medical benefits, to which the medical profession attaches the highest importance, he had refused to accept the amendment the Association has put forward limiting medical benefits to persons in receipt of an average income of less than £2 a week. The Council added an expression of its confident opinion that members of the profession generally will not, in fact, enter into arrangements with the local Health Committees or other bodies under the bill in respect of the treatment of persons whose income exceeds £2 a week, and stated that there is evidence of a growing feeling that the income limit mentioned is too high, and that it is probable that a large number of the medical profession would decline to enter into arrangement for attendance under the bill on persons whose income exceeds 30s. a week. The letter further pointed out that the resentment was steadily increasing against parliamentary interference with private practice to an extent unnecessary for the fulfilment of the declared objects of the bill. There can, in fact, be no doubt that a considerable number of medical men have objected all along to working under the conditions proposed in the bill with regard to medical benefits or anything like them, and it seems probable that the number of those who hold this view is increasing.

The Council went on to refer to a suggestion, which it was informed had been discussed at the interview between himself and representatives of the British Medical Association, of a method which might possibly secure the objects of the profession and avoid interference with private practice. The Council informed the Chancellor that this could not be accepted as a substitute for inserting a definite income limit in the bill, but at the same time stated that it recognized that such a provision might possibly be regarded by members of the profession as advantageous in increasing the elasticity of the organization of the medical service for the insured. While unable to forecast what view the medical profession would take of the proposal, which had not yet been placed before it, the Council undertook to include a reference to it in a report about to be placed before the Divisions in preparation for the Annual Representative Meeting to be held in Birmingham on July 21st and the following days. The Council clearly stated that neither it nor the Association itself had such a mandate from the profession generally as would justify them in making any statement as to the likelihood of the suggestion satisfying the profession.

During the discussion in the House of Commons on Tuesday, the Chancellor of the Exchequer, in resisting the desire of many members to discuss on Clause 8 the arrangements with the medical profession, said that the debate on the subject would clearly arise on Clause 14. Its discussion at that stage (on Clause 8) might, he said, act to the prejudice of any arrangement which might be arrived at before the House reached Clause 14. He was sanguine that by the time that clause came under consideration an arrangement would be reached which would be very satisfactory to the medical profession, and satisfactory to those who wished to see medical treatment given under the very best conditions. Dr. Addison, who supported the Chancellor of the Exchequer on the ground that it would not be possible under the circumstances to discuss in detail any suggestions which might be made by the members of the medical profession as to the conditions under which they should work, has given notice of the following amendment:

To insert after Subclause (1) of Clause 14:

(2) Subject to regulations by the Insurance Commissioners, it shall be lawful for any insured person, in lieu of receiving medical attendance and treatment under such arrangements as aforesaid, to enter into agreement with any duly qualified medical practitioner for medical attendance and treatment, and any approved society or local Health Committee which would otherwise have been charged with the duty of administering his medical benefit, shall contribute towards the cost of the medical attendance and treatment of such person under such agreement sums not exceeding in the aggregate the cost which the society or committee would otherwise have incurred in providing medical attendance and treatment for him.

In the concluding paragraphs of its letter the Council invited the Chancellor of the Exchequer to defer the consideration in Committee of the clauses specially affecting the medical profession until the profession had had an opportunity of considering the position in the light of the suggestion which had been made. It was further pointed out that the enactment of the bill would involve the readjustment of the conditions of medical practice, and that in the short interval since its introduction there had not been sufficient time to appreciate so intricate a scheme in all its bearings. The Council believed that if the bill were carried in its present form there could be no prospect that competent members of the profession would enter into arrangement with the bodies named under the bill for attendance upon the insured in sufficient numbers to provide anything like an adequate service.

RESEARCH DEFENCE SOCIETY.

THE blare of Coronation trumpets and the din of political strife have drowned the voice of science during the last few weeks. Reports of the annual meeting of the Research Defence Society, which was held on June 19th, were to a large extent crowded out of the press by matters which for the moment made a larger appeal to the general reader. The short account of the proceedings published in the BRITISH MEDICAL JOURNAL of July 8th (p. 82) is sufficient to show that the society, which was established to combat the forces of ignorance and fanaticism, continues to grow steadily both in numbers and in influence. How effectively it does its appointed work is proved by the rage, as furious as it is happily futile, which finds expression in the organs of the various societies whose professed object is opposition to medical research. The difference of tone between the speakers at the meetings of these obscurantist bodies and the defenders of progress is so striking that it might of itself serve to convince an unbiassed person on which side lies the truth. We have to remember, however, that the antivivisectionist societies have to beat the big drum in rivalry to each other. Hence Jenner is denounced as an "archquack," Pasteur as a "plagiarist," and Lister as a "brute," by people who have done nothing for the prevention of disease in man or animals, or for the advance of knowledge on which the welfare of mankind depends. Happily science goes quietly on its way as heedless of the "rabble rout" snarling and barking about its heels as the lady in *Comus*.

A gratifying testimony of the success with which the Research Defence Society is fulfilling its mission is the support which it receives from the more enlightened among the clergy and from men and women of distinction in various spheres of intellectual and social activity. It is clear that the highest intellect of the country is in sympathy with the objects of the society. This is in accord with the history of human progress. It is the mountain tops that are first flattered by the sovereign eye of the glorious morning; by-and-by the noonday sun lights up the darkness beneath. As surely as the day spreads over the face of the earth, so surely the time will come when men will read with amusement not unmingled with disgust of the efforts of a foolish sentimentalism to stop the work of the seekers after new truth in the success of which lie the hopes of human progress. The duty of every one that "loveth well both man and bird and beast" is to do his utmost to prevent that work being hindered or prevented. We hope, therefore, that the Research Defence Society will receive the support which it deserves from the medical profession and from the public. Its objects appeal to both. What experimental research has done for the advancement of medical science is so familiar to our readers that recapitulation is superfluous. We need only say that during the last thirty or forty years medicine, using that term in the largest sense, has gradually been undergoing a process of transformation from an empiric art to an exact science. For this we are indebted to experimental research. The devoted workers in the laboratory forge weapons of precision which are applied with ever-increasing success in the battle against disease. As Sir Frederick Treves well said: "In the relief of the sick, the empiricism of ancient days has been replaced by proved and standardized methods; while the hesitancy and speculation which often attended the employment of new remedies have given way to a confidence based upon precise research."

To the public the Research Defence Society makes a yet stronger appeal, for if, by some freak of legislation intended to catch votes from the ignorant, experimental work were stopped or seriously trammelled, it is the people that would suffer. What has already been accomplished by experimental research gives us the firm assurance that the many problems of disease which still confront us with penalties as terrible as those attached to the riddle of the Sphinx will sooner or later be solved by the same method.

Lord Cromer's presidential address was a vigorous defence of the Research Defence Society. It is noteworthy that whereas at the last annual meeting he said he had reason to believe the report of the Royal Commission on Vivisection would very shortly be issued, this time he spoke of "the report we have for so long been anxiously expecting." In the present disturbed state of the political atmosphere we may have to continue in a state of "animated expectancy" for an indefinite time longer. It is at any rate to be hoped that after this unconscionable period of incubation the Commission will not produce an addled egg.

At a recent meeting of the Society for the Prevention of Cruelty to Animals, by what may be called a snatch vote, a resolution against Lord Cromer's continuing to hold the position of a vice-president was passed. This was evidently the outcome of a carefully laid plan to put a public affront on a man who has done more for the prevention of suffering to animals than all the antivivisection societies combined. Dr. Sandwith's account of Lord Cromer's successful efforts in the cause of true humanity to animals should make those who voted against him blush with shame. Dr. Sandwith said that soon after the successful struggle against bankruptcy which occupied all the early years of Lord Cromer's rule in Egypt, he established on a sound footing the Cairo Society for the Prevention of Cruelty to Animals. From that time until he left Egypt Lord Cromer continued to take the keenest interest in the work of the society, and used to pay frequent visits to the hospital provided by the society in which sick animals were nursed back to health or mercifully put out of their pain. The secretary of the society was always chosen from Lord Cromer's personal staff, and the office work was conducted under his roof. It has already been mentioned in the JOURNAL that by the time the society had been in existence a dozen years no fewer than fifteen branches had been started in Alexandria and the other chief towns of Lower and Upper Egypt, and in these provincial centres the chief subscribers were the Egyptians themselves—a fact which in itself shows that the original indifference to animal suffering had given place to a higher morality. All could see a distinct improvement in the condition of the animals, especially horses, mules, and donkeys. In the early days of that movement Lord Cromer's action was criticized in Egypt by some who thought that other reforms were of greater importance. Now, hostile criticism comes from those who call themselves the friends of animals. Lord Cromer's long experience of the tortuous workings of the Oriental mind has made him better able than the average Englishman to understand the methods of antivivisectionists. He can, therefore, estimate the recent attack on him at its true value. But it is a reproach to us as a nation that there should be found among us persons capable of stooping to a petty policy of "pin-pricks" directed against a man who has given such proofs of his large philanthropy.

THE BOARD OF EDUCATION AND THE LONDON COUNTY COUNCIL.

JUST four years ago the Education (Administrative Provisions) Act was passed, and just four years ago less four months the new medical department with which that Act provided the Board of Education issued a memorandum describing the new duties of local education authorities and the lines which these should follow in their performance.

It is worth while, therefore, to consider, if only very briefly, what the net results have been, for four years, if not a long period in the life of a department, is quite long enough to enable a new department to get fully to work. If this statement be true of Government departments in general, it is particularly true in the present connexion, for though the medical department of the Board of Education was a new child of Government, it was no unexpected offspring. Its arrival had long been foreseen, for the Act which brought it into existence was itself the outcome of many years' endeavour and an infinity of laborious investigation, in which the British Medical Association played an active part. Nor were the duties which the new department had to perform in themselves entirely novel; in effect it had merely to guide, systematize, and extend work of a kind which had already been done for a good many years in various parts of the country, and in connexion with which much valuable experience had been acquired.

By this time, therefore, it might reasonably be expected that the Board of Education would not only know its own mind and be prepared to enforce its views, but would have succeeded in getting those views put into practice throughout the country. In other words, it might fairly be anticipated that by this date the medical inspection of school children would be in a thoroughly satisfactory condition throughout the country, and that considerable progress would have been made with the provision of that school medical treatment which is the corollary of medical inspection, but which is not imposed by the Act as a statutory duty on local authorities, and is therefore more difficult for the Board of Education to arrange.

In a general way these expectations have not been altogether falsified, despite the fact that the Board at first, instead of leading, showed an unhappy tendency to wait for leads from its subordinates and a desire to balance itself, as long as might be, on any convenient fence. Indeed, its report on the work of the new department during the first two years of its existence was in effect a mere academic discussion of principles which might or might not be adopted, instead of either account of work performed or a promulgation in detail of the policy to which the Board expected its local subordinates should adhere. Still, its second and latest report presented real evidence of progress, and the present position throughout the country so far as medical inspection is concerned presents encouraging features. School children are being carefully examined both on entry and on leaving, and in some places at an intermediate period; and many school medical inspectors, besides doing their stipulated work with zeal, are gradually accumulating information of a most valuable character on sundry allied points. Equally satisfactory progress has not been made in respect of treatment, and no doubt the difficulties to be faced by local authorities and by their medical staffs are considerable and are not the same in every locality.

But whatever opinions may be held as to the position in other parts of the country, it is indisputable that in London neither medical inspection nor treatment of school children is being properly carried out. This, indeed, is a very mild statement, for it might not untruly be said that both the medical inspection and the school treatment provided are in the nature of a farce, and that in both connexions the London County Council is endeavouring to hoodwink the public.

Owing to the frequent discussions which have taken place in the Council on the subject and to other facts, its shortcomings are by no means altogether unknown to the public, and the British Medical Association is entitled to speak of them with emphasis. Not only is medical inspection purely medical work, but the Association both contributed to the passage of the Act under consideration and through various deputations to the President of the Board of Education during the last two years, has done a great deal of useful work in securing that due effect shall be given to it. It may also be noted in passing that the Association was mainly instrumental in instituting the only part of the arrangements of the London County Council in regard to medical treatment of school children which have proved in any wise satisfactory—namely, the school clinics conducted by local men at Hampstead, Wandsworth, and Norwood. The right, therefore, of the Association to speak strongly on the subject is indubitable, and it did so to the President of the Board of Education himself on June 27th.

We gave a full account of what passed on that occasion in the SUPPLEMENT for July 1st, reproducing therewith the statistics and striking graphs by which Sir Victor Horsley drove home the Association's charges. Here, therefore, we need merely mention one or two outstanding points. The "medical inspection" practically consists in a certain number of children at a certain number of schools filing before a medical inspector, who picks out for further inspection such children as are obviously unlikely to benefit by the education provided, or who for some reason seem unfitted to associate with their companions. These children he examines on a plan imposed upon him by the Council, but of so imperfect a character that it reveals only a percentage of the defects which would be recorded in respect of the same children were the Board of Education schedule used. Finally, when the time comes for the results to be made known, the public is led to understand that all the children in the schools thus cursorily inspected by one or other of the Council's staff have been really inspected, and that the defects recorded represent all which could have been found. As for the treatment provided, it is sufficient to state that, leaving out of count the school clinics already mentioned, the system consists in making arrangements with sundry hospitals to receive children, should they attend, then giving each child found defective a card entitling it to treatment, and finally trusting to luck as to whether that child seeks the treatment or keeps the card in its pocket. The net result is, as suggested by Dr. Addison, M.P., who introduced the deputation, that not only are probably over 50 per cent. of the defects in London school children overlooked altogether, but not more than a small percentage of the defects discovered are relieved.

With the general causes of the London County Council's failure in this matter we are not disposed to deal, for whatever they may be, there is a factor which in its influence probably exceeds them all—namely, the weakness which the Board of Education has shown in its dealings with the Council. It has been perfectly aware of the situation for far more than a year, and even in the report of the Board

published last December it was pointed out that during the year under consideration — namely, 1909-10—no statutory medical inspection had been taking place in as many as 800 schools within the metropolitan area. In the circumstances, therefore, it was almost amazing to hear recently that the Board had consented to approve for a further year the existing agreements between the London County Council and certain hospitals with regard to the treatment of school children.

By this act Mr. Runciman has doubly stultified the Board of Education. For that body long since laid down the axiom that a well-devised and properly carried out system of medical inspection was an essential preliminary to any plan of providing medical treatment for school children; furthermore, it has admitted that in such a vast area as London it is hardly likely that any arrangements with hospitals can ever prove compatible with that close inter-working—between those who inspect and those who treat—which it has rightly claimed to be essential if any local authority is to exercise to the public advantage its option as to the provision of treatment.

THE INSURANCE BILL EMERGENCY FUNDS.

THE Special Representative Meeting on June 1st decided that the members of the profession throughout the country should be asked to support the policy of the Association in various ways, among others by making subscriptions or giving guarantees to a central defence fund, and by supporting Division and Branch guarantee funds. At its meeting last week the Council, acting on the recommendation of the State Sickness Insurance Committee, resolved to institute a central insurance defence fund of the British Medical Association, to be applied (1) to defraying administrative expenses incurred in giving effect to the policy of the Association, and otherwise maintaining the interests of the medical profession with respect to the National Insurance Bill; and (2) in compensating or assisting members of the profession who, in the opinion of the authorized committee entrusted with the administration of the fund, it may be to the interests of the profession to compensate or support. It is asked that the fund should be supported by guarantees, of which a fixed proportion would be called up when required for administrative purposes, and the remainder when required for the purposes of compensation. Power was taken to make grants from the fund to local defence funds, which may be established under conditions approved by the Council, for the same general objects as those for which the fund is instituted, and, at the same time, it was provided that a subscriber should be free to state whether his subscription was to remain entirely for the purposes of the central fund, or whether any part was intended to be handed over to the local fund. At the same time, the Council decided to urge each Division to consider the advisability of instituting a local defence fund to be applied within a defined area, with the same general objects for which the central fund was established. As many members of the Association are aware, many contributions and guarantees have already been received, but we are given to understand that some members of the profession have hesitated to name the sum they would be willing to contribute, because there has been no indication of the scale of contributions which ought to be made. One contributor in sending a subscription suggests that one-half per cent. of the contributor's income, or 10s. in the £100, might be roughly taken as a basis. While it is too soon yet to state what the total sum required will be, £150,000 has been mentioned as the lowest which the Association should aim at securing.

ST. LEONARD, SHOREDITCH.

TOWARDS the end of last month an advertisement relating to a Poor Law medical appointment in the parish of St. Leonard, Shoreditch, was offered for publication; it was refused both by ourselves and by the *Lancet*, and subsequently it was decided to issue a warning notice in respect of the appointment. This appeared for the first time on July 1st, was repeated on July 8th, and again appears in the present issue. For a long time past it has been felt that the salaries paid to certain of the medical officers employed by the guardians of this parish are totally inadequate, and as the Local Government Board admitted that this was the case there seemed to be some probability that matters would be set right without any open fight. Moreover, the occurrence of a vacancy, and the fact that the guardians proposed to get it filled on the same inadequate terms as before, seemed to offer the Board an excellent opportunity of initiating a reform by giving effect to its views and imposing its will on the guardians in this particular case. So far, however, it has not taken this course; a definite contest has in consequence commenced, There are certain features in the case which make it of some interest in connexion with the National Insurance Bill, and, seizing upon these, Dr. Major Greenwood, honorary secretary of the Poor Law Medical Officers' Association of England and Wales, has addressed us a letter which appears in the section of the SUPPLEMENT to this issue devoted to that subject. Whether or no the attitude of the Insurance Commissioners of the future towards both their duties and the medical men who serve under them can truly be predicted from the letters which Dr. Greenwood quotes, it must be admitted that both the incident itself and the style of these letters are peculiarly unfortunate at the present moment. Meantime we are not disposed to believe that the Local Government Board has really said its last word on the matter. It may very possibly feel that it cannot take strong action in the case of posts which, though very inadequately paid, are for the moment, at any rate, very adequately filled, but there can be nothing to prevent it from refusing to confirm new appointments on the same admittedly inadequate terms. On this point the Board does not seem to have come to any decision; indeed, no opportunity has as yet presented itself, nor in present circumstances is it likely to do so. If, and when it does, we fully expect that the decision will be of a kind favourable to the medical profession, for Mr. Burns has rarely exhibited any tendency to such weakness as would be represented by shifting his responsibility for seeing that adequate arrangements are made for the medical care of the sick poor on to the shoulders of the guardians concerned, and by the time the point comes before him for final decision he will have learnt that the British Medical Association has taken the matter up, and intends to see it through. The Board knows that in the long run the British Medical Association has almost invariably succeeded in its contests with guardians, and that it is not its fault if meanwhile both the poor and the ratepayers suffer.

MONASTIC INFIRMARIES IN THE MIDDLE AGES.

IN Père Mortier's *Histoire des Maîtres généraux de l'ordre des Frères Prêcheurs*, there is an account[1] of a Dominican Infirmary in the thirteenth century, which may perhaps be taken as representing the monastic infirmary of the Middle Ages. It was a part of the monastic buildings set apart entirely for the care of the sick. The apartments had to be healthy and arranged in such a fashion as to make the service easy. The infirmary had its own dormitory, refectory, kitchen, and offices. It had also its own domestic utensils. Connected with it was a garden or field in which convalescents could walk about and amuse themselves. There was a chief infirmarian, having under him lay brothers

[1] Vol. I., 1170–1263.

in sufficient number. The infirmarian was a choir friar, and he was chosen for the special qualities of patience, sympathy, gentleness, discretion, and a disposition to be generous rather than stingy. He had to see to it that patients should have in abundant quantity, and at the proper time, the material and spiritual aids which their state called for. If he was skilled in medicine, his duty was to treat them himself; otherwise he had to follow in all points the orders of the medical attendant. For this purpose he was bound often to visit patients, to acquaint himself with their needs, to stimulate the activity of the lay brothers, especially the cooks, correcting any negligence whenever there was occasion. Nothing was to be omitted that could help and reinvigorate the patients whose health required special attention. All meals were taken in the infirmary, either alone or, in the case of those who could get up, in the common refectory. Thither were sent also those who had been bled; this operation was then greatly in fashion, especially among monks and friars, as it was believed to tend not only to their bodily but their spiritual welfare by purging carnal lusts. It was performed by the barber. That functionary acted as dentist, physician, and surgeon. In a contract made by the Dominicans of Arles, on February 1st, 1438, with a master barber, it is stipulated that the barber "shall attend the friars in their infirmities, the monastery furnishing the ointments, and further that he shall perform the bleedings whenever they are required." The infirmary with its more comfortable installation, its more appetizing food, the greater attention received, and the larger liberty allowed, was regarded as a "paradise." The result was that sometimes the friars were eager to prolong their convalescence. The same thing is seen, we believe, in prisons at the present day, where the infirmary is looked upon as a desirable place of refuge. The infirmarian had to look sharply after this and discreetly to inform the Prior of any cases of malingering. On the other hand, those who were too prone to mortification and self-denial, and not willing to accept anything in the way of mitigation or remedy, had to be compelled "under obedience" to rest and to obey the doctor's orders. In cases of dangerous illness the attention was to be increased and nothing was to be omitted to help and comfort the patient. Naturally in such surroundings spiritual healing was much in use. There was a "prose" specially composed to cheer the patients and induce them to turn their thoughts and their hopes towards God and a future state of bliss. At the first signs of oncoming of the death agony, the infirmarian summoned the friars by striking on a wooden tablet. This signal was specially reserved for this purpose. The friars assembled, reciting the creed. Generally, the dying man was placed on a bed of ashes with his face towards the east; there he died surrounded by his brethren. Mouléon, in his *Voyages Liturgiques*, thus describes the place which served as the ash bed at Cluny: "In the middle of the large infirmary there is still a small depression, about 6 ft. long and 2½ ft. to 3 ft. broad, with wooden borders about 3 in. in breadth. There were placed on ashes the religious who were dying." These ash beds were found among the Carthusians, Trappists, and other orders.

LEATHER MAKERS AND ANTHRAX.

A REPORT by Dr. Constant Ponder has recently been issued by the Worshipful Company of Leathersellers of London on the incidence of anthrax amongst those engaged in the hide, skin, and leather industries, with an inquiry into certain measures aiming at its prevention. Dr. Ponder, who has made elaborate and detailed investigations of the subject, showed that the possibility of contracting a disease from skins which we now know to be anthrax was even recognized and recorded by so early a writer as Virgil. Nevertheless, he was compelled to admit that outbreaks of the disease continued to occur as of yore, and that the number of victims showed no signs of diminishing. The difficulty was largely economic, but the extraordinary vitality of the anthrax spores had much to do with it. Disinfection sufficiently powerful to destroy the spores also, unfortunately, ruined the leather. Milk of lime is capable of destroying anthrax spores, but not in the time usually given to the process known as "liming." At temperatures of 37.5° C. and upwards it was capable of rapidly destroying them, for reasons which are not yet quite clear. But the method was not practical, because the goods were injured. Dr. Ponder had found the most satisfactory process to be the "formic-mercury." The hides were treated for twenty-four hours in a "soak" containing 1 per cent. formic acid and about 0.02 per cent. mercury perchloride, and were then transferred to brine. This mixture was capable of destroying the infection on hides that had been artificially treated with spores. Dr. Ponder gave reasons for the conclusion that the number of cases of anthrax amongst animals in Great Britain is steadily increasing, though the increase might be more apparent than real, due to a recognition of the disease where it was formerly overlooked. Dr. Ponder's investigations apparently lead him to the same conclusion as that of Dr. Eurich, of Bradford, namely, that the chief danger of disseminating anthrax spores arises in connexion with blood-stained material. It is a rather remarkable fact that no cases of the pulmonary form of anthrax such as occur in Bradford are reported amongst those working in connexion with hides and skins, although men work in warehouses and the holds of vessels in clouds of presumably infective dust. As the anthrax bacillus has little power of resistance and is easily destroyed, it occurred to Dr. Ponder that if the spores could be all converted into bacilli the danger could be quickly eliminated. He found, however, that to develop spores a warm temperature and a suitable culture material is essential, both of which conditions are favourable to the growth of putrefactive organisms, so that the skin is liable to injury. Further, the difficulty of developing all the spores without allowing new ones to form simultaneously was found to be insuperable. The whole question of the elimination of anthrax spores in connexion with the industries involved is one bristling with difficulties, but patient researches such as those made by Dr. Ponder will undoubtedly lead eventually to satisfactory conclusions.

THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual report on the museum of the Royal College of Surgeons of England by the Conservator (Dr. A. Keith) has been issued, and on the day of the Council election, and on July 7th and 8th, there was the usual show of specimens added to the collection. Mr. Shattock and Mr. Cecil Beadles have made considerable progress in revising and rearranging the specimens which illustrate the general principles of pathology. The ground floor, below the galleries devoted to pathological specimens, is henceforward to be reserved solely for the accommodation of specimens of the same class. The preparations, including many samples belonging to the Hunterian collection, are being placed in special floor-cases after a model prepared by Messrs. Frederick Sage and Co., Limited. A medico-legal collection is being arranged after the plan of a similar collection in the University of Edinburgh. Mr. Alban Doran has concluded the rearrangement of the obstetrical and gynaecological series of the pathological collection, which includes 560 specimens; the catalogue of this series is undergoing revision. The College, having acquired the well-known collection of malformed pelves formerly belonging to the Obstetrical Society of London and presented to the museum by the Royal Society of Medicine, has obtained the services of Dr. J. Davis Barris, who will carry out a very complete series of measurements. The pelves will be mounted,

with the diameters indicated in writing. Mr. Arthur Cheatle has presented his private collection illustrating diseases and injuries of the ear to the museum, and is engaged in rearranging the series. Mr. Stephen Mayou is working at the collection illustrating injuries and diseases of the eye. The great majority of the specimens now in hand will require to be replaced, and the additions are mounted in specially prepared bottles and preserved in formalin solution, after Priestley Smith's method, modified. Mr. J. F. Colyer, Honorary Curator of the Odontological Collection, is making progress in the preparation of a new catalogue. Numerous specimens have been added to the collection. The skeleton of a man, the subject of acromegaly, prepared by Mr. Marle the articulator, and numerous dissections showing the anatomy of the pituitary gland and of organs involved in acromegaly, made by Mr. H. C. Wilson, assistant prosector, attracted much attention from visitors. A fine series demonstrating the mechanism of mastication, entirely prepared by the famous veteran prosector, Mr. William Pearson, shows that notwithstanding over half a century of dissecting for the museum, his hand has not forgotten its cunning. Some instructive preparations, mounted after the most approved modern methods, illustrating innocent and malignant tumours of the uterus, have been presented by Dr. F. J. McCann and Mr. J. D. Malcolm. One exhibit in particular excited much attention. Mr. Burne, the assistant conservator, has been actively engaged in the rearrangement of the physiological series. He has added to that series a beautiful set of preparations of the human fetus in early pregnancy, illustrating the development of the skeleton. About 1852 Dr. Lionel Beale dehydrated a fetus with absolute alcohol and treated it with caustic soda. The result was published amongst the illustrations in his *Microscope in Medicine*. This fact should be remembered. In 1897 Schultze published a report of his method, in which caustic potash is employed instead of caustic soda, and in 1906 Franklin P. Mall's "Ossification Centers in Human Embryos less than 100 Days Old" appeared in the *American Journal of Anatomy*. Mr. Burne has prepared a series after Schultze's method; the specimens are mounted in pure glycerine, the ossified centres of the bones standing out in relief amidst the perfectly transparent soft parts. All the additions exhibited last week are now placed in their appropriate situations in the museum.

OSTEOMYELITIS AND WHITLOW.

A CASE raising a point of interest in pathology was tried last week before the Lord Chief Justice, in which damages were claimed against the Governors of Sherborne School, on behalf of a pupil whose right arm had been amputated on account of blood poisoning and osteomyelitis. Early in November, 1909, the boy became ill, and the matron, finding his temperature raised, kept him in bed for two days. Then he went back to his studies. About three weeks later he was again ill, and the school doctor kept him in bed for a few days. But on his going back to school his appetite failed, and he got thinner, and on December 9th a small whitlow appeared upon his left thumb, which the school doctor lanced. On December 14th the boy went home to Winchester, where he was seen by Dr. Bodington. Dr. Bodington found the boy looking extremely ill, with a temperature of 102°; there was a whitlow on the thumb which had been punctured. The boy had bronchitis also. The bronchitis yielded to treatment and the whitlow healed. On December 26th Dr. Bodington saw the boy again, and found the temperature 104°, and evidence of serious septic poisoning. On December 28th there was stiffness of the shoulder on the right side—the opposite side to that on which the whitlow had occurred. The affection of the joint proved to be the result of acute osteomyelitis, for which amputation at the joint was successfully performed. The amount of damages asked against the school was £3,500. Mr. F. E. Smith, K.C., for the plaintiffs, claimed that the whitlow was the cause of all the trouble, and that if it had been treated by incision under an anaesthetic rather than by a "stab," the osteomyelitis would not have set in. It appeared that after the boy's return home no further active treatment was needed, the small subcutaneous abscess promptly healing and leaving only a small scar. For the defence Mr. Duke called Mr. Edmund Owen, Consulting Surgeon to St. Mary's Hospital, who said that the osteomyelitis was not caused by the whitlow, but that the whitlow and the osteomyelitis were symptoms of the one disease—the loss of appetite and the obscure illnesses preceding the appearance of the whitlow being also due to the presence in the blood of staphylococci; that as there had been no previous wound in the thumb, the septic germs must have reached the place from the blood stream, and that the boy's blood must have been infected from the beginning of his illness. Mr. Herbert F. Waterhouse, Surgeon to Charing Cross Hospital, took the same view, and said that a careful search through surgical literature gave no record of osteomyelitis being caused by a whitlow. Professor Sims Woodhead also expressed the opinion that the whitlow had nothing to do with the osteomyelitis except in so far as both were caused by the same micro-organism in the blood. Mr. A. E. Barker, Surgeon to University College Hospital, held the same opinion. The jury found for the school authorities. The Lord Chief Justice expressed sympathy with the boy, but said that no other verdict could have stood.

A NEW NIGHT TERROR.

SIR HENRY MORRIS may well feel gratified by the success of his attempt to bring about the mitigation of the serious nuisance caused by the unnecessary and discordant hooting of motors passing through London streets by night. His ventilation of the question has had what the French call a "good press," and, as we announced last week, a bill dealing with the subject has been introduced into Parliament. At a meeting of the Royal Automobile Club on July 5th, a resolution was passed to the effect that the club was prepared to support in principle the bill introduced by Captain A. Murray, "to enable the President of the Local Government Board to make regulations which shall prevent the excessive use of noisy warning devices at night." We understand that a favourable reception has been accorded to Captain Murray's bill. There is much discussion as to what method of warning to midnight wayfarers should be adopted instead of the hooting horn. If all sounded the same note, and that were one which, if not musical, at least did not cleave the general ear with horrid screech, it would be something. But what need is there for hooting at all? The hoot is an imperious warning to all other traffic and to foot passengers to make way. This is a privilege not allowed to any other vehicle. Motorists more than any other class are apt to forget that the streets and highways are not made exclusively or primarily for them. If the motor is driven at a reasonable pace and the usual precautions are observed at corners and crossings, there is no reason why the nerves of His Majesty's subjects should be shattered by their hootings. The drivers of other vehicles do not find it necessary to give a signal of their coming. Why should chauffeurs think they have a right to frighten sleep away from the pillows of the sick and the weary? We are glad that public feeling has been thoroughly aroused to this abominable nuisance.

THE London Radium Institute in Riding House Street, Portland Place, is now completed, and will be opened on August 14th. It was visited by Queen Alexandra and

the Empress Marie of Russia on July 10th. The Royal visitors were received by Sir Frederick Treves and shown over the building. A demonstration of the effects of radium on bacteria was given by Mr. Hayward Pinch (Medical Superintendent) and Mr. W. L. Alton (Director of the Chemical Laboratory).

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Grant for Tropical Diseases Investigation.—Dr. Hillier asked the Chancellor of the Exchequer whether he proposed increasing the grant to tropical diseases investigation; and, if so, by what amount. Mr. Hobhouse, in reply, said the Treasury had recently sanctioned the appointment of a special Commission, under Sir D. Bruce, and including at the outset the services of Professor Newstead, to make further investigations into trypanosome diseases, the cost of which, amounting for this year alone to about £5,000, would ultimately fall on the Exchequer. In view of this large provision of money the Chancellor of the Exchequer did not see his way to increase the amount of the grants provided in the Estimates for tropical diseases investigation, as Sir D. Bruce's Commission would be carrying out this very work with great prospects of successful results.

Small-pox in the Navy.—Dr. Hillier asked the First Lord of the Admiralty if he would state the number of cases of small-pox in the navy reported annually from 1897 to the present time; and what were the regulations in regard to vaccination in the navy. In reply, Mr. McKenna presented the following statement (I) showing the number of cases of small-pox in the Royal Navy for the years 1897–10 inclusive:

Year.	No. of Cases.	Year.	No. of Cases.
1897...	51	1904...	12
1898...	24	1905...	2
1899...	15	1906...	6
1900...	13	1907...	3
1901...	9	1908...	4
1902...	15	1909...	*Nil*
1903...	3	1910...	1

Also (II) Regulation respecting vaccination in the navy:

All persons entering the service are to be revaccinated; should no results follow on the first operation, a second vaccination is invariably to be performed. In the case of candidates for artificer and artisan ratings, the operation is to be deferred till they have been finally accepted for the service. All persons who have not been revaccinated between their first entry into the service and the age of 18 shall be revaccinated as soon as possible, however good their primary vaccination cicatrices may appear, or even should they present unmistakable evidences of having suffered from small-pox previous to that age. The revaccination is to be made with calf lymph from a recognized establishment which is carried on under proper supervision. No person shall be considered revaccinated who has had the operation performed with lymph taken from the arm of a revaccinated person, but all persons so revaccinated shall again be vaccinated with lymph taken from the sources specified above. A notification of the date of revaccination is to be made by the medical officer on each man's medical history sheet, specifying the result, whether successful or otherwise, and such cases are only to be considered successful in which either vesicles, normal or modified, or papules surrounded by areolae, have resulted. When the first operation is followed by no result, which should, however, be rare when it has been carefully performed, vaccination should be repeated in fourteen days from the first attempt. The medical officer, as soon as convenient after he joins a ship, will satisfy himself by personal inspection that each officer and man has been successfully vaccinated, and when necessary revaccinated, and so, also, with regard to every officer and man who may subsequently join, except those borne for disposal or as temporary supernumeraries in home ships, and whose stay in them will be but short.

Vaccination.—Mr. Morrell asked whether, in view of the increasing number of exemptions made under the Vaccination Act and Order, 1907, and the consequent loss of fees to vaccination officers, the Board would consider the revision of payment of these officers so as to give some remuneration in respect of declarations of exemption. Mr. Burns replied that the matter had been considered, but it had not been thought desirable to adopt the course suggested. Asked whether these officers were not being reduced to poverty, he said these officers were officers of the boards of guardians. He had done his best to persuade the guardians in certain cases to act reasonably, in some to be generous, to these officers. At present he could not go further than that. Asked by Mr. Logan whether a number of boards of guardians had not appointed their relieving officers to do this work, Mr. Burns said it was true, as the hon. member implied, that the large majority of these officers had other duties and appointments beside that of vaccination officer.

Medical Referees (Workmen's Compensation Act).—Mr Hodge asked the Secretary of State for the Home Department whether he was aware that it was becoming common for medical referees under the Workmen's Compensation Act to accept fees from and to appear as witnesses for insurance companies in cases arising in the courts to which such referees were attached; whether his attention had been drawn to a case at Gloucester, on May 20th last, where the judge stated that, although it was a case which he naturally would have referred to a medical referee of the court, he could not do so because the referee had given evidence, and there being no power to appoint another referee he would have to act as doctor himself; and whether he could take any steps to prevent a recurrence of such incidents and secure a more impartial standing on the part of the medical referees. Mr. Churchill said that the Home Office regulations forbade medical referees from acting for the employer or insurance company in any case in which the workman was receiving a weekly payment for compensation or which was otherwise likely to come before them as referees; and he believed these instructions were generally observed. In the Gloucester case he found on inquiry that the workman was sent to the medical referee under a mistaken impression on the part of the applicant's solicitor that Stroud was outside his district. He would consider whether an additional referee should be appointed; but it was in the power of the judge in such a case to call in a medical referee from an adjoining district.

Patent Medicines (Government Stamp).—Mr. Fletcher asked the Secretary of State for the Home Department whether a new medicine stamp was being prepared which would more clearly indicate that the stamp did not imply any Government guarantee, as promised by Mr. Gladstone, when Home Secretary, on September 17th, 1909. Mr. Churchill replied that he was informed that the answer was in the affirmative.

Netley Hospital.—In answer to Mr. Perkins, Colonel Seely said that the Netley Hospital staff was somewhat under establishment owing to the Royal Army Medical Corps at home as a whole being short of establishment. Consequently furloughs could only be sparingly granted, and those were being generally limited this summer to fourteen days. The furlough season at Netley, however, was not, as with other troops, confined to the winter months, and the furloughs were given when the men could best be spared. It was not the case that leave could only be obtained when the applicant was successful in finding another man to do his duty.

Cost of the Tuberculosis Commission.—In answer to Mr. George Greenwood, Mr. Hobhouse stated that the expenditure to date for this Commission amounted to £75,832; less receipts for sale of Blue Books £275; net expenditure, £75,557.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

THE LONDON MILK SUPPLY.

A RETURN was presented to the London County Council on July 11th by the Public Health Committee giving details of the work done under Part IV of the London County Council's General Powers Act, 1907; this empowers officers of the Council to visit farms from which milk has been sent to London. In each year since the Act came into operation upwards of 2,000 samples of milk had been taken at railway termini; in 1910–11, 11.8 per cent. were found to be tuberculous; in 1909–10, 8.9 per cent.; and in 1908–9, 12.9 per cent. Of 34,395 cows examined since July, 1908, 534, or 1.6 per cent., had been found to have tuberculous udders. The cost of administering the Act had risen from £1,891 in 1909–10 to £2,445 in 1910–11.

Mr. Jephson, a former chairman of the Public Health Committee, commented on the seriousness of the figures with regard to the percentage of tuberculous samples; it was not, he thought, too much to say that the seeds of consumption were still being scattered broadcast in London. The energy of the Council in exercising such powers as it possessed was already doing good, but unfortunately those powers were limited, and were slow in operation, so that a great deal of infected milk came into London between the time that the tuberculous sample was taken and the source of supply was checked.

Mr. E. G. Easton moved that the Council's special power of destroying cows suffering from tuberculosis of the udder and of compensating the owners should be extended by Parliament to the country generally. Owing to the Council being the only body with power to destroy cows suffering from tuberculosis of the udder, in many cases affected cows were only moved about the country when discovered by the Council's inspectors. Though the consumption of milk in London had increased, the amount of tuberculosis had not increased in proportion.

Mr. Freeman Barrett, Chairman of the Public Health Committee, said Mr. Jephson would lead the Council to believe that matters were worse now than they were some years ago in London with regard to consumptive diseases. That was not the case. Owing to the work of the Council tuberculosis of the udder in cows was less frequent.

Mr. H. H. Gordon remarked that Mr. Easton's proposal was totally inadequate. The danger to the milk supply arose not only from tuberculosis of the udder, but from pulmonary tuberculosis in cows and from dirty milk. It had been established that milk might be tuberculous when there was no sign of tuberculosis of the udder. Mr. Easton appeared to deny the importance of tuberculous milk in relation to consumption, but the Royal Commission now sitting had definitely established the identity of bovine and human tuberculosis. Inasmuch as tuberculous milk sprang from a number of causes and not from one only, to give a local authority power to deal with one cause only was insufficient.

Ultimately the motion was withdrawn and the report was received.

MANCHESTER AND DISTRICT.

SALFORD COUNTY COUNCIL AND THE INSURANCE BILL.

AT a meeting of the Salford County Council held last week it was stated that the Parliamentary Committee had approved the action of the Association of Municipal Corporations in objecting to Clause 46 of the Insurance Bill, under which the Corporation might be compelled to make good any extra expenditure incurred by an approved society or local Health Committee, if, after due inquiry, it was found that there had been among the insured an excess of sickness to the extent of 10 per cent. above the average expectation, and if it were proved that such excess were due to neglect of the Corporation to enforce any of the Sanitary Acts. The committee's report went on to say that the provisions of this clause were objectionable in principle as imposing upon a public authority discharging statutory duties the liability to be placed under pecuniary penalties by an administrative order, without any of the safeguards against injustice given by the procedure in the ordinary courts. The Mayor said there was an objection against putting the Corporation under the jurisdiction of an emissary sent from a Government department. Alderman Huddart, the Chairman of the Sanitary Committee, defended the clause, and denied that the Corporation would be at the mercy of an individual from London. The evidence of their own medical officer of health would be of great weight in any inquiry, and the clause would be practically inoperative in Salford, where sanitary matters were well looked after. This could not be said about many villages and rural districts, where conditions often prevailed that were a disgrace to civilization, and if they helped to do away with this clause things would go on as before. He moved that the report objecting to the clause be referred back, but the motion was lost.

BIRMINGHAM.

GREATER BIRMINGHAM.

BY the passing of the Greater Birmingham Bill five suburban districts have been included, increasing the area of the city from 13,477 acres to 43,537 acres (over sixty-eight square miles), and its population from 565,000 to about 895,000. The health department of the city is one of the best in the country. Its administration is carried out by a medical officer of health (Dr. Robertson), an assistant medical officer, a chief inspector of nuisances, thirty-one sanitary inspectors, seventeen lady health visitors, and a lady medical practitioner, who is especially engaged in work having for its object the reduction of the infant mortality, and the training of qualified midwife visitors. There is also a public analyst under the Sale of Food and Drugs Act, and the necessary laboratory staff. The work of the Health Committee is manifold, and consists in the collection and destruction of refuse through its interception department, the isolation in hospitals of patients suffering from infectious diseases, the treatment of phthisis at the Salterly Grange and Yardley Road Sanatoriums, the inspection of house property with a view to its maintenance in good sanitary condition, the inspection of common lodging-houses, canal boats, factories and workshops, milk shops and dairies, the carrying out of the provisions of the Shop Hours Act and the Shop Seats Act, and the abatement of smoke nuisances. The death-rate has been reduced in the last twenty years from 25 per 1,000 to 15.5, and taking the area of the enlarged city it was 14.1 in1908, as compared with 15.9 in the city proper. In the same time the infant mortality-rate has dropped from 182 per 1,000 to 130, and it is hoped that the work of the lady health visitors will help to reduce it still further; they pay over 32,000 visits a year, and give instructions as to the feeding of children and cleaning rooms, and generally making houses more sanitary.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

EDINBURGH WOMEN'S HOSPITAL AND HOSPICE.

THE attention of the public has been drawn to the Edinburgh Hospital and Dispensary for Women and Children and the Hospice at this particular time by the announcement that the Queen will pay the hospital a visit during the forthcoming residence of the Court in Edinburgh. There has just been completed in Whitehouse Loan an important addition to the hospital, which includes new wards and offices, operating theatre, laboratories, and nurses' quarters. The new building follows the line of the street, utilizing nearly its entire frontage on the east and north, leaving part of an old conventual garden on the south and west for the benefit of the patients. The wards are large and airy, are lighted on three sides, and open on verandahs which run the whole length of the wards, and are wide enough to allow the beds to be moved out and in with ease. In connexion with the lower ward is an electrical room and laboratory equipped with *x* ray, high frequency, and other modern apparatus. The upper ward is separated by a wide corridor from the anaesthetic and

sterilizing rooms and operating theatre, all of which have been fully equipped. The entire wing is fireproof, and is treated by hot water with an ingenious device for short-circuiting the theatre pipes so as to heat with great rapidity in emergency. The enlarged hospital is the natural outcome of many years' work in a smaller way. Thirty years ago Dr. Sophia Jex-Blake, single-handed, started a dispensary for women in 1885, and opened a small cottage hospital, organizing both hospital and dispensary with careful thought for future developments. She saw the imperative necessity of hospital facilities for women doctors in caring for their poorer patients, facilities still denied by all the hospitals of the city in spite of the fact that women have qualified in medicine at the University of Edinburgh for the last fifteen years. The difficulties that have been surmounted on the way to the completion of the building in Whitehouse Loan can only be appreciated by those who have followed the fortunes of the smaller hospital, and its colleague, the hospice in the High Street. The enlargement of the hospital has involved a scheme of amalgamation with the Hospice Nursing Home in the High Street, whereby patients from that poor and overcrowded part of the city will have the benefit of the high and purer air of Bruntsfield, and the quiet of the verandahs and gardens. The hospice will remain as an out-patient and maternity centre, as well as a dépôt for the distribution of sterilized milk to ailing babies under observation and home treatment.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

THE ROYAL VISIT TO IRELAND.

DURING the past week the whole population of Dublin, recruited as it is by large accessions from many other parts of the country, has been almost exclusively occupied in giving expression to its feelings of goodwill towards the King and Queen. The visit has been a magnificent success, and in the welcome which their Majesties have received the medical profession, both collectively and individually, has played its part. The numerous addresses presented included one from the President, Vice-President, and Council of the Royal College of Surgeons, the wording of which is of interest; it brings out a fact which may not generally be known, namely, that among the stated purposes for which the college was founded in 1784 by King George III, the provision of surgeons for the navy and army held a specific place. The address also stated that the fact that the efforts of the college to inculcate into the minds of its students a high sense of duty and responsibility had not been unsuccessful was shown by the large number of them who had obtained the Victoria Cross, and still more by the much larger number who had laid down their lives on the altar of duty in various parts of the empire. The first official visit paid by Their Majesties was to the new College of Science, which the King duly declared open. Subsequently the royal party proceeded to Trinity College, where, in addition to the official addresses from the college, an address from the undergraduates was received. On Tuesday the Queen paid a visit to the Coombe Hospital, where she was received by the board of directors and by representatives of the medical, surgical, and nursing staffs. She was conducted through the wards by the Master, Dr. Gibson, and was shown two sets of twins, which, having been born on Coronation Day, have been dubbed "the Coronation twins." Before leaving the hospital Her Majesty graciously accepted a volume entitled *A Short History of the Coombe Hospital*, which had been specially prepared for the occasion. Another incident of interest was the opening by the King of the P. F. Collier Memorial Dispensary for the Prevention of Tuberculosis. On this occasion the advisory medical committee of the institution, representing the ten clinical hospitals of Dublin, and the Poor Law Medical Service of Health, and the medical nursing staffs, were among those in attendance. Finally may be mentioned the magnificent gift of £50,000 received by the King from Lord Iveagh in connexion with the visit to Ireland; it is a sum which is to be distributed at His Majesty's pleasure among hospitals in Dublin, together with the Consumption Hospital at Newcastle, co. Wicklow.

Correspondence.

THE STATE SICKNESS INSURANCE BILL AND THE FORTHCOMING REPRESENTATIVE MEETING.

SIR,—I am very anxious to draw the attention of the members of the Representative Body to a serious step taken on Wednesday last by the Council of the Association respecting the Sick Insurance Bill, a step which is, I suggest, not only an error of judgement in the conduct of public affairs, but also in effect an abandonment of one of the principles of the Association.

The facts are as follows:

The Representative Meeting at the Special Meeting of June 1st passed two resolutions (76 and 77) entitled "Suggestions for further amendment of bill," and these, as the hour was late, the meeting referred to the Council with plenary power to take action upon them.

No. 76 stated that the proposals in the bill limiting sick benefits in the cases of parturient women and Post Office contributors, and excluding "unemployed" married women, were detrimental to any medical service for the prevention and cure of disease, and called for their amendment.

No. 77 recommended the amendment of the bill so as to give power to the local Health Committees to build and equip buildings for institutional medical treatment and excluding the friendly societies from the control of supplementary grants.

These two vitally important resolutions have now been hung up *sine die* by decision of the Council. This is what I have suggested above as a grave error in the conduct of our public business.

This bill in its present form contains proposals which, if not amended, will be disastrous to the profession and cause the ruin of many of our members. It must, therefore, in my opinion, be opposed by the Association by amendments at every point where the interests of the profession are attacked.

There is no single point which we can afford to hang up, though it was actually suggested in the Council that we had better concentrate on two or three points and let the others go. To my mind such a policy is not business but suicide.

In the Council I urged that at least No. 77 should be taken up. I was met by a cry of "Socialism!" from the leading reactionary of the Council, and the Council voted me down.

Now, what are the points which have thus been shelved, and for which I shall endeavour to obtain a hearing at the forthcoming Representative Meeting at Birmingham? I will take No. 77 first, as it embodies the principle of the Association that State medical work shall not be muddled up with charity, and that the medical profession shall not be sweated nor their services taken by enactment without proper remuneration. This principle of the Association was crystallized in its resolution of 1909 on the treatment of elementary school children, but it formed, of course, part of the foundation of the struggle of many previous years by the Association against hospital abuse.

To prevent sweating and hospital abuse being founded on a gigantic scale by the present bill, it is urgently necessary, therefore, that this Resolution 77 shall not be dropped. Nay, more. In my opinion the credit of the Association is gravely impaired by the adverse vote of the Council, and for the following reason: The Council have agreed to push Resolution 73, which provided that Clause 17 of the bill should be amended or excised to prevent abuse of the charities. So far so good, but this is only destructive policy.

Mr. Lloyd George's reply is obvious, "What do you propose to put in the place of the charities?" At the present moment the Association is feebly answering, "Nothing." There can be no doubt that the House of Commons will be justly irritated by our having no constructive policy, and unless this error is remedied by the Representative Meeting next week, I fear we are prejudicing our position, besides being absurdly untrue to ourselves and the wholesale interests of the profession.

Resolution No. 76, also shelved by the Council's vote, is equally important but complicated by financial considerations which the special committee in whose hands this work is placed would have placed before the Representa-

tive Meeting, but which now can only be raised by individuals, a position which is, I suggest, not fair to the Association.

May I now summarize our position on the bill? Of the fundamental principles for which we are fighting, the most fundamental—namely, control by the Government, with medical representation and freedom from the friendly societies (Section 14)—is promised us by the Government if we secure the vote in the House of Commons. But, though absolutely fundamental, this is only one of the points which must be settled in favour of the profession, and I desire to urge that to each full value and attention shall be given, otherwise we are blindly allowing fetters to be riveted upon our actions.

Of course, thanks to the acuteness of the crisis, many members of the profession who have declaimed against what they have for years termed my "trades union" and "socialistic" views now recognize that such unionism is necessary and are joining the Association. Under these circumstances the situation is becoming, in my opinion, our own, since blacklegging will be impossible, and we can dictate our own terms of reasonable remuneration.

At the same time it is just as obvious that we must fight to obtain all the amendments which are necessary to secure the interests of the Association, which in this matter are exactly the same as the interests of the public.—I am, etc.,

London, W., July 9th. VICTOR HORSLEY.

THE INCOME LIMIT.

SIR,—In the discussion on the National Insurance Bill the Special Representative Meeting decided that the bill should provide for the exclusion from medical benefit of persons whose average income exceeds £2 per week.

At the interview with the Representative Meeting the Chancellor of the Exchequer said:

I tell you frankly that in my judgement it is absolutely impossible to introduce any limit for the wage-earning workers—quite impossible.

It is no use asking for a corner of the moon, and that is what you are asking from the House of Commons.

Nevertheless, *after* this expression of opinion the Representative Meeting resolved that this exclusion should be one of the essential points in the policy of the Association. Is it necessary to remind ourselves that this policy, as a whole, is the outcome of mutual concessions agreed to with the object of obtaining a united profession? And to this policy the profession has loyally pledged itself.

Of late there has been some uneasiness caused by reports of concessions and compromises, doubtless spread by the opponents of the profession in order to sow dissension and break up our union.

On July 5th a definite statement was sent to me from London that it was there reported that the Lancashire men were in favour of Mr. Lloyd George's suggested compromise.

As I had to preside over a meeting of the whole of the profession in Manchester and Salford on the following day, it was necessary that I should know what was going on, and as the Council of the Association was meeting that afternoon I sent to the Council the following telegram:

Report circulated that Lancashire favours Chancellor's suggested compromise involving abandonment of £2 income limit untrue. If Council recommends such abandonment, it will break union of profession and destroy the British Medical Association.

I preside over Manchester mass meeting to-morrow. What is official position? What will become of pledge in view of abandonment? Does Association stand by £2 income limit or not?

The reply was as follows:

Do not understand your telegram. Any suggestion of compromise or abandonment of income limit entirely untrue.
MACDONALD, Chairman Council.

Accordingly at our mass meeting I spoke somewhat strongly on the £2 income limit.

This morning I was astounded to see placarded all over Manchester the poster of the *Daily Dispatch*—namely:

CHANCELLOR'S
SETTLEMENT
WITH THE
DOCTORS.

And in the report of "Parliamentary Proceedings" given in the *Daily Mail* I read that Mr. Lloyd George said:

He felt sanguine that by the time Clause 14 was reached a satisfactory arrangement with the doctors would have been reached. Within the last few hours he had received a communication from the British Medical Association. It was hard to ask *the Government to pronounce an opinion at once.*

Agreement can only be on one of three lines:

1. The abandonment of his position by the Chancellor.
2. The abandonment of its position by the British Medical Association.
3. A *via media.*

It will be of deep interest to learn the contents of the communication sent by the British Medical Association "within the last few hours" which has led Mr. Lloyd George to so alter his views on the income limit that he is able with confidence to assure our responsible legislators that agreement with the British Medical Association is within sight.

It is impossible, in the face of the telegram to me from the Chairman of the Council, to conceive that the contents of that communication will have been such as to lead Mr. Lloyd George to think that the British Medical Association has abandoned its position, and it would be equally impossible to conceive that the Chancellor has been led to suppose that a *via media* could be found on lines, for example, that the question of exclusion by income limit should be left to be fought out locally between the individual Divisions of the British Medical Association and their local Insurance Committees.

The deputation and the Council surely cannot contemplate such a course. That would indeed be making a breech in the walls of our defence from *within!* At present the Chancellor has to face the whole fighting force of a united profession concentrated upon one issue, namely, the £2 income limit. It would be deplorable if we allow Mr. Lloyd George to outmanœuvre us, so as to gain a position of vantage, from which, instead of being compelled to attack the profession as a whole, he would be able to split us up into detachments and attack each separately. If such were to be the case, I fear for the result.

At present we are united and entrenched in a strong position. Why change it? The Representative Meeting gave much time to the deliberation of this matter. It discussed and rejected as impracticable a proposition that the income limit should be variable, and fixed locally in different areas, it being shown that a limit universally applicable—a flat rate—must of necessity be fixed.

This being so, why now go outside the decision of the Representative Meeting, and suggest that, although the profession as a whole adopts the £2 limit, it shall be left to the local Divisions to endure a local fight in each area in order to force the local Insurance Committee to adopt this limit?

The risks are too great. As we must fight, let us fight together as one united band. We ask that the medical benefits shall be limited to those whose income is under £2 a week. We demand the £2 limit, and our demand is right and just. Let us have it in the bill, or decline to work the bill, in accordance with our pledge.—I am, etc.,

Manchester, July 12th. T. ARTHUR HELME.

*** From the indication of the scope of the letter addressed by the Council of the British Medical Association to the Chancellor of the Exchequer, given on page 130 in an article on the amendment to the bill, our correspondent will, we think, gather that his apprehensions are unfounded. We understand that a statement on the matter will be issued by the Association to members of the profession within the next few days. We may draw attention, also, to the summary of the medical case issued to members of Parliament, and published in the SUPPLEMENT of this week, page 97.

MALINGERING AND THE WORKMEN'S COMPENSATION ACT.

SIR,—Much is now being said about malingering.[1] There is no medical man practising in an industrial district who is not well aware of the fact that the most fruitful source of malingering in this country is the Compensation Act. The worker has only to make a complaint, and if the amount asked for is not more than a few pounds the company with which the employer is insured will not go to the expense of disputing it. What is the remedy? So far as my personal experience goes, industrial accidents

[1] See JOURNAL June 24th, p. 1473, *passim.*

and poisoning are far more frequently due to the carelessness of the worker than to defects in machinery; and yet this is the only country in Europe where the employer has to bear the full cost. Were the worker compelled, by a deduction from wages or otherwise, to pay a share, this would, in my opinion, be a stronger check against malingering than any that has been proposed by your correspondents. And yet while much is being said as to free choice of doctor and payment according to attendance leading to malingering, we have now an Insurance Bill, which professes to be national, in which the most prevalent cause of malingering is left untouched.

In questions affecting sickness and invalidity Parliament goes muddling on and bills are introduced, when the only one who is not consulted is the medical man. Not only in our own interest, but in that of the nation at large, it seems more than time that medical men rallied round one common centre. Had this been done in the past we would not now have had to grapple with an Insurance Bill embodying a principle, excellent in itself, but developed in a manner which manifests a painful ignorance of what has taken place in other countries. Hence comes it that we have now so many provisions in that bill which are unworkable and palpably absurd.—I am, etc.,

J. H. KEAY.

Greenwich, June 26th.

ORGANIZATION OF THE PROFESSION IN NEW SOUTH WALES.

SIR,—From your article on "Organization of the Profession in New South Wales" one might infer that in Australia there is a wage limit. In no State do I believe this to be the case, though the profession has several times attempted to bring it about. The competition there and in New Zealand is very keen. I was in practice for seventeen years in a large agricultural and mining town in Victoria. Among my lodge members were clergymen, lawyers, and bank managers, some of whom preferred their own private doctor. Men drawing a salary of £500 and £700 a year were mean enough to call on me to attend them at 13s. a year, but no dispensing; families are always included. The work was enormous, as they required far more attention than a similar class in this country. The labouring classes here cannot be compared to those of Australia; in the latter they are superior in education, dress, and manners. I have known some to have their own visiting cards. Their homes are kept in a very different style from here. There is not so much drinking. One member's will was proved at £22,000, another £7,000, so it behoves the profession here to be very wary how they accept Mr. Lloyd George's scheme.—I am, etc.,

A. T.

July 5th.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examinations indicated:

FIRST B.M.—*Organic Chemistry:* H. E. Bamber, J. N. L. Blainey, H. G. Burford, A. Jackson, T. L. Price, J. A. G. Sparrow, A. Traill.

Human Anatomy and Human Physiology: H. E. A. Boldero, L. G. Brown, F. B. Chavasse, W. T. Collier, V. T. Ellwood, R. C. Fairbairn, R. J. Inman, M. R. Lawrence, G. A. Maling, T. S. Nelson, O. B. Pratt, G. S. Robinson, C. P. Sells, J. A. G. Sparrow, N. A. Sprott, C. P. Symonds, H. A. B. Whitelocke.

FINAL B.M.—*Materia Medica and Pharmacology:* W. J. Hart, H. M. Pope, E. Scott, J. A. Wood.

Pathology: J. L. Birley, A. Booth, C. H. Budd, A. A. M. Davies, H. T. Evans, R. A. Faucus, J. R. Kay-Mouat, D. P. McDonald, W. H. Ogilvie, R. C. Ozanne, H. M. Pope, J. Sainsbury, W. W. Wagstaffe, R. O. Ward.

Forensic Medicine and Public Health: H. C. Bazett, J. L. Birley, A. Booth, N. S. Lucas, S. W. Scott-Wilson, P. T. Spencer-Phillips, C. J. G. Taylor, W. W. Wagstaffe, W. C. Wigan.

Medicine, Surgery, and Midwifery: H. C. Bazett, A. R. Chavasse, H. J. B. Fry, A. D. Gardner, J. A. Noble, E. R. Pearce-Gould, J. F. Penson, P. T. Spencer-Phillips, W. W. Wagstaffe.

Degrees.

The following degree has been conferred:

D.M.—Charles Singer.

UNIVERSITY OF LONDON.

GUY'S HOSPITAL MEDICAL SCHOOL.

THE annual prize distribution at Guy's Hospital took place on July 4th, Viscount Goschen presiding. In the course of the proceedings the dean of the school read his report, which recorded the presentation to the school by an anonymous donor of £8,000 for the erection and equipment of a new pathological department. With this sum a five-story warehouse, close to the *post-mortem* room, had been acquired, and was now being converted into a place suited for its future purpose. It would afford the school the ampler accommodation for teaching and research which it had so urgently required for years. This work done, the reconstruction of the school would be practically complete; nothing would remain of it as it existed twenty-five years ago with the exception of the dissecting room. Since 1889 over £80,000 had been spent on new buildings, about three-quarters of that sum having been raised on loan, or otherwise provided by the school itself. It was a source of pride that the school was able not only to meet the capital charges on the sum in question, but also to provide a certain amount of remuneration for all its teachers. Satisfactory, however, as was this fact, it was felt that the permanent financial and educational success of the school could only be secured by obtaining adequate endowment. No further expenditure on buildings would probably be necessary for the next thirty years, and possibly by the end of that time the need would have been met. Subsequently the prizes were distributed by the Right Hon. Alfred Lyttelton, K.C., M.P., and a closely thronged garden party followed, the school buildings and hospital wards being thrown open to inspection.

UNIVERSITY OF BIRMINGHAM.

THE DEGREE CONGREGATION.

THE Degree Congregation of the University of Birmingham was for the second year held in the Great Hall of the University. The honorary degree of Doctor of Laws was conferred on the Right Hon. Sir Joseph Ward, Bart., K.C.B., Premier of New Zealand. The degree of Doctor of Science was conferred on William Ernest Fisher, David Fraser Harris, and Frederick Steward. Eighteen candidates were admitted Masters of Science, including two ladies, while the fifty-six Bachelors of Science included four ladies. The degree of Doctor of Medicine was conferred on Henry Percy Pickerill (in *absentiâ*), and the degrees of Bachelor of Medicine and Bachelor of Surgery upon E. W. Assinder, Evan Davies, J. S. Edwards, H. A. Evans, O. M. Holden, H. F. Humphreys, Elizabeth S. Impey, C. C. Jones, R. D. Nelson, A. H. Newton, and C. E. Salt.

Examinations.

The following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B. (*Physics, Chemistry, and Biology*).—J. H. Crosskey, Lillie M. Donovan, Alice M. Evans, G. C. Mathie, R. F. Pinson, Hilda N. Shufflebotham, A. P. Thomson (all placed in the Second Division), F. Newey, B. T. Rose, E. S. Jones.

SECOND M.B., CH.B. (*Anatomy and Physiology*).—J. C. Brown, J. E. Foley, H. G. Langdale-Smith, A. D. Millington, K. B. Pinson, C. A. Raison, L. D. Roberts, A. P. Smith, C. G. Teall, B. Wood-White, M. S. Woolf (all placed in the Second Division).

THIRD M.B., CH.B. (*Pathology and Bacteriology and Materia Medica and Pharmacy*).—Elsie M. Humpherson (Second Division), D. J. Evans.

FOURTH M.B., CH.B. (*Forensic Medicine, Toxicology, Public Health, and Therapeutics*).—G. H. Alabaster, R. A. Broderick, E. F. Buckler, G. E. Elkington, D. J. Evans, T. Hampson, Elsie M. Humpherson, J. C. Jones, J. B. Lowe, H. C. Nickson, P. T. Priestley, H. Sheasby, C. L. Spackman, R. J. T. Thornhill, A. A. Wilkinson (all placed in the Second Division).

FINAL M.B., CH.B.—E. Davies, J. S. Edwards, *O. M. Holden, Elizabeth S. Impey, C. C. Jones, R. D. Nelson, C. E. Salt (all placed in the Second Division).

M.D.—H. P. Pickerill.

*Russell Memorial Prize in Nervous Diseases.

UNIVERSITY OF EDINBURGH.

AMONG those on whom honorary degrees in law were conferred at a meeting of the Senate on July 7th were Dr. Thomas Smith Clouston, Dr. James Mackenzie, Professor Ernest Rutherford, F.R.S., of Manchester, and Sir William Richard Gowers, F.R.S. (*in absentiâ*).

UNIVERSITY OF DUBLIN.

Degrees.

THE following were among the degrees conferred at a meeting of the Senate on July 6th:

M.B., CH.B., B.A.O.—G. G. P. Beckett, Mary G. Caskey, F. Crosby, F. C. Crosslê, W. O. Halpin, A. E. Malone, R. H. Mathews, R. W. Murphy, M. S. Moore, P. F. Nunan, Gervaise G. M. Scroop, A. F. B. Shaw, H. J. Smyly, R. E. T. Tatlow, H. L. W. Woodroffe.

M.D.—J. B. Burgess, S. F. A. Charles, *G. I. Davys, E. A. W. Henley, *N. P. Jewel, W. H. L. M'Carthy, R. H. Mathews, P. F. Nunan, J. L. Phibbs, R. E. T. Tatlow, J. H. Waterhouse, J. H. Woodroffe.

** In absentiâ.*

On the same occasion the license in medicine, surgery, and obstetrics was handed to E. N. Bateman.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Council Election.

AT the annual meeting on Thursday, July 6th, 742 Fellows voted, 735 sending their ballot papers through the post, and 7 voting in person. One ballot paper was invalid.

The President at 5.30 declared the result of the poll as follows:

	Votes.	Plumpers.
Mr. G. H. Makins, C.B.	575	57
Mr. Clinton T. Dent...	401	24
Mr. B. G. A. Moynihan	334	92

Mr. Makins and Mr. Clinton Dent were declared duly re-elected. Mr. H. J. Price and Mr. A. J. Walton acted as scrutineers.

Obituary.

FURNEAUX JORDAN, F.R.C.S.,

CONSULTING SURGEON, QUEEN'S HOSPITAL, BIRMINGHAM.

MR. FURNEAUX JORDAN, for many years Surgeon to the Queen's Hospital, Birmingham, died at his residence at Teignmouth, Devon, on July 7th, at the age of 81. Mr. Furneaux Jordan, who was himself the son of a Birmingham surgeon, received his medical education at Queen's College, Birmingham, where he afterwards became Professor of Anatomy. He qualified as M.R.C.S. in 1854, and was appointed Surgeon to the Queen's Hospital in 1863, and some years later exchanged the Chair of Anatomy for that of Surgery. He became a Fellow of the Royal College of Surgeons of England in 1866. He was for many years one of the leading surgeons in Birmingham, and his eminence was recognized by his appointment as Consulting Surgeon to the Kidderminster Hospital, the West Bromwich Hospital, the Women's Hospital, the Dental Hospital, and the Skin and Lock Hospital in Birmingham. He gained the Hastings gold medal of the British Medical Association in 1866 for an essay on shock to the nervous system after injuries and operations, and was subsequently President of the Birmingham Branch of the British Medical Association as well as of the Midland Medical Society. Among his contributions was an essay on a new method of amputation of the hip-joint, and he published many other articles and addresses which he collected in a volume under the title *Surgical Enquiries*. Mr. Jordan resigned the Professorship of Surgery in 1884, and in 1886 retired from the active staff of the Queen's Hospital, when he was appointed Consulting Surgeon. Some years ago he retired altogether from practice, and had since resided at Teignmouth. He has left a widow, three daughters, and three sons, two of the latter being members of the medical profession.

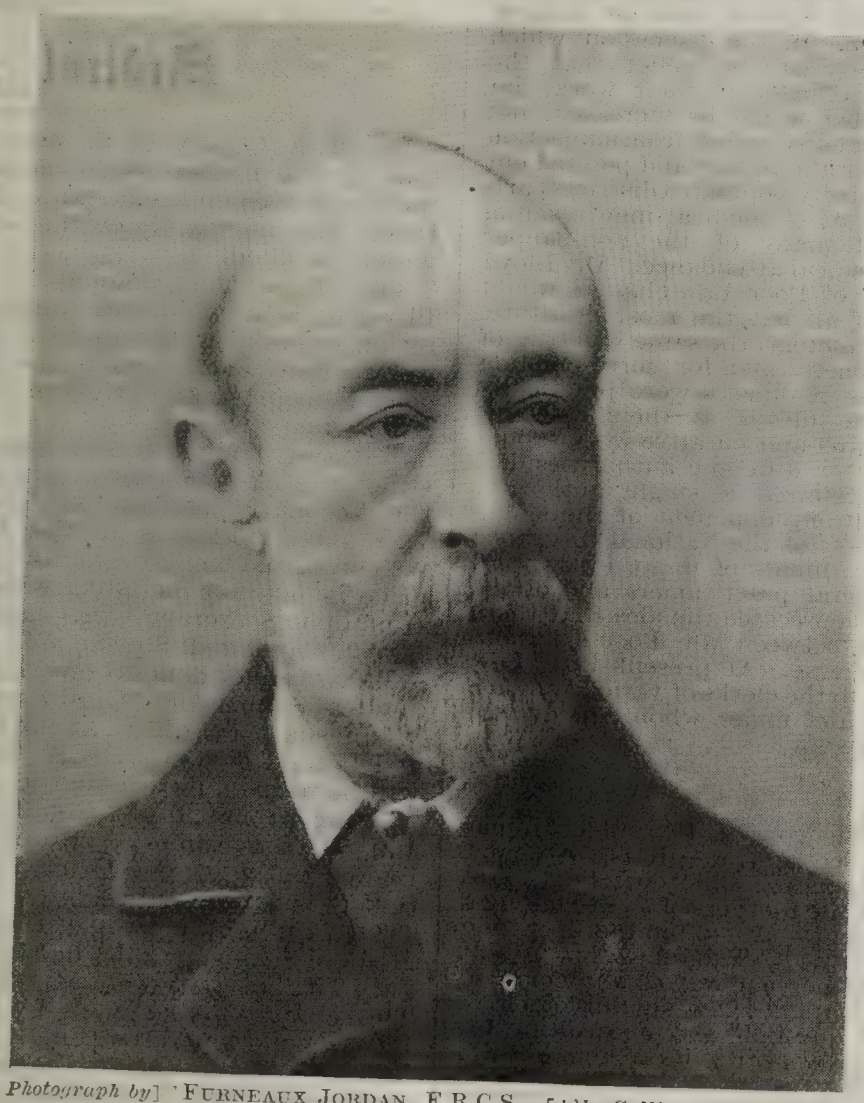

Photograph by FURNEAUX JORDAN, F.R.C.S. [*John Collier, Birmingham*

WALTER E. WILLIAMS, M.B., C.M.GLASG.,

PORTMADOC, NORTH WALES.

DR. WALTER WILLIAMS died on June 27th at his residence in Portmadoc, after a long illness, at the age of 46.

He received his early education at The Friars School, Bangor, at the time when the late Bishop Lloyd was head master. He afterwards entered the Glasgow University, and after a successful career took the degrees M.B. and C.M. in 1890. After holding appointments in various parts of the country he settled down in Portmadoc about sixteen years ago, and soon built up an extensive practice. He was a man who loved his profession, and its honour and dignity he strictly upheld. He contributed papers on several occasions to the meetings of the North Wales Branch, but his interests were not confined to his profession; he possessed a talent for drawing which, if it had been cultivated and developed, would have unquestionably won him recognition as an artist. He took great interest in the antiquities, folk-lore, and natural history of Wales, and wrote several articles on these subjects for the Welsh periodicals. When the Cambrian Archaeological Association met at Portmadoc a few years ago Dr. Williams read a most interesting paper on the famous Llangybi Well, and wrote for the local guide then published a valuable article on the flora of the district. A warm-hearted, genial, and sympathetic personality, he will be greatly missed by a large circle of friends and patients.

The funeral took place on June 30th at Llangybi Parish Church in South Carnarvonshire. He leaves a wife and a son to mourn his loss.

The death of Mr. JAMES A. BROWNE, L.R.C.P. and S.I., in the Millbank Military Hospital, London, came as a great shock and caused keen regret to a very large number of his professional brethren and a still larger number of general friends. Mr. Browne was attached as Second Lieutenant to Belfast University contingent of the Officers' Training Corps, and crossed from Belfast with them on July 1st to attend the review at Windsor. At Windsor station he was taken suddenly ill, and was promptly attended to by Drs. Stevenson and Vint, House-Physicians of the Royal Victoria Hospital, Belfast, who were also in the corps. He rallied, but was removed to the Ambulance Hospital and subsequently to Millbank, where he expired on July 4th. Mr. Browne was a universal favourite; he was more than liked by all who knew him. He had been Clinical Assistant in the Ophthalmic Department of the Royal Victoria Hospital, Belfast, and held the same post in the Belfast Ophthalmic Hospital. He was the only surviving son of Mr. J. Walton Browne, M.D., Senior Surgeon to the Royal Victoria Hospital, and also to the Ophthalmic Hospital, Belfast, with whom sincere sympathy is felt. The funeral took place on the morning of July 8th with military honours.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. A. Valentin, Professor of Diseases of the Ear, Nose, and Throat in the University of Berne, aged 65 years; Dr. Ludwig Kerschner, Professor of Histology and Embryology in the University of Innsbruck, aged 51; Professor Adolf Schmidtmann, Curator of the University of Marburg; Dr. Wever, formerly Under-Secretary of State in the Prussian Cultusministerium, aged 57; Dr. M. S. Dobrotworsky, Professor in the Psycho-Neurological Institute, St. Petersburg, aged 56; Dr. S. E. Chaillé, Surgeon-General of Louisiana and personal Physician to Jefferson Davis, afterwards Dean of the Medical Department of Tulane University, an office which he held until his death, aged 81; Professor Krönig, head of the Medical Department of the Friedrichshain Municipal Hospital, Berlin, aged 55; Dr. Emma W. Mooers, Custodian of the Neuro-Pathological Collection of the Harvard Medical School, aged 52; Professor Ernst Julius Remak, the distinguished neurologist of Berlin, aged 62; Dr. Heinrich Stilling, Professor of Pathological Anatomy and Physiology in the University of Lausanne, aged 58; Dr. Carl Beck, Professor of Surgery in the New York Post-Graduate Hospital and Medical School, aged 55; Dr. Joseph Price, of Philadelphia, a well-known gynaecologist, aged 57.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION.

AT the annual general meeting of the Association of Poor Law Medical Officers of England and Wales, which took place on July 6th in the Council Chamber of the British Medical Association, a letter was read intimating that an invitation would shortly be received from the Lord Mayor of Bristol for the Association to hold its next annual meeting in that city. The elections for the year took place, all existing honorary officers being re-elected. (President, Surgeon-General Evatt, C.B.; Chairman of Council, Dr. Balding (Royston); Treasurer, Dr. A. Napper (Cranleigh); Auditor, Dr. Withers Green (London); Secretary, Dr. Major Greenwood). The election also left the previous council unaltered, with the exception of the substitution of Dr. W. Brown (Bristol) for one member. The routine business of the meeting having been completed, Dr. Major Greenwood introduced a discussion on the National Insurance Bill in reference to the work of members of the association, an account of which will be found at p. 114 of the SUPPLEMENT to this issue. Dr. Lyster (M.O.H., Hants) read a paper advocating the transformation of the Poor Law Medical Service into an integral part of the Public Health Service. In the discussion which followed Dr. Withers Green expressed the belief that the result would be to deprive many officers of their work, but Dr. Holder thought that the number would be increased, not lessened. Dr. A. Napper thought that any change from subjection to boards of guardians would be for the better, and pointed out some difficulties in the way; in sparsely populated districts part-time offices were necessary to permit of medical men residing in them at all, and in default many of the non-pauper class would be unable to secure medical attendance. Dr. Lloyd Brown thought that the tendency of Poor Law changes would be in the direction of getting rid of all but the most destitute. If much Poor Law work were perfunctory, the same was true of the work of sanitary medical officers, and for corresponding reasons—namely, that both classes of officers were practically unable to do anything with the means at their disposal. Dr. Larking thought that preventive and curative work should be kept absolutely apart and under different authorities, but Surgeon-General Evatt much preferred a single authority. Dr. Greenwood, who had been a strong opponent of the single authority plan until the introduction of the National Insurance Bill, agreed that part-time appointments of many kinds were necessary for the welfare of general practitioners and of the public. Dr. Lyster, in his reply, deprecated the idea that there would be any inequality in rank between the Poor Law and sanitary medical officers in his scheme. At present Poor Law medical officers were subordinate to the clerks of various unions, but in his proposed service the chief under whom they would serve would be a professional man.

VAX.—During the past ten years the conscientious objector has been very much in evidence in Scotland, and it is, no doubt, true that, as stated by our correspondent, the "objection" is to be associated with the fact that the mothers object to taking a little trouble to protect the infant's arm after the operation of vaccination has been performed. The objecting parent very commonly has no views either one way or another as to the protective power of vaccination. The signing of blank forms by J.Ps. is a serious question and one calling for thorough investigation; it would appear to be an abuse of the duties pertaining to the office of a Justice of the Peace.

Medico-Legal.

AN ACTION FOR LIBEL.

IN the London Sheriff's Court, on July 6th, Dr. A. R. G. Pocock, of Beaconsfield and Gerrard's Cross, was awarded £500 as damages in respect of certain libels on the part of a neighbouring medical practitioner (Dr. W. H. Hornibrook). The principal libel consisted in stating to a patient of Dr. Pocock's, whom the defendant had had occasion to see professionally, that none of Dr. Pocock's fellow practitioners would meet him in consultation. The case originally began in the High Court, but no defence being put in, was remitted for assessment of damages. After the case had been opened by counsel (instructed by Messrs. Le Brasseur and Oakley, on behalf of the London and Counties Medical Protection Society), the plaintiff gave evidence to the effect that there was no ground or justification whatever for the libels. He had been in practice in the locality for some nine years, was in a partnership, and no medical man had ever refused to consult with him. On behalf of the defendant, counsel (instructed by Messrs. Hempson) said that he did not wish to defend the writing of the letters, but submitted that in fact the plaintiff had not suffered any damage from the libels. The jury, having held a brief consultation, gave the award stated, and a verdict with costs was entered for that amount.

RECEPTION OF INSANE PERSONS.

A. T. asks if a person letting apartments could be prosecuted for receiving into her house two insane persons, sisters, with two attendants. She would undertake to board them, is a certified nurse, and has had experience in an asylum, but does not undertake any control of them.

*** Yes, she could be prosecuted, and probably the "attendants" also.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

SUPPLYING SPECTACLES.

D. C. W.—It seems undesirable that medical practitioners should make a profit by supplying instruments or appliances of any kind.

RESPONSIBILITY FOR CONSULTANT'S FEE.

HALIDON.—We do not think that, in the circumstances described, A. can be held to be responsible for C.'s fee.

Medical News.

DR. M. A. CURRY, of Putney, London, tenders his gratitude to the numerous colleagues who so kindly granted their suffrages on his behalf at the recent by-election of a Direct Representative on the General Medical Council for which he stood.

THE Executive Council of the National League for Physical Education and Improvement has adopted a resolution expressing the opinion that in deciding upon the sanatorium benefits under the National Insurance Bill due consideration should be given to the claims of anti-tuberculosis dispensaries.

THE annual meeting and banquet of the Brussels Medical Graduates' Association will be held at the Garden Club of the Coronation Exhibition, on Saturday, July 22nd, at 7.30. All graduates of the University of Brussels are welcome, and members are invited to bring ladies. Tickets, price 7s. 6d. (not including wine), may be obtained from the Honorary Secretary, Dr. Arthur Haydon, 23, Henrietta Street, Cavendish Square, W.

THE summer general meeting and luncheon of the Irish Medical Schools' and Graduates' Association will be held on Wednesday, July 26th, at the Imperial Hotel, Birmingham, at 1.15 for 1.30 p.m. Dr. W. Douglas, Honorary Secretary, will be pleased to receive the names of any Irish graduates wishing to attend—at Goudhurst, Kent, up to July 19th and at the Imperial Hotel, Birmingham, afterwards. Ladies and other guests may be invited. The price of the tickets is 3s. each.

THE annual luncheon of the Continental Anglo-American Medical Society will be held at Birmingham on Thursday, July 27th, at 1.30 p.m., at the Grand Hotel, Colmore Row. The chair will be taken by Professor Sir William Osler, Bart., honorary president. Members of the society who intend to be present are requested to communicate as soon as possible with Dr. Charles G. Jarvis, honorary secretary, 81, Boulevard Malesherbes, Paris.

THE annual conference of the National Association for the Prevention of Consumption and other Forms of Tuberculosis will be held on Wednesday, Thursday, and Friday next, July 19th, 20th, and 21st, at Caxton Hall, Westminster. The first session, on Wednesday, at 10.30, will be presided over by Professor Sims Woodhead, and will discuss the spread of knowledge about tuberculosis by lectures, literature, and exhibitions in schools and by the district nurses. At the afternoon session at 2.30 p.m., when Dr. Philip of Edinburgh will be in the chair, the machinery for detecting the disease will be discussed, including the hospital, the tuberculosis dispensary, and public and voluntary effort. Both sessions on Thursday will be devoted to the discussion of treatment, under the presidency of Professor Sir William Osler. On Friday the morning session will be devoted to the discussion of the after-care of patients, and the afternoon session, under the chairmanship of Dr. Leslie Mackenzie, medical member of the Local Government Board (Scotland), will be given to the discussion of the administrative and financial aspects of the National Insurance Bill; Mr. Waldorf Astor, M.P., will speak on the cost of tuberculosis to the community; Dr. Nathan Raw on the use of existing accommodation; and Mr. Ernest J. Schuster, LL.D., on the general and medical aspects of the bill.

CREMATION has now been sanctioned by the Russian Government. Crematoriums will, therefore, it is semi-officially stated, be established in St. Petersburg, Moscow, Odessa, Warsaw, and Riga.

IN recognition of his twenty-five years' service as medical officer of health for the City of Bristol, Dr. D. S. Davies was on July 3rd presented with a silver coffee service by the members of the staff of the health department. The presentation was made by Mr. J. W. Kirley, who spoke of the cordial relations that had always existed between their chief and the staff; he added that if additional evidence of their amicable relations were required, he might say that every member of the staff had contributed to the present. Mr. Dimond, who also spoke, referred to the high esteem that was felt by the citizens for their medical officer of health. Dr. Davies said he was deeply touched by the evidence of kindly esteem and loyalty from the staff. The progress in the health of the city was due not to any one man but to the devotion to the common good of all the staff. They must not be content to stand still, and any present success must lead them on to further endeavour.

THE Central Counties Branch of the British Dental Association held its annual meeting at Leicester on June 30th, under the chairmanship of Mr. Cale Matthews of Birmingham, who, speaking of the work done by the Law and Ethics Committee of the branch, dwelt on the value of a high standard among the members. He subsequently inducted into the chair the new president, Mr. F. Lankester of Leicester, the other officers appointed being Mr. M. Knott, treasurer, Mr. C. W. Randall, honorary secretary, and Mr. A. L. Bostock of Kidderminster, president-elect. At the dinner which followed in the evening the toast to the association was proposed by Dr. Wallace Henry of Leicester, who expressed the opinion that the dental profession as well as the medical profession was affected by the national insurance scheme, and should assist in fighting the clauses inimical to their joint interests. The toast was acknowledged by Mr. W. A. Waite, president of the parent association. Its members, he said, were still increasing, and he hoped that very soon every qualified dental practitioner would have joined it. Other speakers were the mayors of Banbury and Leicester, who seemed disposed to believe that the anxiety felt by the medical and dental professions as to the effect of the National Insurance Bill was unwarranted; and Dr. Allan Warner, who acknowledged the toast to the guests on behalf of the medical men present.

THE National Association for Promoting the Welfare of the Feeble-minded has done much good work in the past, and no feature of this much-needed charity is more worthy of admiration than the providing of these derelicts not merely with a home, but also with a means of occupation. The new Farm Colony at Hildenborough, near Tonbridge, is an example of the methods by which it endeavours to combat what threatens to be one of the most crying evils of the age. Here defective children of either sex (in most cases the offspring of defective parents) are rescued from the dangers of the street, the prison, or the workhouse, brought up in clean and healthy surroundings, and taught to labour with their hands. It has been found that though many of these children can neither read nor write, and indeed are totally incapable of acquiring the ordinary rudiments of education, they show a certain amount of aptitude for manual labour. At Hildenborough, therefore, they are given every chance of learning something which will enable them, if not to support themselves, at least to keep them from swelling the already overcrowded ranks of the unemployable. So far the experiment has been singularly successful. The Farm Colony, which was built to accommodate 50 boys and 50 girls, was opened by H.R.H. Princess Christian of Schleswig-Holstein on the afternoon of July 11th, when her Royal Highness, who was received by a guard of honour of the Officers' Training Corps at Tonbridge School, was presented with purses containing subscriptions amounting to £400 towards the maintenance of the new establishment. Speeches were made by Sir William Chance, the chairman of the colony committee, and Mr. W. H. Dickinson, M.P.; and a vote of thanks was proposed by the Marquess Camden, Lord Lieutenant for the county of Kent. The Princess afterwards inspected the farm buildings, where the boys were to be seen at work, and where specimens of excellent needlework done by the girls were on view for sale. Later in the afternoon some charming morris dances were performed by the Guild of Play Children from the Bermondsey University Settlement.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

COUNTRYSIDE seeks advice as to treatment of a patient, a busy young barrister, who is greatly troubled with itching quite unaccompanied by rash. "After his cases he finds he has been perspiring copiously, and that he must hurry to his chambers to relieve his skin irritation by scratching. What tries him most is that he frequently is hours before he can fall asleep at night. Could any particular spa in August be strongly recommended as part of the treatment?"

MIXED VACCINE IN TUBERCULOSIS.

W. S. M. desires to administer tuberculin and also a staphylococcal vaccine as curative treatment in a case of phthisis where the sputum also contains cocci. He asks whether there is any contraindication to sucking the one vaccine after the other into the syringe and injecting them together so as to avoid puncturing the skin twice.

DRY MOUTH.

DR. W. W. HARDWICKE (London, S.W.) asks for advice in the treatment of the following case of chronic dryness of the mouth: A lady aged 47, menstruating regularly, had chronic enteritis for over two years when she came under my notice, suffering from diarrhoea with yellow evacuations, dry mouth, loss of flesh. When under my care the diarrhoea was only relieved temporarily by astringents, but eventually cured by "membroids" of "cofectant" (Cook), which are said to be insoluble till reaching the bowel. Now, three weeks later, there is no return of the diarrhoea, but dryness of the mouth continues and makes the patient's life miserable. No albumen, no sugar. Neither acids nor alkalis relieve it.

ANSWERS.

RETINA.—The symptoms point to a detachment of the retina. It would only be possible to make a positive diagnosis after an examination of the eye. If our correspondent is not satisfied, the case appears to be one in which the services of a specialist should be obtained.

CASE OF PHOSPHATURIA.

DR. H. J. THORP (Ipswich) writes in reply to "R. A. C." to express the opinion that the treatment of phosphaturia consists of removing the cause, such as dyspepsia and nervous debility. Speaking generally, the mineral, vegetable, and acid tonics are required in almost all cases, and the usual adjuncts, good air and exercise, the cold sea water bath, and a well selected generous diet, principally composed of animal food, and relief from anxiety and overwork. Any local disease must be remedied.

NERVOUS FLATULENCE.

DR. W. H. SPURGIN (Newcastle-on-Tyne) writes, in reply to "A.," that it is clear that his nervous system is depressed, perhaps from want of a change of air and scenery. His flatulence would be relieved by a mixture of ginger, soda, and nux vomica, with peppermint water, taken half an hour before food. This would materially improve his nerve power. Dr. Spurgin thinks that a preparation of pepsin taken immediately after or with food would be beneficial.

STAINED FINGERS.

BURMA.—Silver salts and potassium permanganate become decomposed in contact with the skin, and the stains formed consist respectively of metallic silver and an oxide of manganese; these cannot be removed by any solvent except strong acids, which it would not be proper to use; but if the silver stain is only recent and superficial, a solution of potassium ferricyanide 10 grains, and sodium thiosulphate about 100 grains, in an ounce of water may remove it rather slowly. Solution of chlorinated lime is said to be best for removing a chrysarobin stain; the *B.P.* solution is of a suitable strength. Iodine stains are best removed by a strong solution of sodium thiosulphate (known to photographers as "hypo"), or by wetting the part and rubbing it with crystals of the salt.

GEORGE III.

DR. WALLACE SMITH.—Our correspondent still fails to see that the sentence to which he takes exception ("The reign of George III was, with the single exception of that of Queen Victoria, the longest in English history") is strictly and literally true. Reference to the Act of Union and to that eminent historian Defoe are absolutely irrelevant. Our correspondent asks what ground there is for the assumption that the term Britain excludes Ireland? We may refer him to that recondite work *Whitaker's Almanack*, where he will find the Sovereign of these realms styled "by the Grace of God King of the United Kingdom of Great Britain and *Ireland*," etc. Dr. Wallace Smith says "it must be news to many that there is any language called 'British.'" If he will refer to the Act of Uniformity passed in the reign of Charles II (1662) he will find an enactment "That the Book (of Common Prayer) hereunto annexed be truly and exactly translated into the *British* or Welsh tongue." We cannot discuss this matter further.

LETTERS, NOTES, ETC.

DR. J. S. MANSON (Warrington) has written to call attention to a slip in Dr. Clement Dukes's address on "The Necessary Influence of the Medical Profession in the Home, the School, and the State," published last week. The law of hereditary transmission referred to in the last paragraph but one in the second column, p. 57, was that of Galton. Dr. Clement Dukes asks us to apologize for the slip of the pen which led him to write Mendel for Galton.

DR. FORBES WINSLOW'S "RECOLLECTIONS."

DR. FORBES WINSLOW writes: As a rule I accept the opinion of the critic without a murmur. This has especially been the case with those who have been kind enough to notice my *Recollections of Forty Years*. I am sorry I must depart from my practice so far as the notice of this book which appears in your issue of July 8th is concerned. Your reviewer says: "We are sorry to see such a monstrosity as 'aura haematoma' twice repeated in a formal report signed by an LL.D. of Cambridge and an Honorary D.C.L.Oxford." Such a term applied to myself is highly reprehensible, and I must ask for an immediate retraction of the same. For forty years I have preferred to use the term "Aura haematoma" to that generally used—"Haematoma auris." It appears to me more descriptive, the term being used to denote the peculiar sanguineous condition of the ear found in some forms of chronic lunacy, and observed by me in that of Devereux—the one, no doubt, referred to in your review. No report was, however, signed by me as D.C.L.Oxon. (Hon.), as inferred in the review. My father possessed this degree, which was bestowed upon him about sixty years ago, being, I believe, the only recipient of such an honorary degree at the time by any medical man. A D.C.L.Hon.Oxon. was a different thing then to what it is now. When I sign any report I usually attach my signature as below: "Forbes Winslow, LL.D.Cantab., D.C.L.Oxon."

*** We are sorry if we have credited Dr. Forbes Winslow with an honour he does not possess. We therefore withdraw the "reprehensible" term "honorary" which he repudiates. In justice to him we quote the following passage from his book (p. 24):

> I had always taken a great interest in all matters connected with lunacy, as may be inferred in my being brought up in its very atmosphere; and I felt it rather a proud day in my life when I received the degree of D.C.L. from the University of Oxford for my thesis on "The History of Lunacy Legislation." It might not be out of place to mention here that the reason I felt proud and satisfied with my position was from the fact that I obtained this degree at the age of twenty-six, and I was the youngest recipient of that degree ever conferred by the University of Oxford. I subsequently, many years afterwards, obtained the degree of LL.D. from the University of Cambridge for my researches "On the Criminal Responsibility of the Insane."
>
> It has always been a great satisfaction to me that I possessed these degrees. In my opinion they are of far more value to me than all the greatest medical distinctions that could have been offered to me. My father, who had the honorary D.C.L. of Oxford, entertained the same opinion so far as he was concerned.

We may point out that it was not implied in our review that the report was signed by Dr. Forbes Winslow with the initials "D.C.L.Oxon.(Hon.)," but only, as we somewhat hastily inferred from the passage just quoted, that he possessed that distinction. He is good enough to inform us how he usually signs reports. But he evidently does not adhere strictly to this style, for his signature appended to the very report referred to is followed by the initials "M.B., D.C.L., LL.D." These are but trifles. The point that seemed to us of importance was that a man with Dr. Winslow's academic honours should use such a term as "aura haematoma." The fact that his Oxford degree is not honorary makes it all the worse. When the Duke of Wellington, as Chancellor of the University of Oxford, in the Latin address written for him by Sir Henry Halford, spoke of Carōlus and Jacōbus, some frivolous persons may have smiled, but none could have felt any surprise that the conqueror of Napoleon should have been somewhat rusty in his quantities. But a full-grown graduate doctor may reasonably be expected to know that *aura*, a breeze, has even less to do with *auris*, the ear, than Monmouth with Macedon. We venture to suggest that in future the learned D.C.L. of Oxford would do more honour to the degree which he naturally values so highly, as well as to its illustrious source, if he were to write "aural" instead of "aura," since he thinks "haematoma auris" not sufficiently descriptive for his purpose.

THE PRELIMINARY PLACING OF THE PERINEAL STITCH.

DR. A. LAPTHORN SMITH (Montreal), in the course of a letter on this subject, writes: At the Boston meeting of the American Gynaecological Society in 1904 I had the honour of presenting a paper on the immediate repair of the perineum with special reference to the placing of the sutures in position before the laceration takes place. I pointed out the two great reasons for the immediate repair of every laceration of the perineum; first, to close up the avenues of infection, which are the cause of the mildest as well as of some of the most severe cases of puerperal fever; and, secondly, to reunite the separated levator ani and transversus perinei muscles. During the last twenty years I have made it my invariable custom to put in a stitch or two in every case in which even half an inch of the fourchette had been torn. The result has been that my obstetric cases have been almost entirely free from the slight rise of temperature on the second or third day, formerly called milk fever. I am certain that patients who have had these small lacerations of the perineum repaired have made better convalescences than those on whom this was not done. Moreover, in a part so abundantly supplied with nerves it is important to obtain repair by primary union rather than by contracting scar tissue. Besides, when the sphincter is torn through, the patient loses control of her bowels. Just before the child's head comes down on the perineum the patient is anaesthetized and brought across the edge of the bed with the feet held by a twisted sheet or leg-holder. The perineum is sterilized with a soap and brush and mercuric bichloride, and then with the large curved perineum needle on a handle, furnished by Chapman of Montreal, held firmly in the right hand, and with the thumb of the left hand in the anus and the left forefinger in the vagina the needle is entered at the base of the lesser lip on the patient's left, taking in the levator ani muscles, and passed rapidly under the vagina and about two and a half inches above the fourchette, coming out at the corresponding point on the woman's right side. A silkworm gut suture is threaded into it, and the needle is withdrawn followed by the silkworm gut, the two ends of which are caught up with two Péan forceps. A second one is passed in the same way an inch lower down, but taking in the muscles of the perineum. We can generally tell beforehand, by the rigidity of the perineum, whether the tear is going to be a bad one or not. In the former case we can put in a third stitch, which would take in the sphincter ani on each side of the middle line. Delivery can now go on naturally or artificially, but as soon as the placenta has been delivered the perineum is inspected under a good light and a stream of water, all clots being rubbed off with the finger; the stitches are tied from above downward, when we will find that there is absolutely accurate coaptation of the separated parts. The presence of the silkworm gut stitches placed as stated before the head comes through the perineum and hanging loosely attached by their ends to Péan forceps does not interfere with the termination of the labour in any way, not even when forceps are required. If by keeping the pain under control and the head well towards the symphysis there has happily been no laceration of the perineum, no harm is done by their having been introduced; while if the perineum has been lacerated more or less it is a great advantage to save time by having them already in, but still more by having them exactly in the right place to bring the lacerated surfaces together, just as they were before the delivery. The placing of the perineal sutures before the tear occurs is an instance in which "an ounce of prevention is worth a pound of cure."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

An Address

ON

SOME LATTER-DAY INTRUSIONS OF THE SURGEON ON THE ABDOMEN.

DELIVERED BEFORE THE SOUTHERN BRANCH OF THE BRITISH MEDICAL ASSOCIATION AT PORTSMOUTH.

BY

CHARLES P. CHILDE, B.A., F.R.C.S.,

SENIOR SURGEON, ROYAL PORTSMOUTH HOSPITAL; PRESIDENT OF THE BRANCH.

IT has been customary for the president to inflict an address on the members at the annual meeting. With your permission I propose to take as my subject some warrantable intrusions of the surgeon on the abdomen of recent years—in other words, to define what appears to me to be the legitimate rôle of surgery in the more common abdominal diseases. Inasmuch as most abdominal cases in the first instance come under the care of the general practitioner, the proposition which I intend to submit to you to-day as to when and in what circumstances the surgeon's assistance is indicated should be of interest to the majority of my audience. There is no doubt that during the last quarter of a century the surgeon has become a somewhat pushful intruder on every domain of medicine, and nowhere has his enterprise been more conspicuous than in the abdomen. If we cast back twenty-five years, the abdomen was almost exclusively the physician's preserve, practically the only surgical interference within it being the removal of ovarian cysts, and that so rarely that such operations were regarded as quite an event in hospital practice, and would draw large audiences to witness them. As soon, however, as the Listerian system of treating wounds revealed to the surgeon the safety of entering the abdomen, he proceeded without scruple to annex his neighbour's vineyard, and I think it cannot be gainsaid that the net result has been an enormous saving of human life and alleviation of human suffering. Nevertheless, all good things come to an end, and the ever-swinging pendulum of science seems destined in the not distant future to give the physician back his own, and that perhaps with compound interest. I allude, of course, to the recent introduction of serums and vaccines, and various other treatments of a character menacing to the surgeon, which, should they fructify to the extent their advocates believe them capable of, will not only restore to the physician and pathologist their stolen perquisites, but may even lead to the almost total extinction of the surgeon. The passing of the surgeon, should it occur, will, I think, be acknowledged to be a great gain to the community at large and to the physician in particular. Meanwhile, as in all revolutions, there is just a danger of the reaction being a little previous. For instance, coli bacillus cystitis and its treatment by a vaccine is becoming, from all I hear, almost as fashionable as was formerly appendicitis and its treatment by operation. Now, while of course it would be very behind the times in a case of cystitis not to isolate the bacillus and give the patient the benefit of an autogenous vaccine, it is well not to forget that a patient may have pus in his urine and the *Bacillus coli* in his urine, and for all that have a stone in his bladder. Not long ago I heard of a case in which these phenomena were present and the treatment had been proceeded with on the most ultra-scientific lines, but the pathological examination of the urine had not revealed the stone which was present in the patient's bladder, nor had the vaccine succeeded in dislodging it. Also recently I was myself consulted in a case of extensive swelling of the cervical glands. The patient had been attending a physician once a week for a year, and had been receiving tuberculin injections at four guineas a time. To this treatment the glands had declined to respond. When I saw the case I expressed the opinion on clinical grounds that the glands were not tuberculous at all, but lymphadenomatous, an opinion which was confirmed by microscopical examination subsequent to their removal.

MALIGNANT DISEASE.

After this short precautionary digression, I shall proceed to the subject of my address. Let us consider, first, a large class of abdominal complaints—namely, malignant disease. The only practical treatment at our disposal at the present time for malignant disease is the knife, whether for the purpose of saving or prolonging life. Where abdominal symptoms are present, malignancy should, therefore, in all cases be confirmed or excluded, and that at the earliest possible moment. For if it be confirmed, and is not situated in some inaccessible region, such as the liver or pancreas, there can be no two opinions about handing the patient over to a surgeon, at the only time when there is a possibility of saving his life—that is, while the disease is limited enough for complete removal. The claim that malignant disease, wherever situated, is not incurable if it can be excised early enough to ensure its complete removal, has been established practically beyond dispute, and theoretically follows as a logical sequence of all recent investigation into the nature of cancer, every conclusion of which stamps it as in its outset a local disease. In the case of the gastro-intestinal tract, which supplies the majority of intra-abdominal carcinomata, I would remind you that, except in the stomach, its degree of malignancy is low—in other words, its rate of dissemination is less rapid than in probably any other region. I would remind you, also, that its situation in the intestine lends itself particularly favourably to complete removal. From an operative point of view, the all-important point is that obstruction should not be waited for, as then the most favourable opportunity has slipped out of our hands. The reason is this. The anastomosis of the intestine necessary after removal of growth cannot be successfully accomplished in the presence of obstruction. In the event of complete obstruction, with the abdomen distended, it is, of course, out of the question, but even in the event of partial obstruction, where the abdomen is not generally distended and the bowels have been freely opened with purgatives, but where dilated coils of intestine can still be seen and felt through the abdominal wall, the operation of excision and anastomosis will not be successful. I have tried it in some of these latter cases; it has invariably been fatal, and I shall never attempt it again. So that if obstruction be present, either partial or complete, whether the growth be excised at the time or not and Paul's tubes inserted, or an enterostomy be performed above the obstruction and the excision of the growth be deferred to a future date, two, or possibly three, operations are required to complete the cure. On the contrary, if the bowel be empty, excision of the growth, anastomosis of the intestine, and closure of the abdominal wound is almost invariably attended with success, and completes the case at one sitting. That is why I say obstruction should never be waited for, and that if it occurs and refuses to yield completely to medical treatment the most favourable surgical opportunity has gone. In some instances a complete obstruction is the very first symptom, or at all events is present when the medical man is first called in; but this is not the rule, and usually attacks of partial obstruction occur at intervals, which yield to treatment and provide an empty intestine. That is the time to operate. Any symptoms of continued irregularity occurring in a person whose bowels have previously been regular, either constipation or diarrhoea or alternating constipation and diarrhoea, should be viewed with the greatest suspicion, and if the patient is advancing in years and has lost weight, these symptoms generally mean carcinoma of the large intestine. If a thorough examination be made in the absence of abdominal distension the tumour can usually, but not always, be felt. If while making the examination coils of intestine can be either seen or felt alternately hardening and relaxing under the hand, it is absolutely diagnostic of mechanical obstruction. As regards non-malignant tumours within the abdomen, the necessity for their early removal is scarcely less urgent. We know practically nothing of the origin of neoplasms, and of the circumstances determining transitions from simple to malignant characters. For instance, only lately I performed hysterectomy for supposed fibromyoma of the uterus. The tumour had been known to have been in existence for eight years and the patient had been advised against removal. It had undoubtedly in its beginning been a fibromyoma. After eight years left to itself in the abdomen it had become sarcomatous. Again, many times I have seen carcinoma present in a lump of mastitis in the breast,

which had been known to have been in existence for years. With such facts before us we come to the logical conclusion that it is safest for the patient to have any tumour, wherever situated, removed with the minimum of delay. Such an attitude is warranted on the part of the surgeon, because the immediate risk of operative interference has been reduced to such insignificant proportions. If this attitude towards neoplasms be correct, it applies with special significance within the abdomen for several reasons. First of all, the difficulties of diagnosis are admittedly greater here than in most regions, and mistakes between simple and malignant tumours are more likely to occur. Let me give you an instance which occurred to two of us lately.

A practitioner in the town sent into the hospital a case diagnosed as fibromyoma of the uterus. The woman's age was 35. The only history she gave was that she had had three attacks of pain, such as might have been attributed to and probably meant a mild peritonitis, during the past year, and she had felt at times a pressure on the bladder. On examination, I found, as her medical attendant had found, a firm solid tumour, somewhat irregular but quite smooth, which on bimanual examination was absolutely one with the uterus, and moved quite freely with it. The patient had had no intestinal symptoms whatever and no loss of weight. I came without any hesitation to the conclusion that the diagnosis was correct, and that I had to do with a case of fibromyoma on the left side of the uterus. On opening the abdomen, I found a large colloid carcinoma involving the ileo-pelvic colon and a loop of small intestine, so intimately attached to the uterus that separation was impossible without freely opening the gut. A double enterectomy has resulted in the at all events temporary recovery of the patient.

On carefully considering the notes of the case after the operation, it seemed that I could not reasonably have come to any other conclusion as to its nature. If you operate upon a sufficient number of abdominal tumours, the only thing you feel quite certain about is that you cannot be certain of the diagnosis of any abdominal tumour until you see it, and not always even then. A second reason for the early removal of all abdominal tumours is that, on account of the crowding together of many important organs in a closed cavity, a growth of any size in many positions is apt by its pressure to injuriously affect their function. A third reason is that tumours are prone to quietly contract adhesions to neighbouring viscera, and this may render an otherwise simple operation complicated and dangerous, if a time comes when they have to be removed. I shall only mention in this connexion one class of non-malignant tumours, which have been very successfully dealt with surgically of recent years—fibromyomata of the uterus. There is no occasion nowadays—indeed, it is bad treatment—for women to live lives of invalidism, suffering from the effects of haemorrhage or pressure on important organs, chasing the "Will o' the wisp," their menopause, which usually escapes them in these cases till they are considerably over 50 years of age and their most active years are spent, fed on ergot till they develop incipient gangrene of their extremities, looking the wrecks they are and feel, when they can be restored to perfect health in a few weeks, without the induction of a premature menopause and its attendant objectionable symptoms, by the simple operation of subtotal hysterectomy or myomectomy. There are two points I should like to mention here. The first is that by far the majority of women with fibromyomata are already sterile, so that a reasonable objection that might be urged against removal of the uterus during the child-bearing age has little weight. The second is that women who have continually bleeding fibromyomata may easily arrive at a stage of anaemia which makes the operation of hysterectomy, undertaken with the object of averting death from haemorrhage, positively dangerous. In a consecutive series of 70 cases of hysterectomy and myomectomy for fibromyomata, the only two patients who have not recovered were both in this stage of dangerous anaemia from haemorrhage; and though they underwent the operation without mishap, both succumbed about a week afterwards through not having sufficient rallying power to recover. This is a very important point in connexion with bleeding fibromyomata, and is a cogent argument for their removal before extreme anaemia manifests itself.

CAESAREAN SECTION.

I ought not to quit the topic of operations on the uterus without a brief allusion to Caesarean section, employed of late years in cases of obstruction to delivery necessitating formerly the sacrifice of the child. Nobody who has performed this operation, or seen it skilfully performed, can fail to acknowledge its immense superiority over such barbarous procedures as craniotomy or cephalotripsy, and it is safe to say that in future in almost all cases these crude and mutilating operations will be replaced by it or some modification of it. The important point is that, the practitioner having come to the decision that delivery *per vias naturales* will be in all likelihood impossible without destruction of the child, Caesarean section should be determined upon as the sole method of dealing with the case. Experience teaches unmistakably that it is the cases that have been previously plied with attempts at delivery of various kinds and with frequent examinations, and are afterwards operated upon as a *dernier ressort*, which furnish the maternal mortality. If it is Caesarean section and Caesarean section only, the mortality is trifling. Indeed, it is safer even for the mother than cephalotripsy and removal of the child through the natural passages; in addition, it saves the life of the child. My own small experience confirms this. I have performed Caesarean section four times, with three recoveries and one death. In all the cases in which recovery took place the operation was selected from the beginning as the proper method of delivery; in the one fatal case prolonged attempts at delivery had previously been made with forceps.

ACUTE ABDOMEN.

If any medical man, be he physician, surgeon, or general practitioner, reflects on the conditions producing the acute abdomen, I do not think he will dispute the statement that, apart from surgical intervention, nothing but pure luck and circumstances over which he has no control whatever will save his patient's life. I would invite you to consider this subject from an ordinary common-sense point of view. If with the abdomen laid open any one saw a loop of intestine rapidly becoming gangrenous from a band tightly constricting it, the first thing that would occur to him would be to sever the band. If with the abdomen laid open any one saw his patient bleeding to death from a ruptured blood vessel, the first thing that would occur to him would be to secure the bleeding point. If with the abdomen laid open any one saw the contents of the stomach or gall bladder or intestine leaking into the peritoneal cavity, the first thing that would occur to him would be to stop the leak. Yet it is only because such conditions (and such are the conditions producing the acute abdomen)—it is only because such conditions are concealed by some 2 in. or 3 in. of abdominal wall that their true interpretation and significance is apt to be overlooked. Whether it be a perforated gastric ulcer, a perforated gall bladder or appendix, a ruptured ectopic gestation, an internal hernia, a volvulus, intussusception, or other strangulation of the intestine, a gall stone impacted in the gut, or any other acute abdominal catastrophe, the conditions are entirely mechanical, and the only prospect of treating them with any general measure of success lies in mechanical, in other words surgical, measures. It is true that patients may recover, and no doubt have recovered, from all of these conditions without surgical intervention, but it is only by the purest good fortune and nothing else, whereas by timely surgical intervention the mortality from them should be low, instead of as at present unnecessarily high. Indeed, considering the general safety of entering the abdomen under a proper aseptic technique, the acute abdomen is behind the times, and remains still somewhat of an opprobrium to treatment. I have said that the reason lies not in the fact that the treatment for such conditions would be disputed by anybody—it is obvious to anybody—but in the fact that the true picture is not in sight; it is covered by the abdominal wall. In other words, the obstacle is the diagnosis.

But though the difficulty of making an exact diagnosis may be and often is considerable, the difficulty of diagnosing that we have to deal with a case of the acute abdomen is not so at all, provided we keep in front of us two symptoms and two symptoms only, and disregard all others. If we look for shock, it is usually present, but not always—certainly not at first. If we look for vomiting, it frequently occurs, but not always. If we regard the temperature or pulse, neither of them is a reliable guide. Two symptoms,

and two symptoms only, are invariably present. They are abdominal pain and abdominal rigidity. Let me give you an instance, as I am in this address just quoting my own experience, which, thanks to the confidence and kindness of my friends, extends to considerably over a thousand operations upon the abdomen, and it is meet that I should give chapter and verse for my conclusions.

About a fortnight ago the house-surgeon rang me up in the evening to say that a case had been sent up to the hospital as one of perforated gastric ulcer. The man's age was 35. He gave a history of indigestion, but not a typical one of gastric or duodenal ulcer. At 4.30 that afternoon he had been seized with sudden and severe pains about the umbilicus, and had taken some brandy which made him retch once. I saw him five hours after the attack. The man looked really quite well. He was warm, had no shock whatever, no sweating, his temperature was normal, and his pulse 84. He still complained of severe pain in the abdomen, but said it was less than it had been. On placing my hand on his abdomen it was just like a piece of iron. You could elicit no tenderness, as his abdominal muscles refused point blank to allow any pressure to be made on the contents beneath them. I came to the conclusion that he had a perforated gastric ulcer, or, at all events, a perforation of some kind, operated upon him at once, and found there was no mistake.

Now, this was a very acute diagnosis on the part of the medical man who sent him to the hospital, and who, presumably, had not seen a great many cases of perforated gastric ulcer, as the condition is not so common that any practitioner in a lifetime comes across a large number of cases. It was not, you will allow, at all a typical case of its kind, though I have seen one or two like it. The house-surgeon remarked to me: "I have seen a few cases of perforated gastric ulcer, but they were not at all like this." Five hours after the onset there was no shock whatever, no depression of temperature, very little acceleration of pulse-rate, no vomiting, except that he had just retched once after taking some brandy. The only symptoms present to indicate his serious condition were sudden and severe abdominal pain, and pronounced abdominal rigidity; and these are the only symptoms you can rely upon. They are always there. This case was further complicated by the fact that the patient had taken some colocynth pills the night before, and the pain itself might have been severe colic, but the combination of the two symptoms (pain and board-like rigidity) excluded this. If a patient, then, presents these twin symptoms—if he is seized with sudden and usually severe abdominal pains, and the medical attendant on placing the flat of his hand on the abdomen finds the whole of it or part of it rigid—so rigid that often you feel you could tread on it without its giving way—that patient has an acute abdomen, and the question of surgical intervention at once arises. Such a patient should be operated upon forthwith, or, if there is any doubt, should be watched hour by hour, and if not improving within twelve hours should be opened. If these cases are subjected to medical treatment for three or four days, and then, when the abdomen is distended and they are suffering from profound toxaemia, are operated upon, a large number of them die. I shall now point out why they should be operated upon early, and why if they are operated upon late they frequently die. The conditions producing the acute abdomen are serious conditions. They always produce great shock. I have said shock is not invariably present at the commencement, but it always develops with the oncoming toxaemia. You are going to add to this the shock attending an abdominal section. It is essential, therefore, that the abdominal section should be as easy and quick as possible. Now, no abdominal section is easy, and few are quick when the belly is distended. The patient should therefore be operated upon before distension sets in—the distension which inevitably develops on delay. Furthermore, delay means toxaemia, and if this has reached an advanced stage, however quick or skilful the operation, the patient may yet die of his toxaemia, which would have killed him in any case, whether he had been operated upon or not. My experience from operating upon a large number of these cases tells me this. However serious and unfavourable the lesion in the abdomen appears to be, provided conditions are such that the operation can be done quickly, and provided that the patient does not exhibit at the time signs of profound toxaemia, he will as a general rule recover. He may have a hard fight for it afterwards, but he will recover. Let me give you an instance. Open the abdomen for acute perforative or gangrenous appendicitis. Find it full of pus, both upper abdomen and pelvis, not an adhesion of any kind limiting it. Let the patient's general condition be passable—a fair pulse, not in a cold sweat, not sunken and pinched in the face. Get the appendix out quickly and drain the abdomen. The patient usually recovers. These cases were an eye-opener to me at first. I could hardly believe it possible, but it is a fact. You can tell from the general state of the patient before you even open the abdomen and know the condition inside, provided nothing unforeseen greatly prolongs the operation itself, that the case is going to recover. Conversely, if conditions are such as to entail a prolonged operation (and distension is the chief outside factor determining this), or if the patient is exhibiting signs of profound toxaemia, however quick and skilful the operation may be, he will frequently die. The two essentials to success in these cases—a rapid operation and the absence of profound toxaemia—are directly dependent, so far as matters go which are within our control, on the interval of time between the onset of the attack and the operation. Such deaths as I have depicted here are commonly put down as deaths from operation, though a moment's reflection will show that exactly the reverse is the truth, that they are in reality deaths from want of operation.

Appendicitis.

Descending now from the general to the particular in the acute abdomen, I shall make a few remarks on the commonest of them all—that well-worn but ever-interesting subject appendicitis. It accounts for something like two-thirds of all cases of the acute abdomen, so it is worth while having some definite views upon it. I have no hesitation in saying, as the result of an operative experience extending to close upon 300 cases, that every case of appendicitis should be operated upon as soon as diagnosed. I make this unqualified statement for the following reason: However skilful the physician, surgeon, or general practitioner imagines himself to be, I do not care who he is or what symptom or group of symptoms he relies upon; however skilful he imagines himself to be in discriminating between the non-dangerous and dangerous cases—in other words, between the cases it is safe to leave and those it is dangerous to leave—if he puts his theories to the test, although he may so often have turned out to be right as to be reasonably proud of his diagnostic and prognostic skill, the time will surely come when he will leave a dangerous case believing it to be a safe one, and the patient will lose his life in consequence. It cannot be too strongly emphasized that if every case of acute appendicitis (it must be understood I do not include stomach-ache)—if every case of acute appendicitis were operated upon within the first twenty-four hours of onset, there would be no mortality. It is the cases that are left till the fourth or fifth day, in the Micawber-like hope that something will turn up to favourably influence the attack—such, for instance, as its natural subsidence or the formation of a localized abscess—and are finally operated upon when that something does not turn up, which furnish the mortality. The attitude I here advocate gives the practitioner a definite, simple rule to act upon, just as he does now in strangulated hernia. He knows such a course will result in his patient's recovery, whereas if he shilly-shallies he knows nothing about what is going to happen. There should be no compromise with the patient whatever, unless the latter declines operation, in which case the responsibility rests with him. Of course it may be retorted that appendices will be removed that would recover without operation. That is missing the point altogether. The point is that none would be lost. And if a patient has appendicitis, is it not better to remove his appendix in any case than to trust blindly to what may happen to him in the future, all the time in complete ignorance as to whether his next attack is going to be of the gangrenous or perforative type? For my part, as the result of what I have seen both in my own practice and in that of others, I would not take the responsibility of advising otherwise, knowing that I should not be in a position to base such advice on any reliable data whatever. Again let me give you an instance. Concrete cases are more convincing than abstract opinions.

One Sunday afternoon, about two years ago, I was called to see a boy at Lee-on-the-Solent. His history was this: Forty-

eight hours before he had been seized with pain in his right iliac fossa and vomited once. The doctor was not sent for. He was better on the following day and went out for a walk, though still feeling stiff in his right side. Next day his parents thought him not so well and sent for his doctor, who asked me to see him. His condition was the following: Pulse 90, temperature 99½°; he did not look at all ill; he complained of tenderness in his right iliac fossa, and on placing the hand there, a distinct lump was felt. This turned out to be the appendix itself, though the lump one usually feels in these cases is not the appendix, but a piece of omentum encircling it. Now this looked, on the face of it, like a mild attack of appendicitis, with the appendix surrounded by a piece of omentum. I had formerly seen dozens like it, and had left them to subside, in view of an interval operation. I told the boy's father that all I knew was that the case was one of appendicitis, that it was apparently a mild attack and might get well, but that, as I could not see the condition of the appendix, if he wanted to be absolutely secure of the boy's recovery, it had better be removed at once. The operation was performed that afternoon. As soon as the abdomen was opened the appendix presented itself, lying perfectly free just beneath the abdominal wall, without the vestige of an adhesion about it. It was enlarged to the size of a small sausage, and was quite easily removed. After removal it was found to be converted into a bag containing about ½ oz. of very foul pus, and at its base was a slough in the wall as thin as a wafer paper, so that on gently pressing it with the blunt end of a probe it at once perforated.

Now, I should like to ask the most skilful diagnostician living this question, "Could such a condition be diagnosed from the symptoms?" The symptoms were those of a very mild appendicitis with a lump present—a quite ordinary picture of cases which spontaneously recover. The actual condition was an appendix converted into an abscess cavity full of foul pus, on the very point of discharging its contents into the peritoneal cavity without adhesion of any kind to limit its free diffusion. The reason of the mildness of the symptoms was no doubt that the pus was enclosed in the appendix, and that embolism of the neighbouring lymphatics and veins had prevented direct absorption of toxins into the blood. It may be said that an increased leucocytosis would have signalled the danger and shown that an abscess was present. I do not know whether it would or not, but what I do know is that before I had had time to secure a pathologist to examine the blood, the appendix would certainly have burst, and discharged its contents into the peritoneal cavity. All surgeons of experience with whom I have conversed on this subject are agreed that it is impossible to tell from any symptom or any sign the condition of the appendix in appendicitis, and that delay in removing it involves a risk the magnitude of which is an entirely unknown quantity. We as a profession are very conservative. It is difficult for us to rid ourselves of notions we have been accustomed to regard as established facts, especially if they have at any former time been stamped with the hall mark of high authority. It is still considered safe to watch an appendix case for a day or two to see if it is going to turn out a severe one. I have more than once seen the peritoneal cavity full of pus within thirty-six hours of the onset of an attack which appeared to be mild. It is still considered safe after a mild attack to wait and see if the appendix is going to give further trouble before removing it. I have seen the next attack after a mild one of the most virulent character, and the patient lose his life in consequence, through following such advice. It is still considered safest to remove the appendix in the quiescent stage. It is no safer than in the first twenty-four hours of the attack. It is still considered dangerous to operate on the third or fourth day of an attack in a case which is not doing well. It is much safer to do so than to leave the patient to the chance of a localized abscess forming which may never form, and the patient may lose his life instead by general peritonitis. It is still considered that if a patient has had a localized abscess in connexion with the appendix, the latter will be destroyed in the process, and that in all likelihood he will have no further attack. All one can answer from one's experience is that it is simply not true. All of the above doctrines accepted by many with regard to appendicitis are entirely fallacious, and are the direct causes of its high mortality. I repeat what I said at the beginning: If every appendix were removed within twenty-four or thirty-six hours of an acute attack, the mortality from this disease would be reduced to vanishing point. You may argue theoretically round and round this question till the crack of doom; but if you have actually seen and had much experience of this disease, you are forced to but one conclusion: "If a patient has appendicitis, remove the appendix without any delay."

Intestinal Obstruction.

All acute intestinal obstructions are manifestly cases for immediate surgical treatment. Many of them are simply instances of strangulated hernia within the abdomen, instead of at one of the usual hernial openings. Nobody questions the advisability of immediate surgical relief of the obstruction in an external strangulated hernia. Why should there be any delay in a strangulated bowel because it happens to be covered by the abdominal wall? The dangers are obviously greater. The need for immediate relief is therefore all the more urgent. Such conditions as internal strangulated hernia, volvulus, strangulation by bands, intussusception, fall into the category. Enemas, inflation by air or water, standing the patient on his head, opium, purgatives, etc., are simply playing with these dangerous conditions.

Pelvic Cases in Women.

The special acute accidents overtaking the pelvic organs of women are ruptured pyosalpinx, ruptured ectopic gestation, and twists of the pedicles of ovarian or uterine tumours. Ruptured pyosalpinx is very rare. I have never seen a case of rupture of a suppurating tube into the peritoneal cavity, though rupture into the bowel I have occasionally met with. The disease is a very chronic one, as a rule, and allows plenty of opportunity for the exclusion of the general peritoneal cavity. Should rupture of a suppurating tube occur into the peritoneal space, immediate laparotomy is, of course, indicated. With regard to the twists of pedicles of ovarian or uterine tumours and ruptured ectopic gestation there can be no doubt that the sooner their possessors are placed in a position of safety by operation the better. Many cases of ruptured ectopic gestation will certainly get well without surgical interference, but the operation is so safe and simple that, in my opinion, it is unsurgical to leave the patient to the remotest possibility of a fatal haemorrhage.

Gastric and Duodenal Ulcer.

I shall next make a few remarks on ulcer of the stomach and duodenum. The position here is not so definite, and I am not by any means an out-and-out advocate of surgical interference in these cases. At the same time there are some in which it is imperative. One of the most important points to determine is whether obstruction exists to the outlet of the contents of the whole or any part of the stomach; for if mechanical obstruction the result of previous disease is present it is quite clear that no medicine or diet can overcome it, and the case becomes immediately surgical if a cure is contemplated. By the patient's symptoms and methods of diagnosis, into which I have not time to enter, it is not as a rule difficult to tell if there is mechanical obstruction, and by the direct surgical relief of such obstruction or by providing an alternative route for the stomach contents, the most brilliant results are obtained. Patients who have been to all intents and purposes starved for years, put on several stones in weight in the course of a few months and are restored to perfect and permanent good health by means which are only possible by surgical intervention. In such cases there is usually a history extending over many years, accompanied by great emaciation, quite as great as attends advanced malignant disease, for which it is frequently mistaken. Apart from obstruction, ulceration, I think it is generally agreed, should be treated in the first instance by medical means, and it is only if the symptoms persist in recurring that surgical treatment should be adopted. I shall here enter a caveat as to what constitutes a cure. There is no doubt that under careful and prolonged medical treatment the symptoms as a rule disappear, and in their intervals of good health these patients can often eat ordinary food without discomfort. Usually, however, you will find on questioning them closely that they instinctively are careful in their feeding. Sooner or later there is often a quite sudden recrudescence of all the symptoms for no apparent adequate reason, though it is frequently attributed by the patient to some error in diet, or exposure to cold or fatigue. What actually is the pathological condition during the quiescence of the symptoms and what determines this

often quite sudden bursting into activity again are matters for future determination. There is no doubt of the fact. In a certain proportion of these cases, where the history is apparently very definite and includes all the classic symptoms of gastric ulcer as set forth in the text-books, the surgeon will be disappointed to find no ulcer. This is especially apt to happen in young women, who may apparently present all the symptoms and signs of this disease without the presence of any, at all events demonstrable, lesion whatever. If this turns out to be the case, the surgeon must own up to his mistake, and on no account cover it by another, the performance of gastro-jejunostomy for the cure of an ulcer which does not exist. His operation will be unjustifiable, and moreover valueless, for the stomach contents will continue to pass by the natural route, and the anastomosis opening will not be used. If a demonstrable ulcer is not present, surgical treatment is not warranted. All ulcers of such small dimensions that they are invisible and impalpable are medical ulcers. I confess I can give no reliable diagnostic help in these difficult cases. It may be that after conversation with the patient the medical attendant will have some suspicion of neurosis, difficult to define in words. In some instances I have found all the symptoms aggravated round about the monthly period, a circumstance which should be viewed with mistrust. But, all said and done, some of these cases are, I believe, impossible to diagnose. On one afternoon I recollect at the hospital I operated upon 3 stomach cases, all in women between 20 and 30 years of age. I said before opening the abdomen that I was doubtful of all of them. Two of them had large chronic ulcers, the third had none. Though a hasty exploratory operation is never to be encouraged, just to see if the patient has a suspected disease, and though every effort should be made to arrive at a diagnosis without it, in these cases a laparotomy has certain advantages. In the first place the medical attendant knows positively that his patient has no ulcer, and will probably treat her on quite different lines, without being haunted by the fear that some latitude in diet will be doing her harm or be dangerous to her. Again, the exploratory operation no doubt cures some of these cases for a time at least by suggestion, as I myself have witnessed in two instances.

Gall Stones.

There is another common disease, to which women are especially prone, deserving a few remarks, namely, gall stones. It is my conviction that gall stones should in all cases be removed by operation as soon as diagnosed, so called cures from visits to Carlsbad and other similar establishments being too problematical to warrant any reliance being placed in them. Although it used to be believed and taught that gall stones very frequently caused no symptoms and were comparatively innocuous, they probably always cause symptoms, and there is certainly no pathological condition within the abdomen which threatens danger from so many quarters. As regards symptoms it is true that typical gall stone colic, or jaundice, or rigors with fever, may be late in developing or may never develop. But if by such classical symptoms it becomes at length certain that the patient has gall stones, it will invariably be found on inquiry that for years previously she suffered from painful indigestion which was considered functional. As regards their dangerous sequelae I have seen and operated for many examples in my own practice. For instance, acute inflammation, empyema, or gangrene of the gall bladder, due to impaction of a stone in the cystic duct and subsequent acute infection of the pent-up contents of the gall bladder, perforation of the gall bladder into the general peritoneal cavity, acute intestinal obstruction due to a large stone ulcerating its way into the intestine and becoming lodged there, acute choledochitis owing to the presence of stones in the common duct, cholaemia from absorption into the blood of bile which had no natural outlet owing to the complete blocking of the common duct by stones, acute pancreatitis dependent on the presence of gall stones in the common duct, carcinoma of the gall bladder due to the irritation of gall stones which had been known to exist for many years—all of these conditions I have myself witnessed on more than one occasion, and you will allow that they constitute a pretty formidable category of the sequelae of a disease which till a few years ago was considered although a painful a comparatively harmless complaint. All of these dangerous complications can be obviated by a timely removal of gall stones and drainage of the gall bladder. Another argument for early operation is that so long as gall stones are confined to the gall bladder the operation for their removal usually is an extremely simple and safe one, whereas after they have passed into the common duct the procedures are more formidable, may be very difficult, and are certainly attended by a higher primary mortality. Chiefly, then, on the grounds of the many dangerous sequelae of gall stones and of the safety and simplicity of their removal while confined to the gall bladder compared with the greater difficulties and dangers of their removal from the deeper ducts, I am of opinion that gall stones in all cases should be treated as foreign bodies requiring immediate operative treatment.

Retroversion of Uterus.

Far the most common displacement of any abdominal organ we meet with is backward rotation of the uterus. In many instances it gives rise to no symptoms at all, and the patient is unaware of her anomaly. If this be so, and the condition is discovered accidentally during an examination, she should not be informed of it, and it may be left to take care of itself. But these displacements very frequently give rise to real and distressing symptoms, and if this be so a surgical procedure for their replacement is indicated. Pessaries are dirty things for women to wear; they frequently cause great pain by pressing against a tender congested uterus or a prolapsed ovary, and they are generally inefficient. Intraperitoneal shortening of the round ligaments secures in nearly all cases a satisfactory and permanent replacement, without the disadvantage of any fixation of the uterus to the abdominal wall. This operation has, of course, in most cases to be supplemented by others on the vaginal outlet suitable to the conditions present.

I have in the foregoing remarks summarized from my own experience the views I hold of the present position of surgery in the more common abdominal complaints. I hope I have not drawn an unwarranted picture, but I am afraid I have left comparatively little of importance within the abdomen for the physician. The truth is that surgery, being the simpler science, has naturally outstripped medicine in the treatment of disease generally, and in the present stage of the evolution of the science of healing the abdomen is almost exclusively surgical. All must recognize, however, that, at best, surgery, notwithstanding all its modern refinements of technique, is a somewhat crude method of treating disease; and, as I pointed out at the commencement of my address, there are not wanting signs that many abdominal diseases, especially those of microbic origin, may in the not distant future revert to the province of the physician and be cured by methods less drastic and more scientific than the knife; and it is probably not a vain prophecy that future generations of medical men, with their hypodermic syringes in their pockets, will marvel at the barbarous methods we employed of treating abdominal disease early in the twentieth century. Let us hope that they will realize that we acted according to our lights and to the best of our ability, and that they will not pass too severe a criticism on the surgeon, whose knife may then only be seen in the collections of old curiosity shops.

IN *The Midwives' Institute, Past and Present*, we have a brief pamphlet setting forth the original object, struggles, and present aims of the body thus entitled, and the reasons for joining either the institute itself or one of the thirty-four midwifery associations now affiliated to it. The institute was founded in 1881 in order to raise the efficiency and improve the status of midwives, and it is considered that there is ample ground for its continuance for the protection of the interests of the registered midwives brought into existence by the Act of 1901. A parliamentary campaign, lasting some twelve years, preceded the passage of that Act, and in the interval as many as eight bills of allied purpose had been introduced in the House. Copies of the pamphlet can be obtained at the offices of the institute, 12, Buckingham Street, price 2d. The institute is incorporated, and has attached to it a trained nurses' club. Its official organ is the monthly publication known as *Nursing Notes*.

PRIMARY SARCOMA OF THE VERMIFORM APPENDIX.

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ALTHOUGH cases of primary malignant disease of the vermiform appendix have been recorded frequently of recent years, the great majority are examples of carcinoma. Harte, writing in 1908, collected 120 cases, 114 being carcinomata and only 6 sarcomata. I have been able to find records of two other cases, which, with the one recorded below, bring the total up to 9.

The following is a short account of my case.

A delicate, emaciated boy of 17 years was sent to Ancoats Hospital on January 7th, 1909, by Dr. Gregory of Longsight. He had been constipated for ten days, but the bowels had acted after aperients. He had severe colicky pains in the abdomen, and the day before admission began to vomit. On that day also Dr. Gregory felt a mass extending across the abdomen at the level of the umbilicus.

Fig. 1.—A, Tip of appendix divided longitudinally, showing *a*, thickened peritoneal coat; *b*, tumour mass. B, Invaginated base of appendix. C, Secondary glands in ileo-colic angle.

On admission the patient complained greatly of pain in the abdomen, which was slightly distended. There was evident visible peristalsis, the coils of intestine forming ladder patterns. The right flank was dull on percussion, and an indefinite mass could be felt there. The temperature and pulse-rate were both slightly elevated.

Operation.

On the following day the abdomen was opened through the right lower rectus, and an intussusception was found commencing in the caecum and extending to the transverse colon. This was easily reduced, and was then seen to have begun as a partial invagination of the appendix into the caecum.

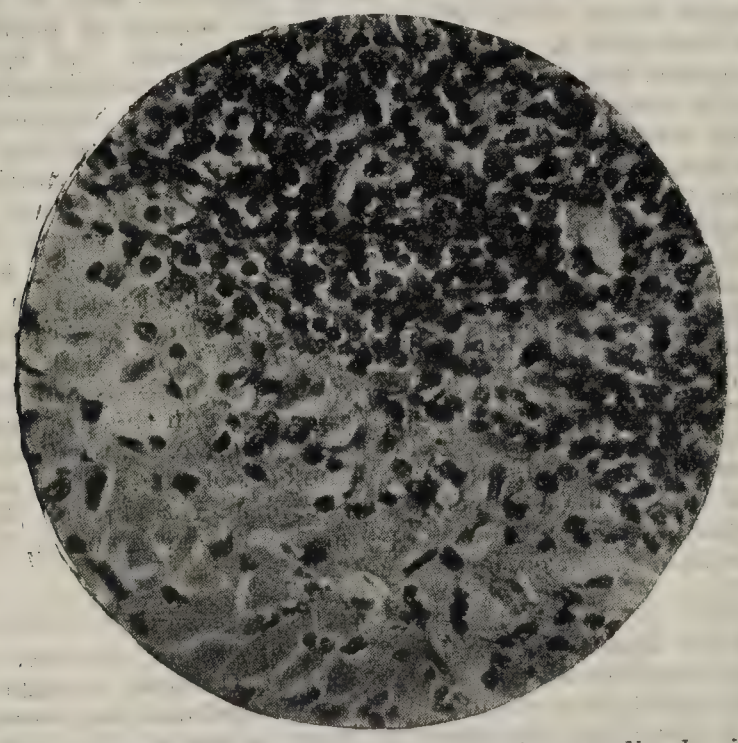

Fig. 2.—High power view of primary tumour in appendix, showing edge of tumour invading the muscular wall.

The tip of the appendix was about the size of the terminal phalanx of the thumb, and was white and glistening from thickening of the peritoneal coat, and there were several enlarged glands lying along the inner side of the ascending colon. The condition was regarded as a malignant growth, and as it was necessary to interfere with the blood supply of the colon in order to remove the glands thoroughly, the caecum, ascending colon, appendix, glands, and terminal portion of the ileum were removed in one mass. The divided ends of the bowel were closed and a lateral anastomosis established between the ileum and the colon.

The patient did well for four days and then leakage occurred, and a subphrenic abscess developed, which was opened by the transthoracic route on January 15th. A faecal fistula persisted for about nine months, healing at times, and breaking open again, but the wound has been soundly healed since November, 1909, and the patient enjoys good health and shows no sign of recurrence. About the end of 1910 several small nodules appeared on the right side of the chest, which on microscopic examination proved to be normal lymphatic glands. These have since disappeared.

Examination of Specimen.

The distal half of the appendix was converted into a solid mass, the lumen being obliterated, and the peritoneal coat thickened and pearly white. The basal portion was invaginated into the caecum, and was much swollen and engorged. Several enlarged glands were present in the ileo-colic angle, which on section had a dark red, mottled appearance. The whole of the caecum and ascending colon was thickened and oedematous, as a result of the intussusception which had been present.

Microscopical examination of the tumour in the appendix revealed a tumour-mass of round cells completely replacing the mucous and submucous coats of the organ and invading the muscular wall. The lumen was entirely filled by the growth, which had the appearance of a lymphosarcoma. The muscular and peritoneal coats were much thickened. The enlarged glands were the seat of secondary growths, and in addition showed well marked haemolymph changes.

I am indebted to Professor Lorrain Smith for kindly examining the specimen and expressing an opinion on the nature of the growth.

An analysis of the 9 recorded cases shows that in the majority the growth was a round-cell sarcoma, four being classified as round-cell sarcoma, and two as lymphosarcoma; and it is possible that all were really examples of lymphosarcoma, as this is the type of tumour which might be expected to originate in an organ so rich in lymphatic tissue as the appendix. One case was called an endothelial sarcoma, and two were classified as fibro-sarcoma or spindle-cell sarcoma, but in both these latter cases inflammatory changes were present, and the diagnosis seems to be doubtful.

Fig. 3.—Low power view of gland, showing secondary growth and haemolymph changes.

The process seems to begin in the submucous coat of the appendix, and to extend outwards into the muscular coat, the mucosa being next affected, while the peritoneal covering remains unaffected for a long time. The whole organ was involved in six of the cases, and in two of these (the cases of fibro-sarcoma) the process had spread from the appendix to the surrounding parts. The tumour was located twice in the distal half of the appendix, and once

in the proximal half and the adjoining part of the caecum. In three instances secondary growths were present in the neighbouring lymphatic glands.

The patients varied in age from 6 to 55 years. In the small number of cases recorded the male sex predominates, 6 being males and 3 females.

The symptoms calling for treatment were usually those of recurrent appendicitis—namely, attacks of pain in the appendix region. This was the case in six instances, and in one operation was performed during an acute attack. Carwardine's patient suffered from colic and diarrhoea with loss of flesh for five months, and my own patient was operated on for acute intestinal obstruction set up by an intussusception which apparently originated in a partial invagination of the appendix into the caecum, similar to that which was present in Carwardine's case. On one occasion only was the condition discovered accidentally at a *post-mortem* examination. A definite mass was felt before operation in five cases.

The extent of operation deemed necessary was much greater than in primary carcinoma; simple appendicectomy was performed on two occasions only, the appendix and part of the caecum were removed twice, the whole of the caecum twice, and the ileo-caecal region and ascending colon twice.

The results of operation also go to show that the condition is more malignant than primary carcinoma. Five cases were reported free from recurrence a few weeks, five months, five months, two and a half years, and four years after operation. Two cases were followed by recurrence six weeks and two years after operation, and one patient died in a few hours of operative shock.

That primary sarcoma of the appendix is a more truly malignant tumour than primary carcinoma is borne out by the greater extent of the original growth, the greater frequency of secondary deposits, the more extensive operation required, and the higher percentage of recurrence.

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THE IMPORTANCE OF DRAINAGE IN SEPTIC CONDITIONS OF THE UTERUS.

BY

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DR. A. W. RUSSELL, in his presidential address to the Glasgow Obstetrical and Gynaecological Society, stated on the authority of the Registrar-General that in the year 1908 119 deaths from puerperal fever occurred in Glasgow, and that the deaths in Scotland from this cause during the ten years 1899–1908 numbered nearly 3,000, being in fact 2,612. Dr. Russell naturally says, "What a toll to pay to defective method!"

Dr. Robert Jardine, in his excellent work on *Clinical Obstetrics*, the third edition of which was issued last year, furnishes statistics of thirty years' work in the Glasgow Maternity Hospital. In the outdoor department during the thirty years 1869–1898 there were 41,111 cases, with a total mortality of 188 patients, the deaths during the three decades being respectively 60, 72, and 56—the last figure giving a mortality of 1 in 218 cases. The deaths ascribed to septicaemia were 46, being for the three decades 18, 14, and 14—the last figure giving a ratio of 1 in 894 patients.

During the thirty years mentioned, there were 10,179 indoor patients, with a total mortality of 213, or 1 in 48. There were 95 deaths attributed to septicaemia, being for the respective decades 20, 31, and 44—the last figure giving a proportion of 1 in 107; that is to say, the proportion of deaths from septicaemia in the indoor department was eight times greater than that in the outdoor department of the hospital.

The difficult and complicated cases are, of course, removed to the hospital, but these figures prove the seriousness of septicaemia in the puerperal state, and that our control of it is still very inadequate.

I have recently been looking up Smellie's *Midwifery*, annotated for the Sydenham Society by Dr. A. H. McLintock, issued in 1876. Dr. Smellie may be said to be the father of scientific midwifery, and it was his proud boast that he studied Nature closely, and imitated her methods. "In a word," he says, "I diligently attended to the course and operations of Nature which occurred in my practice, regulating and improving myself by that infallible standard." Smellie was born in or near Lanark in 1697, and practised there, finally removing to London, where he practised and taught the science and art of midwifery for many years. Smellie stated that of 1,000 women left entirely to Nature, only one would die in childbirth. The outdoor department of the Maternity, we have seen, gave a mortality of 1 in 894 patients, not far away from Smellie's standard. It is to be presumed that in the outdoor work all very difficult cases were removed to the hospital and go to swell the mortality bill of the indoor department.

Smellie knew nothing about germs, and there is not much reference to puerperal fever in his work. Cases are undoubtedly cited of that nature, although not known by that name. Smellie says: "Most of the complaints incident to women after delivery proceed either from the obstruction of the lochia in the uterus or of the milk in the breasts, occasioned by anything that will produce a fever." Smellie was alive to the danger of the lochial discharge ceasing too soon, and its connexion with "restlessness, fever, a full, hard pulse, pains in the head and back, nausea, and difficulty in breathing."

In 1795, according to Dr. Jardine, Dr. Alexander Gordon, of Aberdeen, published his views regarding the contagious nature of puerperal fever, maintaining that there "was a specific contagion or infection altogether unconnected with a noxious condition of the atmosphere." About 1843 Oliver Wendell Holmes recognized the same fact, and published minute instructions for the guidance of the physician by way of prevention. In 1847 Semmelweis published his views, fully corroborating previous observations.

Lister's observations and work in the Glasgow Royal Infirmary from 1861 and onwards completely revolutionized our whole conception of diseases, and threw an immense flood of light on sepsis, not only in general surgery, but also on obstetrics. Diseases were not generated *de novo* in the human body, but came from without, being imported in various ways, by the air we breathe, the water we drink, or the food we consume, or by opening up channels to infection by our hands, instruments, or clothing.

Regarding the various causes which are held to produce general puerperal septicaemia, I may mention the following: Erysipelas and scarlet fever are notorious among the zymotic diseases, and as a rule, if the virus be introduced into the generative tract, are fatal. Sewer gas escaping into the lying-in chamber is apt to bring on a fever resembling puerperal septicaemia. Dr. William Playfair, in his work on *Midwifery*, cites several cases to support this view, and showed that wide oscillations of temperature occurred. We have all read or heard of doctors who had to abandon the practice of midwifery for a time, to get rid of the infection they were carrying about with them. This fact has never been contradicted, so far as I know; and those who come much in contact with septic cases, either in hospital or private work, other things being equal, are much more liable to convey infection to patients than others not so circumstanced. In this respect the family practitioner has the advantage of the specialist. Excluding infectious diseases proper, we narrow down the causes of puerperal septicaemia to the direct conveyance of septic matter to some part of the genital organs by the nurse or

physician, or contaminated cloths coming in contact with the genital canal. The more interference with labour the greater the risk. Lacerations of the os, vagina, or perineum all cause wounds ready to be infected by any septic material. As there are no pyogenic organisms in the vagina, any found in the generative tract must have been introduced from without. This can be done very easily, if the examining hand or any instruments employed during the conduct of the labour be not aseptic.

In hospital practice elaborate precautions are taken to ensure aseptic labour. In private practice there have been many successful accoucheurs who have relied on soap and plenty of boiling water. Lawson Tait, I believe, pinned his faith to those two common commodities. My own practice has been to wash the hands and forearms thoroughly with hot water and soap, and to soak the examining hand in 1 in 1,000 solution of mercury perchloride for a minute or so. I cut off a small bit of ordinary soap and throw it into the bowl containing the perchloride solution. I use that bit of soap for anointing the finger, always filling the seam of the nail with a little of it. I have no faith in such things as vaseline.

We are all familiar with the symptoms of puerperal septicaemia—how on the third day usually the temperature rises, the pulse quickens, the discharge becomes less, the expression of the patient alters, and so on. Then may follow signs of metritis and perimetritis; the womb become soft and flaccid and tender; the bowels inflated; thirst and restlessness, and a tendency to death from exhaustion. If it be a case of pyaemia, there are the rigors and sweatings and the complications in the joints and various organs, such as the heart and lungs, spleen and kidneys. The important question then arises, What are we to do? If we douch and put the patient on quinine, I think we are starting in the dark. A hot douche no doubt cleanses the vagina, and excites uterine contractions, and if the case be one of sapraemia due to decomposing clots, or fragments of the placenta or membranes left behind in the uterus, douching may be successful by exciting the uterus to expel these noxious decomposing materials. Quinine is a powerful uterine tonic, and with ergot is most useful in exciting and maintaining good uterine contractions, and so indirectly is of great use in these cases. But if the case is one of septic poisoning due to pyogenic organisms, something more than casual douching is required.

The first thing, and I believe the thing that is seldom done, is to make a thorough inspection of the parts and see where the focus of infection lies. If the perineum is torn and the parts sloughy, that will call for ordinary surgical treatment, frequent cleansing of the parts, the use of iodoform or other antiseptic, and the insertion of a gauze drain to allow free exit for the discharges. When the patient is lying on her back it is astonishing how discharges get pent up, not only in lacerations—especially on the posterior vaginal wall—but likewise in the uterus. I

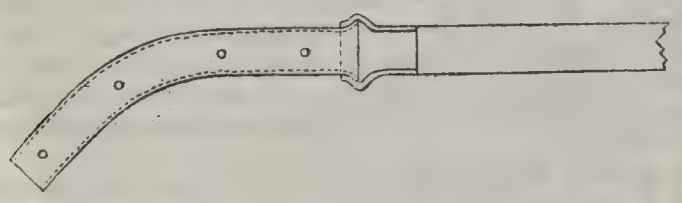

Tube with rubber attachment for draining a septic *post-partum* uterus.

think it best in every case to pass a speculum. I prefer Nott's full-sized speculum. A flood of light is by this means thrown on the vagina and the os. If the cervix has been lacerated and is in a sloughy state,. my practice has been to swab it thoroughly with pure carbolic acid, a proceeding attended by very little pain. I feel certain the disease, if caught early in this way, receives a permanent check. If the speculum shows that pus is issuing from the uterine cavity, then that cavity has in reality become an abscess cavity, and must be treated accordingly by efficient drainage. My contention is that that cannot be done, unless a drainage tube be inserted into the uterus and kept there. It is now eleven years since I adopted this practice, under the following circumstances: A medical friend asked me to attend a somewhat nervous and delicate lady in her first accouchement. Forceps were used, and chloroform administered by my friend. I think he pushed the chloroform too deeply, as he had to put a gag into her mouth and pull out her tongue. The after-birth was delivered normally. Very shortly afterwards the patient became suddenly blanched, and on throwing down the bedclothes I was mortified to find a large pool of blood. There was not a moment to lose—no time for douching. I pushed my hand into the uterus, but could get no response. So I called for napkins, and plugged the uterus. That stopped the bleeding. These napkins were anything but sterile; so I had to face the danger of puerperal septicaemia. I removed the plugs in a few hours, and inserted a curved perforated glass tube into the uterus. To the glass tube I attached a piece of stout rubber tubing, cutting it short at the vulva. By this arrangement we were able to irrigate the uterus five or six times a day, by means of a douche can. The tube was kept in the uterus for three weeks. The patient made a good recovery, being only moderately feverish for a week or two. The pus that formed got free vent, and was never allowed to accumulate in the uterus.

Some years ago I was asked by a medical friend to see a patient who had had a normal labour, but became feverish and ill several days after delivery. Signs of perimetritis were present; there was pain and tenderness in the lower part of the abdomen, and the abdomen was moderately tympanitic. A speculum was passed, and the os was found to be inflamed, ragged, and coated with pus. We thoroughly swabbed it with pure carbolic acid, and put the patient on opium. The symptoms soon subsided, and she made a good recovery.

In the case of a lady confined of her first child forceps were used, and the after-birth was removed by the hand, which was shielded by a rubber glove. All precautions were taken to ensure an aseptic labour. Three days after delivery the patent's temperature rose, the pulse became quick. A few douches were given during the next few days, and she was put on quinine, which held the temperature in check. At the end of a week bilious vomiting set in, the patient felt very ill, and suffered great pain in the lower part of the abdomen, which was decidedly tympanitic and very tender in the hypogastric region. There was dullness to percussion on the flanks of the uterus. In a word pelvic peritonitis was present. A speculum was passed, and pus was seen to be exuding from the womb, the cervix of which was deeply inflamed. I swabbed the uterus thoroughly out with pure carbolic acid, and inserted a glass drainage tube. The patient was then put on Niemeyer's combination of opium $\frac{1}{2}$ grain, digitalis $\frac{1}{4}$ grain, and quinine 1 grain. This I believe to be a life-saving combination in critical cases of severe illnesses where death threatens from a high temperature and cardiac failure. Digitalis slows the pulse; I have known it bring it down from over 100 to 50 in the dose mentioned. It was given in pill form, one pill to be given every three hours. Another great advantage of this combination is that there is a tendency to vomiting in peritonitis, and this pill of Niemeyer's is retained when mixtures would nauseate and aggravate the sickness. The glass drainage tube in the uterus acted well. Within forty-eight hours at least half a pint of purulent fluid was drained away. The patient gradually recovered.

A QUARTERLY court of the directors of the Society for Relief of Widows and Orphans of Medical Men was held on Wednesday, July 12th, when Dr. Rigden, vice-president, took the chair, in the absence of the president. Three gentlemen were elected members of the society, and the death of a member was reported. The sum of £1,371 was voted for the payment of the half-yearly grants to the annuitants of the charity—namely, forty-eight widows and sixteen orphans. Relief is only granted to the widows and orphans of deceased members, and since the last court five letters had been received from widows of medical men asking for relief, but this had to be refused, as their husbands had not been members of the society. The invested funds of the society now amount to £101,600. Membership is open to any registered medical practitioner who at the time of his election is resident within a 20-mile radius of Charing Cross. The annual subscription is two guineas; special rates for life membership, varying with the age of the applicant. The next election of members will take place on October 11th, and application forms must be sent to the secretary on or before September 20th. These may be obtained, together with further particulars, on application to the Secretary at the offices of the society, 11, Chandos Street, Cavendish Square, W.

ADENO-PAPILLOMA OF THE RECTUM.

BY

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THE patient in the following case, a woman aged 53, had haemorrhage from the rectum four years, and received palliative treatment of some kind, off and on, during that period. On December 12th, 1900, she had profuse haemorrhage with a protrusion, and called in Dr. Swanson of Liverpool, who found a condition suggestive of piles, but on reducing the protrusion found it to be something unusual. He called me in next day, and I found what appeared also to me to be haemorrhoids, though somewhat warty. But as an operation was arranged for the following day, I did not disturb the parts in which bleeding had only recently ceased.

Operation.—On dilating the anus a large polypus of a warty nature became manifest on the anterior rectal wall, having a long narrow neck. This was held in Doyen's broad-ligament clamp, cut off, and the stump sewn with sulpho-chromic catgut, passed through and through with a needle at each end, tied and knotted after each passage. The points of suture were numerous, deep, and close together. In this way, on releasing

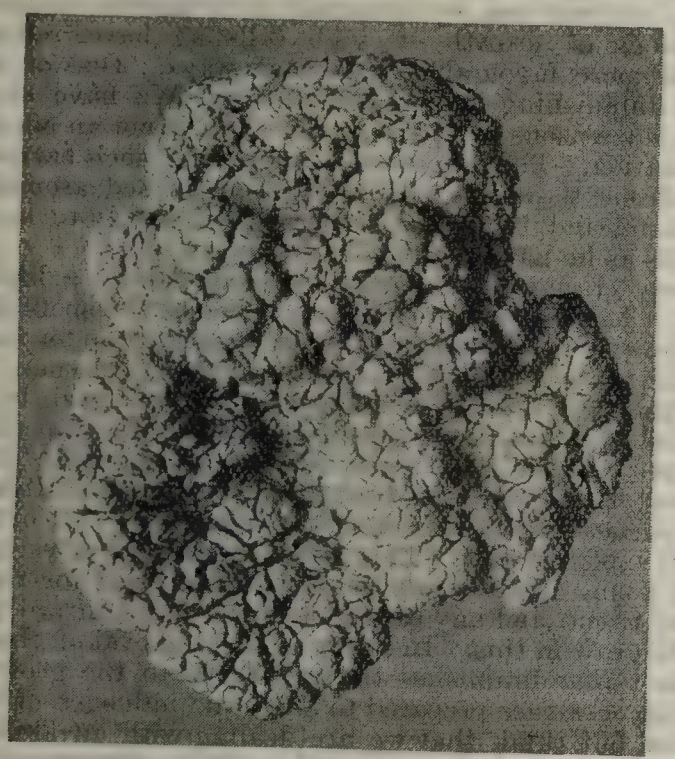

Photo of specimen lying in a basin in spirit; May, 1911, by Fred. Halliday, museum attendant, University of Liverpool.

the clamp no bleeding occurred, and the operation was finished. It was clear that, although the pedicle was narrow when held in the clamp and when the polypus hung down, the wound would have gaped widely and bled freely if it had not been very thoroughly sutured, and would have been difficult to seize again had haemorrhage not been completely controlled, owing to the great elasticity of the bowel walls. Complete success resulted

Remarks.—The papillary growth has an adenoid structure with columnar epithelium. The specimen has been in the museum ever since, spread out unaltered, as shown in the photo. It measures $3\frac{3}{4}$ in. by 3 in.

Attention may be drawn to the ingenious practice our museum attendant adopts of photographing some specimens under water or other colourless clear liquid, whereby inconvenient contrasts of light and shade are avoided. As previous examples, see BRITISH MEDICAL JOURNAL, June 6th, 1908, p. 1351; April 17th, 1909, p. 947. In contrast, see May 16th, 1908, p. 1173, where the specimen, from a galactocele, had to be photographed in air. The most important part—a coil of milky paste—came out perfectly, but the cyst wall and separate contents were necessarily blurred by exaggerated lights and shades.

A DETACHMENT of the Salvation Army which has been at work in the Dutch East Indies for some ten or fifteen years is to have placed in its charge a colony for lepers, about to be established on an island not far from the capital of Sumatra. Its labours in this connexion will not be altogether a new departure, as for the past three years it has been in charge of a leper hospital at Pelantoengan, which is maintained by the Dutch Government, and accommodates 160 patients. The number of lepers in Java alone is estimated to be as many as 12,000.

SURGICAL INTERFERENCE IN CANCER.

(AN EXPERIMENTAL STUDY.)

BY

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IT has long been the experience of surgeons that there are certain cases of malignant disease, mostly of a chronic and slowly growing form, which, after operation, flare up, recur rapidly, spread quickly, and soon end the patient's life. The explanation usually offered is that the operation has been incomplete; some of the cells of the cancer have been set free at the operation and have grown and disseminated rapidly. Their local growth has been aided by the removal of the pressure which the tumour has exerted on the surrounding parts. The rapid dissemination and formation of metastases is explained by the opening up of lymph spaces at the operation and the extensive formation of young capillaries which occurs during the healing of the wound.

The chief phenomenon in these cases is the rapidity of the recurrence and its increased malignancy—that is, increased rate of growth. Why should such fragments as have escaped the surgeon grow more rapidly than did the original tumour? It is highly improbable that in every case the operation has been undertaken at the very moment when the neoplasm was going to acquire greater virulence, and the disease was going to flare up of its own accord. The cancer cells are looked upon too much in the light of independent units which have broken away from the control of the organism as a whole. The reaction of the surrounding tissues and of the body in general is taken too little into consideration.

Is the removal of the pressure of the neoplasm and the consequent diminution of the tissue tension a sufficient explanation of the increased malignancy of the recurrence? When this pressure is removed the cancer cells that remain can grow rapidly, at any rate till they have filled up all the available space, and by the increase in their bulk have brought the tension back to what it was originally. But a carcinoma, especially if chronic and of slow growth, is never under very great tension; since if it were necrosis *en masse* and sloughing would be frequent. The edges of every carcinoma are composed of healthy cells, which send out irregular processes, often extending a great distance, into all the available spaces of the surrounding tissues. If the pressure were great we should expect the edge of the neoplasm to consist of a mass of tightly packed flattened cells in all stages of degeneration. Its outline as a whole would be roughly spherical, and the surrounding tissues would show signs of compression. Again, after the operation the wound is usually carefully closed; in many cases even the skin has to be extensively "undercut" to enable its edges to be brought into apposition. Large spaces are therefore rarely left, and such spaces as do remain are very soon filled up with exudate and granulation tissue, which brings the tension back very rapidly to its original point, if, indeed, it does not exceed it.

We, therefore, do not think that the increased malignancy of the recurrence occasionally seen in surgical practice can be explained either on the hypothesis of diminished tissue tension or on that of the operation having been undertaken at the moment when the disease would have flared up had it been left untouched. We cannot agree with Bashford's[1] statement as to "the baseless nature of the opinion that surgical interference causes a tumour to become more malignant or necessarily to disseminate," since we have not infrequently observed identical phenomena during the course of our experiments on the transplantation of cancer in mice. We have therefore analysed our material and collected it (in the form of this paper) in the hope that we may be able to throw some light on the subject.

It is necessary here to give a definition of what we mean by the terms "virulence" or "malignancy." When we say that the virulence of a tumour has increased, we mean that its rate of growth in a given time has become more rapid. On comparing the size that a new growth has attained in a given number of weeks with that of its local

*This work was carried out in the Research Laboratories of University College Hospital Medical School.

recurrence in the same number of weeks, and finding the latter to be greater, it does not necessarily follow that its virulence has increased, since it may have grown from a much larger fragment than did the original tumour. On finding, however, that from week to week its bulk has increased more rapidly than did that of the parent neoplasm, it follows that the recurrence has become more virulent.

The rate of growth of any given carcinoma must depend on two main factors—the rate of growth characteristic of its component cells and the susceptibility of the individual affected. It is found in practice that, if a number of mice be inoculated with a given cancer, a certain proportion will develop tumours which on the whole will grow uniformly until they eventually destroy the animal. There are, of course, variations in the rate of growth in individual mice of the same series, but these, as a rule, are not so great that it is not easy to establish a mean, and to be able to state that the tumour is a slowly or a rapidly growing one. Other mice will develop tumours which will grow to a certain size and then decrease, and eventually disappear. Other mice, again, will not develop a tumour at all. In the great majority of all experiments a certain percentage of the mice inoculated are immune to the cancer. The graft which has been introduced is unable to grow owing to some adverse factors in the constitution of the mouse.

The percentage of successes in a given experiment depends, therefore, on the balance of these two factors—the rate of growth of the cells of the carcinoma and the susceptibility of the individual. Every carcinoma has a certain mean potentiality of growth; its cells proliferate at a certain rate (as compared with another carcinoma). Whether it finds a suitable soil will depend on the way the individual reacts, and whether the blood supply is adequate to the demands of its cells.

Among those tumours which succeeded in growing, besides those which after a time are spontaneously absorbed, there are a certain number which show a tendency to diminish in size or even disappear for a time and then to grow again. In many experiments it is found that this "negative phase" in the growth, as shown by the Imperial Cancer Research Fund, coincides in time in the whole series, and that during its incidence the greatest number of spontaneous absorptions and cures occur. Transplantations carried out during this negative phase usually give but a small percentage of successes.

For a graft to be able to grow it is, of course, necessary that its cells should become connected with the blood vessels of its host. This is found to be the case. Once a tumour has reached a fair size one or more large blood vessels are found running to it from the nearest big artery. These vessels increase in number and size with the growth of the tumour, so that the latter is always well supplied with blood. Bowen[2] has shown that complete occlusion of the blood supply results in necrosis of the tumour and cure; partial occlusion may prove successful in cases in which there is a tendency to spontaneous cure. He also points out that complete obliteration is impossible if there is infiltration of neighbouring structures with cancer cells.

It is usual to talk of the cancer or its graft as "establishing" its blood supply. This term is an unfortunate one, as it produces the idea that the cancer cells exert some influence on the host by means of which his blood vessels are, so to speak, compelled to send off branches for their maintenance. What really happens is essentially the same as what occurs when any foreign body lodges in any animal's tissues, and is merely an expression of the reaction of the animal to such a foreign body. If a needle is embedded under the skin, granulation tissue rich in capillaries is formed around it, whose phagocytes attempt to remove the needle. When they fail to do this, the latter becomes encapsuled by fibrous tissue, which is the next best means of removing it as far as possible from the economy of the host. The same process occurs when a graft from a cancer is introduced, the only difference being that its cells are living. Leucocytes appear around the graft and granulation tissue springs up, with the purpose of destroying its cells. These cells, however, being alive, possess the property not only of resisting the defensive mechanism of the host, but of turning his blood supply to their own use, in very much the same way as do numerous parasitic micro-organisms. Once they come in contact with the capillaries of the granulation tissue, they are able to utilize them, and as they multiply so will the capillaries. The cells of the graft are merely able to utilize the blood vessels of the host, once they have reached them, but not to attract them. Were it possible for the host not to react in any way, the graft would inevitably perish.

If we admit the improbability of the assumption that in every case in which removal of a tumour is followed by a rapid recurrence the operation has been undertaken at the moment when the disease was going to flare up spontaneously—when, in other words, a negative phase was just over—there is only one possible explanation of this phenomenon. This is that the surgeon has so altered the part that such pieces of cancer as have been left behind are now able to grow under more favourable conditions. We hope to be able to show from our experiments that a tumour of a slowly-growing series often recurs rapidly after operation, that such rapid recurrence may even take place during a negative phase, and that the transplantations from the operated tumour (which has recurred rapidly) into healthy mice do not show an increased rate of growth in any way proportionate to that of the recurrence.

The surgeon can, by operating on a tumour, render the conditions of growth of such cells as have remained behind more favourable in several ways. One of these is by diminishing the tissue tension. We have already given our reasons for thinking that this is not an adequate explanation. The others are by removing such barriers of old fibrous tissue as may have been formed around the neoplasm, and by increasing the blood supply to such of its cells as he has been unable to remove.

Every chronic carcinoma is surrounded by a layer of more or less dense fibrous tissue. Even at the spots where the growth is spreading there is usually time for such a barrier to be formed by the surrounding tissues. On removing the tumour as widely as possible, well beyond its visible limits, it is inevitable that this capsule be removed as well, and a raw surface substituted. If the edges of the wound are brought well into apposition, the raw surfaces stick together (by means of the exudate which is poured out). This exudate soon becomes organized; young granulation tissue is substituted for the old fibrous tissue, and any cancer cells that remain are easily able to grow in this. In so far as this removal of the firm fibrous tissue diminishes the resistance to the growth of the cancer we are prepared to allow the influence of tissue tension, but think that we are dealing with an alteration in the nature of the soil rather than with one of the pressure.

We have already said that every tumour is usually well supplied with blood. If the skin of a mouse which has been inoculated with cancer in the groin and has developed a tumour in the subcutaneous tissue of the side be reflected, large blood vessels are seen running to it from the axilla, the inguinal region, or from both sources, depending on the situation and size of the tumour. If two independent tumours have developed, as is not infrequently the case, it is usual for the anterior to be supplied from the axilla, and the posterior from the groin. Both may, however, receive their blood supply from the same source. Vessels are generally seen between the two tumours, so that a free anastomosis takes place. Before entering the growth the vessels, as a rule, break up into one or more main branches. They are large, and may even attain the size of the trunk from which they spring. A large amount of blood is, therefore, continually being brought to the tumour, which, in spite of the fact that there is usually a considerable amount of central necrosis, is adequate for its nutrition and enables its cells to proliferate.

What happens when the surgeon removes the main mass of the tumour but leaves some small fragments behind? The result will be different if such fragments are left in organic connexion—that is, if they remain surrounded by connective tissue and with intact blood supply, or if they consist of cells left loose in the wound. In the former case, although the main vessels going to the tumour have been ligatured, those supplying the fragment will promptly dilate, a collateral circulation will be established, and a much larger amount of blood will be available for its nutrition than before. This

increased blood supply will be permanent, and, as the cells proliferate rapidly in response to it, will become yet greater. The cells will be able to grow readily in the young granulation tissue which has been formed as a result of the operation. This granulation tissue contains a large amount of capillaries, so that the growing cells of the cancer are, for some considerable time at least, under the most favourable conditions as regards their blood supply. In this case we should expect an early and rapid recurrence with an increased rate of growth—that is, malignancy.

Should all the outlying processes of the cancer have been successfully removed, but one or more fragments have been left loose in the wound, such fragments will be under less favourable conditions than in the case we have discussed above, since they will have been cut off from their blood supply. They will have to become connected with the surrounding tissues and to be revascularized in order to be able to gain sufficient nourishment for continual growth. Before this can happen many will perish. The survivors, therefore, require some time before they can grow to a size which can be appreciated as a definite recurrence. This time corresponds to the "latent period" in inoculation experiments. It usually takes about ten days for the grafts to grow to an appreciable size in mice, but may take much longer. In one of our cases, that of a very slowly growing papillary mammary tumour of the mouse (which died out in the third generation), one of the grafts of the second generation did not appear for thirteen weeks. As three weeks in the life of a mouse correspond to a year in a man's life, it will be seen that we are dealing with a period of time of considerable length. When the recurrence has definitely appeared, its behaviour will be mainly influenced by its blood supply. Should its vascular connexions have been made early, while the surrounding tissues were still undergoing the process of repair, and there was, in consequence, a large amount of granulation tissue present, we would expect its rate of growth to be rapid. Should, however, its supply have been inadequate until after the granulation tissue had been converted into relatively avascular connective tissue, its rate of growth will be slower.

Cells left loose in the wound are under another disadvantage compared to those that have remained in organic connexion. The latter, being processes of the cancer more or less remote from its main body, will be actively growing young cells, since a cancer grows from its periphery. The former will consist, in part at least, of cells from the centre of the growth. Especially is this so in advanced tumours in which the tissues readily break down during the operation.* As all cells have an age limit, at the end of which they die and towards the close of which they become old and their activities diminish, it follows that the isolated nodules, which consist mainly of young cells, will be able to overcome any reaction from the surrounding tissues better, and to grow more rapidly than pieces of cancer composed of cells of all ages.

We will now consider what happens in our experiments on mice when there are two tumours close together on the same side of the body and one of them has been removed, the other being left with its blood vessels as little disturbed as possible. We have operated on 6 cases of this description. In one of these the tumour which was left untouched disappeared completely in fourteen days. It was small and the tumour that was removed was large and firmly adherent to the skin. Also at the time we did not pay any attention to preserving the blood vessels. It is, therefore, not unlikely that we so interfered with the blood supply as to kill the remaining nodule. In the other 5 cases the nodule increased distinctly more rapidly in size than had the original growth and than did the other tumours of the same series. This is a very important point, as, having removed the tumour, it is, of course, impossible to say what it would have done if it had not been touched. It might just have been entering on an active phase. As such an active phase is usually synchronous in all the tumours of a series, we have proof, as far as it can be adduced, that this was not so. It also goes to show that the size that the second tumour eventually attained did not depend solely on the larger size of the nodule left behind at the operation as compared to that of the original graft from which the first tumour developed. If that were so, although the second tumour might exceed the first considerably in size in a corresponding number of weeks, yet the rate of increase from week to week should be proportionate.

This accelerated rate of growth in these cases is not as great as it is in a recurrence resulting from a piece of the excised tumour being left behind with its blood supply intact. This is owing to the fact that the blood supply in the case of two tumours is more or less independent. Again, the tumour which is left consists of cells of all ages, and not merely of actively growing young peripheral cells. These latter cannot reap the full benefit of the increase in the blood supply, and the growth will be less active than in a fragment consisting practically only of young cells.

A glance at Chart 1 will illustrate this point. What can be more striking than the greater size of the recurrence in

CHART 1.

mouse No. 11 over that of the second tumour? This second tumour had grown in three weeks from a nodule which, at the time of the operation, measured 7 × 8 mm. to a size of 19 × 17 mm. The recurrence, which must have sprung from a very small piece which can certainly not have measured more than 1 mm. in its largest diameter, reached, in the same period, the size of 24 × 23 mm.

We think, therefore, that the behaviour, after operation, of two tumours in contiguity lends support to the view that the increased virulence of the recurrence is mainly due to increased blood supply. It is occasionally stated that this increase is due to the heightened general metabolism of the body called forth by the neoplasm, which, on removal of its main mass, is made use of by such portions as have remained undisturbed. That this is not so is demonstrated by the behaviour of two tumours on opposite sides of the body, whose blood supply is quite independent. In such a case, of which we had six, removal of one tumour, even if large, produces no difference in the rate of growth of the other, though this be small.

This is in accord with Bowen's experiments (loc. cit.), who found that ligature of the vessels supplying a tumour on one side of the body produced no effect on the rate of growth of a tumour on the opposite side.

It now remains for us to prove the statements we made above—that a tumour of a slowly growing series often recurs rapidly after operation; that such rapid recurrence may even take place during a negative phase; and that the transplantations from an operated tumour (which has recurred rapidly) into healthy mice do not show an increased rate of growth in any way proportionate to that of the recurrence.

A detailed table of our cases will be found on page 157. Here we intend merely to give a general analysis

* These are the cases in which the tumour is, as a rule, most firmly adherent to the surrounding structures, and in which the surgeon consequently finds the greatest difficulty in removing it completely, so as not to leave some of its processes behind in connexion with their blood supply.

of our experiments. These group themselves into five sets:

1. In which the recurrence is early (within fourteen days, the usual latent period of transplanted tumours) and virulent—that is, its rate of growth is more rapid than that of the primary tumour—11 cases.
2. In which it is early but not virulent—5 cases.
3. In which it is delayed and virulent—6 cases.
4. In which it is delayed and non-virulent—7 cases.
5. In which there has been no recurrence—19 cases. Here we succeeded in removing the tumour completely.

The above figures show that in 11 out of 48 operations—that is, in 23 per cent.—the recurrence has been both early and virulent, its rate of growth being in some instances two or three times as rapid as that of the primary tumour or as of the tumours of the remaining mice of the series. Tables 1 and 2 contain three such cases between them.

This large percentage in mice, as compared to the relatively small number in man, depends on the relatively enormous size the tumours are allowed to attain in the former animals and on the consequent increase in the difficulty in removing them completely.

Chart 2 illustrates well the fact that such a rapid recurrence may even take place during a negative phase.

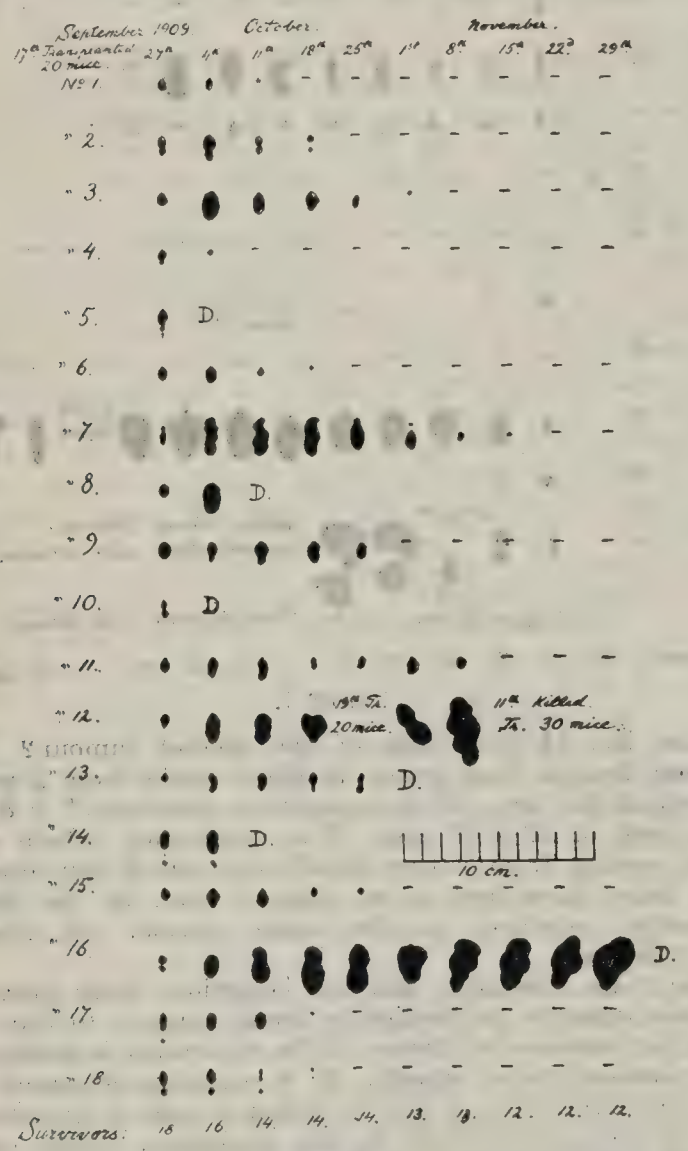

CHART 2.

Here all the tumours, except No. 12 (the one operated on) and No. 16, had diminished in size at the time of the operation. No. 16 the week after showed a diminution in size and then grew again at very much the same rate as before. The relatively enormous growth of the recurrence of No. 12 presents a striking contrast to it.

Again, compare Charts 2 and 3. Chart 3 represents the result of the transplantations made from No. 12, Chart 2, at the time of the operation. The grafts grew exceedingly badly. If we leave out of consideration the mice that died during the first few weeks, one tumour only developed permanently, and even this disappeared on the fourth charting and then reappeared. This proves as clearly as is possible that Tumour 12, when operated upon, was in the negative phase. The inoculations made from it grew even less well than did the tumours of the parent series. It also proves that transplantations from the operated tumour into healthy mice do not show an increased rate of growth proportionate to that of the recurrence.

Now compare Charts 3 and 4. Chart 4 represents the growths derived from No. 12 (Chart 2), when the mouse was killed. This chart shows a rate of growth which, for the carcinoma under consideration, is a very rapid one.

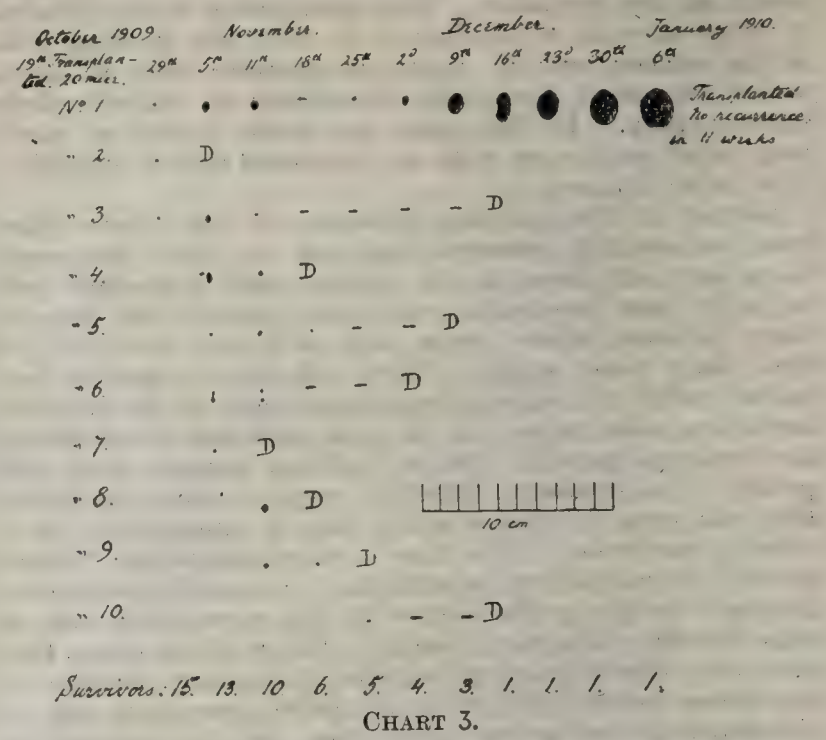

CHART 3.

It might be argued that, as transplanted tumours are merely grafts, the negative phase was over. That this is not so is shown by the behaviour of the tumours on Charts 2 and 3, the rate of growth of none of which has

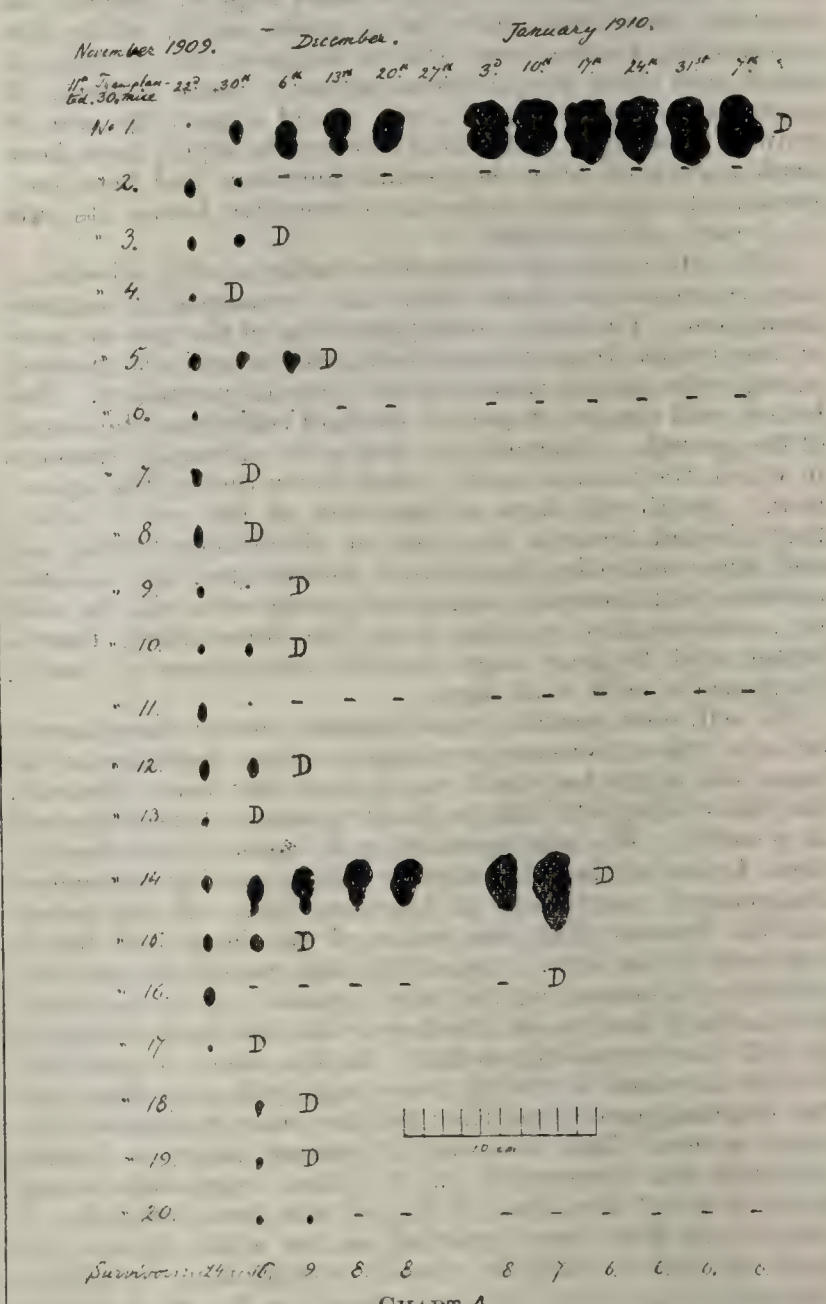

CHART 4.

improved. We may add that the new growth we are dealing with is characterized by the fact that its descendants frequently disappear for a time to reappear (cf. Chart 3, No. 1), so that, should the negative phase have been over, we would have expected one or more of the

TABLE OF EXPERIMENTS.

1. *Recurrence Early and Virulent.*

1. Index No. of Mouse.	2. Age of Tumour (in Weeks) at Time of Operation.	3. Size of Tumour at Time of Operation.	4. Latent Period (in Days) of Recurrence.	5. Size of Recurrence after Latent Period.	6. Size of Recurrence at End of Experiment.	7. Average Size of Remaining Tumours of Same Series at Time of 6.	8. Average Size of Transplantations at Time of 6.
		mm.		mm.	mm. Weeks.	mm.	mm.
No. 7	18	22 × 19	14	10 × 2	30 × 16 ... 6	Absorbed	24 × 12
No. 12	4	15 × 13	14	26 × 11	36 × 16 ... 3	13 × 8	6 × 4
No. 9	10	24 × 18	14	26 × 8	33 × 15 ... 3	Absorbed	15 × 9
No. 1	4	25 × 17	7	19 × 8	31 × 16 ... 3	19 × 14	9 × 3
No. 21	9	25 × 16	13	16 × 7	27 × 15 ... 3	15 × 11	3 × 2
No. 6	22	23 × 17	14	25 × 8	32 × 26 ... 5	None	21 × 13
No. 3, 2nd op.	8 (from 1st op.)	32 × 22	14	18 × 9	30 × 22 ... 6	29 × 18	14 × 7
No. 7	13	30 × 18	13	32 × 8 7 × 8	35 × 20 7 × 6 ... 3	Absorbed	None
No. 28	5	20 × 12	13	16 × 8	32 × 20 ... 5	22 × 15	14 × 7
No. 6	6	21 × 12	14	14 × 12	25 × 31 ... 4	11 × 9	13 × 8
No. 11	3	10 × 7	14	25 × 15	25 × 26 ... 3	13 × 7	11 × 5
				2. *Recurrence Early but Not Virulent.*			
No. 16	32	21 × 31	7	8 × 6	14 × 7 ... 4	3 × 2	None.
No. 13	26	40 × 30	14	19 × 7	Absorbed 13	None	Not transplanted.
No. 3	11	22 × 20	14	5 × 3	25 × 20 ... 18	None	17 × 13
No. 6	4	22 × 12	5	2 × 2	16 × 11 ... 3	17 × 10	4 × 3
No. 1	7	48 × 29	14	8 × 5 15 × 8	8 × 8 17 × 9 ... 4	5 × 4	8 × 3
				3. *Recurrence Delayed but Virulent.*			
No. 2	9	26 × 18	21	12 × 8	34 × 20 ... 5	None	25 × 16
—	?	23 × 16	35	4 × 4	36 × 22 ... 10	—	11 × 5
No. 2	18	26 × 12	27	15 × 9	31 × 23 ... 8	None	7 × 4
No. 21	18	30 × 26	20	5 × 3	37 × 20 ... 7	None	15 × 10
No. 7	15	18 × 13	22	10 × 5	22 × 15 ... 7	None	16 × 10
No. 1	10	25 × 12	21	10 × 11	33 × 19 ... 5	26 × 15	Not transplanted.
				4. *Recurrence Delayed and Not Virulent.*			
No. 1	14	33 × 33	37	4 × 2	4 × 3 ... 7	None	7 × 4
No. 9	35	26 × 14	21	5 × 6	6 × 7 ... 5	None	8 × 6
No. 3	6	25 × 18	35	6 × 4	18 × 13 ... 8	None	6 × 3
No. 12	28	24 × 26	17	3 × 4	12 × 12 ... 6	None	10 × 8
No. 36	10	32 × 27	49	22 × 9	27 × 18 ... 11	None	17 × 8
No. 13	16	18 × 20	18	9 × 4	17 × 22 ... 10	8 × 4	None
No. 3	10	18 × 12	35	16 × 6	20 × 9 ... 8	None	10 × 5

tumours in Tables 2 or 3 to have reappeared. Chart 4 demonstrates that, although the tumour as a whole was still in the negative phase, its cells, which had been stimulated to a rapid growth by the operation, went on growing rapidly, even after transplantation.

Stress has been laid above on the rate of growth when the virulence of a tumour has been considered in such mice in whom the graft has "taken," and not on the percentage of "takes" in the whole number inoculated, since this percentage depends in a very great measure on the susceptibility of the individual mice.

Hitherto we have said nothing about dissemination, since we have but rarely met with metastases, visible to the naked eye, in mice. If we may judge from our spontaneous tumours, in which we have frequently seen microscopic secondary emboli in the lungs, we would say that such microscopic metastases are probably far from uncommon. To have, however, thoroughly examined under the microscope the lungs and other viscera of every mouse with an inoculated tumour would have entailed an amount of labour which we considered to be unjustifiable. But, even if it is allowed that metastatic emboli are not rare in mice, their frequency is considerably less than that of secondary deposits in man. This appears to be mainly due to the laxity of the subcutaneous tissue of the mouse, into which all our grafts have been transplanted. The tumours are here able to expand in all directions (grafts in mice usually assume a spherical or oval form); cells are therefore not so likely to be separated off. In man, on the other hand, the subcutaneous tissues are more rigid. The growth, therefore, cannot expand freely in all directions. Offshoots grow out into any available spaces, and these often penetrate lymph or blood capillaries, and are then carried away to distant parts. What applies to the subcutaneous tissue of man applies even with greater force to a neoplasm arising in a solid tissue or viscus. We need but mention the scarcity of secondary deposits in epitheliomata of the skin.

There is not much to be said about the microscopic appearance of the tumours employed, which, with one exception, are all mammary carcinomata. This exception is a squamous-celled carcinoma (32), kindly given to us by Dr. Bashford. Among the others there are two haemorrhagic tumours, one of which has a papillary, the other an alveolar structure; a very cellular alveolar carcinoma with a great tendency to necrosis; and two acinous cubical-celled carcinomata, one of which contains areas of keratinizing squamous epithelium. We have never observed a change in type between the parent tumour and its recurrence. If the recurrence grew more rapidly, it showed a larger amount of proliferation of its cells, which were consequently more closely packed together and more subject to necrosis.

We have now passed in review all our available evidence, and hope that we have been able to show experimentally that incomplete removal of a carcinoma is often followed by a rapid recurrence of greater virulence than that of the original tumour, and that this increase in the virulence is

mainly due to the remaining fragments having a very rich blood supply. It merely remains for us to say a few words on the technique employed at our operations and to give a table of our experiments (see p. 157).

Technique.

Ether has always been used as an anaesthetic. Mice stand it well, and usually run about their cage in a normal manner within an hour of its being stopped. The operations were performed under the strictest aseptic precautions. After sterilizing the skin an incision was made whose length depended on the size of the tumour, well in front of it. On reflecting the skin the tumour, unless it has infiltrated the muscles, adheres to its deep surface. After ligaturing the blood vessels the tumour is removed, together with an elliptical flap of skin to which it adheres. By varying the size of this flap we can remove as widely as is necessary. In such cases in which the operation was purposely made an incomplete one, we cut and shelled the tumour of the skin, and were thus able to leave pieces of it behind in connexion with their blood supply. The wound was closed with silk. No dressings were applied. Primary union resulted in all our cases in which there was no recurrence in the scar itself. Except in one or two of our earliest experiments we have never had any signs of sepsis.

REFERENCES.

[1] Bashford, Third Scientific Report of the Imperial Cancer Research Fund, 1908, p. xv. [2] Bowen, loc. cit., pp. 146–158.

ON THE INFLUENCE OF CALCAREOUS DRINKING WATER IN HEALTH AND DISEASE.*

BY PERCY G. LEWIS, M.D.,

FOLKESTONE.

IN estimating the various influences which combine to make up the elements of any particular climate, it is reasonable to suppose that the drinking water of a locality may be a matter of considerable moment, and the subject of our discussion to-day is "hard water" wherever it may be found. But the water which most particularly concerns us is that which owes its hardness to the presence of chalk in solution.

The question, then, arises, Is any importance to be attached to that fact, and if so, what, and how much?

Now it does not necessarily follow that opinions held by the public, even if they are ever so widely maintained, are correct. Far from it. But we have to recognise the fact that there are many notions held by the public, notions almost amounting to "fixed ideas," which receive a certain amount of medical support. And it is for us to inquire how far these notions are justified, and what foundations in fact they possess.

The majority of persons are profoundly influenced by climatic conditions. The question is, then, Is the drinking of calcareous water one of them?

A large number of different diseases have been attributed to the influence of chalky drinking water, but those more usually alleged are gout, rheumatism, calculus, constipation, biliousness, dyspepsia, eczema, goitre, and arterio-sclerosis. Let us consider and examine the evidence which can be brought forward to establish the reality of these baneful influences.

IN FAVOUR OF BANEFUL INFLUENCES.

1. First of all there is the undoubted fact that many persons when coming to visit or reside at the towns on the south-east coast do suffer, at any rate at first, from some of the different conditions mentioned, though it remains to be proved that the hard drinking water, rather than other causes, is the reason of this. We shall return to this point later on.

2. Though a number of medical men hold views similar to those of the public, it is difficult to discover how many have spoken with authority on the subject, or how much reason they have given for the faith that is in them, still less have they described the *modus operandi*. From a discussion held by this section in 1907 on the "Influence of Climate in Gout, Rheumatism and Rheumatoid Arthritis," there followed as a main result of the deliberations the opinion that climate had a good deal more to do with the production of these diseases than water. There was a general agreement that warmth, even temperature, dryness, free ventilation of the district, house construction, the character and habits of the people, were all important matters. Dr. Buckley, who opened the discussion, suspected that the functional disorders of the liver common with people on first coming to the seaside might be the precursor of gout, etc. But these effects are acknowledged to be but temporary. Dr. Buckley, however, said that he was convinced that places where the water was hard and chalky were unfavourable to gout. He apparently based his opinion on the number of patients who go to Buxton for treatment from Folkestone and the neighbouring resorts. There is, however, quite a different explanation than the drinking water of the gout from which these persons suffer.

(*a*) In the first place, most of these people are not natives of the seaside towns at all, but come to live in them on retirement from more active work. In all probability they acquired their gout long before taking up their residence here, and they, as a rule, probably drink very little, or none, of the local water supply in an unboiled condition, partaking usually of the aërated or bottled waters at their meals. Moreover, they unfortunately persist in the habits and diets which gave them their gout in the first instance, and which may be expected to bring forth more and more frequent exhibitions of their malady as life advances. Dr. Buckley would find very few, if any, of his patients who were total abstainers, or who imbibed as much as a pint daily of calcareous water.

(*b*) Sir Hermann Weber, in his *Climatology and Balneology*, says:

> It has been suggested that hard drinking water accounts for some of the indigestion and biliousness in visitors to health resorts on the chalk downs of the south coast of England.

He goes on to say that:

> There is some evidence that the administration of calcium carbonate (and chalky mineral waters) tends to diminish the amount of uric acid excreted in the urine, and perhaps in some way to lessen its production.

Again he says:

> Chalk does not appear in any way to increase the size of urinary concretions. Contrexéville water, which is harder than Bath water, owes most of its repute to its diuretic action.

And:

> It is possible the internal employment of calcareous waters might be useful in some cases of chronic and recurrent urticaria, chronic headache, etc.—conditions which are associated with deficient coagulability of the blood.

(*c*) Nor, if we turn to other authorities, do we find them any more definite. Rumph, for example, states that when much lime is taken with the food some of it remains stored up in the body, and may increase the tendency of calcareous deposits in the cardio-vascular system of old people. Rumph evidently considers this a disadvantage, but on the other hand, if we refer to Sir Clifford Allbutt, we find him of opinion that hard drinking water plays no important part in the causation of arterio-sclerosis. Sir Clifford Allbutt merely regards calcification as a secondary event which does not enter into the process until the lesion is otherwise established. Then, he says, calcification may be some protection to a decaying vessel. In any case, if the degenerative process wants lime, there is plenty to be had both in the body and in the food without calling on the chalk in the water.

(*d*) The Commission which was appointed by the Home Department in 1851, to investigate the quality of water available for the supply of London, after taking evidence from a large number of medical men and chemists, reported amongst other conclusions as follows:

> The only observations from which an interference of the lime in water in deranging the process of digestion and assimilation in susceptible constitutions has been conjecturally inferred have been made upon water containing much sulphate of lime and magnesia, as the Brighton shallow well water or the hard selenitic water of the new red sandstone, and have no force when applied to the Thames and its kindred waters, as the earths exist in these principally in the form of carbonates.

The objections, then, do not apply to chalky water.

(*e*) If we turn to books on materia medica, we learn that lime salts given in medicinal doses only enter the circulation in very small quantities, and appear in the blood as phosphates. If merely a little enters in this way, how very small a proportion is presumably absorbed from drinking water! Is there any reason for considering it as otherwise than as a negligible quantity? Is there an

* A paper read before a provincial meeting, at Folkestone, of the Section of Balneology and Climatology of the Royal Society of Medicine.

evidence that hard water is useful in any of those conditions for which calcium salts are commonly prescribed with success? Are the diseases for which calcium salts are given rare in communities supplied with hard water? The important part played by lime salts as a constituent of bones has suggested their use as a specific remedy in rickets, fractures, and other diseases of these structures, and medicinal doses of calcium salts are given for these conditions. These is no evidence, however, that calcareous waters are of any service in this respect. Of other diseases for which calcium salts are given the most prominent are menorrhagia, haemophilia, purpura, haemoptysis, and tendencies to capillary haemorrhages in general, urticaria, pruritus, some forms of headache, exophthalmic goitre, and scrofulous glands. It cannot be said that these diseases are rare or do not occur in the health resorts in question. But no medical man practising in these east coast resorts would expect to obtain a curative effect from prescribing even large quantities of water from the main. Undoubtedly, many women who live in the seaside towns of this district suffer more or less at their periods than they do elsewhere, but, as amenorrhoea is also common, it is difficult to imagine that the water supply plays any part in the matter whatever.

(*f*) A number of cases of goitre are treated annually at the Folkestone Hospital, but it appears that most of them come from the country districts outside the town, away from the hard water supply. Goitre is more often associated with limestone districts. It is prevalent in some areas and absent in others where the conditions appear the same. Melted snow water is supposed commonly to exert more influence in the causation of this disease than any other waters, however hard.

(*g*) Dr. Mitchell Bruce says that the action of calcium salts on the skin is desiccative and astringent; and this, then, may have some bearing on the causation of eczema—a disease, however, which is uncommon here. There is no doubt that it is possible to cleanse the skin more thoroughly with soft water than with hard, and ladies who reside in these districts mostly use distilled water for washing their hair, as they find that the local hard water causes it to become dry and brittle.

(*h*) Another interesting fact is that stated by Parkes in his work on hygiene, that coachmen and grooms dislike hard drinking water for horses, and there is a consensus of opinion amongst them that the animals' coats suffer from its use and become harsh and dry instead of sleek and glossy. Horses drink large quantities of water in an unboiled condition. Though this evidence may appear important, yet, as our patients do not drink large quantities of unboiled hard water, its value is somewhat discounted.

(*i*) If calcium salts do not act directly, can they act indirectly? The experiments of Dr. W. G. Little on the solubility of the various salts of uric acid at the temperature of the body and in saline solutions rather suggest the truth of this. He found that the addition of a small amount of sodium chloride—namely, ½ per cent. to distilled water—increased the solubility of calcium and magnesium biurates, but reduced that of sodium biurate to almost zero. Dr. Little also found that the addition of even small percentages of calcium salts to distilled water had the effect of very much lessening its solvent action on sodium biurate. Dr. Little concluded from these experiments *in vitro* that the formation of deposits and tophi is largely helped by the presence of calcium salts. These experiments made in glass vessels cannot, however, be easily to apply to the human economy and its drinking water, the amount of calcium salts imbibed in drinking water being very small compared with the amount of the same salts taken in food.

CONSIDERATIONS AGAINST BANEFUL INFLUENCE.

We see, then, that there is little that is convincing which can be said in favour of the view that chalky drinking water exerts a baneful influence in health or disease.

Now, having considered the evidence in favour of the view that chalky water is pernicious to health, let us briefly review what can be stated on behalf of the opinion that such water is not noxious in its effects.

We will begin with Parkes. He says in his book on hygiene that calcium carbonate in drinking water does no harm.

2. Hard water is less easily contaminated with organic matter than soft.

3. As four-fifths of the earth's surface is provided by Nature with hard water, it can hardly be supposed that Nature would have distributed water of this kind with so lavish a hand were it to have a very deleterious effect on mankind.

4. The mortality in Great Britain of the towns supplied with hard water is rather lower than that of towns supplied with soft water. Without attributing the mortality in either place as due to the drinking water, it is nevertheless an interesting fact, as it points to soft water having no great advantage over hard.

5. Many of the mineral waters, such as those of Contrexéville, which are beneficial in gout, contain considerable quantities of carbonate of lime. In fact, carbonate of lime is found in most of the waters at different spas where gout, rheumatism, etc., are successfully treated. On the hypothesis of the noxiousness of calcareous water in gout, how, indeed, is to be explained the disappearance or diminution of tophi (chalk stones) in persons undergoing cures at the various spas? If there is anything in this idea that calcareous water is injurious, we shall, forsooth, have to abandon altogether treatment by mineral waters.

6. The upper and middle classes drink mostly bottled waters at their meals, or water that has been boiled, as in tea or coffee. Can it be said that these classes suffer less from gout, rheumatism, etc., than the lower classes?

Has it ever been proved that the blood of persons habitually drinking hard water shows an increased coagulability as compared with the blood of persons drinking soft water? Has it been noticed that diseases due to increased coagulability, such as thrombus and embolism, are more prevalent at hard water places than at others?

Do the lower classes suffer more in this way than the upper and middle classes? If calcium carbonate is provocative of gout, rheumatism, etc., how can that fact be reconciled with the microbic theory of these diseases? How can be harmonized causes so widely different?

7. As regards calculus: The late Sir Benjamin Ward Richardson was strongly of opinion that hard water had no effect in the production of calculi, thus agreeing with Weber and opposing the popular idea to the contrary.

Recently Dr. Benjamin Moore, in an article in the BRITISH MEDICAL JOURNAL on renal calculi, stated that lime should be withheld from oxalurics on the ground that it would be liable to cause oxalate of lime calculi to form in the urinary passages. Dr. Johnston-Lavis, however, in criticizing this thesis, argued that

> No dietary can be planned which would reduce the calcium element so low as to be insufficient to combine with the few centigrams excreted daily even by an advanced oxaluric. Surely if these few milligrams of oxalic acid which are daily excreted are neutralized by the lime salts of our food, any amount of additional lime cannot do further harm.

The problem with oxalurics is not to prevent the introduction of calcium salts, but the absorption of exogenous oxalic acid in foodstuffs. For it is from the perverted metabolism of carbohydrates that the endogenous oxalates are derived.

Dr. Johnston-Lavis affirms that the prevention of the formation of calcium oxalate stones in the urinary passages by means of calcium starvation has been tried and has failed. The waters of Vittel contain a large amount of calcareous matter, and are taken by a large number of visitors suffering from oxaluria every year. The Vittel physicians inform us that almost without exception they find the diurnal amount of oxalates is markedly diminished or very frequently disappears, and that this result is apt to be permanent even though these people are constantly drinking Vittel water and living on a dietary in which lime-bearing food is not excluded.

On the other hand, at the Section of Pharmacology and Therapeutics of the British Medical Association meeting in July, 1910, Professor Hans Meyer of Vienna reported that it had recently been proved that oxalic acid poisoning was due to the withdrawal of the calcium salts from the body. The cardiac depression, the irritability of the sympathetic nervous system, and the general toxic symptoms of oxalic acid poisoning could, he affirmed, be relieved by the administration of calcium salts.

The late Sir John Simon, in giving evidence before the Commission on Water Supply, said there were many

explanations of the alleged prevalence of stone in the bladder in Norfolk—amongst which Norfolk dumplings held a chief place. The assertions became current when Norfolk had a famous lithotomist. It was possible that his reputation, by attracting sufferers into temporary residence in the district, or perhaps his zeal in discovering cases of stone, may have given the district a fictitiously lithogenous character. Or was it something in the shape of the dumpling which suggested a likeness to a calculus?

8. Again, it must be remembered that there is a large population living on chalky water, and if there were any very decided ill effects on their health the fact would be notorious—and we should not be debating it to-day. But, on the contrary, there is evidence pointing to some advantage to the human economy from the ingestion of calcium salts. Dr. Arbour Stephens in February last published an article in which he set forth the view that the lack of calcium salts in the food of troops on active service was a predisposing cause of enteric fever and dysentery. There is no doubt, too, but that hard water is far preferable to soft for growing children.

Birds are notorious calcium eaters. It has never been suggested that they suffer in consequence, unless, indeed, it be the domestic hen, and then only when its dieting has been undertaken by Dr. Chalmers Watson or some other member of this section.

EXPLANATION OF THE ALLEGED BANEFUL EFFECTS.

On what, then, rests the explanation of the baneful influences alleged to be due to hard water? It is said to cause constipation, but Weber says if constipation occurs it is only necessary to drink *more* of this water in order to overcome the constipating tendency; even if constipation is present the kidneys are stimulated. And owing to the increased stimulation the elimination of calcium salts is equally effected. The materia medica books tell us that lime salts, and especially chalk, act as depressants to the glands of the gastric mucous membrane, so that their prolonged administration might be supposed in some way to alter nutrition. But this statement alludes to medicinal doses of lime salts or chalk. And appetite, so far from being depressed, is stimulated by sojourn in such places as Folkestone and its sister resorts. It may be that this idea of the harmfulness of chalk first arose from the mistaken notion on the part of the public that tophi (so-called chalk stones) were really composed of chalk (instead, as all the medical world knows, of urate of soda, to which chalk has no relation, being as different as chalk from cheese). Therefore, it is impossible that this popular idea can have any foundation in fact. It is, however, in the so-called "seaside biliousness" that the real origin of the fallacy can be found. Nor is this biliousness to be wondered at. First, consider for a moment how completely visitors to the seaside change their habits. Consider the stimulation of appetite due to the change of air and environment, the increased tissue change, and the augmentation in the amount of exercise—all tending to cause an increased amount of autointoxicative material to enter the blood. When these facts are taken into consideration need one feel any surprise that the excretory organs at first fail to keep pace with the extra work thrown on them—fail, as it were, to keep the balance, and that temporary biliousness results from these causes?

Are we, then, to attribute the ill effects which sometimes seem to synchronize with a visit to the seaside to the hard water? Let us beware of the *post hoc ergo propter hoc* fallacy. It has been shown that there may be a variety of contributory causes to an attack of seaside biliousness and other of the diseases alleged to be due to hard water. In all probability, then, the hard water does not enter into their causation at all. The effects sometimes attendant on a visit to the sea occur equally in those who drink the hard water and in those who do not, a fact which indicates a cause other than the water for these illnesses.

To sum up, then, there is no evidence that hard water has any bad effect; on the contrary, all the evidence is the other way.

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CONGENITAL DEFICIENCY OF SPEECH AREAS.

(CONGENITAL APHASIA?)

BY ARTHUR EDWIN TAIT, M.B., CH.B.EDIN.,

RESIDENT MEDICAL OFFICER, BRANCH DISPENSARY, CHELTENHAM GENERAL HOSPITAL.

I WAS consulted some months ago by a mother on account of the inability of her son to talk. She had noticed no other difference in the child from her other children. The father had a slight impediment in his speech, saying "mouf" for "mouth," and such-like. A brother of the father suffered from epileptic fits.

The child, aged 5 years, could not utter a single word. When eight months old he had an attack of bronchitis and broncho-pneumonia; he then contracted whooping-cough, and his life was despaired of. The child had rickets, presenting pigeon-breast, Harrison's sulcus, knock knees, and even at 5 the anterior fontenelle was not closed. Convergent squint was present, and was common to the other children. The boy was right-handed, could hear and understand spoken speech. He could run messages to neighbouring shops. He was obedient to his mother. He played with other children, fought, and took his place at table in his own particular chair, and fed himself. I could not get him to speak a word. His sister of 2 years could use many words. The boy had been surrounded by speaking children during his short life. He phonated a sound like "ta!" or "ah!" suggestive of cleft palate, but the tongue and palate were normal. He had just commenced school, and took a great interest in picture-books. He could make crosses and strokes with a pencil. The sound "ta!" did duty for "yes," "thank you," and indeed everything. He understood what was said to him, carrying out his mother's instructions as far a child of 5 could do. He was fairly well nourished. He was always delighted when I visited the house, and ran to inform his mother, pointing and phonating his only sound.

In the BRITISH MEDICAL JOURNAL of May 13th, 1911, Dr. Eva McCall recorded two cases, one of word-blindness and one of word-deafness. It is, I think, unwise to label these cases aphasia.*

True aphasia, according to Byrom Bramwell, is a term applied to derangements of speech resulting from functional disturbance or organic disease of the higher speech mechanisms. Its varieties are:

Motor	Motor vocal aphasia	Cortical / Subcortical
	Motor writing aphasia	Cortical / Subcortical
Sensory	Auditory aphasia	Cortical / Subcortical
	Visual (reading) aphasia	Cortical / Subcortical

By speech is meant vocal speech or its equivalent o educated persons, and does not include defects due t imperfections in end organs, eye and ear.

Congenital cases must be due (1) to lesions—intrauterin or at time of birth—or (2) developmental defects. One o more of the speech areas subsequently to be trained fo speech are destroyed or defective. "Congenital deficienc of speech areas" would be a clearer description of th condition, since aphasia carries with it the association o more or less established function of the speech areas, an some subsequent thrombosis, embolism, tumour, haemor rhage, meningitis, etc. Congenital cases appear mor likely to be bilateral and developmental in origin. On could scarcely have better ground to work on than that o an infant, to train the right (non-driving) side of the brai to take on the work of the left (driving) side of the brain It does not do so, however, or the diagnosis would not b made. If the cases above referred to are considered to b true one-sided aphasias, applying Byrom Bramwell's rul they can be classified as follows:

Author's Case.

Boy aged 5. Cannot speak. Can hear and understand spoken speech. Can make crosses with pencil (will read and write)	=Motor vocal aphasia, su cortical variety (way o blocked).

Dr. Eva McCall's Cases.

1. Boy aged 12. Cannot read. Cannot write from dictation. Could write his own name	=Visual aphasia, cortic variety (motor writing aphas a necessary concomitant).
2. Boy aged 8. Not deaf to sounds. Word-deaf. Able to talk imperfectly. No memory for words	=Auditory aphasia, probab subcortical variety, with memory for words intact, b way to it blocked.

* See Dr. W. J. Rutherford, BRITISH MEDICAL JOURNAL, June 3 1911, p. 1348, and Mr. Macleod Yearsley ibid., June 10th, 1911, p. 1406.

THE

THERAPEUTIC COMMITTEE

OF THE

British Medical Association.

PART I.—ON THE OFFICIAL OINTMENTS, WITH SPECIAL REFERENCE TO THE SUBSTANCES USED AS BASES.

BY

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WHILE many of the pharmacopoeial ointments are admirable preparations and well suited for their intended purpose, the fact that others fail to satisfy those practitioners who have the greatest experience in their use is shown by the frequency with which a preparation of a different formula to the official one is preferred in dermatological clinics.

In many of these cases the fault appears to be in the character of the base employed, and it seems desirable at the present time to discuss briefly the properties of the substances used as bases and the classes of ointments for which they are respectively best adapted.

For the study of this subject all the official ointments and many others have been made in various ways and with different bases, the products examined experimentally, and, when found suitable, used clinically in the regular treatment of patients at the Manchester and Salford Hospital for Skin Diseases. The work is far from complete, and it is hoped to study more fully the properties of such possible bases as palm oil, cocoanut oil, sodium stearate, goose fat, parinol, paragenum, and other substances. The present note is only concerned with the substances in the *British Pharmacopoeia* which are, or may be, used as bases for the ointments.

The forty-four ointments of the *British Pharmacopoeia*, 1898, are used for widely different purposes, which may be classified as: (1) Protective; (2) emollient; (3) absorbent; (4) sedative and astringent; (5) stimulant; (6) irritant; (7) parasiticidal.

The first three of these classes depend on the base, and the last four on the nature of the active substances incorporated with it. In some cases (for example, the mercurial ointments) an ointment may be included in more than one class.

The substances given in the accompanying table are used in the *Pharmacopoeia*, alone or in combination, as bases for ointments. With them are included the simple ointment of the *British Pharmacopoeia*, 1885, and cacao butter, which is sometimes employed as a base. The bases are arranged in the order of their melting points.

The melting points were all obtained from ordinary commercial samples by the method described by Mr. James Grier,[1] and with one exception they agree closely with those directed in the *Pharmacopoeia*. The exception is in the case of soft paraffin, samples of which obtained from different sources differed somewhat widely, and ointments made even from those within the somewhat wide limits of the *Pharmacopoeia* showed a marked difference of consistence.

It would be a decided gain to uniformity of product if the melting point of soft paraffin were brought within narrower limits, or, failing that, two varieties allowed, one with a melting point 31–34°, the other 37°–40°.

The melting point alone does not give any adequate criterion of the suitability of a substance for an ointment base; thus, the simple ointment of the *British Pharmacopoeia*, 1885, shows a higher melting point than hard paraffin, and cacao butter, which is too hard to use alone, has a lower melting point than hard or soft paraffin. Anhydrous wool fat is useless alone, owing to its adhesive character, though its melting point was actually below that of some samples of soft paraffin.

Apparently those substances which soften gradually at temperatures considerably below their melting points are more useful as bases than those which retain their solidity until the melting point is approached and then liquefy rapidly. This latter property is possessed by cocoanut oil and cacao butter, and is in the latter case a most valuable property in its use as a suppository base.

Base.	Melting Point, as determined.	Melting Point, *B.P.*, 1898.
	Degrees C.	Degrees C.
Beeswax, white	62	
Beeswax, yellow	60.5	62.5–63.9
Simple ointment, *B.P.* 1885	57.5	
Hard paraffin	55	54.5–57.2
Suet	49–50	44.4–48.9
Spermaceti ointment	49–50	
Spermaceti	48.5	46–50
Paraffin ointment	42.5	
Hydrous wool fat	40–41	
Anhydrous wool fat	39–40	40–44
Hydrous wool fat 1 + soft paraffin 3 ...	40	
Lard, prepared...	39	37.8–39
Lard, benzoated	37–39	
Soft paraffin, yellow, Variety A ...	45	35.5–38.9
,, ,, ,, Variety B ...	37.5	
,, ,, ,, Variety C ...	34	
,, ,, white, Variety A ...	39	
,, ,, ,, Variety B ...	37	
,, ,, ,, Variety C ...	31.5	
Cacao butter	33	
Olive oil (becomes pasty)		10
Almond oil (congeals)		−20

The other fixed oils in the *Pharmacopoeia* are of little use, castor oil and cod-liver oil owing to their smell and linseed oil owing to its drying properties. Possibly cottonseed oil or sesame oil might be equally good and cheaper than almond and olive oils.

A number of experiments have been made to determine the relative protective and penetrative powers of the various bases and also the extent to which certain active drugs were absorbed by the skin when applied to it in various combinations. The experiments are made by rubbing a carefully weighed quantity (usually 10 grains) of the ointment or base into a definite area of skin (usually 20 sq. in.) for a fixed time. The ointment is then scraped off the rubbing finger and the surface of the skin by a dulled Gillette safety razor blade fixed in a convenient handle and again weighed. To avoid the necessity of wiping the instrument the scraper is weighed with the ointment both before and after rubbing. With a little practice consistent results may be obtained. The loss of weight represents the amount of ointment absorbed, together with the amount lost in manipulation; as the latter is fairly constant in dealing with preparations of a similar consistency the results afford a relative indication of the respective amounts absorbed. There may, of course, be a possible slight gain from secretion and epidermis removed from the skin by scraping, but, if the skin be dried before the rubbing, experiment has shown that this factor may be neglected, as it is the same for each application and does not affect the relative results.

These experiments are still in progress, but sufficient results have been obtained to confirm the generally accepted views as to the relative penetrative powers of the usual bases.

Soft paraffin and paraffin ointment appear to be hardly absorbed at all, but remain on the skin as a protective layer for a considerable period. Lard and olive oil are absorbed to a considerable extent, about 15 per cent. after two minutes' rubbing. Hydrous wool fat, 20 per cent. provided the proper amount of water is present; old samples partially dried are less absorbed. Owing to its powerful adhesive properties no reliable result was obtained from anhydrous wool fat.

The greatest loss of weight occurred from a mixture of equal parts of glycerine of starch and hydrous wool fat, which is a useful base when a comparatively non-greasy emollient is required.

Classified according to base the official ointments should be divisible into—

Protective ointments, when the effect is desired to be on the epidermal surface only.
Emollient ointments, when the deeper parts of the skin are to be reached, and
Absorbent ointments, when it is desired to secure a passage through the skin into the body.

Protective Ointments.

The properties of soft paraffin especially mark it out as the most suitable base for protective ointments. It has, however, the disadvantage of being too soft and running easily in warm weather, and without sufficient body for certain purposes.

The official paraffin ointment, which is an attempt to remedy these defects, is not a satisfactory preparation, and is but little used. It is a difficult ointment to make satisfactorily and easily becomes granular when it contains small particles of hard paraffin. Possibly the hard paraffin does not completely amalgamate with the soft paraffin, and separates out on cooling or keeping.

The rather wide difference between the melting points of the two ingredients may partly account for this, but not entirely, as there is a wider gap between the melting points of beeswax and lard or olive oil, mixtures of which may be satisfactorily made.

Many attempts have been made to find a more satisfactory hardening agent for soft paraffin,[2] and numerous substances have been tried in the laboratory and at the hospital. Beeswax gives a very adhesive product which was found admirably suitable for coating the hands before a *post-mortem* examination, but unsuited for ordinary ointments.

Cacao butter gives a fair consistence, but requires some hours to set and is expensive.

No better protective base was found than that of the widely used Lassar's paste, where the desired consistency is obtained by adding starch one part and zinc oxide one part to two parts of soft paraffin. A base of this character would be a most useful addition to the *Pharmacopoeia* and could be used for preparing the ointments of boric acid, salicylic acid, glycerine of subacetate of lead, or others intended to act only on the surface of the epidermis. Sulphur, phenol, resorcin, tar, and other drugs can be successfully incorporated with this base.

A good protective base of a softer character is obtained by mixing hydrous wool fat, one part, with three parts of soft paraffin; it is more emollient than soft paraffin alone, but sufficiently protective, and does not run so much. Most drugs can be incorporated with it, and it keeps well.

Emollient Ointments.

The official rose-water ointment forms an admirable emollient base, but it is difficult to make, and does not keep well owing to the separation of the water; this separation is often brought about prematurely by the attempt to incorporate active drugs. These defects might possibly be remedied by the addition of borax (as in the *U.S.P.*) or a small quantity of wool fat, or a quantitative alteration of the formula.

The spermaceti ointment is the only firm emollient base in the *Pharmacopoeia;* it is somewhat expensive, and the reintroduction of a simple ointment somewhat softer than that of the *B.P.* 1885 would be a valuable addition. For hospital use a cheaper oil might be used. Where a comparatively non-greasy emollient is desired equal parts of hydrous wool fat and glycerine of starch form a useful base, and with it suitable active drugs can be incorporated.

Absorbent Ointments.

Lard and hydrous wool fat, already in the *Pharmacopoeia*, fulfil all requisite purposes.

Suggestions for the Revision of the Official Ointments.

Mercurial Ointments.

Ammoniated Mercury Ointment is largely used for the treatment of impetigo and similar conditions. The present 10 per cent. strength is unnecessarily high, a 5 per cent. ointment is better and less likely to cause trouble from absorption of mercury. The official ointment made with a paraffin base is much less efficacious than one made with lard or simple ointment. At the Skin Hospital, where large quantities are used, the official form has been compared with one made with lard. The cases have been treated with either the one or the other without selection and the results analysed. From some hundreds of cases it was clearly shown that patients treated with the paraffin base required on an average three weeks' treatment as compared with two weeks for those who had the same ointment, but with a lard base.

Red Mercuric Oxide Ointment.—This ointment is largely used for the treatment of pediculi, and a marked inferiority is found in the official ointment with a paraffin base when used for this purpose as compared with a lard or simple ointment base.

Mercurous Chloride Ointment.—The reduction in strength from 1 in 6½ to 1 in 10 does not appear to have been an advantage for the purposes for which this ointment is chiefly employed. The bulk of calomel in proportion to its weight is so small that no difficulty arises in making a stronger ointment. A 1 in 5 or 1 in 3 would be better than 1 in 10.

Mercuric Oleate Ointment.—The present precipitated oleate is considerably less active and penetrating than the oleate made by combining mercuric oxide and oleic acid, as in the *B.P.* 1885. The latter preparation is still prescribed for the treatment of certain forms of skin disease. The chief defect of the 10 per cent. oleate of the 1885 *B.P.* was the fact that it did not keep well, but a 20 per cent. oleate made in the same way keeps well, can be diluted as required, and would be a better preparation than either the present oleate or that of 1885.

The remaining six mercurial ointments require no alteration.

Tar Ointments.—The official tar ointment might be made softer with advantage; it is difficult to combine with other substances. An ointment from solution of coal-tar might be introduced, and also the useful combination of oil of cade with potash soap and lard used for chronic skin diseases.

Acetate and Subacetate of Lead.—The glycerine of the subacetate is not infrequently found to irritate in cases where the action of lead is desired. An ointment of the strong solution of the subacetate with a wool fat and soft paraffin base is a more useful preparation. The glycerine of the subacetate combines well with the starch, zinc oxide, and soft paraffin base, and might replace the present acetate of lead ointment which appears to be little used.

Zinc Oleate Ointment.—This is not a satisfactory preparation as usually made; it requires much time and trouble, and it is doubtful whether the result is worth the cost.

Capsicum ointment might be improved in consistence; it usually becomes granular or liquid.

Belladonna ointment is too strong, and may cause unpleasant symptoms.

Rose-water ointment might be improved.

Paraffin ointment should be deleted and a better protective base introduced; with it the ointments of boric acid, salicylic acid, glycerine of subacetate of lead should be made. A useful addition with the same base would be a resorcin ointment.

The remaining ointments now made with paraffin ointment should be made with an emollient or absorbent base.

Conium, eucalyptus, lead acetate, lead carbonate, and *potassium iodide* ointments might be deleted as they are comparatively little used. The potassium iodide ointment was recommended for scabies fifty or sixty years ago, but this use appears to have altogether disappeared.

The remaining official ointments appear to be satisfactory preparations.

My thanks are due to Mr. James Grier, M.Sc., M.P.S., Lecturer on Pharmacy in the University of Manchester, and to Mr. F. Hanna, M.P.S., dispenser at the Manchester and Salford Hospital for Skin Diseases, for the help they have afforded me in preparing ointments and conducting experiments.

References.

[1] Melting Point of Soft Paraffins, *Pharmaceutical Journal*, 189
[2] Franklin, *Yearbook of Pharmacy*, 1909.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DEPRESSED FRACTURE IN NEWBORN CHILD: OPERATION: RECOVERY.

THE following case may be of sufficient general interest to publish.

On Tuesday, April 25th, 1911, I was called by my partner, Dr. F. D. Crosthwaite, to Mrs. W., a multipara in her seventh labour. The patient had been in labour for some nine hours, the head had not entered the pelvis, and a hand was presenting. No advance occurred, and as soon as the hand was replaced it came down again. It was too late to turn, and so, after administering chloroform, my partner replaced the hand, and speedily, though with considerable effort, delivered with forceps. We then found, on examining the child, that there was a deep depressed fracture of the left frontal bone, caused, we believe, by too forcibly delivering the head past the sacrum, which was prominent, the pelvis being contracted.

No external manipulations succeeded in reducing the fracture, and thirty minutes after birth, without an anaesthetic being given, an incision was made some two inches in length from before backward down to the frontal bone. The pericranium was reflected, and I forced a director between the frontal and parietal bones, and immediately on entering the skull an escape of an ounce or more blood occurred. The director was then worked forward close to the bone until the most prominent internal convexity of the external depression was reached, when the whole depression was levered out. The pericranium and scalp were sewn up, and the wound dressed. The child made a straightforward recovery, and now—more than six weeks afterwards—is absolutely sound. Every aseptic and antiseptic care was taken.

CLAUD F. FOTHERGILL, M.B., B.C.Cantab.

Chorley Wood.

DIPHTHERIA ANTITOXIN BY THE MOUTH.

WHILE Resident Medical Officer at the Infectious Diseases Hospital, Paisley, I gave diphtheria antitoxin in occasional cases by the mouth with good results. With regard to Dr. Plummer's remarks on supplementing it by swabbing the throat with antitoxin, I may state that I carried out a series of observations on 230 cases, in half of which the throat was sprayed and swabbed with antitoxin. The cases were injected subcutaneously on admission, and received the same throat treatment as regards cleansing, etc. In half, however, the throat was swabbed and sprayed with antitoxin, and in the other half of the cases Loeffler's solution and other antiseptics were used. Cases of equal dosage and equal severity, as far as could be judged locally, were compared. Those swabbed with antitoxin took almost twenty-four hours longer to clear, a result which might be expected as diphtheria antitoxin is not antibacterial.

A predecessor of mine in the hospital (Dr. J. G. Mackenna of Paisley) informs me that during an epidemic of diphtheria he not only got good results from administration of the antitoxin by the mouth, but that he apparently got equally good results by administration per rectum. This method was tried in some twenty cases.

Paisley. A. GILMOUR.

ERYTHEMA NODOSUM FOLLOWING MEASLES.

DR. JOYNT'S paper and Dr. Craig's memorandum on this condition[1] are of interest to me in that last April I had a case in private of a little boy, aged 4 years, who had a feverish attack with slight morbiliform rash on the face and the upper part of the trunk, with some faucial injection and enlargement of the cervical glands upon both sides. There were no bronchial symptoms, but a faint mitral systolic bruit was audible at the apex, which subsided in a few days, when the temperature became normal and rash disappeared. Five days after the onset of these symptoms erythema nodosum appeared upon both shins, but there was no pain in any of the joints, although the child was irritable when disturbed, and content to lie quite still. At the end of a week this had completely disappeared under salicylates and rest in bed, and he was quite well.

There was no history of rheumatism, but some of the symptoms appeared to be more allied to rheumatism than measles, the attack of which was by no means typical, in spite of an epidemic in the neighbourhood; yet the coincidence of the two phases seems worth recording in view of the papers referred to.

New Barnet, Herts. ARTHUR F. PERIGAL, M.D.

[1] BRITISH MEDICAL JOURNAL, April 15th and May 20th, 1911.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ST. BARTHOLOMEW'S HOSPITAL, LONDON.

POISONING BY CANTHARIDES.

(Reported by F. WOMACK, M.B., B.Sc.Lond.)

THE patient in the following case was a married woman, aged 29, who had four children living and had had no previous miscarriage. She had been in good health, but was taken ill on March 25th at 6.30 p.m., with sickness and faintness, pain in the stomach and back, and intense thirst. She owned to having taken drugs—for example, pills labelled hiera picra, and Epsom salts as much as 2 oz. at a dose—in the hope of producing miscarriage, and later to having passed a catheter into her uterus. She had aborted some time on March 25th. The next day she gradually became comatose, and on March 26th was admitted into St. Bartholomew's Hospital practically moribund, and died the next morning.

The singular symptom, little remarked on previously by toxicologists, was a distinct coloration of the whole surface of the body amounting to a kind of reddish-bronze, with a dark, almost black, patch extending across the bridge of the nose on to both cheeks. Later, this coloration became deeper still in hue. The tips of the fingers were blue. The mucous surface of the mouth was similarly suffused. She passed no urine while under observation. Pulse 120, conjunctivae yellow, pupils contracted.

On *post-mortem* examination the spleen and kidneys were found acutely inflamed, but the intestinal tract only slightly so. There was deep staining of the inner surface of the heart and arteries. No peritonitis. The bladder was full of blood-stained urine, the urine was albuminous, faintly alkaline, but, though not received for some days after the autopsy, it had not decomposed. No blood cells were visible in it.

At the inquest, held on April 20th, before Dr. F. J. Waldo, Coroner for the City of London, I stated that the urine contained a small amount of cantharidin. This I extracted (after acidification) from the urine by benzene, the crystals being detectable under the microscope; and, later, from the whole solid residue dissolved in a drop of oil a blister was obtained on the inner side of the forearm.

There was no evidence of cantharides fly in the intestine, but apparently some preparation of it had been swallowed.

Subsequent to the above case, another patient, a woman aged 28, was admitted into St. Bartholomew's Hospital with very similar symptoms. Her history was as follows: She had had eight pregnancies, three children being born alive, the others being miscarriages. The previous four miscarriages or abortions occurred usually after five to six months' pregnancy, and for these she had on three previous occasions been admitted to hospital. On the present occasion, when admitted because of abortion, she exhibited a general yellowing of the skin, the conjunctivae also yellow, and the soft palate reddened. Her urine, 28 oz., contained much blood and bile pigment, but no blood cells. The discoloration of the skin lasted about three days. She recovered.

In this case also cantharidin was found in the urine. It is noteworthy that these two cases both came from the same district of London, one having lived in Tottenham, the other in Kingsland.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Saturday, July 8th, 1911.

Dr. E. CAUTLEY, President, in the Chair.

THIS was a provincial meeting at Cambridge, and the following were among the exhibits:—Dr. J. A. WRIGHT: (1) *Congenital heart disease and cerebral hemiplegia* in a boy, aged 7 years, who since infancy had been subject to fits. When 18 months old the left leg was noticed to be weak, and it was now smaller than the right. Both knee-jerks were exaggerated. At the base of the heart was a loud systolic murmur suggestive of pulmonary stenosis. (2) *Cerebellar ataxia* in a girl, aged 14 years, whose mental condition and power of speech were impaired. She walked with a reeling gait and the knee-jerks were absent. There was also some inco-ordination of the hands. The symptoms began somewhat suddenly when the patient was 4½ years old. Mr. W. H. BOWEN: *Congenital naevoid condition* of the left thigh in a boy, aged 12 years. The leg was larger than the right, but gave rise to no discomfort. Mr. C. A. BASKER: A case of *Family cord disease* of spino-cerebellar type in a boy. Mr. C. SEARLE: Infantile *Spastic paraplegia* in a boy aged 2 years and 7 months. There was a history of the father having had, when a child, a sudden attack of paralysis of the right arm, left leg, and right side of the face, with difficulty in swallowing and phonation, which cleared up in fifteen months, except in the face. One brother had progressive upper neuron degeneration, the effect of (?) an injury, and died totally paralysed when aged 2½ years. The patient, who could not talk, presented a typical spastic paraplegia. The symptoms came on suddenly with a fit when he was 8 months old, and since then he had had frequent attacks of rigidity with difficulty in swallowing and a high temperature. Dr. H. B. RODERICK: A series of twenty-seven pathological specimens illustrating various bone lesions, symmetrical gangrene of the feet, tuberculous epididymitis, hypertrophic stenosis of the pylorus, sarcomata of the intestines and kidneys, foreign bodies in the glottis, sloughing tonsil involving the internal carotid, and ulceration of the internal jugular vein. Dr. T. R. WHIPHAM: A heart with an infective clot blocking the pulmonary orifice, which gave rise to a continuous murmur and was diagnosed as patent ductus arteriosus. Dr. L. COBBETT, in a paper on *The Portals of Infection in Tuberculosis*, criticized some of the experiments of certain investigators who had tried to show that infection took place through the alimentary tract. The forcible feeding of an animal was not easy and often resulted in regurgitation of food, which allowed the infection to be inhaled. The speaker's conclusions, based upon numerous experiments, were to the effect that infection occurred chiefly by inhalation.

THE NEW LONDON DERMATOLOGICAL SOCIETY.

AT a meeting on July 13th, Dr. PHINEAS S. ABRAHAM President, in the chair, the following were among the exhibits: Dr. DAVID WALSH: A case of *Cicatricial alopecia* of the scalp in a girl in which a diphtheroid bacillus had been isolated from the lesions. The case did not appear to fall into any of the groups mentioned by Brocq in his description of ulerythema atrophicans. Dr. KNOWSLEY SIBLEY: (1) A man, aged 22, with *Lupus erythematosus*, in whom the lesions had appeared at the age of 12; (2) a child with an *Alopecic patch* following an attack of impetigo capitis, which clinically had resembled kerion; (3) a man, aged 30, with a *Sycosiform syphilide* of six weeks' duration, the lesions being situated about the face. Dr. J. D. P. MCLATCHIE: (1) A case of *Acne necrotica* in a man of 42; (2) a child with subcutaneous *Tuberculous nodules*. Dr. TOM ROBINSON: A man, aged 44, with severe *Alopecia areata*, following which a discussion took place with regard to the etiology of this disease. Dr. W. GRIFFITH: (1) A boy, aged 4½, with *Urticaria pigmentosa* of the macular type, in which the lesions were widely distributed over the whole body; (2) a case of *Cicatricial alopecia* in a young Russian, in whom the condition was suspected to have followed favus of the scalp. Dr. G. NORMAN MEACHEN: (1) A young woman with *Ulerythema* of the face consequent upon slight traumatism; (2) a widow, aged 49, with an eczematous *Dermatitis* upon the face and a vesicular eruption upon the extensor surfaces only of the arms; (3) a case of *Acne varioliformis* in a man, aged 36, preceded by a history of grouped comedones upon the scalp when a boy.

Reviews.

UNSOUNDNESS OF MIND.

IN the preface to his recently issued book *Unsoundness of Mind*,[1] Dr. CLOUSTON says that there are certain matters of the gravest importance which urgently claim the attention and appreciation, not only of the medical man, but also of the "intelligent layman," and "to discuss the problem" (of mental unsoundness) "in such a way that it can in some measure be understood by the intelligent layman," is the task to which Dr. Clouston set himself in writing this volume. In his introduction Dr. Clouston emphasizes the almost hopeless difficulties which beset such an undertaking. Among these, in our view, the necessity for either fully explaining or avoiding technical terms in a highly technical subject, the possibility of being misunderstood, and the dangers inherent in most popular treatises of medical subjects, which are indicated by the old saying "a little knowledge is a dangerous thing," are the most formidable. As against these Dr. Clouston balances the need for popular enlightenment on a matter of the greatest pedagogical, economic, and sociological importance, but about which the grossest misconceptions still prevail. How far this book will achieve its author's aims we do not venture to prophesy, for in this regard everything will depend upon the nature of response of the intelligent layman, the existence of the misconceptions which he is said to harbour, the manner in which he will receive technical education, and more particularly the use he will make of it.

That the book will be widely read we do not doubt; the name of its distinguished author on the title-page is warrant enough for that. But about the difficulty of conveying technical information there can be no question whatever. Indeed, the book itself bears witness to it, and after its perusal we are quite uncertain whether it is better adapted for the edification of the layman or the instruction of the long-suffering general practitioner. Parts, and more particularly the opening chapters, are clearly addressed to the layman. The author's description of "What Unsoundness of Mind is," and "What Mental Unsoundness is not"; the elementary instruction contained in the chapter on "The Brain, its Mechanism, and its Action," and the popular way in which heredity and the causation of insanity are treated clearly indicate this. But, on the other hand, the detailed clinical descriptions of the various types of mental disorder; the frequent quotation of scientific writings; the attention given to diagnosis, medical and drug treatment, and the fact that Dr. Clouston, in addressing his reader, uses the phrase "your patient," show that in many chapters he was mentally addressing practitioners. Hence, while fully sympathizing with his enthusiasm to remove misconceptions and rightly to instruct those who still walk in darkness, we cannot but fear that the author may have fallen between two stools: that the work is too technical for the average "intelligent layman," and that the medical practitioner will find in Dr. Clouston's own admirable textbook a far better guide to the study of mental diseases.

Leaving further criticism aside, the reader will find what was in fact only to be expected of Dr. Clouston—information conveyed in an interesting manner and much sound advice on practical matters connected with mental unsoundness.

[1] *Unsoundness of Mind.* By T. S. Clouston, M.D., LL.D., F.R.S.E. London: Methuen and Co., Limited. 1911. (Med. 8vo, 360 pages and 14 illustrations. 7s. 6d.)

DISORDERS OF METABOLISM.

PROFESSOR RICHTER'S handbook on metabolism and metabolic diseases[2] was originally prepared at the request of the members of his class, and is based on lectures which he has given for many years. For those who are able to pursue the subject the book forms a good introduction, while for practitioners it constitutes a basis for the rational treatment of the diseases concerned. The first edition appeared in 1905, and that there is a demand for a revised issue shows that interest is taken in the subject. In the new edition the general form of the book has been preserved, but numerous additions have been made, especially in the chapters which deal with gout and diabetes. On the whole this is one of the best textbooks on the subject that we know. The first part deals with the physiology and chemistry of metabolism, and the second part with the metabolism of particular diseases. Like most of his countrymen, Dr. Richter is unwilling to accept Chittenden's experiments as showing more than that the harmfulness of a low protein diet has been exaggerated. He thinks they also show that the poor protein diet which is so necessary in certain diseases may be prescribed without fear of harmful results, but that it is going too far to say that such a diet is useful in health. On the interesting question whether carbohydrates can be formed from fats he decides that while chemically possible, it is on the whole improbable. Glycerine no doubt gives rise to the formation of sugar, but the amount of glycerine formed in the body from neutral fats is too small to be of any importance; an enormous amount of fat would be needed in order to form a very little sugar, and the body would be overwhelmed with volatile fatty acids—a condition which has only rarely been observed. The lipaemia met with in diabetes points to increased cell destruction and to the formation of lipoids. He does not accept von Noorden's scale of the relative values of different kinds of albumens for the formation of sugar, which he says have not been confirmed by experiments on animals; on the other hand, Falta's observations show that there is a considerable difference in the rate of formation of sugar from different albumens; for example, milk albumen (casein) forms sugar much more quickly than egg albumen, and he thinks that this may account for the apparently greater quantities of sugar formed from particular kinds of albumen. He also thinks that diabetic patients show variations in their capacity to convert albumen into sugar and the rate at which they do so. All these considerations probably explain the paradoxical results often observed in diabetes where it is difficult to explain the amount of sugar excreted on a given diet. Dr. Richter by no means shirks the many difficulties of his subject, but states the present position accurately; where positive conclusions are not yet justified he makes this plain.

We have already on many occasions referred to the small pamphlets issued under the general title *Consultations médicales Françaises*,[3] and sold for half a franc. They represent an endeavour to bring under the notice of practitioners the latest medical knowledge put in such a way as to be most easily utilized by them. In one of the most recent, on nitrogenous retention and the value of a low nitrogenous diet in renal affections, the author, Dr. J. CASTAIGNE, points out that the old method of estimating the urea in the urine is not satisfactory, as not only have cases of uraemia been observed while the amount of urea in the urine was normal, but the urea may be very deficient without giving rise to any dangerous symptoms. The method he recommends is the examination of the blood serum obtained by bleeding or cupping, 10 c.cm. of serum being sufficient, or where circumstances make a lumbar puncture desirable the cerebro-spinal fluid may be utilized. The normal proportion of urea in the blood is 0.50 gram per litre on an ordinary diet. Between 0.50 and 1 gram the prognosis is serious, between 1 and 2 grams more grave, and higher than this it points to a very short duration of life. The associated symptoms, but not necessarily dependent upon the retention of urea, are: torpor, sleepiness going on to coma, severe headache, dyspnoea, albuminuric retinitis, and itching. With this there may be loss of appetite, ulcerative stomatitis, watery vomiting, diarrhoea, and bloody stools, but none of these symptoms are necessarily present, and the nitrogenous retention may go on without any objective sign. For the treatment of the condition Dr. Castaigne considers the low protein diet the most important means at our disposal, although he recognizes the value of bleeding, diluents, purgatives, lumbar puncture, and even of high frequency currents, opotherapy, and serotherapy. The low protein diet consists of milk, farinaceous food, fruit, vegetables, eggs, and cheese in small quantities. Articles forbidden are animal food of all sorts, peas and beans, alcohol, and all drinks but water or very weak tea. It is also important to exclude chlorides from this diet.

We would strongly recommend Dr. RINYA KAWAMURA'S monograph on cholesterin fatty degeneration[4] to all those who are interested in this department of pathology, which has already received considerable attention from British writers. The amount of work which he has put into this comparatively short book is enormous. The method he has employed has been to study the optical, chemical, and staining reactions of artificially prepared cholesterin compounds, and having in this way obtained data he has then applied them to the study of various forms of fatty degeneration met with in men and other animals. As a rule he finds the fat to exist in the form of a cholesterin ester, but the work is far too complex to be summarized, and we must refer those interested in it to the book itself.

GYNAECOLOGY.

IN this treatise on the treatment of diseases of women[5] Professor VEIT of Halle has performed one of those public services which men of wide experience owe, but do not always render. Assuming that the reader possesses an adequate acquaintance with the pathology of diseases of women, he has stated the methods of treatment which his experience has tested, and has included in the statement all the subsidiary hints which are likely to be useful to the practitioner not only in the treatment of the disease but also in the management of his patient. In those conditions in which the treatment is undoubtedly surgical, Professor Veit agrees with current practice so closely that no comment on this part is needed, save to note that his descriptions of operations are usually clear, and reinforced when necessary by good diagrams. It is in the rest that experience is most useful as a guide in drawing the line which separates those which require operation from the others. It is interesting to see how largely the etiological factors of recurrent gonorrhoeal infection and prevention of pregnancy underlie, in Dr. Veit's mind, the whole discussion of the treatment and the prospects of its success. For genital displacements which require treatment the methods given are entirely surgical, pessaries being described as only temporarily useful in special circumstances and generally dangerous. Except after the menopause, retroflexion, he holds, invariably needs treatment, or will need it later on. The operation of election is the Alexander-Adams operation in suitable cases. Uterine catarrh is to be treated by caustics, not curettage; but the continued use of medicines for uterine bleeding is condemned, and the influence of the adnexae in producing this symptom emphasized. The volume is likely to interest and profit the practitioner for whom it is written.

The second edition of Dr. CROSSEN'S *Diseases of Women*[6] has appeared within three years of the first, and as this issue is published in London it is clear that the author has succeeded in satisfying the English-speaking medical public both in the British Empire and in the States. The new edition includes over 200 extra pages and nearly fifty new illustrations, and the index has also been carefully revised. The author still insists that the only reliable

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[2] *Stoffwechsel und Stoffwechselkrankheiten.* Von Professor Dr. Paul Friedrich Richter. Zweite Auflage. Berlin: August Hirschwald. 1911. (Roy. 8vo, pp. 419.)

[3] *Consultations médicales Française. La retention azotée et le régime hypo-azoté au cours des néphrites.* Par le Dr. J. Castaigne. Paris: A. Poinat. (Cr. 8vo, pp. 24. Fr.0.50.)

[4] *Die Cholesterinesterverfettung.* Von Dr. Rinya Kawamura. Jena: Gustav Fischer. 1911. (Cr. 8vo, pp. 136. M.4.50.)

[5] *Die Behandlung der Frauenkrankheiten.* Von Dr. J. Veit. Berlin: S. Karger. 1911. (Pp. iv, 244.)

[6] *The Diagnosis and Treatment of Diseases of Women.* By Harry Sturgeon Crossen, M.D., Professor of Clinical Gynaecology, Washington University; Gynaecologist to Washington University Hospital, etc. Second edition. London: George Keener and Co. 1910. (Roy. 8vo. pp. 1025; 744 illustrations. £1 5s. net.)

curative treatment for uterine fibromyomata is removal by operation. He rightly adds to his description drawings illustrative of the dangerous complications which may harass the inexperienced who attempt the removal of large fibromyomata, displacement of the bladder upwards being an instance in point. Dr. Crossen still favours radical abdominal operations for uterine cancer, but does not add much new information about Wertheim's procedure. In the review of the first edition we remarked that the author did not give so great a prominence to operative measures as do too many contemporary writers, and that he had much to say about medication. It is satisfactory to find that this principle is adhered to in the new edition. Great pains have been taken to bring the chapters on pelvic inflammation up to date, and it is to be hoped that the surgeon, as well as the physician, will study Dr. Crossen's views on the nature and diagnosis of peritonitis, cellulitis (why not "parametritis"?) and those grave inflammatory affections extending to the Fallopian tube, till recently overlooked, save by such keen observers as Bernutz and Goupil, but now known to be both common and serious. Lastly, as a sign of the times, we may note the high importance assigned to extrauterine pregnancy. Dr. Crossen adds important information based on his experience in more than one hospital in St. Louis, including reports of cases simulating ectopic gestation.

There are medical men who find the art of prescribing difficult. It is not enough to tell them of a drug—they need also to be told how to prescribe it. Dr. JERVOIS AARON'S book, *Gynaecological Therapeutics*,[7] supplies this want so far as the practitioner of gynaecology is concerned. Sir Halliday Croom probably has the requirement we have referred to in his mind when he says, "Dr. Aarons has produced a volume which is of the greatest practical value." It is not a work on the pathology of the diseases of women, nor upon the diagnosis of these maladies, nor upon surgical operations. It gives instruction in the prescribing of medicines for the conditions embraced under the term "gynaecology." With each drug mentioned its proper dose and the most convenient way of using it is exactly stated. The aim of the book is modest and limited, but such as it is it is attained.

SANITARY ADMINISTRATION.

WHILE Dr. LOUIS PARKES was alone responsible for his textbook on *Hygiene and Public Health* it was sufficiently appreciated by public health students to require five editions, and since he has been associated in the authorship with Professor HENRY KENWOOD four further editions of the volume for which they are jointly responsible have been issued. The latest[8] appears to have been subjected to careful revision, and is a reliable and authoritative guide to the subjects with which it is concerned. In the section dealing with statistics a very lucid explanation is given of the method to be adopted in obtaining the factor of correction in the calculation of death-rates. This should be especially acceptable at a period just subsequent to the taking of the census, when medical officers of health will be, or should be, recalculating the factors for their respective districts. On the question of the compulsory notification of cases of phthisis the authors express no very definite opinion, and content themselves with stating the views, which they do very fairly, of those who are opposed to and those who are in favour of this administrative measure. They point out, however, very properly that if "tuberculosis" were made notifiable the term would cover an enlarged cervical gland, white swelling of joints, and hydrocephalus—conditions which are in no sense a source of danger to others—so that notification should be restricted to phthisis or "tuberculosis with discharges." In this they are in agreement with the medical advisers of the Local Government Board. On the question of the prevention of return cases of scarlet fever the opinion is expressed that even with the exercise of every possible care such prevention seems to be impossible in actual practice, though the number would possibly be reduced if parents could and would observe the precaution of keeping the affected child apart from other children for at least one week after returning home from hospital. The provision of special convalescent wards, of smaller wards involving less aggregation of the patients, and the greater development of bacteriological assistance are further measures recommended. The illustrations throughout the volume are excellent, though exception must be made in the case of that on page 77, representing a privy constructed for the pail system. A structure erected as there represented would be extremely difficult to keep clean. It is a little startling to read that the Rev. Henry Moule "invented" the dry earth system. He did much to popularize it, but so did Moses.

In the preface to his book on the *Sources and Modes of Infection*,[9] Dr. CHARLES V. CHAPIN informs his readers that its purpose is "to indicate the principles which should guide sanitary practice, and to show how recent laboratory work and the epidemiological study of disease have modified these principles." In his first chapter Dr. Chapin discusses the life of disease germs outside the body, and advances evidence to show that the saprophytic growth of these germs constitutes a much smaller factor in their development and spread than was formerly supposed, and that the theory that "infectious diseases are filth diseases, as that term is ordinarily understood, is absolutely without foundation." He does not, of course, contend that filth conditions do not promote their spread, but he regards their extracorporeal origin as a minor incident in their life-history. He next proceeds to examine the various channels through which infectious diseases may be conveyed, and very specially emphasizes the important part played by "carriers," by which term he means persons in whom pathological micro-organisms exist, but who, nevertheless, show no signs of their presence. After a detailed review of the possibilities of conveyance of infectious disease in this way, he sums up the conclusions at which he has arrived by stating that unrecognized cases of infectious disease are extremely common; that the persons who are thus unconscious hosts for these germs may, without ever being ill themselves, be the source of well-marked outbreaks of disease; and that any scheme of prevention which fails to take these carriers into account is bound to fail more or less completely. This leads him to consider the preventive value of isolation, which, he points out, often fails to stamp out a disease though it reduces its prevalence. He contends that the prevailing system of isolation is carried too far, and that less rigorous measures would accomplish practically as much good, and would offer fewer temptations "to conceal cases and to interpret symptoms in line with the patient's desires." He admits that the isolation of school children should be more strict than that of adults. One of the most important and instructive chapters in Dr. Chapin's book is that which is devoted to the consideration of infection by contact, a topic vividly illustrated in the following reference to its danger through the medium of saliva:

> Besides the moistening of the fingers with saliva and the use of the common drinking cup, the mouth is put to numberless improper uses which may result in the spread of infection. It is used to hold pins, string, pencils, paper, and money. The lips are used to moisten the pencil, to point the thread for the needle, to wet postage stamps and envelopes, children "swap" apples, cake, and lollipops, while men exchange their pipes and women hatpins. Sometimes the mother is seen "cleansing" the face of her child with her saliva-moistened handkerchief, and perhaps the visitor is shortly afterwards invited to kiss the little one.

The danger from infection by fomites is, according to the author, also less than is generally believed. Though spore-forming bacteria may be readily transmitted in this way, his investigations have convinced him that other infectious disorders are only propagated thus to a limited extent. Similarly, in regard to transmission of infection through the air, he thinks that though our knowledge is yet too imperfect and the evidence not definite enough to arrive at firm conclusions, we are justified in going so far

[7] *Gynaecological Therapeutics.* By S. Jervois Aarons, M.D.Edin., M.R.C.P.,Lond., Gynaecologist to St. Anthony's Hospital; formerly Registrar and Pathologist to the Hospital for Women, Soho Square; Gynaecological Tutor, Extra-mural School of Medicine, Edinburgh, etc. With foreword by Sir Halliday Croom, M.D., Professor of Midwifery in the University of Edinburgh. London: Baillière, Tindall and Cox. 1910. (Cr. 8vo, pp. 192, illustrations. 46. 5s.)

[8] *Hygiene and Public Health.* By Louis C. Parkes, M.D., D.P.H., and Henry R. Kenwood, M.B., F.R.S.Edin., D.P.H. Fourth edition. London: H. K. Lewis. (Demy 8vo, pp. 682; two plates and numerous illustrations. 12s. 6d. net.)

[9] *The Sources and Modes of Infection.* By Charles V. Chapin, M.D., D.Sc., Superintendent of Health, Providence, R.I. New York: John Wiley and Sons. London: Chapman and Hall. 1910. (Demy 8vo, pp. 408. 12s. 6d.)

as to believe that the supposed sphere of aërial transmission of infection is by no means so great as has sometimes been taught. We agree with Dr. Chapin that if it should be ultimately proved, as he believes, "that contact infection is the chief way in which the contagious diseases spread, an exaggerated idea of the importance of airborne infection is most mischievous," because a too implicit belief in the air as a vehicle for germs is obviously apt to discourage efforts to avoid other sources of danger. The chapters dealing with infection by food and drink, and by insects, indeed all the chapters of this clearly written and enlightening book, will receive an appreciative welcome even from readers who may not entirely agree with the author in all the conclusions at which he has arrived, or in all the methods which he advocates for the successful limitation of infectious diseases. There is a very full bibliography, which adds materially to the usefulness of Dr. Chapin's book as a work of reference.

NOTES ON BOOKS.

THE fifth volume of the *Transactions of the American Association of Genito-Urinary Surgeons*[1] covers the proceedings of this body during its thirty-third annual meeting last year. It was held at Washington, lasted three days, and resulted in the reading and discussion of some twenty-eight papers. A special feature of the book is its strength in papers dealing with the treatment of genito-urinary disease by vaccines, serums, and allied measures. Included, also, is a very long paper in which Drs. Geraghty and Rowntree record their endeavours to determine the value of injections of phenosulphonaphthalein as a test of the functional activity of the kidneys. Their conclusions are nowhere set forth very clearly, but they would appear to regard the test as better than any other of like kind, and indicate that when the kidneys are in normal condition and there is no obstruction to their output, phthalein appears in the urine within about ten minutes, and is completely excreted at the end of about two hours, the maximum rate of excretion having been attained within the first thirty-five minutes. In defective kidneys, on the other hand, the maximum degree of phthalein excretion is only slowly attained, the output during the first hour being commonly less than during the second.

There is no clear indication in the *British Sanatoria Annual*[2] of the object of its publication and of the ground which it purports to cover. The "editorial comments" with which it opens contain laudatory notices of some half-dozen proprietary articles advertised in the book; then follow what appear to be abstracts of the prospectuses of various sanatoriums and convalescence homes under three headings. Under the first heading, "private sanatoria," are included thirty-eight institutions; under the second heading, "sanatoria that are free, or that take patients at reduced fees, or on special terms or conditions," are sixty-nine; and under the third, "homes and convalescent institutions," are nineteen. Used with discretion the book, which is well illustrated, might sometimes be useful.

The manual of Dr. AGASSE-LAFONT[3] on the practical applications of laboratory methods to clinical work is an excellent example of what such a book should be. It is clearly written, fully illustrated, and up to date. As a specimen of the author's lucidity of exposition we can say that we have never met with a clearer or better account of the principles on which Wassermann's reaction is based and of the details of the test, yet these are put quite briefly but so admirably that no one should fail to understand them. The illustrations where necessary are coloured and are exceedingly numerous. The book hardly needs the commendatory preface by Professor Hayem, who speaks of the author as one of his old *chefs de clinique*. We strongly recommend the manual to all clinical clerks and house-physicians who possess sufficient French to be able to make use of it.

In his pamphlet on theory and practice in relation to the causation of gout,[4] Dr. GEMMEL claims the authority of an experience of 6,000 cases, but he takes up nearly half his space in recapitulating the theories and observations of the principal writers whose work has formed the basis of the modern conception of the disease. He holds that the gouty attack is due to the irritation of some at present unknown substance, but that uric acid is too weak an irritant to be the cause. It is a disease of metabolism, but has some special relation to the sympathetic nervous system; its different forms being influenced and governed by this system. He is unable to distinguish chronic rheumatism from gout, and he devotes some pages to an etymological and historical discussion to show that the two diseases have never been clearly distinguished. While it may be true that we have much to learn about gout, we do not think Dr. Gemmel's pamphlet brings us any nearer to a clear conception of the disease. It is disfigured by many misprints and numerous misspellings of proper names.

The information given by Mrs. LEONARD HILL in *Minding the Baby*[5] seems to cover the ground very completely and is all very much to the point. The booklet therefore deserves popularity among those for whose benefit it has been written—that is to say, young mothers, the elder girls in elementary schools, and those who do any work in the way of imparting simple instruction in the care and nurture of infants in schools and other like places. Among its strong points are the simplicity and accuracy of the reasons supplied for almost all counsel given and the clearness of the language throughout. The division of the subject matter into seven lessons, further subdivided by very well chosen cross-headings, is also happy. In a preface Dr. Christopher Addison, M.P., explains that its preparation was suggested by a bill on the subject which he has introduced into Parliament, and that a few directions as to the management of cases of the commoner infantile ailments have been added in order to make the booklet more serviceable to mothers and home visitors.

[1] *Transactions of the American Association of Genito-Urinary Surgeons.* Vol. v. 1910. New York: F. H. Hitchcock. (Medium 8vo, pp. 409.)

[2] *The British Sanatoria Annual.* London: John Bale, Sons and Danielsson. 1911. (Demy 8vo, pp. 150, with numerous illustrations; 3s. 6d. net.)

[3] *Les applications pratiques du laboratoire à la clinique.* Par le Dr. E. Agasse-Lafont. Paris: Vigot Frères. 1911. (Post 8vo, pp. 501. Fr. 10.)

[4] *Theorie und Praxis in der Beurteilung der Gicht auf Grund einer Erfahrung an 6,000 Fällen.* Von Sanitäts-Rat Dr. Gemmel. Jena: Gustav Fischer. 1911. (Med. 8vo, pp. 104. M.2.50.)

[5] *Minding the Baby.* By Mrs. Leonard Hill, author of *The Management of Babies.* London: Edward Arnold. 1911. (Fcap., 8vo pp. 63. 3d.)

MEDICAL AND SURGICAL APPLIANCES.

A Portable Metal Operating Table on an Entirely New Principle.

MR. BERNARD J. WARD, F.R.C.S. (Birmingham), writes: Messrs. Philip Harris and Co., Ltd., Birmingham, have made at my suggestion a portable metal operating table which in many respects is unique. The top and stand form one compact whole, and there are no loose parts which can possibly get left behind and thus annoy the surgeon when he arrives at his destination to find his table incomplete. The table is opened and fixed ready for use in thirty seconds by simply lifting up the two flaps and shooting the bolts home; and it is just as easily folded again by undoing the bolts and dropping the flaps down. It can be rapidly and easily adjusted to any position that is required of a modern operating table. The Trendelenburg position is obtained by loosening a screw under the head of the table, tilting the table to the required angle, and tightening the screw up again, and this can be carried out whilst the patient is on the table; so that if during the course of an operation it is found advantageous to adopt this position it can be rapidly and easily done by the anaesthetist alone, thus saving the surgeon or his assistant from soiling their hands. The table is absolutely rigid in all positions, and is of such a height as to be convenient to the majority of surgeons. Its weight is little greater than that of a wooden table (under 50 lb.), and it folds up into a space of 32 by 20 by 6 inches. Another feature is the sliding head rest, which can be adjusted to any angle, and may be used in the usual position at the end of the table, or slid half-way down to support the head and shoulders in the lithotomy position. It is to my mind far and away the most convenient and efficient portable operating table on the market, and marks a wonderful advance in the construction of portable tables; for it combines all the advantages of the most expensive operating tables with portability and extreme ease of erection. I am much indebted to Mr. Henry Longmate of

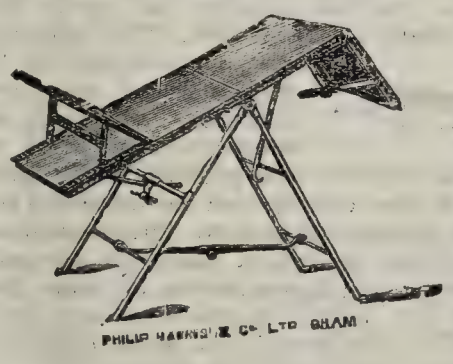

Messrs. Philip Harris and Co., Ltd., for the most efficient and painstaking way in which he has embodied and carried out my ideas. The table will be on view at the Annual Meeting this year, and is sold at the exceedingly moderate price of £10 10s. complete.

Dr. Junker's Inhaler, with Modification.

Mr. F. D. BENNETT (London) writes: The accompanying sketch explains a simple, cheap, and effectual addition to Junker's inhaler, which suggested itself owing to the difficulty (frequently with blood-covered hands) of manipulating a gag, sponge-holders, and the air-bag during operations on the nose and mouth. The air-bag rests in a small hollow in the lower piece of wood, and the upper piece (for the foot) acts automatically on a hinge as the bag inflates itself. The only addition to the ordinary Junker apparatus is a longer tube from the bellows to the bottle. The same idea on a more elaborate scale was suggested by Dr. Dudley Buxton some years ago.

Binaural Stethoscope.

Dr. R. WATSON COUNCELL (London) writes: I have found that the spring in a stethoscope is usually too strong, and causes aching in the ears through pressure of the ear-pieces. Occasionally a stethoscope spring is not strong enough, and other sounds get past the ear-pieces to the drum and confuse one. The stethoscope shown in the accompanying illustration has no spring; the ear-pieces are adjusted as required, and then fixed by moving the small lever. The rubber tube is single. The chest-piece, or "sound collector," is reversible, and at one end is the usual circular shape, the other end being a flattened elliptical shape for use between the ribs. The acoustics are excellent. It is supplied by Messrs. Down Bros., and is called the "Kesterton Improved Binaural."

Modified Uterine Cupper.

Dr. ALEXANDER DUKE (London) writes: The illustration represents a modification of a uterine cupper, designed by me some years ago, which I had found useful for the purposes for which I then described. I thought by making the cupper act from inside as well as outside the cervix the value of the instrument would be increased. The nozzles meant to screw on to the edge of cup are made in three sizes, of conical shape, and if the proper sized nozzle be chosen, and pressed firmly into the cervix, exhaustion of the cavity can be obtained by slowly drawing down the plunger or piston. This modification will, I think, be found useful in cases of chronic endometritis and for producing hyperaemia of both the interior and exterior of the cervix in cases where such a condition is desired. The instrument has been made for me by Messrs. Hewlett and Son, Charlotte Street, E.C.

A Modification of Sims's Speculum.

Dr. C. HUBERT ROBERTS (London, W.) writes: The accompanying illustration shows a form of Sims's vaginal speculum which I have found useful. I have added a flange-like projection to the upper blade, which is of considerable assistance when examining patients in the left lateral position. The flange lifts up the right buttock when the speculum is inserted, so that one can dispense with the help of a nurse or assistant and a much better view of the cervix is obtained than is possible with the ordinary form of duckbill instrument at present in use. The speculum has been made for me at my suggestion by Messrs. Allen and Hanburys.

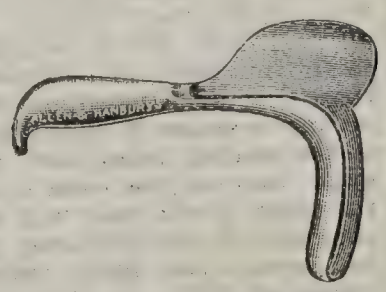

MEDICAL ADDRESSES ON TEMPERANCE

DURING THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION IN BIRMINGHAM.

BIRMINGHAM possesses a very active branch—numbering upwards of 25,000 persons—of the National P.S.A. Brotherhood Federation, which has recently spread as far as Belgium and France. The local committee put forward a request last February that at the date of the visit of the British Medical Association to their city a large number of medical practitioners should speak on subjects connected with temperance at the afternoon meetings. Seeing that it had not been arranged that a popular lecture should be given on this occasion, it was felt that a fitting link between the laity and the profession might thus be forged. Events are proving that this is likely to be the case. More than fifty medical men from all over Great Britain have agreed to speak, whilst the local Brotherhood Organization is widely advertising these meetings and taking great pride in the fact that so many prominent members of the profession are willing to go to Birmingham to address meetings, some even sacrificing their own holiday plans, as is the case of Dr. Reid (Glasgow) and Dr. A. W. Russell (Glasgow), and possibly of others.

It is estimated that from 15,000 to 20,000 persons will attend the fifty-seven meetings which will be held on Sunday, July 23rd, in the Birmingham district and in places as far apart as Malvern, Worcester, Evesham, and the Black Country.

The list of speakers includes two ex-Presidents of the Association—Dr. Reeve, of Canada (subject of address, "An Outside View"), and Dr. Collier, of Oxford ("Alcohol and Athletics"), and from the long list issued we may quote the following:

Sir Alexander Simpson: "Why not Drink Wine?"
Mr. Charles Cathcart: "Recent Changes in Medical Opinion regarding Alcohol."
Professor Murdoch Cameron: "Strong Drink our Greatest Enemy; a Doctor's Forty Years' Experience."
Dr. Robert Jones: "Alcohol and National Mental Deterioration."
Dr. Hyslop: "The Next Generation: Can we Influence it?"
Dr. Chapple, M.P.: "Thou Shalt not Tempt thy Neighbour's Son to Drink—the Crusade against the Open Bar in New Zealand."
Sir Victor Horsley: "Citizenship and Temperance from a Medical Point of View."
Professor O. T. Williams: "Alcohol in Work and Play."
Professor Sims Woodhead: "Disease and Drink."
Mr. McAdam Eccles: "Total Abstinence *versus* Moderation."
Mr. H. J. Paterson: "Temperance and Common Sense."

It is clear that no longer does the advocacy of temperance, from a medical point of view, rest with a few pioneers, but that the profession is becoming increasingly emphatic in this matter. Expression is given to this view by Dr. Clouston in a paper on "Alcohol and Mind," specially written and printed for this occasion, wherein he says, speaking of dipsomania:

All who have had to do with alcoholics, the whole of the medical profession, and all social workers, are equally urgent as to the necessity for new legislation on the lines of the compulsory control of the alcoholics and for further restrictions on the sale of liquor.

Two further quotations from Dr. Clouston's essay are interesting. Speaking of the experiments as to the action of alcohol and tea respectively upon the brain, he says:

Those students had considerably less power of mental work and less accuracy in muscular movement after moderate doses of alcohol than before they took it, thus proving that the popular idea on this matter was a dangerous fallacy. Curiously enough, Macdougall found that the effects of tea in moderate doses, similarly tested, were stimulating in a real sense both as to mental and muscular work, and were not attended with any hurtful reaction, showing that mankind has in tea a safe and efficient stimulant to the brain.

On heredity he says:

There are differences of opinion among scientific men as to the hereditary transmission of the effects of alcohol on the children of drunkards, but there is no doubt of the facts which prove that alcohol circulating in the blood of the mother often causes epilepsy, idiocy, and other nervous diseases and degeneration in the children. All authors on these diseases are at one on this point. . . . To sum up, alcohol and danger to healthy mind are synonymous.

Nova et Vetera.

SOME ROYAL DEATHBEDS.

(Concluded from p. 30.)

WILLIAM IV.

WILLIAM IV was born in 1765, and succeeded to the throne on June 28th, 1830. He had been bred to the sea, and had a strong constitution. According to Munk,[1] the King enjoyed unusually good health, and only on rare occasions needed to seek counsel of his physicians. A slight decline in strength had been perceptible to his immediate attendants at the commencement of 1837, but it was not until the month of May in that year that the state of His Majesty's health excited any serious apprehension. On May 17th the King held a levee, and on the 18th a drawing-room, at St. James's Palace, and on his return to Windsor Castle on both these occasions he showed signs of great exhaustion, with oppression of breathing and considerable difficulty in ascending stairs. To these symptoms were soon added entire loss of appetite and attacks of faintness. Munk goes on:

> This state of his Majesty excited much and well-founded alarm. On Monday, May 22nd, Sir Henry Halford, was summoned to the king at Windsor, and Dr. Chalmers was sent for at the same time, but unknown to the king, and unknown also to Sir Henry, who arrived at the castle in the course of the afternoon and was at once ushered to the king. The feelings of Queen Adelaide towards Sir Henry Halford were known to be of a less cordial and confidential nature than he had been honoured with by the king himself and all the other members of the Royal Family, and he was pained at the scant confidence accorded to him on this occasion.

Munk adds that in the *Annual Register* for 1837 are "Some Recollections of the last Days of His late Majesty King William IV," dated Bushey House, July 14th, 1837, and evidently inspired, if not dictated, by one of the highest personages in the realm. In these recollections there is the following statement:

> Sir Henry Halford and Dr. Chambers were sent for, but as the latter had no ostensible situation in the royal household, it was thought advisable, in order to avoid causing any unnecessary alarm to the king, to introduce him to his Majesty as the medical attendant on the queen. Dr. Chambers was most graciously received by the king, who did not hesitate to avail himself of his advice in his own case. The arrival, however, of Dr. Chambers at the castle was so late that this interview did not take place till the following morning.

Sir Henry Halford and Dr. Chambers then saw the King together, and from that time one or the other of them was in constant attendance on His Majesty, Halford during the day, Chambers through the night, each remaining until relieved by the arrival of the other at the castle. At a later period Sir Matthew Tierney was joined with them in attendance on the royal patient.

There was the usual "economy" (to use a theological phrase) of the truth as to the King's illness. In accordance with the traditions of his family, he was anxious not to allow a word to go forth that might convey a knowledge of his actual condition. To ensure this he at first took the precaution of dictating the bulletins himself.

On June 9th the following bulletin was issued:

> Windsor Castle, June 9th, 1837.
>
> The king has suffered for some time from an affection of the chest, which confines his Majesty to his apartment, and has produced considerable weakness, but has not interrupted his usual attention to business.
>
> (Signed) HENRY HALFORD,
> WM. FRED. CHAMBERS.

The King became steadily weaker, the symptoms being increased difficulty of breathing, progressive failure of the circulation, cold extremities, and swelling of the legs. He continued, however, to give his attention to the business of the State almost to the last. Yet more than once before the end the King's physical condition fell so low that those around him believed it impossible for him to rise again from his bed.

The Government wishing that the public should be duly prepared for any event that might happen, the Prime Minister addressed the following letter to Sir Henry Halford:

> South Street, June 12th, 1837.
>
> My dear Sir Henry,
>
> The accounts which I have received from Windsor in the course of the day are by no means favourable. Sir H. Taylor writes to me to this effect, and others who have come up from there confirm his report. In these circumstances I am very anxious that no chance should be run of any event occurring for which the public is not prepared.
>
> If the King should be better tomorrow, or if he shall remain in point of health exactly stationary, which is hardly probable, another bulletin may be delayed until Wednesday; but if he should be the least worse I think that some information should be given to the public. I have written to Dr. Chambers this evening to this effect.
>
> I understand that the bulletin of this morning is generally interpreted by the public as being very unfavourable which is much better than the contrary. More than one person in the House of Lords said to me "Of course he had a very bad night as the bulletin says nothing upon the subject."
>
> Yours faithfully,
>
> Sir Henry Halford, Bart. MELBOURNE.

For a day or two there appeared to be some improvement in the King's condition. On the 16th, however, he was weaker, and on the 17th he was worse in every respect. The weakness went on increasing, and on June 19th the following bulletin was issued:

> The King continues in a very weak and feeble state, notwithstanding his Majesty had some quiet sleep in the night. After transacting his usual business yesterday his Majesty received the sacrament from the hands of the Archbishop of Canterbury with attention and great apparent comfort.
>
> HENRY HALFORD.
> MATT. JOHN TIERNEY.
> WM. FRED. CHAMBERS.
> DAVID DAVIS.

In the course of the following night the King died. In a letter from Dr. Chambers to Sir Henry Halford, who was not present at the last moment, it is stated:

> The poor King expired at twelve minutes past two o'clock this morning (June 20th) in the most tranquil manner possible. The absolute process of dissolution did not commence till about eleven o'clock, but from that hour his Majesty sank rapidly. No new symptom occurred before death.

In an account of the death of William IV given by the Rev. G. M. Wright in his *Life and Reign of William IV*,[2] it is stated that at one of the accustomed visits of his physicians, during the first week of his bodily affliction, he addressed one of his attendants as follows:

> Doctor, I know I am going, but I should like to see another anniversary of the battle of Waterloo; try if you cannot tinker me up to last out that day.

When the banner by which the Duke of Wellington held Strathfieldsaye was presented, the King seemed much affected and said:

> God bless the Duke of Wellington; may he live long to enjoy it!

He then turned to Dr. Chambers and said:

> If you don't keep me alive for another day, the Duke will not be able to hold his annual festival in celebration of the battle of Waterloo.

On June 19th, as the King was obviously sinking, the sacrament was administered to him by the Archbishop of Canterbury. . . . "Believe me," were the words of the dying King, "that I have always been a religious man." William IV passed quietly into the last sleep of death, his arm resting upon the Queen's shoulder, while her hands supported his breast—"a position which the Queen had maintained for upwards of an hour previous to her fatal loss, and, indeed, during all the King's moments of repose, for the last fortnight of his painful illness."

William IV was 72 years of age at the time of his death. At the *post-mortem* examination the heart was found enlarged, and there were 12 to 14 oz. of fluid in the chest. A part of the heart and aorta is now in the Museum of the Royal College of Surgeons of England. It bears the following inscription, written on the varnished surface by Sir Astley Cooper, from whose private museum it was transferred to the college in 1841. It is now in the "Historical Series" (No. 2980A), so excellently arranged by Professor Arthur Keith, to whose courtesy we are indebted for permission to inspect this interesting relic and

[1] *Life of Sir Henry Halford*, p. 186.

[2] *History of the Four Georges and of William IV.* By Justin McCarthy and Justin Huntly McCarthy.

to transcribe the inscription. On the specimen are the words: "William IV, June 20, 1837." On the card:

"Deposit in the artery and adjacent pericardia [the word "pericardia" is used to denote the neighbouring part of the heart.] Patient aged 72."

The following is Sir James Paget's description of the specimen:

"The commencement of an aorta with two of the valves dried and exhibiting small rough nodules of calcareous matter in them and an opaque white granular deposit in the artery and the adjacent pericardium."

TREATMENT OF CONSUMPTION UNDER THE POOR LAW.

By ROBERT G. RIDDELL, M.D., F.R.C.S.E., D.P.H.,
Medical Officer to the Rotherham Workhouse.

A NEW sanatorium for the treatment of pulmonary tuberculosis, which has been erected by the Rotherham Board of Guardians, presents several features of interest. It has been erected within the union, and is administered as a detached part of the workhouse hospital. This, it is believed, is a new departure.

The site is in a healthy district on the outskirts of the town and about a mile and a half distant from the workhouse. It was previously occupied by an infectious hospital which was vacated three years ago, when the Corporation built a more commodious building at a short distance. The guardians acquired the old hospital buildings and altered them to suit their present purpose. The main building was a long pavilion of wood and iron on a brick foundation, which was in excellent repair. A verandah with glass roof has been built along the south side, and communicates with the interior by large French windows. The verandah is 13 ft. wide, and is enclosed by a wooden balustrade.

The administrative offices, which consisted of a row of one-story brick buildings, required considerable alteration to make them habitable, and it was found necessary to build an additional cottage for the accommodation of nurses.

The number of beds allowed for is 25, and the staff consists of a charge nurse, steward, and stewardess. There is room for a second nurse if required.

The field in which the buildings are situated is about 3½ acres in extent, and is rented from the feoffees of Rotherham for the sum of £18 10s. per annum. The cost of the undertaking is as follows:

Old hospital buildings	£375
Cost of conversion	768
Furnishing	200
Total	£1,343

or about £53 a bed. The administrative portion is sufficient for a larger number of patients, and as the number of beds is likely to be increased by provision of shelters, etc., the final cost per bed will be very moderate. The capital cost has been met out of revenue without resort to a loan. The architect for the work is Mr. D. B. Jenkinson, A.R.I.B.A., Rotherham.

Administration.

The board administers the sanatorium through its Hospital Committee, and the workhouse medical officer is in charge. All the laundry work is performed at the workhouse, where there is an excellent laundry; this is a great advantage. The supplies of food are requisitioned for from the workhouse, and advantage is thus obtained of the contract prices at which provisions are supplied to that institution. At the same time, separate accounts are kept of everything supplied to the sanatorium, these books being kept at the Master's office. Such work as plumbing, carpentering, tailoring, and repairs generally, is carried out by the workhouse staff.

Treatment.

In addition to the usual open-air treatment, a scheme of physical treatment by graduated work has been adopted, by which the patients are prescribed certain tasks according to their condition, and varying from the gentlest of exercises to heavy manual labour. This method of treatment is now being carried out in several sanatoriums, but it would seem to be especially applicable to consumptives in such an institution as this. Sanatoriums have sometimes been accused of being breeding grounds for loafers, for if the consumptive was cured of his disease he acquired another complaint even more intractable, and became a confirmed "work-shy." The physical treatment sends him out in good muscular condition to resume his labour, and not encumbered with a load of useless fat and muscles atrophied from disuse. Other means of treatment are also used, and in suitable cases tuberculin treatment and the inhalation methods are adopted.

A further point of interest in the present experiment is that an attempt is being made to cure the patient in the smoky atmosphere of his own town, for although the sanatorium is on the outskirts it gets its share of smoke, and the coverlets of the patients' beds are often covered with black smuts in the morning. A theory has been put forward that patients who obtain a cure in this way are less likely to relapse on returning to their former surroundings than those who have been sent for treatment to some mountain or seaside resort.

It will be instructive to see whether the guardians obtain better results from their present venture than from their former more expensive policy of sending patients away to distant sanatoriums. At present the accommodation provided is for males only, and advanced cases are treated in a special ward in the workhouse infirmary.

SCIENCE NOTES.

As illustrative of the enormous number of varieties of worms which are parasitic in some of our commonest animals, reference may be made to Dr. RANSOM'S recently published monograph on *The Nematodes Parasitic in the Alimentary Tract of Cattle, Sheep, and other Ruminants.*[1] It deals with only one of the three great groups of parasitic worms, and includes only such as are met with in the ruminants, and yet it fills 132 pages, and describes eighteen genera with 53 species. Of this great wealth of parasitic life, half occurs in the ordinary domestic sheep. The goat harbours sixteen species, all of which are also found in the sheep, while the ox has fifteen species, nine of which it shares with the sheep. Of this large number of species the greater part are well authenticated, and have been met with in the United States and examined by Dr. Ransom himself. Only a few are doubtful, but their removal would not reduce the number appreciably. The bulk of the worms are of a strongylid or bursate nature. Only two species of *Ascaris* are mentioned, and neither is of very common occurrence. This is rather a peculiar feature of the parasitic fauna of ruminants, and is in striking contrast to the condition in the horse, in which *Ascaris megalocephala* is fairly common. Similarly no species of *Oxyuris* has been recorded from a ruminant, while *O. curvula* is a frequent parasite of the horse. On the other hand a large variety of *Trichocephalus* worms occur in the ruminants, while none is known from the the horse. These comparisons between the parasites of two such closely allied groups of animals are interesting, and may be not without importance from a general point of view. Horses are not any more exempt from worms than sheep are, and they boast quite as varied a parasitic fauna. The common ground on which their faunae meet is in the family *Strongylidae*, a family of worms which attains its greatest profusion amongst the ungulate animals. Thus we note that nineteen strongylids occur in the sheep, thirteen in the goat, and sixteen in the horse. Dr. Ransom gives a short but fairly complete description of all the various species, with their full synonymy and localities, and keys to the species and genera. The large number of text figures will prove of aid in diagnosis. He also furnishes valuable notes on the methods of collecting and examining nematodes and on their general structure. The volume is another evidence of the activity of the American Bureau which, until recently under Dr. Stiles, and now under Dr. Ransom, has rendered exceedingly useful service in the department of economic zoology.

[1] United States Department of Agriculture. Bureau of Animal Industry, Bulletin 127. May 13th, 1911. (Pp. 132; figs. 152.)

CANCER RESEARCH.

THE tenth annual meeting of the Imperial Cancer Research Fund was held on July 20th, the Duke of BEDFORD, K.G., president, in the chair.

Report of Executive Committee.

In the report of the Executive Committee it was stated that the general superintendent had continued to make a liberal distribution of material to all, both in this country and abroad, who had applied to him; in particular an exchange of valuable material with Japanese scientific workers was made. The general superintendent attended the second conference in Paris as the delegate of His Majesty's Government. A report on the conference was prepared by Dr. Bashford for the Government and published as a parliamentary paper. (An abstract appeared in the BRITISH MEDICAL JOURNAL of April 29th, 1911, p. 1008.)

The plans of the laboratories to be provided by the Royal Colleges for the Imperial Cancer Research Fund in their new Examination Hall had been carefully considered by the Pathological Subcommittee, by which several valuable suggestions had been made. These suggestions having been adopted, it was believed that the new laboratories would be very complete, and fully equal to the demands of the work. The Executive Committee had agreed to contribute towards the cost of the laboratories by payment of a premium for a definite period of occupation or by the payment of an annual rental. The accumulation of material for publication had decided the Committee to issue another volume of Scientific Reports. This volume, which would probably be ready early in the autumn, would contain papers on: (1) Spontaneous Tumours in Mice; (2) Cancerous Ancestry and the Incidence of Cancer in Mice; (3) The Behaviour of Tumour Cells during Propagation.

REPORT OF THE GENERAL SUPERINTENDENT.

Dr. Bashford in his report stated that the main work carried out during the year had been the maturing and preparing for publication some of the investigations outlined in the last report. A feature of the year's work was the extension of experimental investigation to rabbits, in which animal a carcinoma of the mamma and a sarcoma of the subcutaneous tissue had been discovered, the latter being capable of propagation. The necessity for narrowing the field of inquiry was alluded to in the first annual report. This object had been advanced materially by the demonstration that the relation of each malignant new growth to the affected animal was an individual one, parallel to that which exists between the organs of the body and the organism as a whole. More precise conceptions had been obtained of the influence of heredity in place of the indefinite and contradictory views previously current. Cellular alterations bridging over the differences between normal and cancerous cells had been demonstrated to take place in growths under continuous observation and under natural conditions. Taken together these three advances indicated the direction in which further investigation could be profitably undertaken. In addition, these demonstrations were supported by most important new statistical information which had been made accessible in the last report of the Registrar-General.

Statistics.

The policy pursued in regard to the statistical investigation of cancer had been to supplement the national statistics, and, if possible, to add to their utility by special inquiries, but not to overlap or in any way to replace them. This policy had been dictated by the belief that the adequate investigation of most of the statistical features of cancer was best carried out by the Registrar-General's staff, since the data available for such a purpose did not exist outside of the national statistical office. It had been encouraged by the willingness with which the medical superintendents of statistics had collaborated with the Imperial Cancer Research Fund in supplementing and amplifying information calculated to assist purely pathological and experimental investigations. This collaboration and co-ordination, which did not exist in the case of organizations for the investigation of cancer in other countries, where independent statistical inquiries had been undertaken with the voluntary assistance of the medical profession, had been of the greatest importance in England and Wales in effecting real advances in the accurate statistical knowledge of the incidence of cancer. For several reasons it had long been desired that the reports of the Registrar-General should contain detailed information on the incidence of cancer in different parts of the body, and Dr. Tatham was able to make arrangements for obtaining this information at the outset of these investigations. The application of the law of age-incidence for cancer to short-lived as well as to long-lived animals reinforced the other reasons for obtaining it, and suggested that knowledge would be advanced by more detailed information about the age-incidence of cancer in the several organs of man as distinct from its dependence on the age-distribution of persons.[1] It was anticipated that the data would be of both biological and statistical value, and the facts published by Dr. Stevenson in the last report of the Registrar-General illustrate that this hope had been fulfilled in several directions. The tabulation of the new data for the years 1901–09 had permitted an analysis of the figures recording the increase of deaths attributed to cancer, and bringing out the fact that the increase during this period was referable to certain anatomical regions and not to others. Thus, for males, the main increase fell on the alimentary tract, especially the stomach. The liver and gall bladder and the skin showed no increase, or only a slight one. For females the increase, although it fell mainly on the alimentary tract (stomach and intestines), affected also the mamma, while the uterus, ovary, liver and gall bladder, rectum, and skin showed little or no increase. It was also of importance that the recorded mortality from cancer of the generative organs had not increased at the same rate as that for other organs, and that most of the increases affect the higher age-periods predominantly.

For the first time it was fully demonstrated that it was wrong to make statements of a disquieting nature about the increase of cancer in general. In conjunction with other investigations, means were also afforded of determining for parts of the body where the disease appears to be increasing, whether the increase was real or only apparent, and of ascertaining the causal factors peculiar to such parts. While it was evident that several of the differences brought out by the figures could be explained by more accurate diagnosis and by transference of the seat of the disease from the secondary to the primary situations, as illustrated, for instance, by the relation revealed between cancer of the liver and gall bladder and the alimentary tract, this might not account fully for other features. In particular, the increase recorded for the mamma in women, and the tongue in men, required further study and elucidation. Secondly, the analysis showed that the incidence was very unequally distributed among the several situations, and, indeed, that the whole curve of incidence might be different for different organs. A progressive increase up to the highest age-periods was characteristic of the face, lip, mouth, bladder, urethra, and breast only. The other organs showed a distinct diminution in the highest age-periods; but it was not yet possible to determine whether this curve indicated a liability rising to a maximum followed by a diminution, or was merely the result of deaths being still ascribed to other causes in the case of cancer of internal organs in aged people. The proportion of total deaths ascribed to the ill-defined cause of old age was 65.6 per 1,000 as compared with 65.7 for cancer, and it had to be borne in mind that the increases recorded for cancer affect principally the higher age-periods and that the average age of the population was increasing. The study of the occurrence of cancer in mankind, and in domesticated animals in widely separated parts of the globe, had shown that the practice of peculiar customs (involving the subjection of particular parts of the body to chronic irritation) provoked the disease in situations and organs from which it was absent when these customs did not exist. It was reasonable to suppose that the frequency of cancer would be diminished, if such practices as the use of kangri in Kashmir, the chewing of betel-nut, the eating of very hot rice in China, were discontinued. It was also reasonable to assume that the introduction into England of these exotic customs would greatly increase the frequency of cancer in this country. That irritation was really an important

[1] Second Scientific Report, Part I.

causative factor of cancer was an assumption justifiable only for certain forms of cancer occurring in particular regions. The knowledge of the irritants to which the different species of animals and the individual tissues of the same animal were susceptible was of very considerable importance. The acquisition of this knowledge would doubtless require extensive study, and it was advisable to approach this study in man statistically. In view of these considerations, and also because of the results of experiment, it appeared advisable to have data of the incidence of cancer in persons pursuing different occupations. This matter was discussed with Dr. Tatham in 1903–4, and again discussed with Dr. Stevenson, of the General Register Office, who had been so good as to explain to the Statistical Subcommittee that the new arrangements made by the Registrar-General for valuating deaths would permit of this information being abstracted. For the purposes of comparison it would be necessary to learn not only the incidence of cancer on particular sites liable to irritation, but also the incidence of cancer on all other sites, as well as the incidence of the other causes of death in the occupations considered. This information would be embodied in the next Decennial Supplement to the Reports of the Registrar-General. Of other statistical matters, reference was made to the fact that over 4,000 cases of cancer had now been collected from India. The figures confirmed the conclusions already stated. Reports and specimens of a large series of cancer cases had been sent from Khartoum by Mr. Christopherson, the cases occurring in Arabs and in the natives of the Sudan and Bahr-el Ghazel remote from the influences of European civilization. Dr. Preston Maxwell had drawn attention to a peculiarity in the incidence of cancer in China, where the men were very liable to cancer of the oesophagus, whereas in Chinese women the disease was rare or unknown. It was suggested that the difference was due to the men bolting their rice whilst it was very hot, the men being served first and the women afterwards, when the rice had become cooler. Another form of inquiry, which had been both statistical and experimental, had thrown light upon the long-debated question of

Heredity.

The breeding experiments alluded to in earlier reports had now yielded upwards of 2,000 mice of known ancestry and age; 562 females were available for a study of the influence of heredity on the development of cancer of the mamma when an analysis was made on October 24th, 1910. The figures were tabulated so as to bring out the ages of the mice, and the proportions which developed cancer of the breast in the two groups into which they had been segregated according to ancestry. The data showed that heredity played a part in the development of cancer of the breast in mice. At all age-periods the disease was more frequent when the mother, or either grandmother, or all three, had died from cancer of this organ.

The maxima occur at the same age-period in each group, being respectively 21.6 and 32.1 per cent. of the total

TABLE I.—*(October 24th, 1910.) Female Mice of Recent Cancerous Ancestry.*

(Mother, one or both grandmothers, or all three cancerous.)

Age (Months):	0–3	–6	–9	–12	–15	–18	–21	–24	Over 24	Total
No tumour—										
Living	—	—	9	7	6	8	7	4	6	47
Dead...	—	—	49	48	39	28	22	20	18	224
Tumour Mice—										
Organs other than mamma	—	—	—	1	2	2	1	—	1	7
Mamma	—	—	4	7	15	18	10	5	3	62
Total	—	—	62	63	62	56	40	29	28	340
Per cent. ...	—	—	6.5	11.1	24.2	32.1	25.0	17.2	10.7	18.2

TABLE II.—*(October 24th, 1910.) Female Mice of Remote Cancerous Ancestry.*

(No cancer in mother or grandmothers.)

Age:	0–3	–6	–9	–12	–15	–18	–21	–24	Over 24	Total
No tumour—										
Living	—	—	7	—	1	2	9	5	15	39
Dead	—	—	30	37	24	28	19	17	6	161
Tumour Mice—										
Organs other than mamma	—	—	—	—	—	—	1	1	2	4
Mamma	—	—	1	4	1	8	0	3	2	19
Total	—	—	38	41	26	38	29	26	25	223
Per cent. ...	—	—	2.6	9.8	3.8	21.6	0.0	11.5	8.0	8.6

number of animals, there being no evidence that the maximum incidence of cancer had been made to occur at a younger age in mice of recent cancerous ancestry.

Without wishing to minimize unduly the important influence which heredity is thus demonstrated to have, it was necessary to warn against pessimistic anticipations of the outlook on future efforts to cope with cancer. It had been sought deliberately to concentrate any tendency to the disease which might be due to heredity, and in this way obtain mice more liable to the disease than others. Apart from its bearing upon heredity, the obtaining of such mice was most important for furthering the experimental investigation of the genesis, nature, and should it be necessary artificial production of cancer, and for attempting to define the reasons for its apparently greater frequency in some geographical areas than in others. An effort was now being made to obtain by selection a breed of mice with diminished liability to cancer. While it was at present impossible to explain how the liability was transmitted, it could be averred with certainty that it did not consist in the inheritance of a soil more suitable for the growth of cancer in general. It was not the inheritance of a general constitutional predisposition suitable for growth, as was shown by the fact that implantation of cancer was not more successful in mice of a cancerous stock than in others. It could only be inferred, with some probability, that it was a local or circumscribed tissue predisposition, in virtue of which the mammary tissue was prone to pass from mere proliferative reaction into continuous or cancerous proliferation. Further, hereditary predisposition was only one of the factors, for it had been found that chronic inflammatory changes were remarkably frequent in the mammae of female mice of the laboratory. Other factors still unrecognized might exist. It had been possible to obtain a sequence of all stages from normal tissue through mere chronic inflammation and simple hypertrophy to adenoma and carcinoma. The manner of the occurrence and combination of these changes strongly suggested their interdependence and reference to a common cause which became effective in producing cancer through the variability of the normal cell as described below.

Individuality and Cancer.

The study of the parallel behaviour of normal and cancer tissue both as regards absence of continued growth and the nature of the immunity reactions induced, when cancer was transferred from one animal to another of a strange species, showed that cancer had all the properties which distinguished the normal tissues of one species from those of another species. Recent experiment had carried knowledge much further. The fact that transplantable tumours grew in normal animals as well as they did in spontaneously affected animals showed that the latter did not present a soil for the growth of cancer substantially different from that presented by normal animals. When this result was contrasted with the almost invariable success of transplanting a portion of its spontaneous tumour into the animal so affected, and the almost invariable failure of implanta-

tion of any spontaneous tumour into other spontaneously affected animals, the demonstration was complete that each tumour was peculiarly and genetically related to the individual in which it arose. This conclusion was drawn from studying the growth of tumours under the different conditions just enumerated, and was supported by the results of elaborate experiments on inducing resistance or immunity to the inoculation of cancer cells under these different conditions. The results of these two lines of inquiry agreed also with the fact that resistance had not been induced either with an animal's own tumour or its own normal tissue.* The individuality of cancer would thus appear to have been placed at last beyond all further discussion. It had long been maintained in various forms on the basis of deductions drawn from histological (microscopical) examination of the tissues at the site of the primary lesion, and from the nature of dissemination, but this interpretation of the findings had been as vehemently combated. The combination of the results arrived at by microscopical investigation and experimental study appeared to terminate any need for further discussion. A long step had thus been taken in defining the direction in which the future investigation of cancer was alone likely to be profitable.

The Nature of Cancer.

It followed that a closer definition of the nature of cancer would involve an analysis of the relation between the individual developing cancer and the tumour. This final analysis would be possible only on animals naturally afflicted with the disease, for, as pointed out consistently from the first annual report onwards, the genesis and the growth of cancer were distinct phenomena which could and ought to be separately investigated. The study of propagated cancer was only a study of its growth under natural and artificial conditions, and had only an indirect bearing upon the genesis of the disease. Hence the breeding experiments to which allusion had been made acquired enhanced significance, and were already being, and would continue to be, conducted on a much more extensive scale. An adequate supply of animals of differing liability to the disease must be made available for the elucidation of problems some of which were already suspected, while past experience made it likely that others as yet unsuspected would arise.

In all previous reports guarded reference had been made to the mediate relation obtaining between chronic irritation and certain forms of cancer. The indefiniteness in the way of drawing attention to the relationship had been deliberate. The varied investigations of the past nine years had added a knowledge of new forms of irritation. It had become more and more evident that irritation, effective in one case, may be, and often is, quite ineffective in another.

Ever since the beginning of these investigations it had been maintained that the mere cultivation of cancer had important, if only indirect, bearings upon its nature and genesis. Thirty-five of the tumour-strains had now been growing for over three years, that was to say, for longer than a mouse lives, while fifty other strains had been grown for extended periods. The one feature all these tumour-strains had in common was the power of continuous growth which they possessed, in spite of the most divergent structure, and of extremes in the rate of growth varying from an almost explosive rapidity to one much inferior to that of embryonic tissue, as determined by weighing experiments.

The variations were not mainly induced by the environment, but arose spontaneously. The demonstration of the occurrence of these variations under artificial conditions permitted of the inference that they could also occur under natural conditions, and yielded objective evidence of the validity of the conclusion that the cancer cell was a biological modification of the normal cell endowed with many inherent properties of the latter. Every fresh transplantation effected a disturbance of the cancer cells. They were thrown into a state equivalent to regeneration from which they tended to recover, as analogous as possible to reactive proliferation when naturally occurring. Hence the features observed under artificial propagation threw suggestive light on the nature of cancer and its genesis in those cases in which a prolonged phase of reactive proliferation had intervened between the first response to irritants and the development of cancer.

Immunity and Therapeutic Investigations.

Apart from the investigations in which the reactions of immunity had been employed to elucidate the nature of cancer, numerous experiments bearing upon the possibilities of treatment had continued to be made. The onset, rise, fall, and disappearance of immunity as induced by the inoculation of normal and cancerous tissue had been accurately defined in parallel experiments. The distinctions and similarities in the immunizing powers of different tumours, especially of sarcoma as distinct from carcinoma, had been extensively studied. The dissemination of cancer had been studied experimentally both by injecting cancer cells directly into the blood stream and by implanting them in internal organs. It had been found possible to produce the lesions of dissemination in these ways both in the absence and in the presence of a primary growth, and, what was more important, also to prevent them. Since every procedure found efficacious to modify in any degree the growth of transplanted cancer had been tested on mice naturally affected with the disease, it was needless to enter into details, more especially since problems difficult of solution in the mouse, because of its small size and the short duration of its life, could now be studied under the more favourable circumstances existing in the rabbit.

As pointed out in previous reports, nothing but harm could result from the premature application to the treatment of the human subject of methods found to modify the growth of propagated cancer in animals. In order to emphasize still more strongly this warning, it might be stated that the methods which induced an *active* immunity to propagated cancer had been tested on thirty-three mice with natural cancer, and had given no evidence of powers either to hinder growth and dissemination, or to prevent recurrence of spontaneous cancer after surgical removal. These methods had also been found to be of no avail in preventing the successful inoculation of an animal with its own tumour; and they had their practical application at present only in the elucidation of the properties of cancer cells.

The successful treatment of animals bearing propagated cancer by means employed to induce *passive* immunity had been described by other investigators. Some of these methods had been tested in the laboratory, but had not yielded positive results. It became increasingly evident that the therapeutical treatment of cancer was not to be sought for along these lines.

A considerable number of cases of natural healing of spontaneous malignant new growths had been observed in mice affected with spontaneous cancer. The changes leading to natural cure appeared to depend, as in propagated cancer, on an altered condition of the cell and its contents, rather than on an alteration in the general condition or constitution of the affected animal. Means would have to be devised for elucidating the nature of the change in the cell before curative measures could be discovered.

Laboratories for Cancer Research.

In conclusion, Dr. Bashford pointed out that whereas nine years ago, apart from special provision for treatment being supplied by a number of hospitals, there existed for the investigation of the disease only one other laboratory in addition to the imperial organization contemplated by the founders of the Cancer Research Fund, to-day a number of other laboratories existed throughout the country both in London and the provinces. England and Scotland were now provided with a greater number than any other country in comparison with their size and population. Whenever an opportunity had occurred of furthering the particular investigations upon which these institutions had been engaged, assistance had been rendered by supplying material from the laboratory, and by the Imperial Cancer Research Fund in many other ways. The responsibilities thrown upon the workers under the Fund were not diminished, but rather increased by the multiplication of institutions for the investigation of cancer.

* In last year's annual report it was stated that an animal could be immunized against the transplantation of a tumour from another animal by means of one of its own tissues. More extended investigation has shown that this result is not invariably obtained.

Honorary Treasurer's Report.

The report of the Honorary Treasurer (Sir Henry Morris) for the year ending June 24th, 1911, showed that the income from investments for the year 1910–11 was £4,584 10s. 6d. The expenditure for the same period amounted to £5,478 2s. 8d. A contribution from an anonymous donor of £1,000 had been received for the specific purpose of equipping a biochemical laboratory. Legacies to the amount of £1,936 7s. 4d. had been added to the Fund during the year, and £850 11s. 6d. had been received in subscriptions from ninety-seven subscribers of sums varying from £100 to 5s. The excess of expenditure over income during the last year amounted to £893 12s. 2d. It was very considerably less than in any previous year, except in the first year of the existence of the Fund.

Another large volume of scientific reports was now passing through the press, and this would make a very heavy demand upon the ensuing year's resources. In view of the new responsibilities created by the increase in the number of workers engaged in the investigation of cancer in other centres, it was essential that the Fund should have at its disposal a considerably augmented income. Moreover, a reconsideration of the scale of remuneration of the superior staff was necessary if the Fund was to maintain a position commensurate with the duties and responsibilities of a truly imperial organization. Once more, therefore, the Honorary Treasurer called attention to the pressing need for such a substantial increase in the endowment as would provide an income sufficient to defray all the ordinary and, from time to time, extraordinary expenses of the work.

Sir WILLIAM CHURCH, in moving the adoption of the report, gave a lucid summary of the work done by Dr. Bashford and his assistants during the past year.

Sir HENRY MORRIS seconded, and the motion was carried.

A vote of thanks to the Chairman brought the proceedings to a close.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

A MEETING of the organizing committee of the Seventeenth International Congress of Medicine which is to take place in London in 1913, was held on Friday, July 14th, at 5 p.m., in the Royal College of Physicians, Sir THOMAS BARLOW, Bart. (President), in the chair. The minutes of the last meeting, as published in the *Lancet* and BRITISH MEDICAL JOURNAL of April 8th, 1911, were confirmed.

Letters of regret were read from twenty members of the committee who were unable to attend.

The report of the Executive Committee was adopted as follows:

1. That the printing of the Transactions of the Congress be entrusted to the Oxford Press. 2. That the Royal Albert Hall be engaged for the week of the congress, to serve as post office, bureau, and site for the exhibition of medical appliances. 3. That the arrangements to be made for carrying out the exhibition of medical appliances, in accordance with the resolution of the Organizing Committee, be left in the hands of the Finance Committee with power to act and report to the Executive Committee.

The SECRETARY reported that the regulations proposed at the last meeting of the Organizing Committee had been laid before the Permanent Commission and had been, with slight modifications, adopted.

The question arose as to the rules which should be followed in sending official invitations. The matter was left in the hands of the officers for report to the Organizing Committee.

The PRESIDENT then moved the following resolutions:

1. That it is desirable that the staffs of sections should include members from the colonies.

This was unanimously approved.

2. That the Secretary should be instructed to communicate with (*a*) the President and Secretary of the Canadian National Committee for International Medical Congresses; (*b*) the President of the Australasian Medical Congress; and (*c*) the officers of the South African Branch of the British Medical Association, asking them to nominate such of their members as they may think fitted by their scientific eminence to serve on the staff of such sections.

This was unanimously approved.

The PRESIDENT then submitted the list of the officers of congress and of the staff of such sections as were already completed. This was ratified by the committee.

Further names will be added in accordance with the above Resolutions, *a*, *b*, *c*.

ANNUAL REPORT OF THE COMMISSIONERS IN LUNACY FOR SCOTLAND.

THE fifty-third annual report of the General Board of Commissioners in Lunacy for Scotland has been issued. On January 1st, 1911, exclusive of insane persons maintained at home by their natural guardians, there were in Scotland 18,636 insane persons of whom the Board had official cognizance, including the inmates of training schools for imbecile children and of the criminal lunatic department of Perth Prison. Of these, 2,622 were maintained from private sources, 15,958 by parochial rates, and 56 at the expense of the State. As the total number at January 1st, 1910, was 18,337, an increase of 299 has taken place during the past year. Of this increase, 234 were pauper patients. In training schools for imbecile children the number is twenty-nine more than last year. The increases occurred mainly in industrial counties having an increasing population, the largest decreases in counties with falling populations, such as Argyll and Perth. During 1910, 108 voluntary patients were admitted. The average for the ten years 1901–10 was 93. The number resident on January 1st, 1911, was 127. The Board favours a change in the law which would permit of a person being received into and kept in an asylum for three days on his own written application to the superintendent, provided the sanction of the Board be at once applied for in the usual way on admission.

Discharges.

During 1910, 215 private patients were discharged recovered, the same number as in 1909, and 14 below the average for the five years 1905–9. Of pauper patients 1,031 were discharged, 1 more than last year, and 120 less than the average for the five years 1905–9. The following table gives the rate of patients discharged recovered from all establishments during the past thirty years among private and pauper patients respectively:

Average of 5 years.	Recoveries per cent. of Admissions, excluding Transfers.	
	Private.	Pauper.
1880–84	41.0	47.6
1885–89	39.0	45.1
1890–94	39.3	44.1
1895–99	43.0	44.1
1900–04	44.3	42.9
1905–09	41.0	39.8
Year 1910	42.5	36.7

Thus the proportion of recoveries among private patients has varied from one year to another, but has shown no certain indications of falling off. Among pauper patients a continuous decrease is recorded between 1880–84, and 1905–9, and in the past year a tendency towards a still further decrease appears to be in force. Persons in moribund states, or suffering from incurable physical diseases, complicated with mental unsoundness or decay, are now sent to asylum hospitals instead of being sent to ordinary infirmaries or of being kept at home until death takes place, and returns prove conclusively that of late years the number of persons admitted at ages so advanced as to render recovery almost impossible has largely increased.

Unrecovered Discharges.

The number of private patients discharged unrecovered, excluding transfers, during 1910 was 112, which is 37 less than last year, and 25 below the average of the five years 1905–09. The number of pauper patients discharged unrecovered was 375, which is 6 more than the number so discharged in the preceding year, and 35 less than the

average for the five years 1905–09. The proportion of patients discharged unrecovered to the average number resident has been steadily falling for the past twenty-six years, and last year reached its lowest point. This is a matter greatly to be regretted, as, with a falling admission rate, and an increased death-rate, the resident population of asylums ought to have fallen rather than to have increased, as has on the whole been the case. This result must be largely ascribed to the lower rate of discharge of unrecovered patients who have ceased to need asylum care.

Deaths.

The number of private patients who died in establishments during the year 1910 was 163, which is 46 less than in 1909, and 28 less than the average of the five years 1905–09. The number of pauper patients who died was 1,181, which is 3 less than in 1909, and 25 above the average of the five years 1905–09. The death-rate remains at about the level at which it has stood for many years past. The great bulk of the worst classes of cases, whether private or pauper, are sent to asylums of a public description, and so the death-rate in these institutions is higher for the most part than in private asylums.

Probation.

At January 1st, 1910, 71 patients were absent from asylums on probation, with the sanction of the Board. Of these, 40 have been finally discharged as recovered, 5 were sent back, and 26 remained on the expiry of the period under the care of friends. During 1910, 121 patients were discharged on probation. Of these, 28 have been finally discharged as recovered, 9 whose period of probation has expired remain under the care of friends, 14 have been returned to asylums, and 1 died. The number still on probation at the end of the year was 69. Of the 6,225 patients liberated on probation since 1862, 1,383, or 22 per cent., were replaced before the expiry of the period of probation in the asylums from which they had been removed.

Sheriffs' Orders.

The number of orders granted by sheriffs for the admission of lunatics into any public, private, district, or parochial asylum or house during 1910 was 3,254.

Escapes.

During 1910 the whole number of escapes was 150. Of these, 67 were brought back within twenty-four hours, 54 within a week, and 13 after a week. There were 16 still absent on the expiry of twenty-eight days from the date of escape. The number of escapes during 1910 per 1,000 patients was lower than the average during the last ten years.

Accidents.

The whole number of accidents during the year was 121, and of these 6 ended fatally, 2 being due to suicide.

Progressive History of Patients.

An interesting table traces the progressive history of 2,539 patients admitted to asylums for the first time in the year 1898. This shows that at the end of the second year 209 readmissions had occurred, and at the end of the tenth year 662. Of these, 618 had been readmitted once during the ten years, and 22 twice (the latter counting as 44 readmissions). The total number of readmissions during the thirteen years is equal to 29.4 per cent. of the original number admitted. Calculated on the original number admitted, the recoveries during the first two years amounted to 42.1 per cent., discharged unrecovered 10.2, and deaths 16 per cent.—the removals from all causes thus representing 68.3 per cent. during the first two years of the original number admitted. During the last two years the removals from all causes amounted only to 3.9 per cent. of the original admissions.

Deaths from General Paralysis.

During the ten years from 1865–74, 424 males and 100 females died of general paralysis. Of the total of 524, 190 deaths were between the ages of 31 and 40, 163 between the ages of 41 and 50, and 15 were in persons over 70. From 1896 to 1900 the figures were 550 males and 117 females, with 266 between ages 31–40, 252 between 41–50, and 1 over 70. From 1901–5, 720 males, 188 females, with 296 at ages 31–40, 381 at ages 41–50, and 1 over 70. From 1906–10, 811 males and 192 females, with 295 at ages 31–40, 415 at ages 41–50, and 3 over 70. As a rule about half of these were resident in asylums under one year. The following table gives the yearly proportion of deaths from general paralysis per 1,000 patients resident:

Yearly Proportion of Deaths from General Paralysis per 1,000 Patients Resident.

Year.	Private.		Pauper.		Both Classes.	
	Male.	Female.	Male.	Female.	Male.	Female.
1895–99 ...	20.8	1.1	22.0	4.8	21.8	4.1
1900–04 ...	20.6	2.2	24.8	6.9	24.1	6.0
1905–09 ...	20.8	1.3	23.1	6.2	22.8	5.5
1910	10.1	2.7	20.6	5.6	19.4	5.2

Section IV of the report deals with the present condition of establishments for the insane.

Lunatics in private dwellings are dealt with in Section V. Of these, there were, with the sanction of the Board, on January 1st, 1911, 2,994, of whom 116 were private patients. Of the 116, 48 were persons whose means have been placed under curators by the Court of Session, or by a sheriff court. Position of districts, want of accommodation for the poorer class of private patients, cost of district asylums, are in succession discussed. For all district asylums in Scotland the total cost per patient has risen from £34 6s. 2d. in 1888–89, to £44 11s. 5d. in 1909–10. The expenditure on pauper lunatics, in Section IX, is shown to have risen from £18 11s. 6d. in 1859–63 to £25 18s. 3d. in 1909–10. Dangerous lunatics have numbered only 1 during each of the last four years, in 1903 they were 12. During 1910, 35 pauper lunatics were removed from Scotland, from having no settlement in that country. Of these, all of whom were removed from asylums, 12 were sent to England, and 23 to Ireland.

At the end of December, 1910, there were 1,119 persons under judicial certification in consequence of mental unfitness for the management of their affairs. The Asylum Officers' Superannuation Act of 1909 is fully discussed in Section XIV, the last of the report. A large number of interesting tables are in the appendices, but space forbids discussing these. Entries made by the Commissioners in the patients' books of asylums and poorhouses, general reports on visitation of patients in private dwellings, various circulars, and tables conclude a valuable and interesting report.

THE POSITION OF WOMEN UNDER THE NATIONAL INSURANCE BILL.

BY A MEDICAL WOMAN.

THE position of women under the National Insurance Bill has been the subject of some general discussion, and is one of the points to which this week the House of Commons has been giving attention. It seems, therefore, desirable to review the position as a whole, in order to determine whether the methods suggested for the insurance of women make for national health.

Women in paid employment are to pay (see the second Schedule) 3d. a week, the employer 3d. a week, and the State one-fourth of the total benefit, that is, 2d. (Clause 3), and in return are to receive medical, sickness, disablement, and sanatorium benefits. The sickness benefit is not to exceed 7s. 6d. a week (as compared with 10s. for men), and, as with men, is to be reduced to 5s. after thirteen weeks. The contributions would have to be paid even by girls under 21 years of age, whose wages as a rule are low, while many among them are engaged in employments which can truthfully be termed "sweated labour." Over 21 years of age a woman may get some exemptions if her wages are below 12s. a week (2s. a day). This on the surface seems to be fairly just, but it is feared that in practice it will mean that the woman over 21 will have increased difficulty in finding employment, as the employer of cheap labour will prefer the girl worker whose wages are smaller and for whose insurance he only contributes the minimum amount. Clause 34 states:

Where a woman who having before marriage been an insured person marries and is supported by her husband she shall,

unless she continues to be employed within the meaning of this part of this Act, be suspended from receiving any benefits under this part of this Act until the death of her husband.

The married woman gets no benefit for the contributions she has paid before marriage till married life is over and she is a widow and returns to paid employment. Does the experience of the widowhood of the majority of women of the working class justify the idea that they will often be able to take up their work and again be eligible to contribute? Take, for instance, a domestic servant who marries at 26. She and her employers have paid contributions for six or more years. She becomes a widow at 40. She probably has two or three children from 8 to 13 years of age, perhaps younger children. Can she return to paid employment? If she does she must first find homes for her children, then employment for herself as a domestic servant, the only work for which she has had training; the wages must be sufficient to enable her to keep her children and to dress herself decently and pay her contributions. This is a condition of things which will rarely happen. She will, as now, become a charwoman or small laundress on her own account, in order to keep her home together, and her contributions before marriage will be for ever lost to her.

Mr. Austen Chamberlain has pointed out that women will contribute far in excess of anything they as individuals would ever be likely to get, and on the whole it seems probable that the women's side of this Insurance Bill will be largely financed by the payments forfeited on marriage of domestic servants and other women who followed paid employments up to the time of marriage.

Married women, as already stated, who are not paid workers receive no benefits while their husbands are alive, but their husbands are eligible for the maternity benefit (Clause 16). If the wife has any serious illness after confinement, whether *post hoc* or *propter hoc*, no medical, sickness, or disablement benefits are available, though there may be quite a considerable sum standing to her credit. Should the husband be ill at the time of his wife's confinement, he gets medical, sickness, and disablement benefits, in addition to the maternity benefit.

For the married woman who has paid her contributions up to marriage, and whose husband is a Post Office contributor, there is no maternity benefit as such.

Clause 32 (1) (b). The sums required for the payment of any sickness, disablement, or maternity benefit payable to a deposit contributor, except so far as they are payable out of the moneys provided by Parliament, shall be paid out of the money standing to his credit in the Post Office fund, and his right to benefits under this part of this Act shall be suspended on the sums standing to his credit in that fund being exhausted.

For the unmarried insured woman who is eligible for the maternity benefit, no medical, sickness, or disablement benefit is available till four weeks after her confinement, and even then sickness and disablement benefits can be withheld at the discretion of health or other administrative committees should they take the view that her illness is brought about by her own misconduct (Clause 13 (4)).

It seems as if the provisions just enumerated, by penalizing unemployed, that is unpaid, married women who up to the time of marriage have paid their contributions under the bill will operate as a strong encouragement to them to continue in paid employment after marriage, a condition which is known by wide experience to be undesirable in the interests of the children. It seems unwise in a national bill to encourage mothers to remain in paid employment and to make the benefits to them and to unmarried mothers greater than to the wife of the working man who does his best to provide a home for his wife. It has seemed to many of the students of the bill that the people who could do best under the scheme as it stood would be the married couples both of whom are in paid employment, since the woman appeared to be eligible for the maternity benefit on her own account, and the man gets it also as a benefit for himself (Clauses 16 and 34).

That this is the view taken by the Government in the House of Commons is shown by the course of the discussion on the relative clause in the House of Commons on Monday. Subclause (6) of Clause 8 was amended to read as follows:

Where a woman is herself entitled to maternity benefit she shall not be entitled to sickness benefit, disablement benefit, or medical benefit in respect of or consequent upon her confinement at and for a period of four weeks after her confinement, provided that this Subsection shall not affect the right of such woman, if married, to sickness benefit during such period.

Although Mr. Lloyd George said he might subsequently find some other form of words to replace the phrase "in respect of or consequent upon her confinement." The proper interpretation of this subclause appears to be that a married woman who is herself employed, and therefore insured, will be entitled to maternity benefit, 30s. (chargeable to men's fund) and sickness benefit, 7s. 6d. a week (chargeable to the women's fund).

Household work under this bill is apparently counted as of no value since the worker who does it is not worthy of being a contributor under the scheme; in fact, the home worker is thought to be so often a malingerer that it would be dangerous to let her have even medical and sanatorium benefits. But the wife of the working man with children is the last person who can afford to be a malingerer, as the upkeep of her home depends entirely on her own exertions, and she often goes on working when sorely in need of medical treatment.

The scheme is equally unsatisfactory for a totally different class of insurer, sick nurses. Nurses have always been able in virtue of their work for the medical profession to obtain medical and surgical treatment, if necessary, in hospital. Is it fair to a nurse to expect her to remain outside hospital and manage for herself on 7s. 6d. a week when she requires skilled treatment and nursing? On the other hand, is it fair that voluntary hospitals should take her in for nothing when she is an insured person and entitled to her sickness benefit? At the time of writing various amendments for different classes of workers are being considered, which it is hoped will be carried, for a scheme which is unfair in its treatment of a large number of its contributors can never be cheerfully accepted.

Only a few of the most obvious disabilities of women under the Insurance Bill have been touched upon; many more could be shown.

In the administration of the scheme it is desirable that a medical woman conversant with the lives and needs of women workers should be on the Advisory Board, and, as far as possible, every Health Committee should have a medical woman upon it.

The most obvious alterations required in the bill are that the contributions of the women who marry and are no longer in paid employment should be used either as increased maternity benefit or in medical and sanatorium benefits as may be necessary. That the married woman in paid employment be treated as a married man in paid employment—that is, that she receives sickness and disablement benefits concurrently with maternity benefits if necessary.* Time must be taken to understand and discuss the clauses of the bill. In its present form the woman who is the backbone of the country—that is, the wife of the working man—is the woman who is despised as a possible malingerer and denied benefits for which she has paid.

LITERARY NOTES.

IN Mr. John Murray's list of forthcoming works is the following: *Life of Paracelsus* (*Theophrastus von Hohenheim, 1493–1541*), by Miss Anna M. Stoddart. The aim of the book is said to be "a vindication of the fame and character of its subject, the greatest genius of the German Renascence, the evidence being drawn from the valuable critical researches of the latest German Paracelsian scholars, as well as from his own writings."

Dr. John C. Hemmeter, Professor of Physiology in the University of Maryland, is the author of a hymn to Hygieia, of which he wrote both words and music. It is dedicated to Dr. William Henry Welch. There is no lack of musical talent in the profession, and Professor Hemmeter's hymn, which is scored for four male voices with organ accompaniment, might appropriately be performed at medical meetings.

We have received from Mr. D'Arcy Power a reprint of a very interesting paper contributed by him to the *Lancet*

* It appears in an amendment of Clause 8, Section 6, passed on July 17th that the insured married woman is now to be granted sickness benefit concurrently with maternity benefit.

not long ago. Every one knows that Samuel Pepys was obliged to discontinue his *Diary* owing to the increasing strain on his eyesight. There are frequent references to his eyes in the *Diary*, the first occurring on January 19th, 1663–64, when he was nearly 30 years old. On October 5th, 1664, he records that:

> Then Mr. Cocker to see me and I discoursed with him about his writing and ability of sight and how I shall do to get some glasse or other to helpe my eyes by candle light; and he tells me he will bringe the helps he hath within a day or two and shew me what he do.

At the end of 1666 his eyes began to be sore and to run so much that he records his intention to get some green spectacles. This he did, and little is heard of his eyes till the following April, when again he complains of his eyes troubling him after candlelight. In August, 1667, after heavy and anxious work at the Admiralty, he writes:

> My eyes begin to fail me, which now upon very little overworking them they do, which grieves me very much.

On November 4th he writes:

> I took a coach and went to Turlington the great spectacle maker for advice, who dissuades me from using old spectacles but rather young ones, and do tell me that nothing can wrong my eyes more than for me to use reading glasses which do magnify much.

On this Mr. D'Arcy Power remarks that Turlington's advice was superlatively bad, for he was clearly recommending Pepys to use concave glasses whereas in reality he needed convex ones. The glasses were probably found unsuitable, for they were never bought. In June, 1668, we find him visiting Dr. Turberville, from whom he got "a direction for some physic and also a glass of something to drop into (his) eyes." At the end of July he writes:

> The month ends mighty sadly with me, my eyes being now past all use almost; and I am mighty hot upon trying the late printed experiment of paper tubes.

On August 11th he writes that he is

> mightily pleased with a little trial I have made of the use of tube-spectacall of paper, tried with my right eye.

The improvement did not last, and on August 21st he went to "Reeves's and bought a reading glass." But in November he records that his eyes are come to that condition that he is not able to work. From his thirty-sixth birthday onwards complaints about his eyes become more and more frequent. He tried a vizard with a tube fastened within both eyes and a glass in the tube. This answered for a short time, but the *Diary* ends on May 31st, 1669, with an entry in which he says he is not able to do anything more with his own eyes in keeping up the record. Mr. D'Arcy Power thinks that from the account given by Pepys he suffered from hypermetropia with some degree of astigmatism. These errors of refraction, he says, were not very great, though they were sufficient to cause eyestrain and undue sensitiveness of the retinae. Pepys did not suffer from headache or he would have said so; he did not squint or his portraits would have shown it. The hypermetropic astigmatism could not have been cured by glasses at the time in which he lived, for science was not sufficiently advanced to recognize the condition.

Mr. Stanley Portal Hyatt is to be congratulated upon the long list of distinguished authors and artists who have contributed towards *The Literary Pageant*, recently published by Mr. Werner Laurie in aid of the Prince Francis of Teck Memorial Fund of the Middlesex Hospital. Thanks to his exertions as editor, this charming volume should suit all tastes, for besides an almost unique collection of short stories, essays, and verses from the pen of almost every well-known contemporary writer of fiction, it contains some twenty sketches by first-class artists, and thus presents the unusual spectacle of a magazine in which the illustrations and printed matter are alike entirely worthy of one another. The table of contents contains the names of many old favourites with the public. The opening pages of the volume have been consecrated to Rudyard Kipling's stirring lines on "The Spies' March"; Sir Arthur Conan Doyle, in his "Giant Maximin," has graphically described the meteor-like career of the Thracian peasant who rose to be Emperor of Rome; whilst Robert Hichens gives an amusing account of the many strange "Apparitions of Travel" that have crossed his path in the course of his wanderings; and Mr. F. Anstey's exquisitely polished humour is seen at its best in his description of "People I have Met at the Play." Mr. William de Morgan, Israel Zangwill, W. W. Jacobs, William J. Locke, Violet Hunt, Arthur Morrison, Elinor Glyn, and the Baroness Orczy are a few amongst the many who have contributed prose; whilst of the poets it suffices to mention the Duke of Argyll, Sir Gilbert Parker, Austin Dobson, Owen Seaman, Flora Annie Steele, Max Pemberton, and Hall Caine. Amongst the artists who have generously responded to the call of charity are to be found the names of H.R.H. Princess Louise Duchess of Argyll, Seymour Lucas, Frank Brangwyn, Sir Charles Holroyd, Dudley Hardy, Lewis Baumer, L. Raven Hill, and Alfred Praga, who has been responsible for the arrangement and supervision of the illustrations, and whose portrait of Prince Alexander of Teck forms the frontispiece of the volume. In deference to the express wish of the editor, it should be added that Mr. Portal Hyatt has been greatly assisted in his editorial duties not only by Mr. Praga, but also by Mrs. Portal Hyatt, to whom he is indebted for the suggestion of the whole scheme.

GENERAL MEDICAL COUNCIL.

Election of Direct Representatives.

THE election of three representatives of the registered medical practitioners in England and Wales on the General Medical Council will take place this autumn.

The term of office of the two direct representatives, Dr. Langley Browne, of West Bromwich, and Dr. Latimer, of Swansea, expires at the end of the year.

In May, 1909, on the motion of Dr. Langley Browne, seconded by the late Dr. McManus, the General Medical Council resolved to represent to the Privy Council that it was expedient to confer on the registered medical practitioners resident in England and Wales the power of returning an additional member to the Council, with the proviso that the addition should not take effect until the next ensuing general election of direct representatives. In the following August the Privy Council gave effect to this representation.

A meeting of Representatives for England and Wales will be held, at a time fixed by the Representative Meeting, to select candidates in accordance with the Scheme published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL, May 27th, 1911. The following candidates have been duly nominated and have signed the requisite declaration:

Name.	Address.	Nominating Division or Divisions.
BROWNE, HENRY WILLIAM LANGLEY, M.D., F.R.C.S.Ed.	West Bromwich	Swansea. West Bromwich. Stratford. Boston and Spalding.
FERGUSON, JAMES M., L.R.C.P. and S.Ed., D.P.H.Durh.	Burnley	Burnley.
JACKSON, GEORGE, F.R.C.S.	Plymouth	Stockton. Plymouth.
LATIMER, HENRY ARTHUR, M.D.	Swansea	Swansea. Stratford. Boston and Spalding.
RYLE, REGINALD JOHN, M.D., M.R.C.S.	Brighton	Brighton.
SMITH, FREDERICK JOHN, M.D., F.R.C.S., F.R.C.P.	London, W.	Marylebone.
STRATON, CHARLES ROBERT, F.R.C.S.Ed.	Wilton, Salisbury	Salisbury.
VERRALL, THOMAS JENNER, M.R.C.S.Eng., L.R.C.P.Lond.	Bath	Altrincham.

BRITISH MEDICAL ASSOCIATION.

ANNUAL SUBSCRIPTION.

Those Members who have not already paid their Subscription for the current year are requested to forward to 429, Strand, London, a Cheque or Post Office Order for 25s. in favour of the British Medical Association, crossed London County and Westminster Bank. Members joining as from July 1st should forward 12s. 6d.

GUY ELLISTON,
Financial Secretary and Business Manager.

429, Strand, London.

British Medical Journal.

SATURDAY, JULY 22ND, 1911.

THE WORK OF THE CHLOROFORM COMMITTEE.

THE publication in book form of the final report of the Special Committee on Chloroform[1] appears to deserve a careful review not only of its pronouncements, but also of the circumstances which have led up to its issue. The volume before us is something more than a reprint of the actual report of the Special Chloroform Committee of the British Medical Association which has appeared in the pages of the JOURNAL, since it includes besides that report all the appendices as well as some papers which deal entirely with practical matters. The appendices contain the recent physiological and chemico-physical researches of experts in their various departments of science, and so the reader is enabled to study at first hand the premisses upon which the Committee has based its conclusions.

For better or worse chloroform has been placed in the foremost rank of general anaesthetics; the benefit its use has bestowed on mankind has been lessened, however, by the many fatalities associated with its employment. The number of these has bulked large in countries where full publicity is accorded to such accidents, but no corresponding record has been kept of the successful cases. The British Medical Association, in a former report drawn up by a committee, attempted with some measure of success to obtain the required statistics, and after analysing 25,000 cases showed that while the incidence of death was highest for chloroform and chloroform-containing mixtures, it was comparatively small. The actual mortality has been stated to be on the increase, but whether this is so or not cannot be shown by such data as we at present possess. But even so, the patient who has to face the ordeal, and the doctor who is compelled to accept the risk, are not willing to be content with even a minimal chance of fatality. Until comparatively of late years, little if any systematic teaching of anaesthetics has been attempted, and even now in the stress of an over-filled curriculum the student, as a rule, learns the subject of anaesthetics purely as a handicraftsman. In later life, when the responsibility of giving anaesthetics is brought home to him, he seeks salvation by reading some textbook on the subject. This perhaps confirms his fears of chloroform, and so incidentally renders him nervous, and induces him to seek methods which are vaunted as being less open to exception than, it is averred, is chloroform. Thus, we have methods of accurate dropping—so many drops on so large an area in a unit of time providing so much vapour; mixtures of chloroform with some kind of ether, with alcohol, even with oils; methods which displace chloroform *in toto;* and eventually the inquirer is led to such popular panaceas as subarachnoid injection, local analgesia, or even intravenous injection. *Quot homines tot sententiae.* If he has leisure to travel farther afield, he plunges into countless monographs, physiological and pharmacological, which either narrate experiments explaining the action of chloroform on the circulatory or nervous control apparatus, or indulge in a minimum of research and a maximum of polemic. The pilgrim's progress towards the realm of safe anaesthesia is slow, and his burden grows heavier the farther his steps advance. Admitting his guides are accurate, he inquires of them how he is to apply his hardly-gained knowledge, and frequently asks in vain. The multifarious methods are set before him, but to him is left the choice of the path along which he must go. It is at this point that the report before us appears to supply a key to the problem. It admits that chloroform may be dangerous, and has been proved to be so in the past, but it supplies the remedy.

In the report are set forth the gradual development of our knowledge of the action of chloroform and the successive methods of its use. That it kills when given in high percentage vapours was accurately shown by such early workers as Snow and Bert, and they demonstrated that if given below a given limit of concentration its action could be limited to anaesthesia. This was dosimetry, but even if its value was admitted by the few, it was ignored by the many, and the rival school of unstinted supply of chloroform with free dilution with air gained the suffrage and pointed to the fact that Snow's and Clover's dosimetric methods were not free from danger, and that Bert's cylinders were so cumbersome as to induce him to employ a mixture method after enunciating his theory of dosimetry. However, what strength of vapour the "unstinted" supply of chloroform represented and what constituted "free admission of air" were never explained, and no definite figures were indicated. In every case an experiment had to be made, and often it has cost a human life.

As the report before us shows there were gaps in the knowledge of the pioneers, and these have been filled by workers within the Committee or by others independently of it. The results thus arrived at are contained either in the original papers forming the appendices or are given in an epitomized form in the body of the report. It is pointed out that the failure of Snow and of Clover was due not to the inaccuracy of the principle they expounded—the principle of dosimetry—but to the obvious shortcomings of the apparatus employed by them. Their inhalers permitted the patient to inhale a far higher percentage than the limit their experiments had proved to be safe, nor did their apparatus enable the anaesthetist either to know the strength of chloroform vapour in use or to vary the percentage at pleasure. In its pages the report describes all the best types of inhalers and indicates both merits and disadvantages.

Having advanced evidence that below a 2 per cent. admixture the vapour of chloroform is practically free from danger during the induction but above 2 per cent. involves danger, the report discusses the systems grouped under the head of open methods. These, we are told, are capable of accurate dosage under certain conditions, although the conditions are many and not easy to obtain, while they all involve a danger which is beyond the power of the anaesthetist to control—

[1] London: British Medical Association, 429, Strand. (Cr. 4to, pp. 160. Price 1s., post free 1s. 3d.)

namely, the changes in force and volume of the patient's breathing. In this lies their peril; further, these methods afford the anaesthetist no clue either to the exact strength of vapour that is being given off from the evaporating surface, nor of the strength of vapour which is being inhaled by the patient. The method *may* be roughly accurate, but is rarely even that, while the results, so far as the patient is concerned, are in many cases either death or serious after-effects due to over-dosage. So much for theory; dropping, douching, mixtures are all attempts to arrive at a safe dilution of chloroform, and all appear, from the evidence advanced by the report, to fail in achieving accurate and reliable dosage. The presentation of the facts and the criticisms upon them in the report are at once concise, easy to read, and capable of being assimilated by readers who do not possess great technical knowledge.

Although the conclusions at which the Committee has arrived are practically those of Snow and Bert, it has by its experimental work traversed the whole ground which the subject covers, and has satisfied itself independently of the accuracy of the results obtained by the former workers.

The practical side of the report focuses the results collected in some sections of the report, and supplies to the busy practitioner what is his daily requirement—namely, how to give chloroform with safety. While the report advises dosimetry, it is not content with offering advice; it selects out of many, more or less accurate, inhalers one which has further the added advantages of portability and simplicity. This inhaler—the Vernon Harcourt—has been in use for several years, and has been shown to be possessed of many advantages. The anaesthetist when using it knows the exact strength of vapour he is giving, and retains complete control, so that he can vary the percentage according to the requirements of the case. The criticism levelled against the inhaler upon the score of its not being on a "plenum" system has been met by an adaptation which enables the administrator to adopt the plenum rather than the "draw over" plan, and also to employ the inhaler during mouth and throat operations when a "plenum" system is of course essential. To enable those who have not learnt to use the inhaler a paper explaining fully its technique has been added to the report by the Honorary Secretary.

One feature of the report which deserves special mention is that it contains a large number of illustrations, and these materially aid in elucidating the text; further, the original tracings and drawings of apparatus are included in the appendices, and these supply the evidence for the statements made in the text.

Although technically a report, this volume is, in fact, a treatise which epitomizes all the work that has been carried out to explain the action of chloroform, and supplies in considerable detail practical rules and hints enabling the reader to safeguard his patient and himself when he undertakes the responsibility of administering chloroform.

THE HYGIENE OF THE HOLIDAY.

AT the present time the thoughts of many of us are beginning to turn to the annual holiday. It is curious to us now that the first doctor who made it a fixed custom to take an annual holiday was Sir Henry Holland. At the beginning of his career he determined that his scheme of life should include a period of travel extending over two months every year, and that his professional income should not be allowed to exceed £5,000 a year. This was a very remarkable determination for a young man in the early days of the eighteenth century, when doctors never allowed themselves holidays at all, even for the purpose of getting married. It is recorded, for instance, that Abernethy proposed to a young lady by inviting her to be at such and such a church at a given hour on a given day, when he would go through the ceremony of marriage with her. He was careful to explain that he was too busy to take even this important step in his life in any other way. Few of us have the opportunity of limiting our professional income to the figure fixed by Holland, and even at the present day two months would be considered an excessive period for a busy professional man to devote to holiday making. But the annual holiday gradually became an established institution, and is likely to remain so. The point that many find difficult to settle satisfactorily is how to use to the best advantage the few weeks they can be absent from their work. It is not perhaps an exaggeration to say that comparatively few people know how to take a holiday. The idea with many is to rush about as if they had to see as many sights as possible in a given time. The "record" in this kind of exercise must, we think, be a case within our own knowledge. An American went to Rome, and saying that he wished to see two things, the Vatican and the Forum, had himself driven to each of these places, and after a glance went on his way satisfied that he had done his duty. Such hustling holiday makers go on the principle that what they have to do is to be able to say they have seen so many places. This always reminds us of the story of Sheridan, whose son announced that he wished to go down a coal mine. On the father asking why, Sheridan junior replied that he wished to be able to say that he had been down a mine. The unscrupulous father suggested that it was quite easy to say this without having performed the feat.

Even when the holidaymaker takes his task more seriously, he often does himself more harm than good by rushing about from town to town and hurrying over cathedrals, castles, picture galleries, ruins, and so forth, as if he were riding a race against time. It is a good thing no doubt, like Ulysses, to see the manners and cities of many men, but nothing can be more fatiguing to body or mind than the mere gathering of hasty impressions which leave only a confused blur on the memory. Others run to excess in the way of physical exertion. It is dangerous, for instance, for a middle-aged man out of training to climb mountains or even take long walks without allowing an interval of preparation; for many, especially for those who have a heart that is weak, or to use Gull's expression, is easily tired, the best view of a mountain is from its foot. Excesses of this kind are responsible for the fact which is a matter of common observation, that people often come back from a holiday less fit for work than when they started.

The rooted idea that one must make the most of a holiday leads to failure and even to disaster. It is therefore worth while considering with some care how a holiday should be taken. The first condition of success is that one should have the courage to take one's own line. A holiday should not be governed by fashion or example, but should be planned and carried out in a way that suits the individual. For this not only the intellectual or artistic tastes of the holiday maker, but his physical state and powers are matters of prime consideration. Sportsmen will indulge in shooting, fishing, or whatever form of killing or mutilating animals their taste inclines them to. Sailing has a peculiar fascination for many. Others

delight to raise a dust that suggests Hades rather than the *pulvis Olympicus* in motoring. Many prefer to walk, though the all-pervading automobile is gradually driving pedestrians into deep-sunk lanes and mountain paths.

A point on which we think it necessary to insist is that when any form of violent physical exercise is to be taken a certain preliminary training is necessary. It is not, perhaps, sufficiently realized that swimming, for instance, is a very violent exercise. It is rash, therefore, for the lover of salt water to rush off to the seaside and forthwith swim far out or remain for a long time in the water as he was able to do in the days of his youth when he was in good condition. We are writing, it will be noticed, not for the young, who are a law unto themselves, but for those who have reached the halfway landmark in life or who are declining into the vale of years.

Dr. Toulouse has lately written an interesting essay on what he calls the hygiene of distraction, or, as one may translate it, amusement. Some of his remarks apply to what we have ventured to call the hygiene of the holiday. After describing the symptoms of overwork, with which many of us are too familiar, he resolves them into loss of power of intellectual conduction, which means the power of concentrating the mind on the task that has to be done. This naturally will vary in degree from slight fatigue to complete exhaustion and "brain fag." Dr. Toulouse deals systematically with his subject. Among what he calls "reposeful distractions" he places in the first rank "dreaminess." This, we gather, is a state of mind in which the person, as it were, throws the reins on the neck of his thought and allows it to go as it pleases without seeking to solve a definite problem or even to try to order his fancies into any sequence. Next comes the simple contemplation of Nature—the sight of the sea, of the forest, of the country; this razes from the mind of the city toiler the manifold associations and stimuli of his ordinary life. Change of scene can be got either by walking or driving. He says nothing of motoring, which, we think, might be used with advantage if people fortunate enough to possess motors would drive at a comparatively gentle pace. Motorists too often, we think, seem to make it their ambition to obliterate time and space. To a tired man mere swiftness of movement cannot afford the rest that he requires. It is true that in some persons rapid motion tends to produce sleep, but in most the number and rapidity of the impressions must excite the brain, and there is, although one may not be conscious of it, a state of nervous tension caused by the possibilities of accident to oneself or to other people, or to animals, which is the opposite of restful. It is not every one who, like Mr. Stephen Coleridge, can exceed the speed limit with a light heart that apparently recks not of danger to the limbs of his fellow creatures, or who, like Mr. Bernard Shaw, can drive over dogs and comfort himself with the thought that they had no right to be in the way.

In visiting strange cities a more profitable holiday will often be got by mere wandering about the streets and watching the ways of the people and listening to the language than by seeing the regulation sights, with the added exasperation of a guide mechanically droning out a lesson learnt by rote. Toulouse approves of physical exercises, such as bicycling, swimming, running, as being restful to the intellect, when no feeling of emulation is allowed to enter into the sport. He makes no mention of golf, which, though derided less than thirty years ago as a sort of Scotch croquet, is now recognized as the game of the middle-aged and elderly. Apart from the exercise it gives the largest possible opportunities of ventilation of the lungs, and as it is usually played in interesting and often picturesque surroundings, and men can easily change from one course to another, it offers an ideal pastime for a holiday. It should, however, in order to serve the purpose of a man seeking rest for a wearied brain, be played in a philosophic spirit—that is to say, it should not be taken too seriously, and the players may be earnestly recommended to take no thought of Peter Tait and his application of the higher mathematics to the mechanism of the drive.

To sum up, the true hygiene of the holiday is found in the ancient proverb, *Ne quid nimis*. No exercise whatever should be pushed beyond the limits of strict moderation, or it becomes nothing more than a difference of occupation. The essence of a good holiday is a complete change of surroundings, not only bodily but mental. In other words, man should get as far as possible from his work, and should change not only his sky but his mind and spirit. The example of Goodsir, who spent his holidays examining the contents of foreign anatomical museums, is not to be commended to the average man. For many brainworkers the perfection of a holiday will be found in doing nothing. To people of active intelligence this does not come by nature. It is an art that has to be cultivated. The aim is to look on at the struggle of life with a detached mind, and to spend a few weeks unvexed by professional cares and the inanities of social intercourse. For doctors particularly, whose lot it is to live in the midst of suffering, it is good, for however short a time, to realize the dream of Keats—

> and quite forget
> * * * * *
> The weariness, the fever and the fret,
> Here where men sit and hear each other groan.

THE REPORT OF THE TUBERCULOSIS COMMISSION.

SCIENTIFIC research has of late years received more encouragement from outside sources than at any other period of our history. Never has the practical value of such encouragement been more manifest than in the reports of the Royal Commission on Tuberculosis. Not only have its members succeeded in giving plain and definite answers to the questions put to them, but they have afforded an example of patient and laborious investigation of every problem that they have encountered, which may serve as a model for future workers in similar lines of research. The conclusions at which they have arrived are simple in themselves, and capable of being stated in a few words, but their effect upon the general well-being of the community may be recorded in the returns of the Registrar General for generations to come. The first report, issued many years ago, contained the great warning that tuberculous disease in the cow was capable of transmission, by way of milk, to the human subject. Precautions were immediately taken to counteract the danger by individuals and by the managers of institutions having the care of the young or of invalids, but no public precautions were enforced.

Clinical observers of tuberculous disease in all its forms admitted the probability that infection of the lymphatic glands in the neck, so common in young children, and the occurrence of tuberculous peritonitis without any concomitant infection of the air passages, must be brought about by the ingestion

rather than by the inhalation of the virus, and all agreed that milk, at any rate, was one of the means by which bacilli might be ingested.

The striking assertion of the late Professor Koch that bovine tuberculosis was not transmissible to man naturally made a profound impression upon the lay mind, and many of those who had felt themselves compelled by the pressure of public opinion to take special precautions as to the use of milk and meat were only too glad to relax them. But it was quite otherwise with well-informed medical opinion, to whom even the glamour of Koch's authority failed to carry conviction. The correctness of that opinion has now been fully borne out by the incontestable evidence which the Commission has brought forward.

Among the many debated questions which that evidence sets at rest there are two which stand pre-eminent. The fact is made finally clear that the disease set up by bovine or by human bacilli is one and the same. The fact is also proved beyond question that the tuberculous affection of the cervical glands and of the peritoneum in young children is, in a large number of cases, set up by the bovine type of bacillus.

No point in the whole report has a greater practical bearing than this vital discovery that children are susceptible to direct infection from a bovine source. The first report of the Commission made it clear that milk from a cow suffering from tuberculous disease of the udder might contain bacilli in any quantity, but further research has shown that infectivity of milk may be present where no local disease can be found, and hence it follows that no milk can be regarded as free from infective qualities unless the cow or cows from which it is derived have been proved to be free from tuberculous disease in any part of their organism.

It is worthy of note that throughout the Final Report[1] the recorded experiments go to prove the importance of dosage in the transmission of tuberculosis. The virulence of the subsequent infection is almost always in direct proportion to the size of the dose administered, and this fact will doubtless account for the gradually diminishing susceptibility of the human subject to the effects of the bovine type of disease as age advances. Moreover, the infant as soon as it is weaned is at all times liable to be poisoned with large doses of infected milk, if no precautions are taken, but the adolescent or adult consumes far smaller doses at a time, and hence the risk is progressively lessened as time goes on.

But this risk, although manifestly less, is by no means negligible, since the Commissioners report that the occurrence of the bovine type of bacillus has been demonstrated in some cases even of pulmonary consumption in adults, and they indicate their opinion that such cases may be far more numerous than is at present supposed.

A very important point is incidentally discussed in the course of the report as to the possibility of the conveyance of the human type of bacillus from animals to man. Only in the case of the pig does the danger from this source appear to be appreciable, and then only after artificial introduction of the poison. The medicinal use that is now made of the glands of the pig suggests a possible danger, but it cannot be regarded as a likely means of transmission.

The susceptibility of animals of various kinds to the effects of the human type of bacillus does not appear to be considerable, but it is particularly interesting to note that the anthropoid ape, the nearest animal to man, is equally susceptible to both types of bacillus, while animals which are more remote in the scale are far less susceptible to the human type, even in concentrated doses.

The whole of this final report teems with information on many points which have necessarily been investigated, although not immediately germane to the three main questions submitted to the Commission for answer, but most of them become of secondary importance by the side of the one great demonstration that proves beyond any possibility of doubt that bovine tuberculosis may be the direct cause of fatal disease in children, and that, so far as present knowledge can tell, such a catastrophe is preventable by simple means.

Once again we seem to hear those words which those who were privileged to hear them first spoken will never forget, "If these things are preventable, why are they not prevented?" The voice that uttered them is no longer audible, but it cannot be forgotten that it was he who gave impetus to the great investigation now concluded, and it behoves those who are carrying on his work to see that this preventable scourge shall be for ever prevented.

[1] Final Report of the Royal Commission appointed to inquire into the Relations of Human and Animal Tuberculosis (Cd. 5761). Price 6d. A summary of the report was published in the JOURNAL of July 15th, page 122.

THE INSURANCE BILL.

THE consideration of the National Insurance Bill in Committee of the House of Commons was resumed on Monday, when the topic which aroused most interest was the position of women under the bill. It is quite clear that there is a great deal of dissatisfaction with the terms among women who give attention to political and social questions, and the main grounds upon which the dissatisfaction rests are succinctly stated elsewhere in this issue (page 175) by a medical woman, who has excellent opportunities of knowing the views of her sisters, both within and without the profession.

We reproduce elsewhere (SUPPLEMENT, pp. 182 to 185) memoranda on the bill issued this week by the General Medical Council, the Royal College of Physicians of London, and the Royal College of Surgeons of Edinburgh. The most noticeable fact is that on all essential points, except the £2 income limit, the declared policy of the British Medical Association specifically receives unanimous support. On the question of the income limit the Royal College of Surgeons of Edinburgh is in complete unison with the British Medical Association, while the Royal College of Physicians is content to leave the exact amount of the income limit to be fixed by local Health Committees; the General Medical Council makes no mention of the subject. But, in addition to a general endorsement of the policy of the Association, each of the memoranda brings forward some special points.

Taking first the Royal College of Physicians, it will be noted that the College is emphatic in its opinion that the system of per capita contract practice, if it should become universal, will lower the standard of medical practice, and would prove in this way injurious both to the public and the profession. The British Medical Association has thought it wiser, without expressing any opinion as to the relative merits of the two systems of payment, per capita or per attendance, to leave the preference to be decided by local option. The suggestions of the College as to the dispensing of medicines will certainly be endorsed by a large number of practitioners; for instance, there may be numerous towns, as well as the places "situate in a rural district"—to use the phrase in the bill—where medical men will prefer to

continue to dispense their own medicines. The College also rightly draws attention to the need for special payment for operations, consultations, mileage, diseases caused by personal misconduct, and various other special services, and when the regulations under the bill are being considered it is certainly the intention of the Association to see that they are not overlooked. Sanatorium benefit is dealt with at some length, and the College suggests certain extensions of the provisions of the bill in this connexion which deserve careful consideration. The final recommendation of the College is also important—namely, that the powers and duties of the local Health Committees should be more definitely described to prevent clashing with existing sanitary authorities. This opens out a very difficult subject, which will undoubtedly engage the attention of the House of Commons, and cannot be neglected by the medical profession. It is, of course, highly desirable to prevent unnecessary overlapping; in some respects the local Health Committee may perhaps exert a co-ordinating influence between the sanitary authorities and various other public or charitable bodies dealing with medical matters.

The Royal College of Surgeons of Edinburgh lays special stress on the necessity of not disturbing existing relations between the public and the profession, and considers that the bill should not be further proceeded with until a more satisfactory scheme can be elaborated in consultation with the medical profession.

The General Medical Council, after pointing out that medical attendance is not provided under maternity benefit, goes on to deal at some length with voluntary hospitals. Fear is expressed that though regular contributions to hospitals from employers and workmen will be in large measure diverted, the demand on the hospitals will remain as at present so far as in-patients and specialized treatment are concerned. It is urged that voluntary hospitals should be placed in the same position as sanatoriums and similar institutions to which local Health Committees are authorized by Clause 15 to give subsidies; and, further, that any conditions that may be laid down by the approved societies which under Clause 17 may grant subscriptions or donations to hospitals, should be subject to the approval of the Insurance Commissioners. The suggestion is that local Health Committees should be empowered to make arrangements to the satisfaction of the Insurance Commissioners with hospitals for the treatment of insured persons, no difficulty being anticipated in regard to the visitation and inspection of the hospitals, which might be insisted on if grants were made.

In referring to the provisions that relate to Ireland, the General Medical Council fully agrees with the general demand of the Irish medical profession that the medical service of the insured should be distinguished from the Poor Law service, and that a panel of doctors, presumably with a right to free choice of doctor, should be established. The Irish Nationalist party, following the lead of the Roman Catholic bishops, has expressed, in the report reproduced in the SUPPLEMENT for this week, a very definite opinion that the Irish part of the bill should be dropped. It is evident, therefore, that this part of the bill will be subjected to severe criticism, and, if the Government perseveres, it will be necessary for the medical profession to give close attention to the amendments which may be proposed.

Sir Philip Magnus has put down an amendment which has the support of Dr. Hillier, Mr. Cave, Mr. Leslie Scott, and Sir Henry Craik, which definitely introduces the wage limit of £2 a week. He proposes that in the case of insured persons whose total income from all sources exceeds £104 a year the medical benefits shall take the form of an equivalent cash payment towards the expenses of medical treatment, and would also give to insured persons whose income was less than £104 a year the right to receive an equivalent cash payment towards medical treatment in lieu of medical attendance. Both this amendment and that put down by Dr. Addison (BRITISH MEDICAL JOURNAL, July 15th, p. 130) will be before the Representative Meeting in Birmingham, which will probably reach the discussion of the Insurance scheme on Saturday. The course of the discussion will be awaited with great interest by the profession, but it may be confidently assumed that the result of its deliberations will be to strengthen, and not in any way to weaken, the position taken up at the special meeting on June 1st.

PHYSICAL TRAINING IN SECONDARY SCHOOLS

ALTHOUGH it is a common complaint against our public schools that they devote too much attention to athletics, it is nevertheless true that systematic physical training is very much neglected in those institutions. Organized games are very valuable as discipline, but they are a haphazard way of training the body and often involve undue strain upon the growing organism. On these grounds we welcome the issue of a memorandum which the Board of Education has lately circulated on physical training in secondary schools,[1] in which the special attention of the authorities of secondary schools is drawn to the official syllabus of physical exercises issued by the Board in 1909, and applicable, with or without modification, to the requirements of pupils in secondary schools. The chief medical officer to the Board, Sir George Newman, points out that neither games nor formal gymnastics are enough alone to produce the desired effect. They are, moreover, difficult to regulate, while the Swedish system, which is that recommended by the Board, allows of the more or less exact control of the exercises for the purpose of securing certain definite effects. Probably the best handbook of physical exercises in the English language is that in use in the royal navy. Those who are responsible for physical training in secondary schools could not do better than study the two small volumes of which it is composed and select what suits their special circumstances.

THE INVESTIGATION AND TREATMENT OF MENTAL DISEASES.

WHEN, last year, the directors of Crichton Royal Institution, Dumfries, founded a research laboratory in the institution, they deemed it advisable to appoint a committee to inquire into the working of such establishments at home and abroad. This committee, in April, 1910, visited six London and fifteen Continental establishments, including in this term asylums, clinics, and research laboratories, and their report is embodied as a supplement to the annual report for the year 1910 of the Crichton Institution. Among the Continental institutions visited were St. Anne's and Villejuif Asylums, and the Bicêtre, Paris; Buch Asylum and the Psychiatrical Clinic, Berlin; the psychiatrical clinics at Prague, Vienna, and Münich; Alt Scherbitz, in Saxony; Eglfing, near Münich; Bohnitz Asylum, Prague; the Institute of Experimental Psychology in Liepzig, and of course the great Steinhof Asylum at Vienna. The brief descriptions of these and other institutions given by the committee are interesting, and add value to the

[1] Circular 779. To be obtained through any bookseller, price 2d.

annual report which they supplement. The report should be read by all interested in asylum management. Briefly, the two main conclusions arrived at by the committee are: First, that scientific investigation into insanity is more advanced among certain Continental nations than in Great Britain generally, this superiority being associated with the existence of university clinics; and secondly, that in respect to the treatment of patients, accommodation and general provision, British asylums still retain a decided lead over those of other European countries. In his report Dr. Easterbrook, who accompanied the committee, gives some of his personal impressions of the state of psychiatry and lunacy administration on the Continent. In the first place he refers to the closer touch of psychiatry with general medicine abroad. This is of course widely recognized already, but the reason for this is not so generally known, namely, that the asylums, universities, and clinics are all financed by the State, thus overcoming the main difficulty which faces the managers of great charitable hospitals at home, the accommodation and treatment of a relatively expensive class of patient. The effect of this characteristic feature of Continental lunacy administration is that the universities are the centres of teaching and research in mental affections, to their enormous advantage. The annual circulation through the clinics, and also through most of the asylums, Dr. Easterbrook shows to be strikingly in excess of that at home. Thus Villejuif, with 1,600 beds, admits 300 to 600 patients annually; Eglfing, with 1,260 beds, admits 600; Buch, with 1,700 beds, admits 1,000; Steinhof, with 3,500 beds, admits 3,000; and through the psychiatrical clinics, with it may be only three score of beds, there pass thousands of patients each year. The question which Dr. Easterbrook very naturally asked was, "Where do all these patients go?" From the psychiatrical clinics many of course are passed on to asylums; others, the sufferers from transitory psychoses, return to their homes—and in this relation it must be recalled that in some cases the police have power to place doubtful cases of alcoholism in the clinics, which thus receive large numbers of cases of simple alcoholic intoxication, as well as cases of delirium tremens; also a few are boarded out from asylums under family care. But when all of these factors are taken into consideration there still remains a considerable proportion to be accounted for, and the explanation Dr. Easterbrook advances is that the available accommodation on the Continent is much below the standard in our country, in fact, that "the segregation and official supervision of the insane are more complete in this country and carried out, it may be added, with more attention on the whole to the personal comfort of the patient."

FRUITS AS FOOD.

IT has been suggested that if man is descended from an ape-like ancestor he must have been originally frugivorous, the ground for this conclusion being the alleged habits of the present races of apes, but in a recent article[1] Dr. Marcel Labbé says that Professor Verneuil found that he could not keep a young lemur in health in his apartment in Paris, although he fed it from the finest fruit in the market; he therefore took it to the country and let it climb among the trees, where it soon regained its health and strength, but he noticed that the animal devoured the insects on the trees. He therefore added raw meat to its regimen, and the alleged frugivore was thereafter able to support life in Paris. This anecdote is not altogether convincing, as it only proves that a monkey in the artificial life of a great city requires something more than fruit to maintain its health, but the inference it suggests is that whatever their ancestral habit human beings too need something more than fruit in order to maintain health and strength under the special conditions of civilized life. Dr. Labbé points out that most fruits contain little beyond a solution of sugar and certain organic acids combined with alkalis. The citric, malic, and tartaric acids of fruit are converted in the organism into carbonic acid gas, and the potassium carbonate then formed is a powerful alkalinizing agent. According to Linossier the strawberry is the most active of all fruits in this respect; 2¼ lb. (1 kilogram) of strawberries being equivalent to 135 grains (9 grams) of sodium bicarbonate. Grapes and melons are only a little less valuable, and this property doubtless plays an important part in the various fruit cures. Fruit has a diuretic action which is partly specific and partly due to the action of the potash salts; some fruits possess a laxative action, attributed partly to the cellulose and partly to the acids they contain, but partly also to a specific action; other fruits which contain tannin have a tendency to constipate. Dr. Labbé is sceptical as to the possibility of any one maintaining existence on fruit alone, and regards the stories of certain races in India and Persia, or of sects of professed fruitarians in the United States and Australia, as resting on doubtful observations. With regard to the Californian fruitarians, we believe the often quoted observations of Professor Jaffa as to their genuineness are not open to doubt. A further objection raised by Dr. Labbé is to the cost of such a diet, and he not quite fairly gives as his example 4 kilograms of grapes at 5d. or 6d. a lb., which would involve a daily expenditure of 4 to 5 francs. Dr. C. F. Langworthy,[2] in whose pamphlet full data respecting fruit as food are to be found, says that fruits are reasonably cheap sources of energy, and are well suited on grounds of economy for combination in reasonable quantities with cheap proteid food to furnish a well-balanced ration. No doubt fruit is cheaper in America than in Europe, and is perhaps dearer in France than in England. But Dr. Labbé objects that fruit if uncooked is liable to be the medium for the conveyance of various diseases, and that foreign fruit introduced into France is contaminated by being packed in antiseptic powders or solutions, while sterilizing injections are made into the fruit in order to preserve it. Blood oranges are said to be artificially prepared by the injection of coloured liquid, and a broken hollow needle has been found in one proving the existence of this practice. Nevertheless, Dr. Labbé is no enemy to fruit, and thinks that when washed or freed from its outward covering, as by peeling, it is a useful addition to our diet, although when cooked it is more generally digestible. Fruit cures are carried out chiefly with grapes for the most part in Germany, Austria, or Switzerland. The usual practice is to make the patient go to the vineyards three times a day before meals, and eat the grapes one by one, taking a quantity which may vary from 2 lb. to 6 lb. daily. The effect is said to be diuretic, laxative, alkalinizing, and mineralizing, and the treatment is recommended in certain cases of dyspepsia and enterocolitis, for gout and gravel, migraine and chronic rheumatism, as well as in the various conditions which depend upon gout or digestive disorders, such as eczema, acne, and urticaria. The strawberry cure is said to have had the honour of curing Linnaeus of an attack of gout in 1750, and the learned botanist in gratitude never afterwards failed to undertake the annual strawberry cure with the same success. Fontanelle attributed to strawberries some part in the secret of his long life, and the beautiful Madame Tallien took baths of strawberry juice to preserve the satin-like texture of her skin. Yet there are people who find that strawberries produce joint pains or urticaria, suggesting that their alkalinizing and eupeptic properties are not to be relied on for everybody. The increasing use of fruit as food is to be welcomed. Fruit is one of the best stimulants of the salivary glands, and is thereby a valuable means of counteracting oral acidity and preventing dental caries. It is desirable to encourage the use of fruit as food, although we may doubt the possibility of living upon it in this climate as the sole article of diet.

[1] *Paris médical*, No. 28, p. 37, 1911.

[2] *Farmer's Bulletin*, 293, Washington, 1907.

THE POSSIBILITY OF A LEPROSY VACCINE.

IN the Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India (*New Series*, No. 42, Calcutta, 1911, 9d.) Major E. R. Rost, I.M.S., and Captain T. S. B. Williams, M.B., I.M.S., describe their work on the leprosy bacillus. In 1909 Major Rost, with the assistance of Mr. Bansi Lal, isolated from 3 cases of nodular leprosy an acid-fast bacillus which he was able to subculture, through successive generations, in pure growths possessing "certain peculiar characteristics, resembling morphologically the bacillus of leprosy." His culture medium consisted of "250 c.cm. of distilled volatile alkaloid of rotten fish, 250 c.cm. of weak Lemco broth without salt or peptone, and 50 c.cm. of milk." Three days after tubes of this medium had been inoculated with leprous material, a slight stringy growth was visible at the bottom and revealed under the microscope acid-fast bacteria massed together in parallel arrangement. The author then found that in subcultures on nutrient agar and broth (without salt or peptone) a feebly acid-fast bacillus developed. Its acid-fastness was increased by growing in milk, and it was found that the degree of acid-fastness could be varied according to the fatty nature of the medium. Agar plate cultures were made, and these, three days after inoculation, "showed discrete colonies about the size of a pin's head, opaque, orange-red, raised in the centre, humped and moist to the naked eye." The organism is exceedingly pleomorphic. After forty-eight hours' growth its appearance is as in the nodules of a leper. But when the cultures are older, or when they are grown under unfavourable conditions of medium and temperature, "degenerate forms are found which double or treble their usual length with a moniliform arrangement, and lose their acid-fastness. These break down after a few days into clumps of small acid-fast coccoid forms." With the exception of minor differences, the characteristics of the cultures isolated from the three cases were the same. The cultures were tested experimentally upon guinea-pigs, white rats, and rabbits by subcutaneous, cutaneous, and intraperitoneal inoculation and by feeding; but all the results were negative. A monkey, after repeated injections with culture, developed clinical signs of the disease and showed nodules in which were found typical leprosy bacilli, but attempts to obtain a pure culture from the lesions proved unsuccessful. Major Rost has also utilized his cultures for the preparation of vaccines and has tried their effect upon volunteer cases in the leper asylum at Kemendine. He reports that "of the ten cases in which this treatment has been adopted, two have now recovered; two are so much improved that apparently the remnants of the disease are very slight; and the remaining six have all improved in a remarkable manner." Captain Williams reports that as a result of his work since the beginning of 1909 he has grown from five cases of leprosy, in circumstances which he considers preclude contamination, two apparently different organisms. Two of the cases occurred in Persia and three in Bombay. His later work has inclined him to the belief that the two organisms are really the same, but altered by environment. "In ordinary broth," he says, "I have grown a streptothrix, somewhat similar to that described by Professor Deycke, while in other special media I have grown a 'bacillus' very similar to that grown by Major Rost in Rangoon." The "bacillus" he regards as the bacillary form of the streptothrix. Captain Williams used as culture medium ordinary nutrient broth, which was inoculated from non-ulcerated lepromata. The tubes were kept at room temperature. During the period of incubation the broth remained absolutely clear, but after eight weeks "small puff-ball growths appeared at the bottom of each tube, and gradually multiplied, growing upwards, and adhering to the side of the tube." Microscopically, on staining by the Ziehl-Neelsen method, he found that the growths consisted of a non-acid-fast streptothrix, with masses of acid-fast bacilli lying amongst the meshes of the streptothrix. In subcultures, from the third onwards, no acid-fast bacilli occurred. But under certain cultural conditions he was able to regain acid-fast forms, and, on the whole, the cultural reactions obtained on various differential media resembled fairly closely those obtained by Major Rost. Captain Williams is also trying vaccine treatment and seems to think that his results are encouraging.

THE WELSH NATIONAL LIBRARY.

THOUGH the foundation stones of the building for the National Library of Wales were only laid by the King and Queen last week, the library itself is already in use, for it has been opened regularly for purposes of study and research since October, 1909. The library receives from the Treasury a sum of £4,000 a year, and this and last year a further sum of £500 a year for the special purpose of binding and cataloguing manuscripts. The building fund amounted last September to over £20,000, and Lord Rendel has made valuable gifts of land for the site of the permanent building. The idea of establishing a Welsh National Library seems to have originated some forty years ago, when a copy of Dr. Morgan's Bible was presented to the University College of Wales by the Rev. W. Morris Lewis, at the suggestion of the Rev. Daniel Evans, but the chief donor of books has been the president, Sir John Williams, Bart., M.D., who on the occasion of the ceremony on July 15th was advanced from K.C.V.O. to G.C.V.O. The library is managed by a court of governors, representative of the Privy Council, of the University and University Colleges of Wales, the Councils of the Welsh counties and boroughs; by members of Parliament for Wales, and by certain co-opted members. Its executive committee is a council appointed out of the governors. The work of arranging and cataloguing the collections of printed books is being proceeded with, and catalogues of certain departments, containing over 300 pages of printed matter, are already prepared. The monotype keyboard, which has been introduced for cataloguing, has the advantage that it gives a printed entry, and additional copies can rapidly be reproduced on a printing press, and can be furnished on standard catalogue cards to other libraries and private collectors at a nominal price. The librarian is able to arrange for transcription of manuscripts, records and books by competent persons, at the cost of the inquirer. Gifts of books, pamphlets, manuscripts, prints, drawings and photographs are invited, and communications may be addressed to the Librarian, National Library of Wales, Aberystwyth.

WAS HARVEY EVER IN BIRMINGHAM?

IN view of the Annual Meeting of the British Medical Association shortly to be held in Birmingham, Dr. D. Fraser Harris, of the university of that city, has called our attention to a communication published by him in the *Lancet* of October 9th, 1909, in which he contends that it is highly probable that William Harvey may have visited Birmingham. Charles I paid a visit to Sir Thomas Holte at Aston Hall, near Birmingham, in October, 1642, when the Royal army was on the march from Shrewsbury to relieve Banbury Castle. The King slept there on the nights of October 16th and 17th and fought the battle of Edge Hill on Sunday, October 23rd. Harvey speaks of having been "in attendance on His Majesty the King during our late troubles and more than civil wars." He was present at the battle of Edge Hill on October 23rd. The two young Princes, afterwards Charles II and James II, aged 12 and 10 years respectively, were left under his charge on that day, and Aubrey says that as they sat in a ditch on the edge of the hill a "bullet from a great gun" made them "move their station." Dr. Fraser Harris holds that as Harvey was in such close and constant attendance on his Royal master from the middle of August to the

end of October, 1642, it is very likely that he was with the King during the two days and nights which Charles spent at Aston Hall. Aston Hall, then quite a new house, for it had been completed only a few years before, had ample accommodation for the principal members of the King's retinue. The Corporation of Birmingham has preserved Aston Hall from "vulgar disfigurement and decay," but, says Dr. Fraser Harris, it did not probably know that while doing this it was preserving as nearly as possible in its original condition a building which at least for forty-eight hours sheltered one of the world's greatest discoverers. "The very staircases exist which Harvey must have climbed; the same ceilings are there which Harvey must have admired. All such tangible and visible links of the past are interesting." With this sentiment we heartily agree. We would point out, however, that Dr. Fraser Harris's interesting conjecture seems to be unsupported by any definite evidence. Even if the King slept at Aston Hall, it does not necessarily follow that he visited Birmingham.

SIR PATRICK MANSON.

IN recognition of Sir Patrick Manson's initiative in directing attention to the importance of the study of tropical medicine and of his work in that field of science, an international committee has been formed for the purpose of presenting him with a gold medal bearing his effigy. The medal is to be designed by Dr. Paul Richer, of Paris, who is eminent both as an artist and as a physician.

RESEARCH DEFENCE SOCIETY.

IT is a gratifying proof of the success of the Research Defence Society and of the enlarging scope of its work, that in the course of last week no fewer than three new branches were formed. One came into existence at Hampstead on July 12th, another at Cheltenham on the 13th, and a third at Gloucester on the 14th.

THE ANNUAL MEETING IN BIRMINGHAM.

THE exhibition of surgical instruments, drugs, and foods will be opened in the Bingley Hall, on Tuesday, July 25th, by the President-elect, Professor Saundby, who will be accompanied by the President (Sir Henry Butlin) and the Lord Mayor of Birmingham.

WITH regard to the entertainments and excursions in connexion with the Annual Meeting at Birmingham, we are requested to state that no tickets are being allotted in advance, and that members should inquire for what they want at the Reception Room on registering their names.

As already stated, there will be religious services on the afternoon of Tuesday, July 25th, at which it is hoped as many members as possible will attend in academic dress. A service will be held at 3.30 at the Birmingham Pro-Cathedral (St. Philip's Church), which is in the centre of the city, only a few minutes' walk from the Reception Room. The sermon will be preached by the Lord Bishop of Birmingham, Dr. Gore. Simultaneously a service will be held at the Church of the Oratory of St. Philip Neri, Edgbaston, where the sermon will be preached by the Right Reverend Monsignor Henry Parkinson, D.D., Rector of Oscott College. At both services collections will be made for the benefit of the two medical charities—the Royal Medical Benevolent College and the British Medical Benevolent Fund.

ON Tuesday evening the delivery of the President's address in the Great Hall of the University at Bournbrook, will be preceded by the presentation of the foreign guests and of the delegates from over-seas Branches to the President by Mr. Albert Lucas, Senior Honorary Local Secretary. It is requested that any delegates who have not sent in their names will communicate at once with Mr. Albert Lucas, F.R.C.S., Medical Institute, Edmund Street Birmingham.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Medical Inspection of School Children.—On the Education Vote, Mr. Runciman dwelt at length in his opening statement on medical inspection, and said, "The health of the children is of the supremest importance. At a time when the House is discussing a National Insurance Bill I think they may well take into account that already under the organization of the local educational authorities no less than 6,000,000 children are subject to medical inspection. In the whole of the authoritative areas there are 322 medical officers who are carrying out this work. They inspect the children on entering and on leaving, and a very large number of the children in special cases which are selected by the teachers are inspected too. In about 100 odd cases they are also inspected in a third age group. Some authorities have been very slow to undertake the work, but I say nothing on that subject now because I believe they are all going as rapidly as they can towards covering the whole of the area. Last year no less than 2,000,000 children were examined by the school doctors. There are nearly a thousand school medical officers, of whom 73 are women. There are 300 school nurses, excluding altogether those who come from the local nursing associations. If the Committee is not already aware of the fact, I think they will be interested to know what have been the findings of the inspection. Of the 2,000,000 children no less than 10 per cent. were found to have defective vision. No wonder some of them were thought to be stupid merely because they could not see. Some 3 to 5 per cent. had defective hearing. Eight per cent. had adenoids or enlarged tonsils. One per cent. had ringworm, and 1 per cent., in some cases rising to over 4 per cent., were suffering from tuberculosis in a readily recognizable form. One per cent. were suffering from heart disease. From 20 to 40 per cent. had extensive decay of their teeth. It is a disclosure which must give pain to every humane-minded man that in England you have at the present time no less than 60,000 children who are suffering from tuberculosis or heart disease in a readily recognizable form. These are facts which when brought home to local authorities make them at once agree, even at the expense of their most economical ratepayers, to embark upon medical treatment. Inspection is of some good, but it does not go the whole way. If inspection is to yield practical results it must lead up to treatment in one form or another, either private or organized by the local education authority. But if it is to be undertaken by the local education authority we are bound under statute not to give our sanction until we are satisfied on four facts. First, we must be satisfied that before treatment is undertaken the inspection is satisfactorily organized; secondly, the treatment based on prevention schemes of treatment shall be co-ordinated with the work of preventive medicine already conducted in the area and not organized apart from it; thirdly, that the authority which is responsible for the inspection shall also be responsible for the treatment; and fourthly, before the authority undertakes this work all other means should be exhausted, and it must see that the parent cannot have the child treated by a private practitioner. But there is some work which the private practitioner cannot do, and which is much better done by organization. Even such common things as ringworm and adenoids yield best to the *x*-ray treatment, and very few private practitioners have the necessary apparatus. Therefore we think it as well to have our school medical service organized on a basis which is not out of harmony with the public health service already in existence. We prefer the school medical officer to be the medical officer of health, and he is in a very large number of cases—in something like 250 out of 320. Another thing of great value is that, if he is not the same man, he should be in close touch with him, for mark how necessary it is that the information collected by the school medical officer and by medical inspection should be passed on to the medical officer of health as quickly as possible. For this reason the sanitary control of the schools is in the hands of the sanitary officer—notification,

disinfection, and sanitation as a whole is in the hands of the sanitary authority. The right of entering into the house to the ailing child is an advantage possessed by the medical officer of health. All this means that the medical officer of health is an essential officer in the economy of the school medical service, and that is why we ask the local authority to work in complete harmony with the existing public health authority. I will take the example of tuberculosis. The first thing necessary is to find out what is the cause, to find out what is the source of the trouble. The medical officer of health has a record of the child's birth, and he ought to know something about the home environment and the tracing of the source of infection. The school medical officer detects the disease, and then the child is dealt with by the local education authority, which body is responsible for the improvement of hygiene in the schools, for open-air schools, and other means for dealing with each case. Finally, it is the sanitary authority which disinfects the home and closes up the case. The same holds good in regard to verminous cases, and it is equally true with regard to infectious diseases. The medical officer of health undertakes the various medical duties. He links up the home with many of the public services, and that is the reason why we are taking the view that you must work on a conjunct arrangement if your medical inspection and treatment are to be at all effective." Later on in the debate Dr. Chapple called attention to the amount of ill health among children in the elementary schools, and particularly to the necessity for taking steps to guard against tuberculosis. What was needed was the establishment of a system of physical development in the State schools which would equip the children with powers to resist the disease. He recommended swimming baths wherever practicable, for swimming would do more to prevent tuberculosis in children than any other agency that could be adopted. Shower baths and spray baths were recommended for schools, but such an expenditure would be an entire waste of money. Baths were disliked by children, and one of the most important things in an exercise was that it should be attractive. If they had swimming baths, however, the children would go to them spontaneously. Moreover, the number of cases of drowning in this country was amazing, and more than half of them could be prevented if all children were taught to swim, so that the reform which he urged would be justified by the saving of life alone.

Mr. Wedgwood asked whether it was the practice of medical inspectors of school children to make recommendations on the medical card of each child as to treatment or care, and whether the inspectors of different authorities differed in practice on this point. Mr. Runciman said that in most cases the defect was referred to the parent in a special note. There were so many varieties of practice that it was impossible to deal with them in an oral answer. Much information would be found on this point in the latest report of the chief medical officer of the Board.

Mr. Wedgwood then asked if the London schools were worse than those in the provinces, and Mr. Runciman said that quite recently he had had to criticize the methods adopted by the London County Council, and he saw there were considerable improvement now in progress by that Council and the medical officers.

Mr. Wedgwood then asked how many schools on the average were allotted to one London County Council medical inspector for inspection; how many visits and how many hours a year on the average a medical inspector in the London area gave to each school; and how many children of each school he inspected individually at each visit. Mr. Runciman replied that so far as he could ascertain he thought the answer to the first part of the question was 9.2; but he could not pretend to an accurate knowledge from month to month of the precise ways in which the various medical inspectors of local education authorities were employed. The actual number of visits per school and the number of hours spent in each school naturally varied with the number of children in average attendance. No general conclusions could properly be drawn from the averages suggested in the question, which were misleading, unless account was taken of the varying sizes of the schools. The number of children inspected at each visit appeared to be, in the case of the older children, about twenty to twenty-five, and more in the case of infants. A visit extended over two and a half hours.

Certifying Factory Surgeons.—Mr. Wedgwood asked with regard to the certifying factory surgeons for the districts of Burslem, Hanley, Stoke-on-Trent, and Tunstall, what was the number of lead-workers examined monthly by each certifying surgeon; what remuneration in respect of such work did each certifying surgeon receive annually; and did the payment include the treatment of lead-workers suffering from lead poisoning or advice as to treatment. Mr. Churchill replied that the average monthly numbers of lead-workers examined were approximately as follows: Burslem, 1,450; Hanley, 1,400; Stoke, 2,100; Tunstall, 650. The surgeons' fees for these examinations were, under the Act, required to be paid by the employer, and he could not therefore give the total amount of the remuneration received for the work. The payment included only the examination of the workers for the purposes of the special rules, and did not therefore cover treatment or any advice as to treatment, though he understood the surgeons often advised workers to obtain treatment either of their own doctor or at the North Staffordshire Infirmary. The Chief Inspector and the Medical Inspector of Factories had a very high opinion of the manner in which the work of examination was done by the surgeons in question. Asked further whether in one case 2,100 people were examined in twenty days, and if that was not incompatible with private practice and pointed to whole-time officers, Mr. Churchill said with regard to the number of monthly examinations made by each certifying surgeon, it must be borne in mind that the persons examined were old employees and that their previous condition was known to the doctor. He was informed that the certifying surgeon who made the 2,000 examinations referred to gave the whole of his time to the work.

Vaccination (Exemptions).—Colonel Rawson asked the President of the Local Government Board to state the number of births registered for the years 1903 to 1906, the number recorded as successfully vaccinated, and the number of certificates of exemption received in respect of such births; also the number of births registered for the years 1907 to 1910, the number recorded as successfully vaccinated, and the number of certificates of exemption received in respect of such births. Mr. Burns replied that the information desired had not yet been received in respect of the year 1910, but the following statement gave the figures in respect of each of the years from 1903 to 1909 inclusive:

Year.	Births.	Vaccinations.	Exemptions.
1903 ...	948,271	714,637	37,675
1904 ...	945,389	711,504	40,461
1905 ...	929,293	705,040	44,369
1906 ...	935,081	686,992	53,828
1907 ...	918,042	651,050	76,709
1908 ...	940,383	594,792	160,350
1909 ...	914,472	*547,251	*197,326

* These figures are approximate and liable to correction.

In reply to Captain Faber, the President of the Local Government Board said the vaccination officers were required, in the case of each child who had attained the age of 3 months and 7 days without having received a certificate of some kind with respect to its vaccinal condition, to send a notice known as Form Q, to the parent, the object of which was to ascertain what the parent intended to do as to the vaccination of the child, and to save the vaccination officer the trouble of visiting the home for this purpose. Exemptions had increased; and in such cases the vaccination officer did not, of course, receive paymen in respect of the registration by him in his register of the successful vaccination of the child. Where a vaccination officer had suffered loss of income in consequence of the increase of exemptions, he had approved proposals of boards of guardians to award him compensation.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

BIRMINGHAM.

Hospital Saturday Fund.

The total amount subscribed this year is £20,845, being £594 in excess of that received last year, and £212 above the previous highest total. Other contributions are still to be received, so that it is hoped that they will carry the total amount beyond £21,000. At a meeting of the board of delegates of the Birmingham Hospital Saturday Fund held on July 11th, Sir Hallewell Rogers, in moving the adoption of the report from the chair, said that the committee, when it asked the subscribers some months ago to bring this year's amount to £21,000, in view of the increasing work and responsibilities of the fund, had no doubt that the contributors throughout the city would rise to the occasion and accomplish the end in view. It was, however, not the less gratifying that the amount realized was a record. The result showed the great popularity of the Hospital Saturday movement, and the widespread appreciation of the work which was being done, especially the work in connexion with the convalescent homes. In this way the fund was accomplishing a greater amount of work than ever in the past, and in a similar way it was sending a larger number of patients suffering from rheumatism for special treatment at Droitwich Brine Baths, and consumptive patients to St. Leonards-on-Sea. The question of the Sir William Cook Memorial Home had not been lost sight of, and he hoped that in the course of a fortnight a special meeting of delegates would be held to consider the revised estimates. Unfortunately the estimates had to be revised because sufficient subscriptions had not been received to enable the committee to go forward at present. He hoped that arrangements would be made for the stone-laying to take place in the autumn.

Sanitary Administration of the Enlarged City.

For the efficient sanitary administration of the enlarged city the Health Committee proposes to divide it into four districts, each having a population of about 210,000, and to appoint for each district an assistant medical officer of health, who, under the direction of the present M.O.H., will be responsible for the general sanitary work therein. In the added areas there are at present five medical officers of health, three of whom (King's Norton, Handsworth, and Aston) devote their whole time to their duties, and two (Yardley and Erdington) who devote a portion of their time to this work. To one of the proposed districts will be appointed the present assistant medical officer of health, Dr. Higgins, whose salary is £300; to another the present M.O.H. for King's Norton (Dr. Green) for one year only, by special arrangement, at a salary of £400. To the two remaining districts it is proposed to appoint assistant medical officers at salaries commencing at £250 per annum each. It has also been proposed to appoint a general assistant to the medical officer of health, and it has been decided to take over the services of Dr. William Sisam, medical officer of health of the Handsworth Council, at a salary of £400 per annum. The main portion of the work will be done in the medical officer of health's department at the Council House, and all notices will be issued from or sent to this central office. In addition it is proposed to retain, for the present at least, some office accommodation in each district, and to arrange for an official to be in attendance.

With regard to the sanitary inspectors, it is proposed to appoint one chief assistant for general work under the present chief inspector. This post will be taken by the present inspector of nuisances for the Erdington Council at his present salary of £200 a year. It is intended to allot to each of the four districts two district inspectors and five assistant inspectors. This will give a staff of thirty men for general sanitary work, or one inspector for a population of about 28,000 persons, which is about the proportion in the present city. It is proposed to employ three inspectors to devote their whole time to the work of the Food and Drugs and other special Acts. An additional assistant in the City Analyst's laboratory will be required, in consequence of the increase in the analytical work, and it is proposed to offer a salary commencing at £100 per annum for this appointment. The work in the added areas is at present done by the county analysts. For the inspection of workshops, etc., it is intended to provide six inspectors—four men and two women—which is double the present number, and to divide the city into four districts for the men's work, and into two for the women's.

An additional veterinary officer will be required, as by the extension of the city's boundaries 175 additional cowsheds will be included. The proposed salary for this official is £150 per annum. At present the inspection of cows and cowsheds is carried out by a veterinary superintendent and one assistant.

With regard to the health visitors, it is proposed to increase the staff of one superintendent and fifteen visitors to one superintendent, one assistant superintendent, and twenty visitors.

Additional Fever Hospital.

The extension of the city will bring under the management of the Health Committee five additional fever hospitals—two at Aston, two at King's Norton, and one at Yardley. Cases from Handsworth are at present treated at West Bromwich under an agreement terminable by six months' notice. Notice has been given, and in future the fever cases from Handsworth will be received at the Lodge Road Hospital. One of the hospitals at Aston is a small-pox hospital, and it is proposed to maintain it for this purpose. The Yardley Hospital is of small size, and not of modern construction, and it is proposed to close it for the present, as the patients from Yardley can be dealt with at Little Bromwich Hospital. There are two hospitals at King's Norton, one used for scarlet fever and diphtheria cases, and the other for small-pox patients. It is proposed to continue the latter for the same purpose if required. The former hospital is capable of extension if necessary. The committee hopes to submit recommendations as soon as possible with regard to the question of sanatoriums for consumptive patients. The work at the Yardley Road Sanatorium, which was only opened in 1910, has increased beyond the anticipations of the committee. Rooms have been taken in the centre of the city, where tuberculin treatment can be continued to patients who have left the sanatorium, and by this means the value of the treatment at the sanatorium has been greatly increased at a very small cost.

LONDON.

Medical Inspection and Treatment of School Children.

The Board of Education last year called on the London County Council to "remedy the many grave defects in the present system of medical inspection and treatment in the metropolis,"[1] and subsequently[2] declared that any modifications of existing arrangements must be so devised as not to hamper the inception of a comprehensive scheme. Later[3] the Board consented to the extension of all existing agreements to December 31st next on condition that by October, 1911, substantial progress had been made in remedying the defects of the present scheme of medical treatment. In two weeks' time the Council enters upon the summer recess, which lasts until October 17th, and on July 19th the Education Committee had before it a report by the Children's Care Subcommittee intended to meet the requirements of the Board of Education.

The report stated that the matters the Council had undertaken to consider were:

1. The need for the co-ordination of medical inspection and treatment and for co-operation between the Council's officers and the staff of the institutions included in the scheme.
2. The prevention of leakage between the stages of inspection and treatment and the following up of cases after attendance at an institution to ensure that every child was dealt with effectively.
3. The need for providing treatment nearer the homes of the children than was secured under the present arrangements.

With regard to the first point, the subcommittee announced that in the Council on July 25th the General Purposes Committee would recommend that the whole of the school medical work, including the organization and ad-

[1] British Medical Journal, vol. ii, 1910, p. 1272.
[2] Ibid., vol. ii, 1910, p. 1939.
[3] Ibid., June 3rd, p. 1340.

ministration of medical inspection and treatment of school children, and the work relating to the cleansing of children (with the staff employed on such work) should be placed under the direction of the county medical officer of health. With that recommendation the Care Committee agreed—abandoning its original view that this work should be placed under the control of the Education officer, with the medical officer (Education) as a subordinate official.[4] The Care Committee, however, suggested that this change should not come into operation until January 1st, 1912, or the date upon which the new medical officer of health took up his appointment, whichever was the later.

As to the second requirement of the Board of Education, the Care Committee mentioned the Council's decision[5] to utilize certain of its officials to attend hospitals and see that medical instructions were carried out at home.

The amount of accommodation which should be provided by the Council and the institutions to be used (proceeded the Care Committee) were matters which could be settled independently of the other questions. In view of the assurances given to the Board that substantial progress would be made towards a complete scheme by October, 1911, the points just mentioned should be dealt with immediately. Under the more systematic scheme of medical inspection that had now been adopted, each school was visited at least once a term, and children were examined in three age groups. More children than formerly would be found, therefore, to require treatment. Making allowance for parental prejudice against treatment of some ailments, the committee calculated that the Council should arrange for the treatment of 21,350 eye cases; 27,110 ear, nose, and throat cases; and 1,274 ringworm cases; and for this purpose should enter into agreements with the authorities of ten hospitals twelve medical treatment centres established by committees of local medical practitioners, and one other centre—the Deptford children's centre. The committee gave the following list of the institutions proposed to be brought into the scheme, but intimated that in some cases negotiations had not been completed:

North of the Thames.	*South of the Thames.*
Fulham Medical Treatment Centre.	Woolwich Medical Treatment Centre.
Hammersmith Medical Treatment Centre.	Miller General Hospital, Greenwich Road, S.E.
St. Pancras Medical Treatment Centre.	Deptford Children's Health Centre.
Islington Medical Treatment Centre.	Lewisham Medical Treatment Centre.
Hackney Medical Treatment Centre.	Camberwell Medical Treatment Centre.
Poplar Medical Treatment Centre.	Bermondsey Medical Treatment Centre.
St. Mary's Hospital, Paddington.	Royal Eye Hospital, St. George's Circus, S.E.
Charing Cross Hospital.	Belgrave Hospital for Children, Clapham Road.
Metropolitan Ear, Nose, and Throat Hospital, W.C.	Battersea Medical Treatment Centre.
Hospital for Sick Children, Great Ormond Street.	
Royal London Ophthalmic Hospital.	
The London Hospital.	

The Committee claimed that the institutions were so distributed that practically every child (except in ringworm cases) would be able to obtain treatment within two miles of its home. Modifications had also been made to secure that the children should pass through the hospital routine apart from other patients, and that the amount paid by the Council specifically for the services of the doctors should be paid to them.

In the course of an interesting discussion it was stated that those members of the Education Committee who favour the establishment of school clinics had accepted the Subcommittee's proposals as the most satisfactory substitute. An amendment was moved that one clinic under the control of the Council be included in the list of treatment centres, in order that there might be a check on the cost of treatment. On the ground that the National Insurance Bill would greatly modify the whole system of medical treatment of school children, and that the Council would be ill-advised, therefore, to set up any official machinery for the conduct of a clinic, the amendment was defeated.

The recommendations of the Subcommittee were then agreed to.

[4] British Medical Journal, March 11th, 1911, p. 588.
[5] Ibid., March 25th, 1911, p. 716.

STAFFORDSHIRE.

The Monetary Value of Hospital Work.

The work of erecting a new out-patient department for the North Staffordshire Infirmary was formally initiated at Hartshill on July 7th, four foundation stones being successively laid by Mr. W. D. Spanton, F.R.C.S., the Marquis of Stafford, Mr. Enoch Edwards, M.P., and Colonel A. H. Heath. The infirmary was founded at Etruria Vale in 1802, was removed to Etruria in 1815, and later on to Hartshill, where the existing buildings were opened in 1869. The King has consented to the new part being named after His late Majesty King Edward VII on condition that all expenditure thereon shall have been acquitted by the date that it is opened. It is estimated that in all some £35,000 will be required, and of this £31,000 has already been secured.

Colonel Heath, the president of the infirmary, said that by inviting Mr. Spanton to lay the first stone that day they were publicly acknowledging the debt of gratitude that North Staffordshire owed to the medical and surgical profession for the services rendered by the staff of the infirmary. Of that staff Mr. Spanton had been a member for forty-four years, and he had also been chairman of the committee whose report had originated the new project. It had worked very hard, visiting a great many other institutions and sparing no pains in getting the best information on which to base its report.

Before laying the first foundation stone, Mr. Spanton said that he had much pleasure in accepting the honour of representing the medical profession in that district, because he was fully assured that without its cordial co-operation such an institution would be of little value. It was bound to go forward or backward, and it was largely to the professional staff that the supporters of the institution must look for progress. In 1869, when the present infirmary buildings were opened, there were 1,213 in-patients and 5,450 out-patients, and the staff consisted of three physicians, three surgeons, a dental surgeon, and one house-surgeon. It now numbered seventeen members, who, assisted by four resident house-surgeons, dealt annually with about 2,300 in-patients and nearly 17,000 out-patients. Every detail of the future building had been most carefully studied, and he believed that when it was finished it wou d possess all the good features of similar places without their defects. The patients would be most comfortable, and the staff would do its work in most advantageous conditions. The better the results the higher would be the reputation of the infirmary and the more liberal the support accorded it. He hoped the day was far distant when the State would control either their own or any other voluntary hospital, for such a change would kill the essential personal factor. They required not only the best brains they could get, but men who found pleasure in their work. It would, perhaps, be a surprise to many of those present to hear what was roughly the money value of a year's surgical work in their infirmary, even if in valuing the operations a scale were taken below that allowed by the Poor Law authorities in respect of paupers. On the figures in the last annual report it worked out at no less than £8,500. The abolition of voluntary hospitals would mean that somebody—presumably the State—would have to pay that sum. If the same computation were made in respect of all hospitals, the gross amount would be a sum which would astonish even Mr. Lloyd George.

Before the proceedings concluded, the Mayor, in proposing a vote of thanks to those who had laid the foundation stones, outlined the history of Mr. Spanton's connexion with the institution, and asked his hearers to try to realize the amount of time, energy, and skill which he had devoted to it. Everyone deeply regretted that he was about to leave the neighbourhood.

Another speaker was Dr. King Alcock, who thanked the governors for honouring the medical profession by selecting Mr. Spanton, their senior colleague and the doyen of the profession in the neighbourhood so far as the active list was concerned, to lay one of the foundation stones. Politically, the institution was one where all the essential parliamentary distinctions were reconciled; while all the efforts of the staff were conservative, the cures they effected were always radical. He hoped the day would never come when the vigorous influence of voluntary committees would be

supplanted by the soulless superintendence of a corporation, and when freely-given charitable contributions would be held to be superfluous in consequence of the imposition of a penny rate.

MANCHESTER AND DISTRICT.

SALFORD ROYAL HOSPITAL: OPENING OF EXTENSION BUILDINGS.

THE extension of the Salford Royal Hospital was formally opened last week by Lord Shuttleworth, Lord Lieutenant of Lancashire. The extension was first decided on in 1906 on the earnest recommendation of the medical staff, and consists of new wards, with an additional story over the administrative buildings to provide sleeping accommodation for the domestic servants, nurses' homes, and two new operating theatres; there is now accommodation for over 200 in-patients. When the extension was undertaken, it was resolved to make an appeal for £70,000, which was the estimated cost of the land, buildings, equipment, and incidental expenses, and up to the present about £58,000 has been actually raised, of which about £7,880 is from the King Edward Memorial Fund. The architect of the new building was Mr. J. Ely, F.R.I.B.A.

The opening ceremony was presided over by the President of the hospital (Sir William Mather), while Lord Shuttleworth, who had a most cordial reception, in declaring the extension duly opened, spoke of the great changes that had taken place since the year 1830, when the hospital was established—changes which he attributed to the advance of scientific discoveries, the organization of trained nurses, and the advance made in modern surgery by skilled nursing and the use of anaesthetic and antiseptic precautions. The Mayor of Salford said that no fewer than 29,000 cases had been treated at the hospital during the last year. Mr. L. Pilkington, Chairman of the Board of Management, said that though it had been decided to increase the accommodation to 209 beds, for the present, until the finances were in a safer condition, it was only intended to use 174 beds. The National Insurance Bill hung like a heavy thunder cloud over almost every hospital of the land, and many hospitals would lose half their income unless the bill were amended. Mr. E. Graham Wood, Chairman of the Extension Committee, who has worked indefatigably in raising the funds for the extension, said the funds of the hospital were now in a better state than they had ever been before. Sir G. W. Agnew, M.P. for West Salford, referring to the probable effect of the Insurance Bill on the hospital, said it was not unlikely that employers and employees, in view of the money they had to contribute under the bill, might find some excuse for shuffling out of their duties to the hospitals. He could not see why the Insurance Bill should only give its benefits to persons who were treated medically at their own homes, and he thought that the hospitals should have some share of the payments proportionate to what patients cost them while in hospital. That need not involve either State or municipal control; he would be very sorry to see the voluntary hospitals become either State or municipal institutions.

After Lord Shuttleworth and Sir William Mather had responded to votes of thanks, the visitors inspected the new buildings.

LIVERPOOL.

THE VETERINARY MEDICAL SOCIETY.

THE annual dinner of the Veterinary Medical Society was held at the Liverpool University Club in June. The President of the society, Mr. Share-Jones, F.R.C.V.S., M.Sc., was in the chair, and the guests included Mr. E. John, M.P., Professor R. J. M. Buchanan, Dr. Mussen, and Professor Annett. The latter acknowledged the toast to the medical profession, and Dr Mussen proposed that to the society. The response to the toast to the guests came from Mr. John, who in the course of his remarks said that some years ago he had come across the statement that in Great Britain the sheep-breeding industry alone represented no less than £40,000,000, while more recently the entire live stock of the country had been put down at a value of £180,000,000. These enormous figures justified the veterinary profession being accorded a higher status than it commonly occupied in the public mind. But apart from financial considerations, it was impossible to exaggerate the importance of the purity of the meat and milk supplies of the country, and in securing this the veterinary profession must play a leading part. The close inter-relation between animal and human disease was also to be remembered, and he gathered that in dealing with those in animals the veterinary profession during the past ten or fifteen years had been conspicuously successful. Indeed, Lord Carrington had recently said that the Board of Agriculture had succeeded in stamping out almost all the serious diseases of animals. He also observed that the number of cases of anthrax, glanders, and scab had fallen to 1,062, as against 2,514 three years previously. On the other hand, they were not so fortunate in dealing with swine fever, against which a campaign had been carried on for some eighteen years without any great success. Its prevalence this year was almost double what it had been in 1910. Still there was a set-off against this fact in respect of tuberculosis in cattle, for it had recently been authoritatively stated that calves were practically free from tubercle. In this connexion, the authorities in the United States were about to take a very important step. Besides spending £137,000 on the inspection and quarantining of animals, they were devoting £52,000 to the eradication of one disease of cattle alone, £16,400 to investigations in connexion with animal diseases, £10,400 to co-operative experiments in breeding and feeding, and £9,900 to animal husbandry. How much the British Board of Agriculture spent on research work it was difficult to ascertain, but he had seen the figure stated at the small sum of from £600 to £900. It was almost as difficult to extract accurate and reliable information from the board as it was to extract money.

During the course of the evening a telegram expressing his inability to attend was received from Mr. David Davies, M.P., whom the President described as the greatest living lay apostle of preventive medicine, and as the initiator of the campaign now going on in Wales against tuberculosis.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

QUEEN VICTORIA JUBILEE NURSES.

THE Queen has received from the Dowager Lady O'Hagan the offer of the freehold of her house, 34, Rutland Square, to be devoted to any purpose Her Majesty may select as a remembrance of their Majesties' recent visit to Ireland. The Queen has accepted the offer and desires that the house shall become the permanent head quarters of the St. Laurence's Catholic Home for training district nurses (in affiliation with the Queen Victoria Jubilee Institute) who have occupied it rent free for the last eighteen years by the liberality of the Dowager Lady O'Hagan.

The Queen has also been pleased to approve of the proposal that the balance of £500 remaining over from the expenses for the address of welcome to Her Majesty from the women of Ireland should be devoted to the work of the Jubilee Nurses, and expresses the wish that the sum should be given to St. Patrick's Home for training district nurses in affiliation with the Queen Victoria Jubilee Institute.

PRESENTATION TO DR. CROWE.

A presentation was made last week by the patients of the Royal National Hospital for Consumption and by several of his friends in the neighbourhood to Dr. Crowe, senior medical officer of the institution, on the occasion of his resignation. Dr. Crowe has been appointed medical officer to the Collier Memorial Dispensary and will commence his duties there almost immediately.

PRESENTATION TO DR. E. M. COURTENAY.

In connexion with the annual meeting of the Medico-Psychological Society, Dr. Edward Maziere Courtenay, who has retired from the position of Government Inspector of Lunatic Asylums, was presented on July 13th with an address and a silver casket on behalf of the Irish Lunacy Service. The presentation took place in the hall of the

Royal College of Physicians, and was made on behalf of the Lunacy Service by Dr. W. R. Dawson, President of the Medico-Psychological Society, and successor to Dr. Courtenay as lunacy inspector. Dr. Courtenay has filled the post of inspector for over twenty-one years, and now retires under the age limit rule.

DR. M. F. COX, P.C.

On July 13th the Right Hon. M. F. Cox, P.C., M.D., was entertained to dinner at the Shelbourne Hotel by a large number of his medical and lay friends in honour of his appointment as member of His Majesty's Privy Council in Ireland. After the toast of "The King" had been honoured, a telegram was read from the Lord Lieutenant to the effect that he and Lady Aberdeen desired to join in the good wishes which were being tendered to Dr. and Mrs. Cox. Numerous speeches suitable to the occasion were made and an enjoyable musical programme was carried out.

PAYMENT OF DISPENSARY DOCTORS' SUBSTITUTES.

At the last meeting of the Athlone Board of Guardians the following resolution was adopted, and indicates the customary attitude of many boards of guardians towards their medical officers:

> That doctors going on holidays in future pay their own substitutes, and that the cost of holidays be no charge on the rates.

We are glad to add that the resolution is *ultra vires*.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

THE CARNEGIE TRUST AND UNIVERSITY FEES.

THE executive committee of the Carnegie University Trust has addressed a letter to applicants for participation in that part of their fund which is appropriated to the payment of fees in the Scottish universities, intimating important changes in the conditions of the grant. The changes proposed are set forth as follows:

> As the demands for payment for class fees have this year considerably exceeded the available income under Clause B, the executive committee of the trust have had under consideration what modifications of the scheme may be necessary. In the meantime they desire to make the following announcement for the academic year 1911-12: In the case of present beneficiaries they hope to be able to continue the payment of class fees as formerly, but in the case of new beneficiaries they do not see their way to exceed the following annual allowances for the various faculties: Arts, £9; Science, £12; Medicine, £15.

The best friends of the universities of Scotland heard with much misgiving of the proposal to pay fees somewhat indiscriminately, and there can be no doubt that advantage has been taken of this where it was not necessary, and there has not been the honourable repayment of fees that there ought to have been. The Carnegie Trust has been driven to come to the decision now announced, and the change will be to the best interests of the universities of Scotland and to the youth of the Scottish nation.

EDINBURGH DISPENSARY FOR CONSUMPTION.

A Coronation appeal for £12,000 to erect a new building for the Victoria Dispensary for Consumption has been issued. What is aimed at is the establishment of a more complete system of home treatment and prevention, and research. The dispensary has directed the world's attention to the home as the breeding ground of consumption. It has demonstrated that there are in every great city veritable nests of consumption. The Victoria Dispensary was founded in the year of Queen Victoria's Jubilee (1887), and was the first consumption dispensary in the world. Its methods and practice have been copied in many countries, and in many towns in the United Kingdom. It has been taken as the model in the great movement in London for the establishment of a consumption dispensary in every borough in the metropolis. Over £3,000 has already been received in response to this appeal.

The new Edinburgh School Board, by a majority, has negatived the proposal to establish a school for tuberculous children within the grounds of the Royal Victoria Hospital for Consumption.

Special Correspondence.

BUDAPEST.

The Occurrence of Infectious Diseases Amongst Negroes.

SOME interesting observations concerning the occurrence of infectious diseases amongst negroes have been made recently by a Hungarian physician, Dr. H. Silverman, who has practised for several years among the tribes inhabiting the West Coast of Africa. According to him the uncivilized black man is practically immune as regards many infectious diseases which are both common and fatal amongst whites; on the other hand, he is peculiarly susceptible to malaria and dysentery. As a set-off to this, however, tuberculosis and rickets are hardly ever met with amongst negroes; syphilis is rare and of a mild form, whilst tabes and progressive paralysis are unknown, and only a few cases of malignant tumours and leprosy have come under observation. Wounds, even when contused, heal rapidly, and if an infection occurs it is usually mild and circumscribed. (This latter fact has also been noticed by Dr. A. Plehn, a German physician practising in West Africa). In spite of indiscriminate sexual intercourse, gonorrhoea is seldom followed by its unpleasant consequences, and sterility amongst the women is infrequent. Such diseases as anthrax, glanders, hydrophobia, diphtheria, and scarlet fever are unknown; whilst measles, though common, is not of a dangerous type. Small-pox, which occurs so frequently in the tropics, is often more like a skin disease than a constitutional infection; and in Dr. Silverman's experience vaccination does not seem to afford the protection it does in Europe. The negro does not seem to be susceptible to yellow fever, and plague, exanthematic typhus, cholera, and recurrent and Mediterranean fever are of only occasional occurrence. Typhoid, however, is more common, and presents the usual symptoms, save that there is often no diarrhoea and the cerebral symptoms are especially marked. A large percentage of these cases are not real examples of enteric fever, but colon infections. The most important disease met with amongst negroes is undoubtedly dysentery of amoebic origin, though this, too, is of a mild type and is easily controlled by means of calomel and bismuth. Pneumonia presents the following peculiarities: It frequently begins centrally, often affects one or both of the upper lobes, and the local signs may change place. The onset is not acute, but slow, and is accompanied by bronchitis. Serous exudation into the pleura does not occur—a fact which seems to prove the tuberculous nature of the disease. Both mumps and mild and acute articular rheumatism are frequently met with amongst natives, the latter causing considerable suffering, but never attacking in particular the sympathetic and vagus nerves. In spite of abundant material it has been impossible to determine the nature of the poison, and the means by which it is transmitted into the human body. Drugs are of no avail in combating the disease, and morphine, which has to be given freely on account of the intense pain, seems to hasten the end. An interesting point to be remarked in these cases is the condition of the liver after death; it is frequently found to present signs of interstitial changes, besides marked degeneration. Opportunities for the study of malaria are particularly abundant in West Africa, where it forms a veritable scourge for the natives. It is an error to suppose that the first attack renders the patient immune from others, though it is true that the plasmodia found in the blood are often perfectly harmless and their presence does not necessarily cause an attack of fever. As a rule quite young children become infected though they do not fall ill. In such cases, however, the parasites do a certain amount of mischief, for they are frequently the cause of anaemia accompanied by the gradual development of a splenic tumour. In the case of a diagnosis of an obscure disease the examination of the blood is of relatively little value, since there is always a difficulty in discovering if the plasmodia are active or latent, but a relative immunity may frequently be observed which causes subsequent attacks to be considerably milder, and this may possibly account for the low mortality. All three forms of parasites,

together with transitional types in every possible combination, are to be found in the blood of actively infected negroes. In such cases quinine acts very promptly. In conclusion, Dr. Silverman states that the remarkable resistance of the negro cannot be explained solely by the absence of alcoholism, tuberculosis, and syphilis. It is rather a racial peculiarity which is gradually lost with civilization.

Correspondence.

THE STATE SICKNESS INSURANCE BILL AND THE FORTHCOMING REPRESENTATIVE MEETING.

SIR,—After a careful perusal of the Special Report of Council to the Annual Representative Meeting on the National Insurance Bill, I trust I may be allowed to bring under the notice of your readers certain points in that report which appear to me to merit attention. With regard to the subjects discussed in Minutes 76 and 77 of the Special Representative Meeting, let me express the hope that these will not be given an undue prominence at the annual meeting. They are by no means the peculiar concern of the medical profession, and it is highly improbable that critics of the bill in Parliament will allow them to escape discussion. They are consequently of secondary importance in comparison with the issues vital to the profession, and hardly less so to the public which are enumerated in the Memorial of the British Medical Association. Their time for consideration can only rightly come when those primary essentials have been once more examined and finally asserted.

Returning now to the Special Report, I cannot but regret that the deputation to the Chancellor of the Exchequer has not been able to obtain from him more satisfactory assurances with regard to the question of representation. What proportion of Insurance Commissioners or of the Advisory Committee will consist of medical practitioners we are not told. It must be adequate. On the local Health Committees, if constituted as proposed by the Chancellor's amendment, it will be inadequate in any committee of more than twelve members. Moreover, one of these is to be appointed by the Insurance Commissioners, not by the profession of the district. Every other section represented on the local Health Committee is allowed to appoint its own representatives, and within it the above-mentioned action by the Insurance Commissioners is alternative and abnormal. Now let us consider the position of the medical profession in this case. It is not the official servant of the Legislature. It is a free contracting party. As such it is entitled to the fullest representation that it can fairly claim as necessary to the proper supervision of its own side of the contract, and it is entitled to elect all its representatives. The condition originally laid down by the British Medical Association that at least one-fourth of any local Health Committee must consist of locally elected medical practitioners was strictly in order, and should be maintained. The Chancellor in his amendment proposes to assume an arbitrary position.

Again, with regard to the formation of a committee of local practitioners for consultative purposes, have we any guarantee that the Health Committee or the Insurance Commissioners will, after consultation with this body, be reasonably disposed to fall in with its views? There should surely be some provision in the bill to this effect. It is intended by the medical profession that such a committee should, under all normal conditions, be effective as well as advisory.

I notice the recurrence both in Dr. Addison's amendment to Clause 14 (page 3 of the Special Report), and also in Note 8 (page 4 of the same report), references to "approved societies." The inclusion of this term is due, no doubt, to the as yet undeveloped condition of the bill. The sooner it is amputated as an offending member the better. The profession has made it abundantly clear that it will never agree to any form of administration or control on the part of these societies. In this resolution, which is the growth of years, it will not be shaken.

In selecting these points, Sir, I by no means forget others of equal importance, but they are already sufficiently safeguarded. On the whole subject of medical benefit under this bill we must all feel most strongly that the British Medical Association, which is justly regarded as the most efficient fighting-force of the profession in this controversy, cannot afford to give away any advantage to which it is entitled. Moreover, it must not be forgotten that it it is bound by its promise to the profession as a whole to maintain, both before and after the passage of the bill, all those engagements to which it stands committed by its own memorial. Happily, we all recognize the necessity of a firm unity among ourselves, and, trusting the capacity of our leaders and our own determination to support them, we feel certain of our ultimate success.—I am, etc.,

Highbury, N., July 17th. B. G. MORISON.

SIR,—It appears to me that my friend Sir Victor Horsley has allowed political sympathies to interfere with the practical and prosaic affair of defeating a bill which is before the House of Commons.

There appears to be no doubt that, so far as professional affairs are concerned, he is quite aware that scientific as well as material interests are at stake.

The principles upon which the bill is founded he is apparently unwilling to attack. If the principles are unsound—and they are unsound according to the judgement of the majority of the profession—Sir Victor is unfortunately in the position of a man who is trying to support a building with insecure foundations.

The object of his letter is obviously to encourage State interference with the affairs of the medical profession, and the sooner we all of us recognize this fact the better. The relation of different classes to one another and to the whole community should surely not be dealt with in detail, but as a whole. If the members of the profession had failed in performing their communal duty, no doubt the Legislature would be justified in dealing with its affairs. No failure in duty to the community can be urged; therefore there is no necessity for State intervention.

It is quite true that every class in a well-ordered State must make sacrifices in the general interest. It has never been demonstrated that we have not made great sacrifices, and much greater than those made by any other class. As these are the facts, the profession is justified in an absolute refusal to give its services upon conditions which are fatal to its powers of general utility to the community. A service which is compulsory ceases to be a service and becomes slavery. The problem whether it is just to deal with one class of the professional service before dealing with the problem of professional service in general remains.—I am, etc.,

Hatfield, July 16th. LOVELL DRAGE.

MALINGERING AND LEGISLATION.

SIR,—I wish to support the statement of my friend, Dr. Keay, in last week's correspondence, "that the most fruitful cause of malingering in this country is the Compensation Act." First, because as it is non-contributory, there is no incentive to the workman to avoid accidents nor to recover from their effects. Secondly, because by the provisions of the Act the workman has to prolong in minor cases the duration of his disablement to obtain his benefits. The result is that the insurance premiums have to be raised, a producing factor of the nation diminished, and malingering fostered.

The Old Age Pensions Act has also been a lesson. At first the cost was to be no greater to us than to Germany; on reconsideration and after further calculations, or rather miscalculations, the cost was limited to three times that of Germany, but now it is six times that of Germany and is still growing.

Now the taxpayer is asked to finance a measure involving 14 million persons, and ultimately the greater part of our population, and which does not even satisfy the Socialists. Can it be wondered that our faith is weak, although every credit is given to the conception and good intentions of the Chancellor of the Exchequer. We are not supposed to know much about the bill; it is not entirely our fault, as nobody does; but we do know how ill-considered the medical side is, how the work was to be doubled and the income of the profession halved, and the most irksome conditions of service selected; how that

the goodwill of club practice was an asset and that of private practice negligible, and not a word about compensation.

The danger of Dr. Addison's amendment[1] is that the improvident poor will be the first to avail themselves of the permission not to provide adequate medical attention, and the very class that needs compulsion will still be improvident and the conditions of the Workmen's Compensation Act repeated—that is, that no means need be taken by the beneficiary to facilitate recovery. Of course, the object of the amendment is to get over the wage-limit difficulty, but in my opinion the only remedy is a sliding scale of fees on the poundage system (percentage of earnings); that I understand would mean a new bill, which most of us would cordially prefer. Therefore more prominence should be given to Dr. Helme's important motion carried at the Special Representative Meeting, and which I believe is supported by the majority of our profession:

> That the present proposals of the Government are unsatisfactory, and the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

—I am, etc.,

Teignmouth, July 17th. WILLIAM GOSSE.

ON CAESAREAN SECTION.

SIR,—Dr. Purslow, in his article on Caesarean section (July 8th, page 67), states that to diminish haemorrhage when opening the uterus a flat Hodge's pessary has been suggested.

I believe Professor Cameron, of Glasgow, introduced the flat pessary, but his reason for doing so was to enable him to expose the membranes without risk of cutting into them. While the pessary is in use there is practically no bleeding from the incision; the great advantage of this is obvious. Should the placenta be in the line of incision, it is treated as uterine wall. When the membranes are exposed the pessary is discarded.—I am, etc.,

Glasgow, July 10th. JAS. H. MARTIN, M.D.

THE BLOOD COUNT IN AMOEBIC DYSENTERY.

SIR,—In an otherwise appreciative notice of a recently published monograph on *Amoebic Dysentery*[2] your reviewer commits himself to a very definite expression of opinion, that the absolute and relative alterations in the corpuscular content of the blood described by me as characteristic of the disease are incorrect. My deductions are based on a series of observations which were made to test the accuracy of previous statements on the subject of leucocytic variations in the tropics, and my figures embody the results of a detailed examination in each one of a series of 52 cases of all varieties of amoebic dysentery carried out in the East Indies, and of 12 instances of the chronic form of the disorder which have been studied at home. It is unnecessary to say that concurrent malaria and other sources of error were, as far as is practicable in these cases, carefully excluded.

Although it is possible that more extended research may slightly modify my conclusions, I believe that the figures cited are substantially correct, and I may also say that they have already received a considerable amount of authoritative corroboration. It has, for instance, recently been shown that in blood counts made at Ancon Hospital, Panama, in cases of amoebic dysentery, the polymorphonuclear cells are invariably increased when toxic symptoms are marked, and that in ordinary cases, in which concomitant malarial infection is excluded, the large mononuclears and transitionals are also increased in number.

Although most of my work was done at a time when possibly there was a higher estimate of the clinical value of blood counts in parasitic infections than at present, the question is one of definite scientific importance, and as these results practically reproduce the statements in my book, I am entitled to ask on what evidence and from what experience does your reviewer so summarily, and in a tone so foreign to considered and responsible criticism, repudiate my figures?—I am, etc.,

London, W., July 14th. W. CARNEGIE BROWN.

*** Our reviewer's criticism was directed to the statement which Dr. Carnegie Brown was understood to have made to the effect that 'in amoebic dysentery in ordinary instances all the varieties of white corpuscles are augmented indifferently, eosinophiles included.

[1] BRITISH MEDICAL JOURNAL, July 15th, 1911, p. 130.
[2] Ibid., June 3rd, 1911, p. 1318.

TUBERCULIN DISPENSARIES.

SIR,—Sir Clifford Allbutt, Sir Lauder Brunton, Sir William Osler, and Dr. Arthur Latham have placed their signatures to the following statement:

> The success of the so-called tuberculin dispensaries rests largely on the fact that Class I and Class II are chiefly treated at them. A further part of their success is due to the many instances in which the diagnosis of the presence of active disease is faulty, with the result that many persons are treated with tuberculin and labelled as cures in whom the disease has previously been arrested.

These are two separate statements deliberately made by representatives of the medical profession about a system of treatment which they have presumed to judge without one scrap of evidence. Not one of these physicians has deigned to visit the dispensary. Not one of them has examined even one case that has been treated at the dispensary. Not one of them can adduce a single instance, though they speak of many instances "in which the diagnosis of the presence of active disease is faulty." And yet they know that "many persons are treated with tuberculin and labelled as cures in whom the disease has previously been arrested."

The tuberculin dispensary is open to all medical men, and I challenge these self-appointed judges of a system of which they can know very little either to come themselves to the dispensary and examine every case at present under treatment, or to appoint an expert of their own to do so. I have no fear of the result.—I am, etc.,

W. CAMAC WILKINSON, M.D.Lond., F.R.C.P.

London, N.W., July 18th.

Universities and Colleges.

UNIVERSITY OF LONDON.

THE LONDON HOSPITAL MEDICAL COLLEGE.

Distribution of Prizes.

A LARGE company assembled in the library on July 13th for the distribution of prizes by His Excellency the Hon. Whitelaw Reid, American Ambassador. Mr. Douro Hoare, chairman of the college board, presided.

Mr. W. Wright, the Dean, made a brief report, in which he stated that £800 had been granted from the Treasury fund, and he anticipated that this would be largely increased in the future. He related the principal successes gained by the students in the hospital and college during the preceding year. Sixty-one students had obtained the Diploma of the Conjoint Board for England, whilst a large number had been successful in the several examinations at Oxford, Cambridge, and London. Seventeen gentlemen had obtained the Fellowship of the Royal College of Surgeons, whilst conspicuous successes had been gained in the preliminary examinations. A hostel had been opened for the residence of a small number of students, who would thus be in touch with the hospital day and night. Mr. Wright stated that in October a dental school would be opened in connexion with the hospital.

Mr. Whitelaw Reid commented upon the splendid work which had been done by the hospital and its medical school in times past. It was the first complete school in connexion with a great hospital. The present tendency in many countries to punish the men who committed the crime of being rich might have some warrant, but it would have been an unlucky day for the suffering poor and unlucky for the medical profession if these men had been taxed out of existence before sound medical education and research and the best hospital accommodation had been fairly established. He pleaded for the establishment of an endowment fund which would be sufficient to make the medical school self-supporting for all time.

After Mr. Whitelaw Reid had distributed the prizes, a vote of thanks to him was proposed by Mr. Sydney Holland, seconded by Sir Bertrand Dawson, and carried amid hearty acclamation.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.—*All Subjects:* *H. Evers.
FIRST M.B.—*Chemistry and Physics only:* J. A. Charles, Ethne Haigh, G. Irving, H. R. Markham, J. E. Measham, W. McD. Pettigrew, B. Sergeant, A. Smirthwaite, R. L. Wright. *Elementary Anatomy and Biology only:* G. G. Baty, J. F. C. Braine, C. C. H. Cuff, L. B. Frere, L. W. Hearn, C. N. Joseph, F. L. Newstead, D. O. Richards. *Elementary Anatomy only:* H. K. G. Hodgson.
SECOND M.B.—†Jane Penman, C. Armstrong, W. J. Bowden, G. B. Egerton, H. H. Elliot, C. N. Gover, P. Gunn, F. W. Harlow, C. Jacobs, D. R. Jones, R. R. Lishman, F. Metcalfe, E. C. G. Parker, H. L. P. Peregrine, H. A. P. Robertson, E. K. Ryan, P. Savage, K. I. S. Smith, C. R. Smith, J. C. Spence.

* First-class honours. † Second-class honours.

UNIVERSITY OF LIVERPOOL.

THE following appointments and awards have been made in the Faculty of Medicine:

Appointments.

Chairman, Professor Benjamin Moore; *Dean*, Mr. K. W. Monsarrat; *Lecturer in Public Health Bacteriology*, Dr. R. Stenhouse Williams; *Senior Demonstrator of Anatomy*, Dr. W. P. Gowland; *Assistant Demonstrator of Anatomy*, Dr. T. P. McMurray; *Lecturer in Dental Mechanics*, Mr. Lewis Osborn.

Awards.

The J. W. Garrett International Fellowship, Dr. O. T. Williams; *The Robert Gee Fellowship*, Dr. J. Campbell; *The Johnston Colonial Fellowship*, Dr. A. Adams; *The Holt Fellowship in Physiology*, Dr. T. W. Wadsworth; *The Holt Fellowship in Pathology*, Dr. R. Stopford Taylor; *The Torr Medal*, A. N. Misbah; *The Gee Prize*, Miss P. M. Powell, R. Kennon, and A. Seddon, *aeq.*; *The Derby Exhibition*, H. Nield; *The Clinical School Exhibition*, J. R. D. Webb; *The University Scholarship*, H. S. Pemberton; *The Holt Medals in Physiology*, H. S. Pemberton and R. E. Roberts.

Examinatio

The following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B. (Part I, *Chemistry and Physics*).—Ruth I. Bateman, R. L. Blenkhorn, N. B. Capon, E. H. Eastwood, W. T. Evans, H. Garas, G. S. Graham, W. Griffiths, J. P. Johnson, C. H. G. Kelly, A. G. McColl, L. Oldershaw, H. C. Roberts, C. G. Skinner, H. P. Williams. (Part II, *Biology*): Ruth I. Bateman, R. L. Blenkhorn, N. B. Capon, E. H. Eastwood, W. T. Evans, H. Garas, G. S. Graham, W. Griffiths, W. G. R. Hinchcliffe, J. P. Johnson, C. H. G. Kelly, A. G. McColl, E. J. McCormick, H. R. Mansergh, R. J. Minnitt, L. Oldershaw, F. G. Pailthorpe, H. C. Roberts, C. G. Skinner.

SECOND M.B., CH.B. (Part A, *Anatomy and Physiology*).—G. D. Harding, R. Martlew. (Part B, *Materia Medica*): Maud E. Bateman, E. B. Marsh, H. S. Pemberton, J. St. G. Wilson.

M.B., CH.B. (*Final*).—Part I: R. G. Barlow, A. D. Bigland, F. G. F. Browne, H. V. Forster, H. W. Jones, N. P. Laing, R. Lee, M. T. Morgan, F. C. Plummer, Frances M. B. Price, H. Seddon, S. N. Wright. Part II: R. G. Barlow, A. D. Bigland, F. G. F. Browne, H. V. Forster, R. W. Gemmell, A. V. Glendenning, H. W. Jones, R. Lee, M. T. Morgan, F. C. Plummer, Frances M. B. Price, H. Seddon, T. O. Williams, S. N. Wright.

FINAL M.B., CH.B. (*all subjects*).—*J. Homer, *R. Kennon, *R. H. Knowles, *T. H. Martin, *H. Nield, *A. L. Oluwole, *Phoebe M. Powell, *A. Seddon, G. S. A. Bishop, W. H. Parry, J. P. Rafter.

M.D.—A. R. Jackson, G. W. N. Joseph, A. G. W. Owen.

* Honours.

UNIVERSITY OF LEEDS.

AT a congregation on June 30th the Chancellor (the Duke of Devonshire) conferred degrees on a large number of students of the various faculties. In opening the congregation, the Chancellor in a few well-chosen words made a feeling reference to the loss which the university had sustained by the death of Sir Nathan Bodington, its Vice-Chancellor.

The following medical degrees were conferred:

M.D.—H. Vallow.

M.B., CH.B.—C. S. Brown, J. B. Fisher (First Class Honours), A. Riley, T. L. Walker.

Examinations.

The following candidates have been approved at the examinations indicated:

SECOND M.B., CH.B.—Part I, *Anatomy and Physiology*: C. M. Gozney, E. Hesterlow, W. D. A. King, J. Wright. Part II, *Materia Medica*: W. D. Anderton, R. H. Chadwick, D. A. Clarke, S. N. Cohen, J. J. D. la Touche, H. Foxton, A. S. Hebblethwaite, E. Hesterlow, F. King, W. D. A. King, H. S. Lockwood, K. Menon, H. W. Robinson, C. H. Seville, H. Shochet, J. Wilkinson, C. Wilson.

FINAL.—Part I, *Pathology, Forensic Medicine, and Therapeutics*: H. Angel, J. H. Blackburn, T. Elliot, J. Ferguson, G. W. L. Kirk, G. P. Mellis, J. C. Metcalfe, N. V. Mitton, M. Peto, S. Samuel, H. W. Symons.

D.P.H.—C. N. Smith.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following appointments have been made in the Faculty of Medicine: To be Lecturer in Orthopaedic Surgery, Mr. Charles Roberts, and to be Assistant Lecturers in Surgery, Mr. P. R. Wrigley and Mr. Garnett Wright. Mr. Roberts graduated at the University of London in 1896, taking honours in medicine, and became F.R.C.S.Eng. in 1899. Mr. Wrigley, a student of Owens College, obtained the Bradley Memorial Scholarship in clinical medicine at the Manchester Royal Infirmary in 1900, and became F.R.C.S.Eng. in 1905. Mr. Wright graduated with honours at Edinburgh in 1900 after receiving medals and other awards in practical anatomy, pathology, and surgery, during his student career, and became F.R.C.S.Eng. in 1905.

The following candidates have been approved for the degree of M.D.:

†R. H. Titcombe, *H. E. Allanson, *J. R. Hutchinson, *P. Moran, *H. Tomlin, *H. Whitehead, *B. M. Wilson, *J. S. Young, W. E. Bamber, G. H. Brown, H. H. Bywater, J. F. Corson, G. H. Leigh, H. G. Ward, J. Wood, M. S. Wood, A. E. Woodall.

† Awarded gold medal. * Commendation.

UNIVERSITY OF ABERDEEN.

THE following were among the degrees conferred at a meeting of the Senate on July 12th:

M.D.—W. M. Fergusson, *R. P. Garrow, *N. S. Gilchrist, J. P. Mitchell, *P. Nicol, *J. Rae, A. J. Williamson, W. Wood.

CH.M.—F. P. Sturm.

M.B., CH.B.—A. M. Brown, G. P. Burr, C. C. Chance, W. J. Cruickshank, C. S. Glass, W. E. Glover, H. W. Greig, A. Mackintosh, J. R. Murray, P. Reid, J. Ross.

M.B., C.M.—A. C. H. Dickman.

On the same occasion Diplomas in Public Health were handed to Messrs. D. S. Garden, P. S. Hunter, †D. Rorie, G. I. T. Stewart, J. A. Tolmie, †J. Watt, and both the Lyon Prize and the John Murray Medal and Scholarship to J. Davidson, M.B., Ch.B.

* Commendation for thesis. † Passed with credit.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council was held on July 13th, Sir Henry Trentham Butlin, President, in the chair.

Election of President and Vice-Presidents.

Sir Henry Butlin was re-elected President for the ensuing year. Mr. C. W. Mansell Moullin and Mr. Clinton T. Dent were elected Vice-Presidents.

Election of Council.

The President reported that at a meeting of Fellows held on the 6th instant for the election of two Fellows into the Council of the College in the vacancies occasioned by the retirement in rotation of Mr. C. T. Dent and Mr. G. H. Makins, both these gentlemen were re-elected.

Removal of Names of Two Members.

The names of two members were removed; the names had previously been struck off by the General Medical Council.

Board of Examiners in Dental Surgery.

Mr. J. E. Lane and Mr. L. A. Dunn were elected on this board in the vacancies occasioned by the retirement of Sir Frederic Eve and Mr. Dent.

Election of Professors and Lecturers.

The following elections were made for the ensuing collegiate year:

Hunterian Professors.—Sir Henry T. Butlin (two lectures), Arthur Keith (six lectures), Herbert Cumming French (two lectures), Richard Horace Paramore (one lecture), William Girling Ball (one lecture), John William Henry Eyre (one lecture).

Arris and Gale Lecturers.—Harry Tyrrell Gray, Leonard Gregory Parsons (one lecture each), Edward Fawcett (one lecture on The Development of the Human Chondro-cranium).

Erasmus Wilson Lecturer.—Samuel George Shattock.

Arnott Demonstrator.—Arthur Keith.

Next Meeting.

The next meeting of the Council will be held on Thursday, July 27th.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

FIRST COLLEGE.—A. P. Adams, S. Barron, J. J. Bourke, C. H. Brennan, M. Burke, J. Coman, E. T. Chanler, J. J. Delany, W. E. R. Dimond, J. C. Fergusson, J. W. E. Graham, E. N. H. Gray, P. J. Greene, J. J. Hayes, F. R. H. Mollan, M. Moran, M. F. Murphy, J. O'Keeffe, F. J. Power, V. A. Power, L. M. Rowlette, T. J. Ryan, M. A. Sullivan, T. C. Studley, J. A. Watson.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

MATERIA MEDICA AND PHARMACY.—H. G. Steel.

ANATOMY.—J. C. P. Bayley, W. J. Wood.

PHYSIOLOGY.—J. C. P. Bayley, G. B. Holroyd.

Public Health

AND

POOR LAW MEDICAL SERVICES.

HOUSING, TOWN PLANNING, ETC., ACT, 1909.

Salary of Medical Officer of Health.

A CORRESPONDENT desires to know the names of those sanitary authorities who have given an increase of salary to their medical officers of health in consequence of the work entailed by the Housing, Town Planning, Etc., Act, 1909. Any information which correspondents are good enough to forward will be collated.

Obituary.

THE LATE MR. FURNEAUX JORDAN.

PROFESSOR JORDAN LLOYD (Birmingham) writes: The death of my old friend and master breaks the last link which held us here in Birmingham to a surgical past it is a delight to have known. Furneaux Jordan was co-Professor of Surgery in the old Queen's College in my student days, and had been for many years previously a Teacher in the Medical School. He was a great surgeon, and blest with a more robust body would have been greater still, and would have stood side by side with the greatest of them all. Full of the best traditions of his calling, he was gifted by nature with a fine quality of brain, and by fingers of extreme delicacy; he would have been as great an artist as he was a surgeon. He was a born clinician, and appeared to do by instinct what others often failed to do after years of laborious effort. To see him examine a surgical patient was an object lesson in courtesy, gentleness, thoroughness, and precision not to be forgotten. He was a rapid and reliable diagnostician; his judgement was rarely at fault. He was a dexterous operator, original in his methods and ingenious in his plans. He was a fine anatomist and a sound practical pathologist, especially in the field of "living pathology" which immediately concerned his surgical work. His treatment of hospital patients was a thing to remember; towards them particularly his courtesy, his kindness, his manipulative gentleness and his patience were conspicuously manifest at all times. I assisted him in the case where he first amputated at the hip-joint by his own method, and have always had the impression that this procedure was practically evolved during the time he was actually doing it for the first time. He saw at once the advantages of an operation which further experience has fully confirmed. As a lecturer at the theatre or at the bedside he was unique among his contemporaries. His quiet confidence, his fluent speech, his keen enthusiasm, his concentrated knowledge, his skill in draughtmanship, and his natural aptitude made him a teacher of conspicuous ability. His methods of giving instruction were vivifying and irresistible, and yet the manner of the man was like that of a gentlewoman.

Furneaux Jordan was not a prolific writer, but what he did write was worth reading and thinking over. His Hastings essay on Shock is a classic, and suggests to one the kind of work its author might have produced had he devoted his abilities solely to scientific investigation. The treatment of surgical inflammation is a volume of original thought and inquiry, and the numerous clinical lectures he delivered and published are brimful of splendid material. I have read and re-read them all; never without pleasure and never without profit.

THOMAS LAW WEBB, M.D.BIRM.,

LATE OF IRONBRIDGE, SHROPSHIRE; HONORARY PATHOLOGIST TO THE SALOP INFIRMARY.

ON July 3rd there passed away at Weston-super-Mare one of the most noteworthy general practitioners in the Midland Counties, Dr. T. Law Webb, of Ironbridge, Shropshire.

Thomas Law Webb was born near Ironbridge in 1846, and commenced his medical life as apprentice to his father at the age of 17. Three years later he entered Sydenham College, Birmingham. He took the diploma of M.R.C.S. in 1870, and that of L.R.C.P. in 1872. Joining his father as partner, and eventually taking over the practice, he lived practically all his life in the place where his father and grandfather had lived as medical men before him. The district gradually went down, and the work in consequence became harder and less remunerative, yet for more than forty years he devoted himself to the study of medical science, and especially of pathology, with an enthusiasm which never faltered. During the early years of practice he studied anatomy and physiology, and passed the first examination for F.R.C.S., no mean feat for a busy practitioner. He taught himself German that he might keep in touch with advanced thought in his special subjects, and often corresponded with German writers. After days spent in laborious work he would spend his evenings with the microscope searching out for himself the secrets of pathology. He devoted himself chiefly to the study of diseases of the blood, and of protozoal diseases in men and animals, on both of which he became a recognized authority, but most of all to the study of the etiology of cancer. He wrote many valuable papers on these subjects, which were published in the BRITISH MEDICAL JOURNAL and *Lancet*, and in the *Birmingham Medical Review* of which he was for a time one of the joint editors. His best known work was that on *Cancer Houses*, founded on observations made in his own registration subdistrict of Madeley, and extending over a period of some sixty years. His final work on this subject he did not live to publish, but his complete statistics brought up to date, together with most careful maps of the area observed, showing the marked houses, are now in the best possible hands, and it is hoped may yet be of service. A paper entitled "Are Colliers Exempt from Cancer?" a subject which he had specially investigated, was published in the *Birmingham Medical Review* in October, 1895.

Alone and unaided he worked in his little laboratory far from any intellectual or scientific centre, far from his fellow-workers and unhelped by any meed of appreciation from those around him, but his zeal never abated and his keenness never became blunted. Late in life his work and character began to be appreciated. In 1897 the title of Associate of Mason's College, Birmingham, was conferred upon him. In 1901 the newly-founded University of Birmingham conferred upon him the honorary degrees of M.B. and Ch.B., a mark of recognition which gave him the greatest pleasure. In 1903 he was awarded the degree of M.D. for his thesis on "The Etiology of Cancer with Special Reference to Cancer Houses." In 1897 he founded the Clinical and Pathological Section of the Shropshire and Mid-Wales Branch of the British Medical Association and year after year he was elected its chairman, and later on he was President of the Branch. In 1898 he was elected a member of the Committee appointed by the Birmingham Branch for the investigation of local conditions affecting malignant disease. In the same year he was appointed Honorary Pathologist to the Salop Infirmary and soon after to the Shrewsbury Eye, Ear, and Throat Hospital. He continued to hold these posts, which were created for him, until the present year.

Such are the bare facts of Dr. Law Webb's life, but they give only a scant idea of the man he was. Of fine presence, he was one of whom his professional brethren felt proud—a single-minded man who followed the highest ideals both in his life and in his practice. His mind retained to the last the freshness of youth, and there was nothing he liked better than to attract young medical men around him, and inspire them with his own enthusiasm. His home was a very happy one, and a centre for high thinking and high ideals in his own little town. He himself was a charming host, a man with wide human sympathies, a quiet fund of humour, and an unfailing store of quaint, old-world sayings and old-world stories. Water-colour sketching and astronomy were his principal hobbies, and he studied the stars through a telescope of his own making. One often heard it regretted that he did not live in some university town, where his gifts and his work would have been better appreciated; but it may well be that lives such as his lived simply and quietly out of the world's sight, "still loftier than the world suspects," do much to raise and ennoble the profession of medicine.

He had long looked forward to retiring from practice and devoting himself to cancer research, and he patiently accumulated stores of observation and knowledge with this end in view; but the pay was too poor, and the work, especially his contract work as a colliery surgeon, was too hard for him, and when at last he was able to retire he was a worn-out man, and work, even though it were a labour of love, was impossible for him. He died, and the work he had lived in the hope of doing was left unfinished.

> This high man, with a great thing to pursue,
> Dies ere he knows it.

But the memory of his life and character remains for those who knew him.

He died of cerebral haemorrhage, and was buried in the beautiful cemetery on the hill overlooking the town and bay of Weston-super-Mare.

He was a brother of Captain Webb, the famous swimmer of the English Channel. He leaves a wife and daughter and two sons.

HERMANN SENATOR, M.D.,

EXTRAORDINARY PROFESSOR OF MEDICINE IN THE UNIVERSITY OF BERLIN.

IN Hermann Senator, who died in the Tegel Sanatorium, near Berlin, on July 14th, in his 77th year, Berlin has lost one of its foremost consulting physicians, who for forty years—until two years ago—had been among the most distinguished and most celebrated of the clinical teachers in the Berlin University.

In 1909, unimpaired as he was in mental power and love of work, but judging 75 to be the right age for retirement from office, Senator laid down his professorship and his directorship of the Royal Policlinic in the Ziegel Strasse and of the third Charité Clinic. Up to the last his teaching had been exceptionally fresh and inspiring. Unlike many old physicians, he studied and made use of the most modern therapeutic methods, and faced modern medical theories without prejudice. Up to the day of his retirement he had more hearers than any other clinical teacher in the Berlin University.

Senator's life presents no very striking features. He was a model schoolboy and student. His famous pathological and biological studies on breathing and metabolism were published in his very young days. In the Franco-Prussian war he had charge of a large division hospital, and gained the Iron Cross. In 1875 he was appointed Chief of the Internal Department of the Augusta Hospital, in which office Ewald succeeded him when in 1888 he undertook the Directorship of the third Charité Clinic.

Senator's publications are too many to enumerate. Among those that have become classical are his research on fever and its treatment, on albuminuria in health and disease, and on diseases of the kidneys in Nothnagel's *Handbuch*.

For more than twenty years Senator was Vice-President of the Berlin Medical Society, and was elected its President after von Bergmann's death. At the Jubilee celebration of the society he was elected its Honorary President.

In private life he was modest and without pretensions. He was most happily married, and would have celebrated his golden wedding in a few years.

The German Empress telegraphed the expression of her sympathy to the widow. Among his colleagues and the vast number of his patients far and near there is unfeigned sorrow for his loss.

THE news of the death of Dr. WOODSIDE, Coroner for North Antrim, has been received with much regret. He had been in very bad health for over a year, and had been treated both at home, in private hospital, and in the Royal Victoria Hospital, Belfast, with the utmost care and assiduity by many of his medical brethren. The end came on June 29th in the Royal Victoria Hospital. Death was due to septic bronchitis. Dr. Woodside was well known and respected in the north of Antrim, and especially beloved in the neighbourhood of his native place, Ballycastle. He was interested in the development of all native industries and in the advancement of the country. He discharged the responsible duties of Coroner with the utmost conscientiousness and care. Dr. Woodside was unmarried. Much sympathy is felt with his sisters and brothers, one of whom is Captain Woodside, of the Royal Army Medical Corps.

WE regret to announce the death of Mr. H. E. ALLEN, the Registrar of the General Medical Council, which took place on July 10th. Henry Ebenezer Allen was the son of Henry Allen, a schoolmaster, and was born at Chichester in 1839. He matriculated at the University of London from Spring Hill in 1858, obtained the degree of B.A. in 1860, and LL.B. in 1863. For some years he was Examiner for the Civil Service Commissioners. Towards the end of 1878 he entered temporarily the service of the General Medical Council, and about this time also became Clerk of Convocation of the University of London. In 1879 he was appointed Chief Clerk of the General Medical Council; in 1892 he became Assistant Registrar, and in 1897 he succeeded Mr. Miller as Registrar of the Council, which position he held at the time of his death. Mr. Allen married the daughter of r. H. P. Webb, of Selby Glen, Isle of Man, by whom he had two sons; the elder, Frederick, was a captain in the Royal Field Artillery, and died in 1900; the younger, Ernest, survives his father. Mr. Allen suffered a great loss by the death of his wife in 1902, a loss from which, in some ways, he never recovered. He was a man of a most kindly nature, but in his many acts of charity he did not let his left hand know what was done by his right. There will certainly be some pensioners to mourn his loss. He never enjoyed really good health, and often it was obvious that he was suffering from physical disability; but he never allowed his uncertain health to influence his actions or to make him impatient. His death was due to heart failure secondary to atheromatous degeneration of the coronary arteries. His knowledge of the business and the precedents of the General Medical Council was probably greater than that of any one now living, excepting, perhaps, Sir William Turner, the late President, and there are many who will mourn his loss, not only on account of his business abilities, but on account of the charm of his address, the courtesy of his manner, and his readiness to afford assistance to inquirers.

Medical News.

THE next meeting of the International Congress of Gynaecology will be held at Berlin in May, 1912 (29th to 31st), under the presidency of Professor E. Bumm.

AT the recent examination for sanitary inspectors under the Public Health (London) Act, 1891, held by the Sanitary Inspectors Examination Board in Birmingham, five candidates, of whom four were women, passed.

A MEETING of the International Cancer Research Association is to be held at Dresden on August 7th and 8th. Among the proceedings will be a report of the committee appointed to consider the question of an international nomenclature of malignant disease.

THE British Association this year will, as already announced, meet at Portsmouth under the presidency of Sir William Ramsay. The proceedings will open on Wednesday, August 30th. The President of the Section of Physiology is Professor J. S. Macdonald, of Sheffield. Among the subjects proposed for discussion in that Section are sight tests for seamen, to be opened by Dr. C. F. Myers, followed by Dr. Edridge-Green; and ventilation in confined quarters, especially in relation to ships, to be opened by Dr. Leonard Hill, who will be followed by Professor N. Zunz, of Berlin. A report on anaesthetics will be followed by a paper on additions to the use of a chloroform inhaler, by Professor A. C. Vernon Harcourt. The Section of Anthropology will be presided over by Dr. W. H. R. Rivers; among the papers to be read is one by Professor Arthur Keith on palaeolithic man. On September 1st Professor Leonard Hill will deliver a general lecture on the physiology of submarine work.

DR. CLEMENT GODSON, Consulting Physician to the City of London Lying-in Hospital, and Master this year of the Worshipful Company of Shipwrights, presided on July 17th at a dinner given by this guild in the hall of the Guild of Fishmongers in honour of the Lord Mayor. A good many medical men, including the Presidents of the Royal College of Physicians of London, of the Royal College of Surgeons of England, of the Royal Medical Society, and Mr. Samuel Osborn (Master of the Haberdashers' Company), were present, and Sir Thomas Barlow shared with the Earl of Lytton the honour of responding to the toasts to the guests, while Surgeon-General Babtie, V.C., and Admiral Sir Culme-Seymour replied to the toast to the services. The general topics of the speeches, however, were political and educational, not medical, the last contribution being an interesting account from the Master of the work which the guild has done during the last few years in promoting the technical education of young shipwrights.

IT may come as a surprise to many that urology claims so much attention abroad that eight large societies, some with congresses, meet yearly to discuss the advances in the knowledge of this special subject. Although Great Britain has no special society devoted to urology, the delegates from twenty-eight countries meeting in Paris in 1908 decided to inquire whether the International Congress of Urology could be received in July, 1911, in London.

Various surgeons attached to London and provincial hospitals responded with alacrity to the expressed wish, and, as already announced in the JOURNAL, the meeting of the congress is to be held from July 25th to July 28th in London. As the association is composed of well-known experts of all nations it is expected that the debate on such subjects as the "End Results of Prostatectomy" and "The Indications for Removing the Bladder or Large Areas of It" will prove of the highest value to the general operating surgeon. Such well known and honoured names as those of Guyon, Israel, Albarran, Posner, Pousson, O. Zuckerkandl, Kummell, and Koranji appear in the list of associates, but we understand that about 200 are expected at the meeting, and that many of these have signified their intention of taking an active part in the proceedings.

FOUNDER'S DAY at Yarrow Convalescent Home at Broadstairs was celebrated on July 15th, when a party of some sixty assembled at luncheon. Afterwards, Sir Wolfe Barry, in proposing the toast of the founder, Mr. Alfred F. Yarrow, said that it was a great pleasure to all present to watch the growth of the home and to know the useful purpose it served in the world; they congratulated the founder on the pleasure it must be to him to see that his ideas had been realized so completely. The toast was received with great enthusiasm. Mr. Yarrow, in acknowledging, said that the home at the present time, through the energy, skill, and enthusiasm of the staff, had reached a maximum state of efficiency at a minimum cost. During the first half of the current year the cost of each child had come out at £1 1s. a week, which was the lowest in the records of the home. He called particular attention to the fact that the home had been founded and endowed for the benefit of children recovering from illness whose parents belonged to what was called the educated middle class of society, and who were not in a position to give, entirely at their own cost, to their convalescent children the permanent benefit which a temporary residence at the seaside might be expected to afford; this was a class which he considered there was great reason to feel satisfied in helping. He asked those present to let their friends know the class of children received in the home. Accommodation is provided in the home for fifty boys and fifty girls. Two wards, one for boys and one for girls, are set apart for the reception of a limited number of more serious cases than those usually admitted to convalescent homes, and such cases are retained for lengthened periods when the medical officers report that there is a prospect of permanent benefit.

THE report for 1910 of St. Luke's Hospital, Chemulpo, one of the enterprises of the Society for the Propagation of the Gospel, is on the whole about the best of such documents that has as yet reached our hands. Apart from being well printed and turned out, the information given is duly classified and free from exaggeration of language; financial and other statistics are also given in more comprehensible fashion than usual. In addition, a not unsuccessful attempt is made to bring home to the reader the difference between hospital work in semi-civilized countries and in European centres. On the other hand, the reader is left in the dark as to the accommodation of the institution to which the statistics relate. The latter is a defect rather characteristic of a mission hospital report, and on that account alone do we mention it. When every allowance has been made for the immense difficulties under which missionary medical work is conducted, and full credit has been given for the courage, devotion, and ingenuity by which they are overcome, there still emerges no reason why the reports relating to the work achieved should not be drawn up on something approximating to businesslike lines. It is, however, far less the workers themselves than the administrators at home who are to blame for slackness in the matter. It would be perfectly easy for the latter to supply their executive officers in the field with a skeleton report indicating the precise points on which information should be given, and the headings under which it should be classified. If attention were paid to the point, these reports, we believe, would be more effective in gaining support; for many people who have money to give away nowadays expect business methods on the part of those who conduct charitable and allied enterprises, and expect detailed information as to the scope of the work they are asked to assist. Still, as already stated, the report under consideration represents a decided advance on most of its congeners, so we add that the total sum required to support a bed in the institution is only £6 per annum, and that subscriptions of any amount marked "for St. Luke's Hospital" will be gladly received by the Rev. S. J. Childs Clarke, 5, Amen Court, E.C. The hospital is in charge of Dr. H. H. Weir, who has as European assistants his wife and two other ladies.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

LIEUTENANT-COLONEL, R.A.M.C., would be much obliged for suggestions as to the treatment of the following case: More than twenty-five years ago an officer contracted in India the disease known there as "dhobies' itch" (*Tinea marginata*). In spite of the application of almost every known remedy, it has gradually extended over almost the entire body—fading in one direction as it extends in another. It is now chiefly visible on the face as irregular patches—not sycosis. Under treatment the patches disappear, but recur immediately this is discontinued.

ANSWERS.

"R. W. L." will find Cunning's *Aids to Surgery*, second edition (4s. net, Baillière, Tindall, and Cox), suitable for his purpose. It is concise and reliable.

DRY MOUTH.

W. H. P. writes: Dr. Hardwicke will probably find the same diet effectual in his case, supposing the patient to be plethoric; and since we have traced infection everywhere, plethora runs riot.

NERVOUS FLATULENCE.

DR. ARTHUR J. MATHISON (Wood Green, N.) writes: I think "A." would be quickly relieved by taking a full dose of pil. galbani co. when called to a confinement.

IRRITATION OF SKIN.

W. H. P. writes: If "Countryside" has already tried Turkish or hot baths, he should by all means diet his patient. A full diet of 40 oz. of solid food may with advantage be reduced to 12 oz. or even 8 oz. in the twenty-four hours in two meals, reckoning milk as one-third solid. Nothing should be taken between meals except liquids.

DR. H. J. THORP (Ipswich) writes: In reply to "Countryside" in the JOURNAL of July 15th, to allay the itching he should sponge the surface at night with the following lotion: Acid. carbolic 1 in 80, sp. vini ʒij, mixed with half-pint of milk; and take a fractional dose of calomel, gr. $\frac{1}{20}$, three times a day, and no special food or alcohol.

LETTERS, NOTES, ETC.

A WARNING.

SIR WILLIAM J. COLLINS asks us to state that a young man giving the name of Andrews and various addresses has recently called on several medical men in different parts of London inviting contributions to some ambulance organization, and has used Sir William Collins's name in connexion with the matter, without any authority whatever. Sir William Collins has notified the police.

AN EPIDEMIC OF INFECTIOUS JAUNDICE.

DR. CHARLES BOLDUAN, Acting Assistant to the General Medical Officer for the City of New York, has addressed the following letter to Dr. T. F. Vaisey, Medical Officer of Health, Winslow, England: I have been very much interested in reading about the epidemic of infectious jaundice described by you in the BRITISH MEDICAL JOURNAL of April 22nd, page 935, and recall that two years ago I studied an epidemic of typhoid fever (waterborne) occurring in a town in the upper part of the state of New York. The cases were typical typhoid, giving positive Widal reactions, and I isolated the typhoid bacilli from the faeces of two of the cases. The striking feature was the frequency with which jaundice was observed in the patients. Altogether I think there were about 100 cases of typhoid fever in this outbreak, and at the time of my investigation I personally saw some 25 cases. Of these 25 cases, about one-third showed distinct jaundice. It would be interesting to know whether your cases were in some way connected with typhoid infection.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

President's Address

DELIVERED AT THE

SEVENTY-NINTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION

BY

ROBERT SAUNDBY, M.D., LL.D., F.R.C.P.,

PROFESSOR OF MEDICINE, UNIVERSITY OF BIRMINGHAM, AND PHYSICIAN, BIRMINGHAM GENERAL HOSPITAL.

THE PRESENT POSITION OF THE MEDICAL PROFESSION.

Previous Annual Meetings in Birmingham.

For the fifth time Birmingham has the honour to receive the British Medical Association, and I am expressing the feeling of all classes of our citizens represented here to-night when I bid you thrice welcome to the Midland Metropolis. We hope to be able to make your visit agreeable, and that you will be favoured with the fine weather upon which no small part of your enjoyment must depend; but apart from the varied entertainments and hospitalities which we beg you to accept, there is a goodly programme of business in which many of our distinguished visitors are expected to take part, and from the papers that are to be read and the discussions which have been arranged there should be much fresh food for thought, fertile material for the propagation of new and profitable ideas which will remain when the festivities of this meeting will have faded to a vista of pleasant memories. I would commend to your notice the Pathological Museum, on which much labour and learning have been lavished; it has been arranged with the especial object of illustrating a few forms of disease, a plan deemed more instructive than if we had made a miscellaneous collection of specimens ranging over a wider field; this museum is in the Pathological Department of the university in Great Charles Street. The exhibition in Bingley Hall also deserves your attention, as it comprises all that commercial enterprise can contribute to aid the art of healing, and the latest and best products of our manufacturers are there displayed.

Our meeting is this year fortunate in coinciding with the coronation of our Gracious Sovereign and Patron, King George V. We are assured that he possesses to the full measure that interest in the achievements and progress of medical science which was displayed so conspicuously by His late Majesty King Edward, and we may rely upon his sympathy and approval in all our efforts to promote the health of the people committed to his charge. We wish him perfect health to reign untroubled by foreign wars or domestic strife; we pray that he and his Gracious Consort may live to see their children grow up vigorous and honoured princes, happy in the assurance of a loyalty which is no empty sentiment, but is founded on a well-considered appreciation of the value of monarchical institutions.

I have spoken of this as the fifth occasion on which the Association has honoured Birmingham by visiting the city. At the first meeting, in the year 1834, the President, Dr. John Johnstone, devoted his address to "the great question of regulating the education of practitioners and giving the right and fixing the boundaries of practice," which was then "before the Legislature," although twenty-four years had to pass ere such a project of law became embodied in an Act of Parliament. It is interesting to know he could think that the problem of medical education, "as society is at present constituted, presents no difficulty." He regarded the existing opportunities for academical teaching as "quite sufficient," as medical studies should be confined to anatomy, physiology, pathology, and natural philosophy. But, however much this may come short of our modern ideal, we may heartily agree with him when he says that "character, after all, must be the foundation upon which any system of medical education is built," and for that we must rely "chiefly upon the training given during those impressionable years devoted to preliminary education," which should consist of "classical instruction, combined with a wide range of moral and religious teaching," these being the "best groundwork of future judgement and higher intellect."

In 1856 the presidential address was given by Dr. James Johnstone; it was brief, and dealt chiefly with the need for sanitary reforms, which he urged upon the Association, insisting that such a body could effect a great deal of good by advocating them. It is satisfactory to remember that to this Association in no small measure is due the adoption by Parliament of those sanitary measures by which the health of the people has been so greatly benefited.

At the meeting in 1872 Mr. Alfred Baker devoted his address to the same topic, and pleaded that a city such as Birmingham should possess those powers of town planning which, after the lapse of thirty-eight years, have at last been granted. Although we may congratulate ourselves upon many improvements in the sanitary condition of Birmingham, I regret that we cannot at present say with truth, as he did, that "fine and healthy trout are frequently taken by the angler in the Tame at Hamstead," near Birmingham, for the pollution of our rivers, which is a great national misfortune, has increased as a consequence of the presence of a great population on their banks.

Medical Education.

At the last meeting, in 1890, Sir Willoughby Wade reverted to the subject of medical education. He insisted that the time devoted to the numerous branches of medical education was too short, that cramming took the place of study, and that the true purpose of education was lost. He would not propose to lengthen the curriculum, as that would involve an increase in cost which would press too hardly upon the resources of the average student, but he desired to get rid of some of the subjects at present included, defending himself against the accusation of desiring "to lower the standard of medical education," which, he said, was a phrase more deadly than any argument. He contended that "the question to ask is not what the student has learnt, but how he has learnt it; not how much knowledge he has acquired, but whether he understands what he has been taught; not what he has thought about it, but whether he has learnt to think at all"; and he ended a striking address by the warning—*Propter scientiam sciendi perdere causas.*

The editorial article in the BRITISH MEDICAL JOURNAL which dealt with this address pointed out that at the commencement of his medical career the student who is fresh from school, untrained in the habit of teaching himself, is obliged to face "some of the toughest and driest subjects" in the whole curriculum, and it compared our course of studies to a cone of which the broad instead of the narrow end is presented to the neophyte. Under the old plan of medical education, as we read in the biographies of Sir James Paget and Sir William Broadbent, a lad on leaving school went as a pupil to a medical practitioner, where he learnt something about the general routine of practice, and grew familiar with the atmosphere of the profession, and thus was more or less prepared for his work when he joined a medical school; on the other hand, his general education too often suffered, and, while there was much that was good in the old system, it has passed away, and no useful purpose can be served by trying to set back the clock.

When sixteen years ago the curriculum was extended to five years, it was hoped that the student would have more time to devote to the strictly professional part of his education, but the extra year has been swallowed up by the increased demand of the teachers of the preliminary sciences. We are again complaining that the time is too short, and this can hardly be doubted in the face of the fact that the majority of students fail to obtain their qualifications in six years. Some think that preliminary science, or at least elementary chemistry, physics, and biology, should be learnt and passed before the student enters upon his medical studies; and as these subjects are now adequately taught at many of our public schools, it is better to leave boys for another year under school discipline and instruction than to launch them at so early an age into a medical school, where the supervision of studies and the control of conduct must necessarily be comparatively weak, where temptations to idleness are many, and where too often the lad is removed from the guidance of master or parent and lives alone in a great city surrounded by sources

of pleasure which are irresistible to his inexperienced mind and unformed character. What wonder is it if under these conditions the first year is often wasted? No parent would willingly expose his son to such risks, but the supposed obligation to enter him at a medical school as soon as he has passed the preliminary examination, in order that the year may count towards the curriculum, outweighs his scruples. For this we must blame the regulations of the General Medical Council and of some of the qualifying bodies. But the Council has recently modified its rules, and as some of the most important bodies now recognize the instruction given in properly equipped secondary schools, it is to be hoped that their example will be generally followed. It should be possible to make the curriculum five years in a medical school after preliminary science has been passed, and so adequate time be obtained for those subjects which can be learnt only in a medical school and in hospital.

Though there is still much in the modern arrangements for medical education which falls short of our desires, there has been a vast improvement in the organization of medical teaching, in the equipment of medical schools, and in their methods of instruction. Of these not the least important is the foundation of this and other provincial universities, for which large sums of money have been subscribed by the public and to which the Education Department recognizes its obligation to render financial assistance in the national work they are doing. Medical education in England has always had its feet firmly planted on the solid foundation of hospital work, but it was deficient in academical opportunities as compared with the schools of Scotland and the Continent, and while these steadily improved their clinical teaching we for a long time hardly realized our deficiencies. Our numerous and admirable hospitals have provided abundant clinical material, and many subordinate appointments of incalculable value for the training of practitioners, but the scientific needs of students are but poorly supplied in them. During the last ten years this has been to some extent remedied by the better equipment of our medical schools, mainly by the self-sacrifice of the senior teachers, who have surrendered the greater part of their scanty emoluments for this purpose; laboratories have been started in all our schools, and in some hospitals it has been realized that it is not enough to possess good accommodation for the care and comfort of the sick, but that adequate means must also be provided for the study of their diseases by good laboratories with a sufficient paid staff. We in Birmingham who work in the hospitals or in private practice are indebted to our colleagues at the university for much assistance which is exerting an incalculable influence on the character of medical practice, but I would plead with our hospital authorities to take a broader view of their duties and to realize that in the end the interest of the patients will be best served by spending more money on the scientific equipment of these institutions.

The Function of Voluntary Hospitals.

We are justly proud of our hospitals, which have been to a large extent rebuilt or reorganized since the Association last visited this city. Several of them are in their way model institutions, and we hope you will try to find time to visit them, for which arrangements have been made. Supplemented as they are by municipal hospitals for the reception of infectious diseases, it may be fairly claimed that they provide assistance for all the pathological evils to which our flesh is heir; and if they are never equal to the demands made upon them, we must remember that Birmingham is a metropolis which draws patients from a population exceeding by far that of the so-called Greater Birmingham, which after all only includes our own suburbs. Hospitals are burdened with work which is largely of an unnecessary kind; each maintains an overcrowded out-patient department, easy if not absolutely free of access, where relief is given to all who ask for it however trivial their ailments, although some sort of check is attempted to exclude unsuitable cases by the appointment of inquiry officers and similar means. Hospitals boards and medical staffs recognize the evil of our out-patient system and desire to find a remedy, but with all the goodwill in the world this is not so easy as it may seem. The out-patient system has grown up in comparatively recent times and in response to an irresistible public demand. It was certainly not created or encouraged by the honorary staffs, which in Birmingham forty years ago left the work mainly to the resident officers. As this was not satisfactory, assistant physicians and assistant surgeons were appointed to take charge of the out-patients, and the great expansion of the department dates from that time. That this is not peculiar to Birmingham is shown by the case of the Liverpool Royal Infirmary, which had only a small out-patient hall when it was rebuilt about twenty years ago, but within the last twelve months has found it necessary to open a large additional building for this purpose. At the Edinburgh Royal Infirmary in the Seventies the only out-patients were those who attended for consultation and who received no medicine, but merely letters to their doctors or prescriptions and advice. Accidents and minor surgical cases were seen, but there was nothing that corresponded to an out-patient department, such as I understand has grown up during recent years.

Dr. Lauriston Shaw holds that hospitals should provide for the poorer classes of the community just that additional assistance which a member of the wealthier classes under the care of a general practitioner is in the habit of obtaining from a consulting physician or a consulting surgeon whenever special treatment or advice becomes necessary. He regrets that hospitals have laid themselves out to provide simple medical and surgical treatment for all comers. I agree with him in deploring it, but I recognize that the out-patient departments have developed in response to a demand which the hospitals, as dependents on public goodwill for their incomes, were not in a position to refuse. Moreover, in the absence of any well-organized system of medical attendance on the poor by dispensaries, or by such methods as may be developed under the scheme of National Insurance, the hospitals cannot repudiate this burden without exposing themselves to a charge of inhumanity. Yet a change that would permit the hospitals to follow the plan described by Dr. Shaw would be welcome, as it would promote their efficiency by setting them free to devote all their resources to the more serious cases.

Mr. J. Courtney Buchanan, in his paper on the Function of the Voluntary Hospitals in relation to the proposed Public Assistance Authority, has advocated the limitation of the work of the voluntary hospitals by excluding not only those cases, such as fits and insanity, which are usually regarded as unsuitable, but also the very poor and the well-to-do. He considers that all patients should pay something towards the cost of their treatment and maintenance in the hospital in proportion to their means; if unable to do this they come into the pauper class and should be treated by the Public Assistance Authority. He would reserve hospitals for acute, costly, or special cases. In order to meet the objection that this would diminish the clinical value of the voluntary hospitals he considers that the Poor Law hospitals should be open under proper regulation to medical students.

The out-patient departments of general hospitals should be reserved for consultation cases, the ordinary out-patient class being treated in provident dispensaries or dispensaries provided by the public assistance. At these consultative out-patient departments the number of cases to be seen by each consultant should be limited.

He accepts the provident dispensary plan outlined in the report of the Majority of the Poor Law Commission, by which the dispensaries would be staffed by all those medical practitioners residing in the district who are willing to undertake the work, giving the patients the right of selection. He does not think much importance need be attached to the objection of the Minority, that free choice would mean that doctors would seek to gain popularity by being liberal with extras, as this, he says, would be checked by a system of supervision and inspection, with power to remove from the panel the name of a doctor whose conduct was not satisfactory.

Another of his suggestions is that no out-patient should be seen a second time without bringing a card signed by a general practitioner; but although this might be useful to rid the hospital of trivial or unsuitable cases, where the case required to be seen a second time, no hospital officer would run the risk of failure to obtain the necessary

signature, but would tell the patient to come a second time, whether the signature were obtained or not.

A further suggestion is that the hospitals and dispensaries should be supported by a rate levied on the class likely to use them; the obvious objection to this is that this class pays no rates, so that the money raised would come out of the pockets of the owners of small house property or lead to an augmentation of rents which are already too high.

Mr. Charles Booth also thinks voluntary hospitals should limit the work they wish to undertake, instead of as at present taking all that comes, much of it being of a kind that they do not want and find a hindrance in doing the work they are specially adapted to perform. If their work were so limited, on the Poor Law would fall the duty of providing for these cases rejected by charity.

He points out that the proposal to put the treatment of all sickness under the health authority presupposes that it must be not only free but compulsory; but if so "it postulates an exactitude of medical diagnosis and a finality of treatment which have not yet been attained, as well as a degree of discipline and of sacrifice of liberty as yet unthought of," nor does he believe that in practice it would be possible to recover payment in proportion to means, as suggested in the Minority Report of the Poor Law Commission.

He concludes that there would be a residue of paupers to be dealt with by the Poor Law—that is to say, there would always be chronic destitute sick who would not be kept permanently in any voluntary institution, and would have ultimately to go to a Poor Law hospital, and he thinks that as the Poor Law would have to undertake the care of these people who would not come properly under the health authority, he sees no reason for refusing to allow the Poor Law authority to deal with acute cases of illness in destitute persons.

I am quite in agreement with the view that voluntary hospitals should define their work and give up the attempt to deal with all cases of sickness that enter their doors. During recent years they have declined to deal with infectious cases, and provision has been made for these by the sanitary authority; it remains for the hospital authorities to refuse to treat urgent but trivial cases, and to reserve their institutions for serious cases of a medical or surgical kind, for special diseases, and above all for cases referred for diagnosis or treatment by medical practitioners.

MEDICINE AND THE STATE.

It is part of the programme of the International Social Democratic party that the State should undertake the entire control of health services, and therewith the practice of medicine, so that in the "State of the Future" the fate of the doctors is sealed. Without wishing to exaggerate this fact, it must not be forgotten that there are some practical men having no sympathy with socialistic dreams who yet desire to see the medical profession made a service of the State, and among them are even members of the medical profession. Their usual argument is that there is a conflict between the interests of the medical profession and the public health which can only be removed by subsidizing it and making its business to be to prevent rather than to cure disease. But while a State medical service is admissible and even desirable for administrative and sanitary purposes, a compulsory absorption by the State of all medical practitioners would not be in the interests of the public, of the profession, or of medical science. If medical practitioners are to be in the service of the State, they must be given the power to compel submission to treatment, a condition which would lead to the most extraordinary abuses, while the calling of a medical practitioner would be of all the most miserable. In South Switzerland such an experiment came rapidly to grief; in Bellinzona fifty-five practitioners accepted fixed salaries to attend both rich and poor, the town and its suburbs being divided into districts, the inhabitants of which paid a small tax for medical treatment; of the fifty-five doctors, at the end of eighteen months fifty-three had come to the conclusion that they could not continue the arrangement, as the demands of the public by night and by day could not be satisfied. Moreover, it must be remembered that doctors are only human, and that human nature has its inherent weaknesses. State doctors would be deficient in diligence and ability, and the "Government Stroke" would be seen in their work so soon as the stimulus of free competition was removed.

At the present time we are threatened with dangers created by proposed social legislation whose bearings it is impossible to foresee, but which are sufficiently serious to justify the distrust with which it is regarded by all classes in the profession. Medical attendance on the poor has been provided by: (1) The Poor Law; (2) charitable hospitals and dispensaries; (3) provident dispensaries; and (4) medical clubs. The first has been the subject of severe criticism, but its worst features are due to the fact that it is generally ill-paid contract work, the better plan being, wherever possible, to give it to whole-time officers who are paid an adequate salary. What has been already said about hospitals applies to dispensaries, as both should be used only for consultations in grave or obscure cases or for those needing special treatment. Provident dispensaries exist in many towns, but are often regarded with suspicion on account of the unwillingness of their managers to impose a wage limit. Clubs are of many kinds, of which the simplest are those established by individual practitioners, who undertake to give all necessary medical attendance in return for a small annual payment. These are common in country districts and are distinctly beneficial, as the doctor, who would otherwise receive nothing, gets a small payment, while the patient retains his self-respect. As the doctor controls the admission of members, he runs no risk of the club being abused by persons whose circumstances do not justify the concession. Clubs which exist in connexion with works and collieries are generally controlled by the management and not by the men, and their relations with the medical profession are usually satisfactory. It is where medical attendance is provided by insurance societies, medical aid societies, or friendly societies, which seek to make a profit out of this part of their work or to use it as a means of attracting subscribers for their other benefits, that the profession has had most cause to quarrel, so that the Battle of the Clubs has become a familiar headline in the medical press. In 1892 the General Medical Council appointed a committee to inquire into the working of this system, and in 1893 a report was issued, together with a considerable amount of evidence, to prove there was good ground for the dissatisfaction of the profession. The conclusions of the report showed that the evils of which complaint had been made, and which were proved to exist, were the excessive number of patients, causing "great exhaustion and disheartenment to the medical officer," and to the patients impossibility of obtaining adequate treatment; the abuse of these clubs by persons whose means and social position gave them no claim to be treated on reduced terms; and, lastly, the dependent position of the medical officers, which was inconsistent with the conscientious performance of their duties.

When medical practitioners were allowed to employ unqualified assistants contract work could be performed at least profitably if not efficiently; but in 1897 the General Medical Council, with the hearty approval of the medical profession, insisted that all patients must be seen by qualified practitioners, and the club doctor has since that time been compelled to do the work himself or to employ an expensive qualified assistant. This undoubted reform meant a great improvement in the quality of the medical attendance given to the working classes, and ought to have been accompanied by an increase in the rate of payment, but the legitimate demands of the medical profession were set aside, and as no efficient organization existed, the result has been a long-drawn-out quarrel and widespread discontent on the part of the medical profession with the club system. The rate of payment is so low that to earn a sufficient income more work is undertaken than can be properly accomplished. The overworked doctor sees his patients hurriedly and falls into a routine method of treatment; he loses interest in his work; the bright ideals with which he started in practice fade away, and when he has time to reflect he feels ashamed of himself and angry at the bondage from which he would gladly escape. That this is a true picture of many a club doctor no one who knows the medical profession can doubt, nor should any one be surprised that the prospect of an enormous increase of this system under the control of the friendly societies fills us with dismay. Such work is not only degrading to the doctor but is bad for the

patient, and if custom made some of us blind to its evils, the prospect of having under the National Insurance Law to attend a third of the population on these terms has roused a spirit of resistance which will not be satisfied by rejecting the new proposals, but aims at getting rid of the burden which has galled us for so many years. In this effort we ask for the sympathy and support of the public. The services of a medical practitioner are above all others difficult to appraise, but no one can doubt that they cannot be adequately rendered if he is unable to spare the necessary time to examine his cases. What can be the good of spending millions on the provision of sanatoriums for phthisis if the medical attendance is to be of such a character that early cases will rarely be recognized? The interests of the public are at one with those of the medical profession in the need for putting an end to contract work. The only argument in its favour is its cheapness, but if it is true that the health of the people is the greatest national asset, we cannot tamper with the efficiency of the medical treatment to be provided. To secure this it is essential that the duty of providing medical benefits should not be entrusted to friendly societies or insurance companies, and that the doctor should be paid for his work and not asked to undertake a contract of which no one knows the risk. The former of these conditions has been admitted to be desirable by the Chancellor of the Exchequer himself, and although it is resisted by the friendly societies, it is to be hoped that Parliament will recognize the need for granting it. But we are told that the second is impossible, because as no one can calculate the risk, and as the funds to be provided under the Act are limited, it is necessary to impose the burden, not upon the general taxpayer, but upon the medical profession! When the proposal is stated in plain language it seems hardly possible that Parliament can be asked to sanction anything so manifestly inequitable. We are told that if the doctor would benefit from the patient's fraud there would be no check on malingering, to which the answer is that in this matter you must trust the medical profession, and the way to make doctors faithful guardians of the public interest is to treat them fairly. Any medical man convicted of conniving at malingering can be made liable to be removed from the panel of practitioners employable under the Act, and you may be sure that there will be a sharp look-out kept by the profession to check such practices. The third objection is somewhat similar, as it is feared the doctor would unduly prolong his attendance, and the answer is the same, but Parliament and the public should know that the National Deposit Friendly Society has for years conducted its business on the principle of paying the doctor for work done, and has not had to complain of the result.

THE NATIONAL INSURANCE BILL.

The National Insurance Bill is admittedly an adaptation of the German law of 1885, and a parliamentary paper has been circulated (Cd. 5679) containing the opinions of various authorities in Germany in support of the proposed legislation. With equal reason we may look to Germany for warnings and danger signals, and I would point out that the effect of placing the administration of medical benefits in Germany in the hands of committees controlled by working men has been to cause a bitter quarrel between the two parties, and has led to the formation in Germany of a medical organization with a membership of 21,210, known as the Leipzig Union (*Leipziger Verband*). Its object is to meet organization by organization, to create a fund for fighting purposes, and to form a league for conducting an agitation in the event of any action on the part of the societies contrary to the interests of the medical profession. It is, in fact, a trades union founded on the same lines and having similar objects to those of the workmen, and ready to use the same means, namely, a strike, to gain its end. Our German colleagues claim that although this has been said to be unworthy of a liberal profession, it is the necessary outcome of the situation created by Parliament, which has sought to benefit the wage earners at the expense of the medical profession. So far the Leipzig Union has been victorious in all the contests in which it has been engaged, the best part of the medical profession having rallied absolutely under the banner of professional union. Those who have remained outside are only army doctors, university teachers of theoretical subjects, doctors without practice, and a few cautious medical bureaucrats; and no one knows better than the leaders of the workmen's societies and the directors of the insurance companies that they must rely only upon the most incapable medical aid should they quarrel with the medical profession.

What has been done in Germany can be done here. If Parliament forces a fight upon us we are not unorganized. The British Medical Association, which was founded with quite other objects, has been compelled by the militant tactics of the friendly societies and clubs to create a department for the defence of medical interests, and this is conducted with great ability by the Medical Secretary, Mr. J. Smith Whitaker. During the past year and owing to the threatened danger, over 3,000 new members have joined our ranks, and approximately we number to-day 24,400 members. Without the medical profession the Insurance Act must fail, and I think these numbers justify me in saying that it cannot succeed without the British Medical Association. As all parties in the House of Commons have accepted the principle of the National Insurance Bill, and even the medical profession has accorded a welcome to a measure which proposes to make better provision for the care and maintenance of the sick poor, criticism of it is difficult; yet the experience of Germany and that of those who are well acquainted with the conditions and opinions of our own poor, and of the working of our national institutions which have for so many years striven to help them, should make us hesitate to adopt without careful consideration in all its details a scheme which proposes to revolutionize the relations of the wage-earning classes to the State, to their employers, to the medical profession, and to those charitable institutions to which they must continue to look for help in many serious illnesses.

It is a mistake to suppose that there is any legitimate comparison between the condition of Germany in 1885 and that of this country in 1911. The voluntary principle has been sufficient to provide us with a system of hospitals and dispensaries which is on the whole superior to that of Germany, except in the one department of sanatoriums for tuberculosis, and even here our shortcomings have been exaggerated. Mr. W. H. Dawson claims that Germany has provided 7,294 beds for the treatment of tuberculosis, while in England, according to the estimate of the Secretary of the National Association for the Prevention of Consumption, we have about 2,500 beds; but our population is only half that of Germany, and a comparison of the death-rate from consumption in the two countries warrants the belief that the prevalence of tuberculosis here is only two-thirds of that in Germany. If allowance be made for these facts, 2,500 beds constitute nearly as adequate a provision as that existing in Germany. Under these circumstances it is extravagant to provide such a large sum of money for building and maintaining sanatoriums, and unwise to neglect to set aside any funds for the treatment of the numerous special cases that must arise, and of which I fear it is proposed to cast the responsibility upon the voluntary hospitals, whose sources of income have already been sapped by the heavy estate duties, and are further threatened by the taxation under this bill, which will fall upon the employers and workpeople who at present contribute a share of the incomes of the hospitals in this district which appears to range from 30 to 90 per cent.

How long the friendly societies which afford a splendid example of national thrift, will survive side by side with the compulsory principle remains to be seen, but it is at least to be hoped we shall avoid the danger of allowing them to become the controlling power in the scheme. In Germany the workpeople have managed to gain this position, and the principal amendments to the German law which have been passed by the Reichstag during this summer have been directed to diminishing the influence of the workpeople on the various committees, and preventing the bureaus from being used for political purposes. It is believed that socialist officials and doctors have been appointed regardless of their qualifications for office, that the distribution of printing and advertisements has been confined to socialist newspapers, that money has been improperly spent for the purchase of socialist literature, while paid officials have been permitted to act as socialist agitators. This is the result of a measure which was advocated by Bismarck as the best means of checking the growth of Socialism! Not only has it failed to do this,

but it is also said to have become a corrupting influence which is sapping the honesty and independence of the German people. No one has ventured to impugn the competence and impartiality of Dr. Ferdinand Friedenburg, a lawyer and ex-President of the Imperial Insurance Bureau at Breslau, who, in an article published last April, has made this charge against the Insurance Law. He complains of its extravagant management, of the endless litigation to which it has led, of undue pressure being brought to bear on magistrates and medical practitioners to induce them to give decisions favourable to the workpeople, of excessive compensation, of laxity in interpreting the law, and of the enormous increase in the number of claims, which from 100,159 in 1886 rose to 662,231 in 1908. In his opinion it has led to general demoralization among the classes concerned; claimants magnify slight injuries, neglect prescribed treatment, keep wounds open by artificial means, or remove or spoil apparatus, and then represent that it has done harm. He points out that the position of the doctors is peculiarly difficult, as they stand between the insured and the insurance board, and every claim must depend upon medical support. The consequence is that a doctor known to be lenient is sure of a large practice, while one who tries to do his duty is boycotted and driven out of practice, and he gives instances of cases within his own knowledge in support of these charges. But we need not look to Germany alone to find ground for mistrusting the effect of this legislation. Miss Loane, whose work amongst the poor gives her the right to express an opinion, is convinced that compulsory insurance will not be regarded by them as a benefit. She says that they fail to understand the principle of insurance, and often account themselves wronged if no illness occur to enable them to make a claim on their club, while the sight of a neighbour benefiting by insurance increases their unwillingness to join or to continue to subscribe, because they see that the sick man is drawing their money, and if the club were the State she thinks the practical results would be no better. Even voluntary insurance, if the result of over-persuasion, gives rise to most unbounded claims, and commonly results in bitter discontent. She tells of a young woman who was induced to pay 2s. a year for three years, for which she enjoyed ten weeks at a seaside convalescent home, besides various small privileges. Her mother was deeply dissatisfied with this return for her money. Again and again she said: "T'aint as if she 'asn't paid for it; three years on end she has been paying in regular. I don't call that no charity"!

If these are the results for which we are destroying the voluntary principle and establishing compulsory thrift in its place, we may well doubt whether future generations will be so grateful to our present legislators as they would doubtless wish.

I regret that I have been obliged to refer to political matters in this address, but this is not a party question, and the medical profession is not divided about it. Silence on my part would have been misunderstood, and if I have succeeded in defining our position and in making clear what we desire, and why we do so, I shall have attained the object I had in view.

UNDER the will of the late Mr. Robert Forrest Ogilvy, a linen manufacturer, of Kirriemuir, Forfarshire, the Dundee Royal Infirmary and the Dundee Victoria Hospital for Incurables each receive a bequest of £1,000, sums of £300 going to the Forfar Infirmary and the District Nursing Association, and of £100 to the Dundee Eye Institution and the Dundee Institutions for the Blind and for the Deaf and Dumb.

THE Factory Girls' Country Holiday Fund, we learn, still stands in need of assistance in order to enable it to fulfil its purpose this year. It annually assists some thousands of young women employed in London factories to take a week or a fortnight's holiday in the country, the girls themselves paying more than half the expenditure. In order to be in a position to do so they have to save up their pence during the year, and the required effort is deemed to have as valuable an effect on their characters as the holiday on their health. The society is one to the excellence of whose aims and administration we have drawn attention on many occasions. Donations of any amount will be gladly received by the honorary treasurer, Mr. H. Rendell, 51, Gordon Square.

Address in Medicine

DELIVERED AT THE

SEVENTY-NINTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION

BY

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MISTAKES.

MR. PRESIDENT, LADIES AND GENTLEMEN,—Allow me, in the first place, to express my thanks—my very sincere thanks—to the Council of the Association for the honour it has conferred upon me in asking me to give this address. The feeling of pleasure and satisfaction which I experienced on receiving the request of the Council was, I need hardly say, qualified by a feeling of apprehension when I realized how difficult it would be to follow satisfactorily in the footsteps of the long roll of distinguished men who have preceded me in this honourable position, and how difficult it is to fix upon a suitable subject for one's remarks.

While thinking over likely subjects—some scientific, some of general interest—I asked Dr. William Collier, when we were examining together at the Army Medical College in January last, what he would suggest. Dr. Collier thought that as the great majority of the audience would be general practitioners, a practical subject would be much more acceptable than an elaborate discussion on a scientific or technical subject; he thought one of the most interesting and instructive subjects, in the hands of a man of wide clinical experience, would be Mistakes. Well, that being so, it seemed to me that mistakes was a subject with which I was well qualified to deal, for I have had a large and varied clinical experience and—I have made many mistakes.

It is hardly necessary to say that it is not a question of who makes and who does not make mistakes; it is only a question of who makes the most mistakes and the biggest mistakes. The most experienced of us, who make a point of checking our clinical observations and diagnoses by *post-mortem* examinations whenever it is possible to do so, will, I am sure, admit that we make many mistakes. Nor can this be wondered at when one remembers the extent of modern medicine, and the impossibility of any one man mastering it as a whole, and making himself practically familiar with each of its individual parts in detail; the extreme complexity of many of the problems with which the physician has to deal; the elaborate and highly technical nature of some of the chemical, instrumental, and other methods of clinical examination and research which we employ; the insufficient data on which we have sometimes to found our opinions; the great difficulty we often have in eliciting and observing the facts; the circumstance that in some cases we have to rely upon the statements and observations of the patient or his friends for some of the data on which our opinions have to be based, and that those statements and observations are often inaccurate and sometimes positively misleading; and the natural imperfections which are inherent in every human mind.

But there are mistakes of various kinds. There are the bad mistakes which show incapacity to make the most ordinary observations, gross ignorance, or inexcusable carelessness; and there are the slight mistakes—they perhaps should hardly be called mistakes—such as erroneous conclusions with regard to the significance of certain facts or groups of facts. There are mistakes of omission and mistakes of commission, mistakes due to incomplete, inaccurate, or erroneous observation, mistakes due to hasty or illogical conclusions. There are mistakes which as regards their results are unimportant; and mistakes which, either to the practitioner who makes them, to the patient whose case is wrongly diagnosed, or to the public at large, are of great importance, since they may entail very disastrous consequences.

Everyone will allow that one learns from one's mistakes, and that when one does make a mistake, one should

always try to analyse it and find out the cause of that mistake.

IMPERFECT KNOWLEDGE.

Mistakes due to imperfect knowledge, to want of clinical experience, to erroneous observation, to inability to observe correctly, are most common in the early years of one's practice. Let me mention one or two mistakes of this kind, for the details of concrete cases, which have actually occurred in one's own practice, make far more impression on the mind of one's audience than mere statements of fact as regards differential diagnosis.

Haemoptysis due to Mitral Stenosis Mistaken for Phthisis.

Soon after I entered practice a young man came to me complaining of cough and spitting of blood. He was a thin, weedy individual of poor physique; several of the members of his family, I knew, had died of phthisis; bronchitic râles and moist sounds were present over the apices of the lungs. Without examining the heart, I diagnosed phthisis. Some little time afterwards he consulted the late Dr. Murchison, who found that he had mitral stenosis, and that he was not suffering from phthisis. Since then I have never failed to examine the heart in all cases of haemoptysis.

Haemorrhagic Small-pox Mistaken for Typhus Fever.

About the same time I was called to see a well-to-do old gentleman living in eminently satisfactory surroundings. His illness was of two days' duration. It had commenced with headache, backache, and vomiting. He was feverish; the lower part of his abdomen and adjacent parts of the inner side of the thighs were covered with a profuse, confluent, plum-coloured, purpuric rash; his conjunctivae were suffused with blood; he was vomiting blood and passing blood by the bowel and kidney. He rapidly became comatose, and died before the consultation which had been arranged with the late Dr. Charlton of Newcastle came off. I certified his death as due to typhus. The diagnosis was much criticized. There was no typhus, and for years there had been no typhus, in the place—North Shields. Subsequent inquiry and consideration showed that the case was one of malignant small-pox. The old gentleman—a shipowner—was in the habit of visiting his retired ship captains. In the house of one of them, who lived in Newcastle, and whom he had visited about a fortnight before the commencement of his illness, there was a case of small-pox. There was no small-pox in North Shields at the time. Soon afterwards we had a severe epidemic, during which I saw more than one case in which the remarkable initial purpuric rash over the bathing-drawer area and adjacent part of the thighs, which was such a striking feature in the old gentleman's case, was present.

Pain in the Back Due to the Pressure of an Aortic Aneurysm.

A full-blooded, robust-looking man came to me complaining of a fixed pain between the shoulders. I could not detect anything abnormal; and, relying too much on my powers of physical examination (as the young practitioner who has just qualified is apt to do), I ignored the symptom, the patient's suffering, and told him that there was nothing of consequence the matter with him. Shortly afterwards he died suddenly. *Post-mortem* examination showed an aneurysm of the descending thoracic aorta, which had ruptured into the pleural cavity. Since then I have never disregarded a fixed pain in the back in an aneurysmal-like subject, and I have always tried to give due weight to the patient's symptoms and complaints.

But while, as this case proves, mistakes may result from ignoring or making too light of the symptoms and complaints of patients, the remarkable absence of symptoms in some cases of advanced organic disease shows that the *only way to avoid mistakes of omission is to make a complete physical examination in every case which comes before us.* The following case illustrates this point.

Enormous Aneurysm of the Thoracic Aorta: No Symptoms.

A man, aged 58, who had worked for two years at the Forth Bridge during its construction, first as a fitter, afterwards in looking after the planing machine, neither of which is heavy or severe work, received a blow on the right eye on March 9th, 1885. On admission to the Edinburgh Royal Infirmary the lens was found in the anterior chamber. It was removed by the late Dr. Argyll Robertson the following day. On the evening of March 14th he had a severe attack of dyspnoea. Physical examination showed extensive dullness and heaving pulsation over the upper part of the front of the chest. He died suddenly the following day in consequence of the rupture of an aneurysm into the left pleura. Now, up to the date of the accident, this man had never been off work for a single day, had never consulted the doctor gratuitously provided for the employees at the Forth Bridge, and had never made any complaint to his fellow workmen. The case is remarkable, for, in addition to this enormous fusiform aneurysm—I think it is the largest intrathoracic aneurysm I have ever seen—the trachea was directly pressed upon and flattened by a small secondary sac.

HURRY AND HASTY CONCLUSIONS.

In the case of experienced practitioners, *hurry, and the incomplete examination of patients due to hurry, and hasty conclusions* are probably by far the most common causes of errors in diagnosis. Physiognomic diagnoses, I need not say, are apt to be erroneous. Some of you have no doubt heard the story of the professor who prided himself on his powers of physiognomic diagnosis, and the patient with gouty, *but artificial*, teeth.

INACCURATE INFORMATION.

Mistakes are not infrequently due to the fact that *the information which we get from third parties is insufficient, inaccurate, or misleading.*

Suspected Addison's Disease.

A pitman came to me complaining of loss of strength and weight, which he said had followed an attack of influenza. I could detect no physical signs of disease to account for the extreme asthenia and marked emaciation. His hands and face were deeply pigmented, but for some weeks after the influenza he had been sitting out in the sun. The skin of his back was, I thought, a little dark. Thinking that the case was probably one of Addison's disease, I was anxious to get further information on the point, and told my house-physician to bring in the patient's wife. On asking her whether she thought the patient's skin was darker than it had been before the attack of influenza, she answered, "I could not say." I then told her to look at the patient's back and tell me whether she thought it was darker. She said, "I could not say, I never saw his back before." I then said, "That is a remarkable statement. Do you mean to tell me that you never saw your husband's bare back before?" She then said, with some show of indignation, "He is not my man at all!" It appeared that the house-physician had brought in the wrong woman. Now if the information available had stopped here, a mistake of omission might easily have occurred; but fortunately the real wife was available; she thought that the skin was darker. The patient died a few days later, and the diagnosis of Addison's disease was confirmed.

Functional Spasm.

In January, 1910, I published in my *Clinical Studies* an interesting case of spasmodic muscular contractions in which the symptoms disappeared rapidly and completely under isolation and psycho-therapeutics. The doctor who sent the patient to me had diagnosed the case as Thomsen's disease; he wrote me saying that the patient had been in the Cardiff Infirmary, where the same view had been taken of the case, and where the patient had not improved. In commenting on the case I quoted these statements, not with the object of reflecting in any way on the diagnosis, but for the purpose of showing how closely, in some of its features, the case resembled Thomsen's disease. Some fifteen months after the case was published I received a letter from the physician under whose care the patient had been, saying that he *had not* diagnosed the case as Thomsen's disease, and that the patient *had* improved in the Cardiff Infirmary, and asking me to contradict my statements. I am glad to take this opportunity of putting the matter right, and correcting the, but not my, mistake.

The importance of verifying one's facts before giving an opinion was forcibly brought home to me by the following case: I once asked an old lady, for whom I had prescribed

a few days previously, how she was feeling. She replied, "Very much better, thank you, I am almost quite well again." I then said, "I was sure *that* medicine would do you good." The patient smiled and said dryly, "But, doctor, I did not take it." I need hardly say I felt "very small." I learnt by that mistake.

UNDESCRIBED DISEASES.

Before a disease is described as a distinct clinical and pathological entity, typical and characteristic cases, which a few years later are easily diagnosed, are mistaken for other conditions; after the disease has been recognized and described one wonders how one could possibly have made such mistakes.

Myxoedema is a striking illustration in point. The appearance of typical cases of myxoedema is so characteristic that one can with certainty recognize them at a glance. But until the late Sir William Gull published his description of the clinical features of the disease in 1874, cases of myxoedema were generally diagnosed as cases of Bright's disease or obesity. That some observers were well aware that the condition was a peculiar one, I know from my own experience; for, when I entered practice in the year 1869, my father showed me a splendid example of the disease, directed my attention to many of the characteristic clinical features, and told me that he believed the condition was a new disease—a disease which had never been described.

Myasthenia gravis is another excellent illustration. I remember when in general practice being much puzzled by the case of a young woman supposed to be suffering from hysteria; she died suddenly with bulbar symptoms. *Post-mortem* examination revealed nothing to account for the death. I now know that it was a case of myasthenia gravis.

ERRONEOUS DEDUCTIONS.

Mistakes due to *erroneous deductions and illogical conclusions* are very common. Nor is this to be wondered at, when it is remembered that there is probably no faculty of the human mind which differs more in different individuals than the faculty of judgement—the power of seeing things in their correct proportion, the ability to weigh correctly all the facts of a case and to draw the correct and logical conclusion from them. Even those men in whom the judicial faculties are most highly cultivated often fail to draw the same conclusions from the same facts. How frequently we see the judges differing on points of law, and the opinions and decisions of the lower courts reversed in the Court of Appeal and in the House of Lords! Now, if this occurs in law, how much more likely is it to occur in medicine; for, in comparison with medicine, law may be almost regarded as a fixed science. Further, in medicine the facts on which our conclusions and opinions have to be based are, in many cases, very difficult to observe, and, in some cases, chiefly or entirely consist of the subjective sensations described by patients.

Mistakes in diagnosis often occur because *undue importance is given to some symptom or physical sign* which is present. Take, for example, *double optic neuritis*. In many cases in which the diagnosis lies between an intracranial tumour and some of the other conditions with which it is apt to be confounded, the presence of double optic neuritis decides the point in favour of tumour, and the absence of double optic neuritis is a cause of doubt. On the other hand, the presence of double optic neuritis may suggest a diagnosis of tumour when no tumour is present. The differential diagnosis of tumour of the frontal lobe and general paralysis of the insane is sometimes attended with great difficulty.

Now, double optic neuritis, which is so common in cases of intracranial tumour, is very rare in cases of general paralysis of the insane; consequently, if double optic neuritis happens to be present in a case of general paralysis of the insane, in which the diagnosis lies between general paralysis of the insane and frontal tumour, the diagnosis is very likely to be erroneous. The same statement applies, though with much less force, to localized tenderness on skull percussion.

Again, take *hunger pain, the presence or absence of free hydrochloric acid in the gastric contents, and haematemesis.* A few months ago a middle-aged man consulted me because of abdominal symptoms. Typical hunger pain was present and there was an abundance of free hydrochloric acid in the gastric contents. I diagnosed duodenal ulcer. A distinguished surgeon to whom I referred the patient thought it was colitis and sent him to Harrogate, where he was treated without benefit. Three months later a hardness developed in the epigastric region. An exploratory incision showed inoperable carcinoma of the stomach and liver.

During the past eighteen months I have had in my wards, first, a case diagnosed as a simple ulcer of the stomach in which there was an excess of free hydrochloric acid in the stomach contents; it was operated upon and found to be cancer. And, secondly, a case which was thought to be cancer of the stomach, in which there was no free hydrochloric acid in the gastric contents; operation in that case showed simple ulceration with considerable inflammatory thickening, which could be felt as a definite hardness in the pit of the epigastrium, around the pylorus.

The gastric crises of tabes are occasionally mistaken for stomach ulceration, more especially if, as is sometimes the case, there is haematemesis. Since Dr. Hale White directed attention to this point we all, I suppose, recognize that gastric pain, vomiting, and haematemesis—in rare cases even fatal haematemesis—may occur in young women without any obvious ulceration of the stomach. I am disposed to think that in some cases of this kind a superficial abrasion or ulceration was present, and that it healed before the stomach was inspected by the surgeon or pathologist. The occurrence of haematemesis in cases of appendicitis may be very misleading. Some years ago I saw a case of acute peritonitis, in which there had been recent haematemesis, and diagnosed it as an ulcer of the duodenum which had perforated. Mr. Stiles operated and found that the peritonitis was due to appendicitis. Speaking of appendicitis, I may say that about two years ago I had under my care in hospital a case of pre-ataxic tabes, with very severe intestinal crises, in which an operation for appendicitis had been performed. I was not able to get information as to the condition of the appendix, but I strongly suspect that the symptoms for which the operation was undertaken were due to the tabes, and that the appendix was healthy.

I sometimes think that there is a tendency to attach too much importance to some of the instrumental and other elaborate methods of diagnosis which have recently been introduced—as, for instance, the graphic methods concerned with the heart and circulation—and to underestimate an all-round clinical experience and knowledge. It has recently been suggested that erythema nodosum is a tuberculous condition, one of the grounds for this conclusion being the very marked von Pirquet reaction which occurs in that disease. I admit the fact, but do not agree with the conclusion, for, in a condition like erythema nodosum, in which the skin and subcutaneous tissues are more prone to inflame than in health, a positive von Pirquet seems to me to be of little or no importance as a sign of tubercle.

I do not for a moment intend to imply that I undervalue the importance of these instrumental and other methods of clinical investigation. Quite the contrary; the information which they give us is often all-important for diagnosis, and in some cases of great value for prognosis and treatment, but they have their place. For the purposes of successful prognosis and treatment, nothing will ever replace an all-round knowledge based upon a wide and extensive clinical experience. As an illustration of the value of these instrumental methods, I may mention that I find the sphygmomanometer of great use in demonstrating high blood pressure in cases in which dropsy and other symptoms of cardiac failure are due to, or are associated with, increased peripheral resistance—arterio-sclerosis and contracted granular kidney. In these cases, which are often diagnosed as cases of primary mitral regurgitation—a mistake which in my experience is very frequently made in practice—it is sometimes extremely difficult or impossible to detect the high blood pressure by means of the finger.

Mistakes are sometimes due to *too little importance being attached to some fact or facts.* One is apt, for example, to ignore or under-estimate the importance of

an opinion expressed or hinted at by others, when that opinion does not coincide with one's own view. A case occurred in my practice, now more than twenty years ago, which brought this source of mistakes very forcibly to my mind. In that case, if I had not been able to correct my mistake, very disastrous results would have followed.

Illustrative Cases.

An old gentleman came into my consulting room with a robust, healthy-looking man, aged 38. He stated that this gentleman was to marry his daughter the following day, but that they had just received a telegram from one of our distant colonies saying the gentleman's relatives objected to the marriage unless I thought it might take place. The prospective bridegroom stated that when he came to this country some eight weeks previously he was run down, that he had quite recovered, and that he now felt perfectly well. The prospective father-in-law stated that neither he nor his family had noticed anything amiss, either physically or mentally, with the supposed patient. With the exception of a little tremor of the tongue, a little thickness of speech when the patient first came into my consulting room, and some unsteadiness in "fixing" while he was being examined with the ophthalmoscope, I found no evidence of disease, either physical or mental, and stated that I did not feel justified in prohibiting the marriage. On thinking over the case, I became more and more convinced that the bridegroom's relatives would not have telegraphed in the way they had done unless they had good reason for supposing that there was something seriously wrong, and I came to the conclusion that he was probably suffering from general paralysis of the insane, and that it was clearly my duty to stop the marriage. I went early the next day to the prospective father-in-law's house, had another interview with the bridegroom, satisfied myself that the case was one of general paralysis of the insane, and advised that the wedding should be postponed. This was agreed to. Further symptoms soon developed, and before long the patient was sent to an asylum. There were some dramatic features connected with the case, but, even at this length of time, I do not feel myself at liberty to mention them.

A number of years ago a photograph of a patient in an extreme state of muscular atrophy came under my notice. I ventured to doubt the diagnosis—pseudo-hypertrophic paralysis—and said that it looked much more like a case of poliomyelitis anterior acuta. Some years later I followed up to *post-mortem* examination a case of pseudo-hypertrophic paralysis which, in its later stages, presented identical appearances with the case I had criticized. A distinguished foreign neuropathologist, on looking through some of my photographs, made the same criticism on my case as I had made on the other case; he was only convinced that it was a case of pseudo-hypertrophic paralysis, and not a case of poliomyelitis anterior acuta, when I told him that two brothers of the patient had had the disease, and when I showed him sections of muscle which presented all the typical characteristics of pseudo-hypertrophic paralysis.

SUPPOSED MISTAKES OF OTHERS.

Early in my career I learnt *how cautious one should be in publicly criticizing the supposed mistakes of others.* In the year 1877 I published a case in which pigmentation of the skin was present during life, and in which (in addition to other lesions) complete caseous destruction of one suprarenal capsule, the other being healthy, was found after death, and suggested that the skin pigmentation was due to the suprarenal lesion. A distinguished assistant physician and lecturer on physiology criticized this conclusion, and stated that Addison's disease was never due to destruction of one suprarenal. Well, I was a young man, more sensitive than I am now, and I felt the public criticism a good deal. But I was able to turn the tables upon my critic, for, on consulting Dr. Greenhow's work, I found that two cases of Addison's disease had been met with in which one suprarenal only was diseased, and that one of these cases had actually been seen and diagnosed as Addison's disease by the very gentleman who had criticized me.

BIASSED JUDGEMENT.

Errors in diagnosis are often due to the fact that *one's judgement is warped or biassed* from some cause or another. Most of us probably know how difficult it is to diagnose and treat illness in oneself or in members of one's own family. One's judgement is upset by anxiety and fear; all sorts of terrible possibilities occur to the mind and prevent one taking a cool and level-headed view of the case. We all know how frequently medical students imagine that they are the subjects of heart disease; they come into one's consulting room depressed and believing they are the subjects of grave organic disease; they leave a few minutes later cheerful and feeling quite well. Probably some of my audience may, because of some temporary fibrillary twitchings, have imagined that they were the subjects of progressive muscular atrophy, or, because of some gouty pains, that they were suffering from tabes.

On the other hand, one occasionally sees the exact reverse of this picture—a medical man the subject of advanced organic disease ignoring it or making light of it, and of the symptoms which it produces, in the most extraordinary way.

Cases of Euphoria.

A distinguished member of the profession, in the last stages of cardiac valvular disease with dropsy, at more than one of my visits, pointed out with great satisfaction the increased measurement of his calves, thinking, or professing to think, that it was indicative of increased muscular nutrition. A highly intelligent medical man, aged 56, arrived in Edinburgh, invalided home from India, in a dying condition—profoundly cachectic-looking, emaciated to the last degree, so weak that he was unable to walk across the room, with an unhealthy sloughing ulceration of the cornea. He believed that there was nothing of importance the matter, and that the great weakness and extreme emaciation were entirely due to the small doses of morphine which he had been taking. A hard tumour, fully the size of a child's head, evidently malignant, occupied the upper and central parts of the abdominal cavity. The patient and his wife were amazed when this tumour, which could not only be felt with the greatest ease, but which formed a visible projection, was pointed out to them. The patient died a few days after his arrival in Edinburgh.

We all know how *one's judgement is apt to become biassed in favour of some particular theory or idea*, and how, under such circumstances, one sees everything in the light of that idea. Some of the differences of opinion which arise in railway and other compensation cases are due to the fact that the doctors on one side are apt to attach too much, and the doctors on the other side too little, credence to the patient's statements and complaints.

The difficulty of deciding whether a patient is suffering from organic disease or merely from functional disturbance of the nervous system is often very great, even in ordinary private practice, and in cases in which there is no question of compensation—in cases in which there is no suspicion of malingering or of wilful exaggeration. On the one hand, we meet with cases—cases, for instance, of disseminated sclerosis and early general paralysis of the insane—in which grave organic disease of the nervous system is mistaken for hysteria or functional derangement; and, on the other hand, cases in which functional symptoms are thought to be indicative of grave organic disease; in a third group of cases symptoms due to organic disease and functional derangement are both present. Now if those of us who have given special attention to the study of diseases of the nervous system have sometimes difficulty in deciding in which of these groups a case should be placed, it is not to be wondered at that others whose knowledge and experience of nervous disease are, in comparison, very limited, should often have great difficulty in coming to a conclusion, deciding the question, and that differences of opinion, which to the lay mind may seem extraordinary, are apt to occur in courts of law.

All of us who are engaged in hospital practice, and especially those of us who see many nervous cases, will, I am sure, agree that since the passage of the Workmen's Compensation Act, cases in which nervous symptoms are developed after injuries, or supposed injuries, have become much more common; and that in these cases, whether the symptoms are indicative of organic lesion or of functional disturbance, the duration of the illness has become much prolonged. My experience shows that in

these cases the patients do not get well, or get well with difficulty, so long as the question of compensation is pending. I personally have little doubt that when the National Insurance Bill is passed the same result will follow in some, perhaps many, of the non-traumatic cases—in cases of ordinary illness—and that the amount of attendance required in the case of patients compulsorily insured will be very much greater than has been calculated. Some people seem to think that it is easy to detect malingering. Those of us who are experienced know that there is nothing more difficult. In the great majority of cases it is not a question of saying whether a patient has disease or has no disease, for, in my experience, actual malingering, when there has been no injury and when there is no disease, is, comparatively speaking, very rare. The difficulty chiefly occurs in cases in which the patient is actually ill or has recently been ill, in saying whether the illness or disease from which he is suffering or has recently suffered, will account satisfactorily for all of the symptoms; in saying whether the symptoms which are still present would still have been present provided there was no question of compensation. Conscious or unconscious exaggeration of symptoms, and conscious or unconscious refusal to get well are, in compensation cases, exceedingly common. It is often extremely difficult, even for the most experienced and expert physician, to give a positive opinion in cases of this kind. It is a practical question, I think, whether such conditions as neurasthenia and hysteria should not be excluded from the medical benefits under the National Insurance Act, though this would, of course, entail hardship on some genuine sufferers.

Inadequate Observations.

Erroneous therapeutic conclusions, based on too limited a number of observations, are common; and the worst of it is that these premature conclusions sometimes get into the textbooks, and are copied from textbook to textbook, until finally it is definitely stated, and generally accepted, that such and such a drug is of value in such and such a disease. Remarkable coincidences, too, occur which tend to foster the production of errors of this kind. It is a curious fact that the first cases which one treats with a new drug are sometimes the most successful. The first case of pernicious anaemia which I treated with arsenic lived longer (thirteen and a half years) than any of the many other cases which I have since treated. That was no doubt a pure coincidence. In the first three cases of psoriasis which I treated with thyroid extract the results were extraordinarily successful. That was perhaps not entirely a coincidence. I have had many other successful cases since, and also many unsuccessful ones. My first cases were all treated with the raw gland, not with tabloids, and were all females. I am disposed to think that the raw gland is more efficacious than some tabloids, and that psoriasis in the female is more amenable to thyroid treatment than psoriasis in the male. The thyroid gland seems to be more active in the female, and exophthalmic goître and myxoedema are, as we all know, much more common in the female than in the male.

Let me say a word or two regarding *nomenclature*. Every one will, I suppose, agree that it is a mistake to name a disease after its discoverer. The name should, if possible, give some information as to the nature of the disease or as to its leading clinical characteristics. Is it too much to hope that in the course of time such terms as "Bright's disease," "Graves's disease," "Addison's disease," which are very firmly rooted, will be discontinued? The term "Graves's disease" is specially unfortunate, for in Germany the priority of Graves to the discovery is disputed, and the condition is termed "Basedow's disease." Even at the present day the unfortunate system, as I think it is, of naming diseases after their discoverers is still sometimes followed. A distinguished authority has recently suggested that the term "pernicious anaemia" should be discontinued and the term "Addisonian anaemia" or "Addisonian idiopathic anaemia" given to the disease. Now Dr. Hunter's most important observations and researches show that the disease is probably due to destruction of red blood cells, chiefly in the portal circulation, probably the result of a toxin absorbed from the gastro-intestinal tract. If the term "pernicious anaemia" is to be discarded (but I think this would be a mistake, for I maintain it is a good term which correctly represents the ultimate course of the disease under our present methods of treatment, and correctly differentiates this from other forms of idiopathic anaemia), I would, until the exact cause of the disease is definitely determined, suggest the terms "gastro-intestinal hepatic anaemia" or "gastro-intestinal toxic anaemia" as more suitable than "Addisonian anaemia."

Injurious Effects of Diagnostic Errors.

I have said nothing as to the *injurious effects which may result from diagnostic mistakes and erroneous conclusions.*

Most of us probably know to our cost how harmful a mistake in diagnosis—it may be even a quite excusable mistake—may be. On the other hand, many of us have no doubt gained credit and reputation from a correct diagnosis; but while this is so in occasional instances, the public are often quite unable to appreciate at its true value a successful diagnosis in a difficult medical case.

I need hardly say that the correctness of the diagnosis is often of very great importance to the patient. Take, for example, a case of functional nervous derangement. The prognosis and the success of the treatment entirely depend upon the correctness of the diagnosis. If the case is merely functional, we can, in many cases at all events, cure it or temporarily cure it, for relapses not infrequently occur; if the case is one of organic disease, we are unfortunately, in many cases, unable to cure it. And here I would point out that it is a mistake to suppose that mere isolation in a nursing home or hospital and a course of so-called Weir-Mitchell treatment will of itself cure the functional cases. In many cases the success of the treatment depends entirely upon the personal influence of the doctor and of the nurse. A doctor who has been treating a case of this kind without success in the patient's house will not be likely to cure her by removing her to a nursing home and putting her through a course of Weir-Mitchell treatment. A doctor who is not sure of his diagnosis, a doctor who cannot impress the patient with confidence and authority, rarely deals successfully with these cases. The composition of the medicine which is prescribed is, in some of these cases, of little or no consequence; distilled water given hypodermically is often very efficacious; the main object of the medicine is to keep up the mental effect produced by the favourable and confident opinion of the physician, and to impress the patient with the belief that something active is being done to cure her. Speaking of distilled water I may mention an amusing case which occurred in my hospital practice a few years ago. A young woman came home from South Africa because of very severe muscular spasms, which on examination were found to be due to functional disturbance. She was treated by the milk-isolation method, the faradic current, and hypodermic injections of distilled water. In showing the case to my clinic, after her recovery, I emphasized the importance in such cases of the powerful remedy H_2O given hypodermically, and was surprised to see that the patient was very much amused. It appeared that she was a school teacher who was in the habit of giving instruction in elementary chemistry. Fortunately she was cured before she knew the composition of the remedy.

Unfortunate results of a far-reaching kind to the public at large are sometimes due to erroneous conclusions and opinions. Take, for example, the subject of tuberculosis. Koch's conclusions regarding the therapeutic value of tuberculin, Koch's opinion that bovine tuberculosis cannot be communicated to man by milk through the gastro-intestinal tract, were, I think, to say the least of it, unfortunate. The same statement applies, I think, to the late Sir Richard Thorne Thorne's antagonistic views on the compulsory notification of phthisis.

Occasionally, on the other hand, our mistakes lead to beneficial results. In the first case of myxoedema which I treated with thyroid feeding I gave far too large a dose of the raw gland, with the result that acute thyroidism nearly caused the death of the patient. During convalescence the skin peeled off in large flakes; the copious desquamation which resulted from the overdose of the remedy suggested the advisability of employing thyroid extract in the treatment of psoriasis and other forms of skin disease.

Mr. President, Ladies and Gentlemen,—I have tried in these, I fear somewhat fragmentary and commonplace, remarks to bring before you some of the chief causes of our diagnostic errors and mistakes, and indirectly to point

out that the only way to avoid diagnostic mistakes is, *first*, to gather carefully and correctly the data—the facts on which the diagnosis has to be based—by exhaustive and accurate clinical observation and examination; *secondly*, after these data have been obtained, to weigh them impartially and judicially, taking all the facts into consideration, avoiding, so far as possible, preconceived opinions, giving due weight to the symptoms and sensations of the patient as well as to the physical signs; and, *thirdly*, to draw a logical and correct conclusion from the premisses. If what I have said will stimulate some of you to observe your cases with greater thoroughness and interest, and will help you to avoid some of the mistakes which I myself have made, I shall be well content.

Address in Surgery

DELIVERED AT THE

SEVENTY-NINTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION

BY

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My first desire is to thank—and to earnestly thank—my medical friends for their kindness in suggesting to the Council of the Association that I should be invited to deliver the Address in Surgery in my native city. The acceptance of this suggestion by the Council I recognize rather as a mark of its confidence in the Arrangements Committee than an expression of opinion on my fitness to bear the honours and the burden of so exalted a position. For that mark of confidence I thank the Council, and for the high distinction I have received at their hands I am profoundly grateful.

It is not unfitting at this moment to refer to the recent death of one of the greatest of the older school of Birmingham surgeons. Only a few days ago the last of my surgical teachers passed peacefully away at a ripe old age, and after a long and well earned retirement from the strenuous labours of a hard professional life. Furneaux Jordan was one of Nature's gifted sons—intellectual, original, honourable, courteous, enthusiastic, and artistic. He was a born teacher and a clever surgeon, and to an early association with him and his work I owe much of whatever surgical success I may have been fortunate enough to attain.

1856. LANGSTON PARKER.

In 1856 (the Branch being scarcely two years old) the first Annual Meeting of the British Medical Association in Birmingham was held, and the first Address in Surgery delivered by a Birmingham surgeon—Mr. Langston Parker—the subject of his address being the Treatment of Cancer by Caustics. He advocated the caustic method of treatment in nearly all forms of cancer on or near the surfaces of the body, either cutaneous or mucous.

> The experience of a moderately busy surgical career (says Mr. Parker), during which time the treatment of an unusual number of cancerous diseases has fallen to my lot, painfully impressed me, as it must have done other surgeons similary placed, with the inutility of operations with the knife performed for the removal of the disease.

Many of the cases described in detail, upon which his opinions were based, are as remarkable as they are interesting, and furnish material over which a thoughtful and unprejudiced person may pause to reflect. The caustic treatment of cancer by these older methods is to-day regarded as almost criminal; its practice is chiefly in the hands of quacks and charlatans. I say "chiefly" for two reasons: there are still a few surgeons—and I confess to being one of them—who occasionally practise this older method in certain superficial cancers where cutting operations are declined, and with very satisfactory results. There is a much larger body of medical practitioners who deem it legitimate to attempt the cure of cancer without operation—superficial as well as deep—by means of more modern inventions, and doubtless with some success; but I have seen their successes and I have seen their failures, and any wonderment I may have experienced from the former has been overwhelmingly dissipated by the tragedies of the latter. A few years' experience in the surgical wards of the workhouse infirmary of a large city teaches you something of the failures of our art in many directions, for there are to be seen the derelicts of surgery, drifting unrecorded and unproclaimed into the silent ocean of eternity.

The name of Langston Parker will always be remembered as one of the earliest of the English scientific writers on syphilis, and the originator of the treatment of this disease by mercurial fumigation.

1872. OLIVER PEMBERTON.

The second annual visit here was in 1872, when my revered old master, Oliver Pemberton, gave the Surgical Address. He was a surgeon of a somewhat similar type to his predecessor—full of the better characteristics of human nature. He was a manly man, genial, kindly, courteous, conscientious, well-informed, of sound judgement and wide practical experience. He was a fine specimen of an old school of surgeons which has almost ceased to exist—the school which gave us in this country Sharp and Cheselden, the Hunters and Coopers, Syme and Fergusson, Brodie and Paget, and a few great masters still with us.

Mr. Pemberton spoke of the great cities of these kingdoms as so many centres of surgical study, having features marked and distinctive, created no less by local than by personal circumstances, and submitted to his audience the fruits of personal observation connected with some of the chief maladies that demanded the skill of the surgeon here in Birmingham at that time—surgical aneurysms, lateral lithotomy, and urethral stricture being the matters of all others which had chiefly engaged his attention during his thirty years' labour as a practising hospital surgeon. Although this address was delivered no longer ago than the days of my own apprenticeship, these chief maladies which then demanded the skill of the surgeon have only a passing interest for him at the present time. Surgical aneurysms are among the rarest of our surgical disorders, and interest us now chiefly by reason of the ingenious but misguided and unnecessary efforts which are made to devise operations for their cure, more complicated, more dangerous, and less trustworthy than the old procedures of Anel, Hunter, and Syme. Lateral lithotomy has fallen into disuse, satisfactory as an operation though it be. Early in my practice I had a run of nearly sixty consecutive cases without a death; and as for urethral strictures, except when they are impermeable or are complicated by urinary extravasation, multiple fistulae, or the like, their hospital treatment is now left usually in the hands of a house-surgeon.

1890. LAWSON TAIT.

At the last annual meeting in this city, in 1890, Lawson Tait was on all hands recognized as the most fitting surgeon to deliver the Surgical Address, and spoke from this platform to a large and expectant audience. His discourse, like himself, was broad, vigorous, daring, dogmatic, and delivered with a style and an ease peculiarly his own.

Much of that address of twenty-one years ago might appropriately be delivered again to-day. The need for stirring change in the modern teaching of anatomy and physiology to students who are to become practitioners of medicine, the advantages of an apprenticeship system, the need for technical instruction in the handicraftmanship of our profession, the changes in surgical methods and the extension of surgical possibilities, the need for more uniform and more exact records of results, and the influence of fashion in surgery and medicine are themes upon which there is still much to be said.

It was here in Birmingham that Tait's great position was made, and within almost a stone's throw of this hall that most of his surgical work was done. He was a remarkable man—perhaps the strongest personality I have known. In some ways he was a giant, and the power of the man held you like a vice. As a surgeon he was a genius; justice has not yet been done to him, and possibly never will be, for the part he took in that wonderful development of abdominal surgery which occurred in the last quarter of the nineteenth century.

After completing his education in Edinburgh, and holding one or more house-surgeoncies in provincial towns, Tait bought a general practice in a Birmingham suburb, and there began his life's work. From this modest position, with no hospital appointment at that time, and no great local influence, he set out on a surgical career, and raised himself in a few years—and in spite of intense opposition at home and at a distance—to a position in the surgical world which was unique. Like other great men, he made mistakes, and possessed himself of faiths which had to be abandoned, but the facts remain that he was the first surgeon who attempted to save the life of a human being dying from the internal haemorrhage of ectopic pregnancy, and he was the first to open the abdomen successfully for the deliberate removal of stones from the gall bladder. The operative treatment of diseased Fallopian tubes, and of ovaries, for abscess, were extensions of pelvic surgery entirely his own; he was the first to draw distinctions between ovarian and parovarian tumours; he was one of the early pioneers of kidney surgery, and amongst the first to perform laparotomy for acute and chronic peritonitis, and for peritoneal hydatids; he was the first advocate of abdominal section and drainage for suppurating extraperitoneal haematoceles. His ingenious method of performing perineorrhaphy, and finally his persistent advocacy of the claims of exploratory operations, establish a record and demand a recognition such as few men have been privileged to merit.

Tait's first operation for gall stones was successfully performed on a woman, a patient of Dr. Collis, of Bridgnorth, in August, 1879, and it is interesting to note that it was carried out by him with "complete antiseptic precautions."

The story of his early experiences in ectopic gestation is as interesting as it is historical, and may best be told in Tait's own words:

> In the summer of 1881 (he says) I was asked by Mr. Hallwright to see with him in consultation a patient who had arrived by train from London in a condition of serious illness, that illness having been diagnosed by Mr. Hallwright as probably a haemorrhage into the peritoneal cavity from a ruptured tubal pregnancy. The patient was blanched and collapsed. The uterus was fixed by a doughy mass in the pelvis; there was a considerable amount of effusion in the peritoneum, but no distinct tumour could be felt above. I agreed with Mr. Hallwright as to the nature of the lesion. This gentleman made the bold suggestion that I should open the abdomen and remove the tube. The suggestion staggered me, and I am ashamed to have to say I did not receive it favourably. I saw the patient again in consultation with Mr. Hallwright and Dr. James Johnson, and again I declined to act upon Mr. Hallwright's request, and further haemorrhage killed the patient. A *post-mortem* examination revealed the perfect accuracy of the diagnosis. I carefully injected the specimen which was removed, and found that if I had tied the broad ligament and removed the ruptured tube I should have completely arrested the haemorrhage, and I now believe that had I done this the patient's life would have been saved.

Gentlemen, the man who put on permanent record such a story of a professional brother and himself was no ordinary person. It was not until January 17th, 1883, nearly two years after the incident above related, that his first operation was undertaken. The woman—a patient of Dr. Spackman of Wolverhampton—died immediately after the operation was finished. The reason of her dying Tait at once had the strength to recognize and the courage to confess. He says, "It was due to my own 'bungling.'" The partially extruded tubally attached placenta had obtained new attachments to neighbouring coils and intestines, the most cautious separation of which occasioned fast and copious bleeding at every point. The lessons he learnt from this first case were priceless. He saw that placental attachments must be left severely alone, that nothing more was required than the removal of the bleeding tube and the clearing away of the escaped blood, and that rapidity of execution was an essential factor in securing operative success. His first successful operation was performed on March 3rd, 1883, on a patient of Dr. Page of Solihull, and during the next five years he operated forty-one times with one death.

We can forget Tait's errors in the greatness of his achievements. His operation for the removal of the appendages for the treatment of bleeding uterine myoma has not fulfilled the faith he had in, nor justified the claims he made for, his discovery. Next to ectopic pregnancy it was the subject which most interested him, and the operation he originated for its treatment was the piece of his life's work of which he was most proud. Writing of this operation in 1889 he said:

> The permanent and complete efficacy of this method of treatment has been established by evidence beyond all cavil; in fact, it stands unrivalled in the history of modern surgery: we have an absolute cure in our hands. I am satisfied the risk to life may be reduced to a vanishing point.
>
> Hysterectomy (he goes on) is a coarse and a much more dangerous method of accomplishing the same ideal (arrest of menstruation), and it is an operation I detest.

Gentlemen, Tait was wrong; for few surgeons, I imagine, follow this practice now, although some among us occasionally had—I certainly did—the satisfactory results claimed by him for the procedure. Hysterectomy is the treatment generally adopted to-day for all uterine myomata, whether bleeding or not. I question whether the last word has yet been said on the necessity for the treatment of this class of non-malignant uterine tumours by the major sacrifice of a very useful organ.

In the eyes of his contemporaries Tait's greatest error—indeed, it was looked upon as his besetting sin, which nothing could condone—was the attitude he took up with regard to early Listerian practice and teaching. Whilst accepting to the full the Pasteurian theories of fermentation and putrefaction, he denied that they applied alike to *living* as to dead tissues. He held the view—in common with other distinguished men of his day, and with a still greater number at the present time—that *living* tissues are themselves capable of dealing with the germ life of the ordinary atmosphere, and on the strength of this faith he was then removing ovarian tumours, and without the aid of the Listerian methods of his time, with a mortality of between 3 and 4 per cent. His wounds were dressed with dry absorbent cotton, very much as used everywhere to-day, as Gamgee had employed for years previously, and as I have done since I was Gamgee's house-surgeon in 1877.

I should like to say a few words here on what is now euphuistically spoken of as "surgical technique," formerly as wound treatment, particularly with regard to its ritual and its expense. The great principles upon which operative success depends are to-day exactly the same as when Lister first preached the gospel of antisepsis. Absolute cleanliness is the essence of the measures by which he carried those principles into practice. Many as have been the modifications of our operative methods since the early Seventies of last century, it is upon the completeness with which this central idea has been secured that the success of each method depends. It needs but little ceremonial to make and keep us clean either in body or in spirit. Simplicity, sincerity, and steadfastness will suffice in both. The modern tendency to make of a surgical operation a kind of ritualistic function is greatly to be deplored. Harm often results therefrom I am sure. We can be careful without being fastidious, and efficient without becoming hysterical, and elaboration of ceremonial will not condone a want of manipulative dexterity or absence of readiness in emergency.

Soap and scalding water are our safest and simplest antiseptics, and if we add spirit to the list, the scruples of the most sensitive of surgeons should be satisfied. Linen straight from the laundry costs but little, and is all-sufficient. Gauze can be purchased for less than a penny a yard, silk for 3d. a skein, clean cotton-wool for less than a shilling a pound, and bandages for a few coppers each.

All these are inexpensive, but all are efficient, and all are simple. The increasing cost of surgical work is chiefly due to the caprices of fashion and the demands of ritual, and partly also to the fancies of architects and the seductive enterprise of surgical instrument makers. Good surgical work can be done in a clean and well-lighted, airy bedroom if the surgeon will only take the necessary trouble. Many of the improvements of a modern hospital are as much for the convenience of the working staff as for the welfare of the patients.

EXPLORATORY OPERATION.

Exploratory operation as a means of accurate and early diagnosis had been advocated long prior to the days of Tait, but he it was who especially extended the application of this great surgical principle to diseases within the abdominal and pelvic cavities.

In 1876 "the great impediment to the adoption of gastrotomy (abdominal section) is the uncertainty of diagnosis," wrote Parry of Philadelphia, and Tait commenting on this statement in 1889, said:

> Mark the importance of this sentence, for this sentence it is, reiterated by almost every writer on abdominal surgery up to 1878, and continued as a tendency by a great many still, which has stood in the way of our success. I have long since thrown it to the winds, and when I find my patient *in danger of death* from conditions within the abdomen which do not seem to be clearly of a malignant nature, but a correct diagnosis of which is impossible, I open the abdomen, and at once make the diagnosis certain, and a successful treatment possible. I do the same thing also when the conditions are such that the patient's life is miserable by reason of suffering which cannot be relieved, or, at least, has not been by all other measures.

The result has been an enormous advance in abdominal surgery, obtained only after a severe struggle with the authority of the elders, who asserted that the abdomen was a region into which the writs of ordinary surgical laws should not run. He further adds, and with characteristic brusqueness:

> Absolute accuracy of diagnosis in the abdomen is *very far* from being possible: only the ignorant assert that it is, and only fools wait for it.

The wider acceptance of this great principle of exploration has done more to further the advance of surgical knowledge than anything since the introduction of antiseptic surgery. The general body of the profession takes somewhat exaggerated views of its risks and its disappointments, confiding more in new discoveries of a non-operative kind—imaginary or real, orthodox or unorthodox, scientific or empiric—frequently confusing exploration with experiment, and not altogether without reason. The two measures are essentially different: one is a matter of diagnosis, the other of treatment; one is often a sacred duty, the other is sometimes a surgical sin; and whilst I plead for a more generous consideration of the advantages of the former, I urge a strengthened watchfulness of resistance to the latter. To uncover a kidney to determine the presence or absence of a stone therein is an exploration; to stitch the dropping organ to the ribs because a head aches is an experiment. Experimental operations to-day are greatly on the increase, and are not to be justified merely for the reason that if something is known to be the matter, something must be done; or that they can be carried out with little danger to life; or that the malady for the relief of which the experiment is made is positively fatal unless something can be found for its relief. Gentlemen, there are many things in the world we cannot change, and to attempt to alter them is an act of folly. Water will continue to run downhill, however desirable in human interests it might be at times that it should flow in the opposite direction. We cannot attain the unattainable in surgery more than in other things. We must accept the inevitable, however sadly, or however great the cost.

I do not say that experiment shall not enter into the question of operations at all; it would be illogical were I to go so far, for the reason that much of the work of the daily practice of every medical man is essentially of the nature of experiment, and it is often only through experiment that later efforts come to be made in the right direction.

In a mere exploratory incision for the purpose of ascertaining whether an abdominal tumour is malignant or not no special difficulty is experienced or risk incurred, an incision large enough to admit a finger being all that is necessary. This sort of exploratory operation is practically nothing more than a tapping, but is of the greatest possible value in many circumstances. The whole abdominal cavity cannot, of course, be explored through one such incision, and in practice it is rarely necessary that it should be; the surgeon knows beforehand, from objective symptoms, the quarter in which any malady is situate, and there his exploratory opening will be made. It is surprising what can be learnt by a trained and educated finger passed through the abdominal wall at certain sites.

If a complete abdominal exploration has to be made through a single incision the opening must be made sufficiently large to admit the whole hand, and is, of course, more serious, but even then the death-roll is a negligible quantity, providing the exploration is carefully and rapidly made and nothing beyond this is done. This larger incision is often necessary, to determine whether a particular tumour can or cannot be removed. In this exploratory handling of malignant tumours it is of vast importance that the capsule of the tumour be not injured, owing to the great vascularity of the tissue contained within, and the difficulty experienced in checking such bleeding. Did time allow I could relate many instances where the neglect of this elementary rule has led to disaster of the most distressing character in what ought to have been simple and safe procedures.

KIDNEY DISEASES AMENABLE TO SURGICAL TREATMENT.

Great as has been the advance in our means and methods of investigating the nature of surgical kidney diseases during the last few years, certainty of diagnosis is still far from general, and exploration as the final method of determining the exact nature of a renal malady is still sometimes necessary, and may always be so in such affections as hypernephroma, adenoma, papilloma of the renal pelvis, or congenital cystic disease.

In my student days kidney disorders were dealt with solely by the physicians, whose time and interests were chiefly concerned with Bright's disease in one or other of its forms. I remember quite well how my professor of medicine, at the end of a series of lectures on Bright's disease, disposed of all the other kidney troubles within a couple of hours. Since those easier days "surgical diseases of the kidney" have whole volumes to themselves, and their curability or relief are more in our hands than was formerly thought to be possible.

The great bulk of these diseases are to be diagnosed by simple methods, by urinary investigation, by physical examination, by accurate history, and finally by clinical common sense. It is only in exceptional cases that the cystoscope, the radiograph, and the ureteral catheter are wanted, and sometimes they may be wanted badly. An otherwise healthy man subject to acute, paroxysmal, unilateral lumbar pain, shooting forward to the groin and testicle, aggravated by exertion, with concurrent or consecutive haematuria and oxaluria, ought to have a renal calculus; and whether your cystoscope, or ureteral catheter, or radiograph tell you so or not, should his attacks continue to recur an exploratory operation of the painful kidney ought to be made.

There is a feeling in the minds of most people that instruments of precision such as the Roentgen ray apparatus, the camera, the 'graphs and 'scopes of various kinds cannot possibly err, that their evidence is absolutely unimpeachable. This may be true of the instruments themselves, but whenever and wherever human judgement or observation have to come in, there also comes in liability to error. Let me illustrate my meaning by a few personal experiences of radiography in the diagnosis of urinary stone.

A few weeks ago I operated on a patient from whose right kidney a stone had been removed some eighteen months previously by another surgeon, a urine-leaking sinus resulting. An expert radiographer had recently declared the presence of another stone to which the persisting sinus was naturally attributed. I cut into this kidney for the purpose of removing this stone, which I failed to find. I then removed the kidney with its pelvis and the upper part of the ureter entire. There was no stone anywhere.

More than two years ago I saw a strong, healthy man with classical symptoms of renal calculus. To confirm the diagnosis the radiographer was appealed to. He found no stone in the kidney, but reported the presence of two small calculi in the ureter. Operation was deferred in the hope that these small stones might be passed naturally. After waiting a year I determined to explore both the kidney and the ureter, and had a radiograph taken the day before the operation to be sure the ureteral stones had not in the meantime shifted their position. The radiographer then reported that there were two stones in the kidney, each the size of a horse bean and alike in shape, and that the supposed ureteral calculi were probably phleboliths. I cut on to the kidney from the loin and readily removed one stone, but the second was nowhere to be found. I felt confidence in the thoroughness of my kidney exploration, gave the opinion that the two shadows shown on the plate were shadows of the same object, and closed the wound.

The man recovered easily after the operation, and has had absolutely no symptoms since.

A distinguished surgeon related to me an exactly similar experience which befell him a year or two ago—where he was led by the dogmatism of the radiographer to reopen a closed wound for a second stone which was not there, and nearly lost his patient in consequence.

A colleague had recently a consecutive series of five cases of ureteral calculus where radiographic evidence was negative, operation proved the presence of stone in every instance.

It is well known that pure uric acid stones may be invisible to radiography, and overlooked renal and ureteral calculi might be assumed to be of this nature, but recent researches of great value carried out in the Liverpool Medical School show that every one of a consecutive series of twenty-four stones removed by operation and submitted to careful chemical analysis was chiefly composed of oxalates and phosphates of lime. Lime-containing calculi give radiographic shadows, and most, if not all, of the Liverpool cases had been accurately diagnosed and localized before operation.

I have no desire to minimize the value of radiography in the diagnosis of urinary calculus disease; indeed, I recognize it as of the greatest value, and feel more at ease in a contemplated nephrolithotomy when I am supported by the confirmatory assurance of the shadow in a radiograph. Its affirmative value is of the highest, but too much importance must not be attached to its negative opinion.

Ureteral catheterization has its limitations and its fallacies. It is of the greatest use in the detection of albumen, tube casts, and micro-organisms in the urine, from one kidney alone. Obstruction in the ureter cannot be recognized with any degree of certainty by catheterization; many cases are already recorded where operation has shown that such catheter findings have not existed. Stones in the ureter (as in the urethra) have often been passed over by the catheter without recognition.

A very fair idea of the size and quality of a kidney and of its pelvis can be obtained by a finger inserted through a small exploratory opening in the linea semilunaris; but if a more thorough examination is needed, a lumbar incision should be made. A vertical incision from the tip of the last rib downwards gives the best access, but if the ureter is to be followed into the pelvis the oblique downward and forward incision is better. For exploration a kidney should be thoroughly freed from its surrounding tissue and brought on to the loin whenever possible. Stones, tumours, cysts, abscesses, tubercle, can be recognized without splitting the kidney by manipulation between a finger in the hilum and a thumb outside.

At the beginning of my professional life stone in the bladder was quite common in this district. Fifteen years later bladder stones were fewer, but kidney stones had more than taken their place; to-day bladder stones are fewer still, kidney stones are not so plentiful, and ureter stones are increasingly in evidence. It is not easy altogether to say why.

APPENDICITIS.

It needs courage nowadays to say anything at a meeting of medical men on the subject of appendicitis, particularly so in the middle of a hot July day. So much has been said and written, and presumably so much has been learnt, that nothing now remains to talk about. And yet, strange though it may seem, there are schools of opinion divided on almost every point of the subject on which it is possible for human minds to disagree. The more I see of the disease the more satisfied I am that it is primarily a mechanical affection; that obstruction is an essential factor in its genesis, the consequences of such obstruction being determined and controlled by germ activities on the one hand, and tissue proclivities on the other; that so long as no obstruction exists in the channel of the organ or in its opening into the caecum the omnipotent germs of the intestinal canal are powerless for evil.

The appendix is part and parcel of the large intestine, fulfilling the same function, receiving the same contents, altering them in the same manner, subject to the same disturbances and disorders, differing only in the mechanical consequences of its peculiar anatomical construction. The earlier pain of appendicitis is due to tension within the cavity of the organ; the later to the inflammatory involvement of peritoneum. I have seen acute appendicitis in the first year of life; I have seen a first attack come on at 84.

The diagnosis of both acute and chronic appendicitis, although often a simple matter, is not always posssible without the aid of exploratory incision. It would be better for the public and ourselves if this fact were more constantly kept in mind. It might tend to clear away many difficulties and much misapprehension which arises from time to time between our patients and ourselves where operative measures have to be discussed and operative results explained. Appendicitis is still occasionally wrongly diagnosed, but whereas formerly the disease was overlooked, to-day it is recognized where it does not exist, and when we remember its frequency of occurrence and its gravity, it is not surprising that it is "appendicitis" which usually comes first to mind in an acute abdominal outbreak occurring unexpectedly during ordinary health.

As a rule appendicitis declares its own presence if we will but listen carefully to the story it has to tell us, but we must listen with an open mind, for it is our preconceived ideas which lead us into error in most of our wrong judgements in all matters. The most reliable and most consistent of its early signs is local tenderness, always to be elicited if carefully examined for in the groin, the loin, the right side of the abdomen, or the rectum. This tenderness signal symptom must be sought for early; it becomes masked and modified by extra-appendical inflammatory extensions. The presence of a localized, well-defined swelling means suppuration either within or outside the organ, and the sooner such swellings are explored the safer for the patient, provided too much is not done at the time. Such localized swellings may disappear slowly by pus absorption and tissue resolution, or more quickly by pus finding its way into an adjacent coil of bowel, usually the caecum. I need scarcely say that pus appears in the stools only when an abscess has opened directly into the rectum or sigmoid flexure. Localized swelling is absent altogether only in the fulminating general peritonitic type, which is usually fatal whatever may be done for it. If every case of appendicitis was recognized and operated on within twelve hours of inception it would almost cease to be a mortal disorder, and if during the next twelve hours even, the general mortality would be lower than it is. After twenty-four hours, consideration has to be given to several matters before one can determine in any given case what is the safest step to be immediately taken, but on one point I am quite satisfied—that any interruption in the forward progress of an improving case calls for immediate operation. Whether it is safer to open the belly before opening the bowels in acute appendicitis, or vice versa, I cannot discuss to-day. I have tried both procedures, and give my verdict unhesitatingly in favour of the latter.

On the wisdom of the interval operation we are doubtless all agreed.

According to the Registrar-General's returns 2,276 persons died of appendicitis during the year 1909 in England and Wales, in the proportion of four males to three females. In the two larger Birmingham hospitals last year 432 operations for appendicitis were performed, and with a mortality of 8 per cent. in the acute cases only. Assuming the disease to be equally prevalent through the whole community—and there is no reason why it should not be—there must be nearly 40,000 cases annually in the United Kingdom, and yet at the time of the last annual meeting of the Association here appendicitis was an unrecorded malady in our hospital statistics, and did not appear in the Registrar-General's returns.

SURGERY OF THE STOMACH.

Abdominal operations have taught us many strange things since the Association was last here concerning the workings of our internal machinery, but none more striking nor more valuable, in my opinion, than the lessons to be learnt from the phenomena attending a successful gastro-enterostomy for pyloric stenosis. Here, prior to operation, we have faulty digestive processes of every conceivable kind flagrantly evident—changes in the acid content, in the peptic factor, in the motor mechanism; with flesh loss, weakening of body and of mind. Every attempt to change

this state of things by drugs and diet has failed during a long period of trial. A free opening is now made between the stomach cavity and the gut beyond the site of obstruction—nothing more—no drugs are given, no artificial ferments supplied, no changes in the foodstuffs poured in from above, no electricity, no hypothetical science of any kind, and what do we see? In most cases, at once a remarkable change; every sign of faulty digestion begins to disappear, and in a short time the whole complicated and elaborate process is carried on in a normal manner.

It looks, therefore, as if a chief factor in faulty digestion may be undue retention of food in the cavity of the stomach, and that unsuitability of material put into the gastric beaker or abnormal quantities and qualities of the digestive juices added thereto by the secreting glands may be altogether of secondary importance.

I know of no more striking example of surgical advance than is seen in the modern operative treatment of gastric disease, and when we remember how small is the ordinary death-rate of stomach affections this development becomes the more remarkable, and can only be explained by an increasing confidence of the profession and the public in surgical operative procedure. Of all the organs of the body the stomach is most subject to disturbance of one kind or another. Dyspepsia figures largely wherever medicine may be practised. Until quite recent times faulty digestions have been dealt with chiefly as purely functional affections. Organic lesions were looked upon as exceptional—the acute ulcer of young women, the atony of middle life, the cancer of the aged, with an occasional pyloric stricture, covered the whole ground of organic stomach disease. To-day the fact is established beyond question that all, or nearly all, chronic indigestion is due to organic gastric or duodenal disease. Although stomach surgery was being performed more than twenty years ago, it is only within the last few years it has made its real advances and established itself on a firm and permanent footing. I sometimes think it is going along too fast, for it is now quite an ordinary thing for a hospital out-patient to reply in answer to your inquiry of "Well, what is the matter with you?"—"I have got indigestion, and want to be operated on"; just as formerly he would have said, "I have got the wind and want something for it."

Accurate diagnosis of stomach disease is not always possible, despite the splendid work already done by the physician, the physiologist, the pathologist, the biochemist, and the radiographer. Appeal must often be made to exploratory operation, for it is only by sight and direct touch that precision of diagnosis in stomach diseases can be secured, and it is not until certainty in this direction has been established that the necessary treatment can be determined. Exploration should be the first step in every stomach operation, and one would think it unnecesary to add that unless something definite is found nothing definite should be done; the operator's hand must be restrained unless it is manifestly clear that the structural condition before him demands mechanical rearrangement or removal. There should be no mistakes in the way of speculative operations, even although the opportunity for experiment is before you; the temptation to do something must be resisted.

A considerable experience in stomach surgery, begun more than twenty years ago and continued on up-to-date lines to the present time, leads me to the following conclusions:

That precision in the diagnosis of many stomach diseases can be secured only by exploratory incision, and that earlier resort to this procedure in many cases is very desirable.

That where pyloric obstruction is present, as evidenced by periodic vomiting, treatment by posterior gastrostomy is eminently and uniformly satisfactory. Pain in such cases may be altogether absent.

That where vomiting is absent or only occasional, and pain is the symptom for which a patient seeks relief, gastro-enterostomy has its failures.

That acute ulcers of the stomach, except when perforating, do not demand surgical treatment; chronic ulcers, on the other hand, do; but what that treatment is to be I am uncertain. Some should be excised, some are cured by gastro-enterostomy, some should be infolded, and possibly some should be left alone by the surgeon.

That operations for gastric carcinoma are at the present time unsatisfactory, probably owing to their non-early recognition.

That dilated stomachs, in the absence of associated lesions such as pyloric narrowing or ulceration, may be left unoperated on.

That gastric haemorrhages are not to be dealt with satisfactorily by surgical operation. They do better in the hands of the physician. Duodenal haemorrhages, too, are not readily amenable to surgical treatment. Gastro-enterostomy does not meet their urgent indications, although it may contribute to the healing of the ulcers in which the bleeding originates.

That chronic duodenal ulcer is a pathological fact; it is no mere surgical apparition as is sometimes suggested. Its frequency in adult males is remarkable; its diagnosis prior to exploration is highly probable, but by no means sure; its recognition at the time of operation is certain, and its relief by operation is most satisfactory, I cannot say invariably successful.

That cancer of the stomach here in Birmingham does not appear so often as a sequel of chronic ulceration as it is said to do in many other places. The majority of patients with cancer of the stomach give no account whatever of long standing or of past indigestions. It appears usually as a primary indigestion in the middle-aged or elderly, and in all such cases I agree with a recent writer in the JOURNAL that by the failure of medical treatment quickly to relieve such indigestion, a suspicion of cancer should be aroused and an exploratory operation at once performed.

INTRACRANIAL AND INTRATHORACIC SURGERY.

Exploration has been of the greatest value in the treatment of intracranial conditions, and has brought into the range of curability many otherwise fatal affections. The purely experimental work of the scientific physiologists has taught us much in connexion with intracranial disorder, but exploratory operation has amended and amplified the knowledge thus acquired, and has made it of practical value in the treatment of disease.

Intrathoracic maladies do not lend themselves readily to operative exploration, owing, of course, to the serious disturbance of the respiratory dynamics attending open incisions into the thoracic cavity, but even here its use is considerable.

Gentlemen, my own interest in exploratory operation would lead me to dwell longer on this theme, but I must refrain, and devote the time that remains to the consideration of other matters.

INGUINAL COLOSTOMY.

Remarkable are the lessons to be learnt from a consideration of the modern operation of inguinal colostomy in two stages. Stage number one, as you are aware, consists in bringing out of the abdomen through a small incision in its walls a complete coil of the sigmoid flexure, some 6 or 8 in. of bowel, and of fixing the coil outside by means of a glass rod pushed through its mesentery, or in some other manner. A covering dressing of gauze or cotton is fixed over the extruded gut and the patient returned to bed. A mechanical obstruction of the bowels has thus been artificially produced of the most complete kind—I say obstruction as distinct from strangulation. Not the slightest pain follows the procedure; the patient lies perfectly comfortable for many days without a symptom of abdominal disturbance of any kind; nothing is passed per anum; he takes a simple liquid diet and sleeps soundly; he has neither pain nor vomiting; his tongue does not fur and his head does not ache; his pulse-rate is normal and his temperature does not move; his belly is neither distended, tender, nor rigid, and yet during the whole time the obstruction of the bowel continues. To me the object-lesson is of extraordinary interest, and I am constrained to ask myself whether some of the views commonly held and acted upon in connexion with "stoppage of the bowels" may not possibly need revision. I am often called in consultation to see cases of supposed primary "intestinal obstruction," where the symptoms of sudden severe pain, vomiting, and constipation are attributed solely to the fact that the bowels have not been moved for twenty-four hours or so. Simple arrest in the onward movement of bowel contents clearly does not give rise to these symptoms; some other

factor must always be present to produce them, and upon this factor does the obstruction depend. The more I see of acute abdominal disease, the less often do I meet with intestinal obstruction as a primary affection; it is secondary or symptomatic in the large majority of cases. Early in my surgical career I was frequently seeing cases of acute intestinal obstruction, and opened the abdomen for their relief as a routine procedure, invariably finding, as I believed, loops and kinks and twists and indeterminate bands, when something else more real was not in evidence. I published a paper in the BRITISH MEDICAL JOURNAL at that time, with an account of some twenty operations. Although of late years I have seen much more acute abdominal illness than I did then, I am not meeting one-fourth as many cases of intestinal obstruction calling for immediate treatment by surgical operation. Whether it is that the malady has become less frequent or that the bowels have acquired the knack of unravelling themselves in this age of higher education, or that I am now failing to recognize the malady, or that greater experience has modified my earlier predilections, I leave you to think.

The second stage of this same operation (inguinal colostomy) furnishes further food for reflection on some of the problems of intestinal function and disorder. Four or five days after the first stage has been carried out the coil of gut is exposed—it is lymph-covered and tightly adherent to everything about it; to a certain degree it is inflamed, but it is absolutely insensitive to pain. It may be cut across with scissors, it may be pinched or crushed, it may be slowly burned completely away with the actual cautery without the conscious patient showing the least discomfort at what is being done. The insensitive bowel wall is not dead; it bleeds freely when cut—indeed, its vascularity is excessive, and its sensibility, therefore, if it had any, should be exalted. This absolute insensibility, pervading as it were all the bowel tissues—mucous, submucous, muscular, peritoneal, nervous, vascular, and lymphatic—is hard to reconcile with the common clinical experiences of belly-aches, met with daily by every medical practitioner.

INGUINAL CAECOSTOMY.

It is well known that lengths of the digestive tract, varying from inches to several feet, may be removed without permanently affecting the general health. Whatever may be our final conclusions as to the advantages or the necessity in chronic constipation and in tuberculous joint diseases for doing away altogether with the function of all but the terminal few inches of the large intestine, the fact will remain that such a physiological deprivation is compatible with long and healthful life. More than twenty years ago there came into my hands a woman with a rare form of colon disease, probably inflammatory in its nature, certainly not malignant. She had suffered from bowel symptoms, pain, looseness, irregularity, and slimy stools, for the previous eleven years, dating her trouble back to a confinement at that time. She was a confirmed invalid when I first saw her. The rectum was almost occluded; the stools dribbled from her in liquid form, and her distress was very great. On opening the abdomen with the intention of doing an inguinal colotomy, I found that the whole length of the large intestine from caecum to anus was indurated, puckered, and contracted to the thickness of a finger, looped like a fleshy rope across the abdominal cavity. Its lumen was narrowed throughout its whole length; it had become practically nothing more than a long fistulous track, with one end at the ileo-caecal valve, and the other in the perineum. The small intestine was normal in appearance, but distended. There was nothing to be done obviously but to make an artificial and permanent opening in the caecum as near the valve as possible. Caecostomy is, as a rule, one of the most disappointing and distressing of all operations for the relief of intestinal obstruction. The constant escape of liquid contents from the small intestine directly through on to the skin gives rise to a widespread area of cutaneous irritation and rawness, for the relief of which local treatment is of little avail. The outlook, therefore, for this poor woman was gloomy. She began, however, to improve in health at once after the operation. Little by little she learnt to manage her disablement with greater and greater comfort to herself, and at the end of a year her general health was completely restored. She has lived an active life ever since, managing her domestic affairs, bringing up a large family, and taking an active part in her husband's grocery business. For more than twenty years she has continued in good health, although not a particle of her foodstuff has passed into her large intestine.

RADICAL CURE OF HERNIA.

Operation for the radical cure of hernia is a practical achievement of recent years. The only radical feature in the operations of our forefathers is that they are all radically bad. In 1890 no such operation appeared in the General or Queen's Hospital statistics; last year 476 are recorded. A few hernias were "radically cured" in my student days by the puzzling operations of Wood and Wurtzel, but the hernias invariably recurred in those patients who were fortunate enough to survive the operations.

There is no one operation practised for each of the several kinds of hernia. Every surgeon has his own methods, and thinks them better than anybody else's—and it is quite possible they may be; but certain definite principles are now established, and, so long as they are acted upon, it matters little by what means, results will be almost uniformly good. Recurrence liability varies under many circumstances—age, variety of hernia, fatness, etc.—but, including favourable and unfavourable cases alike, it should be less than 5 per cent. In children and young adults there should be none. The mortality-rate, too, varies in groups of cases, but should aggregate less than $\frac{1}{2}$ per cent. Hernias of all sizes, at all ages, and in all situations, can be satisfactorily and comparatively safely dealt with. The most important step of the operation has to do with the sac of the hernia. The neck of the sac should not be ligatured, but the peritoneum beyond the neck, and when this has been done and cut across below the ligature, it matters little whether the sac is removed or not. The closure of rings and canals is said to be a matter of secondary importance; in my opinion it should always be done, except in the inguinal hernias of very young children, and well done too. It is interesting to note that modern operations show the sacs of most hernias to be congenital and not acquired, an anatomical fact observed and insisted on by the anatomist Roser more than seventy years ago, and denied by almost everybody else up to quite recent times. The golden rule in surgery applies particularly to radical cure operations: Know what you want to do; see what you are doing; and do it simply.

PROSTATECTOMY.

Amongst the surgical advances of this present century the treatment of enlarged prostate by enucleation stands conspicuously prominent, and without discussing for a moment the question as to whom belongs the credit of first removing this organ by operation, the credit for having established the faith of the profession in the feasibility of the procedure is undoubtedly Freyer's, the great merit of whose work is in no way affected by small details as to the exact nature of the parts removed, or in the precise method by which their removal is effected. The term "prostatic hypertrophy" is a misnomer, the enlargement being due to the adventitious presence within the substance of the prostate of distinct neoplastic structures, adenomatous in their nature, developed doubtless from the normal gland tissue, but as distinct from simple hypertrophy as the common adenoma of the female breast is from general mammary overgrowth. The reason for the development of these adenomatous masses we do not know; none of the many explanations offered quite fit the facts, but that they are of very common occurrence is certain. As visiting surgeon to the Birmingham Workhouse Infirmary I have access to an enormous mass of pathological material, which ought to be put to better purpose, and ought to be accessible to the students of our medical school. Some years ago I removed, *post mortem*, and carefully examined, the prostates from a consecutive series of thirty men between the ages of 21 and 94, dying from various maladies. Three of the thirty were under 40 years of age, and all their prostates were normal; but of the remaining 27, 5 only were normal, 22 showing well-marked adenomatous growths. The detailed figures are interesting: Of 6 in the forties, 5 were enlarged; of 3 in the fifties, 2; of 8 in the sixties, 6; of 8 in the seventies, 7; 1 in the eighties, and 1 in the nineties were both enlarged. Of

normal prostates there were 1 in 6 in the forties; 1 in 3 in the fifties; 2 in 8 in the sixties; 1 in 8 in the seventies, and none above that age—that is to say, over 40 years of age less than 1 prostate in 5 was normal, and over 50 years, less than 1 in 4.

A discovery such as this was not comforting to a man who was then far advanced in the forties, but all anxiety was quickly allayed by the results of investigation in another direction. At that time there were 1,071 men over 50 years of age in the workhouse and its infirmary, at least 750 of whom we may take it had some amount of prostatic enlargement; four only were under treatment for prostatic troubles—a little more than ½ per cent. I quite realize that what is true of a body of men living simple, healthful lives under institutional discipline may not be true of men at liberty to live and to act as they choose, but it is clearly not necessary to advise every man whose prostate is enlarging to submit at once to a radical operation for its removal, not even when early symptoms have begun. I have seen several prostatics living healthy, active lives the whole of whose urine has been drawn by self-catheterization for twenty years or more without trouble or inconvenience.

Prostatic retention occurs sometimes where overgrowth is not present, the obstruction being caused by a true stenosis of the prostatic vesical inlet. The symptoms of this form of prostatic difficulty are like those of ordinary enlargement, but digital examination per rectum discloses a small prostate where a large one might have been expected.

I am performing regularly both suprapubic and perineal prostatectomy, and find that each has its merits, and that neither can claim to be the better for all cases. The suprapubic enucleation of a large soft adenomatous prostate from a man of moderate size is an ideal manipulative procedure—I know nothing more satisfactory in the whole field of operative work—but the enucleation of a slightly enlarged, tough, fixed organ from within the bladder of a bulky drayman is quite another business, and may be more easily and more satisfactorily accomplished by the perineal route. Each operation has its difficulties and its dangers, and in these matters there is little to choose between them. The suprapubic operative mortality is rather the higher in my hands, probably because the more serious cases have been dealt with by this method. The after-results of both operations are about the same. It is impossible to express in figures the functional results of surgical procedures, and one is constrained, therefore, to state them in general terms. Usually the results of prostatectomy are excellent; in the majority functional restoration is complete, and the patient is eminently satisfied; in a fair number, however, marked improvement is all that can be claimed, whilst in a few disappointment follows. Impotence probably always results, but the sexual function is not always abolished.

Prostatectomy for carcinoma and tubercle has been disappointing in my hands.

The Growth of Medical Literature.

One of the trials of a conscientious doctor's life is the flood of journals and new books which constantly overwhelms him. Every one feels the desire to read regularly at least one of the two leading weekly medical journals of his own country—and there ought to be no difficulty in his doing so; but when we find that our own JOURNAL, with its SUPPLEMENT and EPITOME, contained last year more than 4,750 pages (exclusive of advertisements, of course), more than thirteen reading pages for every day in the year, one sees how difficult it is; and when the second weekly is to be read, when the quarterlies, when the new books, when the research, and when the reflection I do not know. No wonder there are doctors who make no attempt to keep abreast the times by reading current literature, but are content to treat their patients by methods learnt from their early teachers, and proved to be the best by their own experience, relying on help from a professional brother in exceptional circumstances.

During the last century the memoirs and original works in medicine and the allied sciences numbered at least half a million, and it is not therefore surprising that the great Velpeau said towards the end of his busy days that "the greater part of his life had been taken up in unlearning what was untrue."

The man who proclaims a new discovery in a method of treatment or a means of more certain diagnosis incurs a great moral obligation, and the journal which distributes the information to the profession and to the public a greater. It would be better for all of us, doctors and patients alike, if every new discovery could be investigated and approved by an official and competent body of men especially appointed for the purpose before it was let loose in a world clamorous to do something or to have something done whenever anything is the matter, and, moreover, having greatest faith in the latest fashion. Another function such a body could usefully discharge would be that of selecting, or of compiling if necessary, a textbook of practical use for students and practitioners for each of the different subjects that medicine and surgery embrace. These standardized textbooks should be selected for, or revised in, a term of years, and should not be encyclopaedic in their nature, and the examining bodies should adopt them as their standard of knowledge in all qualifying examinations.

Hospital Treatment and the Insurance Bill.

The continuous increase in the number of operations performed by surgeons is a matter of common knowledge, but unless one's special attention has been directed to the question one cannot have any idea how great this is, or how from year to year it grows larger and larger. In 1872—the year in which my medical studies began—316 operations were performed in the two general hospitals in Birmingham. Eighteen years later, in 1890—the date of the last annual visit of the Association here—this number had almost trebled, the exact figures being 925; while last year this trebled figure had nearly quintupled again, the number then being 4,472. The public operative work at these two hospitals has, therefore, multiplied more than fourteenfold, and that within the period of my own working days. It is interesting to note that the number of beds in the two hospitals has only slightly increased. Each surgeon is doing more operative work to-day than were the united staffs of both these hospitals little more than thirty years ago.

The above figures represent only a portion of the hospital operative work of the city, for in addition to the two general hospitals there are the Women's Hospital, the Children's, the Eye, the Ear and Throat, the Orthopaedic, the Skin and Urinary, and the Homoeopathic Hospital and the Workhouse Infirmary, in each of which day by day operations are being performed. Adding their figures to those already quoted gives a total of 10,811 surgical operations performed during one year in the charities of a city containing less than 600,000 inhabitants. After making allowance for patients who come into these institutions from outside the city area, and applying these figures to the 45 million inhabitants of this country, we shall find that not less than 600,000 operations were philanthropically performed last year in the United Kingdom. I desire to call the attention of the author of *The Doctor's Dilemma*, and of all others who appear to be unaware of it, to the fact that this enormous mass of work has been almost gratuitously done, and the bulk of it by men whose reputations are already made. Six hundred thousand does not look much on paper in this age of millions, and may not strike the lay mind as it will the doctor's, but the figure represents a vast expenditure of energy and effort, of strain and anxiety, of time and of self-sacrifice on the part of the men by whose labour and skill this mass of work has been carried out, and the only public recognition of which are votes of thanks for past services, sandwiched in between those to the lady visitors and the chairmen for presiding, passed drearily but unanimously at the tail ends of thinly-attended and spiritless annual meetings of subscribers. Judging by present appearances, this remarkable increase of operations will still go on, and the demands made on the services of hospital surgeons will become greater than ever. How it will end is not difficult to see; the time must arrive when the bulk, if not all of this operative work, ceases to be dealt with by voluntary effort, and men will have to be paid to do the surgical work of the 35 millions of people in this country who at the present time pay practically nothing for the surgical attention they need, and must either provide for themselves or have provided for them.

This is not an occasion for discussing the Insurance Bill.

but it may not be out of place for me to refer to an omission from that measure of the greatest importance to the 15 millions of the public who are to be affected by it. I refer to the absence from its clauses of any provision for the active surgical treatment which will be necessarily required by this great body of people. This absence of provision for the treatment of their surgical troubles may be of greater practical consequence, I think, than would have been the absence of provisions for their purely medical ailments; for when a person of this class needs the aid of a surgeon as a rule he needs it badly, and there are only limited sources from which such needs can be satisfied. The necessity for the institutional treatment of many surgical conditions in the working classes will always exist, and provision should be made by the working people themselves, or by the State, to meet this inevitable demand; for to leave such a matter to the capricious promptings and casual extravagances of voluntary and irresponsible effort is not sound statesmanship as I understand the term.

THE COST OF HOSPITALS.

A matter demanding serious attention is that of the increasing cost of modern hospitals. Their capital outlay on construction and equipment is becoming appalling, and their maintenance charges are correspondingly high. A general feeling exists, I am aware, that as our knowledge advances and our means of dealing with diseases grow greater, so must the cost go up. To some extent this may be true, but it does not cover the whole position. Much of this greater expenditure is due to the tendency seen on every side for public bodies to reckless extravagance. This craving for the lavish spending of other people's money has become a disease, and institutions will at some future time have to be erected for the treatment of persons so afflicted. There is absolutely no need for the spending of large sums of money on the construction of public hospitals; there is no necessity for the sick people in their wards to cost as much as they do. I claim to speak with some authority, if only for the reason that I have worked in charitably maintained hospitals, and in a rate-supported hospital, during the greater part of my life. The object for which all such institutions exist is identically the same—namely, the conversion of sick into sound humanity. The raw material taken into these institutions is alike, the treatment the same, the results identical, but the difference in cost is phenomenal. A charitable hospital now costs from £500 to £800 per bed for construction and equipment, and from 30s. to £2 a week per patient for maintenance. The Birmingham Poor Law Infirmary cost less than £90 per bed, and the patients in it 14s. 6d. per week to maintain. How are these striking differences to be explained? Certainly not by any difference in the quality or the quantity of the work turned out, which are the criteria by which the work of every hospital should be judged, nor by the greater internal comfort of one class of institution over the other. The fact of one being a teaching institution and the other not accounts for something doubtless, but the difference—easy to find—depends on other things than that, but this is not the place to discuss them. I merely wish to call attention to their existence, and to express my own opinion that the sooner all public hospitals become municipally or State supported, the better for everybody in any way concerned with them—patients, doctors, and the public alike. Medical teaching and medical research might be better done in institutions altogether controlled by more responsible authority.

Gentlemen, we cannot all be leaders in our art, but each can strive to be as the great masters of surgery were in the past. Sir William Bowman, your surgical orator in 1866, who received his general and medical education here, has eloquently said of his predecessors: They were anatomists, they were physiologists, they were pathologists, not by second-hand learning from the tongues and pens of other men, though this they did not despise, but by truth-loving interrogation of Nature herself in all her haunts of health and disease; admitting no veils of limitation to be drawn by fashion or caprice or selfish interest between provinces and things essentially akin, but taking in the whole scope of their art as one great and ample field of noble study and of beneficent activity—one by the unity of Man's body, to which it yields a voluntary and loving service; one by the identity of the methods of research by which the secrets of that body are to be disclosed; one by the common aim and intention of all treatment, internal or external, remedial or preventive; one, lastly, by the simplicity of the moral attitude which should stamp us all as members of one body in our relations towards one another, to individual patients, and to the community among which we labour.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF FRACTURES.

FRACTURES of all kinds being of importance, and their non-union very distressing both to patient and surgeon, I venture to hope the following case may be of some interest:

The patient, an active man aged 67, was run over by a cart and sustained an oblique fracture of the tibia at the junction of the middle and lower third, while the fibula was broken near the ankle joint.

Treatment.—The fragments were kept in position with some difficulty, gentle massage began early, and a good result seemed probable, but at the end of five weeks there was not the slightest union, and three weeks later there was no improvement.

Operation.—With the kind help of Drs. Lewis and Anderson I exposed the end of the bones and found a disc of bone the size and thickness of a shilling between the ends of the tibia, lying quite loose. This was removed, and the ends freshened and finally fixed in position by means of a steel plate and six screws, by Mr. Arbuthnot Lane's method. The tension necessary to fix the bones in good position was considerable, and his long-bone fixation forceps were indispensable.

Result.—There was much oozing from the medulla of the bone, but the plate buried beneath the muscles caused no irritation, and he made a good recovery, with excellent union.

REMARKS.—I regret to say he died very unexpectedly two months after the operation. The specimen obtained showed perfect union in very good position. The 3-inch plate had not moved in the least, but two of the screws were beginning to get loose.

Axbridge, R.S.O., Somerset. A. V. LÈCHE.

A SIMPLE METHOD OF TREATING FRACTURE OF THE PATELLA.

SURGEONS teach that the best way to treat fractures of the patella is by suturing the fragments together, so as to secure perfect apposition. Some patients may, however, object to such a procedure, and practitioners, unless they be experienced in surgical technique, may not care to undertake such a responsibility. I was taught as a student to put the leg in a coffin-shaped splint and secure the fragments by adhesive plaster. Two cases of fracture of the patella have come under my care during the last four years, and the results of the treatment have been so satisfactory that I venture to publish the simple method of treatment I adopted.

CASE I.

A woman, aged 40, fell and fractured her patella into several fragments. She walked about with the fracture for a week, not suspecting such an injury. On manipulation, the fragments could be easily displaced.

The treatment was as follows: First, a mould was made of the sound knee by taking poroplastic material, 1½ ft. long by 6 in. broad, which was softened in boiling water, and then firmly placed on the sound knee. In this way a perfect mould of the knee-cap was taken; this was used as a splint for the fractured patella, the fragments being viced in the cap of the splint. A little cotton-wool was placed in the cap and sufficient to pad the rest of the splint, which extended above and below the knee-joint. Prior to fixing the splint the fragments were strapped into position by adhesive plaster, and longer strips were placed immediately above and below the patella, and drawn in contrary directions to pull the upper and lower fragments together. Lastly, a plaster-of-Paris bandage was put over all. In three weeks the plaster-of-Paris bandage was taken off. The splint was kept on for other two weeks, passive exercises were begun, and a knee-cap worn for two months, when it was discarded.

CASE II.

A carter fell and fractured his knee-cap into several fragments. The treatment was as described above, except that no plaster-of-Paris bandage was used. This accident befell the man on November 15th, 1910; he was back to his work on January 29th, 1911, and has had no trouble with his leg since.

Glasgow. JOHN T. MACLACHLAN, M.D.Glasg.

ERYTHEMA NODOSUM.

LIKE Dr. Craig, I was also interested in the account given of some cases of erythema nodosum following measles by Dr. Joynt in the BRITISH MEDICAL JOURNAL of April 15th. Being at the time somewhat under the influence of the thought that there is no new thing under the sun, I did not care to encroach upon the space of the JOURNAL with an account of a case very similar to those described. As the subject has cropped up again, however, I may be excused for giving an account of this case which came under my observation.

On March 16th I attended a girl aged 8, who was suffering from a typical attack of measles. The attack ran quite an ordinary course, and I mention it only for the sake of comparison.

On March 26th her sister, aged 7, began to show signs of illness, and measles was diagnosed. The rash began to appear next day. On this and on the following day there was a considerable degree of epistaxis. The patient vomited altered blood, and passed a considerable quantity of altered blood in the motions. This was probably due entirely to the epistaxis. In other respects the case was quite ordinary, and was doing well on March 30th. On April 13th her temperature went up to 102.2°. I suspected some complication in the lungs, but there were no signs of lung trouble. Next day she had pain in the knees and ankles. On the following day evanescent red patches appeared on the shins and on the backs of the forearms. The condition of the patient continued much the same for a few days, the erythema appearing and disappearing. On April 22nd she shivered, and her temperature went up to 105°. This happened again the same evening, and also the next day. After this the temperature gradually went down to normal, and the patient made a good recovery. There were no signs of endocarditis or pericarditis, and there was no personal or family history of rheumatism.

The elder girl remained unaffected, though no attempt at strict isolation was made.

During the attack of the erythema nodosum the motions were apt to be rather loose and offensive, and the patient was treated with liq. bismuthi and salicylate, sometimes with aspirin, but I should not like to say that the rash "yielded readily to salicylates" any more than the measles rash yielded readily to the diaphoretic mixture.

In any future inquiry into cases of erythema nodosum following measles, it might be of interest to ascertain how many of such measles cases were characterized by haemorrhages from the mucous surfaces.

G. POLLOCK, M.B.

East Putney, S.W.

SALVARSAN IN ALMOND OIL.

I HAVE experience that the injection of salvarsan carried by oil of sweet almonds is a most simple procedure, and its absorption when thus exhibited is active.

The technique requires attention to one or two points. No metal must enter into the structure of the syringe, which should be made entirely of glass. If, for instance, a metal plunger is used, the very acid salvarsan will act upon it, with the result that the syringe jams and is spoilt. This has happened to me more than once.

For the same reason, the emulsion must be drawn into the barrel through the nozzle of the syringe, *not through the needle*. The needle must have a large bore. The emulsion will not run readily through a small needle, even though no particles of the powder of appreciable size be present. My method is as follows:

The usual antiseptic precautions are taken. The salvarsan is rubbed up in a glass mortar, and a few cubic centimetres of sterilized oil of sweet almonds added. A smooth emulsion is rapidly prepared. The plunger of the syringe is lubricated with vaseline, the emulsion drawn into the barrel, and the needle applied. With the thumb and finger of the left hand the skin near the angle of the scapula is raised to form a suitable fold; with the thumb and fingers of the right hand the needle is plunged through the skin, every care being taken to enter the subcutaneous space without injuring fascia or the deep layers of the derma. The syringe is disconnected from the needle in order to ascertain that no blood vessel has been opened, then it is reconnected, and the plunger slowly pushed home. If the precaution is not taken to verify the integrity of the blood vessels, a subcutaneous swelling will form which will be very painful for two or three days. The recital of one case will suffice to show that the injection of salvarsan in oil is active.

A patient 37 years old contracted syphilis in July, 1910. He had been under treatment with mercury. His tongue was fissured in all directions right down to the muscular layer. It was one of the worst syphilitic tongues I have seen. So deep were the fissures that the appearance of the tongue made one think of a starfish. I gave this patient 0.3 gram of salvarsan in sweet almond oil, and in twenty-four hours he was eating a meal with relish and without pain. Eight days after I injected 0.2 gram. The patient left the hospital twelve days after admission with the tongue practically healed.

I had intended to give this patient a larger dose, but the syringe, being fitted with a metal plunger, jammed when I had injected 0.3 gram, and was totally spoiled.

ARTHUR LOXTON, M.B., Ch.B.Birm., F.R.C.S.Edin.

Birmingham.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

BIRMINGHAM GENERAL HOSPITAL.

A CASE OF EXTREME CARDIAC FREQUENCY.

(Under the care of Sir ROBERT SIMON.)

[Reported by K. DOUGLAS WILKINSON, M.B.Birm., Resident Medical Officer.]

T. L., aged 23, was admitted to the General Hospital, Birmingham, under Sir Robert Simon, on March 31st, 1911. She complained of palpitation and breathlessness, and the pulse-rate was about 200. She had had many similar attacks, which had usually ceased after one or two days. This attack began quite suddenly on the evening of March 27th, and at the outset did not cause her much distress. During that night, however, she became much worse, and was almost entirely prevented from sleeping until her admission.

In hospital, tincture of digitalis ♏x every four hours had no effect; she was then given tinctura belladonnae ♏xv thrice a day, which also had no effect.

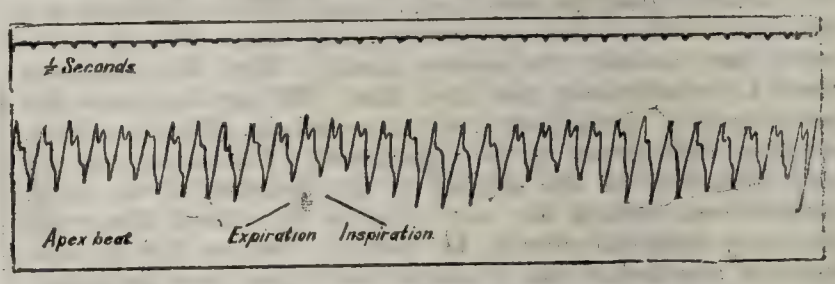

The tracing from the apex beat here reproduced was obtained on April 1st. The venous tracing was of the ventricular type. The radial pulse was almost imperceptible. The tracing shows a cardiac frequency of 240; the respirations are also noticeably rapid. Sir Clifford Allbutt (*System of Medicine*, vol. vi, p. 526) states that no tracing has been published of a cardiac frequency exceeding 200.

On the evening of April 2nd she became much worse and more distressed. The liver was enlarged and the epigastrium acutely tender; she complained of great flatulence and vomited a little. The apex beat was very distinct and localized, well outside the nipple line in the fifth space, and its frequency was 300 a minute. I counted it carefully several times, being unable to believe such a frequency possible at first.

The attack ceased quite suddenly on the following morning at 10 a.m., the heart being rather irregular for half an hour after the slow rhythm was resumed.

THE late Mr. George White McLean, of Newcastle, whose will has now been proved, left £500 to the Royal Victoria Infirmary, and £250 each to the Newcastle Dispensary and the Fleming Memorial Home for Sick Children.

Reports of Societies.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, July 12th, 1911.

Dr. F. W. HAULTAIN, President, in the Chair.

Enzygotic Twins.

DR. BERRY HART, in a paper entitled "A Contribution to the Theory of Enzygotic (Monochorionic) Twins," stated that by enzygotic twins he meant twins developed from one zygote (fertilized ovum). The most striking instance was one of identical twins in whom the similarity was complete even to the fingerprints (Wilder). It was further noteworthy that all twins derived from one zygote were of the same sex. In what were termed allantoido-angiopagous twins there was a communication between the umbilical cords, and one twin was usually deformed. The deformity was often striking, and the head, trunk, or limbs might be awanting, or the only representative of the body systems might be the head. Such twins might be united at the thoracic or pelvic region, occasionally by the head. In considering the causation of such anomalies, the author advanced the theory that one must go back to the zygote itself, and looking on it as containing the determinants for the organs of the developed infant, suggested that in enzygotic twins there might be a complete or incomplete doubling of the determinants, and then a complete segregation of these into two groups. In identical twins the doubling and segregation were complete; in the other deformities the doubling was incomplete, and segregation thus gave a complete twin and an incomplete one. For example, if an acephalic twin was present along with a normally developed one, the determinants for the head had not been doubled, hence the acephalic result on one side. Dr. J. W. BALLANTYNE defended the name "allantoido-angiopagous," as on the generally accepted theory it was the vessels that in animals would go to supply the allantois which were involved. He was now prepared to go as far as to state that the formation of twins occurred at a very early date—in the zygote or in the stage immediately following it. Dr. B. P. WATSON referred to a case in which one twin was healthy and the other had a deformed pelvis and absence of the external genitals. Dr. BERRY HART, in reply, said that no facts could be obtained in support of one or other theory. The object was to find the easiest way of reasoning between cause and result.

Mongolian Fetus.

Dr. H. M. CHURCH reported the birth of a Mongol in whom the parents were young and healthy, and without the syphilitic, alcoholic, or tuberculous taint. An important point in the case was that the mother had had a serious fall from a bicycle ten days after conception. The other Mongolian cases he had met with were associated with infection in the mother. Dr. HART believed that the theory of trauma was worthy of consideration. Dr. OLIPHANT NICHOLSON referred to a Mongol who had been benefited by small doses of thyroid extract, and thought that the pathology might depend on the ductless glands. Dr. BALLANTYNE said that traumatism in early pregnancy was important.

Perithelioma of the Uterus and Fallopian Tube.

Drs. A. H. F. BARBOUR and B. P. WATSON gave a lantern demonstration of microphotographs of these conditions. They were supposed to arise from the endothelial cells of the perivascular lymphatics. The perithelioma of the uterus occurred in a woman of 58. It gave rise to a swelling as big as a five months pregnancy, and the complaint was of the vaginal discharge, which was at first fetid, and later blood-stained, becoming watery. The perithelioma of the Fallopian tube occurred in a nullipara 53 years of age. She had had pain in the left side, and vaginal discharge for seven months. The swelling reached to the umbilicus, ascites was present, and the peritoneum, intestine, and ovaries were studded with nodules. The tubes and ovaries were removed. Each tumour on section was yellowish-white and brain-like, and showed necrosis at parts. The cells of the tumours were arranged in more or less radial fashion around the vessels, and outside the masses were areas of degenerated tissue. In the tube, as formerly described by other observers, there was a hyaloid space between the vessel and its sheath of tumour cells.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, July 13th, 1911.

Dr. ERNEST CLARKE, Vice-President, in the Chair.

Metastatic Ocular Inflammation.

MR. ARNOLD LAWSON, in a paper on two cases of metastatic ocular inflammation in association with *Bacillus coli* toxaemia, gave the following particulars of the cases:

CASE I was a young lady aged 21, who suffered from a very intense optic neuritis of one eye. The inflammation was the most severe example of monolateral papillitis that the writer had ever encountered. The general health of the patient was not obviously affected, all the organs were quite healthy. Syphilis could positively be excluded, and there was no evidence of tubercle, either in the patient herself or in the family history. The housemaid in the patient's house had, however, noticed for some months that the bedroom in the morning always smelt abominably, and it was discovered that this odour was due to the offensive condition of the urine, which was found to be swarming with *Bacillus coli*. Full doses of helmitol were prescribed, which effected rapid improvement, and, consecutive with the satisfactory change in the urine, the papillitis also subsided rapidly. Mercury by the mouth and by inunction was also given, but mercurial treatment was not well borne, so that after about a fortnight all internal administration of mercury was stopped, and the treatment then consisted of a little mercurial inunction at night, combined with full doses of helmitol. Expert advice was sought with regard to the preparation of a vaccine, but as improvement had set in so rapidly after the commencement of the helmitol, it was deemed unnecessary, especially as at that time (three years ago) *coli* vaccines had little determined value. The progress of the case was extremely satisfactory. The patient recovered with $\frac{6}{6}$ vision and a good visual field, excepting that a somewhat large sector of the field at one spot was obliterated, elsewhere the limits of the field were full and normal. Helmitol was continued for about three months, and at the end of this time a specimen of urine submitted to the microscope contained no *Bacillus coli*.

CASE II was a woman, aged 36, afflicted with severe chronic rheumatoid arthritis, and subject to recurrent attacks of vesicular keratitis, which usually cleared up under ordinary straightforward treatment. Some months ago she was taken into Moorfields Hospital by the writer on account of the unusual obstinacy of one of these attacks. She then speedily recovered, but just before it was determined to send the patient out of hospital, another bad attack set in. The little corneal ulcers in one eye were then scraped for bacterial investigation under due aseptic precautions, but within a few hours of the scraping a very violent muco-purulent discharge commenced in this eye, rapidly followed by an infiltration of the cornea with dense exudate. This infiltration spread in spite of all treatment, and so quickly that four days later the whole cornea was involved, and stained freely with fluorescine. About this time the other eye commenced to exhibit a similar train of symptoms. A profuse muco-purulent discharge was also rapidly followed by ulceration and infiltration of the cornea, and five days later, corresponding to the ninth day of the infection of the first eye, the condition of the latter seemed hopeless and that of the other eye was almost as bad. Two careful bacteriological examinations of the conjunctival discharge revealed nothing but the presence of the *Bacillus xerosis*. There was no sign of gonorrhoea about the patient, and no history of any previous attack of this disease. The urine was, however, offensive and swarming with various organisms. On the fifth day of the primary infection a mixed vaccine of streptococcus, *B. catarrhalis*, and gonococcus was tried without effect, and on the seventh day, as matters were getting desperate, the writer suggested an examination of the urine for *B. coli*. This organism was found present in vast numbers, and a vaccine of *B. coli* was then prepared and injected on the ninth day. Urotropine in full doses was also ordered. A very rapid improvement at once followed the injection of the *B. coli* vaccine. The conjunctival discharge rapidly decreased, and the corneae began to clear up. Six days later the corneae were almost covered by epithelium and the infiltration was already far less dense. From this time, in short, the patient made rapid strides to complete recovery, so that seven weeks after the onset of the inflammation the vision was as good as when the patient first came into the hospital. Altogether five injections of the vaccine were given, commencing with 5 millions, the last two injections each containing 100 millions. The bacilluria rapidly improved after the first injection.

The author believed that these two cases were the first recorded examples of ocular inflammation associated with *Bacillus coli* toxaemia; it was probable, he said, that the association was not so very rare, but that it had been overlooked in the past.

UNITED SERVICES MEDICAL SOCIETY.

THE elections held at the annual meeting of the United Services Medical Society on July 12th resulted in the appointment of the following officers for the ensuing session: *President*, Major E. B. Waggett, R.A.M.C.; *Treasurer*, Major S. Lyle Cummins, R.A.M.C; *Members of Council*, Staff Surgeon Dudding, R.N., Lieutenant-Colonels P. J. Freyer, I.M.S. (ret.), E. Lloyd Williams, R.A.M.C.(T.), and Major C. E. Pollock, R.A.M.C. In the course of the proceedings the SECRETARIES reported that during the past year they had endeavoured to emphasize as far as possible the military character of the society, since it was felt that there was already an abundance of purely medical societies. Colonel Sir DAVID BRUCE, in acknowledging a vote of thanks to himself and the other retiring officers, dwelt on the value of preventive medicine in connexion with the army and navy. Apart from the almost complete abolition of Mediterranean fever at Malta, which represented a saving of something like a million and a half sterling in return for an expenditure of about £5,000, the incidence of enteric fever in India had been reduced to from 15.6 per 1,000 in 1906 to a present rate of 4.6 per 1,000. This was due to inoculation, segregation of carriers, and improved methods of disposing of excreta, all of which had been adopted largely as the outcome of researches by medical officers. Such results as these could be obtained in no other sphere of work, and he urged medical officers to devote more and more of their time in this direction. At the present moment the problem of the prevention of malaria among garrisons stationed in the tropics called urgently for solution.

Reviews.

NATIONAL HEALTH AND MEDICAL SERVICE.

PROFESSOR BENJAMIN MOORE'S book, *The Dawn of the Health Age*,[1] should be read in view of the fact that the author is no recluse of the laboratory, but one who has taken his full share in the recent work of medical politics and medical organization, and who has had ample opportunities of familiarizing himself with the points of view of all sorts of medical men, from the sweated club doctor to the highly paid and highly esteemed specialist, and pioneer of research. He maintains that it is not only an ideal, but a practical thing, that every medical man, whatever his standing, should become a salaried officer in an organized State medical service. That is, briefly, Professor Moore's suggestion, and it is impossible to read his eloquent, if occasionally rhetorical, pages without feeling that his proposals, were they realized, would indeed do much to remedy some of the worst ills of existing social conditions. The questions remain, Can they be realized? and Might they not bring in their train other evils worse than those they would remove? To both questions the author has his answer, which must be sought in the book itself. His thesis is that in the present state of medical science already about nine-tenths of the sickness from which the nation suffers, and at least 300,000 deaths every year are preventable, and would be prevented if the medical profession were an organized service, seeking out and preventing disease at its origin. In his criticism of existing conditions Professor Moore is very frank, and few branches of the profession escape his lash. He blames no one, for we are all "in the grip of a vicious circle." He pays his tribute to the good work done by individuals, but describes the existing public health service as a "Castle of Humbug," impotent through want of co-ordination, nor does he fear to fall foul of what he considers to be the close corporation of operating surgeons and their prohibitive fees. One chapter, devoted to the present hospital system, contains a comparison of the voluntary hospital and the Poor Law hospital, two actual institutions existing side by side in the same city, which deserves to be read. Professor Moore believes that matters will right themselves by a process of evolution. His plea is that we should recognize the evil, and realize what are the factors in the evolutionary process, and by legislation and otherwise help on the consummation so devoutly to be wished. He claims that his scheme is purely an economic one, and even attempts to reduce the saving to the nation of a real system of preventive medicine to millions sterling.

The chief object of Dr. MEREDITH RICHARDS'S small book, *Public Health and National Insurance*,[2] would appear to be to advocate a unified medical service on something like the lines of the Minority Report, but so as to embrace in addition the medical service contemplated under the National Insurance Bill. It is urged that the local Health Committee of the bill should become a statutory committee of the county or borough council—

> Not that the public health authorities should unnecessarily interfere with general practice, but that the insurance medical service should be organized on preventive lines, and that both this and the existing public health service should be placed under a committee on which the insured, the medical profession, and the ratepayers should be suitably represented.

This idea of a unified medical service under existing health authorities is, of course, quite contrary to the declared policy of the British Medical Association, but the author adds several distinctive features which are certainly deserving of notice. One is that there should be one or more clinics with part or whole time salaried medical officers who would treat patients suffering from phthisis or other diseases requiring specialized treatment, act as consultants and referees in respect of all considerable claims for sick benefit, especially where malingering was suspected, and undertake the work of medical inspection and treatment of school children, supervision of midwives, infants' consultations, health lectures, and so on. The statutory committee would also arrange with general practitioners for domiciliary treatment on a capitation basis, the insured having free choice of doctor and the doctor free choice of patient. He suggests that wage earners who could not get a doctor to attend them, persons voluntarily insured, and some others should be credited with the capitation grant and should arrange for their medical attendance on the lines of the National Deposit Friendly Society. Some useful hints are given as to the scope and administration of sanatorium benefit, all leading up to the general conclusion that the whole medical service should be mainly on preventive lines and unified under the county and borough councils. It is practically certain that the latter suggestion will not have any support from the Government, and, so long as the insurance fund provides the greatest proportion of the money required, it can hardly be reasonable to expect that the county or borough councils should have anything like a majority on any committee administering the funds.

THERAPEUTICS.

THE general principles which underlie the rational treatment of disease have undergone considerable change during the last decade. Vague therapeutic traditions have given place to well regulated methods founded upon careful study of natural processes of disease. Roughly divisible into two classes, these principles may be described as biological, where treatment is only applied to aid the known reactions of Nature, and specific, where the cause of the disease is known and is amenable to direct influence. In the first volume of the large *Handbook of Practical Treatment*[3] now offered to the profession by Drs. MUSSER and KELLY of the University of Pennsylvania, the treatment of the patient, rather than that of the disease, is kept constantly in view, and in the opening chapters a good deal of attention is given to the varying conditions produced by development, heredity, or previous disease which in so many cases have a definite influence upon the ultimate success of treatment. Dealing first with the preventive aspect of the question, a good account is supplied of the public measures of prophylaxis which are in force in different countries, a prominent place being given to the working of the English Local Government Board, which is rightly held up to admiration. A description of the American Boards of Health

[1] *The Dawn of the Health Age.* By Benjamin Moore, M.A., D.Sc., etc. London: J. and A. Churchill. 1911. (Post 8vo, pp. 197. 3s. 6d.)

[2] *Public Health and National Insurance.* By H. Meredith Richards, M.D., Medical Officer of Health and School Medical Officer, Croydon. London: P. S. King and Co. 1911. (Pp. 71. Price 6d.)

[3] *A Handbook of Practical Treatment.* By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the same. Vol. I. Philadelphia and London: W. B. Saunders Company. 1911. (Roy. 8vo, pp. 909.)

enables a close comparison to be made between the two systems. The general principles of dietetics are laid down by Dr. Edsall, of Philadelphia, a full account being given of the relative food values in ordinary dietaries. The milk question is discussed at considerable length, and the use of artificial substitutes is considered from the practical as well as from the scientific point of view. Many valuable hints may be found by those who care to look more deeply into the matter than young doctors and young parents are apt to do. The only British contribution to the volume is supplied by Sir Lauder Brunton, who discourses on the general principles of drug treatment. The success of drugs in combating diseased conditions depends in part on fancy and in part on fact, but the writer's exposition of the processes by which applied therapeutic science can come to the aid of natural processes is interesting and complete. The complicated questions of serum-therapy and its value are very carefully enunciated by Dr. Ludwig Hektoen, of Chicago. The steps by which the present position has been reached are closely traced, and the theories of haemolysis set forth in detail. The action of opsonins in relation to haemolysis is debated, and the conclusion reached is that they must form a distinct class of antibodies. Dr. Warren Coleman, of New York, contributes a short chapter on organo-therapy, in which the present state of knowledge with regard to the pituitary body is well shown. The uses of exercise, massage, and mechano-therapy, and their application to many physical defects and morbid conditions are fully described and well illustrated. Some of the procedures mentioned may be new to English readers. An interesting account of American health resorts by Dr. Sewall, of Denver, is followed by chapters on electro-therapy by Dr. Mosher, and radio-therapy by Dr. Pancoast, of Philadelphia, who indicates that he is by no means an enthusiast for the extended use of either of these methods, being fully alive to their dangers and limitations. Many chapters follow, contributed on various subjects by many writers, and all of them give evidence of thoroughness and good judgement. Thus the first volume of "Musser and Kelly" promises well for the work as a whole. Described as a handbook, but turning the scale at 5 lb., it will form a ponderous addition to the doctor's library, but the fund of information to be found in it and the readable style in which it is conveyed, will make it as welcome as it is weighty.

The scope of this book by Dr. G. H. HOXIE, Professor of Internal Medicine in the University of Kansas, is indicated very well by its title, *Symptomatic and Regional Therapeutics*.[4] The first part deals with particular symptoms, as, for instance, pain, fever, itching, etc., and their treatment. In the second part the treatment of localized inflammations, as, for instance, of the skin, mucous and serous membranes, is considered. Inflammations of the skin are classified etiologically into (1) traumatic, including burns, frostbite, cuts, bruises, and abrasions; (2) bacterial, a section under which much space is given to scabies, a parasitic disease of the skin usually complicated by bacterial infection, but not on that account properly classified as bacterial. The third section of the book describes the treatment of the diseases of the different organs and regions of the body. Lastly, two chapters at the end of the book may be described as a condensed materia medica designed to save the reader the need of constantly referring to another volume for dosage and other details of officinal preparations. The arrangement necessarily involves a certain amount of repetition, but, from the point of view of the student, this is, perhaps, rather an advantage, for, as a great writer has truly said, "it is only by frequent reiteration that unfamiliar facts can be stamped upon the memory." We gather from the preface that the book "contains the material collected for the course in general therapeutics adopted by the committee on curriculum of the American Medical Association, a recommendation adopted also by the Curriculum Committee of the Association of American Medical Colleges." Generally speaking, the treatment of the subjects dealt with is modern and adequate. Stress is laid on the principles underlying the various methods of treatment, and the distinction between symptomatic and specific treatment is insisted upon whenever possible. It is matter for regret that in practice the distinction is so frequently of little importance. It increases, however, with every real advance in the science of medicine. The book is well and clearly written, but the descriptions of some of the diagnostic and therapeutic operations, such, for instance, as intravenous injection and lumbar puncture, while full enough to enable a student to pass a written examination, are hardly sufficiently full to be an adequate guide to their actual performance. The details of drug and diet treatment are as a rule given very fully and precisely, and are in accord with most recent authorities. In the treatment of syphilis, salvarsan is not mentioned; but as this remedy is still to some extent *sub judice*, perhaps this is as well. Finally, the book is well got up, and is of convenient size and weight for general use. The type and printing are good, and there are a fair number of useful illustrations.

Professor ALBERT ROBIN has published, in a volume entitled *Thérapeutique usuelle du praticien*,[5] the substance of his lectures at the Hospital Beaujon, which form part of the course of instruction in clinical therapeutics at the Faculty of Medicine of Paris. There is a simplicity and directness in the phrasing which makes the book easy to read, and suggests, not unpleasantly, the clinical teacher at the bedside. It cannot be regarded as a textbook or systematic treatise. The author's aim is too exclusively practical. He has eliminated, as far as possible, all considerations which do not bear upon treatment. In dealing with his subject, he presents only his own view with any fullness, glancing occasionally at any rival theories or modes of treatment, only to put them on one side. This again, while diminishing the value of the book as a work of reference, makes for clearness and easy reading. And as his views are those of a physician of great insight and experience, and are very fully stated, down to the most minute details of treatment, the result is a volume of no little value and interest. It includes under infectious diseases, typhoid fever, erysipelas, acute articular, and gonorrhoeal rheumatism; among disorders of nutrition, polyarthritis deformans, acute and chronic gout, diabetes mellitus, and albuminuria; among diseases of the respiratory organs, pneumonia, acute oedema of the lungs, pleurisy, bronchitis, and emphysema; among diseases of the nervous system, cerebral embolism, cerebral syphilis, and paralysis agitans. One disease of the skin is discussed —prurigo.

POISONS.

WE have much pleasure in drawing attention to the publication of the second and concluding volume of Dr. FRANZ ERBEN'S monumental work on poisons,[6] which forms part of Professor DITTRICH'S series of practical handbooks. We reviewed the first volume at the end of 1909 (JOURNAL, December 25th, 1909, p. 1802), and there spoke highly of the thorough and complete way in which Dr. Erben discussed each subject, and we can only repeat the same praise for the present volume. It includes all the organic poisons and the general and special treatment of poisonings, while in a final chapter, under various symptoms, all the poisons which may give rise to each symptom are tabulated. This last section is of doubtful utility, for with few exceptions the number of poisons giving rise to each particular symptom is so numerous that the list would hardly be of much help in coming to a conclusion; but there may be other circumstances which would narrow the question down to a few, and such a list may therefore help in differential diagnosis, especially as it would then be possible to turn to the section under which the action of that poison is described. Dr. Erben has shown great diligence in collecting his materials, and the number of English cases which are reported is remarkable, probably because the general practitioner in England is more in the habit of

[4] *Symptomatic and Regional Therapeutics.* By George H. Hoxie, M.D., Professor of Internal Medicine in the School of Medicine, University of Kansas, etc. (Roy. 8vo, cloth, pp. 499; 58 illustrations. 16s. net.)

[5] *Thérapeutique usuelle du praticien.* By Albert Robin, Professor of Clinical Therapeutics in the Faculty of Medicine of Paris, Member of the Academy of Medicine. (Second series.) Paris: Vigot Frères. 1911. (Med. 8vo, pp. 530. Fr. 8.)

[6] *Handbuch der aerztlichen Sachverstaendigen-Taetigkeit.* Herausgegeben von Professor Dr. Paul Dittrich, Prag. Siebenter Band. Uebersicht von Dr. Franz Erben. Mit einer chromolithographischen Tafel. Wien und Leipzig: Wilhelm Braumueller. 1910. (Sup. roy. 8vo, pp. 1,269. M. 34.)

publishing short notes on cases of interest occurring in his practice than are his brethren in other countries. Under ether narcosis we looked for any reference to the acute oedema of the lungs, from which several deaths were recorded thirty years ago, but the author has not noticed them, and for some reason this accident no longer seems to occur, though whether it was due to the quality of the ether or the method of administration we cannot tell. On page 284 he says that in Hungary, according to Sztankay, camphor is used commonly, in pieces as large as a bean or hazel nut, two or three times a day, to produce a peculiar sensation of well-being akin to intoxication, and the striking increase of epilepsy in Hungary is attributed to this practice, but he also says, without giving any reference, that "in London the abuse of camphor is widespread amongst the upper ten thousand; they take it in milk, chloroform, pills, or with opium, for the purpose of stimulating the heart and producing a peculiar feeling of intoxication." We should like to know his authority for this statement, which is, we believe, quite erroneous. No doubt camphor is commonly used as a domestic remedy for colds, and for this perhaps our homoeopathic colleagues are mainly responsible. Rubini's tincture of camphor, which is a strong solution of camphor in absolute alcohol (one part of camphor to one of alcohol), is used for colds and diarrhoea, but we have heard of no abuse of the drug for the purpose of producing intoxication. The account of curare is interesting; it is, he says, an extract of different plants of which the active principle is derived from the bark of various kinds of a liana-like South American *Strychnos*, belonging to the Loganiaceae. The commercial calabash curare is derived from *Str. toxifera;* pot curare from *Str. castelnaei*, together with *Cocculus toxiferus* (Menispermaceae); while tube curare is from unknown plants. Under pellagra the writer suggests no doubt of its being due to a poison derived from damaged maize, although he admits that some authors do not regard this as the only factor. The work is completed by a copious index to both volumes, and is illustrated by a chromolithographic plate of the blood spectra produced by various poisons.

NEUROLOGY.

IN the provinces of physiology and of clinical medicine few questions are of more absorbing interest than that of the localization of the functions of the brain. Despite much study and much writing about it, few seem further from a complete solution. Professor VON MONAKOW, of Zürich, has recently made an interesting contribution[7] to the problem. Hitherto it has been attacked by experimentalists, experimental anatomists, comparative anatomists, embryologists, and cyto-architectonists—so he tells us—each using his appropriate methods of investigation, each attaining his due measure of success. Von Monakow approaches the problem quite otherwise, and arms himself with considerations drawn from its phylogenetic development. The adult human brain is the end-product of a lengthy and complicated phylogenetic and ontogenetic evolution; the most primitive nervous system consists merely of ganglion-cells, next in the process of development comes the system of metameres seen in Amphioxus. In the fishes the mid-brain first becomes an important part of the central nervous system; the cerebral cortex appears in the amphibia and reptiles, and its most important portions, from the developmental point of view, are its cortico-somatic elements. In the mammalia the cortico-somatic system grows out into cortical association-fields; and the last word of phylogenetic development is to be found in the cortico-associative system—the association-fibres in the most superficial layers of the cortex—of the human being. In the human being all these stages of development—ganglionic and metameric systems, the mid-brain, the cortico-somatic and associative systems—exist together and act together: yet they do so without any loss of individuality, as is shown by consideration of their ontogenetic development. Professor von Monakow tells us that he has never been a firm believer in many of the views which connect certain cortical areas with certain bodily or mental functions, and has never been satisfied with the free use of hypothetical nerve centres—the "visual word centre," for example—that commonly obtains. His distrust of these "centres" is deepened by his studies of the phylogeny and ontogeny of the brain; and he draws particular attention to the importance of considering the duration of any symptom attributed to the destruction of some cerebral centre, before that symptom is employed as evidence for the existence of such a centre. The symptoms following a cerebral lesion he divides into two classes: the permanent or residual on the one hand, the temporary on the other. The temporary symptoms are those which pass away after the lapse of days, weeks, or months; their disappearance is commonly attributed to a vicarious action of the uninjured neighbouring parts of the brain, or of the corresponding portions of the other cerebral hemisphere; but here again von Monakow does not agree with the commonly adopted view. Consideration of nervous shock, whether the shock be psychical or hysterical, surgical (post-operative or traumatic), due to cerebral concussion, or due to diaschisis, leads him to conclude that the recovery from these temporary symptoms is due to the removal or cessation of inhibitory impulses that arise from the injured area, and prevent the surrounding healthy brain substance from exercising its normal activities. Want of space forbids us to follow the gifted author further in his discussion of the effects of shock, and his illustrations of diaschisis—the term he applies to the breaking up of a function of the brain by the interruption or inhibition of one of the members composing it. His main conclusion is that while the lower functions of the brain are definitely localized in certain cerebral areas, no localization of its higher functions exists. Definite local or focal centres for the countless reflexes and reflex movements can certainly be demonstrated. But the localization of the highest functions of brain can only, he contends, be a localization in developmental history, a localization on a chronological basis, a localization demonstrable by phases in the processes of degeneration. Each of these countless higher functions represents the co-operation of so extensive an area of cortex, and so numerous a mass of connecting nerve fibres, that its limited or local localization becomes an impossibility.

The topical diagnosis of diseases of the brain and cord is a subject always open for discussion, and though the second edition of Dr. BING'S *Kompendium*[8] breaks no new ground, it gives a business-like account of this difficult subject. The first eighty pages are concerned with the spinal cord, the remainder with the brain and cerebellum. Naturally enough the author goes thoroughly into the structure of the nervous system, the paths of the various nerve-fibres and nerve-tracts, the situations of the different ganglia, and gives excellent diagrams illustrating these points. He is fully up to date in his account of the structure of the nervous system, and from the point of view of the anatomist the book leaves nothing to be desired. The clinician, however, while fully satisfied with the anatomical data, may perhaps be inclined to deprecate the fact that clinical data and actual cases of nervous diseases find no place in it. Thus only brief references are made to a few of the commonest nervous disorders, and no general discussions of their chief signs or symptoms—paralysis, anaesthesia, tremor, nystagmus, for example—are included in the volume. It may be warmly recommended to the clinician in search of the anatomical facts that must form the groundwork of his knowledge of nervous diseases; the "diagnosis" with which it deals is "topical" in the strictest sense of the word.

A reprint of Dr. IVAR WICKMAN'S article[9] on infantile paralysis has been issued by the publisher of Lewandowsky's *Handbuch der Neurologie*, now in course of appearing. Probably the first reference to the disease was made at the end of the eighteenth century by Underwood. In 1840 J. von Heine distinguished it from other forms of

[7] *Uber Lokalisation der Hirnfunktionen.* Vortrag, Versammlung deutscher Naturforscher u. Aerzte, Königsberg, 1910. Wiesbaden: J. F. Bergmann. 1910. (Sup. roy. 8vo, pp. 34. 1s. 9d.)

[8] *Kompendium der topischen Gehirn- und Rückenmarksdiagnostik: kurzgefasste Anleitung zur klinischen Lokalisation der Erkrankungen und Verletzungen der Nervenzentren.* Von Robert Bing. Zweite, vermehrte und verbesserte Auflage. Berlin and Vienna: Urban and Schwarzenberg. 1911. (Sup. roy. 8vo, pp. 216; with 72 figures. M. 6.)

[9] *Die akute Poliomyelitis, bzw. Heine-Medinsche Krankheit.* Von Dr. Ivar Wickman. Berlin: J. Springer. 1911. (Sup. roy. 8vo, pp. 108, with 12 figures in the text and 2 plates. M. 5.)

paralysis occurring in children; in 1890 O. Medin gave a very thorough clinical description of an epidemic of infantile paralysis occurring in Stockholm three years previously. The name "Heine-Medin's disease" was invented by Wickman, who has himself written extensively on the subject in and since the year 1905, as an omnibus name to include all the pathological pictures produced by the virus of acute poliomyelitis. It is only during the last few years that the diversity of the forms the so-called "infantile paralysis" may adopt has been at all extensively realized. Medin distinguished between the spinal, the bulbar, the polyneuritic, the ataxic, and the encephalitic types; Wickman added three more—the meningitic, the abortive, and the type resembling Landry's paralysis, and now adopts the broad view that "infantile paralysis" is a general infectious disease with specific localization in the central nervous system, occurring both epidemically and sporadically. The virus sets up acute poliomyelitis in apes, but apparently not in other animals; it certainly does not belong to the class of ordinary bacteria, but, like the virus of hydrophobia, can pass through the pores of any filter. The pathological anatomy of the disease in man is now fairly well understood, for at least seventy obductions have been made in cases of less than fourteen days' duration. The author argues strongly that the infective process is carried into the central nervous system not by the blood-vessels, as is commonly held, but rather through the lymph channels that surround the vessels and through the lymph spaces that permeate the nervous tissues. He gives thirty-six pages to the symptomatology of the disease, sixteen to considerations about the epidemics in which it has so frequently occurred in recent years—the Stockholm epidemic of 1905 counted 1,031 cases—during the summer and early autumn. He holds that the patients should be isolated, and expresses the belief that the infection is usually not direct, from case to case, but indirect, being carried by a person who does not contract the disease. The author's treatment of the whole subject is temperate and very thorough; his book gives the best account of acute poliomyelitis we have met with, and should be in the hands of every neurologist.

FEVERS.

DRS. HARE and BEARDSLEY'S book on the *Complications of Typhoid Fever and the other Exanthemata*[10] is a second expanded edition of a book which first appeared ten years ago. Originally typhoid fever was the sole subject; of 391 pages 300 are still devoted to that disease, and only 91 to small-pox, scarlet fever, measles, chicken-pox, and rubella. But throughout the United States typhoid fever still continues to be extremely prevalent and fatal, and to be the most important of the acute infectious diseases, a position from which it has been of recent years deposed in Great Britain and Ireland. Though the book professes to treat only of complications and sequels, yet more than one question of general interest is discussed, especially in the portion devoted to typhoid fever. A particularly interesting chapter is the second, in which an account of the various modes of onset of typhoid fever is given. Aberrant forms of this disease are ably described in the third chapter. On the other hand, Chapter V—The Conditions which Resemble Typhoid Fever—is somewhat disappointing, being hardly full enough. The authors state in the preface that their object is to deal with subjects that are but briefly touched upon in the ordinary textbooks; but we do not think that the questions of differential diagnosis are handled here more fully than in most of the textbooks of infectious diseases with which we are acquainted. The greater part of the volume is occupied with very brief accounts of, in many instances amounting merely to references to, the complications and sequels, rare as well as frequent, which have been met with by different physicians in different countries in connexion with the diseases mentioned above. Few, however, of the cases have been critically discussed. For instance, no attempt is made to show whether there is more than one form, especially considered from the pathological point of view, of arthritis or nephritis in scarlet fever. Consequently, this portion of the book does not deeply attract the reader's interest, though it is excellent for purposes of reference. From this point of view the work must be regarded as being of great service not only to the general practitioner, but also to the specialist.

The first edition of Dr. J. C. WILSON'S little book on *Fever Nursing*[11] was published nearly a quarter of a century ago, and, as the edition now under notice is the sixth, it is evident that the work has been in considerable demand. At this we are not surprised, for, regarded from one point of view, the volume possesses many merits well calculated to render it acceptable to nurses, and more especially to those who have undergone a training in a general hospital but have had few opportunities of nursing cases of acute infectious disease. For such the volume is an admirable summary of what a nurse should know in a general way of these infections, so that she may go about her work intelligently. In the preface to the first edition the author stated that he wrote "from the standpoint of the physician," but we are of the opinion that if the book is intended to teach practical nursing, as is set forth on the title page, he should have treated of it more from the standpoint of the nurse, and that the title "Fever Nursing" is a misnomer. Just the very details which should be explained for the benefit of the nurse are either omitted or only casually mentioned—for example, the peculiarities of the delirium of small-pox—and this we regard as a cardinal defect in a book devoted to nursing.

NOTES ON BOOKS.

THE treatment of neurasthenia, as of all functional disease, is too often permitted to reach the hands of the more credulous members of the medical profession, or of quacks who have some secret remedy that they have never known to fail. The method advocated by Dr. VITTOZ[12] is free from any objection of this sort, and consists in teaching the patient to control the vagaries of his thoughts by a simple series of mental exercises—concentration on the figure 1, following out the curves of the mathematical symbol for infinity, ∞, eliminating the mental pictures of certain objects from his mind after looking at them for a time. The book is intended to be read by neurasthenics, and is not cast in the scientific form that would appeal to medical men. Naturally enough it gives an incomplete presentment of neurasthenia itself, and lays no stress on what are, perhaps, the most important points in its treatment—namely, the personality of the physician and his success in gaining the patient's confidence. The author states that the results obtained have surpassed his hopes and have well rewarded his labours. The translator has performed his—or her—share of the work satisfactorily.

Though it may safely be assumed that most people, at one time or another, have been familiar with the ancient game of cat's cradle, it is probable that very few are aware that this innocent pastime has been played for centuries by primitive races in every quarter of the globe. It is true that nowadays in civilized countries it has fallen from its high estate and is regarded as a game only fit for children, but the unsophisticated savage is more easily amused than his white brethren, and in the course of ages has evolved a host of complicated and at times exceedingly difficult figures, which require no little degree of skill to manipulate. Many of these forms are now introduced to the public for the first time by Miss KATHLEEN HADDON, whose little book on *Cat's Cradles from Many Lands*[13] contains descriptions of the elaborate figures made with a piece of string by Eskimos, North American Indians, and the inhabitants of Africa, India, Oceana, etc. The majority

[10] *The Medical Complications, Accidents, and Sequels of Typhoid Fever and the other Exanthemata.* By H. A. Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College, and Physician to the Jefferson College Hospital, Philadelphia; and E. J. G. Beardsley, M.D., L.R.C.P. Philadelphia. With a special chapter on the Mental Disturbances following Typhoid Fever, by F. X. Dercum, M.D., Professor of Nervous Diseases in the Jefferson Medical College. Second edition, thoroughly revised and much enlarged. Philadelphia and New York: Lea and Febiger. 1909. (8vo. 398 pp., with 26 engravings and 2 plates; cloth, 3.25 dols.)

[11] *Fever Nursing.* By J. C. Wilson, A.M., M.D., Visiting Physician to the Hospital of the Jefferson Medical College, etc. Philadelphia and London: J. B. Lippincott Company. 1910. Sixth edition, illustrated. Pp. 259. 5s.)

[12] *The Treatment of Neurasthenia by Teaching of Brain Control.* Translated from the French of Dr. R. Vittoz by H. B. Brooke. Longmans, Green and Co. 1911. (Demy 8vo, pp. 125. Price 3s. 6d.)

[13] *Cat's Cradles from Many Lands.* By Kathleen Haddon. With 59 illustrations. London: Longmans, Green and Co. 1911. (Post 8vo. pp. 95. 2s. 6d. net.)

of the descriptions are illustrated by simple diagrams, and all who have charge of invalids, convalescents, or children have reason to be grateful to Miss Haddon for providing them with a means of amusing those under their care by an occupation which has already served to while away the leisure hours of countless generations in far-off lands.

MEDICAL AND SURGICAL APPLIANCES.

Apparatus for the Intravenous Administration of "Salvarsan."

MR. ARTHUR J. EVANS, F.R.C.S.Edin., Honorary Surgeon, Liverpool Stanley Hospital, writes: In the treatment of syphilis by salvarsan by the intravenous route, one is met with the difficulty of keeping the solution at an even temperature during the ten or fifteen minutes which it takes to flow into the veins. This is necessary, in addition to keeping the patient warm in bed; and when these details are carried out carefully, such after-effects as rigors, headache, vomiting, and variations in temperature are reduced to a minimum; in fact, in some of my later cases the patient has suffered no inconvenience at all. The accompanying illustration shows a flask made to my design by Messrs. Sumner and Co. of Liverpool, on the principle of the Dewar's glass flask; the inner portion (having a capacity of 500 c.cm.) is separated from the outer by a vacuum. Warm fluid allowed to stand in the flask loses only 3° F. in half an hour, so that in the ordinary time taken to administer the drug only 1° is lost. The solution is strained through sterile gauze into the flask, and the upper end is plugged with gauze or wool. The flow may be controlled by a clip on the tubing attached to its exit. The flask is kept sterile by being filled with alcohol when not in use. The apparatus is adaptable for any purpose in which it is necessary to introduce warm fluids into the body via the veins, tissues, or rectum. I have found it extremely valuable in the treatment of shock during or after surgical operation. For intravenous work, all that is necessary is to fill the sterile flask with the fluid at a temperature of 105° or 106° F. (two or three degrees of heat are lost in heating the glass). The clip is then removed from the attached tubing, and the fluid allowed to run through the needle until the air bubbles are expelled. The needle I employ is one specially designed for direct introduction into the vein without making an incision. Having entered the vein, the rate of flow is controlled by elevating or lowering the flask. In employing the flask for the continuous introduction of saline into the rectum according to Murphy's method for peritonitis, it is only necessary to refill it every half-hour, thus doing away with the cumbrous method of keeping the solution warm by means of spirit lamps, water baths, etc.

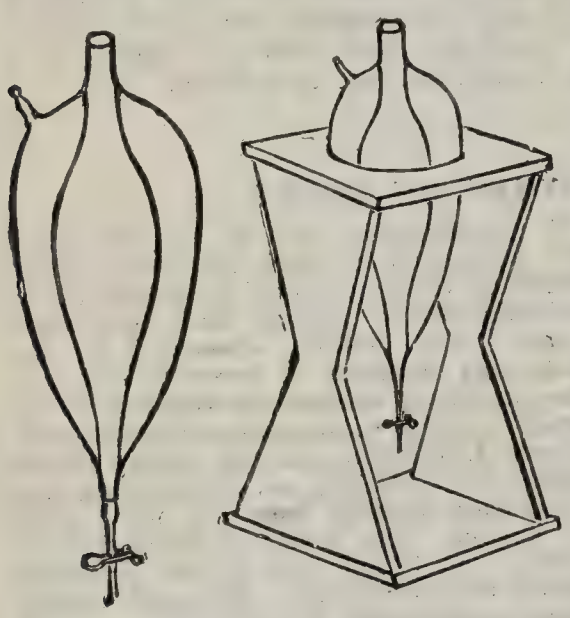

An Aseptic Thermometer.

The annexed engraving represents an aseptic clinical thermometer case made on the suggestion of Dr. A. Gordon Wilson of South Kensington. It consists of a tube of toughened glass, of the diameter of a lead pencil, closed at one end and fitted at the other with a rubber stopper into which is firmly fixed the end of a clinical thermometer. When the tube is about half filled with 1 in 1,000 solution of perchloride of mercury, and the thermometer is inserted, the level of the fluid rises so as to cover it completely, and the rubber stopper makes a fluid-tight point. The tube is provided with a shoulder to prevent rolling, and fits into a nickel case. It was made for Dr. Wilson by Messrs. Hewlett and Sons, and has been named the "Thermolique" case.

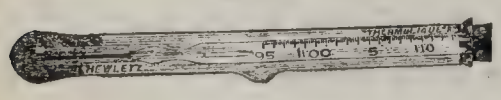

EXPERIMENTS ON LIVING ANIMALS.

THE return showing the number of experiments on living animals during the year 1910 under licences granted under the Act 39 and 40 Vict., c. 77, has just been issued.

England and Scotland.

Professor Thane's report contains the names of all "registered places." Nine new places were registered for the performance of experiments, and three places were removed from the register during the year. All licensees were restricted to the registered place or places specified on their licences, with the exception of those who were permitted to perform inoculation experiments in places other than a "registered place," with the object of studying outbreaks of disease occurring in remote districts or under circumstances which render it impracticable to perform the experiment in a "registered place." The names of all the persons who held licences during 1910 are given. The total number of licensees was 542. The reports furnished by the licensees show that 147 licensees performed no experiments. The numbers given above include 26 licensees whose licences expired on February 28th, 1910, and of whom 24 returned no experiments in 1910. The number and nature of the experiments returned by each licensee are also stated. The experiments are, as usual, set forth in a table (IV), which is divided into two parts, A and B, for the purpose of separating experiments performed without anaesthetics from experiments in which anaesthetics were used.

Number of Experiments.

The total number of experiments included in Table IV (A) is 4,939. Of these there were performed:

Under licence alone	2,718
Under Certificate C	224
Under Certificate B	1,765
Under Certificate B + EE	232

Table IV (B) is devoted entirely to inoculations, hypodermic injections, and some few other proceedings, performed without anaesthetics. It includes 90,792 experiments, whereof there were performed:

Under Certificate A	89,963
Under Certificate A + E	609
Under Certificate A + F	220

The total number of experiments was 95,731, being 9,454 more than in 1909; there was an increase in the number of experiments included in Table IV (A) of 1,051 and an increase of 8,403 in Table IV (B).

The Use of Anaesthetics.

The larger part of the experiments included in Table IV (A)—namely, all performed under licence alone and under Certificate C, 2,942 in number—come under the provision of the Act that the animal must be kept under an anaesthetic during the whole of the experiment, and must, if the pain is likely to continue after the effect of the anaesthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anaesthetic.

In the experiments performed under Certificate B, or B linked with EE, 1,997 in number, the initial operations are performed under anaesthetics, from the influence of which the animals are allowed to recover. The operations must be performed antiseptically, so that the healing of the wounds shall, as far as possible, take place without pain. If suppuration occurs, the animal must be killed. After the healing of the wounds, the animals are not necessarily, or even generally, in pain.

In the event of a subsequent operation being necessary in an experiment performed under Certificate B, or B linked with EE, a condition is attached to the licence requiring all operative procedures to be carried out under anaesthetics of sufficient power to prevent the animal feeling pain; and no observations or stimulations of a character to cause pain are allowed to be made without the animals being anaesthetized.

In no case has a cutting operation more severe than a superficial venesection been allowed to be performed without anaesthetics.

The experiments included in Table IV (B), 90,792 in number, were all performed without anaesthetics. They were mostly inoculations, but a few were feeding experiments, or the administration of various substances by the

mouth or by inhalation, or the abstraction of blood by puncture or simple venesection. In no instance has a certificate dispensing with the use of anaesthetics been allowed for an experiment involving a serious operation. Inoculations into deep parts, involving a preliminary incision in order to expose the part into which the inoculation is to be made, must be performed under anaesthetics.

Professor Thane goes on to say:

It will be seen that the operative procedures in experiments performed under Certificate A, without anaesthetics, are only such as are attended by no considerable, if appreciable, pain. The certificate is, in fact, not required to cover these proceedings, but to allow of the subsequent course of the experiment. The experiment lasts during the whole time from the administration of the drug, or injection, until the animal recovers from the effects, if any, or dies, or is killed, a period possibly extending over several days, or even weeks. The substance administered may give rise to poisoning, or set up a condition of disease, either of which may lead to a fatal termination. To administer to an animal such a poison as diphtheria toxin for example, or to induce such a disease as tuberculosis, although it may not be accompanied by acute suffering, is held to be a proceeding "calculated to give pain," and therefore experiments of the kind referred to come within the scope of the Act 39 and 40 Vict., c. 77. The Act provides that, unless a special certificate be obtained, the animal must be kept under an anaesthetic during the whole of the experiment; and it is to allow the animal to be kept without an anaesthetic during the time required for the development of the results of the administration that Certificate A is given and allowed in these cases.

It must not be assumed that the animal is in pain during the whole of this time. In cases of prolonged action of an injected substance, even when ending fatally, the animal is generally apparently well, and takes its food as usual, until a short time before death. The state of illness may last only a very few hours, and in some cases it is not observed at all.

In a very large number of the experiments included in Table IV (B) the results are negative, and the animals suffer no inconvenience whatever from the inoculation. These experiments are therefore entirely painless.

In the event of pain ensuing as the result of an inoculation, a condition attached to the licence requires that the animal shall be killed under anaesthetics as soon as the main result of the experiment has been attained.

Cancer Investigation Experiments.

During the year 1910, 49,662 experiments were performed by twenty-seven licensees, at eight institutions, in the course of cancer investigations. Of these, 816 are in Table IV (A), and 48,846 in Table IV (B). The latter were almost entirely inoculations into mice.

Experiments for Government and Public Bodies.

A large number of experiments, almost wholly simple inoculations and similar proceedings contained in Table IV (B), were performed either on behalf of official bodies, with a view to the preservation of the public health, or directly for the diagnosis and treatment of disease. Several County Council and Municipal Corporations have their own laboratories in which bacteriological investigations are carried on, including the necessary tests on living animals; and many others have arrangements by which similar observations are made on their behalf in the laboratories of universities, colleges, and other institutions. A sewage farm is registered as a place in which experiments on living animals may be performed in order that the character of the effluent may be tested by its effects on the health of fish. The Local Government Board and the Board of Agriculture and Fisheries have laboratories which are registered for the performance of experiments having for their object the detection, prevention, and study of diseases of man and animals. In other places experiments have been performed, on behalf of the Home Office, the Naval Medical Service, the War Office, the Army Medical Department, the Army Medical Advisory Board, the Army Veterinary Service, the General Post Office, the Local Government Board, the Metropolitan Asylums Board, the Royal Commission on Tuberculosis, the Advisory Committee for Plague in India, the Tropical Diseases and Glassblowers Cataract Committees of the Royal Society. Eighty licensees return nearly 19,000 experiments which were performed for Government Departments, County Councils, Municipal Corporations, or other Public Health Authorities; and seventeen licensees performed over 8,000 experiments for the preparation and testing of antitoxic serums and vaccines, and for the testing and standardizing of drugs.

Inspections.

During the year the usual inspections of registered places were made by Professor Thane, Sir James Russell, and Dr. J. Ryland Whitaker, who was appointed Assistant Inspector during the indisposition of Sir J. Russell. They saw numerous animals under experiment, both of those coming into Table IV (A) and of those coming into Table IV (B). They everywhere found the animals suitably lodged and well cared for, and the licensees attentive to the requirements of the Act, as well as to the conditions appended to their licences by the Secretary of State.

Irregularities.

The only irregularities which occurred during the year were as follows:

A licensee holding Certificate A for the performance of inoculations without anaesthetics inserted materials which were not covered by the terms of his certificate beneath the skin of five rabbits. The Secretary of State was satisfied that this had been done under a misconception of the scope of the certificate, and by his direction the licensee was admonished.

A licensee who held certificates A F given for inoculations and injections reported among his experiments some in which he had administered substances to horses by the mouth. The irregularity was pointed out to him, and he was informed that in such cases procedures must not be adopted that are not specified in the certificates.

IRELAND.

Sir W. Thornley Stoker reports that in 1910 there were in Ireland 15 registered places; in 2 of them no person was licensed to perform experiments during the year 1910. Twenty-three licences were in force during the year, of which 21 were in existence at the beginning of the year, and 2 were new licences issued during the year.

Number of Experiments.

The experiments performed were 254 in number—9 under licence alone, and 245 under certificates. Sixteen licensees performed experiments, the number of experiments under each certificate being:

Under Certificate A	213
Under Certificate C	30
Under Certificate EE (with B)	2

Animals Used.

The animals experimented on were as follows: Guinea-pigs, 135; rabbits, 64; frogs, 13; mice, 12; pigeons, 7; cattle, 5; dogs, 5; fowl, 5; rats, 4; cats, 3.

Nature of Experiments.

The experiments were of various descriptions, 45 having been physiological, 7 therapeutical, and 202 pathological. The greater number consisted of hypodermic injections and inoculations. The principal were—investigations of the gases of blood and blood pressure; the movements of respiration, functions of heart and nervous control of heart; intestinal movements in connexion with respiration; uterine contraction; nervous and chemical control of digestive glands; the study of *x* rays; study of calf vaccine lymph; of medico-legal investigations; of the intravenous injection of drugs in disease; of the study of the tubercle bacillus, and of the pneumococcus; of the pathogenicity of lumbar puncture; of the actions of the kidney; of the action of adrenalin and of an antimeningococcus; experiments on preparation of immune serums; testing virulence of typhoid; effects of section of spinal cord.

Much good work was done in connexion with study of pathology of diseases of the lower animals, for instance, anthrax, fowl cholera, swine fever, swine erysipelas, Johne's disease, and the pathological organisms in milk and in lard.

The work done in Ireland under the Act was, in the inspector's opinion, sincere and well intentioned.

New Investigations.

As was the case last year, the increase in the number of licensees and their experiments is to be attributed to the pursuance of new investigations connected with the treatment of disease by means of antitoxins, serums, and vaccines, and is, therefore, says the inspector, of high therapeutic and pathological value, as tending to the development of a new and most important knowledge of disease and its treatment.

LITERARY NOTES.

DR. J. JOHNSTON of Bolton has applied his poetic gift to an account of the career of "Adolphus Willoughby Jones, M.B., Club Doctor." After a description of his settling down to practice in a large provincial town, with a consulting room furnished in the very latest style, and like Dogberry, "everything handsome about him," the budding honour of his professional dignity is nipped by the frost of public indifference. With hopes of family practice "he accepts the post of surgeon to a sick society at half a crown a head." Even this slender hope is doomed to disappointment.

> He is good enough for physicking the "clubbers" far and near,
> But they call the Family Doctor to their wives and children dear.

This led to complications:

> A member ill with Typhoid he attended night and day;
> But the "Missus" for Bronchitis has his rival over the way;
> But he got a "flabbergaster" when a call one day he made,
> And found that Dr. Blank and he had patients in one bed!

Poor Willoughby Jones finds, as any doctor misguided enough to accept Mr. Lloyd George's bait will find—

> The meagre pittance he receives is compensation poor
> For his loss of independence and the crowd that throngs his door;
> For now he finds that he is at the hourly beck and call
> Of men who'll go on the Club for weeks for little or nothing at all.

He is the bond-slave of the society, and

> Should he refuse to certify an illness clearly shammed,
> He'll be reported to the Lodge and seriously blamed.

However conscientiously he may do his work, he will get no thanks.

> He is treated as the meek and humble servant of the Club,
> Whom every member has the right to dictate and to snub.
>
> . . . . . .
>
> In fact it almost seems at times as if that Sick Club owns
> The very soul and body of Adolphus Willoughby Jones;
> Yet well he knows that were he to resign, as its Physician,
> There would be a dozen applicants at once for his position.

Adolphus should forthwith become a member of the British Medical Association.

An interesting feature of the July number of the *Old-Lore Miscellany of Orkney, Shetland, Caithness, and Sutherland* is an obituary notice of the famous artist, the late Robert Stewart Clouston, whose well-known picture, "Rest after Toil," is now in the possession of another famous Orcadian, Dr. (now Sir Thomas) Clouston, of Edinburgh, whose portrait was also painted by the same master hand. Mr. Clouston's interests, however, were by no means exclusively confined to his art. He was a keen antiquarian, particularly with regard to everything connected with the ancient customs of his native island; and, moreover, he was a daring and powerful swimmer, an accomplishment which once enabled him to rescue several drowning men from a wreck off the West Shore, Stromness. The death of this cultured and many-sided man has left a gap in the ranks of Scottish artists which will not easily be filled. Another interesting article in the present number of the *Old-Lore Miscellany* is a continuation of Mr. John Firth's account of "An Orkney Township before the Division of the Commonty," which contains some curious details concerning the conditions of labour on an Orkney farm some sixty or seventy years ago. Primitive as these undoubtedly were, it is somewhat surprising to find that, in one respect at any rate, these simple islanders were in advance of the scientific farmers of to-day. We learn from Mr. Firth that after the corn had been threshed and bound into sheaves, "the roots, with the coarser parts of the straw, when cut off, were laid at the barn door to serve as a mat. Here the farmer carefully wiped his boots every time he passed into the barn. Though the barn floor was only of clay it was kept scrupulously clean. In this the farmers of the olden time far surpassed those of the present day. All barn work was done with a neatness and exactitude now sadly lacking, which accounts for the fact that meal in those days was much freer from dust and grit than it is in these, notwithstanding all our modern apparatus." The table of contents for the July number also includes several extracts from Dr. Edward Charlton's *Visit to Shetland in 1832*, from which we learn that in those days "the land shells, chiefly the *helix arbust*, that occur about the ruins of the old chapels, are looked upon with great veneration by the Shetlander, and are much employed for the cure of disease"; whilst A. Francis Steuart has contributed a short sketch of Gilbert Balfour of Westray, who played an important part in the murder of the unfortunate Darnley; and W. Fordyce Clark has given a gruesome account of an old Shetland legend, under the heading of "A Legend of St. Ola's Kirk."

In Richard Davey's *The Nine Days' Queen* (Methuen and Co.) there is an account of Dr. George Owen, who attended both Henry VIII and Edward VI during their last illness. He was educated at Oxford, where he was a Member of Merton College, and gained a great reputation for learning. He attended at Edward VI's birth, when he is said—untruly, according to Mr. Davey—to have performed Caesarean section; he afterwards attended that Prince throughout his life, and was well rewarded. Amongst the grants made to Owen were Bewley Abbey, Cumnor Place, Gadstow Abbey, and the chapel of St. Giles, Oxford. He died on October 18th, 1558, and was buried at St. Stephen's, Walbrook, his funeral being thus recorded by Machyn (*Diary*, p. 177):

> The xxiiij day of October was bered at Sant Stevyn in Walbroke Master Doctur Owyn, phesyssyon, with a ij haroldes of armes & a cote, armur, & penon of armes, & iij dosen of armes, & ij whyt branchys, & xx torchys; & xx pore men had gownes, and ther dener; and iiij gret tapurs; and the morow masse, and Master Harpfheld dyd pryche; and after a gret dener.

It is strange that Edward's favourite physician should have been a Papist. It is stranger still that a Papist should have accepted Church property on which a curse is believed by many to linger even at the present day. But *il est avec les dieux des accommodements*, and doubtless it would be easy for a loyal subject to smother any scruples he might have about accepting Church lands from a gratified sovereign. Dr. Owen must also have been on good terms with "Bluff King Hal," who left him £100 in his will. Dr. Wendy, who was also physician to Henry and Edward and attended them on their death-beds, became physician to Elizabeth. He died at Haslingford Court, a manor given to him by Henry VIII. Court physicians in these days do not get abbeys and manors as fees. But then modern kings have not such things in their gift.

SCIENCE NOTES.

AMONGST the many diseases of salmon and trout there is one called "staggers" (*Taumelkrankheit*), the etiology of which has recently engaged the attention of Plehn and Mulsow[1] at the Münich fishery station. It is caused by an organism which attacks the brain chiefly, but may invade other organs. It was discovered nearly twenty years ago by Hofer, who regarded the parasite as a sporozoan, but he was unable to throw much light on its life-history. Although occasionally epidemic the disease is not common, and there have in consequence been few opportunities for its study. Two cases last year, however, have provided fresh material, and from this it has been determined that the causal organism is not a sporozoan, but a fungus. Cultures were made on artificial media and these showed a distinct fungoid method of growth. The methods of spread and infection are still unknown, but experiments are being undertaken to elucidate these points. The result of this investigation leads to the suspicion that many of the organisms classed as Haplosporidia may in reality be of fungal nature. Their life-history is in many cases unknown or uncertain, and it is only by a knowledge of this that their true position can be determined.

In a recent number of *La Nature*[2] there appears an article by Paul Becquerel, dealing with Arrhenius's ingenious theory of the dissemination of germs throughout the universe. The manner of origin of life in this world has given rise to a multitude of hypotheses, many of them wildly improbable, some with a sufficient show of scientific fact to give pause for thought and serious consideration. Amongst the latter that of Arrhenius has at first sight

[1] *Centralbl. f. Bakter.*, Abt. I, Bd. 59, p. 63–68.
[2] April 22nd, 1911, pp. 333–4.

some appearance of reason. An avowed panspermist, Arrhenius considers it futile to investigate the ultimate origin of life, and his theory only concerns its mode of transmission from some other world to this. It is based upon the demonstration, remarkable enough in itself, of the pressure which rays of light exercise upon material objects. This was shown some time ago in a simple experiment by two American physicists, Nichols and Hull. Measuring the value of this pressure, they found it was sufficient to overcome the force of gravity in the case of minute particles having a circumference equal to or less than the wave length of the incident light. They further determined that with very fine particles which totally reflected light, with the density of water and a diameter not exceeding 0.0016 mm., the pressure exercised by light was ten times as great as the attraction of the sun. Now not a few bacteria are known to have dimensions of this order, and it is in organisms of such nature that Arrhenius sees his vehicles for the transmission of life from world to world. Some initial force is necessary in the shape of wind or electrical repulsion. Once started, the pressure of light would carry them along at a considerable rate, and it has been calculated that they would traverse the distance between the earth and Mars in twenty days, while they would take 9,000 years to reach *a* Centauri. The difficulty raised by the fact that other solar systems emit light which would exercise a repellent force is got over by the supposition that the minute organisms might become attached to larger particles of cosmic dust, which are subject to the action of gravity, and in such a way be drawn into the system. It is thus possible, concludes Arrhenius, that life has been brought in this manner to the earth, and that in the infinite past it has been similarly transmitted from one solar system to another and from planet to planet. Becquerel now steps in, however, to show cause why this hypothesis cannot be maintained. He holds that the conditions which migrating organisms would have to encounter in their journey through the ethereal void are such as to be absolutely fatal. In a vacuum, at the temperature of liquid air, and exposed to the action of ultra-violet rays, the most resistant bacterial spores are killed within the short space of six hours. It is not to be doubted that interplanetary or interstellar spaces are less rigorous, and thus we must relegate, albeit with regret, this latest theory to the limbo of ingenious plausibilities.

TUBERCULOSIS CONFERENCE.

THE annual conference of the National Association for the Prevention of Consumption and other Forms of Tuberculosis was held in the Caxton Hall from July 19th to 21st.

Letter from the King.

The proceedings opened with the reading of a letter from His Majesty the King. The following is the text of the letter:

> As patron of the National Association for the Prevention of Consumption and other Forms of Tuberculosis, I congratulate all who will take part in the annual conference which assembles to-morrow. I sympathize deeply with the association's work, so far-reaching in its influence upon the future of the human race. I note with interest the important questions to be dealt with at the conference, and the names of the eminent authorities by whom the meetings will be conducted and addressed.

Address by Mr. John Burns.

The Right Hon. JOHN BURNS, in an opening address, said consumption in all its forms was a diminishing disease, and those who had expert knowledge on the subject believed that in the course of twenty-five or thirty years consumption and tuberculosis ought to be only a memory of the past, just as typhus, leprosy, and plague were now. He quoted statistics to show the diminishing death-rate from consumption during the past ten years in England, Ireland, Scotland, and Wales, pointing out that to every two persons who died in London three died in Berlin and five in Paris. The reduction in the death-rate was synonymous with an increasing sobriety of the population and improved health conditions in the dwelling-places and more cleanly habits of the people. In one department—Poor Law administration—the cost represented by pauperism would be reduced by successfully combating consumption. There was no comparison between the London milk shop to-day and what it was thirty-five or forty years ago, but there was still room for improvement. The Royal Commission had justified them in seeking for new legislation as soon as the opportunity occurred. A Milk Bill was essential and urgent. He had one ready, but they had no right to emasculate a good bill simply to get it through Parliament in the next month or five weeks. If he could get an agreed bill which was a good bill they would do their best to secure it at once, but if they could not get a good bill at once they were determined that before many months were over the milk and dairy industry of the country must be placed on a clean, sound, and healthy basis.

The Education of the Public.

Professor SIMS WOODHEAD suggested that the teaching of hygiene should be extended from elementary to secondary schools. After commending tuberculosis exhibitions and caravans, and the work of district nurses and health visitors, he stated that any public money spent in prevention would be more than repaid by the increased cash value of a healthy community. When patients were put in favourable conditions and properly treated, tuberculosis was one of the most curable of diseases. He quoted the Local Government Board's chief medical officer as saying that alcoholic indulgence increased the liability to all forms of infection, and especially to tuberculosis. The education of the public health authorities had progressed rapidly, and now the education of our Legislature was going on apace. Those engaged in the educational crusade should not be insistent on a particular method, such as the sanatorium or dispensary. There was no universal panacea.

The Educational Caravan.

After a paper on Children and Cleanliness by Dr. SHRUBSALL, Sir WILLIAM YOUNGER read a paper on Tuberculosis Exhibitions and Caravans. In Dumfriesshire the problem of moving an exhibition from village to village, day after day, had been solved. Mr. Bertram Smith was the owner of a fleet of travelling caravans, beautifully fitted up, in which jaded city workers spent peaceful summer weeks among the hills and glens. Two of these caravans he had presented to the association. The travelling exhibition was welcomed everywhere, and, with its accompanying popular lectures to children and adults, should do much good. It was sometimes asked, What was the use of talking about fresh air when cottage windows would not open, or were too small, or had to be propped open with a piece of wood? The visit of the caravan might induce house owners to remedy such defects, besides stimulating local authorities to fresh efforts.

The Sanatorium.

Sir RICHARD DOUGLAS POWELL, chairman of the Executive Committee, said that while sanitary education and treatment and the improvement of conditions of living and housing were diminishing the tuberculous population, it might be that acquired and hereditary immunity had long been lessening proclivity to the disease in civilized communities.

Sir WILLIAM OSLER said that the public were becoming more and more alive to the necessity of dealing with tuberculous disease in its early stages. Doctors also needed educating. Like the rest of men, they had many sins, and one was carelessness in examination. How many doctors in cases of cough made a practice of always carefully stripping and examining the chest? This carelessness was especially prevalent in that most vicious type of practice which was about to be foisted on them; contract practice as a rule was bad practice. The great majority of the people in that room had probably somewhere a little focus of the disease, but were saved by the natural capacity of healing. Probably not 10 per cent. of the tuberculous, even under the new regulations, could ever be treated in sanatoriums. Their energies should therefore be most largely devoted to elaborating and perfecting home treatment. The tuber-

culosis dispensary should not be independent of the general hospital, where a special tuberculosis department could easily be arranged. For one thing, the essential laboratory facilities were greatest at a hospital. One thing still lacking was a specific which would destroy the germ without damaging its host, though tuberculin, when properly used in suitable cases, had undoubted efficacy.

Dr. ARTHUR LATHAM said that the mistrust of the sanatorium felt by some was partly due to the inefficiency of many such institutions in the past, and even in the present to a less extent. Fresh air and plenty of nourishing food were important, but the cardinal factor was a constant and skilled regulation of rest and exercise. Sanatorium treatment did not mean sitting in a draught and eating cream all day. In some cases, especially with much bronchitis, treatment in a sanatorium was actually harmful.

Dr. JANE WALKER said that many consumptives probably owed their condition to under-feeding. Whatever might be best for ordinary people, consumptives should take three square meals a day, with at least a four hours' interval between meals. Work, of course under skilled supervision, was valuable in more ways than one. The unemployed, whether the unemployment was caused by sickness or otherwise, tended speedily to become unemployable.

Dr. J. J. PERKINS said that perhaps the majority of tuberculous cases on discovery were so advanced that a lasting cure was impossible; but they could be enabled to carry out at home the necessary rule of life if it was first thoroughly drilled into them at a sanatorium.

Dr. J. E. SQUIRE said that the consumptive who had to be treated at home was not considered in the Insurance Bill. "Sanatorium benefits" under the bill might well be extended to include some of the requirements for home treatment, such as the loan of a shelter in which he could sleep in the garden or on the roof, or the grant of a few shillings a week to enable him to occupy a separate room. Consumptives persistently endangering others by neglecting precautions should be detained in special institutions.

Tuberculosis Schools.

Dr. RALPH P. WILLIAMS, Professor of Public Health in the University of Sheffield, said it had been ascertained that about 7 per cent. of the elementary school children were mentally dull, and in the case of about 3 per cent. the mental dullness was due to physical defects, such as anaemia, malnutrition, oral sepsis, the early stages of consumption, etc. For such children the open-air recovery school filled a distinct gap in educational work, whilst it was also found to be of value as a means of combating that condition of malnutrition and debility which, if left untreated, so often resulted in tuberculosis. In Sheffield a school providing accommodation for 100 children had been converted for £700. Of the 98 children in the school, 44 were cured, 51 improved, and only 3 were in the same condition after attendance. The school had an educative influence on parents and teachers at well as the children, and he suggested that a sufficient endowment would be provided for schools of this type in any sanatorium scheme. It was far cheaper to cure a child suffering from anaemia and malnutrition than to cure one definitely infected with the tubercle bacillus.

Miss E. S. MCGAW said the medical inspection of schools, as at present carried out, was useless in regard to tuberculosis. The time allowed was too short to allow of a sufficiently detailed examination to detect early signs of pulmonary tuberculosis. The day schools could do more to prevent the spread of the disease if their methods were more hygienic and their windows more widely opened. The drawback of the open-air schools was that they were not continuous; they were kept open for periods varying from a few weeks to six months at the most, and then the children had to go back to the ordinary schools, and too often lost what they had gained. This insufficiency led to the establishment of a special school in the grounds of the Royal Victoria Hospital in Edinburgh, where the children were in part sanatorium patients and lived there entirely, and in part day visitors, and the Kensal House School, Harrow Road, London, in co-operation with the Paddington and Kensington Dispensary for the Prevention of Consumption. There had resulted from the treatment given to the children increased physical ability and a corresponding mental improvement. All schools should be open-air schools. They could not all have gardens at present, but they could, and should, open their windows.

Segregation of Advanced Cases.

Dr. A. MAXWELL WILLIAMSON, Medical Officer of Health for the City of Edinburgh, said it was hopeless for a community to consider the question of segregation of advanced cases of the disease or the proper methods of treating these unless there already existed what science and experience had clearly indicated as essential, namely, notification of the disease, establishment of sanatoriums for the treatment of the early cases, and one or more dispensaries devoted wholly to its treatment and prevention. Tuberculosis as a disease not only affected disproportionately the poor and working classes of a community, but its incidence was almost in direct proportion to the extent of the house accommodation which was at the disposal of the inhabitants. In Edinburgh, for instance, 59 per cent. of the cases occurred among persons occupying one and two roomed houses, and in no fewer than 93 per cent. of the cases the available accommodation was represented by four or fewer rooms. He urged the provision of attractive hospital accommodation by local authorities for persons suffering from an advanced stage of the disease, if possible in a portion of an infectious disease hospital, and the combination of pavilions with open-air shelters, the former being used for cases requiring constant nursing attention, the latter for the less urgently ailing.

Dr. WOODS HUTCHINSON, of New York, asked why a sanatorium should be put up to last 150 years, when the disease should be well on the way to extermination in thirty or forty years. Instead of excluding incurable cases, the sanatorium should be chiefly used for such cases, to prevent the spread of the disease.

Dr. SCURFIELD, of Sheffield, said the words "sanatorium benefit" in the Insurance Bill had been amended so as to include the provision of such schools. He asked that the consumption wards of the Poor Law infirmaries should be made more attractive.

Dr. HOPE (Medical Officer of Health, Liverpool) deprecated calling institutions for advanced cases "homes for the dying," which would be resented by the patients. In Liverpool they had allocated disused wards of a fever hospital for this purpose.

Dr. NIVEN (Medical Officer of Health, Manchester) said the new health authority to be set up under the Insurance Bill, independent and in face of the existing public health authorities, would lead to confusion and discord. The public health authority ought to have control of the sanatorium and other benefits in order that they might be in the position to offer inducements to the people to carry out the measures required of them.

Miss H. COWEN (Honorary Secretary of the Jewish Board of Guardians Health Committee) said that in London there was practically no means of segregation. It was found very difficult to get patients to go into Poor Law infirmaries owing to their not being sufficiently attractive.

Dr. NATHAN RAW, of Liverpool, urged the compulsory detention of persons who were not able to provide a separate room, and compulsory removal in suitable cases.

Dr. BRANDER, of Sheffield, said that much might be achieved by co-operation between the sanitary authority and the guardians.

Consumption and the Insurance Bill.

An account of the discussion on this subject of the Conference will be found in the SUPPLEMENT, p. 239.

MOTOR CARS FOR MEDICAL MEN.

CHOICE OF A BODY.

MR. WALTER MUNN, secretary of the De Dion Bouton (1907), writes that he is the originator of the design known as "double-purpose," and that the company has models to seat two, three, or four persons inside, while larger sizes can be made. Mr. Munn, who offers to show various models to any medical man interested, states that his company has made a speciality of doctors' cars for ten years, both in respect to carriage bodies and chassis.

British Medical Journal.

SATURDAY, JULY 29TH, 1911.

THE ANNUAL MEETING.

THE seventy-ninth Annual Meeting of the British Medical Association has opened under the most favourable conditions in Birmingham. The arrangements for the business of the Representative Meeting and of the Sections and for the comfort and convenience of members have been admirably made, and the attendance is undoubtedly very large, although the total cannot, of course, be stated at the time these words are written.

The President's Address was delivered on Tuesday evening in the beautiful new buildings of the University of Birmingham at Bournbrook. Both these buildings and the University itself have come into existence since the British Medical Association last held its Annual Meeting in Birmingham twenty-one years ago, and very fittingly the Association took the opportunity of electing as an honorary member the Right Hon. Joseph Chamberlain, the first Chancellor of the University. Not the least of the great services which Mr. Chamberlain rendered during the course of his long and distinguished career to the city with which his name is identified is the great part he took in the establishment of its university.

The President in his address dealt generally with the relation of medicine and the State, and expressed the opinion that while a State medical service is admissible, and even desirable for administrative and sanitary purposes, the compulsory absorption by the State of all medical practitioners would not be in the interests of the public, the profession, or medical science. The profession, he said, asked for the sympathy and support of the public in its fight against wholesale extension of the system of contract practice. The National Insurance Bill professed to be founded on the idea that the health of the people was the best asset of the nation, and it was therefore fundamental that it should not tamper with the efficiency of medical treatment. It was essential that the duty of providing medical benefits should not be entrusted to friendly societies or insurance companies. This the Chancellor of the Exchequer admitted, though he would not go further towards the attainment of the desired end than to say that he would leave the matter to the judgement of the House of Commons; but on another point Mr. Lloyd George had shown himself less ready to be convinced. It was not, Professor Saundby said, reasonable or politic to ask the medical profession to undertake a contract of which no one knew the risk. It was because the risk was incalculable that the bill was so drafted as to impose the burden not upon the general taxpayer, but upon the medical profession. The President carried his audience with him when he said that when the proposal was thus stated in plain language it seemed hardly possible that Parliament could sanction anything so manifestly inequitable.

The annual meeting of the Representative Body began on Friday morning and concluded on Tuesday afternoon. The routine business, including the consideration of the Annual and Supplementary Reports of Council, was disposed of with expedition, and it was not difficult to recognize that the thoughts of all present were turned towards the discussions which were to follow on the National Insurance Bill and the amendments which the profession demands shall be made in it. The Representative Body resolved itself into a committee of the whole for the consideration of the many points calling for detailed consideration, and the discussions were largely concerned with the Supplementary Report issued to the profession by the Council last week. The course which the State Insurance Committee, acting under the authority of the Council, had considered it proper to follow in laying full information on all the circumstances before the profession was approved, and the position in which the matter now stands in regard to amendments made, accepted, or favoured by the Government was keenly debated, and a series of resolutions was finally reported to and approved by the Representative Body in plenary session. We are not at the present stage of matters in a position to publish full details of these resolutions—they will be circulated to the Divisions in due course, and must content ourselves by giving a general indication of the broad results of the decisions arrived at.

The question of the income limit was dealt with in a series of resolutions defining the attitude of the Association on each point of detail. The collective effect of these resolutions is that the Representative Body reaffirms the determination of the Association to establish throughout the country a maximum income limit of £2 per week for persons who are to be entitled to receive medical treatment and attendance under arrangements made by the local Health Committees under the bill, and to support the local profession in any district in establishing in respect of that district such lower income limit as is in the opinion of the profession suited to the circumstances of that district. The Council has been instructed to use its best endeavours to carry out these objects in every possible way, and especially by continuing to press that a definite maximum income limit of £2 a week for medical benefit should be fixed in the Insurance Bill. The meeting agreed that persons who, under the general income limit of £2, or such limit as may be fixed locally, are excluded from obtaining medical attendance under arrangements made by the local Health Committees should be entitled to receive their medical benefit in the form of a pecuniary equivalent to be applied to defraying the cost of medical attendance. The meeting also agreed that, apart from the definite £2 limit or any limit lower than £2 which should be determined by local agreement between the local Health Committee and the local Medical Committee in that district, the method of enforcing the agreement should be by requiring insured persons to make a declaration and by giving to the local Health Committee, the local Medical Committee, or any medical practitioner the right to challenge any person whose income was believed to be above the limit. The meeting also instructed the Council to prepare amendments to provide that the local Health Committees shall be given any or all of the following powers—namely, to acquire, build, equip, and maintain their own sanatoriums or other buildings, and that the sanction of the Treasury only should be necessary for supplementary grants to local Health Committees necessary to enable them to meet the increased cost of medical benefits.

With regard to the distribution of patients among the medical men on the panel in any locality, the meeting recorded its general approval of the amendment to Clause 14 placed on the order paper of the House of Commons by the Chancellor of the Exchequer directing the Insurance Commissioners to make arrangements to secure that insured persons shall receive adequate attendance and treatment, but expressed its opinion that that part of the scheme which provides for the distribution among the medical men on the panel of patients who failed to make a selection, or had been refused by the practitioner they may have selected, should be emended by the insertion of words specifying that this refusal must be on grounds other than those of means—that is to say, if an insured person is refused by the doctors on the panel because his income is above the limit, general or local, as the case may be, he is left to make his own arrangements for medical attendance; but, if the refusal be due to the fact that he is considered an undesirable patient, then the local Medical Committee must arrange that some medical man shall attend him. The meeting also registered its view that medical benefit should not be given at a uniform or flat rate to patients entitled to compensation or damages under the Workmen's Compensation or Employers' Liability Acts or at common law, but that the remuneration in such cases should be increased.

With regard to the panel, the meeting expressed the opinion that the question of the inclusion and exclusion of registered medical practitioners to and from the panel should be decided by the local Medical Committees, subject to an appeal to a properly constituted court. It also adopted a resolution suggesting the deletion of Clause 57, under which the Insurance Commissioners are given power to do anything which may appear to them necessary or expedient for the establishment of local Health Committees and advisory committees, or otherwise bringing the Act into operation, and for this purpose to modify the provisions of the Act. It was considered that the power thus given to the Insurance Commissioners might be used to withdraw again from the medical professon advantages gained through the amendment of the bill.

The meeting referred to the Council the duty of taking such action as may seem expedient to ensure that provision shall be made under the bill for the compensation of those medical men the goodwill of whose practice may be depreciated in the event of the bill being enacted.

With regard to Ireland, the meeting accepted recommendations made by representatives of that country to the effect that a special insurance committee, which shall not be a committee of the Local Government Board, should be appointed for Ireland; that the provisions of the bill imposing on dispensary medical officers the duty of carrying out the medical services should be deleted; and that the provisions in the bill regarding administration and the free choice of doctor, and those affecting remuneration, should be the same for Ireland as for Great Britain.

At the conclusion of its meeting on Tuesday the Representative Body instructed the Council to issue to the Divisions a report on the position of the profession as soon as the Committee stage was concluded in the House of Commons, indicating the position of the profession under the bill as then amended, and as soon as practicable after the issue of this report to call a Special Representative Meeting to consider the matter.

THE ADDRESS IN MEDICINE.

NAPOLEON said that the best general was he who made the fewest mistakes. The same thing may be said of medicine. The art of healing, like that of war, consists mainly in the exact recognition of the state of things at a given time, in forecasting possible movements of the enemy, or as we say, complications, and in being prepared to neutralize their effect. From nothing does a doctor learn so much as from his own mistakes and those of others. But if he is to draw the right lesson from mistakes, the causes that lead to error must be carefully studied and frankly recognized.

It is related of Oppolzer of Vienna that on one occasion the great Allgemeine Krankenhaus was convulsed with the news whispered from student to student that it had been shown by a *post-mortem* examination made that day that his diagnosis had been wrong! There are too few physicians of whom it could be said that any record of a mistake leaping to light in the deadhouse would cause such surprise. Pathologists are, perhaps, rather inclined to take a somewhat malicious pleasure in exposing the errors of their colleagues who have had to do their best to guess at the truth that lies behind the thick veil which screens the seat of disease during life. We do not wish by any means to imply that pathologists are infallible, but unless they have the evil fate to be dragged into the fierce light that beats about a judge's seat they are much less likely than physicians to be detected. In any case, as far as gross lesions go, their task is infinitely easier than that of the physicians whose best reasoned diagnosis can often be nothing more than a shrewd guess. There are many, especially among the younger members of the profession, to whom this may seem to be a hard saying, but the experience of the deadhouse shows only too clearly that it is true. A fact which we have on unimpeachable authority shows this. For cremation the requirements as to death certificates are much more stringent than for ordinary burial. In doubtful cases the medical referee has the power of ordering a *post-mortem* examination to be made. One of these officials who has had a very large and long experience has informed us that he has never met with a case in which the diagnosis has been fully confirmed by *post-mortem* examination. Of course these cases are by their very nature exceptional, and doubtless in the majority of deaths the cause is sufficiently obvious. Still, when we add to what has been said the fact that a large number of bodies are buried every year without any certificates at all, one cannot help wondering what exact value is to be attached in this particular to the returns of the Registrar-General. And it may safely be assumed that in addition to these there must be a considerable number of cases of illness the nature of which is not recognized, but which end in recovery through the operation of natural processes.

In the Address in Medicine delivered at Birmingham and published in the present issue of the BRITISH MEDICAL JOURNAL, Dr. Byrom Bramwell has chosen a very wide field. He deals quite frankly with the subject. He says: "It is not a question of who makes mistakes and who does not make mistakes; it is only a question of who makes the most mistakes and the biggest mistakes. The most experienced of us, who make a point of checking our clinical observations and diagnoses by *post-mortem* examinations whenever it is possible to do so, will, I am sure, admit that we make many mistakes."

It has been said that even the just man falls seven

times a day. If one of the most experienced physicians and one of the foremost teachers in this country makes mistakes, it is not rash to infer that many more are made every day by men of less knowledge and sagacity.

Medicine is still far from being an exact science, and if even in the laboratory, with all the instruments of precision used with the searchlight of scientific method, erroneous conclusions are often formed, it is no matter for surprise that mistakes are often made at the bedside. It is only the quack that claims infallibility. Dr. Byrom Bramwell has classified the mistakes made in medical practice. There are, he says, "mistakes of omission and mistakes of commission; mistakes due to incomplete, inaccurate, or erroneous observation; mistakes due to hasty or illogical conclusions. There are mistakes which as regards their results are unimportant, and mistakes which, either to the practitioner who makes them, to the patient whose case is wrongly diagnosed, or to the public at large, are of great importance, since they may entail very disastrous consequences."

Of each of these he gives illuminating examples. Many of the cases which he cites are instances of diseases so rare and obscure that they might be called pathological anomalies, if we knew enough about the subject to build laws of morbid action on any secure foundation; others are examples of conditions in which the disease does not reveal itself by any recognizable symptoms. In such circumstances mistakes are, of course, inevitable, and cannot be ascribed to failure in medical science, any more than the governor of a colony can be held accountable for an earthquake or than the captain of a ship is morally responsible for his vessel being wrecked on an uncharted rock. These things lie outside the limits of human knowledge, and whatever be the skill or experience of the physician, they cannot, as things are, be avoided.

The day will perhaps come when the inner sanctuaries of the body will be revealed to the eye as the bones and some parts have already been disclosed by the Roentgen ray. But even if, for instance, we should ever be able to see the mechanism of the brain in active work and the conditions which throw its functions into disorder, there will still remain the problem of interpretation. We may see the writing on the wall, but it is another matter to read aright the riddle of its meaning. We know that special skill is required to interpret an *x*-ray picture.

Should the time come when the whole body in its inmost *penetralia* will be laid bare, even then mistakes must necessarily arise. One has only to look at the results of snapshot photography to realize how utterly misleading such pictures very often are. It is often said that the camera cannot lie, but it does lie, and, what is worse, it can be made to lie sometimes in a most outrageous manner. Whatever means of making visible the innermost recesses of the human frame may be discovered, the writing of disease must long remain a hieroglyph that will be difficult, and perhaps sometimes impossible, to decipher. We are glad to note that Dr. Byrom Bramwell has the courage to say that there is a tendency at the present day to attach too much importance to some of the instrumental and other elaborate means of diagnosis which have recently been introduced and to underestimate an all-round clinical experience and knowledge. Invaluable as is the knowledge obtained in the clinical laboratory, after all it consists of mere fragments of the truth which must be pieced together and supplemented by clinical observation to enable the physician to form a right judgement of a case. Laboratory methods, invaluable as far as they go, do not deal with the disease as a whole, still less with the man who is its victim. The scientific investigator of urine, for example—and it may be remarked that, according to Gull, the examination of the urine enables one to carry out the old precept "know thyself"—can pronounce, like Falstaff's doctor, that the water itself is a good water, but for the party that owes it, he may have more diseases than he knows of. The physician will gladly avail himself of the assistance of the bacteriologist, the chemist, and the morbid anatomist. But he must not allow himself to be led away into the belief that any of these, or all of them together, can solve for him the riddle with which he has to deal—that is to say, the sick man with all his peculiarities of mind and body.

Mistakes in medical practice are mainly due to two causes, which may in a general way be connected with the age of the practitioner. The young man is either too confident and apt to rush to the wrong conclusion, or he is too diffident, and thus fails to note facts which stare him in the face. A man, on the other hand, who has gained fame for his intuitive grasp of the nature of a case, tends as he grows old to become careless from his very belief in himself. He pays little heed to what is told him, either by the patient or by any other doctor who may be in charge of the case, and thus may send a man dying of phthisis to the North of Scotland with the confident assurance that all he needs is "bracing up"; or may fail in his haste to discover a lesion figuratively speaking gross as a mountain, open, palpable. He thrusts a knife into what he is warned is an aneurysm, saying "Pooh! It is an abscess." He declares serious nervous disease to be "hysteria." Even that "tired feeling" which is sure to become very prevalent if the Insurance Bill becomes law, may have underlying it some real disease. No age is free from the "cocksureness" which Lord Melbourne deprecated in Macaulay. It is well for all to remember the famous utterance attributed to a former Master of Trinity, "No one is infallible, not even the youngest among us." A fertile source of mistakes in medical practice is the tyranny of the fixed idea. Every man has what may be called his "pet diseases," and unless a practitioner is always on his guard against this obsession he is sure to make bad mistakes. This is one of the dangers of specialism.

The value of experience can hardly be over-estimated in an art which at present is mainly built on observation. At the same time mere length of practice does not always bring the quality of a ripened experience. So-called experience is often nothing more than hardening of the mind in a groove. There is an old story of a priest whose attention was called to an error made by him in saying Mass. He replied that he would not give up his old *Mumpsimus* for their new *Sumpsimus*. There are doctors to whom this is applicable. Their "experience" only leads to the perpetuation of inveterate errors and the repetition of mistakes which by long habit have become automatic.

Dr. Byrom Bramwell's thoughtful and suggestive address should be read, marked, and inwardly digested by all practitioners, old and young. Mistakes are like offences, of which it is said it must be that they come. They are inevitable, for medicine is the most difficult of all departments of human knowledge. But we may make of our mistakes stepping stones to fuller knowledge, sources of valuable help if a proper use is made of them. As St. Augustine said, *De vitiis nostris scalam nobis facimus si vitia ipsa calcamus.*

THE ADDRESS IN SURGERY.

PROFESSOR JORDAN LLOYD'S Address in Surgery may be said without flattery to be one of the most instructive discourses of the kind that have been delivered before the Association for many years. His survey takes in almost the whole range of surgery, but his address is no mere Pindaric celebration of the progress of his art. It is a critical exposition of the changes which he himself has witnessed, and of the methods by which they have been achieved. One feels throughout that he is reading the record of the experience of a man who has had the largest opportunities of seeing the development of surgery during the last thirty years, and who judges of the facts that have come before him with singular independence of mind and clearness of vision. He travels over so vast an expanse of territory that we can touch only on a few points chosen almost at random from the abundance of matter which he handles not only with the ease of a master of his craft, but with the deftness of a literary artist.

Somewhere in the mid-seventies we heard the late Sir John Erichsen state in public that the art of surgery had then very nearly reached finality; he said that whatever increase of manipulative skill might be attained by the surgeon, there were three regions into which his knife could never penetrate. One of these was the brain, another the thorax, the third the abdomen. Yet but a few years after this pronouncement all these regions were successfully invaded, and since then a long series of operative triumphs has brought the abdomen and the brain within the sphere of everyday surgery, while tuberculous cavities have been laid open, parts of the lung removed, and wounds of the heart have been stitched up. In this forward march Mr. Jordan Lloyd has had a leading place. His address is a striking illustration of the truth that the progress made in medicine within the last quarter of the century has mainly consisted in the transference of its "undeveloped land" to surgery. For instance, whereas formerly physicians in the presence of disease of the brain, of the stomach, and in many diseases of the kidney, had perforce to adopt the attitude characterized by an ancient writer as "a meditation on death," now the surgeon is often able to conquer the enemy with his knife. In Mr. Jordan Lloyd's student days, which began in 1872, kidney disorders were dealt with wholly within the province of the physician, who concerned himself only with Bright's disease. His professor of medicine, at the end of a series of lectures on Bright's disease, disposed of all other forms of kidney troubles within a couple of hours. Since those days whole volumes have been devoted to surgical diseases of the kidney, and these are now within the reach of surgical art to an extent that forty years ago was considered impossible.

In our article on the Address in Medicine we have taken occasion to speak of the mistakes made by the misinterpretation of radiograms. This statement is very fully confirmed by Mr. Jordan Lloyd, who gives some remarkable instances of errors into which surgeons have been led by what he calls the dogmatism of the radiographer. It is interesting to note also that he points the moral we have endeavoured to enforce, that a man may learn much from his mistakes if, like Lawson Tait, he will frankly admit that his failure is due to his own "bungling."

Mr. Jordan Lloyd says he knows of no more striking example of surgical advance than is seen in the operative treatment of gastric disease to-day. How the success of modern surgery is appreciated by the public is shown by the fact that, as he says, it is now quite an ordinary thing for the hospital out-patient, when asked what is the matter with him, to reply: "I have got indigestion, and want to be operated on"; just as formerly he would have said, "I have got the wind, and want something for it." This excessive belief in the curative power of the knife shows at least how much people's minds have been impressed by the progress of surgery. Mr. Jordan Lloyd's cautious conclusions, drawn from a long and mature experience of the possibilities and limitations of stomach surgery, should be carefully pondered by all practitioners. We can only make a passing reference to what he has to say on inguinal colostomy, inguinal caecostomy, and the radical cure of hernia. His remarks on enlargement of the prostate have a special value, because they are the outcome of careful first-hand observation.

Mr. Jordan Lloyd touches on a matter of the greatest importance at the present day when he deals with the costliness of hospital treatment. He deplores the modern tendency to make of a surgical operation a kind of ritualistic function. This is doubtless accountable for a large part of the costliness of hospitals. There are other factors, no doubt, but these lie outside the purview of this article. Every surgeon now requires his own particular operating theatre, fitted in accordance with the very latest rubric of the cult of Asepsis. As this is constantly changing, the cost is becoming steadily greater. We have reason to believe that the illustrious man to whom aseptic and antiseptic surgery alike owe their origin thinks that his teaching is nowadays too often carried out in a spirit that borders on fanaticism. The result is that the burden on the hospitals has almost reached what engineers call breaking strain, and it is safe to foretell that, unless some means of lightening it is found, it must fall, crushed, as it were, by the weight of its own armour. Already modern surgery, with its innumerable costly refinements, is becoming the monopoly of the very rich or the very poor. A need which is becoming more and more urgent as surgery advances is the provision of institutions in which patients to whom hospitals would rightly refuse admission even if they cared to enter them, and who cannot benefit by State Insurance, can have the advantages of the best treatment at a cost commensurate with their means.

Another matter referred to by Mr. Jordan Lloyd is the vast growth of medical literature. He justly says that the man who proclaims a new discovery or a method of treatment, or an improved method of diagnosis, incurs a great moral obligation, and he adds that the responsibility of the journal which distributes the information to the profession and to the public is still greater. We fully agree that a most careful sifting process is necessary before a discovery is proclaimed, and we think it would be to the great advantage of the public if so-called medical discoveries were not announced with a flourish of trumpets in the lay press. There some kind of censorship is called for in the interest of the sick themselves, who are often, figuratively speaking, "butchered" to make a journalistic scoop. We do not, however, think that Mr. Jordan Lloyd is altogether happily inspired in his suggestion that it would be well if every new discovery could be investigated and approved by an official and competent body, especially appointed for the purpose, before it is announced. We know exactly what such a body would do. We have examples in the Royal Medical and Chirurgical Society, which asked to be "pro-

tected" from the infliction upon it of such papers as that in which Dr. Henry MacCormac insisted on the value of fresh air in phthisis, and in the way in which the Paris Académie de Médecine at first treated Pasteur.

Medical history is full of tragedies of the rejection of original work by academies and the stifling of discoveries by the obstinate conservatism of scientific Nathanaels who asked, "Can there any good thing come out of Nazareth?"

ANNUAL MEETING NOTES.

FROM a strictly official point of view the Annual Meeting began this year at 2 p.m. on Tuesday, July 25th, when, in accordance with established custom, the outgoing President, Sir Henry Trentham Butlin, inducted his successor into the chair, and received a singularly well-deserved vote of thanks for his distinguished services during his term of office, as duly recorded in the SUPPLEMENT to this issue. But practically the meeting commenced quite four days before that day, for it was on Friday, July 21st, that the elected Representatives of the Association commenced their deliberations, and they were busily at work throughout the whole of that day, as also for the greater part of Saturday, and again on Monday and Tuesday. Meantime the local officials were equally busy. It was not only that they had to put the last touches to their arrangements, but they had on their hands, so to speak, the 300 or so members of the Association who were already present in the persons of Representatives, and on Monday morning early the reception of ordinary attendants at the meeting commenced. This year the number of members who had announced their intention of attending the meeting in advance was unusually large, and many of them arrived very early. Indeed, by 10 a.m. on Monday, July 24th, the Reception Room officials were not only at their posts, but were actually at work. It would be by no means fair, therefore, to regard the meeting as having commenced only at 2 o'clock on Tuesday. Another reason for regarding the meeting as having practically commenced on Friday is that on that day the Lord Mayor of Birmingham, Mr. Alderman Bowater, attended the Representative Meeting in the morning and bade a welcome to the Association in a most sympathetic speech, of which an account will be found in the SUPPLEMENT, p. 210. The fact remains that officially the meeting commenced only on Tuesday afternoon, and this is a step which marks progress. In several former years the Annual General Meeting has been held two or three days before the arrival of practically any ordinary members, and has then been adjourned, with the result that scarcely any beyond Representatives and officers have been present at the true commencement of matters. This year, on the contrary, the Annual Meeting will have been continuous onwards from Tuesday throughout the week.

A GUIDE BOOK FOR MEMBERS.

THERE are many people who pride themselves on their possession of a bump of locality, and there are many towns which kindly help them to buttress up that conceit; but Birmingham is not one of them. Seemingly it lies on a gentle acclivity, running down to an invisible river, and the man who finds himself in any more or less broad, rising street, is apt to think that he has discovered the main artery of the town, and is in a position to make short cuts. Therein he is likely to find himself mistaken, and to seize with eagerness upon the Guide Book offered him when at length he has reached the Reception Room. Who its author is we do not know, for he remains modestly anonymous, allowing his work to speak for itself. This it does in a most satisfactory fashion, since it supplies a very clearly worded account, not only of Birmingham as it is, but of Birmingham as it was, and from what is said in both connexions the visitor who has wandered in every direction except that in which he ought to have gone will find much consolation. When he has got over his surprise at learning that Birmingham occupies the site of a clearing in the midst of the great Forest of Arden (where the Bermings established their "ham" in early Saxon times), he will find that in 1538 the town was described as consisting of a single street starting at the brink of the Rea and running up a "meane hill" about a quarter of a mile in length. On the basis of this fact he may be able to persuade himself that after all his original supposition was not altogether wrong, and that the reason of his error was that Birmingham nowadays covers not merely one, but many contiguous hills, and that the length of its streets is not to be measured in quarters of miles, but in leagues. Birmingham, in short, as the Guide Book indicates, seems to be already practically the second largest city in Great Britain, and within a few months will occupy that position officially, for in November the nominal and purely administrative boundaries between the city and its numerous suburbs are due for abolition. The account given of the hospitals, the medical schools, the university, and the country round is also excellent, the letterpress being rendered attractive as well as practically useful by the careful insertion of any points of historical interest that present themselves in these connexions. The existence of the medical school, it is to be noted, seems indubitably to have been due to the energies and statesmanlike outlook of a man aged only 23. This was William Sands Cox, a son of a Birmingham surgeon, who was born in 1802, and, after studying at the Birmingham General Hospital and in London and Paris, began to give anatomical lectures in Birmingham. The date of their commencement was December, 1825, but earlier in that same year Cox had begun to plead for the foundation of a regular school of medicine in Birmingham, and this he succeeded in getting formally inaugurated within three years, its first home being a single room.

CHURCH SERVICES.

FOLLOWING almost immediately after the induction of the new President on Tuesday afternoon, services in connexion with the meeting and of a semi-official character were held simultaneously at the Pro-Cathedral and at the Church of the Oratory of St. Philip Neri. At the former service, which was well attended, a sermon was preached by the Right Reverend the Lord Bishop of Birmingham, Dr. C. Gore. Before commencing, he made allusion to a collection on behalf of the Royal and British Medical Benevolent Funds, which was to be held on the conclusion of his sermon. He said there was hardly any profession other than that of medicine in which a man made so great a venture of faith as did a medical man when he first embarked in practice, especially if he were married. In no profession did a longer time elapse before a man recouped himself for his initial expenditure, and achieved a position in which he was able to provide satisfactorily for his wife and family. Therefore, in no other profession was there greater need for a fund adequate to provide for widows and orphans, or for cases of unexpected or premature death. He asked earnestly, therefore, that there should be a generous response from those present. His sermon itself he based on the text from St. Matthew: "But blessed are your eyes, for they see; and your ears, for they hear. For verily I say unto you that many prophets and righteous men have desired to see those things which ye see, and have not seen them; and to hear those things which ye hear, and have not heard them." We heard constantly, he said, popular language about progress which would suggest that the world was a sea in which the almost inevitable movement of humanity was towards a better state or towards perfection. Huxley, he continued, had long ago warned the world in very definite language against any such delusion. When

speaking in the name of science he had said that he knew it as certainly evidencing not less a downward than an upward road for man, and that it could encourage no hope of a millennium. The truth of this saying, Dr. Gore remarked, was very forcibly impressed by the facts presented by history. Let those present take, in imagination, a journey round the Mediterranean. Beginning at the Straits of Gibraltar they would pass southwards from Morocco and Tripoli along the borders of what was now almost a desert, but where once was the famous and wealthy province of Africa, with its innumerable and flourishing cities. They passed the coast of Egypt with its memory of an immemorial and extraordinary civilization; then Syria, the Syria of the Phoenicians and of the Jew, the Syria to which we owed such an incomparable debt, and which made so extraordinary a contribution to human progress, for it was the nursery of the religion of humanity. Next they passed Asia Minor and Crete, with their ancient relics of culture, only just unfolded to our astonished imagination; Greece, to which we owed a debt so immeasurable, intellectual, and artistic, but a debt, again of long ago; then Italy, the Italy of Rome, the Republic, and the Empire; and then Spain of the glorious artistic and intellectual traditions of the Middle Ages and Renaissance. And they came back to where they started and asked those different territories for their secret, and they answered with a voice almost unanimous, "Our contribution to the sum of human progress, knowledge, and virtue was made centuries and even millenniums ago. We look back across the ages for our glory, but we have declined, and there is no apparent prospect of recovery." Nations, in short, though it did not appear to be inevitable, seemed to grow old and decayed just like individuals. There was a certain type of man who was always talking about the good old times; but that was a very one-sided state of mind, because when any particular period to which attention was called was investigated it would be found that there never really were any good old times. Indeed it might well be asked whether there was any period of human history in which a man might live more courageously, hopefully and thankfully than at present. There was also another state of mind—the cynical frame of mind, which claimed that no effort towards knowledge or virtue was worth making. But neither of these states of mind was permissible to reasonable men, and still less to Christians; for the latter, at any rate, must believe in the Divine purpose of progress. Among instances of such progress he instanced some of the achievements of medicine and surgery during recent years. He also alluded to Florence Nightingale, and asked whether any other human being had ever been allowed to witness so complete a realization of their ideals as she had done in respect of her life-work for the reform of nursing. Still, progress in certain departments of life was compatible with deterioration in other respects, both of the nation and of the world at large. This was a fact well calculated to make them nervous and disposed to ask, What is there that can sustain human progress? After dealing in some detail with this point, the Bishop concluded that, when the widest and freest view was taken of what made up human salvation—a term which was equivalent to human progress—there was no other way except that of Jesus of Nazareth.

At the Oratory the preacher was the Right Reverend Monsignor Henry Parkinson, D.D., Rector of Oscott College, who based his words on a text in the Book of Ecclesiasticus, "Honour the physician." After pointing out the appropriateness to the medical profession of certain passages of this book of the Apocrypha, as well as of others in the Gospel of St. Luke, the physician evangelist whom St. Paul called "Carissimus Medicus," Dr. Parkinson continued, "People may say that medicine is the creation of man, but you, Catholic physicians, will not dream of such a speech. You have in your hearts the sacred text, 'For all healing is from God'—not, indeed, that all healing is by the special interposition of God, but that the agencies with which you work—namely, the drugs and the skill and resource with which you are able to make use of them—are all part of the magnificent design of the Almighty." From the earliest times there had been simple remedies drawn from the earth, and to-day they were still compelling Nature to give up the glorious secrets of her Creator, and the drugs which were now used in pharmacy were of an abundance and had a subtlety and speciality of action which were unknown in the days when the ancient prophet wrote, "And a wise man will not abhor them." "Of his (the physician's) works," he also wrote, "there shall be no end." This did not mean, in his judgement, that men would contract more and more diseases, but that disease, through the labours of the physician, would grow progressively less, until there came a time when men would die, not of disease, but of old age. For this result the Scriptures placed the responsibility in part upon the physician and in part upon the patient. There was nothing in Scripture to warrant the existence of the weakling. God had not made men weaklings. What victories had not medical science already won! And what victories were to be hers in the future! The victory over tuberculosis, over cancer, over lupus and scrofula—this would be gained sooner or later through the intelligent use of natural resources that God had given, and through the minds that He had endowed with the gifts of science. The lesson from this ancient literature was one of encouragement. The Church said to the medical man, "Go forward!" He was confident, looking upon the earnestness with which medical men devoted themselves in the present day to the great work of healing, that the future would be rich in blessing for them all. It was for this reason that, although the old Vulgate text rendered the passage from Ecclesiasticus, "Honour the physician for the need thou hast of him," the proper rendering was, "Honour the physician *before* thou hast need of him." And that seemed to be the fitting and appropriate attitude to take for those of them who looked on while the profession devoted itself to this great duty. The service ended with a collection on behalf of the benevolent funds already mentioned.

MR. JOSEPH CHAMBERLAIN.

IN addition to the delivery of the Presidential Address at Bournbrook on Tuesday evening and the public introduction to the President of foreign guests and colonial delegates, there were two other events of interest on this occasion. One was the presentation to Dr. C. W. Gordon Bryan of the Middlemore Prize for his essay on Serum and Vaccine Therapy in connexion with Diseases of the Eye, and the other was the acceptance by Mr. Neville Chamberlain, on behalf of his father, Mr. Joseph Chamberlain, of the certificate of honorary membership which was voted to him early in the meeting. The special occasion of the presentation was no doubt the fact that Mr. Joseph Chamberlain first made his name as Mayor of Birmingham and has remained constantly associated with the fortunes of the town ever since; but the honour is one which might have been paid any time within the last fifteen years. Professor Saundby, when handing the certificate to Mr. Chamberlain's son, very justly said that no such Colonial Minister had been seen since the days of Chatham, and it is certain that to no other man could the certificate of membership—that rarely accorded honour—have been presented with fuller approbation on the part of medical men in this country. For many years past there has been the widest recognition among medical men of the great work which Mr. Chamberlain performed when he showed his appreciation, very soon after he had taken up the reins of office at the department of the

Government which regulates the fortunes of the Overseas Dominions—and more especially those of the tropical dependencies—of the need that existed for encouraging the study of tropical diseases. Nor, as is well known, was the interest he exhibited merely of an academic order, for he was directly responsible for the calling into existence of the two distinguished schools of tropical medicine, in London and Liverpool respectively, which have won so much admiration abroad, and, ably advised by Sir Patrick Manson, he has done much to promote their welfare almost ever since.

General Arrangements.

The general arrangements that have been made by the hosts at this Annual Meeting are of a most convenient kind, and offer abundant evidence both of thoughtful anticipation of what was likely to be required and of the labours which must have been expended in carrying out the plans made for its provision. The general reception room is in the central chamber of a kind of Grecian temple, which Birmingham calls its Town Hall, and has around it a series of tables for the registration of names, and for the affording of information and the distribution of tickets of admission to the very numerous entertainments provided. The size of the chamber is of great advantage, for though at one time and another there have been many people in it, it has never been crowded. Close by the Town Hall—indeed, within forty or fifty yards—lies the Midland Institute, in which the conferences of the Representatives have been, and indeed still are at the moment of writing, in progress; and equally close but behind both buildings stands what we understand to be the original home of the University of Birmingham, namely, Mason College. It is in this latter building that the Sections are holding their meetings. As a whole the rooms placed at their disposal are of very suitable size and their interiors have been conveniently adapted to their present use. The immediate contiguity of the various Section rooms has proved especially helpful to those whose interests are not solely localized in one department of medicine. The Sections are being well attended and in some of them unusually interesting and valuable discussions have already been held. This is notably the case in respect of the conjoint meeting which the Sections of Anatomy and Physiology and of Therapeutics held on the opening day for the purpose of discussing the merits of a comparatively low protein diet. An account of this, as also of all the discussions which took place in the various Sections on Wednesday, will be found in another part of this issue. The energies of the local secretaries have not, however, been by any means confined solely to making due provision for the more serious aspects of the meeting; they have been equally long-sighted and industrious in arranging for relaxations of one kind and another. Apart from the entertainments of a more specific kind, to which reference is made in another paragraph, facilities have been offered for visits to the factories of many well-known manufacturers, and to the premises of the *Birmingham Daily Mail* and those of the Birmingham Small Arms Company, whose directors, in addition to entertaining their visitors to tea, conveyed them to and from the works in Daimler motor cars. Another enterprise has been the provision of a matinée at the Picture House, where a number of films demonstrative of the life activities of various micro-organisms more or less recently ascertained to be the cause of certain human diseases have been shown. This particular event may be regarded as of a scientific character, for the films shown were prepared by men who thoroughly understand both the bacteriological and photographic aspects of their work, and are of a really informing kind. Other events of allied purpose, but of a more purely professional character, have been medical and surgical demonstrations of cases of interest at the General Hospital and Queen's Hospital respectively. Golfing competitions, to some of which reference will subsequently be made in detail, have also been in progress, and opportunities have been afforded to members and ladies accompanying them of being present at the Midland Counties Lawn Tennis Tournament, which is now in progress. In addition, many of the clubs have thrown open their premises for the convenience of members, the University Club placing its room at the disposition of all and sundry, the Union Club offering hospitality to members of Council, and the Conservative Club and the Clef Club to Representatives of Divisions. Finally, it should be mentioned that a subcommittee of the Reception Committee, under the chairmanship of Mr. Lloyd Owen, and with Dr. Branson as secretary, has been busy looking after the needs of foreign and Colonial guests, and that a corresponding subcommittee, headed by the Lady Mayoress, with Mrs. Boeddicker and Mrs. Warren Tyndall as honorary secretaries, has proved very active in attending to the comfort of lady visitors. Apart from arranging for ladies' reception rooms both at the Town Hall and at the university building, this subcommittee is daily providing motor-car rides and other pastimes for the special benefit of ladies whose interest in medicine is not so strong as to lead them to seek admission to the morning discussions in the Sections.

Entertainments.

The round of entertainments was led off on Tuesday by two garden parties which were respectively given by the President (Professor Saundby) and Mrs. Saundby at Hagley Road, Edgbaston, and by Sir Oliver and Lady Lodge at Mariemont, in the same locality. They followed immediately on the conclusion of the church services, and every one was glad to have an opportunity of meeting in the open air. On the same day, but not until after the termination of the ceremony at the new university buildings at Bournbrook in connexion with the delivery of the presidential address, the Birmingham and District General Medical Practitioners' Union gave a smoking concert. It took place in the drill hall of the Royal Warwickshire battalion, which was kindly lent for this purpose by the officers of the corps. Dr. Langley Browne, the President of the Union, was in the chair, and, with admirable adaptability, proved himself on this occasion just as round a peg in a well-rounded hole as, in the knowledge of most members of the Association, he has constantly proved himself at many less attractive gatherings. The arrangements for the entertainment were on a generous scale, and, thanks partly, no doubt, to the entire change of scene, but mainly to the excellence of the sundry "turns" provided, the event proved exactly what it was intended to be—namely, a thoroughly festive gathering. On Wednesday there was another garden party, the hosts on this occasion being Professor and Mrs. Gilbert Barling. This entertainment, however, had many rivals, for there were in progress much about the same time the expedition to Lichfield on the invitation of the local members, of which we hope to be able to give some account at a later date, and a very elaborately arranged visit of inspection to the Garden Village created and maintained by the Cadbury Brothers of chocolate fame. Meantime, for the more serious minded there was an inspection of an open-air school which is in the course of erection at King's Heath, and which is to accommodate when ready 120 children. This visit was arranged by Dr. G. A. Auden, the medical superintendent of the Educational Committee of the city, who was himself at hand to explain the details of the buildings. The day's doings on Wednesday ended at a very late hour at the Council House of the city, where the Mayor and Lady Mayoress were at home from 9 p.m. Thursday was an almost equally crowded day, for apart from the breakfast of the National Temperance League with which it commenced, and the luncheon party given by the Continental Anglo-American Medical Society

there was an expedition in the afternoon to Studley Castle; it was thrown open by the Countess of Warwick to visitors to the meeting in order that these might have an opportunity of examining for themselves the nature of the education provided at the Horticultural College for Women now carried on there. The day ended with the annual dinner of the Association, which is in progress at the very moment we are going to press, and with an entertainment at the theatre for the benefit of such ladies and other visitors as were not present at the dinner. With reference to the last day of the meeting, namely, Friday, we can only say that apart from the interest of the work to be done in the sections it is likely to prove at least as enjoyable from the point of view of those who have power to take advantage of the hospitality offered them as any of the preceding days. Among the projected entertainments are an excursion to Coventry in the afternoon; two garden parties, which are to be given respectively by Mr. and Mrs. Marsh at Aston Hall, and by Dr. and Mrs. Stacey Wilson at Wydrington; and in the evening an *al fresco* entertainment in the Botanical Gardens, at which the local hosts will be more specifically represented by the President of the Association himself and by the Chairmen of the Reception and Entertainments Committees and the President of the Birmingham Branch. The latter officers, as already mentioned in this JOURNAL, are respectively Professors Gilbert Barling and J. T. J. Morrison and Mr. Frank Marsh. As we have mentioned their names, we cannot willingly abstain from referring also to those of the local Secretaries, Mr. Albert Lucas, Mr. J. Furneaux Jordan, Dr. W. Tracy Lydall, and Mr. A. W. Nuthall, as also to that of Dr. Purslow, for to all of these, as well as to many other residents in Birmingham, the representatives of this JOURNAL, and probably most other visitors, have had good reason to be grateful for their ready and unvarying courtesy on all occasions. The week's doings are to end on Saturday with a series of excursions to which, as also to some of the events mentioned in this paragraph, further reference will eventually be made.

THE ANNUAL EXHIBITION.

CONSIDERING how many preparations are necessary, the absolute readiness of the display of new additions to the armamenta of physicians and surgeons, which is known as the Annual Exhibition, at 9 a.m. on Tuesday, was somewhat noteworthy. It is true that the officials of the Associations responsible for the organization of the exhibition are now experts in this very special class of undertaking, and that the representatives sent down by the various firms exhibiting are almost invariably men of long experience; but nevertheless the fact remains that no small labour and much skill are required in order to secure that the multiplicity of goods are really ready for display or demonstration by a comparatively early hour in the morning. However the energies of those concerned are by no means expended in vain, for this exhibition steadily grows in popularity among members of the Association. Nor is this fact remarkable, for the stalls offer them the supreme advantage of being able to examine at their ease and without fear of importunity to purchase a carefully selected assortment of everything that is most attractive in the way of new instruments, books, pharmaceutical preparations, surgical appliances, and all other things intended to facilitate medical and surgical work in its various branches. The exhibition, in short, is a kind of illustrated edition of the advertisement pages of the medical journals, and a mine of new ideas to those who are much too absorbed in the daily cares of practice to have time regularly to study their JOURNAL from end to end. Indeed the manufacturers of to-day are so much on the *qui vive* in matters scientific that every fresh suggestion in the way of treatment is promptly seized upon and made practically available to every one often almost before those who are unable to be constant attendants at the scientific meetings of Branches and Divisions of the British Medical Association are even aware of its emission. Those who look upon the exhibition in this light and were able to visit the one held this year will not have been disappointed, for it was in all respects satisfactory. At a later date we propose to draw attention in the SUPPLEMENT to some of the more attractive exhibits and meantime note the fact that this year the display was accorded the honour of a formal introductory ceremony. Some two hours after the doors had first been opened Sir Henry Trentham Butlin, accompanied by the Lord Mayor of Birmingham, by the President-elect, and other officers of the Association, made a tour of the stalls, and then mounting a dais asked the Lord Mayor to declare the exhibition formally open. A detailed account of this ceremony and of the Lord Mayor's very appropriate speech on the occasion will be found in the SUPPLEMENT to this issue.

OFFICIAL DINNERS.

AT one time the annual dinner of the Association was usually the sole formal function of this order, but nowadays it has more than one official as well as many private rivals. This year, for instance, in addition to a dinner party given by Professor Saundby on the evening preceding the day of his assumption of office, the President of the Birmingham Branch of the Association, Professor J. T. J. Morrison, also gave a dinner party on Wednesday evening. Other dinners of a semi-official but more impersonal character, since everyone was a host and no one a guest, were those of the secretaries of Branches and Divisions which took place on Monday, and were followed by the annual conference among secretaries, and of the Council and Representatives of the Association at the end of their first day's labour on Friday. On the following day, it may be noted, a large number of the Representatives took advantage of an invitation extended to them by the town of Droitwich, and spend the week-end at this spa. It is one which is rapidly growing in favour among the medical profession in this country, and must always stand practically without a rival in view of the almost unique character of its principal water. The arrangements for the reception and entertainment of Representatives were made under the superintendence of Dr. John Wilkinson, medical officer of health of the district, and all those who availed themselves of them found them most satisfactory.

FOREIGN GUESTS AND OVERSEA REPRESENTATIVES.

THE guests of the Association who were selected this year for the honour of public presentation to the President before the delivery of his Address on Tuesday evening numbered about twenty. The majority were men already well known in this country either by name or personally. For instance, Professors Carl von Noorden of Vienna, Onodi of Budapest, Strassmann of Berlin, and Dr. Gilchrist of Baltimore all bear names which are familiar not only on account of the professional eminence of their owners but also in virtue of their attendance at one or more previous meetings. Others whose work has gained for them world-wide repute, but who are paying what, so far as we remember for the moment, is their first visit to an Annual Meeting of the Association were Russell Chittenden of Yale University, Wertheim Salomonson of Amsterdam, and Franz Nagelschmidt of Berlin. The list also included the names of Professors Oppenheim and Saubermann, both of Berlin, Stoeltzner of Halle, Koch of Groningen, Lenhossek of Budapest, Haenisch of Hamburg, Dock of the University of Washington, Campbell Howard of the University of Iowa, and Vogt, a Privat-docent of the University of Strassburg, together with those of Dr. R. Schuster of Aachen, Dr. Frey of Vienna, and Dr. Bottcher of Wiesbaden. The presence of foreign authorities of the calibre of some of those mentioned is a very valuable

ldition to the utility of the work done in the Sections, nd the opportunity of making their personal acquaintance nd hearing them express their own views is for many ıembers of the Association one of the great attractions of ıese annual meetings. Among the medical profession in ıis country no prophet is without honour whatever the ıcality in which he happens to work, and the extent of ıe familiarity of the rank and file of the profession with ıe contributions to the progress of science made by ›reign authorities is somewhat remarkable. It is a fact ı which we take some pride, since it is in a ırge measure no doubt due to the contents of our wn columns, including the epitome of current medical terature which appears each week. In addition to ıe foreign guests there were also presented to the rcsident a large number of delegates and other Repre-ntatives of Over-sea Branches and Divisions of the ssociation. The list included four Representatives of ranches in Canada (Professors T. A. Reeve and I. H. ameron and Drs. G. S. Ryerson and D. J. Gibb Wishart); even Representatives of South African Branches (the ıe Border Branch, Dr. G. H. W. Robertson; the Eastern rovince Branch, Drs. Bruce Bays and T. D. Greenlees; ıe Western Province Branch, Dr. H. W. Reynolds; the riqualand West Branch, Dr. A. H. Watkins; the Natal ranch, Dr. R. Milner Smyth); seven from New Zealand Drs. D. Colquhoun, H. L. Ferguson, G. E. Gabites, F. W. ordon, E. A. W. Henley, H. O. Jones, E. Rawson, and r. T. Copeland Savage); six from the Far East (the ong Kong and China Branch, Drs. G. D. R. Black and . Grone and Surgeon E. A. Shaw, R.N.; the Malaya ranch, Drs. H. Fraser of Kuala Lumpur and Dr. J. alloway of Singapore; the Ceylon Branch, Dr. H. J. halmers); three from Australia (the Brisbane Branch, r. E. Temple Smith; the Victoria Branch, Drs. J. K. ichards and R. Shuter); two from the West Indies, Drs. R. Phillips of Barbados and Law of British Guiana; nd finally, Dr. Dowding of the Gibraltar Branch and r. A. B. Bernard, a Representative of the Malta and lediterranean Branch. There are also attending the ıeeting a large number of other members belonging to ranches situated outside the United Kingdom.

ON Monday evening Dr. Saundby gave a dinner party t the Grand Hotel, Birmingham, at which he entertained ıe retiring President of the British Medical Association, ir Henry Butlin, Dr. Maclean, Chairman of the Repre-ntative Body, Dr. Byrom Bramwell, Mr. Jordan Lloyd, ıe Presidents of many of the Sections, and other officers f the annual meeting. After the King's health had been onoured, Sir Henry Butlin gave the toast of "The Host," nd recalled his long association with Dr. Saundby in the ouncil of the British Medical Association.

THE PATHOLOGICAL MUSEUM.

WHAT was known at the last annual meeting as the ledical Museum is very conveniently housed this year in series of communicating rooms right in the centre of the uilding in which the meetings of Sections are being held. his is a specially happy arrangement, as considerable abour appears to have been expended in making each of s divisions more or less directly illustrative of points nder discussion in one or other of the Sections. These ivisions are ten in number: Medicine (with a subdivision evoted to diseases of children), surgery, gynaecology, mbryology, dermatology, ophthalmology, otology and aryngology, State medicine, dental diseases, and radiology. n the division of medicine more particular attention has een paid to diseases of the pancreas and granulomatous ormations arising in the course of syphilis, and to various anifestations of the joint diseases commonly classed as rheumatoid," and in the children's subdivision to pyloric bstruction. In the division of surgery the conditions ıore particularly illustrated are malignant growths of the gastro-intestinal canal, the object in view being the display of the results of operation. In the division of gynaecology are specially considered the degenerations and complications of fibroid tumours; and in ophthalmology and pathology of glaucoma; while in the division of radiology, rheumatoid disease again figures largely, as also early pulmonary tuberculosis and abnormal conditions of the abdominal viscera. At first sight State medicine would seem difficult to deal with in a pathological museum, but an excellent way out has been found by demonstrating the inter-relation between human and bovine tuberculosis. We propose to defer any attempt to give a detailed account of what was shown until next week, but meantime have no hesitation in congratulating Professor R. F. C. Leith, the President of the Museum Committee, and Mr. A. W. Nuthall, its Honorary Secretary, and the various experts who have co-operated with them, on the success of their combined labours. It is, however, permissible to add here that at a first preliminary visit we noted with pleasure that the plans of the Research Hospital at Cambridge, to which we recently drew attention, were on view, and that the kind of work in which it engages and which it has already performed under the superintendence of Mr. Pigg Strangeways was admirably illustrated by a series of radiographs of osteo-arthritic conditions. In order to be ready to bring out for the benefit of visitors their leading points Dr. Emily Morris, of Cambridge, is attending the museum daily on Mr. Pigg Strangeways's behalf. We also took a passing glimpse at several series of microscope specimens of a very interesting kind, and were much impressed by a very large display of photographs and life-like wax models illustrative of diseases of the skin which have been lent by Drs. Stopford Taylor and R. W. McKenna, of Liverpool, and Dr. Cranston Low, of the Royal Infirmary, Edinburgh.

OTHER ASSOCIATIONS.

FOR some years past it has been the practice of the Association to accord facilities to other closely allied bodies to hold gatherings during the meeting, and the custom was duly observed this year. Occasions on which any considerable number of actual and possible members of such societies find themselves collected in the same town are sufficiently rare to make the courtesy highly appreciated, and the hospitalities of certain of them have become regular features of each meeting of the Association, wherever held. The pride of place in this connexion must certainly be given to the National Temperance League, since for over forty years it has given a breakfast party, followed by a number of short addresses, on one or other day of the meeting. This year the function took place at 8 o'clock on Thursday morning, with the President of the Association, Professor Robert Saundby, in the chair. Another constant attendant now is the Irish Medical Schools' and Graduates' Association, which fixed its summer general meeting this year for Wednesday, and, as usual, gave a luncheon party in connexion with it. Another luncheon party of the same order followed on Thursday, the hosts on this occasion being the Continental Anglo-American Medical Society. This association has its head quarters at Paris, and includes in its membership nearly all English-speaking medical men established in any part of Europe. For the last few years it has had the advantage of having Professor Sir William Osler of Oxford as a kind of extra or honorary president, while its honorary secretary and treasurer is Dr. C. G. Jarvis, a physician of the Holy Trinity Hospital in Paris. A fourth meeting of an allied kind which has still to be held is that of the Association of Public Vaccinators of England and Wales. This is to take place on Friday. Of all these meetings we hope at a later date to give some account in detail.

AT noon on Thursday, July 27th, the number of members registered as attending the meeting was 1,350.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

THE character and scope of the work of the different Sections will appear from the following short summary of the proceedings. A full report of the discussions and of the various papers read in the Sections will be published in due course.

Wednesday, July 26th, 1911.

SECTION OF DERMATOLOGY.

THE President (Dr. James Galloway), in opening the proceedings, said that the programme selected was a very wide one and afforded opportunity for the useful narration of their experiences by many classes of practitioners. Their colleagues in Birmingham had helped to add interest to the meeting by bringing up a most interesting collection of cases. In the matter of the exhibition of cases the Dermatological Section had given the lead to other Sections which were now following their example. He then called upon Dr. T. Colcott Fox (London) to open the discussion on vascular disorders of the skin and their relationship to other morbid states. Dr. Fox said he understood that discussion was specially invited on the erythemata, phases of lupus erythematosus, and varieties of vascular diseases associated with permanent degenerative disorders of the blood vessels, and dealt in turn with nearly all these conditions. Sir William Osler, who followed, devoted his attention chiefly to erythematous eruptions with visceral complications. Of 29 such cases under his own care 7 had proved fatal. The thoracic complications he had noted were acute endocarditis (with Schonlein's purpura), pleurisy, pericarditis, and pneumonia. In children with colic and purpura the outlook was usually good even in severe cases. Sir Malcolm Morris (London) said the President had given particular attention to this subject, and it was therefore very fitting to see him in the chair. Dermatologists had done much of late in the study of general diseases which caused skin manifestations, and Dr. Colcott Fox had collected all knowledge on the subject under discussion for several years. He thought erythematous eruptions of long standing were obscure in their pathology. He recalled a case of a man with erythema iris which after a time developed a general dermatitis of the pityriasis type. The patient after a few months went suddenly mad and died in an asylum. At the autopsy nothing was found to account for the eruption, but one kidney was lacking altogether and the other was one of the large white variety. Probably idiosyncrasy played a large part in these eruptions. He had seen marked benefit in a few cases from the use of a *coli* vaccine. Dr. Alfred Eddowes (London) said it was by following Sir William Osler's example in recording cases that they must hope to advance knowledge of this group of diseases, and described certain cases in which he had definitely known the cause. Dr. Leslie Roberts (Liverpool) said that on purely clinical grounds they could distinguish three distinctly marked groups: (1) The angioneurotic oedemas; (2) the vascular disorders followed by atrophy of the perivascular tissue; and (3) vascular disorders followed by cutaneous haemorrhage. Lupus erythematosus was the typical example of vascular symptomatic disorder followed by atrophy. He differentiated three forms of the disease, and gave his views of its connexion with tuberculosis. The evidence indicated that it was connected with disease of the lymphatic glands. He also referred to cases of leukaemia with cutaneous haemorrhages. Dr. Sequeira (London) discussed the difference between cases of the acute and chronic type of lupus erythematosus, while Dr. Galloway said he regarded the eruptions under discussion as often being epiphenomena of general infections; and finally Dr. T. Colcott Fox replied.

SECTION OF DISEASES OF CHILDREN.

AFTER a few words of welcome to the visitors to the Section, and particularly to the foreign visitors, the President, Dr. O. J. Kauffmann (Birmingham), called on Dr. H. D. Rolleston (London) to open the discussion on tuberculous peritonitis: its diagnosis, prognosis, and treatment. Dr. Rolleston went thoroughly into the whole subject, and enumerated a number of the comparatively rare conditions that may be confused with tuberculous peritonitis. He was followed by Mr. G. A. Wright (Manchester), who emphasized the possibility of confusing a pneumococcal with a tuberculous peritonitis, and asked how far a thrill on abdominal percussion could be taken as evidence of ascites. He held that all methods of treatment were of value, excepting operations for faecal fistula. Dr. C. Melland (Manchester) upheld the value of the medical and dietetic treatment in tuberculous peritonitis. Mr. McAdam Eccles (London) advocated laparotomy rather than paracentesis, if any operative procedure were to be employed, giving full credit to the enforced rest in bed that follows the abdominal operation. Dr. W. Jordan (Birmingham) remarked on the rarity with which he encountered the ascitic form of tuberculous peritonitis in children, and the importance of general hygienic treatment. Mr. George Heaton (Birmingham) referred to the difficulty of diagnosis in infants and young children; and warmly advocated early operation in the ascitic cases. Summing-up the results of the discussion, the President pointed out how difficult it is to summarize the results of treatment statistically in a disease so variable in type as tuberculous peritonitis; and exhibited the specimen derived from a case of subperitoneal sarcoma in a young girl. Dr. W. E. Hume (Newcastle-on-Tyne) then read his paper on general oedema following gastro-enteritis in children, based on 13 cases he had observed in infants apparently free from cardiac or renal disease. The treatment employed was the injection subcutaneously of adrenalin chloride solution, and was successful. He thought that the condition might depend on fibrosis of the suprarenal glands. Dr. H. D. Rolleston (London) commented on the rarity of the condition, and noted that even if albuminuria did occur it would not necessarily imply that the kidneys were inflamed, or were the cause of the oedema. Dr. R. Miller (London) and Dr. A. E. Clark (Edgbaston) also spoke. Dr. Leonard Parsons (Birmingham) then read his paper on infantilism associated with chronic interstitial nephritis, based on the case of a child of 6, and illustrated by *post-mortem* specimens and by photomicrographs. He discussed how far the lack of bodily and mental development might be due to syphilis, or to the lack of the normal internal secretion. Dr. J. E. H. Sawyer (Birmingham) stated that, so far as his experience went, bodily development hung back but mental development was fully up to the normal in children with chronic interstitial nephritis. Dr. R. Miller (London) mentioned a case under his care that lost weight, but did not grow, with thyroid medication. Dr. H. D. Rolleston (London) argued in favour of the parasyphilitic nature of chronic nephritis in children. The President spoke, and Dr. Parsons replied to a number of questions arising out of his paper.

SECTION OF ELECTRO-THERAPEUTICS AND RADIOLOGY.

THE introductory remarks of the President (Dr. Hugh Walsham) took the form of a short historical sketch of the progress of electro-therapeutics in England. He expressed the indebtedness of the speciality to a long line of physicists, mathematicians, chemists, and botanists, and concluded with a quotation from a book by Sir Oliver Lodge, whom he then asked to address the Section. Sir Oliver devoted himself mainly to the theory of electrical conveyance through solids, liquids, and gases, and added some remarks upon the production of radiation. In the case of a metal the "traveller" conveying the current was negative in its charge. It was a flow of electrons through the solid substance. In the case of a chemical liquid, on the other hand, the current was conveyed, roughly speaking, about equally by both the positive and the negative element, while in the case of a gas—although he made the assertion on the strength of certain experiments of his own, and thereby it lacked the authority of the more widely-accepted statements with regard to the electrical charge in metals and liquids—it was the positive which conveyed the current. In the metal the electrons travelled through the matter; in the liquid they went with the matter, and in the gas they travelled freely or without the matter. The cause for radiation was any acceleration of

ıe electrons. Although acceleration popularly meant a ırrying up, technically the term was equally applicable r'a slowing down or a curving of the path of motion, so ıat the speed was in any way altered. In order to get ɔpreciable radiation, however, it was necessary to accele- ıte violently. The acceleration of a cannon-ball through ɛing fired from a gun entailed the production of sound aves. The acceleration of electrons meant the emission ! light, but in the case of a vacuum tube when the ıthode rays were stopped dead by a target, the coarser ıalities of radiation were transcended, and they had the ne shimmer and whip-crack which was known as the rays. Sir Oliver Lodge concluded with a demonstration ! a valve-tube arrangement which he has constructed in ɔder that its interposition may stop the back rush of the ıarge, and so enable the charge to accumulate. The ection afterwards entered upon an animated discussion ı ionic medication. The subject was introduced by Dr. ſ. Lewis Jones, who thought that more originality was eeded in the search for fresh applications of the electrical ons. They required to know also more about the depth ! tissue to which the ions penetrated. Did they penetrate ufficiently to be of practical utility in joint affections? ɛe mentioned that lately he had been applying the principle ! ionization to the treatment of facial paralysis, directing ıe therapeutic to the trunk and primary branches of the ıcial nerve. In trigeminal and other neuralgias the good ffect of salicylic ionization was very marked. Clinical and xperimental notes were forthcoming from Professor W. alomonson (Amsterdam), Dr. Reginald Pratt (Leicester), ɔr. R. W. Mackenna (Liverpool), Dr. J. Metcalfe (Brad- ɔrd), and a large number of others. Dr. Metcalfe had ound salicylic ions give remarkable results in arthritic rouble, but he was strongly of opinion that larger milli- mpèrages than those commonly employed were desirable ı joint affections. Dr. Lewis-Jones, in his reply, claimed ıat the discussion had shown that ionic medication held ɔrth something useful in dermatology, gynaecology, and ı every branch of surgery. Dr. Fred. Bailey (Brighton) ɛad a paper on fractures undiagnosable except by *x*-ray kamination. He considered that at the present day a areful radiography would abolish, or nearly so, all doubt s to the existence or non-existence of fractures, and that, ıoreover, it would show the exact character of the frac- ıre. A large number of speakers discussed the paper, nd the morning's proceedings were brought to a close ith a description by Dr. A. Howard Pirie of a synchronous toreoscope for use with the fluorescent screen.

SECTION OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

FTER some introductory remarks by the President the iscussion on laryngeal tuberculosis was opened by Dr. undas Grant. Dr. Grant confined himself mainly to the iscussion of various local etiological factors and methods f treatment which he has found of practical importance. le referred to local sources of irritation, remarking on the requency of laryngeal tuberculosis in voice users, and the xtraordinary value of silence, which must be genuinely oiceless, and the necessity for prohibiting smoking. Cough- ng was often more irritating to the larynx, but a useful ough should not be discouraged—a voiceless cough which equired an effort of the will. Heroin he regarded as the emedy *par excellence*. He was not convinced as to the dvantage of antiseptic inhalations; they probably acted y checking the cough. The removal of nasal obstruc- ions, as also the treatment of the causes of nasal dis- harges, was important. Improvement often dated from he use of a nasal lotion. As regards the treatment of ocal conditions, resources were limited. In its nature he healing process was a fibrosis. If the galvano- autery were used to bring about this condition, it hould be introduced deeply, with a minimum destruc- ion to the surface tissue. As a rule, there was no trouble vith oedema, which was in marked contrast to the action n many cases with lactic acid. Localized tuberculomata, utgrowths from the ventricles and posterior pharyngeal vall, required the use of forceps and curettes. In ainful ulceration of the epiglottis or aryteno-epiglottic olds the use of forceps, of which there are various kinds, vas suggested. The results of these operations as regards elief of pain were astonishingly good, but the cautery vould take their place in most cases. In the treatment of ulceration he recommended cleansing with alkaline solutions, antiseptics, insufflations, and inhalations of powders by means of Leduc's tube. The speaker then referred briefly to the treatment of important symptoms, such as painful dysphagia by means of local sedatives, anaesthetic powders, galvano-cautery, punch forceps, and alcoholic injection into the superior laryngeal nerve. For regurgitation of liquids he mentioned Wolfenden's method and the feeding tube, and for nausea, the washing away of viscid secretion. In conclusion he emphasized the necessity of regarding the general condition and temperament of the patient. Dr. Watson-Williams, who followed Dr. Dundas Grant, said that they were very far from having heard the last word on the question. Early treatment had been surgical. He regarded any treatment that favourably affected the general condition of the patient as good for the larynx. He instanced cases of good results obtained by treatment in a sanatorium; moist climates, free from wind and dust, were the most favourable, and nasal obstruction and intranasal disease should always be dealt with. Tuberculin undoubtedly influenced the course of the disease favourably, and he detailed the results of his experience with this remedy. He had found that it had a remarkable sedative effect when there was pain. He referred to the value of early diagnosis, the use of small doses of tuberculin gradually increased, and mentioned the exact dose and the kind of tuberculin he had used. He then discussed local treatment by means of submucous injections, galvano-cauterization, the application of lactic acid, curetting and other surgical methods, their indications, scope, and limitations. He had found the cautery valuable in circumscribed lesions, and had had good results from the removal of the upper half of the epiglottis. Tracheotomy was sometimes required. He concluded that the best thing was to avoid local treatment unless there were strong reasons for interference. Mr. Seccombe Hett discussed the clinical varieties of laryngeal tuberculosis. His remarks were intended to advocate operative treatment in suitable cases. He showed the method which he had adopted for the removal of the epiglottis, and stated that he had had no bad effects from the operation. He showed also a number of microscopic sections of portions of the larynx which he had removed surgically, and brought forward statistical records from Mount Vernon Hospital, together with a photograph and clinical record of a case of tuberculous perichondritis with abscess. The discussion was continued by Dr. Jobson Horne (London), Dr. Trevelyan (Leeds), Dr. Moritz (Manchester), Dr. Andrew Wylie (London), Dr. Dan McKenzie (London), Dr. Hemington Pegler (London), Dr. William Hill (London), Dr. N. C. Haring (Manchester). The President then concluded the discussion, and the openers, Dr. Dundas Grant, Dr. Watson-Williams, and Dr. Seccombe Hett, replied. Dr. William Hill (London) then read a paper on dysphagic conditions wrongly attributed to oesophageal spasm, which was discussed by the President, Drs. Jobson Horne, Dan McKenzie, Brown Kelly, Dundas Grant, and Pegler; and Dr. Hill replied.

SECTION OF MEDICAL SOCIOLOGY.

THE fact that the Representative Meeting had devoted necessarily so much attention to the subject of the Insurance Bill militated somewhat against the attendance at, and interest in, the Section of Medical Sociology, at which all the papers had special reference to national insurance. The President (Dr. George Reid of Stafford) opened the proceedings at 10.15 a.m. with an address in which he alluded to the wide field embraced by the term "medical sociology." It was the pivot of the whole social movement, for the nation's health was the crux of national prosperity, and with a low health standard social progress was impossible. Who were better fitted to speak authoritatively on social questions than medical men? At the same time, he uttered a warning against dogmatism and against the pitfalls for professional men besetting the political aspect of social questions. Recent measures—the Notification of Births Act, the Education (Administrative Provisions) Act, the Housing and Town Planning Act, and the National Insurance Bill—showed that the nation was becoming more and more alive to the importance of the health factor in securing the welfare of the race. With regard to the Insurance Bill, Dr. Reid declared it to be the duty of the

medical profession to do all it could to make the scheme workable and successful. Mr. J. Smith Whitaker, the Medical Secretary to the Association, opened the discussion which dealt with medical aspects of the Poor Law, and his remarks took the useful form of an historical summary. He traced the gradual growth in the community during nearly a century of a realization of the importance of securing the health of the individual, and also the more recent tendency to look in an increasing degree to the machinery of the State as an instrument for social reform. He showed how the National Insurance Bill was the outcome of this spirit, and, traversing familiar ground, set forth the views of the medical profession on the methods by which the bill proposes to give expression to the wishes of the community. Dr. F. Wynne (Leigh) read a vigorous paper on the State Distrust of the Profession. He gave instances of the way the medical man was exploited, because in the nature of things he could not refuse his services, and called on the profession to resist the present attempt to to fasten the degrading conditions of contract practice upon the great majority of its members. Dr. Percy R. Cooper (Bowdon) discussed medical attendance under State Insurance. He criticized the Chancellor for taking the least paid form of medical practice as his model, and made the excellent point that the principle of the capitation system was radically unsound, because it meant payment in inverse ratio to work done. Dr. F. G. Layton (Walsall) advocated a State medical service, and went into considerable detail as to how it should be organized. Dr. Michael Dewar (Edinburgh) turned his attention to the provision necessary for the destitute and indigent, inexplicably omitted from the Chancellor's scheme, though they were the people who needed such help far more than those who were included. He would deal with this class under a reformed Poor Law system through the agency of private practitioners. In the short discussion which followed the papers, Dr. William Holder (Hull), speaking as a Poor Law medical officer, urged that medical men should adopt a more favourable attitude towards the Insurance Bill, for it would open many places of emolument to them, and since the unemployment benefits would render people less badly off, the medical profession would have fewer bad debts. He regretted that years ago the profession as a whole had not come to the aid of the sweated Poor Law and club medical officer, and that in the present bill no minimum rate was fixed. Mr. Smith Whitaker, intervening, explained that the Association was anxious to secure as much elasticity as possible in the terms of the bill, and it feared also the possibility of a minimum rate becoming the maximum. Dr. Keay (Greenwich), speaking from a long experience of a poor district of London, declared he had long held the conviction that medical attendance was best secured to the poor by a system of insurance, but he feared the present scheme took no account of the thirty years' experience in matters of detail accumulated in Germany. Dr. J. Jenkins Robb (Bournville) thought the profession had gone too far in its criticism of the Insurance Bill. He believed a State medical service was not far distant, and that it could be made efficient for ten millions a year, employing 25,000 medical men at salaries from £250 to £1,000 a year. Dr. James Neal (Birmingham), one of the honorary secretaries, replying to the last speaker, contended that the policy and demands of the British Medical Association had been recognized by men in all departments of public life to be reasonable and fair.

SECTION OF MEDICINE.

THE proceedings of the Section of Medicine were held in the Anatomical Theatre of the university. The President, Dr. A. H. Carter, in bidding welcome to the members and guests, expressed the thanks of the officers to those taking part in the discussions and reading papers. He was of opinion that the annual meeting was not the place for new and original work, but afforded a good opportunity for discussions on clinical problems of every-day experience. A discussion on the subject of asthma, its varieties and treatment, was opened by Dr. G. A. Gibson (Edinburgh). He reviewed the general anatomy and physiology of the respiratory system, laying special stress upon those factors bearing specially upon the genesis of the asthmatic paroxysm. He referred to the warming and purifying functions, in regard to the inspired air, of the upper respiratory passages, and to the importance of the large amount of erectile lesion in the nasal fossae. In discussing the nervous mechanism of respiration he referred to the fact that every afferent nerve was able to modify respiration, and mentioned the work of Dixon and Brodie upon the presence in the vagus nerves of fibres conveying both constrictor and dilator influences for the bronchial muscles. He then reviewed the various theories put forward to explain the asthma paroxysm, and announced his own adherence to the old view of Cullen that it was due to spasm of the finer bronchi. He read a letter from Sir T. Clifford Allbutt protesting against the current confusion of nomenclature caused by such expressions as "cardial asthma," and associated himself with the protest. He next discussed the etiology of the disease, mentioning the effects of various agents such as fog, the pollen of grass, etc. With regard to treatment, he advised due attention to the digestive system. Catarrh of the respiratory tract was to be avoided. Climatic treatment, he confessed, was difficult, so variable were the results. With regard to diet, food that was easily assimilable should be given. As to drugs, chloroform, ether, and atropine were remedies for which experiment had established a real basis. He used morphine as sparingly as possible. He pointed out, too, the dangers attending the use of cocaine. Dr. Saundby (Birmingham) expressed his concurrence with the view of the speaker that the disease was a neurosis, but thought Dr. Gibson had unduly narrowed this conception. He referred to recent observations on anaphylaxis in cases of asthma, showing how asthmatic patients were liable to fatal anaphylaxis, after ordinary doses of diphtheria antitoxin. He thought this suggested an analogy in the case of the bronchi with the urticaria which occurs after the administration of diphtheria antitoxin. Dr. Samuel West (London) said that, while he admitted the theory of a neurosis, the question was where the seat of nerve irritability existed. The analogy with epilepsy was a close one. True asthma, like epilepsy, developed in childhood. Attacks arising for the first time in after-life were probably counterfeits of the true condition. Dr. William Hunter (London) said he treated his cases for the most part with iodide of potassium. The spasm present was more important than the congestion. Dr. Stacey Wilson (Birmingham) dwelt on the importance of the reflex origin of the disease. He considered that the use of nitrites was not always justified, as the spasm might quite well be of a compensatory nature. Dr. Wm. Ewart (London) laid stress upon the peripheral nature of the causation of the spasm, and of the limitation of that peripheral field to the respiratory and alimentary tracts. There was a surprising variety of types of irritation, and this was a key to the remarkable diversity of the remedies employed. Dr. Grünbaum (London) suggested the treatment of certain cases by means of vaccines. He was satisfied that some cases improved under such treatment. The President thanked Dr. Gibson for his address. He wished to emphasize the practical importance of the conception that true asthma was essentially a neurosis, and was closely associated with general or local nervous instability. Treatment should be directed to causal indications as well as being merely symptomatic. Dr. Gibson having replied, a paper on lung syphilis was read by Dr. Douglas Stanley, in which forms of lesions occurring in the lung were differentiated. The pathological and clinical features were described and illustrated by reference to cases, of which Dr. Stanley had observed fifteen during the last seven years. The paper was discussed by Dr. William Hunter, Dr. Lauriston E. Shaw, Dr. Stacey Wilson, and Dr. Saundby; and when Dr. Stanley had replied the Section adjourned until the following day.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

AT the opening meeting of this Section Dr. Goodall, in his presidential address, dealt with the possible toxic origin of some kinds of insanity. He considered that there were no adequate grounds for considering that the organisms found in the tissues in any case of insanity played more than a secondary rôle. We were not justified in saying, as certain Italian writers did, that the presence of indigo in the urine was evidence of toxaemia of intestinal origin, much less in attempting to correlate its presence with

symptoms of insanity. After outlining the work on the bacteriology of the faeces which he had carried out at Cardiff during the last two years, he stated that the outstanding pathological fact which indicated a toxic pathogenesis for some of the psychoses was leucocytosis, as to which he gave some particulars, and in conclusion mentioned that recent experiments had shown that the excretion of creatinin was subnormal in several kinds of insanity, pointing to altered muscle-cell metabolism in the insane. A discussion on the different types of multiple sclerosis was opened by Professor H. Oppenheim, of Berlin. He dealt very fully with the classification of the disease, dividing it into four main varieties, with many subvarieties, the main types being (1) the spinal, (2) the cerebral, (3) the cerebro-spinal, and (4) the optic or ocular type. The disease could also be classified according to the functional disturbance. But the different types were really a matter of a large number of heterogeneous early stages which in the end always produced much the same clinical picture. The diagnostician should never forget that the disease was characterized by the multiplicity of foci. The President thanked Professor Oppenheim for coming to Birmingham and reading such an interesting paper, and congratulated him on his command of the English language. Dr. Risien Russell (London) considered that the classification of multiple sclerosis was a most formidable one; and rejoiced that he was not now a medical student whose duty would be to learn it by heart; yet he would add to the types mentioned one which was liable to be confounded with hysteria. Many cases diagnosed as cerebellar tumour were really cases of multiple sclerosis. Dr. F. E. Batten (London) referred to the rarity of multiple sclerosis in children under 14. He had never seen a case in a child under that age. It was extraordinary that advanced cases of the disease showed so few severe mental symptoms. Dr. J. J. Putnam (Boston, U.S.) laid stress upon the bladder symptoms observed in the disease. He had not seen cases of the disease in young children. Dr. Bowdurant (Alabama, U.S.) spoke of the difficulty of diagnosis between multiple sclerosis and general paralysis. Dr. Judson Bury (Manchester) thought the disease would eventually be found to be due to a toxin which had not yet been isolated, and that it would probably be found to be curable. He had found suprarenal extract of use in some cases and *x* rays in others. Dr. R. J. Williamson (Manchester), W. J. Midelton (Bournemouth), and Crawford Aitken (Carlisle), having spoken, Dr. David Blair (Lancaster) said that he had never seen multiple sclerosis in a sane person, but had had several cases of it in the insane, and was surprised to hear members speak of its rarity in insanity. Dr. Mott (London) said that out of 2,000 *post-mortem* examinations on insane persons in his experience there was only one case of multiple sclerosis. The President stated that he had never seen a case of the disease in an asylum patient during twenty-one years' experience. Dr. Hobhouse (Brighton) also spoke, and Dr. Oppenheim briefly replied.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

THE President (Professor Malins), in the course of his introductory remarks, after bidding a general welcome and inviting visitors to take part in the discussions, spoke of the Midwives Act of 1902, which he regarded as beneficial. With rigid asepsis, intelligence in the use of the thermometer, and in estimating the value of the pulse, the midwife, so trained, could not but conduce to success in ascertaining the earliest deviations from the normal. Pending the arrival of Sir Francis Champneys, the President called on Dr. Hubert Roberts to read his paper on eclampsia complicating labour in a girl aged 12. In his comment upon the case, he expressed himself as against performing abdominal Caesarean section in eclampsia, on account of the high maternity mortality, as published by Stevens, Hammerschlag, Blacker, and others (55 to 58.9 per cent.). He relied upon hastening delivery, if necessary, by means of Hegar's dilators, Champetier de Ribes's bag, or manual dilatation, to be followed by forceps or version. In the discussion which followed, Drs. Thomas Wilson (Birmingham), Herbert Spencer (London), Hellier (Leeds), John Campbell (Belfast), Strassmann (Berlin), and Buist (Dundee) took part. Sir Francis Champneys, in introducing a discussion on asphyxia neonatorum, first described the processes which lead to the drawing of a first breath, and then considered the meanings properly to be attached to the terms "livid" and "pale," and the effecting of the underlying conditions on pre-natal and post-natal prosperity of the child. His final counsel in respect of treatment was to the following effect: Never hurry, make a good diagnosis (slowness and not feebleness of heart is dangerous); clear throat, press gently on precordium, and, if the child is in the pale state, inflate the lungs by the mouth and perform Silvester's method. Dr. Herbert Spencer (London) thanked Sir Francis Champneys on behalf of the Section for the thorough, clear, scientific, and frank way in which the subject had been introduced. He regarded the pale state as due to anaemia and shock as a result of injuries during birth. He condemned Schultze's method of treatment as dangerous. Dr. Hellier (Leeds) depended principally on Silvester's method, but tried Schultze's method if the former did not succeed. Schultze's method was not suitable for teaching to midwives. Dr. Thomas Wilson (Birmingham) laid stress on the necessity of first procuring the expiratory movement especially if premature inspirations have been made. Silvester's method had been generally taught in this country, and was acquired more easily; but in his opinion, direct inflation was necessary where the thorax was soft and only slightly elastic. The warm bath should be systematically employed. Dr. Hubert Roberts (London) mentioned the frequency of children born by Caesarean section and suffering from asphyxia, and wanted to know if Sir Francis Champneys could explain the reason. Dr. Buist (Dundee) said Schultze's method was frequently badly taught, and he submitted that Sir F. Champneys's insistence on centrifugal force tended in this direction. The method the speaker had described some years ago was a subvariety of Schultze's, in which alternate pressure and release of the diaphragm from weight of the viscera was employed apart from centrifugal force. A preliminary inflation of the lungs was necessary. Professor Dr. Paul Strassmann (Berlin) pointed out how easily Schultze's method might lead to haemorrhage in the internal viscera. In some cases asphyxia was due to shock from compression of the brain during delivery. In his reply Sir Francis Champneys thanked the Section for the criticism that his paper had led to. He thought in Schultze's method the child should only be held by the armpits, but he did not think the midwife should be taught this method of artificial respiration. With regard to oxygen, Sir Francis said it could only be used in hospitals. He agreed with Dr. Wilson that inflation, though inferior to artificial respiration, may possibly start further entry of the air into the lungs. Sir Francis agreed with Dr. Buist that a child may more easily die in a hot bath than a cold one.

SECTION OF ODONTOLOGY.

THE President, Professor Frank Huxley, opened the proceedings by a few brief observations, and then called upon Dr. Erskine Young (Liverpool) to introduce the discussion on the teeth in relation to public health. This Dr. Young did by reading a paper on school dentistry from the physician's standpoint, discussing the present position of school dentistry in England and school clinics and dental clinics, need of education of the public, and the attitude of the medical profession towards dentistry. He was followed by Sir Victor Horsley, who stated that the British Medical Association, having recognized from the first that the care of the teeth of the elementary school children was of the first importance, had continuously pressed on the Government the urgent necessity of providing in every school clinic a dental department. Mr. C. Edward Wallis and Mr. H. R. F. Brooks and the President having discussed this paper, Mr. Cyril Howkins continued the general subject with a paper on dentistry and the public. He emphasized the necessity of early treatment of dental caries in children, and said that was called for from at least three points of view: the general physique of the child; from the educational standpoint; and from that of the future career of the individual. He dealt fully with the organization and expenses of dental school clinics and dental treatment of the working classes. Mr. Bowater, Mr. Clayton Cooper, Mr. Harold Round and others having discussed this paper, Mr. Herbert Smale read a joint paper by himself and Dr. Carmalt Jones. He gave very in-

interesting records of investigations relative to oral sepsis in the seventeenth century, and proved the septic condition of the toothbrush, based on the results of many bacteriological and chemical experiments. Toothbrushes, as popularly used—namely, for many mouths—might be the origin of pyorrhoea alveolaris—a disease which often led to grave consequences. The tooth powders and pastes in common use did not, he showed, render the toothbrush aseptic. In the discussion Mr. D. P. Gabell, Mr. Hopewell Smith, and others took part. Finally, Mr. Wellings showed a case of infective hypertrophy of gums, and illustrated his case with *x*-ray photographs. In a full discussion of this case several members took part.

SECTION OF OPHTHALMOLOGY.

THE President (Mr. Henry Eales) opened the work of the Section by a short address, and was followed by Mr. Priestley Smith, who introduced the subject of the operative treatment of glaucoma, and showed many lantern slides illustrating the pathological anatomy of various glaucomatous eyes. In speaking of malignant glaucoma, he stated that he had never seen a case after he had done a scleral puncture previous to the performance of the iridectomy. In chronic non-congestive glaucoma he considered that subsidiary drainage was probably essential, and the most important position in which this took place was the scleral scar. He paid tribute to Herbert, Le Grange, Elliott, and Ferguson for their work in this respect. He was followed by Major R. H. Elliott, who gave statistics of over 400 cases of simple trephining for glaucoma in Madras. He laid great stress on the splitting of the cornea for 1 mm., so as to get the opening well forwards. If a trephine of 2 mm. be used he thought there was practically no chance of the disc being lost in the anterior chamber. In about 5 per cent. of the very late stage of the disease the vitreous was lost; in the earlier stages it did not occur in any case. He thought that no simpler, quicker, or safer method of operating existed. In the majority he preferred to do an iridectomy as well, but only to prevent prolapse, but he thought it not the least necessary for the success of the operation. All blocking of the trephine opening by the iris must be very carefully avoided. Dr. J. Gray Clegg read a paper on trephining of the sclera. There was loss of vitreous in some cases. Mr. Devereux Marshall then discussed the relative methods of iridectomy and sclerotomy, and was followed by Mr. Thomson Henderson, who had some observations to make on the methods of filtration in the eye. Colonel Herbert said that unless a scar were tested with a probe it was impossible to say if it was leaking or not. It was now possible to reduce the tension in any eye by a sclerotomy or a sclerectomy, but it was necessary to control the result. Mr. Richardson Cross thought still that the primary factor was obstruction in the exit of fluid, as first suggested by Weber. He doubted whether a better result could possibly be obtained than what was often got after an iridectomy for acute glaucoma. He advocated a very peripheral iridectomy, and thought that this should be done first. As regards Herbert's operation, he thought that Bishop Harman's twin scissors greatly aided the procedure. Dr. Bronner (Bradford) said that he always did posterior sclerotomy first and iridectomy afterwards, and if tension recurred he did a trephining. Mr. Bishop Harman said that an iridectomy was a very serious business, but that in the new operations the disturbance to the patient was very slight, and he greatly advocated the Herbert operation with his twin scissors. Mr. Jessop thought that for acute glaucoma iridectomy held its own, but in chronic glaucoma the results were deplorable. Herbert's operation was a great advance. Mr. Charles Wray described some cases in which good results occurred without operation. Mr. Harrison Butler considered that before trephining the sclera must be absolutely clean, and he liked the Freeland Fergus trephine best, but that a very contracted field contraindicated operation in chronic cases. He threw doubt on the circulation of fluid in the eye. Mr. Jameson Evans preferred iridectomy for acute cases; for subacute it did fairly well, but he thought a filtering scar was very desirable. For chronic glaucoma he preferred a filtering scar, but looked upon iridectomy as an important adjunct. Mr. Allport had done the wedge operation in many cases of chronic glaucoma, and he was very satisfied with it. He did not like it in acute cases, but greatly preferred a scleral puncture, followed by an iridectomy. Mr. Hern held that nothing exceeded iridectomy. Mr. A. F. MacCallan thought that an iridectomy was not of much good if the iris was atrophied; while Mr. Worth considered that the success of the operation depended upon the adhesion of the iris to the back of the cornea near the angle. Mr. Secker Walker did not think that iridectomy did much good in chronic glaucoma; he preferred Herbert's operation. Major Elliott, in reply, thought that in the vast majority of successful cases, if not in all, there was filtration. He infinitely preferred to trephine in acute glaucoma, and thought it infinitely easier and safer than iridectomy, and the essence of the operation was to get as far forward as possible. Mr. Priestley Smith did not consider that a filtration scar was essential in all cases, but he should operate in all cases if the general condition remained good. He thought that the operation should be done if the eye had normal vision, or if the field were contracted up to fixation point.

SECTION OF PATHOLOGY.

AFTER a few brief introductory remarks by the President of the Section (Professor Calder Leith), a discussion was opened on hypersensitiveness in its various manifestations, especially in relation to serums, vaccines, and tuberculins. In the unavoidable absence of Professor Charles Richet, the President read an abstract of his paper, which has already appeared in the JOURNAL (SUPPLEMENT, p. 173), consisting merely of his conclusions on the fascinating question of anaphylaxia. It was disappointing indeed not to have heard Professor Richet's own elaboration of these points. After a brief historical introduction, Dr. W. D'Este Emery proceeded to outline the conditions necessary for the development of anaphylaxia, these being the presence of a foreign substance, probably always of protein nature, in the blood or tissues, and a certain incubation period. Anaphylaxia to non-protein substances he hypothesized to be due to the action of these substances (for example, iodoform) in splitting up natural proteins into proteins not occurring naturally in the body. The symptoms which occur in man on reinoculation, Dr. Emery pointed out, resembled Arthus's phenomena in rabbits rather than the intense and overwhelming shock which occurs in guinea-pigs, and differences in the phenomena might be caused by the rapidity with which the proteins gained access to the brain, as shown by Baldwin in the case of tubercle protein. With regard to the "serum disease" in man, he alluded to its connexion with asthma, and its possible causation in some cases by previous sensitization of the patient by eating horseflesh. He called special attention to the local reaction observed after repeated reinoculation of serum, either at the last place of inoculation or in places in which previous injections had been made. After a brief outline of the more complicated phenomena, such as antianaphylaxia and passive anaphylaxia, Dr. Emery dealt with the theoretical interpretation of them. The production of symptoms he regarded as being due to the action of the animal's own complement on its cells, and not to the formation of a new toxin. He considered the state of anaphylaxis as injurious, and as a source of danger, but as a possible stage that the animal might have to pass through in acquiring immunity to antigens, presented to it in certain doses at certain intervals. Dr. Emery also briefly alluded to the rôle of anaphylaxia in general medicine, in cases of food poisoning, susceptibility to certain drugs, etc., the tuberculous and other infective diseases. Dr. Goodall (London) touched upon the subject solely from the standpoint of clinical experience. Professor Sims Woodhead (Cambridge), in recalling some of his early work with diphtheritic and other antiserums, said he felt sure that many of the phenomena, at that time incomprehensible, could evidently now be explained by this question of anaphylaxia. Professor Grünbaum (Leeds) had noticed anaphylaxia appearing in man after the sixteenth or later injection of fresh antituberculous serum. Professor Ritchie (Edinburgh) said that he himself suffered from anaphylaxia to certain animals, so that if he approached these—for example, horses—he got bad attacks of asthma. He also had a severe attack of asthma, with urticaria, following the injection of antitetanic toxin into himself, and agreed with Dr. Goodall that in dealing with asthmatic patients the

administration of serums ought to receive careful consideration. He detailed his work on fixation of complement in tuberculous cases. Dr. Scott then discussed the question, and Dr. Emery then made some concluding remarks on the fixation of complement in tuberculosis.

SECTION OF STATE MEDICINE AND INDUSTRIAL DISEASES.

THIS Section opened on Wednesday morning under the presidency of Professor Alfred Bostock Hill, the first item on the programme being the presidential address. Professor Hill declared that the question of tuberculosis was from the public health point of view the one pressing problem now awaiting solution. In matters of medicine and surgery the lay public must always lean on the physician and surgeon, but the preventive health officer cannot advance in his promotion of public health problems until educated public opinion was convinced of the necessity of his suggestions. The question of administrative control of tuberculosis was discussed fully, the first speaker being Dr. John Robertson, Medical Officer of Health of Birmingham, who said that the Local Government Board had acted wisely in delaying general compulsory notification, because there were little or no means in existence for dealing with the patient in the direction of cure or of prevention. Provided that there was machinery for dealing with a notified case, and that no harm was done, a patient by bringing down on him those restrictions which apply to a small-pox patient, there appeared to be a necessity for compulsory notification not only to ensure that statistics shall be as complete as possible, but also that the exceptional patient shall not be able to raise an action for damages alleged to be due to notification. The experience in Birmingham was that every additional method of prevention or cure which had been introduced had increased the number of cases notified. In Birmingham the municipality did most for early cases, in which there was a chance of complete arrest. At first it was difficult to get early cases; now the number of such cases was considerable. The death-rate from phthisis in Birmingham was 1.15 per 1,000 of the population. At the present time cases were being notified at the rate of 2,878 new cases per annum—that is to say, for every 100 deaths there were 438 cases notified. Mr. A. E. Lyster (Great Baddow) spoke on sanatorium treatment, urging that, instead of the establishment of sanatoriums being regarded as the solution of the problem, they should occupy quite a subsidiary place. To eradicate tuberculosis there must be compulsory notification, a habitable shelter must be provided for those patients who have sufficient garden or backyard space. Dr. R. W. Philip (Edinburgh), discussing dispensary treatment, said that its great purpose was that there shall be no case of tuberculosis undetected. The dispensary constituted an information bureau towards which were directed not only patients and patients' friends but also inquiries of many kinds with regard to tuberculosis. The speaker also contended that the tuberculosis dispensary should be in close relationship with the public health authority. Dr. Camac Wilkinson said that the Edinburgh scheme reminded him of a prospectus of a company consigned to the waste paper basket. By the Edinburgh scheme only 10 per cent. of the sufferers could be treated, and the individual results would not be as good as the results of the tuberculin method. Dr. Killick Millard announced that the Corporation of Leicester had just decided to start a municipal tuberculosis dispensary. Sir William J. Thompson, of Dublin, said that since 1907 the death-rate of tuberculosis in Ireland had fallen, and this had been brought about by the work of the Women's National Health Association, assisted by the different local bodies and the medical officers of health. Dr. Halliday Sutherland declared that there was no specific for tuberculosis, and Dr. R. Murray Leslie emphasized the importance of domiciliary visitation in the prevention of tuberculosis. Sir William Osler pleaded for the association of the tuberculosis dispensaries with the general hospitals and county infirmaries. After Dr. J. C. McWalter, Dr. W. B. Knobel, Dr. A. Bygott, Dr. Ida E. Fox, and Dr. Egerton H. Williams had spoken the session concluded with a paper by F. E. Wynne, of Leigh, Lancs., on domestic hot water supplies as a factor in the production of lead poisoning.

SECTION OF SURGERY.

THE Section of Surgery held its first meeting in the Medicine Classroom, University Buildings, Edmund Street. Sir Thomas Frederick Chavasse, the President of the Section, in a few introductory remarks, referred to the lamented death of Mr. Furneaux Jordan, who by his originality as an investigator, his clearness as a thinker, and his lucidity as a teacher, had left an imprint on the surgery of our time which will ever remain and redound to the credit of the Birmingham school. The discussion on the treatment of general septic peritonitis was introduced by Mr. J. Rutherford Morison (Newcastle). He pointed out that the cause of general peritonitis is invasion of the peritoneal cavity by pyogenic organisms through some gross channel. The terminations of septic peritonitis are the same terminations as of inflammation elsewhere, and are determined more by the circulatory disturbances produced than by any specific microbic action. Knowledge of the condition of the general and local circulation is of more importance in prognosis and treatment than of the name of the organism producing the mischief. The chief factor in the marked improvement in results in general septic peritonitis in recent years is the earlier diagnosis of the cause and more prompt and rapid removal of the patient for operative treatment. The chief causes of infection are perforation of the vermiform appendix and of gastric and duodenal ulcers. All of these are, as a rule, easy of diagnosis. If the focus of infection can be removed or excluded from the peritoneal cavity early enough the fatal progress of general septic peritonitis is arrested. In proof Mr. Rutherford Morison referred to statistics compiled by the Surgical Registrar from the results of work done by all the surgeons in the Newcastle Royal Infirmary. He was particularly emphatic in noting that the special and only reason for operation in general septic peritonitis is to deal with the infecting focus. All other indications for operation are those for abscess elsewhere in the body. Though early operation is the treatment for an overwhelmingly large majority of cases of septic peritonitis, in some cases it may be a serious mistake. It is likely to be so when the infective focus cannot be removed, as in pneumococcal and gonococcal peritonitis. It may also be, after the infective focus has been shut off by limiting adhesions—"natural cure." As regards operative treatment he was of opinion that these cases should not be dealt with in their own homes. The three main principles were (1) to maintain the body heat; (2) to give as little anaesthetic for as short a time as possible—his preference still was for chloroform; and (3) to avoid rough manipulations of the abdominal contents. After removal of the focus, recovery depends on the reaction of the peritoneum. Gross extravasated contents should be washed out if little or no gross evidence of peritonitis exist. Washing out and drainage may prevent residual subdiaphragmatic and pelvic abscesses. In the after-treatment he found that the Fowler position and proctoclysis—continuous where possible—were now such well tried procedures that they were recognized as essential. The discussion was taken part in by many members, including Professor Koch of Groningen, Mr. Herbert Paterson (London), Mr. G. P. Newbolt (Liverpool), Mr. J. Grant Andrew (Glasgow), Mr. Gilbert Barling (Birmingham), Dr. Crawford Renton (Glasgow), Dr. Garnett Wright (Salford), Mr. Charles Childe (Portsmouth), Mr. Stanmore Bishop (Manchester), Mr. Bidwell (London), Mr. P. D. Wilkie (Edinburgh), Mr. Bloomer (Stafford). There was apparent some divergence of view on the question of chloroform as against ether as the general anaesthetic; of preference for or against washing or mopping of the peritoneal cavity; and of the propriety of immediate closure of the abdomen in general peritonitis after removal of, say, the appendix. Mr. Grant Andrew's series of 16 successful cases treated by immediate closure of the wound excited comment. Mr. Wilkie's contribution was particularly striking; he referred to the use of vaseline oil to prevent adhesions, and to the introduction of a stream of oxygen into the infected cavity. He regarded the prognosis as likely to be influenced greatly rather by the number of organisms free in the peritoneal

fluid—that is, organisms outside the phagocytic cells—than by the kind of organism present. Mr. Rutherford Morison replied very briefly.

SECTION OF THERAPEUTICS, INCLUDING DIETETICS.

THIS Section met in the English Theatre, under the Presidentship of Sir Robert Simon, who, without introductory remarks, called upon Professor Russell H. Chittenden (Yale, U.S.A.) to open the discussion upon the merits of a relatively low protein diet. Dietetics, Dr. Chittenden maintained, were entitled to the same careful study as other branches of biological science. Well-established customs were not always in agreement with physiological needs. Yet it was a matter of urgent moment to know how much food really was necessary to repair waste. Voit had set forth a limit of 118 grams of protein a day as one below which it was hazardous to pass; but this figure the speaker regarded as too high. He then threw upon the screen figures which showed that over the long period of 130 days a large number of healthy persons selected at random were actually subsisting upon a much lower protein intake than that of Voit's. There was no evidence that any advantage accrued to the body by the excessive use of protein. The excessive stimulation of metabolism, attributed to a high protein intake, was opposed to physiological common sense. On the other hand, there was evidence to show that symptoms of ill-health did follow upon an excessively high protein intake. Intestinal fermentation and putrefaction were encouraged, and absorption of deleterious substances were also facilitated. Dr. Chalmers Watson (Edinburgh) said that he attached little importance to rigid rules as to proteid requirements or caloric values. Idiosyncrasy was of great importance. Children of tuberculous tendencies, he thought, should exceed the Voit standard, children of gouty families should take less. He recounted a series of experiments upon rats fed upon a flesh diet, and compared the results with those obtained from rats fed upon a bread and milk diet. Both remained in nitrogenous equilibrium. The faecal nitrogen in the flesh-fed was enormously greater, their nutrition was generally impaired, and the development of their reproductive organs was retarded. Abnormality could be demonstrated, by special methods of staining, in their kidneys. Lieutenant-Colonel Melville (R.A.M.C.) said that he must adhere to the belief that experience was a safer guide than limited experiment. It was the quality more than the quantity of protein that was important. In men who could choose their diet and mode of life a low protein diet was perhaps satisfactory, but generally men had to take what they could get, and in ordinary cases they had to take an excess to arrive at a sufficiency. Dr. Robert Hutchison (London) said that we must be careful to avoid the attitude of the crank. He was prepared to accept Professor Chittenden's results in so far as they showed that it was possible to maintain life and health for long periods upon a lower protein intake than Voit had laid down. He was not convinced that the excess normally consumed by most healthy people was in any way injurious. There was no real evidence to show that it induced high tension or arterial degeneration and kidney disease. *Per contra*, Professor Chittenden had not convinced him that a high protein standard was not possibly beneficial because of its "specific dynamic effect"—that is to say that it was a stimulant of metabolism and made for vitality and increased resistance to disease. Dr. William Russell (Edinburgh) was amazed at the statement that excessive protein diet led to no ill effect. He regarded the ill effects as clinically proved. He was a confirmed disciple of Professor Chittenden's views. Dr. Alexander Haig (London) also thought Voit's standard too high, but there was a minimum below which it was not safe to go, and that he placed at 9 grains of proteid per diem per pound of body weight. Dr. E. P. Cathcart (Glasgow) said that there was no evidence that one amino acid would be changed into another. It was, therefore, a question entirely of quality of protein and not of quantity. In a mixed diet accurate adjustment of amino acids was impossible, and therefore a considerable excess was probably the wisest prescription. The more closely the protein food approximated to the tissue protein, the less the amount of protein required. Dr. Woods Hutchinson (New York) trusted largely to the common experience of man. The food faddist usually soon returned to the accepted rules of diet, or else allowed his dietetic interests to absorb all others. He referred to the great improvement in power of work which the natives engaged in the Panama Canal work showed when they became accustomed to the generous European diet. Dr. Haddon (Hawick) confessed himself a crank, and recounted his own personal experience upon a flesh-free diet. Dr. A. B. Olsen (Caterham) described the low protein diet at the Battle Creek Sanatorium. The patients frequently persisted in continuing its use after discharge, because they had become impressed with its utility. Dr. Rabagliati (Bradford) also spoke, and Professor Chittenden briefly replied.

SECTION OF TROPICAL MEDICINE.

THE President (Sir Francis Lovell), in opening the work of the Section, made reference to the sad loss the Liverpool School of Tropical Medicine had sustained through the death of Sir Rubert Boyce, and expressed his wish to convey the congratulations of the Section to the honour conferred upon Sir Ronald Ross. The discussion upon the spread of plague was then opened by Dr. C. J. Martin, F.R.S., Director of the Lister Institute, who briefly reviewed the part played by rats in plague, and stated that the fact that the epizoötic precedes the epidemic did not prove that man derived the disease from the rat. He also discussed the chance of survival of the plague bacillus if deposited upon foodstuffs, and said that by eating uncooked food infection became possible, but that cooking at 50° C. annihilated the bacillus; he concludes, therefore, that the chances of alimentary infection were small. He further dealt with the coincidence of the epidemic season with the period of greatest flea prevalence, and pointed out that the rat-flea hypothesis afforded an interpretation of the fact that epidemics declined when the mean daily temperature passed 85° F. Professor W. J. R. Simpson, C.M.G. (London), pointed out that, although in a bacillary disease such as plague insects had been shown to have an influence in an epidemic, they had never been shown to be the only agent. Fleas were not needed for the infection of rats when a plague patient only was brought into a healthy locality. It was a matter of infection then from man to the rat. Dr. A. J. Chalmers (Ceylon) drew attention to the fact that plague had not spread to Ceylon from India, although intercourse was frequent. An explanation of this had never been given. Dr. Andrew Balfour (Khartoum) said that the Anglo-Egyptian Sudan was liable to invasion both from Egypt and from the Arabian littoral, and, although *Leomopsylla cheopis* occurred in the Sudan, yet that country had never been visited, so far as was known, by plague in an epidemic form. The fact that the daily maximum rarely fell below 85° F. might explain it. Iodoform was entitled to be regarded as an excellent flea dispeller, according to a German authority. Major Greenwood, jun., of the Lister Institute, gave the result of his examination of reports of statistics concerning plague in the Punjab and United Provinces, India, and concluded that plague did not tend to recrudesce in villages infected in a former epidemic; that the disease spread along lines of human travel; and that the mortality-rate depended on local peculiarities, length of exposure to infection, etc. Dr. F. M. Sandwith (London) believed that the rat-flea theory had been so firmly established that it was likely to remain as the accepted explanation of how plague is spread. Dr. H. S. Stannus (Nyasaland) inquired concerning any information to hand upon the point of the congregation of fleas; that is, Were fleas more numerous on young animals? Dr. L. Sambon (London) drew attention to the enormous amount of literature, ancient and mediaeval, bearing upon the fact that the rat was the important factor in the spread of plague. He also pointed out the danger domestic animals were during epidemics of plague as transmitters of the disease. Mr. James Cantlie (London) drew attention to the season variety of plague; to the relationship of climatic buboes to plague; and the gradations of the virulence of plague possibly explaining pestis minor, bubonic plague, and pneumonia appearing successively during outbreaks of the disease. Finally, Dr. G. F. Petrie gave the results of the observations he had made during his experiences of plague in Manchuria.

SUPERANNUATION OF MEDICAL OFFICERS OF HEALTH.

THE Medical Officers of Health (Superannuation) Bill (the text of which will be found in the SUPPLEMENT, p. 244) was read a first time in the House of Commons on July 20th, and ordered to be printed. The bill was introduced by Dr. Hillier, and supported by Mr. Henry Forster, Sir Clement Hill, Colonel Hickman, Mr. John Robertson, and Mr. Barnes, whose names are a sufficient indication that the measure, as becomes one emanating from the British Medical Association, is of a strictly non-party character. The provisions of the bill are based upon the Poor Law Officers Superannuation Act, 1896, and the Asylums Officers Superannuation Act, 1909, though an attempt has been made to amend certain features in these enactments which experience has shown to be necessary. The bill applies to *all* medical officers of health in England and Wales, although those holding office at the date of the commencement of the bill may within three months of that date contract out, and, if the Local Government Board certifies that a local authority has made adequate provision for the superannuation of its medical officers of health, such local authority will be exempt from the provisions of the bill. Superannuation may be claimed either on the completion of an aggregate service of thirty-five years or upon an officer becoming incapable of discharging his duties by reason of permanent infirmity of mind or body or upon the attainment of 60 years, and a local authority may require an officer to retire at the age of 65 years. The superannuation allowance will be equal to one-sixtieth of the average salary during the five years preceding retirement for each year of office, five years being added to the term of office in every case in which the officer has served for ten or more years. An officer retiring after twenty-five years' service would thus be entitled to an allowance equal to thirty-sixtieths of his average salary during the last five years he had held office. With the consent of the Local Government Board a local authority may, under certain circumstances, add ten years to the term of office for the purpose of computing the allowance. The contributions of the officers vary according to the length of service at the time of the commencement of the Act. Two per cent. of the salary for each year will be contributed by officers with less than five years' service; 2½ per cent. by those with more than five and less than fifteen years; and 3 per cent. by those with more than fifteen years' service. The superannuation allowances will be paid by the local authority under whom the officer is serving at the time of his retirement; but if he has served under more than one authority, each of these will be called upon to contribute *pro rata* towards the sum payable. This provision in the bill is intended to meet what has been found to be a great injustice to boards of guardians under the Poor Law Officers Superannuation Act, 1896. Under that Act the superannuation allowance has to be paid entirely by the authority under whom the retiring official last served, notwithstanding the fact that a very large proportion of his contributions may have been paid to other authorities. Should an officer die whilst still in service, after having been in office at least five years, the local authority, under the bill, may make a gratuity to his representatives equal to one year's salary. Provision is also made for the return of contributions under certain specified circumstances during the life of the officer. Following the precedent of the Asylums Officers Superannuation Act, 1909, where a medical officer of health who is in receipt of a superannuation allowance is appointed to any office by a local authority, his allowance will cease if the salary of his new office is equal to or in excess of his allowance, or so much of the allowance will be paid as will make it, together with his salary, equal to the full superannuation to which he is entitled. The number of officials to whom the provisions of the bill will apply is probably not more than 1,500, and although, with the experience of the Poor Law Officers Superannuation Act before us, it is hardly likely that the scheme will be entirely self-supporting, at the same time the difference between the amount of the contributions and the allowances payable must of necessity, considering the small number of officials concerned, be almost negligible. Whatever the amount of that difference may be, it will be more than compensated for by the improved conditions of service, which of itself will make for increased efficiency. On the grounds of public policy alone, the bill merits the support of all those who have at heart the interests of the community; and in introducing the measure into Parliament Dr. Hillier has earned the thanks not alone of those officials whom it appears most intimately to concern, but also of the whole country.

BRITISH DENTAL ASSOCIATION.

THE annual meeting of the British Dental Association, to be held on August 3rd and two following days at the University of London (South Kensington), will be the first dental meeting on a large scale that has taken place at the University. The attendance will certainly be the largest hitherto recorded, as the membership of the association has increased to over 2,000. Further, this year, by a happy coincidence, the International Dental Federation also meeting in London, both the International Dental Federation and the British Dental Association will have Mr. W. P. Paterson, F.R.C.S., L.D.S.Eng., as President. Some distinguished foreign dentists from America and the Continent are expected to take part in the opening session of the Dental Federation at the Royal College of Surgeons on August 1st, when they will be welcomed by the President, Sir Henry T. Butlin. A banquet will take place in the evening at the Hotel Cecil. On Wednesday, Professor E. Jessen of Strassburg will preside over the Hygiene Commission, and Dr. E. C. Kirk of Philadelphia over the Education Commission; both meetings will be held at the University. The meeting of the British Dental Association will open with a reception and dance given by the Metropolitan Branch at the Hotel Cecil next Wednesday night. On Thursday the annual meeting of members will be held at the University, when the new President (Mr. Paterson) and some honorary members will be inducted. Thirteen papers will be discussed on Friday, including contributions on "School Dental Treatment and its Results," by Messrs. A. E. Baker, C. E. Wallis, and G. Cunningham (Cambridge); "Breadstuffs and the Experimental Production of Dental Caries," by Mr. A. Hopewell-Smith; and "Tuberculosis and its Bearing on Dentistry," by Dr. Noel D. Bardswell, Medical Superintendent of the King Edward VII Sanatorium at Midhurst. Some twenty-seven demonstrations will occupy Saturday morning and afternoon, and a number of clinical cases will be shown. A museum illustrating "Affections of the Periodontal Membrane" will be arranged in the entrance-hall of the University. On Thursday evening the annual dinner of the Association will take place at the Hotel Cecil, and on Friday a *conversazione* will be held at the Royal College of Surgeons. Lunch will be provided each day in a marquee in the University quadrangle. The International Dental Federation's members and foreign visitors will be the guests of the association at its meetings and social functions.

THE International Congress on Tuberculosis which was to have been held in Rome in September next has been postponed till April, 1912. The Council of the Liverpool University have appointed Professor R. J. M. Buchanan, Professor E. W. Hope, and Dr. Nathan Raw as the representatives of the University at the Congress.

IT is stated that a movement is on foot in Sweden for the promotion of legislation forbidding the marriage of persons suffering from hereditary diseases.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Medical Officers of Health Superannuation Bill.—Last week Dr. Hillier introduced a bill to provide for superannuation allowances to medical officers of health employed by local authorities, and for contributions towards such allowances by those officers; and to make other relative provisions. The bill is backed by Mr. Henry Forster, Sir Clement Hill, Colonel Hickman, Mr. John Robertson, and Mr. Barnes, and was put down for second reading on Friday, July 28th.

Plague in India (Mortality).—Mr. Keir Hardie asked the Under Secretary of State for India whether he could state the mortality from plague in India during the months of May and June respectively, together with the total number of deaths from this cause during the current year, giving the figures for each province separately. Mr. Montagu supplied the following particulars of the plague mortality in British India and Native States:

Province or State.	May, 1911.	June, 1911.	January-June, 1911.
Bombay	3,474	1,463	32,541
Madras	84	185	3,856
Bengal	2,944	364	68,878
United Provinces	25,314	893	309,950
Punjab	48,292	16,909	179,053
North-West Frontier Province ...	88	12	242
Burma	575	651	4,806
Central Provinces	96	4	18,405
Eastern Bengal and Assam	—	—	10
Coorg	—	—	3
Mysore State	230	387	3,337
Hyderabad State...	8	—	2,773
Central India	33	3	7,954
Rajputana and Ajmere-Merwara ...	1,672	389	17,794
Kashmir	456	193	1,086
Baluchistan	—	—	2
Total, India	83,266	21,453	650,690

NOTE.—The figures are subject to correction.

Tuberculosis in the Army.—Mr. Worthington-Evans asked the number of men on active service who in the year 1909 were provided with treatment for tuberculosis in sanatoriums; whether there was now any provision made for treatment of men on active service in sanatoriums; and what, if any, deductions from pay were made when such treatment was given. Colonel Seely replied that no soldier while still serving with the colours was sent to a sanatorium, and therefore no question of a deduction for hospital stoppage arose on this account. As soon as a soldier was diagnosed to be suffering from tuberculosis steps were undertaken to invalid him from the service, and his retention in a military hospital was only temporary until he was fit to travel. Notification was duly made to the medical officer of health of the place to which the man was to be sent on discharge; but he was informed that in nearly every case the regimental authorities took steps to secure the man's reception in a sanatorium, the cost being in many cases provided by the officers of the regiment.

Tuberculosis (Examination of Cattle).—Mr. Charles Bathurst asked the Parliamentary Secretary to the Board of Agriculture whether, in the light of the Final Report of the Royal Commission on Human and Animal Tuberculosis, the Board would, as in some Continental countries, make it compulsory for all cattle whose milk was sold to the public to be examined periodically to ascertain their freedom from transferable tuberculosis as evidenced by emaciation or visibly tuberculous udders, without necessarily employing the sometimes misleading tuberculin test, and thus produce a national register of sound cattle the milk of which could be purchased with confidence by the public. Sir Edward Strachey replied that, in view of the fact that there were over two million cows in milk in Great Britain, the proposal made was one which might impose a heavy charge upon the local rates, and therefore required very careful consideration.

Vaccination Acts.—Mr. Bentham asked whether the increase in the number of children exempted from vaccination through the operation of the Vaccination Acts of 1898 and 1907, and especially since the Act of 1907 came into force, had been accompanied by any noticeable increase in the number of deaths from small-pox in children under 10 years of age. Mr. Burns said there had been but little small-pox in this country since 1907, and up to the end of 1910 no noticeable increase in the deaths of children under 10 from this disease. Figures for 1911 were not yet available.

Vaccination (Netherton Training School).—Mr. Fenwick asked the Secretary of State for the Home Department whether he was aware that a boy named Ralph R. Silson, aged 14 years and ten months, was committed to Netherton training school on February 22nd last; whether he was vaccinated in the institution without the consent of the father having been asked; and whether, seeing that the law only compels the vaccination of children up to the age of 14 years even in the absence of conscientious objection, he would say under what powers the school authorities acted? Mr. Dudley Ward replied that he was informed that this boy was vaccinated in accordance with the instructions of the medical officer of the school that all boys must be vaccinated after admission, unless they were in an unfit state of health or had very recently been vaccinated. The boys were committed by the court to the custody of the managers, who were for the time *in loco parentis;* and it was their duty to safeguard the health of the inmates of the school.

Small-pox.—Mr. Albert Smith asked what was the number of cases of small-pox reported in Bury, Stalybridge, Wallasey and Birmingham this year, with the vaccinal condition of the patients, also the number of deaths, and the vaccinal condition of the victims. Mr. Burns said that in Bury 30 cases of small-pox had occurred, of which none was fatal. The age incidence of these patients could not be given at present. Eleven of the patients were known to have been unvaccinated, and 16 had been vaccinated in infancy. The Board had no information on the vaccinal condition of the three remaining cases. The Wallasey and Birmingham outbreaks were so recent that no precise information was as yet available. There were 14 cases of small-pox at Stalybridge, of which none was fatal. Of these cases, 6 were unvaccinated, seven were vaccinated, and one was said to have had a previous attack of small-pox. All the cases under 20 years of age were unvaccinated.

Public Vaccinators.—Mr. Sutton asked the President of the Local Government Board why the awards to public vaccinators in 1909 were so much larger in total amount than in previous years, seeing that less vaccinations were performed. Mr. Burns replied that the awards paid to public vaccinators in a particular year depended not on the total number of vaccinations performed in that year, but on the number of vaccinations performed by the public vaccinators recommended for awards after the inspection of their work by medical inspectors of the Board. It was not possible to maintain the amount of vaccination inspection in each year at a uniform level.

Tuberculosis (Royal Navy).—In reply to Mr. Worthington-Evans, Mr. McKenna said that there was no provision for the treatment in sanatoriums of men on the active list of the Royal Navy who were suffering from tuberculosis, and, so far as was known, no men on active service were treated in such sanatoriums in 1909.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

THE REORGANIZATION OF MEDICAL INSPECTION AND TREATMENT.

THE results of the deliberations of the special subcommittee appointed by the General Purposes Committee of the London County Council to consider the reorganization of school medical work[1] were laid before the Council on July 25th. The report, which dealt with the subject in an exhaustive fashion, was strongly in favour of placing the whole of the medical work in the schools under the direction of the County Medical Officer of Health, instead of under the control of the lay Education officer, as the Education Committee suggested, the medical officer (Education) being given a subordinate position.[2]

One fact clearly emerged from among the otherwise conflicting views (the General Purposes Committee stated), and that was that medical inspection and treatment must be co-ordinated and administered in one department instead of, as at present, the work of medical inspection being dealt with in the Public Health Department and medical treatment in the Education officer's department. The question therefore resolved itself into the fundamental one: Should the whole of the work be entrusted to the department which dealt with medical work and had for its chief officer a medical man, or should it be included in the department of the Education officer? On this point suggestions were invited from the officers concerned. The principle underlying the Education officer's scheme was expressed by him when he suggested that one officer should be responsible to the Education Committee for the general organization of every branch of the education service. The principle upon which the medical officer's scheme proceeded was that upon which the organization of the whole of the Council's work had been based hitherto—namely, that all work executed by the Council, whether administrative or professional, which was involved in the exercise of a particular profession, should be done in the department and under the direction of the professional officer concerned. Thus, architectural work in the schools was associated with the other architectural work of the Council and placed under the control of the architect. Education financial work was associated with the other financial work of the Council; education stores came from the general stores department, education legal work was dealt with by the Council's solicitor, and so on. On first principles, therefore, it was evident that the natural and proper course was for medical inspection and treatment to be administered in the Public Health Department in conjunction with the medical work of the Council under the control of the professional officer at the head of the medical department.

Criticism of the Education Committee's Proposals.

The General Purposes Committee dealt in parallel columns with the principal arguments of the Education Committee in favour of the contrary policy. The Education Committee thought that, having regard to the existence of twenty-nine sanitary authorities in London, there would be difficulty in placing the school medical work under the county medical officer of health, and that what was especially needed was the co-operation of the twenty-nine local medical officers of health. The General Purposes Committee did not appreciate this difficulty, holding that the desired co-operation was more likely to be secured by the Public Health Department, which was constantly in touch with the local medical officers of health. The Education Committee urged that the school medical work was closely associated with the general activities of the schools and the general machinery of education administration. The General Purposes Committee replied that this was no doubt the case, and whatever system was set up the co-operation of teachers and others would be an important element. There was no reason why such co-operation should not be given to the Public Health Department.

[1] BRITISH MEDICAL JOURNAL, April 1st, p. 783.
[2] Ibid., March 11th, pp. 588–3.

The adoption of the Education Committee's proposal was likely to lead to special difficulties of organization and administration. This was recognized by the Education Committee in the endeavours to guard against them by provisions of an unusual nature—namely, that although the work of the medical officer (Education) should be placed under the control of the Education officer the former should have the right of access to subcommittees. The General Purposes Committee regarded such an arrangement with considerable apprehension. Apparently it was not intended that medical men should supervise the administrative details of school medical work, although such work must depend to a large degree upon their expert advice. Further, the system under which both the education officer and the medical officer (Education) would report upon school medical work would be likely to lead to one of two results—the professional but subordinate officer, feeling the difficulty of his position, would either qualify his reports so as to meet the views of his superior though non-professional head, or he would maintain his views, with the result that conflicting advice would be given from the same department. Should a decision be given in favour of the views of the subordinate officer a difficult situation might be created, and the responsibity of the head of the department be weakened. It would be impossible, under such an arrangement, to fix the responsibility for action of any kind, and impossible for committees, and for the Council to depend upon receiving the unfettered opinion of the professional officer upon the results of his own work or upon the estimated results of new proposals. Under the Council's system of organization into departments these difficulties were avoided, as there was only one responsible head, and he was rightly held responsible not only for the advice he gave but for the results of following it. His professional reputation was the foundation upon which the Council relied for the best possible advice on matters within his province, and this system had worked with uniform success. It should be pointed out that placing medical inspection and treatment in the Education officer's department would involve also the transfer to that department of the other duties hitherto performed by the medical officer (Education), including the work of dealing with epidemic and infectious diseases in the schools. It was evident that in this matter prompt administrative action was of first importance, and that the responsibility for such action and its results could rest only with a medical man. In all the circumstances, the Committee did not think the case could be regarded as so exceptional as to justify such an important departure from accepted policy as the placing of medical expert and administrative work in the department of a lay officer. The often-expressed desire of the Board of Education that the school medical officer should be responsible for the medical work could not possibly be secured under such a system, and it was at least doubtful if the Board could approve the appointment as school medical officer of an officer the arrangements for whose professional work were made by another officer entirely independent of him.

All Medical Work Under One Authority.

The General Purposes Committee therefore held that on the fundamental grounds of organization the proper course was to place medical inspection and treatment of school children under the direction of the county medical officer of health. It was a sound principle that the same health organization should deal with the individual before, during, and after school age, and that the department which was concerned with limiting the spread of infectious and epidemic diseases in the community should not be precluded from dealing with such infectious diseases in children whether in school or at home. It followed that the county medical officer of health would exercise supervision over the school medical work generally. This would necessitate a reorganization of the Public Health Department, and in considering this aspect of the question the General Purposes Committee had had regard to the fact that Sir Shirley Murphy, the county medical officer of health, would retire under the age limit in less than two years' time. Seeing that the present proposals involved for the Council's medical officer a much enlarged responsibility, and entailed on him the serious and protracted task of amalgamating and co-ordinating the previously divided functions already

referred to, the committee viewed with apprehension the nearness of the retirement of Sir Shirley Murphy. A period of less than two years in which to consolidate, harmonize, and leave in working order functions hitherto divided was all too short for any man, whatever his age and however able and vigorous, and to call on the present medical officer to undertake the responsibilities, creative and administrative, that were involved, and this on the eve of his departure, would be out of the question unless his retirement was almost indefinitely deferred. The committee had conferred with Sir Shirley Murphy on the subject in all its bearings, and he had stated his desire to place himself in the hands of the Council, so that the reorganization of the Council's medical work might be effected under the best possible conditions.

The Position of Sir Shirley Murphy.

Upon a balance of considerations, the committee advised the Council to arrange for Sir Shirley Murphy to relinquish duty as chief medical officer of the county at a date not later than December 31st, 1911, while retaining his services in a consultative capacity for a further period, so that his successor should have the advantage of his long experience, particularly in the details of medical administration. Sir Shirley Murphy entered the London County Council's service in 1889, being the first chief officer appointed by the Council and the first medical officer of the County of London. His services to London were in no need of eulogy. The decline in the figures of the death-rate during the administration of the Council testified to the fruitfulness of his labours, while the honour of knighthood conferred upon him in 1904 recorded the high regard in which Sir Shirley Murphy's work in the cause of public health was held. The Committee was sure the Council would feel great regret at Sir Shirley's retirement, and would desire to grant him the maximum retiring allowance. Sir Shirley Murphy had served the Council for twenty-two years, and if his service had come within the Superannuation (Metropolis) Act, 1866, the Council, by adding ten years to his service, could have granted to him an allowance of thirty-two sixtieths of his salary. The Committee therefore proposed that the Council should supplement Sir Shirley's retiring allowance by such an amount as would bring the allowance up to £666 13s. 4d. a year, namely, thirty-two sixtieths of his salary of £1,250, and retain his services in a consultative capacity for two years from the date of his retirement at such a remuneration as would not exceed, with the retiring allowance, his present salary. Steps would be taken as soon as possible to fuse the work of medical inspection and treatment in one department under the medical officer before the appointment of the new medical officer.

In conclusion, the Committee referred to the anxiety expressed by the Board of Education to know at once the Council's proposals to meet with the present situation. If the present proposal was adopted and laid before the Board in its entirety, and followed up with the detailed scheme prepared by the Education Committee for carrying out school medical inspection and treatment (see the last issue of the JOURNAL, page 187), the Board would see that the Council had dealt with the matter in a strong and effective way, and would agree, the Committee thought, to accept the Council's proposals as the proper method of organizing school medical work. The Committee promised to follow its present report with another next week, detailing the arrangements to be made consequent on the retirement of Sir Shirley Murphy.

In the Council complete unanimity was apparent with regard to the report of the General Purposes Committee, and there was only a very brief discussion.

On behalf of the Education Committee an amendment was moved that the proposals of the General Purposes Committee should not take effect until January 1st, 1912. It was explained that the Education Committee was under a pledge to the Board of Education to make the scheme of medical treatment effective by October next. If between that date and Christmas the whole of the administration was transferred to another department it would seriously handicap the Education Committee in the effort to carry out the wishes of the Board of Education.

The amendment was agreed to, and the recommendations embodying the report of the General Purposes Committee were approved.

RECOVERY OF THE COST OF MEDICAL TREATMENT.

The London County Council made another attempt on July 25th to arrive at a solution of the difficult problem of assessing the charges to parents under the present arrangements for the medical treatment of school children. Over a year ago an elaborate scale was drawn up for calculating the net income of what was called a "standard family" (consisting of two adults and four children). This scale had nine divisions, and remissions varying from 4d. to 2s. 8d. were made to parents whose incomes brought them within the scale. The work of assessing charges has proved so complicated that many of the Care Committees are a whole year in arrear. To meet the difficulty the Education Committee (BRITISH MEDICAL JOURNAL, February 18th, p. 393) proposed a uniform charge of 1s. in respect of any kind of medical or dental treatment, no charge whatever to be made to parents of necessitous children, or to those who had been accustomed to subscribe to the Hospital Saturday Fund, and all arrears under the former arrangements to be remitted. This proposal has been under discussion between the Finance and Education Committees for many weeks. The Finance Committee ultimately gave way as far as the new scale was concerned, but objected that the Local Education Authorities (Medical Treatment) Act, 1909, rendered it obligatory on the Council to make some charge, however small, to the parent of any child for whom medical treatment was provided, and therefore the uniform charge of 1s. must extend to necessitous as well as non-necessitous cases, a proviso being added, if desired, to the effect that the charge would be remitted in respect of children ascertained to be necessitous. The Finance Committee asked the Education Committee to redraft its recommendations accordingly.

The Education Committee therefore discussed with the Chairman and Secretary of the Hospital Saturday Fund whether the Committee of the Fund would undertake to be responsible to the hospital for payment for treatment of children whose parents subscribed to that fund, the children attending the hospitals under the Committee's scheme. The reply was that this course would be undesirable on account of administrative difficulties. None the less the Committee felt that parents who subscribed regularly to the Hospital Saturday Fund with a view to obtaining free hospital treatment for their children suffered a distinct hardship if they were required also to make payment to the Council for treatment provided at hospitals. The charge which it was necessary to make under the statute should be therefore only nominal—namely, 1d.—and this should apply also in the cases of parents ascertained to be necessitous. In view of the great pressure of work upon the Care Committees, these proposals should apply to all outstanding cases in which charges had not yet been assessed.

The Finance Committee's comment on these recommendations was that they were not altogether free from objection, but the question was undoubtedly one of great difficulty, and the Committee did not wish to veto the proposal provided it was understood to be experimental and in force only up to December 31st next, the date on which the present scheme as a whole comes before the Board of Education for revision.

SPECIAL CLASSES FOR CHILDREN SUFFERING FROM HIGH MYOPIA.

The Council in 1908 established at a school for blind children in Camberwell a class for children suffering from high myopia. The Education Committee reported on July 19th that further accommodation of the kind was needed, 100 other children having been certified as fit for admission to such classes. The Camberwell experiment had been so successful that the Committee considered it should extended. The method adopted was to give the myopic children special instruction, including reading and writing from large type, arithmetic and handwork in a room adapted for the purpose at the school for the blind. For instruction in other subjects, particularly oral work, the children attended an ordinary elementary school. The children made good progress under this modified scheme of instruction, and it had been found greatly to their advantage to be taught under these conditions. The alternatives would be either that they should be taught entirely in the ordinary schools, for which they were unfitted, or

entirely in the school for the blind, at which the curriculum was far too restricted. It was undesirable that the impression should be created that the myopic child, although "educationally blind," was a blind child. The Council decided to invite the consent of the Board of Education to the principle of the establishment of special classes for children suffering from high myopia.

COMPULSORY NOTIFICATION OF POLIOMYELITIS.

The Public Health Committee, on July 25th, recommended the London County Council to make notifiable in the County of London up to and including March 12th, 1912, the disease known as acute poliomyelitis or acute polioencephalitis. The Committee stated that during recent years this disease had engaged attention in Europe, especially in Norway and Germany, as well as in the great cities of the United States of America. The disease, which occurred principally among children, proved fatal in about 11 or 12 per cent. of those attacked, and was responsible for the production among those who survived of infantile paralysis. In the northern hemisphere the disease mostly occurred in the summer, and as in some instances multiple attacks had occurred in the same households, schools, or streets, these had been attributed to infection from one person to another. The Royal College of Physicians had asked that the disease might be made notifiable, and the Public Health Committee thought the request should be acceded to, as there was a possibility that cases of cerebro-spinal meningitis might be mistaken for poliomyelitis.

The Council decided to make the proposed order.

BIRMINGHAM.

MEDICAL TREATMENT OF SCHOOL CHILDREN.

ON July 18th the Special Subcommittee of the Birmingham Education Committee appointed to consider the medical and dental treatment of children attending the public elementary schools interviewed two deputations which waited upon it in regard to the matter. The deputation urged that the Education Committee should establish a school clinic, dental or medical, or both, to be supplementary to the inspection of the children in the schools. It was pointed out that for various reasons a very large number of parents could not obtain ordinary medical treatment, while the treatment at hospitals was not always what was generally required for these children's ailments. It was also thought advisable that the medical officers who now inspected the children should form the clinical department, and that in their work special attention should be attached to the treatment of affections of the eyes, ears, teeth, adenoids and enlarged tonsils. The subcommittee promised to carefully consider all the points laid before it, but does not propose to suggest any scheme until the extension of the city has been accomplished. In view of the fact that such a large area will be affected by such a scheme, it is felt that no action should be taken with regard to so large and important a matter until the outside districts are represented on the Education Committee.

THE UNIVERSITY OF BIRMINGHAM.

Mr. J. Furneaux Jordan, F.R.C.S., has been appointed to deliver the Ingleby Lectures in 1912.

The following have been appointed as honorary assistant curators of the Pathological Museum for three years: Medicine—Stanley Barnes, M.D., D.Sc.; Surgery—A. W. Nuthall, F.R.C.S.; Diseases of Women—J. T. Hewetson, F.R.C.S.; and Comparative Pathology—L. S. Sedgwick, F.R.C.V.S.

The Walter Myers Travelling Scholarship, at present held by Dr. John Dale, B.Sc., has been extended to him for a further period of six months as from October, 1911.

The Russell Memorial Prize has been awarded to Oscar Madeley Holden.

MEMORIAL TO DR. SYDNEY PARTRIDGE OF DARLASTON.

The ceremony of unveiling a tablet to the memory of the late Dr. Sydney Partridge, Medical Officer of Health for Darlaston, in Staffordshire, who died in December, 1910, at the age of 50, was performed at Darlaston Town Hall on July 18th by Mr. Joseph Yardley. The sum of £235 had been raised, and it had been decided to hand £200 to the Darlaston Nurses' Home, the work of which the late Dr. Partridge had very much at heart, the interest to be devoted to the purchase of medical and surgical appliances. The memorial consists of a bronze tablet with raised lettering, and has been placed in the corridor of the hall.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

THE KING AND QUEEN IN EDINBURGH.

DURING their visit to Edinburgh the King and Queen as usual gave some of their time to and showed their great interest in the hospitals. The Queen visited the newly enlarged hospital for women and children at Whitehouse Loan and formally declared it open. She spoke to many of the patients. In driving back to Holyrood she went slowly past the Children's Hospital, giving many of the children an opportunity of seeing her. She went on to the Longmore Hospital for Incurables, where the carriage stopped, and she was met be Dr. Affleck and some others of the staff. Later the King and Queen visited the Royal Infirmary, where the King named a ward the King George Ward and the Queen one as the Queen Mary Ward. Dr. Affleck conducted the Queen round the wards and answered her interested questions. Both the King and Queen asked for Professor Alexis Thomson, that they might hear of the condition of Viscount Esher, on whom he had operated. Dr. Affleck introduced him to their Majesties.

MEDICAL HONOURS.

Before leaving Edinburgh on Friday morning the King was graciously pleased to confer the honour of Knighthood on Dr. Thomas Smith Clouston and on Dr. James Ormiston Affleck. Dr. Clouston's great work in advancing the rational treatment of the insane both by his writings and by his work at the Edinburgh Royal Asylum, and his great organizing power which led him to build the Craig House, marked him out for this distinction.

Dr. Affleck has long been recognized as one of the foremost clinicians in Edinburgh. His work in the improvement of the Royal Infirmary is well known, and his personal popularity is deservedly great.

ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD FOR SCOTLAND.

The sixteenth annual report of the Local Government Board for Scotland has just been issued, being that for the year ending December 31st, 1910.

Poor Law Administration.

The most notable feature in connexion with the administration of the Poor Law during the past year has been the influence of the publication of the Poor Law Commission. The report states that it is impossible to gauge the extent of this influence, but it manifests itself in two very different phases. The more obvious result is the feeling of insecurity among Parish Councils with regard to existing institutions. One result of this feeling is that constructive schemes on any large scale have been almost entirely suspended. But there is another influence which, if less obtrusive, is more far-reaching. There is arising a desire on the part of Parish Councils to do more in the way of preventing destitution, as distinct from merely relieving it. Parish Councils are taking a broader and more humane view of their functions. They and their officials are exhibiting a kindlier and more helpful spirit towards the poor. This is indicated by a general tendency to increase the aliment allowed.

Number of Poor.—The number of poor of all classes, including dependents, in receipt of relief was 114,012, of whom 98,279 were ordinary poor, and 15,733 were lunatic poor, an increase of 753 on that of the previous year. This brings out a ratio of persons in receipt of parochial relief of 23 per 1,000 of population.

Poor Law Finance.—A sum of £1,572,808 was collected in rates and otherwise for the administration of the Poor Law, an increase of £62,036 on that of the previous year. The cost per head of poor, including vagrants, during the year, excluding general administrative charges, was: Ordinary poor, outdoor, £7 6s. 7½d.; ordinary poor, indoor, £25 7s. 5d.; lunatic poor, £26 4s. 6¼d.

Nursing Certificates.

As in former years the Local Government Board held two examinations for granting certificates to nurses. Eighty-six nurses went in for these, of whom twenty-nine obtained the certificate. The Board also conducts preliminary examinations for probationers.

Public Health.

Plague Precautions.—During the year 1910 there was no known case of plague in man in Scotland. In view, however, of the serious occurrences of plague in England, more stringent regulations were issued, which included the provisions of previous regulations, and which includes in addition an optional Article prescribing precautionary measures that local authorities may take to endeavour to exterminate rats, even if plague is not found or suspected to exist among rats.

Small-pox.—Eleven cases of small-pox were reported during 1910 as compared with 6 the previous year.

Cerebro-spinal Fever.—Only 84 cases were intimated during 1910, as compared with 189 in 1909. The mortality from this disease continues high, being 82.3 per cent.

Pulmonary Phthisis.—The number of local authorities that have extended the Infectious Disease (Notification) Act, 1889, to include pulmonary phthisis continues to increase. In all, eighty-two local authorities have adopted compulsory notification.

Diphtheria Antitoxin.—Arrangements for the supply of antitoxin have been sanctioned. This is done through the medium of the medical officer of health.

Vaccination.—The statistics furnished by the Superintendent of the Central Vaccine Institution for Scotland bear out the fact that the number of unvaccinated children in Scotland is increasing to an alarming extent. The total number of tubes of lymph supplied in 1910 to parochial vaccinators and poorhouse authorities was 2,067, compared with 2,677 tubes in 1909. The number of cases vaccinated with pure lymph was 1,623 cases of primary vaccination, of which 1,588 cases, or 97.8 per cent., were successful, and 13 revaccinations, of which 11 were successful.

Appointments.—During the year the Lords of the Treasury sanctioned the appointment of an engineering and an architectural inspector, and the Board appointed Mr. J. Walker Smith, M.Inst.C.E., and Mr. John Wilson, respectively, to fill these offices. Sanction was also given to the appointment of an additional medical inspector and a lady inspector, and Dr. Thos. F. Dewar and Dr. Elizabeth M'Vail were appointed to the posts.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Inquest at Dundrum Criminal Lunatic Asylum.

An inquiry was held into the circumstances attending the death of a patient in the Criminal Asylum, Dundrum, on July 14th. As a result of the inquiry it was found that the death was the result of direct violence at the hands of another inmate of the asylum. The jury exonerated the officials from all blame, but expressed the opinion that the staff of attendants was too small, and, on learning that the attendants worked sixteen hours a day, added the opinion that the hours of duty were excessive.

New Dublin Hospital.

A new hospital has lately been added to the already large number of hospitals in Dublin, and subscriptions from the public are asked for its support. The hospital is intended for the treatment of skin diseases and of cancer, and will, in addition, receive patients suffering from diseases of the bladder and kidneys. It is intended to take the place of the Brunswick Street Skin and Cancer Hospital which was closed some months ago.

India.

[*FROM OUR SPECIAL CORRESPONDENT.*]

The Health of Bombay.

The report of the Executive Health Officer, J. A. Turner, M.B., D.P.H., for the year 1910 is an elaborate compilation, covering, with annexed tables, 131 folio pages. The year was abnormal meteorologically. A heavy fall of rain in June was succeeded by a long spell of fine weather, characterized by excessive humidity and high temperature. "The result was that the whole of July and the greater part of August witnessed large increases in the mortality from fevers and intestinal and respiratory diseases, especially among infants and children under 5 years." The birth-rate was 20.39, against 20.28 in 1909, and the death-rate 35.72, against 35.66 in 1909. Infant mortality continues appallingly high, being 304 per 1,000 of estimated births. Ten municipal nurses and midwives are engaged in attending confinements and advising mothers as to the care and rearing of infants, and two female health visitors are commissioned by the Bombay Sanitary Association to visit the poor and instruct them as regards sanitation and feeding. A free lying-in hospital is to constitute a part of a scheme for founding a hospital in memory of the King-Emperor Edward VII.

Although the death-rate was a little higher than that of the preceding year, it compares favourably with the record of the preceding decennium, and the health officer shows that a material and progressive saving of life is taking place in Bombay, due, there is every reason to believe, to sanitary effort. There was in 1910 a marked reduction in the mortality caused by plague, cholera, and phthisis. Small-pox was in excess. Pilgrims returning from Mecca repeatedly introduced the disease. Vaccination is resisted by this class of people. Vaccine operations in the city were vigorously pushed. The epidemic was less severe than previous epidemics which recur every third or fourth year. Antimalarial measures received a check owing to the religious prejudices of the Parsees, who object to interference with their wells. The introduction of larva-devouring fishes into mosquito-haunted tanks is being made the subject of experiment. Operations against plague are being actively conducted; 5,043 inoculations were performed in 1910. Sanitary administration and work are pursued with intelligence and vigour by the municipality and the health staff. Motors are being employed with advantage for the removal of refuse. It is proposed to establish a Pasteur institute in Bombay for the city and Presidency. Rabies appears to be on the increase among dogs. The municipal laboratory continues to render useful service.

British Guiana.

Public Health.

The report of the Surgeon-General for 1909–1910 states that the colony has been free from any dangerous, infectious, or contagious diseases. During the year 9,367 deaths occurred, representing a death-rate of 30.0 per 1,000, slightly less than the previous year (30.8). There were 8,947 births, giving a birth-rate of 29.3, as against 27.3 for the previous year. It is interesting to note, in these days of falling birth-rates, that during the year under review there has been an appreciable increase in the birth-rate, while, on the other hand, the death-rate shows a very slight decrease.

Infantile Mortality.—The mortality amongst children under 1 year continued to be high; in 1909 there were 1,872 deaths, or 209 per 1,000 births, an increase on the rate for the previous year (198). The mean rate for the past five years is 210 per 1,000.

Tuberculosis.—During the year tuberculosis was the cause of 5.9 per cent. of the total mortality of the colony, and in Georgetown of 8.8 per cent.

Malarial Fever.—Malarial fever still claims a number of victims. During the year under review the public generally showed a pronounced interest in the question of the prevention of malarial fevers. On the sugar estates the screening of water receptacles, the abolition of other breeding grounds of mosquitos, the cutting down of useless bush and trees, and the free distribution of quinine have done much to prevent the spread of malarial diseases. In order to educate the people to take an interest in the prevention of these diseases a circular was issued to the different local authorities on the question of mosquitos and disease, asking them to help to abolish the breeding grounds and to take other sanitary measures.

Leprosy.—Of the 152 cases treated with nastin at the Leper Asylum during the year, several became disheartened, and gave up the treatment; in some no definite or appreciable change had occurred, but in a few considerable improvement took place.

Ankylostomiasis.—On the sugar estates steady progress was made in the measures for some time advocated—namely, the erection of latrines, the systematic examination of all newly-arrived immigrants, and of all persons suffering from anaemia, and the treatment and constant observation of all known infected cases.

Hospitals.—The public medical service consists of a staff of thirty-nine, and there are seven public hospitals; the sugar estates have thirty-nine, with a total of 2,490 beds; 38,349 patients were admitted to the estate's hospitals during the year, and there were 1,386 deaths, giving a percentage of deaths to admissions of 2.3. In the public hospitals there are 844 available beds, in which, during 1909–1910, 17,628 cases were treated, and, in addition, 76,583 out-patients were treated. In the Lunatic Asylum there was a daily average of 738 under treatment, and in the Leper Hospital a daily average of 403.

Vaccination.—The public vaccinators vaccinated 3,067 persons.

Bacteriological Department.—During 1909–1910 the total number of specimens examined in this department was 2,553. The examination of sputum for tubercle bacillus accounted for 1,470 of these. Special investigations were made in connexion with biting flies, fleas, ticks, maggots, snakes, etc. The report of the Government bacteriologist—Dr. Wise—contains some very interesting material, and the colony provides a large field for investigation in many and varied subjects.

Embodied in the report, the Surgeon-General of the colony—Dr. Godfrey—gives a summary of the proceedings of the Conference on Leprosy, held in 1909 at Bergen, at which he represented the colonies of the Bahamas and British Guiana.

Special Correspondence.

VIENNA.

Cases of Cholera in Austria.—A Hospital for Cancer in Vienna.—Suicides during the Past Year.

AFTER an interval of more than seven months cholera has once more broken out in this country. Hitherto it has been sporadic, and the source of infection in each of the five cases has been discovered, but there is nevertheless considerable cause for anxiety. The first case, which proved rapidly fatal, was imported from Venice, and the two following from the South of Italy (they were discovered on board a Lloyd steamer plying between Trieste and Sicily), whilst the others were infected through contact with the latter. The most stringent therapeutic and prophylactic measures were at once taken, with the result that a general epidemic of cholera has been averted. A strict quarantine has been imposed upon all persons and goods coming from the South; steamers and all naval traffic are being most carefully watched; suspected goods are promptly destroyed, and certain articles of food which come from the districts supposed to be infected are refused admittance into the country. We say "supposed to be infected" advisedly, for up to the present the Italian Government has not officially notified the existence of cholera in any part of Italy. As a measure of precaution a circular has been sent out to every doctor in Austria explaining the necessity of being on the look-out in suspicious cases, and emphasizing the need of isolating all such cases in special wards where they can be under constant clinical observation.

The recently founded Austrian "Cancer Research Society" has just received considerable financial assistance from a legacy of one and a half million kronen (over £60,000 in English money) which has been left by a lady whose numerous charities during her lifetime had the unusual distinction of being anonymous. It was not until after her death that it was discovered how much this noble woman had done to alleviate the sufferings of mankind. In her will she stated that she wished the bulk of her property to be devoted to the endowment of some charitable institution which should also be combined with scientific research; and her trustees, after consultations with various members of the medical profession, decided to hand over the money to Professor von Eiselsberg, the President of the Cancer Research Society. Thanks to this gift, the society is about to build a cancer hospital, which will contain a hundred beds, primarily for incurable cases, for whom up to the present there has been little or no accommodation. Curable cases, however, will also be admitted, and the possession of such a hospital should prove of the greatest possible value to the society, which has already been honoured with the patronage of several very exalted personages.

The average number of suicides in the city of Vienna has hardly varied during the last five years. Roughly speaking, there are some 596 cases a year, which amounts to nearly 2 per cent. of the total death-rate, the latter in 1910 amounting to 32,420, or 16 per cent. of the entire population. With regard to the age and sex of suicides, the majority, of course, range between the ages of 20 and 50, and in 70 per cent. of cases the victims are men. During the first half of the present year a fall in the total number of suicides was noted; but the most striking feature of the last few years is the increase in the suicide or attempts at self-destruction on the part of children. In 1908 1 boy made away with himself; in 1909, 3; in 1910, 3 boys and 1 girl; and during the present year there have already been 4 cases of child suicide on the part of a girl and 3 boys. Another point to be remarked is that the age of the poor little victims tends to become lower every year. Last year the youngest on record was 12, this year it is 9, and these statistics have naturally given rise to much comment from the press. Another interesting feature with regard to the mental derangement which is supposed to cause most attempts at self-destruction, is the unexpected influence exercised by climatic conditions. It has been noticed that as the weather becomes finer and brighter, the number of persons who endeavour to destroy themselves grows perceptibly larger. Thus, it has been found that in autumn, which in Vienna is wet and gloomy, there is a considerable decrease in the number of suicides. By far the greatest number take place in May; June comes next upon the list, and then August, September, and March. The chief causes of suicide are either money troubles or ill health; voluntary deaths through unhappy love affairs are not frequent, at any rate in Vienna.

Correspondence.

THE BOARD OF EDUCATION AND THE LONDON COUNTY COUNCIL.

SIR,—I was expecting to see in the current issue of the JOURNAL one or other of the more influential members of the school medical inspecting staff of the London County Council reply to your leading article in the JOURNAL on July 15th. As no one else has thought it necessary to refer to the article in question, permit me to refer to the following points.

You say "'medical inspection' practically consists in a certain number of children at a certain number of schools filing before a medical inspector, who picks out for further inspection such children as are obviously unlikely to benefit by the education provided," etc.

This is quite true so far, but it gives a very inadequate account of the work done by the medical inspecting staff. The Council distinguishes between "inspection" and "examination in detail," but this applies only to the "entrants." No doubt the use of the word "inspection" in this limited sense is misleading.

However, no one who did not know beforehand would understand from your leading article that all the children of ages 8 and 12 are very thoroughly examined. Of these ages, boys always and girls usually are undressed to the waist in presence of a parent or guardian—excepting those cases where parents cannot or will not attend—and all important organs are examined. Eyes, nose, ears, and throat, and also teeth, are well examined, and any other point raised by the parent is attended to, such as rupture or peculiarities about the lower limbs.

Further, at least so far as I am concerned, the "inspection" of the entrants consists in each child being examined for throat, nose, and ear defects in addition to a general survey of the child, and those found obviously defective in one particular are examined in detail on next visit.

My object in writing is not to gloss over any existing defects in the present method of school inspecting, but to correct any wrong impression which may have been made by your leading article and that the Council may get credit for the work it actually does.—I am, etc.,

G. POLLOCK, M.B.

London, S.W., July 24th.

CONGENITAL DEFICIENCY OF SPEECH AREAS: CONGENITAL APHASIA (?)

SIR,—The very interesting case published by Dr. Tait in the JOURNAL of July 22nd is evidently one of true word-deafness. The only case which I have seen that I consider was one of true congenital aphasia was described by me at the Royal Society of Medicine on March 26th, 1909. This case is so interesting, both in symptomatology and as showing the results of special instruction, that I have thought it worth repeating here, especially as the child has been under my observation for a further period of two years.

A girl, aged 11 years, was first seen at a deaf centre on December 21st, 1908. She had been at the deaf school for three years, and her condition on admission was as follows:

> Has two brothers and three sisters normal. Has only vowel hearing, and can produce no words. Apart from hearing and speech she is normal and more intelligent in work than a deaf child of her age.

Dr. Ernest Jones, who examined her in February, 1908, reported as follows:

> Frightened and nervous. Relies apparently on lip-reading, but hears whisper at 5 ft., obeying "Pick up your glove" uttered behind her back; is, however, very uncertain and doubtful about all commands. Spontaneous speech, slipshod, and indistinct, but reproduced speech quite clear. Using test words and comparing results with lip-reading to those when only hearing is allowed, there was always a tendency to replace "sh" by "s" much more marked with lip-reading; D and G and N and L are often mistaken too.

In November, 1908, she was re-examined and report made upon the striking difference between heard speech (which is merely repeated by echolalia) and seen speech (lip-reading), which is immediately answered rationally. As instances may be given: Q.—What is the time? (by ear only). A.—What is the time? (mumbled without intelligence). Q.—What is the time? (lip-read). A.—(Immediately looking at the clock): Three o'clock. The word-deafness apparently prevented the higher centre being effective, and she could only repeat words heard without comprehending their meaning, but she had now learnt to understand by lip-reading. Further examination brought out additional interesting points. Thus: Q.—What is the number of *your* house? (by ear). A.—What is the number of *my* house (but no attempt to reply to the question). Q.—What is your sister's name? (by lip-reading). A.—Bertha. An advance upon the mere echolalia is marked by the substitution of the first for the second personal pronoun. This substitution is specially taught in deaf schools. It was found on further examination that after she had repeated (echolalia) a question, if interrogated by lip-reading without the question being put again, she could answer it. Thus: Q.—What is the number of *your* house? (by ear). A.—What is the number of *my* house? Q.—Well, tell me (lip-read). A.—Forty. Some unconscious action was evidently going on. The motor centre being roused by echolalia, by directing attention to this, the meaning of the phrase was perceived. The girl was told not to repeat the question, but to think of it and answer. The following was the result: Q.—What is your brother's name? A.—What is my brother's name? Willie. Q.—When is your birthday, Dorothy? A.—When is my birthday, Dorothy? December 20th.

The child was now given to understand that she was on no account to repeat the question, but to think carefully of what she heard. She found great difficulty in doing this, but after pondering some time a correct answer was obtained without the echolalic motor response being evoked aloud. Evidently considerable restraint had to be exercised to prevent this, and every now and again, despite instructions, the echolalia recurred to words heard, but never to words seen.

I carefully tested her hearing on December 21st, 1908. Both meatuses contained large plugs of cerumen, which were removed. Both tympanic membranes were normal in texture, with good light reflexes, and of normal mobility. The tonsils were very slightly enlarged, the nasal and post-nasal spaces normal. Functional testing gave the following results: Acoumeter, right 4 feet, left 3 feet; voice, right and left 27 feet; whisper, right and left 2 feet; Rinne, right and left negative to C 128 and C 512. Bone conduction normal right and left. Edelmann-Galton whistle: Both ears detected a whistle of over 40,000 D. V. By air conduction she could not hear C 16 and C 32 with either ear, and perception to all other forks was diminished on both sides.

I found that she could answer questions in ordinary speech with her back turned, but that when I tested her with the whisper she repeated my questions by echolalia, showing that the auditory centre was not yet under complete control, or that a whispered stimulus was not strong enough to rouse the centre to action. Her school work showed a few deaf-mute characters, although it was greatly improved in that respect.

In this girl's case no language was acquired until lip-reading was established, and it is evident that the quickest and shortest route to her consciousness was by the visual centre. Questions heard were repeated by echolalia, then she got to correct her pronouns subconsciously. If special attention were directed to the motor response to questions heard, consciousness could be attained and a correct answer given. With great effort, but not easily, heard phrases were understood without motor impulse being interposed, often with error and often forcing the motor response in spite of attempted inhibition.

This girl proved very intelligent and hard working. She was transferred to the Residential School for Deaf Girls later, and I saw her there on April 25th, 1910. She was greatly improved, although still slow at replying to questions by ear; she answered questions by lip-reading, however, at once. In March of this year further advance was apparent, and she was found to be less slow aurally. She still, however, prefers to use her visual centre. Her voice is natural, and no longer is she slipshod in speech.

This case is a very interesting one, and it is a pity that she was not seen much earlier in life. The success with which she has been educated upon the oral system, whereby use has been made of a strong visual centre to help and strengthen a weak auditory centre, is especially instructive. I would suggest to Dr. Tait that his case should be similarly taught.—I am, etc.,

MACLEOD YEARSLEY.

London, W., July 22nd.

THE PAPILLAE OF MORGAGNI.

SIR,—The interesting paper by Dr. A. Campbell Magarey, dealing with hypertrophied papillae of Morgagni,[1] raises a rather curious point in the anatomical terminology of rectal surgery. Since a growing importance has apparently been attached to these structures, it may be well to attempt a definition of their relation to other well-recognized features of the rectum and anus. By all authors these papillae of Morgagni are said to stand in relation to the terminations of the "columns of Morgagni"; Dr. Magarey further defines their situation as being at the ano-rectal junction. So much concerning these papillae is clear, but their relations to the columns of Morgagni, and what exactly constitutes these columns, are matters upon which there appears to be a great deal of uncertainty. Dr. Magarey definitely states that the papillae are situated at the *upper ends* of these columns, and it is therefore evident that he regards the columns as being situated in the anus below the ano-rectal junction. He is not alone in holding this view, for several authors have given a similar description of them. On the other hand, most anatomists would agree that the papillae were situated at the *lower end* of the columns of Morgagni. This view necessarily involves a very different conception of the columns of Morgagni.

Within the perineal chamber of the rectum are a certain number of well-marked longitudinal folds

[1] BRITISH MEDICAL JOURNAL, July 8th.

of mucous membrane, which contain the terminal branches of the superior haemorrhoidal artery and vein, and which are named the columnae rectales. These columnae rectales, as I have pointed out elsewhere,[2] are definitely limited to the perineal chamber of the rectum, for in the peritoneal chamber, above the third fold of Houston, the disposition of the mucous membrane folds is typically transverse to the long axis of the gut, and below, at the ano-rectal junction, each ends typically in the intervals between the rectal sinuses.

These rectal columns, and their prominent lower terminations, constitute the columns of Morgagni. They are figured, though somewhat inadequately, by Morgagni in his *Adversaria Anatomica* of 1719, and described in the same work at III, vi, 10 and 11.

A great deal of confusion has crept into the nomenclature of most of the structures situated about the ano-rectal junction, and the columns of Morgagni are not the only ones to suffer, for the "anal valves," "Ball's valves," and "Morgagni's valves," are very much confused by many writers.

The nature of these structures I would define as follows: The columns of Morgagni (columnae rectales) are rectal mucous membrane folds which run in the long axis of the perineal chamber of the rectum, and which lodge the superior haemorrhoidal arteries and veins. The anal sinuses are the depressions between the lower ends of these columns, situated above the anal plate, and brought into existence by the hind gut downgrowth being a wider channel than the ingrowing proctodeal depression. The anal valves, which guard the free margin of these sinuses just as the aortic valves guard the sinuses of Valsalva, and the papillae which as a rule mark their attached extremities, are the remnants of the broken-down anal plate, and are the rectal equivalents of the carunculae myrtiformes. Below the anal plate the anal skin is thrown into longitudinal puckers by the action of the sphincters; these puckers might be named the anal columns if a name were needed for them, but they are not to be confounded with the columns of Morgagni.—I am, etc.,

F. WOOD JONES.

Anatomical Department, St. Thomas's Hospital, July 8th.

REMARKS ON THE SPOROTHRIX.

SIR,—The organism described by Dr. Ritchie in the BRITISH MEDICAL JOURNAL for July 1st seems to me remarkable in several respects:

I. At 22° C., "even in the youngest filaments, spore formation is much in evidence." It spores from the beginning of growth.

II. In diseased tissues only spores develop. Dr. Ritchie offers as explanation "an inability to form mycelium at body temperature." This difficulty the organism surmounts by confining its efforts to spore formation. There are objections to this explanation:

1. Similar organisms grow on agar in mycelial form at 37° C., but in the tissues in round form only.
2. Spore formation at a temperature exceeding the maximum for vegetable growth is unknown. Is sporothrix an exception to this? If not, what does Dr. Ritchie mean by spore?

III. At 37° C. on agar direct division of *spores* was observed. Something suggestive of mycelial formation was attempted, but only round bodies were produced. Spores sprouted from these. A photograph illustrates this. It unforfunately it is densely Gram-stained. It shows giant forms and smaller cells which may have budded from them. The right lower part of the figure even suggests coronation. There is nothing remarkable about this, as I hope to show.

IV. Dr. Ritchie mentions "peculiar microscopic appearances which often suggest the presence of yeasts." He tells us that some regard the organism as a blastomycete, which suggests budding as a feature of growth. Now if instead of spores the rounded cells are buds, the mystery vanishes. Then we have an organism growing at 20°C. to 37° C., as a typical mycelium or as a gemmating mycelium, and generally in both forms, that is, an organism combining the general characters of a yeast and a mould. Among the *fungi imperfecti* such organisms are numerous.

V. Dr. Ritchie assigns the organism to the *fungi imperfecti*, because its botanical relationships are unknown. But if the organism spores, just enough is known to exclude it from this group. Dr. Ritchie describes a second kind of spore—zygospore, and even hints at a sexual stage. His description is difficult to follow, but I find no evidence that he excluded vacuoles, globules, particles, and cystalloids—hall-marks of the *fungi imperfecti*.

VI. Interrogated by the agglutination and complement deviation test, the organism cast in its lot with thrush and actinomyces. Now thrush (*Monilia albicans*) belongs to the *fungi imperfecti*. In such organisms spore formation, in any ordinary sense, is unknown, but they bud yeast-like cells freely from the mycelium. Under certain circumstances, as is well known, yeast-like cells are produced exclusively. As a matter of fact, these are simply vegetative cells, differing in no respect except in shape from the filamentous cells. Absence of spore formation separates them from the saccharomycetes. Extensive polymorphism is their most characteristic feature and distinguishes them from oidium, but intermediate forms often make the latter distinction of sentimental value. The whorls of yeast-like cells, which Dr. Ritchie calls spores, and even stumpy tubercles on which buds appear, are seen in *Monilia variabilis*. These buds continue to bud freely, and thus form "the ropes of spores" mentioned by Dr. Ritchie. Nevertheless, *Monilia variabilis* may be grown in bud form alone. This form is sometimes called monilial yeast.

Why should there not be sporothrix yeast? Apparently this is the form in which it grows in the tissues and on agar at 37° C.

I suggest it is doubtful if there is sufficient justification for talking of spores in the case of *Sporothrix beurmanni*. —I am, etc.,

[redacted]

[2] *Proceedings of the Royal Society of Medicine*, April, 1911.

SPHINCTER STRETCHING IN OPERATIONS FOR HAEMORRHOIDS.

SIR,—All that Dr. John O'Connor writes to us from Buenos Aires is well worth reading, as being the expression of a practical surgeon.

In none of his writings has he shown this mixture of common sense and sound surgery more than in the JOURNAL of July 8th, where he objects to the wholesale methods of excessive sphincter stretching which have for years been advocated by most writers on rectal surgery.

I have long intended to write on this matter, and Dr. O'Connor's letter has produced the necessary stimulus. There is no question that the stretching of the sphincter as it is usually carried out is not only unnecessary, but often positively harmful. Sphincter stretching is a relic of the dark ages, but it will die hard, in this country at all events. For years I have practised and taught that sphincter stretching is only necessary and useful to a quite small amount as far as the actual force used is necessary.

The excess to which this can be carried was well shown some few years ago in a paper in one of the medical journals—I forget which—when it was gravely stated that the best method of dealing with haemorrhoids was, in the first place, to stretch the sphincter fully for ten minutes! Now, I have no hesitation in saying that this is a physical impossibility for any operator unless he has been trained especially for it.

About twelve months ago I operated on a series of cases of haemorrhoids, and in 50 per cent. the sphincter was not stretched at all. Notes were kept as to the amount of pain these cases had as compared with others in which the usual dilatation was carried out, and the experience gained was that there was no material difference.

That definite and lasting harm can be done by stretching, that is, *tearing*, the muscle fibres in certain kinds of sphincters will be well known to most surgeons. There is a particular form of sphincter which, when slightly dilated, feels like a piece of whipcord under the finger, and resists further force, but should this be persisted in the "whipcord" will suddenly disappear and nothing of the sphincter will be felt, the anus is patulous, and it may be months before the sphincter has recovered. In some

[redacted]

fol. quattuor & uncias tres. Misce, fiat electuarium. John Ardern the surgeon about 1370 says, "old leeches ordered the costive clysters, and they put in cassia fistula, mirobalans, hiera picra and other laxatives; which clysters, forsooth, made the patients more constipate than they were before."

Salmon in 1678 says that hiera picra "is a good thing to loosen the body and gently evacuate choller and other ill humors. It opens obstructions and purges thick phlegmatic humors. In affections of the stomach, Mesentery, Liver, Womb, Head and Joints it is excellent. Dose ʒii–ʒiii in Wormwood Rhenish Wine with ʒi of Syrup of Mugwort compound at night on going to bed; so taken is said to provoke the Terms and cure the Green Sickness It is curious to find hiera picra still in use and maintainir its old and evil reputation as an abortifacient. When, ever, was the cantharides added to the formula, and wh did the electuary become a pill? It appeared for the la time in public in the *Pharmacopoeia* of 1747.—I am, etc.

London, W., July 24th. D'ARCY POWER.

Universities and Colleges.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the exami tion:

M.S. (BRANCH I.).—*Surgery*: C. A. Joll, B.Sc.; E. L. M. Lobb.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the exam tion indicated:

Third M.B.—*Evelyn Ritson, A. Butterfield, G. Carse, C. Dunc W. A. Elliott, Sarah L. Green, Nora Murphy, W. S. Murray O'Hagan, Carinna A. B. O'Neill, L. G. Pearson, C. H. Robs C. O. Shackleton, A. Sutcliffe, G. S. Woodman.

* First class honours.

QUEEN'S UNIVERSITY OF BELFAST.

THE following candidates have been approved in the exam tions indicated:

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FIRST M.B. (*Physics*).—E. G. B. Calvert, T. M'Clurkin, R. G. M'El J. W. M'Kee, J. Meenan, T. Milling, A. Porter, J. P. Sm R. Weaver, T. K. Wheeler.

FIRST M.B. (*Botany*).—W. L. Agnew, J. B. Alexander, E. G Calvert, P. Clarke, Mary A. Gallagher, S. J. Hutchinson, P. K T. M'Clurkin, R. G. M'Elney, J. W. M'Kee, J. C. M'Milla Meenan, A. J. Millar, T. Milling, F. P. Montgomery, W. N. M gomery, A. Porter, R. L. Sinclair, D. K. Watterson, R. Wea T. K. Wheeler, R. Woodside.

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SECOND M.B.—R. G. Blair, H. T. Chatfield, W. M'M. Chesney, Clements, E. Doherty, J. Duffin, J. E. Finlay, A. Fullerto Gaston, Margaret Gorman, T. Grimson, W. S. B. Hay, J. Hunter, W. J. Lascelles, B. Lyons, C. M'N. M'Cormack M'Dermott, R. N. M'Kinstry, E. B. C. Mayrs, A. G. Mitchell Murray, M. C. Paul, G. R. B. Purce, G. W. Rea, Elizabet Robb, R. S. Ross, Martha J. M. Stewart, J. Tate, O. W W. R. E. Wilson, P. P. Wright, F. L. Cleland, G. E. Hu M'Comb, E. W. Mann, J. H. Porter. (*Anatomy only*): Devlin, D. Jamison, W. T. M'Curry, F. M'Kibbin, T. P. M'C J. C. Robb, J. S. Savage, A. F. L. Shields, J. Warwick, Wilson. (*Physiology only*): R. Condy, T. B. M'Kee.

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FINAL M.B., B.CH., B.A.O.—W. Boyd, W. K. Calwell, G. C F. Crooks, W. M. Millar, J. M. O'Reilly, E. F. Ward, Wisely. (*Pathology, Medical Jurisprudence, and Hyg* D. V. S. Willis, J. A. L. Wilson.

M.D.—J. C. Adams, S. T. Beggs, C. Dickson, W. E. St. L. R. Hill, R. G. Kevin, J. E. A. Lynham, W. P. MacArthur.

D.P.H.—R. G. Kevin.

Awards.

In connexion with these examinations the following have been made:

FACULTY OF LAW.—Dunbar Prize, £10, W. Lowry.

FIRST M.B.—First Scholarship, £40, E. G. B. Calvert. Scholarship, £30, T. K. Wheeler. Third Scholarship, £20. M'Elney. Prize of £10 each, T. M'Clurkin, T. Milling, A. (equal).

SECOND M.B.—First Scholarship, £40, O. Wilson. Second S ship, £30, A. Fullerton. Third and Fourth Scholarship £17 10s. each, E. B. C. Mayrs, G. R. B. Purce. Recom for Prize of £10, J. Tate. Juliet Symington Gold M Anatomy, O. Wilson. Special Prizes in Anatomy, A. Fu J. F. D. Hunter.

THIRD M.B.—First Scholarship, £40, W. A. L. Dunlop. Scholarship, £30, T. Walker. Special Scholarship (in th jects), £30, R. J. M'Connell.

FINAL.—First Class Honours and First Scholarship of £20, Scholarship in Surgery, £30, Qualified for Scholars Medicine and Midwifery, G. Cooper. Special Schola Medicine, £30, W. K. Calwell. Special Scholarship in Mi £30, F. Crooks.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Barker Anatomical Prize.

THE Barker anatomical prize for 1912 is offered for a dissection of the phrenic nerve. The prize, which is of the value of £21, is open to any student whose name is on the anatomical class list of any school in the United Kingdom. Preparations must be received on or before April 30th, 1912, by the Curator, from whom further particulars can be obtained.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—Devendra Bharadwaja, T. P. Bremner, T. W. Drummond, G. M. Harley, D. A. Imrie, C. C. Irvine, Mary G. Jones, W. M'Alpine, J. M'Farlane, C. Reade, J. M. Smeaton, W. Templeton, T. R. Wilson.

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Medical News.

THE late Mr. Henry Kirk, a lace manufacturer, of Nottingham, left the following sums by will to local medical charities: The General Hospital, £5,000, with power to deal with the income only; the General Dispensary, £1,000; the Children's Hospital, the Hospital for Women, and the Blind Institution, each £300; the Eye Infirmary, £200. In addition, sums of £300 each were left to the convalescent homes at Mablethorpe and Skegness respectively. The net value of the estate was about £60,000.

AT the annual general meeting of the West London Medico-Chirurgical Society, held on July 14th, the following officers were elected for 1911-12: *President*, Mr. W. McAdam Eccles, M.S., F.R.C.S.; *Treasurer*, Mr. T. Gunton Alderton, M.R.C.S., L.R.C.P.; *Secretaries*, Mr. D. F. Maunsell, M.R.C.S., L.R.C.P., and Mr. N. Bishop Harman, M.B., B.C.Camb., F.R.C.S.; *Librarian*, Dr. Arthur Saunders, M.B., B.Ch.Oxon.; *Editor of Journal*, Mr. H. W. Chambers, M.R.C.S., L.R.C.P.; *Editorial Secretary*, Mr. Aslett Baldwin, F.R.C.S.

THE foundation stone of a new hospital was laid by the Duchess of Sutherland in Merton on July 17th. It will provide 24 beds, but has been designed so as to permit of additions which will bring up the total accommodation to 40 beds. The total building expenditure at present anticipated is £11,000, of which £8,000 has already been secured, including a grant of £1,000 by King Edward's Hospital Fund for London. The name of the institution will be the Nelson Hospital for Wimbledon, Merton, and District, the name Nelson having been introduced in memory of the fact that during the last years of his life, and when in England, Merton Priory was Lord Nelson's home.

DURING the last Whitsuntide holidays, representatives of the embryology of vertebrate animals—English, German, French, Austrian, Belgian, and Dutch—assembled at Utrecht for the purpose of founding an international institute of embryology. Specialists in that branch of science conveyed their approval by letter. The new institute consists of forty members. Among other work it is proposed to devise a uniform system of nomenclature, and to provide facilities for a common study of materials difficult to procure. Professor Bonnet, of Rome, has been elected President of the institute.

SEVERAL London hospitals benefit largely under the will of the late Mr. Frederick Rolandi, formerly of Berners Street, having been made co-partners in his residency estate. These are the Italian Hospital in Queen Square, the French Hospital and Dispensary in Shaftesbury Avenue, the German Hospital, Dalston; the Middlesex Hospital, the Cancer Hospital, Fulham; University College Hospital, and the South London Ophthalmic Hospital, St. George's Circus. These seven hospitals, together with the Royal Asylum for the Deaf and Dumb in Margate, are to divide between them a sum expected to exceed £150,000.

THE Miller Memorial Hospital, which at present has accommodation adequate for 25 patients, is about to be extended so as to provide for from 40 to 50 patients. The new building will be five stories high, and will at once provide two wards in addition to operation and anaesthetic rooms. The building is so planned that it can be enlarged to provide a children's ward. The foundation stone was laid on July 18th by the Earl of Dartmouth. Mr. John H. Robinson, chairman of the Board of Management, stated that a gift of £3,000 had been received from the Annie Zunz fund, and that one of the wards would be so named. A vote of thanks to Lord Dartmouth was moved by Dr. Willes, senior physician, seconded by Mr. Leonard Miller, vice-chairman of the Board of Management, and carried unanimously.

THE Coronation festivities in Ispahan included a service at the English Church, attended by the Consul-General with a guard of twenty Indian Sawars. The church is in the hospital compound, and was designed by the surgeon in charge, Dr. D. W. Carr. On the same day there was a dinner at the Consulate attended by thirty English guests, among whom were six doctors, three of them being ladies, and one, Dr. Aganor, the Vice-Consul. The dinner was also attended by three British nurses, and by Mr. W. R. Kingston, the representative of Messrs. Burroughs Wellcome and Co., who was beaten and robbed close to Ispahan in April. Dr. J. Cropper, of Chepstow, who at the time was on a visit to Ispahan, informs us that the hospital was full of patients waiting for operation, chiefly for hernia and cataract. No fewer than fifty operations for hernia were performed during June, a time of year when the Kashgai tribe migrates some ten or twelve days' journey into the neighbourhood of Ispahan. Though a wild people, and given to boasting of the number of men they have killed, they make good patients. The hospital, as well as the women's hospital, is now under the administration of Dr. Stuart.

AT a general meeting of the Society of Infant Consultations on July 15th it was unanimously resolved to agree to a scheme by which the society will become an integral part of the National League for Physical Education and Improvement. Dr. Eric Pritchard said that the new organization would do its work under the title of "The Association of Infant Consultations and Schools for Mothers," and would have a much wider field of usefulness than in present conditions. It would have its own executive committee and honorary officers, but the secretarial duties connected with it would be carried on by the permanent staff of the league at its home, 4, Tavistock Square. Among the objects of the new body will be: (*a*) To bring into closer relationship all who are engaged or interested in the work of infant consultations, schools for mothers, and similar institutions; (*b*) to promote the establishment of such institutions and to advise as to their organization; (*c*) to organize conferences and other meetings in London and the provinces to discuss subjects germane to the work of such institutions; (*d*) to record the experience gained by individuals engaged in the work; (*e*) to collect literature, statistics, and reports bearing on the subject; (*f*) to supply such institutions, as required, with literature, charts, diagrams, etc., published by the association itself, or by other recognized bodies; (*g*) to promote co-operation with all societies working for infant welfare.

THE annual meeting of the Medico-Legal Society was held on July 20th, Sir John Tweedy in the chair. The annual report stated that the society had made considerable progress. The Royal College of Surgeons having decided to establish a medico-legal museum, the members of the society have been asked to give specimens. The election of officers and council resulted as follows: *President*, Sir John Tweedy; *Vice-Presidents*, Mr. Justice Horridge and Mr. Digby Cotes-Preedy; *Honorary Treasurer*, Mr. Walter Schröder; *Honorary Secretaries*, Mr. Rowland Burrows and Mr. J. Howell Evans; *Honorary Auditors*, Mr. R. Salusbury Trevor and Mr. Walter C. Williams; *Honorary Editor of Transactions*. Dr. W. A. Brend; *Council*, Dr. A. G. Bateman, Dr. A. D. Cowburn, and Mr. Arthur S. Morley. It was decided so to alter the rules that the President shall be elected annually, but that the same person shall not be eligible to hold office for more than two consecutive years. The annual dinner was afterwards held at the Holborn Restaurant, Sir John Tweedy presiding over a large attendance, which included Sir Henry Morris, Sir William Collins, Sir Frederic Hewitt, Mr. Rigby Swift, M.P., Mr. Charters Symonds (President of the Medical Society), Mr. J. B. Lawford (President of the Ophthalmological Society), Dr. William Turner (Surgeon to the Colonial Hospital, Gibraltar), Dr. W. H. Willcox (Home Office), Dr. F. J. Waldo, Mr. Henslow Wellington, Dr. C. Herbert Smith, Dr. Spilsbury, and most of the officers and council.

Letters, Notes, and Answers.

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Aitiology, London*. The telegraphic address of the British Medical Journal is *Articulate, London*.

Telephone (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

T. B. would be glad of suggestions as to a suitable locality in England where a case of phthisis, now quiescent, might reside and do light work.

Perplexed has a lady patient of 76 who persistently expectorates large quantities of gastric mucus. Bismuth, alkalis, nux vomica, and bitters have all been unsuccessfully invoked. Lavage would not be tolerated. Any suggestion welcomed; constipation is a feature.

Anxious desires to know the best works treating of the detection of malingering, the various methods employed, etc., with especial reference to injuries of the back, real or supposed, which form a large proportion of the cases coming under his notice.

X. Y. Z. would be glad of advice on the following case: Two perfectly healthy girls, 17½ and 15½ years, suffer from a good deal of white discharge. The menstruation of the elder is quite normal, but that of the younger is attended with a good deal of backache, which commences about thirty-six hours before and lasts a couple of days after the flow is established. A few doses of ergot stopped it in both cases last month, but it has reappeared after the next period.

ANSWERS.

MacTheyir.—A paper by Dr. C. A. Davies, entitled "The Causes of Consumption, with special reference to its Prevalence in the Isle of Man," was reviewed in the Journal, vol. i, 1900, p. 907.

Dr. H. J. Thorp (Ipswich) writes: In reply to "A." I would suggest the following pill, to be taken three times a day: ℞ Pil. assafoetid. 4 gr., ex. hyoscy. ¾ gr., nux vom. ¼ gr. Ft. pil. It is essential to see that the action of the liver is healthy.

Dr. W. J. Shee.—The expression "*per capita*" is a legal one, and we imagine too firmly established by usage to be upset by the tolerably familiar fact that "caput" is "a neuter noun of the third declension." "Sanatorium" is, as Bardolph would say, "a word of exceeding good command." It is formed by legitimate process of derivation from *sanare*, "to make sound, to heal."

A Correspondent asks for literature on Dr. Carl Spengler's "Immunkörper (J. K.) treatment for tuberculosis," and wants to know where the preparation in question can be obtained. In vol. xv of the *Zeitschrift für Tuberkulose* there are articles on the subject by Simon and by Kirschblatt; vol. xvi of the same journal explains a further article by Simon and the article by Autokratoff. We understand that Dr. Spengler's preparations can be obtained from Kalle and Co., Biebrich-a-Rh.

Irritation of Skin.

Dr. A. D. Woolf (Highams Park) writes: In reply to "Countryside," I have recently had a patient with symptoms very similar to those described. I found the following mixture efficacious: ℞ Tr. bellad. ♏ 40, pot. brom. gr. 80, spt. ammon. arom. ♏ 160, aq. chlor. ad ℥viij. Sig. ℥j t.d.s.

Dr. Theobald A. Palm (Aylesford) writes: In reply to "Countryside," I rather hesitate to add another to the legion of remedies suggested for the treatment of pruritus. But I have recently had under my care a most obstinate and distressing case of pruritus without any lesion of the skin except that caused by scratching, in which, after trying a great variety of local applications in vain, relief was afforded by an ointment of orthoform and lanolin, 40 grains to the ounce. This gently but thoroughly rubbed in relieved irritation, and applied at bedtime made sleep possible. I used orthoform as a non-poisonous substitute for cocaine. It was made up with lanolin with a view to easy absorption by the skin so as to affect the sensory nerve-endings. My patient suffered from a hopeless organic disease of the liver in which it may be supposed that the pruritus was caused by some toxin, having a selective action on the nerve-endings in the skin, which, owing to the impaired function of the liver-cells, was allowed to pass into the general circulation without being broken down in the liver. In the circumstances, only palliative measures were possible. In other cases treatment directed to re-establishing the more efficient action of the liver seems to be the first indication. The statement has been made and repeated that orthoform may be freely dusted on painful ulcers without ill effects. I have observed, however, that while relieving pain it distinctly retards healing, and in one case I have known it to cause considerable sloughing of the granulating surface to which it was applied. Applied as ointment to the skin it appears to have no ill effect.

Mixed Vaccine in Tuberculosis.

Dr. E. C. Morland (Arosa, Switzerland) writes, in reply to "W. S. M.": The only drawback to so doing is that it makes it impossible to observe the tuberculin "local reaction," which may give useful indication for the subsequent dosage.

Dr. Horace Wilson, M.B., B.S.Lond. (London, W.), writes: In reply to the query in the Journal of July 15th *re* mixed vaccine in tuberculosis, if "W. S. M." adds by means of his hypodermic the requisite amount of tuberculin in a concentrated solution to the bulb containing his vaccine and rotates freely, he can then inject the whole in one puncture. The writer has been and is working on these lines, but finds the results not so good as were predicted. He has found in such cases that if any good is attained at all the combination acts better than the system advocated of giving a course of vaccine first and then following with a course of tuberculin.

E. M. writes, in reply to "W. S. M.": Tuberculin and staphylococcus vaccine can be mixed without alteration of potency, but it would be highly inadvisable to give them simultaneously. For the essential thing in tuberculin treatment, whatever form of tuberculin be used, is an accurate observation of the resulting temperature reaction as a guide to the next dose. This estimation would be obscured by the administration of another vaccine at the same time. Tuberculin is too potent a remedy to be used in the haphazard fashion suggested by "W. S. M.'s" query. I think it is a useful plan, in cases of mixed infection, to give three or four preliminary doses of the staphylococcic vaccine (about 400 millions once a week), then if a local hyperaemia results from the tuberculin, the blood will presumably be well charged with staphylococcic antibodies. Doses of the vaccine can then be sandwiched in between the doses of tuberculin as the treatment proceeds.

LETTERS, NOTES, ETC.

Potatoes and Earthy Phosphaturia.

Dr. A. W. Stirling (Atlanta, Georgia) writes: The chemical reaction of potatoes and the chemical reaction of urine in which earthy phosphates occur are, of course, well known; but is the relationship between the two as constantly borne in mind as it should be when the almost universal use of the potato is considered? I have had the opportunity of thoroughly testing the power of the potato, eaten in very moderate quantity, to produce the following day phosphatic urinary gravel (which, however, does not necessarily imply an increased elimination of phosphates).

Doctors Among the Unemployed.

In the *Morning Post* the other day it was stated that Mr. Rowntree, the Liberal member for York, had asked the Chancellor of the Exchequer whether, supposing a large body of opinion in the House were in favour of bringing *doctors* within the purview of the unemployed part of the measure, what could be done. We presume "dockers" is meant, but the misprint which, in other circumstances, would be put down as a freak of the printer's "devil," is at the present time, as Carlyle would say, "significant of much." Mr. Lloyd George's Insurance Bill has created a close connexion in the public mind between doctors and the unemployed, and a recollection of the docker's "tanner," for which Mr. John Burns made so resolute a fight many years ago, has doubtless added to the confusion. Hence, it is quite possible that it was seriously thought that Mr. Rowntree referred not to dockers, but to doctors. And, indeed, if the Chancellor of the Exchequer obstinately sticks to the position which he has taken up, we may perhaps be confronted with a question of the doctor's "tanner." Assuredly if he does not meet the fair demands of the profession in a more liberal spirit than he has yet shown, a large number of doctors will be driven into the ranks of the unemployed, and will themselves have to seek such benefits as Mr. Lloyd George's scheme offers. The profession will then be in a position analogous to that of the inhabitants of one of the Channel Islands, who were said to earn a precarious livelihood by taking in each other's washing.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Note.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Lecture

ON

COMPLICATIONS OF RHEUMATISM IN CHILDHOOD.

Delivered at the Hospital for Sick Children, Great Ormond Street.

BY

F. J. POYNTON, M.D., F.R.C.P.Lond.,

PHYSICIAN TO OUT-PATIENTS, THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET AND UNIVERSITY COLLEGE HOSPITAL; PHYSICIAN IN CHARGE OF THE CHILDREN'S WARD, UNIVERSITY COLLEGE HOSPITAL.

In my first lecture upon this subject I made some remarks upon rheumatic rashes and purpura, venous thrombosis and early rheumatic tachycardia, mastitis, and epistaxis. This lecture was published in the British Medical Journal of January 7th. There still remain a number of interesting points in the history of rheumatism in childhood, with some of which, obtained from the same series of 600 cases, I shall attempt to deal in this lecture.

Pleurisy.

The first lesions for our consideration are those of the respiratory system. Pleurisy is well recognized, and I would emphasize that it is a very frequent occurrence when there is severe rheumatic carditis, and that you will seldom see a *post-mortem* examination made upon one of these cases without finding evidences of inflammation of one or both pleurae. Two common situations are at the spots where the right and left lungs overlap the pericardium; another favourite one is at the base of the left axilla. This pleurisy is usually fibrino-plastic, and friction is frequently detected during life. It should not be forgotten that a child suffering from rheumatic carditis with pain over the left side of the chest may be complaining not of cardiac but of pleural pain, and pleural friction should be sought for. Again, there is some importance in distinguishing between pleuro-pericardial and pericardial friction. The double rhythm, respiratory and cardiac, of pleuro-pericarditis is often associated with internal pericarditis, but this need not necessarily be the case; and as pleuro-pericarditis itself is of less grave import than pericarditis, the differential diagnosis is of practical value.

Rheumatic pleurisy complicating carditis rarely gives rise to an exudation sufficient in amount to need paracentesis: yet this happens occasionally, and in two cases of my series it has been called for on account of the embarrassment the effusion was causing to the damaged heart.

One, in which eventually the diagnosis was fully confirmed by *post-mortem* examination, was an exception of this kind, for a considerable quantity of turbid fluid had been withdrawn from the left chest during life. It is interesting to record that Goldscheider, some fifteen years ago, isolated from a pleural exudation of a case similar to this a minute diplo-streptococcus, and in another of my cases a similar micrococcus was isolated, and it is found in experimental rheumatic pleurisies. We naturally ask ourselves how frequently rheumatic pleurisy may occur irrespective of carditis or other rheumatic lesion. It would seem rare, at least a pleurisy with any considerable exudation would seem rare, although I am not quite sure that "dry" pleurisy accompanied with considerable pain is not more frequent in the rheumatic child than we perhaps recognise.

Pneumonia.

Pneumonia, which, with pleurisy, is a frequent occurrence in experimental rheumatism, is also, I hold, met with in children. It is bronchopneumonic in distribution, fleeting, and apt to give rise to signs which point to a consolidation more extensive than is actually the case. The rheumatic illness in these cases is likely to have an abrupt onset and a considerable rise of temperature which may readily subside.

I believe the fact that the physical signs may be more extensive than would appear to be probable from the size of the actual lesion is dependent upon the associated pulmonary collapse around the pneumonic area.

I will now illustrate this occurrence of pneumonia. The first case was a fatal one, which, for our purpose, is important because it enables us to assure the diagnosis by *post-mortem* examination.

A boy aged 5 years was admitted to the hospital in June, 1901, for acute heart disease, arthritis, and bronchopneumonia at the left base posteriorly. In the hospital pericarditis developed, and later a patch of pneumonia on the right side. Death resulted from pericarditis. The *post-mortem* examination showed carditis, arthritis, and small areas of bronchopneumonia. Dr. Paine isolated the diplococcus from the pericardium, cerebro-spinal fluid, joints, pleurae, and lungs. The experimental investigations and morphological appearances distinguished this micrococcus from the pneumococcus.

The second case was also fatal:

A boy aged 6 came to the hospital in June, 1902, extremely ill. The history was that in January he had suffered from rheumatism, with severe heart disease, from which he had never really recovered. He had on admission severe carditis and pleuropneumonia on the left side, but there was no arthritis. Death occurred from heart failure, and the *post-mortem* examination showed endocarditis, and adherent pericarditis, and bronchopneumonic patches in both lungs, with some pleurisy on the left side.

A third case recovered:

A boy aged 6 years, who had suffered from rheumatism when 3 years of age, had been ill for a week with headache, vomiting, pains in the ankles and knees, and fever (100.6° F.). On admission respiration was grunting; there were pericarditis, endocarditis, and arthritis. In the lower lobe of the right lung there was a patch the size of the hand over which there was dullness, tubular breathing, and sharp crepitation. On the left side there was pleurisy. The pulmonary signs rapidly cleared, and the pericarditis was recovered from. I saw this boy again two years later for a mild outbreak of arthritis, and he had then a well compensated mitral lesion.

I have been told, but I have no personal acquaintance with the fact, that pulmonary affections in rheumatism occur more frequently in some parts of England than in others, and this would certainly not be out of keeping with our knowledge of the variable nature of the disease. In experimental rheumatism some pleuropneumonia is frequent, but we must not forget that then a large dose is injected directly into the venous circulation, whereas in the human being we must believe that the disease is generally a result of the summation of small doses.

In all considerations of rheumatic pneumonia associated with carditis it is difficult not to fall into the mistake of confusing certain changes in the left lung that may result from a severe carditis, including pericarditis with effusion.

We have only to see a necropsy upon a case of severe carditis with great dilatation to realize the way in which the lower lobe of the left lung may be pushed from the front of the chest and crowded into the back. It needs no considerable pericardial effusion to achieve this, and the dilatation in itself is the main factor. As a result there are frequently signs of pulmonary collapse at the left base, together with congestion.

In pericardial effusion Dr. Ewart finds a patch of marked dullness at the left inner base, square in outline, which may even extend across to the right side; over this respiratory sounds may be wanting. It is not with the lesions of this nature that I am concerned, but with what *post-mortem* investigation has shown to be a bronchopneumonia.

Acute Pulmonary Oedema.

I come next to a rare and alarming occurrence in rheumatism. This is acute oedema of the lungs, of which I have seen three cases, two of which were fatal. In each of these there was severe active rheumatism with carditis and numerous other manifestations. Although it is rare, I wish to lay stress upon the reality of its occurrence as a thing quite apart from the passive congestion that is so often met with in advanced cardiac disease. It is a rapid event, commencing, just as does renal pulmonary oedema, at the apices and not at the bases of the lungs.

The first case, the one that recovered, was a good example of the condition.

A girl aged 5, suffering from severe chorea and carditis with arthritis and nodules, although extremely ill, was holding her own until one morning her breath became laboured and her face anxious and cyanosed. I found numerous fine râles below the left clavicle, which, spreading rapidly, soon involved the left upper lobe and later appeared in the right. Free stimulation and the giving of oxygen appeared to arrest the process. At any rate the child rallied and made a good recovery, although there was necessarily a damaged heart left.

The two fatal cases were of the same severe type, and the necropsies enable me to speak with confidence as to the lesion that is found. The lungs are firm, and on pressure a frothy fluid exudes from the doughy tissue. The upper lobes are more affected than the lower. Microscopic examination shows that the condition is not inflammatory, but that the alveoli are blocked with an albuminous fluid. I presume these are examples of acute suffocative pulmonary oedema which have been described by writers in various infective conditions.

Sharp râles, spreading rapidly in the upper parts of the lungs, in a child gravely ill with rheumatic carditis, should suggest the onset of this dangerous complication, and indicate, I believe, that all depressing remedies should be discarded and recourse had to stimulation with the administration of small doses of morphine and atropine hypodermically, and oxygen inhalations.

Bronchitis.

Bronchitis has been included by some among rheumatic manifestations, but I have not been able to convince myself of the reality of this. I have seen some suggestive cases, but in the face of the frequency of the two diseases in this country not a sufficient number of examples to enable me to recognize their rheumatic nature.

Abdominal Symptoms.

When we come to the abdominal symptoms of rheumatism in childhood, we are at the present time in considerable difficulty. Possibly in another ten years with my present opportunities I may myself feel less nebulous upon this subject.

I would single out appendicitis first because it is a disease of such extreme importance, and would repeat here an observation I have made several times before—that a monarticular acute arthritis of the right hip-joint may closely simulate appendicitis. There is tenderness over the region and some resistance, there is fever, and the right leg may be flexed. If you are in doubt, it is important to examine carefully, not only the heart, but also the smaller joints; for I have known one of these cases betray the truth by an arthritis occurring in the middle toe of the opposite foot. I am a firm upholder of early operation in appendicitis in childhood, particularly when there is reason to believe that the appendicitis is going to show itself by pelvic signs, but whoever upholds early operation must be prepared to face the great responsibility of an error in diagnosis. In childhood the diagnosis of appendicitis is surrounded with great difficulty. A right pleurisy and constipation are two glaring examples of this, but rheumatic arthritis is also worthy of attention.

It is a curious fact that I have never seen a damaged appendix in a necropsy upon fatal rheumatism. There can be no doubt that acute appendicitis during an attack of acute rheumatism is very rare, and my series does not contain the history of a single case in which appendicitis occurred of sufficient severity to come to the proof of operation, for many of these children have been under supervision for a considerable time. This points strongly to the view that acute appendicitis is not a rheumatic phenomenon. I have, it is true, notes on several cases of mild appendicitis occurring in children suffering from chorea, or who have had rheumatism, but the number is not sufficient to escape from the probability of coincidence.

I can, then, hardly believe that appendicitis is a direct result of rheumatism or even that the rheumatic are particularly disposed to that disease.

I should like to illustrate by one striking example the simulation of appendicitis by rheumatism.

In August, 1905, a boy, aged 10½ years, was admitted to the hospital extremely ill with severe pain in the region of the right iliac fossa. For twelve days he had suffered from recurrent attacks of abdominal pain, lasting from twenty to thirty minutes. There had been no vomiting or diarrhoea. He also complained of rheumatic pains in the feet, legs, hands, and shoulders. His temperature was 101° F. and he looked desperately ill. His doctor had sent him in as a case of urgent appendicitis for immediate operation and had felt a tumour in the right iliac fossa the size of a Tangerine orange. There was, however, grave aortic disease, and there was also a history of acute rheumatism at 5 years of age, and with this, too, a strong family history. His cardiac condition deterred me from any hasty interference. I was unable to satisfy myself that the whole illness was not rheumatic, more particularly as there was some pleurisy at the right base, and referred pain in children from such a lesion is, we all know, very liable to simulate appendicitis. I was also doubtful as to the presence of a tumour. The pains were relieved by salicylate of soda, but later he had a relapse and the pain in the abdomen became so severe that perforation was now suspected. Once again the cardiac lesion kept every one on the cautious side, and then the development of rheumatic nodules seemed to clinch the diagnosis. After a long illness the boy recovered and eventually left the hospital.

I saw him again in March, 1906, for extreme nervousness associated with his severe aortic lesion, and there could still be detected some nodules. In September he died in a relapse, and the appendix and caecum were quite healthy.

This was a most difficult case, not only simulating appendicitis but also typhoid fever, and I feel sure if it had not been for the acute and severe valvular disease I should have been very near advising an exploratory laparotomy.

Another case I remember escaped the kind attentions of the surgeon, not "by the skin of his teeth," but by the slight swelling of the middle joint of a toe.

Leaving now the negative evidence upon the subject of rheumatic appendicitis, I will mention some positive points in reference to abdominal symptoms in rheumatism.

You will repeatedly meet with pain referred to the abdomen in the early stages of rheumatism in childhood. It is generally situated above the umbilicus, and more often to the left than the right of the middle line. On examination you often find no obvious explanation.

There are two suggestions that strike one as both feasible—that these pains are fascial or neuritic pains, or that they are gastric or at any rate intra-abdominal. An analysis of the other symptoms that have accompanied this epigastric pain leads me to believe that both explanations may be true.

In some cases this epigastric pain is associated with arthritic and other fascial pains, and there is no obvious disturbance of the alimentary system. In such the inclination is to believe that this is a fascial affection. In other cases there are a furred tongue and indigestion, with, possibly, vomiting and diarrhoea, and then one inclines to the belief that the origin of the pain is gastric or intestinal. Rarely it results from splenic infarction.

In acutely fatal cases of rheumatism vomiting and diarrhoea may mark the commencement of the illness, and this is sufficiently important, I believe, to make it worth while to give three illustrations.

E., male, aged 4 years and 11 months, was seized with pains all over the limbs, vomiting and diarrhoea on May 29th, 1902. Acute arthritis and carditis rapidly followed with death in the middle of June. The necropsy showed the lesions of acute rheumatism and the micrococcus was isolated. There was a strong family history of rheumatism in this case.

A. R., male, aged 8 years and 9 months. Had already suffered from three attacks of rheumatic fever. In January, 1903, he was seized with vomiting, general illness and sweating, and was admitted with severe heart disease. This boy lingered on with active rheumatism in spite of large doses of salicylate of sodium, and died in May of the same year.

W. P., male, aged 7 years, was seized with abdominal pain and vomiting on April 17th, 1904. This boy rapidly developed arthritis and carditis and died in May.

There are no *post-mortem* lesions that I am aware of that explain these early abdominal symptoms and they would appear to be the results of an unusually severe toxaemia. This seems the more likely when we recall that in adults there occur cases of acute rheumatism which are curiously like enteric fever in aspect.

Is there a rheumatic peritonitis? This is, I think, still disputed. An experimental rheumatic peritonitis is to me a fact, for I have seen it, and the micrococcus has been isolated from the exudation. I have also seen rheumatic peritonitis of a subacute type in fatal rheumatism in childhood, of which occurrence the following are examples.

R. W., aged 4½ years, female, had four weeks previous to coming under observation suffered from chill, multiple arthritis, and breathlessness. Her throat on admission was red, the tonsils enlarged, and also the cervical lymphatic glands. There were numerous nodules, and severe mitral disease. Pericarditis developed, and death ensued seventeen days later. The terminal stages of the illness were marked by attacks of dyspnoea, restlessness, vomiting, and intense abdominal pain. The necropsy showed carditis, mediastinitis, and inflammation of the peritoneum over the liver and spleen.

E. M., male, aged 7½ years, after getting wet through in July, 1903, developed acute rheumatism and heart disease. His mother was also subject to rheumatism. In January, 1904, he came to the hospital for severe ascites. His heart sounds were muffled, and the cardiac dullness extended up to the level of the second rib. There was no murmur, and no palpable impulse. The veins in the neck were full, and there was some dullness at the right base. There was no albuminuria. There was continuous refilling after each paracentesis abdominis,

and Dr. Penrose, under whose care the child was when in the hospital, advised a Talma-Morison operation. Much perihepatitis was found, and an opaque fluid containing leucocytes was liberated from cultures of this fluid. Dr. Paine isolated the diplococcus. I am indebted to Dr. Penrose for the ability to mention this case.

The third case was interesting because the patient, who had had a previous attack of rheumatic fever with heart disease, was admitted with arthritis and pericarditis to St. Mary's Hospital complaining of severe pain in the upper zone of the abdomen. Loud grating peritoneal friction was audible over the hepatic region. This patient recovered from the illness, but I can see no reason for doubting that this was a case of rheumatic fever with peritonitis.

Peritonitis in rheumatism would appear, then, to be rare, and where present to be usually localized to the upper abdominal zone, and to be fibrino-plastic in type; it may produce loud friction and many adhesions around the liver and spleen.

When in a case of severe rheumatism there is much abdominal pain, and infarction can be excluded, I suspect the possibility of the occurrence of some localized peritonitis.

In addition to this Dr. Burney Yeo and others have described a more acute and general peritonitis, but of these cases I have had no experience in childhood.

Joints and Fasciae.

There are some points connected with the joints, muscles, subcutaneous tissue, and fasciae to which I should next like to draw your attention.

Occasionally you will meet with cases in which there is multiple arthritis of the wrists and of the small joints of the hands and fingers, together with great muscular wasting. As a rule, there is in such cases profound anaemia, and not infrequently severe carditis and nodules. If you see a case of this kind you cannot help comparing the condition of the hands and forearms to that which you meet with in the "acute rheumatoid" attacks of young adults, and it will banish from your mind the belief that muscular wasting is in any sense a specific evidence of "rheumatoid arthritis."

Again, some nodules may have an interesting life-history; and these are the chronic ones. They come out slowly and last a long time, and merge insensibly in some cases into a chronic periosteal thickening around the joints. As a result of this slow process the joint, without either pain or even discomfort of any degree, acquires that curious ruggedness of outline which the poor sometimes call "growing out." Now the interest of this is connected with joints and fasciae hidden from view; for if such a process as this occurs under our eyes stealthily and almost painlessly, it is not impossible to believe that it may also occur in connexion with such joints as the vertebrae hidden from our eyes; further, a similar process may also occur within joints, and in the cardiac valves is possibly represented by the process of mitral or aortic stenosis.

I will give two examples of the type of case to which I am referring:

T. W., aged 7½ years, female, had suffered from pains in the limbs for some months, and throughout the year she had been wasting. When she came to me in December, 1902, she was exceedingly ill with severe carditis and was much wasted. Over th e olecrana and around the elbow and knee joints were numerous firm nodules, some fixed and some movable, and the joints were rugged in outline. These nodules kept coming out at slow intervals, but with great care and a stay in hospital for six months there followed considerable general improvement. Yet how evanescent this improvement was is shown by the after-history. In April, 1903, she was discharged, and had not been home more than a week before she died.

C. H., aged 10 years, male, had an attack of chorea in 1907 and again in 1908. When I first saw him he had very large tonsils, arthritis, double mitral disease, numerous nodules, and some periosteal thickening around the knee-joints, and was very anaemic. In the hospital he suffered from acute rheumatism from May, on his admission, throughout the whole summer. Chorea, pericarditis, endocarditis, arthritis, nodules, and anaemia were the chief manifestations, and the diplococcus was isolated from the blood stream by Dr. Forbes.

In November of the same year he came to me much better, but with the nodules still present, and there was some periosteal thickening at the base of the first metacarpal bone on the right side.

In course of time the nodules disappeared, but in August, 1910, he broke down again, and being over 12 years I sent him to University College Hospital. This time he developed pleurisy, and a diplococcus was isolated from the pleural effusion. He remained in the hospital until January, and during that time nodules began to appear, both movable and fixed, and the elbows in particular became more rugged in outline. Although he made remarkable improvement his temperature never reached normal, and neither salicylates, which were pushed, nor vaccines, nor the local use of mesotan had any effect on the progress of the nodules, which were present when the ward closed for infection.

Suppose now that a process such as this should occur in the cervical fasciae, or in the ligamentous structures of the vertebral articulations, we should then have a very puzzling condition. We should be confronted with a more or less chronic stiff neck, and possibly fixation of vertebrae—that is, a degree of poker-back. From the first we should have a great difficulty facing us, and that would be to differentiate the condition from tuberculous disease of the spine, which is not only by far the most usual explanation of a rigid spine in childhood, but also the safest one to give from the point of view of treatment. I have had some very remarkable cases under observation which support the occurrence of such chronic lesions as this, and which have considerably bothered me over the question of spinal caries.

My first case is of the ordinary type, and will serve to throw into prominence the peculiarities of the subsequent ones.

E. B., female, aged 6 years, had been ill a week with a catarrhal sore throat, stiff neck, and abdominal pain. When seen first she had multiple arthritis, a rapid heart, fever, and torticollis. Under treatment with aspirin, she made a good recovery, the stiff neck lasting about a fortnight. In a subsequent attack with sore throat there was again a stiff neck, which recovered rapidly.

N. J., female, aged 2½ years, had always been delicate. Three months before coming under observation in May, 1903, she was noticed to move her head stiffly, and complained of pain in the neck. At the same time, she also complained of pain behind the knees. There was no history of rheumatism or tuberculosis in the family.

The cervical spine was certainly stiff, but there was well-marked double mitral disease, and great enlargement of the heart. I was in great doubt about this case, which, though in many respects resembling one of rheumatism, at the same time, in its chronicity and in the degree of limitation of the movement of the spine, suggested caries, with possibly a tuberculous heart disease. I could not solve the problem further than this; the cervical symptoms soon disappeared with rest, warmth, and treatment by salicylates. I then, unfortunately, lost sight of the case.

W. T., male, aged 11 years, living in a damp house, had an attack of rheumatic fever in August, 1907. In this attack there had been a stiff neck, with multiple arthritis and heart disease. From this attack there was partial recovery, but the stiff neck persisted until I saw him in January, 1908—that is, for five months. Here, again, spinal caries seemed a most probable explanation, but I could find no real evidence of its occurrence, and there was very obvious heart disease. Lastly, under suitable treatment the stiff neck disappeared in about ten days.

E. G., female, aged 10. This patient was an example of a class of case which, common enough in adults, is unusual in childhood. This girl had, in addition to arthritis of the ankles, a subacute lumbago, with considerable pain and stiffness over the lumbar region, and in addition a stiff neck. There was no cardiac lesion. Again, under the usual treatment, she made a rapid recovery.

I may add that among my cases I have notes of some very striking examples of lumbago in young children.

My last two cases are very remarkable ones, but I will give them in brief.

J. O'N., male, aged 4 years and 8 months, had an attack of arthritis in the ankles and knees in January, 1901, with much pain in the left shoulder. There was a history of rheumatic fever on the mother's side. In May there was a relapse. Again, in July, he was in bed with multiple arthritis.

When first under observation he was much emaciated, and had severe multiple arthritis resembling in character that described in "Still's disease." Wrists, fingers, knees, and shoulders were all damaged, and his back was stiff. There was some slight enlargement of lymphatic glands in the axillae and groins. The heart was enlarged, but there was no murmur. No treatment was apparently effectual, and his parents removed him.

I felt certain he would die, but a year later a letter brought him to the hospital. He had, after four months more in bed, made a marvellous recovery, and was now running about and going to school. Some thickening and swelling of joints were detectable, and, what is the point of interest here, his cervical spine was fixed, and there was now obvious mitral disease.

In December, 1903, he was walking about, but his heart gave him trouble.

In July, 1904, he had another attack of "rheumatism."

In March, 1905, I saw him for the last time. His neck was swollen and stiff, and his head bowed so that his chin almost touched his chest. All the joints formerly affected were swollen; he had advanced mitral disease and dropsy.

The boy was clearly at death's door, but his parents refused to leave him in the hospital.

Whatever the nature of this remarkable case might have been, I wish again to draw attention to the persistent cervical stiffness and morbus cordis with arthritis.

The last case merits a complete account at some future date, but I append these few facts:

A. H., male, aged 6 years, came first under the care of the surgical side of the hospital, having suffered for fourteen days from pain in the back, and limitation of extension of the cervical spine. As a result of this his head was bent somewhat forward. Four weeks later both legs, but particularly the right, became weak, and both knee-jerks were difficult to obtain. Spinal caries with commencing paraplegia was suspected, and he was put in a Phelps's box. In September, 1908, while in the box, I saw him for what appeared to me an attack of rheumatic fever with multiple arthritis and heart disease, and after repeated examinations I felt doubtful of the presence of spinal caries. A year later he had another attack of what appeared to be rheumatic fever with pericarditis.

Once more I went over the case from the point of view of spinal caries, and came to the conclusion that it had probably not occurred. At this time there had been considerable pain in the shoulders with marked atrophy of the right fingers and hand, with a less degree of the same condition in the left. There was also some wasting of the right leg. Over the upper extremities tactile sensation was diminished. Both hands were blue.

It would seem, then, possible that we have here a smouldering rheumatic inflammation of the cervical fasciae and vertebral joints with a spread of the same process to nerve roots in the neighbourhood.

The outcome of my last observations comes to this: that if we study some of the stiff necks in childhood associated with rheumatic heart disease by the light we may get from studying rheumatic processes in some obvious situation such as the elbow or the knee joints, we may discover that the simulation of spinal caries by this disease may be a more frequent occurrence than we have perhaps imagined, and we may learn something of the clinical history of spondylitis rhizomélique.

This concludes my lecture but does not exhaust my subject, for there is much that is of interest in the study of renal disease and of cerebral disease and disorders of nervous function to be learnt from the study of rheumatism in childhood.

FOUR CASES ILLUSTRATIVE OF CERTAIN POINTS IN PSYCHO-ANALYSIS.

BY

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Although the theoretical side of Freud's work has attracted some attention in this country, the practical possibilities resulting from an application of his principles seem to have been almost entirely neglected. Possibly this may be due to the difficulty and the time so frequently involved in carrying out the process of psycho-analysis; but it does not appear to be realized that the practical use of his principles is often a comparatively easy matter, and of so immense a value, in a large number of "borderland" cases, that nothing else holds out any real hope of relief.

The great fact which he pointed out is that many of the symptoms of hysteria (such as pain or paralysis), and still more the mental symptoms of certain allied conditions (such as the strange phobias of neurasthenia or psychasthenia), are not merely haphazard occurrences, but are produced by emotional ideas, actually and vividly at work, though in some unknown region of the mind. These ideas are, in all cases, the result of some painful impression which, like all other impressions, could for a time be readily recalled to memory, and indeed could only with difficulty be dismissed from consciousness at all. Later, however, sometimes perhaps in the natural course of events, and certainly sometimes by the agency of a determined effort to forget, the memory of the painful event has become blurred, and has finally faded beyond recall.

In certain conditions, which I need not here describe, these forgotten painful impressions remain permanently fixed in that part of the mind which is often called the subconsciousness, though there are, perhaps, serious objections to the use of the term. Yet these hidden ideas never manifest themselves as they really are in all their nakedness to the consciousness of the unfortunate sufferer. They may, for instance, give rise to vague but intense feelings of terror, while the patient remains quite ignorant of the causes of his fear. The "subconsciousness," however, is perfectly aware of what it feels, but merely infects the waking consciousness with a feeling of obscure terror, keeping entirely to itself the secret object of horror.

The first case given below illustrates this characteristic rather well. The patient was a prey to terrible foreboding, but never at all suspected that the cause was a fear that he would die the same appalling death as he had witnessed in his own father.

Again, we may get hysterical pain, which appears to be often a kind of defence-neurosis, the unendurable subconscious mental agony being converted into the more bearable physical suffering.

The particular part of the body attacked by hysterical pain is often decided by some accidental condition in the patient at the moment of the original shock of anguish. Thus, in Cases II and III, the patients were respectively suffering from slight left facial neuralgia and from aching in the left arm at the moment when the blow was struck. Both patients developed hysterical pain, one in the left side of the face, the other in the left arm.

To cure such cases it is, as Freud shows, absolutely essential to discover the submerged idea or ideas which cause the mischief. According to him, when the ideas are discovered, and discussed, the manifestations will cease, the idea dissipate and become harmless, restoration to the memory of the original mental trauma, and the discussion of it with another person, producing what he calls "abreaction," though the actual mechanism by which this process effects a cure is still a matter of dispute, many disagreeing with the theories advanced by Freud.

In Case II this result certainly occurred; but, as I had constantly assured the patient that the pain would vanish if she could tell me everything, I cannot say how much was due to suggestion and how much to "abreaction." At any rate, in Cases I and IV the mere discovery of the original cause of the condition did little or nothing to relieve the patient's condition; but suggestion during hypnosis directed against the ideas, when they were brought to light, produced instant amelioration.

I wish to emphasize particularly the point that (except in Case III, where the cause was known at the first sitting, and where, therefore, suggestion succeeded at once) though hypnotic suggestion had been tried over and over again before the original trauma was laid bare, such suggestions proved of no real effective value whatever, being directed merely to the removal of the symptoms.

Whilst in every one of these cases hypnotic suggestion was employed, it was used with a twofold object—first, to unearth the actual emotional idea which caused the disorder; and, secondly, to remove or counteract that idea when discovered.

The first case occurred many years ago, long before psycho-analysis was recognized, and, being then in general practice, I had no opportunity of making similar experiments.

The patient was an American gentleman, aged 36. He came to me complaining of intense depression and an overwhelming dread of some terrible impending catastrophe. He had suffered in this way for many years, but the depression and terror had increased rapidly for some months before he came to me, and he had strong impulses to suicide. His own medical man had died some six months previously, and perhaps the increased severity of his distress may have been due to the fact that he had not confided his state to any one else, but had kept it entirely secret. He was, I found, readily hypnotized to a slight degree, though not capable of deep hypnosis, and for nearly three weeks I tried giving him suggestions that his dread would vanish. The treatment, however, had no effect; he became, indeed, rather worse than before. He had no idea as to what he apprehended; and I was about to give up the case in despair when I thought that he might possibly tell me the cause of his terror by means of automatic writing. I found that he had on several previous occasions tried planchette writing, so I made him place his hand on a planchette, and asked what frightened him. The planchette wrote, "Father's death." Asked why this event frightened him, he wrote, "Will die same." It appeared that when a child he had witnessed his father's death from pulmonary embolism, and had been most painfully impressed.

Having thus discovered what he subconsciously dreaded, I immediately began making suggestions under hypnosis that it was impossible that he should die in this way, that his heart was absolutely sound, and other statements of the same nature. He began to improve at once, and in less than three weeks there was no trace of his former condition.

The remarkable point is, of course, that the earlier general suggestions of improvement had no effect, but that

suggestions directed against this particular fear were immediately successful. It is worth noting that even when the patient was told what his peculiar foreboding was he could not be brought to believe it, so utterly was it absent from his waking consciousness.

The second case was that of a young lady of 24. For five years she had suffered from pain in the left side of her head, which for eighteen months had been gradually increasing in intensity. When I saw her first, in October, 1909, she was obviously in a state of acute suffering, and was considerably wasted. The pain I concluded to be hysterical, and tried suggestion under hypnosis. She was a fairly good subject, but the result was practically *nil*, for, though during hypnosis I was able to diminish the torment, it returned as fiercely as ever within half an hour of waking. After thirteen trials with similar consequences, I determined to search farther for the actual cause. During hypnosis I told her she would dream of something connected with her illness. On the third subsequent trial she dreamt she saw a glass of water on a table. Her pain was increased when she was roused, so that I felt that probably the dream was intimately concerned with it. On following occasions she had other dreams, and at last she suddenly identified the scenes of these, but resolutely refused to give me any more information. Things remained thus for nearly three months, when, owing to my constant reiteration of the fact that I could do her no good unless she gave me her confidence, she at length told me the following history.

Rather more than five years previously she had been staying with friends in South Africa, and had at first sight fallen violently in love with a young man who was a frequent visitor to their house. Her hopes were suddenly dispelled only ten days after their first meeting by finding that he was already engaged. At the time when she made this discovery she was suffering from slight neuralgia of the left side of the face.

When she had finished her recital, she conversed about her experience, and asked when she should come to see me again, whereupon I told her to let me know how she was in a few days. Three days later she wrote saying that the pain had entirely vanished, and that she was quite well. I have not been able to follow up her case, for she left four months later for South Africa, and I have not heard of her since.

The case conforms completely with Freud's theory, the mere recalling of the fact to the conscious memory and the discussing it with someone else being sufficient to dissipate the emotional idea which formed the core of the mischief. The glass of water appeared as a crucial incident in the story. One day the young man called and asked for a glass of water. He drank it, filled himself a second glass, and drank half of that. After he had gone, the patient, when she was alone, had drunk the remainder. The glass had a key pattern engraved on it, and so had that which appeared in her dreams. The localization of the pain in the face was doubtless caused by the neuralgia, which was present when the blow fell. The continuance of this pain was a defence-neurosis, the mental being converted into physical torture.

The characteristic localization is reproduced exactly in the next case, which in many respects presents identical features.

Miss X., aged 23, was sent to me by Dr. Risien Russell, suffering from hysterical pain in the left arm, which was sufficiently acute to incapacitate her for work of any kind. For thirteen months she had been treated, first in a home, and latterly in a hospital. The pain, she said, had become less severe, but was still fairly acute, and occurred at frequent intervals, both day and night. It had commenced in 1908, and I at once inquired of her mother whether she had had any love disappointment at that time. It transpired that she had, the circumstances being very like those in the previous case. But she had always recollected it keenly, as was natural, the attachment having lasted some years before the man in question had become engaged to another woman. She herself told me a little about her trouble, and I then hypnotized her and suggested that the remembrance should no longer distress her, and that the pain should cease. It vanished immediately, and I saw her on three other occasions during the ensuing week. The pain remained in abeyance, and I fondly hoped that it would never return. But two months later it suddenly revived, and she again came to me. On inquiry I found that the young man had written to her, and that the pain had seized her the same evening. I now had an opportunity of discovering why the suffering chose the left arm as its seat. It appears that one morning she had been cleaning out a large aviary, which labour had made her left arm ache considerably, and that it was at this moment that she received the intelligence which so upset her. The pain was much more intractable than on the first occasion, and I was obliged to see her no fewer than seventeen times before it completely vanished. The interest of this case lies in the localization of the pain, and also in the fact that the prime cause of distress seemed to exist in the conscious memory, so that psycho-analysis by an elaborate method was unnecessary. But it is so curiously like the last case that the comparison of the two seems instructive.

The next case was also sent to me by Dr. Russell, and though not yet completed, is, I think, sufficiently advanced to give as it stands.

Miss X., aged 21, had for some six years suffered from a feeling of dread while in church, and also if alone in the street. The terror in church was just as bad when she had a friend with her as when she was alone, but out of doors the presence of a companion prevented an attack. She had no idea as to why she was afraid, but felt that people were looking at her. Suggestions of improvement made under hypnosis produced no real effect. After trying these for three weeks, I suggested, under hypnosis, that she should remember the original incident which caused the fear. This she could not do, but she became aware that something, she knew not what, had occurred before her first attack, which happened during the singing of a hymn when she was at school. I then suggested that she would recollect it during the day, or during sleep that night. The same afternoon she recovered the incident whilst she was resting. It appears that when a child she had been reading a story book, in which she became completely engrossed. In the course of the story one of the characters suddenly became mad, and was taken off to an asylum. On reading this the child shut the book, in a crushing sense of horror, and, though she spoke of it to no one, she remained terribly distressed for several weeks. The incident had completely faded from her mind, and could be unearthed only by some psycho-analytic method. I found that she frequently dreamt that she had gone mad, and was being seized by attendants to be carried off to an asylum. Clearly, then, what she unconsciously dreaded was the onset of insanity, and her terror was due to the idea that people thought she was going mad, and were ready to hurry her off to imprisonment.

Under hypnosis I at once began to make suggestions to combat this idea, and the result is that for the first time for five years she can now go about alone. I have not yet allowed her to try attending church, but I hope to do so shortly. The improvement was marked even after the first counter suggestion.

Of course, in cases of this kind, there is often, in addition to the actual subconscious fear, a secondary fear lest an attack should come on, which is not subconscious, and which can frequently be eliminated only by actual experience of lasting immunity. That is why I have, so far, forbidden her to try church-going. The points of interest in the case are these: First, suggestions of improvement were of no value whilst directed only against the general feeling of fear. Secondly, the mere recalling of the original shock to her waking memory did not of itself alter her condition. Thirdly, suggestions specifically made against the actual emotional idea when it had been discovered produced immediate improvement.

Cases of the kind described above seem to show the paramount importance of a really accurate diagnosis in many such instances, if we hope to cure them at all. Sometimes, as in the second case, the actual diagnosis and discovery of the hidden cause is sufficient to effect a cure. For other patients suggestion is needed, but is often of use only if directed against the actual morbid subconscious idea. And, as a rule, that idea must be discovered by some process of psycho-analysis, different methods being applicable to different cases. But the time which this treatment takes is often a bar to its use. Thus Freud often consumes more than a year in completing an analysis. The instances given above took only a very short time, and may, I hope, encourage others to apply the same principle to similar cases.

The fourteenth part of the Nyasaland Protectorate's Sleeping Sickness *Diary*, prepared by Dr. A. H. Barclay, Acting Principal Medical Officer of Nyasaland, states that further cases of the disease have been reported. Dr. Sanderson is now building a sleeping sickness camp at Ngani Hill, which is in the centre of the infected district, but is itself fly-free. All the cases are being sent to him, and are being treated with atoxyl. It is hoped to try salvarsan as soon as a suitable supply of the drug can be obtained. The most serious point to note at present, Dr. Barclay thinks, is the occurrence of 3 cases of sleeping sickness on the south-west arm of Lake Nyasa, a district which Dr. Barclay has for some time feared might be infected. He has also heard that the country between Kasankas and Dowa will also provide cases. As there is a continuous belt of fly from Kasankas down to Matope, and as fly appears to be encroaching steadily on new areas, it is feared that further cases may occur towards the south. Dr. Drummond finds that the removal of patients has caused the natives to become suspicious and to hide from him; another sleeping sickness camp is therefore to be built in South Nyasa in a district free from fly. Professor Newstead, of the Liverpool School of Tropical Medicine, has been appointed to the Protectorate for six months in order to study the different species of tsetse flies occurring in these areas.

RETINOSCOPY WITHOUT ATROPINE, AND SOME OBSERVATIONS ON OCULAR HEADACHES.

BY

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A LARGE amount of refraction work has passed through my hands during the last eight years—first as clinical assistant at the Royal London Ophthalmic Hospital, and then at the Glasgow Ophthalmic Institution.

RETINOSCOPY WITHOUT ATROPINE.

I have estimated the refraction by retinoscopy without a mydriatic in 100 young people who came to the Institution on account of eye trouble. Their ages were from 5 to 15 years, and, with a few exceptions, they were hypermetropes. I have again estimated the refraction by retinoscopy after atropine had been used for a week in the ordinary way. At the first examination the patients were urged to look straight into the distance, just past my ear, so that the activity of the accommodation might be in some measure eliminated. This method, without atropine, is a little more difficult in some cases, but not much more so in a good dark room. Young people are apt to look at the operator, and the nimble accommodation may produce a varying condition, but a little watchfulness enables one to find the strongest lens that does not reverse the shadow.

The results obtained I have placed in columns, then observed the differences in each meridian before and after atropine, and these I have placed in a central column. The four figures from each case have been added together, and the result divided by four to obtain the mean, and this I have taken as the amount discovered by atropine.

Before Atropine.	Difference.	After Atropine.
+1.5	1.5	+3
┼ +1	2.0	┼ +3
+1.5	2.5	+4
┼ +1	2.0	┼ +3
	8÷4=2 D.	

The average difference in 100 cases was 1.6 D. In 10 little or no error of refraction was revealed, and in these the differences averaged about 1 D. If these be omitted the average result is a little greater, say 2 D. In 12 cases the atropine brought out 3 D. or more, but these were mostly cases of high hypermetropia. In 16 cases the amount brought out was less than the average.

I have also taken a smaller number of cases of moderate myopia and estimated the refraction before and after atropine in the same way. Here there is less accommodation and, of course, less difference in the retinoscopies. There is a little less myopia under atropine, sometimes a difference of 1 D., sometimes less, but often there is no difference.

There are many cases in which retinoscopy without atropine or other mydriatic greatly facilitates our work. A few years ago I employed this method in some school work in Lanarkshire and at present it is used in the Glasgow Schools. By using the wheel-skiascope of Dr. Wright Thomson and with a teacher and some scholars assisting, it is possible during the school hours of one day to estimate the refractive conditions of 500 children, roughly, but with sufficient accuracy to pronounce the existence of defect and its nature.

Tscherning does not approve of the use of atropine for the determination of refraction, because it brings into use the periphery, the flatter, or non-working part of the cornea, and increases spherical aberration. Astigmatism is largely due to the curvature of the anterior surface of the cornea, and according to the measurements given by Tscherning, it is greatest at the periphery. The periphery of the lens is less refractive than the centre, and so the static refractive conditions of the pupillary area as a whole are variable. An emmetropic eye under the influence of atropine should have full distant vision, but this is not always the case, and a small amount of hypermetropia often gives a disproportionate amount of bad vision under similar circumstances. Again, after the effect of atropine has worn off, I often find that these patients will not take the full amount of *plus* cylinders, and to a less extent, the full amount of *plus* spheres, that the retinoscopy warrants. These considerations seem to support the statement that "the ciliary muscle alone is not responsible for the differences out of and under atropine," and also suggest the probability of error if a patient is fitted with glasses while under the influence of atropine. If I disregard differences of only $\frac{1}{2}$ D., then about 40 per cent. of the patients in the first series had anisometropia. In only two or three cases did the superficial aspect suggest myopia from over-activity or spasm of the accommodation. Astigmatism was present in 69 cases, but in these I have not included amounts of only $\frac{1}{2}$ D.

Donders and Landolt thought the corneal astigmatism was partly counterbalanced by an astigmatism of the lens, the inverse of that of the cornea, and obtained by an unequal contraction of the ciliary muscle. Tscherning thinks it is not necessary to assume that the ciliary acts in this irregular manner. I have looked over my results to find if there is any difference in the amount of astigmatism before and under atropine. The cases being hypermetropes, a certain amount of accommodation would be in action even when looking into the distance. Of the 69 cases, 33 had the same amount before atropine and under it. Twenty-five cases had less astigmatism when out of atropine, and this was mostly due to the horizontal meridian being more refractive in proportion than the vertical meridian out of atropine than under it, the disproportion being in the direction of emmetropia. This looks like lenticular astigmatism, the inverse of the cornea, coming into operation; for the vertical meridian of the cornea is, according to rule, the more refractive; but it is quite likely to be static in its nature, and due to contraction of the pupil eliminating segments of the less refractive periphery. Eleven cases had more astigmatism when out of atropine, and this was mostly due to the vertical meridian being more refractive in proportion than the horizontal when out of atropine, the disproportion being away from emmetropia; that is, with the accommodation unparalysed the astigmatism was greater.

The value of atropine is established, but certain facts should be kept in mind when it is employed.

HEADACHE.

I have tabulated a series of cases of headache sent to us by medical practitioners as likely to be ocular in origin, or of patients who have come of their own accord for the same reason. A few cases have been excluded as not being ocular, otherwise the series is one of 200 consecutive cases of headache.

Ages.—The ages range from 10 to 49 years, with an average of 23 years.

Sex.—177 are females and 23 males.

Occupations.—Over one-half are dressmakers, typists, scholars, clerks, or students.

Locality of Pain.—Forehead, behind the eyes, top of the head and back of the head is about the order of frequency.

Time.—Some had it all day; in some it began in the early morning, and in many it was associated with near work only.

Vision.—68 per cent. had good or fair vision, both eyes $\frac{6}{6}$, $\frac{6}{9}$, or $\frac{6}{12}$; that is, neither eye worse than $\frac{6}{12}$; 19 per cent. had moderately bad vision, $\frac{6}{18}$ or $\frac{6}{24}$; and 13 per cent. had bad vision—$\frac{6}{36}$ or worse—in one or both eyes.

Refraction.—The condition of the eyes was estimated by retinoscopy, after atropine, homatropine and cocaine, or without a mydriatic.

Emmetropia	20 per cent.
Low hypermetropia	24 ,,
Low myopia	9 ,,
Hypermetropic astigmatism ...	20 ,,
Hypermetropia	11 ,,
Myopic astigmatism	7 ,,
Mixed astigmatism	3 ,,
Myopia	3 ,,
Others	3 ,,
	100 per cent.

The low hypermetropes and low myopes were borderland cases with very little departure from the normal, and these with the emmetropes constitute 53 per cent. of the whole. There was evidence of spasm in 8 cases. Anisometropia spread over several groups amounted to 32 per cent. The amount of astigmatism against the rule was 9 per cent. Most of the cases in the emmetropia group had frontal headache brought on by near work, or had disturbance of the muscle balance.

Heterophoria, or latent deviation, as revealed at 6 metres by Maddox rods, or at reading distance by the small tangent scale was:

Esophoria, or convergence	...	37 per cent.
Exophoria, or divergence	...	19 ,,
Hyperphoria, or vertical deviation	...	4 ,,

Disturbance of the muscle balance was therefore present in 60 per cent. of the cases. Less than 1 degree of horizontal deviation has been disregarded. The esophoria varied from 1 to 6 degrees, with an average of 2 degrees. The exophoria varied from 1 to 10 degrees, with an average of 2.5 degrees.

Over 60 per cent. were ordered *plus* spheres, mostly low, and chiefly for near work. About 20 per cent. were ordered cylinders or sphero-cylinders; 5 had prisms and a larger number had the lenses decentred. I seldom find it necessary to correct up to the full extent of the defect, although I find many cases of low myopia require weak *plus* lenses for near work, and this is probably due to the accommodation being feeble.

I have not received reports from all these patients, but quite a large number have returned and reported satisfactory results. Conspicuous features of these figures are the large amount of esophoria and the prescribing of weak *plus* lenses for near work only. Convergence and accommodation being linked functions, sustained use of the latter, with energetic innervation, means the same for the former. Esophoria may be in many cases a negligible quantity, but it may be taken as an indication of the direction in which the source of some of the trouble is to be sought.

We often hear patients say they are free from headache when under the influence of atropine or other mydriatic.

Mr. Doyne[1] says, "Pain at the nape of the neck is perhaps always due to disturbance of muscle balance." Nearly all my cases who complained of pain at the back of the head or neck had disturbance of muscle balance.

Mr. Percy Flemming[2] says, "A very characteristic feature was that the patients waked up with headache." Many of my patients complained of morning headache.

Mr. Doyne also says, "Anisometropia is *facile princeps* the cause of headache," and that "the eyes have an automatic power of fine adjustment over and above that which can be stimulated by the will and that each eye has this independently of the other, and even a little irregular action in compensating a certain amount of astigmatism," and that it is to the exhaustion of this faculty that ocular headaches are mainly due.

I have notes of many cases of anisometropia associated with headache, and also notes of many in which there was no headache; cases in which the difference between the eyes was great and cases in which it was slight. The same observation also applies to astigmatism. Is there anything in the incidence of headache which suggests a preferential basis of etiology? In my series it falls on eyes apparently normal, and it falls on all varieties of abnormal eyes, without much evidence of preference. The cases of anisometropia were mainly found in the following groups: Hypermetropic astigmatism, myopic astigmatism, hypermetropia, and mixed astigmatism. My series of retinoscopies, without and with atropine, is not exactly comparable with my headache series; but it is worth observing that there was 40 per cent. of anisometropia in it and only 32 per cent. in the purely headache series. If anisometropia is conspicuously responsible, it should bear its share relatively to its prevalence. I am disposed to group the emmetropes and what I have called borderland cases and credit this group with the largest share.

My net may have gathered unduly of one type, but I have not made any selection. A great majority of my cases were females, and in this sex certain sensitive nerve conditions are more common. Whatever may be due to error of refraction, inefficient accommodation, disturbance of muscle balance, and their inter-relations, there is behind all this a varying quantity, a background of susceptibility which belongs to the province of the physician or the general medical practitioner.

References.

[1] British Medical Journal, August 13th, 1910. [2] Ibid., January 14th, 1911.

At a meeting of the American Society of Tropical Medicine recently held at New Orleans a movement was started to raise a fund for the endowment of a chairman of tropical diseases in the Tulane Medical College. A sum of over £1,000 has already been collected.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF STATE MEDICINE AND INDUSTRIAL DISEASES.

Professor Alfred Bostock Hill, M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

Gentlemen,—It has been intimated to the Presidents of Sections that they are not expected to deliver anything in the way of a Presidential Address. This, I feel, is a matter of congratulation not only to the Presidents, but to those attending the Section. At the same time there are just two or three matters of interest on which at this Section I propose to make a few remarks.

First of all, I desire to welcome all those attending the Section in this large, and about to be further enlarged, city. It is the hope of every one locally that not only will those attending find matters of interest within the work of the Section, but that they shall carry back pleasurable recollections of other incidents, which should be closely connected with the general work of the meeting.

In looking through the programme one or two facts, I think, strike one at the outset. First of all, that while it is varied, it deals with matters of great importance to those interested at the present time in practical public health work. It might, perhaps, be urged that the subjects down for discussion are those about which much has been heard of late; but, even if this be true, they are still subjects waiting for solution and about which it is impossible to obtain too much information.

The question of tuberculosis, for instance, is, from the public health point of view, in my opinion, the one pressing problem now awaiting solution, and it is by the publicity that can be given by a meeting like this, to all its many and varied aspects, that we can hope best to come to a final conclusion of how the problem may best be met and dealt with.

Another point in connexion with our programme appears to me to point to one very marked fact, and that is the change coming over those within and without the profession in the conception of the work of State medicine. In the early days when as a science State medicine came into being it was essential that its view should be more or less parochial, and that such matters as the association of disease with sanitary conditions should practically engage the major part of the attention of administrators. The proper drainage of the bulk of our communities, the institution of pure water supplies for large areas of the country, the establishment also of infectious hospitals, has now brought us to the position of looking at hygiene as being concerned with greater administrative problems, and this is undoubtedly reflected in the programme of the meeting of this Section, so that what I have before termed "drain-pipe hygiene" practically finds no place in our programme.

Another point of interest, I think, in our conception of hygiene at the present time is that every day we are coming to see that the work of the hygienist is very closely wrapped up in that of the profession generally, and while in the past there has been some danger of undue specialization, at the present time the problems of hygiene are being looked upon as closely associated with all branches of medicine. It is very difficult, in fact, to see where any line of demarcation comes in. Take, for instance, the latest development of hygienic work, the medical inspection of school children. It is obvious that this, if it be effective, can only lead to ameliorative measures being taken to deal with defects found, and there must therefore of necessity be a close association

of the curative and preventive branches of the profession.

One point more and I have done. From all other branches of medicine that of State medicine differs, in that it is essential for its advance that it should go hand in hand with the advance of public opinion, and also that it cannot advance in opposition to public opinion. In matters of medicine and surgery proper, the lay public must always lean on the physician and surgeon, but the preventive health officer cannot advance in his promotion of public health problems until at least educated public opinion is convinced of the necessity of his suggestions, and he is hampered also to a large extent in his work owing to the lack of education in sanitary matters of the general public. As an illustration of this, let me again turn to the question of the medical inspection of school children. The vast importance of this is now generally acknowledged, and yet it has only been in operation in this country for three years; and, important as it is to the welfare of the nation, it was introduced only in a small clause of a bill dealing with administrative provisions of education generally. Yet this in the future bids fair to revolutionize our whole scheme of State hygiene. I look upon it as one of the most important functions of the hygienist at the present time to educate public opinion, and one of the difficulties is to know how this can best be done. I have been struck by a suggestion in the presidential address of Mr. Martin to the Society of Engineers, in which he pleads for the establishment of a "Health Week," during which public opinion can be focussed by every possible means on the importance of pressing public health problems, and not only this, but that special means be taken in schools and elsewhere to supplement the ordinary hygienic teaching and work. He has been in communication with me on the subject for some time past, and I am pleased to know that this matter is making headway. It has been taken up by the Agenda Club, and I have made the suggestion that one of the first steps should be the establishing of a Health Sunday, much in the same way as our Hospital and Lifeboat Sundays are now instituted, where, with the aid of the ministers of all denominations, public opinion can be focussed on what can be done to improve the conditions of existence. I attach the greatest importance to this, because I am convinced that while science is throwing light on many of the dark problems which confront us, we are unable to utilize the means it gives us to increase life and promote health, until the public themselves out of their own acquired knowledge demand that those conditions inimical to their health shall be removed.

DISCUSSION ON THE ADMINISTRATIVE CONTROL OF TUBERCULOSIS.

OPENING PAPERS.

I.—JOHN ROBERTSON, M.D., B.Sc.,
Medical Officer of Health, Birmingham.

NOTIFICATION OF TUBERCULOSIS.

I THINK everybody will recognize that the most important objective in the prevention of any disease is an accurate and speedy method of ascertaining where the disease exists.

Until a very few years ago we thought that the only way in which the compulsory notification of tuberculosis could possibly be accomplished was by adding it to the list (which includes small-pox and typhus fever) of infectious diseases mentioned in the Infectious Disease (Notification) Act. At once we recognized how objectionable this would be from the patient's point of view. Obviously he should not be treated as the small-pox patient when he walked along any public thoroughfare or posted a letter to a friend.

On the other hand, voluntary notification has always been regarded as placing an unfair liability on members of our profession.

In 1903 I got some clauses put in a local bill at Sheffield requiring compulsory notification. My colleagues in the medical profession strongly supported my action. This local enactment definitely excluded the operation of the general law in regard to infectious diseases from applying to tuberculous disease of the lung.

So timid were the Government of the day that the Sheffield clauses unless renewed by Order of the Local Government Board went out of operation at the end of seven years. The clauses worked well, nobody suffered, and there was no difficulty in getting them renewed.

Recently the Local Government Board has found that it has power to make orders which cover all the requirements. The recent Poor Law and Hospitals Orders are examples of what can be done. I am told that another such order can now be made to cover the whole of the cases which are not at present notified. The method appears to me to be one which has much to commend it in its application to the prevention of infectious diseases, for exactly the points required can be met much more easily than by any Act of Parliament. We have to thank Dr. Newsholme and Mr. Burns for this excellent method of dealing with the peculiarities of each of our infectious diseases.

Little or no value can be attached to notification if nothing follows the receipt of a notification. There must be machinery not only for prevention but also for treatment. I think the Local Government Board have acted very wisely in delaying general compulsory notification, because little or no means were in existence for dealing with the patient in the direction of cure or of prevention.

Provided then (*a*) we have machinery for dealing with the notified case, and (*b*) we do not harm the patient by bringing down on him all those restrictions which apply to the small-pox patient, there appears to be a necessity for compulsory notification, not only that our statistics shall be as complete as possible, but that the exceptional patient should not be able to raise an action for damages which he alleges are due to the notification.

There is still one other objection to compulsory notification which used to exist, but which has now gone. I refer to the custom of not telling the patient the true nature of the disease. The doctor must now do this if the patient is to be treated by modern methods. To almost every consumptive when he first comes under treatment a more hopeful and pleasant outlook can be set him than was the case fifteen or twenty years ago. As a result all the work of those of us who deal with preventive medicine is immensely simplified.

Gentlemen, I do not think there is one sound argument against compulsory notification if we guard it as I have mentioned, and I think we can claim that every member of our profession who has had practically to deal with the prevention of this disease recognizes the necessity for compulsory notification of all cases as described.

There is one other practical point I should like to mention. The title of our discussion to-day is "The Administrative Control of Tuberculosis." I feel quite strongly that in the meantime it is only necessary to deal with tuberculosis of the lung. It may be desirable later, when our machinery has been improved, to deal with other cases. Obviously, when other forms of tuberculosis exist, there is necessity for investigation to ascertain the source of the infection, and if possible to provide against this source doing further damage. No town in this country has yet evolved a method of efficiently dealing with cases of lung disease on account of the magnitude of the task. When we can deal with these very infective cases of lung tuberculosis, then we may deal with the others by notification and appropriate methods.

At what stage cases are to be notified may be left for the present to the patient's physician. The physician must have a doubt in many cases in which the disease has not progressed far. It is just these cases that want to be reached, especially among our artisans. We can on the one hand more easily find out the causes in operation in producing the disease when it is taken early. At the same time, it is possible to do more for the patient. The administration must recognize this difficulty, and expect to get many doubtful cases reported.

We frequently hear it said that the good results of the sanatorium or tuberculin treatment are mainly due to errors of diagnosis. My experience leads me to say these doubtful cases are just the cases that repay best the expenditure of public money. Over and over again I have seen these cases develop from the doubtful to the well-marked condition because they were not properly treated.

Good machinery in dealing with tuberculosis is much more important than compulsion in notification in bringing to light cases of the disease. Our experience in Birmingham is an example of this. Every additional method of prevention or cure which has been introduced has increased the number of cases notified. Here the municipality do most for early cases in which there is a chance of complete arrest. At first it was difficult to get early cases; now the number of such cases is considerable. The medical profession is, of course, not to blame for the late notification of cases, for among our artisan classes the patient does not often apply for medical aid till his weakness prevents him working and the disease is far advanced. It is in this group that the dispensary system of Dr. Philip will do much in bringing to light other cases in the same house in an early condition.

The death-rate from phthisis in Birmingham is 1.15 per 1,000 of the population. At present we are having cases notified at the rate of 2,878 new cases per annum—that is, for every 100 deaths there are 438 cases notified.

II.—Arthur Edward Lyster, J.P., M.R.C.S.,

Great Baddow, Chelmsford.

SANATORIUMS.

I am honoured in being chosen to speak on the question of sanatoriums—a most important subject; for sanatoriums must play some part in solving the tuberculosis problem. Now to what extent are sanatoriums to take part in the solution?

Those in authority and occupying high places, both outside and inside the profession, tell us that the sanatorium is the chief solution of the problem, and so much so that the Chancellor of the Exchequer has announced his intention of spending one and a half millions the first year and one million each succeeding year mainly for the provision and maintenance of sanatoriums. I am here to-day not to raise the question of whether sanatoriums shall be built of bricks and mortar, stone, wood, or even marble, because I take it those who know admit that such structures are extravagant and obsolete; nor am I here to discuss the maintenance of sanatoriums, nor the therapeutical treatment of the consumptive, whether by tuberculin or by so-called peptonate of iodine or what not, because, mark you, in spite of the positive opinions so confidently expressed by those who boom such methods, there is yet no remedy, not even tuberculin, that is the cure all for phthisis.

I am going to make a statement—a statement founded on actual fact and experience. It is this—that during close on eleven years I have treated every case of phthisis myself in my own practice. I state that I have not sent for treatment away from their homes during that period a single case of phthisis. I must explain that I have been enabled to do this because I succeeded eleven years ago in designing a shelter made of canvas, in which a sufferer can live in comfort in all seasons and in all weathers. In the tuberculosis problem I advocate that this same simple plan of home treatment should be adopted throughout the length and breadth of the land, and I do so because I speak from actual experience and not from mere theory.

I am speaking here in the presence of medical officers of health and physicians occupying high places, many of whom have never treated a case of phthisis in their lives, and that being the case, though on the one hand they may be authorities on hygiene, and on the other hand sit in their consulting rooms and make accurate diagnoses and suggest treatment, yet having never really treated phthisis (you must pardon me for saying it) are therefore not in a position of authority to tell us what is the right thing to do. I come here to-day to tell those in authority, both inside and outside the profession, that instead of the establishment of sanatoriums being the chief solution of the problem, sanatoriums should occupy quite a subsidiary place in that solution.

What is sanatorium treatment? It is simply exposure of the consumptive to Nature's own cures of light and air, rest, good feeding, and graduated exercise, and thus bringing back the sufferer to good health and giving him the power to resist the disease. It is practically nothing else. I have no hesitation in laying it down as absolutely correct that it is quite easy to carry out this treatment in the homes of at least four-fifths of those affected, and that this can be done by simply providing a habitable shelter, such as my canvas one. The general practitioner has but to learn that the treatment and care of the consumptive is a simple process (and he will learn it before very long), and then what is he going to do? He is certainly not going to send his cases to sanatoriums, but he will keep his cases under his own care and treatment, and instead of the sufferer and his friends being impoverished by paying sanatorium fees, the general practitioner will get the fees for attending his own cases.

My view—and it has been forced on me by eleven years' experience—my view is that the utility of the sanatorium is grossly exaggerated, and that the sanatorium is not the solution of the problem. I do not believe the statistics published by sanatoriums, but I do believe and do know these statistics are unreliable and misleading. Their cases are selected. Any system, whether it be sanatorium or whether it be therapeutical—and I include the system of treatment by tuberculin—that relies on selected cases and refuses treatment of cases in acute and advancing and advanced stages when infection is greatest—such system is useless in solving the problem.

I may appear to be in a somewhat anomalous position in that I advocate with all my power home treatment as well as being a sanatorium keeper. But I keep sanatoriums for two reasons. First, to teach my professional brethren this most simple method of home treatment; and, secondly, I keep sanatoriums for the accommodation of those sufferers who have no facilities in the nature of a garden or backyard in which to be treated at home. And though sanatoriums are essential for this class of case, it must be quite obvious that the number is small indeed compared with those who can and ought to be treated in their own gardens and fields; and please take notice that, though I have thirty-six beds in my sanatorium always full, not one of these beds is occupied by patients in my own private practice, because I treat all my cases arising in my own practice in their own gardens in my canvas shelters.

To those whom I am addressing who are medical officers of health the first care must be, not the curing of the individual who has the disease—this is not in your province—so much as it is to prevent those who are well from getting the disease, and with this object in view, phthisis being an infectious disease, your duty is to deal with it as an infectious disease. Surely there can be no more simple way of doing so than by isolating the sufferer in a habitable shelter in his own garden, nursed and tended by those who are near and dear to him, for once he is removed from inside his house and his sputum destroyed, the sufferer is no longer a danger to others.

We must bear in mind that while we are practising a form of isolation for the sufferer we are giving him a chance of being cured, and both processes are going on side by side at a fraction of the cost it must entail by sending sufferers to sanatoriums. We must also bear in mind that this system of isolation is a pleasant one for the sufferer; he is merely taken out of his house where he is a danger and placed in his garden where he is no longer a danger. He is not banished from society and his friends; on the contrary, he is at home and looked after by those who are near and dear to him, and who run no risk while the sufferer is in the shelter. A system of treatment and isolation such as this is both efficient and economical. On this system ten cases can be treated at home at the same cost as against one case treated at a sanatorium.

The scheme I suggest for solving the tuberculosis problem, the problem of its eradication, is that first there must be compulsory notification. Then that a habitable shelter shall be provided for those sufferers who have sufficient garden or even backyard space. Do that first before thinking about providing sanatoriums, and I am sure it will be found even in towns and cities that a very large proportion can be isolated and treated in this manner, and certainly almost entirely every case in rural districts.

When all these cases have been eliminated, then something must be done for those who have no garden space. How are you going to deal with these? I have here again a plan instead of the sanatorium. To provide sanatoriums will cost at least £75 per bed, and to maintain each bed another £75 per annum, making £150 per bed for the first year and £75 per bed for each succeeding year. Now, instead of providing sanatoriums, I suggest that every sanitary authority, or, if there is

to be a National Tuberculosis Committee with local advisory committees, that such be empowered to purchase, at a reasonable rate, land in the vicinity of a town or just outside—say, for example, one acre. That on this land shall be built one or more cottages, according to the number of cases; that a small garden be allotted to each cottage; and that a shelter be placed in that small garden; the total cost of the land, cottage, and shelter in the garden not to exceed £100. That the sufferer and his family be removed from their present unsuitable habitation to this cottage and garden, the sufferer to live in the shelter—this is essential—and the remainder of the family to occupy the cottage, and the sufferer to be nursed and tended by his family. That this cottage and shelter be granted rent free to the sufferer and his family. Further, that an allowance be given according to the circumstances of the sufferer—anything, say, from 5s. per week to 15s. per week. In some instances it will be found the sufferer is in a club, and so the allowance would be the less, and in many cases no allowance will be necessary at all.

These houses and land of this housing scheme will be the property of the local sanitary authority, and will be used only by families a member or members of whom are sufferers, and as soon as the patient is declared free of the disease, or is dead, it will be vacated, and ready to be occupied should a fresh family become afflicted with the disease.

What will the afflicted working man say to this plan? Why, he will jump at it—a cottage rent free, and so much per week, and his home not broken up. Will he refuse it? No. Moreover, I would not allow him to refuse it. Being an infected person, he must be taken care of in order that he infects no others.

Cost of sanatorium, first year	£150	
Cost of housing scheme, first year		£100
Add money grant, say averaging 10s. per week ...		£26
		£126

Housing plan £126 as against £150 sanatorium for first year.

Cost of maintaining sanatorium per case each succeeding year	£75
Cost of money grants to housing scheme per case each succeeding year averaging 10s. per week	£26

By this plan will be saved about £25 the first year and about £50 each succeeding year per case, and the cottage and the land is still there and the property of the sanitary authority, and the sufferer is all the time at home and with his friends.

It is doubtful whether this housing scheme will be applicable to densely populated areas, but it is applicable to small towns, and even to towns of considerable size. It will still be found that there is a small proportion of cases to whom even this plan cannot apply—for instance, an individual who is alone in the world, perhaps a lodger with no one to look after him or her. Well, for this person you must have a sanatorium, but the number will be found to be very small. and consequently the sanatorium accommodation required will be correspondingly small. In conclusion, where you must have sanatoriums build them on the shelter system. I will guarantee that £75 per bed is an outside cost if built on my shelter system.

III.—R. W. PHILIP, M.D., F.R.C.P.E.,

Physician to the Royal Infirmary and Royal Victoria Consumption Hospital, Edinburgh.

THE TUBERCULOSIS DISPENSARY.

IN the limited time available for the discussion of the tuberculosis dispensary, two aspects of the subject seem especially worthy of consideration—namely, (1) the need for a special institution, the tuberculosis dispensary, and (2) the methods of the tuberculosis dispensary.

I. *The Need for the Tuberculosis Dispensary.*

Tuberculosis is a complex subject. The issues involved are many and far-reaching. There is no other disease with such extensive ramification throughout the community, or such morbific influence. If the eradication of tuberculosis is to be achieved it can only be by an alteration and enlargement of the outlook hitherto taken in preventive medicine.

Tuberculosis is an infective disease. No fact in medical science is more definite than the causal relationship of the tubercle bacillus to the varying manifestations of tuberculosis. Sporadic utterances, critical of this view, need not be taken seriously. But tuberculosis differs from other infective processes in many ways. The conditions of infection and the limits of infectivity are different. Hence, while the disease must be handled on the same general principles which have been successfully applied to other infective disorders, even a superficial survey makes it manifest that preventive measures must be modified and adapted to tuberculosis. The more closely tuberculosis is studied clinically and pathologically the more this view is emphasized. A distinction must be made between cases with an infective discharge, so-called "open" tuberculosis, and cases in which no discharge is present, so-called "closed" tuberculosis. It must be borne in mind that the "closed" case of to-day may become the "open" case to-morrow. We must distinguish tuberculosis as it occurs in the individual, who, by reason of residence or occupation, comes into close contact with his fellows, and tuberculosis as it occurs in individuals who lead a relatively isolated life. It may be necessary, in the interests of a man's household or fellow workers, to isolate the former, while it is manifestly impossible, as it is fortunately unnecessary, to segregate all tuberculized persons.

Tuberculosis is an endemic disease. When it enters a home it tends to linger. This may be because of direct spread from person to person. But there can be no doubt that the house itself becomes the seat and source of infection. The mass of statistics accumulated in Edinburgh during the twenty-four years' activity of the tuberculosis dispensary, demonstrate that there exist single houses and groups of houses which are suitably described as "tuberculous nests." I might cite many examples but content myself with two. In one short street of modern working men's houses of three stories, while every house has yielded at least one case—sometimes two, three, and four cases—of tuberculosis, one house has afforded as many as seventeen. The other diagram represents a considerable group of houses clumped together in the older part of Edinburgh. The frequent recurrence of tuberculosis in several of these is remarkable. The houses are in considerable part placed back to back, and several of the streets terminate in a cul-de-sac.

Tuberculosis is most protean in clinical manifestation. With the exception of syphilis there is no disease so variable. No two cases are the same in duration or clinical course. There are cases which terminate fatally within eight or ten weeks. There are cases, on the other hand, which last twenty or forty years without great disturbance. Between these extremes there is an infinite variety. There are cases in which during the whole illness the disease is localized, and the patient presents little evidence of systemic involvement, and there are cases where from the first the systemic intoxication is great, where the patient may die without any localizing symptoms or signs.

Tuberculous infection is commonly slow, advancing gradually from point to point. For successful inoculation repeated exposure is generally necessary. The soil must be suitable. If the soil be not suitable the development of the seed is uncertain. The tuberculous seedling is readily uprooted it need not develop into the full-grown tree. Yet evolution of the seedling to the full-grown tree is of common occurrence. The tuberculosis of the adult is in largest part the developed tuberculosis of the child.

Tuberculosis is more frequent and its mortality larger than is usually stated. The more carefully we examine patients presenting themselves at hospital with every variety of complaint, the more does the frequency of tuberculosis become apparent. It was the recognition of this which led me to institute at the tuberculosis dispensary what I have termed the "march past" of infected households. The facts determined by such systematic examination are most striking. It is not uncommon to discover half a dozen cases of tuberculosis in the same family connexion. In the first instance no fewer than 9 cases were determined as the result of the initial visit of one patient, and in the second no fewer than 14. Keep in view that for the most part these are

cases that in the ordinary course would not have been discovered at all.

As to its frequent incidence in children there can be no doubt, notwithstanding contrary statements of medical inspectors of school children. My own observations some years ago went to show that at least 30 per cent. of school children in Edinburgh presented evidence of tuberculosis. More recently these results have received remarkable corroboration from Continental observers. The majority of persons are tuberculized in childhood. If this view be true, it is a fact of immense significance. It will not do to suggest that the infection is so mild that it may be discounted, for the infection tends to spread insidiously. Although numerous cases abort or become dormant, it is not easy to say which cases will take this favourable course. It must be kept in mind that minor degrees of infection are potentially of no less importance than pronounced cases. Watchful care is needed so that arrest may be effected at the beginning, and the cause of infection removed.

The mortality of tuberculosis is insufficiently stated by the tables of the Registrar-General. Numerous deaths at present attributed to pneumonia, bronchitis, pleurisy, influenza, and other diseases, should be credited to tuberculosis. Apart from directly fatal issue, tuberculosis plays a considerable rôle as a devitalizing agent, making its subject more liable to certain other infections and rendering the course of such diseases more serious. The high mortality traceable to measles and whooping-cough is commonly due to the presence of a pre-existent tuberculosis. The tuberculosis aggravates the course of the acute fever, and, in turn, the acute fever renders active a dormant tuberculosis. This great devitalizing influence has not yet been sufficiently emphasized.

Such considerations constitute a strong plea for a thoughtful readjustment of the scheme of preventive measures, so as to adapt them to the varying issues presented by tuberculosis. They form the *raison d'être* of the tuberculosis dispensary.

II. *The Methods of the Tuberculosis Dispensary.*

The great purpose of the tuberculosis dispensary is that there shall be no case of tuberculosis undetected and uncared for. It constitutes a central institution which has responsible interest in tuberculous disease occurring among the poorer classes, which gives and receives information regarding its prevention and treatment, and which concerns itself in practical fashion with the discovery of tuberculosis with a view to its eradication. Towards this end tuberculosis must be determined at the earliest possible moment. Its great frequency warrants an attitude of scientific suspicion in relation to vague conditions of delicacy. Tuberculosis must be sought for. We must not wait until the patient with full-blown disease presents himself for examination.

On this account we must get to the home—the breeding ground of tuberculosis—and on the spot study the environment, with a view to discover the conditions which produce and maintain disease. By getting to the home we reach the household, and can attain, either within the home or by invitation to the tuberculosis dispensary, a complete "march past" of the members of the family, the "march past" implying a thorough medical examination by one of the doctors, with a view to detect other cases, more particularly minor degrees of tuberculosis.

The varying types of case thus discovered must be classified with a view to satisfactory treatment, and must be distributed suitably amongst the various institutions which are available. It will be found that the majority of cases can be quite well treated at home; indeed this is one of the most hopeful and satisfactory portions of dispensary activity. By treatment at home, even in the contracted dwellings of the poor, much can be effected towards the arrest of the disease, and still more can be done to educate the people how to prevent its occurrence.

Look for a moment or two at the tuberculosis dispensary in action.

1. The dispensary constitutes a great information bureau towards which are directed not only patients and patients' friends, but inquirers of many kinds with regard to tuberculosis. Through such inquiries and the systematic distribution of leaflets, knowledge regarding the disease is spread widely.

2. The dispensary is a receiving house for patients among the poorer classes suffering from tuberculosis and allied conditions. They are directed thither by their doctors, hospitals, and other medical institutions, health visitors, employers, clergymen, etc. Care is taken that no patient who is under the treatment of a medical man is received save at his request, or with his concurrence. A special letter is addressed to doctors who may have been concerned with the treatment of such patients.

3. The tuberculosis dispensary comes to be the centre of diagnosis and direction for such cases. In so far as diagnosis alone is at issue, the dispensary is much taken advantage of by medical men. Early diagnosis is made a special study. For many patients it remains the centre of treatment and guidance throughout. The vast majority of tuberculous patients require to live at home, continuing their several activities. It is a huge mistake to give, to the affected person or to the public, the notion that such persons for the most part may not continue their duties. They do not require institutional treatment, they are fit to work, and they are not lepers. For these persons the dispensary is of the greatest service. They are trained in special hygiene by doctors and nurses. Observations are made from week to week, or oftener if necessary, as to progress, both general and local. The home is visited and, where necessary, reformed. Individual patients are treated with care. Those for whom tuberculin is desirable receive it as often and for so long a period as may be requisite. They come to realize that the tuberculosis dispensary affords them treatment and guidance on the most modern lines. They are thus saved physically and financially from the snares constantly placed before the chronic sufferer by noisy quacks and vendors of patent nostrums. In the case of housewives, who are unfit physically and too poor to obtain other help, provision is made for the cleaning of the home, and, if necessary, for the household washing, by means of charwomen specially retained for the purpose—women who have themselves been patients under the care of the dispensary, and who are therefore trained in hygienic methods—apostles of the faith who, because they belong to the same class, afford special help.

The household is taken in hand as well as the house, and by means of the "march past" further cases of tuberculosis are quickly discovered and placed likewise under treatment.

4. The tuberculosis dispensary constitutes a "clearing house" for such tuberculous patients as require institutional treatment. It assorts and distributes the cases, either to the sanatorium in the incipient stages, or to the hospital for advanced cases, or, it may be, to the farm colony. The specialized knowledge and experience of the dispensary officers secures that the selection and distribution will be effected on sound lines.

5. The tuberculosis dispensary becomes the developmental centre of other agencies, which from time to time will be required for the care of patients—for example, sanatoriums, hospitals, day camps, farm colonies. etc.; and, when those are established, the dispensary remains the connecting link between the several factors in a *co-ordinated scheme*. In this way the life-history of the tuberculous patient can be followed from point to point, and the result of treatment satisfactorily gauged and recorded.

6. The tuberculosis dispensary, if properly worked, becomes a great storehouse of facts and statistics regarding the distribution and characters of tuberculosis within the district which it serves. By means of its case-sheets and schedules of inquiry regarding the patient and his environment, facts and statistics of enormous value to the community are collected. By means of the card index with reference to these schedules, a complete directory of tuberculosis is gradually brought into being.

The tuberculosis dispensary, when thus constituted, is a much more elaborate institution than the out-patient department of a consumption or other hospital. Out-patient departments effect much excellent work, but their outlook is generally limited to the treatment of the individual. Little attention is given to the wider aspects of tuberculosis. The methods of the out-patient departments—whether of general or chest hospitals—need great revision if they are to retain a place in the fighting line against tuberculosis. With long experience in the erection and development of the tuberculosis dispensary I am clearly of

opinion that it is far better, in the interest of the anti-tuberculosis campaign, that the dispensary should, when possible, be constituted as a separate institution. The attempt to link them to existing general hospitals is, I believe, likely to lead to failure and disappointment. The issues involved in tuberculosis are far too serious to justify our leaving it to the haphazard handling it has had in the past. We want men to take up tuberculosis as a special study worthy of closest thought and highest effort. The more they study it the more they will find to study, and the more fascinating the study will become. There are few departments of medicine which will so certainly produce and maintain largeness of vision and breadth of thought.

The tuberculosis dispensary should be in close relationship with the public health authority. As we have seen, the dispensary is for many patients, and for long periods the centre of treatment and medical direction. The dispensary overtakes an important part of public health work. At the same time the ground it covers is a specialized department, requiring for successful results exact clinical training and much experience. It is desirable, therefore, that the dispensary be officered by men who are devoting themselves particularly to clinical work. There is great risk in allowing the dispensary to be merely part of the office of the medical officer of health. The more purely official the dispensary becomes, the less successful are its operations likely to be. On the other hand, the medical officer of health should have fullest access to the accumulating records and the great store of facts and statistics regarding patients and their homes.

In places where compulsory notification has not been instituted the tuberculosis dispensary serves as an automatic centre of notification. By coming to the dispensary patients really notify themselves. This is the more important because the class of patients concerned is just the class who are apt to be missed, and likewise the class through whom especially the disease is maintained and propagated. Where compulsory notification exists, one of the practical difficulties is to attain notification of cases at a sufficiently early date when prevention and therapeutic measures might prove effective. Here the significance of the tuberculosis dispensary becomes especially evident. I find that in each of the years succeeding the introduction of compulsory notification in Edinburgh more than 50 per cent. of all cases notified to the public health authority were notified through the dispensary. If the dispensary with its systematic organization for hunting down the tubercle bacillus did not exist, the returns from compulsory notification would be correspondingly defective and misleading. The introduction of notification does not remove the need for the tuberculosis dispensary.

I have already indicated how the tuberculosis dispensary will form, in any complete system, the connecting link of the several elements. Beyond this the dispensary will have close relations with the Charity Organization Society, and with charitable and other institutions, for the double purpose of giving advice regarding patients and of directing suitable cases to such institutions. The tuberculosis dispensary should be in closest touch with all agencies which can contribute in any way towards the relief or treatment of the tuberculous poor.

The Cost.

The cost is relatively small. The actual outlay depends on the degree of elaboration which is thought necessary. Suitable accommodation and a sufficient staff and other requirements can readily be met by such a sum as £750 per annum, for a centre with, say, a population of 300,000. The amount can be readily met from voluntary or public sources. The advantages to the community are incalculable, and out of all proportion to the expenditure.

What as to Results?

Of immediate results the most striking is the remarkable change in the character of case presenting itself for tteatment. It has been my pleasant experience to note, during twenty-four years' activity of the Victoria Dispensary, an entire change in the type of case coming for a first visit. While, formerly, it was an everyday occurrence to receive pronounced and even dying cases of phthisis, such cases have practically ceased to exist. The public have been educated to seek advice earlier in the day. The gain to the community in this direction is very great.

As to ultimate results it is less easy to speak. I confess I hesitated to speak for a good many years. It is difficult to be certain that we are tracing reduction of mortality to its proper source. But careful comparison of the mortality curves in large centres of population, both in this country and abroad, have led me to conclude that the effect of the co-ordinated antituberculosis system, with the dispensary as centre, is now definitely registered in the mortality tables. Some three years ago, at the Washington International Congress, I compared two curves showing the tuberculosis death-rate respectively in London and in Edinburgh during twenty years from 1887–1906. These showed that while during the first ten years the curves were remarkably similar, with a slight advantage in favour of Edinburgh, during the second ten years, there was a drop in the mortality of Edinburgh of 42.1 per cent., as against 17.6 per cent. in London. It might be supposed that these were merely fortuitous citations unusually favourable to Edinburgh, but succeeding years have served to emphasize the point. I show you the mortality curve of Edinburgh during twenty years, from 1891-1910, in which the same remarkable fall is recorded. This is not a question of want of correction. The inclusion of institutional deaths (shown by the red line) does not affect the result materially. This other curve, which presents the mortality of Edinburgh as compared with the mean mortality during the same period for Scotland, yields the interesting fact that while the Edinburgh curve kept during ten years consistently above the mean for Scotland, about nine years ago the Edinburgh curve dropped below that for Scotland generally, and has remained below it ever since.

The fifty-ninth annual report of the Registrar-General for Scotland (1910) draws attention to the remarkable fact:

> The Edinburgh death-rate from phthisis in 1910 (says the report) is found to be 46.4 per cent. less than in 1901; in Leith, 45.3 per cent. less; in Glasgow, 34.1 per cent. less; in Paisley, 33.7 per cent. less; in Aberdeen, 32.4 per cent. less; in Greenock, 19.6 per cent. less; and in Dundee, 11.6 per cent. less.

These are suggestive records. Had time permitted, I should have wished to dwell on other numerous points.

The possibilities of the dispensary as an instrument of preventive medicine are very great. Their value is best appreciated by those who have watched its activities. If the significance of a method or institution may be measured by the degree of its adoption and spread, that of the tuberculosis dispensary is attested beyond doubt. Tuberculosis dispensaries have arisen in great numbers within recent years in Belgium, France, Germany, and other European countries, and in America, Canada, South America, South Africa, the West Indies, and other lands. England has been slower to take up the idea, but things are now moving quickly. The establishment of tuberculosis dispensaries in the several boroughs of London within the last two years is of special significance. The extension of the tuberculosis dispensary throughout Great Britain and Ireland is, I believe, merely a matter of time.

IV.—WILLIAM CAMAC WILKINSON, M.D., F.R.C.P.

TUBERCULOSIS AND TUBERCULIN.

THE Edinburgh scheme reminds me of those prospectuses of companies which inundate us and are consigned to the waste-paper basket. They seem very attractive and promise every blessing, and possess but one flaw—a little matter of finance.

Let us reduce this scheme to bed-rock facts and actual figures. First, the scheme is a means of dealing with consumption among the poor. Birmingham has a population of half a million. There are at least 1,000 deaths every year in this city. The number of poor people afflicted with the disease in various stages is at least 5,000. Now, the problem is, How can we best bring relief to these 5,000 sufferers? First, hospitals for advanced cases of consumption are a primary and absolute necessity. Birmingham needs at least 200 beds for the reception of these advanced cases. The cost for buildings amounts to about £40,000; the cost of administration to not less than £15,000 a year. It is of far greater importance to urge the erection of these hospitals than to waste money upon sanatoriums. We all allow the

supreme importance of such hospitals, either as special hospitals or as special wards in general hospitals for segregating the hopeless cases, which can be housed and fed and comforted, and at the same time these victims cease to be a danger to their friends and relatives. On this point we are all agreed, and to come to business let us pass a resolution to this effect, asking the municipality of Birmingham to spend £40,000 upon such a hospital and provide £15,000 for maintenance, the municipality to also undertake, through its medical officers of health, inspection of the homes, with a view to improving the conditions of the poor, and provide means for disinfecting rooms and houses in which persons in the third stage of the disease have lived for some time. All this work can be undertaken by the municipality long before they think of spending a single penny upon a sanatorium. I presume that Dr. Philip agrees with me in this respect. When the municipality has spent all this money we must suppose that it has fulfilled its duty.

The rest of the scheme brings us to our essential and radical differences. Dr. Philip claims that treatment of the early cases of tuberculosis can be undertaken at sanatoriums, forgetting meanwhile that the experience of Germany offers us no great encouragement. Let us see what sanatoriums can do for the 5,000 cases that need treatment in the city of Birmingham. Think of the cost of dealing with 10 per cent. of these cases—say, 500 cases out of the multitude of 5,000. The outlay upon buildings for housing 500 cases a year amounts to at least £50,000. Administration involves a further outlay of £15,000 a year at least. We have no experience of the value of sanatorium treatment among the poorer classes in England; we can only refer to the experience of Germany, especially the experience of Dr. Weicker, who tells us that of all the cases of this class treated at sanatoriums, at the end of four years 80 per cent. are either dead or unfit to work. Think of that! At the end of four years, out of the 500 cases treated, 400 cases are either dead or unfit to work. Even considering the results in cases in the first stage of the disease, more than half are dead at the end of five years. This, then, is the net result of treating 10 per cent. of the sufferers at the enormous cost of £15,000 a year, leaving out of the question the £40,000 spent upon the buildings.

Now let us see what the system promises which I advocate on the evidence of a long, laborious, and careful investigation for nearly fifteen years. I believe that I can prove by evidence that would be accepted in any open court of law that tuberculin dispensaries offer not only the best but the only means of satisfactorily dealing with the problem of tuberculosis among the poor. In my opinion the system to succeed is the system that provides the greatest good for the greatest number. There are 5,000 cases in Birmingham urgently needing help, and there is no other way to help this multitude than through tuberculin dispensaries. The tuberculin dispensary is simple, cheap, effective, and comprehensive. It is so cheap that at an outlay of £15,000 a year, which is required for sanatoriums that can deal only with 10 per cent. of the sufferers, expended upon tuberculin dispensaries would be more than sufficient to provide the best form of treatment for every victim of the disease. Indeed, when the victims have been treated, there will still remain £5,000, which might well be spent upon actual improvements of the homes and surroundings of the poor people themselves.

I admit that my scheme bases its success essentially upon the value of tuberculin as a cure of tuberculosis. I am ready to prove before any body of experts that even in advanced cases, and complicated tuberculosis of the lungs, tuberculin can do far more than the best sanatorium treatment. If tuberculin succeeds in this striking way in late and difficult cases, *a fortiori* it will succeed in the early and mild cases. For the last fifteen years I have been treating pulmonary tuberculosis in all its stages, not by means of sanatoriums, but exclusively by means of tuberculin. I have published my results, and I challenge any one working with sanatorium methods alone, to show results approaching mine.

Again, it is a question of evidence, and I am ready to submit the evidence in favour of my system to any impartial tribunal. Of all observers upon the results of tuberculin treatment, I may claim to be the only one who has carefully excluded disturbing factors in working out the problem. I have not used sanatoriums. I have not made a superstition of open windows, nor have I insisted upon any particular sort of food. Nevertheless, my results are open to inspection, and the results which I published in the British Medical Journal, November 26th, 1910, p. 1705, in the worst forms of laryngeal tuberculosis, justifies my confidence in the treatment. Yet, within the last few days, we have had a manifesto signed by Sir Clifford Allbutt and others, stating that:

> The success of the so-called tuberculin dispensaries rests largely on the fact that Class I and Class II are chiefly treated at them. A further part of their success is due to the many instances in which the diagnosis of the presence of active disease is faulty, with the result that many persons are treated with tuberculin and labelled as cures in whom the disease has previously been arrested.

This is the indictment, unsupported by evidence, levelled against this newest and best system yet evolved, by the scholastic philosophers of the medical profession. I am bold enough to appeal to public opinion on a matter which vitally concerns the deepest interests of suffering humanity. It is well known that Sir Clifford Allbutt, Sir Lauder Brunton, and Sir William Osler have no experience of their own which justifies them in making this attack upon a system which has come to stay, and has already excited more discussion and more interest than any system that has yet been brought into public prominence.

Not only can I prove by actual facts the enormous benefit derived by those who have had treatment at the dispensary, but I am able to prove also that the cost of treatment alone need not be greater than £1 to 30s. for each case, provided we can obtain a sufficient number of medical men to treat the cases as cases of the indigent class are treated at hospitals. If this is asking too much and medical men must be paid for their services, I do not see any reason why the treatment of each case should cost more than £3. Even so, we would be able, for £15,000 a year, to treat all the cases suffering from pulmonary tuberculosis in this city. By Dr. Philip's scheme we should be able to treat only 10 per cent. of the sufferers, and the individual results would not be as good as the results of my method. It is because the cost of sanatoriums and the transient nature of sanatorium results have to be faced and recognized, that I have felt it my duty to urge a system which is based not merely upon empiricism, but upon the investigations of science. It is grossly unfair to prejudge and misjudge this system of treatment.

DISCUSSION.

Dr. Charles Killick Millard (M.O.H., Leicester) said he had recently been deputed by the Corporation of Leicester to visit existing tuberculosis dispensaries and collect information and present a report. This he had done, and the result was that the Corporation of Leicester had just decided by a unanimous vote to start a municipal tuberculosis dispensary. As a result of his inquiries he was satisfied that there was nothing antagonistic between sanatorium treatment and tuberculosis dispensaries or tuberculin dispensaries. He believed that tuberculin had a great future before it, and if further experience justified present hopes it followed that tuberculin would be used in every dispensary and sanatorium. Also there could be no doubt that a certain number of beds in a sanatorium were of very great assistance to any tuberculosis dispensary. It was often a great advantage to be able to send cases of consumption to a sanatorium to begin tuberculin treatment there, and to learn to live the open-air life. He wished to pay a tribute both to Dr. Philip and to Dr. Camac Wilkinson for their services in bringing their respective schemes before the public. He felt obliged to differ from Dr. Philip as to the tuberculosis dispensary being worked as a voluntary effort. The tendency of the time was for the care of consumptives to be placed more and more upon the community, and he thought that the balance of advantage was in favour of municipal action. The Health Department, guided by the medical officer of health, was necessarily the centre of all effort for the prevention of disease, and he thought it was a mistake to put the dispensary under separate control.

Sir William J. Thompson (Registrar-General for Ireland) stated that the death-rate from tuberculosis in Ireland

had fallen from 2.7 in 1907 to 2.3 per 1,000 in 1910. This meant 1,663 fewer deaths from consumption, or an average of 32 deaths fewer per week. The tuberculosis death-rate in Dublin had fallen from 4.6 to 3.7 in the same time. This had been brought about mainly by the work of the Women's National Health Association, started and presided over by Her Excellency the Countess of Aberdeen, assisted by the different local bodies and the medical officers of health. In Dublin four years ago, instead of a tuberculosis dispensary which there was a difficulty then in starting, a committee was formed, consisting of one representative from each of the ten clinical hospitals, four from the Poor Law medical service, the medical superintendent officer of health, and the medical inspector of the Local Government Board. Three nurses were placed at the disposal of the committee by the Women's National Health Association. These nurses visited the homes of the patients (who were voluntarily notified from the hospitals), and taught the families what to do as regards hygiene, cleanliness, food, etc. In cases of poverty a Samaritan Committee came to the rescue; food, clothes, rent, etc., were provided where necessary; some cases were sent to sanatoriums and others to homes for the dying. This committee had done good work, and now the association had been able to open a dispensary. The results of this home treatment were encouraging; as large a proportion as 36 per cent. of the patients showed improvement, although a great number came under observation in advanced stages. A most important work of the Women's National Health Association is the "after-care of patients" who have been already at sanatoriums. The association felt that patients very soon lost what they had gained at the sanatorium if they were allowed to go back to the wretched surroundings, but if these patients were encouraged and helped to carry out the sanatorium treatment at home it would put them over that dangerous stage between being discharged and able to take up full work. The association felt that there was no difficulty in getting these patients to do so; whereas there was a difficulty in getting patients to do this so to speak *de novo*. This branch of the work had been most encouraging, and would doubtless add to the value of sanatorium treatment.

Dr. HALLIDAY GIBSON SUTHERLAND (Medical Officer, St. Marylebone Antituberculosis Dispensary) said that tuberculin was used in the tuberculosis dispensaries both as a diagnostic and therapeutic agent. It was used in selected cases, as indeed it had been in Germany and all over the world, but it should not be divorced from general and medicinal treatment. There was no specific for tuberculosis. Tuberculin dispensaries were first started in Germany by Professor Petruschky. Dr. Wilkinson had fearlessly and almost formidably referred to his book, with 100 per cent. of cures in Stage I. Dr. Wilkinson and his school regarded the tuberculin reaction as specific, but this was a mistake. It had been absolutely proved that the reaction occurred in typhoid fever, measles, pneumonia, and syphilis. Further, 70 per cent. even of a healthy German cavalry regiment reacted to tuberculin. If they had gone to Dr. Wilkinson, no doubt they would have added to his list of cures. It was a great mistake to divorce tuberculin from other forms of treatment.

Dr. ROBERT MURRAY LESLIE (London) said that all would agree with Dr. Philip in regard to the paramount importance of domiciliary visitation in the prevention of tuberculosis, and valuable work in this connexion was being done in the rural districts by the caravan crusade against tuberculosis carried out during recent years by the Women's National Health Association of Ireland and the Women's Imperial Health Association of Great Britain. As regards antituberculosis dispensaries, he thought it would be an advantage if the term "dispensaries" was changed to "stations," since confusion was apt to arise in the mind of the layman, who in England associated the word "dispensary" with a very different type of institution long in existence in this country. He mentioned that tuberculosis dispensaries was about to be started in association with one of the consumption hospitals in London. He would like to know Dr. Philip's opinion in regard to the value of a close association of a tuberculosis dispensary with a consumption hospital provided with a medical staff with special expert knowledge of tuberculosis. Dr. Murray Leslie referred to the great value of the amendment to the National Insurance Bill introduced by Mr. Lees Smith, M.P., providing that the consumption benefits of the bill should not be restricted to sanatorium treatment, but should include all of the alternative methods of treatment that modern experience may suggest. The amendment, which had been accepted by the Chancellor, remedied a serious defect in the bill. At the best sanatoriums treatment was only suitable for a small fraction of the cases, the great bulk of which must be dealt with by agencies such as antituberculosis dispensaries. Such dispensaries should be under voluntary management, though it might be well, as had been pointed out, to put hospitals or sanatoriums for advanced cases under the control of the medical officer of health. He entirely dissented from Dr. Camac Wilkinson's contention that hospitals were unsuitable places for the treatment of consumptives by tuberculin; the medical staffs of hospitals were pre-eminently suitable men to give tuberculin treatment in such cases as seemed to them suitable. Tuberculin treatment was simply one of many methods which had its due place in the treatment of this disease. As Dr. Millard had pointed out, tuberculin treatment, if scientifically valuable, would be used in tuberculosis dispensaries, sanatoriums, and elsewhere.

Professor Sir WILLIAM OSLER said he would like to plead for the association of the tuberculosis dispensary with the general hospital and with the county infirmary.

Dr. J. C. MCWALTER (Dublin) said the ordinary opinions as to sanatoriums were based on fallacies—no practitioner knew of a case of tuberculosis which he had treated ten years ago and which was now alive. What Hippocrates taught of tuberculosis remained unshaken for two thousand years. The present views and experience of treatment were only fifteen years old; therefore a little humility would benefit the profession. It would cost at least £40,000,000 a year to treat all the cases of tuberculosis in Great Britain. The Chancellor was about to allow only £150,000 a year. It would be far cheaper to have convalescent homes where a patient could be treated in the pre-tuberculous stage. The medical faculty had been treating tuberculosis for twenty centuries, and, though the mortality might be low at the moment, that was only an accident. Institutional treatment was a costly fashion, and there ought to be hesitation before placing a burden of fifty millions on the ratepayers, because the great cause of sickness was poor food and bad housing. It would cost fifty millions to treat consumption, but a pint of milk could be given daily to every child in the three kingdoms for a year at a cost of less than one million. This would do much to prevent tuberculosis. The Dublin Corporation had recently erected a sanatorium to treat tuberculosis, consisting of 100 beds on 250 acres of land, but, as a member of that corporation and one who advocated its erection, he did not expect very much from it. It would be unwise to crush thousands with heavy rates and then pick out an odd case of those crushed for sanatorium treatment.

Dr. IDA E. FOX (Ashover Sanatorium) thought the home treatment of tuberculosis was of little use unless preceded by sanatorium treatment. The patients must learn what to do and, what was equally important, what not to do. This applied both to the upper classes and to the working classes. The destruction of sputum, which was most important, was very difficult to carry out at home by patients' relatives. The patient was not under constant medical supervision, and at times there was difficulty about food. With regard to tuberculin, certain patients inclined to look upon tuberculin as a form of insurance; they thought, if they were taking tuberculin, they need not continue sanatorium rules or modes of living, and they should be carefully watched by medical officers and the fact pointed out that tuberculin *per se* was still on its trial.

Dr. W. B. KNOBEL (Midland Open-air Sanatorium) spoke of the necessity for recognizing that the cause of phthisis was infection *plus* loss of immunity, and that infection was everywhere, especially in milk. Loss of

immunity, produced by bad hygiene or some other condition, occasioned the disease. He said that the "tuberculous pests" mentioned by Dr. Philip were more likely to be due to bad hygiene than to infection, as infection probably could be found anywhere. The disease would be prevented by medical officers of health improving hygiene and milk supplies. The cure of phthisis lay in a restoration of immunity, and the permanence of the cure depended upon after-care, in which the tuberculosis dispensary was of great value. Many cases were undoubtedly cured by tuberculin alone, but many were cured by sanatorium treatment alone. More than these together could be cured by sanatorium treatment *plus* tuberculin, and more still would be cured by those two *plus* some method of dealing with secondary infections. In many of the early and more advanced cases the infection was mixed, and tuberculin alone was not sufficient. A mixed inoculation and local treatment was necessary.

Dr. A. H. Bygott (M.O.H., Barking) said the medical officer of health did not want to interfere with the person who conducted the dispensary, his object was simply to co-ordinate that important part of the work with others, and it was desirable that he should do so. It would be very desirable also to connect these arrangements with the general hospitals, so that patients might receive the advantages of their usually excellent equipment; but in order to do this adequately medical staffs should be paid and money made available out of public funds. In treating patients in isolation hospitals it was not desirable to treat one patient alone in a shelter, as the loneliness of the individual tended to make him discontented. In treating patients at their own homes it was a great mistake to imagine that putting the patients out of doors was everything—proper clothing and food were necessary. Boards of guardians might easily be guilty of great cruelty to patients if they did not do their work properly having regard to their usual inadequate and unspecialized medical staffs and nursing arrangements. Many of their patients simply wanted keeping warm and making comfortable till they died.

Dr. H. J. Egerton H. Williams (Medical Superintendent, City Fever Hospitals, Sheffield) said that in following up the remarks made by Dr. Robertson he wished to point out that in Sheffield the corporation had two hospitals for the education of consumptives into which patients were admitted for a period of one month in order to teach them how they could derive the best value out of life, and at the same time be the minimum source of danger to their fellows. It seemed to him that in the present state of knowledge and in view of the difficulties of coming to a conclusion as to whether a case was cured, it was sufficient for corporations to undertake education for the present. By taking in cases for a short time a large number were educated every year. He thought that sanatorium, tuberculin, or other treatment might be undertaken by voluntary organizations until such time as the profession had something more definite to offer the public. He would also suggest that some means should be taken to remove the stigma attached to union hospitals.

The President, in bringing the discussion to a conclusion, said that he desired to express the thanks of the Section to those who had introduced the various heads of the subject. He thought he should express the sense of the meeting if he said that the discussion had shown that, though many strongly believed that what they advocated would solve the problem, yet it would only really be solved by the various factors being all taken together. Sanatoriums alone did not solve the problem, and the same might be said of the tuberculosis dispensary of Dr. Philip and the tuberculin dispensary of Dr. Camac Wilkinson and the shelters of Dr. Lyster—all were useful under certain conditions and could not be neglected, but by themselves had only limited applications. He called attention to the case of rural districts, where it seemed that for geographical reasons a central institution, both for teaching, prevention, and promoting cure, must be established. He also pointed to the necessity of the work of health visitors, particularly in rural districts, where tuberculosis was a very serious matter, chiefly because of the small wages and the difficulty of procuring sufficient quantities of proper food; this, he believed, was one of the most important single factors in the production of consumption.

DOMESTIC HOT WATER SUPPLIES AS A FACTOR IN THE PRODUCTION OF LEAD POISONING.

By Frederick Edward Wynne, M.B., D.P.H.,
M.O.H., Leigh, Lancs.

A characteristic and very important feature of lead poisoning due to a plumbo-solvent water supply is the great preponderance of atypical and slight cases in which lead poisoning has never been suspected or diagnosed.

This fact makes it probable that lead poisoning may often be prevalent for considerable periods without anything occurring to call the attention of the local authority to its existence, and emphasizes the importance of a periodic examination of the water for the presence of lead in all districts where the water supply is very soft or may contain the organic acids usually associated with a moorland catchment area.

To what an extent it is possible to live in a fool's paradise with respect to plumbo-solvency was well illustrated by our experience at Leigh in the autumn of 1909.

In September of that year a death was certified by the coroner to be due to lead poisoning. The deceased was a servant girl at a farm, and although it was proved in evidence that she had made a practice of drinking large quantities of water by putting her mouth direct to a leaden stand-pipe, analyses were at once made of the water. The water in the mains was found to be perfectly free from lead, but samples taken from a number of private houses showed lead in quantities which were practically proportionate to the length of the service pipe.

Pending the installation of plant for preventing this contamination all the local members of the profession were warned of the danger, and, thanks to the courtesy of several practitioners, I was given particulars of a number of cases in which the diagnosis had previously been obscure, but which were then found to be suffering from slight chronic plumbism, as proved by the detection of the characteristic line on the gums and the relief of symptoms when abstention from the contaminated water was combined with suitable treatment.

In all these cases there was some digestive disturbance, but nothing amounting to the characteristic colic in any of them. The commonest form was loss of appetite with furred tongue, and fullness and discomfort after food of any kind. Two cases presented all the symptoms of hyperchlorhydria, and gastric or duodenal ulcer was suspected in one. Constipation was the rule, but three cases had persistent slight diarrhoea. Some degree of anaemia was present in all the cases. The only nervous symptoms noted were headache, and in a few cases some reduction or retardation of the patellar reflex. Articular and muscular pains simulating rheumatism were frequent. No cases of albuminuria were noted, and none in which amenorrhoea or abortion could be traced to this cause.

It is interesting, however, in this connexion to note that Dr. Halliwell, in his report for 1909, suggests that abortion due to lead poisoning from the town's water may be a factor in causing the extremely low birth-rate of Dewsbury.

These cases suggest to me that a great many of the ill-defined cases of digestive and so-called "rheumatic" conditions in Lancashire and Yorkshire, which derive periodic temporary benefit from the ceremonial of various watering-places and spas, may be cases of undetected plumbism arising from small quantities of lead habitually ingested with the drinking water. Such cases naturally improve when removed from the influence of a contaminated water supply.

A series of experiments carried out by Mr. Heap at the Manchester Public Health Laboratory, under the direction of Professor Delépine, enable one to state the plumbo-solvency of the Leigh water in the following terms:

125 c.cm. of water exposed to 65 sq. cm. of lead surface took up:

In 1 hour	0.04	parts of lead	per	100,000.
In 6 hours	0.08	,,	,,	,,
In 24 hours	0.14	,,	,,	,,
In 96 hours	0.16	,,	,,	,,

It was further found that this plumbo-solvency depended on the absence of salts in solution, on the softness of the water in fact, and was independent of the presence of acids, either organic or inorganic. The solvent power of the water being unsatisfied, it was immediately exerted on the lead.

It was further found that this plumbo-solvent action could be obliterated by the addition of 3.7 parts of calcium carbonate per 100,000, or 5.3 parts of sodium carbonate per 100,000, but whereas the whiting treatment was only efficient during a period of twenty-four hours' exposure, the results of the sodium treatment were unaffected by ninety-six hours' exposure. The sodium treatment was more expensive, but since, in addition to its greater efficacy, there was an absence of risk of the deposition of an insoluble salt in the pipes, I advised my committee to adopt this method. A very simple and inexpensive plant has now been working for considerably more than a year with completely satisfactory results as regards the prevention of lead contamination.

But the practical point to which I wish to call attention is the enormous excess of lead which I found in samples taken from the hot-water taps of private houses.

In thirty observations of water taken from houses in all parts of the borough, there was invariably lead in the sample taken from the hot tap, even when the cold water showed none or only a trace. In several cases the hot water contained over two grains of lead to the gallon.

A similar state of affairs has since been observed at Ashton-under-Lyne. In his annual report for 1910, the medical officer, Dr. Talent, remarks:

> During the year samples of drinking water were tested for lead. Twenty-five from cold-water taps, six from hot-water taps. Of those taken from the cold-water taps, three showed slight acidity, but no lead was present in any. Of the six taken from the hot-water supply, three showed a marked quantity of lead. It is evident that anyone drinking water from the hot water tap in such cases as the three in question, would run a decided risk of lead poisoning. The matter was freely discussed in the local press, and an advertisement pointing out the danger, was inserted in the same.

This discrepancy in the amount of lead contained in the hot and cold water supplies was altogether too great in the case of Leigh water to be accounted for by any possible increase of the solvent power of the water due to its temperature, and it was also out of proportion to the extra length of piping through which the hot water passes. It was clear, therefore, that the hot water was somewhere exposed to lead in a way in which the cold water was not. After a little inquiry I learnt that this contact takes place in the so-called copper cylinder; the great majority of such cylinders are heavily weighted with lead, and are, in fact, known to the trade as "loaded" cylinders.

In a genuine cylinder the top and bottom are attached to the body of the cylinder by a hammered joint, which is merely "sweated" with solder. In a loaded cylinder there are thick, wide rings of lead all round the inside of these joints and round the insertion of the unions. How profitable the arrangement must be will be understood from the following particulars of a cylinder which I had opened and examined.

This cylinder was 36 in. in length by 16 in. in diameter, and was made of 19 Birmingham wire gauge copper. This copper would weigh 33 lb., and allowing 3 lb. for unions and 2 lb. for solder, the total weight should have been 38 lb. Its actual weight when fixed was 57 lb., so that the purchaser had paid for no less than 19 lb. of lead at the price of copper!

But even this commercial dishonesty is unimportant in comparison to the danger to the public health. This cylinder was purchased in 1895, and was removed in 1909. When removed it weighed only 54 lb.—that is, in fourteen years 3 lb. of lead had been dissolved out of it and gone into the water, since an examination of its contents proved that practically the whole of the loss was lead. In this case rings of lead more than an inch thick were found around all the joints, and these were much corroded. The lead in the upper part of the cylinder had evidently been in a viscous condition as the result of the heat. The bottom of the cylinder contained a large amount of rusty débris which was analysed by Dr. Heap of the Manchester Public Health Laboratory. The analysis showed that 31.31 per cent. of this débris was lead. It is proved, therefore, that from this particular cylinder some 3 oz. of lead were passing into the water every year, the resulting solution being obviously a deadly poison.

Of course every one will agree that water from the hot tap ought not to be consumed, but the fact remains that the practice is very common. It saves time and trouble to fill the tea kettle or the saucepan with water already hot and then "bring it to the boil," and even those who know better than to do so themselves may be exposed to danger through the carelessness or ignorance of servants.

Unfortunately such a cylinder as the one I have been describing is not exceptional—it is the rule. It is quite easy to recognize one of these "loaded" cylinders without going to the trouble and expense of opening it. The existence of improper quantities of lead is at once revealed by percussion. In a properly constructed cylinder the note is practically clear right up to the joint, whereas in a "loaded" one there is an area of complete dullness extending for about two inches on each side of it.

This is a condition of affairs, in my mind, very disgraceful to the industries concerned, and while it is undoubtedly the duty of all sanitary authorities to prevent, as far as possible, the existence of plumbo-solvency in their public water supplies, and to warn the public against the possible danger of consuming water drawn from the hot-water tap, it is none the less the duty of sanitarians to call public attention to this dangerous and cynical dishonesty of certain makers and vendors of copper circulating cylinders.

Dr. JOHN BROWN (M.O.H., Bacup) said that there was a real danger from the use of water from hot-water taps. Dr. Wynne had done a public service in directing the attention of the medical profession to the danger, and especially to the fact of the use of lead in the "copper" cistern which was sold as copper. No doubt that accounted for the large amount of lead, namely, 2 grains per gallon, found in some samples. Usually there was a long length of lead pipe to the hot-water tap. This year he had examined water from these taps in forty-two houses, including clubs and cottages, and found no lead from cold-water taps, but forty of the hot-water taps showed the presence of lead. As both taps were often of the same pattern, as a precaution he suggested hot-water taps should be of a different pattern.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CHLOROFORM DURING SLEEP.

I NOTICE a memorandum in the JOURNAL of June 24th, p. 1464, by Dr. Ian Jefferiss, which suggests that the administration of chloroform to children during sleep is unusual. I have done this regularly for twenty-five years in all cases where children require an anaesthetic for small operations, setting fractures, etc., and, if the children are under about 14 years of age, have never found any difficulty. One has to begin *very* gradually, but with a little patience success is almost certain, and much mental distress avoided.

E. N. NASON.

Nuneaton.

GASTRO-INTESTINAL HAEMORRHAGE IN A NEWBORN CHILD.

INSTANCES of this evidently somewhat rare condition were reported in the JOURNAL on April 29th and July 8th, 1911. Dr. Mills records the first, a fatal one, but he was unable to obtain a *post-mortem* examination; the second, Dr. Semple's, recovered.

Some years ago I saw an apparently healthy, full-time male child, who had been seized about sixteen hours after birth with violent and repeated attacks of haematemesis, bright red in colour. This was accompanied later by the passage of dark red blood by the bowel. The shock was too great, and the child died about six hours after. At the *post-mortem* examination I found an ulcer, the size of a sixpence, in the pylorus. I remember at the time preparing full notes of the case, with the intention of reading it at a meeting of the local Branch. For some reason or other I was prevented, and it has not yet been reported. As I was in this instance able to verify the source of the bleeding, possibly even now it is not without interest.

M. B. RAY, M.D.Edin.

Harrogate.

NUTMEG POISONING.

The following case resembles that reported in the British Medical Journal of April 29th.

About 9.30 p.m. on April 20th I was asked by a man to see his wife who was dying; his own medical man was out. I found the patient in a very restless excited condition, gripping her throat and the right side of her face with her hands. She declared she was dying, that she had great difficulty in breathing, that her throat was closing up and her whole body was stiffening, that there was a "drawing over" of the right side of her face, and that she had headache, giddiness, and pain in the stomach. I found no paralysis of the muscles of the face and although she was breathing rapidly there was no perceptible obstruction in the throat. The pulse was 130 and the face flushed, but the temperature was only 98. The chest revealed nothing abnormal, and in the abdomen there was no tenderness or rigidity. The pupils were somewhat dilated, but acted normally to light and accommodation. The knee-jerks were exaggerated. She had had three children, all healthy, and no miscarriages. She confessed that since December she had had reason to believe that she was pregnant, but that as she would rather kill herself than have another child she had wished to produce an abortion. With that object she had taken a whole nutmeg in a glass of hot beer about 5 p.m.

I treated her symptoms and then left. Her own medical man visited her next morning and found her drowsy and rather giddy, but otherwise well. She had slept deeply. It turned out that he had himself seen her a few hours previous to my visit. She had said nothing to him about the nutmeg, but was very excited, so he gave her a sedative. Whether it was to this or the poisoning that the deep sleep was due cannot, of course, be determined.

It may be added that in this case, as in the one to which I have alluded, the nutmeg has not effected the object for which it was taken.

Bertram F. Bartlett, M.R.C.S., L.R.C.P.

South Kensington.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

KASHMIR MISSION HOSPITAL.

EXTRAUTERINE PREGNANCY.

(Under the care of Mr. Ernest F. Neve, F.R.C.S.)

The following case is one of extrauterine pregnancy in an unusual position; it produced acute intestinal obstruction, the cause of which was not revealed until it was shown by the operation.

S., aged 28, was admitted March 28th, 1911; complaining of great abdominal pain of five days' duration. The abdomen was distended with gas. No flatus had been passed for many hours. Between the umbilicus and pubis there was an irregular tumour, partly fluctuating and partly solid, but masked by the intestinal distension. As large enemata gave no relief and intestinal obstruction was complete, an operation was at once performed. The tumour was found to be the sac of an extrauterine pregnancy with a fetus of about 4 months. Both this and the placenta were decomposed but not putrid, and there was a large collection of pus between the outer sac and the membranes. This pus was found to be sterile. The intestines were adherent all round and it was the tying down of the ileum by adhesions which had caused the obstruction. The sac was central and attached to the fundus of the uterus. The adhesions were separated and the whole sac removed with the exception of a portion attached to the uterus, which was clipped down and folded in with a line of catgut suture. A gauze drain was inserted and a drainage tube for the pelvis.

The drain was removed next day and the drainage tube on April 4th. The wound was healed on April 14th and the patient went home on April 16th, having made an uninterrupted recovery.

Reviews.

THE SACCULAR THEORY OF HERNIA.

The question of the origin of hernia has until within the past few years been one mainly of academic interest, but the Workmen's Compensation Acts have brought the subject well within the range of practical affairs. It is chiefly on this ground that we welcome heartily the appearance of a second edition of Mr. R. W. Murray's essay, *Hernia: Its Cause and Treatment*.[1] It is not claimed for the book that it is an exhaustive study of the subject, as, indeed, it is incomplete in some respects. The historical sketch, illustrated by reproductions of some ancient drawings, is interesting, but might have been made more so had the varieties in the treatment of hernia in the early Listerian period of surgery been more fully dealt with. The chapter on the geographical distribution of hernia is useful, though rather scrappy.

The saccular theory of hernia was first enunciated by Mr. Hamilton Russell, of Melbourne, and Mr. Murray acknowledges that the views held by him are those of Mr. Russell. Briefly put, the theory is that all herniae are protrusions of bowel into *preformed* sacs or diverticula of peritoneum—that, in other words, all herniae are congenital, that the "acquired" hernia is a fiction, excepting, of course, the post-operative ventral variety. The argument may be best grasped from a consideration of the commonest variety of hernia—the oblique inguinal. We have, Mr. Murray says, always hitherto been taught that

> there are two distinct types of oblique inguinal hernia: hernia occurring during infancy and childhood in which the sac is of congenital origin and the hernia of adult life in which the sac is said to be generally acquired. From clinical experience we know that during infancy and childhood two distinct varieties of the same type of congenital hernia sac are seen: the complete sac which involves the tunica vaginalis, and the incomplete sac which is entirely separate from the tunica vaginalis, the latter being the more common of the two. In the adult also two distinct varieties of the same type are seen: the complete sac which involves the tunica vaginalis and the incomplete, the latter being much the more common of the two. The general relationship of the sac, whether complete or incomplete to its coverings, is remarkably constant and similar both during infancy and adult life.

Therefore there seems no good reason to suppose that the difference between the so-called congenital hernia and the so-called acquired hernia is other than one of degree—that is to say, in relation to the time of its appearance and to its extent. The author goes on to point out how frequently operations are performed on herniae appearing suddenly for the first time and becoming strangulated, though nothing is found to suggest that the sac was suddenly acquired, and he concludes that in these cases the bowel had descended into a peritoneal diverticulum which had existed since birth. If this is so in herniae forming suddenly, we cannot decline to accept the suggestion that the essential factor in the production of a hernia is the presence of a preformed sac.

At Mr. Murray's suggestion Dr. Nathan Raw made a special investigation in 200 consecutive non-selected *post-mortem* examinations upon persons in whom there was no history or evidence of hernia, and found that in 47 bodies potential hernial sacs were present; in some instances more than one sac was found, as there were in all 68 diverticula. In most of the cases the unobliterated portion of the processus vaginalis was about 1 in. in length, and the opening at the internal ring so small as barely to admit a probe, though in others the little finger could be passed into it. If we grant the existence of a patent funicular process, the occurrence or not of a hernia largely depends upon two factors—the size of the opening at the internal abdominal ring and the strength of the muscles guarding it. The appearance of hernia at puberty is to be accounted for by the sudden overtaxing of the muscles incidental to this age owing to increased muscular exercise and their yielding to the persistent effort of the intestine to escape. The same

[1] *Hernia: Its Cause and Treatment.* Second edition. By R. W. Murray, F.R.C.S., Surgeon, David Lewis Northern Hospital, Liverpool. London: J. and A. Churchill. 1910. (Med. 8vo, pp. 182; with 62 illustrations. 6s.)

reasoning is applied to the occurrence of hernia in later life, even old age.

Though the processus vaginalis testis has been to some extent patent since birth no hernia has appeared, because the opening at the internal abdominal ring was never large and the inguinal muscles well able to guard it, but with declining years the weakened muscles gradually yield and bowel passes through.

The author explains the occurrence of hernia after long illnesses in a similar way.

It is a common experience for surgeons to have to deal with men who allege that the hernia from which they suffer was due to a single strain or severe muscular exertion. It is difficult to understand how a workman can acquire a hernia in the manner he usually describes. The ordinary story is that he was doing some piece of work, not necessarily much heavier than usual, when he felt some pain in the groin; he was able to go on with his work for the rest of the day, but at night he felt a "lump" for the first time. He concluded, therefore, that he had a "rupture," and that it appeared for the first time that day. This kind of story can fit in only with the theory of a preformed sac which had very gradually become bigger and had one day been filled more fully than usual with bowel or omentum, and so attracted attention. But the hernia was nevertheless no new thing, nor was it the result of an "accident." The only hernia which can be the result of an accident is one that is strangulated (and generally scrotal), and in this instance

there is stretching of the peritoneum, the bowel having for the first time entered a funicular process patent to the level of the tunica vaginalis; the neck of such a sac is long and narrow.

Mr. Murray's method of operation for inguinal hernia is, as is to be expected, founded on the theory of hernia formation.

Acting upon the belief that inguinal hernia is at all periods of life primarily due to an imperfect obliteration of the processus vaginalis testis and secondarily to local muscular weakness I have for some years practised the same method when operating upon children and adults.

The essential part of the procedure is removal of the whole sac—the limit of the sac being indicated by the presence of a white line produced by peritoneal thickening—and the application of a transfixion ligature. The next step is the repair of the stretched and weakened aponeurosis forming the inguinal canal. The pillars are drawn together by five or six sutures inserted in Lembert fashion, thus restoring the obliquity of the inguinal canal, and then the skin is stitched. The patient is allowed up on the tenth day and leaves hospital on the fourteenth to go home to rest for two weeks before returning to work. Mr. Murray deals with many other forms of hernia and their treatment from the same theoretical point of view, but we have quoted enough to show that surgeons will be well repaid by perusal of the whole book. It is written in trenchant frank style, the illustrations are numerous and well selected, while the largeness of the type makes reading easy. There is no index: a somewhat curious omission which should be remedied in any future edition, and at the same time some misspellings, on pages 87 and 119 for example, might be corrected.

INDIAN MOSQUITOS.

WE are glad to welcome a second edition of JAMES and LISTON'S admirable *Monograph of the Anopheline Mosquitoes of India*.[2] It is seven years since the volume first appeared, and considering its very favourable reception it is surprising that the authors have not prepared a new edition sooner. They took the view, however, that extended study of these forms was desirable, and their decision to postpone publication was probably wise. Information has been steadily accumulating during these years, and the authors have added a considerable share. In our review of the first edition (BRITISH MEDICAL JOURNAL, June 10th, 1905, p. 1275–6) we ventured to suggest some emendations in the text, and these have for the most part been carried out. The definition of a mosquito, which in a few words is not an easy matter, has been made more precise. The book is divided into two parts, the first of which gives a general account of the life-history and anatomy of anopheline mosquitos, and the chief features distinguishing them from the culicine forms, are described. The methods of collection and examination are dealt with at length, and there follows a full discussion on the classifications and means of identification of the Indian forms, to the systematic description of which the second part is devoted. The coloured plates are, as in the first edition, remarkably fine; the others are also very good. The classification of the forty Indian species has involved the creation of several new genera, amongst which may be mentioned *Neostethopheles*, *Patagiamyia*, *Nyssomyzomyia*, and *Christophersia*. The authors' ideas of nomenclature, however, are in one place rather ingenuous. *Nyssomyzomyia* is proposed as a *more suitable* name than the earlier *Pseudomyzomyia* (Theobald, 1907) for the genus of which *P. rossi* is the type. This may well be the case, but inventive nomenclature of this nature would lead to more disastrous consequences than the most rigorous application of the law of priority. The name *Myzomyia listoni* (Liston) is also somewhat anomalous; it is unusual for an author to name a species after himself, and in this case the name was really suggested by Giles. The key to the identification of the various species is well arranged and practical. There is, indeed, little other than good to be said about the volume, and the only serious fault which can be found is with the binding, which is rather loose, and the uncoloured plates are not properly fastened.

[2] *Monograph of the Anopheline Mosquitoes of India*. By S. P. James, M.D., D.P.H., I.M.S., and W. Glen. Liston, M.D., D.P.H., I.M.S. Second edition. Calcutta: Thacker, Spink, and Co. 1911. (Demy 4to, pp. 143; 36 plates (15 coloured) and 17 text figures. Rs.16 (25s.)

HOSPITAL MANAGEMENT.

THE management of British hospitals has not, until recent years, been carried on under any uniform system. Nominally vested in the lay committee, the real work has often been left in the hands of individuals, some of whom have taken it up only as an occupation for unemployed hours, without any special knowledge. The institution of the King's Fund has in London worked a considerable change in this respect. Members of hospital committees are everywhere realizing that hospital management is a business that has to be learnt, presenting, as it does, many problems for solution which do not arise in the course of management of commercial concerns.

Hence the appearance of an American text-book[3] on the subject compiled by an experienced hospital worker, with the aid of many others who write about those parts of the subject with which they are more particularly conversant, will be welcomed by hospital managers of all grades. The editor of *Hospital Management*, CHARLOTTE A. AIKENS, has endeavoured to produce a work which shall be useful to professional managers and non-professional committees and to inculcate "a better understanding of the principles which underlie successful, efficient hospital administration." She has called to her aid a considerable number of writers whose experience in special departments adds weight to their contributions. To British readers who are familiar with home methods of administration the work cannot but suggest comparisons at every turn, and such comparisons add greatly to the interest of the book. In the main the systems in vogue in America are analogous to our own, but in detail there are numerous points in which marked differences are obvious, and these are not always on the credit side of the home account.

A long chapter is devoted to a critical description of the American hospital "field," and the author, Dr. Charles P. Emerson, does not disguise the weak points in the general system. Lack of co-ordination between hospitals and other institutions for medical relief would appear to result in a good deal of waste of power, while many of the older hospital buildings are not well planned for the work they have to do.

The duties and responsibilities of boards of managers are discussed by E. S. Gilmore, himself an experienced superintendent, who makes some severe remarks as to the dangers of allowing a committee to be dominated by one man or to be hampered by what he calls the "retention of dead timber," in the shape of the committeeman who only appears at irregular intervals. Such a one, in his opinion, is a good member to be dropped.

[3] *Hospital Management*. A Handbook for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are actively engaged in promoting Hospital Work. Edited by Charlotte A. Aikens. Philadelphia and London: W. B. Saunders Company. 1911. (Demy 8vo, pp. 488, figs. 166. 13s. net.)

The relation of the hospital to the State in which it is situated varies in different districts, but in most States the acknowledgement of the State's indebtedness takes the form of freedom from taxation. Many differences from our home system may be noted in regard to the medical service. The members of the honorary staff are usually on duty for a part of the year only, some for as short a period as three months. An honorarium is usually given where the work is taken continuously for the whole year. The resident appointments are given by examination, and are held for terms of eighteen months or longer, with promotion from junior to senior posts. The American hospital system varies in one important point from the British plan in respect to payments by patients. Efforts have been made from time to time to introduce it into this country, as it no doubt commends itself in many ways to hospital managers who have difficulty in making both ends meet. Three grades of payment are recognized—the small contribution from the out-patient, the non-remunerative payment from the intermediate class, and the remunerative charge made to well-to-do or wealthy patients who elect to use the hospital in case of accident or disease. No limit appears to be fixed for these latter payments, and it must be assumed that they are assessed on the same scale as for private nursing homes. Some hospitals receive regular grants from the States in which they are situated, and it is clear that a considerable body of American opinion is in favour of municipalization with a share in the control.

Space will not permit of more than reference to the many valuable articles on hospital construction and furnishing, book-keeping, cooking, dieting, engineering, and washing. The training school, the laboratory, the dispensary, and the out-patient department are all in turn described, and in many cases well illustrated, while numerous blank forms in use in each section, by means of which a strict adhesion to routine is made possible, are appended.

The whole work is worthy of the notice of all who are interested in the art of hospital management; and although American methods are not always applicable to the time-honoured customs of the old country, there are few essential points upon which agreement would not be found, and it is just these points upon which the average hospital committeeman usually needs enlightenment. Hence we can cordially commend the book to hospital managers of every degree.

PREVENTION AND CURE.

WE have received from Dr. SYDNEY MACILWAINE, the author of a book entitled *Medical Revolution*, reviewed in the BRITISH MEDICAL JOURNAL, July 15th, 1911, p. 117, the following criticism of that review. We are sorry to have hurt Dr. MacIlwaine's feelings, but we cannot accept his contention that his views as to the importance of causation as a basis of classification are novel, or that medicine is yet in a position to discard the assistance of pathology in classification.

"I must ask for a little space to make a remark or two on a review in your issue of July 15th. After referring very cursorily to the scientific part of my work, the reviewer says: 'All this is among the commonplaces of October introductory addresses. . . .' I will mention only three points of a good many. The part of my book thus referred to contains (1) an exact definition of the meaning of 'a disease'; (2) a definition and classification of 'the diseases of intrinsic causation'; (3) a clear and universally applicable differentiation of 'true diseases' from 'spurious diseases.' I have no wish to claim originality that does not belong to me, and the question whether my views on the interpretation of disease are right or wrong is a separate one; but I would ask your reviewer either to specify where, in the whole of medical literature, the views expressed in my book on these points have ever previously appeared, or else to withdraw his statement. The reviewer falls into a strange confusion when he goes on to say: 'We all agree that there can be no other natural basis except causation on which we can define our conception of the specific diseases. The difficulty is that the knowledge required to provide this common basis is not available.' That our knowledge of causation is not, and never will be, complete is a truism; but in the meantime, the diseases of parasitism, of poisoning, of traumatism, and of incomplete development are already, by universal consent, classified on the basis of causation. The most essential scientific point in the whole of my book is the contention that, having thus arrived at the natural, scientific mode of classification, it is our bounden duty immediately to discard all artificial systems of classification. The most notorious and injurious of these artificial systems that still receive official sanction is the 'pathological' based on 'organic diseases,' which are 'spurious diseases.' This fundamental matter the reviewer seems to have missed altogether. I trust that in fairness you will accord the same prominence to my protest that you have given to a notice which, quite inadvertently no doubt, produces an utterly inadequate impression of the importance of the scientific task attempted in my book."

NOTES ON BOOKS.

A PAMPHLET[4] recently published by Dr. A. ERLANDSEN of Copenhagen will be useful to bacteriologists and clinicians who desire a standard for recording the strength of a sample of tuberculin. The author has, with Ellermann, worked out a formula based on the determination of the degree of dilution which just causes the power of producing reaction to disappear. The concentration may be worked out by dividing the percentage of any given tuberculin dilution by the quotient of increase of the various testing points of the series of dilutions, multiplied by the average diameter of the papule produced divided by the difference of size of the largest and smallest papules. He employs a $\frac{1}{2}$ per cent., a 2 per cent., an 8 per cent., and a 32 per cent. dilution, so that the quotient is 4. The strength is determined by the following formula:

$$T = \frac{100 \times q \frac{pm}{dq}}{m}$$

where T = titre of the tuberculin, q = the quotient, pm = the average diameter of the papule, dq = the difference between the papules, m = the concentration.

Tables are given of the value of T for varying values of p_4 and d_4, that is, the only unknown factors.

The twentieth issue of the annual *Charities Register and Digest*[5] has been received. The volume, which is edited by Mr. C. S. LOCH, secretary of the council of the Charity Organization Society, is a classified register of charities in or available for the metropolis, together with a digest of information respecting the legal, voluntary, and other means for the prevention and relief of distress and the improvement of the poor. It has an elaborate index and contains articles written by experts on special branches of charitable work, together with a review of charitable work during the previous year. The volume is full of information on almost every branch of philanthropic enterprise.

[4] *Tabelle für die Bestimmung des Tuberkulin-Titers.* By Privatdozent Dr. A. Erlandsen. Würzburg: C. Kabitzsch. 1911. (Price 11d.)
[5] London: Longmans, Green, and Co., and the Charity Organization Society. 1911. (8vo, pp. cclxxiv + 704. Price 5s.)

MEDICAL AND SURGICAL APPLIANCES.

Box for Sterilization and Storage of Gloves.

MR. DAVID M. GREIG, C.M., F.R.C.S.Ed. (Dundee) has designed a box to meet the difficulty of conveying sterilized gloves for operation in a private house. To sterilize gloves by boiling, with a minimum chance of destruction, it is necessary that they should be contained in the proper receptacle, and so prevented from rising to the surface, becoming filled with steam and floating against the heated sides of the boiler. I have had constructed for me by Messrs. Down Bros., Limited, an appliance consisting of a tray and case. The gloves are laid in a tray and covered by a lid of perforated zinc securely fastened in position without the use of hinges. The tray fits into a metal case whose removable ends facilitate thorough cleaning, and the whole, case and all, is boiled before proceeding to the operation, the boiling water being poured off before the box is fitted together again. The case is practically airtight, and the contained gloves remain moist and sterile for an indefinite period.

SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

SECTION OF ANATOMY AND PHYSIOLOGY.

Thursday, July 27th.

THE President (Professor T. H. Bryce, Glasgow) opened the meeting with some remarks on the great difficulty that anatomists and physiologists had in keeping in touch with the advances in each other's subjects. He accordingly welcomed such a joint Section as the present one. He further held that histology ought to be restored to the anatomists. He thought that embryology was a very suitable subject, in the study of which the anatomist and physiologist could come into closer connexion. On the conclusion of this short address, Dr. Haig (London) read a paper on some factors of the circulation admitting of easy measurement. He referred in particular to the rate of capillary flow, which he believed to be a measure of the uric acid content of the blood. He demonstrated a small instrument which he had devised for observing this capillary reflex. Professors Carlier (Birmingham) and Anderson (Galway) congratulated Dr. Haig on his work, and hoped that all his claims would be substantiated. Mr. D. P. Wilkie (Edinburgh) then read an interesting and valuable paper on the existence of valves in the veins of the portal system of man. He demonstrated by means of excellent lantern slides the presence of valves whose existence had been denied by many previous workers. These valves are bicuspid, and are best demonstrated in very early life. His paper was favourably criticized by Professors Bryce, Carlier, and Anderson. He was followed by Dr. A. MacLennan (Glasgow), who read a short paper on the action of the ilio-psoas muscle. He held that the mode of action of this muscle was not correctly described in the textbooks. He found that rotation inwards and abduction takes place as the result of contraction of the muscle. Professor Bryce and Mr. Frazer (London) also spoke. Dr. L. Graham (Birmingham) then read some notes on and gave a demonstration of the bones of an achondroplasic skeleton. Professor Anderson (Galway) next read a paper on variation, with special reference to muscle. He discussed many of the variations which take place under various external and internal influences. He was followed by Miss Radford (Birmingham), who gave an interesting demonstration of reconstruction models of the ferret's brain and pharynx, and Dr. Good (Birmingham), who demonstrated by means of models a case of spina bifida in a ferret. A number of questions were asked about several points which had arisen during the demonstration. Professor Carlier (Birmingham) then read a paper on some effects of iso-osmotic solutions of certain salts on frog's muscle. He found that the periodic law was followed by the sodium halogens of Group 7. The chlorides of Group 1 never followed the periodic law owing to the bland action of common salt, but if this salt were omitted the law was followed in toxicity. Dr. Fraser Harris thought that this was a very valuable contribution, and congratulated Professor Carlier. Finally, Dr. T. Yeates (Birmingham) gave a most interesting and valuable demonstration on (*a*) strengthening plates used in the reconstruction method, and (*b*) of a ferret embryo cut *in utero*. A number of questions were asked by various members at the conclusion of the demonstration.

Friday, July 28th.

The concluding session was opened by Professor Carlier (Birmingham), who read a paper on the physiology of some of the allyl compounds. He found that the particular allyl compounds investigated all affect the respiratory system by depressing the action of its centre and kill by abolishing its activity. They all produce a fall in blood pressure of longer or shorter duration. Allyl isothiocyanate is the most deadly and allyl acetate the least. He held that his experiments did not point to any sufficient ground for the belief, so commonly held, in the efficacy of the onion as a remedial agent. Professor W. H. Thompson (Dublin) and Dr. Fraser Harris both congratulated Professor Carlier on an excellent piece of work. Mr. J. E. S. Frazer (London), then demonstrated several specimens of kidney with double ureters. He was followed by Mr. S. E. Whitnall (Oxford), who exhibited dissections illustrating some points in the anatomy of the orbit, with particular reference to the lacrymal sac. Mr. Charles Woodward F.R.C.S. (Birmingham), next read a paper on the foramina of the fibulae in man and apes. He found a great number of variations, especially in relation to the epiphyses. He believed that the union of the epiphyses affects the direction of the canal. Professor Bryce (Glasgow) and Mr. Wood-Jones (London) both criticized the work. As the anatomical papers were now finished, Professor Bryce vacated the chair. It was taken by Professor Carlier, who thanked Professor Bryce for his courtesy. He then gave a short address. He thought, as Professor Bryce had suggested in his introductory address yesterday, that it would be better if histology were handed back to the anatomists. At the same time, he did not think that it should be taken away in its entirety. He advocated the appointment of special professors of histology. Professor Haycraft (Cardiff) now read his paper on the colour-blind margin of the blind spot. He showed that the border of the blind spot was colour blind for not too intense colours. Professor Carlier and Dr. Edridge-Green both discussed the subject. Dr. Fraser Harris (Birmingham) next read a paper on some physiological aspects of mine rescue apparatus. He exhibited some of the apparatus used. The experiments were carried out in the experimental mine of the University of Birmingham, where artificial mine fires were produced. He was followed by Professor W. H. Thompson (Dublin), who, in collaboration with Drs. W. Caldwell and J. A. Wallace, had carried out a series of experiments, both on men and dogs, on the nutritive effects of beef extracts. With a meat extract prepared by themselves they found that the weight of both men and dogs increased as the result of the addition of 10 grams of the preparation to the standard diet. Similar effects were produced by the use of commercial extracts, but they were not so marked. In addition to the rise in weight a marked retention of nitrogen took place. Dr. Cathcart (Glasgow) criticized the work, and suggested that the results obtained were due to the stimulation of gastric and intestinal digestion, as meat extract is known to be one of the most active stimulants to the flow of gastric juice. Professor Anderson (Galway) thought that the work was most suggestive, and congratulated Professor Thompson. Professor Thompson, in his reply, stated that he believed the increase of weight to be due to retention of water in the tissues. Finally, Dr. Edridge-Green (London) read his paper on tetrachromatic vision. This class of individual could see four distinct colours in the spectrum—red, yellow, green, and violet. He found that they could pass most of the colour tests in use with ease. At the conclusion of the meeting Professor Anderson (Galway) moved a vote of thanks to the various office-bearers, and congratulated them on the excellent programme which had been arranged. Professor Bryce suitably replied.

SECTION OF DERMATOLOGY.*

Friday, July 28th.

THE session began with a paper by Dr. G. H. Lancashire (Manchester), on an unusual case of cutaneous pigmentation. Its outstanding features were unilateral pigmentation following an attack of severe neuralgic pains. The exhibitor was led to think there was some neurosis behind the chain of events. Some of the features were remarkably like herpes zoster, if one imagined the bulla replaced by pigment. Dr. Sequeira (London Hospital) thought that perhaps the pigmentation might have been

* For a summary of the proceedings of the combined Sections of Therapeutics and Dermatology, on Thursday, July 27th, see p. 284.

due to the application of heat for a very long period. Dr. H. G. Adamson suggested that pigmentation of this kind might be congenital, and that extension had taken place later in life. Dr. G. H. Lancashire replied that no heat had been used by the patient, and that the early patch of pigmentation in childhood was quite small. Dr. H. G. Adamson (London) showed lantern slides, drawings, photographs, and cultures from a case of sporotrichosis by means of the epidiascope. His case was the first shown in this country. The patient was an Englishman from Brazil, who had a chain of nodules in the skin extending from the thumb to the axilla. The cultures from the pus had been compared with those of Sabouraud of Paris. As regards treatment, the disease cleared up under treatment by iodide of potassium. Dr. Cranston Low (Edinburgh) demonstrated sections, cultures, and a wax model from a case of sporotrichosis which had recently been published in the British Medical Journal. Dr. Otto Grünbaum made some observations on a case he had seen of this disease. Dr. Galloway (London), introducing Dr. Street, said the latter had had a case of supposed sporotrichosis, which he would describe. Dr. Street said that his patient had the eruption on the dorsal aspect of the feet, hands, and forearms. Dr. Adamson replied to the discussion. Dr. Stopford Taylor (Liverpool), in a paper on the treatment of eczema, defined the disease as a catarrh of the skin; its clinical course was often associated with catarrh elsewhere. He believed it to be caused by irritation within or without the body, and to be perpetuated by the same or some other irritant. Treatment should be directed to the removal of morbid products and the protection of inflamed surface from the atmosphere and other sources of irritation. He then described methods of treatment for the various stages of eczema. Dr. Cranston Low (Edinburgh) said, with regard to the etiology of the disease, he could not agree with Dr. Stopford Taylor in regarding the condition as purely catarrhal. He thought these affections should be divided into three classes: (1) Artificial dermatitis due to irritants, (2) dermatitis on the top of ichthyosis, (3) seborrhoeic dermatitis. He regarded varicose eczema as seborrhoeic dermatitis on a devitalized condition. Dr. Adamson thought, on the other hand, that the term "eczema" should be kept, and that the word "seborrhoea" should be got rid of. Dr. William Dyson held that both the terms "seborrhoeic dermatitis" and "eczema" should be dropped, as eczematous conditions were produced by such a multitude of causes, toxaemic from within and irritative from without. He preferred the term "irritative dermatitis." The President (Dr. James Galloway) then read a paper on degenerative changes in the blood vessels and their effects on the skin, showing numerous lantern slides of the hands of patients with terminal gangrene of the fingers with neuralgic symptoms of an erythromelalgic nature due to syphilitic disease of the arteries. He described the formation of the thrombus in the diseased vessels and also showed that the morbid changes occurred in the veins as well as in the arteries. He also showed drawings of a case of dermatitis repens, in whom the inner coat of the small blood vessels was very much diseased. Lastly, he demonstrated drawings from a man with syphilitic, tuberculous, and alcoholic disease, in whom a curious degeneration of the capillaries had taken place on the face and elsewhere, along with visceral disease. Dr. Eddowes having discussed the paper, Dr. Goodwin Tomkinson (Glasgow) read a paper on pruritus vulvae, in which he described a severe case of that disease in a pregnant woman which was completely relieved by two pastille doses of *x* rays. Dr. G. W. Dawson said he had seen a case where two applications of *x* rays cured a bad case of pruritus vulvae. Dr. Adamson and Dr. Stopford Taylor also joined in the discussion. Dr. James Galloway made a few remarks at the conclusion of the business of the Section, and thanked the readers of papers. He especially recommended members to view the dermatological exhibits in the museum.

Section of Diseases of Children.

Thursday, July 27th.

Having opened the meeting, the President, Dr. O. J. Kauffmann (Birmingham), called on Dr. Samuel West (London) to begin the discussion on the diagnosis and treatment of chronic pulmonary affections of children. Dr. West defined chronic diseases as those that were not acute, and gave accounts of tuberculosis, glandular enlargements, foreign bodies in the air passages, bronchitis, emphysema, and other conditions, as they affected the lungs in children. He held that emphysema was primary in most of the few cases where it does occur in children, and was not secondary to bronchitis as is commonly believed; he attributed it to malnutrition in the first instance. With collapse of the lung he dealt at some length, as also with the rare condition known as "turtle lung." He was followed by Dr. H. Vogt (Strassburg), who laid stress on the chronic condition of infiltration of the left, less often of the right, lower lobes of the lungs, that is not rarely left behind after an attack of bronchopneumonia in children, and may lead on to localized bronchiectasis. He regarded chronicity as a character often met with in infections due to the bacillus of influenza. Dr. J. E. H. Sawyer (Birmingham) emphasized the rarity with which pulmonary tuberculosis actually occurs in children, particularly school children. Dr. W. R. Jordan (Birmingham) echoed the remarks of Dr. Sawyer, and drew attention to the importance of the pharynx and naso-pharynx in the production of the frequent coughs of childhood. Dr. Barty King (London) thought that pulmonary tuberculosis occurred in from 3 to 5 per 1,000 in London school children aged 8 to 12, and that there was latent tuberculosis somewhere in a number more. Dr. N. C. Haring (Manchester) held that phthisis was a fairly common disease in children—chronic, not fatal till adolescence. He advocated the subcutaneous injection of tuberculin, both the human and the bovine varieties, in the specific diagnosis of tuberculosis. Professor Stoeltzner (Halle) advocated the use of fibrolysin in the chronic fibrotic pulmonary diseases of children. Dr. D. Stanley (Birmingham) explained a number of cases called "chronic bronchitis" in children as due to a chronic adenoid hypertrophy, not in the pharynx so much as in the larynx and bronchi. These, he believed, were the patients so often diagnosed as tuberculous, and wrongly so diagnosed. He thought that perhaps 10 per cent. of school children were tuberculous. Dr. C. P. Lapage (Manchester) also held that phthisis was common in children—perhaps 10 per cent.; he thought that *x*-ray examination was often of considerable help in the diagnosis of pulmonary disease in children. Dr. E. Moffett (Stafford) spoke of the apical dull patches often met with on percussing the chests of school children; these were not cases of tuberculosis, she thought, but asked for further light on the matter. Dr. William Ewart (London) referred this dullness to partial collapse of the lung, to be dispelled by deep breathing. He also described the methods of treatment he had devised for bronchiectasis. Dr. A. E. Naish (Sheffield) expressed himself as a believer in the rarity of pulmonary tuberculosis of school children. Dr. E. C. Myott (Newcastle) referred many cases of cough in children to mouth-breathing. Dr. West replied to a number of the points raised during the discussion. Dr. Vogt (Strassburg) then read his paper on disturbances arising from milk-feeding in children after the first year; describing the chief of these as the "exudative diathesis" of Czerny, a tendency to various eruptions of the skin. Breast-feeding, he said, was no protection against this diathetic weakness. He appeared to attribute rickets to milk feeding, and thought that the constipating effects of a milk diet were often overlooked. Dr. William Ewart (London) advocated the substitution of whey for milk in many conditions of ill-health in children. Dr. Stoeltzner (Halle) upheld the views of the reader of the paper. Dr. R. B. McVittie (Dublin) argued that many of the disadvantages attributed to milk were often due to its sterilization or pasteurization. Dr. Vogt replied that he found little difference between the results of feeding children with sterilized and with unsterilized milk. Mr. D. C. L. Fitzwilliam (London) next read his paper on nervous influence in the causation of angeiomata. In the great majority of cases he believed that naevi were present at birth. Slides were shown on the screen illustrating the distribution of naevi in accordance with the distribution of cutaneous nerves.

Friday, July 28th.

The proceedings opened with Dr. F. E. Batten's (London) paper on the epidemiology of acute poliomyelitis, a disease apparently confined to men and monkeys, and comparable in many ways to rabies. Epidemics of poliomyelitis, he

said, had been described since 1881 in Europe, the United States, Australia, and no doubt also had occurred in South Africa. The cases were seen most frequently in the hottest months of the year; the mortality was highest in patients aged less than 1 and more than 10. At least ten epidemics occurred during 1910 in England, and details of several of these were given. Dr. Batten was of the opinion that the disease should be made notifiable, and that simple isolation suffices to prevent its spread. Professor R. D. Rudolf (Toronto) commented on the tendency of the disease to vanish with the appearance of cold weather, arguing that there should be some animal carrier of the disease. Dr. L. Parsons (Birmingham) described the distribution of 32 cases observed during 1909 in London, remarking that the cold weather of that summer was no bar to the spread of the disease. Dr. R. Miller (London) asked how far the epidemics could be regarded as water-borne. Dr. Batten replied to a number of the points raised. Then Professor Stoeltzner (Halle) read his paper on oxypathy and uric acid, in which he first discussed the diatheses known as lithaemia and arthritism, and their treatment with sodium citrate and sodium phosphate. He also dwelt on the retarded excretion of uric acid in gout, and remarked that oxypathy was as common in children as gout was rare. The President thanked Professor Stoeltzner for his interesting and profound communication. Mr. P. B. Roth (London) next read his report on 1,000 cases of scoliosis treated by methods of posture and exercise. Vicious postures, he thought, a common cause of scoliosis, as thought Ambroise Paré in 1549; he separated the deformities as shown by these patients into postural and osseous deformities. The treatment employed consisted in training in posture and exercises for two to four months, with continuation of the treatment at home for from one to three years, reform of dress being the first treatment required. Mr. G. Heaton (Birmingham) asked how far bicycling could be regarded as a cause of scoliosis in young women and whether instruments should ever be employed. Dr. R. B. McVittie (Dublin) emphasized the importance of the medical supervision of school children. Mr. Roth replied that he regarded bicycling as good in scoliosis, not bad; he had never met with a case in which instrumental supports were necessary. Mr. H. Tyrrell Gray (London) then read his paper on spinal anaesthesia in children; the method he thought to be applicable in certain cases at all ages, from birth onwards, particularly when a severe operation was in contemplation. A number of illustrative cases were quoted, many of them being those with marked toxaemia. Spinal anaesthesia was particularly serviceable in severe and toxic cases of acute intra-abdominal disease; it was contraindicated in all cases of haemorrhage, because it produced a further fall of blood pressure that could not be compensated for by saline injections. Mr. S. Barling (Birmingham) dwelt on certain of the uncertainties and risks inherent in the employment of the method, which had been tried in Birmingham and had been given up. The President also commented on the method. Dr. R. Milne (London) next read his paper on measles—its treatment and prevention; the method consisted in destroying the disease by sterilizing the pharynx, mouth, and nose with carbolic oil and by inunctions of eucalyptus oil over the whole body. The method he maintained was equally applicable to scarlet fever and no less effective in destroying it and in preventing its spread. Dr. Milne described the success of his method as applied at Dr. Barnardo's village and other homes. He deprecated the school employment of pens, pencils, and ink erasers in common, for such employment must spread infection. Dr. J. Bruce-Bays (Peterborough) questioned the utility of preventing school children from catching measles. Dr. W. P. Kennedy (Bath) and Dr. Cant (Coleshill) asked questions, to which Dr. Milne replied. In over 800 cases of measles and scarlet fever he had had no complications and no deaths. Mr. F. W. Goyder (Bradford) finally read his paper on modifications of Owen's operation for hare-lip, illustrated by lantern slides, showing how improved cosmetic results could be obtained. The proceedings were closed in a few words by the President.

SECTION OF ELECTRO-THERAPEUTICS AND RADIOLOGY.

Thursday, July 27th.

THE proceedings opened with the reading of a note by Sir Victor Horsley and Dr. N. S. Finzi on the action of filtered radium rays when applied directly to the brain of monkeys. Their conclusion was that radium rays, from which the less penetrating beta rays had been filtered off, and employed as in a strictly clinical procedure, exerted no influence (discoverable by present methods) on the nerve tissues, but did cause notable changes in the blood vessels. The whole subject of radium therapeutics was opened up for discussion by Mr. W. Deane Butcher, who held that radium was the treatment of choice for naevi and was also indicated in any disease of the skin associated with pain or itching. With regard to filtration, the attempt by such means to influence a voluminous or deep-seated cancer was visionary, and the only hope of reaching deeply-seated organs involved some surgical procedure, the introduction of a radium tube into the tissues by Abbe's method, or of the radium ion by Haret's method. Dr. Sequeira detailed his London Hospital experience of cases treated with radium. He thought that the idea that radium would cure every case of rodent ulcer was a mischievous one, although it was certainly a cure for early rodents, provided certain restrictions were observed. Involvement of bone, cartilage, or the orbit militated almost fatally against the success of the treatment. Dr. N. S. Finzi protested against certain pessimistic views as to the result of radium treatment in cancer, and although the word "cure" could scarcely be employed at present, the speaker had two cases which had remained well for two years, and Dominici had one which had remained well for four years. Several speakers gave their experiences of radium in the clinic, and a word of warning was uttered by Mr. W. Holder (Hull) against attempts to get rid of large tumours too quickly. He believed that their rapid removal by radium might choke the sewers of the lymphatic system, and thereby substitute a general disease for a local condition. Professor Salomonson (Amsterdam) showed a new form of the Benoist penetrometer for giving accurate readings of the penetrating power of the *x* rays; and Dr. Reginald Morton, in a paper on the *x*-ray treatment of malignant disease, pleaded for closer co-operation between surgeons and radio-therapeutists. He wanted surgeons to adopt post-operative *x*-ray treatment in all cases as a matter of routine. The paper was discussed at length, and Dr. Ironside Bruce then gave a short account of a new method of estimating the size and condition of the renal pelvis—a method based on the injection of a 2 per cent. solution of collargol so as to obtain a shadow of the pelvis showing its contour. In the afternoon the members met again to listen to a paper by Mr. W. Armstrong (Buxton), who reported the results of a radium-water treatment. He had obtained satisfactory results by means of drinking, inhalation, and bathing—the two latter in conjunction with oxygen—in gouty and rheumatic cases and in cases of neurasthenia and high blood pressure. He insisted upon the necessity of large doses of radium-water and upon the fact that these large doses could be given without the least fear of ill effect. Dr. Saubermann (Berlin) also read a paper on the connexion between radium emanation and the organism. He dealt scientifically with the atomic disintegration of radium emanation, and reviewed the biological and physiological researches on this subject in the last few years, with especial reference to the action of the emanation on the fermentation products. He had many tables of figures giving the exact results of the absorption of the emanation in the fluids of the body, and he showed that it left behind in its passage through the tissues all its disintegration products—Radium A, B, and C, etc. A large amount of trouble had been taken in connexion with this paper, involving the installation of a large amount of apparatus, and at the close the President (Dr. Walsham) expressed the very great indebtedness of the Section to Dr. Saubermann for his truly scientific communication.

Friday, July 28th.

In opening a discussion on the *x*-ray treatment of ringworm, Mr. J. Hall-Edwards dealt with the objections which from time to time had been levelled against this method. It was said that the method was dangerous, but no case of permanent injury had been reported out of the hundreds of thousands that had been treated, and as to permanent baldness, this occurred sometimes after the ordinary methods of treatment other than *x* rays had been

used. He doubted whether the condition was any more common after *x*-ray treatment than after other procedures for bringing about epilation. He had a good deal to say upon matters of technique, and displayed his "tinea" chart for recording cases of ringworm of the scalp and the details of treatment. Dr. Reginald Morton (West London Hospital) distrusted any dose of less than five minutes' duration for epilation purposes. It was necessary to affect hair follicles at a considerable depth below the surface of the skin, and for his own part he gave seven minutes for the colouring of the pastille. Dr. J. A. Codd (Wolverhampton), Dr. Vavasour Clarke (Leicester), and Dr. Delpratt Harris (Exeter) touched upon the question of local authorities and ringworm treatment in schools in their respective districts. Dr. G. H. Orton (St. Mary's Hospital) fully believed that in hospital practice the *x*-ray treatment of ringworm was the best; in private practice, and particularly in the case of gentler families and girl patients, he was inclined to try ointment for a reasonable time before resorting to the rays. As to its safety, out of 815 cases at his hospital they had 5 cases which had retained some amount of baldness for two years. Dr. A. Howard Pirie related some experiments which seemed to imply that the skin would have to receive forty pastille doses before the surface of the brain received one pastille dose. Dr. Nagelschmidt (Berlin) read a paper on the diathermic treatment of circulatory disorders. He related particulars of a large number of cases of angina pectoris in which diathermy had been of value, and he claimed that this was, perhaps, the most potent means of influencing the general and local circulation. Dr. Hernaman-Johnson (Bishop Auckland) read a paper on the treatment of certain diseases of the alimentary tract by means of *x* rays combined with the internal administration of silver. The method owed its origin to Sir J. J. Thomson's address on secondary radiation from silver, given before the Section at the London meeting. The idea was to introduce silver in a suitable form into the alimentary tract, making it to cover the area of an ulceration. The result of exciting the metal by hard *x* rays projected through the back of the ulcer would be a bombardment of the diseased surface similar in effect to that from a highly active radium salt. He obtained some of the metal in a chemically pure precipitated form, and, having experimented with it upon himself without any evil result, he applied it to various cases of duodenal and gastric ulcer and pyloric obstruction, possibly with tumour. Out of 7 cases 4 were apparently cured, 1 failed to show any improvement, and 2 were still under treatment. Dr. W. B. Knobel (Belbroughton) read a paper on the differences in the appearance of phthisical chests as shown by *x* rays before and after treatment. The great value of radiography in phthisis, he thought, was its capacity to give an accurate picture of the extent of the disease that was capable of casting a shadow. Every other sign of phthisis was better observed on the screen, and this method of examination was greatly to be preferred. The paper gave rise to a good deal of discussion. Dr. Hugh Walsham said that he believed Dr. Williams, of Boston, U.S.A., was now less dogmatic than formerly with regard to his sign—the unilateral limitation of the diaphragm. In certain cases there was not limitation so much as a certain "stuttering" action of the diaphragm. Dr. Alfred Henry Carter made some remarks from the physician's standpoint, and asked for a clearer idea as to the diagnostic value of radiological observation in quite early stages before any unequivocal signs upon physical examination. In closing the Section a vote of thanks was accorded to the President and officers, on the motion of Mr. Hall-Edwards, and in reply Dr. Walsham said that the success of the Section was very largely due to the unofficial and unostentatious help given by that gentleman.

Section of Laryngology, Otology, and Rhinology.

Thursday, July 27th.

The day's work began with a discussion on the treatment of chronic adhesive processes in the middle ear, which was introduced by Mr. Macleod Yearsley. He began by defining the conditions, excluding otosclerosis, and insisted upon the necessity for accurate diagnosis, and gave the various features which have to be taken into consideration. He then mentioned various methods of treatment and briefly discussed their relative merits. He considered that any good result was obtained more by inflation and oto-massage, combined with treatment of the nasal cavities, than by other means. Inflation through the Eustachian catheter gave better results than that with Politzer's bag. It should be done at least three times a week, or even daily, to get the best results, and one must guard against over-inflation, and for this reason he deprecated self-inflation of the ear by the patient. If benefit were derived from use of the catheter, then treatment of the nose was to be advised. Amongst non-operative adjuncts to treatment there were oto-massage, the use of hot air, intratympanic injections, and fibrolysin. It was the inflation and massage that gave the result, and not the heated air. In lip-reading and other aids to hearing there was considerable room for research, especially as regards the ear telephone, and he suggested that the matter should be taken up by electrician and otologist together. Most methods of treatment were referred to, but only mentioned to be discarded. He was followed by Dr. Hugo Frey (Vienna), who dealt with the pathological aspects of the condition in relation to differential diagnosis, and the difficulties in arriving at an exact diagnosis. Considerable confusion still existed in the terminology, owing to the want of careful clinical records, inner-ear deafness often being associated with the condition. The bone conductions should be carefully estimated. The diseased condition was often arrived at by contraction of tissue inflamed in early youth, catarrh being the primary condition and the adhesions secondary. After discussing the importance of early attention to the naso-pharynx, and the question of preventing future trouble by removing adenoids and other obstructions, Dr. Frey said there was no specific treatment for tinnitus; one must treat the condition of the ear. He agreed with the former speaker that the best results were obtained by inflation along with the use of liquid paraffin. The electrolytic bougie he regarded as having no more than a mechanical effect, but he recommended the use of moist heat and the application of hot air; sun baths in this relation seemed to do good, and also light treatment, which reduced the subjective noises. He had found iodine internally useful, in medium doses, in some cases. He had abandoned the method of producing a permanent perforation in the tympanic membrane. Tenotomy of the tensor tympani gave doubtful results; it was better to remove the ossicles. The mobilization of the stapes was not only dangerous but useless. These operations were only the last resource. The question was not so much the dimensions of the pathological condition as its exact localization. He considered that the pharyngoscope for inspection of the opening of the Eustachian tube had a considerable future before it. Dr. Andrew Wylie (London) said he had tried the method of treatment with hot air for four years on 400 cases, 110 of which had greatly improved. He had reduced the size of his instrument since the Belfast meeting. Hot medicated air was applied through a Eustachian catheter made of vegetable fibre two or three times weekly. He gave directions for the method, and demonstrated his apparatus. The discussion having been continued by Messrs. Jobson Horne (London), Watson Williams (Bristol), Mole (Bristol), Syme (Glasgow), Pegler (London), Bronner (Bradford), Dan McKenzie (London), Sydenham (Walsall), Tilley (London), Wishart (Toronto), and H. J. Davis (London), Mr. Macleod Yearsley and Dr, Hugo Frey both replied, and the President added a few observations. The day's work ended with a demonstration by Dr. Horne of his insufflator for the nose, naso-pharynx, and larynx.

Friday, July 28th.

The principal discussion for the concluding session was on the diagnosis and treatment of conditions in the accessory nasal sinuses giving rise to oculo-orbital symptoms. In opening it Professor Onodi (Budapest) detailed the oculo-orbital symptoms which had been observed to follow accessory sinus disease, and said that a very careful examination of the nose was required in latent cases. Speaking of the diagnostic value of the individual oculo-orbital symptoms, he said stress had been laid upon the unilateral quick development of central scotoma and the transition from a relative to an absolute scotoma combined with a peripheral narrowing of the visual field. It had

also been maintained that the enlargement of the blind spot for colour was the first symptom. These two conditions could arise from other causes having nothing whatever to do with the accessory sinuses, but they directed attention to a latent affection of the accessory sinuses, and even oftener to manifest disease. Narrowing of the visual field was met with in sinus disease but might be absent. The field of vision should always be examined, and if there was narrowing this was important for diagnosis. In doubtful cases a radiograph was of use, although a dark shadow on one side sometimes led to error. Finally there was exploratory opening of the sinuses for diagnostic purposes. He further discussed the question of bitemporal haemianopsia, optic neuritis, optic atrophy, and diseases of the lacrymal apparatus. There were cases where a disturbance of nasal origin healed spontaneously as well as under simple treatment, and operative procedures which had not benefited the visual disturbance. After discussing the therapeutic measures adopted in manifest and latent disease and cases where the rhinoscopic findings were negative except for swelling of the middle turbinal, and cases of post-operative blindness, he emphasized particularly the care that should be taken in opening the posterior ethmoidal cells and the sphenoidal sinus to avoid opening the optic canal. Dr. Adolph Bronner (Bradford), the joint opener of the discussion, said a great number of diseases of the brain, eye, and orbit, were due to affections of the nasal accessory sinuses, and detailed the commonest of these which gave rise to oculo-orbital symptoms. Congenital defects of the bone often facilitated the spread of the disease. He discussed various diagnostic measures such as transillumination and the use of x rays, antisyphilitic treatment, mercury, and tuberculin in tuberculous cases, vaccines (if possible autogenous), the washing out of the individual accessory sinuses, mentioning the methods for diagnosis of disease in these cavities. The symptoms and treatment in the case of the maxillary antrum. If the orbit was affected there was generally phlegmonous cellulitis, due to thrombosis of the veins. As for cavernous sinus disease, this was often due to diseased tonsils or pharynx, which were generally overlooked. Often conjunctivitis, mucocele. Also asthenopia (muscular and retinal) cyclitis, iritis, retinitis, choroiditis, cataract; chiefly due to congestion and toxins. In all cases of obscure retrobulbar neuritis, slight optic neuritis (unilateral), and meningitis, these sphenoidal sinuses should be carefully explored. If several of the accessory sinuses were involved and the symptoms urgent an operation on all the cavities was advised, and the various methods described. The discussion was then continued by Messrs. Watson Williams (Bristol), Tilley (London), Syme (Glasgow), Haring (Manchester), Seymour Jones (Birmingham), Morris (Cardiff), Dan McKenzie (London), Jobson Horne (London), Brown Kelly (Glasgow), Davis (London), Pegler (London), Cunningham (Belfast), Marsh (Birmingham). Professor Onodi and Dr. Bronner replied. The meeting finally ended with a demonstration by Dr. Watson Williams of a suction syringe for the exploration of the maxillary antrum and sphenoidal sinus, and another one by Dr. Hugo Frey (Vienna) of coloured microphotographs (Lumière's process) of the normal and pathological histology of the auditory labyrinth.

SECTION OF MEDICAL SOCIOLOGY.

Thursday, July 27th.

THE Section was concerned at its second session with the question of hospital reform as affected by the National Insurance Bill, and the introductory papers were representative of both medical and lay points of view in this matter. Dr. Lauriston Shaw, Physician to Guy's Hospital, argued that hospitals would find, even after the bill was passed, that there was still much work for them to do on a voluntary basis. It was desirable to emphasize the fact that the bill provided only, except in the case of consumption, for ordinary domiciliary medical treatment. Further provision of some sort was necessary therefore, and it was probable, at any rate at the outset, that it would be made by voluntary hospitals. The attempts of hospitals to combine the dual function of ministering to minor ailments and at the same time dealing with cases requiring the highest resources of medical and surgical skill had handicapped the development of the professional side of these institutions, and the avoidance of imposition had been rendered impossible. The domiciliary treatment provided by the bill should greatly simplify the work of hospitals in this respect. Dr. Shaw laid stress on the absolute necessity, from a professional and social point of view, of dealing with insured persons at the hospitals on a consultative basis in co-operation with their insurance doctor. It would be unfair and detrimental to the insurance service if the hospital were in direct competition with it. For the patient to be free to choose between them would be most unreasonable and unbusinesslike. Unless hospitals voluntarily relinquished all treatment of the kind that the insurance scheme provided, and cooperated on consultative lines, not only would the insurance service be imperilled, but also the future of the hospitals as independent institutions. Mr. J. Courtney Buchanan, Secretary of the Metropolitan Hospital, sketched the future of voluntary hospitals, urging that hospital managers should follow the wise course adopted by the British Medical Association, and at once define the work experience showed they could best do in relation to the insurance scheme, and to any proposals for the reform of the Poor Law. Mr. Buchanan was in substantial agreement with Dr. Shaw as to hospitals dealing with the insured on a consultative basis, and he pleaded in conclusion for greater sympathy and co-operation between private practitioners and hospitals. Mr. Neville Chamberlain (Birmingham) devoted attention to out-patient departments in relation to the main issue under discussion. Premising that the work of the out-patient departments was the least satisfactory part of modern hospital routine, he described the endeavours made at the General Hospital, Birmingham, to discourage the attendance of trivial cases. Experience had shown that without constant pressure on the staff applicants for relief were not sorted out in this manner, and it was felt the only alternative was to bring influence to bear on the people themselves, their habits, and traditions. To bring about better conditions the Birmingham Provident Dispensary was founded. On the committee the profession was largely represented; appointment on the staff was open to any qualified medical man. Mr. Chamberlain declared himself in favour of State aid of voluntary hospitals. Dr. E. D. Kirby (Birmingham) read a paper on some local aspects of hospital reform, tracing the gradual conversion of medical charities in Birmingham into provident institutions, and exhibiting a chart which showed that since 1871 the percentage of people treated under charitable arrangements in the city had risen from 3.07 to 11.17. In the general discussion Dr. J. B. Brierley (Manchester) took a grave view of the changed conditions of hospital work that the Insurance Bill would bring to pass; Dr. J. F. Keay (Greenwich), on the other hand, thought the extent of agreement amongst medical men and hospital managers, as revealed by the papers read, was a hopeful sign that a happy issue would be brought about. Dr. D. J. Mackintosh (Glasgow) claimed that the bill would do away with hospital abuse, if it existed; trivial cases would be got rid of, and the hospitals perforce would become consultative in character. Dr. Taylor (Salford) feared that the difficulty of the depletion of hospital funds owing to the bill would be insuperable. Dr. Neal spoke of the Birmingham Provident Dispensary as free from the abuses that usually characterized such institutions. Dr. Wallace Henry and Dr. Jackson, of Plymouth, touched on the position of medical staffs if the hospitals received State aid. Dr. George Reid, the President of the Section, foresaw a difficulty, if hospitals became purely consultative, of medical education tending to be too highly specialized. The readers of papers having briefly replied, the proceedings terminated.

Friday, July 28th.

Discussion of the best methods of securing the medical treatment of school children occupied the attention of the Section at its concluding session, and it was evident that the balance of opinion was in favour of the work being carried out in co-operation with private practitioners. Dr. Barwise (Medical Officer of Health for Derbyshire) described an endeavour made to form a provident club for the medical treatment of the school children of the county, and related how, owing to the lethargy of the parents, the scope of the scheme had to be reduced from 90,000 to 20,000, and finally to 2,000 children, in one selected area. Treatment was provided entirely by whole-time officers,

because of difficulties in securing agreement amongst local practitioners. Dr. Priestley (School Medical Officer for Staffordshire), in a paper which discussed the general question in a very interesting fashion, first dealt with the extent of the medical examination which the individual child should receive. He doubted if, supposing the medical staff were doubled or trebled, and each child were given a life assurance examination, more than 1 per cent. of remediable cases would be found over and above the numbers found now. Most of the ailments to which attention should be devoted—pediculosis, adenoids, teeth, eyes, and mental and physical defects—he went on to argue, were remote from the daily experience of the ordinary general practitioner; they were specialists' work. "After a period of hesitation" Dr. Priestley had definitely put on one side the general practitioner, and he also saw fatal objections to treatment of school children through hospitals. The school clinic and a special school doctor would do the work more thoroughly, intelligently, and economically. He was in favour of treatment being in other hands than those which managed inspection, but there should be mutual assistance and co-operation. Dr. Priestley recognized that at the moment clinics were only practicable in towns, but he thought villages might join forces for the establishment of a clinic, or a travelling clinic might be tried. As to the readiness of parents to make use of existing means of obtaining treatment, it had been found in Staffordshire that only 10 per cent. were so neglectful of their responsibilities as to make no effort towards remedying the defects in their children's health when these were pointed out to them. Dr. George A. Auden (Medical Superintendent to the Birmingham Education Committee) discussed the subsidiary question of "medical certificates to justify absence from school." He pointed out that certificates granted without due consideration of the circumstances of the case and the child's surroundings might lead to children being condemned to spend the day in a sunless court engaged in some form of drudgery, when school life would be less harmful to them from a health point of view. He looked to co-operation between the school medical officer and private practitioners as a means of preventing the unjustifiable granting of certificates. In the discussion Dr. Snell (Coventry) urged that only after very careful consideration was a local authority justified in establishing treating centres. There were too many existing agencies for treating disease, and much overlapping occurred. In Coventry they had tried to avoid the "painfully pernicious system" of the London County Council of getting children early in life to resort to charities. The important point was to make parents who could do so pay for treatment. Dr. Henry (Leicester) described the methods adopted in that county to carry out treatment through local practitioners. Dr. J. B. Brierley (Manchester) and Miss Moffett, M.D. (Stafford), both spoke in support of clinics. Dr. Wynne (Leigh) protested against the exclusion of the general practitioner from this work; in his district they had satisfactorily treated 50 per cent. of the ailing children. Dr. McWalter (Dublin) raised the question of how far the nation was justified in working for what was practically the "survival of the unfit."

Section of Medicine.

Thursday, July 27th.

The proceedings on the second day commenced with a paper by Dr. Hale White (London) on the diagnosis of fever without physical signs. In opening the discussion, Dr. Hale White said that, as their means of investigation became more numerous, the cases in which they were unable to explain the causes of pyrexia became fewer. He pointed out that, as recently shown by Bardswell and Chapman, even walking exercise raised the temperature in a normal individual, this fact invalidating many conclusions that had been drawn as to auto-inoculation when the temperature of those suffering from tuberculosis had been found to be raised as a result of exercise. He described a similar occurrence in his own case after taking a bath at 112° F., the temperature taken in the mouth having risen, after a period of fourteen minutes, to 103° F. The temperature of febrile patients, too, was influenced by that of the surrounding air. The younger the patient the more easily was the thermotaxic mechanism thrown out of gear. Among drugs, belladonna caused a rise in temperature, and reference was also made to the extraordinary rise in temperature which occurred in rabbits after the administration of beta-tetrahydronaphthylamine. He next dealt with those cases resulting from damage to the nervous system, especially in cases in which the corpus striatum had been injured. The temperature was always highest on the paralysed side. There were a few genuine cases of hyperpyrexia even in hysteria. In such cases the termination of the pyrexia was usually quite sudden. In all cases in which the cause of the pyrexia was not obvious, the blood should be examined for the agglutination reaction of typhoid, and of paratyphoid also. Obscure pyrexia was often caused by one of a group of blood diseases. Pernicious anaemia was an instance of this, and so too was Hodgkin's disease, in which the pyrexia was frequently relapsing in type. He particularly emphasized the necessity for an examination of the urine bacteriologically. Malignant disease might also cause pyrexia, especially in the rapidly-growing sarcoma. A deep-seated empyema was also a frequent cause of an apparently inexplicable pyrexia. *X* rays were often of value in locating this, the shadow caused by the pus being very dark. He concluded by referring to cases of latent tuberculosis. In these cases also a thorough examination of the lungs by *x* rays might prove of great assistance. Sir William Osler (Oxford) placed the causes of obscure pyrexia in three groups—(*a*) neurotic, (*b*) infectious, (*c*) cases of obscure undetected tumour. There were not many cases which accurately fell into the first group. Among them were those occurring in young people at puberty, especially in the case of fat children. There was no interference with nutrition and no subjective features. In the second group of cases tuberculosis was responsible for a large proportion. There were no ascertainable physical signs, although in some he had found a tuberculous bacillaemia. Chronic septic endocarditis also fell into this group. A diagnostic hint was often given in these cases by the presence of ephemeral nodes on the fingers and toes. He mentioned also syphilis and the colon group of infections as causes of obscure pyrexia. Dr. E. C. Hort (London) discussed the doctrine of the unity of fevers, which is based on the theory that in man fever is apt to follow any form of cell destruction, and is the direct result of the absorption of fever-producing substances set free from the cells destroyed. He showed diagrams in explanation of this theory, by the adoption of which, he said, the number of unexplained cases would become smaller and smaller. Dr. Tyson (Folkestone) thought that two points in the discussion had not been sufficiently emphasized—namely, sex and age. In toxaemic conditions he attached considerable importance to the respiration rate, although the temperature might be normal. Dr. Stacey Wilson (Birmingham) affirmed his belief in the use of raw meat feeding, and the use of some such antiseptic as sodium sulphocarbolate alternated with quinine sulphate in obstinate cases of rheumatic pyrexia. Dr. Rudolph (Toronto) said that from clinical experiments he had made, he was in accord with the opinion of Wunderlich that the normal temperature was rather elastic and lay between 97.2° F. and 98.8° F. Dr. Hobhouse (Brighton) referred to a form of physiological fever in children, which was due simply to a hastening of the ordinary metabolism. Syphilis was a more common cause of fever than Dr. Hale White suggested and might occur in tertiary or inherited syphilis. A certain number of cases of pyrexia were never explained even on the *post-mortem* table. Dr. C. O. Hawthorne (London) urged the importance of using only a Kew-tested thermometer in cases of obscure pyrexia. In children the existence of rheumatism might quite well be a cause of pyrexia with no arthritic symptoms. He emphasized the fact that children of a rheumatic inheritance were prone to be neurotic. This had an important bearing on the case also. Dr. Melland (Manchester) thought the ground had been completely covered by the previous speakers. He suggested that an unrecognized malarial infection in the blood might account for some obscure cases. Malignant endocarditis had altered greatly in type during the past few years and in this connexion was frequently very misleading. Dr. William Hunter (London) said that they must distinguish between the disease present and the fever accompanying it. He placed the actual causes of fever under two main headings: (1) The non-infective, (2) the

infective. In the former, which was of less importance than the latter, might be instanced the pyrexia arising from exercise, the taking of certain drugs, etc. In the latter group there were (*a*) specific infections, for example, typhoid fever, (*b*) infections caused by the various pyogenic organisms. The source of infection might be in any part of the alimentary tract, such, for example, as the pyrexia associated with a gastric ulcer, which really was a septic wound. Dr. Hale White replied to the observations made by the various speakers, and the Section adjourned until the following day.

Friday, July 28th.

The last day's work began with an interesting demonstration by Dr. William Ewart of a method for the clinical employment of CO_2 by inhalation. He reviewed the development of the modern view that this substance played an important part in the production of the respiratory movements and referred to its uses in treatment. These he summarized as stimulating respiration, acting as a cardiac stimulant, its indirect action as a sedative, and its power of toning up a weak pulse. He demonstrated the actual apparatus employed by means of which the percentage of CO_2 could be graduated. This he recommended should not exceed 4 per cent. The source of CO_2 employed was an ordinary siphon of soda-water, which was allowed to discharge its gas into a container to which the special mouthpiece he recommended could be attached by tubing. The paper was discussed by the President, Dr. Halls Dally, and Dr. Stacey Wilson. Dr. T. Stacey Wilson (Birmingham), in a paper on colon dyspepsia, said that in many cases of apparent gastric dyspepsia the primary disturbance was really a functional disorder of the colon, and not of the stomach. Palpation of the colon clearly demonstrated hardness and tenderness in such cases. The functional disorder referred to appeared to consist in abnormal muscular activity, of the nature of an expansion of some of the circular fibres of the muscular wall causing hardening of the bowel with enlargement of the gut. This the author considered probably due to an irritant or stimulant probably resulting from micro-organismal activity. This "expansile tone" was more readily produced in cases of general nervous instability. Among the symptoms were pain—felt either in the bowel or referred to the skin area. Mental depression was a marked feature, and anginal symptoms were frequently noted. The treatment should be dietetic, intestinal antiseptics being administered in addition. The paper was discussed by the President, who expressed his difficulty in visualizing the condition of "expansile tone," as described by Dr. Stacey Wilson, Dr. Malet (Wolverhampton), and Dr. William Ewart. Dr. F. W. Price (London) next read a paper on recent advances in cardiac therapeutics. He said that the introduction of graphic methods of examining the mechanism of the heart had resulted in a great advance in their knowledge of cardiac disorders. He described a series of investigations dealing with the action of digitalis and its allies, which had been conducted at the Mount Vernon Hospital for Diseases of the Chest during the past two years. There were 36 cases in all, and of these 16 were cases of auricular fibrillation. The *B.P.* tincture of digitalis was used as a rule, in doses of ♏ xx ter die, until some definite reaction was obtained. The drug was then stopped. This was better than beginning with smaller doses. Relapses usually occurred in the cases of auricular fibrillation, but not in the cases with normal rhythm. He described, finally, the clinical features of auricular fibrillation. The paper was discussed by the President, Dr. Stacey Wilson, and Dr. Rudolf (Toronto). Dr. Oscar Jennings (Paris) then read a paper on the treatment of morphinism, in which he said that the first condition for renunciation of the drug was the inculcation of the conviction that, with suitable therapeutic, hygienic and dietetic measures, failure was out of the question. The patient must devote himself for the requisite time to the end in view. There was no use trying to deceive the patient by substitution of water for his ordinary solutions of morphine. He did not believe in treatment by hyoscine in large doses. It might be admissible in cases of real narcomania, when nothing else could be done, but not used for the treatment of the ordinary morphine habitué. Neither did he approve of the induction of a comatose condition by large doses of bromide. They should aim at the restoration of self-control, above all things. As prophylactic measures against relapse in the case of an ex-habitué, he recommended the use of the Turkish bath, and as an exercise, cycling. The paper was discussed by the President, Dr. Crichton-Miller (London) and Dr. Bryce. Dr. Halls Dally (London) then gave a demonstration of the uses of Dr. Pachon's sphygmo-oscillometer for the clinical determination of the blood pressure. The apparatus furnished information as to the diastolic as well as the systolic pressure. Dr. W. J. Tyson (Folkestone) next read a communication on mania following pneumonia. He emphasized the following facts in this condition: The pneumonia was sthenic in type. It usually occurred in neurotic individuals, and in people under 40 years of age. It was generally associated with obstinate sleeplessness. No great area of the lung need be involved, and the attack usually occurred after the crisis. It was probably toxic in origin. The prognosis on the whole was good, and for the obstinate sleeplessness preceding the attack, food was the best hypnotic. Several members made brief comments on Dr. Tyson's communication. Drs. J. S. Goodall and Kingsbury (London), after discussing the causation of subcutaneous emphysema, pointed out its rarity apart from obvious strain, and described the case of a child, aged 1 year, who died of pneumonia after about fourteen days' illness, with very definite subcutaneous emphysema over the manubrium, the left side of the neck and the left side of the face. *Post mortem*, the lower lobe on each side was found to be congested, and the dorsal part of each upper lobe. The liver was found to be very large. They suggested that their observations supported the view of Keith that the diaphragm expanded the lower lobes and the dorsal part of the upper lobes. With a few words of congratulation from the President, the proceedings of the Section then terminated.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

Thursday, July 27th.

A DISCUSSION on trauma in relation to nervous and mental affections was opened by Dr. F. W. Mott, F.R.S. He dwelt upon the medico-legal importance of distinguishing between cause and coincidence of head injury in relation to nervous and mental disease, also of recognizing that head injuries were not infrequently the result of nervous and mental diseases. On the whole, he was forced to the conclusion that the relation between head injuries and mental disease was very small. In over 2,000 necropsies on patients who had been under his observation there were only 2 cases of fracture of the skull and brain injury; and at Bexley Asylum Dr. Stansfield informed him that in over 7,000 admissions any connexion between a head injury and insanity was only found in 16 males and 20 females. Dr. Mott had found evidences of head injury in 10 per cent. of general paralytics and in 20 per cent. of epileptic cases. In these cases the head injury was most probably very frequently the result of the disease. Dr. Mott dealt with the Wassermann reaction, which he considered to be of extreme value in the diagnosis of syphilitic cases, especially of general paralysis. He related several most interesting cases, especially one in which general paralysis had undoubtedly supervened two months after a head injury. He specially dwelt on the medico-legal aspects of these cases, and illustrated his remarks by a lantern demonstration. Dr. Mott's remarks provoked an interesting discussion, most of the subsequent speakers agreeing with him as to the rarity of trauma being a definite cause of mental disease. Dr. Byrom Bramwell (Edinburgh) agreed in thinking that the great difficulty in cases where nervous symptoms followed trauma was to decide whether or not the patient was healthy before the injury. He thought that in these cases there had probably been punctiform haemorrhages into the grey matter. One of the most interesting points to which Dr. Mott had referred was traumatic neurasthenia. Dr. Bramwell had a large experience of railway and other compensation cases, and he found that the patients did not get well so long as the question of compensation was pending. He did not think that the value of the evidence of the skilled neurologist was sufficiently recognized in these cases. Dr. Shuttleworth (London) referred to his experience among mentally deficient children at the Royal Albert Asylum, and discussed the question of injuries received by the mother during gestation and in labour, with their probable effect on her offspring. Dr. Risien Russell (London) expressed

the opinion that not only traumatic neurasthenia but also occasionally cases of paralysis agitans and of tabes did develop as the result of an injury. Dr. F. E. Batten (London) said he could not agree with either Dr. Byrom Bramwell or Dr. Russell that organic disease was the direct result of injury. He quoted a case of cerebral tumour, showing that the accident and injury sustained by the patient were caused by a cerebral tumour, and not the tumour by the injury. Dr. Nathan Raw (Liverpool) stated that during the last fourteen years over 137 cases of general paralysis had been under his care, and of this number 8 cases were attributed to injury; but careful inquiry showed a definite history of syphilis in 6 of the cases, and in 1 general paralysis had been diagnosed before the injury occurred, He did not think that trauma was a cause of general paralysis *per se*, but that a severe injury might accelerate its onset in persons predisposed to the disease. Dr. Midelton (Bournemouth) thought that trauma might be a very great factor in the production of paralysis agitans, and quoted cases. Dr. Colquhoun (Dunedin, New Zealand), Drs. Robertson (Edinburgh), J. Haddon (Hawick), J. G. Soutar (Gloucester), J. Mills (Ballinasloe), Salisbury Sharpe (London), Edwin Bramwell (Edinburgh), and the President also spoke and expressed themselves generally in agreement with Dr. Mott, who replied to the remarks of the various speakers. Professor B. Pfeifer (University of Halle) read a paper, illustrated by lantern slides, on brain puncture for diagnostic purposes. He also exhibited the syringe with which he was accustomed to make the injections. Dr. Trevelyan (Leeds) asked if Professor Pfeifer had seen cases of Jacksonian epilepsy after brain puncture. Dr. R. T. Williamson (Manchester) also spoke, and Dr. Pfeifer replied that Jacksonian epilepsy had not followed brain puncture.

Friday, July 28th.

Dr. R. V. Stanford (Research Chemist, Cardiff City Hospital) read a short paper on the need for chemistry in the investigation of mental disease, in which he pointed out how the treatment of insanity in recent years had profited by the introduction of chemical methods. As the application of chemistry in this connexion was of comparatively recent origin, an opportunity was thus presented to attack the subject in a rational and connected manner, but the great difficulties in any such investigations should not be lost sight of. Dr. Haddon (Hawick) emphasized the importance of diuresis in cases of insanity. Dr. H. Devine (Wakefield Asylum) laid stress upon the importance of having chemical researches carried out by expert chemists, and accentuated the necessity for a study of normal metabolism and the use of controls. The President (Dr. Goodall) considered that the presence of a chemist and physiologist in a mental hospital was as necessary as that of the pathologist and bacteriologist. He thought that a great deal of vague talk had been indulged in about "toxins," endogenous and exogenous, as well as about "disordered metabolism." Dr. Henry Devine (Wakefield Asylum) read a paper on the significance of some confusional states, in which he gave details of several cases showing that certain confusional states would be found to depend on the general tendency of human nature to evade real issues and take the line of least resistance. When reality so often proved painful and difficult, the individual might seek to gratify his desires by turning away from facts as they existed, and taking refuge in certain inferior mental operations. Freud had shown that dreams had a similar significance, as they represented the "living through," or fulfilment of a wish which could not obtain normal gratification. Dr. Winifred Muirhead (Pathologist, Morningside Asylum, Edinburgh) read a paper on the Wassermann reaction in the blood and cerebro-spinal fluid in insanity, and examination of the spinal fluid. The cases examined were not specially chosen for the possible incidence of syphilis, but in the majority this was the usual routine examination of the patients on admission. She used the quantitative method recommended by Mackenzie, by which method her percentage of positive reactions in general paralysis was 83.6, partially positive 3.2, and negative 13.1. With spinal fluid the results were still lower, positive cases being 72.1 per cent., partially positive 11.6, and negative 16.3. These positive results were lower than those obtained by other workers. Dr. Robertson (Morningside Asylum) thought the day was coming when by means of these reactions one could diagnose general paralysis before any clinical symptoms arose. Dr. Soutar (Gloucester) wished to know how they could examine patients by the Wassermann reaction when there were no symptoms to guide them, to which Dr. Robertson replied that it was the duty of the physician in charge of syphilitic patients to examine them by the Wassermann reaction at frequent intervals. The President agreed that these examinations should be adopted as routine measures in many cases. Mr. Mackenzie Wallis and Dr. Midelton having spoken, Dr. Muirhead replied. Mr. Mackenzie Wallis (Cardiff) read a paper on metabolism in the insane, which was discussed by Dr. David Blair (Lancaster), Dr. Muirhead and the President. Dr. M. D. Eder related a case of obsession and hysteria treated by the Freud psychoanalytic method, which was discussed by Dr. Gwynne Maitland. The meeting concluded with a paper on douche massage in disease of the central nervous system, by Dr. E. R. Schuster, (Aix-la-Chapelle), illustrated by photographs of the process being carried on in the baths.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Thursday, July 27th.

PROFESSOR DR. PAUL STRASSMANN (Berlin) opened the discussion on the present position of vaginal operations in relation to the uterus and its adnexa. Professor Strassmann pointed out the dangers of the abdominal route as being the greater possibility of peritonitis, the disturbance of intestinal activity, the formation of adhesions, and the risk of hernia. The vaginal route offered a wide sphere, and yet a wider one in the future. Oftentimes the abdominal route involved an attack too large for the condition, though for appendicitis, tumours of a doubtful character and of large size it would be preferred. But for haematocele, salpingo-oöphoritis, pus tubes, extrauterine pregnancy, myomata in general (up to the size of the fetal head), ovarian cyst (unilocular and multilocular), vesico-uterine fixation, and cancer of the uterine body, Professor Strassmann employed the vaginal route. The narrow vagina in the nullipara or aged presented no difficulties when vaginal splitting was used. The anterior or the posterior vaginal incision might be made. Spinal anaesthesia was occasionally required. In cancer of the cervix, Professor Strassmann adopted the extended abdominal operation, except in early cases and stout patients. Dr. Herbert Spencer (London) agreed with Professor Strassmann that laparotomy might be performed too frequently, as in the condition of "acute abdomen" due to gonorrhoea. He was disappointed to hear that Professor Strassmann did not use non-absorbable sutures, because personally he considered there was danger of tetanus when catgut was used. The great objection to the vaginal route for ovariotomy was that it was not possible to know whether the tumour was malignant or not till it had been opened. Dr. Amand Routh (London) thought the vaginal route would be preferred by all in minor tumours. The lower route had the advantage of easy drainage, which was important in acute and chronic pus conditions. With large tumours, as in myomata and ovarian cysts and in extrauterine pregnancy, laparotomy should be performed. Dr. Hellier (Leeds) thought that ovarian tumours, unless very large, should be removed entire because of the difficulty of knowing whether they were malignant. He laid stress on examining the appendix in the course of an abdominal operation. He could not agree as to the greater ease for drainage by the vaginal route than through the laparotomy wound. Dr. Purslow (Birmingham) asked if there was no danger of an ovarian tumour, such as a dermoid, bursting, and its contents passing into the abdomen in the course of its extraction by the vaginal method. He quite agreed with Professor Strassmann that the vaginal route was preferable in most acute pus accumulations in the pelvis. He found catgut could not be tied securely in ligaturing a pedicle. Less blood was lost in operating by the abdominal route. Dr. A. W. Russell (London) said he was attempting to extend the application of the vaginal route. He used catgut, and had no fear of tetanus. He employed clamps in many of his vaginal cases; he therefore had no fear of haemorrhage, and after forty-eight hours removed them under a short anaesthetic. Dr. Thomas Wilson (Birmingham) favoured catgut,

and he feared neither haemorrhage nor tetanus. For fibroids he frequently operated through the vagina. Dr. Wilson performed abdominal hysterectomy for both cervical and corporeal cancer; and for pyosalpinx he employed the abdominal route. Dr. John Campbell (Belfast) was convinced that in the majority of cases the abdominal route was preferable. In cases of doubt it was essential. He believed in removing ovarian tumours entire. In his opinion catgut or an absorbable ligature would be used universally in the future. Dr. Stanmore Bishop (Manchester) thought that the merits of each case must be judged by the individual operator in his choice of route. He used catgut, but not inside the abdomen. He deprecated the use of the catheter after operations, being of opinion that it lays the bladder open to cystitis. Dr. Scott Carmichael said he could not understand why the vaginal route was not more frequently used in cystocele and prolapse. The vaginal method was extremely useful in mild inflammatory conditions of the adnexa only. In most ovarian tumours, and in most cases of carcinoma, the abdominal route was preferable. Dr. May Thorne thought the chance of hernia after the abdominal operation very much less now than formerly; she would advise the abdominal route because of being able the more readily to deal adequately and radically with the condition found. She used linen ligatures. Dr. R. J. Johnstone (Belfast) had now come to deal with all cases of inflammatory diseases, especially acute cases, by the vaginal route. Dr. Gemmell favoured the use of the abdominal route in most cases, and he employed catgut. Dr. Handfield Jones spoke, and Professor Strassmann replied.

Friday, July 28th.

The third day's work of this Section began with a discussion on the cause and cure of eclampsia, which was introduced by Dr. Hastings Tweedy. He had, he said, now had 29 cases in sequence, covering a period of two years and nine months, without a death. His treatment was as follows: On admission the patient was given ½ grain of morphine hypodermically, The stomach was washed out, and a purgative poured through a tube. A catheter having been passed, the patient was then turned on her back and the lower bowel and rectum thoroughly washed out with a solution of bicarbonate of soda. Submammary infusion was used if necessary. Dr. A. W. Russell (Glasgow), who followed, said that he realized the difficulty of relieving cases of eclampsia. He felt that the administering of salines sometimes had a deleterious effect. He was not in favour of giving morphine or chloroform. Dr. Buist felt some difficulty in regard to Dr. Tweedy's views. He was confident that good results had been obtained from the administration of salines and morphine. Professor Strassmann maintained that milk was a great factor in the cure of albuminuria, and he thought that the toxaemia of the pregnancy was apart from the poisoning due to albuminuria. Dr. Thomas Wilson thought that the poisoning due to the condition of albuminuria and of pregnancy were different and must be distinguished. Dr. Beckett-Overy thought that the ideas of Dr. Tweedy were somewhat in conformation with certain modern work on auto-intoxication from the intestines. Dr. Edge inquired of Dr. Tweedy whether he used any special form of milk. Dr. Johnstone was glad to hear that Dr. Tweedy was against the administration of chloroform, for, in his opinion, it was useless. He rather favoured l'accouchement forcé, and he had once performed decapsulation of the kidney. Dr. Hamilton having spoken, Dr. Hastings Tweedy, in reply, maintained that starvation was an important factor, and salines, or, better still, sodium bicarbonate solution, should be persevered in until urinary secretion was started. His result showed a mortality of only 8.11 per cent. extending over seven years. He thought the fact that the primipara and the mother with twins were more likely to suffer from eclampsia supported his theory. Dr. Herman had shown that the mortality in untreated cases was 30 per cent., whereas his was 8.11 per cent. Dr. Nigel Stark then read a paper on the dangers of fibromyomata of the uterus in the later years of life, and Dr. Thomas Wilson one on dysmenorrhoea due to very small fibroids. Professor Strassmann suggested that in some of these cases anterior hysterotomy was useful. Dr. Hastings Tweedy thought the two papers read were of great practical importance. With regard to dysmenorrhoea, in doubtful cases he split the uterus longitudinally and explored it. Dr. A. W. Russell thought sufficient emphasis was not laid on other than cancerous degenerations. Dr. Buist said that the orthodox position that the danger of fibroids ceased at the menopause was neither safe nor true. So long as fibromyomata were present, the patient must be under observation. Dr. J. J. Bell continued the discussion, and Dr. Nigel Stark and Dr. Thomas Wilson replied. The latter said the impossibility of diagnosing these small fibroids was the main difficulty. The work concluded with a paper by Dr. Purslow on a case of tuberculous elephantiasis of the vulvae. He showed the specimen, with photographs of the condition before removal, and slides demonstrative of the histological appearances. Dr. Christopher Martin congratulated Dr. Purslow on the great completeness with which he had recorded this case. The Section then rose.

SECTION OF ODONTOLOGY.

Thursday, July 27th.

THE second day's work opened with a paper by Mr. William Wallace (Glasgow) on the incidence and natural arrest of caries. In the discussion which followed there was much disagreement with the suggestions of the author that there was a special micro-organism having a peculiar affinity for enamel, and that the mucoid covering formed an impenetrable coating, and Professor Underwood thought all experimental evidence was against Mr. Wallace's views. The latter then demonstrated some sections of human antra showing variations of development, drawing attention to the likeness in some of the specimens to the arrangement of nasal duct and antrum obtaining in the gorilla. Mr. A. W. Wellings described an odontome showing a large enamel-lined closed cavity. There was also an outer enamel lining. The pulp was arranged, as in a snake's poison fang, as a thin layer in the dentine between the two enamel layers. The case provoked an interesting discussion. Mr. J. G. Turner read a paper on the pathology of retained teeth—that is, of teeth retained in the jaws beyond term of eruption. The material had been drawn mostly from museum specimens, and, judging by them, the most frequent causes of retention were failure of bone development and developmental misplacement of tooth germ; possibly also undue retention of temporary canines. Other causes enumerated were early extraction of temporary teeth; general or local disease—for example, cretinism, abscess around a temporary tooth, and supernumerary teeth. It was suggested that retained teeth gave rise to no symptoms until the advent of sepsis via a communication with nose, antrum, or mouth, and a large number of specimens from the Royal College of Surgeons Museum illustrating the point had been sent down to the Pathological Museum. The possible connexion with neoplasms was discussed and illustrated. A good discussion followed. Professor John Humphreys, in demonstrating his splendid "dental museum," called the attention of his audience to the imperishable nature of teeth. It was a point which rendered them invaluable to the geologist in estimating climatic and geographical conditions of past ages, and to the palaeontologist in reincarnating dry bones and in tracing evolution.

Friday, July 28th.

The last day's work consisted of a joint discussion with the Section of State Medicine and Industrial Diseases on the subject of the prevention of caries from a public health standpoint. In introducing it, Dr. James Wheatley said its extreme importance depended on the extraordinary and increasing prevalence of dental caries. It had reached such a point that it would be a disgrace to a civilized nation if every reasonable effort were not taken to prevent it. The three principal reasons for this increase were that until quite recently no public body had considered the prevention of caries to be a part of its duty; that the medical profession had been, on the whole, profoundly ignorant of the subject; and that the dental profession had not come in contact with the people as a whole and, generally speaking, had not been engaged in preventive work. He urged that a knowledge of the hygiene of the mouth should be part of the training of every medical man, so that he should thoroughly understand the effect upon

the teeth of various deviations from physiological living, and of pathological conditions; and also the effect upon the general health of diseased conditions of the mouth. The practical questions to be decided were—How could good habits of mastication be formed? How could food be arranged and eaten so as to leave the teeth clean? He had published in his district, as County Medical Officer of Health and School Medical Officer for Salop County Council, a leaflet giving instruction on prevention of decay of teeth. Mr. Hopewell Smith, speaking of the abuse of sweetmeats, detailed some experiments conducted by him to discover whether, and in what way, oral secretions were altered in their nature, chemical reaction, and amounts, by the use of sweetmeats. Mr. C. E. Wallis, in a short paper on infant feeding, referred to its unsatisfactory state, owing to the outside occupation of mothers and ignorance of parents. He deprecated legislation as of small value, but looked to educational advantages, as local health societies, lantern lectures, and other means. Dr. Sim Wallace, in a paper on the bread question, contended that the composition of the teeth took no part in the induction of dental caries. The chemical composition and microscopical structure of the tooth was practically the same always, no matter what the foods might have been during the formation of the tooth. The enamel of temporary teeth was completely formed before the sixth month and the nutritive constituents of bread did not play any part in the development of these teeth. Bread affected the teeth harmfully by lodging unduly in crevices or between teeth, giving rise to acid fermentation, and beneficially by its detergent effect during mastication. The most detergent form of bread was crust. In the discussion which followed, Professor Underwood, Mr. A. W. Hall, Professor Bostock Hill, Mr. C. Wallis, and others took part. The President of the Section then proposed a resolution suggested by Sir Victor Horsley, that the Section of Odontology request the Council of the Association to urge upon the Board of Education the need of pressing the local authorities to establish school clinics as being the only means whereby dental and medical requirements of the elementary school children can be adequately and economically treated. The resolution was seconded by Mr. Wallis and carried unanimously

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Section of Ophthalmology.

Thursday, July 27th.

The discussion on the etiology, diagnosis, and treatment of concomitant squint and heterophoria was opened by Mr. Claud Worth, who first discussed the fusion faculty and the effect on vision of its absence or extreme weakness. He advocated the use of atropine in the fixing eye in convergence, so as to hamper its function, and thus cause the child to rely on the amblyopic eye, which would quickly improve. After about seven years amblyopia could neither be caused or cured. He strongly condemned the practice of using atropine in both eyes in young children. Glasses should be prescribed in a child, no matter how young he may be. He described his operation for advancement of the muscle, and condemned tenotomy, and next went on to the subject of divergent squint, and following this by remarks on heterophoria. Mr. H. H. B. Cunningham quite agreed with the using of glasses in very young children. He had had cases older than 7 years of age in which great improvement had taken place in the vision in an amblyopic eye. Mr. Coulter thought that the fixing eye should be tied up and quite occluded for purposes of exercising the amblyopic eye. Fusion could be obtained after 7 years of age and amblyopia cured. Mr. J. B. Story had frequently seen amblyopic eyes greatly improve in adults when the fixing eye had been lost. Mr. Ormond described a case in which an amblyopic eye had improved from $\frac{6}{60}$ to $\frac{6}{24}$ after the fixing eye had been lost. Mr. Inglis Pollock discussed Mr. Worth's operation. Dr. McReynolds (Texas) gave his experience and described the operation he usually performed. Mr. N. B. Harman thought that Mr. Worth's operation was by far the best possible. Mr. Pischal (San Francisco) advised rat-tail sutures for the operation. Major Elliott thought that asthenopic symptoms were often developed after a person was run down in health. Remarks were made by Professor Reeve, Mr. Priestley Smith, and Mr. Norman Pike; the latter advocated prism exercises. Mr. Harrison Butler strongly advocated Worth's operation. Remarks were also made by Messrs. Arthur Greene, Little, A. H. Thompson, Clegg, and the President. Mr. Worth replied. Mr. Thomson Henderson having read a paper on the comparative anatomy of the ciliary region, Mr. W. B. Inglis Pollock, in a paper on the treatment of chronic dacryocystitis, described the histological characters of excised lacrymal sacs and the etiology of the disease, and gave a history of the treatment. He advocated syringing and the passage of a small probe, and if this failed the sac should be excised. Mr. T. Harrison Butler described a new operation for extirpation of the lacrymal sac; local anaesthesia with codrenine should first be obtained. He then gave directions for removing the sac without bleeding and interference with the veins. The operation was not possible if an abscess had been present. The operation he advised was almost painless and practically bloodless. Mr. Harman thought that it was unnecessary to look for the sac, but that all the tissue should be removed in the lacrymal groove. Mr. Hern thought that many cases were curable without operation simply by syringing, and occasionally by the passage of probes. Mr. Worth thought the greatest advancement in the treatment of this disease was the abandonment of probing. Mr. Cunningham thought that many cases depended upon the disease of the nose. Mr. Allport thought it was never necessary or desirable to excise a sac except for clearing the field previous to a cataract operation. He advocated a style. Mr. Priestley Smith thought that many sacs were excised unnecessarily. Mr. Grainger also agreed. Mr. Jameson Evans advocated excision of the sac. The President said he still used styles and probes.

Friday, July 28th.

Professor J. Berry Haycraft demonstrated the colour-blind margin of the blind spot, and he showed in what sequence the colours disappeared. Mr. J. Tomlinson showed his scotomograph, and the way in which it was used. Dr. F. W. Edridge-Green asked if very intense colours had been used, as these colours could be seen right out to the periphery, as shown by von Kries. He greatly disapproved of the method with rotating sectors. Mr. MacCallan, in a paper on Egyptian ophthalmic hospitals, stated how they were organized, and gave percentages and numbers of the cases of blindness met with in Egypt. Dr. Reeve asked what precaution was taken in trachoma cases previous to cataract extraction. Mr. Harrison Butler said that he did not consider trachoma made any difference. Colonel Smith thought that slight trachoma made no difference, while severe trachoma was a bar to operation. Mr. MacCallan agreed that pure trachoma made no difference to cataract extraction, though he generally treated it first, except in soft cataract. Dr. Amy Shepherd, in a paper on extraction of the lens in the capsule, described it as the operation of election; her experience was based on over 600 cases, mostly done at Amritzar under Colonel Smith. She described the details of the operation. Escape of vitreous varied from 5 per cent. in skilled hands to a much larger ratio in unskilled hands. A summary of the advantages and disadvantages of the operation was given. The President thought that one of the greatest disadvantages was the necessity for a skilled assistant. He advocated Förster's method of artificial maturation. Colonel Smith answered some press criticisms. He stated that in the Punjab it was perfectly easy to follow any cases, and considered that the leaving of the capsule behind constituted an imperfect operation, as much as the leaving of a fragment of stone in the bladder after a litholapaxy. He thought it most unsurgical to needle before the eye had quite quieted down after the extraction. Dr. Reeve advocated the washing out of soft lens matter by McKeown's method in immature cataract. Dr. McReynolds said that those who had gone to see Colonel Smith were the most enthusiastic in the method, and the results in America had been very satisfactory, and some had modified the operation. Mr. Clegg gave his experience of six cases he had recently done with good results. Mr. Ormond thought that no operation was ideal which involved an iridectomy, and he was quite satisfied with the results of the usual operation. Major Elliott paid high tribute to the work of Colonel Smith. He thought that more statistics were very desirable. He had done 200 to 300 cases, and in those which did well there was a good deal of drawing up of the

pupil. He totally disagreed with the statement that failure of union followed a sawing movement of the knife. He thought that he got far fewer suppurations. He was very dissatisfied with Förster's operation, but he much liked McKeown's operation. He absolutely denied that left cortex was a danger, and capsule was of no disadvantage unless it was included in the wound. He thought that the dangers of needling were practically *nil* if precautions were taken similar to that before extraction. Captain Lister gave his experience, and Dr. Amy Shepherd replied. Dr. L. J. C. Mitchell gave a report on the use of carbon dioxide snow in ophthalmic work. He gave the details of the method of using the snow in various eye and lid conditions, and the results were very satisfactory in naevi, trachoma, and rodent ulcer. Mr. Devereux Marshall congratulated Dr. Mitchell on his excellent results. Colonel Smith had not tried carbon dioxide snow, but he mentioned the use of subconjunctival injections. He thought that the good results observed was due to hyperaemia. The work concluded with a paper by Mr. Bishop Harman on the blind and the 1911 census; it showed how defective the returns must be by the present method of enumeration. Remarks were made by Dr. Hutt, Mr. Clegg, and the President. Mr. Bishop Harman also showed a new photometer for the use of school doctors.

SECTION OF PATHOLOGY.

Thursday, July 27th.

A DISCUSSION was opened by Dr. Rolleston on the pathogenic action of *Bacillus coli*, which was rendered most instructive and widely valuable by the participators being drawn from the ranks of pathologists, clinicians, and the new school of physician-pathologists. Speaking of the clinical features of the reaction of the human body to the various forms of infection with *B. coli*, the opener pointed out that (*a*) whereas high fever seemed to be a prominent feature, experimental intoxication with the endotoxin of the organism caused a marked fall of temperature (Vaughan); (*b*) rigors might occur in clinical infections, and the endotoxin had been found to cause convulsions; (*c*) haemorrhagic inflammation might be set up by virulent infections with *B. coli* but not by the endotoxin; this was compatible with Vaughan's statement that the cultures of *B. coli* contained a haemolytic body which was quite distinct from the endotoxin; (*d*) acute *coli* infections showed a fair leucocytosis; (*e*) the chronicity of urinary infections with a special tendency to exacerbations and their resistance to treatment were notable. In connexion with general haemic infection with *B. coli* he considered three groups of cases: (*a*) Those somewhat resembling typhoid fever; (*b*) cases of pyaemia with metastatic abscesses, which, however, were much rarer than in haemic infections with streptococci, staphylococci, and pneumococci; (*c*) cases of terminal infection. Dr. Woods-Hutchinson discussed the relation of *B. coli* to disease from the point of view of the consulting physician; mentioning that people were so obsessed with the colon infection theory of disease that some even went so far as to recommend total extirpation of the colon itself. He considered also the relationship of the severe anaemia occurring in ankylostomiasis, diabetes, gout, and the associated *B. coli* infection. Professor Sims Woodhead (Cambridge) drew attention to the great difficulty of distinguishing between a true and single *B. coli* infection and mixed infections. He said that Cobbett and Graham-Smith, working at "grouse disease," found that severity of disease, the number of parasites present in the alimentary tract and the number of *B. coli* loose in tissues were very closely connected. He reminded the meeting that Lister had pointed out in connexion with the urinary meatus, that it was only when the protecting epithelium was removed that organisms could gain ground. This he applied to the *B. coli* infection through mucous surfaces. Dr. Dock thought that *B. coli* was the key to many chronic infections. He referred to Opie's work in connexion with causation of cirrhosis of liver in animals following injection of *B. coli* together with chloroform anaesthesia. Dr. Hugh Thursfield (London) discussed the difficulty clinicians and pathologists had in identifying *B. coli* infections, and he wished the academic pathologist to work out and lay down classical signs by which could be identified typical *B. coli*. He commented on the difficulty of demonstrating a blood infection in the pyelitis of pregnancy. His experience was that in adult *B. coli* cystitis the *B. coli* never disappeared from the urine. Dr. d'Este Emery did not think there was sufficient proof to associate diabetes with ascending *B. coli* infection. He thought there was most evidence in favour of staphylococcal origin, on account of a lowered opsonic index, boils, and carbuncles. He mentioned absence of agglutinins in *B. coli* infection, and thought rigors in children almost pathognomonic of *B. coli* infection of the urinary tract. Dr. Bernstein (London) did not think it necessary from the standpoint of practical medicine to definitely classify so varying an organism as *B. coli*, because it was sufficient to isolate the causal bacillus in an infection in the hope of preparing an efficient vaccine, seeing that amongst the few infections that respond to vaccine-therapy must be included *B. coli* treated with an autogenous vaccine. He did not think that *B. coli* was a very malignant organism, but that under exceptional conditions of environment it would exert pathogenic action. Further, he thought it could readily be eliminated from the urine, though in chronic cases it almost always returned in course of time. He had only in one or two cases found the *B. coli* in blood cultures, and these being in moribund patients he regarded as terminal infections. Professor Leith briefly summed up the discussion. He was pleased to note the healthy condition of thought betokened by the disagreement of workers. He regretted the divorcement of pure pathology from clinical work, and felt that the attention of clinicians ought to be drawn to the great advances made in isolation and determination of typical *B. coli* in the laboratory. He thought that pure *coli* infections were diminishing in number, and he deplored the inefficient use of the term "coliform organisms." He hoped that the *coli* group would be thoroughly sifted, and he felt sure that each species bred true, and that the bio-chemical tests were absolutely reliable in this group at any rate.

Friday, July 28th.

The last day's meeting was occupied by various short papers of considerable interest. Mr. Percival Mills opened with one on the action of radium on healthy tissues. His experiments, confined to the application of radium to the livers of mice, through the skin, showed that at the site of application there resulted a burn, whilst more generalized changes took place in the surrounding and deeper tissue. He noticed that there was an immediate result, and when this passed off there was a secondary or delayed reaction. Dr. Leonard Findlay then described his experimental work on the etiology of pulmonary anthracosis, illustrating his remarks by beautiful coloured lantern slides and specimens. His conclusions were that (1) pulmonary anthracosis can be easily produced by the inhalation of soot-laden air; (2) pulmonary anthracosis cannot be caused by feeding with an emulsion of soot or Chinese ink; (3) pigmentation of the mesenteric glands cannot be produced by feeding with an emulsion of soot or Chinese ink; and (4) so far as the origin of pulmonary anthracosis is concerned, it lends no support to the view that the tubercle bacillus gains entrance by the intestine. Professor Saundby remarked that anthracosis was not seen in Birmingham, though there was evidently much in Glasgow, and he wished an explanation of this. Professor Woodhead said that he himself and Collett, separately, had confirmed Findlay's results at Cambridge. Dr. Grünbaum (Leeds) and Dr. Helen Grünbaum then made some remarks on what he described as post-operative drowning or oedema, and called the attention of surgeons to the reckless routine habit of post-operative saline infusion. Drs. Phillips and Glynn, in a joint paper on the comparative value of certain microscopic methods of demonstrating *Spirochaeta pallida*, came to the conclusion that dark-ground illumination was almost infallible in those cases where *S. pallida* was present, and was certainly more reliable than the method of Giemsa and Burri (Indian ink process). Drs. Emery, Bernstein, and Dale agreed, and the question of infallibility of the microscopical diagnosis was discussed. Dr. Glynn thought that in the healing stages of a chancre possibly no spirochaetes remained. Professor Glynn then described a case of cirrhosis, adenoma, and carcinoma of the liver, illustrating it with lantern slides and the specimen itself. He considered it to be an adeno-carcinoma. Dr. Ridge showed and described two interesting cases of chorion-

epithelioma in women without any primary lesions having been discovered, though both were cases of previous pregnancies. Dr. Emery mentioned a similar case in which infective endocarditis had been diagnosed. Dr. Bernstein (London) reminded the meeting that, though it was possible that these cases had a primary uterine growth, it was not necessary that this should be the case, or even that these growths should be confined to the female sex, as a large number of cases had occurred in males. It was, however, possible, that the primary growth had killed itself by haemorrhage from the new-formed capillaries, a hypothesis which was supported by Dr. Teacher. The President (Professor Leith) then congratulated the meeting on its satisfactory work, and, after a vote of thanks to the Secretary and another to the President, proposed by Professor Sims Woodhead, the session terminated.

Section of State Medicine and Industrial Diseases.

Thursday, July 27th.

The day opened with a paper by Dr. R. A. Lyster (Hampshire) on the need for a unified public health service. He said that at the present time medical services were being provided for the public by public health authorities, by Poor Law authorities, by county councils, and by voluntary agencies. These services, although they overlapped in many ways, yet left many gaps. The overlapping caused gross waste of public money, while the gaps represented a permanent and serious menace to public health. The recent Order (1910) issued by the Local Government Board said that the medical officers of health could with advantage also hold the position of school medical officer, superintendent of the isolation hospital, certifying factory surgeon, police surgeon, public vaccinator, district medical officer, and medical officer to the workhouse. But, even if these eight offices were held by one individual, this would not necessarily effect any co-ordination of work, nor bring about any real unification so long as there were the different public bodies left to pursue their independent policies and to control the work of the officer. The advantage claimed for the policy of the Local Government Board was that the officer could by these means be made independent of private practice. It was not likely, however, to have any extended trial. The disadvantages of the present system did not arise from the multiplication of offices so much as from the number of authorities concerned. Each authority was independent, and it was impossible for any coherent scheme of work to be arranged; therefore Dr. Lyster proposed that the authorities should be unified. This method presented no insuperable difficulties, as all officials concerned could be taken over by the new unified authority and the difficult problem of dealing with displacements from office would not appear. It would at once become practicable to adopt a definite policy and to adjust the work so as to avoid overlapping and yet leave no part of it undone. The fact that a scheme of unification was recently approved by the County Councils Association afforded additional evidence of the desirability of such proposals. Recent developments in public administration indicated clearly that the unified service should be controlled by the councils of counties and county boroughs. Only when the unification of authorities was an accomplished fact would it be necessary and useful to discuss the advisability of whole-time officials. The gradual condensation of staffs by grouping together appointments as they fell vacant would be a simple matter if only one authority was concerned. By slight extensions of the plans suggested by the Local Government Board and the County Councils Association it would be possible to aim at the gathering together under one medical officer the work connected with general public health, school inspection, Poor Law outdoor relief, inspection of midwives, work under Food and Drugs Acts, food inspection, prevention of river pollution, and vaccination. Surgeon-General Evatt proposed the financial union of the charges for the Poor Law medical officers and the medical officer of health for the county as a preliminary step towards a closer union of those officials. Dr. E. W. D. Kite suggested that certifying factory surgeons should have a central authority, to which cases of unfitness should be reported. Dr. Herbert Jones protested that in the schemes for unification of the medical service, with the county council as the central and the county council medical officer of health as the administrative chief, the medical officers of health of the large districts were apparently ignored. Professor A. B. Hill pointed out that to a large extent the difficulties of co-ordination were due to the fact that the Poor Law work dated back for centuries, while that relating to public health work was quite new, dating from the year 1875. The sitting was concluded with the reading of a paper on disease carriers by Dr. David S. Davies and a paper on the same subject by Dr. E. W. Goodall. A discussion followed, in which Dr. Ledingham and Dr. Cameron took part.

Friday, July 28th.

The earlier part of the Section's time on the concluding day was occupied by a joint meeting with the Section of Odontology, when the prevention of dental caries from a public health point of view was discussed. The Section, however, found time for the reading of two papers, in one of which Dr. R. J. Collie, Medical Examiner for the London County Council, communicated some observations on 17,000 consecutive medical examinations, conducted chiefly for the public service. In its course he said that malingering was much more common in accidents than disease, probably because of the legal liability. He applied the term solely to cases of gross deception, perhaps founded on slight physical symptoms, or perhaps on none at all. The injury inflicted on real sufferers by shammers was so great that the malingerer really deserved no mercy. Not only did he eat the bread of idleness, but he did so at the expense of the community, some of whom would resent, some imitate, his vicious conduct. So long as medical men who attend the working classes were dependent on the working men themselves and the club officials for the security of the tenure of their office, so long would gross exaggeration and malingering be rampant. The prevention of malingering might thus be summed up: (1) Financial independence of the medical attendant; (2) some system of registration which shall make it apparent to the medical attendant what is the full amount of sick pay, if any, the patient is in receipt of; (3) repeated periodical independent medical supervision. It was always unwise to make a definite accusation of fraud unless one was prepared to substantiate it with strong proof, but having formed an opinion the medical witness should have the courage of his convictions, and when he had once given an honest opinion, or had made a statement which he knew to be true, no amount of forensic craft should cause him to contradict himself in the witness-box. Experience taught that closely similar injuries attributable to like accidents presented one kind of clinical picture, and ran one kind of course amongst those who made no claim for compensation; but they presented a very different picture and ran a very different course amongst those who embarked upon the troubled sea of litigation. That difference was highly significant of the influence of litigation in magnifying pain and perpetuating incapacity. A discussion followed, in which Dr. A. Mechan, Dr. A. H. Bygott, Mr. E. H. Helby, Dr. J. G. McBride, Mr. W. F. Dearden, Mr. Salisbury Sharpe, and Dr. A. Bostock Hill joined. The proceedings terminated with a paper by Dr. R. W. Edington on the industrial diseases of Birmingham.

Section of Surgery.

Thursday, July 27th.

A very large attendance of members assembled to hear the discussion on the technique of wound treatment. Sir Thomas Chavasse again presided. The initial paper was read by Professor Alexis Thomson (Edinburgh). He looked, he said, on the technique of a wound as a bacteriological problem. The part played by the tissues was, no doubt, of great importance, but on the whole might be regarded as secondary; the first and main essential was to prevent the entrance into the wound of pathogenic organisms. The principles of Listerism had never altered, and probably never would alter. The means of carrying them out were always changing, and would probably continue to change. Two attitudes of mind were to be avoided: on the one hand, that of adopting every new device simply on account of its novelty, and, on the other, believing one's results to be so good that they could not be

improved upon. Technique was a means to an end, and not an end in itself. Knowledge and skill were required for carrying out Listerian principles. The surgeon should be a trained bacteriologist, for he practised bacteriology every time he operated; and every surgical clinic should be associated, directly or indirectly, with a bacteriological laboratory. Everything in the operating theatre should be subjected to culture and other tests, and no method of sterilization should be regarded as exempt from this. Of course, difficulties arose in teaching hospitals where students and nurses had to be trained. Professor Thomson sketched briefly also various methods of sterilizing the skin of the patient, and indicated his preference for, and faith in, the iodine method. In discussing the use of gloves be regarded it as entirely a matter for the surgeon's predilection; he would by no means regard a man as behind the times if he refused to use gloves, nor would he trust a man simply because he wore gloves. A large number of members took part in the debate, including Mr. Herbert Paterson (London), Mr. Newbolt (Liverpool), Professor Koch (Groningen), Dr. Ellis (Gloucester), Mr. Cathcart (Edinburgh), Dr. J. M. Elder (Montreal), Mr. Cuthbert Wallace (London), Lieutenant-Colonel Henry Smith, I.M.S., Mr. Douglas Drew (London), Dr. Cameron (Toronto). Early in the discussion it was evident that the question of the iodine sterilization of the skin was occupying the minds of the speakers to a large extent. The President, therefore, suggested that Mr. Leedham-Green (Birmingham) should read his paper on the subject. The full text of this paper will appear in due course. Professor Koch regarded the results of wound treatment as probably due to some influence other than the germicidal action of the substances employed, and instanced the extensive use successfully of balsam of Peru as a first and only application in many cases of lacerated wounds and compound fractures. Mr. Cuthbert Wallace expressed the opinion that simple and plentiful use of hot soap and water was efficient. He had personal experience of this method for ten years. He had of late used dry sterile gloves in addition, but he never used any antiseptic solution nor permitted any such to come into contact with the wound or skin of the patient. The original Listerian methods were championed by Dr. Cameron and Mr. Cathcart. The explanation of the action of iodine was given by Dr. Elder: that it produced a hyperaemia of the skin, and so inhibition of the organisms resulted. The debate was summed up by Sir Thomas Chavasse. He said that the personal equation bulked largely; and as to opinions, *quot homines, tot sententiae*. His personal opinion as to the matter was embodied in the Listerian teaching to be clean and to be careful. These principles still remained. At the close of the meeting Professor Ryerson (Toronto) presented on behalf of Dr. Louis Wickham of Paris two cases of sarcoma treated by radium.

Friday, July 28th.

There was again a large attendance at the concluding session, the President (Sir Thomas Chavasse) being again in the chair. At the beginning of the meeting Dr. G. W. Hill gave a demonstration on the use of the gastroscope, and several members of the Section had an opportunity of making direct inspections of various parts of the stomach cavity of a patient brought for the purpose. Mr. D. P. D. Wilkie (Edinburgh) read a paper on some functions and surgical uses of the omentum. He pointed out that the omentum was no specialized organ for absorption of fluid from the abdomen, but it had a remarkable capacity for taking up foreign particles, such as grains of carbon, left in the peritoneal cavity. There was no evidence to show that the omentum was capable of "intelligent movement"; it was borne to the zone of irritation by merely mechanical factors. The omentum might with benefit be wrapped round a portion of intestine the vitality of which was doubtful. He spoke also of the great value of omental grafts. The paper was illustrated by lantern slides, and, as was pointed out by the President, it was distinguished by a very high order of originality. Mr. W. I. de Courcy Wheeler (Dublin) narrated the stories of two cases of abdominal aneurysm successfully operated upon by himself. He was of opinion that Colt's apparatus made the operation safe and effective. He introduced 150 in. of wire in the form of a cage into the aneurysmal sac through a small opening made by a trocar and cannula in the first case, and in the second a wisp of wire 105 in. in length. One man was back at work, and the other man was doing satisfactorily. Mr. Herbert J. Paterson (London) dealt with the subject of appendicitis without physical signs. He maintained that in operations for supposed gastric or duodenal ulcer failure to discover lesions in these regions suggested examination of the appendix, and he gave it as his opinion that the appendix might be the cause of obscure gastralgia, although there might be no definite clinical attacks of appendicitis. He showed a large number of coloured pictures of appendices in all stages of inflammatory mischief, including perforation, which had been removed in cases where there was an absence of physical signs. Mr. G. P. Newbolt (Liverpool) then read a paper on tuberculous mesenteric glands, and indicated how these might give rise to acute abdominal crises of various kinds. The paper was illustrated profusely by the narration of cases which had occurred in his own practice. The Section next had the pleasure of listening to an exposition by Mr. James Berry, of London, on a further series of cases of cleft palate treated by operation. This series was a continuation of the series already published by him at the annual meeting of the Association at Leicester in 1904. The paper was illustrated by a large number of most excellent diagrams and photographs, and Mr. Berry had further put himself to the great trouble of bringing from London five patients whom he had operated upon at different ages. His further experience since he last spoke on the subject more than ever confirmed his belief in the operation which he practised, namely, the earlier one known as the Fergusson or Smith operation. He unhesitatingly condemned the flap operation on several grounds. Mr. Berry was accompanied by Mrs. Dickinson Berry, M.D., who contributed to the discussion, which was taken part in also by Professor J. T. J. Morrison (Birmingham), Mr. Cathcart (Edinburgh), Sir Thomas Chavasse (Birmingham), Professor Barling (Birmingham), Mr. Goyder (Bradford), Mr. Morley-Willis (Nottingham). An elaborate paper on fibromatous tumours of the mesentery was then read by Mr. W. J. Greer (Newport, Mon.), who illustrated it by photographs and the narration of cases operated upon by himself; and, finally, a most interesting and profitable meeting of the Section was brought to a close by Mr. Alexander MacLennan, Glasgow, whose paper on fractures of the scaphoid bone of the wrist, pointed out how injuries which appeared to be simply sprains of the wrist were found on *x*-ray examination to be due to the much more serious condition which he described.

COMBINED SECTIONS OF THERAPEUTICS AND DERMATOLOGY.

Thursday, July 27th.

ON Thursday, July 27th, the Section of Therapeutics held a joint meeting with the Section of Dermatology to discuss recent developments in the recognition and treatment of syphilis. The discussion was opened by Mr. J. Ernest Lane, who preferred to deal with the clinical rather than the bacteriological aspect of the subject. Seven months ago he had expressed the opinion that the new preparation salvarsan, or "606," was remarkably powerful in the relief of symptoms, but that there was as yet no evidence that it had curative powers equal to the time-honoured preparations of mercury. From that expression of opinion he saw no reason to recede. It was to be regretted that the medical and general press had encouraged the most extravagant expectations both of cure and of immunity from danger—expectations which could only lead to disappointment. He had used salvarsan in some 120 cases. His results were almost certain to be less favourable than those of military surgeons, because his patients were often drawn from the most miserable surroundings, and were apt to suffer from alcholism as well as syphilis. He thought its rapidly good effects most apparent in cutaneous manifestations, in ulceration of mouth and tonsil, in iritis, and periostitis. It was also calculated to control the spread of the disease, because its rapid action had effect upon early cases in their most contagious stage. He advocated a second injection at a suitable interval, to be followed by a three years' course of any form of mercurial treatment which circumstances indicated as most suitable. Major L. W. Harrison, R.A.M.C., brought to the notice of the meeting statistics representing the results of the large amount of work which had been carried on in the British

army by Major T. W. Gibbard, R.A.M.C., and himself. The figures afforded a basis for comparison between salvarsan and mercurial treatment upon three points—efficacy, safety, and permanency. Salvarsan acted more speedily. It was often successful where mercury had failed, and a number of the cases recorded were sent for treatment with "606" for that very reason. As to safety, in over 600 cases there had been no disaster. Very early the intravenous method had been exclusively adopted. Infusion was simpler, safer, and more rapid than injection by a syringe. As to permanency of cure, there had been eighteen true clinical relapses. The reappearance of a positive Wassermann reaction after it had become negative was rather more frequent. Mr. J. E. R. McDonagh (London) recounted his own experience and methods of practice. He emphasized the importance of duplicating the injection, and of combining it with mercury. He regarded the occasional cranial nerve paralysis and optic neuritis as the result of the syphilis and not of the salvarsan. Heart disease, diseases of liver and of kidneys, aneurysms, diabetes, advanced cases of nervous diseases, old age, and marasmus in infants he regarded as contraindications. Dr. Schuster (Aix-la-Chapelle) confined his remarks to the treatment of nervous disease and the value of the Wassermann test. This was frequently negative in cases of manifest syphilis. In tabes and general paralysis little could be expected except the elimination of persisting infection. Dr. Stopford Taylor (Liverpool) recounted a successful treatment of tabes with gastric crises by salvarsan. Dr. Otto Grünbaum (London) doubted the possibility of relief in genuine tabetic disease of the cord. He referred to the existence of cases of pseudo-tabes. Dr. J. C. McWalter (Dublin) deplored the fact that the discussion had been entirely concerned with the success of a proprietary article sold at an exorbitant price. Its good effects were due to the large amount of arsenic which could be introduced in this way into the system, and possibly, in tabetic cases, due to its combination with one of the coal-tar derivatives. Dr. George Pernet (London) and Dr. G. H. Lancashire (Manchester), who advocated the intramuscular method, also spoke, and Mr. Lane briefly replied. In a supplementary paper Major Harrison discussed the reliability of the Wassermann test, showing the results which had been met with in untreated primary and secondary cases, and on treated secondary, tertiary, and latent cases. He showed the effects upon the reaction of mercurial injections, and compared this with a second series evidencing the effects of salvarsan upon the reaction.

Section of Therapeutics, including Dietetics.

Friday, July 28th.

This Section continued its meeting on Friday, July 28th, when Dr. T. J. Horder (London) opened a discussion upon the scope of immune and normal serum in treatment. No argument, he said, was more difficult than the therapeutic argument. He recommended the use of stricter and more scientific methods in the wards. In London, at least, there were too few collective and comparative reports of treatment. He had made use of normal horse serum in the treatment of many diseases in the causation of which there was an obscure infective factor—in pernicious anaemia, gastric ulcer, purpura, and the like. Increased resistance to these infections might be stimulated by non-specific means. For example, good results had been obtained in gonorrhoeal arthritis by a normal serum. The weak point about serum therapy had always been its empirical dosage. Those who could believe that the measure of so complex a thing as the immune process could be given by a single observation of the phagocytic index were led to leave the study of serum therapy in the initial stage. There was no antagonism between the use of serums and the use of vaccines. Both were of value, but at different stages in the process. In the period of invasion the prompt use of serums was indicated; later the judicious administration of specific vaccines might be necessary. He believed that there was often more virtue in a univalent *pyogenes* serum than in a polyvalent serum. The great majority of severe and acute streptococcal infections were caused by the *Streptococcus pyogenes*. Dr. E. C. Hort (London) looked upon the mode of action of all counter-irritants as identical with that of normal serum therapy. Normal serum had certain antilytic properties—as, for example, the remarkably rapid action which it had in healing chronic ulceration when applied to the wound; it had antihaemorrhagic properties, and was to be used in all conditions of haemorrhage with a toxic origin; and lastly, it had antitoxic properties. In discussing the scope of immune serum therapy, the question must always arise as to why success was so limited as compared with the cures of Nature. He believed that possibly there existed some vital antigen derived from the infected cells themselves, which remained the unknown quantity. Dr. E. W. Goodall (London) raised the question as to whether any sterile serum at hand was applicable or whether a special and fresh horse serum was necessary. He had used antistreptococcal serum in cases of scarlet fever with spreading cellulitis and in erysipelas, and in both had met with success. He used the serum early and in large doses—30 or 40 c.cm. at a time. Dr. E. Hobhouse (Brighton), Dr. J. Haddon (Hawick), Dr. George Ross (Toronto), Dr. Otto Grünbaum (London), Dr. H. W. Gardner (Shrewsbury), Dr. T. Davys Manning (Weymouth), and Dr. L. J. Picton (Holmes Chapel) joined in the discussion, to which Dr. Horder replied. Dr. C. Muthu, of the Mendip Hills Sanatorium, Wells, then read a paper upon continuous antiseptic inhalation in the treatment of pulmonary tuberculosis. The good results of inhalation he regarded as undoubted, although there was probably no direct or specific action upon the tubercle bacillus. Its soothing action would stop the cough, and thus check the small particles of expectoration from being sucked in and causing new foci of infection. The paper was discussed by Dr. P. M. Chapman (Hereford) and Dr. W. A. Potts (Birmingham).

Section of Tropical Medicine.

Thursday, July 27th.

Dr. A. G. Bagshawe, Director of the Sleeping Sickness Bureau, Royal Society, gave an account of recent experimental work in sleeping sickness. Sleeping sickness had been on the increase in Nyasaland and Rhodesia south of 12° S.—that is, in areas where *Glossina palpalis* did not occur, but where *Glossina morsitans* was common. Kleine and Tante's observations indicated that though *T. gambiense* might begin its development in the body of *G. morsitans*, but could not complete it, so according to these observers sleeping sickness could not be spread by *G. morsitans*. The spread, however, in Nyasaland and Rhodesia, where *G. morsitans* alone was present, would seem to cast doubt on this point. An expedition in charge of Dr. Kinghorn had gone to Northern Rhodesia to investigate the question. Dr. J. W. W. Stephens (Liverpool) opened a discussion on yellow fever by stating that the presence of yellow fever on the west coast of Africa was admitted, but a question arose as to whether the disease was endemic or imported from South America or the West Indies. The presence and number of *Stegomyia fasciata* in the region affected the question, but even the presence of *Stegomyia* in scanty numbers did not do away with the possibilities of an outbreak, as analogy from few *Anopheles* in a district and a wide prevalence of malaria would seem to prove. It was difficult to understand why the cases of yellow fever on the west coast of Africa were so few. It might be that *Stegomyia fasciata* were few, but this was not the case, or it might be that the African native was either naturally insusceptible or had an acquired immunity. Probably that immunity was acquired through mild or frequent attacks sustained in childhood. The diagnosis of yellow fever, moreover, was the real difficulty in coming to a conclusion concerning the presence of yellow fever in any locality. Dr. Prout, C.M.G. (Liverpool), had no doubt of the existence of yellow fever in West Africa, but he did not think it extended so extensively as the late Sir Rubert Boyce believed. Immigrants from the interior and from Europe at places on the coast believed to be endemic centres did not acquire the disease. In the Gambia Dr. Chichester recognized an outbreak of yellow fever, yet when he took up residence in other parts of Western Africa he never met with the disease. Dr. Harald Seidelin (Liverpool) believed that yellow fever was kept alive by child infection and consequent relative immunity among adults.

He was of opinion that yellow fever was conveyed by other mosquitos than *Stegomyia fasciata*. Dr. A. J. Chalmers (Ceylon) thought bilious remittent fever might be yellow fever, for his search for the malarial parasite in the former cases had often proved negative. Major R. W. H. Jackson, R.A.M.C., drew attention to the report during the Ashanti war (1873) that yellow fever was present amongst the troops. The difficulty of diagnosis was the stumbling-block. Dr. J. W. Martin (Dumfries) said his experience in West Africa had led him to the belief that the disease was endemic and not imported, and existed among the natives in a modified form. Dr. R. H. Kennan (West Africa) described a type of case which he said he had seen in Accra and elsewhere on the West Coast, and which if not yellow fever was at any rate a disease not encountered in Europe. Professor J. W. R. Simpson (London) stated that 46 cases of yellow fever had been reported since 1910. Of 27 Europeans attacked, 23 died; of 13 natives, 7 died and 6 recovered; of 6 Syrians attacked, 6 died; therefore West African natives do die of the disease. He advised strict attention to quarantine control and importation on the coast. Dr. H. P. Cole (Alabama, U.S.A.) said he was familiar with bilious remittent fever on the coast of the Mexican Gulf, where they did not regard these as being in any way related to yellow fever. He considered that the direct transfusion of blood from recently recovered cases would serve not only to combat anaemia, but would serve as an experiment in the matter of transferring an acquired immunity. Dr. Cameron Blair (N. Nigeria) had seen many isolated cases of bilious remittent fever in Northern Nigeria, and they gave no immunity. In one, at least, malarial parasites were found. Dr. G. Rome Hall had observed cases of yellow fever in Lagos in 1893 and again in Elmina in 1895, and at Cape Coast in 1902. Dr. K. S. Wise (W. Indies) said that in Barbados in 1899 and in Trinidad yellow fever was considered to be present, but the older practitioners scouted the idea. Sir Francis Lovell believed that the cases of so-called bilious remittent fever he used to see on the West Coast were yellow fever. His subsequent experience in Trinidad confirmed this view.

Friday, July 28th.

Professor W. J. R. Simpson (London School of Tropical Medicine), in opening a discussion upon sanitation of villages and small towns in the tropics, with special reference to efficacy and cheapness, said: Whilst large towns are looked after from a sanitary point of view, this is not the case in the villages. The usual plan in ancient and modern times in India is when a town becomes insanitary a new site for the population is chosen and they dwell there until again driven out by the prevalence of disease due to insanitation. Many towns are insanitary from initial mistake in choice of site, etc., and the error is only found out when the doctor finds disease to prevail. In many Indian towns the European quarters are made as sanitary as possible, whilst the natives' quarters are left in their insanitary state; this is a false form of hygiene which needs no elucidation. Protected wells are best for villages, as water drawn from a river at a distance above the village is costly, and the water in its course is liable to contamination unless protected. Dr. Prout (Liverpool) drew attention to the difficulty of getting departments of public works to listen to or to carry out sanitary suggestions made by the colonial medical officers. In the colonies advance in sanitation could be best made by teaching the young in the schools; this was being done to a considerable extent in several colonies. There was a great difficulty and danger in allowing the partly civilized and partially educated to have a casting vote in sanitary matters. Dr. A. T. Chalmers (Ceylon) drew attention to the importance of teaching sanitation in the schools; this was done in Ceylon by educating the native teachers by bringing them up for a course of three weeks once a year, when by kindergarten methods and by practical inspection and demonstration they were shown the meaning of good and bad sanitation. These teachers taught the children by similar methods, and examinations were held in the subjects, and grants in aid bestowed according to efficiency. He condemned burying faecal matter or scattering it on the surface of the ground. A rule for small towns was burning. In large towns drainage should be by water, and the Shone system was the best. Sweepings should be burnt. Wells in the tropics should always be looked upon with suspicion. Tuberculosis was increasing in the large cities in the East owing chiefly, apparently, to overcrowding. Punishments should be insisted upon in the case of the natives who deliberately broke sanitary regulations. Dr. Andrew Balfour (Khartoum) said his great trouble, not only among natives but with British authorities, was to get them to obey ordinary antimalarial measures. He believed trained British sanitary inspectors in the tropics were the best men to deal with the question of native sanitation, and under him trained native bearers acting honestly. Dr. M. Cameron Blair (Northern Nigeria) pointed out that in many Mohammedan communities in country districts the parents prevented teaching in schools of any matters not included in the Koran. In large centres Mohammedans, however, had become enlightened in the matter and allowed sanitation to be taught in the schools. In building a new village the market should be kept to the leeward, as around the market rubbish and filth of all kind collected. The market, however, was always in the centre of the town—that is, the town had gradually come to be built around the market as a centre. Lieutenant-Colonel A. H. Nott, I.M.S. (Calcutta) referred to want of knowledge of elementary sanitation amongst natives of Bengal; teaching in the school, however, gave promise of improvement. Colonel Nott advocated an experimental example in the shape of a model sanitary village being established in, say, a populous district of Bengal. The good results of this would in time tell and lead to a general improvement through the province. Dr. David J. Galloway (Singapore) said that Mohammedan teaching was distinctly against the possibility of modern sanitation being introduced into schools, especially in country districts. Dr. R. H. Kennan approved of native children being taught hygiene, and he would like to see all British authorities in Crown colonies also given instruction in the subject. Major R. W. H. Jackson (R.A.M.C.) stated that he frequently added permanganate of potash to wells in India, not with the idea of purification, but, when the native saw the water "turned into blood," he avoided drinking unwholesome water. On the resumption of the discussion, Dr. Andrew Balfour (Khartoum) read a paper upon the rôle of the "infective granule" in certain protozoal diseases. Microscopic specimens of living ticks were shown by Dr. Balfour. Dr. H. P. Cole (Alabama, U.S.A.) read a paper on transfusion in pellagra in his practice, and described the success he had met with; the blood of donors who had never had pellagra was as effective as those who had. Dr. Sandwith, Dr. L. Sambon, and Mr. J. Cantlie joined in the discussion. A paper was then communicated by Dr. Warrington Yorke (Liverpool) on the mechanism of production of suppression of urine in blackwater fever; Dr. Yorke showed some admirable illustrations on the screen elucidating the points in his interesting paper. During the course of the meeting Dr. H. Bayon (London) gave a demonstration of specimens relating to the culture of the leprosy bacillus, a feat in which Dr. Bayon seems to have succeeded. This Section was well attended, an average of seventy attendances being recorded daily, and concluded with a vote of thanks to the President, Sir Francis Lovell, and another to the Secretaries for their admirable management of the meeting.

THE King has been pleased to grant the undermentioned officers His Majesty's Royal authority to accept decorations (as stated against their respective names) which have been conferred upon them by His Majesty the King of Italy, in recognition of services rendered by them at the time of the earthquake in Southern Italy in the year 1908:—Commander of the Order of St. Maurice and St. Lazarus: Surgeon-General James G. MacNeece, Principal Medical Officer, 8th (Lucknow) Division, India. Commander of the Order of the Crown of Italy: Major Gilbert S. Crawford, M.D., R.A.M.C. Officer of the Order of the Crown of Italy: Captain Henry S. Anderson, R.A.M.C.; Captain Harold C. Winckworth, R.A.M.C.; Captain Percy A. Lloyd Jones, M.B., R.A.M.C.; Surgeon-Captain Robert Randon, M.D., Royal Malta Artillery.

THE library and offices of the Royal Society of Medicine, 15, Cavendish Square, London, have been closed. They will open again on September 1st.

British Medical Journal.

SATURDAY, AUGUST 5TH, 1911.

THE COMING ELECTION OF DIRECT REPRESENTATIVES.

As was briefly announced last week, a meeting of the Representatives of Divisions of the British Medical Association in England and Wales was held in Birmingham during the Annual Meeting, for the purpose of selecting candidates for the election of three Direct Representatives of the members of the profession in England and Wales on the General Medical Council which will take place this autumn. From the list of candidates before it, the meeting selected the names of Dr. Langley Browne, Mr. T. Jenner Verrall, and Dr. Latimer, and by so doing pledged the Association to make every effort to secure the election of these three gentlemen.

The procedure followed is in accord with the principle adopted by the Association at the annual meeting at Oxford in 1904; in accordance with instructions then given a scheme for the nomination by the Association of candidates for election as Direct Representatives on the General Medical Council was drawn up and submitted to the Annual Representative Meeting in 1906, but was not at once put into force because objection was felt to the terms of the declaration which candidates were asked to sign, and the time was too short to permit of modification of the declaration before the general election for that year—1906—took place. The scheme finally adopted was published in the SUPPLEMENT of May 22nd, 1911, p. 288; in accordance with its provisions a circular was issued to the Divisions asking them to notify to the Medico-Political Committee not later than June 15th last the names of any person or persons legally qualified for election deemed by the Division suitable to be nominated on behalf of the Association. After the receipt of these notifications the Medico-Political Committee prepared a list, which, as has been said, was submitted to a special meeting of Representatives of Divisions in England and Wales on July 25th. The Medico-Political Committee is now instructed to arrange that the names of the persons then selected shall be duly nominated for election to the General Medical Council.

It has been made a reproach to the profession that the number of voters at previous elections has been relatively small, not exceeding, on the average, about one-half of the total number entitled to vote, and it has from time to time been said that the Direct Representatives were for this reason not in a position to speak in the Council in the name of the whole of the profession. The object of the British Medical Association in drawing up the scheme now put into force was to provide the profession with a convenient means of making a preliminary selection among those ambitious of the honour of representing it in the General Medical Council. The Association is now pledged to use every effort to secure the election of the candidates thus selected, and, incidentally, it is hoped to induce a much larger number of medical practitioners to exercise their franchise on this occasion than at previous elections. It is more than ever important at the present time that the profession should, on a poll showing few abstentions, elect representatives well acquainted with the needs of the day, and thoroughly competent to speak in its name with no uncertain voice. It is inevitable that the conditions of practice must undergo serious modification within the next few years. There has not, as yet, been any direct outcome of the reports of the Royal Commission on the Poor Law; but both political parties are pledged to reform, and the National Insurance Bill, which there seems now every reason to suppose will, in an amended form, be placed upon the Statute Book before the end of the year, must entail many readjustments in the conditions of practice, and the settlement of an enormous mass of administrative details. The General Medical Council, as a statutory body having official relations with the great departments of State, has special facilities for making its views known to the Government, and recently very opportunely took advantage of its official position to express to the Chancellor of the Exchequer its considered opinion on certain aspects of the scheme embodied in the Insurance Bill. It may be expected that if and when the Bill passes, administrative questions will arise calling for the consideration of the Council, and affording occasion for further representations.

During the term of office of the Representatives now retiring the General Medical Council has given attention to the question of unqualified practice, and the matter has been under the consideration of a special committee, of which Dr. Langley Browne was Chairman and Dr. Latimer a member. This committee has presented several valuable reports, founded on information derived from official sources, on the laws of foreign countries and the British Dominions as to such practice, and it was due to its representations that was undertaken the inquiry into unqualified practice in the United Kingdom, the results of which were embodied in a report issued by the Local Government Board through the Privy Council. That report still leaves much to be done, and at the last meeting of the Council, when Dr. Macdonald was added to the committee, the Council adopted a resolution urging the Government, having regard to the dangers to public health arising from the unrestricted practice of medicine and surgery by unqualified persons, to introduce legislation for the better protection of the public, and offering its assistance in the framing of measures for that purpose.

Another question which must continue to engage the attention of the General Medical Council is the better adaptation of the scheme of medical education to the actual needs of medical practice in the present day. The addition of a year to the obligatory duration of the curriculum, increasing it to five years, has not produced all the beneficial results anticipated when the change was made. The extra year has not been given to clinical training, and that the methods of teaching or of examination or of both are faulty seems to be proved by the fact that the period which the average student spends in the medical schools is nearer seven than five years. The Education Committee has yet to make a final report, and when the time for its discussion arrives the contributions of medical men possessing such wide experience of the practical needs of the profession to-day as Dr. Langley Browne, Mr. Verrall, and Dr. Latimer will be of incalculable advantage.

Dr. Langley Browne and Dr. Latimer have already served one term on the Council, and the manner in

which they have represented general practitioners, and the excellent work they have done at the meetings of the Council and in its committees have earned for them the esteem of their fellow members and the gratitude of those they have so well represented. The other candidate selected—Mr. Verrall—is well known to members of the Association, for he has been for many years an active member of its Council and committees, and recently has presided with admirable tact, firmness, and impartiality over the anxious debates in committee of the Representative Body on the Insurance Bill. As was truly said at Birmingham, few save those who share or witness the labours of the central committees of the Association have any conception of the amount of time and energy freely given to the work of the Association in the efforts it makes for the benefit of its members and of the profession at large. The complexity of the questions that arise affecting the interests of the profession to the State and to the public is so great, that every man who puts his hand to the work must be content to go through a period of apprenticeship. Mr. Verrall's capacity for the public work of the profession has thus been tested, and he was judged the best man to put at the helm at a moment of storm and stress; he so acquitted himself as to earn the admiration of all. It is such men that we want to represent the profession in the General Medical Council, and we venture to say that every member of the British Medical Association is in duty bound to examine very carefully Mr. Verrall's qualifications to be associated with Dr. Langley Browne and Dr. Latimer before promising his vote to any other candidate, and further, to examine his own conscience with the view of deciding whether he will be doing his duty should he fail to vote at this election if a contest is forced upon the profession.

THE PROGRESS OF THE INSURANCE BILL.

THE House of Commons has this week made considerable progress with the consideration of the National Insurance Bill in Committee, and some important amendments have been made in the two clauses in which the medical profession is chiefly concerned. Three of the most important points in the list of demands of the medical profession were dealt with—namely, the questions of freedom from friendly society control, free choice of doctor by patient, and the income limit. The only cardinal point, therefore, remaining for consideration among those upon which the Association has deemed amendments of the bill necessary is that of medical representation in the administrative bodies, and upon this subject the Government has put down amendments which the Council and Representative Body have accepted as substantially meeting the requirements of the profession.

Of the amendments made, the first in order of time was that moved by Dr. Addison on Tuesday, and carried on a division by 387 to 15, a majority of 372. Clause 13 of the bill, before this amendment was carried, provided that medical benefit should be given by the friendly societies to their own members, and to insured persons not members of friendly societies by the local Health Committees. The amendment places the administration of medical benefit in the hands of the Health Committee, to the exclusion of friendly societies, and thus meets one of the points upon which the Association recommended that the profession should insist—namely, that the medical benefit should be administered by local Health Committees and not by friendly societies.

Dr. Addison, in a closely reasoned speech—a full report of which will be found in the SUPPLEMENT—dealt with the general principles involved as they affected the profession, the friendly societies and the public, with a cogency and moderation which commanded the attention of a full House, and undoubtedly did much to convince any members who still hesitated that the demands of the profession in this respect were fully in agreement with sound policy, and that to reject the amendment would not only imperil the success of the bill, owing to the opposition which it would arouse from the medical profession, but was, in fact, contrary to the underlying principles upon which the scheme was founded. The Chancellor of the Exchequer—who fulfilled his pledge to the Association by speaking in favour of the amendment—recognized that there was an overwhelming feeling in the House in favour of the change proposed, and argued that it would have a beneficial effect from the point of view of national health, while inflicting no injury upon the friendly societies. The amendment was supported also by leading members of the Opposition, and by Mr. Barnes, a former Chairman of the Labour Party. The feeling of the House was so strongly in favour of the amendment that it seemed for a moment probable that a division would not be challenged, but having regard to the overwhelming majority it is perhaps satisfactory that the challenge was made. Not only this result, but the general tone of the debate must be highly gratifying to the medical profession, for it was clear that, practically speaking, the whole House recognized that the proposal put forward by the profession on this matter was essential in the public interest.

The amendment as drafted by the Chancellor of the Exchequer, and already approved in substance by the Representative Body, providing for the free choice of doctor by the patient, was agreed to without a division after words had been introduced providing that the insured person may only change his doctor at prescribed periods, and also that the doctors on the list need not be resident in the area to which the list relates. The point that a medical man excluded from the list should have a right of appeal was raised and the principle accepted by the Chancellor of the Exchequer, with an undertaking to consider the matter more fully and bring up a proposal on the Report stage, after consultation with representatives of the profession. An opportunity will thus be obtained for careful consideration of the best means of carrying out the desire of the Annual Representative Meeting on this subject.

On Wednesday Sir Philip Magnus moved the amendment which he had put down at the instance of the British Medical Association, fixing an income limit of £2 a week. He pointed out that the proposal was that persons whose income was between £104 and £160 a year should receive a money payment in lieu of medical attendance, and that persons whose incomes were below £104 a year should have the option of receiving a sum of money in lieu of medical attendance, and that its effect would therefore not be to exclude insured persons from medical benefit. Referring to the difficulty of ascertaining whether a person's income was under £2 a week, he said that it could be met by a provision requiring every person claiming medical treatment to satisfy the local Health

Committee that his income was under the limit. The reasons of the profession for desiring this amendment were placed before the House by Sir Philip Magnus clearly, vigorously, and yet temperately, and he was strongly supported by Sir Henry Craik, Sir Robert Finlay, Dr. Hillier, and others. Sir Henry Craik, in particular, in reply to the criticisms of those who suggested that the more elastic provision for an income limit which would be afforded by an amendment to be moved by Dr. Addison would better meet the case of the profession, stated that this question had been fully considered, and that, on the whole, the general body of the profession preferred the security which a definite uniform statutory limit would afford to any more flexible arrangement with its inevitable concomitant of numerous local disputes. The amendment was opposed by Mr. Lloyd George, who contended that its effect would be to exclude persons earning over £2 a week from the medical benefits provided by the bill. When challenged on this, he so far modified his statement as to say that the amendment meant that where a man was now receiving medical attendance under contract he would not command that attendance under contract in future, and denounced the amendment as preposterous. It was opposed by Mr. Gill and Mr. G. Roberts, Labour members, and the general course of the debate showed that the sense of the House was strongly against the profession on this point. A speech by Sir Gilbert Parker, himself one of the sponsors of Sir Philip Magnus's amendment, in which he stated that he had come to the conclusion that Dr. Addison's amendment was preferable, had considerable influence in deterring the supporters of the amendment from challenging a division, more especially as it was thought that by persisting to a division the result of which was considered to be a foregone conclusion the case of the profession with regard to subsequent amendments might be prejudiced. Sir Philip Magnus's amendment was therefore negatived without a division, and Mr. Lloyd George's prophecy that the House of Commons would not listen to any such proposal was thus justified, his own attitude, no doubt, contributing largely to its fulfilment.

Later the amendment which has stood in the name of Dr. Addison was moved by him and accepted by the Government. The amendment has been for some time on the paper, and though its phraseology has undergone several modifications, its scope and intention are thoroughly understood by the profession. The amendment, which was carried on a division by 279 to 41, authorizes the local Health Committee to require any person whose income exceeds a limit to be fixed by them, and to allow any other person, in lieu of receiving medical benefit under the arrangement made by the Health Committees, to receive from those committees a contribution towards the cost of medical attendance and treatment, the insured person being left to make his own arrangements. Dr. Addison urged that this amendment introduced the principle of local option, and that this was preferable to a fixed limit over the whole country, since it would permit the continuance of existing arrangements, and would give elasticity to a system which must necessarily be experimental. Immediately afterwards Mr. Cecil Harmsworth proposed an amendment to enable contributions to the cost of attendance, such as were provided for by Dr. Addison's amendment, to be paid over to any system or organization providing attendance for insured persons subject to the approval of the local Health Committee. It was modified, before being moved, so as to provide that it should only apply to systems or organizations existing at the time of the passing of the Act, and also that its operations should in all cases be subject to the approval of the Insurance Commissioners. This amendment, which was accepted by the Government and adopted without a division, will meet the difficulty which has been experienced by colliery surgeons and others, but does so in a form which also permits of a continuance of some forms of contract practice which have been found most objectionable by the profession. In actual working, however, it may not improbably be found that the effect of other provisions of the bill will be to render such objectionable forms unacceptable to the insured, and no longer advantageous to the societies.

A series of amendments moved by Mr. Glyn-Jones, on behalf of the pharmacists, secured the same system of a panel of persons willing to act and free choice by the patient in respect of pharmacists, as had already been adopted as regards doctors, and restricted also the dispensing under the clause to persons holding statutory qualifications in pharmacy, subject to exceptions, including (*a*) persons who have acted for three years as dispensers, and (*b*) registered medical practitioners when dispensing for their own patients in accordance with the provisions of the bill.

Dr. Esmonde moved an amendment which would have fixed a minimum capitation rate of 8s. 6d. per annum. This was opposed from some quarters of the House as being too high, and from other quarters on the ground that it was inexpedient to fix the amount of remuneration in the bill. After Dr. Addison had pointed out that Dr. Esmonde in this matter was acting entirely on his own responsibility and that the British Medical Association had expressly declared that in its judgement a rate of medical remuneration could not satisfactorily be fixed until after the duties required of medical practitioners had been clearly defined—that is, till after the bill became law—the amendment was negatived without a division.

Thus, summing up the results so far attained, the profession has been completely successful upon each point with the exception of the statutory income limit. In considering the position, the facts that the statutory recognition of the principle of an income limit and a provision for enforcing it have been maintained must be set to the other side of the account. In the judgement of many conversant with the problems of medical organization this will enable the profession, if it remain united, to apply the principle of a wage limit in a more flexible way, adapting it to the needs of different localities.

It is, of course, too early to judge the full effect of the bill as now amended. In accordance with the decision of the Annual Representative Meeting a report on the whole matter is to be issued to the Divisions and placed before the profession generally upon the conclusion of the Committee stage, and a Special Representative Meeting will be convened to review the whole position, and to decide whether the profession can satisfactorily work under the bill in the form in which it emerges from Committee, or subject to such amendments as it may be thought desirable to press for in the Report stage in the House. Certain points have been explicitly reserved for that stage.

In the meantime, there can be no doubt, judging from comments in the press and from observations of the declared opponents of the medical claims in the House, that, in the eyes of the public at least, the medical profession has achieved a very large measure of success. Its case has been submitted to the

judgement of the House of Commons, and examined in a critical spirit, with the result above stated. It remains for the profession to realize that, as has already been repeatedly pointed out, the time when its union and organization will be most needed and most severely tested is after the Insurance Bill becomes law, if it does; the most strenuous efforts must continue to be made to hold together the forces now organized until that day of trial arrives.

Before Clause 13 was reached a prolonged discussion on the position of voluntary hospitals took place on the preceding clause containing provision for the case of contributors who were inmates of hospitals and other institutions. Many members gave expression to the fears of the managers of voluntary hospitals that the effects of the bill would be to diminish their revenue while increasing their expenditure on in-patients, in respect of which the probable diminution in the number of out-patients was considered to be an insufficient offset. The spokesmen of the Government adhered to the sanguine view that the financial position of hospitals would be improved, and eventually the clause was carried with only one amendment of material importance. This was a new subclause, moved by the Chancellor of the Exchequer, allowing provision to be made for the payment to a voluntary hospital of sickness or disablement benefit in whole or in part when the person concerned had no dependents. To this was attached a proviso that in the case of a married woman or widow entitled to sickness benefit in addition to maternity benefit no part of the maternity benefit should be applied for the relief or maintenance of her dependents. In a new subclause, moved by the Attorney-General, dependents were defined to include such persons as the approved society or local Health Committee shall ascertain to be wholly or in part dependent on the earnings of the inmate of the voluntary institution.

With regard to the position of women under the bill, several amendments have been made since the subject was last referred to in our columns.[1] With regard to the insured married woman, whose husband is also insured, the Chancellor of the Exchequer, with refreshing frankness, informed the House of Commons that the reason why the Government were prepared to concede the demand of a married woman whose husband was also insured was because she was entitled to the claim and had paid for it. This doubly insured couple will therefore now receive £3 instead of 30s.; the maternity benefit of 30s. will be charged to the men's fund, and 7s. 6d. a week sick pay for four weeks to the women's fund. A proviso of some importance was, at the instance of Mr. Lees Smith, added to Subclause (6) of Clause 8, making it clear that the right of a widow confined of a posthumous child to sickness or disablement benefit was retained, and Mr. Lansbury procured the insertion of words saving the right of a person resident out of the United Kingdom to maternity benefit for his wife if at the time of her confinement she was resident in the United Kingdom. Up to the present time there does not appear to be any amendment giving the wives of insured men any sick or additional maternity benefit, even though there may be a considerable sum standing to the woman's credit on account of payments made by her up to the time of marriage. It would seem, however, that married women are to be allowed sanatorium benefit, and it would have been short-sighted to withhold this when it is remembered how closely a mother suffering from tuberculosis may be in contact with her young children.

[1] July 22nd, p. 175.

As regards the employment of hospital nurses, Sir Samuel Scott elicited from the Chancellor of the Exchequer the statement that pupil nurses under a contract of service or apprenticeship would come under Part 1 (a) of the first schedule; and that if no wages were paid the hospital was responsible for the employee's as well as the employer's contribution. Amendments to Clause 34 are needed in order that a woman who has been insured up to the time of marriage shall not forfeit her contributions on marriage. Since the Chancellor has shown himself open to argument, and to be willing that married women should have sanatorium treatment, there is reason to hope that other improvements in the position assigned to the wife of the working man will also be effected.

THE ANNUAL REPORT OF THE COMMISSIONERS IN LUNACY.

EACH year the appearance of the annual report of the Commissioners in Lunacy is awaited with interest. The steady augmentation of the numbers of the insane in England and Wales, which they can be counted upon to reveal, always produces an uneasy feeling in the public mind, a feeling only slightly lessened by the Commissioners' smooth pronouncement that the available statistical data do not warrant any presumption that insanity is actually increasing, or, in fact, justify any deduction whatever upon this vitally important point.

The report for the year 1910[1] is published in two parts; the first contains the report of the Commissioners and a supplement, in which brief descriptions are given of the scientific work carried out in asylums in 1910. The second part contains the statistical tables on which the report is founded, together with the various entries and reports made by the Commissioners on their work of inspection.

In the report itself the Commissioners provide an admirable summary of the statistics of the fluctuations of the numbers of the insane, their distribution according to age, sex, classification, etc.; the changes which have occurred during the year from recoveries and deaths; the incidence of disease upon the inmates of asylums and the provision made and in the making for the maintenance of the insane. They also discuss incidentally such scientific matters as the causation of insanity, the bearing of heredity upon its appearance or origin, and the relative proportions of the insane ranged according to their clinical classification. We can here deal only with the principal points in the statistical summary, reserving the more detailed digest of the whole report for a subsequent issue.

First, as to the numerical increase of the insane, it appears that on January 1st, 1910, the total certified insane in England and Wales numbered 130,553, and on January 1st, 1911, they numbered 133,157, giving a numerical increase for the year of 2,604. This increase, whilst greater than the 1,766 for the preceding year, is less than the 2,703 of 1908. Of more importance than the numerical increase, however, is the increase of the ratio of the insane to the population, and here we see that whereas on January 1st, 1910, the ratio of the certified insane to the estimated general population was 1 to 277, or 36.1 per 10,000, on January 1st, 1911, the ratio was 1 to 275, or 36 per 10,000. Furthermore, the increase of the ratio to population of January 1st, 1911, upon that of January 1st, 1910, amounted to 0.83 per cent., whereas that of January 1st, 1910, upon that of 1909 was only 0.22 per cent. From this the fact emerges that the

[1] The Sixty-Fifth Report of the Commissioners in Lunacy. 1911. Wyman and Sons, Ltd. Part I. Price 10½d.

diminishing rate of increase of the ratio of insane to population, which has been noted with satisfaction in former years, has not been so marked on this last occasion.

The question of the increase or decrease of insanity may be looked at from different points of view, each regarding different though intimately related issues. From the financial point of view the supreme consideration is the burden which pauper insanity throws on the community. Here we note that, although the proportion of private patients to population increased during 1910 from 2.93 to 2.97 per 10,000, pauper insanity rose from 32.87 to 33.12 per 10,000. From the pecuniary point of view, therefore, the last mentioned figures do not seem perceptibly to lighten the burden of the situation.

From the medical or biological point of view of this question numerous factors have to be taken into consideration, and, unfortunately, many of them are beyond even approximate estimation. Thus, though it is easy to demonstrate the importance of accumulations within asylums from slowly diminishing numbers of discharges and deaths—to which, and probably rightly, the Commissioners attribute a large part of the apparent increase of insanity—it is difficult to determine to what extent "greater care taken to segregate persons suffering from the milder forms of insanity" is operative. As regards accumulation, the Commissioners show by a table that, calculated on every 100 admissions in the year 1909, 45.6 were discharged and 46.6 died, leaving a surplus to be carried over to next year of 7.8 per cent., whereas in the year 1910 only 45 were discharged and only 44.7 died, leaving a surplus of 10.3 per cent. to be carried over. Doubtless in this factor of accumulation the explanation of the bulk of the increase of certified insanity is to be found. Certainly the fact that the ratio of the admissions to population, which dropped with minor fluctuations from 6.93 per 10,000 in 1902 to 6.09 per 10,000 in 1909, and has dropped still further to 6.04 in 1910, speaks against any notable increase of the growth of certified insanity. The statistics of the ratios of first admissions to population, which have been recorded since the year 1898, show only an increase from the 4.92 per 10,000 in that year to 5 per 10,000 in 1910.

In an article founded upon a paper by Mr. Noel A. Humphreys, published in 1907,[2] on the alleged increase of insanity, we drew attention to that gentleman's argument from a comparative analysis of the census returns and those of the Lunacy Commissioners, that any increase of certified insanity not due to accumulation was attributable to the continual recruiting of the ranks of the certified insane from the large uncertified reserve of insanity ever present in the country. It may be hopefully anticipated that a comparison of this year's census returns with those made to the Lunacy Commissioners will strengthen Mr. Humphreys's argument.

THE OXFORD OPHTHALMOLOGICAL CONGRESS, 1911.

The Oxford Ophthalmological Congress, which assembled at Keble College, Oxford, on July 13th last, was well attended, more particularly, perhaps, by members from the other side of the Atlantic. The proceedings were opened by an address of welcome by the Master, Mr. Robert W. Doyne. This was followed by an address by Professor Arthur Thomson, dealing with the anatomy of the parts about the filtration angle of the eye. It was illustrated by a series of beautiful lantern slides. Dr. Lieven, of Aix-la-Chapelle, then spoke on salvarsan, its value, its uses, and its methods of employment, and he was followed by Major R. H. Elliott, of the Government Ophthalmic Hospital at Madras, who described his operation of trephining the sclera for glaucoma; his very practical communication was well received be a crowded audience. The afternoon was devoted to the inspection of cases of interest collected by the staff of the Oxford Eye Hospital, and to the demonstration of operations by Mr. Charles Higgens, of London, and by Dr. S. Lewis Ziegler, of Philadelphia. On July 14th addresses dealing with subjects of particular interest to ophthalmic surgeons were delivered by Professor Francis Gotch, F.R.S., Dr. StClair Thomson, and Dr. Harold Low. Microscopical preparations, new instruments, novel operations, and so forth, were shown or demonstrated by, among others, Mr. H. Herbert, Major G. H. Fink, Dr. F. W. Edridge-Green, Dr. Wiston Baker, Dr. Thomson Henderson, Mr. R. Granville Waddy, Dr. Wendell Reber, Mr. P. H. Adams, Mr. R. J. Coulter, Mr. Bernard Cridland, Dr. T. Harrison Butler, Dr. Alexander Gibson, Mr. H. G. Armstrong, Dr. R. M. Truter, Mr. R. W. Doyne, and Mr. Sydney Stephenson. The social side of the congress was represented by the official dinner held in Keble Hall on July 13th. It was presided over by Professor Sir William Osler, Bart., F.R.S., and the chief guests included the Vice-Chancellor of the University of Oxford and Dr. W. Lock, the Warden of Keble College. On the afternoon of the same day there was a garden party at Balliol College, while on the following day visits were paid to the more interesting colleges and to the famous Clarendon Press, and a smoking concert was held at Keble College.

[2] The Alleged Increase of Insanity. By Noel A. Humphreys, I.S.O. Read before the Statistical Society, March 19th, 1907.

INTERNATIONAL CONGRESS OF UROLOGY.

The second Triennial Congress of the Association Internationale d'Urologie was held in London from July 24th to 28th. On the evening of July 24th a reception was held by Professor E. Hurry Fenwick, President of the Congress, and Mrs. Fenwick, at Prince's Gallery, Piccadilly, which was largely attended by members and their friends. At the opening meeting on July 25th, addresses were given by Professor Israël of Berlin, Vice-President of the Association, Professor Pousson of Bordeaux, also Vice-President of the Association, and Professor E. Hurry Fenwick. At the first scientific meeting, which followed immediately after this opening meeting, a discussion on phosphaturia and oxaluria was opened by Dr. Hoggo of Liége, Professor Richter of Berlin, and Professor Teissier of Lyons. On July 26th a discussion on the remote results of prostatectomy was opened by Dr. Hugh Young of Baltimore, Professor Robert Proust of Paris, Dr. Regino Gonzales (Mexico), and Professor O. Zuckerkandl of Vienna. So much interest was taken in this subject that a second meeting was called later in the day to continue and finish the discussion. In the evening a banquet was given at the Savoy Hotel by members of the British Section to the foreign members and their friends, at which more than 200 were present. On July 27th the General Assembly of the Association was held in the morning, at which it was decided that the next Congress should be held in Berlin, under the Presidency of Professor Israël, who appointed Professor Posner (Berlin), General Secretary of that Congress. A discussion followed on extensive resections of the bladder. It was opened by Professor E. Hurry Fenwick of London, Dr. D. Giordano of Venice, and Professor Thorkild Rovsing of Copenhagen. On July 28th the members of the Congress were received at the following hospitals: St. Bartholomew's, the London, Guy's, St. Thomas's, and St. Peter's. During the Congress other visits were paid to various hospitals and places of interest. From the scientific point of view the Congress proved extremely successful, as the discussions were well attended and the papers of a high standard.

RADIO-ACTIVE MENTHOL IODINE.

A SHORT account by Dr. Leonard Robinson of the employment in Paris of the "radio-active menthol iodine" introduced by Dr. de Szendeffy of Budapest for the treatment of tuberculosis was published recently.[1] In commenting on the formula given for the injection we pointed out that the term "peptonized iodine" represented an impossible substance, and was probably a mistranslation for "iodized peptone," and that in other respects also the formula did not give sufficient information for a chemist to be able to prepare it. There is now before us a box labelled "Dioradin Preparation, No. 3," which has contained six ampoules supplied from a Paris depot, for carrying out the treatment, and on the label of this box a different formula is given, iodoform taking the place of peptonized iodine. The label bears the name "Dr. Szendeffy," printed across the other matter as (presumably) a facsimile of his signature. The full wording is as follows:

Dioradin
Combinaisons Radio-Actives.
Preparation No. 3.
Pour le traitement de la tuberculose.
1 cm.c. contient:
0.01 Iodoforme
0.06 Menthol
le $\frac{1}{10}$ d'une goutte de solution de radium de 5 millions d'unités Mache.
8f. 50
Depôt General
pour La France et Les Colonies:
22 Avenue de Neuilly, Neuilly-Paris.

The ampoules contained a clear, pale, yellow oil, smelling strongly of iodoform and less strongly of menthol and ether; on examination no evidence whatever of any substance of the nature of peptone was obtained. The name "Dioradin" was not used by Dr. Leonard Robinson in the paper to which we have referred, but it has been used by Dr. Szendeffy in a way which seems to indicate that it is a name given to his "radio-active menthol iodine." Thus in a letter dated "Budapest, May 30th," and signed "Dr. A. de Szendeffy," which appeared in the *Times* of June 3rd, we read: "Will you kindly allow me to answer the article 'The New Treatment of Tuberculosis,' which appeared in the *Times* of May 25th? My physic, Dioradin No. 3, is truly a chemical composition. The chemo-therapy has, in some illnesses, great advantages over the serum-therapy as it is explained in the literature of '606.' . . . We do not use iodine in a free state, but in an associated condition; with the different albumen iodines and those which are known as peptone iodines; also in the form of soluble salts or as the additional sebatic acid. . . ." We are informed that the box of ampoules containing the iodoform and menthol solution was supplied in response to an order for "radio-active menthol iodine" of the formula previously published, containing "peptonized iodine." A further discrepancy lies in the fact that in a circular enclosed in the box, headed "The Dioradin (Radio-active mixtures) Preparation No. 3," and signed "Budapest, the 30th May, 1911. Dr. Szendeffy," it is stated that "The preparation No. 3 of the Dioradin contains both terpins and iodine salts," but no "terpins" are mentioned in the formula on the box. It should be obvious to Dr. de Szendeffy and his collaborators that medical practitioners, in this country at any rate, will be indisposed to administer a preparation when such contradictory statements about its composition are made by the introducer. The first question which requires to be answered is, What is the actual composition of the material which has been injected by Drs. Szendeffy, Bernheim, and Dieupart, in the "hundreds of experiments" which they state have been made? If, as originally stated, it was a preparation of "peptonized iodine" (or iodized peptone), what is the relation between that and "Dioradin No. 3," containing iodoform? What is the justification for such statements as the following, quoted from the circular on "Dioradin No. 3," referred to above? "The preparations of the Dioradin are based upon the miraculous effects, which scientific researches have shown in regard to the different sicknesses treated with radium." "Although tubercular patients who are far advanced have shown equally an improvement, and although the prolongation of life has been very often demonstrated with patients in the last stage of tuberculosis, one will obtain absolutely satisfactory effects only with patients of the first and second stages." "If we have to do with a case of long-standing tuberculosis, where the sickness consists in a mitigated infection, one will observe very often after a few injections (some weeks) remarkable improvement. The purulent pustules, which lasted for years, heal very quickly." "The Dioradin surpasses in its effects, conforming to the experiences made up to to-day (see *La Revue Internationale de la Tuberculose* of May, 1911) all the remedies which have been employed up to now—against tuberculosis." Such expressions as "miraculous" or "absolutely satisfactory effects" are not of a nature to give confidence to medical practitioners taking an interest in the proposed method of treatment; when taken in conjunction with the uncertainty as to what is being employed, the contradictory statements made, and the failure, so far, of Dr. Szendeffy to give a bona-fide working formula for the injection, an attitude of scepticism appears to be justified.

[1] BRITISH MEDICAL JOURNAL, July 8th, 1911.

PREPARATIONS SHOWING FETAL SKELETON.

IN a paragraph on the Museum of the Royal College of Surgeons of England, which appeared in the JOURNAL of July 15th, p. 134, mention was made of a beautiful and highly instructive series of preparations, added to the Museum during the past year. They demonstrated ossification centres in early fetal life. These preparations, which attracted much attention at the annual show held on the week of the council elections, were made by Mr. R. H. Burne. Without doubt, similar specimens will soon be set up in the museums of medical schools, as they are of high value for teaching purposes. Although Mr. Burne prepared them after a method associated with a foreign anatomist, we pointed out that while he, an Englishman, deserved much credit for making these preparations, which are by no means easy to set up so as to show well and keep well, another Englishman, Dr. Lionel Beale, likewise deserved credit for having, as it will be seen the foreign authority admits, invented the process of preparation many years before Schultze. Dr. Lionel Beale's specimen is figured in the third edition of *The Microscope in its Application to Practical Medicine*, 1867, Plate II, Fig. 11, opposite page 24, with the description, "Human fetus about the eleventh or twelfth week. Ossific points are observed of considerable size. But one point exists in the os innominatum, and two are seen in the scapula. The shading in the head and face indicates the formation of bone. The ossification of the first and third phalanges of the fingers and metacarpal bones has advanced, but at present there is only one point of ossific deposit in the tip of the great toe and one for the middle toe. In both drawings the development of the anterior extremities is much more advanced than that of the legs. (Soaked in soda and alcohol for a few days and preserved in spirit. Not changed since 1853–4.)" Mr. Peyton Beale kindly informs us that "the specimen dried up some fifteen years ago. I remember remounting it and doing all I could to preserve it, but in vain." When, however, we turn to Schultze's communication in the thirteenth volume of the *Anatomischer Anzeiger*, under the head of "Proceedings of the Anatomical Society at its Twelfth Meeting" in April, 1897, it is satisfactory to find that the distinguished German anatomist admits that Beale in 1853 and later on Koelliker had treated fetuses with caustic alkali and alcohol. In short, Schultze generously admits Beale's priority, explaining how he himself has improved the process after long practice and experience. We trust, therefore, that Beale's countrymen will always remember his claims.

ANNUAL MEETING NOTES.

As at the hour we went to press last week the Annual Meeting at Birmingham was still in progress, it was impossible to give anything like a full account of what was going on or of what had already happened. Hence some further notes on various features of the meeting throughout its course here follow; while in the earlier part of this issue will be found a summary of the work done in each of the Sections on the last two days of the meeting, and also an account in full of the first day's proceedings in the Section of State Medicine and Industrial Hygiene. Similarly in the Supplement to this issue will be found an account in detail of the Pathological Museum, to the excellence of which the attention of readers was called last week in one of these annual meeting notes, and also a description of the ceremony at which Dr. Macdonald and some other members of the Association received a degree in the faculty of law at the hands of the Vice-Chancellor of the University of Birmingham. In the same place, too, is a verbatim report of the proceedings at the Annual Dinner, including the thoughtful yet amusing speech delivered on that occasion by the Bishop of Birmingham. Our account of the more novel articles shown at the Annual Exhibition of surgical instruments, drugs, medical publications, and other facilities for practice, was commenced in the Supplement to the issue for July 29th, and will be continued next week. At the same time will be recorded the speeches at the annual temperance breakfast, and some account be given of the objects of Studley Horticultural College for Women.

Afternoon Entertainments.

In addition to the garden parties given by Professor Saundby and Sir Oliver Lodge, to which allusion was made last week, similar afternoon entertainments were provided by Professor and Mrs. Gilbert Barling, by the Chairman of the Entertainments Committee and Mrs. Marsh, and by Dr. and Mrs. Stacey-Wilson. The first of these took place on Wednesday at Professor Barling's own home in Edgbaston, while Mr. and Mrs. Marsh arranged for the holding of their party on Friday at an Elizabethan mansion situated about three miles distant from the centre of Birmingham, and known as Aston Hall. In addition to the charm of its stately interior, its gardens, where refreshments were served in large marquees, are in themselves very picturesque. The guests were taken out by a special service of electric cars, and what between the brilliancy of the weather, some pleasant music, and the attractions of the place itself, Mr. and Mrs. Marsh's garden party proved a great success. Dr. and Mrs. Stacey-Wilson's garden party took place on the same day, and was equally enjoyed by those who had an opportunity of being present. The arrangements made were of a kind corresponding to those at Aston Hall, the party being given at Wydrington House, a place possessed of gardens even more attractive in some respects than those at Aston.

Evening Entertainments.

Apart from the annual dinner and the ceremony on the occasion of the delivery of the Presidential Address, of which a full account was furnished last week, three of the evenings were occupied by entertainments. One was a performance at the Theatre Royal by the Harcourt Williams Company. The piece played was the "Fanfasticks," a musical comedy in verse, based on one of the minor works of Rostand. The house was well filled and sufficiently hot to make the ices and other refreshments served during the interval thoroughly acceptable. Another was the reception given by the Lord Mayor and Lady Mayoress at the Council House. The scene here was one of much brightness, for nearly all the men present were either in uniform or academic dress. Upstairs several entertainments were in progress, while for the benefit of those who preferred the open-air, a band performance was provided in the central quadrangle of this building. The last entertainment of the week took place at the Botanic Gardens at Edgbaston on Friday night, when guests were received by the President of the Association (Professor Saundby), the Chairman of the Reception Committee (Professor Gilbert Barling), the President of the Birmingham Branch (Professor J. T. J. Morrison), and the Chairman of the Entertainments Committee (Mr. Frank Marsh). It was a very amusing entertainment in more ways than one, for at times the scene was reminiscent of the close of a hard-fought fight. This was because, despite the fact that there were plenty of prettily-lighted walks available, most of the guests, either because the evening was warm or because they were exhausted by their labours during the week, seemed to prefer to pass their time reclining on the sloping lawns listening to the music of the two bands; some were in scattered groups, but many more lay in serried ranks as though mown down by pom-poms and rifle fire during a frontal attack on an unassailable position. The majority, however, managed to remain on their feet when the excellent firework display, with which the formal proceedings ended, was in progress. A final amusing feature was the exchange of snatches of gossip and greetings during the scramble for a carriage, when one or other of the stalwart and stentorian-voiced Birmingham policemen announced that No. so-and-so stopped the way.

Golf.

Caddies, if not other people, commonly credit "goufers" with being very difficult mortals to please, but it seems certain that no golfing member of the Association who went to Birmingham can possibly have been dissatisfied, unless on account of insufficient time in which to take full advantage of the arrangements made for him. The possible requirements of the fraternity had been very fully anticipated by the Golfing Subcommittee, with Dr. Charles Robertson of Handsworth at its head, and Dr. T. Sansome, jun., of West Bromwich, as its very active secretary, and enough greens were provided to suffice for more golfers than the Association probably owns; indeed, the authorities of as many as twelve clubs had made visitors free of their links for the week. The principal competitions during the week took place on Wednesday and Friday respectively, the first being a match between the "The Rest" and the Birmingham Medical Golfing Society. The players numbered twenty-two a side, and as two of those who should have played for "The Rest" unfortunately missed their way, they had to be replaced by players selected from the society itself. Play took place on the Little Aston links in splendid weather, and ended in a victory for the home team by 12 to 8, Dr. Charles Robertson (plus 1) leading for the victors, and beating Dr. W. H. Bryce of Ealing. When play was over the party resorted to Little Aston Hall, where they were very hospitably entertained by Mr. J. B. Clarke, and refreshed by tea and other equally pleasant, if not closely allied, fluids. The competition for the Ulster Cup took place on Friday at Handsworth and ended in Dr. McCardie attaining the position of winner both of the Ulster Cup with a score of 2 down, and of a special prize presented by Mr. T. Saunders, captain of the Handsworth club. Next to Dr. McCardie came Professor H. Malins, with 3 down, and Dr. Seymour Jones with 4 down. Another prize, presented by Drs. Robertson and Sansome, jun., for the best last nine holes, was won by Dr. J. A. Berlyn, of Edgbaston. The party was subsequently entertained at tea by Mr. C. A. Palmer. Summed up, the golfing arrangements were as well

devised and worked as successfully as did all others made in connexion with the entertainment of visitors. The thanks of members are also due to the clubs which so kindly lent their courses, these being the golfing societies at Handsworth, Sandwell Park, Olton, King's Norton, Little Aston, Streetly, Harborne, Ladbrook Park, Brand Hall, Edgbaston, Moseley, and Castle Bromwich.

VISITS TO MANUFACTORIES.

THE miscellaneous relaxations provided by the hosts at Birmingham included a series of visits to some of the factories which have helped to make Birmingham famous as a manufacturing town. Among these were the premises of "Buttons" Limited, a combination of many firms who carry on a species of manufacture for which Birmingham became noted as early as the beginning of the eighteenth century; of Messrs. John Hardman and Co., specimens of whose stained glass are to be seen in so many churches; of Elkington and Co., the electro-plate makers; of Goodman and Co., whose enterprise is the manufacture of pins; of William Mitchell, Limited, whose products are to be found on many writing tables; of F. and C. Osler, Limited, the china and glass manfacturerers; and of Belliss and Morcom, the well-known engineers. These were the first visits paid, while later on other firms proved equally hospitable in making arrangements for the reception of visitors and for their refreshment after a tour round the works. Among them were our contemporary the *Birmingham Daily Mail;* Gillotts, a firm famous for its gift nibs; Alfred Bird and Sons, of custard renown; the Mint, which coins vast quantities of money for foreign Governments, and also turns out probably a large proportion of all the medals which one sees from time to time; and the Birmingham Small Arms Company. The Electric Supply Department of the City of Birmingham also threw open its premises, as also did the Metropolitan Railway Carriage and Wagon Company, and Messrs. Southall. The latter firm does work which is of direct medical interest, and consequently the visit to its premises is separately described in the next note.

GAUZE AND COTTON WOOL.

ON Friday between thirty and forty members paid a visit to the Charford Mills, two miles outside Birmingham, and inspected surgical dressings in the making. They were received and entertained by Sir Thomas Barclay, the head of the firm of Southall Brothers and Barclay, Limited, who with his fellow directors and heads of departments conducted the visitors over the extensive plant. Explanations were forthcoming as to the hundred specialized processes intervening between the arrival of the raw material in bales packed on American or Egyptian cotton fields and the completion of the bandage or the absorbent cotton. The first operation to be demonstrated was that known as "willowing," which is carried out by many-pronged machines opening or raking over the raw cotton. The purer material is then sent by means of fans to the bleaching yards, where it passes through at least eight different processes, including boiling in caustic soda, bleaching in chloride of lime, treating with acid and tinting with blue, while in the interval between each operation it is subjected to careful washings in order to remove extraneous products and to neutralize the acid. The drying operation is performed by pressing the cotton against perforated iron plates in a chamber, the immediate neighbourhood of which has a temperature of 145°. The visitors showed no inclination to linger here, and proceeded to investigate elsewhere the operations of carding and weaving. What appeared to be a dozen cylinder machines, but was in reality a single construction, its rollers covered with millions of fine steel points, combs out the cotton fibres and sends forth a beautiful fleece of finished absorbent material. The bandage-cutting was an interesting process, both the machine and its little lady-in-waiting working with fascinating dexterity. In the mill devoted to weaving, much of interest was also to be seen; the twist is wound from cops to bobbins, and from bobbins to beams, with machines so sensitive as to stop automatically if a single thread is broken. A regiment of blue-capped girls under a trained nurse were engaged in another department upon the making of compressed and absorbent towels, vaccination pads, and various hospital requirements. Although the visitors had not time to see the firm's other mills at Bromsgrove, where the cottons and wools are impregnated with antiseptics and the surgical dressings sterilized by patent processes, sufficient was seen to inspire in them a new kind of respect for the bandage and gauze and pledget.

LICHFIELD AND COVENTRY.

LICHFIELD and Coventry were both among the towns within easy reach from which members of the Association found invitations awaiting them at Birmingham. To the one accorded by the medical practitioners in and around "the Ancient and Loyal city of Lichfield" over ninety visitors responded, paying their visit on Wednesday afternoon, with Mr. Christopher Martin as their guide. They were received on their arrival by Dr. H. M. Morgan, who had been mainly responsible for the organization of the visit, and made their way forthwith to the Cathedral. It is to this building, or rather to the Close around it, that Lichfield more specifically owes the descriptive title which has been quoted, and of which it is justly proud. During the civil war in the time of Charles I, Lichfield proved steadily Royalist, and the moated close being its only defensible position this building underwent three separate sieges, the Royalist party being the defenders in the first and last instances. The Parliamentary forces while in possession of the Cathedral broke down "all the carvings thereof with axes and hammers," but the fabric was later on restored and largely rebuilt by Bishop Hackett, while it was still further beautified under the late Dean Luckock. It was the present Dean, Dr. Savage, who kindly conducted the party round it, and very lucidly explained all points of interest. After the cathedral, the birthhouse of the famous lexicographer, Dr. Samuel Johnson, was visited, the statue to his biographer, Boswell, which is in the market place, being also inspected. A statue of His late Majesty King Edward in the museum grounds likewise came in for admiration; it was a gift from the Sheriff of Lichfield, Councillor Bridgeman, and was designed and carved at the premises of his firm, to which a short visit was paid. Later on, about five o'clock, the visitors assembled at the Guildhall, where the local practitioners entertained them by permission of the Mayor. The latter official, who has recently been raised to the peerage under the title of Baron Charnwood, had intended to accord the party a civic welcome, but Parliamentary work kept him in London; his place was therefore taken by the ex-Mayor, Mr. Alderman Morgan. Finally, after passing a vote of thanks to their entertainers, the party returned to Birmingham by the 5.41 train, leaving a few behind them to inspect the Victoria Nursing Home and Cottage Hospital. A few also found time to examine the ancient house formerly occupied by the head master of Lichfield Grammar School, a place at which were educated Samuel Johnson, Erasmus Darwin, Joseph Addison, the statesman and poet, David Garrick, the actor, and as many as five men who, in the eighteenth century, simultaneously occupied seats on the judicial bench in Westminster Hall, one being the Lord Chief Justice and the other the Chief Baron. The visit to Coventry took place on Friday afternoon, and those who know this town will scarcely be surprised to hear that an afternoon did not suffice to exhaust its interest. Nevertheless, Dr. Orton, who organized the visit, and Dr. E. Phillips and other local medical men, who gave up their

afternoon to attend to the requirements of their guests, managed to compress a great deal into the few hours available. Tribute to the modern fame of Coventry was paid by visits to the automobile works of the Daimler and Rover companies respectively, while the ancient glories of the town were by no means entirely neglected. St. Mary's Hall and St. Michael's Church were the only places deliberately examined, but many of the streets of Coventry are so full of picturesque houses and courtyard openings that, despite the brevity of the visit, most visitors probably carried away a correct, if cloudy, impression of the town. Besides this the afternoon ended at another place of considerable archaeological interest—namely, the Charter House, an ancient monastery which stands a little way outside the town, and, having been partly restored, is now in occupation by Colonel Wyley, the head of the well-known pharmaceutical firm of that name. He very kindly offered to throw it open for the benefit of the visitors, and, in addition, provided a garden party, which was well attended and formed an admirable ending to this enjoyable afternoon.

Droitwich.

About fifty members of the Association and a number of ladies left Birmingham on Saturday morning, under the guidance of Dr. Purslow, for a flying visit to the famous salt-springs at Droitwich. The visitors were met by the local medical men, including Dr. John Wilkinson, Dr. H. Shirley Jones (who had been mainly responsible for the arrangements), Dr. P. A. Roden, Dr. F. H. Foulds, Dr. Cuthbertson, and others, together with Mr. J. H. Hollyer, the Secretary of the Corbett Estate. Within a few minutes of arrival many of them were personally testing the tonic action of the brine in the buoyant waters of the St. Andrew's Swimming Baths, which contain 22,000 grains of saline matter to the imperial gallon, and are estimated to be five or six times more salty than the Dead Sea. Afterwards they inspected the bathrooms for individual immersion, where the full-strength brine, pumped, as in the other case, direct from the springs in the triassic formation 200 feet below the surface of the ground, is heated by steam to the required temperature—which may be anything from 90° to 109°—according to the complaint and idiosyncrasy of the patient. Special preparations of bronze and copper have to be used as piping, otherwise the brine would cause corrosion, and the baths themselves are teak-lined and sand-papered. Elsewhere the special appliances for Aix Douche and Nauheim Baths were demonstrated, and then the visitors were taken to the St. John's Brine Bath Hospital, which exists for the accommodation of patients suffering from chronic rheumatism and gout, and gives the impression of a simple, old-fashioned country house rather than an institution. The privilege was afforded of using the pleasant grounds of the neighbouring hotels and the nine-hole golf-course, and some of the local medical men kindly placed their motor cars at the disposal of the visitors for short trips to Impney Park and grounds, the village of Salwarpe on its picturesque river, and other charming scenery in this part of the Severn Valley. Covers were laid for two hundred at luncheon in the half-timbered Salter's Hall, which was gaily decorated for the occasion, and the chair was taken by Viscount Cobham, one of the Corbett trustees on whose estate the baths are situated, and who were the hosts of the day. His lordship proposed the toast of "The British Medical Association" in a humorous speech, and enlarged upon the natural advantages of Droitwich Spa, the springs of which, according to an ancient writer, "have been here from the time of Noe's flud." Dr. J. Neal, in acknowledging the compliment, and Dr. C. E. Purslow in proposing "The Baths," each expressed the opinion that Droitwich was well worthy the attention of the medical fraternity, and the latter authority spoke of benefits which his medical friends had derived from its waters. The other toasts honoured were "The Mayor and Corporation," "The Press," and "The Chairman," submitted respectively by Mr. Willis-Bund, the Hon. J. C. Lyttelton, M.P., and Judge Amphlett.

Warwick and Leamington.

Warwickshire is one of the few English counties possessed of a well-known health resort, and an invitation to visit Leamington Spa, sent in the name of the Mayor (Dr. H. Mason) and the Corporation of this royal borough, was among those awaiting visitors to Birmingham. Fortunately this spa lies so very close to Warwick that it was possible to arrange for a visit to it on the same day that Warwick was to be explored on the invitation of the Warwick and Leamington Division of the Association. The party, which was in general charge of Mr. Furneaux Jordan, left Birmingham early on Saturday morning, and having been received on its arrival at Warwick by Dr. T. E. C. Cole, the Secretary of the Division, who had organized the visit, and other of the local medical hosts, forthwith proceeded to admire the beauties of the castle, the ancient Leycester Hospital, St. Mary's Church, and other interesting features of this famous town. The visitors then moved on to take luncheon at the Town Hall at Leamington, where they were received by Dr. Mason, many members of the Leamington Town Council, and the Mayor of Warwick being also present. After luncheon a toast to the Association was proposed by the member of Parliament for the borough, Mr. E. M. Pollock, who described medical men as belonging to the one great altruistic profession, and expressed a hope that those who were members of the British Medical Association would help to make the healing virtues of Leamington waters better known throughout the country. The toast was acknowledged on behalf of the Association by Professor Saundby, who, in allusion to some remarks on the subject of the National Insurance Bill, which had been made by Mr. Pollock, said that he was confident that if medical men put their backs to the wall and worked unitedly they would succeed in getting the amendments they desired. There was no desire on the part of the medical profession to wreck the bill. The toast to the visitors was proposed by Dr. T. W. Thursfield, J.P., who coupled it with the names of the Lord Mayor of Birmingham, Professor Stoeltzner, and the Mayor of Warwick. In reference to the former, Dr. Thursfield said that he now presided over the largest city in the empire outside London, and in Leamington they looked to the people of Birmingham to come there to partake of its waters and occupy some of its empty houses. Replies were duly forthcoming from Professor Stoeltzner, the Mayor of Warwick, and the Lord Mayor of Birmingham, the latter saying in the course of a humorous speech that in Birmingham they always looked with great favour on Leamington because it was understood that the doctors there had such a poor time. He hoped its Town Clerk would not contradict him when he said that he understood that the first persons in Leamington who had applied for old age pensions had been old doctors. The toast list concluded with a health to the Mayor, which was proposed by Dr. F. H. Haynes, J.P., and duly acknowledged by Dr. Harold Mason. Later on a visit was paid to the Pump Room and bathing establishment, where Professor Saundby in particular passed high encomium on what was shown. The variety and number of the baths seemed to be a revelation to some of the visitors who had never been to Leamington before, and one of them was heard to observe that with such an up-to-date equipment the Royal Leamington Spa should regain without trouble no small measure of its former glory. The ultramicroscope possessed by the medical officer of health for Leamington (Dr. E. Burnet) was also exhibited and proved a decided attraction. Before their return to Birmingham the visitors were entertained at tea in the gardens, music being provided by the band of the Gordon

Highlanders. Each of them also received as a souvenir of their visit a booklet containing so many pretty views of Leamington that we regret very much our inability to reproduce any of them.

OTHER EXPEDITIONS.

THREE other expeditions also took place on Saturday, but, owing to exigencies of space, must be described somewhat more briefly. These were visits to Worcester and Malvern, to Hereford, and to Shakespeare's country. The two former parties, together with those bound for Droitwich, left Birmingham in a special train about half-past nine. At Droitwich Dr. Purslow separated out his consignment, and at Malvern Dr. Lydall achieved the same task in respect of those who, to the number of about 50, had opted for Malvern and Worcester. These were met at the station by a number of medical men, including Dr. J. J. Cowan, who had organized the Malvern part of the expedition, and outside the station found a number of motor cars in readiness to take for drives those who wished to see as much of Malvern and its surroundings as the time at their disposal would permit. Naturally the majority were in favour of this course, and, under the ciceronage of their hosts, were able to see much that was beautiful and interesting as they went along; a few were even tempted to climb on foot one of Malvern's many hills. A luncheon, followed by a few brief speeches of an informal kind, was then thoroughly enjoyed at the Imperial Hotel. On its conclusion the party re-embarked on the train and in a few minutes reached Worcester, where arrangements for their reception had been made by Dr. H. N. Crowe on behalf of the committee of local medical men. The ensuign afternoon proved a very pleasant one, both the cathedral and the famous Worcester porcelain works being examined. At the former Canon Wilson gave a very interesting account of what he termed the evolution of architecture. Later on the party was refreshed with tea in the Civic Hall, and reached Birmingham once more just before 6 o'clock.

HEREFORD.

THOSE who, remaining in the special train, had gone on to Hereford, found no reason to regret the extra hour's journey, for among other things they learnt that Herefordshire as well as Kent possesses hop gardens, locally known as hop yards; were made to feel thoroughly welcome on their arrival; and later on, as an impromptu addition to the entertainment provided, witnessed a very good reproduction of the tropical storm which had amazed London on the previous day. The first step was a welcome at the Guildhall by the Mayor of Hereford, followed by very welcome fluid refreshments. The regalia were then inspected, their comparative modernity being explained by Dr. Herbert Jones, who had been one of those to meet the party at the station, and did everything in his power to make the visit enjoyable. Then came a tour of the cathedral, accompanied by a brief inspection of the many literary treasures in the library attached to the Bishop's Palace, and immediately afterwards a luncheon party at the Guildhall, where the chair was taken by Dr. J. O. Lane. A few speeches followed, their tone in all cases showing the same pleasant absence of formality that characterized the whole visit. The toast to "The Visitors," proposed by Dr. J. Steed of Staunton-on-Wye, was acknowledged by Dr. George Parker of Bristol; the toast to the hosts, "The Hereford Division," was moved by Dr. Bostock Hill, M.O.H. for Warwickshire, in whose charge the party had travelled, and was duly acknowledged by Dr. J. H. Wood and Dr. C. S. Morrison, the latter of whom had been at much pains to arrange for a train back at a sufficiently late hour to allow of the Hereford programme being completed. Finally came a toast to the Chairman, which was moved by Dr. Herbert Jones and duly acknowledged by Dr. Lane. The afternoon's amusement was a motor drive down the Wye Valley, ending in a tea party at Garnstone Castle, a place close to the picturesque black and white village of Weobley, and notable for the beauty of its trees. It is now owned by Sir Joseph Verdin, whose hospitality proved so attractive that the visitors, in order to catch their train, had to leave in the middle of the storm mentioned.

SHAKESPEARE'S COUNTRY.

OF the expedition to Stratford we propose to say but little, for we have sufficient respect for Mr. Bernard Shaw to refrain from attempting to describe in a few lines the home of his early rival. Suffice it, therefore, to say that everything in the nature of Shakespearean relics of which Stratford can boast were duly inspected, the doors being courteously thrown open free of all charge on this occasion by the Shakespeare trustees. The visitors, numbering over a hundred and travelling under the direction of Mr. Christopher Martin and Mr. E. B. Lawley—a Birmingham University official of whose courtesy many members had had previous experience during the course of the meeting—were received by Dr. Latimer Greene and other members of the local committee. The points of interest at St. Mary's Church were explained by the Rev. Canon Melville, while the Rev. Cornwell Robertson conducted the party over the Grammar School at which Shakespeare is reputed to have received his earlier education. At the luncheon party which followed, Dr. Greene presided, and Dr. R. C. Buist of Dundee suitably acknowledged a toast to the visitors. Subsequently a number of these attended a matinee at the Theatre Royal, and were then entertained at tea by the local medical men and their wives, assisted by the Matron of the Stratford Hospital. Another division went on to Broadway village, where they were met by Dr. C. T. Standring and Dr. W. G. Alexander. Here tea was taken in the Old Priory Garden on the invitation of the well-known artist Mr. F. D. Millet, and finally M. de Novarro acted as guide to the interesting houses in this beautiful example of a Cotswold village. For the pleasure of all these numerous expeditions members of the Association are much indebted to the energies and hospitable instincts of the local medical men who shared in their provision.

THE IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

As indicated last week the summer general meeting of the Irish Medical Schools' and Graduates' Association was held during the course of the meeting of the British Medical Association at Birmingham. The event took place at the Imperial Hotel on Wednesday, and, as has been the practice in recent years, was preceded by a luncheon party. In the unavoidable absence of Sir Charles Cameron, C.B., the President of the Association, the chair was taken by Dr. Macnaughton Jones. Besides Sir Charles Cameron a good many other people who had been expected proved unable to attend, owing to one circumstance and another, and sent letters regretting their inability to be present. But despite these absences the gathering over which Dr. Macnaughton Jones found himself presiding was a large one, and in addition to a number of ladies, included several honorary and permanent officials of the British Medical Association, as also Sir William Thompson, Fleet Surgeon Kidd, Dr. T. Hobbs Crampton, and the organizer of the luncheon, Dr. William Douglas. It was by the latter that a toast to the British Medical Association was proposed, after the usual loyal toast had been duly honoured. It was acknowledged by the Treasurer of the British Medical Association (Dr. E. Rayner), and was followed by a corresponding compliment to the Irish Medical Schools' and Graduates' Association. This toast was proposed by the Chairman of the Representative Meeting (Dr. Maclean), who, coupling it with the name of Dr. Macnaughton Jones, complimented the hosts on

being, as far as he knew, the only body of the kind which included ladies among its guests at such functions. Medical men, he added, had spent a good deal of time recently in talking about the Insurance Bill; but ladies, it seemed to him, had not been content with talk, but had already taken action; he noticed, in short, that a great many of them had apparently already made a choice of their doctor, and presumed they had not done so without some regard to the income limit. The toast having been duly acknowledged by Dr. Macnaughton Jones, the party then broke up, those belonging to the Irish association remaining behind for the Annual Summer Meeting. At this the National Insurance Bill was discussed, the opinion being generally expressed that the bill in its present form was quite inacceptable to the profession in Ireland as well as in England, Wales, and Scotland, and that very considerable amendments would have to be made if it was ever to become a really workable measure.

Continental Anglo-American Medical Society.

The luncheon which the Continental Anglo-American Medical Society makes it a custom to give during the Annual Meeting of the British Medical Association took place this year on July 27th, at the Grand Hotel, Birmingham. The Honorary President, Sir William Osler, who was in the Chair, after giving the toasts of the King and the President of the United States, proposed success to the Society, which he said was useful not only to its members but to every English-speaking physician who wished, when sending a patient abroad, to be able to recommend an English-speaking doctor to be consulted should necessity arise. Dr. Sandwith, now of London, but, when resident in Egypt one of the founders of the Society, gave the toast of the guests, which was acknowledged by Sir James Sawyer, who, as the senior among the physicians of Birmingham, welcomed the Society to that city. Dr. E. J. Maclean added a few words on behalf of the Central Executive of the British Medical Association, and Dr. E. G. Jarvis, Honorary Secretary, said that the Society now numbered 104 members, and expressed the hope that as it had proved its usefulness that number would presently be considerably increased. The address of the Honorary Secretary is 81, Boulevard Malesherbes, Paris.

Bournville Garden City.

On the afternoon of July 26th Messrs. Cadbury Brothers invited a large party to visit the model industrial village which they have erected in the immediate neighbourhood of their works at Bournville, on the outskirts of Birmingham. The party had an opportunity of seeing the general disposition of the village, and of inspecting the various public buildings, including the schools, baths, and gymnasiums, and afterwards, in the large Men's Recreation Ground, a display of physical training and exercises was given, followed by morris dances by girl workers, and a maypole dance very prettily and cleverly executed by schoolgirls. A visit was also paid to the Women's Recreation Ground, which appears to have been an old pleasure ground converted to its present purpose by the laying out of tennis lawns and the erection of a gymnasium and dressing-rooms.

Organization and Execution.

Before concluding these notes we desire to congratulate once more the President of the Association and those who co-operated with him on the success which greeted their joint efforts. Probably few but those who have at some time been behind the scenes on like occasions realize to the full how much they owe to the honorary officials at these meetings. The task of getting them up might well be deemed formidable even by professional organizers, and for men who have to carry on simultaneously their private practices it means a vast amount of anxious thought and conscientious labour for months before the date of the meeting, and a more or less sleepless week during its actual progress. Nevertheless, just as at Birmingham, they nearly always succeed, such a high degree of organizing and executive ability being shown as to constitute the best answer with which we are acquainted when charges of lack of business capacity are launched against the medical profession. To whom the more special thanks of members are due for the pleasure and utility they derived from their visit to Birmingham it is impossible to say, since, judging by their work, each of the twenty-four committees and subcommittees must have been equally well selected and officered. We had occasion, however, last week to mention the names of the Chairman of the Reception Committee, Professor Gilbert Barling, the Treasurer, Professor J. T. J. Morrison, the senior and three other honorary local secretaries, Mr. Albert Lucas, Mr. J. Furneaux Jordan, Dr. W. Tracey Lydall, and Mr. A. W. Nuthall, and those of the chairmen of the committees which managed the pathological museum and excursions respectively, namely, Professor C. R. Leith and Dr. C. E. Purslow. The names of some others who proved themselves specially active have been fittingly introduced by the writers of these various notes, one being that of Mr. Christopher Martin, Dr. Purslow's first lieutenant on the Excursion Committee. We may conclude, therefore, by mentioning that the body which arranged for the very successful theatrical entertainment, to which allusion has been made, was headed by Mr. Frank Marsh, that the subcommittee which arranged for garden parties had as its chief Mrs. Saundby, and that the committee for the reception of foreign and colonial guests was headed by Mr. Lloyd Owen, the name of whose very efficient secretary, Dr. Branson, was included in a short note on the subject last week. Since last week, too, we have learnt that the honorary secretary of the committee in charge of the Guide Book, whose excellence we then pointed out, was Dr. W. R. Jordan. Finally some acknowledgement is most certainly due to Alderman Bowater, whose election for the third time to the high office of Lord Mayor happened to occur at the end of the week of the meeting, and can have caused no surprise to medical visitors who had had the pleasure of meeting him.

Medical Notes in Parliament.

Plague in India.

In the course of his speech on the Indian Budget, the Under Secretary for India said: "The most urgent need is the education of the masses in the principles of hygiene. There is a limitless field, indeed, for private enterprise here. Tolerable though archaic habits and practices may be in the open country, when transferred to the crowded town they become unsupportable. If there were less ignorance and less perversity, plague would never find in the country the lodgement that it has. It is an established fact that persons living under proper sanitary conditions are virtually exempt from the disease. Plague does not attack the gaol population or the native army; it attacks the ordinary civil population, because they live in houses which are not rat-proof, because they treat the rat almost as a domestic animal, because large numbers of them refuse to trap or kill it, and because they will not adopt the sanitary precautions which are pressed upon them. Plague has now been present in India for fifteen years, and the appalling total of nearly 7,500,000 deaths from it has been recorded. Of this the Punjab accounts for nearly two and a half million deaths—almost a third of the total. The tale of deaths in the last ten years represents 11 per cent. of the population of that province. When I think of the sensation that was caused in this country a short time ago by what was by comparison a minor outbreak in Manchuria, resulting in only 50,000 deaths, I fear that people in this country do not realize the awful ravages that this scourge is daily making among the Indian people. Scientific research has established that it is conveyed by rat fleas to human beings. The two effective remedies are inoculation and house evacuation.

Professor Haffkine has discovered a vaccine by which comparative though not absolute immunity can be temporarily secured. But by an unhappy accident at Mulkowal several villagers died of tetanus after inoculation. Inoculation in India has never recovered from this disaster. It is hated by the people and avoided by them except when the disease is in their midst. House evacuation is easier in villages than in towns. Administrative arrangements by which plague is now fought include the provision of special plague medical officers and subordinates, and they and the district staff are on the lookout for the occurrence of plague, and when it occurs they visit the locality, offer inoculation, give assistance to persons to vacate their houses, advise rat destruction, and so on. To the prevention of plague there would seem to be no royal road. The case is one in which lavish expenditure of money is not called for, and would be useless. But the provincial Governments have spent, and are spending, a good deal. The United Provinces have expended some £600,000 up to date. The Punjab Government is spending about £40,000 a year. The improvement of the general sanitary conditions under which the population lives is more and more clearly seen to be essential, and to improve them the local Governments are devoting all the money they can spare. They have been helped to do so by the grants for sanitation made by the Government of India. The scientific difficulties are enhanced by the difficulty of overcoming prejudice and ignorance, habit and apathy. In some districts there is actually religious objection to rat-killing and inoculation. No better work can be done for India than to offer example and instruction in principles of life that appear to us elementary, and to strive to exorcise the foes of progress—superstition and resistance to prophylactics. There are, I am glad to say, signs that the sanitary conscience is beginning to awake among the people."

Mr. Keir Hardie said the state of affairs was truly alarming. If the Government, instead of calling upon educated Indians to do this, that, and the other, would take people who were willing to help more into their confidence and invite their co-operation more than they did they would find that the difficulties in the way of sanitary administration and preventive measures would tend very much to disappear. So far as evacuation was concerned the Under Secretary must be aware that as far back as any records could be traced it appeared that so soon as disease of any kind broke out the first step taken by the inhabitants was to evacuate their houses and to go and form a new village. As to the statement that plague was carried by the rat, the flea, and so on, he thought by this time that theory had been exploded. He promised to send the Under Secretary a statement containing not only an exposure of the rat and flea theory, but also a much more tenable theory, and he hoped when he received the statement he would read it and benefit from it. But the point not to be overlooked was this. The real cause for the perpetuations of plague was the poverty of the people. It was in the most poverty-stricken districts where plague was permanent, and just in proportion as one came to places higher in the scale, so did the figures with respect to plague tend to dwindle and grow less. However desirable the extermination of rats and fleas might be on its own merits, no mere remedy of that kind would ever get rid of plague in India so long as poverty continued as rampant as it was at present. An hon. friend reminded him that the killing of the rat and flea in India in order to cure plague was like the building of sanatoriums here to cure consumption, which was caused by bad sanitation.

Mr. O'Grady, speaking later, said that he went further than the Under Secretary, and stated that something like 9,000,000 of people had been wiped out in the last fourteen years in India by plague alone. He did not accept the doctrine that the spread of plague arose from rats and that sort of thing. He had attempted to study the question, and he thought it arose from the fact that the people lacked physical resistance, and that the lack of physical resistance arose from poverty itself. He was glad to know that efforts were being made to give the people more instruction with respect to sanitation and the tilling of the land. He believed that those two steps were the most important for the purpose of minimizing the awful death-rate from plague in India.

In his reply, the Under Secretary said that with regard to plague, Mr. Keir Hardie airily waved aside the theory and scientific diagnosis of the cause, and so did Mr. O'Grady. They believed that poverty, a low standard of living, and low resisting power were the causes. So they were. They were the causes which made any body prone to any disease, but the most recent and careful scientific investigation had proved that the bacillus of plague, isolated in the Hong Kong epidemic of 1894, found a home in a rat. The death of a rat in a native home was dangerous, because the bacillus went from the rat to the human being through the flea. If the man were in a good resisting state the bacillus did not affect him. That is why he said there was a duty not only on the Government, but on the Indians, to work side by side in improving sanitation and giving opportunities for inoculation, and in urging people to live under cleaner conditions.

In answer to Mr. Morell, who called attention on the next day to the high mortality from plague in July, Mr. Montagu said that having regard to the fact that plague, unhappily, had been very prevalent this year, the mortality reported for the first week in July could not be regarded as exceptionally high from a seasonal point of view. It marked a great decrease on the June figures, and was much below the mortality in the corresponding week of 1907, a year in which plague was similarly prevalent. As he informed the House yesterday, the local Governments were fully alive to the responsibilities resting upon them in the matter, and were endeavouring to arrest the disease by the use of all means within their power.

Sleeping Sickness (Uganda).—Mr. Mitchell Thomson asked the Secretary of State for the Colonies whether any further report on the measures adopted for the suppression of sleeping sickness in Uganda (in continuation of Cd. 4990, of 1909) was in course of preparation, and, if so, when it would be presented; whether the report of the Government entomologist for Uganda, 1909–10, had yet been printed; and, if so, whether he would lay it before Parliament. Mr. Harcourt replied that no further report was being prepared for presentation to Parliament, as information on all matters in connexion with sleeping sickness was now made accessible to the public through the bulletin which was issued monthly by the Sleeping Sickness Bureau. The report of the Government entomologist for Uganda, 1909–10, had been printed in the Protectorate, and he should be glad to send a copy of it to the Library of the House.

Indian Medical Service.—Mr. Kelly asked the Under Secretary of State for India whether any posts in the higher grade of the medical service of India, hitherto reserved for military doctors, were now set apart for Indian civil doctors; if so, how many of them had been actually filled so far; and for what reasons were the other posts still closed to Indian medical practitioners. Mr. Montagu stated that the answer to the first part of the question was No; the rest, therefore, did not arise. Mr. Kelly asked the Under Secretary of State for India whether he was yet able to state the annual cost to the Indian Treasury for the upkeep and education of Europeans and Eurasians for the military assistant-surgeon grade; and whether these ranks were still closed to Indian doctors with university and registrable qualifications obtained at their own cost. Mr. Montagu said the answer to the first part of the question was No; to the second part, Yes.

Hospital Stoppages (Royal Navy).—In reply to Mr. Worthington-Evans, Mr. McKenna said that a complete statement of the abatements from the pay of seamen and marines on account of treatment in hospital could not be given, as the regulations provided that continuous service men cease to be borne for pay after ninety-one days, and non-continuous service men after thirty days, in a home hospital, and in such cases no entries were made on either side of the accounts. It might be stated, however, that the sums deducted from the pay of continuous service men during the period from the thirtieth to the ninety-first day, for which time they are entitled to draw pay, less hospital stoppages, amounted approximately to £3,500 a year. The average numbers borne during 1910–11, excluding officers, were as follows: 95,979 seamen, 6,180 boys, 2,778 coastguard, 16,678 Royal Marines.

INTERNATIONAL HYGIENE EXHIBITION, DRESDEN.

British Section.

The British Section of the International Hygiene Exhibition was formally opened on Thursday, June 29th. The British Committee issued a large number of invitations to the Court, Governmental, and municipal officials, and to many persons of scientific eminence. About 150 persons were present, including his Excellency von Metzsch, representing the Royal House of Saxony; the Minister of Education, his Excellency Dr. Beck, representing the Saxon Government; Geheimrat Professor Dr. Renk, the vice-president of the exhibition, the Lord Mayor of Dresden (Geheimrat Dr. Beutler), and representatives of the various nations participating. The British Legation was represented by Mr. Cardall, in the absence of Mr. Grant Duff, His Majesty's Resident Minister in Dresden; and the British Consulate was represented by Herr Bassange, in the absence of Herr Palmié, the British Consul.

Mr. H. W. Armit, speaking in the name of the British Committee, offered the guests a hearty welcome. He assured his audience that the Lord Mayor of London and the other members of the committee would feel gratified on learning that so many illustrious persons had availed themselves of the invitation to be present at the opening ceremony of the section. After briefly touching on the fact that the War Office and the Board of Education had been represented at the opening of the exhibition, and that some exhibits had been placed at the disposal of the committee by the last-named department of the British Government, by the Royal Army Medical College, and by officials of other Governmental departments, he said the work of the committee had been unusually difficult, on account of the want of official assistance from the Government, and the responsibility of organizing a section which would do justice to the birthplace of Lister had been heavily felt. He trusted that the exhibit would be satisfactory.

Geheimrat Professor Dr. Renk formally accepted the pavilion in the name of the committee. He would not refer to the reasons which had actuated the British Government in deciding against a participation at this great exhibition, but would merely say that it was quite unthinkable that Great Britain, which had been a leader in hygiene, the great pioneer in drainage, water supply, and numerous other branches of this wide science, should be absent when practically every country of importance had gladly lent their co-operation. It was therefore all the more laudable that the British Committee, consisting of the men and women of science of Great Britain, should have carried out their difficult task; and he tendered his warmest thanks to the committee, and especially to Mr. Armit, for their untiring and successful endeavours. He had personally witnessed how much assiduous work had been done in the preparation of the section, and he wished to thank Mrs. Armit most heartily for the able manner in which she had assisted in this work. Professor Renk then requested Mr. Armit to conduct the party round the section.

On the previous day the press had been invited to a private demonstration of the section, and both press and public have been warm in their praise of the exhibit.

The Pavilion.

The pavilion is organized on a definite scheme. In each section or group the administrative control is illustrated by means of wall legends. Then follow some illustrations of the defects or dangers which the administrators attempt to remove. In the case of disease, the subject is dealt with from a pathological point of view, while in the case of social or other defects, other means are employed. In many cases the scientific basis of the remedy is depicted, and next the actual application of the remedy. Lastly, when this is possible, the results of the application of the remedy is depicted by tables, pictures, etc.

The pavilion is comparatively small, and it has therefore been necessary to economize in space as much as possible. Attention, however, has been paid to the general appearance of the pavilion, and the impression appears to please the public. The entrance hall is drab coloured with green relief, and an artistic emblematic rose, thistle, and shamrock decorates the otherwise stiff walls. Some neat white furniture relieves the monotony, and on the table a number of the London "dailies" are laid for the English-speaking public to read. Inside the central part of the pavilion, which is divided from the outer by means of wide arches, the only decoration is the fine oil painting of Lord Lister, which the authorities of King's College Hospital have kindly lent to the committee for the purpose. In the office a library has been arranged, which should enhance the value of the exhibit considerably. The details given in the catalogue are worded first in English and subsequently in German.

Infant Life.

The first division deals with the care of infant life. The administrative measures obtaining in Manchester with reference to the control of midwives have been set forth by Dr. Niven. Dr. Braxton Hicks has put up a small series of lungs of stillborn infants, demonstrating the effect of attempts to resuscitate the fetus by means of Schultze's swinging. Next there are several exhibits dealing with the institutions for the care of infants, the teaching of mothers, and the preparation of girls for motherhood. An infant consultation has been set up by Dr. Eric Pritchard, and represents the methods employed in the St. Marylebone Dispensary. A number of practical hints are given with regard to the rearing of infants on scientific lines, and the results obtained up to date complete this section. The second and third sections are fused together, and comprise exhibits dealing with the care of defectives and school hygiene. Here the administrative exhibit has been supplied by the Board of Education and the subordinate educational authorities. A few pictures of the training of defectives by the Metropolitan Asylums Board introduce a larger series of pictorial representations dealing with the care of abnormal child life. Dr. Barnardo's Home has set up a highly interesting series of pictures; Donaldson's Hospital follows; the open-air schools of Bradford, Darlington, and Sheffield come next; then the visitor comes to the myopic schools of London, while a series of interesting pictures have been interposed of a school in Kashmir (Mr. Biscoe Tyndale's), which aims at the physical education of caste Indians, etc.—the turning of sponges into men, as its founder terms it. The London County Council has arranged a long series of most excellent pictures. These include the training of deaf, blind, physically and mentally defective, and weakly children, and the series then passes insensibly over to the third group of school hygiene. The pictures include medical inspection and treatment, and the general methods of preserving health among the school children in the metropolitan area. A school dental clinic has been established under the auspices of the British Dental Institute, and this is supplemented by pictures, diagrams, and other material relative to other school dental clinics and dental hygiene. Physical training is largely undertaken by the London County Council, Dr. Barnardo's Home, the Metropolitan Asylums Board, and the Boy Scouts. A magnificent model of the training ship *Exmouth* breaks the monotony of hundreds of photographs and gives an additional interest to the pictorial representations.

The Food Supply.

The second part of the exhibit begins with the control of food. The administrative measures again emanate from Manchester, while the slaughterhouses of Glasgow and Edinburgh, the methods of examination practised in Liverpool, and a fine series of photographs and lantern slides showing pathological conditions met with in slaughterhouse animals, render this section a fair introduction to the eighth section. The photographs have been prepared by Mr. Trotter, of Glasgow, and the transparencies by Professor Delépine. The next section deals with those diseases which are communicable from beast to man. Naturally tuberculosis occupies the lion's share of the space. The administrative measures are derived partly from Manchester, partly from Edinburgh, and to a lesser extent from Glasgow, London, and other towns. The tracing of milk infection, including the means adopted to determine the possible sources of infection, have been set out with wonderful clearness by Professor Delépine. The maps showing the farms in which the cows' milk has been examined, the statistical examination of the question of spread through milk, and the specimens showing the lesions

produced or found in various animals, are worthy of careful study, and claim great admiration.

Tuberculosis.

Next, the Edinburgh antituberculosis scheme (co-ordinated system), lent by Dr. Philip, reveals with clearness the methods of combating this disease. The first set of exhibits depicts the discovery of the infected—the work of the dispensary; the second, the work of initial treatment—the work of the Royal Victoria Hospital for Consumption; the third supplements the second, and is the work of the open-air schools; the fourth is a stage further, and represents the work of the Farm Colony; the fifth shows the provision for advanced cases; while the sixth deals with the statistical results of the application of this system. Returning to the defect itself, the visitor is shown tuberculous processes in various aspects. Professor Woodhead has sent some superb large sections of lungs revealing the characteristics of acute, moderate, and chronic lesions; other specimens show bony and pulmonary types and their avascular characters; while some magnificent wax models, prepared by Dr. MacKenna of Liverpool, as well as some excellent photographs lent by Drs. MacKenna and Taylor, deal with the clinical aspects of cutaneous tuberculous affections. The section is further supplemented, as far as campaign work is concerned, by the National Association for the Prevention of Consumption, the sanatorium at Frimley, the Imperial Women's Health Association, etc., and the statistical evidence of the beneficent results of the application of the remedy is shown partly in this section by tables prepared by Dr. Sykes, and partly in other sections, incidentally with other causes, of a fall in the death-rate.

Bacteriology.

Glanders is the next disease dealt with. The lesions are shown as pathological specimens, many of which have been sent by Dr. Buchanan of Glasgow. Anthrax receives treatment by Dr. Ponder, whose method of rendering hides innocuous forms a pretty exhibit. As a transition to tropical disease, Malta fever, which is ably dealt with by Dr. Eyre by means of charts, photographs, cultures, and tables, and Johne's disease (leprosy of cattle), exhibited by Dr. Twort, are of peculiar interest. The possibility of cultivating this bacillus is shown and attracts attention, since Johne lived and died in Dresden. Diseases chiefly affecting man follow. This section has been expanded to include bacteriological processes, disinfection, and hygienic institutions. Town disinfection is shown by Mr. Fyfe, of Glasgow, while Miss Chick's exhibit dealing with the laws of disinfection, Professor Woodhead's exhibit dealing with the standardization of disinfectants, Professor Delépine's exhibit dealing with the same subject, and Dr. Russ's apparatus demonstrating the effect of electrical currents on bacteria suspended in solutions of electrolytes, deserve special mention. Other laboratory work include the exhibit of the Lister Institute dealing with the differentiation of intestinal micro-organisms, the variability and selection in bacteria, and the differentiation of *B. enteritidis*, *B. suipestifer*, *B. paratyphosus* (B) by agglutination and absorption, Mr. Barnard's modification of a grinding method for bacteria, etc. Among the disease exhibits pure and simple, some excellent autochrome transparencies lent by Dr. Murphy and a series of excellent wax casts made by Dr. MacKenna deal with syphilis, while other diseases also receive treatment.

Cancer Research and Tropical Disease.

A special subsection for cancer research has been placed in the hands of Dr. Bashford, of the Imperial Cancer Research Fund, and attracts continuous attention. The exhibit deals with the problem of the increase of cancer, the hereditary element, the effect of the various immunizing experiments, including the result of inoculation of mouse cancer into the animal after the removal of the primary tumour and the like, a large and highly instructive series of pathological specimens demonstrating the occurrence and pathology of cancer in various animals, while a magnificent series of transparencies supplements the other parts of the exhibit. In the subgroup—tropical diseases—the subject of plague is admirably dealt with by the Liverpool School of Tropical Medicine (the exhibit of the London School has not yet arrived), by Dr. Buchanan, and by the Hon. C. N. Rothschild, who has naturally limited himself to an exhibit of fleas. Kala-azar is shown by Dr. Buchanan, while the Liverpool School have illustrated in a most excellent manner trypanosomiasis, myiasis, yellow fever, three-day fever, and malaria. A wonderful series of transparencies of selected protozoa from the collection of Professor Minchin and Dr. Muriel Robertson illustrates the types of higher organisms which infest the body of various species. In some cases stages in the life-cycle of the protozoa are shown. Professor Nuttall has lent his unique collection of all the ticks which carry the causal parasites of disease from beast to beast, etc. The collection contains material for most prolonged study.

Infective and Industrial Diseases.

From the diseases affecting man chiefly, the visitors pass on to the section dealing with the control of infective diseases. The administrative measures are shown in tabular form, models of the Metropolitan Asylums Board Fever Hospitals and photographs of other fever hospitals represent the methods of removing the defects, and statistical tables show the results. In close connexion with this section is that of ambulance, and of rescue work in mines, caissons, etc. Of interest in this section are the model of a medical lock for the treatment of caisson disease, and a set of mine rescue apparatus used in England. The next section deals with the care of the sick. Only a few photographs of hospitals have been exhibited, since it was felt that there was nothing especially English in the construction of the modern hospital. One exception, *inter alia*, is the New Royal Infirmary of Glasgow. A scheme has been prepared by Mr. Armit with the co-operation of the hospital authorities and matrons. This shows first the organization of a typical English hospital, and, secondly, the duties and training of the hospital nurse, and the latter is illustrated by a series of some forty photographs specially taken, depicting the nurse at work during the different periods of her training, at rest and at recreation. Alongside of these exhibits is a section dealing with the care of the sick in India and China. These have been lent by the North India Medical School for Women and the great missionary societies. The models are very quaint and reveal the peculiarities of the institutions. A complete outfit of a Chinese barber charlatan attracts much interest. Many photographs, garments, etc., complete this highly interesting section.

Poisons in Food.

In continuation with the section of food control a small section has been planned for poisons in food, and from this a larger section deals with industrial poisoning and dangerous trades. The former starts with rashes produced by certain chemical substances. Similar pictures of rashes produced by the handling of narcissi in the Scilly Islands have been lent by Dr. Walsh. Mr. Armit has set up an exhibit depicting the toxicology of nickel and iron carbonyl, and the effect of the absorption of cobalt salts and carbonyl. Dr. Mott has supplemented this exhibit with some very excellent photomicrographs of nickel carbonyl and carbon monoxide poisoning in man, the effect on the central nervous system being specially dealt with. In a similar manner Dr. Mott illustrates the effect of a powerful electric discharge on the nerve cells in a case of a man who lived seven hours after receiving the discharge. The danger-points in the machinery in the cotton trade are next shown in a long series of pictures. These are mostly arranged in pairs, showing the unguarded portions and the fences in position. Among the other exhibits in this section mention should be made of the colour-testing apparatus. These are Dr. Edridge-Green's and Dr. Maitland Ramsay's.

Housing and Town Planning.

From the hospital construction field, a passage through an arch leads to the section for housing and town planning. This section is large and full of interest. Insanitary dwellings are shown in model and in picture, and the remedy, either in the form of structural alterations or of destruction and the building up of healthy dwellings, fills the greater part of the first recess. Dr. Hope, of Liverpool, has sent a splendid exhibit to this section, while others of scarcely less importance are derived from Manchester and other towns. Dr. Sykes shows how the through ventila-

tion fails when more than two flats are constructed on one story in the model industrial dwellings. Dr. Buchanan has lent a series of photographs demonstrating the decay of sandstone by fungi. Mr. Raymond Unwin, Mr. Fry, Mr. Waterhouse, Messrs. Paplar and Allen, Mr. Ashbee, and others have contributed lavishly to the garden city and town planning portion of the section.

Disposal of Sewage.

Next comes the disposal of sewage and effluent section, The London system is shown by means of a splendid model illustrating the levels and the necessity of special measures—such as pumping stations—to ensure an adequate drainage. Photographs and sections render the models very instructive. Dr. Fowler has shown the story of the Manchester sewage disposal in a striking manner by means of a series of transparencies and wall chart. Birmingham and London have followed suit. From Liverpool we have a series of excellent photographs of the filter beds, settling tanks, etc. The disposal of the trade effluents is dealt with by Mr. Stowell and Dr. Maclean Wilson, and the charts, etc., show clearly what processes are employed, and what the results are. Lastly, Mr. McColl of Glasgow deals in picture form with the disposal of street refuse. The water supply section is highly instructive; various collecting areas, aqueducts, and areas of supplies being given on diagrams and maps, and these are supplemented by statistical and other charts dealing to a certain extent with results. A small section dealing with smoke abatement contains exhibits dealing with experimental work by Dr. Leonard Finlay and Dr. J. B. Cohen, and some photographs showing practical results from various sources.

Military Hygiene.

The military section contains various forms of packs designed to keep the pressure off the soldier's back, the various forms of modern equipment, the necessities of the British soldier on service, plans of barracks now and fifty years ago, and, lastly, charts dealing with the health in the British army.

EPSOM COLLEGE.

On July 29th Founder's Day at Epsom College was commemorated. The chief prizes were distributed by Dr. Norman Moore. Amongst the large number of visitors were Sir Henry Morris, Treasurer; Sir William S. Church, Chairman of the Council; Dr. de Havilland Hall and Mr. Purnell Purnell, Vice-Presidents; and Mr. Stanley Boyd, Dr. Caldecott, Mr. G. H. Makins, Sir Shirley Murphy, Dr. Needham, and Dr. Frederick Taylor, members of the Council.

The Head Master mentioned the salient points in the school's work for the year, and urged upon parents the importance of seeing that their boys received adequate instruction in the Holy Scriptures and in Latin before entering college. He said that the decision of the General Medical Council that secondary schools might be placed on the same footing as technical science schools and colleges was important, inasmuch as such public schools could be recognized as places at which the preliminary sciences might be studied and the time given thereto counted as a part or the whole of the first year of the medical curriculum. He referred to the loss of two old and warm friends of the college—namely, Sir Constantine Holman, who visited the college last founder's day and passed away somewhat suddenly a few weeks afterwards, and Mr. Hugh E. Vardon, who had been a member of the Council as well as Chairman of the Works Committee for some years. The Oxford and Cambridge Schools Examination Board had reported very favourably on the work of the school, a result which in a great measure was owing to the admirable and devoted work of the staff.

After Dr. Norman Moore had given away the important prizes, he addressed the boys. Epsom College, he said, was so closely associated with the medical profession that it seemed an easy task to address such a gathering. Every one of the eleven medical schools in London had at some time or other added something to the knowledge of medicine and the sciences allied to it. In particularizing he said that a predecessor of Sir Henry Morris at the Middlesex Hospital, Sir Charles Bell, made the second greatest discovery in physiology—namely, that there were different groups of nerves for sensation and motion. At Guy's Hospital colleagues of Dr. Frederick Taylor had in the past added to the knowledge of several diseases so that they were now better understood and prevented as a result of their efforts. At St. Thomas's Hospital one of the most learned men who ever pursued the profession, Dr. Mead, was on the staff. To his library men came from all parts of the world to read, while at Westminster Hospital, where his life-long friend, Dr. de Havilland Hall, now held office, the word "bronchitis" was added to the English language about 100 years ago. With regard to his own hospital, St. Bartholomew's, they knew that Harvey, who discovered the circulation of the blood, was physician there. At every one of those eleven schools additions were made to the general body of medical knowledge, and at the present day they contained men who were capable of making further additions. Dr. Moore dwelt on the important place St. Bartholomew's Hospital had occupied in English history, saying that among its benefactors were many monarchs; and after a reference to the discovery of the plague bacillus by Kitasato, one of the foremost medical men of Japan, he said that if the boys formed a determination to study literature and science, they would never walk out without enjoying the day, never travel in any country without finding something to interest them, and never sit at home without finding material upon which to meditate.

At the conclusion of Dr. Norman Moore's speech, Sir Henry Morris proposed that a hearty vote of thanks be accorded to him for the trouble he had taken and the kindness he had shown in visiting the college that afternoon to address them. Dr. Moore had told them of the benefits and delights to be obtained from the study of literature and science, and he himself was an admirable example of how all these things which he recommended should be combined. He was sure that Dr. Moore, after inspecting the new laboratories in which science subjects were now taught, would find them admirably adapted and equipped, even much more so than those which Dr. Moore himself had visited and approved some years ago as places of study which should be recognized by the Conjoint Examination Board.

Sir William Church seconded the proposition, which was carried amid applause.

After the proceedings in the schoolroom, refreshments were served in the grounds to the visitors, many of whom later on inspected the college buildings, including the numerous additions which have been made during the last few years at a cost of about £20,000. These include the "Markham Skerritt" block, comprising large new physical and biological laboratories, with lecture-rooms, workshop, battery-room, a day boys' common room, and four class-rooms; a gymnasium with fencing gallery and Swedish exercise appliances; a carpenter's shop; a new music hall for concerts and class teaching, and separate sound-proof music practice rooms; an enlargement of the box-room and lavatory block; the enlargement, levelling, and asphalting of the quadrangle; the provision of a hot-water supply and a heating system throughout the college; a new armoury for 200 rifles; and a handsome covered way running round the quadrangle connecting the whole of the numerous buildings.

Dr. C. H. Tamplin, one of the medical officers in the Ramsgate branch of the Ancient Order of Foresters, was recently presented with an illuminated address and revolving bookstand by the members, in recognition of the manner in which he had discharged his duties to the branch for twenty-five years.

Dr. Arthur Price, medical officer of His Majesty's prison, Walton, was recently presented by the Lord Mayor of Liverpool, acting on behalf of the Liverpool branch of the Royal Society for the Prevention of Cruelty to Animals, with the silver medal of the society. It appears that a large Dalmatian dog, in trying to jump out of the churchyard, became impaled upon the trefoil spike of the railings. Dr. Price went to its assistance, and, in spite of being bitten on the hand more than once, succeeded in liberating the dog. The spike had entered to the left of the left testis, and had passed along the abdominal wall diagonally to the middle of the lower edge of the liver, where it again punctured the integument. Three incisions had to be made to liberate the animal, but it was found that there was no damage to the internal organs, and, under the treatment of a veterinary surgeon, the animal recovered and was present at the ceremony.

THE RADIUM INSTITUTE.

THE Radium Institute, the foundation of which is due to the initiative of the late King Edward VII, as was announced in the BRITISH MEDICAL JOURNAL of February 6th, 1909, p. 356, is now completed, and will be opened on August 14th.

The realization of the idea of establishing a radium institute in London, thus first suggested by King Edward VII some three years ago, was rendered possible by the munificence of Sir Ernest Cassel and Viscount Iveagh. The building, which is, we believe, the first erected specially for the purpose of a radium institute, is in Riding House Street, at the north end of Regent Street. It has been carefully planned for its purpose, and contains a series of consulting rooms properly fitted for examination of patients, and a number of rooms for the application of radium, with connected dressing rooms. The rooms for poorer patients differ little in their convenient, and even luxurious, appointments from those for paying patients, and nothing seems to have been neglected which would contribute to the comfort of patients or the efficiency of treatment. On the ground floor is the office of the Medical Superintendent, who will interview every patient sent to the Institute, and keep a record of the case. The Director of the physico-chemical laboratories has, in addition to the general laboratory, a private workroom, and researches into the action of radium will be conducted as part of the work of the Institute.

The delay in opening the Institute for work has been due to the difficulty of obtaining an adequate stock of radium, but this has been overcome, and the Institute is now in possession of a larger quantity of radium than any kindred institution.

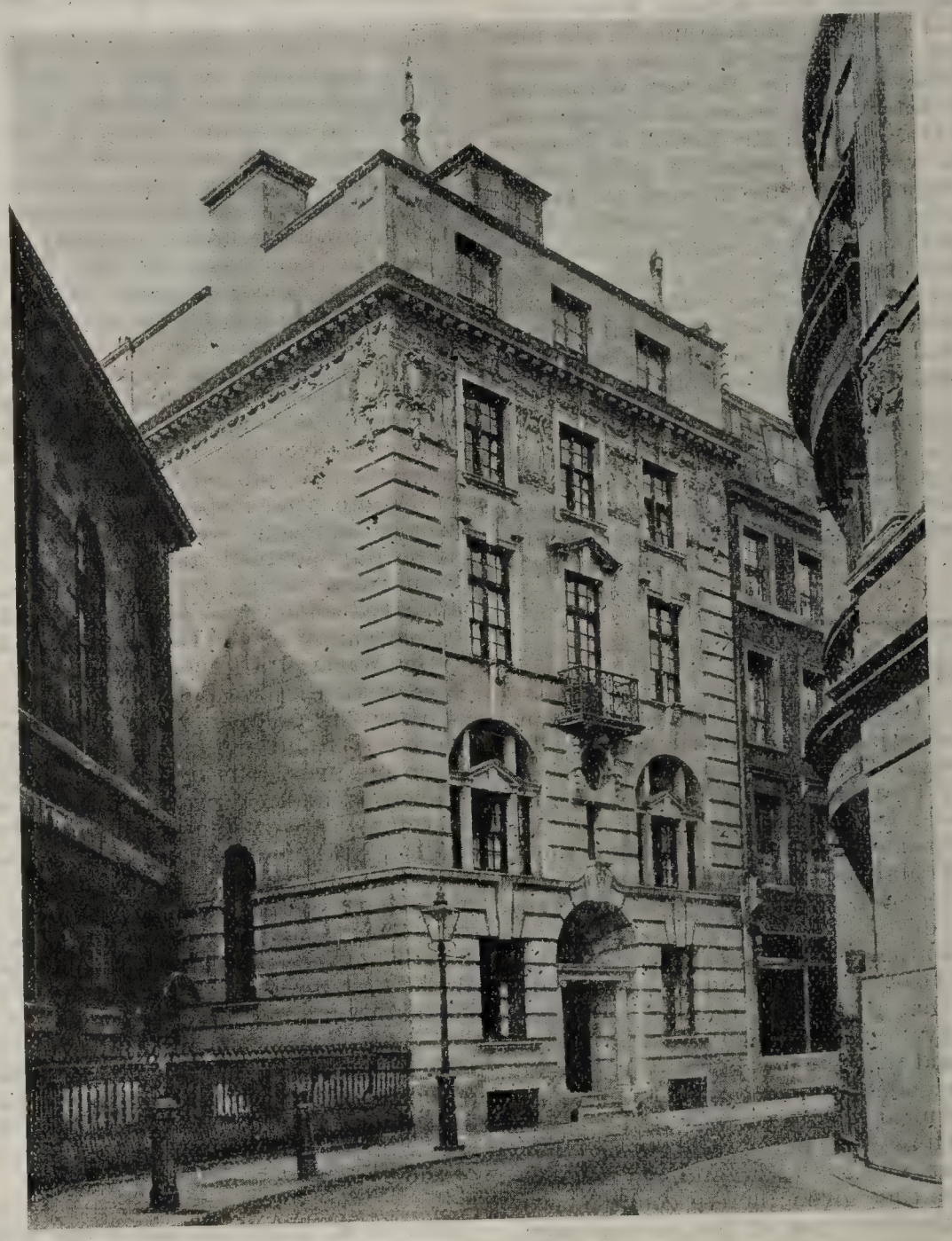

The Radium Institute.

The two main objects of the Institute are the treatment of patients in direct relation with their ordinary medical attendants, and the prosecution of researches into the effect of radium on the human organism in health and disease.

Those who have taken an active part in promoting the establishment of the new institution have had many serious difficulties to contend with. These have been successfully overcome, and need not be referred to here. His Majesty the King has consented to be patron of the Institute in which his father took so keen an interest. The Presidents are Viscount Iveagh and Sir Ernest Cassel. The Chairman of the Executive Committee is Sir Frederick Treves, the other members being the Hon. Walter E. Guinness, M.P., Mr. Felix Cassel, K.C., M.P., the Hon. Robert Strutt, F.R.S., Sir Lauder Brunton, Sir William Ramsay, K.C.B., F.R.S., Sir Malcolm Morris, and Sir J. J. Thomson, F.R.S. The members of the Honorary Consulting Staff are Mr. W. H. Clayton-Greene, F.R.C.S., Assistant Surgeon, St. Mary's Hospital; Dr. Herbert French, Assistant Physician, Guy's Hospital; Mr. W. H. H. Jessop, F.R.C.S., Senior Ophthalmic Surgeon, St. Bartholomew's Hospital; Dr. J. H. Sequeira, Physician to the Skin Department, London Hospital; Dr. W. H. H. Tate, Obstetric Physician, St. Thomas's Hospital; Dr. Herbert Tilley, Surgeon, Ear and Throat Department, University College Hospital; and Mr. J. W. Thomson Walker, F.R.C.S., Surgeon for Out-patients, North West London Hospital, and Assistant Surgeon, St. Peter's Hospital for Stone. The Medical Superintendent is Mr. A. E. Hayward Pinch, F.R.C.S. The Director of the Chemico-Physical Laboratory is Mr. W. Lester Alton, F.I.C., and Mr. John F. Holding is Technical Assistant.

Mode of Admission of Patients.

The manner in which the work at the Radium Institute is to be carried on is indicated in the following letter from the Chairman of the Executive Committee to the Medical Superintendent:

May 6th, 1911.

Dear Mr. Pinch,

I am requested by the medical members of the Committee to place before you certain points which we think should govern your professional work at the Institute. In the first place, it is desirable that you should limit as far as possible your responsibilities in connexion with the patients who attend at the Institute. It rests with you to indicate the specific treatment by radium to be employed in each case as well as the details of that treatment. It rests with you to see that the treatment by radium that is recommended is carried out. For that treatment you are responsible. It rests with you to decline to treat any case with radium should you consider such treatment likely to be of no service to the patient.

The diagnosis of the malady from which the patient is suffering rests with the doctor who brings or sends such patient to the Institute. Should you not agree with the diagnosis submitted, you should discuss the matter with the doctor, or, if he be not present, should write to him on the subject and explain your views. Should a third opinion be considered necessary, the case should—when a patient is a gratuitous patient—be submitted to a member of the honorary consulting staff. When this difficulty as to diagnosis arises in the case of a paying patient and a third opinion is needed, it must rest with the doctor to name the consultant.

Should the doctor leave the nomination of a consultant to you, it is for you to suggest such physician or surgeon as you think would be most useful in the case. The patient must pay the fee of the consultant, no matter whether the consultation be held at the Institute or at the consultant's house. Should the consultant named by the doctor or by yourself happen to be a member of the consulting staff of the Institute, the position as to the consultation fee remains the same. In no case must you make

yourself answerable for such fee. In no case would you—acting on behalf of the Institute—accept a fee for taking part in such consultation as has been just named.

The Honorary Consulting Staff—as a staff—are concerned only with the gratuitous patients treated at the Institute. Their relation to the Institute is precisely such as exists between any other honorary staff and the charitable institution with which such staff is associated.

You should consult these gentlemen in all cases of doubt or difficulty arising among the gratuitous patients, and should take care that the convenience of the consultant is carefully considered in every instance where his aid is sought.

As I have already said, we wish you to limit your responsibilities as far as is possible, and therefore any detail of treatment that requires specialized skill should be entrusted by you to members of the consulting staff when the patient is a gratuitous patient. The character of the treatment alluded to would be such as the following: The introduction of radium into the larynx, oesophagus, rectum, bladder, uterus, etc., and would further include any other manipulation with which you could not claim to be especially familiar, and which you would prefer to entrust to other and more experienced hands.

It must be distinctly understood that no fee of any kind must be charged to any gratuitous patient for any treatment carried out in the Institute. It is assumed that all such patients are unable to pay for any medical or surgical attendance.

With regard to the treatment of paying patients, I must again say that you should limit your responsibilities to the actual work with which you are primarily concerned, and which has been already defined. In carrying out the treatment decided upon, you should seek the assistance of the patient's medical attendant, and should entrust to him—if he be willing—such procedures as you are assured he is competent to carry out. You should be careful in thus delegating any measure of treatment to another medical man, for you must remember that for such treatment you still remain responsible.

When methods of treatment requiring specialized skill are called for—and examples of such methods have been already given—you should decline to undertake the same. Let it be supposed, for instance, that radium has to be introduced into the uterus or male urethra by means of a suitable sound or catheter. Such manipulation should be entrusted to a gynaecologist in the one case and to a surgeon in the other. The selection of a specialist in these cases should be left to the medical adviser of the patient. Should the doctor impose the selection of a specialist upon you, it is for you to suggest such an one as you believe would be of the greatest service to the patient.

For all special treatment of this kind the patient must pay such fees as are usually paid for like services. Should the specialist named by the medical attendant or yourself happen to be a member of the consulting staff of the Institute, the position as to the payment of fees remains unmodified.

Paying patients at the Institute have no claim whatever upon the services of the consultant staff, and the members of that staff are in no other relation to such patients than are all other consultants or specialists.

You are strongly advised not to concern yourself with the question of fees payable by well-to-do patients for services rendered in the Institute by others than yourself.

One point needs to be especially emphasized: You must take the greatest care that at no time should it be possible for any one to have a ground for suggesting that the Institute is made use of to put fees into the pockets of any specially selected members of the profession. Any proceeding which may afford grounds for such suggestion would be most obnoxious to the Committee, and would, I am well aware, be most strongly objected to by the consulting staff.

Your responsibility for the care of patients will, of course, not extend outside the Institute. Should any patient who has been treated in the Institute appear to you to require medical care between his or her visits to the Institute, it is essential that you should impress upon such patient the need of keeping under medical care during the interval between the visits.

You should avoid, whenever possible, the recommending of any particular medical man to look after the patient under the circumstances named, in the event of the regular medical attendant not being available.

Should it come to your knowledge that any patient, while under treatment at the Institute, is simultaneously carrying out another form of treatment for the same complaint, it rests with you to decline to treat the patient further, should such action appear to you to be in the patient's interest.

Under no circumstances whatever is any radium or radium apparatus belonging to the Institute to be taken out of the Institute, or lent for the purpose of treating patients outside the Institute.

The Chemical Laboratory.

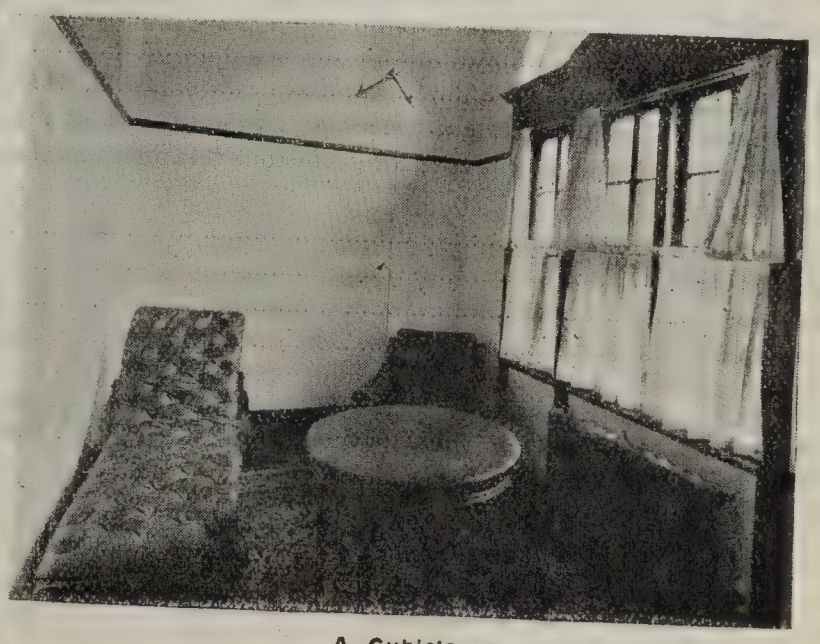

A Cubicle.

I propose to send a copy of this letter to every member of the consulting staff.

Yours faithfully,

FREDERICK TREVES,
Chairman of Committee.

A clear distinction will be made between well-to-do and necessitous patients. The regulations for admission are as follows:

Patients will only be treated at the Radium Institute in association with, and through the introduction of, their medical adviser. At their first visit they must either be accompanied by their medical adviser, or must bring with them his written statement of the case giving details of the treatment already employed. New patients will be seen on Tuesdays and Thursdays between the hours of 10 a.m. and 4 p.m., but the exact day and hour of any consultation must be arranged previously [by letter] with the Medical Superintendent, to whom all communications should be addressed.

Medical practitioners are cordially invited to be present during the treatment of their patients, and to assist in the same whenever practicable.

As concrete instances showing exactly how the admission of each class of patients is regulated and how the treatment is conducted, we may quote the following forms. In reply to a well-to-do patient, the Medical Superintendent will send the following form:

In reply to your letter of inquiry respecting the Radium Institute, I beg to inform you that patients can only be treated in association with and through the introduction of their medical adviser. I shall, therefore, be pleased to forward full particulars to your medical man if you will favour me with his name and address.

To the medical practitioner in attendance the following letter will be sent:

Dear

In compliance with the request of your patient, M....., I beg to forward you herewith particulars of the conditions under which patients are admitted to the Radium Institute for treatment, and the charges for the same.

Yours truly,
A. E. HAYWARD PINCH,
Medical Superintendent.

To necessitous patients the Medical Superintendent will write:

In reply to your letter of inquiry, I beg to inform you that necessitous patients are only admitted to free treatment at the Radium Institute if certified by their medical adviser to be suitable subjects for charity. If you will, therefore, be good enough to ask your medical man to fill up the enclosed certificate and forward it to me together with any notes of your case with which he may furnish you, I will write fixing a day and hour for your attendance at the Radium Institute.

The following is a copy of the certificate to be filled up by the medical attendant before necessitous patients are admitted for treatment:

TO THE MEDICAL SUPERINTENDENT,
THE RADIUM INSTITUTE.

I hereby certify that

M .....
residing at .....
.....
is suffering from ....., that is in necessitous circumstances, and is to the best of my knowledge a fit and proper case for gratuitous treatment at the Radium Institute.

Name of Practitioner .....
Qualification .....
Address .....
.....
Date.....

Medical Practitioners are cordially invited to be present during the treatment of their patients, and to assist in the same whenever practicable.

Scale of Fees.

The scale of fees is as follows:

For First Consultation at the Radium Institute: the patient being accompanied by his or her medical adviser, or bringing from such medical adviser a written history of the case	£2 2 0
For Treatment:	
1. When lesion is situated on external surface of body—	
(*a*) With apparatus containing not more than 50 mg. of radium, per sitting ...	£2 2 0
(*b*) With apparatus containing more than 50 mg. of radium, per sitting ...	£4 4 0
2. When lesion is situated in cavity—for example, larynx, uterus, urethra, etc., per sitting	£5 5 0

The duration of a sitting varies according to the nature of the case. With "unscreened" apparatus it rarely exceeds two hours, but in those instances where "screening" is employed, the apparatus may have to remain in position six, eight, or more hours.

All fees must be paid at the time of attendance. Cheques should be made payable to the Radium Institute, and crossed London City and Midland Bank, New Bond Street.

Examination of Radium Salts.

The following is the scale of fees for the examination of radium salts, and the examination or preparation of radium applicators:

	£ s. d.
(*a*) Measuring the amount of radium contained in specimens of radium salts	2 2 0
(*b*) Measuring the amount of radium contained in various forms of radium applicators ...	2 2 0
(*c*) Analysis of the rays emitted from various forms of radium applicators	5 5 0
(*d*) Preparation of radium applicators. (*To be made for medical men only.*)	
1. Circular or square discs	2 2 0
2. Cylindrical and special designs... ...	5 5 0
(*e*) Examinations of water, minerals, and the like, for radio-activity	2 2 0

Whilst reasonable care will be taken of all specimens and apparatus sent to the Institute for examination, etc., it must be clearly understood that the examination of such specimens and apparatus is undertaken at the owner's risk, and that the Institute cannot accept any liability with regard to the same.

Visit to the Institute.

A representative of the BRITISH MEDICAL JOURNAL, by the courtesy of Sir Frederick Treves, had an opportunity of visiting the Institute. Photographs showing the elevation, the chemical laboratory, and a cubicle are here reproduced.

DANIEL JOHN CUNNINGHAM MEMORIALS.

THE Committees entrusted by the subscribers with the arrangements for these memorials at Dublin and Edinburgh have acted in agreement, and similar plans have been adopted at both the universities in which the late Professor Cunningham held the Chair of Anatomy. A beautiful portrait bronze panel is being placed in the Anatomical Department of the University of Edinburgh, and an identical bronze in the School of Anatomy, Trinity College, Dublin. Also in each university a bronze Cunningham Memorial Medal has been founded, and will be awarded annually in the class of anatomy. The obverse

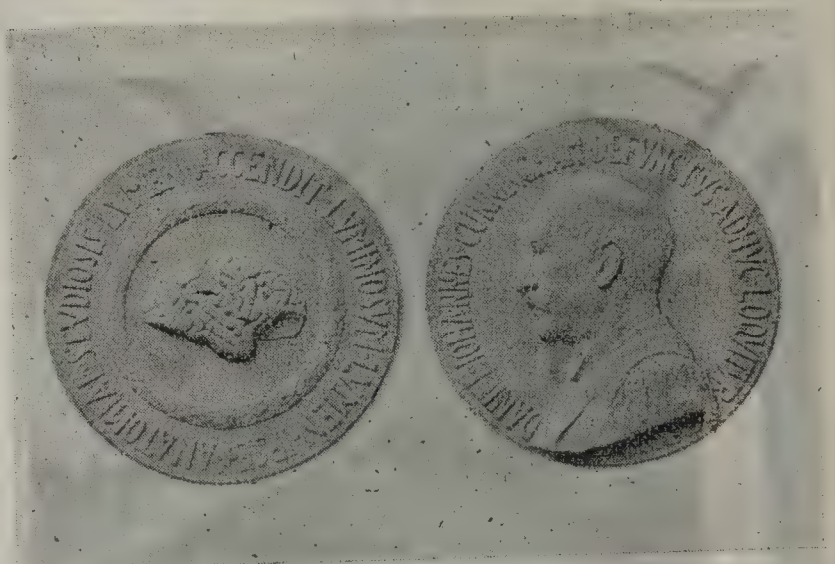

of the medal bears a fine portrait, surrounded by the words, "Daniel Johannes Cunningham, Defunctus Adhuc Loquitur (1850–1909)," and is identical for both Universities. The reverse of the Edinburgh medal exhibits the arms of the University, and that of the Dublin medal bears a reproduction of a chimpanzee's cerebrum, which was prepared and modelled by the late Professor Cunningham, surrounded by a wreath and the inscription "Anatomiae Studiosis Lumen Accendit Luminosum Lumen Ipse." The photographs which we reproduce illustrate the Dublin medal. The entire work has been carried out by Mr. Oliver Sheppard, who is to be congratulated upon the success which he has achieved.

PHARMACISTS AND SECRET REMEDIES.

AT the meetings of the British Pharmaceutical Conference at Portsmouth last week, one session was set aside for the discussion of matters relating to the practice of pharmacy as distinct from the sciences of pharmacy, chemistry, etc., which occupied most of the sittings. The first matter that was considered was that of secret and proprietary medicines, and the discussion was of some importance as representing the views generally held by pharmacists from all parts of the country in regard to this subject.

The chair was occupied by Mr. J. C. UMNEY, who is also Chairman of the Proprietary Articles Trade Association, and of the Proprietary Articles Section of the London Chamber of Commerce.

A report was first submitted by the SENIOR SECRETARY (Mr. Saville Peck, M.A.), giving the answers received by the Conference to a series of questions addressed to eighty-eight local associations of pharmacists in all parts of the United Kingdom. Some of the answers are of much interest. All the associations were in agreement that the

sale of secret and proprietary medicines by pharmacists is considerable; 86 per cent. stated that proprietary articles are ordered by medical practitioners in their respective districts to a considerable extent, and of these 20 per cent. reported such ordering to be by verbal recommendation, 20 per cent. by prescription, and 60 per cent. in both ways. In reply to the question, "Would you regard with favour proposals for legislation making compulsory a declaration on the label of the names of all the principal ingredients?" 70 per cent. replied in the affirmative, 24 per cent. in the negative, and 6 per cent. were doubtful; 88 per cent. were of opinion that such legislation would curtail the sale of undesirable quack medicines. Many suggestions were made in regard to methods of checking the evils arising from the sale of secret medicines. In regard to the prescribing of proprietary articles by medical men, a frequently recurring suggestion was that far greater use should be made of the *British Pharmaceutical Codex* in prescribing.

The general discussion on the subject was opened by Mr. E. F. Harrison, B.Sc., F.I.C., who referred first of all to the purely quack medicines, manufactured and sold by persons having no medical or pharmaceutical qualifications, often from quite useless ingredients, the sales being effected by the aid of the most mendacious advertisements; such medicines did not, he said, pass chiefly through the hands of retail pharmacists, but were commonly supplied direct from the manufacturer to the consumer through the post. In regard to the great majority of secret remedies having a large sale, it was pointed out that although they usually contained drugs having a certain usefulness in some of the disorders for which they were recommended, they were frequently advertised by means of grossly exaggerated and untrue statements; the chance of their doing good when taken in cases in which the only diagnosis was that made by the patient himself was extremely small, while the chance of their doing harm, either directly or indirectly by preventing proper advice being sought, was very great. Reference was made to some proprietary medicines having a large sale, which were not secret; their principal ingredients were freely declared, and in some cases the exact quantity of each in a dose was also stated; the opinion was expressed that compulsory declaration of the principal ingredients on the label, which should have the force of a warranty, would effectually hinder or stop the sale of quack medicines, while not injuring such as might fairly be called legitimate proprietary medicines, which depended for their position on some special skill in selecting or compounding the ingredients, and not on secrecy. Mr. Harrison expressed the opinion, however, that the subject had so many ramifications, and there were such large interests to be contended against, that there would be no chance of satisfactory legislation unless it were preceded by a full public inquiry, and the publicity which would attend a Government inquiry would in itself be of the greatest value. He, therefore, moved:

> That this meeting of the British Pharmaceutical Conference is of opinion that a public inquiry, by a Royal Commission, a Select Parliamentary Committee, or a Departmental Committee, should be held in regard to the advertising and sale of proprietary secret medicines and the law relating thereto, with a view to further legislation for the prevention of fraud and quackery.

Mr. Wippell Gadd, barrister-at-law and pharmacist, seconded the resolution, and it was supported by a large number of other speakers. The Chairman stated that manufacturers were now willing to give a negative guarantee—that is, to declare the absence of specified deleterious substances; but the opinion was expressed that such guarantees were of no value and would do nothing towards meeting the demand for the removal of secrecy. Various suggestions were put forward as to the best means of dealing with the admitted evil, but no opposition was manifested to the views which had been expressed by the opener.

After a good deal of discussion the motion was put and carried with no dissentient.

Edward James Reid, elder son of Sir James Reid, one of the King's Physicians in Ordinary, has been appointed by His Majesty a Page of Honour.

LITERARY NOTES.

In *Truth* of July 26th we find the following paragraph:

Dr. John Beddoes, who died last week at Bradford-on-Avon, where he had resided for nearly twenty years, had earned a great reputation as an anthropologist, and was also known as an antiquary. Born in 1826, he studied medicine in England, Scotland, and on the Continent. He went out to the Crimea on the civilian medical staff, and it was there that he commenced his study of anthropology, which he continued for several years afterwards in various parts of Europe. He settled at Clifton in 1859, and practised there as a physician with great success until 1891, when he retired from his profession. He was a sound, accurate, and original lecturer and writer, and in the course of his investigations he opened up entirely new fields of study. It is a great reproach to the successive dispensers of honours that Dr. Beddoes never received a decoration or a title.

A well-deserved tribute to a very distinguished man—only his name was not Beddoes, but Beddoe. But it recalls the lines in *Don Juan*:

> Thrice happy he whose name has been well spelt
> In the despatch: I knew a man whose loss
> Was printed *Grove*, although his name was Grose.

Such is fame!

Mr. E. Muirhead Little writes: It has generally been accepted as a fact that Thackeray's nose was broken by Venables in a fight at Charterhouse School. What is the evidence in favour of this "fact"? Until I visited the exhibition now open at the Charterhouse in London I shared the general belief, but an examination of the numerous portraits and some busts in that exhibition has seriously shaken, if not destroyed, that belief. I cannot see in any of these representations anything to support the current view, and I would invite any of your readers who are interested in the great author to go and judge for themselves. Whatever they may think about the nose, the visit will well repay them. In particular I would call attention to a bust of Thackeray as a boy of about 13. The nose in this bust is certainly not a broken one, and it has such badly developed nasal bones and so little bridge that it is difficult to believe that it could have been broken subsequently by a blow with a fist. It is a short, squat nose of almost Chinese type, such a one as would stand any amount of pummelling without fracture, for there was obviously little to break. Probably Thackeray had rickets in infancy, although he afterwards became more than common tall.

The annual report of the Library Committee of the College of Physicians of Philadelphia for the year 1910 states that the total number of volumes in the library, including the bound volumes, and 8,230 unbound *Reports* and *Transactions*, was 91,673. The number of unbound "theses" and "dissertations" was 24,967, and of unbound pamphlets 79,676. The total number of incunabuli is 151. During the past year the library had received from all sources 4,146 volumes, 14,791 pamphlets, and 36,924 numbers of various periodicals. The total number of visitors to the library during the year was 8,094; the number of books taken out was 3,596. The library receives by purchase, by exchange, or by gift, 770 periodical publications, including *Transactions* and *Reports*. There are 4,556 Fellows of the College.

Berlin is now, like Paris and Vienna, to have the advantage of an orchestra composed of members of the medical profession. The number of performers at present enrolled is sixty. Wives and daughters of medical men are eligible for membership. Dr. Pollak, an ophthalmic surgeon, is to be the conductor, and Dr. Joachim, editor of the *Berliner Aerzte Correspondenz*, will be general manager. Concerts are to be given by the society for the benefit of medical benevolent funds.

In connexion with the recent Annual Meeting of the British Medical Association held at Birmingham, an informal meeting of the Guild of St. Luke, St. Cosmos, and St. Damian was, through the kindness of the Fathers' held on July 25th at the Oratory, Edgbaston, Surgeon-General Maunsell in the chair. Several new members were elected, among them being Dr. Maurice Hayes of Dublin, who consented to act as Secretary for Ireland.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

SEVENTEENTH INTERNATIONAL MEDICAL CONGRESS.

As previously announced, a preliminary list of the officers of the International Medical Congress, to be held in London in 1913, and of the officers of the twenty-two sections, was ratified recently by the organizing committee in London. The list is not yet complete, but presidents have been chosen for all the Sections, as follows:

SECTION I. *Anatomy and Embryology.*—Professor Arthur Thomson, Professor of Human Anatomy in the University of Oxford.

SECTION II. *Physiology.*—Professor E. A. Schäfer, F.R.S., Professor of Physiology in the University of Edinburgh.

SECTION III. *General Pathology and Pathological Anatomy.*—Mr. S. G. Shattock, Pathological Curator of the Museum of the Royal College of Surgeons of England.

SUBSECTION. *Chemical Pathology.*—Dr. F. Gowland Hopkins, F.R.S., Reader in Chemical Physiology in the University of Cambridge.

SECTION IV. *Bacteriology and Immunity.*—Dr. G. Sims Woodhead, Professor of Pathology in the University of Cambridge.

SECTION V. *Therapeutics.*—Sir Lauder Brunton, Bart., F.R.S., Consulting Physician to St. Bartholomew's Hospital, London.

SECTION VI. *Medicine.*—Sir William Osler, Bart., F.R.S., Regius Professor of Medicine in the University of Oxford.

SECTION VII. *Surgery.*—Sir Wm. Watson Cheyne, Bart., Professor of Clinical Surgery, King's College, London.

SUBSECTION. *Orthopaedics.*—Mr. Robert Jones, Surgeon to the Royal Southern Hospital, Liverpool.

SUBSECTION. *Radiology.*—Dr. J. Mackenzie Davidson, Medical Officer in Charge of the Roentgen Ray Department of the Royal London Ophthalmic Hospital.

SECTION VIII. *Obstetrics and Gynaecology.*—Sir Francis H. Champneys, Bart., Lecturer on Midwifery, St. Bartholomew's Hospital.

SECTION IX. *Ophthalmology.*—Sir Henry Swanzy, Ophthalmic Surgeon to the Adelaide Hospital, Dublin.

SECTION X. *Diseases of Children.*—Dr. Eustace Smith, Physician to the Shadwell Children's Hospital.

SECTION XI. *Neuropathology.*—Sir David Ferrier, F.R.S., Consulting Physician to King's College Hospital and the National Hospital for the Paralysed and Epileptic, London.

SECTION XII. *Psychiatry.* — Sir James Crichton-Browne, F.R.S., Lord Chancellor's Visitor in Lunacy.

SECTION XIII. *Dermatology and Syphilography.*—Sir Malcolm Morris, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London.

SECTION XIV. *Urology.*—Mr. E. Hurry Fenwick, Professor of Urology in the London Hospital Medical School.

SECTION XV. *Rhinology and Laryngology.*—Dr. St Clair Thomson, Professor of Laryngology, King's College Medical School, London.

SECTION XVI. *Otology.*—Mr. Arthur Cheatle, Lecturer and Aural Surgeon, King's College Medical School.

SECTION XVII. *Stomatology.*—Mr. Morton A. Smale, Consulting Dental Surgeon to St. Mary's Hospital.

SECTION XVIII. *Hygiene and Preventive Medicine.*—Dr. Arthur Newsholme, Medical Officer to the Local Government Board.

SECTION XIX. *Forensic Medicine.*—Dr. Harvey Littlejohn, Professor of Forensic Medicine in the University of Edinburgh.

SECTION XX. *Naval and Military Medicine.*—Sir James Porter, K.C.B., Director-General Medical Department, R.N.

SECTION XXI. *Tropical Medicine.*—Colonel Sir David Bruce, C.B., F.R.S.

SECTION XXII. *Anaesthesia, General and Local.*—Dr. Dudley W. Buxton, Lecturer on Anaesthetics, University College Medical School.

The President of the Congress is Sir Thomas Barlow, Bart., President of the Royal College of Physicians of London. The Vice-Presidents are Sir Jonathan Hutchinson, F.R.S., Dr. J. Hughlings Jackson, F.R.S., Dr. W. Pavy, F.R.S., Sir Frederick Treves, Bart., Sir William Turner, K.C.B., F.R.S., Sir Hermann Weber, and Sir Samuel Wilks, Bart., F.R.S. The Treasurers are Sir Dyce Duckworth, Bart., and Mr. G. H. Makins, and the Honorary General Secretary is Dr. W. P. Herringham.

THE CHIEF MEDICAL OFFICER TO THE LONDON COUNTY COUNCIL.

Regarding the decision of the London County Council last week to reorganize school medical work and place it in the Public Health Department, and the concurrent announcement of the forthcoming retirement of Sir Shirley Murphy, the Council on August 1st decided:

That applications be invited by public advertisement from qualified persons whose age will not exceed 50 years on January 1st, 1912, for the position of Medical Officer of Health of the County of London, and School Medical Officer for the County of London, at a commencing salary of £1,250 a year, and that members of the staff be not precluded from making applications for the position.

NEWCASTLE-UPON-TYNE.

CHANGES IN THE COLLEGE OF MEDICINE: NEW PROFESSOR OF PHYSIOLOGY.

SIR THOMAS OLIVER has accepted, on the invitation of his colleagues Sir George Hare Philipson and Professor Drummond, a portion of the duties of the Chair of the Principles and Practice of Medicine in the University of Durham College of Medicine, and on his consequent resignation of the Chair of Physiology, received the cordial thanks and expressions of appreciation of the president and several members of the Council of the College for his services as a teacher and a worker. To the chair thus vacated F. A. Bainbridge, M.D., D.Sc., F.R.C.P., Demonstrator of Physiology and Pathology, St. Bartholomew's Hospital, and Assistant Bacteriologist, Lister Institute of Preventive Medicine, has been appointed. The appointment has given great satisfaction, and the hope is expressed that with the opportunities afforded to Dr. Bainbridge in the College of Medicine he will find scope for his ability and fresh fields for research.

ROYAL VICTORIA INFIRMARY.

Should the National Insurance Bill become law it is felt that the future of Newcastle infirmaries will be somewhat jeopardized. It is hardly likely that they can or will be run on the voluntary lines of the past, nor is it likely that the workmen will contribute as they have hitherto been doing. Financial difficulties are sure to arise. A deputation of the Committee of the Royal Victoria Infirmary recently waited upon the local member of Parliament and expressed its views upon the matter. For the present nothing can be done.

Fresh arrangements for the admission of patients into the Royal Victoria Infirmary are being made by a committee upon which the honorary medical and surgical staff is well represented. Careful inquiries have been made as to the methods of admission adopted by other large infirmaries in the country. Several of these institutions have been visited by members of the committee. The medical practitioners of Newcastle and the neighbourhood have expressed a desire to have a voice in the arrangement of the conditions under which patients should be admitted.

BIRMINGHAM.

A SANATORIUM FOR CONSUMPTIVES.

THE sanatorium for consumptives, which is to be erected as a memorial to the late Alderman Sir William Cook, will probably be commenced during the early autumn. The sanatorium is to be built on the southern slope of Romsey Hill, between the Lickey and the Clent Hills. The site is the gift of an anonymous donor, and is about twenty-five acres in extent, about one-third of the estate being wooded. The Hospital Saturday Fund Committee, with which Alderman Sir William Cook was so long associated as chairman, will undertake the management and maintenance of the sanatorium. The building will consist of one block, built of brick, and so designed as to permit of extension at a small cost. Accommodation for thirty beds will be provided at first, at an estimated cost of £14,000. The estimate for carrying out the original plans was £17,500, and, this being more than was expected, the committee, while adhering to these plans, has resolved to proceed with the work, leaving out for the present one wing and the laundry, and some other buildings. The committee have £11,000 in sight, though not actually received.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Annual Congress of the Royal Sanitary Institute in Belfast.

The preliminary proceedings of this congress took place on July 24th, when at a luncheon in the City Hall, delegates and members to the number of about 200 were received by the Lord Mayor (Councillor McMordie, M.A., M.P.), and subsequently sat down to luncheon in the banqueting room. The Lord Lieutenant (Lord Aberdeen), and Lord Dunleath (the President of the Congress) were present. The usual loyal and several other toasts were duly honoured, and, after the members had been photographed, an adjournment was made to the Ulster Hall to open the Health Exhibition.

This ceremony was performed by the Lord Lieutenant. His Excellency said that it was the twenty-sixth congress of the institute, and it was found desirable to arrange for the holding of an exhibition of sanitary improvements concurrently with the deliberations of the conference proper; such an exhibition brought home to the public in a striking and effective manner the various points of the discussions. The exhibition was of a twofold character; in addition to the usual exhibits in the main hall there was in an annexe an exhibition, under Professor Geddes, of town planning; there was also a health caravan, which was a travelling repository of all knowledge concerning the prevention of consumption, a method of instruction which had been in use in Ireland for the last couple of years. He had much pleasure in declaring the exhibition open.

The same evening His Excellency formally installed the Right Hon. Lord Dunleath as President of the Congress. In his inaugural address the President said that Belfast, according to recent Local Government Board statistics, had almost the lowest rate of pauperism amongst all the urban districts of the United Kingdom; the city claimed not only to be progressive generally, but also especially progressive as regards sanitary improvement; it had an abundant supply of pure water from a remote range of mountains; it had a scheme on hand for the demolition of 1,075 dwelling-houses and 3 school-houses, and hoped that in the near future every insanitary area would be swept away and replanned; the death-rate had been falling during the last few years, and the incidence of the zymotic diseases had been steadily diminishing; power had recently been obtained to get knowledge of the particulars of all deaths from the registrars, as in England; formerly such information had been obtainable only in the case of notifiable diseases. The efforts for prevention in the future must be twofold: to improve the general health of the people, to enable them to resist the attacks of disease, and to take whatever steps might be necessary to prevent invasions of the microbe. As regards tubercle, if the first danger arose from the consumptive himself, the second great danger was from the cow, and it was a sad fact that 145 local authorities in England and 92 district councils in Ireland had so far refused to adopt the Dairies and Cowsheds Order; this refusal to sateguard the milk was a most serious matter for the people who were governed by these defaulting councils. City authorities should obtain complete control of their milk supply. A thousand lives had been saved in Ireland in the last year by the reduction of the consumption death-rate. The President dealt with a large number of other sanitary matters, and concluded by urging that sanitary reforms should be prosecuted with increased vigour and resolution. Votes of thanks to His Excellency and to the President brought the meeting to a close.

The Prevention of Tuberculosis.

In a lecture delivered to the congress, Dr. Louis C. Parkes, said that knowledge of the factors determining the resisting powers of the individual to tubercle was somewhat vague, but there were grounds for the belief that they were to some extent dependent upon race and parentage; and to some extent upon individual environment. They did not know exactly what these environmental conditions were, but they might assume them to be the opposites of those which experience had shown to be productive of lowered resistance to tubercle. Such were: (1) bad housing conditions—overcrowded, dark, damp, dirty, and ill-ventilated dwellings; (2) insufficient and improper food, especially in childhood; (3) dusty and other unhealthy occupations; (4) exhausting labour, physical and mental, and constant exposure to cold and wet; (5) alcoholic excess, late hours, and vicious habits; (6) unduly prolonged lactation by nursing mothers affecting their own health. There could be no question that the improved environmental conditions of the mass of the people since mid-Victorian times had resulted in such an increase in the mass resistance of the population to tubercle, that the mortality from tuberculosis had decreased by 50 per cent., but the process was a slow one, and there was not wanting evidence that the final eradication of tuberculosis might be considerably accelerated by the adoption of measures which had for their aim the control and stamping out of infection. Those who had the most practical experience in the prevention of tuberculosis were now of opinion that the campaign against this disease must be conducted on two distinct lines—namely, (1) the more extended and more general adoption of the measures recognized as necessary to secure the health and well-being of the great masses of the population; (2) special measures which would enable those conducting the antituberculosis campaign to single out the foci of disease as they arose, and stop the passage of infection from the affected to the healthy. For incurable cases, where the circumstances of the patient were such that he was a danger to those around him, the question of compulsory segregation had to be reckoned with. Whilst every one realized that, taken on the whole, very great advances had been made in a great variety of directions by the efforts of local sanitary authorities, and especially by the county and municipal boroughs, representing the largest collections of urban population, still there had been in many districts, both urban and rural, a tendency to lag behind the times and to regard the administration of the Public Health Acts as a work of supererogation. Enormous difficulty had been experienced in dealing with many of these recalcitrant bodies, and some of them had successfully resisted for years together all the efforts of the Local Government Board to galvanize them into corporate activity. The proposal which now might be considered as holding the field was that outlined in the National Insurance Bill. The provisions contained in Clauses 43 to 46 of the bill were likely to have considerable effect on the public health administration of the country, but very much, of course, depended upon the constitution of the local Health Committees. If these were composed chiefly of representatives of the local Boards of Health, employers of labour, and small house property owners, or persons acting under their influence, the local Health Committees were not likely to be very active in moving for inquiries which would expose to the public gaze their own sins of omission or commission. There was also the very real objection that the institution of these local Health Committees, with statutory powers for bringing under review the special health conditions of a locality, meant the setting up of yet another body dealing with public health, and the duplication of functions and duties which, under the present system, were already become somewhat complex and involved. As proposed in the bill, it seemed certain that there would, in many places, be much friction and antagonism between the local Health Committees and the sanitary authorities. It would probably tend to promote harmonious action between all the parties concerned if, as the result of the local inquiry by the Government Inspector, he was able to report that in his opinion excessive sickness was primarily due, not to any defaults or omissions on the part of the existing local Health Authorities or of the employers, or owners of property, but to conditions which had been bequeathed by a previous generation, and for which the poverty of the district and the pressure of the rates made it extremely difficult to find a practicable remedy. With such a verdict from a competent and impartial person, there should be power given to the Treasury to make advances of funds at an extremely low rate of interest, so that the necessary improvements could be at once undertaken, and the repayment of the capital sum be distributed over a very long period. It might even be wise to delay the repayment for a short term of years, so that the district might reap the

benefit of the improved sanitary conditions before being called upon to repay any portion of the State loan. Amendment to these clauses of the bill had been suggested in which it was proposed not to form the local Health Committees as separate organizations, but to found such committees on the existing public health committees of county councils, county borough councils, metropolitan borough councils, and urban district councils controlling a certain minimum population, with the necessary additional members to represent the interests of the societies and persons concerned in the insurance scheme of the bill; the majority, however, of each such committee to consist of members of the existing public health committees of county councils, etc. With the local Health Committees constituted on this amended basis, there would be less risk of administrative confusion and friction; but it remained to be seen how far this amended constitution of the local Health Committees met the views of the framers of the bill, who desired to set up statutory bodies having powers of local supervision of all the conditions affecting the health of a locality. If the National Insurance Bill became law, it might be presumed that amongst insured persons attacked with tuberculosis, resort would be had much earlier to medical advice than was now the case, as the benefits accruing under the Act would be of so complete a character that there need be none of the present disinclination to leave work, which now so often irretrievably damaged the prospects of future recovery in the case of the manual worker. The provisions of the bill would have to be very carefully considered in connexion with the system of antituberculosis dispensaries. So far these dispensaries had been originated and kept in operation by private charity; but there could be no doubt that, the whole scope and tendency of the bill being in the direction of impressing on the public that sickness was a State affair, for which provision must be made by the State, aided by compulsory contributions from employers and employees of every kind and degree, the effect of legislation of this character would be to modify in most material fashion the sources of revenue from which the great charitable institutions (the hospitals, dispensaries, and convalescent homes) now derived the major portion of their support. The National Insurance Bill promised relief to the State insurance or club doctor from the necessity of attending cases of tuberculosis that were taken into sanatoriums. Tuberculosis was essentially of a nature similar to scarlet fever, diphtheria, enteric fever, and small-pox, in so far as it depended for its spread on the propagation of a *contagium vivum;* and it would seem desirable, in the interests of public health and with a view to the final extirpation of the disease, that measures similar to those which had been made applicable to the above-mentioned disease should be extended to tuberculosis. A large expenditure on permanent buildings was to be deprecated; and it would be better to spend money on making the most approved systems of medical treatment available to the poor than on the erection of structures whose utility, on any reasonable estimate of probability, would be a gradually decreasing one. It should be remembered that the national measures advocated for freeing the population from tuberculosis were also those which were best adapted to improve the general health of the people, whilst they at the same time raised the resisting powers to the invasion of tubercle.

The Reign of Law in Health and Disease.

In the Section of Sanitary Science and Preventive Medicine an address was to have been read by Sir Lauder Brunton, the President, who, however, was prevented by the after-effects of an attack of influenza from attending. He laid stress on the mischief ignorance of the laws of health had done on a large scale, and on the benefits which had resulted from a knowledge of them.

Obviously, in order to obey the laws of health, they must first know what they were. And it was not in hospitals but in laboratories that these laws were to be discovered. For this purpose there ought to be a national institute of health, where trained observers might investigate problems of disease, similar to the Gesundheitsamt of Germany. But there were many trained and skilful workers in the provinces who could do good work if they only had slight pecuniary aid. There was already a fund of this kind, the Scientific Research Fund, administered by the Royal Society. But the sum placed at its disposal by Government was absurdly small, £4,000 a year for the aid of research in every branch of science. There were seven branches: Mathematics, Astronomy, Chemistry, Physics, Botany, Geology, and Physiology. Under this last head were included all researches into the nature of disease or the action of drugs, and the parsimony of the Government towards the department was responsible for the deaths of many people, for the relation between mosquitos and malaria would probably have been worked out one or two years sooner if Manson had received the grant for its investigation when it was first applied for, and when his application had to be refused for want of funds. For the purpose of learning the laws of health they required a national health institute and better endowment for research.

The Hygiene of Childhood.

Sir JOHN BYERS, who presided over a conference on the hygiene of childhood, said the influences causing wastage of infant life were dirty and overcrowded homes, insufficient nutrition or malnutrition, and maternal ignorance. The crying need of Ireland was the stoppage of infant mortality and the improvement of school hygiene. The admittedly insanitary condition of many of the primary schools in Ireland exposed the children directly to contagion of consumption. These things could only be changed by the birth of a sanitary conscience among the people and among local authorities. In trying to improve the hygiene of the child, they must press for increased vigour in both public and personal hygiene. They must do everything in their power to cultivate the growth of the public "sanitary conscience" so that all over Ireland the various county, urban, and rural councils might realize fully the pregnant words of Sir John Simon, that they were the "appointed guardians of masses of human beings whose lives are at stake in the business." They must urge health authorities to redouble their efforts to provide proper housing, without domestic overcrowding, and a decent environment for every dwelling, parks, and open-air breathing spaces, a good and efficient water supply, proper sewerage, prompt and efficient house and street scavenging arrangements, guaranteed pure food and milk, protection in the fullest degree from infectious disease, the adoption of the Notification of Births Act, visitation of the houses by a sufficient number of tactful and carefully trained health inspectors, who should themselves possess a practical knowledge of the management of a home and of children, thorough medical inspection of the schools, which should be hygienic in every respect, with proper playgrounds, and where instruction in the laws of health should be a necessary subject. In addition, the problem of child hygiene must be attacked in a more direct and personal way by training women for the duties of maternity; in other words, they must show them the supreme importance of intelligent and painstaking "mothering" as well as the necessity for looking properly after their household.

Conference of Medical Officers of Health.

An address was delivered by the President of the Section, Sir CHARLES A. CAMERON, Medical Officer of Health, City of Dublin. He said he thought it was now generally admitted that it was a mistake to convert the medical men who were Poor Law officers into medical officers of health, whether or not they were willing to accept such an office. The very small salaries which they received could not be expected to stimulate their ardour for hygienic reforms, though it must be acknowledged that many of them had improved the sanitary state of their districts. It would have been far better if the Public Health (Ireland) Act of 1875 had created whole-time medical officers of health and whole-time sanitary inspectors. Although they would have to be elected by local authorities, they would be less under the influence of the members of those bodies than the present medical officers of health and sanitary officers were. When in rural districts the medical officer of health had a salary of £10 or £20 a year, and the sanitary inspector £5 yearly, their operations must be limited to a small area, in which the appointing authority would more or less be composed of persons owning houses, shops, farmyards, etc. Should any of these own premises in such a state as to be a nuisance, or injurious to health, the action of the health officers might create hostility against them on

the part of those persons responsible for the nuisances. He thought it was desirable that the Irish county councils should be empowered to appoint whole-time medical officers of health and sanitary inspectors. The question whether the Poor Law officers should be a department of the Civil Service had been much debated. He would certainly like to have a public health civil service —a kind of sanitary police; medical men with public health diplomas, being the officers and the sanitary inspectors, and clerks, "the "rank and file." Under the Prevention of Tuberculosis (Ireland) Act, county councils and the borough authorities were empowered to appoint bacteriologists. In the event of the counties being empowered to appoint medical officers of health, would it be desirable that the medical officers of health should also be bacteriologists? He was disposed to answer in the negative. The science of bacteriology had now become so extensive that it ought to be regarded as a distinct profession. If the present system in Ireland of *ex officio* medical officers of health was to be continued, would it not be desirable to have some evidence that they were acquainted with modern sanitary science? If the Irish Local Government Board were to announce that in two or three years hence candidates for Poor Law medical appointments would be required to produce a diploma in public health, many young men fresh from the schools would enter at once upon the course of study to qualify for the examination for the public health diploma.

Compulsory Notification of Disease.

Dr. Meredith Young, County Medical Officer of Cheshire, in a paper discussing the possibilities of extension of the system of compulsory notification of disease, asked with regard to the compulsory notification of pulmonary phthisis if they could not hope that what Scotland had done might before long be brought within the public health potentialities of the sister kingdoms? The success of the system in Scotland and in certain large centres in England had led to the evolution of ways and means by which the sufferer and contact cases and their environment could be dealt with directly and with immense benefit. The value of compulsory general notification to the new Health Committees proposed under Mr. Lloyd George's bill would be very considerable as constituting one of the best possible guides to the extent of concomitant and causative insanitary conditions in certain areas. Dr. Young further submitted that a good case existed for the placing of properly-defined food or ptomaine poisoning amongst the list of diseases compulsorily notifiable.

The Endowment of Motherhood.

A women's meeting on hygiene discussed the State endowment of motherhood. Dr. G. Eric Pritchard held that such endowment was not so Utopian and extravagant as it seemed. He had been a strong believer in the sanctity of the home until, in connexion with the medical examination of school children, he came into personal contact with several thousands of their mothers. The vast majority of these poor women had little conception of the meaning of discipline, obedience, or order. The time was not ripe for the serious consideration of communal establishments for the rearing of infants and young children, but he thought most of them were agreed that Mr. Lloyd George's bill offered no adequate provision for safeguarding the welfare of babies. No scheme of maternity endowment could be complete unless it provided every lying-in woman with the optional services of a capable and efficient midwife free of cost, and both midwives and health visitors should be empowered to dispense free benefits of food, clothing, or other necessity which they might think proper for the welfare of the State's new citizen.

The Danger of Measles.

At the same conference Dr. John McCaw (Belfast) read a paper on the reduction of infant mortality from measles. It was amazing that parents continued to look upon measles as a trifling complaint, in spite of the fact that it killed more children than all the other eruptive fevers added together. He was convinced that notification in some form was the most powerful weapon they possessed, and until this step was taken all other methods for combating the disease and reducing the death-rate would prove in the future as they had in the past more or less futile. He also suggested hospital treatment for the worst cases and the raising of the age at which a child is allowed to attend a public school from three to five years.

Lunacy in 1910.

Annual Report of the Inspectors in Lunacy.

The following summary shows the number and distribution of the insane in establishments on January 1st, 1911, as compared with the number and distribution on January 1st, 1910:

	On January 1st, 1910.			On January 1st, 1911.		
	Male.	Female.	Total.	Male.	Female.	Total.
In district and auxiliary asylums	10,937	9,333	20,270	11,099	9,504	20,603
In Central Asylum, Dundrum	151	23	174	148	20	163
In private asylums	387	514	901	409	500	909
In workhouses ...	1,014	1,641	2,655	975	1,596	2,571
Single, chancery, and other patients in unlicensed houses	73	71	144	73	70	143
Total	12,562	11,582	24,144	12,704	11,690	24,394

These numbers do not include the insane wandering at large, or those residing in private dwellings, with the exception of such cases as are returned under the 37th Section of the Act, or are Chancery patients.

This summary shows that there was a total increase of 250 during the year, the corresponding increase for the previous year having been 213. This increase was 78 less than the average increase for the preceding ten years, which was 328.

The foregoing figures relate to the actual numbers of the insane under care, but the ratio of the increase in the number of the registered insane from year to year in proportion to the population is somewhat greater, owing to the fact that the general population has been every year, except 1909, decreasing.

During 1910 there was an increase in the number of patients in the district and auxiliary and private asylums, while the numbers in Dundrum Criminal Lunatic Asylum and in workhouses, as well as the single patients in unlicensed houses, decreased. The numbers in district and auxiliary asylums increased by 333, and those in the private asylums and institutions for the insane by 8; those in Dundrum Asylum decreased by 6, those in workhouses by 84, and the single patients in unlicensed houses by 1. It is again satisfactory to record that the decrease in the number in workhouses, which has been steadily taking place for several years past, still continues. During the year 1910, 653 cases were transferred from workhouses to asylums, being 18.26 per cent. of the total number of admissions to the latter institutions.

The total number of patients discharged during the year was 1,759 (979 males and 780 females). Of these 1,307 (711 males and 596 females) were discharged recovered, showing a decrease of 75 on the number for the previous year. The percentage of recoveries on admissions was 36.5, being 1.9 per cent. lower than that for the previous year. The numbers removed by friends or sent to workhouses amounted to 452 (268 males and 184 females), an increase of 17 on the numbers for the previous year.

During the year 5 patients (all males) escaped, and were not retaken.

Richmond Lunatic Asylum.

At a recent monthly meeting of the Joint Committee of the Richmond and District Lunatic Asylum the Medical Superintendent reported that the admissions for the month had totalled 69, which was the highest figure for a month's admissions since 1908. He found that lack of employment being the cause was not an admissible explanation of the increase; 22 of the cases received were from workhouses, 5 were readmissions, one man being admitted for the seventh time. Abnormal excitement in the city would bring many dormant cases of insanity into activity, especially if they received the further stimulus of alcohol. The readmissions were for the most part drink cases, and the law in relation to inebriates had proved very

ineffective. It was frequently necessary to discharge cases which experience showed would probably relapse when the restraint of an asylum was withdrawn, but there was no other course open when the mental disturbance had passed away. At the same meeting the Chief Clerk reported that, in accordance with the instructions of the Joint Committee at its last meeting, he had communicated with the committees of the district asylums of Ireland, forwarding a resolution in opposition to the bill now before Parliament proposing to fix a limit of sixty hours' duty per week for attendants and nurses. He read a large number of replies, in which the committees all concurred in the view that the bill should be opposed. Some suggested a limit of seventy hours a week, but objected to the discretion of the governing bodies being interfered with. Others were hostile to any change which would further expand their expenditure; it had been going up steadily for many years. Several of the asylums boards had circularized the members of Parliament, asking them to vote against the measure. The Chairman said that board had always been most considerate to its employees. Their service as regards hours, allowances, accommodation, and privileges of all kinds was far above the standard of other asylums in Ireland, and in England, too. He did not think it could be seriously contended by anybody representing the interests of trade unionists that the working hours of attendants in hospitals and asylums should be the same as those of artisans. It was decided that the chairman and the accountant should represent the views of the board before the House of Commons Committee.

St. John Ambulance Association.

St. John Ambulance Association did good work during the recent Royal visit to Dublin. In all, 82 officers and men and 6 nurses were on duty. No fewer than 357 cases were treated by members of the brigade, and these included 165 along the route of the Royal entry into the city, 84 at the Royal review, 22 in the streets during the illuminations, and 53 at the children's *fêtes* at Kingstown and Ballsbridge.

Trinity College, Dublin, is leading the way in this good work, so far as the Universities of Ireland are concerned. It is about to form a voluntary aid company for women students. The members of such a company are trained to act with the Territorial branch of the Royal Army Medical Corps in the event of war, and supply a deficiency in the existing system of looking after the wounded. This deficiency consists in the fact that no provision is made for attending wounded between the time of their treatment on the field and that at the base hospital. The members of these voluntary companies would attend the wounded in ambulance trains, in convalescent homes, and at "rest" stations. The divisions representing the brigade in Dublin were founded: St. James's Gate in 1904, the City of Dublin in 1905, the City of Dublin Nursing in 1907, and Messrs. Jacob's only this year.

New Dublin Hospital.

On July 20th a new hospital for the treatment of skin, cancer, and urinary diseases was opened; it has been founded by a committee of citizens for the purpose of replacing the Skin and Cancer Hospital which was closed a few months ago. The staff of the hospital is constituted as follows:

Honorary Consulting Surgeon, Professor F. Conway Dwyer, F.R.C.S.; Honorary Consulting Physician, Professor James Craig, M.D.; Urologist, Mr. Andrew Charles, F.R.C.S.; Dermatologists, Dr. John Davys and Dr. G. Burbidge White, F.R.C.S.; Electro-Therapeutist, Dr. H. Mason; Pathologist, Dr. R. M. Brontë; Anaesthetist, Dr. W. Healy; and Apothecary, Mr. F. Anderson, M.P.S.I.

At a meeting held in the board room before the inspection of the hospital, an account of the foundation was read. In the course of this it was stated that the closing a few months ago, by order of the Right Hon. Mr. Justice Ross, of the Skin and Cancer Hospital, Brunswick Street, Dublin, which had existed for eleven years, and had of late years been attended in the extern department alone by patients to the number of about 15,000, left the poor of Dublin, and indeed of Ireland, without the benefits previously conferred upon them by the specialized treatment given in such a hospital. A number of citizens of charitable mind resolved to found a new hospital, which would not only supply the want of the old institution, but would also extent the benefits to the poor by adding an additional department for the treatment of diseases of the bladder and kidneys. The result was that a new institution called the Dublin Skin and Cancer Hospital had been established at 3, Hume Street for the purpose of the specialized treatment of such diseases. The premises had been remodelled throughout, and thoroughly equipped in each department with the most up-to-date appliances and apparatus. The Corporation of Dublin had transferred the annual grant of £50 formerly given to the Brunswick Street Hospital. This formed at present the only fixed income of the hospital.

Though it is true that since the recent closing of the Brunswick Street Hospital, Dublin has been without a special skin, cancer, and urinary hospital, yet, as most of the clinical hospitals contain well-managed and largely-attended departments and dispensaries for the treatment of these special diseases, it is not at all clear that this addition to the already large number of hospitals in Dublin was a wise proceeding.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

The New Medical Chairs at Glasgow University.

The Glasgow University Court has received intimation that the ordinance concerning the new chairs in connexion with the Royal Infirmary has received the approval of His Majesty in Council. The next step is for the various bodies who exercise patronage to appoint curators. It is intended that the appointments to the chairs shall be made in time to allow the new professors to commence their duties at the beginning of the winter session.

Notification of Ophthalmia Neonatorum.

The Glasgow authorities have decided to make ophthalmia neonatorum a notifiable disease under the Infectious Diseases Act. The order came into force on August 1st, and will last for three years.

The Dr. Jessie Macgregor Prize in Medical Science.

The first award of the Dr. Jessie Macgregor Memorial Prize has been made to Agnes Ellen Porter, M.D.Edin. The prize has been awarded to Dr. Porter for work done in the last three years, mainly in the departments of bacteriology and physiology, and especially for her work on the precipitative reaction in tuberculosis. The prize, which is in memory of the late Jessie Maclaren Macgregor, M.D.Edin., is to be awarded triennially for original work done in any branch of medical science during the three years preceding the award, and is of the value of £50. The award is in the hands of a body of trustees, consisting of the Dean of the Faculty of Medicine of Edinburgh University, the President of the Royal College of Physicians, Edinburgh, the Treasurer of the Royal College of Physicians, Edinburgh (to whom application has to be made), the President of the Royal College of Surgeons, Edinburgh, and three medical women, resident in Edinburgh, to be co-opted by the other four trustees. Applicants must have studied for at least one year at a school of medicine in Edinburgh, and must be either graduates of a Scottish university or holders of the triple qualification. On the present occasion there were three applicants for the prize.

Special Correspondence.

BERLIN.

Golden Jubilee of Professor Waldeyer.

Saturday, July 22nd, was a fête day for German—and particularly for Berlin—doctors, whatever their speciality; also for anthropologists, for hygienic reformers, and for all whose heart is in the cause of the gradual victory of science over ignorance and disease. Wilhelm Waldeyer, the great anatomist (for as such, in spite of his immense versatility, he will live in the mind of future generations), celebrated the fiftieth anniversary of the day on which he took his degree, and the occasion of this

"golden jubilee" was eagerly seized upon by former and present pupils, by friends and admirers (their name is legion) to render homage to the man who for so long has been a shining example to them all. And, indeed, no finer representative of strenuous, unswerving labour in the cause of science can be imagined than this youthful senex of 75. Even now he is never known late for his seven o'clock morning lecture in his institute (First Anatomical Institute of the University); never late, and never weary or indifferent. Sturdy and ruddy in appearance, with a twinkle in his eyes that discloses him not averse to the material pleasures of life, Waldeyer's face catches fire as he plunges into the subject of the day, illustrating it by exquisitely drawn coloured chalk freehand drawings (his hand as steady and as quick as ever), while speaking. Besides his professorial and literary work, Waldeyer unshirkingly fulfils arduous duties as Secretary of the Royal Academy of Sciences, as President of the Central Committee for post-graduate courses, as lecturer to working men's associations, as one of the foremost members of the Anthropological Society, and now in his old age even as politician, for he was called to the Prussian Upper House a couple of years ago, and Waldeyer is hardly the man to play the dummy in any assembly of which he is a member.

The list of well-known and of famous men who came from far and near to lay their homage before the "Jubilar" is long—far too long to give in full. Gold medals were brought by the Prussian Ministry of Education (Cultusministerium) and the Prussian War Office; delegates from German and foreign universities and learned societies presented addresses. Hans Virchow was the bearer of a special volume containing monographs on subjects from every branch of normal and pathological anatomy, contributed by old pupils in all parts of the globe. Paul Ehrlich presented a special volume of his own, and in his speech dwelt affectionately on his debt of gratitude to Waldeyer, to whom, he said, he owed the foundation of his later development. In the microscope practice of his early college years it was Waldeyer who showed him the importance of staining methods, and encouraged him to work at them and develop them. That this tribute of Ehrlich's gave Waldeyer special satisfaction was evident, and in his reply—for Waldeyer replied to each speech, always felicitously, often with humour—he took credit to himself for having recognized the special bent of his young student-pupil almost from the beginning. He told of Ehrlich's finger-tips, disfigured by colour stains, and the young man's explanation, that he had been "experimenting."

A festive banquet closed the day. Again it is impossible to select [redacted]

Correspondence.

TUBERCULIN DISPENSARIES.

Sir,—As a great divergence of opinion still prevails on the subject of tuberculin, and I am one of those keenly interested in making known its value, I shall be glad if you will allow me to state briefly what my own experience has taught me.

Last summer I called on Dr. Camac Wilkinson, who courteously invited me to go to the Kennington Dispensary and see for myself his methods of treatment. I did so, and what I saw was a revelation to me. The patients who attended were people in all stages of tuberculosis, some of them simply "contact cases," whose relatives had recently died, leaving their families infected; while others were well on in the second, or second-to-third stage, with well-marked pulmonary cavities and areas of consolidation. No case was admitted without full examination, and no case was refused unless hopelessly beyond reach. I watched the treatment week by week for fully six months, and I saw these patients gradually lose their cough, their haemoptysis, their night sweats, and their physical weakness, and return to their daily life restored at least to a fair standard of health. And many of these patients were able to continue their ordinary work during the entire period of treatment.

It may be asked: How was the dosage regulated, and what observation was kept? The dosage was regulated solely by the temperature curve and the general symptoms of the patients; and the only medical observation taken was that obtained when the patients presented themselves for treatment, bringing their temperature chart and personal report every third day. These bi-weekly clinics had been thrown open to the profession, and I always found quite half a dozen medical men and some medical women watching and learning. Some of these came from distant parts of England and Scotland, and have now, I hear, started work on similar lines in their own districts. Three tuberculin dispensaries have been established in London, while branches have also been opened in Aldershot, Oxford, Banbury, Portsmouth, Leeds, Aberdeen, Inverness, Dublin, and elsewhere.

It may be useful to say a word on the principles underlying this treatment. In an ordinary case of phthisis we know that the tubercle bacilli secrete the tuberculin, which by its destructive action stimulates the system to the production of antibodies and other defensive agents, which in their turn (in a case going on to recovery) unite with the tuberculin and render it inert. This process of action and reaction, be it observed, goes on at the very seat of the disease, and it is reasonable to suppose that considerable mischief to a tuberculous lung or joint will have been done before the antibodies are finally victorious. Now, is it desirable to leave this conflict to be waged at the seat of disease if it can be initiated in healthy tissue elsewhere with equally good results? Let the required antibodies be generated, not in a diseased area where increased irritation cannot well be borne, but in the healthy muscular tissue of the arm; let it be done, not by the uncontrolled, or only partially controlled, methods of Nature, but by measured doses of tuberculin devitalized by filtration and heat, and the final result to the system will be immeasurably superior. Tuberculin secreted in pulmonary tissue will generate antibodies that may win or may lose the battle on which the life of the patient depends. Tuberculin injected into the arm will start a process in which the victory is never in doubt.

The dose supplied will always be such that the antibodies formed to neutralize it shall be equal to their work, and leave each time an unused balance of defensive agents to be carried by the blood stream to the central lesion, there to unite with and overcome the destructive tuberculin secreted by the tubercle bacilli. This regulation of tuberculin dosage by art is surely less hazardous to the patient than the uncertain methods of Nature, even when controlled by sanatorium discipline, and it is the tuberculin dispensary which supplies the conditions of scientific regulation.—I am, etc.,

New Barnet, Aug. 1st. H. Vaughan Barber.

Sir,—In view of the statements which have recently appeared as to the class of cases treated at the above institutions, I think, in justice to Dr. Wilkinson, it is

only fair that those who have observed the work should relate their experience. In my visits to the dispensary at Kennington I have seen patients in early and late stages of the disease under treatment, and some of them were of the poorest class of people. I assert with confidence that there is no selection of cases, and many whom I saw would undoubtedly have been refused by a sanatorium. The results appeared to me to be most gratifying, and at this time surely the public should demand a thorough inquiry into each method of treatment before a single penny is wasted in erecting unnecessary buildings.—I am, etc.,

East Liss, July 31st. G. McGREGOR.

SPHINCTER STRETCHING IN OPERATIONS FOR HAEMORRHOIDS.

SIR,—The two very interesting communications from Dr. O'Connor and Sir Frederick Wallis on the subject of dilatation of the sphincter appear to call for some reply from the author of the paper on haemorrhoids published in the JOURNAL of May 6th, and I beg in the first place to thank them for the courtesy and clearness with which they have expressed views with which, unfortunately, I am compelled to disagree.

That violent or excessive dilatation, such as might cause tearing of the sphincteric muscle, can do nothing but harm will be agreed to by every one, but just as the better a thing is, the worse is its abuse, so the fact that dilatation can be carried too far is no proof that when properly used it is harmful, or, indeed, other than extremely useful and beneficial.

It would seem to be taken for granted that the effect of dilatation has only to be considered in its bearing upon the patient at the time of operation. Sir Frederick Wallis says so, indeed, specifically. Its advocates, he says, advise it for two reasons: First, for the relief of pain, and secondly, in order to obtain a more complete view of the operation area.

I confess that the first object had not occurred to me; certainly I have never advocated dilatation for this reason. If it has any effect in this direction—which I doubt—so much the better, but it cannot be considered an essential reason for the practice.

As to the more complete view obtained, I presume we are all agreed, and also that in all operations on any outlet of the body, or upon the canals of which those outlets are the external termination, those surgeons who can obtain the best and clearest view are most likely to be successful in the work required. But at this point there seems to be the possibility of a misunderstanding. The dilating speculum is not to be retained in position during more than a brief time at the commencement of the operation. Once the requisite dilatation has been gained, the interior of the rectal cavity seen, the absence from it of any abnormal condition which might militate against success demonstrated, and the parts to be removed seized by Spencer Wells's forceps, the dilator is to be removed, and the rest of the work performed without it. It may be that some objectors have had a mental picture of the dilator *in situ* during the whole of the work.

In order to gauge absolutely the amount of force brought to bear in dilatation, and to ensure that this force shall be evenly distributed, the use of Allingham's dilator as modified by myself seems preferable to the old plan of stretching with the thumbs. If one has to depend upon muscular action applied in the latter way, there comes a period of fatigue, when the operator, fearing to lose the distension already obtained, may possibly make a spasmodic effort in order to obtain the amount he desires; such an effort may tear the sphincteric fibres, not yet sufficiently relaxed, and so a patulous anus may result. With the instrument dilatation is slow, equable, and the resisting contraction can be only just overcome. Any amount so gained can be maintained by means of the ratchet and screw, whilst the operator can wait for a few minutes, removing all pressure upon the levers; in a little while the sphincter will be found still more relaxed, and a little more can be gained, and so on, gradually, smoothly, and safely, without the application of any sudden or undue force. In this way the sphincter is rather induced to yield than in any way forced open; and, while the dilatation is efficient and complete, it is almost impossible to damage the muscle. At all events, such a result has never occurred in any of my own cases.

In this way we can gain clear information at the time of the operation of the actual state of the parts, we are able to apply our forceps with precision and rapidity in the lines of traction which will later be most useful. Having done this the need for the dilator is over, and it is withdrawn. But still the main reason for its use has not yet been mentioned. The main reason is its effect upon the after-course of convalescence. In this operation, as in all others, the surgeon's motto is "Respice ad finem."

After the operation is over, the easy passage of flatus and faeces becomes important. Many operators "lock up" the bowels, with a view to prevent passage of faeces until healing of the line of union is fairly advanced. Others introduce a tube covered with gauze to permit ready escape of flatus and to act as a kind of dressing to protect the raw surfaces.

Both procedures are unnecessary and harmful. If the operation has been properly done there will be no raw surfaces left, only a narrow line which can be perfectly protected by dusting with boracic powder. If the dilatation has been sufficient, flatus passes with perfect ease. Every effort should be made to ensure early and regular passage of soft faeces from the very first, which has no deleterious effect. It is the hard, rocky masses which result from "locking up" that are to be feared. Faeces must pass sooner or later. If they are soft and the dilatation has been efficient, the sphincter will not oppose their safe and easy exit; if there has been no efficient dilatation, it almost certainly will by spasmodic contraction necessitate the use of enemata, and this introduces another and unnecessary risk, since the enema nozzle, especially if a hard one and if it does not at once strike the centre of the anal lumen, may easily tear up the newly united mucosa and ruin the result.

This is the essential reason for gentle dilatation; not at all the "excessive sphincter stretching" which excites Sir Frederick's wrath, and which I as strongly deprecate as he. Perhaps he will admit that it is hardly fair to credit me with a statement which he read somewhere—a few years ago—in some medical journal—he forgets which, and which evidently refers to the old and dangerous method of thumb pressure. If he will dispassionately try the method herein advocated, I believe he will be the first to recognize the difference and to admit that they cannot be confused together.

I should willingly accept Dr. O'Connor's invitation to give full details of the operation as performed by me, but I fear the editor would refuse the space required; at some future time I hope to do this, and also to give full information as to the cases and their—late—results.—I am, etc.,

F. STANMORE BISHOP, F.R.C.S.

all open to admit such influence as, at least, an important subject for study. The converse, however, that suggestion and auto-suggestion are frequent and insidious causes of induction of mental and bodily morbid states is so far proven as to put doubt out of the question. Every observer has noted an increase of morbid states attending the operation of the Workmen's Compensation Act, failing, however, to attribute it altogether or, indeed, in greater part to malingering, I know from personal experience that it is extremely difficult to certify that a man receiving a payment under this Act is not ill but fit for work, although I had moral certainty that he would have no "thought ailment," and be at his work if the inducement suggested by the payment did not operate.

I believe that it is possible to devise an insurance scheme so as to avoid this dangerous and far-reaching evil. If a man is simply insured for a certain sum, say £25 or £50, carrying a cumulative bonus if not trespassed on, the inducement would be to retain it as far as possible for old age or as a family provision. If the man fell sick it would be optional with him to call on such part of the sum he needed to meet the case on production of a medical certificate. He would not trench on the sum if he could provide otherwise for sickness, and have an inducement to so provide for it, and no inducement to exhaust his credit by thinking himself sick when able to work. If the credit was his property to dispose of at his option, to leave to his children or commute into a pension at a prescribed age, it would not tempt him to suggest to himself that he was sick in order to get sick pay; the suggestion would be to keep well and live long.—I am, etc.,

W. R. MacDermott, M.B.

Poyntzpass, Newry, July 30th.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN.

Sir,—Owing to certain difficulties arising out of the management of this hospital, and the manner in which the grievances in respect of such were dealt with by the Board of Management, we, the undersigned members of the medical staff, felt compelled, acting under legal advice, to take a certain course. As a result of this action we were called upon to resign our appointments by the Board within seven days, and, declining to do so, we have received imperative notice of dismissal, and have ceased to have any connexion with the said hospital. We shall take steps to lay the facts of the disabilities under which we suffered before the profession, and also before certain medical and lay hospital authorities, and, in the meantime, trust that should the vacancies upon the medical staff be sought to be filled by the Board, would-be candidates, before applying for our late appointments, will make themselves cognizant of the conditions which prevail, and have prevailed, at this hospital both now and in previous years.—We are, etc.,

(Signed) Alfred Eddowes,
Agnes Savill,
G. W. Dawson,
L. F. Knuthsen.

London, W., July 27th.

The Services.

EXAMINATIONS FOR PROMOTION.

Home Stations.

The following is the list of the successful candidates at the May Examination for Promotion of Majors of the Royal Army Medical Corps in "Technical Subjects," Part I, Appendix XIV, King's Regulations:

Major W. Tibbits, M.B., Part I, Subject 2, Appendix XIV, King's Regulations. Already passed in (*d*) ii and Part I, Subjects 1 and 3, Appendix XIV, King's Regulations.

Major H. Hewetson, (*d*) ii. Has yet to pass in Part I, Appendix XIV, King's Regulations.

Major L. Addams Williams, (*d*) ii, .75. Has yet to pass in Part I, Appendix XIV, King's Regulations.

Captains J. J. W. Prescott, D.S.O., L. N. Lloyd, D.S.O., T. Biggam, M.B., A. R. Greenwood, F. A. Stephens, W. M. B. Sparkes, E. Ryan, A. J. Williamson, M.B., and G. A. K. H. Reed, (*d*) ii. Already passed in (*h*).

Captains F. W. Cotton, P. C. Douglass, W. L. Steele, H. A. Bransbury, D. L. Harding, F.R.C.S.I., T. S. Coates, M.B., and J. H. Duguid, M.B., (*d*) ii, .75. Already passed in (*h*).

Captain J. L. Jones, (*d*) ii. Has yet to pass in (*h*).

Captain J. H. Gurley, (*h*) iii (for the rank c Captain). Already passed in (*b*), (*d*) ii, and (*h*) i and ii (for the rank of Captain).

Lieutenant W. H.S. Burney, (*h*) i and iii. Already passed in (*b*), (*d*) ii and (*h*) ii.

Lieutenant G. H. Stack, M.B., (*d*) ii. Has yet to pass in (*h*). Already passed in (*b*).

Lieutenant H. S. Ranken, M.B., (*d*) ii and (*h*); .75 in (*d*) ii and .8 in (*h*). Already passed in (*b*). Special Certificate.

Lieutenants J. A. Manifold, M.B., and Lieutenant S. S. Dykes, M.B., (*d*) ii and (*h*); .8 in (*h*). Already passed in (*b*).

Lieutenants C. T. V. Benson, A. W. Bevis, A. G. Jones, M.B., K. Comyn, and F. R. Laing, M.B., (*d*) ii and (*h*). Have yet to pass in (*b*).

Lieutenant W. P. MacArthur, M.B., (*d*) ii. Has yet to pass in (*h*) iii. Already passed in (*b*), (*h*) i and ii.

Lieutenant P. S. Tomlinson, (*d*) ii and (*h*); .75 in (*d*) ii. Already passed in (*b*).

Lieutenant F. W. M. Cunningham, (*h*) iii. Has yet to pass in (*b*). Already passed in (*d*) ii, (*h*) i and ii.

Lieutenant G. P. Taylor, M.B., (*h*) i. Already passed in (*b*), (*d*) ii, and (*h*) ii and iii.

Lieutenants O. W. McSheehy, M.B., and H. F. Joynt, M.B., (*h*). Already passed in (*b*) and (*d*) ii.

Lieutenant H. R. Edwards, H. V. Stanley, M.B., and T. W. Stallybrass, M.B., (*d*) ii and (*h*). Already passed in (*b*).

Lieutenant J. R. Yourell, M.B., (*d*) ii. Already passed in (*b*) and (*h*).

Lieutenants J. M. Weddell and A. P. O'Connor, M.B., (*d*) ii and (*h*); .75 in (*d*) ii. Have yet to pass in (*b*).

Lieutenant C. M. Nicol, M.B., (*d*) ii and (*h*); .8 in (*h*). Has yet to pass in (*b*).

Lieutenant T. H. Dickson, M.B., (*d*) ii. Has yet to pass in (*h*) i. Already passed in (*b*), (*h*) ii and iii.

India.

The following is the list of successful candidates at the March examination for promotion in technical subjects:

Royal Army Medical Corps.

Major G. J. Buchanan, M.B., technical subjects, No. 1. Has yet to pass in (*d*) ii.

Captain W. Bennett, M.B. (*d*) ii; .75. Already passed in (*b*).

Captain J. du P. Langrishe, M.B., (*d*) ii. Has yet to pass in (*h*).

Lieutenants A. Shepherd, M.B., and G. G. Collet, M.B., (*d*) ii; .75. Already passed in (*d*) and (*h*).

Lieutenants A. H. T. Davis, W. J. Tobin, and J. B. Jones, M.B., (*d*) ii. Already passed in (*b*) and (*h*).

Lieutenant J. S. McCombe, M.B., (*d*) ii; .75. Already passed in (*h*). Has yet to pass in (*b*).

Lieutenant D. H. C. MacArthur, M.B., (*d*) ii and (*h*); .75 in (*d*) ii. Already passed in (*b*).

Indian Medical Service.

Captain W. H. Hamilton, F.R.C.S. (*d*) ii.; for the rank of Captain. Already passed in (*h*) ii and iii.

Lieutenants A. de C. C. Charles and J. W. Barnett, M.B. (*d*) ii; .75. Already passed in (*h*) ii and iii.

Lieutenant M. L. Puri, (*d*) ii and (*h*) ii and iii; .8 in (*h*) ii and iii.

Lieutenant R. B. Lloyd, M.B., (*h*) ii. Already passed in (*d*) ii.

Lieutenants R. N. Chopra, M.B., and A. J. Symes, M.B., (*d*) ii. Already passed in (*h*) ii and iii.

Lieutenants H. Scott, M.B., and G. L. C. Little, M.B., (*h*) ii. Already passed in (*d*) ii.

Lieutenant A. S. Khan, (*d*) ii; .75. Already passed in (*h*) ii and iii.

Lieutenant S. Sarkar, (*d*) ii. Has yet to pass in (*h*) iii.

Lieutenants A. M. Jukes, M.D., J. H. Horne, M.B., and K. S. Thakur, (*d*) ii and (*h*) ii and iii; .75 in (*d*) ii.

Lieutenants W. D. Keyworth, M.B., C. H. Smith, M.D., F.R.C.S., L. H. L. Mackenzie, M.B., and H. R. B. Gibson, (*d*) ii and (*h*) ii and iii.

Lieutenant J. G. B. Shand, M.B., (*d*) ii. Has yet to pass in (*h*) ii.

ROYAL ARMY MEDICAL CORPS (TERRITORIAL FORCE).

The undermentioned officers passed as specified at the examination for promotion held in May:

For Promotion to the Rank of Captain.—Lieutenant J. Leach, M.B., attached to Lovat's Scouts, (*a*), B 3; Lieutenant C. H. Bullen, attached to Yorkshire Hussars, (*a*), B 2, 3, and 15; Lieutenant G. M. A. Thomas, attached to Glamorgan Battery, Royal Horse Artillery, (*a*), B 3; Lieutenant J. M. Kirkness, M.B., attached to the 1st East Lancashire Brigade, Royal Field Artillery, (*a*), B 2, 3, and 15; Lieutenant P. B. Spurgin, attached to the 7th London Brigade, R.F.A., (*a*), B 2, 3, and 15; Lieutenant H. B. Sproat, M.D., attached to the 4th West Riding (Howitzer) Brigade, R.F.A., (*a*), B 2, 3, and 15; Lieutenant T. Brown, M.B., attached to the West Lancashire Battery, Royal Garrison Artillery, (*a*), B 2, 3, and 15; Lieutenant J. H. Donnell, M.B., attached to the Lancashire and Cheshire Group, R.G.A., (*a*), B 2, 3, and 15; Lieutenant F. W. Higgs, M.B., attached to the 2nd London Divisional Engineers, Royal Engineers, (*a*), B 2, 3, and 15; Captain E. L. Anderson, M.B., attached to the 5th Battalion Liverpool Regiment, (*a*), B 2, 3, and 15; Lieutenant N. W. Kidston, M.B., attached to the 10th Battalion Liverpool Regiment, (*a*), B 2, 3, and 15; Lieutenant A. E. Horsfall, M.B., attached to the 7th Battalion West Riding Regiment, (*a*), B 2, 3, and 15; Lieutenant F. R. M. Heggs, attached to the 8th Battalion Hampshire Regiment, (*a*), B 2, and 3; Lieutenant W. J. Gray, attached to the 5th Battalion Yorkshire Light Infantry, (*a*), B 2, 3, and 15; Lieutenant J. F. Farrow, attached to the 7th Battalion Manchester Regiment, (*a*), B 2, 3, and 15; Lieutenant S. R. R. Matthews, attached to the 20th (County of London) Battalion the London Regiment, (*a*), B 2, 3, and 15. *For promotion to the rank of Lieutenant-Colonel:* Major C. T. Green, attached to the 4th Battalion Cheshire Regiment (*a*), D 1, 2, and 3.

Mounted Brigade Field Ambulances.—Lieutenants O. K. Wright, M.B., W. H. Rowell, M.D., and W. H. Fisher, M.D., Notts and Derby, (*a*), B 2, 3, and 15; Lieutenant A. W. Moore, M.B., 2nd South Midland, (*a*), B 2; Lieutenant G. W. Buxton, 2nd South Midland, (*a*), B 3; Lieutenant T. H. Haydon, M.B., 1st South-Western, (*a*), B 2, 3, and 15; Lieutenant J. Hepple, Yorkshire, (*a*), B 2, 3, and 15.

Field Ambulances.—Lieut. O. R. Ennion, 1st East Anglian, (*a*), B 2, 3, and 15; Lieut. A. Graham, M.B., 3rd East Anglian, (*a*), B 2, 3, and 15; Lieut.-Col. W. Kinnear, M.D., 3rd Highland (*c*), D 1, 2, and 3; Lieut. G. Potts, F.R.C.S.Edin., 1st Home Counties, (*a*), B 3; Major D. L. Hamilton, F.R.C.S.Edin., 2nd Home Counties, (*c*), D 1, 2, and 3, .8 in D 1; Major H. G. Parker, 1st East Lancashire, (*c*), D 1, 2, and 3, .8 in D 1; Lieut. A. Ramsbottom, M.D., 1st East Lancashire, (*a*), B 3; Quartermaster and Honorary Lieut. J. W. G. Steell, 1st East Lancashire, (*a*), B 2, 3, and 15; Major W. B. Pritchard, 2nd East Lancashire, D 1, 2, and 3; Lieut. R. Burnet, M.B., 3rd East Lancashire, (*a*),

B 2; Lieut.-Col. R. R. SLEMAN, M.D., 1st London (City of London), (c), D 1, 2, and 3, .8 in D 1; Major E. M. CALLENDER, 1st London (City of London), (c), D 1, 2, and 3, .8 in D 2; Lieut.-Col. J. HARPER, M.D., 3rd London (City of London), (c), D 1, 2, and 3, .8 in D 2; Major J. R. WHAIT, M.B., 3rd London (City of London), (c), D 1, 2, and 3, .8 in D 1 and D 2; Major W. S. SHARPE, M.D., 3rd London (City of London), (c), D. 1, 2, and 3; Lieuts. P. W. THOMPSON, J. R. HOLMES, M.B., and W. COWIE, M.B., 4th London, (a), B 2, 3, and 15; Lieut. H. K. DAWSON, M.D., 6th London, (a), B 3; Lieuts. H. J. DUNBAR, M.B., and D. J. GRAHAM, M.D., 3rd Lowland, (a), B 2, 3, and 15; Lieuts. F. R. BREMNER, M.B., and J. D. ALLEN, M.B., 1st North Midland, (a), B 2, 3, and 15; Lieut. C. A. STIDSTON, M.D., 3rd North Midland, (a), B 2, 3, and 15; Lieut. W. LISTER, 1st West Riding, (a), B 2, 3, and 15; Lieut. J. O'SULLIVAN, 1st Welsh, B 2; Lieut. E. V. CONNELLAN, 1st Welsh, (a), B 2, 3, and 15; Lieut. R. EAGER, M.B., 1st Wessex, (a), B 2; Lieut.-Col. H. D. BROOK, 3rd Wessex, (c), D 2; Lieut. F. E. STOKES, 3rd Wessex, (a), B 3.

General Hospitals.—Major F. H. WESTMACOTT, F.R.C.S., 2nd Western, (c), D 1, 2, and 3.

Sanitary Service.—Lieut. H. S. FREMLIN, 1st London (City of London), B 2.

(a) Denotes fully qualified in B; (c), fully qualified in D; B 2, Military Law; B 3, Organization, Administration, and Equipment; B 15, Sanitation. For promotion to the rank of Lieut.-Colonel: D 1 denotes Medical Organization of the Territorial Force; D 2, Sanitation and Epidemiology; D 3, Laws and Customs of War on Land.

INDIAN MEDICAL SERVICE.

IT is notified that the concession authorized in para. 6 of G.G.O. No. 1047, dated October 24th, 1903, under which the officers of the Indian Medical Service on the list of selected Lieutenant-Colonels are permitted to remain in the service beyond the age of 55 years in order to qualify for the pension admissible after thirty years' service, will cease in the case of officers entering the Indian Medical Service on or after April 1st, 1911.

STUDY LEAVE.

Part 2 of the regulations regarding the grant of study leave to officers of the Indian Medical Service, as published in Army Department notification dated January 13th, 1911, is reconstructed as follows: 2. The period of such study leave will be counted in the case of an officer under Military Leave Rules at the rate of one-twelfth of pension service, and in the case of an officer under Civil Leave Rules at the rate of one-twelfth of active service as defined in the Civil Service Regulations up to a total in either case of twelve months in all during an officer's service.

SCALE OF PENSIONS.

It is notified in the *Gazette of India* that the Secretary of State has sanctioned the following graduated scale of pensions for officers of the Indian Medical Service, with effect from April 1st, 1911: After seventeen years' service, £300; after eighteen years, £320; after nineteen years, £360; after twenty years, £400; after twenty-one years, £420; after twenty-two years, £440; after twenty-three years, £460; after twenty-four years, £480; after twenty-five years, £500; after twenty-six years, £540; after twenty-seven years, £580; after twenty-seven and a half years, £600; after twenty-eight years, £620; after twenty-nine years, £660; after thirty years, £700.

Medico-Legal.

AN ACTION FOR ALLEGED NEGLIGENCE.

AT the Durham Assizes on July 4th an action was tried in which the plaintiffs endeavoured to recover damages from a medical man who, at the date of the alleged cause of the action, was in practice in Spennymoor. The allegation was to the effect that one of the plaintiffs, a married woman, had sustained a dislocation of the shoulder which the defendant had failed to discover, and consequently did not treat, with the result that the patient's arm was now practically useless. The evidence for the plaintiffs included some *x*-ray pictures which were alleged to demonstrate that at some time previous to the date at which they were taken, a dislocation must have occurred. The evidence for the defence was to the effect that the patient's present condition was not due to dislocation, that no dislocation had in fact occurred, and that the skiagrams submitted of the normal and affected shoulders respectively were useless as evidence, since the circumstances in which they were taken were not comparable. It was also argued by counsel for the defence (instructed by Messrs. Le Brasseur and Oakley on behalf of the London and Counties Medical Protection Society) that the patient's own story was inconsistent with the history of dislocation. The verdict returned was in favour of the defendant with costs.

WORKMEN'S COMPENSATION ACT.

Is Tetanus an Accident?

IN a remarkable case—Reid *v.* Wilson—heard on appeal in the Court of Session on June 13th, the question was whether a gardener who died of tetanus was the victim of an accident arising out of and in the course of his employment. It appeared that on Sunday morning, August 21st, 1910, the husband of applicant had been in his master's garden. After returning to his house he proceeded to clean his boots without taking them off, and while doing so he tore his right thumb under the nail against the lacing hook of one of his boots. Four days afterwards tetanus set in, and he died on September 1st from exhaustion and heart failure as the result of tetanus. There was no evidence how or when the dirt under the nail was obtained, but looking to the nature of the employment and to the fact that the bacillus of tetanus is generally found in manure and leaf mould, the Sheriff Substitute held it to be a reasonable inference that it was obtained by Reid when working in his master's garden, but on the ground that the accident did not arise out of and in the course of his employment the Sheriff Substitute refused Mrs. Reid and her children compensation.

The Division affirmed the Sheriff Substitute's decision with expenses.

The Lord Justice Clerk said the question was whether the facts gave legal ground for holding that there was a claim for compensation under the Workmen's Compensation Act. He was of opinion that they did not do so. The deceased, in proceeding, after leaving his master's house, to his own house was no longer in the course of his employment. The Sheriff Substitute held that while there was no direct evidence that the bacillus had become attached to the deceased's body while he was doing his work, the reasonable inference was that it did. But the question to be put was not whether there was a reasonable inference, but whether it was the only reasonable inference, and the Sheriff evidently did not hold that it was, and he gave no effect to it. His Lordship could see no ground for the inference as an exclusive inference. The deceased having his own garden and having been working in it the day before the accident, it was just as reasonable to hold that the bacillus was harboured then as at any other time.

Medical Referees in Fatal Cases.

A case in the Court of Appeal (May 26th) raised an interesting question as to whether the county court judge has power to refer to a medical referee a case which has terminated fatally. It appeared that the applicant, on October 11th, 1910, while descending from the driver's seat of a van, sustained a fracture of the right leg. On October 22nd he died in hospital, the cause of death being certified as cerebral thrombosis. Medical witnesses called on behalf the applicant said that the rest in bed caused a diminished rate of circulation, and as the result cerebral thrombosis was set up. For the respondents it was contended that there was no evidence from which the inference of a diminished rate of circulation could be drawn, and that the cerebral thrombosis was entirely unconnected with the accident. The amount of the compensation was agreed.

His Honour invited a medical referee to report to him on the facts. Dr. Clarke subsequently reported that the applicant had failed to prove that the cerebral thrombosis was caused or accelerated by the accident, and that the death of Carolan was not due to injury caused in the course of his employment.

An award being made in favour of the employers, it was contended in the Court of Appeal that there was no power to employ a referee in such circumstances.

The Master of the Rolls in the course of his judgement said that the appeal raised a rather curious point. It was said by the appellant that the county court judge had no jurisdiction to refer the matter to a medical referee. The Act, however, said that any judge might submit to a medical referee for a report any matter which seemed material arising in the arbitration. It was plain that this was *de facto* a matter arising in the arbitration, but they were told that the only jurisdiction the county court judge had to submit to a medical referee was when the workman was alive, and that there was no power to submit when the workman was dead. He declined to read into the Act words which would limit the actions of the county court judge in referring questions to the medical referee to a case of a man only when he was alive, and basing his decision upon the plain language of Rule 15 he thought that this appeal ought to be dismissed.

The Lords Justices concurred, and the appeal was dismissed accordingly.

The Burden of Proof.

The case of Archer *v.* Clarke, Chapman and Co., Limited (Gateshead, June 7th), illustrates a doctrine with which those who prefer claims for compensation are sometimes not very familiar, namely, that the burden of proof is on the applicant. It was alleged that while the applicant's late husband was at work on February 11th his hand was crushed. The respondents denied liability on the ground that Archer was not working at the time stated on February 11th. They also denied that any accident happened to deceased. They said that deceased died at the Royal Infirmary, Newcastle, on February 15th, not from the effects of any accident, but from heart failure following toxaemia.

It was proved that when Archer left the works on the Saturday after the accident he held up his hand saying, "What do you think of that?" There was a soft swelling on the back of the hand. When asked by the foreman "What have you done with it." Archer replied: "I do not know. It has been going on all day." The foreman made no note of the occurrence in the accident book.

His Honour: How on that evidence can I be asked to say that there was an accident? We have the evidence of the man's own words that it had been coming on all day, and that he did not know what had happened. If there had been an accident, he would have known.

Drs. Smith and Turner gave evidence as to the rapid spread of the gangrene. Nothing could account for it but external infection.

His Honour said there was nothing in such evidence to connect the matter with the man's employment. It might have been done by his knocking his hand against the wall as he went to work. There must be an award for the respondents.

Obituary.

HERBERT TIMBRELL BULSTRODE, M.A., M.D.

The sudden and unexpected death of Dr. H. T. Bulstrode, from heart failure, which took place at his home at 52, Palace Gardens Terrace, on July 21st, has come as a great shock to his many friends and fellow workers, and has deprived the country of one of the most distinguished members of the Central Public Health Service. Dr. Bulstrode was appointed a medical inspector of the Local Government Board in 1892, and at his death had nearly completed twenty years' service in that capacity. He was just over 30 when he joined this service. He had qualified in 1886, and taken his medical degrees at Cambridge in the following year; he had held various house appointments at St. Thomas's Hospital, and had been Assistant Medical Officer for some two years at the South-Western Hospital of the Metropolitan Asylums Board. In this early period of his career he had already shown himself possessed of the qualities which afterwards gave distinction to his work. He was specially attracted to studies out of the ordinary course, and particularly to by-paths of science and speculative philosophy, while he had a notable characteristic of independently investigating, from every point of view, opinions and teachings which most men would have been ready to accept on authority. At the Local Government Board Dr. Bulstrode's aptitude for investigatory work was speedily recognized by the late Sir Richard Thorne Thorne, his first chief, and also by Sir William Power and his successor, who took care that it should be given free scope in the work of the medical department. On any subject entrusted to him Bulstrode could be relied upon to search for all the information, direct and collateral, which bore upon the question, to lay under contribution everybody who seemed in the least likely to add to his stock of information, and in the end to present all the facts that could be ascertained in an effective manner, together with a balanced judgement of the problem in hand. His name will always be associated with two official inquiries in both of which this method was strikingly exemplified.

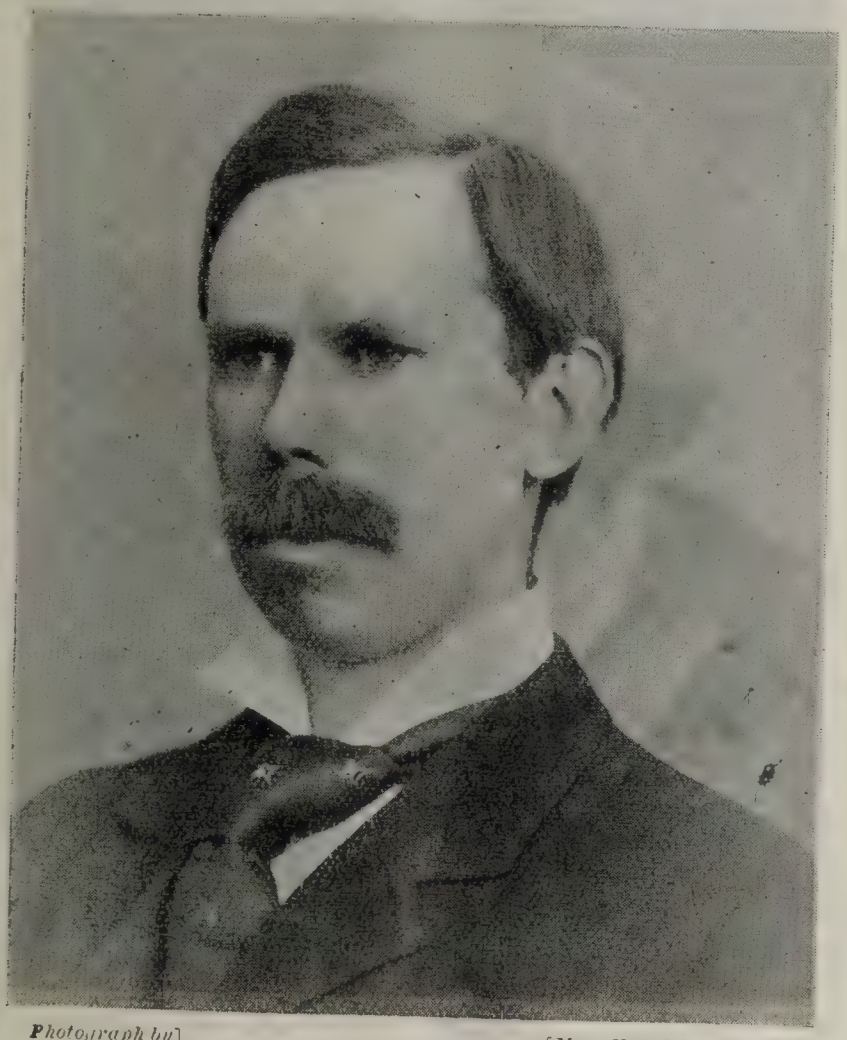

Photograph by] [*Mayall and Co., London.*

In 1893 the possibility of the infection of enteric fever and cholera being conveyed by sewage-polluted shellfish was becoming generally recognized. The important question for public health authorities, however, was to determine the degree of danger which existed and to localize it. Dr. Bulstrode's report to the Local Government Board on the cultivation and storage of oysters and certain other molluscs, in relation to the occurrence of disease in man, was issued as a parliamentary paper in 1896. It contained the results of observations at every port, and practically every oyster laying bed, in England and Wales, a complete study of the epidemiological evidence available, and a review of the administrative considerations involved. It placed the whole question in perspective, and left no doubt as to the conditions in which serious danger arises. The general disappearance of these conditions which has since taken place, with consequent rehabilitation of an important British industry, has in very large measure been the outcome of this report.

The second series of investigations to which we have referred are contained in the report "On Sanatoria for Consumption and certain other aspects of the Tuberculosis Question," the fruit of many years of work, which was issued in 1908. This report included and amplified much of the material which Dr. Bulstrode had already collected for the Milroy Lectures, which he delivered on the subject of tuberculosis in 1903. In the first part he reviewed the present-day knowledge on the subject of tuberculosis, its past and present prevalence in the country, and presented and discussed the views which have been and that are entertained as to the share borne by different possible agencies in the causation and maintenance of the disease. The second part of the report contained an invaluable collection of facts obtained in regard to phthisis sanatoriums throughout the country, and the results, immediate or remote, of the treatment of phthisical patients in those institutions. The value of this work, alike in the epidemiological and practical side, has been universally recognized at home and abroad. It is in this connexion worth noting, as an instance of the comprehensiveness of the inquiry, that it contains one of the best accounts of the German system of industrial insurance and its effects upon tuberculosis that is available to English readers.

Brief allusions may be made to other official investigations for the Local Government Board, especially those into the sanitary circumstances of Windsor, the outbreak of enteric fever following the Mayoral banquets at Winchester and Southampton in 1902, and the contamination of cockles and mussels by sewage, the report of which was issued early in the present year. In 1900 Dr. Bulstrode served as a member of the Departmental Committee on Preservatives and Colouring Matters in Food, and he was a representative of the British Government at the Tuberculosis Congresses in Paris in 1905 and in Washington in 1908. In his capacity of medical inspector he was frequently engaged in administrative inquiries affecting the public health service.

Dr. Bulstrode's energies were by no means restricted to his official duties. He made a point of knowing what was being done in every part of the field of public health work, and took an active part in many of the principal movements of recent years. He was Lecturer on Preventive Medicine at the Charing Cross Hospital Medical School, a member of the Board of Studies (Hygiene) at the University of London, an Examiner in Public Health at Leeds University, and a member of the Council of the Royal Sanitary Institute. He undertook also a considerable amount of literary work for medical journals and textbooks. The Epidemiological Society of London owed much to Dr. Bulstrode's efforts. He became its Secretary in 1891, acting jointly with Dr. Hopwood, and subsequently with Dr. Sidney Coupland and Dr. S. H. Hamer, until the society was incorporated in the Royal Society of Medicine a few years ago. He was indefatigable in securing papers, and during his tenure of the office the society increased conspicuously in its membership and general prosperity. On the occasion of the Jenner Centenary in 1896, he organized the establishment of the Jenner Medal, and in 1900 the commemoration meeting and dinner of the society. His contributions to the debates in the Epidemiological Society and Section of the Royal Society of Medicine will be greatly missed.

The interment took place on July 25th at Wherstead, in Suffolk. The first part of the funeral service was held at St. Martin's-in-the-Fields, Trafalgar Square, and was

attended by a large number of Dr. Bulstrode's official colleagues and personal friends.

JOHN BEDDOE, M.D.EDIN., F.R.S.,

CONSULTING PHYSICIAN TO THE CHILDREN'S HOSPITAL, BRISTOL.

THE news of the death of Dr. Beddoe at Bradford-on-Avon, on July 19th, came as a great shock to many of his old friends in Bristol, to whom he always appeared the embodiment of healthy old age. It is twenty years since he left Clifton to retire from active practice and give his whole attention to the work that perhaps attracted him more than medicine, and on which his fame more particularly rests. He was an accomplished physician and beloved by a large circle of patients and friends, but his heart was really given to the anthropological study of man, as his numerous works on that subject and on the races of mankind testify. Of late years his friends in Clifton saw little of him without visiting Bradford-on-Avon, but when they saw him there he was always the same. He gave them the same warm greeting and entertainment. His conversation was always full of interest, his knowledge of science was profound and enlightening, and his interest in every subject as active and keen as ever. He was born on September 21st, 1826, at Bewdley, in Staffordshire, and as a child suffered from continued ill health. Originally trained for the law, he adopted medicine and qualified as M.D. at Edinburgh in 1851, and became F.R.C.P.Lond. in 1873. Almost his first experience of medical work was in the Crimea, where he was attached to a civil hospital at Scutari. After a prolonged journey on the Continent he returned to England and settled down in Clifton, "a very imprudent move," as he says in his memories, "as the way was really very completely blocked." He was, however, elected Physician to the Bristol Royal Infirmary about 1860, an office he retained until 1871. His chief interest in life was the study of anthropology and ethnology — subjects in which he achieved a European reputation. He was a member of the Anthropological Society from its foundation, and of the Ethnological Society from 1857, and in 1889 was elected president of the Anthropological Institute. He was elected F.R.S. in 1873. In 1891 he retired from practice in Bristol, and settled at Bradford-on-Avon, but he continued diligently to prosecute researches in his favourite science, and was a frequent contributor to our columns on the subject, a review of a book by him having found a place in our columns as recently as May 6th, 1911, p. 1057. His connexion with Bristol was renewed by his appointment as Honorary Professor of Anthropology in the university at the time when it was established.

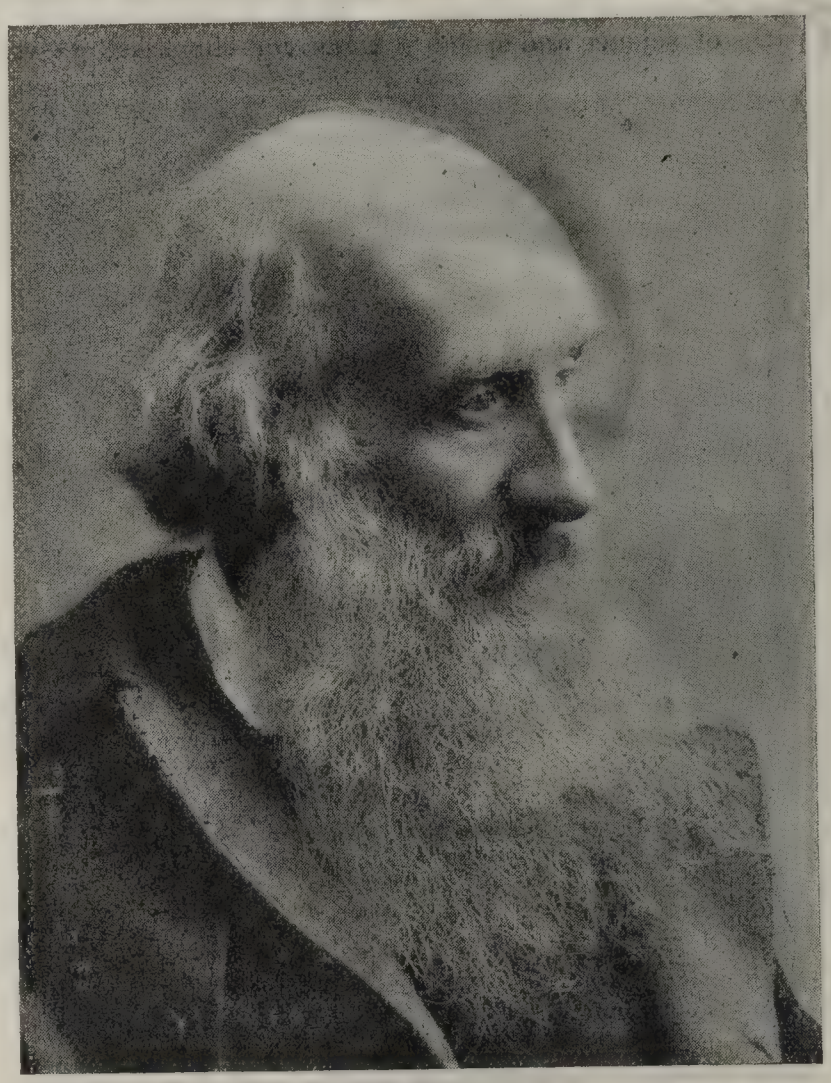

DR. JOHN BEDDOE.

Dr. Beddoe tells us in his book of reminiscences, which was reviewed in the JOURNAL of April 8th, 1911, p. 826, that even as a comparatively young man he was of a venerable appearance. In appearance, manner, and habit he certainly was, but he never was old mentally. Only a few days before his death he took part in an antiquarian meeting, showing the points of interest in the town in which he was so well versed.

As a man of scientific attainments his work was recognized both in this country and abroad. He was an Hon. LL.D. of Edinburgh; was a corresponding member of anthropological societies in Paris, Berlin, Rome Washington, Brussels, Moscow, and numerous others. His chief works were *The Stature and Bulk of Man in the British Isles*, *The Races of Britain*, *Anthropological History of Europe* (Rhind Lecture), but he published also numerous papers on his own and medical subjects.

Dr. Beddoe married, in 1858, Miss Agnes Christison and had one son who died abroad and one daughter married to Commander Tothill, R.N.

In 1907 a portrait of him, painted by Miss Warne, was purchased by private subscription and hung in the Bristol room of the Municipal Museum.

It is hard to imagine any one of such a sweet nature as Dr. Beddoe ever making an enemy. He was admired and respected by all with whom he came in contact.

WILLIAM RUTHERFORD, M.D.R.U.I., F.R.C.P.EDIN.

BALLINASLOE.

THE death of Dr. William Rutherford, which occurred with almost tragic suddenness on July 22nd, at Ballinasloe, removes a foremost personality in the province of Connaught, and a man whose strong individuality would have secured ample recognition in any sphere. He was one of the not many survivors in our ranks who began his career under the old apprenticeship system, and entered the profession in 1865 as a pupil of the late Henry R. Charles, M.D., of Cookstown, co. Tyrone, a member of the family which has produced several distinguished physiologists, and an administrator of high repute in the Indian Medical Service. Soon afterwards he entered the Old Queen's University of Ireland, and in the Queen's Colleges of Galway and Belfast secured many distinctions, including senior scholarship in therapeutics and pathology, Belfast; first prize in medicine, surgery, jurisprudence, midwifery and diseases of women and children. These are but milestones on a man's career. His work was then, as always, characterized by minute painstaking, extreme conscientiousness, and unremitting attention to detail. The teachers at the Belfast School in those days included men who have forged permanent links in the chain of progress of medical science, such as Peter Redfern, Seaton Reid, Alexander Gordon, James Cuming, and Sir William Whitla, our honoured Past President, who said some years ago, in recommending him for an appointment: "He has laboured to acquire a thorough acquaintance with his profession, leaving no stone unturned to add to his professional knowledge, and he has thus accumulated a mass of experience which is possessed by few men, and not only is his knowledge and experience thus very extensive, but he is in everything essentially practical. His sound judgement, quick perception, keen penetration, great knowledge, and, above all, his kindness of heart, enable me to say that I cannot speak too highly of him, and I know of no man better fitted to hold a public appointment requiring a physician of skill and sterling worth."

Thirty-nine years ago Dr. Rutherford began to practise in Ballinasloe, where he rapidly acquired a large practice, and was much sought after in consultation over a very wide area. He was esteemed and trusted by his professional brethren, who always found him kind, courteous, and helpful. His geniality, tact, and happy *bonhomie* increased confidence in a man who was obviously master of his subject, and approached every case with the rigid

determination to let no symptom escape notice. He realized very fully the claims of the poor on his talents, and gave unstintedly of his best to their services. He was much beloved in the neighbourhood and is deeply mourned. He held many appointments in Ballinasloe. He was Visiting Physician to the District Asylum, Surgeon to the Royal Irish Constabulary and the Post Office, Lord Chancellor's Visitor in Lunacy, examiner of recruits for the War Office, and was Medical Referee to several insurance companies.

He leaves a widow to mourn his loss, six sons, two of whom are Fellows of the Royal College of Surgeons in Ireland, and two are medical students; and a widowed daughter. His death leaves a great blank in the affections of all who knew him.

J. M.

Dr. Joseph O'Carroll (Dublin) writes: I should like to say a few words of appreciation of my dear friend Rutherford. During a friendship of many years my respect for him grew steadily. One saw the splendid head and stout heart fighting the battle of life, not as a combatant but as an apostolate. He gave of his best to rich and poor alike, to medical colleagues as to the public; not as a self-conscious benefactor, but as a father and friend. My introduction to him was due to his bringing me to Ballinasloe to see a medical man whose subsequent death afflicted him as that of a brother. What a store of skill and sympathy he had to give! A practitioner of the older training, but by no means of the old school as the phrase is commonly used. He kept himself abreast of every essential movement in medical science, so that his practice took in and absorbed every important advance of later years. I have yet to meet a mind more quick, receptive, and logical, or a disposition more straight, sympathetic, and truly human. His home brightened by a loving wife and devoted children, and maintained by his own brave work, was the ideal of what a happy home should be. *In perpetuum frater ave atque vale.*

We regret to announce that, after a painful illness of some months' duration, Dr David Murray, of Hawick, died there, in his 40th year, on July 20th. A native of Hawick, where his father was head master of Trinity School, Dr. Murray became a graduate of Edinburgh University. For some time he was in practice in Dumbartonshire and the neighbourhood of Edinburgh, but about ten years ago he returned to Hawick and entered into partnership with his father-in-law, the late Dr. Brydon. A man of strenuous activity and of great integrity and directness of character, Dr. Murray brought to the work of his profession a well-equipped mind, skilful hands, and a singularly kind and sympathetic nature. By his numerous patients in town and country he was absolutely trusted, and by the whole community he was held in the highest esteem. During his term of service as Medical Officer for the combination poor-house his unfailing devotion to his duties and his kindly concern for all that could minister to the well-being of those under his care met with warm approval, and by the burgh police, whose Surgeon he was, he was greatly respected. For some years Dr. Davidson had been associated with him as partner. Dr. Murray leaves a widow and two children, and for them and his widowed mother there is deep and widespread sympathy.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

The following degrees have been conferred:

M.B.—F. C. Davies, E. StG. S. Goodwin, F. H. Robinson, A. Sandison, F. D. Sauer, R. J. Vernon, C. E. Whitehead, C. S. E. Wright.

B.C.—R. L. Barker, A. W. Bourne, F. C. Davies, G. H. Dunn, C. Ede, E. StG. S. Goodwin, G. Hoffman, A. C. Johnson, O. de B. Marsh, A. H. Moore, P. A. Opie, J. B. Pulling, F. H. Robinson, A. Sandison, F. D. Sauer, C. Strickland, F. H. Watson, C. E. Whitehead, C. S. E. Wright.

UNIVERSITY OF LONDON.

Meeting of the Senate.

At a meeting of the Senate on July 12th the following teachers were recognized as teachers of the university in the subjects and at the institutions indicated:

London School of Medicine for Women.—Dr. F. S. Langmead (Pathology).

St. Mary's Hospital Medical School.—Mr. J. E. S. Frazer (Anatomy).

Lister Institute of Preventive Medicine.—Dr. Hugh McLean (Physiological Chemistry).

Hospital for Consumption.—Mr. A. J. Jex-Blake (Clinical Medicine).

First Examination for Medical Degrees for Internal Students.

It was resolved that the regulations for internal students in medicine be amended by the addition of the following under the heading of "Exemptions":

Students who have presented themselves for an internal intermediate examination in science or agriculture in the following four subjects taken at the same time, namely: Chemistry, physics, botany, and zoology, and have been referred in one subject, will be exempted at the first examination for medical degrees from examination in the subjects in which they have passed, provided that a student referred in botany or zoology shall not be exempted in biology.

Lecturers in Physiology.

It was resolved that the following be added to the panel of lecturers in physiology in the University of London: Professor J. J. R. Macleod, Dr. C. M. Hinds Howell, Dr. Henry Head, F.R.S., and Dr. F. F. Blackman, F.R.S.

University College Committee.

Sir William Collins, M.D., M.S., was appointed a member of University College Committee in the place of Mr. H. J. Clarke, deceased, for the unexpired portion of the period for which the latter was appointed—that is, February 29th, 1912.

M.D. Degree in State Medicine.

It was resolved that the following be added to the regulations for internal and external candidates for the M.D. degree in State Medicine.

No candidate shall be allowed to pass the M.D. examination in State Medicine who does not satisfy the examiners both in the papers and in the practical portion of the examination.

University College Chemical Laboratories.

The Senate adopted a resolution placing on record the great gratification with which it had learnt of Mr. R. C. Forster's further munificent donation of £30,000 to University College towards the funds for the erection of new chemical laboratories.

Galton Chair of Eugenics.

Professor Karl Pearson, F.R.S., has been appointed to be the first occupant of the Chair of Eugenics established in connexion with the legacy bequeathed for that purpose by the late Sir Francis Galton.

Appointment of Representative.

Dr. StClair Thomson has been appointed the representative of the university at the Third International Laryngo-Rhinological Congress to be held in Berlin in August and September.

Graham Scholarship in Pathology.

The Senate of the university proposed at their meeting on October 18th, 1911, to make the first election to the Graham scholarship in pathology, value £200 per annum for two years, founded under the will of the late Dr. Charles Graham to enable a "young man to continue his pathological researches and at the same time to secure his services to the School of Advanced Medical Studies connected with University College Hospital as a teacher under the professor of pathology." Applications must be sent to the Principal, University of London, South Kensington, S.W., not later than September 1st, 1911.

Examinations.

The following candidates have been approved at the examinations indicated:

Second M.B. (*Part II*).—E. S. Abraham, W. D. Arthur, J. E. Ashby, L. B. Baird, Irene Bastow, R. M. Beath, F. P. Bennett, †‡G. A. Bird, Alice D. Brooks, F. C. S. Broome, Marion M. B. Burt, W. Burt, N. St. J. G. D. Buxton, A. S. Cohen, F. H. L. Cunningham, J. H. Dancy, J. de Silva, *A. R. C. Doorly, P. O. Ellison, G. A. Gassmann, H. L. H. Greer, C. R. Harrison, *‡H. J. Hoyte, *†A. L. Jones, E. P. Langley, A. S. Liebson, O. C. Link, G. T. Loughborough, N. P. L. Lumb, R. G. Lyster, A. G. Maitland-Jones, R. Mallet, *J. E. Pearce, C. E. Petley, R. E. Roberts, W. E. R. Saunders, R. H. Simpson, H. Smith, ‡F. G. A. Smyth, H. J. D. Smythe, ‡W. E. Tanner, C. H. Thomas, Naomi Tribe, J. S. Wallace, ‡J. G. Wardrop, T. B. Welch, Eva M. White, H. P. Whitworth, W. B. Wilson, A. G. Winter, H. G. Winter, W. P. Wippell, M. S. Woolf, *†J. M. Wyatt.

* Distinguished in Anatomy. † Distinguished in Physiology. ‡ Distinguished in Pharmacology.

M.D., Branch I (*Medicine*).—P. C. Bharucha, J. W. Bride, M. D. Dorabji Gilder, A. E. Gow, F. W. Higgs, E. W. Jones, D. Judah, C. Lovell, G. Viner, A. L. Yates.

M.D., Branch IV (*Midwifery and Diseases of Women*).—Elsie M. Chubb, J. B. Dawson, W. P. H. Munden, J. H. Nixon, A. H. Parkinson, R. E. Thomas.

M.D., Branch V (*State Medicine*).—A. Ball, W. Corfield, Matilda Hunt, J. J. Paterson, A. C. F. Turner, T. W. Wade, C. F. Walker.

M.D., Branch VI (*Tropical Medicine*).—D. E. Anderson, F. V. O. Beit, F. Gröne, J. H. Murray, C. C. C. Shaw.

VICTORIA UNIVERSITY, MANCHESTER.

AT a degree ceremony in connexion with the Manchester University, held last week, Sir Alfred Hopkinson, the Vice-Chancellor, presided, and thirty-three men and women were admitted to various degrees in medicine and surgery.

The Vice-Chancellor said it had always been the policy of the university that during the first of the five years' course for degrees in medicine there should be a course of training in general science within the university itself, or in some institution of similar character. It had recently been arranged that the study of anatomy might begin in the latter part of the first year. This had become necessary in order that the time devoted to practical subjects in the latter part of the students' career might be lengthened. They had also attempted to make the scientific course more directly suited to medical students. Thus the course in chemistry had been modified so as to bear more directly on future medical studies, and a course of bio-chemistry had been established, while arrangements had been made for work in organic chemistry in the first two terms. The matter might be summed up in the words that the subjects of the first professional examination should be taught to medical students in such manner that they would form a real introduction to the subjects of the curriculum in anatomy, physiology, and pathology. The Vice-Chancellor strongly deprecated any lessening of the amount of general education previous to the medical student commencing his five years of medical study. With regard to clinical study, he held that Manchester was in no way behind London in the opportunities it afforded. The new St. Mary's Hospital had now been opened, and the city possessed a group of hospitals giving almost unlimited opportunities for study in the subjects of medicine and surgery, and in special subjects. At the same time, they had the advantage of the special laboratories which were being carried on under the directorship of Professor Delépine for the study of matters relating to public health, and it was gratifying to find that in this year there were thirty-five qualified men preparing for the post-graduate diplomas in public health and veterinary State medicine. Endowments for research purposes were especially needed, and he made an appeal for a sum of £20,000 for this purpose, which would enable a good start to be made.

Examinations.

The following candidates have been approved at the examination indicated:

FIRST M.B. (*Part III, Organic Chemistry and Bio-Chemistry*).—H. W. Bennett, C. P. Brentnall, J. D. Byrd, H. Chadwick, R. Chevassut, J. S. Chorlton, E. Granger, J. B. Leigh, H. M. von Mengershausen, J. F. C. O'Meara, J. Rigby, H. H. Stones, C. G. Todd, F. Vause, B. Walley, R. Willan.

Appointment.

Mr. Judson Sykes Bury, M.D.Lond., B.Sc.Manch. and Lond., F.R.C.P.Lond., has been appointed to the Chair of Clinical Medicine. He is one of the physicians on the staff of the Royal Infirmary, and was formerly Bradshaw Lecturer to the Royal College of Physicians.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary quarterly comitia was held at the College on Thursday, July 27th, the President, Sir T. Barlow, in the chair.

Membership.

The following gentlemen were admitted Members of the College:

Hildred Bertram Carlyll, M.D.Camb., L.R.C.P., Ivor Jones Davies, M.B.Lond., Filippo Melandri. M.D.Bologna, John Parkinson, M.D.Lond., L.R.C.P., Edward Palmer Poulton, M.B.Oxf., Fredk. George Thomson, M.D.Lond., L.R.C.P., Arthur Gurney Yates, M.D.Edin.

Licences.

The Licence of the College was granted to ninety-seven gentlemen.

Diplomas in Public Health.

It was also reported that, in conjunction with the Royal College of Surgeons, Diplomas in Public Health had been granted to twenty-two candidates.

College Officers.

The officers for the ensuing year were elected. The Censors chosen were: Dr. J. Mitchell Bruce, Dr. D. B. Lees, Dr. Samuel H. West, and Dr. Percy Kidd.

Communications.

The following communications were received:

1. From the Clerk of the Privy Council, enclosing copies of the programme for the Third International Congress for the Study and Prevention of Infantile Mortality, to be held at Berlin, September 11th to 15th next.

2. From the same, regarding the International Laryngo-Rhinological Congress to be held at Berlin, August 30th to September 2nd next. Dr. StClair Thomson was appointed a Delegate to represent the College.

3. From the Brighton and Sussex Medico-Chirurgical Society, concerning the extent of practice by unqualified persons, and the dangers arising therefrom.

4. From the Imperial Merchant Service Guild, concerning tests for colour vision.

5. From the Registrar of the General Medical Council, enclosing a report from the Public Health Committee of the Council, concerning changes in the regulation for the diplomas in public health. The matter was referred to the Committee of Management for consideration and report.

6. From the same, asking that a report on all cases where candidates for examination have shown evident deficiency in general education should be furnished, and enclosing a report from the Admiralty on this subject.

7. From the Secretary of the Royal College of Surgeons, reporting proceedings of the Council of that College upon June 8th and July 13th last.

Senate of the University of London.

Sir William Allchin having resigned, Dr. Sharkey was, on the nomination of the Council, elected a representative of the College on the Senate of the University of London.

Imperial Cancer Research Fund.

On the nomination of the Executive Committee of the Imperial Cancer Research Fund, Sir William Church was re-elected a member of that committee. Dr. Arthur Newsholme, who retired by rotation, was re-elected a member of the same committee.

Baly Medal.

On the recommendation of the Council, the Baly Medal for distinction in the science of physiology was awarded to William Dobinson Halliburton, M.D., F.R.C.P., F.R.S.

Bisset Hawkins Memorial Medal.

On the nomination of the President, the Bisset Hawkins Memorial Medal was awarded to Dr. Clement Dukes for his work on the *Hygiene of Public Schools*.

Reports.

The following reports were received:

1. From the committee appointed to consider a paper, entitled, "Suggestions to Medical Practitioners respecting 'Certificates of Causes of Death,'" submitted by the Registrar-General. After the rectification of an omission, on the motion of Dr. Seaton, the report was adopted.

2. From the committee, consisting of Sir William Church, Bart., M.D., Dr. Norman Moore, Sir William Allchin, M.D., Dr. Frederick Taylor, Dr. Coupland, Dr. Percy Smith, Dr. F. J. Smith, and Dr. Mercier, appointed to consider a letter from the Medico-Psychological Association of Great Britain and Ireland, in which was suggested the institution of a diploma in psychological medicine. The report was adopted as follows:

REPORT.

That whilst it is inexpedient to establish a special diploma in one branch of medicine, it is desirable that medical practitioners practising in insanity should be encouraged to obtain a high standard of knowledge and efficiency in their profession.

The committee therefore recommends that Members of the College who desire to do so should be permitted to present themselves for a further examination in psychological medicine, and, if they satisfy the examiners, have their success recorded on the letters testimonial of their Membership.

To this end the committee recommends the enactment of the following regulations:

Proposed Regulations.

1. Any Member of the College may ask permission to present himself for further examination in psychological medicine.

2. The further examination in psychological medicine shall be held on such dates as the Censors' Board may from time to time determine.

3. Candidates shall be examined in:

(1) Psychology, and the study of conduct in relation to mental disorder.

(2) Psychological medicine and the jurisprudence of insanity.

4. Candidates shall be examined by written questions on each of the subjects mentioned above; the practical knowledge of the candidates shall be tested in an institution for the insane, and the candidates shall be examined viva voce in all the subjects of the examination.

5. On the letters testimonial of every member who satisfies the examiners in psychological medicine a statement to that effect shall be engrossed, and signed by the examiners, accompanied by a certificate by the Registrar.

Form to be Engrossed on the Letters Testimonial.

A.B. die mensis A.D.
in Medicinâ Psychologicâ examinatus satisfecit nobis Examinatoribus.
Ita testamur { A.B. / C.D. } Examinatores.

6. Every Member who satisfies the Examiner will be permitted to add to any mention or description of his Membership words purporting that he obtained distinction in psychological medicine.

3. From the Censors' Board, on the question of printing and circulating the minutes of College meetings instead of reading them. The report recommending this course was adopted.

4. From the Committee of Management, dated June 27th, recommending:

That the Darlington Technical College be added to the list of institutions recognized by the Examining Board in England for instruction in chemistry and physics.

That the Portsmouth Fever Hospital, Milton, be added to the list of fever hospitals recognized by the board for instruction in infectious diseases.

That Washington University, Washington, U.S.A., be placed on the list of universities whose graduates in medicine are admissible to the final examination of the board under the conditions of paragraph 4, Section III of the Regulations.

That until further notice an additional examination in Part I for the diploma in public health be held in the month of April in each year.

5. From the same, dated July 11th, recommending:

That Newnham College be added to the list of institutions recognized by the Examining Board in England for instruction in chemistry, biology, and physiology.

That Dr. Norman Moore be appointed the Visitor to the examinations of the Egyptian Medical School for the examinations to be held in December next.

All these recommendations were adopted.

6. From the representative of the College on the General Medical Council on the proceedings of the Council during the recent session.

Reports.

The annual report of the Imperial Cancer Research Fund, the quarterly report of the College Finance Committee, the annual report of the Library Committee, the annual report of the Curators of the Museum, and the quarterly report of the Examiners for the Licence on the results of the examinations in April last were received.

Library.

Books and other publications presented to the library during the past quarter were received, and thanks returned to the donors.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary meeting of Council was held on July 27th, Sir Henry T. Butlin, Bart., President, in the chair.

Issue of Diplomas.

Diplomas of membership were issued to 97 candidates found qualified at the recent examinations.

Diplomas in Public Health were issued to 20 candidates found qualified.

Institution Recognized.

Newnham College was added to the list of institutions recognized by the Examining Board in England for instruction in chemistry, biology, and physiology.

Dr. Norman Moore was appointed Visitor to the Examinations of the Egyptian Medical School for the examinations to be held in December next.

Sussex County Hospital.

The thanks of the Council were given to the medical and surgical staff of the Sussex County Hospital, Brighton, for having placed the whole of their museum at the disposal of the College. From the collection a considerable number of valuable specimens have been selected for the College Museum, the specimens including a remarkably perfect skeleton from a case of advanced mollities ossium.

CONJOINT BOARD IN ENGLAND.

At a meeting of the Comitia of the Royal College of Physicians of London and of the Council of the Royal College of Surgeons of England, on July 27th, diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon the following ninety-seven candidates (including two ladies—Miss Collie and Miss Ricketts) who have passed the Final Examination in Medicine, Surgery, and Midwifery:

M. Afifi, E. W. Atkinson, J. H. Baldwin, W. R. Barlow, F. Basford, M. B. Bayly, E. Billing, H. G. B. Blackman, H. S. Blackmore, L. F. Brandenbourg, T. C. Brentnall, E. F. W. Buckell, M. A. C. Buckell, J. H. Campain, R. G. Canti, F. G. Chandler, A. R. Chavasse, G. C. Chubb, Maysie A. M. Collie, *J. G. Crawford, J. H. Cumming, H. H. Davis, J. C. De, A. A. Dear, G. Dorner, W. H. Dupré, G. G. El-dabâ, D. C. Evans, R. N. Farrer, A. G. T. Fisher, G. T. Foster-Smith, P. L. Gibson, V. Glendining, H. K. Griffith, H. L. S. Griffiths, J. Griffiths, H. J. Hacker, E. C. Hardwicke, A. R. Hargreaves, L. A. Harwood, J. R. Hayman, J. E. Hepper, H. H. Hiley, S. F. Huth, C. E. S. Jackson, T. K. Jayaramulu, J. C. Jefferson, S. G. Johnson, R. L. Jones, H. P. Joseph, A. Kennedy, A. B. Kramer, E. C. Linton, F. G. Lloyd, R. H. McGillycuddy, R. K. MacGregor, Q. Madge, G. Marshall, V. C. Martyn, M. Mayers, J. Menzies, C. T. Neve, J. H. Owens, C. D. Pande, C. J. H. Pearson, G. R. Peterson, V. St. L. Pinnock, A. T. Pitts, J. Potter, *W. W. Pratt, C. W. Preston-Hillary, R. A. Ramsay, Rachel Ricketts, C. H. L. Rixon, H. M. Robertson, F. G. Rose, S. H. Roquette, L. W. K. Scargill, E. G. Schlesinger, E. P. Scott, A. A. Smalley, R. G. Sparkes, J. R. C. Stephens, W. Steuart, A. M. Stuart, C. H. Symons, F. J. Thorne, J. St. A. Titmas, F. R. Todd, J. R. A. D. Todhunter, B. T. Verver, M. C. Wall, R. Ward, J. R. D. Webb, A. White, O. E. Williams, M. M. Woods.

* M.R.C.S. diploma granted on July 13th.

The following candidates have received the Diploma in Public Health:

David Main Baillie, M.B., Ch.B.Aberd., Samuel Lindsay Brohier, L.R.C.P., M.R.C.S.; John Phillip Henry Davies, B.C.Cantab., L.R.C.P., M.R.C.S., Reginald Inglis Douglas, M.B., B.S.Durh., L.R.C.P., M.R.C.S., Lieutenant-Colonel William Henry Wilson Elliot, I.M.S., D.S.O., M.B.Lond., M.R.C.S., L.S.A., William Charles Dillon Hills, L.R.C.P., M.R.C.S., James Bonnell Howell, L.R.C.P., M.R.C.S., John Johnstone Jervis, M.B., Ch.B.Edin., Robert Henry Hatten Jolly, M.B., B.S.Lond., L.R.C.P., M.R.C.S., Thomas McCririck, M.B., Ch.B,Glasg., Captain John McKenzie, R.A.M.C., M.B., B.Ch.Aberd., Bernard Moiser, M.B.Lond., L.R.C.P., M.R.C.S., Henry Pratt Newsholme, M.B., B.Ch.Oxon., M.R.C.P.Lond., Jitendra Nath Rai, L.R.C.P. and S.Edin., L.F.P. and S.Glasg., Bikrama Jit Sahni, L.R.C.P. and S.Edin., L.F.P. and S.Glasg., Percy Herbert Stirk, L.R.C.P., M.R.C.S., William Reginald Margetts Turtle, M.B., B.S.Lond., L.R.C.P., M.R.C.S., Ernest Alfred Freear Wilkes, L.R.C.P., M.R.C.S., Frederic Charles Wood, L.M.S.S.A., William Allan Young, M.B., Ch.B.Edin.

CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved at the examinations indicated:

First College.—W. C. Todd, G. L. Stanley, G. B. Charnock, W. J. F. Craig, A. Evans, A. G. Cowper, N. Grant, J. Bannermann, H. O. Martin, and A. Craig.

Second College.—N. R. Whitaker (with distinction), W. C. Fraser, R. B. Lilly, T. B. Truter, G. B. Hanna, A. Sinha, Florence W. Heyworth, L. O. Weinman, J. M. Milne, J. K. Venables, B. S. Thakar, J. M. McLachlan, K. Fraser, W. M. Sebeta, C. A. Slaughter, J. M. Beyers, H. D. Atherstone, F. L. Kennefick, C. M. Bradley, and J. K. Garner.

Third College.—Lilian S. Wilkes, S. Wright, G. W. Fleming, O. R. Jones, W. W. K. Duncan, S. E. Jones, A. B. Arora, J. W. Craig, E. I. Parry, N. N. Chatterjee, W. Martin, F. G. Gibbs, J. Adami, C. C. Forsyth, F. D. Johnson, and J. B. Donaldson.

Final Examination.—Ida M. Bernard, L. C. E. Beroard, J. A. Hutchinson, H. B. Henriquez, V. M. Patel. H. McIntyre, C. B. Robinson, E. J. Fisher, E. C. A. Smith, A. S. Mackenzie, P. G. Phillips, S. D. Ratnagar, N. Sydney-Williams, M. R. Kochhar, J. H. Appoo, A. Young, R. M. M. Wilson, V. G. L. van Someren, S. Jesudason, M. C. Anderson, T. J. Enright, C. E. H. Smith, D. J. Hickey, P. A. Dastoor, C. J. Evans.

CONJOINT BOARD IN IRELAND.

The following candidates have been approved at the examinations indicated:

First College.—A. P. Adams, S. Barron, J. J. Bourke, C. H. Brennan, M. Burke, J. Coman, E. T. Chanler. J. J. Delany, W. E. R. Dimond, J. C. Fergusson, J. W. E. Graham, E. N. H. Gray, P. J. Greene, J. J. Hayes, F. R. H. Mollan, M. Moran, M. F. Murphy, J. O'Keefe, F. J. Power, V. A. Power, L. M. Rowlette, T. J. Ryan, M. A. Sullivan, T. C. Studley, J. A. Watson.

Second College.—*W. H. W. C. Carden, *T. L. Enright, *A. Merrin, *G. M. C. Powell; R. J. Brookes, W. P. Cooney, G. S. Douglas, W. A. N. Fox, J. J. Keyms, J. Lanigan, A. McCawley, C. J. O'Carroll, L. S. O'Grady, E. B. Palmer, A. J. Rhatigan, N. A. K. Sparrow.

Third College.—C. M. Campbell, T. F. Collins, P. D. Daly, Miss S. F. Dickson, W. St. L. Dowse, J. Elliott, R. Henry, V. J. Lawless, R. J. May, J. T. McDonnell, T. Mulcahy, B. J. Mullin, G. E. Pepper, J. C. Ryan, G. H. Sheehan, R. Slaney, G. N. Smyth, P. F. Ward.

Final.—*J. T. Duncan, J. Alston, W. R. C. Beeston, C. J. Bourke, A. H. Croly, E. P. Dewar, R. M. Erskine, H. C. Gilmore, M. Golding, J. Healy, N. T. Kelly, H. R. L'Estrange, W. G. McGuire, J. M. K. O'Byrne, M. A. O'Callaghan, T. F. O'Donnell, T. P. O'Reilly, K. L. O'Sullivan, L. W. Roberts, A. A. Russo, H. C. Smyth, W. A. Swan, V. Wallace, F. Webster.

D.P.H.—M. R. Dalal, *Captain J. M. Holmes, I.M.S., C. E. Humphreys, A. H. Lowe, *Miss E. M. Magill, E. H. M. Milligan.

* With Honours.

Public Health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of London.—Based on a population of 17,132, the birth-rate was at the rate of 15.8 per 1,000 persons and the death-rate from all causes 12.1 per 1,000. Dr. Collingridge refers as in former reports to the unsatisfactory nature of the milk supply. During 1910 samples to the number of 42—taken from milk churns at railway stations—were submitted to Dr. Klein for bacteriological examination. In 25 per cent. of the samples dirt was found in an appreciable quantity, and three samples were found to be tuberculous. The presence of dirt, in Dr. Collingridge's opinion, is largely due to the type of churn which is used and to the fact that the churns are not cleansed before being returned to the farmer. He considers that a large proportion of milk goes into consumption in London that is capable of producing disease in the consumer—in some cases even tuberculosis—and that a still larger quantity is polluted with dirt; further, that in spite of perpetual activity on the part of sanitarians, the sanitary conditions at the seat of production leaves much to be desired. The chemical examination of samples of milk taken in transit indicates that in the standard of milk there is a serious falling off, such decline in quality being due to sophistication at the farm. The water supply of the city is mainly drawn from the rivers Thames and Lee, and the efficiency of the methods of filtration employed is such as to render the supply above suspicion. There are, however, within the city boundaries 36 wells in use, of which number 22 were sunk during the years 1908-1909. This activity in well-sinking was due to the heavy increase in the charges made by the Metropolitan Water Board for the water service. For large blocks of offices it was found more economical to sink a well than to continue to obtain water from the mains of the Board.

ISOLATION OF INFECTIOUS CASES.

Altrincham.—If a person suffering from a dangerous infectious disorder is without proper lodging or accommodation, is in a room occupied by more than one family, is on a ship or vessel, or is an occupant of a common lodging house, a Justice may make an Order for the removal of the infected person to an isolation hospital. The Order is addressed to an officer of the local sanitary authority, and any person wilfully obstructing the officer in carrying out the Order may be fined £10. The sick person cannot be forcibly removed to an isolation hospital.

Sir Frederic Eve and Dr. Galloway have become members of the Medical Board of the Royal Sea Bathing Hospital, Margate.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DETACHED RETINA is anxious to know if there is any society in existence which grants pecuniary assistance to blind persons—for example, a man who through loss of sight is without resource and unable to provide for himself and family.

GENERAL PRACTITIONER writes: I have read with interest Dr. Maclachlan's article on the importance of drainage in septic conditions of the uterus; but I should like to ask the author how the curved glass tube is kept in position in the uterus for three weeks. It is surprising to me that it does not slip down.

EZRI writes: Is electricity of use in promoting the supply of milk in a young mother, which early in lactation threatens to cease? If so, what form of electricity should be employed, and in what manner? What other means, including the administration of drugs, might be employed, apart from the ordinary free consumption of liquids?

FEE FOR ANAESTHETIST.

AN old practitioner residing about seven miles from the centre of London asks what fees would be considered proper for an anaesthetist under the following circumstances: Operation, prostatectomy, performed in two parts. It was performed in the suburb, and the anaesthetist had to travel from London on two occasions. The surgeon's fee was 100 guineas.

*** The fee should be 10 guineas. As the surgeon has not charged mileage the anaesthetist would probably make a similar concession, although he is entitled to charge this in addition to the 10 guineas.

DYERS' GREENWOOD OR MAIDEN BROOM ("GENISTA TINCTORIA").

DR. JOHN STEED (Staunton-on-Wye, Hereford) writes: I should be glad if you could tell me whether the enclosed plant has any known poisonous properties. It is called here "Maiden Broom," and on the advice of a local herbalist was taken as a decoction for "pain in the back" by a patient of mine. This was followed by giddiness and tingling in the hands and feet and a spastic condition of the legs, especially the right. The patient attributes the symptoms to the decoction. After ten days the symptoms have not passed off entirely, but are much better.

*** The plant sent is *Genista tinctoria*, commonly known as "Dyers' Greenwood"; it has been used in America and elsewhere to a small extent as a purgative, emetic, and diuretic. Its constituents do not appear to have been fully investigated, but scoparin (the diuretic principle of the common broom, *Cytisus scoparius*) has been obtained from it. Poisonous principles have been obtained from closely allied genera, especially from the seeds, and it is worth noting that the specimen sent is bearing numerous pods containing seeds.

VACCINATION BY PRIVATE PRACTITIONER.

K. asks what is the mode of procedure in the case of a private practitioner vaccinating a child? What forms, if any, are necessary? The parents in this case have not received any notice, the child being under 3 months. What is the usual fee charged the parents, and what fees, if any, does the Local Government Board or other responsible Board allow to private practitioners for the operation?

*** (1) It is not usually correct to say that parents have not received "any notice." When the child is registered the registrar supplies Form A, with full instructions to the parent. (If, as is not likely to be the case, the registrar has failed to supply Form A, application should be to the registrar.) (2) The usual fee charged by private practitioners for vaccination varies from 2s. 6d. to 5s., or even 10s., according to the scale usually charged any particular family. (3) The Local Government Board does not allow any fee to private practitioners for vaccination, nor does any other "responsible Board." (4) The only form required by the private practitioner is Form A (mentioned above), on which he certifies successful vaccination. This form is stamped, and should be sent to the vaccination officer by the parent or the doctor.

ANSWERS.

RUSTY-CUSS.—Pregnancy is more likely to occur during the week following menstruation than at any other time, but there is no period in the monthly cycle at which pregnancy may not occur.

NERVOUS FLATULENCE.

DR. J. MCOSCAR (Buxton) writes: My father, an M.D. in the seventies had a patient suffering from nervous flatulence (alcoholic) and used to give acid carbolic pill mj, one to be taken when needed. This instantly relieved the patient. Since then I have always given it with good results.

LETTERS, NOTES, ETC.

DR. A. G. CARMENT (St. Andrews) asks if any others have come across the following form of parasiticism: While recently in Sarawak I found a larval ixodine parasitic on a species of Mansonia, mosquito, and on looking up recent works on tropical medicine found no mention of ticks parasitic, except on mammals and birds. After making a thorough examination of dogs and hens in the vicinity, and of a captured monkey, it was apparent that this larval tick belonged to a different order; in fact, those found on both dogs and hens belonged to the Rhipicephalinae, the larvae of which had no eyes, while this larval tick, of which I found ten specimens, and always on the same species of Mansonia, had eyes. I did not find an adult corresponding to this ixodine. A friend in Sarawak told me he often got ticks on him when out in the jungle shooting, and recently sent me one specimen, but it turned out to be the same as those mentioned above, *Haemaphysalis leachii*.

MAJOR R. J. BLACKHAM, R.A.M.C., informs us that on returning recently from India he found that extracts from a paper by him, published in the *Journal* of the Royal Sanitary Institute, had been embodied by the proprietors of St. Ivel cheese in an advertisement. Major Blackham addressed a letter to the proprietors protesting against this use of his paper, and the proprietors inform us that they have withdrawn the advertisement in question, though they point out that the advertisement did not suggest that Major Blackham had specially recommended St. Ivel cheese. We are glad that they have taken this course, for members of the medical profession properly object to their scientific observations being embodied in advertisements setting out the merits of a particular commodity.

A WARNING.

MISS FRANCES EDE (Upper Berkeley Street, Portman Square, W.) writes to warn the profession in London against a well-dressed man of about 30, who took some silver articles from her waiting-room a few days ago. She adds: He spoke with a foreign accent and presents a card with a foreign name (varied). He wore "fairy" pince-nez and carried a book and a parcel, and was clean-shaven, but called elsewhere without glasses and carrying nothing. He showed knowledge of me not given by my doorplate, and named a friend, who has no knowledge of him. Two people here could identify him. My telephone No. is 1773, Mayfair.

LEATHER MAKERS AND ANTHRAX.

DR. LLEWELYN WILLIAMS (Wrexham) writes to point out that the inventor of the formic-mercury process for the disinfection of hides, referred to in a paragraph in the JOURNAL of July 15th, p. 134, is Mr. Alfred Seymour-Jones, of Wrexham, who is an authority on questions connected with the manufacture of leather. We believe that the fact has already been mentioned in the JOURNAL, but are glad to have this further opportunity of calling attention to Mr. Seymour-Jones's investigations.

A CORRECTION.

IN line 4 of Dr. H. J. Thorp's reply to "Countryside" on irritation of the skin (BRITISH MEDICAL JOURNAL, July 22nd, p. 196), read acid carbolic 80 minims, and in the last line "spiced" for "special," the amended clause to read, "and no spiced food or alcohol."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF STATE MEDICINE AND INDUSTRIAL DISEASES.

Professor Alfred Bostock Hill, M.D., President.

DISCUSSION ON THE NEED FOR UNIFICATION IN THE PUBLIC MEDICAL SERVICES.

OPENING PAPERS.

I.—Robert Arthur Lyster, M.D., B.Sc., D.P.H.,
Medical Officer, Hampshire County Council.

Overlapping of Authorities and Agencies.

In this paper I propose to attempt to show the urgent need for unification of the various medical services provided for the public, and then to suggest what I consider to be the most suitable method of carrying it out. The first is the more important part, because some scheme is bound to be carried out directly the public become convinced of the need of it.

At the present time medical services are being provided for the public in the following ways:

1. By Public Health Authorities.
2. By Poor Law Authorities.
3. By County Councils.
4. By Voluntary Agencies.

These services, although they overlap to an astonishing degree in many ways, yet leave many gaps. The overlapping causes a gross waste of public money, while the uncovered gaps represent a persistent and serious menace to public health.

The table on p. 322 shows to some extent the peculiar complexity of the existing arrangements. It is not intended to represent in full all the various spheres of activity of the public bodies dealing with the public health, but it illustrates in a striking way the manner in which similar responsibilities are distributed between them.

In reality other public medical services distinct from the above are provided, such as factory surgeons, police surgeons, medical officers to Post Office, medical referees, etc. These might be left out of consideration at first, as they deal with small sections of the public, but they will inevitably need co-ordination later.

The central control of the public medical services is in an almost equally chaotic condition, the Local Government Board, the Home Office, the Board of Agriculture, and the Board of Education all taking a hand in the supervision and control of purely public health matters, but each apparently acting quite independently of the others. The Local Government Board appears to be able, in fact, to maintain the supervision and control of two great services (Poor Law and Public Health) in distinct watertight compartments without any relationship with each other, and without any aims in common.

The various advantages and disadvantages of the services provided respectively by the Poor Law authorities and the public health authorities have been discussed on many occasions, and I do not propose here to refer at all fully to these matters, but to deal with the resulting confusion, and the obvious need for unification. Owing partly to the fact that the protection of the public becomes in practice the relief of the individual, partly because the old distinction between preventable and non-preventable diseases has practically disappeared, and also because prevention and treatment are inseparable, the public health authority has trespassed more and more in the name of prevention upon the ground formerly held by the Poor Law authorities, and is every year increasing and improving its machinery for searching out and treating disease irrespective of destitution. The mere fact that poverty causes disease very largely from actual privation shows how impossible it is any longer to attempt to distinguish between Poor Law and public health work. Experience in public health work proves conclusively that the prime essential of a healthy existence is an adequate supply of food, and that surroundings play a secondary part. This is particularly the case with children. The continual state of partial starvation in which thousands of men, women, and children exist is responsible for far more destitution and permanent invalidity than bad housing or insanitary surroundings.

So far as public health work is concerned there is not nearly enough searching out of disease, and consequently mild attacks of communicable complaints are constantly overlooked. Also it is useless to attempt to educate the public to obtain medical assistance in the early and curable stages of disease, because the Poor Law only provides such assistance if the people concerned are destitute. Little or no provision is made for the early and adequate treatment of the great mass of people who are not destitute and are yet too poor to obtain medical treatment. The Government scheme for sickness insurance will, it is hoped, affect this problem to some extent. The position would be far more hopeful, however, if it could be arranged that the organization of the scheme should be carried out as part and parcel of the unified service. Experience in the past proves conclusively that independent authorities working on the same or similar lines lead to wastefulness and inefficiency. A valuable possibility of unification is outlined in the Insurance Bill by the provision that Health Committees (insurance) may, by arrangement, undertake the medical treatment of members of friendly societies, as well as the treatment of the rejected of such societies; and the position has been still further improved by the amendment that definitely hands all the medical work to the local Health Committees. If the suggested local Health Committees could be the Health Committees of the county councils there would be an obvious possibility of a valuable unification that could be made the basis of a comprehensive scheme later on.

The necessity for unification also becomes apparent when the unsatisfactory competition that takes place between public health authorities, the Poor Law, and the voluntary agencies in the provision of institutional as well as out-patient treatment is considered. The treatment provided, although unsatisfactory and often inadequate, is as a rule indiscriminate, and liable to great abuse. It is not at all uncommon to hear of one and the same patient receiving treatment at the same time from the district medical officer, the club doctor, the out-patient department of the local voluntary hospital, and the local free dispensary.

Another extremely unsatisfactory result of the duplication of authorities is the over-inspection of the public—a development which is causing growing resentment against all public control of private life. In fact, it is highly probable that the greatest difficulties in the future will be caused by the opposition of precisely those people whom it is desired to benefit. Under the existing arrangements, it is easy to imagine an ordinary family being subjected successively to visits by the sanitary inspector, the housing inspector, the relieving officer, the health visitor, the school nurse, and the attendance officer; while at the same time the district medical officer may be in attendance, and could, if thought desirable, supply practically all the information required or given by the other visitors. If there happened to be a case of infectious illness in the house, the medical officer of health may also at the same time be paying a visit.

To the services provided by these unregulated authorities, controlled by several independent Government departments, it is proposed that there should be formed as part of the National Insurance scheme a new health authority in the form of local health committees of complex constitution, and with duties that appear to overlap very considerably those of existing authorities, under the control of the Treasury. In all urban and rural districts there are already two health committees—the health committee of the district council, which is mainly concerned with public

Subject.	District Council.	Poor Law Authority.	County Council.	Voluntary Agencies.
GENERAL SANITATION	Housing improvement Sanitary work		Supervision of housing work General supervision	Assist by investigation and report occasionally.
SCHOOLS	School sanitation Infectious diseases in schools Also in autonomous areas Medical inspection School clinics School nurses Feeding of school children Blind, deaf, dumb, and defective children	"Treat" sick pauper children and educate some	School buildings Infectious diseases in schools Medical inspection School clinics School nurses Feeding of school children Blind, deaf, dumb, and defective children	Managers. After-care committees.
WORK IN CONNEXION WITH INFANTILE MORTALITY	Health visitors Notification of births Food for mother and child Infant consultations Payment of medical help for midwives	Food for mother and child Payment of medical help for midwives Lying-in wards Work of District Medical Officer	Health visitors Notification of births Supervision of midwives Training of midwives	Schools for mothers and similar institutions. Training and provision of midwives and nurses. No co-ordination with supervising authorities.
INFECTIOUS DISEASES	Consultant work by M.O.H. Notification Disinfection Isolation hospitals Bacteriological work Antitoxin	Vaccination	Consultant work by C.M.O. Hospitals for combined areas Bacteriological work	
TUBERCULOSIS	Tuberculosis dispensary Tuberculosis sanatorium	Tuberculosis (infirmary).	Educational work Sanatorium	Educational exhibitions and educational crusades.
OTHER DETAILS	Inspection of foods Inspection of cows and cowsheds River pollution prevention Municipal hospitals Cleansing apparatus (scabies vermin) Instruction in hygiene Work supervised by M.O.H.	Infirmaries Dispensaries Cleansing apparatus Work of district medical officers Medical officers to workhouses and infirmaries Under no real supervision	Work under Food and Drugs Act River pollution prevention Diseases of animals Police surgeon Asylums Instruction in hygiene Work under supervision of C.M.O.	Voluntary hospitals. Dispensaries, sick clubs. Various "institutes," "Leagues," "associations," and "societies," some for discussion only and some for practical work. Work unrelated and without supervision.

health administration, and the health committee of the county council, which is mainly supervisory, but whose powers could easily, and with advantage, be added to.

It is a matter of great disappointment to public health workers that advantage has not so far been taken of the exceptional opportunity presented by the framing of the National Insurance Bill, towards the unification of the medical services provided for the public, and one cannot but hope that the bill will be amended in this direction. County councils have always carried out their legal obligations so uniformly well that there were reasonable grounds for hoping that they would be given the opportunity of reforming and co-ordinating public health work. At all events, very strong objection may be anticipated to the creation of an additional authority likely to add to the existing confusion, and with public health powers similar to those already possessed by county councils. The public health powers and duties of county councils are vague and unsatisfactory at present, and if the suggested local health committee were made an ordinary committee of the county councils, formed on the lines of present pensions committees, a great impetus to public health work would be given.

The formation of an entirely new authority with the duties outlined in the Insurance Bill would enormously increase the overlapping, confusion, and administrative inefficiency that result from the present multiplicity of agencies for dealing with the sick poor. This overlapping and confusion is best illustrated by following the possible treatment provided for such people. Children under 12 years of age are provided for to some extent by most sanitary authorities. Between 1 and 5 years they are dependent, if in poor circumstances, upon the inadequate provision made by the guardians. From 5 to 14 medical attention to a greater or less extent is being provided by county councils as education authorities. After school age it is proposed to put these young people under the care of a fourth authority—namely, the new "local Health Committee," for the provision of their medical attendance.

All the suggested duties of the new authority could be carried out thoroughly and efficiently by statutory committees of county and county borough councils. I suggest that a way out of the difficulty would be to cause such councils to appoint their existing health and housing committees to do the work on similar lines to the existing Pensions Committee. These county committees would be assisted by local committees in each sanitary district. Such local committees could be composed similarly to the suggested local Health Committee in the bill—for example, one-third members of the county councils, one-third representatives of the friendly societies, and one-third representatives of the Post Office contributors, together with some members nominated by the Insurance Commissioners.

These duties need not necessarily involve county councils in any expenditure. They could merely carry out the work so far as the funds allowed, and would entail no more financial expenditure upon the county funds than does the work of the Pensions Committee. On the other hand, when the county council considered that in certain cases expenditure was advisable in the interests of the public health, it would be in a position to authorize and control such expenditure. The possible economies resulting from associating this new work with the same authority as now controls the medical work among school children are obvious to all concerned in practical administration.

Additional legislation or new powers on public health matters will inevitably give disappointing results until some process of unification has been accomplished. A few illustrations will explain what I mean:

1. The Housing and Town Planning Act, especially the town planning part thereof, is, in many districts, being carried out in such a way as to lead to little or no results. This can hardly be described as disappointing, because no one with experience would expect the average district council to do this work.
2. The issue of the Antitoxin Order (1910) has had little effect upon the provision of antitoxin for poor people. Most districts have, it is true, arranged for antitoxin to be obtainable in the locality, but hardly any have made arrangements for paying the medical man who administers it. Neither is there any satisfactory arrangement in most districts for bacteriological evidence to be obtained.
3. The Tuberculosis Order (1908) requires cases of consumption among paupers to be notified, and such notifications are being received by medical officers of health. In few districts, however, are there any practical results beyond the mere compilation of a list of cases. Similar results will undoubtedly follow the Order of 1911, although both Poor Law and public health authorities have considerable powers to deal with such cases. Apparently each leaves it to the other to do something.
4. The unsatisfactory position of the supervision of health in factories is due to the need for unification. The medical officer of health has few powers in such places, and the inspection is performed by centrally-controlled factory inspectors. The result is that the improvements in housing have far surpassed the improvements in workshop conditions, and men are herded together for hard physical labour in circumstances that would not be tolerated by the most lax public health authority.

Voluntary Agencies.

The work done by voluntary agencies needs brief mention here. Hospitals, dispensaries, and sick clubs will probably be so changed as the result of the scheme for sick insurance that discussion of their present defects may be mere waste of time. Voluntary hospitals, as such, may disappear, because it is not to be expected that the medical and surgical staffs should do what is practically State work without remuneration. Unfortunately, however, they will probably continue to suffer from some of their present inherent defects, unless they are made part of the general scheme, and are subjected to organization and control. The chief value of the numerous health-promoting institutions consists in their effect in educating public opinion. Otherwise their net effect upon the public health is small.

The serious wastage of energy and money occurring among the voluntary workers and institutions is very evident to the public health worker, and it should not be difficult to arrange for every such agency at work in the area (county or county borough) to play its part in the general scheme without any restriction of the energies of voluntary workers, and without any decrease in the desirability and usefulness of private generosity. In order to prevent overlapping it appears necessary to arrange for a central clearing house for each area, to which the details of all work done would have to be sent. Every service rendered by these voluntary agencies should be "notified" to the centre (for example, in the form of a weekly return) where, by some simple system of registration (for example, a card for each individual or family), it would be possible to detect and to prevent overlapping and abuse.

On the other hand, the public health department, with its widely extended activity and greatly increased knowledge, would be able to advise voluntary agencies as to cases suitable for help and advice.

The Process of Unification.

Assuming that the need for unification has been proved, it now remains to suggest the lines upon which such could be arranged. The alternative principles to be followed are the combination of offices on the one hand and the unification of authorities on the other.

Unification of Offices.

The recent Order (1910) issued by the Local Government Board recommends that the medical officer of health could with advantage also hold the position of school medical officer, superintendent of the isolation hospital, certifying factory surgeon, police surgeon, public vaccinator, district medical officer, and medical officer to the workhouse. Such advice should have an important effect in educating public opinion, but the desirability, and especially the practicability, of such a method of unification must be carefully considered. An officer holding the above eight distinct and separate posts would be working under four authorities and with eight different conditions of appointment. The holding of the eight offices by one individual would not necessarily effect any co-ordination of work, or bring about any real unification, so long as there are the different public bodies left to pursue their independent policies and to control his work.

The advantage claimed for the above policy of the Local Government Board is that the officer could by these means be made independent of private practice. It is not likely, however, to have any extended trial, owing to the opposition and mutual jealousies between the authorities chiefly concerned. The combination of offices may be found to be desirable as a sequence to the unification of authorities, but it is not at all a promising procedure until that has taken place.

Unification of Authorities.

The disadvantages of the present system do not arise from the multiplication of offices so much as from the number of authorities concerned. Each authority is independent, and, with the best of intentions, it is quite impossible for any coherent scheme of work to be arranged. The process of unification presents no insuperable difficulties, as all officials concerned could be taken over by the new authority, and the difficult problem of dealing with displacements from office would not arise. It would at once become possible to adopt a definite policy and to adjust the work so as to avoid overlapping and yet leave no part of it undone.

The fact that a scheme of unification was recently approved by the County Councils Association affords additional evidence of the desirability and practicability of such proposals. Recent developments in public administration indicate clearly that the unified service should be controlled by the councils of counties and county boroughs. If local committees are considered to be still desirable in county areas, it should be possible to arrange for a certain amount of local work to be given to them so long as the organization and co-ordination was carried out by the county council.

Only when the unification of authorities is an accomplished fact will it be necessary and useful to discuss the advisability or otherwise of whole-time officials for public work. The gradual condensation of staffs by grouping together appointments as they fall vacant would, if such a course were considered desirable, be a simple matter if only one authority were concerned in such appointments, and the policy of the Local Government Board, as outlined in the Order (1910), would be quite easy to carry out.

By very slight extensions of the plans suggested by the Local Government Board and the County Councils Association, it would be possible to aim at gathering together under one local medical officer the various duties connected with general public health, school inspection, Poor Law outdoor medical relief, inspection of midwives, work under Food and Drugs Acts, food inspection, prevention of river pollution, vaccination, organization of voluntary work, etc. Local staffs would include sanitary inspectors and health visitors, while the central staff would consist of bacteriologist, analyst, veterinary inspector, and also under the control of the county council there would be an indoor staff consisting of resident medical officers of infirmaries, infectious diseases hospitals, and sanatoriums.

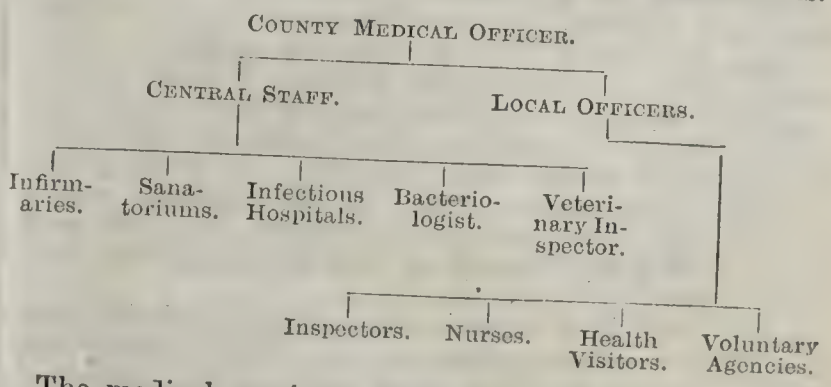

The medical services of the army afford an excellent illustration of the effects of unification. Formerly there were cavalry doctors, artillery doctors, engineer doctors, infantry doctors, and staff doctors, all more or less independent, and without cohesion, and subject to lay control.

All this has been altered by unification, and these weak bodies have been welded together to the enormous benefit of every one concerned. In this connexion it is interesting to notice that the process was vigorously opposed by those who were to benefit by it, so that we must not be surprised by the original opposition of the Poor Law doctors to any plan of amalgamation. I believe, however, that they are, as a body, realizing how much they are likely to gain by association with public health and, on the other hand, how much they are certain to lose by reason of the inevitable results of the Insurance Bill and other social legislation.

II.—ALBERT HENRY BYGOTT, M.D., D.P.H.,

Medical Officer of Health, Barking.

NEED FOR UNIFICATION OF MEDICAL SERVICES.

EVERY one who has given special attention to the provision of medical assistance must conclude that much more could be done to treat and prevent disease than is done at present. This arises almost entirely from want of organization. It is desirable to consider the subject from this standpoint if we are to decide on the need of a strong unified medical service.

Time does not permit of a survey of the origin of medical science or the history of its development, or it would be discovered that many of the existing abuses which give so much trouble belong to certain developmental periods. Medical work should be regarded as existing for the benefit of the public and as a dignified means of livelihood for those who practise it; it no longer rests upon empiricism. Simply bringing the patient to the doctor and his guessing at the disease and the administration of appropriate drugs do not constitute what modern requirements consider necessary for dealing with disease. The sick person when he seeks medical advice should be brought into a system which will effectually assist his recovery, prevent the recurrence of his disorder and its spread to others. The doctor should place his patient in a position to cure himself and assist him to do so. Most people want the doctor to do everything and to do it by magic. The influence of the magic element in medicine frequently prevents proper discussion of these subjects, from a mistaken fear that if the public had a more intimate knowledge of medical matters they might lose their respect for its mysteries and appreciate it less than they do now. This is a great mistake, because the time has come when the whole of this mysterious element should be removed to the background and the practitioner take his stand on the firmer basis of exact science.

Under the scientific system everything must be arranged to keep the doctor fit for his work, and to supply him with proper things to do it with. The mystic system is individualistic, the other is co-operative; it postulates the provision of doctors of various kinds, nurses, chemists, bacteriologists, instrument makers, and a whole army of people working under the doctor's direction and at his disposal. The provision of such a system entails considerable expense, and cannot be undertaken by one man by himself or for one individual case.

At present we find the doctor competing with all these classes of helpers instead of his being their director. There is, for instance, an undignified scramble between the junior practitioner and the midwife as to who shall have charge of a midwifery case. An efficient system would require all cases to be undertaken under the responsibility of a qualified practitioner who would direct the midwife. It would save him much tedious waiting, and enable him to cope with dangerous emergencies with a freshness and alertness of mind that is frequently wanting at present, and through which the public suffer. The existing chaos is largely responsible for ill-trained nurses and midwives. If these people occupied their proper place in the medical system medical men would educate the public as to the need for their efficiency, instead of violently denouncing them as at present.

A great evil in a doctor's life tending to inferior work is insufficient remuneration; in the event of most of the medical work being done by a service this is capable of investigation and fair bargaining. The present haphazard system, in which fees are fixed and not received, or are fixed in the face of cut-throat competition, has much to answer for in the mortality bills.

The want of leisure at the doctor's disposal, trespassed on as it is at present by all sorts of careless people, could be adjusted in a medical service, because the patient could not immediately change his doctor, and would have to be subject to rule in these matters; moreover, there should not be the competition which prevents men utilizing the services of one another in order to secure regular hours of leisure.

At present there is no encouragement to a doctor to improve himself, and his hard work is not appreciated by the public; but in a service it would be appreciated by his superiors, with whom he would get credit and advancement in his profession. Now he has frequently no opportunity for post-graduate work. In a service he would transfer his cases to a co-ordinated institution or to a colleague, and retain his hold on them, take an interest in them, and widen his experience; it would be possible to use all medical institutions for post-graduate work, and to enable the country doctor to exchange his work at suitable times with that of a town practitioner whilst he attended post-graduate classes and kept himself up to date, each party obtaining recreation in a change of work. The position of the medical man is changing from that of some one who renders some simple service, such as bleeding a patient or giving him a pill, to that of a director, and it is desirable that this part of his work should receive more recognition. When the mystic dispensation is ended this phase will be more prominent, and the removing of dispensing and such-like cares from the doctor would do much to bring it about.

This has a most important bearing on quackery: provide for every one proper medical advice, and teach the public the necessity for it, and the homely remedy, the quack pill, should tend to disappear. In many cases at present these methods of treatment are only tolerated because of the inaccessibility of proper medical help. Mr. Lloyd George and some practitioners have stated that something is necessary to stop trivial applications to doctors. No application is trivial if the person thinks he is ill and wants advice; far better to go to a doctor for it than to an old woman, but the application must be made at a proper time. Moreover, it is desirable that it shall be to the interest of the doctor to keep his patient well, and that he shall not derive any pecuniary benefit from his misfortunes.

There are two methods by means of which a unified service is possible: one through the Insurance Bill, startling and revolutionary, very dangerous unless satisfactory remuneration and suitable service conditions be stipulated for, and this is difficult to arrange for in such a colossal piece of work; or by handing over to the sanitary authority the medical service of the guardians, slower and safer; but both lead to the same point—namely, the provision by the public authority of a medical service for every one under proper conditions and using existing machinery whenever possible.

To have said such things as these some years ago would have savoured entirely of academical discussion, but now they are within the reach of practical politics, and it is specially necessary to impress on the public that a medical service should be organized for their own benefit. It is largely a matter of education, which will take time, and is worth undertaking; in many cases people are cruel and unjust to the medical profession entirely through ignorance which can only be removed by patient teaching rather than by fierce declamation. The crude system of education which aimed at imparting knowledge along with pain is fortunately passing away. So far as medical men are concerned, provided they are adequately remunerated and their hours of labour are shortened, they have a great deal to gain by such an arrangement.

DISCUSSION.

Surgeon-General G. J. H. EVATT, C.B., advocated the financial union of the charges for the Poor Law medical officers and the medical officers of health as a preliminary step towards a closer union of those two classes of officials later on.

Dr. E. W. D. KITE (Sheffield) said that certifying factory surgeons should report cases of unfitness to a central authority, that authority not to be a prescribing one

Authorities on unification needed to agree among themselves; they appeared to have very vague ideas of what they really meant. What did Dr. Lyster mean by starvation?

Mr. Herbert Jones (Hereford) protested that in the schemes for the unification of the medical service with the county council as the centre and the county council medical officer of health as the administrative chief, the medical officers of health of the large districts were apparently ignored. He reminded the meeting of the pioneer work which had been done since the passing of the Public Health Act of 1875 by these officers, amongst whom he named George Wilson, Thursfield, Frederick Barry, Bruce Low, and George Turner. There were at the present time about thirty medical officers of health of combined districts in charge of an aggregate population of some 3,000,000 persons. It would be intolerable that they should be placed in a subordinate position to the medical officers of health of the county council. In at least three instances the latter were holding appointments which had been on the warning list of the British Medical Association. The functions of the county council were administrative and of the district councils executive. Each should carry out its own functions. The area of a county as a rule was far too large to enable executive duties to be carried out properly. The executive area should be one containing about 100,000 persons, and this should be brought about by a combination of districts. There were duties—such as the establishment of a public health laboratory—which might properly be carried out by a county council, but the executive duties must be entrusted to the district council and to the medical officer of health of that council.

Dr. Lyster pointed out that it was not competent for a county council to expend money upon the establishment of a public health laboratory.

Mr. Herbert Jones, however, said that many county councils had already established such laboratories.

Dr. F. E. Wynne (Medical Officer of Health, Leigh, Lancs.) said his conception of the unification of the public health service was the establishment of a Department of Public Health with a Cabinet Minister at its head. At present the administration of public health was in the hands of overlapping authorities primarily charged with other duties—namely, the Local Government Board, the Home Office, and the Board of Education. Under existing conditions the medical officer of a borough or district council had no control over the sanitation of collieries or certain factories.

Mr. Herbert Jones pointed out that a medical officer of health had power of entry into a factory, because a factory inspector could take a medical officer of health with him into a factory.

Dr. R. Murray Leslie (London) said that he was strongly in favour of some measure for the unification of the health service of the country. There was, no doubt, at present considerable wastage of effort on account of the overlapping of the work of the various State and voluntary health agencies. The office of the medical officer of health was the natural centre of the different local health agencies, and would be recognized as such. Recently the executive council of one of the voluntary societies—the Women's Imperial Health Association—wrote to the Chancellor of the Exchequer regarding the advisability of securing official recognition of voluntary health bodies. The Chancellor replied that in his opinion voluntary health associations would become more and more important, and that it would obviously be to the advantage of the official health committees to consult such societies. If that were to be so there must be a certain degree of unification. Dr. Leslie had always found the State public health departments—both local and central—to be in absolute sympathy with voluntary health work. He might instance Mr. Burns's great interest in the work of the National Association for the Prevention of Tuberculosis. It would be a great loss to the country if the whole of the health work were undertaken by paid State servants, as voluntary health work was the most valuable citizen service that could be rendered by the men and women of leisure who formed such an important part of the community in the British Isles. There was no doubt, however, that official recognition of the important voluntary associations would be an important step towards the unification of the public health service of the country.

Dr. A. E. Larking (Buckingham) protested against the medical officers of health endeavouring to secure all appointments. All schemes for the unification of the public health seemed to involve the idea of making the general practitioners subordinate to the medical officer of health. As a general practitioner, he thought that his class was the one to do the clinical work, and that the medical officer of health should keep to his special work. The medical officer of health ought not to do any clinical work. He should devote all his time to public health work, and to investigating deleterious conditions reported to him by the practitioners of the district. In the future the work of the Poor Law medical officer and the part-time medical officer of health would, he believed, have to be divided among the practitioners of the district, who would have it as one of their statutory duties to report deleterious conditions likely to be injurious to the public health to the medical officer of health. The latter should at once, by means of his sanitary inspectors, investigate these conditions with a view to remedying them. If medical men were to treat a large number of people on a capitation basis, they must be able to report conditions likely to conduce to bad health.

Dr. S. Barwise (M.O.H. Derbyshire) said that it was an entire misapprehension to imagine that the medical officer of health wanted in any way to undertake the work of treatment, or to interfere in the slightest degree with the independence of the general practitioner. In Derbyshire there were about thirty school medical inspectors who were also general practitioners. Their work had to be supervised, and a medical man must do it. If so, who but the medical officer of health should do the work?

Dr. T. Shadick Higgins (Assistant M.O.H. Birmingham) said that as a preliminary step to the unification of the medical services there should be unification of the present public health service. There should be one senior health official only in all county borough districts, having control of all the present public health activities. In the county districts there should be only one type of district, namely, the county; the rural sanitary districts should be abolished as such. The county districts should then not be larger in size than the smaller of the existing counties.

The President, in closing the discussion, said that it appeared to him that to a large extent the difficulties of co-ordination were due to the fact that the Poor Law work dated back for centuries, while that relating to public health was quite new, dating from 1875. The Public Health Act had been supplemented, but the law had never been codified, so that many sanitary authorities had a difficulty in carrying out their powers, or even in knowing what those powers were. The trend of the discussion seemed to show that all agreed that there was a need of unification, though in many cases some interests appeared to fear any extension of the power of the medical officer of health. It had been suggested that unification would mean the appointment of further officers, but as a matter of fact, under a proper scheme of unification, there should be fewer, and possibly a scheme of compensation might have to be considered. The President's experience of county council work showed him that with a proper consideration for the professional position of others, there was no cause for friction, even on such a thorny subject as treatment following on medical inspection of school children. He had a great admiration for the work done by officers of combined districts, and only wished to see their work done under better conditions than was possible at the present time. It must be borne in mind that the solution of the problem would remain with the public and not with the medical profession, and it was therefore important for the profession to look at the problem in all its bearings.

DISCUSSION ON DISEASE CARRIERS.

OPENING PAPERS.

I.—DAVID SAMUEL DAVIES, M.D., D.P.H.,
Medical Officer of Health Bristol Urban District and Port.

TYPHOID FEVER AND DIPHTHERIA.

RECOGNITION of the establishment of a chronic condition in certain cases of the acute specific fevers, which were formerly considered to run a definitely limited course, has introduced administrative difficulties of a new kind, which are typically presented in the case of the chronic typhoid carrier.

On the one hand, the mere fact that certain patients after apparent recovery still excrete bacilli continuously or intermittently, and from time to time prove "effective" agents in the the causation of typhoid outbreaks, would appear to call for as close supervision in civil life as has already been applied with conspicuous success in the case of the army. On the other hand, the infrequency of the condition, further complicated by its intermittence, has caused some to question whether it is worth while to be at so much pains for so little result; while others consider that the onerous and highly specialized nature of the necessary research, the prolonged detention in hospital of patients apparently well, and the lack of restrictive powers over such patients, render administrative control, however desirable, a mere counsel of perfection.

TYPHOID CARRIERS.

Infrequency of the Condition.

It has to be admitted that the number of typhoid convalescents who are likely, from the nature of their occupation as cooks, dairymaids, etc., to prove "effective" carriers is quite small. In India[1] some 1,000 cases of typhoid fever occur annually amongst British troops; of these, about 200 end fatally and about 50 are invalided to England; of the 750 left in India it may be assumed that 23 become "carriers." But as only 3 or 4 per cent. of soldiers have to do with the cooking or preparation of food for their comrades, not more than one or two "carriers" can be looked for as likely to be a source of contamination of food supplies in the cookhouses. Yet, so important is this source of infection considered, that convalescent dépôts at Nani Tal and at Wellington have been established, at which all convalescents are kept under rigid observation, and the fact that the admissions from typhoid fever from all stations in 1908 which send convalescents to Nani Tal show a reduction of 9 per cent. on the figures for 1907, while the remaining stations show an increase of 26.6 per cent., certainly suggests that the work has proved beneficial.

The argument as to the small number of "effective" carriers likely to be detected is faulty, for the fundamental basis of preventive epidemiology is to detect and deal with the earliest case, rather than to exploit elaborate measures of stamping out. It is more economical, too, both in life and money.

Intermittence and Prolonged Detention in Hospital.

The intermittence of the condition makes prolonged observation necessary in order to achieve certainty, and the army rule is that no convalescent patient is sent back to his station within four months of the cessation of his fever. By this time a fairly accurate idea can be formed as to which patients will develop into carriers, but in civil life it would be impossible to enforce hospital detention for so long a period. The present almost universal system in English fever hospitals is to discharge typhoid fever convalescents when, from the clinical standpoint, they appear to be fit for discharge; where a time limit is imposed it varies from three to six weeks after the re-establishment of normal temperature. This appears to be insufficient—the army standard is impracticable in civil life; it becomes necessary to consider a working mean.

It has been found practicable in Brighton[2] to keep patients under experimental observation during the convalescent stage, with normal temperature, over twelve weeks; 27 patients were dealt with; in 12 of the 14 cases in which a positive result was obtained during the fourth, fifth, sixth, and seventh weeks of convalescence, later examination showed the disappearance of *B. typhosus* from the faeces. These figures, so far as they go, show that in typhoid fever the faeces are infective in about two-thirds of the cases during the fourth to the seventh week of convalescence, and that after the seventh week the risk of infectivity is small.[3]

Necessity for Early Determination of the Condition.

The common experience of the extreme difficulty in curing a typhoid carrier whose condition has become established points to the necessity for early detection so as to admit of the prompt application of remedial measures.

Dr. Matthew Hay, of Aberdeen, reports that in every case of typhoid fever treated in the Aberdeen City Hospitals during 1909, the patient was not discharged from hospital until the urine and stools were found to be free from the bacillus after two successive examinations. In two cases in which the bacilli continued in the stools for eight and ten weeks respectively, Dr. Hay made use of a combination of saline cathartic with a disinfectant so as to secure a large secretory and excretory flow from the walls of the intestines, as also from the liver and gall bladder, with the object of washing the bacilli into the intestine, where they could be acted on by the disinfectant; this was apparently successful. Dr. Hay emphasizes the important point that if the treatment is to prove effective, it should be commenced as soon as the case is seen to be drifting into the condition of a chronic carrier, and before the patient is released from isolation. He repeats the caution that it is useless to wait until the bacilli have been lodged for many months or years in the gall bladder, and have in part become embedded in its walls or in gall stones. Josef Koch has previously pointed out the hopeless condition that must result when the bacilli in the gall bladder, urinary passages, or intestinal wall become surrounded by areas of dead tissue through which no curative agent can penetrate, and the importance of detecting the case before these chronic changes have come about. An example of this difficulty has been for two years under treatment in Ham Green City Hospital, Bristol.

Case No. 3, Urinary Type.—Urotropin has been tried; autogenous vaccines were given for five months; no treatment availed, though there was one period of intermission lasting nine months, after which the bacilli reappeared. Finally, the *B. typhosus* having been localized in the right kidney, surgical exploration of the kidney revealed the presence of small calculi surrounded by minute abscesses; from these abscesses *B. typhosus* was obtained in pure culture. The removal of the calculi and abscesses was followed by some improvement in the condition, but absolute cure has not yet been attained.

Divided Responsibility, and Provision of Adequate Means for Research.

Some difficulties may occur under these heads. If cases of typhoid fever are nursed in the general hospitals, there may be some disinclination amongst the medical staff to go beyond routine clinical treatment, on the ground that the "carrier" condition is the concern of preventive rather than curative medicine. If they can be dissociated, this might be so; but the most effective reply is that adopted by Dr. Armstrong, of Newcastle-on-Tyne, who insists on the necessity for isolation of all typhoid patients in a fever hospital. Again, there are not always available, either in general or fever hospitals, adequate facilities for the accurate determination of the presence of *B. typhosus* in the dejecta. It is highly desirable that every district should have, as appears to be the case in Germany, the services of a competent pathological laboratory and its staff available.

State Interference.

Up to the present no solution as to what legislation is both necessary and desirable to deal with the chronic typhoid carrier has been arrived at. Forcible quarantine, imposed for three years in America, had to be abandoned. Granting a pension, as in the Aberdeenshire case,[4] might prove an inconvenient precedent. In Melbourne legislation has been suggested to make it an offence for any one who is a typhoid carrier to be employed or to apply for employment. It must not be forgotten that the "carrier" is a victim, and not an intentional offender, and methods of supervision and control are indicated rather than harsh methods, which rarely succeed in relation to disease prevention. At present the legal position of the "chronic typhoid carrier" in England is apparently one of complete freedom from the operation of the Public Health Acts.

Summary of the Position.

Whether the case is nursed in a general hospital or in the fever hospital of a sanitary authority, investigation as to existence of the carrier condition should be commenced during convalescence, before discharge from hospital. Two or three routine examinations at intervals of urine and faeces ought to be made in every case. This is useful in two ways: not only does it give definite indication as to cases needing after-supervision, but it calls early attention to the condition, and gives opportunity for commencement of treatment at a time when it may be of service to the patient. All hospitals must possess laboratory equipment or make suitable arrangements for securing the necessary determinations. In the majority of hospitals at the present time typhoid convalescents are discharged on clinical symptoms alone. The bacteriological method simplifies the after-supervision of cases; those giving positive indications must, of course, be kept under as continuous supervision as possible, and others who deal with food supplies should be advised to submit to periodical examination. It is doubtful whether it is advisable to warn employers, or only in very exceptional cases.

All convalescents from typhoid fever should receive clear instructions as to their responsibilities in the matter, such as those issued by the Typhoid Station at Strassburg[5] or those issued in Bristol,[6] where also a list of typhoid convalescents is kept, so that they may be visited and advised, especially in regard to the relation of their occupation to dairy work or food supplies.

The establishment of a general system of supervision corresponding to the South-West German stations, and the adoption of standing orders similar to those employed at the Pfalz Station, may usefully engage the attention of the central government department, and is much to be desired.

Until the position of the chronic typhoid carrier is legally recognized as an infective condition, bringing the patient under restrictive control in his own interest as well as in the public interest, it is practically impossible to secure anything like effective bacteriological control over convalescents after discharge from hospital.

The standing orders employed in the Pfalz Station have been in force since 1904:

1. Typhoid carriers and clinically cured cases are retained under bacteriological supervision until a bacteriological cure results.

2. So long as they discharge bacilli, the official disinfectors carry out or supervise the continual disinfection of privies used by them with milk of lime.

3. In the case of school children, workers in factories, and such like, teachers, officials in State and private bureaus, these may carry on their respective duties, provided that the schools, factories, etc., are provided with suitable wash basins and soap. On commencing duty and on every occasion when the privy or urinal is visited, the hands must be cleansed.

4. Typhoid carriers are to be restrained from the preparation and sale of food stuffs.

DIPHTHERIA CARRIERS.

The necessity for control over the discharge of diphtheria patients by bacteriological methods is generally recognized, and, being comparatively simple, is widely adopted.

After-Control.

The amount of after-control necessary during epidemic diphtheria varies in different circumstances. Probably only a small percentage of the morphologically typical diphtheria bacilli found in well persons not recently exposed to the disease are virulent, but even if only a small proportion is likely to transmit the disease, they may form an important factor in its spread. Infected adults are ordinarily less likely than children to communicate the infection, so that the following conclusions may be formulated:[7]

1. It is impracticable to isolate well persons infected with diphtheria bacilli, if such persons have not, so far as known, been recently exposed to the disease.

2. It is not advisable, as a matter of routine, to isolate from the public all the well persons in infected families, schools, and institutions.

The exceptions have to be made, as matter of expediency, in regard to wage earners, business and professional men. It is, however, advisable to keep the children in infected families away from day school, Sunday school, and all public places. Wage earners may usually be allowed to continue their work, but teachers, nurses, and others who are brought into close contact with children, and also milkmen, should not be allowed to do so.

In schools and institutions all infected persons, sick or well, should, if the infection is not too widespread, be separated from the others.

When diphtheria appears in a community which has for some time been free from it, it is advisable to isolate all persons who have been brought into contact with the patient until it shall have been shown that they are free from diphtheria bacilli.

"Chronic Carriers."

The details given by Councilman, Mallory, and Pearse show how diphtheria may persist in the accessory sinuses of the nose for long periods, without clinical symptoms. In such cases the bacilli may disappear upon douching the nose with antiseptic solution, but as soon as the cleansing is stopped they reappear. Fortunately such cases appear to be rare, and are only likely to occur during invasion of a district by an organism with high potentiality of infectivity. When they occur there is no help for it but to keep the patient, if a child, under continuous exclusion from school, and under prolonged treatment; in a tediously prolonged case, determination of virulence of the bacilli found is an advisable step.

Quite recently Dr. Garrett,[9] of Cheltenham, has questioned the advisability of search for "carrier" contacts and the reliability of the bacteriological indications obtained, and quotes the experience of ten years during which success in dealing with diphtheria has been achieved without recourse to bacteriological control of contacts, and with an average annual death-rate of 1 per 10,000 population. He points out that during these ten years there was no prevalence of diphtheria inviting the name of "epidemic," and that no school outbreaks caused trouble.

This is no doubt correct; from my own experience I can furnish a parallel. As I have pointed out elsewhere[10] for fourteen years, up to 1900, although some diphtheria was always present in the city, not only was the fatality singularly and consistently low, but there was no sign of any special school influence, and school outbreaks were practically unknown; no hospital beds for diphtheria were provided, nor was there any apparent need for them. But with the introduction of a virulent type of diphtheria in February, 1900, the conditions were suddenly and completely changed. The fatality rose from 1 per 10,000 in 1899 to 3.1 in 1900, and to 5.4 in 1902. Hospital beds became urgently needed; indeed, the general hospitals were called upon to assist in providing beds, school outbreaks became common and serious, and bacteriological methods became imperative, and, used with discretion, gave indications of extreme value. The epidemic wave period of diphtheria is so long that a period of ten years is insufficient for generalization. At one time bacteriological examination and restriction over contacts and carriers may be immaterial or inadvisable; at another, when dealing with a different strain of bacillus, they may become essential.

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II.—EDWARD WILBERFORCE GOODALL, M.D., B.S.,

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GENERAL CONSIDERATIONS.

WHILE the paper by Dr. Davies has dealt almost entirely with typhoid and diphtheria carriers, yet the subject for discussion is the general one of disease carriers, without limitation to any particular disease. I propose,

therefore, to say a few words on the general subject in so far as the infectious diseases of this country are concerned.

Now, a "carrier" of any particular disease is a person who bears in certain of his organs the particular organism which is believed to be the cause of that disease, in a more or less pathogenic condition, and so placed as to be capable of being transmitted to susceptible persons. The carrier may or may not have previously suffered from the disease in question. Mostly he has. Usually, too, he is in a normal state of health; but occasionally he may be slightly out of health, though he does not then present the special symptoms of the disease of the germ of which he is a carrier. Though the term "carrier" is of fairly recent origin, yet for some diseases the carrier has been known for a period considerably longer than that for which the word has been in use. Take scarlet fever, for instance. All the investigation into the origin of the so-called return-cases has gone to show that they are connected with what, in typhoid fever, would be called acute, or temporary carriers. And in diphtheria the bacillus-bearer was recognized long before the typhoid carrier. But what is so striking about the typhoid carrier, and has led to the intensity of the interest that has been manifested in him, is his unexpected chronicity, and the solution it offers of outbreaks and of sporadic cases of typhoid of which the cause is otherwise inexplicable.

Before I go any further I wish to make it clear that in my opinion, so far as it is of any worth, the existence of the carrier and his power to work evil have been amply demonstrated. At the same time I thoroughly agree with the note of warning which was sounded by the President of the Epidemiological Section of the Royal Society of Medicine in the admirable address he delivered in November last, an address I shall be obliged to refer to later on. Dr. Theodore Thomson warned us against both over-estimation and under-estimation of the carrier factor in the causation of typhoid fever. At present I think we are in need of being careful to guard ourselves against over-estimation of the potentiality to cause an outbreak in respect of the typhoid, or, for the matter of that, of any disease carrier who has not previously suffered from the disease. An outbreak of the disease occurs of which the origin cannot be found in common sources, then a carrier is discovered who has never had the disease. If you are going to admit the existence of this class of carriers, as I think you must, yet it will in many instances be extremely difficult to prove that any particular carrier of that class is the cause of the outbreak you are investigating. For unless you have evidence that he has been a carrier for some time, which *ex hypothesi* you have not, you cannot refute the suggestion that he has acquired the organism—harmless to himself—of which he is the carrier from the same source as those to whom they have been noxious. You might, indeed, find it difficult to refute the statement that he had derived the organisms from these very persons. I will illustrate my meaning with an extreme case. If I systematically examine the nasal and faucial mucous membrane of nurses in the diphtheria wards of a hospital, and find that in one or two of them diphtheria bacilli are present, as I am very likely to find, it would be absurd to conclude that these carrier nurses are the cause of the disease in the patients.

I gave just now a definition of the carrier, a definition which is much the same as that which has been adopted by all who have written on the subject. But writers have divided carriers—at any rate the typhoid carriers—into two classes, the acute and temporary, who carry the organisms for only three months, and the chronic or permanent, who carry the organisms for upwards of three months, even for years, and perhaps for the remainder of their lives. Concerning this distinction I shall say a few words when I am speaking of the various diseases in which carrier cases occur.

Now what are these diseases? So far as I know there are not very many in this country. Of definite diseases, there are scarlet fever, typhoid fever, diphtheria, cerebro-spinal fever, and, I believe, pneumococcal infection, possibly influenza and whooping-cough, and erysipelas as a definite cutaneous disease. Of less defined diseases, there are various coccal infections, especially strepto-coccal. It is a curious fact that those diseases of which the infection is most readily conveyed from the sick to the healthy during the acute stage, either mediately or immediately, seldom, if ever, give rise to carrier cases. Measles, small-pox, and chicken-pox have never, or to all extents and purposes never, been credited with return cases; nor has even a suggestion been made that they ever become carriers.

The next question is, What is the number of carriers of each of these diseases present in the community? To answer this question we have to rely very largely upon the evidence of the bacteriologist. It is only the carrier known to have previously suffered from the disease, whichever it may be, who is likely to be detected by other than bacteriological evidence. Consequently in diseases of uncertain bacteriological origin most of the carriers are overlooked, and only in diseases of which the bacterial cause is definitely known can any attempt be made to estimate the number of carriers. In scarlet fever, of which the bacteriology is uncertain, we have the evidence of "return cases" as to the presence and influence of carriers. Most of them are temporary, but now and again one comes across a chronic example. Whether the large number of cases of scarlet fever that occur of which the origin can be traced to no previous case are in any degree due to carriers, I do not know. There are reasons for believing that the infecting agent of scarlet fever may remain alive and potent for a considerable time outside the human body. In the case of typhoid fever and diphtheria we are on firmer ground. The evidence goes to show that in typhoid fever at least 3 per cent., and in diphtheria rather less, of the population in localities where these diseases are at all prevalent are carriers. Of other diseases in which there are reasons for supposing the existence of carriers, there is no evidence of their prevalence numerically.

But the most important questions that can be raised concerning carriers are:

1. Are carriers a cause of the dissemination or of the continued prevalence of disease?
2. If they are a cause, to what extent do they exert their influence?
3. How can that influence be counteracted?

In attempting to give satisfactory answers to these questions I must perforce confine my remarks to those diseases amongst which we definitely recognize the existence of carriers.

1. To the first question an affirmative answer must be given. There are now a sufficient number of instances, carefully and conscientiously investigated, to make a negative reply impossible, at any rate in respect of typhoid fever, diphtheria, and scarlet fever.

2. But it is with regard to the answer to be returned to the second question that controversy is likely to arise. I can conceive one set of investigators attributing nearly every epidemic of a disease to carriers, and another set limiting their influence to the causation of limited outbreak here and there. And I can conceive that each view may be correct. It entirely depends on the circumstances of the cases—a condition which enthusiastic upholders of any particular view are very prone to forget. I may, perhaps, make my meaning clear if I refer to the history of typhoid fever in this country during the last half-century or so. During the period to which I refer the death-rate of this disease has fallen from upwards of 300 per million to between 60 and 70 per million. There are reasons for thinking that the fatality—the case-mortality—has been fairly constant on the whole, and I do not think we shall be far out if we assume that this remarkable lessening of the death-rate has corresponded with an equally remarkable diminution in the number of cases. And I think that those responsible for the health of the country, central or local, are entitled to congratulate themselves that this course of events has not been accidental—has not been a part of the natural history of the disease, but has been due to intervention on their part. The provision of pure water supplies, free from liability of contamination, and the installation of appropriate systems for the disposal of sewage, have chiefly contributed to the result—chiefly, but not entirely. When it was found that typhoid still remained prevalent to an extent which was higher than might have been expected when the preventive measures that had been carried out were considered, other sources of the disease were looked for, and found in the contamination of shell-

fish by sewage, and so forth; and these sources having been dealt with, and there still being a residuum too large to be neglected, further research has revealed the carrier; so that in this country we are called upon to investigate the influence of the carrier under conditions which are of such a nature as to prevent him from exercising to the full any evil influence he may possess. Had bacteriological science been in existence fifty years ago, and as advanced as it is now, what a time the bacteriologist and the epidemiologist would have had with carriers! But there are places in other countries which are in the same condition from the point of view of sanitation as this country was fifty years ago. And I do not think that we can attribute entirely to the zeal of the bacteriologist the fact that so large a part of our knowledge on this subject has been derived from foreign countries.

Now what I have said concerning typhoid fever is equally true of those diseases which furnish us with carriers and of which the mode of infection is known. Deal with conditions affecting the mode of infection, and you will to a large extent—though I do not say entirely—deal with the carrier, and you will lessen his influence.

Dr. Theodore Thomson, in the address to which I have alluded, has endeavoured to estimate the influence of the typhoid carrier in this country. But in order to obtain data as to the number of carriers existing in the community he has to go to German and American authorities. From which it would appear that there are about 108,000 carriers in England and Wales. Personally I am inclined to believe that this is an over-estimation, because founded on the basis of the German and American data. Exact evidence of the frequency of the carrier, especially the chronic carrier, in the population of England and Wales is wanting. But, for the reason I have given above, I should expect to find carriers in smaller numbers relatively than in countries in which typhoid fever is more prevalent than it is in our own. Dr. Thomson's study of the behaviour of typhoid fever in Worthing, Maidstone, and Lincoln, before and after the well-known epidemics in those towns, goes to show that carriers did not have any influence in causing an increased prevalence of the disease in the pre-epidemic and post-epidemic periods.

In diphtheria the influence of the carrier does not appear to be very extensive. There must be a considerable number of convalescents from this disease who are carriers when they leave hospital, and probably for some time afterwards. But the number of cases to which they give rise immediately after their discharge is very small. Chronic carriers are few and far between. The same remark applies to the chronic carrier in scarlet fever. But the acute carrier in this disease is of sufficient importance to have given rise to considerable investigation and administrative treatment. I am inclined to think that in both these diseases the continued prevalence is kept up not so much by healthy carriers as by mild and unrecognized cases of the disease.

3. The third question is, How can the influence of the carrier be counteracted?

I think that it will be readily granted that all general sanitary measures that are designed efficiently to prevent the infection of any member of the community should be carried out first of all. It is useless giving minute instructions to a typhoid carrier as to personal cleanliness if the water he uses for the purposes runs into a drain which is leaking so as to permit its contents to contaminate a water supply. When these measures have been put into practice attention may be devoted to the individual carrier.

In scarlet fever it is the temporary carrier we have most to fear. Bacteriology does not help us in this disease. The most efficacious method of keeping at its lowest figure the percentage of return cases seems to be that in which the patient two days before his discharge is taken from the ward, thoroughly washed from head to foot, and placed in absolutely clean clothing in a ward or room which has not contained a case of scarlet fever. Here he should be detained for two nights and the intervening day, after which he should be given the ordinary morning wash, and sent out of the hospital in the clothing provided by his friends. It is quite unnecessary to give him a bath just before he leaves, as used to be the case. Patients with discharging ears and nose, and presenting a morbid condition of the fauces and nose, should be detained for twelve weeks, unless the discharge or morbid condition has cleared up.

In the case of diphtheria the most obvious course to pursue to prevent the harm that might be effected by a temporary carrier is not to let the convalescent out of isolation till bacteriological examinations have shown, so far as they can show, that he is free from bacilli. Occasionally one comes across a case in which the bacillus persists in the nose or fauces for weeks or even months after an attack of diphtheria. I have tried various solutions with which to swab the throats of such cases; but none have been satisfactory. Diphtheria antitoxin is useless. Subcutaneous injection of a weak solution of an endotoxin derived from diphtheria bacilli appeared to be of use in 4 cases. But as a matter of fact I am coming to the conclusion that, after all, the influence of the diphtheria convalescent for harm is much over-rated, and that he may be discharged from hospital at the end of about six weeks without any special precautions being taken to free him from bacilli. As I have said above, return cases are few in diphtheria—so few as to be ignored. That comes out clearly from the experience of the Metropolitan Asylums Board's hospitals, in which there is no difference in this respect between the hospitals in which a bacteriological test is applied upon the discharge of the patient and those in which it is. And I may also refer you to a paper by the Medical Officer of Health of Cheltenham, which appeared a few months ago in *Public Health*. His experience was that diphtheria did not spread in that town, even though no bacteriological examinations were made before the patients were pronounced free from infection. I am of opinion that however desirable it may seem to be, from the hypothetical point of view, to insist upon freedom from bacilli as the criterion of freedom from infection, practice has shown that it is quite unnecessary, and hardly worth the expense it entails. Further, an attempt made in one large American city to free a certain district of diphtheria by dealing with carriers by bacteriological methods proved a failure.

It is the typhoid carrier who is particularly exercising the mind of the sanitary administrator at present. Seeing that the infection of typhoid fever is nearly always acquired by means of food, it would appear that special attention should be directed to preventing known carriers from engaging in occupations connected with the conveyance and preparation of food. Amongst the better classes this will not be difficult to accomplish; but amongst the poor, until their surroundings are vastly improved, it will. In a few places advice, both oral and printed, has been given freely to carriers or suspected carriers. Examples of these printed instructions will be found in Dr. Ledingham's admirable report on Typhoid Carriers made to the Local Government Board. Some of these rules seem to me to be too elaborate and too numerous, and some are quite inapplicable for use amongst the poor. Gaehtgens, for instance, recommends as a disinfectant for the hands eau-de-Cologne or spirits of wine! By the way, Dr. Ledingham states more than once that much good has been done by the adoption of rules such as those to which I am referring. But I do not think he brings forward any evidence in support of the statement.

Various methods of treatment by drugs and by vaccines have been tried in order to free permanently the carrier from his bacilli. But none of them appear so far to have been efficacious. From what we know of the chronicity of carriers it follows that, in order to be certain that a carrier had become permanently free, he must be under observation for several years.

In conclusion, I think that a few simple instructions given to those carriers who are known to be engaged in the preparation of food should suffice. Those engaged in such occupations as milking or conveying milk should be required to seek other occupations. The treatment of carriers amongst the poor would be much facilitated by the establishment of kitchens for the cooking of the food of large numbers of families. It would be easy to provide for such institutions a staff free from carriers; and the influence of the individual carrier in the community would be confined to direct infection, the danger of which atten-

tion to ordinary rules of cleanliness would reduce to a minimum.

DISCUSSION.

Dr. J. C. G. LEDINGHAM (London) said that for the purpose of this discussion the general importance of carriers in the spread of infectious disease was taken for granted, and that they were there to consider the administrative difficulties which the hygienist had to deal with in the light of this new knowledge. As a bacteriologist, he was aware that it was not always easy, and sometimes even not expedient, for the hygienist to put into practice the recommendations of the laboratory; and, further, that laboratory results were occasionally difficult to correlate with epidemiological observation. Still, he was confident that it was only by an active co-operation between the hygienist and the bacteriologist that the best results from the administrative point of view could be attained. With regard to enteric carriers, the first problem was the best method of dealing with the typhoid convalescent, and Dr. Davies had already referred to the disadvantages from which any routine method of bacteriological examination suffered, owing to intermittency in the discharge of the infective germs, and other causes. This he fully recognized, but as the result of some experience with this method of routine examination, he believed that it was possible thereby to bring to light a small percentage of carrier cases which were on the way to become chronic. After all, the percentage of cases which were still carrying the bacillus after one year was small, and not more than 3 or 4 per cent., so that if they could retain those under observation with suitable instructions as to disinfection and personal hygiene, much good might be done. Moreover, the earlier the period at which a person was revealed to be a carrier, the greater was the chance of applying some form of treatment which might have a reasonable prospect of success. Late control examination of convalescents at the end of six months and at the end of one year was also important, as thereby some carriers might be brought to light which had previously been missed. There was always a difficulty in obtaining specimens, but with tact it might be got over. With regard to temporary carriers, which probably played a great part in spreading infection during the acute stage of an epidemic, he would plead for a much more stringent search for the abortive or ambulant cases. If there was one fact that had emerged from recent bacteriolcgical work, not only in connexion with enteric but also with dysentery, cholera, meningitis, and diphtheria, it was that the clinical manifestations accompanying a bacteriologically demonstrable infection might vary enormously. The second problem was the best method of dealing with carriers which had been found to be associated with outbreaks of enteric. At present they could do little more than give advice as to disinfection and personal hygiene. But it was too early yet to be despondent with regard to the possibility of curing these cases. Some interesting results had been obtained by treating experimental typhoid infection in the rabbit. Temporary rabbit carriers were easily obtained, and from the results of Conradi and others with intrarectal injections of chloroform it would seem that this condition might be comparatively readily cured. The chronic rabbit carrier was rather difficult to obtain. One of his colleagues had been experimenting on this question, and had succeeded in recovering typhoid bacilli from the gall bladder of a rabbit three months after a single intravenous inoculation. When it became possible to obtain a large supply of these cases in the rabbit it might be possible to institute some form of treatment which might ultimately be applicable to the human carrier. There was one suggestion he would make with regard to typhoid carriers—namely, that declared carriers should be asked voluntarily to enter some central institution, perhaps in connexion with a hospital for infectious diseases, so that their condition might be accurately studied by a competent bacteriologist appointed for that purpose. Lunatic carriers might be available without much official difficulty. It was only by a thorough examination of a series of such cases under similar conditions that they could hope to gain a deeper insight into the nature of the carrier condition. With regard to diphtheria carriers, it was highly important that the organism should be isolated in pure culture and its properties determined. That was especially needed in cases of ear and nose infection. The determination of the virulence for the guinea-pig should be undertaken, although there was at present no sufficient evidence to justify their ignoring those cases which harboured non-virulent strains. Sometimes virulent and non-virulent strains occurred together in the same case, and in some epidemics non-virulent strains might be frequent among the cases. With regard to treatment, much might be done towards reducing the amount of possible infection by antiseptic gargles and the like, and if infection were confined to the tonsils, enucleation after a dose of antitoxin had proved to be of service. The intermittency of carriers was also to be considered, and therefore in schools one should keep an eye on discharged carriers for months or years, and re-examine them should cases of diphtheria recur.

Dr. J. SPOTTISWOODE CAMERON (Leeds) said he was strongly of opinion that return cases of scarlet fever were most of them due to carriers. After eliminating all practical possibilities of inefficient disinfection six, nine weeks, or even longer before the discharge of the patient, there remained a certain number of cases in which the patient developed, when sent home, some nasal or other mucous discharge, although all such discharges were non-existent when the patient left the hospital, and bacteriological examination showed no streptococci. Public medicine was greatly indebted to the bacteriologists, but the debt would be infinitely increased if they would ascertain what was the essential *contagium vivum* of scarlet fever.

Dr. H. J. EGERTON H. WILLIAMS (Sheffield) said that in his experience it was practically impossible to carry out a detailed and systematic examination of all cases of typhoid fever with the view of isolating carriers, owing to the fact that trained assistance was insufficient. The results of several large hospitals went to prove that, so far as could be ascertained, very few cases became carriers. Such being the case, there was not sufficient justification for any radical and expensive measures. In view of the imperfect knowledge of infectious diseases and the necessity for regular scientific investigation, Dr. Williams suggested that the State might possibly appoint a certain number of investigators to be attached to several of the larger hospitals of the kingdom, who might in union eventually shed light on the cause of those diseases. Local authorities could not themselves be expected to go to that length.

Dr. A. H. BYGOTT (Barking) said attention possibly should be paid to obscure diseases of young children; recently it was possible to trace a small outbreak to one who had been treated for a prolonged illness in which enteric fever was not suspected. Dr. Harris of Southampton had recorded a similar case. With reference to scarlet fever carriers, undoubtedly some of the cases were associated with unhealthy naso-pharyngeal conditions which might be considerably reduced by surgical treatment. That was apparently quite safe if done carefully by the removal of adenoids by one sweep of a curette without anaesthesia—a simple and almost painless proceeding which had been found to be quite sufficient for the purpose. The suppurating condition of the adenoids, as seen by inspection, thoroughly justified the removal. The use of vaccine treatment in such cases was likely to lead to good results, and it was desirable that medical superintendents in large institutions should stimulate their assistants to make investigations in this direction.

The PRESIDENT, in concluding the discussion, said that it had shown the importance of looking at the problems of public health from different points of view, and that at the present time the position was that carrier cases should be regarded as possible producers of disease, but that the medical officer of health must not neglect anything to endeavour to elucidate the difficult and obscure points of his work.

DISCUSSION ON MEDICAL EXAMINATION IN RELATION TO CLAIMS FOR DAMAGES OR COMPENSATION.

OPENING PAPERS.

I.—ROBERT JOHN COLLIE, M.D., J.P.,

Medical Examiner for the London County Council; Chief Medical Officer for the Metropolitan Water Board; Examiner, Accidents and Claims, Sun Insurance and other Accident Offices.

OBSERVATIONS UPON SEVENTEEN THOUSAND CONSECUTIVE MEDICAL EXAMINATIONS, CONDUCTED CHIEFLY FOR THE PUBLIC SERVICE.

THE following brief notes are based upon 17,000 consecutive medical examinations which I have conducted within the last six and a half years on behalf of two large public bodies; many of the medico-legal examinations, however, were conducted for insurance companies and solicitors. They are grouped as follows:

	Examinations.
I. Entrance examinations as to physical fitness	7,742
II. Sickness and accidents amongst employees	7,073
III. Medico-legal cases	2,185
	17,000

I.—ENTRANCE EXAMINATIONS AS TO MEDICAL FITNESS.

Results of Medical Examinations as to Physical Fitness of Candidates for Entrance into the Public Service.

Passed at first examination	6,316	
Passed after postponement	294	
Passed temporarily, subject to re-examination yet to take place	65	
Total passed		6,675
Rejected at first examination	652	
Rejected after postponement	85	
Total rejected		737
Pending		15
Total cases		7,427

(Representing 7,742 examinations.)

Summary of causes of rejection:

Defective visual acuity	311
Colour blindness	76
Nephritis	69
Valvular disease of the heart	63
Hernia	54
Varicose veins	39
Disease of lungs	13
Various skin diseases	11
Syphilis	10
Diabetes	9
Varicocele	9
Poor physique	4
Various conditions of infrequent incidence	69
Total cases	737

Varying Standards.

It is obvious that the standard of pass for the different branches of a public service must vary with the nature of the proposed occupation of the employee. Perfect vision, for instance, is necessary in the case of all firemen, as well as very full development of the muscular system; whereas for clerical work, a larger number who have visual defects which are remediable by the use of lenses are passed, provided they procure suitable glasses. In the case of electric car drivers, the eyes are specially tested for visual acuity, the standard being perfect vision. They are subjected to a lantern test, as well as Holmgren's test for colour blindness, and are also examined for tobacco amblyopia.

In testing the eyes for visual acuity with the ordinary spectacles supplied for this purpose by opticians, it is astonishing how small a deflection of the head to one side enables the candidate to use his second eye, which is apparently covered. Many years ago I had large pieces of aluminium attached to the ordinary circular discs, and I am satisfied that these eliminate this possibility of error.

EXAMINATION OF URINE.

Albumen.

The mere presence of albumen in the urine is by no means an indication of nephritis, either acute or chronic. I never summarily reject candidates because albumen appears to be present in the urine when I first examine them, because frequently upon re-examination it is absent. Albumen is temporarily present in the urine much more frequently than is supposed; it is not fair that a candidate should be finally rejected until microscopic examination of the centrifugalized deposit has been made. The examination of over 8,000 specimens of urine impresses me with the feeling that there is yet much to learn. I have repeatedly noticed that when albumen has been found in the urine, if the patient is asked to pass a second quantity for further test, albumen is not infrequently absent, although the second specimen is passed but a few minutes after the first. In a large number of cases I believe the first reaction was really produced by nuclear albumen obtained from a deposit lying in the urethra, probably the result of an old gleet, which, being washed out by the first sample examined, was, therefore, not present in the second.

There is, of course, no doubt that in many cases, especially in young adults, albumen is indicative of what is known as "physiological or adolescent albuminuria," and does not point to organic change in the kidneys.

The difficulty lies, not in the academic question as to whether functional albuminuria is a sufficient reason for rejecting a candidate who is otherwise healthy, but in settling whether a given case is or is not due to definite nephritic mischief. Any one who has conducted many examinations must be satisfied that it is unjust, when considering the temporary passage of a small quantity of albumen (which is, after all, but a symptom of too often we know not what), to magnify it to the importance of an organic disease and reject the candidate.

The problem can only be solved by repeated examinations for albumen and microscopic examinations of the deposit at stated intervals on several consecutive days. Hyaline casts alone do not indicate disease; I think it unwise to reject a candidate (altering, it may be, his whole career) on account of the doubtful presence even of epithelial casts—especially when one remembers that the statement of the presence or otherwise of a doubtful cast often depends upon the personal equation of the microscopist. If I could re-examine the urine of many of the functional cases of so-called physiological albuminuria which I have passed into the service, I feel satisfied I should have nothing to regret.

Some time ago I found albumen in a specimen of urine, and laid it aside for further testing. The next candidate could not urinate in the consulting-room, and was asked to do so alone in my laboratory. Finding he could not micturate even then, he craftily presented me with a specimen which he poured from the one he found already there. It was only upon my telling him that I had found albumen in his urine that he confessed. The lesson was a valuable one.

Sugar.

So many substances besides glucose are reduced by cupric sulphate, that I never reject a candidate unless with the phenyl-hydrazine test the crystals of glucosazone are actually seen on the field. Indeed, I have observed the presence of temporary glycosuria, accompanied by a high specific gravity, and crystals of glucosazone, induced apparently by mental and physical causes. Candidates often make long night journeys to London. They not unnaturally have considerable mental stress when appearing before selection committees and subsequently before the medical examiner. They are not infrequently the subjects of a condition which responds to all the tests of diabetes, but which is nevertheless of a temporary nature, as I have frequently proved by one or more re-examinations. It should not, however, be forgotten that glycosuric urine often show the early stages of true diabetes.

An elderly professional man stated very definitely that he could not urinate when asked to do so in my presence, which it is my invariable rule to insist upon. When told that the examination could not be completed without it, he was obdurate, but later, when offered the advantage of a room to himself, he stated quite frankly that he was the subject of diabetes, and that I should most certainly find sugar in his urine!

On one occasion a specimen of urine voluntarily brought in a bottle was found to be normal, but the urine passed in my presence contained sugar.

When a patient consults his doctor there is no reason why he should not be absolutely frank; indeed, the whole transaction is based on these premisses. When examining candidates for important positions, one has to introduce a little of the spirit expressed in the old quotation. *caveat emptor*.

EXAMINATION OF TEETH.

Dental Caries.

I now pay special attention to candidates' teeth. I regret that I have only recently appreciated the immense importance of this subject.

From a glance at the foregoing statistics it is apparent that a preliminary medical examination must, in view of the Workmen's Compensation Act, from a commercial point of view, be distinctly to the advantage of the employer of labour. The percentage of rejections is over 10 per cent. A somewhat stringent examination is insisted on for banks and large mercantile firms, and judicious and far-seeing employers are gradually realizing the necessity of such examinations even in much smaller commercial undertakings.

II.—EXAMINATION OF EMPLOYEES FOR SICKNESS AND ACCIDENTS.

Employees who have been on the sick list for twenty-eight days from any cause are sent to me for examination and report. This is found to be a considerable check upon the temptation to malinger, or to unduly prolong illness after accidents or sickness. For instance, a man who had been drawing sick pay for nearly two years, at the date of the passing of this twenty-eight day rule, explained that he was weak and had a pain in his back, that the weather affected it, and that he was unable to work. I satisfied myself that he had no physical disability, and pointed out to him that as he had not given notice of his injury a year ago he could not claim under the Employers' Liability Act; that the alleged accident happened prior to the passing of the Workmen's Compensation Act of 1906; that I believed he was never really ill; and that he was to return to duty forthwith, otherwise I would report him unfit for duty, in which case he would be dismissed without compensation. He returned to work and has never complained since of his back, or of any other portion of his anatomy.

The twenty-eight day rule, though by no means equal to systematic re-examination at set intervals, certainly enables me to keep an eye to some extent generally upon the health of the staff. For instance, a tramway driver a little time ago was discovered to be suffering from aortic regurgitation, and a school attendance officer from locomotor ataxia, when they presented themselves on the expiration of twenty-eight days' sick leave on account of a slight injury in the first case and a sprained ankle in the second.

That the adoption of this method of medical inspection has been eminently satisfactory is proved by the statistics of one department alone, where some 1,400 men are employed. All are medically examined before entering the service, and are entitled to medical attendance by district medical officers paid by capitation grant. It was found that, *prior* to the institution of the independent medical inspection after twenty-eight days, the total number of days men were on the sick list amounted in one year to 14,400; whereas subsequent to the institution of the new rule this number was reduced to 9,600—a reduction, in a well-organized and disciplined small force, of no less than 4,800 days in one year, the percentage of reduction being 33⅓ per cent. During the corresponding periods, the total number of sick men for *more* than twenty-eight days was reduced by the somewhat surprising figure of 50 per cent.

The following table gives a general idea of the incidence of sickness occurring in the two large public bodies I have referred to. None were sent for report prior to the twenty-eighth day of absence from duty.

Classification of 2,092 Cases of Sickness, showing Proportion of Certain Diseases.
(These Represent 4,024 Examinations.)

Infective Diseases—566 Cases:	
Rheumatism	130
Pulmonary tuberculosis	118
Influenza	89
Pneumonia	72
Rheumatic fever	48
Inquiries as to infection after exposure to various infectious diseases	37
Rheumatoid arthritis	15
Enteric	10
Tonsillitis	9
Scarlet fever	8
Primary syphilis (secondary syphilitic conditions classed under systems particularly affected)	7
Laryngeal phthisis	7
Diphtheria	4
Actinomycosis	1
Diseases of the Nervous System—331 Cases:	
Neurasthenia	127
Insanity and mental depression	49
Cerebral haemorrhage	23
Sciatica	24
General paralysis of the insane and locomotor ataxia	20
Epilepsy	16
Paraplegia and hemiplegia	12
General mental deterioration	10
General Diseases—215 Cases:	
Debility	57
Various trifling disabilities	40
Premature senility	39
Gout	27
Anaemia	22
Diabetes	15
Diseases of the Digestive System—174 Cases:	
Gastric conditions	86
Appendicitis	32
Haemorrhoids	20
Diseases of the liver	16
Diseases of the rectum	12
Abscess of jaw	5
Diseases of the Respiratory System—155 Cases:	
Bronchitis	83
Pleurisy	31
Asthma	20
Diseases of the Circulatory System—153 Cases:	
Valvular disease of the heart	96
Varicose veins, venous thrombosis, and phlebitis	43
Arterio-sclerosis	3
Erythromelalgia	1
Diseases of the Organs of Locomotion—70 Cases:	
Tuberculous synovitis of knee	2
Tuberculous abscess of foot	1
Diseases of the Eye—68 Cases:	
Defective vision from various causes	23
Iritis	7
Cataract	7
Ophthalmia	5
Choroiditis	4
Glaucoma	3
Diseases of the Urinary System—61 Cases:	
Nephritis	44
Stone in kidney or bladder	10
Cystitis	4
Myxoedema	1
Morbid Conditions incident to Various Parts	55
Cancer	33
Diseases of the Skin	55
Toxaemias	47
Alcoholism	39
Diseases of the Generative System	36
Diseases of the Ear	25
Middle-ear disease	21
Diseases of the Lymphatic System	17
Diseases of the Nose	7
Undoubted Malingerers	57

Classification of 1,814 Cases of Accidents.
(These Represent 3,049 Examinations.)

Contusions, burns, and various wounds of limbs	667
Fractures of bones	172
Sprains of limbs	160
Herniae	124
Injuries to back	110
Injuries to ear, mouth, and eye	101
Injuries to head, and traumatic neurasthenia	95
Synovitis of knee	73
Amputation of fingers for traumatism	32
Dislocation of limbs	30
Injuries of chest, ribs, and neck	24
Injuries of abdomen, pelvis, and organs of generation	18
Displaced semilunar cartilage of knee	15
Various injuries of infrequent incidence	80
Undoubted malingerers	113
	1,814

I systematically practise therapeutic suggestion in all cases of sickness or accident. A given date when an employee ought to be well is stated with some assurance, and the knowledge that this date is immediately reported to the employer helps the suggestion. The assumed omniscience of the exact date of the disappearance of pain, and of the employee's fitness for duty, in four out of five cases—provided the case is not before the law courts—secures the desired result.

The rules of the large public bodies which I serve effectually prevent one from living in a fool's paradise in this matter, for if an employee does not return to work on the date named, he is sent back to me on that date for re-certification.

Working men who have fully recovered from an illness not unnaturally are somewhat averse to beginning straight away the hard grind of the daily routine of manual labour. It is a good plan to endeavour to obtain light work for a time after a prolonged absence from work. It is cruel, assuming convalescence has not been unduly and wilfully delayed, to expect hard physical labour from any one whose muscles are temporarily weakened by disuse. My experience is that employers are quite reasonable in the matter if tactfully approached.

Malingering.

Malingering is much more common in accidents than disease, probably because of the legal liability; it has to be anxiously watched for and considered. The term is applied solely to cases of gross deception, perhaps founded on slight physical symptoms, or perhaps on none at all. All are liable to exaggerate symptoms when such may turn to our advantage or excite sympathy. For instance, pain in the back following an accident is a condition which is often caused by suggestion—auto-suggestion. It does not necessarily mean malingering; but pain in the back after an accident, be it caused by a wealthy railway company or by an accident in one's own garden, is, much more often than not, accompanied by no serious pathological change. The pain is often only psychic.

The injury inflicted on real sufferers by shammers is so great that the malingerer really deserves no mercy.

It must be remembered that sick and injured workmen belong to a class whose education is incomplete, and that they are peculiarly unfit to take a detached view of themselves, especially when ill. Too often the essential aspect of their case is the value unconsciously put upon their abnormal sensations in so far as they influence the continuance of sick pay. If an introspective, self-centred workman is unfortunate enough to find himself entitled, when sick, to considerable material advantages, being in receipt of, say, a larger sum when ill than when at work, he is much to be pitied, for he is put in a position that many, in a class whose antecedents and traditions are not his, succumb to. It is impossible for him to think impartially. Consciously or unconsciously, he is influenced not only by his immediate environment, but by his own individual mental outlook.

When a poor man is idle, and in consequence forfeits the benefits of labour, he is looked upon as merely vicious. The vicious idle man is as yet not amenable to the law; but when in addition to being idle he is healthy, and claims an allowance from the funds accumulated by a section of the community for the use of invalids, it is obvious that if such a practice were followed by large numbers it would inevitably disintegrate into units the section of the community so combining. Hence the malingerer must be seriously dealt with, for not only does he eat the bread of idleness, but he does so at the expense of the community, some of whom will resent, some imitate, his vicious conduct. So long as medical men who attend the working classes are dependent on the working men themselves, and the club officials, for the security of the tenure of their office, so long will gross exaggeration and malingering be rampant.

The means for the prevention of malingering may be summed up as follows:

1. Financial independence of the medical attendant.
2. Some system of registration which shall make it apparent to the medical attendant what is the full amount of sick pay, if any, the patient is in receipt of.
3. Repeated periodical independent medical supervision.

III.—Medico-Legal Examinations.

Questions of fitness or unfitness for duty, or for further service, are daily referred to me by heads of departments of both services. When, however, an employee is sent to me by the solicitor of a public body for examination, it generally means that the generous treatment of the sick or wounded is being taken advantage of, and I know by experience that I shall probably have to substantiate my opinion in court in opposition to the slings and arrows of opposing counsel and the too often partisan evidence of members of my own profession. This work, nevertheless, is useful; it prevents the mental attitude of *laisser faire* which much work in one particular line often engenders.

The fact that my time is not wholly at the service of either public body, that I am engaged in practice, and that medico-legal cases are referred to me by insurance companies, metropolitan borough councils, solicitors and others, is a distinct advantage, for it often happens that, when under examination in the witness-box in jury cases, an attempt is made to prejudice my evidence by insinuating that it is biassed in favour of a particular body to which counsel imagine I devote all my time.

It is always unwise to make a definite accusation of fraud unless one is prepared to substantiate it with strong proof; but, having formed an opinion, the medical witness should have the courage of his convictions, and, when he has once given an honest opinion or has made a statement which he knows to be true, no amount of forensic craft should cause him to contradict himself in the witness-box.

In a large number of cases which eventually come before the courts, introspection and subjective sensations are unwittingly fostered, and a traumatic neurosis is brought into being which is of psychogenic origin, and does not rest upon the physical injury itself, but upon the idea of the injury, which in its turn is dependent upon the personal equation and the personality of those who are associated with the claimant in the lawsuit.

Experience teaches that closely similar injuries attributable to like accidents present one kind of clinical picture, and run one kind of course amongst those who make no claim for compensation; but they present a very different picture and run a very different course amongst those who embark upon the troubled sea of litigation. This difference is highly significant of the influence of litigation in magnifying pain and perpetuating incapacity.

Table Compiled from a Blue Book which was Issued by the Home Office in September, 1910, dealing with the Official Records of Compensation under the Workmen's Compensation Act, 1906.

Cases during the year 1909.
335,953

Settled out of Court.	*Settled in Court.*
332,866 cases—that is, 99.1 % of whole.	3,087 cases—that is, 0.9 % of whole.

Verdict for Applicant.	*Verdict for Respondent.*
2,427 cases—that is, 78.6 % of court cases.	660 cases—that is, 21.4 % of court cases.

This means that in 99.1 per cent. cases the employer submits to the injured workman having his claim settled without a judicial decision. Nor is the reason far to seek. In an arbitration case where a workman is injured, the only point the judge (who, of course, has no real medical or surgical knowledge) is called upon to decide is a purely surgical one, and points are always raised both by solicitors and doctors who specialize in these cases, with results so unsatisfactory that 99.3 per cent. of the cases are settled apart from the court. It costs from £20 to £30 to defend a county court action of this sort. Workmen and their solicitors know this. Is it unfair to suggest that a large proportion of the 99.1 per cent. cases are settled by processes which might be described by an ugly word?

If the employers' doctors had the courage, they would at a very early stage cause morbid growths of ideas to abort by resolutely declining to be a party to exaggeration and self-examination. If this is not done at an early stage it is hopeless to attempt it later. Surely it is the duty of medical men to help the State to count amongst her citizens the maximum number of elements capable of working.

II.—Arthur Mechan, M.B., C.M.,
Medical Examiner, Iron Trades Employers' Insurance Association.

MEDICAL ASPECTS OF WORKMEN'S COMPENSATION ACT AND INSURANCE.

Since the adoption of the Act of 1897 I have examined between five and six thousand workmen, and upon these have written between eight and nine thousand reports. All were men who claimed compensation, and the cases therefore could not be classified, at least from the men's point of view, as trivial accidents. These accidents

occurred to, amongst others, tradesmen of the following types: Engineers, riveters, platers, joiners, painters, red-leaders, tinsmiths, moulders, coppersmiths, brassfounders, boilermakers, carpenters, labourers, cranemen, electricians, riggers, miners, etc.

The question, What is an accident? has been asked and defined over and over again, and we are still straining after an answer. In the meantime we have to rest content with the definition that an "accident" means something fortuitous and unexpected, and even this was taken exception to in the House of Lords, in so far as it was sought to use it as limiting or defining the word in the Workmen's Compensation Act.

My twelve years' experience has convinced me that unless it can be proved by legal demonstration that no injury (I discard the word accident) had ever been sustained, an insurance company is wise to begin negotiations for consideration of the claim. No doubt in some cases the medical opinion might be necessary to strengthen the legal one. Having admitted accident and injury, the sooner the medical examination and report are obtained the better. There is often a great deal of time lost in preliminaries, and I am convinced that early medical examination and a prompt endeavour to settle would lessen very considerably the expense of litigation.

One class of accident to men over 40 to which I would direct special attention is injury to the head. I refer more especially to cases in which there has been concussion either for a short or a prolonged period. All such cases should be settled early and generously. No doubt a number get well soon after a settlement, and insurance officials are apt to criticize the judgement of the medical man. My experience is that if no settlement is made these cases hang on indefinitely, their mental outlook is somewhat obscured, and the best therapeutic remedy is return to work. They are not malingerers, and should be treated accordingly.

The kinds of accidents which are of most importance in relation to compensation claims, so far as the question of acceleration is concerned, are as follows: Hernia (rupture), cerebral haemorrhage (apoplexy), heart disease, haemoptysis (spitting of blood). All these are said to be, or can be, brought on by muscular exertion, described usually as excessive muscular strain. Medically we have to admit this, although morally we know that the breakdown in ninety-nine cases out of a hundred would have happened whilst the victim was performing any of the ordinary domestic duties of life. If, however, the natural breakdown happens whilst the person is "in the course of employment," whether excessive or unusual strain can be proved or not, accident is brought in with acceleration superadded to make the case complete. In any of the above type of injuries it is wise to lose no time in settling.

In my opinion hernia is never an accident; the man or woman was born with it, and its presence is only recognized when it becomes apparent to the eye. I need not go into this, however, as every judgement yet, as far as I know, has gone in favour of the claimant. It does not matter what theories one may have about the rupture—the question put is, Was there a swelling there before the alleged accident? and if not, Did the accident accelerate it, and so render the person unfit for work? The question is put every time in the witness-box, and every honest medical man must answer in the affirmative.

The same argument applies to apoplexy, heart disease, and blood-spitting. In all of them, unless there is absolute proof—not medical proof or theory only—that the condition existed prior to the alleged cause, the wisest course is to pay. Such cases are most difficult to deal with, as they are the result of an agency which cannot be accurately defined or estimated. Fractures, dislocations, loss of an eye, loss of a limb, and the numerous other apparent surgical lesions and results can be seen and estimated, but muscular sprain causing serious lesions to an internal organ is the Klondike of the touting lawyer.

I question whether the term "malingering" quite designates the class of parasite which the Compensation Act has created. A malingerer in the accepted sense is a person who feigns illness in order to avoid work; the new type is a person who feigns illness in order to get money. To his credit, however, let it be said, that he is not so morally degraded as the Dodson and Fogg lawyer, who in 90 per cent. of cases is the chief instigator of blackmailing.

Accepting the fact, what is the remedy? Although undoubtedly malingering has increased and is increasing, experience fortunately has taught us much in the manner of combating it. I would not go so far as some writers who advise that every case requesting compensation should be looked upon with suspicion; if such an attitude be taken up, one's judgement is primarily biassed; rather let us take the attitude of considering every man honest till he is proved a rogue. I have several times seen this straightforward assumption disarm the claimant, and in appreciation of my interest and kindness "he gives the show away." This is especially the case in racked backs, where nothing at the beginning of the interview could or would induce him to stoop, but before the interview was over he stooped—and I conquered. However objectionable the procedure may seem, we must condescend occasionally to the part of professional detectives, and so long as legitimate and honourable means are adopted there can be nothing against such a proceeding. Such means should never be used when there is any doubt as to injury and probable serious results. I refer to the cases where on careful consideration one feels justified in adopting such a procedure as I have indicated. It is my universal practice that if the patient can come to see me, to have arrangements made whereby I can see in every detail what he is able to do and what he is not able to do, he of course being quite unconscious of this. In this way I have often caught them bending when bending was an alleged impossibility; I have seen knee-joints straightened to the normal when the blackguard came in with two sticks for support on account of his permanently stiffened knee; I have seen a man who could not by any means, mortal or immortal, touch his ear with his hand, throw his braces over his shoulder with the utmost agility, and put on his cap with the alleged permanently maimed member.

Repeated examinations of a supposed malingerer are necessary, as even the expert and professional malingerer will make a mistake as to his symptoms and their effects upon him. I desire to insist on the advantage of early and repeated medical examination in such cases. Too much is expected of us in one medical report, and it is very difficult to give an opinion as to the ultimate result of an injury if the question of malingering is prominent. There is only one thing worse than reporting a malingerer as suffering from the effects of an accident, and that is reporting an honest man as a malingerer. The enormous amount of money spent on litigation, and increased premiums to the insurance companies as the result of that litigation, is born of accident primarily, and consequent necessary medical interference. Unfortunately the law grinds very slowly, and it is here the awful leakage occurs. It seems to me much could be done to ameliorate such a condition, but it is only by the combined action of those who have suffered most, and are still suffering, from the terms of the Act (I say the terms of the Act and not the Act itself, because I consider the Act essentially a good one), that improvement can be brought about.

If an arrangement for earlier examination by medical referees or assessors could be established an enormous amount of time and money could be saved. At present, according to Section xv of the schedule, the court may refer a matter to a medical referee "on application being made to the court by both parties." This will never be approved by lawyers, because if one makes the application the other naturally thinks his learned friend has "something up his sleeve," and promptly objects. Besides, consider the fees that would ultimately be lost to them both. More use should be made of medical referees and of the valuable opinion of a medical assessor, and their services should by law be enforced at an early stage of litigation. If this were done, a judge who has spent his whole life in law will cease to be in the incongruous position of giving an opinion as to whether or not a man died from haemoptysis or haematemesis—two terms which he may never have heard of in his lifetime—which he will forget as soon as he has signed his interlocutor, and which he probably will never hear of again. Medical referees and assessors are called upon on only a small percentage of cases because their requisition is optional. Make their general use compulsory, and I am certain that it would have a marked influence in lowering insurance premiums. I maintain that if *either* party could legally require the sheriff or judge to call for a referee's report or for an assessor to sit

with him on the bench at an early date after the alleged accident, there would be greater justice meted out to all, and the saving of time and money would be enormous. So long as the present enactment exists—namely, that both parties must apply—then employers must make up their minds to continue carrying an irksome and unnecessary incubus.

DISCUSSION.

Dr. A. H. Bygott (Barking) thanked Dr. Collie for his able paper, but said that while he might be able to arrive, as a rule, at a satisfactory conclusion on questions involving pecuniary liability to sick or injured workmen, yet his methods in the hands of a less experienced person might cause some injustice to the patient. At present in the case of friendly societies when a second opinion was required one was often sought from a rival practitioner, with very unsatisfactory results; in cases having a nervous basis the question of hypochondriasis was very important, and it was very difficult to know what to do with them. The training of medical men to follow such a speciality as Dr. Collie's would be for the public benefit, as in such cases experience as well as natural ability were most important assets. It was most desirable that doubtful cases should be admitted to an institution in which the patient could be kept under observation, as in some cases he would get bored with the monotony of the routine, and the course to follow would be quite obvious; such residence in suitable cases should be made a necessary condition to receiving pay. Medical men ought always to give a detailed reason on all certificates showing incapacity for work, stating why the person was to receive benefit, and not simply give some name for his disease; this simple method would frequently ensure a more careful examination with beneficial results.

Mr. E. H. Helby (Medical Officer, H.M. Prison, Birmingham) suggested that as a means of dealing with cases of prolonged malingering it should be made legal for the employer to demand and the court to order that the workman should be treated at the employer's expense in certain scheduled institutions. By that means, if an early application were made by the employer to the court, an independent and unquestionable second opinion could be obtained.

Dr. J. G. McBride (York) said that as medical inspector of the North-Eastern Railway Company he felt that he could speak with some authority. He agreed with most of what Dr. Collie had said. The company, however, examined men who had been off more than twenty-eight days to prevent them going back to work too soon, both for the sake of the public and in order that slight accidents should not lay up a man already debilitated by sickness. He did not find much malingering among the regular staff; it occurred chiefly among the casuals, such as dock hands, of whom numbers were employed. The two classes of case most troublesome were injuries to the head and traumatic neurasthenia.

Dr. W. F. Dearden (Manchester) said the statement made by Dr. Collie that malingering was more prevalent in case of accident than disease was worthy of some consideration. There were several reasons for it. There were more industrial accidents than cases of disease, and workpeople were not yet quite so conversant with obscure symptoms of industrial poisoning and disease as they were with the effects of accidents, but the main reason was the barrier raised by the particular function of the certifying surgeon. That this last factor worked exceedingly well was shown by the fact that very few appeals were made to the medical referee, and where such were made very few had been successful. He thought, however, that there were a few minor deficiencies in the system which could be remedied. The certificate of the certifying surgeon was a bare one, and quite properly so, but in case of appeal he was not asked to state reasons which would in many cases be of great assistance in arriving at a just decision. Another matter which required remedy was that it appeared to be nobody's duty to send the applicant at an early date to the certifying surgeon, who was supposed to certify on symptoms, and these had often disappeared when the man came up for the necessary certificate. Another difficulty was the absence of ability to certify the date of commencement; compensation was only due from the date of the certificate. Another point was that the fee of 5s. which the applicant had to pay, though not large, was very difficult to get together, and was a big deduction for a man whose compensation amounted to 10s. or 17s. a week. He thought this should be a charge allowed for in arranging the sum to be paid by the insurance company.

Mr. Salisbury Sharpe (Surgeon, Great Western Railway Company) asked Dr. Collie further concerning his plan for periodical examination of employees irrespective of illness, as there were difficulties in formulating a practical plan. The diminution of malingering was due very much to the doctor's action in the matter, for workmen were finding doctors not easy to delude. One of the difficulties causing loose and vague certification by club doctors was the demand of the societies for an instant certificate on the first interview, when disease was often in an undeveloped form and an accurate diagnosis impossible. There ought to be power to delay certficates for a day or two, and they should then conform to the "standard nomenclature of diseases." Club practice was an evil because doctors were dependent upon men's votes for appointment.

The President of the Section (Dr. A. Bostock Hill) said that the main point of the discussion appeared to be the difficulty of dealing with malingerers—a difficulty which must become accentuated when the Insurance Bill came into force. He strongly supported the view that it was important that a medical referee should sit with a judge, because in his experience in medico-legal cases he had found that members of the Bar, looking at the evidence from the point of view of the case alone, were not always willing for the witness to say all he wanted, and that important facts were sometimes not allowed to be introduced; that did not make for justice on some (possibly rare) occasions.

Dr. Collie, in reply, pointed out that those who had much experience of these cases felt that malingering was not less but more common than formerly. It was his practice to induce doubtful cases of functional nerve disease to enter a hospital, and he never had any difficulty in inducing employers to pay the actual out-of-pocket expenses of the hospital. The employee, therefore, had no excuse for not entering a hospital. The results were very striking and most encouraging.

INDUSTRIAL DISEASES OF BIRMINGHAM.

By Robert William Edginton, M.D.,
Birmingham.

Birmingham is different from most other manufacturing towns in that its industries are many and varied. It is commonly said, in after-dinner speeches, that we make everything from a pin to a steam engine, and that even the gods of the heathen are of local manufacture, although I am bound to say that after a long experience as a certifying surgeon I have failed to discover the factory at which they are made. In most of the great northern towns, in the Potteries, and in the coal-mining districts, there are certain industrial diseases prevalent which are acknowledged to be produced by the staple trade of the place; but I think I shall be able to show that, at any rate in the case of lead poisoning, this condition may be produced by many trade processes, in some of which it would hardly be expected.

Brass-founders.

Birmingham is the home of the brass-founder, and consequently you would naturally expect me to say something about the much debated brass-founders' disease, but as this is not an industrial disease which is scheduled under the Act for compensation, it does not very often come under the notice of the certifying surgeon. Brass-founders' ague undoubtedly exists to a very large extent, but its effects are transitory, and except in those cases where lung troubles supervene, it does not lead to any permanent disablement. About two years ago a Home Office inquiry on this disease was held in Birmingham, and at that time

I visited most of the brass-casting shops, and was surprised to find that on the whole the casters were a fairly healthy set of men, and not the undersized, weakly, and debilitated men that I had been led to expect. Most of them suffer occasionally from attacks of ague, which they call "smother," especially if they have been away from work for a short time, and even old hands will very many of them get an attack on Monday morning. These attacks vary very much in severity, but all of them pass off in a few hours, generally after an attack of vomiting, and the men are able to continue their work.

Lung complications are common, and many men die from chronic bronchitis and fibroid phthisis. Digestive symptoms and nervous conditions are often present, but in considering the causation of these—the conditions of the work, the exposure to great heat and sudden cold, the presence of large quantities of dust in the shops, and the habits of the men, who are not over-careful with regard to alcohol, must be taken into account, as well as the inhalation of the fumes of the metal, which arise in a dense cloud when it is poured from the melting crucible into the moulds.

As a result of the inquiry before mentioned, special regulations for brass-casting shops have been framed, which provide that in all shops of a less cubic capacity than 3,500 cubic feet per workman, hoods attached to or over the crucible, and exhaust ventilation by means of fans shall be put in, and in all shops where this has been done I have found by inquiry that the frequency of attacks of ague has very much diminished.

Personal cleanliness is also most important, and lavatory accommodation, with hot-water supply, soap, and nail-brushes, is now insisted on.

Lead Poisoning.

By the Workmen's Compensation Act of 1906, the certifying surgnon had laid upon him a duty of very grave responsibility, in that he is called upon before the workman can claim compensation to give him a certificate that he is or is not suffering from the effects of poisoning by one of the following metals—lead, mercury, phosphorus, and arsenic. Now, of course, in well-marked cases, and particularly in the districts where the metal is used in the staple industry, this is perfectly simple, but in a city like Birmingham, where these metals only play a subordinate part in the various manufactures, it is often very difficult. The certifying surgeon is constituted almost the sole arbiter as to whether the applicant is entitled to compensation or not, for although it is provided in the Act that if either the employed or the employer is not satisfied with his decision, appeal can be made to the medical referee, yet in practice this is very seldom done.

My experience leads me to think that the idea of compensation is growing very largely in the minds of the British workpeople, and in this I am confirmed by many conversations which I have had with foremen of shops, and that if they meet with the slightest injury, or are in the most remote way brought into contact with the metals mentioned, their first thought is to make a claim, and in the case of lead they are becoming so familiar with the symptoms that they often reel them off like a textbook. They get a little wrong sometimes, as for instance when they tell me, as they sometimes do, that their teeth were quite blue when Dr. So-and-So saw them a few weeks before, or that a blue line on their gums has disappeared within a week or so, when of course if a blue line is once established, it takes many months to disappear. One man with very slight symptoms said he thought he should go for £100 compensation, and then start something else.

Since January, 1909, to June, 1911, I have kept records of all the cases that have been reported to me as suffering from lead poisoning, and during that period I have had 100 reported, and I have tabulated 84, the rest being those in which I could not agree in the diagnosis. Of these, 4 have been fatal, and in 21 paralytic symptoms in varying degrees have been noted. I have had no case of the encephalitic form of lead poisoning, but nephritis has been present in several, and it is a very difficult thing to say, in a fatal case of old nephritis in a lead worker, how far the result is due to lead, when all the characteristic symptoms of plumbism have disappeared. Many of the cases are so mild that it is difficult to attribute them to plumbism, and I would suggest that one symptom alone—for instance colic—is not sufficient to warrant a certificate of lead poisoning. The blue line on the gums was generally present, but not always, even in well-marked cases; for example, in three out of four compositors it was not present, and this accords with previous observations. With regard to the blue line, my experience is that in industrial lead poisoning it is seldom very marked, but in four cases in which I had positive evidence that diachylon had been taken to procure abortion, it was so marked as to be almost startling. In connexion with this I should like to call attention to a lecture by Sir Thomas Oliver, published in the BRITISH MEDICAL JOURNAL on May 13th, in which he clearly shows that lead has a very marked influence in producing miscarriage and stillbirth, and he suggests that this may be one of the probable causes of the declining birth-rate in this country. It is known, also, that lead adversely affects the reproductive powers of men, and that of the children born to lead workers a very much larger proportion than normal die under 1 year.

Lead Poisoning.

Painters of motors, carriages, safes, etc.	17
House painters	7
Bedstead and birdcage painters	7
Tinners and kettle makers	6
Lead smelters	5
Brass workers	5
Solderers	5
Compositors and linotypers	5
Makers-up of teapots, etc.	3
Putting together chandeliers	2
File-cutter	1
Metal refiners	2
Enamellers	2
Plumbers	2
Bullet makers	2
Lapidary	1
Glass cutter	1
Colour maker	1
Motor chassis fitter	1
Rubber worker (siever of litharge)	1
Carriage bead filler	1
Fitting knife blades	1
Affixer of letters on glass	1
Driller (lead hammer)	1
Diachylon	4
	84

It will be seen by the table that the largest number of cases occurred in the painters of motor cars, carriages, safes, and stoves. I class these together because the probable cause of the plumbism is the same in each—namely, the dust which is inhaled from the repeated sand-papering of the paint to secure a smooth surface. In the painting of the bodies of motor cars and carriages the wet process of rubbing down with pumice-stone and water is now generally adopted, but in the painting of the chassis, and particularly the wheels, the dry sand-papering is still used, and although, in the case of the wheels, this is done under a hood with an exhaust fan attached, there is sufficient lead dust raised to have caused many cases of plumbism.

The next group is that of house painters, and in these I think there are two probable sources of the poison, which would each apply in a lesser degree to the first group—namely, the taking in of lead with the food from the hands, and the inhalation of the fumes from the freshly painted surface. These men are generally at work away from the shop in buildings where it is impossible for them to wash their hands before taking food, and it has been recently shown by photography that even at ordinary temperatures lead is given off in fumes from freshly painted surfaces.

The next group is that of bedstead and birdcage painters. In bedstead painting it is the custom of the girls to smooth down the pillars with their hands so as to get an enamelled looking surface, and the paint becomes so ingrained into the skin of their hands that it is almost impossible to get rid of it, and it is no doubt conveyed to the stomach with food; this is also the case in a minor degree with birdcage painting, and both processes are often carried on in a room where there is a drying stove, and the high temperature produces more fumes from the fresh paint.

The next group, tinners and kettle makers, is interesting because they have recently been placed under special regulations, and now have to be examined every three months by the certifying surgeon. It is also provided that

the furnaces and spilling hearths shall be covered with a hood with an efficient ventilation to the outer air. The process consists in covering the inside surface of kettles, saucepans, etc., with a mixture of tin and lead, in various proportions in a liquid state, and this is done by dipping the article into a furnace containing the molten metal, and manipulating it so as to cover every portion of the surface, and then wiping away the superfluous metal; this is done on the spilling hearth immediately adjacent to the furnace, so that the man is exposed to fumes.

In the high-class articles the mixture consists of almost pure tin, but as this has gone up in price during the last few years, I fear that the commoner kettles are coated with a mixture in which lead predominates.

We have no smelting of lead ore in Birmingham, but the melting of old metal is responsible for 5 cases, and undoubtedly produced by the fumes given off from the molten metal in the furnace.

In the case of brass workers, lead poisoning chiefly occurs amongst the finishers and turners, especially those who are working on brass cocks, which are sometimes made of metal which contains 5 to 6 per cent. of lead, and in the processes mentioned a considerable amount of dust is given off. A great effort is being made in Birmingham to insist on exhaust fans being fitted in all polishing shops so that the dust may be drawn away from the workman, to prevent the inhalation of it, and it is hoped by this means to reduce the high mortality from phthisis amongst males which exists in Birmingham and Sheffield, where so large a proportion of the articles manufactured require to be polished.

Common solder is a mixture of tin and lead in about equal quantities, and most of the cases amongst solderers have occurred in girls who were soldering lamps, but in one case the girl was soldering the heads on to brass nails, and the fumes are undoubtedly the cause of the poisoning.

The printing trade is responsible for 5 cases—4 compositors and 1 linotyper. In the case of compositors, the men are constantly handling type, which is composed of a mixture of lead and antimony, the surface of which becomes oxidized. A considerable quantity of dust collects in the boxes in which the type is kept, and the constant movement causes it to rise into the air, where it is inhaled by the workmen. In linotypers I think the fumes from the molten lead are responsible for the poisoning.

In making-up teapots, etc., in the commoner forms, the mounts and the legs are filled with molten lead, and the spouts and the handles are soldered on, so that in this case the fumes are responsible. In putting together chandeliers and gas fittings white lead is used in the joints, and it is the custom of the workmen to test the joints by sucking the air out of the tubes, so that in this case the lead is probably conveyed directly into the stomach.

Hand file-cutting is being largely superseded by machine work, and it is not a large trade in Birmingham, but it is responsible for one case. The source of poisoning is the dust which is raised by the constant blows of the hammer from the lead bed on which the file is held down.

The source of the poisoning in most of the other trades tabulated is, I think, sufficiently obvious, and within the limits of this paper I cannot mention them all, but I think I have said sufficient to show that lead poisoning does occur in many and in some unexpected trades.

I have had two cases of eczematous ulceration of the hands and arms—one a bronzer and one a lacquerer.

Mercurial Poisoning.

Quite recently I have had two most interesting cases of mercurial poisoning in gun-barrel browners, and so far as I can ascertain the possibility of this happening has not hitherto been noted, as I can find no reference to it in any of the textbooks. This is a peculiar trade, which is carried on by individual workmen often in small, ill-ventilated shops, and is more or less a secret process, as each workman appears to have a recipe of his own for the solution which he uses. By inquiry I have ascertained that mercury, chiefly in the form of corrosive sublimate, enters largely into the composition of all. The other ingredients vary.

The process is as follows: The gun barrel is made hot by immersion in boiling water, and the solution is rubbed on with a piece of flannel; it is then allowed to cool, and when cold another dressing is given with the same solution and allowed to dry; this forms a thick, yellowish-brown rust, which is brushed off with a wire brush, and in this part of the process a considerable amount of dust is caused which is no doubt inhaled by the workman. This process is repeated for about ten times until the colour is dark enough, and sometimes takes as much as three days. The barrel is then boiled, and the solution is again put on hot and allowed to cool, and when cold two coats of solution are put on, and the barrel is then placed in an open furnace and boiled with the rust on it, and the corrosive sublimate which is in the rust is dissolved in the water, from which steam is constantly rising, which no doubt impregnates the atmosphere of the workshop with mercury, which is inhaled by the workman. The barrel is then wiped and oiled and the process is finished.

The symptoms were practically the same in each case, the most marked being severe spasms and tremors of the hands and arms, especially the right, tremors of the legs, and in a lesser degree of the face. The gums were spongy and inflamed, and most of the teeth had gone, and the few left were discoloured and decayed. The breath was putrid, and there was sickness. From the conditions of their work these men were in the habit of taking their food in the shop in which they worked, and paying very little attention to cleansing their hands before doing so, so that probably the poison was conveyed directly into the stomach as well as being inhaled.

Reviews.

THE GROUSE IN HEALTH AND DISEASE.

Opportunely at the opening of the grouse season, the final report of the Committee of Inquiry on Grouse Disease has made its long-expected appearance. It takes the form of two large and sumptuously illustrated quarto volumes bearing the title *The Grouse in Health and Disease*,[1] and, as the title implies, it deals not only with "grouse disease," but also with all questions affecting the health of grouse and the hygiene of the moor. It thus presents a monograph which cannot fail to be read with interest and profit by all to whom the welfare of the grouse is a matter of concern. Chief interest will naturally centre round the question of the disease itself, the actual facts which the committee have been able to ascertain, their interpretation and explanation of such facts, and their recommendations with the view to the eradication or prevention of the disease.

It is just over seven years since a small committee of gentlemen was formed to investigate the subject of grouse disease, but it was not until a year later, when the co-operation of the Board of Agriculture was obtained, that any active steps were taken. Lord Lovat was appointed chairman, and he has justified his position by the large proportion of the report which comes from his pen.

It was realized at the outset that an arduous and intricate task was in store. Epidemic grouse disease had been known and remarked upon for over a century. It had been the subject of observation and speculation to many who lacked the scientific and practical knowledge necessary to turn their observations to account, and in the latter half of the last century it began to assume the importance of a serious economic danger. Various general factors, climatic and so forth, were incriminated, but it was not until the advent of the modern science of epidemiology that the epizootic nature of grouse disease was insisted upon. Previous scientific investigations, by Cobbold on the one hand, and by Klein on the other, induced the committee to keep in view the possibility of two distinct forms of epidemic grouse disease. According to Cobbold, the causal agent was the threadworm, *Strongylus pergracilis*, while Klein came to the conclusion that the worm had nothing to do with the disease, which he believed was of the nature of an acute pneumonia caused by a colon bacillus. As the present inquiry progressed, however, it became increasingly clear that Klein had been

[1] *The Grouse in Health and Disease; being the Final Report of the Committee of Inquiry on Grouse Disease.* London: Smith, Elder, and Co. 1911. (2 vols., pp. xxiii and 512, 150; with 59 plates and 41 maps. 2 guineas net.)

in error in the interpretation of his observations. No grouse were found dead of pneumonia, and, as a result of careful pathological and bacteriological examination, it was soon evident that Klein's supposed pneumonia was in reality a *post-mortem* invasion of the lungs by *Bacillus coli* from the intestine. The error was due to the unavoidable delay in examining the birds and to the fact that such *post-mortem* changes were not at that time recognized.

The elucidation of this point left the way clear to follow up Cobbold's theory with undivided attention, and the evidence which steadily accumulated eventually left little doubt that it was the correct one. The committee, therefore, with practically no reservation, give as their opinion that the causal agent of epidemic grouse disease is the nematode worm, *Trichostrongylus pergracilis* (Cobbold). The disease is essentially a disordered state of nutrition resulting from the inflammatory condition of the caeca produced by the presence of excessive numbers of these worms. The worm occurs in moderate numbers in practically every adult grouse, but it is only when infection reaches a marked degree that serious symptoms supervene. The chief and most constant sign of disease is loss of weight. The committee insists that this is an invariable feature of the disease, and that, contrary to a hitherto widespread belief, birds in plump condition do not die. The not infrequent death of such birds can on careful examination always be ascribed to some other natural cause or to accident.

In order to comprehend how the worm causes the disease, it is necessary to understand that the caeca are the absorbing part of the bird's intestine. The worm does not bite, but it undoubtedly causes a considerable amount of mechanical irritation, evidenced by the inflamed state of the caecal walls. The life-history of the worm, a most important point in view of preventive measures, is comparatively simple. There is a free larval stage, with a metamorphosis, resulting in an ensheathed larva which is extremely resistant to adverse conditions. These metamorphosed larvae ascend the tips of heather, and may remain ensconced there for an apparently indefinite period. Infection ensues when the grouse eats the heather.

These, then, are the main facts with regard to grouse disease and its causal agent; it remains to be seen what preventive measures are feasible. Obviously the parasite cannot be attacked in the bird, but the larvae may be got at to a certain extent, and the predisposing causes may be met. Of the latter the chief undoubtedly are the insufficiency of food at certain seasons and the consequent tendency to overcrowding in particular areas. The principal food of the grouse is heather, which grows to a considerable age. In spring the only suitable heather is that about six to fifteen years old, and it must be the endeavour of those concerned to ensure an adequate supply of this at the critical time. This can only be attained by a methodical and thorough system of heather burning in a rotation of about ten to twenty years. By this means the old stick heather is cleared out and a plentiful supply of young growth takes its place. It is impossible to enter here into the various intricacies of heather burning and moor management in general, but we can confidently express the belief that the committee have fixed upon the most efficient means of attacking grouse disease.

We can hardly do more than touch upon the numerous other questions which have been dealt with in the report. Of considerable interest is the discovery of a coccidial disease which is fatal to young chicks but does not affect adults. An investigation of other causes of mortality in grouse has disclosed the surprising number of accidents to which they are liable, and their great power of recovery. The life-history, the physiology, and the food of the grouse have been treated in quite an able fashion. An important chapter on the weight of grouse is somewhat prejudiced by the apparent difficulty of obtaining specimens of healthy grouse during April to July. The part dealing with the management and economics of grouse moors is extremely instructive and practical.

The second volume consists of a series of appendices relating chiefly to the financial and administrative side of the inquiry, but it also includes a detailed analysis of the weather conditions during the investigation, as well as a series of maps showing the incidence of grouse disease since 1872. The financial statement shows that the inquiry has cost close upon £5,000, all of which has been contributed by private subscription, and it is to the credit of the management that such an extensive inquiry has been conducted on so economical a scale. The committee is to be congratulated on a most successful issue, and it is to be hoped that the sale of the report will remove the deficit of £300 which still stands to their account.

THE PITUITARY BODY.

UNTIL within quite recent years, remarks Professor FISCHER in one of the earlier pages of his book on the *Hypophysis*,[2] *Acromegaly and Morbid Obesity*, the usual textbooks and works of reference would have led the inquirer to believe that the functions of the pituitary body were still shrouded in the deepest obscurity. This, however, he insists, is no longer the case, and the persistence of any such impression can only be due to an insufficient acquaintance with the extensive, but scattered and often inaccessible, literature of the subject. It has been the author's task in this book to gather together in an orderly manner all that is known and bears upon that and closely allied subjects, to submit it to a critical examination, and to set forth the conclusions to which he is thereby impelled. This task has been admirably accomplished.

The chief conclusions arrived at after 150 pages of closely reasoned and lucidly worded exposition are, very briefly, as follows: The pituitary body is not a rudimentary organ. Physiological and anatomical investigations have shown that the posterior part, composed partly of nerve fibres and cells, exercises a powerful influence over the vasomotor nervous system and the regulation of the blood pressure, especially in the brain; while the anterior or glandular part influences the development of the form and size of the body and the growth of the bones. Typical acromegaly arises from a specific hypersecretion of the anterior part of the organ. This is almost invariably accompanied by an overgrowth of glandular structure—that is, an adenomatous tumour forms, the cells of which originate in the normal cells of the gland, and are eosinophile. Other varieties of new growth never cause acromegaly, nor do injuries to or pressure on the organ ever have that result. The adenomata of the pituitary body in acromegaly may be ascribed to developmental disturbance, to some change in the thyroid gland, or may be due to unknown causes. There is a close relationship between the pituitary body and other glands with an internal secretion. They may counteract its action when this is increased, or assume its function when it is removed. In this way may be explained cases of eosinophile adenomata without acromegaly. Histological and physiological facts of comparative anatomy indicate that, in spite of the difference in their origin and structure, and apparently even in function, the anterior and posterior parts of the pituitary body have some important functional connexion. Impotence, with atrophy of the testes or ovaries, with sometimes obesity, occurring in acromegaly are not caused directly by the over-functioning of the glandular part of the pituitary body, but by the pressure exercised by its enlargement on the nervous part of the organ. That disturbances of this part of the organ may be followed by those results is shown by many anatomical, experimental, and surgical observations.

There does not appear to be in the literature of the subject a single case of true, indubitable acromegaly in which the specific change in the anterior part of the pituitary body was not present. There are other diseases of the nervous system, particularly syringomyelia, which may cause changes in the external configuration of the body very similar to those of acromegaly, and most recorded cases of acromegaly without tumour of the pituitary body can be shown to be either cases of syringomyelia or gigantism, or more rarely of some other disease. Lastly, operation, in Professor Fischer's opinion, is the "indicatio causalis," and he contends that its omission, without some important contraindication, must be regarded, in the present state of our knowledge, as a surgical error.

[2] *Hypophisis, Akromegalie, und Fettsucht.* Von Professor Dr. Bert. Fischer, Director des Dr. Senckenbergischen Pathologisch-Anatomischen Instituts in Frankfurt-a-M. Mit 2 Tafeln und 6 Abbildungen m text. Weisbaden: J. F. Bergmann. (Cr. 8vo, 155 pp.)

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THE PRESENT POSITION OF THE INSURANCE BILL.

Military metaphors are popular in politics just now, and it may be said that, so far, in the discussion of the National Insurance Bill in Committee the opposing forces have been manœuvring for position, and that in these preliminary operations certain advantages have been won for the medical profession, thanks to the exertions of the British Medical Association and the able conduct of its case by Dr. Addison in the House of Commons. The profession from the position thus gained will be better placed to carry on the controversy, to resist injustice, and to maintain its independence.

It has convinced the Chancellor of the Exchequer that the annual sum to be provided out of the Insurance Fund to defray the cost of medical attendance must exceed the 4s. a year for each insured person which he seems originally to have supposed would be accepted as adequate. Upon this point and upon the question of friendly society control of medical benefits some interesting light is thrown by a report made by Mr. Bunn of the Hearts of Oak Society last June, on the results of the numerous interviews between the delegates of the National Conference of Friendly Societies and the Chancellor of the Exchequer. The document was published in the *Yorkshire Post* last Monday.[1] It shows that the more important interviews took place in November and December, 1908, when the delegates of the societies appear to have convinced Mr. Lloyd George that the whole cost of medical benefit, including it would seem the supply of drugs, could be met out of an annual sum assessed at the rate of 4s. a head of the persons insured, and that the whole control of the national scheme should be placed in the hands of the friendly societies, applicants rejected by them being left to the operation of the Poor Law. The scheme embodied in the bill differed in many respects from this draft, and was distasteful to the friendly societies because it limited their control; the amendments which have been made still further limiting their powers, have rendered it still more distasteful. Their dissatisfaction is finding expression at the meetings held this week at York, Burton-on-Trent, and elsewhere, and will, it is safe to assume, find expression also in the House of Commons when the discussion of the bill is resumed next October or November.

The insertion in the bill of the subclause moved by Dr. Addison, permitting the institution of a local wage limit adapted to the needs of each locality, is a distinct point of vantage gained, for it directs the Insurance Commissioners to make regulations authorizing the local Health Committee to require any persons whose income exceeds a limit to be fixed by them, and to allow any other persons, in lieu of receiving medical benefit, to make their own arrangements for receiving medical attendance and treatment (including medicines and appliances), the committee contributing from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment sums not exceeding in the aggregate the amounts which the committee would otherwise have expended in providing medical benefit for them. This provision, together with the undertaking to give statutory recognition to local Medical Committees, and to increase the representation of the profession on local Health Committees, places the profession in a better position to negotiate. The question of the rate to be paid to members of the medical profession for giving medical attendance in accordance with the scheme of the bill as it now stands is left open, for the sufficient reason that it cannot equitably be fixed until the nature of the services to be rendered have been defined by regulations under the bill, in framing which regard must be had to local conditions, including rates of wages, existing customs and arrangements, and the extent of the area to be covered—that is to say, the distances to be travelled by the doctor. These matters and many other details will have to be settled, if and when the bill is passed, in consultation or controversy with the local Health Committees.

The profession has also gained a point, in that it has convinced the House of Commons that it would be impolitic to give the friendly societies the large power of controlling medical practice which Mr. Lloyd George originally purposed to assign to them, but in this respect its position is materially weakened by the wide terms of the new subclause moved by Mr. Cecil Harmsworth in the interests of the friendly society medical aid institutes, and accepted by the Government.[2]

Mr. Lloyd George, in summing up the results of the twelve days' discussion in Committee in his speech on August 4th, said that two of the chief difficulties encountered had been overcome; the first was with regard to the collecting societies and industrial assurance societies, which had feared that they would not be able to come into the scheme. Nominally, he said, the friendly societies covered six million people, but, owing to the fact that 10 per cent. of their members belonged to the lower middle classes, they did not cover more than four and a half million of the industrial people. This left out some ten millions who were not regular members of friendly societies, and it seemed quite impossible for the societies to absorb so enormous a multitude. Amendments accepted by the Government made it possible, he said, for all the societies prepared to conform to the conditions to assist in the administration of the scheme. The second difficulty was that with the medical profession, and this he thought had been substantially met in the course of the preceding days by the amendments carried and incorporated in the bill. This may be a fair statement to make to the House of Commons under the circumstances, and so far as that House is concerned, but it does not, as we have shown, express the whole truth as to the insurance scheme as it may be worked out under the provisions of the bill as they at present stand.

[1] See Supplement, p. 300.

[2] See Supplement, p. 289.

Even if the Government is able to resist the importunities of the friendly societies, and even if the administration of medical benefits is placed wholly in the hands of the Health Committees, which as has been said is now doubtful, it is clear that very many details will remain to be adjusted, in fact all the details of the regulations governing the administration of medical benefits, and the remuneration to be paid to the medical profession. It is therefore of the very first importance that the union of the profession should be maintained, and that the determination to obtain equitable conditions should not be in any way relaxed.

In its main features the present position is not unlike that brought about by the passage of the Midwives Act, with certain differences to be set to each side of the account. The opinion of the profession as to the need for such an enactment as the Midwives Act, and, granting the need, of the way in which it could properly be met, was very far from unanimous, and it was largely on this account that the material interests of the profession were not adequately safeguarded, and that to this day its position in this respect remains unsatisfactory. Now the opinion of the profession with regard to the main points of the policy of the British Medical Association is unanimous, and this single fact, apart from the modifications which have been obtained in the original bill, entirely alters the position of the profession and makes it infinitely stronger. On the other hand, the present bill is in its scope far more wide-reaching, and any faults which are inherent in its provisions or may be developed in the course of administration must have the most serious effect on the future of the profession.

FRIENDLY SOCIETY INSTITUTES.

THE acceptance by the Government of Mr. Cecil Harmsworth's subclause[1] with reference to medical aid institutes maintained by friendly societies in preference to a subclause standing in the name of Dr. Addison, and approved, as we understand, by the British Medical Association, is evidence of the need for the greatest watchfulness with regard to future amendments of the Insurance Bill, especially in relation to friendly societies.

The State Sickness Insurance Committee of the British Medical Association has been reappointed, and at a meeting of its executive subcommittee last week this matter was under consideration. The terms of the new subclause, taken in relation with observations made by Mr. Lloyd George when Dr. Addison's subclause was under consideration, and the replies made by Mr. McKenna, who was then temporarily in charge of the bill, to questions raised on Mr. Harmsworth's subclause, leave the exact position very obscure, and the subcommittee is taking steps to ascertain the exact legal interpretation which should be placed on the words adopted.

It was hardly to be expected that the friendly societies would submit without a protest to what they regard as a serious defeat in Parliament; but the fact that the House of Commons by the enormous majority of 387 to 15 decided that medical benefit shall "in all cases be administered by and through the local Health Committees" may justly be regarded as a complete vindication of the attitude of the British Medical Association towards the societies. It is clear, however, that champions of the societies do not intend to allow the decision of Parliament to stand without a vigorous attempt to obtain modifications. Mr. Cecil Harmsworth, who introduced the new subclause accepted by the Government, had spoken against the transfer of medical benefits to the local Health Committee, and the subclause as originally drafted would have given the societies the right to maintain their medical aid institutions in perpetuity. As amended at the instance of the Government, before it was actually moved, it would appear to protect only the vested interests of organizations for medical attendance that exist at the time of the passing of the Act; and there is, of course, a great difference between protecting the interests of existing organizations and putting them on such a footing as would practically make them stronger than ever, and free to extend their operations without limit.

The proposal to introduce into the bill a provision to safeguard the interests of certain existing colliery and works clubs originated in the profession itself. Doctors who are medical officers to large collieries and works, men whose income in whole or in large part is derived therefrom, and who are well satisfied with their position and emoluments, have rightly demanded that they should be protected in their present positions. Their clubs have been carried on with the full sanction of the profession, they are unconnected with any friendly society and free from the abuses that have attended friendly society management. So far, then, it is not a question in which the friendly societies are concerned. In most of these cases the poundage system in force has proved satisfactory both to the profession and the workmen, and it was felt that if the local Health Committees obtained the management of these clubs, and if there were to be an unrestricted operation of the clauses about free choice of doctor, there would be an end to the poundage system and to the whole scheme of colliery and works clubs. The medical officers of these clubs are sufficiently numerous to be able to insist on special treatment under the bill, and, altogether apart from their numbers and influence, the British Medical Association and the profession generally recognize that their claims for special treatment are reasonable and just. In the greater part of the country free choice of doctor is beyond all question absolutely necessary from both a professional and a public point of view, but to push it to such an extreme as to destroy not only the poundage system, but the only form of club practice which the profession itself has found satisfactory, would be unfair. Dr. Addison accordingly put down an amendment providing that, in the case of persons employed in a trade or industry who are entitled to medical attendance and treatment under an arrangement existing at the time of the passing of the Act, such medical attendance and treatment may be treated as, or as part of, their medical benefit, the local Health Committee contributing towards the expense. This would fully have met the case; but unfortunately it gave an opportunity to the supporters of the friendly societies, who were smarting under the decision of Parliament to transfer the administration of medical benefit from the approved societies to the local Health Committees, and Mr. Harmsworth, acting in the interests of those societies, succeeded in inducing the Government to accept and the House of Commons to adopt an amendment that went much further than that of Dr. Addison's, which was thus put out of order. Mr. Harmsworth's amendment covers "any system

[1] See report in SUPPLEMENT, p. 296.

or organization existing at the time of the passing of this Act and approved by the local Health Committee and the Insurance Commissioners." As was definitely stated in the House, this was especially intended to refer to the medical aid institutes of the friendly societies, which have something like 300,000 members. But this was not all, for Mr. McKenna, speaking on behalf of the Government, said that "the word 'organization' was chosen as the widest word to include all the societies"; and a little earlier, in reply to a question put by Sir A. Markham, who said he supposed it "would only apply to members of societies who are to-day members, and that existing societies that have a certain membership to-day will not be entitled to increase their membership," Mr. Lloyd George had said, "that is not so; it means not existing members of organizations but existing organizations." The obvious interpretation of these words would seem to be that Mr. Lloyd George intends that any existing organization, such as a medical aid institute or any other medical club under a friendly society, shall be allowed to continue giving medical attendance not only to its present members but to any fresh members insured under the National Insurance Bill who may join it, with the help of a subsidy from the insurance funds.

Whether the words of the subclause itself actually amount to this is, as has been said, a point which the State Insurance Committee will at once clear up, but if Mr. Lloyd George has correctly interpreted the meaning of its words, the subclause will go a long way towards stultifying the previous decision of Parliament that the administration of medical benefit shall be in the hands of the local Health Committees. It is true that the organization must obtain the approval of the local Health Committee and the Insurance Commissioners, but even if these bodies insist on certain improvements, there still remains the ineradicable objection which the profession has to any sort of control of a medical service by friendly societies, especially by the medical aid associations, which have been the most objectionable of all.

It is argued that such organizations would not long be able to compete with the medical service to be established by the local Health Committees, as only the Committees will have any right to call on the county or county borough councils and the Treasury for extra funds for medical benefit. But the precise value of this is not yet quite clear, and indeed the whole subject of the administration of medical benefit, which the profession fondly hoped had been cleared up, has now again been obscured by the amendment of Mr. Harmsworth. That there is real ground to fear that a strong though indirect attempt is to be made to bolster up, not only the medical aid associations, but the medical clubs of the friendly societies in general, is further shown by two amendments which are to be proposed on Clause 44, which relates to the duties of the local Health Committees. The first of these amendments is as follows: "Where medical associations of friendly societies are in existence in counties or county boroughs at the passing of this Act it (the local Health Committee) shall submit a scheme to the Insurance Commissioners for the continuance and maintenance of such associations." The second would enact that the local Health Committee "shall provide that in any arrangement or agreement made for the purpose of administering medical benefit pursuant to section fourteen hereof, members of friendly societies who at the date of the passing of this Act are in receipt of medical benefit through or from such societies, and do not become insured persons under this Act, shall continue to receive such medical benefit without increased cost to such societies."

The precise meaning of these amendments is doubtful, but they would bear the interpretation that if any friendly society medical aid association or medical club were compelled for any reason, or as a condition to being approved, to raise the doctors' remuneration, the club would have a right to demand that the local Health Committee should pay the difference, supposing, for the sake of argument, that the clubs were able to obtain or retain any medical officers at all. A provision to the effect that no new friendly society clubs or medical aid associations could be started would be useless if those now existing may indefinitely increase their membership. Whether this interpretation be correct or not, there can be little doubt that the amendments are intended to nullify as far as possible Dr. Addison's amendment, which transferred the administration of medical benefit from the approved societies to the local Health Committees. The State Sickness Insurance Committee of the British Medical Association is fully alive to the serious possibilities of these amendments, and we have no desire to raise any unnecessary alarm until explanations have been obtained and the present position made quite clear, but the amendments are so open to suspicion, that we cannot too strongly impress on the profession that there is still the greatest need for watchfulness and for an unbroken union. The fact that the Committee stage of the bill has been adjourned to the end of October, though it will allow further time for consideration, will also try the patience of the profession, but the least suspicion of wavering or disunion will spell irretrievable disaster.

THE CENSUS.

The preliminary report of the census of England and Wales,[1] to which brief reference has already been made, was issued with commendable promptness, and the Blue Book contains a mass of information which demands the close attention of those interested in the public welfare.

The enumerated population of the United Kingdom on April 2nd, 1911, was 45,216,665, distributed as follows: England, 34,043,076; Wales, 2,032,193; Scotland, 4,759,445; Ireland, 4,381,951. It thus appears that England contains over 75 per cent. of the population of the United Kingdom, Scotland rather more and Ireland rather less than 10 per cent., while Wales contains the remaining $4\frac{1}{2}$ per cent. The absolute diminution in the population of Ireland, noted in previous intercensal periods, has continued in the last, but the proportional decrease (1.7 per cent.) is less than any recorded since 1851.

In England and Wales the population has increased from 32,527,843 to 36,075,269, a percentage increase of 10.9. This is the lowest rate of increase on record, the rates for the two previous decennia being 11.65 and 12.17 respectively. The rate of increase of population depends upon two factors: (1) the balance between births and deaths; and (2) the balance between outward and inward passenger

[1] Census of England and Wales, 1911. Preliminary Report, with tables, etc. (Pp. xx + 119. Cd. 5705. Price 1s. 4d.)

movement. The net gain by excess of births over deaths was slightly higher than in the previous decennium (12.44 as against 12.39 per cent.), a result due to the counterbalancing of a large reduction on the birth-rate by a still larger reduction of the death-rate. The loss by balance of passenger movement was nearly half a million persons as compared with about 68,000 in 1891–1901, and over 600,000 in 1881–91.

With regard to the counties in which there has been a considerable rise or fall in the population it appears that some of the highest increases occurred in counties immediately surrounding the metropolis; Kent, however, showed an increase of only 8.8 per cent. The distribution of population in urban and rural districts respectively and their relative changes in the last intercensal period are as follows: In 1901, the urban population of England and Wales was 77 per cent. of the total and the rural population 23 per cent. For 1911, the figures are 78.1 and 21.9. The rate of increase in Rural Districts has risen from 2.9 to 10.2 per cent., and the rate in Urban Districts has fallen from 15.2 to 11.1 per cent. It should, however, be noted that the rates represent an actual increase of 2,818,072 persons in the Urban and of 729,354 in the Rural Districts.

There has been a great increase in the populations of some of the suburban towns and districts which, conveniently designated the "Outer Ring," make up Greater London. The following have increased their population more than 70 per cent. in the last ten years: Southgate (124.2), Southall Norwood (99.4), Ilford (89.6), Ealing (85.4), Finchley (78.2), Surrey Rural Parishes (75.1), Hendon (72.9), and Barnes (70.5).

The proportion of females to males (1,068 to 1,000) was the same as at the previous census, but when due allowance is made for the number of males absent on military service in South Africa in 1901, it is probable that the true proportion of females to males was somewhat lower in 1901 than in 1911. The sex distribution varies considerably in different parts of the country, the proportion of females being lowest in Monmouthshire (912 to 1,000) and highest in Sussex (1,218 to 1,000).

Three metropolitan boroughs show a percentage increase in population of more than 10, namely, Wandsworth (+ 34.3), Lewisham (+ 26.2), and Fulham (+ 11.7). On the other hand, six show a decrease of more than 10 per cent., namely, City of London (− 27.0), Holborn (− 16.9), Finsbury (− 13.3), City of Westminster (− 12.4), St. Marylebone (− 11.3), and Chelsea (− 10.1). Only one constituent of London's "Outer Ring" actually decreased in population, namely, the urban district of Penge (− 0.6). The population in the rural part of the "Outer Ring" increased by 54,799, no less than 14,591 of this change being credited to the rural parish of Mitcham.

Of the parliamentary divisions of England and Wales, it appears that only eight have less than 20,000 inhabitants, the parliamentary borough of Durham, with 15,956 inhabitants, being the smallest. On the other hand, no fewer than eighty-three constituencies have upwards of 100,000 inhabitants, the largest being the Romford Division of Essex (312,864).

Such are, in outline, some of the more striking results of the late numbering of the people. Certain features may justly give rise to satisfaction, others will give rise to disquieting reflections.

On the credit side of the account we may reckon the relative improvement in the position of the rural districts—a matter of interest from the medical standpoint. Quite apart from the sidelight which may be thrown upon agricultural interests by the figures, the tendency for town workers to seek dwellings in the outer suburbs is, on the whole, a movement favourable to the public health. Of course, in the choice of a residence beyond the limits of a city due regard has to be paid to the wear and tear produced by daily journeys; some types of nervous organization would pay dearly for the privilege of inhaling the sea breezes of Brighton by the strain of two or three hours' daily transit at a high rate of speed. These considerations, however, scarcely affect the problem as it concerns the industrial classes; in their case an evil to prevent is the establishment of peripheral slums. Signs are not wanting in some of the industrial suburbs to the north-east of London that this is a real danger.

The aspect of the census returns which may give rise to misgiving is the diminished rate of increase of the population. In itself, since the absolute increase is very great, the fact may seem of little moment; but the method of its production is of importance. Of recent years reasons have been brought forward for thinking that the diminution of the birth-rate, which is the immediate cause of the present condition, has not affected all classes of the population equally. We may refer in this connexion to the writings of the eugenist school, and to the illuminating discussion which took place at the annual meeting of the British Medical Association last year. To what extent the conclusions of these writers may be generalized cannot be known until the complete report of the census has appeared. With the object of investigating this matter a question was introduced into the census paper regarding the duration and fertility of marriages. Full particulars on this subject will be awaited with interest; in the meantime, the whole problem is worthy of anxious thought on the part of educated men. We say advisedly that it merits thought, since, in our judgement, a good deal which has been written, especially by public men without medical training, puts us in mind of the question: "Who is this that darkeneth counsel by words without knowledge?" At intervals of a few weeks some eminent person points out that the birth-rate is falling. He then alludes to the conclusions of the eugenists that the fall is specially marked in the "fitter" stocks, the fairly prosperous and efficient professional classes, and concludes by an eloquent exhortation to the middle classes to be fruitful and multiply for the good of the race.

It seems probable that the efficient middle classes who marry late may reflect that patriotism, although an excellent virtue in itself, is not so heroic when practised at the expense of their children. We hope we shall not be accused of class prejudice if we assert that the medical profession attains a high average level of civic worth and possibly "fitness," although we have never met with a satisfactory definition of that blessed word. The medical man who proposes to bring up his sons to follow in his steps is faced by a steadily lengthening curriculum and ever-rising cost of education and maintenance. He is further threatened by legislative proposals which gravely imperil his means of living. It can hardly be matter for surprise if he declines the responsibility of embarking his own flesh and blood upon a voyage overclouded by perils and uncertainties. We trust that these patent facts may be weighed by those who are likely to become eloquent over the teaching of the census.

INTERNATIONAL OPIUM CONFERENCE.

It is announced that, the consent of all the interested Powers having been obtained, the Netherlands will shortly issue invitations to a second International Opium Conference, to be opened at the Hague on October 15th. The attitude of China at this conference will be of particular interest, and it is probable that that country will be represented at the Hague by Dr. Wu Lien Teh (G. L. Tuck), who was chairman of the International Plague Conference held at Mukden last April. Dr. Wu Lien Teh, who is a graduate of Cambridge (M.A., M.D.) and had a distinguished career at St. Mary's Hospital, London, and the School of Tropical Medicine, Liverpool, is at present, with the assistance of Dr. Chan (M.B. Cambridge) and Dr. Tee of California, engaged in a scientific expedition sent by the Chinese Government to Mongolia and Siberia, to study the connexion between the epizoötic in the marmot and plague in man. Dr. Wu Lien Teh is medical adviser to the Foreign Office in Peking, and chief medical officer of the province of Manchuria; he also holds the rank of Surgeon-Major in the Chinese Army Medical Corps.

THE NEW RANGOON GENERAL HOSPITAL.

This institution was formally opened recently by Sir Harvey Adamson, K.C.S.I., Lieutenant-Governor of the province of Burma. The want of a new general hospital has been long recognized, but the Rangoon Municipality could not command the resources necessary for providing one of sufficient size to meet the requirements of the city and province. Accordingly, the local Government undertook the task of erecting a series of large, well-equipped buildings on a site having an area of 23½ acres, and capable of being extended to 32 acres by reclamation. The design and detailed plans were drawn up by a committee of medical and public works' officers, and the work of construction was commenced in March, 1905. During the six years which the undertaking has occupied modifications and additions were made in order to secure the utmost possible convenience and efficiency. The work was executed under the supervision of the officers of the Public Works Department, and Colonel W. R. King and other medical officers lent willing help to the same end. The hospital, as completed, comprises twenty-six separate buildings, the more important of which are the main building, a paying-patient block, a main kitchen, observation ward, a special nursing block, an out-patients' department, a nursing home, a laundry, a power station, and a mortuary. The arrangements for ventilation, conservancy, water supply, and lighting are thoroughly good, and the furnishing, fitting and appliances in accordance with the most recent models. The main hospital is three-storied, consisting of a central block and wings. There is accommodation for 443 beds, which can be increased on emergency to 480. Ample arrangements have been made for the housing of the staff. The total cost of the hospital and its annexes is estimated at Rs. 40.72.00 (£27,147). The Honourable Mr. G. G. White, in his speech at the opening of the institution, remarked: "Although the cost in this case has undoubtedly been large, the Province possesses what is probably the largest and most perfectly equipped institution of the kind in the East; and the facilities it affords for the alleviation of suffering, the prolongation of life, and the increase of knowledge will be ample recompense for all the time, thought, labour and money that have been expended upon it."

PONTEFRACT AND THE PAYMENT OF GUARDIANS.

Considerable amusement and diversion has lately been created at meetings of boards of guardians throughout the country by a circular which has been sent round asking the boards to promote a scheme for the payment of guardians. In most cases it has been proposed and carried that the circular should lie on or even under the table. The Pontefract Board of Guardians, above all others so far as we can ascertain, stands out as a model of generosity—to themselves. At a recent meeting of that board it was decided, with only three dissentients, to support a proposal to pay members of boards of guardians £150 each per annum. For the twelve board days annually this works out at the modest sum of £12 6s. each day. Of course some of the members will attend committees on days that do not happen to be board days, and this would reduce the average payment unless their generosity to themselves were to be increased. In contrast to this amiable mood of the Pontefract Guardians the case of the Castleford District medical officers of the Pontefract Union about three years ago may be recalled. In these columns on March 7th, 1908, an article appeared—"Seven Farthings for State Medical Aid." This had reference to the fact that the Pontefract Guardians practically drove their two Castleford District medical officers to resign their posts because the remuneration given by this board for attending the poor, providing drugs, etc., worked out at seven farthings a visit or attendance, and they declined to sanction any increase. It should be noted at the present time, when discussion centres round the rate of remuneration of medical men, that not only did the local committee—that is, the board of guardians—appoint another doctor on the same terms, but the central authority—that is, the Local Government Board—with the facts before it, sanctioned the appointments. Our sympathy at the time was extended to Drs. Kemp and Hillman for declining to serve the State on such absurd terms. If the unity of the profession had been so well assured and organized as at the present time, we are confident that the action of these two Castleford doctors would have been more successfully supported by the profession, and that they would have been reinstated. From the other reports of meetings of guardians which have come under our notice it appears that only one other decided in favour of the proposal. That exception was the Wigan Board of Guardians, but at their very next meeting the resolution in favour of payment of members was rescinded, a lady guardian present remarking that those who voted for the salary looked upon it as a huge joke. We do not think the Pontefract Guardians were joking.

AGRICULTURE AS AN OCCUPATION FOR WOMEN.

During the week of the Annual Meeting at Birmingham a large number of members of the Association took advantage of an opportunity offered them of seeing what is being done for women who prefer to take up an outdoor rather than an indoor life, by paying a visit to the Agricultural and Horticultural College for Women at Studley Castle. The party was received by the Countess of Warwick, who originally started this undertaking, and by Miss Lillias Hamilton, M.D., its Warden. Time did not admit of an examination of the college itself, but an exploration of the grounds afforded a very clear idea of the work which the students do, of the lines on which they are instructed, and of the lives that they lead during their training, this seemingly lasting in most cases between two and three years. After tea an entertainment in the shape of a pastoral play, arranged by Mrs. Lillian Frances Purdon, B.A., and produced by Miss Marjory Gullen, took place, and was much appreciated. It was founded on an old ballad in the Percy Reliques. During the course of the proceedings further enlightenment as to the object of the college was supplied by Lady Warwick and Dr. Hamilton. It appears that the financial prospects of women who take up outdoor occupations, such as gardening and farming, are by no means unalluring, provided that they have either been brought up to the work from childhood or that they have gone through a thoroughly systematized course of practical and theoretical training after their general education has been

completed. For such women there are openings in the way of salaried appointments under county councils, in schools, public and private, and as head gardeners in country houses, while those who are possessed of a little capital can start dairying, poultry production, market gardening, or fruit growing, with a prospect of obtaining much higher remuneration for their labour than falls to the lot of most employed women. This being the case—and there is good evidence that it is so—there should be abundant justification for such a place as Studley Agricultural and Horticultural College, in view of the large proportion of young women who nowadays endeavour to make themselves independent of the support of their friends. All who have been in private practice for any length of time know that among such women there are a good many who, though they may not actually break down at their task, at least suffer considerably in their health, and that the true cause thereof often lies not in their unfitness for intellectual and other labour, but in an initial error in the choice of a career. Force of example, among other things, has led them to adopt some indoor or more or less sedentary occupation, whereas, just as in the case of boys, the natural instinct of many girls, if left uninfluenced, would lead them in the direction of an outdoor life. Obviously an error in the choice of a career is of as much importance in the case of girls as in the case of boys, for success in any career combined with real happiness and health commonly awaits only those who are naturally fitted to it by inborn disposition. But the competition in all forms of outdoor life is now too severe to admit of success to any but those who in one way or another have received a thorough preliminary training, and the net outcome has been the establishment of many agricultural colleges for men. The aim of Studley College is to provide similar training for young women; the girls there receive not only instruction in theory, but are thoroughly drilled in every detail of their future work, including its purely commercial aspects.

THE NEW NIGHT TERROR.

SIR HENRY MORRIS, in a long and interesting letter published in the *Times* of August 8th, has recurred to the subject of unnecessary noises made by the drivers of motor vehicles, and has once more put the case for some relief very forcibly. Lord Montagu of Beaulieu probably put his finger on the real difficulty in the way of finding a remedy when, in his contribution to the discussion provoked by Sir Henry Morris's first letter, he said that no cessation of horn blowing could be hoped for so long as the first question put to a driver involved in an accident was, "Did you sound your horn?" Sir Henry Morris quotes the section of the already obsolete Act of 1896, which provides that "every light locomotive shall carry a bell or other instrument capable of giving audible and sufficient warning of the approach or position of the carriage." There is, he points out, no definition of "audible and sufficient warning," and nothing forbidding the misuse or immoderate use of the instrument, and no provision against its malicious, vindictive, or excessive employment. Many lawyers, with that affection for the common law which distinguishes their profession, have all along maintained that the special restriction—as is, they say, the case with most similar regulations—would act to the detriment of the public, and that it would have been wiser to have left the driver of a motor vehicle with the common obligation to carry on his occupation so that it shall not prejudice his neighbour, and with a common law liability if he failed. There can be no doubt that the excessive and indiscriminate use of hooters, sirens, and exhaust whistles is a serious detriment to health in London and certain other large towns, not only in the centre but in the suburbs, and not only in the suburbs but in erstwhile quiet villages, on roads much frequented by motorists. It is, however, easier to state the grievance than to find a remedy. Sir Henry Morris's remedies are set out in the following sentences. He invites the authorities to see that the condition with regard to "audible and sufficient warning" shall not be exceeded. "Let them," he says, "forbid the use of sirens and all forms of exhaust noises in cities. Let them define what is 'audible and sufficient' not by a verbal definition but by practical restrictions. Let them insist on a uniform and standardized signal as little objectionable and cacophonous as possible. Let the police, by notices posted in depôts for taxi-cabs and in the garages of other licensed motor carriages, and the Local Government Board, by suasion through the secretaries and committees of automobile clubs, societies, and unions, urge upon drivers to be moderate and discreet in using even the standardized instrument. Let the motors at night carry a searchlight or strongly luminous lamp; and, lastly, let the police lay traps at night . . . for those who exceed the speed limit." This, he thinks, would be quite feasible at 3 a.m. in the summer months when the thoroughfares of large towns are for the most part empty and it is quite light. We are inclined to think that the "searchlight or strongly luminous lamp" would not be an effectual remedy, and that the real mischief lies in the high speeds in which motorists, and particularly, perhaps, taxi-cab drivers, indulge at night. The police find no difficulty in enforcing the rule with regard to the reduced speed limit in the royal parks, and nobody can doubt that if orders were given they would enforce the legal limit at least in the streets of towns; probably most municipal authorities have power to make special by-laws or influence enough to obtain such power if they chose. If the motor in a town were limited to ten miles an hour, and the limit were enforced, there would be no need for hooting the whole length of a square to warn pedestrians at the crossing at its top.

DECLINE OF RABIES IN FRANCE.

THE report of the Pasteur Institute at Paris for the year 1910, which has recently been issued, shows a continuous decrease in the number of cases of rabies occurring or treated in France. In the year 1886 the number of persons bitten by rabid animals and treated at the Pasteur Institute was 2,671, and of these cases 25 were fatal, probably because treatment was too long delayed. In 1896 the number of patients treated had fallen to 1,308, with 4 fatal cases. Each subsequent year showed a steady decline in the number of cases of rabies, which numbered about 1,000 in 1902. In 1908 and 1909 the number of cases had fallen to 524 and 467 respectively, with 1 fatal case in each year; in 1910 the cases treated numbered 401, and for the first time since its foundation the Pasteur Institute was able to show a clean bill of mortality. Of the patients treated in 1910, 11 were foreigners, of whom 3 were English.

INTERNATIONAL DENTAL FEDERATION.

THE opening meeting of the International Dental Federation was held at the Royal College of Surgeons, Lincoln's Inn Fields, on August 1st. Sir Henry T. Butlin, President of the College, acted as Honorary President on the occasion, and welcomed the Federation. Mr. W. B. Paterson, F.R.C.S., L.D.S., President of the Federation, delivered an address which dealt with the work and business before the meeting, and at its conclusion introduced the various accredited representatives of foreign nationalities who delivered speeches of salutation—namely: Dr. E. C. Kirk, Dean of the Dental Faculty of the University of Pennsylvania, Professor Jessen (Strassburg), Dr. Brophy (Chicago), Dr. Weiss (Havana), Dr. Etchepareborda (Buenos Aires), Dr. Florestan Aguilar (Madrid), Dr. Chas. Gordon and M. Francis Jean (Paris), M. Rosenthal (Brussels), Chevalier Guérini (Naples), M. Van der Hoeven (Hague), Dr. Daubry (St. Petersburg),

Dr. Schaeffer-Stuckert (Frankfort-on-Maine), the General Secretary, who presented to the College the recently completed *Transactions* of the International Dental Congress of 1909. Mr. Norman G. Bennett, Honorary Secretary of the British Dental Association, in the absence of the President, invited the members of the Federation to attend the annual meeting of the association at the University of London at the conclusion of the Federation session. Sir Henry Butlin delivered an address, in the course of which he drew attention to the importance of leukoplakia as a precursor of cancer in the tongue. He instanced examples in proof of his statements, and exhibited specimens and drawings from the College Museum. Of the exciting causes of leukoplakia he placed tobacco smoking first and foremost, and amid general systemic predisposing causes he enumerated gout, rheumatism, and syphilis. He suggested as possible dental causes of leukoplakia, metal stoppings (amalgams) and rough edges of teeth or roots. He had seen unhealthy mucous membrane as a result of wearing red vulcanite dental plates, but in the presence of experts he would not venture further than suggestion, and he asked for expert information as to possible causation. Sir Henry then referred to the classic dental preparations of John Hunter in a series of specimens which he had brought to the theatre from the museum. At the conclusion of the address, which was listened to with great interest by a large gathering of members of the Federation, a hearty vote of thanks was, on the motion of Mr. Paterson, passed by acclamation.

The name of the President of the British Medical Association, Professor Saundby, was accidentally omitted from the list of those who were present at the special degree congregation of the University of Birmingham on July 27th.

We regret to announce the death of Mr. Thomas G. Ouston, F.R.C.S., Surgeon to the Throat and Ear Hospital and Hospital for Sick Children, Newcastle-upon-Tyne, and hope to publish an obituary notice in a subsequent issue.

We regret to have to record the death of Dr. Gee, Consulting Physician to St. Bartholomew's Hospital, which occurred somewhat suddenly at Keswick on August 3rd. We hope to publish a notice of his life in an early issue.

The rapid spread of the general strike in London has rendered it necessary at the last moment materially to curtail the size of this issue of the Journal, owing to the impossibility of obtaining a sufficient supply of paper.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Local Government Board Vote.

When this vote was considered in Committee of Supply last week, Mr. Peto called attention to the rapid increase in the numbers of parents who refused to have their children vaccinated, and to the need for paying vaccination officers on a different basis. Of the 1,420 vaccination officers in England and Wales, 400 gave their whole time to the Local Government Board, and, as they were paid a fee for each vaccination, if people would not have their children vaccinated it was impossible for these officers to make a living. For the first half of the year 1910 there were over 110,000 parents who refused to have their children vaccinated. In some cases the doctors' income from vaccination work was becoming a minus quantity, because they had to pay postages on Form Q, and pay a visit to explain that under the latest Act parents need not have their children vaccinated. In some cases the department had actually given gratuities in lieu of fees, but the gratuity was only about one-tenth of what the fees should have been. Where a doctor had lost over £140 a year in fees he received a gratuity of £20. The pensions of these men depended upon the five years' average income prior to their retirement. Men who had served the department twenty years and were within a few months of their retirement had the prospect of a pension calculated upon an income that had sunk to zero. A Departmental Committee appointed in 1905 had reported that the work of the vaccination officers had increased materially, and that in some cases the fees were inadequate. The position of vaccination officers had become worse since that time. He had particulars of officers who had lost heavily since the passing of the Act of 1908. He suggested alternative modes of payment, such as a fixed salary, a fee for vaccination, or payment according to the number of certificates of exemption granted. He subsequently moved to reduce the vote by £100. Mr. Lansbury, Mr. Butcher, and Captain Faber supported the appeal; and Mr. Chaplin asked the President of the Local Government Board, who had admitted the grievance of the vaccination officers, whether he could not do something directly in the interests of these deserving public servants. The inevitable tendency of such Orders as Notice Q was to increase the claims for exemption from vaccination, and to that extent to diminish the remuneration of the vaccination officers without in any way diminishing the burden of their work. He knew that there were the greatest possible objections to vaccination entertained by certain members of the community, but so long as vaccination was the law of the land it ought to be thoroughly carried out. But could it be said to be thoroughly carried out when the department sent out such orders as Order Q, which was a direct invitation to people to claim exemption? Since 1907, he was informed, these exemptions had increased 140 per cent., and if they continued to increase at the present ratio for another ten or fifteen years exemption would be the rule, and vaccinated children would be the exception. This was a very serious matter in the interests of the health of the community; and if, unfortunately, there should at any future time be an outbreak of small-pox the whole responsibility must be laid on the shoulders of those who were charged with the administration of the law.

Mr. Burns, in his reply, said that the facts in his possession did not agree with those mentioned by Mr. Peto. He stated last year that there were 1,420 vaccination officers; 400 of them only gave the whole of their time to the work, and 1,020 held appointments as relieving officers and assistant registrars, and were engaged in clerical work of many descriptions. Since the Exemption Act was passed, from 1907 to 1911, mainly at the instigation of the Local Government Board, gratuities had been sanctioned to 321 vaccination officers. Increased fees had been given in addition to these to 279 vaccination officers, and in 13 other cases compensation in some form or another had been given. In all 623 cases out of 1,020 had been dealt with. The number of vaccination officers who had complained to the Local Government Board was only 50, and out of this number the Local Government Board had urged the guardians to give compensation in some form or another to 43. In 7 cases the Board thought that compensation was unnecessary. Out of the 43 cases the Board recommended the guardians to consider the suggestion, and they had yielded in 19 cases, while in 24 cases only had the guardians still refused. Those facts put an entirely different light upon the statements made by the hon. member for Wilts, and disposed of the suggestion that the Local Government Board had done nothing in the matter. It was impossible to lay down any general principle applicable to all cases. That was shown by the fact that 400 out of 1,400 of the officers were paid not by fees, but by salary, and of the remaining 1,000 many had not had their total remuneration reduced. He had no more power to order and direct forms of remuneration for vaccination officers than he had to order urban district councils to vary the form of remuneration of their engineer officers, surveyors, or town clerks. But his peculiar relationship with the guardians enabled him to suggest that perhaps there was something that must be done in the light of the remarkable increase of exemptions

that had occurred in the last year or two. Without defining the actual steps to be taken, the department would consider what other steps were necessary to secure reasonable treatment for vaccination officers. With regard to superannuation, the Local Government Board were willing to allow gratuities to be included in estimates for superannuation. It had been suggested that one way of settling the difficulty would be by yearly salary and inclusive fees, but this House would not sanction, and the ratepayers would not allow, the guardians to give a fixed salary for a very small amount of work in certain instances. For the ratepayers to get value for their money the present districts of the vaccination officers would have to be made larger, and it probably would be a very unjust step to 600 or 800 existing vaccination officers who had intermittent labour with other local duties if their districts were to be taken from them and added to a larger area, and men with a regular salary were to supersede them. His officers, however, would look into this matter in a fair and generous spirit with a view to remedying just grievances.

Mr. Forster said that the grievance of the vaccination officers had been admitted by the right hon. gentleman, but they wanted him to do something more than merely to endeavour to persuade the local authorities to take action. He urged that no further time should be lost in finding a remedy for this grievance.

The Committee then divided on the motion to reduce the vote by £100, and this was rejected by 139 to 42.

Mr. C. Roberts inquired later about the progress being made under the Housing and Town Planning Act; and Mr. Ward congratulated Mr. Burns on having passed a Standing Order which placed the regulations for the housing and hospital accommodation of navvies on a satisfactory basis.

Mr. Burns stated that, as regards progress under the Housing and Town Planning Act, in 1908–9, before the Act came into operation, closing orders—which afforded a test of the activity of local authorities in dealing with houses that were unfit for habitation—were made in regard to 587 houses. In 1909–10 the number of closing orders was 1,511, and in 1910–11 the number was 2,678. Those results were very satisfactory indeed, and justified expectations as to what it would be possible to do under the Act. The speed with which closing orders would be made would be accelerated as the local authorities warmed to their work, and knew more of the means by which this branch of it could be carried out. In 1908–9 representations as to houses which were not in proper repair were made in 6,312 cases; in 1910–11 the number of such representations was 10,796. The increase took place mainly in urban districts, but rural districts showed a substantial improvement. Under Section 15 of the Act 12,900 houses had been dealt with and 392 had been closed. Of the 12,900 houses, 4,540 were in rural districts, and that number showed a tremendous increase upon the totals in former years. There had been rapid progress, but he wanted an acceleration of that progress, and he appealed to hon. members who represented mining constituencies—and he referred especially to Durham, Northumberland, and the mining parts of Wales—to help to stimulate local authorities to put their housing into better condition. Closing orders and demolition of houses here and there were not sufficient measures. All over the United Kingdom there were opportunities in rural and urban areas for securing the erection of thousands of cottages, and he knew no form of social activity that would do more good than could be done by private individuals availing themselves of the Act. Failing private effort, local authorities should take up the work. The progress made in town planning exceeded his most sanguine expectations. Regulations had been issued for four large schemes of town planning which were now in process of realization. At that moment about seventy schemes had either been sanctioned or were being prepared or considered by the various local authorities.

The vote was then agreed to.

Milk and Consumption.—A series of questions were put to Mr. Burns last week, which began with an inquiry by Captain Faber as to the prevention of persons affected with consumption being employed in the milk trade. Mr. Burns said the subject was under consideration, but he was not prepared to state at once what action would be taken. The matter would be dealt with by regulations, and he hoped shortly. Captain Faber then asked, seeing that the Royal Commission on Tuberculosis had reported on the dangers of impure milk, what milk, if any, was coming in from abroad; and whether steps would be taken to closely examine such milk. Mr. Burns said that the importation of fresh milk from abroad had not yet been resumed. When this occurred, further series of samples of this milk would be taken by the Board's inspectors, and would be examined for the presence of impurities, including tubercle bacillus. All the consignments of milk were subject to local inspection, to that of the local medical officer of health, and to that of the Customs medical officer, whose judgement was given on it. It was difficult to get a uniform standard for milk, but there was no reason to suspect that where this milk came from the standard of sanitation and of purity was lower than here. On a later day Mr. C. Bathurst called attention to the experiments made in Germany on the effect of using milk from cows affected with tuberculosis of the udders, and asked what advice the President of the Local Government Board had received from his experts in view of the report of the Royal Commission. Mr. Burns replied that the experiments referred to were merely observations on the medical history of 360 persons (151 children) who were stated to have consumed tuberculous milk. His advisers agreed with the finding of the Royal Commission on Tuberculosis, to the effect that "measures for securing the prevention of ingestion of living bovine tubercle bacilli with milk would greatly reduce the number of cases of abdominal and cervical gland tuberculosis in children," and there was nothing in the facts contained in the German report referred to in the question which was incompatible with this conclusion. It would be superfluous, in view of the many years' work of the Royal Commission, to cause further scientific investigation to be made on the points which it had definitely settled. Asked whether consumption was not more due to predisposition caused by insufficiency of milk than to the presence of bovine germs in the milk itself, Mr. Burns said that he was aware that that view was held by some members of the profession who were entitled to respect, but there were others equally entitled to respect who held the very opposite view.

Tubercle and Butter.—Captain Faber asked the President of the Local Government Board if he would state whether the bacilli of tubercle had been found to be in butter. Mr. Burns said that tubercle bacilli were occasionally to be found in butter when they had been present in the milk from which the butter was made. The risk to health from such butter might be regarded as relatively slight.

A Consumption Cure.—Mr. C. Bathurst asked the President of the Local Government Board whether Dr. Kaye, the Medical Officer of the West Riding County Council, had, at his request, investigated the claim made by Mr. A. Bryant, of Thornton, Bradford, that he had cured and was curing consumption in an advanced stage of the disease by means of gases which were given out by the maggots infesting putrefying meat; and, if so, with what result. Mr. Burns said that he had not made any such request to Dr. Kaye, and the report that he had done so was, like nineteen-twentieths of what appeared in the papers about some Ministers, the opposite of the truth.

The University of Wales (No. 2) Bill is well on its way to get on to the Statute Book, as it passed the Standing Committee on Wednesday last. The bill proposes to give to graduates of the Faculty of Medicine of the University the right to be registered under the Medical Acts. It will thus add one more portal to the medical profession. The other provision of the bill proposes to give representation to the University of Wales on the General Medical Council. Sir David Brynmor Jones is the promoter of the bill, and it is backed by Lord Ninian Crichton-Stuart, Sir Herbert Roberts, Sir Francis Edwards, Colonel Price-Jones, and Mr. Ormsby Gore. It will now be reported to the House for third reading.

DR. LESLIE JONES, on giving up practice in Manchester, was presented by his friends and patients with a silver cup, accompanied by an address and a purse of £750. Dr. Leslie Jones was in years past an active member of the British Medical Association, and has held the office of President of the Lancashire and Cheshire Branch.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Royal Institute of Public Health.

The Congress of the Royal Institute of Public Health, to be held in Dublin from August 15th to 21st, will open with a reception by the Countess of Aberdeen and the Executive Committee in the Examination Hall, Trinity College, and His Excellency the Lord Lieutenant will deliver the presidential address. In the afternoon the sections of Comparative Pathology and Veterinary Hygiene, Vital Statistics and Preventive Medicine will meet; later in the afternoon a visit will be paid to the Pigeon House, and a trip taken in Dublin Bay. In the evening there will be a conversazione at the Royal College of Physicians. The sections will meet also on Wednesday, Thursday, and Friday. On Saturday a visit will be paid to Artone Industrial School, and excursions made to Rostrevor and Warrenpoint, Howth Castle, Malahide Castle, Glendalough, etc. On Sunday special sermons will be preached both at St. Patrick's Cathedral and at the Pro-Cathedral, Marlborough Street. On Monday, at 9.30, the annual meeting of the Royal Institute of Public Health will be held, and later in the day the final sectional meetings will take place. On Monday evening a popular lecture will be delivered in the theatre of the Royal Dublin Society, on the need for town planning, by Professor Adshead, Professor of Town Planning and Civic Architecture at Liverpool.

Lord Iveagh's Gift for Dublin Hospitals.

The committee appointed to advise as to the distribution of the above gift has recommended grants varying from £4,000 to £200 to be given to twenty-nine hospitals and convalescent homes in Dublin and its neighbourhood. This distribution of the money has been approved of by His Majesty.

New Dublin Hospital.

We have received the following letter with reference to a paragraph under this heading published last week, p. 310:

The City Hospital for Diseases of the Skin and Cancer,
3, Holles Street, Dublin,
August 8th, 1911.

Sir,

With reference to your notice under the above heading in your issue of last week, there is one statement therein to which my committee take exception—namely: "Since the closing of the Skin and Cancer Hospital, Brunswick Street, the poor of Dublin were left without the benefits previously conferred on them by the specialized treatment given in such hospital."

I am directed by my committee, with your permission, to say that since the closing of the City Hospital for Diseases of the Skin and Cancer, Great Brunswick Street, on February 14th, 1911, the work of that institution has been carried on uninterruptedly ever since at 3, Holles Street, where the Dublin poor has had free admission, not only to a well-equipped Finsen light department, including Finsen lamps, radium, *x* rays, high-frequency currents, etc., but also to an out-patient department, with free medicine and medical attendance. The foregoing correction in all the local papers which published the report of the new hospital was made in a letter under the names of two of my hospital committee about a fortnight since.

On behalf of the Committee,
Faithfully yours,
F. Scott,
Secretary.

Registrar-General's Report.

A summary of this report shows that the marriages registered in Ireland during the year 1910 numbered 22,112, the births 101,963, and the deaths 74,894. The marriage-rate was 5.06 per 1,000 of the estimated population, showing a decrease of 0.12 as compared with the average rate for the previous ten years; the birth-rate was 23.3 per 1,000 of the estimated population, being 0.2 below that for the preceding year, but 0.1 above the average rate for the preceding ten years; and the death-rate (17.1 per 1,000) was 0.1 below the rate for the preceding year, and 0.6 below the average rate for the ten years 1900–09.

Of 22,112 men married during the year the number under age was 334, or 1.51 per cent. In Ireland it appears that the percentage of persons married when under age is very far below the corresponding percentages in England and Scotland.

Of the 101,963 births registered, 52,103 were boys and 49,860 were girls, or 104.5 of the former to every 100 of the latter. Of these, 99,130, or 97.2 per cent., were legitimate, and 2,933, or 2.8 per cent., were illegitimate, the latter being 0.2 above the corresponding average percentage for the preceding ten years. These results bear favourable comparison with the returns for most other countries. The number of males to females among legitimate children was 104.4 to 100, and among illegitimate children 109.1 to 100.

During the year there were 1,128 twin births and 13 triplets. The twin births were 1.106 per cent. of the total births.

One of the most interesting facts brought out in this report is the maintenance of the decrease in the mortality from tuberculosis, which has now been continuous since the year 1908, when the death-rate from this disease fell from 2.7 per 1,000 in 1907 to 2.6 per 1,000 in 1908, and in the annual period under review to 2.3 per 1,000. This means a decrease of 578 deaths in the year 1910 as compared with the year 1909, and a decrease of 1,895 when compared with the average for the ten years 1900–09.

It appears that the number of emigrants (natives of Ireland) who left the ports of Ireland during 1910 was 32,457, of whom 17,737 were males and 14,720 females. Of these emigrants 6.9 per cent. were under 15 years of age, 86.9 per cent. were between 15 and 35 years old, and 6.2 per cent. were 35 years or upwards.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

BIRMINGHAM.

Infant Mortality in Birmingham.

A report has been submitted to the Medical Officer of Health of Birmingham by Dr. Jessie G. Duncan on the work carried on during 1910 in St. George's and St. Stephen's Wards with the object of inquiring into the causation of the high infant mortality. The children born in the district are visited by the health visitors usually about the end of the first week after birth, and directions are given as to the care of the child, and information is obtained as regards the mother's employment, previous history, husband's wages, etc. "Infant consultations" are held twice weekly in the district in rooms rented for the purpose, and have been attended not only by careful mothers, but by many careless women, and by the mothers of illegitimate children; the mothers are asked to attend until the child reaches the age of 12 months. There were 3,016 attendances, compared with 2,600 in 1909. The children born in 1909 have been kept under observation for a whole year or until the time of their death; the mortality among them was 174 per 1,000 births. Of the 1,285 mothers, 728 were industrially employed before or after confinement either in a factory or elsewhere, while 557 were not so employed. Taking all the employed mothers, the mortality-rate in 1909 was 10 per 1,000 above that of the infants whose mothers were not industrially employed, whereas in 1908 it was 17 per 1,000 below. An attempt was made to ascertain the actual state of health at the age of 12 months of every baby which had been under observation during its first year of life. It was found that the mothers not industrially employed had a larger percentage of children in good health, owing probably to the fact that they were more able to feed their infants at the breast. The statistics also showed that on the whole the women who followed some occupation had much smaller families than those who did not; those who worked at home or at charing, washing, etc., had the largest families. It would seem, therefore, that as a woman's family increases she is unable to work at a factory, and that she undertakes some work which she can do at home. It was also found that the children born of older mothers had the best chance of living, possibly because a smaller proportion of these mothers go out to work. For mothers under 25 years the infant mortality-rate was 196, for mothers between 25 and 35 years it was 175, and for mothers 35 years and over it was only 150.

Poverty had undoubtedly a very marked influence on

the infant mortality. Employment of the mother apparently only had the effect of causing a difference of 10 per 1,000 in the infant mortality, but whether the father's earnings were under or over £1 per week caused a difference of 65 per 1,000. Poverty appeared to act upon the child both before and after birth. The children might seem to be healthy at birth, but they had a very insecure hold upon life, and were unable to live in the poverty-stricken homes into which they were born. Besides influencing the infantile mortality, poverty had a marked effect on the health of the children who survived their first year, the percentage in good health being 53 in the poorer families against 65 in the others. The infantile mortality in houses with a rental of under 5s. a week was 180 per 1,000, whereas in houses with a rental of over 5s. it was 150 per 1,000. The method of feeding the infants until the age of 6 months, and the health of the children until the age of 12 months, were carefully investigated, and it was found that the breast-fed babies had a much better health and a much lower mortality, whether the mother were employed or not. The mortality among the children who were artificially fed for the first 6 months was about six times as great as among those who were breast fed. The figures also showed that employment in a factory meant in most cases the giving up of breast feeding. As breast feeding among women of this class is essential to the health and even to the life of the infants, there is no doubt that factory employment greatly increases the mortality-rate of the infants. Among factory workers the rapid decrease from 94 per cent. in the first month of life to 23 per cent. in the sixth month in the amount of breast feeding was most significant. Dr. Duncan finishes her report by saying:

The general conclusions to be drawn from another year's study of this question are much the same as those arrived at in 1908. It seems pretty certain that industrial employment has a bad effect on the infantile mortality, principally because it interferes with breast feeding. For this reason employment in a factory is more harmful than employment at home. But the influence of industrial employment is quite small when compared with the influence of acute poverty. It would seem, therefore, that in so far as the mother's employment reduces the acuteness of the poverty, it may tend to improve the infant mortality. At any rate, it is doubtful whether any further interference with the employment of married women would be at all beneficial as long as the acute poverty remains.

Special Correspondence.

VIENNA.

Medical Men in the New Parliament.—Punishment for Dissuading from Necessary Operation.—Health of Vienna during the Heat Period of July.

THE new Parliament has been convoked for a short session in order to ascertain the opinion of its members on several matters awaiting decision. Of the 516 members, only 9—less than 2 per cent.—belong to the medical profession; some 12 or 14 other members can be relied upon to support bills suggested by medical members of the House. This is an unsatisfactory state of things, as some very important matters affecting the very existence of the doctors will be brought before this Parliament. The national insurance scheme, very similar to that introduced in England by Mr. Lloyd George, threatens the doctors in an even higher degree than in England. The medical men have not had enough insight to concentrate all their efforts on securing the election of a larger number of their brethren. The autumn session of our Parliament is therefore viewed by medical men with grave anxiety.

An interesting judgement was delivered a short time ago by an Austrian judge. A patient had been advised by his doctor to have an operation performed on his leg for tuberculous disease of the tibia. The patient thought fit to consult a bonesetter, who gave an opinion contrary to the advice of the surgeon; he treated the leg himself, with the result that gangrene set in and the limb had to be removed on account of thrombophlebitis, which was endangering the patient's life. The patient then promptly sued the quack for damages and tried also to recover the fees paid. He did not get his money, but the judge sent the quack to prison for two months. The argument of the judge was noteworthy. He said: It is a crime to counteract the advice of a learned, duly qualified doctor, who takes the responsibility of advising an operation, especially if the person who dissuades the patient is absolutely incompetent, owing to lack of proper studies, to understand the needs of a diseased body or organ. The quack was sentenced, not for quackery, but for preventing the victim from following sound advice. A similar incident happened quite recently; a patient suffering from appendicitis was advised by a well-known hospital surgeon to undergo operation. Acting on the advice of a supposed fellow-sufferer, who did also a little in the quackery line, he resorted to plasters and ointments; peritonitis quickly developed and ended fatally. As the necropsy showed, perforation of a gangrenous appendix had occurred. In this instance the State took up the case, and the foolish adviser escaped with a fortnight's hard labour, but it is satisfactory to note that medical advice is regarded by the authorities as a thing to be respected and protected.

The weather during the months of June and July has been very warm in Central Europe, and especially July has been very trying to persons unaccustomed to temperatures so high as were then experienced. In Vienna the thermometer reached 98° F. at 2 p.m. in the shade on six consecutive days. The effect of this heat, coupled with a relatively dry air, was a quick fall in the number of cases of infectious diseases—2,381 from June 15th to July 15th, against 2,981 in the preceding four weeks. The mortality was the lowest on record for the same time, 2,632 deaths being recorded, or 88 a day, against 95 in May–June. The distribution of death between the two sexes was 51 per cent. male, 49 per cent. female. No case of small-pox, cholera, or puerperal fever was reported. But, on the other hand, cases of gastro-intestinal disturbances were frequent; the heat, of course, was partly responsible for this, and it was the direct cause of 14 fatal cases of heatstroke and 4 cases of sunstroke. Owing to the excessive temperature 67 cases of drowning occurred in Vienna and its vicinity, for many persons lost their lives in the lakes and rivers, where they sought relief from the heat. On the whole, however, the heat has been felt more as an inconvenience than as a danger to health.

Correspondence.

THE ADMINISTRATIVE CONTROL OF TUBERCULOSIS.

SIR,—Will you allow me to correct a misleading impression which I gather has been produced in the minds of some by the trend of the discussion on "The Administrative Control of Tuberculosis" at the recent meeting of the Association, reported in the BRITISH MEDICAL JOURNAL?

When the invitation of the committee of the Section reached me that I should open the discussion *re* the tuberculosis dispensary, I hesitated lest it might seem that in advocating the dispensary I was placing its claims in opposition to that of the sanatorium, the hospital for advanced cases, and other elements in the campaign against tuberculosis. Because of this it seemed desirable once more to throw into prominence—as I have always endeavoured to do—that, while the tuberculosis dispensary is of much direct value, its significance is greatly increased by close relationship with the other factors in a co-ordinated scheme. The tuberculosis dispensary constitutes, on the one hand, an information bureau, a receiving house for tuberculous patients, a "sorting house" of the different types of case, the centre of direction and treatment for the great mass of patients who do not require institutional treatment, a "clearing house" for patients of different kinds who need hospital treatment, and, finally, a storehouse of records regarding tuberculosis as it occurs within the community. On the other hand, the dispensary should be in closest relationship with—if, indeed, it be not the developmental centre of—the other agencies which are evolved naturally by the local needs—namely, the sanatorium (the hospital for early cases), the hospital for advanced cases, and the farm colony. In proportion as these institutions are linked together and form, with the dispensary, a co-ordinated scheme, in such proportion will the complex problem of tuberculosis be effectively solved.

The relationship between municipal and voluntary effort

will readily adjust itself on the part of those who are really interested in the solution of the question as to the need for, and the limitations of, the different factors. It has been sometimes ignorantly suggested that the Edinburgh scheme is chimerical—not practical. The facts are quite otherwise. It is just because of its intensely practical character that this co-ordinated scheme has come into being. It has been the slow and natural evolution from the needs of the case, as these have presented themselves in the day-by-day antituberculosis activity, which commenced in Edinburgh with the foundation of the Victoria Dispensary in 1887. Following the elaboration of domiciliary visitation, there came to be felt the need for a sanatorium, which was established a few years later, then the need for the segregation hospital for advanced cases, then notification, and finally the farm colony for the care of a certain number of recovered patients to whom return to ordinary conditions of life meant physical relapse and economic wastage. With the growth of public opinion, and the direction of municipal activity in relation to tuberculosis, certain aspects of the problem were especially taken up from that side. The municipality sought expert opinion as to what departments of the work came properly within their sphere. The result was that they took in hand the hospital for advanced cases, and introduced compulsory notification. There can be little doubt that this is the side from which local authorities, as such, should approach the question. Within the last eighteen months a closer relationship has been established between the municipal and voluntary divisions of the work, and the final result is a scheme of closely co-ordinated activity, in which each element plays its distinct rôle, and the several elements are harmoniously linked together for the common good.

If the complex problem of tuberculosis, with its extraordinarily protean manifestations, be properly understood, there can never be a question as to the competing value of notification, the dispensary, the hospital for advanced cases, the sanatorium or the farm colony, each of which, however effective in itself, is less effective than it might be if the other factors be awanting.—I am, etc.,

Edinburgh, Aug. 7th. R. W. Philip.

SPHINCTER STRETCHING IN OPERATIONS FOR HAEMORRHOIDS.

Sir,—My letter was not meant to be in any way a criticism of Mr. Stanmore Bishop's communication, which, unfortunately, I have not yet read. All I wished to do was to join with Mr. O'Connor in deprecating the old-fashioned custom of stretching the sphincter to excess.

I am glad to see that Mr. Bishop objects to another old-fashioned barbarism, that of "locking up the bowels." Yet this is still a routine treatment with many!

There are quite a number of other curiosities of treatment in rectal surgery which have been handed down from one generation to another, which are really bad and in the light of present-day surgery should be done away with.—I am, etc.,

London, W., Aug. 9th. Fred. C. Wallis.

Sir,—From the fact that the great majority of surgeons find it necessary to stretch the sphincter preparatory to operating for haemorrhoids, it would appear obvious that they find it very difficult to dispense with this manœuvre. Surgeons like Sir F. C. Wallis and Dr. John O'Connor may, owing to their great experience, find it perfectly easy to dispense with the stretching, but the average man cannot obtain a satisfactory view of the field of operation without resorting to this practice. If the requisite deep anaesthesia is not produced, a contracting sphincter adds very much to the difficulties of the operation.

Spinal analgesia makes this operation extremely easy, owing to the perfect relaxation which is obtained. I have for some years used a combination of local and general anaesthesia in these cases. About 10 c.cm. of novocain or stovaine solution with adrenalin is injected deeply into both sphincters on each side of the median raphe. Within ten minutes they are both paralysed and a patulous anus is obtained. A very light anaesthesia then only becomes necessary, and it is even possible to complete the operation under the local analgesia, though I do not recommend it. The absence of pain and rapid return to the normal condition in cases which are operated on by this combined method are very striking.—I am, etc.,

Lodmoor Camp, Aug. 1st. F. J. W. Porter, Major R.A.M.C

THE PAPILLAE OF MORGAGNI.

Sir,—In reply to the letter of Dr. F. Wood Jones, which appeared in the British Medical Journal of July 29th, 1911, concerning the position of the papillae and proctodeal membrane in relation to the columns of Morgagni, I should like to refer Dr Wood Jones to an article by Dr. Bernard Dawson in the British Medical Journal of April 3rd, 1909, containing an account of investigations on this point carried out in Professor Arthur Keith's laboratory.—I am, etc.,

London, S.W., Aug. 8th. A. Campbell Magarey,

THE ANNUAL GENERAL MEETING.

Sir,—Although it has all along been known the supporters of the so-called Representative Meeting were desirous of crippling the powers of the Central Council, no one could have believed it possible in so short a time to bring about such an utter fiasco as the meeting in Birmingham.

Besides the delegates, there were but a handful of members of the Association present, and the "business" simply rushed through, except the complimentary votes, which were pretty freely and enthusiastically discussed. Without the slightest reference to discussion, the Chairman abruptly closed the meeting. There were those of us prepared to speak in support of the "policy"—a most threadbare and weak phrase—adopted by the Association in reference to the crisis brought about by the Insurance Bill, but we were not even given a sketch of what was being done.

I know this attitude of supreme satisfaction with their own work adopted by this Annual Delegates' Meeting is an offence to many, and I do not hesitate to warn those who have arrogated to themselves supreme control over the affairs of the Association that their conduct has jeopardized the success of the special appeal for funds. Could anything be more unwise than to appeal for, and secure, money in large sums from thousands of men outside the Association and to say to them, You shall have no voice in the distribution of the fund? Personally, I shall want to know how much is to go in the cost of extravagant literature and other "incidental" expenses, and how much for the "relief" fund.

But, further, the Association has an income of £56,000 or more a year. What nucleus of this is available for the purpose of defence—of emancipating the profession from the slavery they have suffered for years at the hands of an unscrupulous public? We have supreme power in our hands; are we again to throw ourselves away?—I am, etc.,

Old Trafford, Aug. 1st. Jas. Brassey Brierley.

CLUB DOCTORS.

Sir,—During the period of discussion of the Insurance Bill there has been in a certain small town a keen competition for the club appointments—two, both at 3s. per head per annum—of a practitioner lately deceased. There was no question of an increase in the members' capitation fee, but very great and zealous wire-pulling on the part of two applicants.

What is the use of talking of the tyranny of friendly societies in circumstances such as these?

According to latest parliamentary reports, we shall soon have to consider the possible opposition of herbal doctors. With an unfriendly press—and to prove this one has only to try to get a letter with mention of *Secret Remedies* inserted!—anything will be possible. The period of time before the autumn session will be well occupied in looking into such matters as these.

I enclose the name of the town.—I am, etc.,

August 8th. A Member B.M.A.

The Archbishop of York has accepted the office of President of the Twenty-seventh Congress of the Royal Sanitary Institute, to be held in York in July, 1912.

The Services.

COMMISSIONS IN THE ROYAL ARMY MEDICAL CORPS.

THE following were the successful candidates for commissions in the Royal Army Medical Corps at the competition held in London in July, and for which 44 candidates entered:

	Marks.
*B. H. H. Spence, Edinburgh University, M.B., Ch.B.Univ. Edin.	622.5
W. B. Laird, St. Thomas's Hospital, M.R.C.S.Eng., L.R.C.P. Lond.	606
D. W. Bruce, Aberdeen Univ., M.B., Ch.B.Univ.Aberd.	568
H. S. Blackmore, University College Hospital, M.R.C.S.Eng., L.R.C.P.Lond., L.D.S., R.C.S.Eng.	567
E. S. Calthrop, Charing Cross Hospital, M.B., B.S.Univ. Lond., M.R.C.S.Eng., L.R.C.P.Lond.	565
L. Buckley, Liverpool University, M.B., B.Ch.Univ.L'pool., M.R.C.S.Eng., L.R.C.P.Lond.	564
F. R. B. Skrimshire, St. Thomas's Hospital, M.R.C.S.Eng., L.R.C.P.Lond.	555.5
R. T. Vivian, St. Bartholomew's Hospital, M.R.C.S.Eng., L.R.C.P.Lond.	553
T. E. Osmond, Cambridge University, St. Bartholomew's Hospital, M.R.C.S.Eng., L.R.C.P.Lond., B.A.Cantab.	550
E. C. Deane, Royal Colleges of Physicians and of Surgeons, Ireland, L.R.C.P. and S.Irel., L.M.Rotunda	549
S. P. Sykes, Liverpool University, M.B., Ch.B.Univ.L'pool	544
R. Davidson, Dundee University, M.B., Ch.B.St. Andrews	542
E. G. H. Cowen, Charing Cross Hospital, M.B., B.S.Univ. Lond., M.R.C.S.Eng., L.R.C.P.Lond.	541
E. B. Allnutt, St. Bartholomew's Hospital, M.R.C.S.Eng., L.R.C.P.Lond.	537
J. M. Elliott, Trinity College, Dublin, M.B., B.Ch., B.A., B.A.O.Univ.Dub., L.M.Rotunda	535
*H. E. Todd, Edinburgh University, M.B., Ch.B.Univ.Edin.	529
J. L. Ritchie, Birmingham University, M.B., Ch.B.Univ. Birm., M.R.C.S.Eng., L.R.C.P.Lond.	524.5
M. Drummond, University College, Dublin, St. Bartholomew's Hospital, L.R.C.P. and S.Irel., L.M.Rotunda	522
*A. G. J. McIlwaine, Queen's University, Belfast, L.R.C.P. and S.Irel.	520
W. Stewart, Edinburgh University, M.B., Ch.B.Univ.Edin.	516

* The gentlemen marked (*), being in possession of certificates obtained in the Officers' Training College, were awarded service marks under paragraph 71 of the Regulations for the Officers' Training Corps.

INDIAN MEDICAL SERVICE.

THE result of the July examination was announced on July 29th, 1911. There were twenty-eight candidates, the first twelve being admitted as Lieutenants on Probation, with effect from July 29th, 1911.

The names of the successful candidates, with the marks obtained by each out of a possible total of 5,100, are given below, together with their degrees and medical schools:

Name.	Degrees, etc.	Medical School.	Marks.
J. A. Sinton ...	M.B., B.Ch., B.A.O.R.U.I., D.P.H., D.T.M.	Queen's College, Belfast; Liverpool University	3,806
D. F. Murphy ...	M.B., B.Ch., B.A.O.R.U.I.	University College, Cork	3,721
E. R. Armstrong	M.B., Ch.B.L'pool; D.P.H., D.T.M.	Liverpool University; Cambridge University	3,572
C. J. Stocker ...	M.B., B.C.Cantab., M.R.C.S., L.R.C.P.	Cambridge University; St. Bartholomew's Hospital	3,414
E. E. Doyle ...	L.R.C.P. and S.Ed., L.F.P. and S.Glas.	Grant Medical College, Bombay; Royal Colleges, Edinburgh	3,346
C. M. Plumptre ...	M.R.C.S., L.R.C.P.	Guy's Hospital	3,303
A. W. Duncan ...	M.R.C.S., L.R.C.P.	St. Mary's Hospital	3,299
E. A. Penny ...	M.B., B.S.Lond., M.R.C.S., L.R.C.P.	Guy's Hospital	3,257
G. B. Harland ...	M.B., B.S.Lond.	Guy's Hospital; Durham University	3,243
L. F. Brandenbourg	M.B., C.M.Madras, M.R.C.S., L.R.C.P.	Madras Medical College; King's College Hospital	3,238
J. E. Scudamore	M.B., B.S.Lond.	London Hospital	3,233
H. L. Barker ...	M.B., B.S.Lond., M.R.C.S., L.R.C.P.	St. Mary's Hospital	3,186

EXAMINATIONS FOR PROMOTION.

Stations Abroad (Except India).

THE following were the successful candidates at the May examination for promotion of Majors of the Royal Army Medical Corps in "Technical Subjects," Part I, Appendix XIV, King's Regulations:

Major H. C. FRENCH, Part I, Subject 2, Appendix XIV, King's Regulations. Already passed in (*d*) ii, and Part I, Subjects 1 and 3, Appendix XIV, King's Regulations.

Majors A. H. Morris, H. L. W. NORRINGTON, and J. POE, M.B., (*d*) ii. Have yet to pass in Part I, Appendix XIV, King's Regulations.

Captain H. B. FAWCUS, M.B., (*d*) ii, .75. Already passed in (*h*).

Captains C. R. L. RONAYNE, M.B., W. M. POWER, A. W. GIBSON, T. F. RITCHIE, M.B., A. W. A. IRWIN, and N. E. J. HARDING, M.B., (*d*) ii. Already passed in (*h*).

Captain C. W. HOLDEN, (*d*) ii. Has yet to pass in (*h*).

Captain D. AHERN, (*d*) ii. Already passed in (*h*).

Captain V. H. SYMONS, (*d*) ii. Has yet to pass in (*h*).

Captain R. A. BRYDEN, (*d*) ii, .75. Has yet to pass in (*h*).

Captain P. J. MARETT, (*d*) ii. Has yet to pass in (*h*).

Lieutenant A. C. H. SUHR, M.B., (*h*) ii. Already passed in (*b*), (*d*) ii, and (*h*) i and iii.

Lieutenant G. J. KEANE, M.D., (*d*) ii and (*h*). Has yet to pass in (*b*).

Lieutenant A. E. G. FRASER, (*d*) ii and (*h*) iii. Already passed in (*b*) and (*h*) i and ii.

Lieutenants E. V. VAUGHAN, M.B., and T. B. NICHOLLS, M.B., (*d*) ii and (*h*), .75 in (*d*) ii. Already passed in (*b*).

Lieutenant J. A. CLARK, M.B., (*d*) ii and (*h*). Already passed in (*b*).

Lieutenant P. G. M. ELVERY, (*h*) i. Already passed in (*b*), (*d*) ii, and (*h*) ii and iii.

Lieutenant W. MATHIESON, (*d*) ii and (*h*), .75 in (*d*) ii. Already passed in (*b*).

The following belong to the Army Medical Corps, Canadian Permanent Forces:

Major E. C. HART, (*d*) ii. Has yet to pass in Part I, Subject 1, Appendix XIV, King's Regulations.

Major T. J. F. MURPHY, (*d*) ii.

Lieutenant O. LACROIX, (*h*).

Lieutenant H. A. CHISHOLM, (*d*) ii and (*h*).

The above-named officers have yet to pass in a "Medical Staff Tour," Part II, Appendix XIV, King's Regulations.

ROYAL ARMY MEDICAL CORPS (TERRITORIAL FORCE).

LIEUTENANT F. R. M. HEGGS, attached to the Princess Beatrice, Isle of Wight Rifles (8th Battalion Hampshire Regiment), having passed in May last in all subjects of B examination, is qualified for promotion to captain in due course.

Universities and Colleges.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.—A. F. Alexander, D. W. J. Andrews, Mary N. Andrews, G. E. Archer, I. Aubrey, Ruth Balfour, C. H. D. Banks, G. E. Barker, *‡E. B. Barnes, G. C. Berg, R. V. Bevan, G. Blurton, C. V. Boland, E. S. Bowes, C. H. C. Byrne, O. St. L. Campion, Hester M. Church, Hetty E. Claremont, A. W. Cocking, M. C. Cooper, W. M. Crombie, ‡R. M. Dannatt, E. I. Davies, T. A. Davies, T. R. Davies, R. O. Eades, *‡E. H. Eastwood, ‡H. H. L. Ellison, L. W. Evans, W. J. Evans, Susan A. Finch, Charlotte I. Fox, E. St C. Gainer, P. C. Gibson, E. N. Glover, L. Grey, A. F. G. Guinness, Hilda M. Halliday, M. H. Hassan, Blanche A. M. Henderson, V. R. Hirsch, Mary I. Hounsfield, Edith C. Hudgell, P. Hudson, S. W. Isaacs, H. C. Jennings, J. G. Jones, P. T. Jones, G. S. L. Kemp, F. A. Knott, H. Korn, R. P. Langford-Jones, Mildred B. Langley, F. F. Langridge, D. J. A. Lewis, K. T. Limbery, Annie Lloyd, I. H. Lloyd, V. E. Lloyd, W. H. Lloyd, P. G. McEvedy, J. E. G. McGibbon, G. A. S. Madgwick, R. G. Michelmore, G. G. Milne, *‡‡H. W. L. Molesworth, F. Molina, Marie M. A. Moralt, R. G. Morgan, D. C. Ogilvie, B. C. W. Pasco, Doris M. Pearce, A. W. Peeris, Enid M. Pfeil, R. V. Powell, ‡G. J. Randell, D. Rees, ‡D. W. R. Richardson, A. E. Richmond, Eveleen B. G. Rivington, T. E. Roberts, J. E. Rusby, E. Sakoschansky, Enid E. Sanger-Davies, E. W. Scofield, T. W. Short, J. F. Smith, M. C. Stark, W. Steadman, R. G. Sterling, M. B. R. Swann, G. P. Tatton, H. W. Taylor, A. C. Teuten, D. C. Thomas, J. W. T. Thomas, W. Thomas, M. B. M. Tweed, J. F. Twort, J. E. A. Underwood, D. J. Valentine, H. S. Wacher, L. P. Waghorn, W. J. G. Walker, M. J. T. Wallis, Phillis E. Webb, Gladys M. R. Webster, P. H. Wells, J. de S. Wijeyeratne, A. Willatt, A. Wilson, W. C. S. Wood, K. M. C. Woodruff, A. F. Wyatt.

* Distinction in Inorganic Chemistry. † Distinction in Physics. ‡ Distinction in General Biology.

SECOND M.B. (Part I, *Organic and Applied Chemistry*).—R. G. Abrahams, K. D. Atteridge, K. R. Batra, C. W. W. Baxter, D. A. Blount, Margaret S. G. Bott, P. C. P. Cloake, W. E. K. Coles, C. J. C. Cooke, Gertrude E. Cuttle, A. W. A. Davies, L. ap I. Davies, H. A. De Morgan, C. R. Denny, E. G. Dingley, J. A. W. Ebden, J. Fanstone, Annie M. Forster, G. F. P. Gibbons, *F. J. Hallinan, R. M. Handfield-Jones, J. W. Heekes, G. O. Hempson, Dorothy M. Henty, E. E. Herga, W. A. Hotson, H. L. G. Hughes, W. V. Hughes, Hilda G. Johnson, L. G. Le Blanc, E. A. Leviseur, P. F. Macgregor, Adeline M. Matland, D. Menzies, W. H. Nicholls, Kathleen H. Parkinson, *L. G. Phillips, J. A. Pridham, J. B. Rawlins, W. K. A. Richards, E. A. L. Sansom, F. H. A. Sayed, C. J. H. Sharp, F. J. R. Simpson, G. J. C. Smyth, L. F. Strugnell, L. H. Terry, W. H. Thomas, H. C. C. Veitch, C. J. B. Way, H. W. S. Wright.

* With distinction.

UNIVERSITY OF DURHAM.

THE following were among the degrees conferred at a Convocation on July 22nd:

M.D.—E. G. E. Arnold, R. H. Bellwood, H. G. Davison, H. Drummond, P. A. Galpin, C. W. Greene, R. W. Nevin, J. R. Prior.

M.D. (*for Practitioners of Fifteen Years' Standing*).—J. M. Bennett, R. Dagger, P. J. Flanagan, E. P. S. Gane, W. J. Hoyten, H. P. Johnson, A. E. Joscelyne, F. C. Langford, W. H. Payne, F. G. M. Philps.

M.S.—Charlotte Purnell.

M.B.—O. F. D. Airth, J. H. Barclay, R. M. Barrow, M. Brennan, J. J. Brown, E. L. Hancock, T. A. Hindmarsh, W. Hudson, W. Hughes, F. H. Kennedy, J. Lumb, B. B. Noble, J. H. Owen, E. Jessie Ramsbotham, F. S. Rood, Madeline R. Shearburn, Eleanor Walkinshaw, A. H. Wear.

B.S.—J. H. Barclay, R. M. Barrow, M. Brennan, J. J. Brown, E. L. Hancock, T. A. Hindmarsh, W. Hudson, F. H. Kennedy, J. Lumb, B. B. Noble, J. H. Owen, E. Jessie Ramsbothan, F. S. Rood, J. A. Sacco, Madeline R. Shearburn, A. T. Thompson, Eleanor Walkinshaw, A. H. Wear.

D.HY.—R. S. Trotter.

B.HY.—Helen G. Clark.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

THIRD M.B. (*Pharmacology, Therapeutics, and Hygiene*).—A. Barrett, F. A. Bearn, J. G. Bennett, E. S. Brentnall, C. H. Crawshaw, H. N. Crossley, H. F. Hutchinson, E. Leahy, C. G. Lees, F. L. Newton, W. L. Nicholson, T. P. Robertson, A. V. Stocks, E. Talbot, C. Thompson, H. W. F. Williams, G. W. Wood.

FINAL (*Forensic Medicine and Toxicology*).—O. R. Allison, W. Barnes, R. B. Berry, A. G. Bryce, L. T. Challenor, G. Fildes, A. W. Gaye, H. Harrison, G. Jackson, J. A. Lees, P. H. Midgley, H. G. Peake, L. W. Sparrow, C. F. White, Vera N. Weizmann, A. G. Wilkinson.

FINAL (*All Subjects*).—C. E. Butterworth, N. Duggan, A. W. Gaye, H. Heathcote, *A. H. Holmes, *W. H. Kauntze, Mabel E. May, *Jane C. Miller, M. Moritz, L. Moss, *S. B. Radley, G. E. Sawdon, J. B. Scott, W. Stirling, *J. S. B. Stopford, G. K. Thompson.

M.S.—J. Morley.

D.P.H.—M. T. Ascough, A. Boyle, E. F. S. Green, A. K. Lomas, Agnes J. Maclaren, Edith M. Marsden, C. B. Marshall, R. H. Mercer, R. Price, W. W. Uttley, C. F. Walker.

* Second Class honours.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B. (*All Subjects*).—E. E. Davies, C. A. H. Gee, E. F. Thomas, A. J. O. Wigmore. *Part I only:* M. C. Barber, E. V. Foss, A. G. Hieber, B. J. F. J. Taylor, C. Wintle. *Part II, completing the Examination:* S. H. Kingston.

SECOND M.B., CH.B.—R. I. Dacre, C. J. D. May, A. G. Morris.

Appointments.

The Council has appointed Mr. Robert Donaldson, D.P.H., and Mr. Alfred G. T. Fisher, M.R.C.S., L.R.C.P., to the vacant Demonstratorships of Pathology and Anatomy respectively.

UNIVERSITY OF EDINBURGH.

THE following degrees were conferred at the summer medical graduation ceremonial:

M.D.—*J. C. D. Allan, J. Arthur, J. H. Bayley, Agnes E. L. Bennett, J. Black, *W. Boyd, D. Brown, *A. N. Bruce (D.Sc.), D. C. Gardiner, G. H. Garnett, A. B. Gordon, W. Gorrie, A. Gray, (M.A., LL.B.), J. Green, E. B. Gunson, G. H. Hanna, A. M. Hewat, A. E. Hodgson, H. Hutson, J. A. Jamieson, T. H. Jamieson, A. M. Jones, W. L. Leslie, H. B. Low, J. P. Lowson (M.A.), P. Macdairmid, W. M. Macdonald (B.Sc.), T. M'Intosh (M.A.), *K. Mackenzie, C. G. MacLeod (M.A.), H. D. M'Phail (M.A.), Eva Meredith, Ada E. Miller, J. A. Mortimer, A. W. Neill, C. T. H. Newton, A. C. Norman, S. G. Ogilvy, J. H. C. Orr, R. Owen, Lydia D. Parsons, F. A. Pockley, W. Rogers, A. Sanderson, F. W. Taylor, Annie F. Theobalds, J. A. Turner, W. S. Watson, Elsie B. Wilkie, F. T. Wills, *S. A. K. Wilson, W. Young.

* Awarded a gold medal for thesis.

M.S.—S. A. Smith, A. P. Watson.

M.B., Ch.B.—W. J. Adie, R. Aitken, H. Bedingfield, A. J. Bennee (first class honours), A. G. Biggam, Charlotte M. Birnie, H. F. Blacklee, N. H. Bolton, J. R. Boyd, H. H. Brown, W. Bruce, H. M. Buchanan, F. D. Cairns, W. Campbell (first class honours), E. R. Carlos (M.A., B.Sc.), T. Caul, F. O. Clarke, W. G. Coltart, Lilian Cook, D. A. Crow, W. N. Davies, M. J. Dolan, R. Dow, J. M'Q. Drew (B.A.), K. A. Gilchrist, R. G. Gordon (B.Sc.), A. Groenewald, H. F. G. Hall, T. Hayhurst, A. M. V. Hesterlow, B. J. O. Hoare, S. Hodgson, N. J. Hofmeyr (B.A.), H. F. Holmden, J. L. Huggan, W. H. Johnston (B.A.), N. J. Judah, H. A. Khin, A. L. Krogh, H. E. A. Lemerle, A. H. Louw, F. R. Luke, Eva M. Lyon, H. J. M'Caw, I. Macfarlane, G. V. T. M'Michael, P. M'Nab, R. D. M. Macpherson, J. G. Macqueen, C. D. Maitland (B.Sc.), L. B. C. Marksman, J. S. S. Martin, W. C. B. Meyer (B.A.), D. C. Monro, A. E. Moore, J. T. Morrison (first class honours), R. V. Morrison, Lucy M. Muir, J. M'N. Murray, T. P. Noble, J. F. Pace (*in absentiâ*), R. Park, M. P. Paton (M.A., B.Sc.), A. C. Price, H. H. Proudfoot, G. Richardson, T. C. Ritchie (B.Sc.), A. B. Robertson, C. Rogers, L. Sammy (B.Sc.), J. Scott, S. F. Silberbauer, W. D. D. Small, B. M'C. Smith, B. H. H. Spence (*in absentiâ*), R. M. Stewart, S. D. Stewart, W. Stewart, J. H. Tennent, C. M. R. Thatcher, J. A. Tomb, A. L. Urquhart, J. v. O. de Villiers, G. H. Willem de Vos, D. Watson, H. W. Webb, H. E. Y. White, J. B. Wilkie, H. T. Williams, L. S. Willox, D. M'D. Wilson, W. Q. Wood.

On the same occasion diplomas in Tropical Medicine and Hygiene were handed to Messrs. *W. L. Burgess, G. L. Cawkwell, *W. H. Dickinson, K. Fraser, S. F. Lee, W. Russell, and C. Y. Wong; and the following scholarships and prizes distributed: *Goodsir Memorial Fellowship*, A. N. Bruce; *Syme Surgical Fellowship*, A. P. Watson; *Gunning Victoria Jubilee Prize in Chemistry*, J. Kendall; *Gunning Victoria Jubilee Prize in Materia Medica*, W. J. Feltham; *Gunning Victoria Jubilee Prize in Obstetrics*, K. Mackenzie; *Chiene Medal in Surgery*, A. P. Watson; *Ettles Scholarship*, J. T. Morrison; *Allan Fellowship in Clinical Medicine and Clinical Surgery*, H. Bedingfield; *Freeland Barbour Fellowship*, F. D. Cairns; *M'Cosh Graduate's and Medical Bursaries*, W. J. Adie; *Murchison Memorial Scholarship in Clinical Medicine*, W. Q. Wood; *Beaney Prize*, A. G. Biggam; *Mouat Scholarship*, W. D. D. Small; *Conan Doyle Prize*, W. C. B. Meyer; *Annandale Gold Medal in Clinical Surgery*, B. H. H. Spence; *Buchanan Scholarship in Gynaecology*, T. C. Ritchie; *James Scott Scholarship in Midwifery*, A. J. Bennee; *Dorothy Gilfillan Memorial Prize*, C. D. Maitland; *Pattison Prize in Clinical Surgery*, W. Q. Wood; *Wightman Prize in Clinical Medicine*, W. J. Candlish.

It was also announced by Professor Harvey Littlejohn, the Dean of the Faculty of Medicine, that the *Cameron Prize in Practical Therapeutics* had been awarded to Dr. Simon Flexner, of the Rockefeller Institute, New York, in acknowledgement of his work in connexion with the treatment of cerebro-spinal meningitis.

* With distinction.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following awards were made at the end of the summer session in the school of medicine carried on in connexion with the College: The *Barker Anatomical Prize* (value £31 10s.), Eleanor Taylor, a special prize of £15 15s. being awarded to T. Mulcahy; the *Carmichael Scholarship* (value £15), E. Connell; the *Mayne Scholarship* (value £8), J. T. Duncan; the gold medal in *Operative Surgery*, J. T. Duncan; the silver medal in the same subject, H. J. Burke; the *Stoney Memorial Gold Medal in Anatomy*, M. Shipsey; minor awards, each consisting of a medal and £2 in money, were also made in the following subjects: *Practical Histology*, G. M. C. Powell; *Practical Chemistry*, V. A. Power; *Public Health and Forensic Medicine*, G. N. N. Smyth; *Materia Medica*, G. N. Smyth; *Biology*, L. E. Stephens. In the same five subjects second prizes of £1 each and a certificate were also awarded.

The Fellowship.

The following candidates have been approved at the examinations indicated:

FIRST FELLOWSHIP.—W. I. Adams, R. A. Austin, T. W. Conway, W. A. Fernando, J. G. J. Green, W. McCready, F. P. B. M'Tavish, M. Shipsey, R. P. Weldon.

FINAL.—R. H. Adams, J. W. Killen, A. A. McConnell, W. F. O'Connor, Miss M. J. Shire, S. B. Surti.

The Carmichael Prize Essay.

The Council of the College has given notice that essays by competitors for the Carmichael Prize, value £120, for 1912, must be lodged on or before July 1st of that year. The subject chosen on this occasion is the State of the Medical Profession in its Different Departments of Physic, Surgery, and Pharmacy in Great Britain and Ireland at the time of writing; the State of the Hospitals and Schools of Medicine, Surgery, and Pharmacy; the State and Mode of Examination imposed by the various Licensing Bodies.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the College on July 28th the following were admitted to the Fellowship:

W. Ainslie, R. C. Alexander, J. S. Beedie, W. R. Cammock, T. Gilray, T. A. MacGibbon, E. R. D. Maconochie, R. Morison, M. C. F. Morkane, G. D. Muir, A. F. H. Rabagliati, H. J. Roberts, B. L. Thurlow, H. J. Walker.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE (Part I, *Chemistry*, and Part II, *Physics*).—†B. E. Barnes, †K. L. Bates, L. G. Brackmore, P. A. Brown, †H. S. Bryan, G. H. K. Burge, *R. G. J. Charlesworth, C. de Frias, D. H. Derry, †F. P. G. de Smidt, †H. M. Drake, G. G. Drummond, †J. E. Evans, *C. Gould, †M. St. C. Hamilton, †W. N. Harrison, C. B. Henry, C. G. Hitchcock, R. W. Hodgson-Jones, †W. O. Holst, †G. H. Howe, H. R. W. Husbands, †H. D. L. Jones, †T. L. Kan, C. S. J. Kearney, †G. Kinneir, *R. D. Langdale-Kelham, S. J. L. Lindeman, Marie G. G. C. Link, *S. D. Lodge, *G. S. B. Long, †W. U. D. Longford, G. Lynden-Bell, †J. M. Madariaga. J. E. C. Maguire, R. H. Maingot, †L. W. Moore, G. E. Mullins, S. Muttiah, †D. G. Pearce, A. S. W. Pearmund, F. Porter-Smith, E. A. Prichard-Evans, *R. B. Pullin, E. D. Richardson, †G. C. Robinson, J. Rowland, P. G. Russell, W. H. Sarra, *G. R. Sharp, *W. W. S. Sharpe, R. G. Simpson, J. B. G. Skelton, D. M. Smith, J. R. W. Stephens, *A. Sunderland, *P. Ward, A. A. Watkinson, F. L. Webster, †H. Whyte, N. J. Wigram, W. E. Wilson, *I. Zaki.

FIRST COLLEGE (Part III, *Elementary Biology*).—B. E. Barnes, G. H. K. Burge, J. W. Clayton, D. R. Kurnock, C. de Frias, D. H. Derry, D. MacM. Dickson, G. A. N. Dod, H. M. Drake, D. J. Evans, C. J. G. Exley, G. T. Garraway, C. Gould, R. W. Hodgson-Jones, W. O. Holst, T. P. W. John, M. Mahfooz, H. Millett, S. Muttiah, R. Neft, W. H. A. Pratt, T. F. Reason, E. D. Richardson, R. I. Rhys, R. G. Simpson, A. D. Stammers, J. R. W. Stephens, F. Tagger, D. C. Thomas, F. L. Webster, H. Whyte.

* Passed in Part I only. † Passed in Part II only.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE following candidates were approved at the examination held at the end of the thirty-sixth session:

* D. Heron, Captain, I.M.S., F. Grone, †E. C. Braithwaite, †L. W. Davies, J. T. Wigham, †R. E. Drake-Brockman, A. Moorhead, Major, I.M.S., N. S. Messiha, †D. Duff, G. O. Teichmann, C. A. Crichlow, †A. T. Ozzard, †W. I. M. Clark, †M. W. Fraser, †H. R. M. Ferguson, †J. Y. Wood, H. S. Gettings, S. P. Proctor, R. O. Sibley, G. C. Winchester, †R. Bury, †B. J. Courtney, †W. H. Bomford, J. Bruce Bays.

* Passed with distinction.
† Officers in the Colonial Medical Service.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*†C. B. Hawthorne, *J. S. H. Lewis, *F. G. Norbury, *†E. H. Roberts, *†W. H. Watson, *R. M. Wingent.

MEDICINE.—†N. S. Adler, †A. de Luyck, *†A. E. L. Devonald, *P. McGinnis, *†E. H. Roberts.

FORENSIC MEDICINE.—E. H. Roberts.

MIDWIFERY.—A. E. L. Devonald, J. S. H. Lewis, C. C. Messiter, P. J. Montgomery, C. E. Reckitt, E. H. Roberts.

*Section I. †Section II.

The diploma of the Society has been granted to Messrs. N. S. Adler, C. B. Hawthorne, A. de Luyck, and E. H. Roberts.

APOTHECARIES' HALL OF IRELAND.

AT the August annual meeting Mr. Ed. Magennis, M.D., J.P., was elected Governor and Mr. J. C. McWalter, M.A., M.D., LL.B., Deputy Governor. Colonel Adye-Curran, M.D., was re-elected as the representative on the General Medical Council.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

MECHANICAL MASSAGE wants to know which is the best kind of mechanical vibrator to use for massage of the back and in the treatment of headache.

E. T. would be glad to know of a school for a girl of 18, whose education has been put off owing to her having suffered from tuberculosis, where the open-air treatment would be carried out with her education.

LAYMAN inquiries which is the correct term for a substance employed for the purpose of killing adult culicidae (culicide or culicicide?), and whether this term may also be applied to a substance for killing the larvae (larvicide?)

*** Culicicide is the proper term, being formed from the genitive of culex (*culicis*). It is true that convenience often has to give way to strict etymology—for instance, formic acid is derived from *formica*, an ant; but "formicic" would be troublesome to pronounce. Why, then, it may be asked, not "culicide"? Because that form might possibly be taken to have some connexion with *culus*.

ANSWERS.

DR. WILFRED KNIGHT (Pinetown, Natal).—(1) Borchardt and Sudeck (not "Sukek") have not suggested any modification of an operation, but have proposed alterations in instruments by which the operation (a method of making osteoplastic resection or an osteoplastic flap of skull) is done. Borchardt, in 1906, made some modifications in instruments in the electrically-driven dental engine for surgical purposes. Sudeck, in 1900, suggested a revolving tool with spiral cutting edges driven by an electric motor. This spiral revolving at a very rapid rate is held against the bone of the skull at right angles, and cuts its way through. A preliminary trephine opening must be made to admit it. The cut made in the calvarium is rather a wide slot, much wider than that made by a Gigli saw, for example. Cryer, in 1897, was the first to suggest this instrument, and in some books (Keen, Kocher) it is called the Cryer-Sudeck spiral osteotome. (2) *Finney's operation* is a method of dealing with stricture of the pylorus. It was first described in the *Bulletin of Johns Hopkins Hospital*, July, 1902, and the description and diagrams are reproduced in Jacobson and Rowlands's *Operations of Surgery*, vol. ii, p. 469. The operation is called by Finney a pyloroplasty, but it is also a form of gastro-duodenostomy. It consists in the establishment of an anastomosis between the pars pylorica of the stomach and the first part of the duodenum. The incision in the two viscera divides the pyloric stricture near its lower border and extends well into the stomach on the one side and into the duodenum on the other—that is, it is continuous and horseshoe-shaped. The serous and muscular coats posteriorly are sutured continuously, with the result that the incision into the stomach and duodenum is now shaped like a hairpin when looked at from the front. Next, all the coats are sutured continuously from within, and when the anterior sutures are introduced (of silk, interrupted, mattress) and tied, the two legs of the hairpin-like opening are approximated. The new opening now established between the stomach and duodenum is large, is said to give free drainage of the stomach, and to obviate the risk of spur formation and regurgitation of bile. But, on the whole, the operation is not now regarded as so safe as gastro-jejunostomy, and is applicable only where there are few adhesions around the pyloric region (Jacobson and Rowlands). Extensive disease, adhesions, a short gastrohepatic omentum, and especially the presence of scar tissue, should be considered contraindications, as it is in these conditions that gastro-jejunostomy gives the most satisfactory results (W. J. Mayo). (3) *The Rodman operation on the stomach* is an excision of the pylorus together with that portion of the stomach most commonly the seat of ulceration. The Mayos of Rochester, U.S.A., support the suggestion. The lines of incision in stomach and duodenum advised by these surgeons are figured in Binnie's *Operative Surgery*, Fig. 247, p. 242. The portion of stomach removed consists of the pars pylorica and the greater part of the lesser curvature.

EXPECTORATION OF GASTRIC MUCUS.

DR. H. J. THORP (Ipswich) writes, in reply to "Perplexed," to suggest that the patient should take only as much food as the stomach can digest with the least discomfort. Three meals daily (chief meal mid-day), and a small dose of calomel (gr. $\frac{1}{20}$) three times a day.

DR. FREDK. F. MIDDLEWEEK (London) writes: I would suggest that the patient be given abdominal massage together with light shakings (considering the patient's age) of the stomach. The massage would relieve the constipation, and stomach shakings would increase the muscular, secretive, and vascular tone of the stomach and intestines, and so diminish the catarrh which his patient suffers from.

MIDWIVES AND SICK NURSING.

AJUNTA.—There does not appear to be anything to prevent a certified midwife from giving assistance in the nursing of a sick person, providing that she complies with the regulations of the Central Midwives Board, of which the most important in this connexion is Rule E 5:

> Whenever a midwife has been in attendance, whether as a midwife or as a nurse, upon a patient, or in contact with a person, suffering from puerperal fevers or from any other condition supposed to be infectious, or is herself liable to be a source of infection, she must disinfect herself and all her instruments and other appliances, and must have her clothing thoroughly disinfected, to the satisfaction of the Local Supervising Authority, before going to any other maternity patient.
>
> Unless otherwise directed by the Local Supervising Authority, all washable clothing must be boiled, and other clothing must be sent to be disinfected by the Local Sanitary Authority.

LETTERS, NOTES, ETC.

SPIRITUAL HEALING.

DR. A. TEEVAN (Worthing) writes with reference to the report on Spiritual Healing: It seems to me a pity that practitioners were not invited to give their experiences. I can relate three cases in my practice, reported "cures" which turned out to be miserable failures.

TREATMENT OF PNEUMONIA.

DR. WALTER ASTEN (London, N.) writes: The last sentence of Dr. Marsh's communication in the JOURNAL of July 15th just saves the situation, and I quite agree that if he has practised for sixteen years, and never lost a case of pneumonia, he has been lucky. But surely he does not hold that the treatment set out is to be credited with bringing about such a result, for there is no such thing as a routine treatment for pneumonia. Each individual case needs to be treated according to the indications presented, but Dr. Marsh appears to suggest one stereotyped empirical line as being an absolutely specific treatment. I suppose he will sponge whether or no there be hyperpyrexia, and he will apply a great heavy poultice whether or no there be pain or whether the breathing be already embarrassed. I am quite sure the one grain of quinine and phenacetin hourly must be taken with an equivalent volume of faith in the majority of cases. The drinks of milk, Bovril, cold water, and still lemonade are certainly admissible, but do the millworkers and colliers of Atherton get an unorthodox species of pneumonia which causes no labour to the right heart by distension of its chambers, and do they never get a severe heart failure from a virulent streptococcal infection? Dr. Marsh's experience with a disease which is usually so fatal, and which always demands a most guarded prognosis until after the crisis, appears to me so extraordinary that it would be interesting to know how the mortality-rate from pneumonia in the neighbourhood of Manchester compares with other parts of the country.

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An Address
ON
THE SURGEON AND THE INDUSTRIAL WORKER.

Delivered before the Staffordshire Branch of the British Medical Association.

BY

W. D. SPANTON, F.R.C.S.Eng. and Edin.,

consulting surgeon, north staffordshire infirmary; president of the branch.

I thank you for the honour you have conferred on me, at the end of nearly a quarter of a century, in electing me once again as your President. It is one I greatly appreciate, and more especially as it affords me an opportunity of showing how the surgical instinct I took as my text before is as essential as ever to make a good surgeon.

It has become the fashion in recent years to belittle the work of those pioneers who laid the foundations on which modern surgical reputations have been built. The main object of my address now will be to indicate as briefly as I can the materials on which those foundations were laid; and it occurred to me I could not take a better text than the life-work of one of the most famous surgeons in this country a century ago—that of Astley Paston Cooper.

I can in my own experience look back for more than half that period; and, while I recognize with admiration the enormous advances which have been made, I feel that we ought not to lose sight of the magnificent work of those to whom we are so deeply indebted. When I was an apprentice fifty-five years ago one of the things which incited me to love surgery was a beautifully written copy of notes of Astley Cooper's lectures taken by my master, who lent them to me. Textbooks were less common then, and manuscript notes impressed one more vividly than any mere book could do. Hence I came to admire the man, and looked upon him then, as I have done since, as a model surgeon, whom it became my ambition to emulate and to worship as my surgical divinity. Nor have I ever had reason to regret this hero-worship, for it has proved an incentive to me throughout the whole course of my surgical career.

It has become customary in recent years to speak of surgery, surgical principles, and practice as a thing apart from the surgeon, as if it were a mathematical sort of science which anybody by a little calculation could successfully reduce to practice. I shall endeavour to show that the individual element occupies a more important place in surgical results than is commonly recognized.

The very interesting story of Astley Cooper's life, told by his nephew Bransby Cooper, is probably well known to most of you. If it is not it ought to be, for it affords an insight into the work of a great surgeon a hundred years ago, and well illustrates the difficulties with which he had to contend at that period. I shall have to draw largely on that history in what I am about to relate.

Astley Paston Cooper was born August 23rd, 1768, and was the fourth son of the Rev. Dr. Cooper and grandson of Dr. Samuel Cooper, author of the *Surgical Dictionary*. He was sent to be wet-nursed by a farmer's wife—a practice strongly denounced by Astley Cooper in after-life in these words:

> If a woman be healthy, and she has milk in her breasts, there can be no question of the propriety of giving suck. . . . Shall woman, the loveliest of Nature's creatures, possessed by reason as well as instinct, refuse that nourishment to her offspring which no other animal withholds, and hesitate to perform that duty which all of the mammalia invariably discharge? Besides, it may be said truly that nursing the infant is beneficial both to the mother and child, and that women who have previously been delicate, often become strong and healthy when they suckle.

He was taught at home by his mother, who was a good and clever woman, while his father drilled him in Latin and Greek classics. Other subjects were taken by the village schoolmaster, whose pupil is said to have done him little credit. Of quick perception and keen intellectual powers, he preferred sports and boyish adventures. Whenever any boyish enterprise was to be undertaken he was generally fixed upon to lead it, and the courage and intrepidity he then displayed became marked characteristics all through his life.

His first thoughts were bent towards surgery by an accident which happened to his foster-brother, whose thigh was run over by a cart, causing laceration of the femoral artery. Astley Cooper, by an intuitive knowledge, had the courage to bind his handkerchief tightly above the wound and stop the bleeding until the arrival of the surgeon. Surgical instinct came in where it had taken others years to arrive at the knowledge he displayed. He was at that time only 13 years of age. About two and a half years after this period, owing chiefly to the captivating influence of his talented uncle, William Cooper, who was then Senior Surgeon at Guy's Hospital, he determined to enter the medical profession, and became an articled pupil of his uncle. But he lived at the house of Mr. Cline, one of the best operating surgeons of the day, and much of the eminence Astley Cooper afterwards attained is attributable to the good influence Mr. Cline exercised over him. He was 16 years of age, an attractive boy with winning manners, which no doubt made him acceptable to those of similar age, many of whom preferred idleness to work. At the end of six months, however, he was transferred from his uncle to Mr. Cline as his pupil, and then began to work seriously and assiduously, and soon became one of the most proficient students in anatomy, a subject he pursued with earnest activity. During his second winter session the students recognized his ability, and by their influence secured for him the post of demonstrator. So keen was he in his work that he had his subjects for dissection brought to his own rooms at Mr. Cline's, where he also carried out numerous physiological experiments which would in the present ignorant age be termed "vivisection." There can be little doubt that the knowledge thus obtained, and the manual dexterity needed to carry them out successfully, helped to make Astley Cooper the surgeon he afterwards became.

It was at this period that the teaching of John Hunter deeply impressed him, and gave to his practical mind a scientific bias of immense value to him. It was customary then, as afterwards, for a clause to be inserted in apprenticeship indentures permitting the pupils to spend one or more years elsewhere. Of this Astley Cooper took advantage by going to Edinburgh in the winter of 1787. It is of interest to us that on his journey thither he paid a visit to the Potteries, where he stayed with Mr. Wedgwood, the potter, and took much interest in the manufacture. At Edinburgh he found his anatomical knowledge and the teachings of John Hunter of immense advantage to him at the Royal Medical Society, where he soon became a favourite with both students and teachers.

On his return to London he made rapid progress, and soon afterwards was married to Miss Cock. On the evening of his wedding day he met his class and delivered his surgical lecture as usual. This surely indicates a philosophical as well as a practical mind. After a visit to Paris, where he attended the practice of Desault and Chopart and met with some stirring adventures during the Revolution, he devoted himself entirely to professional work.

His method of teaching was to bring his cases before his pupils, pointing out to them the nature of the disease or accident, describing the appropriate treatment, and afterwards inculcating the theoretical views which indicated it—an inductive method very different to the dogmatic teaching of others. He combined with his systematic lectures a course of clinical teaching in the wards, where he sought the interest and opinions of the older surgeons for the benefit of his class. His one aim appears to have been to learn as much as possible himself, and impart all he could to those he had to teach—a course beneficial alike to both.

In 1800 Astley Cooper was elected surgeon to Guy's Hospital, and from that date the fame of the hospital became coincident with that of Astley Cooper. About the same time his famous servant "Charles" came to him, who proved a notable person in his subsequent career. What would any Jupiter be without his Satellite? This was how Charles asserted himself on Astley Cooper's busy days: "I am not at all sure that We shall be able

to attend to your master's wishes, for We are excessively busy, and Our list perfectly full for the day."

The means which Sir A. Cooper adopted to carry out his experimental inquiries I need not discuss. His association with resurrectionists and other doubtful characters led him often into serious difficulties and dangers; but we, in our day, have the satisfaction of knowing that it was all done in the pursuit of science and that seeking after truth which has left to us a valuable legacy in the works which he has bequeathed to his surgical successors. Happily the measures he was compelled to resort to are no longer necessary, and, however much we may disrelish them, we must all admire the moral and sometimes physical courage which they demanded. They were pursued with the sole desire to benefit mankind, and they have done so.

At the time I am speaking of it was the custom for every medical pupil to be apprenticed for several years—usually five or six—and most hospital surgeons throughout the country had the privilege of introducing their pupils to the practice of their own hospital. In this manner, unless very indolent or very incapable, every student was pretty well versed in the minor routine of professional work under the eye of his master, and it afforded opportunities of acquiring that practical knowledge of details which goes far to make a successful practitioner. You will find among the most eminent names in our profession those who, like Sir James Paget, ascribed their success largely to what they learnt during apprenticeship. It seems to me unfortunate that a system of teaching and cramming should take the place of it. Students nowadays are too much like babies—too much is done for them in the shape of mentally-peptonized food, which weakens their mental digestion in every way. In the old days students had very much to find out things for themselves, which tended to promote vigour and activity. A man nowadays learns half his anatomy from specimens carefully dissected for him; his histology he gets from sections beautifully made by his teacher, which must be well stained and prepared that he may easily recognize them—whereas in the old days he had to learn how to distinguish tissues without any special preparation or colouring at all. And he did it too.

So with regard to practical surgery. Nurses are allowed to do much of what the students and dressers formerly did, and house-surgeons who have a keen eye for aseptic surgery prefer not to allow any one to dress their cases in the wards. Casualty surgeons in the out-patient room do much which might properly fall to the lot of the dressers.

The tendency to specialize everything detracts from the making of an all-round sound general practitioner. The student is very apt to follow one or more of his favourite departments, to the neglect of what may really be of more future importance to him. The present high standard of examination does not necessarily produce better practitioners, and in the early days of practice other qualifications are needed which were formerly acquired intuitively during an apprenticeship — those little matters which help so much to make a *practical* man; "little nothings" perhaps they may seem, but none the less essential for success, for "trifles make the sum of life," says Dickens, and I agree with him. I know, if I were a patient, which I would rather have in a doctor: practical knowledge and little science, or much science and no practice. An old pupil of Sir A. Cooper, Dr. Edward Reynolds, used to write on his notebooks: "A pound of practice is worth a ton of theory-" Many of the best teachers of to-day are fully alive to these facts, but the hide-bound regulations of the examining bodies compel them to keep silence on the subject.

To return now from this digression to Astley Cooper's work, which you will find handed down in a more or less distorted form in modern surgical textbooks. Concerning dislocations, Sir A. Cooper quotes two cases of dislocation of the thigh in which, after being reduced, a swelling formed, and the patient died a few days after. *Post mortem* he found pus all round in both instances. How came this about when there was no wound? The bacillus must have been present and brought into activity by lowered vitality in the part. In connexion with this subject, Astley Cooper speaks of bonesetters in these terms:

> That in this enlightened country men without education should be with impunity suffered to degrade a most useful profession, and put to the torture those who have the folly to apply to them, is a disgrace to our laws, and calls loudly for prevention. —*Essays*.

Alluding to the reduction of dislocations Astley Cooper strikes the keynote of modern practice when he says:

> It is now generally agreed among the most eminent surgeons that force should be only gradually applied. Violence is as likely to tear sound parts as to reduce those which are luxated; it calls up all the powers of resistance to oppose the efforts made by the surgeon. But it is the surgeon's duty to produce gradually that state of fatigue and relaxation which is sure to follow continued extension, and not attempt at once to overpower the action of the muscles.

This was said at the time when pulleys and forcible appliances were in vogue. I have myself rarely failed to reduce a dislocation when following this excellent advice. The only feature of it which Astley Cooper does not allude to is to give the muscles fair play, so that they may act together in bringing the bone into position by their own action rather than the muscular action of the surgeon. We now have anaesthetics to assist us. Astley Cooper had only bleeding or tartarized antimony or such-like depressants; or, quite as effectual, the fainting of the patient. The latter I have often taken advantage of with good effect. His description of the varieties of dislocation of the hip-joint has hardly been at all improved upon since.

Astley Cooper, as we know, ligatured the abdominal aorta without any subsequent peritonitis, when the patient survived forty hours; and, in commenting on the case, Astley Cooper discusses the question whether the ligature should be left suspended in the wound or *cut off close to the vessel*, or some other material used. In the case he cites no peritonitis or other inflammatory symptoms supervened, although the operation was done, as such operations were then done, without any special regard to what we now term "aseptic surgery." Mr. Lawrence suggested cutting off the ligature close to the knot, so as to heal the wound over it. Astley Cooper says:

> It has occurred to me that catgut would answer the purpose better. Catgut, being more of the nature of the animal matter in which it is embedded, will be more easily absorbed than silk, or, even if not absorbed, be less likely to excite irritation.

Then he describes an operation for popliteal aneurysm in which this was carried out, and the wound closed. In three weeks after the operation the patient was walking about the ward and the wound well healed. When we consider that this patient was 80 years of age, had no anaesthetic, and the wound healed at once without any hindrance, we cannot but recognize the boldness of the surgeon who adopted this then novel treatment. What better is to be seen to-day? Cooper quotes other instances of successful results where a silk ligature was used and cut off short, the wound quickly closing. How far such successful results in his day were due to the greater resisting power of the patients then, their sterner pluck, and possible immunization from septic influences is a point worth consideration. However that may be, the facts remain.

In describing exostoses, Cooper speaks of the true subperiosteal exostosis, and then refers to the medullary form, which he says is distinctly malignant in character, and indicates clearly enough the wisdom of amputating the limb in the latter form. He tried ligature of the artery experimentally, but it availed little; and, like an honest surgeon, alludes to such attempts "only to deter others from making them."

As is well known, Astley Cooper always maintained that bony union never occurred in intracapsular fracture of femur, and he relates an instance in which he met a practitioner who had encouraged his patient to hope for such union. He takes occasion to moralize on it as follows:

> Young medical men find it so much easier to speculate than to observe, that they are too apt to be pleased with some sweeping conjecture, which saves them the trouble of observing the processes of Nature; and they have afterwards, when they embark on their professional practice, not only still everything to learn, but also to abandon those false impressions which hypothesis is ever sure to create, before they can be safely trusted. Nothing is known in our profession by guess. . . . There is no short road to knowledge; and observations on the diseased living, examination of the dead, and experiments upon living animals, are the only sources of true knowledge, and tha induction from these is the sole basis of legitimate theory.—*Essays*, vol. ii, p. 29.

Here we see how Astley Cooper sometimes was led away from the truth by his reliance on his own investigations, which led him to be very chary of accepting any opinion others might have formed from facts within their knowledge, for it is, I think, an accepted fact that union of fracture of the neck within the capsule does sometimes, though rarely, occur; and cannot therefore be, as he deemed, an impossibility.

This is rather foreign to Astley Cooper's usual attitude, for, in speaking of dislocation of the ankle, he says:

> I beg leave to express a hope that any of my friends who may have had cases under their care, which would throw further light upon the subject, will have the kindness to communicate them to me, whether they make for or against the advice I have given.—*Essays*, vol. ii, p. 181.

When we come to the subject of hernia (vol. iii) we find a valuable groundwork, for most of the best surgical work which has since been built on the foundations he laid. His accurate descriptions of the anatomy of hernia are accepted in the present day; and when we come to analyse them in the light of his practical application of them to the cases he describes, we find how clear his deductions were when based upon his own investigations.

In speaking of strangulation of the intestines within the abdomen, he describes most of the conditions now commonly met with, and he particularly refers to the vermiform appendix "entangling the intestine" among them. I have met with most, indeed I think all, of the conditions he describes; and I can recall one particularly, which was published at the time, of multiple strangulations caused by a twisted omentum which it was next to impossible to disentangle. Every surgeon now meets with these cases, and with the aid of anaesthetics is able to deal with them usually in a satisfactory manner. Unfortunately in former days these conditions were usually recognized in the pathological theatre, for Astley Cooper plaintively says:

> As the precise nature of these cases could not be ascertained during the lives of the patients, no benefit could be derived from surgical aid.

How different is all this now!

Then, speaking of the division of tendons, he advocates only measures to keep the cut ends as nearly approximated as possible, but no suggestion is made of uniting the tendon by surgical interference—now a routine practice. Not only so, but a surgeon is rightly held to blame if he neglects to secure immediate union by suture if necessary.

With regard to fractures about joints, Cooper calls attention to the necessity for early passive motion, which is fully in accordance with present-day teaching. But I am quite sure that the present method of dealing with fracture of long bones is responsible for the numerous instances one meets with of non-union or serious deformities. To see a foot everted or inverted after fracture of the thigh, simply because fixation is looked upon as needless or not fashionable, is not creditable to the surgeon. Better have a stiff limb temporarily than a permanent deformity.

Astley Cooper, as I have mentioned, disbelieved in bony union of fracture of the cervix femoris within the capsule, and advises that any attempt to ensure it is futile. But I have met with cases of undoubted intracapsular fracture when good union (whether bony or fibrous one cannot say) has taken place, and I always advise that an attempt to obtain it should be made. If it fails, the patient is no worse off, while, if it does succeed, his after-life is far more happy and useful.

In fractured patella I have seen complete union take place in patients over 70 years of age, where suitable fixation has been employed from the first. One prominent citizen of Hanley, who met with this accident several years ago, now well past 80 years of age, walks without a limp, and the fracture is indistinguishable. There are cases however, no doubt, in which wiring is demanded, but in the majority it is not needed now any more than in Cooper's time. Malgaigne's hooks are likewise out of fashion, but I have seen excellent results obtained by his method without the slighest risk. If fixation is adopted, a plaster-of-Paris bandage is the most efficient mode of obtaining a successful result in my experience.

Dislocations of the jaw are, I fancy, much less frequent than they used to be. Is it because people gape less, and yawn less frequently than they did formerly, or laugh less heartily than of yore? I can suggest no other reason.

Throughout Astley Cooper's writings and lectures are to be found numberless references to incidental matters which indicate his acutely observant mind and his great resourcefulness, but I can refer only to a few of them. In dealing with compound fractures he endeavoured, as some of the fourteenth century doctors did, to convert them into simple ones by applying some sealing liquid, such as friar's balsam, which was allowed to dry on. At the present day this is, I believe, considered the best surgical method, whether it be by collodion, iodoform varnish, or some other application. In operating for a very large umbilical hernia he cut away the omentum, ligatured the vessels, closed the wound, and the patient did well. He considered that the cases which did worst, especially in amputations, were those "loaded with adipose matter." This no doubt is often so, but I can recall 2 cases of the fattest women I ever saw outside a "fat woman" show, who were both in my surgical home at the same time, one weighing 21 st. and the other 23 st., each having an enormous umbilical hernia, and both recovered without any untoward symptom. Their great desire was to compare notes with each other on the weight question! It is not, I think, so much the presence of fat as the condition which leads to it—healthy fat is right enough.

Astley Cooper points out that in tapping for ascites it is often preferable to allow the patient to lie on the side, as we do now. Again, in using a catheter, it will, he says, often succeed if the patient stands up when it fails with recumbency.

It is quite evident that many procedures it was in his mind to carry out were rendered impossible when no anaesthetics were available. In spite of this drawback, however, we find that he successfully ligatured the external iliac artery for inguinal aneurysm in 1841. He was the first to demonstrate the possibility of tying the abdominal aorta in a living subject, the first to tap a spina bifida and to puncture the membrana tympani; the first to divide the perineal urethra for stricture rather than tap the bladder; the first to remove exostoses by paring off the periosteum investing them, as a preliminary. On one occasion, although he knew little of the science of medicine, he ventured on a medical opinion with which most of us will agree—that in persons disposed to insanity "constant occupation should be found for such persons." This applies to many others, I fancy, likewise in our day.

Sir Astley Cooper's ideas of medicine were comprised in calomel and castor oil, a few other simple drugs, and he says in his lectures (vol. i, p. 68): "The means by which I preserve my own health are temperance, early rising, and sponging my body every morning with cold water"—an excellent practice, no doubt.

W. Hey relates some interesting cases of operations without anaesthetics about Astley Cooper's time. One of a young lady on whom he operated for caries of the tibia with abscess, where he "trephined the bone and removed various portions extending to every diseased spot. . . . The operation took over two hours, yet the young lady bore it with the utmost patience and fortitude."

He gives an instance of a man in whom the posterior tibial artery was wounded by a pickaxe, in which with his saw he removed a piece of fibula and then tied both sides of the artery. The patient, he adds, "recovered without any bad symptom."

Astley Cooper did not hesitate to mention his failures, as, in one instance, where a patient died suddenly, from haemorrhage after amputation of the thigh, "from his imprudently taking off the tourniquet." Some of the most useful people in the world are those who make occasional mistakes and show others how to profit by them. Great men are never afraid to do this. The greatest danger to the patient lies with those surgical angels who "never lost a case" and, like the good little boy in the song, "never, never told a lie." The best nurse I ever had used sometimes to say to me, when in my haste I did make some surgical mistake in word or deed, "Now let that be a lesson to you," and I am bound to say it usually was.

Statistics are, I know, awkward things, as they are said to be capable of proving anything, and are supposed to belong to the mental species of lies. In spite of this, I am compelled, in order to support my contention, to quote some which will afford matter for reflection. When I went carefully into the subject twenty-five years ago,

I took certain operations as affording a fair basis for estimating results, and chief among these were amputations, as they are perennial and have a sort of definite value. In the tables I submitted then we find the following figures:

Amputations, Injury, and Disease at the North Staffordshire Infirmary.

	Total.	Deaths.	Mortality.
From 1888 to 1907 inclusive ...	428	31	Per cent. 6.86

And, if we divide this period and take it as two of ten years each, we get:

	Total.	Deaths.	Mortality.
From 1888 to 1897	203	8	Per cent. 3.94
From 1898 to 1907	235	23	9.78

This is a much higher rate than the average recorded for fifteen years prior to 1888, and when we come to still more recent times and take the two years, 1908 and 1909, we have the following figures, which are taken from the annual reports, and are, therefore, presumably correct:

Amputations, North Staffordshire Infirmary since 1907 (Two Years.

	Amputations.	Deaths.	Mortality.
1908	35	3*	Per cent. 8.67
1909	48	4	8.33

* All disease.

For the last two years, therefore, a mortality-rate of 8½ per cent.

Thus we have 8.50 per cent. as against an average rate of 5.50 for the preceding thirty years. It seems somewhat remarkable when we are assured by some surgeons that no appreciable mortality occurs with modern amputations.

Bearing upon the subject of amputations, Mr. Frederick Page wrote in 1884 that:

> Allanson, a century before, in the Public Hospital, Liverpool, performed thirty-five amputations of the thigh and leg without a death. Mr. Syme had twenty amputations for disease in the Edinburgh Royal Infirmary, dressed with dry lint, and no deaths. . . . Is the explanation of the success of the various methods of making and dressing wounds, which has attended the practice of these surgeons, to be found in the care bestowed individually by them in personally carrying out from beginning to end the details of their treatment?

I believe it is.

Of radical cure of hernia we have:

> In 1908, 139 cases with one death.
> In 1909, 136 cases with no death.

Whereas in the cases of operations for strangulated hernia, there are:

> In 1908, 38 cases and 10 deaths.
> In 1909, 31 cases and 10 deaths.

This is as nearly as possible the same average as recorded by me in 1887 for many years up to that date.

It is therefore evident that considerable ignorance still prevails on the subject of the dire necessity for early operation in all strangulated cases, while, at the same time it serves to emphasize the teaching many of us have advocated as to the wisdom of operation in all suitable cases without waiting for strangulation to occur. Mr. Hey very sagaciously said in Astley Cooper's time, "I have often had occasion to lament that I had performed it too late, but never that I had performed it too soon" (1814).

In Sir Astley Cooper's day the question of effecting a radical cure in cases of hernia was decided by his contemporaries adversely, but there can be little doubt that the light he was able to throw on the whole subject enabled later surgeons to approach it with greater confidence, although little was done for many years after to bring the operation into good repute. We find the opposition to it came principally from the metropolitan surgeons, and it was not until John Wood especially demonstrated that such an operation could be done safely and successfully that any advance was made. It was denounced at that period at every teaching hospital in London, with the sole exception of King's College, until about thirty-five years ago, when Sir William Banks brought the subject prominently forward. It was freely discussed and soon widely practised by some method or other, and the results soon convinced even that remote corner of the surgical world I have alluded to that it was a good thing; and it was not long before those who had so freely denounced it sought to father this illegitimate child upon themselves. But they failed, for in this respect it may be considered a bastard still.

Sir W. MacCormac in 1893 gave an account of a large number of operations for radical cure of hernia, but records none of his own before 1883, and only 15 in all before 1890, and in his total list of his own 80 cases there were 2 deaths. Whereas, in John Wood's list of 339 at the same period, there was a mortality of only 2.06 per cent. Of my own operation he makes no mention, except the inclusion of 48 cases performed by Dr. Neve without a death. He gives in his whole list of 2,400 cases a total mortality among all such operations of 2.01 per cent.

In the Royal College of Surgeons of England *Report* for 1908 we find a remarkable confirmation of the change of opinion which has taken place since the period I have referred to, when every London hospital surgeon, except J. Wood, condemned the operation:

XV.—HERNIA.

The advice of the Council having been asked by the City Council for Organization of Charity upon certain questions concerning the treatment of patients for hernia, the following reply was sent:

"The operation for radical cure of hernia has been much improved in recent years, is more often done than formerly, and gives a very large percentage of successes in suitable cases."

So at last it has received the official sanction of the Council of the Royal College of Surgeons, in spite of the narrow opposition which so long prevailed after it proved eminently successful in the hands of provincial surgeons.

Treatment of simple surgical matters deserves more attention than is commonly given. Take, for example, a simple wart. Many people dread any active treatment, such as cautery, and I have found in such cases the constant application of rubber plaster will cause its entire and painless disappearance. A lady wrote to me recently where this had been done for a very large wart on the forefinger which quite crippled its use: "Now it is hard to find where the wart was, so perfect is the cure." This, I am well aware, is not heroic enough for the modern young surgeon. I may give another instance where simple treatment may succeed when more elaborate fails. A gentleman was sent to me by a practitioner on account of an extremely painful state of myositis in the muscles at the back of the neck caused by going to sleep with the head hanging over the back of a chair. I simply advised the application of a few leeches applied three days in succession. It completely cured where a multitude of previous remedies had failed to give the slightest relief. For the simple relief of local pain nothing equals the application of leeches. But these, again, are out of fashion I am told; so much so that they are not always obtainable.

As a further illustration of the value of trifles in surgical practice, I would refer to some cases I published of bladder irritation in young girls. Three instances came under my notice about the same time. I was consulted about a little girl who had great bladder irritation without any evident cause. Micturition was very frequent, and the urine was occasionally stained with blood. Simple remedies were useless, and, suspecting calculus, I examined her under an anaesthetic. Nothing was found, but in the urine next passed I found a mass of woolly shreds. These were examined, and found to consist of fibres of wool identical with a new set of combinations she was was wearing. The sounding dislodged the mass. The garments were then discarded, and diluents freely given, with complete and permanent relief. Asked to see the patient's sister, I suspected and found a similar condition, which was cured at once by the same simple treatment. No doubt the fibres had wormed themselves along the urethra and so caused all the trouble. It is a point worth bearing in mind in doubtful cases.

Now is it not a very significant fact that in those operations where manual surgical skill comes in the results are little, if any, better than they were half a century ago? And this, too, in spite of anaesthetics and all modern

appliances. The careless surgeon now—the man who depends on outside protection rather than his own personal skill and knowledge—gets no better results than his despised predecessors. This brings me to say a few words concerning the cult of cleanliness.

The Cult of Cleanliness.

This seems to me as yet but imperfectly understood even by the very advanced aseptic and antiseptic practitioners of to-day. We are told some harrowing tales of what the surgeons of a hundred years ago used to do—but are they really worse than some which may be observed at the present day? I ought, perhaps, to except the ultra-aesthetic who instruct us not to cough or speak, and cover up everything and everybody in a species of mummy wrappings, and trust more or less implicitly to such aids to secure success. I have known of others who belong to this advanced class who will dare to operate on a highly septic case first, possibly because it is more urgent, and afterwards proceed to tackle his clean ones. Surely this might be obviated by keeping the great principles of cleanliness in view. Septic germs, depend upon it, are not such innocents as to let such an occasion pass to assert their power. To my mind it is absurd to rail at the rough methods of the period I have spoken about of a century ago, when you see a young gentleman dressing a wound while smoking a cigarette with the ashes dropping on his patient, and his fingers well saturated with salivary cigarette. Where does asepsis come in any more now than then? And if better results do follow in minor surgery, which I take leave to doubt, it may be attributed to the more careful preparation of dressings, the more thorough cleansing of the patient, and the recognition of the principles of rest, than to any superiority on the part of the surgeon over his predecessors.

Influence of Disease on Injuries and of the Mind on Disease.

The influence of disease on injury is important in view of liability under present industrial conditions. Astley Cooper quotes an instance, which will illustrate this point, of a man who had a fractured humerus which would not unite. On the twenty-ninth day after he died suddenly, and *post mortem* a large aneurysm of the aorta was found to have burst suddenly.

Then we have also the influence of the mind on the body, and I agree with what Astley Cooper says concerning this, that grief often causes disease and retards recovery, and he thinks it is responsible for cancer sometimes. I have certainly seen instances of latent, that is, quiet, cancer spring into activity with amazing rapidity on the occurrence of some grave mental shock or injury. To anger or fear, and worst of all jealousy, he attributes even more evil influence. All these, and many other like conditions, have to be well weighed when we come to estimate the chances of a patient's recovery, apart from the gravity of the accident or disease. I verily believe that if anaesthetics were to be abolished now half our patients would from sheer want of pluck succumb under any severe operation. It is perfectly lamentable to see a big, strong man without enough physical courage to allow the slightest surgical procedure unless some form of anaesthetic, local or general, is used. Women are far more courageous than men in this respect, and for that reason probably they frequently make the speediest recoveries from injury. I am a great believer in British pluck, and after reading the annals of surgical history, one cannot but conclude it has sadly degenerated from what it was a century ago.

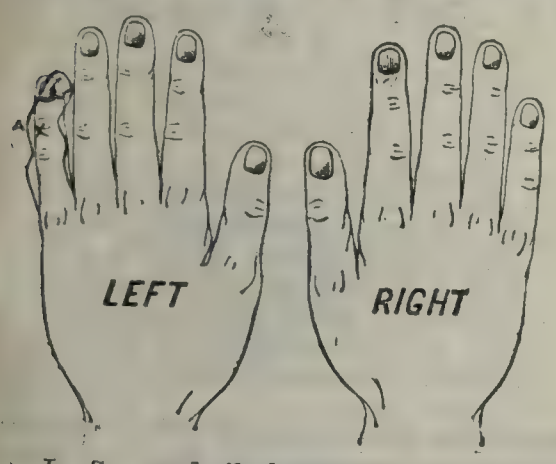

L. S., aged 41, hollowware presser. Fourth finger of left hand caught in cage. Seven months after doing no work. Objects to losing finger. A, Ankylosed; been fractured.

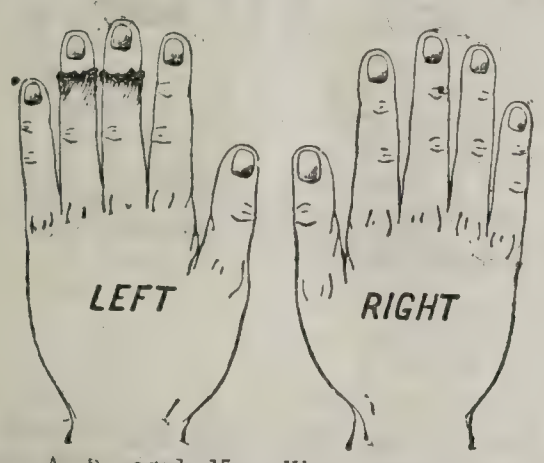

A. S., aged 15, collier. Second and third fingers taken off by planing machine. Attended cottage hospital. No proper covering, so finger ends left raw, with rough bone and very sensitive granulations when seen three months after. Quite unfit for work.

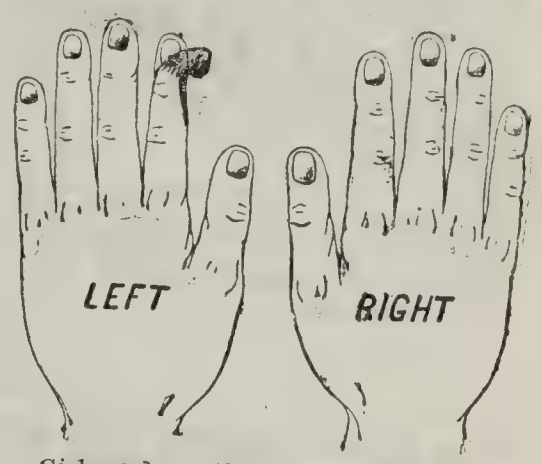

Girl aged tile presser. Crushed in press. Ought to have been amputated at the time. Now both phalangeal joints stiff, with serious disfigurement. June, 1911: This girl has had her finger operated on at a cottage hospital, and is now almost ready for work, thus creditable alike to her and her doctor.

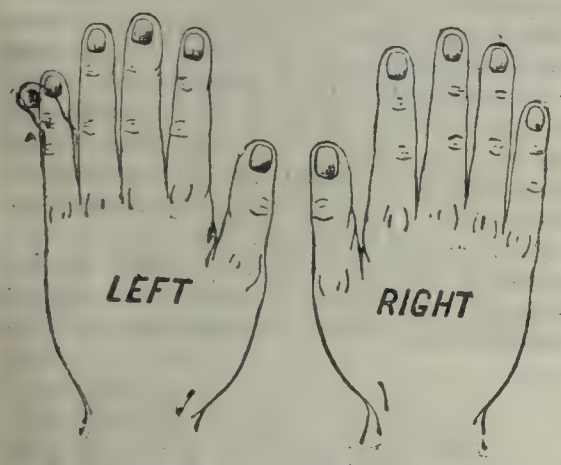

E. W., aged 19, stilt maker. Fourth finger (left) caught in press. Three months after still idle. Ought to have been removed. A, Stiff.

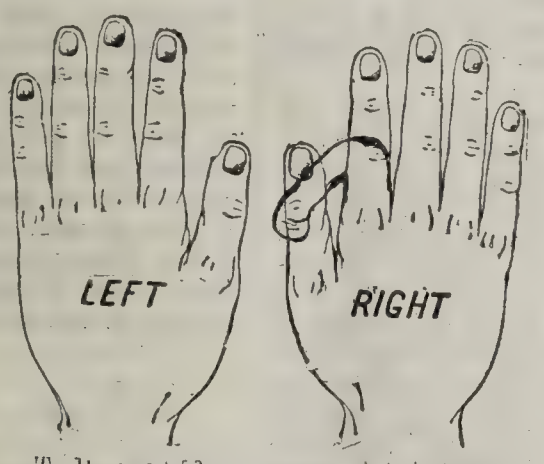

T. P., aged 70, scavenger. First finger of right hand cut with glass. As seen two months after—flexed, necrosed, and useless (worse than useless).

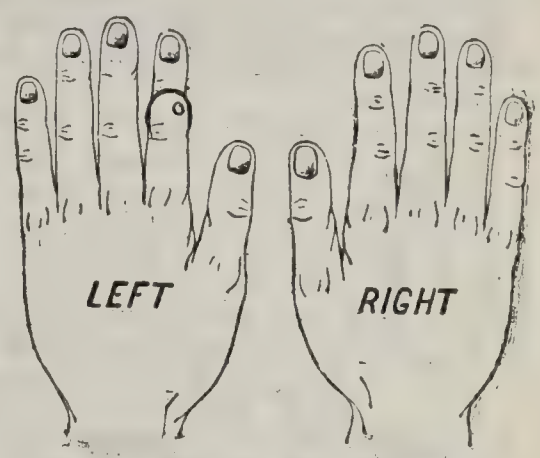

M. S., aged 28, tile presser. Left forefinger crushed by fall of press. Removed at last joint. Eleven months after still a sinus with fragments of bone coming away, and unable to work.

Operation in Relation to Occupation.

Modern antiseptic methods have done much, true aseptic methods which date back to the world's remotest history have done more, to render modern operative surgery safe so far as saving life goes. They have, however, tended to engender a spirit of over-confidence on the part of the operator, and lead him to disregard or ignore the fact that he needs an ample anatomical knowledge of what he is about to undertake before he can really succeed in his work. It is not sufficient to lop off a limb or a small part of one without killing his patient. He must carefully consider, not what is safest for him to do, but what is best for the future welfare of his patient. It will be needful to *inquire into and consider the patient's occupation.* In many cases it is worse than useless to preserve—for

example, a finger with an ankylosed or distorted extremity, where it would be infinitely better to remove it at the joint below. So, in other cases, especially young women and clerks, the preservation of the bed of the nail, on which a nail may ultimately grow, is important, even if the bony phalanx itself has to be taken away. No doubt many of you have seen and I could quote a large number of cases in which the treatment has been simply to preserve as much as possible, quite regardless of a long train of bony exfoliation preventing work for weeks and months, and would be the natural fate of those whom these mental quacks pretend to treat. He wisely supplements this by saying—

> The wound that must be cut,
> No wise physician will attempt to heal
> With incantation, elegy, or song.

We cannot mend this now.

All this tends to show that, after all, individuality is what makes a surgeon. Astley Cooper was a great surgeon because "his mind went directly to the leading points of the

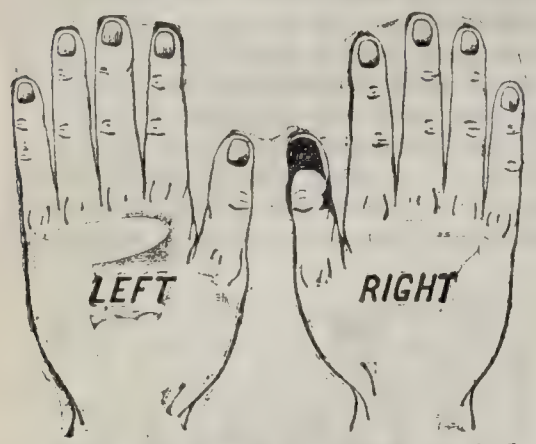

Miner aged 24. Right thumb crushed in pit; treated by nurse; seen by doctor, who advised amputation. This was then refused. Took nine months to heal. County court fourteen months after, still not working.

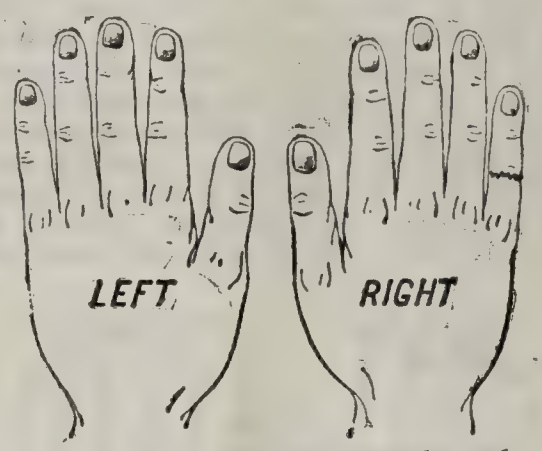

J. H., coal carter. Knocked by coal. Been fractured through joint; ankylosis now. Finger always in the way. Refuses amputation.

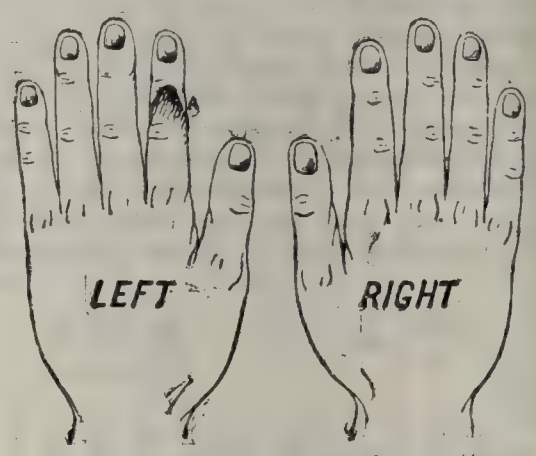

H. T., aged 15, apprentice pattern maker. End first finger taken off by saw. Nurse completed the amputation (?) with scissors. Attended eight weeks; never seen by surgeon. End of finger worse than useless, because tender and painful; conical stump with insufficient covering. At end of three years judge reduced the award. A, Ought to have been amputated properly here.

leaving a useless member when all is done. A surgeon wrote to me concerning one of the cases I have illustrated as follows:

"Dear Sir,—You will see the extent of the bearer's injuries. I did no typical operation, but cut according to the cloth at my disposal, *in order to save as much as possible.*"

This well indicates the prevalent practice.

The accompanying diagrams from my notebook illustrate various examples of what I mean—of worse than useless fingers.

This is usually the outcome of unripe experience and want of thought, and the sooner more attention is devoted by the younger practitioners to this point the better it will be for their own reputation and the future earning capacity of their patients. I trust our younger members will allow me to ask them to devote a little more individual attention to what may appear to them rather trivial cases.

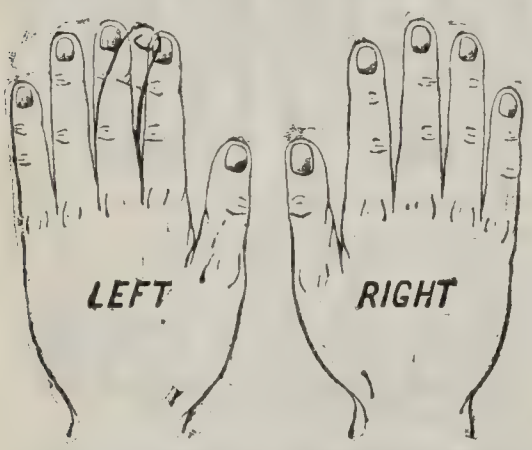

W. B., aged 50, glostplacer. Middle finger of left hand crushed; many weeks on a splint, then quite stiff, and remains so. Cannot work because stiff finger prevents any grasping. Seven months after.

Side view.

Euthanasia.

There is another subject I should like just to touch upon, though it is, I know, a very delicate one—that of euthanasia, which is properly associated with so-called Christian Science. Guy de Chauliac (A.D. 1500) described the Christian Scientists of his time (for they flourished then as now), who referred the sick to the Saints, as "consisting of women and many fools," and in this again it seems to me little advance has been made during those 400 years; while the euthanasia they have in view is well expressed by Sophocles in these words: "It is better far to die than, hopeless still of cure, to languish under sore disease," which case before him, neglecting all the minor details which perplexed and misled minds of smaller capacity; and as a result his practice was simple and decided" (Horrocks). He knew his work, he knew how to do it, and others saw this and admired the man who did it. Hence his brilliant success. No man who is the victim of surgical fashion could do what Astley Cooper did, and his life-work served to show that with sound knowledge, and strong convictions based upon that knowledge, a man may rise above the mists which surround him, and attain a height not only of success, but of perfection in his work which commands the admiration and respect of us all. His confidence in himself, his sympathetic tolerance of the failings of others, and his whole-souled devotion to his profession, combined to make his life-work an example which we should all strive to emulate and to follow.

Sir Astley Cooper died on February 12th, 1841, in the 73rd year of his age, having been a strenuous worker almost to the last, and leaving behind a record which, if he

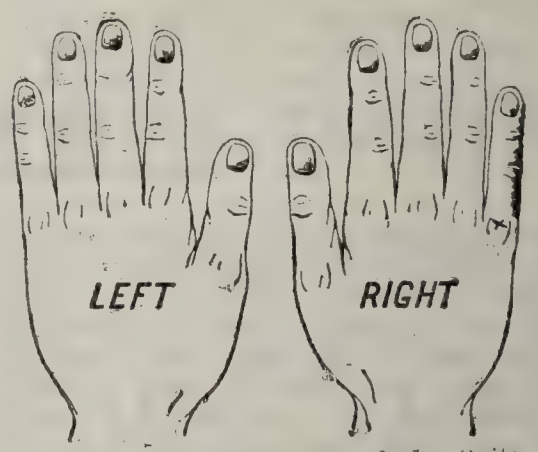

C. T., aged 26, collier. Crushed. Quite stiff from ×, and unhealed three months after accident.

Side view of same seven months after. Refused operation.

could have seen it, would have convinced him that he had not lived in vain.

The art and craft of surgery in some respects has not progressed during the last century as markedly as the science of surgery; for we find, for example, few novelties and still fewer improvements in the manipulative surgery of the face and extremities. The trunk seems to have received most attention, inside and out, and in this direction the advance has been as marked as it has been rapid. Here anaesthetics have opened up a new era; a very tempting subject, but time forbids me to enter upon it

now. One can but marvel how the surgeons of a century ago managed to perform the operations and secure the results they did.

Human knowledge has its limits, and unless we can prove that man's brains grow larger as the world around him becomes more highly developed, our advance now simply means that we rely more on extraneous aid than in the greater perfecting of men's individual powers. Conversely, it is quite possible that mere mechanical development may have the opposite effect, and the brains shrink as they become less necessary.

In the practice of the art of surgery, as well as in that of medicine, I have often been struck by the clear diagnosis which those who possess a good ear for music often make where others have failed for want of it. Others having mechanical gifts will improvise an apparatus, while another man is wondering how soon he will be able to get an appliance from an instrument maker. In the matter of drawing, again, one who has a good eye for it will usually make a neater, if not a better, operator than the who has not; his lines will be more accurate, and the ends of his incisions will meet at the proper point, and his whole work will be more perfect. So, again, with the sense of touch; this requires a long education, but some never seem to acquire any delicacy of touch—their fingers are "all thumbs," and often they will endeavour to discover by force what can only be made out by the utmost gentleness in manipulation. For example, a movable kidney or other easily displaced tumour can often be made out only by a "surprise touch," and escapes at once from observation with any rough handling. A keen sense of touch is invaluable to the surgeon; a gynaecologist especially is very much dependent upon it for success.

Invaluable as these mechanical aids are, they deal only with one aspect of our work. Medical practice does not consist solely in prescribing medicines and binding up wounds and broken limbs; it has to deal with those in health as well as those suffering from disease and accident; it has to do with moral diseases, moral wounds and weaknesses; and oftentimes the treatment of these is referred to the doctor in preference to that of the pastor—and *a fortiori* that of the legal adviser.

With such cases we have to deal tenderly—it may be a threatened "broken heart" in a daughter, it may be a wasted young life in a son—and in each instance some gentle advice from a trusted medical adviser may save a soul from ruin or reclaim a blasted life. To know how to give wise counsel in such matters can only come by ripe experience. For my own part, I know of nothing in which I feel more satisfied with having lived long, and taken an active part in the world, than that of having been able to give such counsel in matters of the utmost delicacy and difficulty. Spiritual confessors arrive at this, no doubt, earlier but in a different way. They court and seek for the weak side of human nature: with us the weak side is usually the first to present itself, apart from any seeking of ours, and we deal with it as it comes fresh to us, openly, frankly, and fearlessly. We offer advice combined with our sympathy for the weak and erring, our unhesitating condemnation of the wrong-doing, and such advice must command respect. They who fail in this lose the confidence of those who would trust them, and lower the dignity of the profession to which we belong.

REFERENCE.
[1] Hey's *Surgery*, 1814.

THE Mission to Hop-pickers, which originated in a desire to minister to the spiritual needs of the strange multitude who annually journey from the East End of London to the hop fields, chiefly in Kent, affords another instance of the close relation which exists between the work of the medical profession and the Churches. The mission, on behalf of which the Rev. F. G. Oliphant, Rector of Teston, Maidstone, has made an appeal, has found it desirable to provide temporary hospitals and dispensaries for the benefit especially of children. Last year the Kent Nursing Institute lent two nurses to reinforce the work of many volunteers. One of the temporary hospitals is "The Little Hoppers' Hospital," established in a disused roadside public-house at Tudeley; another at Wateringbury is in a cottage; others, it would appear, are carried on in tents, but the annual report is not very explicit on this head.

AFFERENT FIBRES IN VENTRAL SPINAL ROOTS.

By LEONARD J. KIDD, M.D.

(Preliminary Communication.)

I HAVE already collected a large amount of evidence—surgical, experimental, histological, and embryological—which seems to me to lead to the inevitable conclusion that afferent fibres, in some cases algetic, in others reflex, exist in the spinal ventral roots of man and many other vertebrates. I hope to publish this work, together with much other work that is connected with it, in the course of a few months. But the practical surgical aspect of this subject is sufficiently important to warrant the publication now of this necessarily incomplete preliminary note.

The operation of division of the dorsal root for intractable pain was first performed by R. Abbe in 1888, and recorded by him in 1896.[1] The records show that in some cases pain is permanently and completely relieved, but G. W. Jacoby[2] found that in five out of thirteen cases, in which the ultimate result was recorded, though there was improvement, relief of pain was incomplete. E. W. Hey Groves[3] has stated recently that in 75 per cent. of cases pain was not completely and permanently relieved by dorsal root section. In one case of his own there was persistence of pain in the areas which the operation had left permanently anaesthetic to all forms of objective stimuli. To my mind this virtually proves that some of the afferent fibres pass centripetally up the ventral spinal roots. We cannot dismiss such findings as his as being due entirely to psychical pain. I hold that these ventral root afferents are few in number, and are probably distributed to muscles, viscera glands, and (in some lower vertebrates) to skin.

It will be noted that in the case recorded by Chavaunaz,[4] cited by Groves,[3] of severe left intercostal neuralgia which persisted in spite of excision of the corresponding intercostal nerves, a subsequent resection of the left first to fourth thoracic dorsal roots gave only amelioration, but failed to cure. I explain this failure as being due to the fact that the nerve division left the visceral fibres intact, and even the later dorsal root division left some of the afferent fibres—that is, those in the ventral roots—also intact. Therefore the second operation relieved the pain, but failed to abolish it.

In my opinion, we ought to divide ventral as well as dorsal roots in cases of intractable pain, except in the case of the third and fourth cervical ventral roots; here division would cause motor palsy of the diaphragm on the side of section; but, in connexion with this, we must remember that unilateral phrenic palsy in man and laboratory animals does not usually cause danger to life. It is, of course, true that ventral root division for pain would always cause some motor palsy, but the patient would probably almost always prefer this disability to a continuance of his pain. The fact that in some cases dorsal root division does abolish all pain suggests that it may be only in some regions of the spinal cord that any afferent fibres pass up ventral roots to their endo-neural ganglionic groups of cells. I arrived at this provisional opinion many months ago.

Certain experiments appear to me to suggest in the clearest manner that the ventral cervical roots of the pigeon, and the ventral roots of the cauda equina of the dog, contain afferent fibres which supply the reflex component of the muscle-tonus of the wing muscles and the tail muscles respectively. (See on the pigeon, Trendelenburg,[5] and on the dog, Merzbacher.[6])

The origin of these ventral root afferents in the spinal cord region, whether cervical (pigeon), thoracic and lumbo-sacral (man), or sacro-coccygeal (dog), is entirely from endo-neural afferent ganglionic cells, situated, I believe, in (1) the smaller cells of Clarke's column, (2) the solitary cells of the dorsal horn, (3) some of the "middle cells" of the cord, and possibly also (4) some of the cells of the nucleus cuneatus of the bulb. (This special point is one of several which I shall subsequently discuss at full length.)

Readers of my four papers in the *Review of Neurology and Psychiatry*[7] will be in a position to see that, although I did not discover what I have called the endo-neural

afferent ganglionic system (cranio-spinal), yet I do happen to be the first neurologist to have grasped its wide distribution and its clinical importance in man.

The experimental indications of this subject are clear. By a combination of the retrograde chromatolysis and the degeneration methods the experimental physiologist can settle the points at issue, among which I may enumerate (1) whether all or some of the ventral spinal roots contain afferent fibres; (2) whether any are crossed; (3) whether they rise in the smaller cells of Clarke's column, or the dorsal horn, or the "middle cells," or even in the nucleus cuneatus. Naturally the cervical extension of Clarke's column (C. 3 and 4) and its sacral extension (S. 2 and 3) would be examined histologically in certain cases. There are many other points which I reserve for my full subsequent work.

In concluding this necessarily very incomplete note I wish to say in the clearest fashion that I deny that any motor cells exist in (1) tectum mesencephali, (2) locus coeruleus, (3) Deiter's nucleus, (4) dorsal vago-glosso-pharyngeal nucleus (ganglion), or (5) in any of the four spinal dorsal-zone cell groups which I have just mentioned. Since all these parts are developed in the dorsal zone of the embryonic brain or cord (the alar lamina of His), and since, further, there is no instance known in any vertebrate of motor fibres rising in cells derived from the alar lamina, I hold that it is nothing less than a morphological outrage to teach that any of these cell groups give origin to motor fibres. I have already explained (loc. cit., February, 1911) that if any experimentalist can demonstrate degenerated fibres of the mesencephalic fifth root (tract) entering the motor-end plates of the muscles supplied by V^3 a drastic revision of our conceptions of neuro-morphology will be necessary, and we shall then have to teach that the roof and the dorso-lateral walls of brain (and cord) do give origin to motor cells—a view I, for one, resolutely decline to entertain without overwhelming proof of its accuracy. It is, unhappily, true that some of the greatest workers in neuro-physiology have adopted the fundamentally erroneous view that the cells of the tectum mesencephali, dorsal vago-glosso-pharyngeal ganglion, Clarke's column, and dorsal horn, are, in part, motor. But I can promise that my future complete work will win over all of them to my side. One of them—no less a neurological pioneer than Dr. W. H. Gaskell—at one time (1886) taught that the cells of Clarke's column formed a splanchnic afferent centre, though it is quite true, I think, that he did not even then grasp that it was, in part, a splanchnic endo-neural afferent *ganglionic* cell-group.

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PANCREATIC CYST: RUPTURE: RECOVERY.

BY

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THE following case presents some points of interest, more especially with regard to diagnosis and treatment, and from a legal point of view:

History.

J. O., aged 34 years, a labourer in iron works, on January 18th, 1909, was pulling on the jib of a crane, to swing it round, when the jib stuck; instead of getting assistance, he persisted in trying to overcome the resistance, an effort generally necessitating the combined action of two or three strong men, and suddenly experienced a very sharp severe pain in the centre of the epigastrium, causing him to sit down, feel faint, and make the remark, "I have pulled my inside out." Shortly afterwards he partly walked, partly crawled, home. The pain was continuous and very intense, and strictly localized to the one spot. He vomited, was very pale, and obviously suffered from shock.

About an hour after his "accident" he was seen by Dr. Falconer, who found him in the condition described, and made a tentative diagnosis of perforation, probably of the stomach.

He was admitted into the North Ormesby Hospital, and I saw him about an hour later. At this time he had acute abdominal pain, limited to the epigastrium, which was tender to the touch. Both recti muscles above the umbilicus were as hard as boards—below the umbilicus quite soft—pressure did not relieve him. He had vomited several times, and the bowels had not acted. The temperature was 97° and pulse 60. His face was anxious, and he was obviously not exaggerating his symptoms. There was no history whatever of any previous "indigestion," and his past health had always been very satisfactory.

My first thought was in favour of perforation of stomach or duodenum, but the condition of the pulse and temperature more than two hours after the onset of symptoms (although not negativing this diagnosis) stayed my hand from immediate operation, and I decided to watch him for another hour or so.

I was guided in this decision by a general consideration of all his symptoms—his facial expression, suggestive of the acute pain associated with colic, his normal temperature, and pulse, and the fact that his abdominal symptoms appeared to be becoming less imperative. I was inclined, therefore, towards the diagnosis of a very severe colic, or, failing this, the leakage of an old gastric ulcer into a localized area of adhesions, securely shutting it off from the general abdominal cavity.

His condition during the next few days in some way justified my decision against immediate operation. The pain steadily decreased. The sickness stopped. His bowels were made to act by means of enemata, and he felt much better. The contraction of the recti muscles gradually relaxed during the first few hours, and the abdomen generally returned to a normal condition, except for persistent tenderness in the centre of the epigastrium. The urine was normal.

Twelve days later he had so much improved, and all symptoms had so far subsided, that I came to the conclusion that my diagnosis of perforation had been quite wrong, and he was allowed light diet.

On February 11th (more than three weeks after the beginning of his symptoms) quite suddenly there was a return of the pain in the epigastrium, and on inspection a swelling about the size of an orange was seen to push forward the anterior abdominal wall in that region.

I operated at once. A central incision was made in the epigastrium over the swelling. As soon as the abdominal cavity was opened the stomach presented in the wound. There was no free fluid in the general abdominal cavity, and no adhesions between the stomach and the anterior abdominal wall. The stomach itself was perfectly normal, but was pressed forward by some soft, elastic swelling underneath. An opening was made through the great omentum into what turned out to be a large collection of fluid. This was withdrawn to the amount of about two pints, a drainage tube inserted, and dressings applied. The fluid was subsequently analysed and pronounced to be pancreatic fluid.

The subsequent history was uneventful. There was no collapse following the operation, and all tenderness and pain immediately and permanently ceased. The cyst cavity drained for twelve weeks before the sinus finally closed, and his health steadily and progressively returned to a robust normal.

A ventral hernia subsequently formed in the scar, but this has since been operated upon and completely cured by the method of overlapping of the structures of the anterior abdominal wall.

The main points of interest, I think, are these:

I. *The Diagnosis.*

A consideration of the history, severity of symptoms, and physical signs, pointed more towards perforation of some portion of the gastro-intestinal tract than any other condition, even in the absence of any history of previous intestinal disorder. The condition of the recti with the slow pulse and normal temperature favoured an extreme colic.

In either of these, the story of a severe strain would have to be regarded as merely coincident and in no way contributory.

In the light of after-events, when the diagnosis was positively established, the question arises, Under what condition was the pancreatic fluid existent? Had it been previously present as a circumscribed localized cyst of the pancreas, and if so, had this cyst perforated? or had there been a pre-existing cyst which had suddenly taken on characters of an inflammatory nature? If so, could these possibly have been caused by such an accident, or were they due to the spread of an inflammatory process from the duodenum, and so producing symptoms closely simulating colic of a very intense nature?

In the latter case, could this have been caused by, or aggravated by, such a form of abdominal strain, or must they be regarded as merely and purely coincident? Lastly, there was the alternative of a rupture of the capsule of the gland with a gradually increasing accumulation of fluid in its immediate neighbourhood, forming a cyst for itself by antecedent inflammatory adhesions.

The fluid was limited to the lesser peritoneal cavity, as no free fluid had escaped through the foramen of Winslow. An analysis of the fluid subsequently proved that blood

had been present. For two or three days after the onset of symptoms the temperature was raised to 100°–101°.

II. *Possibility of Rupture by Pressure.*

It is generally supposed that rupture of a cyst of the pancreas can only be produced "artificially" by some direct and violent blow. In this case the force was not of this nature. The man's own statement, confirmed by the opinion of other men present, make it strongly suggestive that the accident, producing indirect force, may have been the cause of the rupture. If not, the coincidence is remarkable; and why should it have occurred at such a time as that when he was subjecting himself to a strain of an unusual nature and degree?

I suggest that it is right to consider, under the very definite circumstances, whether the cause of rupture may not have been due to a severe and violent contraction of all the abdominal muscles, and especially the upper ones, increasing the tension in a previously tight cyst, probably very thin-walled. I recognize the improbability, but we are dealing with a very marked and unusual condition, which, to my mind, is very difficult to explain in any other way.

I have been unable to find any record of a pancreatic cyst being ruptured in any other way than by direct force, neither do I, personally, find it easy to come to any other conclusion, especially when we consider the mechanical conditions of fluid enclosed in a movable, more or less elastic bag. All I state is, that such force was not present in this case—that a rupture of some sort undoubtedly occurred—and that it is very unsatisfactory to dismiss the fact as a mere coincidence, in the face of the various statement of witnesses. The results of suddenly increased intra-abdominal pressure are sufficiently definite in other conditions, such as hernia.

III. *Medico-Legal Considerations.*

The man naturally claimed compensation; he was not advised to do so, but he thought he would "take his chance." The case came before Judge Templar. Owing to its unusual nature and uncommon occurrence, it attracted some interest, and medical evidence for the man was chiefly based upon the assumption that the onset and severity of symptoms was more than could be accounted for by mere independent coincidence—where a possible cause was so plainly and unmistakably present. No more than this could be said. The cause was described as possible (not probable) unless associated with the proved genuineness of the particular definite circumstances of this individual case.

Medical evidence for the defence maintained chiefly that no such accident was on record, as it was impossible to believe that force of such a nature could produce an accident of such a kind.

No explanation was attempted or offered of the nature of the condition or the cause of the rupture; no opinion as to whether the cyst was pre-existent, became suddenly inflamed, or due to a ruptured capsule of the gland.

His Honour, quite in agreement with the opinion of all fair-minded people present, prompted by his medical referee, Dr. Beatty of Stockton, gave his opinion against the man, his main reason being that no such case had previously been on record, although he did not deny that it was possible for it to occur.

Thus it remains as a coincidence, without any satisfactory surgical explanation.

REFERENCE.

Green's Encyclopaedia, Article on "Pancreas."

THE King has been graciously pleased to confer the Coronation Medal on Dr. W. Allan Jamieson, Surgeon to the Royal Company of Archers, the King's bodyguard for Scotland.

THE following office-bearers were elected at the annual meeting of the North-Western Branch of the Society of Medical Officers of Health: *President*, Dr. Sydney Marsden; *Treasurer*, Dr. H. H. I. Hitchen; *Secretary*, Dr. T. W. N. Barlow; *Librarian*, Dr. M. A. Arnold. A committee of four members was also elected, and Drs. J. J. Buchan and Meredith Young appointed representatives of the Branch on the General Council of the Society. The Branch meets in Manchester on the third Friday of each month from October to June.

ON THE OCCURRENCE OF AN INTRACELLULAR STAGE IN THE DEVELOPMENT OF TRYPANOSOMA LEWISI IN THE RAT-FLEA.

BY

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(Preliminary Note.)

In studying the early phases of the developmental cycle through which the rat-trypanosome passes in the rat-flea, we have found that the trypanosome penetrates into the cells of the epithelium lining the stomach (mid-gut) of the flea, and there goes through a process of multiplication. Since no such phase has been observed hitherto, so far as we are aware, in the development of any trypanosome in its invertebrate host, and since, moreover, this discovery may throw some light on certain peculiar features of the development of the pathogenic trypanosomes, we consider ourselves justified in bringing forward a brief account of our observations, so far as they have gone, without further delay, hoping to give later a full and detailed account, with figures, of this and other phases of the development.

The intracellular phase of the trypanosome has been seen by us in fleas taken from the breeding-cage, not previously exposed to infection, and fed on infected rats during a known period of time, as early as twelve and as late as thirty-six hours after feeding; but our observations are not yet sufficiently extensive to enable us to place precise limits of time to the duration of this phase. We can only say at present that we find it most abundant about twenty-four hours after the flea has taken up the trypanosomes from the rat, and that it occurs in all parts of the epithelium of the stomach, from close behind the proventriculus to the pyloric region; that is to say, over the whole extent of the true mesenteron or mid-gut, lined by the embryonic endoderm or hypoblast. In this region of the digestive tract the epithelium, as is well known, does not secrete a chitinous cuticular lining to the gut, as in the regions before and behind (stomodaeum and proctodaeum).

The actual penetration of the epithelial cell by the trypanosome has not been observed by us up to the present, but trypanosomes of quite ordinary appearance, which have, apparently, effected an entrance very recently, have been seen frequently within the cells. The earliest change which such a trypanosome undergoes is that the body assumes a bulbous form which may be compared to that of a pear with a stalk, or of a tadpole with a long tail. The pear-shaped body is easily seen to be produced by the doubling on itself of the posterior two-thirds or three-fourths, approximately, of the body of the trypanosome, while the anterior portion of the body, with the flagellum and undulating membrane, forms the stalk or tail. In stained preparations it is seen that the folding-up of the body brings the kinetonucleus in front of the trophonucleus; the result is a flagellate of pseudo-crithidial form, easily distinguished from the true crithidial forms both by the fold of the cuticle running down the middle of the body, and by the fact that the flagellum does not pass straight to the kinetonucleus along the undulating membrane, but curves round the rounded posterior end of the body to run forward (apparently) to the kinetonucleus. Seen in the living state, these pear-shaped forms appear slightly flattened, as is to be expected from their mode of formation; they are in incessant movement within the cell, exposing now their flat surface, now their edge, to the view of the observer; and the flagellum and undulating membrane can be made out plainly, as a rule, giving an appearance as if the stalk of the pear tapered to a fine point, but in a few cases the stalk appears of even thickness, and evidently consists of the flagellum alone in the early stages. The body itself is far from being fixed and rigid in its contours; on the contrary, it shows continual changes of form of the kind that are termed, in the Flagellata generally, "metabolic," as distinguished from true amoeboid movements, form-changes

due to the incessant, restless movements of a contractile, protoplasmic body, within a thin, yielding envelope or cuticle. In preparing the stomach wall for microscopic examination it frequently happens that epithelial cells are ruptured or burst by the pressure of the cover-glass, setting free the trypanosomes, of which there may be several, four or five, within one cell. Then these pear-shaped forms, if watched carefully, can be seen to uncurl themselves and assume the form of free trypanosomes; sometimes they curl up again and uncurl several times, swimming actively the while.

Within the cell the pear-shaped forms described in the last paragraph are seen to grow in size, becoming at the same time more uneven and irregular in their contours, so that the form of the body can only be described as block-like; the outline, so far as it is possible to describe contours which are changing incessantly, is rounded or squarish; the "tail" is distinct, tapering from a relatively broad base to a fine point, and always in motion; the metabolic form-changes proceed without interruption, so that the contours of the body undulate and change every moment, and the body as a whole assumes various shapes, often returning to the pear-like form for a brief space of time. The block-like forms grow until they reach a size relatively very large. In some cases they appear to be lodged in a more fluid, but not sharply delimited, portion of the cytoplasm of the host-cell; in other cases they appear to be within a vacuole limited by a distinct wall or membrane, and in many cases the vacuole is set free by rupture of the cell in making the preparation. Free vacuoles of this kind exhibit a degree of stability and persistence which indicate that the host-cell may secrete an envelope or capsule of some kind round the intruding parasites, of which there may be one, or several in various stages of development, in each such vacuole. When the block-like forms become of large size, the movements of the flagellum cause them to revolve and rotate within the cell in an irregular, jerky manner. It can be seen clearly that forms moving in this manner push and bump against the cell nucleus and against other forms present in the cell and cause them to move also, showing that they come into actual contact with them.

When the block-like forms have reached the limit of their growth, changes take place in them which cannot be followed in full detail in the living condition, but which can be seen to consist in a division of the large block-like body into a number of daughter trypanosomes by a process of multiple fission which goes on within the periplast of the parent form. By the time that the block-like form has attained its full size its nuclei are seen to have divided into a number of daughter-nuclei; and while still agitating its flagellum and changing its contour, the body is seen to exhibit a striated appearance in its interior. Very soon after this a marked change takes place; the body becomes spherical, and ceases to show metabolic form-changes; the tail disappears altogether, and the sphere as a whole becomes almost motionless, except for slight oscillating or trembling movements due to the increased agitation of its contents. When carefully examined, it is now seen that the spherical body contains in its interior a number of distinct trypanosomes, squirming and wriggling over each other in the confined space like a bunch of eels in a sack; to their movements are due the oscillatory movements of the sphere, which since the disappearance of the tail can perform no movements of itself. The enveloping membrane of the sphere is seen to become more and more tense, the movements of the contained trypanosomes ever more active and vigorous, and everything betokens the approach of the crisis, which comes finally with startling suddenness; the sphere bursts in an explosive manner and liberates a mass of perfectly-formed trypanosomes. The explosion can be seen best in spheres which have been set free accidentally from the host-cell in the process of manipulation; then the sphere is seen to burst suddenly, and the trypanosomes scatter in all directions. Under normal conditions, however, the spheres burst within the cytoplasm of the host-cell, and the liberated trypanosomes are seen moving actively about for some time within the cell, from which they escape one by one. In one case the formation of three spheres within the same cell was observed; each sphere grew to its full size, burst, and liberated its bunch of trypanosomes within the host-cell, first one sphere and then another.

It is difficult to estimate exactly the duration of the block-like and spherical stages, because when the parasites are under observation between slide and cover-glass their vitality is soon impaired, and they gradually become moribund. From some of our observations we received the impression that the intense illumination of the field of the microscope is injurious to them. Some parasites under observation were seen to become moribund, and at last perfectly quiescent, but on moving the slide others were found in other fields quite active; and, when these died off in their turn, active forms were found in a third field on the same slide. From a number of cases that we have observed, and especially from those which have been watched when quite freshly put up, it is clear that the final spherical stage may last in some cases from about a quarter to half an hour, but in other cases for a much shorter time, not more than a few minutes. The following series of observations, jotted down by one of us at the dictation of the other, who was watching through the microscope, may serve as an example of the changes observed and the times they take to fulfil themselves:

12.13. An active sphere was seen within a cell, evidently full-sized, but still metabolic; it revolved with jerky, irregular movements by means of the flagellum, which was clearly seen; its contents appeared to be divided up or in process of division.
12.26. Condition much as before, but the contents appeared to be more distinctly divided up, and the daughter-individuals to be performing independent and separate movements, squirming over one another like eels; movements of rotation and metabolic form-changes still continuing; flagellum still visible.
12.32 Flagellum still visible.
12.36. Revolving movements and metabolic form-changes much slower; flagellum not seen.
12.37. Form more perfectly spherical, alterations in contour less marked, due apparently entirely to the very active movements of the contained trypanosomes, which could be seen very clearly; no rotating movements; flagellum looked for carefully, could not be seen.
12.40. Contour of sphere tense, almost rigid.
12.41½. Burst!

The trypanosomes set free by the bursting of the spheres are normal forms, complete in all respects, and of a size equal to, or slightly exceeding, that of the ordinary *Trypanosoma lewisi* of the rat's blood; the undulating membrane extends down the body to the neighbourhood of the kinetonucleus, which is situated near the posterior end; briefly expressed, these forms are perfectly trypaniform, and not the least crithidial, as regards their internal structure. Their shape and movements differ slightly, however, from those of the ordinary blood-trypanosomes; the body is stiffer, less sinuous in its movements, slightly swollen towards the posterior end, which is sharply pointed; the anterior end of the body tapers very gradually, and the flagellum is long. When moving freely in the fluid medium they travel fast with the flagellum directed forwards; but they may be seen frequently with the hinder end of the body in contact with the epithelium, the flagellum undulating rapidly, and giving the impression that they are butting against the cells with their hinder ends, which may possibly be the manner in which they penetrate and enter the cells. As regards the number of trypanosomes liberated from a sphere, it is difficult to be certain; in the living state we have frequently tried to count them, and came to the conclusion that the number was about eight; but in our stained preparations we have found in one case a sphere containing thirteen couples of nuclei, each couple consisting of a trophonucleus and a kinetonucleus; and in another case there were eighteen trypanosomes in a bunch, which appeared to represent a sphere recently burst. The number produced would appear, therefore, to be irregular and indefinite, and this is borne out by observations on the living objects, since we have seen a very small sphere burst in one case, and in another we saw a sphere of very large size, far beyond the usual dimensions. We have the impression, however, that the normal or average size of the sphere is one that would liberate eight trypanosomes, and that this may be taken as the normal standard of capacity, so to speak, of the sphere, but that it may sometimes be much less or much greater.

The above account of the intracellular multiplicative phase is founded almost entirely on observations made by us on living material; it amounts, summarized briefly, to the following: Trypanosomes penetrate into cells of the epithelium of the stomach, where, retaining their flagellum

and undulating membrane, they double upon themselves and grow to a large size, performing metabolic movements and continually altering their form the while. They gradually round themselves off until a spherical stage is reached, when the flagellum and undulating membrane disappear and the metabolic form-changes cease; meanwhile the contents of the body within the periplast have divided completely into a number of daughter-trypanosomes which writhe about and twist over each other within the maternal periplast-envelope like a bunch of eels. The envelope becomes more and more tense, and finally bursts with explosive suddenness, setting free the daughter-trypanosomes, which are perfectly formed and of full size, and escape from the host-cell by their own activity.

This development is less easy to follow in full detail in stained preparations, chiefly on account of the difficulties of technique. It is not easy to get good preparations of the intracellular phases while still within the cells, and even when they are set free the spheres are difficult to stain properly; either they appear in the preparations as opaque masses, if the stain is insufficiently extracted, or on the other hand too much stain may come out, and details of structure are lost, especially as regards the flagellum, which may become invisible in consequence. We have, however, confirmed in our preparations all essential points of the development described above, and we hope soon to obtain a complete series of the stages of the development.

We defer also to a later communication a number of questions which naturally arise with regard to this developmental phase, the first of which is: How is this intracellular multiplicative stage related to the developmental cycle, as a whole, of the trypanosome in the flea? We are not prepared to discuss this point fully at the present moment, but from all that we have seen we are inclined to think that this phase marks the beginning of the development—that it is, in short, the first act, so to speak, of the cycle within the flea. The intracellular phases are by no means to be found in every flea examined twenty-four hours after it has fed on an infected rat. In the majority of the fleas the trypanosomes have disappeared altogether at this period, though in those in which trypanosomes are present there are generally intracellular stages to be found. This result corresponds with our experimental results, which show that only a small proportion of fleas fed continually on infected rats acquire a permanent infection with the trypanosomes whereby they become themselves infective to rats in their turn. We are inclined to think that whether the trypanosomes succeed in establishing themselves in the flea or not depends upon whether they succeed in penetrating the cells of the stomach wall and going through the intracellular multiplicative phase here described. In the majority of the fleas the trypanosomes taken in appear to be digested together with the blood, and never to succeed in establishing themselves in the flea or in going through their developmental cycle; only in a relatively small number of cases do the trypanosomes resist the digestive juices of the flea and succeed in holding their own. Analogous conditions have been observed by Kleine, Bruce, and others in the development of pathogenic trypanosomes in tsetse flies; only in a relatively small proportion of the flies fed on infected animals do the trypanosomes go through their full developmental cycle.

It seems to us further possible that the facts observed may also throw some light on another peculiarity in the development of pathogenic trypanosomes that has been noted by all those who have studied them. It has been observed in the development of *T. gambiense* in *Glossina palpalis*, for instance, that the trypanosomes disappear from the digestive tract of the fly at a period some five to seven days after they have been taken up; in a few flies they reappear again later in the digestive tract in enormous numbers. This temporary disappearance of the trypanosomes from the gut of the fly may perhaps find its explanation in the trypanosomes undergoing some multiplicative stage, similar to that seen in the case of *T. lewisi*, in the cells lining the digestive tract. We have written to our colleague, Miss Muriel Robertson, who has recently gone to Uganda for the purpose of studying the development of the pathogenic trypanosomes, informing her of the developmental phases that we have observed in the flea, and suggesting that similar phases may perhaps occur in the development of trypanosomes in tsetse flies.

A further question which arises, with regard to the intracellular phase described above, is whether it occurs as a single generation in the developmental cycle of the trypanosome, or whether there may be several successive generations of intracellular multiplication, before the development takes its further course. This is a question to which it is difficult to give a definite answer, since it is scarcely possible to keep the trypanosomes alive between slide and cover-slip long enough to observe more than one generation of the parasites. Not only the trypanosomes, but the epithelial cells also, soon degenerate and become moribund under such conditions. We are inclined to believe, however, that trypanosomes which have been liberated by the bursting of a sphere within a cell may, after becoming free from the host-cell, penetrate into other epithelial cells and repeat the process of multiple fission by which they themselves came into being; in other words, that several generations of intracellular multiplication in the stomach succeed each other in the beginning of the development of the trypanosome in the flea.

Intracellular stages of trypanosomes have been described by many investigators in that part of the life-cycle which takes place in the vertebrate host. Without multiplying instances or referring to the many cases, some of them very debatable, in which the occurrence of such stages has been alleged, it will be sufficient here to refer to the multiplication of *T.* (*Schizotrypanum*) *cruzi*, the parasite of human trypanosomiasis in Brazil. According to Chagas,[1] the parasite goes through a process of multiple fission in the capillaries of the lung in the main as follows: A full-grown trypanosome loses its flagellum and becomes folded on itself, first into the form of a crescent, which by fusion of its two horns becomes an oval mass; it then divides within its own periplast into eight small daughter-individuals or "merozoites," which may be with or without the rudiments of a locomotor apparatus; the merozoites then escape from the enveloping maternal periplast, and each one penetrates into a blood corpuscle, within which, in the general circulation, it develops into a full-sized trypanosome, which is finally set free from the corpuscle and swims in the blood plasma. According to Hartmann,[2] *Schizotrypanum cruzi* exhibits, in addition to the method of multiplication described by Chagas, a second method of multiplication, which takes place within greatly hypertrophied endothelial cells of the lungs; a final stage is figured, showing the cell containing some two dozen *Leishmania*-like bodies, each an oval corpuscle with trophonucleus and kinetonucleus, but with no flagellum. The occurrence of "schizogony" in a trypanosome is regarded by Hartmann as a further proof of the supposed affinity between trypanosomes and malarial parasites—a doctrine which is one of the foremost tenets of the neo-Schaudinnian school.

Without entering further at present into these highly controversial matters, we content ourselves by remarking, first, that schizogony—that is to say, multiple fission not following upon sexual processes—is a method of multiplication that occurs throughout the protozoa, in every class, if not in every order, and therefore cannot by itself furnish any indication of genetic affinity; secondly, that the process of multiple fission within cells observed by us follows entirely the type of such multiplication as seen in trypanosomes; it is, in fact, essentially similar to the multiplication which *T. lewisi* is known to go through in the blood of the rat. In every case in which our observations permit us to make a positive statement, whether in stained preparations or in living material, we are able to assert that flagella are present during the whole process of multiplication; the large parent form retains its flagellum up to the spherical stage, and the daughter-individuals produced within the sphere are provided with flagella at a very early stage in their formation. It is, of course, possible that in some cases flagella may be absent; we have seen in the epithelial cells trypanosomes in the form of motionless oval bodies in which no flagella could be made out, and in one such case a body which had been perfectly quiescent for a long time was seen to wake up, as it were, and to begin moving about in the cell by means of a flagellum, though it would be impossible to say whether in this case the flagellum was a new formation, or had been present all along and had escaped notice in the cell. While, however, prepared to admit that the intracellular forms may in

some cases be in a non-flagellated, resting, *Leishmania*-like stage, we venture to assert, from our observations as a whole, that the multiplication of *T. lewisi* in the stomach of the flea is typically the multiplication of a flagellate phase and perfectly different from the schizogony of a malarial parasite, which it resembles only in the broad features of multiple fission, as seen in protozoa generally. In the fact that it takes place within the periplast of the parent individual it resembles that described by Chagas in *Schizotrypanum*, but differs mainly in the following points: in *Schizotrypanum* an adult trypanosome of ordinary size, losing its flagellum, divides up to give rise to a number of minute daughter-individuals, which grow up into the adult form; in *Trypanosoma lewisi* an ordinary individual first grows to a relatively huge size, retaining its flagellum, and then divides into a number of full-sized and perfectly-formed trypanosomes.

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SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICAL SOCIOLOGY.

GEORGE REID, M.D., D.P.H., President.

PRESIDENT'S INTRODUCTORY REMARKS.

I AM glad it is now no longer necessary for the President of a Section to deliver an inaugural address, but merely to make a few opening remarks which are limited by statute to fifteen minutes. You will be pleased to hear that I do not propose to tax your forbearance even to that extent.

In accepting the honourable position of President of this comparatively new, although important, Section, I felt I was undertaking a very onerous duty, more especially at the present time, for reasons which will occur to you; however, I know I can rely upon your loyalty and generosity to smooth over difficulties which may possibly arise through errors of judgement on my part in the conduct of the business.

Medical sociology embraces a very wide field; indeed, it may be said to constitute the pivot of the whole social movement, for the nation's health is the crux of national prosperity, and with a low health standard social progress is impossible. This being the case, who, I would ask, are better fitted to speak authoritatively on social questions than medical men? At the same time we must be careful not to be too dogmatic in expressing our views, for such questions have their political as well as their medical aspect, and expediency may sometimes dictate the placing of a temporary drag upon progress which, if too precipitate, may defeat its object and so hinder rather than advance the cause. It must also be remembered that the vital factor in all national progress is public opinion. Unless the people are roused and their sympathy secured, all agitation is futile. To this end numerous societies have been formed whose energetic work, when well directed, acts as a slowly propelling force which ultimately makes itself felt. It is a weary process, however, and those who do the spade work do not always receive the credit in the end.

That the nation is becoming more and more alive to the importance of the health factor in securing and maintaining its prosperity and social welfare is shown by recent legislative enactments—for example, the Notification of Births Act, the Education (Administrative Provisions) Act, and the Housing and Town Planning Act, not to mention the National Insurance Bill now before Parliament, which so deeply concerns the medical profession.

It is an unfortunate fact that the political power of the medical profession is practically *nil*. Locally, the profession cannot influence an election one way or the other, and in Parliament the group of medical members is too insignificant at present to have any weight in the division lobby—a state of affairs which ought to be altered. The result is that, in piloting a bill through Parliament, the Minister in charge need pay no regard to this small group in his efforts to appease those who are strong enough, as a party, to assert their opinions and gain their ends. Consequently, no matter how honest his desire may be to secure the ideal, he often finds it necessary to sacrifice much in the framing of the bill, and still more in its passage through Parliament. Thus, political expediency too often leads to such a mutilation of the measure as to render it next to useless for its purpose, and the introduction of provisions which impose unfair hardship and loss upon sections of the community.

Again, it is sometimes apparent that, in devising machinery for accomplishing, it may be, a very useful purpose, the Minister has not availed himself of such expert advice as is needful to ensure that what he desires to arrive at can be brought about in the manner proposed. As an example of this, I would refer you to Clause 46 of the National Insurance Bill, in which an attempt is made to devise a means for penalizing individuals or authorities, as the case may be, in the event of the sickness-rate of a locality being excessive by reason of their having neglected their responsibilities. Now, there can be no question regarding the wisdom of the intention in this case, but when one considers the basis for determining what may be regarded as excessive sickness, it is obvious that this provision, if carried through, may lead to great injustice. On paper, and to the lay mind, nothing could be simpler than the proposal that an amount of sickness 10 per cent. in excess of a standard—to be fixed by a body of Insurance Commissioners—should justify proceedings for penalty being instituted; but how, I would ask, are the Commissioners in the first instance to arrive at a standard sickness-rate for a particular locality in order that it may be ascertained when the 10 per cent. increase is reached? We have the means of ascertaining the death-rate of a locality, but at present we have no reliable data upon which to base anything approaching an accurate estimate of the sickness-rate.

The consideration of the bill I have just referred to, as it more immediately concerns medical practitioners, will occupy much of the time at the disposal of the Section. This is to be regretted; it is not our custom to wrangle over politics, we prefer to devote our attention to medical questions of scientific interest, but "needs must when the devil drives." When, as is the case now, the Legislature proposes to tamper with our interests to an extent which will practically ruin a large section of the hardest workers in the profession, it is high time that we woke up, as, indeed, we at last seem to have done.

Our aim should be to do all we can to make the scheme of invalidity insurance a success, and as a first step in that direction we must endeavour to secure such reasonable amendments in the bill as will promote content among members of the profession, and thereby ensure their loyal co-operation. Through our Association, under the able and highly successful generalship of the Medical Secretary, to whom we are greatly indebted, we are now in a position to speak with one voice, and success depends upon the individual members of the profession steadfastly adhering to the undertaking arrived at by the body as a whole. There can be no invalidity insurance without our co-operation, and unless we receive fair treatment, we must not hesitate to exercise our veto.

DISCUSSION ON THE MEDICAL ASPECTS OF THE POOR LAW QUESTION.

OPENING PAPERS.

I.—J. SMITH WHITAKER, M.R.C.S., L.R.C.P.,
Medical Secretary, British Medical Association.

MR. SMITH WHITAKER stated that in opening the discussion he had thought it would be most useful for him to devote the time at his disposal to observations purely prefatory to those of the remaining speakers, and not to attempt an exhaustive treatment of any special aspect. He would endeavour to indicate briefly, in their true relation to one another and to broader social problems, the various parts of the problem of medical provision for the poor. From the report of the Royal Commission on the Poor Law in 1832, and the labours

of Edwin Chadwick and his coadjutors, they came down to the Report on Physical Deterioration, which first fixed the attention of the present generation on these problems. That led to the appointment of the recent Royal Commission on the Poor Law, which in turn was the cause of the introduction of the Insurance Bill. There had been a growing appreciation by the whole community of the fundamental importance of the health of each individual as a national asset and as an essential factor of the national well-being. Accompanying this was a gradual increasing tendency to look to the machinery of the State as an instrument for effecting social reform. From the purely economic point of view it was easy to see how individual health or the lack of it affected national well-being. If through a person not receiving proper medical attendance or other physical requirements he fell into a state of disease, sooner or later both he and those dependent on him became a public charge. About 30 per cent. of pauperism was estimated to be due to preventable sickness. Also, still looking at the matter from the economic point of view, loss of labour to the State through a man's illness had to be taken into account. The main cause of sickness when analysed was very often found to be a want of means on the part of the individual to provide necessary medical attendance and other requirements. Another cause was defective social organization, which did not enable a man to apply such resources as he possessed to advantage. In the discussions that had centred round the Report of the Royal Commission—both the Majority and Minority Reports—nothing struck one more than the ambiguous use of the word "destitution." "Destitution" was a relative term. It was not whether a man had money, but whether his resources were equal to satisfying the needs of the moment. If a man was in need of institutional treatment and no hospital was available, and he could not afford a nursing home, he was for the time being, and for the purposes of that illness, destitute. Destitution might be not want of money, but want of ready money. A great many people could pay in advance by insurance who could not meet a heavy doctor's bill. The medical profession had very little faith in the system of charge and recovery for medical treatment proposed in the Minority Poor Law Report; the plan had been tried and had broken down. They also felt strongly, not in their own but in the public interest, that individual medical attendance would best be given on the lines of private practice. They affirmed that the principle of the civil service, the employment of a whole-time officer, was not a sound principle to apply to the provision of this kind of medical attendance. That was the main foundation of their objection to the Minority proposals, and also to some of the possibilities, at all events, which the Insurance Bill seemed to contain. The suggestion of organization on the lines of contract practice under the control of the friendly societies also appeared to be contrary to lines on which an efficient medical service could be organized, and so the profession put forward the six points of objection to the Insurance Bill that were now familiar. Whatever might be the fate of this particular measure, it might be taken as common ground that whichever Government was in power they might expect the carrying of a bill based on the principles of a contribution from the insured, a State subsidy, compulsion, an income limit as regards the general insurance (but not necessarily for medical benefits) up to £160, manual workers to be admitted whatever their income, and the provision of medical benefits. As for the medical arrangements, they must be, having regard to the great growth of unity in the profession, substantially those put forward by the British Medical Association. He believed the profession would continue to stand solid. The very financial solvency of the insurance scheme depended on being able not merely to drive medical men into the service by economic pressure, but on their hearty co-operation. The lines of organization of any possible medical service on insurance lines must be those which medical men considered necessary.

II.—F. E. Wynne, B.A., M.B.Dubl., D.P.H.,
Medical Officer of Health for Leigh.

THE STATE DISTRUST OF THE PROFESSION.

It is not pleasant for us as a profession to admit that we are distrusted by the State, but that such is the case I am convinced. This distrust, I believe, is the root of the bitterness constantly springing up between the public and the profession—the origin of all those difficulties which have now been accentuated and brought to a head by the introduction of the National Insurance Bill. The bill has apparently set the profession and the public in line of battle against each other, with a *casus belli* for the first time formulated between them. It is for the statesmen on both sides to prove that this *casus belli* is a Will-o'-the-wisp, that the interests of both armies are identical, and to combine them into a single force ready to march against the common foe, which is poverty, with its camp followers disease and drunkenness. What is it that prevents the execution of this manœuvre? It is the State distrust of the profession. To shut our eyes to the existence of this distrust is merely the ancient folly of the ostrich. It behoves us as a profession to recognize its existence, to study its etiology, and, if possible, to remove it, even at the cost of a surgical operation on society.

The distrust I refer to is not manifested in the relations between the individual doctor and his patient; without confidence it is impossible for those relations to be maintained. But it is seen whenever representatives of any section of the public come to bargain with medical men or their representatives. It is only within our own time that a medical man has been admitted to the peerage. Directors of vast insurance companies do not scruple to avail themselves of competition to obtain underpaid work from medical men. From the judicial bench the profession has not seldom had to put up with insults which have only occasionally been deserved. We have come to look upon Parliament as our greatest foe, smarting as we do under the contemptuous references of the very statesmen who ought to know best our difficulties and something of the poor virtues we honestly believe ourselves to possess. We are not unmindful of the cynicism with which our modest claims to the barest justice have been ignored in such statutes as the Midwives Act and the Notification of Births Act. Nor have we forgotten the appeal of a medical member of Parliament not to ask for any payment for the new duties which were to be imposed upon us under the Death Registration Bill, because, forsooth, there was an impression in the House of Commons that the "profession was out for fees"! Fancy the beast of burden asking for fodder!

We know the treatment accorded to medical men by nearly all boards of guardians and some town councils. Some of us have known what it is to work under the committees of clubs and "friendly" societies—so-called in bitter sarcasm—and such can understand how it is that there are now men pledging themselves in hundreds to risk their daily bread in one effort to escape their tyranny. We have not forgotten, or we ought not to have forgotten, the trade unionists of Ebbw Vale, who dared to stultify themselves by sending word that they would bargain with individuals but not with the association that represented them. We are familiar with the philanthropic methods of hospital committees, whose aim is to fill their out-patient departments, unmindful of the practitioners who see their living thus sacrificed on the altar of sham charity and cheap advertisement.

It is unnecessary to multiply instances. What is the cause of the difference in the attitude of the same man to his own medical adviser and to the profession of which the latter is a member? It is distrust, not of us as individuals, but of us as a corporate body. There are two factors in the genesis of this distrust. It has been said that we are monopolists in a commodity, and this is nearly but not quite true. The State has always declined to make our monopoly absolute. It has never given us any real protection against the quack. The great majority of people of all classes have still some degree of belief, perhaps subconscious, in the efficacy of the quack. It is an outcome of the innate tendency in human nature to mysticism, and that is why a miraculous gift of healing has been one of the claims of every founder of a new religion, from Buddha to Mrs. Eddy. There is therefore a certain doubt in the public mind as to the intrinsic value of the commodity we monopolize, and that doubt is an important element in the State distrust of the profession.

But there is another and a more important factor in the situation, and this is an economic one. It is the result of the public response to the new spirit which has animated

the profession and led, among other things, to the reorganization of the British Medical Association, in fact, to the revolt of the profession against exploitation. As a profession we have always been exploited. The peculiar nature of our services renders it ethically impossible for us to refuse them, and the public has always taken advantage of this fact. A disunited and sentimentalized profession has been a godsend to the exploiters. An organized corporate profession, determined to assert its rights to elementary justice, is a portent which is viewed with profound distrust.

A very little historical inquiry suffices to show that there was discontent in the profession long before the days of the British Medical Association. Thus in the very beginning of the reign of Henry VIII the surgeons, dissatisfied with their association with the trade of the barber, seceded from the Barber-Surgeons' Company, and formed themselves into a separate body, with the title of the "Surgeons of London." In the third year of the same reign this company was legalized by an Act of Parliament, which gave to surgery the highest degree of State protection that it has ever received. It is charateristic of the time, and the relative position of the Church and the profession, that the qualification to practise was a license, after examination and approval, by either the Bishop of London or the Dean of St. Paul's!

The influence of the quack, however, was as strong then as it is now, and twelve years later this Act was repealed by another, which set forth, among other things, "Sithence the making of which said Act the Company and Fellowship of Surgeons of London, minding only their own lucres, and nothing the profit or ease of the diseased or patient, have sued, troubled, and vexed divers honest persons, as well men as women, whom God hath endued with the knowledge of the nature, kind, and operation of certain roots, herbs, and waters, and yet the said persons have not taken anything for their pains or cunning, but have ministered the same to the poor people only for neighbourhood and God's sake and charity, etc." It was therefore enacted that all such persons should be permitted "to minister in and to any outward sore, uncome, wound, impostumations, outward swellings or disease, any herb or herbs, ointments, baths, poultices or plaisters, according to their cunning, experience, or knowledge."

The quack was thus completely rehabilitated in law, and given the position which he enjoys to this day. But the position of the Surgeons was so weakened that their only resource was to return to the Barbers, and the two companies were reunited by Henry VIII in 1541, under the style and title of the "Masters or Governors of Barbers and Surgeons of London." It was not until the year 1745 that this extraordinary and obsolete association of barbery and surgery was finally ended, nor until well on in the reign of George III that the College of Surgeons was incorporated by Royal Charter. I have ventured on this digression only to prove that the two factors with which I am dealing—namely, doubt as to the value of our commodity and dislike of any attempt on our part to organize ourselves for the purpose of asserting just rights—are not new factors, but old and historic facts.

Among the worst weapons in the hands of the exploiters of the profession have always been sentimentality and cant. It is dinned into the ears of the student that he is entering a "noble profession," until honest men become sick of the very sound of the phrase. For what does it mean? It means that he is entering a profession in which he must not only be ready to give gratuitous service in the cause of genuine charity, but also gratuitous and underpaid service at the demand of the sweater and exploiter. As long as he consents to remain a beast of burden the public continues to tell him he is a member of a "noble profession," but directly he asks for payment of the money he has earned, he is told he is demanding a "pound of flesh." The latter phrase, indeed, is part of the habitual vocabulary of boards of guardians in connexion with payments to medical men under the Midwives Act—as if the doctor wanted to run away with the placenta! It is much to be regretted that this mischievous cant about the nobility of sweated work is too often repeated by some of the leaders of the profession in the annual gush of clap-trap which forms so large a proportion of the compositions known as "inaugural addresses."

It is our revolt against this sentimental sweating that is the chief cause of the distrust with which we are regarded, for the public can see in our organization nothing but an attempt to make them pay for services which they have come to believe themselves entitled to receive for nothing.

It is this distrust of our profession that has wedded the Government to the system of contract practice in the National Insurance Bill. Every medical man who has had experience of the system detests it. He knows that under this system he must himself underwrite the whole risk not only of sickness but of malingering, and that with the only capital at his command—his own brains and the sweat of his brow. He knows that he is not only himself enslaved, but that he is driven into the position of himself exploiting the ignorance of his patients; that, instead of being, as the doctor should be, the agent and minister of health, he must, if he is to live at all, become a mere purveyor of placebos. The Chancellor of the Exchequer knows this too, and yet he refuses even to consider the demand of the profession for payment for work done. He tells us that it would be impossible to budget for such a system. I have too much respect for the Chancellor's financial ability to accept this plea. The system has been worked, and is now being worked, on a small scale in certain localities, and it is found to cost no more than the old contract system.

No, whether consciously or not, I believe that the reason for this insistence on the contract system is distrust of the profession. It is the belief that under the contract system the profession would have an interest in discouraging malingering and so safeguarding the fund, while under a system of payment for work done it would have an interest in encouraging malingering and exploiting the fund—"minding only their own lucres," as the Act of Henry VIII so gracefully puts it.

The fact is, that it is impossible for business men to realize that the nature of the medical training and the medical career does actually produce in quite ordinary people a kind of practical altruism unknown in other professions. Nor, indeed, is it surprising that there should be some scepticism as to the possession of a high ethical standard by a profession that has been so long enslaved. Our aim must be to convert this distrust into confidence, but it appears that before we can be trusted we must be feared.

If the profession now accepts a continuance and an enormous extension of contract practice under State patronage, it will give its sanction to a system that contains in itself the seeds of corruption and decay. The inevitable breaking up of such a scheme would lead to an entire reorganization of the conditions of medical practice, probably on the basis of a State medical service. But even if that were, as many believe, the best possible solution of the problem, to approach it via some forty years in the wilderness of contract practice is a wasteful and stupid proceeding; and it is this consideration which supplies the moral justification for the policy of destroying the present Insurance Bill, not merely in the interests of the medical profession, but for the sake of the future of the whole community.

III.—PERCY R. COOPER, M.D., B.Sc.,
Bowdon.

MEDICAL ATTENDANCE UNDER STATE SICKNESS AND INVALIDITY INSURANCE.

IN considering the subject of State insurance we must avoid regarding it merely from a narrow professional standpoint. It is a matter which seriously affects the health and happiness of the great mass of our fellow-countrymen, and particularly that important section of the community in which the stress and struggle of life and the burden of sickness is most keenly felt—namely, the industrial classes. There is no doubt that the almost unanimous acceptance of the *principles* of the bill rather disarmed criticism of its details, and the bill itself seems to have been carefully drafted so as to avoid entering too much into detail. However, as the Government intentions have been gradually disclosed they have shown a lamentable want of appreciation of many of the vital interests involved and of the essentials of a sound and workable scheme. It is our duty, therefore, to point out to the Government certain fundamental principles which are essential to the satisfactory working of the medical benefit portion of the Act.

The guiding principle upon which all sound insurance is based is that of "averaging the risks." It is essential that a very large number of units be taken as the basis of one's calculations, so that the margin of error is correspondingly reduced. Where only a comparatively small number is taken the margin of error is so great that the insurance becomes a mere gamble. Under the scheme proposed by the Government, in which the number of beneficiaries allotted to (or who choose) each individual doctor is limited and variable, and bears no definite relation to the amount of sickness and to the work to be done, a flat rate of so much per head cannot possibly represent the insurance risks, and it is not only asking the doctor to take up the burden of insurance, but it is proposing that he does so on ridiculously inadequate and gambling terms.

Instead of calculating the numbers requiring treatment and the contribution each should make, the Chancellor has taken the medical man as his unit, and the very lowest and worst type of medical practice—that is, cheap club or contract practice—as his model and basis, although he has candidly confessed that such practice is at present inefficient and unsatisfactory. He airily "changes all this" by separating the provision of medicine, and adding another 1s. or so per head to the very lowest cut-throat rate anywhere taken—he even thinks he is treating us generously by offering such terms. If his terms only applied to the improvement of present rates less could perhaps be said against them, but when he has the audacity to suggest that this rate and contract conditions of service should be extended to 15 millions of our fellow-countrymen, many of whom are now our private patients, and later tells us he intends to bring in another 15 millions, we may well stand aghast. Such a proposition at once destroys the backbone of most general practices, strikes a death-blow at professional independence, and means the extinction of the general practitioner, for he can barely survive the loss of the goodwill of his practice and the reduction of his income to a quarter or one-fifth of its present value, whilst the conditions of service, often hard enough at present, would become intolerable. The effect of all this on the future of the profession would be enormously detrimental.

With regard to other systems of State sickness and invalidity insurance, the German system, which has been working for over twenty years, imperfect though it is, has undoubtedly proved of benefit to the German workers. There has been, of course, a definite wage limit, and medical men have not had to provide drugs and dressings, but the pay is such that a really efficient medical service is impossible, whilst the position and conditions of the medical men employed are in many cases pitiable. We see here plainly enough what Mr. Lloyd George's scheme would do for us, and we must resist it to the uttermost.

As regards the methods and terms of remuneration, all are agreed that the terms of remuneration should be adequate. Unfortunately, under the capitation system it is practically impossible that the terms ever could be adequate. The principle is radically unsound, as it means payment in inverse ratio to work done. The only way to estimate the adequacy of any capitation fee is to calculate what it yields per visit or unit of work done—that is,

$$\frac{\text{total capitation fees received}}{\text{total visits paid}} = x.$$

It is, of course, impossible to say exactly what the total number of visits is likely to be when all sorts of lives are included, and when the beneficiaries have absolutely unlimited and unrestricted right to call upon the doctor's services. Besides the actual amount of real illness there can be little doubt there would be a good deal of both imaginary and feigned illness, and our duties would be, perhaps, largely those of the detective as well as of the physician. There can be no doubt, however, that the fees contemplated by the Government are far from adequate; they work out, on their own figures, at about 6d. per unit of work done, and this makes no allowance for extras. Moreover, under the capitation system it is essential that a wage limit of not more than £2 per week should be fixed, and this the Chancellor says is impracticable. Therefore, I say, for every reason, payment according to work done upon an agreed tariff of fees is the preferable and more equitable plan. At the same time, I consider it of fundamental importance that the patient himself should pay at least some portion of the fee per visit, either directly out of his own pocket or out of a savings or deposit fund derived from a portion of the insured's contributions. I regard this as essential to preventing unnecessary calls upon the insurance fund—checking malingering, encouraging thrift and independence, and preventing a good deal of actual or imagined sickness.

Under payment according to work done, upon an agreed tariff of fees, the doctor is properly or, at any rate, more fairly remunerated for his work, and the adoption of a sliding scale of fees for better-to-do patients removes all difficulty in regard to wage limits, and in further extending the insurance scheme to all branches of the community if it be thought desirable. The great objection offered to this scheme is that it is liable to abuse by medical men from over-attendance. Much has been made of this, and it has been alleged, even by many of our own body, that medical men are not to be trusted. We are daily trusted with the lives and happiness and most intimate secrets of the people of this country, but we are not to be trusted with some of their money; we are, according to this view, little better than thieves and swindlers, and we have so little patriotism that we should seek to ruin the Exchequer for our own aggrandisement. Presumably the only people to be trusted are the lawyers and politicians. This distrust of the medical profession will have to be removed; it is certainly based on groundless charges, for medical men have proved themselves, instead of being the most rapacious and grasping, actually the most considerate and generous of men, and no profession or calling has set such a splendid example of unselfishness and zeal for the public good. It would be a great mistake and injustice if the whole profession were to be penalized for the sake of a few black sheep. It is certainly not impossible to restrain these by means of: (1) A proper system of medical inspection; (2) specially elected medical committees, with power to disallow fees or discharge from service under the insurance fund for wrongful conduct in this and other respects; (3) exemplary punishment for proved cases of collusion and fraud to despoil the insurance funds under the common law.

As a compromise between the two methods, (1) capitation, (2) work done, I suggest the following—namely, (*a*) a retaining fee of, say, 5s. per annum from each beneficiary, which entitles the latter to two free medical consultations or overhaulings yearly (or 2s. 6d. and one free consultation or overhauling); and (*b*) a small fee of, say, 2s. per ordinary visit or attendance with suitable provision for "extras." A portion of the fee to be paid by the patient, either directly or out of a deposit fund derived from his contributions, as already described.

Our policy is to modify the bill during its passage through Parliament in accordance with our declared policy; failing this we must decline to act under it until our views are fairly met. There is no doubt that if we are united we are bound to get what we want so long as our claims are just and reasonable, but justice and reason are not sufficiently strong weapons by themselves—we need to show our power. The Government cannot do without us, and we must show them that, although willing enough and patriotic enough to take our share of the State's burden, we are not so foolish or so insignificant as to submit to mean and sweating terms and grossly unfair and oppressive conditions of service. At the same time we must not let this fight for fair fees and for just conditions of service blind us to the necessity of maintaining high ideals of honour and usefulness for our profession. Upon our decision now and our union and loyalty to each other the future of our great and beloved profession largely depends.

IV.—F. G. Layton, M.R.C.S., L.R.C.P.,
Walsall.

A STATE MEDICAL SERVICE.

I venture to suggest that medical work in this country is done under conditions which are usually unsatisfactory, often difficult, and sometimes so bad that it is hard to understand why there has not been an all-round revolt long ago. We doctors are expected to make our living out of the misfortunes of other people. It is to our advantage that the health of the community shall be bad. The medical officer of health and his merry men are our enemies—regarded from the point of view of our banking accounts. If we were hard-headed men of business—which, thanks be to the gods, we are not—we should

oppose everything in the way of preventive medicine to the utmost of our power.

It is notorious that we do nothing of the sort—that we, as a profession, do all that we can to keep our clients well. True, they frustrate our efforts, to our profit and advantage; but that is their look-out. We preach the gospel of hygiene, and we do it with perfect sincerity. If only people would listen we should be speedily ruined.

We are forced to make our advice and our treatment fit in with the economic ability of our patients to adopt them. Every general practitioner in this room knows perfectly well that, in cases of real disease, we seldom can tell a patient what he ought to do or what he ought to have. Instead we are forced to content ourselves by giving him, not the best advice, but the sort of advice which he may, if he is lucky, be able to take. To put it brutally, the average patient in this country is too poor to be doctored properly.

We are constantly doing work at a price which is so low that good work—even passably fair work—is an impossibility. (Have all of you read *Sixpenny Pieces*, by Neil Lyons? If not, do so without delay.) The public is accustomed to the cheap doctor—the club doctor and the sixpenny doctor—and it does not realize how appallingly dear the cheap doctor really is. But we know, and we ought to shout our knowledge from the house-tops.

We doctors are asked to be on duty seven days a week and twenty-four hours a day. We are expected to sacrifice our liberty, to stand by for action at any moment. In return we are paid the doubtful compliment of being regarded as very easy-going creditors. We must rush off at a moment's notice to any call; but when the question of payment comes up we must take our luck. If we refuse to answer an urgent call we run all manner of unpleasant risks. Coroners' juries and suchlike bodies—which are supposed to express the intelligence of the British public—are inclined to be very much down on us if we do turn a deaf ear to a call which is, by some ill chance, really urgent.

Now, what is at the bottom of our troubles? Just this, that we run our practices as private ventures. There is no sort of attempt at providing an organized medical service. Every man is intent upon running his own particular private practice to the best advantage. He wants patients, and he does the best he can to gather them in. He is in a state of everlasting competition with all the other men in his neighbourhood. Low fees are the direct result of undercutting, due to competition. Low fees mean bad work. Cheap contract work is the direct result of undercutting, due to competition. Cheap contract work means bad work.

What is the remedy?—a State medical service.

Dr. Layton went on to sketch the details of such a service. There would be a department of public health as part of the ordinary governing machinery of the country. The head would be a doctor who had been in active practice—preferably general practice. Working in connexion with the department of public health there would be a service of full-time medical officers, who would be paid salaries—not capitation fees—out of national funds.

The country would be mapped out into districts, with a responsible medical officer at the head of each. In every district there would be a hospital and a variable number of dispensaries. Resident at the hospitals and the dispensaries would be the junior men. To every hospital and dispensary would be attached a staff of non-resident senior men. In every district there would be a well-equipped clinical and pathological laboratory, affording all medical men an opportunity of keeping in touch with modern scientific methods.

The service must be national, and all medical entrants must obtain the State qualification. Once through the door the newly fledged man would be sure of a job. He would be appointed to some junior post, either as resident at a hospital or dispensary, or as assistant at a laboratory. During his first few years in the service he would see all sides of the work, and have many opportunities of promotion.

The public health service and the ordinary medical service would not be separate, as they were at present. The greater part of the work of prevention would be done by the men who were actually in the firing line, tackling disease that was already declared

At first there would be some difficulty. General practitioners had sunk actual hard cash in their practices, and some means would have to be devised for indemnifying them for the surrender. Dr. Layton believed that some day, when the nation had grown wise, it would fight its most insidious foe—disease—with a standing army of health.

V.—MICHAEL DEWAR, M.D.

TREATMENT OF THE POOR.

DR. DEWAR directed attention to the classes of the poor just below the insurance level. The class of destitute and indigent persons, he said, must be maintained by the ratepayers through a reformed Poor Law system. The class of poorly paid casual labourers, who though striving to pay their way could not out of their earnings contribute a penny towards medical relief, were under present and past conditions the proper recipients of voluntary medical charity. As it cannot be expected (he proceeded) that the charitable or the medical profession will continue to give of their charity under a State insurance scheme, some special provision must be made by the Government, so that this class would receive necessary medical attendance and sick pay, in the interest of the public health and the well-being of the State. This would not be socialism as I understand the term. The Government in the broad sense would simply stand in the same relation to those people as a father does to his children who are unable to provide for themselves. The Insurance Bill provides that the contributions of a deposit contributor shall be credited to a special fund to be called the "Post Office Fund." Whence are these contributions to be derived? There is a class of people, hundreds of thousands, who, owing to the extremely small pay for unskilled casual labour, are absolutely unable to contribute one penny week by week without hardship. There is very small chance of any moneys, except that subscribed by the Government, standing to their credit in the Post Office fund to be expended on sick or medical benefits. The position is absurd, and the irony of the thing is that it is entirely for these very people that this big bill has been devised. It is the desire of the Government to ensure that none of these people will want for early medical attendance—will not be obliged to delay sending for a doctor till death is in the cup. It is very curious that, while those who may be able to contribute to the Post Office fund are debarred from receiving sick benefit (Section 32, Subsection *c*), they are yet eligible for medical benefit at once. This is truly vicarious philanthropy on the part of the Government. Moreover, with what delicious consistency are the funds protected! Subsection (*g*) says, "The amount standing in the Post Office fund to the credit of any deposit contributor shall, upon his dying, be forfeited." Poor man! it cannot even be used to bury him. No; it would have been far better for the public health and more statesmanlike if the Government had set apart a sum of money each year to ensure sick and medical benefits for that miserable class of people who cannot pay for them, and for whom Mr. Lloyd George asserts that the bill was necessary, and had left the steady and good wage earner alone. It would have brought about the end which he says he is aiming at just as well, and at a very much less cost to the country. The Chancellor, in his speeches, airily talks about the impossibility of leaving out of his scheme the industrial classes, even though they are earning £3 to £4 a week in good times, because they in the course of a year or two may be only earning £1 in a bad time. That is a very poor argument, and the possibility is admitted, but men who are earning big wages in a good time are perfectly able and ought to provide for the bad time. On the other hand, it would be quite possible for the Government, if it really wished to do so, to receive into its beneficiary funds men who have spent all their money as they earned it when the sun was shining, and are on short wages and hard up when it was raining. This could be done in much the same way as men will be received into the unemployment fund when out of work. What can be done in the latter case can be done in the former. I do not say that this principle will be good for them, because it would encourage thriftlessness, but, to my mind, it would be much better to adopt some such method whereby the highly-paid industrial class could be ensured medical care in times

of distress, than that the whole industrial class should be compelled to do what they have never expressed a wish to do. Mr. Lloyd George says he knows all about it, because he has talked with the friendly societies and some medical friends, and has had several country practitioners' accounts to collect, but the medical profession know a great deal more, because it is the work of their daily life, because they are constantly coming into contact with all classes of people, and they know perfectly well the class who requires the benefits of the bill, and the other classes who do not. In fact, if a plebiscite were taken to-morrow it would be found that the majority of the industrial classes would say that they did not want to be compelled to insure themselves against sickness, as they are perfectly able to pay for what they require. The miners at present pay 3d. a week in Scotland and 4½d. a week in England for the medical attendance of themselves and their families. When under the bill they are compelled to pay 4d. a week for medical and sick benefits on themselves alone, it is very possible they will refuse to pay their voluntary subscriptions, which also covered their families. The wives and families, when these subscriptions are not paid, will be without any medical care, unless they be attended as private patients by the colliery doctors. A very large proportion of these fees will never be paid, and the conditions will be worse than ever.

Then coming to the better wage-earning class, in any State insurance scheme there must be a wage limit, and I am one of those who do not agree with the limit proposed in the Insurance Bill Memorandum. It is too high a wage limit. It is admitted, however, that not many families with an income under £160 a year could meet the expenses of special institutional treatment involving major surgery.

Under this head it would be interesting to know the percentage of people with an income of between £100 and £160 who require institutional treatment. Looking back on my own practice during the last thirty-five years, I am prepared to say that the percentage is very small, so that it seems to me rather a redundancy that Mr. Lloyd George should at present, or in the future, budget for such a contingency. People with an income of £2 to £3 a week are perfectly able to meet the expense of ordinary medical attendance at the present time, and do so. It would be extremely unfair and unjust that a man with £165 a year should be taxed to provide a probable institutional treatment for a man with an income of £5 less, and yet have to meet all his own expenses. It would also bear very hardly on the practitioner engaged in that class of practice. If all persons with an income of £160 and under are to participate in a national medical service, a very large percentage of the medical profession would either find it impossible to meet their liabilities or be compelled to become State officials, probably overworked and underpaid. A great many of the profession wish to retain their independence as private practitioners, and object to being compulsorily obliged to give up that independence, and rightly so.

As a way out of the difficulty I would suggest to Mr. Lloyd George that all wage earners between £1 and £2 per week should be entitled under a national medical service to *ordinary* medical treatment on a contributory basis in proportion to the wage, while all above £2 per week should provide themselves with ordinary treatment. As regards institutional treatment involving special surgery, all persons under £160 should be entitled to these benefits, the expense to be borne by incomes over £500, or by special Government grants; while the needs of persons with incomes of £160 to, say, £300 could be met by the establishment of paying nursing homes at limited rates, as is being done at the present time in Edinburgh. This scheme may seem complicated, but it is quite practicable. One or two years' experience would show how much would be required for the ordinary and institutional treatment of all under an income of £100, and for the institutional treatment of those between £100 and £160.

Dr. Dewar gave reasons for thinking that medical benefit would not be satisfactorily carried out by whole-time medical officers or by provident dispensaries, and asked, "Would the scheme be best carried out by the medical profession?" To this question he would reply, without any hesitation, that it would, for several reasons:

1. To a medical mind it would be the ideal medical service, as medical men alone know how medical work should be carried on in the best interests of their patients, for whenever there is interference of any kind between a medical man and his patient confidence is abolished and the patient suffers. It is the work of a specially trained class of men and women, who have an entire monopoly of the work, and no one outside the ranks of the profession is qualified or has the right to come between the medical practitioner and his patient. The public have their rights and the doctors have their rights, and it is not competent for any Government or any society to dictate to either one or the other how the work is to be carried out. It is work, not dealing with stocks and stones, but with the lives of human beings, and there ought to be absolute freedom to both patient and doctor. It is admitted that the public health as regards sanitation, fevers, and the like, is better treated collectively by medical officers of health and their boards, but the treatment of the individual patient is best carried out by the individual doctor, who must enjoy the patient's perfect trust and confidence if the best results are to be obtained.

2. The work could be perfectly well carried out by the profession, and if the Government is anxious that the casual poor, for whom it is so solicitous, and for whom the bill actually provides so little, should be properly attended and cared for, and the hotbeds of disease (which, by the way, is the proper care and work of the county and borough councils) rooted out, it is sufficient to say that the doctors are able and willing to attend that class, provided that the Government give them a fair and adequate remuneration for the work. All other classes above the casual poor can be left out of count by the Government, and they will receive the doctors' best services, as they have always done. Neither the well-to-do industrial classes, clerks and shopkeepers, or the doctors have ever asked or hinted at Government assistance.

3. There would be a much better medical service, due to the continued competition for work among the better industrial classes (there has never been any complaint made by them of lack of attention), and the prospect of some remuneration for work done among the casual poor by the Government, when there would be no further necessity for medical men to attend these poor people philanthropically, than under any contract system devised by mere man.

Finally, he believed the best way of providing better medical attendance on the poorer members of the community was—

1. A reformed Poor Law medical service for the destitute and indigent.
2. Government grants for the casual poor.
3. The present system of medical attendance for all those above an income of 25s. per week.
4. The provision of institutional treatment — that is, major surgery in its broad sense—either by a levy on the wealthier classes, instead of by charity from these classes as at present, or by Government subsidies.

DISCUSSION.

Dr. William Holder (Hull) thought more might be said in favour of the Insurance Bill. He wished the profession had done more in the past to lift up the Poor Law officer and club doctor who had long been in the position that their fellows feared they might be reduced to by the Insurance Bill. The measure would open up to the profession a large number of places of emolument. The unemployment insurance provisions of the bill would assist the very class responsible for most of the doctor's bad debts. Being provided with a little nest-egg, they would pay off their old bills. He thought the British Medical Association should have insisted on a minimum price as regards the arrangements made under the bill with medical men being definitely included in the measure. To rely on the local Health Committee would be to rely on a broken reed, seeing how slight would be the medical representation thereon.

Mr. Smith Whitaker, intervening to reply to these criticisms, said that as to minimum rates the policy of the Association had been advisedly that there should not be a minimum rate in an Act of Parliament. They believed that the profession was better exercised outside than inside an Act of Parliament, and that any rate they were likely to get fixed would not be adequate in every locality.

There was also the objection that a minimum rate always tended to become a maximum. The Association was not relying on local Health Committees, Insurance Commissioners, or an Act of Parliament. It was relying on one thing only—the strength of the united profession. As long as medical men remained united that was the only sure foundation. Mr. Smith Whitaker also claimed that the Association's non-committal attitude towards the bill as a whole had led to many important amendments being secured.

Dr. J. H. KEAY (Greenwich) regretted that the miserable fiddling with these social questions had demoralized the working classes of the cities. He thought Dr. Layton was flogging a dead horse—the profession was a hundred to one against a system of whole-time medical officers. From the experience gained in living in a poor district where people existed from hand to mouth on £1 a week, and rent five or six shillings a week, he came to the conclusion long ago that the one remedy was State insurance. It was four years since he began moving for that in the BRITISH MEDICAL JOURNAL with two or three others. They were not listened to, but he began to wonder six months ago if twelve men might not vote for it. He was surprised to find the Divisions voting for it wholesale. He valued the compulsory principle of the Insurance Bill, especially in a neighbourhood like his own, for he deplored the utter demoralization the hospitals brought into the lives of the people. But he wished the Legislature had been consistent. They began with an old age pension scheme that was non-contributory and now entered into another scheme on a contributory basis. He was afraid the Government in its insurance scheme had not profited by Germany's thirty years' experience in these matters.

Dr. J. JENKINS ROBB (Bournville) thought the profession had gone too far in its attitude towards the Insurance Bill. Instead of a State medical service being a far-distant thing it appeared to him to be quite the reverse. The State would gain in lives and money from the scheme, and it would have to protect itself, which it could best do by instituting a medical service under its own control. Unless there was strict supervision, not only of the patient but of the doctor, the sums paid out in benefit would be considerably more than was estimated. He did not think the profession objected to State medical services—some of the best men went into the Indian and the Navy medical services, and they were State services. In Germany hospitals were practically under State control, and their equipment was far superior to those of this country. A State medical service of 25,000 men receiving salaries from £250 to £1,000 would cost £10,000,000 a year.

Dr. JAMES NEAL (Birmingham), one of the honorary secretaries of the Section, replying to Dr. Robb, claimed that it was generally recognized that the demands of the British Medical Association were fair and reasonable. He did not think existing State medical services were regarded by the profession as so desirable as Dr. Robb suggested.

DISCUSSION ON HOSPITAL REFORM IN RELATION TO THE INSURANCE BILL.

OPENING PAPERS.

I.—LAURISTON E. SHAW, M.D., F.R.C.P.,

Physician to Guy's Hospital.

FOR good or evil the Insurance Bill, if enacted, must profoundly alter the position of the hospitals. Even if the bill does not pass, the prominence given by the discussions of its proposals to the unsatisfactory conditions for the provision of ordinary medical treatment for large sections of the community must shortly lead to the institution of some alternative to our present chaotic jumble of indiscriminate charity, inadequately paid contract practice, and a mutually unpopular Poor Law medical service.

Assuming that the bill will pass, modified, of course, in accordance with the strictly moderate demands of the medical profession, the hospitals will find that there is still much work for them to do on a voluntary basis. The bill provides, except in the case of consumption, only for what is called ordinary medical treatment. For cases requiring institutional treatment further provision of some sort must be forthcoming, and it seems probable that, at any rate at the outset, this provision will be made by means of our voluntary hospitals.

Whether it is reasonable to expect voluntary hospitals to continue to undertake this duty without special remuneration is a question often asked, but it has been a tradition of the voluntary system to provide all forms of professional assistance for those who cannot otherwise obtain it, and it would seem hardly logical to refuse to give to a sick man that which he urgently wants and cannot obtain merely because some different want has in some other way been satisfied. The bill brings into striking contrast ordinary and special medical attendance. By enabling a man to insure himself against the risk of requiring ordinary medical attendance, it lays stress on the fact that there is a risk, less frequent, but even more insistent when it arises, against which he is not insured. In the past hospitals have willingly met both these risks in the case of large numbers of the community. It has long been recognized that the attempt to combine the dual function of ministering to minor ailments and at the same time dealing with cases requiring the highest resources of medical and surgical skill has handicapped the development of the professional side of the hospital, while the work of avoiding imposition and abuse of the charity has in these conditions been quite impossible. The provision of insurance for ordinary treatment for the large section of the present hospital *clientèle* to be brought within the scope of the bill should greatly simplify the work of selection of suitable cases. Taking for granted that an income limit will be enforced by the local Health Committee for all those for whose ordinary medical treatment they are making arrangements, inquiries into the economic position of the patient at the hospital will in the future be reduced in many cases to determining the status of the patient under the insurance scheme. For all those not insured fullest inquiries into circumstances must be made and pressure used to insist that in the first instance assistance should be sought from a private practitioner in the case of patients excluded from the insurance by the income limit, or from the Poor Law medical officer, if exclusion is due to irregularity of employment or professed inability to become a voluntary contributor. In either of these uninsured cases there is a prima facie ground for insisting that the hospital should exercise its proper function of providing special medical service only, whilst in the case of the insured persons it is still more imperative that the hospital should take up this position.

I would lay stress upon this absolute necessity of dealing with the insured person at the hospital on a consultative basis in co-operation with his insurance doctor, whether we view the matter from a professional or a social point of view.

From the professional point of view it might well be regarded as a breach of medical etiquette for a member of the hospital staff, knowing that the insured person had definitely engaged a medical practitioner to attend him, to undertake his treatment, except with the knowledge of and in co-operation with this attendant. At present the hospital staff have no knowledge whether or not the patient has any medical attendant, and have no satisfactory means of ascertaining the fact. But every insured person either will have, or will be in a position to secure, an ordinary medical attendant, and this fact cannot be ignored. The exact degree of co-operation which would satisfy the requirements of medical etiquette may need definition, but to deal entirely on independent lines with another man's patient, even in the sacred name of charity, can hardly be tolerated in the altered circumstances created by the bill.

From the social side the public who are compelled to help to maintain the insurance fund, whether as employers or taxpayers, are equally interested with the profession in securing co-operation between the insurance and the hospital doctor. Medical treatment under the insurance system must be a costly business. If it is worth having it must be properly paid for. The public having taken its part in helping to pay for a good service, will be interested

in promoting its continued efficiency. The indiscriminate and independent treatment at hospitals of insured persons must entail a risk of making the insured dissatisfied with the insurance service. The fact that the hospital treatment is free, that it is given by men who are in many cases consultants, and usually charge private patients higher fees than the insurance doctor does, the glamour of the place and the ritual observed in teaching students, would, even if the actual services were definitely inferior, strongly impress the patient with its superiority. When as a matter of fact for suitable cases, the greater experience and better resources available do actually constitute a more valuable service, it is obviously unfair and detrimental to the ordinary insurance service, however efficient, that the hospital should be in direct competition with it. To avoid this disaster systematic co-operation is essential. By its observance the insurance service will be strengthened instead of being discredited. It is of great importance for an efficient service that every fact elicited about a patient at a hospital should be made known to the medical man of the insurance service who will be called upon to treat him whenever again he falls ill. Whatever economic adjustment may be arrived at between voluntary hospitals and the insurance system, the profession must insist that the hospital and the insurance doctors shall deal with all insured persons in co-operation on the basis that one acts as the consultant and the other as the general practitioner.

A strong demand is being made on the part of a section of social reformers that the introduction of the bill should be made the opportunity to nationalize all hospitals and similar institutions. While firmly believing myself that in the interests of medical research and education the voluntary system should in our existing condition of civilization be maintained, I recognize that its existence is imperilled. The transformation, however, of voluntary hospitals into truly consultative institutions, taking no independent part in the treatment or investigation of disease, but co-operating always with institutions or private practitioners undertaking ordinary medical treatment, would provide them with a new lease of useful life, and would probably postpone indefinitely the nationalization or municipalization of, at least, that higher class of institution which is capable of adopting this line of professional work.

It is very important, however, to recognize that, even if our hospitals do become nationalized, it will still be essential to define their relation to the insurance service. For the State or the insurance fund to provide side by side an institutional service and a domiciliary service, and to allow the patient to decide which he would prefer, or which he thinks would be most suitable to his medical requirements, would be a most unreasonable and unbusinesslike proceeding. It would be no less unreasonable even though one service should be provided by an insurance fund and the other by charity. The definition of the scope of the work to be done by the domiciliary and institutional services and intimate co-operation between their respective officers are absolutely essential to success. It is the want of these features in our existing chaos of medical treatment which is chiefly responsible for present inefficiency. Unless the voluntary hospitals will voluntarily relinquish all ordinary treatment such as is to be provided by the insurance scheme, and co-operate with its officers in providing on consultative lines the additional special professional help which they are best fitted to provide, they will seriously handicap the insurance service and will imperil their own future as independent institutions.

II.—J. COURTNEY BUCHANAN, Barrister-at-Law,
Secretary to the Metropolitan Hospital.

THE FUTURE OF VOLUNTARY HOSPITALS.

WHATEVER may be the merits and demerits of such a scheme of insurance as is adumbrated therein, the Insurance Bill will be the means of completing State supervision of the bulk of the population by continuous registration of the classes not at present touched by operation of the income tax; and enumeration and classification of these classes are the necessary preliminary to, and the only proper basis for, the constructive and preventive legislation for reform of the Poor Law which must, in due course, supplement the charitable and palliative measures of the Chancellor of the Exchequer. Hospital administrators, sooner or later, will have to consider their position in regard to reforms impending, and determine in what directions and to what ends they must make changes in order that the voluntary hospitals may be ready, when called upon, most effectively to fulfil their proper function in relation to the various authorities, State or municipal or voluntary, concerned with the general health and well-being of the community.

It would be well for hospital managers to follow the wise course recently adopted by the British Medical Association under similar circumstances: to set themselves at once to define beforehand the work which their experience teaches them they should do, and could do best; and—as no single hospital can successfully or even usefully carry through drastic reforms all by itself without reference to existing practice in similar institutions—*mutually to agree upon* the steps that should be taken, individually or collectively, to adapt that work to the changed and changing conditions outside them. Unless the voluntary hospitals themselves define their position, their position may be defined for them, with or without their sympathetic co-operation, by others who have not been trained, and so could not appreciate the peculiar difficulties of hospital administration, and could not be expected to have the same scrupulous and tender regard for their traditions.

Were these considerations not sufficient to urge the powers that be to face the question of hospital reform, there is the further consideration of their present financial position. The position of many hospitals to-day is extremely unsatisfactory and a constant source of the gravest anxiety to those responsible for their management. It is practically the unanimous opinion of all those best qualified to judge that the position will be even more precarious when the Insurance Bill is enacted, unless hospitals are paid a proper amount for the work they do for insured persons. The National Insurance Bill is already providing the wary with yet one more excuse for evading responsibility for any share in the support of voluntary institutions; and the operation of the Act will render the difficult task of adding new names to the dwindling list of subscribers even more difficult. The introduction of a system for receiving payment for insured patients is practically inevitable. This, however, may mean a complete change in the character of the voluntary hospitals; and it certainly will hasten hospital reform.

For some time the tendency has been for hospitals to perform the functions of consultants to the poorer classes, but in future I believe that they will be forced to do work solely of this character. The hospitals are likely to be regarded not so much as foundations maintained by private benefactions for the charitable medical relief of the sick poor as institutions maintained to provide for all, except the well-to-do, consultative and special treatment, for medical and nursing education, and for scientific research.

Apart from social qualifications, I suppose that the cases most suitable for treatment at a voluntary hospital are those for whose diseases there is, in the judgement of the medical staff, a reasonable prospect of permanent benefit resulting from some definite treatment. For instance, we only treat ulcerated legs now if the patient consents to lie up and be cured. Trivial cases need no longer be treated at the hospitals, for persons insured under the Insurance Act will be guaranteed free medical treatment for all trivial ailments. Presumably, only patients recommended by their doctors, other than cases of accident or sudden emergency (which are the proper casualty or surgical cases), would come straight to the hospital; and the voluntary hospitals would be available solely for consultative purposes. The removal of the trivial cases would make it possible to make appointments for cases sent up by their doctors, and place a limit on the number of new cases to be examined and treated on any one day. This would also help to ensure patients really seeing the doctors whose names appear on their papers.

I gather that doctors do not desire to have *all* insured persons attending at their houses, but that they would much prefer, while leaving facilities for the continuance of private practice as far as possible on existing lines, to see the majority of insured persons at some centre. These centres might be institutions conducted somewhat on the principles and lines laid down for the provident dispensaries in the Majority Report of the Royal Commission

on the Poor Laws and Relief of Distress. They would include all existing medical clubs, private and other dispensaries, and all free dispensaries; give a choice of doctor, subject to his consent; provide for that doctor adequate remuneration for the work he does; and for the British Medical Association Branches to be consulted in each district as to the management and details of their work. These institutions should be grouped around and be in touch with the voluntary hospitals. Patients could be put into touch, through the doctors, with the numerous charitable agencies that are available for the nursing and caring of patients in their own homes. The doctors would probably be able and willing to attend patients at these centres at other times than those at which normally they would be at work—for example, in the evening. Institutions founded with these objects would be almost invaluable as a preventive of disease.

The insurance institutions I have described would be invaluable for some of the various medical purposes of the education and public health authorities; for much of the medical work already being done in connexion with the treatment of school children suffering from affections of eyes, ears, skin, throat, and teeth; for early diagnosis of phthisis and supervision of doubtful cases in their homes; for the proposed health lectures; for the administration of tuberculin and antitoxin, and other purposes rather out of the ordinary course of general practice. The numbers in the out-patient department of the voluntary hospitals would be greatly reduced; and, if provision is made for hospitals to be paid for work done for persons insured under the National Insurance Bill, the hospitals need no longer fear on financial grounds the diminution in the number attending at the out-patient department and in what Dr. Lauriston Shaw has recently called "the totally indefensible, unclassified casualty department."

The staffs of hospitals might be prepared, in addition, where such work is not performed by the medical officer of health, to conduct special examinations of blood, urine, and sputum, and take cultures, etc., for general practitioners when requested, and to report to the general practitioners from whom cases come the result of such examinations, with a view to doctors obtaining a better knowledge of their patients' ailments, and to the advancement of scientific research.

The hospitals have always treated, as far as their available accommodation allowed them, cases which general practitioners could not profitably or conveniently treat, and there have been, for those who cared to take these obvious advantages, opportunities for consultation. There are, besides, many other advantages of which general practitioners can even now avail themselves if they so wish. Daily conference with men who are familiar with the latest discoveries of medical science must be of value to doctors in general practice. Lectures and demonstrations are arranged at most hospitals; and the local hospital may anywhere become a kind of post-graduate college for its district—really a centre of learning, both to refresh memory and to advance knowledge. The British Medical Association and the local medical society should and do hold meetings at many of the local hospitals which general practitioners can attend. Everything is in favour of encouraging feelings of mutual regard and respect between general practitioners and the consulting staff of hospitals; and nothing will conduce to these pleasant and highly desirable relations more than the sense of the common interests of both and the interests of the community at large.

The voluntary hospitals would bear the same relation to provident institutions and other medical service provided for the general use of the poorer classes which consultants bear to general practitioners in the case of the well-to-do. Many of the financial difficulties of the hospitals would be relieved; and the changes suggested here are designed both to safeguard the interests of patients, consultants, and general practitioners and to maintain the best features of our unique voluntary system.

It would be, in my opinion, little short of a calamity if the London hospitals were subjected to any municipal control or even interference, but I can see no objection to hospitals being paid for work done for the insurance authorities or even to State grants-in-aid for specific purposes, always provided that, if the hospitals have to be subjected to some public inspection and control, that inspection and control be conducted through a body of trained and experienced people who are well acquainted with all the details and fine points of hospital administration. Indeed, it may be that hospitals are actually *entitled* to State aid for the purposes of new buildings, medical education, and scientific research.

No institution, however, in receipt of money from the State will escape supervision. I think, therefore, it would be desirable to establish a central hospital board or council in London, such as was recommended as far back as 1892 by the Select Committee of the House of Lords. It would leave the hospitals free to develop their own particular characteristics; it would maintain a uniform standard of the highest efficiency; by definite representation it would provide special facilities for ample discussion of general questions; and uniformity in the matters where uniformity is really desirable, such as the method of admission to hospitals, would probably be attained.

The day has gone by, I fear, when the provision of help for the sick will suffice to draw enough money for the hospitals' support. I believe that the only reasonable ground for hoping that the hospitals can still be maintained by voluntary contributions lies in the attraction that the more expensive forms of medical treatment and the advancement of medical education and scientific research now hold for wealthy and philanthropic people.

The future policy of the hospitals will be to show clearly that the work they do is for the *benefit of the whole community*, and for this purpose to maintain the special services of their several departments in the highest perfection.

III.—Mr. Neville Chamberlain,
Highbury, Birmingham.

OBJECTIONS TO HOSPITAL OUT-PATIENT DEPARTMENTS.

Mr. Chamberlain prefaced his remarks by saying that the need for reform in hospital out-patient departments was never so pressing as it is to-day, but that the introduction of the National Insurance Bill would certainly render impossible the remedies he had in mind, though it would also, he hoped, remove in large part the evil which those remedies were designed to meet. The work of our out-patient departments (he proceeded) is the least satisfactory part of modern hospital routine, whether looked at from the point of view of the hospital itself, of the medical profession at large, or of the patients who come for treatment. Instead of confining themselves to consultation and cases of immediate and pressing urgency as was originally intended, the out-patient departments, with their elaborate and expensive apparatus, their trained nurses, and their experienced consultants, have allowed themselves to be turned into great free dispensaries. Really serious and important cases are jostled and thrust aside by people with cut fingers or common colds, or, what is perhaps worse, by chronics with bronchitis, ulcerated legs, or epilepsy, whose chances of cure lie rather in careful nursing and home treatment than in periodical visits to a distant institution. The result is an ever-increasing crowd of applicants for relief, with a corresponding diminution of the amount of time devoted to each individual. The staff—or the more conscientious ones amongst them—are haunted by the feeling that they are unable to do justice either to themselves or to their patients, the hospital managers chafe under the sense that the money of their subscribers is being wasted, the patients grumble at being kept waiting for hours before they are attended to and then undergoing only the briefest examination, whilst the medical practitioner outside bitterly comments on the difficulty of earning a livelihood in competition with an institution which is not run on commercial lines, but offers gratis the knowledge and experience that he has had to spend his time and money in acquiring.

At the General Hospital in Birmingham we have endeavoured to discourage the attendance of trivial cases by refusing to treat them further than by giving them first aid. Instructions were given to the out-patient medical and surgical staff to inform patients of this class that they were not suitable cases for hospital treatment, and that they should apply to their own doctors, to a provident dispensary, to the free dispensary, or elsewhere, as the nature of their case might indicate. At the outset this plan appeared

to be successful, and our records show that in the first year over 2,000 cases were thus referred elsewhere. But further experience has indicated that without constant pressure from the managing committee the staff will not take the trouble to sort out the applicants for relief in this manner, and I have come to the conclusion with much regret that this method of relieving the out-patient department does not offer any hope of permanent success. It would appear, therefore, that the only chance of progress lies in applying the pressure at the other end—namely, on the people themselves—and that we have got to change their whole habits and traditions if we are not to be overwhelmed by this most unsatisfactory and inefficient portion of our work.

Mr. Chamberlain laid down the following as the conditions of an ideal system of medical relief:

1. Every person should contribute towards the cost.
2. Every person should be attended during illness, in the first instance, by his own doctor, but the patient should have power to change his doctor at intervals if he wishes.
3. Drugs should not be dispensed by the doctor, but by a chemist or dispensary near the patient's home.
4. Patients requiring institutional treatment should be admitted to hospitals as in-patients, or should obtain consultation or treatment as out-patients on the recommendation of any properly qualified medical man, without the necessity for tickets, subscribers' letters, or registration fees.
5. Paying wards or hospitals should be established for those in better circumstances.

An endeavour has been made (he continued) to fulfil some of these ideal conditions in Birmingham by the establishment of a provident dispensary, the members of which pay 6d. a month, with a reduction in the case of families. Appointment on the staff is open to any qualified medical man who cares to apply, and at the present time the list includes some eighty names. Drugs are dispensed at the branches of the General (Free) Dispensary, which cover the whole town, so that if a member moves from one part to another he does not have to lose his membership, but simply transfers to a different branch. The dispensary is managed by a committee, on which the profession is largely represented, and there are also representatives of the members of the principal hospitals, and of several other bodies interested in medical charity. This dispensary has now been in existence for a little over two years. It has progressed steadily but very slowly, for, although I believe it to be founded on right principles, it has had many difficulties to contend with. First of these is the competition of the free out-patient departments of the hospitals and the free dispensary. In spite of the difficulty of obtaining tickets, there are many who will not make a voluntary sacrifice of even 1½d. a week in health, because they know that if they should be ill it will be possible to obtain treatment at one or other of these free institutions. Secondly, comes the competition of the Hospital Saturday Fund, which has built up a wonderful organization for collecting money from workpeople through the factories. An annual sum of £10,000 out of the money so collected is given to the hospitals; the remainder goes to payment of expenses and to the maintenance of a convalescent home. The contribution to the hospitals is in theory a free gift. In practice, however, many of the working men look upon their penny a week as a contribution entitling them to the benefits of hospital treatment, and having found that the central organization is not able always to furnish them with tickets, they have not infrequently kept back a portion of what they collect and used it to buy more tickets. Of course, in such circumstances they are not likely to give another 1½d. a week for benefits of a similar kind. A third hindrance to the progress of the provident dispensary is perhaps rather negative than positive in character, and lies in the apathy of the profession itself. They have failed in the past, as it seems to me, to recognize the trend of modern legislation, and to see that the only alternatives open to them in the future lay between an extension of the provident dispensary system and some form of State interference. The growth of provident dispensaries has been checked by the indifference of the majority of medical men and by the stringency of medical etiquette, which makes no distinction between canvassing for a private individual for his personal benefit and canvassing for a properly managed provident institution primarily for the benefit of the members themselves.

The result is that the community has been led to interfere more and more in medical relief. Already in Birmingham the number of beds in rate-supported hospitals far exceeds those in voluntary hospitals, and with the improvement in the equipment and staff of the infirmaries there is coming to be little to choose between the two kinds of institution. The medical inspection of schools has so far stopped short of the provision by the Legislature of medical treatment, but treatment is the natural corollary to inspection, it is already being given by some councils, and probably it will be made compulsory also before very long.

Finally, we have the National Insurance Bill, which is only the development of previous legislation, but which at one bound has brought the State to the door of the hospitals, and, by the introduction of the compulsory principle, has rendered superfluous the continued existence of the provident dispensary. In the absence of State aid, and with very little encouragement from outside, the provident dispensaries have been making a gallant attempt to provide medical relief on right principles for the poorer classes. With time and with more enthusiastic and united support from the medical profession, I believe they might have been successful in building up a fairly complete and permanent system. But they cannot possibly compete with a compulsory scheme backed by the contributions of the employer and the State; nor can they subsist on the children and such of the women as are not at present provided for by the bill. I see no alternative, therefore, but for them to disappear, but I shall view their disappearance without concern if their objects are achieved with greater completeness by the new organization.

I own that I was gratified to find that three out of five of my ideal conditions were embodied in the bill. The other two—that is, the conditions governing admission to hospitals and the provision of paying wards—are not subjects for legislation, but I hope that they may follow of their own accord in due course. In the meantime, what will be the effect of the new system upon our out-patient departments? I am extremely hopeful that it will bring about the reform we all desire. Since insurance will be compulsory and practically universal, every man will have his own doctor to whom he will apply first when he requires attention. If old habits should be too strong for him and he should come round to the hospital, it will be easy then to refuse him treatment, and the staff will no longer be haunted by the bogey of a public scandal following on a spiteful "death on the doorstep."

Can we, then, look forward to a great decrease in the attendance and a consequent reduction in the expense of our out-patient departments? I do not think so. The nature of our work will be altered, but the amount will remain the same—or, rather, it will go on increasing as fast as before. The increase in the number of contract practices will probably mean that a much larger number of difficult, lengthy, and expensive cases will come to the hospitals on the recommendation of the medical attendant, but, though there may be attempts here and there to shirk cases that should properly come under the contract, on the whole the result will be that the hospitals will get more of the cases which they, and they alone, can deal with effectively.

I conclude, then, that whilst the bill will relieve the out-patient departments of the greater portion of those trivial cases which are now such a clog upon their working, it is not likely to relieve them of expense. On the other hand, the income of voluntary hospitals is, in my opinion, certain to be adversely affected by the bill. Subscriptions from employers and from workpeople will gradually diminish till they disappear altogether. Contributions from Hospital Saturday Funds are also likely to be seriously curtailed as time goes on. Hospital Sunday Funds and general subscriptions have for some years shown the effect of increasing direct taxation, especially of taxation which is considered, rightly or wrongly, to be unfair. The introduction of a compulsory contribution towards medical relief by all who employ workmen or servants is bound to result in a further diminution of voluntary subscriptions, especially to medical charities.

It seems clear, therefore, that unless the hospitals are to curtail their operations financial assistance will have to be found for them, either under this bill or by subsequent legislation. It has been suggested by some hospital

managers that this assistance should take the form of a *per capita* payment for treatment. In my judgement such a method would be a grave mistake. Disputes would inevitably arise as to the number of insured persons treated or as to the efficiency of the treatment, which could only end in the establishment of a State inspector with some form of State control. Surely we have enough State officials already in this country without still further adding to their number, and incidentally to our own burdens.

I believe there is a better way. I see no reason why the principle which has been adopted in connexion with State aid to universities should not be extended to hospitals. A sum of money is set aside for university education, and is allotted amongst the various universities in the country by a committee, who take into account, in allocating the funds, the amount of support obtained locally in each case. A similar procedure would preserve the hospitals from bankruptcy, whilst maintaining their present management and taking full advantage of the goodwill which attaches to each. Let the National Insurance Bill be amended on some such lines as these, and a brighter future may be in store for the voluntary hospitals. Released from the drudgery of attending to trivial ailments, which they were never meant to treat, they will be able to devote themselves to their proper work—to the treatment of serious cases, to researches in the vast field of unsolved medical problems, and last, but not least, to the encouragement of our great medical schools.

IV.—E. D. KIRBY, M.D., M.R.C.S.,

Birmingham.

SOME LOCAL ASPECTS OF HOSPITAL REFORM.

DR. KIRBY contributed a paper in which he drew some lessons of general application from the history of the Birmingham General Dispensary. By way of introduction, he remarked that the problem of hospital reform in Birmingham was complicated by a factor which he believed did not exist in other parts of the country to anything like the same extent. The medical institutions of Birmingham had allowed themselves gradually to be perverted from the original intention of their founders into becoming to a large extent provident institutions; that was to say, a great mass of the working classes of Birmingham had been permitted to subscribe to them for their own benefit. This, perhaps, might be regarded as an intelligent anticipation of Mr. Lloyd George's bill, with the significant exception that no provision at all was made for any payment to the medical profession; but that it had had results on the whole injurious to the community as well as the profession he proposed to demonstrate.

The Birmingham General Dispensary was founded in the year 1793 "for the medical and surgical relief of poor inhabitants of the town and neighbourhood either at the institution or at their home"—an object which was well and worthily carried out for some eighty years.

About the year 1870, however, certain bodies of working men began to subscribe for their own benefit to the dispensary, and nobody objected—there was no one to object—and were followed by many employers who subscribed in their own names for what was known as the "Works' Club." The number so subscribing had increased yearly until now, when the proportion of such provident subscribers' notes was certainly more than half the notes issued by the dispensary. The Works' Club used to employ a works' doctor, and the position was one that was considered amongst general practitioners as desirable and lucrative compared with the ordinary club work for the friendly societies. Such clubs were now, however, almost non-existent. It had been found cheaper to use the general dispensary instead.

This custom amongst working men of using the dispensary for provident purposes was much stimulated by the organization of the Hospital Saturday Fund, which was established here in the year 1873. The collection was given as a free gift to the medical charities, and was much appreciated by them. After a time, however, the promoters of the fund were desirous of raising a larger amount and canvassed the various factories, with the result that most of them consented to alter their method of contribution from a yearly donation to a weekly subscription of 1d. per week in the £ deducted from each worker's wage. This became a compulsory levy, and no worker was asked if he wished the amount subtracted from his wages. It was regularly done as one of the by-laws of the works. Small wonder, then, that the workpeople having to pay to the fund considered they had a right to free medical attendance at the various charities, and had looked upon them ever since as provident institutions. The custom at many works had been, out of this compulsory collection, to buy as many hospital or dispensary notes as were required for the workpeople, and to hand over the balance to the Hospital Saturday Fund, so that that organization had been able to boast that it gave yearly £10,000 as a free gift to the medical charities.

It was noteworthy, however, that the Hospital Saturday Fund had always exercised its right to send in any number of patients it desired to the various institutions. These letters recommending patients for treatment at the dispensary became so numerous, however, that the committee had been obliged to remonstrate, and now gave a certain number of notes in return for the "free gift" of £500 per annum.

Up to the year 1880 the committee of the General Dispensary endeavoured to impress upon the patients, by the form in which the notes were issued, that the institution was a charity. Not unnaturally the men who had paid for their notes through the works' collections objected.

The following figures were interesting for purposes of comparison:

	Population of City of Birmingham.	Dispensary Notes.	
			Per Cent.
1871	343,787	10,570	3.07
1881	436,971	18,110	4.14
1891	478,113	29,534	6.17
1901	522,204	45,399	8.69
1911	525,960	58,757	11.17

In 1893 the representatives of the working men arranged to attend the annual meeting of the dispensary and swamp the ordinary subscribers, with the result that the committee of the General Dispensary became, and had ever since remained, a committee largely composed of members of the working class, who had subscribed for their own benefit. As a natural result of this change the dispensary had developed more and more as a provident institution, and the interests of the medical profession outside were now completely ignored. The abuse, of course, which obtained at the General Dispensary was not of the kind one heard so much of in connexion with the London hospitals, where wealthy people sought the out-patient department to avoid the consultant's guineas. It was the artisan earning his two or three pounds or more a week who was the offender, and who had forgotten that the medical charities were meant for those who were too poor to pay for medical aid. He had paid his penny and must have his pennyworth, and he saw that he got it with profits. The dispensary was a wealthy institution, and for many years had accumulated a large fund from the legacies of the charitable, so that it was able to give to the subscriber benefits under cost price. Each subscriber or society got eight tickets for a guinea, each ticket, therefore, costing 2s. 7½d.; but the cost of each patient was 3s. 7½d., so that although many people no doubt considered they were paying for the full value of their attendance they were really receiving money which was meant to go to the relief of the poor.

It was small wonder that some of the big employers of labour had been able to criticize Mr. Lloyd George's scheme adversely, and to say that their workmen got all the benefits the Chancellor was prepared to give at a cost of 2d. per week from the workman and 2d. from the employer, while the Chancellor's scheme makes the workman pay 4d., the employer 3d., and the State 2d.

DISCUSSION.

Dr. J. B. BRIERLEY (Manchester) remarked that the Insurance Bill had forced to the front the question o

hospital reform. He thought Mr. Neville Chamberlain had been a little hard on the medical profession on account of its lack of enthusiasm for dispensaries. In the case of dispensaries, as in the case of the Insurance Bill, doctors wanted a wage limit. It was denied, and that was the practical cause of the failure of the provident dispensary system.

Dr. J. H. Keay (Greenwich) expressed his appreciation of the papers read, and added that the situation seemed hopeful when hospital managers, practitioners, and others were coming into line. He thought there was a good deal to be said for a contribution from the insurance fund to the hospitals. He preferred the Continental method of a contribution for each man sent to the hospital, and as to the abuse of out-patient departments, he thought a few prosecutions would have a salutary effect.

Dr. D. J. Mackintosh (Glasgow) said the Insurance Bill would assist in doing away with hospital abuse if it existed. The bill made no provision for institutional treatment, except for consumption, and the problem for hospital managers was what was to be done for people needing institutional treatment. Of course, there were the Poor Law hospitals; but there was a class above paupers who had to be considered. Were voluntary hospitals to be done away with, or were they to continue to exist? They could not exist unless funds were forthcoming, and the bill interfered considerably with their sources of income. If a grant from the State was accepted, the hospitals became State-aided institutions, and the voluntary principle was gone. That was a thing to avoid.

Dr. J. H. Taylor (Salford) considered that the financial difficulty was practically insuperable at present. He thought the bill would diminish the numbers in the out-patient departments by about a third. Rather more than half the out-patients were women and children, and they would not be affected. He hoped that, though donations would be diminished, the hospitals, having fewer demands, would be able to bear it. If the State subscribed there must be State control. The hospitals would not be nationalized or municipalized. They would come under the Insurance Commissioners, and he did not regard that as so objectionable, because on every body under the Insurance Commissioners there was full medical representation.

Dr. James Neal (Birmingham), commenting on Mr. Buchanan's paper, feared that his picture of the general practitioner working in co-operation with the hospitals was unpractical. He spoke of the Birmingham Provident Dispensary as free from the abuses that characterized most other institutions of the kind. Dr. Neal preferred that doctors should do their own dispensing under the bill.

Dr. Wallace Henry (Leicester) expressed the opinion that there should be special departments at hospitals for treatment under the Insurance Bill. It followed as a corollary of a State contribution to the support of hospitals that the medical staff would be entitled to payment. They could not be expected to undertake work that other medical men were being paid for. That raised the question of the continuance of the present method of staffing general hospitals.

Dr. Jackson (Plymouth) agreed with the final remarks of the previous speaker, and also commented on the difficulty of preventing hospital abuse.

The Chairman, in closing the discussion, especially thanked the readers of papers who were not members of the profession. He added that some further provision would have to be made for the medical education of the profession in future. The hospitals were becoming highly specialized, and if they were to become more so in consequence of the Insurance Bill, there would be a larger number of young men coming forward without training in general work. They would be experts on cases they would never have an opportunity of seeing in the future. He was sorry to hear Dr. Neal's views on the subject of dispensing. He preferred the practice in Scotland, where doctors did not dispense. It had the advantage that medical advice was recognized to be valuable.

Mr. Buchanan, replying to the discussion, agreed that if patients paid for treatment at hospitals the consultants should be paid also.

Mr. Neville Chamberlain added some further considerations as to the basis of calculation of State subsidies of hospitals. As the institutions would be affected by the bill in widely varying degrees, a per capita grant would not compensate some of them.

DISCUSSION ON THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

OPENING PAPERS.

I.—Sidney Barwise, M.D., M.R.C.S., D.P.H.,
Medical Officer of Health for Derbyshire.

Dr. Barwise devoted his paper to an account of the methods adopted in Derbyshire to secure medical treatment. They found that the best results they could obtain were that 23 per cent. of the children shown by medical inspection to be suffering from defective vision obtained spectacles, and 15 per cent. of those requiring operations for adenoids and tonsils were operated upon. He knew higher percentages had been recorded in other counties, at any rate on paper, but what "having obtained treatment" meant was differently defined in different districts. In Derbyshire they put down only cases of defective vision when they were actually wearing spectacles; in other counties it meant having been to a club doctor. The local authority could not make terms with charities because there were only two hospitals in the county, and the cost of taking the children to them was practically prohibitive. Again, hospitals were not able to do more in the way of treatment, and such treatment as children received there was not altogether satisfactory.

The attempt was made, therefore, to form a provident club for the whole county. There were 90,000 children on the roll, and circulars were sent to the parents asking if they would be prepared to pay one penny per month, or 8d. a year, where there were two or three children, to insure for the examination of their children's eyes and to provide spectacles, to provide preventive dentistry, and the treatment of ears, adenoids, and tonsils. The Education Committee proposed to increase the amount which these pennies brought in to such a sum as would pay for the treatment. The circulars brought in replies that only 40 per cent. of the parents of the county were willing, or able, to pay the proposed sums. The committee did not feel justified in going on with the scheme. A part of the county where there were better wage conditions and a school population of 20,000 was next tried, but the replies were very little better. However, the committee was quite satisfied that a provident basis was the proper one on which to provide this treatment, and so a club was to be started for a limited area in which the school children numbered 2,000. Treatment would be provided entirely by whole-time officers. The general practitioners of the district were consulted in the first instance; some did not operate, others did, and those who did not thought it would be an unfair advantage to the others if they were allowed to do the work. To get over the difficulty the whole-time plan was adopted. The committee had established x-ray apparatus at Chesterfield and made arrangements with a dentist at the scale which the School Dental Officers' Association had approved. In conclusion, Dr. Barwise quoted a passage from his annual report, published before the Insurance Bill was printed, relative to the school medical treatment question and to national insurance which seemed to present him in the rôle of a prophet. The sentence ran: "I am convinced that a contributory scheme is the right one, but I am satisfied it should have statutory power behind it, and the employer should deduct the partial cost of insurance for treatment from the weekly wage and place on the workman's card insurance postage stamps, as is done in Germany."

II.—JOHN PRIESTLEY, M.R.C.S.,

Senior School Medical Inspector, Staffordshire County Council.

TREATMENT is the end and aim of medical inspection; the whole procedure would be elaborate trifling, and almost ridiculous, unless it led to treatment.

Treatment of school children involves two ideas: (1) The hygienic treatment of school children in the mass, in the light of the knowledge and experience of hygienic questions as illustrated in school life. Such knowledge and experience may be expected to come from the mass observations and statistics of numerous school medical officers. (2) The particular treatment of individual ailing children. Data for the hygienic treatment of school children in the mass is already beginning to accumulate and bear fruit, as witness the clearer ideas of ringworm, pediculosis, etc., which are beginning to appear, to say nothing of the questions of ventilation, cleanliness of school buildings, provision of lavatories, etc., which did not begin with the school medical officer, though they sadly need him for their complete realization. But it is the treatment of particular ailing children which we commonly at once think of when treatment of school children is mentioned.

Some have talked as though every child would now be thoroughly examined with the miscroscopic eye of a life assurance doctor, and the incipient stages of disease, even such as were entirely unsuspected by the parents, in future would be detected and prevented from developing. Such an idea is quite utopian. Even if it could be carried out with ideal thoroughness, would not it probably fail to result in the discovery of any number of incipient cases sufficient to make it worth while when the extra cost is considered? Suppose we doubled or trebled our staff, and gave each child a life assurance examination, I doubt whether we should find 1 per cent. of remediable cases over and above the numbers we find now. But at any rate the ideal of an absolutely complete searching medical examination is out of the question in the average seven to eight minutes' examination of each child allowed us.

Illnesses discovered at medical inspection are limited to a few conditions which do not immediately disable the child. All the other illnesses to which childhood is heir escape the view of the school medical inspector. The greater number of them incapacitate at once, or so early that they generally do not come to the knowledge of the school inspector at all; the children are to be found at home. The prevalent diseases which do come to our knowledge may be enumerated thus: (1) Pediculosis, with which may be grouped ringworm; (2) adenoid obstruction, with deafness and ear discharges; (3) teeth; (4) defects, mainly optical, of the eye; (5) a few orthopaedic troubles, with which may be associated hernias and cleft palate; (6) stammering, etc.; (7) a few cases of educational difficulty, such as word blindness; (8) all but the very worst grades of mental deficiency and imbecility; (9) various grades of debility, either inherent or due to slow convalescence. It will be noted at once how heterogeneous these things are, and how remote several of them are from the daily experience of the ordinary general practitioner or family doctor; they are specialists' work.

What are the conceivable methods of dealing with this array of ailments? First, the family doctor doing what he can himself and passing on the patient to various specialists for the things he cannot do, as is the case now. The first comment that suggests itself, although of course it would be very unfair to press it hard, is that the family doctor, where he comes in at all, has already been at work; he is supposed to have had more or less in review all these children who come to school, and yet he has not called attention to the conditions (or at least has not secured practical attention to them); at any rate, he has not succeeded in securing treatment. But, further, the family doctor has no special knowledge of the school conditions to which the child has to be fitted—for example, in the case of deafness or ringworm. Again, as has been remarked already, he is not as a rule specialist enough to judge of all the various points; he must refer to a specialist for several things.

The second conceivable means of dealing with this array of school ailments consist of existing specialist hospitals. Here the difficulties are entirely practical; hospitals are not always sufficiently near to schools. It is highly inconvenient to have to attend separate institutions for separate ailments. Moreover, the hospitals are not organized for the treatment of many of the conditions which most call for treatment amongst school children; they are designed for more serious matters, or at least of matters of greater complexity of treatment.

The third conceivable method is by school clinics and *ad hoc* doctors. At least two of the latter would be needed—a dentist and a doctor.

After a period of hesitation in which I inclined to the view that the ideally perfect plan would be to link up the general practitioner in the work, I have come to the conclusion that the school clinic and a special school doctor will do the work more thoroughly, intelligently, and economically. It is with a feeling of sadness that I have reached this conclusion, for I have felt resentment at the growing tide of specialism, and regretted the displacement of the family doctor, who knew his patient if he did not very completely know all his patient's diseases. But the tendency to specialism is the tendency to division of labour; we can no more stem one than the other. The problem of the future is how to mitigate the evils of specialism.

There is much to be said for the special school doctor. He knows, or should know, intimately the school demands on children; he can best say, for example, what degree of deafness is compatible with school life and what degree of hearing is not compatible (it is surprising how often the family doctor errs in this judgement), and similarly with the slighter optical defects of the eye. Mental deficiency he must know as few general practitioners can possibly know it, as also those relatively rare conditions on the borderland of the functional and the organic, such as stammering, etc.

But, indeed, the overwhelming argument in favour of the school clinic is its simplicity of administration and saving of time to all concerned. It is subservient to the school; it may be held at the hours least obnoxious to the school attendance officer and the teacher; a child need not lose a single class hour, but only perhaps ten minutes, and no parent need incur the half-day's loss of work and wages or the half-day's hindrance and congestion of a busy family home life, which are now necessary for the taking of a child to a hospital.

The question who should staff the school clinic is a subordinate one. I am in favour of treatment being in other hands than those which manage inspection. There should, however, be mutual assistance and absolutely friendly co-operation, and possibly interchangeable functions to some extent. The director of the clinic would be the final authority, of course, in matters of treatment. Such a director might well be a neighbouring specialist in children's diseases or a general practitioner who had made a special study of school inspection questions. This would secure a vitalizing contact with the whole field of medicine which would be wanting in the case of the specialist school doctor with no other duties. The great advantage of having treatment and inspection in different hands is that two opinions are secured.

But though the school clinic affords the ideal method of dealing with the treatment following medical inspection, we must recognize that it is only immediately practicable in towns; in the country it is—if not, for the moment, out of the question—at least incapable of general application; and yet it is in the country, owing to the sparsely scattered hospitals, that the school clinic is most needed. The entirely prohibitive cost of travelling to a distant hospital to have eyes or teeth attended illustrates this. The country, however, need not be treated as homogeneous; some populous villages or groups of villages might join forces and justify by the numbers they were able to send in the establishment of a school clinic. The possibilities of the travelling clinic have not yet been thought out, so far as I know; but I see no insuperable difficulties. When all is said and done, the scholars of many remote schools must for a considerable time rely on the family doctor, with what aids to hospital treatment exist locally.

Thus, on general grounds of efficiency and economy the school clinic must be considered the best, but in many parts of the country it will be for some time a counsel of perfection. What, in the meantime, are the prospects of treatment in those parts which, as I say, must for some time rely on existing means?

As the question of treatment was in no sense an immediate practical question in the administrative area of Staffordshire, the Education Committee desired to give the parents of ailing children every inducement to get treatment through existing channels. Such channels in the county consisted of (1) the family practitioner, (2) the Poor Law agencies, (3) the hospitals at various populous centres of the county.

The problem was to ascertain how many parents would avail themselves of their opportunities when once their children's ailments were brought to their knowledge. Inquiries were set on foot through head teachers and school attendance officers as to what children had been taken to see doctors, or had been treated at home in the case of verminous conditions, after the notification of ailment had been given to the parent. It was not possible to ascertain how many cases had persevered with treatment until cured; we had to be content to find out the numbers who had at least had a medical talk about their children, which, no doubt, is a very different matter and of much less interest. Persuasion, and in some cases threats, were used to induce parents to seek advice, and the mere repetition of the inquiry month after month by the officials of the Education Committee would have some sort of compelling force. Nevertheless, I think the results represent for the most part the natural operation of parental anxiety and affection. Most of those who sought relief did so voluntarily on the ailment being pointed out to them. Four monthly inquiries were made before we gave up the case as hopeless. In 1909, out of 4,000 children inquiries as to whom were complete, 90 per cent. had obtained treatment or had visited a doctor or a hospital. In 1910, about the same number questioned yielded 92 per cent. We may take heart from these figures. They show the limits of the numbers of the utterly careless, thoughtless, incompetent, or abjectly poor parents—namely, 10 per cent.—high, but not overwhelming.

It will be noticed that nothing has been said as to the important and vital question whether the after-treatment of school cases should be free of cost to the parents and undertaken by the State, or whether it should continue to be privately supplied. This great question of principle need not enter into the discussion at all at this stage. A school clinic would still be the simplest and most convenient way of administering after-treatment whether State supplied or paid for by parents. There are conceivable plans by which clinics could be supported by levies on parents, after the fashion of mutual insurance, if the levies could only be made general.

To sum up: The question of treatment after school inspection presents itself in two or three aspects. Will the existing voluntary methods of medical treatment suffice to relieve the various pathological conditions discovered? We shall not know this fully till some time has elapsed and the children have been re-examined at their second and third inspection. But already we know that at the very least 10 per cent. will fail of obtaining relief. If the existing methods fail us, what next? Shall it be the existing agencies sustained and subsidized by the State? Shall it be by a new agency of school clinics and special school doctors? I need hardly say that the opinions expressed in this paper are purely individual and in no sense represent the trend of opinion of the Staffordshire Education Committee of which I have the honour to be a servant.

III.—GEO. A. AUDEN, M.A., M.D., D.P.H.,

Medical Superintendent to the Birmingham Education Committee.

IT has been the custom of school attendance committees to accept certificates signed by qualified medical practitioners as evidence of the reasonableness of absence from school, but it must be remembered that a certificate of this kind is not of itself legal evidence of a child's unfitness to attend school. This has been admittedly unsatisfactory, for a certain number of excuses for non-attendance on medical grounds are obtained by parents who have wilfully withheld salient facts. There are also a certain number of certificates which are given without due consideration of the facts of the case, and even without personal inspection of the child who is certified. These are especially frequent in children who are capable of giving help at home or earning a weekly wage. The parents will often boast of the ease with which they can obtain a medical certificate for non-attendance at school, and will flaunt a certificate before the eyes of a teacher or school attendance officer with the statement that the child's earnings are worth more than the cost of the medical certificate or even an occasional fine. Under the Education (Administrative Provisions) Act of 1907, one of the conditions for the payment of the annual grant is that the Board of Education must be satisfied that the school medical officer has authorized the exclusion of children from the school, either (1) to prevent the spread of disease, (2) on account of their verminous condition, or (3) because from their physical state of health they are incapable of receiving proper benefit from attendance at school (Article 53 (b) of the Code).

The position of the local education authority is thus clear, and is summarized by the Principal Medical Officer of the Board of Education in his annual report for the year 1909:

"The School Attendance Department of every authority is continually in receipt of a number of medical certificates issued by private practitioners in order to protect the parent from prosecution for non-attendance. Many of these certificates indicate the presence of conditions requiring exclusion, and require examination with a view to the issue of certificates under Article 53 (b). In other cases it may be doubtful whether the conditions justify withdrawal of a child from school, and the school medical officer's opinion on such questions may be required by the authority."

There has been another advance which has materially changed the situation, for education authorities are—some quickly, some slowly—awaking to the fact that the object of education is to produce the effective citizen, and that the mere provision of a scheme of education is not sufficient for the purpose, for many children are prevented by mental or physical incapacity from taking advantage of the education offered. There have, therefore, come into existence schools or classes for the blind and the deaf, the crippled (including heart disease), the epileptic, the mentally deficient, open air schools for the mal-nourished, the early tuberculous, the choreic, classes for the partially deaf and partially blind, for stutterers and stammerers, the provision of meals for poverty-stricken and ill-nourished children, and so on. There has been, further, an enormous advance in a recognition of the physical needs of the normal child, so that schools are now built with ample playgrounds, ample ventilation, both natural and artificial, ample floor space per child, while year by year an increasing importance is given to physical exercises and games. It is manifest, therefore, that at the present time there are many children who may well be allowed to attend school who, a few years ago, would have been rightly excluded, but to whom exclusion to-day means the loss of the regularly ordered school life and discipline, often the loss of the free meal, and condemns the child only too often to the life of a drudge in a sunless courtyard without adequate medical supervision. Hitherto the child excluded on medical grounds has been excluded on a rule of thumb principle. It is clear that one of the most valuable functions of the school medical officer is not the routine inspection of so many children in artificially selected groups, but supervision of the health conditions of such weakly and ailing children as may be brought to his notice. In order to carry out the duties laid upon him, the school medical officer must deal with large numbers of children who are already under some sort of medical supervision, and if the work is to be done in a way which is satisfactory to all concerned he must be in a position to know what is in the mind of the medical practitioner concerned, and, if necessary, to be able to communicate with him concerning the case. It is absolutely essential that complete co-operation and mutual confidence shall be established between the school medical officer and the medical practitioners in the neighbourhood.

This can only be obtained if the latter will supply certain particulars upon the certificates which they give for prolonged absence from school. These are: The name of the child, the age, to prevent substitution (I have known a case of phthisis hired out to parents who passed off the child as their own and claimed certificates), and the nature of the disease, the length of time for which he desires the child excluded, and his own signature. The

school medical officer can be the centre of a nexus of ameliorative agencies in touch with fresh-air funds, suitable institutions, sanatoriums, convalescent homes, care committees, etc.

The only alternative method to a system of certificates is that the school medical officer should be allowed to pursue an absolutely independent course. This is doubly unsatisfactory, for, in the first place, it opens up a wide field for mutual misunderstanding, but it also throws a great deal of unnecessary labour upon the school medical officer, who has to devote the time, which might be profitably given to other forms of public health service, to the re-examination of children presumably already examined by another medical man. In Birmingham large numbers of children were excluded from school for myopia. A partially blind day class was established, and children are now taught who had been out of school for four years. Medical men now recognize the value of the class, and, instead of exclusion certificates, send notes suggesting that particular cases are suitable for the special class.

There is a third alternative—the establishment of a school clinic. The situation will probably be profoundly modified by new provisions under the Insurance Bill, and it seems that sooner or later some form of school clinic must be established in all of the larger educational areas. The impossibility of securing treatment under present circumstances for the enormous number of children found to be defective, the present overcrowded condition of the out-patient departments of the hospitals, together with the evils attendant upon the note system, all conspire to render some form of treatment by the local education authority inevitable. A satisfactory solution of the difficulty can only be found by cordial co-operation between the school medical officer and the general body of his colleagues engaged in private work or public charity.

DISCUSSION.

Dr. SNELL (Coventry) urged that local authorities should only undertake medical treatment after very careful consideration. There were too many existing agencies for treating disease and a great amount of overlapping. If people could not afford to pay, they could go to clubs or the Poor Law. In spite of these agencies, however, there were certain diseases which were not dealt with adequately by existing agencies—for example, eye, ear, and throat cases, teeth and ringworm. He found some medical men were actually referring some of these cases to chemists or opticians, but the bulk of them found their way to the hospital. In consequence, in his locality, the hospital asked for a subscription from the local authority. He advised that to subscribe would lead to complaints from the staff, and ultimately the Education Committee decided to appoint its own oculist and also an ear and throat specialist, to whom larger fees would be paid than those fixed by the British Medical Association. In Coventry they were trying to avoid the "painfully pernicious system" adopted by the London County Council of referring children early in life to charities. A system of payment by parents would be adopted, but he confessed the penny a week insurance plan did not commend itself to him. Dr. Snell concluded by expressing the opinion that the British Medical Association had taken up an unfortunate position in regard to clinics.

Dr. WALLACE HENRY (Leicester) said treatment necessarily followed inspection, but now that the Insurance Bill had been introduced it would be a little unfortunate if schemes of treatment were pressed forward too rapidly. In a few years women and children would probably be brought within the scope of the bill, and local authorities' arrangements for school medical treatment would be rendered to a great degree unnecessary. It had been suggested that in county areas it was difficult to get men to undertake eye-work. He issued circulars recently to every medical man in Leicestershire asking what experience he had in refraction. As a result there were found to be thirty men scattered through the county who were in the habit of doing refraction work and were perfectly capable at it, and who undertook, if centres were formed, to do the work. The suggestion was that it should be done at a centre and not at their surgeries, in order to avoid jealousy and friction with other medical men. A room was allotted at school, and the name of the doctor was not given to the child or the parent. The suggested fee per case was 3s. 6d., but the medical men said they were willing, pending the development of the National Insurance scheme, to do the work free of cost. Commenting on Dr. Auden's paper, Dr. Henry said the difficulty was that the teachers would not take the trouble to make any special arrangements for children with slight defects of the eye, deafness, etc., and so the medical man was forced to give exclusion certificates.

Dr. J. B. BRIERLEY (Manchester) thought that reference should be made to the necessity of intercommunication between school authorities and factory surgeons. In his experience present arrangements stopped short of satisfactory treatment of verminous conditions. He believed no other methods except clinics would be satisfactory.

Miss E. J. MOFFETT, M.D. (Assistant School Medical Inspector to the Staffordshire County Council), wished to put in a plea for clinics, and thought they might very well begin with the treatment of eyes. In her district there were very few doctors qualified to treat eyes, and people had to travel long distances to get relief.

Dr. F. E. WYNNE (Leigh) said that, speaking as a school medical officer, he found his experience in general practice far more valuable than his diploma in Public Health. Therefore he was sorry to hear it said that the general practitioner could not perform the treatment of school children's ailments. He protested against their exclusion; they were the proper persons to do the work. He hoped school clinics would be established and staffed by the general practitioners of the district. He inspected 2,675 children in the year, with the help of a school nurse, and 71 per cent. actually obtained treatment. He was not going to say it was always efficient treatment, but in many cases it undoubtedly was. It was not too much to say that 50 per cent. were satisfactorily treated, mainly by general practitioners. He considered the general practitioner a far more competent man for the purpose than a young person just turned out of the hospital or public health laboratory, who was supposed to be a specialist in eye, ear, and throat work and mental diseases at the age of 24. Dr. Wynne asked whether, as the scope of preventive work was increased, they were not in some danger of interfering with the laws of nature, and increasing the chances of the continuance and propagation of the unfit. It had been said in connexion with the modern campaign against tuberculosis that the nation was not fit for the extermination of consumption. They all knew tuberculosis attacked in an extraordinary ratio the mentally defective, and if the tubercle bacilli were abolished they might be threatened with a greater increase of feeble-mindedness.

Dr. J. C. MCWALTER (Dublin) briefly touched on the same point. With regard to Dr. Auden's plea for the building up of effective citizens, he declared that a more useless citizen could not be made than by attending every physical and mental want of a child. When they had done all that the result would be a most worthless member of society.

In the course of the replies to the discussion, Dr. BARWISE observed that it would depend mainly on whether an authority was a county borough or county council whether whole-time officers or private practitioners were resorted to for treatment. He protested against bringing in the mentally defectives. To treat them until Parliament had given power to segregate them for life was doing an actual injury to the State. He also emphasized the importance of bringing influence to bear on parents and the home life of the children.

Dr. PRIESTLEY agreed with Dr. Wynne that on the experience of the general practitioner they could build up a good school medical officer, but he was simply pointing out the great advantages of special clinics in this matter.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

PAROXYSMAL PULMONARY OEDEMA.

With reference to the article in the Epitome of the British Medical Journal of April 22nd on "Paroxysmal Pulmonary Oedema," and the later article in the Journal of June 10th, page 1373, on the same subject, I should like to say that, in my opinion, most, if not all, of these cases of paroxysmal pulmonary oedema, where recovery is prompt and apparently complete and the health is normal between attacks, are due to giant urticaria of the mucous membrane of the pharynx and larynx. The sudden and marked swelling of the throat seriously interferes with respiration and produces engorgement of the lungs, with consequent exudation of serum churned up with air and containing some blood corpuscles, as is the case in asphyxiation from any cause.

Attacks of giant urticaria sometimes follow on ordinary urticaria, or may be caused by alcohol, syphilis, various drugs, hysteria, the climacteric, intestinal parasites, abnormal genital conditions, or by faulty or peculiar metabolic processes—shown by certain articles of diet provoking an attack.

I gave a death certificate as "fulminating pulmonary oedema" in the case of a Chinese sailor who jumped overboard in Kobe Harbour. He was rescued and walked up the accommodation ladder unaided. He was apparently all right for some hours after, and was sitting on a hatch on deck when he became unconscious and cyanotic, and blood-stained froth issued from his lips. He died within ten minutes. Unfortunately, I was on shore. At the *post-mortem* examination, which I performed, I found the pharynx and larynx congested and swollen, the lungs congested and dark and full of frothy blood-stained serum. The right side of the heart was dilated and full of dark fluid blood. There was also red-coloured serum in the pleural cavities—about 6 oz. in each. A medical man resident in Kobe agreed with my finding. In this case it appeared to be the irritation of the sea water (possibly the iodine), either directly or through the blood, which caused the sudden swelling of the air passages.

In the case mentioned in the Journal of June 10th the causes previously enumerated might be borne in mind and a trial made of ichthyol internally, hypophosphites of lime and cod-liver oil, change of air, and possibly antipyrin.

Liverpool. Andrew S. McNeil, L.R.C.P.S.E.

EPIDEMIC JAUNDICE.

Referring to Dr. K. R. Collis Hallowes's interesting article on an epidemic of infectious jaundice,[1] I have had several cases of this type of disease within six weeks. All my cases occurred in children whose ages ranged from 4 to 12 years. The symptoms in many respects resembled those occurring in ordinary catarrhal jaundice, but the clinical courses were somewhat different. The onset was fairly acute, and always preceded by vomiting, shivering, and mental and physical depression. The kind of history given was that the child had been languid and out of sorts for a few days; that it had shivered, vomited, and become yellow.

On examination it was found feverish—temperature 102°, the tongue thickly coated, conjunctivae yellow, pulse rapid, bowels confined, and urine high coloured and full of bile. The disease lasted from seven to ten days. The condition differed from ordinary catarrhal jaundice in the following:

(1) It was epidemic in character; (2) the onset was fairly sudden; (3) its duration was short; (4) it was free from relapses; (5) the jaundice was slight; (6) there was no history of catarrhal gastritis of any duration.

The obstruction being incomplete there was an absence of those characteristic symptoms accompanying obstructive jaundice, and which are due to the prolonged presence of bile in the blood, and its absence from the intestine.

For instance, in my cases:

(1) The pulse was not slow; (2) the skin was not irritable; (3) there was no yellow vision; (4) the constipation was not severe; (5) the motions contained bile and were not unduly offensive (evidence against complete obstruction).

With regard to the cause of this form of epidemic jaundice, I think everything points to a polymicrobic infection, and, although this infection affects the stomach and bile ducts, it does not appear to cause complete obstruction, or its duration is so short that the symptoms are not well developed. The chief offending germ is the pneumococcus, which is always in evidence, and which germ, according to some authorities, exists in a perfectly harmless state in the mouth and throat of every healthy individual. Now, when this germ is present in the mouth and throat of a child possessed of feeble vitality, exposed to chill, and probably with its mouth full of septic teeth, the pneumococcus, reinforced by other virulent germs, such as the *Bacillus septus*, *Diplococcus catarrhalis*, Friedländer's bacillus, and the *Bacillus coli communis*, is anything but a harmless germ.

My reasons for considering this form of epidemic jaundice to be due to a polymicrobic infection (pneumococcal infection) are as follows:

(1) Its epidemic character; (2) it cannot be traced to any vegetable irritant poison, such as that form of jaundice occurring in delayed mushroom poisoning, and so ably described by Sir Jonathan Hutchinson; (3) it is not due to metallic irritants or phosphorus; (4) it is not due to ptomaines; (5) it cannot be traced to sewage; (6) it cannot be traced to any waterborne source; (7) it cannot be attributed to the milk supply.

The disease appears similar to that outbreak of jaundice described by Mathias which occurred among the troops in South Africa. There is no doubt that the pneumococcus alone, or in conjunction with other infective microbes, has been the primary cause of many diseases of late, such as pneumonia, pleurisy, disease of the frontal and maxillary sinuses, pneumococcal infections of the throat, adenitis of the glands of the neck, and last, but not least, I believe, epidemic jaundice.

Charles H. Miles, L.R.C.P., L.S.A.

Stantonbury, Bucks.

[1] British Medical Journal, June 24th, p. 1464.

NEURALGIA OF THE EDENTULOUS ALVEOLUS.

Under the heading "Toothache in the Toothless," attention is drawn, in the British Medical Journal of May 27th, to the work of Melchior, who

believes the pain to be due to the compression of nerve endings in the alveolar border by dense, ivory-like bone, and states that when this is excised a prompt and radical cure is effected.

The following case, although falling just short of complete cure, well illustrates the relief to be obtained, in suitable cases, from this operation.

The patient, a pilot aged 59 years, was referred to me by Dr. R. H. Clay.

History.—For the past two years he had suffered from intense intermittent neuralgia in the right lower gum, from which all the teeth had been extracted with the object of relieving the pain. When seen there was exquisite tenderness, localized in an area the size of a pea situated on the free upper border of the gum, in the position originally occupied by the second bicuspid tooth. The pain had prevented sleep for the last eleven nights, and the patient said that life in such a condition was not worth living.

Operation.—Under general anaesthesia the gum was incised along its upper border for 2 inches, and the muco-periosteum reflected inwards and outwards. No tooth stump was found. The alveolus appeared normal, except in the region of the tender spot, at which the muco-periosteum was intimately adherent to the bone. The alveolus, including the tender area, was chiselled away for a length of 1 inch, extending downwards to within ½ inch of the lower border of the jaw. The muco-periosteum was sutured over the alveolus.

Result.—On recovery from the anaesthetic the pain had disappeared. The patient writes on June 5th, 1911 (seventeen months after operation): "I have not had a return of the severe pain, but occasionally, with a cold, I find it is very sensitive. The gum is firm, but at times there is a little stiffness. I can eat well and sleep well, and I have not lost a day's work since the operation."

C. Hamilton Whiteford, M.R.C.S., L.R.C.P.

Plymouth.

Reviews.

THE PSYCHOLOGY OF EVOLUTION.

CONSIDERABLE interest has been aroused among biologists, amateur and professional, by the works of M. HENRI BERGSON, member of the Institute and Professor at the Collège de France, and the appearance of an authorized English translation of his *L'Evolution Créatrice*[1] will doubtless extend the already wide circle of his admirers. In this work, of which the volume before us appears to be a clear and accurate rendering, the distinguished author of *Matière et Mémoire* gives the fullest account yet published of what may be called his neo-intuitionist philosophy. He also subjects to illuminating criticism those competing if not conflicting forms of the evolutionary hypothesis which at present divide the field. Bergson regards evolution as something more than an abstract principle. It is for him the primal impulse (*élan originel*) which, acting from within outwards, bears life through forms of ever-increasing complexity to ever more exalted destinies. The tendency of this *vis a tergo* being from unity to multiplicity, its manifestations owe to their common origin the fact that under certain aspects they appear to be mutually complementary. Bergson, in short, regards evolution as essentially a psychological process, arguing that any merely mechanical explanation must be inadequate. Darwin, we know, had his own misgivings, which he confessed with characteristic frankness. "The sight of a feather in a peacock's tail," he humorously laments, "whenever I gaze at it, makes me sick. Yet," he persists, "for the life of me I cannot see any difficulty in natural selection producing the most exquisite structures if such structures can be arrived at by gradation."

But can they be arrived at by gradation? Not, Bergson replies, by any mere accumulation and sifting out of accidental variations; for these will lack the essential factor of co-ordination.

However the minute structure of the retina may develop, and however complicated it may become, such progress instead of favouring vision will probably hinder it if the visual centres do not develop at the same time, as well as the several parts of the visual organ itself. If the variations are accidental, how can they ever agree to arise in every part of the organ at the same time, in such way that the organ will continue to perform its function?

The difficulty of accounting for the evolution of such delicate structures on the Darwinian or any mechanical hypothesis is, he argues, increased by the fact that quite divergent lines of evolution may result in the production of almost identical organs or functions—for example, the sexual apparatus of animals and plants or the eye of vertebrates and molluscs. The mollusc and the vertebrate undoubtedly diverged from their common ancestry long before the completion of the evolution of the eye. Yet in these two orders, so different and so differently circumstanced, the infinitely complex process of visual evolution has been maintained on parallel lines, and has culminated in similar results.

How can accidental causes occurring in an accidental order be supposed to have repeatedly come to the same result, the causes being infinitely numerous and the effect infinitely complicated?

Recent theories of mutation, based on the observations of de Vries, which, according to M. Bergson, would lead to variation being regarded as an abrupt rather than a gradual process, are considered by him to be even less satisfactory, so long as the variations themselves are supposed to be fortuitously determined. For the greater the deviation from the normal on the part of a given organ, the greater the necessity of a delicate co-ordination of its component factors if impairment of function is not to ensue; the greater, too, the improbability of such co-ordination resulting from any fortuitous cause or concatenation of causes. On the other hand, Bergson contends that if we once accept his view that evolution is in essence a psychological process, it becomes possible to understand that, however divergent the paths pursued by its products, something of the whole may persist in each one of the parts, a latent memory, as it were, of the unity and comprehensiveness of the primary impulse. Such facts as the resemblance of the sexual functions of animals and plants or of the visual apparatus of vertebrates and molluscs may then be regarded as denoting the realization along divergent paths of some primary need or appetency common to every form of life. This is Bergson's "new teleology," differing from the old in that it regards evolution not as the carrying out of a strict programme, but rather as resembling a story which the author composes as he proceeds. The story on completion will reveal the genius of its author, and will even show the semblance of a plan. Its origin will nevertheless have been spontaneous and something of a mystery to the improviser himself.

A plan (says Bergson) is a term assigned to a labour; it closes the future whose form it indicates. Before the evolution of life, on the contrary, the portals of the future remain wide open. It is a creation that goes on for ever in virtue of an initial movement.

The resort to an internal principle of direction which Bergson considers indispensable appears to have suggested a return to the position of Lamarck, who somewhat naïvely attributed to the living being the faculty of modifying its organs by use or disuse, and of transmitting to its offspring the variations thus induced. But, in the first place, this hypothesis leaves the variations of plants quite unexplained; in the second the inheritance of acquired habits, if it ever occurs, must clearly be very exceptional; moreover, granted its occurrence, the question at once arises: Was this new habit of purely somatic origin, or was it not based on an inborn tendency of germinal origin? Bergson regards variation, in so far as it is not merely fortuitous and aimless as it doubtless often appears to be, as the expression of effort certainly, but of an effort far deeper and more persistent than any individual striving; an effort embodied rather in the germ-plasm than the developed organisms; an effort, in short, which is one of the innumerable expressions of that single creative impulse by or rather in which life gathers up the whole of its past and projects itself into the future.

Every department of science is subject to fashions, and that part of biology which has to do with heredity and evolution appears to be particularly liable, like an ill-balanced clock, to feel the swing of the pendulum. M. Bergson's views have aroused an amount of attention, both in his own country and more recently in this, which is to be attributed less to any essential novelty in conception than to a reaction against dogmatism in matters of detail. He seems to assume that the Darwinian hypothesis implies the operation of fortuitous or accidental causes, and the absence of any guiding force or inspiration. We imagine that Darwin himself would have vigorously repudiated this implication, for there was never probably a more convinced believer in the existence of

> The prophetic soul
> Of the wide world dreaming on things to come,

though his blind eye on the poetic side might have prevented him from making the quotation.

A word of tribute is due to the fidelity of Dr. Mitchell's translation of M. Bergson's book. It cannot, however, be said to be quite on the level of the original, which has a distinction of style for the most part lacking in the present version.

[1] *Creative Evolution.* By Henri Bergson. Authorized translation by Arthur Mitchell, Ph.D. London: Macmillan and Co., Limited. 1911. (Demy 8vo, pp. 425. 10s. 6d. net.)

VOICE PRODUCTION AND RESPIRATORY TRAINING.

IN his work entitled *The Voice, an Introduction to Practical Phonology*,[2] Dr. W. A. AIKIN addresses himself principally to those whose profession it is to train the speaking or singing voice. In this he is well advised, as the minute technical matters with which he deals are only of value to them or to men of science who are interested in the problems of voice training, and are, in our opinion, over the head of the average singing pupil. The less the student of singing directs his attention to his anatomy the better, and this is the wise spirit prevailing throughout Dr. Aikin's book. He is evidently considerably exercised as to the means of producing harmony between the resonance required for the formation of the different vowels and for the different notes of the scale to which in music these vowels may have to be sung, and he makes an honest attempt to throw light upon it, but of course he

[2] *The Voice, an Introduction to Practical Phonology.* By W. A. Aikin, M.D. 1910. London, New York, Bombay, and Calcutta: Longmans, Green, and Co. (Med. 8vo, pp. 167, with diagrams. 7s. 6d.)

admits that the slight variations which make the difference are so delicate that they are scarcely susceptible of analysis. For descriptive purposes he looks upon the vocal organ as consisting of two instruments, the vibrator and resonator, but it is the resonator which seems to excite his special interest, and no one can read his account of his observations with regard to these parts, as affecting musical tone and vowel "colour," without receiving valuable suggestions. His analysis of the vowel sounds has been carried out chiefly by the exercise of the trained ear, and we find no advocacy of the use of resonators or the pianoforte or combinations of tuning-forks, with regard to which preceding authors have given us such full details. He differs to some extent from Helmholtz in regard to the pitch of the resonant note peculiar to certain vowels, and finds that they are not the same in men, women, and children. His resonator scale of vowels seems to our ear to be correct, and we are sure it will prove of value to teachers. It is unfortunate that all writers cannot arrive at uniformity with regard to the method of representing the different vowel sounds in our bizarre orthography. Some of the general rules (pp. 105, 130, etc.) are of great value from the practical point of view. The application of his theoretical deductions to practical purposes in the art of using the voice gives to the book an exceptional value. Whoever reads this work will be sure to preserve it for frequent reference.

Drs. E. J. Moure and A. Bouyer, Fils, in their report on *The Abuse of the Singing and Speaking Voice: Causes, Effects, and Treatment*[3] define the expression "vocal abuse" as meaning bad management of the phonating organ by demanding of it an irregular exercise of function which exaggerates, impedes, alters, or diverts its normal physiology. A footnote states that the term "vocal abuse" was first employed by Castex in a communication bearing that title, made to the Société Française d'Oto-Rhino-Laryngologie in 1894. The authors have divided their report into six parts. In the first is given an historical sketch of the teaching of singing during different periods, showing that it retains to-day the same empiricism as in the past. In the next they briefly explain the organization and normal function of the phonetic apparatus in order to show in what abuse of the voice consists, and what actual scientific data are sufficient to guide vocal training. In the third part the physical results of the use of an instrument rendered defective are described, and the functional causes of abuse are analysed in the fourth part. The two concluding sections deal with the functional and organic disturbances which are the consequence of abuse, and certain therapeutic indications respectively. In their conclusions the authors invited the Société Française d'Oto-Rhino-Laryngologie to adopt the following resolutions:

1. No one should be admitted to study singing, and even declamation, without having passed a probationary examination in the knowledge recognized as indispensable to this class of masters.
2. The conservatoires should always possess one or several laryngologists, whose care it should be to examine the pupils periodically at the beginning, in the course of, and at the end of their studies.

Mr. Macleod Yearsley has placed laryngologists and voice-trainers who do not read French under an obligation by preparing this translation of Moure and Bouyer's report.

[3] *The Abuse of the Singing and Speaking Voice: Causes, Effects, and Treatment.* By E. J. Moure and A. Bouyer, Fils. Translated by Macleod Yearsley, F.R.C.S. London: Kegan Paul, Trench, Trübner and Co. 1910. (Cr. 8vo, pp. 141. 2s. 6d.)

DISEASES OF THE STOMACH.

The little book on the treatment of diseases of the stomach,[4] by Dr. J. Vires of Montpellier, is divided into three parts; the first deals with the treatment of the major stomach symptoms, such as anorexia, bulimia, thirst, pain, vomiting, and haematemesis; the second discusses the treatment of functional conditions, grouped under (1) dyspepsia due to errors of diet, (2) dyspepsia due to excess of gastric function, and (3) due to insufficiency of gastric function. Part 3 is devoted to the treatment of organic conditions: gastritis, ulcer, and cancer. He first discusses the causation of the symptom or condition under consideration, and then suggests a plan of treatment adapted to that causation, but as the alleged cause is not seldom more or less hypothetical the treatment is more plausible than practical. There are many statements in the book to which exception might be taken, as, for example, that appetite is diminished in all cases of organic gastric disease, or that if gastritis is due to alcohol the patient does not care for food, although in the classic example of St. Martin Beaumont describes how St. Martin retained his appetite after a drinking bout although his stomach showed all the appearances of gastritis. To distinguish between the pain of gall stones and that of gastric or duodenal ulcer may be very difficult, but it is misleading to say that the state of the urine will "remove all doubt"; nor is it true that pain due to renal calculus is always attended by blood in the urine. In speaking of dyspepsia he conveys the impression that the series (1) dyspepsia, (2) gastritis, (3) ulcer, (4) cancer is the order in which these conditions generally develop; but clinical experience does not suggest that this is so. His dietetic directions for dyspepsia are peculiar, for he allows cold roast pork, haricots, peas, lentils, and salads, and makes no reference to tea or coffee, but puts "mineral waters" in the forbidden list. It is strange to read (p. 183) that: "The English have remained faithful to strong mineral acids; they daily absorb considerable quantities, not only in their cities but especially in their Colonial Empire. They take acids mixed with water, wine, or beer; their dilutions are made by volume and not by weight, which notably for sulphuric acid increases the quantity of the drug." As he believes that simple atony gives rise to stasis, he fails to recognize that the latter condition is a proof of the presence of pyloric obstruction; but where pyloric obstruction is present he recommends the use of stimulants of the motor activity of the stomach, such as nux vomica, instead of emptying the stomach by a stomach tube or referring the case to a surgeon for gastro-enterostomy. Later on he says that organic stenosis should be treated surgically, but does not explain how he would recognize its presence, nor do we understand what he means when he writes (p. 224): "Clinical medicine recognizes two forms of pyloric stenosis: one acute, with a rapid course which defies all treatment, medical or surgical; the other slow and gradual, which allows medico-chirurgical treatment." In recommending surgical intervention for recent haemorrhage (p. 286) he is opposed to surgical authorities, while his opinion that gastro-enterostomy and not resection is the proper treatment of ulcer of the stomach is too dogmatic. He omits all reference to duodenal ulcer, and in his discussion of cancer he does not take into account the possibility of its early diagnosis and possibly successful surgical treatment; in fact, so far as the treatment may be surgical, it appears to be outside the scope of his book, for he nowhere discusses adequately the conditions under which surgical assistance should be sought.

[4] *Les maladies de l'estomac.* Par le Docteur J. Vires. Montpellier: Coulet et Fils; Paris: Masson et Cie. 1911. (Fcap. 8vo, pp. 335. Fr.4.)

We have much pleasure in welcoming the second edition of Dr. Rodari's textbook of diseases of the stomach and intestines,[5] which gives a comprehensive account of the medical aspects of these branches of medicine. In the use of the *x* rays as a means of diagnosis in stomach diseases he recommends a powder called "diaphanite," which is a mixture of the magnetic oxide of iron and cocoa, as a convenient substitute for bismuth. The sections on treatment are throughout carefully written, and the book is in this respect of much value to the practitioner.

OUTWARD FORM.

Two of Professor Gaupp's contributions to the collection of anatomical and physiological lectures and essays which is in course of publication under his editorship have already been reviewed. He has now brought out the thirteenth part, in which he treats of the external form of the human body.[6] Though the outward appearance of the body may perhaps be of more general interest to the artist, yet an acquaintance with the relationships between surface form and the underlying structures is of great

[5] *Lehrbuch der Magen- und Darmkrankheiten.* Von Dr. P. Rodari. Wiesbaden: J. F. Bergmann. 1910. (Sup. roy. 8vo, pp. 521. 12s.)

[6] *Die ausseren Formen des menchslichen Korpers in ihren allgemeinen Zustandekommen.* Von Prof. Dr. E. Gaupp, Freiburg-i.-Br. Jena: Verlag von Gustav Fischer. 1911. (Roy. 8vo, pp. 57, 22 Textfiguren. M. 1.50.)

value to the medical practitioner also; for an exact knowledge of the appearance of the normal surface is necessary if we would detect abnormalities. Although the greatest influence over external form is exercised by the skeleton, notably in the head, yet the muscles obviously play a very important part, and modify skeletal form, while the outlines of the muscles are in their turn masked by the fat and the skin. Professor Gaupp insists that there are at least four conditions of normal living muscles instead of the two states of contraction and relaxation of which we are accustomed to speak. Taking the biceps in the arm as an example, he points out that we may have: (1) Active contraction, in which the elbow being fully flexed against resistance, the muscle is shortened, its tendon stands strongly forth, and its belly is hard and fixed. This he calls the "shortened tense" state. (2) Passive shortening, as when the elbow-joint is flexed by gravity, and the muscle, although shortened, is soft and movable. This he calls the "shortened slack" state. Similarly there are two extended conditions. (3) When the elbow is extended and the biceps contracts against resistance, but is not shortened; this he calls the "stretched tense" state. And (4) when the joint is extended and the muscle is relaxed; this he calls the "stretched slack" state. Although this classification may seem almost superfluous, yet the author shows that we must recognize the existence of these four states in order to understand certain variations in surface form and appreciate the positions in which the muscles are most clearly seen. If the "position of rest" be studied it will be found that in it some muscles are stretched and slack and others are shortened and slack, but always in living muscles there is a "tone" which is absent in the dead. Artists have not always realized this fact, and consequently their representation of dead bodies has not always been true to Nature. Great as the ancient sculptors were, and exact as was their observation in many instances, they were in this matter sometimes surpassed by the great moderns. Professor Gaupp reproduces photographs of Michael Angelo's figure of Night and of the classical figure of Sleeping Ariadne now in the Vatican. A glance at them is enough to convince the reader of the superiority of the former from an anatomical point of view. Other instances could be cited to show that in its earliest stages Greek sculpture was anatomically inaccurate, and that in its later stages it tended to become conventional and once more inaccurate.

The author concludes his essay with a short discussion of the influence of the viscera on the form of the body and on symmetry and the erect position.

The whole monograph is suggestive, and shows minute observation and acute reasoning, and is worthy of the author's previous essays upon right-handedness and normal asymmetry.

INORGANIC CHEMISTRY.

New Ideas on Inorganic Chemistry,[7] by Dr. A. Werner, deals especially with the modern conceptions of valency and the nature of combination between atoms and molecules which have been rendered necessary by the formation of large numbers of complex inorganic compounds, and by the views at present held as to the nature of electrons and their significance in chemical combination. The most striking progress which has been made in chemical work for many years has been in organic chemistry, in which department the matter remains, in one sense, comparatively simple—although large complex molecules containing hundreds of atoms may be built up—owing to the nature of the carbon atoms, which are the principal bricks out of which such structures are formed; the tetravalent nature of carbon, and the spatial arrangements of the atoms in its compounds have been the subject of hypotheses which appear justified by their compatibility with new facts and the power which they have given of predicting phenomena before they are experimentally observed. But the conceptions of valency which have proved useful in the case of carbon break down when transferred to other elements. The difficulty of accounting satisfactorily for variable valencies and for "molecular compounds" has long been felt, and graphic formulae have been little more than guesses. The views on valency put forward by Dr. Werner, with their distinction between principal and auxiliary valencies and the conceptions of different spheres of attraction, and so on, involve the abandonment of most of the older views; they may naturally be expected to undergo some modification as the subject is pursued further. The matter of the book is necessarily of a highly technical nature; to those concerned in such work it can hardly fail to be stimulating and suggestive, while other readers may, with some determination, gain a general idea of the modern views on the subject.

[7] *New Ideas on Inorganic Chemistry*. By Dr. A. Werner, Professor of Chemistry in the University of Zürich. Translated, with the author's sanction, from the second German edition, by Edgar Percy Hedley, Ph.D., A.R.C.Sc.I. London: Longmans, Green, and Co. 1911. (Demy 8vo, pp. 268. 7s. 6d.)

Kipping and Perkin's *Inorganic Chemistry*[8] is a textbook of the subject intended to cover a three years' course of study, beginning with the elementary portions and going on progressively to the standard of a university degree examination. It is divided into two parts, the first representing the first year's work, while the most advanced portions throughout the book, and especially in Part II, are marked with a marginal line, and are intended to be left for the third year's study. The distinguishing character of the book is the arrangement the authors have found best in practical teaching in preference to any which might *a priori* appear more suitable—for example, metals and non-metals are not separated into two divisions, but some of each are dealt with before proceeding to the less common or less simple representatives of either. In spite of the many textbooks already existing, the advantage of being able to pursue one consistent course from the commencement to the advanced stage, together with the excellent manner in which the subject is presented, will ensure an ample demand for this book.

NOTES ON BOOKS.

The volume relating to the twenty-second annual meeting of the American Pediatric Society[9] includes, besides the address of its president, Dr. David L. Edsall, some thirty papers, among which are three on epidemic poliomyelitis. In one of these Dr. Emmett Holt deals with its clinical features, prevalent types, and communicability; and in another Dr. Simon Flexner considers the relation of the experimental to the human form of the disease. There are also several accounts of studies of food reactions exhibited by infants when breast-fed or otherwise, and of the results of the estimation of chlorides in normal and atrophic infants respectively. A paper with a curious title is "The casuistry of chylous ascites and chylocele in sucklings and very young infants." We could not discover the significance of the first substantive in the connexion in which it is used, but the paper itself is a review of all recently recorded cases that appear to the author to fall under his heading. His general conclusion is that the condition is very rare and to be regarded as a symptom-complex, not as a distinct disease. The volume concludes with a careful clinical and radiographic study of pneumothorax by Professor Francis Huber and Dr. I. S. Hirsch.

We have received a copy of a booklet by Mr. R. A. Cooper, M.P. for Walsall, entitled *A Speaker's Companion*, which purports to give the "*pros* and *cons* of doctors pharmacists, and dentists" in connexion with the National Insurance Bill. It consists simply of short extracts from speeches and newspaper reports of meetings bearing on the Insurance Bill, and at the end is a very scanty summary of the demands of the British Medical Association and the Royal College of Physicians. It forms the fourth number of a series of similar booklets by the same author dealing with various matters of political interest.

The fifth volume of the *Transactions* of the American Society of Tropical Medicine contains the papers read before the society and published under its auspices in 1910. The number and the many different subjects with which these deal testify to the activity of tropical workers in the New World. Blackwater fever is well discussed by Drs. Craig, Deaderick, Whipple, and Brem, while hookworm disease, amoebiasis, animal parasites, and other subjects also find a place. A considerable amount of useful information will be gained from a careful study of some of these papers.

[8] *Inorganic Chemistry*. By F. Stanley Kipping, Ph.D., Sc.D., F.R.S. Professor of Chemistry, University College, Nottingham, and W. H. Perkin, Ph.D., Sc.D., LL.D., F.R.S., Professor of Chemistry, Victoria University, Manchester. London: W. and R. Chambers, Limited. 1911. (Cr. 8vo, pp. 751; 123 illustrations. 7s. 6d.)

[9] *Transactions of the American Pediatric Society*, vol. xxii. New York: E. B. Treat and Co. 1910. (Med. 8vo, pp. 377.)

Nova et Vetera.

THE LUTHER OF ANATOMY.

Dr. Moores Ball has written a sketch[1] of the pioneers of anatomy, in a handsome volume which, according to the publishers' description, is printed on "heavy Normandy vellum, deckle edge, with heavy extension cover to match." It is appropriately dedicated "to the memory of those illustrious men who often under adverse circumstances, and sometimes in danger of death, succeed in unravelling the mysteries of the structure of the human body, to the fathers of anatomy, and to the artist-anatomists." We can give it no higher praise than to say that it is a worthy tribute to their memory.

In an introduction in which the general features of the Renaissance are sketched in bold lines, the author gives an account of the origin of art-anatomy of which Italy was the birthplace. In the fifteenth century two Flemish artists, the Van Eycks, had painted nude figures, but the Italians were the first who painted the nude figure before covering it with drapery. So thoroughgoing was the building up process which they thought necessary for the proper reproduction of the figure that Leo Battista Alberti (1404–1472), quoted by Dr. Moores Ball, insists that the bony skeleton must first be drawn and then clothed with its flesh and covered with its skin. After him came Antonio Pollaiuolo (1432–1498), who was the founder of the scientific study of the nude. His knowledge of anatomy was so accurate that it could have been gained only in the dissecting room. Leonardo da Vinci studied anatomy with the famous teacher Marc-Antonio della Torre, who unfortunately was lost to science by an untimely death. Leonardo's sketches, which were not published till 1902, are so faithful to Nature that he has been held by some moderns to have been the real reformer of anatomy. It is clear that Leonardo had carefully studied the structure of the human frame, but it cannot reasonably be maintained that unpublished sketches made under the supervision of an anatomist constitute a claim that he should be regarded as a reformer. A similar claim, which is not referred to by Dr. Moores Ball, has been made on behalf of Rabelais. It is certain that between 1532 and 1538 the creator of Gargantua and Pantagruel lectured on anatomy at Lyons, where he was physician to the hospital, and Professor Le Double, of Tours, says that he was one of the first—"if not the first"—to demonstrate publicly on dissections made by himself.[2]

Italy in the sixteenth century was the centre of original work in anatomy and medical science, and attracted numerous students from foreign countries. A mistake very commonly made in histories of science is that the progress of anatomy was hindered by the interference of the Church. This statement rests on a misunderstanding of a Bull issued by Pope Boniface VIII in 1300, forbidding the disemboweling of the dead and the boiling of their bodies so that the bones might be carried home, as was done by the Crusaders, to be buried in consecrated ground. The Bull says nothing about dissection. In the sixteenth century the popes fostered the study of anatomy in the medical schools.

In early times some rough knowledge of anatomy must have been gained in the process of sacrifices, animal and human, but the dead subject was not studied. The Egyptian embalmers must have learnt something, and the Greeks learnt what they knew from wounds and the bones of the dead. Dissection of the human body was considered a sacrilege. The Father of Medicine himself seems to have known no anatomy beyond the merest elements which could be gathered from the glimpse obtained in opening a dead body to discover the cause of death. Aristotle certainly dissected animals, and, as was proved by Huxley, he gives a very accurate description of the human heart as seen by him. It was in the famous school of Alexandria that the study of anatomy was carried furthest in antiquity. There many discoveries were made by Erasistratus and Herophilus, who were supplied by the Ptolemies not only with an abundance of dead bodies, but, as we learn from Celsus, with condemned criminals whom they used for vivisection. The study of anatomy declined with the Alexandrian University, which fell on evil days when the Romans conquered Egypt, and finally ceased to exist when the city was captured by the Arabs. Galen wrote much on anatomy, and made numerous advances in the knowledge of the muscles. He also studied the brain and the nerves. But his dissections were confined to the lower animals.

After him came a long period of darkness. Neither the Arabians nor the Jews did anything for anatomy. The influence of Christianity was also at this time against the older philosophy. For eight hundred years—that is, from the seventh to the fourteenth century—the centre for the study of medicine was at Salerno. There, as Longfellow says in the *Golden Legend*, anatomy was taught by

> Dissections made on the bodies of swine
> As likest the human form divine.

In 1231 Frederick the Second, Emperor of Germany and King of the two Sicilies, encouraged the study of human anatomy by ordering that a body should be anatomized at Salerno at least once in five years. Physicians and surgeons of the kingdom were required to be present. In 1308 the rulers of Venice gave permission to the Medical College for the dissection of a body once a year. In 1315 Mondino dei Luzzi publicly dissected the body of a woman in the presence of a crowd of students at Bologna. His example, however, does not seem to have been followed to any extent by his successors, though his *Anathomia* for a long time held sway in the mediaeval schools. It was issued in 1316, but the first printed edition bears date 1478. It was compiled largely from the writings of Galen and Avicenna. It passed through twenty-three editions between 1478 and 1580. It was used as a textbook by lecturers, not only in Italy, but in Paris and elsewhere for two centuries. Berengario da Carpi, who was born in 1470 and died at Ferrara in 1550, is said to have dissected more than a hundred human bodies. He corrected Mondino's book, and to him must be given the credit of the production of some of the first anatomical illustrations made from human dissections that ever were published. From him, merely mentioning John Dryander, who taught anatomy at Marburg from 1536 to 1560, and Charles Estienne, who published an illustrated treatise on anatomy in Paris in 1545, we pass to Andreas Vesalius.

That great scientific reformer was born at Brussels on December 31st, 1514. The family name was originally Witing, and that of Vesalius was adopted from the town of Wesel or Vesel in the Duchy of Cleves. Andreas came of a medical stock. His great-great-grandfather, Peter, was the author of a treatise on some of the works of Avicenna, and spent considerable sums of money in the correction of medical manuscripts. Peter's son John was physician to Mary of Burgundy, first wife of Maximillian I, and in his later days taught medicine at Louvain. John's son, Eberhard, also a Court physician, died comparatively young. He wrote commentaries on the books of Rhazes and of the aphorisms of Hippocrates. Eberhard's son, Andreas, the father of the anatomist, was apothecary to Charles V and to Margaret of Austria. He accompanied the Emperor on his journeys and campaigns, and remained in the imperial service until his death in 1546. His position near the person of the Emperor gave him the opportunity of bringing his son under the notice of the monarch. The mother of Andreas, Isabella Crabbe, who is said to have been of Scottish extraction, had a great influence on her son, whom she believed to be destined to great things. It is pleasant to know that she lived to witness the dawn of his fame, which followed the publication of his great work, *De Humani Corporis Fabrica*.

Vesalius studied at the University of Louvain, where he was well grounded in the classical languages; later he learned Hebrew and Arabic. The bent of his mind towards anatomy showed itself early, and when little more than a boy he dissected dogs and cats and other animals. In 1533 he went to Paris to study medicine. There he worked chiefly under Jacobus Sylvius, who was the first in France to teach anatomy from the human body. He was, however, a blind worshipper of Galen, whose authority he opposed to Nature itself. The teaching of anatomy consisted almost entirely in lecturing from Galen, and

[1] *Andreas Vesalius, the Reformer of Anatomy.* By James Moores Ball, M.D., *Saint Louis Medical Science Press.* MDCCCCX. Quarto size (10 × 12½ in), pp. xvii + 149). Fully illustrated. Price 5 dols. (£1).
[2] *Rabelais anatomiste et physiologiste.* Paris, 1899.

expounding his texts as if his works were a kind of Holy Writ. The dissections were made in a very perfunctory manner by barbers. Vesalius sometimes pushed them aside, and carried out the dissection himself. Among his fellow students was Servetus, the discoverer of the pulmonary circulation, who was afterwards burnt by Calvin as a heretic. His ardour in procuring material for study led Vesalius to go by night to the cemeteries, where he sometimes had to fight with hungry dogs for the bones which he coveted. In 1536 he returned to Louvain. There, accompanied by a friend, he visited the gallows outside the walls of the town, where he secured the skeleton of an executed criminal. In 1537 he went to Venice, where the study of anatomy was encouraged, particularly by the Theatine monks, who devoted themselves to the care of the sick. In the hospital where they ministered he met Ignatius Loyola, afterwards founder of the Society of Jesus, who was at that time working there. One would like to know what these two men—each so remarkable in his way—thought of the other. In Venice, too, Vesalius met his fellow-countryman, Jan Stephan van Calcar, who was afterwards to make the drawings for his first anatomical plates. Soon after taking his doctor's degree at Padua, Vesalius was, on December 6th, 1537, appointed professor of surgery with the right to teach anatomy in that university. He was at once lecturer, demonstrator, and dissector; on occasion he even played the part of resurrection man. He demonstrated, as is shown by the frontispiece to his great work, before large audiences, composed not only of students of medicine, but of professors, officials of the city, members of the clergy, and learned persons of various kinds.

Soon after he began to teach at Padua, Vesalius prepared a set of *Tabulae Anatomicae* in the form of loose leaves, intended for the use of those who had attended his public dissections. These were printed at Venice and published in 1538. The plates measured over 16 in. in length and were cut in wood. A set was presented to Charles V by the young anatomist's father. According to Dr. Moores Ball only two copies of these plates are known to exist. An edition reproduced by photography was privately issued in 1874 by the late Sir William Stirling-Maxwell. The great work *De Humani Corporis Fabrica*, on which the fame of Vesalius rests, appeared in 1543. It was printed at Basel, and was illustrated by drawings which were long attributed to Titian, but which were, it is now believed, the work of van Calcar, who was a favourite pupil of that great painter. The work was dedicated to Charles V. An analysis of its contents is given by Dr. Moores Ball, from which the reader will get an idea of the enormous reform wrought by Vesalius. He may be called the Luther of Anatomy. To him belongs the credit of having overthrown the idol of authority in anatomy and taught men to look at Nature with their own eyes.

It is needless to say that Vesalius was fiercely attacked by those of a more conservative turn of mind. The bitterest of his opponents was his old master Jacobus Sylvius, who spoke of him in the urbane manner common to controversialists of that day as a madman (*Vesanus*), whose pestilential breath poisoned Europe. It is sad to record that, possibly owing to disgust engendered by the controversies into which he was drawn, he in a fit of passion threw his manuscripts into the fire, and turned his back on anatomy. He accepted the appointment of Physician-in-Chief to Charles V, left Italy, and took up his residence at Madrid, being then only in his thirtieth year. Few men in the world's history have wrought such a revolution in any science at so early an age. Vesalius went campaigning with Charles, and after the abdication of the Emperor he continued to act as physician to Philip II. In that capacity he played a part in the dark story of Philip's son, Don Carlos. The story is so characteristic of the times, and gives so vivid an impression of the surroundings in which Vesalius lived at that time, that we think it will bear telling here, though Dr. Moores Ball dismisses it in a short paragraph.[3]

At the age of 14 the Prince was a "lame, epileptic, semi-imbecile; already vicious and uncontrollable. . . . yellow and wasted with intermittent fever." He grew up weakly in mind and body. In the spring of 1562, when a student at the University of Alcalà, in running after a girl down a dark stairway he fell and fractured his skull. Eleven doctors were called in. They purged and bled him according to the fashion of these times; charms were used, nor were relics neglected. Upon the bed beside the unconscious lad was laid the body of Diego, the cook of a Franciscan monastery, who had died in the odour of sanctity a century before. It was not till the seventh day that Vesalius was called in counsel, and advised trephining, but the doctors would not consent to any intervention beyond enlarging the wound and laying bare the skull. Erysipelas set in, but the inflammation was allowed to run its course lest it should "strike inwards." Recourse was even had to a Moorish sorcerer, who applied ointments, which made matters worse. At last Vesalius was allowed to have his way, and removed a triangular fragment of the skull, with the result that Don Carlos recovered his senses and soon began to mend. The credit of the cure, however, was attributed by Philip to the body of Diego, whose canonization he forthwith demanded from Rome. The Prince himself, as well as those about him, attributed his recovery to a miracle, in recognition of which he promised to give four times his own weight in gold for religious purposes. When he was weighed it was found that although he was 17 years old he weighed only 70 lb.! The eleven doctors claimed the Prince's recovery as a triumph of their art, and one of them got into trouble with the Inquisition for maintaining that there was nothing preternatural in the cure. The man who really wrought the "miracle of cure" was simply ignored. It is curious that so well informed a historian as Martin Hume should apparently never have heard of the name of Vesalius, for in relating the incident he says that "an Italian surgeon" performed the operation. It may be added that afterwards Don Carlos, who had formerly been a semi-imbecile, afterwards became at intervals a raving, homicidal maniac. He tried to escape from Spain, but was prevented and hidden from the world. His condition, aggravated by alternate fits of self-starvation and gorging himself with uneatable things, became worse, and he died in 1563.

Early in 1564 Vesalius suddenly left Madrid. There is some mystery about this event. Possibly boredom of Court life, added to annoyance at the treatment he had received, made him anxious to shake the dust of the Spanish capital off his feet. It is also probable that a man of such mental activity found himself ill at ease in the stagnant intellectual atmosphere of a place where the Inquisition stifled investigation. By some it is conjectured that he was roused from the torpor in regard to scientific things into which he had fallen by receiving a copy of the *Observationes Anatomicae* of his pupil, Fallopius. The usual story is that he was compelled to undertake a pilgrimage to Jerusalem in expiation of the alleged crime of opening the body of a young Spanish nobleman while the heart was still beating. We are inclined to think that this was a pretext for escape from an uncongenial position. This also is the view taken by Sir Michael Foster, who says:[4]

> The true account is probably that told by the botanist Clusius, that Vesalius, ill in body, and we may add even more sick at heart, wearied by the Court and harassed by the Church, seized an opportunity and made the proposed pilgrimage an excuse for bringing to an end his then mode of life.

After visiting the Holy Sepulchre he started back for Padua, in order to take possession of the chair vacant by the death of Fallopius, which had been offered to him. Documentary evidence of this is lacking, but it is very probable the Senate of Venice was perplexed to find a successor to Fallopius, who died suddenly in 1562. At any rate, Vesalius was either wrecked or put ashore on the Island of Zakynthos, where he died on October 15th, 1564—a miserable end for the creator of scientific anatomy.

Dr. Moores Ball's volume is interesting, not only for the copious historical lore of which every page gives evidence, but for the wealth of illustrations, magnificently reproduced from the plates of the old anatomists. He gives brief accounts of other anatomists—Eustachius, Realdus Columbus, Fallopius, and Ingrassias—and devotes a short chapter to the plagiarists and pirates who preyed on the great work of Vesalius. We congratulate him on having made a solid contribution to scientific history which will be a valuable help to those who have not access to the original sources.

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[3] Martin Hume: *Queens of Old Spain*. E. Grant Richards, London, 1906.

[4] *Lectures on the History of Physiology*. Cambridge University Press, 1901.

British Medical Journal.

SATURDAY, AUGUST 19th, 1911.

THE ATTITUDE OF THE FRIENDLY SOCIETIES.

It may, perhaps, be convenient at times to cry "peace when there is no peace," but the statements made recently at meetings of the friendly societies about what is called the cordial character of the relations between the societies and their medical officers before the introduction of the Insurance Bill make one wonder whether war and peace are synonyms. In a letter to the *Times* of August 10th Mr. Warren, the Grand Master of the Manchester Unity of Oddfellows, asserts that "if pressure had not been brought by the General Medical Council, the friendly relations that have existed for so many years could have been continued with mutual benefit." This is the first time that we have heard of the General Medical Council in the character of peace-breaker; but is there not some mistake, and was it not the Council of the British Medical Association that it was intended to impeach? But it is time to have done with this hollow pretence of peace and cordiality. The public now knows quite well that for years past the relations between the societies and the profession have been anything but cordial. The report of the Poor Law Commission contains abundant evidence of strained relations, and the decision of the House of Commons to transfer medical benefit to the local Health Committee, however it may have been modified by the subsequent acceptance of Mr. Harmsworth's amendment, may be regarded as the last conclusive proof that the profession has the sympathy of the public in this matter.

It is quite clear from the meetings of the societies during the last fortnight that the decision of Parliament is greatly resented, and this resentment has caused them to divulge some of the negotiations which were understood to be private, and which we now learn had been going on for more than two years before the bill was introduced. At the meeting of the Foresters held at Burton-on-Trent, Mr. Marlow, parliamentary agent, said that "the scheme of national insurance which the friendly society representatives carried about for two years was so much waste paper. The secret which they had kept from their members was a different bill altogether to this bill. The Chancellor promised them faithfully that there should be no interference with friendly societies, and he had not kept his pledge. As to the administration of the medical benefit, they had been sold by the Chancellor of the Exchequer as no honest man ought ever to sell a body of men like the Foresters."[1] This reference to a "scheme which they had carried about for two years" is explained by the report from Mr. W. G. Bunn to the Hearts of Oak Society which we summarized from the *Yorkshire Post* last week. The conferences between representatives of the National Conference of Friendly Societies and the Government began in October, 1908. The scheme drawn up was submitted to the Government actuaries, who reported on it in March, 1910. It appears that the amount allowed for medical attendance and medicines was 4s. a year for both men and women, that the scheme was to be administered entirely through recognized benefit societies, that each worker would have been required to select a society within a specified time, and if he failed to make a selection would have been treated as an applicant for one or other of the societies according to a rota. It appears, too, that persons rejected by the societies on the ground of character or of health were to be excluded altogether from national insurance and left to the Poor Law. The contributions from employers and from the State were to be paid every month to the society concerned in each case, and Mr. Bunn considers that "the position of the approved societies under this scheme was much superior to that under the present bill." We quite agree: an El Dorado for the societies, but for the rest—the Poor Law.

It should be clearly understood that, though these conferences were spread over more than two years, no representative of the medical profession was ever consulted on any single point. The societies evidently hoped to be able to manipulate the business for themselves, and intended to extend their medical club system at 4s. a year to the whole of the insured, who Mr. Bunn says would have included much the same class of people as the present scheme. The whole plot concocted by the friendly societies thus stands revealed, and, though we may thank Mr. Lloyd George for frustrating it, he has certainly laid himself open to a charge of ignoring the profession till he found it too strong to resist; possibly he was misled by statements that the societies could easily manage the doctors. We can only say that the profession has at last learnt its lesson, but the societies have their lesson still to learn.

It seems clear that the next move of the societies will be to attempt to nullify the decision of Parliament on Clause 13 of the bill, and at least three methods appear to be engaging their attention: first, to get amendments inserted in the bill under the guise of provisions to protect the vested interests of existing organizations such as the medical institutes and medical clubs in general; second, to get Clause 13 restored to its original form; and third, if possible, to get full control of the local Health Committees. With the first of these plans we dealt last week in speaking of Mr. Harmsworth's amendment; that the second and third are distinctly contemplated is shown by the resolution passed by the High Court of the Ancient Order of Foresters at Burton, which "presses for the restoration of Clause 13 to its original form or, in the alternative, requests the Government to amend the Insurance Bill so that the majority of persons constituting local Health Committees shall be representative of approved societies." The conference of the Hearts of Oak Benefit Society last Saturday passed a resolution in favour of the third plan. Yet under the bill as it originally stood the Hearts of Oak, with its centralized constitution, could not have been recognized as an approved society; the Chancellor of the Exchequer, however, told the society that, if it would voluntarily transfer the administration of medical benefit for its members to the local Health Committees, he would introduce an amendment into the bill that would allow of the society being approved. It was understood that this bargain was definitely accepted by the society, and Mr. Lloyd George has carried out his part by putting on the Order paper a suitable amendment to Clause 21; but the resolution adopted by the conference of the Hearts of Oak

[1] *Manchester Guardian*, August 9th.

appears like an attempt to get the better of both sides of the bargain. It is true that, with the approved societies in a majority on the local Health Committees, the medical profession would not have to treat with societies separately, but it would have to deal with a compact majority collectively representative of all the approved societies. From the public point of view there is a still worse aspect of the matter. According to Clause 14 as amended, "There shall in each year be paid to the local Health Committee for each county or county borough out of moneys credited to a society which has members resident in the county or county borough such sum in respect of the medical benefit for every such member as, in default of agreement, may be determined by the Insurance Commissioners." It must be evident, then, that if approved societies have a majority on the Health Committee, they will practically be in the position of being predominant parties to both sides of the bargain. For example, the societies, as societies, might say, "We will give the Health Committee 3s. for each member for medical benefit." Would there then be the least probability of the Health Committee insisting on a larger amount if the committee were in the power of the representatives of the very societies that made the offer, especially as the committee could ask the Treasury and the county or borough councils for any further money required? As we read the above sub-clause, the Commissioners would have no say in the question except "in default of agreement," but would there ever be any chance of "default of agreement" in such circumstances? We do not hesitate to say that to grant the demand of the societies would open the door to the gravest irregularities.

It is hardly likely that the House of Commons will deliberately reverse the decision it gave by so large a majority on Clause 13. The question was left entirely to individual members of Parliament without any pressure from the Government whips, and the Chancellor made it clear that his speech in the debate was to be taken as expressing simply his own personal opinion. In the light of Mr. Bunn's report the wisdom of this course must be evident, since it afforded the best guarantee that the vote accurately represented the feeling of the House of Commons. It can only mean that the vast majority of the House was convinced that it would be better for the insured and for the community in general that medical benefit should not be administered by the societies, and that the local Health Committees were the most suitable bodies for the purpose. In the complete absence of any fresh arguments to the contrary there ought to be little fear of Clause 13 being restored to its original form.

Neither can we imagine that Parliament will fail to see that it might almost as well reverse its decision on Clause 13 as put the control of the local Health Committees in the hands of the approved societies. The mere fact that the greater part of the funds at the disposal of the Health Committees will be contributed, not by the friendly societies nor their members, but by the Post Office contributors, employers of labour and the State, ought in itself absolutely to forbid the acceptance of the suggestion made by the Foresters and the Hearts of Oak. The State itself has a great responsibility in the work of the committees, and the county and county borough councils rightly demand adequate representation since they may be called on for additional funds. The Government has already conceded a great deal in giving a bare majority on the committees to the representatives of the insured, which is by no means the same thing as giving it to the approved societies, for this majority is divided equally between the approved societies and the Post Office contributors.

The effect of Clause 43, in which the constitution of the local Health Committees is laid down, seems to have been a good deal misunderstood, and the wording is undoubtedly involved. As we read the clause as it now stands, it meant that the county or county borough council would appoint one-third and the insured two-thirds of "such number as the Commissioners determine, but in no case less than 9 or more than 18," and, *after that*, the Commissioners are to add, not one-fourth of the total committee, but one-fourth "of the members appointed in manner aforesaid." For example, if the number fixed in the first instance were 12, the council would appoint one-third of 12, that is 4, and the insured two-thirds of 12, that is 8. The Commissioners would then add, not one-fourth of the total committee, but only a fourth of the 12, that is 3, making the total committee 15. Thus the insured would have 8 out of the 15, a majority of one. The Chancellor of the Exchequer has given notice of amendments to the first part of the clause raising the minimum from 9 to 12 and the maximum from 18 to 24. If the maximum were chosen this would give the insured 16 out of 30 members, and we understand that it is his intention that the insured shall have a majority on the committee.

The employers may, indeed, complain that they will not be directly represented on the Health Committee, and that, although they will have to provide a large part of the funds, any influence they can exert must be through the county councils, and therefore indirect and uncertain. An amendment of the fifth paragraph of this clause (43), of which the Chancellor of the Exchequer has given notice, would increase the representation of the medical profession by one, so that it might have three members on a committee of fifteen, but would have no more on a committee of thirty. Considering the interests involved, and still more the character of the work to be performed by the committees, a greater proportion of medical men would be more conducive to the public welfare than any increase in the representatives of approved societies. But, apart from these considerations, Parliament would really stultify its own action if, after depriving the approved societies of the administration of medical benefit, it then gave them a majority on the very committees which are to administer medical benefit.

It would, then, seem probable that what the profession has most to guard against is the attempt by amendments like that of Mr. Harmsworth to bolster up existing organizations, such as the medical aid institutes and friendly society medical clubs, by recognizing them in the bill. It may be argued, indeed, that any such amendment can make little difference in the long run, because in any case medical clubs are doomed by the practically unanimous opinion of the profession. The friendly societies may profess to be surprised when told that the statement that their medical officers are fairly content is now definitely proved to be incorrect, but it is a fact that the vast proportion of their medical officers have signed the pledge to abide by the policy of the British Medical Association, one of the most important points in which is to oppose medical benefit being in the hands of approved societies, and that in many towns and districts of the country every medical officer of the Oddfellows and Foresters has readily signed this pledge. Mr. Lloyd George has already advised the societies that it will be to their

interest voluntarily to hand over the administration of medical benefit to the Health Committees. The welfare of the community demands co-operation, not antagonism, between the societies and the profession. Such co-operation will not be given if the societies succeed in getting even a nominal "control" over the doctors, either directly or through the Health Committees or by any side-wind such as that shown by Mr. Harmsworth's amendment. The British Medical Association has at last found out its own strength and means to use it, being fully convinced that it is necessary as much for the good of the community as for the advantage of the profession.

WHEATEN BREAD.

Last April two reports (Food Reports Nos. 12 and 13) were issued by the Local Government Board on the chemical treatment of wheat flour and the addition of foreign substances.[1] These have been supplemented by a further report by Dr. J. M. Hamill on the nutritive value of bread made from different varieties of wheat flour. Dr. Hamill has examined the published evidence with regard to the chemical constitution and relative nutritive value of various kinds of wheat flour prepared from different kinds of wheat and by different methods, but finds that the records of experimental work do not at present permit any conclusive statements to be made as to the exact relative value in nutrition of different varieties of flour.

He states, confirming what we ventured to say some months ago when the standard bread agitation began, that the differences which exist in respect of protein content between "patent" flour and "wholemeal" and "entire" wheat flour are not relatively of great magnitude, and may to a large extent be neutralized by imperfect absorption from the digestive tract. He confirms also the statement that there are commonly wider differences in protein content and energy value between the "patent" flours obtained from different wheats than between "patent" flour of a given wheat and the corresponding wholemeal, so that a "patent" flour obtained from one variety of wheat may contain considerably more total protein and furnish more available energy than an entire wheat or wholemeal flour from another kind of wheat. Relatively marked differences exist also between different classes of flour even when derived from the same wheat in regard to their total mineral contents. On the whole, therefore, to the average adult living on a reasonably liberal and varied diet the differences both in respect of protein and mineral contents cannot ordinarily, Dr. Hamill concludes, be of importance. At the same time some people accustomed to a mixed diet find as a result of sufficient trial that bread of one particular class made from "patent," entire wheat, wholemeal, or "germ" flour suits them individually better than another. This suitability, he thinks, may be the result of greater or less time required for mastication, the presence or absence of laxative properties, the advantage or the reverse of including in a diet an article which leaves a large undigested residue, the nature of the other ordinary constituents of the diet, and differences in flavour or other factors. No general rule can be laid down in such cases. The commercial supply of all the classes named, therefore, serves the useful purpose of enabling a choice to be made.

On the question, what variety of flour is best suited for those adults whose food consists principally of bread—constituting, we imagine, a very small proportion of any class of the population—Dr. Hamill makes the sound observation that a diet principally of bread, whatever the grade of flour of which it be made, is unsatisfactory, and, as he truly adds, a greater variety of diet does not always mean greater cost. He does not find any reason to believe that the varieties of bread which the miller and baker have led the public to regard as of lower quality—"households" for example—are in a physiological sense inferior to the higher-priced bread made from high grade and specially white flour; on the contrary, from the point of view of available nutrient material and energy value, the advantage is, he thinks, on the side of the "households." "Entire" wheat flours, including stone-ground flour and standard flour, are in nearly the same position as "households," although when made from weak wheats they usually contain less available protein than "households" made from strong wheats. The difference is that, owing to the presence of branny particles and the germ of the wheat, they contain additional constituents which appear to have a value of their own in nutrition. Among these constituents phosphorus-containing organic compounds or other substances may be found to exist, and their presence in some parts of the dietary, even in minute quantities, may prove to be important. This consideration applies also to wholemeal flour and germ flours, but the comparative coarseness of bread made from wholemeal flour and its liability to produce digestive disturbances are objections to its habitual adoption as a suitable form of food. These objections, however, do not apply to bread made from germ flours. As, however, the germ flours are essentially proprietary articles, and their cost is greater than household or standard bread, it is at least doubtful whether those who have to be careful to limit their expenditure may not obtain better value in respect of nutrition by applying the difference in cost to the purchase of other food.

With regard to the choice of bread for children also, Dr. Hamill insists on the dominating importance of a varied diet. "For those, however," he says, "who live largely on bread, or bread supplemented only by jam, sugar, or other foods which add little to the available mineral matter, proteins, organically combined phosphorus, or other substances which possibly may be necessary for health, there appears, on the balance, to be advantage in the use of bread made from flour of the 'entire' wheat class, or from wholemeal in which the bran is very finely ground." In these flours the presence of the so-called offal, including the germ, secures a somewhat larger quantity of mineral matter and of combined phosphorus or other substances as yet unknown, which has been proved to be of importance. "It should, however," he adds, "be remembered that many children whose food consists largely of bread do not get enough of it, and are really underfed in respect of such essential nutritive substances as proteins and carbohydrates. To increase the quantity of bread taken in such cases may be of greater importance than the substitution of one form of bread for another; to supplement the bread by other articles (such as milk) which contain a material quantity of protein, mineral matter, and organically combined phosphorus, will be still more useful." He has found no conclusive evidence for the theory that wholemeal bread, and, to a less extent, bread made from flours of the "entire" wheat class, are less liable to favour the production of dental caries as the result of fermentation than bread made from a highly refined flour.

[1] British Medical Journal, April 15th, p. 881.

FLIES AND INFECTION.

A FOURTH report[1] on flies as carriers of infection issued recently by the Local Government Board contains a continuation of Dr. Graham-Smith's experimental work on the relation of flies to bacteria, an investigation of their relation to parasitic worms by Dr. Nicoll, and a series of observations on the flight of flies by Dr. Copeman and others.

The primary object of Graham-Smith's experiments was to ascertain whether flies could infect fluids, such as milk, on which they feed. As in many other instances of a like nature the experimental demonstration of this point seems at first sight superfluous. If one can infect milk by inoculating it with a platinum needle or a brush there appears no reason to doubt that the same can be done by means of a fly. The important point in the investigation, however, is the determination of the length of time during which such a fly may remain infective. In the case of the house-fly it is shown that this may continue for at least eleven days, and that with non-sporing organisms the infection is conveyed in the alimentary tract of the fly, but with spore bearers, such as *B. anthracis*, the legs and wings remain infective for a like period. A more extended series of observations was made with the blow-fly, and it was found that in certain cases infection might be derived from the legs and wings as late as the thirteenth day, even in the case of non-sporing organisms. This result, however, appears to depend entirely on the conditions of experiment, and it was only obtained when the flies were fed on thick syrup, which, clinging to the legs, necessitated frequent cleansing, leading in consequence to reinfection from the alimentary canal. When milk was used instead of syrup infection disappeared from the legs at a much earlier period, and there is thus no reason to doubt the correctness of Graham-Smith's previous conclusion (third report) that non-sporing organisms do not survive long on the external surface of flies. The most extended series of experiments showed that blow-flies could infect milk or syrup for as long as twenty-six to thirty-one days after they had been fed with such organisms as *B. prodigiosus* and *B. pyocyaneus*.

The question of the transmission of bacteria from the larvae to the adult flies was also taken up. This is an important matter in view of the fact that larvae are more liable to come into contact with infective materials than adult flies are; and also from the further consideration that Faichnie has suggested that *B. typhosus* may be transmitted in this way. To test this Graham-Smith employed *B. anthracis*, *B. typhosus*, *B. enteritidis*, *B. prodigiosus*, and *Vibrio cholerae*. The larvae were allowed to feed on cultures of these organisms, then transferred to sterile vessels in which they emerged. In the case of anthrax, transmission in this manner was readily demonstrated. The bacilli were recovered from the intestine of flies as late as eleven days, and from the legs as late as nineteen days after contamination, and these bacilli were shown to retain their virulence. In the case of the other organisms, however, the experiments were entirely negative, a result which affords evidence that with the blow-fly at least transmission of such infection does not occur in this matter. Graham-Smith does not deny the possibility of this method in the case of the house-fly, but we may venture the opinion that in this case also the same negative result will probably be obtained. It appears as if non-sporing organisms such as the typhoid bacillus are unable to withstand the changes accompanying metamorphosis, and that they are killed off either by phagocytosis or by the growth of certain other bacteria. The frequent occurrence in recently emerged flies of bacilli suspiciously like *B. typhosus* and *B. enteritidis*, as noted by Graham-Smith, is probably not without significance in this connexion, and will undoubtedly demand further attention.

Dr. Nicoll's report deals with the transmission of the eggs of parasitic worms through the agency of house-flies. This is a matter which has given rise to much conjecture, but, as he remarks, very few actual observations have been recorded. The only investigations of any importance were made in Italy nearly thirty years ago by Grassi, and twenty-three years later by Calandruccio. Their observations left little doubt that the fly was an extremely probable agent in the dispersal of certain worms—notably *Hymenolepis nana* and *Trichocephalus dispar*. They also showed that the eggs were carried in the intestine of the fly and deposited in its excrement. Dr. Nicoll's work yields ample confirmation of these conclusions, and at the same time brings out several new points of general importance. One of the most interesting facts which both he and Graham-Smith remark upon is the fly's habit of cleansing itself. This apparently hygienic procedure might at first commend itself, but, although it serves to get rid of gross contamination, it results in a renewed infection of the legs and body from the proboscis. Nicoll sums up the general facts which are known in regard to the life-history and mode of transmission of parasitic worms and the characters of their eggs. The size of the latter appears to be the most important factor in their relation to flies, for the ordinary house-fly is unable to swallow particles exceeding 50 μ in diameter. This fixes a limit to the size of egg which can be ingested, and, as many parasites produce eggs exceeding this size in one or both diameters, they must be much less likely to be disseminated by flies. The experiments were conducted chiefly with the tapeworms, *Hymenolepis diminuta* and *Taenia serrata*. The former produces eggs exceeding the limit; the latter much under. It was found that the eggs of *Taenia serrata* could be ingested in hundreds, that they might remain in the intestine of the fly for two or three days without being destroyed, and that, when deposited, they retained their infectivity. It was further noted that faeces containing tapeworm segments afforded flies the opportunity for contaminating food for at least a fortnight after exposure. With regard to the conveyance of eggs on the external surface of flies, although this was demonstrated several times even in the case of such large eggs as those of *Hymenolepis diminuta*, Nicoll is evidently not inclined to attach such far-reaching importance to this mode of transmission as to that by the intestine, and in this respect he is in agreement with Graham-Smith in the case of bacteria. It is obvious, however, that, where foodstuffs and infective excremental matter are separated by no great distance, external conveyance is the most ready means of transmission.

The results obtained by Copeman, Howlett, and Merriman on the range of flight of flies are rather interesting. They experimented with marked flies, which were liberated in large numbers and afterwards recovered at various parts. They found that the direction of flight was determined to a considerable extent by the prevailing wind, and that the distance might be as great as 1,700 yards. Two flies were

[1] New Series, No. 53. Price 4d. To be purchased either directly or through any bookseller from Wyman and Sons (London), Oliver and Boyd (Edinburgh), and E. Ponsonby (Dublin).

captured at a distance of 800 yards within forty-five minutes after they had been liberated. It is evident, therefore, that flies may and do travel for a distance of about one mile, and this fact must be reckoned with in sanitary administration dealing with manure heaps and the possible spread of infection from them by means of flies. Reference may be made here to a short note by Flexner and Clark on the contamination of the fly with the virus of epidemic poliomyelitis.[1] This indicates another direction in which suspicion has fallen on the house-fly. The note in question gives the first experimental evidence of the possible spread of this disease by flies. It shows that the virus can be recovered from flies which had fed on an infected spinal cord forty-eight hours previously. The circumstances of the experiment, however, appear to be somewhat unnatural.

These various investigations have undoubtedly added much of a concrete nature to our knowledge of the subject and have brought us a step nearer to a summing up and verdict, but until more is known of the biology of flies, and especially their natural relation to pathogenic bacteria of enteric origin, we can only suspect and take measures accordingly.

ATTENDANCES AND FEES UNDER CONTRACT.

Under the title, *The Light of Thirty Years of Provident Dispensary Work on National Insurance*,[2] a valuable pamphlet has just been published by a medical officer of the Manchester and Salford Provident Dispensaries. The author vouches for the accuracy of the statistics given, and they will be especially useful in the consideration of the amount of fee which the profession may reasonably require for domiciliary attendance under the National Insurance scheme. The author's connexion with the provident dispensary began in 1880, and he states that at first admission to the dispensary was controlled by a wage limit of 30s. a week; such difficulties were, however, encountered in carrying this out that it was abolished; for some years past persons have been admitted on their individual merits, all of them being supposed to be unable to pay ordinary medical fees—an arrangement sanctioned by the Manchester Medico-Ethical Association. A member of the dispensary pays 4s. 4d. a year, with 6d. entrance fee and 1½d. for each prescription; and as the annual average number of prescriptions to each member is about 8½, the payment in all averages about 5s. 5d. a year. Management expenses and cost of medicines, etc., which amount to 2s. 4d. per year, are included in this. The rules provide that the doctors shall receive half the members' subscriptions and entrance fees and at least two-thirds of the balance after paying expenses. During the last twenty-eight years the membership has varied from about 17,000 to 23,000, and there have been given 243,308 visits and 222,871 consultations—a total of 466,179 attendances. The total amount paid to the medical officers for this period is £13,711, so that the average fee per attendance was 7.059 pence. During this time each member on the books has seen the doctor 4.77 times a year on the average, and has received medicine 8½ times. It will be remembered that in the Contract Practice Report of the British Medical Association, which took into account a large number of medical clubs all over the country, it was shown that the average number of attendances given to each club member was 4.1 a year. This agrees sufficiently closely with the figure 4.77 given by the author to warrant the expectation that, on the average, every person insured under the National Insurance will probably require about 4½ attendances a year from the doctor on the panel whom he chooses to attend him. Referring to the average fee for each attendance—just over 7d. for the provident dispensary—the author of the pamphlet says that this has only been tolerated because the work could be dovetailed in with private work, but the doctor "has now learned that he cannot earn a living by attending any great number of patients at that rate. He has been able to attend them hitherto because of their comparative fewness, and because of the more lucrative nature of his private practice. But if his private practice is to be converted largely into a club practice he will be compelled to take a different view of his position from that which has obtained hitherto. . . . It cannot be argued justly that because friendly societies have received medical benefits at a nominal cost in the past, the doctors are therefore able or willing to attend all comers at the same rate. It would be as fair to argue that because hospital physicians and surgeons attend the patients at these institutions free, they should attend everybody else free likewise, which would be absurd." It is pointed out that on the tariff of the Manchester Medico-Ethical Association the minimum fee for a visit or consultation is 2s. 6d., and, reckoning 4.77 attendances a year for each insured person, the author thinks that the capitation fee under the National Insurance scheme should be 12s., or, allowing 2s. for medicines, that 10s. would be a fair fee for the doctors. He is emphatically in favour of the capitation system rather than payment for each attendance. He has evidently taken a pride in giving the best possible attendance to his dispensary patients, but, as he points out very forcibly, he would not have been able to do this, and to make a living out of it, if he had not had in addition a more lucrative private practice. His work in connexion with the dispensary has been a work of philanthropy, which is quite out of place when State patients are concerned. The whole pamphlet is thoroughly worth reading, as giving a practical summary of thirty years' experience of club work.

[1] *Journ. Amer. Med. Assoc.*, June 10th, 1911.
[2] Manchester: Sherratt and Hughes. (Pp. 60. Price Sixpence.)

THE INVESTIGATION AND TREATMENT OF MENTAL DISEASES.

Those who are conversant with the facts will read with a certain amount of perplexity a letter which appears to-day under this heading. The writer inveighs against what he avers is our custom in England, namely, to silence any doubts as to the care and treatment afforded the insane in this country, by replying that in no other land are asylums so well administered or the treatment so well carried out. We do not know whether this is a "custom" or not. We had, indeed, imagined that the converse was the more true. We have heard of a man who once set out to write a novel, but who, unfortunately—for he made a very promising beginning—never got beyond the opening sentence: "'Damn it,' said the captain, as he tapped his highly-polished Hessians with his silver-headed cane, 'Damn it, the country is going to the dogs.'" The tendency to contrast unfavourably to-day with yesterday has extended to the comparison of modern British institutions with those of other States, and in few departments of human endeavour is this self-decrying tendency more marked than in that of medicine. We were, therefore, glad to snatch at least a crumb of comfort from the able and deeply interesting report of the Committee of the Crichton Royal Institution when it said that in respect of the treatment of asylum patients, accommodation and general provision, British asylums still retained a decided lead over those of other European countries. Possibly we were in the wrong in calling attention to a fact generally admitted; it may be that we should rather have dwelt upon our many shortcomings—in particular in respect of provision for scientific investigation into mental diseases, the early treatment of incipient insanity, and the establishment of psychiatrical

clinics—all fully set forth in the report of the Crichton Institution and as frankly recognized as they have been often described for years in our columns and elsewhere. The writer of the letter describes our national custom of self-congratulation as a "hardy plant in full bloom" in the report for 1910 of the Crichton Institution. We are not concerned with the writer's exhortation "to give up patting ourselves on the back and lulling the general public into a false sense of security by public announcements of the same," but are anxious to remove any misconceptions raised in the dust of the writer's tilting at the "hardy plant" (should it not be "windmill"?) which he has discovered in the report of the Crichton Institution. Of this imaginary plant we have been unable to find even a leaf. On the contrary, we find in the report a full appreciation of the very facts which the writer of the letter says the committee failed signally to appreciate. In justice to the committee we print in full the conclusions with which the report ends:

That scientific investigation into mental disease and into the means of its cure is in a more advanced state abroad than in this country, such investigation being mainly carried on in university clinics in large teaching centres.

That the value of scientific observation is widely recognized in most large general lunatic asylums on the Continent, as is shown by the introduction into them of costly apparatus suitable for scientific research, and by the use of methods of treatment of insanity which owe their origin to scientific investigations; and

That in the public interest it is highly desirable that the attention of Government should be drawn to the advisability of establishing in large centres of population in the United Kingdom clinics and polyclinics for the treatment of mental disease similar to those which exist abroad.

As pointed out by Dr. Easterbrook in his contribution to the report, and as stated in our annotation upon which our correspondent's strictures appear to have been founded, one main obstacle to the much to be desired establishment of psychiatrical clinics in this country is financial. Continental clinics are financed by the State, and the main difficulty which faces the managers of our great charitable hospitals at home, the accommodation and treatment of a relatively expensive class of patient, is thereby overcome. A second obstacle is the legal one, and here we need not remind our readers of the efforts, duly recorded in our pages from time to time, which have been made by the British Medical Association and the Medico-Psychological Association to obtain legal provision for the earlier treatment of incipient insanity, and the gradual removal of many of the restrictions which hedge in the entrance to asylums. These difficulties are not insuperable, and it seems certain that ere long we shall have psychiatrical clinics at our important teaching centres, even if it be improbable, as it is perhaps undesirable, that we shall attain to the legal freedom of many Continental clinics, to which patients may be admitted by the director at sight, without any medical certificate, without any other medical man's subsequent visit, and without any special proof of urgency. The best way to attain this end will be by candid criticism of our own methods as compared with those of other countries; the adoption and demonstration of the value of such methods as are immediately available, and quiet pressure for such amendments of the law as are necessary—in fact, to act in the spirit which imbues the admirable efforts of the committee and directors of the Crichton Royal Institution.

TETANUS AND QUININE.

THE not infrequent occurrence of tetanus following the injection of quinine in cases of malaria where quinine could not be tolerated by the stomach has formed the subject of an investigation by Lieutenant-Colonel Sir D. Semple).[1] Death by tetanus is a very distressing sequel to a curative injection, and such cases have given rise to grave suspicion of culpable negligence on the part of the physician. That this is unwarranted is shown by the fact that tetanus has supervened on occasions where the most careful and unimpeachable aseptic precautions have been taken. Lieutenant-Colonel Semple's work has thrown much light on the matter, and has suggested a probable explanation as well as a simple and necessary prophylactic measure. It is a well-known fact that pure "washed tetanus spores"—that is, spores which have been washed free from toxin and heated to destroy the bacilli, do not give rise to tetanus when injected under aseptic conditions. In such a state they are readily destroyed by phagocytosis, although some of them appear to elude the activity of the leucocytes, and to remain dormant for a considerable period. The addition, however, of septic material, a small amount of tetanus toxin, or the action of any agent which causes destruction of the tissues, is sufficient to provide a suitable nidus for the growth of the spores, and so lead to an attack of tetanus. The hypodermic injection of quinine gives rise to great destruction of the tissue at the seat of inoculation. This is due to the quinine itself, and not to the acid radicle, as is shown by the fact that the injection of acid in strength corresponding to the quinine salt used is not followed by any such effect. Morphine, on the other hand, and other alkaloids which are much more frequently exhibited hypodermically than quinine, do not have this irritative action, and it is worthy of remark that tetanus following the injection of such substances is practically unknown. Semple has shown experimentally that washed tetanus spores injected along with or before or after quinine invariably induce tetanus, and he has also confirmed the much more remarkable observation made by Vincent in 1904 that the same result follows when the quinine and the spores are injected in totally different parts of the body, and that subsequently a growth of tetanus bacilli may be obtained from the site of inoculation of the quinine. No growth can be obtained from the blood, liver, or spleen in such cases. The explanation of this strange result is difficult, but Semple suggests that the spores are carried by leucocytes and find a favourable lodgement at the site of the quinine injection. In any case there is little doubt that the injection of quinine has the peculiar effect of rousing dormant tetanus spores to activity. It remains to account for the presence of dormant tetanus spores under natural conditions. This is probably not a serious difficulty, in view of the great prevalence of tetanus spores in street dust and cultivated land, and the numerous cuts and scratches to which even the most careful person is liable. It is not inconceivable that these simple wounds may harbour dormant spores, which have not found conditions suitable for their growth. There is, however, the further important fact to be considered that the tetanus bacillus is in a sense a normal inhabitant of the human intestine, as it is in cattle, horses, and other animals. Semple isolated the bacillus from the faeces of four out of ten persons examined, and three of these strains were virulent for the guinea-pig. This suggests another source whence the tetanus spores may be derived. Semple endeavoured to demonstrate this possibility experimentally with guinea-pigs, but without success. In one case, however, where unfortunately no culture was made from the intestine, virulent tetanus bacilli were obtained from the site of a simple injection of quinine in a guinea-pig. The animal showed no signs of tetanus, but it was killed before they had had time to set in. These experiments show fairly clearly that an attack of tetanus following the injection of quinine should not, in the absence of distinct evidence, be ascribed to the neglect of proper aseptic precautions. The prophylactic measure advocated by Semple is the very obvious one of giving an injection of tetanus antitoxin whenever it is necessary to administer quinine hypodermically.

[1] *The Relation of Tetanus to the Hypodermic or Intramuscular Injection of Quinine.* By Lieutenant-Colonel Sir D. Semple, Kt., M.D. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India, No. 43, pp. 60. 1911. Calcutta: Government Office. (Sup. roy. 8vo, pp. 65. Price As. 12=1s. 2d.)

TROUBLES IN TRINIDAD.

Judging from a batch of local newspapers to hand, the decision of the Secretary of State in the matter of the Clare inquiry is not being well received by a certain section of Trinidad's educated population. This is not a fact which in itself would call for comment, but the dissatisfaction is being supported by a claim that the decision cannot have arisen from an impartial perusal of the minutes of the proceedings. We are in an excellent position to judge the validity of this contention, for not only was the subject of the inquiry one of a strictly medical kind, but the minutes relating to it were of so exceptionally detailed a character that mental reproduction of the whole *misc-en-scène* and dialogue was easy. In addition, there were medical men on both sides, so we perused the voluminous report, not only with interest, but with much more scrupulous industry than might otherwise have been deemed necessary. For many months before the inquiry was held voluntary correspondents in Trinidad had been good enough to keep us supplied with copious information as to what was going on in connexion with the medical department of the local Government, and its tenour left an impression that if ever the threatened inquiry into the working of that department were actually held, its head, Dr. Clare, with whom we had no acquaintance whatever, was certain to be held to have proved himself unfitted for his position. As soon, however, as we began to read the report of the inquiry, it became clear that our previous information must have been—no doubt unconsciously—biassed, and completion of its study left only one conclusion possible, namely, that Dr. Clare's attitude and actions had been perfectly legitimate throughout, and the whole turmoil had arisen from the fact that a small band of hot-headed malcontents, on whose toes Dr. Clare had trodden, had succeeded in making catspaws of some of Dr. Clare's subordinates, and in leading blindly by the nose a large proportion of the population of Trinidad, both official and unofficial. The decision of the Secretary of State therefore seemed to us eminently just, and we shall be surprised if in the long run it does not prove also worldly-wise. It would be fatal to the interests of Trinidad if the office of Surgeon-General were held by a weakling such as these local malcontents seemingly desire, and their efforts to obtain one will now fail for lack of effective ammunition. Not only will Dr. Clare himself prove more on his guard than ever, but all officers of his department, we feel assured, will work loyally together in its defence against outsiders.

OPTIC ATROPHY CAUSED BY ORGANIC PREPARATIONS OF ARSENIC.

The ill effects following the use of the organic preparations of arsenic, atoxyl, orsudan, soamin, and others have frequently been referred to,[1] the most important being optic atrophy. Atoxyl was used for the treatment of sleeping sickness in Africa by R. Koch and extensively in Europe in the treatment of syphilis, malaria, and relaxing fever. Soon, however, reports of blindness following its use came in from various sources; Koch, for instance, noticed 23 cases among 1,630 treated with atoxyl. It was established that this blindness was due to optic atrophy. Schirmer[2] has recently reported a case of optic atrophy following the use of arsacetin, which has been freely used in the treatment of syphilis. The patient had received six injections of 0.6 gram of the drug; complete amaurosis resulted. Other similar drugs have been shown by Wendelstadt to produce blindness in rats. There can be no question, Schirmer states, that the atrophy is due to the toxic action of the drug. The features of the disease are quite characteristic. The first symptoms are hazy vision and scintillation, followed by contraction of the visual field, especially on the nasal side, just as in quinine amblyopia. The central vision remains fairly good until the field has become very small. The nerve becomes pale at an early date. There is contraction of the arteries at the onset, and in the late stages, when the disc has got quite white, both sets of vessels are extremely narrow. As a rule the atrophy runs a slow but progressive course, but, save in very exceptional cases, complete blindness ultimately ensues. In 2 examples alone reported by Fehr was blindness avoided. Idiosyncrasy no doubt plays an important part; many patients have borne 20 to 30 grams of atoxyl, others have become blind after 0.8 gram in eight doses. One large dose seems to be less dangerous than repeated small doses. After careful search Schirmer found 6 cases of optic atrophy after taking inorganic arsenic preparations, but none of them showed the same symptoms as those noted in atoxyl amblyopia; there is always only moderate impairment of vision, the visual field being normal with a central colour scotoma. The disc was not sharply outlined and the prognosis was good. In other words, the symptoms resembled those following the excessive use of tobacco and alcohol. There was retrobulbar neuritis, not the primary atrophy induced by atoxyl. No instances of optic nerve affections following the use of cacodyl have been recorded. Last year E. Clarke showed two men who were totally blind from complete optic atrophy at the Ophthalmological Society of the United Kingdom. The condition had followed the use of soamin in the one case and of orsudan in the other.

[1] British Medical Journal, vol. i, 1910, pp. 599, 664, 724–5, 846, 912, 1272, 1570, 1549.

[2] *Archives of Ophthalmology*. September, 1910.

EPIDEMIC DROPSY IN CALCUTTA.

During the years 1907–8–9 an outbreak of epidemic dropsy occurred in Calcutta and some other parts of Bengal, which was recognized by competent observers as a recurrence of a similar outbreak which appeared in Calcutta, Dacca, Sylhet, Shillong, and Mauritius in 1877–8–9–80. Twenty-seven years intervened between these two outbreaks, during which the disease was either absent or sporadic. Major E. D. W. Greig, M.D., D.Sc., of the Indian Medical Service, was deputed in 1909 to conduct an inquiry regarding the recent epidemic. Unfortunately Dr. Greig did not arrive in Calcutta until the disease had all but disappeared, and his opportunities of pursuing the only method of investigation which is productive of useful results—namely, clinical and pathological study of cases and their circumstances and surroundings—were therefore very limited. He was obliged to fall back on the evidence of medical men who had met with cases but had not subjected them to special study, and on testimony obtained from relations regarding the features and circumstances of attacks and deaths which had taken place in their domiciles. His method of inquiry was epidemiological, and his conclusions inferential, founded on data inadequate to furnish positive proof, and capable of various interpretations. He was not able to fix the nosology of the disease, especially as regards its identity with or similarity to beri-beri or endemic peripheral neuritis, or the reverse, but he seems to assume that the two diseases are the same, and applies theories affecting the causation of beri-beri to the explanation of the phenomena of epidemic dropsy. The particular theory which he thus utilizes is the rice theory, which attributes the causation of endemic polyneuritis to the consumption of rice which has been deprived, by the process of polishing or milling, of the outer layers of the grain which are rich in phosphorus. He considers epidemic dropsy to be a dietetic or nutritional disease, due to a "one-sided" dietary, deficient in certain constituents essential to healthy metabolism. This may or may not be true of the causation of the nervous degeneration which constitutes the basis of beri-beri; but that malady differs from epidemic dropsy in its clinical, pathological and epidemiological features, and only agrees with it in

presenting in a majority of instances dropsical effusion. Major Greig's report[1] is an ingenious attempt to prove the dietetic theory of causation by more or less *a priori* arguments. It fails to explain the immunity of a vast majority of communities and individuals living under conditions which must be of very extended and general prevalence, or the absence or dormancy of the disease for long periods during which the alleged causative influences have been in operation, or the agency of man in conveying the disease from affected localities to distant places, as in the case of Calcutta, Shillong, and Mauritius, intermediate localities remaining exempt. It is difficult to understand how general causes can produce exceptional events, and the existence of a *tertium quid* remains to be discovered, even if we admit the efficiency of the general predisposing conditions. The most valuable outcome of the inquiry is the result of cultivations which indicate "that no *causa morbi* is to be found in the blood, oedematous fluid, excreta, etc., of epidemic dropsy cases." The causative microbe may, however, as in yellow fever, be ultra-microscopic, or the toxin producing the disease—for it certainly presents the facies of a toxic affection—may be produced extra-somatically. It is fair to Dr. Greig to state that this is a first report, to be followed by others; but in the absence of cases providing material for clinical and pathological research, the outlook is not very promising.

THE SECRET REMEDY STAMP.

THE appearance and wording of the Inland Revenue stamp which under an antiquated Act the British Government requires to be placed on any bottle, box, package, or wrapper containing a secret remedy recommended for the cure of any malady has recently been modified. The object of the modification is to deter the British public from believing that the stamp implies some sort of Government guarantee. It seems strange that any one could be so foolishly credulous; but some nostrum vendors, who may be supposed to know their public, have apparently believed that they might, and have advertised that every bottle or box vended by them bears the Government stamp, which was literally true. The stamp formerly in use bore the words, "This stamp implies no Government guarantee," in rather inconspicuous print. On the new stamp these words are replaced by "No Government guarantee" in larger lettering, while on one side are the words in large type, "Medicine stamp duty." So far as it goes, therefore, the stamp is an improvement.

AN ANTIRABIC VACCINE.

THE preparation of a safe and efficient antirabic vaccine has engaged the attention of Lieutenant-Colonel Sir D. Semple.[2] His object was to secure a vaccine which would confer a high degree of immunity, be free from risk, and at the same time be capable of ready transportation without fear of deterioration. The methods most commonly practised at present (Pasteur's and Högyes') involve the injection of actual living virus, attenuated or diluted. They have been found quite satisfactory, but the introduction of a living virus is not free from objection if it can be shown that a dead virus is equally efficient. This is what Semple has been able to demonstrate. The technical difficulty was to discover the best means of killing and preserving the virus without destroying its immunizing properties. The alternatives of heat and antiseptics were discussed, and from previous experience with antityphoid vaccines, it was decided that an antiseptic such as carbolic acid was the most satisfactory agent. The method, therefore, which Semple advocates is to make an 8 per cent. dilution of rabies virus in normal saline, to which 1 per cent. carbolic acid is added, and to keep this at a temperature of 37°C. for twenty-four hours. By this means the virus is killed. The mixture diluted with an equal bulk of saline solution gives a vaccine containing 4 per cent. virus and 0.5 per cent. carbolic acid. This was found to confer a high degree of immunity on monkeys, dogs, and rabbits, and the serum obtained from these animals had a well marked rabicidal action on living virulent virus. Its efficiency is therefore unquestionable, and is apparently as great as that obtained by the use of living virus. It retains its power for some time, and can therefore be conveyed considerable distances. The method was intended primarily for use in India, but it is one which may be found worthy of more general adoption.

[1] *Epidemic Dropsy in Calcutta.* Being the first report of an inquiry carried out by Major E. D. W. Greig, M.D., D.Sc., I.M.S. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Calcutta: Superintendent, Government Printing, India. 1911. (No. 45, pp. 47. 1 R. 4 annas = 2s.)

[2] *The Preparation of a Safe and Efficient Antirabic Vaccine.* By Lieutenant-Colonel Sir D. Semple, Kt., M.D., D.P.H., R.A.M.C. (ret.). Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Calcutta: Superintendent, Government Printing, India. 1911. (No. 44, pp. 32. 8 annas = 9d.)

Medical Notes in Parliament.

Outdoor Relief and Ill Health.—Mr. Ellis Davies asked what proportion of the sum paid in outdoor relief was attributable to ill health. Mr. Burns said that he was unable to say definitely what proportion of the expenditure on outdoor relief was attributable to ill health, but according to the returns of pauperism on January 1st in this year, more than two-thirds of the adults in receipt of outdoor relief on that day were classed as being either not able-bodied, or as being relieved on account of the sickness, accident, or infirmity of themselves or their families. The recent Royal Commission, in the Majority Report, expressed the view that "one-half of the total cost of pauperism is swallowed up in direct dealing with sickness."

Vivisection.—Mr. Chancellor asked the Secretary of State for the Home Department how many visits were paid during 1910 to laboratories registered for experiments on living animals by Dr. Thane and Sir James Russell respectively; and how many of the 4,939 experiments mentioned in Table IV (A) and how many of the 90,753 experiments mentioned in Table IV (B) were actually witnessed by Dr. Thane and Sir James Russell respectively. Mr. Churchill said that during 1910 Dr. Thane paid 153 visits to registered premises and Sir James Russell 141. In addition to these, 15 visits were paid by Dr. Whitaker, who was appointed as temporary inspector during the absence of Sir James Russell through illness. Of the experiments mentioned in Table IV (A) of the return, Dr. Thane witnessed 30 and Sir James Russell 20. Of the experiments in Table IV (B), Dr. Thane saw 20 and Sir James Russell 59. Mr. George Greenwood asked the Home Secretary whether he was aware that the total number of experiments on living animals, as set forth in the return for the year 1910, had increased from 86,277 in 1909 to 95,731 in 1910, showing an increase of 9,454; how many inspectors there now were under the Cruelty to Animals Act, 1876; and whether he could say how many of these 95,731 experiments were actually seen by such inspectors. Mr. Churchill replied: Yes, sir; but to prevent misapprehension it might be well to point out that of the increase of 9,454, 8,403 were experiments of the nature of simple inoculations, hypodermic injections, and similar proceedings. There were two inspectors under the Act; 129 experiments were actually seen by them, and a very large number of animals under observation after experiment were examined. Mr. George Greenwood also asked whether the statement that the irregularities mentioned on page 6 of the Return of Experiments on Living Animals during the year 1910 were the only irregularities that had occurred during that year was based on unchecked information supplied by licensed vivisectors themselves; or whether any, and if so what, means were taken to check such information and to detect and report any irregularities which might not be reported voluntarily by the persons guilty of them. Mr. Churchill said that the statement that only two irregularities occurred in 1910 was intended to mean that these

were the only ones which were known to have occurred. This statement was not founded only on the returns and other information which licensees were required to furnish, but also on numerous inspections, on examination of laboratory books by the inspectors, and on information given to them by the heads of laboratories and others.

Blast Furnace Pitch and Cancer.—Mr. Perkins asked the Home Secretary whether, in view of the fact that the spread of cancer among workers with pitch was attributed to the anthracine contained in tar and pitch derived from gas works, whereas tar and pitch derived from blast furnaces was free from anthracine, he would take this fact into consideration in the new Home Office regulations. Mr. Churchill replied that the fact that blast furnace pitch was much less liable to give rise to cancer was already recognized in the draft regulations, which had been issued by the Home Office, for the manufacture of patent fuel (briquettes) with the addition of pitch. Factories and workshops in which no pitch other than blast furnace pitch was used were specifically exempted from the regulations. It was not, however, certain that anthracine was the constituent of ordinary pitch to which the prevalence of cancer in the industry was due.

Vaccination Officers and Exemptions.—Mr. Hudson asked the President of the Local Government Board if his attention had been called to the rapidly changing conditions of vaccination officers by reason of the increase in exemptions from vaccination of children; and whether he would consider the whole question of payment, with a view of recommending the same payments to such officers for completing exemption returns as paid for vaccination returns. Mr. Burns said he was aware of the increase in the number of exemptions from vaccination, and had in various cases considered the effect which this had had upon the remuneration of vaccination officers in respect of exemption certificates, but he had not at present seen his way to authorize a fee being paid to vaccination officers in respect of exemption certificates.

Sleeping Sickness (Nyasaland).—Mr. Lloyd asked the Secretary of State for the Colonies whether cases of sleeping sickness had recently been reported in Angoniland, on the south-western arm of Lake Nyasa, in proximity to the Government game reserve; whether twenty-two cases had occurred in the last six months in the Protectorate; and, if so, what special measures had been and were being taken to safeguard Nyasaland. Mr. Harcourt said that three cases of sleeping sickness had recently been reported on the south-western arms of Lake Nyasa, in proximity to the Government game reserve. Fresh cases were being continually discovered, and he was unable to give the exact number for the last six months, but fifty-four cases in all had been reported. An account of the measures which were being taken would be found in the Sleeping Sickness Diary of the Protectorate, Part XIV. A well-equipped scientific expedition, under the leadership of Sir David Bruce and the general direction of the Royal Society, to investigate the relation between the African fauna and the trypanosome diseases of men and animals, was being sent to Nyasaland. Some of the members of the Commission had already sailed, and the rest would follow in about three months, when the laboratory and dwelling houses would be approaching completion.

Vaccination (Soldiers in Barracks).—Mr. William Thorne asked the Under Secretary of State for War whether he would draw the attention of the officials of the Army Medical Department to the immunity from small-pox enjoyed by children in England and Wales who had been legally exempted from vaccination under the Vaccination Acts, 1898 and 1907, and in Scotland under the Act of 1907; and whether he would issue a new regulation to such officials instructing them to respect the conscientious objections of soldiers in barracks in respect to the vaccination of their children. Colonel Seely said that as regards the first part of the question, he was not aware of any official statistics on the subject. As regards the second part of the question, the reply was in the negative.

Anthrax.—Mr. Charles Bathurst asked whether, in view of the recent increase of anthrax throughout Great Britain, the Board of Agriculture had considered the desirability of insisting upon hair, etc., being effectively sterilized at the port of their shipment by some process which would cause no injury to the material or fabric; whether the Board's scientific advisers had, in this connexion, considered the efficacy of the process advocated by Mr. Alfred Seymour Jones, of Wrexham, of treating such materials with formic acid and mercuric chloride, and the recent report on the subject submitted by Dr. Constant W. Ponder to the Leathersellers' Company of London; and, if so, with what result. Sir Edward Strachey replied that the answer to the first and second parts of the question was in the affirmative. The Board did not consider that the investigations made with regard to the process in question were sufficiently complete to justify the Board in advocating its adoption, but the matter would be kept in view.

The Indian Sanitary Commissioner.—Mr. Macpherson asked the Under Secretary for India whether the office of Sanitary Commissioner to the Government of India was established on the recommendation of the Plague Commission; whether that office was now vacant; and whether, in view of the prevalence of plague, cholera, malaria, and small-pox, he would see that this office was not abolished, and that an appointment was made to it at once. Mr. Montagu said that the vacancy in the office of Sanitary Commissioner with the Government of India caused by the death of the late incumbent had not yet been filled, and the duties of the post were at present discharged by the Director-General of the Indian Medical Department. The Government of India was disposed to think that the creation of a separate Sanitary Commissioner in 1904 had not fulfilled expectations, and were inclined to revert to the arrangement previously existing. The Secretary of State must reserve his decision until the full statement of views which the Government of India had promised was before him. The Sanitary Commissioner was merely an advising officer to the Government of India. The responsibility for sanitation in the several provinces rested with the local Governments. The office was not created in 1904 on the recommendation of the Plague Commission of 1898. The Plague Commission's scheme was not accepted.

Calf Lymph and Tuberculosis.—Mr. Goldstone asked the President of the Local Government Board whether, in view of the fact that the report of the Commission on Tuberculosis stated definitely that secretions of the cow, such as milk, could communicate tuberculosis to human beings, he would cause inquiry to be made as to whether tuberculosis was not similarly communicable to human beings by means of vaccination with calf lymph. Mr. Burns answered that the matter had already been carefully investigated, and it had been conclusively shown that there was no risk of tuberculosis being communicated to human beings by means of glycerinated calf lymph.

Local Government Board Vote.—Owing to a reporter's misunderstanding of Mr. Peto's observations on the Local Government Board vote, as reported in the Journal of August 12th, p. 345, the income of vaccination officers was referred to as "the doctors' income." The context has probably made the nature of the error clear to most readers.

The Course of Business.—It has been arranged that the present sittings of Parliament shall close at the end of this week. The Appropriation Bill will pass the Commons in time to go to the Lords for Friday, when the last sitting of both Houses will be held, and on that afternoon the Royal Commission to give assent to the measures passed will close the proceedings. The Commons House is to meet again on October 24th and resume consideration of the National Insurance Bill and other measures carried over to the autumn sitting.

THE NATIONAL SICKNESS AND ACCIDENT INSURANCE LAW OF HUNGARY.

By Sir THOMAS OLIVER, LL.D., M.D., F.R.C.P.,

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ON three occasions within the last seven years I have visited Hungary with the object of studying the hygiene of her industries and her labour laws, and during a visit in June and July of this year I have had several opportunities of discussing with the head officials the operation of the National Sickness and Accident Insurance Fund. A comparison of the Hungarian law with the legislation proposed for Great Britain by Mr. Lloyd George may therefore not be inappropriate at the present juncture.

There is no invalidity insurance in Hungary; there is no insurance for unemployment, nor does old age draw a pension. Mr. Meynhert Szanto, Director of the Museum of Social Service in Budapest, in a paper[1] on the Labour Insurance Law in Hungary, has given the history of the inception of the movement in 1892, and its culmination in the Act which came into operation on July 1st, 1907. Its principal terms are as follows:

Insurance for sick benefit is obligatory on all employees in every branch of trade and commerce whose salary does not exceed 2,400 kr. a year (£100), or 8 kr. (6s. 8d.) a day. The full income from all sources must not exceed £100 a year.

Insurance against accident, on the other hand, is obligatory in every dangerous trade scheduled in the Act, quite apart from any relation to the amount of salary received by the individual; but for the purpose of recompense no salary is taken into consideration as being more than 2,400 kr. a year—that is, payments are made only upon this amount.

Sick benefit and accident insurance are united in, and controlled by, one central fund, upon the administrative body of which employers and employees are equally represented. In the event of disagreement, questions are referred to a selected jury.

Since insurance against accident is not compulsory for workmen employed in some of the less dangerous trades, and is not compulsory upon persons employed in commerce, the scope of the sickness insurance fund is the wider of the two.

Under sick benefit are included: medical and surgical attendance, medicine, sanatorium and hydropathic treatment, and provision for personal maintenance; this provision is one-half of the wages of the individual insured, but under certain circumstances it may be raised to two-thirds of the wages. The financial allowance may continue for twenty weeks, and as it can be extended for one year, it takes the place, to some extent, of an invalidity fund. Occasionally this provision is abused. When twenty weeks have passed, an unscrupulous workman who has been on the sick fund may have sufficiently recovered to pluck up courage and go to another occupation, after following which for a few weeks he again places himself on the sick list and tries the deception for other twenty weeks. Malingering is, therefore, far from being unknown. Maternity benefit is allowed for six weeks, but should recovery be retarded, the benefit can be extended to twenty weeks. One of the differences between the Hungarian law and the National Insurance Bill introduced by our Chancellor of the Exchequer is the wide extent over which the medical benefits are spread in Hungary. Instead of limiting these to insured persons only—the heads of families, for example—all immediate relatives who are living with the insured person receive benefit, including wife and children, and also grandparents. This is an excellent provision from a social point of view, but it tells upon the fund financially. The funeral expenses allowed by the Act are twenty to forty times the daily wages.

In the event of an accident the sickness fund pays all expenses to the insured person for the first ten weeks; after that the payments are made from the accident insurance fund. There is no liability above £100. Should there be complete incapacity for work, the insured person receives 60 per cent. of the £100, but in the event of extreme indigence this may be increased to the full 100 per cent. Should an injured workman be taken to a hospital, the hospital receives 3 kr. (2s. 6d.) a day for thirty days, but this can be extended. A member's sick child can also receive medical attendance or hospital treatment free of charge for thirty days. As payment for injuries is made for the first ten weeks from the sickness instead of the accident insurance fund, a considerable strain is thrown upon the sickness fund; this is inequitable, since, owing to the effects of many of the accidents not lasting so long as ten weeks, the burden of maintenance falls upon the sickness insurance fund, to which employers and employees equally contribute, while the accident insurance fund, supported entirely by the employers, escapes. Syphilis, insanity, and trachoma are not paid for by the national insurance fund, but in a special manner by the State. In the event of death following an accident, funeral aid is giving to the extent of twenty times the daily wages; the widow receives a pension equal to 20 per cent. of the yearly wages; each child receives 15 per cent., which is doubled in the event of the mother being dead; parents, grandparents, and orphan grandchildren receive 20 per cent. of the wages, so long as the total sum of all the payments does not exceed 60 per cent. of the yearly wages of the injured workman.

As already stated, the expenses of the sick benefit fund are borne equally by employer and employed, those of the accident fund by employers alone. The premium of the sickness insurance fund, which is fixed by the Central Bureau, is never less than 2 per cent., nor more than 4 per cent. of the average daily wages. For accident insurance purposes, trades are classified according to risks. As this classification is revised every five years and altered in accordance with experience, this circumstance is believed to act as a stimulus to employers to do their best to improve the conditions of labour in factories and to protect the machinery, the prevention of accidents being the subject of careful consideration.

The State, it will be observed, makes no contribution in money to the sickness or accident insurance fund. It provides the buildings, the State workmen's insurance offices, and bears the expenses of administration. By law, the State is permitted to give 600,000 kr. (£25,000) to the Insurance Fund for administration purposes only, but experience shows that this sum is not large enough.

In Budapest I discussed insurance problems with Mr. Skarkadi, Director of the National Fund; with Mr. Marcel Gallai, of the Administration; and Dr. Hahn, of the Medical Department, whose duty it is to supervise the general medical expenditure, including that on medicines, instruments, etc. In Great Britain the opinion has been frequently expressed that the National Insurance Bill should not be too rapidly rushed through Parliament. It would be well to proceed with deliberation, for experience in Hungary and elsewhere has shown that legislation would have been more effective had the Government hastened slowly. In Hungary the national insurance fund has nothing to do with the friendly societies. Trade unions have their own unemployment funds. Patients must employ the medical men provided for them in the district.

For the purpose of the Act Budapest and the provinces are divided into districts. There are ninety-six district insurance offices. Each office has its own special medical institution. There are eight paying classes, the scale ranging from 1 kr. to 8 kr., according to the average daily wages. In the Budapest district there are 230,000 persons insured against sickness and 200,000 against accidents. Dr. Friedrich, who is the medical head of the Budapest district, has supplied me with much valuable information from the medical point of view. It appears that 300 doctors send in their reports to him, and that 20 per cent. of the total income of the sickness fund is paid to the medical profession in proportion to the work done. The income for last year was 1,200,000 kr. (£50,000). Of the 20 per cent. of the income set aside for medical purposes, 15 per cent. goes to pay certain fixed sums to the medical men for outdoor patient work. These amounts are not the same for all districts of the city. In the innermost or central district of Budapest the fixed salaries vary from 1,000 kr. to 1,400 kr.—that is, from £41 to £58 a year; in the next district 1,400 kr. to 1,800 kr., or £75; and in the outermost district 2,800 kr. to 4,500 kr. (£116 to £187). These variations are due to the fact that in the centre of the city there are fewer workpeople insured under the Act

[1] Published in the *Journal of the Economic Society*.

than in the outskirts, where more of the working classes live. The remaining 5 per cent. of the 20 per cent. is set aside for medical expenses incurred by visits made to the houses of the sick.

There are six medical institutions in Budapest where consultations are given daily, except on Sundays, by specialists. The specialists are medical men of high standing in the profession, and are either attached to the universities or to an infirmary. They are paid out of the 15 per cent. received from the total income of the fund. They receive in addition to a fixed salary a further amount according to the number of patients they examine. Medical men who are the accredited officials of the Sickness Insurance Fund can, in the event of a patient not progressing satisfactorily, ask for a consultation with any of the specialists attached to a medical institution, and for such a consultation a fee of from 5 kr. to 20 kr. is paid. If a district doctor is called out to see a patient between 9 p.m. and 6 a.m. he receives an extra fee, and if he has to go from one district to another he also receives a supplement according to the distance.

The specialists are appointed for life. They are invited to accept the posts by a committee of the central fund, largely on the recommendation of Dr. Friedrich, whose position as Professor of Industrial Hygiene at the University of Budapest and the Polytechnic brings him into contact with the medical profession generally. All patients in regard to whom there is doubt as to their being kept upon the funds after ten weeks, either as the result of sickness or accident, are examined by Dr. Friedrich, and reported upon by him to the central office. I saw him one morning examine twenty men and two women, and make the necessary assessments. In nearly all of the cases the recipients of the benefits could do some work, and they were encouraged to do so, while receiving at the same time a certain money allowance from the insurance fund according to the degree of incapacity for work.

To the medical institutions attached to the insurance fund in Budapest all persons who are insured against sickness and accident can resort for special medical and surgical advice, and to these Dr. Friedrich sends those patients who he finds, when assessing benefits, are not making the rapid progress towards recovery they ought to. These medical institutions, or *ambulatoria*, resemble the out-patient departments of our large hospitals. I visited the largest of the institutes in Budapest, and found from 200 to 300 patients waiting for advice and treatment. They were arranged in groups in the waiting rooms attached to each department. Everything about the building was quiet and orderly, and the rooms were clean and bright. There are several departments in this institution—departments for diseases of the eye, nose, throat, larynx, and ear; nervous system, diseases of women, internal medicine, surgery, supervision of patients as regards continuation or modification of their sick benefits, sanatorium and hydropathic treatment, diseases of children, treatment by baths, urology, diseases of the skin, dentistry, Roentgen rays, ulcers of leg, microscopic and chemical laboratories, and a department for the mechanical treatment of joints. To almost every department two or more specialists are attached. The consultations are given in the forenoon and afternoon, and also in the evening to suit persons who are at work during the day. As regards sanatorium treatment, patients are sent from Budapest into various parts of the country. The insurance fund pays for the railway travelling, and provides free accommodation at the sanatorium for a varying length of time.

The other five medical institutions in Budapest are run on similar lines to the above, but they are smaller. They have respectively the following numbers of departments—11, 6, 8, 4, and 10. There are in addition in Budapest ten special consultation departments for midwifery, one for each of the civil districts of the city. Some of the appointments are held by lady doctors.

Having thus outlined the operation of the sickness and accident insurance fund in Budapest, the capital of Hungary, it will be well to give as a contrast the operation of the fund in a provincial district, and for this I will take Kolozsvar, where I discussed the various facts concerning insurance with Mr. Jacobi, Director of the Fund, and with Drs. Lukacs and Blumenfeld, the medical officers. In the insurance fund of this district there are 15,000 members enrolled, and there are 22 doctors attached thereto. The town of Kolozsvar alone has a membership of 8,000, and last year there were 8,092 cases of sickness upon the books—that is, slightly over one case of sickness per member. In the country district there were 6,158 cases of sickness among 7,000 members. The following are the statistics relating to the types of sickness in Kolozsvar and district:

	Illness.	Kolozsvar.	District of Kolozsvar.
1	Internal diseases	4,439	3,420
2	Surgical diseases	1,116	1,513
3	Diseases of women	41	80
4	Confinements	57	26
5	Nervous diseases	544	43
6	Diseases of reproductive organs	346	270
7	Diseases of skin	419	291
8	Diseases of eye	352	320
9	Diseases of ear	19	52
10	Diseases of nose	63	71
11	Diseases of mouth and throat	646	3
12	Not ill	50	69

In the annual report published by the Kolozsvar office diseases are classified according to trades as follows:

Building	622
Metal, machinery, and metal workers	753
Tailors	824
Leather workers	625
Stone workers	125
Dyers	138
Textile workers	150
Chemical industries	484
Printers	304
Wood and carpentering	379
Upholsterers	122
Food and drink industries (including flour millers)	412
Felt making	118
Gardeners	24
Heating and lighting	110
Commercial employees	1,286
Office and shop attendants	318
Brickmaking (casually employed)	904
Other casual workers	384

The illnesses were for the most part not due to accidents, although accidents are included up to ten weeks.

Illnesses Lasting Under—	Male.	Female.
2 weeks	2,367	318
4 ,,	420	69
6 ,,	178	62
8 ,,	68	22
10 ,,	48	13
12 ,,	27	1
14 ,,	13	6
16 ,,	12	1
18 ,,	7	0
20 ,,	36	11

It is the experience of the officials of the national sickness fund at Kolozsvar that if payments are continued for a longer period than that to which by law the sick are entitled, the result is, on the whole, more satisfactory to the fund from an economic point of view, since the members make a better recovery and remain for a longer time in good health afterwards. It is the experience of the office, too, that the workmen who receive small wages come more frequently upon the fund through sickness and are longer upon it than men receiving larger wages. In Kolozsvar the fund pays to the hospital 2 kr. for twenty-eight days for a sick member, and after that the same amount of pay as the sick person is entitled to.

Finance.

The total income of the fund of the Kolozsvar district is 263,000 kr. (£10,800), and of this there is expended:

	Kr.	£
On sick pay	88,000	= 3,800
To medical men	40,000	= 1,900
Upon administration, including payment of officials	60,000	= 2,500
Funeral expenses	17,000	= 700
Sanatoriums	5,000	= 200
Drugs	27,000	= 1,200

The maternity expenditure was 1,485 kr. (£62). Every insured woman receives sick allowance for six weeks, according to the amount she has paid into the fund. An insured husband cannot obtain sick pay for his wife in her confinement, but the wife receives medical attendance and nursing free. If after six weeks the woman who is insured has not recovered from the effects of her confinement she can be placed on the sickness fund, and she will receive an allowance for twenty weeks; but if the woman is not insured she may receive medical attendance for twenty weeks as a maximum. A woman living with a man not her husband, but who is insured, receives medical help for six weeks during her confinement, but no sick allowance. The members of the insurance fund are not permitted the choice of a medical attendant. They must accept the one appointed to the district, and if not satisfied with him they are at liberty to ask to be allowed to see the principal doctor.

On the whole, the National Sickness and Accident Insurance Fund seems to work well in Hungary. No scheme of industrial legislation has as yet been introduced to compensate for diseases of occupation. Potters and others who are suffering, for example, from lead poisoning at once go upon the sickness fund, and to that extent they are provided for. Hungary watches closely what Great Britain does in the matter of legislation, and when circumstances permit she is prepared to adopt what is believed to be the best for her people and their needs.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE annual meeting of this association was held on July 13th and 14th, at the Royal College of Physicians, Dublin, under the chairmanship first of the outgoing president, Dr. JOHN MACPHERSON, and then of the new president, Dr. WILLIAM R. DAWSON.

In the course of the early proceedings keen regret was expressed at the resignation of the two veteran editors of the *Journal* of the association, Dr. Rayner and Dr. Urquhart, and a vote of thanks accorded them for their prolonged and able services in connexion with the association's official organ. Warm thanks were also accorded to the outgoing president, and a silver casket and an illuminated address was presented, on behalf of the subscribers, to Dr. Edward Courtenay, who has just retired from the office of Inspector of Lunatic Asylums in Ireland. Other business was the adoption of the report of the committee *re* medical inspection of school children. High tribute was paid to the work done at Darenth.

Presidential Address.

Dr. DAWSON then delivered his Presidential address, in which he discussed the geographical distribution of insanity in Ireland, and compared it with that of a number of other conditions, such as density of population, pauperism and poverty, emigration, the death-rate both general and tuberculous, criminality and alcoholism. Illustrating his remarks by diagrams, he showed that insanity tended to prevail in the agricultural counties, chiefly of the south and east, Ulster and Connaught being relatively free, and that pauperism had a somewhat similar distribution. The prevalence bore some, but not a marked, relation in its local incidence to that of the emigration rate, criminality and chronic alcoholism, but none, so far as appears, to density of population, ratable value of land, proportion of aged persons, death-rate, or drunkenness. The amount of insanity ascribed to alcohol in Ireland was small. Secondarily, it was found that pauperism and poverty were not necessarily alike in distribution, nor did the latter correspond to the emigration rate.

Psycho-therapy.

Dr. WILLIAM GRAHAM (Belfast), in a paper on psycho-therapy in mental disorders, said the reasons for bringing this subject before a scientific meeting were that (1) the subject, though so little discussed in this country, had attracted widespread attention in psychological circles in France, Germany, and America; (2) men of international reputation had applied the methods with, it was said, singular success. The classical methods of psycho-therapy were: (*a*) Suggestion, waking and hypnotic; (*b*) therapeutic conversation; (*c*) psycho-analysis; (*d*) occupation; (*e*) re-education. (*a*) Suggestion as a therapeutic agent had been overestimated; nevertheless it was of value in certain types—for example, alcoholism, sexual perversion, obsessions, phobias, multiple personality and other forms of mental disturbance. (*b*) Therapeutic conversation: this might be called Dubois's method; it consisted in explaining to the patient the origin and significance of his disorder, and the explanation became persuasion. This method was valuable in the less intractable types of disorder, before the perverted idea had become too deeply rooted. But the patient was liable to get too dependent on the therapeutist, so that when removed from his influence a relapse was likely; and it was applicable only to a group of milder cases. (*c*) Psycho-analysis. This method (identified with the name of Professor Freud) rested on the view that many disorders arose from the inability of the personality to assimilate certain experiences, such as those of a painful emotional character, and from the conflict thus set up between opposing groups of thought. The therapeutic consisted in making clear to the patient the source of this conflict by bringing into the clear light of consciousness the submerged factor, and in thus re-establishing mental unity and integrity. The cases in which this method had given best results were those of long-standing obsessions, psychasthenias, phobias, hysteria, and paranoid states. Freud's view overemphasized the element of sexuality. The method was applicable only to some types. The modern tendency to confine psycho-therapy to this one method must therefore be rejected. (*d*) Occupation. By this was meant all methods that distracted the patient's attention from himself. Its main value lay in its power to train the attention. (*e*) Re-education. In the author's opinion, this was the crown of the whole psycho-therapeutic movement. In some cases it implied suggestion and therapeutic conversation, in other cases it implied psycho-analysis, in still others occupation; in all it sought to restore the normal psychic balance by teaching the patient how to regulate emotion, train the power of will, and direct properly his attention. The outstanding importance of psycho-therapy was seen in its relation to prophylaxis. In the primary stages of all mental developments, in the formation of character, in the beginning of pathological states, the value of this method could not be overestimated. Using the term in its broadest sense, psycho-therapy could prevent or modify the rise of abnormal conditions.

In the discussion which followed, Dr. BOND said a large proportion of the work which was attempted at Long Grove was more or less along the lines indicated. The method brought one into touch with one's patients in a way which no other method did. But if such means were to be carried out to any extent in asylums, there must be a great extension of asylum staffs. Dr. J. O. C. DONELAN expressed his belief in the power of suggestion to rid a patient of monoideism, and quoted some encouraging cases, but added one or two which did not yield to it—at least with the amount of care and attention which one man was able to devote to them. He agreed with the remark of Dr. Bond as to the need of greater staffs in the asylums for this purpose. Dr. MAPOTHER said he knew that his colleague Dr. Hart had treated one case for an hour every day for the past six months, and that patient was now on the way to recovery. But in another case which he (the speaker) had seen he did not think improvement could be said to have occurred. DR. HELEN BOYLE alluded to the fact that in some patients the detection of a desire on the doctor's part roused a spirit of opposition in the patient, who would do his best to avoid carrying it out. Dr. MCDOWALL mentioned that Dr. Robertson of Morningside had had failures from the method under discussion. Dr. SOUTAR expressed the view that this was the same kind of treatment as had been

pursued under various names for a long time. He did not consider that the method was as uncommon in the speciality as would appear from some of the expressions which had been used in the discussion; but he did not decry the method, nor its elevation into a system. Dr. Nolan believed very much in individual conversation with patients, and individual attention generally. Professor Dubois (Paris) was said not to take more than six patients at a time with this idea of concentration of attention. Dr. Graham replied.

Sudden Death in Epilepsy.

Dr. M. J. Collins, in a paper on causes of sudden death in epilepsy and some points in the treatment of epilepsy, said that the epileptic colony at Epsom had been open seven years, and there 30,000 fits were recorded during the past year. Probably 200,000 fits had occurred since the establishment was opened, and 10 cases were recorded in which death occurred during, or almost immediately after, a fit. In 2 cases there was choking after food, and 1 death ensued from suffocation during a fit at night time. Of the 7 cases remaining, in 1 there was mitral and aortic disease together; in 2 there was adherent pericardium; in 3 cases advanced fatty disease of the heart, with evidence of chronic heart failure; and in the other cerebral tumour was found. In respect of treatment, he found fewer fits per night after a meat dinner than after fish. Some patients could not take bromides in any form, even when salt was eliminated from the diet and the dose given was small. In 2 cases with prolonged aura he had been able to avert fits for several months by simply giving a dose of bromide as soon as the aura was noted. In 2 cases which were intolerant of bromide he was finding opium good. Digitalis he found useful in one patient who had a large number of fits, as it brought about an 80 per cent. reduction in the fits.

In the discussion which followed, the President said that when investigating the condition of the City of Dublin for the Royal Commission on the Feeble-minded he found that epilepsy was regarded as more of a family disgrace than was insanity. It was considered that knowledge of a fit on the part of the employer would lose the man his work. Dr. Spence spoke of the bad effect on ordinary insane patients of the presence of epileptics who were continually having fits. Dr. Bower spoke of the greater number of epileptics now than formerly. Dr. Hayes Newington spoke of the frequent association of constipation with epilepsy, and the importance of correcting it. Dr. Dixon said he had found great benefit from giving sodium bromide with the meals instead of common salt, which latter was what the patients thought they were having. Dr. Drapes said he had seen many cases of chronic insanity develop an epileptic fit after many years, and when that was so he thought it usually meant the beginning of the end. Dr. Nolan spoke of the good effect of a combination of salicylate of bismuth and bromide of potassium. Good effects were produced without causing acne or stupor.

Dr. Bond congratulated the author on his paper, and alluded to the particular importance in epilepsy of allowing the lapse of a considerable time without treatment before speaking of the value of a particular line of treatment.

Other Papers.

Dr. Drapes (Enniscorthy), in a paper on the Personal Equation in Alienism, reviewed the various schools of thought, concluding by a plea for a less confusing and voluminous terminology.

Dr. Leeper, in a paper entitled Note on Hereditary Insanity from a Practical Standpoint, advocated the segregation of feeble-minded and an endeavour to frame public opinion on the subject so as to secure future legislation on eugenical lines. The Poor Law system, as it existed in Ireland, was a fertile source of the production of the hereditarily produced insane population, and Poor Law reform was essential if ever any of the recommendations by the Royal Commission on the Care of the Feeble-minded were to be carried into effect.

Professor Shaw Bolton (Wakefield), in a paper on the morbid histology of general paralysis, illustrated by a lantern demonstration, showed that the pathological changes in general paralysis were of the same ultimate nature as, and only differed in degree and method from, those occurring in senile progressive dementia.

Dr. Colin McDowall (Cheddleton) read a joint paper by himself and Dr. W. T. Sewell (Newcastle) on clinical evidence *re* the toxic nature of insanity; and Dr. Mapother (Long Grove) one on mental symptoms in association with choreiform disorders.

The Annual Dinner.

The annual dinner was attended by the Lord Lieutenant of Ireland, the company also including the Under Secretary for Ireland, the Presidents of the Royal Colleges of Physicians and Surgeons in Ireland, the Bishops of Canea, Meath, and Clogher, Dr. Considine, Inspector of Lunatic Asylums in Ireland, and many others. In proposing the toast of "The Association," the Vice-Chancellor of the National University of Ireland advocated the institution of a B.Sc. in Mental Science.

THE NATIONAL TEMPERANCE LEAGUE.

On the Sunday preceding the Annual Meeting of the Association at Birmingham a large number of addresses were delivered by various medical men at places in touch with this city, and attracted a great deal of attention. In addition the National Temperance League gave its forty-third annual breakfast on Wednesday of the meeting. This brought together a very large gathering; indeed, despite the early hour at which it was held and the fact that a smoking concert given by the Birmingham and District Medical Practitioners' Union had kept many members up till quite a late hour, Professor Saundby, the chairman, found himself faced by a gathering of about 200 members, in addition to Professor Paul Strassmann of Berlin, the Rev. Canon Denton Thompson, Rector of Birmingham, the President-elect, Sir James Barr, and two past presidents in the persons of Professor R. A. Reeve of Toronto, and Dr. T. D. Griffiths of Swansea.

The proceedings, as usual, included a certain number of speeches, Professor Saundby stating in the course of his remarks that nothing was more striking than the great change of opinion that had taken place in England during the last ten or fifteen years. A few years ago a water drinker was looked upon as an eccentric person even in temperance circles, for although in the latter no alcohol was drunk, yet all sorts of temperance drinks were consumed; indeed, no one seemed to like water, while nowadays one found most men drinking water and nothing else at luncheon time. Formerly, too, in every household beer was kept for the servants; then a change was made by beer money being given instead, and now both beer money and beer were things of the past. Professor Saundby then quoted figures showing the immense reduction in the expenditure on beer and alcohol which had been effected in Birmingham General Hospital, despite the growth of the institution, and added that nowadays alcohol was seldom prescribed in the wards. Indeed, the first thing now thought of was to withhold alcohol in order to eliminate a possible complicating factor in all sorts of diseases. In the last forty years the relationship of alcohol to such diseases as neuritis had been appreciated, and it was recognized that certain minor ailments, such as catarrh and skin diseases, did not get well so long as the patients continued to drink alcohol. Habit and fashion were responsible for a good many things; both were now taking a turn in the right direction, and what had now to be deplored was not so much drunkenness as the wastefulness of the national expenditure on alcoholic drink. He hoped that protests would be extended also in other directions, for there were poisons quite as bad as alcohol in many ways, though they did not produce correspondingly grave social evils; excessive use of tobacco and excessive tea drinking were cases in point.

Mr. Arthur Evans, of Westminster Hospital, speaking on the subject of alcohol in relation to diseases of bacterial origin, said that an extensive series of experiments, most carefully conducted by Professor Laitinen, of Helsingfors, on the influence of alcohol on immunity, had shown that blood serum drawn from abstainers showed a higher degree

of bactericidal power than did that of alcohol consumers; it was also well known that alcohol diminished the number of leucocytes and their power of phagocytosis. As for the opsonic index, comparatively little was known of the effect of alcohol upon it, but that little was instructive, Professor Charles Stewart, of New York, having shown that *in vitro* even 5 per cent. alcohol reduced opsonic power by over 52 per cent. In short, consideration of what had been scientifically shown by haemologists made it logical to state that the taking of alcohol even in so-called moderate quantities was an invitation to bactericidal invasion. Nor was the work of haemologists out of keeping with clinical experience. Every modern teacher, for instance, recognized the close inter-relation between alcohol, consumption, and tuberculosis. Mr. Evans then quoted Dr. F. W. Mott and Sir T. S. Clouston in respect of the effect of alcohol on the higher cerebral centres, and said there was small doubt that even a little alcohol stimulated the animal passions, dulled the highest kind of mental capacity and the sense of right and wrong. Finally, he stated that the National Temperance League did not stake its all on opsonins, for the opsonins of to-day might be the obsoletes of to-morrow; nevertheless, if the work on the opsonic index and the contents of blood serum in respect of complement were examined, or if attention were paid to the collected statistics of clinical investigators, or to the reports of life insurance officers, or even if those who walked the streets kept their eyes open, everywhere the same outstanding fact would be discerned, namely, that alcohol was the ally of disease and death.

A vote of thanks for these two addresses was moved by Sir James Barr, who said that he quite agreed that there was nothing better than water if the water were good. He also agreed with what had been said as to the wastefulness of the nation as a whole spending so much money on alcohol, for there were many other directions in which people might better spend their money. Of alcohol there was really great abuse; for his own part he could get on very well without it, and he never prescribed it except for himself, which was very seldom. There was no disease in which it was really useful, and in ordinary cases patients were certainly very much better without it. He did not often agree with Chesterton, but he did so when that writer stated that the only reason for taking alcohol was for the fun of the thing. He sometimes felt, however, that teetotalers were not always reasonable in regard to the opinions expressed by those who were not entirely in agreement with them. For his own part, when he wrote against alcohol, he always tried to remember that other people were just as much entitled to what might be their opinions as he himself was to his own; in fact, he always felt that when too many people agreed with what he said there must be something wrong with his views.

The motion having been seconded by Professor R. A. Reeve, it was put to the gathering by Sir Victor Horsley, as vice-president of the league, and adopted unanimously. When performing this duty, Sir Victor Horsley said that he would like to take that opportunity of saying something that had been in his mind for the past five years, indeed ever since Laitinen had begun his great research work. All total abstainers on an occasion like the present should express their gratitude to the men of Preston and other pioneers of the temperance cause. The speeches of those men used to be described as fanatical and as having no basis in fact. It was true that they were not based on scientific fact, because such facts did not then exist, but nevertheless they were truly expressive of the consequences of alcohol as witnessed by the speakers in their daily life. Among other things these men had stated that alcohol impoverished the blood, and perhaps the most striking phenomenon in recent investigations was the revelation that this statement was a fact. Hence the position in the public gratitude which was due to these pioneers ought to be restored to them and publicly acknowledged at such a gathering as the present. For the rest it should be pointed out to the people that even the most moderate consumption of alcohol was destructive to the powers of the nation. Let those who were prejudiced on the subject study the researches of Reid Hunt. In view of those researches a specially heavy responsibility rested on practitioners who ordered port wine for anaemic girl patients.

BRITISH MEDICAL BENEVOLENT FUND.

AT the July meeting of the committee grants amounting to £158 were made to fifteen cases. As the current account already showed a deficit of £54 it was necessary to draw largely upon the reserves, and the committee look forward with grave anxiety to the heavy demands which will be made upon the resources of the fund during the next two or three months. Contributions are greatly needed, and may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

Appended is an abstract of the cases relieved:

1. Daughter, aged 54, of late L.R.C.P., L.S.A. Is a candidate for a pension from a charity, and meanwhile helped by friends. Recently lost a brother, who also helped. Relieved three times, £15. Voted £5.

2. Daughter, aged 31, of late L.R.C.P., L.S.A. Since death of father fourteen years ago has supported herself as a general servant, waitress, etc., but has now broken down in health and is at a convalescent home. Asks for a little help for temporary maintenance after leaving the home. Voted £5.

3. M.R.C.S., aged 83. Has been incapacitated for several years, and dependent on a son who is no longer able to help. Voted £5, and recommended to apply for an old age pension.

4. Daughter, aged 54, of late M.R.C.S. Receives a home in return for services, but cannot do much on account of a long-standing physical infirmity. Relieved three times, £15. Voted £5.

5. Daughter, aged 67, of late M.R.C.S. Has supported herself for many years by nursing, but is no longer fit for work, and is endeavouring to obtain a pension from another charity. Relieved twice, £24. Voted £12.

6. Daughter, aged 42, of late M.R.C.S. Is a trained nurse, but for some few years has suffered from chronic glaucoma, and is now quite unable to earn a living. Relieved three times, £25. Voted £10.

7. Widow, aged 49, of M.R.C.S. Endeavours to support herself by a boarding house, and has established a good connexion, but has been obliged to incur heavy expenses, owing to the illness of three of her children. Relieved once, £10. Voted £10.

8. Daughter, aged 30, of late M.D.Dubl. Unable to support herself on account of continued ill health, and is dependent on her mother, whose sole income is £30 a year. Relieved six times, £40. Voted £10.

9. Daughter, aged 64, of late M.R.C.S., L.R.C.P. No means and unable to maintain herself on account of mental deficiency. Relieved five times, £60. Voted £12.

10. Widow, aged 50, of M.B., C.M.Edin. Dependent on income of £20 a year and such profits as she can make by taking boarders during the summer. Seven children, three of whom earn nominal salaries. Relieved twelve times, £138. Voted £12.

11. Widow, aged 63, of L.R.C.P.Lond. Sole means of support a furnished house, which is at present unlet. Children unable to help. Relieved once, £12. Voted £12.

12. Daughter, aged 59, of late M.R.C.S. Was fairly provided for, but lost her capital through the defalcation of a friend. Relieved seven times, £92. Voted £12.

13. M.R.C.S., aged 72. Practised in London for several years, but now has cataract in both eyes. Relieved once, £18. Voted £18.

14. Daughter, aged 68, of late M.R.C.S. Used to keep a school, but was obliged to give it up on account of failing health, and is now dependent on a brother, who can ill afford to help. Relieved twice, £24. Voted £12.

15. Widow, aged 60, of L.R.C.P., L.R.C.S.Dubl. Did maternity nursing for several years, but is now nearly blind. No children. Relieved seventeen times, £161. Voted £18.

MEDICAL AND SURGICAL APPLIANCES.

Apparatus for Wassermann Reaction Test.

Mr. W. MARTINDALE has put on the market a neat apparatus for performing the Wassermann reaction according to Fleming's modification. It consists of a small mahogany case divided into compartments, and it contains a complete outfit of tubes and pipettes, together with various accessories. It also contains three capsules of antigen, three of sheep's blood corpuscles, and four of sterile normal saline, together with a quantity of amboceptor put up in "sterules." A small tube rack is provided on which to carry out the reaction. The whole apparatus is extremely compact, and may be of service to medical practitioners. The price is two guineas.

A Modification of Sims's Duck-bill Speculum.

Dr. ALEXANDER DUKE (London, W.) writes: The modification described under the above heading as original by Dr. C. Hubert Roberts is not new, having been designed by Dr. Paul F. Munde of New York over twenty years ago. I happen to possess an identical speculum made by Tieman (New York), and the article is pictured in Dr. Paul F. Munde's work on *Minor Surgical Gynaecology*, p. 83.

BRITISH DENTAL ASSOCIATION.

Annual Meeting in London.

After an interval of five years, the annual meeting of the British Dental Association was held this year in London, and by the courtesy of the Senate the spacious buildings of the University of London at South Kensington (Imperial Institute) were placed at the disposal of the Association. The gatherings were under the presidency of Mr. W. B. Paterson, F.R.C.S., L.D.S., Senior Dental Surgeon to St. Bartholomew's Hospital, who has just completed twenty-one years' zealous service to the Association as Honorary Secretary and Chairman of the Representative Board. The attendance was the largest on record, and many members of the International Dental Federation, of which Mr. Paterson is also President this year, attended the meetings, and several distinguished foreigners gave demonstrations.

The report of the board presented to the annual meeting of members stated that the membership had increased to 2,020. The result of the appeal case in the House of Lords showed "the imperative necessity of fresh legislation to remedy the present unsatisfactory state of the law," while the recent Blue Book on unqualified practice had supplied fresh evidence of the need for action. The report also referred to the progress made in the dental treatment of school children and to the Anaesthetics Bill, in which certain modification was necessary to safeguard the interests of dentists, and contained the following observations on the inspection and treatment of school children:

School Children.

Steady progress is to be recorded in the growth of this movement. As a proof that the importance of dental treatment is recognized by the highest authorities, it is satisfactory to be able to point to the special chapter on the subject in the Second Annual Report of the Chief Medical Officer of the Board of Education, in which several recommendations of the association are adopted. It is to be regretted that the London County Council is slow to follow the lead set by urban and county councils in the provinces; however, as an experiment, a clinic has been started by the Council in connexion with the Poplar Hospital, and a half-time dentist appointed; and at Deptford a clinic, which owes its inception to private munificence, receives L.C.C. school children. No system of dental treatment at any of the large general hospitals on the lines of the experimental scheme of medical treatment has been instituted, and as nearly all the dentists attached to such hospitals are of opinion that this method is inadvisable, it is unlikely that anything of the kind will be attempted. The views of the association on the best means to be adopted have been submitted to representatives of the L.C.C. by members of the committtee appointed for the purpose. Assistance has also been given to the Medical Committee of the Wandsworth clinic in drawing up plans for the inclusion of dental treatment, and it is hoped that such treatment will before long be instituted. Similar assistance has been afforded to the dentists of Norwood in connexion with the medical clinic in that district, and has also been submitted for the consideration of the Mid-Kent Organization Committee.

In the provinces dental clinics have been started at Bradford and Norwich, a whole-time dentist will shortly be appointed at Coventry, and other towns are in process of making arrangements; an interesting experiment is being tried in West Dorset, the first strictly rural district to attempt dental treatment, where an itinerant whole-time dentist has been appointed. It is to be hoped that more may be done in the near future to inculcate the principles of hygiene of the mouth and prevention of dental caries by the organization of instruction to teachers in training colleges, the regular inclusion of dental hygiene in school teaching, and lectures to parents. The efforts of the Women's Imperial Health Association, which sends out lecturers in caravans, provided with biograph pictures, to tour country districts, are warmly to be commended, especially as dental hygiene forms part of the subjects of their enterprise.

Mr. W. H. Waite of Liverpool, the retiring president, was elected a vice-president. The following were elected honorary members: Dr. W. H. Williamson of Aberdeen, a former president; Mr. J. Dennant of Brighton, joint founder with Mr. Waite of the Benevolent Fund; Dr. G. V. Black of Chicago, winner of the I. D. F. Miller Prize; Professor O. Walkhoff of Munich, president of the International Dental Congress in Berlin in 1909; Dr. E. C. Kirk, Dean of the Faculty of Dentistry in the University of Pennsylvania and editor of the *Dental Cosmos;* and Professor E. Jessen, of Strassburg, the pioner of school clinics.

The invitation of the Scottish Branch to hold the 1912 meeting in Glasgow at the university on August 7th, 8th, 9th, and 10th, was cordially accepted.

After his induction as president, Mr. Paterson delivered his inaugural address. Alluding to the inadequate protection of the interests of the public and of the profession afforded by the Dentists Act, he said:

At the time of the passing of the Act it was never contemplated that a vast crop of cunningly contrived evasions would arise to obscure the plain meaning and use of the word "dentist." Nevertheless it has, and the present state of affairs is nothing less than a scandal and fraud upon the public. To us the fraudulent use of title is a burning question, but, beyond the law courts and the lawyers, how few people realize it! We cannot expect any Government to hear of our grievances unless we take a suitable opportunity of bringing them to its notice. And the very fact of bringing into public prominence the present conditions of dentistry, as we know them, with sufficient insistence and persistence may provide us with a means of attaining the reasonable and just ends we have in view. Free trade in dentistry is all very well as a parrot cry, but the public requires protection from the fraudulent and dangerous practices of the quack.

Referring to the recognition of dental surgery in the navy and army, Mr. Paterson said:

You may remember how the British Dental Association was hurriedly called upon to arrange a dental service for the troops in the South African War. This service was so successful that it was increased in numbers during the war, and maintained for some years after the war in the home establishment.

That it was a popular service with the dental profession is sufficiently testified when I say that on one occasion of an election for about eight vacancies, some 120 applications were received.

What was our Association's hope at that time? Naturally to see army dental surgeons permanently appointed as a section of the Army Medical Corps. Why wasn't it done? His Majesty's Treasury refused to find the money. There in a nutshell was the whole difficulty and the end of the business.

Most people are under the impression that the doctor's inspection of the recruit results in the weeding out of all those who possess bad teeth. This impression has gained currency through the sensational reports of the daily press. But those who know the real state of affairs know only too well that the large majority of men passing into the service have teeth which indicate a low standard of efficiency as judged from the dentist's standpoint. I have frequently heard it stated, and I believe it to be true, that the present low standard of dental efficiency demanded of the recruit varies according to the briskness or slackness of the recruiting. In the navy matters are slightly better. A few contract dental surgeons are employed at the chief naval bases. But the service offers no permanency, and is crippled by a Treasury with a tight purse. The British Dental Association has ever been ready to help the army and navy medical services, and notwithstanding the rebuffs of His Majesty's Treasury we shall always cheerfully respond to any call that may be made upon us by those services.

How differently has the question of army dentistry been dealt with in the United States of America! There, dentistry has been placed upon a permanent footing in connexion with the Army Medical Corps.

Touching upon the inspection of school children, Mr. Paterson said the results had revealed nothing more than they already knew. The need of dental treatment was clearly and unmistakably indicated.

The question of the day is, Which is the simplest and best way of setting about the business? In England, Cambridge, abroad Germany and Sweden, point the way. The school dental clinic appears to be the handiest, best, and most economical means at command. Professor Jessen tells me that they have already established 120 school clinics in the leading cities and towns of Germany.

We have, in our association, for long pressed forward the claims of the school clinic, and the only barrier to progress has been the difficulty of finding the money, but now that the State Insurance Bill has turned all men's thoughts towards the financial aspects of public health, we may hope soon to see that barrier removed. Our honorary secretary, Mr. Norman G. Bennett, who takes a very keen interest in all dental matters which relate to public health, deserves a special word of recognition and thanks. He has had an active time since the Inspection Act came into force, answering questions addressed to our association by various public bodies, on the subject of school dentistry and dentists.

In the afternoon an important discussion took place on the proposed bill to amend the Dentists Act, and it was agreed to refer the matter to a new committee, to be appointed by the board, with a view to composing the differences of policy which the referendum had revealed.

About 300 attended the annual dinner at the Hotel Cecil in the evening, when those present included Sir Frederic Hewitt, Sir A. Pearce Gould, Sir Havelock R. Charles, Professor Sidney Martin, Dr. Norman Moore, and many foreign visitors.

On Friday some interesting papers were discussed, including "Dental Surgery in Relation to Tuberculosis and the Public Health," by Dr. Bardswell, Medical Superintendent of the Midhurst Sanatorium; "The Effect of Mouth-breathing on Facial Contour," by Mr. W. Rushton;

"Breadstuffs and the Experimental Production of Dental Caries," by Mr. A. Hopewell-Smith; and papers on school dental treatment by Mr. G. Cunningham (Cambridge), C. E. Wallis (Medical Officer, London Education Committee), and Mr. A. E. Baker (Marlborough College).

In the evening a *conversazione* was given at the Royal College of Surgeons, the guests being received by Sir Henry Butlin and Lady Butlin. The Coldstream Guards' string band played in the museum, and a concert took place in the theatre.

On Saturday, over thirty demonstrations were given in the great hall of the University by members of the association and by Dr. Guerini (Naples), Dr. Körbitz (Berlin), Dr. Field Robinson (Paris), Dr. McCullough (Philadelphia), and Dr. Weiss (Havana). A number of clinical cases from London hospitals, a collection of orthodontic models, and an exhibit of students' work from American dental schools were also on view. An interesting museum, illustrating "Affections of the Periodontal Membrane," was arranged in the entrance hall. The competition for the Irish Golf Cup took place on the Sandy Lodge links, Mr. Murray Thomson proving the winner.

SCIENCE NOTES.

AN important contribution to our knowledge of the nuclear structure of bacteria has recently been made by C. C. Dobell.[1] Owing in some measure to difficulty of technique, the idea has become widely spread that bacteria, as a rule, are enucleate cells, but Dobell points out that in all bacteria which have been adequately studied some form of nuclear structure has been demonstrated. The morphology of the nucleus varies to a surprising extent, not only amongst different varieties of bacteria but also at different periods in the life of the same species. Judging by the changes in the nucleus, it may be deduced that the bacteria are not so simple as might appear, but that a more or less complicated life-cycle occurs. The various forms which the nucleus assumes may be summarized as follows: There may be a definite system of chromidia or chromatin granules, or there may be one or more aggregated masses of nuclear material. Again, the nucleus may take the form of a filament disposed in various ways; it may be branched or it may consist of strands or bent rods. Finally, it probably also occurs in the vesicular form characteristic of many other plants and animals. Mr. Dobell's conclusion is that we have no reasonable evidence to warrant the belief that enucleate bacteria exist. Investigations on the same subject have been made by H. Pénau, and in his latest publication[2] he deals with the cytology of the anthrax bacillus. He recognizes a well-marked cycle of development in which five stages can be differentiated. At first the cell consists of an almost homogeneous mass of protoplasm which stains with basic dyes. After twelve hours' growth the nucleus appears at one pole as a definite body, which readily takes on nuclear stain. In the next stage it is replaced by a basophile reticulum, which gives the bacillus a vacuolated appearance. In about three days this reticulum becomes broken up into beadlike masses which collect together. The aggregate becomes more and more discrete, and eventually assumes an ovoid or globular form; finally it appears as the spore. According to Pénau, therefore, the spore is the direct descendant of the nucleus.

Two interesting contributions dealing with the typhoid bacillus have recently been published. The first[3] is by Metchnikoff and Besredka, and has reference to the idea, which has of late found not a few supporters, that the actual cause of typhoid fever is not the *Bacillus typhosus* but some concomitant filter-passing organism. This idea has arisen partly from the well-known fact that it has hitherto been found impossible to produce typhoid fever experimentally in animals and partly from analogy with the bacillus of hog cholera. The work of the distinguished French observers will serve as a check to the spread of this supposition. Their experiments consisted in the oral administration to a chimpanzee of cultures of typhoid bacilli which had previously been passed through the same animal. In other cases they administered typhoid cultures mixed with excrement from typhoid patients. By such means they produced in the chimpanzee a disease indistinguishable from typhoid fever. They consider that this result goes a long way to confirm the identity of the *Bacillus typhosus* as the causal agent of typhoid fever. Of entirely different nature is the work of G. Kühnemann,[4] who, in the course of agglutination experiments with typhoid bacilli, found that, under certain conditions, the bacilli became encapsulated after being in contact with serum. A remarkable feature of the phenomenon was that it was only manifested with the serum derived from young animals. It was most marked when the serum was employed in a dilution of 1 in 5 to 10. The author interprets this occurrence as being of the nature of a protective mechanism, and considers that it may afford an index of the virulence of the bacillus.

[1] *Quart. Journ. Micros. Science*, lvi (1911), pp. 395–506.
[2] *Comptes rendus*, clii (1911), pp. 617–9.
[3] *Ann. Inst. Pasteur*, xxv, pp. 193–221.

LITERARY NOTES.

DR. FREDERICK TAYLOR has just finished seeing through the press the ninth edition of his well-known *Practice of Medicine;* it will be a larger volume than previous issues, and will be ready this month. It has been revised very thoroughly; considerable alterations and additions have been made in the subjects of cholera, dysentery, aphasia, hysteria, obstruction of the bronchi, phthisis, the physical examination of the heart and vessels, colitis and appendicitis, ankylostoma, gall stones, anaemia and leukaemia, diabetes and functional albuminuria. A short notice of methods of treatment has been included in the introduction. The subjects new to this edition are pellagra, meralgia, pneumococcal meningitis, myotonia congenita, enterospasm, Hirschsprung's disease, intermittent claudication, congenital family cholaemia, peritoneal adhesions, lymphatism, bacilluria, and pneumaturia. The illustrations in the text have been increased to sixty-seven in number. Messrs. J. and A. Churchill are the publishers.

Some curious notes on influenza, which raged with great violence in 1776, are found in the Duke de Croy's journal. Everybody, he says, was attacked more or less severely, and a physician is said to have offered four hundred livres a year to every one who could prove that he or she had escaped, and no one accepted the offer. The doctors were at their wits' end; no treatment seemed to do any good. But when the weather, which during December and the first part of January had been mild and damp, turned so cold that the Seine was frozen, the epidemic disappeared. The French say of themselves that they turn everything into a vaudeville, and this epidemic was no exception. At its height a play entitled *La Grippe* was produced. It is a satire on the manners of the time. One of the characters is a physician, Dr. Anodin, who, without knowing exactly what the disease is, had specialized in its treatment. He had published in the *Mercure* the following advertisement:

> To all the catarrh stricken present and future following very important notice. The Sieur Anodin, a physician such as there never was, curing his patients in three days, three hours, three minutes, three seconds, is the possessor of a marvellous liquor which uproots the most inveterate influenzas even they were caused by the frost of a new play. By drinking a spoonful of this water, the property of which is surprising, one may go without fear into the densest fog. One might even sit without being frozen beside an ancient coquette.

This advertisement is said to bring the doctor a number of patients. First comes a little fashionable lady, Madame Caillette, who has influenza like everybody else. "So you wish, Madame," said the doctor, "that I should cure you as soon as possible." "Not at all," is the unexpected reply. She goes on to explain that there is nothing more agreeable than to have the grippe. One has the pleasure of being confined to one's room, and of receiving visits without being obliged to return them, of remaining in a *déshabillé galant*, and even of going to the theatre in a *négligé*, which always becomes a pretty woman. But though the lady does not wish to be cured, she would like to cough with distinction, elegance, and grace, and, while coughing, to remain in society. The doctor sells

[4] *Centralbl. f. Bakter.*, Abt., lvii, pp. 497–8.

her for a louis a bottle that will give her a "brilliant" cough. Next there come on the stage different persons, all asking for a remedy. At last there appears an ingenious musical composer, who has discovered a means of avoiding in theatres the stoppages caused by the influenza of the singers. He has composed music expressive of colds and bronchitis. The performers cough in harmony. To illustrate this there is a ballet of people who dance in time to their own coughing.

In a recent literary note we referred to Professor Landouzy's account of a thirteenth century manuscript by one Master Aldebrandin, from which it would appear that the science and art of personal hygiene, far from being of modern growth, was practised by the French even in those early days. Although, probably, the same cannot be said of this country, there is little doubt that in mediaeval England the matter was by no means overlooked. Soon after the introduction of printing more than one book was issued dealing with this topic, and these no doubt were copies of manuscripts which had already been in existence for many years. The best known of them is perhaps *The Babees Book*, which had a great vogue in the Middle Ages. By the help of quaint doggerel it explained the principles of healthy living and polite conduct to young children. For the most approved methods of the time, however, we must go to John Russell's *Booke of Nurture*. Russell held the important office of "Mershalle to Duke Humfrey of Glowcetur," and in this position he moved among, if not in, the best circles. His book opens with a section "Howe to order thy selfe when thou rysest, and in apparelynge thy body." The details of the toilette are described with such minuteness as to leave no excuse for any unsavouriness of person. Even that intimate natural function which, all down the centuries, has occupied the daily attention of most men after breakfast is dealt with adequately and sympathetically. It is noteworthy, however, that though he enjoins his readers to wash their hands on rising, to comb their hair and even to clean their teeth, he nowhere suggests so active a measure as the application of water to those parts of the body which are hidden from sight by clothing. Nevertheless we must not conclude that in mediaeval England the value of bodily cleanliness was overlooked. They may not have instilled its importance in the minds of the rising generation quite as carefully as we do at the present time, but in respect to some details at any rate they were actually in advance of to-day. Thus in the sixteenth century Sir Hugh Rhodes published *The Booke of Nurture or Schoole of Good Manners*. Sir Hugh was Master of the Children of the Chapel Royal, and in his book he puts his youthful charges through their paces in such matters as face-washing, mouth-rinsing, and so forth; but in addition he impresses strictly on them this injunction, namely, that in the mornings they must not leave their bedchamber until they have blown their noses clean. At the present time, when handkerchiefs for elementary school children are only a dream of an adenoidless future, this picture of a dormitory full of saintly choristers rising from their morning prayers religiously to blow their noses is pleasant indeed to the mind of the personal hygienist. In the same century, however, books on health were written for others besides the lucky children of the Chapel Royal. Merry Dr. Andrew Borde, physician to Henry VIII and popular lecturer on hygiene at country fairs, gave to his generation two highly prized books, the *Breviarie of Health* and the *Compendyous Regiment or Dietary of Health*. About the same time Dr. Bulleyn wrote his *Government of Health* and Dr. Martin his *Glass of Health*, titles which suggest a prophylactic rather than a curative intention. In justice to our forefathers, therefore, we must not claim a monopoly of zeal for the principles of personal hygiene. No doubt Master Aldebrandin can assert a priority of a century or two for his adopted country, but even in England our ancestors tried as best they could to practise those preventive measures which are needed in order, as Pater has it, to make the body the quiet handmaid of the soul.

The *Glasgow Herald*, a little time ago, contained an interesting article, signed with the initials "H. A. M'L.," on the early history of medical practice in Glasgow. It says that probably the first direct reference to a medical practitioner in that city is contained in the accounts of the burgh of Linlithgow, 1393–1395, where there is a remission to "William, Physician of Glasgow." No further reference is made to the presence of a physician in the city until 1505, when in the Protocol Book of Cuthbert Simon mention is made of one "John Murref, cirurgion." The first authentic information, however, concerning medical life in Old Glasgow, is probably contained in a minute of Council, May 17th, 1577, which is to the following effect:

> The provost, baillies, and counsale, understandand the supplicatioun gewin in be Alexander Hay, chirurgian, quhairby he is myndit to remane in this towne, thairfor, for his support, thai haif grantit ane yeirlie pensioun to him of ten merks money, and the said Alexander is maid burges and freeman of the burge and sall paye na maner of taxt, conforme to the privilege haid be the umquhile James Abernethie.

From this it may be gathered that even at this early date a surgeon received a retaining fee, and, as a further inducement to settle in Glasgow, was presented with his burgess ticket. As Glasgow then had some 5,000 inhabitants, it is not surprising that reference is made to another surgeon, Thomas Mylne, in 1580. Mylne appears to have spoken his mind too freely about some of the baillie bodies of Glasgow, and even of the town itself, which he called "hungrie." For this it is recorded on June 3rd, 1589, that the said Thomas was condemned to

> compeir at the croce and thair confess, oppinlie, his fault, and thaireafter his pension to be dischargit during the space of ane yeir.

In March, 1599, the famous Maister Peter Low came on the scene. He entered into a contract with the town "for XXIV. merkis money be yeir." Low was a native of Scotland, possibly of Glasgow. He had practised in France and Flanders, had been Chirurgion-Major to the Spanish regiments at Paris, and had followed "the French King my master, in warres six years." He was a well-read man, of ripe experience in his profession, and, like Ulysses, *mores multorum hominum vidit et urbes*. The breadth of mind thus gained soon brought him into collision with the Kirk, and he had to "stand the Piller" three times. When he arrived in Glasgow, in addition to the few "regular" practitioners there were others—

> As quack-salvers, charlatans, witches, charmers, and divers other sorts of abusers; the most part of them lack both soul and conscience and fear of God, promising marvails to cure all things in short space, and to make it more plausible they enterlace Scripture.

To remedy this state of affairs Low sought and obtained from the King the "Letter of Gift" which founded the Faculty of Physicians and Surgeons in Glasgow. Low died in 1610. The Glasgow Council was enlightened enough to encourage practitioners to settle in the city by granting them their burgess ticket. John Hall deserves special mention. He did faithful service to the town during the epidemics of plague, and his disinterestedness appears from a minute in 1648, when payment is ordered to him:

> In respect he taik nothing frae nae maner of persoune, naither frae rich nor poore for his paynes.

In 1656 he is referred to as "the townes chyrurgian." In June, 1667, "Phrank, commoune chyrurgian, having desertit his charge," Hall was appointed to the position. The last reference to him is in 1685, and he probably died about that time. He had evidently resigned the position of "tounes chyrurgian" on his elevation to the magistracy, and another member of the Town Council, Johne Robesoune, was appointed in his stead. He also resigned on being appointed Treasurer, and Mr. Mathew Birsban, doctor of phisick, was nominated. The next that is heard of Dr. Birsban is in 1682, when he was granted "liberty to put a tomb or buriall place in the High Kirk Yaird." In 1684 it was—

> Concludit that the toun shall make use of no person as the toune's physitian in tyme coming, and if any person is unwell, and deserves to be cured, upon their application to any of the magistratis they are impowered to recommend them to any physitian they shall think fitt.

Yet in 1688 Dr. Mitchell Wallace was "elected and chosen to be tounes chirurgian and to have the pension he got formerlie."

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

TUBERCULOUS CATTLE AND COMPENSATION.

DR. COLLINGRIDGE, Medical Officer of Health, has presented to the Corporation of the City of London a report in which he analyses the final report of the Royal Commission on Tuberculosis, and points out that its findings fully justify the action taken by the Corporation from time to time on the advice of its officers. In discussing some of the administrative questions which arise, Dr. Collingridge expresses the opinion that a measure regulating the milk supply and applicable to the country as a whole is urgently required. He considers that every farmer who sells milk should be registered, that registration should only be allowed in the case of premises in good sanitary condition, and that every cow whose milk is sold should be tested by tuberculin by a veterinary surgeon. All cows found to react should be marked and registered, so that they can be followed up to the time of slaughter, and specially examined after. All cows found to be healthy should be kept absolutely apart from those reacting. No milk from any tuberculous cow (whether or no the udder be affected) should be allowed to be sold for human consumption, and if given to animals should be boiled or pasteurized before use. The machinery should be in the hands of the local authority, but ample power should be vested in the central authority to take action in case of default. All milk should be conveyed in dust-proof churns, locked or sealed and carried in properly constructed vans, and special precautions to ensure purity during distribution enforced. With regard to compensation in the case of animals apparently healthy, but found on slaughter to be diseased, Dr. Collingridge observes:

> So long as the present practice of selling to foreign countries the best of our strain which has proved to be free from tuberculosis (and foreign countries will accept no other), and retaining for the raising of our own herds at home those that react or are doubtful—so long will it be unwise to compensate. . . . Compensation should be at a fixed amount, applicable only to those animals which are clinically healthy, and no compensation should be given if it can be shown that the owner has been responsible for the disease by neglect with regard to the breeding, feeding, or housing of the animals in question. Compensation should be given for a limited time only, say three years. During that period the farmer will be able to take reasonable steps to eradicate the disease from his herd. At the expiration of the term, the possession of a cow in a milking herd in an advanced stage of consumption should be a statutory offence.

Compensation, he thinks, if agreed to, should be paid out of national and not local funds. As regards meat, he considers that there is urgent need for a uniform standard throughout the country, binding upon all authorities, so as to abolish the absurd anomaly of meat being condemned in one locality part which is allowed to be sold in another.

BIRMINGHAM.

TUBERCULOSIS IN BIRMINGHAM.

THE report of the medical officer of health for 1910 shows that the mortality-rate from all forms of tuberculosis is steadily declining. During 1910 the death-rate was 1.48 per 1,000, being 21 per cent. below the mean rate for the preceding ten years and 46 per cent. below that of the year 1873. Nevertheless the total number of deaths from tuberculosis in 1910 was 846, or 1 in every 9 of the total deaths occurring during the year. Of the 846 deaths, 657 were due to phthisis, 38 to abdominal tuberculosis, 76 to tuberculous meningitis, and 75 to other forms of tuberculosis. The mortality-rate from phthisis was 1.15 per 1,000, males suffering very much more severely than females, the rate being, in males 1.54, and in females only 0.79. The deaths among boys under 15 years of age were much fewer than among girls, but after this age—that is, as soon as the working period of life begins—the male mortality greatly exceeded the female, and the excess became more and more marked at each successive age period. The number of cases of phthisis notified during the year was 1,843, and of these 1,014 were in males and 829 in females. Notification was voluntary except in Poor Law patients.

With regard to the prevention of tuberculosis, measures have been taken for bettering the conditions under which the people live and work, and great progress has been made in the direction of educating the public, owing largely to the notification of the cases and the subsequent visitation and instruction. There are at present three visitors who devote their whole time to this work, and a fourth will shortly be appointed, but even then this staff will find difficulty in visiting between 3,000 and 4,000 homes in which the consumptives live. The Health Department administer two special sanatoriums—the one at Salterley Grange with forty beds and the other at Yardley Road with fifty beds—for educational treatment. At the former only early cases are taken, while at the latter cases are accepted for treatment many of which would be unsuitable for the former. Over 80 per cent. of the patients sent to Salterley Grange were at the end of one or two years from the date of their discharge, as the case may be, either doing full work, or capable of doing a full day's work. There is great need for some method of preventing patients returning to extreme poverty on leaving the sanatorium. Many patients give up their employment and put up with extreme poverty rather than risk returning to what they regard as a potent factor in producing their illness. It would seem that the trade itself ought to deal with this matter.

The number of samples of milk examined at the university in 1910 on behalf of the Health Committee was 343, and of these 35, or 10 per cent., were found to be tuberculous. There were 228 samples taken from churns in the city, with 17 tuberculous; 11 from cows in city sheds, with none tuberculous; and 104 from cows outside the city, with 18 tuberculous.

WALES.

THE NATIONAL VETERINARY ASSOCIATION.

ORGANIZATION is the only manner in which a profession can obtain power and assert itself as a body. The veterinary profession has seen the benefit of this as exemplified by the medical profession within the past few months. At the twenty-ninth annual meeting of the National Veterinary Association, held at Carnarvon on July 26th and 27th, a small but representative gathering sanctioned the institution of a new code of rules whereby the various independent divisional and county veterinary associations will become affiliated with the National. The Irish members have not yet unanimously agreed to join, but there is every reason to hope that they will see the benefit of such action and consent to fall into line with the majority. The scheme now adopted has been before the profession for some time, and its realization is due to the untiring efforts of Dr. O. Charnock Bradley and Professor A. Gofton of the Edinburgh Veterinary College. The President for this year, Mr. T. Salusbury Price, in his address alluded to the importance of pure milk for the public and to the report of the Tuberculosis Commission. He referred particularly to the conclusion that milk from tuberculous cows might be contaminated even in cases in which the disease had not spread to the mammary glands. It was necessary to impress upon the public that by boiling, sterilizing, or pasteurizing milk infection from this source might be avoided. The eradication of tuberculosis in bovines was only to be achieved at great cost, but the benefit to be derived from such a condition would eventually more than repay the State for their expenditure.

Dr. O. C. Bradley, in a paper on veterinary education in relation to public health, referred to the rapid advance of veterinary science within the past twenty years, and said that specialism now existed. In the old days the training of the student was conducted along lines considered best for the production of the general practitioner; now the potential specialist had to be taken into account in the planning of the educational curriculum. Students now formed two distinct classes—those who intended to become ordinary practitioners, and those who wished to follow research work or take service under Government. Provision had been made by the schools and universities for the continuation of instruction

in certain of the subjects of the ordinary pregraduate curriculum. This modification of the educational standpoint was scarcely sufficiently appreciated by those in whose hands rested the appointment of public officials. The veterinary surgeon might be called upon to guard the health of the community abroad as well as at home. It would certainly not, he observed, be sufficient to say that the veterinary officer's duty ceased when he had succeeded in procuring a safe and efficient meat and milk supply. Suitable housing, feeding, water supply, ventilation, and drainage must be considered in connexion with milk supply. In his work relating to meat inspection it was necessary for the veterinary officer to make use of his knowledge of anatomy, peculiarities incident to breed, sex, and age, the effects of foodstuffs, the morbid changes met with in the organs and flesh of the domestic animals, and the possibility of their producing detriment to the health of the consumer. He must consider the surroundings, condition, and treatment of the animals prior to and at the time of slaughter, and of the meat from the time of slaughter to its delivery to the consumer. A thorough clinical knowledge was necessary for the supervision of milk and meat supply, and without this the would-be inspector was worse than useless. Only those with a veterinary training should be permitted to undertake these duties. The veterinary officer must in particular be conversant with the clinical and pathological features of those diseases which were transmissible to man. It was questionable whether the veterinary graduate had at the present time access to all the facilities necessary for the production of the ideal veterinary officer. Post-graduate courses in universities and veterinary schools afforded the necessary opportunity for gaining this necessary knowledge, and he suggested that the Royal College of Veterinary Surgeons should grant a special diploma in State and municipal veterinary medicine. Dr. Bradley concluded by suggesting a syllabus of subjects on which the candidate must satisfy the examiners prior to his receiving a diploma in veterinary public health.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

The Scottish Prison Commission.

It is understood that Mr. McKerrell, one of the Prison Commissioners for Scotland, is about to retire, and rumour is busy with the choice of his successor. It is highly desirable that the vacancy should be filled by the appointment of a member of the medical profession. The principle has been recognized again and again since the subject was discussed in the Grand Committee of the House of Commons on the Prison Bill in 1897, which approved a recommendation of the English Departmental Committee that sat in 1895 under the chairmanship of Mr. Herbert Gladstone. That Commission advised that a medical man versed in lunacy should be a member of the English Prison Commission, and it may be remembered that the similar recommendation of the Royal Commission on Irish Prisons resulted in the appointment of a medical commissioner. In the debate in the House of Commons last year the principle was accepted by the Prime Minister and by Mr. Balfour. Moreover, there is the specific recommendation of the Scottish Departmental Committee on Prisons which sat, under the chairmanship of Lord Elgin, in 1902. The Commissioners stated: "We are much impressed by the fact that in the great majority of instances where difficulty has arisen in the management of prisons, questions have been involved which require for their determination experience in medical requirements and practice, and yet that no member of the board possesses any medical qualifications. We think that the presence of a medical member on the board would so greatly improve the administration and increase the confidence of the public that we have felt it to be our duty to record our strong recommendation for the consideration of your lordship." It is to be hoped that the opportunity now offered to act on this recommendation will be taken, and the intentions of the Legislature carried out.

Glasgow Fever and Small-pox Hospitals.

The Report of the City of Glasgow Fever and Small-pox Hospitals for the year ending May 31st, 1910, has just been issued by the Medical Superintendent of these hospitals. It states that during the period under review 4,966 patients were admitted, a larger number than previously recorded, giving a daily average of patients under treatment in Belvidere Hospital of 664. The general mortality-rate was 9.4 per cent., being the lowest during the last six years. Scarlet fever accounted for 2,036 cases, measles coming next with 1,032. The cases of diphtheria admitted numbered 875, and, in view of the fact that 40.5 per cent. of the fatal cases were moribund on admission, Dr. Johnston considers a mortality-rate of 12.1 per cent. is exceedingly satisfactory. As laryngeal complications have an important bearing upon the severity of the cases, and consequently on the death-rate, a division into laryngeal and other forms of diphtheria is made; 121 laryngeal cases were admitted, with a mortality of 30.5 per cent., while 754 cases of faucial diphtheria were under treatment, with a mortality of only 9.1 per cent. Serum rashes, uncomplicated, occurred in 122 cases; and serum rashes, complicated with arthritis, in 4 cases. Of the cases admitted as said to be suffering from diphtheria, 95 were found to have some other disease, chiefly measles, scarlet fever, and the different forms of tonsillitis. Typhus fever exists still in Glasgow, although only six cases were admitted. Twenty-seven cases of mixed infection were admitted, such as scarlet fever and diphtheria, and measles and diphtheria. Twenty-six members of the staff developed some form of infectious disease. The average number of days each patient was under treatment was 48.19. The admissions to the Small-pox Hospital numbered 177; 164 of these were cases of chicken-pox. In one case of small-pox the patient, a seaman, evidently contracted the disease in one of the Baltic ports, and developed symptoms of illness when his ship was in Glasgow. He was promptly removed to hospital, and no spread of infection followed.

Baths for Miners.

Over a year ago attention was drawn to the fact that in one or two of the collieries in Fife baths were erected for the use of the miners, who appreciated them and used them freely. We notice that the question of pithead baths for miners was debated in Grand Committee of the House of Commons lately on the Coal Mines Bill, but it was decided by 20 votes to 12 not to make the provision of baths compulsory. The general debate took place on a formal motion to delete Clause 77, which made it obligatory upon mine-owners to establish in every mine, under the control of a manager, sufficient and suitable accommodation for taking baths and drying clothes, and to deduct 1d. a week from the earnings of each man for the cost of maintenance. The Scottish Miners' Federation favoured the principle of compulsion, and in the course of the discussion it was stated that the representatives of the miners generally had decided to support the Government in making the bill compulsory. They hailed the proposal as a great and desirable reform, as there were still hundreds of thousands of houses in which there was no provision for miners taking a bath. The Under Secretary of the Home Office undertook to introduce a clause which would provide that where the miners wanted the bath, and where the cost was not prohibitive, the bath should be provided, and the cost of the upkeep and the return on the capital expenditure be divided in something like equal proportions between the owners and the men. The provision of baths at all pitheads would, there can be no doubt, be of great benefit to the miners, and would have an excellent effect on the amenities of life in colliery districts.

The New Nursing Home in Edinburgh.

Of the £10,000 aimed at by the promoters of the new nursing home in Edinburgh, £8,640 has now been received. This has justified the purchase of three large self-contained houses in Chalmers Street. Plans for the reconstruction are being prepared, and will be submitted to the executive probably in October, and it is hoped that work may be begun in November. It will be remembered that the scheme is the equipment of fifty beds, eighteen to be available at the rate of a guinea a week, eighteen at two guineas a week, and fourteen at three guineas a week. It has been found that it will be better to raise £11,000 in place of the original £10,000 proposed, because expenses have slightly increased.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

THE ROYAL SANITARY INSTITUTE CONGRESS.

Town Planning Exhibition.

ONE of the most interesting and instructive features in the congress was the town planning exhibition organized by Professor Patrick Geddes and Mr. F. C. Mears. "Each city," says Professor Geddes, "has a character which has gradually evolved through a long period of time, and is the result of the interplay of situation, climate, race, and other factors. There must be a recognition of that character to attain success, and an appreciation of the city as a unity of life within which industries and arts, health and education, ethics and economics are not distinct and separate activities, but so many aspects of its efficient functioning." The aim of the exhibition is to foster this sense of civic unity. The first division dealt with the main geographical and social forces which have determined the present form of towns in Western Europe. "Town planning and city development," it is said, "must remain inadequate without rural development and conversely." On the walls were shown the evolution from the simplicity of the Roman camp at Turin, through such mediaeval towns as Nuremburg and Bruges, down to the complexity of the great capitals of to-day. Paris and London were shown with their good and evil features, and also plans of modern American and Continental towns, showing the high degree of control exercised in the arrangement of new streets and buildings. Following was a series of plans and views of garden cities such as Letchworth, suburbs such as the garden village, Hull, and industrial villages of the type of Port Sunlight. A large division was devoted to Edinburgh, and by the help of maps, plans, views, old prints, photographs, and drawings, the evolution of the city was traced from the feudal era; the effects of the Reformation, of the Covenanting and Whig period, of the rise of the system of stone-built flats, of the age of civil engineering and railway and industrial development, were all traced, and schemes were suggested for the future. The hope was strongly expressed that in the near future a similar exhibition could be made of the development of Belfast. Outline surveys were given of Dublin, Belfast, Londonderry, and Coleraine as representing the "plantation" cities, of Limerick, Cork, and Waterford as "feudal" cities, and of towns growing from a few houses at cross roads.

The Hygiene of Childhood.

A most successful conference on this subject was held under the presidency of Sir John Byers, whose inaugural address has already been noticed. The essence of Sir John's paper was the urgent necessity to cultivate the growth of the public "sanitary conscience," and to train women for the duties of maternity—to show them the supreme importance of intelligent and painstaking "mothering."

This address was followed by a paper on the hygiene of school life by Professor Lindsay, M.D., who said that "the state of many of the primary schools in Ireland, including some of those in Belfast, can only be described as a serious peril to the public health and a scandal upon Irish civilization. They are built upon unsuitable sites; they are ill-constructed, and ill-adapted for their purpose; they are overcrowded; class-room and cloak-room accommodation is defective; the out-offices are insufficient or insanitary; heating and lighting are bad; and cleanliness is very imperfectly attended to. In some parts of the country the expense of heating and cleaning is most unjustly thrown upon the teachers, and the only fuel available is that brought by the scholars themselves." He referred them to the reports of the National Board of Education, and said that popular control and local financial support were indispensable. Dr. Lindsay then described the essentials of a good school, the necessity for the regulation of study, and for medical inspection of schools and scholars. Lord Aberdeen said that the Treasury had at last agreed to meet what had already been guaranteed, so that £40,000 a year were now devoted to heating and cleaning in schools. Several ladies and gentlemen spoke of the unsuitability of much of the teaching, and of the importance of hygiene in schools; of the inadequacy of the sum mentioned to heat and clean properly the primary schools of Ireland; and of the means for the reduction of infantile mortality, both in towns and in country.

Mr. George Thomson read a paper on the dental hygiene of childhood. In this interesting communication he advocated the examination of the teeth of every child at the age of 3 years, as by so doing an opportunity would be given of preventing future loss; it would help to prevent pain and bad habits of eating, to save the permanent teeth, and stimulate the growth of the jaws.

Open-Air Treatment of Disease.

In the Conference of Municipal Representatives, Dr. Boobbyer, M.O.H. for Nottingham, read a paper on the open-air treatment of all classes of acute specific diseases, including small-pox, scarlet fever, diphtheria, measles, whooping-cough, pneumonia, erysipelas, and even enteric fever, which had lately been carried out in Nottingham. From free ventilation to dissipate the concentrated virus to open air was an easy step, and during the past few years it had been the practice to nurse the more severe cases of these diseases in the open air, in bell-tents with raised curtains, in the freely ventilated corridors, or in the covered approaches of the hospital. In the outbreak of small-pox from 1902 to 1904 all the cases with severe eruption were nursed, winter and summer alike, in bell-tents with open sides. Acute septic conditions cleared up more speedily in the open air than in the ward. No ill result had ensued from the exposure, and neither bronchitis nor pneumonia had followed. The nurses came to prefer the open-air method, and it did away with the objections to the use of temporary buildings for infectious cases.

Special Correspondence.

PARIS.

Medical Education and the "Dead Languages."

DURING the last few months a movement in favour of restoring the study of the languages of antiquity to the importance they previously held in education has been gathering strength. Down to 1902 the student, before his name could be inscribed at the Medical Faculty, was required to possess the *baccalauréat ès lettres* and the *baccalauréat ès sciences restreint*. In order to obtain these two diplomas it was necessary for him to have given, either at school or at college, six years to Latin and Greek and one to philosophy. He was required also to show some knowledge, extensive but not profound, of geometry, algebra, physics, chemistry, and natural history, and some acquaintance, more theoretical than practical, with German or English. Having loaded himself with this baggage, and having passed the *douane* at the Sorbonne, he was allowed to pass the frontier into the school of medicine. The only part of this course of study to which any really serious importance could be attached was that of the two dead languages, but in 1902 secondary education was organized. Four new courses of study were recognized. The first was the Latin-Greek course, which was practically the same as the old course. Another was called the Latin-Science course, which threw Greek overboard. The third was a Latin-Languages course, which sacrificed the study of science to that of two living languages, generally English and German. Finally there was a fourth course, the Science-Living Languages course, which threw overboard both Greek and Latin. There thus came into existence four kinds of baccalauréat, any one of which gave admission to any faculty. The immediate result was that the number of students of medicine, already too large, became larger. More than this, in consequence of the almost complete desertion of the Latin-Greek course, the new system led to the enlistment of quite a different class of recruits in the medical faculty. That medicine has lost by this change is not astonishing, since, even with regard to the purely mechanical sciences the highest authorities have admitted that there has been a lowering in the social and intellectual quality of the engineers produced by this modern system. It was instituted because it was thought a good and democratic policy to remove a barrier which, it was said, stopped certain otherwise suitable candidates

who had found their vocation late or who had at first intended to enter some other profession. Through the breach made in favour of these few the crowd entered. Last May the French Academy, which had previously made representations to the Minister of Education, gave its unanimous approval to a manifesto drawn up by M. Jean Richepin, the poet and dramatist and a member of the Academy. A little later the Société des Gens de Lettres unanimously gave its adhesion to the policy of the Institute of France. The medical profession could not remain indifferent to a movement which so nearly affected its traditions. At a congress of students' associations held at Lille a resolution was adopted to the effect that a candidate should not be permitted to commence medical studies until he was able to produce the diploma of *bachelier ès lettres*. Following the example thus set, the Association of Medical Students in Paris expressed its opinion that instruction in Latin and Greek as it was before 1902 should be made obligatory on all candidates for admission as medical students. The Society of Engineers has since resolved to support the Academy, and in fact the highest literary and scientific authorities, looking at the matter from the point of view of the best education for the youth of France, agree that the study of living languages can never replace that of Latin and Greek. It is pointed out that Pasteur and Claude Bernard both recognized the importance of literature as a source of general ideas, while Barthelot maintained that the fine culture due to classical studies was necessary for the successful production of scientific work. It is not a mere matter of intellectual gymnastics, although this is the argument most often advanced by the defenders of classical education. If this argument were sound, then the greater the difference in the genius of two languages the more effective would be the training offered by transposing the one into the other; from this it would follow that it would be more useful for Frenchmen to study German or Manchu than Latin. The matter is really more delicate and the difference more profound. To learn Latin and Greek is to gain the means of study and understanding that literary excellence which is both the example and the object of this form of education. Latin and Greek offer to us the opportunity of continual association with the minds of the multitude of poets and historians of genius. These languages are not really dead; what has died is the commercial speech of the market place and the vulgar talk of the crowd. The thoughts of the great workers and the ideas which they suggest survive, and are all that was worthy of preservation. Living languages are studied not for the cultivation of the higher qualities of the mind, but for the material uses to which they may be put. The difference in spirit may be found even in the examples given in the grammars. I open a German grammar at hazard, and I read: *Haben sie den Hut?* I open my old Latin grammar, and I read: *Aristides mortuus est pauper.* In the first the essential thing is the banal thing. We study the German grammar in order to be able, should occasion arise, to order a boiled egg, to ask one's way in the street, or to talk about the weather. Possibly, if one gets far enough, we read Goethe or Nietsche. We learn Latin, on the contrary, in order to win a point of view. The study of the first is its objective utility, of the second the intimate subjective effect. If the profession of medicine is not to sink to a trade in visits, there is surely no other calling in which the conscience should be more alive and the mind more delicate and the moral authority higher and more capable of inspiring respect and confidence. French doctors have reason to maintain the necessity of reverting to the old classical culture of Latin, Greek, and Philosophy. As a matter of fact a very curious thing has been happening in France; while the male students, following the ill-considered policy of the powers that be, have shown themselves more and more disposed to suffer themselves to be alienated from the classical languages, their feminine colleagues have been drawn more and more to those very studies. The truth of this is proved at the examinations at the Sorbonne and by the increasing favour in which the Latin classes are held in schools for girls. Feminism, guided by the mother-wit of women, is taking up the arms that we have dropped, believing that in this way it may find the secret of our former supremacy. We have chosen to see in the humanities *un enseignement de luxe*: our rivals have adopted the study as a means of higher education.

BUDAPEST.

The Present State of the Sick Club Practice.—Sick Club Doctor on the Stage.—Professional Secrecy.—Cheap Railway Fares for Hospital Doctors.

On July 1st, 1908, the Workmen Insurance Bill came into force, and since then there has been a continuous fight between the club doctors and the State Insurance Office, as the representative of the State in its relation with the individual clubs. The State Insurance Office has strenuously opposed the demand for the right to free choice of doctor, although it is felt not only by professional men but also by the lay public that the ideal solution of the question—from the point of view of both doctors and patients—would be the free choice system. The medical profession asked 6 and 9 crowns respectively (5s. and 7s. 6d.), and a maximum limit of 500 members. This, however, the insurance offices were not inclined to accept, because, as it appeared later, the clubs employ one doctor for each 1,000 members or more, at 3,600 crowns (£150) a year—that is to say, 3.6 crowns (3s.) per member. Even this might have been forgiven by the Hungarian Medical Association, but it could not overlook the changes which were to have taken place on October 1st last year. Nominally the State Insurance Office desired to stop the contract system, and introduce in its place a system under which both employer and employee contributed, with some trifling increase of the doctor's salary. This change was to be accompanied by new rules of service and discipline. These rules were ready on January 1st, 1911, and were to be signed by all club doctors. In most Hungarian towns and cities, however, the doctors refused to sign, and demanded the continuance of the old contract system with certain modifications and restrictions. The opposition was keenest in Gyula, where the doctors insisted that clubs should employ only those who were members of the Medical Association, and who had signed a declaration of solidarity. As the local clubs at Gyula refused this request, all the club doctors resigned, feeling certain that no medical man would be found to occupy a boycotted position, because out of Hungary's 5,000 medical men 4,700 are members of the Association. But, alas! their expectations were not realized. There were ten doctors (two of them members of the Association) who were not ashamed to occupy the vacant posts for a considerably increased salary (7,800 crowns—£240); these men had to do the work of sixteen. This has resulted in a medical strike in twenty-five towns at the present time; that is to say, the doctors will only attend club patients as private patients. In consequence of this energetic step on the part of the medical profession, the State Insurance Office now intends to begin fresh negotiations with the Medical Association, and to try to settle all questions. So far as can be gathered, there is now every reason to hope that the controversy will soon be settled amicably.

The Hungarian public has read so many complaints in the daily papers about the way the doctors of the sick clubs do their work, that it is coming to think that no sick-club doctor can be relied upon to act honestly. The public believe that they are all superficial, that they do their work mechanically without any ambition, as paid employees of the sick clubs, and that they prescribe cheap medicines in order to spare the funds of the clubs to the detriment of the patients. Club doctors constantly figure in the comic papers, which make out that the club doctor regards every patient who applies for advice and treatment as a malingerer. The following is a recent specimen of these gibes:

A Morning Report.—Nurse in the hospital of the sick club: I humbly report that another malingerer has died during the night.

Our would-be humorists have gone further. The club doctor has been made the subject of a one-act farce, with the title of "The Insurance Bill and Sick-club Doctors," which has gone round the music-halls of the country, everywhere eliciting hearty laughter from the medical as well as the lay members of the audience. The following is a specimen of its dialogue:

SCENE: *The office of a sick-club doctor.* TIME: *3 p.m.*

Doctor (*sits in an easy chair and shouts out as a patient steps in*): Don't come nearer, please! Stand where you are! What's the matter with you?

Patient (*moaning*): My stomach, sir! (*Wants to undress herself.*)

Doctor: Don't dare to undress yourself here! Aren't you ashamed? Show your tongue. (*Patient wants to come nearer.*)

Doctor: Don't move! Stand where you are! (*Patient puts her tongue out.*)

Doctor (*takes an opera glass and looks through it, scrutinizing the patient*): All right, you have eaten too much, overloading the stomach. Don't eat more watermelons.

Patient: I swear to you, doctor, I haven't tasted a watermelon this year.

Doctor: Then how did that little piece of watermelon get on your blouse there?

Patient: I am a waitress in a restaurant, sir!

Doctor (*to dispenser*): Give her Prescription No. 6. (*Goes to the washstand and washes his hands, though he has not touched the patient. Dispenser goes to a case with many pigeon-holes, takes out a prescription, hands it to the patient.*)

Doctor: Next patient! (*A mason comes in hurriedly.*)

Mason (*breathlessly*): Please, doctor, come at once to see a man who has fallen from a scaffold. We think he has broken his neck.

Doctor (*pointing to a board*): Don't you see that outside patients are seen from 9 to 11 a.m.? I shall come and see him to-morrow morning.

Patient: But meanwhile he will die, doctor!

Doctor: That's his business. Perhaps he is already dead, and, if so, my trouble would be useless. (*Goes to washstand and washes his hands. To dispenser*): Next patient! (*A woman with pimples on her face attempts to approach the doctor.*)

Doctor (*shouting*): Stop where you are. What is the matter with you?

Patient: See my face, doctor!

Doctor: I am not curious to see your face, madam. Not at all.

Patient: I mean I have a sore face, and I should like to have some ointment prescribed.

Doctor: What! Ointment! You vain woman. Do you believe that the club can afford . . .

Woman (*interrupting the doctor*): I beg your pardon, sir. I am not a club member. I am a paying patient.

Doctor (*changed*): Oh, come nearer, lady. A thousand pardons; my mistake. Oh, I quite understand the wretchedness of a sore face. I am always saying that one may have a disease of the liver, the kidney, or the spleen. That's nothing, because nobody can see it. But to have a sore face is really something that requires treatment. Let me examine you thoroughly (*takes magnifying lens and surveys*). Dispenser, give her Prescription No. 9.

Dispenser (*goes to shelf, comes back to doctor, whispering*): There is no more No. 9 prescription.

Doctor: What a greenhorn you are! Give her No. 6 and No. 3, that makes No. 9. You are not a mathematician, I guess. Next patient!

Patient (*an emaciated, pale man, bows deeply to doctor*): I suffer from palpitation, sir!

Doctor: Dispenser, give him Prescription No. 9.

Patient: I have that rubbish already. It was of no use. (*Doctor comes nearer to the patient, puts his ear on his chest and listens. During this time the patient puts his hand in the doctor's pockets and takes out his purse.*)

Patient: Wouldn't it be better, doctor, to examine me thoroughly. You see I am suffering terribly. You cannot hear my heart beat very well through a waistcoat and two coats.

Doctor: You are capable of reporting me to my authorities if I do not examine you, so be quick and take your clothes off. (*Patient takes off his clothes quickly. Just as he is undressed the clock strikes four.*)

Doctor: Dress yourself up, dear friend. My office time is over. Come to-morrow!

(*Curtain.*)

In a provincial town a club doctor asked the police-captain to forbid the performance of this farce, because the actor playing the doctor had closely imitated his appearance, but this request was refused.

Dr. Kaxtriner has discussed some of the difficulties attending professional secrecy in the official journal of the Hungarian Medical Association. He maintains that as the medical men of Hungary refuse to give medical certificates to private patients or *post-mortem* certificates to insurance companies—thereby throwing away a considerable income—it is illogical to enter the diagnoses on prescriptions for club patients. By doing so the club officials, and chemists and their assistants—and eventually others—learn the illnesses of patients, and doctors thus sin against professional secrecy. It is the same, he says, with *post-mortem* certificates; nominally, the doctor who makes the *post-mortem* examination is obliged in Hungary to write the diagnosis in the Magyar (Hungarian) language, for the sake of the statistical officials, and as almost all the diagnoses have their translated or original Magyar terms (for instance, pneumonia is called inflammation of the lungs; meningitis, inflammation of the brain membranes; cirrhosis of the liver, shrinking of the liver, etc.—and several other original terms), the officials, who are not so discreet as could be wished, might easily give publicity to the fact that X suffered from syphilis or tuberculosis, etc., thereby doing harm, perhaps, to a family enjoying public esteem. To get rid of this evil, Kaxtriner suggests that doctors should take a copy of their prescriptions, the copy being given to the patient, and the original, on which the diagnosis also is written, retained by the doctor for reference, and sent into the office once a month. In regard to death certificates, he suggests that they should be numbered, and that a record of the cause of death should be kept in a private note-book, and a copy sent at the end of a month, or three months, to the offices with its corresponding number.

The State Railways have issued an official circular, according to which hospital doctors in the employ of the State, or counties or towns, will enjoy a reduction of 50 per cent. in railway fares, not only for themselves, but also for their families and household servants.

Correspondence.

THE NEED FOR UNIFICATION IN THE PUBLIC MEDICAL SERVICES.

SIR,—I regard the proposals of some of the advocates of unification as fraught with such dire consequences to the general practitioner that some of the statements they make must not be allowed to pass without protest. For instance, in the opening paper on page 321, BRITISH MEDICAL JOURNAL, August 12th, I find, among other equally general remarks, the following: "and also because prevention and treatment are inseparable." They are not inseparable; the fact is, that they should always be distinct.

The medical officer of health should confine himself to preventive measures, the general practitioner should treat the cases. It is quite wrong for the medical officer of health to have any clinical work or treatment of the sick. He should be a perfectly independent official, and be able to carry out his official duties without fear or favour, and be certain of security of tenure of his office and a retiring pension. To endeavour to make him a general practitioner as well will spoil the whole scheme, for, if he is responsible for patients, he must always be available on an emergency and never be far away. But this is incompatible with the idea of combined districts, without which it is impossible to have whole-time men.

Those who are familiar with the sanitary conditions existing in most of our towns and villages quite understand that the medical officer of health has got quite enough to attend to these matters, without wanting the treatment of disease as well. The conditions existing in many localities are evidence that someone is wanting in appreciation of the necessities of the case. In my opinion, there is a far more urgent need for more efficient sanitary measures than for more medical treatment. Let the medical officers of health look more to their special work, and not want to take on any more. There is plenty of this to fill up all their spare time. The fact is that unification is not necessary. It is co-ordination and co-operation that is wanted. But it is well known that the present whole-time medical officers of health are all—or most of them—conspiring together to found a National Medical Service and extinguish the general medical practitioner. The present part-time medical officers of health are being unconsciously influenced in favour of the scheme by offers of all the appointments in each locality, such as: School medical officer, superintendent of the isolation hospital and sole medical officer, certifying factory surgeon, police surgeon, public vaccinator, district medical officer, and medical officer of the workhouse. When they hold all these, they won't want any private practice, and will be quite willing to be Government officials. But what are the other medical men in the district going to do for a living?

The origin of the scheme no doubt emanates from a high official of the Local Government Board, who is doing all he

can to lead the way to this National Medical Service. Let us do all we can to frustrate the conspiracy.

The terms with which some refer to medical treatment are, to say the least, not very polite. Even in this same journal I find a reference to "simply bringing the patient to the doctor and his guessing at the disease." This is on a par with the statement in the Poor Law Commission report that the days of the "bottle of medicine" are over, and similar derogatory remarks. The fact is that the medical officers of health think they can do impossibilities, and it is time they were reminded that our patients still take medicine and derive benefit from it, and still keep asking for more; that prevention is in its infancy, whilst treatment rests on the experience of many years.

The policy of the British Medical Association is to divide up the work among all the practitioners in the district, and give them all a fair chance of getting a living, and not to put everything in the hands of a favoured few and leave the rest to pick up the leavings. That this is the wisest policy should be admitted, and the efforts of members should be to oppose the efforts of those who would do away with our independence, abolish personal effort and competition, and put us on a level with the excise officer or the income tax collector.—I am, etc.,

Buckingham, Aug. 14th. ARTHUR E. LARKING.

THE NEED FOR INTERNATIONAL MEDICO-POLITICAL CONFERENCES.

SIR,—I venture to believe that the time has come when British medicine has much to gain from conference on medico-political matters with its brethren of other nationalities—much perhaps to lose for want of such conference.

The likeness of the present crises in Germany and England and the already expressed desire of some French medical men for a meeting of representatives of the French and English professions to discuss the legislative proposals now made in this country, taken in conjunction with such considerations as the community of interest and responsibility of all national branches of the profession, their broad humanitarian rather than merely national outlook, the similarity of interference by various Governments with professional affairs, the obvious danger to all of mischievous limitations of the liberty of one, and the consequent necessity for community of action, not only in their own interests, but in the interests of mankind in general—point clearly, it seems to me, to the above conclusion.

On the wider and more remote advantages of such meetings I do not dwell. In practical politics the "dreamer of dreams" is generally a dangerous man. But it can scarcely be doubted that the closer union of policies, the more intimate association of interests, by all the national divisions of a calling essentially one, increasingly pre-eminently intellectual and therefore increasingly pre-eminently influential, must, in the long run, tend to promote a better world-wide international feeling—to foster the growing desire for international peace.

I do not suppose that many people are making the profound mistake of thinking the present crisis is a merely passing incident. It is only a beginning. No one who reflects reasonably upon the vast power which a century of medical labour has built up in all lands will imagine that vote-needy politicians are going to pass it by with eulogistic indifference. As well expect a signed blank cheque safe during the evening visit of a burglar. The profession, I believe, has got to put its bolts and locks in order, and the sooner it does so the better—and not in one country only, but in all. It is perhaps amusing, but it is scarcely reassuring, to see Democracy stepping eastwards to take tips from Autocracy. The tips are not likely to be favourable to individual rights. Let those who prize liberty take all possible steps to protect it.

A more immediately important consideration, however, of such remote policy is the avoidance of anything which could ultimately lead to undesirable results. There seem to me sound historical reasons against an International Medical Association on the lines indicated for "Labour" by certain socialistic propagandists. Such associations tend to become "antinational," and have been, indeed, advocated with that very idea in view. Each nation in medicine should preserve intact its own laws and customs specially adapted to its own public, without international trammels to limit its liberty and progress. What is wanted is a committee of representatives—not too numerous—from all the civilized nations of medicine, embodying the best brains of the profession throughout the world—a body, in fact, not very unlike the committee which constitutes the Peace Conference at The Hague. By means of such a body all important medico-political problems arising in one country could be submitted for consideration and advice to the world-wide experience of the profession. It can scarcely be doubted that the result would be of value. Advice so obtained need by no means necessarily be acted on, but could scarcely fail to beneficially affect action, or to add immense weight to action taken in accordance with it. Possibly the international medical congresses held annually in different countries might afford the most convenient occasions.

The idea seems to me one which is at least well worth considering. Some day or other such conferences will almost certainly take place. Why not soon? The occasion seems to ask for them.—I am, etc.,

Exeter, Aug. 6th. W. GORDON.

THE INVESTIGATION AND TREATMENT OF MENTAL DISEASES.

SIR,—It is our custom in England to silence the questionings of those who voice any doubts as to the sufficiency of the treatment and care afforded the insane in this country, by replying that in no other land are asylums so well administered, or the care and treatment of the patients therein so well carried out. Once again this hardy plant is in full bloom in the report for 1910 of the Crichton Royal Institution, Dumfries, and the prominence given in the BRITISH MEDICAL JOURNAL of July 22nd (p. 182) to that part of the report dealing with the comparative inquiry by a Crichton committee into the investigation and treatment of mental diseases at home and abroad, together with the absence of comment on the second of their two conclusions, mentioned by you, leads one to suspect that you also may be deceived by its comforting assurance. Let me quote from your note:

> Briefly the two main conclusions arrived at by the committee are: First, that scientific investigation into insanity is more advanced among certain Continental nations than in Great Britain generally, this superiority being associated with the existence of university clinics; and, secondly, that in respect to the treatment of patients, accommodation, and general provision, British asylums still retain a decided lead over those of other European countries.

The truth of these two statements one does not dispute, but the natural inference that only in the organization of investigation into insanity have we anything to learn from foreigners, that in the actual treatment and care of mental patients we stand at the head of European countries, cannot be allowed to pass unchallenged.

The report of the Crichton committee is certainly an advance on the opinions usually expressed by those who should know better, in that it admits openly the superiority of certain Continental nations in the matter of scientific investigation into insanity; but the committee seems to have failed signally to appreciate the fact that in Germany, more especially, the treatment and care afforded sufferers from mental disease is essentially of two classes. On the one hand, the certified patient is treated and cared for in the asylum, as with us; on the other hand, psychiatric clinics are provided wherever possible, certainly in all university towns, to which any one may apply at any time for treatment; admission is chiefly voluntary, the sole requirement being that the patients suffer from some one of the many varieties of mental disorder. Let us take the clinic at Munich as an example. Several thousand in-patients—3,000 to 4,000, I believe—and large numbers of out-patients are treated in the year. The number of beds is only 120. But the medical staff, on the contrary, is a very large one; no medical officer has charge of more than 30 beds. The nursing staff is also a strong one, never less than one to every five patients; the wards are small, 10 beds at the most; in short, every facility is provided for individual treatment. The hope is that by so providing for institutional treatment of a suitable nature and in such a way, by removing all legal formalities as far as possible, as to attract the mental patient in the early days of his illness, much may be

done to shorten the attack, and so relieve the State of the burden of a longer and more costly stay later in an asylum.

Where in this country have we such an institution? Granted that our asylums, as such, are better administered, the patients in them better cared for than the similar institutions in Germany, is this fact, so frequently insisted on, to blind us for ever to the far more important fact that in this country we have as yet no psychiatric clinics, that we make little or no attempt to provide early treatment for the mentally disordered? Is it better to draw a legal line around a class consisting mostly of the finished product in insanity, and to excel in the care and treatment of these; to build costly "tombs for the intellectually dead," and to regard the discharge of some 35 per cent. of their inmates, many of whom return only too soon, as the extent of our abilities, the height of our ambition; or to treat and care for this class perhaps a little less well, but to spend willingly and largely in order to provide for treatment in separate suitable institutions of the early recent case?

Germany is ahead of us in organized scientific investigation into insanity, in the special education and maintenance of a staff of medical men, experts in mental diseases, in the application of psychiatric knowledge to public affairs, and last, but not least, in the provision for early treatment of those mentally disordered. We excel in the administration of asylums, and the keep and care of the chronic lunatic. Is it not time to give up patting ourselves on the back for this, and deluding the general public into a false sense of well-being by public announcements of the same? Let us turn rather to these other problems of insanity, and, if we have nothing better to offer in solution of them, let us openly acknowledge the lead of our neighbour, and follow manfully in his wake. The need of putting our house in order is all too evident. The report of the Royal Commission on the Feeble-minded is a warning that cannot long be neglected with impunity.—I am, etc.,

West Riding Asylum, Menston, July 24th. NOEL J. H. GAVIN.

TEN YEARS AFTER SANATORIUM TREATMENT.

SIR,—In the report of the discussion on the administrative control of tuberculosis at the recent Annual Meeting, Dr. C. J. McWalter of Dublin is reported[1] to have said that "no practitioner knew of a case of tuberculosis which he had treated ten years ago and which was now alive."

This statement is so wild that it is probably incorrectly reported, but such sweeping statements, unsupported by evidence, do much harm.

No one with any experience in the treatment of tuberculosis will take it seriously; but there may be some others, especially members of the non-medical public, who might imagine that the statement had been made with authority.

I know of several cases of tuberculosis which I had treated ten years ago and who are still alive, and I have no doubt that all who have had any large experience of the treatment of tuberculosis extending over ten years could say the same.—I am, etc.,

London, W., Aug. 9th. J. EDWARD SQUIRE.

SIR,—During the discussion on the administrative control of tuberculosis at Birmingham Dr. J. C. McWalter (Dublin) is reported to have said that "no practitioner knew of a case of tuberculosis which he had treated ten years ago and which was now alive." To allow such a statement to pass unchallenged would be unfair to those who are in a position to refute it, and to the "cause."

I have gone roughly over my notebook, and find that at least 8 patients under my care in Belle Vue Sanatorium in 1901 are now alive. Seven of them are quite well, and have been so since they left me; one has a few weeks ago become "run down" after influenza, and has again entered a sanatorium (for the first time since he left Belle Vue).

Amongst these 8 cases I include none who have not written to me personally since December last stating that they are alive and well; some are married and have healthy families; some say the period of their treatment is an almost forgotten page in their life-histories; all are grateful and appreciative. One was in bed (temperature 102° on arrival) for two months with profuse diarrhoea and night sweats, with haemoptysis and trouble at both apices. After three months his first walk was ten paces only; he was nine months in my sanatorium, and when he left he could climb steep hills steadily for two hours and a half in the morning and return with a rectal temperature of 98.6°, and on two occasions below 98°. He returned to office work in a large city, and has had no further tuberculous trouble since. I can personally vouch for the presence of tubercle bacilli in all these 8 cases.

Amongst patients not included in the above list there are some whom I cannot yet trace, though I believe they are still alive.

Permit me to add that my sanatorium is now closed, and that my interest in any similar institution is purely professional and humanitarian.—I am, etc.,

London, W., Aug. 7th. E. W. DIVER, M.D.

[1] BRITISH MEDICAL JOURNAL, August 5th, p. 266.

TUBERCULIN DISPENSARIES.

SIR,—In the recent discussions upon tuberculosis and tuberculin it is evident that the British public, and especially the medical public, is slow to accept the value of new procedures; and I feel it, therefore, the duty of all who have had experience in the use of tuberculin in large immunizing doses to state the result of that experience. The letter of Dr. Barber in the BRITISH MEDICAL JOURNAL of August 5th testifies to the good results obtained at tuberculin dispensaries; but I think I may be pardoned if I take exception to the implication conveyed in his last sentence. He says: "It is the tuberculin dispensary" (in contrast to the sanatorium) "which supplies the condition of scientific regulation of dosage." I have been using large doses of tuberculin in this sanatorium for nearly two years. Previous to that, ever since the first public communication by Wright and Douglas on the opsonic index, I had been using tuberculin in the form and dosage suggested by them, controlled by observation of the opsonic index; but my present treatment is modelled on lines laid down in the excellent book by Bandelier and Roepke,[1] modified to some extent by my own experience. Every patient who comes here is now treated with rapidly progressive doses of tuberculin, and the results have far surpassed my expectations; for I confess that my previous experience with the very small doses, repeated at longish intervals, had made me very sceptical of the value of tuberculin in phthisis. Among the cases which I have treated in the last two years there have, of course, been a few failures to respond to treatment; but, on the other hand, I can claim excellent results in many cases which my past experience tells me would have been very slow and tedious without the use of tuberculin. These good results are not obtained without much care and anxiety on the part of the physician; a close daily watch has to be kept on every patient's temperature, and in most cases the amount of exercise has to be carefully regulated in order that a reliable temperature curve shall be seen, and the time and the size of the next dose estimated. Every one who has used large doses will admit the importance of this close observation.

My contention is that it is impossible to keep this strict (and to my mind necessary) watch on a patient who visits a dispensary twice a week, and is more or less free to do what he likes in the intervals; whereas in a sanatorium the life is regulated by rule, and the patient is constantly under the doctor's eye. Although I do not for one moment doubt the excellent results obtained by the use of tuberculin in dispensaries, yet I am convinced that the best results of that treatment are only to be obtained in a sanatorium, where a strictly accurate and scientific record can be kept, and where the patient has the further advantages of diet, good air, regulated rest and exercise. I would at least claim residence in the sanatorium as necessary to the working-class patient in the earlier weeks of a course of tuberculin treatment; bi-weekly visits to a dispensary become possible afterwards, but for the poor, who for one reason or another cannot enter a sanatorium, treatment with tuberculin at a dispensary is undoubtedly the next

[1] Bandelier and Roepke's *Tuberculin in Diagnosis and Treatment.* Translated by Dr. Morland.

best method. I cannot, however, understand why those who so keenly advocate the use of tuberculin should disparage the sanatorium on all occasions; the one is not the opponent but the complement of the other. I claim that tuberculin treatment can best be carried out in a sanatorium, and that no sanatorium treatment is complete without the use of tuberculin. There are few cases where tuberculin is not beneficial, and hardly anywhere it may not safely be at least tried. There is more danger in giving too small doses, and in increasing the doses too slowly (and so producing anaphylaxis) than there is in beginning with the larger doses and working up to the still higher ones which confer immunity.

For the details of treatment, I can only confidently recommend those interested to the book I have already mentioned.—I am, etc.,

Nordrach-on-Mendip, Aug. 10th. ROWLAND THURNAM.

SIR,—I hesitate to write on the question of tuberculin dispensaries, as there was so much correspondence on the subject earlier this year; but Dr. H. V. Barber's letter in the JOURNAL of August 5th states that "branches" have been started at Oxford and Banbury. There is nothing of the kind in Oxford, and I am not aware of one in Banbury. Tuberculin has been given in the out-patient department of the Radcliffe Infirmary, Oxford, but it was not started as a "branch" of any dispensary. Perhaps Dr. Barber can enlighten us as to whether the Kennington Dispensary is a "branch" of the Phipps Dispensaries in Baltimore and Philadelphia? The method of giving tuberculin is divided into two schools on the Continent, and Dr. Wilkinson has adopted one school and introduced it to Kennington Road.

At Baltimore tuberculin has been given in the out-patient department since 1907, and an excellent account of the methods and results is given in the *Bulletin of the Johns Hopkins Hospital* (August, 1909).—I am, etc.,

Oxford, Aug. 7th. H. T. GILLETT, M.D.Lond.

PLAGUE INFECTION OF RATS.

SIR,—In your leading article of June 24th last on plague infection in rats at Wapping, when discussing the reasons why no cases had appeared among human beings, no mention was made of the variation in virulence of plague both in rats and men. As medical officer of health for the late colony of the Cape of Good Hope, I had for some years, when plague was endemic in the colony, a somewhat extensive experience of the disease, and one of the most constant and important factors noticed in all the outbreaks originating in rat infection was the progressive variation in virulence or pathogenicity manifesting itself between the beginning and the head of the outbreak. At the commencement rats would be affected without any marked mortality taking place, or, at any rate, being observed among them. Gradually, however, the virulence would increase until the unusual number of dead and dying attracted the attention of the inhabitants of the locality. About this time one or two isolated cases of plague would appear among the inhabitants, and thence onward human cases would occur in increasing numbers and usually of more virulent type, as evidenced by the clinical features and the case mortality. After a few weeks, but sometimes longer, the cases among human beings and the evidence of mortality among rats would speedily decrease. The later cases among human beings often would be so slight that it was sometimes difficult to convince the patient that the enlarged gland from which he was suffering was really of plague origin.

The diminution in the mortality among rats was undoubtedly largely due to the diminution of the rodent population by death or migration, it being the habit of this animal when affected with a lethal and widespread epizootic to migrate to fresh quarters *en masse*. Also, the active measures taken for destroying rodents, breaking up their burrows and nests, and for cleansing and disinfecting rat-infested premises, would naturally tend to decrease rat mortality and the evidences of it. But that an actual diminution in the virulence of the disease was also an important factor, was demonstrated by the observation that towards the end of a plague epizootic in rodents we always found recently dead, as well as live rats apparently not sick, showing plague organisms, which neither by inoculation direct from the cadaver nor from broth cultures into guinea-pigs would produce more than a slight temporary malaise. These organisms, although morphologically identical with plague, were not capable, as far as our observations went, of having their virulence intensified by laboratory methods.

This experience was not met with once, but in the course of a number of distinct outbreaks in widely separated parts of this extensive continent. As an example, I may allude to the outbreaks of Capetown in 1901, and Knysna, East London, King William's Town, and Port Elizabeth. In the first-mentioned outbreak, there was clear evidence that the rats at the Capetown Docks had been affected for many months, but only for a couple of months prior to the first occurrence of human cases was there any account obtainable of any undue mortality among rodents having been observed. On February 2nd, 1901, the first human case was diagnosed. This was a comparatively mild case, ultimately recovering, in a man who was a checker in the employ of the military authorities at the sheds on one of the rat-infested wharves, who had been admitted to a local hospital as suffering from enteric fever. On diagnosing plague, I at once made careful inquiries into all deaths which had occurred in the city for some weeks previously, but was able to trace only two or three which had probably been plague, but had been diagnosed and certified as some other disease. But from February 2nd onward cases appeared in quick succession and of an increasingly severe type, so that in the course of about six weeks or two months about 800 cases were discovered. Thereafter the disease among human beings rapidly diminished, winding up with a succession of cases which were so mild in character that, but for the presence of a bubo without obvious cause and yielding plague organisms, it would have been impossible clinically to diagnose them as suffering from plague. In the meantime the rat epizootic had also steadily diminished, finally disappearing some months after the last case of human plague. In these rats, both dead and alive, undoubted plague organisms were found, but having a very diminished pathogenicity.

I have been tempted to relate this experience inasmuch as it seems to me quite possible that a similar absence of virulence may be at least one of the reasons why the disease is smouldering among rats at the Port of London without human cases resulting; and if this be so it is quite possible that the type of the disease may at any time become so intensified as to result in a severe outbreak.

I may add that the commencement and diminution of our outbreaks always demonstrated a more or less close seasonal occurrence, commencing about January to March, reaching its height towards the end of June, thence diminishing and dying out about November; the seasons here, of course, being opposite to those in Europe, January being our midsummer, June our midwinter.—I am, etc.,

A. JOHN GREGORY.

Department of Public Health, 55, Parliament Street, Capetown, South Africa, July 18th.

FATAL COLLAPSE AFTER EXTIRPATION OF KIDNEY.

SIR,—The concise remark of Dr. Corfield in his letter contained in your issue of August 5th, that "ether and shock are forces pulling in opposite directions; chloroform and shock are forces, if anything, directed the same way" is widely applicable.

I would remind those who may be considering it that spinal injection while it should, *ipso facto*, protect the patient from any depression due to chloroform, at the same time it deprives him of any benefit that stimulation from ether might afford. There are cases in which the stimulation due to ether is most valuable during an operation, and I would take this opportunity of emphasizing the fact, as it may sometimes escape those who may be too fond of chloroform and others who may too readily seek refuge in spinal analgesia, and so deprive the patient of this boon.

The cases of spinal injection I refer to are those which are not followed up by a general anaesthetic. Patients may suffer mental anxiety, more or less from fainting,

shock, sickness, collapse, etc., before, during, or after the operation, as well as depression, neuralgias, and other, even the gravest, sequelae of spinal injection, and are indeed fortunate if they escape them all.—I am, etc.,

RICKARD W. LLOYD.

London, W., Aug. 8th.

HIERA PICRA.

SIR,—Mr. D'Arcy Power gives an interesting account of the ancient composition of hiera picra. Its modern namesake is the well-known powder P. aloes soc. parts iv, and P. lanella alba part j. The pills are simply the above powder made in 5-grain pills.

The lanella alba bark is an aromatic stimulant, and, according to Hanbury (*Pharmacographia*), is used by the West Indians as a condiment; so that whatever abortifacient properties are attributed to it must be due to the aloes alone. I believe the common method of taking it is in gin.—I am, etc.,

A. F. DIMMOCK, M.D.

Harrogate, Aug. 1st.

SIR,—In his letter in the JOURNAL of July 29th, p. 250, Mr. D'Arcy Power asks: "When did the electuary become a pill?" In the *Dispensatory of the Royal College of Physicians, London*, translated into English by H. Pemberton, M.D., third edition, 1751, p. 315, hiera picra is neither an electuary nor a pill, but a *powder*. —I am, etc.,

PHILIP G. BORROWMAN, M.D.

Edinburgh, Aug. 4th.

REPRESENTATION OF THE PROFESSION IN THE CHANNEL ISLANDS.

SIR,—In your leading article of August 5th I observe that, in relation to the coming election of Direct Representatives on the General Medical Council, the hope is expressed very properly, that the profession should, on a poll, show few abstentions, and, especially at such a time as this, should unite in the endeavour to select the most capable and suitable men for the important position in question. I ask permission, however, in connexion with your remarks, to notice the fact that members of the profession in the Channel Islands are debarred from voting at these elections, in that—to use the words the Registrar to the General Medical Council recently addressed to myself—"only practitioners with registered addresses in England and Wales are entitled to vote, and the Channel Islands are not included."

I venture to express the hope that this enforced disability in the case of medical practitioners in the Channel Islands may be borne in mind when the proportion of the profession exercising the vote comes to be calculated. I say nothing as to the justice or reasonableness of such disability in its application to the respectable body of practitioners whom I have indicated.—I am, etc.,

HERBERT C. MAJOR.

Jersey, August 8th.

PERSISTENCE OF DISEASE GERMS.

SIR,—I have just been reading Sir Hector Cameron's interesting lecture on the persistence of disease germs in the human body (JOURNAL, April 29th). He quotes as analogy Gilbert White's statement as to the seeds of strawberry plants lying dormant beneath beech trees, but on page 973 traverses that statement by the legitimate criticism of a certain well-known botanist, who suggested "as a more convincing instance of the fact the circumstance that when old pasture is turned over by spade or plough a large number of plants may appear whose presence can only be accounted for by their seeds having lain inactive in the soil so long as it was undisturbed." As a matter of fact the presence of such plants can be accounted for in another way. Many plants, if grown on pasture in competition with grasses, are so inconspicuous that they develop only a few leaves, and only just enough seed to keep up their stock, so to speak. We see that repeatedly on the wild prairie, which if broken up this summer will produce a marvellous crop of, say lamb's quarters (*Chenopodium album*) next spring. A local farmer used to believe that such a weed crop was due to "spontaneous generation"! It was a new idea to him either that the seed might lie dormant after being deposited by birds or other means, or that if he had only looked he might have seen the tiny dwarfs bearing seed year by year concealed in the grass. May I offer to Sir Hector this fact that last year we suffered from so severe a drought in South Manitoba that the wild oat (*Avena fatua*) lay dormant in some fields until this more favourable season when it has made a most unwelcome appearance on certain summer fallows? I fancy also it would be easy to show that the seed of French weed (*Thlapse arvense*) as well of wild oats will lie dormant for many years under adverse conditions.—I am, etc.,

H. M. SPEECHLY, M.R.C.S.Eng., L.R.C.P.Lond.

Manitoba, Canada, July 29th.

CLUB DOCTORS.

SIR,—The accompanying letter speaks for itself and might interest "A Member B.M.A." who writes to the JOURNAL (August 12th, p. 349) deploring the scramble for clubs at 3s. I sent a copy to all the medical men in the neighbourhood, and can trust every one. We are united in East Dulwich, and I have every reason to believe that we will keep so.—I am, etc.,

JAMES E. BOON.

London, S.E., Aug. 11th.

Grove House,
126, East Dulwich Road,
August, 1911.

Dear Dr.,

The Secretary of a Local Friendly Society writes informing me that his Medical Officer is resigning, and wishes to know if he can put forward my name with a view to filling the vacancy.

I have written pointing out that no medical man can possibly do the work at 4s., and saying that I can only consider the matter under the following terms:

1. Ten shillings per annum per member.
2. All certificates to be paid for.
3. All operations to be charged at usual private rate.
4. Night visits—11 p.m. to 8 a.m.—5s.

I am,
Yours faithfully,
JAMES E. BOON.

COLOUR BLINDNESS.

SIR,—In reply to Dr. Edridge-Green, in common with every experienced colour tester, I appreciate the effect of shortening of the violet end of the spectrum in a candidate. No competent person would reject a candidate for employment on the running lines of a railway service for such a cause. I have read most of the books dealing with the subject of colour blindness, including one written by Dr. Edridge-Green. As an example of what I referred to in a former note, I quote the following case:

A. J., aged 30, fettler, intelligent and healthy, had watched three persons with normal colour sense examined by Holmgren's wools, found to be a well-marked green-blind (Holmgren's classification). By the lantern his only failure was to name the pale green-white.

I mention this case, as, although he did fail, he failed in a degree which experience shows may not be confirmed in a subsequent examination. He was re-examined by one of our leading ophthalmic surgeons, when he repeated only the same mistakes. The difference between Dr. Edridge-Green and myself is one of clinical evidence, and further discussion will, I think, be useless.

To revert to the expression of a colour-blind person, a candidate with a normal colour sense is frequently nervous when undergoing examination, and his hand may shake when selecting the wools. In this he is in marked contrast to the ordinary red-green blind.

I again emphasize the fact that my experience has been almost entirely amongst the wage earners of this service, and that I have now tested in the past three and a half years 20,000 persons by Holmgren's wools and Williams's lantern, and also many hundreds of cases by Dr. Edridge-Green's lantern, probably not less than 2,000.—I am, etc.,

G. H. TAYLOR.

Medical Officer's Office, N.S.W. Government Railways, Sydney, July 10th.

THE *Times* states that the International Opium Conference at The Hague will not take place in October, as was expected, but that it may be held next spring.

THE King has been pleased to sanction the following promotions and appointments to the Order of the Hospital of St. John of Jerusalem in England:—As Knights of Grace: Surgeon-General C. P. Lukis, C.S.I., M.D.; Surgeon-Lieutenant-Colonel Sir W. E. Crooke-Lawless, C.I.E., M.D.; David C. L. Owen, F.R.C.S.I. (from Esquire); Dr. Frederick Montizambert, I.S.O. As Esquires: John H. Yolland, M.R.C.S., L.S.A. (from Honorary Associate); Major G. S. Crawford, R.A.M.C., M.D. (from Honorary Associate); Thomas Gibson, M.B., C.M.

Obituary.

SAMUEL JONES GEE, M.D., F.R.C.P.,

CONSULTING PHYSICIAN, ST. BARTHOLOMEW'S HOSPITAL.

The death of Dr. Gee deprives the profession of a physician who was revered by many generations of students as a master of clinical medicine.

Samuel Jones Gee was born on September 13th, 1839; he was the son of William Gee, a Londoner. There appear to have been several other children but they all died in their infancy, and Dr. Gee retained to the end of his life some traces of the early delicacy of his constitution. He was sent to school at Enfield when he was only 8 years old, and he was afterwards at University College School from 1852 until 1854. On May 20th, 1857, he matriculated at the University of London, where he graduated M.B. in 1861, after gaining the University scholarship in medicine, and took the degree of M.D. in 1865. He entered University College Hospital as a medical student in October, 1857, and served as House-Surgeon there, and afterwards as House-Surgeon at the Great Ormond Street Hospital for Sick Children. But in spite of these appointments, and although he was admitted a Member of the Royal College of Surgeons of England, he felt that his vocation was the medical and not the surgical side of the profession. He obtained the M.R.C.P. April 10th, 1865, and was elected a Fellow of the Royal College of Physicians on August 9th, 1870. In 1871 he delivered the Goulstonian lectures, taking as his subject "The Heat of the Body." The lectures attracted considerable attention on account of their scholarly nature, and they were very fully reported in our columns. He acted as Councillor of the College in 1890–92, and again in 1902–04. He was a Censor in 1893, 1894, and 1897. In 1892 he chose "The Signs of Acute Peritoneal Diseases" as the subject of his Bradshaw lecture, and in 1899 he gave the Lumleian lectures on "The Causes and Forms of Bronchitis and the Nature of Pulmonary Emphysema and Asthma." In 1866 he became Assistant Physician to the Hospital for Sick Children, Great Ormond Street. In 1868 he was elected Assistant Physician to St. Bartholomew's Hospital on one of the very few occasions when that conservative institution has selected a teacher from outside its own school. But the wisdom of the choice was amply justified. Gee was placed for a short time in charge of the department for the treatment of diseases of the skin, in accordance with the rule of the time that the Assistant Physicians and Assistant Surgeons should each undertake a special department of medicine or surgery; but he very soon resigned it for the more congenial post of Demonstrator of Morbid Anatomy, which he held from 1870 to 1874, whilst from 1872–1878 he was Lecturer on Pathological Anatomy. He became full Physician on the resignation of Dr. Patrick Black in 1878, and from that year until 1893 he lectured on medicine conjointly with Dr. James Andrew at first, and afterwards with Sir Dyce Duckworth. In 1904 he retired on attaining the age of 65, when he received the compliment of being appointed Consulting Physician and a Governor of the hospital where he had served so faithfully and taught so well. In 1901 he was appointed Physician to H.R.H. the Prince of Wales, now His Majesty King George V.

On December 7th, 1875, he married at St. Stephen's, East Twickenham, Sarah, daughter of Emanuel Cooper, by whom he had two daughters; his wife and one daughter died before him. After his retirement from the hospital he moved from Upper Brook Street to 9, Stanhope Place, close to Hyde Park, where he was frequently seen by his friends taking a solitary constitutional. He seemed to be in his usual health, which was never very robust, when he went for a holiday to the English lakes. Here, whilst staying at Keswick, he was seized with a sudden heart attack in the early morning of August 3rd, and died before assistance could be obtained. A *post-mortem* examination, for which he had left written instructions with his lawyer, revealed extensive atheromatous changes in the aorta and its valves. He was cremated by his own desire at Golder's Hill on August 8th, and his ashes were placed in the columbarium at Kensal Green Cemetery next to those of his wife and daughter. There were present at the cremation Sir Thomas Barlow, Bart., K.C.V.O., President of the Royal College of Physicians; Sir William S. Church, Bart., K.C.B.; Sir Richard Douglas Powell, Bart., K.C.V.O.; Dr. Norman Moore, Mr. W. Bruce Clarke, and Mr. D'Arcy Power.

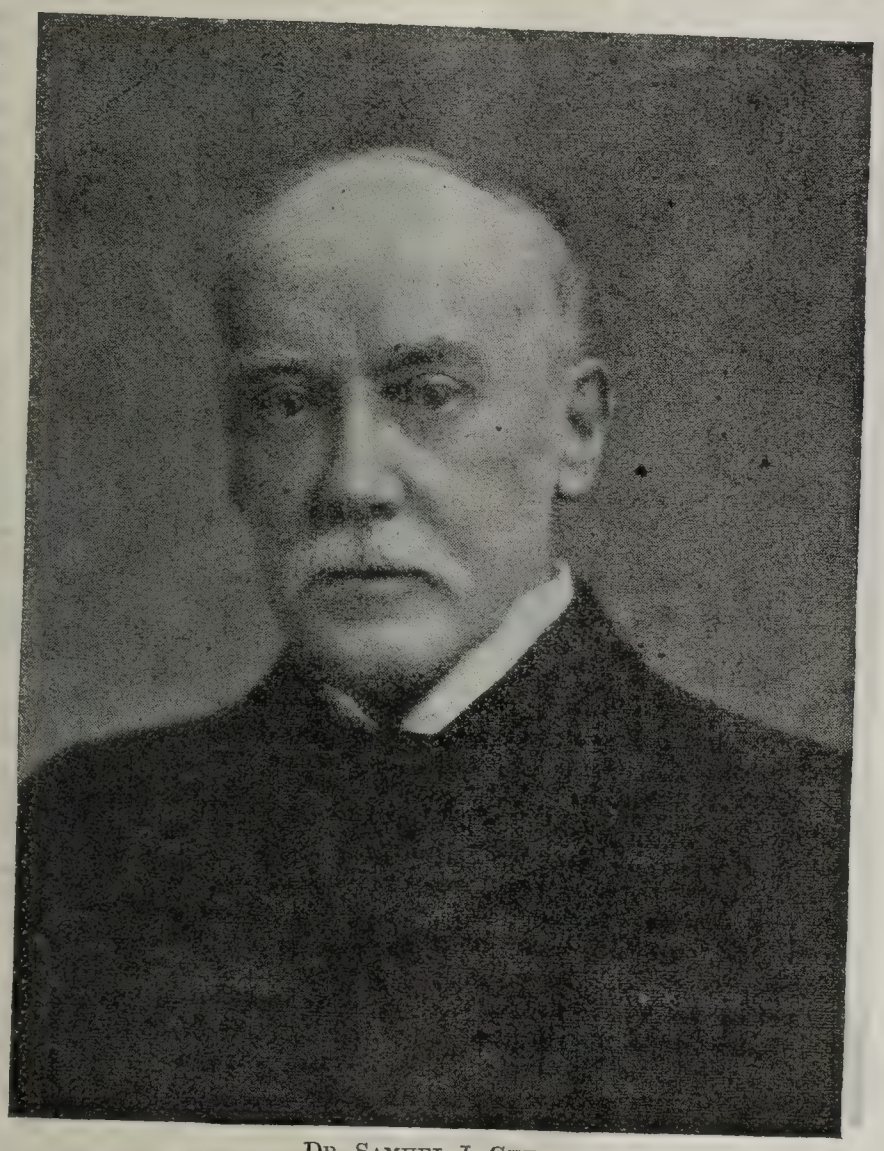

Photograph by] DR. SAMUEL J. GEE. *[Elliott and Fry, London.*

Dr. Gee was a shy and reserved man who made his way to the highest places in the profession by the sheer force of intellect and hard work. He began life without influence and with slender means. He had few relatives, and neither sought nor made a large circle of acquaintance. He began to write early, and before he was 25 he had made his name by the articles he contributed to Reynolds's *System of Medicine*. A fortunate chance at St. Bartholomew's Hospital—the sudden illness of Dr. Robert Martin and the unexpected promotion of Dr. Harris—gave him the necessary opportunity. He was elected an assistant physician, and within a few years he published his treatise on *Auscultation and Percussion, together with Other Methods of Physical Examination of the Chest*. The book quickly became a classic, and ran through six editions between 1870 and 1906, whilst his *Medical Lectures and Aphorisms* also had a large circulation and reached a third edition in 1907. Dr. Gee had a sound knowledge of the writings of the Greek physicians, and to some extent he modelled his teaching on their lines. He taught the value of exact diagnosis in medicine; he had a strictly logical mind, and proceeded from the observation of many particular instances to the broadest generalizations. These generalizations he often compressed into apophthegms or pithy sayings which remained in the minds of his pupils and proved of infinite value to them in after-life. The force of his sayings was frequently driven home by a scintillation of true humour, always dry, rarely caustic. The slight formalism and the mannerism of his speech, which it was the delight of successive generations of students to imitate according to their several capacities, caused his apophthegms to pass current and thus made them widely known. Apart from his books it would seem that he led a solitary life, which became even more

isolated after the early death of his elder daughter, followed a few years later by that of his wife. But books are a great solace, and it is doubtful whether he ever felt time hang heavily on his hands.

THOMAS GEORGE OUSTON, F.R.C.S.ENG.,

SURGEON, THROAT AND EAR HOSPITAL AND HOSPITAL FOR SICK CHILDREN, NEWCASTLE-UPON-TYNE.

THE unexpected death of Mr. T. G. Ouston, F.R.C.S., on August 1st, at the comparatively early age of 42, came as a great shock to the medical profession in the North of England, where he was well known and held in universal esteem. Ten days previous to his death he had been busy in the exercise of his ordinary professional duties, and appeared to be in his usual health, although somewhat overworked. He caught a chill while driving, and double pneumonia ensued, from which he never rallied. Tall and athletic, it was hoped that he would pull through, but he had an uphill fight from the first, and the onset of sepsis in the glands and tissues of the neck turned the scale.

Thomas George Ouston was the only son of the late Thomas Ouston of Holmefield. He received his medical training partly at the Yorkshire College and subsequently at Guy's Hospital. He obtained the diplomas of L.R.C.P. and M.R.C.S. in 1891, and for two or three years held several important resident hospital appointments at Leeds and elsewhere. In 1894 he became a Fellow of the Royal College of Surgeons of England, and in the following year settled in Newcastle, taking over the practice of Dr. Robertson. From the first he took a prominent part in the medical work of the city. After a time he relinquished general practice, and devoted himself almost exclusively to diseases of the throat and ear and the surgical diseases of children.

At the time of his death he had just resigned the senior surgeoncy of the Fleming Memorial Hospital for Sick Children, but he still retained the appointment of surgeon to the Newcastle Throat and Ear Hospital. He was also a referee under the Workmen's Compensation Act.

He was a frequent contributor to the local medical societies, and was an ex-president of the Newcastle Clinical Society. For the past two years he had been secretary to the local Division of the British Medical Association. The duties of this office, as in the case of many other Divisions, have been very onerous of late, and it was matter of general agreement that the secretarial duties of the Division at this important crisis could not possibly have been in more competent or more willing hands.

Mr. Ouston had a large circle of medical friends, and his opinion, more especially in diseases of the throat and ear, was much sought after, and not without good reason. He was well known to be an authority in this department, his power of diagnosis in obscure cases being sometimes remarkable. In his work he showed much originality, and had little respect for the ordinary textbook methods. Only a few weeks before his death he operated on a patient with a lesion in one semicircular canal. He devised an operation for exposing the canal, and was successful in finding and removing the cause of the trouble. He had performed a very large number of mastoid operations, and had carefully kept records of all with a view of publishing the results. During the last year he had been using radium in the treatment of intranasal lupus with great success, and one of his last acts was to correct the proofs of a paper on that subject.

Mr. Ouston had a very likeable disposition; scrupulously honourable in all his dealings, he expected the same conduct from others. He could be relied upon in every emergency to act with the most punctilious regard to the code of honour. In a professional association of over fifteen years, the writer has never heard a single depreciatory remark respecting him, but, on the contrary, universal admiration and respect.

In his spare afternoons or evenings he was fond of a round of golf, and was a member of two local clubs, but his chief recreation, which in him amounted almost to a passion, was mountaineering. An expert climber, he had a mountaineering holiday every summer and shorter excursions at various times throughout the year. These short holidays were spent mostly in the English Lake District and Wales and occasionally in Scotland, but his longer summer holidays in the climbing haunts of the Continent, frequently with his friend and fellow-climber, Mr. Mundahl, the well-known barrister. In these annual excursions he had climbed many of the famous peaks of Europe, notably in Switzerland, but also in the Austrian Tyrol, Corsica, Norway, and, perhaps most important of all, Raeka, in the Lofoden Isles. This was a virgin peak, and it was only after several unsuccessful efforts that Mr. Ouston and Mr. Mundahl were able to reach the summit. In the case of Tafonato, in Corsica, they were only anticipated in making a first ascent by an Italian party, who had achieved the summit about three weeks previously. To the writer's knowledge, it was matter of keen regret to Mr. Ouston that he was unable to scale the hitherto impregnable Sulitelma in Northern Norway, but he consoled himself with the reflection that he did not think any one else could do it by purely climbing methods. Being an excellent amateur photographer, he brought home from these annual expeditions some beautiful photographs. Many of these he had mounted as lantern slides, and he would give a delightful evening's entertainment, showing the slides and giving a graphic and entertaining description of the expedition. It was always a source of pleasure to him to attend the annual banquet of the Alpine Club, of which for many years he had been a member. Mr. Ouston married, only six months ago, Mary, the daughter of Mr. E. Taylor, of Airton, Yorkshire, by whom he is survived, and to whom every sympathy is extended in her very sad bereavement, as well as to his aged mother, who lived with him.

MR. T. G. OUSTON.

(Photograph by Jas. Bacon an Sons, Newcastle-on-Tyne.

His funeral, which took place at St. Andrews Cemetery, Newcastle, was attended by a large concourse of medical and other friends, who gathered to pay the last sad tribute of respect to a departed friend.

EVELYN POCKLINGTON, M.R.C.S., ETC.,

MEDICAL OFFICER OF HEALTH, WIMBLEDON.

DR. EVELYN POCKLINGTON, whose death was recently announced, had been in practice in Wimbledon for many years, and was medical officer of health for the district.

He received his medical education at St Bartholomew's Hospital, and his skill in dissection led to his being appointed prosector of the Royal College of Surgeons. He took the diploma of M.R.C.S.Eng. in 1860 and that of L.S.A. in 1861. He first entered the prison service, and held the offices of assistant surgeon to Millbank Prison and assistant surgeon to the convict prison, Portland. He was also surgeon-superintendent to the Emigration Commissioners. He settled in Wimbledon more than forty years ago, and became surgeon of the Wimbledon Cottage Hospital.

Dr. George Walker, of Wimbledon, writes: The experience he gained at Portland and Millbank Prisons stood him in good stead in his professional career, as he was a born surgeon, one of the best we have ever had in Wimbledon. He was admitted as a partner in an old-established firm and soon became a popular favourite with rich and poor alike. Wimbledon then was a totally different place to what it is now. There were only about 4,000 inhabitants and five doctors, and his skill as a surgeon and accoucheur speedily placed him in the front rank. He took a great interest in the Volunteer movement, and attained the rank of Brigade-Surgeon-Lieutenant-Colonel to the Surrey Volunteer Infantry Brigade and 2nd Volunteer Battalion East Surrey Regiment. As Medical Officer of Health, a post which he held for nearly forty years, he did yeoman service for the good of the town. He had a genius for seizing the salient points of a case, and though, especially of late years, when the exigencies of a very large practice took up all his time, he found little or no opportunity for reading current medical literature, the writer has been surprised to find how well he was up to date in the latest treatment. He was a magnificent shot, and to see him cast on the placid waters of the Itchen was an education in itself. His patients of all grades idolized him, as he possessed the great power of charm, and his kindly disposition and lovableness made him hosts of friends. He was essentially a gentleman in the truest sense of the word, and his death is an irreparable loss to all of us whom he has left behind.

The Services.

R.A.M.C. TERRITORIALS.

The Ayrshire Camps.

The sanitary arrangements of the Territorial camps recently held at Gailes and Troon were under the administration of Sir George T. Beatson, K.C.B., A.M.O. of the Lowland Division, assisted by Major W. D. Erskine, R.A.M.C., and by Colonel A. K. Chalmers, acting in co-operation with the regimental medical officers. The field ambulances under the command of the Camp Commandant, Lieutenant-Colonel W. F. Somerville, were encamped at the extreme north of Gailes. The medical units were: The Lowland Mounted Brigade Field Ambulance, under Lieutenant-Colonel R. T. Halliday; the 1st, 2nd, and 3rd Lowland Field Ambulances, under Lieutenant-Colonel Somerville, Lieutenant-Colonel A. Dryden Moffat, T.D., and Lieutenant-Colonel A. A. Ross respectively. The first three have their head quarters in Glasgow, the last in Edinburgh.

During the first week the Glasgow medical units were occupied with preliminary drill, and were joined during the second week by No. 3 Field Ambulance from Edinburgh. The parade state showed 33 officers and about 650 non-commissioned officers and men. Owing to the fact that many of the Glasgow men had to leave after the first eight days of training, it was impossible to have three complete field ambulances taking part at the concentration operations, but a composite field ambulance was formed, each of the three sections representing a field ambulance. "A" Section was commanded by Lieutenant-Colonel Somerville, with the assistance of his senior major, Major G. H. Edington, and was attached to the Scottish Rifle Brigade; "B" Section, under Lieutenant-Colonel Moffat, was attached to the H.L.I. Brigade; while "C" Section, under Lieutenant-Colonel Ross, was attached to the South Scottish Brigade, all three sections forming part of the Blue attacking force under General Spens, C.B.

One advantage of having a composite field ambulance was that the whole transport, less one ambulance wagon, belonging to a field ambulance, was on parade, each section having its own wheeled transport under the command of its respective transport officer, namely, Captain Cochrane Murray, Captain Dunning, and Captain Keay. This composite field ambulance drawn up in line accordingly left the encampment by sections, in column of route, each medical section being followed by its own transport. Thus the men had an opportunity of better understanding the formation and the movements of a complete field ambulance. On the field days, on reaching head quarters, the three sections were advanced independently of one another, and each had an opportunity of forming a sub-tent division and sub-bearer division, and each dealt with the supposed casualties of its own brigade.

The camp was inspected by Sir G. T. Beatson, K.C.B., A.M.O., General Spens, C.B., and Colonel O'Keefe, Inspector of Medical Services, while Sir Archibald M'Innes Shaw, Lord Lieutenant, and president of the Territorial Force Association of the County of the City of Glasgow, paid a brief visit to the camp.

The Mounted Brigade Field Ambulance acted independently, and was inspected both by the A.M.O. and by General Babbington. The instruction of the medical units was under the supervision of the Adjutant, Captain A. N. Fraser, R.A.M.C.

First London Division Annual Sports.

By kind permission of the Officer Commanding, Royal Army Medical Corps Dépôt at Aldershot, the sports of the 1st London Division, Royal Army Medical Corps (T.F.) were held on the Queen's Ground, Aldershot, on August 12th. The following Units competed:

1st, 2nd, and 3rd City of London Field Ambulances.
1st General Hospital.
1st City of London Sanitary Company.

The weather was fine, and there was a large attendance of spectators and friends of those competing. Many from the adjoining barracks also attended, being attracted by the events which the Territorials had thrown open to all troops of the Aldershot Command.

Amongst those present were: Surgeon-General G. W. Robinson, C.B., P.M.O.; Colonel P. B. Giles, C.B., A.M.O. 1st London Division; Lieutenant-Colonels J. Harper, R. R. Sleman, J. Norwood Brown, Colonel Harrison, C.V.O., and many others. The Divisional Royal Army Medical Corps (T.F.) band played selections of music during the afternoon.

The Miles Challenge Cup, presented by Major E. Miles, F.R.C.S., is awarded to the field ambulance scoring the most points in certain events at these annual sports. The 3rd Field Ambulance were the holders of the cup.

When the sports started it seemed likely that the 1st Field Ambulance would not be able to attend, as, owing to the exigencies of military service, they had been kept at work until the afternoon, greatly to the disappointment of the men, who had only lost the cup last year by the narrow margin of five points. But, instead of giving up, they started under the hot sun on their long march from Frith Hill and managed to arrive, with their tents and baggage, late in the afternoon, by which time seven of the events which counted for the Challenge Cup had already been decided, but there were seven events left to compete for, including the more important and technical competitions requiring knowledge of the special work of the Royal Army Medical Corps. The aspect of the competition changed as soon as the 1st Field Ambulance (Lieutenant-Colonel R. R. Sleman) arrived, as this unit succeeded in securing the cup by a considerable margin, winning in succession the tug of war, the operating tent and bell tent pitching, the harnessing competition, and gaining second place in the riding and driving, being only half a point behind the 2nd Field Ambulance. The 2nd Field Ambulance, commanded by Colonel Norwood Brown, and the 3rd Field Ambulance, by Lieutenant-Colonel Harper, were second and third respectively in order of merit.

It was dark before the sports ended.

Major S. Moores, Staff Officer to the P.M.O., Aldershot Command, was the senior judge, while officers from the Army Service Corps Dépôt superintended the riding, driving, and harness competitions. Great credit is due to Staff Sergeant E. May, the sports secretary, for the admirable arrangements made.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

A SUBSTITUTE'S FEES.

Ras El Aswad.—The general rule is, we believe, that the substitute takes half the fee in such circumstances as those mentioned.

THE DOORPLATE.

Inquirer.—It is not unusual, and could not be called incorrect to put "Physician and Surgeon" after the name, although it is perhaps preferable to put the qualifications only.

ATTENDANCE ON VETERINARY SURGEONS.

Calumba.—We have never heard that it is customary for medical men to charge other than their usual fees for attendance upon veterinary surgeons and their families.

FEES FOR EMERGENCY SERVICES.

Rusticus.—Having regard to the nature of the services rendered and the time occupied, we are of opinion that the fees asked are not excessive. Of course, if an appeal *ad misericordiam* is made, it would be for our correspondent to consider, taking all the circumstances into account, whether or not he should make a reduction.

THE OBLIGATIONS OF A SUBSTITUTE.

DEVON.—As B. was not asked by A. to attend as his substitute, he is not under any obligation to A. other than that which deters practitioners from seeking to take advantage of the temporary absence of a colleague. If B. felt this obligation we do not understand why he ultimately consented to continue to attend. If he considered himself A.'s substitute, as he says he did, the obligation not to take the case seems all the greater, and if he continued to attend, it could only be as A.'s substitute, for whatever length of time his attendance might be necessary.

Medico-Legal.

ILLEGAL ASSUMPTION OF TITLES.

AT the Bath Police Court on August 10th a medical student was summoned at the instance of the Director of Public Prosecutions for having unlawfully used the name of a certain physician (his father), for falsely pretending to be a physician, and for using the letters M.R.C.S., L.R.C.P., thus implying that he was recognized at law as a surgeon. The Bench found the offence had been committed, but, taking into consideration the fact that the father had given his son authority to sign certain certificates and that the defendant might have thought that he had a right to do what he did, dismissed the action on payment of costs.

RECEPTION OF INSANE PATIENTS.

IN reply to a further question from "A. T." arising from the answer concerning two uncertified insane persons, published in the BRITISH MEDICAL JOURNAL of July 15th, p. 142, the answer is that the same liability applies even "if she receives only one insane person."

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

THE following names were accidentally omitted from the list, published in our issue for August 12th, of those who graduated M.D. at the summer graduation ceremony:

*C. M. Campbell, M.A., B.Sc., A. G. Carment, †M. Carthew, R. J. Raymond, G. S. Clark, M.A., B.Sc., *J. D. Comrie, M.A., B.Sc., M. Corry, Captain I.M.S., *F. W. Cragg, Captain I.M.S., G. P. Crarar, †W. B. A. K. Cullen, Captain I.M.S., S. G. Davidson, M.A., †A. M. Elliott, J. Letitia D. Fairfield, *W. J. Feltham, W. P. Ferguson, M.A., B.Sc., J. M. R. Flament.

* Highly commended for thesis. † Commended for thesis.

UNIVERSITY OF LONDON.

UNIVERSITY COLLEGE.

Department of Applied Statistics.

THE prospectus of the department of applied statistics has been issued by the University. The department consists of the Galton Laboratory for National Eugenics, founded by Sir Francis Galton for the study of those agencies under social control that may improve or impair the racial qualities of future generations either physically or mentally, and the Biometric Laboratory, which is assisted by a grant from the Drapers' Company, and is intended for the statistical study of biological problems. Two courses of lectures are given—an introductory course on statistics for those intending to take up social, medical, or eugenics problems by Dr. David Heron, and a more advanced course on the general theory of statistics by Professor Pearson. In addition, a course of public lectures will be given during the second term on (1) alcohol, (2) tubercle, (3) infant mortality and the employment of women; each subject will be dealt with in two lectures. Students sufficiently trained to carry on research work are admitted to the laboratories of the department, and are assisted in investigations with materials, instruments, and advice. Applications for admission to the department should be addressed to Professor Karl Pearson, F.R.S., University College, Gower Street, London, W.C.

ST. THOMAS'S HOSPITAL.

The science sholarships of £150 and £60 have been awarded respectively to William Thomas, B.Sc.Lond., of St. Bartholomew's Hospital, and to F. Molina, of St. Thomas's Hospital. The scholarship in arts has been awarded to Ailwyn H. Clarke, of Haileybury College.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

Scholarships.

Entrance Scholarships of the value of £60 for three or five years, and £30 for one year, will be awarded on the result of an examination to be held on September 19th and following days. Forms of entry and all particulars can be obtained on application to the Secretary before September 12th. The Fishmongers' Company have awarded an exhibition of the value of £60 for three years to J. E. Hart, a student of the school.

Opening of Session.

The session will begin on Monday, October 2nd, when Sir Henry Butlin, P.R.C.S., will deliver the inaugural address at 4 p.m. Mrs. Garrett Anderson, M.D., President of the School, will take the chair.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

Examination for Membership.

SOME important changes have been made in the examination for membership. It will in future consist of two parts: Part I, General, consisting of Medicine and Pathology; this examination will be conducted as follows: (1) A paper in Medicine and Therapeutics, (2) a paper in Pathology, (3) a Clinical Examination. Part II, Special, in one of the following groups: (*a*) Medicine, (*b*) Gynaecology and Obstetrics, (*c*) Pathology and Bacteriology, (*d*) any further group of subjects or subdivision of Medicine which, on application of a candidate, shall be judged by a three-fourths majority of the Fellows present to be equal in value to one of the preceding groups. The special examination in each case will consist of a written and oral examination and a practical or clinical examination. These new regulations will be enforced at the January examination, 1912, and all subsequent examinations.

Medical News.

THE usual courses of instruction in hospital administration for the Diploma in Public Health, arranged by the Metropolitan Asylums Board, will begin next session at the Grove Hospital, Tooting, on October 4th, and at the North-Western Hospital, Hampstead, on October 9th. Particulars can be obtained from the Clerk to the Board.

ON his retirement from the office of Medical Superintendent of the Edinburgh Royal Infirmary, which he has held for eleven and a half years, the managers presented Colonel Warburton with a handsome silver-gilt cup. At the same meeting they offered their congratulations to the Lord Provost and to Dr. Affleck on the honours conferred by the King during his visit to Edinburgh.

THE King has been pleased to give, and grant unto, Staff Surgeon Edward T. Burton, R.N., His Majesty's Royal licence and authority to accept and wear the insignia of Officer of the Order of St. Maurice and St. Lazarus, which decoration has been conferred upon him by His Majesty the King of Italy in recognition of valuable services rendered by him on the occasion of the earthquake in Southern Italy in the year 1908.

SIR JAMES BARR has been elected a member of the Canadian Public Health Association, the first annual meeting of which will be held in Montreal next November. His address to the Canadian Medical Association, published in the BRITISH MEDICAL JOURNAL last June, has been published also in the *Public Health Journal State Medicine and Sanitary Review*, which is the organ of the Canadian Public Health Association.

THE Esperantists are holding two congresses at Antwerp from August 20th to 30th—the seventh International Esperanto Congress and the second congress of the members of the Universala Esperanto Asocio. It is expected that the members will include persons of about forty different nationalities, and the only language used will be Esperanto. The British Esperanto Association will, it is announced, have many representatives at Antwerp, and a large proportion of its affiliated groups are sending delegates.

THE authorities of St. Marylebone General Dispensary are now using in connexion with its work a series of leaflets or pamphlets. Those we have had an opportunity of examining in detail deal with such matters as the management of children from 1 to 5 years of age, the care of children of school age, the feeding of infants, care of the teeth, prevention and arrest of consumption, points to be remembered by those suffering from indigestion, and fresh air and ventilation. The wording throughout is clear, and the teaching sound and, as it should be, dogmatic. The idea, both in its conception and execution, is excellent.

BOWMAN has recently reported a case of balantidium dysentery in the *Philippine Journal of Science* for April, 1911. The *Balantidium* (*paramoecium*) *coli* is a protozoal parasite belonging to the order *Ciliata*. Generally a parasite of the intestinal tract of swine, it may invade the same site in man, and in some instances gives rise to dysenteric symptoms. Bowman's patient, for example, complained of pain in the chest, cough, bloody diarrhoea, and fever. Bowman states that during the last three years he has seen 10 cases of infection with this parasite; two terminated fatally, but the others had no special symptoms other than an occasional diarrhoea. Even in severe infections the diarrhoea seems to be more or less intermittent, and the parasites were only found in the faeces during these attacks. In the case mentioned no form of treatment seemed to avail. Enemata of quinine, silver nitrate, and thymol were given, as well as large doses of ipecacuanha, by the mouth, but the patient's strength gradually failed, and he died.

Public Health AND POOR LAW MEDICAL SERVICES.

SCHOOL PLAYGROUNDS.

THE President of the Board of Education has appointed a Departmental Committee to inquire and report

(*a*) Whether it would be consistent with due regard to educational and hygienic considerations that the minimum standard of playground accommodation for new public elementary schools prescribed in the Building Regulations of the Board of Education—namely, 30 ft. per head of accommodation—should be modified or adjusted according to the size, design, or situation of schools, the proximity of recreation grounds or open spaces, the density of population, the cost of land, or otherwise.

(*b*) How far it is possible or desirable to define more precisely the standard of playground accommodation which the Board of Education will require under the Code of Regulations for Public Elementary Schools in the case of existing schools or to regulate the practice of the Board of Education in dealing with cases in which the playground accommodation is considered to be insufficient.

The Committee will consist of Mr. L. A. Selby-Bigge, C.B., Principal Assistant Secretary of the Elementary Education Branch of the Board of Education (Chairman); Sir George Newman, Chief Medical Officer of the Board of Education; Mr. J. C. Iles, H.M.I., Divisional Inspector for the North-Western Division; Mr. F. H. B. Dale, H.M.I., Divisional Inspector for the Metropolitan Division; Mr. A. B. McLachlan, of the Local Government Board; with Mr. L. J. Morison as Secretary.

PENSIONS UNDER SUPERANNUATION ACT.

JAMAICA writes that he was appointed district medical officer and public vaccinator in a provincial union in February, 1907, and in June, 1911, was compelled to abandon his profession owing to ill health. He asks whether he is entitled to a pension or to a return of the contributions paid by him towards superannuation.

*** As our correspondent's service was for a shorter period of time than ten years he cannot claim any form of pension, but if he was compelled to give up his appointment in consequence of illness, he has become entitled to receive out of the common fund of the union a sum equal to all the contributions paid by him under the Superannuation Act. That he was deputy for his father previous to his appointment and that he was also public vaccinator has no bearing on the question.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Borough of Crewe.—The birth-rate during 1910 was 23.0 per 1,000, the death-rate from all causes 11.8 per 1,000, and the infantile-mortality rate 103 per 1,000 births. The estimated population was 48,340. The infantile mortality-rate in Crewe was persistently high until the year 1906, when it fell to 118 per 1,000 births, and each year since there has been a steady fall. This satisfactory condition does not appear to be due to any special effort on the part of the corporation, such as the appointment of a woman health visitor, or the adoption of the Notification of Births Act, for neither course has been taken. It may, however, be remarked that Crewe is becoming more and more a water-closeted town. In 1893 there were 3,200 privy-middens, and in 1910 only 450 of these abominations. For many years past the Crewe reports have contained a statement of the number of houses on the rate-books at various rateable values, a practice which might well be followed in other reports. From this statement it appears that nearly 95 per cent. of the Crewe houses are rated at less than £20 per annum, and 69 per cent. at less than £10. Another useful table gives the percentage of empty houses on the rate-books at a particular date for successive years. This percentage in fifteen years has varied from 2.4 to 4.4, an indication of the sustained prosperity of the town.

Abertillery Urban District.—The population estimated to the middle of 1910 was 35,991. The birth-rate was 36.4, the death-rate, corrected for sex and age, 12.7 per 1,000 of the population, and the infantile mortality-rate 114 per 1,000 births. There were 272 cases of scarlet fever during the year, and five terminated fatally, giving a death-rate per 1,000 of the population of 0.13, or more than double that of England Wales. The isolation hospital accommodation is very meagre, and the district council would be well advised in acting upon the recommendation of Dr. Weaver, the medical officer of health, and making more adequate provision for cases of infectious disease. The difficulties in obtaining houses appear to be as great in Abertillery as in the other parts of the Monmouthshire colliery districts. The district council is erecting thirty-one houses, built in two rows. Each house will have on the ground floor a combined kitchen and living room, with a scullery, pantry, coal store, and water-closet in the rear. The scullery will contain a coverable bath, which will be supplied with hot water by a patent boiler economically heated by the kitchen fire. Dr. Weaver does not state the number of bedrooms to be provided. Two very urgent requirements in the district are a refuse destructor and a public slaughterhouse. The council apparently are quite willing to provide both, but difficulties have arisen in securing suitable sites.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

J. G. M. desires information regarding the Bahamas, especially with respect to the climate, etc., of Turk Isle. Is it, he asks, a suitable place for a patient suffering from rheumatism?

THE BABY COMFORTER.

ENQUIRER asks whether an infant in perfect health (with the exception of slight colic now and then), regularly fed, and properly look after, requires the use of a "comforter" between feeds.

*** The "comforter" has been denounced again and again as useless and dangerous, but it is not easy to break an infant of the habit when once established.

FLEAS.

F. asks for suggestions for the relief of a female patient from the trouble of fleas; her mattress has twice been destroyed, and her clothes and the floor of her room have been disinfected; she also frequently takes baths. No one else in the house is troubled in the same way.

*** Every effort should be made to destroy the fleas by general hygienic measures, and by the use of insecticides in the bed. The patient herself might be well advised to wear some form of anklet containing paraform. The possibility of a pet dog or cat being the source of the trouble is not to be ignored. It is curious, but we believe a fact, that the attractiveness of human beings to fleas varies a good deal: a husband may escape, while his wife occupying the same room may be tormented, or vice versa.

TRAINING OF FEEBLE-MINDED CHILDREN.

J. F. B. desires the name of a book dealing with the training of feeble-minded children. His patient, who is a girl aged 13, in a good home, is capable of understanding, and after a while remembering simple questions. A book is required giving instructions as to the best methods of teaching mat-making, or other simple occupations to engage the patient's attention and pass the time.

*** Our correspondent would find general hints as to methods of special training of feeble-minded children in: (1) *Mentally Deficient Children: Their Treatment and Training*, by Drs. Shuttleworth and Potts. Third edition. London: H. K. Lewis. 1910. Price 5s. Reviewed in the BRITISH MEDICAL JOURNAL, October 29th, 1910, page 1347. (2) *Feeble-mindedness in Children of School Age*, by C. Paget Lapage. Manchester: University Press. 1911. Price 5s. Reviewed in the BRITISH MEDICAL JOURNAL, May 13th, 1911, page 1116. Both of these are adapted for lay as well as professional readers. No book appears to have yet been published with reference exclusively to educational methods, but manual occupations are set forth in various educational works for young children to be obtained at kindergarten dépôts.

LEAD POISONING.

P., who is called upon by a firm to make the medical examination rendered necessary in the case of persons smelting materials containing lead, manufacturing red or orange lead or flaked litharge, asks to be recommended to some work which would guide him in the discharge of this duty.

*** The subject is discussed in Oliver's *Diseases of Occupation*, and in the *Twentieth Century of Medicine*; it is briefly alluded to in recent publications dealing with injuries to workmen coming under the Workmen's Compensation Act. No absolute rule can apply to the dismissal of workmen under the circumstances stated above. A medical examiner must use his own discretion. As fatal seizures of plumbism have followed shortly after a medical examination where a favourable entry had been made in the health register, considerable care and attention are necessary. Feebleness of the extensors of the wrists in the absence of colic and yet with a blue line on the gums may not interfere with a man working, but if on examining the urine albumen or albumen and lead are found, it would be well that the man should be given other employment in the factory which does not bring him into contact with lead.

IRRITATION OF SKIN.

DR. A. VAVASOUR ELDER (Khartoum, Sudan) relates the following case and asks for advice in its management. A male, aged 35, rather of hepatic temperament and liable to acute hepatic congestion on the slightest indiscretion, suffers acute irritation of the skin unaccompanied by any rash. From childhood he has never been able to wear anything but cotton

or linen garments; silk unless of very fine texture is unbearable, while flannel or wool are quite impossible. The puzzle and interest of the case is raised over such a simple thing as the daily bath. Following on a cold, tepid, or warm bath (below 104° F.) comes a period of intense irritation of the skin from the hips down to the ankles. This lasts, as a rule, for about half an hour and then gradually subsides. During this time the patient really suffers, being hardly able to keep still and refrain from scratching himself; the operation of shaving has to be performed prior to the bath. As a result his temper becomes so bad that on occasions he has to retire to the privacy of his own room. A shower, hip, or plunge bath are followed by the same results, but spending half an hour in a swimming bath or river brings about no discomfort whatever. A swim in the sea only results in a mild form of irritation. By experience the patient has found that the only bath he can take without any discomfort is one at a temperature anything over 108° F. This he has done summer and winter for several years and has never "caught a chill" or suffered in any way. Contrary to the rule, the bath has the effect of waking him up thoroughly, and if taken at bedtime ensures a sleepless night forthwith. In the way of treatment everything has been tried: Ammonia, alkalis in the bath, dusting down with talcum powder, lubricating with oil afterwards. All kinds of superfatted and underfatted soaps have also been used; they only seem to aggravate the situation and the only way of avoiding the complaint is not to bathe or only at 108° F. The patient has travelled a good deal in the tropics and has never suffered from "prickly heat." Having recently come here, where, as in most tropical parts, the facilities for hot baths are limited more or less to one or two buckets of hot water in a hip or ordinary flat tin bath, his sufferings in search of personal cleanliness are such as to make him think of resigning a lucrative appointment in favour of working in a country where proper hot baths are more easily obtainable. The irritation is now being gradually brought about after a spell of profuse perspiration, not uncommon in these parts. The result of restricting the intake of liquid with a view to reducing perspiration has had no effect. He gives a history of his father—a man of very nervous temperament—suffering similarly. While the pathology is not clear, unless it is of a neuro-vascular nature, the matter of therapeusis is most important, as the man's life is beginning to get unbearable to him, and his temper is not fit for public society.

UNREGISTERED DENTAL PRACTITIONERS.

MR. O. CARLYLE, F.R.C.S.Edin. (Liverpool) writes to draw attention to the use of the words "dental surgery" on the doorplates of unqualified dental practitioners, and asks whether the General Medical Council has power to prevent the use of the term, which he truly says might "easily deceive the unwary."

*** It is to be feared that the General Medical Council can do nothing, and that, n fact, little can be done unless the legislature can be induced to prohibit unqualified practice, whether in medicine or in dentistry. Of this there seems at present little prospect, although many of our colonies, even when controlled by the Labour Party, have passed stringent Acts forbidding not merely the use of titles, but the act of practice also. The original decision in Barnes *v.* Brown, which was adverse to those who, avoiding the use of titles, adopted descriptions implying that the public would receive skilled treatment, offered a prospect of reaching such combinations of words as those referred to; but this decision was reversed in the House of Lords, and the narrowest possible interpretation was placed upon the words of the Act, an interpretation which we are bound to accept as technically correct, though it is apparently opposed to the intention of the Act. We do not know if the actual words "dental surgery" have been the subject of a trial in the superior courts, but after the decision in Barnes *v.* Brown there is little encouragement to take proceedings unless an individual has actually assumed a title recognized as implying a definite qualification. At present it would appear that any one is at liberty to use any form of words calculated and intended to deceive the unwary with impunity so long as the medical or dental titles enumerated in the Acts are avoided.

ANSWERS.

MECHANICAL MASSAGE.

DR. W. F. SOMERVILLE (Glasgow) writes, in reply to "Mechanical Massage": I have for more than ten years employed the vibrator made by Mr. A. E. Dean, 82, Hatton Garden, E.C., with considerable success in cases of lumbago, neuritis, etc. High-frequency currents, however, will be found of greater service in the removal of nervous headaches.

ALLEGED SPECIFIC FOR DIABETES.

A CORRESPONDENT asks for information respecting a remedy for diabetes associated with the name of Dr. Damman, described in an advertisement as "President of the Medical Institute, Brussels," who is said to have been "presented with the Gold Medal of the Bien Public Order." From inquiries we have made in Brussels it would appear that Dr. Damman conducts a gymnasium, which he has dubbed "Grand institut médical de traitements physiques." It does not seem to have any official recognition. We can learn nothing about "the Order of the Bien Public," or its gold medal. As to the cure for diabetes, Dr. Damman has not, so far as we have been able to ascertain, published anything about it in any medical paper. We understand that he sends out circulars advertising corsets for spinal curvature, as well as an alleged cure for diabetes.

CENTREING A LENS.

REFRACTION.—The centre of a lens may be ascertained in the following way:

Two heavy lines, which accurately cut each other at right angles, are drawn on a card or stiff piece of paper. The lens to be tested is held at a convenient distance, generally from about 3 to 36 in. from the cross, which may be lying flat or hung up on a wall. The observer places himself immediately in front or above the cross, and holds the glass a foot or two in front of him and moves the lens about until he sees the lines of the cross through the lens, running in an unbroken manner with the extremities of the lines seen beyond the edges of the lens. If not held correctly the lines will be seen broken. The point where the lines meet is the centre of the lens. If now this optical centre does not correspond to the middle point of the glass the lens is decentred.

Another way is to take a single line, vertical or horizontal, and when this line is seen to be continuous through the lens a line is drawn across the glass. The lens is now turned round at right angles to its former position, and another similar line is drawn. The point where these two lines intersect is the centre of the lens. Two or three minutes with an ordinary pair of spectacles will at once make this clear, for it is far easier to demonstrate the method than to write a description of it.

LETTERS, NOTES, ETC.

THE RADIUM INSTITUTE.

MR. GERALD SICHEL, F.R.C.S. (late Surgeon in Charge of the Actino-Therapeutic Department, Guy's Hospital, S.E.), writes: I have read with interest your description of the Radium Institute to be opened shortly. I think it a pity that we general practitioners are not given some idea as to what patients we are to send up to receive benefit. Is it entirely a research departure, or is any particular class of disease expected to be relieved? I worked for three years at Guy's in the therapeutics of Finsen light, *x* rays, and small quantities of radium. I cured, as far as I know, one cases of mycosis fungoides and one case of Kaposi's disease; all my other results with, for instance, lupus, cancer, rodent ulcer, and ringworm, were open to criticism. My successes were in two such rare diseases that I came to the conclusion that the influence of the wonderful radium and similar properties were of very limited use in medicine.

PSYCHO-ANALYSIS.

MEDICO writes: Freud's theories appear to be of great interest as explaining various phenomena. I remember the case of a maternity nurse who was very overworked and run down, and who then had to take charge of a patient in the country some way from the doctor. The case was an extremely bad one, and caused the nurse much anxiety. Shortly after the crisis the nurse when bathing one day thought she noticed a dark line extending downwards from the umbilicus. She took no notice of it, but a few weeks later began having pains in her breasts, a condition she had never experienced before. Shortly afterwards she felt slight sickness one morning. Then it suddenly dawned on her with horror that such were the initial symptoms of pregnancy. She was a woman of character and intelligence, and, knowing that no such thing could have taken place, tried to force herself to believe that the idea was only the result of a disordered imagination produced by ill health and the centreing of her thoughts round the maternity case. As the abdomen did not enlarge and her periods were regular, she was partly successful in this; but at one time she thought the nipples were getting darker, and, such was the hold the obsession had upon her, that she refused to bathe by daylight, but waited always till night, so that by lowering the light she could see nothing of her body, so afraid was she that she might find signs confirmatory of her fears. She said nothing to any one at the time, and after six months her anxiety began to subside, and her mentality became quite normal. I heard of the case some while ago, and it seemed to me of possible interest to report it now, in view of Dr. Wingfield's interesting article.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
SPA TREATMENT, WITH SPECIAL REFERENCE TO MOFFAT.

Delivered before the Border Counties Branch of the British Medical Association.

By DAVID HUSKIE, M.A., M.B.Edin.,
President of the Branch.

The first mention of mineral springs takes us back to a period nearly 2,000 years before Christ. We read in Genesis xxxvi, 24, in the Revised Version, "This was that Anah that found the hot springs in the wilderness as he fed the asses of Zibeon his father." This discovery was made somewhere about 1740 B.C. We are also told that one of the daughters of this Hivite was taken to wife by Esau. No doubt, as time went on, the healing virtues of this spring would become known, and be ascribed to some spirit or supernatural agency. Certain it is that at a later date there was a widespread, and no doubt well-founded, belief in the curative effects of certain springs and streams, but it was left to Hippocrates to demonstrate the curative effects of waters apart from the supposed power of the presiding deity or spirit. He possessed a knowledge of waters by no means lacking in scientific accuracy. He recommended "cold douches to diseased joints; warm sprays of water for insomnia; cold water affusions in syncope; and was acquainted with the cooling effects of warm water, and the warming properties of cold water when applied to the body."

Many ancient writers, besides Hippocrates, make reference to the beneficial effects of baths on the human body. Wherever ancient Rome extended her conquest we have still existing, not only on the Continent of Europe, but in England—notably at Bath—abundant proof of the balneological practices of her people. During the Middle Ages, the treatment by baths and "holy wells" fell almost entirely into abeyance, and it was not until the nineteenth century was well advanced that the ingredients of natural mineral waters began to be determined with some exactness.

In considering the elements of spa treatment we note, in the first place, that it is connected with some locality or spa; the choice is determined by the temperament and constitution of the patient, and principally by the illness or diseased condition requiring treatment. It has to be decided whether the patient is to be sent to a bracing locality, or to a mild sheltered spot; whether he will derive most benefit from a strong alkaline, or sulphur spring; and the financial aspect has to be considered. The question of diet has also to be taken into account. It is unwise and inexpedient to tabulate a formal system of diet. Of course, there are certain broad lines along which you can travel; but, in the main, the best results are obtained by the careful study of individual requirements.

Beyond doubt the most important element in spa treatment is the mineral spring. Treatment by mineral waters is not an innocent matter. Let it not be imagined that a medical man who begins practice at a spa has nothing to do but prescribe several glasses of water daily, and an occasional bath: he must serve his apprenticeship. He must acquaint himself with the action of the local waters on the functions of absorption, excretion, and elimination, and also any alterative action they may have on the tissues generally. Even the mildest mineral water possesses its own peculiar influence: and every now and then you are faced with the unhappy results of the injudicious use of the waters. It is safer, therefore, to consult a local doctor in the beginning, or do so at once if unpleasant symptoms arise.

The amount of "drug" potential in the molecular states of a mineral water is very small, and yet it has a vastly greater effect in certain affections than an enormous amount of the artificial salt. In other words, judged by ordinary pharmacological standards, chemical salts present in natural mineral waters are endowed with a degree of therapeutic activity very much superior to that of the same salts when dispensed in the ordinary way. What this activity is we do not know, but it does not seem to be radio-activity. Other elements in spa treatment are thermal, and in this is included cold as well as heat. Further, the heat may be in the form of water, vapour, or dry heat. Then again, we have the element of electrical stimulation of various kinds, and the element of movements and massage.

When we come to consider the scope of spa treatment, we find it is concerned largely with chronic conditions and intractable constitutional states. It is also directed against slight ailments and the prevention of serious disease. It has also to deal with another class of cases which we may regard as due to deranged balance of function.

There are a large number of joint affections which have to be differentiated into gouty, rheumatic, rheumatoid, and infective, and treated accordingly.

We find also conditions of defective or disordered digestive chemistry with an accumulation of waste products causing toxaemias. In another class we have circulatory disorders of the heart and blood vessels.

Again, we have the results of tropical disease, abdominal plethora, nervous disturbances, and various toxaemias.

I have now to refer to my own experience of spa treatment at Moffat. The town is situated in the upper part of Annandale, in Dumfriesshire. It is built on fine, dry, gravelly slopes about 330 ft. above sea level. It is well sheltered by an encircling range of hills, varying from 1,000 to upwards of 2,000 ft. in height. It is freely exposed only to the south. The climate is temperate and fairly equable. During the greater part of the year it is bracing, yet mild. The rainfall is somewhat above the average for the British Isles, and yet Moffat is not a wet place. Even after several hours of heavy rain the roads rapidly dry, owing to the gravelly nature of the subsoil. There is an excellent water supply, and the sewage is disposed of by means of the septic tank system.

The sulphur well is situated on a level plateau, 277 ft. above the town. The exceedingly pure air of the hills and the lovely scenery which meets the eye in all directions play no little part in enhancing the valuable curative effects of the sulphur waters.

Analysis of Moffat Sulphur Water (1911).

	In 1 Litre.
Sodium chloride	0.9149
Sodium sulphydrate	0.0080
Calcium carbonate	0.0807
Calcium sulphate	0.0323
Calcium chloride	0.1102
Magnesium carbonate	0.0368
Magnesium chloride	0.0584
Potassium chloride	0.0896
Silica	0.0094
	1.3403
Volatile matter and undetermined matter	0.0535
Total solids	1.3938
Gases dissolved in 1 litre:	
Hydrogen sulphide	3.14
Nitrogen	18.21
Carbon dioxide	1.63
Oxygen	1.22
	24.20 c.cm.

It is a beautifully clear sparkling water. The main active principle, sulphur, is in the form of sulphuretted hydrogen gas, and in this respect the Moffat water differs from the sulphur waters of Harrogate and Strathpeffer. Owing to this property, patients should, wherever possible, drink the water at the well, for, even when tightly corked, the water readily loses its gas. The water contains a very small proportion of chlorides, and for this reason is not contraindicated in certain kidney affections exhibiting a tendency to dropsical effusions.

The sulphur water has an exceedingly marked diuretic and flushing effect in practically every case. The specific gravity of the urine of patients taking the water is relatively higher owing to an increased excretion of the total solids. There is also an increase in the amount of nitrogen excreted. These effects are most marked in gouty patients, and in these patients the specific gravity of the urine is often greatest at the height of the diuresis—that is, when the diuresis is most marked. The action of the sulphur water undoubtedly, I think, increases oxidation and tissue change, and profoundly influences the general metabolism, and thus indirectly the toxicity of the blood.

The action of the warm sulphur baths seems to be due to

a nervous and vascular cutaneous reaction attributable to the irritation of the contained salts, modified to a certain extent by the temperature of the water. The baths produce a reduction of the mean arterial pressure, and an equally marked rise in the venous blood pressure. This explains the feeling of lassitude and drowsiness which is frequent after a warm sulphur bath, and is more marked than after an ordinary warm bath. The quickening or retarding of the pulse-rate seems to depend entirely on the temperature of the bath.

The Moffat sulphur water originally came into note for its reputed curative effects in cases of rheumatism and strumous affections of the glands and joints. I need not say we have discarded all belief in the latter claim. I find I get my best results in gouty and rheumatic patients. Rheumatic affections of joints and lumbago and sciatica of rheumatic origin seldom fail to derive great benefit from the waters and baths. Holding as I do that gout is a toxaemia caused by some toxin formed in the liver or intestine, or both, and due to a faulty chemistry of digestion, I take it that gouty patients are bound to derive benefit from a course of the sulphur water, and in my experience they do.

Certain cases of that puzzling affection, rheumatoid arthritis—with its obscure and elusive etiology—obtain a considerable amount of relief. Nervous disorders, such as neuritis, sciatica, lumbago, are also greatly benefited. And in some toxic forms of neurasthenia I have seen excellent results follow a course of treatment.

Certain renal and bladder affections show the most gratifying results. Here the diuretic action of the water is most manifest. Cases of abdominal plethora and engorged portal circulation do well. Especially good results are seen in tropical livers. In many cases of gastric derangement the waters tone the stomach and stimulate digestion.

The water must on no account be taken by patients suffering from tuberculous lung trouble. Haemoptysis is the almost invariable result.

The baths are followed by most beneficial results in rheumatic and gouty joint affections, in lumbago and sciatica, and in scaly eczematous affections, seborrhoeic eczema, and psoriasis. The warm sulphur bath gives great temporary relief in some cases of neuritis. Gouty patients who suffer from insomnia generally obtain a night's rest after a bath.

TUBERCULIN DISPENSARIES: A REPLY.

BY

W. CAMAC WILKINSON, M.D., F.R.C.P.,

LATE LECTURER IN MEDICINE AND PATHOLOGY, SYDNEY UNIVERSITY.

SIR CLIFFORD ALLBUTT, Sir Lauder Brunton, Sir William Osler, and Dr. Arthur Latham have made a report to the executive committee of the Welsh Memorial to King Edward VII upon the value of sanatorium treatment which confesses to the failure of the system and yet urges its continuance. "In many cases it must be useless," "in a few instances it is actually harmful," and "in many cases this method of treatment need not be carried out at an institution"—or, in other words, in many cases sanatorium treatment is unnecessary. Why, then, call it sanatorium treatment? Will these authorities give some definite estimate of the number of cases of consumption among the poor that may and can be treated in sanatoriums? It is casting dust in the eyes of the people to vaunt the sanatorium system in one breath and then speak of sanatoriums as an unnecessary luxury.

We learn from this report that "the cardinal factor in the treatment is the constant and skilled regulation of the amount of rest and exercise prescribed from day to day for each individual patient." This system is Brehmer's, as any one who has visited Goerbersdorf very well knows, but it is dignified nowadays by the term "auto-inoculation." Certainly if this cumbersome and complicated system of "auto-inoculation" is able to do all that is required for the sufferers from consumption, these authorities are right in recommending the system to their wealthy patients; but, so far, this old system under a new name has been applied chiefly to early and specially selected cases which have already been through a probationary period, and sufficient time has not elapsed for us to be able to say whether even these results will last. It is, therefore, somewhat premature to speak of the "cardinal factor," when the results of this system in England are still *sub judice*. As yet there is no trustworthy evidence that this system of "auto-inoculation" by graduated exercise can do more than the sanatorium methods of Germany have already achieved. Certainly such a system of "auto-inoculation" carried out under the Insurance Bill requires sanatoriums, and therefore cannot help the poor.

As these authorities choose to furnish no evidence in favour of the system they advocate, and trust the public will place a high valuation upon their mere statements, I will venture to furnish evidence that proves the hollowness of these pretensions that sanatoriums, combined with graduated exercises, can help the poor suffering from consumption. Both rest and graduated exercise have long been employed in Germany in the treatment of consumption at sanatoriums, and the results of sanatorium treatment among the poor in Germany lend no encouragement to the view that sanatoriums can help the poor. Professor Moeller, of the famous Belzig sanatorium, near Berlin, tells us that sanatorium methods by themselves cure only 10.9 per cent. of the cases. Arranged according to stages the results were:

Stage I. Sanatorium methods alone cured 31.8 per cent.
" II. " " " 1.9 "

According to Moeller's later experiences, sanatorium methods alone may cure 25.3 per cent. of the cases of pulmonary tuberculosis of Stage I (German Board of Health classification), while I may mention incidentally that tuberculin has secured the same results in his hands in 84.6 per cent. Weicker, the devoted pioneer of the Volks-sanatoriums of Germany, found that of every 100 cases treated in sanatoriums by rational methods alone, including exercises, at the end of 1 to 1½ years, 41; at the end of 2 to 2½ years, 51; at the end of 3 to 3½ years, 65.8; and at the end of 4 years 80 had lost their fitness for work or were dead. The death-rate was as follows:

In 1 to 1½ years	25 per cent.
In 2 to 2½ years	38.4 per cent.
In 3 to 3½ years	55 per cent.
In 4 years...	56.7 per cent.

Again, the aspect of sanatorium treatment is not encouraging when we read that 7.6 per cent. of cases in Stage I are unfit to work or are dead in 1 to 1½ years, 19 per cent. in 2 to 2½ years, 33.3 per cent. in 3 to 3½ years, and 55.6 per cent. in 4 years.

This tragic result of sanatorium treatment compelled both Moeller and Weicker to look about for some better system, and they are both among the most enthusiastic advocates of tuberculin treatment in Germany. Weicker's investigations are invaluable as evidence upon this national question, because he was dealing with the very class of people who would come within the scope of Mr. Lloyd George's Insurance Bill.

I therefore ask the authors of this report to furnish at least some positive evidence that may help to neutralize the otherwise inevitable verdict against sanatoriums as a means of helping the poor. Surely, the voluminous report compiled by the late Dr. Bulstrode upon sanatorium treatment justifies me in saying that there are no satisfactory statistics dealing with the results of the treatment of the poorer classes in sanatoriums which can help us in forming an opinion. We are compelled to look to Germany to guide us by its careful and laborious statistical analysis of sanatorium results. One may ask, too, why it is that in France there has been no effort to establish sanatoriums on any moderate scale for dealing with tuberculosis among the poor.

Further, those familiar with Weicker's careful reports know that special care was taken to try the system under the most favourable conditions. In Weicker's sanatoriums the presence of tubercle bacilli in the sputum was almost a disqualification. At any rate, in the majority of cases received into Weicker's sanatoriums tubercle bacilli were not found in the expectoration. Is it not, therefore, little less than folly to take our instructions from men like Sir Clifford Allbutt, Sir Lauder Brunton, Sir William Osler, and Dr. Arthur Latham, who so minimize the importance

of early diagnosis, that they even presume to condemn my system of tuberculin dispensaries because I make early diagnosis by means of tuberculin an essential and indispensable feature of these institutions? When I urge the supreme importance of employing tuberculin in diagnosis at these special dispensaries, I am following the lead of such men as Koch, Cornet, Petruschsky, Spengler, Moeller, Pfuhl, Krause, Turban, Behring, Mitulescu, Roepke, Bandelier, and hosts of others. Surely, those of us who have fearlessly investigated this important phase of practical medicine are safer guides than those who presume to judge without such investigations. Until the medical profession seriously recognize the enormous value of tuberculin in the diagnosis of early tuberculosis, we shall be only too familiar with the catastrophes that must follow this disregard of the most valuable weapon we possess in detecting pulmonary tuberculosis in the stage when treatment is likely to be successful. There are few sanatoriums in Germany where this use of tuberculin is not fully recognized. There are, unfortunately, too few sanatoriums in England where tuberculin is thus employed.

Theory of Intoxication.

These authors, misled by their views of "auto-intoxication," assume that in the progressive stages of pulmonary tuberculosis there is progressive intoxication of the system by means of tuberculin. This theory begs the whole question and presents a one-sided and wholly inadequate idea of the tuberculous process. The element of infection and the presence of living, virulent bacilli are wholly ignored. Accordingly, those familiar with the complex character of the tuberculous process can only designate this description of these authors as a misinterpretation of scientific facts. One or two illustrations will best explain my meaning, and will prove also the artificial and misleading system of classification adopted in describing the forms and stages of pulmonary tuberculosis.

First, it is stated "cases of consumption may be roughly divided into four classes: Class I. Those patients who become infected and recover without knowing that they have been infected." In an earlier paragraph it is stated that "practically every man or woman over 35 bears evidence of having suffered from tuberculosis." I ask whether it is justifiable to describe cases in "Class I" as cases of consumption? Such a loose and unscientific definition cannot be too strongly condemned by those who distinguish between healthy individuals and those who are consumptive. Next, I have seen not a few cases in which to-day "the dose of poison absorbed is not beyond the capacity of the defensive forces," and to-morrow, as the result of some trifling accident or complication, "Class I" suddenly passes into "Class IV." This is not the result of a progressive intoxication, but due to an extension of infection. For example, I have seen several cases of latent pulmonary tuberculosis producing no symptoms to attract attention, and yet within three weeks the patients, adults too, have died of tuberculous meningitis. In a smaller degree, and by less severe extensions, "Class I" may pass into "Class II," and even into "Class III," not by virtue of the progressive intoxication, but because the infection has spread discontinuously by the lymphatics or blood vessels to near and distant parts. Thus, too, slowly and even without attracting attention, the third stage of the disease may be reached without any symptoms of poisoning such as the theory of these writers presupposes.

This loose and inaccurate classification of the forms of consumption arises from an attempt to prop up the cause of sanatoriums, which are tottering to their fall, while it may entirely mislead all except those who are intimately acquainted with the variable and uncertain nature of the tuberculous process. The writers go further, and, without offering a tittle of evidence, seek to induce their readers, medical and lay, to believe that those of us who use tuberculin for treatment at tuberculin dispensaries obtain our successes by treating only classes hypothetically designated as "Class I" and "Class II," which would "recover without treatment or by taking a holiday at the seaside." They themselves assume the very point—the result of treatment—which it is necessary to prove. I challenge any one who has studied pulmonary tuberculosis to tell us how long a particular case will belong to "Class II." There may be no "unsanitary or devitalizing conditions, no lack of food," and yet the disease may rapidly hurry its victim into "Class III," because the virulence of infection is a factor which cannot be estimated, eliminated, or disregarded. Thus, according to this classification, one and the same case might to-day belong to "Class II" and would "recover if given a holiday at the seaside"; but to-morrow it would be "Class III" and "need careful treatment in a sanatorium"; and next week would belong to "Class IV" because "he is going to die, whatever may be done for him."

This is the sequence of events which too frequently follows upon a system of diagnosis and treatment which dispenses with tuberculin. The dominant error in this classification is that the issue of treatment determines the diagnosis. The wise physician desires rather to modify the prognosis by adopting treatment that will bring back the victims of the disease from "Class IV" to "Class III," and even to "Class II." If he can even occasionally succeed in doing this, he will frequently succeed in bringing cases in "Class III" to "Class II," and even "Class I"; while he rarely, if ever, fails to prevent cases in "Class II" passing into "Class III" or "Class IV."

I have urged in my Weber-Parkes essay that the worse the prognosis, the better the method that succeeds in saving the victims of the disease. Nothing has convinced me of the value of tuberculin treatment so much as the extraordinary successes I have obtained in cases in II–III and III stages of the disease even when complicated with tuberculous ulceration of the larynx. These results were published in the British Medical Journal of November 26th, 1910. I challenge any laryngologist to produce a similar series of successful results obtained by any other method.

If one can restore to health, by means of tuberculin, victims in these advanced stages of the disease, with the worst of all complications—tuberculous ulceration of the larynx—*a fortiori* it becomes a relatively easy task to obtain successful results in the earlier stages of the disease. I have obtained these successes in cases that would be rejected by any sanatorium, and I have obtained successes in Stage II of the disease which have not been approached in any records of sanatorium treatment. In Stage I of the disease my results have been such that I unhesitatingly endorse the dictum of Professor Koch that in Stage I tuberculin cures pulmonary tuberculosis with certainty. It is for this reason that I must deplore the *ex parte* statements of men who have not themselves consistently, persistently, and courageously employed tuberculin in treatment, and I earnestly demand that a searching investigation of actual facts and authentic observations should be instituted by unbiassed and competent authorities.

There are two other important points that need discussion. These authorities speak of the limitations of tuberculin. There is no remedy known which has not limitations. Injections of tuberculin cannot restore life to a dead man, and cannot always save a dying man. Tuberculin also has no effect except upon a tuberculous process. No one has more persistently pointed out that tuberculin may even do harm when other infectious organisms have found entrance to a tuberculous lesion. I insisted upon this point long before Sir William Osler paid any special attention to the part played by mixed infections in the later stages of pulmonary tuberculosis. Mixed infections generally appear late in the course of pulmonary tuberculosis, and one of the best ways of dealing with these mixed infections is to anticipate them, and by means of tuberculin produce that state of fibrosis in the tuberculous lesion which not only checks the extension of the tuberculous disease in the lungs, but also forms the best barrier against the invasion of the disease by these secondary organisms. Thus, the judicious use of tuberculin in the first and second stages of pulmonary tuberculosis is the best way of obviating this particular limitation of tuberculin treatment.

I am quite convinced that the routine use of tuberculin in the second stage of pulmonary tuberculosis is the best means of preventing mixed infections in all forms of open pulmonary tuberculosis. As for any other limitations which these authorities are careful enough not to define or describe they must tell me what they are before I can

admit their existence. Personally, I know no limitations to the use of tuberculin in pulmonary and other forms of tuberculosis provided the disease has not wrought so much destruction of tissue that recovery could only be brought about by a miracle.

I have already said, and I am quite earnest in my statement, that I know no contraindication to the use of tuberculin except despair. Within the last year I have treated at the tuberculin dispensary more than 100 cases of pulmonary tuberculosis in all stages, and apart from the cases of mixed infections, always in an advanced stage of the disease, I have been unable to find any limitation circumscribing the use and value of tuberculin. To be quite accurate, I am ready to admit that it is not wise, except with certain precautions, to use tuberculin in cases of well marked renal disease. Renal disease is in itself, sooner or later, fatal, and there is not much object in curing a tuberculous lesion when there already exists a disease which in itself is likely to be fatal.

The other point I wish to discuss is the need for "constant, skilled medical supervision." Again, these authorities do not define what they mean by "constant, skilled medical supervision," but I take it that, imbued with the idea that "auto-inoculation" by graduated exercises is the cardinal principle of treatment, they mean that the physician must constantly watch this empirical system of introducing into the circulation a sufficiency of poison from the diseased foci to stimulate the tissues to produce a sufficiency of antibodies to neutralize the effects of the disease. I am convinced that by the system of graduated doses, which can be measured with mathematical accuracy, by the subcutaneous injections of tuberculin, there is not the same need for "constant medical supervision." In our system experience has shown that it is enough to record the temperatures every three hours, and to weigh the patients at regular intervals, in order to work out the salvation of the victim. We teach even our youngest patients to take their own temperatures, and we instruct them or their parents to keep the patient quiet if the temperature rises. By working on this system for many years in Australia and for more than a year in England, where I have treated nearly 200 patients, we have found no difficulties which could not be surmounted.

It is too often forgotten that in dealing with tuberculosis among the poor it is necessary to reduce expense to a minimum; and if there is little risk in carrying out this system at a cost of at most £2 for every case treated, I see no reason for spending another £30 a case in order to secure this "constant, skilled medical supervision." If this money is given to us, we should spend it, not on this "skilled medical supervision," which does not greatly benefit the patient, but rather upon trying to introduce permanent improvements in the homes of the poor—not merely in bricks and mortar, but in supplying the ordinary necessaries and comforts of life. It is only too clear to me that this "constant medical supervision" is much over-rated, because for at least ten years it has been my custom to treat well-to-do patients at a distance—even in the late stages of the disease—and I cannot remember an instance in which these patients were any the worse because I was not at their elbow every hour of the day to tell them to do this and not to do that. In fact, by this system of training one teaches the people themselves to understand the importance of carefully watching the course of the temperature and the value of improving their health and nutrition by a proper and regular system of dietetics, which can be controlled in a practical manner by the weighing machine.

Lastly, by a proper course of tuberculin treatment, it is almost the rule that cough and expectoration cease, so that the victims themselves cease to be a danger to their friends and relations. Bandelier and others, including myself, have proved beyond all doubt that tuberculin treatment is a much more powerful factor in converting infectious into non-infectious cases than the best sanatorium treatment. This transcendent advantage of tuberculin treatment, which is admitted by all the best authorities—Turban, Bandelier, Koch, Cornet, Petruschsky, Spengler, Moeller, Pfuhl, Krause, Behring, Mitulescu, Roepke, Rembold, and myself—seems to be given no weight, and yet it is perhaps the greatest advantage of all. Such a system benefits not merely the individual victim, but mankind.

THE FRENKEL SYSTEM OF EXERCISES FOR TABES.

By J. G. GARSON, M.D.,
PHYSICIAN TO THE EVERSLEY SANATORIUM, HANTS.

THE following case is of interest as illustrating the beneficial effects which result from the systematic practice of the exercises designed by Dr. Frenkel of Heiden for restoring the power of co-ordinate movements in persons affected by tabes dorsalis. It shows how a person who has been reduced to a state of almost complete invalidism may by this means regain the power of locomotion so as to be able to live a comfortable and useful life.

A. B., aged 39, was admitted on April 30th, 1908, suffering from tabes dorsalis in the ataxic stage. He had contracted syphilis fourteen years previously, from which he had suffered severely, and had treatment continuously for about three years. Neurasthenic symptoms occurred in 1905, which were soon afterwards followed by girdle pains, bladder symptoms, and difficulty in walking. Tabes dorsalis was definitely diagnosed by Dr. Risien Russell, by whom he was treated for a time. The ataxic symptoms had gradually increased in severity till he was able to walk only by aid of two sticks. When I first saw him he had a very pronounced ataxic gait and frequently fell, so that it was no longer safe for him to walk in the streets alone. The knee reflexes were entirely gone, Romberg's sign was very marked, and the Argyll Robertson pupil present. The girdle pains and bladder trouble continued, and varied in severity at different times. Ocular symptoms did not then trouble him, and he had fair control over the sphincter ani. The muscles of the lower limbs were in good condition, but slow of action. There was some increase in the range of movement in the joints and some degree of hypotonia, likewise some loss of sensibility of the skin, muscles, and joints, particularly the knee. The symptoms were rather more marked on the left than on the right side. Owing to the falls he had had he was very nervous in walking. He was utterly unfit to follow any pursuit, and the prospect in life before him was very unfavourable.

As the patient had been treated for some time for the disease, which appeared to have remained, for some months at least, *in statu quo*, the most pressing object was to alleviate the disablement in locomotion resulting from the destruction of nerve tissue which had already taken place. To this end Frenkel's exercises were employed. The first thing done was to teach the patient the various movements of the body required to enable him to rise from and sit down on a chair, as a sound person does instinctively and generally without knowing how he does it. The successive movements included in these acts had to be learnt one by one and repeated frequently with the attention concentrated upon them by the patient till he was able to regain the power of performing them in the ordinary manner. The patient was likewise set to do walking exercises daily along a track 21 cm. broad (8¼ inches). At first little regard could be paid to the length or regularity of the steps taken. How to advance one foot before the other, to gain sufficient control over his limbs in order to be able to place his foot upon the track at each step, and to correct the outward rotation of the legs while doing so, occupied all the patient's attention at the beginning. Not only had he to be taught in their proper sequence the various physiological movements of the body required to perform the mechanical act of progression, but he had also to learn to forget the faulty methods of moving his limbs which he had developed during the course of the disease. Progress was necessarily slow at first, but little by little improvement took place as the movements were repeated day after day with the attention concentrated upon them. After a time it became possible for the patient to take steps of a given length (30.5 cm.), and later on he learned to take steps of shorter and of longer lengths, and various combinations of steps in the manner laid down by Frenkel. Finally, practice was conducted on Frenkel's narrow track, 11 cm. wide.

After four months' treatment in the sanatorium he went to a private residence in the country, where he continued to practise in the garden the exercises which he had been taught under my supervision. Several months later he wrote to me in 1909 saying:

> Now I can assure you that the progress I have made has quite surpassed my most sanguine expectations. I have entirely discarded the use of a stick in the house; urinary troubles are vastly improved. My strength is increasing, especially in the legs; the calves have become firmer and the muscles under control. Outsiders have noticed the improvement even more than I have.

I have at intervals heard from him since, and the improvement which he enthusiastically describes has been fully maintained. About two years ago he was married, and has in no way suffered any set-back in consequence.

The case is one which corroborates very forcibly the teaching of Frenkel with respect to the ataxic condition. As long as a certain amount of sensibility exists in the muscles and joints, systematically performed movements, frequently repeated with the attention concentrated on the acts, produce certain impressions on the neurones still unaffected by the disease; these impressions are accumulated until their collective intensity equals that of a stronger but less frequent stimulus, and are capable of being reproduced by the central nervous system. Naturally, the greater the loss of sensation the more difficult and prolonged will the treatment be, but in Frenkel's practice it has been rare to find a case in which the sensibility of the muscles and joints has been so reduced as not to be capable of great improvement. In Frenkel's clinic I have myself seen patients gradually recover their powers of locomotion who, when they began the treatment, were quite incapable of walking, and only able to practise the exercises designed for bedridden persons.

The results of the Frenkel treatment are so excellent that to carry it out to best advantage I have had constructed here a permanent plant fully equipped with all the outfit Frenkel recommends for the purpose. The exercises designed to be performed in bed or on a couch are done by patients separately, but the walking exercises are best done when three or four patients are simultaneously on the track and practise them alternately, as there is then a spirit of emulation and intentness of purpose aroused which has a very beneficial influence on the result.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF ODONTOLOGY.

Professor F. E. Huxley, M.D.S.Birm., President.

PRESIDENT'S INTRODUCTORY REMARKS.

The President in opening the proceedings of the Section stated that the relation of the teeth to public health would form the leading theme of the papers and discussions of the Section throughout its session, and that on one day a joint meeting had been arranged with the Section of State Medicine and Industrial Diseases. He spoke also of the limited opportunities at present afforded for scientific research in this branch of medicine, and of the growing responsibilities of dentistry; also of the advantages of meetings like the present, where the specialists' views were enlarged by coming in contact with general practitioners and physicians. They would be obliged to avoid questions which might arise concerning the large amount of unqualified dental practice, as political topics were not admissible in the Sections.

DENTAL DISEASE FROM THE STANDPOINT OF THE PHYSICIAN.

By R. J. Erskine Young, M.D.Edin., L.D.S.Edin.

Of late years considerable attention has been drawn to the deplorable dental condition of elementary and industrial school children. From a medical, from a dental, yes, and from a national standpoint the need is so great and the problem so big that, in spite of the establishing of dental clinics in certain places—for example, Cambridge, Liverpool, Kettering, and other towns—its solution is still afar off, and only the fringe of the subject has been touched. I propose to deal this morning with only one of its aspects, and I have come to Birmingham to ask you a question—namely, What is your everyday attitude to the whole question of dental disease and its far-reaching consequences? Medicine is a huge subject, and the ordinary medical man finds it almost impossible to keep in touch with its many aspects.

In my medical days I gave some special study to neurology, to insanity, to chest disease, diseases of children, and gynaecology. But I frankly admit that odontology was conspicuous by its absence. During the time I was engaged in medical practice I suppose I did not look at the teeth of six patients in six years.

Is it a case, gentlemen, of "tu quoque"? Do "you also" plead guilty in this respect? You are perhaps interested in gynaecology, or you like eye work, or you have a "bent" towards the chest, or possibly you are a keen heart man, and take special interest in the detection of a faint post-diastolic murmur. But dental disease and its results—what of them? "Well," you reply, "of course the teeth are very important, now that I come to think of it, but such cases find their way to the dentist." Yes, but you do not emphasize the necessity for treatment, and your patients may or may not attend to the matter, and they suffer accordingly. Now these remarks do not apply to many of the medical profession, but there are some to whom the following clinical pictures may be useful. Let us say you have a certain good family as patients. The daughter of the family has been anaemic for long. The blood tonics you have prescribed are legion, and yet your patient does not get well. She still has a "bruit de diable," and giddiness, headache, and lassitude are complained of. You try a new tonic, elegantly written in the classic language, and while you replace your stethoscope in your hat you tell her mother that you think she is better to-day. You bid her adieu, step into your brougham, take up the British Medical Journal, and at once become absorbed in the report of the recent annual meeting at Birmingham, and especially in the proceedings of the Odontological Section. You have paid your visit. Excuse me, are you sure you have? for you quite forgot that your patient has oral sepsis, and you did not even glance at her teeth.

Those of you who are Edinburgh graduates or licentiates will be familiar with the story of the woman who was asked if she had any children. What she manifestly wanted to say was that she was a joyful mother of only two instead of the desired number of six. What she did say was that she had no children to speak of. If you had looked into the mouth of your anaemic patient, you would have found that she had "no teeth to speak of." (It is a useful habit, gentlemen, to think in parallel.) A septic mouth, carious teeth, with perhaps a discharge of pus here or there, and chronic auto-intoxication. An early recognition of this condition on your part might have resulted in a more speedy cure, for I am very certain that an impoverished condition of the blood is at least aggravated (I might almost say caused) by oral sepsis. Take another case. A mother tells you that Mary has had a bad night with toothache but in the morning the pain went, and so did the child—to school. A year later Mary has developed enlarged cervical glands, and has got thinner, and is worried by a cough at night. You tell the mother, with your best professional manner, that you fear the condition may be tuberculous, and you tell yourself that you are more than sorry that you did not examine the child's mouth at the time. What is the life-history of that case? Toothache due to acute pulpitis, death of the pulp, septic pulp, suppuration, enlarged cervical glands, and tubercle has gained entrance to that child's system. You propose removal of the glands under chloroform, which may or not cure the condition, and a lifelong scar may be left. Gentlemen, how about that attack of acute pulpitis?

And what of cases you see by the score of long-standing atonic dyspepsia, and of gastric ulcer? Have you ever considered the relationship between a diseased, and therefore a defective, masticating surface, oral sepsis, and appendicitis, aggravated by the strain and stress of life, hurried meals, and bolted food? I hold that if appendicitis cannot be actually traced to diseased teeth and oral sepsis, the latter is at least a predisposing cause. When you suspect appendicitis, I earnestly ask you to give the state of the mouth much more than a passing thought.

Have you had any cases recently of anxious enteric? Your patient is comatose; the mouth is dry and very septic; the lips are cracked; the teeth are covered with sordes, and your patient is busy picking the bedclothes. Your one thought is, "Will these ulcers rupture?" or, "Can I stop this bleeding?" but you do not ask yourself, "Can I cleanse this mouth?" I know one man, my friend Dr. Halton of Liverpool (and let us hope he is far from being the only one), who lays special stress on the cleansing of the mouth in enteric cases on account of the risk of secondary infection of the parotid; and I do not think there is a single man here who will deny that the bowel condition is bound to be prejudicially affected by intense oral sepsis.

Speaking broadly, is any disease so common as dental caries? Tuberculosis is rife, but dental disease is infinitely more so.

Can you explain the remarkable attitude of the ignorant public towards any one who might speak to them about their teeth? Even to their doctor their position is: "I'll consult you when I am ill, or in pain; if I have a cough I'll ask you to prescribe; but my teeth are my own. I know best about them, so hands off, please." It does not strike them that their cough may be due to tuberculosis, and that the tubercle bacillus may have gained entrance by way of their carious molars. The man in the street is at least forty years behind the times as regards his conception of dentistry of to-day and the malign influence of dental disease on his general health. As observed by me in a paper written last summer, and discussed before the British Dental Association, his ignorance is monumental. For instance, if he has had a cavity filled in one of his teeth, and the filling, in spite of careful preparation of the cavity, comes out owing to fresh decay, then, says he, "Oh, my dentist's work is faulty!" This is the opinion even of educated people, so great is their ignorance.

How are we to educate them? Much could be done if we had a sympathetic and enlightened press; and I wish the press were represented here to-day to hear me say so. The press is too willing to allow space for the publication of "copy" that would be much better left out, though I know a great Liverpool daily which refuses to condescend to any such thing. What a boon it would be if a man could take up his pipe and his evening paper and have his eyes opened, say, by a short article dealing with the point just referred to—the connexion between diseased teeth and tuberculosis. Speaking to the Salop Branch of this Association, Dr. Wheatley, of Shrewsbury, said he considered dental caries, from the point of view of the physical well-being of the nation, probably the most important subject that had ever been brought before it. It seems to me that this disease and consequent oral sepsis strikes at the root of our national health and national stamina. A proper conception on your part of the relation between diseased teeth and the general health will assist you to give a more hopeful prognosis, and will militate in favour of successful treatment.

Since writing this paper my attention has been called to an able address delivered by Dr. John Hunter, in October of last year, to the students studying at McGill University, Montreal, on this very subject of oral sepsis. I am glad to find that he is a strong believer in the connexion between the neglect of the mouth and disease of the body. He freely speaks of "septic anaemia." The sum total of ill effects which oral sepsis produces is greater in his observation than any other single factor in medicine. Preventive medicine has done an enormous amount for the public health. I believe I am responsible for the term "preventive dentistry." These two words convey much to my mind, and modern dental surgery will do an ever-increasing amount in assisting to prevent disease.

What is your idea of dentistry of to-day? Are you aware that the L.D.S. has to complete a course nearly as long as medicine, and the examinations are difficult and comprehensive? This qualification should be compulsory to all desiring to practise dentistry, even including medical men. Do you, the medical profession, still labour under the fallacious idea that dentistry is merely mechanical? Are you aware that it involves not only a knowledge of anatomy, physiology, pathology, and surgery, but also a minute knowledge of these subjects so far as they apply to dentistry? Do you know that all dental operations, if properly carried out, are performed on the lines of modern surgery? And now, if I have helped you to realize a tithe of what modern dentistry is, I ask you to do your part, each of you individually, in educating your patients. We have begun with the children by means of dental clinics, and I hope to arrange for the delivery of popular lectures to poor children and their mothers on the care of the teeth and the effect of neglect of them.

And what of education of the Government? Shall we ever get an enlightened and therefore sympathetic Government? So long as they do not arrogate to themselves title, any one may practise medicine or dentistry; and so long as the chemist is qualified who *sells* the poisonous anaesthetic, any butcher, baker, or candlestick-maker may actually *administer* that poison, and if the patient dies under the administration the jury say of the administrator, "Poor man, he wasn't qualified; what else can we expect?" and they return a verdict of death by misadventure and express sympathy with the widow. And yet the Home Secretary is not wholly convinced of the necessity for legislation as regards this question. Now, though of great interest in themselves, these are matters on which I do not invite discussion, inasmuch as the attention of the meeting might be thus diverted from the main issue.

One other point and I shall close. I think I hear a medical man say, "It is only natural that you should want us to tell our patients to have their teeth preserved," and you hint that our object is financial in nature. I shall prove it is not so, for, if *care* of the teeth is in our favour financially, *neglect* of them is still more in our favour. Like preventive medicine, our object is the improvement of the national health and the prevention both of dental diseases and the diseases resulting from it. Hence my plea for a closer union between the professions of medicine and dentistry. I wonder if I have succeeded in broadening your ideas as regards the latter?

When your Secretary asked me to read a paper at this meeting I was informed that politics were forbidden. I am going to disobey! Mr. Chamberlain has asked us as a nation to *think imperially*. In my turn I ask you as a profession to *think dentally*. And if I have enabled you to take a larger, a more comprehensive, because a more sympathetic, view of the whole question of dental disease and its consequences, especially in relation to the public health, this paper will not have been written in vain.

DISCUSSION.

Sir VICTOR HORSLEY (London) said that the present moment was one of urgent importance for the nation and dental profession. The British Medical Association, having recognized from the first that the care of the teeth of the elementary school children was of the first national importance, had continuously pressed on the Government (see SUPPLEMENT, July 1st, 1911, p. 24) the urgent necessity of providing in every school clinic a dental department. If the British Medical Association and the British Dental Association together forced the hands of the Government, as he believed they could in co-operation, the nation would immediately realize that a prominent cause of physical deterioration had been removed. He suggested that probably the best course would be for the two professions to urge the establishment of combined clinics, and that this plan was the most economical as well as efficient.

Mr. C. EDWARD WALLIS (London) quite agreed with Sir Victor Horsley on the value of a resolution calling attention to the paramount necessity of attending to the teeth of school children. The great difficulty encountered was in converting the members of education committees. Dental hygiene lectures were given to children, to parents, and even to teachers, but the people who needed them most were the members of these committees, who seemed quite unable in many instances to realize the ultimate benefits that would accrue to the community if the mouths of school children were made healthy. At the present moment a considerable fraction of the school population was so afflicted with oral sepsis and its concomitants as to be unable to profit by the knowledge that the most earnest teacher sought to put into them. It was the business of the dental profession to enlighten the community on the matter.

DENTISTRY AND THE PUBLIC.

By Cyril Howkins, M.R.C.S., L.R.C.P., L.D.S.Eng.

Only during recent years has it been realized that one of the causes greatly affecting public health is the unfortunate and widely-spread occurrence of oral sepsis. Under the Education (Administrative Provisions) Act of 1907 for England and Wales, the children of the elementary schools were and are medically examined and the deplorable conditions of their mouths noted. The increase of knowledge tells us the general health of a young or old person greatly depends upon the condition of the oral cavity, so the natural tendency of both medical and lay people who take an interest in the health of the nation is to see if somehow or other this matter might be rectified. Sanitation has done great things, laws have been made, regulations have been enforced to compel people to alter their habits, so that they shall not be a danger to the community.

A still greater task is before us—to instil into the minds of the general public that personal cleanliness and good habits are as important to health as the laws and regulations which exist for the public good.

The early treatment of dental caries in children is essential for their health, and it is called for from three directions:

1. For the general physique of the child.
2. From an educational standpoint; and
3. The future career of the individual.

Concerning the physical condition of the child, all who have any experience with the patients attending children's hospitals know what an unfortunate condition the mouths are in, and we must remember that the mouths of their brothers and sisters at home are not in a very much better state. At the children's hospital in this city I see numbers who are suffering from enlarged tonsils and lymphatic glands, ulcerated gums, deranged alimentary tract, general malnutrition, and many other ailments, all of which are more or less directly aggravated by the dental state. In this city not long ago over 3,000 elementary school children were put artificially right. These school children belonged to five different schools, and I approached the head masters of these schools to find out if the physical condition of these school children had improved. The answers were Yes. It is easy to see that if the health is good during childhood it goes far to make a healthy adult.

From an educational point of view a child is far better able to imbibe knowledge if in a good state of health. It is obvious to all that a child cannot concentrate his attention on lessons if there is any dental worry. My inquiries regarding the after-history of the 3,000 children informed me that in nearly all cases the child was brighter at lessons and that it was exceptional for a child to miss school attendance from a dental cause. The future of a child who is dentally perfect is, and must be, far better than that of one who has been neglected. The navy and army are open to them, and it is appalling to see the percentage of rejections from the services on account of defective teeth. On the Continent, particularly in Germany, school dental clinics have been in working order for some years, the earlier—Strassburg, Berlin, and Darmstadt—being established in 1902. At the present time I think I may safely say that every important German town has its school dental clinic, and several have more than one, as Berlin, which possesses three.

It is very interesting to run through the particulars of these clinics and gather facts which might be of service to our country. The organization, administration, and cost varies, however, very much. The cost in about half the cases is borne by the municipal authorities, and in large towns free treatment extends to elementary school children. Every encouragement is given to children to have the work done; indirect pressure is also applied towards this end. Besides Germany, other countries in Europe have commenced the formation of school dental clinics, although not by any means on so large a scale.

It is recognized that school dental clinics are the only means of dealing with the teeth of the children of this generation, but something must be said on the organization, equipment, and cost.

Organization.—It is of paramount importance that the sympathies of the teachers should be gained, so that their influence may overcome the scruples of the parents and children, and also by arranging the classes to fit in with the dental work. In Birmingham the children were examined in classes at the hospital, lessons being carried on in the meantime at that institution, children being withdrawn a few at a time for the examination. The fillings, etc., were done by groups of children coming from the schools, enough attending to give an afternoon's work.

At other places I know the dental surgeon goes to the school for examinations. Various factors must judge which system is best, such as distance from school to clinic, accommodation at the school, etc. An attendant is necessary to free the dentist from clerical labour, etc., also to attend him in his operative work. The necessary cards, charts, and forms for statistics must be arranged carefully. Accommodation is indispensable. In Birmingham it was easily obtained by the use of the Dental Hospital in the afternoons, which simplified matters greatly.

Cost.—This can be divided into (1) capital outlay, (2) annual expenses. Regarding the capital outlay, I should say that about £75 should cover it, but each case must be judged on its own merits, and the question of dental equipment is too large to be entered into here.

The annual expenses of a school dental clinic depend on circumstances. In the case of a city like Birmingham, which has nearly 98,000 elementary school children, it is obvious that one clinic cannot cope with all the work.

The question might be asked, "How much money is required to put them right?" If we presume that one dentist can look after 3,000 children per year, the number of dentists would be about 30, and if we again presume that each school dental clinic costs £450 a year, the cost altogether would be £13,500, which if thrown on rates would work out at a little over 1d. in the £. The time must and will soon come when England will realize her responsibility in this direction and will rise to the occasion.

At first sight it might appear that after all the expense may be great at first, and as the children are got in hand it will diminish. There is a certain amount of truth in that. I suggest further on that the teeth of all children between the ages of 6 and 8 be first treated. Very roughly, there are about 17,000 in Birmingham at that age, but when those are done with it has been roughly estimated from the Birmingham results that in about twelve months later there will be 30 per cent. of work to be done again to those children; and, moreover, we must remember that a school has a floating population, and the teeth in school life are more prone to decay.

Suppose, now, that the city authorities decided to start in a small way, and voted, say, £450 a year. For this amount a whole-time dentist should be employed, who would treat the children of some densely-populated locality where several schools are established—as, for instance, in Aston. This sum is perhaps rather modest, but it is contemplated that very soon several school nurses will be provided by the city, and they would diminish the annual expense. I have chosen that locality because in some other localities in equally populated areas there are institutions where urgent treatment can be had close at hand. I would suggest that a dentist should be placed in charge of the clinic and be paid £300 a year, and work about six hours a day. Those here who have had practical acquaintance with children will know that this kind of work is most trying. The expense in connexion with the suspended Birmingham dental clinic was £300 a year, but this excluded rent, rates, and taxes, and the clinic was working also under such excellent conditions as a well appointed hospital alone can give, and it is necessary to note that part of the work was done by senior students, whose salary was naturally much less than that of a qualified man who supervised. The £300 mentioned included £18 for filling materials, etc., a year; printing was, roughly, about £5 a year. Presuming that the city gave £450 a year, and that £323 were deducted for the dentist, filling materials, and printing, the sum of £127 is left for rent, rates, taxes, fuel and light, caretaker, cleaning, depreciation, upkeep, and various incidental expenses. Now the question arises: What number of children can be treated for this expenditure? The answer is very difficult, but I think the individual good of a patient must be sacrificed to the general good of the community. The number of children put right by the Birmingham dental clinic averaged 820 a year, at an average annual cost of £300 and working five half days a week. If we now compare these figures with the Cambridge clinic we see

that at that town there were nearly 1,700 attended to, and the annual expense was about £400. The difference in figures is accounted for partly on account of the different conditions and kind of work. In Birmingham I wish you to note that numerous root fillings were done, temporary teeth were filled, and a general anaesthetic was given for extractions of permanent teeth almost invariably. In Cambridge the reverse was the case. In the two places we have absolutely different treatments, and it is hard to compare them.

To commence with I suggest that all children between the ages of 6 and 8 be examined and treated, and yearly inspected and treated, if required, afterwards. All children when the first lot of work is done should be examined when 6 years old, and annually attended to later. This system can then be extended year by year, and be applied to other groups of schools if the means can be found.

In small towns and scattered districts this scheme can be modified to meet the local circumstances. It is cheaper to employ a whole-time dentist than a part-time one as a rule. The money to forward the scheme should come from the rates, and £450 in Birmingham as it now stands means about $\frac{1}{25}$d. in the pound. If we look at the Birmingham results from another point it is found that on an average 10 fillings of various kinds were done every half day per dentist, the half day consisting of four hours. This would work out at about 12 fills per day per man, and leave a little time over each day and Saturday mornings for examinations, extractions, and dressings. In a year of 50 weeks it would work out at (working five days a week) 3,000 fillings. Here we found that each child who attended the clinic represented roughly 1.5 fillings, so 3,000 fillings would therefore equal 2,000 children who could be theoretically attended to for fillings in a year. There are, however, about 10 per cent. who refuse treatment, and if we allow for another 10 per cent. who leave the school before work is done, habitually break appointments, etc., the number of children who can be taken in hand by one dentist for filling will be between 2,500 and 3,000 per year. This number is only very approximate for obvious reasons.

Quite as important as the formation of school dental clinics is the provision of toothbrushes and powder for the children. Some scheme should be enforced in all elementary schools, so that toothbrushes and powder could be supplied on the payment of a few pence to the children, and the urgent necessity of the regular cleansing of the mouth emphasized by the teachers and dentist.

I have hitherto only touched upon the teeth of the younger part of this generation. We see now how a child can have attention provided at public expense till leaving school. A more difficult problem has to be faced with regard to the working class population. When I commenced this paper the recent insurance scheme was not launched upon us, and this has modified things very much. I am strongly of opinion that steps should be taken to graft dentistry on to the scheme. Statements pointing out the necessity of so doing have been published in the press, and questions have been asked in Parliament. That a great amount of general disease is caused primarily by septic mouths is well known, and we must remember that one of the great aims of the Insurance Bill is the prevention of sickness. This must fall to the ground if dentistry is not included, and moreover, it is difficult to see how any person can recover from alimentary and other troubles caused from oral defects unless dental aid is invoked. Some time ago I approached several large manufacturing firms, who take an interest in the welfare of their employees, to discover how they coped with the question of dental defects. As a general rule I found that extractions and conservative work were free and that dentures were provided at cost price and paid for by weekly instalments. I can only suggest that a plan similar to the above be grafted on to the Insurance Bill, the dentist being guaranteed payment by the Government for work done. I do not exactly see why free dentures should be given, but consider that payment could be made at fixed rates and paid for by instalments by the individual, preferably to some insurance official, to whom the dentist would look for payment. It is obvious that when the insurance scheme is in working order patients will be frequently referred to the dentist by medical colleagues, and that treatment of a dental charater will in those cases be compulsory.

This is particularly the case in those who are tuberculous. Good teeth and a clean mouth are necessary adjuncts to treatment at a sanatorium, and it would be folly to think of sending an individual to one of the sanatoriums unless he was to be dentally treated. Dentists should be attached to the public institutions to attend to the inmates, and I hope that the dental profession will either be approached on the matter or emphasize the necessity.

I regret that I am unable to say more on this part of the subject, but I feel sure we all agree the time is rapidly coming when facilities for dental treatment will be placed more at the disposal of the public, who are now, through circumstances which are not perhaps altogether their fault, obliged to go without.

Mr. Clayton Cooper (Birmingham) raised the question of insufficient labour, the present number of qualified dentists being far too few effectually to treat the enormous number of children throughout the country.

Mr. Harold Round (Birmingham) spoke of a short experience of a small clinic in connexion with a small orphanage of 250 children, ageing from 18 months to 16 years. The average time spent was about three hours per visit once a month in examining and attending to about twenty-five children each time. The interesting point noticed was the excellence of dentition in the teeth of children at 12 or 13 years of age admitted to the orphanage at the age of 1 to 4, as compared with the condition in children admitted at a later age.

Mr. W. Bowater (Birmingham) endorsed from personal experience the remarks of the reader of the paper on the importance of dental clinics for schools; he said that enormous benefits to general health soon became apparent. As an example of a local sporadic effort, he mentioned an institution to which he was attached. There were 140 children, aged 6 to 18, and he attended about 100 hours per annum, doing 265 fillings and about 200 extractions, half of them under gas. The initial outfit cost £14 10s., and the upkeep less than £2 per annum, as many instruments were supplied by himself. As to efforts by local authorities, King's Norton, which was soon to be a portion of Birmingham, had recently decided to start a dental clinic, but the matter had to be dropped until Greater Birmingham could consider the question for the city as a whole. Evidence was apparent among pupils of Birmingham Council schools that they were being educated in dental anatomy and oral hygiene.

Mr. Howkins, in reply to Mr. Round, mentioned that he also had noticed that the teeth of inmates of public institutions for children improved very much when they were at the home. This fact, although greatly due to the attentions of the dentist and care taken in cleaning, was partly due to the good food and care exercised generally. In reply to Dr. Erskine Young, he said the question of capital outlay in forming a school dental clinic must vary very much, and depended upon the adaptability of the premises. Water must be laid on to the operating room, and possibly slight structural alterations made. The amount of work done by one man per day depended partly upon the individual; in mentioning that twelve fillings might be done per day, pinhole cavities, which could be rapidly done, had a great effect of bringing up the average number. The question of anaesthetics depended greatly on the dentist, and each case should be judged on its own merits. In reply to Mr. Bowater as to the cost of maintaining small dental clinics, he agreed that it might be done at a very small cost in certain cases.

OBSERVATIONS ON THE BACTERIOLOGY OF TOOTHBRUSHES.

BY

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In this paper are embodied the results of some experiments on the bacteriology of toothbrushes, the objects of which were to determine by a rough quantitative method the numbers of bacteria to be obtained from a bristle of a

toothbrush in constant use, and to find a means of reducing those numbers by the use of various antiseptics. As a result of these observations we venture to offer some suggestions on the treatment of toothbrushes with a view to promoting the hygiene of the mouth.

It is usual when publishing the results of experiments to look up the literature of the subject in order to avoid the grosser forms of plagiarism. No one, however enthusiastic, would be likely to regard oral hygiene as a novelty at the present time, but they might well read with some surprise the following observations of Mr. Anthony Leuwenhoeck made in the seventeenth century, and published in the *Philosophical Transactions of the Royal Society of London* on September 17th, 1683:

Though my teeth are kept usually very clean, yet when I view them in a magnifying glass, I find growing between them a little white matter as thick as wetted flour; in this substance, though I could not perceive any motion, I judged there might probably be living creatures. I therefore took some of this flour and mixed it, either with pure rain water, wherein were no animals, or else with some of my spittle, having no animals nor air bubbles to cause a motion in it, and then to my great surprise, perceived that the aforesaid matter contained very many small living animals, which moved themselves very strangely.

The largest sort were not numerous, but their motion, strong and nimble, darting themselves through the water.

The second sort spun about like a top and were more in number than the first. In the third sort I could not well distinguish the figure, for sometimes it seemed to be an oval and other times a circle; these were exceedingly small and so swift that I can compare them to nothing better than a swarm of flies or gnats flying and turning among each other in a small space. Of this sort I believe there might be many thousands in a quantity of water no larger than a sand, though the flour were but the ninth part of the water or spittle containing it. Besides these animals there were a great quantity of streaks or threads of different lengths, but of like thickness, lying confusedly together, some bent and others straight; these had no motion of life in them.

I took in my mouth some strong wine vinegar, then, closing my teeth, I gargled and rinsed them very well with the vinegar, and afterwards I washed them very well with fair water, but there were innumerable quantities of animals still remaining in the scurf on the teeth, but most in that between the teeth.

Truly the parasitology of the mouth is a well-tilled field of research.

The importance of oral sepsis as a cause of disease is a matter which is receiving an increasing amount of attention every day, and has had of late some brilliant exponents, those especially worthy of note in this country being William Hunter, who has traced many cases of severe anaemia to this cause, and Kenneth Goadby, whose most recent work on the subject deals with arthritis produced by an organism of the mouth. All recent advance in the study of infection is due to the recognition of bacteria as a cause of disease and the knowledge that they gain entrance to the tissues through some breach of surface. The presence of pathogenic bacteria and an invaded surface of mucous membrane are both conditions readily to be found in the mouth.

As is well known, bacteria are always present in mouths of nearly infinite variety, and several types of organisms can always be cultivated therefrom on the media in common use.

The obvious duty of the dental surgeon is, therefore, to see to it that the mouths of his patients are, as far as in him lies, kept aseptic, and for this purpose to take care that all overhanging edges or ledges where food can get retained are removed or corrected. No pains on his part to ensure this can be too great; further, it is his duty to instil into the minds of his patients the necessity for personal effort on their part to attain his object. To be a genius in keeping one's mouth clean there must be developed the infinite capacity for taking pains.

The toothbrush, quill toothpicks, and floss tape or bass are all necessary for really efficient tooth cleaning. It is quite a difficult process, as you all know, to remove practically all the scurf of Leuwenhoeck, and yet it is essential, if decay is to be prevented, that all nidus, such as epithelial débris or food, upon which bacteria can flourish shall be removed. Some toothpicks will be shown that are very useful for the purpose.

It may be urged that it is hopeless to labour for such a utopian condition of mouths, and that, in spite of all efforts, they will be septic; carried to its legitimate end, this argument would lead to the abolition of all cleaning, except that which Nature has provided by mastication, but until we return to the condition of the beasts that perish, which is neither desirable nor probable, and while the public eats such food as is now usual, it is essential, and one would think compulsory, for every effort to be used to render the mouth and teeth as clean as possible.

Each of the instruments employed—namely, bass, toothpick and toothbrush—clearly becomes infected with bacteria at once, and is rendered unfit for surgical use, and the question arises how to treat them. Bass no one would use a second time; the toothpick reflective people will also throw away, but the toothbrush is a different matter. Considered from a bacteriological point of view, the toothbrush is infected with septic material, which is not removed, the brush is merely rinsed, not subjected to any sterilizing process, and left on the washing-stand till next time. When next used it is open to two objections: first, septic organisms are introduced into the mouth generally (though, in view of the condition of that cavity, this may be no more than carrying coals to Newcastle); and secondly, an infected instrument consisting of numerous sharp points—bristles—is used for the scrubbing, and consequently scarification of the gums, and this is obviously a very unsurgical proceeding.

One of the objects of this work has been to form some estimate, capable of expression in figures, of the amount of risk run and the efficiency of various antiseptics in combating this condition. There are many well-recognized means for the standardization of antiseptics, and those interested may be referred to the work of Post and Nicoll in America,[1] and also to Professor Tanner Hewlett in this country, who summarized the methods in use in the Milroy Lectures of 1909. This paper, therefore, introduces no novelty in bacteriology, but is the application of well-known principles to the particular problems of the toothbrush. But the refined technique of the "thread" or the "agate" methods, which are used to test antiseptics against a standard bacterial emulsion, were not adapted to the present requirements. It was judged sufficient for the purpose of this investigation to proceed as follows:

The unit of infected material chosen was a single bristle from an infected brush; this was immersed in a broth tube, incubated for six hours, and a loopful of the broth planted out on agar. The number of colonies obtained after forty-eight hours was regarded as the index of infectivity, which varied according to the antiseptic employed.

To start with, an ordinary toothbrush, which had been in use for some months, twice a day, a tooth wash also being used with it; from this brush a bristle was taken and placed in a test tube containing broth for six hours; an agar slope was next inoculated with a platinum loopful, the test tube placed in an incubator, and at the end of forty-eight hours a very extensive growth was obtained, which, on microscopical examination, proved to be mostly staphylococci and streptococci, and a few coliform bacilli.

This was much as one expected; the toothbrush was well infected with septic organisms and in a very unsanitary condition. So we went back to the beginning and started with a new toothbrush, which was boiled for fifteen minutes. The observer cleaned his teeth, rinsing the brush after use in water, but using no powder or lotion; a bristle was at once taken, placed in a broth tube and incubated for twenty-four hours. A platinum loopful was then transferred to an agar slope and this incubated for another twenty-four hours, at the end of which time a thick growth was found all over the agar tube, which proved, on microscopical examination, to be staphylococci and streptococci. As a control experiment, after boiling and before using the brush, a bristle was taken, placed in broth for twenty-four hours, a loopful then transferred to agar and incubated; no growth was visible after thirty-six hours, thus proving that the brush was sterile before use. In all experiments described hereafter, where mention is made of a sterile brush, it means one that has been boiled for a quarter of an hour. The control experiment was repeated in almost every case, but no growth was ever obtained.

A series of attempts were then made to correct this state of things. A few drops, from 8 to 12, of the following antiseptics—absolute alcohol, potassium permanganate (port-coloured solution), carbolic acid (1 in 20)—were used on a toothbrush and the teeth well cleaned. The brush was rinsed well in water after use, a bristle was taken, and, after the above-described procedure of broth tube and agar slope, a considerable growth took place, thus showing that none of these drugs was sufficiently potent to keep the brush aseptic.

We will not trouble you with a detailed description of all the experiments done, but only mention a few which may be of interest; the others will be found at the end of the paper (see table, p. 426). Unsatisfactory results having been obtained with carbolic acid, potassium permanganate, and absolute alcohol, we came to the con-

clusion that some other method must be tried to keep the toothbrush in an aseptic condition. Experiments were made using some of the well-advertised patent tooth washes and pastes, but none of those used gave a satisfactory result.

It was decided to rinse the brush in an antiseptic after use, and the liquid chosen for this purpose was formalin. The teeth were cleaned with a sterile brush, which was rinsed in water after use, then a bristle taken from it put into broth for six hours, then on to an agar plate, the result being a large number of colonies. Immediately the bristle had been taken the brush was rinsed for a minute in 2 per cent. of formalin, a bristle taken and treated as above, the result being at the end of twenty-four hours' incubation one colony. The same experiment was repeated, one of the boys in the workshop cleaning his teeth, with the result that one colony only grew in his case, although before rinsing the brush there were a great number.

These two experiments seemed rather encouraging, so the strength of the formalin was increased to 4 per cent. A sterile brush was used for cleaning the teeth, and treating a bristle as above before rinsing in formalin gave over 100 colonies, after rinsing in 4 per cent. formalin no growth appeared.

This experiment was repeated three times, and in only one case did we obtain any growth, and then only one colony.

It seemed that a tooth wash made up with formalin might give the same results, so a wash containing formalin 4 per cent., glycerine, rectified spirit, and rose water was used, ten or twelve drops being sprinkled on a sterile brush, but the result was not satisfactory, many colonies growing. The strength of the formalin in the wash was increased up to 8 per cent., and then to 10 per cent., at which strength it became so unpleasant to use that it had to be given up.

It was decided to use a wash containing 6 per cent. formalin and to rinse the brush after use in 4 per cent. formalin solution. A brush was so used for five days, at the end of which time a bristle was taken and treated as above, the result being 23 colonies.

Next a brush was allowed to stand in 10 per cent. formalin between the times of using, but, although this gave satisfactory results at the end of one day, three days, and a week (no growth having taken place up to that time), the brush had become so soft that it was not much use as a cleaning agent, and also the taste of formalin was rather strong, so this was given up.

Some further experiments were now made—cleaning the teeth with a sterile brush and, after use, rinsing in trikresol 1 per cent. The brush was left standing in this for two minutes, and afterwards a bristle was taken, put in broth and incubated for six hours, then the broth run on an agar plate and allowed to remain there for two minutes. Afterwards the plate was incubated for thirty-six hours with a satisfactory result, no growth appearing.

This experiment was repeated, the brush being used for three days, being rinsed after each use for two minutes, the same satisfactory result being obtained.

This method of treating the brush seemed the best that we had so far obtained, so further experiments were made and for longer periods, two persons' brushes being treated in this way by rinsing in the 1 per cent. trikresol after use; they were used for a week, after which a bristle was taken from each and treated as above with the result that at the end of forty-eight hours' incubation no growth was obtained. The same rinsing fluid was used for the whole week.

This experiment has been repeated several times and in all cases the result has proved satisfactory. The trikresol leaves a rather pleasant refreshing taste on the brush, but if this is not to one's liking there is no reason why a few drops of otto of rose or some other flavouring agent should not be added.

With regard to the efficiency of antiseptics for the purpose of sterilizing the toothbrush, the following conclusions are suggested:

CONCLUSIONS.

A toothbrush becomes septic after once using, each hair becoming an inoculation needle, and the person using it may be vaccinated with such germs as flourish upon it.

The toothbrush, therefore, as popularly used—namely, for many months—may be the origin of pyorrhoea alveolaris, which may lead to such grave consequen as anaemia, gastritis, or arthritis.

The prevalent tooth powders and tooth pastes as usua used do not render the toothbrush aseptic, and even p hydrol or 1 in 20 carbolic acid is not effectual in doing.

How can this be met?—

1. All toothbrushes before and after use to be boi for five minutes.
2. A new toothbrush can be used each day. T penny brushes obtained at the penny bazaars quite good enough for this purpose.
3. Those wishing for a more prolonged use of toothbrush can rinse the brush in trikresol (1 cent.), or allow it to stand between use in forma (10 per cent.).

Sterile Brush used in every Case, Teeth Cleaned and Brush Rinsed in Water unless otherwise described.	Bristle taken and put in Broth for Number of Hours.	Brush run on Agar Plate for 2 Min. and then incubated.	Result: Number of Colonies.
	Hours.	Hours.	
—	6	24	12 large, man small.
—	6	24	100 colonies.
—	6	24	1 very lar covering h the plate.
—	6	24	24 colonies.
Used 7 days	6	24	Very numero
Child's teeth aged 5, mouth normal	6	24	159 colonies.
Brush in use 1 month... ...	6	24	3 very large.
Brush in use 1 month... ...	6	24	4 very large.
Brush in use 1 month... ...	6	24	Very numero
Sterile brush	6	24	Over 100.
Same brush rinsed in 2 per cent. formalin	6	24	1 only.
Sterile brush	6	24	10 colonies.
Same brush rinsed in 2 per cent. formalin	6	24	1 only.
Sterile brush	6	24	over 100.
Same brush rinsed in 4 per cent. formalin	6	24	No growth.
Sterile brush	6	24	Over 100.
Same brush rinsed in 4 per cent. formalin	6	24	1 only.
Brush in use 2 months ...	6	24	7 very large.
Same brush rinsed in 4 per cent. formalin	6	24	No growth.
Sterile brush	6	24	50 colonies.
Same rinsed in liq. sodae chlorinatae	6	24	No growth.
New brush used with formalin 6 per cent. dropped on it	6	24	5 colonies.
Ditto	6	24	6 colonies.
New brush used with formalin 8 per cent., brush standing in 10 per cent. between use	6	24	No growth.
Ditto	6	24	No growth.
New brush used with formalin 8 per cent.	6	24	4 colonies.
Formalin 8 per cent., and brush standing in 1 per cent. between use	6	24	No growth.
Sterile brush, 8 per cent. formalin, rinsed in 5 per cent. 1 week	6	24	7 colonies.
Sterile brush, and rinsed in trikresol 1 per cent.	6	24	No growth.
Same brush and treatment, used 1 week	6	24	No growth.
Same experiment repeated, 1 week	6	24	No growth.
Ditto	6	24	No growth.

The removal of the scurf of Leuwenhoeck after each meal by a thin quill toothpick and by floss silk or bass is essential for cleanliness. The toothpicks whose use is advocated are thin and flat, and if they become curved, reverting to their original shape, they should be put in hot water and flattened before use.

No means has suggested itself of rendering the mouth an aseptic cavity; nor has any profound disappointment been excited on that account. But a septic cavity notwithstanding, it is undesirable to use a septic instrument for the scarification of the gums, thereby forcibly driving septic organisms into the tissues at the point of the bayonet.

It would seem that the use of 1 per cent. trikresol is a simple and accessible method of rendering the toothbrush free from the commoner pathogenic organisms.

REFERENCE.

[1] *Journal of American Medical Association*, November, 1910.

DISCUSSION.

Mr. D. P. GABELL (London) said that the authors had shown that simple washing, the use of antiseptic washes and powders and exposure to the air did not cleanse the brush, but he would like to know the nature of the germs and also what happened in unhealthy mouths as well as in healthy ones. The recent spell of hot weather had given rise to quite a little epidemic of gingivitis and periodontitis in his own practice, and this perhaps was greatly assisted by an increased growth of germs in the warmer brush causing greater auto-inoculation. The question of re-infection and auto-inoculation was obviously an important one, for any effectual toothbrush would make wounds in an inflamed gum. It was quite obvious that a brush used for scraping the dirt off teeth must at once become septic, but Mr. Smale had not said if it remained septic twelve hours later, nor whether the germs increased or diminished during this time, nor had he particularly dealt with the pathogenic varieties of germs. It was very interesting to learn that tooth powders, etc., did not render the brush aseptic, and Mr. Smale's evidence on this point seemed to the speaker convincing. As to how to meet the danger, Mr. Smale neglected one obvious method, which was to discard toothbrushes entirely. Yet when all the teeth and gums were sound and functional and a plain hard diet was taken, probably this would not be a wise course, while in acute inflammatory cases it was better to trust to rinsing and swabbing between the short intervals of skilled attention until the worst symptoms had subsided. Boiling was not practical, and to use a new brush each time shocked a careful Scottish mind such as that of the speaker. The use of 1 per cent. trikresol appealed to him as a good practice for patients with unsound mouths. Even quill toothpicks and silk might prove harmful to the teeth and gums if not properly used; instruction in the proper way to use them should always be given when advising patients to use either.

Mr. HOPEWELL-SMITH (London) said that india-rubber toothbrushes could be obtained which could be cleaned almost immediately, and thereby rendered aseptic. They possessed no powers of retaining bacteria on their surfaces. If the bristles of the ordinary toothbrush carried such large numbers of bacillary colonies, their sockets in the brush itself must be much more greatly infected. Mechanical cleansing only of the mouth was required except in diseased conditions and after operations, the weak antiseptics found in mouth baths and pastes being of no value whatever.

TWO ABNORMALITIES OF THE DENTAL TISSUES.

By A. W. WELLINGS, L.D.S.Edin., B.D.S.Birm.

THE two following abnormalities are shown as being of interest to dental histologists, and in the hope of eliciting some possible explanation as to their manner of formation. CASE A. The first was shown as a casual communication at the Birmingham Dental Students' Society.

I asked and obtained permission to examine it microscopically. The only particulars I am enabled to give you as regards the history of the case are that the tumour was removed from the region of the lower third molar in a female (age not stated), who had been suffering pain for some time. The extraction was difficult, as may be imagined, but was eventually accomplished and the mass shown in the photograph was removed.

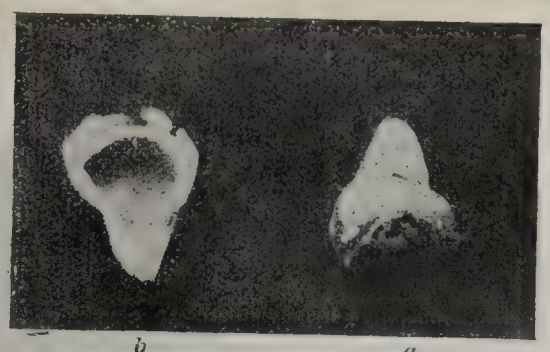

b *a*

Fig. 1.—*a*, View of tumour showing expanded radicular portion and flattened base. *b*, Section showing internal cavity, and in the outer crust the outline of narrow pulp canal. Natural size. (Case A.)

Fig. 2.—Low magnification of section showing *a*, external cap of enamel; *b*, narrow rim of dentine enclosing a large internal cavity which is lined in places with a layer of enamel; *c*, tissue at base composed of enamel internally, fine-tubed dentine, an irregular mixture of dentine and cementum, and externally hyperplastic cementum; *d*, narrow pulp chamber. The orifices to the pulp canals are just behind the overhanging rough projections at the base. Magnification = 4 diameters. (Case A.)

It consists of what looks like the crown of a supernumerary tooth, and a greatly expanded radicular portion. The base of the mass was flattened somewhat like the bottom of a flask, and there were two orifices of moderate size which seemed to lead to a cavity in the interior.

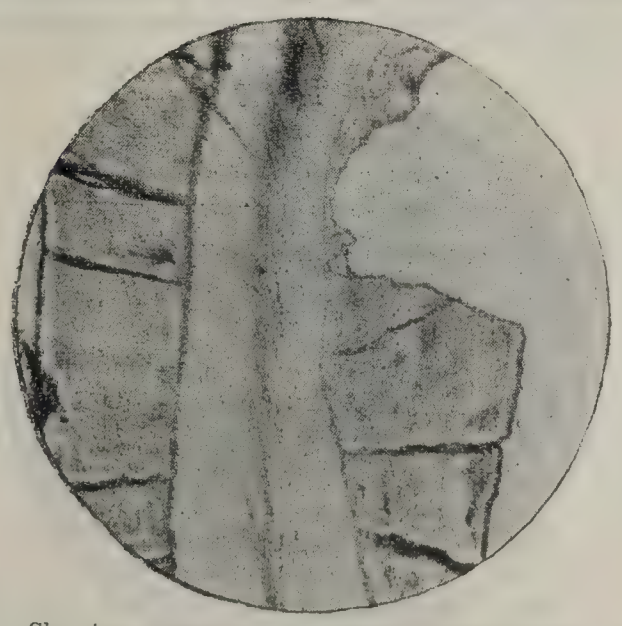

Fig. 3.—Showing external and internal enamel with dentine between. The dentinal tubules pass obliquely across from the outer to the inner layer of enamel. Magnification = 20 diameters. (Case A.)

On section a large cavity was found corresponding in

outline to the shape of the specimen, which was thus seen to be a thin crust of calcified material enclosing what was apparently an enormously enlarged pulp chamber. Bristles

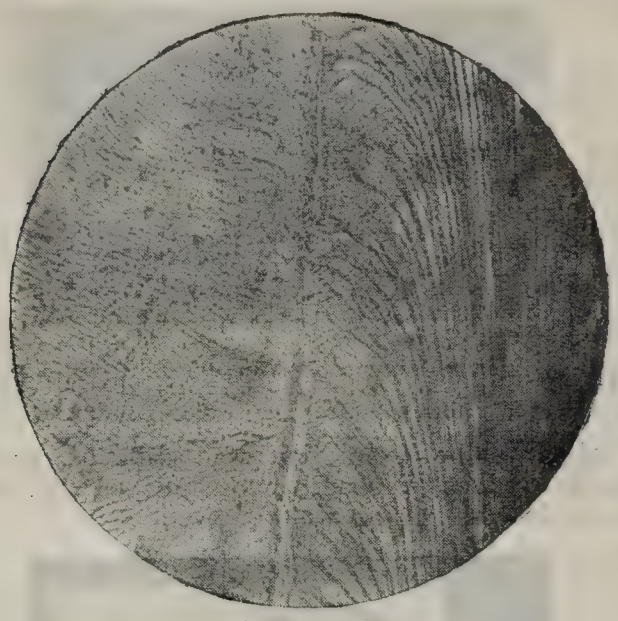

Fig. 4.—Higher magnification of dentine and internal enamel, showing the terminations of the dentinal tubules near the amelo-dentinal junction, and the character of the enamel. Magnification = 320 diameters. (Case A.)

were passed into the orifices mentioned, but they were found to communicate not with the large cavity, but passed along a narrow canal in the outer crust.

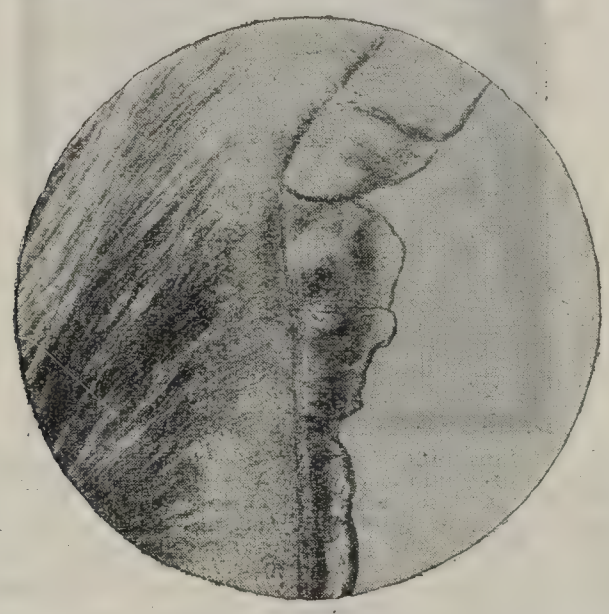

Fig. 5.—Another portion of the enamel of the interior, showing a great amount of staining of that tissue, the well-marked amelo-dentinal junction, and the irregularity of the tubular structure of the dentine near the enamel. Magnification = 35 diameters. (Case A.)

Microscopic examination showed that the apex of the mass was covered with enamel, beneath this was a layer of

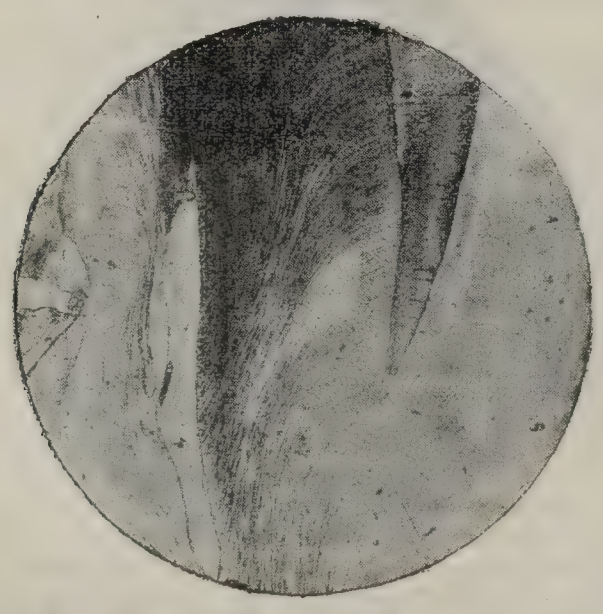

Fig. 6.—Narrow pulp chamber near the neck of the denticle. Dentinal tubules radiating from the pulp to the enamel on either side. Magnification = 35 diameters. (Case A.)

ordinary fine-tubed dentine, and internally lining the large cavity in places a layer of well-formed enamel.

In the crown the dentinal tubules run chiefly from the outer cap of enamel to the narrow pulp canal.

Near the inner coating of enamel many of the tubules

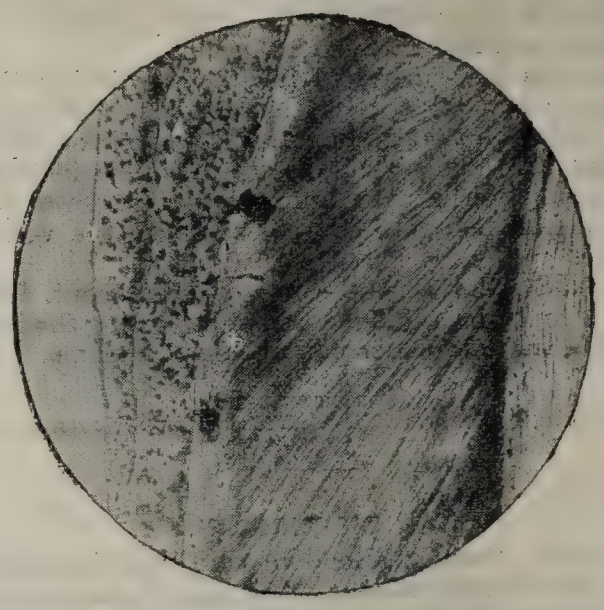

Fig. 7.—Photomicrograph from tissue near base. Shows *a*, hyperplastic cementum; *b*, fine-tubed dentine; *c*, laminated structureless tissue lining the pulp canal just here. Magnification = 35 diameters. (Case A.)

are cut across obliquely, but others are seen passing from the enamel, which they appear to enter, and pursuing a direction parallel to the pulp canal, eventually joining with

Fig. 8.—Photograph of the mass showing the enamel-covered crown and the expanded root portion. Natural size. (Case B.)

a set of tubules which radiate from the pulp obliquely towards the base of the denticle.

At another place they appear to cross straight across from the outer enamel to the irregular tissue immediately adjacent to the internal enamel. In the radicular portion on the one side of the mass the tubules radiate regularly from the pulp to the periphery on either side in long sweeping curves. Where enamel is present internally

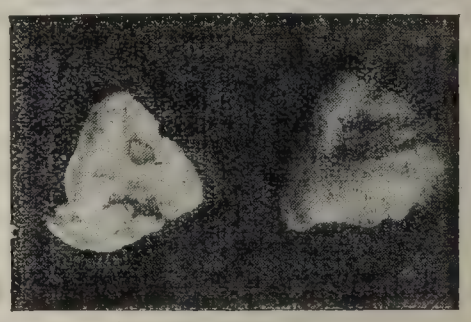

b *a*

Fig. 9.—*a*, Another view of the tumour; and *b*, the mass on section. Natural size. (Case B.)

there is a well-marked amelo-dentinal junction, while externally the granular layer of Tomes is seen very clearly with a narrow clear layer of structureless tissue beyond. As the base is approached the regular character of the tissue disappears. There are rows of large interglobular spaces, and in the centre the tissue corresponding to the position of the pulp canal is of an irregular character,

containing fine tubules, coarser canals, and small lacunae-like spaces without canaliculi.

From this point the external tissue is laminated, the outer lamellae being crossed by dentinal tubules in a zigzag manner, while near the periphery, before coming to the thin structureless layer of cementum, are numerous large irregular lacunae with long branching canaliculi. From here to a protuberance at the base the tissue assumes the character of hyperplastic cementum, traversed by dentinal tubules.

Examining the other side of the root portion, the tubules at first radiate fairly regularly from the pulp chamber to the periphery externally and internally; the granular layer is well marked, as is also the structureless layer of cementum, but the dentine bordering the cavity is much less regular than that of the other side, and would seem to have been the subject of some interruptions in its formation. Lower down externally there are numerous large interglobular spaces, and quite soon the structureless band of cementum gives place to a highly hyperplastic tissue. At the base on this side there is first a layer of regular dentine, then an irregular tissue containing tubules, coarse canals, lacunae, and canaliculi. A rounded

Fig. 10.—A low magnification of the whole tumour, showing *a*, cap of enamel; *b*, fine-tubed dentine radiating from two narrow pulp chambers to the cap of enamel externally, and internally to another layer of enamel—the latter is enclosed by the bending towards each other of the narrow pulp canals and their dentinal systems, which are eventually united by a cementum-like tissue; *c*, hyperplastic cementum and irregular osseous tissue can be seen at the base; *d*, cavity of interior filled in one place with a structureless dried-up tissue. Magnification = 5 diameters. (Case B.)

prominence here consists of a similar heterogeneous tissue.

The internal enamel, where it is present in any quantity, is well formed, as the photograph shows, but in other places is of poor structure.

There is no evidence as to the contents of the cavity inside the denticle, and I am at a loss to explain the existence of this enamel-lined cavity, which is completely enclosed by the growing together of the sides of the mass.

B. The next case was extracted from the region of the right third molar in the maxilla, the extraction being undertaken under the impression that the tooth was an ordinary wisdom of poor structure. Little difficulty was experienced in the operation, but to the surprise of the operator a large mass came away, which he thought at the time must be the maxillary tuberosity. The photographs show various aspects of the specimen and one in section.

I was asked to examine the mass microscopically in order to set the mind of the operator at rest as regards the tuberosity. The section shows the mass to be composed of a tip of enamel externally, partly broken off in grinding, a large body of fine-tubed dentine, the tubules of which radiate from two curved pulp canals; another mass of enamel internally, which is attached to the dentine of the crown, and completely encysted by the dentine of two roots bending round towards each other, and becoming united by cemental or osseous tissue.

The amelo-dentinal junctions of the external and internal enamel are both well marked. The dark tissue against the enamel is probably some dried uncalcified tissue which has not been detached in grinding.

On the right of the photograph is seen a nodule of hyperplastic cementum, lower down it has been broken off in grinding, but there is an abnormal amount of this tissue everywhere on this side, and continued partly up the other. Towards the base there are large irregular canals and bundles or fibres running almost parallel with the surface. The granular layer is present in some places and absent in others.

In some respects the two cases are very similar. The crowns in each case erupted normally, and there was nothing to lead one to suspect the condition of affairs at their roots. Both had enormously expanded bases. Both contained a hollow chamber lined in places with enamel, and in whose walls ran narrow pulp channels, and both are equally puzzling to explain.

DISCUSSION.

Mr. Hopewell-Smith (London) considered that the etiology of the interesting tooth tumours which occur in the molar regions of the jaws was often difficult of comprehension and not easily decided upon. In the present instance, the existence of enamel on the surface of the interior of the growth would almost lead the speaker to suspect that there was a fusion, and subsequent malformation of two tooth germs, the apices and the bases of which had united and produced a large hollow mass.

Mr. J. G. Turner suggested a calcification, or partial calcification, of a unilocular or multilocular epithelial cyst.

Professor Underwood suggested a likeness to a snake's poison fang, and a possible formation of the cavity by folding of the spread-out tooth germ.

Mr. Wellings, in reply, said: The theory put forward to explain A is easily applicable to B, and one has no difficulty in accounting for the latter monstrosity by imagining the fusion of two malshaped tooth germs. But the existence of enamel all round the large cavity in the interior of A is not satisfactorily explained even now. Can one not manufacture a rational explanation by forming a judicious compound of the three theories above cited? The dentine germ of a simple conical rudimentary tooth at an early period of its growth came into relationship at its deeper part with some actively proliferating epithelial cells (probably the enamel organ of another supernumerary). The base of the dentine germ would be spread out (in the manner suggested by Professor Underwood), and would react to the two enamel organs. The pulp chamber would be squeezed to the proportions of the narrow canals in the walls of the mass by the growing epithelium. It is possible to imagine the two sides of the base of the dentine germ growing towards each other around the epithelial cells, which would thus be gradually encysted, and, eventually, cut off from all nourishment, break down and die, leaving the hollow cavity in the centre.

ON THE PATHOLOGY OF UNERUPTED TEETH;

THAT IS, OF TEETH RETAINED IN THE JAWS BEYOND TERM OF ERUPTION.

By J. G. Turner, F.R.C.S.,

Late Honorary Dental Surgeon, St. Thomas's Hospital

The first point I have taken for examination is cause. Possible factors are: (1) Failure of development, which includes possible evolution changes and influence of sex; (2) developmental misplacement of tooth germs; (3) early extraction of teeth, (4) undue retention of temporary teeth, (5) general or local disease, (6) supernumerary teeth. My material has been drawn chiefly from museum specimens, and in arriving at a conclusion as to cause, I have been guided by the following considerations: Symmetry is suggestive, but not conclusive of general cause; a local cause may be symmetrical; more than one cause may have been active; sex was not determinable in most cases. Failure of development of the jaws will most readily make its effect felt in the region of the third molars, and the retained teeth should be found in positions corresponding to

some period of development. The remaining teeth, even in face of subnormal bone growth, should be able to find an exit. This is what is actually found in the living subject, and failure of bone development is not an impor-

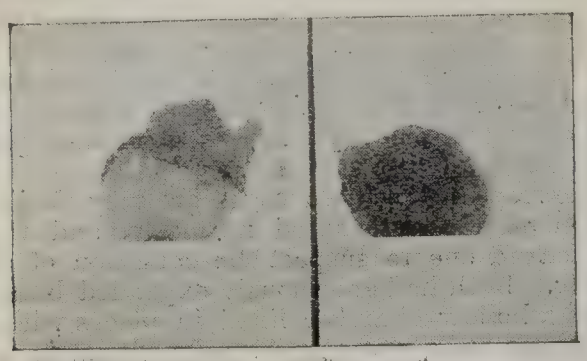

Fig. 1.—A retained left upper third molar photographed from the side and from above, showing absorption of its roots and consequent involvement of the entering nerve bundles in the inflammatory process. From a woman of 55. The jaw was "edentulous," and the patient had suffered from intractable neuralgia for years. On exploring the tooth was found, and its extraction was followed by a gush of muco-pus from the antrum. Pain was greatly and permanently relieved, but osteitic pain persisted. Patient had been treated for hysteria. In this case the roots had projected into the antrum, and the periodontal membrane had been infected sequent to antral infection. The periodontal infection was undrainable. Absorption of the septic "foreign" body followed.—Royal Dental Hospital Museum.

tant cause of their retention within the bone, except possibly in the case of the canines. Here it seems at first sight that failure of bone development may have a considerable influence—the upper canines are frequently

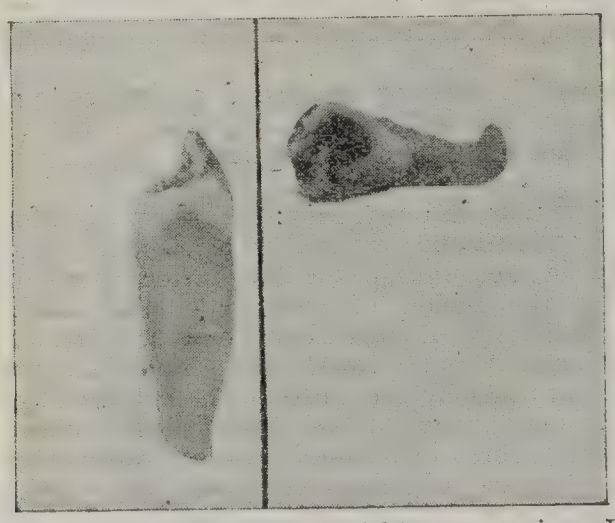

Fig. 2.—Two views of a retained right upper canine. From a woman of about 55. The crown has been absorbed till the pulp is exposed at one point; there is no "caries" of the tooth. There had been for a long time a slight discharge of pus on to the gum. The absorption probably followed infection of the tooth crypt from the mouth.—Royal Dental Hospital Museum.

retained and the upper jaw is far more often subnormal than the lower. But on examination it is found that in the case of subnormal upper jaws in the living subject the canine, though left in a developmental position, yet erupts

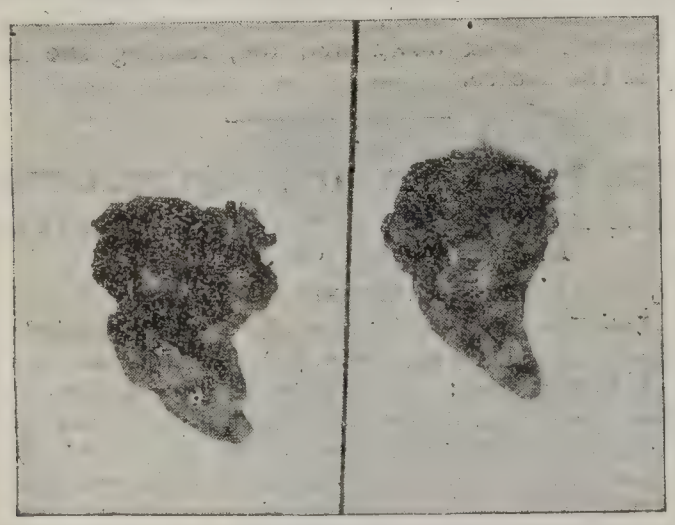

Fig. 3.—Retained left lower wisdom tooth. From a woman of about 55 (same patient as Fig. 2). The tooth is covered with black coral-like tartar deposited either from inflammatory serum or from saliva. When seen there had been for some months a discharge of pus.—Royal Dental Hospital Museum

there—outside and above the dental arch—in the great majority of cases. Indeed I found no *post-mortem* specimen showing canines retained in their developmental positions—always there was misdirection.

Developmental misplacement of tooth germ is an obvious explanation of some of the grosser cases of retention, as

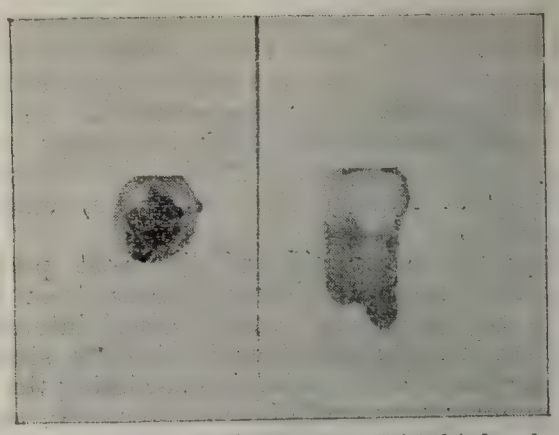

Fig. 4.—Two views of a retained upper right third molar. From a woman of 50. The tooth was inverted, with the apex of the root projecting slightly through the gum and the crypt of the crown communicating with the antrum; there was rarefying osteitis round the crypt, shown by the slight resistance offered to the forceps. The crown has been absorbed from the coronal surface till the pulp is nearly exposed. The crypt was probably infected from the antrum.—Royal Dental Hospital Museum.

where a canine is found erupting into the nose, or lying horizontally in the bone, or a third lower molar erupts into the sigmoid notch; and from this point we may work back to the less gross misplacements, and ascribe the same cause (developmental misplacement) as a factor—or the factor—in cases where the upper canine is found, as it frequently is, retained inside the dental arch vertically or obliquely behind the incisors. Here, indeed, failure of development, early extraction, or undue retention of tem-

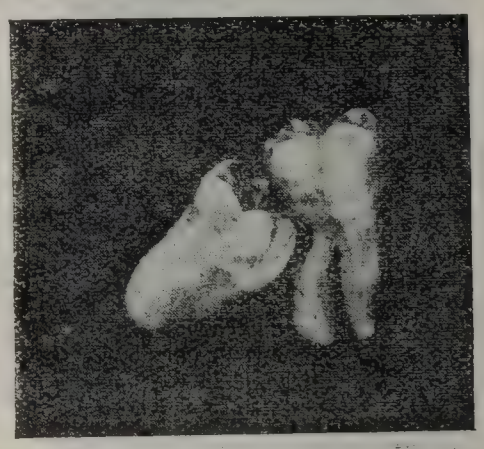

Fig. 5.—A second lower molar with an impacted third lower molar behind it. The third molar has caused absorption of the root of the second molar. On infection from the mouth neuralgia would ensue. The wisdom tooth is in its developmental position. Failure of bone growth.—Royal College of Surgeons Museum, Odontological Section, E 121.

porary teeth might be thought to have an influence. The first two factors should not change much the direction of the

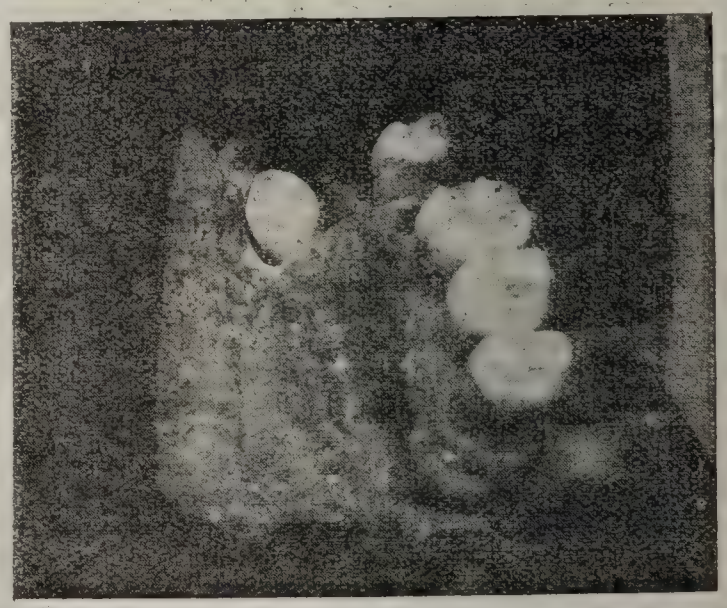

Fig. 6.—An upper canine erupting near the naso-palatine foramen. The tip of the canine crown is absorbed. Inflammation round the infected crypt would readily involve the nerve trunk. Developmental misplacement of tooth germ.—Royal College of Surgeons Museum, Odontological Section, E 39.

retained tooth, and proximity of lateral to premolar is no evidence of initial failure of bone development, since in absence from the dental arch of one tooth from whatever cause, the remainder will be closed in by external pressure

till they are in stable apposition. Unilateral early extraction leads to change of direction of the axis of the other teeth, their crowns tilting towards the vacant space; unilateral misplacement of tooth-germ is not likely to lead to such a result, since the teeth are free to arrange themselves in vertical positions in the bone. Undue retention of a temporary canine would deflect the permanent tooth inside the arch, as with the central incisors; the tooth then might be retained, and the axes of the remaining

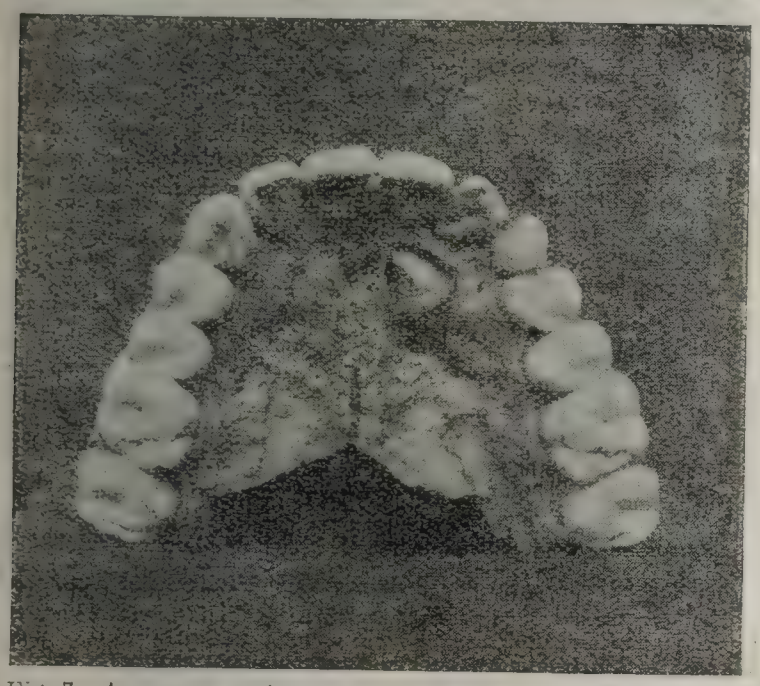

Fig. 7.—An upper canine erupting in the palate. The crypt of the crown is enlarged, probably sequent to its infection. The temporary canine is retained. Developmental misplacement of tooth germ.—Royal College of Surgeons Museum, Odontological Section.

teeth after eventual loss of the temporary tooth should be inclined towards the vacant space. Such a state of things I have not found.

The pathological changes may be considered as (1) developmental, (2) secondary. Developmental changes practically mean the position and shape and size of the teeth, for it is very difficult to estimate under-development of bone. As regards shape and size, most of the teeth were normal, but some were "monstrous"—that is, the crowns were large,

Fig. 8.—Retained left upper canine erupting obliquely into the palate. The apex of the root is sharply bent, and is exposed on the buccal surface of the maxilla. Probably infection reached it from the alveolar buccal sulcus; (?) due to retained temporary canine or developmental misplacement of tooth germ.—Royal College of Surgeons Museum, Odontological Section, 2136 U.

or the roots thick, short, or bent. A common deformity consists in a sharp curve at the end of the root—for example, upper canine—where the growing dentine organ has turned so as to keep within the bone; an extreme example of this is seen in Specimen 21362 K, Odontological Section, Royal College of Surgeons Museum, in which the root is at right angles to the crown ("dilaceration"). This tendency of the growing dentine papilla to keep within bony limits suggests that where the roots project into the antrum that cavity has been enlarged subsequent to root formation, or at least *pari passu*. At any rate, it cannot be said to support the theory that the increase in size of the cavity depends on the presence of teeth.

The positions of the teeth are interesting as showing the possibilities of trouble. There is a negress skull in the Royal College of Surgeons Museum (Odontological Section) showing a canine erupting into the floor of the nose, and the root of a canine in another case. Proximity to the

Fig. 9.—Symmetrically retained upper canines lying horizontally. From an old edentulous subject. The teeth have been exposed by absorption of bone. The apex of the right tooth is turned sharply up. There has been an abscess round the apical part and absorption of the root. Developmental misplacement of tooth germs.—Royal College of Surgeons Museum, Odontological Section, E 3.

antrum is frequent, and either the root or the crown may be in relation. Cryer figures a wisdom tooth held up in the posterior wall of the antrum in a position which might have led to trouble in the pterygoid fossa. He also states that the lacrymal duct may be pressed on by a retained tooth. The crown or root of the tooth may lie near a nerve trunk—for example, a canine near the naso-palatine foramen; but in all these cases it should be clearly understood that it is only with the advent of secondary (generally septic) pathological changes that trouble comes.

A simple retained tooth has no more power for evil than

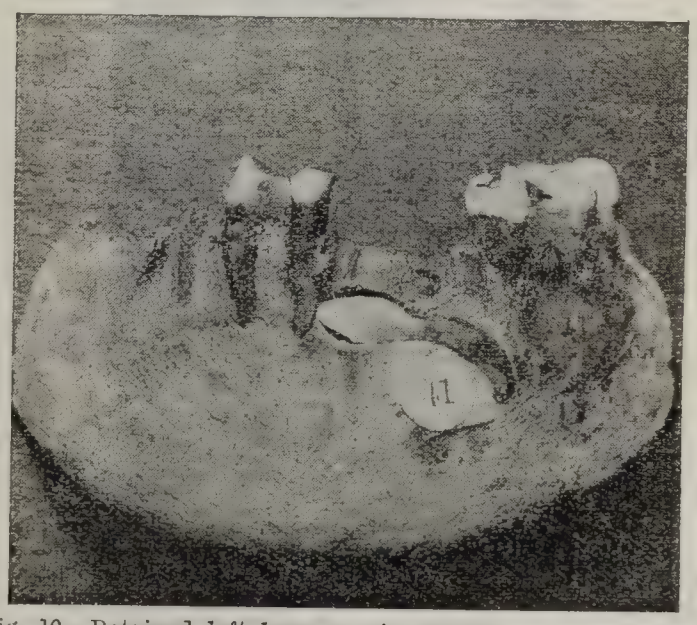

Fig. 10.—Retained left lower canine with root curved sharply down. Judging by the sockets, the central incisor seems to have been twisted and tilted away from the mid-line and the lateral incisor absorbed till it fell out. There is a fistulous opening leading through its socket to the retained tooth. Part of the socket of the temporary canine remains. The empty socket immediately above the apex of the crown of the retained tooth is that of the right central incisor; the roots of both incisors may have been absorbed. Developmental misplacement of tooth germ.—Royal College of Surgeons Museum, Odontological Section, E 73.

an ordinary developing tooth—the bone is used to its presence, and as it grows the parts accommodate themselves. There is no such thing as pressure due to the mere fact of a retained tooth, nor does a simple retained tooth enlarge and cause pressure; nor, again, does a secondarily pathological (septic) retained tooth cause

pressure pain when it enlarges—the enlargement is slow and the parts accommodate themselves. Obstruction, for example, of the lacrymal duct is obviously a possible result of the growth or movement in efforts at eruption of a retained tooth.

The specimens examined were 215 Romano-British skulls in the Cambridge Museum—among them were 12 retained teeth in ten skulls, and the causes assignable: Failure of bone development in the cases of 2 third upper molars and a third lower molar. ? Failure of bone development in the case of 1 upper canine (a very

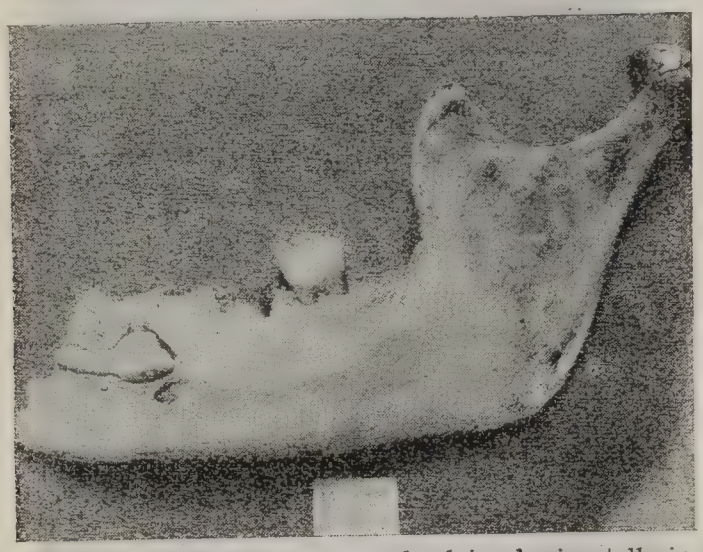

Fig. 11.—Retained left lower premolar lying horizontally in the bone. There is a fistulous opening leading from above into the crypt of the crown, and the bone round (especially in front) has been affected by sclerosing osteitis. Developmental misplacement of tooth germ.—Royal College of Surgeons Museum, Odontological Section, E 88.

small jaw). Developmental misplacement in the cases of four upper canines. ? Developmental misplacement and failure of bone development in the case of one lower third molar. ? Early loss of temporary tooth in the case of one lower canine. In one skull there were two retained supernumerary incisors.

These cases are sufficient to show that failure of development of the jaws is no new phenomenon. I have been

Fig. 12.—Two halves of the same mandible, showing symmetrically retained wisdom teeth. The right tooth is erupting into the sigmoid notch, and shows no pathological changes. There is a small fistulous opening, not seen in the figure, leading from the anterior border of the ascending ramus near its base to the crypt of the crown of the left tooth, and its root is exostosed. Developmental misplacement of tooth germs.—Royal College of Surgeons Museum, Odontological Section, E 117.

unable to examine enough recent skulls to make a comparison.

In the Odontological Section of the Royal College of Surgeons Museum I found 59 retained teeth in forty-nine specimens. The causes assignable were:—Failure of bone development: 6 upper molars, symmetrical in one case; 6 lower third molars, symmetrical in one case; 1 upper canine. Developmental misplacement: 2 upper third molars; 6 lower third molars, symmetrical in one case; 1 lower (? first or second) premolar; 2 lower second premolars, symmetrically; 2 lower canines; 1 upper (? second molar) ? supernumerary tooth (a model); 14 upper canines symmetrically in two cases of both teeth, asymmetri-

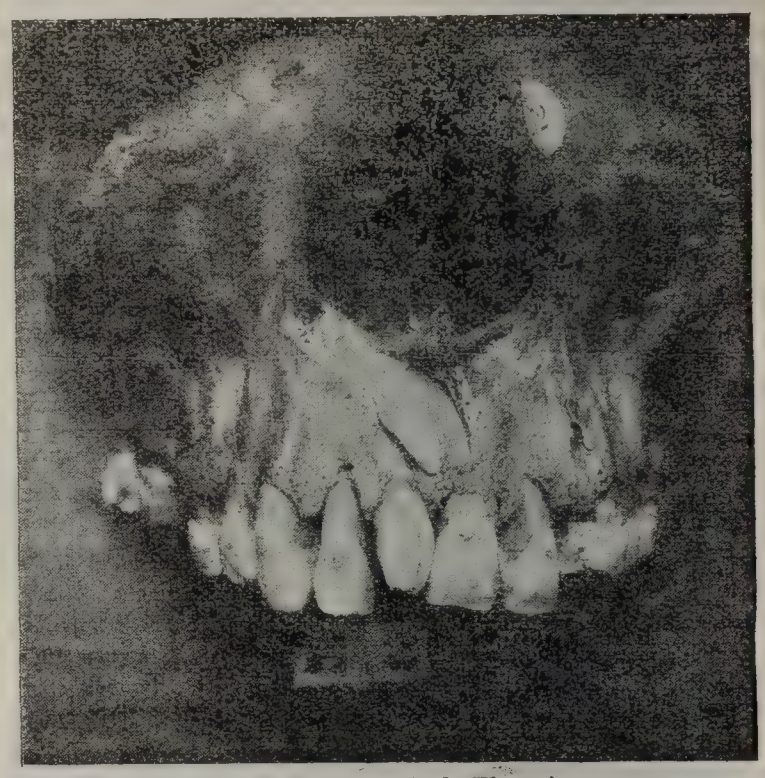

Fig. 13.—Retained right upper central. There is a supernumerary tooth occupying the normal position of the central incisor.—Royal College of Surgeons Museum, Odontological Section, E 2.

cally in one case. Failure of bone development and developmental misplacement: 5 lower third molars; 2 upper canines, symmetrically. Retained temporary tooth: 13 upper canines, symmetrical in three cases; but all these are necessarily uncertain, failure of bone development or developmental displacement being impossible of exclusion. Early extraction: 1 upper first premolar. ? Cause: 2 upper canines. Injury of enamel organ: 1 upper canine.

The large number of upper canines and third molars of both jaws at once attracts attention and seems to demand a similar explanation—a failure of bone development or developmental misplacement of tooth germ. Failure of bone development is at least difficult of appreciation in the

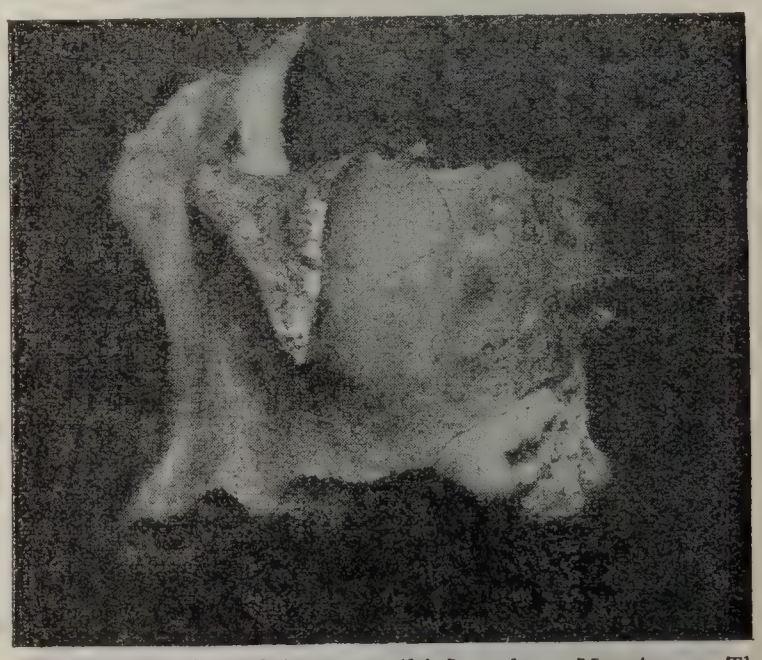

Fig. 14.—Retained left upper third molar. Monstrous. The tooth has been partly exposed in the mouth, and part of the front of the roof is absorbed (not shown in the figure). The crown faces backwards and downwards—a developmental position. Failure of bone growth.—Royal College of Surgeons Museum, Odontological Section, E 95.

case of retained canines *post mortem*, nor have I any models and *x*-ray pictures of living subjects to prove it.

The presence of retained temporary teeth in a *post-mortem* specimen does not prove them the cause of retention of the successor, especially if that tooth is grossly misplaced—rather the reverse is suggested; but among living subjects undue retention of temporary teeth due to some failure of absorption is a not infrequent accompaniment of retention of the successor, and the size of its bony crypt will readily allow of sequent

misdirection—a misdirection which may never result in eruption. The failure of absorption may be of obvious local or general origin, as will be mentioned immediately, or may affect one tooth or two symmetrically without giving any hint as to cause, except that we know there are great variations in the normal periods of absorption, and so are led to consider some of these as the ultimate expression of this variation.

Undue retention due to sepsis of a temporary tooth may leave obvious indication in the way of dead roots or fistulae. The sepsis may also injure the enamel organ so far as to cause hypoplasia of the enamel, and sequent on this destruction of the enamel organ eruption may fail (cf. Hunterian specimen, Royal College of Surgeons Museum, Odontological Section).

Obviously, if such be the case, other local inflammatory diseases, such as ulcerative stomatitis, may have an influence in causing retention; but I have found no case supporting this view.

A general cause of failure of growth and of absorption, and so of retention, is to be found in rickets, cretinism, and in a general failure of growth which may be an expression of thyroid deficiency; in hydrocephalus, which is an expression of syphilis; and in microcephalismus. In some of these the *post-mortem* diagnosis is obvious, but from the outset it was not my intention to seek and discuss examples of these causes.

A further local cause, which may be of great importance, is indicated by H. M. Cryer in his *Internal Anatomy of the Face*, where he suggests the possible influence of inflammatory conditions of the antrum of Highmore, such as may follow frequent "colds," or measles, the suggestion being that the tooth is held up by inflammatory adhesions. The analogy of the lower third molar points, however, to a cause, such as developmental failure, common to both.

Secondary pathological changes are such as cannot be definitely connected with development; they include inflammatory changes, tumour growth, and tartar.

Inflammatory changes are: Septic, exostosis of root, absorption of crown or root; inflammatory changes of surrounding parts. Absorption of other teeth (included here for convenience).

These changes, except absorption of other teeth, all depend on preliminary communication between the tooth and some infected sinus. In the cases I have examined, where there is no such connexion, there are no secondary pathological changes of bone or tooth. The connexion is generally made between the crypt of the crown and the sinus (antrum, nose or mouth), but sometimes it is the root which is at fault. It is easy to see that a retained tooth in its efforts at eruption may approach some sinus, and partially erupting, become the subject of an abscess of the crypt analogous to the common form of abscess of the lower third molar.

An abscess of the crypt may also arise via the socket of a septic temporary or permanent tooth, or via the socket of a tooth whose root has been destroyed by absorption due to the retained tooth. The common way in which a persistent temporary tooth is lost is by abscess formation beneath its base when absorption has advanced so far that germs can intrude—if the crypt of a retained tooth be near, obviously infection will ensue.

The close relation of the roots of many buried teeth to antrum, nose, or mouth, shows how readily periodontal infection may reach the root once the sinus is infected; once infected there is undrainable septic inflammation round the root, which now becomes the permanent cause of trouble. The changes in the surrounding bone will be either in the direction of rarefying osteitis or of formative osteitis and periosteitis. In the lower jaw osteitis is always accompanied by formative periosteitis; in the upper, formative periosteitis seems not to occur after early life (for example, 14 years), but formative osteitis will probably occur, and the irritation of a septic retained tooth may thus eventuate in either jaw in a diffuse osteoma; and, on the other hand, a chronic rarefying osteitis may eventuate in a myeloid or other form of sarcoma.

Exostosis of the root occurs as a secondary inflammatory change—never primarily. This is well seen in Specimen 117, Royal College of Surgeons Museum, Odontological Section, where there is exostosis of the one tooth which has a buccal communication, and none of the other which is buried.

Absorption of root or crown is again sequent to infection E 93, Royal College of Surgeons Museum, Odontological Section, shows absorption of the root, obviously after exposure to buccal infection, and E 36 similarly shows absorption of the apex of the crown of the canine.

The three specimens I show are good examples, the teeth having been long septic in each case. They show how the entering nerves or the pulps may be implicated, leading to intractable neuralgia.

Absorption of other teeth, and their roots, is a fairly common occurrence in the case of the lower third molar, but I have found both upper and lower canines causing absorption of the roots of other teeth (E 44 and E 73, Odontological Section, Royal College of Surgeons Museum).

There seems to be no pain in these cases till secondary inflammatory changes arise—a point one may judge of by the extent to which absorption has gone in the *post-mortem* specimens, and by the extent of absorption shown by an *x*-ray picture of a case of cystic growth of the mandible under the care of Mr. J. F. Colyer, in which there was no pain.

Tartar may form as a result of stagnation of oral fluids round the crown of a retained tooth after connexion has been established with the mouth, or even as "serumal" tartar. The large majority, 34 out of 49, of specimens seen showed no pathological changes of tooth or bone, so that examination of *post-mortem* specimens leads us to expect that the symptoms to which retained teeth give rise will be inflammatory, and that neuralgias of retained teeth will be due to septic inflammation affecting some tooth pulp or neighbouring nerve. There can be no pressure due to the mere mass of the tooth, since the tooth is surrounded by soft parts which will diffuse pressure in all directions through their fluid components, and since the surrounding tissues accommodate themselves to slow-growing neoplasms. I do not think that even absorption of a tooth root leads to neuralgia due to irritation of the nerve unless septic inflammation be also present. Cryer pictures a case in which three teeth erupted into the floor of the antrum—persistent pain was at last relieved by opening the antrum and taking away these teeth. But even in this case the antrum may have been at some time septic, and the periodontal membrane once infected would at last lead to the usual "pyorrhoea" neuralgia when the nerve was attacked at the apex of the root. That this is possible is shown by the fact that one of the teeth so faithfully figured shows absorption of its root apex.

A short reference I should like to make to a possible connexion of retained teeth and tumour growth. The tumour may be a granuloma (hard or soft), as was suggested above and as illustrated in Case I (J. C. Oliver) given below—a bony granuloma; or a granuloma running on to myeloma, as in Oliver's Case II, and it is interesting to note that in some cases a central myeloid growth seems to replace a missing tooth, as in a case Mr. Stanley Boyd kindly allowed me to examine, where there was, in a girl aged 14, a central myeloid in position of a missing left lower canine.

Sutton speaks of sarcomatous tumour affecting the sac of unerupted teeth (not necessarily as yet retained), especially the first molar.

One case I have seen of a retained second upper right premolar in a boy of 14, connected with what was microscopically an epithelioma. It was mistaken at first for a small dentigerous cyst.

Here I do not suggest a necessarily causal connexion.

J. C. Oliver (*Annals of Surgery*, January, 1903) records:

Case I.—A man of 25, showed "considerable thickening and hardening of the maxilla," which was found to have its origin in a buried bicuspid, round which there was suppuration. The patient was free from syphilis.

Case II.—A child of 10, exhibited a swelling round the unerupted permanent incisor and canine; escape of fluid took place on incision, which revealed a reticulated interior. The crowns of the teeth projected into the "cyst." Microscopic examination showed the "typical picture of a myeloid sarcoma."

Case III.—A child of 12. A swelling about the "size of an English walnut" was removed from the left lower jaw, together with some buried teeth (molars and bicuspids). The microscope showed it to be a giant-celled sarcoma. Two months later a cyst round the left permanent canine was operated on, and on microscopic examination the walls were found to be composed of "granulation tissue, with inflammatory papillae dipping into the interior of the cyst."

DISCUSSION.

Mr. HOPEWELL-SMITH (London) congratulated the reader of the paper on the comprehensive classification he had adopted. He would have liked to hear his views with regard to the development of cysts around retained teeth—a common occurrence and often induced by traumatic disturbances or mechanical fixation. He had treated several cases where there was no apparent septic condition of the mouth, and it was difficult to account for an infection of the soft parts of the teeth unless there was a definite inflammatory condition of the parts around them. He asked for information concerning the origin of the cystic fluid, and whether Mr. Turner's work threw any light on the physiological but little understood question of normal eruption of the teeth.

Mr. ARTHUR BRITTEN (Birmingham) quoted a case in his practice of a lady aged over 50, who had trouble with an unerupted left upper canine, which gave pain and apparently tried to erupt long after the mouth had been edentulous. She had been wearing a denture, which had become unbearable, and the tooth had ultimately to be removed. Absorption of the crown apex was very marked, but there had been no sepsis or communication with the mouth. Whence arose the absorption?

Mr. JOHN HUMPHREYS (Birmingham) related his experience in a case of retained canines. A patient consulted him who had been edentulous for many years and was wearing entire upper and lower dentures. She complained of considerable pain in the upper canine region, which prevented the wearing of the plate, and a probe revealed the presence of two retained canines, which were subsequently extracted.

REPLY.

Mr. TURNER, in reply to the discussion, pointed out that germs could reach a buried tooth via injured tissue after trauma, or could reach it via the blood stream. From recent work it would seem that circulating germs were commoner than was believed.

DISCUSSION ON DENTAL CARIES FROM A PUBLIC HEALTH STANDPOINT.

(Joint Meeting with the Section of State Medicine and Industrial Diseases.)

OPENING PAPERS.

I.—JAMES WHEATLEY, M.D.,

Medical Officer of Health and School Medical Officer for Shropshire.

IN introducing the subject of the prevention of dental caries to this conjoint meeting, I feel that I have undertaken a task of the very greatest importance, and one that in many respects I am not fully competent to carry out. Few persons, however, can approach the matter at the present time with a full knowledge on the one hand of the pathology and causation of dental caries, and on the other hand of the general measures of prevention that are applicable to the people as a whole.

I must at the outset ask the indulgence of the dental profession if I appear to deal with matters that are essentially within their province, and as a justification would point out that as medical officers of health we have to form our opinions upon the work and investigations of others in almost all branches of medical science, and also in allied sciences. We have to form our opinions and we have to act upon them. I would also point out that as school medical officers we have opportunities of investigating various problems, which dentists have hitherto had little opportunity of investigating, at least by the same methods.

The extreme importance of this subject depends upon the extraordinary and increasing prevalence of dental caries, the dangers to health of this and allied conditions, and the possibility of almost complete prevention. With regard to the prevalence of dental caries, I would simply say that it has reached such a point that it becomes a disgrace to a civilized nation if every reasonable effort is not taken to prevent it.

In the county of Salop, the 1910 inspection of school children shows that at age 5 there are 5.7 decayed teeth per child, and at age 12, 4.0 decayed teeth, and that 16, 17, or even 20 diseased teeth at age 5 are not uncommon. It must be remembered that these conditions are in children whose teeth have, on the average, only been through the gums about four years.

With regard to the dangers to health, there is some difference of opinion, and every medical man should study the subject carefully for himself. Personally I think there is no condition, not even that of tuberculosis, the eradication of which by natural methods would do so much for the improvement of the physique of the nation.

I would ask how it is that, notwithstanding the discoveries of Miller over twenty years ago, and the great advance since made in the knowledge of the causation of dental caries, no progress in its prevention amongst the mass of the people has been made? Indications point rather to the fact that during this period it has rapidly increased.

It appears to me that there are three principal reasons for this. First, there has been, until quite recently, no public body who has considered the prevention of this condition to be a part of its duty. Secondly, the medical profession, who have been the advisers of the public in all matters of personal hygiene, have been, on the whole, profoundly ignorant of this subject, and medical officers of health have hitherto taken little interest in it. Thirdly, the dental profession have not come into contact with the people as a whole, and, generally speaking, have not been engaged in preventive work.

There has now arisen, through the medical inspection of school children, a body of medical practitioners whose duty it is to lessen by every means in their power the amount of disease and incapacity amongst school children, and of these the most important, and probably the most preventable, is dental caries. Personal hygiene is also coming within the province of the medical officer of health, working through health visitors and in other ways. A machinery has therefore been recently created by which our knowledge of the prevention of dental caries can be utilized to great advantage.

Hitherto, as a profession (apart from those engaged in dental work), we have looked upon the teeth, and to a considerable extent the mouth, as something outside our province, and to this may very largely be attributed the slowness with which knowledge common to the dental profession, and having a distinct bearing upon the health of the body, has spread among us. A knowledge of the hygiene of the mouth should be part of the training of every medical man, so that he should thoroughly understand the effect upon the teeth of various deviations from physiological living and of pathological conditions; and also the effect upon the general health of diseased conditions of the mouth.

I venture to say that if these two conditions had been fulfilled in the education of the medical practitioner, and if the profession had been remunerated in such a manner that prevention of disease had been an essential part of its work, it would have been impossible for us to have reached the present deplorable condition.

The first step towards making any real effort to grapple with the question of prevention of dental caries is to determine how far the dental profession is practically unanimous with regard to the causation of this condition, and I hope in the discussion we shall as far as possible confine ourselves to general causes and not deal with causes that can only operate under exceptional conditions.

I think it may be said to be universally accepted that dental caries is caused, in its first stage, solely by the action of acid formed from the fermentation of carbohydrate food in contact with the teeth, and as a natural corollary it follows that if carbohydrate food does not remain and ferment in contact with the teeth there will be no caries. Amongst much that may perhaps not be absolutely decided—for example, the influence of the structure of the tooth, the influence of altered mouth secretions—this fact stands out in an unassailed position, and upon it our methods of prevention should be based. I think it is quite unnecessary to labour this point, as it is accepted by all authorities. Every dentist recognizes that

where food collects there will be in time decay, and that in stopping a tooth, if he allows a crevice for the collection of food, the decay will commence again.

Recognizing this fact, the main lines of investigation become much simplified, for it is much easier to determine whether certain conditions and habits give rise to retention and acid fermentation of food in contact with the teeth than to determine whether they give rise to caries.

I believe it should be possible to determine with considerable accuracy which foods are most likely to stick, how long dangerous acidity takes to develop, and what foods leave no deposit and tend to clear away deposits. I believe that Dr. Sim Wallace has made experiments of this description with important results (as he is present I hope he will give us the benefit of them). I have myself made some preliminary experiments bearing upon this subject, and they, amongst other things, show that bread, sugar, and potato chewed in the mouth and incubated become acid in half an hour to an hour and a half according to the cleanliness of the mouth; and that chewing food which requires vigorous mastication has a marked effect in removing acid-forming organisms from the mouth. Examination of mouths in school children and others have shown me that acid deposits in the crevices of the teeth are common, and that they vary greatly in different mouths.

It is, however, not my purpose to enter further into this branch of the subject, but simply to say that it appears to be a line of investigation that can be followed up with great advantage.

The fact that dental caries can only be caused by fermentation of carbohydrate food does not exclude the possibility of other factors. It has been urged, and may possibly at some future time be proved, that the structure of the tooth, or alteration of secretion of the mouth, or other conditions play a part in the production of caries. I believe I am, however, correct in saying that, notwithstanding much investigation on these lines, no proof is forthcoming so far that any of these conditions are important determining factors. Indeed, Dr. Black's exhaustive investigations appear to show that the chemical and physical nature of the teeth plays no appreciable part in causation. Dr. Black says:

> These classifications, therefore, show conclusively that neither the density of the teeth nor the percentage of lime salts they contain has anything to do with the liability of the teeth to suffer from caries. In other words, the teeth of persons who suffer much from caries are just as hard, just as dense, just as heavy, and contain just as much lime salts as the teeth of persons who do not suffer from caries.

Nor is it, on the face of it, likely that structure, apart from irregularities or crevices, can be a matter of importance. It is inconceivable that any tooth could withstand the prolonged action of acid, and the most that one could allow is that possibly the action of acid on one tooth might be more rapid than on another. There, of course, cannot be any immunity of teeth to caries corresponding to the immunity of the body to infectious diseases.

Investigations have been made to show that dental caries is probably associated with certain races and localities. These investigations are of interest, but to be of practical importance it is necessary still further to show what quality or habit of the race and circumstances inherent in the locality is the determining factor and how it acts.

It has been frequently suggested that the increase of dental caries may be dependent upon the increase of artificial feeding amongst infants. The suggestion is more or less rational, as the two conditions have increased side by side. As this is to be the subject of a subsequent paper I will simply say that my investigation in Shropshire gives no support to such a view, and that dental caries is extremely common in districts where hand-feeding of infants is almost unknown. We have, then, the one outstanding fact to work upon—that caries is due to the retention of carbohydrate food in contact with the teeth.

I think it will hardly be seriously disputed that the retention of food in contact with the teeth depends mostly if not entirely upon the arrangement of the teeth, the condition of the gums as regards recession, the habits of mastication, and the character of the food eaten, these causes being to a great extent interdependent.

The practical questions that have to be decided are—How can a regular arrangement of teeth that will not favour deposit be brought about? How can good habits of mastication be formed? And how can food be arranged and eaten so as to leave the teeth clean? With regard to the production of an even arrangement of teeth, which means sufficiently large jaws to give room for the teeth, I shall only say that Dr. Wallace's contention that this depends upon sufficient exercise of the jaws and muscles of mastication, particularly the tongue, during the period of growth, together with the prevention of mouth breathing, appears to me to be unassailable. That marked mouth breathing is generally associated with irregularity of the teeth will probably be allowed by all observers, and that this is due to lack of support of the tongue will probably also be allowed. One might also mention grooves, pits, and general maldevelopment of teeth as a factor producing retention of food and consequently caries; but as these conditions are produced by various illnesses during childhood, against which preventive measures are or should be taken on account of the diseases themselves and not specially on account of their effect upon the teeth, they do not enter into the practical question of the prevention of caries. There is, however, one important matter in this connexion—that during acute illnesses the condition of the mouth and teeth for many reasons should have special attention.

Good habits of mastication can only be brought about by feeding children on food requiring mastication. The arrangement of foods so that the teeth shall be left clean after each meal no doubt is a matter for further investigation on the lines of Dr. Wallace's work. Such observations would determine exactly the quality of adhesiveness and fermentability of different foods, the degree of acidity that is dangerous, the danger of eating between meals, and the cleansing power of different foods. Although, no doubt, further investigations are necessary, we have, I think, ample information to warrant us in drawing up certain definite rules for the prevention of dental caries. In doing this it must be borne in mind that it is impossible to go back to the coarser foods of our ancestors, and our object should be to utilize our knowledge of the causation of dental caries so that foods of the present day can be eaten with little or no risk. As a beginning, I have drawn up the following simple rules:

1. As soon as an infant needs food other than milk, give it in a solid form requiring mastication, such as crusty bread, twice baked bread, or crisp toast. Never give bread soaked in milk, or flour added to milk, or other soft starchy foods.
2. As the child grows up, still give most of the food in a form compelling mastication. Food should rarely be taken in a liquid form, or soaked in liquid or minced. Bread should not be eaten new, and it should have plenty of good firm crust.
3. Drinking between each mouthful is very injurious. Liquids should be taken principally at the end of a meal.
4. Sweets should never be taken between meals, nor the last food in a meal, but only along with food requiring mastication.
5. A meal should always be finished with a cleansing food. It is very desirable that fresh fruit should be eaten freely, particularly at the end of a meal.
6. Mouth breathing in children should always be corrected, and if obstinate, medical advice should be obtained.

Before going on to the practical measures of prevention I would ask you to consider for a minute the present system of infant feeding and how it has grown up. For this purpose I will quote from *Directions for the Feeding of Infants*, issued by a Medical Officer of Health after most careful consultation with some of the leaders of the medical profession. I choose this particular pamphlet because I think it may be taken as a good example of the advice that is usually given, and because I know that more than ordinary care and thought was given to it. In it, milk with baked flour, arrowroot, or "infant's food" is prescribed as the food for a child seven to twelve months old, and from twelve to eighteen months bread and milk, porridge and milk, breadcrumbs and gravy, a lightly-boiled egg, and bread-and-butter.

The late Dr. Ashby, who was acknowledged to be one of the first authorities on this subject, gives the following as a diet for children of 18 months to three years:

> First Meal.—A breakfastcupful of bread and milk, or porridge made with oatmeal, wheat or maize. After this, the yolk of a slackly-boiled egg, or bread dipped in bacon dripping, with milk to drink.
>
> Second Meal.—Fish, chicken, or butcher's meat cut up very finely, followed by rice or other milk pudding, with baked or stewed apple. Water to drink.

Third Meal.—Bread-and-butter, with some stewed fruit or well-made jam. Sponge cakes, plain cakes with sultana raisins, may be allowed at times. A cup of milk.
Fourth Meal.—A drink of milk.

It is quite evident that if proper development of the jaws and good arrangement of the teeth are due to exercise in mastication, children brought up under these instructions have little chance of developing satisfactorily. It is also evident that this method of feeding of children has grown up under the advice of the medical profession. This is an important point, and renders, I think, a crusade in favour of more physiological methods much more hopeful.

With regard to the practical measures of prevention we are limited to some extent by the method of employment and payment of the medical profession, under which any organized preventive work on their part is rendered almost impossible. The prevention of dental caries, and also the prevention of all other diseases dependent upon the observance of correct habits of living, should undoubtedly be the work of the great body of medical practitioners. I venture to say that if this were so, dental caries would very rapidly diminish and in comparatively few years would become an exceptional condition. So far as their opportunities allow, I have no doubt we shall receive the cordial help of the medical practitioners of the country, and consequently the first step is to bring this matter before them on every opportunity. So far as the county of Salop is concerned I have attempted to do this, and with, I believe, some good results.

The next step is to work through the schools, beginning with the teachers. It appeared to me that if the teachers could be got to take an intelligent interest in this work a great advance would have been made. To my mind it is altogether unnecessary that they should be given a mass of information with regard to the anatomy and structure of the teeth; but they should be given a clear conception as to how caries originates and how it can be prevented. I think this can be done in one lecture, if an epitome of the lecture is forwarded beforehand, and the teachers asked to give it their careful attention. This is the method adopted in my county, and appears to be working satisfactorily. The teachers are being also supplied with a number of leaflets containing the rules for the prevention of dental caries, sufficient for distribution amongst the children to every household. These are to be explained by the teachers to the older children. The medical inspectors also take every opportunity of educating the parents, children, and teachers at their visits to the schools.

These are the measures that we have been able to take so far, but it is obvious that they should be supplemented, particularly where there is an adequate system of health visiting, by the direct education of parents and children in their homes, and as an initial step we should see that district nurses, midwives, and health visitors are properly instructed.

Medical officers to the large public schools have a great opportunity, which, if properly utilized, would undoubtedly produce a rapid and far-reaching effect among the leisured classes, and the knowledge would rapidly filter down to the less favoured parts of the population.

I have not touched upon the question of conservative dentistry as a means of prevention, because I consider it outside the scope of this paper. We all know that by constant supervision and treatment much good can be done, but to be really effective such treatment would have to be continued not only through school life, but practically throughout life. Until preventive measures are generally recognized and established, treatment will continue to be a transitory palliative, but after preventive measures are generally understood and carried out, treatment may be expected to be of much more permanent value. The problem will have been by that time enormously reduced and brought within practical limits. At the present time it is obviously entirely beyond the scope of the dental profession to undertake this work. What we must, I think, recognize is that dental caries is only one condition, certainly the most visible and easily recognized, of a vast number of derangements or diseased conditions produced by the same wrong methods of feeding, and it seems to me not unlikely that in the future it may be acknowledged that the prevalence of dental caries has served a most valuable purpose in drawing our attention to the fact that we have strayed very considerably from wholesome methods of feeding.

I have not touched upon the question of the use of the toothbrush, for I do not view it as an essential or effective method in the prevention of caries. Whilst advocating its use as a matter of cleanliness and as an additional help in prevention, I think we should be extremely careful that any such directions should not be allowed to obscure the fact that in the prevention of caries we must rely upon the character of the food and the way in which it is eaten.

Whatever our opinion as to the efficacy of the toothbrush, we shall all probably agree that any attempt at prevention by attacking the micro-organisms by means of antiseptic mouth washes is very unscientific and must be futile.

It is necessary that any means of prevention to be applied to the mass of the people should, if possible, first, not involve additional expense to the individual; and, secondly, should not be too laborious in practice. The rules laid down in this paper fulfil both these conditions. Not only would there be no additional expense, but, if the most noxious habit of eating sweets between meals could be stopped, there would be a huge saving to the working classes, possibly enough to pay the workmen's contribution under the new Insurance Bill. Perhaps we shall find it practicable to make a definite pronouncement on this matter.

In conclusion, I would ask the meeting to look at this question as one which urgently needs action. We cannot afford, if caries is a preventable condition, such as most of us consider, to wait at all. Action should be immediate with the knowledge we have. Our knowledge is at the present time much more exact than our knowledge of cholera, typhoid fever, or tuberculosis was thirty years ago, when the great measures against these diseases were taken. It is probably more exact even than our present knowledge of these diseases.

Those who believe that caries is due to acid fermentation of food in contact with the teeth, and yet refuse to take precautions to prevent this retention of food because there may be other causative conditions, are adopting an attitude similar to that of a person who refuses to take precautions to prevent sparks flying amongst his goods because some are less inflammable than others.

I hope this meeting will remember that this is one of the gravest problems affecting the health of the people of these islands, and that it behoves us to utilize to the greatest advantage every atom of knowledge, and not to be held back by the fact that the problem may not have been entirely solved.

II.—C. EDWARD WALLIS, M.R.C.S., L.R.C.P., L.D.S.,
Assistant Dental Surgeon, King's College Hospital.

INFANT FEEDING.

ON a hot morning like this I do not propose to waste time telling you how infants ought to be fed; you know just as well as I do that a child should be suckled by its mother up to a certain age, that after its teeth begin to appear it should be given some form of hard or fibrous food with which to develop its jaws and teeth, and above all that its mother should see to it that her child goes to sleep with a clean mouth—by that I mean with its teeth free from the remains of carbohybrate food débris, which would undergo lactic acid fermentation, and lead to ultimate loss of the teeth and oral sepsis. Now while all this is known to us the ignorance of mothers on the feeding of their infants remains as deplorable as ever, and I propose to discuss for a moment how this ignorance is to be abated. The foundation of local health societies, and the appointment of health visitors working in co-operation with them, seems to be the way of all ways in which to educate the mothers of the poorer classes on the proper way in which to feed their children.

In a certain district in London directly a birth is notified a local health visitor calls at the mother's house and instructs her as to the feeding of her child. In very poor districts a supply of sterile milk is, I believe, provided gratuitously, so that there is no excuse for the baby to be fed upon such deplorable substitutes as skimmed milk, cheap condensed milk, or even fried fish and beer. From the purely dental point of view, we are concerned to put an end to the use of the rubber comforter, which is a

fruitful source of deformities of the jaw in later life; it is also a potent medium of infection, from being dragged along in the dirt of the floor, or perhaps from being previous to use moistened in the septic mouth of an unhealthy mother or nurse. It appears to me that we might obtain the co-operation of the Pharmaceutical Society in at any rate *minimizing* the sale of this appliance at chemists' shops.

It is, then, my opinion that by imparting the necessary information to mothers, and by providing a pure source of milk supply to necessitous cases, we shall be able to reduce enormously the infantile death-rate, and at the same time do much to promote a proper maxillary development, as well as healthy and efficient sets of teeth in the citizens of the future.

III.—J. Sim Wallace, D.Sc., M.D., L.D.S.

THE BREAD QUESTION.

Before entering closely upon the subject of bread in relation to the causation of dental caries it may be well to refer to a few elementary facts with regard to the teeth, want of knowledge of which has in the past given rise to some common but ridiculous theories as to how bread may account for the prevalence of dental caries. The first fact which should be clearly kept in mind when considering the causatiou of caries of the teeth is that the chemical composition of the teeth plays no part in causing or predisposing teeth to the disease.

There are but slight differences in the chemical composition of teeth, and Dr. G. V. Black, in an extended investigation into the chemical composition of the teeth, showed beyond all possibility of doubt that the slight variations in their chemical composition played no part whatever in predisposing teeth to caries. The results of Dr. Black's investigations were at first considered so remarkable that other investigators thought it advisable to repeat his analyses, but instead of being able to refute his contentions were only able to corroborate them. The second fact to which I would direct attention is that the enamel covering the crowns of the temporary teeth is completely formed before any solid foodstuff is usually eaten at all—that is, before the child is 10 months old. It is obvious from this that the physical or the chemical composition of bread or any other foods (except milk) cannot possibly have any effect on the chemical composition of the teeth, unless it can be shown that the quality of the milk is altered by the food that the mother or the cow consumes. In as much, however, as the chemical composition of the tooth is practically invariable, and, moreover, that what faint variability there may be has no effect on the predisposition to caries, we may at once dismiss from our consideration the effect of bread on the chemical composition or constitution of the teeth as a factor in the causation of dental caries.

But although the chemical constitution of the teeth is unaffected by the chemical composition of the food, yet it is known that disease during the formation of the enamel cap on some of the teeth may, and in a small percentage of cases does, affect the form of the tooth, and its liability to lodge food unduly, and thus to be attacked by caries. That is to say, during the formation of the enamel *disease* may cause abnormal pits and grooves (analogous to the grooves on the nails resulting from disease). That these abnormal pits and grooves on the permanent teeth may be induced by unhygienic food, such as bread soaked in milk or bread and marmalade, hardly admits of doubt, because such food is so liable to keep the mouth and teeth dirty and the alimentary canal generally in an unhygienic state, thus leading to disease which may affect the developing enamel.

Similarly, lack of mastication, together with the chronic ill-health brought on by the continual pathological fermentation in the mouth and alimentary canal, interferes with the normal development of the jaws, and leads to crowding of the teeth, which predisposes to the stagnation of food about the irregular teeth, and consequently predisposes to dental caries. It must therefore be obvious that in regard to the prevention of dental caries we require to consider bread more especially, if not wholly, from the point of view of its physical nature. Bread may be soft, pasty and sticky, and stimulate but little mastication; or it may be, as in the crust, firm, tough, and demanding vigorous mastication.

It is obvious that the relatively soft crumb, especially of new bread, does not tend very effectually to clean away the bacteria from the crevices on the masticating surfaces of the teeth. On the contrary, it is liable to lodge in the crevices of the teeth and to stimulate acid fermentation at these sites, where caries is so generally seen. The crust, which when dry requires a pressure of over 100 lb. to crush it between the teeth, is on the other hand a most effectual method of getting rid of the bacterial masses, which might otherwise lodge in such vulnerable situations. In order to test how much bread of different kinds was likely to clean the masticating surfaces of the teeth, I made about 100 experiments, details of which are recorded in the *Proceedings of the Royal Society of Medicine* for June, 1911, and I will give a summary here of the nature and findings of these experiments:

200 gr. of the bread to be tested was thoroughly masticated, and then, instead of being swallowed, it was put aside in an incubator and left there for twelve hours. Water and litmus solution were then added and neutralized with a 0.5 per cent. solution of caustic potash. The number of cubic centimetres of this solution which were required to neutralize the acid was then noted. Similarly 200 gr. of stone-milled bread were subjected to like treatment. Now the exact figures showing the average amount of acid formed in twelve hours from 200 gr. of bread treated in this way are:

Stone-milled bread (crust and crumb) required 14.7 c.cm. of the KHO solution (average of 12 experiments).
White bread (crust and crumb) required 14.0 c.cm. of the KHO solution (average of 12 experiments).
200 gr. crust of bread (white, stone-milled, and standard) produced on the average an amount of acid which required 16.8 c.cm. of the KHO solution to neutralize it (average of 18 experiments).
200 gr. bread without crust produced on the average an amount of acid which required 13 c.cm. of the KHO solution to neutralize (average of 19 experiments).

It must not be imagined for one moment from these figures that crust of bread ferments more rapidly than crumb, or that crusts are more liable to induce caries than crumb; on the contrary, the amount of fermentation indicates how effectually each or any of these varieties of bread cleans the masticating surfaces of the teeth, and incorporates the plaques or masses of bacteria which, by lodging unduly and protected from the beneficent action of the saliva by superimposed bread, would most effectually induce caries.

That the greater amount of fermentation from the crust results from it incorporating great numbers of bacteria is indicated by the fact that 200 gr. of crust masticated before a meal gives rise to much more acid than when the same amount is chewed after a meal, or even after the first 200 gr. has been masticated and ejected from the mouth. Thus:

Crust chewed before breakfast required (on the average of 9 experiments) 18.6 c.cm. of KHO solution to neutralize.
Crust chewed after breakfast required (on the average of 8 experiments) 13.3 c.cm. of KHO solution to neutralize.
Crust chewed before breakfast required (on the average of 4 experiments) 19.5 c.cm. of KHO solution.
Crust chewed immediately after the previous crusts had been chewed required 16.2 c.cm. of the KHO solution to neutralize.

As far, then, as the masticating surfaces are concerned, I think we may say that the lodging of bread would tend but little, if at all, to induce dental caries provided the adherent masses or plaques of bacteria could be and were frequently removed, or, rather, were not allowed to form.

It may be said that no matter what is eaten, masses of bacteria do adhere about the teeth even after the thorough mastication of crusts or anything else. This is quite true, and between and at the necks of teeth masses, layers, or plaques of bacteria cling to the teeth after masticating anything. But those situations are kept free from caries on a somewhat different principle. There is a coating of mucus at these situations in which the bacteria seem to flourish fairly well, but which, however tenaciously it adheres to the teeth, is sufficiently greasy and slippery to permit of the easy and rapid removal of carbohydrate food particles. If the teeth are observed some short time after eating bread, it will be found that this slippery mucoid film is present *in situ* but not the bread. Food particles occasionally are loosely adherent to this mucoid mass for a time, but they are more or less freely exposed to the action of the saliva, and are superficial and not impacted when there is a normal arrangement of the

teeth. The protection of the tooth from caries at the neck should be more closely studied than it usually is.

The deepest layers of mucus are the most alkaline and most infiltrated with liquefying micro-organisms. This is a necessary corollary from Miller's experiments with saliva and mucus. The superficial parts of this mucous coating are removed and deposited more frequently than the deepest layer next to the tooth. Consequently the deepest part must, generally speaking, be alkaline, even though the superficial and more recently deposited layer be acid, because if mucus is left to ferment for a time it rapidly becomes alkaline. The micro-organisms, however, keep up a slow disintegration of this mucus, so that a constant change or continual slow flux keeps the neighbourhood of the necks of the teeth alkaline, and at the same time free from any foodstuffs which otherwise might lodge. Towards the bulge of the tooth, and above it of course, the layer of mucus is very thin, and, being renewed after each meal, it tends to become acid when newly deposited; but inasmuch as it is thin, mixed with and bathed in saliva, it would be impossible for it to become sufficiently acid to decalcify the enamel. Saliva, as you know from Head's experiments, effectually prevents the action of weak acids upon the teeth.

It is true, of course, that caries often attacks the necks of the teeth. Here again, however, in order to get this result it is necessary to get food to lodge more or less continuously over or in the layers of mucus and bacteria in these situations. Certain viscous foods—for example, bread and marmalade or cake—may certainly lodge upon or partly impregnate the mucous layer over the necks of teeth, or this layer may become pretty thoroughly soaked in sugar when sweets are more or less continuously sucked; or again, foods even though not of a particularly sticky nature may be liable to lodge when the mucous membrane forms a sort of pocket near the necks of the teeth on the buccal side of the wisdom teeth; but except in such situations there is no distinct tendency for food particles to lodge about the necks of the teeth when they are covered with the mucous coating and the gums have not receded. When, however, this mucous coating is frequently removed and a small groove cut with a toothbrush, then the inclined and slippery plane is broken, and food tends to stagnate at the necks of the eroded teeth. Caries may then take place, fermentable carbohydrates may lodge in such situations in more or less immediate contact with the teeth, as the beneficent protection of the mucous coating has been removed, and instead of facilitating the removal of fermentable carbohydrates they are induced to lodge under conditions which favour the initiation of caries.

The next and last set of experiments which I would refer to are with regard to bread and marmalade.

200 gr. of this mixture (160 gr. of bread and 40 gr. of marmalade) were masticated and tested as in the previous experiments, the result being that the bread and marmalade gave rise to acid requiring for neutralization 11.6 c.cm. of KHO solution, while the white bread alone required 12.2 c.cm. of the KHO solution to neutralize the acid formed.

That is to say, as far as fermentation was concerned, my experiments might be supposed—if only fermentability were considered—to indicate that bread and marmalade was rather less harmful than bread. To anyone who has made statistical comparisons of the effect of bread and of bread and marmalade on the teeth, the idea that bread and marmalade is no more harmful than bread alone is ridiculous. But we must not consider the fermentation alone. Marmalade stimulates a rapid flow of saliva, and consequently the bread and marmalade does not require or receive the amount of mastication that bread alone demands. Consequently bread and marmalade is less effectual in cleaning up the bacteria from the masticating surfaces of the teeth. Secondly, marmalade is viscous and clammy in the mouth, and therefore may stick about and between the teeth, and saturate everything about the teeth, and by its viscosity it may prevent the free action of the saliva cleaning between the teeth or penetrating into the mucous or bacterial coating at the necks of the teeth. The viscosity of sugar is well known, but to indicate how sugar is not removed from the mouth by the saliva, or that it is not easy for the saliva to exert a beneficent effect on anything through the viscous sugar, I masticated some sugar and put it into a test tube and then left it to ferment. Before fermenting it was, of course, viscous: twelve hours after fermenting it was still viscous. Similarly saliva was put into a test tube and allowed to ferment; it was, of course, slightly viscous, but compared with the sugary solution it was relatively limpid. I put litmus solution into each, and then shook the test tube round to mix up the colouring matter, but so viscid was the sugar solution, especially towards the bottom, that I could not get the colouring matter to reach the end of the tube in this way. The litmus solution mixed readily with the saliva, but this saliva could not penetrate into the viscous sugary solution.

Before going further it may be desirable to make a definition of the cause of caries, for although to a certain extent I am going to make some observations, based more or less on the experiments, it is difficult not to be influenced by what knowledge we already have of the causes of dental caries derived from different evidence and sources. To me in a general way the cause of dental caries is the undue lodgement of fermentable but non-detergent carbohydrates in more or less immediate contact with the teeth, and undisturbed by the free access of saliva. Bearing this in mind, and the experiments already briefly detailed, what can we say about bread in relation to dental caries? We can pretty safely say that:

1. No farinaceous foodstuff in general use in this country is less harmful to the teeth than bread when eaten with butter, and no farinaceous foodstuff is more beneficial from the point of view of oral hygiene; especially is this the case when the bread is eaten with butter and a goodly proportion of crust.

2. The different varieties of bread (that is, white, standard, and stone-milled) make no appreciable difference in inducing dental caries, beyond the difference which the physical differences of the bread make in their detergent effects on the teeth. That is to say, the less finely ground may be presumed at least to have the most detergent effect. Whether standard bread may be considered as being less finely ground than white I know not, but, as far as my experiments on this point go, the fermentation of standard bread and white bread gave identical results in this respect both for crust and crumb.

3. The crust is always preferable to the crumb in all varieties of bread. Similarly, toasted bread of any variety is preferable to untoasted bread of any variety.

The amount of phosphates or proteid absorbed from one kind of bread may be greater than from another kind. It is said that more phosphates are absorbed from white than from coarse wholemeal bread. From the point of view of dental caries, this does not seem to be of any consequence whatever.

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THE ABUSE OF SWEETMEATS.

THIS paper is a slight contribution to one aspect of the study of the etiology of dental caries. It is particularly fortunate that it should be presented to a combined meeting of the Sections of State Medicine and Industrial Diseases and of Odontology. The author, free from fads and fancies, has endeavoured to banish from his mind all preconceived ideas on the subject and to deal with one of its multitudinous various parts as impartially as possible, and the experiments which he describes very briefly are believed to be entirely new and original. The title naturally implies that there is some use for sweetmeats, for "abuse" is the opposite of "use."

There are probably three ways in which sweetmeats may be and are of any use—in bodily conditions in which the exhibition of sugar as an energizing food is indicated, in oral conditions in which it is advisable to increase the amount of the salivary secretions, and as a vehicle for the administration of pungent and disagreeable drugs.

Sugar, as it exists in the form of cane sugar or saccharose, is "one of the most nutritious and wholesome materials which the vegetable kingdom affords."[6] The combustion of one gram of this substance produces approximately in physiological heat-value 3,384 calories.[2] It is, however, unnecessary to dwell on the use of sugar as a food. Dr. Vaughan Harley's paper in the Physiology Section of this Association six years ago will probably be remembered.

It would seem, therefore, that the use of sweetmeats is very limited, and that it is overwhelmingly counter-

balanced by their abuse. The enormous increase in the indiscriminate consumption of sweets in late years, by rich and poor alike, is surely a sign of the times, of the luxuriousness of an age which panders to the pleasures of the populace, encourages unemployment, and renders the struggle for existence an instrument for the production of unfittedness, weakliness, and general racial decadence and degeneracy. The abuse of sweetmeats is veritably an outcome of modernity.

It is not within the province of this paper to deal with the evil effects of the eating of sweets in childhood and adolescence. These are well known to every medical man, and are only further examples of the results of parental ignorance.

To emphasize the fact that in recent years the manufacture and sale of confectionery has increased enormously in the British Isles, both in town and country districts, is surely unnecessary. There is no restriction—confectioners, chemists, grocers, *emporia*, hotel restaurants, station buffets supply them. They can be obtained from stalls and barrows, and "penny in the slot" machines in the streets. The number of these cannot be estimated, but according to Kelly there are (in 1911) in London county and London county suburbs 4,596 confectioners' shops, of which 2,517 are in the postal district only. And there are 152 wholesale confectioners and manufacturers, of whom 129 are in the London postal district, and 23 in the London county suburbs.

Sweets are exposed for sale in the dusty, dirty streets uncovered, freely accessible to the house-fly and other pests, in the shops with open windows and doors, through which the street dust is blown all the day long. With a view to making a display, some are freely exposed, others being, however, wrapped up in paper, waxed or otherwise—often with the name of the maker printed upon it in aniline dyes—or tinfoil or lead paper. Others are kept in boxes or in bottles. Further, in many poorer quarters of the large towns toffee and other sweets are manufactured in the streets, and are contaminated every moment by coming into direct contact with the grimy, uncleansed hands of the itinerant "friend of the children." Under Section 46 of the Sanitary Code of New York it is compulsory for street merchants to cover their wares and thus protect them from dust, dirt, flies, and other contaminations.

Sweetmeats may be classified as soluble and insoluble, transparent and opaque, soft and hard, whole or particoloured and colourless, glutinous and non-glutinous, such as chocolate and "Valencia almonds," jujubes and acid drops, chocolate creams, butter-scotch, liquorice cakes, etc.

The constituents of sweets vary, but are chiefly manufactured from cane sugar, colouring matters, and flavouring essences. Chocolate is made from the powder of cocoa beans combined with sugar and vanilla; chocolate creams of chocolate, condensed milk, sucrose, egg albumen, and vanilla; peppermint lozenges contain sugar, albumen, and oil of peppermint. Many are compounded of raw and boiled sugar, acidulated with citric or tartaric acids mixed with glucose, tragacanth, gelatine, and fatty matters, and at times with paraffin wax.

Coloured sweets, to which Dr. Strickland Goodall drew attention some years ago, owe their attractiveness to various dyes, some of which are harmless, some harmful. Of the former, the juices of beetroot, currants, cochineal, saffron, blue litmus, turmeric, "Spanish juice," and Chinese ink; and of the latter, copper, arsenic, salts of zinc, picric acid, and dinitro-cresol are used. Dr. Rideal, in a recent paper in the *Lancet*, shows that "egg yellow," lemon yellow, and annatto substitutes, "when taken internally, cause no physiological disturbances.[5]

Finally, one need not here insist upon the recital of a list of the impurities found in sweetmeats—of the sawdust, clay, sand, fibre, ground nutshells, etc., nor of the intentionally supplied adulterants, such as spirits found in "chocolate liqueur beans," which contain as much as 1 per cent. of proof spirit (Chartreuse), or (Cognac) 1.6 per cent., or as great a quantity as 12 per cent., and chloroform (1 to 2 per cent.) in the form of cheap lozenges containing linseed, liquorice, and chlorodyne, as recently reported upon by the Public Analyst for Cheshire. These aspects of the question, however, can be safely left to the consideration of such bodies as the State Medicine Section of this Association, the Incorporated Institute of Hygiene, the Royal Sanitary Institute, and the medical officers of health throughout the country. It is the dental aspects of the question which must now occupy the few available minutes of this meeting.

The abuse of sweetmeats in the mouth implies dental destruction by mechanical, chemical, and bacteriological means. Of the former, many hard species of sweets actually crack and break off enamel and dentine on account of their intense hardness. "Sugar almonds" and "hardbake" are of this type. But far more harm is wrought by chemical and bacteriological means, one perhaps by perverting the nature of the oral secretions, and the other by encouraging the growth and development of caries-producing bacteria in the confines of the oral cavity.

It is highly important to determine whether and in what ways the oral secretions are altered in their nature, chemical reactions, and amounts by the use of sweetmeats, to compute the reactionary variations between the salivas of immunized and non-immunized persons, and to determine whether typical sweetmeats placed on interstitial surfaces, in artificially-prepared cavities, and on the free surface of human teeth produce caries of the enamel or dentine.

Sweetmeats are said to produce dental caries on account of the sugar they contain becoming converted, when mixed with saliva, into acids.

It was first extremely important to ascertain whether saliva is rendered more acid by the presence of sugar in the mouth or not, that is assuming that an acid reaction of the saliva is harmful for the enamel.

For this purpose the disaccharides and the monosaccharides were tested under similar conditions, both in salivas from a mouth apparently free from active caries and from one in which caries was actively going on. The experiments, carried out *in vitro*, will be detailed fairly fully in order to allow them to be repeated by others, and to satisfy or otherwise the critics and chemical, physiological, and bacteriological experts.

The methods adopted were chiefly devoted to computing the extent of acidity or alkalinity of mixed saliva in mouths in which caries was absent, and in which it existed. These are designated Types I and II, the former being collected in known quantities from the mouth of an adult male, aged 43, after thorough oral ablutions with warm water, and the latter from the mouth of a female, aged 20, who was not immune to dental caries.

It was found that both types varied in their chemical reactions; before noon perhaps acid, afterwards alkaline, as the case might be. Thus on July 1st, at 10 a.m., 2.5 c.cm. Type I saliva showed 1.6 c.cm. of *acidity*, and at 2.30 p.m. on the same day 2.5 c.cm. of fresh saliva of Type I became chemically changed, and showed 1.4 c.cm. of *alkalinity*. Cases frequently exist where the saliva is synchronously acid on one side of the mouth and alkaline on the other. This would seem to be dependent upon the ebb and flow of the acid or alkaline "tide," the cause of which, however, at the present time cannot be determined. The salivas were collected in closed beakers and treated at once. Alkaline saliva will, if left in a jar exposed to the air, become foul-smelling; acid saliva appears to become altered in a different way.

The Operation for Acidimetry.—Into a graduated vessel there were poured 2.5 c.cm. of saliva, this amount being invariably used as convenient, on account of the fact that it can be collected successfully every ten minutes.

In performing a titration N/40 NaOH was used, with freshly-prepared phenolphthalein as the indicator, the proportions being:

Sodium hydroxide	...	1.0 gram.
Phenolphthalein ...	...	0.25 gram.
Distilled water ...	...	1,000 c.cm (1 litre).

Under a Mohr's burette containing this rosy-red solution was placed a small white dish which had previously received 2.5 c.cm. of the saliva to be tested. The solution was allowed to run into the dish, drop by drop (each drop representing about 0.1 c.cm.), and thoroughly stirred with a glass rod. The end point of the reaction was reached when all the coloration had been discharged.

The test for alkalinity was performed by means of a modification of the Lowry-Zuntz method as employed for blood alkalinity, and consisted in using N/75 tartaric

acid—that is, 1 gram of tartaric acid in 1 litre of distilled water. The alkaline saliva (2.5 c.cm.) having been placed in a receiver, the tartaric acid solution at 15° C. was added drop by drop, until a drop allowed to fall on neutral litmus paper from the end of a glass rod or stirrer had lost its blue colour and had become decolorized. It was quite unimportant to ascertain the acid or alkali content by any quantitative reckonings.

LIST OF EXPERIMENTS.

SERIES A (Chart 2).

Alkaline Saliva Type I, Saccharose.

The details of the simplest of all experiments can be recorded as follow:

2.5 c.cm., at a certain hour, required 2.5 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize it; 7 grams of cane sugar (table "loaf" sugar) were dissolved in the mouth, and 14 c.cm. of saliva collected immediately. The saliva became slightly more alkaline, as it then required 3.0 c.cm. of tartaric acid solution to neutralize it. It remained thus for ten minutes, then it required 2 c.cm. to neutralize.

SERIES B (Chart 1).

Alkaline Saliva Type I, Glucose.

1. 2.5 c.cm. required 2.25 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize before incubation. At the end of forty-two hours it required 3.5 c.cm. of N/40 NaOH to neutralize.

2. 2.5 c.cm. + 0.5 gram glucose required 7.5 c.cm. of N/40 NaOH to neutralize it after incubation.

Nature.—Thick, viscous, opalescent; much mucin.

Alkaline Saliva Type II.

1. 2.5 c.cm. required 2.1 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize before incubation; at the end of forty-two hours it required 2.1 c.cm. of N/40 NaOH to neutralize.

2. 2.5 c.cm. + 0.5 gram glucose required 5.75 c.cm. of N/40 NaOH to neutralize it after incubation.

Nature.—Thin, watery, non-viscous; few flakes of mucin. This shows that if *alkaline* saliva be put in the incubator it becomes *acid* in reaction in less than eighteen hours; that if it be mixed with glucose, it becomes more acid than if unmixed, and that saliva from an immune becomes in these circumstances more acid than when caries-producing bacteria are present in the mouth. The presence of sugar is, therefore, unnecessary to render an alkaline saliva acid.

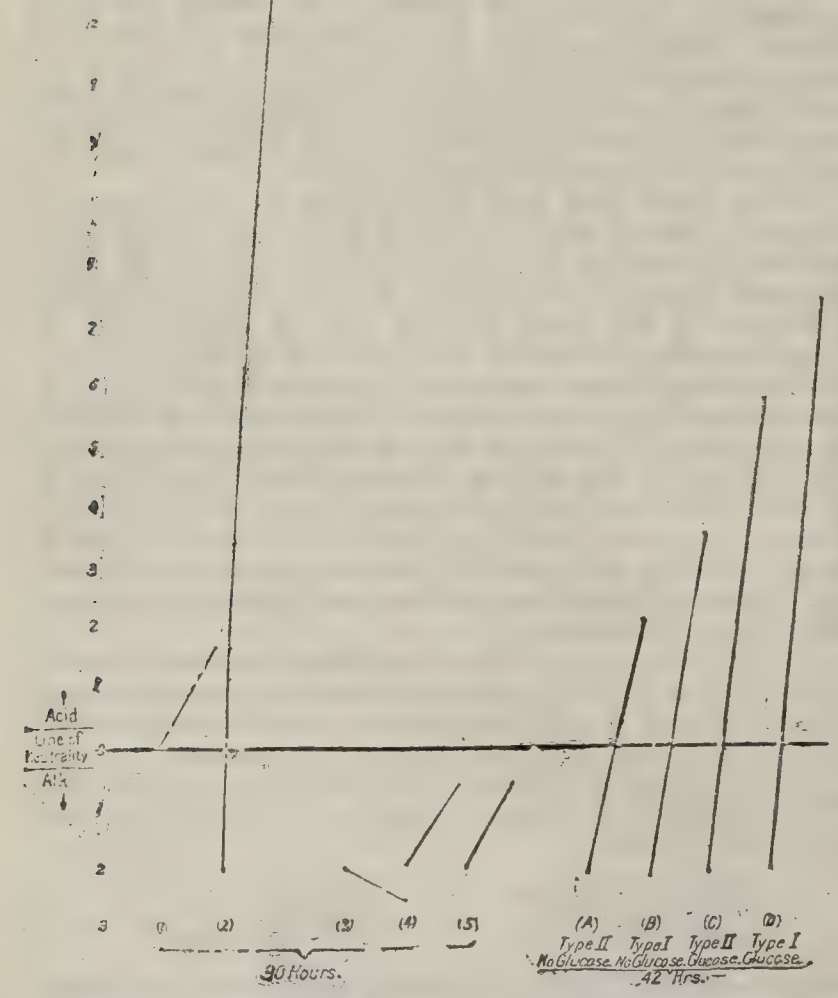

Chart 1.—The results of observations recorded in experiments Series B and C, the former on the right, the latter on the left. The vertical numerals indicate the degrees of acidity or alkalinity.

SERIES C (Chart 1).

Glucose.

Five test tubes washed with distilled water were used for the following:

A contained 0.010 gram of carious dentine + 0.25 gram of glucose + 2.5 c.cm. water.

B contained 0.010 gram of carious dentine + 5 c.cm. of alkaline [2 c.cm. of N/75 $(CHOHCOOH)_2$] saliva, Type I, + 0.25 gram of glucose + 2.5 c.cm. of water.

C contained 0.010 gram of carious dentine + 5 c.cm. alkaline saliva (as in B).

D contained 0.050 gram of carious dentine + 5 c.cm. alkaline saliva (as in B).

E contained 0.100 gram of carious dentine + 5 c.cm. alkaline saliva (as in B).

All tubes were placed in the incubator on July 5th, at 7.30 p.m., and examined on July 9th, at 12 o'clock noon—that is, ninety hours after incubation. The results showed that:

2.5 c.cm. of A required 1.75 c.cm. NaOH to neutralize.
2.5 c.cm. of B required 12.75 " "
2.5 c.cm. of C required 2.5 c.cm. $(CHOHCOOH)_2$ to neutralize.
2.5 c.cm. of D required 1.5 c.cm. $(CHOHCOOH)_2$ to neutralize.
2.5 c.cm. of E required 1.5 c.cm. $(CHOHCOOH)_2$ to neutralize.

These experiments showed that sugar solution, in itself neutral in reaction, becomes acid in the presence of caries-producing micro-organisms; that in the same circumstances, if alkaline saliva be added, it becomes enormously acid; that the alkalinity of saliva is practically unaffected by the presence of caries-producing micro-organisms; and that a few bacteria are as potent in the mouth as many.

SERIES D (Chart 2).

A.—*Acid Drops (Chemists').*

Saliva, Type I, collected during hours of fasting between 10 and 1 o'clock, after brushing the teeth and rinsing the mouth with warm water. Type I, tested: 2.5 c.cm. were found to be acid, and were neutralized by 0.9 c.cm. N/40 NaOH solution.

At 2.50 p.m., 2.5 c.cm. (acid) required 0.9 c.cm. N/40 NaOH solution.

At 3 p.m., 7 grams of acid drops were dissolved in the mouth; 28 c.cm. were collected, and it required 6 c.cm. of solution to neutralize.

At 3.10 p.m. 2.5 c.cm. saliva required 0.75 c.cm. solution for neutralization.

At 3.20 p.m. 2.5 c.cm. saliva required 0.70 c.cm. solution for neutralization.

At 3.30 p.m. 2.5 c.cm. saliva required 0.70 c.cm. solution for neutralization.

At 3.40 p.m. 2.5 c.cm. saliva required 0.70 c.cm. solution for neutralization.

At 3.50 p.m. 2.5 c.cm. saliva required 0.80 c.cm. solution for neutralization.

At 4.0 p.m. 2.5 c.cm. saliva required 0.70 c.cm. solution for neutralization.

At 4.10 p.m. 2.5 c.cm. saliva required 0.70 c.cm. solution for neutralization.

At 4.20 p.m. 2.5 c.cm. saliva required 0.85 c.cm. solution for neutralization.

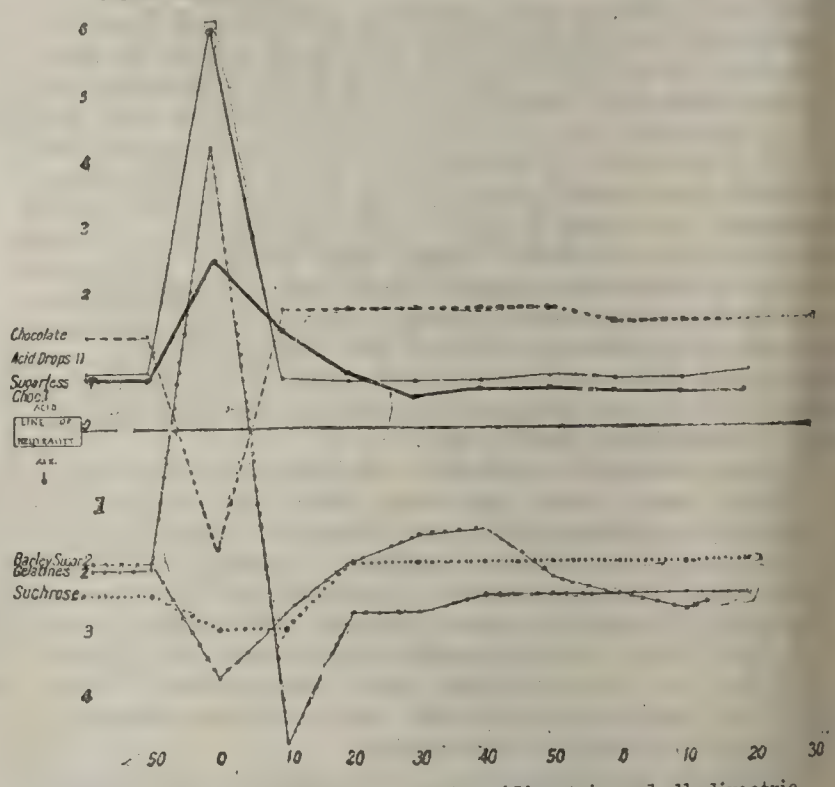

Chart 2.—The immediate and remote acidimetric and alkalimetric variations of Type I saliva described in experiments Series A and D, when affected by certain sweetmeats. Drawn to scale. The vertical numerals represent the amounts of these variations, the horizontal numerals denote ten-minute observations.

B.—*Plain Chocolate.*

At 1.50 p.m., 2.5 c.cm. acid saliva, Type I, required 1.4 c.cm. N/40 NaOH solution to neutralize.

At 2 p.m. 7 grams of plain chocolate were dissolved in the mouth, and 18 c.cm. collected; 2.5 c.cm. of the alkaline filtrate were ultimately neutralized by 1.8 c.cm. of N/75 $(CHOHCOOH)_2$.

At 2.10 p.m. 2.5 c.cm. saliva required 1.8 N/40 NaOH to neutralize.

At 2.20 p.m. 2.5 c.cm. saliva (stained brown) required 1.8 N/40 NaOH to neutralize.

At 2.30 p.m. 2.5 c.cm. saliva (stained brown) required 1.8 N/40 NaOH to neutralize.
At 2.40 p.m. 2.5 c.cm. saliva (clear) required 1.8 N/40 NaOH to neutralize.
At 2.50 p.m. 2.5 c.cm. saliva (clear) required 1.8 N/40 NaOH to neutralize.
At 3 p.m. 2.5 c.cm. saliva (clear) required 1.6 N/40 NaOH to neutralize.
At 3.10 p.m. 2.5 c.cm. saliva (clear) required 1.6 N/40 NaOH to neutralize.
At 3.20 p.m. 2.5 c.cm. saliva (clear) required 1.6 N/40 NaOH to neutralize.
At 3.30 p.m. 2.5 c.cm. saliva (clear) required 1.6 N/40 NaOH to neutralize.

C.—*Barley Sugar.*

At 2.50 p.m. 2.5 c.cm. of alkaline saliva, Type I, required 2.0 N/75 $(CHOHCOOH)_2$ to neutralize.
At 3 p.m. 7 grams of barley sugar were dissolved in the mouth and 16 c.cm. collected: 2.5 c.cm. saliva (straw-yellow, viscous) required 3.75 c.cm. to neutralize.
At 3.10 p.m. 2.5 c.cm. saliva (clear) required 2.8 c.cm. to neutralize.
At 3.20 p.m. 2.5 c.cm. saliva (less viscous) required 2.0 c.cm. to neutralize.
At 3.30 p.m. 2.5 c.cm. saliva (less viscous) required 1.6 c.cm. to neutralize.
At 3.40 p.m. 2.5 c.cm. saliva (less viscous) required 1.5 c.cm. to neutralize.
At 3.50 p.m. 2.5 c.cm. saliva (less viscous) required 2.25 c.cm. to neutralize.
At 4 p.m. 2.5 c.cm. saliva (less viscous) required 2.50 c.cm. to neutralize.
At 4.10 p.m. 2.5 c.cm. saliva (less viscous) required 2.75 c.cm. to neutralize.
At 4.20 p.m. no observations made.
At 4.30 p.m. 2.5 c.cm. saliva required 2.0 c.cm. to neutralize.

The probable reason why barley sugar was alkaline throughout was because it was manufactured from cane sugar, which is not inverted in the mouth unless it comes into contact with some acid reagent or some dilute mineral acid, when it takes up water and is split into equal parts of dextrose and levulose (both glucoses) thus:

$$\underset{\text{(Cane sugar.)}}{C_{12}H_{22}O_{11}} + H_2O = \underset{\text{(Dextrose.)}}{C_6H_{12}O_6} + \underset{\text{(Levulose.)}}{C_6H_{12}O_6}.$$

Cane sugar, as found in ordinary table crystalline white sugar, remains as cane sugar unless the mouth is acid.

D.—*Sugarless Chocolate.*

At 5.20 p.m. 2.5 c.cm. of acid saliva, Type II, required 0.8 c.cm. N/75 tartaric acid solution to neutralize it.
At 5.30 p.m. 7 grams of sugarless chocolate were dissolved in the mouth and collected. This was filtered, and next day the filtrate was tested. It required 2.5 c.cm. NaOH to neutralize.
At 5.40 p.m. 2.5 c.cm. saliva required 1.5 c.cm. NaOH to reduce.
At 5.50 p.m. 2.5 c.cm. saliva required 0.8 c.cm. NaOH to reduce.
At 6 p.m. 2.5 c.cm. saliva required 0.5 c.cm. NaOH to reduce.
At 6.10 p.m. 2.5 c.cm. saliva required 0.65 c.cm. NaOH to reduce.
At 6.20 p.m. 2.5 c.cm. saliva required 0.60 c.cm. NaOH to reduce.
At 6.30 p.m. 2.5 c.cm. saliva required 0.6 c.cm. NaOH to reduce.

Chocolates vary remarkably in their constituents. Some contain from 50 to 55 per cent. of cane sugar, 18 to 25 per cent. of fat, 1 per cent. of fibrin, a certain amount of "reducing" sugar, and varying amounts of wheat starch and arrowroot [4 7]. It is probably to the latter that its harmful effects are due. Chocolate is frequently rendered alkaline by the addition of ammonia or sodium or potassium carbonates in order to emulsify and saponify the fats in the cocoa and make it more soluble.[3]

E.—"*Gelatines.*"

At 2.50 p.m. 2.5 c.cm. of alkaline saliva (Type I) required 2 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize.
At 3 p.m. 7 grams of gelatines were dissolved in the mouth, 32 c.cm. being subsequently collected. The filtrate required 4.25 c.cm. of N/40 NaOH to neutralize. (Pale brown, viscous.)
At 3.10 p.m. 2.5 c.cm. saliva (clear) required 4.75 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize.
At 3.20 p.m. 2.5 c.cm. saliva (clear) required 2.75 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize.
At 3.30 p.m. 2.5 c.cm. saliva (clear) required 2.75 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize.
At 3.40 p.m. 2.5 c.cm. saliva (clear) required 2.50 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize.
At 3.50 p.m. 2.5 c.cm. saliva (clear) required 2.50 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize.
At 4 p.m. 2.5 c.cm. saliva (clear) required 2.50 c.cm. of N/75 $(CHOHCOOH)_2$ to neutralize.

"Gelatines" are believed to be flavoured slightly with citric or tartaric acid.

SERIES E (*a*).

A large piece of carious dentine, including both deep and superficial layers, being removed from a freshly-extracted tooth, was placed in a test tube containing peptone beef broth, and incubated. At the end of seventy-two hours the fluid, having become turbid, was removed, and tubes of sterilized nutrient agar kept fluid at a temperature of 48° C., inoculated by means of two platinum öses of broth. Petri dishes received the melted carious agar solution, and into each of these was placed at one side of each dish (i) plain chocolate, (ii) "cream" from chocolate cream, (iii) acid drops, (iv) caramel, (v), toffee, (vi) barley sugar; a control (vii) was simultaneously prepared.

The results at the end of twenty-four hours gave the following particulars:

1. *Plain chocolate* was bacteriophile, the colonies closely applying themselves to the sweetmeat; "condensation band" 3.5 c.m. wide, where the colonies were exceedingly numerous, was present.
2. "*Cream*" had a semi-halo of colony-free material measuring 4 cm. in diameter, and a "condensation band" of 1 cm. diameter.
3. *Acid drops* was almost similar, the semi-halo measuring 4 cm. and the "condensation band" 1 cm.
4. *Caramel* had colonies closely approximated to the sweetmeat.
5. *Toffee* had a growth measuring 4.5 cm. in width close up to the material, and "condensation band" of 1 cm. in width.
6. *Barley sugar* had a semi-halo of colony-free material 5 cm. wide, and "condensation band" 1.25 cm. in width.
7. The *Control* had numerous colonies equally distributed. These were mainly small, discrete, round, capitate, smooth, homogeneous, homochromous, with entire edges.[1] It was unnecessary to make a qualitative examination of them.

Thus it would appear that chocolate, caramel, and toffee were bacteriophile, and "acid drops," "cream" from chocolate, and barley sugar were bacteriophobe.

SERIES E (*b*).

Litmus agar was used for these experiments. After incubation for fourteen hours, acid drops, chocolate, chocolate cream, and barley sugar turned the blue into a pink colour for some distance round their edges. The control used retained its colour, showing that the caries-producing micro-organisms *per se* had not acidulated the medium in which they were growing. They were those associated with deep-seated dental caries.

SERIES F.

To test the relative solubilities of the commoner sweetmeats eaten by children, types were dissolved, owing to lack of sufficient quantities of synthetic saliva, in warm water at body temperature. Sweets of the nature of aniseed balls, sugar almonds, "hardbake," etc., represented the bottom of the scale of solubility, while lemon "nibs," toffee, "fruit mixtures," etc., were readily dissolved.

SERIES G.

This group includes the use of sound teeth, premolars and molars, treated in two ways: (i) so placed that sweetmeats were made to lodge between them, and (ii) containing artificially prepared cavities in their crowns.

On June 5th, 1911, certain sound teeth were embedded in quickly setting superfine plaster-of-Paris side by side, so that their mesial and distal surfaces were almost approximated. After extraction they were at once washed and immersed in 30 per cent. alcohol and throughout the operations kept moist in order to prevent any superficial minute cracking of the enamel. In this way three pairs of maxillary premolars, three sets of three maxillary premolars, three pairs of one maxillary premolar and one maxillary molar, and one set of three mandibular premolars were employed. Rubber dam was stretched between the teeth over the plaster, which was covered with a layer of shellac in order to prevent the saliva from acting upon the plaster. The cavities varied in size, but approximately measured $4 \times 3 \times 3$ millimetres. Salivas of Types I and II were collected.

On June 10th, at 7.30 p.m., in a stoppered jar were placed two premolars, and squeezed in an interstitial position between them was *caramel*, and Type II saliva (acid) used, and also in the crown cavity, and Type I (alkaline) *chocolate*, and also in the crown cavity, and in another jar *toffee*.

On June 25th at noon, into the before-mentioned cavities were placed *plain chocolate*, *caramel*, *acid drops*, and a "control" of nothing was made, in which, however, of course the saliva was allowed freely to enter or collect. The reactions of the salivas were tested, and all had become acid fourteen hours afterwards, but in order to keep the originally alkaline saliva of Type I alkaline two platinum öses of calcium carbonate and four of sodium carbonate were added. These were examined on July 19th at 4 p.m.

Jar No. 5 containing Type I saliva which had become strongly acid, and a premolar and molar with *plain chocolate* placed interstitially and on the crowns, was removed from the incubator. Two or three soft spots in the fissures of both teeth, but the molar especially, had developed during the forty days of incubation and easily admitted the end of a fine needle, the digital sensations being practically identical with those associated with the initiation of dental caries in the mouth. There was slight discoloration of the enamel on the approximal surfaces, but macroscopically no dissolution of the hard tissues.

Similarly Jar No. 36 was examined. *Caramel* had produced in saliva Type II which had become very acid, two soft spots each admitting penetration by the point of a needle. In addition,

there were patches of discoloration opposite each other on the approximal surfaces of the teeth.

The other specimens had not advanced sufficiently for a definite statement to be made at present. But in order to counteract any tendency to chemical changes due to the calcium sulphate, glass vessels and glass wool are now being used for packing.

SUMMARY.

To sum up. There are evidences of an inductive character: (*a*) That alkaline saliva when kept at body temperature, as in the biological incubator, soon becomes acid in reaction without any alien additions; (*b*) that the presence of glucose increases this acidity; (*c*) that caries-producing bacteria do not increase this acidity; (*d*) that sugar solutions (glucose) become acid when these bacteria are present; (*e*) that the alkalinity of saliva is unaffected by their presence; (*f*) that a few bacteria are as potent as many; (*g*) that "acid drops," "barley sugar," etc., are bacteriophobe, and chocolate, "caramel," toffee, etc., bacteriophile; (*h*) that the salivary reactions, disturbed by the use of sweetmeats, return to the normal almost immediately; (*i*) that while plain chocolate increases the acidity of the the saliva, sugarless chocolate, "barley sugar," "gelatines," etc., are particularly innocuous; (*j*) that superficial changes in the enamel leading to decalcification of that tissue can be set up by such sweetmeats as chocolate, and "caramel" in the presence of very acid saliva, from the mouth of an immune, as well as from the mouth of a non-immune.

The last statement is an exceedingly important one. It is correct, and at present its significance cannot be estimated.

From what has been already said, it is obvious that the abuse of sweetmeats, like the abuse of alcohol, tea, etc., is very widespread throughout the country, and that sweetmeats, as a food, are practically of no benefit to the nation. They should be rigidly tabooed by the young, and parents should not allow their children to eat them. Confectionery factories should be under State control; the shops and wares of sweetmeat vendors should be regularly examined and reported upon by Government inspectors, and pure sweets only allowed to be sold under the most hygienic conditions obtainable.

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DISCUSSION.

Mr. C. W. HUTT (Assistant Medical Officer of Health, Warrington) said: While complimenting Dr. Wheatley on the comprehensive character of the paper which he has written in connexion with the prevention of decay of teeth, I suggest that there is a slight omission. All would agree that sugar is a most important muscle food, and should be supplied in some form to growing children. I would propose that the use of fruit syrups diluted with water should be suggested. The extended use of this article of diet might also have an effect in diminishing the consumption of alcohol in the later years of the child's age. Another point in connexion with administration: I would suggest that the lessons given in connexion with the teaching of hygiene in elementary schools should be first submitted to the medical officer of health; it would, in fact, be better that he should supply the teachers with a detailed lesson on the care of the teeth, in order to prevent their giving the children unfortunate or even incorrect deductions from correct general principles.

Professor BOSTOCK HILL (County Medical Officer, Warwickshire) said that on behalf of the Section of State Medicine he wished to express his satisfaction at the opportunities afforded by the joint meeting for a discussion on a subject so important to public health. Personally he felt that he came there to learn from the dental surgeon in the same way that public health administrators had to learn from the bacteriologists and the chemist on subjects dealing with their branches of science. He quite agreed with Dr. Wheatley as to the importance of the subject, but he could not agree that it was the most important subject in public health awaiting solution at the present time; in fact, while he appreciated the importance of enthusiasm, he rather deprecated in the public interest statements like this, which appeared to show some want of a sense of proportion. If it were definitely to be proved in the future that sweetmeats were so largely concerned in the production of caries, it would be difficult by coercion to prevent their consumption by the average child. They would have to rely on education and conviction and the process would be slow. He desired also to state that he could not agree with the suggestion that any practical harm was being done by adulteration or poisonous contamination of sweets. His own experience was quite the reverse. Colours used were now nearly always harmless. He therefore did not see any reason for asking for special powers of inspection over sweetmeats. City and county councils had all the powers necessary if they cared to put them into force.

Mr. F. E. HUXLEY (the President) said that he was assured that the authorities of public health were ready and eager to take action with a view to prevention or lessening of dental disease, and were only waiting for reliable and practical suggestions in this direction. He asked whether Mr. Hopewell-Smith had observed any difference between the action of beet sugar and cane sugar. With regard to starchy foods and the mechanical action of such foods, he instanced a family in which the children had been habitually given hard ship's biscuit for odd meals in place of soft and sweet cakes and biscuits. The results had been decidedly beneficial to their dentures. He thought that much might be learnt from the feeding of domesticated animals, particularly dogs, whose teeth often suffered when soft fermentable food was given to the animals.

Professor ARTHUR UNDERWOOD said: I am quite convinced myself from a very extended examination during the last three years that caries is infinitely more prevalent now in this country than 100 years ago, and that aboriginal races are practically immune, not, of course, absolutely free, but comparatively so. These facts are based upon the evidence of many hundreds of museum skulls, also upon the evidence of expert observers in India, China, and other countries where native races are coming under the influence of hypercivilization.

Dr. SIM WALLACE said on the whole the discussion seemed to show how very unanimous were all those who take a special interest in the subject of the prevention of caries. It was a great pity that so very few medical officers of health had taken the trouble to come to the discussion of the subject, which was so extremely important to them. It did not seem to be realized by them that they were very largely responsible for the shocking state of the teeth at the present day. With regard to the statement that sugar was a "most nutritious and useful food," it should be remembered that nutrition was not the only thing to be considered. They must primarily consider whether the sugar in the particular form in which it was taken left the mouth and alimentary canal in a hygienic state. What did it matter whether sugar produced a large number of "calories" if the teeth and alimentary canal were ruined for life? Besides, there was an excess of carbohydrates in bread, which formed a very large part of the diet more especially of the poor, and why should sugar be recommended to the poor, who were in more urgent need of fat and proteid? Mr. Wallis had referred to the ignorance of mothers, but personally the speaker had not found that mothers were anything but most careful and conscientious in carrying out the lamentable instructions which they found in books written by medical men, or in carrying out their doctor's suggestions. It was not ignorant mothers that the profession required to educate; it was the medical men who wrote textbooks for medical students; it was the still slumbering medical profession, which did not recognize the importance of the subject, and continued to issue disastrous instructions such as Dr. Wheatley had quoted.

Mr. HOPEWELL-SMITH considered that until the cause of caries was discovered, it was difficult to decide upon preventive measures of an extremely effective kind. He had attempted to find out by actual experiments, as his paper had shown, whether sugar was harmful or harmless in the

production of dental destruction. The President had inquired whether beet sugar had been used in the experiments. The speaker had used sucrose, glucose, maltose, lactose, beet sugar, as such had not been employed, and, in reply to Dr. Bostock Hill, he pointed out that it was citric acid in "acid drops" which made the saliva more acid, and was glad that there was some control over the sale of sweets by the Local Government Board through the various county councils. He had been able to create in the crown of sound teeth, kept in the incubator in a mixture of saliva and chocolate, soft spots or small cavities in the enamel, which showed decalcification of the enamel but which he could not yet affirm was actually dental caries. This occurred both with regard to saliva from the mouths of the immune and non-immune.

DEMONSTRATIONS.

During the course of the meeting some cases of special interest were demonstrated.

Mr. A. W. Wellings showed a young woman, aged 18, who presented *Hypertrophy of the gingival and alveolar margins*, and brought forward reasons for believing the condition to be due to associated pyorrhoea alveolaris. The precise nature of the condition was proved by skiagrams taken from both within and without the mouth, and by microscopic sections. At the time the patient was shown the investigation of the case was not entirely complete, and the exhibitor was still engaged in work upon it.

Professor John Humphreys (Birmingham) demonstrated the chief contents of his dental museum, and in the course of his remarks drew attention to the imperishable nature of teeth. It was a point which rendered them invaluable to the geologist in estimating climatic and geographical conditions in past ages; as also to the palaeontologist in reincarnating dry bones and in tracing the facts of evolution.

Professor A. E. Underwood showed and described two dried specimens showing *Abnormalities of the maxillary sinus*. The specimens had been sent to the speaker by Professor Jamieson of Leeds University. The first specimen was a right maxilla, in which the portion corresponding to the wisdom tooth was divided from the rest of the cavity by an almost complete bony septum. This septum was one of the largest yet recorded. In the front part of the cavity were two septa carrying newer vessels and arising from the infraorbital canal. The second specimen showed both antra and the intervening bony tissue *in situ*. On the right side there was an obvious bony swelling caused by a sort of blowing outwards of the inner wall of the sinus in the region of the lower termination of the nasal duct. The morphological interest of this specimen was that it showed in a less degree the condition normal in the gorilla, in which anthropoid this cavity is so large as to equal the sinus proper in size, and to look at first sight like a large anterior chamber belonging to the antrum. The surgical interest of this specimen was the great difficulties it would present to the operating surgeon in approaching the cavity from the nose.

Professor Humphreys, in a comment on the demonstration, related the history of a case of antral trouble, which was rather remarkable. The patient, a doctor, aged about 45, with a comparatively perfect set of teeth, related his experience of considerable suffering, apparently from appendicitis, and arrangements had been made for an operation. He complained of nasal catarrh, but as the teeth were sound and healthy, there was no suspicion of antral trouble at the time; but a later examination showed a considerable amount of pus in the right antrum, in which an opening was made and drainage effected. The operation, however, did not effect a cure, and subsequently the left antrum was found to be similarly affected, and a second operation and drainage gave but slight relief. Later on it was discovered that the mischief arose from the frontal sinus, drainage from which infected both antra, and the septic matter swallowed produced the gastric trouble supposed in the first instance to arise from appendicitis.

Professor F. E. Huxley (President) remarked that any one who had to do with cases of antral disease had probably at some time been puzzled by certain obscure conditions. These rare specimens might explain one of the unsuspected complications one might meet with.

At the conclusion of the meeting the following resolution, suggested by Sir Victor Horsley, was proposed by the President of the Section. seconded by Mr. C. Wallis, and carried unanimously:

> The Section of Odontology request the Council of the Association to urge upon the Board of Education the need of pressing the local education authorities to establish school clinics as being the only means whereby the dental and medical requirements of the elementary school children can be adequately and economically treated.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A FATAL CASE OF MELAENA NEONATORUM.

The following case, which occurred in my practice, resembles the two cases reported in British Medical Journal by Drs. W. J. Lord and C. M. Rolston on January 14th and April 8th, 1911, respectively:

On June 13th, 1911, I attended Mrs. P., a primipara and native of this town, who came to consult me when she was seven months pregnant, having been told by a midwive that the pelvis was rather narrow. However, I satisfied myself by examination and by taking some pelvic measurements, which I regret I did not keep, that the pelvis was not contracted, and told her that probably everything would come off naturally.

When the confinement took place, labour started very indefinitely, the pains coming on spasmodically about the abdomen and at very irregular intervals, and at times there would be no pain for several hours at a time. On placing the hand on the abdomen, the regular contractions of the uterus could be felt, some being very painful and others quite painless, which came on and passed off quite unperceived by the patient. There was no dilatation of the os. This sort of thing went on for about three days, during which time I had to give several injections of morphine, as a mixture of bromides and chloral had very little effect, and the patient was getting worn out.

On the evening of the third day dilatation of the os had fairly well started and the liquor amnii had been coming away all that day, and the contractions of the uterus were fairly strong and regular. I thought the case would come off that night, however. Secondary uterine inertia came on about 3 a.m., and the patient went off to sleep with a good slow pulse and, there being no symptoms of distress as regards the fetus, I went away, leaving instructions to be called as soon as the pains restarted.

On my arrival next morning about 10 a.m., I found the pains fairly strong, dilatation was complete, and meconium coming away with the occiput presenting, I hurriedly sent for my colleague, Dr. Trumbull, who administered $CHCl_3$, and I delivered with forceps a healthy female child with asphyxia pallida. I rapidly severed the cord and handed the child to my colleague, who started doing artificial respiration while I attended to the patient who was bleeding rather freely, and as stimulation of the uterus would not stop the *post-partum* haemorrhage, I forcibly expelled the placenta by pressing down the fundus, the placenta and membranes complete landing on the floor one and a half yards away from the bed. All haemorrhage ceased straight away and I turned to help Dr. Trumbull with the child, keeping up artificial respirations helped by cutaneous stimulation and injections of ether and brandy. The child was brought round after some difficulty, and when I left it was breathing perfectly well, also crying out strongly now and then. I went back the same evening and found mother and infant doing well.

Next morning, however, the baby had vomited a little red-coloured froth and there was also some clotted blood about the nostrils. I had the child undressed to examine it, and on looking at the diapers there was a good deal of dark coloured blood together with clots. I could find nothing else physically wrong.

On seeing the child again that evening, some blood was also coming from both ears. I was told that the vomiting of frothy blood had continued all day long and the melaena had also persisted. The child died early next morning.

On looking at my notebook I find I put down at the time that the child died with symptoms of fractured base, but evidently the blood started coming first from the bowel and the blood from the ears did not come till several hours after the first symptoms of haemorrhage.

I have reported this case at length as there may be some connexion of these cases of melaena in the newborn with protracted labour, as in Dr. Rolston's case and my own, and I do not find any mention in any of the books I have with me of such a condition, and during the nine months I was doing maternity work at the Rotunda

Hospital, Dublin, six months of which I acted as extern maternity assistant, no case of this sort came under my notice.

STANLEY M. WELLS, F.R.C.S.E., L.M.
Valparaiso, Chile, South America.

A CASE OF TRAUMATIC TUBERCULOSIS.

THE patient in the following case, a man aged 33, a farmer and mill-owner by occupation, had a sister who was said to have died of consumption, but otherwise his family history was good.

In September, 1908, he consulted me for pain in the right wrist of a rheumatic character, following an injury received three weeks previously. He remained under treatment for some time, but no improvement occurred. He then saw a local specialist, who placed the diagnosis between gonococcal rheumatism and commencing tuberculous disease. (The first was out of the question, as the patient had never had gonorrhoea.) I put him on syrup ferri iodi, with a Scott's dressing and splint applied locally.

While under this treatment, which lasted four weeks, and produced no improvement, he developed a slight evening rise of temperature, but careful examination of chest revealed no signs of tuberculous mischief. His further history was as follows:

On November 13th a soft fluctuating swelling was made out between the metacarpal bones of thumb and first finger. The supratrochlear gland became slightly swollen, but no tenderness or enlargement of the axillary glands occurred. Hot boracic poultices were applied for two days, followed by a free incision with an escape of flocculent pus.

November 20th. The local condition gradually became worse. Pain more severe, and aggravated by the slightest movement. He was unable to sleep. Failed in his general health, and became weak and thin. Had a regular evening rise of temperature.

December 2nd. A thorough examination under chloroform revealed extensive disease of carpus. A few incisions were made, and a quantity of pus escaped; the carpal bones were found to be diseased.

Operation.—December 4th. Amputation was performed at the junction of middle lower third of forearm. Dissection of the hand revealed tuberculous disease of os magnum trapezoid, together with base of metacarpal bones of thumb and first finger. Bones soft and friable. Trapezium and scaphoid practically destroyed by caries. On opening up the wrist-joint pus exuded, and the articular surfaces were found destroyed by granulations.

Result.—For a time the patient improved; his temperature fell, and the stump was fairly healthy, but about January 14th he developed a cough. No definite physical signs of actual disease could be made out, but examination of the sputum revealed a slight trace of tubercle bacillus. Evening rise of temperature to 101° and 102°. A slight pocket formed in stump on radial side, discharging a thin watery pus.

At the end of January he was sent to a sanatorium, where he remained for some five weeks, but became rapidly worse. He returned home in a grave and critical condition: marked emaciation, regular rise of temperature, night-sweats, cough very distressing, and tuberculous disease in both lungs. Early in May he died.

The interesting points in this case are as follows:

1. What part did the traumatism play in this particular case, where no tuberculous disease could be made out by the ordinary clinical methods? Previous to the injury, I may say that the patient had been under my care for eighteen months for many slight ailments, but had never any lung trouble.

2. The tubercle bacilli could not have been introduced from without, and that they must have existed in the system before the trauma was received.

3. Was there some later focus of disease in the carpus which became aggravated by the injury, which may have caused active mischief and dissemination of the bacilli which were carried by the venous circulation to lungs?

Wainfleet, Lincs. G. A. WOLFENDALE.

MESSRS. LEITZ, 9, Oxford Street, London, W., have issued a new edition of their catalogue of prismatic binoculars.

THE *London Gazette* of August 15th announces that the King has been pleased to appoint Dr. William H. Langley, C.M.G. (Principal Medical Officer, Gold Coast), to be Principal Medical Officer, Southern Nigeria; and Dr. Francis G. Hopkins (Deputy Principal Medical Officer, Southern Nigeria) Principal Medical Officer of the Gold Coast Colony.

Reviews.

A HANDBOOK FOR MILITARY MEDICAL OFFICERS.

IN the introduction to his *Medical Service in Campaign*,[1] Major STRAUB combats the mistaken notion, commonly held by the lay public, to the effect that provided a man is a good doctor he requires no further training to enable him to fulfil the duties required of an army medical officer. A good practical knowledge of doctoring and sanitation is, of course, essential, as disease has in most campaigns caused considerably greater losses than the enemy's bullets, but, in addition, an army medical officer must have a working knowledge of such military matters as writing orders, map reading, the effect of different weapons, the number of casualties to be expected after an engagement, and the evacuation of wounded. These subjects are discussed in Chapter ii, under the title of "Collateral Military Subjects." By means of examples, diagrams, and a brief description, Straub has succeeded in presenting medical officers with a clear summary of all they need know about these matters. The examples of orders given are not quite in the form laid down in our field service regulations. Under "Casualties," Straub shows that the improvement in weapons down to the time of the Russo-Japanese war had not materially affected the number of casualties or the proportion of killed to wounded in battle. It is quite possible, however, in view of the type of bullet recently introduced in many European armies, that the next campaign may show somewhat different results. When discussing the various categories of wounded, Straub remarks:

It is gradually becoming more and more appreciated that the care and treatment of the less severe cases is of greater importance to the army in the field than that of the serious ones, as a large percentage of the former may be expected to recover soon, and resume duty at the front.

This sentence supplies a necessary caution, as the surgeon's instincts naturally are to expend much time and effort on a severely wounded man rather than on a number of less severely injured ones. The section on transportation contains much useful information—for example, Straub shows that to dress a man, carry him a thousand yards, and return with the empty stretcher, will, on the average, occupy one hour. The formulae for calculating the time or vehicles required to remove a given number of wounded are given, but for some unexplained reason an x is introduced which does not seem to have any bearing on the equation. As it stands, the formula may easily be forgotten. Whether used to find the time or the number of vehicles required three of the factors are constant, and if the formulae were stated thus:

$$\mathrm{T} = \frac{1}{m}\left(\frac{w \times t}{n}\right) \text{ and } m = \frac{1}{\mathrm{T}}\left(\frac{w \times t}{n}\right)$$

where T is the time and m the units of transport required they would be more easily retained in the somewhat overtaxed brain of the medical officer on active service. The chapter on organization deals with that of the United States army, but that on administration contains much that is useful and applicable to all armies. The chapter on battle dispositions gives a good review of the various kinds of action which may be fought, and the disposition of the medical units to conform with the military situation. The remainder of the book discusses in detail the functions of each post in the medical echelon from the front to the base. Although intended primarily for officers of the United States army, the general principles enunciated are applicable to all armies. Straub has taken great pains to explain clearly just what medical officers ought to know of military matters in the field, and has condensed most of the somewhat voluminous foreign military medical literature into a handy and readable form.

[1] *Medical Service in Campaign: A Handbook for Medical Officers in the Field.* By Major P. F. Straub, Medical Corps (General Staff), United States Army. Prepared under the direction of the Surgeon-General, United States Army, and published by authority of the War Department. London: Rebman, Limited. 1911. (Demy 8vo, pp. 164, 2 plates, 9 figures. 6s. net.)

IMMUNITY AND ANAPHYLAXIS.

It seems to be the ambition of every writer on immunity to display his knowledge of Greek by coining out of that language some extraordinary additions to the vocabulary of medical science. Seeking a term to cover various conditions ranging from hypersusceptibility to immunity, Professor von Pirquet has Germanized *ἄλλη ἐνέργεια* into "Allergie."[2] The wealth of meaning which this word is intended to convey would assuredly baffle the most erudite of our classical authorities. It is defined by the writer as "altered capacity for reaction as a clinical concept without any bacteriological, pathological, or biological preconceived opinion." This altered capacity for reaction on the part of the bodily organism is brought about by recovery from infection or by previous treatment with bacterial products or other alien substances, the changes which take place, or, as he expresses it, the manifestations of "Allergie," being classified by the author as follows: (1) *Temporal;* the reaction may be accelerated as compared with the primary reaction. (2) *Quantitative;* the reaction may be intensified (hypersusceptibility or anaphylaxis), or it may be diminished or abolished (lessened susceptibility, insusceptibility, or immunity). (3) *Qualitative;* there may be a change in the mode of reaction or in the reacting tissue. This classification, Professor von Pirquet claims, throws new light on "clinical pathogenesis" and the relations between antigen and antibody. We must confess that it is a little difficult to recast our notions of immunity in accordance with the writer's proposed system, which, on a first impression, appears at least arbitrary and artificial. It is to a large extent a restatement of well-known facts in unfamiliar language, and we doubt if other workers on immunity will accept the new terminology as a better and more logical vehicle of exposition than their own.

Dr. Hans Much's volume on the science of immunity[3] is described as a brief review, intended for practitioners and students, of those matters pertaining to immunity which are of value in therapeutics or in the diagnosis of disease. The author begins in learned fashion by reminding us of the Kantian distinction between concept (Begriff) and idea (Idee), and avows his intention of not limiting his outlook to the conception of phenomena but of also grappling with the "ideas" which underly them. Dismissing with scorn the "shallow" and misleading philosophy of Aristotle, he prepares us to follow the guidance of those higher principles of idealism which have been enunciated by Plato and Kant. This sort of language may seem alarming to the young and impressionable medical student, but it is not really very formidable. Apparently all that Dr. Much really means is that he wants to discuss the theories and principles which the known facts of immunity exemplify. So does every other intelligent writer who deals with this subject, but most of them manage to do it without finding it necessary to "show off" their familiarity with Plato and Kant and their superiority to Aristotle. As a matter of fact, Dr. Much does not make it at all clear that he understands metaphysical philosophy and the doctrines of idealism. Philosophers, in their endeavours to view spiritual and material existence as a whole, may legitimately speak of certain elements of truth or "ideas," which "transcend" phenomena; such terms belong to the metaphysical or religious interpretation of the universe, but are ridiculously incongruous when applied to the ordinary data of a particular branch of natural science. In view of Kant's oft-reiterated and violent attacks upon "dogmatism" in philosophy, one would expect a follower of his to avoid this reproach with scrupulous care. But we find that Dr. Much is by no means proof against the temptation to dogmatize. He is particularly categorical about tuberculosis. Koch is recognized as the discoverer of the tubercle bacillus and of tuberculin, but his later work is disposed of in a contemptuous half-sentence which describes it as "one-sided and therefore false." The rest of the chapter on tuberculosis is simply a glorification of the work of Behring and his followers. It is a case not merely of special pleading, but of suppression of facts on the other side, and would convey to the uninitiated student the impression that Behring's very exaggerated and one-sided statements have gained universal and unquestioned acceptance. Similar objection applies to most of the author's theoretical discussions. Instead of an impartial review we have a categorical statement of personal opinions; leading authorities are freely ignored, with the exception of a favoured few whose views are enunciated with an air of finality which is not always justifiable. The sections devoted to practical therapeutics and laboratory technique are much less objectionable, and the author's endeavour to popularize modern methods of diagnosis and treatment is most praiseworthy; it is unfortunate that he has not limited himself to these matters, instead of venturing into the more perilous paths of scientific theory.

Professor Richet has written a useful and concise account of recent work on the phenomenon to which he first gave the name of *Anaphylaxis*.[4] It may, perhaps, be asked whether it was really necessary to coin this clumsy term. It means, of course, the reverse of prophylaxis, or protective immunization; but it is difficult to see why we should not have been content with the old-fashioned word "hypersusceptibility," as used by Behring and others with reference to the effect which sometimes follows reinoculation with a particular toxin. But the word has established itself firmly, and there can be no doubt that the study of the facts which it connotes is of the greatest interest and importance. Professor Richet distinguishes four degrees or phases of anaphylaxis, namely: (1) *Slight*, characterized by pruritus and by congestion of the nasal and intestinal mucosa; (2) *moderately severe*, with vomiting and diarrhoea, muscular inco-ordination and feebleness, increased frequency of respiration, and slight lowering of temperature; (3) *severe*, with coma, muscular inertia, complete insensibility, loss of vision, dyspnoea amounting almost to asphyxia, and extreme lowering of arterial pressure; (4) *hyperacute*, with asphyxia, cardiac syncope, and almost immediate death. He has also observed a "chronic" anaphylaxis, where the animal after two or three days of apparent recovery succumbs to the lesions (intestinal haemorrhage or damage to the nervous system) which were produced at the time of the anaphylactic shock. Many and diverse theories have been proposed in explanation of the phenomena observed, but much more investigation is required before any of them can be accepted as conclusive. Here, again, theoretical speculations are leading to a distressing multiplicity of technical terms. Professor Richet's view is that in the injected animal there is produced a substance (*toxogenin*) which is not toxic in itself, but yields a toxic substance (*apotoxin*) on combination with antigen. The toxogenin is formed in the blood or cells after an incubation of from ten to fourteen days, and persists for a very long period; the toxicity of the apotoxin (or precipitin), which it forms with antigen, is increased by combination with the alexin of the blood. As to the exact nature of the variously formed toxogenins and apotoxins, he admits that our present knowledge does not carry us very far. Both in stating his own views and in describing those of other scientists, Professor Richet writes in a simple and lucid style, with a pleasing freedom from over-statement and special pleading.

The popularity of the Wassermann reaction has induced Dr. Armand-Delille to write a book on the technique of diagnosis by deviation of the complement.[5] His exposition has the merit of lucidity, but would have gained in force if it had been more condensed. After preliminary chapters on the theory of immunity and the phenomena of haemolysis, he describes at great length his method of preparing a haemolytic system and then proceeds to the details of the deviation test. The technique of manipulation, as the author admits, can only be learnt by actual practice in the laboratory, but the beginner will find in the present volume many useful practical hints which will facilitate his work

[2] *Allergie.* Von Dr. Clemens Frh. von Pirquet. Berlin: Julius Springer. 1910. (Sup. roy. 8vo, pp. 96, with 30 illustrations in the text. M.3.60.)

[3] *Die Immunitätswissenschaft.* Von Dr. Hans Much. Würzburg: Curt Kabitzsch. 1911. (Sup. roy. 8vo, pp. 162, with 5 plates and 6 illustrations in the text. M.7.20.)

[4] *L'Anaphylaxie.* Par Charles Richet. Paris: Felix Alcan. 1911. (Cr. 8vo, pp. 286. Fr. 3.50.)

[5] *Techniques du diagnostic par la méthode de déviation du complément.* Par P. F. Armand-Delille. Paris: Masson et Cie. 1911. (Demy 8vo, pp. 210, with 25 illustrations in the text and 1 coloured plate. Fr.5.)

and ought to save him from numerous pitfalls. There is nothing particularly new in what Dr. Armand-Delille has to tell us. All modern textbooks on bacteriology and immunity treat of the deviation of the complement, and in those of the better sort the account of this reaction omits little or nothing of the essentials contained in the present author's more diffuse treatise. His lengthy account of minor details of technique is interesting as a record of personal experience, and will be appreciated by investigators who wished to compare notes with a fellow-worker; but it is not very important, and it must be left to the indulgence of the reader to decide whether what the author has to teach us was worth expanding and padding into a separate volume.

Dr. Mari has published a small book,[6] in which he discusses the phenomena of chemotaxis and their relations to phagocytosis, diapedesis, and leucocytosis. After a brief review of recent views on the origin and functions of the white blood corpsucles, the author deals separately with each of the above phenomena. The main object of the book is to discard hypotheses which assume the existence of more or less unknown chemical agencies, and returns, in explanation of the facts, to the great basic law of biology, namely, the irritability of living protoplasm. This universally accepted fact will, in the author's view, quite sufficiently explain all the phenomena without having recourse to hypotheses as to mysterious forces of attraction and repulsion. For example, with regard to chemotaxis he says, "It is not so much the quality as the quantity of the stimulus which determines the development of the phenomena in question." The same with diapedesis, which he supposes occurs somewhat as follows: The first effect of the irritant is to induce changes in the endothelial cells (for example, in the way of loosening, etc.), these in their turn irritate the adjacent leucocytes, set up amoeboid movements, in turn cause pseudopodia to develop, and make it easy for the leucocytes to slip between the endothelial cells and so out. Again, with regard to the various phases of leucocytosis he pictures it in this manner: (1) A stage of irritation causing diapedesis in the mode just outlined, and thereby inducing a temporary leucopenia; (2) a transitory hyperleucocytosis, due to the rapid passage into the circulation of new-formed cells which had remained until then more or less fixed in the lymphoid tissues and are now set free owing to the irritation due to the presence of heterogeneous substances in the blood coming from the haematopoietic organs; (3) a phase of leucopenia due to the diapedesis of these new cells and a renewal of the same cycle again. Various experiments in support of these views are detailed.

OPERATIVE GYNAECOLOGY.

Dr. Liepmann, whose *Geburtshilfliche Seminar* last year evoked admiration by its apt illustrations and clever admixture of clinic and theory, has now issued a course of sixteen lectures[7] describing a gynaecological operation course on the cadaver, which is equally worthy of the attention of teachers. He devotes twelve lectures to abdominal operations, three to vaginal, and one to obstetric, and in the selection of individual methods for discussion and illustration he is guided by his own experience. The volume makes no claim to be exhaustive, but it is a fairly complete guide to the typical operations, and by a series of tabular analyses at the end the various methods and their development are set in historical perspective. The arrangement of the course is governed by educational value rather than by absolute clinical interest. We have in succession lumbar anaesthesia, Alexander-Adams operation, laparotomy in general, ventrifixations, operations on the tube and on the ovary, extended abdominal hysterectomy, simple hysterectomy, operations on the urinary organs and on the alimentary tract, and on adherent appendages, followed by the vaginal operations. In each case the successive stages of the operation, from its preparation onwards, are clearly defined, the bases of its technique laid on anatomy, pathology, and bacteriology, and the pitfalls marked. Where abdominal and vaginal methods come into competition Dr. Liepmann's preference for the abdominal is very decided. In the matter of illustration Dr. Liepmann says that he adopted Kelly's *Operative Gynaecology* as his ideal, and the artist fully deserves the appearance of her name on the title-page. We have already referred to the analytical tables, which may well be commended to the attention of advanced students. Altogether the volume does credit to both author and publisher.

Dr. Bandler claims sixteen years' experience in the study and practice of operations on the internal organs conducted through the vagina in preference to abdominal section. *Vaginal Celiotomy*[8] is an illustrated book-atlas, the result of his labours devised to instruct the specialist. It is dedicated to Professor Alfred Dührssen, "who by his original work in vaginal surgery has raised the speciality of gynaecology and obstetrics to the dignity of a science." This is the hyperbolical epigram of a loyal partisan, for gynaecology and obstetrics were already raised to the dignity of a science by the pioneers of abdominal surgery and aseptic operating when the Berlin professor began his labours. That Dührssen has raised vaginal surgery very greatly no one can deny, and outside the ranks of specialism the competent critic will, we suspect, place him first amongst the advocates of vaginal coeliotomy. Dr. Bandler is careful not to appear a bigot as a surgeon. He glorifies the great German authority, but declares that he has never given vaginal coeliotomy the extreme praise voiced by its most faithful and enthusiastic admirers. We entirely agree with him in his surprise at its almost complete neglect by a large proportion of surgeons and gynaecologists. The truth is, the surgeon until lately almost monopolized abdominal operations, leaving perineorrhaphy and operations on the cervix and vagina to the obstetrician. Now, however, the surgeon and the gynaecologist both undertake abdominal and vaginal surgery. Hence it is the surgeon who has most to learn from this book, whilst the gynaecologist will know how to perfect his operative work. The book is entirely devoted to the description of the steps of vaginal operations, and includes no references, clinical reports, or even details about instruments and operating theatres and tables. The text is in large print and well written, far more readable and intelligible than in the old-fashioned atlas type of treatises on operative technique. The illustrations are on separate sheets, and as the pages measure 10 in. by 7, and the drawings themselves 3 by 4 at least, the pictorial part of the work is free from some defects common in books of this type. The author begins with a very clear demonstration of the steps of posterior and anterior vaginal coeliotomy, dwelling in the text on its uses, and then turns to more specialized procedures for the removal of fibroids, diseased uteri, and pelvic tumours. Altogether Dr. Bandler may be congratulated on having prepared a treatise of high value to the operating surgeon.

NOTES ON BOOKS.

In the issue of *Burdett's Hospitals and Charities*[9] for the year 1911, Sir Henry Burdett continues his annual review of the volume of charity, and maintains once more that there is no fear whatever that the voluntary charitable institutions in the British Isles, and more especially the voluntary hospitals, will ever find themselves in the position of having to seek assistance from the State. It is a subject on which he is always interesting, ever confident, and commonly something more than emphatic. We hope, and are prepared to believe, that he is correct, but hardly regard the evidence which he brings forward as overwhelmingly strong. Still less does it justify the launching, against those who take an opposite view, of charges of careless inaccuracy and reckless disregard of their own reputations. Sir Henry Burdett's figures, in the first

6 *Chemotassi*, pel Dr. Goffredo Mari. Rome, 1910. p. 116.

7 *Der Gynäkologisches Operationskursus au der Leiche.* In sechzehn Vorlesungen. Von Dr. Wilhelm Liepmann, mit 387 grösstenteils mehtfarbigen Abbildungen nach Originalien von Margrete Wendland. Berlin: Verlag von August Hirschwald. 1911. (Imp. 8vo, pp. 470. M.22.)

8 *Vaginal Celiotomy.* By S. Wyllis Bandler, Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital; Associate Attending Gynaecologist to the Beth Israel Hospital, New York City. Philadelphia and London: W. B. Saunders and Co. 1911. (Roy. 8vo, pp. 450, 48 illustrations. 21s.)

9 *Burdett's Hospitals and Charities.* The Year Book of Philanthropy and Hospital Annual. By Sir Henry Burdett, K.C.B., K.C.V.O. London: The Scientific Press, Limited. 1911. (Crown 8vo, pp. 941. Price, 10s, 6d. net.)

place, are somewhat ancient—that is to say, the most recent statistics in his book date back as usual to some eighteen months before its publication; nor apart from this are they in themselves of an entirely promising character. It is true that between 1896 and 1908, both years inclusive, the income of charitable institutions in this country showed an average increase of £326,000 a year, but, on the other hand, the average yearly expenditure increased still more rapidly—namely, by £383,000 a year. The source of the income is also not altogether encouraging. Vast as it is in the aggregate, about half the total is derived from legacies, old and recent, and the rest "mainly from the same people every year, who represent a very small proportion of the total population." If Sir Henry Burdett is mistaken in his conclusion, it is because he relies so entirely on the figures of the past, and apparently pays no attention whatever to the omens of the present. It is natural perhaps that his book, though published at the end of May, should contain no reference to the probable effect on hospital incomes and expenditure of the National Insurance Bill; but even last year there was plenty of evidence that the methods of raising public revenue which are now popular, would be likely to diminish the power of the comparatively few persons on whom hospitals depend for their support, to benefit these institutions either in their lifetime or after their death. But although Sir Henry Burdett may unfortunately prove a false prophet in this respect, that will scarcely diminish the value of his publication as a reference book. The facilities for using it in this way have been increased this year by insertion in the index of the popular as well as the formal titles of various institutions, and his review of expenditure on nursing has been considerably extended. Once more, too, he takes considerable pains to prove to the managers of religious missions that it is their duty, both to themselves and to the public, to furnish more complete and intelligible accounts. On this point he is thoroughly convincing, but whether he will succeed in his self-appointed task is quite another question.

The thirty-eighth volume of the *St. Thomas's Hospital Reports*[10] reached us at the end of July, and is dated 1911; the work, however, to which it relates is that done in 1909. The editors, Dr. H. G. Turney and Mr. W. H. Battle, have divided its contents into eleven sections, each prefaced by a few introductory lines by the author directly responsible for what follows. In several sections the information supplied is almost purely statistical, but in some instances, and notably the chapers devoted to the medical, surgical, and gynaecological report, careful abstracts of cases of special interest are included. An excellent account of the additions to the pathological museum is furnished by Mr. S. G. Shattock, and Mr. Richard Timberg in his report on the physical exercise department shows the extent to which its resources are being employed in the early after-treatment of fractures.

The Bishop of London has accepted the dedication to him of a small collection of lectures on vocal science and art by the Rev. Charles Gib.[11] The author commences his work with an onslaught on another writer on the same subject, who seems to entertain views which we should have thought it quite unnecessary to disprove. The opportunities Mr. Gib has had for studying the voice of the choir boy give his opinions on that subject considerable weight, and he is at great pains to describe and criticize at considerable length faulty methods of breathing. A valuable portion of the book is the extensive series of quotations from Dr. Halls Dally, whose orthodiascopic investigations of the movements of the chest walls and of the diaphragm and abdominal organs during respiration ought, however, to be carefully studied in the original. In another edition the writer would do well to concentrate the reader's attention more upon the exact methods which he himself considers beneficial, and less upon those of others which he feels called upon to disparage; his conviction of the correctness of his own views is very evident.

In a book which he calls *Differential Diagnosis*[12] Dr. Cabot has attempted a very difficult task. He has grouped his cases under what he calls the "presenting symptom"—that is, the symptom which is put forward by the patient or which is the most prominent, such as pain, vomiting, haematuria—and he has classified the causes of these symptoms in the order of their frequency, and illustrated them by the histories of cases in which he sifts the facts until he arrives at a diagnosis. He believes that a correct diagnosis is usually missed because the physical signs are not recognized, less often because the logical process is inaccurately followed; he thinks this book may help to correct the second cause of mistakes, and that a study conducted on these lines should lead us to arrange in the mind's eye a selected group of reasonably probable causes for the symptoms complained of and for the signs discovered. That when, for example, a patient pronounces the word "headache," a group of causes should shoot into the field of attention like the figures on a cash register, and it is for want of exercise in this thinking process that so many practitioners treat symptoms only. In order to keep within reasonable limits he has confined himself to twelve subjects: Pain, fever, chills, coma, convulsions, weakness, cough, vomiting, haematuria, dyspnoea, jaundice, and nervousness. He says he has chosen no cases in which diagnosis was obvious and none in which it was impossible or dependent on good luck, but while selecting cases in which diagnosis was difficult he has tried to choose those in which a reasonable certainty could be attained. He contemplates the possibility of some readers disagreeing with the diagnosis finally reached in some cases, but he regards this as inevitable. We admire Dr. Cabot's attempt and, as already stated, we appreciate the difficulty, but we are not sure that we can congratulate him upon having been successful. The main defect of the book is that it is not readable; to read through these cases critically is hard work, and it is useless work, for however much we may disagree with the diagnosis, we must admit that we have not seen the case and have no right to differ from the man who has. Case LI seems to us to be one of a neurasthenic young woman with spasm of the sigmoid flexure of the colon, but when Dr. Cabot tells us it is only "bad hygiene" we bow to his decision, as it would be only waste of time and not very interesting to pursue the discussion at such a manifest disadvantage.

[10] *St. Thomas's Hospital Reports.* New series. Edited by Dr. H. G. Turney and Mr. W. H. Battle. Vol. xxxviii. London: J. and A. Churchill. 1911. (Cr. 8vo, pp. 185. Price 8s. 6d. net.)

[11] *Vocal Science and Art.* By the Rev. Charles Gib, with numerous illustrations, together with an introduction, notes and diagrams, by J. F. Halls Dally, M.A., M.D. London: William Reeves. 1911. (Cr. 8vo, pp. 118. 3s. 6d.)

[12] *Differential Diagnosis presented through an Analysis of 383 Cases.* By Richard Cabot, M.D. Philadelphia and London: W. B. Saunders Company. 1911. (Roy. 8vo, pp. 750; 195 illustrations. 24s.)

MEDICAL AND SURGICAL APPLIANCES.

Frame for Anaesthetization by the Open Method.

Dr. E. V. Dunkley (London, S.W.) writes: The frame shown in the sketch differs from those generally in use, in that its long axis is at right angles instead of parallel to that of the face. The frame consists of a narrow trough adapted to the transverse curves of the chin and cheeks, and having a deep indentation to accommodate the nose. On this base is built up a framework of two metal arcs joining the respective extremities of the long and short axis of the bed frame, that joining the extremities of the short axis being a tube perforated on its under side, and having an extension at its highest point for the attachment of a Junker or oxygen tube (as in other patterns). The lint covering is kept in position by a wire frame closely fitting the bed frame and hinged to it at one end. The advantages claimed for this frame are:

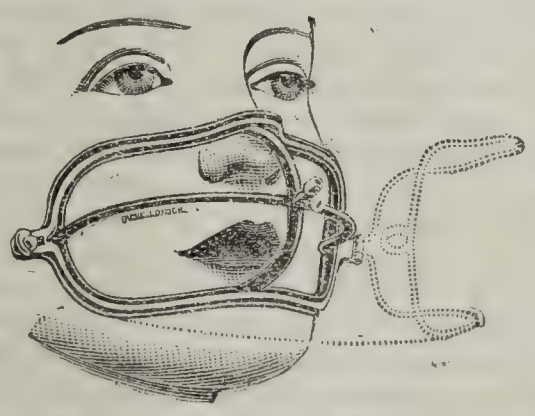

1. That it is more convenient to use, having but little tendency to slip off the face, and also having one of its poles close to the hand which controls the angle of the jaw.
2. That it fits the face more accurately than other patterns, and allows of the entry of less vapour-free air in patients with moustache and beard—a point of especial importance in the administration of open ether.
3. That it is convenient for operations on the upper part of the face, as a space of a full inch can be obtained between the upper edge of the frame and the lower border of the orbits.

The narrow metal trough, though not peculiar to this apparatus, minimizes the risk of chloroform burn without making the frame clumsy. The frame has been made for me by Mr. J. H. Montague, of 69, New Bond Street, London.

British Medical Journal.

SATURDAY, AUGUST 26TH, 1911.

PLAGUE INFECTION IN EAST SUFFOLK.

REFERENCES have already been made[1] in the BRITISH MEDICAL JOURNAL to the suspected cases of human plague which occurred in East Suffolk in the autumn months of 1910. A consecutive account of the occurrence and of the epizootic of plague in rodents has now been furnished in a report issued by the Local Government Board.[2] In an introduction to the report Dr. Newsholme states that after a knowledge of the circumstances had been brought before the Board it was realized that grave significance attached to the presence of a focus of plague in rodents, and that no efforts should be spared in coping with the situation. Three inspectors of the Board—the late Dr. Bulstrode, and his colleagues, Drs. Fletcher and Reece—were engaged during several months in investigating the outbreak, and in warning and stimulating to activity the local authorities and their officers in the infected area. Arrangements were made for the destruction of rats upon an extensive scale, and for the examination of these and other rodents. The examinations were carried out by Drs. Petrie and Macalister of the Lister Institute at the Public Health Laboratory of the Ipswich Corporation. After giving an account of the illness of the four persons who died in September, as reported upon by Dr. Sleigh and Dr. Brown in the BRITISH MEDICAL JOURNAL of November 12th, 1910, Dr. Bulstrode discusses the opportunities for the introduction of plague into East Suffolk by means of rats. The possibilities of the introduction being due indirectly to cargoes of grain, or to the London manure, which is dispatched either by rail or barge to the eastern counties, are considered by him in some detail. It appears that very little of the latter reaches Suffolk, and for this and other reasons he seems to be of opinion, though he does not definitely say so, that the original centre of diffusion was Ipswich, and this mainly by reason of the very large grain trade carried on at the Ipswich Docks, and by the opportunities which exist at the docks for the access of rats from the ships to the shore. Of considerable importance are the suggestions which he makes as to future precautions. He points out that practically all the outbreaks of the present day are found to be preceded, if diligent search be made, by mortality amongst rats or other rodents, and where such mortality obtains the risk of the human population being involved is considerable. Arrangements should accordingly be made by every sanitary authority for receiving the earliest intimation of deaths among rodents and for sending to the Local Government Board specimens of such animals for bacteriological examination. It is conceivable, he admits, that a large number of rats in the invaded localities may now be relatively immune from plague, but as a young rat population arises there will grow up a large unprotected rat population, prone to die off if, and when, the rat epizootic appears. Consequently persistence in rat destruction is called for. Further recommendations are that immediate medical advice should be sought whenever suspicious symptoms occur; that a supply of Haffkine's plague prophylactic should be held in readiness by medical officers of health; that isolation accommodation should be provided by sanitary authorities; and that, with regard to general sanitary measures, "the greatest attention should be paid to the poorest, most insanitary, overcrowded, and dirtiest property, since it is on premises of this description that plague is most likely to occur, and the pneumonic variety of the disease is most easily spread."

Dr. Bulstrode details the administrative measures pursued in the treatment of this problem. The memorandum upon plague was brought up to date by the Medical Officer of the Board and freely circulated. Rat destruction orders were issued, and local activities in this direction were encouraged. Bacteriological examination of rats collected from a belt of country surrounding the infected area was carried out on a large scale with a view to ascertaining the limits of the epizootic. Dr. Bulstrode also gives an account of the outbreaks of fatal illness which occurred at Trimley and Shotley in the years 1909-10 and 1906-7 respectively. The evidence available indicates a probability that the former series were bubonic or septicaemic, the latter pneumonic plague, but full data could not be obtained.

Drs. C. J. Martin and S. Rowland contribute an account of their investigations carried out within the infected area in November, 1910. Their report contains a number of important observations upon the parasites found upon the rodents examined. From 568 rats 584 fleas were obtained, of which 324 were identified as *Ceratophyllus fasciatus*, and 259 as *Ctenophthalmus agyrtes*. The Indian rat flea, *Xenopsylla cheopis*, was not found. Investigation of these fleas showed that *Ceratophyllus fasciatus* will bite man, although not so readily as does *Xenopsylla cheopis*, but *Ctenophthalmus agyrtes* is not a man-biting flea. There was, therefore, last winter a prevalence of a little over one man-biting flea to two rats. It has been found in India that this degree of infestation is not sufficient to cause a human epidemic. A comparison is then made between the conditions obtaining in this country and in India, which elucidates the relative immunity of the population of the former in the presence of an epizootic.

The systematic examination of rats from districts outside the known infected area was also entrusted to the Lister Institute, the work being carried out at Ipswich, any suspicious material being sent to the Lister Institute for further cultural and inoculation tests. Of 6,071 rats examined, 73 were set aside for further examination, either because plague infection was suspected or on account of various features of pathological interest. By means of successive stages of investigations it was found possible to exclude plague in all the rats so reserved. Three rats presenting appearances suggestive of plague yielded cultures closely resembling those of the plague bacillus, which were, after detailed investigation by cultural, inoculation, and other methods of research, identified as *B. pseudotuberculosis rodentium*. This investigation shows,

[1] BRITISH MEDICAL JOURNAL, November 5th, 1910, p. 1454; November 12th, 1910, pp. 1489, 1490; November 19th, 1910, p. 1636; November 26th, 1910, pp. 1732, 1737.

[2] Reports to the Local Government Board on Public Health and Medical Subjects (New Series, No. 52). Reports and Papers on Suspected Cases of Human Plague in East Suffolk and on an Epizootic of Plague in Rodents: 1. Report on Suspected Pneumonic and Bubonic Plague in East Suffolk and on the Prevalence of Plague in Rodents in Suffolk and Essex, by Dr. Bulstrode. 2. Observations on Rat Plague in East Suffolk, by Drs. Martin and Rowland. 3. Report on the Pathological and Bacteriological Examination of Rodents, by Drs. Petrie and Macalister. Price 1s. 3d

therefore, that there is no reason for the belief that the epizootic in the winter months extended beyond the known infected area.

The remainder of the volume is occupied by official papers circulated with reference to the epizootic and to measures for dealing with rats. Extracts are also given from the report of the medical officer of health for East Suffolk describing the steps taken by local authorities.

MATHEMATICS AND MEDICINE.

Although it will be no news to those who have closely followed Sir Ronald Ross's career, some members of the profession will learn with surprise, possibly mingled with regret, that this distinguished exponent of the experimental method is an enthusiast for the application of quantitative processes to the problems of epidemiology and pathology. In his report on malaria in Mauritius and in the first edition of his treatise on the *Prevention of Malaria*, Sir Ronald studied mathematically the problems involved in the spread of malaria by the agency of mosquitos, a matter which, on his suggestion, was also considered by Mr. H. Waite, whose papers have been noticed in these columns.

In the second edition of his book[1] Sir Ronald Ross extends and generalizes the results previously obtained, in a manner deserving careful study. He formulates two general problems: (1) It is supposed that a population of any organisms living in an area are liable to the happening of some event. Given that the population is being perpetually changed by birth, death, emigration, and immigration at rates which can be ascertained, the problem is to find the proportion of the population which will have experienced the event never, once, twice, etc. (2) The second point is to consider the modification introduced by supposing that a constant proportion of the affected revert to the unaffected class in a unit of time. Sir Ronald Ross shows that the problems can be expressed in the form of finite difference equations, which he proceeds to solve and discuss. Particular applications of the analysis to the special problem of malaria are then considered, with numerical illustrations, and finally the work is extended to the case of an infinitesimal unit, the differential equations corresponding to the finite difference expressions being obtained.

It is not possible to discuss the details of the work here. The medical reader who wishes to follow the reasoning carefully would do well to acquaint himself with the elements of the method of finite differences as they are given in any short treatise—for example, that of Seliwanoff.[2] Owing to the large number of constants introduced, the expressions are necessarily somewhat complex. As a small point of detail, it may be remarked that the choice of the letter *e* to denote the emigration ratio was unfortunate, as in one passage *e* is used in the customary way to denote the ordinary exponential function. This is, of course, a mere trifle, and the analysis will be found most suggestive and stimulating.

Valuable as Sir Ronald Ross's work may prove in the subject to which it immediately relates, its general significance is even greater. The application of mathematics to medical problems was the goal at which certain of our predecessors, now almost forgotten, aimed. We refer to the old "Iatromathematicians." The methods of this school, whether good or bad, have long been forgotten by all but medical archaeologists. Those who have attempted to apply mathematical methods to the healing art in modern times have generally passed through the gate—whether ivory or horn we dare not suggest—of statistics. In this connexion the name of Farr occurs to every reader, while modern English exponents of quantitative methods, such as Brownlee, Goring, and Greenwood, have owed much, directly or indirectly, to Karl Pearson's researches into the mathematical theory of statistics. Although this school has not been without influence, it has suffered from not numbering among its members any experimental worker of world-wide reputation and perhaps also from the, largely accidental, association in the public and professional mind between mathematical methods and heated controversies respecting Mendelism and eugenics. As Paul Bert, himself a great experimenter, once remarked: "There exists quite a school of medical men, the sectaries of which have not, be it understood, haunted the laboratories, but for whom the word 'experiment' takes the place of everything, like the cream tart in the comedy."[3] Many have condemned the attempt to express the problems of medical science in exact quantitative terms, and have seemed to imply that such efforts are only made by persons imperfectly acquainted with the experimental method or obsessed by a vision of the redoubtable Galton Professor of National Eugenics. Sir Ronald is neither an armchair worker nor a "biometrician," yet he writes: "As a matter of fact, all epidemiology, concerned as it is with the variation of disease from time to time or from place to place, *must* be considered mathematically, however many variables are implicated, if it is to be considered scientifically at all."

The medical reader may not be prepared to go the whole way with Sir Ronald Ross in this statement, but he will be compelled to admit that the methods advocated have now to be seriously reckoned with in estimating the instruments of research at the disposal of a modern investigator. With the exception of the Lister Institute, we are not acquainted with any home of advanced medical study and research which makes provision even for instruction in mathematical statistics, and this indicates a state of affairs which Sir Ronald Ross, both by precept and example, is likely to do much to alter. We congratulate him both on his achievement and on his ideal.

THE DOMESTIC FLIES.

We referred last week to further reports made to the Local Government Board on the domestic fly as a carrier of infection. The plague of flies does not yet seem to be so great as it was last year, but they are numerous enough to be a nuisance both in town and country, and they are undoubtedly dangerous inmates of a house. Professor Nuttall and Mr. Jepson, in the report made to the Local Government Board a couple of years ago, expressed the opinion that it was certain that flies can convey typhoid fever and cholera, and expected it to be demonstrated that they conveyed also the causative agents of infantile diarrhoea and dysentery. On the other hand, Sir Shirley Murphy in his last report stated, as the result of Dr. Hamer's observations in London, that a critical attitude must still be maintained with regard to the "fly hypothesis" of the causation of diarrhoea and typhoid fever. The Medical Officer of Health of Islington has no hesitation in accepting it, however, and has

[1] *The Prevention of Malaria*. London: John Murray, 1911 (pp. 652-686).
[2] *Lehrbuch der Differenzenrechnung*, p. 92. By D. Seliwanoff. Leipzig: Teubner. 1904.
[3] *La pression barométrique*, p. 516.

issued a leaflet with the catching title "The House Fly, sometimes called the Typhoid Fly, a Danger to Life." In this it is stated that a fly breeds in horse dung, human excreta, and garbage of all sorts, that as many as 1,200 flies have been known to issue from 1 lb. of horse manure, that one fly will lay over 100 eggs, and that there may be twelve to thirteen generations in a summer, so that one fly may have millions of descendants in a season. He exhorts the people of Islington to "kill that fly." His brother officer in Chicago, Dr. Young, is equally emphatic, only he would have the Chicagoans "swat" the fly, by which he means the same thing. "Flies are danger signals," says Dr. Young; "look for filth nearby and don't forget that one fly swatted now (June) will save a million swats two months hence." Professor Nuttall and Mr. Jepson, as has been said, consider the evidence incriminating house flies as disseminators of typhoid fever and cholera as conclusive, and point out that "a fly may cause relatively gross infection of any food upon which it alights after having fed upon infective substances, be they typhoid, cholera, or diarrhoea stools. Not only is its exterior contaminated, but its intestine is charged with infective material in concentrated form which may be discharged undigested upon fresh foods which it seeks. Consequently the excrement voided by a single fly may contain a greater quantity of the infective agents than, for instance, a sample of infected water. In potential possibilities the droppings of one fly may, in certain circumstances, weigh in the balance as against buckets of water or of milk!"

The terms "domestic fly" or "house fly" include in this country some ten or eleven species, but so far as dwelling houses go the common house fly (*Musca domestica*) is by far the most common. Another fly, *Stomoxys calcitrans*, called in the United States the stable fly, which is pretty well known to most people as a biting fly, seems to frequent cowsheds in great numbers, but finds its way into dwelling houses, particularly during August and September. Its egg hatches in two or three days, the larval stage may last two or three weeks, and the pupal nine to thirteen days; it may live in pasture fields to October, and can probably survive the winter in occupied cowsheds and stables.

In London *Musca domestica* seems to lay its eggs chiefly in horse manure, but it breeds also in human excreta and other collections of refuse. In the country it often no doubt travels direct from the midden-closet or ash heap to the kitchen or pantry. Its egg hatches in from eight to twenty-four hours, and under favourable conditions the larval stage lasts four or five days, and the pupal stage three to five. The perfect insect may live for six weeks to four months; it is most numerous in houses from July to September, is still common in October and can survive the winter. In the country the lesser house fly, *Homolomyia canicularis*, may be common outdoors as well as in; it lays its eggs in decaying animal and vegetable matter, and the perfect insect can, it is believed, live through the winter.

The injunction to kill or "swat" the fly is easy to give, but any one who on a warm day has made the experiment on the observant and nimble insect knows that it is commonly difficult to carry out. He will be apt, if a Britisher—using the word in the British sense—to find it "too great a swat," though something may be done with a leather flap at the end of a short stick or with a damp towel, especially about dusk or on a cool day. Observations made in London a couple of years ago seem to show that the natural enemies of the domestic fly are earwigs and two kinds of rove beetle (*Pterostichus madidus* and *Calathus cisteloides*); but their praiseworthy exertions cannot be depended on. Good sticky fly-papers will do something towards freeing a single room; muslin "balloons" baited with brown sugar moistened with stale beer are said to be the best fly-traps. An obliging correspondent tells us that a teaspoonful of formalin (40 per cent.) in a saucer three-quarters full of water, in which a lump of sugar has been dissolved, rapidly makes a great slaughter. The insects, he says, die in about five minutes, and he even talks of the need for a dustpan and brush the next morning. We regret to say that the result of a single experiment did not justify the sanguine hopes raised, and greatly fear that a really reliable killer or swatter is yet to seek.

The true policy is, of course, prevention. How far *Musca domestica* is in the habit of flying does not appear to have been ascertained, although the experiments mentioned last week show that it may travel down wind for about a mile at least. The conditions were somewhat unusual, and it seems probable that under ordinary circumstances the customary range is much less than this, and that the flies in a kitchen are bred in or about the house or village. The abolition of midden closets, the destruction of vegetable and animal kitchen rubbish by fire, and the removal of collections of horse manure as far as possible from dwelling houses, seem to be the most important measures. As Sir Shirley Murphy said in 1908: "The need of a power regulating the sanitary condition of stables; and, further, of strict exercise of the powers for requiring the removal of manure at sufficiently frequent intervals, and upon due precautions being taken with regard to such removal, has been long felt, but this need has been greatly emphasized now that it has become realized that the fly nuisance of cities is to so large an extent due to neglected conditions at stable premises."

Another means of preventing a plague of flies in the following summer is to attack the colonies which survive through the winter in kitchens, sculleries and probably in stables. Not only do some individuals, perhaps of especially robust constitution, live through the winter to breed again when the weather grows warm, but Jepson has proved that if the conditions are favourable, they may actually breed and multiply during the winter. As the slightest exposure during the cold months is fatal to them, he thinks that a systematic attack upon them in the warm corners where they spend cold weather might be attended with success.

THE HYGIENE OF THE MOUTH.

THE number of otherwise efficient soldiers who had to be sent down from the front during the South African war owing to their incapacity to masticate field rations served to attract attention to the extraordinary prevalence of dental caries among the young adults of this country, and since then the fact has rarely been allowed to escape public notice for more than a few months at a time. The introduction of medical inspection of schools gave a fresh impetus to its study, and progress is being made in persuading educational and other public authorities that it would be a right step to include among their remedial ambitions attention to the mouths of school children. The rate of progress will, it may be hoped, be accelerated if the Council of the Association acts upon the resolution, adopted at the instance of Sir Victor Horsley by the Section of Odontology at the recent Annual

Meeting, and the Board of Education is induced heartily o recognize the utility of establishing school clinics. t is probably true that an inspection of the condition of he mouth is now more often part of routine medical xaminations in ordinary practice than was the case a ew years ago, and it is certain that the great disadvanages, both to the community and to the individual, of xtensive caries are fully recognized by medical men. 'arious teeth are not only a serious obstacle to effective nastication, and hence a facultative cause of dyspepsia, ut general ill-health and possibly more than one distinct orm of disease may be directly due to oral sepsis. The isk is indeed so clearly realized that attention to he condition of the teeth by extractions or other ppropriate treatment is now a common precedent to perations involving the air passages and intestinal canal. t seems to be generally admitted that the immediate, not primary, cause of dental decay is the acid fer- ientation of particles of food, especially cereal food, ft sticking between and around the teeth, and it contended that the scraping of the teeth involved active mastication of more or less dense od materials is the natural method of keeping e mouth in a cleanly condition. Not every one, owever, is prepared to admit that so soon as an fant has cut its first tooth its training in mastica- on should be commenced by giving it food in a solid form. though for a good many years it has been customary to ve a child only paps until it has commenced to share the dinary meals of its elders, yet our grandmothers, if not r mothers, habitually gave their children hard crusts hen they were cutting their teeth. Those who love to e the wisdom of past customs proved by modern science ill be pleased by this advocacy of the crust and of a rect change from milk to really solid foods, and will rive further satisfaction from a paper which appears th the rest of the proceedings of the Section of Odont- gy in this issue. The elaborate experiments narrated ve that the view formerly held as to the detrimental ects on the teeth of free indulgence in sweetmeats was ll founded. In the same place will be found a paper ering conclusive evidence of the practical impossibility keeping toothbrushes in a reasonably aseptic condition any ordinary means. No one familiar with the iculty of obtaining surgical asepsis will be sur- sed, and the chief interest of the demonstration s, perhaps, in the fact that it seems to involve a terial extension of the rift which is imperilling the ition of the toothbrush as the chief instrument in the t of the cleanly mouth. This, again, will be a source certain degree of satisfaction to some people, since the of the toothbrush is a comparatively modern innova- n, and disbelief in its absolute efficacy may possibly to a return of the habit of mouth rinsing after every al which was at one time practised by such persons in s country as paid any attention to their mouths, and still employed by some Oriental peoples. It will noted that in this paper the use of the toothpick is nitely advocated, and from the same paper, and others lished at various dates in our own columns and else- re, it is clear that, even with the help of so-called anti- tic tooth-powders and the like, an ordinary mouth not be kept in what dental surgeons consider a cleanly healthy condition by the use of toothbrushes alone. toilet necessary to effect this object entails more e, and even skill, than most adults possess. Whether use of toothpicks—never regarded with favour in this ntry—will ever come into vogue remains to be seen, it is to be hoped that the toothbrush will continue to a part, if not the leading part, in the hygiene of the th. It may not be so effective an instrument for oving particles of food from between the teeth as has supposed, but it at least secures for the visible parts e mouth a more or less pleasing appearance. On this point it may be noted that a dental surgeon of ripe clinical experience and distinguished for his researches in dental pathology and anatomy devoted a great deal of labour last year to demonstrating the apparent paradox that in modern conditions the essential value of teeth lies in their beauty when sound and clean, and that neither for the purpose of mastication nor the development of the jaw are they absolutely necessary. However this may be, the fact that the teeth may be either the making or the spoiling of a face is one which the whole world might long since have been expected to recognize for itself. Nevertheless there is plenty of evidence that in this country, at any rate, this fact is not generally acted on. In short, though progress has been effected in drawing attention to the national and personal disadvantages of dental caries, very much more still remains to be done. It can scarcely be denied that dental caries is much more prevalent than it was even at a comparatively recent date. Why this should be is not very clear. Change of diet, the comparative rarity of breast feeding, and other modern habits have been mentioned as causes, but one research after another has thrown doubt on the sufficiency of any of them. Nor has it been satisfactorily explained why some people who pay no attention whatever to their teeth remain free from caries, while others who from their youth upwards have constantly received skilled attention yet lose one tooth after another. Until this part of the problem has been solved the work done must be curative as well as preventive. The dental profession, however, has of late years proved itself so active in skilled research that a full explanation may confidently be expected before very long.

SOME PROPRIETARY MEDICINES FOR EPILEPSY.

The report on the analysis of three proprietary "cures" for epilepsy, published elsewhere in this issue, reveals certain features which are common to many secret medicines, but which are not always so conspicuous as in these cases. There is, for example, the fact that, whereas the usual claims are made of the cure of "frightful cases of long standing, which had been pronounced hopeless by eminent physicians and hospitals, and after everything which had been tried had utterly failed," and so forth, analysis does not show the presence of anything but drugs in everyday use, two of the preparations examined consisting of ammonium bromide and potassium iodide, and the third of these substances and potassium bromide, with, in all three, colouring and flavouring agents. The first two bear on the label the words, "Guaranteed free from Bromide of Potassium and Poison," and a great deal is made, in the pamphlets in which they are recommended, of the absence of this salt without, of course, any hint that the very similar ammonium bromide is substituted for it. In one of these pamphlets it is stated that "any person who knows anything about epilepsy and fits knows something of the harm done in many cases by Bromide of Potassium. Almost every patient I have had during a long and extensive practice has taken this drug (and in some cases it has been taken for many years), so that I find it necessary to eliminate the ill effects of Bromide of Potassium from the system." In the case of the third, which is shown to contain 15.6 grains of potassium bromide and 4.2 grains of ammonium bromide in each fluid drachm, perhaps even more effrontery is shown in the statement, "the treatment of Epilepsy and Fits is carried on under some difficulty, as nearly all the great Physicians prescribe the same remedy —Bromide—Bromide—nothing much except Bromide, and so the unhappy sufferer consults many doctors without being cured." The similarity in composition of the first two of these preparations is not reflected in the prices, 4s. 6d. being charged in the first case for an 8 oz. bottle (without a "patent medicine" stamp) and 2s. 9d. in the second for the same sized bottle, stamped; even at the lower price, as the figures show, the rate of profit is very

generous, and, as the article is sold direct to the consumer through the post, there are no intermediate charges to be deducted from what the maker actually receives, except the cost of postage. These two medicines show not only a great similarity of composition, but the pamphlet issued to puff the one of them would seem to have been adapted or paraphrased from that issued in support of the other. A similarity among some of the published "testimonials" is striking, and shows to what great length the arm of coincidence may grow when circumstances are favourable.

RE-EDUCATION IN MUSCULAR MOVEMENT.

THE fact that two or three questions have been addressed to us within a comparatively recent period as to the nature of Frenkel's exercises for the restoration of co-ordinate muscular action in locomotor ataxy, seems to show that this method of treatment is not so generally known to the profession in this country as it should be. A little information on the subject may therefore not be out of place, and may at the same time serve as a commentary on the case treated in this manner by Dr. J. G. Garson, which is published at p. 420. Dr. Frenkel began the work which has made his name so favourably known to neurologists in 1890. In the summer he practises at Heiden, in Switzerland, and although he works at Berlin in the winter, it is with the former place that his name is chiefly associated. A favourable reference to his method was made by Sir David Ferrier in the discussion on tabes which took place in the Section of Neurology of the meeting of the British Medical Association held in London in 1910. A complete account of Frenkel's exercises will be found in *The Treatment of Tabetic Ataxia by Means of Systematic Exercise*.[1] The first German edition appeared in 1901. We understand that a new edition is now in preparation. In that work, which is abundantly illustrated, the principles of the treatment are clearly set forth, and the exercises are fully described. What is aimed at is the re-education of the patient's muscles in co-ordination. As a consequence of the destruction of certain neurones, the patient suffering from tabes receives a defective and erroneous idea of the movement he is performing. Owing to this, he misdirects his efforts and puts forth much more energy than is required to perform a given movement. He has in fact lost the power of regulating the movements of his muscles to a determinate end. Walking, sitting down, rising up, and so forth, though in health performed automatically, are complex acts in which a number of different muscles co-operate, the action of each being as accurately regulated in its degree as the movements of a piano player's fingers. The re-education in co-ordination of movement is therefore a laborious process requiring much skill and patience in the doctor and great perseverance on the part of the patient. A new series of "movement memories" corresponding to the impressions received in the altered conditions has to be acquired through the neurones which remain intact. It is as if telegraphic centres were utilized for the transmission of messages by a new system of wires. Frenkel's method is based upon the fact that movements attempted and carried out repeatedly and with great attention produce certain impressions on the intact neurones; these impressions are, as it were, stamped upon them and are capable of reproduction. Actions which have been acquired or developed under these conditions become so intimately combined with voluntary impulse that they can be reproduced without the effort required for the performance of a new movement. An illustration of the object aimed at by Frenkel may be found in learning to ride a bicycle. The great effort at first expended in balancing oneself and attempting to direct the machine after a time becomes unnecessary; the movements of the muscles called into play and their co-ordination become so easy and unconscious that at last the complicated act is automatic. We need not describe the treatment further than to say that it consists of (1) practising certain movements of the limbs while the patient lies in bed. This is usually done in the morning. (2) Walking exercises along lines painted on the floor or on linoleum. This is best done with three or four patients together. One of them practises for a few minutes and then rests till the others have done the exercise, when the first begins again. At the end of each turn the pulse is taken. Later on exercise may be taken in groups. (3) Sitting down, standing up, turning. (4) Walking up and down stairs. This is the most important of all the exercises. Frenkel, speaking of the results of the movement treatment, says that his method, which is based on the practice, that is, the repeated execution, of ordinary movements, rather than on vaguely defined muscular therapeutic principles, is in every case attended by a decided improvement of the inco-ordination.

[1] Translated and edited by Dr. Freyberger. London: Rebman, Limited. 1902.

DRUGS FOR MERCHANT VESSELS.

THE small committee appointed by the Board of Trade to overhaul the medical equipment imposed upon ships that come under the Merchant Shipping Act of 1894 and 1906 has now handed in its report.[1] Accompanying it are the revised scales of medicines, medical comforts, instruments, and stores unanimously recommended. They are four in number, one applying to emigrant ships in the North Atlantic trade whose voyages do not commonly exceed twenty-six days, the second to emigrant ships other than those thus described whose voyages do not exceed a hundred days, a third to ordinary merchant ships which may be absent from home for as long as a year, and a fourth, or emergency scale, to vessels sailing from the United Kingdom and making voyages not exceeding five days from port to port. The latter vessels, when their voyage is less than twenty-four hours from port to port, are allowed to carry, in lieu of this emergency scale, the small hamper of the St. John Ambulance Association or its equivalent. It is laid down that the drugs used are to be prepared according to the *British Pharmacopœia*, and stress is laid on the clear labelling of each drug in English, including a statement of the official dose for an adult, on the separate storage of poisonous drugs, and the use of poison labels and green fluted bottles for liniments. In each case the precise amount of each drug ordered to be carried varies according to the number of passengers and crew. Though they have doubtless been well thought out, the comparative quantities prescribed to be carried seem, in some instances, a little curious, and in respect of most drugs the ship's doctor, whether he be cook or qualified man, is still left to weigh or measure them, as the case may be. In the report itself it is recommended that the carrying of medical equipment shall be imposed on fishing vessels, that steps shall be taken by shipowners to prevent the sale among passengers and crew of patent medicines, specifics for sea-sickness and other nostrums, and that in all cargo vessels separate accommodation shall be provided for cases of sickness or accident. It is also recommended that in emigrant ships carrying over 1,500 persons there should be a second medical officer, and it is pointed out that the employment of a qualified dispenser would also be an advantage. The members of the committee were Dr. C. Burland of Liverpool (chairman), representing the Board of Trade, Dr. E. W. S. Evans of London, also representing the Board of Trade, Dr. W. H. Broad of Liverpool, representing the North Atlantic steamship passenger lines, Mr. A. J. Phillips, representing the Pharmaceutical Society of Great Britain, and Dr. Nestor Tirard and Mr. Clinton Dent, who were nominated by the Royal College of Physicians and the Royal College of Surgeons respectively.

[1] Departmental Paper, No. 237.

A SHIP'S MONKEY AS A HOSPITAL PATIENT.

Comradeship between men and animals often exists in regiments and ships. The pet monkey, "Winnie," of the crew of H.M.S. *Velox*, was recently treated as an out-patient at the Royal Portsmouth Hospital for an abscess in the left frontal region. The monkey was wrapped in a towel, a mixture of chloroform and ether administered, and the abscess opened. The monkey was brought to the hospital daily for ten days, and treated in the ordinary way. At the monthly meeting of the committee of management, held on August 18th, a letter was read from the commander of the ship, expressing the appreciation of the ship's company for the kindness shown to their pet, their sincere gratitude to the house-surgeons and nurses for their skill and care, and enclosing a donation to the funds of the hospital. That monkeys are allied to men, not only in structure but also in feeling of gratitude, is shown by a postscript, which stated that "Winnie also wishes to endorse this letter."

THE PROVISION OF MEALS FOR SCHOOL CHILDREN.

A report was published in April, 1910, by the Board of Education upon the working of the Education (Provision of Meals) Act, 1906. The report was based upon information received from those local education authorities which had adopted the Act. A further report[1] has now been issued by the Board dealing with the working of the Act during the year 1910. When asking for the necessary information from the education authorities the Board requested to be informed also as to the extent to which the provision of meals had appreciably increased the ability of children to take full advantage of the education provided for them, and as to the extent to which the conduct and manners of children for whom meals had been provided had been improved by the method and discipline employed. On these two matters very little information appears to have been obtained, though the report states that in some cases the inspectors have spoken in high terms of the conduct of the meals and of the good educational effect which seems to have resulted from them; the children are made to come with clean hands, are marshalled into and out of the rooms in an orderly way, grace is sung, and the children are taught to eat with tidiness, and to behave quietly and well, so that the centre gives a general impression of good order and pleasant conditions. On the other hand, we are told that in other places there is not much attention to manners. The children are not restrained from hasty eating. The whole meal is too rapid, too little composeful and orderly. The report emphasizes the importance of co-ordinating the provision of meals with the work of the school medical officer. Only by this means it is said can wasteful and reckless expenditure be prevented, and full value in the form of increased vigour and more effective education be obtained. The medical officer, it is pointed out, can give valuable advice in the choice of food, and test the results of different dietaries. By visiting the kitchens and the dining centres from time to time he can see that satisfactory methods are adopted, and ensure, for instance, that especial attention is paid to the more delicate children, and to those who are only with difficulty induced to eat the food provided. Of the 327 local education authorities in existence on March 31st, 1910, no fewer than 218 considered that there was no need to put the Act in force within the areas of their administration. In 107 areas "School Canteen Committees" had been permanently established, compared with 99 in the previous year, and in 5 areas these committees had been established intermittently, compared with 14 in 1909.

[1] Report on the working of the Education (Provision of Meals) Act, 1906, for the year ending March 31st, 1910. Wyman and Sons. Price 1d. (Cd. 5724.)

COUNTY SANATORIUMS.

The measures taken by the various counties for dealing with the prevention of the spread of consumption present no uniformity of system. In some cases the matter has been taken up energetically, while in others it has been allowed to drag on indefinitely. The county of Durham must be placed in the former class, and the report of the last year's working will be found to contain much useful information as to cost and methods of management, which may be commended to the notice of the authorities of less active communities. A society has been in existence in the northern county for the last twelve years, having for its main objects the education of the working classes in the economic aspect of the recognized means of prevention and arrest of the disease; the stimulation of the sanitary authority to carry out the necessary inspections and improvements; and, finally, the maintenance of sanatoriums for the treatment of early cases. By the purchase and alteration of two houses in different parts of the shire the society has been able to supply accommodation for 45 men and 30 women and children at a cost only a little exceeding £117 a bed. The maintenance funds are provided by workmen's subscriptions at the rate of 3d. per quarter from bodies of workmen, who thereby acquire special privileges for themselves and their families if stricken by consumption. Local authorities can obtain the use of beds at the rate of £75 a year, or 30s. a week, for individual cases. Ordinary subscriptions are also received, and patients of somewhat higher social grade are accommodated on payment up to £2 2s. per week. The accounts for the past year go to prove that expenditure has been kept well within the limits of income, while a very large amount of good work has been done. In a populous industrial community it is by no means easy to inculcate the value of early treatment, but there can be no doubt that its importance is getting more and more recognized, and hence the proportion of patients who are rendered fit for work again is continually rising. The recent report of the Royal Commission on Tuberculosis will encourage the Durham society to carry out more fully than heretofore the proper inspection of the milk supply, and the prevention within its own borders of the prevalent habit of promiscuous spitting. The isolation of advanced cases, though greatly desired, is not as yet a practicable measure.

EPIDEMIC DIARRHOEA AMONGST CHILDREN.

The high death-rates which have been recorded in London and in the large towns of England and Wales during the past few weeks have been mainly due to an increased mortality from diarrhoea and enteritis among children under 2 years of age. In view of the hot, dry summer, an excessive prevalence of this disease is only what might be expected, and many sanitary authorities have no doubt taken suitable steps to minimize that prevalence. The Local Government Board has issued a circular letter to all sanitary authorities pointing out in what manner action may usefully be taken to improve those conditions which are associated with a high child mortality in the summer months. The authorities are recommended to arrange for the giving of advice, either by personal visits or by means of leaflets, on the feeding and management of children, and as to preventing the exposure of their food to contaminating influences. It is very aptly pointed out that exact and simple instructions are most likely to be followed if given during a period of special danger. It is suggested that sanitary inspectors should make rapid visits to the dwellings of the working classes with a view to securing efficient sanitation of the immediate surroundings, and to enforce the removal of household refuse, stable manure, etc. The importance of ascertaining as promptly as possible in which parts of a district diarrhoea prevails is urged by the Board in order that particular attention may be given to those parts. In districts in

which the Notification of Births Act, 1907, has been adopted, and where a staff of health visitors is employed, information as to the incidence of infantile diarrhoea will be readily obtained. Elsewhere the first intimation of cases is usually given by the weekly death returns. In this connexion we may point out that in a memorandum of the Local Government Board dated August 18th, 1879, addressed to the registrars of deaths, those officials are required to give to the medical officer of health immediate notice of any death from an infectious disease. Those medical officers of health who do not obtain this information might with advantage ask for it at the present time. In the new circular of the Local Government Board the medical officer of health is requested to set out in his annual report dealing with the current year the course of action adopted in the district to prevent diarrhoea and child mortality generally, in the special circumstances of the present year.

ECLAMPSIA AND ST. AGATHA.

IN the JOURNAL of June 17th, in a paragraph headed "Amputation of the Breasts in Puerperal Eclampsia," we related Dr. Sellheim's bold and radical measures, based on a theory, for the saving of the life of a puerperal eclamptic subject. Decapsulation of the kidney is still held to be rather an extreme measure, not likely to be practised, for instance, when the patient's doctor is not an obstetric professor or a hospital surgeon. It is, therefore, not surprising that Sellheim's operation—amputation of the breasts—has been criticized severely since the publication of the report noted in our columns. Dr. Bokelmann[1] speaks of the "martyrdom of St. Agatha in the twentieth century." St. Agatha of Catania, the martyrologists inform us, was a victim of the Decian persecution. Quintianus, the agent of the persecuting Roman Emperor, submitted her to great indignities and tortures before she was committed to the flames. Her breasts were mutilated with shears, and this stage of her sufferings is well known to the student of hagiology and mediaeval art. Dr. Bokelmann never expected that there would be a latter-day St. Agatha, mutilated, not for her theological opinions, but in accord with a scientific theory not firmly substantiated. At least, in his opinion, this heroic operation would, he at first hoped, find no imitator, but to his horror he learnt that recently Herrenschneider of Colmar, after a Caesarean operation on an eclamptic girl 18 years of age, amputated her breasts. But Dr. Hugo Sellheim stoutly defends his operation and denounces the prejudices of his opponents.[2] He considers his theory proven, and regrets that St. Agatha was dragged into the discussion. Dr. Bokelmann, we must add, went so far as to ornament his critical article with a photogravure of a picture of the saint in the possession of Professor Amann. Sellheim contends that there is no homology between oöphorectomy for osteomalacia in our time and the castrations practised in ancient days by a Lydian monarch on his wives and concubines to preserve their charms. So also is it, he insists, with St. Agatha's martyrdom and his operation. Nobody will feel surprised that Dr. Sellheim has been severely taken to task. Perhaps he has been too bold, like Danton, who, as Lord Acton reminded us in his *Lectures on the French Revolution*, seems to have remembered a passage in Spenser, which he read along with other standard English authors, but in the original there was a qualification about boldness which the great revolutionist ignored. The advocates of this extreme measure in puerperal eclampsia must not be too bold. Yet Sellheim and Herrenschneider may have turned the attention of obstetricians in the right direction. The source of evil may really lie in the mammary functions, yet, if so, some measure less serious than the amputation of the glands might surely be devised. *Adhuc sub judice lis est.*

[1] "Das Martyrium des heiligen Agathe im 20 Jahrhundert." *Monats. f. Geb u. Gyn.*, June, 1911, p. 677.
[2] Das Martyrium der voraussetzungslosen Wissenschaft. Ibid., July, 1911, p. 1.

WE regret to have to record the death on August 18th, in the 83rd year of his age, of Dr. George Fielding Blandford, formerly Lecturer on Psychological Medicine at St. George's Hospital.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Public Health (Scotland) Act, 1897, Amendment Bill was passed through its stages in the House of Lords on August 17th, on the motion of Lord Camperdown, who said that it would enable any body of trustees or commissioners authorized by any local Act to supply water, to exercise for the purpose of water supply the powers conferred by the Act of 1897 upon a local authority to carry sewers within their district. The bill had met with no objection in the other House.

Post Office Medical Officers.—Sir David Brynmor Jones asked the President of the Board of Education whether it was the usual practice of the Board of Education to nominate for the purpose of the Elementary School Teachers (Superannuation) Act, 1898, and rules, the medical officers employed by the Post Office; and, if so, on what ground was this practice adopted. Mr. Runciman replied that the medical officers employed by the Post Office were selected with a view to work of a character similar to that which was required of doctors nominated for the purpose of the Elementary School Teachers (Superannuation) Act, 1898. They were also conveniently distributed over the country. For these reasons it had been the usual practice of the Board, with the concurrence of the Post Office, to nominate them for the duties in question.

Births and Deaths in Scotland.—In answer to Mr. Dundas White, the Lord Advocate stated that during the six months ended June 30th, 1911, there were registered in Scotland 63,645 births and 37,870 deaths. The excess of births over deaths during the period in question was, therefore, 25,775.

Closing of Schools.—Mr. Rupert Gwynne asked the President of the Board of Education if his attention had been called to the spread of infectious disease, resulting in some cases in numerous deaths, consequent upon the delay in closing schools after an outbreak of disease; and whether he would consider the advisability of reverting to the former system, under which local managers were empowered to close the school upon the advice of a qualified medical practitioner. Mr. Runciman said that no such case had been brought to his notice. He should be glad to make inquiries about any case. The answer to the last part of the question was in the negative.

Phthisis (West of Scotland).—Mr. Macpherson asked whether Drs. Dittmar, Dewar, and McVail, special inspectors of the Local Government Board, had now completed their investigations into the extent to which phthisis existed among the industrial communities in the West of Scotland; and, if so, when their report would be presented to Parliament. Mr. Ure said that he understood that reports had been received in regard to certain localities, and were now under consideration, but it would be premature to make any announcement as to publication.

Coronation Ambulance Arrangements.—In reply to Colonel Yate, Mr. Churchill said that 2,142 members of the St. John Ambulance Brigade did duty on June 22nd. The Red Cross Society offered its services, but the offer was subsequently withdrawn, as it was found impossible to ensure the attendance of a sufficient number of detach-

nents with the requisite uniform. In consequence, no nembers of the voluntary aid detachments of the Red Cross Society did duty.

Death from Anthrax.—Mr. Jowett asked the Home Secretary if he had seen the report of an inquiry held at Halifax, on August 9th last, into the circumstances attending the death from anthrax of Thomas Sutcliffe, a wool dryer, who had been employed by Messrs. John Crossley and Sons, Limited, carpet manufacturers, of Halifax; if he were aware that Sutcliffe, before he fell ill, had been blending and raising a stack of dusty Persian wool, and that the report referred to mentioned two other deaths which there was every reason to believe were caused by anthrax contracted at the same mill, although the disease was not recognized in either of the two latter cases; whether the steps to protect workers in woolcombing factories against dust which he, in reply to a question put to him by the member for West Bradford on November 24th last year, acknowledged were necessary had been taken; what they were; and if Messrs. Crossley had adopted them. Mr. Churchill replied that he had received a report on this case, and had also seen a newspaper account of the proceedings at the inquest. It was the case, as stated in the question, that Sutcliffe, whose ordinary occupation was that of attending a drying machine and packing washed and oiled wool, was employed for a short time in the evening, two days before he was taken ill, in blending unwashed Persian wool. The question of the precautions necessary in regard to blending had been the subject of careful inquiry by the Factory Department, and the inspectors were instructed last March to press on occupiers the adoption of the following measures: (1) Discontinuance of blending in underground rooms; (2) removal of blood-stained material before blending, and, in cases where a stack was raised by dropping wool through a trap door into a room or bin below, (3) preliminary use of dust-extracting machines, or, failing this, (4) either provision of enclosed bins which should not be entered by the workers until the dust had settled, and steam jets to control the dust in case of special risk, or provision of exhaust fans in the wall behind the path of the falling material. These measures had for the most part been adopted by the occupiers, including the firm in question, who had provided bins in accordance with the fourth recommendation, though he was advised that the separation of the bins might be made more effective. The whole question continued to engage the attention of the medical inspector. Of the two other cases referred to in the question, he was advised that one which was certified as pneumonia was probably anthrax, though the man was not employed apparently in blending, but that it was very doubtful whether the other was a case of anthrax.

Meat Inspection.—In reply to Mr. Watt, the Lord Advocate said that there was not any burghal local authority in Scotland which had not yet appointed one or more veterinary surgeons for the purpose of the Public Health (Scotland) Act, 1897, and the Dairy, Cowsheds, and Milkshops Order. It was not proposed meantime to appoint a veterinary surgeon to the staff of the Local Government Board for Scotland.

Preserved Milk.—In reply to Mr. Mount, the President of the Local Government Board said that he understood that 200 cases of preserved milk arrived in the Port of London in two days recently. Examinations made during the six months ending June 30th showed that the samples tested of condensed milk made from whole milk contained an average of 9.76 per cent. of fat, and had been prepared from milk containing at least 3 per cent. of butter fat. The samples of whole-milk powders contained on the average 30.1 per cent. of fat, and had been made from milk containing over 3 per cent. of butter fat. There was no evidence to show that the sources of these imported supplies were less satisfactory from a sanitary point of view than those of home-produced milk.

Vaccination of Soldiers.—Mr. John Ward asked the Under-Secretary of State for War how often His Majesty's soldiers in the British Isles were vaccinated or revaccinated; whether such repeated vaccination or revaccination rendered them immune from small-pox; if not, why was it performed? but if it did render them immune from small-pox, would he say why the residence in the married men's quarters of the barracks of unvaccinated children could in any way endanger such thoroughly protected men? Colonel Seely replied that, with the exception of those bearing distinct marks of small-pox, all recruits were vaccinated, unless in the case of a recruit joining from the Special Reserve the operation was certified to have been successfully performed during his service in that force. Once a year, in March, medical officers were required to satisfy themselves that every man, woman, and child under their charge was sufficiently protected by vaccination. There had been only one admission to hospital for small-pox amongst the army at home for the last five years, and that was in the case of a woman. It was well known that the period of immunity after vaccination or revaccination varied, and those individuals whose period of immunity commenced to decline earlier than usual were liable to fall victims to the disease, as was the case with the woman mentioned. Accordingly, owing to the chance of there being individuals present in barracks whose period of immunity was for various reasons declining or becoming evanescent, it was considered necessary that all persons living in or associated with barracks should be adequately protected against small-pox.

Vaccination.—Mr. C. Duncan asked the President of the Local Government Board whether the calves used for providing lymph for vaccination purposes were afterwards sold as veal; if so, whether he could see his way to putting an end to such a practice; and, if not, what became of these animals after they were no longer used for lymph? Mr. Burns said that after slaughter each calf was carefully examined by a veterinary surgeon, and the veal from those animals which were found to be free from disease was sold. There was no reason to doubt that such veal was perfectly wholesome. He could not say what proportion of the calves were not used for human food. Mr. C. Duncan asked whether, since the Royal Commission on Tuberculosis had reported that bovine tuberculosis was communicable to human beings as well as animals, he would say whether any, and, if any, what, precautions were taken to prevent the danger that cancer and consumption might be spread by vaccination with calf-lymph, seeing that the calves used were inoculated from other calves, and any one in the series might therefore transmit the germs of tuberculosis. Mr. Burns replied that each calf, after vaccination and abstraction of the lymph from the vesicles, was sent to be slaughtered, and was then carefully examined by a veterinary surgeon. The lymph was not issued for use unless the veterinary surgeon certified that the calf was free from disease. In addition to this primary precaution, there was the further fact that the lymph was glycerinated; and it had been proved by the experimental addition of tubercle bacilli to vaccine lymph that the glycerine destroyed such tubercle bacilli. Before issue all lymph was bacteriologically examined and tested. There was no evidence whatever pointing to the possibility that cancer—a disease chiefly of late adult life—could be spread by vaccination.

Chinese Pork.—In answer to Mr. Fell, Mr. Burns stated that Dr. Farrar had recently returned from China, where he had investigated the conditions under which Chinese pork was produced, and that his report would be printed in due course.

Adjournment of Parliament.—Last week was to have seen the adjournment of both Houses of Parliament, but when the day fixed (Friday, 18th) arrived, the railway strike made the position so serious that both Chambers resolved to meet again on Tuesday last. On Friday the Royal Assent was given by Royal Commission in the House of Lords to 141 Acts passed during this session, one of which was the Public Health (Ireland) Act. On Tuesday both Houses reassembled under conditions much more favourable as regards the industrial crises, and adjourned till October; the Commons will meet on the 24th and the Lords on the 25th of that month. The Royal Assent was given on Tuesday to three other Acts of Parliament, one of which was the Public Health (Scotland) Amendment Act.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

SOME MEDICINES FOR EPILEPSY.

A REPORT on some of the most widely-advertised proprietary medicines for epilepsy was published in the BRITISH MEDICAL JOURNAL some years ago; it was in fact the first of the series, and the results of the analyses were republished in *Secret Remedies*, pp. 124–129. The examinations showed the principal ingredients of nearly all to be potassium bromide and ammonium bromide. We now supplement this early report with an account of three other secret remedies which are now or have recently been advertised.

J. GILBERT DALE'S TREATMENT, "IMPERATINE."

This preparation is supplied by J. Gilbert Dale, Westminster. The price was formerly 4s. 6d. per bottle, but it appears, as shown below, that the method of charging for the medicine by the bottle has been abandoned in favour of charging a monthly fee for the "treatment," supplying the medicine "free." Apparently the principal difference is that in this way a higher price is obtained.

This preparation is one of those that are not supplied through retailers, but direct from the proprietor through the post. The first three communications received in the case here dealt with are dated 1908, and like so many of such "letters," are circulars in imitation of typewriting, with the name and address, the date, and "Dear Sir or Madam" typed in. In the first letter it is stated that:

> My remedy contains no Bromide of Potassium, and no Poison, and is perfectly safe for both delicate adults and young children.
> It has cured completely and permanently, frightful cases of long standing, which had been pronounced hopeless by eminent physicians and hospitals, and after everything which had been tried had utterly failed.

And in the third that:

> If it is simply a case of mony (*sic*) which deters you, I am prepared to send you the remedy at the following reduced price,
>
> TWO 4s. 6d. BOTTLES FOR THE PRICE OF ONE.
>
> This will give you a month in which to demonstrate the merits of the cure. Of course it must be understood that the subsequent supplies must be paid for at the ordinary price. . . .
> I will keep this offer open for one week from this date. Since you first wrote to me I have received several striking testimonials from people who applied to me at the same time as yourself, and who commenced to take my remedy at once.

This last paragraph, in a circular, points to the remarkable coincidence that whenever an inquiry about the medicine is not followed up by purchase, several other people apply at the same time, commence to take the remedy at once, and send striking testimonials within a few weeks. An alternative explanation, of course, is that the statement is simply not true.

The notepaper used for these communications was headed "Specialist in Epilepsy and Nervous Diseases. Dale's Remedy for Epilepsy. Trade-mark 'Imperatine' (Reg.)," and also bore the words, "Advice by Post Free. Personal consultations by appointment, One Guinea; including one month's treatment Free."

Various pamphlets were sent at one time or another. In one of these, entitled "*Epilepsy and its Cure.* A few facts. J. Gilbert Dale, Specialist in Epilepsy and Fits," it is stated:

> I have no degree, having never sat for any medical examination. My name does not, therefore, appear on the Medical Register, and I cannot legally call myself a Doctor; but my long and varied experience of this dread disease qualifies me to treat Epilepsy and nervous diseases, of which I have made a special study. . . . I always advise my patients to send for their family doctor when they are suffering from any other ailments than those I treat. . . . During the nine or ten years that I have been treating cases in all parts of the United Kingdom and abroad, I have had to deal with every form of this terrible disease. There is no form of the complaint which I have not had the opportunity of studying very closely, and my experience of these cases (particulars of which have been supplied to me in detail) has been most valuable, and gives me qualifications for treating Epilepsy that I could not have obtained in any other way.

The method appears to be: Do not sit for a medical examination (requiring long and expensive training), but set up as a Specialist in Something and advertise. You will then get cases from all parts of the country and particulars will be supplied. From the experience obtained in treating them you will become qualified to treat others. It certainly seems simple.

Another of the pamphlets was entitled *Epilepsy and its Treatment.* The similarity between this and the pamphlet sent out by another firm and referred to below, is remarkably close, as a few extracts will show:

> Of the very many diseases which afflict humanity, few, if any, are more dreadful than Epilepsy, or Falling Fits. This disease has existed for centuries, for we read in St. Matthew's Gospel, chapter 17 (revised version), verse 15, "Lord, have mercy on my son: for he is epileptic, and suffereth grievously: for oft times he falleth into the fire, and oft times into the water." Also in St. Matthew's Gospel, chapter 4, verse 24, we read, "And they brought unto Him all that were sick, holden with divers diseases and torments, possessed with devils, and epileptic, and palsied, and He healed them."
> Epilepsy has claimed for its subjects persons of the highest rank, as well as of the lowest. Some of the greatest of the earth have been afflicted by it. Caesar, Henry IV of England, Napoleon, Peter the Great, Mohammed, Byron, Sheridan, the great Duke of Wellington, and others whose names are written on the pages of the world's history, are said to have been afflicted by this terrible disease. . . .
> I honestly believe it to be the finest treatment in the world for epilepsy. It is not a Cure-all. It cures epilepsy and some kindred diseases, but this is all I claim for it. . . .
> "Imperatine" is a Nerve Food. It is as much a food and as necessary to epileptics as ordinary food. Some medicines ARE foods, and are found in the foods we eat. . . . As we do not get these nerve foods in correct proportions in the food we eat, they have to be supplied in the form of medicine. . . .

Other medicines recommended in this pamphlet are "Dale's Imperatone Pills" and "Dale's Powerones."

A considerable interval elapsed between the receipt of these pamphlets, etc., and the next step. When finally an order for a bottle of "Imperatine" was sent, together with 4s. 6d., a letter was received in reply, signed "W. Bunn, Secretary," stating that

> We do not, however, charge for medicine, but Mr. Gilbert Dale charges a fee for treating the case, as each case is treated individually, and medicine is prescribed separately for each patient.
> We shall be glad if you will fill in and return the enclosed form and your case will then be carefully gone into, and a fee for treatment will be quoted.

In reply to this a leaf was sent from one of the pamphlets quoting "Imperatine" at 4s. 6d. per bottle, three bottles 13s., etc., with a letter pointing out the inconsistency, and demanding a bottle of the medicine or the return of the money. The following was then received:

> Dear Sir,
> Mr. Gilbert Dale has requested me to acknowledge receipt of your letter. As you can easily understand, epilepsy is a disease that is best treated by specially varied medicines for each case, therefore it has been found desirable, rather than to sell the bottle for each person, to take each case under the Treatment at so much per month, all medicines being supplied free. This is done so that the medicines may be prepared at our own laboratory, and patients may not be tempted to make the medicine last a longer period.
> Under the circumstances if you would send the enclosed form filled in so that the medicine may be prepared we are willing to send a special bottle at the 4s. 6d. I should strongly advise you to take the Treatment at say 10s. 6d. for a month, this would include all medicines required for Epilepsy.
> Yours faithfully,
> W. BUNN, Secretary.

According to an earlier letter, quoted above, two 4s. 6d. bottles would last a month, therefore a monthly fee of 10s. 6d. represents an increased charge. But the use of the expression, "say 10s. 6d.," and the general tone of the letter seem to suggest that if it had not been for the dispute referred to, a higher fee might have been charged. Another reason for the fiction that all medicine is supplied free may be a desire to avoid paying stamp duty, which would amount to 6d. on each bottle.

The "consultation form" was then filled up and sent, the questions asked, with the replies given (in italics), were as follows:

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* Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 982, 1350, 1928; 1911, vol. i, pp. 26, 91, 823, 1324; vol. ii, pp. 32, 77.

Consultation Form.

The information supplied on this form will be treated as of a *strictly private* character. It is generally better for a relative or friend of the sufferer to fill up this form.

Date.....

Name of patient (in full) .....

Address (in full) .....

1 Age?—*28.*
2 Married or single?—*Single.*
3 Occupation?—*Clerk.*
4 Pale, ruddy, blotchy or sallow complexion?—*Pale.*
5 Thin or stout?—*Medium.*
6 Weak or strong?—*Fairly strong.*
7 Height?—*5 ft. 8.*
8 Weight?—*10 st. 7.*
9 Is patient of weak intellect?—*No.*
10 How long suffered with fits?—*Occasionally for about 12 years: fits have only been frequent for a year.*
11 Do you know the cause? If so, what was it?—*No.*
12 How often do attacks occur?—*From once a week to once in 4 or 5 weeks.*
13 During night or day?—*Usually evening.*
14 Do the fits generally occur at a certain time? If so, about what hour usually?—*Usually between 6 and 8 in the evening.*
15 How long unconscious in attacks?—*3 to 5 minutes.*
16 Is there any warning? If so, what?—*None, except often a severe headache.*
17 Do the bowels act regularly without opening medicine?—*Yes.*
18 Is appetite normal?— *Yes.*
19 Is digestion good?—*Yes.*
20 Does the patient pass a normal quantity of urine?—*Yes.*
21 Is it natural in colour and free from sediment?—*Yes.*
22 Is monthly health normal (females)?
23 Does the patient sleep well?—*Fairly.*
24 Is the patient languid during daytime?—*No.*
25 Is the patient nervous? If so, in what way?—*Not generally, but rather apprehensive in regard to attacks.*
26 Has the patient any other disease?—*No.*
27 Does the patient suffer pain at times? If so, when and in what part?—*No.*
28 Is the patient usually despondent or of a cheerful disposition?—*Fairly cheerful.*
29 Does the patient worry?—*Not particularly.*
30 Has the patient had any other serious illness? If so, give particulars.—*No.*
31 Does the patient take intoxicants? If so, to what extent?—*One glass of beer with mid-day meal.*
32 Does the patient smoke? If so, how much per week?—*Yes, about 1½ oz.*
33 Give date of last attack?—*April 26th.*
34 What doctors and remedies have been tried, and for how long?—*None.*
35 What results from them? Please answer fully.

Give any further particulars which you think necessary. If you have a recent photograph, please send it. I will return it with the medicine. If you have not a photograph, it does not matter. Answer these questions as well as you can, and describe as far as possible the character of the patient's fits, according to the statements of those who witnessed the attacks. It will help me if you will also say what is the patient's mode of life; such as, what time meals are taken, and what they consist of; what time the patient goes to bed, and the time of getting up; and so forth:

Rises 7.30. Breakfast, bacon or eggs, or fish, etc., bread and butter, tea. 1.0: Dinner, meat, vegetables, cheese, ½ pint beer. 6.30: Plain tea. 9.30 to 10.30: Bread and cheese and (in winter only) cocoa. Bed about 11 to 12.

The medicine was then received, with a little book of "*General Instructions to patients, and diet tables*," and two copies of "*Report of Progress Form*," with a request that one of these should be filled up and sent in after 12 days. The directions on the label were:

Two small teaspoonfuls (exactly two drachms) to a wineglassful of cold water on rising each morning and on retiring each evening.

The bottle contained eight fluid ounces. Analysis showed the presence of ammonium bromide, potassium iodide, a little sugar and alcohol, and a small quantity of iron. After determining the amounts of the various ingredients, about 1 per cent. of matter was unaccounted for; the liquid was of a very dark brown colour, and no active ingredient was found possessing such colour; the appearance was best matched by means of burnt sugar, and this would account for the additional solid matter, but it is not possible to say positively that some "extractive" other than caramel was not present, and a minute trace of basic substance, possibly alkaloidal, was found. The alcohol (3.73 per cent.) may have been due to some tincture having been added, or it may have been employed to dissolve a little oil of sassafras, the mixture having a sassafras-like aroma. Sulphate was present, and the iron may have been added as ferrous sulphate, but there was no direct evidence as to the form in which it was used. The formula arrived at was:

		In one dose (2 drachms).
Potassium iodide	1.55 parts	1.7 grains.
Ammonium bromide	15.78 ,,	17.4 grains.
Iron, calculated as ferrous sulphate	1.0 part	1.1 grain.
Alcohol	4.15 parts by measure.	5 minims.
Sugars	6 parts.	
Burnt sugar	q.s.	
Oil of sassafras	trace.	
Water to	100 parts by measure.	

The estimated cost of the ingredients for eight fluid ounces of this mixture is 4d.

Fitzkure.

"Fitzkure" is supplied by "The London Medicine Co.," Ealing; the price of a bottle containing eight fluid ounces was 2s. 9d.

An undated circular sent out by this firm commences:

Believing you to be specially interested in the treatment and cure of Epilepsy, Fits, etc., we have taken the liberty of sending you particulars of "Fitzkure" which cures Fits, Falling Sickness, Hysteria, and kindred Nervous Diseases. May we request that you give the enclosed booklet your careful consideration.

The reason for supposing the recipient of this circular to be specially interested in the treatment of epilepsy is not at first apparent; but the fact that the London Medicine Co's booklet and the composition of their medicine are so similar to those of J. Gilbert Dale described above, and that this circular was sent to a person who had previously written to Mr. Dale for particulars of his "Imperatine," suggest that the one business may be the offspring (legitimate or otherwise) of the other. There is also a curious resemblance between some of the "testimonials" published; for example, in one of Dale's pamphlets there is one marked "Mrs. W.," from which the following are extracts:

I am now in perfect health, and am only too pleased to speak for "Imperatine." . . . When I went to sleep I never expected to wake again. But the *fits stopped with the first dose* of your medicine, and I was soon able to get up, and am now able to go anywhere by myself with comfort, . . . Three weeks before I commenced your medicine, when I took to my bed, I was in fits day and night, first screaming, and then laughing, and got so strange that my friends dared not leave me a minute.

And the London Medicine Co.'s circular gives one marked "Mrs. F. W.," from which the following are extracts:

I am in perfect health, thanks to your wonderful cure. . . . When I went to sleep I never expected to wake again. . . . I can go anywhere now with comfort. About 3 weeks before I started with Fitzkure I had to take to my bed, and was in fits day and night, first screaming and then laughing, and I got so strange that my friends dared not leave me a minute. The last I had was on the Friday morning that I got your medicine. I took a dose straight away, and it seems too wonderful to be true that I have not had one fit.

Thus there are two women, both having surnames beginning with W., one taking "Imperatine" and the other "Fitzkure," both taking to bed "in fits day and night, first screaming and then laughing," both taking the respective medicines just three weeks after taking to bed, both cured by the first dose, and both using the same phrases in writing about it. Is it merely an extraordinary coincidence? or is one woman writing a testimonial about the same case, with a few verbal alterations, on behalf of two different medicines? or has the one advertiser "lifted" the testimonial from the other, altering the name of the medicine? or, finally, is the whole thing a fabrication and imposture?

The similarity in the pamphlets, already alluded to, will be seen on comparing the following extracts from *Epilepsy and its Cure* (The London Medicine Co.) with those given above from Dale's pamphlet:

Epilepsy is generally acknowledged to be one of the most dreadful diseases which humanity suffers from. For centuries it has existed and has baffled the skill of the greatest physicians. The medical profession are scarcely any nearer being able to cure it than in the time of our Lord, when, as we read in the Gospel of S. Matthew, *chap. 4*, verse *24 (revised version)*, they brought unto Jesus all that were sick, holden with divers diseases and torments, possessed with devils, and epileptic and palsied and He healed them. No race is free from this appalling disease, and it is no respector of persons, for many of the great

of the earth have suffered with fits, among whom may be mentioned Caesar, Napoleon, Peter the Great, Mohammed, Byron, Henry IV of England, the great Duke of Wellington, all of whom, among others, are said to have been so afflicted. . . .

Fitzkure is not a Cure-all for every disease, but it does and will cure epilepsy, fits, falling sickness, if steadily persevered with from 18 months to 2 years, . . . It is not so much a medicine as a Nerve Food, and is as much a food and as necessary to epileptics as ordinary food. Some medicines *are* foods and are found in the foods we eat. . . . when we do not get the medicines that we need from the foods we eat, these have to be supplied in the form of medicine. . . .

Fitzkure . . . is guaranteed absolutely free from Bromide of Potassium and Poison.

There appears to be some humour in the next paragraph—

The history of the remarkable way in which Fitzkure was invented and developed is indeed a romance which would take too long to describe in these pages. The inventor is not a Doctor. . . . Our experience in treating these cases has been most valuable, extending over many years.

Other medicines recommended are "Fitzkure Laxative Pills" and "Fitzkure Tonic."

No "Consultation Form" was sent to be filled up, but in the original circular certain particulars are asked for:

When sending for "FITZKURE" please say what the patient has been taking, and with what result.

Be sure to give that full name and address, also state the age of the patient.

A 2s. 9d. bottle of the medicine was sent for, "for a young woman of 24 years." It was sent with a circular of directions and diet table, extracts from which are as follows:

The dose which is two small teaspoonfuls or two drachms, must be . . . taken in a wine glass of water on waking in the morning, and retiring at night. Persons over 65, and weak delicate persons will need to take a smaller dose, from one to one-and-a-half teaspoonsful for some weeks till quite used to the medicine. There is a wide difference in the susceptibility of patients to medicines, the ordinary dose being too small for some patients, and too large for others. If therefore the above dose makes you feel poorly or giddy, you must reduce it till these symptoms have passed away. But on the other hand, if you are feeling well in yourself, and the fits have not ceased, you must increase the dose. . . .

Analysis showed the liquid to contain ammonium bromide, potassium iodide, potassium citrate, a little alcohol and reducing sugar, and a very small quantity of iron; it was flavoured with aniseed, and coloured deep brown, approaching black. The colour appeared to be given by burnt sugar, as in the previous case. The various ingredients were determined quantitatively, and the formula indicated is:

		In one dose (2 drachms).
Potassium iodide	... 1.11 parts	... 1.22 grains.
Ammonium bromide	... 26.63 ,,	... 29.3 ,,
Potassium citrate	... 1.0 part	... 1.1 ,,
Iron, calculated as ferrous sulphate	... 0.5 ,,	... 0.55 grain.
Alcohol ...	... 1.7 parts by measure.	2 minims.
Oil of aniseed...	... trace.	
Burnt sugar ...	... q.s.	
Water to ...	... 100 parts by measure.	

The estimated cost of the ingredients for eight fluid ounces is 4½d.

DR. NIBLETT'S VITAL RENEWER.

This is supplied by C. P. Niblett, London; a bottle, price 4s. 6d., was found to contain four fluid ounces

In a press advertisement it is stated that

Dr. Niblett's Vital Renewer is the result of the most exhaustive research by a London Physician who for upwards of 35 years made epilepsy his especial study. *Confidence* can be placed in this remedy, which for years has been used with the *greatest success* in all parts of the world. The One Remedy that cures.

A pamphlet is also offered free, entitled *A Practical Treatise on Epilepsy, its treatment and cure*, by S. B. Niblett, M.D., L.R.C.P.Edi.[1]

On the title page of the pamphlet, however, no "M.D." appears, but it is represented to be by "S. Berry Niblett, Licentiate Royal College of Physicians, Ed., Licentiate Faculty of Physicians and Surgeons, Glas., Licentiate Society of Apothecaries, Lond." The "practical" nature of the treatise is, to say the least, rather diluted by such paragraphs as:

This disease is called by the German physicians, Fallsucht; by the French, l'Epilepsie; by the Italian professors, mal caduco, or falling sickness.

Epilepsy was termed by the ancient Greeks "the sacred disease," on account of the magnitude of the evil, or because persons labouring under it have been thought possessed by demons. It was said that Hercules was subject to it, therefore it was denominated the Herculean disease; but Galen says it was on account of its form or magnitude.

The Romans termed this affection "morbus comitialis," because it frequently occurred in crowded assemblies in which the passions of the people were often much excited, and it was customary to dissolve the comitia if during the sitting any person should be affected by it.

Many sufferers from epilepsy are possessed of high intellectual power; the classical cases of Julius Caesar, Mahomet, and the first Napoleon, each of whom suffered from the disease, may be cited as examples. . . . Epilepsy is a disease which specially attracted the attention of the ancient physicians; it was termed by the Greeks "the sacred disease." Plato ascribes the use of the term "sacred" to the circumstances of the head or brain being the part of the body affected in epilepsy. Hippocrates pointed out, . . .

And so on. The section on "Treatment and Cure of Epilepsy" commences:

Few higher duties can devolve on the medical man than to make obscure diseases his special study. It should always be the aim of the physician to cure the disease as rapidly and effectually as possible. . . . The general tendency of epilepsy, if left to Nature, is certainly to proceed from bad to worse, . . . Efficient treatment is the very foundation of our art, the alpha as well as the omega.

Suddenly we come to the "treatment":

My Vital Renewer is a real vital antidote, really stopping the development of the attacks and absolutely curing the disease. . . . Under the use of my Vital Renewer the fits will immediately become less severe and less frequent. . . . Patients taking my Vital Renewer will receive explicit directions as to the nature of the food desirable to be taken at each meal. . . . I am prepared to prove, beyond all fear of contradiction, that my Vital Renewer has cured the most inveterate cases of epilepsy. . . . The success which has attended the administration of my Vital Renewer I believe to be due not only to the peculiar form in which it is prepared, but also to the unremitting care taken in the skilful manipulation which is required.

In a circular letter sent with the "*Practical Treatise*" it is stated that:

The treatment of Epilepsy or Fits is carried on under some difficulty as nearly all the great Physicians prescribe the same remedy, Bromide—Bromide—nothing much except Bromide, and so the unhappy sufferer consults many doctors without being cured.

After prolonged study and extensive experimental research, varying over a considerable number of years, Dr. S. Berry Niblett, of London, discovered a certain remedy for all forms of Epilepsy and Fits. . . . This medicine is certainly the most valuable contribution that modern science has made to the treatment of Epilepsy.

The directions on the label are as follows:

Shake the bottle previous to use.

Adults: 1 teaspoonful in a wineglassful of water.
Children: 6 to 10 years, 20 drops in 1½ teaspoonfuls of water.
,, 10 to 12 years, 30 drops in two teaspoonsful of water.
,, 12 to 18 years, ½ teaspoonful in 3 teaspoonsful of water.

About the age of 18 the full dose should be taken.

The medicine must be taken three times a day, two hours after meals until a period of six months has elapsed since the last fit has occurred. At the end of that time it may be taken twice a day only, at 11 in the morning, and again at bedtime, for another six months.

If no further attack occurs during that time the medicine may then be taken at bedtime only.

N.B.—If the attacks occur at night, one dose of the medicine should be taken at bedtime and twice during the day.

Analysis showed the liquid to contain potassium iodide, potassium bromide, ammonium bromide, a little alcohol, and a very little reducing sugar. It contained sufficient traces of oil of aniseed and chloroform to be recognizable by their odour, and was coloured a dark brown. After the ingredients named had been determined quantitatively, 0.4 per cent. remained to be accounted for by the colouring matter, which appeared to be burnt sugar. A minute trace of a basic substance was present, which might have been alkaloidal, but the quantity was negligible. The alcohol may have been added as spirit of aniseed or spirit of chloroform. The formula indicated by the results is:

		In one dose (1 drachm).
Potassium iodide	... 3.75 parts	... 2.07 grains.
Potassium bromide	... 30.88 ,,	... 15.6 ,,
Ammonium bromide	... 7.66 ,,	... 4.2 ,,
Chloroform ...	... trace	
Oil of aniseed...	... ,,	
Alcohol ...	... 2.6 parts by measure.	
Burnt sugar ...	... q.s.	
Water to ...	... 100 parts by measure.	

Estimated cost of ingredients for four fluid ounces, 3d.

[1] The name does not occur in the *Medical Register* for 1911.

LITERARY NOTES.

A patient being asked whether Dr. Jephson, whose statue now adorns the Spa Gardens at Leamington, did not make walking a very prominent feature in his system, gave the following answer:

He does, Sir; so much so, that some have a notion
The secret is his of perpetual motion;
For all the disciples who Jephson obey
Walk out in all seasons, all hours of the day.
They walk when the north wind blows piercing and bleak,
They walk when their mouths are so stiff they can't speak;
They walk in the mists and cold fogs of November,
They walk in the drizzle and damp of December;
They walk when it thaws, they walk when it freezes,
They walk for all causes, to cure all diseases;
They walk when they have not a limb that is sound,
They walk when they cannot put foot to the ground;
They walk tho' each limb in their bodies may ache,
They walk tho' their poor backs are ready to break;
They walk when they're fasting, they walk when they're eating,
They walk when so weary they'd rather be beaten;
They walk after fainting, hysterics, and fits,
They walk in their senses and out of their wits;
They walk if they're Commoners, they walk if they're Peers,
They walk whether middle-aged, young or in years;
Epileptic, dyspeptic, neuralgic, what not,
No matter what ails them, they set off and trot.
The plethoric walk in the hope to get pale,
The pallid ones walk in the hope to grow hale;
The stout and unwieldy they're walking for that,
The bony and skinny they walk to get fat.
If some walk too slowly they're joined by the Master,
Then surprising to see they walk fast and faster.
At other times body or mind make resistance,
But with him they can walk any pace, any distance.
'Tis rumoured Jephsonian-trained infants are able
To walk the first month, but that must be a fable;
However, we may soon see, perhaps without wonder,
Small babies all walking at six months and under,
Lilliputian pedestrians standing quite strong,
Tiny peripatetics, not yet two feet long.
For who knows what wonders may meet our inspection
When walking, like steam, shall be brought to perfection,
Which it must be in Leamington, where without strife
Walking forms the chief end, the main business of life.

These verses were found among Mr. John Fowke's medical papers, which were sent to Professor Saundby by his executors. There is no clue as to the author.

Dr. J. Burton Cleland (Government Bureau of Microbiology, Sydney) writes: In reference to the interesting account published in the Journal giving details of the illness and death of Charles II, the following extracts from Burnett's *History of His Own Time* seem worthy of note. In his gossipy way, he gives a fairly good layman's account of what happened, and seems himself to lean towards the theory of poisoning. What an interesting sidelight in history is his record of "some parts of his inwards and some pieces of fat" being thrown away in the water and caught on a scullery grating! It reminds one of Imperial Caesar, dead and turned to clay.

"All this winter the King looked better than he had done for many years. He had a humour in his leg, which looked like the beginning of the gout; so that for some weeks he could not walk. . . . On the first of *February*, being a *Sunday*, he eat little all day, and came to Lady *Portsmouth's* at night, and called for a porringer of spoon meat. It was made too strong for his stomach; so he eat little of it; and he had an unquiet night. In the morning one Dr. *King*, a physician, and a chymist, came, as he had been ordered, to wait on him. All the King's discourse to him was so broken, that he could not understand what he meant. . . . He was scarce come in, when the King, who seemed all the while to be in great confusion, fell down all of a sudden in a fit like an apoplexy; he looked black, and his eyes turned in his head. The physician, who had been formerly an eminent surgeon, said, it was impossible to save the King's life, if one minute was lost; he would rather venture on the rigour of the law, than leave the King to perish. And so he let him blood. The *King* came out of that fit; and the physicians approved of what Dr. King had done; upon which the Privy Council ordered him a thousand pounds, which yet was never paid him. Tho' the King came out of that fit, yet the effects of it hung still about him, so that he was much oppressed. . . . On *Thursday* a second fit returned." Hudleston was then sent for by the Duke of York, the King's brother. The former was "in great confusion, for he had no hostic about him. But he went to another Priest, that lived in the Court, who gave him the pix with an hostic in it. . . . The Hostic stuck in his throat: and that was the occasion of calling for a glass of water. . . . The King suffered much inwardly, and said, he was burnt up within; of which he complained often, but with great decency. . . . He continued in the agony till *Friday*, at eleven o'clock, being the sixth of *February* $168\frac{4}{5}$. . . . There were very many suspicions of his being poisoned: for, tho' the first access looked like an apoplexy, yet it was plain in the progress of it, that it was no apoplexy. When his body was opened, the physicians who viewed it were, as it were, led by those who might suspect the truth, to look upon the parts that were certainly sound. But both *Lower* and *Needham*, two famous physicians, told me, they plainly discerned two or three blue spots on the outside of the stomach. *Needham* called twice to have it opened; but the surgeons seemed not to hear him. And when he moved it the second time, he, as he told me, heard *Lower* say to one that stood next to him, *Needham* will undo us, calling thus to have the stomach opened, for he may see they will not do it. They were diverted to look to somewhat else: and when they returned to look upon the stomach, it was carried away; so that it was never viewed. *Le Fevre*, a *French* physician, told me, he saw a blackness in the shoulder: upon which he made an incision, and saw it was all mortified. *Short*, another physician, who was a Papist, but after a form of his own, did very much suspect foul dealing: and he had talked more freely of it than any of the Protestants durst do at that time. But he was, not long after, taken suddenly ill, upon a large draught of worm-wood-wine which he had drunk in the house of a Popish patient . . . of which he died. And, as he said to *Lower*, *Millington*, and some other physicians, he believed that he himself was poisoned for his having spoken so freely of the King's death. The King's body was indecently neglected. Some parts of his inwards, and some pieces of the fat, were left in the water in which they were washed: all which were so carelessly looked after, that the water being poured out at a scullery hole that went to a drain, in the mouth of which a grate lay, these were seen lying on the grate many days after. His funeral was very mean. . . . So many of the small veins of the brain were burst, that the brain was in great disorder, and no judgement could be made concerning it. To this I shall add a very surprising story, that I had in *November* 1709 from Mr. *Henley* of *Hampshire*. He told me, that, when the Duchess of *Portsmouth* came over to England in the year 1699, he heard, that she had talked as if King *Charles* had been poisoned; which he desiring to have from her own mouth, she gave him this account of it. . . . He (i.e., the King) was come to a final resolution of sending away his brother, and calling a Parliament; which was to be executed the next day after he fell into that fit of which he died. She was put upon the secret, and spoke of it to no person alive, but to her confessor: but the confessor, she believed, told it to some, who seeing what was to follow, took that wicked course to prevent it."

MOTOR CARS FOR MEDICAL MEN.

The popularity of the lower priced four-cylindered car continues, but there is still a demand for a light single or twin-cylindered car. This demand is wide enough to have induced Messrs. De Dion Bouton (1907) Limited to arrange to place on the market for 1912 a new single-cylindered 6-h.p. type, and also a twin-cylindered model of 7-h.p. This course has been taken in consequence of the receipt of many inquiries concerning their old 6-h.p. model, the manufacture of which was discontinued at the end of 1905. The specifications for the two 1912 cars embrace, it is stated, all the refinements of the up-to-date car of greater power.

Care and Upkeep.

The Rover Company, Ltd., of Coventry, asks us to state that it will be glad to hear from owners of Rover cars as to the running of their cars, and to give advice with respect to care and upkeep.

An ordinance made in accordance with a recent State law has been issued by the Public Health Department of Chicago forbidding any person, firm, or corporation to "keep, offer, exhibit, or display for use any common drinking cup, glass, or other receptacle." A poster has been issued pointing out the dangers of the common drinking cup, and showing how a cup may be made from a piece of paper. This ordinance came into effect on August 8th, and another, forbidding the use of a roller towel in common in any public lavatory or wash-room, came into force on August 10th.

Arrangements have been made by a committee, of which Professor Sylvanus Thompson is the president, to hold an Optical Convention in London next year. The object is to collect and criticize proposals for the better organization of the British optical industry and the improvement of British optical manufacturers, the questions of how theoretical science can be utilized to further industrial development, and how the study of practical problems can be employed to give direction to theoretical teachings and investigation will be among the subjects discussed. It had been intended to organize an international exhibition, but as this has not been possible within the time at disposal, a trade exhibition confined to British manufactures will be held, but a loan collection of instruments and apparatus of historical and scientific interest, whether of British or foreign manufacture, will be arranged. The chairman of the executive committee is Mr. R. M. Walmsley, D.Sc., and the secretary Mr. J. W. Gordon, 113, Broadhurst Gardens, Hampstead, N.W.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER AND DISTRICT.

The Manchester and Salford Divisions.

The Manchester and Salford Divisions of the British Medical Association are now considering the question whether it would be advisable to amalgamate the five Divisions into one. Several years ago the Divisions became impressed with the fact that whenever there was any need to take any action in municipal matters affecting the profession, difficulties were apt to arise in bringing the Divisions into line and united action was often seriously delayed. It was then decided that without amalgamation it might be possible to organize the whole local profession by forming what was called a Joint Committee of the Divisions. This was done, and each Division annually elected five members of the committee. A definite constitution was drawn up, with rules strictly defining the scope of the committee's operations. There was to be no interference with the autonomy of the Divisions, but the committee was authorized by each to take action on all local matters of urgency affecting the profession; no authority was given to interfere in matters affecting the policy of the British Medical Association. On the whole the committee has done excellent work, but there has frequently been some delay in its action owing to the necessity of consulting each of the five Divisions, in cases in which it was difficult to define whether any particular question really came within the scope of the authority conferred on the committee. In a few cases it has happened that one or other of the Divisions was not in agreement with the others, and in such cases the Joint Committee felt itself almost precluded from taking any action. The question of amalgamation of the Divisions was raised about eighteen months ago, but it was decided to await the decision of the Representative Meeting on the Liverpool proposal, which would empower large Divisions to elect more than one Representative to the Representative Meeting. The meeting at Birmingham finally sanctioned a new by-law, which provides that "each constituency having not less than 150 members should be entitled to elect one additional Representative for each complete number of 100 members in excess of 50 members." According to the last annual list of members the five Divisions in Manchester and Salford had 368 members; if the Divisions were amalgamated this would entitle the one Division to have four Representatives. During the present year, however, there has been an accession of something like 90 new members, so that the single Division would be just entitled to five Representatives. This would remove any objection that might be raised on the ground of loss of representation. On the other hand, the area covered by the five Divisions is so wide and scattered, and communication between the separate parts so difficult, that fear has been expressed that the social intercourse between members, which is so essential, would be hindered if there were only one Division. To meet this it is suggested that a number of local subcommittees for suitable compact areas might be formed which could meet more frequently than a large Division, both for social purposes and for strictly local business, and that the Division might vote sums of money for the necessary expenses of each subcommittee. The joint committee has referred the question, accompanied by this suggestion, to the separate Divisions with a request that each Division should decide whether it agrees or not to apply to the Council for amalgamation.

The Guarantee Fund.

In connexion with the National Insurance Bill, the Joint Committee of the Manchester and Salford Divisions has unanimously decided that it is most important that a large Guarantee Fund should be raised partly to defray expenses incurred in pressing forward the policy of the Association and partly as a fund out of which compensation may be paid to members of the profession who have signed the pledge of adherence to the policy of the Association, and who may suffer loss or require support in respect of action taken through loyalty to the Association. The committee recommends that all guarantees should be sent directly to the Medical Secretary, Dr. J. Smith Whitaker, 429, Strand; that a sum of 5s. should be paid at once on account, to be applied for administrative expenses; and, further, that members of the profession in Manchester and Salford should ear-mark for local use one-fifth of the amount that they guarantee.

BIRMINGHAM.

Birmingham Maternity Hospital.

Owing to the unsatisfactory financial position of the Maternity Hospital arrangements have been made for it to be worked in connexion with the Birmingham and Midland Hospital for Women. The Maternity Hospital, however, will be continued as a separate institution, and most of the members of the old committee of that hospital have joined the new committee. During 1910 the district midwives attended 1,721 cases of labour; there were 19 twin births, so that the total number of children born was 1,740. There were 57 stillbirths, and 22 infants died within ten days of birth, making a total infant mortality of 79, or 4.5 per cent. There were 3 maternal deaths. The medical officers were called in 186 times, or once in 9.2 deliveries. In the Maternity Hospital there were 337 patients treated, of whom 322 were admitted during the year. Nearly half of the total admissions were abnormal cases, and there were 10 maternal deaths. Among the fatal cases since the hospital was opened three years ago not one has been due to sepsis arising in the institution. There were 248 children born in the hospital, 199 at full term, and 49 prematurely. Of the premature infants 13, and of the full term 20, were stillborn, while 10 premature and 3 full term babies died after delivery.

The Cleansing of Verminous Children.

In his report for last year the Medical Officer of Health for Birmingham states that towards the end of the year a few children were cleansed at a station for the cleansing of verminous school children established by the Education Committee at one of the public elementary schools. The work was efficient but expensive, and did not do what was actually required, that is, the effective cleansing of the children in their homes. He recommends that a child coming to school in a verminous state should be sent home and a notice given to the parents to cleanse their child and return him to school. If the notice is ignored, or the child sent back again in a verminous condition within a definite period, proceedings should be taken against the parents, Some of the school teachers have, greatly to their credit. been able practically to free their schools of verminous children, while close at hand in another school a very high percentage of the children in the girls' department were found to be verminous. The number of children who suffer from vermin is a good indication of the general dirtiness amongst the poorer class of the population. More drastic measures are urgently needed to deal with dirty and neglectful people than exist at the present time, for there is no doubt that such people and their homes are a great danger to others.

PORTSMOUTH.

The Municipal Tuberculin Dispensary.

The comparatively small initial expenditure entailed by the establishment of a dispensary for tuberculosis is shown by the figures relating to the Municipal Tuberculin Dispensary at Portsmouth. The town council was convinced by its medical officer (Dr. Mearns Fraser) that to establish such a dispensary would be a cheaper way of dealing with tuberculosis than the erection and maintenance of a sanatorium, and quite as effective. It decided to undertake the task on February 14th last, and, as no building was available, to erect a special building for the purpose. The work was quickly put in hand, and the dispensary was opened at the beginning of last June.

The plans, which were drawn up by the borough engineer with the advice of Dr. Fraser, resulted in the erection of a very simple single-storied building, measuring externally 35 ft. by 20 ft. The external door opens into a vestibule 10 ft. by 6 ft., and this again into a waiting-room on one side, and on the other into a consulting-room. At

the back of the vestibule, and filling the space between it and the back wall of the building, are too small dressing-rooms, each about 6 ft. square, with doors opening both into the waiting and into the consulting-room. The waiting-room measures 18 ft. 6 in. by about 12 ft. A larger room was not provided as it is desired to avoid the collection of a crowd of consumptives, and it was decided that each patient should be told to come at a definitely fixed time. The consulting-room measures 15 ft. by 12 ft., and opening out of it is a small laboratory measuring 11 ft. by 6 ft. fitted with a bench and sink. There are also two lavatories, one opening out of the waiting-room and the other out of the consulting-room. These rooms are cross-ventilated by windows and other openings in ceiling and wall and warmed by two open grates, one having a boiler behind it. The internal walls are painted dead white with "duresco" and the wood work enamelled with "paripan." Both therefore are easily kept clean. The walls themselves are built on the hollow-wall system, with a view to equability of temperature, the material used being "eternite," which is composed mainly of asbestos and cement and presents a smooth surface.

Externally, the building presents the appearance of a half-timbered cottage; it was built in a little over six weeks, is estimated to have a lifetime of not less than twenty-five years, and cost altogether, including foundations (prepared by the borough engineer) and gas, electric light, and water fittings, £330.

The equipment is also simple. In addition to tables and chairs, it consists of readily sterilizable hypodermic syringes of 1 c.cm. capacity, clinical thermometers, a weighing machine, a laryngoscope, and lamp; a urine testing apparatus; a supply of sputum flasks, a small sterilizer for syringes; a spirit lamp, cotton wool, strapping plaster, and alcohol; a vertical filing cabinet for case-cards and charts, and a small laboratory outfit. The drugs kept include pyramidon (for the treatment of headache and sleeplessness consequent on injection), witch-hazel (for the treatment of pain in the needle tracks), an inhalation, and malt and cod-liver oil.

The staff at present consists of one medical officer, one whole-time nurse and health visitor, and one part-time health visitor. It is considered, however, that a second medical officer will probably be required, and this may well prove the case, since it is intended that this dispensary shall be not merely a place for the injection of tuberculin, but the head quarters of a general crusade against tuberculosis.

In respect of treatment the first step taken after the patient has been duly examined, is to instruct him how to take and record his own temperature. He is then told to do so every four hours for four days, and return at the end of that period. If his case is then deemed one of tuberculosis, and his temperature not above 100° F., and there is no other contraindication, tuberculin injections are commenced forthwith. If, however, definite evidence of tuberculosis cannot otherwise be detected, he is tested by old tuberculin and curative injections commenced if a definite reaction follows. The tuberculins used in treatment are first P.T.O. (originally unconcentrated bovine tuberculin); then P.T. (which is P.T.O. evaporated down to one-tenth of its volume at a low temperature and in a partial vacuum); and finally O.T. or Koch's Old Human Tuberculin. For other details regarding the dispensary and the treatment followed therein, readers may be referred to a pamphlet[1] on the subject drawn up by Dr. Mearns Fraser.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Royal Victoria Hospital for Consumption at Edinburgh.

It was recently explained in the Journal that an appeal had been made for funds for the purpose of extending the outdoor dispensary in connexion with the Royal Victoria Hospital for Consumption at Edinburgh. A further stage has now been reached, for the managers have bought, at a cost of £2,500, St. Cuthbert's United Free Church and Hall, not far from the west end of Princes Street, and in a central position for railways and tramways. The necessary alterations will at once be begun, and it is expected that they will be completed in time for the building to be in use early next year. The church itself will be used as a large waiting-hall, and a series of examining and dressing-rooms will open off this central hall. On the ground floor there will be provided a drug dispensary, a caretaker's house, and lavatory accommodation. The upper floor will be reserved for scientific research work in connexion with tuberculosis. The hall will be used as a tuberculosis museum, where also meetings for the education of the public will be held. This is a further step in the excellent organization devised by Dr. Philip for fighting consumption.

Medical Hostels in Glasgow.

The committee in charge of the University and Western Infirmary Medical Hostels, consisting of Principal Sir Donald MacAlister, Lady MacAlister, Professor Muir, Dr. Mackintosh, Dr. and Mrs. Crawford Renton, and Mr. Gourlay, desire to make public acknowledgement to the generous donors who contributed £1,000 towards defraying the initial expenses. Two hostels in telephonic communication with the Western Infirmary have been opened, and both have been full from the outset. The students attending the infirmary realize the great value of the facilities for securing extra clinical instruction in urgent medical or surgical cases, which the new arrangement affords, and all the rooms in both houses are taken for next winter. They are the first hostels for medical students adjacent to and in direct telephonic communication with an infirmary, to be opened in Scotland. The charge for board and lodging is £1 1s. a week, and so far, this has sufficed to make the hostels self-supporting, which is what the committee has aimed at. As the success of the experiment is now demonstrated, the committee looks forward to opening a permanent residency, capable of accommodating twenty-five students. For the initial expenses of adapting and furnishing a suitable house, it invites contributions, which may be sent to Mr. John W. Gourlay, 124, St. Vincent Street, Glasgow, or to any member of committee.

Insanitary Lewis.

The medical officer of health for the district of Lewis in his report to the district committee remarks on the recent outbreaks of typhus at Borve, in connexion with which 18 cases with three deaths were notified. In the course of his report Dr. Murray states that the village of Borve is an exaggerated microcosm of the worst sanitary features in the Island of Lewis. The great majority of the dwellings outrage the most elementary sanitary principles. They are built on sites which it is impossible to drain, and are consequently sodden and reeking with the products of the byre—a most fertile breeding ground for fever and other diseases. The great majority of the present houses should be condemned, and a better class built on healthier areas.

Hereditary Unsoundness in Horses.

There is considerable doubt as to the diseases and defects of horses which should be classed as hereditary unsoundness, and the adoption of a list by the Board of Agriculture seems to be a step in the right direction. It is the result of the recommendations of the Advisory Council on Horse Breeding, and is a schedule for disqualifications for registration of stallions. The conditions enumerated are cataract, ringbone, roaring, navicular disease, sidebone, shivering, whistling, bone spavin, string halt, and defective genital organs. There may be doubt as to the proof that certain of the above are hereditary, but according to the combined wisdom of an experienced body of men they are of this nature, and the list will direct inquiry and observation into useful channels.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Irish District Lunatic Asylums.

In reference to the bill at present before Parliament relating to the employment, pension, and superannuation of asylum attendants, the Secretary of the Select Committee which has just reported on the bill invited a statement of the views of the Committees of Irish District Asylums.

[1] W. H. Barrett, Limited, High Street, Portsmouth. Price 1s. net.

This statement, expressing the opinion not only of all the governing bodies but also the ratepayers' view of the question, has now been issued. The total cost of the upkeep of the Richmond Asylum is £110,840, of which £88,289 is contributed by the City and County of Dublin, the remainder by Counties Louth and Wicklow. In relief of this sum a capitation grant is received from the Irish Local Taxation Account, but as this account is in a practically bankrupt condition all the asylum grants have been reduced. The result has been an increase in the burden of local rates, which are already at the straining point. The reduction of the hours of attendants proposed by the bill would entail an increase of the staff by one-third, besides the provision of additional accommodation. The maintenance and capital charges represented by this increase would mean another 3d. in the £1. Apart from the question of cost, the suggested limitation of the employment of the staff presents many difficulties. The system of interchanging duties, by which the rough and the smooth work is fairly distributed, would receive a serious check. The Joint Committee objects to payment of overtime, inasmuch as an attendant would be legally entitled to leave a patient the moment his time was up without troubling to see that his place was taken by another. The clauses in the bill regarding pension after twenty-five years' service, and compensation in cases of permanent incapacity due to injuries received in the discharge of duty, were approved. Under the existing conditions the asylum staffs enjoy very generous treatment, and the Joint Committee expresses its satisfaction with the relations which exist between them. The improvements effected by the bill should do much to lighten the burden of the attendants, whose work is of a peculiarly trying and onerous nature. The Select Committee acquiesced in practically all the suggestions of the governing bodies.

INFANT MORTALITY IN DUBLIN.

On August 14th a meeting was held under the auspices of the Women's National Health Association for the purpose of considering the best means to cope with the present abnormal infant mortality. The Countess of Aberdeen presided, and there was a large attendance, including many medical men.

Dr. Brown, of the Local Government Board, said that on July 22nd the number of children who died under 1 year was 31, on July 29th it was 46, and for the week ending August 12th it was 53. The hot weather was a contributory cause of the outbreak of diarrhoeal diseases, which prevailed throughout the country. The committee formed at a meeting held last January at the Mansion House had trained some thirty-five ladies, and it was hoped that by the end of the summer the number would be increased to fifty. As soon as the committee, which worked under the control of the Public Health Committee of the Dublin Corporation, received notice of a birth it became the duty of a visitor to see the conditions under which parents were living, to assist in bringing the case under the notice of a charitable society, if necessary, and to give advice to the mother. All the visitors had certificates which had been found satisfactory by the Public Health authorities.

Lady Aberdeen announced that she had arranged that eight trained nurses should be provided, one for each dispensary district, by the Women's National Health Association, to act under the guidance of the dispensary doctors. The Women's National Health Association would also provide milk (pasteurized) to suitable cases free, or at a specially low rate.

At a recent meeting of the Dublin Corporation, at which the high infant mortality was discussed, it was stated that there were in Dublin no less than 894 streets and lanes not in charge of the corporation, and that every kind of dirt and refuse and filth was allowed to accumulate in them. After some discussion the corporation resolved to cleanse the lanes and recover the cost from the owners. A large part of the sum of £275 paid in fees for admission to visit the State apartments of Dublin Castle after the recent Royal visit has, with Her Majesty's approval, been divided between the Pasteurized Milk Dépôt, various babies' clubs and fresh air associations, the Children's Clothing Society, the Newsboys' Club and Preventorium, and the Holiday Home for Women and Children.

APPOINTMENT OF BACTERIOLOGIST TO THE DUBLIN CORPORATION.

At a recent meeting of the Dublin Corporation a letter from the Local Government Board was read declining to alter their decision not to approve the appointment of Dr. Russell as city bactierologist. The letter added that the fact that Dr. Russell had passed the examination for a diploma in public health could not in itself be taken as entitling him to be regarded as a bacteriologist under Section 15 of the Prevention of Tuberculosis (Ireland) Act. A resolution stating that until the present letter was written no suggestion had been raised that Dr. Russell did not possess the proper qualifications required by statute, and affirming the determination of the Council to make no other appointment during Dr. Russell's lifetime, was adopted.

Special Correspondence.

PARIS.

The Legal Responsibility of the Medical Profession.—Meetings of Stomatologists.

THE question of medical responsibility at law was raised once more by an action brought some months ago against one of the most eminent of Paris hospital surgeons. The surgeon was accused of negligence in forgetting to remove a compress from a portion of an ovarian cyst, which, being irremovable, was fixed to the abdominal wound and packed with compresses—a method called "marsupialization" and still favoured by some surgeons in certain circumstances. After a considerable lapse of time, the missing compress was passed by the bowel. It was proved during the trial in the lower court that for a long period after the operation the patient was under the care of another practitioner, so that the error was not clearly brought home to the operator; he was, however, cast in heavy damages. The case aroused a great deal of medical interest, and many precedents were recalled, going back to the time when chloroform was first introduced, and when Velpeau, in face of the popular outcry which arose when some deaths occurred under the anaesthetic, vindicated the duty of the surgeon to run reasonable risks in the practice and development of his art. And, indeed, if therapeutics had been restricted to the narrow ground consecrated by use and wont, and not extended as the result of discrete trials of new methods we should still be in the stage of "*barbotage et brevets*" satirized by Montaigne. The question concerns surgeons more particularly because the consequences of their actions being more immediate and evident, produce a dramatic impression on the public mind. Whenever an action for damages is heard against a medical man, his advocate insists on the point that an adverse verdict must tend to check the initiative which is essential to progress. "If you condemn my client," he says, "you will prevent all innovation, all improvement in the future, and in any doubtful case the surgeon will fold his hands and leave his patient to die." Nevertheless, the court gives a verdict against the surgeon more often than in his favour. In so acting, the courts are not playing the game, for they must know that these adverse verdicts will not stop the progress of the medical art; they must know that when confronted with a serious and difficult case the scientific and humane spirit of the surgeon will compel him to run the risks which an ungrateful patient and an imperfectly informed court may have in store. It is the medical profession's point of honour to do the best possible for the individual patient in the circumstances of the moment. The intrusion of the legal mind, bred in another atmosphere, may cause irritation, and may inflict serious pecuniary penalties, but it will not deter the medical man from acting according to his conscience. Sometimes, indeed, the French courts show a rather surprising complaisance. A case occurred at Bordeaux a little time ago in which the decision of one court after another was against the aggrieved patient. The circumstances were rather curious, and will bear relation. The patient was a cryptorchid, but had no reason to complain of any lack of virility; still he was distressed by the absence of the normal anatomical proof of its existence. At his urgent

request the surgeon consented to undertake an exploratory operation in search of the missing organs. The result was failure, but the surgeon, hoping to satisfy his patient's mind, took the opportunity while the patient was still under anaesthesia to insert two artificial testicles in the scrotum. All went well for a time, but the truth leaked out and found its way to the patient, who immediately brought an action asking for damages, and demanding that the surgeon should restore the *status quo ante*. The cryptorchid lost his case, both in the lower court and on appeal. It is not easy to see on what grounds the judgement was founded, but apparently the judges did not take the case quite seriously.

The Second French Congress of Stomatology was held in Paris from July 30th to August 4th at the Faculty of Medicine of Paris under the presidency of Dr. J. Ferrier. Like the First French Congress of Stomatology, it was remarkable for the number (over 90) and importance of the communications which were presented not only by French stomatologists, but also by distinguished stomatologists from various European countries and America. The new French School of Stomatology, which now provides a two years' course of special training for graduates and students in medicine, was visited, and the thoroughness of its equipment noted. The museum of the school was specially interesting, and its organizer, Dr. Michaels, spared no pains in drawing attention to its various merits. The rooms for radiography and for buccal surgery were also specially noteworthy. Demonstrations were given and clinical cases shown at the School of Stomatology, and attracted large and keenly interested audiences. The social side of the congress was no less successful than the scientific, and the lavish hospitality shown to foreigners was generally commented upon and appreciated. In the few days of the congress luncheons, receptions, a garden party, and a banquet vied with each other for the satisfaction of the visitors. The banqueting hall with its sylvan surroundings in the Bois de Boulogne was exquisitely decorated for the occasion. Representatives of the various nations gave their hearty congratulations to their French *confrères*, and thanked them for their cordial hospitality. Dr. Sim Wallace also extended on behalf of the English stomatologists an invitation to the members of the French congress to come to England on the occasion of the Seventeenth International Congress of Medicine. Concurrently with the Congress of Stomatology the Third Meeting of the International Stomatological Association took place. At this the great advance which the stomatological idea has made in various countries since the foundation of the association were noted, and an animated discussion on the ideal methods of teaching stomatology took place. Mr. J. F. Colyer was unanimously elected President of the International Stomatological Association, which will hold its next meeting in London on the occasion of the Seventeenth International Medical Congress in 1913.

Correspondence.

LEPROSY AND THE CIMEX.

Sir,—The attention of students of leprosy has long been attracted to the question of the possible transmission of the disease through what may be called the domestic insects. The question was recently the subject of special investigation by Dr. Ehlers, and was discussed and reported on at the Bergen Leprosy Conference two years ago. Renewed attention has just been drawn to it in South Africa, where Dr. Sandes on Robben Island and Dr. Long, the medical officer in Basutoland, have advocated the view that the disease is transmitted by the common bed-bug. The evidence adduced amounts perhaps as yet to little more than proof of possibility, but it is well worthy of serious attention. The bacillus of leprosy has been found abundantly and repeatedly in the viscera of the insects named, and it has been hastily assumed by non-professional writers that a discovery has been made which solves the leprosy problem. It is on the question of whether or not it does, or whether it would, even if what is hastily taken for granted were really proved, that I wish to be allowed a few words.

I may begin by pointing out that the most complete proof of communication by the pricks of bugs or other insects would by no means preclude the consideration of other concomitant and possibly far more important influences. It would not in any way explain the origin of the disease, and it might be found to be applicable, as regards its transmission, to only a small minority. The array of facts which to many minds have been conclusive against the belief in personal contagion as a common occurrence would have but slightly diminished force. It has always been admitted as a possibility even by those, of whom I am one, who have held that it is so infrequent that it may for practical purposes be put aside.

Those who believe that leprosy originates in connexion with food will be very thankful to have their creed helped out by the demonstration that it sometimes results from insect inoculation. There have always been facts which were very difficult to meet under any hypothesis as to food, and particularly under that which is known as the "fish hypothesis." If it could be proved that the proboscis of the bed-bug could communicate the infection, the fact would be thankfully received by those who believe that it can originate, as a variant of tuberculosis, in connexion with the consumption of tainted fish. The two facts would fit admirably together, and a few examples of the one would precisely fill the gaps which are left after the acceptance of the other as the far more common event. We must wait for further investigation as to the facts. But I may assert strongly that, as far as I can understand them, the belief that leprosy is in an ordinary way produced by a diet of bad fish, and that it may be communicated occasionally by bed parasites, would well cover the facts.

The one kind of causation may be deemed to be very common and as occurring in almost all times and over almost the whole world, whilst the other would remain of rare occurrence and as explanatory for the most part of exceptional facts.

I will mention some of the facts which have led me hitherto to discredit the suggestions which regard bed-bugs or other insects as means of spreading the disease. The first and the strongest is perhaps the generally admitted fact that leprosy is rarely seen in married couples and that man and wife may live together, the one a leper and the other quite free through a long life. The next fact is that the disease does not spread in the neighbourhood of leper establishments. It is universally acknowledged that the latter entail no peril to the districts in which they are situated. Other facts are the limitation of the disease to certain districts such as occurs in China where it is almost unknown in the north and very prevalent in the south. The dying out of the malady in Europe, and especially its more northern districts, and the apparent impossibility of reintroducing it into England and other favoured regions are also important facts.

If Drs. Sandes and Long should succeed in demonstrating that the cimex can communicate leprosy they will have established an exceedingly important point. They are both able men, and they are placed under circumstances widely apart and especially well adapted as fields for observation. The former is resident at Robben Island, the well-known leper home, which receives lepers from various parts of South Africa, especially the Cape Colony district. Dr. Long has been for many years the able medical resident at Maseru in Basutoland. I have never myself visited the latter place, but I have long recognized that it presents facts which, more than those of any other part of the world, might be deemed exceptions to the dietetic or fish origin of the disease. The district is sometimes called the Switzerland of South Africa. It is mountainous and has no indigenous supply of fish.

Ten years ago I did my best to visit Basutoland, and was on its confines, first on the north and subsequently on the south, for several weeks, but was prevented from entering it by military regulations; the war was still going on, and the time at my disposal did not allow of my waiting for the necessary military permits. Dr. Long had, however, then and subsequently given me full information as to the leprosy facts. I may admit that prima facie they were and are much opposed to the theory of a fish origin, but as I found from Basuto men in other parts of Cape Colony that they were in the habit of visiting Capetown, Johannesburg, and other places where leprosy might be met with

and where salt fish was much consumed, my belief in the fish origin was not materially shaken. I should, however, be much relieved to know from Dr. Long that the cimex can communicate leprosy and that it abounds in Basutoland. Such proof would, however, go but a short distance towards solving the whole leprosy question.—I am, etc.,

Haslemere, Aug. 14th. JONATHAN HUTCHINSON.

AFFERENT FIBRES IN VENTRAL SPINAL ROOTS.

SIR,—Dr. Leonard Kidd, in his article on "Afferent Fibres in Ventral Spinal Roots"[1] offers, as evidence for the existence of such fibres, the persistence of pain in areas which had been rendered anaesthetic by division of certain posterior roots. Arguing from this basis, he proceeds to suggest that the surgical treatment of "intractable pain" should include division of the corresponding anterior roots. Surely this argument is unsound. Division of posterior roots can do no more (but may do less) than cause degeneration of the sensory protoneurones (the processes of the posterior root ganglion cells). But other links in this chain—the sensory neurones of the second or third order—may often be the seat of disease, the resulting pain being referred thence to a corresponding peripheral area. Such a condition would account for the persistence of pain and would obviously be uninfluenced by anterior root section, the only result of which would be a motor palsy superadded to the sensory troubles. It is to be hoped that no surgeon will be found rash enough to undertake such an operation until Dr. Kidd has brought forward stronger evidence in support of his views.—I am, etc.,

University College Hospital Medical School, August 21st. OTTO MAY.

TEN YEARS AFTER SANATORIUM TREATMENT.

SIR,—Though Dr. J. C. McWalter's assertion that no practitioner knew of a case of tuberculosis that survived ten years after coming under treatment has very properly been rebutted by the letters of Drs. J. E. Squire and E. W. Diver, the question of the ultimate benefit from sanatorium treatment is one on which we badly need statistical evidence. Perhaps some of your readers interested in this subject have not yet seen a little report[2] published last spring by the Charity Organization Society giving the results of nearly 500 cases treated in their sanatoriums during the last eight years. From this it appears that the society early in the current year visited the homes of 120 patients who were discharged from five to eight years ago. The following was the result:

39 well and working or fit to work.
8 improved but capable only of light work.
7 unimproved or relapsed.
66 dead.

I do not know of any figures on this scale dealing with so long a period as ten years, but it is difficult to believe that the above 39 now well and active are doomed one and all to die in the next few years.—I am, etc.,

London, W., Aug. 19th. DAVID FORSYTH.

SIR,—Dr. J. Edward Squire does not say whether tubercle bacilli were demonstrated in the cases of tuberculosis which he treated ten years ago, and which are now alive.

We all, I think, used to imagine that we could find those things easily some years ago.—I am, etc.,

Dublin, Aug. 18th. J. C. MCWALTER.

THE NEW NIGHT TERROR.

SIR,—In reference to the note in the BRITISH MEDICAL JOURNAL (August 12th, p. 344) on "The New Night Terror," may I be permitted to say that, in my opinion, the most likely way to stop the nuisance is for the authorities to insist on *all* vehicles keeping to the left side of the road and slowing down on approaching a cross street and on rounding a corner; if this is insisted on, there is no more necessity for a chauffeur to sound his horn than for a coachman to give notice of his approach.

It is the insane and dangerous practice of chauffeurs (chiefly those of taxi-cabs) cutting the corners on the wrong side and passing cross-roads at high speeds, which is the cause of the excessive use of the horn, coupled with the fact that horse-drawn vehicles are so often to be found on the wrong side of the road with the driver not infrequently half-asleep.

In passing round a corner bearing to the right, a motor car can negotiate the corner at a much higher speed by hugging the *right* curb, which means, of course, that he is on his wrong side of the road. The driver knows he is doing wrong and taking a risk, so he blows his horn and uses every evil-sounding device to warn those round the corner to get out of his way. This is, to my mind, a crime, and should be punished as such; he is a danger to himself and to the public. His offence is threefold: First, he goes round the corner or across a cross-road too fast for safety; secondly, he goes round on the wrong side; and, thirdly, he constitutes himself a public nuisance by noise he makes.

To be just to this Jehu, we must admit that he is tempted to sound his horn more loudly than he otherwise would by the fact that ten to one he will a find a sleepy four-wheeler or Covent Gardent van in the middle of the road, and the sooner this factor in the causation of the night terror is recognized and stopped the better it will be for all users of the road, be they pedestrians, horse-drawn vehicles, or motors.

In the last paragraph of your article you suggest that there should be a speed limit of ten miles an hour in all towns for motors; this, Sir, I submit, is unnecessary, and, if enforced, would seriously interfere with the business of the town; besides, it could or would never be enforced, any more than the twenty-mile limit is enforced in the country. To condemn all motor traffic to go along, say, the Bayswater Road at ten miles an hour is absurd; even the parks allow twelve miles. The public will not submit to vexatious and unnecessary restrictions: there is an inherent spirit of rebellion against injustice, and to condemn all drivers to a ten-mile limit in towns and twenty-mile limit in the country is unnecessary and unjust.

The important point is to make dangerous driving punishable and to make the punishment severe enough to be prohibitive. That, Sir, and that only would get at the root of the matter, and if to this are added Sir Henry Morris's suggestions, except the suggestion of search lights at night which are dangerous in towns and quite unnecessary if people will only drive slowly and carefully round corners and across cross-roads, then you will have quieter nights and safer roads by day, and the public business would be expedited instead of hindered. At present the heavy, slow-moving traffic keeps to near the middle of the road; the remainder of the traffic, which is by far the most important, is hooting and struggling or waiting to get by, and having got by he cuts the next corner on the wrong side to make up for lost time.—I am, etc.,

London, S.W., Aug. 17th. L. VERNON-JONES.

THE NEED FOR UNIFICATION IN THE PUBLIC MEDICAL SERVICES.

SIR,—Dr. Larking in his letter on the above subject (August 19th, p. 406) refers to the policy of the British Medical Association which he supposes supports the idea of dividing up the work among all practitioners. May we, however, point out that the effect of the resolution passed at the last Representative Meeting that medical officers of health should confine themselves to "official duties" will certainly not "divide up the work among all the practitioners." The effect of the resolution will be to definitely pledge the British Medical Association to support the Local Government Board in its efforts to confine the medical officer of health to "official duties," and these "official duties" are succinctly enumerated in the memorandum of the Local Government Board 1910 and 1911 to the Local Authorities.

These "official duties" are the duties of the "offices" at present held by general practitioners.

Dr. Larking says that:

The present part-time medical officers of health are being unconsciously influenced in favour of the scheme by offers of all the appointments in each locality, such as school medical officer, superintendent of the isolation hospital, and sole medical officer, certifying factory surgeon, police surgeon, public vaccinator, district medical officer, and medical officer of the workhouse.

[1] BRITISH MEDICAL JOURNAL, vol. ii, p. 359.
[2] Some account of this report was published in the BRITISH MEDICAL JOURNAL of May 13th, 1911, p. 1137.

May we add that the feeling created by invidious resolutions such as have been passed by the Representative Meeting cannot fail to have some influence on the unity of the profession and in aiding a policy whose obvious effect will be to separate the profession into two camps—that of the medical official and that of the medical practitioner—a result which will have a deplorable effect on the whole profession.—We are, etc.,

Rashell Davison,
Chairman.
David A. Belilios,
Honorary Secretary.
Association of Medical Officers of Health.

New Malden, Aug. 21st.

The Services.

R.A.M.C. TERRITORIALS.

2nd London Division in Camp, 1911.

The annual training this year was fixed from August 6th to 20th, and took place in Kent, two-thirds being at Shorncliffe and the remainder at Fort Burgoyne, near Dover. The three Field Ambulances went through a progressive course of training, each under its own C.O., and on several occasions practised in the field with the brigade to which it would naturally be attached. A novel feature was introduced on one of these occasions, an opportunity being given to the local Voluntary Aid Detachments by the A.M.O. to fill the parts assigned to them in war on the lines of communication. The arrangements were made by Lieutenant-Colonel Thornton-Gilbert, V.D., the local Director for the Folkestone Division of Kent, and he succeeded in getting together from the neighbouring towns and villages 21 officers, 2 doctors, 22 men, and 95 women, some from detachments raised by the Red Cross Society and some by the St. John Ambulance Association. The Field Ambulance sent on to them about 80 cases that had been marked with tallies and picked up on the field, and their organization was so complete that they were able to deal with them easily, and could have managed a good many more. Two rest stations were established at suitable places, and an elementary school was fitted up as a temporary clearing hospital. The rest stations had each a bell tent, but as the weather turned out so fine they were really not required. The men had brought fifteen stretchers, and three civilian wagons were prepared to carry those who were unable to walk. The "wounded" were all passed through one or both rest stations, and finally taken to the clearing hospital, where they were registered and treated under the direction of the local county director and provided with some refreshment. They were visited by the G.O.C. of the division, who expressed his satisfaction with the way the general arrangements had been made, and by the A.M.O. (Colonel Andrew Clark, V.D., K.H.S.), who examined many of the cases and complimented the nurses on the way they had dealt with them. The experiment shows that, should the necessity arise, the Territorial Force could rely on efficient assistance from Voluntary Aid Detachments—at any rate, in this part of the country, and probably it would be the same in many others. It is the first time we have heard of the Voluntary Aid Detachments working with the Territorial Force on as large a scale and in connexion with actual manœuvres.

Universities and Colleges.

UNIVERSITY OF LONDON.

The following candidates have been approved at the examination indicated:

Second M.B. (*Part II*).—E. S. Abraham, W. D. Arthur, J. E. Ashby, L. B. Baird, Irene Bastow, R. M. Beath, F. P. Bennett, †‡G. A. Bird, Alice D. Brooks, F. C. S. Broome, Marion M. B. Burt, W. Burt, N. St. J. G. D. Buxton, A. S. Cohen, F. H. L. Cunningham, J. H. Dancy, J. de Silva, *A. R. C. Doorly, P. O. Ellison, G. A. Gassmann, H. L. H. Greer, C. R. Harrison, *†H. J. Hoyte, *†A. L. Jones, E. P. Langley, A. S. Liebson, O. C. Link, G. T. Loughborough, N. P. L. Lumb, R. G. Lyster, A. G. Maitland-Jones, Refna Mallet, *J. E. Pearce, C. E. Petley, R. E. Roberts, W. E. R. Saunders, R. H. Simpson, H. Smith, ‡F. G. A. Smyth, H. J. D. Smythe, ‡W. E. Tanner, C. H. Thomas, Naomi Tribe, J. S. Wallace, J. G. Wardrop, T. B. Welch, Eva M. White, H. P. Whitworth, W. B. Wilson, A. G. Winter, H. G. Winter, W. P. Whippell, M. S. Woolf, *†J. M. Wyatt.

* Distinction in Anatomy. † Distinction in Physiology.
‡ Distinction in Pharmacology.

UNIVERSITY OF BRISTOL.

Extra-mural Medical Lectures.

The second course of extra-mural lectures on Pathology and Bacteriology: Practical Applications of Recent Researches, will be given by the Professor of Pathology at Taunton on succeeding Fridays, commencing on Friday, September 8th. The third course will be held at Dorchester during October.

APOTHECARIES' HALL OF IRELAND.

On August 16th, in the Gresham Hotel, Dublin, honorary diplomas of the Apothecaries' Hall of Ireland were conferred on the following members of the medical profession in recognition of their scientific attainments and contributions to medical science: Sir James Crichton-Browne, M.D.; the Right Hon. Michael Francis Cox, M.D.; and Dr. Robert Sydney Marsden, M.D. Dr. McWalter, Deputy Governor, presented each of the distinguished doctors, and the Governor, Dr. Magennis, handed them the diplomas. The company was afterwards entertained to luncheon.

Obituary.

FRANK PIERCE FOSTER, M.D.,

EDITOR OF THE "NEW YORK MEDICAL JOURNAL."

We regret to have to record the death, on August 15th, of Dr. Frank P. Foster, for thirty-one years editor of the *New York Medical Journal*. Dr. Foster, who was born in Concord, N.H., on November 26th, 1841, was of old New England stock; he received his education at the public school of his native town, and at the age of 15 became a pupil of Dr. Lyman Gage. He entered the medical school at Harvard University in 1857, and became M.D. of the College of Physicians and Surgeons of New York in 1862. After serving for two years as interne at the New York Hospital he made a voyage as surgeon to a Pacific mail steamer from New York, through the Straits of Magellan, to San Francisco. During this voyage he studied German with so much success that he laid the foundations of an intimate knowledge of that language, and in 1900 was associated with Dr. E. Althaus in preparing a revised edition of *Adler's German and English Dictionary*, which appeared in 1902. From 1864 until the end of the war, he was a contract surgeon in the United States Army. In 1865 he began general practice in New York, but subsequently specialized first in dermatology and afterwards in obstetrics and gynaecology. In 1871 he introduced the preparation of calf vaccine at the New York Dispensary. In 1873 he spent half a year in London, and on his return was offered, but declined, the chair of Obstetrics at Yale University, but accepted the position of Librarian to the New York Hospital. In January, 1880, he became editor of the *New York Medical Journal*, which had been founded in 1865 by Surgeon-General W. A. Hammond, United States Army. At that time the periodical was published monthly, but in 1883 the issue of a weekly edition was commenced and has been continued since; in 1902 it absorbed the *Philadelphia Medical Journal*, and in 1906 the *Medical News*.

Dr. Foster's knowledge of languages, both ancient and modern, was well recognized, and he was the editor of the *Encyclopaedic Medical Dictionary*, in four volumes, which was translated into seven languages. He was chairman of the commission on medical nomenclature appointed by the American Medical Association, and was the author of the reports presented in 1909, 1910, and 1911—a fact which proves his devotion to work, for already he was stricken with the fatal disease, cancer of the throat, which caused his death.

Dr. Foster's active and useful life reflected honour on the profession in New York and on medical journalism. Charitable in his judgement of others, willing to help his friends, careful not unnecessarily to offend, gladly giving from his great store of knowledge, a master of the pen, he will be gratefully remembered by every one who had the good fortune to become associated with him.

Deputy-Surgeon-General John Jones, M.D., late of the Indian Medical Service, died on August 8th, at Cromwell Road, London, at the age of 81. He entered the Bengal Medical Department as an Assistant Surgeon, February 20th, 1856; becoming Brigade Surgeon, April 1st, 1882; and retiring from the service in 1885. He took part in the Indian Medical Campaign in 1857-8 with the Delhi Field Force after the the capture of Delhi, and was present in the actions of Narnoni and Karkarala, at the capture of Bareilly, in operations in Oude, and at the engagement at Mehndee. He had received the Indian Mutiny medal. Dr. Jones qualified as a Member of the Royal College of Surgeons, England, in 1853, and obtained his M.D. degree at St. Andrews University in 1856, and the Membership of the Royal College of Physicians, London, in 1860.

MUCH regret has been caused in County Leitrim by the untimely death of Dr. B. A. O'FLYNN, of Manorhamilton, medical officer to the Lurganboy Dispensary. He was found unconscious and bleeding from cuts on the head, under his motor bicycle, about two miles from Manorhamilton, on the Bundoran Road. He was suffering from paralysis of the left side; two operations gave some hope of eventual recovery, but death ensued on August 17th, on the third day after the accident. Dr. O'Flynn, who received his medical education at the school of the Catholic University, Dublin, graduated M.B., B.Ch., B.A.O. in the Royal University of Ireland in 1899, and took the degree of M.D. in 1903. He was only 35 years of age.

Medico-Legal.

MEDICAL ATTENDANCE AT ISOLATION HOSPITALS.

ONE of the problems which confront those who are responsible for the smooth working of isolation hospitals is: Must charges be made for all or any of the services rendered to the patient? In considering whether a toll shall be levied, it ought not to be forgotten that while the primary object of an isolation hospital is to prevent the spread of disease, the patient generally enjoys better treatment than he can get at home, and his family is protected from infection. In these circumstances it is but right that the burden should be fairly distributed between the patient and the local authority. A recent case at Goole illustrates a method of dividing the burden. The facts of the case were very simple. Dr. Eardley was attending a child of a docker. Upon the patient developing diphtheria, he recommended that it should be transferred to an isolation hospital which is managed by a committee appointed by the Goole Urban and the Goole Rural Councils. Before the child went to this institution, Dr. Eardley asked the father whether he wished him (the doctor) to continue to attend. The father having agreed, Dr. Eardley attended the child at the hospital and subsequently at its home. He then claimed fees from the father, who denied liability for the attendances during the period the child was in hospital, on the ground that "he was under the impression that treatment in the hospital was free, the same as at ordinary hospitals." The doctor was then constrained to bring suit in Goole County Court for the modest sum of £4 10s. 6d. It was pointed out in the course of the case that there was no medical man attendant at the hospital; that, although entitled to do so, the committee made no charge against patients for attendance or nursing; and that, except in pauper cases, each patient was seen by his own doctor. The judge came to the conclusion that the father did in fact employ the plaintiff to continue in attendance, and gave judgement in his favour. No other conclusion was possible in view of the facts above stated. If there had been no request by the father to the plaintiff to continue his attendance, it is not quite certain that the father would have been under an implied obligation to pay the doctor. At the same time, it is difficult to see why the mere fact that the patient was sent to an isolation hospital should relieve the parent of liability for the future attendances of the doctor. The defence set up is another example of these frequent "impressions" that medical services are rendered free. Further, the defendant appears to have overlooked the important consideration already alluded to—namely, that if the child had remained in its own home the charges of the doctor would have been the same; while the comfort of the patient, not to mention its chances of recovery, would have been very different. The plaintiff is to be congratulated upon the success of his action; while no general conclusion can be drawn from it, it will, at any rate, remind the practitioner of the desirability of making special terms in relation to a patient whom he attends at an isolation hospital.

Mr. Silvester, instructed by Messrs. Hempsons, appeared for the plaintiff, whose case was conducted by the Medical Defence Union.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

DISGUSTED.—Announcements in the newspapers that Mr. So-and-So has commenced practice in the neighbourhood, and giving biographical details, whether accompanied by a portrait or not, are contrary to the ethics of the profession in Great Britain. The matter might be brought to the notice of the local Branch of the British Medical Association, and to that of the corporations from which the persons referred to have obtained their diplomas.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

A COUNCIL meeting of this Association was held at 34, Copthall Avenue, E.C., on August 17th. Dr. Balding, J.P., presided, and some important matters affecting the welfare of the Poor Law Medical Service came under consideration.

Cases.

The Honorary Secretary reported that since the last council meeting there had been further developments in the dispute between the guardians of St. Leonard, Shoreditch, and their medical officers. The Local Government Board had written to the guardians strongly censuring the inadequate remuneration paid to some of their medical officers, and intimating that the guardians must "accept full responsibility." But the upper Board did not see its way to make any peremptory order, and signified to the medical officers that it could not "usefully intervene further." The City Division of the British Medical Association immediately applied for a "Warning Notice" in the BRITISH MEDICAL JOURNAL against an attempt of the guardians to obtain applicants for the post of district medical officer to the No. 3 District, at the salary which had been condemned by the Local Government Board. As a consequence there had been no applicants for the post, and as the medical officer, who had done the work of this district for nearly a year, in addition to that of his own, had refused to continue, the guardians had been compelled to employ an outside medical practitioner, paying him for his services the fees current in the neighbourhood for ordinary private practice. At the present time, therefore, the guardians were paying at the rate of £500 a year for what they had hitherto been offering £115; but with this important difference: In spite of the increased cost, important Poor Law medical work could not be done by an outside practitioner. No medical registers were being kept, and the work of the relieving officer of that district was seriously hampered. The practitioner who was now doing the work had been approached by the guardians, and asked to accept the post at a slightly increased salary, but he had loyally refused to accept any terms not authorized by the British Medical Association. Such was the state of affairs.

After much discussion, in the course of which a unanimous expression of gratitude was made by the council to the British Medical Association for its assistance at this crisis, the honorary secretary was instructed to write to the Local Government Board with regard to the administration of medical relief in St. Leonard, Shoreditch, specially emphasizing the need of an inquiry, and pointing out the unjust burden thrown on the local ratepayers, as no part of the present medical expenses under the circumstances could be recovered from the Common Fund. A copy of this letter was to be sent to the City Division of the British Medical Association, thanking it for its assistance, and asking for support in carrying out the policy of the Association.

The Honorary Secretary pointed out that a dispute had also arisen in the parish of St. Mary, Islington, similar in some respects to that in Shoreditch, but the policy adopted there had been very different. It was important that the council should carefully consider it and express an opinion, as it was most important for the welfare of the Poor Law Medical Service that a consistent and united policy should be carried out. This parish was adjacent to Shoreditch, and any disaster affecting Poor Law medical interests in the former parish would be seriously felt in the latter. The dispute had arisen through the underpayment and overworking of one of the district medical officers, who had appealed to the Local Government Board. In this case the upper Board had intervened in a peremptory manner, and had ordered the guardians to appoint another medical officer at the same salary as the complainant, to take half the district. This in effect doubled the complainant's salary; but he was not satisfied, because he was only paid 15s. a case for all cases of midwifery, whereas other medical officers of the same parish received £2 for difficult cases under the Poor Law Orders. Here, again, the local Division (St. Pancras) of the British Medical Association was appealed to, and a "Warning Notice" issued to prevent the guardians from carrying out the order of the Local Government Board. There was, then, this important difference between the policy adopted in Shoreditch and Islington. In the former the profession was fighting the guardians in conjunction with the Local Government Board; in the latter it was striving to render inoperative efforts made by that Board which would have the effect of ameliorating the conditions of service of the Poor Law medical officer. The payment of 15s. instead of £2 for difficult midwifery cases was an undoubted grievance, but the complainant might himself have been responsible in a measure for this difference between himself and his colleagues in the matter of these fees. Again, it was not certain that relief might not be obtained in a far less objectionable manner. The legality of the action of the guardians in paying less than £2 was open to question.

After a long and careful consideration of all the details, the council unanimously resolved that in all disputes with the guardians it was essential for the welfare of the Poor Law

Medical Service that every effort should be made to obtain the sympathy and assistance of the Local Government Board, and that only as a last resort should the policy of a "Warning Notice" be adopted. The honorary secretary was instructed to write to the St. Pancras Division, urging that there should be a further inquiry into the matter, and that, if possible, the "Warning Notice" should be withdrawn at the earliest opportunity.

National Insurance Bill.

The council then considered the probable effect of the National Insurance Bill on the Poor Law Medical Service if it became law. The letter of Mr. Sidney Webb, published in the issue of the *Poor Law Medical Officer* of June last, in which the writer contended that out-door Poor Law offices "will dwindle at every change, and at no point will it be possible to claim compensation," was considered. Attention was also given to the question addressed by Sir Harry Samuels (Poor Law Officials, Compensation) to the Chancellor of the Exchequer and the reply thereto, "that such reductions as took place would not outstrip the regular wastage through death and superannuation among the officers employed."

In the opinion of the council there was danger that many of the present outdoor medical officers would suffer seriously in their official emoluments; and that reduction of their present salaries might profoundly affect their future superannuations. As the superannuation allowance had to be calculated on the emoluments of the last five years of office, such reduction might greatly affect the pension they would be entitled to. It was finally resolved that an effort should be made to induce the Chancellor of the Exchequer to receive a deputation from them on these points, and to ask for amendments on the following lines:

1. That where it could be proved that the effect of the measure had been to seriously reduce the salary of a Poor Law medical officer, if the latter had served for a period of twenty years and upwards, he should be entitled to claim his superannuation forthwith according to the scale laid down for his length of service.
2. That all Poor Law medical officers after the passing of the measure shall have an option of claiming their superannuation on the average emoluments received during the last five years before the measure became law.

SCHOOL CHILDREN: SICK CERTIFICATE.

In reply to several correspondents it may be said that the Local Government Board has stated that although a local authority has power to pay for a medical certificate relating to a child absent from school through illness the onus of supplying evidence of a reasonable excuse for the non-attendance of a child at school devolves on the parent of the child.

The Board has likewise stated that where, through poverty or other cause, the parent of a child cannot pay for a medical certificate relating to a child absent from school through illness, the reasonable cost of obtaining the certificate by the local education authority would be a legal charge on the rates. The Kent Education Authority pays a fee of 1s.

THE EARLY NOTIFICATION OF BIRTHS ACT.

W.A.M.—There is no provision for the payment of any fees for notifying under the Early Notification of Births Act. A few months ago, with a view to the adoption of the Act in Manchester, and to remove one of the objections of the profession, the Manchester Corporation applied to the Local Government Board for permission to pay a fee to medical men for each notification. It is understood that such permission was absolutely refused, and the question of adopting the Act in Manchester is at present in abeyance. In several rural areas in Lancashire where the Act is in force, prepaid postcards are distributed to medical men, which simply require names and addresses to be filled in, but in no case is any fee paid. The Act specifically provides that the notification "shall be given by posting a prepaid letter or postcard addressed to the M.O.H.," or by delivering a written notice, and it is further provided that "the local authority shall supply without charge addressed and stamped postcards containing the form of notice to any medical practitioner or midwife residing or practising in their area who applies for the same." It may be added that in more than one area where the stamped and addressed postcards are distributed, the medical practitioners simply take no notice of them, and refuse to notify in spite of the penalty that is attached to failure to notify.

ISOLATION OF INFECTIOUS DISEASE AT HEALTH RESORTS.

J.—(1) A sanitary authority is under no statutory obligation to provide isolation hospital accommodation for the inhabitants of its district. Even when such accomodation has been provided, or when arrangements have been made with a neighbouring authority to isolate cases, the authority is not bound to arrange for the isolation of every infectious case occurring within the area of its administration. (2) In the event of the sanitary authority refusing to arrange for the isolation of an infected child, and if as a consequence a second child became infected, the parents would have no remedy against the authority. (3) Unless consultation with another practitioner was ordered for the purpose of confirming a diagnosis by the sanitary authority, the latter would not be responsible for any fee. Strictly speaking, the statement attributed to the medical officer of health to the effect that a medical practitioner having notified a case his responsibility ceases is correct if the responsibility is confined to measures for the prevention of the spread of the disease, though happily most practitioners take a great deal of trouble as regards preventive measures, and it is very desirable that they should continue to do so. (4) It is almost incredible that any health resort at the present day, with any desire to attract and retain visitors, should not be able to remove infectious cases promptly, and the medical practitioners of the town referred to by our correspondent might well represent to the sanitary authority the urgency of providing the necessary isolation accommodation.

Medical News.

Courses of lectures and demonstrations for sanitary officers, for meat inspectors, and for school teachers and others entering for the examination in hygiene will be given at the Royal Sanitary Institute, commencing on September 18th. Further particulars can be obtained on application to the secretary, 90, Buckingham Palace Road, S.W.

The Managing Committee of the Sleeping Sickness Bureau has decided to publish a quarterly bulletin dealing with the *Leishmania* group of diseases. Dr. C. M. Wenyon, protozoologist to the London School of Tropical Medicine, who has been chosen to undertake this part of the work, is at present investigating "oriental sore" in Asia Minor, and has already published an interesting report on this condition. The similarity, morphologically, of the parasite of "oriental sore" to that which causes kala-azar is well known. There are many other important points requiring investigation as regards the *Leishmania* group of diseases, and the committee is fortunate in having been able to procure the services of a man of Dr. Wenyon's attainments. Dr. Bagshawe, the director of the Sleeping Sickness Bureau, in the last *Sleeping Sickness Bulletin* (July, 1911), states that a list of references is now in preparation, and will form the first number of the new bulletin. Those who wish to receive this should send their names to him.

By way of comment on some cases of nutmeg poisoning recently published in the British Medical Journal, Messrs. F. B. Power, Ph.D., and A. H. Salway, Ph.D., have forwarded a reprint of an article published in the *American Journal of Pharmacy* some two years ago. It records an investigation undertaken by them in the Wellcome Research Laboratories to determine to what constituent the narcotic effects of nutmeg are due. They found no alkaloid nor soluble toxic protein, and, after complete study of the essential oil, the expressed oil, and the "press cake," concluded that the physiologically active body was a constituent of the essential oil—namely, myristicin ($C_{11}H_{12}O_3$). Their results also confirmed Jürss's observation that myristicin, besides acting on the central nervous system, may induce acute fatty degeneration of the liver in animals that do not succumb to its action very quickly. They also found that a dose of nutmeg containing a smaller quantity of myristicin than would produce any appreciable effect when given orally would nevertheless suffice to cause death in a few days' time. This apparent discrepancy, they show, is probably explicable by the fact that when isolated from its natural admixture myristicin is absorbed with difficulty.

Dr. Girdhari Lall Batra of Lahore, Punjab, has commenced a series of medical inspections of Indian school boys and students which promises, when sufficient data have been collected, to furnish interesting facts. He has drawn up forms in which information regarding the student's family and personal history and the hygienic condition of his home, and observations respecting physique and health are systematically recorded. Dr. Batra has examined 258 students in three educational institutions, and has published in a local paper some results of his investigations. The ages varied from 15 to 22 and weights from 64 lb. to 156 lb. The majority were pale and anaemic, many had weak hearts and lungs, a considerable proportion bad teeth, and a large number defective vision; 29 per cent. of them were married, and to this circumstance Dr. Batra attributes the weak physique and delicate health which were so painfully in evidence. "Think," he remarks, "of an Indian student who has quarrels with his mother, is worried by his wife, and has the care of children at 17!" These inquiries were made under the auspices of the Society for Promoting Scientific Knowledge, and ought, if prosecuted with care, to be of service to educational authorities as well as of anthropological value.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

H. H. B. has had a case of actinomycosis under treatment for the past year; potassium iodide in large doses, up to ʒss thrice a day, has been administered, but the ray fungus is still to be found. Our correspondent asks for suggestions as to further treatment.

DR. HOYLE (Upham, Hants) would be grateful for information of any home or institution that would take three cases of Friedrich's ataxia, aged 11, 9, and 4. Two girls and a boy. The vision of the eldest girl is very defective. The boy might possibly be capable of being trained to a trade. The youngest case will probably be severe. A small sum could be contributed towards their maintenance.

FIBROSITIS writes: A patient has suffered for some years from a tendency to locking of interphalangeal joints when extending the fingers. Within the last few months he complains of being unable to get the full use of his left arm, the limitation in movement being most marked when he attempts to put his arm behind his back. The pain, which is only occasionally present, is referred to the middle of the humerus, and is of a neuralgic nature shooting along the ulnar nerve. What is the connexion between these two conditions? What is the prognosis? Is any treatment likely to be serviceable?

EXAMINATION OF SCHOOL CHILDREN.

G. asks whether there is any district in which a fee is paid by the local authority to private practitioners for the examination of school children for defective vision.

*** Section 13 (1) (a) of the Education (Administrative Provisions) Act, 1907, gives power to a local education authority to make such arrangements as may be sanctioned by the Board of Education for attending to the health of the children educated in public elementary schools.

ANSWERS.

DR. ELWIN H. T. NASH (Wimbledon) writes: In reply to your correspondent (BRITISH MEDICAL JOURNAL, July 29th, p. 252) who requires information with regard to Dr. Carl Spengler's I. K. Treatment, there is an original article by Dr. Spengler in vol. xxxviii, 1908, of the *Deutsche medizinische Wochenschrift*, also an article by Dr. Felix Lukin in the *Beiträge zur Klinik der Tuberculose*, and a report by Dr. W. F. Wolston of Chicago. This latter and the translations of the other articles can be found in the *Therapist* of November 14th, 1908, and April, May, and June, 1911.

DUBLIN.—(1) There is no means of preventing the untoward effect of silver salts. This fact must very much diminish their use. (2) Lecithin is an ordinary constituent of many foods; its use therefore can hardly be attended with any serious risks. (3) It does not seem possible to state how long strychnine may be used without intermission before cumulative effects may become noticeable. The poisonous symptoms are due to defective excretion. Sir Lauder Brunton (*Pharmacology, Therapeutics, and Materia Medica*, 1891, p. 42), after pointing out that in the case of digitalis the evidence of accumulation is afforded by diminution in the quantity of urine owing to the powerful contraction of the renal vessels which it produces, adds, "strychnine has a similar action on the vessels."

FLEAS.

P. S. writes: "F." will probably find the following method successful in getting rid of fleas: First clear the mattress thoroughly of all dust, etc. Then sprinkle on the mattress a small handful of common salt and then some Keating's powder. This should be done every other day for three days, at the end of which time the pests will probably have disappeared.

USE AND CONSTRUCTION OF SEPTIC TANKS IN CONCRETE.

S. E. D. is advised to consult *Purification of Sewage*, by Sidney Barwise (London: Crosby Lockwood and Son. 1904. 10s. 6d.), and *Sewage and Sewage Purification*, by S. Rideal (London: R. Ingram. 1906. 16s. net).

LETTERS, NOTES, ETC.

WE have received some samples of Hardtmuth's Koh-i-Noor pencils, including some propelling pencils of various designs for the pocket or desk. They are made in various degrees of hardness, and those which we have tried possess the merit that the points are not easily broken. This is a matter which must be taken into consideration together with the question of price.

ANAESTHESIA IN ADENECTOMY.

X. writes: Let me endorse Dr. Bygott's statement (p. 330) that anaesthesia is unnecessary for adenectomy. I first saw this practised a few years ago most successfully by Dr. Middlemass Hunt in his Liverpool clinic. Later, when senior clinical assistant at a large London special hospital, I had the opportunity of doing some fifteen or more cases a week with anaesthesia, and it seemed to me that the child's apprehension was quite as great—they always fought against the anaesthetic mask—and the results no better. Later still, having a class of patient to deal with who are better without anaesthetics if possible, I was surprised at the painlessness with which adenoids could be whipped out. The "one sweep" Dr. Bygott talks about is the secret; it must be made decisively. The only drawback I have noticed is that patients over 25 get slight shock sometimes, but nothing serious. The saving in time and risk is obvious.

THE PATHOLOGICAL MUSEUM.

THE collection of tonsils to which we drew attention in our account of the Pathological Museum (SUPPLEMENT, August 5th) at the Annual Meeting, was derived, we learn, not from Birmingham, but from the Royal Victoria Infirmary at Newcastle-on-Tyne.

"HOSPITALITY LOCUMS."

WE have received a letter from a correspondent which seems intended to suggest that arrangements under which a medical man acts as locumtenent during the holiday season in return for board and lodging may not prove satisfactory. Our correspondent found himself called upon to do more work than he expected, and considered that his principal might properly have offered him a bonus in addition to the small sum for travelling expenses he actually received. We can express no opinion on the circumstances of this case, but undoubtedly indefinite arrangements of this kind often lead to misunderstandings.

YELLOW FEVER IN WEST AFRICA.

IN our summary of the discussion on yellow fever at the recent Annual Meeting, Dr. Harold Seidelin was interpreted as having denied that the virus of yellow fever was conveyed by the *Stegomyia fasciata*, whereas the full effect of his statement was merely that it had not yet been proved that other species of *Stegomyia* could not also convey the virus. A verbatim statement of his observations on the point will appear in our detailed account of the proceedings of the Section.

SCHOOL CLINICS.

DR. J. REID (London) writes: The papers in the JOURNAL of August 19th require notice. The general practitioner meets with women anxious to have operations done on their babies, with mothers who have had repeated operations done and still ail, and with mothers adverse to operations. He also sees patients suffering from acute tonsillar troubles (influenza) sent home to be operated on. It is the old story: Make an operation or a medicine fashionable and worshippers at the shrine will multiply. I personally think that if the Government makes education compulsory it ought to take reasonable precautions to prevent children from being infected, in place of having inspectors hurrying off to schools children suffering from pediculi, impetigo, scabies, pertussis, etc. Occasionally a female teacher sends a child home suffering from a suspicious skin or other contagious trouble. It is more common to have a hard-working woman bounced into sending a disease-spreading child to school. Men have told me of threats in case of children suffering from bronchopneumonia, etc., unless sent to school.

RETINOSCOPY WITHOUT ATROPINE.

DR. HORATIO MATTHEWS (Eastbourne, late House Surgeon to the Southampton Free Eye Hospital), writes: Dr. Alexander Wilson's paper on retinoscopy without atropine, etc., is instructive. The dispute as to the unequal contracture of the ciliary muscle, however, can scarcely be settled by retinoscopic readings before and after the instillation of atropine. The important point in this mode of investigation would be, surely, the nature of the differences, if any, between the readings given by the unatropinized eye, first, while at rest, and, secondly, while strongly accommodating. Any diminution in the meridian astigmatism noticed would not depend upon pupil elimination, but obviously on unequal contracture of the ciliary muscle.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
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An average line contains six words.

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE MODE OF TRANSMISSION OF LEPROSY.

BY

T. LINDSAY SANDES, M.A., M.D.,

RESEARCH MEDICAL OFFICER, ROBBEN ISLAND LEPER ASYLUM, SOUTH AFRICA.

THE mode of transmission of leprosy from the infected to the healthy is a question which has hitherto baffled research. Of the infectivity of the disease no one who has studied its history and has carefully investigated any considerable number of cases, their previous life and social relations, and who considers the evidence without prejudice, can, I think, have any doubt.

In the first place, a word as to heredity. It is exceedingly improbable that an ovum, still less a sperm cell, could contain so relatively large an intruder as a lepra bacillus and yet suffer so little derangement of its great but excessively delicate potentialities as to render successful fertilization and development possible. This view was first enunciated by Virchow in discussing the germinative transmission of tuberculosis, and it has never been adequately refuted. We are aware that the infections of pebrine disease of silkworms, and of syphilis, are capable of being deposited previous to fertilization in the parental elements, but in both these cases the progeny, mature or otherwise, show widespread infection and the diffuse ravages of the particular disease immediately, or more usually shortly after, birth. I have had the opportunity on two occasions of examining the tissues of the offspring of leper parents which were either stillborn or had died soon after birth; in neither of them was the lepra bacillus or anything suggestive of its presence discoverable. In well-marked cases of tubercular leprosy bacilli may be demonstrated in the ovaries, prostate, seminal fluid and elsewhere in the genital tracts, but careful and repeated search has failed to discover the organism in either the sperm or germ elements. This, of course, is negative evidence, nevertheless it is not entirely valueless. Placental transmission, unless as an accident, also seems highly improbable. The bacilli are at any time very difficult of demonstration in the blood. During acute exacerbations of the disease with the formation of fresh tubercles, fever, sickness, and other signs of general infection, they are not so difficult to find. But pregnant females, in my experience at any rate, are remarkably free from these superimposed attacks of acute leprosy, however much they may relapse afterwards. Microscopic examinations of placentae have shown no bacilli nor lesion attributable to their previous presence.

Children are undoubtedly more susceptible to infection than adults, and as a rule the disease makes rapid and destructive progress in their young tissues. Infection, however, takes place not only by reason of an increased susceptibility in their junior years, but also on account of the unlimited opportunities afforded for its transmission during the early period of dependence and intimate contact of parent and offspring.

Commensal feeding, and the fact that the bacillus flourishes in the products of tryptic digestion, suggest the possibility of a primary alimentary infection; the bacilli, perhaps, after ingestion reach the small intestine and find a suitable medium, whence they subsequently make their way into the general circulation and so establish the disease. But considering the delicacy of the lepra organism in its initial stages of artificial growth, the adverse conditions it is likely to meet in the gastric and intestinal tracts, the absence, so far as my inquiries have gone, of an early clinical history in consonance with such an infection, and the negative results of *post-mortem* examinations of early cases of the disease as regards involvement of the intestinal tract and mesenteric lymphatics, it seems to me that this mode of transmission of the infection, if it does occur, must be rare.

Inhalation of dried bacilli floating as dust may also be suggested as a probable path of infection. Ulceration, with dense bacillary infiltration of the nasal mucous membrane, is the rule in tubercular leprosy. But again, though an early lesion, it is not initial; in fact, it is not observed until the general infection is distinctly pronounced. Infiltration, nodule formation, and ulceration of the larynx and adjacent mucous membranes are very frequent, but only as late, or subterminal, complications in tubercular leprosy.

Leprotic involvement of the lungs is very uncommon. Clinically I have never known it, and in my last 50 *post-mortem* examinations microscopic inspection has always failed to discover undoubted lepra bacilli or granulomatous reaction due to their presence, although the tubercle bacillus and the results of its presence were very frequently observed.

In brief, then, we have no reason to believe that the infection of leprosy is transmitted *ante-partum*, and both the mode and the site of primary infection have hitherto remained undiscovered.

As a result of observations on a large number of cases of leprosy, I was led to direct increasing attention to the skin as the probable site of primary inoculation. Over a year ago, therefore, I decided to conduct my researches in this matter with a view to establishing or eliminating any part the commoner and more widely distributed domestic insects might play. I considered the common house-fly (*Musca domestica*). The Stomoxys genus and the *Haematobia irritans* or horse-fly are vicious biters, and on *a priori* grounds, more probable carriers of infection, though the latter rarely bites man; but they are uncommon on this island, and I determined to work, in the first place, with the more abundant material at hand. Further, I examined the common flea (*Pulex irritans*), also the local varieties of mosquito (*Culex* and *Anopheles*), and finally the bed-bug (*Acanthia lectularia*). My methods were simple. The insects were confined for a period of from twenty-four hours to twenty days in a test tube with a little cotton-wool. The test tube was kept in the laboratory incubator. The hungry insects were then placed in a large watch-glass with some cotton-wool, and fixed by adhesive plaster and bandages to the selected site. In the case of flies and mosquitos a light wire frame with netting was found preferable. An infiltrated area on the posterior surface of the forearm was found to be suitable and convenient. The following table summarizes the results of the examination of smears of insects so fed made within half an hour of feeding:

70 Flies ...	... Enclosed over ulcerated leprotic surfaces. Two acid-fast bacilli found in the stomach of one fly and one in the stomach of another.
80 Mosquitos...	One contained three acid-fast bacilli.
60 Fleas...	... Two contained acid-fast bacilli—two bacill in one flea, one in the other.
75 Bugs...	... Twenty contained acid-fast bacilli.

The bugs frequently contained acid-fast bacilli in the alimentary canal. The mosquitos, fleas, and flies very rarely contained bacilli, or they rapidly disappeared or were no longer recognizable; indeed, in the cases of the mosquitos and fleas I hesitated some time in consideration of the isolated red rods as to whether they were actually bacilli or stained fragments of tissue; I therefore venture no further statements about them. After these preliminary experiments, attention was concentrated on bugs. Lepra bacilli are undoubtedly imbibed by the bug, and are demonstrable without much difficulty in smears made from the débris of the intestinal canal. I say lepra bacilli advisedly; they retain their acid-fast staining, and show the morphologic characteristics associated with this organism. No acid-fast bacilli were found in unfed bugs. They are usually isolated, but I have counted as many as twelve in one field. They do not readily disappear, but can be found up to sixteen days after the insects are fed. Acid-fast bacilli answering all characteristics of the lepra bacillus were also found in smears made from the tissue juices and circulating medium of bugs fed on lepers, in smears of the macerated head and of the proboscis (five days after feeding), and, finally, I found a bacillus once in the excreta deposited on the inner surface of the test tube.

On May 2nd last some bugs were fed on a patient with well-marked tubercular leprosy, who at the time showed a fresh crop of nodules, was feverish, and, in fine, exhibited all the signs of an acute exacerbation of the disease. When the insects had been affixed to the patient for eight hours they were removed and found distended with blood. Again, on the fifteenth day of the same month the same insects were reapplied to the same patient for a few hours. Next morning, May 16th, one insect was

found dead. I made a smear of the stomach contents, and also of the body tissues well apart from the intestine. The former contained a few bacilli; in the latter, stained at the same time and by exactly the same method, field after field displayed squadrons and platoons of acid-fast bacilli. Their individual appearance differed considerably, however, from the classic lepra organism. They were shorter, some of them almost coccoid; they were more homogeneous in staining, displayed no granularity, had occasionally a median constriction, occasionally a terminal clubbing. The great majority were arranged in groups, the individuals of the groups showing a tendency to adhere in parallel formations, like the cohesion of floating logs. They appeared to me to be young lepra bacilli in full prolific activity—not having yet assumed the senile or degenerative forms usually observed in the impacted bacillary masses of human tissues.

Owing to the recent work of Drs. Clegg and Duval, who have shown that the presence of the amino-acids is essential for the artificial cultivation of the bacillus, I was able to compare these bacilli with others artificially cultivated. They were very similar. In some, though slight differences were recognizable, such differences were less than those observed in comparing different bacilli of the same slide. Careful comparison left little doubt in my mind that the organisms from the bug and those from the cultures were identical. It seems to me probable that the bug actually died of acute leprosy.

I have recently endeavoured to demonstrate the transmission of the bacillus by fed bugs to healthy tissues. Bacilliferous insects were applied to shaven areas on guinea-pigs, rabbits, and monkeys, and to the clean, unaffected arms of "arrested" maculo-anaesthetic lepers. Small portions of tissue surrounding the bite were excised immediately the insect left its mark and at varying times afterwards, and sections cut and stained. The results have, in the case of the lower animals, been uniformly negative. On one anaesthetic leper a small papule appeared at the site of the bite. This papule was excised but no bacilli were found in it. A definite bacillus was, however, found a considerable number of sections away from the edge of the papule, but whether it had been injected by the insect or had been deposited there previously or independently it was impossible to decide.

On consideration it will be apparent that it would be sanguine to expect any marked result from the application of these leper-fed bugs. Guinea-pigs and rabbits are uninoculable with leprosy, and leprosy bacilli, so far as my investigations have gone, rapidly disappear if injected into their tissues. As regards maculo-anaesthetic lepers, it seems to me that during most of the time they suffer from the disease they are partially immune, and only their peripheral nervous system affords a suitable soil for the growth of the bacillus. If the disease be indeed "arrested" even this partial susceptibility disappears.

Conclusions.

Reviewing the foregoing data, I venture to submit the following conclusions:

1. That considering the enormous numbers of lepra bacilli in the infiltrated or ulcerated skin and nasal mucosa of an active "tubercular" leper and the ingestion of bacilli by certain insects, direct contact and transmission by flies, fleas, mosquitos, or other insects, are possible modes of spread of the disease; but such infection, if it ever does take place, is accidental and exceptional.

2. That having found acid-fast bacilli answering as far as our imperfect tests permit to the characteristics of lepra bacilli in a considerable proportion (about 30 per cent.) of specimens of *Acanthia lectularia* up to sixteen days after feeding on lepers, there is reason to believe that this species of insect constitutes a very important agent in the spreading of leprosy. Unfortunately this view can be proven with finality only by the application of bugs previously fed on lepers to the persons of healthy individuals with the resultant development of the disease, unless, indeed, it be found, as there is some reason to hope, that certain monkeys and anthropoid apes are susceptible of inoculation with leprosy.

In connexion with the foregoing conclusions, I quote in brief a few details, obtained without leading question or suggestion, of the early history of a patient—an European of intelligence and with a clear memory of the onset of the disease:

H. M., No. 1,039, aged at the time 11 years (whose father had been removed as a leper to this asylum some time previously, and whom the son used frequently to visit), observed for the first time in the year 1901 a small red papule under his chin. It enlarged slowly, becoming in area, to use his own simile, about the size of a sixpenny piece. It was indurated, and resistant to treatment. It remained thus, slightly raised, hard, and of a reddish hue for two complete years before any further symptoms appeared. In the year 1903 he noticed for the first time a bluish puffiness of his cheeks; later slight thickening of his eyebrows, and a diffuse but moderate swelling of the entire countenance. Towards the end of the year tubercles began to appear on his face. Thereafter, tubercles continued to appear at irregular intervals on his face. The glands of his neck became involved. From this time onwards the tubercles and other typical signs were of universal distribution, and showed a diffuse systemic infection.

The initial pimple, and later tubercle, on the chin would appear to have been the primary lesion, probably caused by the bite of a leprosy-infected bug.

In the communities where it is endemic leprosy is notoriously a disease of the dirtier classes. It is not, however, necessarily associated with poverty, except in so far as this is a concomitant of squalor. In South Africa, although leprosy is more prevalent among the lower strata of the population it is by no means confined to them. Of the cases in Europeans a considerable percentage is derived from families in which poverty and privation are unknown, but where the practice of the elements of domestic hygiene and cleanliness is in abeyance. Cases do occasionally occur in persons whose habits are, in general, cleanly, but on inquiry one sometimes finds that lapses from such habits have occurred, affording opportunity for the transmission of the infection by the means suggested. There is in this asylum, for example, a patient who once held a position of responsibility in a crack English regiment. He had always been of scrupulously cleanly habits when circumstances permitted. He states, however, that under the exigencies of campaigning in India, and later in South Africa, he frequently slept between, and retained for temporary use when no others were available, blankets belonging to and previously used by natives.

A NOTE ON THE TRANSMISSION OF LEPROSY.

By E. C. LONG, M.R.C.S., L.R.C.P.,
PRINCIPAL MEDICAL OFFICER, BASUTOLAND.

THE means by which the leprosy bacillus is introduced into the human body have not yet been definitely established.

Commensal feeding, direct inoculation or contagion have been generally accepted as being the most likely methods of introduction; but no proof of any of these methods has yet been adduced, and I believe the leprosy bacillus has hitherto not been found outside the human body.

The fact that leprosy is most common among people of unclean personal habits and living in unhygienic surroundings points to some co-existing source of contagion.

The possibility of the bacillus being carried by vermin occurred to the writer. With a view to testing this hypothesis, bed-bugs obtained from huts which had never been inhabited by lepers were caused to bite lepers in the neighbourhood of leprous nodules on the face. The bugs were then killed and the alimentary tract and its contents examined. In every bug that bit freely a bacillus was found which in shape, size, and staining reactions is similar to the *Bacillus leprae*.

Control bugs from the same hut gave in every instance a negative result.

The experiments are still in progress, and it is intended, as soon as circumstances permit, to solve the following questions:

1. How long the bacilli remain in the bug's body.
2. If bugs which over a period of weeks have fed on the blood from leprous nodules present any evidence of growth of bacilli in their tissues.
3. What organs of the bug contain bacilli.
4. Whether any other vermin—for example, fleas and lice—contain bacilli.

These experiments are only regarded as preliminary to a thorough investigation of the subject, but the question is so important that I have ventured to record my results in the hope that other observers may be induced to experiment on the same lines. I think it will be found that lepers may be inoculated by infected bugs, and this point can be elicited by causing infected bugs to bite lepers on parts of the skin on which there are no leprous lesions.

If my hypothesis is correct, a great many facts regarding the spread of leprosy which have hitherto been inexplicable would be made clear. Inquiries into the past history of certain lepers go to show that they could only have become infected with leprosy through some intermediate host.

The fact that plague is carried by fleas warrants, at any rate, the inference that leprosy may possibly be carried by bugs. Further, the fact that only a percentage of human beings are attacked by the bed-bug, or, for the matter of that, by the flea, would serve to explain why it is that only some of those people who live in close association with lepers become lepers also. All lepers that I have questioned admit that bugs bite them freely, and it is not unreasonable to assume that such a voracious feeder as the common bug must, in the course of his nightly meal, ingest a considerable number of leprosy bacilli if his bites are in the neighbourhood of leprous nodules which are often swarming with the *Bacilli leprae*. If such infected bugs were thereafter to bite a non-leper, there would be a good chance of the bacillus being introduced into his system.

The following history of a recent case of leprosy is only explicable by assuming some such method of infection as suggested above:

A native, X., residing in a village about three miles from Maseru, presented himself as an out-patient about three months ago with some well-marked tubercular leprous patches on the face. They had appeared about six weeks previously. There are no lepers in his village, and none of his relatives are lepers. Inquiries into how he had spent his time and where he had been during the preceding year elicited the fact that he had during that period visited on three or four occasions a village about fifty miles away, where there was one leper, who was, however, driven from the village during the period in question. X. had been in the leper's hut, but had never partaken of food there. After the leper had been driven away, X. spent one night in the hut, and was severely bitten by bugs there.

The closest questioning failed to elicit any further evidence of contact with lepers or their dwellings, and one is almost forced to the conclusion that X. was inoculated by leprosy-infected bugs or other parasites on the night he spent in the infected hut.

THE OPHTHALMO REACTION OF CALMETTE IN THE EARLY DIAGNOSIS OF PHTHISIS.

BY

A. STROUD HOSFORD, M.R.C.S., L.R.C.P.,

LATE SENIOR RESIDENT MEDICAL OFFICER TO THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST, LONDON.

While Resident Medical Officer at the Royal Hospital for Diseases of the Chest I had the opportunity of studying the effects of Calmette's reaction on patients exhibiting various stages of pulmonary tuberculosis.

The solution of tuberculin employed consisted of glycerine-free desiccated tuberculin of strength 0.1 per cent. prepared from Koch's Old Tuberculin manufactured by Farbwerke Vorm Meister Lucius and Brüning.

One or two drops of this solution were dropped into one eye of the patient near the inner canthus, the lower lid being drawn down by means of the finger, which is kept there for a minute or so to ensure absorption, otherwise the fluid is apt to be squeezed out as the patient naturally closes his eye. In all cases before the drop is inserted the eye should be carefully examined for any sign of disease, old standing or recent, in order to avoid any risk of serious inflammation; unless the eye is to all appearances free from disease, no tuberculin should be placed in it.

The resulting inflammation differs in different individuals, both in time of onset and in the intensity, irrespective of the amount of the involvement of the lungs. In my experience some cases have shown definite reaction as early as three hours after the application of the test, while some have not shown any reaction until as late as thirty-six to forty hours after the test was applied; in the majority the maximum reaction was obtained in about twelve hours.

The reaction produced may consist of slight conjunctival injection, of marked injection of the whole conjunctiva, both ocular and palpebral, or of marked injection with a muco-purulent discharge, and the patient experiences the usual symptoms of simple conjunctivitis, which entirely clears up in the course of three or four days. In one case in which a stronger solution was used (1 per cent.), there was not only a marked conjunctival reaction, but also an inflammatory condition of the surrounding tissues closely resembling that produced by erysipelas. As a rule no treatment was required, but if the patient complained much of the irritability of his eye, the usual treatment for conjunctivitis was employed. Some observers have recorded bilateral results, but none of our cases showed this. If Calmette's test has been applied to the eye of a patient with pulmonary tuberculosis, and several weeks afterwards Koch's Old Tuberculin has been injected in the usual manner with a positive result, a secondary inflammatory reaction in the same eye has occurred in some but not all cases.

In some cases of early involvement of the lung, no physical signs whatsoever were discovered, and the disease was only suspected on a history of haemoptysis. It is in these cases especially that Calmette's reaction came to our aid, and proved to be of the greatest value, the diagnosis being confirmed later by the appearance of crepitations at one or other apex. A positive reaction may be said to carry great weight, and the patient would be wisely treated from the first as if physical signs had existed. One often sees a patient who complains of "bringing up blood," and in whom no physical signs can be found, hence it is difficult to say where the blood is coming from; but as I have just stated, if Calmette's test is positive, in such a case it throws a grave suspicion on one or other lung.

A negative reaction by no means excludes phthisis, as the test may fail in some early cases, but more especially in old-standing ones, and those who are moribund. If Calmette's test proved negative, and pulmonary tuberculosis was suspected, a second application was made in three to four weeks to the other eye. If a reaction now takes place, in my opinion the patient is undoubtedly tuberculous; this second application was found only to be required in a few cases. I have seen two cases in which a third application was necessary before a positive reaction was obtained. Patients that have had the test applied have been seen some considerable time after, even as late as a year, and I have never had a case which showed any bad results whatever.

Summary.

Calmette's reaction was used in 225 cases with the following results: 100 were cases of pulmonary tuberculosis; all reacted with the exception of 7. These 7 were undoubted phthisis, the sputum containing tubercle bacilli. Five of these 7 were in an advanced condition, and two of them gave a reaction to a subcutaneous injection of Koch's old tuberculin. The remaining two cases were early, but, as I have stated above, their sputum contained tubercle bacilli.

Of the remaining 125 cases which were not phthisis and did not give the test—

25 were cardiac cases of all varieties.
31 were simple bronchitis which cleared up.
20 were chronic bronchitis and emphysema.
23 were of various kinds—for example, gastric ulcer, dyspepsia, enteric fever, empyemata, neuroses.
8 were bronchiectases.
6 were simple pleuritic effusion of pneumococcal origin.
12 were cases of lobar pneumonia all of which resolved.

In all these 125 cases tubercle bacilli, although repeatedly looked for, were not found in the sputum.

Conclusions.

1. A negative result by no means excluded pulmonary tuberculosis; some very advanced cases failed to give a reaction.

2. I have never obtained a positive result except in true cases.

3. I never saw any bad results whatever from the use of the test as regards the eye.

4. If in a suspicious case the patient fails to give a reaction, then the test should be applied on three different occasions with an interval between each application of three to four weeks.

I am greatly indebted to the physicians of the hospital for their permission to publish these results. My thanks are also due to my colleague Dr. Leckie, the House-Physician, for his kind assistance in compiling the cases.

NASAL OBSTRUCTION AND ITS CONSEQUENCES IN SCHOOL CHILDREN.

BY

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HALF-TIME SCHOOL DOCTOR TO LONDON COUNTY COUNCIL; LATE WHOLE-TIME SCHOOL DOCTOR TO THE BERKSHIRE COUNTY COUNCIL.

IN the course of routine inspection of school children there are few conditions met with that are of greater importance to diagnose, that present such frequent difficulty in diagnosis, under the circumstances, or tax one's judgement with regard to advising operation, as do the varying degrees of nasal obstruction that daily come under notice. The conditions causing obstruction may be classed as follows in order of frequency:

1. Adenoids (with or without enlarged tonsils).
2. Enlarged turbinate bones.
3. Thickened and deviated septum and spurs.
4. Nasal polypi.

All these conditions are very frequent except polypi, which appear to be by no means uncommon, and almost invariably unsuspected by the parents. With regard to adenoids, and in cases of great doubt, where the parents specially inquire if an operation is necessary or not, it is obviously best to palpate the posterior nares. I always explain to the parents beforehand how painful this is, and obtain their consent. It is obviously a method to be avoided as far as possible in the schools. Posterior rhinoscopy is also out of the question.

When the child has enlarged tonsils there is no need to make an exact diagnosis of adenoids, since an operation is necessary in any case.

In every suspected case it is important to ask if an operation for adenoids has been recently performed, since a mouth breather will not become a nose breather without training or practice. Otherwise, if a child who has not been under operation is an obvious mouth breather, the school doctor may, I think, safely advise operation, without risk of the child being returned to school labelled, "No treatment necessary," even in the absence of other clear physical signs.

Deformities of the chest of the "pigeon breast," "Harrison's sulcus," "keeled sternum," "excavated ensiform," and allied types, are extraordinarily frequent; speaking offhand, I should put them at about 20 per cent. of all children examined, and I believe them all to be accounted for by obstruction to respiration, past or present—usually present. A few cases only have other signs of rickets.

A degree of obstruction sufficient to deform the chest ever so little is important. Many such cases have, or develop, chronic bronchitis. Likewise, all children who are said to snore, either in bed or at school, or to be deaf, must be carefully investigated. I think that a habit should be formed of looking into the anterior nares as well as examining the throat with a spatula in every case. Gentle pressure on the tip of the nose expands the nostril sufficiently to give a good view of the inferior turbinates and of any polypi that may be present as well as the septum, without using any sort of speculum. Of the tests other than palpation to be applied to the posterior nares the first is obviously to close each nostril separately, by pressing a finger on the ala nasi, and make the child inspire and expire through each nostril, with the mouth tightly closed. It is difficult to gauge the freedom of entry of air, but it is easy to feel the blast of air on the back of one's hand during expiration and to gauge its volume and force. It is important to observe the effort required during inspiration, but care must be taken to prevent the outer wall of the nostril being sucked in, and so acting as a valve, by again keeping gentle pressure on the tip of the nose with one finger. In many cases the effort of drawing in air through an obstructed nostril quite puts the child out of breath, so that he involuntarily opens the mouth, when the observer says to him, "Now blow out through your nose."

In applying this test it is necessary to remember that the child is taught in school to expire through the mouth, so that it must be made clear to him that on this occasion he is required to breathe in and out through the nose. The effect of the special training, which he endeavours to act up to when under observation, is also apt to deceive in that class of case in which a child with well-formed face and firmly-set mouth appears to be breathing quite properly through the nose for the benefit of the doctor examining his chest. In such cases attention is first called to the nasal obstruction by the almost complete absence of breath sounds, even over the right bronchus. One is apt at first to suspect early phthisis, which, amongst the small percentage of cases in school children, frequently commences at the hilus of the lung, until the child is told to breathe quietly through the mouth, when the breath sounds become as puerile as usual. In many cases in which my suspicions have been aroused by the above observation in normal-looking children I have explored the naso-pharynx and found abundant adenoids.

I have found wide, roomy nostrils with chronic rhinitis and discharge to be a not infrequent concomitant of adenoids, especially in children not obviously mouth breathers. In these cases the expansion of the nostrils appears to be due to an effort to increase the breathing space and allow air to creep in around the obstruction, and ozaena eventually supervenes. Enlarged turbinates are also common in these cases, but whether they are the cause or the effect of the expanded nostril and unventilated space I am not prepared to say.

I have seen cases of badly deformed chest associated with enlarged tonsils in which there were no adenoids or other form of nasal obstruction present at the time of observation; but enlarged tonsils have a much more common and more serious effect upon the child's future than this. By far the larger number of valvular lesions of the heart that have come under my notice during the past three years have been associated with enlarged tonsils. Some of these tonsils have openly declared themselves as the harbingers of rheumatism, scarlet fever, diphtheria, etc., but very many have simply remained the cause of periodical sore throats, and have admitted a most insidious attack upon their owner's hearts by being a nidus for various forms of cocci. This point should be impressed upon parents. I have urged a parent one year to have her child's tonsils removed, and on revisiting the school the following year found that nothing had been done, but that the child had meantime developed very serious valvular lesions, although it was asserted that the child had suffered no illness "to speak of."

I have dwelt on the subject of adenoids because I think it is necessary to point out to those who may be commencing the work of school inspection that:

1. Every deformed chest must be accounted for.
2. Because a child breathes apparently normally through his nose when standing up during the day, it does not follow that he will breathe equally well lying down, when the mucous membrane swells and the muscles relax.
3. Nocturnal mouth breathing may give rise to serious dyspeptic trouble, owing to the growth upon the tongue of colonies of sugar-fermenting organisms which are subsequently swallowed at a time when the stomach is least able to resist them, namely, in the early morning before breakfast, as I have previously pointed out.

As a matter of general interest, I may mention four points of comparison between the London and the Berkshire school child:

1. London teeth are incomparably better.
2. London nutrition is much inferior.
3. Enlarged tonsils are less frequent.
4. Phthisis is more common.

But I must add that my experience of the London school child is almost restricted to Bermondsey, Rotherhithe, and Camberwell.

The following general instructions to all parents I have found useful:

1. Keep the bedroom window open, but allow enough bedclothes.
2. Let the child wear a woollen vest if possible.
3. Bathe the chest and throat with *cold* water every morning.
4. Make the child use a toothbrush and shaving soap all round the teeth every night *at least*.

THE King has given directions for the appointment of Mr. Joseph P. Fagan (Deputy Principal Medical Officer) to be Principal Medical Officer of Northern Nigeria.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF DISEASES OF CHILDREN.

OTTO JACKSON KAUFFMANN, M.D., F.R.C.P., President.

PRESIDENT'S REMARKS.

THE PRESIDENT dispensed with any introductory address, and opened the proceedings by welcoming all the visitors to the Section, and in particular the foreign visitors. He then called upon Dr. H. D. Rolleston (London) to open the discussion on the Diagnosis, Prognosis, and Treatment of Tuberculous Peritonitis.

DISCUSSION ON DIAGNOSIS, PROGNOSIS, AND TREATMENT OF TUBERCULOUS PERITONITIS.

OPENING PAPERS.

I.—H. D. ROLLESTON, M.D., F.R.C.P.,

Senior Physician, St. George's Hospital; Physician, Victoria Hospital for Children.

IN abdominal tuberculosis the peritoneum, the lymphatic glands, and the intestines may all be affected in the same individual, or there may be different degrees of combination, or one may be mainly attacked. As tuberculosis of the peritoneum is so often combined with disease of the glands and of the intestines, it is in practice necessary to include under the heading of tuberculous peritonitis various forms of intra-abdominal tuberculosis. But abdominal tuberculosis in which the peritoneum escapes—for example, tuberculous retroperitoneal glands—is not included. Moreover, tuberculosis of the peritoneum presents different forms and phases: (*a*) Miliary with ascites; (*b*) adhesive with caseo-purulent lymph; (*c*) fibrous adhesions leading to obstruction, or embarrassed peristalsis, of the intestines. Dupré and Ribierre divide tuberculous peritonitis into (I) acute forms: (*a*) Miliary form, part of a generalized tuberculosis with abdominal pain, vomiting and tympanites; (*b*) miliary tuberculosis of the peritoneum and pleurae; (*c*) miliary tuberculosis around the caecum resembling appendicitis. (II) Chronic forms, namely, those usually recognized in this country: (*a*) Ascitic; (*b*) caseous, ulcerating, or suppurative; (*c*) fibrous; (*d*) localized.

Discussion of the conditions designated tuberculous peritonitis is therefore somewhat complicated, for conclusions applicable to one form do not fit another; and yet statistics dealing with tuberculous peritonitis usually include all forms.

DIAGNOSIS.

Diagnosis is most likely to be difficult in the earliest stages. Peritoneal tuberculosis may be latent and only be discovered at an operation performed for hernia; the appearance of a hernia may, indeed, be the first evidence of tuberculosis of the peritoneum, as it is forced out by the increased intra-abdominal pressure due to ascites; just as in boys with a patent funicular process between the peritoneum and the tunica vaginalis testis, thickening of the cord and a hydrocele may occur. Further evidence in favour of the view that the disease may be latent is adduced by Maylard in the occurrence of acute intestinal obstruction due to adhesions left behind by an attack of tuberculous peritonitis, of which the patient has no knowledge. In young babies, in whom tuberculous peritonitis is uncommon, diagnosis is more difficult than in older children, for a distended abdomen is comparatively common as the result of gastro-intestinal catarrh. When the intestines contain much fluid fluctuation may be obtained, and this condition of pseudo-ascites may imitate tuberculous peritonitis with effusion (Tobler).

The onset is commonly considered to be insidious, but too much stress must not be laid on this, for it appears to be acute in about a third of all the cases (Stone, Gelpke, Bottomley, Shattuck). When the onset is acute or subacute the condition may at first very strongly suggest appendicitis; in these instances the tuberculous process may be, but is not always, most intense in the neighbourhood of the caecum. In acute cases, due to generalized tuberculosis, the aspect may closely resemble enteric fever. Thomson has called attention to the occurrence of feverish attacks of a remittent type in well nourished previously healthy children, lasting two or three weeks, with intervals of a few months. There are not any prominent symptoms, and the first attack may be regarded as one of mild enteric. Cases of acute tuberculous peritonitis may also readily be confused with pneumococcic peritonitis.

Ascites in children is so generally due to tuberculous peritonitis that its presence is highly suggestive of that condition. The following diseases, which cause ascites in children, must be considered from the point of view of differential diagnosis:

Hepatic cirrhosis. As this is rare in children, the mistake that usually occurs is to diagnose as tuberculous peritonitis a case which is really one of cirrhosis. A remarkable family came under my observation in which three children with ascites were operated upon, two being diagnosed as tuberculous peritonitis, the other as perforation of a typhoid ulcer; they all had cirrhotic livers. Woolley collected 90 cases of hepatic cirrhosis under 21, the average age being 11 years; ascites was present in 59, and in 12 tuberculous peritonitis was diagnosed. The resemblance between the two diseases may be close; in both malnutrition, splenomegaly, ascites, and some elevation of temperature may occur. Further, the thickened omentum may, though it should not, be mistaken for enlargement of the liver. A positive tuberculin test is in favour, but not conclusive, of tuberculous peritonitis, for tuberculosis may complicate cirrhosis, and, according to Gee, tuberculous peritonitis may supervene in cirrhosis in children, as it is well known to do in adults. Personally I have not seen this in children. Jaundice, though far from common, is less rare in cirrhosis than in tuberculous peritonitis in which compression of the bile ducts by a tuberculous gland has been reported in a few cases (Floraud, Köster, Knight, Hodenpyl, Lenoble and Attila). Jaundice due to constriction of the ducts by adhesions has also been recorded by Dujon. Distension of the subcutaneous abdominal veins is infrequent in tuberculous peritonitis. Rotch noticed it in 3 out of 69 cases, or 4.4 per cent.; when present it is due to obstruction of the inferior vena cava, and so involves the veins (epigastric and internal mammary) running between the middle of Poupart's ligament and the hypochondrium, whereas in cirrhosis the dilated veins are mainly around the umbilicus. Examination per rectum in a case of ascites may reveal enlarged tuberculous lymphatic glands. Cytological examination of the ascitic fluid, if available, is of assistance; in tuberculous peritonitis lymphocytes are the predominating cells, in cirrhosis endothelial cells. Injection of the fluid into guinea-pigs will establish or eliminate the diagnosis of tuberculosis.

In late hereditary syphilis the liver is enlarged, irregular from gummatous scars, and ascites is present. Wassermann's reaction is positive, and it has been found that the reaction is more pronounced in the ascitic fluid than in the blood (Esmain and Parvu).

Obliteration of the hepatic veins is very rare, and as far as I know there is no means of arriving at a correct diagnosis. It may occur in young children (Gee, Fisher, Lazarus-Barlow). Ascites is constant, and although it has generally been diagnosed as cirrhosis, it might be confused with tuberculous peritonitis. The superficial abdominal veins are usually enlarged—a very infrequent event in tuberculous peritonitis.

In simple chronic inflammation of the peritoneum and of the pleurae and pericardium (polyorrhomenitis) the ascites is more marked and persistent than in tuberculous peritonitis; there is often evidence of cardiac disease or adherent pericardium, and there is no fever. In the allied

condition of Pick's pseudo-cirrhosis of the liver the same distinctions hold good; but in rare instances tuberculosis is said to supervene (Nachod).

Malignant disease of the peritoneum or mesenteric glands may produce ascites and even concomitant pleurisy with effusion, and very closely imitate tuberculous peritonitis. In a boy under my care with lymphosarcoma of the mesenteric glands the resemblance was almost exact. Branson refers to a case of diffuse peritoneal sarcoma in a child diagnosed as tuberculous peritonitis, and Parkinson to a similar difficulty in a girl aged 12 years with colloid carcinoma. The tuberculin test may be of value, and examination of the cells in the fluid removed by puncture should be of assistance, but without such examination the diagnosis may be impossible. The tympanitic form of tuberculous peritonitis may appear quite suddenly, and with symptoms of acute intestinal obstruction; it is, therefore, natural to imagine that it may be caused by sudden infection of the peritoneum, for example by leakage or rupture of a tuberculous mesenteric gland (Gee); but this does not appear to be always the case.

Encysted tuberculous peritonitis may imitate, according to its position, various cysts and tumours. Encysted pelvic peritonitis may imitate a cyst of the urachus. The "allantoic" cysts described by Lawson Tait and B. Robinson in adult women are probably examples of localized pelvic tuberculous peritonitis (Doran). Ovarian cysts, rare in children, may be confused with encysted peritonitis, as may hydronephrosis, renal sarcoma, and even enlargement of the spleen. Paterson, who has brought the number of ovarian cysts in children under 15 years of age up to 117 (53 being dermoids), has recently reported the case of a suppurating ovarian cyst which resembled tuberculous peritonitis. The residual abscesses sometimes left after acute pneumococcic peritonitis may closely imitate the abscesses of tuberculous peritonitis.

The enlarged glands must of course be distinguished from faecal accumulation by the effects of enemas and purgatives. The distinction from nodules of malignant disease may be very difficult. In the fibrous form the multiplicity of adhesions may produce chronic obstruction and visible peristalsis, and chronic intussusception may be suspected.

PROGNOSIS.

The prognosis may be considered from three points of view: (1) As to immediate recovery; (2) as to relapses of the disease; (3) as to complications.

1. In children the prognosis is, generally speaking, better than in adults, with the exception that the rare cases of tuberculosis of the peritoneum in infants under a year old are commonly part of a generalized tuberculosis terminating fatally with meningitis. The explanation of the better prognosis in children is partly that in adults tuberculosis is more often part of more extensive tuberculosis in the abdomen, especially of the Fallopian tubes in women, or that it is associated with cirrhosis of the liver, especially in men. No doubt the greater reparative power in early life is an adjuvant factor. The prognosis varies in the different forms. In ascitic and fibrous cases the outlook is good, whereas in the caseous and ulcerative cases it is bad, an abscess at the umbilicus being a very grave complication, but not necessarily fatal, though a faecal fistula is hardly ever recovered from. But the matter is not so simple as this, for cases which begin with ascites may pass into the plastic or ulcerative phases, so that an initial and favourable prognosis, based on the assumption that there is ascites due to miliary tubercles on the peritoneum, may be subsequently falsified. The mode of onset has a bearing on the prognosis; generally speaking, the more acute the onset, the worse the prognosis. Considerable tympanites is generally a sign of the acuteness of the process and of serious import. J. B. Murphy, however, takes the view that the more acute the case, the better the prognosis.

The presence of active tuberculosis elsewhere makes the outlook grave; thus, definite signs of pulmonary infection or constant diarrhoea pointing to ulceration of the colon are of bad omen. Extreme emaciation and cutaneous haemorrhages are naturally very grave indications.

As for the significance of pleurisy with effusion, the onset of concomitant tuberculous peritonitis and of pleurisy with effusion points to a widely-spread tuberculosis, and the disease runs a rapid course and ends fatally in a few months. But the occurrence of pleurisy with effusion some considerable time before or after tuberculous peritonitis is not of the same grave significance. I have seen pleurisy with effusion occur after apparent cure of tuberculous peritonitis.

In mixed infections, which are shown by a continued temperature, night sweats, and definite leucocytosis, the outlook is bad. The prognosis, as affected by operation, is referred to later (p. 475).

2. Relapses of tuberculous peritonitis after latency and apparent cure are not so likely to occur as in women with tuberculous salpingitis. The risk of recurrence depends to some extent on the environment of the patient.

3. The possibility of complications must be taken into account in the prognosis. The most important is generalized tuberculosis. Out of 26 fatal cases of tuberculous peritonitis in children, the notes of which I have examined, there was generalized tuberculosis in 13. This widespread generalization is naturally more obvious from the *post-mortem* than from the clinical point of view; for my impression is that, except in young infants, tuberculous meningitis is not a frequent clinical termination of tuberlous peritonitis, and yet meningeal tuberculosis is not very uncommon at the necropsy. Secondly, in the fibrous form of tuberculous peritonitis, intestinal obstruction may result from strangulation of the bowel by bands.

TREATMENT.

Treatment may be conveniently divided into (1) general hygienic treatment, (2) medicinal treatment, including diet, (3) treatment by vaccines, (4) *x* rays, (5) surgical.

(1) *Hygienic Treatment.*—The patient should be kept absolutely at rest in bed, and as far as possible in the fresh air and in the sun. Margate is well adapted for the open-air treatment of tuberculous peritonitis. When the disease has been arrested the patient's life should be regulated with the same care as in pulmonary tuberculosis.

(2) *Medicinal Treatment.*—Drug treatment does not play an important part in the treatment. As iodine and its preparations appear to have special action on tuberculous processes, iodoform and syrup of the iodide of iron are not uncommonly used. Hypodermic injections of iodine with iodide of potassium and guaiacol have been recommended. It has been suggested that the iodine passes into the ascitic effusion and exerts a beneficial action there (Yeo), but according to Landolfi iodides taken by the mouth do not appear in tuberculous effusions.[19] For flatulence and diarrhoea it is probably better to give guaiacol or one of its compounds, such as thiocol or styracol, than creosote, which may be irritating or even toxic. Salicylate of bismuth and salol may also be tried; opium by the mouth may be required for obstinate diarrhoea. Opium by the mouth may be necessary for pain, but in older children I prefer morphine hypodermically.

Local Application.—Formerly mercurial ointment rubbed into the abdomen by a bandage was generally employed, and is worth a trial. Iodine and iodoform may be applied in the same way. In addition to the benefit derived from the absorption of mercury and iodoform, it is probable that the application of the bandage is important in ensuring rest to the abdomen. Good results have indeed been obtained from simply strapping the abdomen (Knox), and it is conceivable that some of the benefit ascribed to simple laparotomy is due to the subsequent bandaging. The abdomen has also been kept at rest by painting on collodium with or without tincture of iodine.

The diet should be nourishing and largely protein, to which cream and fatty food, including cod-liver oil, should be cautiously added. Starchy and vegetable food should be avoided, on account of their liability to cause flatulence. A salt-free diet has been recommended in order to diminish ascites (Alwens), but it is doubtful if there is any advantage, apart from the obvious desirability of preventing mechanical embarrassment, in restricting the effusion; for the ascites may diminish as the patient goes downhill and plastic peritonitis develops.

(3) *Vaccine Treatment.*—Opinion on this form of treatment varies as much as it does on the question of operation. Wright recommended it, and Riviere and Latham have also obtained good results. Still,[18] on the other hand, has given it by the mouth, hypodermically, and by the rectum, and in most instances without any effect. I have given it in the small doses advocated by Latham in a

number of cases, and in some with subsequent improvement; two cases which made much impression on my mind rapidly went downhill after, though I cannot say because of, its use. The value of vaccine treatment in tuberculous peritonitis is put forward for discussion.

(4) *X* rays, which have been given a fair trial and have been favourably reported on by some (Dodson, Urbino), do not appear to be of any real therapeutic value (Allaria and Rovere). Extension and generalization of the tuberculous process have followed this treatment, and as *x* rays in excess induce leucopenia, it is obvious that the patient's resistance may be impaired.

(5) *Surgical Treatment.*—In order to clear the ground it may be stated as generally agreed (1) that operation is contraindicated in generalized or widespread tuberculosis, and therefore in infants under 12 months of age and in patients with signs of pulmonary tuberculosis; (2) that it is unnecessary in the fibrous and adhesive forms in the absence of any urgent symptoms of intestinal obstruction; (3) that it is necessary in cases of abscess formation and in intestinal obstruction. It must be remembered that the last complication may be simulated by the onset of tuberculous meningitis. The question of operative interference therefore concerns cases of ascitic abdominal tuberculosis. The much debated question of operation may be introduced by a brief consideration of its mode of action. It has been supposed that operation reduces the feeble vitality of the peritoneal tubercles so that they undergo involution and death. More recently the explanation has been put forward that peritoneal tuberculosis being a local infection the opsonic index of the ascitic effusion is lower than that of the blood; hence after the removal of the ascites there occurs a fresh effusion which is of a higher opsonic index, and therefore has a curative action on the local tuberculous process (White). If this is true, simple paracentesis should be as effective as laparotomy. The advantage of laparotomy, however, over simple tapping, is that a local focus of tuberculosis which may give rise to reinfection and relapse after partial or apparent cure may thus be detected and removed (W. Mayo). In this connexion it is important to get some estimate of the frequency with which such a focus is present and can be removed. In Mayo's 26 cases in which the Fallopian tubes were removed, 25 recovered permanently, and in 7 of these simple laparotomy had previously been performed from one to four times for the cure of tuberculous peritonitis. On the other hand Stone, who holds a brief for the hygienic as opposed to the surgical treatment, in 122 cases of tuberculous peritonitis of all ages did not find a primary focus in the Fallopian tubes or appendix in any case. Undoubted primary tuberculosis of the Fallopian tubes, though common in women, is very rare in young girls; Murphy quotes Maas as having, after a careful search, only been able to collect 8 cases. As was shown by Murphy's experiments on monkeys, the Fallopian tubes rapidly become infected secondarily in tuberculosis of the peritoneum. In 23 cases of generalized tuberculous peritonitis in female children, 9 showed tuberculous salpingitis (Still). According to Goodall, 99 per cent. of the cases of tuberculosis of the Fallopian tubes are secondary, though in from 30 to 50 per cent. of these cases the primary focus is not obvious. But secondary infection of the Fallopian tubes may give rise to very considerable enlargement, and the tuberculous focus thus produced, though not primary, may set up reinfection of the peritoneum and so require removal. In a girl aged 9 the Fallopian tubes infected secondarily to tuberculous peritonitis were the size of the index fingers of an adult, and were removed; ten years later she was in good health (Murphy). Removal of tuberculous glands may be very difficult, and an attempt to do so may leave the patient worse off than before. The argument in favour of laparotomy that a removable tuberculous focus may thus be found is on the whole valid, but not very strong.

It is generally agreed that the ascitic cases do well, whether they are operated upon or left alone. The following questions therefore arise: (1) Are the results better in the operative cases than in those which are treated medically? (2) As some cases begin as ascites and go on to the ulcerative or plastic stages, is there any reason to believe that early laparotomy will prevent this sequel? If so, operation would be justified. On these points statistics would be of value.

Although, as already mentioned, statistics on tuberculous peritonitis usually deal with all forms of the disease, it is desirable to quote some dealing solely with the disease in children. Faludi has drawn up tables showing the percentages of cures in parallel series of cases of tuberculous peritonitis in children operated upon and not operated upon. The authors he quotes are Cassel, Monti, Pic, Schmitz, Schramm, and Sutherland, who all give parallel series of cases operated upon and not operated upon. The divergence in these statistics is considerable. Schramm found 80 per cent. of cures among the operated cases and 64 per cent. among the non-operated; Pic observed recovery in 74 per cent. of the operated cases and in 5 per cent. only of the non-operated; Sutherland observed recovery in 50 per cent. of the operated cases and in 81 per cent. of the non-operated. By adding up all the operated cases we get 88 cures, or 70.4 per cent., in 125 cases, as contrasted with 51 cures, or 33 per cent., in 156 cases not operated upon. The question of operation on ascitic cases may be fairly summed up in the statement that it should be tried after hygienic and medical treatment has been given a fair trial for a month or so without any definite benefit.

Simple paracentesis is not often necessary and is seldom practised. After removal of some of the fluid, injections of various kinds through a cannula have been employed; thus sterilized air, oxygen (Schulze), isotonic salt solution, adrenalin (Wynter) have been reported to give good results. The injection of camphorated naphthol is a dangerous procedure (Guinard). I have no experience of any of these methods:

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CHRONIC peritonitis in children is usually tuberculous, occasionally due to injury or extension from some local non-tuberculous focus. *Acute* peritonitis may be met with at any age from birth upwards. In the newly born it is probably a septic condition due to umbilical infection. Acute fatal pneumococcic peritonitis may occur in the first few months of life. Acute peritoniits may result in

infants and young children from extension from a suppurating mesenteric gland.

In older children it may appear without obvious cause and may follow a chill or a blow, or may be due to extension from a local lesion of the appendix or of the stomach or duodenum, ileum or caecum, or it may result from an intussusception or a typhoid ulcer, or from enteritis of other origin. It is met with in cases of scarlatinal nephritis or in empyema or pericarditis from direct extension or otherwise. Besides all these there are the forms in which peritoneal inflammation is the result of infection from the vagina or vulva, as well as, of course, other infective conditions, erysipelas, etc. To make our list anything like complete for diagnostic purposes, the possibility of rare conditions, such as actinomycosis, hydatids, and perforation by foreign bodies, must be included; and, lastly, the question of new growths in the form of multiple carcinomatous or endotheliomatous nodules with ascites might occur possibly in children, as it certainly does in adults, and lead to difficulties of diagnosis. Various forms of disease other than those mentioned might also simulate peritonitis in some of their features. It is, of course, impossible to take all these conditions seriatim, and I can only suggest to the members of the Section a few points for discussion.

Pneumococcic peritonitis appears to be rare so far as our experience in Manchester goes. It is unnecessary to describe it in detail in either of its forms. It may be very difficult, without bacteriological examination, to distinguish it from the tuberculous disease, as, like tuberculous peritonitis, it may be localized or diffused, acute or chronic. The physical character of the fluid will, of course, at the time of operation, sometimes settle the question. Apart from operation, a pelvic peritonitis in a girl, if we exclude genital peritonitis, is more likely to be pneumococcal than tuberculous. High fever at first would suggest a pneumococcal rather than a tuberculous infection. When the acute stage has passed off, diarrhoea, perhaps tenderness and umbilical abscess, are common to both. In a case which I saw with Dr. Ashby some years ago the tension of the fluid in the peritoneal cavity was far higher than I have seen in any tuberculous case.

I should say that, so far as our experience goes, an acute, severe generalized peritonitis *without definite local cause*, accompanied by rapid and great distension, great pain and tenderness with high fever and diarrhoea, and usually ending fatally, is probably pneumococcic. A less severe condition with little constitutional disturbance and a hard swelling pointing at the umbilicus is not unlikely to be a localized pneumococcal peritonitis, though it may very well be tuberculous. The prognosis in the pneumococcal condition is good if the abscess is opened.

The localized abscess may be due to a breaking down tuberculous gland or to a localized collection the result of tuberculous ulceration of the bowel, or, of course, to such conditions as injury, typhoid, appendicular trouble, and so on. A localized pneumococcal abscess may coexist with generalized miliary tuberculosis of the peritoneum. It must be remembered that a tuberculous abscess may form and burst at the umbilicus as early as a few weeks after birth. In cases of peritonitis due to or associated with tuberculous enteritis there is likely to be a purulent discharge from the bowel with diarrhoeal stools, and these are very often—perhaps usually—foul. Of the three forms of tuberculous peritonitis (ascitic, plastic, and miliary), the ascitic form is rare in the first year of life.

In comparing the picture of tuberculous peritonitis with other forms, we find that the round, tense, distended, shiny abdomen with full veins, fluid in the flanks and possibly localized collections elsewhere, with resonance round a protruding umbilicus, and all these conditions without pain, tenderness, or fever, is in all probability tuberculous. If localized hard masses can be felt the diagnosis is still more certain. Then, as to the frequency of tuberculous peritonitis, it has been found that there is peritonitis in one out of every three cases of fatal tuberculosis in children.

The plastic form of tuberculous peritonitis, which may be acute or chronic, is not always easy to distinguish from the ascitic or, at any rate, from a combination of the two, for there is no hard and fast line between them. We have quite lately operated in a case of Professor Murray's, in which a well-marked peritoneal thrill led to the belief that a fair amount of fluid was present; but though incision was made above and below the umbilicus and in the right flank, the intestines were found universally adherent, so that the cavity was obliterated and no fluid was reached.

I should like to have the opinion of the members on the question of a thrill in distended gut.

In acute plastic cases there may be pain, vomiting, occasionally diarrhoea and a hectic temperature. Hard masses of enlarged glands or matted coils of bowel or thickened omentum are commonly to be felt. The abdomen in such children may be either distended or retracted. In some instances, apart from the physical evidence of disease, there is very little trouble or discomfort.

The statement that the ascitic form of peritonitis is met with when the parietal peritoneum alone is involved and that the plastic form takes its place when the bowel and glands are invaded is not confirmed by our experience; at any rate, it is not by any means a universal rule. On examination of the records at the Manchester Children's Hospital during the last few years—an examination for which I am mainly indebted to Mr. Geoffrey Jefferson and Dr. Hugh Ashby, who have kindly done most of the work of abstracting the notes which have been put at my disposal by the friendly courtesy of my colleagues, Messrs. Ray, Telford, and Roberts—I am able to survey shortly certain of the more important symptoms of the disease as seen in 32 cases of tuberculous peritonitis in children of ages ranging from a few months to about 14 years. I have selected these cases as ones which have been under observation during the last three or four years.

I find diarrhoea and foul motions are an occasional but not so prominent a symptom as I expected. Constipation may exist in the early stages, and in the plastic form of peritonitis either condition may be found.

Distension, pain, and the presence of a local palpable mass are the three most constant conditions in our list. Indeed, the presence of hard masses is, with a few exceptions, almost characteristic of tuberculous peritonitis.

Pain is inconstant, but if it is present together with wasting, distension, and palpable hard masses, we have probably the most trustworthy signs of plastic tuberculous peritonitis.

Elevation of temperature appears to exist in only a small minority of cases. Occasionally the presence of other tuberculous foci assists us in coming to a conclusion.

There is no certain method of recognizing beforehand the existence of hopeless matting together of the bowels—"obliterative peritonitis." The exact condition is only found out on opening or, rather, trying to open the abdomen.

The diagnosis, then, in acute cases especially, may be very difficult and only to be certainly made by operation. Intussusception can usually be distinguished by its special features, but may itself be due to a local tuberculous lesion. Enteritis, especially in a rickety child, may raise a difficulty, but the presence of signs of rickets would be a guide.

The use of tests such as those of von Pirquet and Calmette need not be discussed now. Other possible sources of mistake have been already referred to. A family history of tuberculosis existed in less than a third of our cases.

The prognosis of tuberculous peritonitis is certainly not hopeless. Temporary recoveries are common and may last for years, but there is always a danger of tuberculous lesions appearing elsewhere.

As regards the plastic form, if the process becomes inactive the adhesions may gradually disappear, as in other forms of peritonitis, or they may give rise to various chronic or intermittent abdominal troubles, or to acute obstruction at any time by band or volvulus, etc. If a localized abscess forms it may produce a bimucous fistula, and this may or may not be troublesome, or an external faecal fistula may appear, and is a most distressing and intractable state of affairs.

In the miliary form of peritonitis symptoms are often absent, and the condition is only found by accident in the course of an operation for hernia or appendicitis. This variety may go on to the other forms or may disappear—at least, it may cause no further trouble. All surgeons have probably met with unsuspected tuberculosis of hernial sacs, and one of my colleagues found tuberculosis in a

hydrocele sac, not, of course, associated with epididymitis.

As to treatment, I would suggest that the Section should consider the value of intestinal antiseptics or germicides, mercurial or other. The question of diet and the dangers of milk, as well as matters of general hygiene, may be better left to the medical discussion. We might, of course, profitably also discuss the effects of laparotomy and of the opening of local abscesses and the operative or other treatment of faecal fistula. The use of tuberculin would also provide an important topic. My own experience leads me to think that all the methods I have mentioned are of value except operations for faecal fistula. I have not seen sufficiently good results from these to make me recommend operation unless in exceptional cases.

As to the ultimate results of laparotomy and its value as a means of treatment, I should be inclined to say:

1. That probably not much more than half the cases would live to grow up, for of those who recover for a time a large proportion die of tuberculosis in some form within a few years, though the immediate operative mortality is of course very small.*

2. There is no hard and fast line between ascitic and plastic cases, either as a matter of morbid anatomy or of operative treatment, or of mortality. But operation is simple where there is much fluid, and may be impossible in obliterative cases.

3. Tuberculous mesenteric glands may be safely removed, and in some cases certainly should be removed.

4. The rôle of surgery in tuberculous peritonitis is rather to remove secondary troubles, such as obstruction, and to get rid of noxious collections of fluid and local foci of tubercle, rather than to play any great part in the prevention or cure of the disease as a whole.

I have preferred not to inflict statistics upon the members, but rather to raise points for discussion and state my own views for what they are worth, and with that and my thanks I have done.

DISCUSSION.

Dr. C. H. MELLAND (Manchester) said that his early experience as a hospital resident had led him to look on laparotomy and evacuation of fluid as the treatment for tuberculous peritonitis, the results being indeed in some cases almost miraculous. Although the ascitic cases had generally been regarded as more amenable to operative treatment, he could recall several cases in which there were extensive adhesions which had recovered most satisfactorily under this treatment. He also had in mind another case in which, in addition to ascitic peritonitis, there were hydrocele and well-marked tuberculous epididymitis, and as the result of operation not only was the peritonitis cured, but the hydrocele and the epididymitis completely disappeared. Later, when he had cases under his own care in the wards of a children's hospital, he was accustomed to call in the services of his surgical colleagues, with, on the whole, the same satisfactory results. But latterly he had relied more upon medical treatment, diet, hygiene influences, and the use of Scott's dressing and a bandage to the abdomen, and the results appeared just as satisfactory as those which he had previously seen attained by surgical means.

Mr. MCADAM ECCLES (London) confined his remarks to the question of operation; that of laparotomy, in the *ascitic* form of tuberculous peritonitis, was one of great interest. He asked whether it was true that the surgeon was inclined to advise operation, and why? There were at least five reasons: (1) Incision was safe, far safer than mere paracentesis; (2) exposure of the peritoneum confirmed diagnosis; (3) laparotomy might, and frequently did, expose a removable tuberculous focus; (4) opening the abdomen would allow of the wider application of remedial substances; (5) operation necessitated subsequent rest, rest with the abdomen bandaged, and firmly bandaged. He could remember at least two instances where paracentesis performed to relieve ascitic distension produced only temporary benefit, and subsequent laparotomy was followed not only by immediate improvement, but by permanent cure. Diagnosis was sometimes difficult, but exposure of the peritoneum allowed not only the visual demonstration of tubercles, but the microscopic examination of the same. The surgeon safely opened joints with fluid caused by uncertain infection for the purposes of diagnosis, why should he not do so in cases of ascitic fluid of equally uncertain origin? The removal of a tuberculous focus, most commonly tuberculous glands or a tuberculous appendix in children, or a tuberculous Fallopian tube in older females, was one of supreme importance. This could only be carried out by operation, and he always made the incision in young children as for an appendicectomy. The wider application of remedial substances, such as 1 in 10,000 adrenalin solution or a dilute iodoform emulsion, could only be carried out by operation. The rest subsequent to operation was very thorough, and could often be carried out more easily than without operation, for parents in private would appreciate its value.

Dr. WALTER JORDAN (Birmingham) asked whether there were possibly local differences of distribution as to the types of tuberculous peritonitis, for the references made to the ascitic form reminded him how rarely in his experience at the Birmingham Children's Hospital he saw cases of the ascitic type. The great majority of the cases with which he met showed matting and adhesion, often extensive, very frequently with palpable masses sometimes amounting to large tumours, and occasionally with discharge of pus from the umbilicus, and perhaps formation of a fistula. Under these circumstances surgical colleagues, when invited to see cases, commonly declined to interfere. The speaker placed first in the treatment the hygienic point of continuous open-air life, to be attained by the patient sleeping under a shed, and being dragged out into the open in his bed whenever possible. For drugs he preferred iodoform, $\frac{1}{4}$ grain, given three times a day in a cod-liver oil emulsion, and thought benefit had followed from its use. With regard to the external use of mercury, it should be made clear to probationers and parents that they were not to rub the prescribed preparation vigorously into the abdomen. The diagnosis of the distended abdomen of rickets, with intestinal catarrh and atony, certainly had to be considered, as pointed out by Mr. Wright, for many children with this condition were sent to hospitals in the belief that they had tuberculous peritonitis. The speaker deprecated the consideration of statistics, and pointed out how the policy of a physician in a hospital might react on the statistics of his corresponding surgical colleague.

Mr. G. HEATON (Birmingham) divided cases of tuberculous peritonitis from the surgeon's point of view into three main classes: A. *The fibrous adhesive form*, where the intestines were extensively matted, and little, if any, fluid was present. This class of case was seldom benefited by active surgical measures, and, unless complications such as intestinal obstruction arose, should not be operated upon. B. *The ulcerous form*, where the patient was hectic, and intestinal ulcers were probably on the point of leaking into the peritoneal cavity. Here again active surgery was contraindicated, or limited to the simple opening of any localized abscess which might form. C. *The ascitic variety*. Here an early median incision and complete evacuation of the ascitic fluid should always be advised. The operation was simple, the risk infinitesimal, the result nearly always satisfactory. Any localized focus—such as a tuberculous pyosalpinx or tuberculous mesenteric gland—should be removed if found, and drainage he held to be unnecessary. If the fluid re-collected the operation should be repeated. The prognosis in cases so treated, when uncomplicated by tuberculous lesions, was, in his opinion, an excellent one.

Dr. O. F. KAUFFMANN (President) illustrated one of the difficulties of diagnosing tuberculous peritonitis by exhibiting a specimen of extensive subserous sarcoma of the peritoneum which had been mistaken for tubercle. He was of opinion that, as regarded drug treatment, the per cutem administration of mercury ointment was the most therapeutic agent, and drew attention to its effect in slightly diminishing the number of leucocytes. The surviving differences of opinion on the value of surgical interference were due rather to the necessary faultiness and inadequacy of their classification of tuberculous cases,

*My former house-surgeon, Mr. Jefferson, F.R.C.S., has taken much trouble in tracing some of the children, and finding out the later results of operation.

than to a true disagreement between surgeon and physician as to the proper remedial measures advisable in any particular case.

GENERAL OEDEMA FOLLOWING GASTRO-ENTERITIS IN CHILDREN.

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OEDEMA developing in early childhood is sufficiently uncommon to render its occurrence a matter of interest, especially as its etiology is very obscure at this time of life.

My attention was turned to a group of cases of general oedema following gastro-enteritis in 1908, when I had 4 cases under my care in the children's ward of the Royal Victoria Infirmary at the same time. I could not find any evidence of heart or kidney disease in any of these. I utilized this opportunity to carry out some observations on the condition of the blood, the urine, and the effects of treatment.

Since November, 1908, I have seen 9 similar cases; 3 of these have been under my care at the Royal Victoria Infirmary, and 6 under the care of Drs. McCracken and Ogden in the Children's Hospital, to whom I am deeply indebted for opportunities of observation, and for permission to incorporate the results of treatment in this paper. In spite of the fact that I consider the number of cases observed too small to warrant dogmatic conclusions, I feel that I am justified in bringing to your notice certain observations, clinical, therapeutical, and pathological, since information to be obtained from textbooks in this particular branch is extremely limited. I hope that the addition of your views and suggestions to my observations will help us both in the investigation and treatment of future cases.

The age, history, and clinical condition of the 13 cases are so similar that they justify inclusion in the same category. It will be most convenient to give fully the history of one case which was examined in detail, and to tabulate the results of the clinical condition and the treatment in the remaining cases.

R. E., aged 2 years, was admitted to the Royal Victoria Infirmary on October 12th, 1908. The mother told the sister of the ward that the child had been ill with diarrhoea and vomiting in September (four to five weeks before admission); that the child never seemed to pick up after this gastro-intestinal upset, and that a fortnight after the cessation of the diarrhoea and vomiting she noticed the appearance of oedema in the hands and face. She also told the sister that while the oedema was forming she thought that the child had passed less urine.

The child was drowsy. There was marked cyanosis of the face, hands, and feet, which were also very cold; there was oedema of the eyelids, face, hands, arms, legs, feet, and sacral region. On examination of the patient no abnormality could be detected in the heart; the lungs were clear, and there was no temperature. On examination of the urine neither tube casts nor albumen were found.

In blood drawn from the ear there were 3,500,000 red blood cells per cubic millimetre and 60 per cent. of haemoglobin.

I examined the coagulability of the blood on October 15th, and the coagulation time was similar to that of two other children in the ward, and of two clinical clerks tested at the same time. From the day of admission up to October 19th neither the sister, house physician, nor I could feel a pulse in the radial artery. On October 19th I injected 5 minims of a 1 in 1,000 solution of adrenalin chloride, and in a few minutes the pulse was quite easily felt in both radial arteries, and later the hands became red and warm.

This line of treatment was suggested to me by the general lack of vascular tone, and from the fact that I had recently seen in the BRITISH MEDICAL JOURNAL a note on a case of generalized oedema in a fetus in whom the only pathological lesion was found in the suprarenal glands. The disappearance of the cyanosis and the appearance of the radial pulse would at first sight appear to have been due to manipulation. From the fact, however, that injections of adrenalin chloride always made the pulse more palpable in some of the cases investigated at a later period, and from the fact that in this case the pulse remained palpable during the continuous administration of adrenalin chloride, I believe that the result on this occasion was due to the adrenalin injection. Five minims of a 1 in 1,000 solution of adrenalin chloride were administered hypodermically twice a day up to October 26th. By that time the child appeared perfectly well. The haemoglobin percentage had risen to 90, and the red blood cells numbered 6,000,000 to the cubic millimetre.

The child left the hospital on October 28th cured, and since that date I have learnt that he has had no similar attack.

I will now briefly summarize the clinical histories of the other cases, and for convenience I have appended a table; after which I will describe the pathological findings in two cases, and finally I will briefly discuss the causation of this variety of oedema.

Age.—The ages ranged from 13 months to 4 years.

Previous History.—In all cases, except 9 and 10, there was an antecedent history of diarrhoea and vomiting. In Cases 9 and 10, there had been attacks of measles four and three months previously. The mother was questioned in each case on the subject of the diet of her child, but there were no common factors or marked errors in the dietaries to throw any light on the etiology of the condition.

Distribution of the Oedema.—The hands and feet were affected in each case, and in 7 cases the oedema was universal.

Cyanosis.—In all cases there was a degree of cyanosis of the extremities of each child, which could be removed by heat and by friction.

Blood Examination.—I have records of the blood examination of 8 cases. In all these there was present some degree of secondary anaemia. The blood regained slowly the normal percentages of red blood cells and haemoglobin some time after the other abnormal features

Name.	Date.	Age.	Sex.	Previous History.	Distribution of Oedema.	Cyanosis.	Blood Examination.			Urine.	Treatment.	Result.
							Hb.	R.B.C.	W.B.C.			
1. R. A.	Sept., 1908	14 mos.	F.	D. and V. 2 mos. before oedema	Face, hands, and feet	Slight	75%	4,100,000	—	No albumen or tube casts	No suprarenal	Cured.
2. F. C.	Oct., 1908	20 mos.	M.	D. and V. 1½ mos.	Face, hands, and feet	Slight	70%	4,300,000	—	,,	,,	,,
3. W. F.	Oct., 1908	2 yrs.	F.	D. and V. some weeks	Hands and feet	Slight	—	—	—	,,	,,	,,
4. R. E.	Oct., 1908	2 yrs.	M.	D. and V. 1 mo.	Universal	Marked	73%	4,000,000	11,250	,,	Suprarenal	,,
5. M. A.	Jan., 1909	22 mos.	F.	D. and V. 1 mo.	Universal	Marked	50%	3,000,000	—	,,	—	Died.
6. M. B.	Jan., 1909	19 mos.	F.	D. and V. 3 weeks	Hands and feet	—	—	—	—	,,	Suprarenal	Cured.
7. C. S.	Jan., 1909	2½ mos.	M.	D. and V.	Universal	Marked	—	—	—	,,	,,	,,
8. J. H.	Mar., 1909	13 mos.	M.	Measles 4 mos.	Hands and feet	—	—	—	—	,,	,,	,,
9. J. W.	Sept., 1909	2 yrs.	M.	—	Face and hands	—	—	—	—	,,	,,	,,
10. M. S.	Feb., 1908	2 yrs.	F.	Measles	Universal	Slight	80%	4,200,000	9,720	,,	,,	,,
11. T. W.	Feb., 1910	4 yrs.	M.	D. and V. 14 days	Universal	Marked	72%	4,000,000	12,000	,,	,,	,,
12. N. W.	Nov., 1910	19 mos.	M.	D. 3 weeks	Universal	Marked	60%	3,200,000	16,450	,,	,,	Died.
13. M. P.	Nov., 1910	13 mos.	M.	D. and V. 5 weeks	Universal	Marked	75%	4,000,000	13,420	,,	,,	Cured.

had disappeared. The coagulability of the blood was normal in two cases, Nos. 2 and 3, in which I examined it, having compared the time of clotting with that of two clerks and two other children in the ward at the time. I used tubes of 5 cubic millimetres capacity, which Wright devised for this purpose.

Treatment.—All cases were kept in bed and were given food proper to their respective ages.

Nine cases were given adrenalin chloride. Of the cases which were under my own care in the Royal Victoria Infirmary, No. 4 was the most oedematous and the most cyanosed, and after the administration of adrenalin chloride seemed to improve more rapidly than the first 3 cases had done, which were milder cases and to whom no adrenalin chloride had been administered.

The sister of the ward in the Children's Hospital, where Nos. 6, 7, 8, 9, and 10 were treated, was very much struck by the rapid improvement of those cases under the administration of adrenalin chloride. She had already had a considerable experience of this variety of disease, and her opinion was that cases treated with adrenalin chloride lost their oedema and cyanosis and put on weight much more quickly than her previous patients had done, to whom no adrenalin chloride had been given.

There were 2 deaths, Cases 5 and 12, in this series. Case 5 was a female child, aged 22 months, admitted under Dr. Ogden to the Children's Hospital in January, 1909. On admission, the child was markedly oedematous and cyanosed, and died within twenty-four hours. There was a previous history of diarrhoea and vomiting. A specimen of urine obtained during life contained neither albumen nor tube casts.

At the *post-mortem* examination all the organs appeared to be pale, and there were the appearances characteristic of cloudy swelling in the liver. Macroscopically, the kidneys appeared to be normal. The suprarenals were well-shaped and apparently hard.

In a histological examination of the organs there was cloudy swelling of the liver. There was no abnormality in a microscopic examination of the heart muscle. The kidneys were normal, the epithelium of the glomeruli and tubules staining well.

The following is a description of the appearance of the right and left suprarenal glands (stained with haematoxylin and van Gieson's stain):

Cortex.—The cells of the cortex are in a condition of cloudy swelling. Some of the deeper cells of the cortex are granular and their nuclei stain badly.

Medulla.—In the medulla the most noteworthy pathological changes are present; there are large masses of fibrous tissue, apparently beginning in and spreading out from the cells of the blood capillaries. Many of these localized masses are linked up by strands of fibrous tissue, so that a core of fibrous tissue appears to run through the gland. There seems to be an absence of the cells of the medulla.

Case 12 was primarily admitted under the care of Sir Thomas Oliver, who very kindly transferred the child to me. After this child had been in the hospital for three weeks, and was apparently cured, it developed broncho-pneumonia and died. At the *post-mortem* examination, besides the changes in the lungs there was cloudy swelling of the liver and kidneys. Changes similar to those in Case 5 were found in the medulla of the suprarenal glands.

From a consideration of the above facts we may briefly consider the possibilities of the causation of this variety of oedema.

1. I do not think that we can attribute the oedema to disease, either organic or functional, of the kidneys or heart. Neither clinically nor pathologically is there any evidence that these organs are in any way affected. I fully realize the possibility of an evanescent attack of nephritis in the early part of the gastro-intestinal illness, which might leave some functional impairment of the kidneys. I think, however, I can demonstrate to you that the kidneys were fully competent to fulfil their excretory duties.

2. Meyer claims that the condition is due to the retention of salts in the tissues, particularly sodium chloride and phosphates. His observations were based upon the cases of three infants, two of whom certainly showed evidence of nephritis—namely, albumen and tube casts in the urine. In his three cases the sequence of events appears to have been as follows:

Improper feeding caused a gastro-intestinal disturbance, accompanied by irritation of the kidneys. The excretory power of the kidneys being affected, salts were imperfectly got rid of, with the result that the blood became overcharged with them. The blood then relieved itself by the deposition of the salts into the tissues. By a process of osmosis, the salts drew plasma to them into the tissues and caused an oedema. He found experimentally that when salt was added to the "feeds" oedema was visibly produced, and the weight of the infants rose rapidly, adding a quarter of their total body-weight. Vice versa, a removal of salt from the dietary dispelled the oedema and caused a fall in the body-weight.

As Meyer's theory was the only one which I could obtain which was at all definite, I proceeded to ascertain whether it was applicable to the cases which I had under my care. It seemed to me that if the cause of the oedema

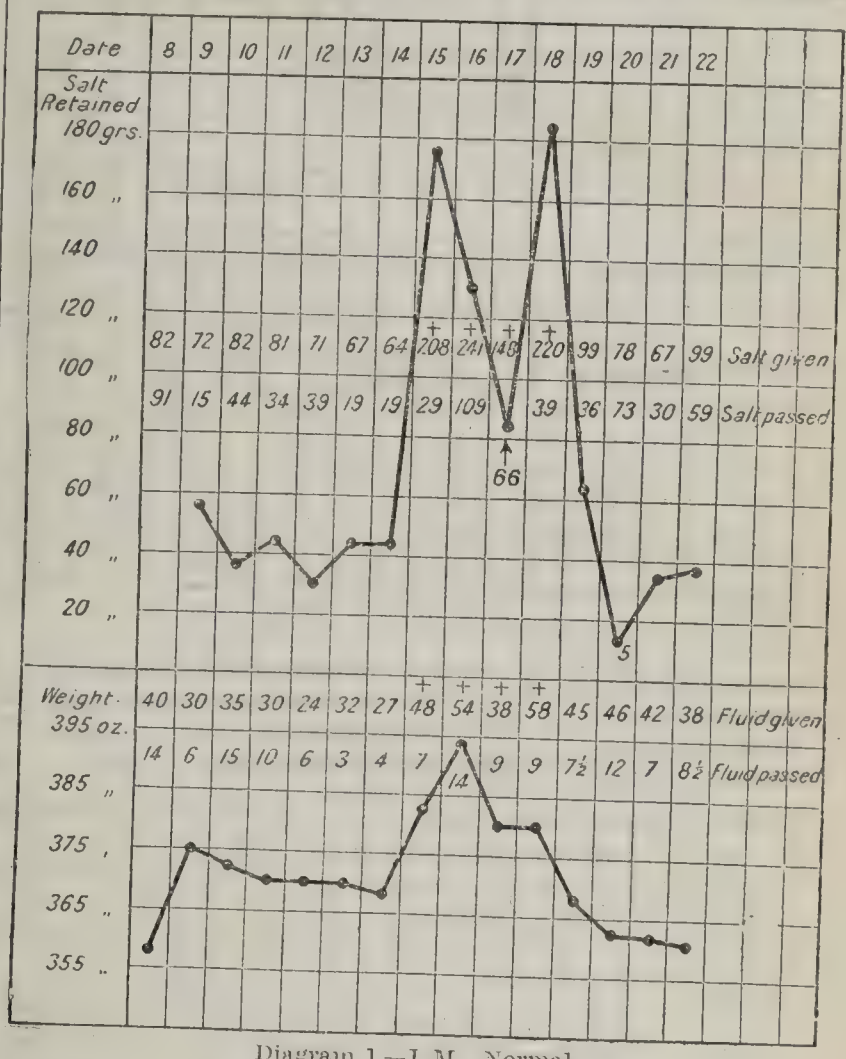

Diagram 1.—J. M. Normal.

was due to salt retention, I ought to be able to produce a marked increase of oedema on giving a large quantity of common salt with the food, especially if I gave it at a time when oedema was still present.

I began with Case No. 4, and found that this child was able to take and pass very large quantities of salt without any increase in oedema. In the same way I carried out more extensive experiments in Cases 12 and 13, the results of which I have tabulated in diagrammatical fashion. Before considering the salt exchange in these two cases of oedema, I would like to point out to you the salt exchange which I ascertained in two normal children.

The diagrams are so constructed that the upper portion is devoted to the amount of salt given contrasted with the amount of salt passed. The difference—namely, the salt retention—is diagrammatically represented along the black line, which corresponds to a scale in grains on the left-hand side of the diagram. Similarly, in the lower portion are represented the amounts of fluid given and fluid passed, together with a graphic representation of the daily weight, according to a scale in ounces on the left-hand side of the diagram.

In the case of J. M., a child aged 2½ years, a dietary of bread, eggs, butter, and milk was commenced on July 8th. These were made to contain a not altogether unpalatable amount of salt. During this period—from the 9th to the 14th inclusive—the salt retention and the body weight remained fairly constant. From the 14th to the

15th an enormous and wholly unpalatable quantity of salt was administered. This was continued till the 18th. During this period it will be seen that there was considerable salt retention, which was accompanied by an

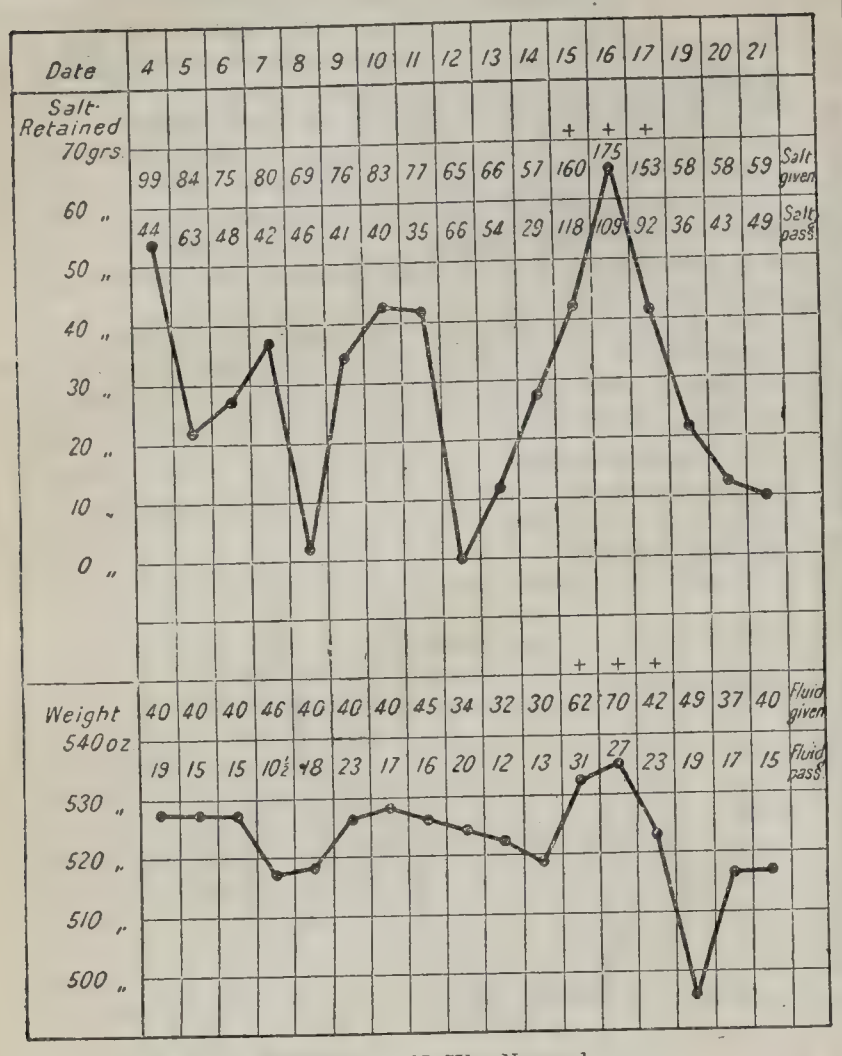

Diagram 2.—N. W.: Normal.

increase in the body weight. On the 19th the amount of salt was reduced, with the result that more salt was passed and the salt-retention curve fell. At the same time there was a gradual diminution in the body weight.

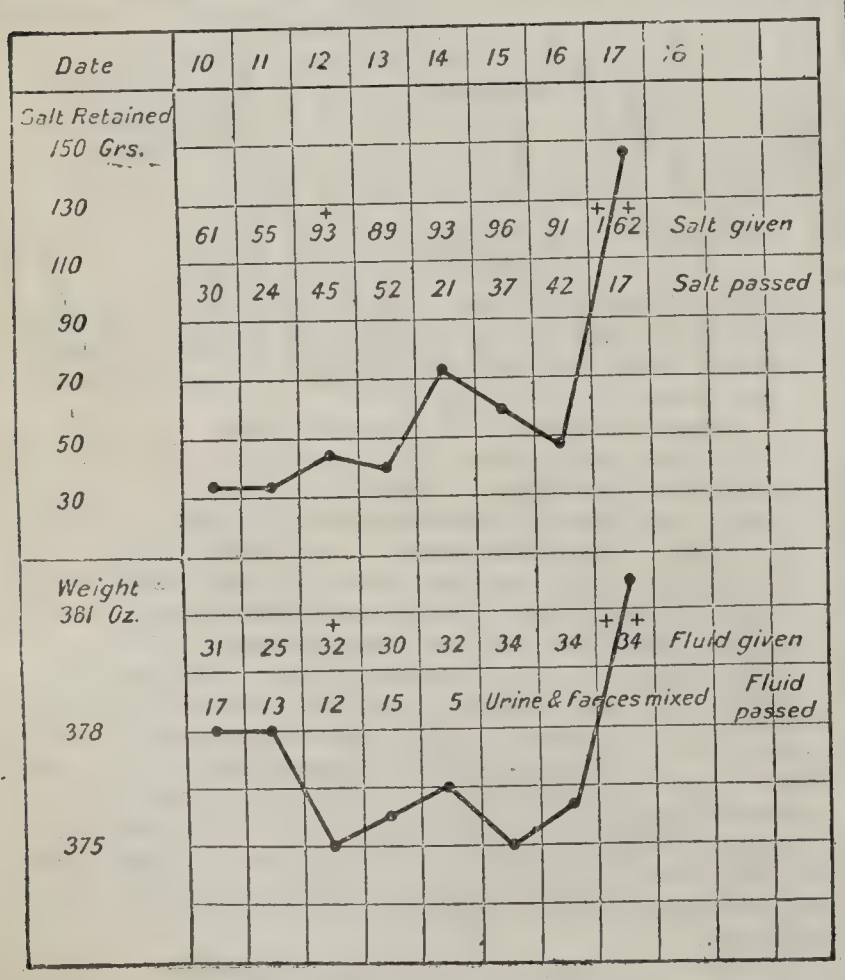

Diagram 3.—N. W.: Oedema.

In the case of N. W., from the 4th to the 14th a palatable dietary was administered. During this period the salt retention remained comparatively constant, except on two occasions (the 8th and 12th) when the output of salt almost equalled the intake. During the same period the body weight remained constant. From the 14th to the 15th enormous and unpalatable quantities of salt were administered, with the result that, as in the case of J. M., the salt retention rose and there was a slight increase in the body weight. After the 17th the salt was reduced, the salt retention became less and the body weight fell.

From these charts I think that it is obvious that enormous quantities of salt are required to affect appreciably either the curve of salt retention or the body weight.

Turning now to the charts elaborated from the cases of oedema, it must be remembered that during the experiments the children were still oedematous, and, according to Meyer's theory, liable to be affected by the ingestion of salt.

Taking first the case of N. W., on the 10th and 11th a normal dietary was administered. From the 11th to the 12th the salt content of the food was doubled, and from the 16th to the 17th an enormous quantity was administered, namely, 162 grains. There was a slight increase in salt

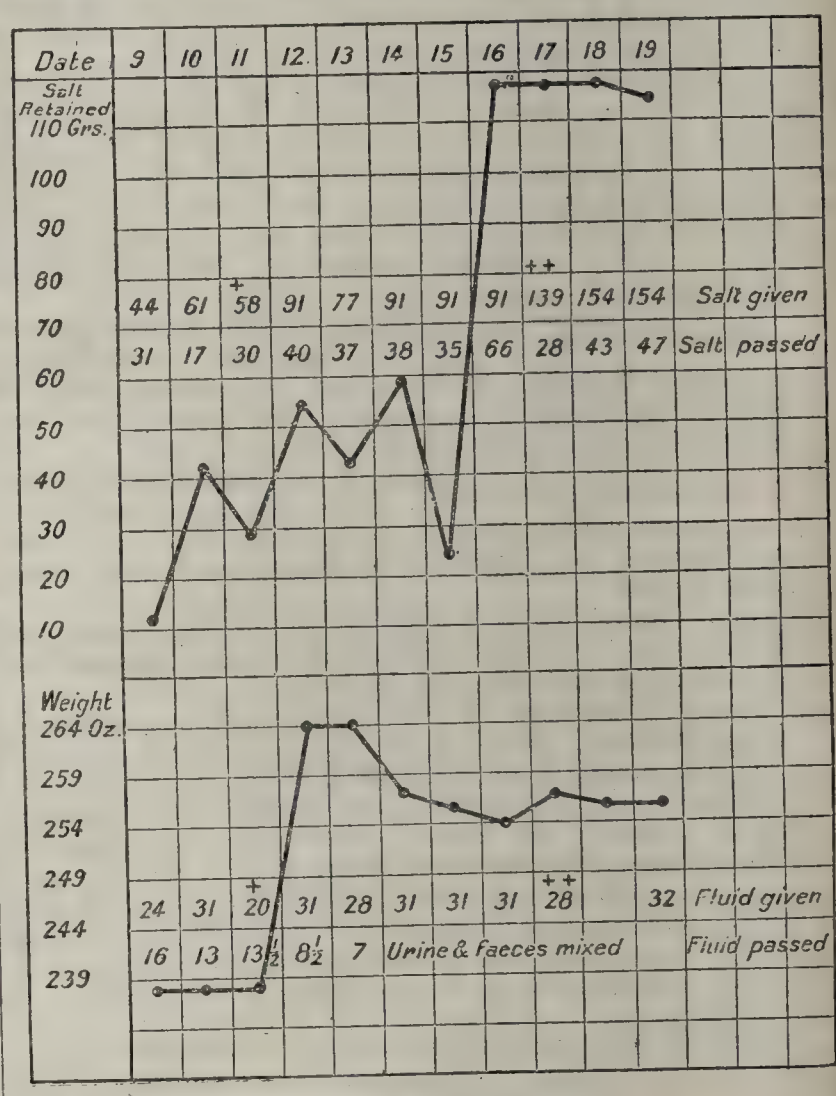

Diagram 4.—M. P.: Oedema.

retention on the 14th, accompanied by an increase of only 2 oz. in body weight. The two curves remaining fairly constant, until the enormous quantity of salt was given on the 17th. On this date there was considerable salt retention, accompanied by a very definite rise in body weight. This curve is strikingly similar to that of J. M., a perfectly normal child.

In the case of M. P., on the 9th and 10th, a normal dietary was administered. On the 11th a double quantity of salt was given with the food, and on the 17th an enormous quantity of salt was added. This was continued to the 19th. It will be seen that there was the greatest rise in body weight from the 11th to the 12th. The greatest salt retention occurred from the 15th to the 16th, though unaccompanied by any increase in body weight.

I can only explain the absence of any increase in body weight during the period of excessive salt retention by the fact that during this same period there was considerable diarrhoea. It was very striking that in both cases the oedema was steadily disappearing during the whole periods of ingestion of such enormous quantities of salt.

As the result of these observations I have failed to discover that there is any difference between the salt exchange in cases suffering from this variety of oedema and that which takes place in perfectly normal children. I do not think that the theory of salt retention wholly explains the condition any more than it does in all cases of oedema in Bright's disease.

Deprived of the theory of salt retention, and in the absence of clinical or pathological evidence of heart and kidney disease, we are driven to the tissues themselves for an explanation of the condition. I feel that the number of cases which I had the opportunity to examine pathologically do not justify the drawing of any definite conclusion from the presence of fibrosis in the suprarenal glands, which was so obvious in the two cases examined. From the fact, however, that the vascular conditions were improved by the injection of adrenalin chloride, that the children improved more rapidly under its administration than without it, and from the fact that in these two cases there was an abnormal degree of fibrosis in the medulla of the suprarenal gland, I would suggest that attention in future be paid to these glands when opportunities of examining them occur.

Finally, it is a tempting hypothesis that toxins are developed in the gastro-intestinal tract which cause degeneration and fibrosis of the suprarenal medulla, and that, either as the result of the absence of suprarenal secretion or from the direct action of the toxins upon the capillary cells, the latter become more pervious to the outlet of fluid.

I have much pleasure in acknowledging the debt I owe to Mr. Dunstan, Chief Dispenser to the Royal Victoria Infirmary, for his valuable assistance in the estimations of the salt content in the food and in the excreta.

DISCUSSION.

Dr. H. D. ROLLESTON (London) said he had seen such cases, and that, though rare, when they occurred they did so in small groups. Presumably the condition was toxic. Possibly oedema of a similar kind in the kidneys might induce albuminuria. So some cases of general oedema with albuminuria might be of this nature and not primarily renal. Like Meyer, he had seen oedema disappear after diminution of the salt in the diet, but possibly this was a coincidence only.

Dr. R. MILLER (London) asked if the medullary changes were not found in the suprarenal glands of marasmic children dying without oedema.

Dr. A. E. CLARK (Birmingham) remarked that cases of general oedema in children under 3 years of age was not rare; in her experience recovery was usual.

Dr. O. F. KAUFFMANN (President) thought that these cases would be observed in greater number when attention had been directed to them, as by Dr. Hume's remarks. While there might be many probable theories advanced to explain the symptom-complex, it had occurred to him that the morbid phenomena might very likely be due to a vaso-motor paralysis, produced by a toxic material of intestinal origin. This supposition would not exclude the one that ultimately the same poison might produce the suprarenal medullary fibrosis described by Dr. Hume. The good effect of adrenal extract might, he considered, be the direct result of increasing the blood pressure, which was so extremely low when the patients first came under observation.

REPLY.

In answer to Dr. Rolleston, Dr. HUME replied that the cases tended to occur in groups, frequently in the autumn. In reply to Dr. Miller, he said that in the investigation of the morbid anatomy of the suprarenals controls had been made in some presumably normal infants but not in wasted infants. In answer to the President, he reiterated his statement that the object of bringing this group of cases was a desire to obtain information. He agreed that the condition might be closely related to urticaria.

INFANTILISM ASSOCIATED WITH CHRONIC INTERSTITIAL NEPHRITIS.

By LEONARD PARSONS, M.D.Lond., M.R.C.P.,
Physician to Out-patients, Children's Hospital, Birmingham; Honorary Pathologist, Queen's Hospital, Birmingham; Arris and Gale Lecturer, R.C.S.

THE purpose of this communication is to direct attention to a class of case which has apparently escaped general recognition, namely, the association of that group of symptoms which we regard as constituting infantilism with cirrhosis of the kidneys. As far as I can find in the literature there has only been one case described. This was a child shown by Dr. Morley Fletcher[1] at the Children's Section of the Royal Society of Medicine, in March of this year, under the title "Case of Infantilism Associated with Polyuria and Chronic Renal Disease."

The patient was a boy aged 6 years, who was said to have not grown since the end of his first year, and he was wearing the clothes made for him when 2 years old. He was very intelligent. Every day he passed 40 to 70 oz. of urine, containing a slight amount of albumen and occasionally granular casts. He had undescended testicles. The Wassermann reaction was negative and thyroid administration proved unsuccessful. I am able to-day to present pathological evidence showing that such a condition of infantilism may occur with granular kidneys.

Infantilism is a term which is somewhat loosely applied. Strictly it means the non-appearance at the proper time—

(1) Of the primary sexual characteristics—the maturity of the sexual organs.
(2) Of the associated secondary sexual characteristics—the development of mind and body which occurs at puberty.

The term is, however, frequently applied to children who are backward in bodily development (and often in mental development also), and who, it may be safely presumed, will not undergo the physiological changes of puberty either till a much later date than a normal child, or possibly not at all. Thus, for instance, a child of 9 years may be physically and mentally the equivalent of a normal child of five years. It is in this sense that the term is employed in this paper. In rare cases of infantilism the mental development appears normal or possibly even precocious. These cases are, however, the exception, and even they, after what should be puberty, frequently show some degree of mental backwardness. There is, in my opinion, usually some mental backwardness, amounting in older children and young adults (in years) to childishness.

I will now proceed to give the details of my case. Before doing so I must, however, express my thanks to Dr. Emanuel for his kindness in allowing me to use his clinical notes.

The patient was a girl aged 6½ years who was brought to Dr. Emanuel's out-patient department for wasting and excessive thirst; the mother stated that the child had "drinking diabetes."

History.—There was nothing of importance in the family history. She was the third in a family of five. She was a small baby when born, and during her infancy it was noticed that she was much smaller than other children of the same age. She was a quiet baby, walked at 1 year and 3 months, and talked at 2 years, rather later than the other members of the family. For the last eighteen months of her life she attended school, but had made very little progress, and was in a class with children of 4 years of age. She had passed a considerable quantity of urine daily all her life, and had always been very thirsty. She had always been a very quiet child, hardly ever crying, and sitting still and quiet for hours on end. The child remained an out-patient for a few weeks, but as oedema of the legs and face was developing she was admitted.

State on Admission.—She was a very small child for her age, and was not quite as tall as a normal child of 3 years present in the ward. There was some oedema of the legs and also of the face, the latter giving her at first glance somewhat of a cretinoid appearance. She was quiet, but could be got to answer some questions addressed to her; it was obvious, however, that her intelligence was not normal for her years. Both in bodily and mental development she could be put down as a child of 3 years old, or even younger. Respirations were rapid, and there was evidence of bronchopneumonia. The apex beat was in the fourth space, just outside the nipple line, and although the heart's action was quick, the impulse was distinctly of a heaving character. The heart sounds were clear. There was no evidence of arterial disease. The urine was pale in colour, acid, specific gravity 1010, and showed a faint trace of albumen, but no casts, sugar, or cells Death occurred on the seventh day after admission.

Autopsy.—The *post-mortem* examination was performed by me twenty-four hours after death. The thyroid gland was normal in size and appearance, and well-marked bronchopneumonia was

present in both lungs. The heart was unusually large and showed a few petechial haemorrhages on its surface. The apex of the heart was blunter than normal, due to the marked hypertrophy of the left ventricle, the wall of which near the apex measured ¼ to ⅜ in. in thickness. The cavity of the left ventricle was larger than normal. The valves and endocardium were normal. The heart muscle appeared pale, and under the microscope showed an excess of fibrous tissue. There was no atheroma. The kidneys were extremely small and together weighed less than 1 oz.; their capsules stripped readily, leaving granular surfaces, but showing no cysts. The granulations were more marked in the case of the left kidney, which was also paler than the right. The renal fat showed an apparent increase and the cortex was diminished. The vessels were prominent and congested. Urine removed from the bladder showed a heavy cloud of albumen, granular and hyaline casts. Microscopical examination of the kidneys showed a most extensive general fibrosis of cortex and medulla; the amount of fibrosis varied, being more dense in some areas than in others. This fibrous tissue was extremely cellular in places. The vessels were very congested and showed marked thickening of the middle and outer coats, so that in some cases the lumen was nearly occluded. The glomeruli varied considerably in size, some being apparently larger, others much smaller than normal. Very many exhibited some degree of fibrosis, but few were completely sclerosed. Some of the glomeruli showed a hyaline change in their cells. The epithelium of the tubules was in some cases apparently normal, in others granular and desquamating; some of the tubules were completely denuded of their epithelium. The lumina of the tubules displayed much variation, some being small, others large and tortuous, and others again cystic. In some areas many were filled with hyaline casts. The whole condition exhibited a degree of fibrosis as marked as, or more marked than, ever obtains in the most advanced cases in adults. The uterus was of the infantile type (that is, small body), but, I think, distinctly smaller than might be expected in a child of 6½ years. The ovaries were normal. The brain was normal and the other organs showed nothing of interest.

Such, then, are the clinical features—polyuria, pale urine with a trace of albumen, marked thirst, wasting and infantilism, which *post mortem* are found to be associated with a chronic interstitial nephritis, probably congenital, and a hypertrophied left ventricle.

Cirrhosis of the kidneys is an extremely rare disease of childhood. Dr. J. E. H. Sawyer[2] up to the end of 1906 was only able to collect 55 cases. It has been admitted by most writers that the disease may be congenital in origin, and that the chief factor in its causation may be syphilis.

Since syphilitic infantilism is such a well-recognized condition it might be urged that syphilis was the causative factor of the infantilism and the renal disease in the case I have described. However, there was no evidence of that disease to be found in the other organs *post mortem*; neither the clinical findings nor the parental histories supported such a suggestion. In an analysis of 22 cases Sawyer notes that "under-development" occurred in 45.4 per cent. He does not in every case state the mental condition. In his descriptions of his cases he writes: "Small for his age"; "had always been very small for her age and was a dull-looking child"; "was poorly developed and small for her age." In some of these there was no evidence of syphilis. In the case already quoted of Dr. Morley Fletcher the Wassermann reaction was negative. So that I think it will be granted that this "under development" of the body, and frequently also of the mind—or, as I prefer to call it, infantilism—does occur in association with chronic interstitial nephritis, and that apart from syphilis. Guthrie[3] states that his cases were "stunted, undersized, and wizened," but that they were "shrewd, precocious, and intelligent beyond their years." It would be interesting to have the later histories of these cases, for I think it is extremely likely that, when they reached what should have been the period of puberty, some showed signs of childishness.

Speculation concerning the mode of production of this condition of infantilism is rather fascinating. We know that infantilism occurs in association with some of the chronic disorders of early childhood — for instance, severe and prolonged diarrhoea, tuberculosis, and pancreatic insufficiency. It is also found in the absence or perversion of certain internal secretions, as in cases of cretinism and juvenile myxoedema, and in some cases of ateleiosis associated with tumour of the pituitary body. Lastly, there are certain types in which no definite etiological factor can be assigned—for example, other cases of ateleiosis and infantilism of the Lorain type. Bradford's researches have shown that the kidneys have a profound effect in general metabolism, and that removal of two-thirds of the weights of the organs in animals produces polyuria and wasting. This condition simulates rather closely the symptoms of granular kidneys in adults, in whom possibly only one-third of the kidney can be regarded as functioning. It is quite conceivable that removal of the kidneys in an animal directly after birth might produce a condition of infantilism. I know of no experiments in that relation. Bradford is inclined to put down his results to the diminution of an internal secretion of the kidneys. If this were proved it would put infantilism associated with granular kidney on all-fours with cretinism. On the other hand, the condition may be due to the presence of a chronic disease, as in the infantilism associated with chronic diarrhoea, which hinders the proper carrying out of the functions of the body.

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DISCUSSION.

Dr. J. E. H. SAWYER (Birmingham) said he had taken great interest in the chronic interstitial nephritis of children for some time, and had collected 55 cases, which he had published. In none of these had he found infantilism—by that meaning mental backwardness—but in most of the cases there was great backwardness in growth. He spoke of one case of chronic interstitial nephritis in a girl aged 18 years, who looked the age of 14 years. In this case gummata were found in the liver.

Dr. R. MILLER (London) referred to a case under his own care in which the boy, 9 years of age, was shorter than his brother aged 4. Thyroid extract had been of no avail in treatment.

Dr. H. D. ROLLESTON (London) considered that the majority of cases of granular kidney in early life were parasyphilitic, and that the easiest explanation of this particular case was that both the infantilism and the renal changes were due to congenital syphilis.

Dr. O. F. KAUFFMANN (President) agreed with the reader that the renal lesion most likely explained the infantilism. He deprecated the use of this term to denote regressive changes, and thought it ought to be limited to arrest of growth.

Dr. PARSONS, in a brief reply, regretted that Wassermann's reaction had not been looked for in this case.

DISCUSSION ON THE CHRONIC PULMONARY AFFECTIONS OF CHILDHOOD.

OPENING PAPER.

By SAMUEL WEST, M.D.Oxon., F.R.C.P.,

Physician, St. Bartholomew's Hospital; Consulting Physician, Royal Free Hospital.

THE word "chronic" greatly limits, and wisely limits, the area of discussion, but it is a term which is used in two different senses. In the one it indicates long duration only; in the other it connotes certain degenerative changes, usually of the nature of fibrosis. For instance, when applied to gout or eczema, it may merely mean that the patient has been subject to attacks for years, yet each attack when it occurs is clinically and pathologically acute. In this sense spasmodic asthma is chronic. This class of case would be better called "recurrent" rather than "chronic"; on the other hand, what is usually implied by the term "chronic" is simply that the affection is not acute, and it is in this sense that it should be used, I would suggest, in this discussion.

The *tuberculous pulmonary affections* in children are for the most part acute and appear in the form of acute miliary tuberculosis and acute caseating pneumonia.

The *subacute or chronic tuberculous lesions* which are indicated by the term "phthisis" are very rare before 5 years of age, though they have been found even in

infants. From 5 years onwards they gradually increase in frequency as youth is approached.

As with phthisis so with haemoptysis.

A few cases of chronic tuberculous cavities in children under 3 years of age or even in infants are recorded. So, too, are instances of profuse or even fatal haemoptysis, but they are all so rare as to be fairly regarded as clinical and pathological curiosities.

Chronic cavities are recorded in infants of 9 months and 11 months.[1] I have myself recorded a case of chronic trabeculated cavity in an infant of 6 months, an experience which I believe is unique. Such chronic cavities may lead to fatal haemorrhage, as recorded by Revilliod at the age of 16 months and by Cholmeley at the age of 20 months. In another case[2] an aneurysm of the pulmonary artery was found ruptured, just as so often occurs in the adult. A similar case at the age of 3½ years is recorded by Aldred.[3]

It would be interesting if speakers would refer to such cases of phthisis or haemoptysis in infants and young children, for the number of such cases recorded is very small.

Tuberculous pleurisy in an acute form is common enough in association with acute tuberculous lesions of the lung, but chronic tuberculous pleurisy is rare compared with the frequency of chronic tuberculous peritonitis, and this is remarkable considering the close connexion between the two serous membranes and the very thin partition which the diaphragm forms between them.

Actinomycosis is a rare disease, and when confined to the lung it will be long before it is correctly diagnosed. When it becomes external it presents itself as a pointing empyema, but not with a single discharging sinus. The subcutaneous tissue is burrowed and riddled with sinuses, and there are often many discharging points. The appearance is characteristic and unlike anything except the somewhat similar condition sometimes seen in neglected tuberculous disease of the ribs. Microscopical examination easily settles its nature. Potassium iodide is almost a specific, and in a child iodine baths given daily are of very great use.

Tuberculous enlargement of the bronchial and mediastinal glands is a condition of great interest and importance. It is true that these glands but rarely lead to pulmonary lesions, unless they perforate a bronchus, when the mischief excited is acute, and takes the form of acute aspiration-bronchopneumonia.

If a gland is discharged bodily or in large fragments into a bronchus, an attempt may be made to expel it by cough, with the result of severe dyspnoea being excited as it passes through the larynx, or of suffocation if it be impacted there.

The most interesting result, and one not often recognized clinically, is the pressure which such enlarged glands may produce upon the trachea, especially at its bifurcation. They may then excite paroxysms of dyspnoea, which are often wrongly diagnosed and treated as asthma. The enlarged glands need not necessarily be tuberculous, though they usually are. Thus, with any attack of bronchitis, these glands inflame and enlarge. I have seen severe signs of obstruction produced in this way in the adult so as to suggest stricture or stenosis of the trachea, and the same may happen in the child, though they are still more likely to be misinterpreted. I will make my meaning clear by a case:

A child 6 years of age began to be attacked by spasmodic dyspnoea, especially at night-time. As this was sure to occur if he got a cold, the case was regarded as one of bronchitic asthma. So long as the child was in the country or at the seaside, he had no cold and no dyspnoea, but so soon as he returned to London for a few days the attacks recurred, and were always preceded by wheezing on the chest. I suspected the condition of the glands, but the child appeared otherwise well, and did not suggest tuberculosis. Yet a year or so later the cervical glands enlarged, were evidently tuberculous, and were operated on. With the general improvement in health which followed treatment for enlarged glands, and after prolonged residence at the seaside, the symptoms disappeared.

The diagnosis of enlarged mediastinal glands presents many difficulties, but help and confirmation may be obtained by *x*-ray examination.

The enlarged glands may cause considerable pressure upon the bronchus going to the lower lobe, and may lead to collapse and bronchiectasis. It is possible that this may explain some of the cases of chronic bronchiectasis in children which have been called "turtle lung," and which have sometimes been regarded as a congenital cystic disease of the lung. I do not know that this condition has ever been investigated from this point of view, and I think it an inquiry worth pursuing.

I have seen a curious case in which swallowing of solids caused dyspnoea. Fluids produced no symptoms, but as solids passed down the oesophagus choking was experienced, attended with cough and dyspnoea. The only explanation which covered the case was that enlarged bronchial glands were thrust by the solids on to the trachea, so as to cause obstruction and irritation. Treatment on general lines—iodide of iron, cod-liver oil, and sea air—caused great amelioration and ultimate complete disappearance of the symptoms.

It would be very instructive and interesting if in the discussion these and similar effects of enlargement of the bronchial and mediastinal glands were dealt with.

Stridor and dyspnoea of indefinite cause in children should always raise the question of a foreign body in the air tubes, and in the diagnosis the *x* rays might be of use. *Foreign bodies* often turn up when least expected. Who, for instance, would have thought of an infant of 9 months of age having the gill plate of a herring impacted in the glottis? yet after tracheotomy that was what was successfully removed.

Laryngismus stridulus, being a neurosis, hardly comes into the field of discussion.

Child crowing, however, may be properly referred to. The pathology of this condition was long obscure, but is now determined by the observations of Sutherland and others and shown to be due to the glottis not being opened on inspiration as it should be, so that the parts remaining in juxtaposition are still further approximated as the air endeavours to enter the lungs, and a narrow chink is left, through which the air is drawn with difficulty and with the production of a crowing noise. It is thus produced in a similar way to the whoop in whooping-cough and the stridor of abductor paralysis.

Bronchitis is generally acute and associated with bronchopneumonia. The so-called chronic bronchitis of children is usually merely recurrent acute attacks. Chronic bronchitis, as understood in the adult, is very rare.

The term *emphysema* embraces several different pathological conditions, many of which are very common in childhood.

Interstitial emphysema is almost limited to children with whooping-cough, and even then is very rare. The interest it always excites makes it appear commoner than it really is.

The *over-distension of the lung* which results from violent coughing, as in whooping-cough, is a transitory condition. So also is that distension of the upper part of the chest which accompanies bronchitis, especially when associated with collapse of the lower portions of the lung.

The *complementary or collateral emphysema*, which develops round about the patches of collapse in bronchopneumonia, is another transitory condition which often comes and goes in a remarkable way. The increase in the size of one lung, or parts of it, which follows some permanent lesion in the other lung, or in parts of the same lung, is of the nature of hypertrophy, and should be called *complementary hypertrophy*, rather than emphysema, as it is accompanied with increased and not diminished functional activity.

There remains what is called in the adult the *true, genuine, ordinary, large-lunged emphysema*. This is very rare in the child. It is, in my opinion, a defect of nutrition and is not of mechanical origin. This nutritional change may be set up or started by an acute illness such as pneumonia, but as a rule cannot be traced to any definite cause.

Emphysema is a disease, like granular kidney, especially prevalent in middle life, but not originating then, for it may be met with much earlier in life, even in little children. It is in all probability, as I have said, a degenerative disease, and as these degenerations are not usual in the young, so is true emphysema rare.

It may be met with in cases which have never been the subjects of chronic or recurrent bronchitis. Indeed, I believe that the true relation of emphysema to bronchitis is often the very opposite of what is usually stated, that so far from emphysema following and being caused by

bronchitis, the emphysema is antecedent and leads to the bronchitis.

The cyanosis to which emphysema leads so commonly in the adult is never, I believe, seen in the young child. When such cyanosis occurs in children it is not due to emphysema but to congenital heart disease.

It would be interesting to have records of cases of true emphysema in the child.

Collapse is one of the most interesting conditions met with in childhood, constituting as it does one of the commonest complications in bronchitis and broncho-pneumonia. In infants it is largely due to feeble muscular power and to the want of rigidity in the chest walls. So that slight obstruction in the air tubes may lead to marked inspiratory recession and widespread collapse. The inspiratory recession of the lower parts of the thorax as well as of the intercostal spaces and suprathoracic fossae may indeed be as extreme with bronchitis as with laryngeal obstruction, the chief difference being in the absence of the respiratory excursion of the larynx, which occurs when the obstruction is in the larynx. When an air tube is obstructed the corresponding vesicle becomes collapsed and airless, and the vesicles around become distended, so that the actual space occupied by the two portions, the collapsed and the distended portions, remains much the same. This is what is described as complementary or vicarious emphysema.

The disappearance of the air is usually referred to a ball-valve action of the obstructing body, which permits the passage of air past it on expiration, and prevents admission of air on inspiration. This explanation is on the face of it improbable, and cannot be demonstrated, and it must be at any rate incomplete. Moreover, disappearance of the air with the consequent collapse can be shown experimentally to occur just the same where ball-valve action is rendered impossible.

The air, then, must be absorbed. There is little difficulty in understanding the removal of the oxygen and carbonic acid, but how the nitrogen is so readily absorbed presents many difficulties. Yet the whole of the air, nitrogen and all, disappears and very rapidly too. The same problem presents itself in pneumothorax. In each case the difficulty is the same. Moreover, the removal of the air is not only complete but it occurs under conditions which can produce a negative pressure. In the case of pneumothorax this must be sufficient to cause the complete re-expansion of the lung—that is, it must be equal to the elastic contractility of the lung, or 6 mm. of mercury.

In the case of the smaller patches in the lung the negative pressure must be sufficient to cause the adjacent compensatory emphysema.

In illustration I can produce two interesting cases:

One was a case of plastic bronchitis in which very large casts formed in the main bronchus of the left lower lobe. As they formed the whole of the left lower lobe collapsed, and as it collapsed the heart and mediastinum passed over towards the left until they reached the position of maximum displacement. As soon as the cast was expectorated the organs returned at once to their normal places. Each time that the casts formed the process was repeated.

Another case was under my care recently. A child of 2 came under observation with a temperature of 102°, a respiration-rate of 48, and a diagnosis of bronchopneumonia. The general condition was compatible with that diagnosis, but the physical signs were not in accord. The left side was contracted, the heart displaced far towards the left, and the right lung extended across the sternum well over to the left side. The conclusion drawn was that the child had chronic interstitial change throughout the whole left lung with extensive bronchiectasis in the lower lobe. Gradually, however, all the symptoms and physical signs disappeared. The child recovered completely, so that six weeks from its coming first under observation all the physical signs were normal and the displaced heart and mediastinum in their normal position.

The original interpretation, then, of the physical signs was obviously wrong. The condition of the left lung was a transitory and not a permanent one, and could have been nothing else but extensive and unusual collapse consequent upon the broncho-pneumonia to which the fever of the first fourteen days was due.

When the lungs are compressed the collapse is most marked in the parts immediately adjacent, as in pleuritic effusion. When the movements of the diaphragm are interfered with, as in great abdominal distension or with reflex inhibition or actual paralysis, the collapse of the lower portion of the lungs is extensive and of very grave import.

Bronchiectasis and *bronchiolectasis* in the acute form are common in acute bronchitis. In the chronic form it is associated with fibrosis of the lung. The peculiar condition often described as "turtle lung" is often preceded by a febrile attack resembling pneumonia, to which the change is referred. But given the bronchiectatic condition, intercurrent febrile attacks are common enough. I do not think that this condition is congenital, as is often stated, but acquired in early life. I have thrown out the suggestion that it may be the result of obstruction of the main bronchi going to the lower lobes by enlarged bronchial or mediastinal glands. The condition may be simulated by extensive collapse, as in the case I have already referred to.

TREATMENT.

The treatment of the chronic pulmonary affections of childhood must be on the same general lines as in the adult.

If the risks of the acute affection are past, recovery is easier and more complete in the child than it is in the adult, and by proper care and judicious management much may be done to prevent the development of chronic or permanent mischief.

In many of the chronic conditions referred to the mischief is done and the lesion irremovable, so that the treatment can only be symptomatic and general. Affections of the bronchial and mediastinal glands are frequently overlooked; yet if the cause be recognized and treated on general lines, the symptoms may be greatly relieved or cure effected.

The subjects to which I suggest discussion might be profitably directed are:

1. Chronic tuberculous lesions of the lung and pleura, with special reference to chronic phthisis and haemoptysis.
2. Affections due to enlarged bronchial and mediastinal glands, and the relation of these on the one hand to asthma, and on the other to bronchiectasis.
3. Cases of stridor and child-crowing.
4. The occurrence of true hypertrophous emphysema and its causation.
5. Collapse, its mode of production and results.

REFERENCES.

[1] West, *Diseases of the Respiratory Organs*, second edition, pp. 463 and 394. [2] Fagge, *Path. Soc. Trans.*, vol. xxviii. [3] BRITISH MEDICAL JOURNAL, April 20th, 1904.

DISCUSSION.

Dr. VOGT (Strassburg) said: Chronic diseases of the lungs may be divided into groups in many different ways. It seems advisable to separate from the others those that are due to infection of the respiratory organs, and it is of these that I specially wish to speak. But I do not wish to discuss those due to infection by the tubercle bacillus. It is a well-known clinical fact that bronchopneumonia may last for a long time, and that certain bronchopneumonias, especially those due to measles and whooping-cough, have an especial tendency to run a prolonged course; so that it is no rarity to find a pneumonia which does not disappear until after three or four, or even more, weeks of fever. In other cases the signs of bronchitis and pneumonia gradually disappear, the temperature may for a few days be even normal, but this does not mean the end of the disease; for the symptoms which have been temporarily absent return again with renewed severity. In a small proportion of cases it happens that after the course of a pneumonia the child that has seemed entirely well is afflicted again with a pneumonia after a longer or shorter period. If one follows the course of such a case, there appears regularly a connexion between the two attacks. It is not, then, merely an unfortunate occurrence or a special disposition on the part of the child when he has repeated attacks of this disease. But it means actually that the first attack was never completely recovered from. In this way it is easily understood that the lesion is always in the same part of the same lung in which it was first manifest. And in this part the physical signs are more intense if there is a diffuse broncho-pneumonia. Corresponding to this one finds that even after many weeks or months signs remain in one particular part of the lung; they may seem very slight, but nevertheless do not completely disappear. This is the spot on which with preference new acute lesions arise. If this

conception is right, then these are very important changes. For each new attack of bronchopneumonia brings with it danger, and this danger is greater the oftener it is repeated. In contrast are the minimal signs in the time of freedom from attacks. One must know the signs in order to recognize them. The site of predilection is the left lower lobe posteriorly and laterally. Less frequently is the right lower lobe or an upper lobe affected. In certain cases over these areas is marked dullness, while bronchial breathing and consonating râles are heard. But in other instances, and these are, perhaps, the majority, there are only a short percussion note and a few fine subcrepitant râles with sibilant breathing, which at certain times may be entirely absent. There may be some sputum or there may be none. Examination with the *x* rays may show in a few cases a marked shadow, but in others this may be very slight. Sometimes a diminution of the mobility of the diaphragm may be made out on the affected side, or an irregularity which points towards pleuritic adhesions. Very important, but also very difficult to answer, is the question, What anatomical changes form the basis for the persistence of these signs? In certain cases adhesions may be suspected, but these only account for a part of the symptoms, such as dullness or diminished breathing, but not the bronchial breathing or the râles. We cannot presuppose a persistent or regular infiltration of the lung, as we would in that case regularly hear bronchial breathing and consonating râles. It cannot be an ordinary bronchitis, as this extends over a greater area, and can hardly remain for months as a localized process. It seems to me most probable that in such cases there are extensive changes in the walls of the small bronchi which are in the majority of instances accompanied by slight dilatation, and, if the process continues long enough, in many cases there will arise the symptoms and signs of this disease in the larger tubes. This conception seems to me fortified by the following observations: In a series of 14 cases of bronchiectasis I have found influenza bacilli in the sputum in 12. Such observations have also been made by Lord in Boston and by Boggs in Baltimore. It is also well known that in the pneumonia following measles and whooping-cough, which, as I have said, has a marked tendency to a prolonged course, and to bronchiectatic changes, the influenza bacillus is often found. It seems to me, then, that the pulmonary diseases which are caused by the influenza bacillus show a more marked tendency to chronicity than any others. That even during the period of apparent freedom from symptoms a chronic infection prevails seems to be supported by spirometric observations that Dr. Lederer and I have made. The tendency to the development of chronic pneumonia seems to be greater in younger children. In 20 cases which I have observed in which the beginning of the disease could be with apparent accuracy determined, 18 belonged to the first six years of life, and 9, or almost half of them, to the first two years. I have no time to consider the treatment of the condition, but I should like to emphasize that an early recognition of the process may enable us, by hygienic and climatic treatment, to postpone for a long time—perhaps even during the normal lifetime of an individual—the changes which are bound to take place with repeated acute pulmonary attacks.

Dr. J. E. H. Sawyer (Birmingham) laid stress upon the extreme rarity of chronic tuberculosis of the lungs in children, and did so on account of the misleading reports received from medical school inspectors, in which this affection of the lungs was diagnosed in from 3 to 60 per 1,000 of all children examined. He had looked up the results of his examination of 10,000 children, and had found that he had only diagnosed phthisis of the adult type in 11 cases. These children were all under 12 years, a large number were below the school age, but if only 11 in 10,000 of these children, all of whom were suffering from some disorder, had phthisis of the adult type, one would naturally expect to find a much smaller number suffering from the pulmonary affection in school children of whom the great majority were in good health. He considered that a mistaken diagnosis of phthisis was frequently made, and thought that the chief cause was the great variability of the normal physical signs which may be present on the examination of the chest of a child. Speaking of the diagnosis of enlarged mediastinal glands, he said that the murmur described by Dr. Eustace Smith was not of much value, as it could be frequently heard over the manubrium sterni in children with their heads extended. He thought the murmur was frequently produced in the internal jugular veins by being stretched, and also by being pressed upon when the child's head was placed in this position.

Dr. Walter Jordan (Birmingham) associated himself with the previous speaker in his views as to the infrequency in childhood of chronic pulmonary tubercle, so commonly diagnosed by school medical inspectors and for the purposes of voluntary notification of phthisis. He hoped that such a discussion as this would do something to enlarge the views of those whose ideas with regard to the possible nature of the lesion in children with continued cough and wasting began with tubercle and ended with tubercle. As to the cases of lasting cough without abnormal physical signs, he dwelt on the importance of careful investigation of the state of the tonsils and pharynx in all such cases. This investigation often revealed an adequate and superable cause of the condition.

Dr. D. Barty King (London) observed that there was great diversity of opinion as to the prevalence of chronic pulmonary tuberculosis amongst children, especially as expressed by the statistics of the various school medical officers. All statistics bearing on the prevalence of tuberculosis in children should be accepted with some reserve, as so much depended on the clinical experience and methods of diagnosis of the investigator. Speaking of a report bearing on the careful examination of 1,500 children between the ages of 8 and 12 years by ordinary clinical methods carried out in London, he said that cases in which there was some doubt as to the diagnosis were referred to the speaker's out-patient clinic at the Royal Hospital for Diseases of the Chest, where further examination was made by special methods to ascertain the presence or absence of chronic pulmonary tuberculosis. As a result of these investigations, the incidence of this disease worked out at about 5 per 1,000. It was important in estimating the value of these statistics to bear carefully in mind that they were based almost entirely on the findings of clinical examination by ordinary methods. In such an investigation one valuable clinical experience was gained, which might with profit be conveyed to others engaged in work of this kind, and it was that great care must be taken in interpreting the abnormal physical signs in the lungs of children, as so many other conditions—non-tuberculous—present almost identical signs. However, considering the question of the prevalence of chronic pulmonary tuberculosis from every point of view, he came to the conclusion that there was a very high probability that tuberculosis or chronic pulmonary tuberculosis was present in these children to a much greater extent than was indicated by the above figures. A further investigation which was at present being undertaken by the speaker lent strong support to this opinion. Through the kindness of his hospital colleagues a series of cases presenting the clinical features of anaemia and general debility occurring in families giving an immediate history of chronic pulmonary tuberculosis had been taken into hospital with a view to gaining more information on this subject, and also to testing some of the more recent methods used in the diagnosis of tuberculosis in children. Apart from a thorough clinical examination by clinical methods most of the cases had been examined by (1) *x*-ray examination, (2) von Pirquet's skin test, (3) the subcutaneous injection of Koch's old tuberculin. Although this work had not yet been completed, the results so far would seem to justify the statement that chronic pulmonary tuberculosis and tuberculosis in other parts of the body existed to a much greater extent than was at present generally held. *Post-mortem* evidence undoubtedly confirmed this opinion. (1) In the diagnosis of incipient pulmonary tuberculosis *x*-ray examination was quite unreliable. It must be granted, however, that in some cases the *x* rays may reveal the presence of this disease when ordinary clinical methods fail to do so. Apart from this, however, the *x* rays may give valuable information as to the extent of the disease present. With regard to the diagnostic value of the movements of the diaphragm, great care must be exercised in their interpretation. (2) When

the von Pirquet's skin reaction was distinctly positive there was a very high probability that there was a tuberculous focus somewhere in the body, but not necessarily in the lungs. A negative reaction did not exclude the presence of tuberculosis in the body. Whether it was present in the lungs or not was a matter for further careful clinical inquiry, and it was here that the experience and skill of the physician specially came into play. (3) In regard to the subcutaneous injection of tuberculin, the speaker's experience was that there was no method at the present time which gave such a trustworthy indication of the presence of tuberculosis in the body. In careful hands there was practically no danger whatever in its use. In performing this test the patient must be absolutely confined to bed, and under no circumstances be allowed out of bed. Both rectal and oral temperature should be taken. Valuable information might occasionally be obtained by a careful auscultation of the lungs, especially over their apices, with a view to the detection of crepitations there; the region around the umbilicus should also be watched for the appearance of any redness. Adenoids were the most frequent cause of chronic cough in children between the ages of 6 and 12 years.

Dr. N. C. HARING (Birmingham) stated that phthisis in children ran a very mild course, tending to recovery, so that not much information was obtained from the *post-mortem* room. Most of the autopsies were performed on the miliary type of the disease. The symptoms often consisted of wasting and weakness only. The absence of cough and sputa made it difficult to examine for tubercle bacilli. Swabbing of the larynx or even of the trachea would often give tubercle-laden mucus when other methods of collection failed. Of the various tuberculin tests the one of election was the injection of old tuberculin (T.O.) of human and bovine strain mixed together. The after-history of children who had suffered from some of these vague chronic chest troubles went a long way towards proving that the mischief was tuberculous in a large number of cases. Among children suffering from recurrent bronchial and spasmodic affections such an abnormal proportion suffered from upper-air passage diseases—tonsils, post-nasal vegetations, and turbinal hypertrophy—and were either cured or much relieved by surgical intervention, that the upper air passages must be the actual cause. As regards foreign bodies in the air passages, the Killian method of intubation and direct inspection of the trachea and bronchi had increased enormously the chances of safe removal of the offending body. In addition to glandular enlargements in the mediastinum, which might or might not be tuberculous, there was a definite disease of unknown origin in which an inflammatory plastic process matted together the pleurae and pericardium, and might leave a permanent and incurable condition. This had been called mediastinitis.

Professor STOELTZNER (Halle) wished to point to the great value that thiosinamine seemed to have in some cases of chronic pneumonia. He had lately seen a very surprising case of that kind concerning a boy 7 years old. The child had fallen sick four weeks before with pneumonia of the right lower lobe of the lung. Six days after its commencement the fever diminished but the temperature did not become normal, an irregular feverish condition being maintained. Dullness and bronchial breathing continued, and when he saw the child a retraction of the right half of the thorax had already developed, with curvature of the spine towards the left side. He considered the case as very serious but agreed to make a trial with fibrolysin. The child received in three weeks ten injections of fibrolysin, corresponding altogether to 2 grams of thiosinamine. The effect was surprising. During the three weeks of fibrolysin treatment the fever vanished, and the child gained in weight $4\frac{1}{2}$ lb. One month after the last injection he saw the child again, The boy had gained in this month $3\frac{3}{4}$ lb. more—in all, 8 lb. The dullness and bronchial breathing were gone, and nothing was to be seen even of the retraction of the thorax. He wished to recommend in similar cases a trial of the thiosinamine treatment.

Dr. DOUGLAS STANLEY (Birmingham) thought that there should be a more definite conception of chronic bronchitis which Dr. West considered to be rare. He believed that a condition of chronic catarrh, though hardly amounting to a "bronchitis," to be common, and due to increase of adenoid tissue in the trachea and bronchi. The presence of adenoid deposit in the pharyngeal mucous membrane was an important indication quite apart from any mechanical and local effects. Many of these cases were diagnosed as phthisis by inexperienced observers, especially should intercurrent attacks of bronchopneumonia occur, as was liable to happen. The speaker thought that the number of cases of chronic tuberculosis of the lungs in children might be higher than some observers stated, though there could be no doubt that the number was greatly overstated by school medical officers. It might be as high as 10 per cent.

Dr. C. P. LAPAGE (Manchester) thought phthsis was not very rare in children, especially the older children. This was supported by *post-mortem* statistics. Probably the bronchial glands were very often the seat of primary infection, and the disease spread thence. Bronchiectasis in children was not very common, and was easy of recognition. Localization of the lesion was not so easy, and *x*-ray examination did not give the help that might be expected. The results of treatment were good if inversion and other methods of keeping the lung empty were combined with open air and exercises, but improvement was slow. The cases were often non-tuberculous. Mediastinal glandular tuberculosis of sufficient extent to cause definite physical signs and symptoms of pressure was not common. It was an interesting fact that the glands might increase and decrease very rapidly.

Dr. ELIZABETH MOFFETT (Stafford) remarked that in the examination of school children a large number of children (some 15 to 20 per cent.) were found with impaired notes at either the apices or the bases or both. Some of these children were quite well. Among those out of school with a family history of phthisis all had impaired notes. They were associated with adenoids and also with rickets, and with bad hygiene and overcrowding. Many so-called phthisis cases cleared up when adenoids were removed. Some of these children showing impaired notes, who were also thin and delicate, might develop phthisis later.

Dr. WILLIAM EWART (London) agreed with Dr. Elizabeth Moffett's conclusion, that local impairment of the percussion note was not always due to tuberculosis, and that in the children it was frequently the late result of rickets which induced imperfect expansion of some parts of the thorax. An expert examination would succeed in establishing the diagnosis between tubercle and such temporary atelectasis. The treatment of bronchiectasis should be begun at the earliest age, when it was more likely to be successful.

Dr. A. E. NAISH (Sheffield) agreed that chronic tuberculosis in children of school age was uncommon, though enlargement of the mediastinal glands was more common. Patches of dullness were, he believed, often due to collapse, and occurred in children with adenoids and deformed chests more commonly. So-called congenital collapse often did not occur at birth, but commenced after a few weeks, and was seen not infrequently in more than one member of a family.

Dr. E. C. MYOTT (Newcastle) held that the majority of children who suffer from chronic cough, without the exhibition of physical signs, were mouth breathers. Of these there were three types: (1) Perpetual. The adenoid facies was unmistakable. (2) Occasional. These were marked by a mere drying of the lips, with slight eversion. The faulty respiration was observable after the lightest exertion —for example, talking. (3) Rare. Many of these escaped notice, for it was only at their games that the mouth breathing became evident. Then there was a sufficient inhalation of cold or hot dusty air to give rise to an irritating cough, which was alternately excited or allayed. These children suffered, as Dr. Stanley had suggested, from "sloppiness," either in themselves or in those responsible for them.

REPLY.

In replying to the points raised by different speakers, Dr. WEST agreed with Dr. Sawyer and Dr. Jordan in believing that chronic tuberculosis of the lung was rare in children, and argued that those who believed it to be common must produce their statistics to prove the point.

DISTURBANCES ARISING FROM MILK FEEDING IN CHILDREN AFTER THE FIRST YEAR.

By HANS VOGT, M.D.,

Assistant Professor in Czerny's Clinique, the Children's Hospital, Strassburg.

IT is well known that it is not possible to feed infants for a considerable length of time during their first year on a diet that contains no milk, but perhaps it is not equally well known that overfeeding with milk may be injurious to infants, even though the milk be uncontaminated by micro-organisms, and in every respect irreproachable in quality. Children who are entirely healthy and free from any inherited constitutional taint may take relatively large quantities of milk without any deleterious effect. But this class of children constitutes perhaps a minority.

There is one definite group of children that is especially liable to disease from overfeeding with milk; it contains the children who suffer from a constitutional abnormality, described by Professor Albert Czerny under the name of the "Exudative Diathesis." This constitutional abnormality does not come to an end with the first year of life, but continues for some time even during the later years of childhood. From this it is evident that we have reason to believe that for children even after the first year of life milk is by no means a food that may be taken in unlimited quantity.

In children older than one year we see different injurious effects from overfeeding with milk, effects that differ according to the inherited qualities of different children. There is abundant opportunity for studying the results of overfeeding with milk, for most medical men still assert that milk is not only the best food for the young infant, but that it is for any period of life, and of all foods the one which supplies the greatest amount of energy, while requiring the least amount of work on the part of the digestive organs.

As a result of this belief any feeble child that seems to require special nourishment is ordered to be given as much milk as he can take. Yet in examining the success of this sort of treatment, uninfluenced by any dogmatic belief, we see that in many cases not only does no real benefit result from the milk diet, but that, on the contrary, unmistakable harm may be done.

First I should like to discuss somewhat in detail the observations upon children suffering from the exudative diathesis. By the exudative diathesis we mean a constitutional abnormality characterized by pronounced susceptibility of the skin as well as of the mucous membranes of the body. The susceptibility of the skin shows itself in its liability to several special forms of eruption known as "milk-crust," intertrigo, strophulus, etc. The susceptibility of the mucous membranes shows itself in the frequency of catarrhal disease of the respiratory tract as well as in an exaggerated sensibility of the digestive organs. This constitutional abnormality, the symptoms of which in former times used to be described under the heading of scrofulosis or even tuberculosis, has no direct relation to these diseases. On the contrary, it can be proved that it depends upon the quantity and quality of the diet, for children affected with this constitutional abnormality bear badly every kind of over-feeding and respond to it by an aggravation of their morbid symptoms. Besides this we see that they are injured by taking for a long time even such quantities of milk as normal infants may take without any injurious effect.

On this account we are compelled to resort to a mixed diet instead of a pure milk diet for such children during the course of the first year of life; and during the second year we are obliged to restrict the milk in the diet to a minimum and to provide for the necessary supply of protein by giving small quantities of finely minced meat instead of milk.

The great importance of regulating the diet in the second year of life in the treatment of children suffering from the exudative diathesis is well recognized, but is true for rickety children as well. Rickets is now believed by many to be an inherited constitutional disease like the exudative diathesis, the development and severity of which is largely dependent on the method of feeding. A great many authors interested in rickets urge that nutritional disturbances play a prominent part in producing the disease. Any digestive disturbance is believed to deprive the organism of some of its power of resistance and in this way to lead to rickets. Breast-fed infants were generally believed to be protected against rickets because they were not likely to develop digestive disturbances. But if we look closer into this question we come to a contrary conclusion. Children whose parents have transferred to them a disposition to rickets may acquire the disease and even be seriously affected, though they are exclusively nursed by their mothers and never have developed any signs of dyspepsia.

Breast feeding is by no means a trustworthy protection against rickets. On the contrary, we often see in breast-fed infants with the disease an amelioration of the symptoms and a gradual recovery as a result of the introduction of a mixed diet consisting in mixtures of milk and starch solution or of soups or broth containing carbohydrates.

What I have said about breast feeding in this connexion is true also for cow's milk feeding, and even more so. If children are predisposed to rickets when fed on a diet exclusively of cow's milk they gradually develop severe symptoms of this disease, and these come on even with a diet containing such quantities of cow's milk as are easily borne by children free from an hereditary disposition to rickets. We are obliged, then, to reduce the quantity of milk in the food to such small amounts as 100 to 200 c.cm. a day. I am well aware that rickets may run an unfavourable course in children overfed with carbohydrates and taking no milk at all. This is seen most often in the children of the poor, whose food, owing to the poverty of their parents, may contain carbohydrates in excess and almost no milk at all. Children of this kind and those who do not bear well fat introduced in the form of milk often bear very well fat supplied to them as cod-liver oil, and are immensely benefited by it. What we learn from clinical experience is also borne out by metabolism experiments, which seem to show that an abundant supply of milk fat has a deleterious effect on the retention of lime salts by the organism, and similar, though less pronounced, is the effect of an excess of carbohydrates in the diet.

There is one more deleterious effect produced by an excessive milk diet, which is of the utmost practical importance, though it is far from being universally recognized. I refer to the relation of excessive milk feeding to the acute infectious diseases which play such a prominent part in the pathology of childhood. A careful observer cannot fail to notice that children who die in the course of epidemics which are in general of a mild character, present *definite* characteristics which distinguish them from other children. Besides children affected with severe rickets, we find among those who are severely attacked a type of child presenting characteristic features in outward appearance. The adipose tissue is exceedingly well developed, especially in the face, with a pasty complexion, so that a careless observer might mistake it for a case of oedematous swelling. The skin and the muscles of such children are flabby and soft. Whenever a child exhibiting these signs is infected by scarlet fever or diphtheria, the prognosis is an unfavourable one.

Unfortunately, these children are also more susceptible to infection than normal children. Not long ago we were able to study an instructive example of this in our hospital. A child was received in one of the large wards because he had taken caustic potash by accident. This same child had been treated for scarlet fever in the hospital nine weeks previously. Out of all the children in the ward into which he was now admitted, only one was infected by scarlet fever, and this child died. The parents of this child informed us that he had always taken relatively large quantities of milk, and, besides this, as much food as a grown-up person. Of the staff of this ward only one person caught the disease—a nurse who was very fond of milk, and usually took 1½ litres of it daily, without thereby impairing her appetite for solid food. No one else in this

ward—in which there were a number of very delicate children—contracted scarlet fever. Any one who has been taught to direct his attention to the relation of excessive milk diet to the prognosis of infectious diseases, such as diphtheria, measles, pneumonia, etc., will easily convince himself of the great importance of this factor.

A third group of diseases directly affected by milk diet is that of the anaemias. Children who are fed exclusively or almost exclusively on a purely milk diet not only up to the end of their first year but even during the second year or longer, almost invariably show a pronounced pallor. In examining the blood we find a corresponding diminution in the number of the red corpuscles and the percentage of haemoglobin, but usually no increase in the number of the white cells. As a rule these symptoms are the only ones, but sometimes there is enlargement of the spleen, and occasionally a moderate degree of leucocytosis. The diminution of haemoglobin and of the number of the red cells under these circumstances need not surprise us, as we know milk to be the food containing the smallest quantity of iron we can give a child. So it is obvious that the appropriate treatment must be to give the child some other food that will provide for the iron requirements of the body. But what we learn in doing so throws a surprising light on milk as a diet.

To ensure successful treatment it is not sufficient to give the same quantity of milk as before and provide for the necessary supply of iron in some other way, such as by a preparation containing iron. By this means we shall not be successful in relieving the anaemia. What is necessary is to diminish the amount of milk in the diet and to replace it by vegetable food and by meat. The same rule applies to the cases exhibiting an enlargement of the spleen. By a reduction in the quantity of milk in the diet the spleen is gradually diminished in size to its normal volume, even when no other method of treatment has proved successful. This leaves no doubt as to milk being injurious not only on account of its containing too small a quantity of iron, but also in some other respect which we do not as yet clearly understand.

There is yet another deleterious influence exerted by milk diet which I must mention here, and which manifests itself even in the first year of life. There are quite a number of infants whose stools, when they are exclusively fed on milk, have a peculiar appearance. The stools are dry, hard, white in colour, and are passed at intervals of from one to several days. In these cases we may relieve the constipation by attending to the diet without having recourse to the use of drugs or any form of mechanical treatment, such as massage, enemata, etc. The only thing necessary is to lessen the quantity of milk ingested and to provide for the necessary amount of food by using carbohydrates in different forms, of which malt extract is the best.

The peculiar tendency of milk to produce constipation plays a prominent part in older children as well, and this has not been sufficiently recognized. It is by no means unusual to see older children who have been unsuccessfully treated for constipation by drugs or other remedies, relieved by the simple prescription of giving them no milk at all. As a result of prolonged experience we have come to the conclusion that constipation does not exist as a disease, but only as a symptom, leaving out of account, of course, the very unusual cases, where anatomical abnormalities of the intestinal tract form an obstacle to the evacuation of the bowels.

Symptomatic constipation may arise in children in two different forms, which are often combined. There is a constipation produced artificially by an excess of milk in the diet, and there is a constipation sometimes to be seen as a sign of an irritable nervous system. The latter form of constipation arises in children who, in consequence of abnormally anxious parents or as a result of irrational treatment, have learnt to be anxious about the evacuation of their bowels. After having been treated by enemata some very nervous children will retain their evacuations for a number of days, in order to avoid the disagreeable act of the evacuation. In cases like these the first thing necessary is a deliberate treatment on psychological lines. We must combat the exaggerated importance attributed to the regular passing of the stools by the child. If we want to do so we are obliged to refrain from any superfluous drugs and enemata; we are obliged to instruct the parents to avoid showing any anxiety to the child, speaking about constipation in his presence, and so on. Then it regularly happens that, after an interval of shorter or longer duration, the motions will be passed spontaneously and this will continue in the future. The one thing necessary in addition to this psychological treatment is to reduce the amount of milk in the diet or to eliminate it altogether; and without doing so we will seldom be successful in the treatment of constipation.

Up to the present time we cannot say exactly how it happens that a milk diet produces with many children dry hard stools. We have some reason to believe that the bacteriological processes going on in the intestinal tract are not the same in different individuals even under the same conditions with respect to diet, etc. The facility with which fermentative processes arise, and their intensity, seem to be different in different people. The dry hard white stools passed by certain infants after the ingestion of undiluted cow's milk are known to be rich in soaps of lime as well as in products of putrefaction. From this it is evident that the amount of carbohydrate contained in the milk was insufficient to produce enough fermentation to prevent intestinal putrefaction. The addition of carbohydrate, especially of malt extract, enables a more intense fermentation to be produced; this relieves not only the constipation, but also the more pronounced deleterious effects which arise as the result of an exclusively milk diet, and which, unrelieved, may lead to the form of atrophy described by Czerny and Keller as the remote effect of *Milchnährschaden*, or the ill-effects of a milk diet.

These examples may perhaps be a sufficient proof that many children may be injured by a liberal milk diet. The long-retained dogmatic belief of the medical profession that milk is not only the ideal food for infants, but for every age and every ailment, must be abandoned. That milk is not and cannot be what it was supposed to be, we may infer even from very superficial reasoning. The requirements which the food of the infant and that of the older child have to meet are quite different. The infant needs for the construction of his rapidly growing organism relatively large quantities of fluid, as well as of solid matter, to be retained as living substance. The older child and the adult, on the contrary, require above all supply of material which will furnish the amount of energy necessary to provide for the maintenance of the temperature of the body and the production of muscular work, both of which play only a minor part in the case of the infant. Again, milk lacks certain constituents which must be present in the food of adults and older children. It is extremely poor in iron, it is entirely lacking in purin bases, and last, but not least, it is for most people unappetising. This last constitutes a very real defect for individuals who have passed their first year.

In the pursuit of our profession what we may safely rely on is not so much theoretical considerations as the results of practical experience, and as I have endeavoured to show, these lead us to the conclusion that in the diet of older children milk is not to be made use of in unlimited amounts.

DISCUSSION.

Dr. WILLIAM EWART (London) referred to the value of whey as a temporary measure of dieting in infantile milk dyspepsia. In the analogous gastro-intestinal disablement of typhoid fever Dr. Prideaux Selby, of King's Lynn, had called attention in his historical paper to the importance, which was so great in rickets, of not loading the bowel with putrescible milk clots; and this had led the speaker to evolve the "empty bowel treatment," which did not, however, apply strictly to infantile dyspepsia, except, perhaps, in cases of obstruction in some part of the gastro-intestinal canal.

Dr. STOELTZNER (Halle) agreed with the remarks of the reader of the paper. Much of the harm caused by a milk diet he attributed to the lack of iron and fixed alkali in milk.

Dr. R. B. MCVITTIE (Dublin) said that, while he agreed as to the danger of excessive quantities of milk, he thought much of the evils were due to the destruction of the lactic acid bacilli and of various enzymes which were the policemen of the intestine, by the application of heat, which,

even in pasteurization, was frequently raised too high. A reduction in infantile mortality did not prove a great gain for pasteurization, as a feeble child's life might be prolonged only to become a worthless adult, as there was evidence to show that proper nutrition in childhood was the principal factor in the production of energy in adult life.

REPLY.

Dr. VOGT, in reply, said that he had found no difference between sterilized and unsterilized milk in the feeding of infants and children.

THE ETIOLOGY OF NAEVI: NERVE INFLUENCE IN THEIR CAUSATION.

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IN dealing with the etiology of naevi one is struck with the meagreness of the recorded facts; much has been written on the treatment, but very little on any other aspect of the subject. Perhaps the apparent unimportance of the subject is the cause of this neglect. But this neglect is also my excuse for the following compilation. This paper deals largely with facts collected during the treatment of a great number of children suffering from naevi; it also includes statistics based on those records, to which are added views which logic and observation seem to warrant.

During the two years I was casualty officer at Great Ormond Street Sick Children Hospital I made careful notes of upwards of 550 children brought there for the treatment of naevi; but many others passed through my hands of whom I am without records. In years which have elapsed since that date I have collected comparatively few records, some 150 in number, so that I find I have details of 700 children, which number appears to me to be ample for the purposes of analysis.

The first step in dealing with the subject of naevi is to define what one means by the word, for the nomenclature is so abundant, so unscientific, and so loosely applied, that it is extremely difficult to be sure one conveys his meaning when using certain terms.

There are two classes of pathological conditions which I include here under the term "naevus." Class 1. The common form, or true naevus, a collection of endothelial spaces of varying size, which contain blood but have no muscular wall. Class 2. This form is less common but may be very extensive; the term "naevoid" is perhaps more accurately applied to this condition than is the term "naevus." It consists of dilated vessels, chiefly dilated capillaries in the skin, which may or may not be associated with patches of the other condition, or true naevus. This latter division includes port-wine marks and spider marks. I need not define port-wine marks, as I believe the term conveys the same thing to all our minds. By a "spider mark" I mean a mark which usually appears on the face, and is caused by an enlarged vessel carrying blood to the surface, and smaller vessels carrying it away from the spot in a radiating manner, so as to cause a noticeable area of hyperaemia. The direction of the blood flow in these spider marks is therefore centrifugal and not towards the centre. This can easily be demonstrated by pressing a glass slide over the mark and varying the pressure, or by drawing a needle on the flat slowly down over the hyperaemic area.

I exclude from the term "naevus" cirsoid aneurysms, abnormal connexions between arteries and veins, and the dilated condition of the superficial vessels seen in many conditions where the venous pressure is raised, such as heart trouble or varicose veins.

THE VARIETIES OF NAEVI.

The histology of naevi need not be considered further than to state that they consist of blood-containing spaces lined by endothelium. The walls of the spaces contain no muscular tissue. They are bound together by a certain amount of fibrous tissue, and, as a rule, the larger the space the more definite are the fibrous walls. The blood is conveyed to the spaces by small arterioles, which open usually at the margins, and is conveyed away by veins, which may be enlarged and tortuous when the condition is extensive. In these cases such veins may be seen under the skin for a considerable area round, and doubtless are largely responsible for the term "venous," which is sometimes applied to naevi. In the skin these spaces are quite small, and may be little larger than capillaries, but are packed so closely together that there is practically no tissue between them. The spaces on the surface of the skin or mucous membranes nearly always remain of small size; it is only in exceptionally rare cases, where growth is very rapid, that the spaces become large, or occasionally in old cases where the skin becomes thinned over what was a subcutaneous naevus, that spaces to which one could apply the term "cavernous" ever come near the surface. It is when the naevus spreads in the deeper tissues that the spaces continue to enlarge until finally they deserve the term "cavernous," which is sometimes applied. The terms "simple," "capillary," "arterial," or "venous" have no scientific meaning whatever. Like the spaces constituting other cavernous or erectile tissue, naevi are neither capillaries, arteries, nor veins.

I have never detected any trace of pulsation, even in large naevi, but it is said to occur, though in these cases cirsoid aneurysms would seem to be included under the term of naevus. When on the surface, the colour varies according to whether the circulation is brisk or sluggish; if the former, then they are bright red, or pinkish, if the latter, then the blood has time to become deoxygenated, and their colour is darker; when below the surface they always look blue, for nearly always the spaces are larger and the walls thicker. I may here state that in those naevi or naevoid conditions which persist to adult life, the circulation through them becomes less brisk, and the colour therefore darkens considerably. I have therefore classified them according to their position, as cutaneous, subcutaneous, and transitional.

The method of growth is by the formation of these small spaces, which seem to open up the fine connective tissue planes, and replace the normal tissue by these vascular spaces. The spaces, if below the skin, enlarge, fresh regions of small spaces being opened up beyond. This process can be seen by the naked eye in the cases where a subcutaneous naevus begins to invade the skin. Pink points appear at different parts of it, and these fuse together and spread in turn; but there is the difference I have already pointed out, that in the skin these small spaces do not enlarge as they do when situated deeply. This, I imagine, is a provision of Nature against the risk of severe haemorrhage when ulceration takes place, as it often does in the altered skin.

The converse, however, is frequently seen when a small flat cutaneous naevus invades the deeper structures. In this case the growth can be watched by the increase in the prominence of the naevus, and the enlargement of the spaces beneath can be gauged by the ease with which pressure empties the tumour. Eventually the prominence becomes practically erectile, tense on crying and straining, and lax at other times. The size of the spaces in the skin, however, remains apparently unaltered.

ETIOLOGICAL ANALYSIS.

Sex.—In the 691 cases in which sex is recorded, 240, or 34.7 per cent., are males, and 451, or 65.2 per cent., females. In other words, the numbers of the female sex almost double those of the male. It may be argued that the parents think that the disfigurement of a naevus is more important in a girl than in a boy, and therefore the former are brought for treatment in larger numbers than the latter. This I do not believe, for, as will be seen later, the majority of both sexes are brought up before they are 6 months old, and at that age, in the eyes of the mother, the sex does little to influence the question of the disfigurement of the child. The same argument would also imply that the males would be brought for treatment only if the naevus was on an exposed part, and that when situated elsewhere, it would be left alone. Such a supposition gathers no support from my figures, and I think these percentages do represent the true ratio between the sexes.

Age.—According to Bland-Sutton, a naevus "may be present at birth, but much more frequently appears in the course of the first few weeks of life." If I may venture to criticize such a painstaking and careful observer, I should say that in this case, at all events, he has allowed himself to repeat a fallacy which is very widely

believed among the laity, and apparently too among our own profession. This investigation not only reverses that statement, but emphasizes its reversal unmistakably. Naevi are almost always present at birth, and only comparatively few appear during the first few weeks of life, and very few indeed at a still later date. The figures are as follows:

Date of appearance recorded 645 times.
Present at birth, 537, or 83.2 per cent.
Not noticed at birth, but seen before 6 months, 83, or 12.8 per cent.
Noted at a later date, 25, or 3.8 per cent.

In the vast majority of cases the parents said at once that the mark was present at birth. When first the figures were collected I was naturally inclined to believe that a large number did appear during the first fortnight, but soon became suspicious when I found that the mother was quite ready to state the day on which it appeared, when this was the case, it was almost invariably the twelfth, thirteenth, or fourteenth day after birth. On investigation, however, this was found to be the day on which the mother was allowed for the first time to wash and tend the child herself, and obviously it was then that the friends had allowed her to know of the disfigurement. These statements, too, were only made of marks which were in unexposed situations, and never when the mark was on the face, feet, or hands. After this, I felt justified in classing as present at birth all those which were discovered during the first fortnight, unless there were good ground for the contrary, such as the mother seeing it appear as a small speck, and of this I met with extremely few examples. Indeed, I might pursue the figures which represent those appearing after birth, and still further reduce their number, by pointing out that, though some appeared on the skin at a later date, many of them were previously in the subcutaneous tissue, and only became obvious when they invaded the skin. It is easy to overlook a small subcutaneous naevus in a fat child for quite a long period. In these figures, too, are included all the "spider mark" variety, which amost invariably appear some years after birth, so that the figures 83.2 per cent. at birth and 16 per cent. at a later date, under-represent the true facts in the former case, and exaggerate them in the latter, and fully justify my assertion that nearly all naevi are present at birth.

The age at which the children were brought for treatment was noted in 653 instances, and worked out as follows:

Brought for treatment before 6 months old	394 or 60.3 per cent.	
Brought for treatment between 6 months and 1 year old	150 or 22.9	,,
Brought for treatment between 1 and 2 years old	62 or 9.4	,,
Brought for treatment between 2 and 3 years old	19 or 2.9	,,
Brought for treatment at an older age ...	28 or 4.2	,,

Here, again, I have to qualify the figures by stating that nearly all those treated above the age of 3 years were cases of "spider mark," while a few were port-wine stains; practically all true naevi were brought before they were 2 years of age, and the vast majority before they were 12 months old.

Variety.—I have already said that the terms usually used to classify naevi are quite worthless. The only varieties I have recognized are varieties of position: Those which occur in the surface of either skin or mucous membrane, which I refer to as cutaneous; those which occur beneath the surface, subcutaneous; and those which occupy both these positions, transitional. Without removing each naevus and examining it under the microscope, it is impossible to classify these tumours according to their structure. The figures are as follows:

Total number in which the variety was noted—625.

Cutaneous variety	352 or 56.3 per cent.	
Subcutaneous variety... ...	54 or 8.6	,,
Transitional variety	219 or 35.2	,,

Most, therefore, start in the skin or mucous membrane, and of the two the former is by far the most common, but after growth has gone on for any time they nearly always invade the deeper structures, and then must be classed as transitional. Less common is it for them to start deeply and come to the surface, though I have noted this on many occasions.

Of those which were beneath the surface, the vast majority were in and remained confined to the subcutaneous or submucous tissues. This rule, however, was frequently transgressed about the face, where the lips and cheeks were rapidly infiltrated, the muscles of expression apparently offering no opposition to the spread of the growth.

Situation.—This was noted in the case of 853 different naevi and worked out as follows:

	Per cent.			Per cent.
Face	232 or 27.1	Head and neck together	421 or	49.3
Scalp	156 or 18.2			
Neck	33 or 3.8			
Trunk	250 or 29.3	... ...		29.3
Upper limb ...	103 or 12.0	Both limbs	181 or	21.2
Lower limb ...	79 or 9.2			

From these figures it is seen that the number of naevi on the head and neck roughly equal the number on all the other parts of the body, and that to the former number the neck only contributes a very small proportion. The number on the face exceeds greatly the number on the scalp, and practically equals the number on the whole of the trunk. Both the face and scalp are very vascular, and to this must, I think, be ascribed the large number of naevi in these two situations. The number on the upper limb exceeds that on the lower, although from the relative size of the limbs we should expect the opposite. The position of the naevus with regard to the middle line was noted in 670 instances.

Exactly in the middle line, 64, or 9.5 per cent.
To the right side, 274, or 40.8 per cent.
To the left side, 332, or 49.5 per cent.

Why there should be a marked preponderance on the left side seems inexplicable.

Naevi may be situated almost anywhere on skin or mucous membrane. On mucous membrane I have frequently seen them on the lips, tongue, cheek, less commonly on the nasal mucous membrane. I have never seen one on the conjunctiva, though Struthers has recorded an instance. Except at the two extremities of the alimentary canal they are rarely met with throughout its course. Barker recorded one in the rectal mucous membrane of an adult which caused death from haemorrhage. One has been recorded underneath the peritoneum in the abdominal wall, and I have seen a naevus as large as a cocoanut in the abdominal wall of a baby, but as there was no operation I had no opportunity of seeing the condition of the peritoneum. Since the use of the cystoscope has become common, naevi have been described in the bladder on several occasions, and I have myself seen such a case. They have also been noted in the larynx. Beneath the skin they may occur in a great variety of regions. It is common for them to infiltrate the whole thickness of the tissues, such as the cheek or lip. Sometimes they are confined to one or more muscles, such as the biceps and brachialis anticus in one of my cases, and many other instances of infiltration of muscles could be given.[1] The fascial sheaths of these muscles seem to offer a distinct barrier to their spread, and it is to be noted that these sheaths are absent from the muscles of expression of the face. The most extensive naevus I ever saw started below the knee and gradually infiltrated the whole of the lower limb, which became much larger than its fellow. When I last saw the patient Mr. Bidwell ligatured the common femoral artery.

Naevi sometimes occur under the endothelium, Rau recording an instance in the wall of the right auricle. Cushing recorded three cases of port-wine marks on the face associated with epilepsy; on trephining two of them the dura was also found to be affected. The dura, it will be recalled, is also supplied by the fifth nerve. They are sometimes found in the internal viscera, most commonly in the liver. In some of the lower animals they are quite common in this situation, and on more than one occasion I have removed them from the liver of a cat; in each instance my recollection is that they were enclosed in a definite capsule. The breast, or the skin over it, is not uncommonly affected. Bland-Sutton records a case in a male, while Image recorded one that began to grow rapidly in a young woman and reached the large size of 13 in. by 15 in., and stood out at least 7 in. from the chest; this patient died of haemorrhage.

[1] *Brit. and For. Med.-Chir. Review*, 1864, p. 187.

I noted the presence of naevi in four male and eight female breasts; in each case the deeper tissues were affected, in four the tumours were wholly subcutaneous.

Multiplicity.—This is comparatively common, for out of the 700 children, no less than 113, or 16 per cent., possessed more than one naevus, and on these 113 children 305 naevi were counted. The largest number or any one child mentioned in the notes was 11, but several children with more than this number have come under my observation. If one counted each spot of a scattered naevus, large figures could easily be quoted, but this I have refrained from doing. Scattered naevi are quite common, and may consist of a clump of a dozen, or even more, small, raised, red areas in the skin, fairly close together, though discrete, but obviously from their grouping they all belong to the one naevus. The same condition is seen when the naevus affects a zone, but the markings may not be close together, but appear to me to belong to the same segmental area. These markings are usually naevoid in character and belong to Class 2. Or they may be a clump of red areas, which betray the presence of a naevus in the subcutaneous tissues which is invading the skin at these places.

In both these conditions no more than one has been counted.

The Influence of Nerve Distribution.—It is manifestly impossible to give figures as to the size, even of cutaneous naevi, but it may be said that the vast majority of cases are small at birth and do not equal the dimensions of a broad bean, though later they may grow to almost any extent. Port-wine marks and naevoid conditions of Class 2 are exceptions to this rule, as they are usually nearly full size at birth and grow little except with the growth of the child. These, however, are comparatively few in number compared with those of Class 1, the true naevi; they are also superficial, but sometimes are associated with areas of true naevoid tissue, which may not grow. But, though superficial, their extent may be very wide, so as to cover a whole limb, or even half the body, and cause great disfigurement.

The true naevus, when first seen, is usually more or less rounded in outline if small, but if already of some size it is often elongated or oval; "lozenge shaped," "almond or torpedo shaped," are terms which frequently occur in my notes.

If the naevus grows while under observation, it will be noted that it seldom grows equally in all directions, but spreads in such a manner that it gradually becomes elongated or oval. While in the cases where they are already oval at birth the parents will nearly always state that the naevus is increasing rapidly in size.

This particular elongated shape is very well seen in growing naevi situated on the side of the chest and abdomen, and it was here that the shape first attracted my attention, for the long axis was always in the same direction and always in the line of the nerve. This led me to examine others, and I soon came to the conclusion that growing naevi tended to spread along the course of nerves. This could, of course, be seen best in cutaneous naevi, but in the mixed variety also it was seen; for though the limits of the subcutaneous part could not always be defined it frequently involved the skin along certain defined lines. Occasionally I have seen a scattered naevus extending round the flank in exactly the same manner as herpes zoster.

It also appeared to me that they began very frequently at situations where the nerves became cutaneous, at the side where lateral cutaneous branches were given off, and again near the middle line where the anterior perforating branches came to the surface. After my attention was directed to these characters I kept a note of those which were elongated in the way I have mentioned, and I find that 156 instances were noted—that is to say, that 22.3 per cent. of the children of whom I have records possessed naevi of this description.

The number in all probability should have been larger, as in my earlier notes no attention was paid to the shape and method of growth. In the majority of cases the naevi were of large size, 1½ to 2 in. long. In fact, until they have grown to a certain size no great stress can be laid on their shape. But that such a large percentage as 22.3 should show this is, I think, most significant, for a large number of naevi do not exhibit any tendency to grow after birth, others may grow but only do so extremely slowly. As I have shown that 60 per cent. come for treatment before they are 6 months old, and no less than 83 per cent. before the age of 12 months, it does not leave much time even for the rapidly growing ones to attain these characteristics.

Naevoid conditions, which are, as I have said, usually fully developed at birth, and whose shape is probably fixed by development at an early date, show this same influence in a most unmistakable manner

Mr. Kellock some years ago first drew my attention to the fact that if a baby had a naevus on it anywhere, you could frequently see a darkly-stained area on the occiput, and less frequently one on the forehead and scalp. This staining was hardly dark enough even to be called naevoid, and disappeared during the first two or three months of life. This observation I have verified many times since then; the staining corresponds to the point where the great occipital emerges and extends up the scalp for a variable distance over the distribution of that nerve. On the forehead it is less distinct, but seems to prefer the frontal to the supraorbital distribution. I have never seen this staining persist.

Large portions of the three divisions of the fifth nerve are often picked out by naevi and naevoid marks. Of the distribution of the three divisions, that of the first is the most characteristic, as it is confined to the fronto-nasal process—the forehead, scalp, inner canthus of the eye, tip of the nose, nasal septum and columella of the nose. A drawing from one of the cases shows the port-wine stain practically confined to this area, a small patch over the mental area of the other side being the only other place affected.

Similarly, I have seen the second division picked out by port-wine mark at birth.

Cushing, in a paper I saw for the first time a fortnight ago, remarks that "vascular naevi occurring on the face show a tendency to conform in outline with the distribution of one or more of the main trigeminal branches."

Certain nerve areas seem particularly liable to true naevoid growth; of these I would mention those supplied by the supraorbital and frontal, infraorbital, lingual, posterior auricular and occipital nerves of the head and neck; the intercostal nerves of the trunk and the internal and external cutaneous and ulnar nerves of the upper limb. Instances where the naevus has grown across and not along the limb, I have seen at the flexures of the joints in front of the elbow and behind the knee.

It may be argued that the naevi grow along the course of the vessels which usually accompany nerves in their distribution, and it is very difficult to give reasons for not accepting such a view, but it seems to me that of the influence of the two structures that of the nerves is very much the more important, while the analogy of undoubted influence of nerve supply in the production of herpes strongly supports my contention.

On two occasions I have performed neurectomy in rapidly-growing naevi, in the hope of seeing some benefit result, but the steady increase in the size of the growth prompted me in each case to perform excision before a month had elapsed, and in that time certainly no benefit ensued.

CONCLUSIONS.

From the figures yielded by this investigation I believe:

1. That females are affected more frequently than males.
2. That naevi are almost always present at birth, and only comparatively few appear at a later date, spider marks and deeply-seated naevi being the chief exceptions to this rule.
3. That naevi most usually start on the surface, and less frequently in the deeper structures.
4. That their extension and growth is intimately connected with the nerve supply of the part.

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EPIDEMIOLOGY OF POLIOMYELITIS.

By FRED. E. BATTEN, M.D.,
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THE subject of epidemic poliomyelitis is brought before this Section of the British Medical Association with the object of showing (1) that poliomyelitis is an infective disease, (2) that it is an epidemic disease, (3) that it has occurred in epidemic form in various towns and villages in Great Britain during the year 1910, and (4) that, in order to diminish its incidence, cases of the disease should be isolated and treated otherwise as the infective diseases.

The term "poliomyelitis" must be taken to indicate an acute infective disease having a special selective action on the nervous system, which gives rise to a variety of symptoms dependent on the portion of the nervous system affected.

1. That poliomyelitis is an infective disease has been proved by the work of Landsteiner, Popper, Levaditi, Flexner, and Lewis, and these workers have shown that the disease is transmissible from man to monkey and from monkey to monkey by inoculation. It has been shown that the virus is not killed by glycerination, and that it will pass the finest filter. The organism has not yet been stained, nor has it been seen under the highest power of the microscope. The virus can be obtained from the mucous membrane of the nose of a monkey who has suffered from the disease, and may be obtained from this situation six months after the date of infection in a still active condition. Animals other than apes and monkeys seem to be immune, although Meinicke states that he is able to infect rabbits. The virus is strikingly similar to that of rabies.

2. That poliomyelitis is an epidemic disease is proved by the numerous epidemics which have been recorded during the thirty years. In Sweden and Norway numerous epidemics have occurred. That recorded by Medin in 1887 in Stockholm is the first important work on the subject. Epidemics have been recorded in Germany, Austria, France, America, and Australia. During the years 1907–10 large epidemics occurred in the States of New York and Massachusetts, as well as in Austria, Germany, and France. The epidemics in the northern hemisphere always have the greatest prevalence during the months of July, August, and September, and children during the second and third years of life are most commonly affected. The disease has been shown to be spread from schools (Wickman), but this mode of infection is by no means frequent, and children far removed from contact have contracted the disease. Several members of a family may be affected.

3. That the disease occurs in an epidemic form in England is shown by the report of a small epidemic of 8 cases at Upminster in 1908 by Treves, and in 1909 of an epidemic of 37 cases at Bristol by Parker. During the year 1910 epidemics have been reported at Carlisle (Beard), Maryport, Barrow-in-Furness (Garrow), Melton Mowbray, Irthlingborough (Robb), and Cerne Abbas (Dalton). Dr. Beard, the M.O.H. in Carlisle, has made the disease notifiable. An epidemic of 5 cases was reported by Currie and Bramwell at Tillicoultry in Scotland.

4. Poliomyelitis being an infective disease, it should be treated as such, and the infected person, as well as the contacts, should be isolated. The period of incubation is probably less than six days; the period of isolation of the infected has not yet been ascertained, but it should not be less than three weeks. The disease is not so infective as scarlet fever or diphtheria, and the isolation of contacts should have a marked effect in diminishing the incidence. There is some experimental evidence to show that the administration of urotropin tends to prevent infection and diminish the virulence, if not destroy the virus.

[In exemplification of the facts stated in this paper, Dr. Batten threw on the screen a large number of lantern slides, reproducing diagrams relating to the prevalence of the disease in various countries, its distribution in sundry epidemics, and other points of epidemiological interest.]

DISCUSSION.

Professor RUDOLF (Toronto) stated that the disease was endemic in Ontario and recently had been epidemic. The disease, while endemic, chiefly attacked children; when epidemic it also affected adults, and in them was very fatal. The facts that the infective material was very resistant to cold and the disease much more common in warm weather, and that the epidemics stopped as soon as the cooler weather came, would suggest that the infection was carried by some insect that was killed or disappeared as soon as the summer ended.

Dr. L. PARSONS (Birmingham) showed a map of London constructed on the same lines as Dr. Batten's, exhibiting the distribution of 32 cases occurring in the year 1909. This map bore out the statement of the reader of the paper as to the wide distribution of the disease. No cases of house epidemic or animal epidemics were found. He also showed a curve of the monthly incidence of 38 cases in the same year; the same curve showed the usual spike in August and then gradually diminished until the end of the year. Dr. Parsons pointed out that in epidemics cases of polioencephalitis, as distinguished from poliomyelitis, increased in number. Of 38 cases recorded 5 were cases of polioencephalitis, 3 polioencephalomyelitis, and 30 poliomyelitis. He also stated that it was obvious that the number of cases was on the increase and epidemics in larger proportions were probable in the near future. He thought it quite possible that there were at present an exceptionally large number of cases in Birmingham, for he had already seen 10 cases, one proving fatal, in the last six to eight weeks. He therefore strongly supported Dr. Batten's views as to the notification of the disease. He also suggested that present and future statistics should prove of greater value than past statistics, in view of the more general recognition of the meningeal type of poliomyelitis. He asked Dr. Batten to give the meeting his view on the possibility of some epidemics of herpes, such as those described by Dr. Garrow occurring after the Carlisle epidemic of poliomyelitis, being due to the virus of poliomyelitis affecting the posterior root ganglia.

Dr. REGINALD MILLER (London) asked if there was any further information as to the possibility of infection through an infected water supply. He recognized the difficulty of the problem, as during the summer season bathing became so frequent, while in outlying towns the densest parts of the population would be massed round the river. Dr. Batten's diagrams seemed scarcely to support this view. A second question which he would like to put to Dr. Batten concerned the relationship between meningococcal infections and outbreaks of poliomyelitis. Did he think that a severe meningococcal infection in the winter in any way foretold a severe outbreak of poliomyelitis in the following summer?

REPLY.

Dr. BATTEN, in reply, said there was some evidence that swimming and wading were factors in determining the onset of poliomyelitis. Of 150 cases investigated in the Massachusetts epidemic, 62 were swimming or wading in water more or less contaminated by sewage before the attack.

OXYPATHY AND URIC ACID.

By Professor W. STOELTZNER,
Halle a. S.

THE older British medicine includes under the name of "lithaemia" a large group of pathological conditions, among them gout, nephrolithiasis, bronchial asthma, eczema, migraine. All these conditions are certainly closely connected, as they all frequently occur in the same individual and in his family. French medical science, while recognizing the same group of diseases, includes them under the name of "arthritism."

Lithaemia is, in itself, not a disease, but only a disposition to disease. Yet the practical importance of lithaemia is very great. The diseases to which it predisposes are numerous and often dangerous, or at least painful; moreover the lithaemic predisposition being to a high degree hereditary is in consequence able to affect the integrity of the race.

The very nature of lithaemia was unknown until a recent date. In a book lately published I have tried to show that lithaemia is really a form of chronic oxypathy.

All lithaemic conditions are most easily produced by

diet poor in fixed alkalis and rich in incombustible acids, and are to be cured by changing the diet and making it rich in fixed alkalis and poor in incombustible acids. It is usual to treat lithaemic patients by making them drink alkaline waters, and this treatment is generally regarded as suitable. Into the further arguments in favour of the suggestion that lithaemia is a form of oxypathy I cannot go to-day, that would carry us much too far; as to the details I must refer you to my book itself. To-day I shall only ask the question how far the explanation of these diseases as due to oxypathy may have been of any value.

An author in the *Lancet* says there is little that is new in oxypathy apart from the name. I cannot help thinking that a little exaggerated. Oxypathy tries to give a satisfactory explanation of clinical facts and therapeutic experiences, of the recurrence of lithaemia in families and its tendency to be hereditary, of the injuriousness of unsuitable food and of the success of the approved dietetic and pharmacological treatment. Oxypathy gives a new view of the atrophy in infants fed on cow's milk, and gives a new reason for the addition of citrate of soda to cow's milk in infant feeding, as already recommended by Wright eighteen years ago. Last, not least, oxypathy has pointed out the proper treatment of the other lithaemic conditions by large doses of citrate of soda; especially in eczema the number of successful cures has been far too great to allow us to doubt the value of this treatment, and as far as our experience goes in other oxypathic conditions, the treatment with citrate of soda is equally favourable.

Since my book was published experience has taught us some new and interesting facts.

My view that the unsatisfactory development of so many infants fed on cow's milk is caused by a chronic alimentary poisoning by phosphoric acid has been remarkably confirmed by an interesting publication of Dr. Lade, who has demonstrated that the urine of infants fed on cow's milk contains more phosphoric acid and has a corresponding higher acidity than the urine of breast-fed infants. Further, I have had occasion to treat with large doses of citrate of soda some cases of severe migraine and of inveterate neuralgia in gouty adult patients, with entirely satisfactory results; the patients felt better than they had done for years, and were perfectly convinced that citrate of soda had done them more good than any previous treatment.

I am now coming to a matter which I shall discuss to-day for the first time—the relation between oxypathy and uric acid. I think that uric acid is only to be regarded as a factor in those conditions which are connected with the specific gouty disturbance of the metabolism of purin bodies. The two characteristic points are: first, that the blood contains a demonstrable amount of uric acid even under conditions where it is normally almost perfectly free from uric acid; secondly, that there is a slow and imperfect excretion of uric acid after addition of purin bodies to the food.

In the healthy state the blood contains, on a diet poor in purin bodies, at the most very slight traces of uric acid. When the diet is very rich in purin bodies, the blood also normally contains a greater amount of uric acid, the reason of this being that for a certain time the excretion of uric acid does not keep pace with its formation. This condition is by no means to be taken for gout, any more than we can speak of gout when in nephritis or leukaemia or pneumonia the blood contains a greater amount of uric acid than normally. Gout is characterized by the blood being constantly rich in uric acid, even when the food is very poor in purin bodies and without the individual in question being affected by nephritis or by a condition connected, like leukaemia or pneumonia, with an increased metabolism of nucleins.

The second point characterizing the gouty disturbance of the metabolism of purin bodies is that after the addition of purin bodies to the food the excretion of uric acid increases more slowly and does not reach so high a degree as in a healthy man or even in one affected with nephritis. It is only in acute attacks of gout that the excretion of uric acid is augmented, even when the food is as poor in purin bodies as possible.

Concerning the relation between oxypathy and uric acid, we see that the gouty disturbances of the metabolism of purin bodies are by no means a regular accompaniment or consequence of oxypathy; on the contrary, in the great majority of oxypathic conditions the gouty disturbance of metabolism is absent. That is especially true in early infancy; in infancy oxypathic conditions are extremely frequent, though the food is, as a rule, very poor in purin bodies and even almost free from them; we have no reason to suppose that the metabolism of purin bodies in these infants is disturbed; gout is as rare in infants as oxypathy is common.

In adults practical experience teaches us that gout belongs certainly to the group of oxypathic diseases. But the question is, How are we to regard the relation of oxypathy to gout? Oxypathic adult patients are by no means in every case at the same time gouty, and if an oxypathic patient recovers on a diet free from purin bodies, this will not always prove that a disturbance of the metabolism of purin bodies had been present. For a food free from purin bodies is usually much more alkaline than acid; and, conversely, a food rich in purin bodies being usually extremely acid or only very slightly alkaline, we might even raise the question whether oxypathy and gout are at all in immediate causal relation, or simply co-ordinated conditions caused by the same unsuitable kind of feeding. It is to be added that the treatment with large doses of citrate of soda seems to have more influence in headache, neuralgia, and psychic depression appearing in gouty patients than in the deposits of uric acid which appear in the same patients.

Speaking generally, medical experience affirms that antioxypathic treatment is useful in cases of gout; and, consequently, we may assume that oxypathy produces a disposition to gout, not less than to eczema, migraine, and the other oxypathic conditions. That means that oxypathy, at least in some cases, is an auxiliary cause of gout, oxypathy and gout being connected in these cases as cause and effect.

The question whether, apart from the typical gout of the joints, other oxypathic conditions also are connected with the gouty disturbance of the metabolism of purin bodies, must be left to be decided by future research.

REPORT ON A THOUSAND CONSECUTIVE CASES OF SCOLIOSIS.

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THIS report has been compiled from the notes of cases treated in private practice from November, 1892, to June, 1899, by the writer's father, Mr. Bernard Roth. All were treated by the method of "posture and exercise," without mechanical support of any kind.

Etiology.

1. *Sex.*—There were 843 females and 157 males—that is, females were affected five times more frequently than males.

2. *Age.*—The following figures are derived from the ages of the patients when brought for treatment:

13	cases were...	...	...	1 to 5	years	old.
125	,,	,, ...	...	...	6 to 10	,,	,,
413	,,	,, ...	...	...	11 to 15	,,	,,
275	,,	,, ...	...	...	16 to 20	,,	,,
130	,,	,, ...	...	...	21 to 30	,,	,,
34	,,	,, ...	...	...	31 to 40	,,	,,
10	,,	,, ...	...	...	41 or more	,,	,,

Taking, however, the *ages when the deformity was first noticed*, a more correct idea is obtained of the age-incidence for the deformity. Thus:

34	cases were...	...	...	1 to 5	years	old.
190	,,	,, ...	...	...	6 to 10	,,	,,
468	,,	,, ...	...	...	11 to 15	,,	,,
209	,,	,, ...	...	...	16 to 20	,,	,,
78	,,	,, ...	...	...	21 to 30	,,	,,
17	,,	,, ...	...	...	31 to 40	,,	,,
4	,,	,, ...	...	...	41 or more	,,	,,

Thus, in 86 per cent. of the cases the deformity was first noticed between the ages of 6 and 20, and in 65 per cent. between the ages of 6 and 15.

3. *Heredity.*—276 cases had blood relations also suffering from scoliosis; and of these, 197 were related to one or more of each other. There were seven families of whom three or more members were affected.

To Illustrate the Importance of Attention to Dress.

Fig. 1.

Fig. 2.

Fig 3.

A boy, aged 14 years and 8 months. "C" scoliosis. Fig. 1, Habitual posture. Fig. 2, "Best possible posture." Fig 3, "Best possible posture" when dressed; the coat and waistcoat would not meet for 3 to 4 inches. Very little improvement could be obtained in such a patient if the clothes were not attended to first of all. In 946 cases of the 1,000 cases of this report the clothes were too tight; in the large majority of these the clothes across the chest were 3 inches or more too tight. (All three photographs were taken on the same day, before treatment was commenced.)

To Illustrate the Method to be Adopted in Examining Cases of Scoliosis.

Fig. 4.

Fig. 5.

A boy, aged 15½ years. "2" scoliosis: Right ribs posteriorly extremely, left erector spinae severely, too prominent. Fig. 4, Patient standing in "habitual posture." Note the clothes pulled down to expose the whole spine. Fig. 5, Patient standing with knees straight, spine fully flexed, arms hanging down. (The tracings shown in Fig. 6 were taken with the patient in this position.) Obviously no permanent record of such a case could be obtained, except by taking a transverse tracing of the ribs posteriorly.

To Illustrate the Importance of Re-educating the Patient's Muscular Sense.

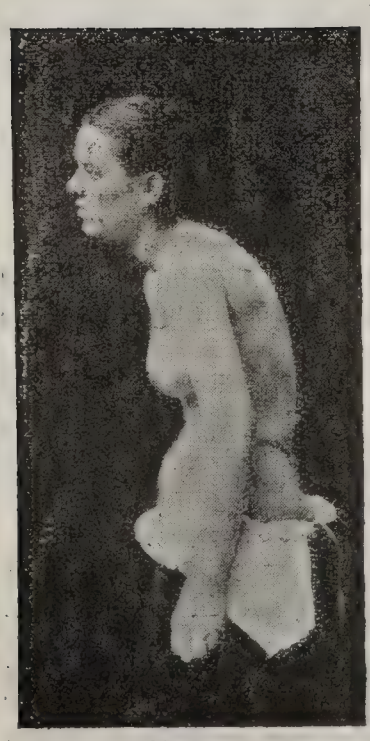

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Fig. 8.

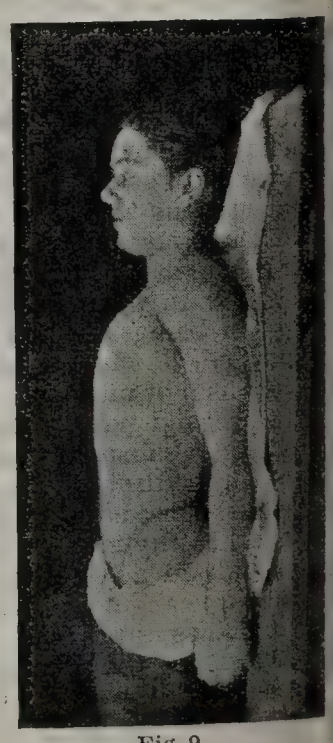

Fig. 9.

A patient aged 19, with "C" scoliosis. Fig. 7, "Habitual posture." Fig. 8, Posture assumed by the patient when told to stand up straight. Fig. 9, Almost perfect posture, but only obtainable by the surgeon in this case with the patient lying down. (All three photographs were taken on the same day before treatment was commenced.)

4. *General Causes.*—Attributed to the following general causes were:

	Cases.
(*a*) Delicate	196
(*b*) Rapid growth	95
(*c*) After acute fevers	26
(*d*) After lung affections	16
(*e*) Born in the tropics	17
(*f*) Prematurely born	7
(*g*) One of twins	13
(*h*) Rickets	67

5. *Special Causes.*—Attributed to the following special causes were:

	Cases.
(*a*) Difference in length of legs	19
(*b*) Infantile paralysis (severe)	5
(*c*) Trauma	12
(*d*) Defective vision	49
(*e*) Vicious postures:	
Played the violin	46
The position assumed in writing was an exaggeration of the scoliotic curve in ...	334
(*f*) Dress.	

In only 54 cases, when at the first examination the patients were placed in the best possible position, were the clothes not too tight. In the large majority of the other 946, *the clothes across the chest were 3 inches or more too tight* (Figs. 1 to 3).

In 361 cases no cause was assignable. In 75 cases more than one general or special cause was assignable.

Deformity.

In describing these cases, distinction was drawn between "*postural*" and "*osseous*" deformity, the "osseous" deformity being that deformity which does not disappear when the patient completely flexes the spine.

The osseous deformity in these cases was recorded by a malleable tin tape. Transverse tracings were taken of the ribs posteriorly at the level of the lower angles of the scapulae, and of the loins midway between the twelfth rib and the iliac crests, with the spine fully flexed. The tracings were transferred to paper, and a permanent record thus obtained (Figs 4–6).

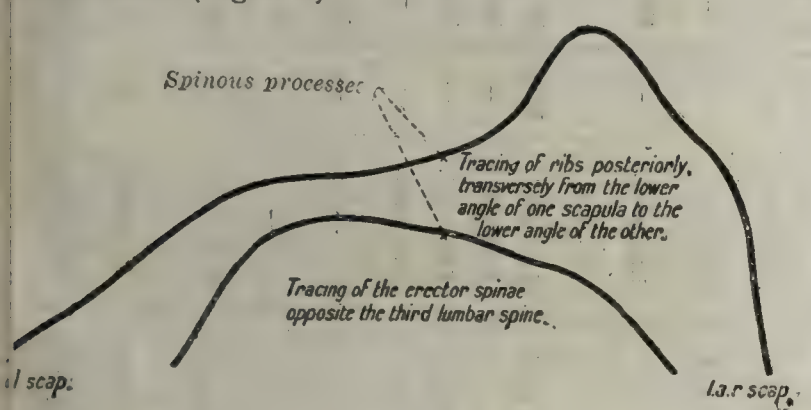

Fig. 6.

The *degree* of osseous deformity was described as a trace, moderate, severe, or extreme. Thus:

There was no osseous deformity in			85
,,	a trace of	,, ,,	105
,,	moderate	,, ,,	564
,,	severe	,, ,,	206
,,	extreme	,, ,,	40

Practically all these cases of scoliosis were accompanied by more or less kyphosis, or antero-posterior curvature.

Six varieties of deformity were met with:

	Cases.	Represented by the Sign
1. Whole spine convex to left ...	566 ...	C
2. Dorsal (upper) curve to right Lumbar (lower) curve to left ...	290 ...	ƨ
3. Dorsal (upper) curve to left Lumbar (lower) curve to right ...	76 ...	S
4. Whole spine convex to right ...	47 ...	ɔ
5. Dorsal (highest curve) to left Dorsal (middle curve) to right Lumbar (lowest curve) to left ...	20 ...	ƧƧ
6. Dorsal (highest curve) to right Dorsal (middle curve) to left Lumbar lowest curve, to right ...	1 ...	Ƨ

Pain.

In 440 cases pain occurred: Slight in 134; moderate in 163; severe in 143.

Flat-foot.

This was present in 605 cases. In 517 of these cases the arch was restored by standing on tip-toe. In 88 cases the arch was not restored—that is, they were cases of severe flat-foot.

Previous Treatment.

In 551 cases there had been no previous treatment. In the other 449—

161 had been treated by spinal supports.
108 ,, ,, recumbency.
93 ,, ,, gymnastics and exercises.
52 had been treated by gymnastics, exercises, and recumbency.
17 had been treated by massage, etc.
18 had been treated by various methods — mustard plasters, shoulder straps, salt-water baths, etc.

Treatment Employed in these Cases.

Principles of the method of "Posture and Exercise" employed in treatment of the cases:

(*a*) Attention to dress.
(*b*) Daily systematic training for from one to three months of the spinal and other muscles, including the development of the thorax.
(*c*) Re-education of the patient's muscular sense as to an erect or improved position (Figs. 7 to 9).
(*d*) Improved position to be maintained at all times, whether sitting or standing.
(*e*) Attention to general health.
(*f*) Subsequent home treatment to prevent relapse in the improvement or cure that has been obtained by the surgeon.

Result of the Treatment in these Cases.

After completion of the daily treatment—

(*a*) 892 cases were "much improved";
(*b*) 93 cases were "improved";
(*c*) 11 cases were "not improved";
(*d*) In 4 cases no note was made.

[By "much improved" is meant a strong and much straighter spine, where the "best possible posture" of the consultation has become the "habitual" one; with disappearance of the backache if previously present; with improvement in the general health where this has been failing; and finally, with arrest of further increase of the osseous deformity of the ribs and vertebrae.]

After-Results.

(*a*) Of the 892 "much improved" cases, 629 were seen or heard of later at periods varying from three months to ten years, when the improvement was confirmed in 530. In 23 of these there was a slight decrease in the amount of osseous deformity. In 99 relapses took place; in 30 of these there was an increase in the osseous deformity. Additional daily treatment was employed in 70 of these cases, with the result that 57 were "much improved," 9 were "improved," and 4 "not improved."

(*b*) Of the 93 "improved" cases, 48 were seen or heard of later, at periods varying from three months to five years, when the improvement was confirmed in 36. In 12 relapses took place, 6 with increase of bony deformity.

(*d*) Of the 4 cases in which no note was made, 3 relapsed later, 2 with increase of bony deformity.

To sum up: Of 681 cases [629 in (*a*), 48 in (*b*), 4 in (*d*)] seen or heard of at varying periods after treatment, an increase of the osseous deformity occurred in 38 [30 in (*a*), 6 in (*b*), 2 in (*d*)], or 5.5 per cent. This percentage is, however, probably far too high, for it is reasonable to suppose that a large proportion of those 263 much-improved cases which did not return would have done so had they relapsed.

In 83 per cent. a permanent "practical cure" was brought about. For the same reason this percentage is probably far too low.

Conclusions.

From a study of these 1,000 cases the following points seem specially worthy of note:

1. Scoliosis is a disease of females—843 females, 157 males.

2. Scoliosis is a disease of adolescence—86 per cent. between 6 and 20 years.

3. The frequent occurrence of scoliosis in members of the same family points to hereditary transmission.

4. The bad position assumed in writing, a delicate constitution, and too rapid growth are largely responsible for very many cases.

5. Difference in the length of the legs is not a common cause of scoliosis.

A PAGE FROM THE AUTHOR'S TABLE OF ONE THOUSAND CONSECUTIVE CASES OF LATERAL CURVATURE OF THE SPINE (SCOLIOSIS).

Abbreviations. etc.—All figures, unless otherwise stated, refer to years. p = Personally. l = By letter. w = Posture assumed in writing was an exaggeration of the scoliotic curve. Hered. = Hereditary. See No. 402[1] = See No. 402, first series (published in *The Treatment of Lateral Curvature of the Spine*). See No. 362 = See No. 362, present series. — = One of the following: No cause, no bony deformity, no pain, feet not flat, no previous treatment, or not sent by a doctor.

No.	Date.	Patient	Sex.	Age.	Age when Scoliosis First Noticed.	Cause.	Variety.	Bony Deformity.		Pain.	Flat-foot.	Clothes too Tight.	Previous Treatment.	Visits.	Result.	Sent by.
								Ribs Posteriorly.	Erector Spinae.							
501	1896. May 12	S. S.	M.	18 9/12	18 9/12	Hered., sister (723[1]), also paternal aunt	S	Right severe	Left severe	Slight	Mod.	Inches. 2-3	—	72	Much improved; confirmed 2 2/3 later (p); confirmed 4 later (l)	—
502	May 20	E. M. J.	F.	12 8/12	12	Double congenital hip dislocation, right leg 1½ in. short	S	Left severe	Right mod.	—	No note	2-3	—	70	Much improved; confirmed 4 later (p)	—
503	May 20	G. L. P.	F.	13	13	Rapid growth	C	Right mod.	—	—	Mod.	2	—	48	Much improved; confirmed 1 later (p)	Dr. Duke, Clapham Common.
504	May 20	K. H.	F.	12 10/12	12	—	C	Right mod.	—	Slight	Mod.	Yes	1 hour daily lying, then 4 hours shoulder straps	72	Much improved; confirmed 1 9/12 later (p)	Dr. Richard Richmond, Great Bardfield.
505	May 20	D. B.	F.	19	19	—	C	—	Left mod.	Severe	Mod.	Yes	Steel spinal support	72	Much improved; confirmed 2 later (p)	—
506	May 21	M. T.	F.	11 10/12	11 10/12	—	S	Right trace	Left mod.	Slight	Mod.	1-2	—	72	Much improved; confirmed 1 later (p)	Dr. Claude Wilson, Tunbridge Wells.
507	May 23	C. D.	F.	18	18	—	C	—	Left mod.	Mod.	Trace	3-4	—	59	Much improved; confirmed 5/12 later (l)	Dr. A. K. Willis.
508	May 28	L. W.	F.	11 7/12	11 7/12	Infantile paralysis; right leg ½ in. short; defective vision	C	Left mod.	Left trace	No note	R. foot equinus both mod.	2	—	48	Much improved; confirmed 1 9/12 later (p)	Dr. D. Falconer Oldham, Morecombe.
509	June 1	M. C. C.	F.	21	16	Pleurisy and pneumonia 5 ago	S	Right mod.	Left mod.	—	—	4	Steel support 4, and 2 hours daily lying	72	Much improved; confirmed 6/12 later (p)	Dr. Rendall, Mentone.
510	June 2	L. L.	F.	7	6	Rapid growth; defective vision	C	Left mod.	Left mod.	—	—	Mod.	2 hours daily lying last 6/12	75	Much improved; confirmed 5 later; osseous deformity less	Dr. Orford, Pontefract.
511	June 3	M. E.	F.	12 11/12	11 7/12	—	C[w]	—	Left mod.	—	Mod.	3-4	3 hours daily lying last 1 6/12	72 24	Much improved; 1 6/12 later relapse after 2 attacks of influenza, so a month's treatment; much improved	Dr. Wm. Rhodes, Bridgnorth.
512	June 5	E. S. S.	F.	32	32	—	C[w]	Left mod.	Left mod.	Mod.	Mod.	2-3	—	24	Much improved	Dr. Albert Green, Chesterfield.
513	June 8	E. A.	F.	9	9	Severe pigeon breast	C	—	Left mod.	—	Mod.	1	—	72	Much improved	Dr. Rice-Oxley.
514	June 10	J. I. L.	M.	13 10/12	13 10/12	—	C	Left mod.	Left mod.	—	Mod.	2	—	72	Much improved	—
515	June 10	M. B.	F.	12	8	Always very delicate	C	—	Left mod.	—	—	1-2	—	72	Much improved; confirmed 2 6/12 later	—
516	June 11	M. G.	F.	13	13	Delicate	C	—	—	—	Mod.	2-3	Exercises and much massage and calisthenics for years, shoulder straps	72	Much improved; confirmed 3/12 later (l)	—
517	June 12	E. M. G.	F.	9	9	Born in India; pigeon breast; very delicate	C[w]	—	—	—	Severe	1-2	—	72	Much improved; 1 later relapsed	—
518	June 12	K. H.	F.	13	7	—	S	Right severe	Left severe	—	Mod.	2 s.s.	3 steel supports and felt jacket during last 6, also 1 hour daily lying	72 36	Much improved; 1 later relapse, so 6 weeks' further treatment; improved	—
519	June 17	G. O.	F.	11	11	Hered., sisters (563, 832), very delicate	C[w]	Left mod.	Left mod.	—	Mod.	2	—	81	Much improved; confirmed 1 6/12 later (p)	—
520	June 18	F. F.	F.	21	20 6/12	Scarlet fever	S	Right severe	Left severe	Severe	Mod.	2-3	1 hour 2 or 3 daily lying last 6 weeks	72	Much improved; confirmed 6/12 later (l)	—

6. Pain is a frequent symptom.
7. Flat-foot is a very frequent complication.
8. Attention to dress before any treatment is absolutely essential.
9. Treatment should never be commenced until a record of the osseous deformity has been made.
10. Treatment by "posture and exercise" entirely arrests the increase of bony deformity in all but 5.5 per cent. of observed cases, and in 3.3 per cent. slightly decreases it.

In 83 per cent. of cases a permanent practical cure is brought about.

[The author placed before the Section a table containing precise details concerning each of his 1,000 cases, only a part of which can be here reproduced.]

DISCUSSION.

Mr. G. Heaton (Birmingham), after thanking Mr. Roth for his interesting paper, referred to cycle riding as an exciting cause of scoliosis. The use of too high a saddle necessitated an over-use of the spinal muscles, and so tired them, and the spine soon assumed an abnormal position. In his experience, in the slighter cases where the deformity was restored by flexion of the spine, the commonest curve was one with the dorsal convexity to the right and the compensatory lumbar curve to the left. He was therefore extremely interested to find that in so large a percentage of Mr. Roth's cases the spine exhibited a single lateral curve to the left.

Dr. R. B. McVittie (Dublin) remarked that scoliosis was caused mostly in schools by bad seats and desks; the medical supervision of school children could be the only prevention. Girls grew more rapidly than boys between 10 and 15, and so were much more liable to scoliosis; high heels and pointed toes were also causes producing corns and preventing the girls enjoying walking and running. In Sweden scoliosis had almost disappeared since the children of the schools had been placed under medical control. The fact that in most schools the light from the windows all came from the left hand side tended also to increase scoliosis.

Reply.

In reply to Mr. George Heaton, Mr. Roth stated that he did not believe that bicycling was a cause of scoliosis; on the contrary, he regarded it as beneficial not only for the scoliosis, but also for the flat-foot. He agreed with Dr. McVittie that each school child should have a separate desk, of the right height, with an adjustable back and sloping top; the paper should be placed obliquely on the desk. He believed that in 99 per cent. of the cases scoliosis was a preventable disease.

INDICATIONS FOR THE EMPLOYMENT OF SPINAL ANAESTHESIA IN ABDOMINAL SURGERY.

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Every surgical procedure, which is associated with definite disadvantages as well as with manifest advantages, is in danger of falling into disrepute in consequence of its indiscriminate or unscientific employment. The accidents which have occurred to some exponents of spinal anaesthesia have been due to our incomplete knowledge of the principles involved in its use, and consequently on the disability to recognize with certainty its indications and contraindications.

I have never upheld, and do not now advance, the claims of spinal against general anaesthesia, except in those rare instances where the latter is definitely contraindicated, or constitutes a grave additional danger above that of the operation: these I do not propose to consider to-day. But the experience of the last few years has only served to strengthen the conviction that there exists a small group of cases where the employment of this anaesthetic is responsible for a most striking reduction in mortality. To-day I intend, with your permission, to confine my observations to abdominal lesions, which form an important section of this small group; and the importance of studying any means of increasing the safety of surgical interference in this region is my excuse for again introducing the subject to your notice. I would, therefore, ask your indulgence if I lay myself open to the accusation of repetition.

In common with any surgical procedure, a study of the principles, complications and sequelae; the extent to which these may be combated; and the methods of effecting this; all form essential preliminaries to the consideration of indications and contraindications. These studies have, to some extent, been submitted to the profession in previous publications,[1] and a very brief reference to them will suffice; while, more recently, clinical and experimental researches in conjunction with Dr. Leonard Parsons have led to a considerable increase in our knowledge of the subject, and, in some directions, to a modification of the views previously held; some of these conclusions we hope to publish very shortly.

Now, without entering into details, the value of spinal anaesthesia lies largely in the fact that its employment is an adaptation of the principle of "nerve-blocking" over a large area, while the importance of blocking centripetal impulses arising from surgical manipulations depends, in any one patient, on the condition of the nervous system, and the probable effect on it of these impulses. All other phenomena, resulting directly from the steps of an operation, may be regarded as symptomatic of and secondary to the disturbance of the central nervous system, which is the factor of primary importance. Thus, the probable effect of operative interference on the central nervous system must be gauged from two aspects, namely, the state of the nervous system at the time of operation, and the probable violence and duration of the manipulations. But it will be seen that, in considering abdominal lesions, there are other considerations of equal importance in determining, in any given instance, whether the principle of "nerve-blocking" should be adopted, or that of suspending the activity of the higher centres alone (as in general anaesthesia); or, again, whether a combination of both methods is advisable. The difficulty of selecting, on these lines, the type of case which demands a spinal anaesthetic will, doubtless, be conceded; and, though such occasions are infinitely rarer than those where general anaesthesia is called for, perhaps it may also be conceded that the unreasoning routine adoption of either method is to be deprecated. Now it has been shown that, with suitable fluids prepared on scientific lines,[2] the level of paralysis, the completeness and duration of anaesthesia, and the rapidity of absorption of the toxic agent are all under adequate control. Experience has also shown that, *with proper selection* and in competent hands, spinal anaesthesia is as safe as general anaesthesia; undoubtedly both methods present grave risks when used indiscriminately. The question at issue, therefore, is *not* the relative merits of the two methods as anaesthetics, but rather a consideration of *which principle* (that is, "nerve-blocking" on the one hand, or suspension of the activity of the higher centres on the other) *is the best suited to any particular case;* for, if it be conceded that there are dangers associated with both methods, the point for decision is which principle, when combined with the dangers of the proposed operation, offers not only the greatest safety during operation, but also the greatest chance of subsequent recovery.

I. General Considerations.

There are a few general principles, applicable to all cases, which demand a brief consideration:

(*a*) *Age.*—This is one of the most important factors in influencing the choice of anaesthetic for abdominal operations, for it is at the extremes of life that the severity of these procedures is most marked. Further, it is particularly in early life that spinal anaesthesia is of the greatest assistance to the surgeon; for, apart from the boon to patient and surgeon consequent on the increased ease of manipulation, and also the readier access to different regions of the abdomen (from the flaccidity of the abdominal wall and the comparative collapse of the intestines), the younger the child the more unstable is its nervous system. The central nervous system in childhood and infancy is very susceptible to violent afferent

impulses, and, together with the mechanisms which it controls, is readily exhausted by an operation which may be without serious effects in adult life. For example, the removal of a tumour (involving, perhaps, the removal of intestine also), though a serious undertaking, may quite well be contemplated under general anaesthesia in youth or adult life without great anxiety. The prognosis of such an operation, however, becomes much graver with younger subjects; and, in young children and infants, the employment of spinal anaesthesia is definitely indicated. Fortunately, it may be accepted as true that the younger the child the more suitable is the case for spinal anaesthesia, very small infants, even a few hours old, being particularly amenable to this method. Operations on new-born infants for the relief of congenital abnormalities, such as malformations of the intestinal tract, patent Meckel's diverticulum, congenital strangulated hernia, imperforate rectum, etc., should all be performed under spinal anaesthesia, and will not infrequently terminate successfully. It is impossible to give definite indications according to age; but, if the surgeon considers that the severity of a contemplated operation and the age of the patient together render the ultimate result doubtful, he will be wise to perform it under spinal anaesthesia. Finally, operations of an exploratory nature, where extensive manipulation may be necessary, frequently demand the assistance of spinal anaesthesia, both because of the diminished shock, and because of the increased ease and rapidity with which the necessary steps can be carried out. It should be remembered that, in the majority of young children, the operation may be concluded successfully under general anaesthesia, but that a large proportion terminate fatally within a few hours to a day or so afterwards. In these cases the protection of the central nervous system against the immediate effects of such stimuli may ensure an otherwise doubtful convalescence. Briefly, then, the indication of age may be summed up as follows: The younger the child the more probable is the demand for spinal anaesthesia, for though inhalation anaesthetics are well tolerated by young children and infants, these anaesthetics afford little protection for their very susceptible central nervous systems against the effects of severe trauma.

(*b*) *The physique of the child* forms another factor to be considered. For example a strong robust child would perhaps recover from an operation for severe strangulated inguinal hernia, performed under general anaesthesia, whereas a weakly and ill-nourished subject would be more likely to succumb ultimately to the combined effects of the trauma of the lesion and of the operative manipulations to the intestine, together with the toxaemia resulting from the intestinal obstruction. It must be admitted, however, that weakly children often bear even severe operations far better than is anticipated, though this is not always true; and it would not be sound judgement to put such a case to the test if grave doubt existed as to the issue.

(*c*) *State of Health of the Patient.*.—Again a point of paramount importance, especially when taken in conjunction with the age. Thus, a lesion demanding an operation which may quite safely be performed under general anaesthesia, may be rendered more grave by the existence of some concurrent disease; for example, the presence of pneumonia, as an occasional accompaniment of abdominal disease, demands a spinal anaesthetic; as in a case at Great Ormond Street, under the care of Mr. Arbuthnot Lane, to whom I am indebted for permission to use the notes:

A boy, aged 4½ years, was suffering from acute appendicitis, with early diffuse, spreading peritonitis of eight hours' duration, complicated with definite signs of pneumonia at the angle of the right scapula. The temperature was 103° F., the pulse 150, and respirations 40 to 48 to the minute. Appendicectomy was performed under spinal anaesthesia, and thin, turbid, free fluid was found on the outer side of the caecum and ascending colon, which were mopped dry. The pneumonia gradually cleared up, and the child recovered. In this case a general anaesthetic would have rendered the prognosis much graver.

Again, where toxaemia is marked, this may be coincident with, or the result of, the lesion calling for interference; in the former case, though the lesion may be comparatively insignificant, the degree of toxaemia from the associated infection may be sufficient to render doubtful the outcome of operation under general anaesthesia, particularly in very small children. I will illustrate this by a case at Great Ormond Street, under the care of Dr. F. E. Batten, to whom I am indebted for permission to use the details.

A boy between 1 and 2 years of age developed acute diarrhoea and vomiting while suffering from whooping-cough and bronchitis, which favoured a strangulation of his right inguinal hernia. Under these conditions the retention of the intestinal contents, together with the condition of the lungs, rendered the outlook grave. Reduction and radical cure were practised under spinal anaesthesia, and the operation was followed by recovery.

It should be remembered that the degree of toxaemia is very largely an estimate of the amount of damage to the central nervous system by the toxin, and that two factors are concerned—the virulence of the infection and the resistance of the subject. Resistance to infection varies directly with the age, younger children being less resistant than older ones. The advisability of employing spinal anaesthesia in the presence of severe toxaemia should be considered from two aspects:

1. The administration of a general anaesthetic adds another toxin to a central nervous system which is already considerably damaged.
2. The central nervous system is still further submitted to a great strain from the centripetal impulses of the operation.

The indications for employing "nerve-blocking," therefore, are based upon a consideration of the degree of toxaemia, the age of the patient, and the magnitude of the necessary operation. These remarks also apply to those cases where the toxaemia is the direct result of the lesion, though here there are other considerations specially connected with abdominal disease.

II. Considerations Peculiar to the Abdomen.

(*a*) *Mechanical Advantages.*

The mechanical advantages of spinal anaesthesia in connexion with intra-abdominal manipulation have been mentioned elsewhere;[3] but these demand a brief enumeration here, because they are intimately connected with the indications for its employment.

The muscular relaxation is so complete that thorough access to the different regions of the abdomen is possible with a far smaller incision than under general anaesthesia; further, wide or forcible retraction of the wound is not contraindicated, since centripetal impulses are cut off. These advantages are of importance in exploratory laparotomy, and also in the presence of peritoneal infection, where the risks associated with infection of the wound are greatly diminished.

Again, there is no general inhibition of the muscular activity of the intestines, which are, therefore, comparatively collapsed, and do not exhibit the same tendency to protrude from the wound as under general anaesthesia. Manipulation is, consequently, minimized, and, as a result, the rapidity of the operation is increased, and there is less tendency to resulting distension. The diminished tendency to post-operative ileus is a point of considerable importance, and is quite definite. Further, the intestine and mesentery are anaemic—a factor which, again, aids the rapidity of the operation. Finally, these conditions allow the abdominal wall to be well pulled up and the different layers separated, and so facilitate the final suture, which proceeds unhampered by efforts to control protruding loops of intestine.

Briefly, manipulation is minimized and rapidity assured; these are clearly factors of importance in young children and infants, particularly as the latter are so often the subjects of intestinal distension when in comparatively normal health. These facts must now be applied to a consideration of a few types of lesions.

(*b*) *Operations performed "in the Cold."*

In this type of case the indications for the employment of "nerve-blocking" are based on the known facilities afforded by this method, combined with a consideration of the age and physique of the patient and the magnitude of the operation; for it may be assumed that in such cases there is usually no great degree of constitutional disturbance.

The age and physique have both been considered in their relationship to spinal anaesthesia, but must be taken carefully into account.

The magnitude of the operation depends on the following factors:

1. The extent and probable duration of the necessary exposure; for, apart from the question of *shock* (with its immediate and remote sequelae), it must not be forgotten that the duration of the exposure influences greatly the degree of *collapse* resulting from the necessary *loss of heat*.
2. *The Extent and Violence of the Necessary Manipulations.*—These factors are, in any given instance, for the judgement and experience of the surgeon, and involve a considerable personal element.
3. *The situation and connexions of the lesion* are perhaps the most important points in operations of this class.

The relationship of the different structures in the abdomen to the degree of surgical shock resulting from their manipulation is far beyond the scope of this paper, and the roughest outline must suffice. Speaking generally, manipulations in the lower abdomen and pelvis are less severe in their effects than in the upper abdomen, provided these do not involve dragging on the bladder or rectum. Manipulation of intestine is not in itself a violent procedure, unless it involves dragging on the mesentery; this becomes a more severe manipulation as the upper attachment of the small intestine mesentery is approached. But manipulations of a large area of intestine, especially small intestine, entail a risk of subsequent meteorism. It follows that a thorough exposure is preferable to extensive dragging on the mesentery through a small incision, though the latter will often suffice under spinal anaesthesia.

This class of case includes the removal of tumours (with or without resection of intestine), involving extensive manipulation of the mesentery (such as large renal growths, mesenteric cysts, large growths of the intestine, or growths which involve the intestinal wall, and some cases of localized tuberculosis, when "matting" is liable to be extensive); also such operations as radical cure of faecal fistula, vesico-intestinal implantation for ectopia vesicae, etc. It is not suggested, by any means, that such operations should always be performed under spinal anaesthesia; they only constitute indications when taken in conjunction with all the other factors which may influence the decision, due consideration being paid to the increased mechanical advantages afforded by this method.

(c) *Acute Abdominal Lesions.*

It is in this class that spinal anaesthesia is most often indicated in young children. Time does not permit any sort of detailed account of the indications, so that a rough classification into three groups must suffice.

1. *Infective Lesions of the Peritoneum.*—These lesions, whether localized or general, involve a varying degree of toxaemia, which, in its relationship to age and operation, have already been referred to. But the constant irritation of the peritoneum in the presence of suppuration promotes intestinal distension, which increases the extent of manipulation in the intestines, and so promotes the infection of coils which are perhaps unaffected. Further, intestinal distension is much to be feared in such cases, and any means of diminishing it, or obviating its increase, offers additional security for the patient's convalescence. Again—in virulent infections—small wounds and little manipulation are to be aimed at in order that the minimum of fresh tissues shall be exposed to the infective agent. These facilities are admirably afforded by spinal anaesthesia; for time is not such an important factor in this class, under "nerve-blocking" methods, as under general anaesthesia; and all manipulations can be gently and delicately carried out with precision with the minimum degree of exposure.

In this type of case, therefore, indications for spinal anaesthesia are based on:

1. The degree of toxaemia, the age, and physique of the patient.
2. Whether the infective process is localized or general.
3. The degree of intestinal distension, and the possibility of increasing this, or of infecting fresh coils during the manipulations.
4. The amount of manipulation of the mesentery and the opening up of fresh tissues involved by the necessary breaking down of adhesions.
5. The degree of urgency for maximum speed, with the minimum exposure and violence.

For example, a localized appendix abscess adherent to the anterior wall does not call for spinal anaesthesia, except in the presence of grave toxaemia, or if difficult manipulations are likely to be involved in the simultaneous removal of the appendix in a young subject. Further, a case of acute appendicitis, with diffuse spreading peritonitis, may often be operated on under general anaesthesia, and a recovery confidently expected, provided the toxaemia is not marked and the local indications for spinal anaesthesia are not definite. A history of previous attacks forms an additional indication for considering the advisability of spinal anaesthesia, in view of the possibility of the surgeon encountering difficult adhesions, which increases the severity of the operation.

2. *Intestinal Obstruction.*—The indications in this class are based on a combination of the following factors: Age; the degree of toxaemia; the necessity for speed; the facilities in manipulation with the minimum degree of violence; the condition of the intestines; the possibility of resection of intestine being called for. These factors are of greater moment in obstruction than in any other variety of lesion.

It is only necessary to consider the last two in this section. The mortality is so high in children under general anaesthesia, when resection is practised for acute obstruction, that it is not difficult to show improved results when spinal anaesthesia is employed. Apart from the shock of the operation, recovery after operation, with or without resection, is largely dependent on the action of the bowels and the avoidance of intestinal distension; and efficiency in this respect is so largely affected by operating under spinal anaesthesia as to form one of the most important indications for its employment. The duration of the lesion is a most important determining factor. Intussusceptions should, with very few exceptions indeed, always be operated on under spinal anaesthesia in children below 2 years of age.

3. *Injuries.*—The condition of the patient and the nature of the injury form the main indications in this class. If collapse from haemorrhage is profound, spinal anaesthesia is usually contraindicated; for, if the bleeding is rapid, it is unlikely that the blood pressure can be artificially maintained to a sufficient height to withstand the drop accompanying the necessary thoracic paralysis, before the haemorrhage has been stopped. This does not apply to collapse from shock or other causes, where the blood pressure can be raised by various methods, and thus the fall under spinal anaesthesia be easily guarded against. The frequent necessity for extensive exploration in these cases, in view of the possibility of multiple lesions, will often render spinal anaesthesia advisable. In perforating injuries, the main indications for its use are based largely on the situation of the wound, the nature of the instrument, and the condition of the intestine. For, if the lesions are likely to be multiple, the severity of the operation is increased, and the risk of infecting the rest of the peritoneum varies directly with the extent of the manipulations.

These are the rough outlines of what appear to me indications for spinal anaesthesia in abdominal surgery. The difficulty of setting them out in writing, apart from the personal factor, is due to the fact that no single point forms an indication, but a combination of numerous considerations; and this must form my excuse for the incompleteness of classification and detail. I have been induced to submit these views to you by the wish to ask you to believe that spinal anaesthesia will prove, indeed has abundantly proved, to be a most valuable adjunct to abdominal surgery in children, in those few cases where its use is definitely indicated.

REFERENCES.

[1] *Lancet*, September 25th and October 2nd, 1909, and June 11th, 1910; *International Clinics*, 1910. [2] Loc. cit. [3] Loc. cit.

DISCUSSION.

Mr. S. BARLING (Birmingham) said that at the demonstration by Mr. Gray on the preceding day the anaesthesia produced perfect conditions for abdominal manipulation, whilst the psychic factor, which one would expect to be a hindrance to the use of the method in infancy and child-

hood, was entirely in abeyance—the child, nervous and whimpering when first brought into the theatre, soon regaining confidence and chatting during the performance of the operation. Of the two great factors that hindered surgical progress—shock and sepsis—the latter could now be eliminated almost entirely by suitable technique, but the former still barred surgical progress. Especially was this so in the surgery of childhood. Mr. Gray had shown conclusively that spinal anaesthesia produced less shock than general anaesthesia. This was indicated by a diminished fall of blood pressure during the progress of operation, and a lessened mortality in those cases involving considerable shock. In such cases as acute intussusception, enterotomies and nephrectomies, and acute septic conditions in the abdomen in children, the method found its most useful application, and was a most valuable addition to the resources at their disposal for combating shock.

Mr. GEORGE HEATON (Birmingham) laid stress upon the high mortality (from shock) of abdominal sections on young infants for acute abdominal conditions under general anaesthesia. Spinal anaesthesia in such cases, by cutting off the centripetal impulses, should form a great boon and lessen the mortality. He laid stress also on the importance of the surgeon himself directing the induction of the spinal anaesthesia, and not leaving it to some junior officer, if serious accidents or actual calamity were to be avoided.

HARELIP: MODIFICATIONS AND EXTENSIONS OF OWEN'S OPERATION.

By F. W. GOYDER, M.B.Cantab., F.R.C.S.,
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THERE are already so many operations for the cure of harelip that a paper on this subject needs some justification. In medicine where the list of remedies for a disease is long and varied one assumes that none of them is absolutely satisfactory; and so it is, to a certain degree, in surgery. I believe that it is partly true for the operations for harelip. The simplest and the commonest of these is the one we may call the "vertical scar" method, and a short criticism of this will lead us to the points to be aimed at, and those to be avoided, in operating for the condition.

This straight vertical scar, even when the result is otherwise perfect, is in itself not merely unsightly, but too

FIG. 1.—*Modification I.*

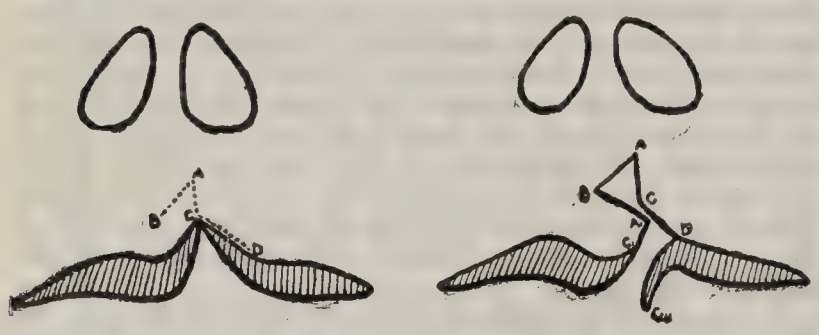

Stage 1.—Incisions A–B, A–C, C–D. Stage 2.—Suture A B A′ to A C D; A′ C′ to D C′′.

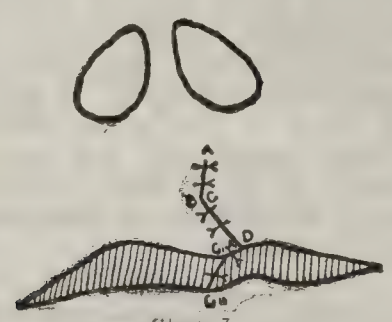

Stage 3.

reminiscent of the condition the surgeon has remedied. As Mr. Stansfield Collier once said, "It is better for the lip to look like the bad result of a severe railway accident than like the result of a successful harelip operation." The nasal stitches in the vertical scar operation frequently give way. This results in asymmetry of the nostrils. Even where the cleft in the lip does not reach the nose this inequality is often present. This tendency to give way can be prevented by the methods explained later. The ideal operation *must* get rid of asymmetry of the nostrils.

The vertical scar operation generally produces a "tight" narrow lip—one that cannot by any possibility be everted. In a normal infant the upper lip is longer, measured from corner to corner, than the lower. In fact, the mouth is more nearly triangular than like a horizontal slit. Again, the upper lip, like the mesentery of the small intestine, resembles a "goffered" frill, being longer at its free border

FIG. 2.—*For a Notched Lip. No Division of Red Margin.*

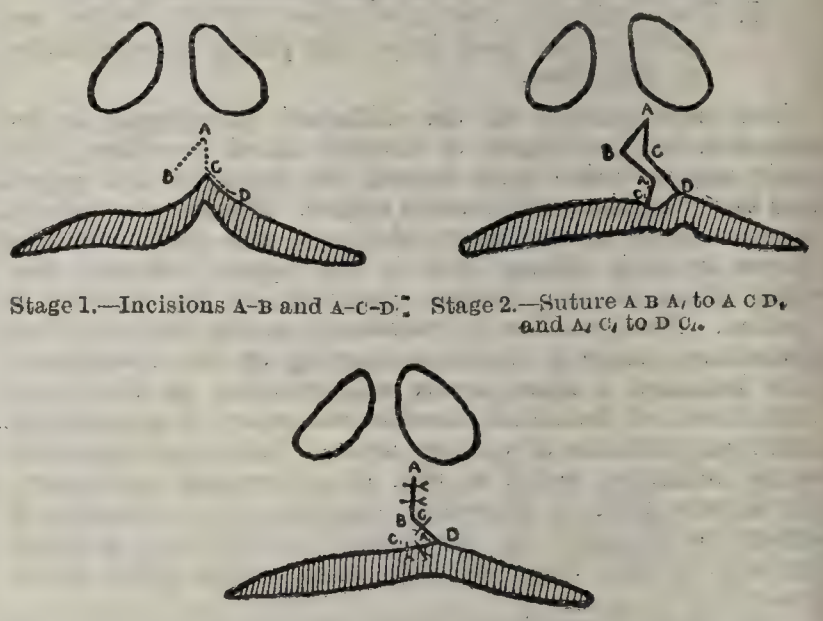

Stage 1.—Incisions A–B and A–C–D. Stage 2.—Suture A B A′ to A C D, and A′ C′ to D C′′.

Stage 3.—Sutures.

than at its attachment. The vertical scar operation never imitates Nature in this way. The muco-cutaneous junction must be even. The red margin has in most cases either an unsightly projection or a notch: both conditions are objectionable, and should be avoided. The contraction of scar tissue must be allowed for, and suture lines must be planned to be as inconspicuous as possible. Where possible, they should be placed along, and not, as in the vertical scar operation, at right angles to the lines of natural tension of the skin. The minuteness of the parts to be treated must be remembered, and an operation sought for which involves the least loss of the very scanty tissues, while at the same time it avoids the depressed scar caused by insufficient paring.

So that the ideal to be aimed at must have symmetrical

FIG. 3.—*Incomplete Harelip. Square-ended Flaps.*

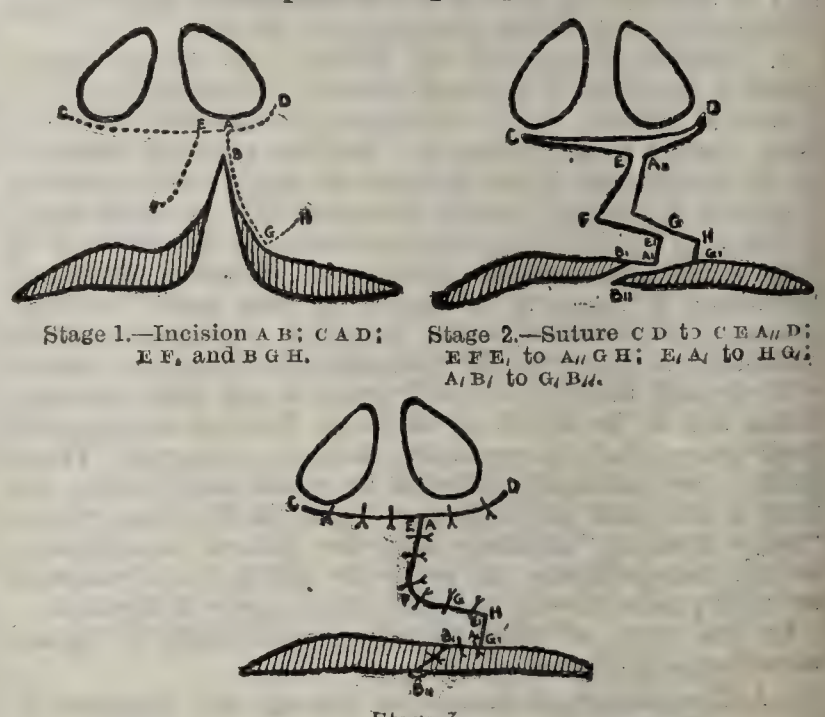

Stage 1.—Incision A B; C A D; E F, and B G H. Stage 2.—Suture C D to C E A′′ D; E F E′ to A′′ G H; E′ A′ to H G′; A′ B′ to G′ B′′.

Stage 3.

nostrils; the lip must be even, thick, and longer at its free border than at its attachment; the scar, or scars, must be inconspicuous, and hence not vertical; and the line of suture broken, and not straight. In the course of a few years it should be less and not more obvious; and, finally, it must not resemble, even distantly, a successful harelip result.

Mr. Owen's modification of Mirault's operation avoids

most of the pitfalls mentioned. It gets rid of the ugly vertical scar, and the results of contraction leave no notch in the lip. But it is expensive in red margin, and does not necessarily correct the asymmetry of the nostrils. Moreover, a narrow piece of red margin is sutured to a wider one. This may produce an unsightly junction. The following modifications are believed to result in the correction of these weak points, and are performed without any loss of tissue whatsoever. They are:

1. Extensions of the Owen-Mirault flap. These result in a narrowing of the attached part of the lip without diminishing the effective length from corner to corner.

2. A vertical splitting of this flap.

3. The separation of a thick wedge-shaped ribbon of mucous membrane at the muco-cutaneous junction on the side opposite to that on which the Owen flap is cut, leaving it attached by the red margin and dovetailing it into the split Owen's flap. This ribbon is entirely removed in Owen's operation. This results in a greatly thickened red margin at the line of suture, which is not opposite to the end of the scar in the lip. It does not attract attention, nor does it become increasingly obvious as time goes on.

4. Special methods of dealing with the nostrils.

Asymmetry of the nostrils is a condition extremely common even in incomplete harelip. It is often so noticeable that one is compelled to do a more extensive operation than is needed for the cleft in the lip. In addition to correcting this asymmetry we can at the same time narrow the base of the lip without diminishing the length of the free margin, and can prevent the scar in the lip from being opposite to that in the nostril—a proceeding which prevents subsequent stretching. The manœuvre known as "borrowing from the cheek" is used, because, in addition to giving an increased freedom of action, it leaves a scar, inconspicuous because it lies at the junction of nose and lip. "Borrowing" from the nasal side of the cleft may also be used with great advantage. The method is based upon that of Mr. William Thomas of Birmingham in his preliminary operation for complete harelip. The lateral nasal cartilage is freed at its lower end so that it lies easily in position, and a portion of the mucous membrane of the inner wall of the nasal cavity may be detached or reflected downwards to form a support for it. A mattress suture may be used to fix it in position. The nasal and oral cavities must be fully shut off from each other. The stages of operation are:

1. Incise and separate the ala nasi at its junction with the cheek.

2. Reflect the nasal flap.

3. Suture through alae nasi, the nasal flap (if used), and back through septal side.

4. Put a suture on the face to close the nostril in front.

5. Deal with lip, remembering that its suture line must not be opposite to that in the nose.

Hence the stages for a complete operation are:

1. Preliminary separations.
2. Treatment of the nostril.
3. Preparation of Owen's and the mucous membrane flap. (These may be cut from whichever side happens to be the more convenient.)
4. Splitting of the Owen flap and dovetailing operation.
5. Sutures and tension sutures.

These methods are illustrated in the accompanying diagrams, in which Fig. 1 shows the extension of the Owen-Mirault flap; Fig. 2 its application for a notched lip without division of the red margin; Fig. 3 a square-ended flap, a device for narrowing the upper part of the lip without causing at the same time undue "tightness" at the free margin. Fig. 4 shows the operation for a complete harelip, and Fig. 5 a two-stage operation for a double harelip, making use of the whole of the skin and mucous membrane of the prolabium.

These operations may seem unduly complicated, and will appear, doubtless, to many surgeons unnecessary. I venture to think that they overcome to some extent the difficulties I have indicated. The treatment of a harelip may seem a small matter, but the result, good or bad, is evident during the whole of the patient's life, and a result which is neither unsightly nor unduly obtrusive is worth more than a little trouble.

FIG. 4.—*Complete Harelip.*

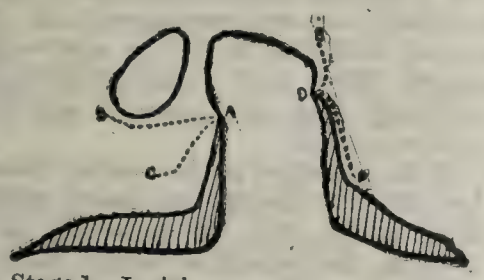

Stage 1.—Incisions A-B; D-E; D-F; A-C.

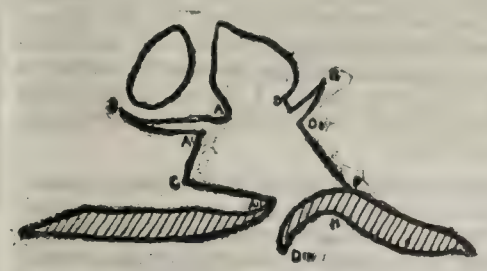

Stage 2.—Suture A-D; B A D E to B A D H (A not opposite to A).

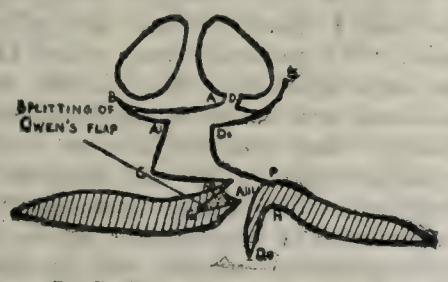

Stage 3.—Split flap C-A-G; suture A C A to D F; A G to F D; and G A to D H.

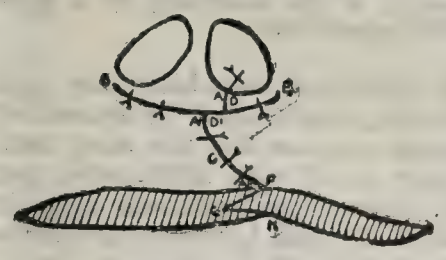

Stage 4.

FIG. 5.—*Double Harelip.*

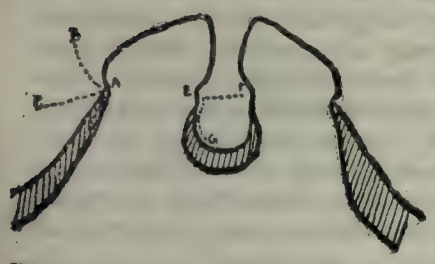

Stage 1.—Incisions A B, A C, E F, E G. Split flap, C A D.

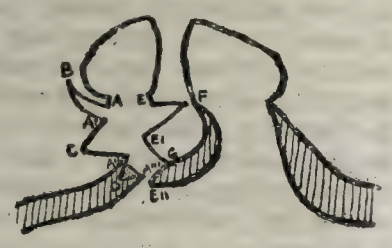

Stage 2.—Suture A-E; B A E F to B A; A C to F E; C A to E G; A D A to G E.

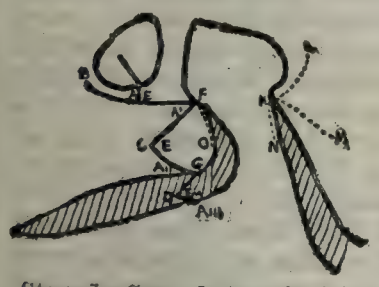

Stage 3.—Second stage incisions. F B; K L and K M and F O. Split flap M K N.

Stage 4.—Second operation.—Suture F to K; B F K L to K L; B F to K M; F O to M K; O F O to K M K.

THE TREATMENT AND PREVENTION OF MEASLES.

By ROBERT MILNE, M.D.,

Medical Officer of Dr. Barnardo's Homes and Hospitals.

IN my collection of cuttings on scarlet fever from the medical press one paper stands pre-eminent for its supply. It is "The Present Position of Isolation," by H. E. Corbin, D.Sc., D.P.H. The Editor of the *Journal of the Royal Institute of Public Health* gives it the place of honour for June, 1911.

The following three paragraphs are by far the gravest and most serious indictment against scarlet fever isolation hospitals that I have met:

1. It is, however, the universal experience of those who work in isolation hospitals that the overcrowding of patients suffering from scarlet fever in a ward increases the incidence of such complications as otorrhoea, adenitis, and rhinorrhoea. And to what other cause can this be attributed than that these conditions are infectious? To allow that they are more frequent in an overcrowded and ill-ventilated atmosphere is to admit that they are infectious; and I am inclined to the view that less air space than 2,000 cubic feet in a well-ventilated room

completely separated from other patients is of more value than an average of 2,000 cubic feet of air space which is common to a large number of patients suffering from an infectious disease.

2. With regard to the influence of segregation of cases in the ward on the incidence of infectious complications, I ascertained that in the case of 794 patients admitted into the general scarlet fever wards at the London Fever Hospital, 383, or 40 per cent., suffered from infectious complications, while in the case of 66 patients treated throughout in single rooms, 12 suffered from such complications, or 18.2 per cent. I have included in the term "infectious complications" otorrhoea, rhinorrhoea, adenitis, and secondary tonsillitis.

3. There is little doubt also that the number of "return cases" is always greater when the scarlet fever wards are overcrowded. This may be either due to the greater number of infectious complications arising in cases admitted to hospital, or associated with a general high epidemicity of the disease. Such facts tend to bring into disrepute the treatment of these diseases in isolation hospitals, and it is desirable that we should aim for greater efficiency in the administration of the hospitals, by a more complete and perfect system of separation.

But the list of infectious complications which they give does not include kidney trouble, also caused by secondary infection, and by far the most common and the most fatal complication. In an ordinary ward, with 2,000 cubic feet of space per patient, 40 per cent. of complications arise in throat, nose, ear, and glands. To this, however, should be added the kidney complications. It is unnecessary to dwell on the other two paragraphs, "the universal experience of those who work in isolation hospitals," both in complications and return cases.

In the treatment of scarlet fever by the method I am now advocating for the treatment of measles, complications are unknown; in the 800 cases of scarlet fever I have myself recorded,[1] where this method was adopted, no single case with a complication in the throat, nose, ears, glands, or kidneys, occurred. Yet these cases had only from 750 to 400 cubic feet of air space apiece, and some were in poor and overcrowded homes. Further, infection and the spread of the disease are unknown if my method is adopted; I have repeatedly shown how patients with scarlet fever may be nursed side by side with healthy children, or with the most serious operation cases, and how they may within ten days attend school and church with 1,300 other children, without the occurrence of either infection or complications. Such a thing as a return case is unknown.

Let me next describe the method of treatment I am advocating. As early as possible in the disease, and without waiting for definite confirmation of the diagnosis in doubtful cases of scarlet fever or measles, the tonsils and the pharynx, as far up and down as possible, are swabbed with 10 per cent. carbolic oil every two hours for twenty-four hours, or for longer if the swabbing cannot be carried out regularly. Rarely is it necessary to continue the swabbing for longer than this. The swab should be of cotton-wool, firm, the size of the distal phalanx of the patient's thumb, held in a forceps or fixed to a piece of wood by a thread. A fresh swab should be used on each occasion. The carbolic oil has the great advantage of relieving pain and enabling the patient to swallow more easily. In addition, the patient is gently rubbed all over with pure eucalyptus oil, from the crown of the head to the soles of the feet. This is done as soon as the patient is suspected of scarlet fever or measles, or as soon as he is found to be suffering from either of the diseases. This inunction with oil of eucalyptus is repeated morning and evening for four days, and once a day for the six days following.

The advantages realized by this method of treatment, not only in my own experience but also in that of every practitioner who has carried it out, are a follows:

1. When this treatment is commenced early—and this is vital—secondary infection never occurs, and consequently complications are unknown.

2. With this treatment carefully carried out, children may occupy the same room, and even the same bed, without the risk of infection.

3. The economy of the treatment. An ordinary case in isolation costs £10 and upwards; this perhaps 2s. Therefore it means a saving of millions of pounds annually.

4. Its household economy. The mother is free to attend both the patient and her duties. The father is free to go to work without the slightest risk, and the children equally free to attend school.

5. No after-disinfection is necessary, for the disease having been destroyed, nothing remains.

6. I have been frequently asked about the disinfection of the patient's spoons, crockery, etc., as these are such a trouble in an ordinary household. Well, the fact is, there is no disinfection, or in any way a keeping of them apart. They are all collected together, washed in the ordinary way, and served out indiscriminately on the next occasion.

7. In measles, as in scarlet fever, there is no necessity for the hair being cut short, neither for destroying the toys, books, etc., for these may be safely interchanged as soon as the patient is able to play. The net result is that there is no interruption of the domestic, scholastic, or business affairs of the household.

Such is the simple, sure, speedy, and inexpensive method I have advised and of which the *Medical Times* said, "We endorse every word Dr. Milne has written, for we have tried it." Such is the testimony of hundreds of medical practitioners, such as the partial test at Clydebank,[2] "that patients are as well in four weeks as they were in eight by the old system." Moreover, there have been no return cases. It is worthy of note, too, that the experience at Clydebank shows that this method can be triumphantly carried out in some isolation hospitals at least, although the recorded experience in two of the London hospitals led me to form a different conclusion.

But the method has not escaped criticism. Dr. E. Corbin says: "It has recently been maintained by Dr. Milne that hospital isolation of scarlet fever can be avoided by a method of treatment consisting of the inunction of eucalyptus oil which is said to render the patient non-infectious. If we could assume scarlet fever to be nothing more than a skin disease such a method of treatment would have some *raison d'être*, not because the eucalyptus oil would in any way act as a disinfectant for the skin but because it would prevent the scales which occur during desquamation from becoming disseminated in the atmosphere. It is generally acknowledged that the chief nidus of infection is the fauces and naso-pharynx, and it may therefore be said that the homoeopathic eucalyptus method recommended can have little effect in preventing infection of others; and it is probable that the success attributed to this method is due to the fact that if a given number of persons are subjected to the infection of scarlet fever, fortunately only a relatively small percentage of those exposed will contract the disease. The inunction of eucalyptus has been combined with swabbing the tonsils with carbolic oil; such swabbing, beyond mechanical cleansing of the surface, can have little effect in destroying the micro-organisms, as these exist in crypts which are considerably below the surface, and into which it is impossible for the antiseptic to penetrate."

If, however, my critic be right, fortunate indeed must have been the 12,000 children who have passed through Dr. Barnardo's Village Home during the past thirty years, with only 245 cases of scarlet fever, 95 of which occurred in a few months through pen and pencil infection. Greatly mistaken must have been the superintendents of the isolation hospitals in London, as well as 250 other medical men who visited to see patients in all the stages under treatment. Greatly mistaken must the former President of the Local Government Board have been when he asked many years ago "how we had so few epidemics among the children under my care in Dr. Barnardo's Homes, and how, when we did have cases, we had so few, while in our schools they affected half and sometimes three-fourths of those in residence." Greatly mistaken, too, must the medical officer of health have been when, on visiting the village home, he asked the number of beds in our isolation hospital. He was greatly surprised to find we had no isolation hospital there, or isolation accommodation of any kind in the institutions under my care. He said we were bound to have anything from 150 to 300 cases requiring isolation every two or three years among the girls, yet we have only had 234 cases of measles in twenty-six years. How unfortunate, too, that before this method was adopted we had 120 cases of scarlet fever among less than 500 children, and 144 cases of measles among 600 children in this girls' home in one epidemic of each.

How mistaken, too, must the sister in charge of the

infirmary of the Village Home have been when she wrote, in May, 1911:

During the sixteen months I have been sister in charge here 9 cases of scarlet fever have been admitted to hospital, all of which have had the eucalyptus treatment, and in every case it has been absolutely successful. The patients were almost without exception put into the surgical ward, but there was never the slightest spread of infection nor complication of any kind. The urine in each case was carefully tested twice, but no trace of albumen was found. One case developed in the cottage isolated for ringworm (containing 16 patients, the greater number being under 9 years of age); she was nursed there, in a room with five other little ones, and the result was extremely satisfactory.

During the last two months we have admitted 5 cases of measles into hospital, treated them in exactly the same way as for scarlet fever, and the results have been equally satisfactory.

One has to live down the prejudices of years before adopting a treatment like this, and well do I remember my feelings—compounded of keenest interest and deepest anxiety—during the progress of my first case; but the magnificent results achieved leave no longer any room for anxiety, but rather fill one with confidence that the day is very near when no other treatment will be considered possible.

Now, all the advantages realized by this method in the treatment and prevention of scarlet fever I claim for measles. While I have used it for over thirty years in the former, I have used it for some twenty-five in the latter, with the result that during all these years we have not had any epidemic. The only point I have not carried out in measles is to have the patient in the same bed as a healthy child. This, however, I have proved—that they may safely occupy and sleep in the same room with some 400 ft. of cubic space apiece, the beds being so close that the children could hand toys from one to the other.

In the various papers I have already written on scarlet fever I have referred to measles.[3] But what baffled me, until the fall of last year, in the full realization for measles of all the advantages I have stated, was the fact that in the early coughing and sneezing stage the phlegm may be carried twenty or thirty feet, and so may communicate the infection to others before the eucalyptus can act on it. Now, I felt that if this could be prevented, the keystone of the bridge, like Tam o' Shanter, would be passed, and victory sure. I therefore had a large bed-cradle placed over the child's head and chest, and covered with a light, transparent, fleecy, gauze curtain. With a child's cot or crib the curtain may be stretched over the top and hang down the sides and front. The curtain I have moistened or sprayed from time to time with eucalyptus oil. This prevents the escape of the infection-carrying phlegm, for it is caught in the curtain and the eucalyptus has time to act. This simple plan is of the greatest advantage to the child, for it is able to see all that is going on around, and rest quiet and contented, while it absolutely prevents infection. The other children have a little eucalyptus oil sprinkled on their sheets at bed time, and morning, noon, and evening have a little on a handkerchief, which is carried in their chests.

In my experience, this simple method has for twenty-five years completely prevented the spread of measles; use of the curtain allows the infected children to sleep in the same room as healthy children; secondary infections and complications—excepting bronchopneumonia in young and very delicate children—are unknown, and even this, to judge from my more recent experiences, is a thing of the past.

It will add to the value of this paper if I give some record of the number of children who have passed through the institutions known as Dr. Barnardo's Homes during these thirty-one years. Some 70,000 have done so. Over 25,000 have been emigrated to Canada; 5,000 are at school in London and the provinces; 771 are in workshops, workrooms, and service cottages; 642 are in hospitals, sanatoriums, cripple, convalescent, deaf and dumb homes; 281 are in Watts Naval Training School; 1,450 in Canada and boarded out in Canada. In addition to these, 1,065 are under 5 years of age. Thus 9,000 are at present under their care.

The advantage of the method of treatment I advise is well shown in the contrast between the earliest and later experiences among these children. At first I did not use it. Some twenty-five years ago in the Village Home for Girls, with the same class of children, in one epidemic of measles we had to close the schools and turn the class room into wards and some of the cottages into a hospital. For in one epidemic we had 144 cases of measles, when the number of children in residence was under 600. Over 11,000 have passed through since then; over 1,300 are now in residence there. Yet during these years and among all these children we have only had 234 cases of measles. This I attribute entirely to the method of treatment we have carefully carried out.

I will now give some records from some of the homes under my care. The first are from the Village Home for Girls. The "remarks" show on how many occasions fresh infections have appeared—that is, cases beyond the last day of infection.

TABLE A.—*The Village Home.*

Year.	Cases of Measles.	Remarks.	Year.	Cases of Measles.	Remarks.
1887	6	—	1900	1	—
1888	3	—	1901	14	On 3 occasions.
1889	30	In 14 cottages.	1902	8	In 5 cottages.
1890	1	—	1903	4	On 2 occasions.
1891	—	—	1904	22	—
1892	23	—	1905	13	—
1893	2	—	1906	11	—
1894	2	—	1907	6	On 3 occasions.
1895	—	—	1908	1	—
1896	8	On 3 occasions.	1909	2	On 2 occasions.
1897	4	—	1910	6	—
1898	3	—	1911	8	In 3 cottages.
1899	1	—		183	32 occasions.

To these, however, must be added the cases in our receiving house at the Village Home; 5,647 children have passed through it between January 29th, 1903, and July 8th, 1911. The ages vary from under 3 months to 15 years of age; the average being under 8 years. The house receives 65. We have, therefore, to pass them on in most instances (to the village) before the period of incubation for measles expires.

The following is a full record of the cases in this house:

Year.	Cases.	Remarks.
1903	3	On two occasions.
1904	—	—
1905	16	On two occasions.
1906	15	On two occasions.
1907	—	—
1908	16	On two occasions.
1909	—	—
1910	—	—
1911	2	On two occasions.
	52	On ten different occasions.

In one ward at the infirmary of the Village Home this year were 2 cases, with 4 others, from 7 years of age. In another was 1 case, with 5 others, from 3 years of age. These children were found to have been unprotected by a previous attack. In one of the cottages from which 2 of these children were taken there were 2 mild cases of first infection, which were treated in the cottage.

In the receiving house at the Village Home, on March 3rd, 1911, a baby had developed a typical case of measles. In the ward was another baby. In the adjoining wards, and attended by the same nurses, were four babies under 1 year, besides five 1 year old, four 2 years of age, nine 3 years, two 4 years. On the day the disease appeared 53 children were in residence, 30 were passed out during the fortnight, and 33 new girls were admitted. Thus, 86 were in the house during the fortnight, yet there was no spread of the

infection among these tiny children, nor any complication in the patient.

Some have suggested that the special care and conditions in this home account for these wonderful results, both in scarlet fever and measles. To show that this is not so, I have drawn up tables for some of our boys' homes in London, similar to the table I have shown. Table B shows the measles cases in a home for 120 little boys from 4 to 12 years of age in East London. These boys attend several board schools. Measles has appeared on thirty-six different occasions, yet the total number of cases has only been 205, among over 2,000 little children.

The recent cases in this home are as follows:

TABLE B.—*Sheppard's Fold.*

Year.	Cases.	Remarks.
1889	7	In 3 days.
1890	28	On 3 occasions.
1891	6	Four on first day.
1892	1	
1893	—	
1894	16	In 11 days.
1895	25	On 3 occasions, 4 and 2 on first days.
1896	4	Two on fourteenth, 1 on eighteenth, 1 on twenty-fifth.
1897	3	On 1 day.
1898	—	
1899	13	On 2 occasions.
1900	4	On 3 occasions.
1901	23	On 2 occasions, 3 and 10 on first three days.
1902	4	On 2 occasions, 3 on first day.
1903	8	On 2 occasions, 3 in eighteen hours.
1904	8	On 2 occasions.
1905	3	Two in first eighteen hours.
1906	8	On 3 occasions.
1907	10	On 3 occasions, 3 and 6 on first day.
1908	—	
1909	—	
1910	18	On 2 occasions, 5 in first 4 days.
1911	16	On 2 occasions, 3 and 2 in third and second days.
	205	36 occasions.

A case of measles occurred in the home on December 25th, 1910. To prevent outside infection, I kept the boys from school. Three very mild first infections followed, and no more. After their return to school, the following occurrences ensued (I read the account of them at a meeting of the Children's Section of the Royal Society of Medicine in April, 1911):

When I visited this home on March 8th I found one very delicate boy in bed, where twenty-three other little fellows slept. Seven are 5 years of age, ten are 6, two are 7, three are 4, one is 12, and one is 14 years old. The two older boys do part of the work in the home. The patient's temperature was over 103° F.; coryza and well-marked Koplik's spots were present. The gums were red and the soft palate slightly spotted with small red centres. He had not, however, the slightest appearance of any rash. He was treated in the dormitory in which these twenty-three other boys slept. He had eucalyptus oil gently rubbed in over his body, 1 in 10 carbolic oil to his throat, and a thin muslin curtain sprayed with eucalyptus over his head and chest like a small tent. All the boys who slept in the dormitory were kept from school and had eucalyptus as I have described—namely, a little sprinkled on their bed and a little on their handkerchief in their chest morning, noon, and evening. By mistake the other boys in the other part of the home did not have the eucalyptus thus for some eight days later. The usual method was carried out in one part of the home, while in the other special dormitory the new method was used. Thus the two methods are seen side by side. One of the boys was found to have had measles in this same dormitory three months before. All the others were unprotected by an attack while with us. On admission to the homes the children's histories are carefully inquired into, and any attack of measles or infectious disease recorded. According to these records 20 were unprotected by previous attacks. Now what was the result? Twenty-four hours after I first saw the boy the rash began to appear. He had a very severe attack. He was in the dormitory some five days where these twenty-three boys slept, twenty of whom were unprotected. Moreover, on the first and second day he was joined by two fresh cases of measles from the other part of the home. They were treated exactly as the other. Then, because the lad was so delicate, and on account of the intense cold, and the difficulties of keeping the temperature at 60° F., the three were moved to a warmer dormitory. By the sixth day two more cases occurred in this dormitory. By the same time, from the other part of the home, up to the sixteenth day of the outbreak we have altogether 11 cases.

The boys in the babies' dormitory were kept all this time from school. All the household, however, mingled freely at play and at meals. Could anyone devise more crucial tests than those I have laid before you to bring out clearly the contrasts of the methods of treatment? Of the result in these two classes of cases that I have laid before you I had no doubt. More cases appeared from the other part of the home. After the infections contracted before the use of the eucalytus oil become manifest it will cease among the others, while the cases thus treated will be mild. What about those in the babies' dormitory from the twelfth to the sixteenth day after having had three measles cases sleep in the same room night after night, and mingling day by day with those who were in the most infectious stage?

In a third home, also in East London, there have been only 102 cases in twenty-three years, despite the fact that measles had been imported into the home on thirty different occasions, that there are always in residence some 350 boys between the ages of 10 and 12, that in the aggregate 6,000 of them have passed through the home during the period stated, and that they have attended sometimes as many as eleven different schools in the neighbourhood. Nevertheless, the result of the treatment described has been to keep the number of cases down to the low figure mentioned.

In our deaf and dumb home for fifty children a case occurred on February 8th, 1911. The patient was a delicate child and nearly blind. For more careful nursing he was removed to our hospital and placed in the babies' ward. Three first mild infections occurred in the home, then the trouble ceased. The case taken into the hospital was placed in the babies' ward, having been treated with eucalytus and carbolic oil, and a gauze curtain placed over him. There was no infection of any child in the ward, although the ages of the ten children were from $2\frac{1}{2}$ to 5 years of age and unprotected.

In one of our London homes for girls, containing fifty-three children, who attended board schools when measles was prevalent, a case, aged 7, occurred on March 20th, 1911, followed by:

Four cases on March 26th, aged 7, 7, 5, 5—sixth day.
Two cases on March 28th, aged 16, 12—eighth day.
Three cases on April 2nd, aged 12, 7, 5—thirteenth day.
One case on April 3rd, aged 6—fourteenth day.

Then the trouble ceased, although the infected and the uninfected children slept in the same dormitory. Another case occurred after their return to school. Of these children our records show that eight had previously had attacks of measles, two of whom are in the above number of cases.

The ages of all in the home were: Two of 4 years; five of 5 years; seven of 6 years; five of 7 years; three of 8 years; three of 9 years; the others were 10 and over.

A case occurred in a home with sixty others; it was found and treated early. Although the case was nursed on the same floor as the bedrooms and the workroom, from which the bedroom opened, and was attended by the ordinary attendants, there was no other case.

On March 4th a case of measles occurred in a ward of our hospital in which slept fifteen other children. He was treated at once. The symptom and rash appeared in full. Naturally we were anxious as the twelfth day approached. We watched the others closely until the sixteenth day was passed. There was neither infection of others nor any complication in the patient himself.

Although I have repeatedly called attention to the serious and terrible danger that lurks in pencil infection, I again do so, for in our schools this atrocious abomination still flourishes. Twice daily are pens, pencils, and ink erasers handed to the children. There is not the least care in keeping them for the children who used them on previous occasions. Helter-skelter they go into the common collecting box. There is no disinfection, but rather the opposite, for in the collecting box they are carefully locked away from air and light. Could the worst enemy of the children devise a more certain method of disseminating scarlet fever, measles, diphtheria, tuberculosis, as well as other troubles? Is it possible that here

may also be a cause of dental caries? For it is recognized that if one tooth decay it leads to the decay of others.

In conclusion: I have laid before you the only method known and proved in the management of scarlet fever—and *I now add in measles*—that gives us absolute freedom from infection and complication when used early. Further, if the earliest stage of measles is past and the infection communicated to others, it limits it to a dying out first infection, for I have not known it pass this.

The treatment and prevention of both scarlet fever and of measles is before you. These thirty years I have wrestled with the problem, and now I give you the proved results. Consequently it is no new-fangled notion, but will stand the test of time and experience. Prove it thoroughly, as I asked should be done years ago in scarlet fever, and with care you will find it no less satisfactory.

REFERENCES.

[1] *The Home Treatment and Prevention of Scarlet Fever*, by Dr. R. Milne; London: J. Nisbet and Co. [2] *Lancet*, June 25th, 1911. [3] BRITISH MEDICAL JOURNAL, 1908, ii, p. 1333; 1909, i, p 185; 1910, ii, p. 594.

DISCUSSION.

Dr. J. BRUCE-BAYS (Cape Colony) raised the question as to the advisability of protecting children from the infection of measles, since they were practically certain to be affected in later life, when the symptoms were more serious and the interruption to their occupations more important. It was perhaps better for the children to have measles at the most suitable age, say from 5 to 12 years of age, when in institutions they could be well looked after, and, having had the disease, would acquire an immunity, which at present they had no other means of doing.

Dr. J. B. KENNEDY (Birmingham) asked whether Dr. Milne ever had anginal cases of scarlet fever in his practice, and whether he had had any deaths. He also remarked on the grave responsibility incurred by the advocacy of Dr. Milne's treatment.

Dr. CANT (Woodley) noted that the period of infection of measles commenced before the appearance of the rash. He asked how Dr. Milne accounted for other children (say in a home) not being attacked, which would show that there was no infection previous to the rash, or that the other children were immune, and not that his special treatment, which was not begun until well after this early period of infection, was preventive as well as curative.

In replying, Dr. MILNE said that many parents would object to exposing their children to the infection of measles. In one school where this was done, there were eight deaths. It was through secondary infections that the complications arose in the throat, ear, nose, and glands. If secondary infections were prevented, none of these troubles occurred. He held that scarlatina anginosa was a secondary infection.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ERYTHEMA NODOSUM.

IN view of the notes which have appeared in the JOURNAL during the last few months, it will not be inappropriate for me to mention that I had a case of erythema nodosum in a young man of 18 at the end of last June. I saw him on a Friday evening, and he had a temperature of 103°; he complained of malaise, and of pain in the legs, ankles, and knees. There was no bruit, but the heart sounds were very soft, such as are met with at the beginning of a case of acute rheumatism, and that was what I was suspecting until I saw the large brownish-red patches, very tender to the touch, covering his shins. No local treatment was applied, but sodium salicylate and a little digitalis, and also some arsenic, were given, and he was also kept in bed. When seen on the following Sunday his temperature was normal, there was no pain, and the patches were passing through the stages of a bruise. Seen again on Wednesday evening he had been to his usual work since the morning, and had recovered entirely. His recovery has been maintained.

In this case the symptoms were strongly allied to those of rheumatism. Those cases which have been reported as being associated with measles have mostly occurred a week or a fortnight after they had been doing well, and it is not impossible that they may have been induced to some extent by cold. There had been no previous history of rheumatism in my case, and what struck me most was the rapid recovery. First seen on Friday, he was at work on Wednesday.

Glandovey, Cardigan. D. OWEN WILLIAMS, M.B.

SWEETS IN CHILDHOOD.

THE increasing attention paid to the prevalence of dental caries has led to the suggestion that sweets should be withheld from children. The general desire of children for sugar renders it improbable that such a suggestion could be adopted on a large scale, but it is also possible that the desire rests on a physiological basis, and that to satisfy it in moderation is to reply to a demand of Nature.

Thus delayed chloroform poisoning and cyclical vomiting are practically disorders of childhood. Such conditions are undoubted instances of acid intoxication, and their correct treatment is by the administration of glucose. Further, it has been found that the amount of vomiting following an anaesthetic in children is greatly diminished by giving a small quantity of sugar before the administration.

Infants normally excrete creatin in the urine, and although this disappears after a few years,[1] yet it points to the metabolism of the liver being carried on with a deficient use of carbohydrates in early life. It would appear that some degree of carbohydrate starvation is normal in childhood. It may be noted that many children object to the fat which is forced upon them in the nursery, and have the same difficulty in consuming it as is not uncommonly experienced by adults on an open sea.

Hence it is possible that a moderate quantity of sweets is not only pleasant to the taste but is beneficial to the metabolism of a child.

London. H. LETHEBY TIDY, M.D.Oxon.

GANGRENE OF LEG FOLLOWING DIPHTHERIA.

IN the *Proceedings of the Royal Society of Medicine*, vol. iv, No. 1, November, 1910, Dr. J. D. Rolleston records a case of gangrene of the leg following diphtheria, and I should like to record a similar case which I saw in the district of Clanwilliam on March 20th this year.

The history of the case is as follows (particulars kindly supplied by Dr. E. B. Hoffman of Ponterville):

The patient, a girl aged about 11, was seen by him on February 21st, 1911, with temperature 104°, quick, feeble pulse, and marked dyspnoea. On examining the throat, a whitish exudate, extending along the pillars of the fauces and some distance on to the pharyngeal dome, was seen. He diagnosed diphtheria and treated the case on the usual lines by injecting antitoxin, etc.

Progress.—The next day the child was reported as slightly better, but still dyspnoeic. On February 27th she was seen again. There was considerable dyspnoea, pulse stronger, temperature 103°. The throat still showed the exudate, but now this exudate was almost brown. She had pain in the joints, and this was treated by hot opium stupes. On March 5th the father reported that she still had much pain in the limbs and that there were small sores—one on each foot. A little lotion was given, and the father was told to report as to the leg condition. On March 10th a messenger reported that the leg was black. On March 11th the child was seen again, and then gangrene to the level of the tubercle of the tibia was seen. On March 20th I myself saw the child and found gangrene complete to the level of the tubercle of the tibia with a patch of skin over the patella gangrenous.

Operation.—This was advised, and a few days after (March 24th) the limb was amputated well above the knee.

Result.—The child progressed nicely, but she had an attack of measles on the ninth day after operation, which somewhat delayed her convalescence.

On consulting Osler and Dieulafoy, I find no record of such a condition. It will be noticed that the gangrene occurred during convalescence and that it was complete and extensive. The occurrence of measles nine days after operation is also very unusual, and, before the rash showed itself, was very puzzling to the medical attendants. There was no diphtheritic paralysis.

Piquetburg, Cape Colony. H. KRAMER, M.D.

[1] See E. Mellanby, *Lancet*, July 1st, 1911.

Rebiews.

OPHTHALMOLOGY.

THOSE who are acquainted with Dr. DARIER'S *Leçons de thérapeutique oculaire* will recognize the same note of buoyant optimism in his contribution to the *International System of Ophthalmic Practice*.[1] He is an enthusiast, and apparently believes that almost any ocular disease can be cured if only it be attacked with sufficient energy. Thus, on p. 343, where suppuration following extraction is discussed, we are told that the wound is to be energetically cauterized, the cautery in severe infection being pushed into the vitreous, dionine is to be applied in powder to the lips of the wound, serum is to be injected, and a rod of iodoform placed in the anterior chamber, or a subconjunctival injection of sodium chloride, mercuric cyanide or serum given. "If these means be systematically employed from the first," he says, "one is *almost certain* to be able to retain an eye with very good sight"! Few ophthalmologists would agree with this very favourable prognosis. The book opens with a chapter on methods of diagnosis which are considered under the following heads —clinical diagnosis, anatomico-pathologic, experimental, serum, and therapeutic diagnosis. Methods are given for demonstrating the treponema, and the Wassermann reaction is explained. Ophthalmologists are advised to abstain from Calmette's test on account of its dangers. In the second chapter, dealing with constitutional treatment, the intravenous method of administering mercury, salicylates, and other drugs is strongly advocated, and clear and concise directions for its performance given. Subconjunctival injections are also discussed and their technique described. An account of serumtherapy and paraspecific serumtherapy is followed by a chapter on diaphoretics, purgatives, heat and cold, etc., and the therapeutic uses of electricity are fully discussed in association with the influence of light, radium, and electrolysis on ocular disease. Volkmann's magnet is said to be the most popular, though we should imagine that Haab's was more in vogue, and the ring magnet so highly praised at Basle is not mentioned. Ocular anaesthetics and analgesics receive adequate treatment: cocaine is held to be the best local anaesthetic. Dionine, which owes its extensive use almost entirely to Darier, is as enthusiastically supported as ever, though few surgeons have achieved with it the success that Darier recounts. Chapters on mydriatics, miotics, and cycloplegics, and on the silver compounds close the first part of the book. The second part, "special therapeutics," deals with ocular diseases seriatim. The book is invaluable to the advanced expert, but would hardly be a safe guide for the less fully informed. The advice given, excellent on the whole, requires careful sifting and selection. Experience has shown that not all Darier's methods are as efficient as he would have us believe. Neither dionine, paraspecific serumtherapy, nor subconjunctival injection are panaceas for all and every evil. The notes on operations are too short to be of much practical value. Mr. SYDNEY STEPHENSON, the translator, has done his work well, but the text is by no means free from slips. On p. 4 "cover glass" and "slide" are confused, and on p. 24 the mercurial inunction is said to be repeated on the "same night" when "next night" is intended. Darier is incorrect in claiming that arsacetin does not cause optic atrophy, as is stated on p. 35, nor can we see why Koch-Weeks conjunctivitis should be called "Week's conjunctivitis." In making these criticisms we have no wish to detract from the value of a work which is a valuable addition to the library of all ophthalmic surgeons.

Two recent German works on ophthalmology—the second edition of AXENFELD'S textbook of ophthalmology and RÖMER'S volume of lectures on the same subject—differ widely in character. The first represents the combined work of no less than twelve of the very best men in Germany; the second book contains the course of lectures delivered by Professor Römer at Greifswald. In the review of the first edition of Axenfeld's textbook it was pointed out that a volume in which different chapters had been written by different authors must show evidence of a lack of homogeneity and of overlapping, and this fault is very obvious in Axenfeld's book, for in some cases the difference of opinion almost amounts to contradiction. The appearance of a second edition[2] within two years of the first is evidence that the book has been a success; nor is this fact surprising, for the illustrations alone are fully worth the small price which is asked for the book. The coloured plates of diseases of the fundus upon which we had occasion to comment adversely have been replaced by a set by Oeller, who is perhaps the greatest living ophthalmoscopic artist. These magnificent drawings have been reproduced in a manner which reflects the greatest credit upon the publishers, and rank with the very best plates which have appeared in the various atlases of ophthalmoscopy. The coloured pictures which are found in profusion all through the book are excellent both as works of art and as accurate representations of the disease they portray. Many of the uncoloured drawings are of the highest class, especially those which illustrate Professor Krückmann's chapter on iritis. Some are, however, of very mediocre merit, and some are even bad. Fig. 345, on page 430, is a case in point; the keratome is much too small, and its angle is too obtuse. In spite of its many excellencies the book is open to criticism. It cannot be said to be quite up to date, more especially as regards new work which has been published in England and America. The views of Edridge-Green on colour blindness receive no mention, and in consequence the information on this subject is confusing and inaccurate. We have failed to find any reference to Bordley and Cushing's paper on the reversal of the colour fields in cerebral tumour, nor is the question of the homolaterality of tumour and optic neuritis discussed. Glaucoma is not treated in a satisfactory manner. We find no reference to Bjerrum's work on the enlargement of the blind spot in chronic glaucoma; the typical glaucoma field shown has the blue area inside the red, but this, although typical of hysteria and central tumour, must be most unusual in glaucoma. No mention is made of the methods of Herbert or of Freeland Fergus for obtaining a filtering scar, and the valuable researches of Thomson Henderson are equally neglected. In fact, throughout the book English work is practically unnoticed. Taken as a whole, we are bound to consider the book as disappointing, although parts of it reach a very high level of excellence.

RÖMER'S new book[3] is a more valuable addition to ophthalmic literature. It is a mighty tome weighing over 7 lb., and the method followed is that of lectures interspersed with demonstrations. After an explanation of the pathology of the disease, with which each lecture opens, specimens and microscopic slides are shown and described, and then a clinical account of the disease is given and patients illustrating the special affections are shown. Finally treatment is discussed and the actual operations described. It is hard to believe that all the enormous matter contained in such a very large volume was actually delivered in lecture form. If all German courses of lectures are like these, and if they are well attended, as we know they are, it is easy to understand why such a large number of highly trained ophthalmic surgeons are turned out, and to account for the enormous amount of high-class original work which is done in Germany. No such course of lectures can be obtained in London even by advanced students at special hospitals. In the chapter on corneal diseases there is a table which graphically classifies corneal disease; this should be very helpful to the student who is trying to make a differential diagnosis. Simple methods of microscopical examination are described which should make the study of secretion from the conjunctiva and scrapings from a corneal ulcer an easy matter

[1] *An International System of Ophthalmic Practice.* Edited by Walter L. Pyle, Philadelphia. *Therapeutics.* By Dr. A. Darier, Paris. Translated by Sydney Stephenson, F.R.C.S. London: Rebman, Limited. 1911. (Sup. roy. 8vo, pp. 458. Six illustrations. 17s. 6d. net.)

[2] *Lehrbuch der Augenheilkunde*, bearbeitet von Professor Axenfeld, Freiberg 1, Br.; Professor Bach, Marburg; Professor Beilschowsky, Leipzig; Professor Elschnig, Prag; Professor Greeff, Berlin; Professor Heine, Kiel; Professor Hertel, Strassburg 1, E.; Professor v. Hippel, Halle A. S.; Professor Krückmann, Königsberg 1, Pr.; Professor Oeller, Erlangen, Professor Peters, Rostock; Professor Stock, Jena. Herausgegeben von Dr. Theodor Axenfeld, Zweite Auflage. Jena: Verlag von Gustav Fischer. 1910. (Sup. roy. 8vo, pp. 714; Abb. 455. M.14.)

[3] *Lehrbuch der Augenheilhunde in der Form klinischer besprechungen.* Von Prof. Paul Römer. Berlin and Wien: Urban and Schwarzenberg. 1910. (Imp. roy. 8vo, pp. 1051, M. 20.)

even for the inexperienced. Römer is, as is well known, an enthusiast in treating corneal ulcer with pneumococcal serum. Unfortunately, other surgeons have almost uniformly failed to confirm his results. It seems, therefore, rather a pity that he should speak so optimistically of the results of serumtherapy in this disease. The chapter on iritis is excellent; the author has torn himself away from the hoary classification into "serous" and "plastic" iritis so beloved of the older textbooks, and adopts an etiological classification. We must not expect too much information from the local appearance of the iris, although when examined with Zeiss's binocular corneal microscope much may be learnt; this instrument is seldom if ever seen in England. The lectures on cataract are not nearly so sound as those on iritis. Römer would have us believe that unripe cataracts can be extracted with impunity, and that the results are practically as good as when the lens is ripe. Few surgeons will agree with him. He adopts a conservative attitude in glaucoma, and is unwilling to operate upon glaucoma simplex. But here, again, English work is neglected. The volume contains some very beautiful coloured plates.

The chapters of Dr. KUSCHEL'S book on the intraocular circulation[4] were published during the past two years as separate articles in the *Zeitschrift für Augenheilkunde*, but neither in their serial nor in their collective form are they easy to read. Each appears to be composed of a series of quotations from well-known writers, practically all German, strung together absolutely without discrimination. It is difficult to unravel the thread from the tangled skein, but the main idea of the book appears to be that the vitreous acts as a sort of sponge, and, owing to its compressibility, changes the circulation from the type found in rigid tubes to that in elastic tubes. The hyaloid canal has a valve-like arrangement in front of the vitreous, and opens into a zonular lacuna, which also has a valvular function. Certain muscular fibres have been described in the choroid; these Kuschel claims as the power motive of his pump; the intraocular fluid, secreted chiefly in the choroid, escapes, he says, into the canal of Cloquet and fills it; the muscles now come into play and Cloquet's valve closes; the lymph is forced into the zonular cleft and distends it; the zonular cleft closes and the fluid finds its way into the posterior chamber by way of the orbicular space. In Kuschel's scheme of the ocular circulation the secretion of the ciliary body takes a very small share, and he rejects the conclusions drawn from the researches of Leber and held generally, to the effect that the ciliary body is the chief, perhaps the only, source of the intraocular fluid. In the aged, he says, sclerosis of its fibrillae renders the vitreous more rigid, and it becomes less and less sponge-like. In consequence the lymph circulations approximate more and more to the rigid-tube type, and so the prodromal stages of glaucoma develop, to be succeeded by glaucoma simplex and by acute glaucoma. That the pump action acting axially along Cloquet's canal may in eyes with the requisite predisposition cause axial stretching of the eye—myopia—is, we believe, Kuschel's theory, but if we have misrepresented him we hold ourselves excused, for the book in places is almost unintelligible. Such a theory can be sustained only by experimental evidence, but the author advances none. He has apparently read largely but not wisely, and has ill digested what he has read.

THE TRIBULATIONS OF THE COSMETIC SURGEON.

IN *Plastic and Cosmetic Surgery*,[5] Dr. F. S. KOLLE of New York presents the results of a large experience in the treatment of congenital defects and the effects of disease and injury by plastic methods, but he does not confine himself to these methods, since a large and useful section of the book deals with the paraffin-injection treatment which was introduced some years since by Gersuny. The chapter on the principles of plastic surgery in general describes the five methods at the disposal of the surgeon—stretching, sliding, twisting, bridging, and grafting. Under the latter heading it is to be noted that attempts at hair transplantation, much after the manner in which a gardener transplants seedlings, have always ended in failure. The various methods in vogue for correcting deformities of the eyelids are briefly described and illustrated, as is "epicanthus," by which is meant a condition common and normal in many members of Asiatic races, such as the Japanese. The importance of this condition is purely aesthetic. A few years ago we were told that numbers of Japanese, desirous of appearing as Occidental as possible, were submitting themselves to some such operation as that described by Dr. Kolle, the object of which is to modify the apparent obliquity of the palpebral fissure. How this can be done by operation and paraffin injections is shown on p. 113.

Dr. Kolle's practice seems to have been extensive among those who are dissatisfied with the appearance of the faces which nature gave them, or which time has modified adversely. Wrinkled eyelids can be treated by excision of tissue. The face massage, so much extolled by the ladies' newspapers, is, as might be expected, of little use. Noses, too much like the petal of a flower, are to be made eagle, hawk, or Hellenic by the injection of paraffin, but the "cosmetic surgeon" must not expect much gratitude from his patients, who seldom think that they are made handsome enough, and who are:

> Insanely bent upon having the alabaster cheek ideal of the poets, the nose of a Venus, the chin of an Apollo, the neck of swanlike form, etc. . . . These are patients who are not only difficult to deal with, but the first to harm the hard-earned, well-deserved reputation of the surgeon, and to drag him into courts for reimbursement for all kinds of damages.

Dr. Kolle seems to speak feelingly. He describes under their separate headings all the usual methods of repairing defects of lips, cheeks, mouth, ears, nose, etc. We do not think that there is much that is new in these articles and that may not be found in such works as the *Autoplasties* of Drs. Nélaton and Ombrédanne, which was reviewed in these pages (August 31st, 1907, page 528), but the section on paraffin injections, or "hydrocarbon prothesis," as the author prefers to call it, contains much that is of great practical value.

Dr. Kolle agrees with Paget in preferring to use a paraffin of rather low melting point (110° F.), and lays stress on the advisability of not attempting to do too much at one time. Like other new methods of treatment, followed at first with more zeal than discretion, paraffin injection has a long list of bad consequences recorded against it. Dr. Kolle mentions twenty-two "untoward results."

A chapter on electrolysis in dermatology concludes the book, which supplies in the English language and in a collected form much information which, although it is to be had collected in French or German monographs, is much scattered in English medical literature. It is, as a book on such a subject ought to be, freely illustrated, but a good many figures from surgical instrument makers' catalogues and some of the accompanying text might well be omitted in a later edition. References to the works quoted freely throughout the book might be added with advantage. There are some printer's errors, but we are afraid that "sirup of rhei" (p. 161) cannot be included among them.

THE WORLD OF DREAMS.

IN the preface of his book, *The World of Dreams*,[6] Dr. HAVELOCK ELLIS says that there are at least four ways of writing a book about dreams—the literary, the clinical, the experimental, and the introspective; his own book belongs mainly to the last group, though not to that subdivision of it that Freud calls psycho-analytic. Dr. Ellis appears to hold that, rightly understood, dreams may furnish clues to the whole of life, but it seems rather a fall to earth to read on page 108 that there is no profounder emotional excitement during sleep than that which arises from a disturbed stomach; but he quotes Frederick Greenwood, "if an unwholesome supper produces such phenomena, it does so only in the sense that a bird singing in the air produced Shelley's 'Ode to a Skylark.'" Vivid dreams of flying, believed by some to be real excursions of

[4] *Der intraokulare Flüssigkeitsstrom in seiner Beziehungen zur biomechanischen Aufbau des Auges unter gesunden Verhältnissen, beim Glaukom und bei der Kurtichtigheit.* Von Dr. J. Kuschel, Augenarzt in Lüdenscheid. Berlin: S. Karger. 1910. (Sup. roy. 8vo, pp. 252, 18 figs. M. 7.)

[5] *Plastic and Cosmetic Surgery.* By Frederick Strange Kolle, M.D. New York and London: D. Appleton and Co. 1911. (Roy. 8vo, pp. 532. 21s. net.)

[6] *The World of Dreams.* By Havelock Ellis. London: Constable and Co., Ltd. 1911. (Med. 8vo, pp. 288. 7s. 6d.)

the astral body, and by others to be an atavistic echo reminiscent of the primaeval sea, he agrees, probably have their origin in skin sensations, and most people will agree with him in rejecting Freud's assertion, "that we only dream of things that are worth while." In prophetic dreams he has little experience and less belief, and few will quarrel with his belief that the origin of most dreams is to be traced to lost or unconscious memories. Nevertheless, he suggests, in conclusion, that in sleep we may be near to the thoughts and feelings of primitive man, and that the atmosphere of genius and of all Art is that of the world of dreams. He also says that dreaming is one of our roads into the infinite—a road that may lead us at last to the heart of the universe. A good many other people have thought the same, or something very like it. They have imagined that by suspending the functions of the highest part of the cerebrum they would somehow gain a glimpse into the infinite. Oliver Wendell Holmes, if we may believe Moncure Conway, once for a moment imagined that he might learn the secret of the universe, which must be much the same thing, by inhaling ether. He made preparations accordingly, and having placed beside his bed a small table with pencil and paper to record his impressions on awakening, he lay down and inhaled the ether. Sure enough, he presently found himself just conscious enough to seize the pencil, and with a sentiment of vast thought wrote down something. It proved to be these words: "A strong scent of turpentine pervades the whole." We must not part from the book on this note; as a document it possesses scientific merit. It is, on the whole, very free from unscientific speculation. It is written in an easy style, and can be read with interest.

THE CONCISE OXFORD DICTIONARY.

THE reviewer takes up a new English dictionary with no very favourable expectations. It is so easy to make a commonplace compilation and so difficult to produce a dictionary which shows any originality of treatment or any real grasp of what a small dictionary of a current language should contain and what should be omitted from it. A very short study of *The Concise Oxford Dictionary of Current English*, by H. W. and F. G. FOWLER, was sufficient to make it plain that it was a book of no commonplace kind. It is of moderate size, though it contains 1056 pages; its type has been well chosen and displayed and well printed, and the volume is very cheap.[7]

From the lexicographical point of view the authors claim as features which should commend it to the public taste and use—the large amount of space given to common words; the copious use of illustrative sentences; the curtest possible treatment of uncommon words or those fitter for the encyclopaedia than the dictionary, and the severest economy of expression that readers can be expected to put up with. They further claim that the words or senses of words given are those "current," and that they have "included many words and sentences that are fossilized, having in themselves no life or capacity for further development, but kept extant by being enshrined in perhaps a single proverb or phrase." They admit that fewer scientific and technical terms are given than by some of their rivals, but plead that colloquial, facetious, slang and vulgar expressions are admitted freely—with "a cautionary label." The use, copious for a small dictionary, of illustrative sentences is justified on the ground that they are "a necessary supplement to definition when a word has different senses between which the distinction is fine, or when a definition is obscure and unconvincing until exemplified; these sentences often are, but still more often are not, quotations from standard authors; they are meant to establish the sense of the definition by appeal not to external authority, but to the reader's own consciousness, and therefore their source, even when authoritative, is not named."

This is, perhaps, a dangerous principle, but it has been judiciously applied. Having regard to the authors' quasi-apology with regard to the exclusion of scientific and technical terms, and their admission that selection among these intruders is a difficult task, we have been at some pains to test the vocabulary in respect of those technical terms with which we may be supposed to be most familiar, and are prepared to say that the selection has been judicious. The word *sprue* might have been admitted with the sense of the disease otherwise called psilosis, *prosthesis* (or prothesis) might have been given with the meaning of an artificial appliance to supply a natural defect, and the definition of *cosmetic* might have included a reference to its use in a surgical connexion. We find *prodrome* but not *syndrome; thrombosis* but not *embolism; epidemic* but not *epizootic*, the last a rather surprising omission. *Thlipsis* (compression of blood vessel) is certainly not a word current in pathology. Under *pain* there might well have been a note of its special use in relation to labour; and space might have been found by omitting *pain-killer*, which, surely, is not a "current" word; *offal* in one of its acceptations is not accurately defined as inferior wheat. The paucity of our catch is, however, proof enough that the authors have been highly judicious. The book is founded on the principles of the great *Oxford English Dictionary*, and from A to R the Messrs. Fowler have had the advantage of its guidance.

We desire to commend the *Concise Dictionary* to every one. To use a colloquialism of a kind dear to the authors, it "beats out of sight" every other dictionary of anything like the same size. It is full, it is accurate, it gives enough etymology to stimulate, if not always fully to inform, and in those perplexing moments, when a writer has got a word which is almost but not quite the right one, it will often suggest the evasive term, which otherwise comes into the memory only in the dead watches of the night, when the letter is posted, or the article is on the machines.

[7] *The Concise Oxford Dictionary of Current English*, Adapted by H. W. Fowler and F. G. Fowler from the *Oxford Dictionary*. Oxford: Clarendon Press; London, Edinburgh, New York, Toronto, and Melbourne: Henry Frowde. (Large cr. 8vo, pp. xii, 1044. 3s. 6d. net; also on thin paper in quarter pig skin, 5s. net; in half morocco, gilt top, 6s. 6d.)

NOTES ON BOOKS.

The Reduction of Domestic Mosquitoes,[8] by Dr. E. H. ROSS, is primarily designed to supply to municipalities and their officers, as well as residents in tropical climates, information as to the destruction of mosquitos. There is need of a clearly and well illustrated book on the subject, and Dr. Ross's would seem to meet this want admirably. It may seem strange that such a necessity should exist, as it is now ten years or over since the pioneer work on destroying mosquitos was demonstrated and shown to various municipalities in different parts of the tropics, but sanitary science moves slowly, and there is still much need for teaching such as this volume contains. It is short and to the point, and, though Dr. Ross may be over-sanguine, as his remarks on page 59 indicate, yet without a hearty belief in the possibility of success failure would be more likely. All who have experience of this kind of work will agree with the author that tact is a prime essential, and when this is backed up by the strong arm of the law, then definite results can be obtained. It is to be hoped, therefore, that Dr. Ross's book will have a wide distribution throughout the many British Colonies and that the useful information it contains will be acted upon by those in authority in these places. Pamphlets containing well-executed photographs, such as those by the late Sir Rubert Boyce facing page 71, would do an immense amount of good in educating the ignorant and the children who are growing up to form the next generation.

The editors, Dr. FLETCHER and Mr. ECCLES, maintain in the forty-sixth volume of the *St. Bartholomew's Hospital Reports*,[9] the division of the contributions into medical and surgical papers. Sir Dyce Duckworth's notes on the Commentaries of Heberden is a thoughtful essay teaching us not to treat the work of the great physicians of a past age as a trifle. "We must ask ourselves very humbly," says the author, "what our successors of the twenty-first century will possibly think of us." Among the most important papers are two on sepsis, a subject which now, at last, is well studied both clinically and scientifically at the great schools of medicine in London. Dr. Barris publishes a memoir on puerperal infection, with notes on its

[8] *The Reduction of Domestic Mosquitoes.* Instructions for the Use of Municipalities, Town Councils, Health Officers, Sanitary Inspectors, and Residents in Warm Climates. By Edward Halford Ross, M.R.C.S., L.R.C.P., late Health Officer, Port Said and Suez Canal District. London: John Murray. 1911. (Med. 8vo, pp. 124; illustrations 18. 5s.)

[9] *St. Bartholomew's Hospital Reports.* Edited by H. Morley Fletcher, M.D., and W. McAdam Eccles, M.S., F.R.C.S. Vol. 46, 1910. London: Smith and Elder, 1911. (Med. 8vo, pp. 478, with Statistical Tables of Patients under Treatment. 8s. 6d.)

nature and treatment, based on a series of cases of puerperal sepsis under his immediate observation. The clinical records are very complete, and bacteriological reports have been furnished by Dr. Gordon, assistant pathologist to the hospital. A serum and a vaccine were used in addition to the ordinary recognized methods, and all the patients, ten in number, recovered. Dr. Barris analyses the cases with much care, and shows that some were genuine examples of true puerperal septicaemia. He dwells on the confusion of sapraemia with septicaemia, and reminds the obstetrician that Döderlein and other authorities are agreed that alike in pregnancy and when not gravid the cavity of the normal uterus is free from micro-organisms. Mr. Girling Ball contributes a yet more ambitious essay on acute infections due to the streptococcus, especially with reference to methods of treatment. Like Dr. Barris's article, it is both clinical and scientific. Twenty-six cases are analysed, and include both post-operative septic complications and infections independent of surgery, such as facial erysipelas. The author's aim is mainly to show the use of vaccines. Mr. Bruce Clarke and Mr. Donaldson contribute a short note on the treatment of carbuncles by vaccines and horse serum. Two interesting memoirs on nerve diseases deserve mention; the first, by Dr. Robert Jones, treats of paramyoclonus and insanity; the second, on anterior crural neuritis, is from the pen of Dr. Rupert Waterhouse. Without doubt the main importance of this volume is the valuable store of reports on bacteriology applied to treatment for which it is distinguished.

FRASER AND STANTON, in a further study on the etiology of beri-beri,[10] conclude that the occurrence of beri-beri in the Malay Peninsula has an intimate relationship with the consumption of a diet of which white polished rice forms the staple. Those who consume unpolished rice or slightly polished rice do not suffer from the disease. They recommend that the use of unpolished or undermilled rice should be encouraged amongst those classes of the community in which the disease occurs. The polishing process, if carried out at all, should not extend beyond the removal of the outer skin or pericarp. The parboiling of rice before milling acts by hardening the outer layers of the grain so that their removal is less easy and overmilling is less likely to occur. The cooking of rice by steam under pressure should not be permitted. By attention to these simple rules beri-beri can be stamped out, and considerable progress in this direction has now been made in the Malay Peninsula, the Philippines, and other countries.

SIMMONS AND MITCHELL'S *Edible Fats and Oils*[11] is intended to give in small compass the principal facts relative to the properties, preparation, and analysis of the chief substances of fatty nature used as foods. It is not written for the lay reader, as familiarity with chemical formulae and processes is assumed from the beginning; on the other hand, a chemist who required the necessary facts for working at the manufacture or analysis of such materials would be likely to use a more exhaustive treatise. The number of those to whom this book will be useful is therefore limited; but, subject to the limitations alluded to, it merits commendation. A chapter is devoted to raw materials and another to processes of purification. Butter, lard, margarine, and salad oils are then dealt with more fully, and methods of analysis are described. This part of the book will perhaps be the most useful, the tests given including all the more important ones now in use, with sufficient working details to enable any one familiar with such work to carry them out satisfactorily. A final chapter contains some statistics of the trade in edible oils.

The second fascicule of vol. xxxi of the *Transactions of the Ophthalmological Society*[12] contains twelve communications, but is mainly devoted to a paper by Mr. J. Herbert Fisher on the pituitary body in relation to lesions of the optic chiasma. It is an attempt to collate existing knowledge on the subject coupled with detailed description of cases in point which have come under the author's own observation. Incidentally reasons are given for holding that the anterior and posterior lobes of the pituitary body have entirely different functions, and it is suggested as one general conclusion from the cases recorded that a history of impotence in a male or of amenorrhoea in a female, when coupled with visual failure, should always suggest a lesion of the pituitary body. Also recorded in this fascicule are an instance of six members of a family of seven suffering from corectopia and congenital dislocation of the lens brought forward by Stroud Hosford and a careful study of the pathology of papilloedema by Leslie Paton and Gordon Holmes.

[10] Studies from the Institute for Medical Research, Federated Malay States. No. 12. *The Etiology of Beri-beri*, by Henry Fraser, M.D.Aberd., Director, Institute for Medical Research, and A. T. Stanton, M.D.Tor., Bacteriologist, Institute for Medical Research. Singapore: Kelly and Walsh. 1911. (Price 7s.)

[11] *Edible Fats and Oils: Their Composition, Manufacture, and Analysis.* By W. H. Simmons, B.Sc.Lond., F.C.S., and C. Ainsworth Mitchell, B.A.Oxon., F.I.C. London: Scott, Greenwood, and Son, 8, Broadway, Ludgate, E.C. 1911. (Demy 8vo, pp. 158; three figures. 7s. 6d. net.)

[12] *Transactions of the Ophthalmological Society of the United Kingdom*, vol. xxxi, Fasc. II. London: J. and A. Churchill. 1911. (Cr. 8vo, pp. 100. 4s. net.)

MEDICAL AND SURGICAL APPLIANCES.

Ophthalmic Calipers.

MR. N. BISHOP HARMAN, F.R.C.S., writes: With the increasing necessity for the correct centering of spectacles there comes the demand for a rapid and accurate measurement of the ocular base line. It is no longer found sufficient, as in former days, to take a rough measurement of the interpupillary distance. The instrument shown in the figure was devised for the purpose of measuring the base line in working with the registering form of diaphragm test, and the new calipers have proved, after a year's work with that instrument, to give this measurement with the greatest expedition and with an accuracy that meets the stringent conditions of that test for binocular vision. In experimental forms the calipers were exhibited at meetings of the Ophthalmological Society in 1909 and 1910; they are now made by Messrs. Geo. Culver, Limited; the material used is steel, and the workmanship is excellent.

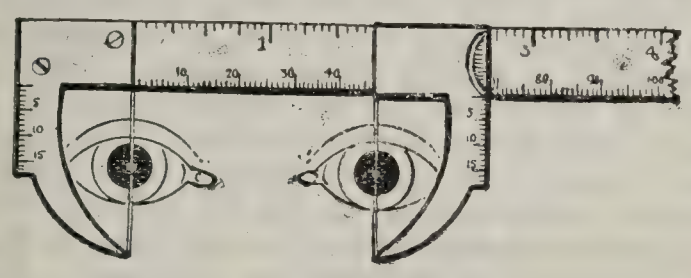

Briefly, the method of usage is as follows: The patient faces a distant light, either a window or lamp, and looks at it with both eyes; the images of the light are seen upon the corneae and mark the visual axes. The surgeon faces the patient at arm's length, places the rule upon the patient's brows, and sights the fixed wire over the image on the patient's right eye. Then the other wire is slid over the image on the left cornea and carefully sighted. The surgeon sights the patient's right with his own left eye, and vice versa. In measuring the base line for near vision the procedure is the same, but the light is put over the surgeon's head at the requisite distance and the patient looks at it. The vertical scales on the jaws are for the purpose of measuring the vertical displacement of lenses for the correction of hyperphoria. The trial lenses are tilted until the defect as measured with the scale test card in the diaphragm test is corrected, the rule is held horizontally across the patient's brows, and the depression of the lens of one side as compared with the other read off (*Trans. Ophth. Soc. U.K.*, 1910, p. 54).

Uterine Dilator.

Mr. BRYDEN GLENDINING (London, W.) writes: The accompanying woodcut illustrates a form of uterine dilator which has been made for me by Messrs. Allen and Hanburys, Limited. The set is so arranged that the smaller sizes telescope into the larger instruments, with the result that when nested the twenty-one dilators form three pieces with accompanying handles. The great objections to all dilators which have hitherto been made on this principle are their great weight and considerable bulk. The present set of nested dilators, however, is eminently portable and comparatively light. In actual practice I find one handle sufficient, since when one size is inserted the handle is detached and rapidly fitted to the next number, and the smaller instrument withdrawn as the larger one is ready to insert. The principle on which the handle is fitted or detached is simple and rapid, and when the handle is adapted for insertion its stability and mechanical advantage are superior to those of the double-ended instrument.

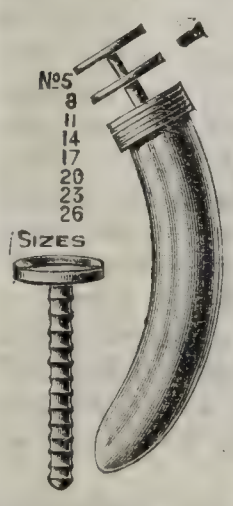

British Medical Journal.

SATURDAY, SEPTEMBER 2ND, 1911.

GERMAN AND ENGLISH PATHOLOGISTS.

WHEN Lord Haldane in his recent address to the University Extension Students at Oxford undertook an ethnological comparison between Great Britain and Germany, he must have been aware that he was attempting an extremely delicate task. It is hardly possible for an Englishman to compare himself with a German without risk of wounding somebody's susceptibilities. If he finds that the balance weighs in his own favour, it will be suggested that self-interest has proved incompatible with judicial impartiality; if he concedes superiority to the German, he will incur the odium of belittling his own countrymen; and if he tries to conciliate both nationalities by finding a nice balance of merit and defect on either side, he will probably earn the contempt of both for his faint-heartedness. Nevertheless Lord Haldane's thoughtful address is of much interest; it stimulates us, despite the difficulty, if not impossibility, of steering a safe course between Scylla and Charybdis, to consider the comparative merits and demerits of German and English pathologists, prefacing our remarks with an acknowledgement, uttered with all sincerity and not merely in accordance with international courtesy, that our debt to German pathology is inestimably great.

Why are there so many pathologists in Germany and, by comparison, so few in England? Living is cheaper in Germany, and it is easier there to reconcile the claims of bodily comfort with scientific absorption and the pursuit of the relatively simple life. Pathology is better supported by the State, and its value receives a wider public appreciation; consequently there are many more appointments in prospect to the man who elects to devote himself entirely to this subject as a professional career. Abundance of pathologists does not necessarily mean abundance of good pathologists, and it is impossible to review current German pathological literature without realizing that in this country a large percentage of it would not have been permitted to reach the printer's hands. But after eliminating inferior material it remains true that Germany considerably exceeds us in the output of pathological work which is of permanent value. Our permanent workers, able though they be, are few. We have plenty of excellent beginners, who do probationary work in pathology whilst they are working their way up to positions as specialists in the clinical branches of our profession, but these are drawn away from their scientific work just at the time when their experience is becoming matured. Small blame to them; they know that as clinicians a career is open to them, and that their professional ability will receive the remuneration it deserves; as pathologists their prospects of earning a decent livelihood are uncertain in the extreme.

As was to be expected from his well-known philosophic proclivities, Lord Haldane laid much stress on the profound influence upon the intellectual and practical life of Germany exercised by the abstract thought and speculation of their great idealist philosophers and poets. This influence manifests itself in a curious and peculiarly German way in many of their treatises on strictly technical subjects of medical science. To the ordinary Englishman the metaphysical doctrine in Kant's *Critique of Pure Reason* and modern research on immunity have absolutely nothing in common; yet there are Germans who profess to explain immunity on philosophical principles, and find that it is much elucidated by a preliminary disquisition on the Kantian philosophy. This introduction of philosophic speculation and the discussion of the general principles of life and conduct is particularly dear to the German when he is delivering a public address, even on the most matter-of-fact subjects of medical science. It would often be difficult to convince an English audience that such disquisitions are apposite to the question in hand; impatient to grasp essential facts, they would be prone to regard intended profundity and breadth of meaning as shallow grandiloquence and padding.

But though the Englishman, rightly or wrongly, may fail to appreciate enthusiasm for soaring to philosophic heights, he is immensely indebted to the Germans for another, still more strongly marked, national characteristic of theirs—close application to detail and thoroughness in the elucidation of facts. The edifice of science grows very slowly, and needs an enormous output of bricks and mortar; Germany, in addition to its leaders of science who have so often provided the creative minds of the architects, has yielded a greater output of essential contributory data to pathology than any other nation.

Thoroughness of organization, as Lord Haldane said, is another German characteristic, but it is accompanied by the danger of restraint upon individuality. This is very true of their pathological system. Each school of pathology is excellently disciplined; the subordinates must "follow their master." They begin with research upon minor points relative to his more important discoveries. If, as is generally the case, their results are confirmatory of his, their prospects as candidates for promotion are enhanced. But their arrival at positions of more or less independence does not usually shake their loyalty. Though they may be scattered far and wide, the master still counts on them to do him yeomen's service. He announces a new theory or a new discovery: the latter set to work to investigate it; they confirm it, and in a few months' time it is "boomed" throughout the land. Knowing that this is very apt to happen, the English reader of German pathological literature has to scrutinize "confirmatory evidence" very closely before deciding as to its value. Another disadvantage of their disciplinary methods is that the master's *ipse dixit* on any subject is irrevocable. It is quoted far and wide by his followers, who defend it with implicit faith against all assailants. That makes it uncommonly awkward for the master if later on he finds reasons to change his mind; he must consider the interests of his supporters who have pledged their reputations on his behalf. The consequence is that he does not, as a rule, quite frankly admit that his views have changed; he will expand, amplify, and qualify his original position, but he does not always say that he was wrong. Fortunately we are free in our country from the detriment to scientific interests which this system involves. There is no danger of English pathologists losing their sense of freedom and individuality; if they do not agree with a man, even though he be their senior, they will not hesitate to say so, and when a man finds himself in the wrong

it is generally his best policy openly to admit his error.

"To begin by defining a principle and then to test everything by it," is, says Lord Haldane, typical of the Prussian character. It is a feature which is very strongly marked amongst German pathologists, and is the main explanation why the majority of them are not so well equipped with the critical faculty. They begin by enunciating a principle and then proceed to confirm it, being very apt to emphasize all evidence in its favour, whilst disparaging or ignoring anything which may tell against it. And in spite of their love of detail and their immense accumulation of it, this obsession by theory often makes them fail to grasp detail intelligently. It debars them from impartial appreciation of the two opposite sides of a case; instead of allowing theories to evolve spontaneously from intelligent observations of facts, facts are pressed into service as special pleas in support of preconceived theories. For impartial criticism and power to sift out underlying principles from a chaos of apparently conflicting facts credit must be given in a pre-eminent degree to the British school of pathologists. Open-mindedness and love of fair play, even to the detriment of selfish interests, are national characteristics which come out very strongly in our attitude towards pathologists of all nationalities. Therein lies our especial individuality; we are truly cosmopolitan in our appreciation of scientific interests, and for no other country can it be said so truly as for ours that the pursuit of science is unhampered by a national or a personal bias.

THE REPORT OF THE INSPECTOR UNDER THE INEBRIATES ACTS.

THE Report for the year 1909 of the Inspector under the Inebriates Acts[1] affords melancholy reading. Like its predecessors, it is the tale of a blot upon the national escutcheon, the record of ineffectual attempts to remedy a great evil, and a history of baulked endeavours to secure a comprehensive scheme of treatment of a social disease. Suitably with a matter of so great moment the Inspector, Dr. R. W. Branthwaite, in the deeply interesting introduction to his report, writes in sombre fashion and with a full sense of the weight of responsibility which attaches to his words.

As is well known, the Acts of 1879 to 1900 in practice have had little effect upon the mass of inebriety in the country. Under the existing Acts the law allows no interference with the will of an inebriate unless he commits a crime or becomes an intolerable public nuisance. It is true that an inebriate who, realizing his peril, is willing to surrender himself to detention, and is in a position to pay for his accommodation and treatment, may be admitted to a retreat for a season; but such cases are few and far between, the numbers in 1909 showing an actual reduction on the figures of the preceding year. One serious obstacle to the extension of the voluntary branch of the treatment of inebriety lies in the fact that the retreats receive no support from public funds, but depend entirely upon payments made by the patients or their friends, and, as in many cases the patients do not realize their need of reform until pecuniary distress has followed their inebriety, the doors of the retreats are necessarily closed to many who might profit by them. It seems probable, therefore, that Dr. Branthwaite's estimate is right when he says that an enormous number of persons who might be induced to submit to treatment are prevented from doing so by their total inability to make even the smallest payment. From this position there seems to be no outlet; to support such institutions out of public funds, or to admit voluntary patients to public institutions, would be to maintain patients at the public expense whose condition, in the public eye, is the fault of the patients themselves. This leads directly to the root of the whole matter, and exposes the difficulty in adopting the recommendations of the Departmental Committee of 1908. Financial and ethical considerations upon this matter are interlocked, and have their common origin in the nature of inebriety.

If inebriety is a disease, a disorder of the body, or of the mind, and the subjects are the victims of a constitutional and largely inherited "psycho-neurotic fault" or "lack of psycho-neurotic integrity," to use Dr. Branthwaite's terms, then it is plain that inebriates should not be held blameworthy, as they commonly are, but should be treated as invalids and subjected to appropriate treatment for so long as their invalidity continues, in the same way that we treat the insane to-day. If, on the other hand, inebriety is not what we understand by a disease, but is a mere vice of reckless self-indulgence and its subjects are responsible and blameworthy agents, it seems manifest that—unless we assume a fatal and inescapable determinism in all human actions—the drunkard should be left to "dree his ain weird" so far as his personal and private relations are concerned, and only be brought within the scope of the law when he infringes its sanctions. The latter appears to be the prevailing popular view. The legal procedures adopted under this conception of inebriety appear to be altogether ineffective. The short terms of imprisonment imposed upon "drunk and disorderly" persons are apparently quite useless as reformatory measures, and, of course, leave unaffected the great numbers of excessive drinkers whose habits are ruining themselves and their families, but who never come within the operation of the Inebriates Acts.

Doubtless the principal reason for the popular view of drunkenness as a sin or as a vice instead of as a disease, and the consequent reluctance to fetter the "liberty of the subject," is that intemperance is regarded as a "natural" failing and alcohol as a "natural" beverage. As well speak of "natural" antipyrin or "natural" lamp-posts, said Forel. Yet if inebriety is a disease, it is one which only the patients themselves can cure, and though the physician may help by drugs, and by suggestive and electrical therapeutics, the last resort and only hope lies in an appeal to the reason, emotions, and will of the patients—that is, to the intellectual and moral side of their being. As Dr. Branthwaite says: "It is the possibility of awakening dormant self-control, or stimulating, by exercise, weakened self-control, that gives the man who is treating drunkards the best chance of success."

When speaking of the low recovery-rate of inebriates, Dr. Branthwaite points to the fact that for the sufferers from other morbid conditions there are well-thought-out remedies and operations, asylums, hospitals, and sanatoriums. The sufferers from these other conditions, however—with the possible exception of the insane—are themselves willing to undergo treatment at the earliest possible moment, and in the case of the insane the subjects are conceded to be irresponsible agents from whom a free choice is excluded. But in the case of the inebriate class, the great majority of whom vigorously

[1] See p. 518.

resist any interference with the free exercise of their will, a free choice is not excluded, but is assumed to be present, for it is to their self-control, to their ability to choose one and to reject another of two alternatives, that appeal is made.

In discussing the causation of inebriety, Dr. Branthwaite refers to three chief factors—constitutional peculiarity, acquired desire for intoxication, and lack of self-control. Admitting that in those in whom the first and last-named factors predominate, as also in those in whom long-continued intemperance has destroyed the power of resistance, a free choice is excluded, it must at the same time be admitted that the prospect of their being permanently benefited by detention is, broadly speaking, very remote. From this the sad fact emerges, paradoxical as it may appear, that the only hopeful cases of inebriety are those who are not yet chronic inebriates —that is, the very class compulsory clauses, if adopted, would leave unaffected. For all the others, who, by reason of constitutional defect or the inroads of disease, including in this term the effects of long-continued alcoholic poisoning, are incapable of resisting their craving for intoxication and in whom it would be absurd to speak of a free choice, suitable measures, whether by guardianship, interdiction, or institutional treatment, should be enforced by legal process. For these there are the two alternatives presented by Dr. Branthwaite—resort to interference with personal liberty or abandonment of any further attempt to help. We do not believe that the latter will be the final result. Dr. Branthwaite says that the complete fulfilment of the scheme for the logical treatment of the inebriate still remains a possibility for the future, and though he does not appear to cherish any confident hope of speedy fulfilment, he is to be thanked for having done very much to bring the future possibility somewhat nearer.

TUBERCULOUS PERITONITIS.

THERE is so much that is as yet unsettled regarding tuberculous peritonitis that the selection of the subject for discussion by the Section of Diseases of Children at the recent Annual Meeting of the Association at Birmingham was a happy one. The complaint presents itself under so many and such widely varying aspects that it is small matter for wonder that considerable difference of opinion should exist amongst competent observers as to its more usual manifestations, prognosis, and treatment, a point well brought out by the discussion which is reported in this issue. The diagnosis in a large majority of cases, at least in older children, ordinarily presents no insuperable difficulty. Most of the complaints enumerated by Dr. Rolleston in his able opening as liable to occasion mistakes—such as hepatic cirrhosis, obliteration of the hepatic veins, malignant disease of the peritoneum—are happily rare in children, whilst tuberculous peritonitis is correspondingly frequent. As he states, when the onset is acute or subacute the condition may closely simulate appendicitis, and in such cases the tuberculous process is usually most intense in the neighbourhood of the caecum. In the present state of knowledge mistakes are unavoidable, and fortunately they are seldom if ever attended by any untoward consequences.

No one speaker, perhaps, laid sufficient stress upon the age factor in diagnosis, although it was mentioned incidentally by several, The age of the patient is frequently of the greatest assistance in settling the diagnosis in cases of doubt. Although the complaint has been noted at as early an age as 3 months, cases in which tuberculous peritonitis is the conspicuous, and apparently primary, disease are exceedingly rare under the age of 1 year. When tuberculous peritonitis occurs at a younger age, it is almost invariably only a portion of a generalized infection, and the symptoms are seldom obtrusive as compared with those arising from the disease in other parts. The varieties of peritonitis prevalent at that early age are those associated with septic conditions of the umbilicus in the first few days of life, and the pneumococcal in later months. The first it would be impossible under any circumstances to confound with tuberculous peritonitis. Pneumococcal peritonitis may be acute or subacute. The symptoms of the acute form—the sudden onset, high temperature, the rapid abdominal distension and severe pain, along with diarrhoea—are sufficiently characteristic so that confusion of the complaint with tuberculous peritonitis should not occur. On the other hand, the symptoms of subacute pneumococcal peritonitis may so closely resemble those of tuberculous peritonitis that mistakes are not only possible but not infrequently occur, both in infants and older children. In infants the age factor is here a valuable assistance, and combined, perhaps, with the presence of a pneumococcal focus elsewhere, such as an empyema or otitis media, should often lead to a correct diagnosis and so to operation—the last the only hope of saving life.

In the second year of life cases of tuberculous peritonitis are more numerous than in the first, but are still far from frequent. It is at such a period of life, however, that a mistaken diagnosis of tuberculous peritonitis most frequently occurs. Numerous patients are admitted into the wards of children's hospitals of the age in question in whom a diagnosis, confident or tentative, of tuberculous peritonitis is falsified by the result of treatment in the course of the disease. Such patients are generally rachitic, and very often the subjects as well of intestinal and pulmonary catarrhs. The wasted frame and the acutely distended abdomen may present a picture so closely resembling tuberculous peritonitis that the most confident may well hesitate before arriving at a conclusion. Here again the knowledge that tuberculous peritonitis is rare at that age, whilst rachitic abdominal distension is common, along with other more conclusive evidences of rickets elsewhere, will often lead to a diagnosis of the last, rather than that of the more serious disease. The class of faulty diagnosis cited by Rolleston, and to which Thomson called attention, where tuberculous peritonitis was mistaken for enteric fever, was more common in the past, when advantage could not be taken of the Widal and von Pirquet reactions, and it is scarcely likely that both these tests should mislead in any one particular case. As is well known, the first symptoms of tuberculous peritonitis may be those of intestinal obstruction. Here again the age question is an important consideration. Under the age of 3 years intussusception is by far the most frequent cause of intestinal obstruction. In children over that age the symptoms of intestinal obstruction are most often due to tuberculous peritonitis, although no real obstruction may be found on laparotomy.

Comparatively little attention was paid by a majority of the speakers to the important subject of prognosis. Of late years we fancy a fashion has arisen of ascribing a more favourable prognosis to the disorder than events or facts would justify. In more than one recent work on children's diseases the prognosis is described as favourable, or in similar terms, without any qualifications or limitations.

There is undoubtedly a well-founded opinion, almost universally held, that the prognosis in the ascitic form is less unfavourable than in the others. But many would hesitate to go as far as the opener of the discussion in describing it as "good." Any phase of tuberculosis in childhood must be regarded as a grave disorder. Mr. G. A. Wright, indeed, who followed the opener, stated that there was no hard and fast line between ascitic and plastic cases as regards mortality. No hesitation need be felt in giving an unfavourable prognosis in cases attended with emaciation, continued pyrexia, and obstinate diarrhoea, or in those in which a faecal fistula has formed. In other cases a less unfavourable prognosis may justifiably be given, but it should still be guarded, both as regards the near and distant futures.

Regarding treatment there was an agreement amongst the speakers as to the value of rest to the intestines through the agency of bandaging, accompanied or not by inunctions of mercury, iodoform, or iodine. A similar agreement would also appear to have prevailed as to the cases most suitable for operation. Long after Listerian methods were well established the treatment of tuberculous peritonitis was wholly medical. Then the pendulum swung the other way, and, especially at certain schools, it became almost a routine practice to submit every case of the complaint to operation. The results were not altogether encouraging, and the frequency of faecal fistulae has led to operation being restricted to selected cases. That operation is imperative in cases where intestinal obstruction is present, or simulated, is not to be questioned. The same may be said about those cases in which an abscess is pointing near the umbilicus. Here a simple incision, with no further exploratory measures, is usually all that is desirable or safe. It may be said that mere hardness and an inflammatory blush in parts about the umbilicus by no means necessarily proceed to abscess, and many such cases subside under appropriate treatment without incision.

The only other cases usually submitted to operation nowadays are the ascitic, and in these there would seem to be some slight difference of opinion as to the value and advisability of the procedure. It is probable that those who are opposed to it are in a minority, and that there is a consensus of opinion to the effect that operation is in all such cases a valuable aid to recovery, and that in many the results approach the brilliant. In regard to operation, there seems no doubt that laparotomy in such cases should have preference over mere paracentesis. The first allows an inspection of the peritoneum, and so may confirm or negative the diagnosis, and at the same time permits of the removal of a tuberculous appendix or salpingitis, should such a condition be present. Many might question, however, the advisability of removing tuberculous glands in the manner more than one of the surgeons present indicated.

In one respect the discussion was disappointing, and this was the absence of any evidence or statistics as to the value of tuberculin treatment; this is being extensively tried with fairly encouraging results, and the experiences of the well-known physicians and surgeons present would have proved a welcome addition to the well-sustained discussion.

THE ROYAL NAVY MEDICAL SERVICE.

The circular letter issued by the Lords of the Admiralty with regard to the term of service of the Medical Service of the Royal Navy, which is published in the Supplement of this week, appears to give effect to most of the recommendations of Sir John Durnford's committee. The official regulations embodying the changes will, we understand, be promulgated very shortly. Until these have been issued it will not be possible to form a reliable opinion on the new scheme, and we therefore reserve any comments until we are in possession of the full details as they will be embodied in the regulations. The circular letter also contains particulars of changes in the organization of the sick-berth staff, the nursing service, and the staffs of naval hospitals, and as to reserves and organization for war. An appendix contains regulations for the appointment and training of medical officers of the Royal Naval Volunteer Reserve.

LEPROSY AND THE BED-BUG.

The history of science contains many coincidences, and the two papers on the probable relation of the bed-bug to the dissemination of leprosy published this week (pp. 469, 470) afford one more example: the text of the papers reached us through Dr. J. A. Mitchell, Assistant Medical Officer of Health for Cape Colony, who was at one time Government Bacteriologist to the Robben Island Leper Asylum. He informs us that the observations of Dr. Lindsay Sandes at Robben Island and Dr. Long in Basutoland were made at the same time quite independently, and that these two gentlemen were not even acquainted with one another. Telegrams from South Africa to the newspapers have already announced the general effect of the observations, but the full text of the two reports will be read with interest, especially, perhaps, by those who remember Sir Patrick Manson's prophecy, when the relation between the mosquito and malaria was first established, that we were then only on the theshold of knowledge of the part which insects play in the dissemination of diseases. The suggestion that leprosy might be conveyed by biting insects is mentioned by Manson in his manual of *Tropical Diseases* and has probably occurred to many others. Dr. Sandes tells us that he was sufficiently impressed with the probabilities of the theory to begin systematic observations on the commoner domestic insects over a year ago, and Dr. Long appears to have begun to test the theory at about the same time. The results of the further investigations which both these observers intend to make will be awaited with interest, but what seems to be proved by the researches already made is that the bed-bug may harbour an acid-fast bacillus which it would be an extreme piece of scepticism to doubt is the *B. leprae*, that after feeding on a leper this bacillus may be present in very large numbers in the insect's intestinal canal, that they may persist there for over a fortnight, and that they may reach the bug's body tissues. This last fact may help to explain how the bug might inoculate a man which it bit after feeding on a leper. But at present a good deal must be left to conjecture, and unless some species of monkey proves to be susceptible a crucial experiment can hardly be made. A negative result in a maculo-anaesthetic leper would, for the reasons given by Dr. Sandes, go for very little, and in this connexion it must be remembered that the experimental inoculations which have been attempted have with one possible exception failed. There is no doubt that, as Sir Jonathan Hutchinson wrote last week, the hypothesis that leprosy may be conveyed by the bite of the bed-bug, fits in very well with some other facts known about the disease. As he pointed out long ago, leprosy is a disease of semi-civilization; savages and the highly civilized are exempt. The race which has begun to wear clothes and to live in houses, but has not learnt the obligation of cleanliness, suffers.

DOUBLE TESTICLE ON ONE SIDE.

We have recently received a report of a remarkable instance of this condition detected in the course of an operation. Dr. Caroline V. Lowe, of the Redfern Memorial

Hospital, Hassan, Mysore Province, undertook Bassini's operation for left inguino-scrotal hernia in a Hindu boy, aged 3 years. It appeared to be congenital, but the parents were very ignorant, so that no reliable history was obtainable. When the structures in the canal were being isolated from the sac two cords were discovered, and they were traced to two testicles lying in the scrotum. They were each of the size of a normal single testicle. After the sac was cut away and ligatured at the internal ring, the two testicles were returned to the scrotum. After this reduction the scrotum appeared highly unsymmetrical, the left side being very full and the right quite empty. Some oedema of the parts followed the operation, but soon subsided. The two testicles now form an easily definable mass on the left side, which cannot be separated. Our opinion on this case has been requested by the operator. According to Ahlfeld[1] only one instance is reported in which two testicles were found on one side in a properly dissected dead body. On the other hand, there are many reports of cases in which double testicle was observed in living subjects, but, he adds, they cannot be always accepted as authentic. Even when they are exposed to the naked eye at an operation one of them might really be a new growth arising from the other. In Dr. Lowe's case the abnormal parts were inspected by herself and by Dr. Ashirvathum, of the Hassan Civil Hospital, who assisted at the operation, and there was probably true dichotomy of the left testicle. We all know that "dichotomy affecting the kidney to a greater or less extent occurs comparatively frequently."[2] Renal surgery has found much material for the teratologist; indeed, double ureter is often heard of Therefore we can understand that dichotomy may occur in the testis, although it is extremely rare there. Still, there are sources of fallacy whenever the anomalous genital gland has not been put to the test of the microscope. The operator quite rightly reduced the two testes in this case, so that such a test was not possible. In association with congenital hernia sacs hermaphroditic malformations are common. In one case a rudimentary uterus and a Fallopian tube which ran towards the testicle was detected in a sac, the patient being an undoubted male, aged 36.[3] The rudimentary half uterus is sometimes a little oval lump, the tube a cord not always bearing fimbriae, so that the two might readily be taken for a testicle and cord. The instance of Hunter's free-martin, noted in the JOURNAL, vol. i, 1910, page 1315, is a famous example of the necessity of the use of the microscope, as Dr. Berry Hart and Dr. Arthur Keith proved that the free-martin was a bull, not a cow as previously believed. Altogether, however, Dr. Lowe's case is probably an authentic instance of true dichotomy of the left testicle, with an undescended right testicle, the condition of which could not, in the circumstances, be ascertained.

THE ETIOLOGY OF SCURVY.

THE causation of scurvy is admittedly still obscure, and the recent experience of Arctic travellers has discredited old theories, without supplying any sufficient data for justifying new ones. Therefore a study of the outbreaks of scurvy which seem to occur amongst native workmen employed in the mines in Rhodesia is welcome. A paper has been sent to us (reprinted from the *Transvaal Medical Journal*, April and May, 1911) by Dr. W. Morton Hewetson, Medical Officer to the Wankie Colliery Company, South Rhodesia, in which he points out that the incidence of scurvy follows the temperature, rising and falling with it, and that it is not dependent upon any variations in diet, nor can the attacks be cured or prevented by the addition of fresh meat or fresh vegetables or lime juice to the diet. On the other hand, he believes that the earliest symptom is spongy gums. He is sceptical of the truth of what has been said about the fine teeth of the African native, and says that the mouths of native Africans are often extremely foul, the teeth being carious and covered with tartar. He believes that scurvy is a disease originating in the gums, and due to micro-organisms, which find a nidus there, and he points to the success of early examination of the gums, combined with vigorous local treatment by brushing and mouth washes. He thinks the causal organism in South Africa is a spirochaete, which is constantly to be found, and which he thinks is closely allied to or identical with the *Spirochaeta refringens*. The suggestion is one which is plausible at least in respect of some cases of scurvy, and it will, we hope, be followed up.

[1] *Missbildungen des Menschen*, 1880.

[2] B. Thompson Lowne. *Descriptive Catalogue of the Teratological Series in the Museum of the Royal College of Surgeons of England.*

[3] This and several similar cases are reported by Cranwell, "Les hernies inguinales de l'utérus." *Revue de gynèc. et de chir. abd.*, vol. xii, 1908, p. 777.

SEA-WATER INJECTIONS.

THE therapeutic use of sea-water injections, to which certain newspapers have recently given much prominence, is based upon a somewhat curious conception. Its originator, a Frenchman named Quinton, maintains that life was first developed in the sea, and that hence sea water must be regarded as containing all the mineral constituents of life in proper proportion, and as the natural environment of all living cells. Unfortunately for the consistency of the theory when applied to human beings, the average strength of sea water in mineral salts is approximately 3.3 per cent., whereas the mineral salts in blood are equal approximately to only 0.85 per cent. The author got over this difficulty by claiming that 0.85 per cent. was in fact the original figure for primaeval oceans, and that in the ages which have since elapsed the sea has become more concentrated. Other authors of theories would probably be pleased if they could get round seemingly fatal objections with equal ease. Still, when the therapeutic application of the theory was suggested, its author met the difficulty respecting it on quite practical lines, namely by recommending that the sea water used should be diluted with two and a half times the same quantity of fresh water. The suggestion that the idea should be applied therapeutically was quite natural, since the value in certain morbid states of the injection of a saline solution had long since been proved, and it seemed possible that sea water, containing as it does the bromides and iodides of the alkaline earths, as well as the chlorides of sodium, might be more effective than "normal saline. Unfortunately, those who took up the idea were not content to state their results in moderate terms, but tended to claim sea-water injections as a panacea for all diseases, and in this way did the best they could to prevent the remedy being seriously considered. Nevertheless sea-water injections were tried by others, not only in France, but in America and in this country, and reports regarding their use are, on the whole, not unfavourable in disorders associated with malnutrition. These investigators, however, do not seem assured that diluted sea water is really of more utility than ordinary "normal saline," and in any case the sea water put upon the market after collection far away from land and adequate dilution is so expensive as materially to interfere with its free use. More recently—indeed, only last month—a dispensary expressly devoted to its use in children was opened in Soho at the expense, it is stated, of Mr. Otto Beit, who presumably desires to secure the remedy an extended trial. It is a most worthy object, but unless, as seems highly improbable, Mr. Beit is also desirous of promoting the financial welfare of those who prepare "Isotonic plasma de Quinton," he would have gained his object much more effectively by placing suitably prepared sea water at the disposition of such hospitals in London as number many children among their patients. It does not seem to have been necessary or desirable to establish a special institution

solely confined to the use of a remedy which requires no special skill either in its application or its preparation, and which can easily be used anywhere and everywhere, provided it is of reasonable cost. Very picturesque accounts of the results obtained at this institution in respect of the so-called cholera of infants by the subcutaneous injection of the fluid sold under M. Quinton's name have been published, and no doubt have some foundation in fact. When, however, a representative of the British Medical Journal visited the dispensary he found no cases under treatment which at an ordinary hospital would have been written down as of the class indicated, and the children he saw were over the age at which infantile diarrhœa is eminently fatal. In addition the history of their illness and sufferings given by the mothers was in at least one instance accepted with a somewhat touching confidence; so he left, grateful for the courtesy with which he had been received, but in a somewhat disappointed frame of mind. Still he is not certain that the cases seen during his visit were typical of all those treated, so at a later date we may have something more to say on the subject.

REVISION OF THE "BRITISH PHARMACOPOEIA."

Although more than thirteen years have elapsed since the publication of the *British Pharmacopoeia* now in force, and changes in the medicines in regular use have certainly not been less in that interval than in any previous equal period, it appears probable that a considerable further time will elapse before the publication of a new edition. Meanwhile the work of revision goes steadily on. A third report of the Committee of Reference in Pharmacy[1] has recently appeared, consisting in part of proposed alterations in monographs not dealt with in the preceding reports, and in part of corrections and further changes in the altered monographs which have already been put forward. The largest group of substances now dealt with is formed by the fixed and essential oils. The progress of analytical chemistry permits of more exact definition being given to the characters which these should possess to ensure freedom from adulteration and the presence of a due proportion of the valuable constituents. Under "Oleum Copaibae," the following note appears: "The Committee recommends that a complete inquiry be instituted from a medical standpoint into the relative values of the oil and of the resin of copaiba with a view to the possible omission of the present monograph and to the framing of a satisfactory one for copaiba itself." Other important classes of compounds which are included in the report are potassium and sodium salts and many of the syrups and tinctures. Most of the alterations proposed are concerned with details only or with characters which are of interest to the analyst, but not to the prescriber. A supplementary report, dated six weeks later, follows the same lines as the main one, and the reason for their separation is not apparent. Various references to investigations still proceeding appear to indicate that this report is not final.

BRITISH ASSOCIATION.

President's Address.

The eighty-first annual meeting of the British Association for the Advancement of Science commenced on Wednesday, August 30th, at Portsmouth, under the presidency of Sir William Ramsay, K.C.B. After a few remarks from the retiring President, Canon Bonney, F.R.S., the new President delivered his presidential address.

After a few introductory remarks relating to the wide applications of science within recent years, the President went on to attack our British methods of technical education, which is treated as a local and not as an Imperial question. As a substitute for one present form of pauperization, namely, bribery by scholarships, it was suggested that all holders of scholarships should be required, "if and when circumstances permit," to refund such moneys as they have received. The capital sum which scholarships represent is about £7,500,000. Such a sum would be available for university purposes, if scholarship money were ultimately refunded, by obtaining an advance of the capital sum from an insurance company, reserving 20 per cent. to cover the cases of non-payment from various causes. With better remuneration, the best brains would be attracted to the profession of teaching in the higher educational institutions. If the best were attracted as teachers, their opinion as to the attainments of a student would carry more weight and produce a better selection of good students than the present inadequate system of external examinations. After pleading for a greater missionary effort in regard to all matters scientific, and for greater sympathy and encouragement from the leaders towards the rising generation of workers, Sir William Ramsay went on to refer to the losses by death sustained by the Association since its last annual meeting. John Beddoe, Rubert Boyce, Francis Galton, Rupert Jones, Story Maskelyne, and Johnstone Stoney were each in turn, as well as several distinguished foreign corresponding members, referred to in sympathetic and appreciative terms.

The President then proceeded to deal with the main theme of his address, The Ancient and Modern Views regarding the Chemical Elements. The present meaning of the word "element," that is, the constituent of a compound, was first given by Robert Boyle, and this conception was greatly strengthened by Dalton's atomic theory. In 1862 John Newlands suggested his law of octaves, the fundamental idea of which is that every eighth element repeats to some extent the characters of its forerunner. The same idea was subsequently independently arrived at by Meyer and Mendeléeff. It was by means of this "periodic system" that the latter chemist was able to predict the existence of several unknown elements which at a later period were discovered by others.

If merely numerical values be considered, there are eighty-four definite elements, including the inactive gases and the elements of the rare earths. Between lanthanum and tantalum there are seventeen spaces. Assuming these to be filled by the metals of the rare earths, and that uranium, with the highest known atomic weight, forms the upper limit, there are still eleven gaps.

The discovery of radio-activity indicates the existence of twenty-six elements hitherto unknown. The proof as to the elementary character of some of these and the position which they occupy in the periodic table was discussed at some length. The enormous amount of energy stored up in radium and its descendants was exemplified by the following illustration: "Suppose the energy in a ton of radium could be utilized in thirty years instead of being evolved at its invariable slow rate of 1,760 years for half-disintegration, it would suffice to propel a ship of 15,000 tons with engines of 15,000 horse-power at the rate of 15 knots an hour for thirty years—to do which actually requires a million and a half tons of coal."

Sir William then went on to speculate as to whether there is not an unsuspected store of energy in the disintegration of the elements, and this led to the consideration of the oft discussed but very important problem of the exhaustion of our coal supply which, at the present rate of consumption, will occur in 175 years. This question has been recently the subject of careful consideration and investigation by the British Science Guild. In the opinion of the President many economies could be effected, as by the substitution of turbine for reciprocating engines, by the replacement of the "beehive" coke ovens by recovery ovens, and other means. Sir William even advocated the imposition of a sixpenny fine for smoke nuisance, proof being furnished by means of instantaneous photography.

The address concluded with an eloquent plea for the study of pure science without regard to its application; it is one which it is very necessary should be urged in the present utilitarian days.

[1] Third Report of the Committee of Reference in Pharmacy to the Pharmacopoeia Committee of the General Medical Council. Printed, published, and sold for the Medical Council by Spottiswoode and Co., New-street Square, London. 1911. (Demy 8vo, pp. 38 and Supplement 5. 1s.)

THE INSURANCE BILL AND THE PUBLIC.

WHILE the newspaper press has perforce given a good deal of attention to the medical aspects of the National Insurance Bill, the monthly reviews have been reticent on the question, so that the appearance of an article entitled "The Insurance Bill, the Doctor, and National Policy," by Mr. Harry Roberts, in the *Nineteenth Century* for July, and "The Medical Opposition to the Insurance Bill," by Mr. Adolphe Smith, in the August *National Review*, are welcome. It is important that the public should be properly and fully informed of the facts and arguments of the case. Much of our trouble and want of support in the past has been due to the ignorance of public men and the people generally of medico-political affairs. Not only are they ignorant but they are prejudiced by many false statements and the prevalence of many erroneous ideas. No systematic attempt has ever been made to educate the public, and especially the working man, on such medical questions as are involved in this bill. Discounting individual and national parsimony, it is probable that most of the unfair treatment and criticism that the profession receives is due to misunderstanding.

The British Medical Association has done everything in its power to instruct Members of Parliament, but when the bill becomes an Act our fight will be transferred to their constituencies; it will then be at once more difficult and of very vital importance. It is necessary that before that time the people should be well acquainted with the medical parts of the Act and the individual and general effects that they will produce.

Mr. Adolphe Smith, who was, we believe, the Commissioner who wrote the series of articles published under the title, "The Battle of the Clubs," in the *Lancet* some years ago, puts the medical case clearly, fairly, and logically in an article that, it may be hoped, will be read by many. He begins by describing contract practice as medical charity, and writes that the dispute as to who are proper recipients of this charity is not, as some would have the public believe, a new thing, but has been "acute for more than a quarter of a century." To show the charitable origin of contract practice he gives an interesiing survey of its genesis.

Unless we go back to the forties, and especially 1848, it will be difficult to understand the present situation. . . . The cost of living was high, wages low, hours of labour long, unemployment very prevalent. But little was known about sanitary science, the death-rate and morbidity-rate was appalling, and epidemics frequent. Then the benevolent approached members of the medical profession, and pointed out that there were many worthy labourers and skilled artisans who could not possibly pay even the lowest scale of medical fees. Consequently they drifted to the workhouse or resorted to quacks; drugged themselves—often with fatal results; and sometimes ran up a bill with a medical man which they rarely, if ever, paid. But though these poor people could not pay medical fees when ill, they might when well and in work subscribe a few pence per week so as to receive medical and financial benefits when their health failed them. The great wave of humanitarian feeling which swept Europe in the forties, and gave birth to so many Utopias—poetical and romantic conceptions of social harmony—did not fail to influence the members of the medical profession. Better than most people, medical practitioners had good reason to know how deep was the distress. When, therefore, they were asked to accept the beggarly terms involved in the penny a week contract system they gladly assented. To them this was no commercial transaction, still less did they dream of founding a vast national institution. It was a question of relieving immediate distress among their own poverty-stricken neighbours.

There were some medical men who were able to foresee the consequence of this charity, and their opposition was fully justified. The penny-a-week contribution "was not enough to constitute a real payment for medical attendance, but it sufficed to blur, then to completely obliterate, the charitable character of the institutions." He continues:

Gradually the idea spread throughout the country that a penny a week was sufficient payment for medical services, and that by bargaining hard these could be obtained for even a lower price. The medical profession are themselves greatly to blame for allowing such impressions to spread. But resistance was impossible without organization, and this bore too close a resemblance to trade unionism, which was all very well for common workmen, but was altogether "bad form" for such very dignified and superior personages as the members of the medical profession.

The writer shows how these penny-a-week payments have tended to degrade the work of the profession and to lower its efficiency, and goes on as follows:

The generic term for this method of payment is the contract system. It is the tallyman system applied to professional services. A doctor is bought, like a mangle, for so much a week, and, indeed, it is quite a common thing to employ the same collector for both mangle and medical services; the only difference is that a much larger sum is paid for the mangle.

The actual working of this system in the worst form of clubs is graphically described in the following pages.

There may be nothing degrading to the medical profession if a poor man saves a penny a week so as to pay for medical advice when he is ill; but if a publican undertakes to provide such medical aid so as to secure regular custom for the consumption of his beer and spirits, it is another matter. The poor man's penny savings, if they remain in his own hands, do not last long. . . . Therefore philanthropic provident societies combined charity—the collection of donations—with the collection of savings. . . . Then the friendly societies were started, without the charitable element, and after that there came all manner of private speculations from vast insurance companies to petty slate clubs started by publicans. In all these institutions, from the highest down to the lowest, it is the medical man who invariably serves as the chief attraction and the principal victim. . . . At N——, some ingenious publicans not only offer the services of a doctor but, if this fails in its objects, they also undertake to provide a decent funeral. As this is a somewhat melancholy subject, drink is the natural antidote, and the publican who acts as the cashier for the organization does a good business.

Dealing with contract practice as carried on by what may be called "approved societies," we are told:

The public does not realise that this system is really even more injurious to the patients than to their medical attendants. Indeed the pity of it is that there are some medical practitioners who have made quite a good thing out of it. . . .

The amount given varies, but in the majority of cases it is a penny per week. In the olden days, when the medical practitioner put such subscribers on his list as a matter of charity, he was, of course, careful not to have too long a list. This, therefore, did not bring him a large increase of patients and he could consequently devote all the time necessary to take proper care of these poor people. Nor did he look too closely after the cost of the drugs they needed. It was not a matter of business, but a work of love. In the course of time however, and especially under the teaching of the benefit societies, the impression was spread that the medical men were paid and sufficiently paid by the penny a week. Instead of denying that a penny a week could possibly pay for professional services and drugs, many practitioners set to work to organize their practice in such a manner as to make it pay. If their patients persisted in saying that a penny was enough *they would contrive to give them just a penny's worth of attention*. Thus has a noble profession been degraded. Of course, under such conditions, instead of accepting only very few subscribers the object now was to get as long a list as possible.

A thousand subscribers meant a little more than £200 a year and the people who gave their penny a week thought the doctor was well paid since he got such a nice little income. . . *In some* cases the pay was undoubtedly quite sufficient—*for the services rendered*. The system could only work profitably by degradation of medical practice.

It became a case of quantity instead of quality.

It is unfortunate the public does not realize what such payment means. . . . If at the end of the year the medical officer divides the sum he has received by the number of consultations he has given he will find that it only amounts to from threepence to fourpence per consultation. . . . To make such work pay it is necessary to see 30 to 40 patients in an hour. . . . Of course this is not science: it is little better than guess work, and the economic forces that have reduced medical men to such a low level are naturally viewed with antipathy and apprehension by the medical profession.

This article was written before the bill was amended in regard to friendly society control, so that some of its criticisms are now beside the mark, but this does not affect the statements that friendly societies are the natural economic antagonists of the medical profession, and that owing to the appointment of selected medical officers "the field for independent medical practice is restricted, to the great and material loss of the profession," and the natural hostility of the profession to friendly societies "existed long before Mr. Lloyd George appeared on the political arena," so "it is surprising that in framing his bill he took so little notice of those deep and strong feelings." Dealing with the wage limit the writer says:

The friendly societies and kindred bodies provide the means by which a very large number of well-to-do people avoid paying medical fees. Over and over again the medical profession has approached the friendly societies, calling upon them to establish a wage limit, but this has always been refused. Now that the Government has taken the matter in hand it might be supposed that the first care would be to justify such interference by the prompt removal of all crying abuses.

The article finishes with references to the free choice of doctor and the method of payment; under the former appears this sentence:

It has always been the ambition and aim of friendly societies and such bodies to employ medical men, to exercise authority over them, to order them about. On the other hand, the medical profession has always denied the right of a committee of laymen, ignorant of medical science, to govern medical officers.

Payment for work done is advocated as the ideal system, but the case is not argued in any detail, and one sentence at least would hardly bear criticism.

The remuneration must be according to the income of the people concerned, and by far the best system is payment by results.

We wrote above that the profession suffered by reason of the false statements and erroneous ideas of the laity, but until we read Mr. Harry Roberts's article in *The Nineteenth Century*, we did not realize how much the laity might be misled by the profession itself. The author of those delightful books, the *Chronicle of a Cornish Garden* and the *Book of Old-fashioned Flowers*, could not write an article that was not able and interesting, but his facts and his ideas in some places diverge so much from those accepted generally by the medical profession, and in other places are so extravagant, that they much depreciate the value of his argument; on the other hand, much that he writes, both in regard to questions of the policy of social reform and methods of medical practice, though not very flattering to statesmen or to the profession, is probably true, and is certainly worth attention and careful thought. He is evidently in favour of some system of State medical service, and in rather strong terms disparages the efficiency of existing medical practice. His strictures on medical men for their want of public spirit in matters of health show such a want of appreciation of history and of facts, of the enormous amount that the profession has done in the past to destroy what he admits is their means of living, of how they even now practise daily what is really, if unconsciously, a self-sacrificing altruism, so unfair is his criticism and so incorrect, that it is difficult to realize that he actually is a member of the medical profession.

Space will not allow a detailed consideration of each point, but to many the answer is so self-evident that simple quotation is sufficient. The basis of much of his argument is contained in the following sentences:

We now know that fully three-fourths of all illness is preventable, and probably upwards of a half is preventable by purely legislative and administrative means.

Tuberculosis could practically be stamped out in less than twenty years.

The great bulk of sickness, like the great bulk of destitution, could be prevented by good statesmanship.

These statements are often made, but are the result of a confusion of deaths with mere sickness. In theory it may be true that half or three-fourths of deaths are due to diseases that might be prevented, though whether to be prevented by legislation, even the legislation of archangels, is not so certain; but the great bulk of sickness is fortunately not fatal, and if any general practitioner will carefully go through his daily list of patients and mark out those cases that might have been prevented by the best of legislation it is more than probable that he will not cut out anything like a half or even a third of his patients. Mr. Roberts says:

No more severe criticism of our system of private medical practice could be afforded than by the fact that no responsible medical body in its criticism of the bill has made any attempt to offer suggestions from the point of view of the national welfare.

He goes on to prove that our opposition to the bill has been actuated only by the most sordid motives, but at the foot of the same page he makes a statement that has again and again been made at meetings of the profession, namely:

The work of the doctor, like that of the teacher, is far too intimately bound up with the general well-being for a state of affairs to be tolerated in which his interests and those of the community are, to any considerable extent, opposed.

The work of doctoring, as conducted at present, where it is not pure quackery, consists almost entirely in "curing" or relieving the symptoms of disease, rather than in preventing disease or in improving the health and vigour of the race. The position is most unsatisfactory. The more unhealthy the nation the better we pay our doctors. It is as though we paid our generals in proportion to the number of battles they lost. In a properly organized nation it would clearly be the work of the doctors to organize the national campaign against disease; and their interests would certainly be made to lie in the same direction as the success of their efforts in this direction. . . .

Unfortunately, private practice seems altogether destructive of self-respect. The result is that doctors play a very small part in the education of the public in matters of health. *Unless they happen to be public spirited altruists*, there is no particular reason why they should wish disease to disappear. After all, the medical profession, sugar over the truth as we may, is at present parasitic upon diseased persons; and, so long as the system of fees which obtains at present is continued, to stamp out disease means for doctors the destruction of their host. Probably few men are cynical or cold-blooded enough consciously to assist in the continuance of disease, but no great enthusiasm for the public health (as apart from the "cure" of his own patients by the doctor himself) can be expected so long as we arrange that the material interests of those most powerful to promote it lie in a diametrically opposite direction.

[The italics are ours.]

To those who know the real facts the above sentences are a splendid vindication of the altruism of the medical profession, which the author accuses of "smugly assuming" a "character for exceptional philanthropy and nobility." It is the public which is so apt to comfort itself with this assumption when it is about to ask some favour or to impose some unrequited task.

There are some cogent remarks as to the dangers of malingering under the proposed system of insurance, but the suggested cure will hardly strike medical men as being practicable.

In the first place, sick benefit should only be payable on the occurrence of certain specified diseases, which should include all disabling diseases which can certainly be diagnosed. Even at the price of a little hardship to a few individuals, no disease which cannot be recognized by its physical signs should entitle to sick pay. In no other way can we avoid the most extensive malingering.

If this is the only cure, the sins of the wicked will be visited on the innocent with a vengeance. The case for a capitation system of payment is ably argued, though undue stress is laid on the sordid motives of the practitioner:

The fact is that the people who make our laws are very different from those on whom our laws press most heavily. Not only so, but our legislators have, for the most part, not the smallest actual knowledge of the facts with which they deal. They may have access to volume after volume of statistics and to reports made by superior persons like themselves; but these statistics alone convey no more knowledge of the real conditions of the life of the working population than a collection of builder's specifications would convey of an English home.

This is excellent criticism of the framers of the bill; it is also, with slight verbal alteration, legitimate comment on a good deal of the article under review. However, the peroration atones for much that precedes it:

It is not really economical to allow upwards of a third of our people to grow up stunted, untrained, and underfed; to house upwards of half a million of the inhabitants of our capital in one-room slum tenements; to allow our land steadily to go out of cultivation while thousands of Englishmen are clamouring for opportunity to work. It is not to our advantage, even to our money advantage, to raise up a generation of Englishmen ill-nourished, unskilled, and consequently devoid of enterprise and imagination, and so be driven to pay huge sums of money in housing them, later on, in workhouses and asylums, gaols and hospitals, and in providing them with weekly subsidies and bottles of medicine when they fall out of work or ill.

LITERARY NOTES.

IN the issue of the JOURNAL of August 19th (p. 401) a notice was printed of an interesting article, signed with the initials "H. A. McL.," published in the *Glasgow Herald*, dealing with ancient medical affairs in Glasgow. Dr. John Patrick, of Glasgow, writes:

I think your readers should know that the author was Dr. Hugh A. McLean, a well-known practitioner in the Dennistoun district of Glasgow, and an active member of the Association. Dr. McLean has frequently delighted both lay and medical audiences with his dissertations on ancient medical lore relating to the City of Glasgow. One of his papers delivered before the Glasgow Eastern Medical Society will be found in the current number of the *Glasgow Medical Journal*.

THE INEBRIATES ACTS.

THE REPORT OF THE INSPECTOR FOR 1909.

THE report of Dr. Branthwaite, Inspector under the Inebriates Acts,[1] includes an introductory chapter, a report concerning the work of retreats, the report on certified inebriate reformatories, and the report concerning State inebriate reformatories.

In his most able and interesting introduction, Dr. Branthwaite divides alcohol users into three categories—namely, strictly moderate users, who form, he estimates, 980 per 1,000 of all alcohol users; free drinkers and occasional drunkards, who form 17.5 to 18 per 1,000 of all alcohol users; and the habitual drunkard or inebriate. The essential characteristic of this last class, Dr. Branthwaite says, is their inability to take alcohol in moderation, despite the most strenuous efforts of which they are capable. This class Dr. Branthwaite estimates at 2.0 to 2.5 per 1,000 of all alcohol users.

Dr. Branthwaite dismisses the idea that all inebriates are more or less insane or mentally defective. But, he says, even the most mentally sound inebriates are not normal persons, but are "the victims of a constitutional peculiarity or fault of some kind which cannot be defined or located, although the evidences of its existence are none the less definite on this account." This peculiarity Dr. Branthwaite describes as a "psycho-neurotic fault which implies defective resisting power to the action of alcohol or drugs, in exactly the same sense as the tuberculous diathesis implies impaired resistance to the specific infection of that disease." Passing by this apparent restriction of the radical characteristic of inebriates to the alcohol intolerants who in reality form only a small proportion of the inebriate, and passing by also the obvious rejoinder that many inebriates manifest an astonishing tolerance of alcohol, it is to be noted that in Dr. Branthwaite's opinion this psycho-neurotic fault is permanent and ineradicable. The only salvation for such an individual is total abstinence, and the solemn warning given by Dr. Branthwaite, when he says that "after thirty years' experience of inebriates, embracing a knowledge of some 10,000 cases, (he) does not know a single instance where a typical inebriate, who has become sober, has remained sober as a moderate drinker," cannot be too widely spread.

Retreats.

Turning to Dr. Branthwaite's accounts of the work in institutions done in 1909, that of the retreats, which exist for the treatment of voluntary patients, is first described. As a rule, the inmates of these institutions are persons of good class, not tainted with crime or imprisonment, not mentally defective, and not permanently damaged in physical health. There were 19 retreats in regular work during 1909, and to these there were admitted 449, of whom 187 made formal applications before magistrates, and 262 entered by simple agreement with the licensees. These numbers show a slight decrease on those of the year 1908.

Certified Inebriate Reformatories.

At the beginning of the year there were eleven and at the end of the year ten certified inebriate reformatories in regular work. During the year 277 were committed to these institutions. Two sections of the Act govern the committal. Under Section 1 any habitual drunkard convicted of an offence punishable with imprisonment may be committed if the court is satisfied that the offence was committed under the influence of drink, or that drunkenness was a contributory cause of the offence. The great majority of those committed to reformatories under this section are sentenced for cruelty to children, its application to the more common indictable offences being very little used. From a variety of causes this section has been practically neglected, and the result, Dr. Branthwaite says, borders closely on the ridiculous. As a matter of fact, only thirty were committed under this section in 1909.

Section 2 permits the application of the Act to habitual drunkards who are not actual criminals but constant offenders against order and decency. Under this section 247 were committed during 1909, giving an increase of 26 on the numbers in 1908. This year the usual tables are supplemented by a list of individual cases, giving the more important details of the life of 1,031 persons committed between January 1st, 1907, and December 31st, 1909. These were composed of 865 women and 166 men, or females 83.9 per cent. and males 16.1 per cent., the disparity between the sexes being determined by the deficiency in accommodation for men, reluctance to commit the bread-winners, and the difference in the effect of alcohol upon women and men, drunken women being the more extravagant in behaviour. As regards age, the average age of male admissions was greater than that of women, their period of drunkenness longer before committal, and their drunkenness of earlier date in life. The average duration of the drunkenness before committal in the women works out at about twelve years. The average age of female admissions being 38.6 years, the average age when these women began drinking to excess is about 26 years. An interesting feature is the effect of puberty: out of 277 single women 190, or 69 per cent., became drunken between the ages of 15 and 21. As regards condition the greatest number of men were single and the greatest number of women married. Of the 865 women, 32.02 per cent. were single, 49.71 per cent. were married, and 18.27 per cent. widowed.

Inebriety in Women.

Dr. Branthwaite devotes considerable space to a discussion of the relationship of immorality to drunkenness. In his statistics only such as had been convicted of prostitution or soliciting were classed as immoral. Of the 865 women, at least 447, or 51.68 per cent., were known to have led immoral lives. A further analysis disclosed the fact that a large majority (79.1 per cent.) of the single and a minority of the married women (34.7 per cent.) had led immoral lives, and that the widowed were equally divided between moral and immoral.

Obviously, of course, these proportions must not be applied to inebriates at large. Immorality being an important associated condition of inebriety, the cause of the immorality was to be sought for, and Dr. Branthwaite, as the result of his inquiries, was led to the belief that about 45 per cent. of the inebriate women became immoral because of mental defect, bad environment, or stress of circumstances; another 40 per cent. because of their drunkenness; and probably about 15 per cent. owing to violent sexual desire, or seduction and subsequent desertion. As to the fertility of inebriate women, there seems to be every reason, Dr. Branthwaite says, for assuming that alcoholism does not check fertility. On the other hand, and as was to be expected, the statistics reveal a very high mortality among the children of inebriates, for, out of 2,589 children born outside reformatories, no fewer than 1,199 died, and of these latter about 51 per cent. during the first year of life, giving a proportion equal to about 24 per cent. of total births. When, however, children are born in reformatories from the same class of mothers, the deaths under 2 years and 3 months are only equal to about 8 per cent. It seems, therefore, Dr. Branthwaite says, that the mortality of children born of inebriate mothers is due a great deal more to post-natal than to pre-natal influences.

Mental Capacity.

Turning to the mental condition of the inmates of these reformatories, and considering the 1,031 histories, the report shows that only 35.5 per cent. were of average mental capacity on admission; 54.02 per cent. were considered defective, 8.54 per cent. very defective, and 1.94 per cent. were insane. As to the causation of this defect, congenital influences constituted the main factor, for if it were otherwise the large majority of young women admitted should have been of average mental capacity and the older women markedly defective. This, however, was not the case, for of 202 persons admitted under 30 years of age, about 38.61 per cent. were of good mental capacity, as against 35.14 per cent. of persons over that age; Dr. Branthwaite says:

The circulation of alcohol theory as a potent cause (*of mental defect*) breaks down when we remember the comparatively small amount of mental defect amongst retreat inmates c

[1] The Report of the Inspector under the Inebriates Acts, 1879 to 1900, for the year 1909. Cd. 5799. To be purchased either directly or through any bookseller from Wyman and Sons (London), Oliver and Boyd (Edinburgh), and E. Ponsonby (Dublin). (Price 11½d.)

amongst inebriates in private life who probably drink a much larger quantity of alcohol and in a more concentrated form than do the persons now under consideration.

Chronic Alcoholism and Disease.

A very interesting point discussed by the Inspector is the relationship between chronic alcoholism and disease. There is, he says, insufficient evidence to show that excessive indulgence in alcohol *per se* produces the amount of permanent injury to health that is attributed to it, or that might reasonably be expected from it. A significant fact, however, brought out by the analysis is that the figures show a mortality from malignant disease amongst this class of committed inebriates more than eight times greater than that which obtains throughout the country. The two chief causes for this, Dr. Branthwaite considers, are predisposition and irregular habits of life. In about 71 per cent. of malignant cases the disease affected the generative or mammary organs, whereas throughout the country the proportion is less than 43 per cent. Dr. Branthwaite's statistics further show a close connexion between malignant disease of the generative organs and immorality.

A curious fact is that, until this report, out of 3,300 inebriates no case of cirrhosis of the liver had been recorded. At last the ten years' record has been broken, and two cases of this disease have been noted. The important matter of hereditary influences is discussed at some length by Dr. Branthwaite, but the result of his investigation is admittedly inconclusive. All that he can say is that of 800 women, at least 436 of the parents were either insane, epileptic, or inebriate. How this would compare with 800 sober women drawn from the same class is apparently not known.

The general conclusion with which Dr. Branthwaite ends is that (1) there is a close association between inebriety and psycho-neurotic disturbance; (2) a physical unfitness resulting from a life of uncontrolled inebriety; and (3) a necessity for the organization of more suitable methods for dealing with persons who offend against law and order by reason of habitual drunkenness.

State Inebriate Reformatories.

Little need be said of the State inebriate reformatories at Aylesbury and Warwick. They continue to bear a penal rather than a reformatory character, their main purpose being the detention of persons who prove too refractory for proper control in certified reformatories.

Prison Histories.

The report closes with five appendices, among which is an interesting memorandum concerning the prison history of 243 girls and young women committed to Holloway Prison, by Dr. Mary Gordon, H.M. Inspector of Prisons. In this memorandum Dr. Gordon shows that although, if the number of offences committed by these young women be alone considered, drunkenness is far and away the most common, if the order of priority of these offences be considered, more prisoners begin their criminal career with offences other than drunkenness. It seems futile, therefore, Dr. Gordon says, to maintain that drunkenness is the primary cause of most other delinquencies. The common and immediate cause Dr. Gordon believes to be feebleness of mind.

DR. J. D. GIMLETTE, Residency Surgeon at Kelantan in the Malay States, has prepared a memorandum on cholera for the guidance of Europeans in remote stations in British Malaya. After a general sketch of the disease, he deals in turn with the treatment most likely to be of benefit to any given patient, with the precautions to be taken by those in attendance on the sick (including the methods of disinfecting the excreta which may be available in the circumstances), with the general course to be adopted by a community on the outbreak of cholera (including the establishment of an isolation camp), and with the steps that should be taken in respect of food. Finally comes a special paragraph which has been translated into the Malay language and is intended for circulation among Penghulus and other head men. Taking the memorandum as a whole it seems likely to be useful to those for whose benefit it is intended.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

THE WATER SUPPLY.

DR. A. C. HOUSTON, the Director of Water Examination to the Metropolitan Water Board, in his sixth report on research work, noticed in the JOURNAL of February 4th last, p. 261, stated, as a result of the experiments there recorded, that even a week's storage of raw river water was an enormous protection against infection by typhoid bacilli, and that less than a month's storage apparently affords absolute protection. His report, just issued, on the results of the chemical and bacteriological examination of the London waters for the twelve months ended March 31st, 1911, is mainly a disquisition on this text. He is able to state that "We now know that the *raw* sources of London's water supply, notwithstanding their being sewage-polluted, and therefore containing excremental bacteria in considerable number, do not uniformly contain (unless in such small number as to be practically negligible in view of the further purification processes) the microbes of waterborne disease." After stating that storage is Nature's method of sterilization without the addition of any sterilizing agent to the water, he adds that the use of stored water, apart from troubles due to algae, lengthens the life of the sand filter beds.

This remarkable effect of storage is the more satisfactory, since about 80 per cent. of the London water supply is derived from sewage-polluted rivers, and these raw waters above the "intakes" are, when judged by the usual chemical and bacteriological standards, undoubtedly unsatisfactory in quality, particularly during the winter months. While recognizing that a marked improvement has taken place in the methods of purifying sewage, so as to render the resulting effluents non-putrescible and chemically unobjectionable, Dr. Houston lays it down that belief in the future safety of London as regards water supply ought not to depend on the chimerical hope that the Thames and Lee are destined to become progressively less impure. The raw water of both these rivers contains *B. coli* in undesirable numbers, but faecal streptococci are seldom to be discovered in one cubic centimetre of the water, and the results of a most elaborate search for the typhoid bacillus and Gärtner's bacillus have, under experimental conditions, shown to be successful in the case of samples artificially infected, yielded practically negative results. While it cannot be stated that these pathogenic microbes are in reality uniformly absent, yet if present their numbers must be so small that it is almost inconceivable that any could ever survive passage through the storage reservoirs and reach the filter beds. These filter beds in their turn remove about 98 per cent. of bacteria of all sorts.

Storage tends to purify river water in three ways—by sedimentation, devitalization, and equalization. By the last factor is meant the dilution or mixture of any body of water which had been subjected to sudden, accidental, concentrated, and dangerous solution; by the equalization due to storage the dose of poison is spread over weeks or months, and may, apart from devitalization, render innocuous a special microbial contamination which in a concentrated form might be highly dangerous.

It has been ascertained that 85.0, 49.4, and 10.9 per cent. of the samples of raw Thames water contain typical *B. coli* in 1 c.cm., 0.1 c.cm., and 0.01 c.cm. respectively, the corresponding figures for the Lee being 89.0, 48.9, and 13.3 per cent.; if all the pre-filtration waters were imagined to be mixed in their respective proportions, the quality of the mixed water antecedent to filtration would be such that on the average about one-third of the samples would contain no typical *B. coli* in 10 c.cm. of water.

Further, Dr. Houston considers that under more elastic regulations as regards abstraction of river water, and a more complete system of "pooling" stored water interests, over one-half the samples (individually as well as collectively) of pre-filtration water ought to contain no typical *B. coli* in 10 c.cm. of water. "The death," he says, "of *B. coli* is as sure and safe an indication to the bacteriologist of the death of the microbes of waterborne

disease as, to take a homely illustration, the death of coarse fish in a water would lead the fisherman to assume the coincident or previous destruction of the less hardy forms of fish-life—for example, trout."

The importance of storage as a purifying agent is brought into still greater prominence by his statement "that the 'safety' apparently conferred by filtration, even when the filter beds are in good working order, is probably merely relative, and depends mainly on the comparatively innocuous character of the water antecedent to filtration. Any sudden access of infective material, in considerable amount, to the water directly 'feeding' the sand filters would," in his opinion, "be likely to have disastrous consequences." "The only way," he adds, "apart from sterilization, of rendering the pre-filtration water always comparatively, if not absolutely, innocuous is by sedimentation, devitalization, and equalization—in other words, by storage."

Although he is able to take this satisfactory view of the position of London with regard to water, the result of his six years' work on the London water question having convinced him that, to a progressively increasing extent, the Metropolitan Water Board is securing the reasonable, if not absolute, safety of the water, he utters a note of warning. As more water is abstracted from a river, the less easy does it become to select water of good quality; in the first place, it appears to be economically impossible to pump water into storage reservoirs in inverse proportion to the impurity of the river water, and also to take full advantage of periods when the river is satisfactory alike in quality and quantity. Under existing conditions, when the rivers are in flood, either the intakes are closed and the reservoirs depleted, or flood water is taken into store, which ought not to have been selected for this purpose. When the rivers are too low to allow much, if any, water to be extracted for waterworks, the filters are being fed from storage reservoirs and are really, as it were, drawing on capital. Though the reserves may never be exhausted, yet when the river again becomes full it is likely to be specially impure, and it is not possible with depleted reservoirs to purify it rapidly by storing. In consequence, supplementary processes of water purification ought to be adopted during the storm periods following drought, if most impure water is to be rendered reasonably pure. Hence Dr. Houston considers it desirable that inquiries should be continued with regard to supplementary processes of purification which it may be feasible to adopt in the future.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

DUNDEE ROYAL INFIRMARY.

PROFESSOR MACEWAN, Senior Surgeon to the Dundee Royal Infirmary, is about to retire from that office, and, in consequence, Mr. Greig becomes Senior Surgeon, with charge of thirty adult beds and the children's ward. Mr. Don will take over the wards now in charge of Professor MacEwan, thus raising the number of beds under his care to forty. Mr. Price is promoted to be surgeon, with charge of twenty beds, while Messrs. Low and Whyte, assistant surgeons, are to be in charge of ten beds between them, in addition to the out-patient department.

EDINBURGH POST-GRADUATE COURSES.

Post-graduate teaching appears to have taken firm root in Edinburgh. Experience has shown that many of the lecturers and demonstrators are ready to teach during part of the vacation, and now that the summer recess begins early in July and extends into October, there would seem to be no reason why post-graduate teaching should not continue throughout this quarter of the year. The four weeks' course on internal medicine, held during August, appears to give general satisfaction, while applications for places in the courses beginning on September 4th are, we understand, more numerous than last year. The secretary is Mr. John Stirton, and he is to be found at the university new buildings in Teviot Row.

PERTH INFIRMARY.

On August 26th the memorial stone of the new Perth Infirmary was laid by Mrs. C. A. Murray, of Tay Mount. The infirmary is to be built at Tullylumb. There are to be 120 beds; and of the cost, which is estimated at £36,190, a sum of £33,022 has been subscribed. There is a proposal to endow a children's ward as the city and county memorial to King Edward VII; the cost of this is estimated at £2,000.

COSTLY FEVER ACCOMMODATION.

At a meeting of the Perthshire Highland District Committee on August 26th, it was reported that the net cost of the County Fever Hospital for the past year was £1,765, the proportion payable by the Highland District being £424. It was stated that only four patients were sent last year, while Perth District sent 150 at a cost of £580. It was explained that the contributions from the district had nothing to do with the number of patients sent, and the fact that there were few was testimony to the health of the district.

GLASGOW AND THE CONSUMPTION CRUSADE.

A meeting of the special committee appointed to deal with the proposed consumption crusade was held in the City Chambers, Glasgow, on August 25th. The principal business was consideration of the future procedure of the Corporation Committee in view of the proposals in connexion with consumption contained in the National Insurance Bill. The local officials concerned were instructed to obtain information regarding the amount of money to be placed at the disposal of the country by the Government for capital purposes and for maintenance, the probable cost of suitable sanatoriums, and the desirableness of establishing a national institute for preventive medicine.

FREE VACCINATION IN DUNDEE DISTRICT.

At a meeting of the Dundee District Committee of the Forfar County Council, held on August 25th, it was unanimously agreed to adopt a system of free vaccination in the Dundee district. All the districts in the county have now adopted the system of free vaccination suggested by the medical officer of health, Dr. Sinclair.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

ROYAL INSTITUTE OF PUBLIC HEALTH.

Congress in Dublin.

THE Congress of the Royal Institute of Public Health—the third to be held in Dublin—was opened on August 15th in Trinity College. The inaugural proceedings took place in the Examination Hall, where the retiring President, Sir William H. Lever, inducted the Countess of Aberdeen as President of the Congress.

In her inaugural address, Lady Aberdeen said that she recognized in her appointment as President not merely a token of kindly feeling towards herself and her fellow-workers in the Women's National Health Association of Ireland, but also a flattering and encouraging recognition of the work of women in the cause of public health. In order to dislodge deep-seated prejudices, carry out a great reform, or introduce some new method of education, it was necessary to gain the women of the country; and it was with this motive that the Women's National Health Association was formed, in order through it to make a direct appeal to the women of all classes and all sections to realize their responsibilities and their opportunities of arresting the ravages of one of the worst foes of the human race and of building up a strong and vigorous race.

In the Section of Preventive Medicine the President, Mr. T. J. Stafford, C.B., F.R.C.S.I., mentioned as the present most pressing needs in the campaign against tuberculous disease: Compulsory notification of tuberculosis in all districts, more beds for early and advanced cases, more tuberculosis dispensaries, like that recently established in Dublin; more new houses, specially in towns; more attention to details of sanitary work, medical inspection and feeding of school children. He advocated a system of notification in order to reduce the very high infant mortality from whooping-cough and measles. The school system compelling the attendance of children at primary schools from 10 a.m. to 3 p.m. entailed too long a fast: i

the children had a long way to walk they were often absent from 8 a.m. to 4 or 5 p.m. The schools should be made in every respect sanitary, and the children taught proper physical exercises and the elements of hygiene, and some means should be found to feed the children at the schools. In several sections, besides the section of Town Planning and Housing of the Working Classes, the question of the Housing Problem in Dublin was considered. In the Engineering Section it was pointed out that present powers for the promotion of improvement schemes were in need of simplification and extension. It was suggested that the system should be somewhat as follows:

1. A certificate to the sanitary authority from the medical officer of health to the effect that a certain scheduled area, in his opinion, was unhealthy and should be cleared.
2. A three months' notice from the sanitary authority, informing affected parties of the intention of the sanitary authority to deal with the area.
3. An inquiry before the Recorder, with whom should be an arbitrator or valuer, appointed by the Local Government Board to deal with prices and value.
4. That the finding of the Recorder should be final. There should be no appeal from his decision, and his ruling should forthwith become operative.

The Corporation of Dublin has within the last thirty years spent about £300,000 in clearing slum areas, and further large sums in the erection of houses for the working classes; but Dublin is much disfigured by the existence of many derelict building sites, on which old houses have been allowed to fall into ruin, as experience has shown that, even under the special compensation clauses of the Housing of the Working Classes Acts, the cost of acquiring these sites is prohibitive and prevents rebuilding except at a loss. One speaker suggested that, as a large part of the slum area on the north side of the city was already built in fairly definite quadrangles, it would be easy to clear the centres of these quadrangles of their present mews, filthy lanes, and alleys; the smaller quadrangles might be left as open spaces, and on the larger small one-story cottages might be built. The houses forming the quadrangles should be repaired and one or two houses pulled down, so as to give good entrance and a thorough current of air in the quadrangles.

In a paper on Obstacles to Sanitary Progress Mr. P. H. McCarthy pointed out that the preliminary expenses in any scheme for improving the state of sewerage and water supply to many of the small towns of Ireland were so great as to be prohibitive. A petition had to be forwarded to the Local Government Board, which held an inquiry and examined witnesses, and, if it approved the scheme, issued a Provisional Order, which, however, had to be confirmed by Parliament. If the scheme were opposed, witnesses had to be taken to London, parliamentary agents and counsel employed, and the legal expenses might run to something out of all reasonable proportion to the cost of the works.

In the Section of Vital Statistics the President, Sir W. J. Thompson, reviewed the statistics of Ireland since 1864, when the General Register Office for Ireland was first opened. The birth-rate, in spite of the high emigration rate during the last thirty years, has shown little variation. The death-rate from the principal endemic diseases has gradually lessened, and this is specially noticeable, he said, in the case of scarlet fever, typhus, and typhoid; the fact that these three are compulsorily notifiable diseases is a strong and unanswerable argument in favour of compulsory notification of infectious diseases. Though the infant death-rate for the whole country is low, that for the towns of Dublin, Cork and Belfast is high and compares unfavourably with some of the large English and Scottish towns. Influenza was unknown in Ireland twenty-two years ago, but now the death-rate from this disease is high. The death-rate from cancer has risen from 2.7 per 10,000 living in 1864 to 8.4 in 1910. This is a slightly greater increase than in either England or Scotland. Another speaker in this section pointed out that in 1880 the Dublin death-rate was 37.8 per 1,000 of population, which was considerably in excess of the birth-rate, whereas in 1910 the death-rate was reduced to 21.2, while the birth-rate was 28.3. This great improvement the speaker attributed largely to the abolition of the midden system, and the huge ashpits with clay bottoms which saturated the soil with impure matter.

The social aspect of the congress was not neglected. Garden parties were held nearly every afternoon at the Vice Royal Lodge, the Zoological Gardens, and various other places close to Dublin; conversaziones were also held at the Royal College of Physicians and the Graduates' Memorial Buildings, Trinity College, and a banquet at the Gresham Hotel. Numerous excursions were also organized to places of interest in and around Dublin.

Her Excellency the Countess of Aberdeen was made an Honorary Fellow of the Institution, the first time that this special honour has been conferred.

Town Planning.

On August 21st Professor Ashead, of Liverpool, gave a lecture at the Royal Dublin Society on the Need of Town Planning. He said that during the last decade there had been a want of co-operation and co-ordination between science, the arts, and generous people. A result of the exodus from the cities to the suburbs was that town houses gradually became slums. When they began to rebuild the slum property it would not be advisable to adopt the tenement system, which did not work out more economically than the two-story cottage dwellings. Liverpool had given up the huge tenement buildings and was now engaged in building on a large area two-story cottages. It was a question whether towns should be laid out in a formalistic or picturesque way, and the lecturer suggested that the formalistic method might be more suitable in the heart of a big city and the picturesque in the outskirts and suburbs. The lecture was illustrated by lantern slides, which showed the different types of dwellings in different countries, including Ireland, at various periods prior to and since the introduction of the Public Health Acts.

Insanitary Houses in Wexford.

Speaking at a meeting of the Corporation, the Mayor of Wexford stated that 224 houses in the town were insanitary. They were destitute of the most necessary conveniences of life, a menace to the public health, and nurseries of disease. It was stated that in one house ten persons were living in one room. Hitherto the rent for the smallest houses built by the corporation had been 3s. 2d. a week, which is more than can be paid by labourers who earn only 12s. a week. A scheme for houses to be let at 2s. 6d. weekly was approved, and a proposal to expend £4,000 on a scheme of main drainage was referred to a committee.

Dispensary Doctors and the Insurance Bill.

At an informal meeting of the dispensary medical officers attending the Public Health Congress in Dublin the following resolution was adopted:

> That we recommend that meetings of the dispensary medical officers in the different counties be held at once to consider how the Insurance Bill is likely to affect their position, and to select two representatives to attend a meeting of the dispensary medical officers, which is to be held in Dublin in the first week of October, where the whole subject is to be discussed, and a deputation to wait on the Irish members of Parliament is to be appointed.

It was decided to ask the Committee of the Council of the Irish Medical Association to send a circular to the country secretaries inviting them to call a meeting of the dispensary medical officers in their respective districts.

Adverse Report on Management of Naas Workhouse Infirmary.

The Local Government Board has transmitted the decision reached as a result of a recent sworn inquiry into the management of the Naas Workhouse to the board of guardians. The report states that the facts disclosed at the inquiry show "a deplorably lax state of affairs in the administration of the workhouse and infirmary." With regard to the infirmary the following remarks are made:

> All the matters calling for adverse comment that were brought to light must be attributed mainly to the general inefficiency displayed in the management of the infirmary, and the two officials who must therefore be held primarily responsible for the very unsatisfactory state of affairs disclosed are the medical officer and the head nurse. It was clearly shown that the former should exercise more careful supervision over the nursing and other arrangements for the care of the sick, and he cannot escape censure for his remissness in this respect. Had it not been for the fact that the head nurse, on whom the medical officer must of necessity largely depend, has evidently failed to give him the administrative support that he was entitled to receive, the Board would take a still graver view of his conduct.

Correspondence.

SULPHURETTED HYDROGEN WATER.

SIR,—In the course of an excellent and very interesting article by Dr. Huskie on "Spa Treatment, with Special Reference to Moffat," in the issue of the JOURNAL for August 26th, an analysis of the Moffat sulphur water is given. The author then goes on to say:

The main active principle, sulphur, is in the form of sulphuretted hydrogen gas, and in this respect the Moffat water differs from the sulphur waters of Harrogate and Strathpeffer.

If Dr. Huskie will allow me, I should like to point out that, as far as Harrogate is concerned, sulphuretted hydrogen is present to the amount of 10.46 cubic inches to the gallon.

I do not wish to appear hypercritical, but the idea of the absence of sulphuretted hydrogen from the Harrogate water seems to be fairly widespread. I remember writing to the JOURNAL on this very point some years ago, after a similar comparison had been made with reference to another spa. A visit to the pump room in the early morning during the height of the season would convince the most sceptical of its presence in the air, let alone the water.—I am, etc.,

Harrogate, Aug. 27th. M. B. RAY, M.D.Edin.

SHIPS' HOSPITALS.

SIR,—The report of the committee appointed by the Board of Trade to overhaul the medical equipment of ships has one serious omission in that it fails to mention the position of the accommodation that shall be provided for cases of sickness and accident. In nearly all cases the hospital of the ship is placed aft, instead of amidships. Anybody who has had to do with attending the sick over the propeller will agree with me that it is the worst place in the whole ship.

Of course, the surgeon is not consulted when the internal arrangements of the ship are being designed, this being usually carried out by a captain and chief engineer appointed by the company. As long as this arrangement holds good nothing will be done to remedy the defects of hospital accommodation on board ship. The Board of Trade, now it has received the report of this committee, should take the matter in hand and insist that in future all accommodation for the sick should be amidships.—I am, etc.,

London, S.E., Aug. 29th. RANDLE HARPER.

TUBERCULIN IN PULMONARY TUBERCULOSIS.

SIR,—I have been following with much interest the recent discussions on the administration of tuberculin. From these discussions, and from the results published at different times—which are usually not worth the paper written on—I have been unable to gain any real knowledge as to the value of tuberculin. It has been said that no patient who was treated ten years ago is now alive. I know of many cured more than ten years ago and now fit and at work; I number myself amongst them. Dr. Walther of Nordrach probably knows scores. I do not think that the cures of to-day, taken on the whole, are to be compared with those of ten years ago. There are so many sanatoriums at present where patients are practically allowed to do what they like, that the treatment suffers, and more especially do those sanatoriums suffer where the treatment is seriously carried out, as patients much prefer going to a place where they can do what they like rather than being told what to do and being made to do it.

I am unable to satisfy myself that the use of tuberculin in the treatment of pulmonary tuberculosis is safe, certain, justifiable, or necessary. I will give one example: A patient who came to me after being ill for three or four years, whilst with me put on weight, had a normal temperature, could walk a good distance, and expressed himself as feeling better than he had for a long time. The doctor who sent him wished him to have a course of tuberculin. I was much against it, as the patient was doing so well; but the doctor's wishes prevailed, and I gave a minimum dose as directed. The same night the patient went to bed with a rise of temperature. In a week he was wandering; this was followed by unconsciousness, and in three weeks he was dead. I am told this was a coincidence, but the only coincidence that ever occurred to me was that his nurse had just left a similar case with a similar result.

What I am most desirous of seeing is a series of cases published showing the true results of a course of tuberculin. One gets rather tired of reading of so many hundreds of cases treated, showing all cures or much improved. The failures as well would add interest—and that there are such failures, and many of them, I am convinced.

I should also like to take this opportunity of protesting against the indiscriminate way of giving tuberculin that exists, especially in our big towns. I have known cases with nothing wrong in their lungs who have been given tuberculin. I have read of cases published and a cure obtained by tuberculin which proved not to be tuberculous. I had a patient in my sanatorium who had been given tuberculin, and sent to work, with a resulting high temperature, being told it was a cold or influenza, and who also developed abscesses at the sites of injection, which necessitated treatment in a nursing home.

Public bodies of laymen are being told that tuberculin is little less than a specific, and its cost compared with the financial administration of a sanatorium is realistically added in its favour. A cure for pulmonary tuberculosis has not yet been obtained, nor do I think it will. The disease will only be cured by an earlier recognition of it, earlier than our present means of diagnosis allow us, by improved hygiene of the community at large, by the erection of public sanatoriums, and the starting of working colonies and dispensaries as advocated by Dr. Philip, and, last but not least, public notification. Tuberculin is not necessary in any sanatorium where treatment is carried out conscientiously, and mixed infection—the precursor of all troubles connected with the disease—is adequately treated. Tuberculin is only indicated in those cases that can get well without it. As a physician once said to me "Any fool can get an early case well; what we want is some one to cure our bad cases"—those cases with high fever, rapid wasting, and breaking down of lung tissue—cases, as far as I can gather, in which tuberculin is contraindicated.—I am, etc.,

Yelverton, South Devon, Aug. 23rd. J. PENN MILTON.

INTERNATIONAL MEDICO-POLITICAL CONFERENCES.

SIR,—Dr. W. Gordon, in the JOURNAL of August 19th expresses a belief that British medicine has much to gain from conferences on medical politics with its brethren of other nationalities.

The Meeting of the British Medical Association in Toronto afforded its members a valuable opportunity for an interchange of views with their Canadian and American colleagues on the subject, and these point the way to the practical realization of Dr. Gordon's belief.

The extension of medical politics to other sections of medicine in such meetings leads to interchange and comparison of practice and ideals of the utmost advantage, and this view was shared by those members of the American and British Medical Associations that I approached, and who considered the main difficulty in the way of joint meetings was the limitation of these Associations to locality within their national boundaries. Such obstacles as exist are by no means insurmountable. Apart from this there was cordial approval. The international congresses of hygiene and demography, of medicine, of tuberculosis, cancer, etc., have furthered the desire of such meetings.

The British Medical Association could lead the way by inviting the formation of a committee, representing the great medical associations and medical profession in all countries, to co-ordinate international meetings and complete their organization in all sections of medicine.

The question, which is of international importance, of the formation of National Medical Advisory Councils with Medical Secretaries of State of Cabinet rank would receive then the attention it deserves.—I am, etc.,

Hove, Aug. 23rd. F. G. BUSHNELL

COLOUR BLINDNESS.

SIR,—In his letter of August 19th, Dr. G. H. Taylor uses the term green blindness, and of all the cases which I have

examined I have not met with a single one which would correspond to the definition which was given of green blindness in the older textbooks. This is well recognized on the Continent, and the term has been generally discarded. The unsatisfactory nature of this term is seen when one and the same case is designated as green blindness by one authority and red blindness by another. All dichromics have a neutral point, and confuse certain shades of green with grey. No man who calls the green of my lantern white can be considered to have passed the test. If Dr. Taylor will refer to page 110 in my book on colour blindness in the International Scientific Series, he will find that I have described an expression which I have found in certain of the colour-blind. I find this is particularly noticeable in men who know that they are colour-blind, and I have, when testing a number, picked out a man on this account and told him that he knew that he was colour-blind, and he has admitted that such was the case. Nervousness is particularly likely to show itself in a defective organ. If Dr. Taylor should come to London I would be very pleased to take him to a meeting where I know several colour-blind persons will be present. Personally, I do not think that any one could pick them out from their expression, but Dr. Taylor will then have an opportunity of ascertaining whether he can do so.—I am, etc.,

London, N.W., Aug. 23rd. F. W. EDRIDGE-GREEN.

CONGENITAL DEFICIENCY OF SPEECH AREAS.

SIR,—In the BRITISH MEDICAL JOURNAL of July 29th, p. 248, Mr. Yearsley related his most interesting investigation of his case of word deafness. He suggests that the case I published in the BRITISH MEDICAL JOURNAL, July 22nd, is a parallel case. I do not agree, however. The case I published is purely motor vocal deficiency, whatever its origin, traumatism or developmental defect. In some cases the lesion may have been produced at any stage of infancy, after some words may have been memorized and some vocalized. In some cases of a lesion in Broca's convolution one would find word deafness of a greater or less degree, but not in all. In my published case I made out no word deafness whatever. The entire absence of word deafness, along with complete wordlessness, leads me to classify it as the subcortical variety. The boy can think, knows what he wants to say, and makes up his deficiency of speech by pantomime—for example, points to a boy and then points to his own cheek, phonating his only sound, indicating that the boy "smacked his face." He can understand all commands given him and carries them out without hesitation. He does not lip-read. Echolalia in the wordless would not, of course, apply. One would have to bear in mind that, although advanced for his age, he is only 5; and what child is not word-deaf to most words at this age?

In my investigation I never allowed him to see my face, so as to exclude lip reading. "Look under the table and get the basket." He got the basket. "Pick the paper off the table." He picked it up and handed it to me phonating. "Sit on the chair." He sat down. "Do you like pennies?" He held out his hand and held open his pocket with the other, face beaming, and phonated with delight. I allowed him in the garden to play with a Teddy-bear until he was content to leave it neglected at one end of the garden. While he was preoccupied (playing with another little boy, with great interest with other toys, his back to the Teddy-bear), I walked unobserved behind him to within a foot of his right ear and whispered "Harold, go and get the Teddy-bear." He wheeled around with alacrity and brought it to me, phonating meanwhile. The boy is neither deaf nor word-deaf. These cases present more difficulty in diagnosis than in adults with an established function which has suffered dissolution.

One wonders whether Mr. Yearsley's case is one with an intact auditory centre, with the way in partially blocked, and the auditory centre developed through the visual centre for the most part; or one in which by the same means the other hemisphere is forced to act. I should be obliged to Mr. Yearsley or any one else for information as to a suitable institution to meet the case.—I am, etc.,

Cheltenham, Aug. 6th. A. E. TAIT.

THE SITE OF INFECTION IN YAWS.

SIR,—I had the opportunity of visiting on many occasions the St. Augustine Yaws Hospital in Trinidad, where my attention was directed by Dr. Henry Alston, the medical superintendent, to a very constant and almost invariable symptom in these cases, namely, marked enlargement of the femoral glands. This enlargement was present in both sides, and usually visible at a distance, forming a distinct swelling in that region. The glands were matted together, and on palpation had a peculiar doughy, elastic feeling, quite unlike the small, hard, shotty glands of syphilis. Dr. Alston moreover informed me that many of the patients attributed the disease to having received some injury or cut in the foot. He himself believed that the "chigger" (*Pulex penetrans*) played an important though an indirect part in the propagation of the disease, the open furrows left after the extraction of the little parasite serving as a door of entry to the yaws organism. In support of this contention is the fact that practically all the sufferers from the disease are to be found among those who go about bare-footed, and constantly suffer from the attacks of that little pest, the "chigger."

I have no doubt that the above facts must already have been recorded, though curiously enough I have never seen them mentioned in the articles on yaws which I have read in the various medical textbooks.

I might add that this femoral enlargement rapidly decreases after an injection of salvarsan, proving that it is primarily due to the *Spirochaeta pertenuis*, and not to septic organisms.—I am, etc.,

FERNAND L. DE VERTEUIL,
M.D.Edin., M.R.C.S.Eng., L.R.C.P.Lond.,
Vancouver, B.C., Aug. 5th. Surgeon R.N. (ret.)

"AFFERENT FIBRES IN VENTRAL SPINAL ROOTS."

SIR,—The answer to Dr. Otto May is simple: There is no ground for the belief that in those cases of intractable pain, in which dorsal rhizotomy failed to give permanent and complete relief, there was ever any evidence either at operation or on autopsy of any lesion of any part of the secondary or tertiary afferent neurones. Can Dr. May point to any case in which such evidence was found? With reference to the question of rashness in my suggestion that ventral rhizotomy should be combined with dorsal, may I say that I have before me a private letter from a foreign neurologist, who is universally held to be second to no one as animal experimentalist and surgical neurologist. He writes to me thus under date of July 19th, 1911:

> I doubt not that your view is correct that there must be afferent fibres in the ventral roots, just as Sherrington believes that there must be similar ones in the oculo-motor nerves. I am expecting a patient here with an intractable zoster neuralgia of the intercostal type, and if he decides to submit to operation I shall put your suggestions into practice and let you know what the outcome may be.

In conclusion, I have one suggestion to make: Will Dr. May, who is a Beit Medical Research Fellow, try to find time to investigate experimentally some of the points which I have briefly outlined, by your courtesy, in your columns?—I am, etc.,

London, Aug. 26th. LEONARD J. KIDD.

Universities and Colleges.

UNIVERSITY OF LONDON.

Examination for Entrance Scholarships.

A SIMULTANEOUS examination for the entrance scholarships at Westminster Hospital, St. George's Hospital, the London School of Medicine for Women, University College Hospital, King's College Hospital, and the Medical Faculties of King's College and University College is to be held by the London Intercollegiate Scholarship Board on September 19th. The subjects of examination are in some instances anatomy and physiology, in others arts, and in others the preliminary sciences. The total value of the scholarships and exhibitions is over £1,700. The Secretary of the Board is Mr. A. E. G. Attoe, University College, Gower Street, W.C. Entry forms and particulars relating to the competition can be obtained either from him or from the deans of the schools concerned. As for the corresponding scholarships at St. Bartholomew's, Guy's, the London, Middlesex, and St. Mary's, the competitions in respect of all of them commence at the beginning of the last week in September; at St. Thomas's the competition was held in July.

UNIVERSITY OF ST. ANDREWS.

Honorary Degrees.

ON the list of those who will receive the honorary degree of LL.D. at St. Andrews University on the occasion of the celebrations this month of the five-hundredth anniversary of the foundation of the University the following names appear: Sir T. Clifford Allbutt, Sir Thomas Barlow, Dr. George Berry, President of the Royal College of Surgeons, Edinburgh; Dr. Byrom Bramwell, President of the Royal College of Physicians, Edinburgh; Professor Saundby, President of the British Medical Association; Sir Hector Cameron, Glasgow; Professor Keen, Philadelphia; Lieutenant-Colonel D. Pram, Kew; and Professor Schäfer, Edinburgh.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*† A. E L. Devonald, † E. M. E. Hall, *† G. W. B. James, † J. S. H. Lewis, * G. S. Richardson, † R. M. Wingent.
MEDICINE.—* E. E. Allen, *† G. W. B. James, R. Lamort, † F. G. Norbury, † W. H. Watson.

* Section I. † Section II.

FORENSIC MEDICINE.—A. E. L. Devonald, G. W. B. James, J. S. H. Lewis, P. J. Montgomery, W. H. Vincent.
MIDWIFERY.—L. K. Edmeades, A. Fordham, G. W. B. James, C. W. Jenner.

The diploma of the Society has been granted to Messrs. A. E. L. Devonald, E. M. E. Hall, G. W. B. James, J. S. H. Lewis and W. H. Watson.

Obituary.

GEORGE FIELDING BLANDFORD, M.D., F.R.C.P.

GEORGE FIELDING BLANDFORD was the only son of George Blandford and Mary, his wife, and was born at Hindon, Wiltshire, where his father was engaged in medical practice, on March 7th, 1829. His parents afterwards removed for a short time to Hadlow, in Kent, and then to Rugby, and thus he was educated first at Tonbridge School (1840–41) and subsequently at Rugby (1841–48). He entered Rugby under the head mastership of Dr. Arnold, who, however, died in the following year, and among the boys who entered in the same term were the late Professor F. J. A. Hort and Senator W. H. Waddington, afterwards French Ambassador to England and Prime Minister of France.

Blandford was accustomed to ride from his earliest years, and when quite a child used to accompany his father on his professional rounds, which were then made on horseback. He was a good cricketer, playing for his school and subsequently his college eleven, and was also a footballer and oarsman. Later, he was one of the early Volunteers and belonged to the 2nd (South) Middlesex Regiment. In 1848 he entered at Wadham College, Oxford, and subsequently proceeded to the degrees of B.A. in 1852 and M.A. in 1857. In October, 1852, he entered as a student at St. George's Hospital, London. By the kindness of Dr. Spriggs, the Dean of the Medical School, the following information can be given: Among the physicians on the staff of the hospital were Drs. Bence Jones and Pitman, and among the surgeons Robert Keate, Caesar Hawkins, and Prescott Hewitt. Among the names of students who were contemporaries of Blandford are those of Timothy Holmes, Henry Lawrence, Henry Thompson, W. Howship Dickinson, Edgcombe Venning, William Ogle, Thomas Pickering Pick, and Ernest Hart. Other familiar names at St. George's at that time are Henry Gray (House-Surgeon, 1850) and Frank Buckland, who was House-Surgeon at the time Blandford entered as a student. In 1857 he took the diploma of the Society of Apothecaries of London and the M.B. of Oxford, and in 1858 he became a Member of the Royal College of Surgeons.

His son, Mr. W. F. H. Blandford, writes: "His connexion with insanity with which he was associated throughout his professional career, was, I have heard him say, accidental, rather than the result of deliberate choice, and I believe he would have found a less restricted line of practice congenial." Certain it is that at an early period of his professional life he became closely associated with Dr. A. J. Sutherland, Physician to St. Luke's Hospital, and used frequently to visit that hospital, where, no doubt, his early studies in insanity were made. Dr. Rawes, now Medical Superintendent of that hospital, writes that Dr. Blandford "was on friendly terms with Stevens, the then medical superintendent for whom he sometimes took holiday duty," but it does not appear that he held any other official appointment there. In the minute book of the committee of St. Luke's Hospital for October, 1857, Dr. Blandford is described as "Acting Medical Superintendent, and showing his zeal by recommending improvements in the diet of patients." His name first appears in the *Medical Directory* in the year 1860, when his address was Blacklands House, Chelsea. His association at St. Luke's Hospital with Dr. Sutherland, who no doubt thus early detected the promise of eminence in his profession which his after-career fulfilled and saw that by his general culture and qualifications he was exceptionally fitted to deal with the insane of the private class, resulted in his appointment in 1859 as Resident Medical Officer to Blacklands House, then one of the best known of the London private asylums for gentlemen, and owned by Dr. Sutherland. He also assisted Dr. Sutherland in visiting his asylum for ladies at Otto House, Hammersmith, which is still owned by members of the Sutherland family, with whom he was closely associated up to the time of his retirement in 1909, a period of over fifty years. In 1860, while resident at Blacklands House, he took the Membership of the College of Physicians. The appointment lasted till 1863, when he went into private consulting practice in Clarges Street.

On leaving Blacklands House he had become its Visiting Physician, and he continued to act in that capacity to Blacklands House and its successor, Newlands House, Tooting, and to Otto House, Hammersmith, until his retirement from practice in 1909. He was also for many years Visiting Physician to Featherstone Hall, Southall, and to Clarence Lodge, Clapham Park, both private asylums for ladies. From 1874 to 1895 he was the principal proprietor of, and Visiting Physician to, Munster House Asylum, Fulham. When, owing to the growth of London, it became unsuitable for this purpose, Dr. Blandford pulled it down and converted it into a building estate.

He had become a member of the Medico-Psychological Association in 1857, and at the time of his death there was only one of the present members (Dr. Huntley Sankey) who had joined previously. Among his contemporaries at that time were Bucknill, Hack Tuke, Lockhart Robertson, Harrington Tuke, Skae, Sibbald, Maudsley, Rogers, Ley, Paul, and other well-known alienists. For forty-four years he remained a prominent member of the Association, and until a recent date always took an active part in its proceedings, being in course of time a Member of the Council of the Educational and Parliamentary Committees, and in 1877 the President of the Association.

In 1866 he first gave a course of lectures on insanity at St. George's Hospital. They were published in the *Medical Times and Gazette* for that year, and reviews of them were published also in the volumes of the *Journal of Mental Science*. In 1867 he took the degree of M.D.Oxford, and in 1869 he was elected a Fellow of the Royal College of Physicians, the only other Fellow elected in that year whose name still remains in the College list being Dr. Henry Maudsley.

He was closely connected with St. George's Hospital until his resignation of the Lectureship on Psychological Medicine in May, 1902, having lectured for thirty-six years, and was held in the highest esteem by all his colleagues.

His earliest contributions to medical literature appear to have been the lectures on insanity referred to above and an article printed in the *Journal of Mental Science*, vol. xii (1866–7), p. 348, on Dr. Meschede's paper, "Paralytic Insanity and its Organic Nature," which Dr. Blandford abridged from *Virchow's Archiv*. This article shows abundantly the effect of his classical training and his familiarity with current literature both English and foreign. It is written in that clear and convincing style which characterized all his writings. In 1867 he contributed "Clinical Cases of Insanity" to the *St. George's Hospital Reports*. In 1869 he published in the *Journal of Mental Science*, vol. xv, an original article on "Insanity without Delusions," in which he discussed at considerable length the subject of "moral insanity," for which he preferred the term "insanity without delusions." He maintained that in all such cases there was some disorder of intellect. His words were: "I believe that in every case of insanity defect of the ideational—that is, of the

intellectual—faculties exists." And on the subject of impulsive insanity, in the same paper, he wrote:

> Whether these impulses spring from a sudden idea or a "fixed idea" there is in all, I maintain, an idea or thought of some kind. They depend on disorder of the ideational centres, though they are true examples of insanity without delusions.

In the *Journal of Mental Science*, vol. xvii (1871) he wrote "Observations on Dr. Maudsley's Presidental Address," and in vol. xix (1873) a paper on "Auditory Hallucinations," pointing out their extreme clinical importance. As President of the Medico-Psychological Association in 1877, he chose as the subject of his Presidential address, "Lunacy Legislation." This was delivered before the Association, by special permission, at the College of Physicians, and in it he described the evolution of the Lunacy Laws in this country from early times down to the Acts of 1845, 1853, and 1862, which were then in force. This was, no doubt, suggested by the fact that a special committee was at that time sitting to consider the Lunacy Laws as they affected the liberty of the subject.

At this time he prepared a general index of the first twenty-four volumes of the *Journal of Mental Science*. The preface to this volume was written by the late Dr. Daniel Hack Tuke, and in it occurs the following sentence:

> It must in conclusion be stated that this Index originated with and has been prepared by Dr. Blandford, who, when President of the Association in 1877, offered to mark his year of office by undertaking the work for the Association.

His principal work was *Insanity and its Treatment*, which was first published in Edinburgh by Oliver and Boyd in 1871, with a concurrent American edition. It was essentially a clinical and practical manual, and held the field for many years; it passed through four editions, the second, third, and fourth being published in 1877, 1884, and 1892. The third edition was translanted into German. In this work Dr. Blandford made full use of his wide clinical experience in the treatment of the insane, the care of the individual patient, the symptoms of his disease, and the means of restoring him to health being emphasized much more than the classification of insanity.

In 1887 he attended the meeting of the International Medical Congress held at Washington, and gave one of the general addresses before the whole Congress on "The Treatment of Recent Cases of Insanity in Private and Asylums," the subject, as usual with him, being practical and clinical. This address had been prepared by him for the Section of Psychological Medicine, but he was specially asked to give it before the whole Congress.

To Dr. Hack Tuke's *Dictionary of Psychological Medicine*, published in 1892, he contributed the articles, "Prevention of Insanity" and "Prognosis." The former subject was also taken for his address as President of the Psychological Section of the British Medical Association in 1894. In 1895 he delivered before the Royal College of Physicians of London the Lumleian Lectures on the "Diagnosis, Prognosis, and Prophylaxis of Insanity," each of the three lectures covering one of the subjects. In 1897 he wrote the article on "Insanity," occupying 254 pages, in the *Twentieth Century Practice*. In it the whole subject is dealt with, the chapter on "Prevention of Insanity" being well worth careful study, and being full of practical suggestions as to the care and training of those belonging to neurotic or insane stocks. Referring to Prichard's contrast between moral and intellectual insanity, his words were, "Morality is not a division of mind," and he dwelt upon the importance of conduct as the criterion in insanity. His view as to the presence of intellectual disorder in moral insanity is shown by the following extract:

> The loss of all prudence, judgment, and restraint implies the degradation of his intellectual as well as his emotional centres, and to say that his intellect is sound seems to be nothing else than a quibble about words.

In the third edition of *Quain's Dictionary of Medicine* (1902) the following articles were from the pen of Dr. Blandford: General Considerations, Imperative Ideas, Impulsive Insanity, and Moral Insanity.

In addition to his purely medical work he was much interested in general literature, and was a lover of art. He was a collector of old books and bindings, prints and etchings, and had at one time a series of pictures and prints of Old London, which, however, he disposed of on retirement from London. To the Special Number of the BRITISH MEDICAL JOURNAL, published on December 29th, 1900, with the title, "A Century's Retrospect of Medicine," he contributed a most interesting article on City life in 1800. In his early life he was an occasional writer of unsigned articles in the *Cornhill Magazine*. He was a member of the Athenaeum Club from 1862, and had been a member of the Western Friendly Club and the Mayfair Medical Book Club. He was also President of the Graphic Society of St. George's Hospital.

He was a Fellow of the Royal Society of Medicine, and served on the Council of the Royal College of Physicians during the years 1887 to 1889. When the After-Care Association for poor patients discharged from asylums for the insane was founded, Dr. Blandford became one of its active members. Its annual meeting was held at times in his house, and he was still at the time of his death a member of the Council. He was also at that time President of the Society for the Relief of Widows and Orphans of Medical Men, and had attended a meeting of it shortly before his last illness.

His close association with St. George's Hospital and its staff and with the College of Physicians, his eminence in his branch of the profession, and, above all, his sound judgement, calm and self-possessed manner, ripe knowledge, and freedom from bias, led to his acquiring a very large consulting practice in cases of insanity, and there were few who could give so valuable an opinion in such cases.

He was fortunately the possessor of robust health, and was able to continue in active practice in Wimpole Street until he retired from London to Tunbridge Wells in 1909 at the age of 80. Even after retirement he remained in touch with some of his old patients, occasionally visited Otto House, and enjoyed running up to London to see old friends.

In 1864 he married Louisa, only daughter of the late Rev. George Holloway, who survives him, together with two sons and two daughters.

His chief relaxation was watercolour sketching, which he took up somewhat late in life, and which was an unfailing source of pleasure to him on all his holidays, even down to his last years, when eye and hand were failing him.

In June last a chill resulted in severe general rheumatism, which rendered him quite helpless, and was complicated later by bronchopneumonia and heart failure. The week before his death he improved, and was able to leave his bed, but subsequently had further attacks of heart failure, the end coming rather suddenly and unexpectedly on August 18th.

He was buried on August 23rd at Tunbridge Wells. Among those attending his funeral were Dr. Hayes Newington, and Dr. Percy Smith, representing the Medico-Psychological Association; Dr. Seymour Tuke, Lecturer on Psychological Medicine, St. George's Hospital, and Dr. Hind, Superintendent of Newlands House. The fact that his death occurred during the holiday season prevented the attendance of many members of the profession who would otherwise have wished to be present.

R. P. S.

We are indebted to Dr. H. RAYNER for the following brief tribute to Dr. Blandford's character: From a personal and professional knowledge of Dr. Blandford of nearly forty years, I should wish especially to dwell on uniform fair-mindedness as one of his predominant characteristics. To every question he brought a calm deliberateness of attention which enabled him to grasp the subject under consideration with an admirable thoroughness, and also to exercise a controlling influence on any tendency to precipitation in others. This deliberateness enabled him to form an equable judgement, rendering his opinion of the utmost value, commanding the confidence of those who sought it. Thoughtful sympathy was another striking trait in his character, associated with a human kindness that led him to spare no effort in his attempts to help his fellow men. Dr. Blandford was distinguished by a high appreciation of the honour of his profession, and especially of the speciality of which he was a member. He was actuated, moreover, by a high sense of professional duty in relation to society, leading him on more than one occasion to risk possible reproach rather than to shun what he conceived to be a

public duty. He was emphatically a good citizen of the country and of the metropolis that he loved so well.

Dr. SAVAGE also writes: "He was in writing as in life a helpful straight man, a good friend and most able adviser. His patients were his friends, and many will miss his sage advice."

Dr. EWART writes: "My own acquaintance with him was almost exclusively limited to the meetings of the Mayfair Medical Book Club, of which he was at the time of its dissolution the oldest member and the chief ornament. He was a great lover of books and a great reader and the extent of his reading was reflected in his conversation which was singularly interesting and instructive. It was at these meetings that I fell under the charm of his personality and acquired a high estimate of his refined kindly and sympathetic nature. To know him well was to love him, and in that sense I may perhaps claim to have regarded him more as a friend than an acquaintance."

GEORGE EDWARDS JEAFFRESON, M.R.C.S., J.P.,

PAST PRESIDENT OF THE EAST ANGLIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE medical profession of East Anglia and the town and district of Framlingham are distinctly poorer through the death of George Edwards Jeaffreson, which occurred at Framlingham on August 17th. Mr. Jeaffreson, though he had for some years retired from active professional duties, will still live for many a long day in the affection of his friends and former patients who appreciated his professional skill and sterling goodness of heart, which, although covered to some extent by an impetuous disposition, yet never allowed differences of opinion to degenerate into embitterment and estrangement. He was a man of good judgement in professional matters, as well as in public life; his opinions were concisely and positively expressed, but through all his straightforwardness and honesty of purpose were apparent to those who found themselves compelled to differ from him.

George Edwards Jeaffreson was the son of William Jeaffreson, F.R.C.S., of Framlingham. He entered University College as a student at about the same time as another distinguished Framlingham surgeon, the late Sir Henry Thompson, who until shortly before his death used occasionally to visit his birthplace, Framlingham, and his old friend Jeaffreson.

In 1857 Jeaffreson obtained the diplomas of M.R.C.S. and L.S.A., and in due course succeeded to his father's practice. He practised in Framlingham for over forty years, and is now succeeded by his son, Mr. George Cordy Jeaffreson. He represented the East Anglian Branch of the British Medical Association on the Parliamentary Bills Committee from 1883 to 1889, and in 1895 was made President of the Branch, the members of which he entertained at luncheon in the historic grounds of Framlingham Castle. In his presidential address he dwelt particularly on relics of the past, showing obsolete instruments and appliances of earlier days, which aroused considerable interest, but the specially interesting feature to the surgeons present was the ovarian cyst which his father, William Jeaffreson—who was President of the Branch in 1851—successfully removed in 1836, and the instruments with which this, the first successful modern operation of ovariotomy in Great Britain, was performed.

Mr. G. E. Jeaffreson held many offices in his native town, always with success, and he inspired confidence by the keen interest he evinced in everything he undertook and the clear insight he possessed of the real issues in the subject under discussion. He was the Chairman of the first Parish Council for Framlingham, and was the first representative of the Framlingham District on the East Suffolk County Council. He was a Liberal in politics, and was made a Justice of the Peace for Suffolk in 1896. Amongst the benefits conferred by him on his native town may be mentioned a public water supply and shelter near his residence which he generously provided as a memorial to members of his family. He was in his 77th year when he passed away after a very short illness, though he had been failing in health for some time past.

DAVID KIRKPATRICK COUTTS, M.B., B.S.LOND., F.R.C.S.ENG.,

ASSISTANT SURGEON, NORFOLK AND NORWICH HOSPITAL.

IT is rarely that we have to record such a painfully sudden and unexpected death as occurred in Norwich on August 21st, when the city was robbed of a very promising young surgeon in the 30th year of his age. Within five minutes of his death, Mr. Coutts, apparently quite well, was conversing with his wife, when he was suddenly seized with a general convulsion, the result, probably, of some gross intracerebral lesion, previously unsuspected, and passed away unconscious in the space of a few minutes.

Born in Edinburgh in 1882, Mr. Coutts was the only child of Mr. George Sutherland Coutts of that city. He was educated at the Merchant Taylors School in London, from whence he gained an entrance scholarship at St. Thomas's Hospital. After holding the post of House-Surgeon to Mr. C. A. Ballance, he went to the Kasr-el-Aini Hospital in Cairo as Resident Surgical Officer, an appointment he held for two years, during which time he had a large and varied experience in operative

surgery. In January, 1909, Mr. Coutts went to Norwich and succeeded to the practice of Mr. T. H. Morse, who at this time retired. In May of the present year he was elected an Assistant Surgeon to the Norfolk and Norwich Hospital, and although he had held this post for barely three months, he had already amply justified his appointment in the eyes of his colleagues by his skill as an operator. Mr. Coutts leaves a widow and one daughter, to whom we offer our deep sympathy.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Emanuel von Hibler, Professor of Pathological Anatomy in the University of Innsbruck, who has fallen a victim to sepsis contracted in the *post-mortem* room; Dr. Gregorio Manca, Professor of Physiology and President of the Medical Faculty of the University of Sassari; Dr. Corrado Bernabei, Professor of Special P· thology in the University of Siena.

THE Factory Girls' Country Holiday Fund (Honorary Secretary, Miss Paget, 28, Campden Hill Square, W.) reports that it has already sent away over 4,000 girls this summer, but that it still has several hundred applicants on its books and its funds are exhausted. The object of the fund is to make arrangements for girls employed in factories to take a week or a fortnight's holiday in the country, the girls paying a considerable portion of the expense. They save a few pence each week towards their holiday, but cannot pay the whole cost out of wages varying from 3s. to 14s. a week.

Public Health
AND
POOR LAW MEDICAL SERVICES.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Ipswich.—The birth-rate of 23.9 per 1,000, and the death-rate from all causes of 13.5 per 1,000, was based upon an estimated population at the middle of 1910 of 75,936, which the census returns have shown to be more than 2,000 in excess of the actual number. As many as 92 per cent. of the total number of births occurring in the borough are notified to the medical officer of health within thirty-six hours. Rather more than 50 per cent. of the births in 1910 were attended by medical practitioners. In some of the tables dealing with the various age periods, Dr. A. M. N. Pringle, the medical officer of health, heads the successive columns "under one year," "*over* one year and under two years," and so on. The prefix "over" can hardly be correct. The action of the inhabitants of Ipswich in subscribing £15,000 towards a sanatorium fund as a memorial to King Edward VII, will soon render it possible to provide treatment for early cases of tuberculosis. Forty beds will be allocated free of charge to those who are bona fide residents of the town. There will also be twenty beds for paying patients. The pavilion at the Borough Fever Hospital, at present occupied by consumptives, will, whenever available, be utilized for the purpose of providing treatment and education for patients too far advanced to be suitable for the sanatorium proper. Cases also of an infectious nature which cannot be efficiently dealt with at home will be received in the fever hospital. As part of the scheme for dealing with tuberculosis, it is proposed to examine systematically all contacts. Private patients will be dealt with by private practitioners, hospital cases by the hospital staff, Poor Law cases by Poor Law medical officers, while the school medical officer will deal with those children who attend the public elementary schools, and who come from homes known to be infected with tubercle.

St. Helens County Borough.—Dr. John J. Buchan records a birth-rate during 1910 of 32.7 per 1,000, and a death-rate from all causes of 14.5 per 1,000. The population, estimated at the middle of the year, was 96,523, which the Census figures have shown to be about 1,000 too many. The rate of illegitimacy in St. Helens is stated to be low, but the evidence of this is not that which is usually accepted. Dr. Buchan should state the number of illegitimate births in proportion to the number of unmarried women and widows living at child-bearing ages, and not the proportion of illegitimate to legitimate births. The infantile mortality-rate has been reduced from 175 per 1,000 births in 1901 to 121 in 1910. This satisfactory condition must be associated with the infant milk dépôt which was established in 1899 for the purpose of providing those infants who, for some reason or other, were deprived of breast milk, with milk as near akin as possible to their natural food. During all the time the dépôt has been at work the local authority has not ceased to to advocate breast-feeding; and, as a result, the number of infants fed on the breast has much increased. An instructive record has been kept in recent years of the number of infants who are insured. The percentage in 1907 was 81, and in 1910 it was 65. The Notification of Births Act, 1907, came into force in St. Helens in January, 1908. During 1910 a fee of 6d. was paid for each birth in the borough notified by medical practitioners or midwives within the time prescribed by the Act. Where the same birth was notified by a midwife as well as by a medical practitioner, the fee was paid only to the latter. The arrangement of Dr. Buchan's report is excellent, but its value would be much increased if it were indexed.

CUBIC SPACE IN CUBICLES.

E.M.—A cubicle in a girls' boarding school should have a cubic space of 800 ft. In a room 10 ft. high this would mean a floor space of 10 ft. by 8 ft., out of which 6 ft. by 3 ft. would be occupied by the bedstead.

LUNACY FEES AND SUPERANNUATION.

F. I. F., a workhouse medical officer, asks whether the fees he has received for certifying pauper lunatics for asylum can be regarded as emoluments of his office when his superannuation allowance has to be calculated.

*** These lunacy fees, though paid by the guardians, cannot, we are advised, be reckoned towards superannuation.

EDUCATION COMMITTEES AND RINGWORM.

X.Y.Z. sends us a card issued to the parents of children suffering from ringworm by the Derbyshire Education Committee, and asks our opinion of the action of the committee in recommending definite treatment. The card first states that a doctor should be consulted, and until his advice is obtained tells the parents what to do—for example, to cut the hair, wash the patch with soft soap and hot water, and disinfect with izal, cyllin, or kerol solution, a teaspoonful to a pint. So far no exception might be taken to the card, but when it goes on to recommend various ointments it seems to us to be going beyond what is wise or necessary, and something that will tend to prevent the doctor being consulted, which no doubt was not the intention of the committee.

TENURE OF MEDICAL OFFICERSHIP OF HEALTH.

SQUILLS.—In the case of a medical officer of health appointed in April, 1911, for a period of two years no reappointment will be required at the end of that period, unless three months prior to the expiration of his appointment—that is to say, in January, 1913, the electing authority give him three months' notice to terminate his appointment. Otherwise, he will hold office for a further period of one year from April, 1913, and he will continue to hold office year by year, unless notice of termination is given by the authority in the January of any succeeding year. At any time the authority may decide to appoint him without reference to time, in which case his appointment could only be terminated with the consent of the Local Government Board.

REMUNERATION FOR WORK DONE BY DISTRICT MEDICAL OFFICERS.

D. M. O. asks what would be reasonable remuneration for his work as a Poor Law medical officer to a district of 11,747 acres, with a population of 20,532, his visits to patients outside a mile circuit being quite few. He also asks if the dispensing of drugs, etc., is in every union included in the contracts of the medical officers, or whether in some districts other arrangements are made.

*** It is almost impossible on the information given to form an opinion as to what would be proper remuneration for the work done by our correspondent. As this varies so much in different districts, he must himself be the better judge as to what he ought to be paid for the work he finds he has to do. We think, however, that he has very good grounds for applying for an increase of salary, as the population has so increased as to amount at the present time to 20,532, this being greatly in excess of 15,000 usually regarded as the maximum which should properly be assigned to the care of any one district medical officer. We believe it is still the usual practice for the supply of medicines by district medical officers to be one of the conditions of their contracts made with the guardians.

Medical News.

DR. ERNEST C. FISCHER, Professor of Ophthalmology at the School of Medicine, Cairo, has received the King's permission to accept the Third Class of the Imperial Ottoman Order of the Medjidieh, conferred upon him by the Khedive of Egypt in recognition of valuable services rendered by him.

MESSRS. MEISTER, LUCIUS AND BRÜNING, 51, St. Mary Axe, E.C., have issued a pamphlet on *Salvarsan*, which they offer to supply free to members of the medical profession. It contains notes on the chemistry, pharmacology and dosage of the drug, abstracts of a number of clinical reports, and a bibliography.

A SANATORIUM for the use of the people of Shropshire was formally opened recently by Princess Alexander of Teck. It has been erected on a site, given by the late Lord Forester, lying at an elevation of 700 ft. above sea-level, about three miles from Much Wenlock. The country around is well wooded, and immediately behind the buildings, whose grounds extend to twenty acres, is a thick belt of fir trees which protect them from the north. In addition to officers' quarters, dining-rooms, and an administrative department, the buildings provide for thirty patients, and can be extended, if required, to accommodate thirty more. Economy as well as efficiency of structure was kept in view throughout, and the total cost of erection and equipment will not exceed £11,000. Towards this sum £9,500 have already been provided by public subscription. Reliance is also placed on public subscriptions for about half the estimated annual cost of maintenance—£2,000—payment by patients being expected to cover the balance. Among those presented to Her Royal Highness on the occasion of the opening ceremony were Mrs. Rowland Hunt, whom Lord Powis, the chairman on the occasion, introduced as the pioneer of the tuberculosis movement in Shropshire, Drs. J. M. McCarthy and R. H. Urwick, who were respectively the vice-chairman and honorary secretary of the committee which collected the funds and arranged for the erection of the building, Dr. Pearce, who has been appointed resident physician to the institution, and Mrs. Staines, the matron.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ST. JOHN AMBULANCE BRIGADE.

A CORRESPONDENT, who is honorary surgeon to a Division of the St. John Ambulance Brigade, has sent us a postcard used for sending notifications to members of the Division, upon which his name, address, and telephone number are stated, and asks whether this is customary and proper.

*** We understand that it is the practice for all Brigade stationery to contain an intimation of the nature stated: the intimations are sent only to members of the Brigade, and it is considered desirable that they should have the address and telephone number of the honorary surgeon, to whom they may have occasion to send an urgent message.

ANSWERS.

DR. JAS. S. BOLTON (Nottingham) writes: I should advise "Fibrositis" to seek carefully for some source of septic poisoning. He will probably find it in the gums or nose. This will explain all the symptoms and also suggest the remedy.

IRRITATION OF SKIN.

FAS writes: I have read Dr. A. V. Elder's letter (BRITISH MEDICAL JOUKNAL, August 19th, p. 415) with great interest, as the facts stated therein apply in my own case. I have suffered from this irritation sequential to bathing for over thirteen years. It commenced when I was 23 years of age, and gave me some trouble till I found out that the intensity and duration of the irritation depended directly and solely on the temperature of my bath. I have learnt also that atmospheric conditions as regards temperature and humidity, affecting, as they do, evaporation from the skin, have to be reckoned with. If humidity is low, a warm bath can be taken without discomfort, but if high, a hot bath is necessary. Dr. Elder's patient should not worry too much. I spend my life in the tropics; the facilities for bathing are not less than at home, save that abroad water, hot and cold, comes from a bucket—in this country from a tap. The use of external remedies is of no value, and to a layman, harmful, as far as moral effect is concerned. I should advise Dr. Elder not to let his patient bathe in the morning, and, if possible, to bathe after a stiff walk, to use water hot, to remember that his sufferings are the result of his skin being cold, to dress quickly after bathing, or go to bed under a blanket, avoid the *punkah* unless fully clad, smoke a cigarette after his bath, and have a brew of tea. I also cannot wear flannel next my skin; I make use of cotton underwear, and put the flannels on next, if necessary.

POSTAL APPOINTMENTS.

N. S. writes: I should be glad if readers could throw any light upon the method adopted by the postal authorities in filling up the post of medical officer, from the forms applicants fill up. The form states that professional qualifications are the important factors in deciding—providing, I take it, of course, an applicant's moral character is good. From a recent experience of my own I am led to believe that the appointment is decided not upon qualifications, etc., but upon the report and information given by the local official in charge. I should like to know if this is so.

LETTERS, NOTES ETC.

A FLY "SWATTER."

H. R. draws our attention to an appliance for killing flies to be obtained from Jno. Fox and Son, Haymarket, Norwich, price 6d., which he has found very efficient. It consists of a parallelogram of very light wire netting mounted on a short wooden handle, and seems well adapted to the purpose.

A WARNING.

MR. ROBERT H. MARTIN, M.B., Ch.B.Edin. (1902), of Sudbury, near Harrow, writes to state that without his authority some person appears to be writing on his behalf, or in his name—addressing himself especially to Edinburgh teachers—asking financial assistance. Dr. Martin asks any one who may receive one of these letters to communicate with him at once.

NATIONAL INSURANCE: PROVIDENT DISPENSARIES.

DR. A. W. COOKE (Northampton) writes: A Member of Parliament who is said to have the details of the Insurance Bill at his fingers' ends, was asked by a deputation from this Division what would be the position of provident dispensaries under the Act. He replied that they would continue as they are at present. He added that medical institutes would also continue, but that both dispensaries and institutes would have to pay the full capitation grant (4s. or 6s., or whatever sum was decided on) to the doctor. If this is so there seems to be no objection to the continued existence of medical institutes. At the same time there appears to be no reason for their existence. Free choice of doctor is secured by the Bill, and the Chancellor has definitely stated that no society would be able to sweat its doctor.

*** Mr. Lloyd George's statements with regard to provident dispensaries have lacked precision. It would almost seem as if they were one of the existing organizations which had not been thought of when the bill was drafted. In answer to a question on May 24th he said (SUPPLEMENT, June 3rd, p. 382) that there was no reason why provident dispensaries should not form, or join approved societies, but asked for time to consider the matter. On June 28th (SUPPLEMENT, July 8th, p. 61), when asked as to provident dispensaries which are charitably aided, and secure medical benefit to their members and their families, as well as to their widows and children, he referred the inquirer to his answer of May 24th, and added "it is the intention of the bill that existing organizations which wholly, or partly, cover the ground to be included in the National Health Insurance, should be preserved and utilized rather than displaced."

FLEAS.

MR. F. EDGE (Birmingham) writes: I am very much troubled with them, but find that if I wash with sulphur soap and eat a sulphur tablet or some confection of sulphur once or twice a week fleas will not bite me.

PSYCHO-ANALYSIS.

DR. JOHN HADDON (Denholm, Hawick, Scotland) writes: "Medico's" interesting and suggestive case of the overworked and run-down maternity nurse deserves study, if we desire to get at the root of insanity, and cure *it*, as we do other diseases; for, though in it the mind is affected, it is the bodily state that requires attention. That nurse had got obsessed with an idea. She could not get rid of it. Some centre in her brain was in an abnormal state, owing to some derangement of her system connected in some way with her run-down condition. The general view is that it is want of proper food that has to do with insanity, and feeding up is consequently resorted to, whereas I believe it is of more importance to attend to what comes from the patient than what goes into him, to the output rather than the intake. On that theory I have worked with success in cases of neurasthenia, the borderland of insanity. Very lately I was interested in the fate of two sisters. The elder had been in an asylum years before. At the time I saw her she was in bed with bronchitis, and was shortly after removed for treatment to a cottage hospital. There I saw her in bed being well fed, and feared she would suffer mentally in consequence. The other sister was suffering from neurasthenia, which by restricting her diet was removed in three days. Soon afterwards I learnt that the elder sister had been removed from the cottage hospital to the asylum, and there developed jaundice. I was not astonished at the result of the treatment in her case, but surely it proves that the physical and the mental state must both be considered in the treatment, more especially of those with a previous history of insanity. The whole trend of modern enlightened treatment of insanity seems to me to point to its being treated as we treat gout, rheumatism, or any ordinary disease, and it is to be hoped that those alone who have the opportunity—namely, asylum superintendents—will try what restricting food rather than forcing food on lunatics will do in the way of cure.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Eight lines and under	0	4	0
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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

THE

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THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

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EDUCATIONAL NUMBER. SESSIONS 1911-1912.

THE PROFESSION OF MEDICINE.

IT is our annual duty to prepare an Educational or Students' Number, but we have fulfilled the task this year with some reluctance, and pen these initial lines with a special sense of responsibility. This is an inevitable feeling, since this number is not a mere abstract of the prospectuses of medical schools and of the regulations of licensing corporations and faculties of medicine, but is intended to serve also as a kind of guide-book to those who desire to know what a medical career has to offer, or who, having already obtained a legal qualification to practise, are endeavouring to determine to what line of work they will devote themselves.

In such a compilation it is very difficult to avoid making statements which are in the nature of advice, and heavy must be the responsibility of any one who either advises a young man to adopt medicine as a career or takes it upon himself to indicate what special paths in medicine are likely to prove satisfactory to follow.

It has long been true that the prospects of most young men entering the profession were most uncertain, but it is more than ever true to-day. The position has been brought home to the profession, and we believe also to the public, by the nature of the scheme embodied in the National Insurance Bill introduced last May by the Chancellor of the Exchequer after consultation with the friendly societies. It proposed to impose upon members of the medical profession for the annual sum of 4s. a head—little more than half what the State charges for the privilege of keeping a dog—the duty of giving medical attendance to all persons employed in industrial occupations and a very large proportion of the rest of the population. So small was the appreciation of the value of medical service, and so low the estimate of the incomes earned by medical men, that the responsible Minister seems honestly to have believed that in making this proposal he was conferring a boon on the medical profession. It is unfortunately true that a system of contract practice had been allowed to grow up under which an annual capitation fee of 4s. or even a smaller sum was accepted. The dictates of humanity make it difficult for a medical man to refuse to respond to a call to attend a sick person, even though he may know, or reasonably suspect, that his chance of receiving remuneration for his services is remote. The plan of forming a club of persons willing to pay a small weekly sum, the medical man contracting in return to give medical attendance and drugs in sickness, seemed to our forefathers to afford, if not a way out of the difficulty, at least a means of lessening the incubus of unpaid work; it was thought in this way to diminish bad debts, and it was believed that attendance on the male workers would serve as an introduction to practice among their dependents. In its small beginnings, half a century or more ago, the system was probably innocuous; and, having regard to the low rates of wages then prevailing in towns as well as in country districts, it may have met a want for which other existing agencies failed adequately to provide. The rise in the rates of wages, which in most industries has been very considerable, and the extension and multiplication of hospitals, especially of their out-patient departments, ought, it might have been supposed, to have led to a diminution in the number of medical clubs. This is far from what has actually happened; the club system has been greatly extended—in itself an evil—and the evil has been aggravated by the introduction of many abuses. The profession has thus been saddled with a system economically unsound, and inevitably tending to degrade the character and diminish the efficiency of medical and surgical practice.

The system has for years excited the keenest dissatisfaction, and the proposal embodied in the scheme of the National Insurance Bill to extend almost indefinitely its pernicious operations has aroused a spirit of opposition so strong and so unanimous that the Government has found it prudent to eliminate or modify some of the features of the scheme most injurious to the medical profession.

Even when the most favourable view is taken of the effect of these modifications the prospect that the bill will shortly become law has made it impossible to attempt to foretell the future, not merely of the individual who may now be contemplating medicine as a career, but of the profession as a whole. Were the mistaken policy of forcing the perpetuation and extension of the pernicious features of contract practice to be persisted in, the effect would be to foster a form of practice written down by the late Poor Law Commissioners as "inimical both to the prevention and cure of diseases." In the most favourable circumstances the final outcome is likely to be a great diminution of the scope for private practice as at present conducted and a lessening of the average professional income. Moreover, it appears only too certain that the medical profession will, for many years to come, find itself involved in contests for just payment, and

such contests, whatever their outcome, cannot fail to diminish the attraction of a professional career.

For those who love the profession of medicine and would be loth to see it lack recruits, the prospects that it offers to new entrants has been a distasteful subject for some years, and is now one eminently depressing, quite apart from the cataclysm threatened by the National Insurance Bill. It is no doubt true that some few medical men make large incomes; true also was Napoleon's boast that every one of his soldiers carried a marshal's baton in his knapsack, but this astral symbol of office very seldom materialized. The prospects offered by any profession can only be gauged by those of an average member of it, and in the case of medicine they are very unsatisfactory. Everything of late years has tended to make medicine a desirable career only for two classes of persons—those who like work of a scientific kind and are independent of its financial outcome, and those who have such a leaning towards the calling that they are prepared to be content with a bare living—to be content, that is to say, with incomes which are so low that their possessors find a difficulty in paying their way as members of an ostensibly well-to-do section of society, and which are considerably less than those commonly resulting from occupations far less exacting in the demands they make on brains, energy, and time; for it must clearly be understood from the outset that the medical curriculum demands from every candidate hard work for six years or so during which the most diligent cannot expect to earn a penny.

PRIVATE PRACTICE.

As every one knows, the lines of work pursued by medical men vary greatly in different cases. Of all medical students a large proportion probably hope to develop into consultants or specialists, but sooner or later they learn that it is only to the few that a career of this kind is practically open. Even after a brilliant studentship success involves years of weary waiting, during which not even a bare living is made from practice; and, in fact, only those who have private means can afford, as a rule, to wait. Moreover, in every case the result is extremely uncertain, and one late outcome of legislation now in progress may be restriction of the field open to consultants and specialists of independent mind.

Despite, therefore, the apparent wealth of choice, the average newly qualified man has to elect between private general or family practice and an official career. Most men necessarily choose the former, if only for the reason that the number of posts in the public services is very limited. It is the more unfortunate, therefore, that the prospects of private practice are inferior to what they used to be. Complaints of lessened incomes and increased expenses began, indeed, to come in a few years ago in such numbers that the subject was specially investigated by this JOURNAL, and the results recorded in two articles on "The Financial Prospects of Medicine," which appeared in the BRITISH MEDICAL JOURNAL for June 12th and July 17th, 1909. The net outcome of those articles was to prove that not only was the number of possible patients less, but each one of those that remained needed less medical attendance than formerly, especially for the zymotic diseases, which used to furnish so much work. In this connexion must be mentioned the decline in the birth-rate, which not only affects the medical men of this generation, but must seriously influence the prospects of those who may succeed them. The counter-prescribing by chemists, the enormous sale of quack remedies, the growth of badly-paid club practice and of hospital abuse, have all taken away from medical men former paying patients. At the same time the State has from time to time thrown sundry unpaid duties on the shoulders of medical men.

The State has no conscience, but individual members of the public often seem, in their dealings with medical men, to have very little. The newly-qualified practitioner often thinks he is making a practice quickly, judging by the number of patients that come to his surgery, but too often he is disillusioned when he sends out his bills. If he press for payment before he is well established, the growth in his practice soon ceases, and, what is still more irritating, the very patients who had seemed to regard him as an angel of mercy not infrequently spread charges of incompetence or neglect which, however fully disproved, invariably damage his practice.

The foregoing is a faithful account of the present drawbacks to private practice, and it must be repeated that the Insurance legislation in view will not improve matters. Medical men who have gone in for contract practice at all have been able to afford to do so thanks to their possession also of ordinary practice among the same class of persons. But under the National Insurance Bill the whole of the working class will be swept into the contract practice net, and a smaller income will almost certainly result from the same amount of work despite the absence of bad debts. There may also be an extension upwards of the contract system, and a great deal even of the best class of private practice may thus be abolished. Another disadvantage which cannot be ignored is that it will become impossible to build up a practice which can be sold in part or altogether. Indeed the mere introduction of the bill has already lessened the value of many practices as facultative assets.

PUBLIC SERVICES.

The Public Health Service.

The public health service offers a career which seems every year to have an increased attraction for young men who have entered the medical profession, although few probably set this end before them when they first become medical students. One consequence of the tendency to which we have referred is that the competition for appointments is so keen that not only are they difficult to obtain, but the authorities are encouraged to offer salaries which are always modest and often inadequate. The service, though a public, is not a State service. With the exception to be mentioned immediately, all the appointments are made by municipal or other local authorities, there is no general standard of remuneration, no certain prospect of promotion, and as a rule no fixity of tenure.

The Local Government Board in England employs a small staff of medical officers and inspectors, and the corresponding Boards in Scotland and Ireland also employ a few. These appointments are made by the political chiefs of the several Boards, and need hardly be taken into consideration.

In England, Wales, and Scotland, though the number of medical officers of health is large, the majority are engaged in private general practice, and only give a small part of their time to the duties of their office, to which a correspondingly small remuneration is usually attached. The county boroughs, many of the counties, and a good many of the larger boroughs, including the metropolitan boroughs and some combinations of rural districts, have medical

officers of health who devote their whole time to the work, and receive an inclusive salary, which varies very much—say, from £250, to, in a very few instances, £1,000 or over. The income is, of course, a net income not liable to fluctuate from year to year, and not subject to any deductions for working expenses. Since the appointments are made by county or city authorities independently of each other and of the Local Government Board, whose approval is necessary only after an appointment has been made, there is no regular system of promotion, and a medical officer of health who seeks a better paid and more important appointment has to stand his chance of election by the county or borough council in competition with his fellows. Although the position has been slightly improved by a recent Order of the Local Government Board, a medical officer of health in England and Wales, save in the case of metropolitan and certain other appointments, has no security of tenure, being elected only from year to year or for a short term of years; instances occur from time to time—and several have occurred within the last few years—in which the zealous discharge of his duties has rendered a medical officer obnoxious to certain members of the local council, who, finding their pockets, as house or slum owners, affected by his activity, have combined to oppose his re-election at the expiration of the term for which he had been appointed.

The introduction, under a recent Act, of the system of medical inspection of school children has led to the institution of a number of appointments as medical inspectors of schools. But the salaries are exiguous, and the appointment is often combined with that of medical officer or assistant medical officer of health. When not so combined, it does not hold out much prospect of advancement.

The fever hospitals serving great centres of population offer appointments as medical or assistant medical officer. The former may provide a career, but are so few in number that they call only for the briefest mention. The latter are held usually only for short periods, the attraction being the useful experience they afford, which is held to compensate for the customary smallness of the remuneration.

The Poor Law Medical Service.

The relation of the Poor Law Medical Service to the State is still less well defined than that of the Public Health Service. The number of whole-time appointments is small, and most Poor Law medical officers engage in private practice as well. Moreover, it seems probable that if the National Insurance Bill becomes law, the work to be done by Poor Law medical officers will lessen. There will be fewer Poor Law patients, and as Poor Law medical officers are indirectly paid by capitation fees, their net income will tend to shrink. To show the present condition of the service, we need only quote a few sentences from the report of the Royal Commission on the Poor Law. We read, "It is undeniable that the majority of the medical officers, in or out door, are paid salaries miserably inadequate." The posts are only taken "to keep somebody else out." Even where the salary nominally paid is obviously inadequate, it is still further diminished by the fact that the district medical officers "in the great majority of unions have to find their own drugs and medicines, and any dressings or bandages that are required." "The conditions under which they carry on their duties are as unsatisfactory as their remuneration is demoralizing." As to the resident officers, we are told that in the rural workhouses "the conditions under which medical attendance is afforded are such as to make curative treatment almost impossible." Even in the best Poor Law infirmaries in the large towns there is "a policy of sweating both as to the amount of work required and as to the payment made for it." "The infirmaries are often terribly understaffed," and we read of places with 600 or 800 patients with only one resident medical officer. With the exception of the comparatively limited number of appointments as medical superintendents of large institutions, the indoor posts are only taken to get a little experience before settling down in practice, while the outdoor posts are accepted by private practitioners resident in the neighbourhood. Add to all this the fact that there is no chance of any advancement after long service, and it must be evident that the Poor Law service offers hardly any inducements worth taking into account by any one who has to decide on the branch of medicine he shall adopt.

Prison and Asylum Work.

The work to be done in connexion with the medical care of prisoners and the treatment of the mentally ill or defective both form definite careers, a detailed account of which will be found at pp. 584 and 574 respectively. Here it need merely be said that the Prison Medical Service is a very small one, and that none of its members are in receipt of large salaries. Asylum work gives employment to a much larger number of medical men, and in the upper ranks is better paid. Like the Public Health Service, it is a municipal and not a State service. There is no system of promotion from one grade to another, and the man who seeks to improve his position can do so only by competing for such posts as become vacant, the appointment being as a rule made by the asylums committee of the county or county borough council. The well-paid posts are few, and the service as a whole is not attractive to most men either as an occupation or a means of gaining a living.

The Military Services.

When all is said and done, it is found that apart from a few scattered posts under various Government departments not hitherto mentioned, including the Foreign Office, the only services which offer a distinct and lifelong career to all who enter them are the Medical Department of the Royal Navy, the Royal Army Medical Corps, and the Indian Medical Service. Each of these offers financial advantages as compared with the prospects before most general practitioners, though for sundry reasons it is not every keen medical student who would care to enter them. The West African Medical Staff is also, perhaps, entitled to be classed with these services, though it is too small to offer possibilities to more than an exceedingly limited proportion of the men who annually enter the medical profession. Information with respect to all of them will be found in the pages of this issue.

Other Possibilities.

Apart from the careers hitherto considered, a certain number of other possibilities lie before newly-qualified men.

An increasing number of these never attempt to practise their profession, but, once qualified, devote themselves to some pure science connected with it. To make this course satisfactory, the individual must, of course, be mentally fitted for such a life, and since the remuneration to be gained is commonly very small, it is highly desirable that he should have private means at his back.

The newly-qualified man can also turn his thoughts towards gaining a livelihood in the colonies. In the smaller dependencies or Crown Colonies this almost necessarily involves obtaining one of the appointments which the Colonial Office occasionally has to fill, for in few of them is there any real opening for European medical men other than those who live partly by private practice, partly by performing various duties for the local Governments. As to the large self-governing Dominions, it must be remembered that Canada and Australasia have large medical schools, and annually turn out a great number of well-qualified men, whose local knowledge and connexions give them a certain advantage over newcomers. Still, for a young medical man who has grit, tact, and good health, to build up for himself a practice in those new countries is probably not more difficult than in these islands. In this country commencing private practice, except as an assistant, has hitherto meant the expenditure of considerable capital in buying an already established practice, or a partnership in one. A sum equal to two years' gross income is a common amount to pay, and there is of course a large difference between the nominal takings of a practice and the balance left over when bad debts and annual outgoings have been deducted. Of course, too, however ample his capital, it would be foolish for any young man to invest money in this way until he had acquired, as an assistant or otherwise, a knowledge of the art of conducting a practice; it cannot be taught in any school.

Another possibility is to settle in some foreign health resort or other centre frequented by English-speaking visitors. This usually entails acquiring a foreign licence to practise, and consequently additional study for a varying period.

Legal Organization of Medicine.

Though a good many university and other corporate bodies have for several centuries possessed both rights and powers in connexion with the practice of medicine, the statutory or legal organization of medicine practically dates back only some fifty years. The Medical Act of 1858 called into being the General Council of Medical Education and Registration of the United Kingdom, to give it its full title. As the name indicates, it exercises a general control over medical education, and has certain powers of enforcing professional discipline in grave cases. It is now, as it was at the beginning, mainly composed of representatives of institutions which had then, or have now, the right to grant medical degrees or diplomas, and whose privileges in this respect were more or less modified by the passage of the Act in question. The intentions of that Act were to secure some uniformity in the education of medical men, to give qualified men some assistance in meeting the competition of the unqualified, and to afford to the public a certain measure of protection against the evils of practice by unskilled and untrained persons.

To this end the General Medical Council was directed to institute and maintain a register of properly trained and reputable medical men, while persons not deemed by the General Medical Council entitled to admission to the *Register* were forbidden to use certain terms implying that they were legally recognized medical men. It was also enacted that public authorities should refuse to employ other than registered medical men or to accept medical certificates from persons not registered, and that the courts of law should not afford their assistance to unregistered persons in recovering fees due for medical or surgical advice or operations. At the same time the Council was authorized to make stipulations as to the terms on which it would admit to registration graduates and diplomates of different licensing bodies and to remove from the *Register* the names of any persons whose professional conduct was deemed by it to be detrimental to the public interest.

In this way the Council was given a large measure of control over the education of medical men, with the result that, by laying down rules as to the subjects to be studied and as to the length of the medical curriculum as a whole, and by taking steps to ensure that the examinations imposed by different licensing bodies are of adequate severity and fairly conducted, it has succeeded in securing a considerable degree of uniformity in the standards of education demanded by different examining bodies so far as the limit downwards is concerned. The standards of most licensing bodies are very much higher now than they used to be even twenty or thirty years ago, and to this extent the absence of a State examination such as is commonly imposed by Continental Governments has become a matter of the less importance. Nevertheless, the absence of such an examination is to be regretted, for did it exist there would be less competition for candidates among university and other licensing bodies, and they might be disposed to devote themselves more exclusively to the higher objects of their existence.

But although the Act of 1858 has been a success in the direction stated, it has been a failure so far as concerns the protection of the public against either totally unskilled persons, or those who, though properly trained in the first place, have fallen into evil ways. The Act is so worded as to make it easy for even the most blatant quack to describe himself in terms likely to induce the public to believe he is a legally qualified practitioner, and the only means the General Medical Council has of ensuring right conduct among the registered is to threaten them with erasure from the *Register*, or actually to erase their names, and for various reasons this is not always an effective weapon. In many forms of practice the inconveniences of not being on the *Register* are very slight, and even if a given name is found not to be on the *Register*, it is difficult for any one to be certain of the full bearing of this fact on its owner's character. The net outcome of all these various factors is that the extent of the effective organization of the medical profession, so far as the protection of the public or of the profession is concerned, is very small indeed, and must remain so, to the constant detriment of all concerned, until the public insists upon the Legislature passing a better Act.

Choice of a Medical Qualification.

From what has already been said, it will be clear that any person who has made up his mind to become a medical man has a wide choice with respect to the body from which he will eventually obtain his qualification for registration. We venture to say, however, that he will be well advised to seek a medical degree from a university, and should have very clear reasons for taking any other course. Despite the fact that hundreds of medical men hold diplomas and not degrees, and that of degree-holders many never proceed beyond the Bachelorhood, the public takes it for granted that every properly-qualified medical man must necessarily be an M.D., and if explanations to the contrary ever become necessary in the case of individuals, it is disposed to receive them with a certain tincture of incredulity. Furthermore,

universities have so multiplied of late years that the difficulty of obtaining a degree is no greater than that of acquiring a diploma. Indeed, it may sometimes be less if the student has entered at one of the medical schools conducted by the medical faculty of a university, for then the whole of the work is commonly arranged with a view principally to the needs of the degree-seeker, and the student throughout his career is in contact with those who eventually will take part in his examination. The fact that the degree-seeker has to matriculate does not affect the question so materially as might be assumed, because no one can be registered as a medical student, whatever his final aim, until he has furnished evidence of having attained a minimum standard of general education by passing a recognized examination in Arts; whether that examination is called a matriculation examination or a preliminary examination in Arts may make little difference. These considerations do not fully apply to students who enter the London medical schools. It is true that they have at their doors the degrees of London University, but in present circumstances they are fenced off from them by an examination in Arts of quite a peculiar kind. Though nominally an ordinary matriculation examination, the university authorities have converted it from its ostensible purpose into a secondary school teacher's brevet, a large proportion of the customers being persons for whom passage of the examination is the final goal, and who have no intention whatever of entering one of the faculties of the university and proceeding to a degree. In this way it has become a crammer's examination, and therefore one of a kind which an average boy from the higher forms of a public school finds difficulty in passing, unless he is specially prepared with a view to it. Nevertheless, every prospective entrant at a London medical school should endeavour to surmount this obstacle, for, once over, it is practically as easy for him to obtain a degree from the university as the diploma of the Conjoint Board or the Society of Apothecaries. An exception from the general rule as to the desirability of obtaining a university degree may be made in the case of the limited number of students who enter the medical profession solely with a view to obtaining a commission in the Medical Department of the Royal Navy, the Royal Army Medical Corps, or the Indian Medical Service. These may well choose whatever route towards a legal qualification seems to them easiest and quickest with a view to being in a position to compete for appointment at the earliest possible moment. In none of the services is possession of a degree any particular advantage, while in all of them the prospect of rising high or retiring on a good pension may be materially increased by entering young. It should also be noted in respect of medical students as a whole that considerable knowledge of some of the earlier subjects they have to study may be obtained on the modern side of most schools, but whether this early specialization is an advantage is a moot point. Evidence has recently been forthcoming to the effect that boys on the classical side rapidly catch up the modern-side boys as soon as they commence the study of science, and show greater capacity for self-education.

COST OF EDUCATION.

It is not easy to compare precisely the cost of medical education at the various medical schools. The fees of universities for degrees are generally lower than those of other qualifying bodies for diplomas, but in either case these fees are only a small part of the total expenses. The fees for teaching and hospital privileges range from under £100 to about £150. The cost of living varies considerably, being higher in London and Oxford than in Aberdeen or Dublin, but all comparisons are vitiated by the varying length of time that students take to obtain a qualification.

In no case can this be less than five years, as the official curriculum necessarily extends over that period, but official statistics prove that the time actually occupied is habitually very much greater, even in the case of able and industrious students. These statistics show that the average time that elapses between registration as a student and the acquirement of a first degree or diploma is only three weeks less than seven years. Hence no parent can well feel ill-used if he finds his son on his hands for that period. If an attempt be made to frame a definite estimate in figures, the cost of board, lodging, clothing, travelling, subscriptions, and pocket-money may be put at not less than £100 a year. Multiplying this by six or seven and adding about £200 for fees for education and examinations, we get a total of about £900, and probably shall not be far wrong if we reckon about £1,000 as the total cost of the curriculum.

Of course, an eager young student with a fair share of brains will make up his mind that he will accomplish his course in record time, and he will view with a sort of scorn the large percentage of students who taken six or seven years to obtain a qualification. He must remember, however, that the study of medicine nowadays is no dilettante's occupation; it means hard work and serious calls on his mental and physical powers. Statistics show that of those who begin the study of medicine, 4 or 5 per cent. die while still students, and this is an index of a far larger percentage of illness, more or less serious. In the later years of the course the student is exposed to special risks of infection; an attack of diphtheria may mean the loss of three months, and the curriculum is so arranged that such loss may involve an addition of six months, or even a year, to the period of pupilage.

ESPRIT DE CORPS.

The psychological quality known as *esprit de corps* is not lacking among medical students and should be sedulously cultivated, since there are circumstances in actual medical life which have a tendency to diminish it. In no profession is a readiness to join hands for the common good more necessary, for, as has been shown, the protection afforded by such official organization of medicine as exists is practically *nil*. Hence every young medical man should make a point of joining any medical societies in his neighbourhood, and especially those which aim at protecting the interests of medicine. The British Medical Association supplies this need. It possesses in every district of the United Kingdom, and in nearly all other parts of the British Empire a local Division, which holds meetings for the discussion both of scientific subjects and of those social and political matters which affect the material interests of the profession. A medical man or woman joining one of the Divisions becomes entitled to all the privileges and advantages of the central organization of the British Medical Association.

We may end this brief survey with an extract from Bacon's preface to his *Maxims of the Law*, which Sir Samuel Wilks, one of the surviving veterans of our profession, is fond of quoting:

> I hold every man a debtor to his profession; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to be a help and ornament thereunto.

THE GENERAL MEDICAL COUNCIL.

THE curriculum through which a student of medicine or of dentistry must pass is determined in its general features by the GENERAL MEDICAL COUNCIL, which holds its sessions at its head quarters in London (299, Oxford Street, London, W.), and has branch offices in Scotland, 54, George Square, Edinburgh), and in Ireland (35, Dawson Street, Dublin).

The Council prescribes and from time to time varies the terms upon which aspirants shall be recognized as medical students, the education which they must receive, the minimum number of years for which it must be carried on, and the general nature of the examinations by which its proficiency shall finally be tested by the universities and corporations which have authority to issue degrees, diplomas, and licences, entitling the holder legally to practise as a medical man or as a dentist.

Regulations in respect of these matters have been compiled, and a summary follows of those which have more particular application to the intending medical student; it should be carefully studied. The primarily important things to note about the regulations are that they entail (1) the production of proof of a certain degree of proficiency in subjects of preliminary or general education; (2) application for registration as a medical student either at the head-quarter office in London or at one of the branch offices in Edinburgh and Dublin, although this latter requirement is not invariably enforced.

PRELIMINARY EDUCATION.

The subjects of which proof of efficient knowledge must be produced by applicants for registration as medical students are as follows:

(1) *English:* Grammar; paraphrasing; composition; questions on English history and geography.

(2) *Latin:* Grammar; translation into English from unprescribed Latin books; translation into Latin of a continuous English passage, and of short idiomatic English sentences. In the case of natives of India or other Oriental countries, whose vernacular is other than English, a classical Oriental language may be accepted as equivalent to Latin.

(3) *Mathematics:* Arithmetic; algebra, including easy quadratic equations; geometry, including the subject matter of Euclid, Books i, ii, and iii, and simple deductions.

(4) One of the following subjects:

(*a*) *Greek:* Grammar; translation into English from unprescribed Greek books; translation into Greek of short idiomatic English sentences; or

(*b*) *A modern language:* Grammar; translation into English from unprescribed books; translation of a continuous English passage, and of short idiomatic English sentences.

The Council considers it a sufficient testimonial of proficiency in these subjects if the applicant can show that he holds a degree in Arts of any University of the United Kingdom or of the Colonies or of such other universities as may from time to time be recognized for the purpose, or has passed one or other of the following tests:—

I.—UNIVERSITY EXAMINATIONS HELD IN THE UNITED KINGDOM.

A.

Final Examination for a Degree in Arts or Science of any University in the United Kingdom.

B.

University of Oxford.—Junior Local Examinations.[1] Senior Local Examinations.[1] Higher Local Examinations.[2] Responsions.[3] Moderations.[2]

University of Cambridge.—Junior Local Examinations.[1] Senior Local Examinations.[1] Higher Local Examinations.[2] Previous Examination.[2] General Examination.[2]

Oxford and Cambridge Schools' Examination Board.—Higher Certificate Examinations.[2] School Examinations, Higher Certificate.[2]

University of Durham.—Matriculation Examination of the Faculties of Science, Letters, and Music.[4]

University of London.—Matriculation Examination.[2] Senior School Examination.[2]

Victoria University of Manchester, University of Liverpool, University of Leeds, and University of Sheffield.—Matriculation Examination.[2] Senior School Certificate.[5]

University of Birmingham.—Matriculation Examination.[2] Senior School Leaving Certificate.[2]

University of Bristol.—Matriculation Examination.[2]

University of Wales.—Matriculation Examination.[4]

Universities of Scotland.—Preliminary Examination of the Joint Board of Examiners of the Scottish Universities for Graduation in Medicine and Surgery.[6] Preliminary Examination of the Joint Board of Examiners of the Scottish Universities for Graduation in Arts or Science.[2]

University of St. Andrews.—Final Examination for the Diploma of LL.A.

University of Dublin.—(*a*) Junior Freshman Term Examination, exclusive of Trigonometry. (*b*) Special Preliminary Examination to be held in March, the standard and subjects of which shall be those of a Junior Freshman Examination, exclusive of Trigonometry. (*c*) Junior Exhibition Examination on obtaining marks of sufficient merit in the subjects of (*a*) or (*b*). Examinations for the First, Second, Third, or Fourth Year in Arts.[7]

Queen's University, Belfast.—Matriculation Examination.[2]

National University of Ireland.—Matriculation Examination.[2]

II.—GOVERNMENT EXAMINATIONS HELD IN THE UNITED KINGDOM.

Scottish Education Department.—Leaving Certificate Examinations; passes in Lower Grade.[6] Leaving Certificate Examinations; passes in Higher Grade.[2] Intermediate Certificate.[2]

Intermediate Education Board of Ireland.—Middle Grade Examination.[4] Senior Grade Examination.[2]

Central Welsh Board.—Senior Certificate Examinations.[2]

III.—EXAMINATIONS BY CHARTERED BODIES HELD IN THE UNITED KINGDOM.

College of Preceptors.—Examination for First-class Certificates.[6] Preliminary Examination for Medical Students.[4]

Educational Institute of Scotland.—Preliminary Medical Examination.[4]

Royal College of Physicians and Surgeons in Ireland.—Preliminary Examination.[4]

Certain examinations held by authorities not within the United Kingdom also suffice—namely:

The Matriculation Examinations of the Universities of Malta, Calcutta, Bombay, McGill (Montreal), Manitoba, New Brunswick, Dalhousie University (Nova Scotia), Melbourne, Sydney, Cape of Good Hope, and of the College of Physicians and Surgeons of New Brunswick; the First Examination in Arts at the Universities of Calcutta, Madras, and Sydney; the Intermediate Examination in Arts at the University of Allahabad and Punjab University; the Preliminary Examination of the Ceylon Medical College; the Preliminary Medical Examination of the University of Otago, of the University of New Zealand, of the Medical Boards of Nova Scotia, Newfoundland (this is a Matriculation Examination); the Senior Public Examinations of the Universities of Adelaide, Sydney, and Tasmania; the Departmental Arts Matriculation in the Province of Ontario. Other Examinations which are sufficient are the German *Abiturienten Examen* of the Gymnasia and Realgymnasia; Examinations entitling to the French Diplomas of Bachelier ès Lettres and Bachelier ès Sciences, and other corresponding Entrance Examinations to the Universities in Europe; and, finally, the Examination for the Secondary Education Certificate held by the Egyptian Government. It should be noted, however, that no Certificate from the Indian and Colonial Bodies in the foregoing statement is accepted unless it shows that the Examination has been conducted by or under the authority of the Body granting it, includes all the subjects required by the General Medical Council, and states that all the subjects of examination have been passed at one time; and copies of the form of the required Certificate are supplied by the Registrar of the Council for the purpose.

[1] Certificate to be endorsed as fulfilling the Council's requirements.
[2] Certificate to include the required subjects.
[3] Certificate to be supplemented by others showing that the required mathematical subjects have been passed.
[4] The required subjects to be passed at one time.
[5] To include English language and literature, Latin, mathematics, Greek, or a modern language, and any two other subjects as set out in their regulations.
[6] The required subjects to be passed at one or not more than two examinations.
[7] Certificate to be signed in approved form by the Medical Registrar of the University.

REGISTRATION OF MEDICAL STUDENTS.

In addition to showing that he has passed one of these examinations, any person applying for registration as a medical student must (1) produce satisfactory evidence that he has attained the age of 16 years; (2) show that he has commenced medical study at a university or school of medicine, or at a scientific institution recognized by one of the licensing bodies and approved by the Council. The commencement of professional study will not be reckoned as dating earlier than fifteen days before the date of registration.

Application for registration should be addressed to the Registrar for the division of the United Kingdom in which the applicant is residing—England and Wales, or Scotland, or Ireland. It must be made on a special form, which can be obtained on application at the offices either of the Medical Council itself or of one of the various licensing bodies and medical schools, and when forwarded it should be accompanied by the certificates as to age and general education.

The regulations with regard to registration apply equally to medical and dental students, with the exception that in the case of the latter pupilage with a registered dental practitioner may be regarded as a commencement of professional study, and that applications for registration should be addressed to the London office only.

PROFESSIONAL EDUCATION.

The rule is that it is only from the date which appears against his name in the *Students' Register* that the medical student's career officially begins; thereafter five years must pass before he can present himself for the final examination for any diploma which entitles its lawful possessor to registration as a qualified medical practitioner under the Medical Acts.

There are, however, certain important exceptions to this rule: thus (1) to meet the circumstances brought about by

the dates at which sessions of the medical schools commence and end, the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration. (2) The Council will also recognize as the first of the five years one passed at certain approved universities and scientific institutions, a list of which is hereafter given, where the subjects of physics, chemistry, and biology are taught. (3) Those also are deemed to have completed the first of their five years who are graduates in arts or science of any university recognized by the Medical Council, and who, having spent a year in the study of physics, chemistry, and biology, have passed an examination in these subjects for the degrees in question. In any case the period of five years must be one of bona fide study, and during its course education in the following subjects must be pursued and examinations passed:

(i) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity.
(ii) Chemistry, including the principles of the science, and the details which bear on the study of Medicine.
(iii) Elementary Biology.
(iv) Anatomy.
(v) Physiology.
(vi) Materia Medica and Pharmacy.
(vii) Pathology.
(viii) Therapeutics.
(ix) Medicine, including Medical Anatomy and Clinical Medicine.
(x) Surgery, including Surgical Anatomy and Clinical Surgery.
(xi) Midwifery, including Diseases peculiar to Women and to newborn Children.
(xii) Theory and Practice of Vaccination.
(xiii) Forensic Medicine.
(xiv) Hygiene.
(xv) Mental Disease.

As regards these subjects, it should be noted that the Council has recently decided that the practical study of Subject (xi) shall not commence until the student has held the offices of Clinical Clerk and Surgical Dresser, and it has defined the way in which the work is to be done. It also now recommends licensing bodies to require of candidates at their final examinations evidence of instruction in the administration of anaesthetics and in infectious diseases, and of sedulous attention in hospital wards, out-patient departments, and *post-mortem* rooms, as clerks and the like.

The study of these subjects may be commenced and the first year passed at any of the following universities, colleges, and schools.

I.

The Universities of *Oxford, Cambridge, Durham, London* (including all its constituent Medical Schools and Colleges, and also Bedford College, Royal Holloway College, and the Royal College of Science), *Manchester, Wales, Birmingham, Liverpool, Leeds, Sheffield, Bristol, Aberdeen, St. Andrews, Edinburgh, Glasgow, Dublin, National University of Ireland, Queen's University of Belfast.*

II.

Edinburgh: School of Medicine of the Royal Colleges, Surgeons' Hall School, Medical College for Women, School of Medicine for Women.
Glasgow: Anderson's College, St. Mungo's College, Western Medical School.
Dublin: Royal College of Surgeons' Schools of Surgery.

III.

Banbury: Municipal School (Day Classes).
Birmingham: Municipal Technical School (Day Classes).
Bradford: Technical College.
Brighton: Technical Day College.
Bristol: Merchant Venturers' Technical College.
Cambridge: Girton and Newnham.
Cheltenham: Ladies' University College.
Derby: Technical College.
Dublin: Royal College of Science for Ireland.
Exeter: Royal Albert Memorial College.
Gloucester: Municipal Technical School (Day Classes).
Grimsby: Municipal College (Day Classes).
Halifax: Municipal Technical School (Day Classes).
Huddersfield: Huddersfield Technical College (Day Classes).
Hull: Municipal Technical School (Day Classes).
Leicester: Municipal Technical and Art School (Day Classes).
London: Birkbeck Institute, East London [change of title] College, Central Technical College, Westfield College, Polytechnic Institute, Battersea (Day Classes), City of London College (Day Classes), South-Western Polytechnic Institute, Chelsea (Day Classes).
Manchester: Municipal School of Technology (Day Classes).
Norwich: City of Norwich Technical Institute (Day Classes only).
Nottingham: University College.
Plymouth: Municipal School of Science (Advanced Day Classes).
Portsmouth: Municipal College (Day Classes).
Preston: Harris Institute.
Reading: Reading College.
Rochdale; Municipal Technical School (Day Classes).
Salford: Royal Technical Institute (Day Classes).
Southampton: Hartley College.
Southend-on-Sea: Technical School (Day Classes).
Swansea: The Swansea Technical College (Day Classes).
Walsall: The Municipal Institute (Day Classes).
West Ham: Municipal Technical Institute.

Capetown: South African College.
Johannesburg: Transvaal University College.

In addition to these places, it may be noted that there are a number of ordinary schools which certain of the licensing bodies recognize as providing efficient education in chemistry, biology, and physics; they therefore admit persons who have attended courses at such schools to their own examinations in these subjects without demanding further proof of study. The time, however, which these students thus spend is not allowed to count as part of their five years' professional education unless they have previously passed an approved examination in general education, and in no case is more than six months allowed to count.

Wherever the first of the five years is spent, the next three must be passed at one of the schools of medicine recognized by any of the licensing bodies enumerated in the Schedule to the Medical Act of 1858. The final or fifth year the Council recommends should be devoted to clinical work, and it may be passed at any public hospital or dispensary at home or abroad which is recognized by any of the licensing bodies.

Special Considerations.

The requirements of the General Medical Council in respect of the education of those who desire to enter the medical profession have now been given in sufficient detail, but before leaving this part of the subject the steps which the aspirant should take may finally be rehearsed in their due order:

(1) Pass an examination in arts;
(2) Enter himself at a medical school or other scientific institution recognized by the Council;
(3) Get himself registered as a medical student;
(4) Study for a minimum of five years certain prescribed subjects;
(5) Meanwhile pass sundry intermediate examinations, and, finally, at the end of the fifth year, one which will entitle him to receive at the hands of a licensing body a legal authority to practise.

The Arts Certificate.—There are, however, other important considerations; thus, it is not a matter of indifference what certificate of proficiency in general education, or arts, the student obtains. The General Medical Council, it is true, will accept any of those which have been mentioned at p. 534, and this, too, is the case with practically all the college corporations in England, Scotland, and Ireland. But all the licensing bodies are not equally accommodating; some of the universities require that their own ordinary matriculation should be passed, others have special matriculation examinations for those wishing to join their medical faculty, and a third and larger number will accept any arts degree and certain matriculation examinations, as well as several other of the tests entered in the Council's list.

The first thing, therefore, the future medical student should, if possible, decide, is at what degrees or diplomas he intends to aim, and then find out what arts certificate will be required. If he cannot decide the question in advance, the best course probably would be to matriculate at London University, choosing as two of his optional subjects Latin and one other language, so as to meet the requirements of the General Medical Council with respect to general education. It is a troublesome examination in some respects, but, as now rearranged, gives a wide choice of subjects, and has the advantage of being accepted as sufficient testimony to general education by a larger number of bodies than is any other analogous examination.

The Minimum Period.—Another point to remember is that the period of five years mentioned is a minimum; a good deal more will almost certainly be required even by the man of good abilities and reasonable industry. Besides these qualities, a student to obtain a registrable qualification in the minimum period of five years, or fifty-seven months, must have a considerable amount of good luck; in other words, he must keep in good health through every term, and never fail at a single examination. Otherwise it is almost inevitable that his career as a student should be prolonged for a greater or smaller number of months beyond the possible minimum. Thus, for instance, a student before presenting himself for any examination has

to get what is called "signed up" for the subjects covered by that examination; this means that his teachers have to certify that he has attended the required number of lectures or classes in the subjects in question. If, however, the student happens to be ill during the term when such lectures or classes are taking place, he may miss a sufficient number of them to make it impossible for him to be "signed up."

Then, again, should a student fail to satisfy the examiners at some examination, he cannot present himself again for re-examination for at least three months. This fact generally entails further consequences, because, apart from the student's success at the next stage in his career being imperilled by his having to give up some time to restudying the subjects in which he has failed, the examining boards in the majority of instances insist upon a definite interval elapsing between a student passing one examination and his presenting himself for that which should follow it. For instance, the Conjoint Board of England demands that at least twelve months must pass between success at the examination in chemistry, physics, and biology, and that in anatomy and physiology. Then, again, many boards refuse to recognize lectures and classes which have been attended at a date anterior to that at which the student has passed the requisite examination in earlier subjects. Failure at an examination may thus not only mean deferment of the date of examinations, but deferment of the commencement of the student's study of certain subjects. It is thus exceedingly easy for a student to fail to qualify in five years, and, as a matter of fact, the vast majority of students take very much longer than that period.

Furthermore, in speaking of the minimum period, it is to be remembered that that time is only sufficient to gain a registrable qualification, such as a Bachelorship of Medicine or Surgery or a diploma of one of the Royal Colleges. These are quite sufficient for the purposes of general practice, or for entering the Services, etc., but those who wish to take a higher qualification, for instance, the F.R.C.S.Eng., must prolong their work for another year or more. So, too, must in some cases they who desire to convert their Bachelorship into an M.D. This may entail further formal examination, but at some universities the M.D. is obtainable on presentation of a thesis when the Bachelor has attained a certain age, and has practised his profession for a certain number of years. However, a student's career proper may be considered, perhaps, to have ended at the time he obtains his first registrable qualification, for while preparing himself for any further tests he can, and usually does, hold some junior appointment which, more or less, covers his expenses.

The Normal Course.

In conclusion, it may be convenient to sketch the general fashion in which the student will pass his five years or more, but discussion of this need not be prolonged, because once a student has entered at a school, and chosen the degrees or diplomas at which he wishes to aim, the dean of the school will guide his steps in every particular.

Whatever the precise final goal, the path thereto is in all cases identical in broad outline. Practically it is divided into three stages, the conclusion of each being marked by an appropriate examination. In the first stage the student acquires a more or less extensive knowledge of the preliminary sciences—chemistry, physics, and biology; in the second he studies anatomy and physiology; and the third he devotes to the real work of his future life, medicine and surgery and their branches. During each of these stages the student must attend not less than the prescribed number of lectures and classes to ensure getting "signed up" in the subjects of the stage, and also do a certain amount of practical work. As for the examinations at the end of the stages, these are known by different titles by different examining bodies, but "preliminary science," "intermediate" and "final" are in common use. Some bodies demand that the student should pass in all the subjects of one stage at one time; others allow the candidate to present himself in each of the subjects separately, thus multiplying the actual number of examinations, but limiting their scope. There are also differences in the requirements of the different licensing bodies as to the length of each stage, but practically all demand that the second shall be longer than the first, and the third not shorter than the second. By the length of the allotted stage the candidate may gauge the comparative importance the licensing body attaches to the subjects within the stage and the difficulty of the tests it will impose, and he may feel certain that the time allotted is none too much.

In any case it should be the aim of the student to get through his first two stages as quickly as his abilities and the regulations will allow; and, as a rule, he should have completed the first stage by the end of his first year, and may hope to complete the second stage not later than the end of his third year. He will then have two years in which to prepare for his final examination, and it will prove a very crowded period, for he has to get into it not only medicine, surgery, and midwifery proper, but many other allied subjects, such as pathology and bacteriology, forensic medicine, gynaecology, and therapeutics. In the first of the final two years he may be able to complete his formal lectures, and thus have the fifth year for entirely practical work and private study; during these two years, too, he will take part in the work of his hospital by holding clerkships and dresserships in the wards and out-patient departments for the periods laid down by the licensing bodies. Then at length, after perhaps a few weeks of special coaching, he will be ready to present himself for his final examination, which the regulations of most bodies will allow him to divide into two or more parts. The final examination passed in its entirety, he will be able to claim registration as a qualified medical practitioner at the hands of the General Medical Council and become an independent personage. There is still room for him to continue a student's career if he will, for, apart from the higher qualifications to which reference has been made, it may seem to him worth while to devote time to acquiring greater knowledge of some particular branch of medicine, such as ophthalmology or laryngology, or to undergo the courses of study necessary to obtain a diploma of special proficiency in questions of public health (page 575) or in tropical medicine (page 573). Points such as these, however, the student will be fully capable of deciding for himself when he has reached the stage to which our account has now brought him.

The next matters to be considered, therefore, are the requirements in detail of the different licensing bodies, and what they have to offer in the way of degrees and diplomas.

The English Universities.

THERE are now eleven universities in England and Wales, and ten of them have fully developed Medical Faculties, of which an account is here given. The exception is the University of Wales, whose constituent colleges are those of Aberystwith, Bangor, and Cardiff. It is in a position to grant degrees, and has laid down a six years' curriculum for candidates for the M.B. degree, but the arrangements of its medical faculty are not yet quite complete. It already provides, however, at the School of Medicine at Cardiff—of which an account will be found at page 558—thorough training in the work of the first three or four years.

UNIVERSITY OF OXFORD.

THE professional degrees conferred by this university are those of Bachelor of Medicine (B.M.), Bachelor of Surgery (B.Ch.), Doctor of Medicine (D.M.), and Master of Surgery (M.Ch.). It also grants a diploma in State Medicine[1] and a diploma in Ophthalmology. On receiving the B.M. the candidate is entitled to registration by the General Medical Council. In favourable circumstances this degree and the B.Ch. may be obtained in six or seven years from matriculation. Before receiving either, however, the candidate must have taken a degree in Arts (B.A.), for which three years' residence within the university is necessary. This, however, does not necessarily mean deferment of professional study for that period; for some of the subjects chosen for the final stage of the Arts course may be the same as those in which examinations would in any case have to be passed for the medical degrees.

THE B.A. DEGREE.

A candidate may obtain the B.A. degree in either of the following ways:

[1] See page 576.

(*a*) By passing Responsions (or one of the Examinations which are accepted as equivalent); Moderations, a Scripture Examination, or, in the event of a candidate objecting, examination in some substituted book; and the Final ss School in three subjects, two of which may be the ne as two in the Preliminary Examinations in Natural ience.[1]

(*b*) By passing Responsions; an additional subject in sponsions, the Scripture Examination; some of the liminary Examinations in the Natural Science School,[1] the Preliminary Examination and the School of Jurisidence, or the Honour School of Mathematics in the st Public Examination; and one of the Final Honour aminations.

tesponsions and the additional subject may be passed ore a candidate is a member of the university;[2] Moderas and Scripture can be passed in or after the second n; the Final Pass School may be taken any time after lerations; a Final Honour School may be taken at the of the third or within the fourth academical year—t is, twelve or sixteen terms respectively; the Preinary Examinations of the Natural Science School may aken as soon as Responsions have been passed.

Professional Degrees.

o obtain the B.M., B.Ch. degrees the candidate must pass in four of the subjects of the Preliminary mination of the Natural Science School—namely, sics, Chemistry, Zoology, and Botany.

e then has two further examinations to pass, the B.M. and the Final Examination. These take place e a year, on the Thursday of the eighth week of aelmas and Trinity terms. A candidate at the M.B. is examined in Human Anatomy, and also iology and Organic Chemistry, unless he has prely taken a first or second class in these subjects. Once as passed this examination, he can, on production of in certificates, be examined as soon as he pleases in ology, Forensic Medicine, and Hygiene, Materia ca, and Pharmacy (subjects of the final examination), annot present himself for the remaining subjects—cine, Surgery, and Midwifery—until the twentyh term from the date of his matriculation, and he take all the three subjects at one and the same time.

D.M. and M.Ch. Degrees.

Bachelor of Medicine who wishes to proceed to the must have entered his thirty-ninth term and present sertation for approval by the appointed examiners. candidate for the M.Ch., he must have entered his y-seventh term and pass an examination which is n June.

Teaching.

several colleges provide their undergraduate mem- with tutors for all examinations up to the B.A. degree. dition, the university provides certain courses of ction, including lectures, demonstrations, and prac- work which cover all the subjects of the Preliminary ination and First M.B., and in part those of the Final ination. A special is also provided for the diploma thalmology.

Scholarships.

several colleges grant scholarships of £80 a year, tenable for ars, in Natural Science, Chemistry, Physics, and Biology. ions of varying value are also awarded in these subjects. lars can be obtained on application to the college tutors. A e Travelling Fellowship of £200 a year, tenable for three years, rred annually; candidates must have taken the B.M. degree. Walker Studentship in Pathology of £200 a year, tenable for rs, is awarded biennially for the encouragement of research ology, as also are the Rolleston Memorial Prize, of the value of research in Natural Science (including Pathology), and the dore Williams Scholarships in Anatomy and Physiology, and in gy, of the value of £50 each, tenable for two years.

Fees.

nnual fee of £2 is paid to the university for the first ears, being reduced to £1 when the B.A. has been For the degree the fees are—the B.A., £7 10s.; the nd B.Ch., £14; the D.M., £25; the M.Ch., £12. fees, varying in amount, are paid for the first four f membership and in taking degrees. Tuition fees om £21 to £30. The minimum annual cost of living during the three university terms may be regarded as not less than £120.

[1] four subjects of the Medical Preliminary Examinations are he subjects in the Natural Science Preliminary, and can be ced directly after passing Responsions.

[2] ership is constituted by Matriculation and by becoming a of a College or Hall, or a non-collegiate student.

UNIVERSITY OF CAMBRIDGE.

The professional degrees given by this university are those of Bachelor of Medicine (M.B.) and Bachelor of Surgery (B.C.), which entitle the possessor to admission to the *Register* by the General Medical Council, and the higher degrees of Doctor of Medicine and Master of Surgery. It also grants diplomas in State Medicine and Tropical Medicine to persons who are registered medical practitioners, but not necessarily graduates of the university.[3] A candidate for the M.B., B.C. degrees need not possess a degree in Arts; it is sufficient if he has passed the *Previous Examination* or some other examination accepted by the university as its equivalent.

Professional Examinations.

To obtain the M.B., the candidate must pass three examinations, of which the latter two take place twice a year, in Michaelmas and Easter terms; those who are finally successful receive the B.C. degree without further examination.

First M.B. or Preliminary Examination in Science.—These comprise (1) Chemistry, (2) Physics, (3) Elementary Biology. The parts may be taken together or separately. In either case the candidate before admission to examination must have satisfied the requirements in respect of the *Previous Examination*, paid the Matriculation Fee, and entered on his first or some later term of residence. The examination is held three times a year—in October, December, and June.

Second M.B.—This examination, which cannot be passed until the first examination has been completed, comprises Part I, Human Anatomy and Physiology; Part II, Elementary Pharmacology, including Pharmaceutical Chemistry and the Elements of General Pathology. No one may enter Part II unless he has passed Part I. The candidate must be signed up in both subjects and have dissected for six months.

Third M.B.—This is divided into two parts, to neither of which is the candidate admitted until he has passed the examinations previously mentioned. A candidate for the first part, which deals with Surgery and Midwifery, must be signed up in these subjects and completed two years of hospital practice.

Before admission to the second part the candidate must have completed five years of medical study and be duly signed up in all subjects. He must also possess certificates showing that he has fulfilled all the recommendations as well as the requirements of the General Medical Council. The examination consists of Principles and Practice of Physic, Pathology, and Pharmacology.

Act for the M.B.—Before receiving his degree, a candidate who has been successful at the Final M.B. has to write a thesis. This he reads in public on an assigned day, and is then questioned concerning it and other subjects of medicine by the Regius Professor of Medicine. If approved at this test he is then certified as having "kept the Act" satisfactorily, and in due course receives his degree. Medical degrees may be taken in absence, the candidate sending a thesis to the Regius Professor of Physic which is laid before the Board.

The Higher Degrees.

The M.D. degree may be taken by an M.B. of three years' standing after keeping a further Act and writing a short extemporary essay, in which he may deal at his choice with either Medicine, Physiology, Pathology, or State Medicine. The M.C. degree may be granted to a candidate who has qualified for the B.C. at least three years previously; he is then examined in Pathology, Surgery, Surgical Anatomy, and Surgical Operations, or submits books or writings of his own which constitute original and meritorious contributions to the science and art of surgery.

Fees.

In addition to college fees, tutorial fees, and the expenses of living, the following examination fees are payable: First M.B., £4 4s.; Second M.B., £4 4s.; Third M.B., £9 9s. For schedules referring to the examinations,

[3] See pp. 573 and 576.

lists of schools recognized by the university, and other information, application should be made to the University Registrar.

UNIVERSITY OF LONDON.

UNDER the regulations of the University of London, the degrees obtainable in the Faculty of Medicine are those of Bachelor of Medicine and Surgery, Master of Surgery in two branches, and Doctor of Medicine in six different branches.

All students of the university are divided into two classes, Internal students and External students. An internal student is one who, having matriculated at the university, or otherwise obtained registration as an undergraduate, is pursuing a course of study approved by the university in a school or schools of the university, or under one or more teachers recognized by it. An external student is an undergraduate who is pursuing his education in some other way.

The standard of education required from those who present themselves for degrees, whether as internal or external students, is, as far as possible, the same, but the regulations which affect them differ to some extent. The information which hereinafter follows applies to those who propose to proceed to medical degrees as internal students, and who have not yet commenced their work.

Those who propose to study elsewhere than at one of the constituent schools of the Faculty of Medicine of the university, should obtain the regulations which apply to them from the External Registrar. There are a few conditions under which exemption may be obtained from examinations in certain subjects, or the intervals between examination abbreviated, but to the vast majority of students they have no application.

It should be stated here, moreover, that under no circumstances whatever can a degree after examination be granted to any one in less than three years after the date at which he passed the matriculation examination or obtained registration in some other way, and that all students alike of the Faculty of Medicine, unless they are registered medical practitioners of a certain age and standing, must pass not less than five and a half years in professional study subsequent to matriculation. Four and a half of those years must be passed after the First Examination for Medical Degrees at one or more of the medical institutions or schools at home and abroad recognized by the university for the purpose; and one year at least of those years must be passed at one of the schools of the university situated within the United Kingdom.

MATRICULATION.

The Matriculation Examination takes place three times in each year—namely, in the months of January, June (or July), and September. Application for admission to it must be made on a special form about six weeks beforehand, and must be accompanied by a certificate showing that the candidate will have completed his sixteenth year at the date on which the examination commences. It is a written examination, but the examiners are not precluded from putting viva voce questions to candidates if they should think fit. To pass the examination candidates must show a competent knowledge of five subjects, of which one must be English (one paper of three hours), another Elementary Mathematics (two papers of three hours each), and a third either Latin or Elementary Mechanics or Elementary Physics (Heat, Light, and Sound), or Elementary Chemistry or Elementary Botany. The other two may be selected from any of those in the following list, except, of course, those in which the candidate may have already been examined. Unless Latin has already been taken, one of them must be a language—Latin, Greek, French, German, or other language approved by the Matriculation Board—Ancient History, Logic, Modern History, Physical and General Geography, History, and Geography (which cannot be taken as well as either of the two preceding), Geometrical and Mechanical Drawing, Mathematics (more advanced than in the compulsory examination), Elementary Mechanics, Elementary Chemistry, Elementary Biology (Botany), *Elementary Biology (Zoology), *Elementary Geology, Elementary Physics (Heat, Light, and Sound, or Electricity and Magnetism).

Candidates desirous of offering any language other than those named above should submit their proposals for the consideration of the Matriculation Board six months befor the beginning of the Matriculation Examination in que tion. Candidates who desire to be examined in th subject against which an asterisk is affixed must give least two months' notice. The names of the successfu candidates are published in two lists, a first division an a second division. Communications concerning th examination must be addressed to the Principal of th University.

It may be added that there are a certain number of hig standard examinations held by various authorities at hom and abroad which the Senate regards as the equivale of its own matriculation examination, and those who ca show that they have passed them are admitted to registr tion as internal or external students on payment of th matriculation fee of £2. Appendix II to the Matriculati Regulations should be consulted on this point.

PROFESSIONAL EXAMINATION.

There are now only three examinations for the M. B.S. degrees, but the two last are subdivided.

The First Examination for Medical Degrees tak place twice in each year. It consists of two papers Inorganic Chemistry, two in General Biology, and two Physics, and there are practical examinations in Inorga Chemistry and in Physics, not exceeding three hours ea and in General Biology not exceeding six hours; examin are also at liberty to test candidates viva voce. A stud must present himself for examination, on first entry, in of the three subjects together. It is a pass examinat only, and the list of successful candidates is published the alphabetical order of their names, but with a note to any subject in which a candidate has distinguish himself.

The Second Examination for Medical Degrees, Par takes place twice a year, commencing on the Wednes following the third Monday in March, and on the aftern of the Thursday following the second Monday in J The examination cannot be passed within six month the passing of the First Examination for Medical Degr It consists of one three hours' paper in Organic Applied Chemistry, and a three hours' practical exam tion, the examiners being at liberty also to test candidate by viva voce questions. It is a pass exam tion, but the names of those who have distinguished th selves are specially marked.

The Second Examination for Medical Deg Part II, takes place twice a year, commencing on third Monday in March and the first Monday in Candidates must have passed the First Examinatio Medical Degrees at least eighteen months previously, also have passed Part I of the Second Examinatio Medical Degrees. The subjects of examination Anatomy, Physiology, and Pharmacology. In Anat there are two papers, dissection, and an oral examina In Physiology, two papers and a practical examin not exceeding six hours in length, which will in (*a*) Histology and (*b*) Experimental and Che Physiology. In Pharmacology, including Pharmacy Materia Medica, there will be one paper and an examination, which may include recognition of the important substances in the *British Pharmacopoeia* is a pass examination, and the names of the succe candidates will be published in alphabetical order, but subjects in which a candidate may have distingu himself will be appended to his name if he has pass all the subjects at one time. Candidates who have in one subject only at this examination may offer selves for re-examination in that subject, if permitted so by the examiners. Candidates who have pass Anatomy and Physiology in the Second Examinati Medical Degrees may enter in the following year f degree of B.Sc.(Honours) in Physiology or Human An and Morphology, provided they have completed a co study approved for that examination in a school or a recognized teacher of the university.

The Third Examination for Medical Degrees, or the B.S. Examination, takes place twice a year, comm on the fourth Monday in October and on the first M in May. No candidate will be admitted to this ex tion unless he has completed the Second Examinat Medical Degrees, together with the prescribed co study, nor within three academic years from the

ssing the Second Examination, Part II, in Anatomy and ysiology.

The subjects of the examination are Medicine (including erapeutics and Mental Diseases), Pathology, Forensic dicine and Hygiene, Surgery, and Midwifery and seases of Women. The subjects may be divided into o groups, one of which shall comprise Medicine, Path- gy, Forensic Medicine and Hygiene; and the other rgery and Midwifery and Diseases of Women. Either up may be taken first at the option of the candidate, or groups may be taken together. The examination in dicine will consist of (*a*) two papers—each of three rs' duration, (*b*) a viva voce examination on cases, an examination of a patient with a written report on case, and (*d*) an oral examination on the whole subject. pass, the candidate must be approved by the examiners respect of *b*, *c*, and *d*, as well as in regard to the papers. Pathology there will be a paper, a viva voce, and a ctical examination in clinical laboratory work, while in ensic Medicine and Hygiene there will be a paper and ral examination.

Surgery there are (*a*) two papers, each of three hours' ation, one on Surgery and the other on Surgical tomy and Pathology, (*b*) a clinical examination on s, (*c*) an oral examination on Surgical Pathology, and nother on Surgical Appliances and Surface Marking. lidwifery and Diseases of Women there will be one r and a viva voce. Only candidates who show a com- nt knowledge of all the subjects comprising a group be passed. There will be no separate examination for honours, but in the list of successful candidates ames will be divided into an honours list and a pass n each of which the names will be placed in alpha- al order. Only those, however, who have passed the e examination at one time will be entitled to a place e honours list. In this list the subjects in which they distinguished themselves will be appended to the s of the successful candidates. The examiners will powered to recommend the award of a university l of the value of £5 to the candidate who has most guished himself in the whole examination.

iploma for the degrees of Bachelor of Medicine and lor of Surgery under the seal of the university, con- ng a licence to practise, will be delivered to each late when he has passed in both groups of the exami- , after the report of the examinations shall have been ved by the Senate.

DOCTOR OF MEDICINE.

examination for the degree of Doctor of Medicine is vice in each year, commencing on the first Mondays ember and July. Every candidate must have passed mination for the M.B., B.S. of this university unless me M.B. before May, 1904. Candidates may present lves for examination in any one of the following es: (1) Medicine, (2) Pathology, (3) Mental Diseases, lwifery and Diseases of Women, (5) State Medicine, pical Medicine; and, if they wish, may pass also her branch at a subsequent examination. Candi- or Branches 1 to 4 who have taken honours at the B.S. Examination in the subject in which they themselves for the M.D. degree, or who subse- to taking the M.B., B.S. have conducted a piece nal work approved for the purpose by the univer- have had such exceptional experience in the branch h they present themselves as may be approved by iversity, may present themselves for the M.D. ation one year after taking their Bachelor's degree. candidates must show that they have taken the f M.B., B.S. not less than two years previously; egards candidates in Branches 1 and 4, either that ve held for at least six months a resident or non- medical appointment at a hospital approved for pose, or that they have been in qualified practice ess than five years; or that as regards Branches they have held in the one case a pathological and ther an asylum appointment in an institution t by the university. In each examination for the Branches 1 to 4 there will be (1) two papers on al subject of the branch; (2) a Clinical Examina- ept in Branch 2); (3) an essay to be written on o given subjects connected with the branch. In Branch 1 there will also be a paper on Pathology, and in Branches 2, 3, and 4 a paper in Medicine, while in Branch 2 a Laboratory Examination will be substituted for the Clinical Examination held in the other branches. As regards the essay, the candidate is expected to set forth his ideas in a clear and orderly fashion, and to examine critically various views that have been put forward on the subject. Account is taken not only of knowledge of detail but of the power shown to construct a lucid and well co-ordinated essay.

The regulations concerning candidates in Branch 5 (State Medicine) and Branch 6 (Tropical Medicine) will be found in their appropriate places in the articles devoted to these subjects (page 576 and page 573).

Finally, it should be noted that exemption may be obtained from part or the whole of the written examination which would otherwise be necessary by presenting a thesis or published work embodying independent research in the branch of medicine in which the candidate presents himself for the M.D. In the case of candidates in Branch 2 (Pathology) the exemption may apply likewise to laboratory work, though in this case a reasoned report on a subject prescribed by the examiners may have to be submitted within a given period.

In any branch of the M.D. Examination a gold medal of the value of £20 may be awarded.

MASTER IN SURGERY.

The examination for the degree of Master in Surgery will take place twice in each year, commencing on the same dates as the foregoing. Candidates may present themselves for examination in Surgery (Branch I) or in Dental Surgery (Branch II). The general regulations already quoted with regard to the M.D. will practically apply to it, surgery being substituted for medicine. In addition, the candidate must produce evidence that he has held a surgical appointment at an approved institution for at least six months. The examination in Surgery (Branch I) will consist of (1) two papers on Surgery (one of which may be a case for commentary); (2) an essay to be written on one of two subjects which may be selected from any branch of surgery; (3) two papers on Surgical Pathology and Surgical Anatomy; (4) a clinical examination; (5) operations on the dead body; (6) an oral examination at the discretion of the examiners. Competent knowledge in every subject of the examination must be shown in order to pass.

The examination for the M.S. in Branch II (Dental Surgery) will consist of: (*a*) One paper and viva voce examination in Oral Anatomy and Physiology and in Comparative Dental Anatomy; (*b*) one paper and viva voce examination in Oral Surgery and Therapeutics; (*c*) one paper and viva voce examination in Dental Metallurgy; (*d*) an essay on one of two subjects in Oral Surgery and Pathology; (*e*) one practical examination in Normal and Pathological Dental Histology; (*f*) one practical examination in Bacteriology; (*g*) a clinical and practical examination in Oral Surgery (including operative and prosthetic Dental Surgery). Candidates cannot be approved by the examiners unless they have shown a competent knowledge in all the subjects of the examination.

Candidates for the M.S. in either branch may be exempted from the written portions of the respective examinations if a thesis is presented by them and is approved. In either branch a gold medal of the value of £20 may be awarded.

FEES.

For Matriculation.—£2 for each entry.

First Examination for Medical Degrees.—£5 for each entry to the whole examination. For re-examination in one subject the fee is £2.

Second Examination for Medical Degrees, Part I.—£2 for the first and each subsequent entry.

Second Examination for Medical Degrees, Part II.—£8 for each entry to the whole examination. For re-examination in one subject the fee is £4.

M.B., B.S. Examination.—£10 for each entry to the whole examination, and £5 for examination or re-examination in either group.

M.D. and M.S. Examinations.—£20, and £10 on re-examination.

UNIVERSITY OF DURHAM.

To its own graduates, who may be of either sex, this university grants the degrees of Bachelor and Doctor of Medicine (M.B. and M.D.) and Bachelor and Master of Surgery (B.S. and M.S.); it also grants special degrees and diplomas in State Medicine and Dental Surgery.[1] To become a graduate, however, at the university it is not necessary to pass the major portion of the five years' curriculum within its precincts, or even to commence that period by matriculation. It is sufficient if, before he presents himself for his final examination, the candidate has passed at least one year in study at the University of Durham College of Medicine, including the practice of the Royal Victoria Infirmary in the same city. The earlier examinations may be passed while a student elsewhere, but not less than a year must elapse between the time that the student satisfies the requirements of the university as regards matriculation and his presenting himself for the Final M.B., B.S. Examination.

MATRICULATION.

The university has its own matriculation examination, but accepts the following as an equivalent.

A degree of Arts of any university in the British Empire.

The Examination for Responsions of the University of Oxford.

The Previous Examination of the University of Cambridge.

The Matriculation Examination or the School Leaving Examination of the University of London.

The Preliminary Examination of the Joint Board of the Scottish Universities.

The Joint Matriculation Examination of the Victoria University of Manchester, the University of Liverpool, the University of Leeds, and the University of Sheffield.

The Matriculation Examination of the university of Wales.

The Preliminary Examination of the University of Birmingham.

The Senior Local Examination of the University of Oxford, provided the subjects required by the university are included.

The Senior Local Examination of the University of Cambridge, provided the subjects required by the university are included.

The Higher Certificate Examination of the Joint Examination Board of the Universities of Oxford and Cambridge, provided the subjects required by the university are included.

The Leaving Certificate of the Higher Grade of the Scottish Education Department, provided the subjects required by the university are included.

The Senior Certificate or the Honour Certificate Examination of the Central Welsh Board, provided the subjects required by the university are included.

In addition, those who have satisfied the requirements of the General Medical Council, as regards general education, by some test other than one of the above, will be exempted from matriculation, provided that they satisfy the Durham examiners in any three of the subjects set by the Durham Matriculation Examination, exclusive of Religious Instruction and Elementary Mathematics. One of the three subjects must be in a language other than English.

PROFESSIONAL EXAMINATIONS.

There are four professional examinations for the M.B., B.S. degree. They are held twice a year—in March and July. The first deals with elementary anatomy and biology, chemistry, and physics; the second with anatomy and physiology; the third with pathology, materia medica and pharmacy, elementary bacteriology, medical jurisprudence, and public health. At the final M.B., B.S., the candidate is examined in medicine and clinical and psychological medicine; surgery and clinical surgery; midwifery and diseases of women and children; clinical and practical gynaecology.

M.D.—A Bachelor of Medicine who wishes to proceed to this higher degree must be of at least two years' standing, and satisfy the university that he knows either Greek or German. He then submits a typewritten essay dealing with original work or observation of his own, and is examined in its subject. If the candidate is not an M.B. of the university, he must be a practitioner of fifteen years' standing and submit to special tests.[2]

B.S.—A candidate for this degree must have passed the examination for the M.B. of the university, and have attended courses on operative surgery and regional anatomy. He must then perform operations on the dead body before the examiners.

M.S.—Candidates for this degree must, like those for the M.D., satisfy the authorities as to their knowledge Greek or German, and must have been engaged in practi for at least two years subsequent to becoming B.S.Durha They are submitted to an examination which covers t whole range of surgical knowledge.

FEES.

The following fees are payable: Matriculation or equivalent, £1 10s.; First, Second, and Third M Examinations, each £5; Final M.B., £10; M.D., B.S., a M.S., £5 for each examination and £6 6s. for each degr Further information respecting the examinations a degrees may be obtained from Professor Howden, at t University of Durham College of Medicine, Newcastle-Tyne.

VICTORIA UNIVERSITY OF MANCHESTER.

THIS university grants the four ordinary degrees Medicine and Surgery, M.B. and Ch.B. and M.D. Ch.M.; a Diploma and a Degree (B.Sc.) in Public Heal a Certificate in Factory and in School Hygiene; an Degree and Diploma in Dental Surgery. Candidates degrees must pass the special Matriculation Examina prescribed by the Faculty of Medicine (or some equiva examination accepted in lieu thereof; see the Prospec of the Joint Matriculation Board), and study at the versity itself for at least two years of the five years' cu culum, one such year being subsequent to the passin the first M.B. Examination. The Matriculation Exam tion comprises (1) Latin, (2) Mathematics, (3) the Eng Language, its literature and history; (4) two subject choice, one of which must be a language approved by Joint Board, Elementary Mechanics, Chemistry, Geogra or Natural History. It is held in July and September.

PROFESSIONAL EXAMINATIONS.

M.B., Ch.B.—There are four examinations for this de They must be passed in proper order, and before admis to them the candidate must be duly certified as ha attended in the subjects involved. At all examination subjects, or groups of subjects, prescribed can be t separately or together, as the candidate pleases. The M.B. is divided into Part 1, Inorganic Chemistry and Phy Part 2, Biology (including Animal and Vegetable Mor logy, Physiology, and Laboratory work); Part 3, Elemen Organic Chemistry and Bio-chemistry. The parts ma taken separately or together. At the Second M.B. candidate is examined in Anatomy and Physiology; a third in Pathology, Hygiene, and Pharmacology and T peutics (including Materia Medica and Practical Pharm The final examination includes Medicine, systematic clinical (separate papers being given on Mental Dise and Diseases of Children, Surgery (systematic, clinical practical, with a separate paper on Ophthalmol Obstetrics and Gynaecology, and Forensic Medicine Toxicology.

M.D.—A candidate for this degree must be an M.B. least one year's standing. He has a choice between senting an original dissertation or undergoing a w (practical and clinical) examination in Medicine, written and practical examination in Pathology, an other subject to be selected by the candidate.

Ch.M.—A candidate must have held, since bec Ch.B., and for not less than six months, an appointm a public institution affording opportunity for the st practical surgery, and produce certificates of h attended certain courses of study. The exami comprises the general field of surgery, including thalmology and Bacteriology.

FEES FOR EXAMINATIONS.

The following fees are payable: Matriculation, readmission, £1 10s. Each M.B. Examination, £5; admission, after failure, £2. M.D., including the ferring of the degree, £10. Ch.M., £5 each f examination and degree. Application for further in tion should be addressed to the Dean of the M Faculty.

UNIVERSITY OF BIRMINGHAM.

THIS university confers the ordinary medical and s degrees—M.B., Ch.B., M.D., and Ch.M.—and also di and degrees in State Medicine and Dentistry. I

[1] See pp. 577 and 588. [2] See p. 570.

, too, by which, extending his study to six instead five years, the M.B., Ch.B. candidate may become a helor in Science as well. Of the five years' curriculum, first four must be spent, as a rule, at the university lf, the fifth being passed at any approved school or ools. Occasionally, however, the Senate will reduce period of enforced residence to three years and exempt the first M.B. those who have passed elsewhere an nination considered to be its equivalent.

ll students in the medical faculty must (1) either riculate in Mathematics, in Chemistry or Experi- tal Mechanics, in the English Language and rature and History, and in Latin, and one other ign language; or (2) show that they have passed an nination deemed an equivalent elsewhere. Subject certain provisos, the following are at present thus rded:

The Previous Examination of the University of bridge. (*b*) Responsions of the University of Oxford. he Matriculation Examination of a recognized University. he Higher Certificate of the Oxford and Cambridge Boards. he Oxford or Cambridge Senior Local Examination.

Professional Examinations.

e candidate for the M.B., Ch.B. degrees has five inations to pass. In the second and fourth and examinations the candidate must pass in all the ribed subjects or undergo the whole examination t.

rst M.B.—This deals with Chemistry, Physics, and entary Biology; it may be passed before the student iences residence at the university, provided the regu- ns as to matriculation have been met.

ond M.B.—This deals with Anatomy and Physio- and the student must pass in both simultaneously.

ird M.B.—This deals with Pathology and Bacteriology, ia Medica, and Practical Pharmacy.

urth M.B.—This takes place at the end of the fourth the subjects being Forensic Medicine, Toxicology, Health, and Therapeutics.

al M.B.—This comprises Medicine, Surgery, Mid- and Disease of Women, Ophthalmology, and Mental ses. The candidate, in addition to more ordinary cates, must be prepared with a certificate of having as a *post-mortem* clerk for three months, and ed special instruction in anaesthetics and clinical ction in diseases peculiar to women, asylum ward and ophthalmology. In respect to the latter he show that he has learnt refraction work. He also present to the examiners reports drawn up by f on six gynaecological cases, and certificates drawn himself regarding four actual cases of lunacy, and respecting two others.

.—An ordinary candidate for this degree must be ., Ch.B. of not less than one year's standing. He ts an original thesis for approval, and then passes a l examination in the principles and practice of ne. From the latter the Board of Examiners may t a candidate whose thesis is of exceptional merit. egulations respecting the Ch.M. are of the same l character. Subject to certain requirements as s special research or other post-graduate study, the tes of other universities may obtain the M.D. and in the same way as the holders of the Birmingham Ch.B.

Fees.

fee for Matriculation is £2, and that for each of the ur professional examinations the same amount. h.B. degree fee, £8; M.D. and Ch.M. examination, h. For further particulars application should be the Dean of the Medical Faculty.

UNIVERSITY OF LEEDS.

grees granted in the Medical Faculty of this ity are Bachelor of Medicine and Bachelor of (M.B. and Ch.B.), Doctor of Medicine (M.D.), and of Surgery (Ch.M.). It also gives Diplomas in Health, Psychology, and two degrees in Dental .

dates for the M.B. must have attended courses of ion approved by the university for not less than rs, two at least of such years having been passed niversity subsequently to the date of passing the First Examination. They must also have matriculated by satisfying the examiners in (1) English (language or literature); (2) English history; (3) Mathematics; (4) Latin; (5) two of the following, one of which must be a language: (*a*) Greek, (*b*) French, (*c*) German, (*d*) some other modern language approved by the Board, (*e*) either Mechanics or Physics, (*f*) Chemistry, (*g*) Geography, (*h*) Natural History. Exemption from the examination may be granted to applicants holding certificates of having passed examinations of a standard deemed by the Matriculation Board to be at least equal to the Board's examination.

Professional Examinations.

The examinations for the M.B., Ch.B. number three. The first deals with (1) Physics and Chemistry, (2) Biology. In each subject laboratory work is included, but the two parts can be taken separately. For neither can the candidate present himself until after matriculation, and at least two or three terms' approved work in the respective subjects indicated.

Second M.B.—This may be taken in two parts, (*a*) Anatomy and Physiology, including practical work; (*b*) Materia Medica and Pharmacy, including actual compounding of drugs. The candidate's certificates must show, among other things, that he has dissected during at least five terms.

Final M.B.—This, too, may be divided into two parts, but for neither can the candidate present himself until he has completed ten terms of study. If divided, he must first take Pathology and Bacteriology, Forensic Medicine and Toxicology and Public Health, and must pass in these before proceeding to the second division. The latter cannot be taken before the end of the fifth year, and before being admitted to the examination in its subjects the candidate, in addition to ordinary certificates, must produce proof that he has done both intern and extern maternity work, and received clinical instruction in gynaecology, and in eye, skin, or laryngeal diseases, and in the administration of anaesthetics. This division covers all branches of surgery, medicine (including mental diseases and diseases of children), and obstetrics and gynaecology. Passages for translation from French and German are included in the papers on medicine. First and Second Class Honours may be obtained in this division.

M.D.—A candidate for this degree must be an M.B., B.Ch. of at least one year's standing. He presents a dissertation embodying the results of personal observation or original research, and, if this is approved, passes an examination which consists in the writing of an extemporary essay, and questions on the history of medicine and the subject of the dissertation.

Ch.M.—The candidate for this degree must have been admitted to the M.B., Ch.B. not less than a year previously, and during that time must have held for at least six months a surgical appointment in a public institution affording full opportunity for the study of practical surgery. In addition he must have attended certain special courses, including one on ophthalmology and one on bacteriology; he is then examined in the subject of surgery in all its branches.

Fees.

The Matriculation fee is £2, and on readmission £1. For each of the other examinations £5, and £2 on readmission. On conferment of the degree of Ch.M. £5 is payable, the same remark applying to the M.D. degree.

UNIVERSITY OF LIVERPOOL.

This university, besides granting degrees in Medicine (M.B. and M.D.) and in Surgery (Ch.B. and Ch.M.), gives a degree in Dental Surgery[1] and also diplomas in the same subject as well as in Tropical Medicine,[2] Public Health, and Ophthalmic Surgery. For the degrees no study is recognized anterior to matriculation and registration as a medical student.

Matriculation.

As regards Matriculation the university has its own examination, but accepts the tests of several other bodies as its equivalent. These include the Final Examination for Graduation in arts of any university in the United Kingdom, the Matriculation of London University, the Senior Local Examination of Oxford and Cambridge, and

[1] See p. 588. [2] See p. 574.

the higher certificate of the Joint Oxford and Cambridge Board. Of the five years' curriculum, not less than two must be passed in the university itself, one such year being subsequent to the date of passing the First M.B. examination.

PROFESSIONAL EXAMINATIONS.

Candidates for the M.B., Ch.B. degrees have three examinations to pass, the first including (1) Chemistry, Inorganic and Organic; (2) Biology, including Zoology and Botany; (3) Physics. Section 2 may be taken alone or passed in conjunction with Sections 1 and 3.

Second M.B.—This test covers (1) Anatomy and Physiology, including Physiological Chemistry and Histology, and (2) Materia Medica, Pharmacy, and Pharmacology; these two sections may be taken separately.

Final M.B.—This examination deals with six subjects, which may be taken all together or divided into three parts, the first consisting of (1) Pathology and Morbid Anatomy; the second of (2) Therapeutics, and (3) Forensic Medicine, Toxicology, and Public Health; the third of (4) Obstetrics and Diseases of Women, (5) Surgery, (6) Medicine, including Mental Diseases and Diseases of Children.

M.D. and Ch.M.—Candidates for these degrees must have received the M.B. and Ch.B. at least a year previously. The M.D. candidate submits an approved dissertation covering original work, the M.Ch. candidate undergoing an examination in all subjects of Surgery, including Ophthalmology. Other information concerning the diplomas of this university and its medical school will be found on page 556.

UNIVERSITY OF SHEFFIELD.

THE degrees of this university (M.B., Ch.B., and M.D. and Ch.M.) and the Diploma in Public Health are open to candidates of either sex. The matriculation examination must be passed, and included in it must be the subjects required by the General Medical Council; the university accepts a certain number of other tests as the equivalent of its own matriculation.

PROFESSIONAL EXAMINATIONS.

A candidate for the degrees of M.B., Ch.B. must produce certificates that he will have attained the age of 21 years on the day of graduation; that he has pursued the courses of study required by the university regulations during a period of not less than five years subsequently to the date of his registration as a medical student by the General Medical Council, three of such years at least having been passed in the university, and one year at least having been passed in the university subsequently to the date of passing the first examination. He or she has eventually to pass the following examinations in due order:

First Examination.—The subjects are Chemistry, Physics, and Biology. The examination is divided into two parts: Part I (*a*) Chemistry, Physics, (*b*) Biology; Part II, Organic Chemistry; and candidates may pass in each part separately. The Intermediate Examination in Science—Chemistry, Physics, and Biology—will, on payment of the required additional fee, be accepted instead of Part I of this examination, but the candidate, after matriculation and registration as a medical student, must have attended courses of instruction (lectures and laboratory work) in Chemistry, Physics, and Biology for one year each, and in Special Organic Chemistry (lectures and laboratory work) for one term.

Second Examination.—The subjects are Anatomy, Physiology, Materia Medica, and Pharmacy. The examination is divided into two parts, (*a*) Anatomy and Physiology, and (*b*) Materia Medica and Pharmacy; and candidates may pass in either part separately. The candidate must have completed the third Winter Session of professional study, must have passed the First Examination, and must have attended (1) lectures on Anatomy and Dissections during two Winter Sessions and one Summer Session; (2) lectures on Physiology during two Winter Sessions, Practical Physiology during two Winter Sessions, and Histology during one Summer Session; and (3) Materia Medica and Pharmacy for three months.

Final Examination.—The subjects are divided into two parts—namely, (A) Forensic Medicine and Toxicology, Public Health, and Pathology, and Morbid Anatomy; and (B) Medicine, including Pharmacology and Therapeutics, Mental Diseases, and Diseases of Children, Surgery Obstetrics, and Gynaecology. Candidates may presen themselves for examination in both parts on the sam occasion or separately, but Part A may not be passed befor the completion of the fourth year of study. Candidates fo the whole examination, or for Part B, must have complete the fifth year of study.

M.D.—Candidates for the degree of Doctor of Medicin must have passed the examination for the degrees of M.B. Ch.B. at least one year previously, must present a thesi embodying observations in some subject approved by th Professor of Medicine, and must pass an examination i the Principles and Practice of Medicine.

Ch.M.—Candidates for the degree of Master in Surger must have passed the examination for the degrees of M.B Ch.B. at least one year previously, and must, since takin the degrees of M.B., Ch.B., have held for not less than si months a surgical appointment in a public hospital or othe public institution affording full opportunity for the stud of Practical Surgery. The subjects of examination ar Systematic, Clinical, and Operative Surgery, Surgica Anatomy, Surgical Pathology, and Bacteriology.

Other information concerning this university will b found in the section devoted to Provincial Medical School

UNIVERSITY OF BRISTOL.

THIS university grants the four ordinary degrees Medicine and Surgery, M.B. and Ch.B. and M.D. (th M.D. may be taken in State Medicine) and Ch.M.; Diploma (D.P.H.) is granted in Public Health; and Degree and Diploma in Dental Surgery. Candidates f degrees must pass the special Matriculation Examinati prescribed by the Faculty of Medicine (or some equivale Examination accepted in lieu thereof; see the Regulatio for Matriculation), and study at the University itself f at least three years of the five and a half years' curriculu two such years being subsequent to the passing of t second M.B. Examination. The Matriculation Examir tion comprises (1) Latin, (2) Mathematics, (3) the Engli Language, its literature and history; (4) two subjects choice, one of which must be a language, Greek, Frenc German, or some other modern language approved by t Joint Board, and the other either Elementary Mechani Chemistry, Geography, or Natural History. It is held July and September.

PROFESSIONAL EXAMINATIONS.

M.B., Ch.B.—There are three examinations for t degree. They must be passed in proper order, and bef admission to them the candidate must be duly certified having attended in the subjects involved. The First M comprises Chemistry, Physics, Botany, and Zoology. T Second M.B. comprises Organic Chemistry, Element Anatomy (Part I), Advanced Anatomy, Physiology (Part The two groups may be taken separately or togeth The Final examination includes Materia Medica a Pharmacy, Pharmacology and Therapeutics, Gene Pathology, Morbid Anatomy and Bacteriology (Part Special Pathology, Forensic Medicine, Toxicology a Public Health, Obstetrics (including Diseases of Wom Surgery (Systematic, Clinical, Practical, and Operati Medicine (Systematic, Clinical, and Practical), includ Mental Diseases (Part II). The two groups may be ta separately or together. First and Second Class Hono may be obtained by a candidate whose work is deemed sufficient merit, but cannot be awarded to one who recorded against him a failure at any examination a the first M.B.

M.D.—A candidate for this degree must be an M.B. Ch.B. of at least two years' standing. He has a ch between presenting an original dissertation, underg a general examination in Medicine (including Mec Anatomy, Medical Pathology and Bacteriology, System and Clinical Medicine), or passing an examination in S Medicine.

Ch.M.—A candidate must have attended, since becom M.B., Ch.B., and for not less than two years, a pu institution affording opportunity for the study of prac surgery, and produce certificates to that effect; the didate shall be required to pass a general examinatio Surgery (including Surgical Anatomy, Surgical Patho and Bacteriology, Operative and Clinical Surgery), an

present a dissertation in some department of Surgery. He must be of two years' standing as an M.B., Ch.B.

FEES FOR EXAMINATIONS.

Applications for information should be addressed to the Dean of the Medical Faculty.

English Medical Corporations.

THERE are three medical corporations in England, the Royal College of Physicians; the Royal College of Surgeons, and the Society of Apothecaries of London. The first two combine for certain purposes to form what is known as the "Conjoint Board." Details concerning this body, its component colleges, and the third licensing body here follow.

THE CONJOINT BOARD.

THIS body deals with the qualifications of all candidates for the Licence of the Royal College of Physicians of London and for the Membership of the Royal College of Surgeons of England. It prescribes for them certain periods of study, and recommends those who satisfy it for the Licence and diploma of Membership respectively. The successful candidate is then entitled to admission to the *Medical Register* as an M.R.C.S.Eng., L.R.C.P.Lond. It performs the same task in connexion with a diploma in State Medicine jointly issued by the two Colleges in question. It obliges all candidates to pass one of a large number of examinations which it considers satisfactory tests of general education, and thereafter to pass five years of professional study at a recognized medical school, allowing, however, six months to be spent at any institution which may be recognized by the Board as giving sufficient education in chemistry and physics. A list of such institutions, as also of the tests accepted in regard to general education, can be obtained from the Secretary of the Board at Examination Hall, Victoria Embankment.

PROFESSIONAL EXAMINATIONS.

There are three examinations for the Conjoint diploma, M.R.C.S., L.R.C.P., which are commonly known as First College, Second College, and Final.

First College.—This examination is in four parts: (1) Chemistry, (2) Physics, (3) Elementary Biology, (4) Practical Pharmacy.

A candidate must present himself for examination in Parts I and II together until he has reached the required standard to pass in both, or in one of these parts, but he will not be allowed to pass in one part unless he obtains at the same time half the number of marks required to pass in the other part. A candidate may take Parts III and IV separately, or he may present himself for the whole examination at one time.

Before admission to either part the candidate must show that he has undergone certain courses of theoretical and practical instruction, but these courses need not be completed within one year, nor need they run concurrently, but they may be commenced or attended before the candidate passes the required preliminary examination in general education. A candidate referred in any part or parts will not be admitted to re-examination for three months. If referred in Chemistry, Physics, or Biology he must produce evidence of further instruction. Those who are already graduates in medicine, or who have passed an examination in the same subjects before a university qualifying for a degree in medicine, may obtain exemption from the examination in those subjects at this examination.

Second College.—This examination deals with Anatomy and Physiology, and both subjects must be passed at the same time. A candidate must have attended at a recognized medical school lectures on Anatomy, Physiology, and Histology, and have dissected for twelve months during the ordinary sessions. The study of Anatomy and Physiology before passing in any of the first three parts of the First Examination is not recognized. If rejected, a candidate, before being admitted to re-examination, must continue his studies at a recognized medical school for not less than three months.

Final College.—This examination consists of three parts: Part I, Medicine, including Medical Anatomy, Pathology, Practical Pharmacy,[1] Therapeutics, Forensic Medicine, and Public Health; Part II, Surgery, including Pathology, Surgical Anatomy, and the use of Surgical Appliances; Part III, Midwifery and Gynaecology. The examination may be passed at one time or in each part separately. Evidence of attendance at courses of instruction in the subjects of the three parts must be produced, and also of having conducted twenty labours. A candidate will be admissible to Parts I, II, and III of the Third or Final Examination at the expiration of two years (twenty-four months) from the date of passing the Second Examination, and on production of the required certificates of study, provided that the examination is not completed before the expiration of five years (five winter and five summer sessions) from the date of passing the Preliminary Examination. A rejected candidate must produce evidence of further instruction during three months.

NOTE.—A person holding a Colonial, Indian, or foreign qualification which entitles him to practise in the country where such qualification has been obtained is, after a course of study and examination equivalent to those required by the Regulations of the two Royal Colleges, admissible to the Second and Third or Final Examinations without any interval. Members of an English, Scottish, or Irish university are under certain conditions eligible for admission to the Third or Final Examination two years after passing at their university the subjects included in the First and Second Examinations of the Board.

A Doctor or Bachelor of Medicine or Surgery of an Indian, Colonial, or foreign university recognized for the purpose, who shall have passed at his university in the subjects of the First and Second Examinations will be eligible for admission to the Third or Final Examination two years after passing in the said subjects.

FEES.

First Examination, £10 10s. Re-examination, Parts I and II, £3 3s.; Parts III and IV, each £2 2s. *Second Examination*, £10 10s. Re-examination, £6 6s. *Third Examination*, £21. Re-examination, Part I, Medicine, £5 5s.; Practical Pharmacy, £2 2s. Part II, Surgery, £5 5s. Part III, Midwifery and Diseases of Women, £3 3s. Members of an English, Scottish, or Irish university, £5 5s. For the diplomas, £36 15s.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THIS College has three grades—its Licentiates, its Members, and its Fellows. The Licence is only issued through the Conjoint Board, as already stated, unless the candidate commenced professional studies before October, 1884. Its membership is only granted to those who have passed the final examinations for the Licence; or those who are registered practitioners and graduates of a recognized university; in any case they must be persons over 25 years of age, who do not practise in partnership, dispense medicines, or engage in trade. Candidates are examined in pathology and the practice of physic, partly in writing and partly viva voce. Those under 40 are also examined in Latin, and either Greek, French, or German. The examination fee is £6 6s., the Membership fee being £42, or the difference between that sum and what the candidate has already paid if a Licentiate. The body of Fellows is maintained by election from among the Members.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THIS College has two grades—Members and Fellows. The Members are admitted as stated in the section dealing with the Conjoint Board. The Fellowship is granted after examination to persons at least 25 years of age who have been engaged in professional studies for six years. There are two examinations—the first in Anatomy and Physiology, which may be passed after the third winter session; the second, chiefly directed to Surgery, which may be passed after six years of professional study. Candidates must pass the Final Examination of the Examining Board in England and be admitted Members of the College before admission to the Second Examination for the Fellowship, except in the case of Graduates in Medicine and Surgery of not less than four years' standing of universities recognized by the College for the purpose, who are required to attend for one year the Surgical Practice of a general hospital recognized by the College, after

[1] Candidates who have previously passed in Practical Pharmacy will not be re-examined in that subject at the Third Examination.

obtaining their degrees. The College also issues a Diploma in Dentistry.[1]

Fees.—At First Examination: £5 5s. At Second Examination: £12 12s. Diploma fee: Members, £3 3s.; non-members, £13 13s.

SOCIETY OF APOTHECARIES OF LONDON.

THIS body confers a registrable diploma in Medicine, Surgery, and Midwifery, now known as the L.M.S.S.A. There are nominally only two examinations, but both are subdivided.

Primary Examination.—Part I includes Elementary Biology, Chemistry, Chemical Physics, Practical Chemistry, Pharmacy, and before passing it the candidate should have been registered as a medical student and undergone certain courses of tuition. Part II includes Anatomy, Physiology, and Histology. This examination cannot be passed before the completion of twelve months' Practical Anatomy, with demonstrations. These subjects cannot be taken separately, except in the event of the candidate having previously passed in one. Candidates will be excused any or all the subjects of the Primary Examination on producing evidence that they have passed equivalent examinations before an examining body recognized by the Society. Candidates referred in Anatomy will be required to produce evidence of further work in the dissecting room before being admitted to re-examination.

Final Examination.—This is divided into two sections, the first section being again subdivided into three parts. The first part includes the Principles and Practice of Surgery, Surgical Pathology, Operative Manipulation, Surgical Anatomy, Instruments and Appliances. Part II includes: (*a*) The Principles and Practice of Medicine (including Therapeutics, Pharmacology, and Prescriptions), Pathology, and Morbid Histology; (*b*) Forensic Medicine, Hygiene, Theory and Practice of Vaccination, and Mental Diseases. Part III: Midwifery, Gynaecology, and Diseases of Newborn Children, Obstetric Instruments and Appliances. A candidate cannot present himself for this section before the expiration of forty-five months after registration as a medical student, during which time not less than three Winter Sessions and two Summer Sessions must have been passed at one or more of the medical schools connected with a general hospital recognized by the Society. Section 2 consists of Clinical Surgery and Clinical Medicine and Medical Anatomy, and a candidate before appearing at it must have completed five years of medical study.

FEES.

Primary Examination, £5 5s.; Final, £15 15s. Further information may be obtained from the Secretary, Court of Examiners, Apothecaries' Hall, Blackfriars, E.C. It is worth noting that Licentiates of this Society are eligible for admission to its membership, a position conferring the advantages commonly accompanying membership of a City guild. Information on this point should be sought from the Clerk of the Society at its Hall, Blackfriars.

The Scottish Universities.

THERE are in Scotland four universities, each of them possessing a Faculty of Medicine, and having the right to confer degrees which admit the holder to the *Medical Register*. In essential points the regulations in their medical faculties for undergraduates are on all-fours with one another, so that an account can be given of all of them together.

The universities in question are, of course, those of Edinburgh, Glasgow, Aberdeen, and St. Andrews, and in point of standing and repute it is not easy to differentiate between them. What provision each of the cities in which these universities are situated makes for the education of medical students will be found in the section on Medical Schools in Scotland; here it need merely be said that degrees in medicine from Scotland as a whole have always enjoyed an excellent repute.

The degrees granted in medicine and surgery to candidates of either sex are four in number—Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.). The two former are not separably obtainable one from the other. Besides these degrees a diploma in Tropical Medicine and Hygiene is obtainable from the University of Edinburgh, as also a diploma in Psychiatry. As for Public Health registrable degrees in this subject are granted both by the University of Edinburgh and that of Glasgow, while diplomas in Public Health may be obtained from the universities of St. Andrews and Aberdeen. Information as to these will be found in the appropriate sections dealing respectively with Preventive Medicine and Tropical Medicine.

MATRICULATION.

Matriculation is effected by signing the statutory declaration, or *sponsio academica*, and paying a fee of £1 1s., but to make it effective enrolment as a student at some class of the university is necessary; moreover, to make matriculation a step to a degree a preliminary examination must be passed. This for medical students is an examination in English, Latin, Elementary Mathematics, and either Greek or French or German. Candidates are required to pass in all these subjects, either at one or at not more than two examinations, but they can present themselves as often as they please. These preliminary examinations are held twice a year, in Spring and Autumn, and in point of standard are believed to correspond to that set at the examinations for the lower certificate of the Oxford and Cambridge Schools Examination Board. The universities accept as the equivalent of the preliminary examination a large number of corresponding tests held by other bodies. The fee is 10s. 6d. Compliance with the regulations of the General Medical Council as to registration as set forth on p. 534 is necessary.

PROFESSIONAL EDUCATION.

The regulations as regards the subjects to be studied comply in all respects with the requirements and recommendations of the Medical Council, and in addition necessitate definite study for stated periods of diseases of children, of the larynx, ear and nose, of the skin, of ophthalmology, and of mental diseases.

In respect of midwifery, the student must either conduct personally twenty-five cases of labour or attend a lying-in clinic for three months, and personally conduct twelve deliveries. He must also attend the medical and surgical practice of a hospital recognized for the purpose for at least three years. In each of the prescribed subjects of study the student must attend one or more courses of definite length, those in the more important subjects lasting not less than five months, and in the minor subjects half that time. In respect of these courses certificates must be obtained showing that the student has not only attended the courses regularly, but has duly performed the work of the class.

Out of the necessary five years of medical study, not less than two must be spent at the university whose degree the student hopes to obtain, and the balance at any place officially recognized for such purpose. In each academic year there are two sessions, one lasting from the beginning of October to the middle of March, and the other from the middle of April to the end of June.

PROFESSIONAL EXAMINATIONS.

The distinctive feature of the Scottish curriculum is that though nominally there are only four examinations each of these may be, and habitually is, split up by the student into sections. Hence, a student may complete some stage of his career during the course of nearly every session. Thus, by the end of the first Winter Session the student may get rid of Physics and Chemistry. At the end of the first Summer Session he can finish with Botany and Zoology, and at the end of the second with Anatomy and Physiology. Practical Materia Medica may be taken at any period of examination after the necessary course of instruction has been attended. Pathology and Materia Medica he will pass at the end of the third year, and so on until the Final Examination at the end of the fifth Summer Session in Clinical Medicine, Clinical Surgery, and Clinical Gynaecology. At each examination the candidate may pass "with distinction," and a record is kept of the marks displayed, so that, when the time comes for the candidate to graduate, one who has done well throughout can be declared as graduating with first or second class honours. A further point in the system is that the student's own teachers commonly take some part in his examination.

[1] See p. 587.

Of the four examinations, the first deals with Physics, otany, Zoology, and Chemistry; the second with Anatomy id Physiology; the third with Materia Medica and athology; the fourth with Medicine and Surgery (clinical id systematic), Midwifery, Forensic Medicine, and Public ealth, and Clinical Gynaecology. Each of these examinaons is held three times a year.

Exemption from the first professional examination can obtained by candidates who have passed an examination any recognized university in its subjects qualifying for degree in science or in arts. Before appearing for amination at the stated periods the student must have tended the necessary course of lectures in each subject id have satisfied the examiners in all the subjects of the evious examination When a candidate presents himself r an examination in several of its parts, but is not sucssful in all of them, he is credited at the next examinaon with those subjects in which he has previously been pproved.

THE HIGHER DEGREES.

It is open to those who are already M.B., Ch.B. to proed either to the M.D. or the Ch.M. A candidate for the rmer must have been engaged for not less than one year work in the medical wards of a hospital or in scientific search in a recognized laboratory or in the Naval or ilitary Medical Services, or have been at least two years general practice, and he must be 24 years of age. He s to write a thesis on any subject not exclusively surgical, d is examined in clinical medicine and in some one or her of its special departments. The regulations for candlates for the Ch.M. are of a corresponding character, a riod of surgical work in a hospital or elsewhere being bstituted for medical work, and his thesis being on a rgical rather than a medical subject. He is examined in rgical anatomy, clinical surgery, operative surgery, and some of the special departments of surgery.

FEES.

It is estimated that the class examination and other fees the M.B., Ch.B. come altogether to £150, the separate s included in this calculation being as follows:

	£	s.	d.
Preliminary Examination	0	10	6
First Professional	6	6	0
Second Professional	5	5	0
Third Professional	4	4	0
Finals	7	7	0

Re-entry in any subject in which the candidate has led entails a fresh payment of £1 1s. Candidates for e M.D. and Ch.M. pay £15 15s., and on re-entry £5 5s.

More detailed information with regard to the University Edinburgh can be obtained from the *Medical Prorramme*, price 2d., which is published by Mr. Thin, South Bridge, Edinburgh, or on application to the an of the Faculty of Medicine. Similar information out Glasgow should be sought from the Assistant Clerk, triculation Office, Glasgow. With regard to Aberdeen, plication may be made to the Secretary of the Medical culty, Marischal College. In respect of St. Andrews, ormation can be obtained either from the Secretary of e University or, alternatively, the Secretary of the ited College, St. Andrews, or the Secretary of Unirsity College, Dundee, these being the two constituent lleges of the University of St. Andrews.

Finally, it should be mentioned that, in connexion with the Scottish universities, including St. Andrews, there e valuable bursaries and scholarships, some informan as to which will be found in the article on Medical hools.

The Scottish Corporations.

ERE are three medical corporations in Scotland—the yal College of Physicians of Edinburgh, the Royal llege of Surgeons of Edinburgh, and the Faculty of ysicians and Surgeons of Glasgow. Their licences n be separately obtained only by persons who are already possession of a recognized qualification—in surgery in e case of the College of Physicians, and in medicine in e case of the College of Surgeons and the Faculty of Physicians and Surgeons of Glasgow. All others must submit to the examinations held by the Conjoint Board which the three corporations have combined to form. Details concerning this Board and its component colleges follow. The conditions on which their higher qualifications are granted will be found set forth separately in connexion with each corporation.

THE CONJOINT BOARD IN SCOTLAND.

THIS body has charge of all questions connected with candidates for the Conjoint Licences of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Those who are approved at its examinations are entitled to registration and to the initials denoting the Licences of the three bodies concerned—namely, L.R.C.P.Edin., L.R.C.S.Edin., and the L.R.F.P.S.Glasg. It requires all candidates to comply with the regulations of the General Medical Council as regards registration of medical students set forth on page 534, and to pass a preliminary examination in Arts.

It has an examination of its own of this character, which is conducted for it by the Educational Institute of Scotland, but is prepared to accept any of the educational tests approved by the General Medical Council, a list of which will be found on page 535.

PROFESSIONAL CURRICULUM.

Subject to the passage of the preliminary examination for registration as a medical student the candidate must pass not less than five years in medical study, each comprising a Winter and a Summer Session. On this point and all others connected with the curriculum the regulations of the Board are in keeping with the recommendations and requirements of the General Medical Council as already set forth. The Board does not exact that candidates shall pursue their study at any particular place, and is prepared to accept certificates of having attended the necessary courses from any recognized medical school.

Its examinations are four in number, each of them being held six times every year—four times in Edinburgh and twice in Glasgow; and it is open to candidates to present themselves for examination either at one place or the other. The first examination deals with Physics, Chemistry, and Elementary Biology; the second with Anatomy and Physiology, including Histology; the third with Pathology and Materia Medica, including Pharmacy; and the final with (1) Medicine, including Therapeutics, Medical Anatomy, and Clinical Medicine; (2) Surgery, including Surgical Anatomy, Clinical Surgery, and Diseases and Injuries of the Eyes; (3) Midwifery and Diseases of Women and of Newborn Children; (4) Medical Jurisprudence and Hygiene. Candidates may also be examined on Diseases of Children, Diseases of the Ear and Throat, Insanity, Vaccination, etc.

These examinations must be passed in due order, and before admission to any of them the candidate must supply certificates showing that he has completed the due periods of study of their subjects. On the other hand, the examinations, other than the final examinations, can be broken up by the student and each of the subjects taken separately. If a candidate takes up several subjects of an examination or the whole of the subjects at one time but fails in some of them, he is credited at the next examination with those subjects in which he has been approved. As regards the final examination, a candidate can present himself in Medical Jurisprudence and Public Health at any time after completion of the previous examination and of his study of these subjects; but in Medicine, Surgery, and Midwifery a candidate cannot present himself until the completion of five years' study, and must enter therefor conjointly.

Finally, it should be mentioned that a person who holds a qualification from a recognized university conferring a legal right to practise in the country from which it was obtained, and granted after courses of study and examination deemed by the Board to be the equivalent of its own, may be exempted from the three earlier examinations in whole or in part; but to no examination can a candidate be admitted within three months of his rejection by some other licensing body.

FEES.

It is estimated that the total cost of lectures and fees for the conjoint examinations is about £152. The separate examination fees are as follows: Preliminary, £1; First, Second, and Third Professional, £5 each; and the Final, £15. On re-entry for all divisions of the first three professional examinations payment of £3 is required, and on re-entry for the Final examination, £5. Smaller payments are necessary when re-entry is only in one or two subjects.

Information concerning this Board should be sought either from Mr. James Robertson, solicitor, 54, George Square, Edinburgh, or from Mr. Alexander Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THIS College has two grades—its Licence and its Fellowship. Licentiates may be of either sex, but for the Fellowship women are not eligible. As an original qualification the Licence is only granted after fulfilment of the regulations of the Conjoint Board, but as an additional qualification can be obtained by those already possessed of a registrable qualification in Medicine. In this case the candidate has to pass a written, oral, and clinical examination in Surgery, and may be asked to operate on the dead body. The fee is £15 15s., of which £10 10s. are returned to unsuccessful candidates. On due cause shown, a special examination may be granted, the fee being £20, of which £10 is returned to a candidate if he is not approved.

Candidates for the Fellowship must be not less than 25 years of age, and have been in practice subsequent to registration for at least two years, and must hold either a surgical degree from a university recognized for that purpose by the College, or an approved diploma obtained as the result of an examination which includes surgery as well as medicine. Candidates are examined in surgery, including clinical and operative surgery, surgical anatomy, and one other subject which they may choose from among the following: Ophthalmology, laryngology, including aural and nasal surgery, dental surgery, advanced midwifery with obstetric surgery, gynaecology, surgical pathology and operative surgery, and advanced anatomy. The examination is written, oral, and clinical or practical. A candidate who desires to be examined must give one month's notice, his application for admission being supported by two Fellows of the College, one of whom must be resident in Edinburgh, or, in default, by testimonials obtained specially for the purpose.

Licentiates of the College pay £35, and others £45. For further information application should be made to the Clerk of the College, Mr. D. L. Eadie, 54, George Square, Edinburgh.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

THIS College has three grades—Licentiateship, Membership, and Fellowship; to the two latter women are not admissible. The regulations applying to candidates for the Licentiateship have already been generally indicated. If desirous of receiving it apart from those of the other two corporations, they must be holders of a surgical qualification recognized by the College, and must pass an examination corresponding to the medical part of the final examination of the Conjoint Board, and conditioned in the same way, and also an examination in Materia Medica. The fee for examination is 15 guineas, a special examination being obtainable on due cause shown, and on payment of 5 guineas extra. Ordinary examinations take place monthly on the first Wednesday, except in September and October. A candidate for the Membership must be either a Licentiate of a Royal College of Physicians or a graduate in medicine of a British or Irish university, and in either case not less than 24 years of age. He is examined in medicine and therapeutics, and in one further subject at his choice. This may be either (*a*) one of the departments of medicine specially professed; (*b*) psychology; (*c*) general pathology and morbid anatomy; (*d*) medical jurisprudence; (*e*) public health; (*f*) midwifery; (*g*) gynaecology; (*h*) diseases of children, or (*i*) tropical medicine. Licentiates of the College pay £21, others £36 15s. A candidate who is not less than 40 years of age, and who has been in practice not less than ten years, may be exempted from part or all of the examination, provided he is highly distinguished for his scientific attainments. The latter is held quarterly, and application for admission to it must be made a month previous to its date. For the Fellowship, the candidate must have been a Member of the College for at least three years, and, if accepted, pays fees amounting altogether to a little less than £65. Any further details required can be obtained on application to the Secretary of the College.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THIS body possesses two classes, Licentiates and Fellows. The regulations applying to the former correspond with those respecting candidates for the Licence of the Royal College of Surgeons of Edinburgh. They are examined in surgery (including clinical surgery and surgical anatomy). The fee is £15 15s., and examinations are held quarterly. Candidates for the Fellowship must be qualified medical men of not less than two years' standing and 24 years of age. Candidates approved at this examination are then eligible for election as Fellows. The Faculty can also elect two Fellows annually without previously submitting them to examination, provided they "have highly distinguished themselves in Medical Science or Practice." They must be of not less than ten years' standing and 40 years of age. Further information can be obtained from Mr. A. Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

The Irish Universities.

THE opportunities in Ireland for acquiring medical and surgical degrees are ample, for there are nominally three and practically five universities, each possessed of a medical faculty. These are the University of Dublin usually known as Trinity College, Dublin, the Queen's University of Belfast, and the National University of Ireland. The two former teach students, examine them, and grant or withhold degrees accordingly; while the third is by way of being an academic body only, inasmuch as its practical work is divided up among three constituent colleges. One of these is University College, Cork, another University College, Galway, and the third University College, Dublin. The regulations of all these universities in respect of medical degrees are given in the following sections; while specific information as to the arrangements for the education of medical students made at each of them will be found in the section relating to Irish Medical Schools.

UNIVERSITY OF DUBLIN.

THIS university, better known, perhaps, as Trinity College Dublin, grants two degrees in Medicine (M.B. and M.D.), two in Surgery (B.Ch. and M.Ch.), two in Midwifery (B.A.O. and M.A.O.), and diplomas in the same subjects and in Public Health. It also confers two degrees in Dentistry. Its degrees it only grants to those who, besides having passed the Professional Examination, have graduated in Arts.

PROFESSIONAL EXAMINATIONS.

A candidate for the Final Examination for the M.B., B.Ch., and B.A.O. degrees must be a matriculated student of at least five years' standing, and though he need not have taken his degree in Arts before admission to the Professional Examination, he cannot take his medical degrees until he has been admitted a B.A. As a rule, at least three years of his medical study must be pursued at the university, but the Board has power to accept one year at a recognized London or Edinburgh hospital as the equivalent of one year's attendance at a recognized Dublin hospital, or two years at a recognized country or Colonial hospital as one year of metropolitan work. The examinations which he has to pass are the Preliminary Scientific, Intermediate Medical, and the Final, and of course before admission to any of them he must be duly signed up as regards study in the subjects involved.

Preliminary Scientific.—This covers (*a*) Chemistry and Physics, (*b*) Botany and Zoology; the two divisions may be taken together or at different times.

Intermediate Medical.—This is divided into two parts: (*a*) Anatomy, Physiology, and Histology; (*b*) Applied Anatomy and Applied Physiology. The two parts may be taken separately, but in each part all subjects must be passed at one time.

Final Examination.—Part I: Hygiene and Medical Jurisprudence, Pathology, Materia Medica, and Therapeutics. *Part II:* (*a*) Midwifery, Gynaecology (clinical, paper, and viva voce); (*b*) Medicine, Clinical Medicine, and Mental Diseases; (*c*) Surgery in all branches, including Clinical Ophthalmology. The three sections of Part II may be divided, any two being taken at one examination, and the third later. In either case the full curriculum must have been completed, nor can the final subject be taken until at least the end of the fifth year.

M.D.—The candidate must have passed all the qualifying examinations in Medicine, Surgery, and Midwifery, and have taken, or have been qualified to take, the degree of B.A. three years previously. He must read a thesis before the Regius Professor of Physic.

M.Ch.—The candidate must be a B.Ch. of not less than three years' standing, and have been engaged in practice for two years. Graduates of ten years' standing may be given a special examination.

M.A.O.—The candidate must have passed the qualifying examination in Medicine, Surgery, and Midwifery. The examination is specially directed to Obstetrics and Practical Gynaecology.

For the university diplomas mentioned the candidate must have completed two years in Arts and five in Medical studies. The examination and courses required are the same as for the degrees.

FEES.

Matriculation, 5s.; M.B., B.Ch., B.A.O., £17; M.D., £13; M.Ch., £11; M.A.O., £5; L.M., L.Ch., L.A.O., £11. Further information may be obtained from the Registrar of the School of Physic, University of Dublin.

QUEEN'S UNIVERSITY, BELFAST.

THE degrees granted by the Medical Faculty of this University are as follows: Bachelor of Medicine (M.B.), Bachelor of Surgery (B.Ch.), Bachelor of Obstetrics (B.A.O.), Doctor of Medicine (M.D.), Master of Surgery (M.Ch.), Master of Obstetrics (M.A.O.). The University also confers a diploma in Public Health. The first three mentioned are degrees serving as a qualification for admission to the *Medical Register*, and will be conferred at the same time and after the same course of study. In addition to matriculating and passing his professional examinations, a candidate for these degrees must have been a registered medical student for five years, and have passed three of these five as a student at the Belfast School of Medicine.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., B.Ch., B.A.O. are four in number. The first deals with: (1) Inorganic, Organic, and Practical Chemistry, (2) Experimental and Practical Physics, (3) Botany and Practical Botany, (4) Zoology and Practical Zoology. It is divided into two parts, of which Botany and Zoology form one. The Second Examination covers Anatomy and Physiology, and may be taken at the end of the second year of the student's career. The Third examination includes: (1) Pathology, (2) Materia Medica, Pharmacology and Therapeutics, (3) Medical Jurisprudence, and (4) Hygiene. To be valid a certificate in regard to the study of the subjects of this examination must show that the work has been done subsequent to passing the First Examination.

The Final Examination includes: (1) Medicine, (2) Surgery, (3) Midwifery, (4) Ophthalmology and Otology. The student may pass in all subjects at once at the end of his fifth year, or he may divide the examination into two parts—namely, (1) Systematic, (2) Clinical, Practical, and Oral. The first part may be taken at the end of the fourth year, but for the second part the candidate may not present himself until the end of his fifth year. No certificate in regard to study of the subjects of this examination will be valid unless the work was done subsequent to passage in all the subjects of the Second Examination.

M.D.—Candidates for the degree of Doctor of Medicine must be graduates in Medicine of at least three years' standing, unless they hold also a degree of the university in Arts or Science. In that case a standing of two academic years will suffice. Moreover, candidates must be able to show that the interval has been passed in the pursuit of such courses of study or practical work as may be prescribed. The degree may be conferred either (*a*) after a formal examination, or (*b*) in recognition of the merits of a thesis or of some piece of original study or research carried out by the candidate, followed by an oral or other examination in its subject. When an ordinary examination is imposed it will include (1) a written paper on the principles and practice of medicine, (2) a commentary on a selected clinical case, (3) a clinical and viva voce examination, and (4) a written paper and clinical or practical and viva voce examination of a subject chosen from the following list: (1) Human Anatomy, including Embryology, (2) Physiology, (3) Pathology, (4) Pharmacology and Therapeutics, (5) Sanitary Science and Public Health, (6) Forensic Medicine and Toxicology, (7) Mental Diseases. The regulations for the degrees of M.Ch. and M.A.O. are of the same general nature.

In the case of students who have already matriculated or passed any of the examinations of the Royal University of Ireland, the regulations are duly modified so as to meet their case. Other information concerning this university will be found in the article on Medical Schools in Ireland.

NATIONAL UNIVERSITY OF IRELAND.

THE National University of Ireland represents an evolution from the now extinct Royal University of Ireland, and is in some ways comparable to the University of London, as in itself it is mainly an academic body, doing most of its work through constituent colleges. On the other hand, these constituent colleges—namely, University College, Dublin; University College, Cork; and University College, Galway—differ from the constituent bodies of the University of London, inasmuch as, subject to the approval of the University Senate, they arrange their own courses of instruction, make their own regulations, and examine their own students with the assistance of external examiners. Every student may, therefore, complete his education in the place of his choice, pass his examinations therein, and receive his degree thereat, practically at the hands of the body which is responsible for his education, but nominally at those of the National University of Ireland itself. In the Medical Faculty the degrees granted are Bachelor of Medicine, Bachelor of Surgery, Bachelor of Obstetrics, Bachelor of Dental Surgery, Master of Surgery, Master of Obstetrics, Master of Dental Surgery, and Doctor of Medicine.

Candidates for the lower degrees in medicine, surgery, and obstetrics, which are not given separately, must have passed three of their five years of study at one of the constituent colleges of the university, and may pass the other two at any school of medicine or in any university recognized for the purpose by the Senate. The three years in question do not count except after matriculation, or registration as a student of the Medical Faculty obtained in some other fashion. A variety of examinations are accepted by the university in lieu of its own matriculation examination.

Though each constituent college has the right to arrange its own course of work, as already stated, the regulations in the case of medical students appear to be of much the same order at each of the three colleges. They have to pass four examinations. The first, which should be passed at the end of the first year, includes Part A. (Chemistry and Physics), and Part B. (Botany and Zoology), which parts may be taken separately or together. At the end of the second year they should pass in Anatomy and Physiology; and at the end of the fourth year in Pathology, Materia Medica, and Therapeutics, Hygiene and Public Health, Forensic Medicine and Toxicology. The final examination is divided into three parts, each of which may be taken separately—namely, (*a*) Medicine, including Mental Diseases; (*b*) Surgery, including Ophthalmology and Otology; (*c*) Midwifery and Gynaecology.

The higher degrees are obtainable either by examination or on presentation of an approved work, but in each case not less than three years must have elapsed since the

candidate acquired the corresponding degree of Bachelor. Information as to the teaching arrangements of each of the constituent colleges will be found in the section relating to Irish medical schools.

The Irish Corporations.

THERE are in Ireland, as in London, three licensing bodies other than the Medical Faculties of Universities, and, just as in London, there are two Royal Colleges of Physicians and Surgeons and an Apothecaries' Hall. The similarity is still more complete, for in Ireland also the two colleges have formed a Conjoint Board, as in London, which is responsible for the recommendation of candidates to the two bodies for their respective licences. The Apothecaries' Hall gives its licence separately. The Conjoint Board also holds examinations for the Diploma in Public Health granted by the two colleges.

THE CONJOINT BOARD IN IRELAND.

THIS body requires of candidates the passage either of its own preliminary examination in the subject of general education or proof that the candidate has passed one of the tests accepted by the General Medical Council.

PROFESSIONAL EXAMINATIONS.

There are four professional examinations, the first of which cannot be passed earlier than the end of the first Winter Session, nor the fourth before the conclusion of full five years of medical study, and before being admitted to any of them the candidate must show that he has studied the different subjects in practice and theory for the requisite periods, certificates to this effect being accepted from the authorities of most of the recognized medical schools at home and abroad. The First and Second Examinations deal respectively with (*a*) Chemistry and Physics, and (*b*) Biology; and (*a*) Anatomy, and (*b*) Physiology and Histology. All parts of these examinations, as also of the following one, which deals with (*a*) Pathology, (*b*) Materia Medica, Pharmacy, and Therapeutics, (*c*) Public Health and Forensic Medicine, may be taken separately.

Final Examination.—This is divided into three divisions, which cannot be completed until at least four years have passed in medical studies other than those for the first examination, and five years, at least, since the beginning of the curriculum. The divisions are (*a*) Medicine, including Fevers, Mental Diseases, and Diseases of Children; (*b*) Surgery, including Ophthalmic and Operative Surgery; (*c*) Midwifery, including Diseases of Women and Newborn Children, and the Theory and Practice of Vaccination. Candidates are recommended to present themselves in all the subjects of the Final Examination at one time, but a candidate at or after the end of the fourth year may present himself in any one of the divisions (*a*), (*b*), or (*c*), provided he has completed his curriculum as far as concerns the division in which he presents himself.

Fees.—Preliminary Examination, £2 2s.; re-examination, £1 1s. First Professional Examination, £15 15s.; Second, £10 10s.; Third, £9 9s.; Final, £6 6s.; re-examination fee is £2 2s. for each division.

Further information can be obtained from Alfred Miller, Secretary of the Committee of Management, 6, Kildare Street, Dublin.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

THOSE whose names already appear on the *Medical Register* can obtain the separate Licence in Medicine of this College, and its Licence in Midwifery. In either case an examination has to be passed in the subjects indicated, questions on midwifery, hygiene, and jurisprudence being included in the examination for the Licence in Medicine. For the Licence in Midwifery practitioners of over five years' standing are exempted from examination by printed questions. The other grades of the College are Members and Fellows. The former are admitted after an examination which is open to all university graduates in medicine and licentiates in medicine of Royal Colleges of Physicians, and deals with the general subjects of medicine. Fellows are selected, by vote, from among the Members.

Fees.—For the Licence in Medicine, 15 guineas; for the Licence in Midwifery, 5 guineas; or 16 guineas for both if they are taken within an interval of a month. Special examinations cost in each case 5 guineas extra. For the Membership, 20 guineas to a Licentiate of the College; 35 guineas to others; a special examination costing 5 guineas extra. The Fellowship £35, in addition to stamp duty, £25. Information as to special examinations and other points can be obtained from the Registrar, the Royal College of Physicians, Kildare Street, Dublin.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THIS body, besides granting a Licence in Surgery, admits those possessed of registrable surgical qualifications to its Fellowship under certain conditions. Its Licence is usually granted conjointly with that of the College of Physicians, but it is given separately to holders of a registrable qualification in medicine, provided that the College is satisfied that adequate courses of study have been pursued, and provided its own professional examination is passed. This examination is held on its behalf by the Conjoint Board, and is identical with the ordinary surgical portion of the examinations imposed by that body.

The Fellowship.—Candidates for the Fellowship must pass two examinations, of which the first is in Anatomy (including dissections), Physiology, and Histology; and the second in Surgery (including Surgical Anatomy) and Pathology. Both examinations are partly written, partly practical, and partly viva voce; while the final examination includes the performance of operations. All subjects of either examination must be passed at one time, and to neither can a candidate be admitted who has been rejected in any of its subjects by any other licensing body within three months. Candidates are not admitted to the primary examination except on evidence that they have already passed an examination in Anatomy, Physiology, and Histology, held by some university or other body whose degrees or licences entitle the holder to admission to the *Register;* if, however, the candidate is a person whose name is on the colonial or foreign medical *Register*, at the discretion of the Council. Candidates for the Final Examination must be over 25 years of age, produce a certificate of general good conduct signed by two or more Fellows of the College, and, if successful, must make a declaration before admission to the effect that they do not conduct dispensing practices, and will not do so as long as they are Fellows.

Fees.—Candidates for the Licence pay 5 guineas for examination, which sum, if they pass, is counted as part of the fee payable on admission to the Licence, this being 25 guineas. Candidates for the Fellowship pay 5 guineas for each examination, the total of 10 guineas being reckoned as part of the fee payable on admission to the Fellowship. That fee is 25 guineas in the case of those who are already Licentiates, and 40 guineas in the case of others.

APOTHECARIES' HALL OF IRELAND.

A DIPLOMA is granted by this Hall which entitles the holder to be registered as a practitioner of Medicine, Surgery, and Midwifery, and confers also the privileges of an Apothecary. Two periods of Dissection, each not less than six months, must be included, and twenty-seven months of hospital attendance, or its equivalent. Four professional examinations have to be passed; they are held quarterly. The first examination deals with Biology, Physics, and Chemistry, Practical and Theoretical; the second examination is in Practical Anatomy and Physiology, and Histology; the third in Pathology, Pharmacy and Materia Medica, Forensic Medicine, and Hygiene. A candidate who has passed tests in any of the subjects of these examinations before another licensing body is exempt from further examination in such subjects. The Final Examination deals with Medicine, Surgery, Ophthalmology, Midwifery, and Gynaecology. The Hall's own examination in all these subjects must be passed, except in the case of candidates who have already been admitted to the *Register*. These are only examined in subjects not covered by their previous qualifications. Women candidates are eligible.

Fees.—For each of the first three examinations, £5 5s.; for the final, £6 6s. If the third and final, or final alone, are passed before the Hall, the other examinations having

been passed elsewhere, the fee is £15 15s. Application for other information should be made to the Registrar, 40, Mary Street, Dublin.

MEDICAL SCHOOLS AND COLLEGES.

LONDON.

APART from post-graduate and other special schools, the Medical Schools of London number as many as fourteen, including in the count two institutions which provide education only in the preliminary and intermediate subjects, under the title of "University Centres."

Little guidance can be given in these columns as to choice of one school rather than another, for such choice must depend largely on personal factors. In a general way, however, it may be said that while to the student of to-day it may, perhaps, be almost a matter of indifference to what school he belongs, there is often in after-life a certain advantage in having been an alumnus at one of the more celebrated schools. On the other hand, at the smaller schools more opportunities, perhaps, present themselves to the average man for obtaining student appointments, and especially the coveted posts of house-physician and house-surgeon.

Information as to the fees at the different schools and the scholarships, prizes, and junior appointments which they offer, will be found in the following pages, and should be carefully studied by those who have no personal reason for preferring one to the other. The courses which they provide are fundamentally the same, and in all of them the arrangements made are such as to meet the requirements of students of every class—of those who are aiming at the diplomas of the Conjoint Board or the Apothecaries' Society not less than of those who have London or other university degrees in view. At all, too, as has been said, special facilities are offered to men who have commenced their professional education at the older universities, Oxford and Cambridge. Apart from these facts, the only point to which attention can usefully be directed is that on personal inquiry and investigation reason may perhaps be found for regarding the teaching accommodation and general arrangements for students at some schools as superior to those at others. Those who propose to enter a London school should note carefully what is said respecting London students in the opening pages of this issue.

ST. BARTHOLOMEW'S.

THIS institution fills one side of Smithfield and Giltspur Street, sharing with the Post Office buildings a large island of ground separated practically from all other buildings; it is on the edge of the City, and easily reached from all parts of London. The hospital contains 744 beds. Extensive new buildings, opened in July, 1907, occupy part of the ground acquired from the old Bluecoat School, and these materially enhance the attractions of the place as one of medical study. The library and the chemical, physical, biological, and physiological laboratories have now at their side a very large building, which includes club rooms for the Students' Union, a writing room, luncheon and dining halls, new quarters for the resident staff, and an out-patient department and accommodation for special departments of such large size as to be unsurpassed by any hospital in the Kingdom. During the year 1909 a second block of new buildings has been completed. These form the Pathological Department, and include, in addition to a new and extensive *post-mortem* room, large and well-equipped laboratories for clinical pathology, pathological histology, bacteriology, and chemical pathology, altogether forming the most complete pathological department in the country. Within the precincts of the hospital also there is a residential college for a large number of students. The Students' Union owns, moreover, grounds of some 10 acres in extent for recreative purposes at Winchmore Hill, which is easily accessible from the hospital.

Special classes are held for students preparing for the Preliminary Scientific and other Examinations for the M.B., M.D. of the Universities of London, Oxford, and Cambridge, and for the higher surgical degrees at the same universities, including the M.S.Lond., First and Second F.R.C.S., M.Ch.Oxon., and M.C.Cantab. Special laboratory instruction for the D.P.H. of Cambridge, Oxford, Durham, and London is also given.

Appointments.—Clinical Clerks to the Physicians and to the Physician-Accoucheur, and dressers to the Surgeons and in the Casualty Department are chosen from the students; Clerks and Dressers are also selected from the students to attend in the out-patient rooms, in the special departments (Ophthalmic, Orthopaedic, Gynaecological, Laryngological, Aural, Dermatological, Electrical, and Dental) and in the *post-mortem* room. Chief Assistants and Clinical Assistants are selected from qualified men appointed yearly to help in the special departments just named. Ten House-Physicians and ten House-Surgeons are appointed annually. During their first six months of office they act as "Junior" House-Physicians and House-Surgeons, and receive a salary of £25 a year. During their second six months they become "Senior" House-Physicians and House-Surgeons, and are provided with rooms by the hospital authorities, and receive a salary of £80 a year. A resident Midwifery Assistant, an Ophthalmic House-Surgeon, and a House-Surgeon for diseases of the throat, nose, and ear are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Two Assistant Anaesthetists are appointed annually, and receive salaries of £120 and £100 a year respectively. An Extern Midwifery Assistant is appointed every three months, and receives a salary of £80 a year.

Scholarships.—Five Entrance Scholarships will be awarded after an Examination to be held on September 25th, 1911, and following days. The subjects of examination and conditions of eligibility for these Scholarships are: (1) Two Scholarships, value £75 each, in not fewer than two nor more than three of the following subjects—Chemistry, Physics, Botany, Zoology, Physiology, and Anatomy, limited to students under 25 years of age who have not entered on the medical or surgical practice of any London medical school. (2) One Scholarship, value £150, in not fewer than three of the following subjects—Chemistry, Physics, Botany, Zoology, and Physiology, limited to students under 21 years of age who have not entered on the medical or surgical practice of any London medical school. (3) The Entrance Scholarship in Arts of the value of £100 will be given in Latin and Mathematics, with one other language. (4) The Jeaffreson Exhibition in Mathematics, Latin, and one other language—Greek, French, or German—and of the value of £50. The value of the Scholarships and Prizes is nearly £900 annually.

Further information and a handbook can be obtained on application to the Dean of the Medical School, St. Bartholomew's Hospital.

CHARING CROSS.

THIS school, with its hospital, is situated in the very centre of London, and is easily accessible from all parts. It is within three minutes' walk of the Royal Dental Hospital of London, and provides for instruction in all subjects of the medical and dental curriculum. The Lectures are given at hours to suit both General and Dental Students. The Hospital, with its Convalescent Home at Limpsfield, contains 200 beds. Over 2,000 cases pass through its wards each year, and some 24,000 out-patients and casualties are treated. There are Special Departments for Mental Diseases, Midwifery, Diseases of Women, of Children, of the Skin, Eye, Ear, Throat, Nose, and Teeth, for Orthopaedic Cases, *X*-Ray work, and for Electrical Examination and Treatment. Primary and Intermediate Studies are carried out in the laboratories of King's College, within a few minutes' walk of the Hospital.

Appointments.—In the Medical School Demonstratorships and Assistant Demonstratorships (when they fall vacant) are open to students of the school and carry honoraria. Medical, Surgical, and Obstetric Registrars to the Hospital are appointed annually, the two former of whom receive £40 a year each, with luncheon in the hospital. Six House-Physicians, six House-Surgeons, and two Resident Obstetrical Officers are appointed each year on the recommendation of the Medical Committee, after competitive examination. They are provided with board and residence in the Hospital. Clinical Clerks and Dressers are appointed in all the general and special departments of the Hospital. Arrangements can be made for students who have not entered for the entire medical curriculum to hold the posts of Clerk and Dresser. Every student holds in turn the appointment of Pathological Assistant, and assists at the necropsies. The above appointments are open without any additional fee.

Scholarships.—There are five Entrance Scholarships, of the respective value of 60, 60, 30, 20, and 30 guineas. The first, third, and fourth are open to all candidates ready to join the school for the whole curriculum; the second is reserved for the sons of medical men, and the fifth for Dental students. They are awarded at the beginning of each Winter Session after a competitive examination in (1) English, including English Language and Literature, English History with alternative questions on the History of the British Empire, and Geography, including elementary questions in Physical Geography; (2) Latin, and any one of the following three languages—Greek, French, and German; (3) Mathematics, including Arithmetic, Algebra, and Geometry, with Mechanics, including Statics and Dynamics; (4) Inorganic Chemistry and any three of the following branches of Experimental Physics: Acoustics, Heat, Magnetism, Electricity, and Optics; and (5) Animal and Vegetable Biology. A candidate may offer himself for examination in not more than *three* of the above groups of subjects, but group (1) must be one of the three. Each group is worth 1,000 marks. Students who join in the Summer Session have the same privileges as regards scholarships, medals, and prizes as those who join in October of the same year. Candidates must be under 25 years of age on the first day of the examination, and must give notice to the Librarian of their intention to compete and of the groups in which they offer themselves for examination before 10 a.m. September 16th, 1911. The examination commences a few days afterwards, at 9 a.m.

One Epsom Scholarship, giving a free education in the final subjects, is, each Winter Session, placed at the disposal of the Head Master of Epsom College, to be competed for by foundation scholars who have passed the Preliminary and Intermediate Examinations in the University of London.

Two University Scholarships, of the value of 30 guineas and 20 guineas respectively, are open to students from the University of Oxford who have passed the first M.B. Examination, to students of the University of Cambridge who have passed the second M.B. Examination, and to students of the University of London who have passed the Intermediate Examination in Medicine, and who have not entered at any London medical school. Subjects: Anatomy and Physiology, including Histology. The examination for these Scholarships, which will be partly practical, will be held at the school in September. Candidates must give notice to the Librarian of their intention to compete on or before September 16th, 1911. The successful candidates will be required to enter forthwith at the Hospital for the completion of their curriculum.

Fees.—By sessional payments of 17 guineas every Winter Session and 8 guineas every Summer Session for London University and other students, and 15 guineas and 7 guineas respectively for Conjoint Board students as long as the student remains in the school, with an entrance fee of 10 guineas; and for dental students an annual fee of 22 guineas and 5 guineas entrance fee, or a composition fee of 45 guineas.

Further information may be had of the Dean, Charing Cross Hospital Medical School, Chandos Street, Strand, London, W.C.

ST. GEORGE'S.

THIS school is at Hyde Park Corner, and is carried on in connexion with St. George's Hospital, an institution having a service of 436 beds, of which 100 are at the Convalescent Hospital founded by Atkinson Morley at Wimbledon. It provides for the instruction of its students in the preliminary and intermediate subjects of the curriculum at the teaching centres of London University established at King's College and University College. The school at Hyde Park Corner is devoted entirely to the teaching of clinical subjects, great attention being paid by the members of the staff to individual teaching. A number of special courses are given, in which the requirements of university and all other examinations receive careful attention.

The St. George's Hospital Club consists of an Amalgamation Club, with smoking and luncheon rooms on the hospital premises, and other students' clubs. Students have the advantage of a well-filled library of medical and scientific books. A register of accredited apartments, and a list of medical men and others willing to receive St. George's men as boarders, may be seen on application to the Dean.

Appointments. — Dresserships to the Surgeons and Clinical Clerkships to the Physicians are open without fee to all students of the Hospital. There is a large number of House Office Appointments, which may be held for six, twelve, or eighteen months, and are open without fee to every perpetual student of the Hospital, and are made strictly in accordance with the merits of the candidates. Besides this, after the student has held House Office, the following paid appointments are, among others, open to him: Medical Registrarship at £200 per annum; Surgical Registrarship at £200 per annum; Curatorship of the Museum at £200 per annum; Assistant Curatorship at £100 per annum; Obstetric Assistantship, Resident, at £50 per annum; the post of Resident Anaesthetist at £100 per annum; the post of Senior Anaesthetist at £50 per annum; the posts (2) of Junior Anaesthetists, each at £30 per annum.

Scholarships.—Two Entrance Scholarships in Arts, and 2 in Science, each of the value of 50 guineas, and 2 University Entrance Scholarships in Anatomy and Physiology (70 guineas and £50) are awarded at the commencement of each Winter Session. The William Brown Exhibition of the value of £100 per annum (tenable for two years) is awarded by examination to a perpetual pupil of the Hospital every second year. The William Brown Exhibition of £40 (tenable for three years) is awarded by examination to a perpetual pupil of the Hospital every third year. Other prizes to the value of £200 are awarded annually to the students of the Hospital.

Fees.—First year (Preliminary Science or First Conjoint) £26 5s., or £21, according to course. Second and third years, £63 in two equal instalments. For the course of clinical study, in the fourth and subsequent years, entrance fee, £10 10s.; annual composition fee, £31 10s. No entrance fee is payable by St. George's students who have studied at King's and University Colleges.

Further information may be obtained from the Dean of the Medical School.

GUY'S.

THE Hospital contains 618 beds in constant occupation; an additional 50 beds have been opened on the medical side of the Hospital. Thirty-seven beds are set apart for diseases of the eye, and 40 for the most urgent and interesting medical cases, which form the subjects of the weekly clinical lectures. There is a special ward of 32 beds for the reception of cases of diseases of women and for cases of difficult labour. Beds are also allotted to the Throat and Ear Departments, and Departments for the Treatment of Diseases of the Genito-urinary System or for Orthopaedics have recently been instituted.

It has a College fronting the east gate of the Hospital, providing accommodation for 60 resident students. This contains a dining hall, reading rooms, library of general literature, and gymnasium for the use of the residents and of the members of the Clubs' Union. The athletic ground at Honor Oak Park is reached from the Hospital in twenty minutes.

The new Gordon Museum of Pathology, the Wills Library, and the school buildings in general afford unrivalled opportunities for a liberal education and for research.

Special classes are held for the Preliminary Scientific and Intermediate M.B. Examinations of the University of London and for the first F.R.C.S.Eng.

Special teaching is provided to meet the requirements of the Universities of London, Oxford, and Cambridge in General Pathology and Pharmacology.

Appointments.—All appointments are given to students without extra payment, and according to the merits of the candidates, as determined by a committee of the medical staff. Eight Assistant House-Physicians, 8 House-Physicians, 24 Assistant House-Surgeons, 8 House-Surgeons, and 2 Ophthalmic House-Surgeons are appointed annually. The House-Physicians and House-Surgeons hold office for six months each, and receive free board and lodging in the college, as also do the Resident Obstetric Assistants, of whom 6 are appointed annually, each holding office for six months. Every student is provided with rooms and commons in the hospital during the period of his "take in" as Dresser. In addition to the Clerkships and Dresserships in the medical and surgical wards, students are appointed to the posts of clinical assistant, dresser, or clerk in the special departments of ophthalmology, laryngology, gynaecology, dermatology, otology, electricity, anaesthetics, and dentistry. More than 150 additional appointments have been added to the list of those annually open to students of the hospital, the majority of them being in the special departments.

Scholarships, Prizes, etc.—There are two Entrance Scholarships in Arts; One of the value of £100 open to candidates under 20 years of age, and one of £50 open to candidates under 25. Subjects: English, Latin, Arithmetic, Algebra, Euclid, and either Greek, French, or German. Three Open Scholarships in Science: One of £150 and one of £60, open to candidates under 25, and one of £50 to university students who

have completed their study of Anatomy and Physiology. Subjects: Anatomy, Physiology, Chemistry, Practical Chemistry, Biology, and Physics. These examinations begin on September 23rd; names must be sent in on or before September 14th. Junior prizes for general efficiency, £20, £15, £10; Hilton prize for Dissection, £5; Michael Harris prize for Anatomy, £10; Sands Cox Scholarship for Physiology, £15 for three years; Wooldridge Memorial prize for Physiology, £10; Beaney prize for Pathology, £34; Treasurer's gold medal in Medicine, Treasurer's gold medal in Surgery, and the Golding-Bird gold medal and scholarship for Bacteriology (£20) are awarded annually after competitive examination. The Gull Studentship in Pathology and the Beaney Scholarship in Materia Medica, of the annual value of £150 and £31 10s. respectively, are awarded without examination to enable research to be carried on in these subjects. An Arthur Durham Travelling Scholarship of £100 is awarded triennially.

Fees.—There is a system by which composition fees are paid, information as to which should be sought from the Dean of the School.

KING'S COLLEGE HOSPITAL.

THE medical school carried on in connexion with this institution deals, as do the sister institutions at Westminster and University College Hospitals, with the advanced or final subjects of the medical curriculum. The arrangements for education in these subjects are very complete. The hospital contains over 200 beds, its in-patients numbering about 3,000, and its out-patients about 16,000 every year. In addition, a considerable number of midwifery cases are attended yearly. There are also special departments for diseases of women and children, ophthalmology, otology, laryngology, dermatology, and dental surgery; pathological and vaccine departments are also included.

Appointments.—Fourteen Resident Medical and Surgical Officers are appointed yearly, as well as Dressers and Clerks in the wards, out-patient departments, *post-mortem* room, and special departments. Each of the special departments has also a Senior Clinical Assistant, and there are six Registrars, most of whom receive salaries or honorariums. There is also a Union Club, which combines althletics, music, and other societies connected with the school, and provides also a common room.

Fees.—The composition fee is 75 guineas, if paid in one sum, or 77 guineas in two instalments, one of 41 guineas at entrance and the other of 36 guineas at the commencement of the second year. These fees include three years' membership of the Clubs and Societies Union. The prospectus of the school can be obtained on application to its Secretary.

THE LONDON.

THIS Hospital (which contains 922 beds) and its Medical College are in Mile End Road, Whitechapel. All the arrangements are complete and modern. The new departments of Bacteriology, Public Health, Physiology, Chemistry, and Biology, the new Pathological Institute at the Hospital, and new Out-patient and Special Departments have been added within the last few years. The Students' Rooms have been enlarged and a Garden and Fives Court opened for the use of the members of the London Hospital Clubs Union. The College Athletic Club is at Highams Park, and is open to all members of the Clubs Union. Special classes for the First and Second M.B.Lond., the Primary and Final Fellowships, and other examinations are held. Those for the Final and Primary F.R.C.S. commence early in September. A special course for the D.P.H. will commence at the beginning of the Winter Session. A Residential Hostel on Hospital Ground has been opened for the convenience of students who wish to live near the wards and casualty departments.

Appointments.—The salaried appointments open to students are those of Medical Registrars (3), Surgical Registrars (3), Obstetric Registrar, Medical, Surgical, and Obstetric Tutors; Senior Dressers to Out-patients; Clinical Assistants in the Medical, Surgical, Ophthalmic, Aural, Light and Skin, Orthopaedic, and Electrical Departments. There are also 5 Resident House-Physicians and 7 Resident House-Surgeons, 2 Accouchers, 7 Receiving-room Officers, 2 Emergency Officers, 1 Assistant Director of the Pathological Institute, and 3 Pathological Assistants. Also paid and unpaid Clinical Assistants in the various special departments. In addition there are numerous Assistantships and Clerkships, and Dresserships in the various departments.

Scholarships and Prizes.—The following is a list of Scholarships and Prizes: *At Entrance:* Price Scholarship in Science, £120; in Anatomy and Physiology, £60; Entrance Scholarships in Science, £60 and £35; Epsom Scholarship, £126; Buxton Scholarships in Arts, £30 and £20. *After Entrance:* Anatomy and Biological Scholarships, £20; Anatomy and Physiology Scholarship, £25; Letheby Prizes, £20; Scholarships in Clinical Medicine, Surgery, and Obstetrics, £20 each; Duckworth Nelson Prize, £10; Hutchinson Prize, £40; Sutton Prize, £20; Sir Andrew Clark Prize, £26; Anderson Prizes, £9; Out-patient Dressers' Prizes, £60; Practical Anatomy Prizes, £10; Douro Hoare Prize, £5; Wynne Baxter Prize, £5 5s. The Yarrow and Eliza Alton Medical Research Funds provide £800 per annum for the encouragement of Medical Research.

Fees.—The annual fee is 30 guineas. A reduction is made to sons of medical men.

Other information may be obtained from the Dean at the London Hospital Medical College, Mile End, E.

ST. MARY'S.

THIS school and its hospital are situated in Praed Street, in the neighbourhood of the residential districts of Paddington, Bayswater, and North Kensington, and is thus especially convenient to students who wish to reside in the immediate vicinity. A register of approved lodgings is kept in the office of the Medical School.

The new Athletic Ground, recently acquired at Park Royal, Acton, is now in use, and is easily accessible from the Medical School.

The ground is seven acres in area and provides ample accommodation for the various athletic clubs; the pavilion is large and well equipped.

The Hospital at present contains 301 beds, of which 31, situated in the New Wing, are devoted to treatment by Therapeutic Inoculation. This Wing also contains the Department for Therapeutic Inoculation, which consists of a large block of consulting rooms, waiting rooms, and laboratories under the direction of Sir Almroth Wright, F.R.S.

The Out-patient Department, situated on the ground floor, has been in use for some years, and an additional operating theatre has recently been opened.

The Medical School provides complete courses in the Preliminary and Intermediate subjects of the curriculum which are recognized by the University of London as approved courses for Internal Students.

Students may join in October, January, or April.

The Departments of Anatomy and Physiology are under the direction of full-time lecturers, and Special Courses are provided twice yearly for the Primary F.R.C.S.

In addition Special Tuition is provided for the Intermediate and Final Examinations of the Universities of Oxford, Cambridge, and London, and for the Final F.R.C.S.

All clinical appointments in the Hospital are free to students of the Medical School, the term of office in each case being of four months' duration, and the Resident Medical Officers are chosen by competitive examination. Six House-Physicians, six House-Surgeons, four Obstetric Officers, two Resident Medical Officers to the Inoculation Wards, and two Resident Anaesthetists are appointed each year, and receive board and residence in the hospital.

A large number of salaried appointments are open annually to qualified students, including those of Medical Registrar, Surgical Registrar, Casualty Physician, Casualty House-Surgeon, Assistant Curator, together with several demonstratorships.

In the Inoculation Department there are nine Assistantships the salaries of which amount to £1,600 per annum.

In appointing to these posts preference is given to students of St. Mary's.

Scholarships.—There are Entrance Scholarships in Natural Science. One of £145, two of £50, one of £25, and two of £52 10s. (open to students of any British university) awarded annually by competitive examination in September.

Fees.—The composition fee for students is £140 if paid in one sum, or £145 if paid in four instalments. University students who have completed their examinations in Anatomy and Physiology are admitted on payment of a composition fee of 60 guineas (£63) paid in one sum, or 65 guineas (£68 5s.) if paid in two annual instalments. University students, prior to completing their examination in Anatomy and Physiology, pay an annual fee of 25 guineas (£26 5s.). Separate courses of Lectures, Laboratory Work, or Hospital Practice may be taken.

The School Calendar and full information can be obtained from the Secretary, St. Mary's Hospital Medical School, Paddington, W.

THE MIDDLESEX.

THE school and its hospital are in Mortimer Street, W., and close to Oxford Circus, Goodge Street and Portland Road stations. There is a residential college for a limited number of students which overlooks the Hospital garden. The Hospital contains 355 beds, including a wing containing 47 beds for patients suffering from cancer, and special cancer research laboratories. The Hospital offers unrivalled opportunities for the study of this disease, both in its clinical and pathological aspects. In connexion with the research laboratories, there are several valuable scholarships awarded.

Special Maternity Wards to enable students to obtain indoor instruction in Obstetric Medicine have recently been added to the Hospital.

There is a Clinical Laboratory under the charge of a director, where all bacteriological, chemical, and microscopical examinations of material from the wards, operating theatres, and out-patient department are carried out. Senior students are eligible for clerkships in this laboratory, and every facility is given for original investigation.

In the Electrical and *X*-ray Department special attention is given to the treatment of lupus and cancer by the *X*-ray and Finsen light, and opportunities are afforded to students wishing to become acquainted with the use of the apparatus employed in these methods of treatment.

Appointments.—Eighteen Resident appointments are open annually for competition among students of the Hospital. The officers reside and board in the residential college free of expense. There are two Casualty Medical and two Casualty Surgical officers appointed annually. Six House-Surgeons are appointed every year at intervals of two months, after examination; six House-Physicians are also appointed annually at similar intervals. An Obstetric House-Physician is appointed every six months. Non-resident Physicians' Assistants are appointed in the various out-patient departments. In the out-patient departments the appointments are: Dresser to the Surgeons to the Out-patients and to the Dental Surgeons, Clerk to the Physicians to the Out-patients, Dresser to the Ophthalmic Surgeon, Clerk in the Department for Diseases of Women, and Dresser to the Ear and Throat Department. There are also Extern Midwifery Clerks and *Post-mortem* Clerks. The appointments are so arranged that every student may, during his course, hold all the Out-patient and In-patient Clerkships and Dresserships. Each student must have held an Out-patient Clerkship and Dressership before being eligible to hold In-patient Clerkships or Dresserships. No student can be appointed to any of these offices until he has passed the Second Examination of the Examining Board in England or its equivalent. Clinical Assistants are appointed in the Medical and Surgical, Children's, Ophthalmic, Skin, and Ear and Throat Departments.

Scholarships.—Three Entrance Scholarships, value £100, £50, and £25 respectively, are open to students commencing their medical studies in April or October, 1911. An annual Entrance Scholarship, of the value of £50, is open to students of the Universities of Oxford and Cambridge who have completed the curriculum for, or passed the examinations in, Anatomy and Physiology. The examination for these Scholarships will take place on September 18th, 19th, and 20th. Application for admission must be made on or before September 9th. Students joining the school in the previous April are eligible. The *Freer Lucas Scholarship* is annually awarded on the nomination of the head master to a pupil of Epsom College who has passed the first examination for medical degrees (Preliminary Scientific) examination. There is also a Scholarship, value £50, awarded annually to students from New Zealand. In addition to the Entrance Scholarships there are a number of other valuable Scholarships, Prizes, and Exhibitions open to students of the hospital, including the *Broderip Scholarships*, value £60 and £40; *Lyell Gold Medal and Scholarship*, value £55 5s.; *Freeman Scholarship*, value £30; *John Murray Gold Medal and Scholarship*, value £25; *Hetley Clinical Prize*, value £25; *Leopold Hudson Prize*, value 11 guineas; and the *Second Year's Exhibition*, value 10 guineas.

Fees.—The composition fee is 145 guineas for students taking the London University degree. For those who have passed the First Examination for Medical Degrees (Preliminary Scientific), London University, 120 guineas. For students taking the Conjoint diploma, 135 guineas. For members of universities and others who have completed their anatomical and physiological studies, 70 guineas; dental students, 54 guineas. There is a gymnasium within the precincts of the hospital and an athletic ground within easy distance.

Further information may be obtained on application to the Dean.

ST. THOMAS'S.

THIS school, and the hospital in connexion with which it works, is situated in Lambeth, the joint buildings on the Thames facing the Houses of Parliament, and forming one of the well-known architectural features of London.

The School Buildings are separated from the Hospital by a quadrangle on which there are cricket practice nets for the use of the students, and comprise numerous theatres, laboratories, and class-rooms well adapted for the modern teaching of large bodies of students in the subjects of the medical curriculum. A splendid library and reading room and a complete museum are open to all students from 9 a.m. to 5 p.m.; Saturdays, 2 p.m. The club premises contain a dining room and smoking and reading room supplied with daily and illustrated weekly papers, and a gymnasium. A cloak-room with lockers, and a lavatory with bathrooms, are in the main school building. Students are thus able to spend the whole day at school. Good meals are obtainable at a moderate tariff, with facilities for exercise and recreation. The sports ground of more than nine acres in extent is at Chiswick. It can be reached in forty minutes from the hospital; it is admirably adapted for football, cricket, lawn tennis, and athletic sports. It is provided with a pavilion, where refreshments can be obtained.

The Hospital contains 604 beds, and in addition to the ordinary provisions of a great hospital has connected with its out-patient department two large well-ventilated Clinical Theatres provided with ample sitting accommodation, so that large numbers of students are enabled to follow closely the practice and teaching of the out-patient staff. There is another Clinical Theatre, centrally situated, so as to facilitate the illustration of lectures by patients from the wards and out-patient room; it is arranged also for lantern demonstrations. The Maternity Ward, containing 20 beds, affords students full facilities for maternity training, under supervision, within the precincts of the hospital. This obviates any necessity for seeking instruction elsewhere, and fully prepares the student for the extern maternity practice of the hospital district. The revised regulations of the examining Bodies can thus be fully complied with.

Appointments.—All Hospital appointments are open to students without charge. A Resident Assistant Physician and a Resident Assistant Surgeon are appointed annually at a salary of £100 each, with board and lodging. Two Hospital Registrars, at an annual salary of £100 each, are appointed yearly. The tenure of these offices may be renewed for a term not exceeding two years. Six Resident Casualty Officers and Anaesthetists are appointed every six months. An Obstetric Tutor and Registrar is appointed each year at an annual salary of £50. Four House-Physicians, four House-Surgeons, two Obstetric House-Physicians, two Ophthalmic House-Surgeons, and eight Clinical Assistants in the special departments are appointed every three months, and hold office for six months if recommended for re-election. Clinical Clerkships and Dresserships to the in-patient and out-patient departments are available to the number of 400 each year.

Scholarships.—There are five entrance Scholarships offered: Two in Arts, giving one year's free tuition; one of £150 and one of £60, in Chemistry, Physics, and Biology, for students who have not received instruction in Anatomy or Physiology; one of £50 in any two of the following subjects: Anatomy, Physiology, or Chemistry, for students who have completed their examinations in Anatomy and Physiology, for a medical degree in any of the universities of the United Kingdom, and have not entered as students in any London medical school. Numerous scholarships, prizes, and medals are open for competition throughout the whole career of a student, including a Fellowship of £100 given by the Salters' Company for research in Pharmacology, and the Louis Jenner Research Scholarship of the annual value of £60 for Pathological research.

Fees.—The entrance fee for Second Year's Students is 20 guineas; for Third Year's Students 10 guineas. The annual Composition fee is 30 guineas. For Preliminary Science Students the fee is 15 guineas. No extra charges

are made for materials required in practical courses. Special courses of instruction are given for various examinations, and a register of lodgings is kept at the School. A list of medical practitioners, clergymen, and others who receive students is also available. Further information may be obtained from the Secretary of the School, St. Thomas's Hospital, Albert Embankment, S.E.

UNIVERSITY COLLEGE HOSPITAL.

THE school, which forms part of the Corporation of University College Hospital, is in immediate proximity to the hospital in University Street and opposite University College. Its work is carried out in a building erected through the munificence of the late Sir Donald Currie, and opened in September, 1907.

The Medical School comprises Departments of Medicine and Clinical Medicine, Surgery and Clinical Surgery, Midwifery and Gynaecology, Pathology including Morbid Anatomy, Clinical Pathology and Bacteriology, Forensic Medicine, Mental Physiology and Mental Diseases, Dental Surgery, Practical Pharmacy, and other departments for the study of Special Diseases, such as those of the Eye, Skin, Ear, and Throat, and for instruction in Anaesthetics, Electro-Therapeutics and Radiography.

The School thus provides the final course of study for the Degrees of the Universities of London, Oxford, Cambridge, and Durham, and for the Diplomas of the Royal Colleges of Physicians and Surgeons, and the Licence of the Society of Apothecaries. Special Bacteriological classes are also held in preparation for the various Diplomas of Public Health.

Each of the Departments is also equipped for more advanced work, and provides facilities for research.

A student may enter the Medical School at the commencement of his career, in which case he will pursue his preliminary and intermediate studies at the University of London, University College, and his final studies in the School.

He may also enter the Medical School for the final studies after having completed his preliminary and intermediate studies at any recognised University or School.

Scholarships.—The following scholarships and prizes are open to competition: Two *Entrance Exhibitions* of 80 guineas each, awarded after a competitive examination in anatomy and physiology; *Graham Scholarship* of a sum not exceeding £200 per annum; the *Atkinson Morley Scholarship* of £45 a year for three years, awarded after examination in the theory and practice of surgery; the *Atchison Scholarship* of £55 a year for two years for proficiency in pathology and surgery; the *Filliter Exhibition* in pathology of £30; *Graham Gold Medal* for research work; four *Fellowes Medals* in clinical medicine; the *Bruce Medal* in pathology and surgery; two *Tuke Medals* in pathology, and the *Erichsen Prize* for practical surgery.

Appointments.—All the appointments at the hospital are reserved for students of the school, the dresserships and clerkships being open, of course, to those who have still to qualify. The qualified appointments, in addition to a number of posts as House-Physicians and House-Surgeons and Obstetric Assistants, include the appointments of Resident Medical Officer, Surgical Registrar, Obstetric Registrar, Casualty Medical Officer, Casualty Surgical Officer, and Deputy Anaesthetists.

Fees.—The fee for the full course of final studies at the school is 80 guineas if paid in one sum, or 82 guineas if paid in two instalments.

WESTMINSTER.

THIS school, with its hospital, situated in Broad Sanctuary, opposite Westminster Abbey, provides for the education of its students in the preliminary and intermediate subjects of the medical curriculum at the teaching centre of the University of London, established at King's College. The rest of the work is done in the school buildings near the hospital, which contains upwards of 200 beds, and affords most ample facilities for instruction in all branches of Medicine and Surgery.

Appointments.—A Medical and Surgical Registrar are appointed annually, each with a salary of £50. Two House-Physicians, three House-Surgeons, one Assistant House-Physician, one Assistant House-Surgeon, and a Resident Obstetric Assistant are appointed after examination, and are provided with rooms and commons, except the Assistant House-Physician and the Assistant House-Surgeon, who are provided with commons only. The Assistant House-Physician after three months' service becomes House-Physician for a further period of six months, and the Assistant House-Surgeon, after two months' service, becomes House-Surgeon for a further period of six months. Clinical Assistants to the Assistant Physicians and Assistant Surgeons, and to the officers in charge of special attendants, are appointed from among qualified students. Every student must perform the duties of Out-patient Dresser for four months, and afterwards hold the office of In-patient Dresser for four months. He is also required to serve two terms of four months each as Medical Clinical Clerk to In-patient Physician and one term as Gynaecological Clinical Clerk. Two Pathological Clerks are appointed every four months to assist in the *post-mortem* room. No student is eligible as an In-patient Dresser or Clinical Clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination. Clerks and Dressers in the Special Departments of Hospital Practice are periodically appointed. So far as vacancies permit, students of other hospitals are admitted to In-patients' Dresserships or Clerkships.

Scholarships.—The following Scholarships are offered for competition during the year 1911–12: *In September, 1911:* One Scholarship in Arts, £60; two Scholarships in Anatomy and Physiology, £50 each; two Natural Science Scholarships, £60 and £30; Presentation, open to pupils of Epsom Medical College. *In April, 1912,* two Scholarships in Anatomy and Physiology, £50 each; one Science Scholarship, £40.

Fees.—The annual composition fee is 25 guineas, and an entrance fee of 15 guineas is payable by every student, including scholars. Under certain conditions 10 guineas of the entrance fee is returnable on qualification. Special terms are given to the sons of medical men. These fees include subscriptions for membership of the Clubs' Union.

Further information can be obtained on application to the Dean at the Westminster Hospital Medical School, Caxton Street, Westminster, S.W.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

THIS school is carried on at 8, Hunter Street, Brunswick Square, in connexion with the Royal Free Hospital, and it is, like all the other London schools which have so far been mentioned, one of the constituent schools of the Medical Faculty of London University. The new school buildings, among the best of their kind, were completed in 1900 at a cost, with equipment, of over £35,000. The laboratories are large and well lighted, and are fully equipped for the First and Second Medical Examination courses of the University of London. A large Library and Common Room are provided for the use of the students, and sets of chambers to accommodate seventeen students.

The Hospital has 165 beds, all of which are available for clinical instruction. There are also separate departments for Gynaecology and Obstetrics, and Diseases of the Eye Ear, and Skin. Instruction is given in Anaesthetics, Bacteriology, etc., in addition to the ordinary Clinical Lectures and Demonstrations and Tutorial Classes. Students also attend the practice of one of the Fever Hospitals of the Metropolitan Asylums Board, and receive special instruction in Lunacy at Bethlem Hospital; they are also admitted to the practice of a number of special hospitals.

The work of the School includes preparation for the M.B., B.S.Lond., the diplomas of the Royal Colleges of England and of the Conjoint Boards of Scotland and Ireland, and the Society of Apothecaries, London; also for the greater part of the course required by the University of Durham and the other Universities of England which admit women to their degrees, and the University of Glasgow.

Appointments.—Qualified students of the school can obtain appointments as House-Physician and House-Surgeon, Obstetric Assistants, Surgical and Medical Registrars, Anaesthetists, Medical Electrician, Radiographer, Curators of the School and Hospital Museums, and Clinical Assistants and Demonstrators in various subjects.

Scholarships.—An Entrance Scholarship value £30, and the St. Dunstan's Medical Examination value £60 a year for three years, extendible to five years, are offered for competition in each year. The Bostock Scholarship, value £60 a year for two or four years, is awarded by the Reid Trustees on the result of an examination held in May by the University of London. The holder of the Scholarship must enter the London School of Medicine for Women. The John Byron Bursary of £20 a year for two years, the Helen Prideaux Prize of £40, the Mabel Webb Research Scholarship of £30 for two years, the Fanny Butler Scholarship of £14 10s. a year for four years, together with many other scholarships and prizes, are offered on sundry conditions. Various Missionary Societies also offer scholarships on certain conditions, and assist ladies who wish to go to India and other countries as medical missionaries.

Fees.—University of London and Diplomas of Roya Colleges of England, First Medical Examination Course, £25; course for Second and Third Medical Examinations, £135; course after Second Medical Examination, £90. Composition Fee for course of study for other qualifications, £140.

Full particulars as to Curriculum and Scholarships can be obtained from the Secretary, Miss L. M. Brooks, 8, Hunter Street, W.C.

KING'S COLLEGE.

SINCE the incorporation of King's College in the University of London, the instruction given to Medical Students is carried out there in the classes of the Faculty of Science (Medical Division), and deals only with the subjects of the preliminary and intermediate parts of the curriculum. King's College Hospital (which see) is now a separate institution, and the studies for the final examinations are carried out there.

A special class for the Matriculation Examination will commence on September 26th. Classes for the science subjects are held by the Professors of the Science Faculty of King's College, and students avail themselves of their laboratories.

There is a large athletic ground at Wormwood Scrubbs, managed by the Students' Union Society.

Scholarships.—The Entrance Scholarships are: 1. Two to four Warneford Scholarships, each £25 for four years; subjects—Mathematics, Classics, Divinity. 2. One Sambrooke Exhibition of £25 for two years, open; subjects of examination—Mathematics, Elementary Physics, Inorganic Chemistry, Botany, and Biology. The holders of the preceding awards must proceed to King's College Hospital. 3. Rabbeth Scholarship, value £20, in July, for best evidence of early scientific training.

Fees.—Information as to fees should be obtained from the Dean of the Medical Division of the Faculty of Science at the College. He attends daily, except Saturday, for the purpose of receiving students and their friends.

For conditions of scholarships and subjects of examinations apply to the Dean, or the Secretary, King's College, who will send a full prospectus post free.

UNIVERSITY COLLEGE.

THIS institution, one of the principal component parts of the University of London, possesses a Faculty of Medical Sciences whose work covers all the subjects included in the group commonly known as the Preliminary Medical Sciences — namely, Physics, Chemistry, Botany, and Zoology; and also the Intermediate Medical Sciences——namely, Anatomy, Physiology, and Pharmacology. The Department of Hygiene and Public Health prepares for the diplomas in Public Health of the Royal Colleges and of the various universities. Research work is undertaken in all the above-named Departments as well as in Pathological Chemistry and Experimental Neurology, the work of which is entirely post-graduate. It undertakes the education of students in all the subjects mentioned, leaving them free to complete their education in the strictly professional subjects—Medicine, Surgery, and the like—at any one of the recognized Schools of Advanced Medical Studies. The work is somewhat differently arranged, accordingly as whether the student has in view the degrees of the University of London or the diplomas of the Royal Colleges. In either case the whole work to be done is broken up into courses devised to meet the requirements of different examinations, and students can join the College for any of them. The general arrangements for the benefit of students include membership of the Union Society with its gymnasium and athletic ground. There is also a collegiate residence for about forty students at Ealing.

Scholarships.—The Scholarships and Exhibitions obtainable include the Bucknill Scholarship, value 135 guineas, in Chemistry, Physics, Botany, and Zoology (the successful student must complete his work at University College Hospital Medical School), and two Entrance Exhibitions on the same subject each of the value of 55 guineas.

Fees.—The fees for the courses covering the work of the First Examination for medical degrees of the University of London, and in both parts of the Second Examination amount to 86 guineas. The fees for the courses covering the corresponding examinations held by the Conjoint Board in England come together to 79 guineas. These fees may be broken up into payments for the different courses which it may be desired to take out, but do not cover tuition for more than a stated period.

A handbook specially relating to this faculty may be obtained on application to the Provost of University College.

COOKE'S SCHOOL.

THIS school is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half a dozen students in the course of the year; these have special advantages both as regards anatomy and physiology. The fees, we are informed, are but slightly in excess of current charges. The operations of surgery are performed on the dead body. Such courses are recognized for army promotion, for the Indian Medical Service, etc.

The school, which is open all the year round, possesses a good collection of anatomical models, physiological and chemical apparatus, and gentlemen preparing for the higher examinations (F.R.C.S.Eng., M.B.Cambridge, Oxford, London, etc.) receive special instruction in the more difficult subjects. Other information may be obtained from the Secretary on the school premises, Handel Street, W.C.

THE PROVINCES.

THERE are in England and Wales, not counting London, ten medical schools, each, with one exception, supplying instruction in the full medical curriculum. Accounts of them here follow, these being placed more or less roughly in the order of their foundation. In several cases there is appended information concerning other hospitals than those directly connected with the school in question; such hospitals, officially and unofficially, play a part in the education which the students of the school receive, and in any case serve as places of additional or post-graduate study.

OXFORD AND CAMBRIDGE.

THE medical schools of these ancient seats of learning play a very important part in medical education. At both there are unsurpassed opportunities for obtaining a good knowledge of the Preliminary Sciences and of Anatomy and Physiology, and the same might be said with equal, if not greater, truth in respect of Pathology. All the laboratories are very completely equipped, and the teaching staffs most distinguished. Each of these schools provides a full medical curriculum, and there is no essential reason why the student should not complete his career at either of them, but this is not commonly done. The local hospitals are comparatively small, so the authorities encourage the students, so soon as they have completed the earlier examinations, to join some London school, and thus spend the time of their preparation for the final examination in a city where the opportunities for gaining clinical knowledge are greater and more varied. Most of the London schools make for such students special arrangements, information as to which can be obtained from the respective Deans.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.

THIS, the Medical School of the Faculty of Medicine of the University of Durham, is in the neighbouring city, Newcastle-on-Tyne. Its classes and lectures are arranged to meet the requirements of the university in all the degrees which the latter grants, and also those of the other examining bodies. The students do their work in the pre-

iminary sciences at Armstrong College, also part of the niversity, and then carry on their studies in the new Royal Victoria Infirmary, an institution with over 400 beds nd special accommodation for the benefit of students. In new wing of the school itself there are the departments f Bacteriology and Physiology. There are also in this ving a gymnasium and a set of rooms for the use of the Students' Union.

Appointments.—Assistant Demonstrators of Anatomy nd Prosectors for the Professor of Anatomy, Assistant Physiologists, Pathological Assistants, Assistants to the Dental Surgeon, and Assistants in the Eye Department, Throat and Ear Department, and Department for Skin Diseases, are elected annually. Four times in the year Clinical Clerks and Dressers are appointed for three months.

Scholarships.—A University of Durham Scholarship, value 100, for proficiency in Arts, open annually at the beginning of he Winter Session to intending students. The Pear Scholarhip, value £150, for proficiency in Arts (when vacant). The Dickinson Memorial Scholarship, interest of £400, with a gold nedal, for Medicine, Surgery, Midwifery, and Pathology, open o perpetual students in their fifth year. The Tulloch Scholarhip, interest of £400 annually, for Anatomy, Physiology, and hemistry, for students at the end of their second year. The harlton Memorial Scholarship, interest of £700 annually, open o full students entered for the class of Medicine, at the end of heir fourth or fifth winter. The Gibb Scholarship, interest of 500 annually, for Pathology, at end of Summer Session. The oyder Memorial Scholarship, proceeds of £325; subjects: inical Medicine and Clinical Surgery. Luke Armstrong lemorial Scholarship, proceeds of £680, for best essay in some bject in Comparative Pathology. The Stephen Scott Scholarip in Surgery, interest on £1,000 annually. The Heath cholarship in Surgery, interest on £4,000 awarded every other ar. First award in 1896.

Fees.—The composition fee for the university course is guineas. Other information should be sought from the ecretary of the School at Newcastle.

Other Hospitals.—(1) In the *Hospital for Sick Children* ere are 70 beds, besides an isolated block for infectious d doubtful cases. There is a large out-patient departent. The practice of the hospital is open free to all idents or qualified practitioners. The number of intients in 1906 was 779. The out-patient department is rried on in buildings recently erected in the central part the city, which are being at present extended at an tlay of £10,000. The number of out-patients in 1906 s 16,415, with 30,821 attendances. (2) At the *Infirmary r Diseases of the Eye* there are 20 beds. Its out-patients mber 6,600 annually. Clinical instruction is given daily m 11 a.m. to 1 p.m.

BIRMINGHAM.

HE Medical School in this city is carried on by the dical Faculty of the University of Birmingham, its idents having an adequate number of good laboratories, ss-rooms, and other necessaries devoted to their use by e university. The clinical work is done at the General d Queen's Hospitals, which are amalgamated for this rpose. Together they have upwards of 500 beds for dical, surgical, and special cases, together with an array special departments of all kinds, including a large aternity department. Clinical instruction is given in e wards and out-patient and special departments daily, d formal clinical lectures delivered weekly throughout e Winter and Summer Sessions. Special tutorial classes e also held alike for the degrees of Birmingham and some her universities and for the diplomas of Corporations.

Appointments.—The large number of appointments open past or other students include the following: At the neral Hospital: One Resident Medical Officer, salary 0 a year. One Resident Surgical Officer, salary £100 a r. One Resident Pathologist, salary £50 a year. Two n-resident Casualty Assistant Physicians, salary £50 a r. Three non-resident Surgical Casualty Officers, salary a year. Two non-resident Anaesthetists, salary £50 a r. Four House-Surgeons, office tenable for nine nths, £50 a year. One House-Surgeon to the Gynaecoical, Ophthalmic, and Aural Departments, tenable for months, £50 a year. Three House-Physicians, post able for six months, £50 a year. One Resident Medical cer at the Jaffray Branch Hospital, salary £150 a year, e Resident Assistant at the Jaffray Branch Hospital, able for three months. At the Queen's Hospital: Three House-Physicians and three House-Surgeons (post vacant in January and April). One Obstetric and Ophthalmic House-Surgeon (post vacant in April and October). These appointments are tenable for six months. Salaries at the rate of £50 per annum, with board, lodging, and washing. One Resident Dresser, tenable for three months; candidates must previously have attended all their lectures, etc., and need not be qualified. At the Maternity Hospital: One House-Surgeon, salary £50 a year. At the City Workhouse and Workhouse Infirmary: Five Resident Medical Officers. At the Birmingham General and Branch Dispensaries: Twelve Resident Surgeons. At the Birmingham Lunatic Asylums: Five Assistant Medical Officers. At the City Fever Hospitals: Three Assistant Medical Officers. At the Children's Hospital: One Resident Surgical Officer, one Resident Medical Officer. At the Birmingham and Midland Eye Hospital: Three Resident Surgeons. At the Orthopaedic and Spinal Hospital: Two Clinical Assistants (non-resident). At the Ear and Throat Hospital: One House-Surgeon, £70 a year; four Clinical Assistants (non-resident). There are also four non-resident Poor Law appointments in the gift of the Board of Guardians.

Scholarships.—There are numerous money and other awards for students of sufficient merit, among them being the following: The *Walter Myers Travelling Studentship* of £150; the *Sands-Cox Scholarship* of £42 (an Entrance Scholarship in the Faculty of Medicine, awarded on Matriculation marks); four *Queen's Scholarships* of £10 10s. each, awarded annually at the second, third, fourth, and final university examinations respectively; one or more *Sydenham Scholarships*, allotted on entrance to students who are the sons of deceased medical men. The *Ingleby Scholarship* of £10 for proficiency in Midwifery and Diseases of Women. There is also an Entrance Scholarship of £37 10s. for students proceeding to a degree in Dental Surgery, besides prizes in money for successful class work by senior and junior students.

Fees.—The composition fee is £85. This covers all the work required for the degrees of Birmingham and some other universities, and for the ordinary qualifications of licensing corporations, but not the additional courses required for the Fellowship of the Royal College of Surgeons of England, the diploma and degrees of the university in State Medicine and some other special work. Other information should be sought from the Dean of the Medical Faculty.

MANCHESTER.

THE staff of the Medical School in this city constitutes the Medical Faculty of the Victoria University, all the arrangements for the instruction of students, both in their earlier and their later studies, being of an elaborate nature. The clinical work of the undergraduates is done chiefly in connexion with the Royal Infirmary, an institution which itself contains about 592 beds, and has associated with it a large convalescent home and the Royal Lunatic Asylum at Cheadle. Instruction in Practical Gynaecology and Midwifery is given at the Royal Infirmary and the St. Mary's Hospitals.

Appointments.—The following are among the appointments open to past and present students of this school in connexion with its arrangements for clinical tuition: A Surgical Registrar, at £75 per annum; a Pathological Registrar, at £100 per annum; a Medical Registrar at £75 per annum; a Surgical Tutor, at £30 per annum; a Director of the Clinical Laboratory, at £200 per annum, and two Assistant Directors at £75 and £40 respectively; Assistant Medical Officer, at £105 per annum; three Assistant Surgical Officers, each at £35 per annum; five Anaesthetists, at £50 per annum each; Medical Officers for Radiography and Electricity, £100 per annum; Medical Officer for Home Patients, one year, £150 per annum; Resident Medical Officer, one year, £150 per annum; ditto, at Cheadle, one year, £150 per annum; Resident Surgical Officer, one year, £150 per annum; two Resident Medical Officers for Central Branch, £100 per annum; Accident Room House-Surgeon, six months, £100 per annum; an Assistant Medical Officer at the Convalescent Hospital at Cheadle, appointed every six months, at a salary of £80 per annum; eight Senior and eight Junior House-Surgeons and ten House-Physicians, appointed during the year for a term of six months. Resident Officers are appointed to the Gynaecological, the Eye, and the Ear and Throat Departments every six months. Four or more Clinical Clerks are attached to each Physician and Assistant

Physician, and four or more Dressers to each Surgeon and Assistant Surgeon, to the Gynaecological Surgeon and Assistant Gynaecological Surgeon, to the Ophthalmic Surgeon, and to the Surgeon for the Ear and Throat Department, and four or more Clerks to the Pathologist, two Clerks to the Director of the Clinical Laboratory, and a number of Clerks, not exceeding six, are appointed to assist the Medical Officer for Home Patients. Accident Room Dressers will be appointed every three months, three Senior Dressers and twelve or more Junior Dressers.

Entrance and other Scholarships.—The following are among the Scholarships obtainable by students of the School: *Rogers and Seaton Scholarships* in Arts (in alternate years), £40 per annum, tenable for two years. Two *Dalton* (entrance) Scholarships in Mathematics, tenable for two years, value £40, one being awarded annually, except in such years as a Cartwright Scholarship is awarded. *Cartwright Scholarship*, £35 per annum, tenable for three years. Three *Hulme*, of £35, one being awarded annually for proficiency in subjects of general education. They are tenable for three years. Two *James Gaskill Scholarships* of £35, tenable for two years, one being awarded annually for proficiency in the branches of Mechanics and Chemistry. A *Dora Muir Scholarship*, £30 per annum, tenable for three years, and open to the competition of Women students only. This is awarded triennially; next competition in May, 1914. *Sir J. P. Kay-Shuttleworth Scholarship*, £30 per annum, tenable for three years, open to the competition of scholars from Sedbergh School, Giggleswick School, and Burnley Grammar School. Subjects: Mathematics, Chemistry, and Mechanics. *Dreschfeld Memorial Scholarship*, value £30, awarded annually on the results of the Matriculation Examination. A *Theodores Modern Languages Exhibition*, £15, awarded annually. Two *Dauntesey Medical Scholarships*, value £45 and £35, tenable for one year, for candidates who have not commenced the second year of study leading to a medical qualification. Subjects: Zoology, Botany, and Chemistry. Two *Entrance Scholarships in Medicine*, value £100, awarded annually for proficiency in Arts or Science respectively. Two *Research Fellowships in Public Health* of £50 each, awarded annually. *Tom Jones Exhibition in Anatomy*: £25, offered annually. *Robert Platt Physiological Exhibitions*: Two, about £15 each, offered annually. A *Robert Platt Physiological Scholarship* of £50, tenable for two years. A *Robert Platt Zoological and Botanical Scholarship*, £50. A *Leech Fellowship* of £100 for original research after graduation. A *Graduate Scholarship in Medicine*: One of £25, tenable for one year, awarded annually for proficiency shown at Final M.B. Examination. The *Tom Jones Memorial Surgical Scholarship*: Value £100, tenable for one year, awarded usually triennially; next award in September, 1913. The *Turner Medical Scholarship*: Value £20, awarded annually for proficiency in certain subjects of the Final M.B., Ch.B. Examination. The *John Henry Agnew Scholarship* of £30, awarded annually for proficiency in the Diseases of Children. The *Bradley Memorial Scholarship* in Clinical Surgery of £20. The *Ashby Memorial Scholarship*, tenable for one year (£100), for research in the Diseases of Children; offered biennially; next award, 1913. *Sidney Renshaw Exhibition in Physiology*: One, offered annually.

Fees.—The composition fee for the university courses in Medicine is 70 guineas, payable in three instalments of 30, 20, and 20 guineas, but this sum does not include the fee to cover the work required for the First M.B. Examination. This is £25, payable in one sum. A prospectus and further information about the school and scholarships may be obtained on application to the Registrar.

Other Hospitals.

1. The *Royal Eye Hospital* contains 160 beds, but 30 of them have been closed pending an increase in income. Clinical instruction is given to students.

2. *The Manchester Northern Hospital for Women and Children*, situated in Cheetham Hill Road, near the centre of the town, containing 70 beds and cots. Out-patients are seen daily at 9 a.m.

3. The well-known *Hospital for Children* at Pendlebury, near Manchester, contains 168 beds, and 24 beds at the Convalescent Home, St. Anne's-on-the-Sea. The visiting staff see out-patients daily at the Out-patient Department, Gartside Street, Manchester, at 9.30 a.m., and visit the hospital daily. The practice of the hospital and out-patient department is free to students accompanying the visiting medical and surgical staff.

4. *St. Mary's Hospital for Diseases of Women and Children.*—There are 105 beds at the High Street Branch, 80 being for gynaecological cases and 25 for children. The Whitworth Street West Branch has 40 maternity beds, and also an out-patient department. In the out-patient department students are taught the various methods of examination and diagnosis, and the use of gynaecological apparatus, while in the wards they have an opportunity of becoming familiar with the diagnosis and treatment of graver cases, and of witnessing more important gynaecological and obstetrical operations. The number of maternity cases attended annually is over 4,500. The hospital possesses a library, presented by the late Dr. Radford, consisting of nearly 5,000 volumes, chiefly on subjects connected with obstetrics and gynaecology. There is also a museum, containing a large number of pathological specimens, and a valuable collection of deformed pelves, casts, obstetric instruments, and anatomical models. The gynaecological practice of the hospital is free to fourth and fifth years' students. The fees for the midwifery practice are £8 8s. per month. Only twelve students are received at one time, thus allowing each one ample opportunity of attending the number of cases of labour required by the examining bodies. Application must be made to the Secretary at the hospital.

LIVERPOOL.

THE Medical School of this city is part of the university, and, owing to the enlightened liberality of several men of wealth, is particularly well provided with special laboratories, as well as with ordinary spacious and well-equipped class-rooms and laboratories for the instruction of students proceeding to medical degrees and diplomas in special and ordinary subjects. All the laboratories and other rooms are situated close to one another and intercommunicate together forming four large blocks of buildings. The anatomical department is very complete, and includes a large and well-stocked museum and a well-lighted dissecting room on the upper floor measuring 70 ft. by 40 ft. The departments of Physiology and Pathology are accommodated in the block provided by the generosity of the late Rev. Thompson Yates. Comparatively recent additions are the Johnston laboratories for Experimental Medicine and Bio-Chemistry, and the building for Surgery, Toxicology and Dental subjects. The work of the students at the later periods of their study is arranged upon equally satisfactory lines, the teaching hospitals, of which an account is given below, having amalgamated to form the Clinical School of the University.

Appointments.—The nature of the appointments open to past and other students at this school will be gathered from the account which follows of the hospitals forming the clinical department.

Scholarships.—The awards made each year to successful students total over £1,000. They include the following: Two *Holt Fellowships* of £100, one in Pathology, the other in Physiology; a *Robert Gee Fellowship* in Anatomy, value £100; a *Alexander Fellowship* for Research in Pathology; a *Johnston Colonial Fellowship* in Pathology, Bacteriology, and Biochemistry; a *John W. Garratt International Fellowship* in Physiology, Pathology, and Bio-Chemistry, value £100 and renewable; an *Ethel Boyce Fellowship* in Gynaecology and Pathology, and a *Thelwall Thomas Fellowship* in Surgical Pathology, all of the value of £100 and all renewable; a University Scholarship of £25, awarded on the results of the Second M.B. Examinations; two *Lyon Jones Scholarships*, of the value of £21 each for two years, one for the junior and the other for senior students; the *Derby Exhibition* of £15 in Clinical Medicine and Surgery alternately; the *Clinical Scholarship Exhibition* of £15; the *Torr Gold Medal* in Anatomy; the *George Holt Medal* in Physiology; the *Kanthack Medal* in Pathology; the *Robert Gee Prize*; two *Robert Gee Entrance Scholarships* of value £25 per annum for two years, and other Entrance Scholarships.

Fees.—Information as to the fees paid for the courses of instruction provided by the school should be sought from the Dean of the Medical Faculty.

The Clinical School.

The following hospitals form the Clinical School of the university:

1. The *Royal Infirmary* contains altogether some 3 beds, and is immediately adjacent to the university; it covers in its work all branches of clinical study. The wards are arranged in separate clinics, with a physician or surgeon, and a resident medical or surgical officer attached to each; each clinic having a "clinical room," in which to interview patients and conduct microscopical and chemical tests. The assistant physicians and assistant surgeons conduct the medical and surgi-

out-patient department, and take charge of the wards in the absence of the physicians and surgeons. There are four theatres for surgical operations and one for clinical lectures, and there is a theatre and a laboratory for Morbid Anatomy. There are two electrical rooms, with three Roentgen-ray installations and a high-frequency apparatus, and there are provisions for the employment of various kinds of baths. There is also a room for the Medical and Surgical Registrars, and for the records kept by them. There is a special laboratory for the investigation of morbid products, and another for the investigation of cancer. Separate cloak-room accommodation is provided for women students. The eight resident medical and surgical officers have each their own bedroom and private sitting-room, in addition to common rooms for meals and recreation. Two senior students are appointed resident casualty officers. They attend to accident cases brought to the hospital, accompany the ambulance, and help in the clinical work. A large waiting-room is set apart for the use of students, for whom there is, besides, ample cloak-room and lavatory accommodation.

2. The *David Lewis Northern Hospital*, possessing 246 beds, is situated in Great Howard Street. There are three Surgical and two Medical Clinics and a large Out-patient Department with suitable rooms for examination and an operation theatre. A fully-equipped clinical laboratory provides means for clinical investigation and research, in addition to those afforded in the clinical rooms of the various wards. Among the other departments is one for Electro-therapeutics and *X*-ray examination, and one for Orthopaedic exercise and gymnastics. Excellent accommodation is available for students, including a common room and cloak-room. In the common room is a reference library for the use of students. Facilities are offered for Post-graduate work. The five Resident Medical Officers receive salaries at the rate of £60 per annum; they each possess a separate bedroom and sitting-room, in addition to a common room for meals.

3. The *Royal Southern Hospital* contains over 200 beds, and is fully equipped for clinical instruction. There are three medical and three surgical clinics. Various changes have been carried out lately, in particular the opening of a new clinical laboratory for chemical and bacteriological work close to the site of the pathological laboratory. The electrical department has been reorganized, and a new and complete installation for *x*-ray work and light treatment has been made. A Resident Pathologist has recently been appointed to conduct investigation in connexion with the hospital work and to instruct the students. The hospital is easily accessible from all parts of the city.

4. The *Stanley Hospital* contains 106 beds, divided into two medical and two surgical clinics. There are two modern operating theatres and a well-equipped clinical room and gynaecological ward. The Resident House-Surgeons are appointed periodically at salaries ranging from £60 to £90 per annum. There is a large out-patient clinic in each of the special departments of Ophthalmology and Laryngology. The large Medical and Surgical Out-patient Departments provide a considerable amount of clinical material. There is a complete *x*-ray installation.

5. The *Infirmary for Children* has 88 beds and a large new out-patient department. Students are admitted to the practice of the hospital for periods of three months, such practice including attendance both in the wards and the out-patient clinics. Students are invited to become out-patient clerks for a period of three months during the fifth year, and to attend two afternoons each week at 1.30.

6. The *Hospital for Women* contains 55 beds. Students who take their course of Clinical Gynaecology in the hospital receive instruction in the wards and out-patient department. The Honorary Surgeons attend daily at p.m.

7. The *Eye and Ear Infirmary* contains 65 beds. Evening courses of Lectures on Refraction and Ophthalmoscopy and Diseases of the Ear are delivered during the winter months by the honorary medical staff. Students who take out their course of Clinical Ophthalmology in the hospital receive clinical instruction in the out-patient department. The Surgeons attend daily at 1.30.

8. *St. Paul's Eye Hospital* contains 65 beds. The surgeons attend daily at 1.30. Complete arrangements are made for instruction in clinical ophthalmology to students for periods of three months. A new hospital is in course of erection.

9. *St. George's Hospital for Diseases of the Skin* has a large dermatological out-patient clinic. Demonstrations are given by the Honorary Medical Staff on Mondays, Tuesdays, and Wednesdays, at 12.30.

LEEDS.

THE School of Medicine in this city forms the teaching centre of the Medical Faculty of the University of Leeds, and is situated in immediate proximity to the General Infirmary, where students sufficiently advanced receive their clinical instruction. The buildings were opened in 1894, and contain excellent dissecting rooms, several well-arranged laboratories for Physiology, Pathology, and Bacteriology, three lecture theatres, and several similar class-rooms. In addition there are a library and reading room and two museums, one being devoted to Pathology and the other to Anatomy. The comfort of the students is secured by a common room and refectory in which they can take meals. It is estimated by the authorities that the approximate cost of medical education to a student in this university is £195, plus, of course, the expenses of living during the five years covered by the curriculum. The General Infirmary has over 482 beds in constant use, and includes gynaecological and ophthalmic wards and a large new out-patient department. The Ida Semi-convalescent Hospital and Robert Arthington Hospital, Cookridge, attached to the Infirmary, has over 40 beds. The West Riding Lunatic Asylum at Wakefield is also open for the study of Mental Diseases. Students can, in addition, attend the practice of the Leeds Public Dispensary (where the practical instruction in dental subjects is also given), the City Fever Hospitals (100 beds), the Hospital for Women and Children, and the Leeds Maternity Hospital.

Appointments.—Senior Anaesthetist, £50, Five Anaesthetists, £25 each, Medical Tutor and Surgical Tutor, at £125 each per annum. The Resident Medical and Surgical Officers, each at £150 per annum. The Casualty Officer, at £125 per annum. The Resident Ophthalmic Officer, at £100 per annum. A Resident Obstetric Officer at £50 is attached to the Gynaecological Ward and an extensive external maternity department. A Resident Medical Officer is appointed every six months for the Ida Semi-convalescent Hospital (honorarium £30). Six House-Physicians, each holding office for six months, and seven House-Surgeons holding office for six months. Physicians' Clerks and Surgeons' Dressers are appointed for six months; Ophthalmic and Aural Dressers, Gynaecological Ward Clerks, Gynaecological Out-patient Clerks, Maternity Clerks, Assistant Physicians' Clerks, Laryngological Clerks, and Assistant Surgeons' Dressers, Assistant Ophthalmic Surgeons' Dressers, Dressers in the Casualty Room, *Post-mortem* Clerks and Laboratory Assistants for three months. A Clinical Pathologist (£300 per annum), together with an Assistant Clinical Pathologist (£150), has charge of the pathological laboratory. Appointments are also open to students at the Leeds Public Dispensary (three Resident Medical Officers, with salaries commencing at £80), at the Hospital for Women (House-Surgeon, honorarium £120, and Anaesthetist £25), and at the West Riding Asylums.

Scholarships.—The university awards annually a scholarship on the results of the July Matriculation Examination in the form of a free admission to the lectures and classes given in the university, which are covered by the composition fee. The Infirmary also awards a Scholarship on the results of the First Examination, of the value of 40 guineas, in the form of a free admission to the clinical teaching of the Infirmary.

Fees.—The composition fee for the university course is £73 2s. 6d. (for students who have passed the Second Examination, £48 16s. 6d.), and for the clinical work at the Infirmary £42.

Further information can be obtained from the Academic Subdean, School of Medicine, Leeds.

SHEFFIELD.

IN this city the medical school is one of the departments of the university, being conducted and controlled by its Medical Faculty, and occupying the entire north wing of the quadrangle of the university buildings overlooking Weston Park. The laboratories and lecture rooms connected with the subjects of the First and Second Examina-

tions—namely, Chemistry, Physics, Biology, Anatomy, and Physiology—are, both as regards structural arrangements and scientific equipment, on the most modern and complete lines. No expense has been spared in the matter of apparatus for teaching or research work, and the facilities for practical study in these subjects are as excellent as all the other arrangements of the school.

For students of Pathology and Bacteriology there are laboratories replete with everything necessary for the most advanced work and a large Pathological Museum, which is open daily. In addition, there is a museum devoted to Materia Medica specimens and a large library and reading room. There are a number of Recreation, Athletic, and other Societies, all under the management of an annually elected Students' Representative Council, and large and comfortable common rooms both for men and women students.

In the university buildings there is a refectory open to all students of the school, in which luncheon, dinner, and other meals may be obtained at extremely moderate prices. A university journal, *Floreamus*, edited by a joint committee of the staff and students, is published each term. The ordinary clinical work of the school is done at the Royal Infirmary and Royal Hospital, which have amalgamated for the purpose of clinical instruction. Between them they provide 511 beds for the treatment of medical, surgical, and special cases, each having both an in-patient and out-patient department for diseases of the eye.

In addition, the Royal Infirmary has special departments for the treatment of Diseases of the Skin and Ear, with beds assigned to them, whilst at the Royal Hospital there are special Out-patient Departments for Diseases of the Throat, Ear, Skin, Orthopaedics, and Mental Diseases. During the last year over 6,000 patients passed through the wards of the two institutions, while those attending as out-patients numbered over 45,000. The Medical and Surgical Staffs attend daily, and give clinical instruction in the wards and out-patient rooms. Clinical Lectures in Medicine and Surgery are given weekly. Instruction in the practical administration of Anaesthetics is given at either institution by the Anaesthetists, and the *post-mortem* examinations at both institutions are in charge of the Professor of Pathology, and afford ample material for study of this subject. In addition, the students have the advantage of being able to attend the practice of the *Jessop Hospital for Diseases of Women*, an institution which takes in yearly 1,120 gynaecological patients and over 350 cases of confinement, and has as well large out-patient clinics for both classes of patient, the external maternity work numbering about 500 cases a year. Special courses on Fever are given at the City Fever Hospitals (547 beds), and on Mental Disease at the South Yorkshire Asylum (1,610 beds).

Appointments.—The following appointments are open to all students who have passed their examinations in Anatomy and Physiology: (1) Casualty Dresserships, (2) Surgical Dresserships, (3) Medical Clerkships, (4) Pathological Clerkships, (5) Ophthalmic Clerkships, (6) Clerk to the Skin Department, etc. Except in the case of Casualty Dressers, these appointments are made for three months, commencing on the first days of October, January, April, and July. The Casualty Dresserships last two months, beginning on the first of any month. All students are required to hold them before being eligible for any of the other appointments.

Scholarships.—*Entrance Medical Scholarship*, value £122, open to both sexes. Two *Staff Medical Scholarships*, one value £157 10s., the other value £52 10s., open to both sexes. Two *Town Trustees' Scholarships*, each of the value of £50, tenable for three years, for boys or girls under the age of 19 years, who have been educated in a Sheffield Secondary School for a period not less than two years immediately preceding the examination. Four *Town Trustees' Scholarships*, value £50, for boys or girls under 19 years of age, educated in any School in Sheffield, secondary or otherwise. *Town Trustees' Fellowship*, value £75, tenable for one year. *Mechanics' Institute Scholarship*, value £50, tenable for one year, and renewable for a second year. The *Frederick Clifford Scholarship*, value about £50, tenable for two years. *Kaye Scholarship*, for proficiency in Anatomy and Physiology, value £22 10s. Gold and Bronze medals are also awarded for proficiency in various subjects.

Fees.—The composition fee of £80, payable in three instalments, covers attendance on all the courses of Lectures and practical classes, except Pharmacy, Vaccination, and instruction in Anaesthetics, required for a Degree Course in the university, or for the ordinary qualifications in Medicine and Surgery of the Examining Boards. It does not include clinical work or practical instruction in Mental Diseases, Diseases of Women, and Infectious Diseases. The fee for the full course of clinical work is £42 in one sum.

BRISTOL.

THE school is carried on by the Faculty of Medicine of the university, and provides full instruction for all its degrees and diplomas. The greater part of the lecture and laboratory work has been transferred to the new wing, which is admirably equipped in every way for the purpose. The allied hospitals (Bristol Royal Infirmary and Bristol General Hospital) have between them 470 beds and extensive out-patient departments, special clinics for diseases of women and children, and those of the eye, throat, and ear, in addition to arrangements for dental work and large outdoor maternity departments. At each of these institutions there are well arranged pathological departments, comprising large pathological museums, *post-mortem* rooms, and laboratories for morbid anatomy. There are also laboratories for work in clinical pathology, bacteriology, and cytology, in which special instruction is given in these subjects. Departments are provided and well equipped for *x*-ray work, both for diagnosis and treatment, the various forms of electrical treatment including high frequency currents, electric baths, Finsen light treatment, and massage.

The students of the school have also the advantage of attending the practice of the Royal Hospital for Sick Children and Women, containing 104 beds, and that of the Bristol Eye Hospital, with 40 beds. The total number of beds available for clinical instruction is therefore upwards of 600. Excellent facilities are thus afforded to students for obtaining a wide and thorough acquaintance with all branches of medical and surgical work. Each student has the opportunity of personally studying a large number of cases and acquiring practical skill in diagnosis and treatment. All classes are open to women.

Appointments.—A, Undergraduate: — Clinical Clerkships, Dresserships, also Ophthalmic, Obstetric, and Pathological Clerkships, are tenable at the Bristol Royal Infirmary and the Bristol General Hospital. In these institutions the Dressers reside in rotation free of charge. B, Post-graduate:—At the Bristol Royal Infirmary: Two House-Surgeons, £100 each per annum; two House-Physicians, £100; Resident Obstetric and Ophthalmic House-Surgeon, £75; Throat, Nose, and Ear House-Surgeon, £75; Casualty Officer, £50; Dental House-Surgeon, £100. All these appointments are made for twelve months, except that of Casualty Officer, which is for six months. From the resident officers a Senior Resident Officer is appointed at an additional salary of £30. At the Bristol General Hospital: Senior House-Surgeon, £150 per annum; Casualty House-Surgeon, £100 per annum, if another resident appointment has been previously held; two House-Physicians, £80 per annum; House-Surgeon, £80 per annum; Dental House-Surgeon £200 per annum. All these appointments are for six months, except that of Senior House-Surgeon, which is for three years, and that of Dental House-Surgeon, which is for two years.

Scholarships.—The following are among the Scholarships and other awards open to students of the school: Two *Martin Memorial Pathological Scholarships*, of £10 each; the *Tibbit Memorial Prize*, value 9 guineas, for proficiency in Practical Surgery; the Committee's Gold and Silver Medals for fifth-year Students for general proficiency; the *Augustin Prichard Prize*, value 7 guineas, for proficiency in Anatomy; the *Henry Clark Prize*, value 11 guineas, for general proficiency; the *Crosby Leonard Prize*, value 7 guineas, for proficiency in Surgery; the *Suple Surgical Prize*, a gold medal and 7 guineas; the *Suple Medical Prize*, a gold medal and 7 guineas; the *Henry Marshall Prize*, value £12, for Dressers; the *H. M. Clark Scholarship*, value £15, for proficiency in Surgery; the *Sander Scholarship*, value £22 10s., for general proficiency.

Fees.—The composition fee for all the courses required for the medical curriculum, including hospital practice, is 140 guineas.

CARDIFF.

THE school in this city is carried on by the University College of South Wales and Monmouthshire, and devotes itself principally to training students during the first three

years of the medical curriculum, all classes being open to women students. The courses of instruction given are recognized by all licensing bodies in Great Britain, and, after passing the tests corresponding to the first three years of the curriculum, the student can complete his course, for whatever degree he is aiming at, in London or elsewhere. Besides this, there is an arrangement with the Managing Committee of the Infirmary by which students at the school can take advantage of the opportunities for acquiring experience afforded in the wards of this large, well-ordered hospital. Hence many students, especially from Wales and Monmouthshire, find it convenient to avail themselves of the advantages of being able to pursue the earlier part of their medical curriculum near home. They can also obtain instruction in the administration of anaesthetics, and with a little additional work can qualify for the B.Sc. degree of the University of Wales. This degree includes the subjects which comprise the first three years of a medical student's curriculum, and it is a compulsory degree for those students who propose to sit for the M.B., Ch.B., of the University of Wales. There is also a Department of Public Health, in which all the work for Diplomas in State Medicine, whether for the University of Wales or other Examining Boards, can be done. A Chair of Pathology and Bacteriology has been established, and it is intended to offer facilities for the study of the subjects of the fourth year of the medical curriculum.

Post-graduate Vacation Courses are carried on in association with the Cardiff Infirmary.

Scholarships.—There is a considerable number of scholarships connected with the college, and open to students of the School of Medicine, information as to which can be obtained on application.

Fees.—The composition fee for the courses required as students proceeding to the degrees of the University of London is £63; that for students proceeding to a diploma of the licensing corporations being £41 10s. The composition fee for D.P.H. classes is £28. Further information may be obtained on application to the Dean of the Faculty of Medicine.

SCOTLAND.

As will be gathered from the following paragraphs, the facilities for acquiring a medical education in Scotland are very ample, whether the student be proceeding to a university degree or to a diploma. To the descriptions of its different medical centres is in some cases added an account of hospitals which either play an official part in the education given to students as yet unqualified or offer valuable opportunities for post-graduation work.

ABERDEEN.

THE school is conducted by the Faculty of Medicine. This comprises twelve chairs, from which instruction is given in all the main branches of medical science—namely, Botany, Zoology, Physics, Chemistry, Anatomy, Physiology, Materia Medica, Pathology, Forensic Medicine, Surgery, Medicine, and Midwifery. Special opportunities for practical instruction are afforded in the laboratories and museums attached to these departments.

Clinical instruction is obtained in the Royal Infirmary (accommodating 230 patients), the Royal Lunatic Asylum (300 patients), the Sick Children's Hospital (85 patients), the City Fever Hospital (100 patients), the General Dispensary, Maternity and Vaccine Institution (10,000 outpatients annually), and the Ophthalmic Institution (1,600 patients annually). Courses of practical instruction are given in Diseases of Children at the Sick Children's Hospital; in Fevers at the City Fever Hospital; in Insanity at the Royal Asylum; in Diseases of Ear, Nose, and Throat at the Dispensary; in Diseases of the Eye at the Infirmary and Eye Institution; in Diseases of the Skin at the Royal Infirmary.

Bursaries.—Scholarships and Fellowships, to the number of fifty, and of the annual value of £1,180, may be held by students of medicine in this university. They range from £3 to £100 per annum, and are tenable in most cases for two or three years.

Fees.—The fee for each university course is, as a general rule £4 4s.; and for a second attendance, £3 3s. Matriculation Fee, both sessions, £1 1s.; Summer Session alone, 10s. 6d.; Royal Infirmary, Perpetual Fee, £6; or, first year, £3 10s.; second year, £3. The Winter Session begins on October 12th, 1911.

EDINBURGH.

THERE are three Schools of Medicine: the School of the University, the School of Medicine of the Royal Colleges, Edinburgh, and the Edinburgh School of Medicine for Women.

THE UNIVERSITY SCHOOL.—This school of course furnishes a full curriculum, and, in addition to other resources of the university, has the following means for practical instruction: Royal Botanic Garden, Herbarium, and Museum; Zoological Laboratory and Museum of Science and Art; Physical Laboratory; Chemical Laboratories; Dissecting Room, Bone Room, and Anatomical Museum; Physiological Laboratory; Medical Jurisprudence Laboratories; John Usher Institute of Public Health; Materia Medica Museum and Laboratory; *Post-mortem* Department of the Royal Infirmary and University Pathological and Bacteriological Laboratory; Tutorial Classes of Practice of Physic, of Clinical Medicine, and Clinical Surgery, Surgery, and Midwifery; and the practice of the hospitals, of which some account is given on p. 560.

Fees.—The Sessional fee for Zoology, Botany, Chemistry, Anatomy Lectures, Physiology, Pathology, Materia Medica, Medical Jurisprudence, Surgery, Medicine, Midwifery and Gynaecology, Clinical Surgery (Winter), Clinical Medicine (Winter), is £4 4s. each. Second course £3 3s. Third Free. A perpetual ticket taken at the beginning of the first year is £6 6s. Physics, Practical Chemistry, Advanced Practical Physiology, Practical Pathology, Clinical Surgery (Summer), Clinical Medicine (Summer), Practical Anatomy (Winter), Operative Surgery, Obstetric Operations, Practical Materia Medica, including Pharmacy, Pathological Bacteriology, Experimental Pharmacology, Vertebrate Morphology and Comparative Embryology, are £3 3s. Practical Botany (besides Garden Fee of 5s.), Elementary Practical Zoology, Practical Physiology (Experimental), Practical Physiology (Histological), Practical Botany (Advanced), Practical Zoology (Advanced), Practical Anatomy (Summer), Anthropology, Anatomy Demonstrations, Diseases of Children, Diseases of the Eye, Diseases of the Larynx, Ear, and Nose, Diseases of Tropical Climates, Clinical Instruction on Diseases of the Skin, Regional Anatomy, Physiological Chemistry, Invertebrate Zoology, Organic Chemistry, Mental Diseases, £2 2s. Applied Anatomy (Medical and Surgical) £1 1s. Vaccination, £1 1s.

Scholarships.—In connexion with the University of Edinburgh and its Medical Faculty there is a very large number of funds for the assistance of students by means of bursaries, scholarships, exhibitions, and money awards from the beginning to end of their undergraduate career. In addition there are funds which help those who have taken a first degree in medicine and surgery to continue at work as research students. The value of these very numerous awards, and the conditions attaching to them, are so varied that it would hardly be possible to give an adequate account of them within the limits of space at disposal, and at the best such an account would be somewhat confusing to those studying the subject for the first time. The purpose of this issue of the JOURNAL will therefore best be fulfilled by merely pointing out that no other university is in a better, even if in as good, a position to smooth the financial path of earnest students, and by referring those interested to the prospectus relating to the medical faculty for detailed information.

THE SCHOOL OF MEDICINE.—This School of Medicine is composed of Lecturers licensed by the Royal College of Physicians and the Royal College of Surgeons, and also recognized by the University through their *licentia docendi*, who, for the sake of convenience, lecture in separate buildings near at hand to the Royal Infirmary. The Lecturers form one body, are all subject to the same rules and regulations, and enjoy the same privileges. A constitution and set of regulations have been drawn up, in virtue of which a medical corporation has been formed, recognized by both Royal Colleges; the government of the School is placed in the hands of a Governing Board consisting of five members elected by the Royal College of Physicians, of five members elected by the Royal College of

Surgeons, and of five members elected by the Lecturers in the School. This Board, with the assistance of the Standing Committees of the School, supervises the whole management, and specially the maintenance of the efficiency and discipline of the School. The different buildings at present utilized for the purposes of lecturing are the following: (1) Surgeons' Hall, Nicolson Street; (2) New School, Bristo Street; (3) Nicolson Square; (4) Marshall Street; and other places. The teaching is similar to that of the Scottish universities, and the students receive similar certificates at the close of each session. The courses on the special subjects not included in the curriculum of the Examining Boards are also conducted by teachers specially qualified in each branch, and have for the last quarter of a century formed a special feature of the School. The fees payable for class and other instruction, and including the sums payable on admission to the examination of the Conjoint Board for the Triple qualification, amount to about £115. Other information can be obtained on application to the Dean of the School, 11, Bristo Place, Edinburgh.

THE EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.—The Edinburgh School of Medicine for Women provides all the classes required for a complete curriculum. The classes qualify for the University Degree in Medicine, for the Diploma of the Royal Colleges, and for the Triple qualification. The lecturers of the school are specially recognized by the Court of Edinburgh University for the education of women who propose taking the Degree in Medicine of the University of Edinburgh. Most of the classes are held in Surgeons' Hall. The office of the school and a sitting-room and other conveniences are provided in the same building for the use of the women students. The clinical instruction of the students is conducted in the wards of the Royal Infirmary specially set apart for the purpose, in the Royal Hospital for Sick Children, in the City Hospital for Infectious Diseases, at Bangor Asylum, and at the various public dispensaries. The fees and the regulations as to the course of study are the same as for the students at the School for Male Students. Further particulars are obtainable from the Dean of the School of Medicine for Women, Surgeons' Hall, Edinburgh.

Clinical Hospitals.

1. *Edinburgh Royal Infirmary.*—There are over 900 beds and 80 at the Convalescent House at Corstorphine. For last year the in-patients numbered 12,342 and the out-patients 38,930. Instruction is given in all the special departments of medicine and surgery, in gynaecology, eye, ear, throat, and nose affections, diseases of skin, dental work (extraction, stopping, and artificial cases), the administration of anaesthetics, electro-therapeutics, hydro-therapeutics, and *x*-ray work, etc. Women are admitted and receive special and separate tuition on both the medical and surgical sides. Nine resident physicians and eleven resident surgeons (three of whom are entirely set apart for the out-patient department) are appointed every six months. They live in the hospital free of charge. They must be registered. Thirty non-resident clinical assistants are also appointed for six months in the various departments. The physicians and surgeons appoint their own clerks and dressers, and assistants in the Pathological Department are appointed by the pathologist. Fees: One month, £1 1s.; three months, £2 2s.; six months, £4 4s.; one year, £6 6s.; perpetual ticket, £12 if paid in one sum, or £12 12s. if by separate payments.

2. *Royal Victoria Hospital for Consumption.*—Excellent opportunity is afforded for the study of Tuberculosis and the Edinburgh Anti-Tuberculosis System. Special clinics by the staff are arranged from time to time, both in the Hospital, which contains about 100 beds, and at the Royal Victoria Dispensary for Consumption, 26, Lauriston Place, close to the University. The number in attendance at these clinics is limited. The Royal Victoria Hospital Farm Colony may also be visited.

3. *Royal Edinburgh Hospital for Sick Children.*—The hospital is in Sciennes Road, about seven minutes' walk from the Medical School and Royal Infirmary. It contains over 120 available beds. There are some 2,275 in-patients and about 8,000 new out-patients yearly. The out-patient department is conducted in a building adjoining the hospital, and is well equipped. Systematic clinical courses of instruction, which qualify for the university and other examinations, are given at various times throughout the year by the ordinary physicians and surgeons. Students may enter at any time. Four resident appointments are made half-yearly. Further information should be sought from the Registrar of the Hospital.

4. *Edinburgh Eye, Ear, and Throat Infirmary.*—Open daily at 6, Cambridge Street, at 1 p.m. for Eye Diseases; on Monday, Thursday, and Saturday at 12, and on Tuesday and Friday at 4, for Ear, Nose, and Throat Diseases. There is a small infirmary of ten beds in male and female wards. In-patients, 132; out-patients, 5,311.

5. *Edinburgh Royal Maternity and Simpson Memorial Hospital* has 44 beds, about 615 in-patients and 756 out-patients yearly. A Nursing Home in Leith is worked in connexion with the hospital, and last year supervised the deliveries of some 540 out-patients. Daily clinics are given by the physicians and assistant physicians. Two house-surgeons are on duty, one being appointed each quarter. The Milne Murray Home in connexion with the hospital is a residence for students taking their midwifery practice. *Fees:* The hospital fee is £4 4s. per month, and the residency fee 25s. per week. There is accommodation for twelve students. Students can also attend the hospital and take out their cases in connexion with a number of associated dispensaries.

6. *Edinburgh City Hospital for Infectious Diseases* at Colinton Mains contains 600 beds, a large number of which are available for teaching purposes. Some 3,500 patients passed through the wards in 1910. Qualifying courses of instruction are given by the Consulting Physician and the Medical Superintendent during the Winter and Summer Sessions. The fee is £1 1s.

7. *Royal Asylum, Morningside, Edinburgh.*—There is a clinical field of 400 beds at "The West House," comprising all the wards except those for private patients. Students have the opportunity of personally coming in contact with and examining the cases, so as to learn the modes of dealing with patients suffering from mental disease; they are exercised in diagnosis and the drawing up of certificates, the aim being to enable them to recognize its early stages, to distinguish its varieties, to adopt suitable treatment, and to advise the relatives as to sending the patient to an asylum. There is a systematic course of Lectures and Clinical Demonstrations extending during the Summer Session (fee £2 2s.). During the Winter months there is a weekly ward visit and clinic on Saturdays at 9.30 a.m. open to members of the class and facilities are given for case-taking and for original research on subjects connected with insanity in the laboratory of the Asylum.

GLASGOW.

THERE are five medical schools in this city: the two schools of the university, one of which (Queen Margaret College) is for women students; St. Mungo's College (the School of the Royal Infirmary), Anderson's College, and the Western Medical School.

THE UNIVERSITY SCHOOL FOR MEN.—The whole course of study required for graduation at the University of Glasgow can be passed here. Besides work of a practical and clinical kind in the hospitals, practical courses are conducted in the laboratories of the following departments: Surgery, Pathology, Public Health, Pharmacy, Physiology, Anatomy, Chemistry, Zoology, Physics, and Botany, the Botanic Garden and the Hunterian Museum being also open to students. New buildings and equipments have recently been provided for Botany at a cost of £20,000, for Practical Anatomy at £14,000, for Operative Surgery at £9,900, as well as for Pathology, while very large additions, costing nearly £12,000, have been made to the Chemistry Laboratory, rendering it probably the most extensive in Scotland. New class-rooms and laboratories have been erected for the departments of Physiology, Materia Medica, and Medical Jurisprudence and Public Health, costing, with equipment, upwards of £60,000. The university has of late been making efforts to extend and improve the accommodation, especially the laboratories, of the medical departments, to strengthen the teaching staff, and to encourage post-graduate and research work. Three ver

extensive General Hospitals in the city afford exceptional opportunities for clinical instruction—namely, the Western Infirmary (595 beds), near the university, and attended by the bulk of the men students; the Royal Infirmary (588 beds); and the Victoria Infirmary (260 beds); while the Royal Asylum (460 beds), the Royal Hospital for Sick children (74 beds), the Maternity Hospital (34 beds), the Glasgow Eye Infirmary (100 beds), the Fever Hospitals at Belvidere (680 beds), and Ruchill (540 beds), and other institutions afford facilities for the practical study of special branches.

Bursaries.—Bursaries confined to the Medical Faculty amount in annual value to about £1,000, while bursaries in any Faculty, amounting to about the same annual sum, may be held by students of medicine, a number of both sets being open to women. Several valuable scholarships may be held by medical students who have graduated in Arts. Some of the bursaries are described below.

Fees.—The matriculation fee for each year is £1 1s. In most cases the fee for each university class is £4 4s., but in some cases it is £3 3s. For hospital attendance students pay an entrance fee of £10 10s. at the Western Infirmary, with an additional fee of £3 3s. for each winter and £2 2s. for each summer clinical course; while at the Royal Infirmary the fees for the first year are £10 10s. and the total fees £21. The university fee for the four professional examinations is £23 2s. (£6 6s. for each of the first and second examinations, and £5 5s. for each of the third and fourth). For the whole curriculum, the fees for matriculation, class attendance, hospital attendance, and professional examinations, amount to £150.

For further information apply to the Registrar, Glasgow University.

BURSARIES.—The following Bursaries are open to undergraduates of both sexes: The *Gibson Bursary*, annual value £36, tenable for four years. This is open to medical students who are preparing for service as medical missionaries in connexion with the Church of Scotland, and will be awarded to the eligible candidate who has gained the highest number of marks in the First Professional Examination. One *Logan Bursary*, annual value £16, tenable for four years; appointment by the Senate. Next vacancy, 1913. The *Mackintosh Mental Science Bursary* in Medicine, of the value of £31, is awarded annually to the student (of either sex) attending the class of Insanity who stands first in an examination in that subject, to be held in June—the Bursar to continue the practical study of the subject to the satisfaction of the Faculty of Medicine. The *Gardiner Bursary*, annual value £14, tenable for two years, will be awarded after the autumn professional examination to the candidate who has passed in Physiology at the Second Professional Examination, and whose aggregate of marks in that subject and in Chemistry and Physics of the First Professional Examination is the highest. Next vacancy, 1913. The following are tenable in any Faculty: Two *Pratt Bursaries* (each £20 and tenable for four years), both open in 1911; and two *Taylor Bursaries* (each £10, tenable for four years), one open in 1913 and the other in 1914. Three *Armagh Bursaries* (£52 each), one open in 1911 to students taking honours in Classics in the final Examination for the degree of M.A., tenable for three years. *Andrew and Bethia Stewart Bursaries* (£50 each, tenable for three years); one is vacant in 1911; candidates must have taken the M.A. degree of Glasgow. There is a special Examination. Nine *Glasgow Highland Society's Bursaries*, for students of Highland descent, of the annual value of £25, and tenable for five years; two are vacant in 1911. The Carnegie Trust for the Universities of Scotland is empowered to pay the whole or part of the university ordinary class fees of students of Scottish birth or extraction, under conditions given in the *University Calendar*. The *Dobbie Smith Gold Medal* is awarded annually for the best essay on a prescribed subject within the Science of Botany. The *Brunton Memorial Prize* of £10 is awarded annually to the most distinguished graduate in Medicine of the year. The University Commissioners issued an ordinance to make regulations for the admission of women to certain Bursaries, Scholarships, and Fellowships. Scholarships and Fellowships are offered by the Carnegie Trust in Science and Medicine for post-graduate study. There are also four *McCunn Medical Research Scholarships* (£100 for one year) for graduates in Medicine of the Scottish Universities.

QUEEN MARGARET COLLEGE.—In this, the Women's Medical School of the University of Glasgow, the courses of study, degrees, regulations, fees, etc., are the same as for men. Women students have their own buildings, with class-rooms, reading room, library, etc. They are taught in some classes apart from male students, in others together with them, but in either case have all the rights and privileges of university students. Their clinical studies are taken in the Royal Infirmary, where wards containing 180 beds are reserved for their exclusive use, and in its dispensary; also in the Royal Hospital for Sick Children, the Glasgow Ear Hospital, the Royal Asylum, Gartnavel; the Ophthalmic Institution, the City of Glasgow Fever Hospitals, Belvidere and Ruchill, and the Glasgow Maternity Hospital.

Scholarship.—The *Arthur Scholarship*, annual value £20, tenable for three years. Open to competition by medical students of first year of the First Professional Examination in October, 1911. This scholarship is the gift of Mrs. Arthur, of Barshaw, and is restricted to women medical students.

Board for Students.—A House of Residence for women students, Queen Margaret Hall, is situated near the college. The cost of board and residence is from 17s. 6d. to 25s. 6d. per week, according to accommodation. Full information can be obtained from the Mistress, Queen Margaret College, or from the Warden, Queen Margaret Hall, Bute Gardens, Glasgow.

ST. MUNGO'S COLLEGE.—This is the Medical School of the Royal Infirmary, which is the largest in Glasgow. The Infirmary is situated in Cathedral Square, Castle Street, and has car communication with every part of the city. St. Mungo's College is in the Infirmary grounds.

The Infirmary has (including the Ophthalmic Department) over 620 beds, the average number occupied in 1910 being over 600. When the reconstruction of the Infirmary, long in progress, is completed, it will have about 700 beds. There are special beds and wards for Diseases of Women, of the Throat, Nose and Ear, Venereal Diseases, Burns, and Septic Cases.

At the Outdoor Department the attendances in 1909 numbered over 140,000. In addition to the large Medical and Surgical Departments, there are Departments for Special Diseases—namely, Diseases of Women, of the Throat and Nose, of the Ear, of the Eye, of the Skin, and of the Teeth. A fully-equipped Electrical Pavilion was opened a few years ago, and year by year the latest and most approved apparatus for diagnosis and treatment has been added. Wards are set apart for the teaching of women students.

Appointments.—Five House-Physicians and ten House-Surgeons, having a legal qualification in Medicine and Surgery, who board in the Hospital free of charge, are appointed every six months. Clerks and dressers are appointed by the physicians and surgeons. As a large number of cases of acute diseases and accidents of a varied character are received, these appointments are very valuable and desirable.

Fees.—The fees for hospital attendance, including clinical lectures and tutorial instruction, attendance at the Outdoor Department, at the Pathological Department, *Post-mortem* Examinations, and the use of the Museum, which has not long since been rearranged and catalogued, are as follows: For one year, £10 10s.; for six months, £6 6s.; for three months, £4 4s. Students who have paid fees to the amount of £21 to the Glasgow Royal Infirmary are permitted to attend, in any subsequent year or years, one Winter and one Summer Course of Instruction in the Infirmary without further payment; and students who have paid to any other hospital in the United Kingdom fees, being not less than £21, in virtue of which they are entitled to attend without further payment, shall be admitted as students of the Royal Infirmary on payment of £3 3s. for six months, or £1 11s. 6d. for three months.

ANDERSON'S COLLEGE.—This school provides education in all subjects of the five years' curriculum. The Hospital Practice and Clinical Lectures are provided in Western or Royal Infirmary; Pathology in Western or Royal Infirmary; Vaccination and Dispensary Practice in Western or Royal Infirmary Dispensary. These classes are recognized by all the licensing corporations in the United Kingdom, and also by the Universities of London, Durham, Glasgow, and Edinburgh (the latter two under certain conditions which are stated in the school *Calendar*). The courses (Lectures and Laboratory) in Public Health are also recognized by the Scottish Licensing Board, Queen's University of Belfast, the Irish Colleges, and the University of Cambridge.

The school buildings are situated in Dumbarton Road, immediately to the west of the entrance of the Western Infirmary, within two minutes' walk of that institution, and four minutes' walk of the university.

Class Fees. — For each course of lectures (Anatomy, Ophthalmic Medicine and Surgery, Aural Surgery, Diseases

of Throat and Nose, and Mental Diseases excepted), First Session, £2 2s.; Second Session (in Anderson's College), £1 1s. For Practical Classes (except Anatomy, Chemistry, and Public Health), namely, Botany, Zoology, Physiology, Pharmacy, Operative Surgery — First Session, £2 2s.; Second Session, £2 2s. Anatomy Class Fees, Winter: First Session, Lectures and Practical Anatomy, £5 5s.; Practical Anatomy alone, £2 2s. Second Session, Lectures and Practical Anatomy, £5 5s.; Practical Anatomy alone, £2 2s. Third Session, Practical Anatomy, £1 1s. Summer: Regional Course or Dental Course (each including Nervous System), and Practical Anatomy, £3 3s.; Regional Course, or Dental Course alone, £2 2s.; Practical Anatomy alone, £1 11s. 6d.; Osteology and Practical Anatomy, £2 12s. 6d.; Osteology alone, £1 11s. 6d. Chemistry: Lectures, £2 2s.; Practical Chemistry, £3 3s. Botany and Zoology: Reduced Fees for Lectures with Laboratory Work in Botany or in Zoology, during same Summer Session, £3 3s. For Lecture Class or Practical Class separately, in Botany or in Zoology, £2 2s. Ophthalmic Medicine and Surgery (including Hospital Practice), Aural Surgery, Diseases of Throat and Nose, and Mental Diseases: Fee for each Course, £1 1s. Public Health Laboratory: Fee for Six Months' Course, including Lectures £12 12s. Western Infirmary.—Fees: For Hospital Attendance, £10 10s.; for Clinical Instruction, Winter Session, £3 3s.; Summer Session, £2 2s. Students who have completed the Clinical Course elsewhere are permitted to enter for a six months' course at the Hospital only on payment of a fee of £2 2s. Pathology, £4 4s. Practical Pathology, £3 3s. Pathology Demonstrations only, £1 1s. Vaccination fee, £1 1s. Royal Infirmary.—Fees: Hospital Practice and Clinical Instruction, first year, £10 10s.; second year, £10 10s.; afterwards free. Six months, £6 6s.; three months, £4 4s. Pathology, both courses, £4 4s. Vaccination fee, £1 1s. Attendance at the dispensaries of the Western and Royal Infirmaries is included in the hospital fee. Eye Infirmary.—Fee: Hospital Practice and Clinical Instruction, including Lectures at the College, six months, £1 1s. The session opens on Monday, October 16th, 1911.

The Carnegie Trust pays the fees of students at Anderson's College on conditions regarding which particulars may be obtained from the Secretary, Carnegie Trust Offices, Edinburgh.

A *Calendar* will be sent on receipt of a post-card by the Secretary to the Medical Faculty, Anderson's College Medical School, Glasgow W., who will forward any further information which may be desired.

GLASGOW WESTERN MEDICAL SCHOOL. — This school, which is situated in University Avenue, faces the principal entrance to the University, and is not far from the Western Infirmary. The subjects in which it affords instruction by means of lectures and demonstrations, are Chemistry, Anatomy, Medicine, Surgery, Ophthalmology, Midwifery, and Gynaecology. Some of the classes qualify for the medical degrees of the University, and also for the diplomas of the Scottish Conjoint Board. The fee for most of the subjects is £2 2s., that for ophthalmology being £1 1s. Further particulars relating to the school can be obtained from its Secretary, Mr. J. N. Morton, 58, Bath Street, Glasgow.

Clinical Hospitals.

1. The *Royal Infirmary.*—Some notes respecting this institution have been given in connexion with its Medical School.

2. *Glasgow Western Infirmary.*—This hospital adjoins the University of Glasgow, and has 600 beds. The Clinical Courses are given by the Physicians and Surgeons, each of whom conducts a separate class, and students may attend whichever they select at the beginning of the session. Special instruction is given to junior students by tutors or assistants, and Clinical Clerks and Dressers are selected from the members of the class. Special wards are set apart for Diseases of Women and for Diseases of the Skin. In the Out-patient Departments there are special clinics for Diseases of Women and for Diseases of the Throat, Ear, and Teeth, etc. All the courses of clinical instruction are recognized at the University of Glasgow and other Boards in the kingdom. Fifteen Resident Assistants are appointed annually without fee from those who have completed their course. *Fees.*—(1) Every Student must pay a fee of £10 10s. for hospital attendance, and this is kept quite apart from the fees for clinical instruction. (2) Every Student pays £2 2s. for each Summer, and £3 3s. for each Winter Session of clinical instruction, or such other fees as may be fixed from time to time by the managers in conjunction with the University Court. (3) Students who have completed their clinical course elsewhere are permitted to enter for a six months' course of the hospital only, on payment of a fee of £2 2s. In-patients, 9,230; out-patients, 39,948.

3. *Glasgow Eye Infirmary.*—This infirmary is situated at 174, Berkeley Street, and 80, Charlotte Street, and has 104 beds. Dispensaries open daily at 12.30 p.m. Operations performed on Monday and Wednesday at 10 a.m. and 2 p.m., and Friday at 9 a.m. and 2 p.m. Students' fees for six months, 1 guinea. In-patients, 1,629; out-patients, 28,681.

4. *Royal Hospital for Sick Children.*—This hospital, containing over 100 beds (26 of which are at the country branch at Drumchapel) and devoted to the non-infectious diseases of children, is open for clinical instruction, as also is the out-patient department in West Graham Street. Students, by paying a fee of £1 1s., are entitled to the practice of the hospital and dispensary for twelve months from the term of entry. The in-patients number about 1,100 yearly, and the out-patients about 14,000, involving over 50,000 attendances. A new building capable of accommodating some 200 in-patients is in course of erection.

5. *Glasgow Hospital for Diseases of the Ear, Nose, and Throat.*—This institution has 12 beds and a large out-patient department, the latter being open daily and attended by over 3,000 patients annually. Classes for practical work in connexion with the university lectures on the ear, nose, and throat are held during both the winter and summer sessions, and prizes are awarded.

ST. ANDREWS AND DUNDEE.

THE medical departments in these two teaching centres cater specially for students proceeding to the degrees of the University of St. Andrews, but admit, we understand, other students as well. In the former city the United College provides education in all subjects of the first two years. In Dundee, University College provides for the needs of students from the beginning to the end of the five years' curriculum. Its buildings are modern, and contain laboratories and workrooms for Anatomy, Physiology, Materia Medica, Pathology, Ophthalmology, Public Health, Medicine, Surgery, and Gynaecology. The Clinical work of the school is facilitated by the institutions below described. The class fees are 4 guineas for systematic classes and 3 guineas for practical classes. The Hospital ticket is £1 1s. for three months, £3 3s. a year, or perpetual £10 in one sum or £10 10s. in instalments. Added up, the fees for the curriculum amount to about 100 guineas. In connexion with both institutions there are Bursaries and Scholarships of considerable value, which are awarded after competitive examination. Information as to these can be obtained either from the Secretary of the University of St. Andrews or the Secretary of one or the other college. Information regarding the clinical facilities may be obtained from Professor Kynoch, Dean of the Medical Faculty.

Dundee Royal Infirmary.—The Infirmary contains 400 beds, with special wards for the treatment of Diseases of Children, of Eye Diseases, and of Diseases of the Ear and Throat. Five resident and one non-resident qualified assistants are appointed annually. Clinical clerks and dressers are attached to the physicians and surgeons, and students are appointed to assist in the *post-mortem* room. Out-patients are seen daily at 9 a.m. There is an Intern and Extern Maternity Department connected with the Infirmary. The instruction given at the Infirmary is recognized for purposes of graduation by all the Scottish universities, the University of London, the University of Cambridge, the Royal University of Ireland, and by the Royal Colleges of England and Scotland. Further information on application to the Medical Surperintendent.

Dundee District Asylum.—The appointments include two qualified Resident Assistants and two Resident Clinical Clerks. Clinical instruction is given.

IRELAND.

THERE is a choice of six Schools for those prosecuting their medical studies in Ireland, and for clinical instruction the choice is equally satisfactory and varied, though the hospitals themselves are comparatively small. Some account of the schools follows:

THE SCHOOL OF PHYSIC.

This school is in Dublin, and is carried on under the joint auspices of the University of Dublin and of the Royal College of Physicians in Ireland; the King's Professors of Institutes of Medicine, Practice of Medicine, Materia Medica, and Midwifery being appointed by the latter.

Clinical instruction is given at Sir Patrick Dun's Hospital, and some twelve other metropolitan hospitals, infirmaries, and asylums are recognized by the Board.

THE SCHOOLS OF SURGERY.

These are schools carried on in Dublin under the supervision and control of the Council of the Royal College of Surgeons. They are formed of the College's own school, combined with two famous old medical schools—Carmichael and Ledwich; they are attached to the college by Charter. The buildings contain spacious dissecting-rooms, one set apart for lady students, and special Pathological, Bacteriological, Public Health, Chemical, and Pharmaceutical laboratories. Advantage can be taken of the lectures and instruction afforded by students otherwise unconnected with the college.

Prizes.—Among the prizes annually awarded are: The Barker Anatomical Prize (£26 5s.); the Carmichael Scholarship (£15); the Mayne Scholarship (£8); the Gold Medal in Surgery, and the Stoney Memorial Gold Medal in Anatomy; Class Prizes of £2 and £1, accompanied by silver medals, will also be given in each subject.

The next session begins October 15th, terminating March 31st, whilst summer lectures and classes commence on April 1st, and are carried on until June 30th. A prospectus can be obtained post free on application to the Registrar, Royal College of Surgeons, Dublin.

UNIVERSITY COLLEGE, DUBLIN.

This institution is one of the constituent colleges of the National University of Ireland. Strictly speaking, it has yet no buildings of its own, but, so far as its medical department is concerned, its needs are already well provided for, since the College is being developed on the foundation of the old Catholic University Medical School in Cecilia Street, Dublin. There is a large staff of teachers drawn from the different faculties of the University, and all ordinary arrangements in the way of students' clubs and approved lodgings exist. An extensive series of buildings are to be erected on a site about five acres in extent. Meantime the teaching work of the College is being carried on at three centres, these between them providing lectures and demonstrations, practical work covering the whole of the curriculum of the medical undergraduates. The latter, in respect of their clinical studies, are left free to pursue them at any of the recognized Dublin hospitals. Some account of these is given in this section under the heading, "Other Educational Facilities."

BELFAST.

The Medical School is part of the Faculty of Medicine of Queen's University, Belfast, and provides a complete medical curriculum for all purposes. The laboratories in connexion with the departments of Biology, Chemistry, Physiology, Pathology, Anatomy, Physics, and Materia Medica are all excellent, and there is a Students' Union which gives students the advantage of dining-rooms, reading-rooms, a library, and various recreation rooms. Women are eligible as students. Clinical instruction is given at the Royal Victoria Hospital, which was rebuilt a few years ago and has 300 beds, and the Mater Infirmorum Hospital, which has 150 beds. Other hospitals open to the students of the university are: The Maternity Hospital, the Ulster Hospital for Women and Children, the Hospital for Sick Children, the Ophthalmic Hospital, the Benn Ulster Eye, Ear, and Throat Hospital, the Union Infirmary and Fever Hospital, the Fever Hospital, Purdysburn, the District Lunatic Asylum, the Samaritan Hospital, Forster Green Hospital for Diseases of the Chest, and the Belfast Hospital for Skin Diseases.

Scholarships.—(1) Seven Entrance Scholarships, value from £20 to £40 each; (2) sixteen Professional Scholarships, value from £15 to £40 each; (3) two Dunville Studentships (one each alternate year), value £150 each; (4) one Andrews Studentship each alternate year, value £145; (5) numerous sessional prizes. There is also a Post-Graduate Research Fund open to all graduates of not more than three years' standing. Gold medals are awarded at M.D. examination.

Fees.—The cost of the curriculum intended for students proceeding to the degrees of the Queen's University of Belfast is, approximately, £104. This includes examination fees and a perpetual ticket for attendance at the Royal Victoria Hospital or the Mater Infirmorum Hospital, but not fees for the special hospitals. The course for the Conjoint Board costs about the same amount. A pamphlet containing full information can be obtained on application to the Secretary, Queen's University, Belfast.

UNIVERSITY COLLEGE, CORK.

This institution, formerly known as Queen's College, Cork, is one of the constituent colleges of the new National University. It holds examinations for the Medical Faculty of that university, in addition to continuing the work which it has hitherto performed, namely, that of providing education adapted to the needs of medical students at all stages of their career. Its first aim is to fit students for the degrees of the new university, but students proceeding for the examinations of the Conjoint Boards of England, Scotland, or Ireland, the Society of Apothecaries of London, or the Apothecaries' Hall of Ireland, or London University, can arrange the courses of Lectures which they attend, and the order in which they attend them, to meet the requirements of those bodies. Certificates of attendance at the College courses are also accepted by the University of Cambridge. Clinical instruction is given at the North and South Infirmaries (each 100 beds). Students can also attend the Mercy Hospital (60 beds), the Cork Union Hospital, the County and City of Cork Lying-in-Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session extends from October to June inclusive. The College contains laboratories in the departments of Biology, Chemistry, Physiology, Pathology, and Materia Medica and Pharmacy, and there are a Botanic Garden and Plant Houses in the grounds.

Scholarships.—Over £2,000 is available annually for Scholarships in the College. Particulars as to each of them can be obtained on application to the Registrar.

Fees.—The fees for the lectures and hospital attendances required by the National University of Ireland course come to about £100. Further information can be found in the College Regulations, or obtained on application to the Registrar.

UNIVERSITY COLLEGE, GALWAY.

This institution, to which further reference is made at p. 547, is one of the constituent colleges of the National University of Ireland, provides a medical as well as other forms of education. The college buildings are well lighted and well ventilated, and contain dissecting rooms, an anatomical theatre, and laboratories for the study of physiology, chemistry, physics, and other departments of medical science. For pathology and chemistry new laboratories are in process of construction. It has good grounds surrounding it, and there are many arrangements, such as a library and an Athletic Union, for the benefit of those belonging to the Medical Faculty, as well as for students in other departments of the college. The clinical teaching, which is recognized as qualifying not only for the degrees of the National University, but for those of London University and the diplomas of the various colleges in the three kingdoms, is carried on at the Galway Hospital, the Galway Union Hospital, and the Galway Fever Hospital. The former is a general hospital, and at the two latter students have ample opportunities of studying zymotic diseases and chronic diseases respectively, as also diseases of children, for the Union Hospital has a special ward for them. In the medical departments eight scholarships in medicine, each of the value of £25, are annually awarded, as well as numerous sessional prizes each year. Further information as to these scholarships, and as to fees for hospital attendance, laboratory work, and lectures, and all other items of the medical curriculum, can be obtained on application to the Registrar at the college.

OTHER EDUCATIONAL FACILITIES.

Some account may also be given of the many hospitals in and around Dublin which, officially or unofficially, take a share in the educational work of this centre of medical study, and also afford opportunities to post-graduate students.

SIR PATRICK DUN'S HOSPITAL.

This hospital, situate in Grand Canal Street, is connected with and close to the School of Physic of the University of Dublin, but its practice is open to students of medicine attending other schools, and its certificates are recognized by the Royal University of Ireland and the Royal College of Surgeons in England, Scotland, and Ireland. Clinical instruction is given daily by the physicians and surgeons, and special classes for students commencing their studies are held during October, November, and December. They embrace the elements of Medicine and Surgery, including note-taking. The operating theatre is thoroughly in accord with the requirements of modern surgery. Clinical teaching on the Diseases of Women is given twice a week, and in the special wing devoted to fever cases regular clinical instruction is given throughout the Winter and Summer Sessions. Pathological and Bacteriological Demonstrations are given on Fridays during the Winter and Summer Sessions in the new Pathological Laboratory. Special arrangements have been made for practical and theoretical instruction in the administration of anaesthetics. A new department for the treatment of Throat, Nose, and Ear diseases affords instruction in these subjects, and in the use of the Laryngoscope and Otoscope. There is also a department for Dentistry. In the *x*-ray department opportunities are given the members of the Hospital Class of seeing the various applications of the *x* rays to the diagnosis and treatment of injury and disease. The out-patient departments are similarly useful. Special demonstrations are given upon Diseases of the Skin.

Appointments.—A Resident Surgeon, with salary, is appointed annually, and five Resident Pupils each half-year; six Surgical Dressers, and six Clinical Clerks each month.

Prizes.—The Haughton Clinical Medals and Prizes, value £15 each, in Medicine and Surgery, are awarded annually, other candidates who show special merit being given certificates.

Fees.—The fees are: Winter and Summer Session, together, £12 12s. Winter Session only (six months), £8 8s. Summer Session only (three months), £5 5s. Other information can be obtained from the Honorary Secretary to the Medical Staff of the Hospital.

RICHMOND, WHITWORTH, AND HARDWICKE HOSPITALS.

Of these combined hospitals, Richmond deals with surgical work, Whitworth with medical, and Hardwicke with fever cases. Together they contain over 300 beds, and have special clinics for diseases of the eye, ear, throat and nose, and for diseases of women. The Truss Establishment, for the distribution of trusses to the ruptured poor of Ireland, is connected with these hospitals. A fully-equipped pathological laboratory has recently been opened and a new mortuary built. The Richmond Lunatic Asylum, containing 1,200 patients, is close by, affording facility for the study of mental diseases.

Appointments.—A Resident Physician and a Resident Surgeon are elected half-yearly, and receive a salary. Twelve Resident Clinical Clerks are elected quarterly. These appointments are not only open to students of these hospitals, but also to students of other hospitals and to qualified doctors.

Further information can be obtained from the Honorary Secretary and Treasurer, R. Travers Smith, M.D., 20, Lower Fitzwilliam Street.

ADELAIDE MEDICAL AND SURGICAL HOSPITALS.

The hospitals contain 140 beds. A House-Surgeon and a House-Physician, resident and salaried, are appointed yearly, and four resident pupils are selected half-yearly. Further particulars may be obtained on application to the Secretary of the Hospital, or to any of the members of the medical staff.

ROYAL CITY OF DUBLIN HOSPITAL.

This hospital, in addition to the general Medical and Surgical Wards, contains special wards for Ophthalmic and Aural Cases, Diseases of Women, and Diseases of Children. There is also an isolated building for the reception of infectious cases. An entirely new operation theatre has been constructed in accordance with the most modern surgical requirements. Roentgen-ray and Lupus Lamp Departments have been installed. Special instruction is given in the administration of anaesthetics, and certificates are awarded to students taking out this course.

Appointments.—Clinical Clerks to the Physicians and Dressers to the Surgeons are appointed from the most deserving of the class, and certificates awarded for the faithful performance of their duties. Medical and Surgical Resident Pupils are appointed, and special certificates awarded if merited. A Resident Medical Officer is appointed annually.

For further particulars application should be made to the Honorary Secretary of the Medical Board at the Hospital.

MATER MISERICORDIAE HOSPITAL.

This hospital, the largest in Dublin, is open at all hours for the reception of accidents and urgent cases. Clinical instruction is given by the Physicians and Surgeons at 9 a.m. daily. A course of clinical instruction on Fever is given during the winter and summer sessions. A certificate of attendance upon this course, to meet the requirements of the licensing bodies, may be obtained. Ophthalmic Surgery is taught in the special wards and in the dispensary. Surgical operations are performed daily at 11 o'clock. Connected with the hospital are extensive dispensaries, which afford valuable opportunities for the study of general Medical and Surgical Diseases, and Accidents. Instruction will be given on Pathology and Bacteriology. Leonard Prizes will be offered for competition annually. Certificates of attendance are recognized by all the universities and licensing bodies in the United Kingdom. Private wards have been opened for the reception of medical and surgical cases. A training school and a home for trained nurses have been opened in connexion with the hospital. For further particulars see prospectus.

Fees.—Nine months, £12 12s.; six winter months, £8 8s.; three summer months, £5 5s. Entries can be made with any of the physicians or surgeons, or with the Registrar, Dr. Martin Dempsey, 35, Merrion Square.

MERCER'S HOSPITAL.

This is situated in the centre of Dublin, in the immediate vicinity of the Schools of Surgery of the Royal College of Surgeons, the Catholic University School of Medicine, and within five minutes' walk of Trinity College. It contains 120 beds for medical and surgical cases, and arrangements have been made with the medical officers of Cork Street Fever Hospital whereby all students of this hospital are entitled to attend the clinical instruction of that institution, and become eligible for the posts of Resident Pupils, etc. There is a large Out-patient Department, and a special department for Diseases Peculiar to Women. There are also special wards for the treatment and study of children's diseases. During the past few years the hospital has undergone extensive alterations in order to bring it up to modern requirements.

Appointments.—A House-Surgeon is appointed annually. Five Resident Pupils, each for six months, and Clinical Clerks and Dressers are appointed monthly from amongst the most deserving members of the class.

Fees.—Winter, six months, £8 8s.; summer, three months, £5 5s.; nine months, £12 12s.

Further particulars can be obtained from the Honorary Secretary of the Medical Board.

DR. STEEVENS'S HOSPITAL.

This hospital, situated at Kingsbridge and containing over 200 beds, affords exceptional advantages for clinical instruction. Owing to its position amongst manufactories and railway works a large number of casualties are always under treatment, while there are to be found occupying its beds at all times numerous cases of acute and chronic medical and surgical disease. There is a ward entirely devoted to venereal diseases, and a detached building for fever cases, and a newly-built extensive general out-patient department, with separate clinics for diseases of the eye

and ear, skin, throat, teeth, and diseases of women, daily opportunity being afforded to students to become thoroughly familiar with the modern appliances used in diagnosis and treatment of disease. A new and well-appointed receiving room for accidents has recently been added. There is also a fully-equipped *X*-ray Department and a fully-furnished Pathological Laboratory. General operations are performed on Tuesday, Thursday, and Saturday, and Gynaecological operations on Wednesday. The hospital accommodates four medical, six surgical, and two specialist (Gynaecology and Ophthalmology) resident pupils, who are provided with separate furnished rooms, with coal and gas. There is a comfortable common sitting-room for meals, which can be obtained at a reasonable rate.

Fees.—Hospital practice, nine months, 12 guineas; six months, 8 guineas; three months, 5 guineas; Residence: Each three months, 10 guineas, which includes fee for hospital practice and certificate.

A prospectus may be obtained from the Resident Surgeon or the Honorary Secretary to the Medical Staff.

MEATH HOSPITAL AND CO. DUBLIN INFIRMARY.

This hospital was founded in 1753, and now contains 160 beds available for clinical teaching. A building containing 40 beds for the isolated treatment of fevers is attached to the Hospital. The Certificates of this Hospital are recognized by all the universities and licensing bodies of the United Kingdom. Six Medical Clinical Clerks and twelve Surgical Resident Pupils and Dressers are appointed every six months, and a House-Surgeon and two Clinical Assistants are elected annually. The session opens on October 1st. A prospectus giving the complete arrangements for the Medical and Surgical Classes for the coming Session may be obtained from the Honorary Secretary of the Medical Board at the Hospital.

THE ROTUNDA HOSPITAL.

This institution consists of two distinct hospitals, and is the largest combined Maternity and Gynaecological Hospital in the British Empire. Nearly 3,000 patients are admitted annually to the hospital, and more than 2,000 cases of confinement are attended annually at the patients' own homes, whilst over 14,000 patients are attended in the out-patient department. A Pathological Laboratory is one of the important features of the hospital. The clinical instruction given includes daily lectures and practical demonstrations in Midwifery, Gynaecology, and Cystoscopy. Students also conduct its maternity cases and assist at all operations, both obstetrical and gynaecological. A diploma is granted to pupils on their passing an examination after a period of six months' attendance on the practice of the hospital. Paid clinical clerks are selected (by examination) from amongst qualified men who have obtained the hospital diploma. The residential quarters in the hospital for both men and women students have within the last few years undergone complete renovation, and afford comfortable accommodation. The grounds of the hospital contain grass courts for lawn tennis and croquet. Pupils can enter at any time for a period of one month or longer. The hospital offers exceptional opportunities for qualified practitioners of any nationality who desire to take out a course of post-graduate instruction.

Fees.—Intern pupils: Six months, £21; three months, £12 12s.; two months, £9 9s.; one month, £6 6s. Extern pupils: Six months, £10 10s.

ROYAL VICTORIA EYE AND EAR HOSPITAL.

This hospital, situated in Adelaide Road, Dublin, is an amalgamation of two institutions which formerly gave special instruction in ophthalmology separately—namely, St. Mark's Ophthalmic Hospital and the National Eye and Ear Infirmary. The combined institution, which was opened in February, 1904, contains 82 beds. Clinical instruction in diseases of the eye, including the use of the ophthalmoscope, is given daily, and students attend the operations, which are performed as occasion requires. Instruction in aural surgery is also given. Special classes for practical instruction in the use of the ophthalmoscope, etc., and for the demonstration of cases, are formed from time to time. A detached Out-patient Department, specially designed to meet all the requirements of eye, ear, and throat patients, and complete in every respect for the cure and demonstration of their diseases, has been erected and is now in occupation. It is believed that this department is one of the most complete of its kind in existence.

CLINICAL HOSPITALS IN ENGLAND.

THERE are a great many hospitals in the United Kingdom which, though not connected with any medical school, open their doors either to those who have yet to become qualified, to those who are doing post-graduation work, or to both. The facilities they offer for gaining practical clinical experience are very great, and should not be overlooked. Their honorary staffs commonly make a point of giving what instruction opportunity offers; and at those which are situated in the larger towns there are often appointments as clinical assistants to be obtained. In addition, they all have to offer, at shorter or longer intervals, appointments in the way of resident medical officerships, house-physicianships, and house-surgeoncies. These are usually paid offices, which may be held for periods varying from six months to a year. Notices of the vacancies as they occur appear in our columns, and there is rarely any lack of candidates, since the holder is placed in a particularly favourable position for gaining either general or special experience. An account of some which are situated in London and the provinces here follows, reference to those in large medical centres other than London being made in the accounts given of the Medical Schools in Scotland, Ireland, and the provinces respectively.

LONDON.

GENERAL HOSPITALS.

Great Northern Central Hospital, Holloway Road, N.—This hospital is recognized by the Examining Board in England of the Royal Colleges of Physicians and Surgeons as a place of study during the fifth year of the medical curriculum. The hospital contains 182 beds, all of which are at present available for occupation (that is, no beds empty for want of funds). The large rectangular and circular wards, each of which contains 20 beds and 4 cots, the operation theatre, and an additional out-patient department, general and special, and the pathological departments have all been erected since 1887. A second operation theatre and a new surgery block containing two observation wards, patients' waiting hall, examining rooms, and surgery proper, were opened in 1906. There is also an electrical department, and a children's ward containing 12 cots. Medical practitioners are invited to attend the general and special practice of the hospital. Clinical Assistants (qualified), Clinical Clerks, and Pathological Clerks are appointed in the general and special departments, and may receive certificates at the end of their terms of office. There are one Resident Medical Officer, three House-Surgeons, two House-Physicians, a Pathologist, and five Anaesthetists. Full particulars concerning these appointments can be obtained from the Honorary Secretary of the Medical Committee. Owing to the development of tube railways and electric trams the hospital is now one of the most accessible in London.

London Temperance Hospital.—The hospital in Hampstead Road contains 100 beds. The medical and surgical practice is open to students and practitioners. There are several appointments (vacancies in which, when they occur, are advertised in the JOURNAL). The principal are those of Surgical and Medical Registrars, Pathologist and Bacteriologist, Anaesthetist, Radiographer, Resident Medical Officer, one Assistant Medical Officer, and Assistant House-Surgeon. From time to time clinical classes are held by members of the staff.

Seamen's Hospital Society. — Dreadnought Hospital, Greenwich, 250 beds. Branch Hospital, Royal Victoria and Albert Docks, 50 beds. Dispensary in the East India Dock Road, and at Gravesend. Reference to the opportunities which these institutions afford for general clinical study and for obtaining special instruction in the diseases of tropical climates will be found at pages 572 and 573 respectively.

West London Hospital.—The hospital possesses some 160 beds, and, besides having a large out-patient department, the work of which is subdivided among the different special branches of medicine and surgery, it treats annually between two and three thousand in-patients. The excel-

lent opportunity it affords for clinical study will be found fully described at page 571 in the article on post-graduate work.

Prince of Wales's General Hospital, Tottenham, N.—Full information as to the attractions of this hospital as a place for clinical study, and as to the manner in which its valuable resources are utilized, will be found at page 572 in the article on post-graduate work. The district in which the hospital is situated has been growing rapidly of late years, and attendance in its various departments annually increases.

CHILDREN'S HOSPITALS.

The Hospital for Sick Children, Great Ormond Street, W.C. (Medical School recognized by the University of London for the Study of Children's Diseases), contains 240 beds, divided into 96 medical, 106 surgical, and 38 for special and infectious cases, besides 36 beds at the Convalescent Branch, Highgate. The hospital having been recognized by the Conjoint Board for England as a place where, under the new curriculum, six months of the fifth year may be spent in clinical work, the practice is arranged to meet this need, and is open to students who have completed four years of medical study, and also to qualified medical men. The sessions are of ten weeks' duration, and begin in October, January, and March. Appointments are made every three months to eight Medical Clerkships and eight Surgical Clerkships. Lectures or Demonstrations, given once or twice every week during both Winter and Summer Sessions, are open free of charge, to medical practitioners. Fees for hospital practice: One month, 2 guineas; three months, 5 guineas; perpetual ticket, 10 guineas. Special for Clinical Clerks, £1 1s. for three months. Certificates of attendance are granted. Special Post-graduate Courses of three months' duration are held four times a year. Each course comprises two medical and two surgical meetings a week. Fees: Medical course, £5; surgical course, £5. Prospectuses and further information will be forwarded on application to the Dean at the hospital.

Paddington Green Children's Hospital, Paddington Green, London, W.—Number of beds, 46; average number of beds daily occupied, 36; average number of in-patients, 782; average number of out-patients, 8,196. Daily attendance of the Medical and Surgical Staff. There are six Clinical Assistants. There is a Convalescent Home attached to the Hospital at Fair View, Slough, with accommodation for 16 children in the winter and 24 in the summer months.

East London Hospital for Children, Shadwell.—The hospital contains 120 cots. Two House-Surgeons and two House-Physicians (holding office for six months) are appointed annually. This hospital is recognized by the Conjoint Board for England as a place of instruction for students at which six months of their fifth year may be spent in clinical work. The following opportunities for the study of the diseases of childhood are offered to gentlemen who have completed four years of medical study, and to those who are already qualified: The practice of the hospital (in the out-patient department) is open to students every day (except Saturdays), at such hours as the physicians or surgeons for the day are attending. The in-patient practice is open to students holding clerkships or dresserships in the hospital, and to students not holding appointments during the attendance of the physicians and surgeons. A certain number of Clinical Clerks and Dressers are appointed every three months to each physician and surgeon. They are eligible for reappointment at the end of three months. Additional information may be obtained on application to the Secretary at the hospital.

The Queen's Hospital for Children, Hackney Road, Bethnal Green.—This hospital, formerly known as the North-Eastern, has 134 beds in London and 30 at the seaside branch at Bexhill, which is known as "Little Folks'" Home. The in-patients in 1910 numbered 1,970, of whom 741 were children under 2 years of age; out-patients, 32,975; new cases, 84,317 attendances. There are special Dental, Eye, Skin, Ear, Nose, and Throat, and Roentgen-rays Departments. The institution offers plenty of facilities for Medical and Surgical study of all kinds. Detailed information in respect of it can be obtained on application to the Secretary.

The Belgrave Hospital for Children.—The hospital has accommodation for 40 children and a very extensive out-patient service. The proportion of very young children to the total number treated is high. Medical and Surgical Out-patients are seen at 9.30 on Mondays, Tuesdays, Thursdays, and Fridays. Clinical Assistants to the Out-patient Staff are appointed from time to time.

LYING-IN HOSPITALS AND HOSPITALS FOR WOMEN.

Queen Charlotte's Lying-in Hospital.—This hospital, situated in Marylebone Road, receives about 1,800 patients annually, besides having a large out-patient department. Medical students and qualified practitioners are received, and on account of the large number of primiparous cases—nearly one-half of the total admissions—have unusual opportunities of seeing Obstetric complications and Operative Midwifery. Clinical laboratory instruction is given. Certificates of attendance at this hospital are recognized by all universities, colleges, and licensing bodies. There is a residential college opposite the hospital and in telephonic communication with it. *Fees.*—Those attending the practice of the hospital, in order to conduct the number of cases they are required to attend by the licensing bodies, pay a fee of £8 8s. for a course of four weeks. Those who attend only for the preliminary instruction in midwifery now required by the General Medical Council pay £5 5s. for a calendar month. Students are accommodated at the Residential College adjoining the hospital. Terms for residence and full board, 30s. per week.

Samaritan Free Hospital for Women, Marylebone Road, N.W.—The Samaritan Hospital treats diseases peculiar to women only. It has 56 beds. It receives qualified practitioners as Clinical Assistants in both in-patient and out-patient departments; fee, £3 3s. per quarter. Further particulars can be obtained from the Secretary.

OPHTHALMIC HOSPITALS.

Royal London Ophthalmic Hospital (Moorfields Eye Hospital, City Road, E.C.—This hospital contains 138 beds, and treats annually about 2,200 in-patients and 48,000 out-patients. Operations are performed daily from 10 a.m. to 1 p.m., and four surgeons attend on each day. Students are admitted to the practice of the hospital. *Fees:* For six months, £3 3s.; perpetual, £5 5s. Courses of instruction in the following subjects are given each term: (1) Examination of the Eye; (2) the Use of the Ophthalmoscope; (3) Errors of Refraction; (4) External Diseases of the Eye; (5) Surgical Anatomy of the Eye; (6) Motor Anomalies; (7) Pathology of the Eye; (8) Practical Pathology; (9) Bacteriology; (10) Operative Surgery; (11) Classes for X-ray work; (12) Clinical Lectures. A composition fee of £10 10s. will entitle students of the hospital to a perpetual ticket, and will admit them once to all the above Lectures and Demonstrations, except the classes on Practical Pathology, Bacteriology, Operative Surgery, and X ray work. Students of the hospital are eligible for the offices of House-Surgeon, Refraction Assistants, or Clinical and Junior Assistants. Junior Assistants are appointed every three months. Any further information desired can be obtained on application to the Secretary.

Royal Westminster Ophthalmic Hospital, King William Street, West Strand.—The hospital, modernized throughout, contains 40 beds, a large out-patient department, a lecture room, and a well-equipped pathological laboratory. The practice is open to practitioners and students from 1 to 4 p.m. daily. Special instruction is given in the Pathology, Diagnosis, and Treatment of Eye affections, including the operations on the eye, the treatment of errors of refraction, and the use of the ophthalmoscope. *Fees.*—Six months, £3 3s.; perpetual, £5 5s. Shorter periods of instruction can be arranged. For further particulars apply to the Secretary at the hospital.

Royal Eye Hospital, St. George's Circus, Southwark, S.E.—This hospital contains 40 beds and 2 cots. The out-patients number over 28,000 yearly. Operations are performed and patients seen daily at 9 a.m. and 2 p.m. Qualified practitioners and students are admitted to the practice of the hospital. Courses of instruction in Ophthalmology are given during the Summer and Winter Sessions. Fee for each course, £2 2s.; including three months' Hospital practice, £3 3s. Qualified students of the hospital are eligible for the offices of Registrar and House-Surgeon; they may also be appointed Clinical

Assistants for six months, and are eligible for re-election. Further particulars may be obtained from the Secretary at the hospital.

Central London Ophthalmic Hospital, Gray's Inn Road, W.C.—This hospital has 26 beds and possesses facilities for clinical teaching daily. Last year there were 417 In-patients and 13,587 Out-patients (entailing 31,242 attendances). Classes of Instruction in the various branches of Ophthalmology are held during the Winter Session commencing in October, The Out-patient work begins at 1 o'clock, and operations are performed daily between 1 4 o'clock. *Fees.*—A composition fee of £5 5s. will entitle students to a perpetual ticket, and £3 3s. to three months' hospital practice, and either fee will admit students to the Ophthalmoscope and Refraction classes.

FEVER AND SMALL-POX HOSPITALS.

Students are admitted to study at the Fever and Small-pox Hospitals of the Metropolitan Asylums Board after they have completed the third year of medical education, provided they have held the offices of clinical clerk and dresser, and have obtained the sanction of the authorities of the medical school to which they belong. The minimum duration of the course of study at the fever hospitals is two months, and the ordinary course of study at the small-pox hospitals consists of three demonstrations. At the fever hospitals the student must attend two days a week, and a third attendance is allowed, which may be taken at the convenience of the student, either in the morning or afternoon. To enable him to do this, an afternoon class is held once a week at those hospitals which have morning classes, and a morning class once a week where students are now received only in the afternoon. A register of students and the number of attendances of each individual is duly kept at each hospital. At the small-pox hospitals the dates and times of demonstrations are notified to students who have entered for a course. They must abide by the rules laid down as to disinfection and other matters, and must satisfy the Board of Management that they are sufficiently protected against small-pox by vaccination or otherwise. A certificate signed by the medical superintendent of the hospital at which attendance is made, and countersigned by the Clerk to the Board, is granted to a student when he has satisfactorily completed the course of study. Qualified medical men are admitted under similar terms and conditions, except that the sanction of the authorities of the medical school is not required in their case, and that they may attend the small-pox demonstrations without payment of a fee. Courses of instruction in the diagnosis and treatment of fevers are held three times a year at most hospitals, beginning in January, May, and October respectively, and other courses are usually arranged to commence in February, August, and November respectively. Information as to the classes is furnished to each of the recognized medical schools in the metropolis. Courses in connexion with small-pox are held from time to time as circumstances permit.

Fees.—Fever hospitals, two months, £3 3s., and £1 1s. for every additional month; small-pox hospitals, £1 1s. for the course of 3 demonstrations, but qualified medical men and students who may be receiving, or who may have received during the previous six months, instruction in fevers at the Board's hospitals may attend without payment of a fee.

MISCELLANEOUS SPECIAL HOSPITALS.

Bethlem Royal Hospital.—At this hospital for Mental Diseases, in St. George's Road, Southwark, two Resident House-Physicians are appointed twice a year for six months from recently-qualified medical students. Students of general hospitals and qualified medical men are allowed to attend for clinical instruction for three months on payment of a fee. Post-graduate courses are given from time to time.

Hospital for Consumption and Diseases of the Chest, Brompton.—The hospital has been recognized by the Conjoint Board for England as a place where six months of the fifth year may be spent in clinical work. It is also one of the institutions belonging to the London Post-Graduate Association. There are 333 beds in the two buildings constituting the hospital, and a special throat department, as well as an open-air sanatorium at Frimley. Pupils are admitted to the in-patient and out-patient practice of the hospital and to the laboratories. Courses of lectures and demonstrations are given during each term on Wednesdays at 4 p.m. Clinical Assistants, who must be qualified men and perpetual students of the hospital, are appointed to the Assistant Physicians in the out-patient department for periods of six months. The fee for the practice of the hospital is £1 1s. for each month, or £2 2s. for each period of three months, or a perpetual fee of £5 5s. The charge for one month's study in the Clinical Laboratory is 5 guineas.

City of London Hospital for Diseases of the Chest, Victoria Park.—There are 170 beds. The practice of the hospital, both as regards in-patients and out-patients, is open to students and medical practitioners. Certificates of attendance in the medical practice of this hospital are recognized by the London University, the Conjoint Board, and the Society of Apothecaries. Information as to medical instruction can be obtained on application to the Secretary to the Medical Committee at the hospital.

National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury.—This hospital, with the Finchley branch, contains 200 beds and cots. The in-patient, out-patient practice and lectures are open to students and practitioners on payment of the fee of 1 guinea for three months. Lectures and demonstrations are given on Tuesdays and Fridays, at 3.30, in three courses—spring, summer, and winter—and the physicians for out-patients attend every Monday, Tuesday, Wednesday, and Friday at 2. Surgical operations are performed on Tuesdays and Fridays at 9. The hospital is a school of the University of London, and has been recognized by the Conjoint Board of England as one of the places where part of the fifth year of study may be spent. The Physicians for in-patients attend at 2.15 on Monday, Tuesday, Wednesday, and Friday. Clinical Clerks are appointed for three months. Communications regarding clinical clerkships, lectures, and hospital practice should be addressed to the Secretary at the hospital.

Metropolitan Ear, Nose, and Throat Hospital.—This hospital (founded 1838) is situated in Grafton Street, Tottenham Court Road. The out-patient department is open daily at 2.30 p.m. to practitioners and students for acquiring clinical instruction and technical knowledge. Operations are performed on in-patients on Tuesdays, Wednesdays, Thursdays, and Fridays, at 10 a.m. Fee for one month's attendance at the hospital £1 1s., and for three months £2 2s. During the forthcoming session demonstrations will be given by members of the staff on the pathology and treatment of diseases of the ear and respiratory passages. Short practical classes will also be held in clinical pathology and surgical anatomy. Weekly clinical lectures are given by the staff on the special diseases treated at the hospital; the date, time, and subject of these lectures are previously announced in this JOURNAL. The lectures are free to all medical practitioners and students.

Royal Ear Hospital, Dean Street, Soho, W.—Courses in Diseases of the Ear and Nose are given by members of the staff throughout the teaching year. The teaching is of a practical character, and Clinical Assistants are appointed. Ten clinics are held every week. The operation days are Tuesdays and Fridays. Students are charged one guinea for six weeks' attendance and instruction. For full particulars address the Honorary Secretary of the Medical Board, Royal Ear Hospital, Dean Street, Soho.

Hospital for Diseases of the Throat, Golden Square, London, W.—The hospital contains 75 beds for in-patients. There is an annual out-patient attendance of over 50,000. Operations are performed every morning (except on Mondays). Practitioners and medical students are admitted to the practice of the hospital at a fee of 5 guineas for three months, 7 guineas for six months, or 10 guineas for perpetual studentship. The courses may commence at any date. Special terms are granted to medical men in actual practice who can only attend the hospital once or twice weekly. Clinical instruction is given daily in the Out-patient Department from 2 to 5 p.m., on Tuesdays and Fridays from 6.30 to 9 p.m., and on Mondays at 9 a.m. Systematic courses of lectures, with Clinical and Pathological Demonstrations, are given in the Winter Session, and are free to students of the hospital. From amongst the students are selected Junior Clinical Assistants, to

assist the member of the staff to whom each is appointed. Application for further information should be addressed to Mr. George W. Badgerow, F.R.C.S., the Honorary Secretary to the Medical Staff.

Central London Throat and Ear Hospital, Gray's Inn Road.—The hospital contains accommodation for 28 in-patients, and, in addition to new operating theatres, has a very extensive out-patient department (between 40 and 50 thousand attendances yearly), which is open daily to all medical practitioners and students for the purpose of Clinical Demonstration and Instruction. Fee, for three months' attendance, 5 guineas; for six months, 8 guineas. Courses of practical demonstrations on the special diseases treated at this hospital are held during both the winter and summer months by members of the staff. The dates of these demonstrations are announced in the JOURNAL prior to their commencement. They are open to qualified practitioners and advanced students of medicine on payment of 2 guineas for each course of lectures, with attendance at the hospital clinic during the period of six weeks. Operative Surgery classes are held at intervals. Operations on in-patients and out-patients are performed on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays at 9 a.m. (minor operations out-patients); 2 p.m. (major operations in-patients). In the newly equipped laboratory considerable attention is given to scientific work, particularly with regard to the pathology and bacteriology of the diseases of the ear and upper respiratory passages. Full particulars will be supplied on application to the Dean at the Hospital.

St. Peter's Hospital for Stone and Urinary Diseases (Henrietta Street, Covent Garden).—Qualified medical men and students are admitted free to the practice of this hospital, which contains 32 beds and has a large out-patient attendance (40,193 for 1910). New cases, 3,765. Operations are performed and consultations held on Wednesdays and Fridays at 2. Clinical instruction is given regularly by members of the staff. In-patients admitted in 1910, 513.

The Hospital for Diseases of the Skin (52, Stamford Street, Blackfriars, S.E.).—This hospital was founded in 1841 as a special school for the study of diseases of the skin. Its practice is free to practitioners and students. It is open daily for out-patients at 1 p.m. Last year 6,123 cases were seen and 13,552 attendances made. Practical courses of cutaneous histo-pathology and on the diagnosis and treatment of diseases of the skin and syphilis are held at frequent intervals. There are fully-equipped pathological and light departments. Clinical assistants are appointed from time to time.

St. John's Hospital for Diseases of the Skin.—The Out-patient Practice (at 49, Leicester Square, W.C.) is open free to any member of the medical profession every week-day from 2 to 4 p.m., on presentation of his card to the Medical Officer in attendance. The *X*-ray Department is in operation every day except Saturday from 2 to 4. Chesterfield Lectures are given free, October to May, on Thursdays, at 6 o'clock. In connexion with these Lectures a practical course is given in the Laboratory, comprising Microscopic Examinations of Sections, Hair Examination, Staining, etc., during the summer. The Chesterfield Silver Medal is competed for annually in the month of June. The In-patient Department, with 40 beds, is at 262, Uxbridge Road, W. Further particulars may be obtained from the Secretary-Superintendent, 49, Leicester Square, W.C.

THE PROVINCES.

IT is the practice at a great many of the larger county and other hospitals in the provinces to offer facilities for instruction in their wards to medical students, who are usually treated as the pupils either of the resident officers or of the honorary medical staff. In some cases they pay fees, in others they receive an honorarium for the services they render as dressers, and in like capacities. A list of these and some allied institutions follows.

BATH.

Royal United Hospital.—The hospital contains 130 beds, and is recognized by the Royal Colleges of Physicians and Surgeons as a medical school. It contains a library and an excellent museum, in which are a large number of interesting specimens, both in Pathology and Comparative Anatomy. Fees for attendance: Twelve months, £10 10s.; six months, £5 5s. (Temporary pupils can also, by permission of the honorary staff, attend the practice of the hospital by the payment of £1 1s. for each month.) Instruction in Practical Pharmacy for three months, £3 3s. Further particulars can be obtained on application to the Secretary.

BRADFORD.

Bradford Royal Infirmary.—The hospital contains 210 beds. Non-resident pupils are received, and have every opportunity of acquiring a practical knowledge of their profession under the superintendence of a Resident Surgical Officer, two House-Surgeons, and a House-Physician. One year's attendance is recognized by the Examining Boards. *Fee:* Perpetual, £10 10s.

BRIGHTON.

The Royal Sussex County Hospital.—The hospital contains 195 beds (135 surgical, 60 medical), with separate ward for children and separate blocks for diseases of women and for cases requiring isolation; and the Out-patient Department is attended by 1,100 to 1,300 patients weekly. It is recognized by the Conjoint Board as a hospital where part of a course of Dispensing may be taken. Pupils are admitted to the clinical teaching. There is also a Pathological and Bacteriological Department. Further information may be obtained from the House-Surgeon.

CANTERBURY.

Kent and Canterbury Hospital.—The hospital contains 84 beds. Over 700 in-patients and 1,200 out-patients attend every year. Lectures are delivered weekly during term time on Practical Medicine and Surgery to the students of St. Augustine's Missionary College.

DERBY.

Derbyshire Royal Infirmary.—The Infirmary has beds for 256 patients. Pupils are admitted to the in and out practice at a fee of £10 10s. a year.

DEVONPORT.

Royal Albert Hospital and Eye Infirmary.—The hospital contains 52 beds in the general wards, 11 additional beds for emergency cases only, and 2 Home Wards for the accommodation of private patients on payment. A course of Practical Pharmacy is given by the Dispenser on payment of a fee of £5 5s.; pupils of the medical staff can attend this course on payment of £2 2s. The number of in-patients treated during the twelve months ended September 30th, 1910, was 770. In the Casualty Department first aid was given to 2,628 persons. The out-patients treated in the Ophthalmic Department numbered 946.

EXETER.

Royal Devon and Exeter Hospital.—The hospital contains 200 beds, including a special ward for children. There are a Library, Museum, Pathological Department, and *Post-mortem* Rooms. A new Operating Theatre was opened in 1906, and an Electrical Treatment Department in 1907. Attendance on the practice at this hospital qualifies for all the Examining Boards. Arrangements are made by which students can attend Midwifery. For further particulars apply to the Secretary.

West of England Eye Infirmary.—This infirmary contains 64 beds. Arrangements can be made for students at the Exeter Hospital to attend the practice of the Eye Infirmary.

GLOUCESTER.

Gloucestershire Royal Infirmary and Eye Institution.—The hospital contains 140 beds. Resident and non-resident pupils are admitted by the General Committee on the recommendation of a member of the Medical Board. Each pupil pays in advance £10 for the first half-year and £5 for every subsequent quarter, or portion of a quarter, of a year. Each resident pupil has board and lodging in the house, for which he pays in advance 26 guineas for the first half-year, and 13 guineas for every subsequent quarter, or portion of a quarter, of a year. Each pupil pays in advance to the House-Surgeon a fee of £5 5s. for instruction, and a further fee of £3 3s. for every subsequent year or portion of a year. One year spent at this hospital, after passing a preliminary examination, is recognized by the Conjoint Board.

LEICESTER INFIRMARY.

In this infirmary there are 270 beds, of which some 260 are in constant use. Of these beds, 42 are in a special annexe known as the Children's Hospital. There are six esident medical officers, and in addition two resident relinical assistants are appointed every six months, an honorarium of £10 10s. being given at the end of their term of office, in addition to board and apartments. The work of the hospital, especially on the surgical side, is very extensive, four operating theatres being in use. There is also a large out-patient department; it is fitted with rooms for the accommodation of the members of the staff in charge of the various special departments, and is a most complete and well-equipped building. A new south-east wing has recently been erected, at a cost of £20,000. It contains three wards, each accommodating thirty patients. In addition there are side wards to each floor (a two-bed and a one-bed ward) for observation and for delirious cases, and clinical laboratories. An electric lift conveys patients from top to bottom. The *X*-Ray Department has recently been remodelled and equipped with new apparatus. A Pathological Department has been introduced, A sum of £100,000 has been expended on the reconstruction of the institution during a period of seven years, and the infirmary is now thoroughly modernized and efficient.

LINCOLN.

County Hospital.—The hospital contains 105 beds. The House-Surgeon is allowed to take two pupils, on terms arranged between the Weekly Board, himself, and the pupils. A fee of not less than £10 10s. is paid by every pupil to the hospital. The House-Surgeon is responsible for the conduct of his pupils. The pupils remain in the hospital only when occupied in performing or observing the actual work of the hospital.

NORTHAMPTON.

General Hospital.—There are 166 beds and a large out-patient department. Out-pupils are received, and have every opportunity of acquiring a practical knowledge of their profession. Instruction is also given in Anatomy, Materia Medica, and Pharmacy. Non-resident pupils are taken at a fee of £10 10s. annually.

NORWICH.

Norfolk and Norwich Hospital.—The hospital contains 210 beds. Students (non-resident) are admitted according to the following scale: For three months, £3 3s.; for six months, £5 5s.; as permanent students, £8 8s. The resident officers are a House-Physician, House-Surgeon, Assistant House-Surgeon, and Second Assistant House-Surgeon.

NOTTINGHAM.

General Hospital.—The hospital contains 246 beds. The Honorary Staff introduce pupils to witness the practice of the hospital on payment of £10 10s. annually in advance. The pupils receive instruction from the Resident Medical Officers.

PORTSMOUTH.

Royal Portsmouth Hospital.—150 beds. One year's attendance is recognized by the Examining Boards. For particulars as to fees, application should be made to the Secretary.

SOUTHAMPTON.

Royal South Hants and Southampton Hospital.—The number of beds is 130. The in-patients number about 2,200 a year, the out-patients about 7,000. Large additions to buildings, including new isolation wards, new operating room, a new ward block and a steam laundry, new night casualty receiving room and nurses' homes for 14 nurses have been completed, and also a new kitchen. Attendance at this hospital is recognized by the Conjoint Board.

STAFFORD.

Staffordshire General Infirmary.—There are 77 beds. The pupils of medical practitioners, resident in the county of Stafford, are allowed to attend the medical and surgical practice of the infirmary, and to be present at operations. The pupils of the officers of the institution are admitted to these privileges gratuitously, those of other practitioners on payment of £10 10s. by each pupil.

North Staffordshire Infirmary.—The infirmary has accommodation for 216 patients, including children's wards, eye department, and electrical and *x*-ray departments. The attendance of pupils in this infirmary is recognized by all the Examining Boards. Particulars as to fees, etc., may be obtained from the Secretary and House-Governor of the Infirmary, Hartshill, Stoke-on-Trent.

WINCHESTER.

Royal Hants County Hospital.—The hospital contains 108 beds. The Physicians and Surgeons are allowed to introduce a certain number of pupils; the Resident Medical Officers may also receive a pupil, for whose maintenance a certain sum, to be fixed by the Committee, is payable annually in advance. Pupils of medical men not on the staff of the hospital may, with the consent of the Committee, become out-pupils and attend the practice of the hospital, under the direction of the Resident Medical Officer, on payment of £10 10s. for one year, or £21 for unlimited attendance.

WOLVERHAMPTON.

Wolverhampton and Staffordshire General Hospital.—There are 200 beds. It is recognized by the University of London, the Royal Colleges of Physicians and Surgeons, and other examining Boards. The in-patients number 3,039, and out-patients 22,826. The operating theatre, pathological laboratory, and *post-mortem* room are new and well equipped. Special departments for children, gynaecology, ear, throat, and nose diseases, electro-therapeutic and *x*-ray departments. There is an excellent library. The resident officers are a Resident Medical Officer, Resident Surgical Officer, two House-Surgeons. Pupils are allowed to witness the whole of the practice of the hospital and to be present at operations, and have every opportunity of acquiring a practical knowledge of their profession. Fees: £3 3s. a quarter, £10 10s. the first year, and £5 5s. subsequent years. A course of practical pharmacy is given by the Dispenser. Fees: £3 3s. for three months. Application should be made to the Secretary of the Medical Staff.

YORK.

York County Hospital.—The hospital contains 150 beds, including children's ward, eye department, and *x*-ray apparatus. Non-resident pupils may be introduced by the Honorary Medical and Surgical Officers, or by the Resident Staff (which consists of a House-Physician and a House-Surgeon) on terms to be arranged with the Honorary Staff. Pupils visit the wards with the members of the Honorary Staff (the House-Physician and House-Surgeon are present at the operations and necropsies), and are instructed in the elements of minor surgery in the casualty department. The in-patients number about 1,400 annually, and the out-patients 11,000, who make 44,000 attendances. Further particulars may be obtained from the Senior Resident Officer.

MEDICAL EDUCATION OF WOMEN.

WOMEN are admitted to the medical examinations of the following qualifying bodies: All the Universities of Great Britain, with the exception of Oxford and Cambridge; the Royal College of Physicians, London, and the Royal College of Surgeons, England; the Society of Apothecaries of London; the Conjoint Colleges of Scotland and of Ireland.

The regulations of each differ considerably, so that it is necessary for a student to decide, before beginning her course, which degree or diploma she will aim at obtaining. The ordinary regulations of the General Medical Council (see page 534) must be observed, and women can pursue their education either at certain schools only open to women, or at ordinary schools where they do their work more or less in common with men students.

The schools which admit women only are the London (Royal Free Hospital) School of Medicine for Women, which is one of the constituent schools of the Medical Faculty of the University of London; the Edinburgh School of Medicine for Women (see page 560), and Queen Margaret College, Glasgow (see page 561). Women are also admitted to the Schools of Medicine conducted in connexion with the Universities of Dublin, Durham, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Bristol, and Aberdeen; St. Mungo's College, Glasgow,

the Schools of Surgery of the Royal College of Surgeons in Ireland and of the National University of Ireland in Dublin, Cork, and Galway. Two years of the medical curriculum can be taken by women students at the United College, St. Andrews, and the remaining three at University College, Dundee, where the whole five years can be passed if desired. Women can also attend classes for the first three years of the medical curriculum at University College, Cardiff.

Year by year the openings for women who adopt a medical career have increased, and the field open to their energies is now wide. Women hold many appointments as Resident Medical Officers in hospitals for women and children all over the country, and are eligible for appointments in some general hospitals, and in a large number of sanatoriums, infirmaries, fever hospitals, and asylums. Many medical women are also engaged in public health and school inspection work.

As regards the London School of Medicine for Women, particulars will be found at p. 553 in the article on London Medical Schools.

DEGREES FOR PRACTITIONERS.

AT one time it was almost the universal custom for medical students educated in London not to seek a university degree, and as that custom still prevails to a considerable extent, a very large proportion of medical men in actual practice in England possess diplomas to practise but not degrees in medicine. The question whether a medical man not known to be a pure surgeon should be addressed as "Doctor" or "Mr." is one which the general public has settled, as it settles most things for itself and according to its own view of the proprieties; but, nevertheless, those who have not taken a degree often regret their inability to sign themselves "M.D." and that they have no legal title to the term "Doctor." Hence, some universities have issued special regulations under which the degree of M.D. is granted to practitioners of a certain standing under special conditions. The regulations of these universities are stated briefly in the following paragraphs. The University of Brussels also grants the degree of M.D. to practitioners after examination, without restriction as to residence or curriculum. It is not, however, a registrable degree when it has been obtained subsequently to June, 1886.

UNIVERSITY OF LONDON.

Registered medical practitioners who have passed the First Examination for Medical Degrees and the Second Examination for Medical Degrees, Part I, may proceed to the Second Examination for Medical Degrees, Part II, and M.B., B.S. Examinations without observing the intervals prescribed by the regulations on producing certificates that they have gone through the required course of study at a School of the University; subject to the proviso that no degree of the university can under any circumstances be granted by examination to any one in less than three years after passing the Matriculation Examination or after admission by the University of the candidate's right to exemption therefrom.

UNIVERSITY OF DURHAM.

The degree of M.D. is granted by the University of Durham to registered practitioners of not less than fifteen years' standing, who have been qualified and in practice for that period, upon the following conditions without residence: The candidate must be 40 years of age, and must produce a certificate of moral character from three registered medical practitioners. Should he not have passed previously to the professional examination in virtue of which his name was placed on the *Register* an examination in Arts, he is examined in Classics and Mathematics; if otherwise, he is required to translate into English passages from any one of the following Latin authors: Caesar *De Bello Gallico* (first three books), Virgil, *Ænid* (first three books), or Celsus (first three books).

Professional Examination.—The candidate must pass an examination in the following subjects: i. Principles and Practice of Medicine, including Psychological Medicine, Hygiene, and Therapeutics; ii. Principles and Practice of Surgery; iii. Midwifery and Diseases of Women and Children; iv. Pathology, Medical and Surgical; v. Anatomy, Medical and Surgical; vi. Medical Jurisprudence and Toxicology. The examination is conducted by means of printed papers, clinically and viva voce, at the College of Medicine, Northumberland Road, Newcastle, and in the Royal Victoria Infirmary, Newcastle. The classical portion of the examination may be taken separately from the professional on payment of a portion (£10 10s.) of the full fee.

Foreign and Colonial Practitioners.—Natives of India or the British Colonies are placed on the same footing as natives of Great Britain. Natives of India must produce evidence from an Indian university that they have passed within one year an examination in Latin.

Fees.—The inclusive fee is 50 guineas; if a candidate fail to pass, 20 guineas are retained, but if he present himself again, 40 guineas only are required.

Dates, etc.—The examinations are held twice a year, towards the end of March and of July. Notice, accompanied by the fee and certificates, must be sent to Professor Howden, Secretary of the University of Durham College of Medicine, Newcastle-on-Tyne, at least twenty-eight days before the commencement of the examination.

UNIVERSITY OF BRUSSELS.

This university grants its M.D. to such foreign candidates as are already duly qualified in Medicine and Surgery in their own countries provided they pass the three examinations imposed. These must be passed in due order, but if desired may be passed without any formal interlude, the time covered in the latter case being ten or twelve days. They are viva voce examinations, the language used being French. There is, however, an official interpreter present whose services are at the disposition of candidates; besides this the examiners commonly speak the English language. At their desire candidates may also undergo written tests on payment of an extra fee of £1 for each test, but such written examination does not exempt them from the viva voce examination.

Examinations.—Of the three examinations the first Doctorate covers General Medicine, Materia Medica and Pharmacology, General Surgery, and the Theory of Midwifery. The second covers General Therapeutics, Pathology and Morbid Anatomy (including Microscopy), Special and General Therapeutics, the special branches of Surgery and Mental Diseases. The third covers Public Health, Medical Jurisprudence, Clinical Medicine and Surgery, Operative Surgery (including the performance of some of the commoner operations on the dead subject), Ophthalmology, Midwifery (including obstetric operations on a model), Regional Anatomy (with dissection), and Bacteriology. The examinations commence on the first Tuesday in November, December, March and May, and the second Tuesday in June.

Fees.—The fees aggregate to £22; they are paid in advance, but those for any examinations to which a candidate has not been admitted are returned to him. A rejected candidate may be examined three months later on repayment of the examination fee, provided his second appearance takes place in the course of the same academic year; otherwise the matriculation fee (£8 12s.) must be paid again. Any fee paid includes the right to attend any lectures delivered in connexion with the subjects of the examination to which it relates. Other information can be obtained either from the Secretary of the University, 14, Rue des Sols, Brussels, or from Dr. Arthur Haydon, Honorary Secretary of the Brussels Medical Graduates' Association, 23, Henrietta Street, Cavendish Square.

POST-GRADUATION STUDY.

THE value, and in some circumstances even the necessity, of post-graduation study is now so generally recognized that there is no occasion to dilate upon it here. The need for some means of acquiring direct knowledge of the technique of the new branches which are constantly springing up is indeed so generally felt among otherwise experienced practitioners that several institutions designed solely for their benefit have been at work now for some years. Of these institutions some account follows. Beyond this it need merely be said that in most medical centres it is no exceptional for one or more courses for qualified men to

to be held once or more often during the year; that most of the institutions mentioned in the section on Clinical Hospitals make special arrangements for the benefit of qualified men desirous of studying work of the kind undertaken within their wards; and that valuable adjuncts to post-graduation study exist in the shape of the Library of the British Medical Association—one specially rich in recent works—of the libraries of the several universities, and in those of the Royal College of Surgeons of England and of the Royal Colleges of Physicians in London and in Edinburgh.

A further reference to some of the special courses will be found at page 590.

London Post-Graduate Association.

The wealth of London in material for clinical study is, of course, enormous, and the object with which the London Post-Graduate Association was started, now many years ago, was to throw open to the general body of medical practitioners all that is most useful and attractive in it.

To fulfil this purpose it entered into arrangements with the principal medical schools of London and with the administrators of the leading special hospitals of such a nature that it is now able to issue a ticket which admits the holder to all the clinical instruction provided in these institutions. Armed with this ticket, a medical man can enter freely any of the institutions concerned, becoming to all intents and purposes one of their students, and having as much right to visit their wards and attend in their out-patient departments as if he were once more in his salad days and back within the familiar walls of his old school. He can thus get as much clinical instruction in the wards and in the special and general out-patient departments as he pleases, and the operating theatres and the *post-mortem* rooms are equally open to him.

The fact that one ticket admits him to so many hospitals is a decided advantage, for if interested in one particular branch of the work, he can follow that up throughout the day in different institutions, instead of having to limit his study of it to one or two days a week. A further useful point in the system is that it affords practitioners an opportunity of becoming acquainted with the different methods of a large number of specialists, and of noting the different ways in which men all equally eminent in their particular line deal with cases much of the same type; there could be no better way, indeed, of getting abreast with the results of modern research and into touch with current thought in medicine and surgery than by attending various hospitals with the help of a ticket from this Association.

The institutions thrown open are, among general hospitals, Charing Cross, Guy's, King's College Hospital, St. George's, St. Mary's, St. Thomas's, and University College and Westminster. Among special hospitals, the Brompton Hospital for Diseases of the Chest, the Hospital for Sick Children (Great Ormond Street), the National Hospital for the Paralysed and Epileptic, the Royal London Ophthalmic Hospital, the London School of Tropical Medicine, St. Mark's Hospital for Diseases of the Rectum, and the Medical Graduates' College and Polyclinic. The fee for a ticket lasting three months is £10 10s., while for £15 15s. one for six months is issued.

Further particulars about this Association can be obtained from the Secretary, London Post-Graduate Association, 20, Hanover Square, London, W.; if application is made in person, the visit should be paid between the hours of 10.30 a.m. and 1 p.m.

London Medical Graduates' College and Polyclinic.

This institution, familiarly known as the Polyclinic, opened its doors some twelve years ago, its work being arranged on quite original lines. The soundness of these became very early apparent, and large numbers of practitioners now attend the classes and avail themselves of the various forms of instruction which the College offers.

The work is carried on in a building in central London which is well arranged and readily accessible from all quarters. It stands at the corner of Chenies and Ridgmount Streets, its postal address being 22, Chenies Street, W.C. This latter street runs at right angles to Tottenham Court Road, crossing Gower Street. The ground floor of the College is given up to the class-rooms, which are furnished with various appliances for clinical instruction. When occasion requires the partitions between adjacent rooms can be removed, and a lecture-room of fine proportions thus provided. On the first floor is a library, a reading-room, and the consultation theatre, and on the upper floor is found an excellent laboratory for bacteriology and clinical pathology, each table being provided with its own set of reagents and test tubes and its Bunsen burner. Besides these rooms there is in the basement an important annexe in the shape of a dark room so arranged that twelve patients can be examined simultaneously, but separately from each other, with the ophthalmoscope, laryngoscope, or other instruments of precision. An adjoining room is fitted with appliances for instruction in ophthalmic cases, such as type tests, working models of eyes, stereoscopes, lenses, etc.

Another important part of the College is the Museum, situated at the side of the building and devoted to clinical illustrations. Portraits and models of diseased conditions find their place here, and the newest medical and surgical instruments and appliances of all kinds, which can be examined at any time, form a marked feature of this department of the College. The museum has been enriched by a unique collection of valuable pictures of disease, especially skin diseases, most of which are painted from life, together with many other specimens of rare clinical value, which have been placed at the service of the Polyclinic by Sir Jonathan Hutchinson, F.R.S., and the Museum has been appropriately named after him the Hutchinson Museum.

Perhaps, however, the most characteristic feature of the school is the system of consultations and clinical demonstrations. These take place every afternoon at four o'clock, and patients attend them either at the invitation of the management, or they may be brought by practitioners who are members of the school. Besides the excellent opportunities for teaching which these consultations afford, they provide occasion for discussing difficulties and studying exceptional forms of disease by the most recent methods of diagnosis. Notes are taken of the cases, and are supplemented on occasion by photographs or other portraits of the rarer morbid conditions.

On Mondays, Tuesdays, Wednesdays, and Thursdays of each session, at 5.15 p.m., formal lectures are delivered on medicine, surgery, and their branches, while at the same hour on Fridays the resident pathologist gives an occasional pathological demonstration.

An annual payment of one guinea admits to the consultations and lectures, and secures the use of the Reading-room, Museum, and Library; subscribers also receive the *Polyclinic Journal*, which is published every month.

Of Practical Classes there are four sessions in the year, each lasting six weeks, while a vacation course extending over three weeks takes place in August and again in September.

These classes include such special subjects as Clinical Pathology, Haematology, Cyto-diagnosis, Opsonins, Bacterial Vaccines, Ophthalmoscopy, Retinoscopy, Laryngology, Rhinology, Otology, Sigmoidoscopy, Cystoscopy, Intestinal Surgery, Graphic Methods in Cardiac Disease, and the Examination of the Gastric Contents, etc. Private personal instruction in these and other subjects may also be obtained, and all forms of clinical and pathological investigations are undertaken in the Laboratory.

Provision is also made for those who are reading for the higher qualifications, special tutorial classes being conducted for this purpose. Full particulars of all the work done may be obtained on application to the Medical Superintendent, 22, Chenies Street, W.C.

West London Post-graduate College.

The work of this institution is carried on at the West London Hospital, the first in London to devote its clinical material solely to the instruction of qualified medical men. The College started in 1895, and the present building was opened in 1901; it is provided with lecture, reading, writing, and class rooms, and accommodation of all sorts for the convenience of post-graduate students. In the last five years the yearly entry has averaged over 200.

As for ward work, the students accompany the senior staff on their visits to the wards at 2.30 p.m. daily, and also go round with the resident medical officers in the morning. Out-patient work begins at 2.15 p.m. This

department is large, and affords ample facilities for post-graduates to see and examine patients. There are the usual special departments dealing with diseases of the eye, ear, throat, nose, skin, orthopaedics, *x*-ray work, electro-therapeutics, gynaecology, and medical diseases of children. Post-graduates are appointed to act as clinical assistants for three or six months. There is no charge to members of the College. Practical classes are held in medicine, general practical surgery, intestinal surgery, surface anatomy, and blood and urine analysis, cystoscopy, venereal disease, tropical diseases, retinoscopy, ophthalmic operative surgery, and finally in operative surgery. The size of the classes is limited so as to ensure that each student shall have full opportunities of gaining experience in methods of examination and treatment.

Operations take place at 2.30 p.m. daily, the surgeons often availing themselves of the assistance of the post-graduates, and in any case making arrangements so that they can readily see what is going on. The Anaesthetists give instruction in the administration of different anaesthetics, including spinal analgesia, on the operating days, students being allowed to administer them under supervision, while special classes are held in each session.

The pathological laboratory is in charge of a pathologist who attends during the whole day. In bacteriology and microscopy special instruction is given on three mornings a week, the students working at other times under the general guidance of the pathologist.

Demonstrations are given each week in the morning by the Assistant Physicians, and by the Medical and Surgical Registrars on Practical Medicine. Lectures of a practical kind are given daily (except Saturday and Sunday) at 5 p.m.

The arrangements of the College may be said to be equally suited to those who are preparing themselves for examination for the higher degrees and diplomas, to the needs of officers in the different Services on study leave, who attend in large numbers, and to those medical men in ordinary practice who desire to get themselves up to date in general medicine and surgery, or to make a special study of some particular branch of work. The College, it may be noted, is in a residential quarter, and there are plenty of good lodgings in its neighbourhood.

The fees are as follows: Hospital practice, including all ordinary demonstrations and lectures, £1 1s. for one week, £3 3s. for one month, £4 4s. for six weeks, £6 6s. for three months, £10 10s. for six months, £15 15s. for one year, and £30 for a life ticket. Every year in August there is a special vacation class lasting four weeks, for which the fee is £3 3s. Three months' instruction in the administration of anaesthetics costs £3 3s. Subscriptions for any course can be taken out from any date. The Certificates of the School are recognized by the Admiralty, the War Office, the Colonial Office, the India Office, and the University of London (for higher degrees).

All communications concerning the school should be addressed to the Dean, Post-Graduate College, West London Hospital, Hammersmith, W., from whom also a full prospectus can be obtained by any person holding a medical qualification.

THE LONDON SCHOOL OF CLINICAL MEDICINE, SEAMEN'S HOSPITAL, GREENWICH.

The School Buildings, Lecture Rooms, Pathological Laboratories, Museum, Operative Surgery Class-rooms, etc., are in the Dreadnought Hospital at Greenwich, and the whole hospital of 250 beds, with its Out-patient Departments, is open to students from 10 a.m. till 5 p.m.

Medical, Surgical, and Special Department In-patient Clinics are held every afternoon except Saturday by the senior members of the staff, and operations are performed daily, whilst out-patients in the Medical, Surgical, and Special Departments are demonstrated by the Assistant Physicians and Assistant Surgeons daily in the forenoon.

Practical Classes are arranged each session in the following subjects; The Practice of Medicine, the Practice of Surgery, Diseases of the Eye, Diseases of the Throat, Nose, and Ear, Diseases of the Skin, Diseases of the Nervous System, Operative Surgery, Clinical Pathology, Microscopy, and Bacteriology, Mental Diseases, Radiography, Dental Surgery, the Administration of Anaesthetics, Hygiene and Public Health, Gynaecology, Surgical Diseases of Women, Surgical Diseases of Children, Medical Diseases of Women, Medical Diseases of Children, Applied Anatomy, and Midwifery.

Three sessions, of three months' duration, are held in each year, beginning on or about January 5th, April 15th, and October 1st. Every variety of disease may be studied in the wards and out-patient rooms of the hospital, at the dispensaries, and at the affiliated hospitals. For the purpose of extension of the amount and variety of clinical material and teaching, arrangements have been entered into with the Royal Waterloo Hospital for the reception of Graduates who desire instruction in diseases of women and children; with the Bethlem Hospital for those who require tuition in mental disease; and with the General Lying-in Hospital (York Road) for the prosecution of study in midwifery. These Hospitals are situated on the south side of the river, are directly linked to the Dreadnought by both railway and tramway, and are affiliated to the London School of Clinical Medicine.

The Certificates of the School are recognized by the Admiralty, the War Office, and the University of London (for the higher degrees). The supply of material affords exceptional facilities for practical instruction in operative surgery and in pathology on the cadaver. The hospital also offers a wide field for the study of venereal diseases, and there is a special department with open-air wards for the treatment of tuberculosis.

Appointments.—There are a Medical Superintendent, two House-Physicians, and two House-Surgeons at the Dreadnought Hospital, Greenwich. The pay of these officers varies from £50 to £150 (and all found).

The Prospectuses, Syllabuses, and other particulars can be obtained on application to the Dean at the School.

NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The head quarters of this post-graduate school are situated at the Prince of Wales's General Hospital, which is in the midst of what is now a densely-populated neighbourhood containing about a quarter of a million inhabitants. It contains 125 beds, and its precise situation is South Tottenham, N., where it is within a few minutes' walk of South Tottenham Station on the Midland Railway, Seven Sisters Station on the Great Eastern Railway, and Tottenham Hale on the Great Eastern main line. It is also readily accessible from Finsbury Park and Hackney by electric tram passing the hospital door, and by corresponding means may be reached easily from Dalston, Edmonton, Hackney, and other parts of North London.

The College is recognized by the Admiralty and the India Office for the purposes of study leave, and by the University of London as a place for advanced study for the M.D. and M.S. degree; the course of practical teaching of bacteriology is approved by the University of Cambridge for its D.P.H. diploma, and there are ample arrangements for the convenience of men who are thus working, or who are general practitioners desirous of getting themselves into touch with modern methods. There is provided for their use a reading and writing room, and they can obtain afternoon tea and receive telephonic messages; similarly there is a reference and lending library for their benefit, and a museum and pathological laboratory in which they can work. The hospital as a whole certainly affords excellent facilities to qualified medical practitioners who wish to take part for a time in the work of an active general hospital, or to obtain special instruction in the several branches of medicine and surgery, since it is open to them to study diseases of the eye, ear, throat, nose, skin, fevers, children's diseases, psychological medicine, dental surgery, radiography and the application of electricity in disease, and the administration of anaesthetics. Throughout the sessions into which the year's work is divided, clinics, lectures, and demonstrations are given by members of the teaching staff in the lecture room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed every afternoon of the week except Saturday. Special classes are arranged in Modern Methods of the Investigation and Treatment of Diseases of the Lungs and Heart, Gynaecology, Diseases of Children; Diseases of the Throat, Nose, and Ear, Diagnosis of Diseases of the Nervous System, Ophthalmoscopy and Refraction, Diseases of the Skin, Abdomin

Surgery, Surgical Anatomy, Surgery of the Urogenital Tract, Radiography, Anaesthetics, Bacteriology, Clinical Pathology, Vaccine Therapy, Pathological Chemistry, and Medical Electricity. In all these classes the numbers are carefully limited, so as to give every member full opportunity for work.

As for fees, these are as follows: One guinea for a three months' course of study in any one department, which may be begun at any time; a fee of 3 guineas admits to the whole practice of the hospital for a similar term (one month, 2 guineas), and a perpetual ticket for the practice of the hospital may be obtained on payment of a fee of 10 guineas. Clinical Assistants are appointed in the various departments. A certificate, signed by the staff, may be obtained at the end of three months' hospital attendance. A vacation course is held in September, beginning this year on the 11th inst., the fee for which is 2 guineas. The winter session will be opened in the third week in October by Sir James Crichton-Browne, F.R.S.

Additional information about the College and its work can be obtained on application to the Dean of the Post-Graduate College, 142, Harley Street, London, W., who will also supply a prospectus, a syllabus of the lectures and demonstrations to be given during the next formal session, and a syllabus of the ensuing vacation course.

TROPICAL MEDICINE.

THERE are Schools of Tropical Medicine in London and Liverpool, and several examining bodies have instituted diplomas in the subject; it is also one of the six optional subjects in which the degree of M.D. can be obtained at the University of London. The Colonial Office now expects all nominees for the Colonial Medical Service to pass through one or other of the two schools mentioned before their appointments are confirmed, and commercial firms engaged in tropical enterprise often demand from medical applicants for employment corresponding evidence of special knowledge. Information with regard to these schools and diplomas and degrees follows.

DIPLOMAS AND DEGREES.

LONDON UNIVERSITY.—Candidates for an M.D. degree in Tropical Medicine must have taken the M.B., B.S. degrees not less than two years previously, unless subsequently to that event they have either conducted a piece of original work approved for the purpose by the university, or have had such special experience as may be similarly approved; in either of these two cases the interval may be diminished to one year. All candidates alike must either have attended for not less than one academic year a complete theoretical and practical course on Tropical Medicine at a school approved for that purpose or have been engaged for not less than two years subsequently to taking their degrees in hospital, official, or private practice, in regions where tropical diseases prevail. The examination eventually to be passed consists of a paper in General Medicine, one in Tropical Medicine, one in Pathology of Tropical Diseases, and in Tropical Hygiene, the writing of an essay, and clinical and laboratory examinations. The examiners may submit any candidate to a viva voce examination. The Schools of Tropical Medicine approved by the University are the London School of Tropical Medicine and the Liverpool Tropical School; the School of Medicine (Kasr el-Aini Hospital), Cairo; and the Hospitals attached to the Medical Colleges at Calcutta, Bombay, Madras, and Lahore, India (for certificates of appointments). It should be noted that exemption from the written part of the examination can be obtained on conditions which will be found set forth on page 539.

UNIVERSITY OF EDINBURGH.—This university grants a diploma in Tropical Medicine and Hygiene after an examination which is usually held twice a year. It is, however, only open to those who are graduates of the university in Medicine and Surgery. In addition to this the candidates must show that they have attended approved courses of instruction in Practical Bacteriology (including the pathogenic micro-organisms of tropical diseases), in Diseases of Tropical Climates (including the zoological characters and life-history of disease-carrying insects), in Tropical Hygiene, and in clinical study of Tropical Diseases. They must possess, too, certificates of efficiency in the conduct of *post-mortem* examinations. The examination is in the four subjects indicated, the fee for each part being £1 1s.

UNIVERSITY OF LIVERPOOL.—A diploma in Tropical Medicine is given by this university to students who have been through the courses provided by the Liverpool School of Tropical Medicine, and have passed the examination held twice yearly by the university examiners. The examination lasts three days, and consists (1) of three papers dealing with Tropical Medicine, Tropical Pathology, and Tropical Sanitation and Entomology respectively; (2) of a Clinical Examination; and (3) of an Oral Examination. The results are declared as soon as possible afterwards. The fee is 5 guineas. Further information about this diploma can be obtained from the Dean of the Faculty of Medicine, University of Liverpool.

UNIVERSITY OF CAMBRIDGE.—This university grants a diploma in Tropical Medicine and Hygiene to any person whose name has been on the *Medical Register* for not less than a year, provided that he passes the examination of the university in this subject. Previous to admission to the examination, however, he must produce approved evidence that he has studied Pathology (including Parasitology and Bacteriology in relation to Tropical Diseases), Clinical Medicine, and Surgery at a hospital for tropical diseases, and Hygiene and methods of sanitation applicable to tropical climates.

As evidence of study and attainments a candidate may present to the Syndicate (1) any dissertation, memoir, or other record of work carried out by himself on a subject connected with Tropical Medicine or Hygiene; (2) any certificate or diploma in Public Health or Sanitary Science he may have obtained from a recognized examining body. Such evidence will be considered by the Syndicate in determining whether he is qualified for admission to the examination, and by the examiners in determining whether, if admitted, he shall be included in the list of successful candidates.

The examination, which is written, oral, and clinical, deals with the following subjects:

1. The methods of pathological and bacteriological investigation. The examination of the blood. The characters, diagnosis, and life-history of animal and vegetable parasites. The examination, chemical and microscopic, of poisonous or contaminated foods and waters.
2. The origin, pathology, propagation, distribution, prevention, symptoms, diagnosis, and treatment of the epidemic, endemic, and other diseases of Tropical Climates, including Malaria; Blackwater Fever; Trypanosomiasis; Relapsing Fever; Dengue; Yellow Fever; Plague; Tetanus; Beri-beri; Dysentery and Hepatic Abscess, Cholera, Enteric Fever, Malta Fever, and Specific Diarrhoeal Affections of the Tropics; Diseases due to Cestode and other Worms; Filariasis; Bilharzial Disease; Specific Boils, Sores and other Cutaneous Affections; Mycetoma; Ophthalmic affections of the Tropics; Affections caused by Poisonous Plants and Animals, and by Poisoned Weapons; Sunstroke.
3. The general effects on health in the Tropics of seasons and climate, soil, water, and food. Personal hygiene, acclimatization. Principles of general hygiene, with special reference to food supplies and water supplies, sites, dwellings, drainage, and the disposal of refuse. The sanitation of native quarters, camps, plantations, factories, hospitals, asylums, gaols, pilgrim and coolie ships. Principles and methods of disinfection.

Examinations are held in January and August each year, and last four days.

Fees.—The fee for the examination and diploma is 9 guineas on admission or readmission. Application for further information should be made to Dr. G. S. Graham-Smith, Pathological Laboratory, Cambridge.

SCHOOLS.

LONDON SCHOOL OF TROPICAL MEDICINE.—This school is under the auspices of the Seamen's Hospital Society. Its buildings, Laboratories, Museum, Library, etc., are within the grounds of the Branch Hospital, Royal Victoria and Albert Dock (Station, Connaught Road, Great Eastern Railway), and excellent opportunities are afforded to students and others who may be desirous of studying diseases incidental to Tropical climates before entering the Services or going abroad. In the hospitals of the Society are to be found cases of Tropical disease such as

may be met with in actual practice in the Tropics. There are three courses in the year, each lasting three months, beginning October 1st, January 15th, and May 1st respectively. Advanced classes in Entomology, Protozoology, and Helminthology are held each term by the respective teachers in those subjects, and for the accommodation of students taking these advanced courses new and commodious laboratories have been provided. The Laboratories, Museum, and Library, are open all day, and clinical instruction is given daily in the wards of the hospitals. Certificates are granted after examination to those who complete a full course. Resident chambers are available for students. All qualified medical practitioners and students in the final year of their studies and qualified veterinary surgeons may attend the course. The Craggs Prize of £50, and the Stanley Memorial Grant of about £55, for research work, are awarded annually. Prospectus, syllabus, and other information can be obtained on application to the Secretary, Seamen's Hospital, Greenwich, or to the Director at the school.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—This school is affiliated with the University of Liverpool and the Royal Southern Hospital of Liverpool. Two full courses of instruction are given every year, commencing on January 6th and September 15th, lasting for the term of about thirteen weeks, and followed by the examination for the Diploma of Tropical Medicine given by the University of Liverpool. Each course consists:

(1) Of a systematic series of lectures on Tropical Medicine and Sanitation delivered by the Professor of Tropical Medicine at the university; (2) of additional lectures on Special African Diseases and Special Indian Diseases, delivered at the university; (3) of systematic lectures and demonstrations on Tropical Pathology, Parasitology, and Bacteriology by the Walter Myers Lecturer, at the university; (4) of similar instruction on Medical Entomology by the Lecturer on Economic Entomology, at the university; and (5) of clinical lectures and demonstrations delivered at the Royal Southern Hospital by the Physicians in charge of the Tropical Ward, the Professor, and the Walter Myers Lecturer.

The instruction given occupies six hours a day for five days a week during the term. Teaching under headings (3) and (4) above is delivered in the laboratory of the school at the university, which contains accommodation for thirty students with all necessary appurtenances, including a well-equipped Museum, a Class Library, and access to the general Departmental Library. Teaching under heading (5) is given in the Tropical Ward and the attached Clinical Laboratories of the Royal Southern Hospital on two or three afternoons a week.

In addition to the Full Courses, a short Course of Practical Instruction in Tropical Pathology and Medical Entomology, lasting one month, is given every year in June, and proves very useful to medical men returning from the tropics on short leave. This course is followed by a class examination with a certificate of satisfactory attendance, possession of which excuses the first month's attendance during the Full Autumn and Lent Courses.

Students of the school who do not care to undertake the examination held by the university at the end of each term for its diplomas in Tropical Medicine are given a certificate of attendance if the latter has been satisfactory.

For research students there is most excellent accommodation at the laboratories of the school in the university, and also in the research laboratories of the school at Runcorn, sixteen miles distant from the city.

Since it was instituted the school has dispatched to the tropics twenty-seven scientific expeditions, many of the workers having been taken from among its students. The work done by them has been published in twenty-one special memoirs, with many plates and figures, besides textbooks and numerous articles in the scientific press. From the beginning of 1907, however, the memoirs have been succeeded by the *Annals of Tropical Medicine and Parasitology*. These are published by the Committee for the school, and its pages are open to outside contributors.

Fees.—The fee for the Full Course of instruction is £13 13s., with an extra charge of 10s. 6d. for the use of a microscope if required. The fee for the Diploma Examination is £5 5s., and that for the Short Course is £4 4s. A prospectus and further information about the school may be obtained on application to the Secretary, 10B, Exchange Buildings, Liverpool.

PSYCHOLOGICAL MEDICINE.

THERE has been no definite outcome as yet from the work of the Royal Commission on the Care and Control of the Feeble-minded, but one result may possibly be a considerable widening of the horizon before those who devote themselves to the treatment of mental disease. But this remains to be seen, and in any case psychological medicine already forms a distinct career of a kind which is attractive to many medical men. It cannot as yet be regarded as a "service," as those who at present follow it, if not occupied in private asylums, are in the employ of various independent county and other councils. The formation of a general service, so far as the public asylums are concerned, seems not very unlikely, and the attractions of the work as a career will then be increased. In public asylums pensions are granted on a contributory basis, after a certain length of service, and a recent Act of Parliament has now made a certainty of what before was optional on the part of governing bodies.

As for the study of mental diseases, this has long been a compulsory subject in the medical curriculum, lectures and attendances at a recognized asylum being necessary before a diploma or a qualification from a university can be granted—and the same now applies to the examinations for diploma at the combined colleges; but the method in which the instruction is given has of late years greatly improved, and the facilities which exist for its pursuit are now very considerable.

Moreover, in London and some of the larger university towns instruction in pure psychology, as apart from the therapeutic study of mental disease, is now to be obtained. Impetus was given to the whole subject by the adoption by the University of London of mental diseases as one of the branches of medicine in which an M.D. can be obtained, and several allied bodies, such as the Universities of Edinburgh, Leeds, etc., are now granting diplomas in psychiatry. Moreover, the Royal College of Physicians has recently had under consideration the propriety of instituting an examination in the whole subject of Psychology and Lunacy by way of emphasizing its importance, and is understood to have practically determined on that course.

Reference may also be made to the Medico-Psychological Association of Great Britain and Ireland, which grants a certificate to candidates who have gone through a prescribed course of instruction, and pass an examination—held periodically in London, Scotland, or Ireland—which is designed to test the candidate's knowledge of mental disease and his ability to undertake the care and treatment of an insane person. The association considers that all practitioners should have a competent knowledge of the subject, and that the holding of such a certificate is of particular advantage to those who hope to obtain appointments in the Prison, the Poor Law, and other services. Only registered medical practitioners are eligible for the certificate, but it is not necessary that candidates should be registered, or even qualified, before presenting themselves for examination. They may take the examination before graduation, but they will not receive the certificate until they possess a registrable qualification. The examinations qualify for the Gaskell Prize, value £30; and £10 10s. and a bronze medal are offered by the same association to asylum assistant medical officers for the best dissertation on any clinical or pathological subject relating to insanity. The Hack Tuke Memorial Prize is also awarded for an essay upon a subject connected with insanity.

To revert to the financial and allied attractions of the pursuit of Psychological Medicine, it may be said that, as compared with those of other "services" and other branches of medicine, they must be regarded as, on the whole, not inconsiderable. The emoluments are generally fair, and in the senior posts distinctly good. In private asylum practice large sums are made though to procure these returns a correspondingly large sum must usually be invested. As a rule, a man recently qualified takes an appointment as a junior assistant medical officer in a county asylum or lunatic hospital, and for this he gets from £100 to £150 a year with all extras besides. If he is fortunate, he becomes in time the Senior Assistant, and his income rises to about £300 a year (in good counties), besides apartments, living, and washing. In many asylums provision

is made for the Senior Assistant to be married if he wishes, and to have suitable quarters. At this point he is likely to stay some time. When the opportunity occurs, he becomes a candidate for a medical superintendentship, and his yearly income may then, if he is successful, be anything from £500 to £1,500 a year. Not every man, however, is suited to asylum practice. The life is one of responsibility, and as much of the work done is directly subject to the exigencies of lay committees and Government officials, it is, especially in the higher grades, often of a worrying nature. For men of certain types of character in the junior grades there is, too, a danger that they may allow themselves to be beguiled too much by the amenities of asylum life, and fall also into the habit of devoting insufficient time to the scientific aspects of their work, however much attention they pay to its routine. Such a man may easily let valuable opportunities slip away and become a "chronic A.M.O.," unfit for the duties of any other position either in or outside an asylum. There is, too, a certain amount of luck in obtaining the higher positions in lunacy work, but the possession of first-class qualifications, a reputation for loyalty and straightness, and a real capacity and liking for the work, both in its scientific and practical aspects, are all factors which go to spell success. Most asylums are now provided with laboratories and operating theatres, and there is a general disposition now in the governing bodies to expect scientific work from the junior staff. Recent advances in bacteriology have materially changed the views formerly held as to the causation and the morbid anatomy of insanity, and no one can be considered qualified to undertake the treatment of this disease who has not studied the modern methods of research. In many asylums there are special appointments for Bacteriologists and Pathologists, and some of these positions are now held by men of prime eminence at salaries corresponding with their high position. The importance of the study of Psychology and of Mental Physiology should be insisted upon, because the reproach formerly urged that this branch of medicine was neglected, or only dealt with in a purely commercial spirit, is rapidly being removed under recent efforts to place the whole subject on a sound scientific basis.

The ultimate referees in all matters relating to the personal care and the property of mentally afflicted patients are the Lord Chancellor and the Lunacy Commissioners. The medical representatives on the Lunacy Commission are as a rule (but not invariably) selected from Superintendents of Asylums, and the same applies to the Chancery Visitors, who are medical men engaged, in conjunction with certain barristers, in regulating the money affairs of people of unsound mind.

PREVENTIVE MEDICINE.

THE division of medicine variously known as Sanitary Science, of State, Public Health, or Preventive Medicine, offers a career to men to whom any other path in the profession of medicine might prove distasteful, and it is all the more attractive because, both in scope and in the importance attached to it, it shows a tendency to increase year by year. In spite of this, it cannot be said that the position of medical officers of health as a whole is at present a satisfactory one, inasmuch as a large number of those holding the smaller appointments or a combination of small districts are only appointed year by year, and are liable to be dismissed if they do not please those who form or can influence the local authorities. This must often be the case, for if a medical officer of health does his duty, it must often be impossible to avoid treading severely on the toes of landlords, manufacturers, and other persons of local importance. There are, however, many appointments in connexion with the larger towns and under the county councils which are both permanent and well paid as compared with many other forms of medical work, and in other respects of an attractive character. It should be added, too, that the Local Government Board itself has a staff of medical inspectors, whose initial salary is £500 a year.

Public health work, of course, is of quite a special character, and it is desirable that any one who wishes to adopt it as a career should turn to it comparatively early, though not before he has obtained some experience of the work of a general practitioner. In any case, it is essential that he should obtain a diploma in Public Health, and the choice of diplomas now open is very large. Having done this, the next best step is to try to obtain an assistantship to an officer in charge of a large borough or district, or an appointment as a school medical officer—that is, a medical inspectorship under the education authority of some area. This work does not necessarily demand anything more than knowledge already in the possession of most practitioners—namely, quick recognition of physical defects in young people, an intimacy with the conditions of school life itself to produce or increase them, and ability to ascertain precisely the condition of eyes, and ears, and throats. Nevertheless, under the lead of the Board of Education, the county and other authorities which have posts as school medical officers in their gift commonly place the work of school medical inspection in the hands of the medical officer of health, and supply him, if they think necessary, with an assistant, who shares his general duties or devotes himself entirely to school inspection, and such officer is usually expected to hold the D.P.H. The value of these appointments is not usually very great, but often they lead on to appointment as medical officer of health. The pay offered is commonly between £250 and £300 a year, but some authorities of large districts are paying their principal school medical officer a very much higher salary.

In their general nature the examinations of all the bodies which grant diplomas in Public Health are the same, though they differ somewhat in their reputed difficulty. All of them aim at excluding any candidate who does not appear to have a thorough knowledge of his work in theory and in practice, for the regulations of the General Medical Council demand that the granting of a diploma in Sanitary Science, State Medicine, or Public Health shall be proof of the "possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health." The tests, in short, are supposed to constitute an Honour and not a mere Pass Examination. As regards the special tuition required, it is now easy to obtain this in practically every centre of medical education, and at almost every medical school of any importance. It is desirable to note in this connexion that the chemical and bacteriological examinations for many of the health diplomas are so practical, and the time allowed so short, that unless a candidate—even though familiar with the duties of M.O.H.—has a considerable amount of the manipulative dexterity only to be acquired by ample work in a laboratory, he would not be likely to satisfy the examiners.

The requirements of the General Medical Council as regards the special education and examination of candidates for registrable diplomas and degrees in State Medicine have been couched by it as follows, the statement being preceded by the general declaration which has been already quoted.

Rule 1.—A period of not less than twelve months shall have elapsed between the attainment of a registrable qualification in medicine, surgery, and midwifery, and the admission of the candidate to any examination, or any part thereof, for a Diploma in Sanitary Science, Public Health, or State Medicine.

Rule 2.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has during six months received practical instruction in a laboratory or laboratories, British or foreign, approved by the Licensing Body granting the diplomas, in which Chemistry, Bacteriology, and the Pathology of the diseases of animals transmissible to man are taught.

Rule 3.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under Rule 2) been diligently engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health Administration, under the supervision of—

(*a*) In England and Wales, the Medical Officer of Health of a county or of a single sanitary district having a population of not less than 50,000 or a Medical Officer of Health devoting his whole time to Public Health work; or

(*b*) In Scotland, a Medical Officer of Health of a county or counties, or of one or more sanitary districts having a population of not less than 30,000; or

(*c*) In Ireland, a Medical Superintendent Officer of Health of a district or districts having a population of not less than 30,000; or

(*d*) In the British Dominions outside the United Kingdom, a Medical Officer of Health of a sanitary district having a population of not less than 30,000, who himself holds a registrable diploma in Public Health; or

(*e*) A Medical Officer of Health who is also a teacher in the department of Public Health of a recognized medical school; or

(*f*) A Sanitary Staff Officer of the Royal Army Medical Corps having charge of an army corps, district, or command, recognized for this purpose by the General Medical Council.

Note (1). The certificate of an Assistant Medical Officer of Health of a county or of a single sanitary district having a population of not less than 50,000 may be accepted as evidence under Rule 3, provided the Medical Officer of Health of the county or district in question permits the assistant officer to give the necessary instructions and to issue certificates.

Note (2). Provided that the period of six months may be reduced to a period of three months (which shall be distinct and separate from the period of laboratory instruction required under Rule 2), in the case of any candidate who produces evidence that, after obtaining a registrable qualification, he has during three months attended a course or courses of instruction in sanitary law, sanitary engineering, vital statistics, and other subjects bearing on Public Health Administration, given by a teacher or teachers in the Department of Public Health of a recognized medical school.

Note (3). A candidate who shall have produced evidence that he has himself held, for a period of not less than three years, an appointment as Medical Officer of Health of a sanitary district within the British Dominions, and having a population of not less than 15,000 may be exempted from the requirement of Rule 3.

Rule 4.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has attended during three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration.

Note (1). Methods of administration shall include the methods of dealing with patients at their admission and discharge, as well as in the wards, and the medical superintendence of the hospital generally.

Note (2). In the case of a Medical Officer of the Royal Army Medical Corps a certificate from a Principal Medical Officer under whom he has served, stating that he has during a period of at least three months been diligently engaged in acquiring a practical knowledge of hospital administration in relation to infectious diseases, may be accepted as evidence under Rule 4.

Rule 5.—The examination shall have been conducted by examiners specially qualified; it shall have extended over not less than four days, one of which shall have been devoted to practical work in a laboratory, and one to practical examination in, and reporting on, subjects which fall within the special outdoor duties of a Medical Officer of Health.

The Rules 2, 3, and 4, as to study, shall not apply to medical practitioners registered or entitled to be registered on or before January 1st, 1890.

The subjects in which a candidate must qualify himself for examination, the courses of study he must follow, whatever the State Medicine diploma in view, are sufficiently indicated by the foregoing rules; all the examining bodies necessarily insist upon compliance with them on the part of their candidates. The steps, moreover, which they take to ascertain the candidate's fitness for a diploma are in all cases much the same, though the order in which the subjects are taken is not always identical. Practically all of them divide the examination subjects into two parts, which are usually taken by candidates at more or less widely separate dates. Most of the bodies also have an age clause not allowing the candidates to complete the examinations until he is two or three years older than the average newly-qualified man. The general rule is to place in the First Examination such subjects as chemistry and physics (in relation to the air, water, food), ventilation, the sanitation of houses, principles of architecture, of sanitary engineering, Geology in relation to the same, Bacteriology in all its relations, and the Pathology of human and epizootic diseases. Two or more papers are devoted to such subjects, this being followed by a corresponding number of practical examinations in the laboratory, at one of which the candidates will have to complete an analysis of a specimen of water, discover the impurity in some specimens of air, identify the adulteration in some food specimens, and the like. The other laboratory examination will probably be given up to the preparation of bacteriological specimens, the identification of cultures and parasites, and other tests of practical knowledge of bacteriology; as a rule a viva voce on the work done follows. In the second part are commonly included two or more papers dealing with sanitary law, epidemiology, vital statistics, the management of hospitals, and all other general questions which affect the public health. The practical examination in this part commonly consists in drawing up a report on the sanitary construction and condition of some actual building or habitation, the whole being followed, perhaps, by a clinical examination in a fever hospital, and nearly always by a viva voce test in which the candidate is called upon to explain the use of apparatus shown him, express an opinion on specimens of food and answer offhand queries as to the established practice concerning various points of sanitary administration. As has been stated, however, there are variations among the examining bodies which, though possibly not great in themselves, may be quite enough materially to increase or diminish the difficulty of passing examinations which many boards seriously endeavour to make a proof of really high proficiency. Every candidate, therefore, should, when he has settled what diploma or degree in State Medicine he wishes to obtain, seek the schedule relating to it from the authority concerned. He will find most of these mentioned in the concluding paragraphs of this section, each separately headed.

CONJOINT BOARD IN ENGLAND.—This body holds an examination on behalf of the Royal College of Physicians and the Royal College of Surgeons. It usually takes place in January and July of each year, a fee of 6 guineas being payable for each of its two parts if the candidates are diplomates of the two Colleges concerned, and 10 guineas for each part to others. Candidates before admission to Part II must be aged at least 24 years.

UNIVERSITY OF OXFORD.—The diploma given by this body is open to all persons who possess a registrable qualification in medicine and surgery. The examination is held twice annually, and is divided into two parts, the fee for each being £5.

UNIVERSITY OF CAMBRIDGE.—This university also gives its diplomas to all persons who possess a registrable qualification in Medicine, Surgery, and Midwifery. The fee for each of the two parts is 6 guineas. Special courses of instruction are given at Cambridge for these examinations, though the work done at other institutions is accepted. Inquiries about the diploma should be addressed to the Secretary to the State Medicine Syndicate, the Chemical Laboratory, Pembroke Street, Cambridge.

UNIVERSITY OF LIVERPOOL.—The university grants a diploma in Public Health to candidates on the *Medical Register* who take out the courses of instruction at the university, or otherwise qualify themselves according to regulations. The examination is in two parts, and is held twice yearly, in January and July. The prospectus of the Department of Public Health may be obtained on application to the Dean of the Faculty of Medicine.

LONDON UNIVERSITY.—Graduates of London University can obtain a registrable Public Health qualification by passing Branch 5 (State Medicine), one of the six branches of medicine out of which candidates for the M.D. degree of this university can select their special subject. They must show that they have taken the degrees M.B., B.S. not less than two years previously, and that subsequently to taking those degrees they have had (1) six months' practical instruction in an approved laboratory; (2) six months' practical instruction from a medical officer of health, of which three must not coincide with the laboratory work, and three months' practice at a hospital for infectious diseases. The interval between passing the M.B., B.S. and proceeding to the M.D. State Medicine may be reduced to one year, subject to conditions corresponding to those

affecting Branches 1, 2, 3, and 4 (see page 539). The examination will consist of two papers in State Medicine (including Hygiene, School Hygiene, and Forensic Medicine), one paper in Medicine, an essay to be written on one or two subjects of State Medicine, and a practical examination extending over two days, one of which will be devoted to laboratory work and the other to practical examination in, and reporting on, subjects which fall within the outdoor duties of a medical officer of health; a viva voce is also possible. Exemption from the written part of the examination can be obtained on the same conditions as those applying to the M.D. degree in other branches. They will be found set forth on page 539.

UNIVERSITY OF DURHAM.—A diploma in Public Health and two degrees in the same subject (Bachelor of Hygiene, B.Hy., and Doctor of Hygiene, D.Hy.) are granted by the University of Durham. The conditions applying to candidates for the diploma and for the B.Hy. are practically identical, except that the degree candidate must be a graduate in medicine of a recognized university and have performed his three months' work at comparative pathology and bacteriology and his three months' work at chemistry at Newcastle-on-Tyne. The fee for the examination is 10 guineas. A B.Hy. who wishes to proceed to the Doctorship must have been in practice as a medical officer of health for two years subsequent to the date of his acquirement of the former, and submit a thesis on some subject on hygiene for approval.

VICTORIA UNIVERSITY OF MANCHESTER.—Both a degree and diploma are granted by this university, the former being known as the B.Sc. in Public Health, and there are also certificates in Factory Hygiene and in School Hygiene. The diploma is open to all candidates possessing a registrable qualification in Medicine, the examination fee being 5 guineas for each of the two parts of the examination. They can obtain their instruction in the Public Health Laboratories of the University. Candidates for the B.Sc. must be graduates in Medicine of Manchester, or some other university recognized for the purpose. They must have studied certain approved subjects in the university for not less than two years after graduation, and devote a third year to work in two of its scientific departments. They also have to pass the D.P.H. examination, attaining a special standard in it. Full particulars of the courses of study and the fees for the same are given in the prospectus of the Department of Public Health issued by the university.

UNIVERSITY OF BIRMINGHAM.—A diploma may be obtained from this university by all persons registered under the Medical Act, the fees being £5 for each part of the examination. They must, however, unless old students of Birmingham, receive their instruction in the necessary subjects at the hands of the university itself. The university also grants a degree in Public Health (B.Sc. in Public Health), candidates for which must be graduates in medicine of the university, must attend a course of geology, and pass an examination of a higher standard than that for the diploma.

UNIVERSITY OF LEEDS.—A diploma is given by this university, and special courses of instruction are provided, which are available for candidates for any diploma in State Medicine. The fees for such instruction are 10 guineas for the practical work in sanitation under the medical officer of health of the city; 5 guineas for each laboratory course, and to those who have not before been students of the university, a fee of 1 guinea for registration.

UNIVERSITY OF SHEFFIELD.—A diploma is granted by this university, the regulations concerning it being on all-fours with those of the General Medical Council. As elsewhere, there are two examinations which must be passed in turn. The university provides laboratory and other facilities for the study of public health, accepts certificates from other bodies, but requires that the practical work in chemistry and physics and the bacteriology shall be taken in the university.

UNIVERSITY OF BRISTOL.—This University grants a Diploma in Public Health, the examination in respect of it being, as usual, divided into two parts. In connexion with the Medical School conducted by the University, special arrangements have been made for the training of candidates in all branches of public health work, the total fees amounting to 26 guineas.

UNIVERSITY OF EDINBURGH.—Two degrees in Science in the Department of Public Health—B.Sc. and D.Sc.—are here given. Candidates must be graduates in medicine of this or some other university. Those proceeding to the higher degree must have held the B.Sc. in the same subject for at least five years, and submit an approved thesis, and must pass an examination. The fee for the B.Sc. examination is £3 3s. for each part. The examinations are held in March and July. Six months must elapse between the first part and the second.

UNIVERSITY OF ABERDEEN.—A diploma in Public Health is granted by this university to graduates in Medicine, the regulations entailing, besides laboratory work and instruction in public health administration, six months' attendance at an infectious hospital containing not less than 50 beds, and special instruction in the drawing and interpretation of plans. Those who are graduates of some university other than Aberdeen must attend certain of the courses on the subject of Public Health provided by the university. The fee for the examination is 5 guineas.

UNIVERSITY OF ST. ANDREWS.—A diploma is granted by this university to its own medical graduates and those of other universities. There are two examinations, the fee for each being 5 guineas.

UNIVERSITY OF GLASGOW.—Two degrees in science, as applied to State Medicine, are granted by the university—the B.Sc. Public Health and the D.Sc. Public Health. Candidates for B.Sc. must be graduates in Medicine, and, if they have not already done so, must matriculate at Glasgow for the year in which they appear for examination. They have to follow certain courses of study, some of which must necessarily be taken out in the public health laboratory of Glasgow University. A candidate for the D.Sc. Public Health must have obtained the B.Sc. Public Health.

CONJOINT BOARD IN SCOTLAND.—This body examines candidates for a diploma in Public Health, granted by the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow conjointly. The examination takes place in Glasgow or Edinburgh, and is held twice a year, in October and May. The fee for each of its two parts is £6 6s. It is open to all candidates holding a registrable qualification for over a year who have taken out the required curriculum. Applications for examinations in Edinburgh should be sent to Mr. James Robertson, solicitor, 54, George Square, Edinburgh; and in Glasgow to Mr. Alexander Duncan, B.A., LL.D., 242, St. Vincent Street, Glasgow, not later than fourteen days before the examination day. The regulations and synopses of subjects may be had on application to either of these gentlemen, or may be found in the *Calendar of the School of Medicine of the Royal Colleges, Edinburgh*, issued by the Dean of the School, 11, Bristo Place, Edinburgh.

UNIVERSITY OF DUBLIN.—Candidates for the diploma in Public Health of this university must be registered medical practitioners. Examinations are held in December, March, and June, a full syllabus concerning them being obtainable from the Registrar of the School of Physic, Dublin.

QUEEN'S UNIVERSITY, BELFAST.—A diploma in Public Health is granted to all legally qualified practitioners who have satisfied the special requirements of the General Medical Council and have passed two examinations.

NATIONAL UNIVERSITY OF IRELAND.—The regulations of this new university have in view the granting of a diploma and a degree, the latter being a B.Sc. in Public Health, but neither will be open to other than matriculated students at one or other of the university's constituent colleges.

CONJOINT BOARD IN IRELAND.—This body holds an examination on behalf of the two Royal Colleges of Physicians and Surgeons, which together grant a diploma in Public Health. The fee for examination is £10 10s., a special examination being obtainable for an extra fee of £15 15s. Further information can be obtained on application to Alfred Miller, Secretary of the Committee of Management, 6, Kildare Street, Dublin.

THE PUBLIC SERVICES.

THE ROYAL NAVY, THE ARMY, AND THE INDIAN MEDICAL SERVICES.

GENERAL REGULATIONS.

THE following are the general rules governing admission to these services:

All candidates must be between the ages of 21 and 28 years, must possess registrable qualifications to practise medicine and surgery in Great Britain and Ireland, and must be adjudged by the Medical Board appointed for the purpose to be physically fit for service before being admitted to the entrance examination. This examination takes place before permission is accorded to compete at the entrance examinations. Special attention is given to the candidate's power of vision. A moderate degree of myopia is not considered a disqualification, provided that it can be corrected by glasses so as to secure adequate vision for the performance of operations, and that no organic disease of the eye exists.

Testimony has also to be furnished, or is sought by the authority concerned, with regard to the candidate's moral and general character, and the Secretary of State in each service reserves the right to refuse permission to compete to any candidate he pleases.

As the prospect of a medical officer in any of these services attaining to the highest administrative grades depends to a large extent upon the regulations with regard to compulsory retirement at the age of 55 (if below a certain grade at that age), there is a distinct advantage in entering at as early an age as possible.

The attractions of the Royal Army Medical Corps have of late years materially increased, and in addition to improvements in pay the service now offers considerable scope for the work of a man who is prepared to make a special study of some one or other branch of medicine or surgery. Those who enter the Indian Medical Service often have unequalled opportunities for scientific work and practical surgery and medicine of the highest kind, but the service as a career has been for two or three years somewhat under a cloud, owing to a feeling of uncertainty as to the effect of certain actual and threatened changes in administrative detail on the financial prospects of its members. As for the medical department of the Royal Navy, there has for long past been considerable discontent, and new regulations were issued last month, and will take effect as from July 1st (see SUPPLEMENT, BRITISH MEDICAL JOURNAL, September 2nd). The effect of the changes on the popularity of this service cannot be predicted with certainty; but whatever it may be, the fact will still remain that both from this service and from the Royal Army Medical Corps it is possible for an officer to retire with a gratuity of £1,000 while still under the age of 30. It is a point to be remembered, especially by those who initially have not sufficient capital with which to establish themselves in private practice. Indeed, so far as the Royal Navy is concerned, it may be possible for an officer to retire after only four years' full-pay service, and when only about 26 years of age, with a gratuity of £500.

ROYAL NAVY MEDICAL SERVICE.

THE regulations for admission of candidates to this service, beyond those indicated in the foregoing paragraph, require the production of proof that the candidate is of pure European descent, the son either of natural-born British subjects, or of parents naturalized in the United Kingdom, and the filling in by the candidate of certain declaration forms as to his health, previous appointments, and readiness to serve; the documents concerned have to be transmitted to the Medical Director-General, the Admiralty, London, S.W., and, if approved, the candidate is permitted to compete for a vacancy.

Candidates are examined in the following subjects: (*a*) Medicine, including Medical Pathology and Therapeutics; (*b*) Surgery, including Surgical Pathology and Clinical Surgery.

The examination is partly written and partly practical, marks being allotted under the following scheme:

Medicine.		*Surgery.*	
Paper...	400	Paper...	400
Clinical	400	Clinical	400
Oral	400	Oral	400
	1,200		1,200

No candidate is considered eligible who obtains less than 50 per cent. of marks in each subject. The examination is held in London, and occupies four days.

The Admiralty also has power to admit annually, without competition, not more than six candidates specially recommended by the governing bodies of certain Colonial universities. In all cases candidates have to pass an examination as to physical soundness.

A candidate successful at the entrance examination is appointed as Acting Surgeon in the Royal Navy, and required to undergo certain courses of instruction which last six months. Of this period two months are devoted to Tropical Medicine, Bacteriology, Clinical Pathology, Hygiene, and Skiagraphy at Greenwich, and the remaining four months at Haslar, where the Acting Surgeons will be instructed in Naval Hygiene, Recruiting, Physical Training, etc. At the end of the courses the Acting Surgeons are examined and those who pass are given commissions as Surgeons in the Royal Navy, their commissions dating from the day of passing the entrance examination. The number of marks gained at the two examinations combined determine the seniority of a candidate amid the surgeons of his batch. An Acting Surgeon who fails to qualify is allowed a second trial at the next examination, the period between the two examinations not being counted as service for either promotion, withdrawal with gratuity, or retirement after twenty years' service. Should he again fail, his connexion with the Navy ends.

A gold medal, a silver medal, and three Navy Regulation Pocket Cases are awarded as prizes in connexion with these examinations; the Gold Medallist has a distinguishing mark after his name in the Navy List, provided that he has obtained at least 80 per cent. of the maximum marks.

Surgeons on entry are paid at the rate of 14s. a day, and are only required to provide themselves with a pocket case of instruments. All other instruments are provided at the public expense.

Every surgeon is required to undergo a post-graduate course of six months' duration at the Naval Medical School before promotion to the rank of Staff Surgeon. During this course he lives at the Royal Naval College, Greenwich, and draws full pay. On its termination he is examined in the following subjects:

Compulsory:
- (*a*) Clinical Medicine and Clinical Surgery.
- (*b*) Operative Surgery.
- (*c*) Anaesthetics (practical).
- (*d*) Ophthalmology.
- (*e*) Clinical Pathology.
- (*f*) Hygiene.

Optional:
- (*g*) Bacteriology.
- (*h*) Throat, Nose, and Ear Diseases.
- (*i*) Skiagraphy.

The fashion in which an officer acquits himself at this examination is of the greatest importance to him. If he obtains 75 per cent. of full marks he is given a first-class certificate, and becomes eligible for an advance of 12 months' seniority, and for 18 months' seniority should he get 85 per cent. of marks, and thus receive a special certificate. On the other hand, if he obtains less than 50 per cent. he is rejected, and if he fails a second time he has to leave the Navy at the end of eight years' full pay service, and cannot be granted a gratuity on retirement of more than £500, instead of the £1,000 usually drawn by a surgeon who qualifies and wishes to retire at this period.

In addition to this compulsory course there is a voluntary course lasting three months at the same school for officers of fourteen years' service, while other courses of instruction, each lasting about six weeks, in such subjects as Bacteriology, Clinical Pathology, and Skiagraphy, are arranged at the naval hospitals at the three home ports for the benefit of medical officers of ships and naval establishments at these ports.

There are no formal examinations at the end of these courses, but they have a certain bearing on the progress

of officers, as reports concerning them are transmitted to head quarters.

Promotion.

A surgeon is ordinarily promoted to the rank of staff surgeon at the end of eight years' full-pay service, provided that he has passed the necessary examination, has served three years at sea, and is recommended by the Director-General. After a further eight years as a staff surgeon he is promoted to the rank of fleet surgeon, provided (1) that he has served three years at sea as a staff surgeon, or five years as a staff surgeon and surgeon combined, (2) that he is recommended for promotion by the Director-General, and (3) that he has never declined service except for reasons accepted as satisfactory by the Admiralty. Special promotion to both these ranks may be granted for distinguished service or conspicuous professional merit. Promotion above the rank of fleet surgeon is purely by selection.

Pay and Allowances.

The following is the scale of full pay:

	s.		£ s. d.	
Surgeon on entry ...	14	a day	255 10 0	a year.
After 2 years ...	15	,,	273 15 0	,,
,, 4 ,, ...	17	,,	310 5 0	,,
,, 6 ,, ...	18	,,	328 10 0	,,
Staff Surgeon ...	20	,,	365 0 0	,,
After 2 years ...	21	,,	383 5 0	,,
,, 4 ,, ...	24	,,	438 0 0	,,
,, 6 ,, ...	25	,,	456 5 0	,,
Fleet Surgeon ...	27	,,	492 15 0	,,
After 2 years ...	28	,,	511 0 0	,,
,, 4 ,, ...	30	,,	547 10 0	,,
,, 6 ,, ...	31	,,	565 15 0	,,
,, 8 ,, ...	33	,,	602 5 0	,,
,, 10 ,, ...	35	,,	638 15 0	,,
Deputy Surgeon-General	45	,,	821 5 0	,,
Surgeon-General	(salary)		1,300 0 0	,,
The Director-General	,,		1,800 0 0	,,
Deputy Director-General	,,		1,100 0 0	,,
Assistants	,,		750 0 0	,,

In addition to their pay, medical officers, like all other officers in the navy, receive either quarters, rations, fuel, and lighting for themselves and their authorized servants, or allowances in lieu thereof. It is also worth noting that a certain number of officers receive besides full pay "charge pay" ranging from 10s. a day down to 2s. 6d. when employed in certain positions such as the charge of the principal naval hospitals, or of sections thereof, at home and abroad, and of certain training stations, or as the senior medical officer of a fleet or of a ship carrying a complement of over 650 men.

Half-pay.

As the Medical Department of the Navy is now below its full strength and is never overmanned, it is very much rarer for a medical officer fit for duty to be unemployed than it is for an officer belonging to the executive branch. Nevertheless the liability to be placed on half-pay is not to be overlooked. The pay that such officers receive is as follows:

Surgeons under 2 years' full-pay service receive when on half-pay 6s. per diem; after 2 years' full-pay service, 7s. per diem; after 4 years, 8s.; after 6 years, 9s.; on promotion to Staff Surgeons, 10s.; after 2 years' service in rank, 11s.; after 4 years, 12s.; after 6 years, 13s.; and on promotion to Fleet Surgeon, 14s.; after 2 years' service in rank, 15s.; after 4 years, 17s.; after 6 years, 18s.; after 8 years, 19s.; and after 10 years, £1. Deputy Surgeon-General on promotion, 25s.; after 2 years' service in rank, 27s.; after 4 years, 29s. Surgeon-General, 38s.

Retirement.

After four years' full-pay service a surgeon may withdraw and join the Reserve of Naval Medical Officers. On doing so he receives a gratuity of £500, retains his rank and uniform, and if he agrees to remain in the Reserve for four years receives a retaining fee of £25 per annum. At the end of this period he can re-engage for a further four years on the same terms, but after that he is retired altogether. While in the Reserve he is liable to be called up for service in time of war or emergency, and then receives the ordinary pay and allowances of his rank. He may also in the first instance enter the Reserve with power to resign on six months' notice, but in this case he receives no retaining fee.

Voluntary withdrawal is also permitted, if the Lords of the Admiralty approve, to officers after eight, twelve, and sixteen years' full-pay service, the retiring officer receiving a gratuity. An officer being a Fleet Surgeon of twenty years' service may similarly retire, and then receives retired pay. It is to be noted, however, that the Lords of the Admiralty do not invariably consent forthwith to these voluntary retirements, and that loss of full-pay service, from sickness or inability to obtain service from no default of the officer, may delay the completion of the period of full-pay service mentioned.

Retirement is compulsory in the case of ordinary officers at 55, or at any age, if the officer has not been on full-pay service for three years in any one rank, or after continuous non-employment for four years in any two ranks combined; and in the case of Surgeons-General and Deputy Surgeons-General at the age of 60, with the same qualification. In the case of Surgeon-General, retirement under the age clause may be deferred by the Admiralty, if it pleases, until the age of 62.

The following are the amounts paid on retirement:

Rank.	Gratuities.	Daily.	Yearly.
	£ s. d.	£ s. d.	£ s. d.
Surgeon, Staff Surgeon, and Fleet Surgeon:			
After 4 years' full-pay service	500 0 0	—	—
,, 8 ,, ,,	1,000 0 0	—	—
,, 12 ,, ,,	1,500 0 0	—	—
,, 16 ,, ,,	2,250 0 0	—	—
Fleet Surgeon:			
After 20 years' service	—	*1 0 0	365 0 0
,, 24 ,, ...	—	*1 2 6	410 12 6
,, 27 ,, ...	—	*1 5 0	456 5 0
,, 30 ,, ...	—	*†1 10 0	547 10 0
Deputy Surgeon-General	—	1 15 0	638 15 0
Surgeon-General	—	2 0 0	730 0 0

* To obtain this rate an officer must hold the Commission of Fleet Surgeon,
† Or on compulsory retirement at the age of 55.

An officer who retires with less than 20 years' service on account of disability contracted in and attributable to the service receives the half-pay of his rank, or, with the consent of their Lordships, a gratuity on the scales previously given, but such an officer is not entitled to receive any special compensation for the disability in addition to the gratuity as above, unless he has received a wound in action or has been injured in duty, when extra gratuity or pension may be awarded.

An officer retired with less than twenty years' service on account of disability contracted in but not attributable to the service, receives:

(*a*) If he has over eight years' full-pay service, either a gratuity on the scale given in paragraph above, or half-pay, according as their Lordships think fit.
(*b*) If he has less than eight years' full-pay service, such gratuity as their Lordships think fit, not exceeding the rate of £125 for each year of full-pay service.

In circumstances other than those specified, and other than misconduct, neglect of duty, etc., an officer retired with less than twenty years' service is not allowed half-pay or retired pay, but receives a gratuity on the scale laid down above, if he has eight years' full-pay service; should his full-pay service not amount to eight years, the amount of the gratuity is at the discretion of the Admiralty.

The power vested in their Lordships of granting reduced rates of half-pay and retired pay in cases of misconduct is extended to the award of gratuities on retirement, and the gratuity awarded will be reduced to such an amount as is thought fit.

An officer retired after twenty years' full-pay service is eligible, if recommended by the Medical Director-General for distinguished or meritorious service, to receive a step of honorary rank, such step being awarded at their Lordships' discretion, and not conferring any claim to increase of retired pay or of widow's pension.

All retired officers are liable, till the age of 55, to serve in time of declared national emergency, in a rank not lower than that held on retirement. This liability does not exist in cases of withdrawal on the conditions previously specified under voluntary retirement.

Retired officers receive special consideration as regards appointments on shore connected with the Admiralty.

If an officer retires or withdraws on a gratuity, his widow and children lose the claim to a pension or compassionate allowance which they would otherwise possess.

ROYAL ARMY MEDICAL CORPS.

A CANDIDATE qualified as stated in the paragraph on page 578 must fill up a form of application and declaration, which can be obtained on application to the Director-General, Army Medical Service, War Office, London, S.W., and submit it to the Director-General in sufficient time to permit of reference to the medical school in which the candidate completed his course as a medical student.

The Dean, or other responsible authority of such school, will be requested by the Director-General to render a confidential report as to his character, conduct, professional ability, and fitness to hold a commission in the Corps. After the form of application and this confidential report have been received, the Director-General will decide if the candidate may be allowed to compete for a Commission in the Royal Army Medical Corps. If approved, he will then be examined as to his physical fitness by a Board of Medical Officers, in accordance with regulations which can also be obtained from the Director-General. The entrance examinations are held twice in the year, usually in January and July, and only two trials are allowed. The Army Council reserves the right of rejecting any candidate who may show a deficiency in his general education. With regard to the age of candidates, it is permissible to deduct from the age of a candidate any period for which he may have served as an officer, or in a position usually occupied by an officer, during a national emergency, if such deduction will bring him within the regulation age for candidates. In any case such service counts towards retired pay and gratuity in the case of an accepted candidate.

An entrance fee of £1 is required from each candidate admitted to the examination, and is payable at the conclusion of his physical examination, if pronounced fit.

A candidate successful at the entrance examination is at once appointed a lieutenant on probation, and then required to pass through such courses of instruction as the Army Council shall decide, and, after passing the examinations in the subjects taught, and satisfying the Director-General that he possesses the necessary skill, knowledge, and character for permanent appointment to the Royal Army Medical Corps, his commission as lieutenant will be confirmed. The commission given him bears the date of his appointment as lieutenant on probation.

ENTRANCE EXAMINATIONS.

All the competitors are examined by the Examining Board in medicine and surgery; the tests in these subjects are of a clinical and practical character, partly written and partly oral. Marks are allotted under the following scheme:

	Maximum Marks.
Medicine (written).	
A. Examination and report upon a medical case in the wards of a hospital ...	125
B. Commentary upon a case in medicine ... (Two periods of forty-five minutes—total one and a half hours—for A, and one and a half hours for B.)	100
Medicine (oral).	
A. Clinical cases	100
B. Medical pathology ... ... (Ten minutes to examine case, and ten minutes viva voce—total twenty minutes—for A; thirty minutes to examine specimens and ten minutes viva voce—total forty minutes—for B.)	75
Surgery (written).	
A. Examination and report upon a surgical case	100
B. Commentary upon a case in surgery ... (Two periods of forty-five minutes—total, one and a half hours—for A, and one and a half hours for B.)	125
Surgery (oral).	
A. Clinical surgery and pathology (including diseases of the eye)	75
B. Operative surgery and bandaging (including surgical instruments and appliances) (Ten minutes to examine case, and ten minutes viva voce—total, twenty minutes—for A, and about thirty minutes for B.)	100
Total marks	800

The reports indicated on patients must include, besides the details ordinarily included in case-taking, a commentary on the features of the case as a whole, a prognosis, and a plan of treatment. The commentary on the reports on cases submitted to the candidate must discuss in detail all their various points.

The examinations are held in London, and occupy about four days.

Having gained a place at this entrance examination, the successful candidates proceed to the Royal Army Medical College for instruction in recruiting duties, at the termination of which they undergo two months' instruction in Hygiene, Pathology, Tropical Medicine, Military Surgery, and Military Medical Administration, after which they are examined in these subjects. The maximum number of marks obtainable at this examination is 700.

On completion of this course the lieutenants on probation join the Royal Army Medical Corps School of Instruction at Aldershot for a course in the technical duties of the corps, and at the end of the course are examined in the subjects taught. The maximum number of marks obtainable at this examination is 100.

A lieutenant on probation who fails to qualify at either of these examinations is allowed a second trial. Should he then qualify, he is placed at the bottom of his batch; but failing success his commission is not confirmed. Illiteracy in speech or writing evidenced at any of the examinations previous to final acceptance of the candidate and confirmation of his commission is regarded as disqualifying for appointment.

PROMOTION.

The position of an approved candidate in his batch and his final place in the list for promotion is determined by the combined results of all the examinations passed by him previous to the confirmation of his commission. If, however, a lieutenant on probation is seconded in order to hold appointment at a civil hospital, he retains the place in the list which he gained at the entrance examination, and has merely to qualify at the remainder when in course of time he goes up for them.

An officer finally accepted is eligible for promotion to the rank of Captain after three and a half years' service, and to that of Major after twelve years' service, in both cases a Promotion Examination having to be passed. Promotion to the rank of Major may be accelerated by obtaining special distinction at the Qualifying Examination for that rank. Above the rank of Major promotion is by selection from among the list of Majors who have qualified by examination. Under certain circumstances eventual failure to pass the examination may entail retirement from the service. Special promotions are made for meritorious or distinguished service, distinction in original investigation or research coming within these terms.

EXAMINATIONS FOR PROMOTION.

Lieutenants before Promotion to Captain.

This examination may be taken at any time after completing twelve months' service, and is held in the military district in which the officer is serving. The subjects are:

1. A practical test in map reading and problems in connexion with practical tactics, etc. (2) Military law. (3) Organization, administration, and equipment. (4) (*a*) The principles of administration and supply of military hospitals and medical attendance in the Army. The terms of the Geneva Convention. (*b*) The organization, training, and functions of warrant officers, non-commissioned officers, and men of the Royal Army Medical Corps employed in military hospitals. (*c*) The duties of medical officers in connexion with: Effective troops in quarters, camp, and on board ship; enlistment, supervision, and training of recruits and invaliding of soldiers; the principles and objects of military medical statistics and the chief causes of wastage of strength from physical disabilities; the medical records of serving soldiers and invalids, the objects of recording the facts they are designed to contain, and the regulations relating to them.

Captains before Promotion to Major.

This examination, which may be taken at any time after completing five years' service, is held in London on the termination of a period of special study. It consists of written papers, essays, oral and practical examinations on:

(1) Medicine. (2) Surgery. (3) Hygiene. (4) Bacteriology and tropical diseases. (5) One special subject from the subjoined list, to which additions may from time to time be made: (*a*) Bacteriology, including the preparation of antitoxins; (*b*) Dermatology, including venereal diseases; (*c*) Midwifery and

gynaecology; (*d*) Operative surgery, advanced; (*e*) Ophthalmology; (*f*) Otology, including laryngology and rhinology; (*g*) State medicine; (*h*) Physical Training, including the clothing and food of the soldier. (6) Military law. (7) Corps drills and exercises. (8) A practical test in map reading and problems in connexion with practical tactics, etc. (9) Organization, administration and equipment.

Majors before Promotion to Lieutenant-Colonel.

This examination, which may be taken at any time after three years in the rank of Major, is held in the military district in which the officer is serving, at times duly notified. The subjects are:

(1) Army medical organization in peace and war. (2) Sanitation of towns, camps, transports, and all places likely to be occupied by troops in peace or war; epidemiology and management of epidemics. (3) (*a*) Medical history of the more important campaigns, and the lessons to be learnt therefrom; (*b*) a knowledge of the Army Medical Services of the more important Powers; (*c*) the laws and customs of war so far as they relate to the sick and wounded. (4) A practical problem in field medical administration.

PAY, ADDITIONAL PAY, AND CHARGE PAY.

The following are the rates of pay, additional pay, and charge pay:

Ordinary Pay.

	Inclusive of all Allowances except Field and Travelling Allowances.
ARMY MEDICAL SERVICE. *At Head Quarters.*	Yearly. £
Director-General	2,000
Deputy Director-General	1,500
Assistant Director-General...	850
Deputy Assistant Director-General	750
	Exclusive of Allowances.
At Other Stations.	Daily. £ s. d.
Surgeon-General...	3 0 0
Colonel	2 5 0
Lieutenant-Colonel	1 10 0
Lieutenant-Colonel promoted to the rank, on or after January 9th, 1907, after 3 years as such...	1 15 0
Major	1 3 6
After 3 years' service as such	1 6 0
Captain	0 15 6
After 7 years' total full-pay service ...	0 17 0
After 10 years' total full-pay service ...	1 1 0
Lieutenant on probation and Lieutenant ...	0 14 0

Additional Pay.

Officer not serving on the head quarters staff appointed a member of the Advisory Board	£150 a year.
Officer under the rank of lieutenant-colonel holding an appointment as specialist	2s. 6d. daily.

Charge Pay.

	s.	d.
(*a*) Officer in charge of a general or other hospital; or of a division of a general hospital:		
If in charge of at least 50 beds ... daily	2	6
,, ,, 100 ,, ... ,,	5	0
,, ,, 200 ,, ... ,,	7	6
,, ,, 300 ,, ... ,,	10	0
(*b*) Senior Medical Officer, Royal Arsenal, not exceeding ... ... daily	10	0
(*c*) Officer in command of the dépôt, Royal Army Medical Corps... ... ... daily	5	0
(*d*) The senior officer of the Army Medical Service with an army in the field— A rate to be fixed by the Secretary of State according to the magnitude of the charge:		
(*e*) The officer, if under the substantive rank of colonel, holding the appointment of senior medical officer in a command abroad, or of an administrative medical officer, if the number of soldiers is 1,500 or upwards ... ... daily	5	0

RETIREMENT.

On the completion of three years' service, but not more than six, an officer of the Royal Army Medical Corps may be permitted by the Army Council to become an Army Reserve Officer for a period of years, and while so serving receives pay at the rate of £25 a year. With the sanction of the Army Council such officer may be allowed to return to the active list, and if the period he has been in the Reserve of Officers amounts to at least one year, and not more than three years, he will be allowed to reckon one-third of such period towards promotion, gratuity, and pension.

The ordinary rules as to retirement are as follows:

Retirement is also compulsory on the ground of age, in the case of surgeons-general at 60, of colonels at 57, and officers below that rank at 55; the director-general retires on completion of his term of office in that appointment. A major is retired on completion of twenty-five years' service if he has been superseded for promotion, or if, after twenty years' service, he has failed to qualify for promotion. Similarly, a lieutenant who has failed to qualify within the requisite period for promotion to the rank of captain is retired if he fails to qualify at the next succeeding examination; while a captain who fails in the same way in respect of the examination for promotion to major must retire on the gratuity to which he is then entitled by service, or, in default of that, on the completion of five years' service as captain. An officer placed on the half-pay list on account of medical unfitness is, if not previously retired, placed on the retired list at the expiration of five years from the date on which he was placed on the half-pay list, or if reported by the regulated medical authority to be permanently unfit for duty, on the officer's application, at such earlier date as may be decided by the Army Council.

An officer, whether on full or half pay, who, to the satisfaction of the regulated medical authority, has been pronounced insane, must be retired from the army, with the retired pay to which he would be entitled if reported by the regulated medical authority to be permanently unfit for duty. If this disability was not caused by military service, and he is not entitled to permanent retired pay by length of service, he will receive temporary retired pay equivalent to the half-pay, and temporary retired pay, if any, which he would have received if his disability had been other than insanity.

Finally, any officer may, if the Army Council pleases, be retired on completion of thirty years' service, and it is open to the Council to permit an officer to retire at any time which it deems expedient.

RETIRED PAY.

An officer who retires after holding the appointment of Director-General for three years and with thirty years' service to his credit, receives a pension of £1,125 a year. In other ranks the rates are as follows:

	Daily. £ s. d.
Surgeon-General	2 0 0
Colonel:	
Under 4 years' service as such, but with 30 years' total service	1 10 0
After 4 years' service as such	1 15 0
If not qualified as above:—The rate for a Lieutenant-colonel.	
Lieutenant-Colonel:	
After 20 years' service	1 0 0
After 25 ,, ...	1 2 6
After 28 ,, ...	1 7 6
Major:	
After 20 years' service	1 0 0

	Gratuity.
Major or Captain:	
After 5 years' service in the rank of captain ...	£1,000
After 3 years' service in the rank of major ...	£1,800
After 6 years' service in the rank of major ...	£2,500

Except in the case of a colonel promoted after January 9th, 1907, or a lieutenant-colonel, an officer of the Army Medical Service who, on voluntary retirement, has served for less than three years in the rank from which he retires, is entitled only to the gratuity or retired pay assigned to the next lower rank.

Exchanges between officers of the Royal Army Medical Corps and the Indian Medical Service are occasionally permitted, subject to the officers having less than seven years' service and other conditions.

The regulations as regards sick leave and ordinary leave on full pay are the same for officers of the Royal Army Medical Corps as for those of other departmental officers.

The regulations as regards pensions to widows and compassionate allowances and other dependents of officers are the same in the case of officers of the Royal Army Medical Corps as in the case of ordinary officers. There is, in addition, an army medical officers' widows' annuity fund on mutual assurance principles.

INDIAN MEDICAL SERVICE.

A CANDIDATE for this service must be a natural-born subject of His Majesty, of European or East Indian descent, and the general rules mentioned in the paragraph on page 578 apply to him; he must make his application for permission to compete for a commission on a prescribed form. The accompanying certificate must include one showing that the candidate has studied in an ophthalmic hospital or ophthalmic department for not less than three months, the work including refraction. If allowed to compete, he pays a fee of £1, and is then examined in the following subjects:

	Marks.
1. Medicine, including Therapeutics	1,200
2. Surgery, including Diseases of the Eye	1,200
3. Applied Anatomy and Physiology	600
4. Pathology and Bacteriology	900
5. Midwifery and Diseases of Women and Children	600
6. Materia Medica, Pharmacology, and Toxicology...	600

The examinations in Medicine and Surgery are in part practical, and include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside. As regards the subjects of the examination, no syllabus is issued, the questions put being such as to test the candidate's general knowledge of them. No candidate is considered eligible who does not obtain at least one-third of the marks obtainable in each of the above subjects, and one-half of the aggregate marks for all the subjects. Examinations usually take place in January and July of each year. Candidates can obtain on application copies of the papers set at certain of the previous examinations. No candidate is permitted to compete more than three times.

If successful the candidates are granted about a month's leave, and then required to attend two successive courses of two months each at Aldershot and at the Royal Army Medical College, Millbank, during which time each candidate receives an allowance of 14s. per diem, with quarters, or when quarters are not provided, with the usual allowances of a subaltern in lieu thereof, to cover all costs of maintenance; he is required to provide himself with the regulation undress uniform and mess dress of a lieutenant of the Indian Medical Service. Should he be granted sick leave before the completion of his course of instruction and final admission to the service, he receives furlough pay at the rate of 10s. 6d. a day for the period of his sick leave. At the conclusion of each course candidates have to pass an examination in its subjects, and must obtain 50 per cent. of the possible marks. Those who fail may, if specially recommended, undergo the courses and examination a second time. Unless they then pass their acting commissions are cancelled.

In special cases permission may be granted to lieutenants to delay their departure for India, in order to sit for some further professional examination. Lieutenants remaining in England under such circumstances will receive no pay for any period beyond two months from the date of leaving the Royal Army Medical College, unless the period elapsing before the day on which the majority of the lieutenants of the same seniority sail for India exceeds two months, in which case lieutenants allowed to remain in England will receive pay up to that day. In such cases pay will recommence on the day of embarkation for India. A lieutenant who within a reasonable period before the date at which he would otherwise sail for India furnishes proof of his election to a resident appointment at a recognized civil hospital may be seconded for a period not exceeding one year from the date on which he takes up such appointment, provided that he joins it within three months of passing his final examination, and that he holds himself in readiness to sail for India within fourteen days of the termination of the appointment. While seconded he receives no pay from Indian funds, but his service towards promotion, increase of pay, and pension will reckon from the date borne on his commission.

All officers on appointment are placed on one list, their position on it being determined by the combined results of the Preliminary and Final Examinations. They are liable for military employment in any part of India, but with a view to future transfers to civil employment each stands posted to one of the following civil areas: Madras and Burma; Bombay with Aden; Upper Provinces (United Provinces, Punjab, and Central Provinces); Lower Provinces (Bengal Eastern Bengal, and Assam). The allocation of officers to these areas of employment is determined upon a consideration of all the circumstances, including, as far as possible, the candidate's own wishes. An officer transferred to civil employment, though ordinarily employed within the area of his choice, remains liable to employment elsewhere if the exigencies of the service require it.

Officers on appointment are sent to India by troopship when possible; otherwise, by private steamer at the public cost. Until they arrive in India, when they begin to receive the ordinary pay of their rank, they receive 14s. a day. If an officer, after receiving his commission, falls ill, he is paid at the rate of £250 a year from the date at which he should have sailed until the actual date of embarkation, and at the rate of 14s. a day during the voyage to India.

PROMOTION.

A lieutenant's commission dates from the day on which the result of the examination at which he is admitted is announced. He may be promoted to captain on completion of three years' full-pay[1] service from date of first commission; but after completing eighteen months' service, and before promotion to the rank of captain he will be required to pass an examination in military law and military medical organization. A captain is promoted to major on completion of twelve years' full-pay[1] service, but this promotion is accelerated by six months in the case of officers who fulfil certain specified conditions. A major is promoted to lieutenant-colonel on completion of eight years' full-pay[1] service in the rank of major. All promotions from the rank of lieutenant-colonel to that of colonel, and from the rank of colonel to that of surgeon-general, are by selection for ability and merit. In all ranks distinguished service in the field may be rewarded by accelerated promotion.

TENURE OF OFFICE IN ADMINISTRATIVE GRADES.

The tenure of office of surgeons-general and colonels is limited to five years. Colonels, if not disqualified by age, are eligible either for employment for a second tour or duty in the same grade, or for employment in the higher grade of surgeon-general by promotion thereto. Absence on leave in excess of eight months, exclusive of privilege leave, during a five years' tour of duty involves forfeiture of appointment.

PAY AND ALLOWANCE.[2]

The following are the monthly rates of Indian pay drawn by officers of the Indian Medical Service from the date of their arrival in India:

Rank.	Unemployed Pay.	Grade Pay.	Staff Pay.	In Officiating Medical Charge of a Regiment	In Permanent Medical Charge of a Regiment.
	Rs.	Rs.	Rs.	Rs.	Rs.
Lieutenant	420	350	150	425	500
Captain	475	400	150	475	550
,, after 5 years' service... ...	475	450	150	525	600
,, after 7 years' service... ...	—	500	150	575	650
,, after 10 years' service... ...	—	550	150	625	700
Major	—	650	150	725	800
,, after 15 years' service... ...	—	750	150	825	900
Lieutenant-Colonel	—	900	350	1,075	1,250
,, ,, after 25 years' service	—	900	400	1,100	1,300
,, ,, specially selected for increased pay ...	—	1,000	400	1,200	1,400

NOTES.—(*a*) Unemployed pay is drawn by officers of less than 7 years' service who are not holding officiating or substantive charge of native regiments. Officers of more than 7 years' service draw grade pay alone when unemployed. Staff pay is the pay of a command, and is drawn in addition to grade pay. (*b*) Horse allowance is granted to officers in substantative charge of cavalry regiments at the rate of Rs. 90 a month to lieutenant-colonels and majors, and Rs. 60 a month to captains and lieutenants.

[1] Time (not exceeding one year) passed on temporary half-pay reckons as service for promotion and pension in the case of officers placed on half-pay on account of ill health contracted in the performance of military duty.

[2] Under present arrangements officers of the Indian Medical Service who are not statutory natives of India receive exchange compensation allowance to compensate them for the fall of the value of the rupee. The allowance consists of an addition to their salaries (subject to certain limitations) equal to half the difference between their salaries converted at (1) 1s. 6d. the rupee, and (2) the average market rate for each quarter.

Description of Appointment.	Approximate Number of Appointments in Each Class.	Salary per Mensem. When held by a Lieutenant-Colonel.	When held by a Major.	When held by a Captain.	When held by a Lieutenant.
		Rs.	Rs.	Rs.	Rs.
Inspectors-General of Civil Hospitals	6	2,250–2,500			
Sanitary Commissioner with Government of India	1	2,000–2,500			
Inspectors-General of Prisons	8	1,500–2,000			
Principals of Medical Colleges	2	1,650–1,800	1,200–1,300		
Professorial Appointments	23	1,500–1,650	1,050–1,150	800–950	750
Sanitary Commissioners	6	1,500–1.800			
Deputy Sanitary Commissioners	13	1,450–1,600	1,000–1,100	750–900	700
Bacteriological Appointments	5	1,500–1,600	1,050–1,150	700–900	650
Superintendents of Central Lunatic Asylums	6	1,400–1,550	1,050–1,150	700–900	650
Superintendents of First-Class Central Gaols	5	1,400–1,550	950–1,050	700–850	550
Superintendents of Second-Class Central Gaols	5	1,300–1,450	850–950	600–750	550
Civil Surgeoncies (First Class)	37	1,300–1,450	850–950	600–750	550
Civil Surgeoncies (Second Class)	171	1,200–1,350	750–850	500–650	450
Probationary Chemical Examiner	1	—	—	600–750	550
Officers deputed to Plague Duty	—	1,450	1,000–1,100	750–900	700

The principal administrative appointments are held by colonels and surgeons-general on the following consolidated salaries:

Colonel, from Rs. 1,800 to Rs. 2,500 per mensem.		
Surgeon-General	2 @ Rs. 2,200	,,
,,	2 @ Rs. 2,500	,,
,,	1 @ Rs. 3,000	,,

Specialist pay at the rate of Rs. 60 a month is granted to officers below the rank of lieutenant-colonel who may be appointed to certain posts.

Except in the administrative grades and in certain special appointments, medical officers are not debarred from taking private practice, so long as it does not interfere with their proper duties.

No officer, however employed, can draw more than the grade pay of his rank unless he has passed the examination in Hindustani known as the "Lower Standard." Failure to pass disqualifies an officer, even when holding a substantive or officiating charge, from receiving any portion of the staff allowances of the appointment.

Surgeons-general and colonels, on vacating office at the expiration of the five years' tour of duty, are permitted to draw in India an unemployed salary of Rs. 1,350 per mensem in the former, and Rs. 1,000 in the latter, case for a period of six months from the date of their vacating office, after which they are placed while unemployed on the following scale of pay:

	Surgeon-General, Per diem. £ s. d.	Colonel, Per diem. £ s. d.
After 30 years' service on full pay	2 5 0	1 14 0
,, 25 ,, ,, ...	2 5 0	1 10 0
,, 20 ,, ,, or		
on promotion should this period of service not to be completed ...	2 0 0	1 8 0

POSTS IN THE CIVIL EMPLOY.

A large number of posts in civil employ are ordinarily filled up from officers of the Indian Medical Service. Officers are required to perform two years' regimental duty in India before they can be considered eligible for civil employment. The principal appointments, together with the salaries attached to each, are stated in the table at the top of this page.

There are also six Chemical Examiners with Rs. 800 to 1,650 per mensem, and a number of Port Health Officers with Rs. 750 to 1,950 per mensem. Other appointments of Resident Surgeons and Physicians at hospitals, etc., are on salaries ranging from Rs. 700 to 1,650 per mensem. There are also a certain number of appointments under the Political Department on salaries ranging from Rs. 450 to 1,450 per mensem, exclusive of local allowances.

Qualified officers of the medical service are also eligible for appointments in the Assay and Mint Departments. The salaries of these appointments are from Rs. 600 to 2,250 per mensem.

LEAVE RULES.

(The paragraphs in small type apply only to officers in military employ.)

Officers below the rank of colonel may be granted:

1. Privilege leave under such regulations as may from time to time be in force.
2. Leave out of India, for no longer period than one year, capable of extension to two years' absence from duty, on the following pay:

On first appointment	£250 a year.
After the commencement of the 10th year's service for pension	300
Ditto, ditto, 15th ditto	450
Ditto, ditto, 20th ditto	600
Ditto, ditto, 25th ditto	700

3. Leave in India, but for the period of one year only, on full military pay, and half the staff salary of appointment.

No extension of leave involving absence from duty for more than two years, whether taken in or out of India, can be granted except on specially urgent grounds and without pay.

An officer unable on account of the state of his health to return to duty within the maximum period of two years' absence (unless, as under the foregoing paragraph, he is specially granted an extension of leave without pay) is placed on temporary half pay or the retired list, as the circumstances of the case may require. An officer is also liable to be placed on half-pay or the retired list should his health require an undue amount of leave, whether in or out of India.

Leave may be granted at any time, but solely at the discretion of the civil or military authorities in India under whom an officer may be serving.

An officer on leave, whether in India or out of India, is required to rejoin at once on being recalled to duty, unless certified by a Medical Board as unfit to do so.

Officers of the Administrative Grades may be granted leave not exceeding eight months, besides privilege leave, during their tenure of appointment.

Extra furlough may be granted to officers desirous of pursuing special courses of study at the rate of one month's furlough for each year's service up to twelve months in all.

HONOURS AND REWARDS.

All officers are eligible for the military distinction of the Order of the Bath and for other Orders, British and Indian, and for good service pensions. Six of the most meritorious are named Honorary Physicians, and six Honorary Surgeons, to His Majesty.

RETIRING PENSIONS AND HALF-PAY.

Officers are allowed to retire on pension on completing 17 years' service, the amount they receive varying with the precise number of years they have served. The lowest rate for 17 years' service is £300 per annum and the rate for 30 years £700 per annum. The increases in pension for each additional year's service over 17 are somewhat higher in the last 5 than in the first 8 of the 13 years between the shortest and longest periods of pensionable service.

Service for pension reckons from date of first commission, and includes all leave taken under the rules quoted. (See also Note 1 on p. 582.)

A surgeon-general, after three years' active employment in that appointment, is entitled to retire upon a pension of £350 per annum, in addition to that to which he may be entitled under the ordinary scale.

A colonel is entitled, after three years' active employment in that appointment, to retire upon a pension of £125 per annum, in addition to the pension to which he may be entitled under the ordinary scale, and after five years of such employment on an additional pension of £250 in all.

In each of the cases stated in the two foregoing paragraphs eight months' absence on leave as well as privilege leave is allowed to count towards actual service in those grades.

A surgeon-general or colonel who has completed his term of service and has reverted to British pay may reside in Europe, at the same time qualifying for higher pension.

All officers of the rank of lieutenant-colonel and major are placed on the retired list on attaining the age of 55 years; the Director-General, when he has attained the age of 62 years, and all other surgeons-general and colonels when they have attained the age of 60 years. But a lieutenant-colonel, who has been specially selected for increased pay, if he attains the age of 55 years before he becomes entitled to the pension for 30 years' service, may be retained until completion of such service; and in any special case where it would appear to be for the good of the service that an officer should continue in employment, he may be so continued, subject in each case to the sanction of the Secretary of State for India in Council.

Officers placed on half-pay on account of ill health, as described in the paragraphs concerning leave, receive: Under five years' service, 6s. a day, or £109 10s. a year; after five years' service, 8s. a day, or £146 a year; after ten years' service, 10s. a day, or £182 10s. a year; after fifteen years' service, 13s. 6d. a day, or £246 7s. 6d. a year.

An officer of less than three years' service, although he may be transferred to the half-pay list under the general conditions of transfer, will not be granted any half-pay unless his unfitness has been caused by duty.

Invalid Pensions.

An officer who has become incapacitated for further service in India on account of unfitness caused by duty may, after he has been two years on temporary half-pay, be granted an invalid pension. Such pensions begin at £192 a year after twelve years' service, and rise by £20 for each additional year's service up to £272.

As already stated in the footnote on page 582, time not exceeding one year passed on temporary half-pay reckons as service for promotion and pension in the case of an officer placed on half-pay on account of ill health contracted in the performance of military duty.

Additional pensions for wounds and injuries received in action or in the performance of military duty are awarded to officers of the Indian Medical Service on the same terms as to combatant officers of the Indian Army.

Family Pensions.

The claims to pensions of widows and families of officers are treated under the provisions of such Royal Warrant regulating the grant of pensions to the widows and families of British officers as may be in force at the time being.

The widows and families of officers are also entitled to pensions under the Indian Service Family Pension Regulations, for the benefits of which all officers must, as a condition of their appointment, subscribe from the date of their arrival in India, except in the case of natives of India, for whom it is optional.

PRISON MEDICAL SERVICE.

THE prison department consists of two branches—the convict service and the local prison service. These are now practically amalgamated, and the officers of each branch are freely interchangeable. Candidates for the Medical Staff are approved by the Secretary of State for the Home Office on the recommendation of the Prison Commissioners. The Chairman of the Board is Sir Evelyn Ruggles-Brise, K.C.B. Application for employment may be made to the Board on a special form, which can be obtained from the Secretary, Prison Commission, Home Office, London, S.W.

In the smaller prisons the Medical Officer is usually a local practitioner, but in the larger the members of the Medical Staff are required to give their whole time to the service.

The number of vacancies is not large and the rate of promotion is at present very slow.

In the case of those required to give their whole time to the service the appointment in the first instance is to the post of deputy medical officer, and from the seniors of this rank the medical officers are selected as vacancies occur. The deputy medical officers are paid £250 yearly, rising to £300, with unfurnished quarters. The whole-time medical officers are paid £300, rising to £550, with unfurnished quarters. There are fifteen deputy medical officers and fifteen whole-time and forty-six part-time medical officers.

APPOINTMENTS UNDER THE COLONIAL OFFICE.

MEDICAL appointments are from time to time filled up by the Colonial Office in the following Colonies and Protectorates: British Guiana, Jamaica, Trinidad, Windward Islands, Leeward Islands, British Honduras, Fiji, Sierra Leone, Gambia, Gold Coast, Northern and Southern Nigeria, East Africa and Uganda Protectorates, Nyasaland, Somaliland, Ceylon, Straits Settlements, the Federated Malay States, Hong Kong, Mauritius, Seychelles, Cyprus, Gibraltar, St. Helena, and the Falkland Islands. In Ceylon, Jamaica, and Mauritius vacancies are almost always filled locally by the appointment of qualified native candidates. As a rule officers are required on appointment to undergo a three months' course of instruction at the London or Liverpool School of Tropical Medicine, and to obtain a certificate of proficiency before taking up their appointment. It is for the East and West African Colonies and Protectorates and for the Straits Settlements and Federated Malay States that medical officers are chiefly required.

All applicants must be between the ages of 23 and 35.[1] Preference is given to those who have held junior appointments on the staffs of hospitals. Testimonials to character and professional competence are required, and every officer before being appointed must be medically examined by one of the consulting physicians of the Colonial Office.

In addition to the ordinary medical appointments, vacancies also occasionally, though very rarely occur, for which specialists are required—for example, to take charge of a lunatic asylum.

Applications should be addressed to the Assistant Private Secretary, the Colonial Office, Downing Street, S.W.

The nominal value of the appointments in the gift of the Colonial Office varies very considerably; but as a general rule it will be found on close examination that the rates of pay correspond in real value pretty closely when questions of climate, opportunities for private practice, the cost of living, and the actual work demanded are taken into consideration. The posts to which the lower salaries are attached commonly involve work which can be regarded as merely an adjunct to ordinary private practice, while high pay means either few opportunities for practice, an undesirable climate, or work of a special character demanding high administrative ability. Taken as a whole, all these appointments may be put down as offering their occupant the opportunity of gaining his livelihood, and possibly saving a little money, in a fashion which will test his abilities to the full.

A pamphlet giving a good deal of information as to the various posts is published, and should be obtained from the Colonial Office by prospective candidates. Likewise should be obtained the pamphlet relating to the West African Colonies. All their medical work has for some years past been done by a body known as the West African Medical Staff. The main advantages of the same are that it is a regular service somewhat on the lines of the Indian Medical Service; that the rates of pay in the higher grade are fairly satisfactory as compared with the cost of living on the coast; that opportunities for scientific practice of medicine are ample, and that at the end of every year's work an officer can return to England for several months' leave. There have also been a great many drawbacks, some of which have been and still are inevitable, and others due to faulty organization. Many of the latter have been remedied as the outcome of the deliberations of a departmental committee, which concluded its labours early in 1909, and as the recommendations of that body have been accepted practically in their entirety, the service is one to be thoroughly commended to those who are prepared to face a life in a tropical country.

[1] In the case of East and West Africa preference will be given to candidates who are over 25 years of age. In the case of Fiji, preference will be given to candidates who are under 30.

PRACTICE IN BRITISH COLONIES.

[T]E following notes supply a general indication of the [r]uirements which must be satisfied by those desirous of [p]actising in the Colonies on the strength of qualifications [r]eived from licensing bodies in the United Kingdom. [P]rsonal inquiry should, however, always be made on the [p]int.

CANADA.

Last April the two Houses of Legislation in Canada [h]ve passed a law dealing with medical practice. One of [t]e effects will be to establish a kind of State examination, [p]assage of which will entitle the candidate to practise in [a]y part of the Dominion, and a further possible result may [b]e an extension of the reciprocity already existing between [t]e General Medical Council in Great Britain and the [m]edical authorities of certain provinces in Canada. But [b]efore the law in question becomes operative each provincial [l]egislative council will have to pass a law adapting this [f]ederal law to its own area. Meantime, therefore, matters [r]emain very much as they were; that is to say, while [p]ractically throughout the whole of Canada registration is [a] necessary prelude to practice, each province keeps its [o]wn Register, and has its own regulations as to admission [t]hereto. Some information as to these regulations, so far [a]s practitioners from the United Kingdom are concerned, [h]ere follows. For most of it we have to express our [i]ndebtedness to the Registrar of the different licensing [b]odies concerned. Medical men, however, who propose to [s]ettle in Canada should in all cases address a formal [e]nquiry to the Registrar of the province in which he pro[p]oses to settle, and obtain in advance any forms he may [h]ave to fill in and the dates of any examinations which [m]ay be necessary.

Quebec.—A Register is maintained in this province by [t]he Provincial Medical Board, which has its seat in [M]ontreal. It has power to issue a licence to practise to [a]ny person who can afford proof of good conduct and that [h]is name is on the *Medical Register* of the United King[d]om in virtue of having undergone a period of five years' [s]tudy, during the course of which he was uninterruptedly [r]esident in the United Kingdom.

Nova Scotia.—The medical authority in this province is [t]he Provincial Medical Board, 241, Pleasant Street, Halifax. [A]pplicants for admission to its Register on the strength of [B]ritish qualifications must produce (1) the diplomas en[t]itling them to registration in the United Kingdom; (2) a [c]ertificate from the Registrar of the General Medical [C]ouncil showing that his name is on the *Register*, and [t]hat no charge is pending against him; (3) a recent and [c]ertified photograph as evidence of identity; (4) a cer[t]ificate of age; (5) satisfactory evidence of good character. [I]n such Register any person is admissible who is duly [r]egistered by the General Medical Council of Great Britain. [T]he fee for registration is 30 dollars.

Prince Edward Island.—The medical government of [t]his province is in the hands of a council selected from [a]mong the members of the Medical Society of Prince [E]dward Island. This council maintains a Register, and [w]ill admit to it, on payment of the required fee, any [p]erson who is duly registered by the General Medical [C]ouncil in Great Britain. The council has its office at [C]lifton Street, Charlottetown.

Ontario.—The authority in medical matters in this [p]rovince is the Council of the College of Physicians and [S]urgeons of Ontario, whose registration office is at 170, [U]niversity Avenue, Toronto. The law leaves it optional [t]o this council to admit to registration any person who [d]uly registered in Great Britain, or who is otherwise [a]uthorized to practise medicine, surgery, and midwifery in [t]he United Kingdom. Its working rule at present is to [a]dmit practitioners who have been five years in active [p]ractice after admission on the *Register* of the General [M]edical Council on their passing the intermediate and [f]inal examinations for the M.B. degree of the University of [T]oronto. Those who have not been five years in practice [m]ust pass all the examinations.

British Columbia.—The governing body is the Medical [C]ouncil of British Columbia, which has its seat at [V]ictoria and keeps a Medical Register. A practitioner [w]ho affords proof of good conduct, and can show that he [w]as registered in Great Britain or Ireland previous to [t]he 30th, 1887, may obtain admission to the provincial register in return for a fee which, according to the medical Act of the Colony, must not exceed 100 dollars. Otherwise he must pass a "satisfactory examination touching his fitness to practise as a physician or surgeon," as well as pay the aforesaid registration fee. The examinations in question appear to consist of four or five written questions in anatomy, chemistry, and public health, materia medica and therapeutics, medical jurisprudence, midwifery and diseases of women and children, physiology, surgery, the theory and practise of medicine and medical pathology. So far as can be gathered from the nature of the questions set on a recent occasion the examination is not one which an ordinarily well-informed practitioner would be likely to fail to pass.

Manitoba.—The medical authority in this colony is the College of Physicians and Surgeons of Manitoba. It has its seat at Winnipeg, and maintains a Register to which it at present admits medical men whose names are registered in the United Kingdom and who are of good standing. The fee is 75 dollars.

Alberta and Saskatchewan.—These are the names of two new provinces created by dividing up between them a large part of all the country known as the North-Western Territories. In each of them a Medical Act has been passed, which brings into existence in the one case the College of Physicians and Surgeons of the Province of Alberta, and in the other the College of Physicians and Surgeons of the Province of Saskatchewan, Each of them maintains a Register, admission to which costs 50 dollars. Before admission, however, a medical man with qualifications derived from the United Kingdom would have to pass an examination "touching his fitness and capacity to practise medicine, surgery, and midwifery." The cost of this examination is a further 50 dollars. The Alberta College is at the capital of the Province, Edmonton, and the Saskatchewan College is at Regina.

New Brunswick.—A Register is maintained by the Council of Physicians and Surgeons of New Brunswick, which has its seat at St. John. In the regulations respecting candidates for admission to the Register which this council has laid down, previous admission to the *Medical Register* in Great Britain and Ireland is not specifically mentioned as a qualification for admission to the Register in New Brunswick. On the other hand, any medical man who holds qualifications entitling him to the *Register* in Great Britain would appear to be able to meet all the conditions mentioned, provided that the preliminary examination in general education passed by him previous to commencing the study of medicine has been the matriculation of some university, or that it has been an examination including in its subjects English, arithmetic, algebra, geometry, Latin, elementary chemistry, elementary mechanics, history, geography, and two of the following languages: Greek, French, and German.

AUSTRALASIA.

In Australia and New Zealand admission to the Register is accorded to those who can supply proof that they are registered in the United Kingdom, that they are of good repute, and that they are the rightful owners of the documents which they present.

SOUTH AFRICA.

For the present each of the four States of the Union of South Africa—Cape Colony, Natal, the Transvaal, and Orange River Colony—maintains its own Medical Register, and admission thereto is necessarily preliminary to practice. It may be obtained by any medical man registered, or entitled to be registered, in the United Kingdom, on his payment of varying fees and his production of proof of his possession of the necessary diplomas. In each case application for admission to the Register should be addressed to the secretary of the medical council concerned. Registration, or, more accurately speaking, a licence to practise, is also necessary in Rhodesia, and is granted by the Administrator of Rhodesia at Salisbury, on practically the same terms as is registration in any of the four localities mentioned.

CROWN COLONIES.

In the Crown Colonies, including Ceylon, the Straits Settlements, Mauritius, British Guiana, and the West Indian Islands, and many other of the smaller British

possessions scattered throughout the world, no difficulty is raised to the practice of medicine and admission to the Register if one is kept, in the case of any medical man who is in a position to prove his qualification to registration under the Medical Act of 1858.[1]

PRACTICE IN FOREIGN COUNTRIES.

THE following notes give some indication of the conditions under which medical men possessing British degrees or diplomas are at liberty to practise in foreign countries.[1]

FOREIGN STATES.

Austria.—It is necessary to pass the State examination, or to obtain a university degree in Medicine, a necessary preliminary to which is naturalization as an Austrian subject. Recognition of foreign diplomas may be obtained on passing certain examinations.

Belgium.—Permission to practise must be obtained by foreign practitioners through a duly appointed Medical Board. To obtain it is a matter of extreme difficulty.

Bulgaria.—Foreign medical graduates must pass a viva voce examination conducted in the Bulgarian language.

Denmark.—Foreigners are allowed no privilege in respect of exemption from examination.

Egypt.—Permission to practise is accorded by the Director-General of the Sanitary Department to registered British practitioners upon proof of identity and a certificate of good character from the British Consul-General.

France.—The degree of M.D. must be obtained by examination before a French faculty (Paris, Montpelier, Nancy, Bordeaux, Lyons, Lille, or Toulouse). This regulation applies to Algiers also. The degree, moreover, confers the right to practise only if it has been obtained on precisely the same conditions as those to which French students are subject.

Germany.—Any person may practise medicine in this country, but does so at his own peril unless he has passed the *Staats-Examen.* The latter alone confers recognition as a legal medical practitioner, and must be passed even by those who are already graduates of German universities. It takes place every year in November, and can be held by a Medical Board of Examiners at any German university. The application of a candidate for admission to the examination must be accompanied by certificates of admission to the university from a German public school, and of at least nine half-yearly terms of medical study at a German university. The Government reserves to itself the right to exempt from this examination men of medical distinction under certain conditions, but the latter have no application to foreign medical men. Very occasionally also certificates of study at other than German universities and medical schools are accepted in lieu of some of the courses imposed on candidates.

Greece.—A State examination must be passed, but graduates of foreign schools may take their examination in French or German, and if of a certain standing in their own country may be exempted altogether.

Holland.—Foreigners are required to pass the State examination, but registered English medical men are entitled to exemption from part of it.

Hungary.—An English diploma does not entitle its owner to practise, but recognition of British qualifications may sometimes be obtained.

Italy.—This country, which has always been disposed to make things easy for foreign practitioners, now accords to those whose names are on the *Register* kept by the General Medical Council the right of admission to the Italian Register.

Monaco.—In virtue of the reciprocity in the matter of recognition of medical degrees and diplomas now existing between Italy and Monaco, the following British qualifications are, for the purposes of medical practice in the Principality of Monaco, considered equivalent to the French Diploma of Medicine: The degree of Doctor of Medicine of the University of "the United Kingdom of Great Britain," and the diplomas of Fellows of the Royal Colleges of Surgeons and Physicians of London, Edinburgh, Dublin, and of the Faculty of Physicians and Surgeons of Glasgow. Every application for leave to practise must be accompanied by the diplomas of t applicant or by copies of those documents certified correct either by a Consul of the Principality or by t Mayor of Monaco. The applicants must enter into undertaking to live in the Principality and to pract their profession during the whole or part of the mont of May, June, July, August, September, and Octob agreeably to Article 1 of the Ordinance of May 29th, 189

Portugal.—The State examination must be passed.

Norway.—The State examination must be passed. T Government may, however, grant permission in individ cases to persons who produce satisfactory evidence th they possess the requisite knowledge.

Roumania.—The State examination must be pass (viva voce).

Russia.—Foreign medical men must pass a comp hensive examination at the Medical Academy of St. Pete burg or one of the universities of Russia, and must kn Russian. Those who have not a B.A. degree must pass examination in general education, and in Greek and Lati

Servia.—No permission to practise can be obtain by any one other than a Servian subject, irrespective examinations.

South America.—All the foreign States in the Sou American continent require a medical man who seeks p mission to practise to pass an examination conducted Spanish, irrespective of any degrees or diplomas which may hold.

Spain.—The regulations in this country have varie good deal, the present position being that foreign medi men must qualify in the same way as Spaniards, or, at events, must pass an examination before the medi faculty of a Spanish college and be recommended by it f the grant of a permission to practise. Temporary p mission to practise seems, however, often to be accorded.

Sweden.—The State examination must be passed. So reduction in the length of the curriculum may be grante

Switzerland.—A qualified English practitioner desiri to practise in Switzerland, even if he practise only amo his own countrymen, is required to pass the Fede examination in that country. The degree of Doctor Medicine does not give the right to practise. The Feder examination may be passed at Basle, Zürich, or Berne German, and at Geneva or Lausanne in French. T applicant is advised to obtain from one of his teachers some persons of recognized scientific eminence in t country an introduction to a professor at the university which he proposes to pass the examination. It wo also be well for him to call upon the Rector of t University.

The United States.—Each of the States has its o laws and regulations; some of them will admit any m to the *Register* who holds a diploma or degree wherev obtained; the majority require the candidate for regist tion to submit to an examination. Attempts to bring abo reciprocity between the States have long been in progre Changes are frequent, and any one proposing to practi in America should address special inquiries to the Medi Board of the State in which he desires to settle information as to the regulations in force.

Turkey.—A viva voce examination in the chief branch of medicine and surgery must be passed at Constantino (fee, about £20). Before being admitted to the examinati the candidate must present a diploma from a medi school recognized by the Government of the country which it is situated.

[1] *The Digest of Laws in the British Empire and Foreign Countries*, published by the General Medical Council (to be obtained through any bookseller, price 1s.), may also be consulted.

Dental Surgery.

ACCORDING to the regulations of the General Medi Council candidates for registrable qualifications in Den Surgery must produce certificates of having been engag during four years in professional studies, and of havi received two years' instruction in Mechanical Dentist from a registered practitioner, or at some dental hospi where instruction is given in this subject. One year's bo fide apprenticeship with a registered dental practitioner, one year's instruction at a dental hospital, after being reg tered as a dental student, may be counted one of the f years of professional study. The two years of instruct in Mechanical Dentistry, or any part of them, may

ken by the medical student, either before or after his gistration as a student; but no year of such mechanical struction will be counted as one of the four years of pro- ssional study unless taken after registration. As regards eliminary examination and registration, dental students e subject to the same regulations as medical students, t professional study may commence by pupilage with registered dental practitioner. Dental surgery, it may be ted, is one of the two branches of surgery in which a chelor in Surgery of the University of London may now oceed to the Mastership.

As regards registrable qualifications, candidates can obtain her diplomas or degrees at the hands of a large number bodies, some account of which follows, while they have even larger choice in the matter of places of technical ucation. The following is a list of some of them:

In London:
(1) The Royal Dental Hospital of London, Leicester Square.
(2) The National Dental Hospital and College, Great Portland Street, W.
(3) The Dental School of Guy's Hospital.
(4) The Dental School of the London Hospital.

In the Provinces, at schools connected with:
(1) The University of Sheffield.
(2) The Victoria University of Manchester.
(3) The University of Liverpool.
(4) The University of Leeds.
(5) The Devon and Exeter Dental Hospital.
(6) The University of Bristol.

In Scotland at:
(1) The Incorporated Edinburgh Dental Hospital and School.
(2) St. Mungo's College, Glasgow.
(3) Anderson's College, Glasgow.

In Ireland at:
(1) The Dental Hospital of Dublin.
(2) Trinity College, Dublin.

DIPLOMAS AND DEGREES.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

is body grants a diploma to candidates who pass three cessive examinations, to which they are admitted on duction of the following certificates:

efore the First Examination.—Of having received instruction an institution recognized for the purpose in Chemistry, ysics, and Practical Chemistry.

efore the Second.—Of having been engaged during a period not less than two years in acquiring a practical familiarity h the details of Mechanical Dentistry.
f registration as a dental student.
f having attended at a recognized dental hospital and school a course of lectures on Dental Metallurgy; (*b*) a course of ctical Dental Metallurgy; (*c*) a course of lectures on ntal Mechanics; (*d*) a course of Practical Dental Mechanics, luding the manufacture aad adjustment of six dentures and crowns.

efore the Third.—Of having been engaged during four years he acquirement of professional knowledge subsequent to the e of registration as a dental student.
f having attended at a recognized dental hospital and school a course of Dental Anatomy and Physiology; (*b*) a separate rse of Dental Histology, including the preparation of Micro- pical Sections; (*c*) a course of Dental Surgery; (*d*) a separate rse of Practical Dental Surgery; (*e*) a course of not less than lectures on the Surgery of the Mouth; (*f*) a course of tal Bacteriology; (*g*) a course of Dental Materia Medica; a course of instruction in the Administration of such aesthetics as are in common use in Dental Surgery.
f having attended at a recognized dental hospital, or in the ital department of a recognized general hospital, the practice Dental Surgery during two years.
f having attended at a recognized medical school (*a*) a course ectures on Anatomy, (*b*) a course of lectures on Physiology, a separate Practical Course of Physiology, (*d*) a course of ures on Surgery, (*e*) a course of lectures on Medicine; and (*e*) must be attended after the completion of courses (*a*) (*b*).
f having performed dissection at a recognized medical ool during not less than twelve months.
f having attended at a recognized hospital or hospitals the se of Surgery and Clinical Lectures on Surgery for twelve ns during the ordinary sessions.
f being 21 years of age.

The first examination is identical with Parts I and II of First Examination of the Conjoint Board for medical students, and exemption from it may be obtained under corresponding circumstances.

The second examination deals with (Part I) Mechanical Dentistry and (Part II) Dental Metallurgy. Candidates who have passed the previous examination may present themselves for the two parts separately or for the whole examination at one time on production of the certificates already specified. A great deal of practical work is included in this examination.

The third examination covers (1) General Anatomy and Physiology, General Pathology and Surgery; (2) Dental Anatomy and Physiology, Dental Pathology and Surgery, and Practical Dental Surgery. This examination is partly written, partly practical, and partly oral, and in Section II candidates may be examined practically:

(*a*) On the treatment of Dental Caries, and may be required to prepare and fill cavities with gold or plastic filling or material, or to do any other operation in Dental Surgery.
(*b*) On the Mechanical and Surgical Treatment of the various irregularities of Children's Teeth.

Candidates who have passed the Second Examination at least six months previously may present themselves for the two parts separately, or they may take the whole examination at one time. But they may not proceed to Part II until they have passed Part I.

Candidates who have passed the Second Examination of the Examining Board in England, or produce evidence of having passed the examination in anatomy and physiology required for a degree or other qualification in medicine or surgery registrable under the Medical Act of 1886 are exempted from re-examination in those subjects in Section I.

Candidates who are members of the College, or who have passed the examination in surgery of the Examining Board in England, or who produce evidence of having passed the examination in surgery for a degree or other qualification in medicine or surgery registrable under the Medical Act of 1886, are exempted from examination in surgery and pathology in Section I.

The holders of certain degrees or Licences in Dental Surgery recognized by the College are admitted to the second and third examinations together, without passing the Preliminary Science Examination, provided they produce evidence (*a*) of having passed a satisfactory Preliminary Examination in general education, (*b*) of having completed the curriculum of professional study required by the Regulations, (*c*) of having passed the required Professional Examinations for their Degree or Licence in Dental Surgery. The following are the Degrees and Licence at present thus recognized: D.D.S. University of Harvard, D.D.S. University of Pennsylvania, D.D.S. University of Michigan, Licence of the Dental Board of Victoria. Special regulations apply to holders of registered diplomas in the Colonies.

Fees.—The fee for the diploma in Dental Surgery is 20 guineas, payable in certain instalments.

Further information may be obtained from the Secretary of the Examining Board in England, Examination Hall, Victoria Embankment, London, W.C.

UNIVERSITY OF BIRMINGHAM.

Degrees in Dentistry—namely, Bachelor and Master of Dental Surgery (B.D.S. and M.D.S.) and a diploma in Dental Surgery (L.D.S.)—are granted by the University of Birmingham. All candidates for degrees must pass the same Matriculation Examination as that required from candidates for medical degrees. The Degree of Bachelor of Dental Surgery is not conferred upon any candidate who has not obtained the Licence in Dental Surgery of the university or from some body legally entitled to confer such qualification. The candidate is not eligible for the degree until a period of twelve months has elapsed from the passing of his examination for the Licence in Dental Surgery. Of this period at least six months must be spent in the dental department of a general hospital approved by the university. In addition to the Licence in Dental Surgery, the candidate must produce evidence—

1. That he has attended the courses required by medical students of the university in the following subjects, and

passed the examinations held in the same for medical and surgical degrees: (*a*) Chemistry and Practical Chemistry, (*b*) Physics and Practical Physics, (*c*) Elementary Biology, (*d*) Anatomy and Practical Anatomy, (*e*) Physiology and Practical Physiology.

2. That he has attended the following courses: (*f*) One special course of Lectures on Medicine, (*g*) One special course of Lectures on Surgery, (*h*) Pathology and Bacteriology; and has passed the class examinations held in each of these subjects.

3. That he has attended courses in: (*k*) Dental Histology and Patho-histology; (*l*) Comparative Dental Anatomy; (*m*) Dental Surgery and Prosthetic Dentistry.

4. That he has received instruction in the Clinical Examination of living cases at the dental department of a general hospital for a period of not less than six months.

The Final Examination will deal with the subjects in Classes 3 and 4. On the expiration of twelve months from the date of passing the examination for the degree of Bachelor of Dental Surgery, the candidate will be eligible for that of Master of Dental Surgery. For this degree he will be required to submit a thesis containing original work and investigations in some subject connected with Dentistry, which thesis shall be submitted to examiners to be nominated by the Advisory Board. The degree will be awarded or withheld according to the report of these examiners.

The regulations concerning candidates for the diploma are comparable to those of other licence-granting bodies, such as the Royal College of Surgeons of England, but examination in the subjects of the curriculum is divided into four sections.

University of Leeds.

The degrees of Bachelor of Dental Surgery (B.Ch.D.) and Master of Dental Surgery (M.Ch.D.) are granted by this university, and also a diploma. Candidates for the degree of Bachelor of Dental Surgery must have passed the Matriculation Examination or its equivalent, and have pursued thereafter approved courses of study for not less than five academic years, two of such years at least having been passed in the university subsequently to the date of passing Parts I and II of the First Examination, and such period of pupilage or hospital attendance, or both, as may be prescribed by the regulations of the university. No candidate is admitted to the degree who has not attained the age of 21 years on the day of graduation. Three examinations—First, Second, and Final—must be passed. The First Examination, which is held twice a year, covers (1) Physics, Chemistry; (2) Biology; (3) Dental Mechanics and Dental Metallurgy. Candidates are allowed to take each part separately.

Candidates who have passed the Intermediate Examination for the degree of Bachelor of Science, and have in that examination satisfied the Examiners in Chemistry, in Physics, or in Biology, are, on payment of the difference between the fees required for the two examinations, regarded as having satisfied the requirements of Parts I and II of the First Examination for the degree of Bachelor of Dental Surgery in those subjects in which they have passed. The subjects of the Second Examination, which is held twice a year, are: Anatomy, Physiology, Dental Anatomy and Physiology, Dental Materia Medica. The subjects of the Final Examination, which is held twice a year, are: Dental Surgery, Dental Pathology and Bacteriology, Operative Dental Surgery, Medicine and Surgery. Candidates are required, before presenting themselves for the Final Examination, to have passed the First Examination not less than two years previously, to have passed the Second Examination not less than six months previously, and to have attended courses of instruction in accordance with the regulations of the university.

Candidates for the diploma must have attended courses of instruction approved by the university extending over not less than four years, and have completed a pupilage of three years. They have to pass three examinations, besides one in general education. The first deals with Chemistry and Physics. For the next they cannot present themselves until the third year of their pupilage; it deals with Dental Metallurgy and Dental Mechanics. The Final Examination consists of two parts—Part I: Anatomy, Physiology, Dental Anatomy and Physiology. Part II: Surgery, Dental Surgery, Pathology and Bacteriology, Operative Dental Surgery (Practical), Dental Materia Medica, and Therapeutics. Candidates must pass in Part I before being examined in Part II, and may pass the two parts separately. Part I cannot be taken until at least a year since the passage of the previous examination.

Before admission to any of the examinations the candidate must be duly signed up in all its subjects. The certificates presented before admission to the second part of the final examination must include one showing that the candidate has received practical instruction in the administration of anaesthetics.

Fees.—The composition fee for the requisite courses for the B.Ch.D. is £65; and for the L.D.S., £60. A prospectus containing full information may be obtained on application to the Academic Sub-Dean of the Faculty of Medicine.

Victoria University of Manchester.

The degrees of Bachelor of Dental Surgery (B.D.S.) and Master of Dental Surgery (M.D.S.) are granted by this university, and also a diploma. Candidates for the degree are required to pass the Matriculation Examination as for the Faculty of Medicine, and pass four examinations.

First Examination for the B.D.S.—Before admission candidates must produce evidence that they have attended at least one year's course in each of the subjects of the examinations: (*a*) Chemistry, Inorganic; (*b*) Physics; (*c*) Zoology; (*d*) Elementary Organic Chemistry and Biological Chemistry. They may be passed separately.

Second Examination.—Candidates for this must show that they have attended the Prosthetic Laboratory Work of an approved Dental Hospital for at least two years and attended courses in each of the subjects of the examinations, which are: (*a*) Dental Mechanics; (*b*) Dental Metallurgy.

Third Examination.—Candidates before admission must have duly attended in each of its subjects: (*a*) Anatomy; (*b*) Physiology and Histology; (*c*) Dental Anatomy (Human and Comparative), and Dental Histology.

Final Examination.—This comprises: (*a*) Surgery; (*b*) Pathology; (*c*) Dental Surgery and Pathology, and Dental Materia Medica; (*d*) Dental Prosthetics; (*e*) Orthodontia; (*f*) Operative Dentistry; and admission to it depends on the candidate having made the required number of attendances at the classes and practical work.

To proceed to the higher degree of Master of Dental Surgery the candidate must be of not less than one year's standing as a Bachelor, and either present an approved thesis or pass an examination in some group of dental subjects.

The courses and examination for the diploma are of the same general nature and arranged in much the same fashion, but for the two years' Prosthetic Laboratory work apprenticeship to a regular dentist may be substituted, while for the final examination Orthodontia and Dental Pathology and Materia Medica are omitted. The authorities permit those who before October 1st, 1905, obtained a registered dental qualification either after study at Owens College, Manchester, or the university, or at a recognized dental hospital, to proceed to the B.D.S. without passing the two first examinations.

University of Liverpool.

This university grants a diploma in Dental Surgery and two degrees in the same subject (B.D.S. and M.D.S.), the management of the curriculum being in the hands of the Board of Dental Studies. The new Dental Hospital (opened in March, 1910) is in close proximity to the university, and is completely equipped for clinical instruction. Application for further information should be made to the Secretary of the Board at the university.

University of Durham.

This university grants a diploma in Dental Surgery. The regulations as to the curriculum to be followed by candidates are in keeping with those of other dental licensing bodies, but examinations in the subjects of study which include Dental Bacteriology and Anaesthetics, are broken up into four. Before the date of the final examination the candidate must have undergone three years' pupilage in mechanical dentistry with a registered dentist.

University of Bristol.

This university grants two degrees (B.D.S. and M.D.S.) and a diploma (L.D.S.) in Dental Surgery, and has also

de comprehensive arrangements for the dental education candidates. The course for the degree lasts five years; t for the diploma one year less. In either case the ndidates must be registered dental students, but those the diploma need not matriculate. Ths fees for the D.S. curriculum amount to 190 guineas, and to 168 ineas for the diploma curriculum.

ROYAL COLLEGE OF SURGEONS IN EDINBURGH.

This body grants a diploma in Dental Surgery, and poses on candidates two examinations. The only special int about the regulations is that before admision to the ond examination a candidate must afford proof that he s undergone instruction in Mechanical Dentistry, either a registered dental student or otherwise, for not less an three years. The fees for examination and diploma ount altogether to 15 guineas.

NATIONAL UNIVERSITY OF IRELAND.

The scheme of work of this new university includes the anting of two degrees in Dental Surgery. For the lower gree—the Bachelorship—four examinations will have to passed, and, in addition to other requirements, the can- late must have been apprenticed to a registered dentist a period of not less than two years. Candidates for the astership must have held the lower degree for at least ree years.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

This body grants a diploma in dental surgery, for which ndidates have to pass two examinations. At the first amination the subjects are: (A) Physics and Chemistry, cluding Practical Chemistry and Metallurgy; (B) General natomy, Physiology and Histology, and Dental Anatomy, ysiology and Histology. The two groups may be taken gether or separately. At the second, or final examina- n, the subjects are General Pathology, Medicine, and rgery, Dental Surgery and Dental Pathology, with the ateria Medica and Therapeutics applicable to Dental rgery, Dental Mechanics and Metallurgy, and Ortho- ntia. The candidate must pass in all subjects on one asion. Candidates who have within the previous three nths been rejected by any licensing body in the subjects the examination for which they are presenting them- ves are not admitted thereto.

From certain subjects of each of the examinations ndidates are exempted who have previously passed in se subjects examinations held by various bodies recog- ed for this purpose. Those fully qualified in general gery may also have remission made in the time for ich they must devote themselves to technical studies.

The total sum payable for examinations and diplomas £21.

PENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

E arrangements in view for the opening of the Winter ssion at a large number of the medical schools will be nd in the following paragraphs. At several schools the angements have not yet been completed, and informa- n respecting them will be furnished at a later date:

London.

ST. BARTHOLOMEW'S HOSPITAL.—The opening of the winter m is fixed for Monday, October 2nd. There will be no mal ceremony, other than the old students' annual dinner. is is to take place on the evening of the day mentioned, d, in accordance with custom, will be held in the Great ll of the hospital, at 6.30 p.m. for 7 p.m. The chair will taken by Mr. W. H. H. Jessop, Senior Ophthalmic rgeon to the hospital. The Honorary Secretary is once re Mr. H. J. Waring, from whom tickets can be obtained application at 37, Wimpole Street. Payment can also made at the door.

CHARING CROSS HOSPITAL.—The winter session com- nces on Monday, October 2nd, the occasion being rked by a distribution of prizes in the out-patient hall the hospital. In the evening a dinner of past and sent students will be held.

ST. GEORGE'S HOSPITAL.—The winter's work will be ugurated in the large lecture theatre of the medical hool at 3 p.m., on Monday, October 2nd, the ceremony nsisting of a distribution of prizes and the delivery of an inaugural address by Dr. Henry Miers, F.R.S., Principal of the University of London. He has chosen "Lucidity" as the subject of his remarks. The old students' annual dinner will be held the same evening at Princes Restaurant at 6.30 p.m. for 7 p.m., the chair being taken by Sir Isambard Owen, now Vice-Chancellor of the University of Bristol, but also Consulting Physician to the Hospital.

GUY'S HOSPITAL.—Work for the winter session will commence on Monday, October 2nd, the occasion being marked by the holding of a dinner and conversazione, both under the auspices of the Pupils' Physical Society. The dinner will take place at 7.15 p.m. in the College dining room, and tickets of admission, price 3s. 6d., may be obtained from the honorary secretaries of the Physical Society. The subsequent conversazione, which all past and present Guy's men are cordially invited to attend, is timed for 8.15 p.m.

KING'S COLLEGE HOSPITAL.—Work in the medical school will not commence until Thursday, October 5th, and the opening of the session will be unaccompanied by any ceremony other than the holding of the old students' dinner. This is to take place on Monday, October 2nd, at the Waldorf Hotel, Aldwych, at 6.30 p.m. for 7 p.m., under the chairmanship of Dr. Arthur Nicholson, of Brighton. Tickets and other information can be obtained from the honorary secretary of the Dinner Committee, Dr. H. J. M. Playfair, 7, Upper Brook Street, W.

THE LONDON HOSPITAL.—Work for the winter session will formally commence on Tuesday, October 3rd, when the staff will hold its usual reception of old students in the College Library at 3 p.m. An hour later the first of the two Schorstein Memorial Lectures will be delivered by Dr. James Mackenzie, Lecturer on Cardiac Research to the College. The old students' dinner will be held the same evening at the Hotel Cecil at 7.30 p.m., the chair being occupied by Mr. W. Douro Hoare, Chairman of the College Board.

ST. MARY'S HOSPITAL.—The winter session will commence on Monday, October 2nd, the occasion being marked by a prize-giving ceremony. This will be held in the library at 3 p.m., the various awards being distributed by the Right Hon. Lord Justice Fletcher Moulton. The annual dinner of past and present students will take place the following day, Tuesday, October 3rd, in the Grand Hall of the Princes Restaurant, at 7 p.m. The chair will be taken by Mr. Arthur Trehern Norton, C.B., Consulting Surgeon to the Hospital.

MIDDLESEX HOSPITAL.—Work in the medical school is to be formally inaugurated on Monday, October 2nd, at 3 p.m., by a ceremony which includes an introductory address by Dr. Comyns Berkeley, and a distribution of prizes awarded during the previous two sessions. This task has been undertaken by Commendatore Marconi, of wireless telegraphy fame. The annual dinner of past and present students and their friends will take place the same evening at 7 p.m., Dr. F. J. Wethered, Physician to Out-patients, being in the chair.

THE LONDON SCHOOL OF MEDICINE FOR WOMEN.—The commencement of the winter session will be marked, as usual, by a tea party and the delivery of an address on October 2nd. The latter task has been undertaken by Sir Henry Butlin, President of the Royal College of Surgeons of England, while Mrs. E. Garrett Anderson, M.D., will preside. The hour is fixed at 4 p.m.

ST. THOMAS'S HOSPITAL.—This year the opening of the winter session is to be marked by a prize-giving ceremony. This is to take place on Tuesday, October 3rd, but by whom the various awards shall be handed to their winners has not yet been settled. The annual dinner of old students will take place the same evening at the Hotel Cecil, the chair being taken by Mr. G. H. Makins, C.B., Surgeon to the Hospital.

UNIVERSITY COLLEGE HOSPITAL.—The winter session will be opened on Monday, October 2nd, at 3.30 p.m., Sir John Rose Bradford, F.R.S., presiding at the inaugural ceremony. This will include a perusal of the dean's report on the progress of the school during the previous year, a distribution of medals and prizes, and the delivery of an introductory address. Both the latter duties have been undertaken by Sir William Ramsay. The annual dinner of past and present students will be held the same evening at the Imperial Restaurant, Regent Street, W., at 7 for 7.30 p.m., Sir William H. Allchin being in the chair.

WESTMINSTER HOSPITAL.—As in recent years, work for the winter session will commence without formal prelude, the day chosen being Monday, October 2nd. The annual dinner of past and present students will be held three days later—namely, on Thursday, October 5th—at the Waldorf Hotel, Aldwych, the chair being taken by Dr. de Havilland Hall, Senior Physician to the Hospital. Tickets and other information can be obtained from the Honorary Secretary of the Dinner Committee, Dr. Dudley W. Carmalt-Jones, 78, Wimpole Street.

Scotland, Ireland, and the Provinces.

UNIVERSITY OF EDINBURGH.—The winter session in the Medical Faculty will open on Tuesday, October 10th.

SCHOOL OF MEDICINE OF THE ROYAL COLLEGES, EDINBURGH.—The rooms for Practical Anatomy will be opened on Tuesday, October 3rd, but the delivery of lectures will not commence until a week later, namely, Tuesday, October 10th.

UNIVERSITY OF GLASGOW.—The Medical Faculty will commence its work on Monday, October 16th, the occasion not being marked by any formal ceremony. The same date has been chosen by all medical schools in Glasgow.

THE UNIVERSITY OF ABERDEEN.—Work for the winter session commences in the Medical Faculty on Thursday, October 12th, without any formal ceremony.

UNIVERSITY OF ST. ANDREWS.—Wednesday, October 11th, is the date fixed for the opening of work in the Medical Faculty in regard both to the United College at St. Andrews itself and at University College, Dundee.

THE SCHOOLS OF SURGERY, DUBLIN.—Work for the winter session will commence on Monday, October 16th.

QUEEN'S UNIVERSITY, BELFAST.—Work for the winter session will commence in the Medical Faculty on Tuesday, October 3rd.

UNIVERSITY COLLEGE, BANGOR.—The classes held for the benefit of medical and other students in the physical, chemical and biological departments of this college will all commence on Tuesday, October 3rd, without formal ceremony.

UNIVERSITY OF BIRMINGHAM.—The winter session will commence on Monday, October 2nd, being inaugurated by the holding of a conversazione. This will take place the same evening, the guests being received by the Dean of the school, Professor Gilbert Barling, the Sub-Dean, Professor Peter Thompson, Professor Robert Saundby, President of the British Medical Association, and Professor Jordan Lloyd and Mr. John Humphreys, M.D.S. All local practitioners and all students, both of the medical and dental schools, and their parents, are invited. The students' annual dinner does not take place until December.

UNIVERSITY OF LIVERPOOL.—The opening of the winter's work in the Faculty of Medicine will take place on Tuesday, October 3rd, the occasion being marked by the delivery of an address at 4 p.m. by Sir Charles Ball, Regius Professor of Surgery at the University of Dublin. A dinner of the faculty will be held the same evening.

UNIVERSITY OF DURHAM.—Work for the winter session will commence in all departments of the Faculty of Medicine on Monday, October 2nd.

UNIVERSITY OF MANCHESTER.—The opening of the winter session in the Faculty of Medicine has been fixed for Monday, October 2nd.

UNIVERSITY OF LEEDS.—The winter term, both in the School of Medicine and the School of Dentistry, is to commence on Monday, October 2nd.

UNIVERSITY OF BRISTOL.—Work for the winter session in the Faculties of Medicine, Science, and Arts will commence on Monday, October 2nd.

Current Post-graduate Courses.

A general account of the opportunities afforded to post-graduate students in London and the provinces has already been given (see page 570), but in connexion with the opening of the winter session it may be well to add that at a considerable number of medical schools, both in London and the provinces, special courses for post-graduate students have either just commenced or will commence within the next few days. We give below information respecting those to which our attention has been drawn.

Edinburgh.—A very successful post-graduate course held in connexion with the University and the Royal Colleges, concluded in August, and a second course has now commenced, and will last until September 30th. It includes: (1) A general course (divisible, if desired, into two independent fortnights), covering medical and surgical clinics, medical applied anatomy, fevers, neurology, dermatology, morbid anatomy, *x*-ray work, and various other subjects; and (2) a special surgical course relating to surgical applied anatomy, surgical pathology, operative surgery, and other kindred matters. Arrangements have been made for the accommodation of those attending these courses in one of the residences of the University Hall. Further particulars can be obtained from the Secretary, University New Buildings, Edinburgh.

Royal Infirmary, Glasgow.—The autumn course of post-graduate classes will cover this year some twenty subjects including clinical medicine and surgery, haematology, surgical diseases of the urinary organs, clinical examinations of the urine, clinical gynaecology, diseases of the throat, nose, and oesophagus; diseases of the ear, of the eye, and of the skin, and of the throat and nose; asthma and related nasal and pulmonary conditions, venereal diseases, surgical diagnosis, electro-therapeutics, vaccine therapy and opsonic technique, immunity and anaesthetics. Several of these classes have already commenced work, but this does not seem to be the case with the majority, and full information as to all of them can be obtained on application to Dr. Thom, the Superintendent of the Infirmary.

North-East London Post-graduate College.—A special vacation course will commence on Monday, September 11th, and last until Friday, September 22nd. It will be a clinical course, including instruction in the medical, surgical, and special departments of the hospital and in recent clinical methods. There will also be demonstrations on selected cases and some lectures and clinical consultations. Further information can be obtained from the Dean.

St. Bartholomew's Hospital.—A vacation course for qualified practitioners commenced on September 4th, and will be continued until September 23rd. It includes attendance on the hospital practice and in the various special departments, as well as special medical and surgical ward clinics and special demonstrations on diseases of the blood, gastric methods, electrical and *x*-ray work, diseases of the eye, diseases of the ear, diseases of the throat and nose, diseases of children, orthopaedics, etc. A special course in practical bacteriology is also being held.

Royal College of Surgeons in Ireland.—The syllabus of the post-graduate classes for 1911 held in connexion with the Royal College of Surgeons in Ireland has been issued. The object of the course is to render available the whole of the clinical material in the city for the post-graduate student, and in consequence arrangements have been made to include the ten general hospitals and several spinal hospitals in the course. Lectures and demonstrations will also be given in the buildings of the college. The course begins on September 18th and terminates on October 10th.

Trinity College, Dublin.—The autumn session for this year will begin on September 25th, and terminates on October 14th. The course, which is specially adapted to aid men in general practice, will be conducted on similar lines to those which have proved successful during the past six years. In addition to instruction of a thoroughly practical nature in medicine, surgery, and gynaecology, special attention is given to diseases of the skin, eye, ear, throat and nose. The Professors of Anatomy, Pathology, and Physiology, in mapping out their courses, have had before their minds the requirements of the general practitioner. The classes are so arranged that there is no overlapping, consequently it is possible for a keen man to have each day except Saturday fully occupied from 9 a.m. to 5.30 p.m. The social side has not been overlooked, and members of the class who so desire can have the privilege of residing in college rooms and dining in the college hall for a very moderate sum. Further particulars will be found in our advertising columns, or a syllabus can be obtained from the Honorary Secretary.

Medical News.

THE King has been pleased to give directions for the appointment of Robert M. Forde (Principal Medical Officer) to be an Official Member of the Legislative Council of the Colony of Sierra Leone.

THE Third Congress of the International Surgical Society will be held at Brussels this year at the end of September. The members will be received on Monday evening, September 25th, by Dr. Lorthioir, President of the Belgian Surgical Society. The Congress and the exhibition of fractures and surgical appliances will be opened at 9.30 on Tuesday morning, September 26th, and immediately afterwards a discussion on pancreatitis will be opened by M. Michel. The afternoon session will be devoted to the discussion of the treatment of that disease, opened by MM. Körte and Giordano. In the evening the President of the International Society (Professor Lucas-Championnière) will hold a reception. Wednesday will be devoted to the surgery of the thorax, the introductory addresses being given by MM. Garrè, Gaudier, Girard, Lenormand, and Ferguson. Thursday morning will be given up to demonstrations of fractures, and the afternoon to the discussion of pulmonary abscess and gangrene, and bronchiectasis, introduced by MM. Van Stockum and Sauerbruch. Subjects for discussion on Friday are the surgical treatment of pulmonary tuberculosis and acute and chronic colitis. There will be a banquet on Thursday evening, and a gala performance at the Theatre Royal on Friday evening.

THE Second Annual Conference of the British Hospitals Association will be held in Manchester on September 28th and 29th. The conference will assemble in the Lord Mayor's Parlour, Town Hall, Manchester, at 10 a.m. on September 28th, and the Lord Mayor will hold a reception that afternoon. The meeting on September 28th will be devoted to the consideration of the National Insurance Bill and its probable effects upon the voluntary hospitals. Among those who intend to take part in this discussion are Sir William Cobbett, Chairman of the Royal Infirmary, Manchester; Mr. Charles Lupton, Chairman of the General Infirmary, Leeds; Dr. D. J. Mackintosh, M.V.O., Superintendent, Western Infirmary, Glasgow; and Mr. Howard J. Collins, House Governor, General Hospital, Birmingham. On Friday, at 10 a.m., papers will be read on the representation of honorary medical staffs upon boards of management of voluntary hospitals, by Dr. E. S. Reynolds, Chairman of the Medical Board, Manchester Royal Infirmary, and on the methods of distribution of Hospital Saturday and Sunday Funds, by Mr. Charles Hopkinson, Member of the Board, Manchester Royal Infirmary. "Persons eligible as members of the association are those who at the time of their election are trustees, members of committees, or executive and professional heads of hospitals and kindred institutions, without reference to sex or title." Further particulars can be obtained from the honorary local secretary, Mr. W. G. Carnt, Royal Infirmary, Manchester.

Medico-Legal.

MEDICAL FEES FOR CERTIFYING LUNATICS FOR ASYLUM.

SMALL HAVEN writes as follows: A. is attending a case of mental trouble, and calls B. in consultation. Later A. learns that the patient has been certified by B. When B. is asked for an explanation by A., B. says he certified in his official capacity as parish doctor, and offers A. the fee, which A. refuses. Was B. acting within his rights professionally? Was A. right in refusing the fee?

*** A medical practitioner who happens to be a Poor Law medical officer does not, whenever called on to certify a patient for an asylum, act officially, and the fact that he holds the appointment mentioned has, therefore, no bearing on the matter. It is for the magistrate acting in the case, before he signs the order for the patient's removal to asylum, to call to his assistance a medical practitioner, whose selection rests with him, to sign the requisite medical certificate. We assume that B. was selected by the magistrate for this duty. As, however, B. had been previously introduced to the case in question by A., it would have been gracious if B. had communicated with A. before certifying, or, perhaps, better still, if he had suggested to the magistrate that as A. had the previous charge of the case he (A.) had the stronger claim to be allowed to deal with it throughout. Of course B. may have done all this, and the magistrate may not have consented to act on B.'s suggestion; so if B. offered the fee he had received to A., we fail to see that A. has any serious cause for complaint. As to whether A. was right in declining to accept the fee offered by B., the former must be the best judge. The division of the fee does not appear to have been considered by either party.

Public Health AND POOR LAW MEDICAL SERVICES.

PUBLIC HEALTH (SCOTLAND) ACT, 1911.

A SHORT Act has just been placed on the Statute Book to extend the powers of the Public Health (Scotland) Act, 1897. This Act empowered local authorities to carry sewers within their district, the amending Act gives this power to any body of trustees or commissioners authorized to supply water by any local Act, within the limits of water supply under such Act, in the same way and subject to the like restrictions in relation to water mains as they may be exercised in relation to sewers under the 1897 Act. The new Act may be cited as the Public Health (Scotland) Act (1897) Amendment Act, 1911, and is to be read as one with the Public Health (Scotland) Act, 1897.

PUBLIC HEALTH (IRELAND) ACT, 1911.

THE Act to further amend the Public Health Acts relating to Ireland, which received Royal Assent on August 8th, provides that "Any urban district council in Ireland may, in addition to any existing powers, make by-laws providing for the inspection of all meat intended to be sold within the urban district for human consumption, and prohibiting the sale of meat within the urban district for human consumption, except after inspection in accordance with the by-laws."

The Act further directs that the provisions of Sections 219 to 223 of the Public Health (Ireland) Act, 1878, shall apply to by-laws made under the new Act, which is to be construed with the Acts of 1878 to 1907.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Liverpool County Borough.—Dr. Hope has delayed the issue of his report in order that the latest statistics might be based upon the population as revealed by the latest census. Calculated on a population at the middle of 1910 of 743,295 persons, the birth-rate was 31.0 per 1,000 and the death-rate from all causes 17.9 per 1,000. This is the lowest death-rate yet recorded in Liverpool, that in 1900 having been 23.1 per 1,000 and in 1890 it was as high as 27.5 per 1,000. The rate of infantile mortality in 1910 was 139 per 1,000 births. Liverpool is one of the few towns in which hospital accommodation, though only to a limited extent, has been provided for cases of measles. Dr. Hope states that the deaths from this disease do not show a decline comparable to that which has taken place in the case of those diseases for which hospital accommodation is usually available. In making arrangements for the hospital isolation of measles, difficulties of a special kind arise owing to the tender age of the patients and the peculiarities of the infection. It is startling to find that during 1910 no fewer than 292 children under 10 years of age died in Liverpool from burns or scalds. In a large proportion of cases the cause of death was found to be due to the children being left alone in a room with an unguarded fire. It is not at all satisfactory to find that the Children Act, 1908, has not been found effective in dealing with such cases, notwithstanding the fact that Section 15 of that Act constitutes it an offence for any person over the age of 16 years having the charge of a child under 7 years of age to be in a room containing a fire unprotected against the risk of burning, and by reason of which the child is injured or killed. In one of the Liverpool cases the mother had been given a fireguard by the Corporation, but she used it for a clothes-horse instead of and for its legitimate purpose. The administration of those sections of the Liverpool Corporation Act, 1900, which relate to the milk supply of the city, has very largely reduced the amount of tuberculous milk supplied to the inhabitants. In 1904 there were no fewer than seventy cows found in Liverpool cowsheds with tuberculous udders, while in 1910 only one such cow was discovered. Of the 604 cows examined in 1904 in cowsheds outside Liverpool nineteen were said to have tuberculous udders compared with four among the 871 cows examined in 1910. Dr. Hope points out that although the application of the Act involves a considerable amount of time and expense on the part of the Corporation and its officials, the result is that the city is protected to a great extent from the evils which follow an impure milk supply. Moreover, the local authorities of many surrounding districts have also become alive to the necessity of insisting upon better sanitation of farms and cowsheds, and the farmers themselves in many instances show a willingness to be advised as to the best methods to adopt to keep their cattle and cowsheds in the most healthy and sanitary condition, so that the benefits of the Act are by no means limited to the city of Liverpool.

POOR LAW SUPERANNUATION.

RETIRED POOR LAW MEDICAL OFFICER asks whether his superannuation allowance is calculated on the gross salary or on the net, or whether annual deductions paid towards superannuation are reckoned; also whether allowances for various medicines and drugs, and fees paid to him for lunacy can be calculated as emoluments of the office he held.

*** The gross salary paid is to be reckoned as the basis on which the amount of superannuation is to be calculated as well as all *fees* paid *as extras*, but this does *not* include fees paid for lunacy certificates for asylum, though it does include fees paid for quarterly visits to district lunatics. It is very questionable whether allowances paid for special medicines or drugs can be regarded as emoluments.

Universities and Colleges.

UNIVERSITY OF LONDON.

Examination for Entrance Scholarships.

IN addition to the scholarships previously announced, two Scholarships in Arts and Science and Two Scholarships in Anatomy and Physiology, tenable at Charing Cross Hospital Medical School, will be offered for competition at the September examination of the London Inter-Collegiate Scholarships Board. On the results of this examination, therefore, elections will be made to thirty-two Entrance Medical Scholarships, tenable at the following schools of the University of London: University College, King's College, Westminster Hospital, St. George's Hospital, Charing Cross Hospital, London School of Medicine for Women, University College Hospital, and King's College Hospital. Further information may be obtained from the Deans of the respective medical schools or from the Secretary of the Board, Alfred E. G. Attoe, University of London, University College, Gower Street, W.C.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

PAYMENT OF MEDICAL MEN CALLED IN TO ASSIST MIDWIVES.

S. asks whether a town council has power to pay to a medical practitioner in practice within its area a fee for attending a confinement at the written request of a certified midwife.

*** The Local Government Board, in its circular of June 29th, 1907, directed attention to Section 2 of the Poor Law Amendment Act, 1848, upon which it observed as follows:

> Moreover, the section alluded to empowers the guardians, "if they think proper, to pay for any medical or other assistance which shall be rendered to any poor person on the happening of any accident, bodily casualty, or sudden illness, although no order shall have been given for the same by them or any of their officers, or by the overseers," and the Board are advised that, under this enactment, it is competent to the guardians to pay the fee of any medical man called in on the advice of a midwife to attend upon a poor person in case of difficulty.
>
> The Board would suggest that medical men and certified midwives practising in the Poor Law Union should be informed that, in cases arising under Rule 18, the guardians will, on being satisfied that the woman is too poor to pay the medical fee, be prepared to exercise their powers under the section and to pay a reasonable remuneration to the medical man called in. Any such payment should be on a definite scale which should be suitable to the local circumstances and to the services rendered, and which should be duly notified to the local medical practitioners.
>
> It appears to the Board that the exercise by the boards of guardians in a careful but liberal spirit of their powers under the enactment quoted will furnish a satisfactory solution of the problem to which they have referred, and that no reasonable ground of complaint should remain either to the public or to the medical profession. Moreover, general action on the part of boards of guardians in the direction indicated would tend to the preservation of two most important principles which are in danger of being overlooked; first, the responsibility of the husband or natural guardian of the patient to provide for her necessities, and, secondly, the right of the guardians to determine who, by reason of poverty, is entitled to medical assistance at the expense of the rates.

The Liverpool and Manchester Corporations pay a fee for every case where emergency assistance has been rendered by a medical practitioner at the request of a midwife, and in which the fee could not be recovered either from the patient's friends or from the board of guardians. Where part-payment is made from these sources the corporation makes up the balance. The payment is made under Section 133 of the Public Health Act.

LETTERS, NOTES ETC.

POSTAL APPOINTMENTS.

QUAERO writes: I fear "N. S." is not alone in wondering how Post Office appointments are made. Not long ago I was invited to apply for the post in my own town; on a form which stated that the choice would be based on professional qualifications. After a long interval I was informed, on inquiry at the office, that the matter was still under consideration as between me and another man. There was nothing to choose between us, except that my "qualifications," by which I mean professional titles and degrees, were undoubtedly much the better. Some little time later the local postmaster, a friend of the other man, came round to make an "official" inquiry as to the length of time we respectively had been in the town. Here my opponent had the advantage of a few months, as I spent a year in other forms of practice before settling down, although I was the older resident. The appointment went to him. I have nothing against him, nor against his appointment. But I have often wondered why that form said anything about qualifications.

NATIONAL INSURANCE.

Administration of Medical Benefits.

ANXIOUS ENQUIRER writes: I think the attention of the profession, and incidentally of the public, should be called to what, in my opinion, will be some, at least, of the effects of the amendment to the National Insurance Bill, moved by Dr. Addison and carried. If I am right, the amendment in effect says that any insured person, instead of receiving medical benefit, may, with the consent of the local Health Committee, receive whatever sum is agreed upon for medical benefit, and make his own arrangements. It is almost certain that the Health Committees, in the industrial districts at any rate, will consent in every case. It appears to me that this destroys the compulsory character of the bill so far as medical attendance is concerned, and makes it merely permissive. One result, in my opinion, will be that the thriftless will draw the money, and spend it in beer and "bacca," and, when ill, will go as at present to the Poor Law; or else, again as at present, run up an account where they can, without the slightest intention or ability to pay. Mr. Cecil Harmsworth's amendment could not be prevented, so it is useless to discuss it.

*** We do not believe that our correspondent's apprehensions are well founded. The words in Clause 14, as amended (Subclause 3) are: The Health "Committee shall, subject to the regulations, contribute from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment (including medicine and appliances) for such persons sums not exceeding in the aggregate the amounts which the committee would otherwise have expended in providing medical benefit for them." If these words are not sufficiently clear there can be no reasonable doubt that the regulations will put the point beyond question. Otherwise, as our correspondent says, the compulsory character of the bill would be destroyed, or at least endangered, and compulsory insurance is its most essential feature.

Root and Branch.

DR. GRIFFITH C. WILKIN (Paignton) writes: However excellent the idea is, I doubt if ever a worse thought-out scheme was placed before the country. Who is going to say what the earnings of the so-called working man's family are? The father earns wages which are easily known, but the mother earns money, and the children! In the glorious country these earnings are considerable, and what about the mining districts? However much the medical sympathy must naturally lean to help the poor, whose thriftless struggles are so well known to all medical men, after all, our first duty is to our own wives and children, and common sense must tell us that the idea, however good socially, is, from a medical point of view, impossible. Is it worth further discussion? Should not medicine rather fairly, and at once, refuse to have anything to do with the scheme? This would not mean that the idea must be given up, but simply that the State must pay the doctors fairly instead of endeavouring to keep up the old sweating system that has surely gone on long enough.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

Remarks
ON
EXTERNAL POLYPOID TUMOURS OF THE STOMACH.

BY JAMES SHERREN, F.R.C.S.,
SURGEON TO THE LONDON HOSPITAL, ETC.

AMONG the rarer abdominal tumours requiring surgical intervention are the pedunculated growths springing from the stomach. Usually originating from its posterior surface near the greater curvature they grow into and often become intimately adherent to the lesser peritoneal sac. In a few instances they have sprung from the lesser curvature and grown between the layers of the gastro-hepatic omentum. Erlach[1] has reported an example of this, in which he successfully removed a large myoma from this situation. While the clinical features of the tumours are identical, microscopical examination shows several types.

These tumours are met with most often between the ages of 35 and 55, and are more common in women. I have been able to collect 18 cases in which the sex was mentioned; 13 were women. The characteristic feature of a case of this nature is the discovery of a tumour in the upper or mid abdomen in a patient whose chief or only complaint is abdominal discomfort. Occasionally the presence of an abdominal swelling is the only thing noticed. The tumours are smooth and rounded, often cystic and movable from side to side.

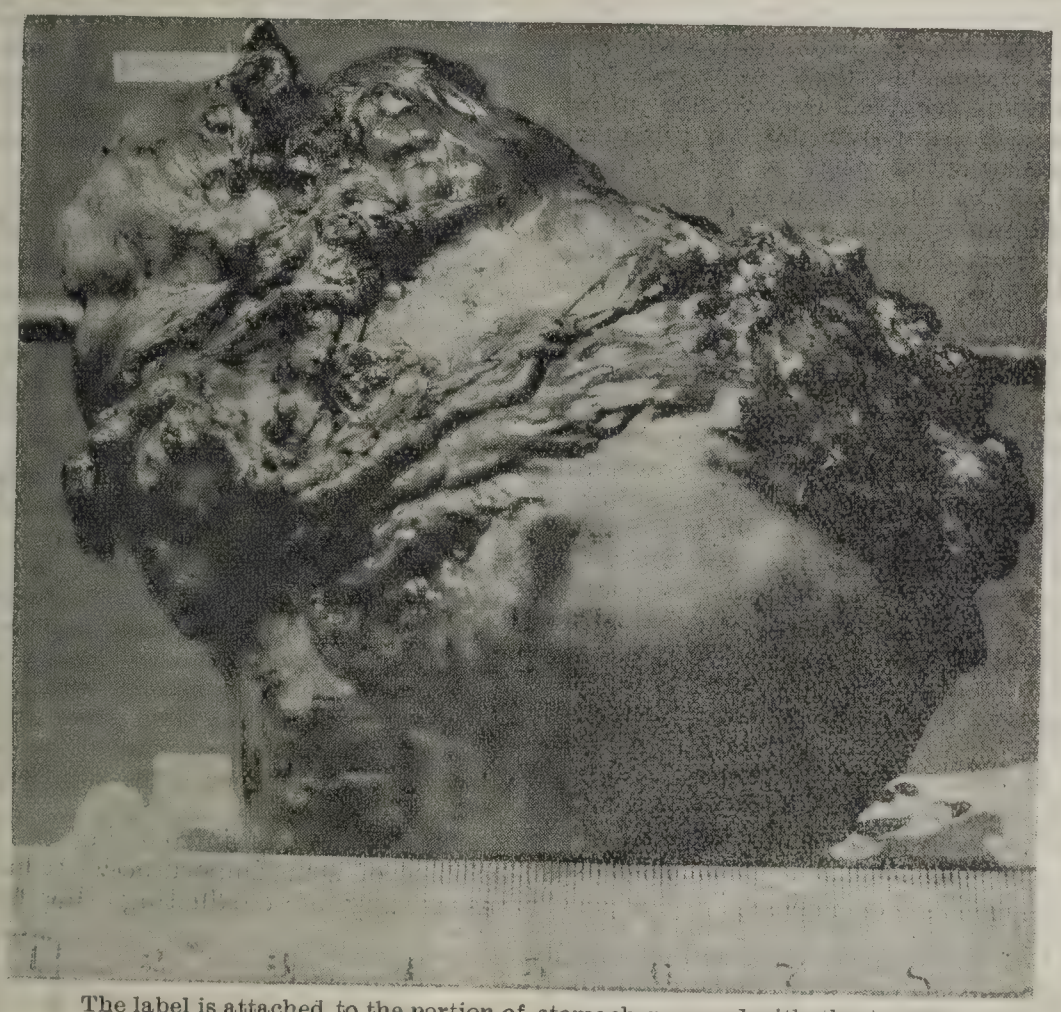

The label is attached to the portion of stomach removed with the tumour.

In a woman the diagnosis of an ovarian tumour is almost inevitable if the tumour is large and fills the mid and lower abdomen. Operations were undertaken with this diagnosis in several cases (Herman,[2] Cantwell,[3] Maylard,[4] v. Eiselsberg[5]).

The following case, in which the diagnosis was made before operation, illustrates some of these points:

J. M., a man of 57, was under my care at the London Hospital in February, 1911. He had suffered from "indigestion" for twenty years. This consisted of epigastric pain immediately after meals with much flatulence. He had always been constipated, and in addition had had two attacks of colicky abdominal pain at intervals of a year. He was a healthy-looking man. The appearance of his abdomen was such that had the condition occurred in a woman the diagnosis of an ovarian tumour would almost certainly have been made. Just below the umbilicus an irregular rounded mass was visible; it did not move on respiration, but was freely movable laterally. It gave the impression of a tense cyst. His liver was not enlarged, urine was normal, and examination of the gastric contents after a test meal revealed normal acidity.

At operation I found a large, rounded, nodular tumour covered by transverse colon and omentum. After separating adhesions I found it was springing from the posterior surface of the stomach close to the middle of the greater curvature by an attachment measuring about an inch (*vide* figure). This I clamped, and then removed the tumour and closed the opening in the stomach. After removal of the tumour I discovered several small nodules of growth in the liver on its under surface. He left hospital fourteen days later and I heard in May that a large mass had developed in the liver, and he had taken to his bed.

The tumour weighed 6½ lb. The large rounded mass was cystic, and contained altered blood. The smaller nodules were solid. Microscopic examination showed masses of elongated cells, apparently grouped around capillaries, such as is seen in endotheliomata. Myxomatous degeneration was present in many places. On examining a section of the stomach wall the growth was found to be continuous with its serous coat, but was not involving the muscular or mucous coats.

Tumours of this type have certain features in common; they are mesoblastic in origin, and usually form polypoid masses hanging from the greater curvature of the stomach into the lesser sac, to which they become adherent. Their exact nature is only discovered on microscopic examination. They are usually malignant, and may start in the submucous, muscular, or serous coats, but do not involve the mucous membrane. When originating in the first and last situations they are always malignant, but tumours described as myomata may grow from the muscular coat and present no sign of malignancy. In other cases with similar microscopic characters secondary deposits have been found—leiomyoma malignum. Thus in 14 recorded cases of operation for gastric myoma 4 were of this nature.

Although rarely met with, myomata are the most common benign tumours of the stomach. Deaver and Ashurst[6] have been able to collect over 40 cases of gastric myoma. Of these about half were external. Most of the tumours, however, have proved to be malignant, either myo- or fibro-sarcomata, a few endotheliomata. All are liable to myxomatous change, which may lead to cystic formation; this may also occur as the result of haemorrhage. The rarest type appears to be that to which the tumour in my case belongs, first described by von Bergmann[7] as endothelioma carcinomatosum and considered by him to have its origin in the omentum. Borrmann, in an excellent paper "Ueber Netz und Pseudo-Netz tumoren nebst Bemerkungen über die Myome des Magens," is of opinion that it belongs to this group, and from the account which he quotes it is highly probable. Nichols[8] and later Maylard[9] have described similar cases. Salaman,[10] writing of sarcoma of the stomach, grouped these cases under the term "polypoid sarcomata." It is a useful clinical term to distinguish this form of tumour.

Diagnosis of their exact nature is impossible before operation. Treatment should be by removal with wide resection of the gastric wall from which the tumour springs.

REFERENCES.
1 Erlach, *Wien. klin. Woch.*, 1895, viii, S. 272.
2 Herman, *Transactions of the Obstetrical Society*, 1902, vol. xliii.
3 Cantwell, *Annals of Surgery*, 1899, vol. xxx, p. 596.
4 Maylard, *Annals of Surgery*, 1910, vol. lii, p. 506.
5 v. Eiselsberg, *Archiv klin. Chir.*, Bd. 40, 1897, p. 599.
6 Deaver and Ashurst, *Surgery of the Upper Abdomen*, 1909, vol. i, p. 214 et seq.
7 Von Bergmann, quoted Borrmann, *Mitt. aus den Grenzengeb. der Med. und Chir.*, 1900, Bd. 6, S. 543.
8 Nichols, *American Practice of Surgery*, 1906, vol. i, 339.
9 Maylard, loc. cit.
10 Salaman, *Transactions of the Pathological Society of London*, vol. lv, Part III, 1904, p. 324.

THE MANAGEMENT OF EPIDEMIC SUMMER DIARRHOEA AND VOMITING, INCLUDING THE USE OF SALINE INJECTIONS.

BY

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AND

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LATE HOUSE-PHYSICIAN, EAST LONDON HOSPITAL FOR CHILDREN.

THE outbreak of the epidemic summer diarrhoea and vomiting in the district surrounding this hospital shows signs of being more widespread and severe in character than usual. As the end of the epidemic is probably still distant, any figures of the numbers treated are inconclusive. But it may be said that at least one-third of the children seen in the out-patient department are sufferers, and amongst the casualty patients seen at night the occasional dog bite or swallowed halfpenny forms a welcome digression from the monotonous stream of diarrhoea and vomiting.

Between July 1st and August 18th 125 cases were admitted to the medical wards; this does not include those which at the time of writing occupied 54 of 80 medical cots in the hospital. Of the 125 admissions 50 have died and 75 have been discharged as cured—that is, with a cessation of symptoms and able to take a normal diet. A small proportion has been readmitted with recurrence of the illness; while of the 50 that died, 12 were moribund when brought to hospital, 3 dying within half an hour of their admission.

In a large proportion of cases the children were marasmic, and were bottle-fed; severe attacks in breast-fed babies have been wholly exceptional. In most condensed milk has been the staple article of diet since the early weeks of infancy; in a smaller proportion cow's milk and barley water. The reason given for bottle-feeding in nearly every case is that the mother's milk failed at the third or fourth week of lactation. The necessity to go out to work seems to offer an explanation of this, coupled in certain cases with real disinclination to suckle their infants. In several women who gave a history of mammary abscesses, together with an account of removal to hospital for operation, examination has failed to discover traces of any such procedure.

It is difficult not to believe that the barley water in itself is a sufficiently dangerous ingredient of the bottles to be responsible for a good deal of the trouble. It is made at infrequent intervals and according to strange recipes—"a couple of pints at a time"; "a handful of barley to a tumbler of water." Such a fluid, if allowed to stand through a hot day in dirty jugs, will effectually lower to zero the value of the cow's or condensed milk to which it may be added. The majority of cases have occurred in babies from 4 to 12 months old, and as a rule their weights are about half those of normal healthy breast-fed children.

Those recommended for admission are selected by the out-patient physicians and casualty officers from amongst the worst seen. A rough classification may be made into three groups:

1. Those in whom the attack has started a few hours previously, and in whom the frequency of the vomiting has alarmed the parents. There may or may not be a history of diarrhoea as well.
2. Those in whom the attack has lasted several days, with sometimes a remission and then a return with increased severity. In these milk in one form or another has been continued throughout, and both diarrhoea and vomiting are frequent.
3. Those who have still got worse though treated in the out-patient department where orders were given for a cessation of milk. In these diarrhoea is the most marked symptom.

In nearly all the condition is accompanied by pyrexia. Several have been seen in a condition strongly suggesting overdosage with opium—difficult to rouse, with slow, shallow breathing, faint irregular heart's action, and contracted pupils. A history of soothing powders has been obtained in a few.

For the most part the patients are undersized and wretchedly thin, rickets being common in the elder children. The eyes are sunk in the orbit, have a staring expression when awake and remain only half closed in sleep. The fontanelle is depressed, the skin is dry, loose, and wrinkled, the abdomen is usually sunken, distension being very uncommon. There is a great loss of subcutaneous fat everywhere. In cases of recent and sudden onset there is marked restlessness, with frequent jerky movements of the head and arms. Head retraction has not been a common symptom. The tongue is very dry, and, with the palate, often covered with thrush. In those in whom the condition has lasted several days the babies are apathetic and hard to rouse for more than a few moments.

There is a tendency on the mother's part to exaggerate the frequency of the vomiting and diarrhoea. A reliable history is much easier to obtain when once admission has been secured and the parent's anxiety allayed, or, in many cases, when they have found relief from further responsibility.

The high mortality amongst the cases admitted does not at first sight suggest that any very satisfactory line of treatment has been adopted. In many, however, the attack has supervened upon a course of such gross misfeeding that it was almost bound, *ipso facto*, to prove fatal. Nothing has been found which will counteract the toxaemia once it has got more than a certain hold over the child. On the other hand, success has attended the treatment of most of those in the first category quoted above, and in many of the others recovery has eventually been obtained.

Treatment.

The methods of treatment adopted vary, as a general rule, only as regards sequence and the amount of time that elapses between the various steps.

On admission the stomach is washed out with saline (0.9 per cent. solution) at a temperature of 110° F. The gastric contents are often exceedingly foul smelling and copious. With very few exceptions vomiting ceases absolutely and does not recur. The rectum is next washed out with saline at a similar temperature, the irrigation continuing until the return flow is clear. If done in this order time is saved, as the bowels usually move freely during the gastric lavage, and the subsequent rectal irrigation is a shorter proceeding. If any great degree of collapse or shock is present a mustard bath, or in extreme cases a mustard pack, is given, and is one of the most useful remedies that can be employed. The child will, as a rule, then sleep quietly for an hour or so, during which time a subcutaneous infusion of normal saline, or of a 5 per cent. solution of glucose in normal saline, is started.

The method of introducing the fluid under the skin is a point of some importance. It has been found that the usual way of conducting the fluid along india-rubber

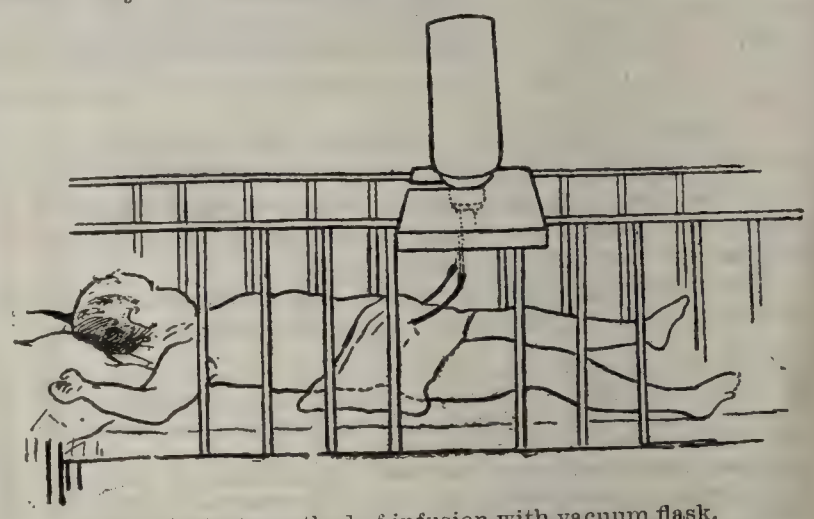

To illustrate method of infusion with vacuum flask.

tubing from a supply situated some distance from the child is open to distinct objections. The fluid seldom reaches its destination with more than the chill off, and the child may experience no small degree of shock rather than any benefit. This fact may be easily tested by fitting up a flask containing fluid at a temperature of 180° F., and leading it through tubing 3ft. long into a wad of cotton-wool in which a thermometer is placed. The conditions nearly represent those of the real procedure, and the thermometer will register about 80° F. At this temperature the fluid is absorbed very slowly; in cases of rapid

emaciation this is an additional disadvantage. A method which obviates both difficulties is to use one of the inexpensive forms of vacuum flasks now on the market. An india-rubber cork with two holes is fitted to it, and through these two glass tubes are introduced; one, drawn out to a fine point, allows air to enter the flask; the other, which may conveniently be of the "two-way" kind, leads the fluid. Not more than 8 in. of narrow india-rubber tubing are attached to either limb of the two-way tube, and into the ends of each a small silver infusion needle is inserted. A wooden board laid across the sides of the cot, with a hole bored through the centre, acts as a support for the neck of the inverted flask.

This simple apparatus has proved so valuable in the wards, that it may be worth while to mention a few points about its use. The cork, tubes, and needles are sterilized by boiling; the flask is disinfected and scalded out with hot water; and though there is a theoretical objection in that it cannot be boiled also, no untoward results have followed in the large number of cases in which it has been employed. In order to warm the vessel, it is allowed to stand for a few minutes before use filled with sterile water at 120° F. This is then emptied and the amount of saline prescribed, *plus* about an ounce to allow for waste, is put in at a temperature of 120° F. This allows for a drop of 15° F. in transit through the tubing, and at 105° F. the fluid has been found to be absorbed most readily.

The child is laid flat on its back, and the limbs secured by bandages tied to the sides of the cot. The abdomen or thighs are prepared as for surgical operation, and when the needles have been inserted they are covered by a piece of sterile gauze or wool. The temperature of the fluid in the flask has been proved not to drop more than 2° or 3° F. in four hours. The amount usually ordered is about 7 oz., and takes two hours to run in. On one occasion where absorption was very rapid, 30 oz. were given continuously during the night to a baby 9 months old with excellent results. The rate of flow can be controlled if necessary by screw clamps or artery forceps on the tubing. A very few minutes is enough to start the working of the apparatus, and when once the fluid is running the nurse is free to attend to other duties. An occasional inspection to watch the rate of absorption is all that is necessary.

The feeding is perhaps the greatest difficulty. Water, preferably hot, is all that is allowed for twenty-four hours. It is best to feed the child at first with a spoon, as the great thirst induces the baby to take the bottle too greedily, and vomiting results. Whey has been extensively tried as the first food. It answers well, but has the disadvantage of producing a dirty condition of the mouth, even when made freshly every three or four hours. Frequent cleaning of the babies' mouths is undesirable, as it again causes a tendency to vomit. For this reason a 5 per cent. solution of glucose, to which albulactin may be added, is useful. Any real return of vomiting calls for a repetition of gastric lavage, but unless milk is started too early this is unlikely to occur.

Frequent repetition of the subcutaneous infusion is the only way to replace the enormous loss of water from the tissues caused by the frequent stools, and opium has proved very useful in checking diarrhoea at certain stages and in controlling the restlessness that is often an accompaniment. The weight was observed in one case to drop from 21 lb. to 14 lb. in eight days. There were frequent evacuations of large watery stools, which measured in some instances over three-quarters of a pint and were passed as often as twelve times in twenty-four hours. Seven ounces of saline were injected at twelve-hourly intervals under the skin for nine days, and the child began slowly to make up lost ground when diarrhoea ceased.

Milk, freely diluted with water and with the addition of sodium citrate, is tried only when the diarrhoea has shown signs of subsiding. The strength of the feeds is very gradually increased, but if the attack has been severe and has occurred in a marasmic child, the digestive functions often seem to be entirely suspended for a long while. Open air treatment has proved of the greatest possible value during convalescence. Of drugs, calomel in repeated small doses ($\frac{1}{10}$ grain every hour), castor oil ♏ ij to ♏ v, and opium seem perhaps the best; bismuth in anything but quite the late stages, the most deadly. Brandy is useful if its administration is not unduly prolonged.

Though the wards have contained so many cases it is interesting to record that in no instance has the complaint been contracted by children suffering from other diseases. The surgical ward is free from it, nor has it spread to the surgical cases in a ward which contains an equal number of surgical and medical beds. No case of intussusception has been met with. Two patients developed acute tetany, which subsided in three or four days, and was followed by recovery. Haematemesis and melaena have been uncommon but grave occurrences. Bronchopneumonia is a very fatal complication, and has been the cause of death in eight of our cases. It is preceded, probably in every instance, by collapse of the lung. That it has not occurred more often may be attributed to the excellent nursing the children have received, without which few of the recoveries could have been recorded.

REMARKS ON A CASE OF PLEURAL TUBERCULOSIS WITH LARGE EFFUSION.

By ERNEST C. CARTER, M.D., M.R.C.P.,
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THE following case furnishes a "record," as far as I am able to find, for the amount of fluid withdrawn at a single tapping from one pleural cavity. It is also interesting as showing a connexion between large exudations and a definite variety of thoracic tuberculosis.

A. C. M., aged 30, a drayman, tall and powerfully built, was admitted on January 5th, 1911, to the Cheltenham General Hospital, complaining of shortness of breath during the previous four weeks, intermittent stabbing pain in the right side, and a troublesome cough with little expectoration. He had suffered from dysentery and enteric fever about ten years previously in the course of the South African war. The family history was unimportant.

The usual signs of a full pleural cavity were found on the right side with slight generalized catarrh of the left lung. The day after admission 9 pints and 8 oz. (188 oz.) of clear yellow fluid were withdrawn from the right side through a small cannula in twenty minutes. At the end of the time the fluid was still running, but as the patient began to cough and his pulse showed irregularity, it was considered advisable to withdraw the instrument.

In spite of the relief this afforded the temperature and pulse-rate were not appreciably reduced, the general level of the one being 101° F., and of the other 100 to 120 per minute. Von Pirquet's test, tried on the fourth day after admission, gave a negative result. Tapping was soon needed again, and 90 oz. and 100 oz. were removed on separate occasions from the right side, while the left side, which was also found dull, yielded 60 oz. once. The fluid removed presented the characters of an exudate rather than a transudate. Fraenkel's pneumococcus was recovered from it, but no tubercle bacilli. The latter were also absent from the scanty sputum.

The temperature, after becoming intermittent in character, was practically normal from February 26th till April 6th, and during that time the patient was allowed up, and managed to walk about slowly. At the end of this remission the breathlessness increased, and 125 oz. were removed from the right chest with some temporary improvement; but the temperature began to be unsteady, and a repetition of the von Pirquet test gave a positive reaction.

Injections of Koch's tuberculin ($\frac{1}{1000000}$ mg.) at weekly intervals seemed to cause a slight retardation of the unfavourable course of the disease, the temperature becoming practically normal for three weeks; but the fatigue of going out in a wheeled chair on Coronation Day, intended to act as an auto-inoculation, was followed by a last stage of increasing weakness, laboured respiration, and cyanosis. Tapping the pleura towards the end yielded very small amounts of fluid (2 oz. on July 6th) and gave no relief, and on July 15th the patient died cyanosed and insensible.

Post-mortem Examination (July 17th).

Body somewhat emaciated. The right pleural cavity contained about three pints of turbid fluid with flakes of opaque lymph. The whole of the pleura, both parietal and visceral, was converted into a stiff membrane of almost cartilaginous consistence, varying in thickness from $\frac{1}{8}$ to $\frac{1}{2}$ in., being densest on the parietes near the root of the lung and thinnest on the lung itself; it was so closely beset with fibro-caseous deposit as to be uniform in consistence over its greater extent. The lung was bound down and retracted to about the size of a large fist. The left lung was generally but not uniformly adherent and contained some fluid between the adhesions. The pleura was in a similar condition to that of the right side but in a less advanced stage. Barring collapse the parenchyma of

both lungs was healthy and showed no signs of tubercle. The heart and pericardium were normal. The abdomen contained a considerable quantity of clear dark fluid, but there was no appearance of tubercle there or in the brain, nor was any other morbid appearance noted.

A parallel case of chronic tuberculous pericarditis recently under my care has been published elsewhere[1] by Dr. Rae, late house-physician in this hospital. Here the sac was greatly distended in the early stages of the disease, and after being twice aspirated was drained by free incision. As the heart was exposed to view during operation, and yet the real pathology was not recognized, it is to be presumed that the fibro-caseous change affected the parietal earlier than the visceral section of the membrane. If we may judge from the findings of the necropsy and the general behaviour of the case now recorded, the membrane lining the chest wall was similarly involved earlier than that covering the lung.

It would seem that in the early stages of the disease the reaction of the membranes to the subserous deposit results in a very large exudation which hampers the action of the underlying organ. The distress can be relieved temporarily by paracentesis as long as the stiffening and thickening of the surfaces, especially that on the viscus, are not mechanical factors of importance. But when once the fibrotic process has resulted in a rigid limiting of the free space and of the capacity of the included viscus to expand, we have to face a condition which gives little promise of relief by removal of the effusion. The latter indeed tends to become less rather than greater in amount as the disease proceeds.

So much stress has been laid in recent times on the important relation which exists between inflammatory pleural effusions and tuberculosis in the lung, latent as well as discoverable, that it is well to be reminded of some features of the substantive pleuritis which occurs definitely, if rarely, without necessarily affecting the underlying parenchyma.

Whether its early recognition will lead to any therapeutic advance remains to be seen. The diagnosis may not be very easy. In this instance the general history of the patient and his failure to respond at once to von Pirquet's test led one to hope that it was a case of "ordinary" pleurisy, which owed its severity to neglect.

Unless the process can be arrested early the massive changes observed give little hope that even a cessation of the specific activity of the tubercle bacillus would be of much benefit. The mechanical conditions of themselves entail a handicap that leaves the sufferer no outlook beyond a constant and increasing struggle for the breath of life.

REFERENCE.
[1] *Lancet*, April 22nd, 1911.

THE DETECTION OF TUBERCLE BACILLI IN SPUTUM.

BY F. W. EURICH, M.D.,
HONORARY PHYSICIAN AND PATHOLOGIST, ROYAL INFIRMARY, BRADFORD, AND BACTERIOLOGIST TO THE CITY.

THE method of examining sputum for tubercle bacilli which is still in general use is that of preparing the films direct from the sputum by picking out of it the likely flocculi and spreading them out on cover-glass or slide. This method has never been considered satisfactory. Many processes have therefore been tried whereby the search for the bacilli may be made easier and more sure; but none have found general favour. A great improvement was effected by Uhlenhuth's method,[1] which consists in making the sputum homogeneous by the addition of "antiformin," and in examining the sediment that forms on standing, or after the use of the centrifuge. Its drawbacks are that a centrifuge of a high velocity is required, and that the sediment has to be specially fixed on to the slide. The necessity for such a centrifuge alone makes the original method impracticable for most practitioners. Both difficulties are overcome by an ingenious modification published by Koslow[2] in June of last year. As this improved method seems to be very little known, and as my results with it have fully borne out the advantages claimed for it, I make no excuse for trying to draw to it the attention of those who take an interest in sputum examination. I have applied it now in several hundred cases, and can confidently recommend it as a great improvement upon all other devices.

The method is briefly this. A quantity of the sputum is shaken up with "antiformin" in a glass-stoppered vessel, such as a measure cylinder ("antiformin"=15 per cent. liq. sod. hydrat.+liq. sodae chlorinat. āā), the proportion of "antiformin" depending upon the consistence of the sputum; if the latter is very viscid or dense an equal proportion may be required; if thin, then half the amount may suffice. The mixture is occasionally shaken during five minutes; it is then diluted with a volume of distilled water approximately ten times as great as that of the "antiformin" used, and again shaken for a few minutes. Finally there is added a mixture of equal parts of ether (methylated ether will do) and acetone equal in volume to that of the water. It is shaken once more for a few seconds and the whole allowed to stand. In a few minutes the contents of the bottle will be found to separate into three layers. The middle layer, appearing as a more or less dense white ring, will contain nearly all the tubercle bacilli that may be present in the sputum, and can be drawn off with ease by means of a pipette fitted with a teat. The density of this middle layer can be increased after it has been pipetted off, if desired, with the help of a centrifuge (an ordinary hand centrifuge will answer the purpose), but it is not necessary. A film is made, dried, and fixed in the usual way by passing it through a flame. Before staining the film I immerse it for a few seconds in 5 per cent. sulphuric acid to neutralize any adhering alkali, and wash to remove the acid. If the examiner is interrupted, or otherwise pressed for time, the whole mixture may be allowed to stand till the next day or even longer; the acid-fast property of the bacilli is not affected by the delay. The sputum-antiformin mixture should be diluted with distilled not with tap water, as the latter may contain acid-fast bacilli.

The advantages of the method are: (1) Its cleanliness; (2) a special armamentarium is not required; (3) the search for tubercle bacilli is more thorough and sure. A drawback might be found in the slight additional cost incurred by the use of ether and acetone; but the greater accuracy of the results—more than 15 per cent. of otherwise negative tests proving positive by this method—is surely adequate compensation.

REFERENCES.
[1] BRITISH MEDICAL JOURNAL, EPITOME, ii, 1908, No. 220. [2] *Berl. klin. Woch.*, 1910, No. 25, p. 1181.

BETWEEN three and four months ago the Automobile Association Motor Union introduced the system of issuing first-aid outfits to its patrols and obliging these men to qualify for first-aid certificates. The experience since accumulated shows that the step was a wise one, the patrols in question having dealt with 12 cases of injury by motor cars, and with 40 cases of injuries to cyclists and motor cyclists. They have also had occasion to render assistance on occasions not falling immediately within the scope of their duties. Thus, one patrol witnessed the fall of an aëroplane on the Coventry road, and was able to render prompt assistance to the injured aviator, while another patrol recovered from a well the body of a child, and tried artificial respiration, though not successfully, for upwards of an hour.

IN a pamphlet, entitled *Simple Rules of Health and Courtesy for Those at School*, Dr. Helen MacMurchy, one of the medical officers to the Board of Education in Toronto, and Mr. H. W. Auden, Principal of Upper Canada College, have set forth the whole duty of school-aged man towards himself and his neighbour in some fifteen pages of short pithy sentences, such as "Clean teeth last long," "Dirty teeth decay," "Sleep on a hard mattress," "See that your nightclothes are hung up, not folded," "Never hold pins, needles, etc., in your mouth," "Never play with firearms." "You owe it to yourself and others to look your best always." "Do not interrupt people." A certain amount of guidance in respect of accidents and sudden illness is included, and since clearness of meaning is but rarely sacrificed to brevity, the pamphlet should play a useful part in training the rising generation of Canada. It is published by the Canadian branch of Messrs. Cassell and Co.

THE NUTRITIVE VALUE OF FLOURS.

BY

MARTIN FLACK, M.B., B.CH.OXON.,

AND

LEONARD HILL, M.B., F.R.S.

As a control of our former experiments,[1] we obtained a new supply of flours straight from the mill of guaranteed quality, supplied by the Hovis Company.

The following tables again show the striking deficiency of white flour. Standard flour has proved better than wholemeal. This is contrary to our results reported on June 3rd. On inquiring into this matter, we find that, while the Hovis Company's wholemeal really contains all

TABLE A.—*White Flour.*

	I.	II.	III.	IV.	V.	VI.	Increase or Decrease in Six Weeks.	VII. After Extract of Offal.
231	243+12	243+0	243+ 0	233−10	242+9	209−33	−22	215+ 6
99	105+ 6	99−6	90− 9	84− 6	91+7	86− 5	−13	91+ 5
61	58− 3	60+2	70+10	67− 3	69+2	66− 3	+ 5	86+20
59	58− 1	60+2	68+ 8	66− 2	66+0	59− 7	+ 0	83+24
59	55− 4	62+7	61− 1	55− 6	57−2	55− 2	− 4	61+ 6
57	54− 3	59+5	57− 2	54− 3	56+2	49− 6	− 8	61+12
56	55− 1	59+4	56− 3	50− 6	55+5	47− 8	− 9	48+
56	55− 1	58+3	51− 7	48− 3	47−1	Dead		
56	53− 3	53+0	Dead					
55	53− 2	51−2	Dead					
48	52+ 4	50−2	Dead					
46	49+ 3	47−2	Dead					
45	46+ 1	42−4	Dead					
38	Dead							
25	23− 2	Dead						
622							−51	

Survivors decreased 8 per cent.; 8 deaths.

TABLE B.—*Wholemeal.*

	I.	II.	III.	IV.	V.	VI.	Increase in Six Weeks.
164	166+2	186+20	183− 3	188+ 5	201+13	205+4	41
105	113+8	124+11	137+13	144+ 7	133−11	137+4	32
58	60+2	63+ 3	75+12	87+12	76−11	Dead	
55	58+3	62+ 4	70+ 8	77+ 7	73− 4	Dead; partly eaten	
52	53+1	54+ 1	69+15	62− 7	63+ 1	60−3	8
41	41+0	43+ 2	49+ 6	50+ 1	52+ 2	52+0	11
32	32+0	31− 1	37+ 6	43+ 6	50+ 7	47−3	15
28	28+0	27− 1	33+ 6	36+ 3	40+ 4	42+2	14
28	28+0	27− 1	32+ 5	34+ 2	39+ 5	41+2	13
28	29+1	31+ 2	32+ 1	34+ 2	38+ 4	39+1	11
27	28+1	28+ 0	31+ 3	33+ 2	34+ 1	36+2	9
27	28+1	27− 1	29+ 2	32+ 3	34+ 2	36+2	9
26	28+2	28+ 0	30+ 2	31+ 1	33+ 2	35+2	9
25	25+0	26+ 1	29+ 3	29+ 0	33+ 4	35+2	10
23	24+1	24+ 0	27+ 3	28+ 1	32+ 4	34+2	11
806							193

Survivors increased 32 per cent.; 2 deaths.

TABLE C.—*Standard Flour.*

	I.	II.	III.	IV.	V.	VI.	Increase in Six Weeks.
103	121+18	134+13	141+7	135−6	121−14	126+5	23
84	117+33*						
65	77+12	82+ 5	81−1	85+4	84− 1	84+0	19
53	64+11	69+ 5	76+7	72−4	80+ 8	84+4	31
50	60+10	66+ 6	71+5	72+1	75+ 3	80+5	30
49	55+ 6	65+10	63−2	65+2	68+ 3	75+7	26
46	48+ 2	59+11	57−2	61+4	65+ 4	73+8	27
46	49+ 3	56+ 7	52−4	50−2	52+ 2	57+5	11
40	36− 4	36+ 0	40+4	41+1	46+ 5	49+3	9
31	34+ 3	33− 1	40+7	40+0	46+ 6	48+2	17
29	32+ 3	32+ 0	39+7	39+0	45+ 6	47+2	18
26	28+ 2	31+ 3	39+8	39+0	42+ 3	47+5	21
25	27+ 2	31+ 4	35+ 4	36+1	41+ 5	44+3	19
21	25+ 4	25+ 0	35+10	31−4	34+ 3	36+2	15
21	22+ 1	24+ 2	31+ 7	31+0	33+ 2	? Escaped	
584							266

* Mother of six, all growing up on Hovis.

Survivors increased 45 per cent.; 1 mother, 1 missing, ? escaped.

TABLE D.—*Hovis Flour.*

	I.	II.	III.	IV.	V.	VI.	Increase in Six Weeks.
100	128+28	144+16	162+18	*			
100	126+26	144+18	161+17	158− 3	164+ 6	163− 1	63
86	107+21	120+13	127+ 7	127+ 0	133+ 6	133+ 0	47
63	77+14	78+ 1	a102+24	109+ 7	108− 1	122+14	59
49	65+16	73+ 8	86+13	107+21	106− 1	111+ 5	62
49	65+15	72+ 8	86+14	99+13	105+ 6	92−13	43
45	61+16	69+ 8	79+10	88+ 9	97+ 9	88− 9	43
45	59+14	69+10	81+12	75− 6	86+11	87+ 1	42
44	58+14	66+ 8	70+ 4	71+ 1	85+14	81− 4	37
44	56+12	65+ 9	65+ 0	70+ 5	79+ 9	75− 4	31
42	52+10	62+10	Dead				
30	35+ 5	53+18	54+ 1	58+ 4	74+16	74+ 0	44
27	34+ 7	40+ 6	51+11	54+ 3	62+ 8	67+ 5	40
23	32+ 9	39+ 7	51+12	52+ 1	55+ 3	56+ 1	33
605							544

* Mother of 10 young.

Survivors increased 90 per cent.; 1 dead, 1 mother.

the germ, sharps, and bran of the wheat, the so-called wholemeal which we bought for our experiments reported June 3rd contains only a portion of the sharps and bran. The removal of a part of the sharps and bran gave it a nutritive value higher than the true wholemeal, probably because this contains too much cellulose. Hovis flour contains about 20 per cent. of germ. This is separated in the milling by being rolled flat. After screening off, it is sterilized and added to white flour.

Wholemeal contains about 1 to 2 per cent. of germ, 13 per cent. of sharps (the inner husk), and 15 per cent. of bran. The addition of 20 per cent. of germ notably increases the percentage of protein, and ensures the presence of those organic phosphorus compounds which, according to Schaumann, are essential for growth. Thus, Hovis flour has a very high nutritive value. We have had five mothers among our rats. None of those fed on white flour have become mothers. The newborn

TABLE E.

	After Six Weeks on White Flour.	Sixth to Seventh Week put on Hovis.	After Seven Weeks on Hovis.
91	125+34	125	152+27
86	96+10	96	143+47
84	92+ 8	92	138+46
81	92+11	92	124+32
76	88+12	88	123+35
75	82+ 7	82	121+39
74	76+ 2	76	111+35
69	66− 3	66	108+42
68	64− 4	64	108+44
63	64+ 1	64	95+31
58	62+ 4	62	89+27
57	61+ 4	61	90+29
57	Dead		
52	52+ 0	52	76+24
50	50+ 0	50	72+22
48	Dead		
46	Dead		
42	Dead		
40	Dead		
40	Dead		
36	32− 4	*32*	Dead.
24	Dead		
22	Dead		
1,020	+83*	1,070	480†

* Survivors increased 8 per cent. in six weeks; 8 deaths.
† Survivors increased 45 per cent. in seven weeks; 1 death.

rats have done well while the mothers (giving milk) were fed on Hovis flour and water, and have grown up strong and healthy on this diet after weaning. Wholemeal did not suffice for them. Thus Hovis flour and water has proved an adequate food for the milking mothers and for the young rats. These results show the great importance of the germ of which white flour is robbed.

Tables E and F show the effects on rats fed with white flour of a change to Hovis flour.

TABLE G.

	Twelve Weeks on Standard Flour.		Twelve Weeks on Standard Flour.
108	178+70	48	85+37
100	152+52	47	82+35
91	147+56	46	74+28
95	137+42	45	72+27
84	Dead	44	67+23
74	128+54	44	65+21
72	118+46	42	68+21
72	96+24	41	63+22
63	96+33	39	63+27
60	94+34	*35*	Dead
57	89+32	*33*	Dead
51	86+35		
49	85+36	1,385	755

Survivors increased 55 per cent. in twelve weeks; 3 deaths.

Table G shows the effect of twelve weeks on nothing but Standard flour and water.

External temperature plays a considerable part in these experiments. Flour-fed rats do comparatively badly in cold weather and well in hot weather, and this is particularly the case with those fed on white flour.

TABLE F.

	At End of Five Weeks of White Flour.	Fifth to Sixth Week put on Hovis.	At End of Six Weeks of Hovis Flour.
106	104− 2	104	170+66
104	103− 1	103	148+45
103	92− 9	92	143+51
96	Dead		
87	Dead		
82	68−14	68	118+50
75	67− 8	67	118+51
71	67− 4	67	98+31
65	61− 4	*61*	Dead
59	59+ 0	59	85+26
54	52− 2	52	74+22
53	Dead		
49	Dead		
49	47− 2	*47*	Dead
48	42− 7	42	70+28
48	45− 3	45	64+19
46	43− 3	43	57+14
46	38− 8	Dead	
44	37− 7	Dead	
44	Dead		
43	Dead		
42	33− 9	Dead	
42	32−10	Dead	
40	33− 7	Dead	
38	Dead		
27	Dead		
1,220	−99	782	+403

On white flour 13 dead. Survivors decreased 8 per cent. in five weeks.
On Hovis flour 2 dead. Survivors increased 51 per cent. in six weeks.

We have found we can make an extract from the offal of wheat which, added to white flour, makes it more adequate as a food. We hope to communicate particulars of this series of feeding experiments shortly.

REFERENCE.
1 BRITISH MEDICAL JOURNAL, May 6th and June 3rd. 1911.

A CASE OF SEPTIC PNEUMONIA CAUSED BY A HATPIN.

BY L. C. V. HARDWICKE, M.B., CH.B.EDIN.,
ASSISTANT MEDICAL SUPERINTENDENT, PADDINGTON INFIRMARY.

THE case here described is interesting medico-legally and because it illustrates how a sharp-pointed foreign object of considerable length may remain in the body and travel through various organs for several weeks before causing grave symptoms.

A. C., a male, aged 26 years, who had had no previous illness, was admitted on August 27th, 1908, and seen by me immediately. He said that he had had acute pain between his shoulders for three weeks and jaundice for three days. He looked ill, was jaundiced and drowsy, and complained of sharp pain at the inferior angle of the right scapula. There was nothing abnormal in the heart, lungs, or abdominal organs except some liver tenderness. After a good tea and sleeping for five hours he developed symptoms and signs of acute pneumonia in the lower lobe on the right. No rigors, sweats, vomiting, sputum, or epigastric pain were observed.

Later the patient became very weak and quietly delirious, the pulse bad, and the temperature oscillated. On August 30th signs of pneumonia appeared in the remainder of the right lung and the lower lobe of the left. Death occurred on September 2nd.

Jaundice preceding pneumonia is very rare; liver abscess is sure to have given increased dullness and the hepatic tenderness would have been more marked. The diagnosis of jaundice and pneumonia following influenza was favoured by the absence of an appreciable leuco-

cytosis. The real cause was not suspected. The widow appeared frightened and nervous, and a *post-mortem* examination was insisted upon.

Necropsy.

Both pleural cavities contained some little serous fluid, more in the right than left; there was recent pleurisy over both lower lobes, very extensive on right. Both lungs contained numerous areas of consolidation, and those in the right lower lobe were breaking down into pus and forming abscesses. Projecting upwards, backwards, and outwards from the liver through the diaphragm and diaphragmatic pleura on to the lower surface of the right lung was the pointed end of a broken hatpin over 4 in. long.

The heart muscle was a little flabby and pale. The liver was congested and protruding upwards, backwards, and to the right from the right lobe through the diaphragm was the piece of hatpin. A track was traced from where the pin was found in the right lobe, through the Spigelian lobe to the stomach. In the stomach was a small aperture just below and to the right of the cardiac orifice communicating with the track in the liver. On the left of the fundus, high up, opposite the aperture, was a scar showing black staining, and here the stomach had become adherent to the spleen. The spleen, which was congested, showed two darkly stained scars, one on the gastric surface where adherent to the stomach, and the other on the diaphragmatic surface where some omentum had interposed itself between the spleen and the diaphragm and sealed over the scar on this surface.

The diaphragm on the right side was adherent to the eighth and ninth ribs in the mid-axillary line, and there, obliquely in the intercostal muscles, fascia, etc., in the eighth space, was a track healed by fibrous tissue. There was a small depressed scar on the skin over the lower border of the eighth rib, just in front of the posterior axillary line on the left side.

The brain and kidneys were congested, but there was no abscess except in the lungs, and no peritonitis.

The track, except through the spleen, was easily identified by darkly-stained scar tissue. The pin had

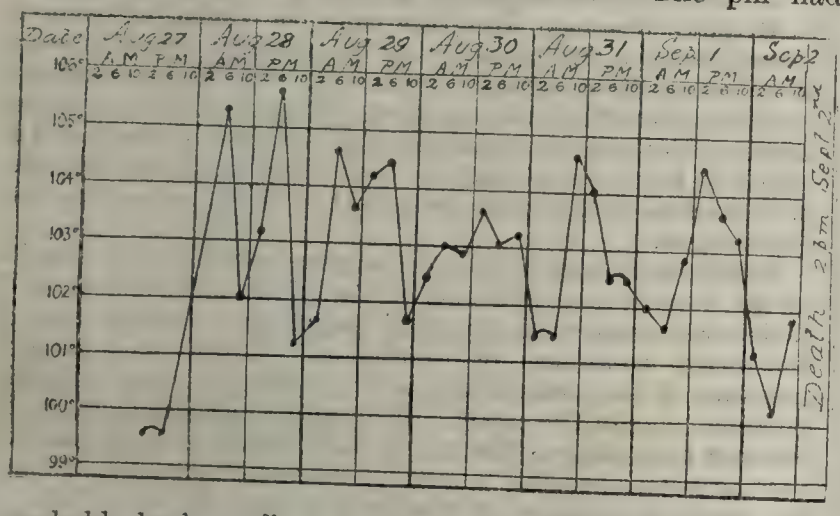

probably broken off on the lower border of the eighth rib and travelled downwards, inwards, and forwards through the intercostal tissues and the parietal pleura, just missing the left lung, the diaphragmatic pleura, the diaphragm, and spleen, the stomach just below the cardiac orifice, the Spigelian lobe of the liver, and, finally, the right lobe of the liver, where it was found projecting on to the lower lobe of the right lung. A slight curve at the broken end accounted for the course taken—practically a semicircle. Infection evidently travelled to the right lung from the stomach, and not from the skin surface. The lungs probably were not, or only just, affected on admission.

At the inquest the widow said that on May 17th her boy, 2½ years, was playing with a hatpin, and left it on the bed, that her husband lay on it, and it went into him. She also said that the following morning her husband went to St. Mary's Hospital, where the pin was removed. After the funeral the widow was arrested and confessed that in a fit of passion on the evening of May 17th she had attacked her husband with a hatpin, which penetrated his side and then broke off.

It is interesting to note: (1) That there was little discomfort until eleven and a half weeks after the accident—probably not until the pin reached the stomach, and then, although the stomach must have been considerably "irritated," there was no vomiting before or after admission; (2) that there were no abscesses in the liver, and very little inflammation along the track; (3) the way one of the scars on the spleen was sealed over by omentum; and (4) the absence of staining in the spleen.

In conclusion, I wish to thank Dr. Maurice F. Squire, the Medical Superintendent, for his advice and for doing the autopsy with me.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF ANATOMY AND PHYSIOLOGY.

Professor T. H. BRYCE, M.A., M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

THE President said: The privilege is accorded to me, by the statutes regulating the business of the Sections, of occupying fifteen minutes with some introductory remarks. I think it will meet your view if I curtail what I have to say into a briefer space. In the first place I must bid you welcome to our deliberations. It is a matter of regret to us all that Professor Peter Thompson is not with us to-day. I have received a letter from him conveying his regrets at his enforced absence, and his good wishes for the success of the Section. We cannot but feel that his absence is a serious loss to us on the anatomical side, and I think I should express your feelings if I were to convey to him our sense of this, and our hopes that his health will soon be completely restored.

The association of anatomy and physiology in one Section is, of course, only a matter of convenience—but at the same time it expresses the co-ordinated importance of the two branches of study, and it suggests a number of subjects for reflection. I wish very briefly to refer to two of these.

The process of specialization has necessarily tended to separate us to an increasing extent; we have each now our separate journals, and so forth. It has become impossible for us to keep in touch with advances in the science other than our own except in a very general way, and this is to be regretted from the teaching point of view. If one is to judge by what one sometimes hears and reads the physiologist is not always in sympathy with the methods of anatomical teaching which prevail. With many others he questions the value, from the general educational standpoint, of some of the detail which the medical student is supposed to have to master. Without prejudice to the fundamental importance of anatomical fact in the arts of medicine and surgery, I think I may say that we, at least I can speak for myself, are ready to concede that a considerable amount of the time-honoured detail of the textbooks, which are not arranged on a selective principle, may be generalized without loss. In the very congested state of the medical curriculum there is increasing need for co-operation and co-ordination in the work of the two departments.

My other point refers to the teaching of histology. The dissociation from anatomy of the practical teaching of microscopic anatomy, which prevails in practically all British schools, was and continues to be a misfortune to the anatomical department. Looking to the great expansion of physiology, I would suggest that perhaps the time has come when the theoretical and practical teaching of the ordinary morphology of the tissues might be restored to the anatomical department. The facts and methods of histology are essentially anatomical. There is a considerable amount of overlapping under the present arrangements. I should like to see such an arrangement as would make it possible for the student to study simultaneously the macroscopic and microscopic structure of the organs he handles. I do not mean that no histology should be taught in the physiological department, but I would suggest that it should be restricted to histology in its physiological relations.

Speaking from the point of view of an anatomist, I am specially interested in this in connexion with departmental research. It is incontestable that teaching

and research are mutually dependent. The junior staff of a department will more readily take to microscopic work if it is taught practically in the department, and as every anatomist must now be a microscopist, I would fain see the microscope taught in the anatomical department.

The cultivation of embryology in the departments of anatomy, and the marked degree in which embryology, as the key to the understanding of structure and even of relations, enters into the teaching of the subject, is tending more than the older comparative anatomy to bring us closer again to physiology, as in many parts of our subjects we start from a common basis. It appears to me that here we have great opportunities for a combined attack on many yet unsolved problems, and the association of anatomists and physiologists in meetings such as this should be a means to this end.

SOME CIRCULATION FACTORS ADMITTING OF EASY MEASUREMENT.

By ALEXANDER HAIG, M.A., M.D.Oxon., F.R.C.P.

THESE factors in circulation admitting of easy measurement are the capillary reflux, the blood pressure, the ratio of capillary reflux to blood pressure, the cardiac diameter, and the liver dullness.

The capillary reflux (C.R.) is the rate, measured in half-seconds, at which the colour returns into a patch of skin whitened by a known pressure applied for a definite time.* The blood pressure (B.P.) is the resultant of the heart power driving the blood forward, and of the obstruction or contraction of the vessels preventing its free passage. The C.R. B.P. ratio in physiology is that the C.R. rate on the front of the chest multiplied by 20 should give the B.P. found in relation to it.

The diameter of the cardiac area (C.D.) is measured transversely across the chest by auscultatory percussion at the level of the upper border of the fifth costal cartilage; it commonly extends under normal conditions from a little to the left of the right border of the sternum to the left nipple line, or left mid-clavicular line in females. Liver dullness (L.Dss.) is measured in the right nipple line, its limits being found, as in the case of the C.D., by auscultatory percussion. Normal may be said to be somewhere from 3–3½ in., and, as a rule, it varies directly with the size of the heart, being larger when the C.D. is larger, and vice versa.

All these are very simple measurements, and, as I have made them part of my clinical routine for many years, I speak from considerable experience as to the value of their indications. I have used C.R. curves, obtained from morning and evening observations on myself and a small number of patients, for more than ten years as indicators of the general condition of the circulation, thus obtaining a useful index of heart power and a measure of the quantity of uric acid in the blood stream at the time of observation. We find the C.R. is slowed by two things: (1) Excess of uric acid in the blood hindering circulation through the capillaries; (2) deficient driving power on the part of the heart, however caused. To a certain extent we can at once distinguish between these two causes, for if the *vis a tergo* is defective the C.R. B.P. ratio will be abnormal and C.D. and L.Dss. will be large. But if these signs of heart weakness are absent we may conclude that the slowing of the C.R. is due to excess of uric acid, and can confirm this conclusion by drawing a drop of blood and examining it (vide *Uric Acid*, ed. vii, p. 90). In such C.R. curves we can see the effect of every increased ingestion of uric acid by change of food, every attack or threatened attack of gout, rheumatism, or catarrh, with their entire causation and results, as well as the effects of every drug taken or change of diet made with the object of interrupting or preventing such attacks.

Under physiological conditions these curves should show a C.R. of 6–7 half seconds in the morning, and one of from 5–6 half seconds in the evening. In pathology there are many variations from the normal: Excess of uric acid slowing it to 8, 9 or 10, and heart weakness or disease producing very similar effects; while a combination of collaemia and cardiac debility, such as may be met with in Bright's disease, diabetes or chronic bronchitis, may slow it to 12–14–16; and only in rather exceptional conditions, such as severe Raynaud's disease, does one meet with still greater slowing. Thus can the effects of all causes of heart weakness be accurately gauged, and uric acid be watched as it passes through the blood. We can tell when fever is present by the quick C.R. of 3–4 half seconds, showing a blood almost clear of uric acid. We can tell dyspnoea or other causes of defective oxidation by the opposite conditions, a C.R. of 10–12 and the blood full of uric acid granules.

Of all these conditions and their causes the C.R. curves are a good and reliable index, and when recorded over years they become, with a few notes and explanations, the medical life-history of the person. Only when the C.R. curve is abnormal is it necessary to measure the other circulation factors in order to gauge the meaning and extent of the fluctuations. Practically a rise of B.P. is due to a slowing of C.R. by uric acid, and a fall to C.R. quickening owing to diminution of uric acid in the blood stream; for in physiology heart power is pretty constant and so is the vascular tonus maintained by the nerves. There is always more uric acid in the blood in the morning and less in the evening, hence C.R. is slower and B.P. higher in the morning, the reverse being the case in the evening. If this were not so there would be no C.R. curves, for a straight or irregular line would take the place of the curve.

When the B.P. falls below its proper ratio to C.R. the heart is weak in relation to the work required of it in propelling the blood through the capillaries. When the B.P. is above the ratio the heart is strong in relation to its work—for example, the hypertrophied left ventricle met with in Bright's disease. In either case the variation from the normal ratio is the measure of the strength or weakness of the central factor of the circulation. But if the patient is on diminished fluids for training purposes or for the treatment of disease no inference can be drawn from a B.P. which is below ratio, and we must here infer the strength or weakness of the heart from C.D., L.Dss., pulse-rate, and other signs.

In the same way C.D. is extremely useful, as it enables us to correct our inferences from C.R. and the C.R. B.P. ratio, and to see with practical certainty the real extent of the heart weakness or dilatation. L.Dss. is a further measure of the same thing, as it constantly rises and falls with the size of the heart. If in any condition the C.D. is difficult to measure—for example, in cases of skin rash or new growth covering the area—we need not believe that the heart is enlarged if the liver is not. In *Uric Acid in the Clinic*, page 88, I have recorded a case where in the heart failure of early morbus Brightii the liver was decidedly enlarged, but nine years later, when the heart had hypertrophied, the liver was almost normal. It is, of course, necessary to bear in mind the fact that the liver may be enlarged by other things—for example, alcohol or the infiltration of new growths—but in these cases L.Dss. is fairly constant, and does not vary much from day to day with C.D. and the other circulation factors.

We may now consider the effects of certain conditions, such as cold, heat, exercise, on the circulation factors. In physiology the effect of cold is to slow the C.R., raise the B.P. (this being in part a result of slowed or obstructed capillary circulation, and in part also a result of the diminished area available for the circulation of the blood on the surface of the body) and increase C.D.

Heat reverses the effect of cold—C.R. is quickened, B.P. is lowered, the pulse is quickened, and C.D. is diminished. The fall of B.P. is here also no doubt a result of two factors: (1) A general dilatation of the skin area available for the circulation of the blood; and (2) a better and quicker capillary circulation, this latter in turn dependent on the amount of uric acid available for solution in the blood. We must therefore consider it under two conditions: (*a*) where there is much uric acid in the blood; and (*b*) where there is but little, for example, in a person who has lived for years on a uric-acid-free diet. In the first case heat increases the solubility of the uric acid already in the blood, hence it passes through the capillaries more easily, and C.R. quickens and B.P. falls; but, as there is a large amount of uric acid in the body, the secondary effect of the increased solvent power of the blood is to bring more uric acid into the circulation till the blood is once more saturated with

* Capillary dynamometer, price 7s. 6d., used for this measurement to be obtained from Hawksley, 357, Oxford Street, W.

uric acid. The blocking of the capillaries is now re-established, and the B.P. may rise as high or higher than it was when the heat was first applied. But when heat acts on a person with small stores of uric acid, the improved solubility brings about a quickening of C.R. and a fall of B.P., which lasts much longer, as there is no excess of uric acid to be dissolved. Hence the frequent observation that a hot or Turkish bath makes one person feel collaemic, depressed, and miserable, but another bright and cheerful. The latter has but small stores of urate, and the circulation factors enable you to distinguish the one from the other, and to measure cause and effect.

The effect of exercise is first of all to raise the internal temperature in the rectum. This is a result of increased metabolism and causes dilatation of important vascular areas in the skin and muscles, thus producing a fall of B.P. and diminishing the heart's work. The increased temperature acts by increasing the solubility of the uric acid in the blood, thus freeing the capillary circulation all over the body, quickening C.R. and still further reducing B.P. This condition of free capillary circulation and good nutrition will either continue as long as the exercise lasts—for example, in the case of those who are uric-acid-free, in whom there is little or no fatigue—or it will not continue because fresh uric acid is brought into the circulation till the blood is again saturated and collaemic obstruction of capillaries reproduced. This results in defective nutrition and rapidly increasing fatigue in the meat eater, hence an invitable call for stimulants and stretchers for which the uric-acid-free have no need. A simple observation of the capillary circulation will in all cases tell what is going on, and whether success or failure is in store for the athlete.

Another effect of exercise contemporaneous with those just mentioned, and modifying them, is a mechanical rise of B.P. with increased strain on the heart; and when the heart is not ready to meet this strain—for example, in a weak or untrained person—C.D. increases more or less. The effect of dilatation or of debility of the heart is then to slow the C.R., and again bring about defective circulation and nutrition. Thus exercise, in so far as it increases temperature, tends to quicken C.R., and in so far as it dilates the vessels it lowers B.P., both of which results are good. On the other hand, in so far as it raises B.P. directly, exercise may tire or strain the heart, or it may raise B.P. indirectly by bringing fresh uric acid into the blood, both of which effects are bad. It is thus evident that very complex results may be brought about by exercise, yet in all cases a complete measurement of the circulation factors will tell us both what has taken place and why it has done so. Here are a few results:

The first record is that of a male, aged 57, taken about 4 p.m. after some slight exercise, and nearly two hours after the first heavy meal of a two-meal day: Pulse 84, C.R. 7, B.P. 130, C.D. $5\frac{3}{4}$; the second record at 4.50 p.m., after nearly thirty minutes of warming up in a portable Turkish bath, is: Pulse 92, C.R. 5.5, B.P. 120, C.D. $5\frac{1}{2}$; after this various exercises were undertaken in three series with a small rest between them, and at 6.15 p.m. the records were: P. 100, C.R. 6, B.P. 130, C.D. $6\frac{1}{4}$. In the first record we see that the pulse was quick, the C.R. B.P. ratio 10 below normal, the C.D. nearly $\frac{3}{4}$ inch above normal. This record therefore shows a certain amount of cardiac debility or overwork. In the second record we see the effects of heat on the same heart and circulation: Pulse quickened to 92, C.R. quickened to 5.5, and B.P. fell to 120; work was thus taken off the heart, and so its diameter diminished by $\frac{1}{4}$ inch. The third record shows the effects of exercise following on the conditions present in the second record, and as a result C.D. had enlarged $\frac{3}{4}$ inch.

We see here, then, the effects of heat, and later on of exercise, on a somewhat debilitated heart. The effect of heat was to dilate the vascular areas of the body surface and to free the capillary circulation by improving the solubility of the uric acid present in the blood stream. Thus work was taken off the heart, which then recovered some of its previous dilatation. A bath of hot water has the same effect, quickening C.R., lowering B.P., and diminishing C.D. The effect of heat in this case was not complicated by the presence of excess of uric acid, for the patient in question was fairly uric-acid-free. The effect of exercise was to increase the work of the heart, which accordingly dilated, and the C.R. slowed, partly because the effect of the heat was passing off and partly on account of increasing cardiac debility. But all these results would have been more marked in a patient who was not uric-acid-free. I here use the term "heart dilatation" in a physiological sense; every heart dilates to some small extent as B.P. rises from increased blocking of capillaries by uric acid; every physiological heart enlarges somewhat as the result of exercise. Thus every heart, even the strongest, is a trifle larger in the morning hours, when C.R. is slowest and B.P. highest; but hearts that are weak or otherwise pathological show these diurnal changes of size still more markedly, and the extent of these changes in relation to the change of C.R. and B.P. is an accurate guide to the strength, weakness, or want of tone of the heart muscle.

Compare the effects of a walk from London to Brighton on an athlete aged 25.

In this man, on the day before the race, we got P. 76, C.R. 6.5, B.P. 115, C.D. $6\frac{1}{8}$, L.Dss. $4\frac{1}{4}$; then the day after the race, which was won by this athlete in 8 hr. 57 min., pulse was 68, C.R. 8, B.P. 100, C.D. $6\frac{3}{4}$, L.Dss. $4\frac{1}{2}$.

From this we see that the effect of the exercise was to slow the pulse, to slow still more the C.R. (this being a result of collaemia with heart dilatation and fatigue), and to enlarge the heart and liver. Here B.P. fell instead of rising, but this was due to diminished fluids from loss in perspiration, and the enlargement of both heart and liver would have been greater if fluids had not been reduced. Thus we see that exercise produced in this athlete practically the same results as in the older man, but the results were measured immediately after the exercise in the latter case and only some twenty-four hours after in the athlete, but, as we should expect, it took far more exercise to produce these effects on a young strong heart.

Here is the effect of a cycle ride of fifty-five miles on an athlete aged 30:

This was his first ride for some four months, and he had a strong wind against him most of the way, with the roads in bad condition. Before the ride the records taken in the morning show P. 72, C.R. 7.5, B.P. 90, C.D. $5\frac{3}{4}$, L.Dss. 4, dynamometer, right hand, 122 lb., left hand, 118 lb. After the ride, in the evening P. 88, C.R. 8, B.P. 125, C.D. $6\frac{3}{8}$, L.Dss. $4\frac{1}{2}$.

Here we see the effect was to quicken the pulse, slow the C.R., raise the B.P., and slightly enlarge both heart and liver; and the slowing of C.R. was greater than appears, as under ordinary conditions it should have been quicker in the evening. This same athlete was tested on several other occasions, and as he got into training the enlargement of heart and liver got less and less for the given distance till, on some occasions, especially if fluids were short, the heart was even a trifle smaller after the ride than before it. On another occasion, when not in good training, his factors were on the morning after a seventy-eight mile ride P. 72, C.R. 11, B.P. 110 (deficient fluid), C.D. $6\frac{1}{4}$, L.Dss. $4\frac{1}{2}$; and four days later, after a ride of 140 miles, we got P. 68, C.R. 9, B.P. 80 (deficient fluid), C.D. $6\frac{5}{8}$, L.Dss. 5. And no doubt here the enlargement of both heart and liver would have been still greater but for the loss of fluid in perspiration; but even so we see that with nearly double the distance covered there was greater dilatation of both heart and liver. Thus do athletes get large and hypertrophied hearts. The above abnormal C.R. B.P. ratios were all, no doubt, results of diminished fluids.

The following record shows the effect of heat in a patient suffering from high pressure headache:

Some considerable occipital headache, hands and feet cold; at 6.40 p.m. P. 78, C.R. 9.5, B.P. 155 to 160, flattened 220. At 7.10 p.m., after twenty-five minutes' toasting in a Turkish bath, P. 88, C.R. 5, B.P. 125, flattened 190, headache *nil*, hands and feet warm. Pulsation in the radials, which was quite visible before the heat, became practically invisible after it. I regret that it was impossible to measure C.D. and L.Dss. in this case for comparison with the other factors.

I will now give the effects of retentive drugs on the C.R. curve obtained by night and morning observations. Day before drugs, excretion of uric acid to urea 1 to 29, C.R. morning 8, evening 6.6, variation $\frac{7}{10}$ sec. First day of drugs, uric acid to urea 1 to 39, C.R. morning, 8.2, evening 6.4, variation $\frac{8}{10}$ sec.

The invariable result of retention is that the daily curve (variation) gets larger, and of solution that the curve gets smaller and the morning and evening positions come closer together, till with powerful solvents, such as salicylates, in full action, the curve becomes almost a straight line. The less powerful solvents—for example, alkalis or diminished food—may reduce the daily variation to $\frac{5}{10}$ sec. or less; thus the effect of a (Schroth) dry day, which acts as a solvent, was to reduce the curve from $\frac{7}{10}$ to $\frac{5}{10}$, and

this was accompanied by an excretion of uric acid increasing from 1 to 31 to 1 to 19. With this compare the effects of a dry day on A. K., aged 33, suffering from chronic Bright's disease, high B.P., heart failure, and oedema of the legs and back, admitted into the Metropolitan Hospital on March 3rd, 1911.

Circulation factors: Pulse 108, C.R. 13, B.P. 155, C.D. 7, L.Dss. 5¾. On March 10th, after one dry day on the 4th and without the use of any drugs, the circulation factors were: Pulse 80, C.R. 8, C.D. 6, L.Dss. 4¼, B.P. 130. There was a marked diuresis on the 7th amounting to 118 oz., and both the oedema and the albumen disappeared. The albumen, like the oedema, was probably due chiefly to heart failure, and we see what a dry day and rest in bed did for the heart.

In pneumonia it is possible to get the entire prognosis from these factors. Thus in a recent case in the Metropolitan Hospital we found on the sixth day of the disease: T. 101.4°, respirations 48, P. 120, C.R. 10, B.P. 100, difference from the normal C.R. B.P. ratio 100. In the same patient eleven days later: T. 97°, P. 92, C.R. 7, B.P. 115, a difference of only 25. This shows the great strain that pneumonia puts on the heart and how that strain was gradually recovered from as the pulse came nearer the normal. This patient was in considerable danger at the crisis of his disease with a difference of 100 from normal.

I could multiply such cases indefinitely, but it is unnecessary to do so here, as many such have been already published in my book, *Uric Acid in the Clinic*. My present object is to point out the ease with which these factors can be measured, and their great value in estimating circulation changes and their meaning from day to day. By the measurement of these factors many hearts which are now passed as normal can be shown to be definitely abnormal, and we thus get valuable light thrown on the etiology of many cases now classified as dyspepsia or neurasthenia.

DISCUSSION.

Professor RICHARD J. ANDERSON (Galway) said that the biologist must welcome heartily the paper of Dr. Haig. A comparison of his results with those obtained by v. Kries's capillary tension scale must prove interesting. Sources of error in biological investigations should meet with the same consideration as the sources of error in other sciences. Biology and physics were in some domains complementary.

ON THE PRESENCE OF VALVES IN THE VEINS OF THE PORTAL SYSTEM.

By D. P. D. WILKIE, M.Ch., F.R.C.S.Edin.,
Assistant to the Professor of Clinical Surgery, Edinburgh University.

IN all the modern textbooks on anatomy to which I have had access, it is stated dogmatically that there are no valves in the veins of the portal system. That this is not the case I hope to prove in this paper.

In 1887 Hochstetter[1] noted that it was sometimes impossible to inject the gastric veins in the bodies of young infants, and stated that this was due to the presence of valves in these veins. These valves, of which he showed drawings in his paper, appeared to atrophy and to become incompetent as adult life was reached, but occasionally competent valves were found in the gastric and omental veins of subjects past middle life. Hochstetter showed no microscopic proofs of the presence of such valves, and whether from this omission or from the somewhat fantastic character of the drawings in his paper, his work has been disregarded by most anatomists.

While working at the subject of retrograde venous embolism in the stomach, it became imperative to the writer to know definitely whether or not there were valves in any of the tributaries of the portal veins in the human subject. Injection of the gastric veins in a large number of stillborn children showed that in a few cases the injection fluid failed to travel up the gastric tributaries of, for example, the right gastro-epiploic vein, and at the junction of such tributaries with the larger vein a bulging of the vessel wall would occur, strongly suggesting the presence of a valve. Attempts to demonstrate microscopically the presence of valves at such points were, however, unsuccessful.

On the other hand, in a number of bodies where no injection was made but where the blood in, for example, the right gastro-epiploic vein was gently forced backwards by the finger, appearances suggesting the presence of valves on its lateral tributaries, both gastric and omental, were almost invariably seen. Thus, as a rule, the regurgitation of blood into the majority of the gastric and omental tributaries was obstructed, except some force was used in expressing the blood backwards. By ligaturing off, fixing, and cutting serial sections of those parts of the

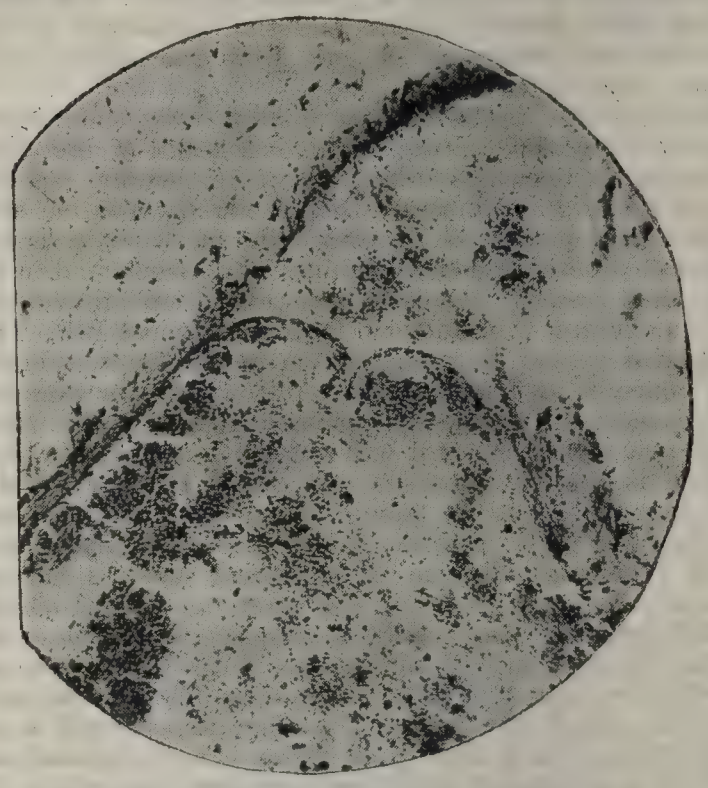

Fig. 1.—Valve at the mouth of a gastric tributary of the right gastro-epiploic vein in a full-time fetus.

vessels the naked-eye appearance of which suggested the presence of valves, I have succeeded in demonstrating, beyond all question of doubt, that in the newborn infant and in the young child, and also in the adult human subject, there are valves in the gastric and omental tributaries of the portal vein. These valves are situated at or close to the openings of smaller vessels into larger ones.

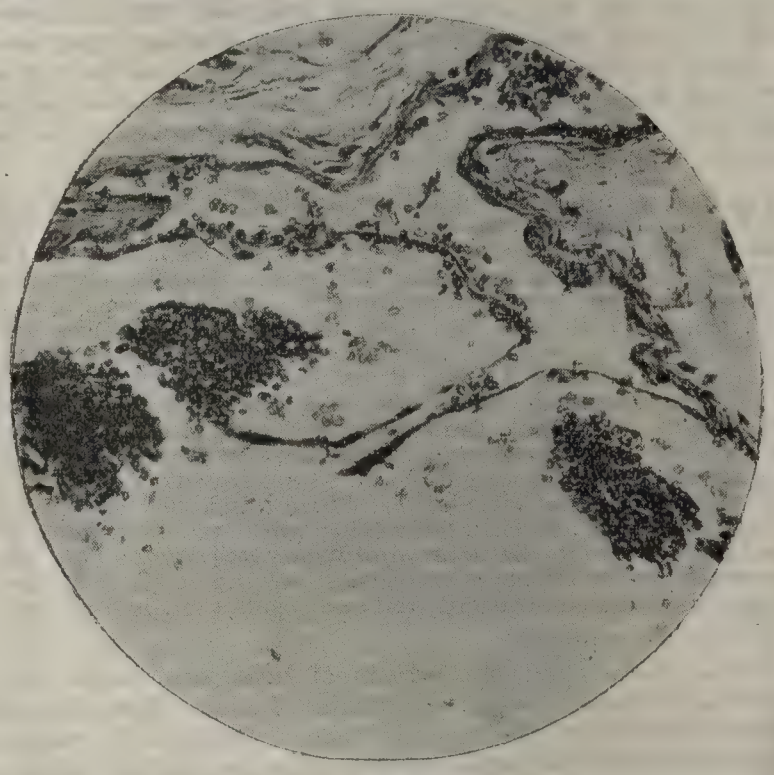

Fig. 2.—Same as Fig. 1 from another case. Note the long slender cusps.

Each valve is made up of two long slender cusps, which close after the manner of the aortic cusps (Figs. 1 and 2). The cusps have a very delicate structure consisting of merely a basement membrane and one layer of flattened epithelium, consequently forcible injections readily break them down.

Having once made certain that there were valves in these veins it became extremely easy to demonstrate their presence, and in a series of forty bodies of stillborn infants competent valves were shown to exist in some of the gastric veins in 38 cases. In some cases all the gastric and omental tributaries of the right gastric epiploic were

provided with competent valves, and injection of that vessel gave the striking appearance shown in Fig. 3. Valves were also found, though not so consistently, in the tributaries of the coronary vein and in the vasa brevia.

In the bodies of fifty adults examined in the *post-mortem* room of the Edinburgh Royal Infirmary, careful investigation revealed the fact that whilst in the vast majority of the gastric and omental veins there are no competent valves, yet the presence of such valves can be demonstrated in one or two veins in 60 per cent. of cases.

Examination of the gastric and omental veins in the

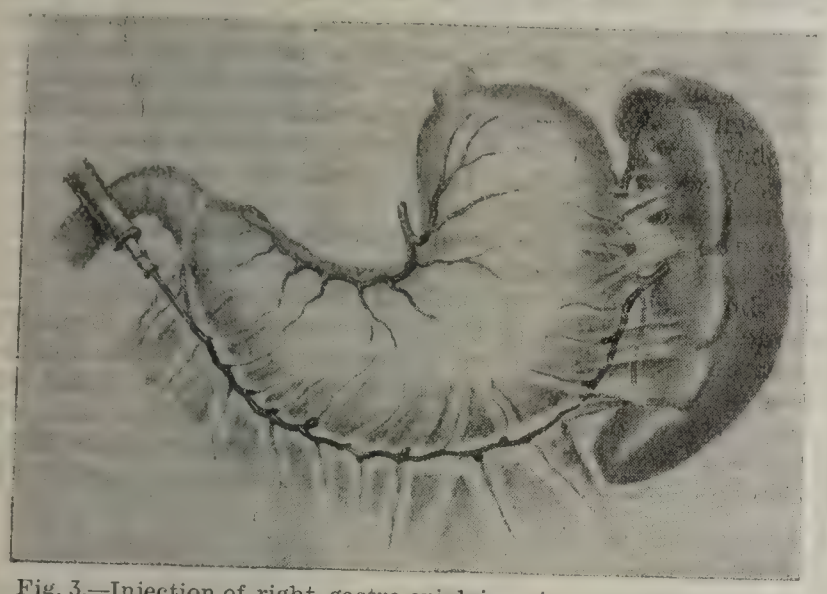

Fig. 3.—Injection of right gastro-epiploic vein; competent valves on all its tributaries.

bodies of 25 children of ages ranging from 2 months to 18 years showed that whilst in very young children competent valves are commonly found in these veins, in the older children the evidences of such valves are much rarer, and this rarity increases with the age of the child. It therefore appears that these valves tend to atrophy, and to become incompetent during the period of childhood and adolescence. The valves which remain competent for longest are those on the openings of the omental veins into the gastro-epiploic vein. Next to these come the

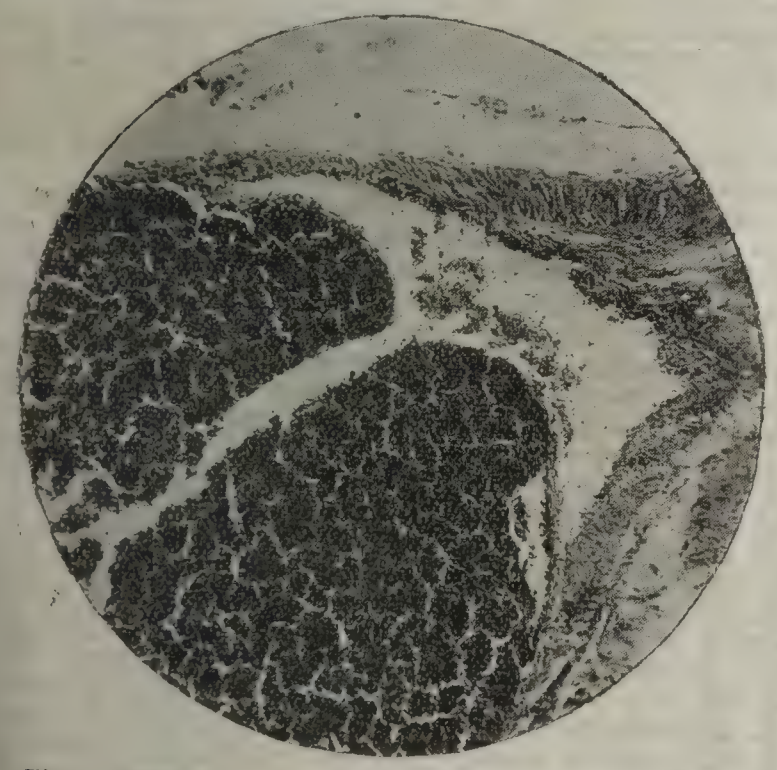

Fig. 4.—Valve at the mouth of one of the first tributaries of the right gastro-epiploic vein in a woman aged 50.

valves in the first tributaries of the right gastro-epiploic veins and those on the vasa brevia, and I have found competent valves in these veins in the bodies of elderly people (Fig. 4).

The presence of incompetent valves at the mouths of the tributaries of the right gastro-epiploic vein of an adult can be readily demonstrated by slitting up this vessel and then examining it, floated out in fluid, under the dissecting microscope, when the delicate cusps can be easily recognized. In most other mammals similar valves are found in the gastric veins. In the cat and dog they are invariably found, and are of stronger structure and persist relatively much longer than in the human being, though there is the same tendency to incompetence with increasing age.

That valves should be exclusively confined to the gastric and omental tributaries of the portal vein seemed a very curious and unlikely state of affairs, and therefore I was not surprised when in a full-time fetus I found appearances strongly suggesting the presence of valves in the veins of the large intestine, nor when

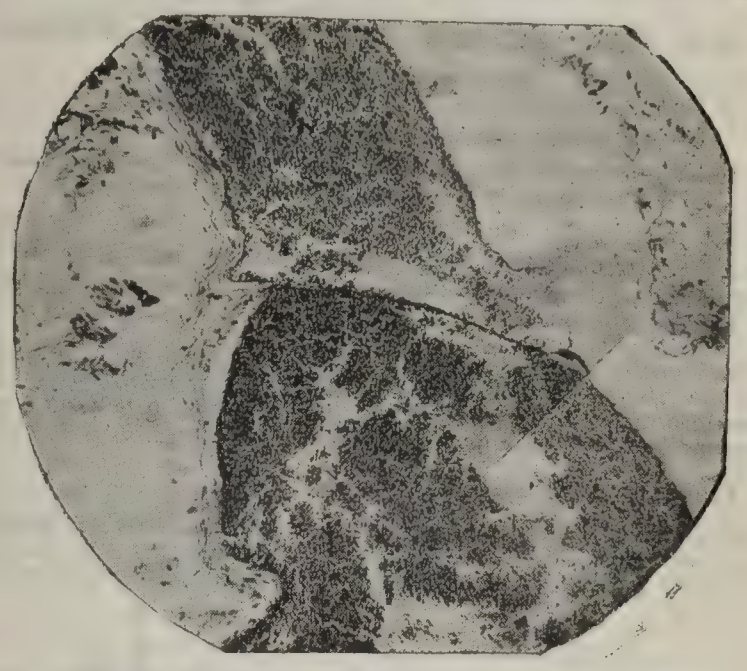

Fig. 5.—Section through one cusp of valve in a vein of the pelvic mesocolon in a child 1 week old.

microscopic sections proved that such valves did exist. Examination of the mesenteric veins of 10 stillborn children has shown in every case the presence of valves in the veins from the large intestine. The valves are most abundant in the veins of the pelvic colon, but they are also quite distinct, if not so numerous, in the smaller veins from the transverse colon and in those of the caecum and appendix (see Figs. 5 and 6).

So far I have not been able to demonstrate microscopically competent valves in the colic veins of the adult human subject, nor yet to demonstrate the

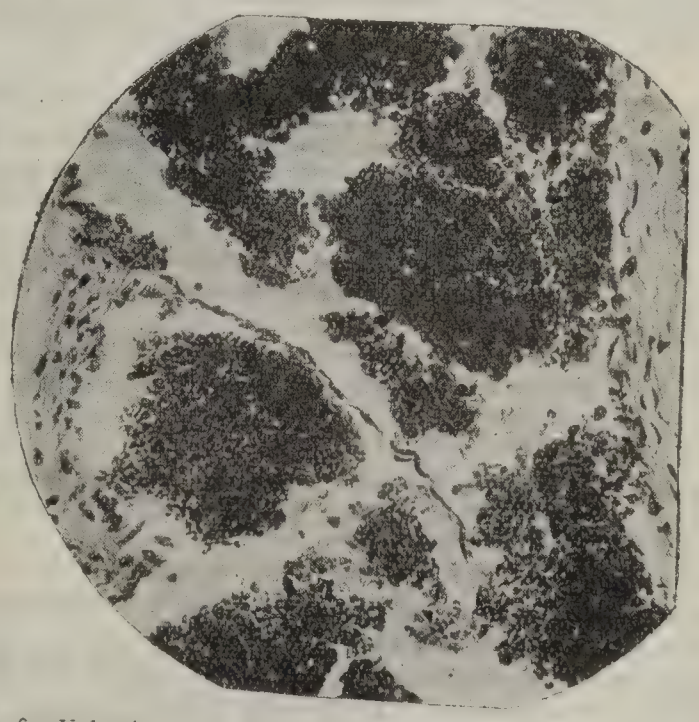

Fig. 6.—Valve in a vein of the transverse mesocolon; from the same case as Fig. 3.

presence of valves in the veins from the small intestine, but both of these conditions require, I am convinced, only time for their disclosure.

To sum up, we have now definite proof that there are valves in the veins of the portal system; that these valves are widely distributed throughout the tributaries of the portal vein, and that while well developed in the infant and young child they tend to become incompetent in the adult. These valves, which are well developed in most of the lower mammals, appear in man to be undergoing a retrograde metamorphosis.

REFERENCE.
[1] *Archiv für Anatomie*, 1887.

DISCUSSION.

Professor RICHARD J. ANDERSON (Galway) said that the practical importance of ascertaining the nature or presence of efficient valves in abdominal veins was obvious. The value of the investigation was increased by the proof that the valves were very efficient in very young people.

ON THE ACTION OF THE ILIO-PSOAS MUSCLES.

By ALEXANDER MACLENNAN, M.B., C.M.,
Assistant Surgeon, Western Infirmary, Extra Honorary Surgeon, Royal Hospital for Sick Children, etc., Glasgow.

MOST textbooks on anatomy ascribe to the ilio-psoas muscle not only the function of flexion, but also that of outward rotation of the thigh. In the *Traité d'anatomie humaine*, Poirier writes:

> Besides flexion of the thigh on the abdomen, and the abdomen on the thigh, the ilio-psoas rotates the leg outwards, thus counteracting the rotation of the femur inwards by the tensor vaginae femoris, both acting together cause flexion only.

Testut, second edition, has:

> It approximates the femur to the median line (adduction) and produces an outward rotation. In the vertical position he psoas iliacus muscles have their points of insertion on the femur fixed, and act then on the vertebral column and pelvis, bending them forwards. If the muscle contracts on one side only it still flexes the trunk, but also inclines it at the same time to its own side (abduction), and impresses on it a movement of rotation, in performing which its (the trunk's) anterior aspect is turned to the opposite side.

Putting this in other words, the ilio-psoas adducts, abducts, flexes the thigh on the abdomen, and rotates the leg outwards.

In muscular motions of the human body Barclay (1808) gives the ilio-psoas among the list of adductors, and as a rotator fibulad.

Cruveilhier (fifth edition) says:

> The ilio-psoas muscle flexes the femur and at the same time rotates it outwards on account of the obliquity of its insertion into the posterior internal part of the femur.

Aeby (*Lehrbuch der Anatomie*, 1871) states:

> The ilio-psoas rotates the femur outwards and flexes it . . . because of its posterior attachment to the femur.

Gegenbaur asserts that the ilio-psoas raises the thigh and makes it at the same time rotate outwards.

MacAlister (*Textbook of Human Anatomy*, 1889) puts as follows:

> The psoas and iliacus flex the hip and rotate the thigh outwards.

Davies-Colley, in the *Treatise of Human Anatomy*, thinks it more a rotator inwards than outwards.

In *Quain's Anatomy*, tenth edition, the ilio-psoas is mentioned as bending the spine either forwards or laterally —that is, acting as an abductor.

Gray (eleventh edition) has:

> The psoas and iliacus muscles acting from above flex the thigh upon the pelvis and at the same time rotate the femurs outwards from the obliquity of their insertions into the inner and back part of these bones.

From the foregoing it is quite evident the general opinion of anatomists is that the iliac psoas acts, in addition to being a flexor, also as an abductor and rotator outwards of the thigh. Some authors have volunteered, as a reason for the abduction and the rotation, the peculiar insertion of the ilio-psoas into the posterior aspect of the small trochanter.

If the femur rotates about the axis of the shaft, then the arrangement at the insertion of this muscle would be the same as one finds in the insertion of the biceps tendon into the tuberosity of the radius. This insertion of the tendon in both cases is obviously necessary where rotation takes place through such a wide angle. Were this not so, the tendon would be pulling on the insertion in inward rotation in one direction and in outward rotation in another—an arrangement of this kind would be mechanically bad, for by throwing the strain now on one side, now on another, there would be a tendency to separation of the insertion.

In the case of the biceps and the radius, where rotation takes place about the axis of the shaft, the function of the muscle as an external rotator is manifest, but though the rotation of the femur appears to be brought about in a similar manner, it is not really so. The femur does not rotate about the axis of the shaft, but about an axis which passes through the centre of the almost spherical head, and is situated nearer the median line. This fact materially alters the conditions and makes of the ilio-psoas not an adductor, but an abductor—not an outward, but an inward, rotator of the femur.

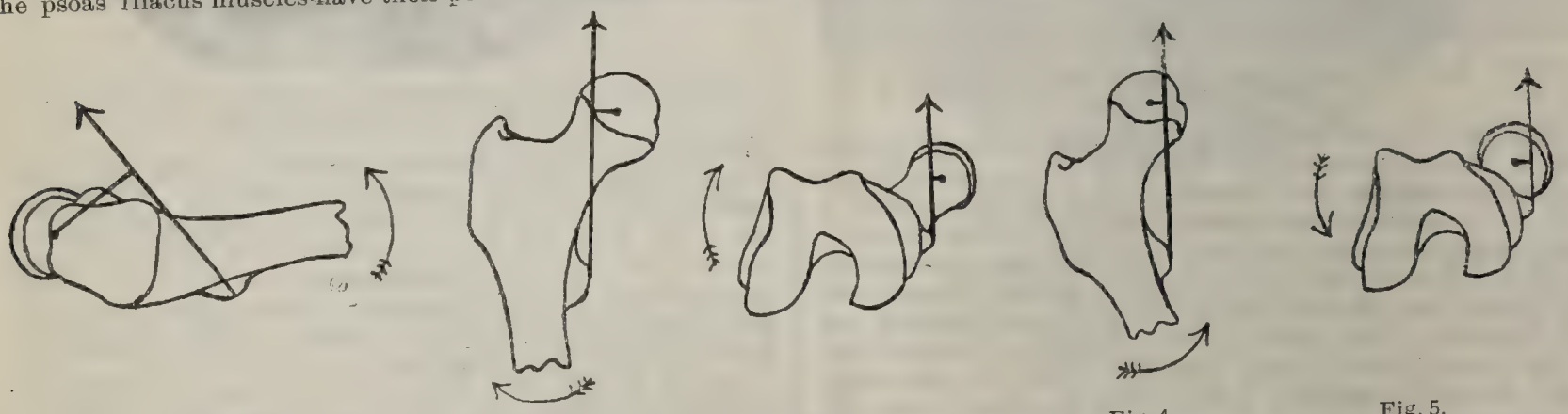

Fig. 1. Fig. 2. Fig. 3. Fig. 4. Fig. 5.

Fig. 1 shows the moment of the muscle about the axis of flexion. Fig. 2 shows the moment of the muscle about the axis of abduction and adduction, the leg being in normal position. Fig. 3 shows the moment of the muscle about the axis of rotation, the leg being in normal position. Fig. 4 shows the moment of the muscle about the axis of adduction and abduction, the leg being first adducted. Fig. 5 shows the moment about the axis of rotation when the leg is first adducted.

In support of this assertion I have tried the following:

1. A tape is attached to the place of insertion of the tendon on the small trochanter, the head of the bone is placed in the acetabulum and the tape made to take the place of the ilio-psoas. The bones are placed in relative normal position, the femur hanging by the tape. The moment tension is put upon the tape sufficient to bring pressure to bear on the acetabulum, rotation of the femur inwards, followed by a slight amount of abduction, occurs. Further traction of the tape sufficient to produce flexion naturally turns the head out of the acetabulum.

2. A dissection of the ilio-psoas muscle was made so as to free enough at the point where it leaves the pelvis to allow of the finger being introduced beneath it. The tendon beneath this point was also freed from all adhesions down to, but not including, the insertion. The subject was lying on the dorsum with a fully extended hip and knee, the feet being placed together in the usual everted position taken by them under the action of gravity. (This position shows that the centre of gravity of the limb is outside the axis of rotation in the head.) On inserting one or two fingers under the muscle and putting tension upon it, the thigh was lifted forwards and the leg rotated inwards. Enough force cannot by this means be applied to produce either abduction or flexion, but the certainty and nicety of the inward rotation is demonstrated.

3. In the living subject this action of the ilio-psoas can also be demonstrated. In the puerperal state, where the abdominal parietes are lax and thin, the ilio-psoas muscles can be reached very easily and examined with care and precision. If the woman be asked to rotate the leg inwards against resistance, a hardening of the muscle is felt,

while eversion of the foot under the same conditions causes no such contraction of the muscle. Again, if the thigh be flexed short of bringing the neck of the femur in contact with the rim of the acetabulum, and the woman be told to rotate the limb inwards, then the same hardening of the ilio-psoas is noticed.

The mechanics of this action of the ilio-psoas is very difficult to explain without a model, but a glance at the accompanying figures will help to elucidate the problem.

Whether the muscle acts as an adductor or an abductor depends on whether the axis about which the bone moves lies outside or inside the line of action of the ilio-psoas tendon. It is admitted generally that the muscle acts as an abductor. This can only be true if the line of action of the muscle lie outside the axis of movement, in which case the muscle has a moment about this axis which produces the abduction. (See Fig. 2.) The muscle therefore abducts the leg, or, if the leg be fixed, bends the spine towards its own side. The axis of rotation, passing through the head of the femur, cuts the axis of abduction and adduction so that if the ilio-psoas line of pull be outside for one it must be outside for both, hence the muscles must have a moment about this axis and cause rotation inwards. (See Fig. 3.) During rotation inwards the femur is bodily displaced forwards and so the point of insertion, while apparently being twisted further round the femur, is in reality getting nearer the origin by this forward movement.

The femur is not attached to the innominate bone as the radius is to the humerus, but its centre of movement is about a point in the head of the femur, removed an appreciable distance from the axis of the shaft, between this point and the axis of the shaft comes the insertion of the ilio-psoas.

The ilio-psoas tendon turns round over the brim of the pelvis, over the hip-joint, and is directed in a backward path to its insertion into the small trochanter. The line of its pull, being so directed, tends to bring forward the small trochanter, and consequently the whole femur.

It has been asserted that when the trunk is lowered by complete flexion of the hips, knees and ankles (squatting on the haunches), the position of the femur brings the small trochanter nearest to the origin of the ilio-psoas, and this is true, but the position is not brought about by the action of this muscle, which can only flex the femur to about a right angle with the trunk. Beyond this flexion is interfered with by the neck of the femur coming into contact with the rim of the acetabulum, when to allow of further flexion an outward rotation, accompanied by a degree of abduction, must take place. Thus complete flexion, though associated with external rotation, has this external rotation compensated by abduction. The ilio-psoas, besides being a flexor of the hip, is a rotator inwards of the femur, and also an abductor of the thigh. It is quite impossible for the muscle to rotate the leg inwards and be an adductor of the leg at the same time. Inward rotation and abduction, outward rotation and adduction must go together. The ilio-psoas may become an adductor and outward rotator if the leg is placed in an adducted position before the ilio-psoas acts, for in this situation the insertion of the muscle is carried inside the axes of rotation of adduction and abduction. The iliacus may act by itself, so also the psoas. The iliacus certainly is an abductor and internal rotator; the psoas may be merely a flexor, or even an adductor and external rotator.

Since the above paper was read at the Annual Meeting I have been looking through skiagrams of the hip, and my contention is further borne out that the ilio-psoas line of pull is placed between the centre of the head of the femur and the centre of gravity of the limb.

DISCUSSION.

Mr. J. E. S. FRAZER, F.R.C.S. (London), agreed that the action of the psoas was to flex and, it might be, to act as an internal rotator. This was indicated also by the outward direction of the lower end of the psoas tendon. The psoas was only inserted on the front and inner part of the small trochanter and not on the back, which was covered by a bursa separating it from the adductor magnus.

DEMONSTRATION OF AN ACHONDROPLASIC SKELETON.

By LEWIS GRAHAM, M.B., B.S.Lond.

ACHONDROPLASIA is a curious and rare congenital condition. It somewhat resembles rickets, as there is defective epiphysial bone formation. This results in the limb bones being short and stunted. The cartilage bones of the base of the skull also suffer in not developing naturally while the membrane bones of the vault more nearly approach the normal. The effect is to cause the face to look small, while the cranial cavity is relatively large.

The skeleton shown is that of a male aged 46, and 4 ft. 6 in. in height. Amongst the most notable points displayed by it are:

In the skull the small size of the face and basal cartilage bones. There are exceptions, for example, the maxillae (membrane bones) are small, while the supra-occipital (cartilage bone) is large. Similar exception is present in the clavicles (membrane bones), which have been found to be almost normal in several achondroplasics, but in this skeleton are certainly more abnormal than the scapula.

The basilar process is vertical. All the foramina are small, and this possibly accounts for the large size of the foramina for the emissary veins, one of which (mastoid) is 4 mm. across. The foramen magnum is very small. In the skull, as in the rest of the skeleton, the muscular and ligamentous attachments are abnormally well marked. In the face the orbits are very large, the maxillae are very small. The nasal bones are also small, and appear deeply sunken below the prominent glabella. The upper tooth sockets project forwards.

Within the skull the middle fossa is small, though the pituitary fossa is apparently normal.

With regard to the rest of the skeleton, the shafts of the long bones are short, stout, and heavy. The ligamentous and muscular attachments are very pronounced. The nutrient foramina are normal in direction. In some cases the epiphysial lines which should be last obliterated in the bone are still distinctly visible, though the subject was 46 years of age. The bones displaying this are the radius, tibia, femur, and in the Y-shaped acetabular cartilage.

All the articular surfaces are poorly developed, and this is also shown in the hand and foot bones, which are otherwise fairly normal.

DISCUSSION.

Dr. D. E. DERRY (London) said that a skull discovered by Professor Flinders Petrie in Egypt, and now in the Museum of the Royal College of Surgeons, exhibited a similar condition to that of the achondroplasic skull shown by Dr. Graham, its chief peculiarity being the smallness of the foramen magnum and the lack of development of the petrous portions of the temporal bones. The skull in question was thought to be that of a cretin, so that the demonstration of the same pathological condition in a case known to be that of an achondroplasic dwarf was of interest.

SOME NOTES ON VARIATION.

By Professor RICHARD JOHN ANDERSON.

TISSUES and organs in animals and plants do not seem to deviate much from their typical characters, notwithstanding the operations of numerous agents. Common experience tells us that organisms tend to vary—"no two are alike." An organism (1) may yield to or resist external or internal agents, or adapt itself to the changes in simple or complex ways; (2) the power which animals and plants have of multiplication by division or budding is akin to the power which some animals have to autotomize limbs or other parts of the body. The restoration of lost parts is akin to the production of these parts in the embryo, and suggests the presence of embryonic tissue and the stimulus to act. The nervous system in many cases brings about the autonomy under the influence of stimuli (the inhibitory powers are in abeyance, whilst the muscles by their reflex action are forced into operation). A stimulus, where autotomic or external, that arises from the severance of the part or limb seems to be the primary factor in inducing the reproduction of the lost parts (exposure and disturbance

of equilibrium are important). A lizard may reproduce an amputated tail, a crustacean a lost limb, a worm may reform a great part of its lost form. Amphibians may grow again amputated fingers (sometimes more than the original number).

The regeneration of lost parts has been studied by many observers—the regeneration of the eye lens in the triton, by Eric Muller; of mammillae, by Ribbert; of bone and cartilage by Wendelstadt; of fibrous tissue by Flemming; of smooth muscle, by Stilling and Pfitzner; of nerve by Bethe and Monckeberg, Kolster and Neumann; temperature, effects of, on sea urchin larvae (Kütsner); taste buds (regeneration), environment, action of quinine and gases on protoplasm, by Binz and Kuhne; gravity, by Born and Schulze, Mosskowski; centrifugal force, by O. Hertwig, Wetzel; Roentgen rays, by Schmidt; salt solutions, pancreas cells under stimuli, by Babkin; influence of temperature, by Hertwig, Sumner and others; influence of nourishment on batrachian testes; artificial segmentation has been studied in infusoria by Nussbaum.

Lessitzky and others have noted the production of extra limbs in amphibia; the determination of the causes of bifurcation of limbs, polydactyly, increased number of phalanges (Gilmore), the limits of parthenogenesis, Nussbaum, Kostanecki; the division of cells and nuclei, Henking, Schottlaender, Jenkinson, Wendelstadt. Most of the above references are to *Archiv für mikroskopische Anatomie und Entwickelunggeschichte* (O. Hertwig und Waldeyer).

It may be mentioned that the tissue is not invariably reproduced in form or kind. Of the production of a substitute tissue we are familiar in scars after loss of skin. The place where the new tail of a lizard joins the old one can be distinguished afterwards. Then some tissues appear never to be regenerated, a form of new fibrous tissue replaces the original.

The parts produced may be normal in size and character or abnormal. These variations are sometimes resented by animals, and the limb may be again autotomized. Besides the stimulus to act, which may be very faint—Darwin and others point this out—the character and distribution, as well as the amount of food, affect the result. Change in environment may lead to the disuse of some organs. Thus, a variation that helps an animal to live in the dark, to climb or run, may be associated with a variation that leads to a change in the eye or limbs or toes. The readjustment of the forces and food supply affects the nutrition locally and generally. Some parts are developed at the expense of others, owing to the spare material which the disused part does not require or fails to appropriate.

If many fingers result from the amputation of the hand of a newt, the same tendency to multiplication may have existed in even a remote ancestor.

An animal with a capacity for change may be able to "adapt" itself very soon to its surroundings, and may come back again to the *status quo* when the operations are reversed. Becquerel points out that varieties produced by traumatism in plants are not necessarily new plants. The apparently new species or varieties produced in polyhybrids of zinnia and maize are atavistic or teratological. These plants in past generations responded to stimuli of a similar kind, or changed when placed in the same exceptional condition. No doubt some animals and plants found out their own powers by "trying." The increased sensitiveness of the skin induced in cave animals at first by hunger, fear, and darkness, produced concentration of peripheral attention, and led to the transference of the perceptive avenues in certain crustaceans and fish to the skin nerve terminals that developed within their limits, aided, as Lankester pointed out, by the rich material of the disused eyes. Hypertrophy of certain organs may be favoured not only by the excessive use of those organs, but by the disuse of other organs.

Psychological schools have been disturbed by questions that fall into categories parallel to those that concern biological history. The explanatory history of the vertebrate manus and pes concerns us most when the varieties are simplest and most obvious. Primates show a good many varieties. Lemurs especially attract our attention because of the extremes one meets with, such as in Tarsius, Galago, Cheiromys, and Galeopithecus. Man excites the most interest. Owing, no doubt, to adaptability, the varieties of the wrist and ankle bones are numerous. The Roentgen rays have added to the number. There are thirty odd varieties of the carpus and twenty or more varieties of the tarsus; these are likely to be increased. The os trigonum tarsi, which is oftener in adult men than in adult women, was considered by Hyrtl to be the broken-off trochlear process of the talus. V. Bardeleben homologized the bone with the os lunatum of the hand. The origin is due to certain mechanical factors that come into operation. The os trigonum is originally a skeletal part equivalent to the intermedium antebrachii (os triangulare). The size is 35 to 20 mm. by 10 to 15 mm. vertical. It lies behind the talus and articulates with the calcaneum by cartilage, fibrous tissue, or a joint; it may be connected with the talus. If an articulation exists, the joint communicates with the talo-calcaneal. There are two parts of the posterior surface of talus, the propria and the trigonica. Sometimes this bone is divided into a posterior tibial and an anterior fibular piece; if the division be due to fracture, it is hard to tell by Roentgen rays the difference. It may be an epiphysis, a separated process or a migrant os trigonum. Putting to one side the statistics of fracture given by Lilienfeld (quoted by E. Bibergeil in *Zeitschrift für Aerztliche Fortbildungen*), it may be said that pathological deposits may occur, owing to degeneration; but the os trigonum should show surface for articulation.

An os tibiale externum is a sesamoid bone belonging mainly to the tibialis posticus. It is more often found in women than in men (unlike the os trigonum). It may, if large, be in relation with the talus and navicular, or, (2) if smaller, with navicular alone, or (3) it may be imbedded in soft parts and be in relation with neither. It is sometimes like exostosis of navicular (Pfitzner). It may be fused to navicular and the talus may slide over its cartilage or membrane-covered surface.

Gruber saw the tuberosity drawn out in 10 per cent. of the examples. Jaboulay believed that the os tibiale externum was an epiphysis of the navicular and joined it by cartilage.

Waldeyer figures four cases of os tibiale externum which are found near the tuberosity or in place of it. V. Bardeleben says this bone is a sixth toe ray to be homologized with the tibiale of Gegenbaur.

Waldeyer is of opinion that the name has been used in different senses by different authors. Three of these were typical skeletal parts. Some examples are to be regarded as ossification of tendons or ligament. The recognition of the bone is of the greatest importance by palpation or Roentgen rays. The sesamium peroneum lies in the postero-lateral end of the cuboid bone (oblique eminence). It is ossified cartilage and is better seen in the lower apes and oftener than in man. It is sometimes seen well in the chimpanzee. It is sometimes imperfect or degenerate. An os intermedium tarsi is also found on the dorsal side of the first interosseous space. It is apt to be pointed and cartilaginous and articulates with cuneiform I and metatarsals I and II. Gruber found this bone ankylosed to one of the adjacent bones. The os vesalianum is found rarely, and between the fifth metatarsal and cuboid and articulating with these. It may have an independent ossific centre and afterwards unite to metatarsal V, or it may coalesce before bone is laid down. This ossicle may be confused with a fracture fragment. Dwight found a secondary cuboid and a secondary calcaneum. He uses the Roentgen rays to examine wrists and ankles after the superficial parts are removed.

The first phalanx of the fourth toe and fourth finger in Galago and the ruffed lemur are much longer than the first phalanges of the other toes and the other fingers. Indeed all the joints of the fourth rays are longer than those of the others.

Whilst the os calcis and astragalus are long bones in the frog, the os calcis and scaphoid are long in some genera of lemurs. The third toe in Cheiromys is long and slender, as long as the fourth. It is possible that the flying lemur should be placed close to the insectivora, which forcibly illustrate methods of response to environment.

Professor Dwight uses the term "readjustment" in speaking of a case where the cuneiform bones had almost disappeared from the foot. Referring to Professor Pfitzner's views with reference to the carpus and tarsus, he holds that the statement may be taken as a useful working hypothesis. Carpal bones modify themselves indepen-

Measurements of the Phalanges in Galago.

No.	Metatarsals.	Phalanx I.	Phalanx II.	Phalanx III.
1	1.9	1.0	0.7	—
2	1.4	1.1	0.5	0.65
3	1.6	1.3	0.9	0.58
4	1.6	1.85	1.1	0.5
5	1.6	1.5	0.7	0.4
	Metacarpals.			
1	1.0	1.0	0.5	—
2	1.3	1.4	0.7	0.4
3	1.4	1.3	0.1	0.4
4	1.4	1.6	1.1	0.5
5	1.2	1.4	0.8	0.4

dently. Nevertheless, he shows that the small styloid process of the second metacarpal bone, though sometimes joined to that bone, the os magnum, or the trapezoid, or free, yet two of these conditions may occur in the same hand. There seems to be independent action for a time; then local or general relations—mechanical, nutrient, or other—may have something to say in the result. Activities that demand more work from one may lead to a diminished action, partial growth absorption, or coalescence of others; hence many varieties—forty of carpus and thirty of tarsus—in man may result. Illustrative examples from comparative anatomy are numerous. If pathological modifications (and it is not always easy to draw the line) be included, the illustrations are increased. The enlargement of one part at the expense of its neighbour is not an isolated act, for atrophy results in one case from absence of activity or from pressure, or absorption of nutrient matter partially prepared is reduced, or the assimilating cytodes diminish in number or transfer their energies to another part. This other part—a growing predominant finger or toe, perhaps—absorbs more nutriment, acts more, has greater freedom or hypertrophies.

Dwight says he has no objection to Driesch's term "entelechy"—a something that bears the end in itself. It is obviously a difficult question to answer, the terms tell us this. The scaphoid in the elephant's hand is small, and in primate's hand is large; the reverse is the case with the os triquetrum, as Hans Virchow points out. Examples of variations are numerous. Pressure in the one case and versatile activity in the other are concomitant causes. Bones seem to respond to muscle action; as has been frequently shown, mechanical pressure and the effects of strain seem to influence the growth in many cases.

NOTE ON THE EFFECT OF ISO-OSMOTIC SOLUTIONS OF VARIOUS SALTS ON THE ISOMETRIC CURVE OF FROG'S MUSCLE.

By E. WACE CARLIER, M.D., M.Sc., F.R.S.E.,
Professor of Physiology, University of Birmingham.

THE only salts with which I propose to deal in the present communication are the chlorides of the commoner elements contained in Groups I and II of the periodic law and the sodium salts of the halogen elements in Group VII of the same law.

Method of Investigation.

In all cases the gastrocnemius muscle was dissected out from a perfectly healthy frog, and a muscle hook inserted into the tendo Achillis. This hook was then passed into a loop of copper wire fixed in the bottom of a cylindrical glass vessel of sufficient depth to contain the whole muscle and of sufficient diameter to hold, in addition to the muscle, 20 c.cm. of the fluid to be tested. The femur, to which the upper end of the muscle remained attached, was connected by means of an inextensible thread to the lever of a Schenck isometric tortion apparatus, supported upon a Palmer adjustable stand, upon which the vessel was also fixed vertically beneath, so that the pull of the muscle upon the lever should be direct.

The support of the vessel was provided with a fine screw activated by a milled head, so that it could be bodily raised or lowered rapidly to a nicety; an arrangement found necessary, because certain of the solutions produced rapid shortening of the passive muscle, which could be more easily and rapidly compensated by raising the cup than by lowering the plate of the myograph.

The length of the recording lever and of the torsion rod remained constant throughout all the experiments, and therefore the records made are comparable *inter se*.

The form of myograph used was a Zimmermann compensating pendulum with electro-magnetic catches. The position of the break key upon the arc was constant, and arranged in such a manner that the stimulus was given to the muscle when the velocity of the pendulum was at its maximum, with a view of ascertaining what effect, if any, the solutions had upon the latent period of contraction.

The stimulus was derived from a Dubois induction machine, the secondary coil of which was kept at 10 cm. from the primary coil fed by a standard cell. The stimulus was, therefore, a single break shock, and the apparatus was arranged to cut out the make shocks resulting from the closure of the pendulum key.

In each case a single break twitch curve of the muscle was first inscribed as a standard of comparison, and then 20 c.cm. of solution at laboratory temperature was poured into the vessel. Frogs, solutions, and apparatus were all kept near together in the same room for several days before using, so that differences of temperature between the muscles and solutions should be reduced to a minimum to obviate fallacies which might otherwise have crept in.

The solutions used were made iso-osmotic to 0.85 per cent. sodium chloride solution, mostly from tables, but in a few cases the freezing point and the osmotic pressure was experimentally verified.

In some experiments curves were traced every minute; in others every two minutes; and in others, again, every five minutes, until the muscle failed to respond to the stimulus used.

In dealing with the action of salt solutions upon muscle it appears well not only to ascertain the necessary time of immersion to produce failure of muscular response or toxicity of the salt, but also to take into consideration its effect upon the length of the passive muscle and upon each separate phase of the contraction curve. When this is done it is found that the salts group themselves differently as each event is considered. Thus, if the contraction curve of normal muscle be taken as a standard, all salt solutions exhibit sooner or later a toxic effect, diminishing, and finally abolishing, muscular response; but if the length of the normal muscle at rest be taken as a standard, then some salts produce shortening, others lengthening, when the muscle is immersed in them, and so on.

In the following tables the salts are arranged in the order of their intensity of effect, time as well as intensity of action being considered as a factor in the determination of the position assigned to each in the list.

TABLE I.—*Action on Length of Passive Muscle.*

Normal saline produced no change in length even after six hours' immersion. Some salt solutions produce remarkable and extensive shortening at once, which remains permanent, as $HgCl_2$; others, after a period of shortening, cause elongation, exceeding considerably in some cases the normal length; others, again, produce elongation at once or after a certain interval.

Shortening Only.—HCl (most); $CaCl_2$; $HgCl_2$ (least).
Shortening with Subsequent Lengthening.—NaI; KCl; $SrCl_2$.
Lengthening Only.—NaF (least); ZnCl; NaBr; LiCl (most).
No Effect.—$BaCl_2$; $MgCl_2$; NaCl.

TABLE II.—*Effect on Latent Period.*

Normal saline produces no alteration, even after six hours. Practically, in all cases in which an effect can be noted at all it is one of lengthening; those solutions that do produce diminution do so only for a short time and to a very slight extent.

Lengthening.—KCl (greatest); $HgCl_2$; $SrCl_2$, NaBr, HCl; $CaCl_2$; ZnCl; $MgCl_2$; LiCl (least).
No Change.—$BaCl_2$; NaF; NaCl.
Temporary Shortening.—NaI.

TABLE III.—*Effect on the Height of Contraction.*

Normal saline yields a curve after six hours identical with that of fresh living muscle.

Most salts diminish the height, some very rapidly, others only after a considerable time; others, like barium chloride, increase the height for a time, but subsequently fail slowly or suddenly, like sodium fluoride.

Decrease.—KCl (great and rapid); ZnCl; HCl; $SrCl_2$, NaI; $MgCl_2$; $HgCl_2$; $CaCl_2$; NaBr.
Temporary Increase.—$BaCl_2$; LiCl; NaF.

TABLE IV.

Effect on distance between the point of stimulation and the apex of the curve after immersion for one minute only as compared with normal muscle. In most cases the maximum height is attained sooner.

Maximum Sooner.—ZnCl (soonest); $MgCl_2$; $CaCl_2$; NaF; $HgCl_2$.
Not Affected.—NaCl; HCl; NaBr.
Maximum Later.—NaI; $SrCl_2$; LiCl; $BaCl_2$ (latest).

TABLE V.

Effect on the amount of fall due to rapid relaxation after one minute immersion as compared with that of normal muscle:

Greater than Normal.—KCl_2 (greatest); $CaCl_2$, ZnCl; $MgCl_2$; NaF; LiCl, HCl.

As Normal.—NaCl.

Less than Normal.—$HgCl_2$, $SrCl_2$; NaI; $BaCl_2$ (least).

TABLE VI.

Effect on the length of the curve from the point of stimulation to the end of rapid relaxation after one minute immersion:

Shorter than Normal.—$CaCl_2$ (shortest); NaF; $HgCl_2$; $MgCl_2$; HCl.

Equal to Normal.—NaCl; $SrCl_2$; NaI; NaBr.

Longer than Normal.—ZnCl, $BaCl_2$; LiCl; KCl (longest).

TABLE VII.

Effect on the total duration of the curve of contraction. (In several cases this could not be directly ascertained owing to the shortness of the pendulum plate, but some idea of the effect of the solutions in this respect may be obtained by measuring the heights of the curve above the abscissa at the extremity of the plate.)

After One Minute Immersion.

Increased.—$SrCl_2$.

Equal to Normal.—$MgCl_2$; $BaCl_2$; $CaCl_2$; LiCl; NaF; NaBr HCl; NaCl.

Decreased.—NaI; KCl; $ZnCl_2$ (most).

After Five Minutes' Immersion.

Increased.—$BaCl_2$ (most); $MgCl_2$, $SrCl_2$; $CaCl_2$.

Equal to Normal.—NaCl.

Decreased.—LiCl; HCl; $ZnCl_2$; $HgCl_2$.

No Response.—KCl and NaI.

Not Determined.—NaF and NaBr.

Toxicity Calculated in Minutes.

KCl 2–3 min.	$MgCl_2$ 15–20 min.
NaI 3–5 min.	NaF 28 min.
$HgCl_2$ 5–10 min.	ZnCl 25–30 min.
LiCl 5–10 min.	$BaCl_2$ not determined.
HCl 15–20 min.	NaBr 65 min.
$SrCl_2$ 15–20 min.	NaCl 6 hours or more.
$CaCl_2$ 15–20 min.	

These tables show:

That in toxicity, the sodium halogens of Group VII follow the periodic law as far as Cl, Br, and I are concerned, the heaviest being the most toxic, but F comes in between Br and I, though in atomic weight it is less than Cl, and should therefore be less toxic.

In Group I, Li and K follow the law, but H and Na are reversed, HCl being more toxic than NaCl, but less so than LiCl and KCl.

In Group II, Ca and Sr follow the law, as does Ba probably also, but Zn is less toxic than Mg, whereas it should be more so, and Hg is the most toxic of all. With the exception of $ZnCl_2$, therefore, Group II also follows the law.

In regard to the length of passive muscle, in Group VII the heaviest has the greatest shortening effect, but NaCl, which should come next, has no effect. So that NaF is followed by NaBr and this by NaCl, whilst NaI causes lengthening.

In Group I the law does not hold good; HCl produces shortening and is the lightest; next comes NaCl, with no effect which is correct, but KCl produces shortening, then lengthening, and LiCl lengthening only.

Group II is still more out, $MgCl_2$ and $BaCl_2$ producing no effect, whilst $HgCl_2$ causes much shortening and is heaviest, $CaCl_2$ some shortening, and $SrCl_2$ slight shortening followed by lengthening.

For the Latent Period.—In Group VII, NaI decreases it; NaCl has no effect; NaF increases it somewhat, and NaBr increases it much.

In Group I, KCl lengthens it most, HCl less, LiCl still less, and NaCl produces no change.

In Group II, $HgCl_2$ lengthens it most, followed by $CaCl_2$ and by $ZnCl_2$ and $SrCl_2$ with equal effect, followed by $MgCl_2$ and finally $BaCl_2$ with least effect. But if the group be taken in right and left series, then the right series $MgCl_2$, $ZnCl_2$, $HgCl_2$ follows the law, the lightest having the least effect, and the heaviest the greatest.

The left series, $CaCl_2$, $SrCl_2$, $BaCl_2$, also follows the law, but in the reverse way, the heaviest having the least and the lightest the greatest effect.

Height of Curve.

In Group VII the law is followed, NaF increasing the height, NaCl having no effect, NaBr diminishing it somewhat, and NaI diminishing it greatly.

In Group I, if taken in right and left sections, the law holds good. HCl diminishes the height, NaCl has no effect, LiCl increases it, but KCl diminishes it greatly. Here the two extremes diminish the height of the curve, and the intermediate ones increase it or have no effect.

In Group II no order is followed. $BaCl_2$ increases the height; the others diminish it in the following order: $CaCl_2$ least, $HgCl_2$, $MgCl_2$, $SrCl_2$, and $ZnCl_2$ most.

Length from Stimulation Point to the Point where a Radius passing through the Apex of the Curve cuts the Abscissa.

In Group VII the law is followed; NaF, the lightest, increases the distance, and NaI, the heaviest, diminishes it, the intermediate members having no effect.

In Group I, $LiCl_2$ increases the distance; HCl and NaCl remain without effect; of KCl no data are available.

In Group II, $CaCl_2$ diminishes it, $SrCl_2$ increases it, and $BaCl_2$ increases it greatly, therefore the left-hand section follows the law. The right-hand section is quite out, $HgCl_2$ diminishing it slightly, $MgCl_2$ considerably, and $ZnCl_2$ enormously.

Extent of Rapid Fall.

Group VII follows the law. NaF increases it; NaCl and NaBr have no effect, whilst NaI diminishes it.

Group I, with the exception of NaCl, follows the law. HCl increases it least, and KCl most.

Group II.—Left: $MgCl_2$, $CaCl_2$, and $ZnCl_2$ increase the fall; $SrCl_2$, $HgCl_2$, and $BaCl_2$ diminish it, the last most. The left-hand section, therefore, follows the law $CaCl_2$, $SrCl_2$, $BaCl_2$; but the right-hand does not, as $MgCl_2$ and $ZnCl_2$ would have to change places.

Distance from Point of Stimulation to End of Quick Relaxation Measured Along the Abscissa.

In Group VII, NaF is the only effective salt, diminishing the time; the others produce no change.

In Group I, HCl and NaCl are in order. LiCl and KCl also. But the group, taken as a whole, requires NaCl and LiCl to change places to follow the law.

In Group II the left-hand section $CaCl_2$, $SrCl_2$, $BaCl_2$ follows the law; the right-hand section is out of order.

Taken as a whole, the group does not follow the law.

Total Length of Curve after One Minute Immersion.

In Group VII, NaI alone diminishes it, the others have no effect.

In Group I, KCl alone diminishes it, the other members leave it unaltered.

In Group II, $HgCl_2$ and $ZnCl_2$ diminish it. $SrCl_2$ increases it, the others have no effect. The group does not follow the law.

Total Length of Curve after Five Minutes' Action.

In Group VII, NaI gives no response, the others were not determined.

In Group I, KCl failed to respond, the others follow the law.

In Group II the left-hand section follows the law, all increasing its duration. The right-hand section also follows the law, $MgCl_2$ increasing the length, $ZnCl_2$ and $HgCl_2$ diminishing it.

The group, as a whole, does not follow the law.

Summary.

On the whole, the periodic law is followed by Group VII, the sodium halogens in all cases, except in their action on the length of passive muscle, the latent period, and toxicity, in which NaF is out of order, producing effects proportionate to their atomic weights.

Group I, taken as a whole, never follows the periodic law, owing to the bland action of NaCl, but if this salt be omitted, the law is followed in toxicity, in extent of rapid relaxation and distance from point of stimulation to end of rapid relaxation.

The left-hand section of the group follows the law from heavier to lighter in toxicity, latent period, height of curve, rapid relaxation, distance to end of rapid relaxation, and total length of curve.

Group II, as a whole, is in all cases out of order. The left-hand section follows the law in one direction or another in toxicity, effect on passive muscle, latent period, height of curve, distance from stimulation point to

maximum point, rapid fall, distance to this point, and total curve after five minutes. The right-hand section follows the law only in latent period and total length of curve after five minutes.

DISCUSSION.

Dr. FRASER HARRIS (Birmingham) said that he thought that Professor Carlier's research was a valuable empirical contribution to the subject of the influence of salts—positive and negative ions—on living matter. The larger the number of observations on the effect of chemical substances on muscle the sooner would it be possible to frame a theory as to the mechanism of the physical factors in metabolism.

NOTES ON THE PHYSIOLOGY OF SOME OF THE ALLYL COMPOUNDS.

By E. WACE CARLIER, M.D., M.Sc., F.R.S.E.,
Professor of Physiology, University of Birmingham.

OWING to the reputation enjoyed by the onion and leek in many lands as remedial agents for a multitude of ills, I thought it might be of interest to investigate what foundation there might be for such beliefs.

It seemed advisable in the first place to undertake an analysis of the common leek, to ascertain if any active principles other than the well-known allyl sulphide (oil of onions) were present. This was entrusted to Mr. Lovatt Evans, B.Sc., of University College, who reported in the negative. That being so, the next step was to ascertain the effects of this oil when injected in minute quantities into the blood stream.

The investigation was carried out in deeply-anaesthetized rabbits and pithed frogs, by the usual methods, with the following results:

Allyl sulphide $(C_3H_5)_2S$ acts chiefly upon the respiratory centre in the medulla, paralysing it rapidly when large doses are intravenously injected. It acts to a less degree upon the vasomotor centre, diminishing its effect in the first instance, but followed, especially when small doses are given, by a subsequent rise of pressure, that may persist for a considerable time. When administered in small doses its effects upon the vasomotor centre are more lasting than upon the respiratory, the contrary being the rule with large doses.

It diminishes to some extent the inhibitory action of the vagus upon the heart, but has no direct effect upon either cardiac or skeletal muscle in the rabbit.

One-half minim of pure allyl sulphide per kilo of body weight may be taken as a lethal dose, death resulting from asphyxia owing to paralysis of the respiratory centre, but if artificial respiration is had recourse to recovery is complete within an hour.

After the effects of a non-lethal dose have passed off, the animal is thereby immunized for a time against a similar, and even a considerably larger dose.

There is only one other allyl compound in general use—namely, allyl isothiocyanate or oil of mustard, C_3H_5NCS. Owing to its violent action when injected, even in minute doses, it was necessary to find some bland menstruum that would form with it a perfect mixture without altering in any way its physiological action. After many attempts olive oil was found to answer all requirements.

Allyl isothiocyanate attacks the respiratory system more powerfully than the vasomotor, though its effects pass off more rapidly from the former than from the latter. Poisonous doses kill by paralysing the respiratory centre.

Upon the vasomotor centre it exerts its maximum depressor effect almost immediately, followed by rapid partial recovery; this is succeeded in turn by another fall in blood pressure of less intensity but of longer duration, and is followed by a slower rise, only to be succeeded by another fall, and so on. If sufficient time is given for the drug to be eliminated, chiefly by the lungs, these pressure waves die out and normal blood pressure is restored.

By the repeated administration of small doses a tolerance for the drug is set up. By the first dose the vasomotor centre is depressed and recovers but slowly, but from subsequent doses it not only recovers more quickly, but is less affected and becomes stimulated, so that in the end the blood pressure rises high above the normal.

The vasomotor centre seems more sensitive than the respiratory centre to small doses, though with medium and large doses the reverse is the rule. In its action upon the vagus it closely resembles allyl sulphide.

On skeletal muscle it acts powerfully, producing spasm, the extensor groups being more affected than the flexor. Its action in small doses on mammalian cardiac muscle is slight and of short duration, amounting to no more than a slight decrease in the rate of the heart beats, with lengthening of the systole.

A dose of 1 minim injected into a frog's heart stops it at once, but a dose of half that quantity only takes effect after 30 seconds, the ventricle muscle passing into delirium before finally ceasing to beat; the auricles continue beating synchronously though jerkily for a considerable time longer.

Smaller doses injected into the hearts of winter frogs often produce heart-block to a remarkable degree. This rarely occurs with frogs taken in summer fresh from the fields.

Large lethal doses injected into the blood stream affect the mammalian heart also, the ventricles being much more profoundly poisoned than the auricles; in one case only was some blocking observed. The heart usually becomes completely paralysed in about twenty minutes. One-fifth of a minim of normal oil per kilo of body weight may be taken as the minimum lethal dose.

Several other allyl compounds may be prepared in the laboratory, and two of these kindly prepared for me by Mr. C. Lovatt Evans were experimented with.

Allyl Acetate.

Allyl acetate chiefly affects the respiratory mechanism, diminishing the respiratory movements in amplitude without causing any marked change in their rate.

Upon the vasomotor centre it acts less powerfully than upon the respiratory, and, like other allyl compounds, produces a depressor effect, recovery from which is fairly rapid, especially towards the end, thus producing in the tracing of the carotid pressure a U-shaped notch. In moderate doses this drug remains without effect upon both skeletal and cardiac muscle. Its action upon the inhibitory function of the vagus was not investigated and its lethal dose was not determined.

Allyl Alcohol (C_3H_5OH).

When injected pure into the veins of an animal, allyl alcohol produces intravenous clotting with sufficient rapidity to interfere considerably with the experiment, but a certain number of data were, however, obtained thus:—3 minims injected into the jugular vein of a rabbit results in a rapid fall of blood pressure which takes longer to recover from than to produce. This recovery is only maintained for a short time, the pressure again falling only to rise again later on, and so on for a considerable time. This dose has no marked effect upon the respiration, two inspiratory gasps alone supervening after injection. Upon the heart it produces increased amplitude of contraction without alteration of rhythm.

As the above dose is manifestly too small to produce a maximum effect, recourse was had to a 20 per cent. solution of the alcohol in normal saline; of this 40 minims, equalling 8 minims of pure alcohol, were slowly introduced into the circulation of another rabbit through the jugular vein.

From the very beginning of the injection the blood pressure began to rise, but this pressor effect was not long maintained, the pressure falling somewhat below normal; this was followed by another pressor effect, and so on for 1,900 seconds, at which point violent convulsions supervened, which ended the experiment.

The effect upon respiration was primarily to diminish its amplitude, but the effect was transient and replaced by a steady increase in respiratory movement until their amplitude had nearly doubled the normal at the moment when the convulsions occurred. A peculiar gasping inspiration occurred at the 258th second, which was repeated about every seventy seconds thereafter as long as the experiment lasted. Its action upon the heart was only to produce a slight increase in the force of the beats.

Allyl alcohol therefore affects the blood pressure most, and to a less extent the respiratory system, producing

where considerable doses are used gasping movements, in which it resembles isothiocyanate.

When allyl alcohol is applied directly to the frog's heart it produces at once a diminution in the amplitude of the beats; this is recovered from after a longer or shorter period, depending on the amount used.

When a 20 per cent. solution is injected directly into the auricle in minim doses it produces arrest of the ventricle in fifteen seconds, which continues inhibited for ninety seconds or more, but is ultimately recovered from.

When the same quantity is injected into the ventricle the whole heart is arrested in about ten seconds, and remains in that condition for at least 120 seconds. The auricles may then resume beating in a feeble manner; they gradually become stronger but slower, and finally fail entirely in some fifteen minutes. The ventricle remains inhibited throughout the whole experiment, never showing the slightest sign of contraction.

From a number of similar experiments it may be concluded that allyl alcohol acts powerfully upon the frog's heart, both auricles and ventricle being affected, but the latter is far more sensitive to its action than the auricles.

Ethyl Alcohol (C_2H_5OH).

With ethyl alcohol the case is different. Dropped on the ventricle the heart ceases beating at once, but resumes beating again as if nothing had happened after about ten seconds. One minim of a 20 per cent. solution in normal saline injected into the ventricle stops the heart in diastole at once; but after some two minutes the auricles resume beating, followed by the ventricle 140 seconds or so later. Recovery is ultimately complete. Much larger doses than this are required permanently to paralyse the heart.

Allyl alcohol is therefore a much more powerful heart poison than ethyl alcohol, but both have this in common, that they affect the ventricle more profoundly than the auricles. The lethal dose of allyl alcohol in the case of the rabbit was not determined, but if clotting can be prevented it will, no doubt, be found to be considerable.

Of the allyl compounds investigated, the isothiocyanate is by far the most powerful, and the acetate the least so. They all behave in a somewhat similar manner, affecting the respiratory system chiefly and the circulatory to a less degree. In the mammal they produce paralysis of the nerve centres rather than of the peripheral mechanisms, but in the frog they are all capable of affecting the circulation by direct action upon the muscle fibres of the ventricle.

With a view of ascertaining in the case of allyl sulphide and isothiocyanate whether it was the allyl or the other moitier that was mainly responsible for the fatal results obtained, other bodies similar in constitution to these were experimented with.

Phenyl isothiocyanate (C_6H_5NCS) was selected to compare with allyl isothiocyanate, and ethyl sulphide $(C_2H_5)_2S$ and ethyl hydrogen sulphide $(C_2H_5)HS$ or mercaptan to compare with allyl sulphide $(C_3H_5)_2S$.

Phenyl Isothiocyanate.

To begin with 10 per cent. and 20 per cent. solutions in olive oil were used, but produced so little effect that the undiluted substance was employed. A dose of 1 minim of this produced at once, when injected into the jugular vein, a rise in blood pressure, followed by a fall, which was followed by another rise. On the respiration its effect was delayed for a time, and started as a deep inspiratory gasp, followed rapidly by diminution in the amplitude of the respiratory movements, which reached a minimum in about thirty seconds. After this recovery rapidly set in, to be checked again later by further diminution of amplitude, accompanied with slowing of the rhythm. This condition is again recovered from, but during recovery, which is slow, gasps occur at fairly regular intervals. Its effect on the heart beat and body temperature were very slight.

Increase in the dose produces similar effects, the respiratory spasms being more marked and more lasting. A 3-minim dose proved fatal in 190 seconds, the blood pressure having fallen to zero; but, though the heart had ceased to beat ten seconds earlier, the respiratory movements continued to increase in amplitude to the 240th second, when they suddenly ceased altogether.

On *post-mortem* examination, intravascular clotting was found. The fatal dose is, therefore, probably 1½ minims per kilo of body weight. The phenyl compound acts, therefore, upon the circulatory system more powerfully than upon the respiratory.

Probably, therefore, the very poisonous action of allyl isothiocyanate upon the respiratory centre is due to the allyl moitier; its action on the circulation may or may not be due in some measure to the isothiocyanate moitier.

With regard to ethyl sulphide, its action on the frog's heart, even in saturated solution, is so slight that it was deemed unnecessary to investigate its action upon the rabbit.

The action of its congener allyl sulphide may therefore be set down as mainly due to its allyl constituent.

Ethyl Mercaptan.

Ethyl mercaptan behaves differently, possibly due to its unreplaced hydrogen ion. Two minims injected into the frog's auricle produced at once the loss of a beat, followed by considerable increase in force of contraction, which is in turn followed by decrease. This is quickly recovered from.

A like dose injected into the ventricle produces at once a diminution in both the rate and force of the heart's contraction, which is, however, quickly recovered from; 10 minims slowly injected into the ventricle produced spasms of the skeletal muscles and arrest of the heart for a time, recovery in the force of contraction was complete, but the rhythm remained slower than normal.

Small doses of a 20 per cent. solution in normal saline injected into the jugular vein of a rabbit produced a rise in blood pressure, which, with slight variations, returned to normal in about a couple of minutes. No marked effect was produced on either the respiration or the heart beat.

The injection of 1 minim of pure ethyl mercaptan produced a rapid fall in blood pressure, which was, however, quickly recovered from in less than eight minutes. This dose also affected the respiration, causing gasps at long intervals, followed for a time by increase in amplitude. With the falling pressure the heart beat diminished without change of rhythm, but this slight depression of its activity was not long maintained. A 3-minim dose is fatal, owing chiefly to respiratory failure, but even if artificial respiration is had recourse to, the animal dies through failure of the vasomotor mechanism and heart, but this takes about twice as long to occur as respiratory failure. The minimum fatal dose of ethyl mercaptan may be taken as $1\frac{1}{4}$ minims per kilo of body weight; it is, therefore, much less deadly than allyl sulphide.

From all these experiments it may, I think, be concluded that the poisonous action of the allyl compounds is due to the allyl they contain, though in some cases no doubt its activity may be increased, and in others diminished, by the substances with which it happens to be combined.

DISCUSSION.

Professor W. H. THOMPSON (Dublin) thought the contribution of importance from two points of view—namely, from the therapeutic effects of the substances studied, and also because of the value that was likely to accrue from an accurate knowledge of how different centres or organs were affected by poisons. It might one day assist in the investigation of the causes of rhythm in such centres and organs.

Dr. FRASER HARRIS (Birmingham) said that Professor Carlier's work seemed to emphasize the relative differences of susceptibility of medullary and cord centres towards certain stimuli and poisons. It seemed in harmony with Matthew's work on the threshold-difference in medullary and cord respiratory centres as regards CO_2, O_2, and acids.

SOME PHYSIOLOGICAL OBSERVATIONS ON MEN WEARING MINE RESCUE APPARATUS.

By D. FRASER HARRIS, M.D., D.Sc.,
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(*Abstract.*)

THE following observations were made on healthy men breathing in mine rescue apparatus and doing work for upwards of 1½ hours. The tests were carried out by members of the South Midlands Coal Owners' Association in the Experimental Mine at Bournbrook, University of Birmingham. The men's ages ranged from 26 to 50, their heights 5 ft. 7 in. to 6 ft. 6 in., and weights from 55 kilos to 89 kilos.

The tests fall into three groups as regards temperature:

I. Those in the ordinary temperature of the mine.
II. Those in hot, moist, and irrespirable atmospheres (smoke), wet bulb about 80° F. to 85° F.
III. Those in hot, moist, but respirable atmospheres, wet bulb about 90° F. to 98° F.

The men were weighed before each test, their pulse and temperature being also taken. They were weighed at the end of each test, and their pulse and temperature again ascertained.

The weight of (moist) CO_2 excreted during a test was ascertained by weighing the regenerators or "absorbents" of the CO_2 before and after a test.

Information was obtained on the subject of oxygen deficiency dyspnoea *versus* oxygen deficiency syncope.

The instruments investigated may be classified thus:

1. Those with helmet covering the head and face.
2. Those with half-mask covering the nose and mouth only.
3. Those with mouthpieces only; along with these motor goggles must be worn in smoke-filled atmospheres.

As regards gas supply we dealt with:

1. An instrument in which liquid air evaporates (Acrolith).
2. Instruments in which compressed oxygen expands—
   (*a*) With constant supply (Dräger, Fleuss, Meco).
   (*b*) With automatic supply (Weg).
3. An instrument in which O_2 is generated from sodium-potassium peroxide (Hall-Rees).
4. An instrument to which air is supplied under ordinary pressure from a pump or bellows.

The helmet was found objectionable for several reasons:

1. It prevents ventilation of the face, the sweat is not evaporated and the moisture dims the window.

2. The helmet prevents the wearer seeing much in planes above his head, it permits very little vision in front when the wearer is crawling on hands and knees.

3. It diminishes one's power of hearing; this is serious, since the possible warning of falls from the roof cannot be heard.

4. In irrespirable atmospheres the helmet is made smoke-tight by the inflation of a rubber tyre; unless this tyre fits the face very well, the pressure necessary to inflate it is very painful.

5. It provides an artificially large "dead space" for breathing, so that at each inspiration some of the expired air is reinhaled.

When a mouthpiece is worn, the nostrils have either to be plugged with vaselined cotton-wool (Meco) or closed by a nose-clip (Fleuss, Dräger). The best of these are uncomfortable.

When first examined we found most of the tubes connecting the mouthpiece or helmet with the rest of the apparatus too heavy and too rigid, and tending to pull the mouthpiece off when the wearer is stooping, which, of course, he very often is.

I. *The Pulse.*—As was to be expected, the rate of the heart beat was markedly accelerated in all the tests. An increase of 16 beats per minute was the lowest, and 58 the highest recorded; 20, 32, 40, and 48 were frequently recorded. One satisfactory point was that in all cases the heart had returned to its usual rhythm within fifteen to twenty minutes after the test was stopped.

II. *Respiration.*—Nothing more than a physiological hyperpnoea was observed in any case. We never saw true dyspnoea, even at the end of two hours' hard work in any form of apparatus. We saw no bad effects of breathing pure oxygen even for two hours.

III. *The Temperature.*—The temperature in the mouth was taken before the apparatus was adjusted and immediately after the men came out of the part of the mine in which they had been working. This rise in temperature varied from 0.2° to 2.0° F. in the case of tests of Groups I and II, but in the case of Group III when the wet bulb was 90° F. and higher, the rise of temperature was from 2.6° F. to 2.8° F. That, except in these latter cases, the rise was not greater than 2.0° F. is to be referred to the profuse perspiration which occurred in every case.

IV. *The Total Loss of Weight.*—Every one lost considerable weight in these experiments. The men were weighed naked before changing into the pit-clothes and putting on the apparatus, and again after they had taken off their damp clothes. (The bladder was not emptied during an experiment.) The total loss of weight varied greatly in individual cases, for example, from 226.4 to 1,700 grams. It bore no relation to the body weight, thus a man of 55.5 kilos lost 500 grams, or 6.2 grams per minute; a man of 88.6 kilos lost 226.5 grams, or 1.8 per minute; a man of 67 kilos lost 1,250 grams, or 11 per minute. The losses varied from 1.8 up to 16.8 grams per minute. The greatest loss was experienced during the tests carried out in an excessively hot and moist atmosphere (Group III).

V. *The Loss of Water from the Skin.*—This is given by the following equation:

$$W_1 - W_2 + O_2 - CO_2 = S;$$

where W_1=body weight before the experiment; W_2=body weight after the experiment; O_2=oxygen absorbed during the experiment; CO_2=Carbon dioxide excreted during the experiment; S=sweat lost during the experiment.

If we assume that the weight of CO_2 excreted during the experiment is equal to that of the oxygen absorbed, then the sweat lost is merely the difference between W_1 and W_2, or the total loss in weight. But it is not correct to assume this, seeing that in health and on a mixed diet more oxygen is absorbed than CO_2 is excreted—that is, the ratio $\frac{CO_2}{O_2}$ is less than unity.

The amount of oxygen actually absorbed was not estimated, and therefore we cannot state the O_2 in the above equation by the direct method. Assuming that 1.5 litres of O_2 per minute are absorbed, a calculation may be made on the basis of data in a particular experiment of 82 minutes which shows the loss of sweat to be 1,279 grams (man of 67 kilos) or 15 grams per minute. The weight of sweat lost *per kilo* per minute varied from 0.04 to 0.14 gram, these being only approximately accurate figures as they are not subjected to the correction for O_2 absorbed.

VI. *The Elimination of Carbon Dioxide.*—The CO_2 excreted was absorbed moist in all the types of apparatus by means of sticks of NaOH. The alkali is contained in metal cases, or "regenerators," except in the case of the Fleuss, in which it is to be found in the canvas-covered india-rubber bag.

The actual increase in weight of the regenerator gives the weight of moist CO_2 excreted during the experiment; in times of 30 and 130 minutes the CO_2 was 52.7 and 180.5 grams respectively. Since the CO_2 excreted depends on a number of conditions, such as time, body mass, temperament, temperature, diet, amount of work done, light or dark surroundings, etc., it is better to express it per kilo of body weight per hour. When this is done it is seen that the weight of (moist) CO_2 excreted is represented by a figure not greater than 2, and rarely as low as 0.5 gram. In other words, the amount of CO_2 eliminated in unit time per unit of tissue is very much the same for all the men subjected to the same external conditions. The average figures on the same basis for the CO_2 excreted in all the four types of apparatus, which had been worn in rotation by all the experimenters, are: Fleuss 1.25, Meco 1.28, Weg 0.86, Dräger 1.14 grams.

Analyses of Gases in the Apparatuses.

Apparatus.	Incoming Air.			Outgoing Air.		
	Temp. F.	O_2 %.	CO_2 %.	Temp. F.	O_2 %.	CO_2 %.
Fleuss	92°	74.0	0.57	96°	61.5	2.45
Dräger	74°	64.1	0.00	82°	68.0	1.59
Meco...	88°	55.8	0.00	89.5°	50.0	1.89

From these analyses, taken at random, it would seem that the absorption of CO_2 was pretty complete, but certain other figures are less satisfactory, thus:

Apparatus.	Incoming Air.		
	Temp. F.	O_2 per cent.	CO_2 per cent.
Fleuss	90°	68.0	1.57
Dräger	97°	48.2	2.25
Meco	99°	52.8	2.25

We have laid it down that the CO_2 in the air to be inspired in any form of rescue apparatus ought not to exceed 1 per cent.

VII. *Effects of Heat Generated in the Apparatus.*—A quite perceptible amount of heat is generated in the absorbent parts of the apparatuses. It affected the workers in two ways—the heat of the inspired air was disagreeable or actually painful to the throat, and the regenerators and the bag of the Fleuss "burnt" the back and the abdominal skin respectively.

As might be expected, the heat from the regenerators was the more rapidly dissipated as the temperature of the mine was the lower; at temperatures over 90° F. (dry bulb) there were many complaints about burning. Temperatures of over 200° F. were ascertained for the regenerators and of 135° F. for the bag of the Fleuss respectively in the tests of Group II.

The heat of the inspired air was scarcely less tolerable. There were a good many complaints about the burning sensation in the throat towards the end of a test, especially in the tests of Groups II and III. Pharyngeal catarrh of more than a week's duration occurred more than once.

Now, this burning of the throat was undoubtedly due not so much to the high temperature of the air breathed, for it rarely exceeded 100° F., as to its excessive moisture. For one can breathe air in the hot room of a Turkish bath at 200° F. without discomfort to the nasal and pharyngeal mucosae. The reason of the above absence of discomfort is that the air at 200° F. is dry; it allows moisture to evaporate from the skin and mucosae and thus carry off heat from the body. But the air to be inspired in these apparatuses must soon become saturated, because the sticks of NaOH "cake," at least in the bag of the Fleuss and Weg, and have their absorbent surfaces reduced. Most of the complaints were about the Fleuss. Besides that the inspired air is always saturated, the union of the CO_2 with the NaOH forms water, thus:

$$2\,(NaOH) + CO_2 = Na_2CO_3 + H_2O.$$

Thus, the longer the test continues the more moist does the circulating air become, and the less heat can it abstract from the mouth and throat, through the instrumentality of evaporated water.

VIII. *Mental Fatigue in very Hot and Moist Atmospheres.*—We were impressed by the rapid onset of fatigue, particularly mental, in very hot and moist atmospheres (Group III).

When the wet bulb is higher than 85° F. or so, a man, especially if he has to do hard work for twenty to thirty minutes, is overcome by irresistible lassitude and disinclination to exert himself in any way whatever. He becomes irritable as well as indisposed to mental exertion. We think this partial mental enfeeblement a fact of some consequence, inasmuch as a person fatigued by hard work in a rescue apparatus in a hot and moist atmosphere might, in some situation requiring promptness of decision, coolness of judgement, the accurate recollecting of instructions, plans, etc., not prove himself equal to the emergency.

IX. *Effects of Oxygen Deficiency.*—We had two cases of syncope from oxygen deficiency in a Meco, one case as the result of a small fragment of a metal gauze becoming detached and lodging in the injector nozzle, thus cutting off the oxygen supply. The wearer, who, after a brief period of deafness and sleepiness, fell down without suffering from any dyspnoea, had not alarmed the other members of his team. When they called out to him and received no answer, they immediately rang the alarm bell and we hurried in to find him in a sitting posture.

Seeing that this accident of oxygen deficiency syncope instead of oxygen deficiency dyspnoea occurred in one out of twelve men, it may be said to be possible in 10 per cent. of men selected at random. We think this a very important practical point, a thing to be on one's guard against. We wish to emphasize the grave danger of allowing one or two men to enter an irrespirable zone by themselves, and the necessity of every team consisting of such a number that the unaffected men can rapidly carry out any one who may have become suddenly unconscious.

TETRACHROMIC VISION.

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I HAVE classified the colour perception of individuals as heptachromic, hexachromic, pentachromic, tetrachromic, trichromic, dichromic, and totally colour blind. In addition, there are various defects of light perception, as light perception is quite distinct from colour perception. The chief defects of light perception are shortening of either the red or the violet end of the spectrum. This classification gives a key to the mistakes made by the colour blind, as each member of a class behaves as if he only possessed the number of colours indicated. There are innumerable degrees in each class, and each class must be considered to be to a certain extent colour blind with regard to the class higher in the scale. This classification is made in accordance with the number of distinct colours which are seen by the individual in the bright spectrum. The totally colour blind see the bright spectrum in varying degrees of light and shade. The dichromic see two distinct colours in the spectrum, with a neutral division of varying size between. The trichromic see three distinct colours, and describe the spectrum as consisting of red, red-green, green, green-violet, and violet. The tetrachromic see four distinct colours, red, yellow, green, and violet, and designate the blue of the normal sighted as violet-green. The pentachromic see blue in the spectrum in addition; the hexachromic orange, and the heptachromic indigo.

The tetrachromic form the border line of rejection in those employments in which it is necessary to distinguish between red, yellow (white) and green. When examined with my spectrometer they will mark out a greater number of monochromatic regions than the trichromic and a less number than the pentachromic, according to the degree of the defect. They will, for instance, mark out from eleven to fourteen, according to the degree of the defect, instead of the eighteen which are marked out by the hexachromic. Below are the monochromatic regions marked out by a tetrachromic who was bordering on the trichromic.

Wave Length in $\mu\mu$.	Size of Monochromatic Region in $\mu\mu$.
780	
	1. 145
635	
	2. 17
618	
	3. 19
599	
	4. 9
590	
	5. 22
568	
	6. 61
507	
	7. 12
495	
	8. 9
486	
	9. 13
473	
	10. 25
448	
	11. 45
403	

Any hexachromic examining these pseudo-monochromatic regions would declare that the tetrachromic was decidedly colour blind. Let us therefore consider his examination with other tests. Examined with the

new Board of Trade improvement of Holmgren's test in which there are five test colours—and the test is made much more like my classification test—he matched all the test colours as easily and naturally as a normal sighted person. He did not touch a confusion colour. Examined with the last edition of Nagel's test, he passed this as easily and accurately as a normal sighted person. He had not been examined with it or seen the test before. Dr. Bayliss was present at this and the previous examination. Examined with Stilling's pseudo-isochromatic plates, last edition, he found considerable difficulty with 1, 4, 5, 6, 7, 8, 10, and 11. None of these plates were isochromatic to him, as when portions were isolated in a small circle he saw the constituent colours as different, and named them in accordance with his colour perception. He saw the figures on the other plates. Examined with my colour perception lantern, he called green white, when seen after signal green or blue, and yellow red, and called signal green purplish-green, and neutrals 1, 2, and 3 light green. He named red, green, and white correctly through the 1,000 yards aperture, but when examined again after the other examinations could not see red B when it was plainly visible to me; he saw a spot of light but no colour, and had to walk half the distance before he saw a colour, and then saw it as red. He also saw green as a spot of light before he saw it as a colour. He did not on any occasion confuse red and green. On a subsequent occasion I examined him at night on the railway and with other lights. When it was at a distance he continually called white (yellow) lights green, especially when they were adjacent to red. He called blue lights green, and several green lights, especially yellow-green lights, white.

The tetrachromic form the large class of those who, whilst not appearing to be colour blind by many tests, are in continual difficulty over blue. A colour which is definitely seen as blue by the normal sighted is called by them green, and yellow-green may be called blue if seen after red. The point of view of the tetrachromic is that of a well-known artist who was declaring to some other artists that there was no such colour as blue, and that all blues were either green or violet in varying proportions. None of his hearers agreed with him. When I have asked a tetrachromic to paint a picture from a copy he has represented blue and green uniformly by green. The colour perception of the tetrachromic is diminished as a whole, and those cases which border on the trichromic have a more defective colour perception than those who border on the pentachromic. For instance, most tetrachromics distinguish easily the red, green, and white lights of my lantern with the aperture corresponding to a light on a railway at 1,000 yards when tested at 20 ft. When, however, a person is bordering on the trichromic, as in the case I have related, he makes the mistakes of the trichromic when the coloured objects are small, dark, or of feeble saturation.

The fact that blue is called green by the tetrachromic is well shown by asking the names of the shadows coloured by contrast; whilst the shadow adjacent to blue is called correctly yellow, that caused by yellow is called green instead of blue. This can easily be tried with a shadow formed on a sheet of white paper by a pencil, a piece of coloured glass being interposed between the paper and the light. All the shadows are correctly named, with the exception of that with the yellow glass. Common mistakes which are made by the tetrachromic are calling a blue inclining to violet greenish-purple or greenish-violet, blue green, and light red or orange, yellow. Simultaneous and successive contrast are increased compared with the hexachromic, but yellow being correctly recognized, this is not so evident as in the case of the trichromic.

I must here express my disapproval of the classification of the colour blind in accordance with the light mixtures made by them. Those who adopt this method should show why those colour blind who make mixtures similar to the normal sighted are able to do so, whereas I have given a definite explanation of the differences which are found in mixing lights of different wave-lengths.[1]

References.

[1] *Hunterian Lectures on Colour Vision and Colour Blindness*, 1911, p. 33. *Proc. Royal Soc.*, B., vol. 82, 1910, p. 464. *Trans. Ophth. Soc.*, 1907, p. 255.

THE NUTRITIVE EFFECTS OF BEEF EXTRACT.

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In a previous communication on this subject (Rep. Brit. Assoc., 1910, p. 760) the results of five experiments on dogs were recorded by one of us (W. H. T). It was then shown that by the addition to the diet of dogs fed on dog biscuit of from 5 to 10 grams of a commercial beef extract, an immediate increase of weight varying from 45 to 100 grams was brought about. Accompanying this increase there was a reduction in the output of nitrogen by the faeces, and there appeared also to be a retention of part of the extra nitrogen given in the extract, varying in amount from 15 to 60 per cent. of the quantity given. It was concluded from these facts that the beef extract used had both an indirect as well as a direct nutritive value, the former being due to a better digestion and absorption of the food to which it was added, the latter to a retention of nitrogen, part of which, in all probability, was furnished by the beef extract and part by the ordinary food.

During the past year a further series of five experiments was carried out to ascertain whether the previous observations received confirmation or otherwise, and also to find out if similar results were obtainable with a beef extract self-made. In three of these experiments dogs were used; in two the observations were made on human beings. One of those on dogs deals solely with the effect of adding creatin to the food, and will only be referred to in the present communication where it throws light on the results of the others. It will be published later in full.

Experiments on Dogs.

Two animals (Dogs VI and VII) not previously used in these investigations were employed. They were fed on a diet of dog biscuit, finely ground and made into a mash, with a constant proportion of boiling water, a small amount of lard being added. The nitrogen of the diet for Dog VI amounted to 6.0 grams, for Dog VII to 4.5 grams.

After a preliminary period on this diet the meat extracts were added in successive periods, and the effects observed. The extracts were dissolved in water, which replaced an equivalent volume of the water used to mix with the biscuit. As a rule, the periods lasted for six days. They were in all cases separated by intervals in which the preliminary diet of biscuit and lard was given. The order in which these periods followed each other will be seen in the protocols. In the following account those in which the same extract was used are brought together, and the results in each case compared with those of a previous interval, where the original diet alone was used. For prolonged metabolism experiments of this kind, it seems to us that this is the safest way in which an accurate judgement can be formed of the effects of any given substance.

Experiments on Human Subjects.

In these it was considered necessary to adopt a diet from which flesh meat was excluded. The following, therefore, was devised, which proved satisfactory:

Breakfast, 9 a.m.: Bread, butter, coffee, sugar, marmalade.

Dinner, 1.30 p.m.: (*a*) Lentil soup, bread; (*b*) a baked dish composed of the following: Mashed potatoes, pea flour, egg powder, cheese, butter, water, all mixed together, and a seasoning of salt, onion, parsley, with a small quantity of sugar added. The whole was baked in an oven; (*c*) cornflour and raspberry jam.

Afternoon tea, 5 o'clock: Tea, sugar, bread, butter.

Supper, 9 o'clock: Bread, butter, cheese, cocoa made with milk, sugar, marmalade.

With the exception of supper, all the meals were prepared by a trained cook in the laboratory, and eaten there. It goes without saying that definite calculated quantities of each food were used, the daily ration for subject "S." yielding almost exactly 16.5 grams nitrogen, and for subject "C." 13.5 grams, in each case without deduction for nitrogen of faeces. Making these deductions the net nitrogen intake for subject "S." amounted to 15.2 grams, and for subject "C." to 13.3 grams. Every effort was made to maintain constancy in the daily food ration, but no doubt a certain amount of fluctuation crept in, owing to variability in the composition of the milk and in the amount of water in the potatoes and bread. These, however, were small in comparison to the effects observed. Moreover, the deductions drawn from the latter are based not on the nitrogen intake of a given period, but on the nitrogen output which is in all cases compared with that of an immediately preceding period in which no extract was added to the food.

In the human experiments, the preliminary period on the above diet was followed by one during which self-made extract was added to the daily ration. Then came a short interval on the original diet, this being succeeded by a further period, during which commercial extract was added.* The periods in which extract was given lasted as a rule for five days. It was in all cases given dissolved in a definite quantity of water, which replaced an equivalent amount used in the preparation of the soup.

The Effects on Body Weight.

The following table shows the effects on body weight. It will be seen that in all cases the administration of the extract caused an immediate increase of weight, which in several instances was quite marked.

Table Showing the Effects on Body Weight.

A.—*Experiments on Dogs.*

Experiment.	Extract Used.	Mean Weight during Previous Interval in Kilos.	Mean Weight during Feeding Period in Kilos.	Mean Increase in Grams.	Nitrogen of Extract in Grams.
Exp. VI.	Commercial (10 grams)	10.495	10.560	65	0.633
,,	Same filtered (*a*)	10.550	10.660	110	0.563
,,	Self-made (10 grams solids)	10.770	11.000	230	0.910
Exp. VII.	Commercial (5 grams)	6.413	6.452	39	0.316
,,	Same filtered	6.383	6.426	43	0.281
,,	Commercial (5 grams)	6.930	7.100	70	0.316
,,	Self-made (5 grams solids)	6.587	6.727	140	0.422
B.—*Experiments on Human Subjects.*					
Exp. I. Subject S.	Commercial (10 grams dry solids)	84.032	84.248	216	0.460
,,	Self-made (10 grams dry solids)	84.060	84.288	220	0.824
Exp. II. Subject C.	Commercial (10 grams dry solids)	61.661	61.790	129	0.460
,,	Self-made (10 grams dry solids)	60.881	61.384	503	0.832

(*a*) The extract was filtered to remove suspended meat powder, to which the effects might conceivably be due.

The increase varied in the case of the dogs from 40 to 230 grams—that is, from 10 to more than 20 times the weight of the dry solids added in the shape of extract to the food. In the human experiments the increase was even more marked.

In the above experiments the effects of the self-made extract† appear to be greater than those of the commercial. Two reasons probably account for this. In the first place, in the 10 grams weight or 5 grams weight of commercial extract, as the case happened to be, was included the moisture ordinarily contained in it—namely, in or about 40 per cent.; whereas the corresponding weights of self-made extract were calculated as dry solids. In the second place the nitrogen content of the self-made extract was considerably higher than that of the commercial, as will be seen from examining the table. In the human experiments allowance was made for the moisture contained in the commercial extract, and the portion given was that calculated to contain 10 grams of dry solids. This probably explains the closer correspondence in the effects of the two extracts on body weight in subject S. The divergence in subject C. is attributed to two causes. In the first place the large increase of weight observed during the taking of the self-made extract was probably due in part to the fact that the food ration was a liberal one for C., and contributed of itself to the increase. On the other hand, the small increase caused by the commercial extract occurred at a time when the mental exertion of calculating out results (which chiefly fell on C.) was added to the already heavy strain of laboratory work required for the analyses. It was quite remarkable that on two of the days in this period, when C. spent a longer time than usual at the calculations, his weight did not increase.

The Output of Nitrogen.

In the following table is shown the mean daily output of nitrogen in the urine during the periods of feeding with the extracts. Alongside is given that of the immediately preceding interval, when ordinary food was taken.

Table Showing the Output of Nitrogen in the Urine.

A.—*Experiments on Dogs.*

	Extract Used.	Mean Daily Output during Previous Period in Grams.	Mean Daily Output during Feeding Period in Grams.	Daily Extra Output	Daily Extra Intake.	Mean Daily Retention.
Exp. VI.	Commercial	4.013	4.361	+0.348	0.633	0.285
,,	Same, filtered	4.099	4.478	+0.379	0.563	0.186
,,	Self-made	3.333	4.360	+0.527	0.910	0.383
Exp. VII.	Commercial	3.416	3.134	−0.282	0.316	0.598
,,	Same, filtered	2.594	2.883	+0.289	0.281	*nil*, loss 0.009
,,	Commercial	3.182	3.314	+0.132	0.316	0.184
,,	Self-made	2.700	2.947	+0.247	0.422	0.175
B.—*Experiments on Human Subjects.*						
Exp. I. Subject S.	Commercial	14.244	14.734	+0.490	0.460	*nil*, loss 0.030
,,	Self-made	15.042	15.171	+0.129	0.824	0.695
Exp. II. Subject C.	Commercial	11.334	11.040	−0.294	0.460	0.754
,,	Self-made	11.046	11.416	+0.470	0.832	0.362

It is evident from the above that the whole of the nitrogen added in the extract to the food was not excreted in the urine during the feeding periods, nor was it excreted by the faeces, for on examining the table of faeces-nitrogen it will be found invariably that less was excreted during periods on extract than during the preceding intervals. There seems, therefore, to be no alternative to the conclusion that a retention of nitrogen took place as a result of feeding with the extracts. Attention should be called, however, to the fact that, as a rule, for two days after leaving off the extract the output of urinary nitrogen remained higher than before the extract was given. This additional output would not, however, nearly balance the amount retained. Moreover, these higher outputs are taken into reckoning in striking the average of the intervals, for comparison with the succeeding feeding periods.

The nitrogen retained exists at first no doubt in the form that is designated by Rubner reserve nitrogen. There

* The commercial extract used in this series of experiments was the same as that used in the previous ones, namely, that known as Bovril. The samples were bought on the market as required.

† The extract was prepared by soaking lean minced beef in weak salt solution for twenty minutes, then heating for one hour in a double saucepan, afterwards straining through linen, and when cold filtering through paper. The filtrate was concentrated on a water bath to the required strength, usually to about one-third of its original volume. It thus corresponded to beef-tea about treble concentrated.

seems, however, no valid reason to doubt that it would ultimately be used in the synthesis of protoplasm for the building up of body tissues. The point is, however, difficult to prove absolutely, and for this purpose would need the support of balance experiments showing a retention of carbon over and above what might be accumulated as glycogen or fat.

Effects on the Excretion of other Nitrogen Compounds of the Urine.

Analyses were also made, in the experiments with dogs, of the urea nitrogen, ammonia nitrogen, creatinin, and creatin of the urine. In the experiments with human subjects, in addition to the above, the uric acid and amino acid nitrogen was also determined, likewise the output of chlorides and phosphates.

The urea was estimated by the Mörner-Folin method, the ammonia, creatinin, and creatin by the methods of Folin, and the amino-acid nitrogen by the Sörensen-Henriques method (*Zeitschr. f. physiolog. Chemie*, 66, p. 1).

It is to be regretted that the Folin method for urea, in any of the modifications in which it has hitherto been carried out, cannot be relied upon for wholly satisfactory results. In these researches the alcohol-ether mixture used to dissolve out the urea was evaporated by the aid of a current of hot air passed through the flask, the latter, as well as the spiral for heating the hot air, being immersed in a water bath kept at a temperature of 55.6°C. For a knowledge of this device we are indebted to the kindness of Dr. Cathcart of Glasgow. In the subsequent destruction of the urea we used magnesium chloride supplied by Merck. This was kept in a desiccator after the bottle in which it arrived was opened. The heating to break up the urea was carried out on a sand bath, using Cathcart's bulbs to prevent loss of HCl. We are convinced that it is in the carrying out of this last stage the chief source of uncertainty lies, and believe that a method of obviating it has been hit upon by one of us (W. C.), though too late to be of use in this research or to be certain that it will in all cases prove satisfactory. The modification simply lies in the use of a short water-condenser to replace the bulbs when the flask is heated on the sand bath.

Nothing of special interest appeared in connexion with the output of urea or ammonia beyond the fact that in one of the experiments with dogs, where the ammonia of the preliminary period was higher than usual, the addition of the extract to the food brought about a steady reduction to normal. There was no apparent reason to account for the high output of ammonia in this case. The dog had not previously been used in feeding experiments, nor had any catheter or other instrument been passed into its bladder.

The details of the excretion of uric acid, chlorides, and phosphates are given in the protocols. There was an increase in the excretion of all three during the extract periods, with one exception—namely, that of the phosphates in Human Experiment 1—during the feeding with self-made extract.

More interest attaches to the effect produced by the extracts on the excretion of creatinin, creatin, and amino-acid nitrogen. This is shown in the following table. In the experiments on dogs no estimate was made of the intake of creatinin and creatin in the extracts, nor of the output of amino acids in the urine. These omissions were, however, made good in the human experiments. The figures in the following table give the mean daily increase per period of output or intake, as the case may be. The full details are given in the protocols.

It will be seen that in nearly all cases there was a considerable increase in the excretion of creatinin and a smaller (in the human experiments almost negligible) increase in the excretion of creatin. On examining the intake in the latter experiments, it will be found that the commercial extract contained more creatinin and less creatin than the self-made one. It may also be pointed out that in both extracts the nitrogen of these substances constituted only a fraction of the total nitrogen contained in them. Further, much more creatin was administered, particularly in the self-made extracts, than appeared, either as creatinin or creatin, in the urine. In one of these experiments it is open to suppose that part of the creatin was converted into creatinin. In all the others it would seem that there was either a transformation or retention of both creatinin and creatin during the feeding periods.

Table Showing Effects on the Excretion of Creatinin, Creatin, and Amino Acids in Urine.

A.—*Experiments on Dogs.*

	Extract Used.	Creatinin, Increased Output.	Creatin, Increased Output.	Extra Intake. (a) Creatinin.	Extra Intake. (b) Creatin.	Increase of Amino Acid Nitrogen.
Exp. VI.	Commercial	0.079	0.042	Not observed.	Not observed.	Not observed.
,,	Same filtered	0.108	0.097			
,,	Self-made	0.228	0.100			
Exp. VII.	Commercial	0.011	0.046			
,,	Same filtered	0.047	0.061			
,,	Commercial	0.022	0.019			
,,	Self-made	0.069	0.028			

B.—*Experiments on Human Subjects.*

				(a)	(b)	
Exp. I. Subject S.	Commercial	0.026	0.035	0.187	0.143	0.093
,,	Self-made	0.025	0.013	0.143	0.403	0.199
Exp. II. Subject C.	Commercial	0.092	Nil	0.187	0.143	0.132
,,	Self-made	0.230	0.039	0.152	0.451	0.072

Reference may here be made to the single experiment of feeding a dog with creatin, 1 gram being added daily to the food for a period of six days. This led to a mean increase in the output of creatinin of 0.0218 gram, and to a much larger increase in the output of creatin—namely, 0.3000 gram. Moreover, the increase in the case of the latter was progressive, beginning with 0.24 gram and ending with 0.43 gram. These observations accord with those of other observers. The creatin used in the above experiment was prepared from horse flesh in the laboratory and recrystallized twice from solution in hot water.

Returning to the output of amino acid nitrogen in human experiments, the tables show an increase in all the feeding periods, both when the commercial extract and the self-made was used. In Experiment I (Subject S.) the increase represented approximately 30 per cent. with the former and 70 per cent. with the latter. In Human Experiment II (Subject C.) the increases were respectively 52 per cent. and 27 per cent. of the normal output.

Effect of the Extracts on the Nitrogen Content of the Faeces.

In the following table, which gives a comparison of the escape of nitrogen by the faeces in the several feeding,

Table Showing the Daily Excretion of Nitrogen in the Faeces, expressed in Grams.

A.—*Experiments with Dogs.*

Experiment.	Extract.	Previous Period.	Feeding Period.	Decrease.
VI.	Commercial	1.840	1.510	0.330
,,	Same filtered	1.278	1.133	0.145
,,	Self-made	1.664	1.390	0.274
VII.	Commercial	0.938	0.781	0.167
,,	Same filtered	1.180	1.052	0.128
,,	Commercial	1.006	0.990	0.016
,,	Self-made	1.038	0.724	0.314

B.—*Experiments with Human Subjects.*

Experiment I. Subject S.	Commercial	1-290	1.474	Nil
,,	Self-made	1.290	1.235	0.055
Subject C.	Commercial	1.325	0.961	0.364
,,	Self-made	1.325	1.197	0.128

periods, compared with that in the immediately preceding intervals, it will be seen that in the former there is invariably a decrease, with one exception. There can be little doubt that this uniform effect is due to a better digestion and absorption of the food to which the meat extract had been added. As pointed out in the previous communication already referred to, this accords with the observations of Pavlov—namely, that meat extract is a strong excitant of gastric secretion.

Effect on the Volume of Urine Secreted and Quantity of Water Drank.

It remains only to compare the volume of urine passed per day in different periods with that of the water drank other than water mixed with or contained in the food. It should be stated that the dogs were given as much water as they chose to drink. The same rule was followed in one of the human experiments—namely, Subject S.

Table Showing the Mean Daily Quantity of Urine Passed and of Water Drank.

A.—*Experiments with Dogs.*

	Extract Used.	Urine in c.cm.		Water in c.cm.	
		Previous Period.	Feeding Period.	Previous Period.	Feeding Period.
Exp. VI.	Commercial	307	303	191	230
,,	Same filtered	298	349	147	167
,,	Self-made	207	342	180	271
Exp. VII.	Commercial	118	158	100	193
,,	Same filtered	113	133	101	122
,,	Commercial	106	109	67	109
,,	Self-made	122	140	87	174

B.—*Experiments with Human Subjects.*

Exp. I, Subject S.	Commercial	1050	1054	553	545
,,	Self-made	1064	1114	512	615
Subject C.	Commercial	1140	1214	Nil	Nil
,,	Self-made	1088	1148	Nil	Nil

Subject C, however, drank no water or other liquid except as part of one or other of the daily meals.

On examining the table it will be seen that during the periods of feeding with extract, there was, on the whole, an increase in the volume of urine passed and also in the quantity of water drank, as compared with the preceding intervals. The increase in the intake of water was also relatively greater than that of the output of urine.

Although variations in the amount of water escaping by the lungs and skin must have occurred, of which no cognizance could be taken, it may nevertheless be fairly concluded that most of the extra water taken into the body during the feeding periods, and not accounted for in the urine, was retained and contributed to the increase of weight, indeed probably accounted largely for it. It should be borne in mind, however, that no tissue or fluid of the body can be increased in amount without the utilization of from 60 to 90 per cent. of its weight of water. That this necessary water can be provided without extra intake in the form of water drank, is shown by the results of Human Experiment 2, Subject C.

Effect of the Inorganic Salts contained in the Commercial Extract.

In one observation (Dog VI, Period 6) on the effects of adding 5 grams of the inorganic salts obtained by incineration from the commercial extract, the weight of the animal rose slightly. (See protocols.) Further observations are, however, required before the effects can be stated with any certainty.

Conclusions.

1. The addition to the diet of the beef extracts used (commercial and self-made) led to an increase of body weight both in the case of animals and of man.
2. Accompanying this increase there was a retention of a considerable proportion of the nitrogen given in the extracts.
3. The extracts also caused a reduction in the output of nitrogen by the faeces, this no doubt being due to a better digestion and absorption of food of the ordinary diet.
4. The extracts may therefore be accredited with both a direct and an indirect nutritive value.
5. During the feeding with the extracts there was also a retention of water in the body.

Protocols.

In an investigation of this kind it is necessary to publish the full data on which the conclusions are based, however tedious the details may be. Accordingly they are set forth in the following protocols. Where not otherwise stated, the weights are expressed in grams and fractions of a gram.

Experiment VI (Dog).

Period 1.—Food : Biscuit, 200 grams ; Lard, 10 grams.

Day.	Weight in Kilos.	Total Nitrogen of Urine.	Urea Nitrogen.	Creatinin.	Creatin.	Volume of Urine, in c.cm.	Water Drank, in c.cm.	Observations.
1	10.500	4.004	2.324	0.302	Nil	284	205	Nitrogen of diet, 6.0 grams
2	10.500	4.081	2.618	0.297	,,	292	160	
3	10.480	3.948	2.345	0.302	,,	330	200	
4	10.500	4.018	2.674	0.297	0.052	324	200	
	Av. 10.495	Av. 4.013	Av. 2.490	Av. 0.299		Av. 307	Av. 191	
	Period 2.—Food same + 10 grams Beef Extract (Commercial).							
5	10.550	4.123	2.492	0.368	0.072	320	300	Nitrogen of extract, 0.633 gram.
6	10.550	4.445	2.681	0.375	0.075	325	250	
7	10.530	4.340	2.541	0.368	0.029	320	200	
8	10.550	4.347	2.450	0 361	0.028	270	200	
9	10.600	4.557	2.499	0.371	0.029	302	260	
10	10 600	4.354	2.485	0.397	0.020	285	170	
	Av. 10.560	Av. 4.361	Av. 2.525	Av. 0.374	Av. 0.042	Av. 0.303	Av. 0.230	
	Period 3 (Interval).—Food as in Period 1.							
11	10.570	4.074	2.422	0 300	0.016	260	100	
12	10.540	4.242	2.618	0.266	—	350	200	
13	10.550	3.983	2.324	0 270	0.007	285	140	
	Av. 10.550	Av. 4.099	Av. 2.455	Av. 0.279	Av. 0.012	Av. 0.298	Av. 147	
	Period 4.—Food same + Beef Extract (Commercial), Filtered.							
14	10.650	4.459	2.667	0.450	—	300	200	Nitrogen of extract, 0.563 gram.
15	10.650	4.466	2.751	0.422	—	320	150	
16	10.650	4.585	2.765	0.382	0.124	274	150	
17	10.660	4.508	2.611	0.359	0.091	260	150	
18	10.690	4.529	Lost	0 349	0.111	318	200	
19	10.650	4.340	2.478	0.359	—	320	150	
	Av. 10.660	Av. 4.478	Av. 2.654	Av. 0.387	Av. 0.109	Av. 349	Av. 167	
	Period 5 (Interval).—Food as in Period 1.							
20	10.670	4.081	2,401	0.281	0.087	302	175	
21	10.640	4.207	2,562	0.277	Nil.	280	130	
22	10.700	3.738	2,317	0.263	0.030	218	150	
23	10.640	3 787	2.569	0.273	0.054	270	140	
24	10.640	3.836	2.226	0.273	0.004	238	140	
25	10.670	3.955	—	0.277	0.008	254	140	
26	10 750	3.766	2.338	0.263	0.010	254	170	
27	10.730	—	—	0.270	0.019	268	120	
28	10.750	3.955	2.331	0.270	—	214	50	
	Av. 10.740	Av. 3.892	Av. 2.298	Average 0.272	Average 0.030	Average 255	Average 174	

EXPERIMENT VI.—*Continued.*

Period 6.—Food same + Inorganic Salts of Beef Extract (Commercial).

Day.	Weight in Kilos.	Total Nitrogen of Urine.	Urea Nitrogen.	Creatinin.	Creatin.	Volume of Urine, in c.cm.	Water Drank, in c.cm.	Observations.
29	10.770	3.990	2.268	0.273	0.048	240	150	
30	10 750	4.424	2.807	0.306	—	—	—	
31	10.770	4.158	2.576	0.270	0.046	318	200	
32	10.770	3.997	2.394	0.311	Nil	256	120	
33	10.780	4.242	2.590	0.289	0.008	292	150	
34	10.790	4.004	2.338	0.321	Nil	218	200	
	Av. 10.775	Av. 4.136	Av. 2.495	Av. 0.295	Av. 0.034	Av. 279	Av. 164	
	Period 7 (Interval).—Food as in Period 1.							
35	10.730	3.360	2.072	0.273	0.088	234	90	
36	10.770	3.787	1.918	0 281	0.030	196	50	
37	10.800	3.878	2.240	0.289	0.017	190	100	
	Av. 10.770	Av. 3.833	Av. 2.076	Av. 0.281	Av. 0.045	Av. 207	Av. 180	
	Period 8.—Food same + Beef Extract (Self-made).							
38	10.980	4.340	2.226	—	—	274	300	
39	11.000	4.760	2.144	0.579	0.171	386	300	
40	11.020	4.347	2.380	0.632	0.146	360	250	
41	11.000	4.060	2.324	0.422	0.148	400	350	Nitrogen of extract, 0.91 gram.
42	10.995	4.641	2.735	0.494	0.100	354	225	
43	11.030	4.011	2.450	0.418	0.160	280	200	
	Av. 11.000	Av. 4.360	Av. 2.710	Av. 0.509	Av. 0.145	Av. 342	Av, 271	
	Period 9 (Interval).—Food as in Period 1.							
44	11.000	4.032	2.093	0.238	0.184	216	60	
45	10.970	4.158	2.310	0.293	0.044	230	70	
46	10.960	4.018	2.275	0.293	0.028	340	250	
	Av. 10.965	Av. 4.069	Av. 2.226	Av. 0.275	Av. 0.085	Av. 262	Av. 126	

EXPERIMENT VII (DOG).

Period 1.—Food: Biscuit, 150 grams; Lard, 10 grams.

Day.	Weight in Kilos.	Total Nitrogen of Urine.	Urea Nitrogen.	Creatinin.	Creatin.	Volume of Urine, in c.cm.	Water Drank, in c.cm.	Observations.
1	6 410	3.542	2.674	0.197	0.007	118	150	
2	6.410	3.552	2.744	0.184	0.027	116	70	
3	6.420	3.153	2.611	0.156	0.032	120	80	
	Av. 6.413	Av. 3.416	Av. 2.676	Av. 0.179	Av. 0.022	Av. 118	Av. 100	Nitrogen of food, 4.5 grams.
	Period 2.—Food same + 5 grams Beef Extract (Commercial).							
4	6.480	3.167	—	0.193	0.077	122	200	
5	6.475	3.419	2.163	0.187	0.083	208	200	
6	6.440	3.251	2.604	0.198	0.015	114	250	
7	6.420	2.978	2.289	0.181	0.049	206	260	
8	6.420	3.041	2.429	0.182	0.099	110	50	
9	6.440	2.947	2.415	0.198	0.083	190	200	
	Av. 6.452	Av. 3.134	Av. 2.380	Av. 0.190	Av. 0.068	Av. 158	Av. 193	Nitrogen of extract, 0.316 gram.
	Period 3 (Interval).—Food as in Period 1.							
10	6.450	2.985	2.352	0.187	0.016	110	60	
11	6.390	2.404	1.887	0.140	Nil	74	20	
12	6.390	—	—	0.152	0.041	132	125	
13	6.300	2.415	1.764	0.139	0.086	144	200	
14	6.385	2.674	1.967	0.162	Nil	106	100	
	Av. 6.383	Av. 2.594	Av. 1.993	Av. 0.156	Av. 0.048	Av. 113	Av. 101	
	Period 4.—Food same + Beef Extract (Commercial) Filtered.							
15	6.395	2.940	2.180	0.197	0.142	144	140	
16	6.400	2.964	2.352	0.193	0.128	136	150	
17	6.420	2.912	2.275	0.206	0.079	148	150	
18	6.440	2.817	2.156	0.203	0.086	164	150	
19	6.415	2.831	2.121	0.220	0.112	100	40	Nitrogen of extract, 0.281 gram.
20	6.480	2.849	2.079	0.203	0.097	104	100	
21	6.432	2.870	2.170	0.203	0.111	—	—	
	Av. 6.426	Av. 2.883	Av. 2.190	Av. 0.203	Av. 0.109	Av. 133	Av. 122	
	Period 5 (Interval).—Food same as in Period 1.							
22	6.410	2.716	2.082	0.152	0.159	90	90	
23	6.445	2.901	2.191	0.177	0.061	120	100	
24	6.450	2.625	1.911	0.163	0.090	110	100	
	Av. 6.435	Av. 2.747	Av. 2.061	Av. 0.164	Av. 0.103	Av. 107	Av. 97	
31	6.600	2.828	2.219	0.164	0.042	144	125	
32	6.575	2.572	1.988	0.166	0.027	100	50	
	Av. 6.587	Av. 2.700	Av. 2.103	Av. 0.165	Av. 0.034	Av. 122	Av. 87	
	Period 6.—Food same + Beef Extract (Self-made).							
33	6.720	2.968	2.142	0.235	0.091	168	300	
34	6.735	2.863	2.030	0.235	0.042	—	—	
35	6.720	2.786	1.981	0.200	0.102	150	170	
36	6.735	3.066	2.261	0.227	0.110	136	150	
37	6.715	2.919	2.177	0.259	0.007	112	100	Nitrogen of extract, 0.422 gram.
38	6.740	3.080	2.128	0.250	0.020	132	150	
	Av. 6.727	Av. 2.947	Av. 2.120	Av. 0.234	Av. 0.062	Av. 140	Av. 174	
	Period 7 (Interval).—Food as in Period 1.							
39	6.766	2.803	2.142	0.180	0.007	132	70	
40	6.770	2.989	2.170	0.180	0.061	130	125	
41	6.810	2.828	2.100	0.194	0.019	151	125	
	Av. 6.782	Av. 2.873	Av. 2.137	Av. 0.185	Av. 0.029	Av. 138	Av. 107	
48	7.000	3.304	2.702	0.179	0.046	118	80	Other observations made.
49	6.790	3.164	2.359	0.173	0.030	97	60	
50	7.000	3.077	2.122	0.180	0.047	104	60	
	Av. 6.930	Av. 3.182	Av. 2.424	Av. 0.177	Av. 0.041	Av. 106	Av. 67	
	Period 8.—Food same + Beef Extract (Commercial).							
51	7.065	3.314	2.443	0.189	0.002	146	170	
52	7.080	3.325	2.527	0.198	0.118	110	100	
53	7.085	3.430	2.758	0.220	0.043	98	60	
54	7.105	3.304	2.485	0.233	0.048	96	110	
55	7.110	3.213	2.464	0.211	0.078	94	90	Nitrogen of extract, 0.316 gram.
56	7.160	3.318	2.513	0.203	0.074	108	125	
	Av. 7.100	Av. 3.314	Av. 2.532	Av. 0.209	Av. 0.060	Av. 109	Av. 109	
	Period 9 (Interval).—Food as in Period 1.							
57	7.135	3.493	2.415	0.206	0.032	258	150	
58	7.150	3.213	2.457	0.187	0.013	114	120	
59	7.120	3.087	2.450	0.191	0.029	170	150	
	Av. 7.135	Av. 3.264	Av. 2.441	Av. 0.195	Av. 0.035	Av. 181	Av. 140	

HUMAN EXPERIMENT I (SUBJECT S.).

Period 1.—Preliminary.

Day.	Weight in Kilos.	Total Nitrogen of Urine.	Urea Nitrogen.	Uric Acid.	Creatinin.	Creatin.	NH3 Nitrogen.	Amino Acid Nitrogen.	Phosphates.	Chlorides.
1	84.075	14.414	11.138	0.620	1.686	Nil	0.5226	—	3.167	13.056
2	84.235	13.623	11.634	0.627	1.662	0.0237	0.4280	—	3.049	12.936
3	84.240	14.735	13.534	0.725	1.679	0.0461	0.5043	—	3.201	14.934
4	83.777	15.960	11.570	0.606	1.482	Nil	0.4399	0.3055	2.776	11.640
5	83.860	15.698	13.051	0.735	1.559	Nil	0.5398	0.2785	2.984	12.648
6	83.760	15.822								
	Average 83.991	Average 15.042	Average 12.185	Average 0.662	Average 1.614	Average 0.014	Average 0.4869	Av. 0.2924	Average 3.035	Average 13.043

Period 2.—Beef Extract (Self-made).

7	84.200	15.481	12.557	0.826	1.565	0.137	0.594	0.4566	2.873	12.551
8	84.235	16.277	13.117	0.895	1.704	Nil	0.602	0.3970	2.935	—
9	84.255	14.740	11.804	0.811	1.667	Nil	0.599	0.5570	2.698	15.408
10	84.170	14.802	12.177	0.820	1.468	0.028	0.598	0.5659	2.902	13.516
11	84.345	13.704	11.735	0.763	1.652	Nil	0.524	0.4811	2.527	13.312
12	84.225	16.025	12.956	0.869	1.777	Nil	0.639		2.931	14.694
	Average 84.288	Average 15.171	Average 12.408	Average 0.831	Average 1.639	Average 0.027	Average 0.5927	Average 0.4915	Average 2.811	Average 14.508

Period 3.—Interval.

13	84.225	14.666	11.458	0.655	1.562	Nil	0.629	—	2.614	12.960
14	83.840	13.823	11.080	0.673	1.516	Nil	0.708	0.2908	2.597	15.402
	Av. 84.032	Av. 14.244	Av. 11.269	Av. 0.664	Av. 1.539		Av. 0.6686	Av. 0.2908	Av. 2.605	Av. 14.181

Period 4.—Beef Extract (Commercial).

15	83.845	14.504	11.536	0.787	1.588	0.052	0.689	0.3430	2.638	12.800
16	84.080	14.141	11.260	0.862	1.736	Nil	0.653	0.4410	2.261	15.120
17	84.370	15.680	11.602	0.886	1.664	0 150	0.677	0.4604	2.406	15.120
18	84.485	14.394	11,221	0.878	1.673	0.020	0.674	0.3043	2.696	14.003
19	4.460	14.952	—	—	—	—	—	—	—	—
	Average 84.248	Average 14.734	Average 11.405	Average 0.853	Average 1 665	Average 0.055	Average 0.6730	Average 0.3854	Average 2.500	Average 14.261

Nitrogen of food, 16.5 grams (approximately). Nitrogen of commercial extract, 0.460 gram.
Nitrogen of self-made extract, 3 days, 0.830 gram; 3 days, 0.820 gram.

HUMAN EXPERIMENT II (SUBJECT C.).

Period 1.—Preliminary.

Day.	Weight.	Total Nitrogen of Urine.	Urea Nitrogen.	Uric Acid.	Creatinin.	Creatin.	NH3 Nitrogen.	Amino Acid Nitrogen.	Phosphates.	Chlorides.
1	61.000	11.858	8.934	0.419	1.032	Nil	0.372	0.2955	2.245	9.90
2	60 980	10.826	8.895	0.422	1.014	Nil	0.328	0.2414	2.202	9.72
3	61.020	10.454	8.608	0.373	1.080	Nil	0.328	—	2.154	12.68
	Av. 61.000	Av. 11.046	Av. 8.812	Av. 0.405	Av. 1.042		Av. 0.343	Av. 0.2684	Av. 2.200	Av. 10.76

Period 2.—Beef Extract (Self-made).

4	61.660	11.262	9.429	0.489	1.320	Nil	0.340	0.2618	2.426	10.94
5	61.390	10.956	8.905	0.526	1.134	Nil	0.290	0.4140	2.428	10.83
6	61.430	11.648	10 046	0.480	1.313	Nil	0.342	0.4095	2.774	11.96
7	61.575	11.665	9.909	0.550	1.210	0.124	0.329	0.2912	2.444	11.76
8	61.465	11.548	9.359	0.498	1.382	0.071	0.294	0.3245	2.668	12.68
	Average 61 384	Average 11.416	Average 9.930	Average 0.508	Average 1.272	Average 0.039	Average 0.319	Average 0.3402	Average 2.548	Average 11.63

Period 3.—Interval.

9	61.633	11.211	9.580	0.405	1.040	Nil	0.379	0.1914	1.982	8.84
10	61.690	11,457	9.580	0.409	1.167	0.019	0.413	0.3125	2.009	11.28
	Av. 61.661	Av. 11.334	Av. 9.580	Av. 0.407	Av. 1.103		Av. 0.396	Av. 0.2519	Av. 1.995	Av. 10.06

Period 4,—Beef Extract (Commercial).

11	61.725	10.894	9.024	0.410	1.263	0.015	0.342	0.4970	2.266	12.35
12	61.943	10.920	8.844	0.433	1.246	Nil	0.313	0.3429	2.471	13.13
13	61.665	11.138	7.630	0.487	1.239	Nil	0.380	0.3127	2.378	11.85
14	61.750	11.044	9.028	0.456	1.146	Nil	0.292	—	2.318	12.59
15	61.870	11.202	8.672	0.503	1.007	Nil	0.270	—	2.526	13.55
	Average 61.790	Average 11.040	Average 9.040	Average 0.458	Average 1.195		Average 0.319	Average 0.3842	Average 2.392	Average 12.69

Nitrogen of food, 13.3 grams (approximately). Nitrogen of commercial extract, 0.460 gram.
Nitrogen of self-made extract, 2 days, 0.82 gram; 3 days, 0.84 gram.

FAECES NITROGEN.

A.—*Experiments with Dogs.*

EXPERIMENT VI.	Food.	N per Period.	N per Day.
Period 1 (8 days) ...	Biscuit	14.722	1.840
Period 2 (5 days) ...	Same + Extract (Commercial)	7.553	1.510
Period 3 (4 days) ...	Biscuit	5.111	1.278
Period 4 (7 days) ...	Same + Extract (Commercial filtered)	7.934	1.133
Period 5 (7 days) ...	Biscuit	21.466	1.651
Period 6 (6 days) ...	Same + inorganic salts of Extract (Commercial)		
Period 7 (4 days) ...	Biscuit	4.658	1.664
Period 8 (6 days) ...	Same + Extract, self-made	8.342	1.390
Period 9 (3 days) ...	Biscuit	5.744	1.149

EXPERIMENT VII.	Food.	N per Period.	N per Day.
Period 1 (4 days) ...	Biscuit	3.754	0.938
Period 2 (6 days) ...	Same + Extract (Commercial)	4.686	0.781
Period 3 (6 days) ...	Biscuit	7.082	1.180
Period 4 (6 days) ...	Same + Extract (Commercial filtered)	6.313	1.052
Period 5 (*a*) (4 days) ...	Biscuit	4.049	1.012
Period 5 (*b*) (4 days) ...	Biscuit	4.153	1.038
Period 6 (6 days) ...	Same + Extract, self-made	4.343	0.724
Period 7 (*a*) (4 days) ...	Biscuit	5.097	1.274
Period 7 (*b*) (5 days) ...	Biscuit	6.028	1.006
Period 8 (4 days)* ...	Same + Extract (Commercial)	5.419	1.4855
Period 9 (3 days) ...	Biscuit	3.445	1.148

* The feeding period here was six days. The faeces of the period passed through the alimentary canal in four days.

FAECES NITROGEN.

B.—*Experiments with Human Subjects.*

EXPERIMENT I.	Food.	N per Period.	N per Day.
Subject S. (8 days) ...	Diet stated	10.333	1.290
,, (5 days) ...	Same + Extract (Commercial)	7.370	1.474
,, (6 days) ...	Same + Extract, self-made	7.409	1.235
EXPERIMENT II.			
Subject C. (6 days) ...	Diet stated	7.952	1.325
,, (5 days) ...	Same + Extract (Commercial)	4.804	0.961
,, 5 (days) ...	Same + Extract, self-made	5.986	1.197

DISCUSSION.

Dr. E. P. CATHCART (Glasgow) had hoped that Professor Thompson would have offered some explanation of the results which he had obtained. The observation that the addition of comparatively small amounts of extract of meat to a diet brought about such a marked increase in weight both in man and dog was very interesting. Did Professor Thompson believe that this stimulation to growth was due to the presence in the extract of some specific stimulating substance? Was it not possible that the increased growth after the addition of the meat extract to the food was simply due to improved digestion—to the food being better utilized? It would be remembered that Professor Pavlov had shown that meat extract was one of the most powerful stimulants of gastric secretion known. As both the men and the dogs were kept on a meat-free diet, this addition of meat extract would, therefore, be in all probability most marked. The fact, too, that it was added to a more or less monotonous diet would also help to yield striking results. At any rate, he could hardly believe that the nitrogen given in the form of meat extract was built up into protein tissue. The retention of nitrogen which was found was much more difficult to explain, and he would not think of offering an explanation until he had an opportunity of a more careful examination of the figures.

Professor ANDERSON said: Professor Thompson's very valuable paper raises in our mind the question of the operations that are proceeding in the stomach and alimentary tract and the ultimate actions, biological and physical. The action of the ingesta on nerve terminals and ultimate effect on the nervous sytem may be sedative or inhibitory. The paper has given us food for reflection and proof that we require to unite biological with physical considerations. The study of the changes in man are useful in acquainting us with the fact that the operation of the nervous system may affect normal biological operations to a measurable degree.

DEMONSTRATIONS.

THE following were among the demonstrations given during the course of the meeting of the Section:

Miss RADFORD (University of Birmingham): Three models of *The head end of an embryo ferret;* length 6 mm., the age approximately 19 days. The reconstruction was made from nearly 400 sections, and was magnified 100 times. The first model showed the left half of the head as far as the cervical flexure. This presented no very special points. The second showed the left half of brain; the cerebral hemispheres were forming, the cerebellum and pineal scarcely developed, the pituitary fairly well developed. The roots and ganglia of the cranial nerves were shown; 12 neuromeres could be traced—3 in the fore, 2 in the mid, and 7 in the hind brain. The third model showed the pharynx with the aortic arches of the right side. Four pharyngeal pouches were clearly traceable, the first three in close connexion with the ectoderm. A possible fifth pouch might also be seen; it had lost connexion with the pharynx except by a thin strand of cells. There was no trace of a fifth aortic arch. The first and second arches were incomplete. The third, fourth, and sixth were complete. The sixth, which gave off the pulmonary artery, was already very small; the median thyroid had lost all connexion with the pharynx.

Mr. J. E. S. FRASER (King's College, London): *Two kidneys with double ureters.* In one case the ureters joined an inch and a half from the bladder; in the other fusion occurred considerably higher up. In the first case there was some indication of the division of the kidney corresponding with the two ureters; but blood supply was as usual. The probable relation of such specimens to double kidney was pointed out.

Mr. S. E. WHITNALL (University of Oxford): A series of dissections illustrating points in the *Anatomy of the orbit.* The preparations included the lacrymal gland, the relations of the lacrymal sac, especially considered in regard to the anterior ethmoidal cells; an abnormal lacrymal sac, showing an anterior sacciform dilatation; a dehiscence of the medial wall of the orbit; the lateral attachments of the tarsal plates to the orbital wall; the cavernous sinus dissected from the medial side; the capsule of Tenon from in front and from the side; the insertion of the levator palpebrae superioris muscle and its relation to the septum orbitale; an instance of absence of the ophthalmic artery, its place being taken by a branch from the middle meningeal artery; the remains of a retractor bulbi muscle in man, with examples of the muscle in lower animals; casts showing the shape of the orbital cavity.

Mr. T. YEATES (University of Birmingham): The use of *Strengthening plates in the reconstruction method.* Since Born, he said, had introduced the reconstruction method into embryological research, its accuracy had not been disputed. Practical workers with the method, however, had been confronted with defects which rendered the carrying out of the technique somewhat difficult. Professor Arthur Thomson, of Oxford, had recognized the most important of these defects when he recommended, a year or so ago, that blotting paper should be incorporated in the plates so as to add strength to them and to the resulting model. The workers in the Birmingham school accepted the suggestion, and had given it a long practical trial. It was found to have, to a certain extent, the advantage claimed for it, but there were several very important disadvantages with the strengthened plate which more than counterbalanced the advantages gained. At Birmingham they had found it so difficult to cut, that a few hours' work produced so much tiredness of the hand that one could not use that organ for other purposes for several days, or even weeks. Another extremely important disadvantage was that blotting paper could not be melted, and hence the finishing of the surface of the model was prolonged and difficult. The third disadvantage in Professor Thomson's suggestion was that the resulting plate was not as strong as was necessary when reconstructing delicate membranes, such as the amnion. Wishing to improve the quality of the plates used, a search was begun for a material possessing strength, toughness, elasticity, the power of being easily cut, and a melting point as near to that of the wax used in the manufacture of the plate as possible. Many substances, such as zinc foil, thin sheet copper, calico, etc., were tried, only to be discarded. In examining some of the exquisite reproductions of original models by Ziegler of Freiburg, it was seen that he used a substance which looked like celluloid to model delicate membranes, and hence it was decided to try thin sheets of celluloid. The results were even better than expected. The celluloid plate (Birmingham plate) could be cut with ease; it tore with difficulty, and the surface of the model could be smoothed off with an iron without much effort. At present it was proposed to use these plates in the anatomical department of this university, but as there was still room for improvement further experiments would be carried on. Up to the present, however, no plate had given better results in the Birmingham school than the one in which sheets of celluloid had been incorporated.

Mr. GOOD (University of Birmingham): Two models illustrating the *Production of spina bifida*, prepared from 360 sections of an embryo ferret 8 mm. in length, every alternate section being drawn when magnified 50 diameters. The existence of spina bifida had not been observed before the sections were cut. It was suggested that the models afforded support for Lebedeff's theory that spina bifida was associated with flexure of the vertebral axis from some mechanical cause.

Mr. CHAD WOODWARD (Royal Orthopaedic Hospital, Birmingham) demonstrated a model designed to show that if the nutrient foramen of the fibula were situated about the junction of the upper and middle thirds of the shaft, then its canal would take a downward direction, even if the lower epiphysis of the fibula united last. In the course of his observations he recorded the result of the examination of 1,091 human fibulae. In the majority of cases, namely, over 72 per cent., the nutrient foramen was situated at the position mentioned; he therefore regarded this as the normal situation. In 4.9 per cent. more than one foramen existed. Certain authors had written as if the direction of the nutrient canal influenced the time of union of the epiphyses, but this was a confusion between cause and effect. The true cause of the slanting direction of nutrient foramina was the fact that the bones increased in length at their epiphysial lines, while arteries underwent elongation by interstitial growth. In most bones the epiphysis which had joined last was indicated by the direction of the nutrient canal, this slanting away from it. Even in the cases in his series in which the foramen was abnormally situated (23 per cent.), the canal was directed upwards in 13.8 per cent. and inwards in 4.2. In all probability, therefore, the dates hitherto accepted as those at which the epiphyses of the fibula united were incorrect, the lower epiphysis really uniting last.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PAGET'S ECZEMA OF THE NIPPLE.

A CONSIDERABLE number of reports on the *x*-ray treatment of this disease have been published, but with few successful results so far. Indeed, in *Wright's Medical Annual* for 1911, Dr. Reginald Morton says: "Paget's disease does not seem to be amenable in any degree to *x*-ray treatment."

The following case of apparent cure seems, therefore, worthy of being placed on record:

Mrs. G., a widow, aged 70, was sent to me for treatment in October, 1910. Her left nipple was retracted and the nipple and the areola were excoriated and discharged a thin watery fluid. She complained of considerable pain in the breast. The condition had lasted for twelve months, and had been treated with various ointments. Under and to the left of the nipple there was a definite localized tumour, to which the nipple appeared to be bound. The patient refused operation on account of her age.

Treatment.—The details of the treatment are as follows: From October 27th to December 29th nine applications of unfiltered rays, each sitting being three-quarters of a "pastille dose." The nipple was now quite healed and the tumour smaller; the skin around the nipple showed considerable brown discoloration and was desquamating freely. Eight more weekly sittings were given, the rays being filtered through aluminium and increased to a full "pastille dose." The tumour gradually diminished in size and could now no longer be felt. All pain had also gone. A few more applications were made at fortnightly intervals.

Result.—At the present time no difference can be seen or felt between the two breasts, except that the nipple of the affected one is slightly smaller than the other.

No microscopical examination was made in this case, but other medical men who saw the case agreed that, clinically, the case was a typical instance of Paget's disease.

I think the favourable result was due to the size and frequency of the doses and to the use of a filter as soon as slight dermatitis supervened, for this enabled the treatment to be continued with even increased doses.

NORMAN E. ALDRIDGE, M.B.,
Honorary Physician in charge of Electro-therapeutical Department, Royal South Hants and Southampton Hospital; Medical Officer to *X*-Ray Department, Royal County Hospital, Winchester.
Southampton.

THE PRESENCE OF KIESTIN IN URINE DURING PREGNANCY.

THE patient in the following case, a woman aged 34, consulted me on April 10th, 1910. She was a spare, delicate-looking, fair woman, whose history was as follows: She had one girl being then aged 13, one boy then aged 11; one miscarriage at five months in October, 1900, and one premature birth at seven months, November, 1901. She said she was about five months pregnant and was very nervous, as she had such a bad time with her premature confinement in 1901, and her symptoms now seemed to her the same as she then had, namely, constant headache, neuralgia, swelling of the hands and feet, and cloudy urine.

Condition on Examination.—I found she was five months pregnant. Her mouth was full of septic stumps; with the exception of a haemic murmur over the cardiac pulmonary region and a feeble slow action, nothing more was found. The urine showed a specific gravity of 1010, and was very alkaline; no albumen. A deposit settled in the centre of the glass resembling fine cotton-wool, afterwards rising to the surface, and finally settling to the bottom—kiestin.

I wrote to her late medical man, Dr. C. V. Crosby, of Leicester, who was good enough to give me the following facts:

"She was a pale, thin, unhealthy-looking girl, with bad teeth and a septic condition of the gums. Labour was normal, and as far as I can remember, it was several days after her confinement that I was called to her in fits. Her symptoms were very severe, and I gave chloroform for several hours to control them, later hypodermic of morphine. The urine contained a large amount of albumen, which cleared up entirely after a few weeks. She was extremely ill, and very weak for some time afterwards."

Treatment and Progress.—Quinine, iron, nux vomica, and digitalis were given three times a day, after meals. The heart's action improved. The ascites of the hands and feet quickly diminished, and after a month was quite gone. This medicine was continued until the beginning of July. The patient then, feeling so well, left it off. Within a week the headache, and ascites in the hands and feet returned, rendering it very difficult for her to get about; this cleared up on her resuming her medicine. The urine was repeatedly examined for albumen, with no results, the amount of kiestin keeping the same.

Result.—On August 3rd, 1910, she was confined, labour being quick and quite normal. There were no symptoms of any convulsions following, and she was able to resume her usual duties at the end of a month.

Remarks.—The old proverb, I think, may be quoted in this case: "To be forewarned is to be forearmed." The advantage of seeing the case early and following it through was great. The cardiac tonic, I think, assisted in keeping up the tone of the heart's action, and enabled the patient to weather the storm. Her child weighed 9½ lb., while her other two living children had been delicate and small.

J. MCOSCAR, L.R.C.P.Lond., M.R.C.S.Eng.
Buxton.

FATAL HAEMATEMESIS FOLLOWING OPERATION FOR APPENDICITIS.

MISS S. had had three attacks of subacute appendicitis, the temperature rising to 101° F. at the highest on one occasion. The attacks occurred at intervals of three months. She was under the care of my colleague, Dr. Walters, who asked me to see her with a view to operation. She had a very tender spot over the appendix at McBurney's point, and there was a feeling of thickening and resistance. Nothing abnormal could be felt by the rectum except some possible thickening. The appendix could not be felt. There was a history of gastric trouble two years ago, but as the description is vague nothing could be gathered from it.

On January 15th, 1911, I removed a long, irritable appendix with an exceptionally long mesentery; it dipped down behind the caecum towards the pelvic brim; no difficulty was experienced in its removal, and the operation was completed with invagination of the stump by purse-string suture, and the abdomen closed in layers; the incision was made over the outer border of the rectus. The operation was completed and the patient removed to bed in thirty-five minutes. Some delay was caused at first by troublesome bleeding from the superficial vessels above the muscle. The patient took the anaesthetic well.

There was no sickness for twelve hours; then she complained of difficulty of breathing and faintness; the pulse was 100 and the temperature was 99° F. She was sick once or twice, but only brought up some frothy mucus. She was given strychnine and digitalin hypodermically; the pulse improved, breathing became easier. About six hours later she vomited about half a pint of blood and some clots; the pulse was 120, the respirations 30; she was feeling very faint, and was wandering; the abdomen was quite flat, and there was no pain. She was given adrenalin, ice, and strychnine; the limbs were bandaged and the foot of the bed raised. No action of the bowels occurred; the patient became very collapsed, and continued to vomit

small quantities of dark blood. Her condition was too serious for any abdominal operation to tie the bleeding vessel to be entertained. She became gradually weaker without recovering consciousness, and died on the night of January 17th, fifty-six hours after operation.

Presumably she had an old gastric ulcer, which for some reason started to bleed. The sickness was hardly to be attributed to the anaesthetic, as it did not come on for twelve hours, and must have been due to some reflex disturbance of the circulation in the stomach. It would have been impossible to attempt any further operative procedures as her condition did not admit of it, and our efforts were directed to keeping her pulse going. There was presumably no perforation, as the abdomen at the time of death was quite flat, though, of course, this might have occurred. The appendix was very much inflamed, and inside there was an ulcer on the verge of perforating, and a haemorrhagic condition of the whole lining membrane. Mr. Jonathan Hutchinson attributes such gastric haemorrhage to "sepsis," but I cannot think that this was a factor here. There were some omental adhesions to the ascending colon, but with that exception the peritoneal cavity was normal. The case is of interest in the light of Mr. Hutchinson's paper.

Bovey Tracey. H. GOODWYN, F.R.C.S.Edin.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

LONDON TEMPERANCE HOSPITAL.

RENAL CALCULUS; DIAGNOSIS CONFIRMED BY "X" RAYS; STONE LOCALIZED BY NEEDLE; NEPHRO-LITHOTOMY; RECOVERY.

(Under the care of Sir WILLIAM J. COLLINS, M.S., M.D., B.Sc.Lond., F.R.C.S.Eng., Senior Surgeon to the Hospital.)

WILLIAM W., aged 67, a decorator, was admitted into the London Temperance Hospital on July 17th, 1911, complaining that he had had frequency of micturition for several years, and two years ago passed "gravel" and some blood. For the last month he had had pain in the right loin, shooting to the pubes and penis. During the day he micturated every one or two hours, and at night two or three times. He located the pain, which he spoke of as "agony," in the right ilio-costal space. Urine: specific gravity 1010, acid, no albumen, blood, pus, or sugar. Urea 2·2 per cent. He was a spare, gaunt man, weight 8 st. 4 lb., life abstainer. A radiogram indicated a stone, not more than $\frac{3}{4}$ in. in longest diameter, in the right kidney, the edges of the outline were blurred by respiratory movements. Bladder sounding was negative.

On July 20th, under chloroform, Sir William Collins made an oblique incision 4 in. long in the right ilio-costal space and exposed the kidney, which he brought as far as possible into the wound. With a knitting-needle Sir William made two punctures, the second striking the stone in the lower part of the kidney. He then incised the cortex for an inch, and, inserting the left index finger, localized a stone in the lower part of the renal pelvis, then with forceps introduced along the guiding finger extracted it with little difficulty. It showed no evidence of branching, and appeared to be single and intact; the finger could detect no more. Rather free haemorrhage followed for a minute or two, but yielded to temporary gauze plugging. A large tube was inserted down to the kidney and gauze packed around it. The ends of the incision were closed with both muscular and skin sutures.

Recovery was uninterrupted; there was no pain after the first twenty-four hours, and no blood in urine after the sixth day. The temperature never rose above 100° F., and the wound healed by the twelfth day. He was discharged on the fourteenth day.

The stone was nut-brown, the size of a boy's marble, rather nodulated, and with a small incrustation of phosphates.

Reviews.

THE AUTOINOCULATION OF CONSUMPTIVES.

THE clinical study of consumption has afforded material for endless discussion and controversy, much of it mere repetition of well-worn ideas. It is refreshing to turn to a work on the subject which offers some new ground for thought, based as it is on observation and practical experience, and backed up by results which speak for themselves. Dr. MARCUS PATERSON, the Medical Superintendent of the Frimley Sanatorium, has enjoyed unique opportunities for putting to the test the views that he holds with regard to the clinical phenomena presented by cases of tuberculous disease of the lungs, and he has published the results of his experience in a handsome volume which will command attention, in the first instance, for the liberal manner in which it is printed and illustrated, and, in the second place, for the amount of original work that it contains.[1] He approaches his subject from a purely clinical standpoint, and regards tuberculous disease in the same light as diphtheria or other infective complaints as being due to accidental inoculation of a microbe which sets up local changes at its point of election and a general systemic poison which is the real trouble that has to be combated by the physician.

Hence he looks first for evidence of the general poisoning, and if it be only slight he disregards the local signs, even if they be considerable. In like manner he pays the closest attention to the general symptoms in cases where the evidence of local disease is hardly manifest, believing them to be due to excessive inoculation from a small focus. The local mischief in the lungs is to be regarded as a suppurating ulcer, liable to variations in amount of discharge, and at all times tending to heal under favourable conditions. The general symptoms, such as fever, lassitude, headache, etc., are the results of autoinoculation from the local focus and treatment must be directed toward its control and towards the increase of the resistance capacity of the patient. The control of this autoinoculation is, in the main, the problem which Dr. Paterson has been studying during the last few years. Like other observers he has found that absolute rest, mental and bodily, will often suffice to suppress the evidence of general poisoning, and that the more rigidly the rules of rest are observed the more rapidly does such evidence subside. Movement or excitement will often produce headache and rise of temperature, which tell of a systemic poisoning. These facts are well known, but it has not been so well recognized that this fresh autoinoculation may be followed by a period of lessened susceptibility, and that further movements may be sometimes undertaken without giving rise to further poisoning. Close comparison of the behaviour of the opsonic index with the course of the general symptoms has been found to give such corroborative evidence that its use has been dispensed with and the patients' symptoms have alone been relied upon to provide the required indications as to the use of graduated movements. To hold the balance between the phenomena of intoxication and the immunizing responses is thus the main object to be pursued in prescribing rest and exercise to overcome the activity of the disease.

Acting upon this theory of suppression of the tuberculous poison by means of graduated autoinfection, Dr. Paterson makes use in the first place of walking exercise, and follows it up with gentle manual labour with intervals of absolute rest whenever it becomes obvious that an autoinoculation has taken place, and he maintains that after each such set-back the powers of resistance are increased. The immediate effects of this line of treatment, he tells us, are eminently satisfactory in early cases and an amount of work is annually performed by his patients at Frimley which would appear to have materially benefited the immediate surroundings of the sanatorium as well as its inmates, very large improvements having been undertaken and carried to a successful conclusion by consumptive patients of both sexes who have taken an interest in the work for the work's sake as well as for their own.

[1] *Autoinoculation in Pulmonary Tuberculosis.* By Marcus Paterson, M.B., B.S., Medical Superintendent of Brompton Hospital Sanatorium, Frimley. London: James Nisbet and Co., Ltd. 1911. (Med. 4to, pp. 242; charts and illustrations 58. Price 21s. net.)

Of the practical outcome it may be said that the figures are satisfactory and that a fair proportion of patients treated during the last three years are still able to work, but it must be obvious that if such a system is to be carried out strictly a vast amount of personal supervision is absolutely necessary. Physical exercise is governed by temperament. One patient will use his spade energetically, while another will merely make a pretence of work, and only close watching can enable the physician to moderate the one and stimulate the other. The drilling of small bodies of patients under a well-instructed nurse can do a great deal towards the approximate regulation of labour.

The use of tuberculin does not appear to have found favour at Frimley, but it is not improbable that the addition of the artificial to the natural means of inoculation might hasten the process of immunization if it were fully tried.

Dr. Paterson's book contains a vast amount of useful information as to the economic management of a sanatorium, and records a great deal of valuable experience apart from the main text of his argument.

As a guide to those who are responsible for the conduct of sanatoriums throughout the country the book will prove most useful, but it has yet to be proved that the results obtained by graduated labour are superior in the long run to those achieved by simple hygiene associated with the judicious use of artificial immunization. The weak point, as it appears to us, of the method of natural immunization is the fact that it deals only with the periodical discharge of poison from the local focus and has no direct effect upon that focus itself, whereas the reports furnished by those who have made systematic use of artificial means go to prove that the activity of the focus may be thereby suppressed out of recognition, if not annihilated. The disease cannot be regarded as arrested if bacilli are still present in the sputum, although the patient may present no evidence of illness, but, as Dr. Paterson clearly shows, such patients may retain apparent immunity for long periods.

The theory of autoinoculation, however, is useful as a working hypothesis, and opens up a wider view of the disease as a whole than has hitherto been recognized.

LARYNGOLOGY AND RHINOLOGY.

THE *Atlas of Radiography of the Mastoid Region and of the Nasal Accessory Sinuses*[2] by Dr. JOSEPH C. BECK is remarkably well constructed, and will be found of the utmost help to those otologists and rhinologists who have to interpret radiographic pictures of their cases. The sequence followed is extremely logical, the first stage being the description in the shortest and clearest form of the three typical positions of the head for the radiography of the nasal sinuses and of the mastoid processes. These are the postero-anterior, the lateral, and the mastoid. The last is attained by causing the patient to lie on the abdomen, with the opposite side of the face and head resting on a plane elevated at an angle of 25 degrees from the table, the ring of the compression cylinder resting upon the uppermost parietal bone but parallel with the table (not the head rest). Views are given of the appearances seen in the normal dried skull, then in the normal living head, and lastly in the disease. These are all explained by means of key-plans, in which certain landmarks are emphasized, such as the horizontal plate of the frontal bone, the lower margin of the occipital bone, and the glenoid fossa. The radiograms of the nasal sinuses compare well with any we have seen, and those of the mastoid region surpass any we have met with. Numerous points in the photographic technique are detailed, and the directions for the taking of stereoscopic views are particularly clear. The only improvement we could suggest in this valuable atlas is that the stereoscopic views might have been given in more instances. No more instructive course could be recommended to a student than to exercise himself in the identification of the parts shown in these radiograms, checking his interpretation by the key-plans accompanying them.

[2] *Photographic Atlas of Radiography of the Mastoid Region and of the Nasal Accessory Sinuses.* By Joseph C. Beck, M.D. 1911. St. Louis: The Laryngoscopic Company.

The name of Professor ROSENBERG is a guarantee of the practical value as well as the high academic standard of his work on the pathology and treatment of diseases of the pharynx.[3] It consists of a short general part and an elaborate special part, the former so well designed as to diminish the need for much repetition in the latter. We note in it a specially good description of the hypopharynx, and the so-called mouth of the oesophagus, which is the subject of an excellent illustration. The section on general symptomatology contains many valuable hints, notably in reference to the paraesthesiae of the pharynx, and to the disturbances incident to thickening of the lateral bands. The special part contains methodical descriptions of the diseases of the various structures, well sifted in the light of the author's ripe, practical experience, so that all that is irrelevant is eliminated and the accounts condensed into reasonable bulk. The chapters on the disease of the pharynx occurring in dermatoses and in infectious diseases is particularly good, but we miss the name of Koplik in the description of the exanthem of measles (p. 104). Tuberculosis of the pharynx is well pictured in words, and so also is lupus, to which a separate chapter is devoted on account of the difference in the clinical characters, objective and subjective, although both are caused by the tubercle bacillus. No reference to tuberculin is made in connexion with lupus (in which it is valuable), and it is stated to be only rarely of use in pharyngeal tuberculosis (p. 119). The neuroses of the pharynx receive careful study. We miss the recommendation of mentholized olive-oil applications in paraesthesine of the pharynx, on which French writers lay such stress, and which Rosenberg has advocated so vigorously in tuberculosis of the larynx. This judicially written work will be found a trustworthy guide in regard to diseases of the pharynx.

The third edition of Dr. BALLENGER'S work on *Diseases of the Nose, Throat, and Ear*[4] is divided into four parts, dealing respectively with the nose, pharynx, larynx, and the ear. It presents many excellent features, chief amongst which are some striking illustrations of the various operative procedures described. It is a useful book for the general practitioner, and in many instances for the specialist, as it so clearly portrays special operations, many of which are modified and some of which have been devised by the author himself, who, it must be acknowledged, is most fertile in this respect. In the section dealing with the tonsils and their surgery, the variety of operative procedures described is great, yet the old idea of the anatomy of the supratonsillar fossa, and which is even schematically illustrated by the author, is adhered to, and no mention made of the later researches of Hett and Neil Hardy, who have shown that this fossa is really within the capsule, and not external to it. The indications given for the removal of adenoids are good, and the diagrams of the different varieties of the post-nasal space are excellent, but no reference is made to a frequent condition of excessive prominence on the pharynx of the body of the axis vertebra, which is a frequent cause of their incomplete removal. Ethyl chloride as an anaesthetic is not mentioned, and the technique of the operation is inadequately described. Some subjects, due, perhaps, to the increased prominence given to others, are unduly compressed, as, for example, syphilis of the larynx, which only occupies one page. Tuberculosis in its relationship to the mastoid and the middle ear is somewhat scantily treated. The surgery of the nasal accessory sinuses is fully treated and excellently illustrated, several of the author's methods are described, and the *pros* and *cons* discussed. The illustrations are good and useful; the aid they give in elucidating the operative procedures described will be much appreciated. The Canfield-Ballenger operation on the maxillary antrum is thus clearly shown, so also is the Caldwell-Luc method. Chapter X, which deals with "general considerations in reference to sinuses," treats adequately the relationship of the various sinuses to each other, the *rationale* of treatment, and the causes of their various inflammatory

[3] *Pathologie und Therapie der Rachenkrankheiten.* By Professor Albert Rosenberg of Berlin. Vienna and Leipzig: Alfred Holder. 1911. (Royal 8vo, pp. 164; illustrations 50. M. 4.20.)

[4] *Diseases of the Nose, Throat, and Ear: Medical and Surgical.* By W. L. Ballenger, M.D. Third edition. London: Henry Kimpton. 1911. (Sup. roy. 8vo, pp. 983; figs. 506; pls. 22. Price 28s. net.)

ffections. Their treatment is also thoroughly discussed. The portion devoted to submucous resection of the septum s valuable, the illustrations being many and good. The ubject of nystagmus is dealt with thoroughly, and the ccount of the methods for its detection and its signifiance are up to date. The book is excellent, and the efects which have been mentioned scarcely do more than ring out the many excellencies possessed by the work.

DISEASES OF THE URINARY ORGANS.

N the last year or so we have had opportunity of reviewng books on urinary surgery written by Watson and unningham from America, by Albarran and by Legueu rom France, and numerous cystoscopic atlases from ermany. But all these were for the specialist, big monoraphs that went deeply into the subject. Such also is ir Henry Morris's classic book on the kidneys. It has een left for Mr. BRUCE CLARKE to write, in his *Handbook f the Surgery of the Kidneys*,[5] a good short account of his branch. We can strongly recommend this book o all general practitioners and men reading for their inal examination. Surgery has advanced so rapidly of ate that the specialized specialist has become a necessity. n evil, too, some people think, but still a necessary evil. he ordinary man cannot know all medicine in these ays as he could a century ago. The specialist has, however, his disadvantages, and tends to put all the ills of an down to some lesion of his particular part of the ody. It has become therefore increasingly necessary hat the general practitioner and general surgeon should cquire a critical habit in order that he may be prepared o stay the hand of the specialist or to put his case ntirely in his care under different conditions. Judged om such a point of view, this work will be ound most valuable. The first chapter tells us nough of the abnormal anatomy of the kidneys to mpress us with the importance of determining the nction of each side separately, which is mentioned in e next chapter on the methods of examination. The ext briefly reviews the operations on the kidney, and om that we pass on to the injuries of this organ. The emaining six chapters deal with surgical diseases. Where l is good it is hard to pick out one special part, but we ay particularly mention the chapter on mobility of the idney. In this disorder the course between sewing up any kidneys that do not need it and leaving others that o is a hard one to steer; and Mr. Bruce Clarke's mmary will be found of value. We notice that he entions the possibility of a kidney with a complete esonephrosis, but has not instanced a case of it. This a pity, because the French surgeons say they have never en this lesion, and seem to suggest that it is a fiction of e Englishman's making. In the rest of his book Mr. ruce Clarke has based his description on his personal xperience, and has illustrated it by cases of his own, hich make excellent reading, and by pictures of specens from the museum of St. Bartholomew's Hospital. astly, we may pay a compliment to the style in which e book is written; we read so many books on medicine hich contain excellent material but in which the English so slipshod that their perusal becomes a work of labour. he clear language of this book comes as a relief and akes it a pleasure to read.

In a recent addition to his many contributions on inary diseases,[6] Professor POSNER has arranged a course lectures so as to form a fairly comprehensive treatise on e branch of surgical work to which foreign specialists ve given the title of urology. After a brief introduction the general principles of this subject, the author taking practical standpoint, and guided for the most part by his n wide experience, deals in turn with diseases of the inary passages, the prostate, and the kidney. His aim as been to make both the student and the busy practiner well acquainted with the present state of urinary d renal surgery, and to describe the new methods of agnosis and treatment by which so much has lately been done to enlarge and perfect this department of practical work. The teaching throughout the book is very practical, and comes from one who is an unquestioned authority on most points of his subject. It can hardly be regarded, we think, as a suitable work for the student. It is not a systematic treatise, and presents, perhaps, too much of the personal element for that purpose, and the absence of illustrations is certainly a disadvantage. By the active practitioner, on the other hand, it will be found a welcome and very useful source of information and suggestion, and a reliable guide amid the many diagnostic and therapeutical difficulties so likely to be met with in cases of urinary disease.

The fourth edition of *Enlargement of the Prostate*[7] by C. W. MANSELL MOULLIN, has been somewhat shortened and simplified by the exclusion of matters of passing interest. The space thus gained has permitted the use of larger and better type. Otherwise the general plan of the book remains as before. The author still maintains that the practical sphincter of the bladder is the so-called external sphincter, and that the prostatic urethra is patent in full distension of the bladder. The cause of the enlargement of the prostate is to be looked for in an influence of the testes. The nature of the enlargement is spoken of as not being inflammatory, nor a tumour formation, but a general fibro-adenomatous change or a fibroid degeneration somewhat comparable to the involution changes in the female breast. Several pages are given to the discussion of carcinoma. This has been met with by the author in 25 per cent. of his cases. The disease starts after 45 years of age, and the symptoms may endure for as long as twenty years. It is usually of the hard, seldom of the soft variety, and may be widely disseminated in the body before attracting much local attention. This corresponds with the reviewer's experience, as does the statement that haemorrhage is not an early symptom. Constant deep pain and a rapid development of the symptoms when once they have started is said to distinguish malignant from simple enlargement. Suprapubic prostatectomy is advised for vesical growths, perineal for extravesical enlargements, while Bottini's operation may be useful in early cases as a temporary measure. It is refreshing to see it stated that "no operation on the prostate is a light one." A 5 per cent. mortality is to be expected when the viscera are sound. We wonder if any one has calculated the mortality from all the London hospitals.

FLOUR AND BREAD.

MESSRS. W. AND W. C. JAGO'S *Technology of Bread-making*[8] is a revised and enlarged form of the senior author's *Science and Art of Bread-making*, published in 1895. The work is a comprehensive one, designed primarily for the scientific miller and baker, but also intended to provide the dietician and the chemist with full information in regard to bread. While much of the matter is a revised reprint of the earlier work, several new chapters have been added, and these include those portions of the subject which are of most importance to persons whose interest in it is not that of bakers, as, for example, the chapters on the bleaching of flour, on wheat, flour, and bread "improvers," and on the nutritive value and digestibility of bread. The authors do not regard the bleaching of flour by means of nitrogen peroxide as harmful, nor, apparently, as even undesirable; but the matter is dealt with thoroughly and fairly, and a summary is given of the evidence and arguments on both sides, collected from the *Bulletins* published by the United States Government from various technical journals, and from the expert evidence given in a law suit in this country, in which the patent for the process was attacked on the ground that it caused deterioration, but in which the judge held that this allegation was not proved; the more adverse reports recently issued by the Local Government Board are also given in abstract. On the

[5] *Handbook of the Surgery of the Kidneys.* By W. Bruce Clarke. blished by Messrs. Henry Frowde and Messrs. Hodder and oughton in the Oxford Medical Publications. 1911. (Pp. 199, with lates and 50 illustrations in the text. 10s. 6d.)

[6] *Vorlesungen über Harnkrankheiten.* By Dr. C. Posner. Berlin: gust Hirschwald. 1911. (Med. 8vo, pp. 355. M.9.)

[7] *Enlargement of the Prostate: Its Treatment and Radical Cure.* By C. W. Mansell Moullin. London: H. K. Lewis. 1911. (Demy 8vo, 176 pp.; 2 plates; 2 figures. 6s.)

[8] *The Technology of Bread-making, including the Chemistry and Analytical and Practical Testing of Wheat, Flour, and other Materials Employed in Bread-making and Confectionery.* By William Jago, F.I.C., F.C.S., of Lincoln's Inn, Barrister-at-Law, and William C. Jago. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1911. (Cr. 4to, pp. 908; 123 illustrations. 21s. net.)

subject of "flour improvers," also, the authors dissent more or less from the conclusions of Dr. Hamill's report, and consider that the best way of settling such questions would be the establishment of a court of reference to exercise a general supervision over the practice of additions to articles of food. It is not easy to find any aspect of the subject of bread which is not dealt with in this excellent work.

NOTES ON BOOKS.

MR. E. J. SCHUSTER has reprinted from the *Journal of Comparative Legislation* an address delivered last May, in which he severely criticized the National Insurance Bill. After describing at some length the provisions of the bill with regard to sickness and disablement benefits, he deals with its probable effects on existing institutions and contends that the great friendly societies will lose all their individual character and liberty, while the smaller societies will altogether disappear. He thinks that the effect on the medical profession will be distinctly bad, holding that competition will drive down the remuneration, and a large number of practitioners will be employed at a low remuneration while others will lose all chance of employment. The question—Does the bill deal justly between the different classes of the insured?—the author answers emphatically in the negative, and he instances specially the treatment of married women, domestic servants, and persons over 70 years of age. He regards it as altogether unjust that employers who pay their employees less than 15s. a week should have to pay a larger share of the contribution, and thinks it unreasonable that a person earning, say, £3 a week should not be able to procure himself larger benefits than a person earning £1 a week. Taking it for granted that a State subsidy has to be provided, it is urged that this should not be taken advantage of by persons who are abundantly capable of insuring themselves at their own expense. Part of the author's criticism on this point has been discounted since he wrote by the limitation of the voluntary insurance to persons with less than £160 a year, but he holds that no person with an income of, say, £300 a year should be insured under a State scheme, either voluntarily or compulsorily. Stress is laid on the uncertainty as to the cost of the scheme and the probability that a demand will spring up, as happened in Germany, for provision for the widows and orphans of insured persons, which will involve a considerable increase in the State subsidy. He makes light of the claim that the scheme will result in a saving of Poor Law relief, and it is pointed out that the experience of Germany does not bear out the hopes that were expressed in this respect. At the same time, the proposed British scheme, with its uniform contributions and benefits, is so entirely different from the German scheme that comparison is misleading, though the difficulties experienced in Germany in the working of the sickness insurance lead the author to the conclusion that insurance against temporary sickness ought to be left on its present voluntary basis.

MR. KELLETT SMITH describes in a small book on *Lateral Curvature of the Spine and Flat-foot*[9] the exercises which appear to him to be the most useful in the treatment of these deformities. He has nothing particularly new to tell, nor does he throw any fresh light upon the vexed questions in the pathology of scoliosis, but what he has to say is clearly said, and the illustrations to the book are effective. We wish that we could share his rather optimistic views as to the results of treatment.

Both Mr. Kipling and Sir Conan Doyle have been making experiments in the historical short story, and each in his own way has achieved success. The idea common to both is to give a rapid impressionist sketch of some moment in the past, but while Mr. Kipling is content to reproduce the atmosphere of the period, and to imagine the incident and for the most part the characters also, Sir CONAN DOYLE chooses an incident and follows history closely, with only such imagined additions and conversations as are necessary to the medium he had chosen. The first part of his volume, *The Last Galley*,[10] contains ten such short stories, arranged in chronological order from the destruction of Carthage to the early days of Mahommed. Two of them relate to the departure of the Romans fro Britain, and one to the coming of the Saxons. Another perhaps the best, to the coming of the Huns as witnesse by a hermit on the Dneister. The stories are told with a the swiftness of incident and vivid mastery of deta characteristic of the author. The first two of the eigh stories in the second part are of the same inspiration bu differently handled. It is, perhaps, a pity that the si others were thrown in, apparently, to make up a volum of regulation size. The dozen historical stories will b read with pleasure by every one, and would make a excellent boy's book.

Merck's Manual[11] is a small volume for the use c medical practitioners, in which much useful informatio is blended with references to the firm publishing it. I follows the usual lines of such a publication. The firs part contains notes on the various drugs and chemicals old and new, which are in general use as medicines; thi is followed by a longer section, containing numerou prescriptions for various diseases, practically all of ther including one or more of the firm's preparations. Othe sections contain dose tables, antidotes, etc. Nearly 50 pages are comprised in a thickness of less than half a inch. The matter is compiled with special reference t American practice.

The Modern Materia Medica[12] is the name given to book published by one of the leading American journals c the drug trade, in which concise information is given i regard to between four and five thousand articles, pr prietary and otherwise, which have been introduced int medicine in recent years. A large proportion are nev heard of in this country, America having evidently a even greater plethora of these compounds. This is by fa the most complete collection of such information that w have met with, and, although primarily intended for th use of pharmacists, will be found convenient for referenc by any one who is puzzled as to the identity of some ne or reputedly new preparation.

A second edition of Professor KIRMISSON'S *Précis c chirurgie infantile*[13] has been issued. A review of th English translation by Mr. Keogh Murphy was publishe on May 20th, 1911, pp. 1181. The new French edition ha been revised, and some new illustrations have been intr duced, but the book remains essentially what it was—a excellent clinical treatise, in which much attention i given to operations and the treatment of deformities.

[9] *Lateral Curvature of the Spine and Flat-foot, and their Treatment by Exercises.* By J. S. Kellett Smith, F.R.C.S.Eng. Bristol: John Wright and Sons, Ltd. 1911. (Demy 8vo, cloth, pp. xii + 137; illustrated. 5s. 6d.)

[10] *The Last Galley.* By Sir A. Conan Doyle. London: Smith, Elder, and Co. 1911. (Cr. 8vo. pp. 298. 6s.)

[11] *Merck's Manual of the Materia Medica.* A ready reference pock book for the physician and surgeon. Fourth edition. New York Merck and Co. 1911. (Foolscap 8vo, pp. 493.)

[12] *The Modern Materia Medica.* Second edition, revised ar enlarged. New York: *The Druggists' Circular.* 1911. (Post 8v pp. 432.)

[13] *Précis de chirurgie infantile.* Par E. Kirmisson, professeur c clinique chirurgicale infantile à la Faculté de Médecine de Pari etc. Deuxième édition, revue 8vo. Paris: Masson et Cie. (Pp. 81 Fr. 12.)

MEDICAL AND SURGICAL APPLIANCES.

Rectal Electrode for Treatment of Ulceration of the Lower Bowel by Ionization.

DR. GEORGE HERSCHELL (London, W.) writes: Th intractable nature of chronic rectal ulceration and th really brilliant results obtained by zinc ionization hav encouraged me to design a special electrode. The tub containing the metallic conductor is surrounded by a ba of watertight material which is permeable by the electri current. It is introduced into the rectum in a collapse

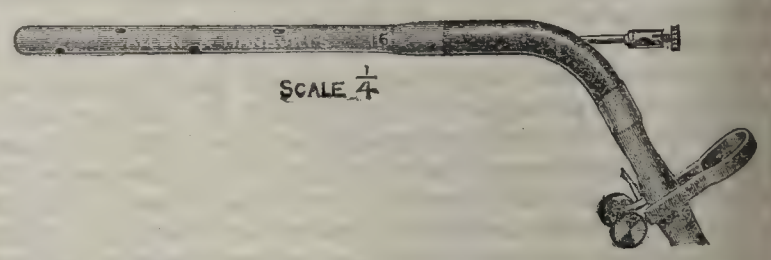

condition through a miniature speculum which protect it from injury by the sphincter. It is then pumped full c the solution used, and applies itself accurately to th interior of the rectum. The construction of the electrod is sufficiently explained in the accompanying illustratio in which, however, the membranous bag is not shown. I is manufactured by Messrs. Allen and Hanburys, wh supply with it detailed instructions for its use.

British Medical Journal.

SATURDAY, SEPTEMBER 16TH, 1911.

HE TRADES UNION CONGRESS AND THE NATIONAL INSURANCE BILL.

the Trades Union Congress, which recently con-ded its sittings at Newcastle, several resolutions re considered relating to the Insurance Bill, and, the Congress was representative of about 1,667,000 les unionists, the proceedings serve very well to w something of the sentiments with which the is regarded by the working class. On the whole vas evident that there is no desire to wreck the , but, on the contrary, a distinct disposition to our it, provided that certain amendments are made ich are by no means intended to be obstructive. motion expressing the opinion that no scheme ld be satisfactory which was not wholly non-tributory was rejected by a large majority. It s recognized that a non-contributory scheme, wever much the Congress might desire it, was racticable at present, though one speaker said t the present scheme must be regarded as only thin end of the wedge, and might eventually lead a non-contributory scheme. The argument that whole cost of insurance would eventually fall on workers was met by the reply that the trades ons of the country were quite strong enough to vent that. Another resolution, which was carried only a comparatively small majority, expressed the nion that the whole burden of insuring workers ose wages were less than 15s. a week should fall the State and the employer. In opposing this tion, Mr. John Ward, M.P., said that if the gress instructed its representatives in Parliament nsist on it, there would be nothing easier for the vernment than to decide that everybody paid less n 15s. a week should be dropped out of the bill gether.

A comprehensive resolution was proposed by Mr. R. Clynes, M.P., and carried by a large majority the following terms:

"This Congress protests against the clauses of the urance Bill which withhold benefit from a person in eipt of compensation for injuries and which require a kman to pay his own and the employer's arrears when h are due to unemployment. The Congress strongly lares against the provisions in the bill for works' clubs moted by employers, and against the demand on work-n for full contributions from a few hours' wages. The gress demands a medical court to deal with and punish dical officers for misconduct, neglect of duty, or exces-e charges. We ask for equality of benefit irrespective trade, and for more ample provision to meet the case casual workers. The Congress declares that State istance should be given as a right according to the essities of industrious people, and therefore claims t persons with wages below 25s. should be called upon contribute less than higher-paid men, or be relieved of payments to the scheme."

With many of the matters dealt with in this reso-ion the medical profession as such is not directly cerned, while others decidedly need the attention the profession.

By far the most important point dealt with in the olution as affecting the medical profession is the demand of the Congress that a medical court should be established "to deal with and punish medical officers for misconduct, neglect of duty, or excessive charges." In this connexion it may be well to recall what the Chancellor of the Exchequer said to the Special Representative Meeting on July 1st. Speaking on the question of free choice of doctor and the proposed panel of doctors he said:

> If a panel of that kind is to be a success the doctors themselves must exercise disciplinary powers, otherwise it will be a failure. It practically means handing over to the doctors in each district the control of the medical arrangements. That involves that the doctors have not merely the responsibility of curing their patients, but they have the responsibility of suppressing touting, unfair canvassing, and also checking ruthlessly the practice of malingering. It may very well be that in a district a medical man may have the reputation of being free and easy with his patients, and of not being too severe with them when they claim sick pay; and he may add to the number of his patients by having the reputation of not being too severe upon malingerers. The doctors ought at once to take in hand the punishing of that form of encouragement of malingering. Subject to the medical profession undertaking the responsibility of treating that form of touting, advertising, canvassing, and encouragement of malingering as infamous conduct in your professional sense, I should be delighted to see a free panel of doctors set up under the care of the local doctors themselves.

The Chairman of Representative Meetings afterwards asked the Chancellor how he proposed to give the profession the disciplinary power suggested, and whether he proposed to confer on the local Medical Committee statutory power in this matter, or was it a matter for our own internal arrangements as an association or a profession? To this the Chancellor replied:

> My idea was that it should be left entirely to the medical profession itself to exercise that discipline. You could not have outsiders adjudicating upon matters of professional conduct among yourselves. I think that must be left to the medical profession itself. At any rate I suggest that if there is going to be a free choice of doctor, you should have very strong disciplinary powers, in order to exclude from the panel those who are guilty of professional misconduct to that extent.

It was evident that the Chancellor had not a very clear idea as to the limited extent of the disciplinary powers which the profession has over its own members, but we need hardly remind medical men that, apart from the common law, the only bodies that have any disciplinary powers in professional matters are the General Medical Council and the various degree-giving corporations or universities, and practically the only punishment that can be inflicted amounts to erasure from the *Medical Register*, a punishment which is so serious that it is inflicted only for the most heinous offences. Except perhaps through the power of a "boycott," the profession itself has no disciplinary powers, and the British Medical Association has simply the power of expelling its own members from the Association. Under the amended Clause 14 of the Insurance Bill, the Insurance Commissioners will have the right, "after such inquiry as may be prescribed," of striking off the panel any practitioner "whose continuance on the list would be prejudicial to the efficiency of the medical service of the insured." As a matter of fact, the Commissioners are simply placed in the position of employers of the medical men on the panel, with the right of an employer to dispense with the services of an employee, but the exercise of this right is safeguarded by the words "after such inquiry as may be prescribed." But while in all cases the Commissioners will have the final decision as to whether a practitioner's name

shall be retained in the panel or not, every care will have to be taken when the regulations are being framed to provide that the position and powers of the local Medical Committees are properly recognized. The punishment of being struck off the panel will be an extremely severe one, for though it will not take away any legal right of private practice, as a sentence of the General Medical Council would do, it will altogether preclude the practitioner concerned from attending any insured person at the expense of the insurance funds. Seeing that quite one-third of the population will be insured, such a practitioner will be cut off from a large number of possible patients, while the stigma attached to a sentence of exclusion from the panel will seriously affect the rest of his practice and his general reputation.

Reverting to the resolution of the Trades Union Congress demanding the establishment of "a medical court to deal with and punish medical officers for misconduct, neglect of duty, or excessive charges," perhaps the reference to "excessive charges" needs some slight explanation. The fees paid to medical men for attendance on the insured, whether they be contract rates or fees per attendance, will be a matter of previous agreement between the profession and the insurance authorities, and the only way in which excessive charges could be made under the bill would be in districts where the system of payment per attendance is adopted, where the doctors might be accused of unnecessary over-attendance in order to run up excessive bills. Broadly speaking, the three chief classes of offences with which the doctors on the panel might be charged are, first, encouragement of malingering and touting for patients by giving medical certificates too readily; secondly, neglect of contract patients; and, thirdly, over-attendance on patients paid for per attendance. Bearing in mind the existing disciplinary bodies to which reference has been made, the question then arises, Are these bodies competent to deal with these offences, or is it necessary to establish some special medical court? With serious offences such as touting for patients and distinct encouragement of malingering the General Medical Council could very properly deal, but it is very doubtful whether any existing body is in a good position to deal with charges of under-attendance or over-attendance. The local Health Committee, as the body charged under the bill with the administration of medical benefit, will doubtless be suggested in some quarters as the proper authority for carrying out any inquiry in charges of misconduct, and Mr. G. H. Roberts, M.P., while opposing in the congress the establishment of a medical court, said that the workers could if they wished get control of the local Health Committee, the implication evidently being that the local Health Committee should deal with charges against the doctors on the panel. We have already referred at length, in an article published in the JOURNAL of August 19th, to the demand of the friendly societies that they should have a majority of representatives on the local Health Committees, and we cannot too strongly impress on the profession that there is a very real danger in this direction, which will need most careful watching when Clause 43 is under discussion in Parliament. Whatever be the final constitution of the local Health Committees, however, we are confident that the profession will not tolerate for one moment any suggestion that these Committees should have disciplinary powers over medical men. Questions of malingering and under-attendance or over-attendance are matters which in every case will require expert medical investigation. Mr. Lloyd George himself evidently recognized this when he said, as quoted above, that "it should be left entirely to the medical profession itself to exercise that discipline." We would suggest that of the various bodies constituted under the Insurance Bill, the only one that would be at all competent to investigate charges against doctors on the panel would be the local Medical Committee. Its interests would be entirely on the side of right conduct, and it alone would have the requisite medical knowledge to decide in offences of the character indicated above. Its duties are to be defined in the regulations, and special powers might be conferred for the purpose. It might also be a matter for consideration whether there should, in addition, be a Central Medical Court of Appeal for these cases, before the Insurance Commissioners gave their final decision whether any practitioner should be retained on the panel or not. An alternative suggestion might be made that the General Medical Council should be reconstituted and its powers extended so that, for instance, it might be in the position of being able to impose fines or other penalties short of the extreme penalty of erasure from the *Medical Register*. If that were done the decision of the Insurance Commissioners in any case might be made to depend on the findings of the General Medical Council. There seems, however, to be but little likelihood that any such reform of the General Medical Council can be accomplished for some time to come, even if the profession unanimously demanded it. In the meantime it will be necessary to make other arrangements to come into operation immediately when the Insurance Bill becomes law, and it is a matter for satisfaction that the Chancellor of the Exchequer appears to agree that the exact nature and details of such arrangements are eminently questions on which the medical profession can justly claim to have a preponderating voice.

THE BRITON AND THE BATH.

WE boast ourselves a cleanly people, and are apt to scorn the foreigner who does not daily perform the ritual of the tub. Yet it is not so long ago since we had the reputation of being an exceptionally dirty people. At the opening of the nineteenth century Mr. Matcham, an Anglo-Indian, who was a brother-in-law of Nelson,[1] writes: "Many foreigners conceive we are an uncleanly race from our not having a warm bath in every gentleman's house. Are they quite wrong in their conjecture? I should not be surprised if in a few years no gentleman will presume to be without a warm bath in his house." He adds that he thinks the frequent change of linen is owing to our intercourse with India. It is also probably chiefly owing to our intercourse with India that we owe the daily tub which Mr. Matcham advocated.

It is a curious fact that in the year 1800 there was not a single private house in London provided with a bathroom.[2] A witness stated before the Health Commission about the middle of the last century that the only two occasions on which one of the labouring classes was washed all over was immediately after birth and after death. The Turkish bath was introduced in 1850 by Mr. David Urquhart. The Turks, like other Mohammedans, are a cleanly people, in conformity

[1] See *The Nelsons of Burnham Thorpe: a Record of a Norfolk Family*. Compiled from unpublished letters and notebooks by M. Eyre Matcham. With a photogravure frontispiece and 14 other illustrations. Published by John Lane, London.

[2] Blandford: City Life in 1800. BRITISH MEDICAL JOURNAL, December 29th, 1900.

with the precepts of their religion. On the other hand, even at the present day we doubt if dirtier people could be found anywhere in the world than among our lower classes. A French workman would be ashamed to wear the clothes in which the British labourer goes to his daily work. There is nothing that tramps who apply at workhouses think a more brutal tyranny than the enforced bath.

In the Middle Ages our dirt and squalor were the theme of comment by foreign visitors. Three centuries ago what most struck a Portuguese traveller in England was the fact that the English gentry never washed. Erasmus has left a picture of the dirt that prevailed in the houses of noblemen. It is not difficult from this to imagine what the state of things must have been among the poorer classes. This country was visited by plague with almost unfailing regularity for many years before the Great Plague of London, and the visitations would doubtless have continued but for the great purification by fire which took place in 1666.

It is often said that in the Middle Ages dirt was universal, but this is quite untrue. We have positive evidence that in France, Italy, and Germany, at least, there were public bathing places. From pictures and documents mixed bathing seems to have prevailed in Germany. In France one of the guilds was that of the *Etuvistes*, who ministered at public warm baths, and when the barbers began to show their independence these bathmen were called in as auxiliaries by the physicians. In Paris alone there were twenty-six public bathing establishments in the reign of Saint Louis. In castles of great lords, and even in the houses of private citizens, there were *cuviaux* for baths; these were mostly reserved for the use of women, the men, as a rule, preferring the public baths. In the reign of Louis XIV there was an installation of baths which cost more than 20,000 livres. At a still earlier period there were baths in most noblemen's houses. In Italy bathing played a large part in the social life of the fifteenth century. It is a delusion, says Miss Ross,[3] to think that the frequent use of water, cold or hot, is a modern virtue. In the fourteenth and fifteenth centuries, the use of water was nearly as common as it is now. The whole population, whether north or south of the Alpes, rejoiced in bathing. They used cold baths, hot baths, and steam baths. They gathered to bathe in mineral water. Rubbing and even scratching while bathing was recommended, and Arnold of Villanova in the fourteenth century ordered his elderly patients to be well rubbed when in the water. Soap and sometimes lye was used, and Italian soap was in great request, particularly in Germany. It is true that from the middle of the sixteenth to the end of the eighteenth century men and women washed but sparingly. Both men and women who were careful of their complexions cleaned their faces with a dry white linen cloth, because it was believed that washing the face with water made it more susceptible to cold in winter and to tan in summer. The story of Lady Mary Wortley Montagu's hands is too well known to be repeated. Johnson said he had no passion for clean linen, and even the fine gentlemen of his day were far from scrupulously clean in their persons.

It would be interesting to speculate how the tradition of cleanliness was allowed to lapse. The Romans, as is well known, spent a considerable part of the day in bathing, and how complete the cleansing was may be gathered from the strigils and other instruments which they used for scraping the skin. The notion that there was some connexion between dirt and sanctity had originally nothing to do with any supposed incompatibility between the higher life of the soul and the cleanliness of the body. But in Imperial Rome, as luxury grew, baths became to an increasing degree houses of assignation, and the most frightful immorality prevailed, as may be gathered from the Roman satirists. It was for this reason that the baths were denounced by some of the early Christian fathers. Later, as usually happens, their teaching was misunderstood and misapplied, and it was thought that the act of bathing the body in itself tended to immorality. Accordingly persons who wished to give proof of sanctity practised mortification by wearing the same clothes winter and summer, and often not taking them off. They accepted the inevitable consequences of parasites and eruptions as penitential exercises, whereby merit was to be gained in the eye of heaven. This may be said to have reached its culminating point in Benedict Joseph Labre, who actually gave up his body to be a breeding ground for lice. It is recorded of him that if he found any parasites straying on his clothes he would carefully replace them on the richer pastures of his skin. He might be recommended as a patron saint to the devotees of the gospel of dirt which has recently been preached.

[3] See *Lives of the Early Medici, as told in their Correspondence.* Translated and edited by Janet Ross. London: Chatto and Windus. 1910.

THE CONTROL OF CONSUMPTION IN AUSTRALIA.

IN the earlier part of the present year an important conference was held at Melbourne between the principal medical representatives of the respective Boards of Health in Victoria, New South Wales, Western and Southern Australia and Tasmania, to advise upon the best measures to be adopted in dealing with consumption of the lungs and throat. Other forms of tuberculosis were not included in their reference. The report of this conference contains a very clear expression of the unanimous conclusions arrived at, some of them being of a drastic character.

Compulsory notification appears to have been in force for some years in some of the Australian States, but not under any common agreement or under similar conditions for all. It is now recommended that the enforcement of notification should be put into common form for the whole Commonwealth, and further legal powers are to be asked for to enable supervision and control to be applied more effectively than has been the case up to the present time. The members of the conference have been careful to consider and report only upon such things as are generally regarded as proven facts, and their suggestions for dealing with them are limited to measures which are "clearly necessary" and "clearly practicable."

As every consumptive is probably at some stage of his illness a source of danger to others, it is obviously the duty of public authority to see that such danger shall be reduced to a minimum if it cannot be altogether removed. The authority must be furnished with the means of supervising the conditions of life of the consumptive dwellers in its area, while the passage of consumptives from one area to another must be subject to special notification to, and observation by, the new authority under whose jurisdiction he may come. Rightly recognizing that the danger of transmission of the disease from the sick to the healthy is not at all times the same, the signatories of the report indicate very plainly their views as to the employment of common sense, and

they deprecate any hard-and-fast rule that would tend to segregate the harmless consumptive equally with the infective case. They advocate the segregation of all dangerous cases, with profuse discharge of bacilli in the sputum, and the use of compulsion if necessary. Legal powers are asked for to enable supervision to be exercised over the home consumptive; to examine contacts; to detain advanced cases in hospitals; to provide sanatoriums for the curable, and, further, to provide for the families of indigent consumptives during the period of their segregation in either form of institution.

It is evident that the power thus asked for is intended for use as a means of compelling attention to the advice of the sanitary authority, and it is not likely that it would often be employed with a backing of force. Persuasion, and the dictates of common sense, would probably achieve the desired end without any display of compulsion, but the weapon in the background, although seldom used, would doubtless carry moral weight if handled with discretion.

The supervision of the home, in itself one of the most important safeguards against the spread of the disease, is at the same time one of the most difficult of the recommendations to carry out in practice. The suggestion that women should be employed as inspectors for such cases is warmly supported, and would appear to have met with considerable success in the past, particularly in the matter of the education of the consumptive in the management of himself and his surroundings. The segregation and continued detention of the advanced consumptive, while regarded as essential to the well-being of the community, must be hedged about with efficient safeguards to prevent improper use, and precautions, not unlike those in force to prevent the irregular detention of lunatics, are duly set forth. The therapeutic value of the sanatorium is held in less estimation than its educational value, but the employment of sanatoriums and of tuberculosis dispensaries in conjunction with other public methods of discovering and treating the disease in its earliest stages, are judiciously commended. The question of State maintenance of the family of the indigent consumptive during the period of his enforced detention is mainly supported by statistical considerations. The value of the individual to the State has to be computed as against the cost to the community of a consumptive who does no work for a long time previous to his early death. The recent report of the Tuberculosis Commission, defining the relations between human and bovine tubercle and setting forth the relative risks run by young patients who consume large quantities of possibly tuberculous milk and of adults who only use small amounts at a time, could not have been known to the members of the Australian Conference, but it may be noted that some of the regulations laid down, and many of the views expressed, are in full accord with the findings of the Commissioners.

SEA-WATER INJECTIONS.

OUR note dealing with the Quinton Dispensary[1] has evoked a very quaint epistle thereon in the *Daily Mail*. Its terms, however, suggest that the writer, who is honorary secretary of this charitable institution, is in reality a very well-meaning young lady, so chivalry forbids the humour her effort would otherwise invite. Still, it is permissible to suggest that it was hardly kind to her honorary medical staff practically to put into their mouths a statement that the physician who visited the dispensary at our request is ignorant of infantile cholera. His name was made known to them, and it is one of such eminence among pediatric physicians that it would be simply silly on the part of any medical man claiming to have sufficient knowledge of children's diseases to take up a post in a dispensary ostensibly established for their benefit to call in question the authority of his judgement. For the rest, we are not concerned with the value of sea-water treatment in itself, since, to the best of our belief, the qualified merit both of isotonic sea-water and isotonic or normal saline solution in the treatment of diarrhoea and some other conditions is freely admitted by those who have tried them both. The two remedies seem to resemble one another as closely in their effect as in their constitution, so the only question at issue so far as we are concerned is, Which of the two is, in the long run, the more satisfactory to use? At present it can only be said that sea-water has the advantage of being effective in comparatively small quantities and the disadvantage of being incapable of sterilization and almost prohibitively expensive, whereas normal saline presents the disadvantage of having to be used in larger quantities, but is capable of being sterilized and of being prepared instantaneously at practically no cost whatever. On the point of their relative value, the work done at the Dispensaires Marins at Paris throws no light, since the experience there is confined to sea-water; indeed, for somewhat allied reasons, all records emanating therefrom are negligible. What importance can be attached to the records of a man running dispensaries which use nothing but the special preparation of a commercial firm? It is true that these records are supported by photographs of "before" and "after," but the ingenuous writer of the epistle mentioned must forgive us if we fail to be duly impressed by this fact. Even a charming young lady might be expected, in these days of Feminism, to know that the free use of such evidence by ordinary patent medicine vendors has seriously diminished its weight. Whether the experience gained at the Quinton Dispensary in London will suffice to solve the problem remains to be seen when its records are forthcoming. It may be so if many of its medical staff prove to be persons who have had equally long experience of the treatment of infantile cholera by normal saline. On the other hand, it will not be surprising if the records of this institution, whatever their contents may be, fail to carry any weight with the profession at large. It has been the subject of a *Daily Mail* boom, and in the long run that ably conducted and highly interesting newspaper usually contrives to damn what it most desires to bless. Besides this, reams of records of histories, treatments, and results will hardly overcome the unfortunate impression created by the fact that on the day that our representative visited the institution —that being a day when according to the *Daily Mail* the institution was working at high pressure—he found no cases of the kind of which so much had been heard. His own statements on the point, duly authenticated by his own signature, will be found at page 642 of this issue. We do not doubt that among the cases treated at the institution there have been some of infantile cholera, and probably a proportion of them have left "cured," despite the apparent lack of caution with which the remedy seems to be applied. But whether the "cured" are finally cured is quite another question, since from more than one hospital reports are reaching us to the effect that cases cured at this dispensary are being taken to these institutions to be cured once more.

[1] BRITISH MEDICAL JOURNAL, September 2nd, p. 514.

THE ROYAL COMMISSION ON TUBERCULOSIS.

IN another part of this issue will be found a summary of the contents of the first volume of the appendix to the final report of the Royal Commission on Tuberculosis. Its appearance is welcome not only on account of the nature

of its contents, but more particularly because it seems to herald the appearance also of the final conclusions of the Commissioners. These are already very belated, this Commission being, with one exception, the oldest of all existing commissions dealing with subjects of medical interest. The exception is the Royal Commission on Sewage Disposal, which was established in 1898. The Royal Commission on Tuberculosis was established three years later, and, besides seeing several junior commissions come and go, has itself lost by death two of its original five members—Sir Michael Foster, the first chairman, and Sir Rubert Boyce. Meantime it has issued three interim reports, all but the first being accompanied by several volumes of elaborate appendices. The original terms of reference were (1) to determine whether tuberculosis in animals and man is one and the same disease; (2) whether animals and man can be reciprocally infected with it; and (3) under what conditions, if at all, transmission of the disease from animals to man takes place, and what are the circumstances favourable or unfavourable to its transmission. In view of the nature of these questions, the conclusions published in the final report—whenever it appears—do not seem likely to be of an epoch-making character, since both the first questions are—so far as this country, at any rate, is concerned—considered as settled, thanks largely, it is true, to the work of this Commission, and more particularly to its very able scientific investigators. Even in respect of the third point there is no longer very marked difference of opinion. In the present volume Dr. Stanley Griffith, who has been doing most admirable work for the Commission almost ever since the beginning, brings forward no very new facts, but furnishes additional reasons for holding that the bacilli of bovine and human tubercle are entirely distinct; that man is susceptible to both of them, though only in a minor degree to the latter; and that no form intermediate between the two species exists, each having a distinct and unalterable entity.

JUDGE RENTOUL AND MEDICAL WITNESSES.

IT is one of the traditions of the English bench that the judge shall deal solely with the matter before him. To hear evidence and determine the issue is, generally speaking, his only function. Nevertheless, there is a growing tendency amongst judicial personages—not confined, unfortunately, to those who preside over the inferior tribunals of the law—to indulge in *obiter dicta* affecting persons or professions which have little or nothing to do with the matters in dispute. "An *obiter dictum*," wrote Mr. Birrell, "is an individual impertinence which bindeth none, least of all the lips of him that uttered it." Yet that which binds not may still offend; and the offended person is without redress, because every utterance on the judicial bench is absolutely privileged. One of the most pernicious kinds of *obiter dictum* is that in which the judge attempts to declare the law affecting a whole profession—founding, or attempting to found, his opinion upon the evidence in the case before him. The medical profession has been brought under the harrow in this way more than once. The most recent utterance comes from Judge Rentoul, who has propounded the whole duty of a hospital doctor who is called as a witness. The facts are very simple. A member of the staff of St. Mary's, Paddington, was subpoenaed to appear as a witness for the plaintiff in an accident case at the City of London Court. He had been paid the proper fees, namely, a guinea for his report, and a guinea conduct money. He attended on two days, when the case was not reached, but he failed to appear on the third day. Doubtless his absence (unless explained) was regrettable, for a doctor must, unfortunately, attend at court for the miserable fees allowed by law. But a satisfactory explanation of his absence may easily be conjectured, for a medical man on the staff of a hospital has many duties which imperatively call for attention. In any case, the circumstances are wholly insufficient to justify the following sweeping statements of the judge. According to the *Law Journal*, September 9th, Judge Rentoul said: "St. Mary's is a free institution, and is supported by public contributions. Some hospital medical men under these circumstances think that they should not attend court unless an adequate fee is paid. I am not of that opinion. Where doctors attend a free public hospital, which the public subscribe to, their attendance in support of a poor man's claim in a law court should be given free. Otherwise people might have to lose their cases. As I am told that the doctor attended the court on two previous occasions when the case was in the list and adjourned I shall say no more about it. Otherwise he would have been fined five guineas for his non-attendance." It would be interesting to know in virtue of what decisions of higher authorities the learned judge expressed this view. Is there any other profession whose members are compelled to attend the courts as witnesses without remuneration? Moreover, assuming that the new doctrine is evolved from Judge Rentoul's inner consciousness, his reasoning is, to say the least, extraordinary. He argues: "This medical practitioner has devoted the best years of his life to the public free; he has, therefore, become bound to go on working for nothing." In other words, "To him who worketh for nothing shall more work be given." It is a convenient doctrine for the needy litigant; but it will hardly commend itself to the medical profession, who, however, may take comfort in the reflection that the proposition has no warrant in law or in fact, or in the rules of practice of any court in the United Kingdom.

SOME INCOME-TAX POINTS.

WE would remind our readers who from any cause may have been prevented from making, or who have omitted to make, their income-tax returns for the year 1911–12 that unless a claim to be assessed at the lower rate of duty applicable to earned incomes is made by September 30th, the duty charged under Schedule D will be charged at the full rate of 1s. 2d. in the £, and no subsequent appeal or application will avail to get the rate reduced. In most cases the claim will have been made in the early summer on the usual yellow income-tax form; but if there is doubt in any reader's mind on the point, he will do well to send a note to the local assessor or surveyor of taxes, saying that he wishes to claim assessment at the lower rate, and asking to be informed if any further steps are necessary. It may be observed that a person whose total income from all sources does not exceed £2,000 is entitled (subject to a claim having been made in due time) to be assessed at 9d. in the £ on that part of his income that is earned; and a person whose total income exceeds £2,000, but does not exceed £3,000, is similarly entitled to be assessed at the rate of 1s. in the £. Where the income from all sources does not exceed £700, £600, £500, or £400, a further abatement of £70, £120, £150, or £160 respectively, is due before the income tax at 9d. in the £ is calculated. Other allowances are for the amount of the life assurance premiums paid, up to a total of one-sixth of the income, and an allowance of £10 in respect of each child living and under the age of 16 years on April 6th, 1911. The latter allowance is confined to persons whose total income from all sources as charged to income tax does not exceed £500. Claims on account of the "abatements," life assurance and allowance for children may be made at any time within three years, but no claims to assessment at one of the lower rates are entertained after September 30th in the year of assessment. The point is frequently overlooked that these allowances are personal and can be claimed by practitioners who exercise their profession in partnership as well as by those who are in separate practice. In the case of a partner the "total income from all

sources" is determined by the amount of his share of the income-tax assessment for the year, together with any other income he may possess.

THE INSPIRATION OF GENIUS.

UNDER the title of "Discharging Neuroses"—*Névroses à décharge*, a term suggested by Féré—M. Giraud has recently presented a thesis for the doctor's degree to the University of Lyons in which he endeavours to show that convulsive states are only an exaggeration of ordinary nervous activity. What is pathological in them is only the intensity of the action. The "discharge" must be looked upon as a special mode of nervous activity, which occurs in persons in whom an inhibitory cortical check is wanting. The discharge, however, takes other forms besides convulsive manifestations, one of the most striking being what is called "inspiration" in men of genius. M. Giraud's thesis is largely based on documents of an autobiographical character left by great men, reinforced by the testimony of contemporaries. Several of them describe inspiration as a sudden and involuntary state essential to the production of the work of genius. So necessary is it felt to be that they attempt to induce it by various methods of stimulation. Claude Bernard says: "You feel a slight shock of electricity which strikes your head and at the same time seizes the heart. That is the moment of genius. . . . Then all at once comes a flash of light. The new idea appears with the rapidity of lightning as a sort of sudden revelation." Is not this, says M. Giraud, the nervous discharge above spoken of, operating in a brain of the highest type instead of in that of a chronic neuropath? The men of genius as to whom M. Giraud has been able to get particulars, who tried to induce this in themselves, seem all to have aimed, though in different ways, at the production of cerebral congestion, a state favourable to the nervous discharge which they seek to bring about. Tronchin asked Gretrey how he composed his music. The answer was, "Just as one makes verses or paints a picture. I read and read again twenty times the words which I wish to express by sounds. I require several days to heat my head, then I lose my appetite, my eyes become inflamed, and the imagination is excited. Then I compose an opera in three weeks." He had consulted Tronchin for nervous troubles, and the physician said to him that if he continued to work in that way he would never get well. To produce hypertension and to bring about the psychical discharge which is the mechanism of inspiration, Edgar Allen Poe drank brandy, while Verlaine found his Pierian spring in absinthe, Hoffmann in wine, Voltaire in coffee, Baudelaire in hashish, and De Quincy in opium. Alfred de Musset took a mixture of beer and absinthe and smoked many cigars. The result is said to have been a special kind of drunkenness, under the influence of which he passed into a kind of cataleptic trance. "Then," says d'Orcet, "he made his choice among the strange images floating within his reach, like a fisherman who casts his line into water full of fish." This recalls Guy de Maupassant when he had finally crossed the borderland, chasing his "ideas," which he described as appearing in the form of butterflies and glow-worms. D'Orcet says that in proportion as his materials reached him, Alfred de Musset arranged them in his work with as much coolness and facility as a mason on his scaffolding. Artificially but violently concentrated, his imagination gave them, when they were in place, the last touch of the chisel, and such was the clearness of his memory that the next day, when the fumes of the poison were dissipated, he preserved no other recollection than that of the verses composed the day before, which he wrote out without alteration. To this list we can add a few others. Balzac, who worked at night, drank coffee in large quantities. To Burns the whisky bottle was too clearly a fount of Hippocrene. Byron said he found Epsom salts more stimulating to him than champagne, but he also roused his flagging Muse with ardent spirits. Poets and artists are not as a rule abstainers, but the highest work has not been produced by drunkards. Perhaps the oddest source of inspiration was that used by Dryden, who before writing poetry had himself bled and took a purge. Other methods of setting the machinery of inspiration at work consist in position and surroundings. Schiller plunged his feet into ice, and, as Goethe tells us, in a room pervaded by the smell of rotten apples. Milton buried his head in cushions or blankets. Descartes and Leibnitz did their thinking in bed. Victor Hugo wrote standing at his desk. Rousseau meditated with the sun beating on his head. Gluck composed in the open air, and sometimes he would have his piano taken into a field exposed to the full glare of the sun. Herbert Spencer screwed his brain up to concert pitch by rowing or playing with a ball for a quarter of an hour; then he dictated for a time, and then applied the stimulus of muscular exercise as before. It must have been trying work for his secretary.

DIET AND CHARACTER.

IN a recently-published translation of a work by Friedrich Nietzsche, curiously entitled *La Gaya Scienza*, occurs the following suggestive passage: "When a profound dislike of existence gets the upper hand, the after-effect of a great error in diet of which a people has been long guilty comes to light. The spread of Buddhism (*not* its origin) is thus to a considerable extent dependent on the excessive and almost exclusive rice fare of the Indians, and on the universal enervation that results therefrom. . . . The immense prevalence of rice-eating impels to the use of opium and narcotics, in like manner as the immense prevalence of potato-eating impels to the use of brandy. It also impels, however, in its more subtle after-effects to modes of thought and feeling which operate narcotically." There is here indicated a field of research which dietetic reformers might well explore, if only by way of varying the monotony of incessant reiteration of the superiority in "food value" of lentils and haricot beans over beefsteaks and mutton chops. A comparison of the moral characteristics (if the term be applicable in such connexion) of carnivorous and herbaceous or graminivorous animals does not take us very far. If the elephant can compare in intelligence or the horse in beauty and spirit with any beast of prey—points which many, however, will dispute—the supremacy of the lion or tiger in grace and activity, which, in comparison with the elephant at least, is undeniable, cannot be attributed solely to the effects of a flesh diet, since it may well be in great measure due to the demands of the hunting instinct. A thorough analysis and comparison of the physical, mental, and moral attributes of human races differentiated in respect of diet could hardly fail to yield valuable results. The same process might then be extended to individuals and to the same individual under different dietetic regimens. It is told of Herbert Spencer that he adopted vegetarianism by way of experiment, and that after twelve months he was so struck by the deterioration of his literary output during the period that he destroyed the whole of it and reverted to his previous habit. This anecdote, of course, does not prove anything more than that the philosopher himself needed or believed that, for full mental efficiency, he needed a mixed diet. In no department probably, has the saying that "one man's meat is another man's poison" greater applicability than in that of its literal significance. There are children who show an instinctive repugnance for animal foods and seem to thrive best without them—"physiological vegetarians" such individuals might be called. Other children (particularly perhaps, those of a "strumous" tendency) prefer mea

and savouries to the lighter foods which the modern parent commonly provides. It may or may not be true that avoidance of animal foods affects the disposition and tends towards the elimination of the combative instinct; facts are wanting to decide a question so complex. But with regard to the point raised by Nietzsche as to the effects of a starchy diet upon racial physique and its issue in the craving for narcotics, this at least may be said: Meat is not merely a food, but also a powerful stimulant —witness the effects of beef-tea—and there is no doubt that the use of one form of stimulant tends to evoke the craving for others. Vegetarians who have, before adopting that regimen, been moderate drinkers and smokers, often lose, wholly or in part, the taste for alcoholic beverages or tobacco. If, therefore, the craving for narcotics attributed to rice-eating races have a dietetic origin, it is presumably due rather to the deficiency of the nitrogenous factor than to the vegetable origin of their food. The great need in regard to all these dietetic problems is the avoidance of dogma and of hasty generalization, and the application of the experimental and inductive method to the elucidation of the various issues involved. Only thus can we hope to arrive at the desirable consummation of being able to indicate in the case of any given constitution, temperament, and mode of life the precise dietary calculated to give the best results in the shape of health, happiness, and efficiency.

ONE HUNDRED CASES OF PLACENTA PRAEVIA.

Schweitzer[1] reports 100 cases of this complication registered in 5,603 labours in Zweifel's clinic between January 1st, 1907, and December 1st, 1910. The presentation was complete in 35 and partial in 65. The maternal mortality was 6, but in one instance the patient had advanced tuberculosis, and the share which the obstetric complication had in causing death seemed but slight; therefore, the total mortality might correctly be reckoned at a little over 5 per cent.; 4 mothers died of haemorrhage, 1 of sepsis; 65 continuous cases were free from a single loss due to bleeding, but they included an unlucky case, admitted with high fever into the clinic, who died of septic phlebitis; 1, also, out of the 4 fatal haemorrhage cases was admitted in a hopeless condition, 2 had lacerations of the cervix, and 1 succumbed to atony of the lower segment of the uterus. The morbidity of the mothers amounted to 25.5 per cent.; 70 were free from fever in the puerperium. Neuritis was reported in 1, septic phlebitis in 2. The total infantile mortality was 45.5 per cent. There were 4 twin pregnancies; out of the 104 children in the whole series 37 were stillborn, and 10 alive when discharged from the clinic. Seventy-nine children were viable (over 2 kilos in weight); of these, 42 were stillborn, and 50 discharged alive. Treatment was not uniform. Rupture of the membranes (5 times), combined version (30 times), dilatation with bags (39 times) were practised, as well as, more rarely, internal version, drawing down a foot, forceps delivery, and craniotomy. One patient underwent Caesarean section by the Latzko-Zweifel subperitoneal method; she was already reduced by haemorrhage when admitted; there was total placental presentation with undilated cervix and cessation of pains. The child was not viable. The patient made a good recovery. Braxton Hicks's combined version proved best for the mother—that is, if extraction be not practised immediately after turning, as the risk of deep laceration of the cervix should not be incurred. It should be completed in one stage. The average loss of blood was 335 cm. The fetal mortality was 68.8 per cent. Combined version is the right procedure when the other is greatly exhausted and when the child is dead or not viable. The use of dilating bags is far better for the infant; the fetal mortality was but 12.2 per cent. On the other hand, it implies two operations on the mother—the introduction of the bag and, when that is expelled, turning and extraction. The average loss of blood, 680 c.cm., was much higher than in the 30 cases where version was undertaken. Hence dilatation is unsuited for mothers already reduced by haemorrhage. It is the better course when the mother has not lost much blood, but the best obstetrical technique must be available and the obstetrician must not leave the patient till she is delivered. In short, the bags are not preferable to combined version in private practice.

[1] *Zentralbl. f. Gynäk.*, No. 26, 1911.

CHOLERA IN ITALY.

It is announced that the Inter-Parliamentary Union Conference, which was to have opened at Rome on October 3rd, has been postponed, on account of the prevalence of cholera in Italy. It is proposed that the conference shall be held next spring. It is probable that the Nineteenth Universal Peace Congress, which was to have been held from September 25th to October 3rd, will also be postponed. We have received from the Mayor of Palermo a table of statistics, extending from June 1st to August 31st, as to the epidemic in that city. In the first week there were 60 cases with 31 deaths; four weeks later the figures had fallen to 31 cases with 7 deaths. As showing the sanitary condition of Palermo, which has a population of 350,000, the Mayor adds that during the six days before the date of his letter (September 6th) there had been an average mortality of only 25, of which one-half represented children under 6 years of age. We have also received an undated circular letter from the Mayor of Turin, denying that cholera has appeared in that city.

HYPERTONIC SALINE AND PERMANGANATE IN CHOLERA AND DIARRHOEA.

Dr. Leonard Rogers, I.M.S., has recently spent several weeks in Palermo, where he has had the opportunity of testing under European conditions the system of treating cholera which proved itself so remarkably successful in his hands in Calcutta, where Dr. Rogers is professor of pathology. The method in which the treatment is carried out, and the principles upon which it rests may be gathered from the paper by him published in the Journal of September 24th, 1910, page 835, and a review of a book on *Cholera and its Treatment*, published in the Journal of April 1st last, page 760. The treatment consists in the injection—intravenous or subcutaneous—of hypertonic saline solution, and the administration of permanganates by the mouth. By the use of the hypertonic solution alone he obtained a remarkable reduction in the mortality in Calcutta, among native patients the fall was from about 60 to 33 per cent. When the injections were supplemented by the administration of permanganates by the mouth, the mortality was further lowered to 23 per cent. In Calcutta the disease was much more severe in Europeans, and the results were not so good; it was therefore deemed very desirable to test the method in cases of cholera occurring in Europe. During three weeks in Palermo, where he lived in the cholera hospital and received every assistance from the Italian doctors, he had the opportunity of treating nearly seventy very severe cases in the collapse stage. The rate of recovery was between 60 and 70 per cent., a result better than he had obtained in Europeans in Calcutta. The solution which Professor Rogers recommends is composed of: Sodium chloride, grains 120; potassium chloride, grains 6; calcium chloride, grains 4; water, 1 pint.[1] As a rule the solution should be given intravenously, although, should the blood pressure be fairly high—say,

[1] Tablets are made according to this formula by Parke, Davis, and Co. Four tablets to 1 pint make the hypertonic solution; three tablets to 1 pint make a nearly normal solution.

above 80 mm. of mercury—it may be given subcutaneously. If the blood is highly concentrated, as shown by a specific gravity of over 1063 (normal 1056), the injections should be intravenous. The quantity usually required for an adult is about 4 pints; but if the specific gravity of the blood is very high, as much as 6 pints may be necessary, but in that case the last 2 pints should be injected very slowly. As a rule one injection suffices, but should collapse return a second injection should be given, and may be followed by others. Professor Rogers mentions one case in which he found it necessary to give five injections, the total quantity of hypertonic solution injected being 20 pints. The injection is made into a vein laid bare at the bend of the elbow, or, if there is difficulty in finding a suitable vein in this situation, the large vein which usually crosses the internal malleolus may be chosen. A small silver cannula with a stopcock is tied into the vein, and connected by an india-rubber tube with a pear-shaped glass receptacle, graduated in ounces up to 1 pint. The whole apparatus must be sterilized by boiling. The fluid is run in by gravity, and the rate of flow can be regulated by raising or lowering the flask, or by manipulating the stopcock.[1] The permanganate should be administered internally from the first. The simplest plan appears to be to make a solution of calcium permanganate (which is less astringent than the potassium salt) of the strength of 2 to 6 grains to 1 pint, and to allow the patient to drink this *ad libitum*. In addition, potassium permanganate should be given in the form of kreatin-coated pills containing 2 grains each. In adults one pill is given every quarter of an hour for the first three hours, and then every half hour until the stools become small and coloured green, which usually occurs in about twelve hours, and is an indication of oxidation of the bile. By the use of the permanganate the toxins in the stomach and bowel are oxidized and converted into harmless substances. The results obtained recently by Professor Rogers in Palermo were particularly good in children, and with his present experience he is convinced that the mortality may be still further reduced by earlier and more frequent intravenous injections. The principles of this treatment would probably equally apply in the case of infantile diarrhoea, the solutions being injected subcutaneously, as they were effective in this way in some very young children suffering from cholera at Palermo.

THE CAIRO PATHOLOGICAL MUSEUM.

ONE of the first requisites of a museum is a good catalogue, and in the case of the School of Medicine at Cairo Dr. Alexander Ferguson has supplied that want. The *Catalogue of the Pathological Museum*[2] is well prepared, bound, and printed, it is very portable, and the descriptions of the specimens are clear and of moderate length. The main defect is a total absence of illustrations, but for that the compiler can not be blamed. The collection was founded by Dr. Armand Ruffer, Dr. St. Clair Symmers, now Professor of Pathology at Queen's University, Belfast, and others, and when the Medical Congress met at Cairo in 1902 a catalogue was prepared by Dr. Symmers and Dr. F. C. M. Madden as a guide to the museum. The collection has greatly increased since then, and Dr. Ferguson has on that account prepared this new issue, which includes reports of all specimens mounted and exhibited in the museum down to March, 1910. The strong feature of this collection is visceral pathology, to which over three-fourths of the specimens may be referred. Bilharziosis is very well represented, as might be expected when we remember first that it prevails in Egypt, and secondly that Professor Symmers wrote on "A New Form of Cirrhosis of the Liver (Bilharzial Cirrhosis)" in the *Journal of Pathology and Bacteriology* a few years ago, and that Dr. Madden is the author of a treatise, *Bilharziosis*. No less than seventeen specimens illustrate bilharziosis of the bladder, singularly complicated with new growths, papilloma, carcinoma, and sarcoma; one displays sarcoma of the prostate with bilharzial infiltration of its mucosa, three bilharziosis of the ureter, two of the penis, one of the cervix uteri, and five, highly important, demonstrate bilharzial cirrhosis of the liver, on which disorder Dr. Symmers has thrown some light, as hepatic complications due to the nematode were before his time little recognized. Lastly, the group of specimens illustrating the same parasitic disease of the colon and rectum is as large as the bladder series. As in the bladder, neoplasms often complicate the disease; dysentery is, of course, a common symptom, and some examples show a dysenteriform ulceration due to the sloughing of a papillomatous tumour. Two specimens of duodenum infested with the ankylostoma, and four of Madura foot are catalogued, also a remarkable example of endemic funiculitis, the spermatic cord being embedded in a bulky fibrous mass; the microbe was of uncertain specificity, yet not the gonococcus. Dr. A. Ferguson himself has written on "Parasitic Granuloma; a Condition allied to Oriental Sore occurring in Egypt" in the *Annals of Tropical Medicine and Parasitology*, in conjunction with Professor Owen Richards of Cairo. He catalogues one specimen of a foot affected with Oriental sore. Thus this catalogue is mainly a report on specimens of high value prepared by authorities to illustrate certain grave diseases prevalent in Egypt.

[1] Messrs. Down Brothers, 21, St. Thomas's Street, S.E., make the cannula and flask for the purpose.

[2] *Ministry of Education, Egypt, School of Medicine: Catalogue of the Pathological Museum.* By Alexander R. Ferguson, M.D., C.M. Cairo: National Printing Department. 1910.

THE OBLIGATIONS OF THE MEDICAL PROFESSION.

THE question how far a medical practitioner is under an obligation to attend when summoned to a case of illness has been raised by the *Surrey Comet* (August 26th, 1911). We have no fault to find with the way the case is put editorially. We admit that doctors under contract must fulfil the duties they have undertaken, although they may be more overworked than any railway servant, sorely in need of rest and sleep, and entitled to charitable judgement if they fail. The case, too, of "the patient who disregards the obligation to pay the doctor for his services" is recognized as constituting an exception; but our contemporary evidently considers that, apart from this, there is some sort of obligation on every doctor to attend when summoned. Undoubtedly there is the same sort of obligation as compels every human being to render aid to his fellow in urgent need—for example, to save a drowning man—and we may go so far as to say that every medical man would do his best, without thought of how he should be paid, if he knew or believed that life was at stake. But beyond this we admit no obligation, and a very serious question to be considered in relation to the proposed medical service under the National Insurance Scheme must be the definition of the conditions under which the medical men who agree to attend the insured persons will be called upon for their services. Unless some limitation is placed upon the power of the patient to requisition the attendance of the doctor when and where he pleases the lot of the doctor will be intolerable and the situation will prove to be a constant source of complaint and trouble.

AMONG the recipients of honorary degrees from the University of Christiania, which has just celebrated its jubilee, are Sir Thomas Barlow, Sir William Osler, and Sir John Rose Bradford.

BRITISH MEDICAL BENEVOLENT FUND.

At the August meeting of the committee fifteen applications were considered, but only very inadequate help could be given, as the Treasurer reported that the grant account was already overdrawn to the extent of £90. Grants amounting to £96 were made to the most distressing of the cases, so that the total deficit is now nearly £200, and the reserves will have to be still further drawn upon. Numerous appeals are always received during the last quarter of the year, and the committee, therefore, urgently begs for support to enable these to be dealt with. Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

Appended is an abstract of the cases assisted:

1. Widow, aged 44, of L.R.C.P., L.R.C.S.Edin.. Husband's savings exhausted by a five years' illness ending in death, and applicant's only income is the interest on the money received from a small life policy. Tries to make both ends meet by taking boarders, but at present has none. Two children, aged 10 and 9, the elder at an institution and the younger recently elected to one. Voted £10.

2. Widow, aged 47, of M.R.C.S., L.R.C.P. No income, no children, and hopes shortly to find a suitable post. Voted £5.

3. Widow, aged 37, of M.R.C.S., L.R.C.P. Two children, aged 6 and 4, and dependent on a small monthly allowance from a sister and occasional earnings from sewing and painting. Has been obliged to part with most of her furniture. Voted £10.

4. Widow, aged 41, of M.B., C.M.Aberd. Quite unprovided for at husband's death a few years ago. Endeavours to support herself by letting lodgings. Two children, one at an institution. Relieved four times, £34. Voted £12.

5. Daughter, aged 63, of late M.R.C.S., L.S.A. Maintained herself as a dispenser until no longer able to find work as such, and now dependent on small occasional earnings by wood carving and slight help from a sister. Relieved five times, £50. Voted £10.

6. Daughter, aged 60, of late F.R.C.S. Has acted for many years as companion, housekeeper, etc., but for some time past has not been able to obtain a suitable post and has consequently spent her small savings. Relieved twice, £10. Voted £2, and case to be reconsidered at next meeting.

7. L.R.C.P.Edin., aged 66. Has been incapacitated by ill health for the last two years and is dependent on help given by a brother. Children unable to help. Relieved twice, £36. Voted £18.

8. Daughter, aged 68, of late L.S.A. No income and in very feeble health. Relieved four times, £40. Voted £2, and case to be reconsidered at next meeting.

9. Widow, aged 55, of L.R.C.P.Irel. Since husband's death has maintained herself by nursing, etc., but has been in bad health for some time past; is now in arrears for rent and has been obliged to dispose of some furniture and clothing. Relieved twice, £20. Voted £5, and case to be reconsidered in October.

10. Daughter, aged 55, of late M.R.C.S. No income and practically incapacitated. Relieved nine times, £85. Voted £12.

11. Widow, aged 54, of L.R.C.P., L.R.C.S.Edin. Receives slight help from relations and earns a few shillings a week by writing for newspapers. Two children, of whom the elder will soon be self-supporting. Relieved six times, £62. Voted £10.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

DURING the first six months of 1911, 604,634 persons died of plague in India. The following table gives also the returns for July:

HONG KONG.

Between April 24th and August 21st, 1911, there were reported in Hong Kong 255 cases of plague and 194 deaths from the disease. The plague was most severe in June, when during the second, third, and fourth weeks the cases numbered 38, 30, and 25 respectively, and the deaths during the corresponding weeks amounted to 26, 23, and 8.

CHINA.

Since January 1st, 1911, plague has been reported, with varying intensity of virulence, in China from North to South in the following towns and districts: Manchuria, Peking, Tientsin, Chefoo, Shantung, Shanghai, Amoy, Foochow, Swatow, Canton, Pakhoi, and Laichow.

INDO-CHINA.

At Saigon during March and April, 1911, many cases of plague were reported; between April 17th and May 7th there were 56 cases and 17 deaths from plague, and between May 22nd and 28th 37 cases and 12 deaths.

SIAM.

In Bangkok plague has been more severe during 1911 than in any previous year. Between March 16th and April 15th 33 cases were reported and 29 deaths from the disease.

JAVA AND SUMATRA.

In Java, during May, 1911, at Malang, 60 cases of plague were reported and 50 deaths from the disease; and in the Pasoeroean Residency (in which Malang lies) there were, between May 25th and June 3rd, 105 cases and 62 deaths from plague. In Sumatra cases of plague were recorded, but the numbers are not available.

STRAITS SETTLEMENTS.

A few cases of plague, mostly imported, have been recorded during 1911.

JAPAN.

At Kobe a few cases of plague have occurred during 1911, but nowhere has there been a severe outbreak. In Formosa, however, the prevalence of plague has been severe; between April 2nd and 15th 31 cases with 24 deaths were recorded.

EGYPT.

Since January 1st, 1911, plague has been reported from Port Said, Suakin (on board ship), Cairo, Alexandria, the provinces of Assiout, Behera, Kena, Menouf, Assouan, Fayoum, Galioubieh, Girgeh, Menieh, Benisouif, Dakahlieh. The Province of Kena was severely attacked; between May 5th and 31st there were 51 cases and 49 deaths from plague.

PERSIA.

At Bushire and Lingah, on the Persian Gulf, several cases of plague have occurred.

TURKEY IN ASIA.

At Muskat, at Basra, and at the Port of Jeddah in the Red Sea a few cases have been reported during 1911.

BRITISH EAST AFRICA.

At Kismayu and Port Florence one or two cases of plague were recorded during April, 1911.

MAURITIUS.

The number of cases of plague and deaths from the disease between January 1st and April 21st amounted to 110 and 70 respectively. Since April 21st no further cases have been reported.

PORTUGUESE EAST AFRICA.

At Nahoria during May plague was reported.

RUSSIA.

In the Kirgis Steppe, in the Astrakan Government, plague prevailed in January, 1911, when there occurred 50 cases and 35 deaths.

SOUTH AMERICA.

Plague has prevailed during 1911 in Peru, Ecuador, Brazil, Chile, and Venezuela, but in no district has there been a severe outbreak, except in Peru, where, during February, March, April, and May, plague claimed many victims; more especially has this been the case at Libertad, where, during March, 60 cases and 23 deaths occurred.

Deaths during 1911.	Bombay Presidency.	Bengal.	United Provinces.	Punjab	Rajputana and Ajmer Merawa.	Kashmir.	Coorg.	North-West Frontier Province	Central Provinces.	Central India.	Hyderabad Provinces.	Madras Presidency.	Mysore State.	Eastern Bengal and Assam.	Burma.
January	6,364	8,446	39,794	8,028	2,647	43	1	19	5,067	2,404	1,032	1,594	1,386	0	1,096
February	6,703	11,863	43,508	13,064	3,326	27	0	8	5,541	924	784	1,050	656	0	1,014
March	6,865	21,807	95,884	27,166	5,012	73	2	31	5,245	2,115	699	784	458	5	866
April...	6,240	13,091	81,924	57,625	4,748	294	0	84	1,412	840	250	229	252	0	496
May	2,474	2,944	24,842	48,292	1,672	456	0	88	96	33	8	84	230	0	575
June...	1,463	364	1,365	16,909	389	193	0	12	4	3	0	185	387	0	651
Total half-year	28,109	58,515	281,317	171,084	17,794	986	3	242	17,355	6,319	2,773	3,828	3,369	5	3,728
July	3,406	350	162	2,195	19	0	0	0	51	12	114	699	1,387	0	595
Total (7 months)	31,515	58,865	287,479	173,279	17,813	986	3	242	17,406	6,331	2,887	4,527	4,756	5	4,323

THE ROYAL COMMISSION ON TUBERCULOSIS.

THE first volume[1] of the appendix to the final report of the Royal Commission, established just ten years ago to inquire into the relationship of human and animal tuberculosis, was published as a Blue Book last week. It is a volume of 543 pages, principally devoted to a very minute record, illustrated by charts and engravings, of the investigation at Blythwood Farm, by Dr. Stanley A. Griffith, of the viruses obtained from certain cases of human tuberculosis additional to those of which an account was given in the second interim report. (See BRITISH MEDICAL JOURNAL, October 26th, 1907, p. 1165). The persons from whom cultures were isolated numbered 54; they were of various ages, and between them represented the chief varieties of tuberculosis occurring in man other than lupus. In rather more than half the investigations recorded in this volume the material was sputum obtained after taking special precautions as to contamination from persons presenting clinical signs of pulmonary tuberculosis. In the rest the material examined was obtained from patients either during operation upon them or after their death.

In every instance the original material was inoculated into guinea-pigs for the purpose of obtaining cultures, and occasionally into rabbits to gain a preliminary idea of the virulence of the virus. In addition, when lesions existed in more than one organ, a corresponding number of strains of culture were isolated and each separately studied as to cultural characters and virulence. This step was taken in view of the demonstration by German and other observers that different types of tubercle bacilli may exist within the same tuberculous lesion or in different lesions in the same person, so that in cases of generalized tuberculosis the disease cannot rightly be attributed to a particular type of bacillus until the properties of bacilli derived from lesions in different parts of the body have been duly investigated. Such multiple investigations, Dr. Stanley Griffith points out, are especially necessary in the case of children because of their admitted liability to infection with the bovine as well as the human tubercle.

Primary Intestinal Tuberculosis.

The investigations included 10 cases of tuberculosis caused by bacilli which had entered the body by way of the alimentary tract in children ranging in age from $1\frac{7}{12}$ years to $8\frac{7}{12}$ years. In none of these was there any evidence of a mixed or double infection, the cultures derived from the metastatic lesions being identical with those derived from the glands nearest the portal of entry. The tubercle bacilli isolated from these 10 cases fell readily into two groups, one containing bacilli which grew luxuriantly on artificial media and proved of low virulence in the rabbit (human type), and the other containing bacilli indistinguishable from those of bovine tuberculosis.

The four children from whom the latter bacilli were recovered all died as a result of tuberculous infection, and their cases are regarded by Dr. Stanley Griffith as furnishing evidence, additional to that brought forward in the second interim report, that bovine tubercle can produce severe tuberculosis in children, and can cause death either through generalization of the disease or by producing extensive local changes. The lesions in the six children from whom tubercle bacilli only of human type were recovered presented no naked-eye features by which they could be distinguished from those produced in children by bovine tuberculosis.

These 10 cases of alimentary tuberculosis in children under 12 years of age bring up the total number of such cases investigated by the Commission to 28, exactly half of them having been shown to be due to bovine tubercle, and the other half to human tubercle. A study of these cases, the author remarks, shows that when the generalized disease is due to bacilli of human type it is more severe and widespread than when the cause is bovine tubercle. It also suggests that children, perhaps, present something of that resistance to bovine tubercle which is seemingly not uncommon in the adult, and shows that the bronchial glands are much more frequently and more severely affected by the human tubercle bacillus than by the bovine tubercle bacillus. A further point it brings out is a difference in age. The average age of the children who died from human infection was 2.4 years, as against 3.3 years in the case of the children who died from bovine infection.

Examination of Sputum.

The 29 patients from whose sputum cultures were obtained and submitted to prolonged investigation all presented clinical evidence of consolidation of one or more lobes of the lung, and in 12 there was also evidence of cavity formation. In collecting sputum from them special precautions were taken to prevent its contamination by tubercle bacilli ingested with their food. To this end their teeth and gums were carefully cleansed twenty-four hours before the collection of the samples and their mouths washed with an antiseptic fluid. Subsequently they were not allowed to take milk or any other milk product, and the sputum used was that expectorated in the early morning into a sterilized wide-necked bottle, this being sent forthwith to the laboratory at Blythwood. In 27 of these 29 cases the virulence of the cultures derived from the sputum was due to tubercle bacilli of the human type; in the remaining 2 cases, which were repeatedly investigated in various ways, the tubercle concerned was bovine, no other form of tubercle bacillus being obtainable.

The bacillus was also of human type in 3 cases of bone and 1 of joint tuberculosis examined; in 3 cases of tuberculous meningitis; in 1 case of Addison's disease, and in 1 of 2 cases of general miliary tuberculosis, in which the portal of entry was not evident. In the second of the latter two cases an admixture of tubercle bacilli was found in a strain obtained from one bronchial gland, while in the strains derived from the meninges, the lung, and the mesenteric glands, the bacilli were of the human type only. The same limited admixture of human and bovine types was also found in a case of primary alimentary tuberculosis in an adult, the patient being an old man, aged 70, who died of pneumonia. The only evidence of tuberculosis was presented by caseous mesenteric and retroperitoneal glands. In the former only human tubercle bacilli were found, while in the retroperitoneal gland both organisms existed.

Other Investigations.

The investigations which Dr. Stanley Griffith also records in this volume include a not very prolonged endeavour to determine whether the milk of tuberculous women is liable to contain tubercle bacilli. The four cases investigated support, so far as they go, the contrary view.

A certain number of cases were also investigated in which the original lesion had apparently undergone caseo-calcareous degeneration. This work supported the view that tubercle bacilli may die in the system.

Apart from the experiments which resulted in the foregoing conclusions work is recorded in respect of the precise effect on different groups of animals of human and bovine tubercle respectively. These vary not only according to the species of animal, but in some degree with the route of infection and in some cases with individual susceptibility. But as a whole the animals thus tested fell into three groups: (1) Susceptible, (2) resistant, and (3) differential. Thus, Rhesus monkeys and chimpanzees are susceptible both to human and bovine tubercle, while the same is true of the guinea-pig, though in this animal the bovine type appears to be slightly more virulent. The next, or resistant, class is formed by dogs, rats, and mice, which offer more or less slightly highly marked resistance to both forms of tubercle however introduced. Both the rat and the dog may be killed by large intraperitoneal inoculation of tubercle, but the lesions typical of tuberculosis are not produced. The third, or differentiating, group is formed by rabbits, calves, goats, pigs, and dogs, these being all susceptible to bovine tubercle but more or less highly resistant to human tubercle.

Also recorded are some experiments undertaken to determine the rate of dissemination of tubercle bacilli when introduced into the alimentary canal. These show that tubercle bacilli are able to reach glands adjacent to the mucous membrane of the alimentary tract within a few hours of their ingestion, but that only a small proportion of those ingested are thus absorbed, the rest passing out

[1] Final Report of the Royal Commission appointed to inquire into the relation of Human and Animal Tuberculosis. Part II. Appendix, Vol. I. Investigation of Viruses Obtained from Cases of Human Tuberculosis other than Lupus. (Cd. 5790, pp. 545. Price 5s. 3d. net.)

with the faeces. Of those absorbed, the majority again are arrested in the glands, but some, after a varying period, are carried onwards into the lungs. The shortest period in which the latter took place was four days.

A final problem, also covered by the investigations recorded in this volume, is, What becomes of the bovine tubercle bacilli which in present circumstances must be so commonly ingested by human beings? In the great majority of cases of tuberculosis the tubercle bacilli responsible for the disease can be shown to be solely of the human variety. Are, then, the bovine tubercle bacilli ingested commonly destroyed in the system, or do they change into bacilli possessed of the properties of the common human tubercle bacilli? The problem is not open to direct attack, but light, Dr. Stanley Griffith suggests, can be thrown upon it in two ways: (1) by ascertaining whether there exist types of bacilli intermediate between the human and the bovine, and (2) by determining the probability of different strains of tubercle bacilli changing their properties—that is to say, their cultural characters and virulence—during existence in the body of an animal which is not their ordinary host.

With regard to the first point, the inquirer is referred to the report on lupus viruses, but meantime it may be noted that none of the investigations recorded in the present report indicated the existence of any intermediate species of tubercle bacillus. With regard to the second point, the volume records in minute detail prolonged endeavours by passage and like experiments to get bacilli of human type to change into bacilli of bovine type, and corresponding attempts to ascertain whether any of the properties characteristic of avian tubercle can be acquired by mammalian tubercle by residence in the body of fowls and pigeons. The general conclusion drawn from these and all experiments on the same subject at Blythwood Farm since the date of the second report is that they afford further support for the view therein indicated, namely, that human tubercle cannot change into bovine tubercle, nor mammalian tubercle acquire the characteristic properties of avian tubercle. In other words, they make the existence of an intermediate type of tubercle bacillus very improbable.

For details of these careful and ingenious experiments we must refer readers to the report itself, in which Dr. Stanley Griffith records the whole of the work done by him, not only in admirably scientific style, but also in very clear terms.

TUBERCULIN DISPENSARIES IN AMERICA.

UNDER the influence of Trudeau and others tuberculin has been freely used in America for many years past, and during the last year or two endeavours have been made to assess its value when used in connexion with the out-patient departments of hospitals and in other like conditions. In a good many instances the papers read or written with this end in view have amounted to little more than mere statements of opinion, but in others the grounds of the opinions expressed have been given in sufficient detail to make the papers really informing. We give below summaries of papers which appear to be of this order.

BALTIMORE.

The issue of the *Johns Hopkins Hospital Bulletin* for August, 1909, contained a paper by Drs. Lewis Hamman and Samuel Wolman thoroughly worth study by all those interested in the subject. The authors state that at the time of writing they had had constantly under their control at the Phipps Dispensary of the Johns Hopkins Hospital a group of from 30 to 50 patients who were undergoing tuberculin treatment and whose mode of life was being strictly supervised. They also stated that though during their work they acquired certain impressions and believed that tuberculin might be used in a dispensary without danger, what they had to say was no proof of the value of tuberculin in the treatment of pulmonary tuberculosis, nor even any argument in its favour. They displayed their results and experience in a series of nine tables, accompanied by some twenty charts, illustrative of certain phenomena observed. Though more patients received tuberculin treatment, they only dealt with those (71 in all) under treatment for at least ninety days (the average duration was 292 days). Of these cases, 57 could be classified according to the nomenclature of the National Association for the Study and Prevention of Tuberculosis, but the remaining 14 could only be labelled as "probable cases." These probable cases were treated as if positively tuberculous, and in all of them symptoms noted improved.

The 57 definitely tuberculous cases comprised 13 incipient, 16 moderately advanced, and 28 far-advanced cases. In 10 the disease was "apparently cured," in 12 the condition was "improved," in 18 the disease was "progressive" at the end of treatment, and 1 patient was dead. The average gain in weight was 6½ lb., the maximum gain, 41 lb., occurring in a far-advanced case, while 3 apparently cured cases showed loss of weight at the end of treatment. The average maximum dose of tuberculin was 0.005 gram; the far advanced and progressive cases reached their limit of tolerance of tuberculin earlier than others—that is to say, they sooner attained the dose beyond which it was impossible to force them without unpleasant consequences. Owing to the care observed in regulating the dose, and thus avoiding reactions, the average number of days between successive doses—namely, 5—was approximately the same in all classes of case. The aim throughout the series was to produce a high grade of tolerance to tuberculin without causing any perceptible reaction. In choosing patients for tuberculin treatment they bore in mind certain definite requirements, including on the part of patients a certain degree of intelligence, willingness to undergo a long and often tedious treatment, and faithfulness and dependability in carrying out instructions. A certain amount of home comfort and enough leisure to allow of regular attendance was also demanded. In all cases a nurse played an active part, visiting the patient at his home as soon as treatment had been commenced, and arranging for some approximation towards a sanatorium existence by the removal of windows and other modifications of environment. The patients also had impressed upon them the necessity of resting in the open air by day as well as at night, and were required to take two quarts of milk and from two to four eggs a day.

The authors' general conclusions are that the most satisfactory results from tuberculin treatment are attained among early cases, but as early cases are those that respond best to any form of treatment the value of tuberculin treatment can only be determined by the durability of the result. When other conditions are favourable a mild degree of fever is not a contraindication, but those in whom tuberculin is particularly indicated are patients in early stages of the disease and in those who, despite the existence of moderately or far advanced lesions, are yet in good or fair general condition. Perhaps the most striking improvement was attained in cases of a moderately or far advanced character which had remained stationary after experiencing some amelioration from general hygienic and dietetic treatment.

The authors regard any perceptible reaction as a circumstance carefully to be avoided, and consider that it can be avoided, and patients nevertheless carried to a high grade of tuberculin tolerance by using small doses. They state that the most constant sign of approaching intolerance is local reaction—swelling, redness, tenderness, and pain at the site of injection. Before making a second injection the site of the previous injection should be carefully examined for any evidence of reaction such as a nodule. Tuberculin tolerance, they point out, is not to be confounded with immunity to tuberculosis, for not only is it possible for the original lesion to spread while the patient's general condition is improving under tuberculin treatment, but the disease may break out in other organs even when large doses of tuberculin are being tolerated. The process of immunization is an active one, and tuberculin itself is not a curative agent. It is only useful in stimulating the response of the body, and if the body cannot respond tuberculin does no good, and may be harmful.

Too much stress, they consider, has been laid on the choice of the tuberculin used. All tuberculins depend for their potency on the same substance, and all act in the same way, immunity to one kind carrying with it immunity to all others. They recognize, on the other hand, that some preparations may possibly be more suitable than others; emulsions, they state, are perhaps more liable than other preparations to set up unexpected reactions owing to their

physical constitution. They do not consider it possible to standardize a tuberculin satisfactorily, and have found that serious differences in strength may be exhibited by nominally the same product if the two samples used are prepared on different days.

Boston.

Drs. J. B. Hawes and Cleaveland Floyd, who have been using tuberculin in the out-patient department of the Massachusetts General Hospital, at the Boston Consumption Hospital, and at the Good Samaritan Day Camp, since 1905, in all cases of tuberculosis, state their conclusions in the issue of the *Boston Medical and Surgical Journal* for 1910. Dispensary patients, they found, could be treated with tuberculin with benefit, provided close personal co-operation between patients and physician was ensured, but they expressed the opinion that in the vast majority of cases it should be used only as an adjunct to sanatorium methods. In their own work tuberculin was only one factor in treatment, as they tried to build up the general health by fresh air, food, and rest. They gave records of results in 80 cases of pulmonary tuberculosis —29 "incipient," 20 "moderately advanced," and 31 "advanced." In 53.7 per cent. of these cases the disease was either "apparently cured" or "arrested," in 11.3 per cent. it was "improved," and in 35 per cent. it was "not improved"; 19 patients, or 23 per cent., died, and 9, or 11 per cent., were discharged as "not improved."

They also record their experience with two series of patients attending the Good Samaritan Day Camp—one series, numbering 46 persons, receiving tuberculin, and the other series, numbering 42 patients, receiving no tuberculin. The general condition and stage was approximately the same in both sets at the beginning of treatment.

The maximum dose of tuberculin reached in the tuberculin-treated group varied from 0.2 mg. to 8 mg. T.R. Of the 46 patients treated with tuberculin, 32 were discharged as "arrested" cases, and 30 of the 42 patients in the non-tuberculin group were in a corresponding condition on discharge. Among the former cases, 6 relapses occurred in from twelve to thirty months, while in the second group 5 relapsed in from four to twenty-one months. In other words, say the authors, about the same number of patients relapsed without being treated with tuberculin as with it, but in a shorter time. Some of those who received the highest doses relapsed, while those who received smaller amounts remained well. This circumstance emphasizes the fact that the effects of tuberculin vary greatly in different individuals.

New York.

1. In the second volume of the *St. Luke's Hospital Reports* for the year 1910 Dr. M. H. Merriman summarizes the tuberculin experience of St. Luke's Hospital as gained in the out-patient tuberculosis clinic in charge of Dr. H. Hollis. Of the total number of cases treated, 23.3 per cent. were considered suitable for tuberculin treatment, but only 9.5 per cent. of these, or 38 individuals, received more than ten injections; or, in other words, remained under treatment sufficiently long for any conclusions to be drawn as to the value of the method. The cases thus treated were not invariably the best of the incipient cases, as most of these could be sent to various sanatoriums, but they were all either afebrile or nearly so, and only included patients apparently able to attend regularly and of sufficient intelligence to take their own temperatures every four hours, noting them down in a book supplied. In twenty-one of the thirty-eight cases a well-marked reaction took place at some period during the course of treatment, and led to its being stopped until the temperature became normal, when the treatment was resumed with smaller doses. In a table giving details of all the cases submitted to the treatment, 2 patients are written down as "cured," 2 as "apparently cured," 2 as "arrested," 7 as "improved," 8 as "unimproved," 6 as having been sent to a hospital or sanatorium, 2 as having died, and 9 as being still under treatment.

The general conclusion drawn by the author is that though tuberculin treatment is of definite value, and may be administered to out-patients with safety if supervision is careful, reactions are liable to occur even with small doses; in addition, the treatment is a difficult one to carry out in large cities owing to the impossibility of regular attendance on the part of the patient, and the bad housing conditions in which they live. The tuberculin used is described as "bacillen emulsion."

2. Dr. J. A. Miller[1] analyses 70 cases which he treated with tuberculin for ninety days and upwards, either at his own consulting-room or at a public dispensary. On commencement of treatment 12.8 per cent. of these 70 patients were classed by him as "incipient" cases, 60 per cent. as "moderately advanced," and 27.2 as "far advanced." At the end of the treatment, which in no case lasted less than five months, the disease was considered as "cured" in 22.8 per cent., as "arrested" in 28.6 per cent., as "improved" in 22.8 per cent., and as "progressive" in 25.7 per cent. The aggregate treatment of these 70 patients extended over five years, and at the date of writing the paper he had ascertained that 40 per cent. were still well and leading an active life, 8.5 per cent. felt well but were still receiving treatment, another 8.5 per cent. were "not doing well," while 14.3 per cent. were dead; the remaining 18.5 per cent. he could not trace.

In his general remarks he classes himself among those who, after long practical experience of tuberculin, realize its limitations, but at the same time regard it as a most valuable remedy when used in conjunction with other accepted methods of treatment. Any beneficial results observed during the first two or three months of treatment are not permanent unless followed up, and he considers prolonged treatment is of more importance than the degree of tolerance established. The chief beneficial result is the disappearance of toxic symptoms and the greater permanency of any good health that may be regained. It is in cases of long standing and slow progress that the most strikingly favourable results are obtained. Febrile cases can only exceptionally be treated with advantage, and never elsewhere than in an institution. The general physical condition should also be good, for tuberculin produces no immunity to tuberculosis itself but only to its toxins, and the good effected is brought about by stimulating local and constitutional resistance. Unless the patient's condition is capable of responding, harm rather than good will result. All forms of tuberculin are essentially the same, but the author prefers filtered preparations, and tries to arrive at high doses rapidly. Those, however, who are unskilled in the use of tuberculin should always adopt the slowly increased doses method, for the production of the slightest evidence of constitutional reaction should always be avoided. Hygienic and dietetic treatment should always accompany the use of tuberculin in order to enhance the constitutional resisting power of the patient. This necessity creates a serious difficulty in dealing with out-patients. The author's own practice was always to secure for each patient a preliminary course of absolute rest combined with as much good air and good food as was feasible. His dispensary patients were always visited by a nurse who attended to their environment, and many of them lived during the day in camps, and a few also slept in night camps. Although eight of his patients continued at work throughout treatment, rest, he thinks, besides being a preliminary to treatment, should play a part, at any rate during the earlier weeks of treatment; afterwards more exercise may gradually be allowed.

[1] *Transactions of the American Climatological Association*, vol. xxvi, 1910.

Under the will of the late Mr. Abraham Greenwood Eastwood, of Todmorden, Yorkshire, Halifax Royal Infirmary receives a bequest of £1,000 for the maintenance of a bed in the children's ward.

The National League for Physical Education and Improvement has brought together in a small pamphlet the various reasons which together form a convincing claim for fresh legislation regarding the sale of flannelette. As is well known, this material is among children a very frequent cause of death by burning. Flannelettes which have been treated by chemical processes which render them more or less permanently fireproof have been available for some time past, but no encouragement is offered to manufacturers to face the slightly increased expense involved by the use of such processes; on the other hand, they are left free to describe as non-inflammable flannelettes which have no real pretension whatever to such term. Copies can be obtained on application to the offices of the league, 4, Tavistock Square, London, W.C.

BRITISH ASSOCIATION.

(Continued from p. 515.)

SECTION OF PHYSIOLOGY.

PROFESSOR J. S. MACDONALD delivered his presidential address to the Physiological Section of the British Association on Thursday, August 31st. He commenced by a general consideration of the dynamic properties of cells and the indirect methods by which in the case of the red blood corpuscles these properties had been investigated. In all such researches dealing with more complex conditions a knowledge of the micro-chemistry of the more complex structures was of prime importance. Cell growth and the increase in nuclear surface during division was a physical process hastened by definite physical changes; such might best be examined in the early days of the growth of the ovum. Similarity of structure and function in generations of cells might be due to the persistence of those extrinsic conditions which gave rise to their original modification. Transfer the cells into formerly pre-existing conditions, they might revert to an original type. Variously modify the extrinsic conditions, and there arose a series of various structures as sometimes seen in the regeneration of parts. In the tonsils and lymphatic structures the growth and subdivision of the nuclei were due to the physical conditions imposed by variations in the chemical reactions, often largely due to the influence of foreign organisms. In other places such conditions never recurred after a certain period of development, "permanent sites of monotonous nuclear activity" being formed and maintained until some extreme condition caused their extinction. Of this the nervous system with its relatively small amount of nuclear material and the extremely limited nature of its chemical activities furnished an excellent, example. Thus the essential difference between a lymphoid cell and a nerve cell might be a difference due to constantly varying chemical reactions in the one case as contrasted with the chemical stability of the other, the nerve cell being therefore the more comparable with a haemocyte. Contrasted with a liver cell the nerve cell showed a marked difference. In the former there was a uniformity in appearance associated with a multiplicity of chemical experiences, whereas in the latter the opposites hold true. Moreover, in the nervous system not only was there a marked diversity in the shapes and sizes of the individual cells, but these were also brought into communication with each other by the growth of processes. There was still a further fact, that there were differences in the physical states of these cells, states of excitation, of rest, and of inhibition. Excitation was associated with an increase in molecular activity and increase in cell magnitude due to the admission of water, inhibition with its diminution, and rest with the normal degree. Professor Macdonald strongly favoured the suggestion that the primary phenomenon of excitation was a precipitation of some soluble material within the cell which took no active part in the increase of molecular activity; this precipitate he spoke of as a cuticle. This cuticle deposited in successive amounts formed the nerve fibre, the growth of which was proportional to the excitation. Professor Macdonald went on to discuss the fact, discovered by Sherrington, that when one nerve tract was in a state of excitation another was in a condition of inforced rest; that was the phenomenon known as "simultaneous inhibition." It was suggested that this effect was produced by certain intermediate neurones interposed between the afferent and efferent neurones, and instances in support of this contention were to be found amongst the cells of the spinal cord and in the cerebellar cells of Purkinje. To these intermediate neurones was attributed the power of reversing the transmitted excitation. These two antagonistic activities of the nerve cells might be explained by assuming that the cells contained two materials, differing in proportions in different cells, thrown into opposite physical states as the result of changes in physical conditions of the particular kind transmitted by the nerve fibres. These two substances were possibly represented by the above-mentioned cuticle and by the material of Nissl. Professor Macdonald, after elaborating this suggestion in some detail, passed on to the consideration of some other physical conditions present in parts of the body other than the central nervous system, taking as examples the lens of the eye and the sound-conducting and resonant systems of the ear, the two physical causes in the evolution of which were undoubtedly light and sound. And further, that parts of the nervous system behind these organs had been secondarily formed as the results of the physical effects transmitted from the ear and transformed into nerve impulse. Though this might be true when considering the evolution of the eye and ears in the animal kingdom generally, a difficulty at once presented itself in the development of the eye of the individual, since there could not be the stimulus of light to the fetus. Some other physical forces imitating the action of light must be looked for. The answer suggested by Professor Macdonald was the addition or subtraction of electrolytes. He said that the brain might be affected by impulses other than those transmitted from the sense organs and from the body surface was possible. It might even be possible that the brain might be traversed by some unknown influence which found resonance within it, and Professor Macdonald found "it difficult to refrain from using the word *soul*," though there was no evidence of any definite physico-chemical phenomenon developed within and confined to the brain which was present in other parts of the nervous system, or, indeed, in cells generally. In the light of preceding discussions the subject of pigment formation was considered. In the blood, the tendency to the formation of pigment was ascribed as possibly due to the action of light upon nuclear material near to the surface of the body, the light having produced a material variation which had been preserved by the operation of natural selection. Such surface pigments would transform the total energy they received from the light into heat, and be driven from the superficial position in which they were temporarily located. The primary function of the blood pigment in the course of its evolution would be mainly to convert light into heat, and the separation of oxygen merely a secondary feature.

Professor Macdonald brought his lecture to a close by elaborating this view of the genesis of the blood and its pigments, particularly in the relation of the blood to the endothelial lining of the vessels, and in relation to the respiratory mechanism.

LITERARY NOTES.

MESSRS. G. P. PUTNAM'S (Bedford Street, Strand) autumn list of publications includes a work by Dr. Joseph Collins, entitled, *A Way With The Nerves*. It consists of a series of familiar talks dealing with nerve troubles and how they may be avoided.

One of the most distinguished medical graduates of St. Andrews, which is celebrating the quincentenary of its foundation this week, was John Arbuthnot, physician to Queen Anne and the friend of Swift, Pope, and other wits of her time. He seems to have left Scotland, his native country, in 1691, on the death of his father, and for a time maintained himself in London by teaching mathematics. In 1694 he entered University College, Oxford, as a Fellow Commoner. He was tutor to Edward Jeffreys, who was admitted a member of the College on the same day. In a letter dated June 6th, 1696, Arbuthnot says he is "resolv'd on some other course of life." In September of that year he went to St. Andrews, and took the degree of Doctor of Medicine. Where he had studied medicine, or whether he was fortunate enough, like Gil Blas, to find a master who was able to teach him the whole art at once, does not appear. The following are the entries in the records of the University:

11mo Septembris 1696.

Quo die generosus hic, cujus nomen infra subscribitur, gradum Doctoratus in Medicina (praestitis praestandis) adeptus est, honorem hunc conferente R.D. Mro Alexro Monro. D. Praefecto Collegii Sti Salvatoris nostri ac graduum promotore.

Jo: Arbuthnott.

11mo Septris 1696.

Quo die generosus hic, cujus nomen infra subscribitur Medicinae Studiosus (praestitis praestandis) in album Academiae receptus est.

Jo: Arbuthnott.

Mr. George A. Aitken in his *Life and Works of John Arbuthnot* refers to a paper giving particulars of the thesis prepared by Arbuthnot for this occasion, which was printed doubtless at St. Andrews. It consists of two leaves, the title-page being as follows:

Theses Medicae de Secretione Animali, "quas favente Deo Opt. Max. Ex Auctoritate D.D. Georgii Hamilton Principalis Coll. S. Leonardi In Academia Andraeapolitana Et Ejusdem Academici Decreto, Pro Gradu Doctoratus in Medicina Consequendo Publico Examini subjicit Joannes Arbuthnot Auct. & Resp. In Scholis Marianis Ad Diem II Septembris Hora 10 a.m. Ex Officina Georgii Mosman, Anno Domini M.DC.XCVI."

On the back of the title is a dedication to Arbuthnot's friend and pupil, Edward Jeffreys:

Adolescenti Ingenuo Edwardo Jeffreys Collegii Universitatis apud Oxonienses Superioris ordinis commensali Theses hasce D.D. Auctor.

The remaining leaf, printed on one side only, contains seven theses. The following passage occurs in a letter from George Hamilton, Principal of St. Andrews, to Dr. Charlett, Master of University College, written on September 14th, three days after Arbuthnot took his degree:

The bearer, Dr. Arbuthnot, is a gentleman of great merit, that has acquitt himself extraordinarily well both in his private and publick tryalls in solemn meetings of several Professors and Doctors of Medicine towards his promotion.

Arbuthnot did not study at St. Andrews. He was probably educated at Marischal College, Aberdeen, and it may well have been there that he laid the foundations of the medical knowledge which enabled him to pass the necessary examinations at St. Andrews.

The long-continued spell of tropical weather with which, in common with the rest of Europe, we have been favoured during the last two months, has made the food question a matter of supreme importance to every householder in the kingdom, and English people are at length beginning to realize the necessity for a complete readjustment of their usual mode of living if they wish to resist the evil effects of weeks and months of unbroken sunshine and drought. Some useful hints concerning hot weather dietary may be gathered from an article by Dr. Vieux-Cerier, which appeared in the July number of *L'Hygiène*. As might have been expected, Dr. Vieux-Cerier strongly condemns the frequent use of iced drinks with which most people endeavour to assuage the thirst engendered by dust and heat. He recommends in their stead such beverages as hot water or tea, both of which are not only more easily digested and far more efficacious in quenching thirst, but possess the additional advantage of being sterilized before they are absorbed into the human body. A counsel of perfection for the summer months is to renounce all liquids at meal times and during the subsequent process of digestion; but those to whom so Spartan a régime does not appeal should content themselves with a glass of hot water upon rising, a small allowance of wine and water at luncheon and dinner, and a moderate quantity of weak tea for breakfast, tea, and before going to bed. With regard to solid food, Dr. Vieux-Cerier's rules are almost equally drastic. All rich, heavy, and greasy dishes, soups, sauces, hors d'oeuvre, and, to a great extent, meat, should be banished from the table during the dog days, and their place taken by fish, vegetables, salads, and ripe fruit. Great care should be exercised, however, to ensure the absolute freshness of these latter articles of diet. A close observation of the foregoing rules, combined with a certain amount of physical exercise (taken by preference in the cool of the evening, shortly before going to bed) should prove of great service to those who are suffering from the discomforts of a record summer. Other items of interest in the July number of *L'Hygiène* include Madame Augusta Moll-Weiss's excellent article on the housing of the working-classes in Paris; an interesting account by Dr. R. Wurtz of the means by which the capital of the Ivory Coast on the Gulf of Guinea, once a hotbed of disease, was rendered fit for human habitation; and a short sketch by Dr. Maurice de Fleury of the late Dr. Guinard, whose tragic death at the hands of one of his own patients has deprived France of one of the noblest of her sons.

In the *Caledonian Medical Journal* for July there is a psychological study of Christian Science by Colonel Kenneth Macleod. We need not follow him over ground that is already familiar to all who take an interest in the subject variously called "mental healing," "spiritual healing," and "psychotherapy." To those who have not paid attention to Christian Science the paper cannot fail to be useful, as it gives an interesting and lucid account of Mrs. Eddy's career and the doctrines, such as they are, connoted by the inappropriate name "Christian Science." Colonel Macleod devotes a section of his essay to the discussion of the question, Was Mrs. Eddy insane? He says there are many features "in her strange career which point very strongly to an affirmative reply to this question." He quotes the following passage from the *Christian Science Journal*, of which Mrs. Eddy was a "vigilant editor":

She (Mrs. Eddy) existed from the beginning, before all ages, and will not cease to exist throughout all ages; it is she who will create in Heaven a light which shall never be extinguished; she shall rise in the midst of her people and she shall be blessed over all those who are blessed by God, for she shall open the doors of the East and the desired of the nations shall appear.

That she was a neurotic of the most pronounced type may be freely admitted; but if she was mad, we must say, as Colonel Macleod himself says, that there was method in her madness. To the question, "Did Mrs. Eddy live in vain?" Colonel Macleod replies:

By no means! She effected a *reductio ad absurdum* of the doctrine of separation of mind from active matter—of design from material phenomena. She demonstrated how, when pushed to extremes, all transcendental, mystical, and occult assumptions tend to, and terminate in, nihilism; how, in order to establish mental autocracy, it became necessary to deny all material existence and energy, and exalt ignorance as a necessary condition of "science" and as the highest virtue. As Hume proved that idealism must logically end in scepticism—thus opening the way for Reid, Stewart, and Hamilton, and the philosophy of common sense—so Mrs. Eddy illustrated that the dynamization and materialization of fictitious entities is an illusory proceeding. She also unwittingly showed that the treatment of disease by formulae without exact and minute knowledge of its nature and causation is a farce. In a word, the truth which emanates from the story of this preposterous cult is this—that a departure from common sense and sober realism leads inevitably, if pushed to its logical conclusion, to nescience, transcendentalism, fatalism, and paralysis of all useful and progressive effort.

We take it that this estimate of Mrs. Eddy's achievement—if the "system" which goes by her name is to be credited to her—merely means that she all unwittingly played the part of the Helots in the moral education of Spartan youth. As they were made drunk in order to show the beastliness of intoxication, so her mission may be said to have been to show the folly and futility of mysticism when carried to its logical conclusion to the treatment of disease. Much in the same way homoeopathy showed the uselessness of drastic medication. But it needed no Mrs. Eddy to show that "the treatment of disease by formulae without exact and minute knowledge of its nature and causation is a farce." She would, we imagine, have been the first to repudiate the attribution to her of any recognition that there could be knowledge of the nature and causation of what she held to be a delusion of "Mortal Mind."

SCIENCE NOTES.

IN *Phytopathology* for June J. R. Johnston raises the question of the possibility of *Bacillus coli* being a plant parasite. This organism and its numerous varieties are very widely distributed in nature, but they are known only as harmless saprophytes and no disease in plants has ever been ascribed to them. The experiments carried out by Johnston, however, show that under suitable conditions these organisms may cause considerable damage. Inoculations of a culture of *B. coli* of animal origin were made into the heart wood of cocoanut seedlings. In the course of a month or two in most cases a condition of soft rot appeared around the site of inoculation and from the lesion *B. coli* was recovered. These experiments suggest that certain conditions of rot in plants may be due to bacterial organisms and the supposition is supported by some observations made upon the naturally occurring Budrot disease of cocoanut trees in Cuba. Cultures from diseased trees were inoculated into healthy ones and reproduced the disease. Further reinoculation continued to produce the disease. On study of the organisms in these cultures a considerable number were found to be *B. coli*, indistinguishable from strains of animal origin. Johnston accordingly comes to the conclusion that some variety of *B. coli* is the actual cause of Budrot disease in cocoanut trees.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

SHEFFIELD.

A PUBLIC ZANDER INSTITUTE.

THROUGH the generosity of Mr. W. Edgar Allen, whose princely gifts to the university and the hospitals of Sheffield have enshrined him in the hearts of its people, the city has now a fully-equipped Zander Institute. The gift is the outcome of the donor's personal observations during his travels in European countries, more especially in Germany and Sweden.

As a large employer of labour and one who is keenly interested in the welfare of his workpeople, he was struck by the extensive and ever-increasing use that is being made of mechanico-medical apparatus in the treatment of many of the commoner injuries to which workmen are liable, and having satisfied himself as to the practical value of this method of treatment he determined to place it within the reach of his fellow townsmen.

The institute is situated in a suitable building specially altered for the purpose. It comprises waiting-rooms, offices, massage-rooms, and a large apartment containing the various apparatus employed in producing active and passive movements, etc.

The institute is intended primarily for the gratuitous treatment of the injured among the working classes, and will be worked in association with the hospitals of the city, but medical men will be afforded the opportunity of sending paying patients for treatment, the fees received being devoted to the general purposes of the institution. Arrangements have been made for dealing with a daily attendance of 100 patients, and room for extension has been reserved, so that, if necessary, even larger numbers could be treated.

The government is vested in a committee, which includes representatives of various public charities and of the local medical profession.

The treatment is carried out under the direction of Dr. R. G. Abercrombie, who, after making himself proficient by study in Stockholm and elsewhere, is devoting himself to the work. His staff includes two experienced Swedish assistants. The institute was opened about two months ago, and the daily attendance of patients at present averages about fifty.

The donor has undertaken to defray the entire cost of maintenance for the first three years. Thereafter it is hoped that the merits of the institute will secure for it adequate public financial support.

As this is the first fully-equipped free institute of its kind to be established in England, and as there would appear to be a lack of knowledge on the part of the public and of not a few medical men respecting Zander's methods, a short account of their origin, aims, and attainments may not be out of place.

Modern medical gymnastics may be said to have originated with Ling. Born in Sweden in 1776, he successively studied divinity, was a tutor of modern languages, a fencing master, and a medical student. Finding that the practice of fencing and other gymnastic exercises had completely restored him from being a physical wreck to robust health, his thoughts turned towards applying this experience for the benefit of others. After passing through the entire curriculum for the training of a doctor, he elaborated a system of gymnastics, and with the co-operation of the Swedish Government founded the Royal Gymnastic Central Institute at Stockholm in 1813. Here for many years he supervised the training of gymnastic instructors, and his system, or some modification of it, is taught in schools all over the world. As might be expected, Ling's claims to cure disease by exercises were resented by the orthodox members of the medical profession, but that his attitude was only a temporary one is shown by his being elected a member of the Swedish General Medical Association in 1831.

At Stockholm a medical practitioner directs the course of instruction, which is very thorough, and occupies a period of three years (one year for qualified medical men).

Broadly speaking, there have been two streams of development in the gymnastics founded by Ling—one in a conservative direction, making the exercises subsidiary to the prescriptions of orthodox medical science, the other making them a substitute for all other methods of treatment, and claiming them as a cure for disease by themselves.

In 1857 Dr. Gustaf Zander conceived the idea of employing mechanical apparatus in the practice of medical gymnastics, and after numerous experiments he evolved the scheme which bears his name. In 1865 he founded at Stockholm the first public medico-mechanical institute.

A fully equipped institute contains upwards of seventy different appliances. These for descriptive purposes may be conveniently divided into four classes.

Class A comprises apparatus which are set in motion by the muscular action of the patient, and are known shortly as "Active movements apparatus." In all the same principle obtains. A lever furnished with a movable weight which slides on a graduated scale is raised and lowered by the alternate contraction and relaxation of a certain group of muscles. The lever and weight are so arranged that the amount of resistance to be overcome by the contracting group of muscles is reduced at the beginning and end of each muscular effort. In this way it is claimed that injurious strain is completely avoided, while by moving the weight it is possible to increase or decrease the load with mathematical precision.

Class B consists of apparatus driven by steam, gas, or electricity, and may be subdivided into passive movement apparatus proper, and those devoted to mechanical massage in the forms of friction, percussion, vibration, and kneading. It is not claimed for the latter that they are equal to manual massage in value, but—and this is an important consideration in a large institution—they are very much cheaper. The passive movements machines permit of easy and accurate graduation of movements, and are, when properly applied, quite painless. This feature is most important, because the patient, conscious that he will not be hurt, does not attempt to limit the range of movements.

Class C comprises orthopaedic apparatus, and is for the most part concerned with appliances for the correction of scoliosis.

Class D consists of measuring apparatus which register the degrees of deformity, and enable the surgeon to determine accurately from time to time what improvement, if any, has resulted from treatment.

A very wide field of usefulness is claimed for the Zander method of treatment. Thus obesity, anaemia, digestive troubles, neurasthenia, certain forms of heart and lung diseases, and many other medical ailments are said to be greatly benefited by it. Again—and with perhaps stronger claims to recognition—it is employed in the treatment of lateral curvature of the spine, and in the case of ill-developed children with stooping shoulders and contracted chests. Of vastly more importance, however, is the promise it offers in the treatment of the remote effects of accidents, especially those following severe sprains, dislocations and fractures in the neighbourhood of joints.

It is a matter of common knowledge that after the usual period of indoor hospital treatment there frequently succeeds weeks and sometimes months of incapacity for work, owing to impaired or painful movements of the joints and tendons and the accompanying muscular atony.

Manual massage, passive movements, and forcible breaking down of adhesions under an anaesthetic are the ordinary measures employed for dealing with these sequelae, but it must be frankly confessed that the results achieved sometimes fall short of what could be desired, while the expense of maintaining a staff of trained masseurs adequate for dealing with the number of patients requiring this form of treatment is a serious consideration.

A study of Zander's apparatus and of the records of their application brings conviction that they are destined to play a prominent part as auxiliaries to, and in some cases substitutes for, manual methods of treatment.

It is largely because of their value in dealing with accident cases that Zander Institutes have recently come into so much prominence in Germany. Not only has there been a large increase in their number, but they are constantly receiving additional recognition and financial support from municipalities and other public bodies. It is especially noteworthy that "The German Trades Associations," who

administer the "Insurance against Accidents Act of 1884," make use of Zander's methods in convalescent homes specially built for the purposes, and find the expense thus incurred more than saved by the reduction in the period of disability among injured workmen receiving the treatment.

The working of the Sheffield Institute will be watched with a sympathetic, though necessarily critical, eye, and should its results harmonize with the high opinions formed of the Zander treatment elsewhere many similar institutes will soon be established in the industrial centres of this country, where the ever-increasing use of machinery and the "speeding up" tendency which always accompanies the reduction of hours of labour bring an increasing number of accidents yearly.

Tuberculin Treatment of Consumption.

According to the *Sheffield Daily Telegraph*, at a recent meeting of the Health Committee, the chairman, Dr. Hargreaves, reported the receipt of an offer by Mr. Douglas Vickers, J.P., to provide the sum of £500 for two years in order to put the tuberculin treatment of consumption within the reach of consumptives in Sheffield. It was stated that an informal meeting of the chairmen and vice-chairmen of the Health and City Hospital Committees, called by the Lord Mayor, had been held, at which it was decided that the offer be gratefully accepted. It was explained that the expenses of the treatment would be mainly the salary of a tuberculosis expert.

The duties of the tuberculosis expert, who would practically be the medical officer of a municipal dispensary (to be run under the general supervision of the medical officer of health), of which tuberculin treatment would be an important feature, would be as follows:

(*a*) To treat with tuberculin all patients suitable for such treatment; to treat patients while at Commonside and Crimicar Lane hospitals, and continue their treatment as out-patients after leaving the hospitals; to treat any suitable patients as out-patients entirely.
(*b*) To do such bacteriological work as may be required to determine the suitability of patients for tuberculin treatment.
(*c*) To visit homes of notified consumptives to look for "contacts."
(*d*) To test contacts with tuberculin.
(*e*) To give required instructions to the tuberculosis inspectors and to the Queen Victoria Nurses engaged in visiting the consumptives.
(*f*) To obtain the co-operation of the Guild of Help, Guardians, etc., when necessary, on behalf of patients.

With the approval of Mr. Vickers, it was recommended that Dr. John E. Chapman, who has been in charge of the Mundesley, Banchory, Clacton-on-Sea, and Ochil Hills Sanatoriums, and has also had experience of tuberculin treatment, be appointed for two years to carry out the duties mentioned, at a salary of £400 per annum, the engagement to be subject to a month's notice on either side. Dr. Chapman is not to engage in medical practice, and is to devote the whole of his time to the work, with the exception of one day a week allowed to him for the purpose of research work.

The committee resolved:

That the offer of Mr. Douglas Vickers be gratefully accepted, and that the medical officer of health be authorized to provisionally proceed with the arrangement of the necessary details of the scheme, and that he submit a report to the next meeting of the Committee embodying further particulars as to the cost involved and giving further information as to the method of carrying on the work; meanwhile, in order not to delay matters, Dr. Chapman be authorized to commence duty forthwith.

MANCHESTER.

Municipal School for Crippled Children.

At the Swinton House Municipal Residential School for Crippled Children, Sir Thomas Shann last week unveiled a brass tablet in memory of the late Dr. Ashby. The tablet bears the following inscription:

City of Manchester.—In memory of Henry Ashby, M.D., F.R.C.P., Physician to the Manchester Children's Hospital, first medical officer of the Education Authority. A faithful friend of the inmates of Swinton House Municipal Special Schools for Crippled Children. —T. Thornhill Shann, Chairman Manchester Education Committee; Charles Henry Wyatt, Director of Elementary Education.

Sir T. T. Shann said that the Manchester Education Committee thought it due to the memory of Dr. Ashby that a permanent record should be placed on the wall of the principal ward. When the City Council first determined in 1903 to provide a residential home for crippled children it naturally turned to Dr. Ashby for advice as the leading medical authority on children in the city. He rendered service of the highest value to the committee in the carrying out of the scheme which was the first of its kind to be established by an education authority. The school provided care and instruction for children under the age of 16 suffering from rickets and hip and spine disease and for sufferers of a like kind who were unable to attend the ordinary schools. Dr. Ashby was the physician of the school up to the time of his death. In unveiling the tablet Sir T. Shann said he considered it a personal privilege to have been associated since the beginning with the work of this special school. It had recently been doubled in size by the addition of a neighbouring house, and he had no doubt of the lasting character of the good work for afflicted children rendered possible by the 120 beds now provided. He had great satisfaction in unveiling this tangible recognition of the valuable services of a truly noble and good man.

Bolton Infirmary and Proposed Municipalization.

At a meeting of the Bolton Town Council on September 5th a discussion took place on a suggestion for the municipalization of the Bolton Infirmary, and a resolution was proposed by one of the Labour members of the council to the effect that the council, believing the infirmary to be an established necessity, and recognizing the financial difficulties affecting its efficiency and usefulness, give instructions that parliamentary powers be sought to place the institution as a general charge on the public rates. The object of the motion was said to be to ensure adequate treatment and accommodation for the unfortunate part of the community. It was said that there were always from 300 to 400 patients awaiting admission, showing that the accommodation provided was inadequate. Councillor Dr. Thornley, in opposing the motion, said that no urgent cases of accident or illness were ever refused admission. The operations and the bulk of the treatment at the infirmary were performed voluntarily by the staff at present, and last year no fewer than 4,480 operations were carried out. But, if the infirmary were municipalized, the medical practitioners, who were compelled to pay their share of the rates, would certainly require payment for their services, and he calculated that the surgical charges would have amounted to something like £19,000 for the year. It was evident that the general feeling of the council was against the suggestion for municipalization, and the motion was lost by a large majority.

WALES.

Women Medical School Inspectors.

On September 5th the Glamorgan County Education Committee had before it two applications for the appointment of a woman medical school inspector at £250 a year. The medical officer, Dr. Llewelyn Morgan, informed the committee that intending candidates had been warned by the British Medical Journal that male inspectors were getting £300. Inquiries had also been made of Dr. David Lewis as to what the objections to the appointment were. It was urgent to proceed with the appointment. There was a sealed letter from one of the applicants to be opened by the committee. The Chairman said that it was apparently a question of salary only. Women inspectors wanted the same salary as men inspectors.

The letter having been opened by direction of the Chairman, he said that, to put it briefly, applicant wanted to know if the salary was £50 below that at which a man inspector started, and, if so, was the work less in proportion.

The clerk argued that the applicant was not entitled to the information. She had the advertisement before her, and was not entitled to cross-examine the County Council on the terms of the advertisement. She could take the appointment, or not, if offered to her.

It was agreed that this ruled the lady out of court, and it was resolved to invite the lady left to attend the next meeting of the County Council, and to recommend her appointment.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

THE LATE DR. WILLIAM RUTHERFORD.

A SCHEME is on foot for commemorating the late Dr. William Rutherford, of Ballinasloe, some account of whose life was given at page 316 of our issue for August 5th. Soon after Dr. Rutherford's sudden and unexpected death it was realized by his friends that he probably had not made any provision for his two younger children, for while his financial treatment of his patients had always been exceptionally generous, he was an enthusiast for education, and had thus incurred considerable expenditure in respect of his four elder sons. His widow, on being approached on the subject, declined herself to accept any gift, but saw no objection to a fund for the eventual education of her two younger children forming part of any scheme for a memorial. Two or three meetings on the subject have therefore been held, and a committee appointed, the plan in view being the erection of a drinking fountain, or some other permanent memorial in Ballinasloe itself, and the formation of a trust fund for the education of the children mentioned; so far about £130 has been received. The treasurers of the fund are the Rev. W. Elliott and Mr. Hutchinson Davidson, and the honorary secretaries Dr. John Mills and Mr. R. J. Gill, to any of whom subscriptions may be sent.

SHORTAGE OF WATER IN ULSTER.

The scarcity of water is being severely felt throughout Ulster; in some of the smaller villages many of the pumps have gone dry, even those that have not failed before In most of the towns—Belfast, Derry, Carrickfergus, Larne, and many others—the supply has been reduced, sometimes to three hours a day. As yet no direct epidemic has been caused, but considerable loss has been entailed with cattle and some manufactories depending on the supply.

At the monthly meeting of the Belfast City Council on September 1st, the medical officer of health reported a death-rate of 16.4, an increased number of cases of typhoid fever notified was assigned to the seasonal incidence of the disease, and the total was not large. The city has been practically immune from the affection for some time; the prolonged heat and drought have had, no doubt, some effect. Of the deaths from zymotic diseases 90 per cent. were due to summer diarrhoea, which is prevalent not only in Belfast, but also in all towns.

NATIONAL INSURANCE BILL.

At a recent meeting of the Tipperary dispensary doctors held at Thurles the following resolutions were unanimously adopted:

1. That we, the dispensary doctors of the county Tipperary, being also members of the British and Irish Medical Associations, are in complete agreement with the action of both the above Associations, but in view of the changed situation caused by the amendment suggested by the Select Committee of the Irish Party, we wish that careful consideration should be given to our position, as our work, without further increase, would be out of proportion to the remuneration received hitherto, and that we invite the Joint Committee of both the British and Irish Associations to take immediate steps to safeguard our interests in the direction indicated in the following resolution.
2. That we, the dispensary medical officers of the county Tipperary, view with alarm the amendment to the Insurance Bill suggested by the Select Committee of the Irish Party, proposing to delete the "medical benefits" while retaining the "sickness benefits," thus throwing over on us an enormous amount of extra work, without any corresponding remuneration; and that we urge on the Conjoint Committee of the British Medical and Irish Medical Associations to have this very serious grievance brought before Parliament in a manner most efficient to provide a remedy.
3. That we, the dispensary medical officers of the county Tipperary, are moreover convinced that the Irish Party have not realized the serious hardship which the Select Committee's proposal, as above referred to, is sure to inflict on dispensary doctors, and desire to call emphatically their attention to the fact that, should the suggested amendment be placed on the Statute Book, our medical work will be enormously increased without any provision being made for a proportionate remuneration.

CAMPAIGN AGAINST FLIES.

The Public Health Department of the Dublin Corporation has determined to attempt to exterminate the ordinary house fly, which has been unusually abundant and troublesome during the last few weeks. With this object a notice has been issued calling the attention of the public to the harmful effects traceable to the prevalence of flies, and offering payment at a small rate for dead flies at so much per bag.

SUPERANNUATION OF DISPENSARY DOCTORS.

The attitude which boards of guardians in Ireland adopt towards the dispensary doctors of their district is well illustrated by two recent cases in which the question of a superannuation allowance to retiring medical officers was under consideration. A few months ago, Dr. Caldwell, of Virginia Dispensary District, resigned owing to ill-health after a service of over thirty years, and was granted by the guardians a pension of £100 a year. At a recent meeting, however, the resolution granting this pension was rescinded, on the grounds apparently that Dr. Caldwell had been well paid for his services while acting as dispensary doctor, and that of late, owing to ill-health, he had cost the ratepayers a considerable sum in paying a substitute. Later, a resolution granting him a pension of £50 a year was passed, but a notice of motion to rescind this was handed in at the same meeting.

A somewhat similar occurrence took place recently at Swinford, Dr. O'Grady, the retiring medical officer of the Swinford Dispensary District, being granted a pension of only £80 a year, although the guardians were informed by the Local Government Board that he was entitled to £171.

MOTOR SPEED LIMIT.

The Secretary of the Irish Medical Association has been informed by the Local Government Board that the application of the Corporation of Dublin for a limitation of the speed of motor cars in the city has not been granted. The application was strongly opposed by the medical motorists of Dublin at the time of the recent inquiry.

Special Correspondence.

PARIS.

The Psychology of Homicidal Patients.—"Algies Centrales."

IT seems that every year we must expect to hear of the murder of a doctor by a patient, by some madman or half madman, or, at least, one sick in mind. The most recent victim was Dr. Guinard, surgeon to the Hôtel-Dieu, Paris, and one of the lecturers on clinical surgery. He had left his wards, but had not yet passed out of the hospital, when a man, upon whom he had operated some time before, fired a revolver at him, four shots taking effect in the abdomen. There was the usual sequence of events—laparotomy, suture of the wounded intestine, and ligature of divided arteries. There ensued a fall of temperature below the normal, quick feeble pulse, suppression of urine, and death.

If we attempt to analyse the mentality of the murderer, we shall find that the act resulted from a very common state of mind—a state of mind into which many men tend to fall when once they have confided their case to a doctor, the state of mind which leads a man to suppose that thereafter everything which goes wrong with him is due to the doctor's treatment. Every doctor has been told by a patient that his medicine has had some quite impossible effect, and has perceived that the patient attributes to the drug the symptoms which, in the natural course of the disease, have developed after it was taken. The patient has expected instantaneous cure, and has so childlike a confidence in the power of medicine that if he continues to suffer he attributes it, not to his disease, but to unskilful treatment. If a morbid mind is constantly haunted by such thoughts as these, the patiently finally comes to believe that the doctor committed some serious error, or made some improper experiment, and if such a patient kills his doctor with a revolver or knife, the unfortunate practitioner is, in fact, the victim of the unlimited trust which the public places in the resources of medical science.

No man less deserved to meet his fate in this way than Dr. Guinard. When he was appointed lecturer on clinical surgery at the Hôtel-Dieu, he devoted his first lecture to an explanation of the duty which hospital students owed to the hospitals, and to the patients treated within them. He said that in return for free treatment hospital patients tacitly consented that they should serve for the instruction of the students, but pointed out that a student is under a like obligation not to look upon the patients as subjects nor to allow himself to speak freely before them about their disease. "Never forget," he said, "that you are dealing with men whose sensibility must, under the circumstances, be particularly acute. An inconsiderate word, or an ill-phrased question may so depress a patient that he will contemplate suicide." Had Dr. Guinard used the word "murder" his utterance would seem to foretell his own fate—although, indeed, his self-forgetfulness and self-devotion were so conspicuous that such a hypothesis would never have occurred to anyone.

Doctors and soldiers have this in common, that they alone among men face death in full consciousness of its approach. From most dying men something of the inevitableness of the event is concealed by their doctors, or, at any rate, is not deliberately revealed. The soldier dying upon the field of battle before the ambulance arrives has no one who seeks to hide from him the truth; while the doctor who retains his consciousness cannot be deceived, but follows the progress of symptoms hour by hour, well knowing what they mean. Dr. Guinard knew he was dying, and watched the process. On the first day he said, "The kidneys are not working, and that is the way I shall go out." Someone tried to practise a pious fraud upon him, but he at once detected it: "No," he said with a smile, "that is not mine, but it was kind of you all the same." And so he died peacefully. His murderer has been sent to a lunatic asylum; probably he will be released before many months are over, but he will continue to suffer, for he will continue to be obsessed by his idea. It may be that justice could devise no more severe punishment; but one may ask, will he not retain his homicidal mania?

Another Parisian surgeon, Professor Richelot, has been directing attention to what he calls *algies centrales*, a condition to be observed especially by the gynaecologist. Many women who present physical lesions of only very minor character, nevertheless complain of severe pain, and of almost complete inability to walk. They undergo an operation, but either it does them no good or they are worse after it than before. Such a case Richelot would attribute to an *algie centrale*, which should be treated by medical and not by surgical means, by suggestion rather than by the curette. It is good of a surgeon to condescend so far. Others, again, would class these cases under the elastic term neurasthenia. As a matter of fact neither those who apply this term nor Dr. Richelot himself have gone to the root of the matter. There is in these cases a defect of the faculty of judgement, a defect, therefore, rather of the intellect than of the nervous system. The source of this defect may very often be traced back to defects in early education and to imitation. It may be possible to cure such cases by curing some otherwise unimportant lesion to which the patient attributes all her troubles, but it must never be forgotten that the imagination may reconstitute the symptoms of the lesion from memory, and then the condition may become all the more inveterate because the recollection of the sensations originally experienced has become blurred. Hence the failure of surgery to cure the general condition.

AN addition, providing accommodation for 139 nurses, has been to the Margaret Fahnestock Training School of the New York Post-Graduate Medical School and Hospital. The building, before the alteration, accommodated 67, and was inadequate for the needs of the medical school and hospital building, now nearing completion.

THE estate of the late Dr. Samuel Jones Gee, consulting physician to St. Bartholomew's Hospital, of whom an obituary notice appeared in our issue for August 19th, was sworn at the net value of £34,879.

UNDER the will of the late Lieutenant-General Mostyn de la Poer Beresford, a Crimean and Indian Mutiny veteran, the Free Home for the Dying at Clapham Common receives a bequest of £1,000.

Correspondence.

SEA-WATER INJECTIONS.

SIR,—The secretary of the Quinton Polyclinic, in letter to the *Daily Mail*, appears to have taken the no on this subject which appeared in the JOURNAL of Se tember 2nd (p. 514) very ill. The abuse of which t letter largely consists needs no notice, but I think it rig to state the facts.

On Wednesday, August 30th, on presentation of n card, I was received with every courtesy by the officials the institution, both lay and medical. I found every d position, too, on the part of the last to furnish any desir information as to the treatment pursued. But, truth tell, all the main facts of the last can be grasped in t course of a very few minutes. The one important point the results of treatment—would require more time a visits to the polyclinic than most could manage to pa What are wanted are full statistics from the medic staff, with their names appended. Even if such shou be forthcoming, they must, as regards "cholera infantum be largely discounted in value, as from the nature of t practice the patients are only seen spasmodically, and a not under constant medical supervision. Sensation statements in the lay papers are worthless, and will n commend themselves to the profession at large. It wou be unfair to charge the medical staff with such statemen but, as they allow them to go unchallenged and unco tradicted, they do, to some extent, incur the responsibil of them.

In the time at my disposal at the polyclinic I saw so half a dozen patients who were attended to for the fi time. Not one of these, to the best of my recollection, w under the age of 1 year, and one child was 2 and anoth 3 years old. Whilst all were stated to have diarrhoea, n a single one appeared seriously ill. I mentioned the facts to the medical man in charge, who readily agre and he pointed out an infant in an adjoining room as o that had been seriously ill the day before. Conditio may have been somewhat exceptional at the time of r visit, but in no one of the rooms did I see an infant p senting the unmistakable signs of severe diarrhoea w collapse.

Long experience in the out-patient department of children's hospital renders one chary of accepting wit out reservation mothers' accounts as to the number motions their infants pass in the course of the day a night, as in most instances they are apt to be gross exaggerated. The doctor in charge gave me the impr sion—it may be a mistaken one—that he accepted wi more confidence such mothers' statements than a harden sceptic like myself was prepared to do. In one of t cases I saw with him, after a few questions to the moth he remarked to a colleague that the case was a record or and that the child had fifty motions in the course twenty-four hours. Still more extraordinary to me tha the number of motions was the absence of serious illne on the part of the infant that had suffered them. Fro the point of reality the case might have been a "reco one"; from that of statement it was far from being so, one had seen infants who were alleged to have motio "every minute, day and night."

In another child of about 3 years old, brought f diarrhoea, the mother stated that the day before she h taken him to the London Hospital, where she was to that the child was "paralysed in both legs and had t rheumatics." She further stated that she had been to that the only chance for the child was to bring him to t polyclinic, but whether such advice emanated from t London or not I could not gather. Apparently this curio statement was accepted without hesitation, and no atten was made in my presence to verify or disprove t existence of such an interesting combination complaints.

The treatment was simple in the extreme in all the ca I saw. Each child was ordered, the paralytic and rheuma with the rest, 100 c.cm. of "plasma" subcutaneously, an diet of equal parts of rice water and milk. In some cases was told, as much as 200 c.cm., or even 300 c.cm. of "plasm were injected, according to the gravity of the complaint.

The injections of "plasma" were given by a nurse

ne top floor of the institution. The only point of interest bout them was the rapidity with which they were given, nd that the fluid was injected at the ordinary tempera- ure of the room. Each subcutaneous administration of 00 c.cm. only took about two minutes, the nurse expediting ne flow from time to time by pressure on an air-valve ttached to the receiver. A still more important con- deration with me is the injection of this fluid at the rdinary temperature of the room. Now babies with evere diarrhoea are almost invariably collapsed when rst seen, and to inject 100 c.cm. of cold fluid into infants n such a condition is to court disaster, and is a procedure o be unhesitatingly condemned. Should many such abies be brought to the polyclinic, and any such pro- edure be attempted, we shall doubtless read in the lay apers pathetic accounts of babies dying in sight of the romised land, and as having been brought just too late nd perishing whilst the life-saving fluid was being in- cted. That such a tragedy has not occurred already is roof to me that only very limited numbers of the severer ypes of diarrhoea have as yet been treated at that nstitution. The claim put forward that numerous cases ave been sent from far distances for treatment there annot be substantiated. Babies with severe diarrhoea annot be moved to any distance; they would infallibly die n the way.

Every one knows and deplores the heavy death roll rom infantile diarrhoea that any hot summer entails, but ew recognize that, considering the wide incidence of the isorder and the age of the patients, the percentage mor- ality is remarkably low. Mr. Titmas, acting as House- hysician at the Shadwell Hospital, has kindly collected atistics for me as to infants suffering from diarrhoea who ere brought to that hospital during the fortnight from ugust 18th to 31st inclusive. Altogether there were 559 ew cases, of which 193 were under a year old. Numerous ther cases of diarrhoea, too, occurred in infants already tending the hospital for other complaints, and these ould probably raise the total to half as many again. hese last, however, as their number could only approxi- ately be ascertained, I leave out of consideration. Out of he 559 cases brought primarily for diarrhoea, only 55, or pproximately 10 per cent., were deemed of sufficient verity for admittance to the wards. Out of these 55 ases 12 died, giving only a mortality of a little over 2 per nt. in the total of 559 treated.

Soon after my visit to the polyclinic my attention was alled to a sensational account, headed, "100 babies saved," words to a similar effect, and this saving of life had en accomplished at that institution on the very day, if I istake not, of my visit. Now, it will hardly be contended hat the cases there are of any greater severity than those Shadwell. If the number of milder cases bears the me ratio to that of the severer ones at the two places, en this would mean that 1,000 cases of diarrhoea, mild d severe together, must have been treated at the poly- inic on that day alone. Further, 100 babies saved must ean that but for the treatment 100 babies would have died. aking the percentage mortality to be, as at Shadwell, per cent., this would indicate that the still more markable number of 5,000 cases of diarrhoea were eated at the polyclinic on the day in question. great deal of sensational writing and exaggerated isstatement would have been saved if one of the medical aff had explained to the lay reporters that only about per cent. of infantile summer diarrhoea, as seen in the t-patient departments of children's hospitals, is fatal en when untreated with "isotonic plasma."

The main demonstrable ingredient, apart from water, in isotonic plasma," is common salt, the quantities of other gredients. such as iodine and bromine, being so in- nitesimal in the amounts injected that their effect may e neglected. Other qualities beyond the chemical are rely conjectural and incapable of demonstration or roof. Now, isotonic saline solution, of the same strength salt as "isotonic plasma," has formed the ief agent in the treatment of the severer cases of fantile diarrhoea at most, or all, children's hospitals r several years past. More than six years ago wrote a paper on the treatment of the complaint in which ne use of that solution was advised, and even then such a eatment had ceased to possess any element of novelty. ny advantage of sea-water over ordinary salt solution of the same strength has yet to be proven. It may be safely said, however, that the careful records of half a dozen cases treated with the "isotonic plasma" at a recognized children's hospital would carry more weight with the pro- fession generally than half a hundred treated at the poly- clinic, where the staff have such imperfect and limited control and supervision over their patients.—I am, etc.,

London, W., Sept. 11th. J. A. COUTTS.

SIR,—I read with interest your article on the therapeutic use of sea-water injections, in the BRITISH MEDICAL JOURNAL of September 2nd.

Three or four years ago it was a treatment much in vogue in the south of France, and I was forced to try it on a phthisical patient of mine because of the importunities of his wife and his own desire. He was in the late stages of the disease, and the injection produced an acute and intractable diarrhoea which greatly exhausted him and made us all repent the experiment.

As my patient was one of the most important socially I have ever had to treat, the experience was impressed upon me, and I have not since repeated it.—I am, etc.,

Devon, July 5th. D. W. SAMWAYS.

MENORRHAGIA IN VIRGINS: A MEDICINAL TREATMENT.

SIR,—On reading Dr. Francis Hare's article in your issue of July 15th last, about the effects of amyl nitrite in the menorrhagia of virgins, the following idea has occurred to me.

The suppression of menstruation has proved a rapid and successful treatment of chlorosis. To effect the suppression hot vaginal injections and rest in bed have been used (Loewenthal, *La Semaine médicale*, p. 332, 1885). Of 18 cases thus treated all were cured, the majority very often after the first suppression. Only one case lasted until the eighth suppression.

I have tried to use this rational treatment, but always found a strong objection from the patients (usually virgins) to the vaginal injections. Now, seeing in Dr. Hare's article how potent is amyl nitrite in stopping menstruation, I believe it may replace, with advantage, the vaginal injections in Loewenthal's treatment of chlorosis.

I propose to give it a trial at the first opportunity, and throw out the suggestion to my fellow practitioners as being an easy and harmless treatment. But, perhaps it may be that I have been anticipated by somebody who has already used it somewhere. *Nil novum sub luna.*—I am, etc.,

Port of Spain, Trinidad, August 25th. J. C. LUCIANI.

TUBERCULIN DISPENSARIES.

SIR,—Dr. Thurnam (August 19th, p. 408) may know something of the value and cost of sanatorium treatment for the well-to-do members of society. Can he, from his own experience, tell us the cost and value of such treatment for the poor, especially if they have to return to the usual conditions of workers who are forced to live in towns?

Dr. Thurnam cannot know the value of tuberculin treatment at dispensaries for the poor who cannot give up their occupations, and cannot easily change their home and home conditions. He assumes that tuberculin under such conditions will fail, while I have proved, by actual experience, that tuberculin succeeds under these exacting conditions.

Dr. Thurnam is entitled to hold any opinion he likes, but if he wishes to convince others he will be expected to furnish some evidence, first, in support of his assumptions, and, secondly, in disproof of my actual experience and results.

Dr. Thurnam has not had enough experience with tuberculin to know the limit of its usefulness, and, at least, he might wait for one year's experience outside of a sanatorium before he attempts to criticize one who has had at least twenty years' experience. Experience in a sanatorium hardly helps one to place limitations on the use and value of tuberculin in dispensaries.—I am, etc.,

W. CAMAC WILKINSON, M.D.Lond., F.R.C.P.

London, W., Sept. 2nd.

SIR,—After reading several communications which have from time to time appeared in the JOURNAL from Dr. W. Camac Wilkinson, one is left in no doubt either of his enthusiasm, or of his desire to encourage the use of tuberculin in the treatment of pulmonary tuberculosis. To go a step further, and credit him with readiness to regard with favour any system of treatment which can assist in the cure of disease, is only to give him his due as a member of our honoured profession.

In this attitude of mind I find it very difficult to harmonize Dr. Wilkinson's position with his unmistakable objection to the sanatorium. No up-to-date man doubts the value of tuberculin; it is now being used both within and beyond the sanatorium. But surely a patient living under ideal hygienic conditions, with the supervision of an expert hourly at his command, is in a better position to profit by the stimulus derivable from tuberculin than one who is living in less favourable surroundings, perhaps in the slums of a crowded city.

Tuberculin has deservedly come into prominence in recent years, since a better understanding of its use has enabled us more successfully to guard against its possible misuse. My experience, which dates from the year 1899, when I opened one of the first sanatoriums in this country, has convinced me that by a happy combination of discipline, close observation, enthusiasm, and confidence, startling results can be obtained in the sanatorium even without the use of tuberculin. I refer to cases under treatment in the earlier days, when I did not feel justified in injecting the preparation of tuberculin then procurable. Later on I used tuberculin with increasing freedom, though even now I am not disposed to favour its indiscriminate use. An attitude of caution, or, shall we say, careful discrimination, is advisable in order to avert the possibility of discredit being brought upon an aid to treatment of undoubted potency; it also serves to encourage the preservation of an open mind, so necessary in these days when steps into the unknown are being boldly taken.

The fact is there is a regrettable deficiency in sanatorium accommodation for the poor, and until this has been made good by all means let tuberculin treatment be conducted in the patient's home or in the dispensary, but not as a substitute for the many advantages offered by the sanatorium.

Sanatoriums have come to stay, and are by no means "tottering to their fall." I at least have seen no evidence of this. They are quietly passing through a process of evolution, perfecting their methods, adapting them to the multifarious requirements of the patients they profess to treat, and profiting by experience. The solution of the tuberculosis problem lies in education, prevention, and cure. The sanatorium plays an invaluable part in the furtherance of all three aims.

Regarding statistics, it must be borne in mind that sanatorium results, when expressed in figures, require the most careful consideration before conclusions of real value can be drawn from them. They require to be studied with an open mind, and will then be found to justify to the full the establishment of more sanatoriums for the poor—a pressing need.—I am, etc.,

London, W., Aug. 26th. E. W. DIVER, M.D.

SIR,—In view of the correspondence in your columns last winter, and of the various statements in which the leaders of the profession have condemned the fallacies underlying "Tuberculin Dispensaries," one had expected that this controversy had died out. In your issue of August 26th, however, under the above heading, Dr. Camac Wilkinson has introduced some polemics whereby the real question might be obscured. I should therefore be grateful for the courtesy of your columns to comment on the new points which have arisen.

The report of the Executive Committee of the Welsh Memorial to King Edward VII, to which the article purports to be a reply, stated that in many cases sanatorium treatment need not be carried out at an institution. As the truth of this statement is almost self-evident, it is difficult to understand how any one can say that it is tantamount to "in many cases sanatorium treatment is unnecessary." It is necessary, whether it be carried out at a sanatorium, at a farm colony, at an open-air school, at a dispensary, at a hospital for advanced cases (in a modified degree), or at home. Whether it be called "the sanatorium system," "Brehmer's system," or the "auto-inoculation system," it represents a line of general treatment based on principles laid down by Bodington seventy years ago. The latter advocated that "patients should be strictly watched and regulated in all respects as regards exercise, air, diet, etc." At the anti-tuberculosis dispensaries in Europe and America it has been proved that some 80 per cent. of early cases can be treated at their own homes, without interference with occupation, on general, therapeutic, and specific lines. It would be folly to argue from this that sanatoriums were unnecessary, as for certain cases these institutions are essential. The truth is that the whole anti-tuberculosis campaign is being retarded by those who set the sanatorium against the antituberculosis dispensary, hospitals for advanced cases against sanatoriums, farm colonies against dispensaries, and tuberculin against all and sundry. Each has its appointed place.

Sir Clifford Allbutt, Sir Lauder Brunton, Sir William Osler, and Dr. Arthur Latham have condemned the claims of tuberculin dispensaries on two grounds—that the results are obtained in early cases of Stages 1 and 2, and that the diagnosis is unreliable. At these dispensaries the tuberculin reaction is regarded as specific. Clinically, as any one can prove for himself, it is present in typhoid fever, diphtheria, syphilis, pneumonia, and measles. Again, Arloing, whose experiments extended from 1882 up to his death a few weeks ago, demonstrated that a healthy guinea-pig will not react to tuberculin, but that a guinea-pig inoculated with the toxins of the typhoid bacillus will give a typical reaction. We also know that 70 per cent. of the men in a German cavalry regiment reacted to tuberculin. Lastly, as Sir Clifford Allbut and his colleagues point out,

> cases of consumption may be divided into four classes. Class I, Those patients who become infected and recover without knowing that they have been infected;

and also

> practically every man or woman over 35 bears evidence of having suffered from tuberculosis.

What is termed a reply to this statement of fact is so much to my point that I quote it:

> I ask whether it is justifiable to describe cases in "Class I" as cases of consumption? Such a loose and unscientific definition cannot be too strongly condemned by those who distinguish between healthy individuals and those who are consumptive.

It is exactly because it is unjustifiable and strongly to be deprecated that cases in Class I should be described *to the general public* as cases of consumption, that tuberculin dispensaries are condemned. At these institutions all the above cases would give a reaction, receive a course of treatment, and no doubt add to the list of "cures."

Not only on the question of diagnosis do these tuberculin dispensaries stand alone, for at them there is taught a novel conception of the actual disease. With reference to the opinion of men who occupy a leading position in modern medicine, we read:

> These authors, misled by their views of "autointoxication," *assume that in the progressive stages of pulmonary tuberculosis there is progressive intoxication of the system by means of tuberculin.* This theory begs the whole question, and presents a one-sided and wholly inadequate idea of the tuberculous process. The element of infection and the presence of living, virulent bacilli are wholly ignored. Accordingly, those familiar with the complex character of the tuberculous process can only designate this description of these authors as a misinterpretation of scientific facts.

(The italics are mine.)

This is truly a new light on clinical pathology—"the light that never was on sea or land."

It seems hardly needful to point out that when the tubercle bacillus has overcome the tissue resistance of a susceptible organism, there follows a specific disease, the toxic effects of which may vary from inflammatory and degenerative changes in lymphatic glands to the profound systemic intoxication of advanced pulmonary tuberculosis.

Having regard to the views on diagnosis and clinical medicine held at tuberculin dispensaries, it would be quite out of the question to discuss the validity of their results. As to the cost of their treatment, we are told that it works out at £2 a head. At the Paddington Antituberculosis Dispensary—whose work includes the supervision of

patients in their own homes by a full-time medical and nursing staff, the examination of contacts, the sorting out of patients for sanatoriums, open-air schools, and hospitals for advanced cases, in addition to the general, therapeutic, and specific treatment at the dispensary—828 cases of suspected and apparent pulmonary tuberculosis were treated in 1910 at a cost of £1 13s. 1½d. per patient per annum.—I am, etc.,

HALLIDAY SUTHERLAND.

The St. Marylebone Dispensary for the Prevention of Consumption, London, N.W., Aug. 25th.

SIR,—The results of tuberculin in phthisis, as administered according to the plan advocated by Dr. Camac Wilkinson, are on his own showing what I should call strikingly good. On the other hand, it is a matter of common knowledge that a great many competent observers have failed to obtain satisfactory results, save now and again, and have reluctantly abandoned tuberculin as a means of treatment.

Is there any way in which this discrepancy might be explained? Does Dr. Wilkinson cast the net too widely and include cases that clinically would not be classed as tuberculous by the ordinary observer? Or is it that the method he adopts is different and more successful than that followed by others? It is of vast importance that we should not be neglecting a remedy of such value, if the statements in his article in the JOURNAL of August 26th and in other writings by the same author are not too sanguine.

My object in writing is to suggest that possibly Dr. Camac Wilkinson might advance the cause he has at heart if he called for a committee of a few medical men interested in the question to watch his cases for six or twelve months and give the results of such observation. All the statistics in the world are not so convincing as actual demonstration of cure in a few cases. References, especially to Moeller and Weicker, would have been of value had they been appended to the article in question.

It is quite useless to see cases of phthisis save on the "before and after" system. They should be examined before treatment is started and again several times at the termination.

It is not for a moment to be suggested that any but a sympathetic attitude would be adopted. At the same time one wants convincing.—I am, etc.,

London, N.W., Aug. 26th VINCENT MOXEY.

TUBERCULIN IN PULMONARY TUBERCULOSIS.

SIR,—May I be allowed to reply to Dr. J. P. Milton by stating the conclusions drawn after giving almost 1,000 injections of tuberculin?

1. The safety and certainty depend upon the doctor administering the tuberculin—upon his conception of its action and his experience. My first case was one of hip-joint disease, and did magnificently for three months, then all the good was undone by two injections, though the last state was no worse than the first. A case of cervical adenitis now under me can be made delirious and generally worse by one variety of tuberculin, whilst another variety corrects the evil; but the peculiarity is that the kind which does her harm has worked a miracle (in the opinion of the doctor who suggested a consultation) in another case of enlarged cervical glands.

2. Its justification is similar to that of operation, and depends upon what other treatment is available. I have pulmonary patients who were obviously going downhill (elevated temperature, decreasing weight) who have since refused free sanatorium treatment, in spite of my advice to accept it, as they felt so thoroughly well.

3. The necessity, where other treatment is available, is more difficult to speak upon. Where sanatorium treatment is not promptly available, tuberculin is a necessity.

Who is to decide as to what is or is not tuberculous? A case sent by me to a sanatorium was told on admission that she ought to have gone two years earlier. The doctor's successor three weeks later told her she never had been tuberculous, and dismissed her at the end of the fifth week.—I am, etc.,

Blackburn. ARTHUR H. GREGSON.

SIR,—I feel that the letter from Dr. Penn Milton (September 2nd, p. 522) ought not to be allowed to pass unnoticed at the present time when such a keen interest is being taken by the public in all that relates to the cure of tuberculosis.

There are already too many people ready to decry the use of serums and vaccines, including tuberculin, and to do all they can to thwart and hinder the usefulness of modern research. To such people disputes among doctors afford an unholy joy, giving them fair grounds for saying that the opinion of the profession is divided on these matters. As far as tuberculin is concerned, it seems to me that the division of opinion is merely between those who have tried it and know, and those who have not tried it (except in small doses), and have apparently not even read much about it, and do not know. Those who have only given it timidly and in minimum doses are naturally sceptical of its value, or even more actively opposed to its use; while all who have really given the large doses a fair trial are, I believe, unanimously enthusiastic over the good results obtained. Dr. Penn Milton on his own showing has given it a very perfunctory trial.

As to the publishing of tabulated results, the treatment is admittedly comparatively new in England, and I think any prudent sanatorium superintendent would refrain from publishing the experience of only a couple of years or so with a new remedy in such a slow and insidious disease as phthisis. But the results claimed by German writers, which are confirmed and endorsed by those who have used their methods in this country, ought to be sufficient to convince every practitioner in charge of an uncomplicated case of phthisis that if he withhold from his patient the benefits of a thorough course of tuberculin he is almost as guilty of culpable negligence as he would be in performing an operation without due antiseptic precautions.—I am, etc.,

Blagdon, Sept. 3rd. E. MARIETTE, M.B.Lond.

SIR,—A letter like that from Dr. Penn Milton (September 2nd, p. 522) cannot be allowed to go unchallenged. Many who are interested in such a valuable therapeutic agent as tuberculin, but so far have not had practical experience in its use, may be prejudiced against it by such a biassed opinion. We want the opinions of men who have treated many cases in a scientific and intelligent manner, not those of men who have no such experience, but who have drawn deductions from one case, and that one evidently hopelessly unsuitable. The use of tuberculin requires to be learnt under a master. It requires, and exactingly demands, thoughtful care, scientific discrimination, and previous experience under tuition and advice. The account of the case cited by Dr. Milton is really not worth consideration.

Dr. R. W. Philip and Professor Osler have not long ago expressed the opinion that tuberculin is a valuable therapeutic weapon in suitable cases. I will only mention these two names among many eminent authorities who believe in tuberculin, because they cannot in their breadth of intellect be accused of any bias.

Of course, the great champion of tuberculin is Dr. Camac Wilkinson, and I unhesitatingly affirm that any man with such a ripe and intelligent experience of tuberculin, lasting from the time of its introduction, must of necessity be such a whole-hearted advocate for its extended use as Dr. Wilkinson is. Personally, as a result of many mornings spent at the tuberculin dispensary so successfully carried on by Dr. Wilkinson, I was enabled to commence its use, and nothing in the healing art has given me such satisfaction.—I am, etc.,

Buntingford, Sept. 5th. R. W. FELL.

ROYAL INFIRMARY, EDINBURGH.

SIR,—In your issue of September 9th you state in your description of the Royal Infirmary, Edinburgh, that there are nine resident physicians and eleven resident surgeons (of whom three are set apart for the out-patient department). I beg to point out that there are eight resident physicians, two resident gynaecologists, and ten resident surgeons, of whom three are set apart for out-patient work.—I am, etc.,

JAMES C. BRASH,
Edinburgh, Sept 12th. President, Residents' Mess.

Obituary.

LEONARD CANE, M.D., B.S.,

CONSULTING PHYSICIAN TO THE PETERBOROUGH INFIRMARY.

LEONARD CANE was born at Chichester, July 31st, 1848. He came of a professional stock, no fewer than twenty-four of his near relatives having been members of the medical profession. After leaving school he became a pupil of his uncle, Dr. Leonard Buckell, of Chichester, with whom he lived for five years. During that time he matriculated at the University of London, and passed the Preliminary Scientific Examination. In October, 1867, he entered upon his professional studies at University College, London, where he obtained the Atkinson Morley Scholarship (£135), the Liston Gold Medal for Clinical Surgery, the Gold Medal for Medicine, Silver Medals for Clinical Medicine, Anatomy and Physiology, and other distinctions.

At University College he studied under the eminent men then connected with it—Sir William Jenner, Sir Russell Reynolds, Sir J. E. Erichsen, and Sir Henry Thompson, and had as fellow-students and friends many who have since risen to great eminence in their profession; amongst them are Sir Thomas Barlow and Sir John Tweedy.

Dr. Cane took the degrees of M.B. and B.S.Lond. in 1872, graduating with honours in both. He took the degree of M.D.Lond. in 1873, and held also the diplomas of M.R.C.S. and L.S.A.

In 1875 he went into partnership with Mr. Thomas Southam of Peterborough, an old-established practitioner of that city. Here he succeeded in making a large general practice, and held several public appointments.

In 1876 he was elected Consulting Surgeon to the Peterborough Infirmary. In 1895 he was elected Physician to Peterborough Infirmary, and held that post until 1906, when he was compelled by paralysis agitans to retire from practice. He then went to reside at Eastbourne, where he had built a house at the foot of the Downs.

He had three sons and one daughter. The eldest son, who took his M.D. degree at Cambridge a few months before his father's death, succeeded him in the practice at Peterborough, and was appointed Assistant Physician to the Infirmary. The second son joined the Royal Army Medical Corps, and the third son is also entering the profession, so that the medical tradition of the family is well maintained.

ARTHUR BEADLES, M.R.C.S., L.S.A.,

LATE OF FOREST HILL.

THIS well known and well beloved practitioner of medicine, of Forest Hill, died at Dover on August 19th, 1911. He was the son of John Nathaniel Beadles, who practised at Broadway, Worcestershire; there Arthur Beadles was born. He was educated at Irving's, Mitcheldean, Gloucestershire, and in 1856 was apprenticed to his father. After four years of this work he entered the Medical School at Westminster Hospital in 1860, and obtained his diplomas in 1862 and 1863. After holding office as House-Surgeon at the Westminster Hospital, in 1866 he settled at Forest Hill, and there for many years he worked very hard in the large practice that he made. He was a man of much observation and great common sense, and he possessed also a breadth of mind and a grasp of many of the problems of clinical medicine that inspired confidence in his many patients.

With all this he had the saving grace of a gentle humour, which made him not only trusted as a physician but beloved as a friend by all sorts and conditions of those of whom his practice was made up. He was indeed a type of the best sort of practitioner—full of knowledge, gained by observation from youth to age, from actual bedside familiarity with all forms of sickness and suffering in men, women, and children—knowledge that he had obtained by thought, and appropriated and dedicated to the needs of his patients. His service was unstinted to those who asked it, for he was one of the kindest of men, and so modest and unassuming was he that he would treat the young consultant, who had not a tithe of his practical experience, with such delicacy of feeling and kindliness of appreciation as will cause any who came into such relations with him long to remember him with affection. For many years he was frequently hampered by recurrent attacks of rheumatic iritis. These were attended with gradual impairment of sight, which at last compelled his complete retirement in 1907 to Dover, where he died. He was buried hard by the scene of his life's work at Elmer's End at a full but of no excessive age as years go now—on August 23rd. Thus ends, as has so often happened before, an unassuming yet strenuous life, well lived, and many there must be who have lost an old friend.

DR. EUSTACE SMITH writes: Dr. Arthur Beadles was for many years the principal practitioner of Forest Hill where his abilities and professional skill were universally recognized and esteemed. He was one of the old school of family physicians who brought a large fund of common sense to bear upon his treatment, and whose intimate knowledge of drugs and their uses enabled him to treat the ailments and diseases of his patients with a readiness of resource and with a success which commanded at once their gratitude and admiration. Dr. Beadles was in practice for many years before the days of microbes, but he was careful, in spite of his many engagements, to keep himself abreast of the advances of medical science although he was never led by the allurements of the microscope or the charms of bacteriological research to forget that the primary object of his calling was the alleviation of suffering to which his life was devoted. Dr. Beadles's amiable disposition and kindness of heart endeared him to all who had the privilege of his friendship, and his intellectual gifts and keen interest in literature and the arts made him a welcome companion. Dr. Beadles's loss will be mourned by many others besides the members of his own family.

DANIEL JACKSON, J.P., M.D.,

HEXHAM.

THE death of Dr. Jackson of Hexham, which took place on August 26th, in his 74th year, at his residence Netherton, Hexham, removes from the district not only the oldest medical practitioner, but one of the best known and highly esteemed of men in Northumberland.

Dr. Jackson, a Scotsman by birth and a graduate of Glasgow, joined the late Dr. Nicholson in partnership in the year 1861, previous to which time he was in practice in the small adjoining village of Wark. He soon commanded one of the best country practices in the North of England. He became in time Medical Officer of Health for the district, and as such guided the health boards in their great sanitary improvements.

He was Factory Surgeon and Medical Officer to the chief friendly societies. This large connexion he retained as only a man of ability and high character could do. He was a trusted, able, and conscientious medical adviser. In addition to his professional work, he interested himself in every public movement which he considered for the public weal. He was a J.P. for the county, and faithfully performed the duties of his position. He was highly respected by his professional brethren and sincerely loved by his wide circle of patients.

The funeral at Hexham Cemetery on August 29th was very large and represented all classes.

There have been many public references to the great loss sustained by the district; these may be summarized by saying that "Dr. Daniel Jackson was recognized by the whole community as an honourable man."

He leaves a widow, five sons, and ten daughters to mourn his loss. He is succeeded by his son, Dr. J. A. Jackson, who has been associated with him in practice during the last twenty-five years.

DR. HENRY ROBERT DEW, M.R.C.S.Eng., L.R.C.P., who served through the Crimean war and was Staff Surgeon to Lord Raglan, died on September 7th at Stanton Wick House, Somerset, aged 78. He was educated at St. George's Hospital, London, and, after serving some time in the army, retired to Bristol, where he practised. Dr. Dew's family have had a manse at Coleford in their possession for many generations, and it is said that Charles I was once a fugitive there. The family still

possess a battle-axe with which, it is said, one of its members saved the life of the king. For this he was offered a peerage, but is reported to have declined the honour for the unusual reason that "he was of such high standing in the county and so well off."

The Services.

TIME-EXPIRED OFFICERS.

THE time-expired officers of the Royal Army Medical Corps in India as here detailed are nominated to proceed to England in the transports named. The services of these officers will be utilized, if necessary, with troops proceeding from divisions or brigades in which they are stationed for embarkation in those vessels, and those whose time of service expires before embarkation are detained in India for duty with troops proceeding by transports. Officers in medical charge of transports are required to be at Bombay or Kurrachee, according to the port they are embarking from, three clear days before the date of sailing, so as to assist in arrangements for the accommodation and segregation of special cases. The remainder must be at the port of embarkation at least forty-eight hours before the date of sailing. First transport, *Rewa*, October 12th, from Bombay: Lieutenant-Colonel W. C. Beevor, C.M.G., M.B., Major T. McCulloch, M.B., Captain J. W. S. Seccombe. Second transport, *Dongola*, October 26th, from Bombay: Lieutenant-Colonel S. Westcott, C.M.G., Captains C. E. W. S. Fawcett, M.B., and M. J. Cromie. Third transport, *Plassy*, November 9th, from Bombay (leaves Aden November 14th): Lieutenant-Colonels J. M. F. Shine, M.D., and R. L. R. Macleod, M.B., Captains E. W. Powell and A. D. O'Carroll, M.B. Fourth transport *Rewa*, December 9th, from Kurrachee: Lieutenant-Colonel A. L. F. Bate, Major A. Chopping, Captain M. Keane. Fifth transport *Dongola*, December 28th, from Bombay: Major J. Hennessy, M.B., Captains H. G. Sherren and C. F. White, M.B. Sixth transport *Plassy*, January 11th, 1912, from Bombay: Lieutenant-Colonel W. A. Morris, Captains R. E. Humphry, W. Benson, M.B., and W. C. Nimmo. Seventh transport *Rohilla*, January 31st, from Kurrachee: Major C. W. Reilly, Captain T. S. Blackwell. Eighth transport *Rewa*, February 14th, from Kurrachee: Lieutenant-Colonel B. M. Skinner, M.V.O., Captain T. Scatchard. Ninth transport *Dongola*, February 23rd, from Bombay (leaves Aden February 28th): Major H. W. Dunn, M.B., Captains G. G. Tabuteau and G. W. W. Ware, M.B. Tenth transport *Plassy*, March 13th, from Bombay: Lieutenant-Colonel H. S. McGill, Captains E. G. Anthonisz and A. E. F. Hastings. Eleventh transport *Rohilla*, March 28th, from Kurrachee: Lieutenant-Colonel C. H. L. Lynden-Bell, M.B., Major H. G. Martin, Captain J. S. Burme.

Medico-Legal.

WORKMEN'S COMPENSATION ACT.

Aneurysm as the Result of Accident.

In Cohen *v.* Bolckow Vaughan and Co. (Middlesbrough, July 7th) it appeared that whilst working for the firm on August 5th, 1910, the workman fell from a wagon and injured his head and left shoulder. After being off work for about three weeks in consequence, he resumed his old occupation. Very shortly afterwards, however, an aneurysm developed. This had rendered him unable to work, and the question was, Had the accident caused the aneurysm or had it been contributory? He stated that after the accident he was not able to work every day, nor was he able to do his work properly. He suffered a great deal of pain, and a swelling gradually appeared in his neck. He also had a choking sensation. Ultimately, in November, he was obliged to give up work, being for fourteen weeks in Eston Hospital. He had never had any trouble with his chest or heart prior to the accident. Dr. Murray and Dr. Howat expressed the opinion that the accident Taylor met with had contributed to his present incapacity. Dr. J. Hedley, for the respondents, said he was of the opinion that the aneurysm had been in existence long before the accident, and that it was neither caused nor accelerated by the accident. Dr. Samuel Walker, the medical referee, advised His Honour that the accident did not cause the aneurysm. His Honour concurred, but said he could not come to any other conclusion than that the accident did aggravate the disease. An award was accordingly made.

A Wasp Sting.

In a case at Attleborough County Court (July 10th) the question was whether a wasp sting was an accident within the meaning of the Act. It appeared that in October of last year a workman was engaged in threshing his employer's wheat, and while the work was in progress a swarm of wasps was seen on the drum of the machine upon which he was engaged. The evidence showed that he had been badly stung, and within a few weeks of the accident he died of blood poisoning. It was stated by medical witnesses that the only possible cause for it was the sting of a wasp. The widow and grandchild of the workman applied for compensation under the Act.

His Honour, after reviewing the authorities, said the work involved driving an engine. He had to use his eyes to watch and his hands to guide the machine. His duties left him less time than ordinary labourers to observe and to ward off the attacks of venomous creatures. The work brought the workman to the wasps, and it also brought the wasps to the workman. The employment was the source—the *fons et origo*—from which the sting and the poison arose, and in his opinion the accident arose out of and in the course of the man's employment. An order was made for compensation.

THE DUTIES OF A LOCUMTENENT.

QUAERENS.—The conduct of a locumtenent must be based on the principle that he is paid for the whole of his time, and must perform loyally the whole of the duties of the practice to the best of his ability. Such duties would include assisting a neighbouring practitioner at a case, and if any fee were paid this must be accounted for just like other moneys received for the practice.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

THE MULTIPLE DOORPLATE.

CYMRO.—The affixing of doorplates to any premises where the practitioner does not reside or attend regularly at certain times is, as we have often had occasion to state, a very questionable procedure, except in scattered districts where a place at which messages may be left is a convenience to both patients and practitioner. In the particular case cited the practitioner in question apparently attends at certain times, and to this there is no ethical objection, as telephones and motor cars have sensibly widened the range of a practitioner's daily round.

Public Health AND POOR LAW MEDICAL SERVICES.

FEES FOR OPERATIONS IN THE POOR LAW SERVICES.

D.M.O. writes to ask whether he can claim any special fee for the operation of tonsillotomy on a district pauper.

*** This is not an operation which carries a special fee, but if our correspondent were to apply to his board to pay him a reasonable fee, and the guardians consented to do so, the Local Government Board would, if asked, probably sanction such payment.

PRIVIES AND DUSTBINS.

M.O.H.—If a sanitary authority desires to have a dilapidated privy converted to a water-closet proceedings must be taken under Section 36 of the Public Health Act, 1875, and not under Section 91 et seq. Section 36 enacts that the authority may require the owner of a house to provide a sufficient water-closet, earth-closet or privy, or either of them, as the case may require. If the owner does not comply with this requirement the authority may do the work and recover the cost from the owner. The cost may be recovered through a court of summary jurisdiction. The justices at the hearing cannot enter into the question as to whether a water-closet, earth-closet or privy (as the case may be) should have been provided, but the owner may appeal on this question to the Local Government Board. By a like procedure a dustbin could be provided by the authority instead of an ashpit.

Medical News.

AT the last examination for the Diploma in Ophthalmology, now granted under the authority of the University Senate of Oxford, Messrs. R. J. Coulter and E. C. Temple-Smith were both approved.

THE second fortnight of the September post-graduate course at Edinburgh commences next Monday. The honorary secretary is Dr. Edwin Bramwell, University New Buildings, Edinburgh.

ON the occasion of the opening of the winter's work in the faculty of medicine in the University of Manchester on October 2nd, an address dealing with the Present Position and Scope of Anatomy is to be delivered by Professor Grafton Elliot Smith.

DR. D. FRASER HARRIS, Lecturer on Physiology in the University of Birmingham, has been appointed to the Chair of Physiology in the Dalhousie University, Halifax, Nova Scotia.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

SUDOR would be glad to receive suggestions for the treatment of perspiring, evil-smelling feet.

T. P. would like to know what ought to be done, during an epidemic of enteric fever, with (1) milk and (2) drinking-water in order to make it safe for human consumption.

TREATMENT OF PARALYSIS AGITANS.

L.R.C.P. asks for advice in the treatment of a patient, aged 59, suffering from paralysis agitans. He is working man. He does a good deal with his right hand, which is chiefly affected. At present he is unemployed on account of his disease. His father was similarly afflicted.

DELAYED DENTITION.

TENAX writes: I should be greatly obliged if some reader would give me some information on this subject. I have a little patient, aged 15 months, who, though well developed in every other way, shows no sign of a tooth. Is this condition very unusual? What is the latest age at which the eruption of teeth has been noticed?

INCOME TAX.

H. F. W. has been in practice since January, 1910, and wishes to know whether he can wait until the end of 1911 before making his income tax return for the year 1911–12, so as to be in a position to average the profits of the two years 1910 and 1911.

*** The income tax assessment for the year 1911–12 in this case should be identical with that for 1910–11—that is to say, it should be on the amount of the 1910 profits. If, at the end of the year, "H. F. W." finds that he has made less profit in 1911 than in 1910 he can apply to the Surveyor of Taxes for a reduction of the assessment to the amount of the 1911 profits under Section 24 (2) of the Finance Act, 1907, which applies to professions newly set up.

PRURITUS ANI.

A. C. asks for suggestions as to the treatment of pruritus ani, the patient being himself. It has persisted for nearly three years, despite painting with 20 per cent. silver nitrate solution followed by zinc oxide lotion, attention to liver and diet, and other corresponding measures advised by various specialists in dermatology whom he has consulted. He has one small pile of the external variety, but the surgeons whom he has seen say it is not responsible for the condition.

*** A perusal of the literature of the subject suggests (1) that it would be worth the while of "A. C." to have a search made for a shallow rectal ulcer, such as was described some years ago in the BRITISH MEDICAL JOURNAL in an article on persistent pruritus (vol. i, 1905, p. 1029). Therein F. C. Wallis showed that the experience of St. Mark's Hospital was to the effect that when pruritis ani persisted year after year despite attention to errors of diet, gout, threadworms, eczema, and other like causes, it could be traced in 90 per cent. of all cases to a shallow ulcer lying between the internal and external sphincters, and generally near the dorsal middle line. It was also shown that when such ulcer was removed by use of an electro-cautery the condition of pruritus ani disappeared also. (2) In default of the existence of such ulcer it would be worth while to try the effect of either (*a*) sparking from a high frequency machine; or (*b*) poultices made of the naturally radio-active mud, which is obtained during the process of breaking up uranium ores in search of radium. The precise source of the radio-activity is actinium, and, according to certain French observers, this mud is almost a specific in all forms of pruritus. It is imported into this country by Messrs. Siemens Brothers, Caxton House, Westminster.

ANSWERS.

GALBANUM.—We are advised that such conditions are unknown, and that the surgeon does well to leave the organ alone.

D. S.—November is a good time to visit Ceylon. Malaria need not be feared on ordinary tourists' routes. Access to Southern India is easy via Tuticorin.

D., who asks as to a home likely to receive an imbecile woman, aged 34, is recommended to apply to: (1) The Midland Counties Asylum for Imbeciles, Knowle, near Birmingham (apply to Governor for regulations); or (2) The Monyhull Colony, near Birmingham (apply to Clerk, Birmingham Board of Guardians).

"DYSPEPSIA."

A. R. asks for a list of "a few of the best books on dyspepsia," but as this term may include digestive disturbance resulting from any cause, his reading must be wide if he is to get a the best. Perhaps Soltau Fenwick's book on *Dyspepia* wil give him what he wants.

THE IMPORTANCE OF DRAINAGE IN SEPTIC CONDITIONS OF THE UTERUS.

DR. J. T. MACLACHLAN (Glasgow) writes, in answer to "Genera Practitioner's" question (August 5th, p. 320), as follows: The glass drainage tube has a piece of stout rubber tubing attached which reaches down to the vulva, when the glass portion i inserted well into the uterus. A large pad of Gamgee tissue i placed over the vulva to catch the discharge, and no doub keeps the apparatus from being ejected. This pad is kept in position with a T-shaped bandage, one arm encircling the body, the other passing over the vulva from behind forwards A hot douche should not be given before the tube is inserted as it contracts the os. As the uterus gradually become reduced in size, the tube is gradually pushed down, so that i is necessary to cut off ½ in. to 1 in. of the rubber portion.

LARVAL IXODINE PARASITIC ON MOSQUITO.

DR. FERNAND L. DE VERTEUIL (Vancouver) writes: In reply to Dr. A. G. Carment (St. Andrews), who quotes (BRITISH MEDICAL JOURNAL, August 5th) a curious instance of parasiticism in the presence of a larval ixodine on a species of Mansonia mosquito in Sarawak, I may state that I have come across the same thing. While on an expedition up the Orinoco in Venezuela I found a small tick on many of the specimens of mosquitos which I collected. Sometime I found as many as three on one mosquito, which as far a I recollect were always a species of Mansonia, this being the most common mosquito of that region. I have seen thi fact of the presence of ticks on mosquitos mentioned in som work on tropical medicine, but cannot now recall the author' name.

BARIUM DEPILATORY.

E.S.R.—The formula of the preparation for the removal o superfluous hair as to which our correspondent asks, is give in McCall Anderson's *Treatise on Diseases of the Skin*, secon edition, 1894, page 43, as follows: Perfectly fresh sulphuret o barium ʒjss, oxide of zinc ʒvj, carmine gr.j.

LETTERS, NOTES, ETC.

M. C. H. writes: In reply to "N. S." and his query concernin Post Office appointments, I have much pleasure in informin him that my experience is the same as his. The medica officer is not appointed on his medical qualifications, but o his personal acquaintance with the local official. My appli cation, sent in reply to the request of the Post Office, was no even acknowledged.

POSTAL APPOINTMENTS.

ANCEPS writes: May I confirm the remarks of your corre spondents as to the unsatisfactory way in which Post Offic appointments are granted, and also point out that th authorities prefer to give the appointment to any one rathe than the successor to the previous incumbent, as they wish t discourage the buying and selling of that which they regar as their free gift? The factors which govern their decisio are inexplicable; neither length of residence, qualifications convenience of employees, or any other recommendation tha normally would have weight appears to influence those i authority. In the case here the successful candidate was not only the worst qualified man in the town but also the leas conveniently situated, and, in addition, had not been so lon in the place as one at least of the other applicants.

"THE PRELIMINARY PLACING OF THE PERINEAL STITCH."

DR. ALEXANDER DUKE (London, W.) writes with reference t the note published in the JOURNAL of July 15th, p. 144 In the *Medical Press and Circular*, January, 1905, Dr. Lapthor Smith advised the introduction of a suture or sutures t prevent laceration of the perineum during childbirth. I looks like begging the question, Is every perineum bound t be torn?

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SOME POINTS IN THE TREATMENT OF SEVERE TALIPES.

[With Special Plate.]

By R. P. ROWLANDS, M.S., F.R.C.S.,

ASSISTANT SURGEON, GUY'S HOSPITAL; AND SURGEON IN CHARGE OF THE ORTHOPAEDIC DEPARTMENT, GUY'S HOSPITAL.

THE object of this paper is to recommend a composite operation for the treatment of severe and neglected talipes.

Before proceeding to describe the operation, a few remarks may be made upon the prophylaxis of paralytic talipes and the early treatment of congenital talipes, for the old proverb that "prevention is better than cure" is very true of deformities. Most deformities are either preventable or curable in their early stages by safe and simple means. If these facts were more widely and thoroughly appreciated, there would be fewer hopeless cripples and far less misery and poverty. Many cripples, now hopelessly handicapped in the struggle for existence, would be useful members of society. The ignorance that prevails concerning the proper treatment of congenital talipes is appalling. The parents are commonly told that it is of no use commencing treatment until the child is several months old. The most hopeful time for treatment is thus allowed to pass, and deformities, which are curable by manipulations and simple splints in the first few weeks of life, are allowed to become serious and more or less intractable. Paralytic talipes develops so insidiously that it may appear to be inevitable, whereas it is mostly preventable by simple means. The value and importance of suitable instruments designed to prevent over-stretching of the paralysed muscles and fibrous retraction of their antagonists are not sufficiently realized. The surest way of completing the paralysis of a weak muscle is to overstretch it, and one of the most important conditions of its recovery is the avoidance of excessive tension.

There is a current belief that instruments of all kinds do not aid but hinder the restoration of function of the paralysed limb. This is by no means true of suitable instruments, provided that their use be combined with well-planned exercises designed to develop the weak muscles, and manipulations for stretching muscles that tend to retract. Too much faith is placed in massage and electricity. They certainly tend to maintain the nutrition of the weak muscles in the early stages of paralysis, but their good effect is often more than neutralized by the neglect of the other and better means which have been already mentioned.

After the talipes has been more or less corrected by simple operation, recurrence and increase of the deformity are exceedingly common because of the want of care in the after-treatment. Without this care operations and instruments are more or less wasted. The after-treatment of hospital patients is peculiarly difficult because of the trouble and expense of getting suitable instruments. The patients often fail to attend regularly for various reasons; they may not take a sufficient interest in their condition; circumstances may make it impossible for them to keep their instruments in repair, and frequently they reappear only when their deformity is obviously getting worse.

Bearing these difficulties in mind, I believe that the operations for talipes in common use are not radical enough. Too much is expected from tenotomies and similar tinkering measures, and too much is left to the after-treatment, especially with hospital patients. It should be our endeavour to anticipate the well-known tendency to recurrence, and to design our operations accordingly, making the patient as independent as possible of *prolonged* after-treatment by instruments. Such operations need not be mutilating in any sense of the term. On the contrary, they should restore both the shape and function of the foot as far as possible. The false conservatism that prevails may be a survival of pre-septic days when it was dangerous to perform extensive operations for talipes. The operation which I am about to describe is suitable for neglected cases. It is even applicable to severe deformities, which are often regarded as unsuitable for operation other than amputation. For these late cases it is particularly important to secure a free range of movement, especially of the ankle-joint. This is essential for the development of the muscles which have degenerated as a result of over-stretching and inaction. It is astonishing to notice the recovery of function that may follow the provision of a free range of movement, and the relaxation and exercise of the over-stretched muscles. With time I have gradually learnt to combine a variety of methods in order to be more certain of getting good results, which depend upon the cumulative effect of the various procedures. Some of the steps and precautions may appear trivial in themselves, but the best results are obtained only by making use of every available means. The operation recommended for severe talipes equino-varus may be described first, and the various procedures and modifications of them may then be discussed.

Operation.

The leg and foot are cleansed with the most scrupulous care. A general anaesthetic is given. The leg and foot are elevated for a few minutes, then a tourniquet is applied round the lower third of the thigh, the skin being protected with lint. The tense plantar fascia is divided subcutaneously. The ligaments below the medio-tarsal joint are similarly divided through a puncture placed below the inner side of the joint; meanwhile the fore part of the foot is forced upwards and outwards. An incision about three or four inches long is made in the groove internal to and in front of the lower part of the tendo Achillis. This tendon is transfixed in the anterior posterior direction and cleft for several inches, the extent being determined by the amount of equinus. The inner half of it is cut off the os calcis and the outer half is severed obliquely upwards and outwards from the upper end of the cleft. If necessary the tibialis posticus is divided from the wound. The ankle is forcibly flexed as far as possible. If the deformity be incompletely corrected an elliptical incision is made over the front and outer side of the foot, commencing a little below and internal to the middle of the anterior surface of the ankle and extending downwards, forwards, and outwards nearly to the outer border of the foot opposite the medio-tarsal joint, or about 1 in. behind the prominence of the fifth metatarsal bone. The width of the piece of skin to be removed varies in different cases, but it must be just enough to leave no slack when the wound is closed after the bone is removed. The upper and lower edges of the wound are mobilized a little, care being taken not to cut the musculo-cutaneous nerve. The skin is excluded from the field of the operation by means of gauze pads carefully fixed to the edges. A longitudinal incision is then made through all the soft parts covering the prominence of the head of the astragalus. No tendon need be divided. The capsule of the astragalo-navicular joint is then opened and separated from the head and neck of the astragalus by means of a suitable knife carefully used from within the joint and kept close to the bone. When the head and neck of this bone have been fully exposed they are removed by means of a Macewen's osteotome. The section is made more or less obliquely in two senses, both from above downwards and forwards and from without inwards and forwards. In this way the equinus and varus are diminished. A similar longitudinal incision is made through the soft parts covering the fore part of the outer side of the os calcis. The calcaneo-cuboid joint is opened and a wedge-shaped piece of the anterior and outer part of the os calcis is removed. The tibialis anticus tendon is exposed in its sheath and divided close to its insertion into the navicular and internal cuneiform. An attempt is made to correct the deformity, and if this be impossible, some more bone may have to be removed and some ligamentous fibres lying below the medio-tarsal joint may need careful division from within the joint. When the deformity is over-corrected and the foot is held in this position the tendon of the tibialis anticus is carefully sewn to the dorsal aspect of the periosteum of the cuboid and to the tendon of the peroneus tertius. The sutures are not tied until the foot is brought into the over-corrected position, and with the foot still held in this attitude the overlapping ends of the heel tendon are sewn together with fine catgut. The dorsal ligaments attached to the scaphoid and astragalus may be shortened by means of catgut sutures. The wounds are accurately closed, and the foot is covered with antiseptic dressings and firmly bandaged. The tourniquet

is then removed, and the leg and foot are fixed in a comfortable back splint and footpiece, and well elevated.

Comments upon the Various Steps of the Operation.

In commenting upon the various steps of this operation I wish again to lay stress upon the great importance of perfect cleanliness. There is no doubt that it is a very difficult thing to clean the deformed foot satisfactorily. It needs a great deal of scrubbing with soap and water and the use of ether soap or turpentine. This may be followed by painting with iodine, or, better, by soaking in carbolic solution (1 in 20). The toes are carefully covered before the operation is commenced. The tourniquet is very valuable for these cases, for it not only saves blood but also time, and it enables the surgeon to do far more accurate and clean work. There is no need to take the tourniquet off for the purpose of catching up the vessels before closing the wound. These peripheral vessels are easily controlled by means of firm bandaging over plenty of elastic dressings, provided that the pressure be applied before the tourniquet is removed and the foot be kept elevated after the operation. This also lessens the pain. There are great advantages in taking the steps of the operation in the order recommended. It is sometimes almost impossible to tell beforehand how much may be necessary for the over-correction of the deformity, but by adopting the order suggested it is quite easy to decide this point and to leave off at any stage when the required result has been obtained. For instance, in some fairly severe cases, resection of bone for the correction of the equinus or varus may prove to be unnecessary after the soft parts have been divided in the order described. It must be remembered, however, that it is necessary to over-correct the deformity, and that a comparison with the passive mobility of the opposite foot is often valuable. Nothing less than the normal range of mobility is sufficient. It is easier to divide the plantar fascia and the plantar ligaments efficiently while the os calcis is fixed by the tendo Achillis. It is difficult to divide the plantar ligaments until the arch of the foot is opened out by first dividing the plantar fascia and then forcibly pushing the fore part of the foot upwards and outwards. In bad cases tendon lengthening is more satisfactory than tenotomy, for non-union with flail ankle may follow the latter when the ends have to be separated more than about 2 in. Further, the tendency to retraction after it is much greater than after tendon lengthening, so that it is a matter of common experience that tenotomy may have to be repeated, whereas tendon lengthening, if properly done, is final. After repeated tenotomies the lower part of the tendon is often found to be replaced by broad and thick sheets of adherent and contracted fibrous tissue. The simple method of cleaving the tendon into two lateral halves is quite satisfactory. For varus the outer half of the tendon is left attached to the os calcis, and for valgus the inner half. Other tendons are often transplanted with advantage. For instance, a part of the tendo Achillis may be diverted into the peroneus tertius or peroneus brevis. The removal of the head and neck of the astragalus and the fore part of the os calcis is better than the resection of a wedge on the outer border of the foot, because it is more efficient and interferes less with the insertion of tendons, and therefore with the natural functions of the foot. The tarsectomy is usually done too far forward, whereas the head and neck of the astragalus forms the keystone of the arch, so that a limited and oblique resection produces a very striking degree of correction of the deformity (see Figs. 1 and 2, and 7 and 8). The mobility of the medio-tarsal joint need not be seriously interfered with if care be taken to preserve the articular cartilage of the navicular and cuboid, and to adopt massage and movements in the after-treatment. Complete astragalectomy is not nearly so efficient in correcting the deformity, and it has the serious disadvantage of shortening the limb. This is especially to be avoided when congenital talipes is unilateral, and in all paralytic talipes in which the paralysed limb is already a good deal shorter than its fellow. In my experience, the removal of the head and neck of the astragalus and the fore parts of the os calcis is far more efficient in correcting the varus than taking a wedge from the side of the body of the astragalus within the ankle-joint. Moreover, the method which I have described does not interfere in the least degree with the mobility of the ankle-joint, which is the most important joint to preserve in the foot. It may be said that the foot is shortened by the operation which I have described, but this is not true, as shown by the actual measurements taken before and after operation. The removal of bone from the convexity of the arch, and the division of the plantar fascia and plantar ligaments, allows the arch to open out so much that the foot is lengthened. Malleotomy is apt to disturb the stability of the ankle-joint.

Fig. 5.—N. W. Side view after operation. Note the scar on the front and outer side of the right foot a little below the ankle. The left foot was not so severely deformed, only requiring tenotomies.

Fig. 6.—N.W. Front view after operation. Note the slight over-correction of the deformity.

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—I. R. Severe talipes equinus, cerebral monoplegia. Note the length and obliquity of the fore part of the astragalus and the elevation of the heel.

Fig. 2.—I. R. The foot shown in Fig. 1 six weeks after operation. The head and part of the neck of the astragalus have been removed and the heel tendon lengthened. It was not necessary to excise a portion of the os calcis, and the articular cartilage is preserved. Note the gap between it and the astragalus, and the correction of the deformity. The anterior group of muscles have gained power, and the range of voluntary movement is extensive.

Fig. 3.—N. W., aged 26. Side view before operation. Progressive and extreme talipes equino-varus due to spina bifida. Note the bunions and corns.

Fig. 4.—N. W. Front view.

Fig. 7.—N. W. Talipes equino-varus due to spina bifida. Side view. Note the extreme equinus and cavus. The patient was bedridden from sloughing sores under the heads of the metatarsal bones. Note the bending downwards of the head and neck of the astragalus.

Fig. 8.—N. W. After excision of the head and neck of the astragalus and the fore parts of the os calcis, lengthening of the heel tendon, and so on. Unfortunately the picture is not taken from the same side of the foot as Fig. 7.

Modifications.

When the deformity is the extreme equino-*valgus* so often seen in infantile hemiplegia, the incision is a longitudinal one over the prominence of the head of the astragalus, and only the head and neck of the astragalus need be removed. The section of the bone is oblique, so that the base of the wedge removed is above and internal, instead of above and external as for the correction of equino-*varus*. It is not wise to remove any of the os calcis, for this would exaggerate the valgus deformity. In certain paralytic cases an attempt may be made to get bony union between the astragalus and navicular, the os calcis and the cuboid. In these cases, therefore, it is an advantage to

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 7.

Fig. 8.

remove the articular cartilages of the navicular and cuboid and to take particular care to get and to maintain accurate bony apposition. When the tibialis anticus is completely paralysed it is hardly worth while to transplant it, and in certain patients who have been already submitted to multiple tenotomies for congenital talipes, the tendon may not be long enough for transplantation into the cuboid, but the gap may be bridged by means of silk threads.

For the accompanying illustrations of two of my cases I am much indebted to the photographer at Guy's Hospital.

A CASE OF WRY-NECK FOLLOWING INFANTILE PARALYSIS: TREATMENT: RESULT.

BY

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THE following case of torticollis I hope may prove of interest in that the etiological factors concerned can be stated with reasonable certainty, and that it illustrates the importance of after-treatment in maintaining, and even increasing, the benefits derived from surgical interference.

N. H., a girl aged 12, was brought to me in November, 1909, suffering from deformity of seven years' standing. Her condition at that time is well shown in the accompanying photographs (Figs. 1 and 2). The head was markedly deflected to the left, owing to shortening of both heads of the sterno-mastoid; and there existed considerable facial asymmetry, the neck muscles, and even the jaw-bone, being under-developed on the right side—that is, on the side opposite to the contracture. This much was visible to the casual observer, but a complete examination revealed further deformities which a clever dressmaker had more or less successfully concealed. An effort of nature to keep the eyes as level as possible had resulted in the raising of the whole shoulder-girdle on the left side, with accompanying hypertrophy of the trapezius. The cervical spine was convex to the right, and compensatory curves existed in the dorsal and lumbar regions. Nor was this all. The left leg showed 2 in. of relative shortening, principally above the knee, and the circumference of the thigh muscles was about the same amount less than that of their fellows.

Fig. 1.—Front view before treatment. Note the shortened sterno-mastoid on left, and facial atrophy on right side.

Fig. 2.—Back view before treatment. Note elevation of left shoulder, curvature of spine, shortening of left leg, and partial obliteration of gluteal fold.

History.

The history of the case, as given by the parents, ran as follows: The child, born perfect in every way, had completed her fifth year before anything wrong was noticed in the neck and face. About this time she began to carry her head somewhat on one side, a tendency which increased as she grew older. *Pari passu* there occurred a gradual deformity of the face, until finally the appearance shown in Fig. 1 was reached.

The parents were inclined to blame a fall on the head for the disfigurement, and it was only after careful questioning that I was able to elicit an account of the attack of infantile paralysis, which I believe to have been the real cause. It appears that shortly after her fourth birthday—that is, nearly a year before attention was called to the neck—the girl suffered from an attack of "fever"; and when, after a few days, the "feverishness" passed off she was found to have almost lost the power of walking. This was put down to general weakness consequent on her lowered condition, and as she soon began to improve, medical aid was not called in. Later on, the parents noticed that the left leg was shorter than the right, but it does not seem ever to have occurred to them that the child had had anything in the nature of a "stroke."

I concluded that the shortened sterno-mastoid, the facial atrophy, and the under-development of the left leg were all due to one and the same cause—namely, an attack of paralysis of lower neurone type occurring about the age of 4. The fact that the muscle on the right side, over-stretched though it was, nevertheless reacted fairly well to the faradic current, made me hopeful that a good permanent result might be obtained by suitable measures.

Treatment.

An extensive open tenotomy was performed, in the course of which it was found necessary to divide the whole of the clavicular as well as the sternal attachment of the sterno-mastoid. No fixing apparatus was used, but during the healing of the wound the child lay with a sandbag on either side of the head. Within a month I commenced gentle faradic stimulation of the muscles on the right side, and in another fortnight the patient was allowed up. Faradization was continued for three months for about ten minutes twice daily, and was directed not only to the sterno-mastoid but also to the trapezius and to the atrophied cheek muscles. At the same time suitable exercises were prescribed, and I directed the parents to see that these were kept up for some years.

Figs. 3 and 4 show the condition six months after the operation. The possibilities and limitations of such cases are well illustrated. The permanent curve of the cervical spine causes the head to slant towards the right and the shoulders have an unequal appearance. Nevertheless, a comparison of Fig. 4 with Fig. 2 will show that the scapulae have been levelled and that the dorsal and lumbar scoliosis has almost vanished.

Infantile paralysis as a cause of wry-neck does not seem to have received the attention it deserves. Many standard textbooks do not even mention it in their account of the etiology of torticollis. That it was the determining factor in the case above described there can, I think, be no reasonable doubt; and I have personally come across three other instances in which the history and appearance pointed to a similar origin, although corroborative evidence in the shape of an affected limb was lacking.

Fig. 3.—Front view after 6 months' treatment. The face is unfortunately slightly blurred, but still the photograph shows less asymmetry than in Fig. 1.

Fig. 4.—Back view after treatment. Shoulder blades are now level, and spinal curvature absent, except in cervical region.

A mild attack, which would leave a limb practically as useful as before, may have serious consequences if it damages the spinal accessory and other cranial nerves. A comparatively trifling loss of power in the sterno-mastoid of one side can, by a slow but sure process, produce permanent deformity. By reason of its weight and anatomical position at the top of the vertebral column, the head is susceptible to the slightest change of tone in its supporting muscles; and a lateral deviation, once started, tends to progress at an ever-increasing rate. It is probable that in most cases, as in the one under discussion, the fault is due to over-action of sound muscles; but it is also possible that here, as elsewhere, fibrous degeneration and contractures on the injured side are sometimes responsible. The imperfect development of part of the face is no doubt the result of degenerative changes in certain neurones of the facial and trigeminal nerves, being in fact exactly parallel with the wasting of an arm or leg from similar lesions in the spinal cord.

The principles governing prognosis and treatment in a case of torticollis due to lower neurone palsy are identical

with those which obtain when the disease manifests itself elsewhere. We have to bear in mind:

1. That it is vain to expect faradism and massage to restore the tone of diseased muscles so long as these are over-stretched—hence a preliminary tenotomy is essential.

2. That operative measures, though necessary, are by no means the most important part of the treatment. Stimulation of the weakened opponents must be carried on for some months and exercises for many years. If this is not done, or if the muscles have been severely damaged by the original attack, relapse is almost certain to occur.

3. In giving a prognosis one should take into account the age of the child, the amount of faradic irritability remaining on the convex side, the bony deformity of the spine, and, lastly, the degree of facial disfigurement. A full consideration of these points will often avoid much disappointment to parents and damage to the reputation of the physician.

In conclusion, I would urge that every case of acute infantile palsy should be kept under observation for some time with a view to the possibility of a supervening wry-neck. If the lesions in the cranial nerves concerned have been but slight, the deformity may not manifest itself for many months. The sooner the condition is diagnosed and treated, the better are the prospects of cure. In the early stages faradization alone may suffice to check the deflection of the head. It must also be remembered that the tendency of the facial hemiatrophy is to increase from year to year, just as a paralysed limb fails to keep pace with its fellow in rapidity of growth. Faradic stimulation, if begun sufficiently early, does much to lessen these inequalities of development; the interrupted current should, therefore, always be given a careful and persistent trial.

A RECORD OF FOUR HUNDRED CASES OF GENERAL ANAESTHESIA PRECEDED BY SCOPOLAMINE.

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THE advantages of the administration of hypnotic drugs as a preliminary to the use of general anaesthetics is obvious from the point of view of the patients. Apart from the immediate advantages of removing the element of fear, it enables the patient to embark upon the perils of an operation in a tranquil condition, which may contribute much to his subsequent safety. The effect of fear and excitement upon the course of anaesthesia is very great, the acceleration of the pulse lasting long after consciouness is obliterated, and rendering the patient much more liable to cardiac failure from reflex inhibition. Also the irregularity of respiration so often associated with an excited condition exposes the patient to a greater risk of overdose during the stage of induction.

A large number of cases have been recorded in which operations have been performed under scopolamine alone. In these cases, although all the advantages of the hypnotic effects of the drug were obtained, large and repeated doses were necessary to obtain complete analgesia. Consequently there is a great risk of cardiac failure from the large amount of scopolamine injected.

All the advantages of the hypnotic effect together with complete safety can be obtained by not exceeding $\frac{1}{100}$ grain of scopolamine and using a safe drug, such as ether, for the purpose of maintaining anaesthesia subsequently.

In the following series I have endeavoured to follow the same technique in all cases. Briefly, the scopolamine combined with morphine and atropin is given by hypodermic injection forty-five minutes before operation. The patient is then left with screens around the bed, or in a darkened room. The anaesthetic is commenced in bed, and complete surgical anaesthesia obtained before moving the patient.

The 400 cases I have considered under the following headings:

1. *The Dose.*

The scopolamine, morphine, and atropin is prepared in such a manner that 5 minims of sterilized solution contains the dose required. The solution is placed in hermetically sealed glass capsules, each containing one dose.

In the first 50 cases $\frac{1}{100}$ grain of scopolamine, $\frac{1}{120}$ grain of atropin sulphate, and $\frac{1}{6}$ grain of morphine tartrate was given to 27 women forty-five minutes before operation, while in the case of the 23 men a preliminary injection of $\frac{1}{6}$ grain of morphine was given one and a half hours before operation, followed by the $\frac{1}{100}$ grain of scopolamine, $\frac{1}{120}$ grain of atropin, and $\frac{1}{6}$ grain of morphine three-quarters of an hour before operation.

The remaining 350 patients all received $\frac{1}{100}$ grain of scopolamine, $\frac{1}{120}$ grain of atropin, and $\frac{1}{6}$ grain of morphine with the exception of 20 children between the ages of 10 and 16 years, who each received $\frac{1}{120}$ grain of scopolamine, $\frac{1}{120}$ grain of atropin, and $\frac{1}{8}$ grain of morphine.

2. *The Induction of Anaesthesia.*

The first 40 patients were anaesthetized with ether by the open method. But it was found that the pungent ether vapour sometimes caused those patients who were only lightly asleep to wake up. In order to obviate this in the remainder, anaesthesia was induced to the second degree with chloroform and then continued with ether by the open method.

There was no stage of excitement during the induction; the majority of the patients passed under the influence of the anaesthetic without the slightest movement.

3. *The Course of the Anaesthesia.*

The most marked effect was upon respiration, which was in most cases indistinguishable from or even quieter than is the case in chloroform anaesthesia. In 25 patients, men of a plethoric and muscular type, the respirations were certainly exaggerated, but even then the movement of the abdomen was much less than with ether alone.

A noticeable effect was the marked insusceptibility of these patients to reflex troubles, either respiratory or cardiac. In 30 cases of thyroidectomy, including 16 of exophthalmic goitre, there was stridor during removal in 2 cases only, and in no case was the pulse accelerated. In 28 operations upon the upper abdomen with pulling upon the mesentery or peritoneum there was no stridor.

With regard to the relaxation to be obtained by this method, it appeared to be in direct proportion to the amount of ether administered. The tranquil respiration was obviously an advantage in abdominal surgery.

The amount of ether used was certainly much less than that required to produce a corresponding depth of anaesthesia without the previous injection of scopolamine, morphine, and atropin.

4. *The After-Effects.*

Here, again, the usual course of anaesthesia was much modified, the patients usually remaining unconscious for from four to six hours after the completion of the operation. The time varied to a certain extent with the amount of ether administered. In 43 cases, in which the operation lasted over two hours, the average period of unconsciousness was six hours, while in 9 cases, in each of which there was rather severe shock, the patient remained unconscious for seven hours.

With regard to post-anaesthetic vomiting, of the 400 patients 255 did not vomit at all, 120 vomited once or twice, and the remaining 25 vomited several times during the first few hours after recovering consciousness. Most of these 25 patients had had long operations, with a large amount of anaesthetic.

Conclusions.

Judging from these results, I think that it is safe to urge that the method has many advantages.

From the point of view of the patient it either blots out or robs of its terrors the preliminaries of an operation, which in some cases, as, for instance, exopthalmic goitre, is a very real advantage.

It also diminishes the discomforts of after-pain, etc., by lengthening the period of unconsciousness; post-anaesthetic vomiting also is certainly lessened.

The freedom from sepsis and salivation obtained by the administration of ether by the open method, in combination with atropin, greatly reduces the tendency to pneumonia.

From the point of view of the operator the quiet respiration and relaxation which is usually obtained is of great assistance.

Finally, there is the undoubted advantage of being able to substitute with equally good results a safe drug, such as ether, for a dangerous one, such as chloroform.

THE BRIGHTON UNITED TWINS.

BY

JAMES A. ROOTH, B.A.OXON., M.R.C.S., L.R.C.P.

THE case of the Brighton twins has excited a good deal of popular interest, and is, I think, of no less interest to the medical profession, as cases of pygopagi who have survived more than a few weeks are extremely rare; as far as I can ascertain, in this country the case is unique.

The twins were born a few minutes before I arrived at the case, about 9 p.m., and the placenta had been expelled. The mother was a young primipara, aged 21, tall and well built. The labour, as described to me by the nurse, was almost uneventful; it lasted sixteen hours, and the pains were strong. The first child was born by a vertex presentation in the first position, and the birth presented no abnormal features; but as the legs were not delivered, the nurse examined and found an obstruction which she very naturally took for the breech of a second child, but she could not understand the position of affairs, or the cause of obstruction, until a few minutes later the feet of the second child came down, and in ten minutes from the birth of the first the second was delivered.

Fig. 1.—Taken shortly after birth. This photograph shows the relation of the vulvae, the anus, and the post-anal dimple.

The process was evidently one of evolution of the second or podalic child, and seems to have been the method of birth in the few similar cases which are recorded, notably in the cases of the Bohemian twins and the Carolina twins; in each case the second child underwent evolution owing to the traction of the ligament. There was no laceration of the mother or subsequent haemorrhage, and she made a rapid and uneventful recovery. The placenta was expelled during a good pain ten minutes after the birth of the second child; it was very little larger than a normal placenta, somewhat thin and flat; there was a single bag of membranes, and the two cords were exactly central.

The children, who are both girls, were well formed and of average size. I judged them to be fully 6 lb. each, and a few days later they weighed down the scales at 13 lb. The second child showed poor vitality from the first, and even now—two and a half years later—is neither mentally nor physically quite so vigorous as her sister. They were fed from the beginning on diluted cow's milk, as the mother declined to suckle them, and their feeding has not presented any difficulties. Their foster-mother, who took charge of them at birth, has only had to contend with aphthous stomatitis and a great deal of eczema intertrigo from the constant wetting and the extreme difficulty of keeping them both dry and clean. They had slight bronchitis, attributed by the mother to the pernicious effects of the x rays, but apart from this they have not caused any anxiety.

During the attack of bronchitis one child was distressed and fretful, but the other was quite oblivious of her sister's misfortunes. One may be suffering from loose motions and the other rather constipated. The act of defaecation is instructive; one child will display a desire to go to the stool, but the other is quite indifferent until the completion of the act approaches; it is not until the faeces are pressing on the anus that both children unite in the effort of expulsion. This seems to prove that there is no common rectum higher than perhaps an inch or so internal to the anus. Micturition is individual and normal. The children lead to some extent independent lives; one may sleep while the other plays. The mother has noticed that the second-born is more prone to colic and intestinal troubles than the first.

Fig. 2.—Present day.

From a medico-legal point of view one or two interesting questions have arisen. The vaccination officer decided that each child must be vaccinated; in each case the inoculation took well; one would have imagined that a single vaccination would have rendered both immune. The children were registered as two separate individuals by the registrar of births. A point was raised as to the legality of the foster-mother keeping the two children without being licensed; however, in face of the impossibility of separating them, the point has, I believe, been waived.

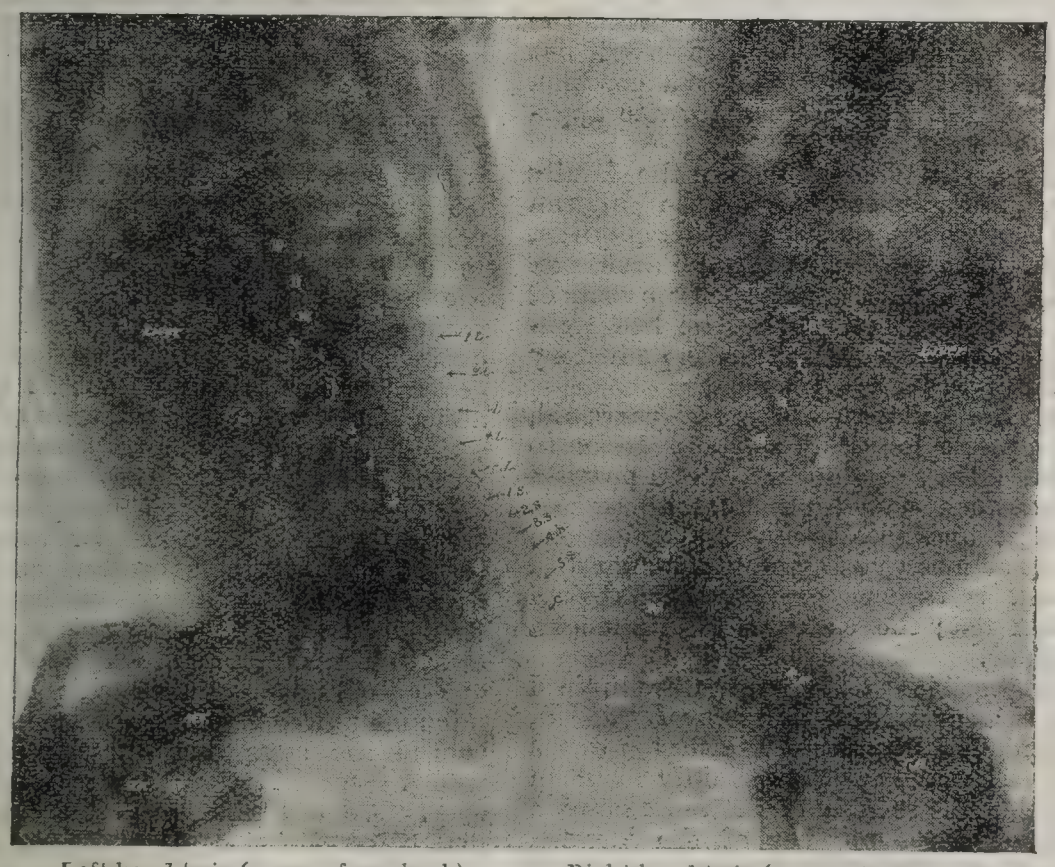

Left-hand twin (as seen from back). Right-hand twin (as seen from back).

Fig. 3.—It is suggested that the vertebrae are as marked by white figures.

The union is fleshy and cartilaginous; it is very firm, and at birth allowed of little lateral movement; the children were almost back to back. There was a good deal of excoriation, due to the torsion at birth. Now, at the age of 2½ years, there is much freer movement, and the children can turn sufficiently to fight or play with each other. It is interesting to compare them in this respect with the two well-known twins, Rosa-Josepha, the Bohemian twins, and Millie-Christina, the Carolina twins. In each of these cases there was very little movement, even at the ages at which they were first exhibited—namely, 13 and 22 years respectively. In the case of the Bohemian twins the bony union was much more extensive than in the

case of my twins, being a complete union of the sacrum and coccyx of each child. By reference to the excellent skiagram, for which I am indebted to Dr. Bailey, it is at once seen that the lumbar and sacral vertebrae are quite separate and distinct; only the coccygeal vertebrae are joined. The light spaces in the abdomen of the second child show, according to Dr. Bailey, the existence of flatulence, and the rectum seems to end in a pouch, with, presumably, a side opening into the rectum of the more perfect child. This reading is borne out clinically, because the second child was much troubled with windy colic. The pulses are not synchronous; at least, I have never been able to demonstrate it.

The interesting question arises, What is the extent of fusion of the spinal cords? I have not been able to elicit any common reflex; the reflexes, both deep and superficial, appear to be quite independent, so one is justified in supposing that, if there is any fusion at all, it must be limited to the caudae equinae, but it is quite probable that there is no fusion at all. In the case of the other two pygopagi, to which I have already referred, the fusion was thought to be limited to the caudae equinae, and the junction was much more intimate and extreme.

The children share a common anus; they have each a separate vulva and vagina; the two labia majora of the one meet those of the other posteriorly. There is an inch of perineum between this junction of the labiae and the anus. Rosa-Josepha have one vulva, but two vaginae. Although the anus is common the rectum is double; I think the act of defaecation establishes that fact, and the evidence of the skiagram is in favour of it. An inch above the anus is a well-defined dimple, which I take to be a rudimentary anus; and the same distance above that another dimple, which occasionally discharges a minute quantity of matter having an offensive smell. This discharge is only noticed when the children are out of health. A probe can be passed $\frac{1}{4}$ inch upwards and forwards.

Of all the pygopagi observed, the bond of union seems to be slightest in these Brighton twins; they approach most nearly to the normal. In the BRITISH MEDICAL JOURNAL of April 30th, 1910, there is an account of a very interesting case seen by Surgeon Riggall, R.N., at Hong Kong. It is a case of male pygopagi; it is not quite clear what the union comprises, whether the vertebrae are involved, but the interesting point is that they also have a common anus and a common rectum. They are otherwise apparently normal and can walk.

In conclusion I may add a short note on the family history of the mother. The grandmother of the children had four separate births of twins, as well as other children, and was herself a twin. The mother of the children was one of these twins. I am told by a member of the staff of the hospital where the father attended that he had well-marked stigmata of degeneration, but there is no history of twin births in his family. He is since dead.

At the present time the children, who are $2\frac{1}{2}$ years old, show no signs of being able to walk, or of any desire to attempt it. The utmost they can do is to stand propped up by a wooden framework which practically supports them. They are bright and intelligent, the elder one especially, and can talk as much as any child of their age. The shape of the head is rather peculiar, the forehead bulging and the vertex flat; the children have almost a hydrocephalic appearance.

The question of the possibility of separation was raised at a meeting of the Sussex Medico-Chirurgical Society, and the unanimous opinion of all present was that it would be an unjustifiable operation, and would certainly result in the death of one child, and probably of both—an opinion with which, in view of our ignorance of the internal arrangements of the viscera and blood vessels of these children, I certainly agree.

THE personal estate of the late Sir George Plunkett O'Farrell, an obituary notice of whom appeared in our issue for July 8th, has been sworn at a value of £20,205.

SURGEON JAMES C. BRINGAN, M.B., has received the King's permission to accept the Insignia of Officer of the Order of the Crown of Italy, conferred upon him by the King of Italy in recognition of valuable services rendered by him on the occasion of the earthquake in Southern Italy in the year 1908.

THE TREATMENT OF SYPHILIS BY SALVARSAN.

BY

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AND

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DURING the past fifteen months about 300 cases have been treated with salvarsan. These include almost all the early and late manifestations of syphilis.

Primary Sore.

The number of cases treated, in which the only clinical evidence of infection was the primary sore, is 22. Two of these received one injection of 0.3 gram as clear alkaline solution intramuscularly, four received 0.4 gram as neutral suspension subcutaneously, the rest were treated by intravenous injection with doses varying from 0.3 to 0.6 gram in dilute alkaline solution (0.1 gram salvarsan in 50 c.cm. normal saline solution). In none of the 22 cases has any symptom appeared since the treatment. The 2 cases treated intramuscularly have been quite well for almost a year, and the serum reaction was negative in both six months after the injection. In 3 of the 4 cases treated with neutral suspension the serum reaction was negative six months after injection. In the fourth case the reaction was still positive after six months. An intravenous injection of 0.5 gram was given, and a month later the serum reaction was negative in this case also. All of the 16 patients treated intravenously received a second injection after three or four weeks. The serum reaction in 7 out of 10 was negative a month after the second injection. The other cases have not yet been examined.

Secondary Stage.

The number of cases of early syphilis treated in which, in addition to the chancre, there were other signs of infection—namely, fever, headache, sore throat, and exanthemata—is 80; of these 6 received, in the first instance, intramuscular injections of clear alkaline solution; 17 received neutral suspension in the scapular region; the rest were injected intravenously. The dosage varied from 0.3 to 0.6 gram, the majority receiving 0.4 to 0.5 gram. Of the 17 cases which received neutral suspension, 8 subsequently received intravenous injections. It is impossible to classify these cases according to the method of injection or the dosage, because some patients were treated by several methods, and the doses depended on the weight and sex of the patients. The general result of treatment in these 80 cases was an almost immediate disappearance of all the symptoms after a single injection. In every instance the chancre healed within a fortnight, and in some cases in five days. Macular and roseolar eruptions disappeared within ten days. Ulcers in the mouth healed within ten days. In 3 of the cases treated by subcutaneous injection of 0.3 gram as neutral suspension, relapse occurred before the treatment was repeated. In 1 case this occurred eight weeks after the first injection, and took the form of iridocyclitis of one eye and slight optic neuritis of the other. A second injection of 0.4 gram salvarsan as neutral suspension caused the symptoms to disappear in a week. Eight weeks later iridocyclitis reappeared, now affecting both eyes. We did not have the opportunity of seeing the patient at the time of the second recurrence. He was treated with mercury, which caused some improvement, but after six months of such treatment the serum reaction was still positive. It is important to note in connexion with this case that the drug in neutral suspension was imperfectly absorbed on both occasions. Considerable swellings were present at the sites of injection several months after treatment. The other 2 cases which relapsed had also been treated with neutral suspension, and in each case the drug had been imperfectly absorbed. Intravenous injections produced immediate disappearance of symptoms in both cases, and the patients are still well six months later.

Late Secondary Stage.

The number of cases treated in the late secondary stage is 32. Each of these had been refractory to previous treatment with mercury. They presented severe lesions of the skin and mucous membranes—for example, deep ulcers involving the subcutaneous tissues, and extensive necrosis of tonsils, soft palate, and turbinate bones. In every case salvarsan produced complete arrest and healing of the local condition. As regards the method of treatment, 7 received subcutaneous injections of neutral suspension in the first instance, and 6 of these received an intravenous injection subsequently. The remaining 25 were each treated by two intravenous injections. In 18 out of the 32 cases the serum reaction was negative one to three months after the second injection; in 6 cases the reaction was still positive three months after the second injection; in the remaining cases the time which has elapsed since treatment is too short to admit of any conclusion.

A woman with secondary syphilis and in the sixth month of pregnancy was treated with 0.4 gram intravenously, repeated after five weeks. A healthy child was born at full time, and six months after the birth both mother and child were in good health.

Tertiary Stage.

The number of cases treated in the tertiary stage is 14, including gummata, indolent ulcers, periosteal thickenings, and severe forms of neuralgia. The gummata disappeared and the ulcers healed in every instance. One case of severe trigeminal neuralgia in a woman who had never had any symptoms of syphilis, but whose serum gave a positive reaction, was cured after an intramuscular injection of 0.5 gram in clear alkaline solution. Severe neuralgic pains in the legs in two syphilitics, twenty years after infection, disappeared after one intravenous injection of 0.4 gram in each case.

Late Nervous Disorders.

The number of cases of general paralysis of the insane treated is 58. In 12 patients there has been a marked amelioration of symptoms, and 6 of these are now free from restraint and pursuing their ordinary work. In addition, 7 cases of locomotor ataxy have been treated. In 3 there has been marked improvement. It must be noted, however, that while distinct benefit has been obtained in "parasyphilitic" conditions, the results are much inferior to those in the more recent manifestations.

Congenital Syphilis.

Three cases of congenital syphilis with late lesions have been treated. Here also the results are less satisfactory than in recent acquired syphilis. The symptoms in such cases disappear slowly, and the serum reaction tends to remain positive. One case of an extensive skin syphilide in a boy of 15 healed excellently, and the serum reaction became negative after one subcutaneous injection (0.45 gram, which was poorly absorbed) and two intravenous injections (0.2 and 0.27 gram).

Advantages and Risks of Salvarsan.

The effect of the injection is, in most instances, immediate, and intravenous administration causes practically no discomfort. One injection is more efficacious than a prolonged course of mercury. Symptoms disappear and ulcers heal rapidly; not merely does this diminish chances of spreading infection, but it saves the patient from the grave consequences of chronic lesions. Cases which have proved refractory to mercury generally yield at once to salvarsan. By intravenous injection the drug is brought into contact with the tissues in maximum concentration; hence the conditions are most favourable for sterilization.

We have given about 400 intravenous injections, and have observed no serious result. The only case showing severe symptoms was that of a man who was seized a few hours after the second injection with severe sickness and vomiting, accompanied by considerable collapse. On the following day jaundice was present. In three days the symptoms had passed off. The first injection had been well borne in this case. A complication which may follow the subcutaneous administration of neutral suspension is the occurrence of extensive necrosis of the skin and the adjacent tissue. Hence this method of injection cannot be recommended. An examination of the literature shows that in most instances fatal results occurred in cases which were in a hopeless condition prior to treatment, or in which the drug had been wrongly administered. Taking into consideration also the fact that salvarsan, as we have been informed by Messrs. Meister, Lucius, and Brüning, has been administered about a million times during the first year of its use, we consider that the unfavourable criticisms regarding the toxicity of the drug are without foundation. This applies to statements regarding danger both of death and also of nerve damage following treatment with salvarsan. The drug compares favourably with cocaine and antipyrin as regards safety of administration, and it is probably safer than ether or chloroform.

Method of Treatment.

Much light has recently been thrown on the latency and chronicity of syphilitic infections. It is probable that mercury, especially as ordinarily administered by the mouth, in the majority of cases renders the infection merely latent, so that there is still the possibility of manifestations of the disease occurring at a later date. The object of treatment is to produce complete sterilization. We would recommend as the best possible means to this end a combined therapy. The treatment should be begun as soon as possible. Where there is the suggestion of a primary syphilitic lesion, even if spirochaetes cannot be found and the serum reaction is negative, treatment should be begun without delay. An intravenous injection of alkaline solution of salvarsan should be given (0.4 to 0.5 gram in the case of a man), and this should be repeated in three weeks. After each injection a course of mercurial inunction should be given. Of course, attention should be paid to general hygiene, and there should be abstention from tobacco and alcohol.

The serum test is indispensable for controlling the effect of treatment. It is not enough that the serum should be negative on one occasion; it must remain negative. As the result of inefficient treatment the serum may become negative only temporarily. An examination of the serum should be made at periods of three to six months, and again a year after all symptoms have disappeared. It cannot be too strongly emphasized that the syphilis reaction must be carried out by those experienced in the use of a reliable method; abbreviated and simplified tests are likely only to prove misleading. Thus, in our experience there is no method so delicate and so uniformly reliable as that involving the use of lecithin and cholesterin, which has been described by Dr. Cruickshank and ourselves.

SALVARSAN IN LEPROSY.

BY

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AND

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ARSENIC in its various forms is a drug that has often been employed in the treatment of leprosy, but it has had little or no influence in arresting the slow but steady progress of the malady. A few cases have, however, been recorded in which it apparently gave satisfactory results. We ourselves have tried in a few selected cases injections of sodium cacodylate and atoxyl. The beneficial results obtained in these cases made us anxious to try salvarsan (dioxy-diamido-arsenobenzol).

The opportunity was afforded by the arrival at Trinidad in December, 1910, of Dr. Rost, of the German cruiser *Freya*, who had a number of tubes of the preparation which had been given to him at Kiel for trial in tropical diseases. He kindly placed some of these at our disposal, came himself to the asylum, and instructed us in the technique of injection.* Wechselmann's method[1] was used, the powder being ground in a sterile mortar into which about 6 to 7 c.cm. of sterile oleum olivarum was gradually poured, and thoroughly rubbed under slight pressure until a fine emulsion was obtained. The needle used for the injection was of rather wide calibre. The preparation of the

* During his stay in Trinidad Dr. Rost, on the advice of one of us, also injected cases of yaws at the St. Augustine Hospital. The wonderful results obtained in these cases have been recently published by Dr. Alston (BRITISH MEDICAL JOURNAL, February 18th and March 18th, 1911).

emulsion took only from three to four minutes, and solution, neutralization, etc., was dispensed with. The injections were made intramuscularly into the buttocks. The patients were then kept in bed for forty-eight hours. The pain caused by the injection varied in individual cases, but was not any greater than the pain experienced in an intramuscular injection of mercury. All the patients, however, complained of intense pain, usually shooting down the leg, beginning from six to twelve hours after injection and lasting from twenty-four to forty-eight hours. This pain often prevented sleep. In three cases of syphilis which one of us subsequently injected by the same method, the pain was so severe that morphine had to be exhibited. In another case of syphilis a sterile necrotic abscess formed at the site of injection. On opening the abscess about three weeks later, some small yellow particles of salvarsan could still be seen. In none of the cases of leprosy was there any abscess formation, but a hard, somewhat sensitive lump could be felt for several weeks after. There was usually a rise of 1° to 2° in temperature.

In all, 9 cases of leprosy were injected—8 tubercular and 1 anaesthetic. Three of the cases were very advanced cases of tubercular leprosy with marked leonine feature. It was rather unfortunate that these cases were chosen, as no result could reasonably be expected.

The cases were injected on January 5th. The three cases referred to above showed no change apart from some slight bacteriolysis of the bacilli taken from beneath the dermis. No observation could be made on one of the patients, as he ran away from the asylum shortly afterwards. The remaining five patients showed some signs of clinical improvement, manifested chiefly in a sense of improved physical well-being, keener appetite, and more energy for work, though there was little change to be noticed in the outward signs of the disease. The patients felt so much better that four of their number were extremely anxious to have a second injection. The fifth declined on account of the pain. A second injection was accordingly given to these four patients on February 5th. Two months later there was little change to be noticed in the outward appearance of three of the cases, though in all there seemed to have been some slight diminution in the size and some softening of the leprous nodules. In the fourth, the anaesthetic case, a large dark macula spot in the abdomen had become much lighter three weeks later, and at the time of this observation, two months later, had almost disappeared.

Though there was little change to be noticed in the outward manifestations of the disease, there was some noteworthy differences in the appearance of microscopic slides taken before and after injection. The preparations were made from scrapings taken beneath the dermis over leprotic nodules. In all the tubercular cases the bacilli were still plentiful; in the anaesthetic case, however, there was a noticeable reduction in their number.

The chief change, present more or less in all the cases, was in the appearance of the bacilli. They had become granular, with coccothrix-like distribution, many being clumped together in granular-like masses. In other cases granules in large numbers were to be seen scattered all over the field. This bacteriolytic change was very pronounced in a few cases—in the anaesthetic case especially, in which it was much more extensive than we have ever seen it, even in cases which have been showing improvement under nastin treatment. The bacteriolysis or degenerative process became most marked about fourteen days after injection. These results agree very closely with those reported by Ehlers[2] from Iceland, where Bjarulyédinsson injected seven cases with tubes supplied to him by Ehrlich.

We would suggest to those who desire to try the drug in this disease that injections should be given every three to four weeks. Early cases should, as much as possible, be selected; Dr. Rost had some hesitation in choosing an anaesthetic or nervous case. To judge, however, from the case selected, we do not think there is any danger in injecting an anaesthetic case, provided, of course, there are no eye symptoms and the kidneys are not diseased.

REFERENCES.

[1] Simple Method of Injection of the Ehrlich-Hata Preparation, by R. Volk (*Wein. med. Klin.*, No. 35, 1910), quoted by BRITISH MEDICAL JOURNAL, EPITOME OF CURRENT MEDICAL LITERATURE, No. 358.
[2] "606" in Leprosy, by Ehlers (*Muench. med. Woch.*, No. 41, 1910), quoted by BRITISH MEDICAL JOURNAL, EPITOME OF CURRENT MEDICAL LITERATURE, No. 344, December 17th, 1910.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF THERAPEUTICS, INCLUDING DIETETICS.

Sir ROBERT M. SIMON, M.D., F.R.C.P., President.

PRESIDENT'S OPENING REMARKS.

THE first meeting of this Section was held in conjunction with that of Anatomy and Physiology, the object in view being a joint discussion on the merits of a low protein diet. Consequently Sir Robert Simon, the President of the Section of Therapeutics, contented himself with extending a hearty welcome to all present, and more especially to those who were the guests of the Association, and then called upon Professor Chittenden to open the discussion.

DISCUSSION ON THE MERITS OF A RELATIVELY LOW PROTEIN DIET.

OPENING PAPER.

By Dr. RUSSELL H. CHITTENDEN,
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THE final justification of all scientific research, whether in the field of pure abstruse science or in the domain of applied science, is unquestionably the power it creates for the service of mankind, but before this power can be utilized it must be created. There must be definite knowledge, concise and accurate, before broad generalization and practical application can be hoped for. The methods of science are characterized by precision, by accuracy, as distinguished from the ordinary everyday methods of life. It is relatively easy to form opinions based mainly upon general impressions, upon evidence lacking in scientific accuracy, but opinions originating in this manner are very prone to be unreliable. They certainly lack the power of convincing the critical mind, thus differing from the opinions based upon the testimony of trustworthy observations. No matter how sceptical the attitude of mind, a careful record of accurate data in any branch of science is sure to gain the respectful attention of thoughtful people, because it represents detailed evidence of a definite character.

I am prompted to make these somewhat general statements because of the desire to emphasize the view that dietetics, as a part of the physiology of nutrition, is entitled to the same careful study as any other branch of biological science, and that the opinions and theories connected therewith should be formulated upon evidence that is both comprehensive and reliable. I know of no reason why the scientific method, with its highest attainable accuracy, should not be applied to the study of the amount and character of the daily food required by man; yet there seems to exist in many quarters at least a strong sentiment that "the orthodox physiological faith" must not under any circumstances be interfered with. This faith is based mainly upon general impressions, which in turn are predicated upon the everyday practices of mankind. In nearly every civilized country careful study has been made of the character and quantity of the food eaten by different classes of people, of different ages, sex, and body weight, and under diverse conditions of season, climate, and occupation. From the thousands of observations so made certain general conclusions have been drawn regarding the requirements of the body for food. Certain dietary standards have been adopted, which have

had general acceptance for many years. We are told these must be right because they represent the food habits of the people. If it were wise to argue along this line, attention might be called to the fact that the customs and habits of mankind—even among the most highly civilized—are clearly not always in accord with physiological laws. Why, then, should it be assumed that in the matter of diet the customs and habits of mankind are in harmony with the physiological needs of the body? The physiologist may well be pardoned for asking why is there necessarily any definite relationship between true physiological requirements and the general practices of mankind.

Every student of nutrition will, I think, admit without argument that the quantity of food consumed daily should be proportional to the needs of the body. Sir James Crichton-Browne,[1] who has done me the honour to criticize quite freely some of the conclusions I have arrived at on the subject of human nutrition, states in his book, *Parsimony in Nutrition*, that "fuel for heat and energy, stuff for repair, in proportion to work done and waste incurred, must be requisitioned if a man is to live and prosper, and any excess or deficiency in these is followed by impairment of strength and vigour, by tissue degeneration, and by diminished resistance to the inroads of disease." The views expressed by this statement are in close harmony with my own opinions, and they are perhaps worthy of emphasis at this time as showing the general acceptance of the view that the object of food is to supply energy and material for tissue repair. Further, the amount to be supplied needs to be proportional to the work done and the tissue waste incurred.

Here we have presented a fundamental proposition, with emphasis also laid upon another equally important point, that any excess or deficiency in the quantity of the food is liable to be followed by more or less disastrous results. This being the case, it is obviously a matter of some moment to determine how much food is needed by the average man, under ordinary conditions of life, to repair tissue waste, and to furnish fuel for heat and work. In such an important matter as this are we to accept unquestioningly dietary standards based simply upon the everyday habits of mankind, under the belief that because civilized people make a practice of eating daily a certain amount of food that quantity must represent the real needs of the body?

There is no more important question before the medical profession to-day than how to increase the efficiency of the individual and of the race. Preventive medicine holds out the promise of relief in many directions, and there is certainly ground for the belief that dietary habits brought closely in accord with the true physiological needs of the body may prove a factor in helping to increase man's greatest assets—namely, health, strength, capacity for work, and resistance to disease. What are the true physiological needs of the body for food? This is a purely scientific question, to be answered by strictly scientific methods of study, but its importance is in no degree lessened by the fact that the answer may have practical as well as physiological significance. Indeed, if perchance an accurate study of the problem eventually brings us to a clearer understanding of the true relationship between man's intake of food and the real needs of the body, then much practical good may ultimately result.

The present-day standard of food requirements—that is, the standard adopted by most physiologists and by the medical profession at large, following the suggestions of Professor Voit—is that the average man, under average conditions of life, doing moderate work, requires 118 grams of protein food, with sufficient fat and carbohydrate to yield a fuel value of at least 3,050 large calories per day. Further, the Voit standard increases the daily allowance, under hard work, to 145 grams of protein, with fat and carbohydrate sufficient to give a total fuel value of 3,370 calories. In America, the Atwater standard for a man doing moderate work places the daily protein requirement at 125 grams, with sufficient fat and carbohydrate to yield 3,500 calories. Moreover, it has been considered that these standards, based solely upon the average daily food consumption of mankind, represent the minimum of what is necessary for the maintenance of health and strength. In the words of Sir James Crichton-Browne, "These standards are to be taken, not as boundaries, which it is hazardous to transgress occasionally, or even habitually, in an upward direction, but as limits below which there should be no descent, if health and strength are to be maintained."

In my study of this problem I have so far been occupied mainly with the question of the protein requirement, chiefly because this is not a variable dependent upon the extent of bodily activity, upon the amount of physical work done, as is the case with the fats and carbohydrates. The energy requirements of the body are met mainly by the non-nitrogenous foods, and these must necessarily vary in amount with the variations in activity. The protein requirement, on the other hand, is essentially constant for the individual, assuming that carbohydrate and fat are consumed in amounts sufficient to meet the needs of the body for energy-yielding material. Contrary to the old-time views, protein food is not the source of the energy of muscle work, and thus the need of this type of food is limited to meeting the waste of tissue material. This is a very vital need, which can be met by no other form of food, and the quantity required is dependent mainly upon the weight of the body, or more accurately upon the weight of the protein-containing tissues of the body. Expressed in different language, an amount of protein food is required sufficient to repair the waste incidental to the breaking down of the tissue cells with their contained protoplasm—a process which is going on continually during the life of the tissues. The extent of this tissue waste may be measured by the amount of nitrogen excreted through the urine. Incidentally it may be mentioned that the output of nitrogen is not materially influenced by the degree of bodily activity under ordinary conditions of life, thus showing that protein is not drawn upon for the energy of muscle work. The one striking factor that does influence the output of nitrogen through the kidneys is the amount of protein food consumed, any increase in the quantity of protein food eaten being at once followed by a corresponding increase in the excretion of nitrogen, thereby affording evidence that the body does not possess the power to any marked degree of storing up protein. This fact suggests another important principle—namely, that any excess of protein food over and above what the tissue cells really need for their daily repair is in large part waste, entailing unnecessary labour on the part of the organism, and at the same time exposing the tissues and organs to the possible deleterious action of this uncalled-for excess of nitrogenous waste products prior to their elimination from the body. The only tenable arguments that can be advanced as opposed to this view are, first, that the non-nitrogenous moiety of the protein molecule plays some part in the organism that the ordinary non-nitrogenous foods cannot play, and that in consequence the excess of nitrogenous waste must be endured in order to secure the beneficial effects of the carbon-containing portion of the molecule. For this view, however, there are at present no adequate grounds of support.

The second argument that may be advanced is that an excess of protein food is needed in order to secure the stimulating effect upon metabolism that is characteristic of this type of food. To this it may be stated that while excess of protein food undoubtedly does stimulate protein metabolism and at the same time the metabolism of non-nitrogenous matter, this fact may be cited with even greater force as an argument against the excessive use of protein food. Why should there be undue, unnecessary stimulation of metabolism in general? It is agreed that the intake of food should be proportional to the needs of the body, to supply the needed energy and repair the waste of tissue. The smallest amount that will suffice to ensure equilibrium, health, strength, and vigour constitutes the ideal quantity of food. Anything beyond this is unnecessary and physiologically wasteful. Why stimulate body metabolism to an undue degree merely to burn up an excess of fuel? There would seem to be no good physiological reason for such a procedure. It stands opposed to physiological good sense. In fact, this peculiarity of protein food constitutes one of the reasons for the belief that an intake of protein beyond the real needs of the body is wasteful and may prove deleterious.

Another reason for studying the protein requirement of the body is that this form of food, looked at as fuel, does not burn up completely to simple gaseous products, as do the fats and carbohydrates. While the latter undergo

complete oxidation to carbon dioxide and water, when not conserved for future use by conversion into tissue fat and glycogen, the protein food is transformed into a row of nitrogenous waste products of varying complexity, and presumably endowed with a certain degree of physiological activity. As the protein food cannot be conserved by the body when taken in excess, it follows that in such a case its intake must be accompanied by a corresponding increase in the production of these nitrogenous waste products, and it might be expected that under such conditions measurable effects on the economy would be produced. In other words, the consumption of an excess of protein food might reasonably be expected to show results distinctly different from what would follow an excessive intake of non-nitrogenous food.

In trying to gain light on this subject of the protein requirement of man, numerous experiments have been attempted, the results of many of which have already been recorded.[2] I have become satisfied that the Voit and Atwater standards call for amounts of protein food far beyond the requirements of the body. Instead of representing the minimal amount of protein food below which the daily dietary should never fall, the data obtained seem adequate to justify the statement that these standards repr sent an amount of protein food far above the physiological needs of the body, provided the total calorific value of the food is sufficient—far more than is required to maintain body weight, nitrogen equilibrium, health, strength, and vigour. Indeed, observations and experiments covering now a period of some years lead me to the opinion that a lowered intake of protein food is conducive to health and increased efficiency.

At the risk of repetition, let me state that, in my judgement, under no conditions can the true food requirements of the body be ascertained with any degree of accuracy by observations of what people are in the habit of eating—that customs and habits are not a safe index of true physiological needs. On the contrary, I am inclined to the belief that direct physiological experimentation, covering a sufficient length of time and with an adequate number of individuals, will prove far more efficient in affording a true estimate of the quality and quantity of food best adapted for the maintenance of good health and resistance to disease. As a general summary of my earlier experimental results I have ventured the opinion[3] that the need for protein food by adults may be fully met by a daily metabolism equal to an exchange of 0.12 gram of nitrogen per kilogram of body weight, provided the amount of non-nitrogenous food is sufficient to supply the energy requirements of the body. This means a katabolism of three-fourths of a gram of protein matter daily per kilogram. Remembering, however, that the intake of protein food must be somewhat in excess of the actual protein katabolism, since not all of the protein of the food is available, and as this is a variable amount, depending upon the proportion of animal and vegetable foods, with their different degrees of digestibility and availability, a daily intake of 0.85 gram of protein per kilogram of body weight may be considered as adequate, still keeping to maximum figures for safety's sake. Hence, for a man weighing 70 kilograms, or 154 lb., 60 grams of protein food daily would be amply sufficient to meet the needs of the body. These, I believe, are perfectly trustworthy figures, with a reasonable margin of safety, and carrying perfect assurance of being really more than adequate to meet the true wants of the body, sufficient to supply all physiological demands for reserve protein, and able to cope with the erratic requirements of personal idiosyncrasies. It will be observed that such an intake of protein food daily is equal to one-half the Voit standard for a man of this weight, while it is still further below the Atwater standard, and far below the common practices of mankind in Europe and America, as indicated by the published dietary studies.

These general statements, I may add, are predicated upon the results of daily observations of twenty-four individuals on a restricted diet of definite composition, for periods ranging from five to eighteen months, in which the excretions were analysed daily, thus obtaining a measure of the extent of the nitrogen metabolism in each case. Further, the nitrogen intake being determined, data were available for ascertaining the character and extent of the nitrogen balance, etc., which, reinforced by observations on body weight, blood count, reaction time, strength and endurance tests, and all other accessible methods of studying the health and condition of the subjects, afforded, it would seem, adequate means of determining whether the lowered intake of protein food was followed by any undesirable results. With a gain in body weight, though the total fuel value of the day's food never exceeded 2,800 calories, and frequently with many individuals was much below this figure; with a *plus* nitrogen balance, thus showing that the body was not drawing upon its tissues for support; with a gain in strength and endurance; and with a general feeling of good health and efficiency, how could any other conclusion be drawn than that this relatively low intake of protein food was quite adequate to meet the physiological needs of the body?

All this may be perfectly true, says the critic; but what will be the effect on the economy if this reduced quantity of protein food is continued for many years? As to this I can merely say that there is one man in my laboratory—one characterized by maintaining a very low level of nitrogen intake—who has persisted in this practice for over seven years, and as yet without suggestion of anything but benefit to his health and efficiency. I am strongly of the opinion, however, that a very considerable number of people habitually live on a much smaller amount of protein food than is called for by the commonly accepted standards. In making this statement I do not refer to those unfortunate persons who, through want, seldom know what it is to have sufficient and proper food for the nourishment of their bodies, but to persons in affluent circumstances, who either through good judgement, a natural lack of strong appetite, or from an acquired habit of partaking sparingly of protein food, do live at a level of nitrogen intake far below that which we are told it is necessary to maintain if health and strength are desired. Indeed, I consider it somewhat doubtful if healthy men, doing a moderate amount of work, do actually consume on an average the amount of protein food called for by the ordinary standards. With a view to gathering a few facts on this question, a large number of examinations were made of healthy individuals, mostly young, vigorous men, students in the university; some of athletic build and tendencies, others slender and inclined to take little physical exercise. The twenty-four hours' urine was collected and the total amount of metabolized nitrogen determined, the subject taking his usual amount and character of food. One hundred and eight persons were so studied. The average body weight of these individuals was 66.2 kg. The average daily amount of nitrogen eliminated through the urine by these 108 persons was 12.87 grams, as against the 16 grams which would be eliminated on an intake of 118 grams of protein. In other words, these individuals—108 in number—showed on an average 0.194 gram of nitrogen per kilo of body weight as the amount metabolized in the twenty-four hours.

To give the matter due emphasis, it may be stated again that on the basis of the Voit and other similar standards, the minimal amount of protein food required per day is 118 grams, which would result in 16.00 grams of metabolized nitrogen. This would mean practically 0.228 gram of nitrogen per kilogram of body weight. It is thus evident that the 108 individuals selected at random from among a large group of men were plainly taking a very much smaller amount of protein food than is generally considered as necessary for good health, as evidenced by the amount of metabolized nitrogen they were excreting daily. As an illustration of the extremes of body weight, it may be mentioned that some of the individuals studied had a body weight of 96.8, 95.1, 89.0, 80.0 kg., etc. On the other hand, some of the individuals were of small stature, weighing only 53.0, 52.0, and in one instance 45.0 kg. The average body weight, however, as stated, was 66.2 kg. The nitrogen excretion through the urine in these 108 individuals ranged daily from 7.70, 8.23, 8.80, 9.20, and 9,30 grams, up to a maximum of 18.08, 19.59, 19.80, and 23.16 grams per day; the average, as stated, being 12.87 grams. In one individual, with a body weight of 54.8 kg., the daily output of metabolized nitrogen was only 5.80 grams. Yet these men were apparently strong, healthy individuals some of them indulging in vigorous athletic work, while as a group they represented the average type of vigorous manhood common to most university centres. Are we to assume that this large group of men, taking on an average

only 80 per cent. of the amount of protein food generally considered essential for health, were all in danger of nitrogen starvation? Certainly if the Voit standard of 118 grams of protein food represents the limit below which it is not safe for the average man to drop, then these individuals were living at a dangerously low level of nitrogen intake.

In the following table are given the data of 36 of these individuals—just one-third of the total number

Metabolized Nitrogen per Day—that is, Nitrogen in the Twenty-four Hours' Urine.

Subject.	Body Weight.	Nitrogen.	Nitrogen per Kilo of Body Weight.
	Kilos.	Grams.	Gram.
1	71.4	8.95	0.125
2	66.8	8.84	0.132
3	61.8	9.97	0.160
4	59.3	10.49	0.176
5	53.9	6.95	0.110
6	61.4	10.01	0.163
7	64.6	10.94	0.169
8	65.2	9.20	0.141
9	54.1	10.46	0.193
10	56.8	10.72	0.188
11	66.0	10.72	0.162
12	58.1	10.01	0.172
13	61.1	8.23	0.134
14	60.5	10.10	0.166
15	63.2	9.10	0.143
16	63.5	10.10	0.159
17	64.0	10.20	0.159
18	64.3	10.36	0.161
19	68.7	10.92	0.158
20	83.3	10.30	0.123
21	68.5	9.20	0.134
22	73.0	7.00	0.095
23	42.0	7.50	0.178
24	52.0	8.50	0.163
25	52.0	9.80	0.188
26	56.0	9.60	0.171
27	59.6	10.60	0.177
28	63.5	9.30	0.146
29	45.0	6.00	0.133
30	53.2	7.70	0.144
31	54.2	7.11	0.131
32	54.8	5.80	0.105
33	67.2	9.10	0.135
34	66.1	8.80	0.133
35	72.2	10.80	0.149
36	75.5	10.40	0.137
Average	61.7	9.27	0.150
Voit standard	70.0	16.00	0.228

examined—in which it is seen that 33 per cent. of the 108 persons showed an average excretion of 9.27 grams of metabolized nitrogen per day. Expressed in terms of nitrogen per kilogram of body weight, this is equal to 0.150 gram—not very much above the figure found with the 24 experimental subjects previously referred to. Expressed in different language, these 36 individuals were metabolizing on an average 58 grams of protein per day—that is, they were by choice living on a daily diet which contained approximately 68 grams of protein food, and yet there was nothing about their appearance, their physical or mental activity, or their state of health, that was suggestive of lowered vitality or diminished efficiency. A glance at the accompanying table of figures shows that while many of these 36 persons were of relatively slight body weight, several were above 70 kilograms in weight, and one weighed 83 kilograms. With three exceptions, it happens that this, the heaviest individual of the group, showed the lowest figure for metabolized nitrogen per kilogram of body weight.

How are we to reconcile such data as these with the statement so frequently made that the Voit standard of protein intake represents "the limit below which there should be no descent, if health and strength are to be maintained"? Are we to assume that all these young men were unconsciously undermining their health, gradually destroying their vitality, and paving the way for the encroachment of disease through faulty habits of life? If so, it is a sad outlook for young America if these men, picked at random from a group of several thousands, truly represent the dietary customs of any considerable number of the youth of the land. If, however, there is truth in the statement made by Sir James Crichton-Browne, that "natural instinct or primitive experience has guided the different varieties of our species in their selection of viands suitable to their geographical situation and modes of life, has restrained them within proper bounds in their consumption of these, and has taught them to combine and balance the different constituents of these in a way on which chemical science can scarcely improve"; or in the statement credited to the late Sir William Roberts, "that the food customs of mankind must be regarded as the outcome of profound instincts which correspond to certain wants of the human economy," why not grant as a possibility that these 108 persons were being guided by an instinct worthy of just as much credence as the instinct or appetite that prompts another group of men to consume daily twice the amount of protein food? Will not this kind of argument apply with equal force in either direction and perhaps serve as an illustration of the questionable value of human instinct as a guide in meeting the physiological needs of the body?

Let me now bring to your attention another group of men, subjects of a lengthy experiment recently completed in our laboratory. These men were six in number, ranging in age from 21 to 29 years, and in body weight from 51 to 70 kilograms. During a period of four months and a third these persons were under careful scrutiny, accurate data being collected daily of food consumption, food composition, urine excretion, and faecal discharges, together with a determination of the chemical composition of the daily excretions, etc., reinforced by clinical and medical examinations, bacteriological study of the faeces, blood count, etc.

During this period of 130 days the intake of nitrogen in the form of protein food by each of these subjects was determined by actual analysis each day, as was also the total output of nitrogen through the urine. The following table shows the averages per day for each subject during the entire period of 130 days.

Averages per Day.

Subject.	Intake of Nitrogen.	Intake of Protein.	Output of Metabolized Nitrogen.	Amount of Protein Metabolized.
	Grams.	Grams.	Grams.	Grams.
1	11.42	71.3	8.78	54.8
2	11.54	72.1	8.68	54.2
3	12.74	79.6	9.54	59.6
4	12.68	79.2	9.61	60.0
5	12.51	78.1	9.67	60.2
6	11.23	70.1	8.69	54.3

The point to be emphasized here is the contrast between the so-called standard daily intake of 118 grams of protein with the accompanying 16 grams of metabolized nitrogen, and the 70 odd grams of protein food consumed daily by these subjects with the 8 to 9 grams of metabolized nitrogen.

These subjects were not fed on a prescribed diet, but had reasonable freedom of choice, both as to quality and quantity, though the amount of meat eaten daily was kept

within somewhat narrow limits. The total fuel value of the daily food in the case of Subject No. 1 varied from 2,400 calories to 3,500 calories, while the average daily fuel value of the food eaten by the six subjects, expressed in calories, was respectively: 2,975, 3,340, 3,650, 3,400, 3,100, 2,750.

It is thus evident that the subjects were consuming daily a fairly large amount of food, but with the protein components reduced to about 63 per cent. of the minimal quantity called for by the Voit standard. The subjects were all leading a reasonably active life, working in the laboratory eight hours a day, during the period of the experiment, and therefore had need of a fairly large fuel value in their day's ration.

Daily analyses of the urine of each subject were made during the entire period of 130 days, in which in addition to the total nitrogen, the urea-nitrogen, purin-nitrogen, uric acid-nitrogen, creatinin-nitrogen, ammonia-nitrogen, total sulphur, inorganic sulphur, ethereal sulphur, phosphate-phosphorus, indican, total acidity, etc., were determined with a view to ascertaining whether any deviation from the normal in the partition of the excreted nitrogen could be found, and also whether any changes in the metabolism of sulphur and phosphorus, or in the ratio of sulphur and phosphorus to nitrogen, could be detected. The results were entirely negative in character, thus showing that the lowered intake of protein food had not produced during the period involved any changes in metabolism recognizable by available methods of study.

Equally important are the data collected showing the utilization of the nitrogen and fat of the food during the period of the experiment. Knowing the amount of nitrogen contained in the daily food, and also the amount of fat therein, analyses of the faeces of each of the subjects furnished the necessary data for determining the degree of utilization by the body of both the nitrogen and fat. In this connexion it is to be noted that the amount of fat eaten by all the subjects was relatively large. Consequently, the conditions were favourable for showing even a slight impairment of the digestive functions, if the lowered nitrogen intake tends to produce such a result. The daily average amount of fat eaten by the six subjects, expressed in grams, was respectively as follows: 110, 131, 134, 138, 132, 91.

The following table shows the average utilization of nitrogen and fat per day by each of the subjects for the period of 130 days:

Subject.	Utilization of Nitrogen.	Utilization of Fat.
1	89 per cent.	98 per cent.
2	90 ,,	98 ,,
3	89 ,,	97 ,,
4	88 ,,	97 ,,
5	88 ,,	97 ,,
6	88 ,,	98 ,,

Remembering that a daily diet having a fuel value as high as that made use of by these subjects with such a relatively small amount of protein must necessarily contain a rather large proportion of vegetable matter, it is seen that the utilization of both nitrogen and fat was certainly not below that to be expected of individuals in a good condition of health. Further it was noticeable, as the experiment progressed, that the utilization of nitrogen and fat showed a tendency to increase rather than decrease. It is perfectly plain, therefore, that in this experiment there was no impairment of the digestive functions as a result of the smaller quantity of protein food taken. Moreover, throughout the entire experiment all of the subjects showed a *plus* nitrogen balance, thereby affording convincing evidence that the daily amount of protein consumed was quite adequate to meet the needs of the body. Otherwise the tissue protein would have been drawn upon in greater or less degree, and a corresponding *minus* nitrogen balance would have resulted. The body weight was equally well maintained. Indeed, at the close of the experiment all of the subjects showed a gain in weight varying from a quarter of a pound to six pounds.

This is not the place to enter into any detailed discussion of results; but I may add that periodical blood counts, haemoglobin determinations, bacteriological examination of the faeces, etc., all harmonized with the chemical findings and with the conclusions of the medical examiner, who stated that "the men appeared to be in better general condition at the conclusion of the test than they were at the start." Plainly, if men can live for more than a third of a year on such a relatively low intake of protein food and show to the unprejudiced observer a gain in general condition, with a complete absence of any chemical finding significant of deleterious effect, may we not be pardoned for the belief that the general faith in the necessity of a high protein ration as an essential for good health is fallacious?

In a recent report[4] of a comparison of the methods of fiscal control of State institutions there is found the following paragraph: "The question at once arises whether the institutions that are furnishing the smallest amount of protein and calories per day are feeding enough, or whether the ones that are furnishing the larger amounts are feeding too much. . . . The general conditions in the institutions under consideration should be ground for passing judgement as to the necessity of furnishing the large amounts of protein and calories given by some of the institutions. For instance, Bedford Reformatory for Women, in New York State, has about 300 able-bodied women. Many of these women work hard at manual labour for a portion of the time. They have constructed the conduits for steam pipes running from building to building, doing all the excavating by hand; they have built long tiers of concrete stairways; they have laid many hundreds of feet of cement sidewalk; they have graded the grounds; they cultivate the farm. They are vigorous, active women, and the superintendent, who has given years of study to dietetics, states that they are not only now in excellent health, but have continuously been so during her years of observation. These women are furnished daily but 81.92 grams of protein and 2,629 calories, as based on the food list given." At Lafayette, Indiana, at the Soldiers' Home, the report states that the health conditions are apparently as good as could be expected, considering the age of the men. They are satisfied with their food; they receive all they desire to eat; yet this institution furnishes, per day, 19 per cent. less protein and 27 per cent. less calories than does the State institution in Iowa, feeding exactly the same class of inmates. At Fort Wayne, Indiana, the inmates are given only 77.6 grams of protein per day, with 2,838 calories, and yet the condition of the inmates is said to be excellent. While it may be admitted that statistics such as these are not strictly scientific, yet they are, perhaps, worthy of some consideration, as tending to show that a dietary falling far below the Voit standard in its content of protein is found adequate to meet the wants of the individual.

In this connexion it may be interesting to call attention to the results of the studies on the protein requirements of dairy cows recently reported from the University of Wisconsin, in which the authors[5] state that rations of medium protein content on an average proved more economical and more effective, both absolutely and relatively, for dairy cows than rations of high protein content such as approach the German standard rations.

Of greater interest and broader physiological value is the work of Professor McCay,[6] of the Calcutta Medical College, on the metabolism of the people of Bengal and its bearing on the problems of nutrition—work that is truly scientific and thorough in character, and which must command the respect of any one who studies it understandingly, even though he may not be able to accept all of the conclusions presented. McCay finds that the average daily amount of protein material metabolized by the Bengali is about 37.5 grams, the equivalent of 6 grams of nitrogen. "It is therefore obvious" (says McCay) "that so far as our analyses go they bear out in every detail all that Chittenden has contended for—namely, the feasibility of maintaining the body in a condition of nitrogenous equilibrium over long periods of time on a diet whose protein or nitrogen value is one-third of that usually accepted as necessary for the needs of the system. Regarding the people with whom we dealt, this low protein intake is the ordinary amount present in the average diet of the whole population; on this amount they subsist during all the years of their life."

The results presented plainly substantiate the view that the race can exist on a dietary the protein content of which is less than half that demanded by the ordinary standards. It is contended, however, that "the miserable standard of the Bengali's physical development is seemingly entirely due to the low scale of protein absorption." Further, the general lack of good health, lack of vigour and capacity for manual labour, the low resistance to disease and infection, are all attributed to the low level of protein metabolism at which these people live. It is claimed that "with a diet poor in nitrogen, individuals are produced who are deficient in muscle, poorly supplied with blood, and who exhibit defective development." In a word, it is generally considered that the results of this admirable study of the nutrition of the Bengali furnish convincing proof of the total inadequacy of a low protein diet.

In the brief time at my command it is not possible to discuss this problem with the thoroughness which it deserves, yet I cannot pass by the many data presented by McCay, since they are generally assumed to stand strongly opposed to the conclusion I am attempting to draw. In order to be as concise as possible, let me state at once that I see in these data obtained with the people of Bengal nothing that is truly antagonistic to the views I am presenting. I see rather a lack of appreciation of the true significance of the data published by McCay, and a failure to grasp their real bearing. Everything that appears detrimental is credited to low nitrogen, while, as a matter of fact, it is the *character* of the food that is more liable to be responsible. Let me quote from McCay regarding the diet of the Bengali: "A point of considerable importance brought out by the analyses is the large quantity of nitrogen in the faeces. During the four days (of an experiment) no less than 25.42 per cent. of the total nitrogen of the food reappeared in the faeces, having passed through unabsorbed. . . . These diets, however, are all entirely of a vegetable nature, and practically all the nitrogenous element is derived from rice and dhall. With an ordinary vegetable diet we expect an average of about 85 per cent. of the protein to be absorbed, but, as will be apparent from our observations on prisoners and others, a much lower percentage is absorbed from diets of the above type. For the present we are unable to state dogmatically what the cause of this large amount of unabsorbed nitrogenous material in the faeces is, but from the few observations made we consider it mainly to be ascribed to the dhall, and more particularly to dhall of a certain type. The whole question of the large nitrogenous residue characteristic of Bengalis is an important one, and requires careful investigation. A splendid opportunity for the growth of micro-organisms with its attendant intestinal prutrefaction and toxaemia is provided, predisposing to numerous pathological conditions, such, for instance, as septic ulceration of the gums, intestinal catarrh, and diarrhoea, dysentery, and anaemia. These are all exceedingly common disorders met with in the out-patient department of a general hospital."

Again, "large quantities of rice have to be given in order to obtain the necessary amount of protein; this leads to an excessive intake of carbohydrate. Compared with Voit's diet containing 500 grams of carbohydrate, the food provided shows a great abundance of the carbohydrate element. On the other hand, the fat element is deficient. . . . We may conclude," says McCay, "from an examination of the above types of diet, that, simply as a means of providing fuel for the system, there is a very heavy wastage, while the constant fermentation and putrefaction made possible by the copious nitrogenous residue in the alimentary canal must form a source of chronic irritation to the mucous membrane of the bowel, predisposing to intestinal catarrh, diarrhoea, etc. At the same time, the products of the putrefactive micro-organisms on absorption lower the general vitality, causing anaemia, toxaemia, and many other symptoms of ill health."

Could we ask for any better description of an ill-balanced ration? and is it to be wondered at that a race feeding continuously on such an inferior diet, with the effects naturally consequent thereto, should fail to attain the European standards of health and strength? In the words of McCay, "they (the diets of the Bengali) are one and all bad in every respect, and particularly bad in that the large waste in the alimentary canal allows excessive micro-organismal development and formation of toxic compounds. As we already have had occasion to point out, this must assuredly be a factor in the prevalence of intestinal disorders and in the causation of diseases." What bearing have these results, interesting and important though they are, upon the merits of a proper low protein intake, where the diet is well balanced and with a proper degree of digestibility and availability? There is no difficulty, under most conditions of life, in maintaining a relatively low nitrogen intake with an adequate fuel value by the use of foodstuffs that are reasonably digestible and available, with freedom from excessive waste in the intestine. Surely, then, this peculiar irrational diet of the Bengali, with its large proportion of rice and indigestible dhall, cannot be considered as typifying a true low protein diet. Rather is it an example of an unbalanced, unphysiological ration, the ill effects of which might reasonably be expected. The fact that the diet is low in nitrogen is merely an incident of minor importance, and without any necessary causal relation to the effects which apparently follow its use. Further, what evidence is there that in the substitution of a little wheat, for example, with its large content of protein, for a corresponding amount of rice, the beneficial effects said to be produced—as in the contrast of the Behari with the Bengali—are due to an increase in the nitrogen of the daily dietary? Is it not equally plausible to assume that the wheat furnishes something which, added to the other constituents of the diet, increases the efficiency of the whole, as the action of lime-juice in scurvy? Is not this possibly an illustration of what we are gradually coming to recognize more clearly in dietetics—namely, that in the nutrition of the body there are many factors, aside from nitrogen and calories, that play a part in determining proper nutritive conditions? I have seen dogs, for example, go to pieces quickly on a given vegetable diet, while the substitution of a little meat or milk for a portion of the vegetable matter, but with the same total of available nitrogen, is followed by a satisfactory condition of health.

We may well agree that a dietary composed of a limited number of substances, with its contained protein difficult of digestion, forming a large mass of fermentable matter in the intestine, and thereby provocative of diseased conditions, might in large measure be advantageously replaced by a high protein-containing food of easier digestibility, such as wheat or meat, or both, but I fail to see any convincing evidence that the possible gain therefrom must be due to the higher nitrogen intake. There are other factors to be considered, aside from nitrogen, deserving of equal consideration. One of the great advantages of a mixed diet, of animal and vegetable origin, is the assurance which it gives of an adequate supply of the different elements that combine to make a well-balanced dietary. The daily use of a too restricted food list is liable to be attended by a dearth of one or more elements that are as essential for the welfare of the body as nitrogen. It is not safe to ignore the part played by calcium, phosphorus, potassium, and sodium, for example, in the maintenance of normal nutrition, while the ratio of these elements to the available protein, carbohydrate, and fat of the diet must also be given consideration.

Again, there is in many quarters an apparent lack of appreciation of the sharp distinction to be drawn between the needs of the growing infant and the developing child, as compared with the full-grown adult. What physiologist would think for a moment of applying to the two the same rule of x grams of protein per kilogram of body weight? Is it not obvious that the adult needs protein primarily to supply the natural waste of tissue and to make good the loss from secretions? He has no other need for protein; he cannot store it up under ordinary conditions; he cannot make additional tissue cells, for he has attained his growth. The infant and the growing child, on the other hand, have need of more protein in proportion to their body weight, since they require this form of food for the making of new tissue if they are to grow to normal proportions. Obviously, therefore, it is not logical to base the physiological needs of the adult per kilogram of body weight upon the consumption of protein by the growing infant. And yet Sir James Crichton-Browne tells us "that more authoritative, it may be thought, than any indications given by the diet of animals must be the voice of Nature herself in relation to human nature. What

does she prescribe at a time when no artificial dietetic habits have been formed, when there has been no artificial stimulation of appetite? What amount of protein does she allow the infant when feeding on her patent inimitable food—breast milk? This reference, if made by Chittendon's own method, is absolutely fatal to his position. His invariable criterion in his experiments is body weight, and by that criterion he is condemned; for an infant a week old, weighing 8½ lb., consumes daily 400 grams of mother's breast milk, giving 8 grams of protein, 2.07 per kilo of body weight, 1.32 total nitrogen, and 218.08 calories of fuel value—that is to say, a man weighing 70 kilos, or 154 lb., would on this infant scale have 154 grams of protein per diem, or 27 grams above the Voit standard, and two and a half times Chittenden's maximum." Arguments such as this, in my judgment, only serve to befog the issue, and emphasize the current lack of appreciation of the true nature of the problem. I may add, however, that in the case of people living habitually on an irrational diet, as the Bengali, the lack of good physical development and the attendant lack of stamina may well be attributed to a dearth of available protein in the early years of childhood, associated, as it no doubt is, with a deficiency of other components equally necessary for proper growth and development.

In this connexion it is worthy of note that Rubner, of Berlin, in contrast to the prevailing idea, maintains that protein is not only not present in large amounts in the diet during the early period of growth, but contributes a surprisingly small portion. This very competent authority[7] states that "in the maintenance diet of suckling infants only 5 per cent. of the calories are derived from protein, 95 per cent. being furnished by fats and carbohydrates. I have not the slightest doubt" (says Rubner) "that if a food which is as suitable as milk were available for adults, we could, as a rule, get along with equally small quantities of protein. If the nutritive requirement of the suckling is translated into terms of the daily metabolism of an adult of 70 kg., 2,547 calories, the 5 per cent. equivalent of this—namely, 128.3 calories—is obtained as the minimal protein metabolism. Since 1 gram of nitrogenous substance is equivalent, according to the customary assumption, to 4.1 calories, the total nitrogenous metabolism is expressed by the above 128.3 calories, or 31.4 grams of protein. In presenting this I have merely applied to the adult the conditions which actually pertain in the suckling. The difference between this and the observed protein consumption (118 grams) in the mixed diet of an adult is simply enormous."

Again, Rubner states in another place[8] that "*The diet of the suckling is not rich in protein; on the contrary, it is exceptionally low in protein.*

"This is a fact which appears to be of significance for judging the importance of the use of protein in later periods of life. If man gets along in the most important period of his life with small amounts of protein, despite the fact that he is growing, is it likely that Nature would later actually force him to a much more liberal use of protein?

"The fact of the small protein requirement of growing man is of *fundamental significance.* It warns us to proceed on the basis of exact experimental investigation rather than preconceived aprioristic notions."

Finally, let me say that I deprecate the term "standards" as applied to the daily diet. The object of food is to supply the needs of the body. In the case of the adult, this need is expressed in terms of fuel value, ordinarily derived mainly from fat and carbohydrate, which will necessarily vary with the degree of bodily activity. The need for protein is expressed in grams of available nitrogen required to meet the waste of tissue and to supply the loss of protein through the secretions. The adult cannot grow, he cannot make new tissue to any extent; hence, except after wasting disease, his need for protein is fully met by the small amount required to make good the above daily losses. The *minimal* protein requirement of the adult is undoubtedly far below any figures I have given, provided there is sufficient non-nitrogenous food in the daily diet to supply the energy needs of the body. I am inclined to the belief that the fully developed man, having an abundance of fat and carbohydrate in a readily available form to meet the energy requirements, can live with perfect health on a few grams of nitrogen per day. Man's food, however, to serve its full purpose in the economy, must be in a form readily assimilable, free from a large excess of indigestible material. Good health calls for a daily diet not too concentrated in form, and not too voluminous, with excess of waste material to serve as a culture medium for micro-organisms. It is a happy mean that is called for, but the real need for nitrogen, for protein, is small. Where large fuel values are necessary, there is sometimes difficulty in meeting the energy requirements without raising unduly the nitrogen intake. This, however, can be avoided by a judicious selection of foods.

Reliance upon protein as a source of energy is theoretically and, I believe, practically undesirable. It is true that the protein molecule contains, in addition to its 16 per cent. of nitrogen, 52 per cent. of carbon. After the molecule is denitrogenated, the residue—the non-nitrogenous moiety of Foster—can serve the same purpose in the body as fat and carbohydrate, but to obtain our energy from this source means letting loose in the system a mass of nitrogenous waste products which the body cannot use and which must be eliminated at some expense, even if no other undesirable results follow. Why not rely upon fat and carbohydrate for the energy needed by the body, and use protein food solely for the purposes which it, and it alone, is especially fitted to fulfil. Such a course has the merit of being more closely in accord with physiological laws, while at the same time there is a suggestion of conservation of health and strength, combined with a certain amount of physiological economy, that may ultimately result in increased efficiency.

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DISCUSSION.

Dr. CHALMERS WATSON (Edinburgh) congratulated Professor Chittenden on the very great stimulus which his work had given both to the scientific and purely practical study of dietetics. At the present time the great desideratum in the subject was, he thought, fresh facts obtained by careful and prolonged experimental investigation along a number of lines; at the same time it was essential to exercise due care in applying the results of experimental observations to the conditions obtaining in everyday practice. The speaker desired to say a few words both from the clinical standpoint and that of an investigator of the subject for many years. His clinical experience led him to accept the conclusion of Professor Chittenden that the ordinary conception of the protein requirement of man was an exaggerated one. He further agreed, and was in the habit of teaching, that nitrogen and calories by no means constituted the only elements to be considered in a so-called standard dietary. As a matter of fact, in everyday practical therapeutics he attached little or no weight to the caloric value of the foodstuffs. It was, in his experience, no uncommon thing to see patients in whom a modification of the diet, along lines which diminished its caloric value by one-third or more, brought about a rapid and permanent gain in the patient's condition. Success in the dieting of these cases was attained, as a rule, by making the food simple, readily assimilable, and free from a large excess of indigestible material. Such a régime exercised a favourable influence on the altered bacterial activity of the intestinal flora obtaining in these conditions. While he agreed with Professor Chittenden in his main contention, there were certain reservations that he would emphasize.

In the first place, no rule could be laid down which was universally applicable; the child or adult with manifest tuberculous tendency should be fed on a diet in which the protein content was high, preference being given to animal proteins; whereas in children or adults of manifest gouty tendency a restriction in the amount of animal protein was, as a rule, advisable.

A further caution was necessary with regard to the indiscriminate giving up of animal protein in the dietary. He frequently saw adult gouty patients who lived too exclusively on farinaceous foods in whom relief from symptoms was speedily obtained by a judicious restriction of farinaceous and saccharine foods, and increase in the protein content of the dietary. This apparent anomaly was probably in part explained by the recently acquired knowledge as to the important part played by carbohydrates in the metabolism of proteins.

Passing to the experimental side, the speaker emphasized the necessity of regarding the question of diet from the new standpoint suggested by the results of the investigations carried out by himself and his collaborators in the past eight years—namely, the influence of diet on the structure and function of the tissues. These results focussed attention not only on the amount of protein, but very specially on the nature of the protein, animal proteins having an influence on certain tissues of a nature not previously determined. Reference was made to the results of the clinical investigation made by Professor Hunter (now of Cornell University) on the intake and output of nitrogen by the urine and faeces in the case of adult rats fed on an ox-flesh diet and bread-and-milk diet respectively. These showed that, when the food was given in unrestricted amount, the total nitrogen intake per kilo of body weight was the same, irrespective of diet; but that there was a profound difference in the distribution of excreted nitrogen on the two diets, the rates of urinary nitrogen and faecal nitrogen being sixteen in the case of flesh-fed animals and six in the bread-and-milk-fed subjects. The urine was, further, small in amount and concentrated in the meat-fed subjects, the faeces in them being also scanty. Attention was then directed to the influence of the diet in inducing a definite hypertrophy of renal tissue, the average percentage weight of kidney tissue in the case of fifty-two animals fed on a flesh diet being 1.40 per cent., as opposed to 1.03 in the case of fifty-five controls, bread-and-milk subjects. This stimulating effect of the diet on the renal tissues had been further demonstrated by Dr. Lyon, from the study of the distribution of the granules in the secreting cells of the kidney. Those observations had clearly proved, and furnished the explanation of, the long-recognized clinical fact that meat had a stimulating effect on the kidneys.

The specific effects of an excessive meat diet on the reproductive glands was then referred to and demonstrated, from the results recorded by Mr. C. B. Paul, an arrest of development of the glands associated with sterility being invariably induced if the excessive meat diet was begun when the animals were weaned. Analogous changes had been found by Dr. Malcolm Campbell for the female in the same series of experiments. Reference was also made to the unfavourable influence of the excessive meat diet on lactation, Dr. B. P. Watson having found that the average percentage weight of mammary tissue in the case of meat-fed animals was 3.2, as opposed to 9.6 in the control subjects. Special attention was also directed to the specific effects of the meat régime on the thyroid gland in a large series of animals, both of the first and second generations, the meat diet at first stimulating and later apparently exhausting the gland.

In the last three years the speaker had extended the observations to the study of the effects of a rich purin diet—ox flesh, lentils, and bread and milk, in known amounts, administered cooked—in order to bring the conditions more closely to those present in man. The results, which were demonstrated at the meeting, clearly confirmed the very special influence of such a rich protein diet on the thyroid gland. Further investigation by many observers was necessary before the full significance of these results could be appraised. In the meantime, however, they clearly demonstrated that the subject of diet had to be approached from a standpoint other than the chemical composition and caloric value of the food, which formed at present the basis of the teaching of most textbooks.

Lieutenant-Colonel MELVILLE, R.A.M.C., thought that they would all agree with Professor Chittenden in his opening statement, that it was a fair argument that the quantity of food consumed daily should be proportional to the needs of the body. That statement was axiomatic. The difficulty only arose when it came to be a question of deciding what the needs of the body were. These were not merely needs of quantity, but also of quality. There were two methods of arriving at a decision—the one was experiment, the other experience. Experiment in the laboratory had the great advantage of being exact, but it suffered from the disadvantage that it was impossible in such dietetic experiments to keep to the natural mode of life of the individual. If the experiments were made natural then exactitude was lost, and the only remedy for this loss was to make them of so prolonged a character that errors were more or less eliminated. This practically brought them to the test of experience.

As regards this method of observation, they had the results of the experience of the most advanced nations of the world, who for as many years as they had record—years during which they had pursued a career of conquest and ever-increasing civilization—had been habitually high protein consumers. They had, on the other hand, the experience of nations, such as the Bengali who had adhered to a low protein diet, who had made no conquests, and had been habitually the hewers of wood and drawers of water for their more highly fed neighbours. Professor Chittenden attributed the fact of their inferior physical condition to the fact that their diet was unsuitable in other ways than merely low protein content. This was possible, but the two factors interlocked. They were a poor people because of their poor diet, and their diet was poor because they were a feeble people. They had been driven into the countries which they now occupied by the hardier meat and wheat eating peoples. The same was true not only of the Bengali but of the other lower races of India, though not perhaps to the same extent. He thought that they were entitled, on the theory of the survival of the fittest, to assume that the ruling races of mankind were ruling races because their dietetic habits coincided with the physiological demands. As regards the amount of protein that should be eaten, it was important to remember that the body built up its own protein from the protein that it consumed. The two were not identical in composition, and the body had to pick and choose from amongst the amino acids into which it broke up its food during the process of digestion those amino acids which it found suitable to its needs. As long as the protein consisted mainly of suitable amino acids it was possible to reduce the protein consumption to a minimum. A diet might contain a large number of unsuitable amino acids, and these had to be, as it were, picked over for the organism to get those which it really needed.

In Professor Chittenden's experiments the food was carefully chosen and well prepared; the subjects led careful, sheltered lives, with regular meals and rest. It was not scientific to argue on the basis of experiments like these that the food of the average man, leading the ordinary rough life, taking his food as he could get it and when he could get it, should contain only so much protein as was found sufficient for the experimental subjects. For himself, speaking as a military medical officer, he viewed such theories with grave distrust. He noticed in one of the latest books on military hygiene, published in the United States by Lieutenant-Colonel Havard, of the United States Medical Corps, that this heresy of low protein diet was, probably owing to the high estimation in which Professor Chittenden's work was held by his countrymen, advanced as being the solution of the problem of the soldier's diet. He felt sure that to introduce the scale of protein laid down by Professor Chittenden into any war diet would have the most disastrous results on the health and disease-resisting powers of the soldiers submitted to it. A man must be supplied with all the protein food that he needed, and to give him all that he needed it might be, and under ordinary circumstances was, necessary to give him a great deal that he could make no use of and must therefore reject.

Dr. ROBERT HUTCHISON (London) said that one must be careful not to over-estimate the practical importance of the amount of protein required in the diet. It was probably a matter of considerable indifference, provided the intake did not fall permanently too low. He was prepared to accept Professor Chittenden's results in so far as they showed that it was possible to maintain life and health for long periods on an amount of protein far lower than Voit

laid down. He was not convinced, however, that the excess normally consumed by most healthy people was in any way injurious; there was no real evidence that it induced high tension, arterial degeneration, and the other ill effects often attributed to it. *Per contra*, Professor Chittenden had not succeeded in convincing him that the high protein standard was not possibly beneficial by its "specific dynamic effect"; that meant that it was a stimulant of metabolism that made for vitality, and that for resistance to disease.

Dr. W. RUSSELL (Edinburgh) avowed himself a disciple of Professor Chittenden, who had determined the amount of protein necessary for the maintenance of efficiency in the average adult. This must be taken as the physiological finding and as supplying what would prove to be the twentieth century dietetic standard as distinguished from the nineteenth century standard. In the question of diet it must always be remembered that the digestive power of individuals varied enormously, and that they as physicians had to deal with the people whose diet was excessive in protein for them. Many examples of this might of course be given. He was amazed at the statement that excessive protein feeding led in the individual to no bad results; not only had they to note the direct effect of such feeding in the patients, but also the indirect effects consequent on the changes which protein might undergo in the intestine.

Dr. A. HAIG (London) said: I quite agree with Dr. Chittenden as to the importance of the study of dietetics. Its importance has been greatly underestimated in the past, and is not even yet sufficiently appreciated. I quite agree also that we must not take the habits of mankind as an unquestioned guide to the quantity of food required, but I consider that those habits give us a basis from which we may start our investigation. No doubt the old German standard of 100 to 120 grams a day was somewhat too high, and I have always thought it absurd to make any statement in reference to such quantities without at the same time stating the weight of the body for which these quantities were wanted. Some years ago I believe that Dr. Chittenden concluded that about 60 grams a day was all that was required for a body weight of 150 lb., and my results have led me to believe that about 90 grams is wanted for this same weight—a quantity which is more or less intermediate between that of the old German physiologists and Dr. Chittenden's results. This quantity comes, roughly, to about 9 grains per lb. of real body weight per day, and, as the old saying has it, there is safety in the middle course. My experiments have proved to me that above a certain quantity people keep well, but below that quantity they become anaemic and weak. But this quantity must be reckoned on the real body weight, bone and muscle, without the inclusion of any of the fat which is so often added in later life.

For some thirty years I have been watching the effects—not only of various diets, but also of very various quantities of food, and I have been forced to look for some guides quite outside the habits and customs of patients and outside their feelings, which are very defective guides—at least, at first, and these guides, I believe I have found in the quality of the blood and the rate of its circulation in the capillaries. With regard to this latter, I shall be reading a paper in the Section of Anatomy and Physiology on some of the methods I use in the measurement of this factor. Beyond this, I take the urea excreted, and, when examined over a considerable period of time, this is a fairly accurate guide to the amount of protein metabolized.

I quite agree also with Dr. Chittenden that a good many other factors besides the quantity of protein have to be considered, and that some people, under certain conditions of the circulation, may fail to utilize more than two-thirds (sometimes more than half) of the protein which they swallow, but it is just because they thus fail that we must watch the effects of any given diet, both on the blood and its circulation and on the excretion of urea, and not merely say: This patient is taking the right quantity, and must, therefore, be well nourished. It was the fact of having seen year after year during a long period quite a large number of patients who managed to destroy themselves in the attempt to become what they call "vegetarians" that forced me both to examine the results carefully and to fix a definite standard. Some of these people killed themselves outright in sheer ignorance of the laws of physiology, but more of them fell a prey either to the tubercle bacillus, or to other wandering microbes. I believe that Dr. Chittenden has had cases on comparatively low protein which appear to him to have done well in every way over a large number of years, but, so far as I am aware, he has not published any records of the condition of their blood and circulation before they altered their diet, nor of the effects of lower protein on these conditions from year to year; but if, in a given case, the quantities he uses are only a small fraction below my minimum limit of 9 grains a pound, a bad effect may easily take several years before it is obvious, unless these matters are most carefully watched.

I am quite aware that Cornaro and others lived for many years on what appears to have been very little food, but can we say that they lived strong, hearty, and useful lives and had a good blood condition and a normal circulation? So far as I understand it, the available evidence by no means proves this, and I do not think that mere survival for years is a very great achievement in the absence of that normal hearty activity which alone makes life useful. Cornaro was both diseased and middle-aged when he altered his diet and led a very quiet life. We see, I think, in this country plenty of instances of the effects of deficient food. The number of recruits refused for service in the army is still very high, in spite of the standard, which is, I believe, frequently lowered; and I note that a daily journal, published within the last six months, says that "many of these recruits were in poor condition from want of food." We note, also, that the poor, who, as Mr. Rowntree has pointed out, suffer seriously from defective supplies, are generally stunted, poorly developed, and, for years after reaching adult age, remain incapable of good bodily or mental work.

Dr. Chittenden might say that these people have an unbalanced diet or began the low protein too suddenly, but, in my diet experiences, I have seen plenty of people who have broken down seriously on a low protein diet even when fats, salts, and carbohydrates were plentifully supplied, and when they drifted into it quite gradually.

May we not see in Nature's own workroom the quantity of food that man requires? It is easy to calculate from the quantity of milk excreted and the percentage of protein it contains that a child in the first week or two of life is supplied by his mother with about 31 grains of protein per pound of body weight, which is three and a half times the quantity I look upon as necessary for an adult. At 12 months old the same child will be supplied with about 42 grains per pound of body weight, or 4.6 times the amount required for an adult. Roughly, we may say that a child wants from three to four times as much as an adult of the same weight, and this appears to be almost exactly what Nature gives him.

I have pointed out in my book, *Diet and Food*, that if you reduce a young child's food below 40 grains per pound it at once loses weight, and the loss of weight just suffices to make up its urea excretion to something very close to the above-mentioned standard. Thus Nature makes up the balance, and shows that a child needs protein equal to 36 to 40 grains per pound per day, and that an adult needs about a quarter of this quantity.

With regard to the physiological balance of foods, I am quite aware that certain salts are necessary, and I know that some of those in this country who call themselves "vegetarians," and whose fad it is to eliminate from their diet all mineral salts, may sometimes run themselves into very serious difficulty, accompanied by more or less complete failure to absorb the nourishment of their food. I believe that this is chiefly due to a deficiency of hydrochloric acid, which we all know is necessary for the important function of primary digestion. This failure of digestion from deficient chloride is especially likely to be met with in those who take large quantities of potato. The Irish, I believe, are careful to eat a considerable amount of salt with their potato diet. Doubtless they have been taught by Nature herself that this is of primary importance. In conclusion, I maintain that even without regard to the other constituents of food, such as fat, salts, and carbohydrates, it is not safe to go below 9 grains of protein per pound of real body weight per day; that to

do this, sooner or later, produces change both in the quality of the blood and the rate of its circulation; and that if these signs are neglected disaster will follow.

Dr. E. P. CATHCART (Glasgow) was in complete agreement with Professor Chittenden's statement that life can be maintained and frequently maintained at a high level on a relatively low protein intake He was not sure, however, if it were desirable to keep to a low intake as a general rule. His objection was that the protein needs of the body were probably not constant. That there was no direct evidence which conclusively proved that one amino acid could be converted into another: it was therefore probable that the amino acids—the building stones—required must be taken into the tissues in a preformed condition. It was a question, then, of quality, not of quantity, of protein, and on an ordinary diet the surest way of obtaining the necessary repair material was to take a comparatively high intake of protein. He quoted the experiments of Michaud and of Zisterer, who had demonstrated that the smallest amount of protein was required to maintain the animal in nitrogenous equilibrium when it (the protein) most closely approximated in composition the tissue protein. These workers fed dogs on dog flesh, and found that a smaller intake of protein was necessary than when proteins, like vegetable protein, casein, or even horse flesh were used. Certainly the absolute requirement of nitrogen could not be large, as the output of nitrogen in the urine after a protein meal was high, as much as 70 per cent. of the ingested nitrogen being excreted within eight hours. It was difficult to believe that much of this nitrogen had played a part in the metabolic processes in the tissues. It was mere waste material discarded as rapidly as possible. Two other factors required more attention—one the idiosyncrasy of the subject tested, and the other the marked stimulating properties of the protein. As regards the first it was admitted that some individuals could flourish on much smaller intakes of protein than others. What was the cause of this difference? Was it a question of digestion or of utilization? As regards the stimulation, quite apart from the so-called specific dynamic action of protein, there was the known capacity of protein digest products to promote and stimulate the secretion of the digestive juices. Was it not probable that much of the stimulating action observed was due simply to the improved digestion?

Dr. RABAGLIATI (Bradford) said: In order to utilize to the full the fifteen minutes allotted to me, I put what I have to say in the form of propositions.

1. The universe in which we live is the manifestation of an energy or dynamic which is infinite, eternal, omnipotent, and unchangeable, yet changeful, and also legal—that is, acts always by law, or always in similar ways. We live in a legal, not an arbitrary, universe.

2. This energy or dynamic breaks up into a large number of genera, which always manifest two phases—a static and a kinetic—although these merge into one another by gradations so insensible that it is always difficult to say where one ends and where the other begins. Well-known examples of these various genera of energy or dynamic are: (*a*) Hylo-dynamic or the force procreating material substance. It is neither more nor less than the force of gravitation. (*b*) Hydro-dynamic, or the forces of water and fluids. (*c*) Aëro-dynamic, or the forces of gases. (*d*) Chemico-dynamic, or the chemical forces. (*e*) Crystallo-dynamic, or the forces of crystallization. (*f*) Electro-dynamic, or the electrical forces. (*g*) Bio-dynamic, or the vital forces, which at once break up into phyto-dynamic, or the forces of plant life; and (*h*) zoo-dynamic, or the forces of animal life. It is with anthropino-zoo-dynamic, or the human form of this, that medical advisers have to do.

3. There is a universal characteristic of all these forces—exactly, indeed, what we ought to have anticipated—since they are all genera of the universal energy; but the discovery of this fact seems somehow to surprise us—namely, that these various genera of dynamic merge into one another by gradations so insensible that we can hardly say where one ends and where the next begins.

4. Now, wherever any of the genera or species of this universal energy or dynamic come to be investigated, each of them invariably manifests at least two qualities—namely, motion and warmth or heat. Motion in the human body is work internal and external, and human heat normally measures about 98.4° F., or 37° C.

5. The proper view of the relation of human motion and human heat (as of all other motions and heats no doubt) is that they are concomitant effects of a common cause—namely, anthropino-zoo-dynamic. They are not cause and effect of one another.

6. The commonest fallacy which captures the scientific mind is mistaking concomitant effects of a common cause for cause and effect of one another. For example, the scientific mind says that gravitation is a property of matter, although there is as much evidence for the view that matter is a property of gravitation; while the true view is that the force of gravitation and the thing, material substance, of which it builds its house, are concomitant effects of a common cause—namely, the universal energy or dynamic by which all things do consist. Of course, this reasoning is not scientific at all—that is, it is outside of the order and exposition of facts which is the proper domain of science, and belongs to the domain of philosophy, which attempts to account for the existence and order of the facts.

7. Now, whenever energy acts through substance, organic or inorganic, the creature which it has procreated for its own particular manifestation or expression, it invariably wastes or dissipates the substance; and this waste of substance is always expressed in at least two ways—namely, the production of motion and the liberation of heat. The scientific mind when it perceives this set of facts, at once unconsciously passes over into the domain of philosophy and attempts to account for them; and very curiously, by an apparently inevitable perversity, attributes the motion and the heat to the waste of the substance, instead of viewing them as concomitant effects of their common cause—namely, kinetic energy, and in the particular case before us, anthropino-zoo-dynamic. The true view is that the motion or work of the animal body, its heat, and the waste of its substance are all concomitant effects of their common cause—namely, the action of anthropino-zoo-dynamic, that is, of the human power of life, a species of the universal energy.

8. If we term the facts of assimilation of material into the body and the liberation of motion and heat, metabolism, we soon see that there are two great divisions of the process. These are (*a*) anabolism, in which substance and heat are stored, and (*b*) katabolism, in which substance motion and heat are liberated. In the former, which occurs largely during sleep, substance is built up and the temperature falls. In the latter, which occurs mostly during the day, substance is dissipated, and motion and heat are liberated—that is, the temperature rises. But—

9. In point of fact even during anabolism substance is being dissipated as well as stored, and heat is being liberated also, although the temperature falls, because the process takes place always at about the temperature of the particular species of zoo-dynamic at work, and most frequently at a temperature higher than that of the surroundings.

10. All things, plants and animals, tend to maintain each their own proper temperature, and this to a large extent independently of the temperature of the surrounding media or environment, although we do not see this fact so plainly in the case of things as we do in that of plants and animals. But things, plants and animals, receive their heat each from its own form of kinetic energy. (Radio-activity, chemical heat, electric heat, plant heat, and animal heat are examples of this.)

11. Generally speaking, zoodynamic builds its house of two sets of fibres, a transverse and longitudinal (in the case of complicated organs oblique fibres are interpolated), and zoo-dynamic so acts, as a rule, that anabolism with storage of heat occurs coincidently with and probably by means of contraction of the transverse elements of structure, while katabolism with liberation of motion and of heat occurs coincidently with and probably by means of contraction of longitudinal fibres or elements of structure. The interpolation of oblique fibres, however, in the more highly complicated organs, especially as these oblique fibres run in all directions simultaneously, renders it very difficult for us to understand the method of action. Cramp is excessive contraction or inhibition of transverse elements, while collapse or shock is excessive contraction or inhibition of longitudinal. When excess of action in either of

these directions occurs, the liberation of heat (as of motion) is apt to be perverted, and the relations of heat and motion to the mechanism apt to become more difficult to understand.

12. The sole function of food in the adult body being to restore its waste, the inquiry into the energy-giving qualities of food, as also into its calorie value becomes greatly restricted in meaning and importance. The former has no meaning at all, except in so far as the inquiry is concerned with the chemical and anatomical composition of various parts of the body, with such questions, for example, as where in the body is most N found or most phosphorus or most connective tissue, cells, etc. The latter has no meaning either, and no truth except as to the accompanying chemical formulae, which, of course, are chemical facts.

13. The assumptions regarding the energy-giving and heat-giving qualities of food in the body are based on a false analogy, and on failure to understand the meaning of the combustion of coal in a furnace and its utilization for the liberation of heat and of motion. There is nothing in the animal body when food is ingested analogous to the rise of heat by several hundreds of degrees in the fire or in the furnace. At the most we find an elevation of half a degree or of a degree or so. But as this elevation of heat occurs also when work is performed through the body although no food is taken, we might have seen that it is the effect of hylo-dynamic or zoo-dynamic or chemico-dynamic in action which elevates the heat and coincidently wastes the substance of the coal or of the body.

14. If we had to pay for the O without which chemical heat liberation is impossible, we should be apt to say that the O was the cause of chemical heat just as we now say that the C is. But the statement would not then be true of the O any more than it now is of the C, since the true source of the heat in the furnace is chemico-dynamic; and chemico-dynamic in action, like all other forms of kinetic energy, wastes the materials through which it acts and proves its presence by liberation of heat. It is zoo-dynamic, and in our case anthropino-zoo-dynamic, which builds up the body out of the food, which assimilates food to restore waste, and which, inhabiting the body, wastes its substance, and performs work, while coincidently it liberates motion and heat.

15. Although when C is oxidized in a furnace the temperature rises by several hundreds of degrees, this increase of heat is an accident, and CO_2 might be formed, an oxidation effected at the temperature of the surrounding media or at the temperature of the materials through whose waste the heat is liberated; and this is what takes place in the animal body. The temperature of the human animal being nearly 100° F., the processes of oxidization and assimilation of food go on through the action of anthropino-zoo-dynamic in so quiet and orderly and beautiful a way that there is practically no elevation of heat at all.

16. How the scientific mind whose philosophy compels it to assume an electric force or electro-dynamic which it knows only through its phenomena, and never can know directly—how this scientific mind is not equally compelled to assume a vital force or bio-dynamic as accounting for the phenomena of plants and animals, and of zoo-dynamic as accounting for the phenomena of animal life, and of anthropino-zoo-dynamic as accounting for the phenomena of the human body—well, this inconsistency passes my feeble comprehension.

17. For a long time it has been a desideratum to have an accurate balance set out between the quantity of material put into the body to make body-stuff, and the quantity of body-stuff which wastes proportionately to the production of a certain amount of kinetic energy in the form of erg-dynamic. It is not inconceivable to me that an approximation to such a balance should be struck, although the limitations of human faculty never will succeed in setting out an accurate account. At least, this has been considered the chief limitation, although I suggest that the constant dissociation and vanishing of material substance in presence of the heat of zoo-dynamic is and always has been, as it always will be, a greater hindrance still. But, if such an account could be or ever will be written, and that much within the limits of error attained up to the present time, even then there would be no proof that either the strength of the body or its heat came from the food; for, in order to prove this, it would be necessary to show that the power of assimilation lay in the body itself or in the food, and not in the zoo-dynamic, which first procreates the body and then, inhabiting it, is the means of its doing work and of liberating heat. This would, indeed, be seeking the living among the dead. No; the nature of zoo-dynamic is not a question of physics, although, no doubt, anthropino-zoo-dynamic uses physical, chemical, and electric forces unconsciously for the effecting of its unpurposed ends. Unconscious and unpurposed, I say. But some day, perhaps, anthropino-zoo-dynamic may become conscious and may manifest noetico-dynamic instead of being merely apameibo-dynamical. In the dim and distant anticipations of the future it may even become self-conscious and manifest the phenomena due to auto-noetico-dynamic. Let us strive to understand this, for, if we do, we may add not less than a thousand million years to the lifetime of the people at present living in the United Kingdom, and twice this length of years to the double numbers of our brethren in the United States of America.

Καλὸν γὰρ τὸ ἄθλον τόδε, καὶ ἡ ἔλπις μεγάλη.

Dr. WOODS HUTCHINSON (New York) said the problem of human feeding was not that of economy of fuel, but of getting the most and best work out of the human machine. It might be granted that nitrogen equilibrium could be maintained on very small amounts of protein, and fair health and efficiency maintained on a low nitrogen ration, but *cui bono?* what was the advantage? The problem was not what one could save, but what one could do, and the output of the successful human machine would abundantly repay even the most liberal expenditure of fuel. The body must have both a large amount and abundant variety to select from. The nitrogenous excretion of the body represented not waste but rejected material that was not suitable for utilization. The nitrogen of the faeces, for instance, had not failed of absorption from the alimentary canal, but had passed entirely through the whole mass of the body, and been excreted again by the glands of the intestinal wall. The dangers of a large protein intake had been found to be largely illusory. Nephritis in all its forms, acute and chronic, was now chiefly traceable to the result of acute infections, and diet had very little to do with either its cause or cure. The eating of meat played only a small part in gout, and certain fruit sugars and toxic substances, like lead and alcohol, and the results of subacute infections had far more to do with its production than proteins or nucleins. Arterio-sclerosis was caused far more often by muscular overstrain and privation, or plain starvation, than by excessive amount of food of any sort. Protein foods were to be regarded solely as an appetizing, stimulating, and easily assimilable source of energy and heat, whose chief drawback was their expensiveness. The main advantage of carbohydrates was their cheapness. Any race or individual who could do a given amount of work on a starch diet could do from 20 per cent. to 40 per cent. more on a diet rich in proteins. Japanese coolies coming to the United States increased their working power and corresponding wages nearly 50 per cent. when they got on a full meat diet, and nearly the same improvement occurred in West Indian negroes employed on the Panama Canal on Northern Army rations. An intelligent omnivorousness was the only safe rule of dietetic procedure.

Dr. JOHN HADDON (Hawick) described the benefit which in his own health had followed the adoption of a vegetarian diet.

Dr. A. B. OLSEN (Caterham) said: The diet at the Battle Creek Sanitarium and the numerous sister institutions consists, briefly, of fruits, nuts, cereals, vegetables, together with milk and eggs. Alcoholic beverages of any kind, tea, coffee, and flesh foods, including fish, are excluded from the typical sanatorium dietary. As a matter of fact, animal flesh has not always been excluded, and until recent years both diets were obtained at Battle Creek. I quote from Dr. J. H. Kellogg, Superintendent of the Battle Creek Sanitarium, as follows:

> We had meat tables and gave people meat if they wanted it, if we thought they would do better on a meat diet. In fact, during the thirty-four years since I took charge of this institution there have been only about eight years that we have not

been using meat; so you will see the vegetarian idea is not something we adopted without thorough investigation. Finally I said to my colleagues, "Have we not tried it long enough? Are we not satisfied as to whether the meat diet is good for our patients or not, or whether we can cure people better without flesh food?" And there was not one dissenting voice among our doctors and our managers.

Thus the present-day vegetarian or low protein diet at Battle Creek is the result of a gradual evolution. The sole question has been: What diet will suit our patients best and most speedily and successfully further their recovery. Right here we may add that the doctors, nurses, and other workers connected with these institutions also subsist upon the same diet, and, as far as can be judged by observation and experience, with equally happy results.

Now it is obvious that a lacto-vegetarian diet does not necessarily involve a low protein intake; but in practice in the average sanatorium diet there is undoubtedly a marked reduction in the quantity of proteins consumed.

At the Battle Creek Sanitarium, as well as in similar institutions, the free use of both eggs and milk is as a rule discouraged, so that the fleshless diet is distinctly a low protein one. While nuts and nut foods are freely furnished, they are seldom taken in sufficient quantities to increase very materially the protein intake. For the most part sanatoriums are frequented by chronic invalids, and particularly those who are suffering from disorders of one kind or another which are associated with auto-intoxication. Many of these cases are obstinate to deal with, and are sometimes regarded as incurable. Nevertheless, the training and the régime through which these patients pass rarely fails to benefit them, and oftentimes produces a gratifying cure.

That the daily use of animal flesh favours the growth of bacteria in the large bowel is generally admitted. The presence of these microbes means the formation of various more or less poisonous products, which are speedily absorbed into the system, and, circulating through the blood, serve to aggravate the physical condition, and account for a goodly number of more or less distressing symptoms. Repeated bacteriological analyses of the faeces, as carried out at the Battle Creek Sanitarium, show that the number of intestinal bacteria are very markedly diminished on a change from a flesh to a non-flesh diet, and the benefits of this change are speedily reflected in the feelings and progress of the patient. Sanatorium physicians of experience cannot help but believe that a large part of their success in dealing with gouty and rheumatic disorders is due, not only to the baths, massage, and electrical applications that are used, but also to a great extent to the material diminution in the protein food that is taken. Of late we have heard a good deal about the so-called benefits from fasting that certain over-fed invalids have experienced. It would seem to us that what such persons required was, in the words of Dr. Kellogg, "a protein fast" rather than complete abstinence from food. A few days or weeks of grape-cure or apple-cure would put the majority of them right without the grave risks of a prolonged absolute fast.

Proteins furnish the building and repairing material of the body, of which but a very small quantity is actually required compared with the large amount of fuel foods. Strength, endurance, toughness—these are derived more directly from the energy-producing foods. The results of a considerable number of experiments seem to show quite clearly that those people who follow the low protein diet excel in both strength and endurance. While overfeeding with carbonaceous food is undoubtedly harmful, still the excess is readily burned up, and no very serious injury is done. But with proteins it is otherwise. Only a moiety of the extra protein molecule is adapted for combustion. The balance is likely to become "clinker," to use a crude comparison. Thus it serves to clog the system and hinder the normal functions of the body.

In conclusion, it may be interesting to note the influence of the diet upon the average patient on leaving the institution. Of course a great majority of those who patronize a sanatorium are flesh-eaters, and many come to such an institution as a last resort, a forlorn hope. Oftentimes they have arrived at such a stage in their illness when they are willing to do anything which holds out the slightest hope of ameliorating their troubles or bringing about a cure. The change from a mixed to a fleshless diet is readily made in the course of a few days, and, in our experience, rarely fails to bring distinct benefit. Many of our patients would doubtless persist with the low protein diet if they had the facilities; but, in any case, most of them on leaving the institution, even though they do not become absolute vegetarians, cut down their flesh food to one meal a day, and then only take it sparingly, while a considerable number remain flesh abstainers. In either case they adopt permanently a relatively low protein diet because they have learnt by experience that it suits them best.

DISCUSSION ON THE SCOPE OF NORMAL AND IMMUNE SERUM IN TREATMENT.

OPENING PAPER.

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IN medicine no argument is so difficult as the therapeutic argument. The question whether a man really did suffer from this or that disease can generally be settled, if not during life, then after death. But the question whether—the man having recovered from his disease—a particular remedy used in his treatment assisted in the recovery can rarely be made the subject of actual demonstration. This difficulty is great when the remedy is a drug or a physical process; it is much greater when the remedy is a highly complex substance like a serum.

The mass of data that has accumulated as the result of laboratory work in the study of immunity is altogether disproportionate to the results obtained in actual medical practice. If the information given by systematic experimentation could be better correlated with the physician's experience at the bedside, the advances in this region of therapeutics would probably be more substantial and more rapid. There is room for more organized observations in hospital practice. The suggestions derived from experimental data are utilized, it is true, but in a very erratic fashion. True, it is not possible to adopt strictly scientific methods in treatment. The individual life must be saved by whatever composite means we possess; we cannot afford to concentrate the treatment upon one remedy, or even upon two. And so we are left, in the end, with too many unknown quantities to work out any satisfactory conclusion. But this difficulty does not prevent sound conclusions being drawn: it only postpones the conclusions. Given that accurate observations are made and recorded, the results of treatment must ultimately point to the line which is of most service. The difficulty is, however, enormously increased, and the conclusions indefinitely postponed, if the observations are deficient or inaccurate, and a large amount of the literature written on the subject of serum-therapy but serves, for this same reason, to confuse the issue rather than to clear it. There is no reason at all that the work of the wards and of the sick-room should not be as capable of exact analysis as the data obtained in the pathological laboratory.

There are certain diseases which repeat themselves with such frequency, that in a large hospital it would be quite feasible to set aside a section of such diseases for one line of treatment and another section for a different line, and this without incurring the stigma of denying the patients of either section the benefit of treatment accorded to those in the other. If this were done—say, with such common diseases as pneumonia, gastric ulcer, gonorrhoeal rheumatism, etc.—a series of five years' results would show most valuable records. The fact that one physician treats his cases of gastric ulcer with normal horse serum and another does not; that one inoculates his pneumonic patients and another gives them no sort of specific treatment at all, and yet we never think of accusing either of omitting an important item in the care of their patients—these facts show the lack of organization in present-day therapeutics. We ought to *know* which method is better—that is to say, we ought to find out which method gives the better results. I cannot answer for Birmingham, but I am sure that in some at least of the large London

hospitals there is no sort of collective or comparative report on treatment, even of common diseases, on the medical side.

It may be urged that the results of treatment are compared with less difficulty in surgery than in medicine. That is true, but if we all choose the less difficult pursuit we should all be surgeons.

I shall not say much about the use of *normal serum* in other than infective conditions. No doubt Dr. Hort and others will speak on some of these important matters. It must not be forgotten that there may well be an infective factor at work in several of the diseases not usually regarded to be in the main infective in which no horse serum has been used. It may therefore be in connexion with this infective factor that the benefit sometimes occurring is really produced. These diseases include ulceration of the stomach and other organs, various kinds of purpura, pernicious anaemia, etc. I would urge the fuller trial of normal horse serum in all these conditions as well as in haemophilia, bearing in mind that the serum is probably more efficacious if freshly drawn. The price of normal horse serum has been considerably reduced of late, and a greater demand will reduce it still further.

The scope of normal serum might also profitably be enlarged in the direction of undoubted infective processes. I believe the substance to be of service in most acute infections, and I use it commonly in such states pending the results of bacteriological investigations. I think we have become too enamoured of the "specific" forms of therapeutics, and tend to forget that the natural mechanism of resistance to infection may be stimulated in a variety of ways by non-specific means. And normal horse serum exercises at times a powerful stimulus to increased resistance in some infective processes. I regard this effect of normal horse serum as explaining the good results often recorded as following the use of certain immune serums in the treatment of diseases due to infective agents differing from those against which the serum has been prepared. I give as an instance the use of antistreptococcus serum in gonorrhoeal rheumatism. I have found that the same good results may be obtained by the use of normal horse serum.

Some years ago I got Dr. Dowson, then in charge of Mr. Wellcome's serum farm, to endeavour to immunize a donkey against a virulent strain of gonococcus obtained by blood culture from a case of gonococcal endocarditis. Unfortunately the serum was too late for use in that particular case, but I tried it in a well-marked case of gonococcal arthritis. The effect was very striking; after six daily doses of 10 c.cm. of the serum, given subcutaneously, the disease appeared to end, as it were, by crisis. The temperature and pulse rose, the joints became more swollen and tender, fresh joints were affected, and the patient was quite ill for twenty-four hours. This was followed by rapid subsidence of the swellings, the stiffness passed off, and the patient was quite well and at work ten days from the critical period. A second and a third case yielded similar though less striking results. I thought I had got a serum rich in the antibodies necessary to combat a gonococcal infection. But my vanity was short-lived. The spirit of scepticism suggested the use of normal horse serum as a control in similar cases. I found similar results followed. I also found, of course, that I got by no means uniformly good results with either of the serums. Still, the treatment is well worth trying. It was noticeable that in the cases in which the response was good it occurred at the same time at which the symptoms of so-called serum sickness take place. In one case the synchronism was obvious, because the patient developed a serum rash at the time the joint swellings were subsiding. It is probable, therefore, that this non-specific action of normal horse serum in inhibiting the growth of bacteria or in neutralizing their toxins in infective processes is bound up with the metabolic disturbance set up about the ninth day of its administration. The experience I have just quoted offers a warning against the assumption that, say, antistreptococcus serum has any good effect in non-streptococcal infections which normal horse serum has not. In most of such cases published the control use of normal horse serum is lacking.

The same criticism applies to the use of diphtheria antitoxin for diseases other than diphtheria; it has been vaunted as a cure or adjuvant for a variety of diseases—pneumonia, tuberculosis, erysipelas, pertussis, ozaena, and asthma. It is probable that the same occasional good results would follow the use of normal horse serum.

Immune Serums.—In these days, when the pendulum of specific therapy has swung away from immune serums and points to inoculation by bacterial vaccines, we are apt to forget that the great triumph of immunity study is still the treatment of diphtheria by antitoxic serums. The present fashion in specific therapy has gone to the length we now see it largely because of its association with a system of dosage controlled by actual measurement. One of the weak points about serum-therapy has always been the empirical mode of employment of the remedy in regard to size of dose and frequency of administration. The assertion that dosage of bacterial vaccines could be adjusted to the particular immune state of the patient with mathematical precision was bound to prove a powerful attraction. And those who could believe that the measure of so complex a thing as the immune process was given by a simple observation of the phagocytic index were led to leave the study of serum-therapy in the initial stage at which it had arrived. So strong was this attraction for the new system that even the proved virtues of the old were interpreted as being borrowed from the new.

If immune serums seemed at times successful, this was explained by saying that they were so because they contained a little opsonin; and if it seemed hard to believe that the success of diphtheria antiserum was explained in this way, it was said that this particular serum constituted a "lucky hit," and must not be anticipated in connexion with any other infective process. But now that English pathologists are slowly awaking from the mesmeric trance induced by the doctrine of the opsonic index, attention in England will doubtless once more be paid seriously to the question of advancing our knowledge of serum-therapy. Not that vaccines are likely to pass with the passing of the opsonic index; on the contrary, vaccines have proved themselves efficacious again and again. It is rather that serums and vaccines are *both* of value, but at different stages of the infective process. Taking streptococcus infections as an example, I believe in the prompt and liberal use of antiserums at the earliest possible stage of an acute infection, when as yet the defensive mechanism is, as it were, but half awake, and the tissues are poisoned by the first flush of the intoxicated blood.

Protection of the body at this stage, by the use intravenously of a full dose of serum, is quite likely to be rewarded with success. When, on the other hand, the period of invasion is over, and especially when that stage is reached—which it is reached in so many cases of bacterial infection—when there seems a delicate balance almost between the interaction of the antigen and the antibodies, then I believe that the judicious use of a specific vaccine is often the best means at our disposal of disturbing this balance in favour of the patient.

Returning for a moment to diphtheria antitoxin, it is fortunate for our argument that in diphtheria we have a disease sufficiently common, breeding "true" sufficiently often, and the patients usually under very skilled observation, to render possible the statistical method in relation to treatment. It is a method denied us in the employment of nearly all other serums, with the possible exception of antimeningococcus serum in the treatment of epidemics of cerebro-spinal meningitis. Drs. Goodall and Caiger will, I hope, give us their latest experiences in the use of diphtheria antiserum.

We shall also like to hear their experience of antistreptoccus serum in the treatment of different types of scarlet fever, and of antityphoid serum in enteric fever. There may be those here who have had exceptional experience of tetanus antiserum in lockjaw and of Sclavo's serum in anthrax. The difficulty of the argument in these diseases is the one already stated: we are thrown back upon general impressions of individual cases rather than allowed to tread the safer ground of comparative results. Despite the claims of Marmorek, we still seem to lack any immune serum sufficiently potent to aid us in the fight against tuberculosis. I have already touched upon the use of specific measures in treating pneumonia; but until a considerable number of cases have been treated by antipneumococcus serum we can say nothing as to comparative results. My own impression is that an *early* and highly

toxic case of pneumonia is benefited by the intravenous use of the serum. In late cases I have never seen good results.

The methods of treating Graves's diseases by specific measures still require more investigation. This disease, again, is so common that it should not be difficult to make a comparative study of its treatment.

The question of *increasing the potency* of immune serums is a very important one. The highest grade of immunity is obviously a great desideratum. To a very large degree this is a laboratory problem, as also is the question whether such serums are chiefly antitoxic or chiefly bactericidal in action. Diphtheria antitoxin has already been greatly improved in respect of potency per cubic centimetre. There is little doubt that similar improvements may shortly be introduced in the manufacture of what are generally believed to be bactericidal serums, especially antistreptococcus serum. In the case of this last-named serum I am doubtful if the clamour for a "polyvalent" serum has not gone too far. Here, again, fashion has followed the lead given to it by the urgent desire to make the remedy fit all cases, and the market naturally provides what it is asked for. It is reasonable to suppose that in producing a polyvalent serum the immune principal specific against any one of the infecting agents is less potent than in a serum immunized against that agent only. Anyway, it would be dangerous to assume the contrary, despite theoretical considerations. Now, the type of streptococcus causing the great majority of severe and acute streptococcus infections is *S. pyogenes*. There may, therefore, be more virtue in a univalent pyogenes serum than in a polyvalent serum in the treatment of such cases; and this supposition I am sure I have seen proved in actual practice upon several occasions. When one or more preparations of polyvalent serum has failed to produce any good effect in streptococcal septicaemia, the use of univalent pyogenes serum has been followed by defervescence and a sterile blood stream. In a series of cases of puerperal septicaemia, from which *S. pyogenes* was isolated from the blood stream by Dr. Mervyn Gordon at St. Bartholomew's Hospital, I am told that a similar experience befel those in charge.

A study of the marked differences in the characters of streptococci obtained from different sources made in conjunction with Dr. Andrewes some years ago led me to think such a univalent serum as I am describing might be of service. Messrs. Burroughs and Wellcome set aside horses specially to receive virulent strains of *S. pyogenes* provided by us as they were isolated. The serum thus prepared is available, and should receive a trial in any case proved to be of this particular nature.

DISCUSSION.

Dr. E. C. HORT (London) said: Dr. Horder has, I think, done great service in drawing our attention to the possibilities of normal serum-therapy, because it is a branch of treatment of which we have hitherto taken very little notice.

As I understand it, artificial normal serum-therapy is of two kinds, both of them based on the great process of spontaneous normal serum-therapy in virtue of which our cells are maintained in a condition of integrity. In the first form we employ native serum, that is, an individual's own lymph, because of course serum does not circulate normally as such. In the second form we employ foreign serum, usually, but not necessarily, animal serum. The utilization of an individual's own serum has been practised from time immemorial, though we have only recently realized this fact. Whenever artificial hyperaemia has has been set in motion, whether by the early Egyptians in their light and heat baths, by Ambroise Paré in his obstructive treatment of fractures, by our forefathers with their poultices and stupes, or by any of the innumerable methods of employing the treatment of Bier, there this form of artificial normal serum-therapy has been in use.

To-day, though we do not always know it, we employ precisely the same method when, for instance, we apply stimulating lotions or liniments in the treatment of diseases of the skin in order to promote reaction accompanied by hyperaemia, or when we paint iodine on the skin as a disinfectant. In this last case, quite apart from the disinfectant action of the iodine is the prevention of sepsis by encouraging circulation of antiseptic lymph in the area of skin treated. Examples can be indefinitely multiplied, and the more we come to learn of the properties of normal serum in the test tube, the faster shall we discover fresh uses for normal auto-serum-therapy as here defined. It is, of course, obvious that in artificial hyperaemia opportunity is also allowed of employing one form of immune serum-therapy dependent on autoinoculation, but with this we are not here concerned.

The second form of normal serum-therapy in which foreign serums are employed is, however, of even greater interest, and you will find in daily practice that it will amply repay careful study. The science of this form of serum-therapy owes much to the work in 1900 and 1901 of Camus and Gley, and of Professor George Dean in this country. These observers discovered that normal mammalian serum had the remarkable property of inhibiting the action of trypsin, pepsin, and other ferments when added to the media on which they best act. Their results were amply confirmed by Cathcart, Glaessner, Opie, and a host of others.

This discovery was, however, so far as I know, not consciously applied to the treatment of disease till the year 1907, when I found that normal horse serum had a great effect in relieving the pain of gastric and duodenal ulcers, especially when combined with a dry protein diet. In order to prove that the antiferment activities of normal serum was beyond question of value in the treatment of ulcers, I tried the effect of dressing large superficial varicose ulcers with sterile gauze soaked in normal serum. The results were excellent. The serum acts partly by inhibiting the ferment activities of substances that are liberated from leucocytes and pus and all dead tissues, and the result is the arrest of suppuration, and often rapid healing results. I have now for three years constantly applied this form of treatment in sinuses and wounds that will not heal. Where a sinus connects with bone it is useless. I should mention that a year or two before my experiments Dr. Stuart Low had been in the habit of washing out septic mastoid wounds with normal serum, with excellent results.

In the year 1908 Allen and Hanburys prepared for me an artificially fortified normal serum under the name of "antilytic serum," which was followed in Germany by a dried serum called "leucofermantin," of the same nature. Here, then, is a very definite use to which to put normal serums—the treatment of ulcers and wounds. This use, therefore, I have called antilytic, because it inhibits cell destruction by arresting spread of suppuration and tryptic digestion. You will find it very useful also in dressing bedsores or wounds soiled by bile or the stomach contents. Also in wounds of the cornea or of accessible mucous membranes. The application of human normal serum from a healthy patient gives better results still.

The next use to which I wish to call your attention is the antihaemorrhagic. The earliest record I can find in the literature of this use of serum is a suggestion by Rieken in 1829 that it should be used in cases of haemophilia, but I do not know if the suggestion was adoped. In 1905, however, Dr. Emile Weil of Paris showed that by intravenous or subcutaneous injection normal serum was of great value in arresting haemorrhage in severe cases of true haemophilia and of some forms of purpura. The result he attributes to acceleration of coagulation time. He kindly showed me some of his cases, and I was able later to confirm his results. In the year 1907, in fact, I found that sometimes, though not always, such satisfactory results could be obtained that I tried it in cases of severe haemorrhage of many different kinds—in any case, in fact, in which a toxic basis might be held responsible for the haemorrhage. Since then I have given it in many cases of haematemesis, of haemoptysis, of haemorrhage from the duodenum, in three cases of unquestionable haemophilia, in purpuras, in epistaxis, post-operative haemorrhage from the viscera, and so forth. My results have been abundantly confirmed by observers in this country, in North and South America, in France, Italy, Australia, India, and New Zealand. I found, however, that in many cases, especially of bleeding from the stomach or duodenum, it is seldom necessary to inject it, and that oral administration is very satisfactory. Details of administration I have published fully elsewhere. Naturally it is useless in traumatic haemorrhage, and it

sometimes fails in toxic conditions. Normal horse serum is the best serum to use next to human serum, when you can get it, but sheep serum does very well. Great care, of course, must be taken to ensure that whatever serum is used is sterile and atoxic, especially when used for injection. Care must also be taken to avoid any chance of anaphylaxis, which can be readily done if the directions explained elsewhere are attended to. The great objection to its use is its cost, but where life is at stake this cannot be considered. Full reports of cases can be found in the journals from time to time confirming its value in haemorrhage when calcium chloride, amyl nitrite, and gelatine injections have all failed. It is, however, wise not to waste valuable time on these. So much, then, for the antilytic and antihaemorrhagic properties of normal serums.

There is, however, a third use to which normal serum can be put, and that is the antitoxic. Dr. Horder has, I think, very rightly laid stress on the importance of developing this branch of normal serum-therapy. I am at this moment engaged in a series of experiments on the subject, and can definitely state that normal serums have very marked antitoxic powers, especially in the direction of inhibiting the toxic action of extracts of normal tissues which, when injected without serum, are intensely toxic. But at present I should prefer not to say more than this—but, taking the subject of normal serum-therapy as a whole, I am convinced that it is a branch of therapeutics that has a great future before it.

In discussing the scope of immune serum-therapy, we ought to explain, as far as we can, what we mean by the term. The ordinary definition that immune serum-therapy is synonymous with passive immunization, in contradistinction to active immunization, or vaccine-therapy, is one that lands us in great difficulties. For two reasons. First, because we now know that every form of artificial immunization is a combined process of vaccine-therapy and immune serum-therapy. Secondly, because the result of successful active immunization is always passive, which is itself impossible without active.

If, on the other hand, we recognize that there are at least three forms of artificial immune serum-therapy in common use, the task of definition becomes comparatively simple. In the first form of immune serum-therapy we inject vaccines into man, in the second into animals, and in the third man vaccinates himself. When we vaccinate man he makes his own antibodies for himself; when we vaccinate a horse the animal manufactures antibodies first for his own use and then for ours. Both these two forms of vaccination I have elsewhere described as hetero-inoculation, because the source of vaccine is, in both cases, foreign to the tissues injected. When a man vaccinates himself with vaccines residing in his own body we call the process autoinoculation because the source of vaccine is his own infected tissues. In all three cases, therefore, the object of vaccination is identical—the production of immune serum. Now these distinctions are clear and easily understood. And they have this additional advantage of showing that the only difference between the vaccinist and the serumist lies in the source of the serum each employs. In other words, unless the former can show, which he has not yet done, that a higher grade of immunity can be reached in the serum of a man than in that of a horse, he cannot, by appeal to theory, assert the superiority of his particular form of immune serum-therapy. So much for definition. The next question is one of fact.

What can immune serum-therapy, in any of its forms, point to in the way of results? We can, no doubt, say with pride that we can protect, though not absolutely, against small-pox, tetanus, and rabies; and that we can get excellent results in diphtheria. But we are also obliged to confess that, with few exceptions, we can do very little in any other infection, either for prophylaxis or for cure.

And this leads us to the final question, Why is this so? Why, when we can do so much, can we not do more? Why is it that, whatever form of immune serum-therapy we adopt, success is the exception and failure the rule?

The whole subject is, as Dr. Horder reminds us, one of such immense complexity that we can at present see only a very little way. And yet if we reflect that we have no evidence that a higher grade of immunity can be produced in a man than in a horse, it may be sometimes useful to remember that it is probably not the serum we must incriminate, but the vaccine.

Consider for a moment the nature of the artificial vaccine. First, it is grown on a dead medium, totally unlike that of the living tissues. It is never in any real sense autogenous. That it can in this dead medium produce bacterial products at all comparable to those which when alive it can produce in the living body is most improbable. Secondly, the organisms injected are dead organisms, from necessity. The idea that they can after injection have the same antigenic properties, and liberate from the cells the same antigenic cell substances as they might do when alive, is therefore pure assumption. Lastly, even when we use solutions of endotoxins as vaccines, we have no constant guarantee that a test-tube endotoxin is of the same nature as that produced in the living tissues.

Now contrast the artificial vaccine with the natural vaccine employed in the most perfect form of immune serum-therapy known to us—that of natural cure. What is the explanation of the astonishing success of spontaneous autoinoculation with the perfect natural vaccine? Why is failure here the exception and success the rule? Why do vastly larger numbers of cases of infection of all kinds get well without our help than with our help? It is, of course, an easy explanation that here we have a vaccine that is truly autogenous—one, that is, which is grown on the spot. And there can be no doubt that there is great truth in this. But the crux of the whole difficulty is this, is it the whole truth? Is the success of the natural vaccine due to the fact that it is composed of bacteria and their products only, or does its virtue lie in the fact that it is this and something more? Are we sure that it does not contain as well some vital antigen derived from the infected cells themselves which makes for cell stability quite independently of the bacterial antibody? For myself I am convinced that so long as we teach that the object of vaccination is merely the acquisition of a serum rich in bacterial opposites, so long shall our advance be slow. In other words, that if we hope for progress we must first learn how and why the perfect natural vaccine produces the perfect immune serum. Once this is attained there is, we may believe, no limit to the scope of immune serum-therapy in all its artificial forms.

Dr. E. W. GOODALL (London) raised the question as to whether any sterile serum at hand was applicable or whether fresh normal horse serum must be sent for. His own experience of the effects of serum injection was limited to diphtheria, typhoid fever, scarlet fever, and some forms of streptococcal infection, such as erysipelas. Of these, scarlet fever was at present, and had been for years, of mild type. Typhoid fever also was becoming something of a rarity. Where acute cellulitis was present with scarlet fever he injected large doses of antistreptococcal serum as early as possible. He was sure he had seen benefit; this benefit had been greater when an antistreptococcal serum prepared for use in puerperal infections had been used than when the preparation specially made for use in scarlet fever infections had been used. He thought that the local use of serum by swabbing the fauces in diphtheria capable of doing the greatest harm.

Dr. E. HOBHOUSE (Brighton) said: I would like to mention two cases of clinical interest, because they are related to those already mentioned by Drs. Hort and Goodall. The first is that of a young medical man with previous tuberculous history, who got an attack of influenza with very high temperature. He was desperately ill, and I suggested to his uncle, who saw him with me, the use of a normal horse serum. We gave it by the mouth (10 c.cm.), and repeated it several times. The temperature dropped, and there was some improvement for a day or two, but the patient died after about five days, with the most severe purpura I have ever seen. The other case is that of a young man who got severe erysipelas of the fauces and face after a nose operation, followed by intracranial infection, as evidenced by convulsions, coma, and optic neuritis, and a temperature of 105°. We agreed to give antistreptococcic serum (polyvalent), 10 c.cm., every four hours. The diagnosis of meningitis was confirmed three days later by Sir Victor Horsley. The patient

was then already improving, and ultimately recovered completely. Full details of the case will be published later by the gentleman with whom I saw him.

Dr. OTTO GRÜNBAUM (London) stated that although the effects of normal serum upon chronic superficial ulcer was little short of marvellous, he had been disappointed with the results in gastric ulcer, but that his experience was very limited, because the majority of cases improved (any way temporarily) whilst on a protein diet with the addition of alkalis; whilst Dr. Hort had treated a very large number. It was no easy matter to decide whether the recovery of a patient was due to the remedy applied. From time to time one read of cases of endocarditis which had recovered after injections of antistreptococcic serum into the rectum. Some years ago experiments were carried out which proved that the absorption of antibodies by this route approached *nil;* therefore in these cases one could not help concluding that the recovery might have taken place without this.

Dr. G. W. ROSS (Toronto) inquired of Dr. Horder whether or not any serum had been found of service in puerperal septicaemia, and if he had combined a vaccine and a serum in this affection.

Dr. T. D. MANNING (Weymouth) asked if Dr. Horder would give information in the matter of autoserum-therapy, for an article had been published recently calling attention to the value of this procedure in serous effusion of the pleura and peritoneum.

Dr. L. PICTON (Holmes Chapel) asked whether Dr. Horder would also state his view on the question of the use at the same time both of a serum and a vaccine. Dr. Andrewes, of St. Bartholomew's, two years ago had suggested to the speaker the combined use of Pane's serum and pneumococcus vaccine in pneumonia, and he had used this method on about eight occasions with what appeared to be strikingly good results. The crisis occurred several days before it would have been expected in ordinary cases.

Dr. H. W. GARDNER (Shrewsbury) asked whether it was necessary to use the serum fresh, or whether it could be usefully kept in stock; whether intravenous injection was at all more dangerous than subcutaneous injection, or more efficacious; and mentioned two cases of cutaneous anthrax treated recently by Sclavo's serum in the Salop Infirmary with most strikingly successful results.

CONTINUOUS ANTISEPTIC INHALATION IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

By C. MUTHU, M.D.,
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THE revival of antiseptic inhalation in the treatment of pulmonary tuberculosis, as seen in the recent discussions and communications in medical journals, gives me an opportunity to bring before you a method of treatment I have been advocating for the last few years at the Mendip Hills Sanatorium. At the very outset it is well to bear in mind that no single remedy can lay claim to cure all cases of pulmonary tuberculosis, which presents so many types and features. The more we know of this disease, the more we see how foolish it is to dogmatize that any special method of treatment would bring about certain recovery in all cases of consumption. Besides, that patients do get well without any treatment at all is demonstrated on the *post-mortem* table where the evidence of arrest can be seen not only in early cases, but of cicatrization in advanced stages of the disease. Tuberculosis is a social disease, the outcome of social, industrial, and economic conditions brought about by modern civilization. The changed habits and environment of the civilized man has helped to weaken his cell resistance which keeps guard on his frontiers and lines of defence, and has given occasion for the harmless saprophytes round about and in him to assume pathogenic properties. For instance, the harmless *Bacillus coli* in infants fed on the mother's milk shows its virulence in persons consuming large quantities of meat by producing enteritis, appendicitis, etc. So that our treatment, to be effective and permanent, should embrace all the wrong conditions that give rise to tuberculosis. It is only by taking a wide outlook of this disease that we can estimate the right perspective of its treatment.

In my experience three important factors have in combination yielded the most successful results in the fight against consumption: (1) The sanatorium treatment, (2) various kinds of exercises, (3) antiseptic inhalations.

1. The sanatorium treatment first prepares the way towards recovery. Fresh air and food fill the reservoirs that have almost become empty. Rest in the open air and open-air conditions have both physical and psychic effect. While they increase physiological activity, reduce fever, and arrest night sweat, they calm the mind and lull the patient to sleep, and help to restore the lost vitality.

2. But fresh air and food, though sufficient to bring about an arrest of the disease, do not meet all cases. This is the reason that the cry of failure is so often heard in connexion with sanatorium treatment. The sanatorium physician, who is always enlarging his ideas and modifying his methods by wider clinical experience, has found out that a consumptive must work out his salvation by work and exercise. Hence the introduction in recent years of graduated labour as part of the daily programme in a sanatorium. Exercises of all kinds—breathing and singing exercises, manual labour such as gardening, chopping and planing wood, digging broken and unbroken ground, tramping and touring—carried out under the supervision of the physician, expands the chest, increases blood circulation, improves nutrition, helps to eliminate various toxins and impurities, and places the patient in the most favourable condition towards recovery.

3. We had to go a step further still, as we found that fresh air and food, rest, and exercise have not always secured the best results. Those who had gone into rapture over graduated labour had to admit that it sometimes failed to arrest the disease. Hence the explanation of further attempts to supply this deficiency by medical treatment. In this third step two important remedies have lately come into prominence—tuberculin and the inhalation treatment. The treatment of consumption by tuberculin injection may have brought success in other hands, but my results have been disappointing. To expect a course of tuberculin treatment to cure a man living in slums, poverty, in insanitary conditions, and other vicious environment is to court failure. In such cases fresh air and food and other items of sanatorium treatment have a better prospect of arresting the disease by improving his general condition and nutrition than many doses of tuberculin. Besides, I feel sure that there is a risk of tuberculin injection rousing into activity any latent tuberculosis or lighting up fresh mischief in early cases. Who can say that the injection would not turn the scale against the patient in whom the disease would have otherwise remained quiescent? When we realize that a great many people living in towns are potentially tuberculous, we can understand that a dose of tuberculin may, in some cases, be like setting a match to a fire that is already laid. Moreover, we must remember two important points in this connexion: In pure tuberculosis, which is a chronic disease and has a natural tendency towards recovery, the injection is unnecessary, and may be interfering with Nature's work; and in those advanced cases where the system is permeated with tuberculous toxins the injection may do no good, but positive harm.

The Inhalation Treatment.—The inhalation treatment has had a long and chequered career. It dates back from ancient history. The idea that volatile substances inhaled into the lung have a beneficial effect on consumption is as old as the ancient Greeks. Even before the time of Hippocrates it can be shown that the germ theory and the inhalation treatment were anticipated by the Indians. Susruta, the father of Hindu surgery, advised that incense made of aromatics should be kept burning in a room while the operation was being performed, evidently to purify the air of noxious germs. We read in the classical work of Charaka, a Hindu physician who lived in the pre-Buddhistic era—that is, before the fifth century B.C.—that different spices,

gum resins, and fragrant wood were ground into powder and made into a paste and smeared over thin tubes or sticks and lighted, and the smoke was inhaled in diseases of the throat and chest. Even to the present day the Hindus burn these fragrant sticks in their sick-rooms and in their temples. Galen praised the efficacy of sulphur, and advised his patients to go and live near Vesuvius, so that they could breathe the air charged with sulphur. Laënnec, the inventor of the stethoscope, in his great work, *Auscultation mediate et des maladies des poumons et du coeur*, makes mention of the inhalation of vapours from aromatic plants, balsams, myrrh, sulphur, etc., in the affections of the chest. The discovery of micro-organisms as the exciting cause of disease gave a new impetus to the inhalation treatment, and brought into the field many kinds of apparatus in which various volatile substances were tried for inhalation purposes. But, owing to the inefficiency of many of the sprays and inhalers, the inhalation treatment fell into disfavour among the profession. However, the success achieved in a great many clinical cases, together with the invention of more efficient methods and a better knowledge of drugs and their actions, once more revived this mode of treatment in pulmonary disease. In this country many eminent physicians, like Sir William Roberts, Dr. Coghill, Dr. Wilson Fox, Dr. Burney Yeo, and others have from time to time advocated the inhalation method of treating pulmonary tuberculosis. A few years ago Professor Ruata of Perugia, and lately Dr. David Lees, published excellent results obtained by antiseptic inhalations. For the last thirteen years I have been using formaldehyde inhalation in connexion with the sanatorium treatment, and in 1903 I reported successful cases before the Tuberculosis Congress held in London. Ever since I have been elaborating the inhalation methods and using formalin in conjunction with various volatile substances. We use two methods in the sanatorium: The lamp method —which vaporizes formaldehyde over a hot-water boiler, the inhalation being taken with closed doors for half to one hour at a time. The continuous method, for which I have devised an inhaler after the model of Dr. Yeo and Dr. Ruata. It is made larger than Dr. Yeo's (and a little smaller than Dr. Ruata's) to take in more fully the nose and the mouth, is more substantially made so as to bear the wear and tear of continuous use, is nickel plated to give smoothness and durability, and is curved to fit the chin. It is manufactured by Messrs. Oppenheimer, Son and Co., London. Various antiseptic substances have been brought into use in the inhalation treatment, chiefly carbolic acid, guaiacol, creosote, turpentine, terebene, menthol, pine, eucalyptus, formalin, chloroform, etc. While making some trials on the volatility of antiseptic drugs, I found that the success of introducing an inhalant into the small bronchial tubes and air passages was proportionate to the degree of diffusibility of the antiseptic mixture used. Though the choice of selecting an antiseptic mixture is more a matter of taste and experience than any superiority of one set of drugs over another, still the drugs should be so combined that the mixture does not act as an irritant, is pleasant and aromatic, and be as perfect as possible in regard to its volatility and diffusibility. We use two or three different solutions to give variety, and to suit the various conditions and idiosyncrasies of patients. No. A. solution contains formaldehyde (from 2½ to 10 per cent. strengths), menthol, pumiline pine, chloroform and rectified spirit. No. B. solution, in addition, contains guaiacol in 12½ per cent. strength. No. C is a stronger mixture, containing guaiacol, terebene, pumiline pine, menthol, chloroform with rectified spirit, and used at night, or when formaline is not tolerated. The following are the formulae of the various solutions:

Inhalant A.

Formalin	2½ per cent.
Chloroform	ʒj
Menthol	gr. x
Ol. pini pumiline	♏ x
Spt. vini rect.	ad ℥j

Inhalant B.

Formalin	5 per cent.
Guaiacol	12½ ,,
Chloroform	ʒj
Menthol	gr. xv
Ol. pini pumiline	♏ xv
Spt. vini rect.	ad ℥j

Inhalant C.

Guaiacol	ʒij
Chloroform	ʒj
Menthol	gr. xv
Ol. pini pumiline	♏ xv
Terebene	ʒj
Spt. vini rect.	ad ℥j

About 10 drops to be sprinkled on the cotton-wool every half to one hour.

N.B.—As formalin solution contains more than 50 per cent. of water, formaldehyde (in the form of gas) is conveyed into the inhalant to make it more volatile.

To give an example of what is done in our sanatorium. When a patient comes to us in an early stage, with practically no fever or cough, he is put on for two hours of inhalation, which is increased to four, six, and then eight or nine hours a day; and as he improves, the hours are reduced to six, then to four, and before he leaves the sanatorium to two hours a day. If the patient has a raised temperature on arrival, or his condition is such as to make it necessary to keep him in bed, he has the inhalation all the day, and as far into the night as possible. As the temperature comes down, and his general condition improves, the hours are gradually reduced. Patients begin with the A. solution (with 2½ per cent. of formalin), and go on to B., which we use as our standard solution. The inhalant C. is generally used at night. In this way I have treated more than 300 cases, and cannot record a single case where the inhalations have done any harm. Of course a little caution and discrimination are necessary in regulating the dose and selecting the patients. The hours of treatment should be gradually increased so as to give time for the nose and the air passages to get accustomed to the antiseptic vapour. If stronger solutions of formaldehyde cause a soreness of throat or bronchial tubes, weaker strengths, or C. solution, should be substituted. The inhalation should be discontinued in cases of haemoptysis or bad dyspnoea. As to results, the beneficial effects of inhalation have been noticeable in so many cases that it is a sheet-anchor in our treatment, and has become a part of the daily programme of the patient's life. I could give instances of many remarkable cases of arrest of the disease in a few months, but it might be rightly objected that a few cases of recovery did not prove the value or the efficacy of the treatment. So I prefer to give the result in general terms. Leaving the first three years, when the inhalation treatment was in an experimental stage, more than 300 cases were treated from 1900 to 1910 by the inhalation method, of which about 52 per cent. have got quite well—that is, well enough to resume their old or take up some new occupation. Analysing according to the different stages, I find that about 80 to 85 per cent. were in the early stage, 40 to 45 per cent. in the moderate, 8 to 10 per cent. in the advanced stage. The question may here be raised as to how far this result is due to the open air alone or to the inhalation treatment. Though it is impossible to analyse exactly their relative merits, I can say without hesitation that all the recoveries are not entirely due to the open air alone, for the following reasons: (*a*) Recovery in some cases was so remarkable that it cannot be attributed to open air; (*b*) patients who carried out the open-air treatment before they came to us began to improve very soon after they were put under continuous inhalation; (*c*) where the open air failed to bring down the temperature and expectoration, the inhalation succeeded in doing so in a good number of cases; (*d*) comparing the two periods, the percentage of results is greater when the inhalation was firmly established than in the pre-inhalation days; (*e*) improvement has been effected even in patients living at home and those attending the out-patient department of hospitals, who for many reasons could not carry out the sanatorium treatment; (*f*) even in advanced cases I have noticed a decrease of fever and expectoration, and a slight improvement all round, making the patient's life more easy and bearable.

In my book on pulmonary tuberculosis and sanatorium treatment I said that an early case took about six months to get well in a sanatorium. The following is typical of some treated last year, which shows that even this period can be shortened by persistent inhalation.

H. P., clerk, aged 22, married, had two children. Was admitted July 1st, 1910. Both the apices were involved. Crepitation more marked on the right than on the left apex. Expectoration contained tubercle bacilli. Began with A. solution for two weeks, and then had the B. solution. During the

first two months the temperature, while normal in the morning, went up between 98.4° F. and 99° F. in the evening. Three times it shot up between 101° F. and 102° F., coming down to normal in about ten days. He went through his breathing and singing exercises, graduated labour, etc. Left the sanatorium November 11th, 1910, with the disease completely arrested, and has been working ever since.

Though it is difficult to assert positively in what way antiseptic inhalations benefit in pulmonary tuberculosis, clinical evidence seems to point out where to seek for an explanation. The inhalation has probably no direct or specific action on the tubercle bacillus. Its soothing action would stop the cough, and thus check the small particles of expectoration from being sucked in and infecting new areas of healthy tissue. It must not be forgotten that the acute febrile symptoms of pulmonary tuberculosis are due not so much to the lesion caused by the tubercle bacillus as to the secondary infection by septic organisms and their toxins. In my opinion, antiseptic inhalations help to check the growth of pyogenic cocci, reduce fever and expectoration, and thus bring about an arrest of the disease. This is clinically proved in the reduction of fever, cough, and sputum when the patient is put under the inhalation treatment. Fresh air also has a similar effect; only where it fails the inhalation often succeeds.

The following case of bronchiectasis with suspected tuberculosis, which was successfully treated by continuous inhalation, goes to prove our contention that it has a distinct effect in checking the growth of septic organisms:

R. A. S., an electrical engineer, aged 29; married, and one child. Was admitted December, 1908. Gave a history of pneumonia on the right side in April, 1908, with high temperature for three or four weeks—the temperature once reaching to 108.6° F. This was followed by an attack of quinsy and abscess on the right lung. Attended the Brompton Hospital in June, went to Westcliff in July, when the temperature kept to 104° F. On examination dullness over right middle lobe, few râles. Sputum frightfully offensive, and measured from 25 to 30 oz. daily, very often tinged with blood, and contained leucocytes and a few streptococci. For three or four months the temperature ranged from 99° F. to 102° F. and 103° F. Continuous inhalation, the mixture containing pine, eucalyptus, terebene, chloroform, menthol and rectified spirit with 10 per cent. of formalin. No sign of improvement for four months; at the end of the fifth the temperature came down to normal in the morning and rising slightly in the evening. The expectoration diminished considerably as well as the fetor. At the end of the sixth month greatly improved. He kept up the inhalation in 1909, and continued to improve. Now the temperature has been quite normal for some months. Expectoration has diminished to 2 or 3 oz. a day, and no offensive smell. His pulse is about 70 to 80 a minute; he said he was perfectly well when I heard from him this week. He has taken to market gardening, and lives and sleeps in a châlet which he has built himself.

Antiseptic inhalations help the consumptive patient in many other ways. They act beneficially in catarrhal affections of the nose, throat, and tonsils which aggravate or keep up the symptoms of pulmonary tuberculosis. Sometimes in the course of the treatment an attack of coryza, catarrh of the nose and throat, or influenza cold is apt to spread downwards, and start fresh mischief in the lung, or lay open an old lesion. In these cases the inhalation acts almost like a specific by cutting short the attack and thus preventing any spread of mischief into the lung. The inhaler provides a certain amount of resistance, and the increased negative pressure favours the flow of blood into the lungs, and thus helps those chronic cases long poisoned by mixed infections and toxins, and suffering from an impoverished condition of the blood. Lastly, it affords protection against strong wind and dust—two great enemies of the consumptive. It is one thing to prove the value of the inhalation treatment, it is quite another thing to carry it out day by day and week by week. Unless the patient is enthusiastic, or has the strength of will, he is apt to get tired of the treatment. The secret of the success of the inhalation treatment depends upon carrying it out perseveringly and continuously. Here lies the advantage of a sanatorium, where the constant presence and encouragement of the physician, together with the success in other cases, helps the patient to persevere and not relax his efforts till the goal is reached. In conclusion, the treatment of pulmonary tuberculosis, to be successful, should embrace to meet all sides of life. All treatment should be based on aëro-therapeutics. The sanatorium treatment improves general condition and nutrition. Various exercises further enhance the general health by helping to eliminate the toxins. The inhalation takes a patient further still, and checks the growth of and activity of bacterial organism, so as to give breathing time for Nature to recover itself. Though the inhalation treatment can be carried out at home, a sanatorium offers facilities and opportunities to pursue the treatment effectually. In inhalation the physician has a powerful weapon to fight and overcome the enemy. All these measures, though faithfully carried out, may sometimes fail. Then the loss of vital resistance, inherited or acquired, is likely to be greater than the remedies brought to bear upon the disease.

DISCUSSION ON RECENT DEVELOPMENTS IN THE RECOGNITION AND TREATMENT OF SYPHILIS.

HELD IN CONJUNCTION WITH THE SECTION OF DERMATOLOGY.

OPENING PAPERS.

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My association with the London Lock Hospital for upwards of a quarter of a century has given me some small insight into the pathology and treatment of syphilis, but I am bound to confess that I have not been able to keep myself up to date in some of the recent developments which have facilitated the recognition of the disease in both its early and its later stages, and as regards the Wassermann test I am compelled to rely on the investigations of those who are fortunate enough to have entered this world and this profession considerably later than I did. Consequently I must deal with the clinical aspect of the disease rather than the bacteriological, and my remarks will be confined to recent developments in the treatment of syphilis.

The recognition of arsenic as an important factor in the treatment of syphilis has for some years past stimulated the workers in the field of chemo-therapy to prolonged researches with the view of evolving some compound which, whilst not producing the toxic effects of that drug when introduced into the stomach, will exercise a destructive action on the *Treponema pallidum;* and as the final result of these researches there has been introduced the compound "606," or salvarsan, with the name of which the medical as well as the general public are now equally familiar.

Seven months ago I contributed a paper to one of the London medical societies giving my then necessarily brief experience of this treatment, and in summing up I expressed the opinion that "in salvarsan we have a valuable addition to our therapeutical stock, which will enable us in appropriate cases to rapidly relieve some of the *symptoms* of the disease; but as a *curative* measure I do not think it will compare favourably with the time-honoured and perfectly satisfactory methods hitherto in vogue." This is a quotation, word for word, from a paper read in December last, and since that time I see no reason for materially modifying the opinion given after a short experience of intramuscular injections. Shortly after writing that, I adopted the intravenous method, which naturally reacts upon the symptoms of the disease with greater rapidity than the intramuscular, and which has many other advantages over the latter method of administering the treatment I was then referring to.

In one of the journals I find myself reported as having said that my experience of "606" did not agree with the opinion of the majority of those who had used that preparation, and that I was not at all inclined to advocate its use, but on carefully reading over my paper I cannot discover that I made any statement which could bear that interpretation. The general tenour of my previous paper was not so much to criticize the treatment in a hostile manner as to check the then immoderate enthusiasm which was aroused by the glowing panegyrics so freely circulated in the medical and in the lay press, and to warn my hearers not to expect too much from it; in other words, my attitude was one of caution, and "*Festina lente*" my motto. From recent correspondence it might be inferred that I had from the commencement assumed an attitude

of uncompromising hostility to the salvarsan treatment—an impression which will, I hope, be modified somewhat by the time I have concluded this communication. I still maintain that many of the early eulogies of salvarsan were not justified, and I am still strongly of opinion that its *general* use is not to be commended, for reasons to which I will allude later. That I recognize its value is best evidenced by the fact that I have employed it in what I considered suitable cases ever since reading my former communication on the subject, and that I see no reason for discontinuing it at present. I did then criticize the title, "Therapia Sterilans Magna," applied to this method of treatment, since it implied that the drug was capable of destroying all the treponemata in the human organism in one fell swoop. I did object then to the way in which it was advertised in the press as an infallible remedy, thereby raising the hopes of those who were the unfortunate victims of syphilis, and leading them to believe that by one or two doses of this remedy they would be permanently relieved from their trouble. Further, I objected then, as I do now, to the preposterous claims made on its behalf, as being calculated to instil the belief into the minds of the young and ignorant that syphilis was an easily curable disease, and that, therefore, they might freely and unhesitatingly expose themselves to the risk of contagion, and that, if unfortunate enough to contract it, they would experience no difficulty or discomfort in ridding themselves of their burden.

As a sample of the attitude of the press to this remedy, may I read a short extract from an article comprising two columns of large print in the *Times* of December 19th, 1910? It was apparently written by one who had never witnessed the treatment, but who relied absolutely on what he had gathered from the French medical journals:

> The results, as described by Dr. E., and by all others who have witnessed them, are marvellous, and appear to indicate the complete and immediate extinction of the syphilitic taint, even in patients who were saturated with the disease and suffering severely from the worst of its later forms.
>
> Dr. E. saw a large number of patients, and he describes the treatment as absolutely and certainly curative whenever the case is not complicated by the presence of non-syphilitic disease affecting vital organs, or by conditions of extreme debility or exhaustion.
>
> "The whole account renders it clear that the way to cure syphilis must be by the employment of a parasiticide." What a vista of future happiness and health a description such as this, appearing in a paper such as the *Times*, holds out to the unfortunate victims of syphilis, and how grievously must some of them have been disappointed on putting the remedy to the test!

I do not pretend to have an enormous experience in the treatment by salvarsan injections, but as I have employed them in upwards of 120 cases I consider that I am quite in a position to form a judgement as to its merits, and the conclusions at which I have arrived are absolutely independent of the opinions of others, whether favourable or the reverse. I have treated in hospital and in my private practice all sorts and conditions of men, and as the majority of my experience has been gained from hospital cases, many of whom were not in an ideal condition to respond to any form of treatment, I do not expect my results and conclusions to compare favourably with those who have had more desirable material with which to deal. For instance, in this, as in other methods of treating syphilis, the military surgeon has an immense advantage over the civilian, since he has to deal with a body of men whose occupation and surroundings render them ideal subjects; they are in the prime of life, are well fed and comfortably quartered, and are, moreover, under the constant supervision of their medical advisers, whose main object is to render them fit to resume their military duties in the shortest possible time. Contrast these with the class of cases I am called upon to deal with at the Lock Hospital, where the majority of the patients have existed in the worst possible of surroundings, whose health has very likely been broken down by intemperance, by privations, and by insanitary surroundings, and who for the most part do not avail themselves of hospital treatment until they are compelled by force of circumstances. Notwithstanding the unfavourable material with which I have had to deal in hospital, I fully recognize, and have frequently realized, that salvarsan is of the greatest value in checking most of the ravages of the disease, but to say that it is of itself capable of curing a malady such as syphilis is, to my mind, a claim which cannot be substantiated.

I have frequently witnessed its extraordinary effects in controlling and abolishing severe manifestations of the disease in all its stages, but I cannot say that I have ever seen it cure a case of syphilis, nor do I think that any surgeon is justified in saying that he has seen a case of syphilis cured until he has kept that case under his observation for at least three years after the disappearance of all symptoms. Though of opinion, with many of those who have had a large experience in the treatment of syphilis, that salvarsan is not in itself a cure for syphilis, I equally realize that it is a valuable addition to the remedies at our disposal in the treatment of that disease, and I am in the habit of employing it in cases of early syphilis, in the presence of severe and disfiguring cutaneous manifestations, in obstinate ulcerations of the tongue and buccal mucous membranes, in syphilitic iritis and laryngitis, and in cases of osteo-periostitis accompanied by severe nocturnal pains. Further, I fully appreciate its value as an aid to the prophylaxis of syphilis, and I am of opinion that by its powers to control the early and highly contagious manifestations of the disease it is calculated to diminish the opportunities of spreading it by those who are ignorant or careless as to its contagious properties.

But whilst fully realizing the beneficial effects of salvarsan, it must still be borne in mind that it is not the only remedy for syphilis, and that cases innumerable have been conducted to a favourable termination in the past, if efficiently treated with mercury, and I for one should not at the present juncture dream of deserting that old and well-tried remedy. I am led to imagine that some of those who describe the marvellous improvements following the injection of salvarsan cannot have had a very wide experience of the treatment of syphilis by intramuscular injections of mercury or even by inunctions, or they would have witnessed equally remarkable results from energetic treatment by that drug.

A remedy such as mercury (which in the light of our present knowledge is antagonistic to the *Treponema pallidum*, whether it be applied locally or administered internally) is not to be unceremoniously deposed from the position of supremacy it has hitherto held; and, for my own part, I see no indications for wavering in a long allegiance to it, and would still regard it as my mainstay in the treatment of syphilis. I have ever recognized arsenic as a most valuable adjunct to mercurial treatment, and have always employed it as such, and I recognize salvarsan as undoubtedly the most valuable arsenical preparation hitherto introduced.

Though I do not for one moment imagine that the treatment of syphilis I am about to outline represents any very recent development in the management of that disease, I would yet venture to give a brief sketch of the form of treatment which I consider an ideal one to pursue, provided that the patient consents to submit to it. If the case is a recent one and the chancre is the only manifestation present, I rely almost completely for my diagnosis on the presence of the treponema in the exudation from the initial lesion; I say almost completely, for I have encountered several cases in which the treponema was not discovered after repeated examinations, and in which the case ultimately proved to be one of syphilis. The diagnosis having been established, I recommend an intravenous injection of salvarsan, the dosage of which will vary, according to the age and constitution of the patient, from 0.6 gram to 0.4 gram, or even less. After an interval varying from ten days to a fortnight, I recommend another injection varying in amount according to the reaction which followed the preceding one. In cases presenting themselves in later stages of the disease, I am in favour of commencing the treatment with at least one injection. But both in hospital and in private practice I have often experienced considerable difficulty in prevailing upon the patients to have a second injection. In some cases the symptoms clear up so rapidly after the first that they think it unnecessary to submit to another, and in others the reaction is so unpleasant that they resolutely decline to submit to a repetition of the dose. After these injections, I at once place the patients on the particular form of mercurial treatment which accords best with their habits and surroundings, either intramuscular injections,

inunctions, or the much-despised treatment by pills, in which I still place considerable faith. As regards the period during which the chronic intermittent mercurial treatment should subsequently be continued after the injections of salvarsan, much will depend upon the Wassermann reactions, which should be tested at intervals, but at the present time I advise patients that it should be prolonged over a period of three years.

On the subject of the treatment of syphilis, none can deny that the opinion of Professor Neisser is one that commands universal respect, and it may not be altogether out of place if I quote a few extracts from his Cavendish Lecture delivered a month ago.

He says, "But in spite of all enthusiasm for '606,' I will not renounce, at least in the meantime, mercury altogether. It appears to me beyond all doubt that a surer, more brilliant, and more lasting curative effect will follow if we combine the two remedies."

Further on he says, "I have also by no means forsaken my old principle of chronic treatment in spite of all my deep conviction of the imminent curative power of the salvarsan."

As I stated previously, I do not think that the general use of intravenous injections of salvarsan is to be commended, and I remain of opinion that there are many objections to its being employed as a routine treatment, amongst which may be mentioned expense, inconvenience, difficulties, and dangers. I pass by the objection of expense, which is not an insurmountable one, and proceed to that of inconvenience to the patient. It is, I imagine, universally recognized by those who practise this treatment that the patient must be confined to bed for at least twenty-four hours, and possibly longer, and that a careful watch must be kept upon him by a skilled nurse for that time; the reaction following an injection may be severe and is often alarming; pyrexia, rigors, vomiting, diarrhoea, and intense prostration and collapse may all be met with; and it is difficult, if not impossible, to say beforehand how any particular individual will react to the injection, and whether he may not prove himself to be an example of arsenical intolerance. It is not always possible for a private patient to explain his disappearance for twenty-four hours, and it might put him in a position of considerable embarrassment; still this is not an insuperable obstacle. In a discussion in which I took part elsewhere, I drew attention to the fact that the administration of an intravenous injection was in many cases not quite such a simple affair as might be imagined, and that it was often a matter of difficulty, especially in the case of female patients, to introduce a needle into the selected vein; I was then corrected by an eminent bacteriologist present, who stated that he never encountered any difficulty in that respect, and so I had to subside with a good grace and admit my ineptitude.

I may, however, allude to the fact that at an International Congress in Dermatology, held in the year 1896, I gave my experience of the treatment of syphilis by intravenous injections of mercury, and I then mentioned that upwards of 1,000 injections had been administered to patients at the London Lock Hospital by myself or by my house-surgeons, Dr. Byles and Mr. Chopping, acting under my instructions, principally, I must confess, by the two latter. The concluding words of my communication on that occasion were:

> The only real objection I can see to the method is the difficulty experienced in some instances of making the veins stand out, and in a certain proportion of cases, especially amongst women, this is an insuperable obstacle.

This difficulty still remains for the surgeon, and I am informed that at least one member of our fraternity when practising these injections takes with him an anaesthetist and the necessary instruments to enable him to expose a vein; I have never gone quite so far as that, though I have had to cut down upon the vein under local anaesthesia. It also has happened that the vein has been missed, and that the injection, or part of it, has been made into the subcutaneous tissue. I have come across a case in my hospital in which this happened, and in which dense solid oedema ensued in the arm from the wrist to the shoulder, and that at least two months elapsed before this completely subsided. I have also seen two cases in which thrombosis of the injected vein supervened with the blocking of from 2 to 4 in. of its lumen. The objections on the ground of difficulty are not as frivolous as they appear, and if any of these slight complications occurred after the use of injections in private practice, they might not conduce to the popularity of the practitioner.

A certain number of deaths have undoubtedly followed this procedure, and I have a shrewd suspicion that if all the fatalities consequent upon this treatment had been recorded it would make up a somewhat formidable total, but medical literature in this, as in other countries, is not very extensively utilized for the publication of failures, and much less of disasters. Major French has compiled a list of 31 deaths following injections of salvarsan, and this has been characterized by one of the staunch adherents of this treatment as a remarkably small casualty list, and one which was to be attributed to faulty technique or to an injudicious selection of cases. Amongst my hospital patients I have had two fatalities following injection of salvarsan, though I do not attribute these deaths quite so much to the arsenic as to the severity of the disease.

The first case was that of a man aged 27, who acquired syphilis in April, 1910, and who was admitted into hospital on August 17th with phagedaenic ulceration of the penis, a large ulcer on the inner side of the right leg, and also ulceration of the roof of the mouth. He was given six injections of calomel, but as the symptoms did not yield to that treatment, he was given an intramuscular injection of 0.5 gram of salvarsan by my colleague, Dr. McDonagh, on September 24th. The ulcers showed no subsequent improvement, and perforation of the palate occurred, through which nearly the whole of the necrosed left superior maxilla was subsequently removed.

For the latter part of November he remained in a sleepy and apathetic condition from septic toxaemia, and he died on December 2nd.

The second of my cases was that of a man aged 29, who acquired syphilis in August, 1909, and was admitted into the Lock Hospital on October 30th, when he was suffering from a severe attack of malignant syphilis, manifesting itself in destructive ulceration of the palate and fauces, iritis of left eye, and extensive and multiple ulcers on the legs. He remained in hospital till July, 1910, having improved slowly under treatment by calomel injections, iodides, and tonics, and ultimately he became free from symptoms by the beginning of September, having in the meantime been treated as an out-patient with further injections of calomel. In February of this year he was readmitted into the hospital with a severe relapse, which manifested itself mainly in extensive and destructive ulceration of lips, cheeks, and throat. On February 22nd he was injected intravenously with 0.5 gram of salvarsan, a procedure which was shortly followed by vomiting and extreme collapse, so much so that both nurses and patients considered him to be moribund. Two days later intense jaundice supervened, which subsequently increased, so that he was of a dark brown colour from head to foot. On March 1st he became delirious, and died on the following day. In neither of these cases was an autopsy performed.

Another fatal case was called to my notice by a medical *confrère*, who has been kind enough to transmit to me a short account of the case and his permission to make use of it.

It was that of a man aged 30, whose general health, apart from syphilis, was perfectly good; he contracted the disease in 1909, and was treated with mercury, under which all his symptoms, which were mild, cleared up shortly. After eighteen months' treatment he gave a positive reaction to the Wassermann test. As he had heard a great deal of the effects of the salvarsan treatment, and as he was desirous of getting married, he was sent to an eminent hospital surgeon to have it administered. This was done in the morning, 0.6 gram being administered intravenously; the injection was followed by slight nausea, but in the afternoon he complained of pains in the chest, breathing was laboured, and he became cyanosed. Oxygen was given continuously and he had an injection of pituitary extract; he improved after this, and said he felt about all right, but as his pulse was not quite satisfactory, adrenalin and coffee were administered, under which treatment his unfavourable symptoms subsided, but in the middle of the night he suddenly got worse, and died in a few minutes, his pulse remaining good to the end.

Quite recently, again, on July 20th, an inquest was reported on the death of a patient in the German Hospital at Dalston, following an injection of salvarsan given in a case of locomotor ataxy.

These are some of the reasons for which I dsprecate the general use of salvarsan in the treatment of syphilis, for even if the mortality after these injections is small relatively, and is due to want of discrimination in the selection of cases or to errors of technique, how are we going to obviate these errors in either judgement or in the method of administering the remedy, and how are we to ascertain beforehand whether a patient is intolerant to

arsenic or not? The sensitiveness of a patient to salvarsan may be tried by the Calmette or von Pirquet reaction to the drug, but I am not aware that these experiments have been utilized to any extent. The treatment by salvarsan is at present not in universal use in this country, and I would urge those who contemplate making a trial of this treatment for the first time to refrain from doing so until they have witnessed the procedure on several occasions, and have realized for themselves that it is not quite so easy as the accounts of it might have led them to imagine.

The principal faults in technique which are to be studiously avoided are the introduction of air or of blood clot with the injection. It may seem an easy matter to exclude air, but I have not infrequently noticed bubbles passing by the glass window by which the india-rubber tubing is interrupted close to the needle; if very minute, they may be disregarded, but otherwise the injection should not be proceeded with until the air has been evacuated from the tube, and this will necessitate an interruption in the procedure.

It has been recommended by some that, in order to ascertain if the needle is in the lumen of the vein, a certain amount of blood should be allowed to run back from the vein through the needle until it makes its appearance at the glass window already alluded to. To this I am strongly opposed, since it is a direct invitation to the blood to form a clot, which clot will subsequently be forced into the circulation. After some experience, it is quite easy to feel whether the needle is free in the lumen of the vein, and on allowing the preliminary fluid, saline solution, or distilled water to flow in a swelling in the subcutaneous tissue must occur if the needle has missed the vessel. It is often necessary to abandon one vein if there is any uncertainty as to the needle being properly introduced and to select another or even a third. Finally, it is often necessary, especially in women, to make a small incision under local anaesthesia and to fully expose a vein, when there should be no difficulty in bringing the injection to a satisfactory conclusion.

My experience, then, of a considerable number of these injections leads me to approach each case with a sense of the deepest responsibility, not altogether unmingled with anxiety, and I ever consider it my duty to inform the patient that the treatment is not altogether without risk and will in all probability be followed by considerable discomfort, and I leave it to his judgement to decide as to whether he will take a risk which, I own, is not great, and submit to discomfort which is often a negligible quantity.

In conclusion, whilst I consider injections of salvarsan an ideal treatment of syphilis, if subsequently followed up by mercury, I am of opinion that it is a treatment which is not justified until and unless the surgeon has made himself thoroughly conversant with the technique, and, for the reasons I have already stated, I should hesitate to recommend it as a routine treatment and one to be universally adopted.

II.—Major L. W. HARRISON, R.A.M.C.

MAJOR L. W. HARRISON, R.A.M.C., then read a paper, on behalf of himself and Major T. W. Gibbard, relating to work which they had performed together, and a second paper by himself on the rôle of the pathologist in connexion with syphilis. Both communications were in the nature of explanation of the tables accompanying them, and, as these are very long, they are all placed together at the end of this discussion in order to conserve its sequence.

III.—J. E. R. McDONAGH, F.R.C.S.,

Surgeon to Out-patients, London Lock Hospital.

SINCE our last meeting the treatment of syphilis has undergone a revolution, owing to the discovery of "606," or, as it is now called, "salvarsan." Although this drug was first used clinically in 1909, we had not had sufficient experience of its use in this country to allow us to give our opinions of its action last July. The object of my few words will be to relate briefly the broad points in connexion with the use of the drug, leaving the chemistry to those who are more able to deal with it and about which so much has already been admirably written.

Salvarsan being a synthetic organic arsenical compound, it was feared that its use in man might be followed by severe lesions of the nervous system which we had heard so much about following the employment of atoxyl and arsacetin.

From our short acquaintance these fears have not been substantiated. Accidents have unfortunately happened, and these have been largely due either to faulty technique or to disregarding the contraindications which can be so easily determined by careful examination of the patient before he is put under treatment. Apart from these two factors, there will always be a small minority of cases which will show an idiosyncrasy to its use, but this is the rule with every drug, be it new or old, and unfortunately we have no means at present of testing a patient's idiosyncrasy beforehand.

Lesions of the optic and acoustic nerve have followed the use of "606," but are not toxic manifestations, since they are usually unilateral, and improve either under a second injection or treatment with mercury. The cases of optic neuritis and inflammation of the cochlear branch and vestibular branch of the eighth nerve on the one hand giving rise to deafness, and on the other to vomiting, giddiness, tinnitus, and nystagmus, have occurred within four months after giving "606" and within twelve months of catching the disease.

Syphilitic affections of the cranial nerves have always received scanty recognition, and since our attention has lately been called to them we find that such lesions are by no means uncommon in the secondary stage of syphilis, and as regards percentage of occurrence compare very favourably with the percentage obtained in cases treated with salvarsan.

Reading the literature on "606" one cannot help being struck that most of the cases of neuro-recurrences—as we prefer to call these nerve affections—have been described by a few observers, while others in the same country or even town have never experienced a case.

At Easter I visited the clinics of several Continental cities, and found that those who had such cases had only given their patients one injection, and waited for a recurrence before giving a second, while those whose rule it is to give two injections or combine salvarsan with mercury had no neuro-recurrences.

Before I made the rule of giving a second injection within a fortnight or of combining mercury in my treatment, I had one case of unilateral optic neuritis and one case of unilateral affection of both the cochlear and the vestibular branches of the eighth nerve; both cases improved under further treatment. Since then I have not had one single case.

The cause is probably due to an inflammation of the nerve brought about by the presence of spirochaetes, and which failed to be destroyed by a single injection. Such a theory is substantiated by the fact that these neuro-recurrences took place much more frequently when the chancre was situated on the head than on the penis; and it is recognized that extragenital chancres in this position are more commonly followed by headaches and nervous symptoms early in the secondary stage than genital chancres. This shows the necessity of being especially drastic with one's treatment in such cases.

Within the last twelve months I have seen two cases of unilateral optic neuritis, and three cases of inflammation of one cochlear nerve, and one case in which both the cochlear and vestibular nerve on one side were affected. Many present will remember this case, as I showed the patient last week before the society.

These cases were all in the secondary stage of syphilis, and had either no treatment or a little mercury.

So few patients connect these nerve symptoms with the disease that, unless special inquiry is made, they will as often as not be missed.

From such evidence one can only deduce that when such lesions of the cranial nerves set in after the patient has had "606," they are syphilitic manifestations, and they have occurred because the treatment was inadequate.

As far as I know, there has been only one case of optic atrophy, a patient of Professor Finger's, who had had previous treatment with arsacetin and enesol, and how much "606" or its predecessors are to blame cannot be estimated. Nevertheless, more cases of optic atrophy followed the use of arsacetin which had previously been treated with atoxyl than those in which arsacetin was the first arsenical compound prescribed; therefore, some care

should be exercised in submitting patients to "606" who have had courses of atoxyl, arsacetin, or arsenophenyl glycin.

Optic atrophy occurring in tabes is a different matter, and tabetics with optic neuritis should not be treated. If atrophy is going to supervene, "606" will not stop it, and it is by no means certain that it will not hasten it.

Optic neuritis of syphilitic origin is not a contraindication to salvarsan, nor is it when it is a symptom of intracranial syphilitic disease.

Death is a still more important consideration; the number has been very largely overestimated and the drug directly held responsible for them, without any consideration of the bad technique which has frequently been the cause. If a patient dies of pulmonary embolism soon after the injection, or develops hemiplegia, both conditions being due to a blockage of some one or more vessels, it is due to an acid or too alkaline a solution which led to clotting, and has nothing to do with "606" itself.

Although lesions of the heart, liver, and kidneys, including aneurysms, diabetes, advanced cases of nervous diseases, epilepsy not of syphilitic origin, old age and tiny marasmic infants have been laid down from the first as absolute contraindications, cases falling within this pale have, nevertheless, been subjected to treatment, with dire results, and when the report circulates and gets published second or third hand, "606" is made to bear all the blame.

The first effect of giving an intravenous injection of "606" is to cause a rise of blood pressure, and this momentary rise is followed by a fall, which may be severe, especially when the solution is too alkaline. Such alterations in blood pressure might have a most injurious effect on a heart with myocarditis.

This fall in blood pressure after injection may be an alarming occurrence, and it is invariably due to the solution being too alkaline. The fall of pressure is of central origin, it occurs usually within a quarter of an hour after the injection, the patient goes white, becomes unconscious and the pulse is almost imperceptible. With the aid of hot blankets, mustard poultice over the heart, subcutaneous injections of camphor 1½ grains in 15 minims of sesame oil, the patient soon recovers consciousness, and the first action is to be violently sick owing to the blood having collected in the splanchnic area.

Apart from the care of preparing the fluid, to avoid this fall of pressure too much importance cannot be put on how the patient is prepared to receive it.

The preparation beforehand should be the same as for a surgical operation, *re* food and emptying of bowels, and immediately after the injection the patient should be removed to his bed as he would be if he had had an anaesthetic.

Returning to the consideration of the contraindications. The arsenic is mainly excreted in the urine and faeces, so unless the liver and kidneys are normal the drug accumulates in these already damaged organs and causes further destruction of the parenchyma cells, with the result that acute atrophy may develop.

It not infrequently happens that reactionary inflammation in and round about the lesion occurs after injection. Buccal lesions, for instance, often become temporarily swollen and more inflamed.

Supposing there is an endarteritis of a coronary artery, a small degree of reactionary inflammation might be sufficient to close it and so cause death. In the case of intracranial vessels or in patients already the subjects of hemiplegia, their end is brought about by a haemorrhage in the usual course of events, and there is already evidence that this haemorrhage may be precipitated by an ill-timed injection.

In cases of meningitis, more especially in the basal type, reactionary inflammation may be sufficient to raise the intracranial pressure that the patient gets dyspnoea, which may prove fatal. I have had such a case.

Reactionary inflammation is much more marked after large than small doses, so in cases where it is feared doses of not more than 0.3 gram should be employed, and such a quantity can be safely repeated three or four times.

One other effect the drug may have is to cause secondary haemorrhage; therefore no case which has been recently operated upon should be submitted to treatment, or a case of pulmonary tuberculosis with a cavity and the likelihood of a haemoptysis.

Concerning the mode of injection, I think all are agreed that the intravenous is preferable to the intramuscular; the pain and risk of necrosis are obviated, and the injection can be repeated without fear of accumulation.

Too much care cannot be taken as to how the mixture is prepared, and, as the powder varies in its degree of acidity, the amount of sodium hydroxide required to render the solution just alkaline is not the same in every case.

The solution must certainly not be acid or too alkaline, and to avoid the latter it is best to use a 0.8 per cent. NaOH solution.

After having dissolved the powder, add 10 c.cm. of a 0.8 per cent. solution of NaOH (double decinormal), when a precipitate forms, which dissolves completely with stirring on the further addition of about 8 c.cm. of the soda solution. In short, so many cubic centimetres should be added until the solution is quite clear. If a 15 per cent. soda solution is employed, one must count in drops, and one or two drops too little or too much may make all the difference to the after-effects. It is easier to overdo the alkalinity with minims than with cubic centimetres.

The solution to be injected should be warm, but not as hot as the body temperature, and 0.6 gram should not be dissolved in less than 10 oz. of saline.

Saline should be used for washing out the vein after the "606" has been injected; this procedure lessens the liability to local thrombosis.

The vein may thrombose as high up as one can feel; this is almost invariably due to the injection being too alkaline; beyond being rather painful it is of no moment, and it may in time resolve.

A septic thrombosis is with due care always avoidable.

Practical Application.

The earlier a case of syphilis is diagnosed the greater is the chance of curing it; therefore when a sore alone is present it is criminal to wait for secondary symptoms, since in more than 90 per cent. of cases a man accustomed to see syphilis will be able to make a diagnosis from his clinical experience, and where this is impossible bacteriology (presence of *Spirochaeta pallida*) may settle the question.

Let me emphasize once again that a Wassermann reaction in the primary stage of syphilis is valueless, since the moment this reaction becomes positive the secondary stage or stage of general infection has been reached.

A cure is probably possible in almost every case in the primary stage after two intravenous injections of salvarsan in doses of not less than 0.45 gram, given with an interval of ten days. In the primary stage every day is of importance, therefore diagnose early and treat early.

I have now 22 cases of primary syphilis treated in this way ranging from twelve months to the present, which have never given a positive Wassermann reaction or developed secondary symptoms. I say almost every case, because it is conceivable that a patient may fail to be influenced in the slightest degree by "606." Mr. Shillitoe had a patient in the secondary stage, positive Wassermann reaction, with no other symptom but the chancre and inguinal adenitis, in which the chancre did not heal, either under "606" or mercury.

The percentage of cases which fail to respond to salvarsan is greatest during the secondary stage, and such cases not infrequently are equally resistant to mercury.

In the secondary stage the treatment should be either two intravenous injections of "606" within an interval of 10–14 days, followed by a third after giving eight weekly intramuscular injections of mercury, or the mercury may be given between the first two injections of "606." An interval of two months should then elapse, and only further treatment be advised when the Wassermann reaction is positive. If more treatment is necessary I advise another course of mercurial injections followed by an intravenous injection of "606."

It is useless relying on a Wassermann reaction before two months have elapsed since the last treatment, and I never say that a patient is cured until three consecutive Wassermann reactions are given with an interval of three months between them.

This is purely empirical; it cannot be otherwise in the

present early state of our knowledge, but one must have certain rules to go upon, and, further, the patient requires them.

Many secondary cases of syphilis are cured by a course mapped out as above; some require further treatment, but it is only by means of the Wassermann reaction that one can discriminate between the two. The same plan of treatment may also be made to hold good for tertiary cases; but an equivalent amount of success cannot be achieved, since in a few cases it is impossible to convert a positive Wassermann reaction into a negative.

This is likewise sometimes the case in congenital syphilis.

This being so, what should be done in these cases? In some of the acquired cases they are men getting on in life who have shown no symptoms for years and had healthy children. Provided at the time of examination they are free from symptoms no treatment should be advised, since cure is out of the question, and it is more than likely that they will end their days from another disease; and, on the other hand, salvarsan works so quickly that on the slightest outbreak of symptoms these symptoms could be made to disappear.

The same rule applies to cases of congenital syphilis who have reached the age of puberty, since such cases rarely develop further symptoms, although the blood may give a positive Wassermann reaction for years afterwards.

In tertiary cases iodides should never be omitted in treatment, and even in secondary syphilis they are frequently of much assistance, and I always make a rule after each course of "606" and mercury to give potassium iodide for two or three weeks.

Of the greatest importance is local treatment. A primary sore should be excised when possible; when impossible because of its position it should be cauterized.

A chancre may heal and the induration left may remain irrespective of treatment, mercurial or otherwise, to break down again later and give rise to a fresh but milder general infection.

Induration is due to fibrous tissue, blood vessels are few and far between, so the drug may not get to the spirochaetes, which are able to live in dense connective tissue, in this way differing from their cousins the trypanosomes, which prefer blood to connective tissue for their habitat.

It is now recognized that there is no such thing as syphilitic immunity either to one's own original or a foreign virus. The reason why so few cases of reinfection are seen is because so few cases are cured—that is, they are actively syphilitic and cannot be reinfected. Consequently external irritation may light up affairs in an induration, the spirochaetes multiply and give rise, with the usual incubation period, to a general infection. I showed such a case before the Dermatological Society in June, and altogether I have had 3 cases within the last twelve months of men early in the secondary stage cured by salvarsan return within a few months with a diffuse macular rash—which, by the way, is a very rare recurrent syphilide—which appeared a few weeks after the patient noticed the site of his original sore swell and become red.

This certainly speaks for the efficiency of salvarsan, and within the short time it has been in use already 7 cases of an undoubted reinfection have been reported, and one case of a prostitute who had three distinct attacks within a period of twelve months, the chancre being in a different position each time.

In all syphilides where there are crusts or scabs these should be removed and mercurial ointment employed when possible. In the event of a secondary infection, antiseptic means should be adopted to overcome it.

The time is not yet ripe to draw up statistics, so these I have avoided, likewise discussing the treatment in the various syphilitic manifestations, nervous diseases in special, about which so much more could be said. I have rather trodden the wider paths of the question and given you my views regarding the treatment of syphilis as a whole.

DISCUSSION.

Dr. E. R. SCHUSTER (Aix-la-Chapelle) said: It is difficult to add anything to the clear and exhaustive paper of Mr. Ernest Lane, who has said everything there is to say in regard to our present standpoint of the treatment of syphilis. I should therefore like to confine my remarks to the treatment of syphilis of the central nervous system and the value of Wassermann's reaction. In regard to the latter, I believe that its practical value is still often over-estimated. Where positive it may occasionally form an important diagnostic aid, but it is of no value, either as regards prognosis or in regard to treatment. The reaction is frequently negative in cases of tertiary syphilis, especially in affections of the nervous system, where the history and the success of antisyphilitic treatment show the specific origin of the disease. And, again, a positive Wassermann reaction does, at the most only show that syphilis in some form is present, it may be latent or active; we cannot say from it whether and when it may manifest itself again by active symptoms. What we have learnt through the Wassermann reaction is that we are, as of old, obliged to consider every case in regard to its clinical history and condition and the number and intensity of the courses of treatment which the patient has hitherto received; that cases sufficiently and carefully treated may still harbour their syphilis in a latent form, and that the treatment must therefore be still more persistent and persevering; and also that specific treatment should be employed in the treatment of parasyphilitic affections. In regard to tabes and cases suspicious of general paralysis, opinions are even to-day still divided as to the effect and advisability of specific treatment. Here Wassermann's test and salvarsan have caused a change. One certainly must not expect the regeneration of degenerated posterior columns, etc., by mercury or salvarsan—all we can hope for is the destruction of still active spirochaetes and the stoppage of a further degenerative process, or the amelioration of certain symptoms, as those from the eyes or ears, sensory or psychical disturbances. Granted that salvarsan acts quicker than mercury, it is undoubtedly a much more dangerous drug. The care and circumspection with which it ought to be applied in diseases of the central nervous system is shown again by a case recently recorded by Westphal of Bonn—a case of locomotor ataxy, who seven hours after an intramuscular injection of salvarsan died suddenly from respiratory paralysis. The necropsy showed, in addition to the grey degeneration of the posterior columns, a specific meningitis of the cervical cord. A hyperaemia of this part had caused a sudden compression and paralysis of the nuclei of the phrenic nerves. A similar case of tabes ending fatally has been described by Treupel. Here the necropsy showed punctiform haemorrhages in the medulla oblongata. Such cases, perhaps, help to explain the reason why relapses from the side of the nervous system have lately been more frequently observed. They also warn us to exert the greatest care in the dosage of remedies for the treatment of syphilis. All heroic measures, among which we may count not only salvarsan but also too large inunctions or injections of mercury, always imply danger to the patient. "*Nil nocere*" should also here be our maxim. We have always to adopt our dosage to the tolerance of the patient. I am still an adherent of the intermittent treatment of Fournier and Neisser, giving alternating treatment by mercurial inunctions and injections, or occasionally also internal medication, as recommended by Jonathan Hutchinson, for periods of six to eight weeks, and rarely longer at a time, with pauses of two to three months, and carrying this out for a number of years. The use of iodine, and also that of salvarsan, the latter in cases of recent infection and also in most carefully selected, more advanced cases, forms only an important adjuvant of the treatment, which may further be assisted by appropriate hygienic, hydrotherapeutic, and physical methods. Salvarsan should preferably be given by intravenous injection. It is essential that the whole treatment should be carried out in a systematic manner and I cannot help thinking that in many cases of syphilis the disease and the treatment become unduly protracted on account of the unsystematic way in which the old and well-tried remedies are administered. It is desirable that the patient should, for the period of most intense treatment, at least, stay away from his ordinary occupation and be placed under favourable conditions, such, for instance, as he would find at one of the recognized spas where the cure of syphilis is undertaken.

Dr. G. G. STOPFORD TAYLOR (Liverpool) narrated the successful treatment of a case of tabes with gastric crisis

in which pain disappeared and walking improved with salvarsan injections. He mentioned that eleven or twelve weeks after salvarsan had been injected intramuscularly arsenic had been found in the urine. The effect of salvarsan in his experience had been most striking in ulcerative conditions of mouth and throat and in severe nocturnal periosteal pains.

Dr. OTTO GRÜNBAUM (London) thought that little benefit could be experienced in true tabes with degeneration of tracts. In pseudo-tabes, which was a tertiary syphilitic phenomenon, benefit would be anticipated. He described some practical devices which might overcome the difficulty of effecting intravenous injection. The arm might be immersed in hot water, when the veins would be found much larger; or the vein might be rendered less mobile by freezing the skin over the point of incision.

Dr. PERNET (London) considered that salvarsan was a useful drug, but it was very important that, for the present, the contraindications originally laid down by Professor Ehrlich should be observed. On the whole Dr. Pernet agreed with the general attitude adopted by the opener of the discussion—namely, that individual cases should be taken on their merits, and that patients should be told exactly how matters stood as to risks. They had all heard of salvarsan having been given in thousands of cases, but an investigation such as that carried out by Major Harrison and Major Gibbard on a limited number of patients under control was far more valuable for the guidance of the profession than thousands of cases indifferently recorded.

Dr. G. H. LANCASHIRE (Manchester) remarked that his experience of salvarsan had been entirely favourable, judging it from its capacity to rapidly remove immediate symptoms. He agreed, though, with Mr. Lane, that some of those who had been so impressed with this feature of "606" could not have had much experience of mercurial intramuscular injections, which sometimes rivalled the newer drug in rapidity. He brought forward his experience with some diffidence, inasmuch as his list of cases numbered merely 24 in the present year. On the other hand, these had all been selected cases, and included particularly some which had proved refractory to other treatment. He had found salvarsan especially a boon in clearing up some of those obstinate and long-standing tertiary cases which had been apt to accumulate in out-patient practice. His cases included two of primary syphilis, about a dozen were secondary cases, and the remainder obstinate tertiaries. One of the primary cases refused to take mercury in addition, and remained clear from syphilitic signs for three months. Another secondary (papular) case relapsed within six weeks. Strikingly good results were obtained in three framboesial cases—a notoriously obstinate condition. A syphilitic onychia of the great toe, which had persisted for six months, healed within a week. He had employed subcutaneous injections in the first half-dozen instances. Two of these (one secondary and one tertiary) did very well. The other four developed abscesses, and in none of them was there any good clinical effect until intramuscular injections had been given in addition. (He asked why suppuration should be more prone to follow subcutaneous rather than intramuscular injection.) The remaining eighteen cases had all been treated with intramuscular injections in varying doses up to 0.6 gram, using neutral preparations. He had found pain in many instances practically *nil;* there had been uniformly good results in all the cases, and no signs of abscess. His experience, so far as it went, certainly did not incline him to abandon the intramuscular plan in favour of the intravenous method with its admitted greater dangers.

Dr. J. C. MCWALTER (Dublin) said salvarsan being a proprietary remedy, every dose given was for the benefit of a certain firm of chemists. The faculty, therefore, ought to approach the question with a considerable degree of scepticism. It had never been proved that a case of syphilis had been cured by salvarsan alone without the use of mercury. No man could say a case of syphilis was cured until at least two years after infection. Most of the results shown were those of cases where only three to ten months had elapsed. Most of the results attributed to salvarsan were those which might be expected to result from the use of massive doses of arsenic. Now, a dose of 0.6 gram of salvarsan was equivalent to 10 grains of an arsenic salt. The relief of pain found from its use was such as often followed from the use of a coal-tar compound, of the phenazone or acetanilide series, with arsenic.

A SUMMARY OF RESULTS OBTAINED BY THE USE OF SALVARSAN IN SYPHILIS.

BY

Major T. W. GIBBARD, R.A.M.C. and Major L. W. HARRISON, R.A.M.C.

IN estimating the value of a new remedy for syphilis it is natural to compare its action with that of mercury, and in doing so the inquiry resolves itself into an investigation as to whether (1) it is as safe to use; (2) has as rapid an effect as, or a more rapid one than, mercury on the various manifestations of syphilis; and (3) whether its effects are as permanent as those of the latter remedy. Speaking generally, one may say of mercury that if it is properly administered for a sufficiently long period of time (certainly for not less than two years, in our opinion), and the patient is careful to observe the rules of hygiene, it is probably possible to obtain a cure with it in the majority of cases.

On the other hand, it must be admitted that, however it is administered, treatment by mercury makes great demands on the patience of the patient, is often marked by troublesome relapses, and in not a few cases the patient is unable to tolerate the drug in the amounts which are necessary to benefit his disease; in other words, one may say that its action is slow, and that the margin between the dose which can be tolerated by the patient and that which is sufficient to cure his disease is generally so narrow that considerable skill is required to avoid poisoning him with mercury on the one hand, and allowing the parasite to poison him on the other.

The treatment of syphilis by mercury in the army involves the expenditure of an incalculable amount of time and energy on the part of the medical officers concerned, and it is natural that we should be fully alive to the importance of a preparation which promises to eliminate many of the disadvantages attending its use. At our request Professor Ehrlich very kindly placed a supply of salvarsan at our disposal last July, and we have been engaged in investigating its effects for the past eleven months. The cases to which we have administered it are made up as follows: (1) Every fresh case of syphilis admitted to the Military Hospital, Rochester Row, where the patient had at least one year still to serve with the colours, and could, therefore, be kept under observation for at least that length of time; and (2) a number of cases, drawn from our own practice and that of every military hospital in the United Kingdom, in which mercury had failed to prevent frequent relapses, or to produce an impression on the disease, or could not be tolerated by the patient.

We have been able to keep a very large proportion of our cases under observation since we administered salvarsan to them, thanks to the valuable co-operation of our colleagues at Rochester Row and that of our brother officers in numerous stations to which a number of our patients have returned since the treatment. The observation has included not only the clinical examination of the patient at regular intervals, but, as far as possible, that of the blood serum for the Wassermann reaction, to which we attach the greatest importance in an investigation of this kind. It would occupy your time too much if we entered into a description of the results we have obtained in any detail, but we have prepared the table which is before you (see pp. 681–685).

We have included in this table (1) every case we have treated and have had under observation for not less than three months since the *last* injection of salvarsan; (2) every case in which a clinical relapse has occurred, regardless of the time he has been under observation; (3) a few cases in which the immediate effect of administering salvarsan was so striking as to be of interest; and (4) all our cases in which the effect of

salvarsan was not so pronounced as in the majority. We have omitted no case whose inclusion would possibly have detracted from the value of the remedy. We did not consider that it would serve any useful purpose if we included cases which had been under observation for a shorter period than three months since the date of the last injection, and in which the immediate effects were similar to those described in the detailed table. In preparing this table we have attempted to give you all the information possible to enable you to form an estimate of the value of the remedy as far as this can be done at this early stage. There are a few points in our results to which we would like to draw your attention: (1) In fresh cases which were treated with salvarsan only the immediate effect of injecting the remedy was more rapid than that which we have become accustomed to expect from the use of mercury. Not only was this apparent from the clinical point of view, but the rapid disappearance of treponemata from local lesions, such as primary sores and condylomata, in which they abounded previously to the injection, as well as the change in the Wassermann reaction, neither of which occurs nearly so speedily with mercury, is strong evidence to our minds that the specific effect of salvarsan is much more intense than that of mercury. (2) You will see that our cases include a number in which mercury, for some reason, had not produced the desired result.

These form a very substantial proportion of those we have detailed, but it must not be assumed from this that our experience with mercury at the Rochester Row Military Hospital is so generally unhappy as would appear from our table, since these cases represent probably the great majority of failures which have occurred with mercury throughout the home army and quite possibly a large proportion of that which is stationed abroad, because any men invalided from foreign stations for intractable syphilis would have been sent to us for salvarsan treatment on arrival at Netley. You will see that the effect of salvarsan was particularly striking in these cases. The rapid change for the better which occurred in the great majority of them—a change which was obvious to the most sceptical of us as early as the second or third day after injecting salvarsan—makes it plain enough that it is mere waste of time to attempt any comparison with the tonic effect of liq. arsenicalis and the use of potassium iodide, with which some observers claim they have obtained equally striking results.

Regarding our cases of parasyphilis, our results accord with those of other observers, that we cannot expect any very remarkable success from the use of salvarsan in these patients. We think, however, that where the disease is not advanced it should be given a trial, since the outlook is in any case very hopeless, and there is always a chance of bringing the disease to a standstill.

Regarding the permanence of the results we have obtained, it is, of course, too early to speak, and we can only offer you such evidence as we have been able to obtain up to the present time. So far, in 115 cases of syphilis which we have had under observation for a period ranging from three to eleven months from the date of the last injection of the first course, we have had 18 clinical relapses, one case in which the throat became rather congested, but in which the Wassermann reaction remained negative, and one in which we gave another injection because the patient, a case of cerebral syphilis, had recently become rather irritable again, and we feared a return of his former symptoms. An important point, to our minds, in connexion with these relapses is the fact that in all of those to which we had a chance of giving a further injection of salvarsan the effect was as rapid and beneficial as in the first instance.

The number of cases in which the Wassermann reaction returned to positive after being converted to negative is greater than the clinical relapses, and in our patients observed for the same period of time we have had 31 of these. We may mention that we count the slightest reaction to Stern's test, which is more delicate than the original, and, in fact, in our opinion too delicate to be entirely reliable for *diagnostic* purposes, as a return to positive. One of us will enter into the question of the Wassermann reactions in a separate paper.

With regard to the Wassermann relapses, we should like to mention a case of primary sore in which the reaction remained completely negative to both tests for seven months and then became slightly positive. It shows that it will be unwise to form any conclusions as to the permanence of the effect of injecting salvarsan for a considerable time to come. Our observations will be continued in the same manner as those we have indicated, and we hope we shall be able to speak more definitely on this point in a year's time. Meantime, though we do not think that a method of administering salvarsan has yet been devised which will ensure a permanent cure in all cases, there is good promise that its use in syphilis will rob this disease of many of its terrors.

There are a few practical points to which we would like to draw attention. We have had no disastrous results from injecting salvarsan, and we have given it over 650 times now. In a certain number of our cases to whom we gave a subcutaneous injection a slough formed at the site of injection; but we abandoned the subcutaneous injection quite six weeks before salvarsan was placed on the market, and these untoward effects will not, of course, be repeated. With regard to the methods of giving the intravenous injection, there are, as you know, two—the injection and the infusion. We have experience of both, having commenced with Schreiber's syringe, and have no doubt in our own minds that the infusion method is simpler, safer, and more convenient. One disadvantage of the syringe, and to a certain extent of all injecting apparatus, is that one may find, when everything else is ready, that an important part of the apparatus is broken and cannot be replaced except by applying to the instrument makers. It seems to us, too, that as the syringe grows older it becomes increasingly difficult to keep it air-tight. In addition to this the attendant has to concentrate his attention the whole time on the technique of giving the injection.

An infusion apparatus can, on the other hand, always be improvised. With the most ordinary precautions air is excluded once and for all from the system, and once the needle has been introduced there is nothing further necessary beyond watching the patient occasionally while one prepares the dose for the next case. As regards speed, I may mention that one of us has given four full doses in forty consecutive minutes with our apparatus at Rochester Row; and as to the statement that a very large bore needle is necessary to obtain a good flow, all we can say is that our needle has a very slightly wider bore than that used with an ordinary hypodermic syringe. We have tried many ways of avoiding the reaction which follows an intravenous injection, but none seemed of any use till we noticed Wechselmann's suggestion that the reaction was due to the dead bodies of bacteria which had grown in the salt solution between the time of its preparation and its sterilization. Acting on this, we have since made a point of preparing the salt solution immediately before autoclaving it, and (whether it is a coincidence or not we do not know) the number of cases which have shown any reaction has been reduced by 50 per cent., while those reactions which have occurred have been considerably milder.

Regarding dosage, there is nothing to be said as to the first dose, but in a number of our cases where a dose of 0.3 gram was given for a positive Wassermann reaction some months after the first course the dose was too small. We intend in future to give as large a dose as possible on these occasions. As you see, we have tried a number of systems of administering salvarsan, and we are, in fact, treating a fresh series on a still different plan. We hope, by watching the progress of our different groups, that we shall eventually arrive at some conclusion as to the best method of treating syphilis with this remedy.

EXPLANATORY NOTES.

PARTICULARS OF SALVARSAN.

CASES 1 to 19.—One subcutaneous injection of 0.6 gram, except No. 13, which had 0.4.

CASES 20 to 31.—A subcutaneous of 0.6 gram, followed at an interval of some months by one or more intravenous injections. Particulars of subsequent injections as follows: No. 20, 0.6 gram after seven months for relapse; No. 21, 0.6 gram after eight months for relapse; No. 22, 0.5 gram and 0.3 gram, at two weeks' interval, after three months, for relapse; No. 23, 0.3 gram after six months for threatened relapse; No. 24, 0.4 gram after three months for positive Wassermann; Nos. 25, 26, 27, and 29, 0.6 gram after six months for positive Wassermann; No. 28, 0.6 gram after eight months for relapse;

TABLE ILLUSTRATING RESULTS OBTAINED BY THE USE OF SALVARSAN IN SYPHILIS.

Explanation of Abbreviations.

Under Wassermann reactions, Pos. = Positive to the original Wassermann test, or to Stern's modification, or both.
Neg. = Negative to original and to Stern's modification.

Under present condition (clinically), Imp. = Improved. L.A. = Left Army. N.S. = No signs of syphilis.

No.	Lesions.	Months Since Primary Sore Appeared.	Previous Treatment.	Clinical Effect of Salvarsan on Lesions.	Wassermann Reactions.			Present Reaction.	Months Since Last Injection.	Clinical Relapses.	Present Condition (Clinically).
					Reaction on Day of Injection.	Became Negative (Weeks).	Returned to Positive (Months).				
1	Iritis left eye; vision hand movements only	4½	11 injections mercurial and calomel cream; 2 attacks of iritis while under mercurial treatment	Vision improved to $\frac{6}{12}$ (same as right eye) in three weeks	Pos.	8	—	Neg.	10	Nil	Well.
2	Ulcer lip; many mucous patches in mouth	4½	6 injections mercurial cream, the last 1 month previously	Healed in 13 days	Pos.	6	—	Neg.	10	Nil	Well.
3	Chancre; rash; throat	3	9 injections mercurial cream, the last 1 month previously	Well in 6 days	Pos.	5	9	*Pos.	10	Nil	Well.
4	Chancre; rash; throat	1	None	Well in 6 days	Pos.	8	9	*Pos.	11	Nil	Well.
5	Mucous patches, throat; condylomata	7	Mercurial arsenate m61, mercurial cream (Hg gr. iv), last injection 7 weeks previously	Well in 4 days	Pos.	6	—	Neg.	11	Nil	Well.
6	Chancre	$\frac{6}{30}$	None	Well in 10 days	Neg.	†8	9	Pos.	10	Nil	Well.
7	Chancre	$\frac{15}{30}$	None	Well in 9 days	Pos.	2	—	Neg.	10	Nil	Well.
8	Mucous patches, lip	6	8 injections of mercurial cream, the last 7 days previously	Well in 6 days	Pos.	6	—	Neg.	10	Nil	Well.
9	Chancre	$\frac{20}{30}$	None	Well in 14 days	Pos.	—	—	—	10	Yes	—
10	Chancre; rash	1	None	Chancre healed in 1 day; rash gone in 4 days	Pos.	5	—	‡Neg.	4½	—	—
11	Chancre	$\frac{14}{30}$	None	Well in 14 days	Pos.	9	—	Neg.	9	Nil	Well.
12	Chancre; rash; throat	1	None	Chancre well in 12 days; rash in 31 days	Pos.	16	—	Neg.	9½	Nil	Well.
13	Ulceration, legs and tongue	12	Mercury atoxylate gr. xxij, mercurial cream (Hg gr. iij), by injection	Well in 7 days	Pos.	4	—	§Neg.	9½	Nil	Well.
14	Chancre; rash; throat	2	None	Well in 5 days	Pos.	6	—	Neg.	9½	Nil	Well.
15	Fissures of tongue; mucous patches of mouth	36	Mercurial cream injections; atoxylate of mercury, inunctions, soamin. Frequent relapses	Well in 35 days	Pos.	32	—	Neg.	9	Nil	Well.
16	Mucous patches, mouth and throat	36	7 courses of mercurial cream injections	Well in 5 days	Pos.	16	—	‖Neg.	9	Nil	Well.
17	Tertiary ulcers of legs	21	4 courses of mercurial cream injections	Well in 23 days	Neg.	—	—	—	5½	Nil	Well.
18	Secondary ulceration of throat	8	Regular courses of mercurial cream injections	Well in 14 days	Pos.	—	—	¶Pos.	9	Nil	Well.
19	Numerous condylomata	4	Mercurial cream injections regularly	Well in 25 days	Pos.	—	—	**Pos.	2	—	L.A.
20	Secondary ulceration of throat	5	Regular mercurial cream injections, the last 6 weeks previously	Well in 5 days	Pos.	3	4	Neg.	3	Yes	Well.
21	Secondary ulceration of throat and tongue	6	Regular mercurial cream injections, the last 8 weeks previously	Well in 4 days	Pos.	3	4	††	2	Yes	Well.
22	Papular rash; ulceration of throat; condylomata	10	Inunctions followed by regular calomel cream and mercurial injections, the last 4 days previously	Well in 7 days	Pos.	5	—	‖Neg.	7	Yes	Well.
23	Chancre; generalized maculo-papular rash	1	None	Well in 6 days	Pos.	5	9½	Pos.	4½	Yes	Well.
24	Tertiary ulcers, skin of arms and neck. Ulcers of tongue (superficial)	19	Mercury by mouth; 12 injections of mercurial cream, the last 3 weeks previously	Tongue well in 5 days. Other ulcers healed in 30 days	Pos.	34	—	‖Neg.	7	Nil	Well.
25	Throat ulcerated	8	Mercury atoxylate; mercurial cream, calomel cream injections. Last injection 3 months previously	Well in 8 days	Pos.	11	5	Pos.	4	Nil	Well.
26	Ulceration of throat; condylomata	6	Regular mercurial and calomel cream injections, the last 2 months previously	Well in 8 days	Pos.	4	2	Neg.	4	Nil	Well.
27	Chancre; roseola	1½	None	Well in 12 days	Pos.	6	5	Neg.	3½	Nil	Well.
28	Ulceration of throat; mucous patches; severe alopecia	8	Mercury atoxylate; mercurial and calomel cream by injection regularly	Mouth and throat well in 8 days; alopecia steadily improved	Pos.	11	4½	Neg.	2	Yes	Well.
29	Condylomata; ulceration of tonsils	5½	Regular mercurial and calomel cream injections, the last 10 days previously	Well in 4 days	Pos.	9	5	Neg.	4	Nil	Well.

* Positive to Stern's test only.
† Wassermann reaction became positive one week after injection.
‡ No test since four months after injection.
§ No test since six months after injection.
‖ No test since five months after injection.
¶ No test since seventeen weeks after injection.
** No test since two months after injection.
†† No test since injection.

Results Obtained by the Use of Salvarsan in Syphilis (continued).

No.	Lesions.	Months Since Primary Sore Appeared.	Previous Treatment.	Clinical Effect of Salvarsan on Lesions.	Wassermann Reactions.			Present Reaction.	Months Since Last Injection.	Clinical Relapses.	Present Condition (Clinically).
					Reaction on Day of Injection.	Became Negative (Weeks).	Returned to Positive (Months).				
30	Late syphilitic ulceration of tongue	36	Mercury by mouth; mercurial cream and atoxyl: 4 courses of mercury injections	Well in 6 days	Pos.	—	—	Pos.	4	Yes	Well.
31	Cerebral syphilis (loss of memory, taste, smell, and hearing; marked irritability of temper)	180	Mercury by mouth, but irregularly. 3 injections of calomel cream immediately prior to salvarsan injection had produced no impression	Marked and rapid improvement, especially in mental symptoms	Pos.	—	—	*Pos.	5½	Yes	†
32	Secondary throat and rash	3	Regular inunctions	Well in 5 weeks	Pos.	10	3	Pos.	5	Yes	Well.
33	Chancre and rash	1	None	Well in 8 days	Pos.	—	—	Pos.	4	Nil	Well.
34	Chancre and rash	1	None	Well in 15 days	Pos.	5	3	‡Pos.	4	Yes	Well.
35	Chancre	3	7 injections of mercurial cream	Well in 24 days	Pos.	—	—	§Pos.	3	Yes	—
36	Secondary rash	1	3 mercurial cream injections	Well in 8 days	Pos.	7	—	Neg.	8	Nil	Well.
37	Secondary throat and rash	3	None	Well in 9 days	Pos.	4	2	Pos.	8	Nil	Well.
38	General paralysis (well marked)	144	Intermittently, by mouth	No improvement	Pos.	—	—	Pos.	2	—	—
39	Severe ulceration of mouth and throat	6	Regular mercurial injections. Relapsed twice during course of injections	Well in 6 days	Pos.	12	8	Pos.	8	Nil	Well.
40	Secondary throat and rash	1	None	Well in 3 days	Pos.	5	—	Neg.	8	Nil	Well.
41	Mucous patches of mouth, ulceration of tonsils	10	Regular inunctions; mouth lesions relapsed twice during mercurial treatment	Well in 5 days	Pos.	—	—	*Pos.	8	Nil	Well.
42	Nasal necrosis; synovitis of ankle	24	Calomel fumigation, mercurial inunctions, iodipin and arsacetin; very sensitive to mercury; 175 days in hospital; discharged, and relapsed in one month	Synovitis well in 4 days; nasal condition steadily improved. To duty in 10 weeks	Pos.	20	8	‡Pos.	8	Nil	Well.
43	Tertiary ulcers of face and legs	36	Regular injections of mercurial cream and of soamin for 2½ years	Well in 6 days	Pos.	10	—	Neg.	8	Nil	Well.
44	Cerebral syphilis; dilatation of left pupil. Pain and swelling of left supraorbital region	5	12 injections of calomel and mercurial cream. Onset of symptoms 3 weeks after last injection	Well in 14 days	Pos.	4	—	Neg.	8	Nil	Well.
45	Chronic glossitis	48	Regular injections of mercurial cream for 2½ years. Relapsed 1 year later; injections resumed; relapsed 5 months after last mercurial injection	Well in 19 days	Pos.	—	—	‖Pos.	7½	Nil	Well.
46	Rupial ulcers of legs and thighs	8	Two courses of mercurial cream injections	Well in 4 days	Pos.	3	—	*Neg.	7	Nil	Well.
47	Chancre	6	None	Well in 5 days	Neg.	—	—	Neg.	7½	Nil	Well.
48	Rupial ulcers; cachexia	2	Mercury by mouth, then by injections; condition developed during course of latter	Well in 17 days; gained 15 lb. in weight	—	—	—	—	1	—	—
49	Paraplegia (atrophy of left extensors)	6	Regular mercurial injections	Walked without aid 6 weeks later	—	3	—	¶Neg.	4	Yes	L.A.
50	Tabes; optic atrophy; paraplegia	144	Regular mercurial treatment during early years	Improvement in power of legs and co-ordination; no change in optic atrophy	Neg.	—	—	—	3	—	Imp.
51	Throat; rash; synovitis of left elbow	2	None	Throat and elbow well in 7 days; rash gone in 21 days	Pos.	9	2½	Pos.	5	Yes	Imp.
52	Chancre; rash; throat	2	None	Well in 7 days	Pos.	10	3	Neg.	4	Nil	Well.
53	Nodular enlargement and ulceration of tongue	45	Regular injections for 2 years; resumed 6 months later for tongue lesions. Relapsed again	Tongue normal in 7 days	Pos.	6	5	**	1	Nil	Well.
54	Secondary rash and throat	1	Mercury by mouth	Throat well in 4 days; rash in 7 days	Neg.	—	—	Neg.	5	Nil	Well.
55	Severe ulceration of tonsils	10	Regular mercurial cream injections	Well in 9 days	Pos.	4	2½	††	1	Nil	—
56	40 tertiary ulcers of face, head, and other parts of body. Partial destruction of nose. Marked deafness	120	Intermittently by mouth till secondaries disappeared. None for 9 years, when present lesions commenced. Latter not controlled by mercury and iodides by mouth	Face and neck healed in 10 days. All other ulcers but one healed in 21 days. Quite well in 3 months	Pos.	3	—	Neg.	7	Nil	Well.

* No test since four months after injection.
† Has discharge from throat and nose, otherwise well.
‡ Positive to Stern's test only.
§ No test since eleven weeks after injection.
‖ No test since fourteen weeks after injection.
¶ No test since nine weeks after injection.
** No test since last injection.
†† Positive to Stern's test one month after second injection; no test since.

Results Obtained by the Use of Salvarsan in Syphilis (continued).

Lesions.	Months Since Primary Sore Appeared.	Previous Treatment.	Clinical Effect of Salvarsan on Lesions.	Wassermann Reactions.			Present Reaction.	Months Since Last Injection.	Clinical Relapses.	Present Condition (Clinically).
				Reaction on Day of Injection.	Became Negative (Weeks).	Returned to Positive (Months).				
Tabes (marked)	120	Intermittently by mouth	Marked improvement at first	Neg.	—	—	—	2	Yes	—
Secondary throat and rash	2	Mercury by mouth	Well in 4 days	Pos.	—	—	†	5	Nil	Well.
Destructive ulceration of soft palate, tonsil and pharynx	60	Inunctions and intramuscular injections of mercury, with potassium iodide, failed to control present lesions for 1 year	Well in 17 days	Pos.	—	—	Pos.	6½	Nil	Well.
Tabes (A.R. pupil and lightning pains)	72	Extra-genital chancre of finger treated with mercury internally for 3 weeks and then forgotten	Pains first aggravated and then disappeared. Pupil unchanged	Neg.	—	—	Neg.	7	Yes	Imp.
Iritis of some months' duration	168	Mercury by injection (49½ gr.); mercury and potassium iodide by mouth. Lesion developed and progressed while under active mercurial treatment	Vision of affected eye improved in 3 weeks from $\frac{6}{36}$ to $\frac{6}{18}$ (2), that of other eye being $\frac{6}{18}$	Pos.	—	—	‡Pos.	7	Nil	Well.
Ulceration of tongue and angle of mouth	7	Inunctions; calomel cream injections; arsacetin. Frequent relapses	Well in 14 days	Neg.	—	—	Neg.	6½	Nil	Well.
Ulceration of palate and pharynx	6	Regular mercurial cream injections from date of primary sore	Well in 17 days	Pos.	8	—	§Neg.	6½	Nil	Well.
Chancre	$\frac{15}{30}$	None	Well in 16 days	Pos.	4	—	Neg.	6½	Nil	Well.
Rupial ulcers of legs, abdomen, and face. Ulceration of throat	2	Mercury by mouth for 7 weeks	Well in 19 days	Pos.	24	—	Neg.	6½	Nil	Well.
Chancre	$\frac{10}{30}$	None	Well in 12 days	Pos.	6	4	Pos.	6½	Nil	Well.
Chancre; rash; throat	1	None	Chancre well in 3 days, throat in 10 days; rash gone in 7 days	Pos.	12	—	Neg.	6½	Nil	Well.
Chancre; rash; throat	1	None	Chancre well in 14 days; rash, etc., in 6 days	Pos.	8	—	‖Neg.	6½	Nil	Well.
Chancre	$\frac{21}{30}$	3 calomel injections. Sore first healed, then relapsed	Well in 14 days	Pos.	6	—	Neg.	6	Nil	Well.
Chancre	$\frac{12}{30}$	None	Site of sore well in 21 days	Pos.	—	—	†	6	Nil	Well.
Extensive ulceration of pharynx; aphonia and dysphagia	24	Regular courses of mercurial cream injections with potassium iodide failed to produce any impression	Well in 18 days; gained 16 lb. in 3 weeks	Pos.	—	—	Pos.	6	Nil	Well.
Chancre; rash; throat	1	None	Well in 15 days	Pos.	6	—	§Neg.	3	Nil	Well.
Inflammation of epiglottis	72	Regular mercurial cream injections with potassium iodide; lesion developed while undergoing course of injections	Voice normal in 18 days	Pos.	—	—	§Pos.	4	Nil	Well.
Chancre	$\frac{6}{30}$	None	Well in 16 days	Neg.	—	—	Neg.	6	Nil	Well.
Secondary rash	$\frac{21}{30}$	None	Well in 5 days	Neg.	—	—	Neg.	6	Nil	Well.
Secondary rash	1	None	Well in 12 days	Pos.	5	—	Neg.	6	Nil	Well.
Chancre	$\frac{14}{30}$	None	Well in 14 days	Pos.	6	—	Neg.	6	Nil	Well.
Urethral chancre; (*T. pallidum* recovered)	$\frac{5}{30}$	None	Urethral discharge ceased in 43 days	Neg.	—	—	Neg.	6	Nil	Well.
Chancre and rash	1	None	Rash well in 6 days; sore in 20 days	Pos.	1	—	Neg.	6	Nil	Well.
Phagedenic sore; macular rash	1½	None	Rash well in 8 days; sore in 14 days	Pos.	24	—	Neg.	6	Nil	Well.
Ulceration of mouth and larynx; pustular rash; condylomata	6	Mercurial injections from date of primary sore	Condylomata and mouth well in 6 days; rash in 10 days, and voice normal in 3 weeks	Pos.	—	—	Pos.	5	Nil	Well.
Extensive rupia	13	Inunctions throughout, except for 2 weeks, when mercury by mouth. Very intractable, with frequent relapses	Well in 18 days	Pos.	16	—	Neg.	5	Nil	Well.
Secondary rash	6	Regular mercurial injections, under which rash became steadily worse	Well in 16 days	Pos.	6	—	Neg.	5	Nil	Well.
Chancre and rash	2	None	Chancre well in 4 days; rash gone in 8 days	Pos.	4	5	Pos.	5	Nil	Well.
Chancre and rash	2	None	Well in 24 days	Pos.	4	—	Neg.	5½	Nil	Well.
Secondary rash and throat; albuminuria	3	Mercurial injections aggravated albuminuria	No albumen next day; traces every 3 or 4 days after. Ulceration well in 14 days	Pos.	1	—	¶Neg.	2½	Nil	‖

* Wassermann reaction became positive one week after injection.
† No test since injection.
‡ Positive to Stern's test only.
§ No test since three months after last injection.
‖ No test since two months after injection.
¶ No test since nine weeks after injection.

Results Obtained by the Use of Salvarsan in Syphilis (continued).

No.	Lesions.	Months Since Primary Sore Appeared.	Previous Treatment.	Clinical Effect of Salvarsan on Lesions.	Wassermann Reactions.			Present Reaction.	Months Since Last Injection.	Clinical Relapses.	Present Condition
					Reaction on Day of Injection.	Became Negative (Weeks).	Returned to Positive (Months).				
87	Large gummatous ulcer of leg	7	Mercurial injections (18). Ulcer commenced after 13th, and did not improve	Well in 44 days	Neg.	—	—	Neg.	5	Nil	We
88	Necrosis of hard palate. Aphonia of 4 months' duration	15	4 courses of mercurial cream injections, during which frequent recurrences of mouth and throat lesions	Sequestrum separated in 14 days. Ulcer healed in 21 days. Voice slowly improved to normal	Pos.	—	—	Pos.	5	Nil	We
89	Secondary rash and throat	1	None	Well in 19 days	Pos.	—	—	Pos.	5	Nil	We
90	Deeply excavated gummatous ulcer of pharynx. Thickening of epiglottis and arytenoids. Tuberculous glands of neck and tubercle of lung	66	Regular courses of mercurial injections. Mercury by mouth occasionally	Marked improvement at once, but not completely healed for 3 months	Pos.	—	—	*	3	Nil	N.S
91	Syphilitic psoriasis; severe alopecia. Ulceration of nose and lips. Mucous patches of mouth	11	Lesions commenced and continued to spread while under regular mercurial injections	Ulcers healed in 4 days, and stain of rash only left. No signs, except alopecia, in 11 days	Pos.	3	—	Neg.	5	Nil	Wel
92	Ulceration o pharynx. Severe albuminuria	15½	Regular mercurial injections	Throat well in 4 days. Albumen decreased to half of former amount	Neg.	—	—	Neg.	4	Nil	Imp
93	Iritis	84	None; disease not recognized	Vision improved from $\frac{6}{24}$ to $\frac{6}{6}$	Pos.	—	—	Pos.	3	Nil	Wel
94	General paralysis (early)	—	None; history of syphilis denied	Marked improvement followed first injections	Pos.	—	—	*	—	Yes	—
95	Chancre	$\frac{10}{30}$	None	Well in 10 days	Pos.	4	—	Neg.	4	Yes	Wel
96	Deep gummatous ulcer of throat	36	Mercurial injections, 7 courses (gr. 38). Potassium iodide. Condition developed while under mercurial treatment	Well in 31 days	Pos.	—	—	Pos.	2	Nil	Wel
97	Secondary throat and rash	1	Calomel cream injections from date of primary sore	Well in 4 days	Pos.	12	3	Neg.	2½	Yes	Wel
98	Gummatous ulcer of pharynx	11	Regular injections of calomel cream. Ulcer developed while under mercurial treatment	Well in 16 days	Pos.	—	—	†Pos.	1½	Nil	Wel
99	Rupial ulcers of thigh and arm	20	Regular injections of mercurial cream	Well in 14 days	Pos.	—	—	†Pos.	2	Nil	Wel
100	Secondary throat and rash	1	None	Well in 12 days	Pos.	—	—	†Pos.	2	Nil	Wel
101	Secondary rash and throat	3	None	Well in 10 days	Pos.	12	5½	†Pos.	2½	Nil	Wel
102	Chancre and rash	1	None	Well in 10 days	Pos.	—	—	Pos.	2½	Nil	Wel
103	Chancre	$\frac{6}{30}$	None	Well in 6 days	Pos.	4	—	Neg.	4	Nil	Wel
104	Chancre; rash; throat	2	Calomel cream injections; sore healed and recurred 3 weeks later	Well in 6 days	Pos.	7	5	†Pos.	4	Yes	Re lapse
105	Ulceration of tonsils and pharynx; dysphagia and swallows fluids with difficulty	4½	Regular injections of mercury salicylate; present lesions date from end of first course	Could swallow solids in 2 days; well in 12 days	Pos.	—	—	Pos.	4	Nil	Well
106	Chancre, rash, throat, and condylomata	2	None	Condylomata well in 6 days; other symptoms cleared in 8 days; operation wound well in 41 days	Pos.	4	—	Neg.	4	Nil	Well
107	Chancre	$\frac{4}{30}$	None	Site healed in 15 days	Neg.	—	—	Neg.	4	Nil	Well
108	Ulcer of tonsils	12	No response to calomel and mercurial cream injections	Well in 9 days	Pos.	4	—	Neg.	4	Yes	Imp
109	Mucous patches of tongue and mouth	36	7 courses of injections. Mercury and iodide by mouth. Soamin. Succession of mucous patches throughout	Well in 10 days	Neg.	—	—	Neg.	3½	Nil	Well
110	Chancre	$\frac{8}{30}$	None	Well in 15 days	Pos.	2	-	Neg.	3½	Nil	Well
111	Cerebral syphilis. Headache, diplopia, left pupil dilated, left ptosis, right ankle clonus; Babinski; no fundus changes	78—	Mercury by mouth for 15 months. No further symptoms for 3¼ years. Then gumma on forehead, which ulcerated. Present symptoms of 3 weeks' duration	Marked improvement on second day and complete recovery in 8 days	Pos.	—	—	Pos.	3½	Nil	Well
112	Large, deep chancre	1	None	Well in 28 days	Pos.	4	—	Neg.	3½	Nil	Well

* No test since injection.

† Positive to Stern's test only.

Results Obtained by the Use of Salvarsan in Syphilis (continued).

No.	Lesions.	Months Since Primary Sore Appeared.	Previous Treatment.	Clinical Effect of Salvarsan on Lesions.	Wassermann Reactions.			Present Reaction.	Months Since Last Injection.	Clinical Relapses.	Present Condition (Clinically).
					Reaction on Day of Injection.	Became Negative (Weeks).	Returned to Positive (Months).				
113	Secondary throat and rash; condylomata	1½	None	Mouth and condylomata well in 6 days; rash in 20 days	Pos.	4	—	Neg.	3½	Nil	Well.
114	Chancre and rash	2	None	Site of sore healed in 27 days	Pos.	14	4	Pos.	3½	Nil	Well.
115	Chancre and rash	1½	None	Well in 6 days	Pos.	16	—	Neg.	3½	Nil	Well.
116	Severe ulceration of throat; laryngitis of 3 months' duration	8	Regular injections from date of primary sore	Well in 7 days	Neg.	—	—	Neg.	3½	Nil	Well.
117	Chancre and secondaries (very severe)	2	None	Mouth well in 8 days; rash in 22 days; sore in 34 days	Pos.	—	—	Pos.	3	Nil	Well.
118	Chancre and secondaries	1½	None	Chancre and rash well in 12 days; throat in 22 days	Pos.	4	—	Neg.	3	Nil	Well.
119	Chancre and condylomata	1	None	Well in 17 days	Pos.	—	—	*Pos.	3	Nil	Well.
120	Tertiary ulcers of scalp, thighs, and legs of 5 months' duration; cachexia	8	2 courses of mercurial inunctions (total 49), 8 intramuscular injections, 16 calomel fumigations, no effect on lesions	Well in 30 days	Pos.	2	2½	Pos.	3	Yes	Relapse.
121	Secondary rash and throat	6	Regular mercurial injections	Mouth well in 5 days; rash in 10 days	Pos.	2	4	†Pos.	3	Nil	Well.
122	Ulcer of tonsil; condylomata	4	Treatment from date of primary sore with mercurial injections; two relapses while under mercurial treatment	Mouth well in 4 days; condylomata in 12 days	Pos.	3	2½	†Pos.	3	Nil	Well.
123	Chancre; rash; numerous condylomata; throat; alopecia	3	None	Well in 9 days	Pos.	—	—	†Pos.	3	Nil	Well.
124	Chancre and rash	1½	None	Rash well in 5 days; chancre in 12 days	Pos.	8	—	Neg.	3	Nil	Well.
125	Ulceration of throat; severe albuminuria of 9 months' duration	9	3 courses of mercury salicylate injections. Frequent relapses of throat lesions	Throat well in 6 days; urine free from albumen 2 months later	Pos.	—	—	†Pos.	3	Nil	Well.
126	Chancre	15/30	None	Well in 9 days	Neg.	—	½	†Pos.	3	Nil	Well.
127	Secondary throat and rash; condylomata	3	Regular injections of mercury salicylate	Well in 6 days	Pos.	6	5	Pos.	½	Yes	Well.
128	Chancre and rash	1	None	Well in 10 days	Pos.	—	—	Pos.	2	Yes	Well.
129	Chancre	6/30	None	Wound healed in 12 days	Neg.	—	—	Neg.	4½	Nil	Well.

* Positive to Stern's test only; no test since five weeks after last injection. † Positive to Stern's test only.

No. 30, 0.2 gram after five months for relapse; No. 31, 0.6 gram after four months for threatened relapse.

CASES 32 to 34.—One intramuscular injection of 0.6 to 0.7 gram, followed by an intravenous of 0.5 to 0.6 gram, four months later, for relapse in Nos. 32 and 34, and for positive Wassermann in No. 33.

CASES 35 to 48.—One intravenous of 0.5 to 0.6 gram, except No. 38, which had 0.4 gram.

CASE 49.—An intravenous of 0.4 gram and a subcutaneous of 0.3 gram one week later.

CASE 50.—One intravenous of 0.2 gram, a subcutaneous of 0.4 gram one week later, and two intravenous of 0.4 gram, at two weeks' interval, four months later.

CASES 51 to 57.—One intravenous of 0.5 to 0.6 gram (except 57 which had 0.2 gram) and another intravenous after some months. Particulars of the subsequent injections: No. 51, 0.5 gram three months later for relapse; No. 52, 0.5 gram four months later for positive Wassermann; No. 53, 0.3 gram seven months later for positive Wassermann; Nos. 54, 56, and 57, 0.4 to 0.6 gram one month later; No. 55, 0.6 gram four months later for positive Wassermann.

CASES 58 to 93.—Two intravenous of 0.4 to 0.6 gram at two weeks' interval.

CASES 94 to 102.—No. 94, two of 0.3 and 0.4 gram, Nos. 95 and 96, 0.5 and 0.4 gram, Nos. 97 and 98, two of 0.4 gram, and Nos. 99 to 102, two of 0.6 gram; all intravenously at two weeks' interval, and followed by one or more intravenously some months later. Particulars of subsequent injections: No. 94, 0.3 gram and 0.4 gram (at two weeks' interval) three months later for relapse; No. 95, 0.5 gram two and a half months later for relapse; Nos. 96, 98, and 99, 0.3 gram five months later for positive Wassermann; No. 97. 0.3 gram four months later for relapse; Nos. 100, 101, and 102, 0.3 gram four months later for positive Wassermann.

CASES 103 to 126.—An intravenous of 0.6 gram (except 111, which had 0.4 gram), and three of 0.2 gram, at two weeks' interval.

CASES 127 and 128.—One intravenous of 0.6 gram and three of 0.2 gram at two weeks' interval, and a subsequent intravenous of 0.6 gram three to three and a half months later for relapse.

CASE 129.—An intravenous of 0.6 gram and two of 0.3 gram at two weeks' interval.

PARTICULARS OF ANY TREATMENT ADDITIONAL TO SALVARSAN.

Nos. 1 and 61 had atropine drops; No. 42 had irrigation of nose with boroglyceride; No. 49 had massage and electricity; in Nos. 70, 85, 102, 106, 107, 110, 114, and 129 the sore was excised; in No. 115 it was removed by circumcision, and in Nos. 72, 74, 77, 79, 80, 84, 103, 104, 112, 117, 118, 119, 123, 124, and 126 it was treated with calomel ointment.

PARTICULARS OF CLINICAL RELAPSES.

CASE 9.—Chancre returned in two months; ulcer of mouth in eight months.

CASE 20.—Ulcer of throat returned after seven months and had healed six days after the second injection.

CASE 21.—Ulcer of throat returned after seven months and healed seven days after second injection. In this case and in Case 20 the Wassermann reaction anticipated the clinical relapse by three to four months.

CASE 22.—Ulcer of throat returned after three months; Wassermann reaction negative when relapse occurred.

CASE 23.—Throat became congested six months later while the Wassermann reaction was still negative.

CASE 28.—Ulcer of throat returned after eight months; Wassermann reaction anticipated clinical relapse by three and a half months.

CASE 30.—Ulcer of tongue returned three months after first injection and ulcer of throat occurred one month after second injection.

CASE 31.—Very slight return of mental symptoms four months later; now has discharge from throat and nose, but is otherwise well.

CASE 32.—Throat and rash relapsed four months later and symptoms had disappeared three days after second injection. Wassermann reaction anticipated clinical relapse by one month.

CASE 34.—Rash returned four months later, and disappeared seven days after the second injection. Wassermann reaction anticipated clinical relapse by one month.

CASE 35.—Chancre returned two months later, and healed under mercurial cream injections.

CASE 49.—This case suddenly developed paresis of left side of tongue, with mental confusion, three months later; refused further treatment; slowly improved; invalided from the service.

CASE 51.—Ulceration of throat, rash, and synovitis returned three months after first injection; all symptoms cleared in seven days after second injection, but rash returned three months later; now improving under mercurial cream injections. Wassermann reaction anticipated each clinical relapse by two weeks.

CASE 57.—Tabes; symptoms all returned three weeks after second injection, and present condition shows no improvement.

CASE 60.—Tabes; slight return of pains two months later.

CASE 94.—General paralysis; symptoms began to return after two months.

CASE 95.—Sore reappeared two and a half months later, and healed in eleven days after third injection. Wassermann reaction negative when relapse occurred.

CASE 97.—Faint roseola four months after second injection and mucous patch on lip three weeks after third injection. Wassermann reaction anticipated clinical relapse by one month.

CASE 104.—Mucous patch on tongue, ulcer of throat and condylomata occurred six months later. Wassermann reaction anticipated clinical relapse by one month.

CASE 108.—Developed spinal meningitis two months after last injection; now improving. Wassermann reaction negative when relapse occurred.

CASE 120.—Ulcer of right thigh one month after last injection and another ulcer six weeks later.

CASE. 127.—Mucous patches and rash five and a half months after first injection; cleared in three days after fifth injection. Wassermann reaction anticipated clinical relapse by three weeks.

CASE 128.—Chancre, rash, and condylomata four months after first injection and disappeared seven days after last injection.

THE RÔLE OF THE PATHOLOGIST IN THE RECOGNITION AND TREATMENT OF SYPHILIS.

By L. W. HARRISON, M.B.,
Major, R.A.M.C.

PROBABLY in no other department of medicine or surgery is the co-operation of the clinician with the pathologist likely to be productive of more benefit to the patient than in syphilis. An early diagnosis of the disease is important, but a certain one is, to my mind, infinitely more so. The great demand which the treatment of syphilis makes on the patience of the patient, and of his physician, especially in those cases where the disease lies latent for many years, makes it absolutely essential that both should have complete confidence in the original diagnosis. The clinician who relies on his experience, however great, must confess that in many cases of venereal sore he is unable to make a certain diagnosis at once. Should he venture in such cases to administer antisyphilitic treatment as a diagnostic measure, his confidence is apt to be severely shaken by the non-appearance of secondary signs, and, sooner or later, his uncertainty will be communicated to his patient. There is nothing sadder to my mind than the sight of a paralytic or a tabetic whose history is that of a doubtful sore in the beginning, the trial of specific treatment as a diagnostic or precautionary measure, a long period of latency, with its almost inevitable consequence—the cessation of treatment; and, finally, the symptoms of parasyphilis and the closing of what is so often in these cases a fine career. With the growing co-operation between the clinician and the pathologist, these cases should be reduced to a minimum in the future.

In the case of primary sores, the finding of the *Treponema pallidum* by the pathologist with his dark-ground apparatus is a simple and rapid matter. In this connexion, I may mention that out of 202 syphilitic sores which I have examined I have established the diagnosis by means of the dark-ground apparatus in a few minutes in 152. I think this number would be much larger if in 40 out of the remaining 50 cases an antiseptic had not been previously applied to the sore. In a number of the 152 cases in which the diagnosis was made so rapidly I have had the opportunity of submitting the sore to examination by expert clinicians who confessed that, on clinical grounds, they would not have taken the responsibility of diagnosing them as syphilitic. Our experience with the dark-ground illumination method of making a diagnosis has been so happy that the instruction of medical officers at the Military Hospital, Rochester Row, includes a demonstration of the method of using the apparatus, as well as the taking of specimens to send through the post.

Regarding the Wassermann test, I need not dilate on its advantages, which must be familiar to you. At Rochester Row every case of venereal sore is not only examined for treponemata, but a specimen of his blood is taken at the same time, because in the majority of cases of syphilis a positive reaction can be obtained from two to three weeks before the rash appears. If the first test results in a negative reaction, it is repeated at monthly intervals for three months or till a positive reaction occurs. I may say that in using the Wassermann test for *diagnostic* purposes, though I test by the original and by Stern's modification, I rely exclusively on the original method. The modification by Stern is certainly more delicate than the original test, but has given a positive reaction in about 2 per cent. of normal cases in my hands, and I do not feel justified in causing even 2 per cent. of normal cases the anxiety of mind and the tedium of treatment involved by a diagnosis of syphilis. The Stern test is useful in the early stages because it gives a positive reaction earlier than the original, and puts one on the *qui vive*. In the later stages, and especially when one is trying to ascertain if the patient is cured, the Stern test is very valuable because of its greater delicacy, and one is justified, in my opinion, in insisting on a further period of treatment on the strength of a positive reaction obtained by this method. I have classified the results I have obtained by the Wassermann test and embodied them in the tables I have placed before you (see p. 687). Regarding Table I, there is little to say beyond drawing your attention to the number of cases giving a positive reaction in the latent stages of the disease. These cases were for the most part, too, undergoing treatment at the time the blood was taken, and they illustrate the small value to be placed on clinical latency as a criterion of cure. In Tables II and III the results are classified according to the treatment received; Table II refers to the different stages of mercurial treatment, and Table III to treatment with salvarsan. You will notice the higher proportion of positive reactions obtained by the Stern test in all cases. In Table II the lowest proportion of positives was obtained at the end of the fourth course, about 32 per cent. to the original test. After that the proportion seems to remain fairly steady. I should like to draw your attention to the last set of figures in this table. I have been particularly interested to ascertain what proportion of cases remains uncured at the end of the usual period of treatment, and in addition to those treated at Rochester Row, the serum from all patients attending at three large military stations who have completed the usual two years' regular treatment is sent to me three months afterwards to be tested. As is shown in the table, an important proportion of these show a positive reaction, especially to the Stern test; they are undergoing a further period of treatment in consequence.

Table III has been drawn up for comparison with Table II, and it seems fair to compare the results shown on the first line of this table with those obtained at the end of any course of mercurial treatment, when the patient was equally under the influence of the remedy. Allowing this, you will see that the proportion of positive reactions under salvarsan treatment is considerably less than the best under mercurial. Equally, I think it fair on mercurial-treatment to compare the figures in the second line of Table III with those in the last line of Table II. In both cases an interval of at least three months had elapsed since the exhibition of the remedy, but while in the case of the mercurial treatment the period was almost invariably only three months, in that of salvarsan it was at least three, and ranged from that to eleven months. As is well known, the proportion

of positives rises with the interval of rest from treatment, so that the comparison is rather unfair on salvarsan. The table shows that the proportion of positive reactions is considerably less in the case of salvarsan, and it seems justifiable to say that the injection of salvarsan leaves the patient better from a Wassermann point of view than two years of treatment by mercurial injections. Possibly injections may not be the best form in which to administer mercury. My experience, again, from the point of view of the pathologist, is that they are as good as, if not better

TABLE I.—*Showing the Results of Wassermann Tests carried out on Untreated Primary and Secondary Cases of Syphilis, and on Treated Secondary, Tertiary, and Latent Cases.*

Stage of the Disease.	Results Obtained by the Original Test.			Results Obtained by Stern's Modification of the Wassermann Test.		
	Total Cases.	Positive.	Negative.	Total Cases.	Positive.	Negative.
Primary	190	123	67	123	90	33
Secondary untreated ...	145	139	6	77	76	1
Treated Cases (not with Salvarsan).*						
Secondary	294	195	99	189	161	28
Tertiary	44	34	10	15	13	2
Latent 1 to 6 months ...	164	76	88	101	69	32
Latent 6 to 12 months	145	74	71	67	47	20
Latent 12 to 18 months	139	57	82	74	50	24
Latent 18 to 24 months	57	14	43	22	17	5
Latent 2 years or more	48	11	37	36	25	11

* That is, have had not less than one complete course of six mercurial cream injections.

TABLE II.—*Showing the Effect of Mercurial Injections on the Wassermann Reaction in Syphilis.*

Tested After.*	Results Obtained by the Original Test.			Results Obtained by Stern's Modification of the Wasserman Test.		
	Total Cases.	Positive.	Negative.	Total Cases.	Positive.	Negative.
First course of six weekly injections (Hg. gr. j in each)	88	65	23	38	31	7
First interval of two months	21	15	6	14	11	3
Second course of four fortnightly injections (Hg gr. j in each)	79	42	37	35	26	9
Second interval of three months	26	18	8	23	22	1
Third course of four fortnightly injections (Hg. gr. j in each)	79	42	37	46	35	11
Third interval of three months	34	18	16	24	18	6
Fourth course of four fortnightly injections (Hg. gr. j in each)	101	32	69	72	43	29
Fourth interval of six months	40	23	17	26	16	10
Fifth course of four fortnightly injections (Hg. gr. j in each)	52	19	33	32	20	12
Fifth interval of one month	56	14	42	40	25	15
Sixth or seventh course of four fortnightly injections	81	28	53	51	36	15
Three months after end of usual period of treatment	124	47	77	73	56	17

* The number of injections stated is the minimum, and the length of interval the maximum in each case.

TABLE III.—*Showing the Effect of Salvarsan Injections on the Wassermann Reaction.*

Period which had Elapsed from Date of Injection to that of Test.	Results Obtained by the Original Test.			Results Obtained by Stern's Modification.		
	Total Cases.	Positive.	Negative.	Total Cases.	Positive.	Negative.
Six to twelve weeks ...	165	39	126	162	47	115
Three to eleven months*	99	33	66	97	44	53

* The results under this heading are based on the last test carried out on the serum of each case. The period is calculated from the date of the *last* injection.

than, any other. May I mention that all question of bias, subconscious or otherwise, in these tests was eliminated by the fact that I generally do from fifty to eighty Wassermann tests at one time, that each serum is designated by a number, and that I dictate each result, so am entirely ignorant of the nature of the case when it is read?

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

FATAL CASE OF HAEMATEMESIS IN AN INFANT SIX HOURS OLD.

Two cases of gastro-intestinal haemorrhage in the newborn have been published in the JOURNAL this year, one (July 1st) which recovered, and one (April 29th) in which death ensued at 36 hours. A number of cases have been recorded in the *Lancet* and in the BRITISH MEDICAL JOURNAL since 1900, and the pathology seems somewhat obscure. Amongst the causes given, erosions or ulceration of the stomach are included. A gastric ulcer in a child of 30 hours old dying from haematemesis is recorded by Dr. Goodhart in vol. xxxii of the *Transactions of the Pathological Society*. Gastric ulcer is rare in children. Dr. E. G. Cutler has collected twenty-six cases recorded in the *Boston Medical and Surgical Journal*,[1] the larger proportion being in the female sex. Of these cases six occurred soon after birth, the youngest being 35 hours old, and the others 2, 5, 7, 11, and 15 days.

Recently I have had a fatal case of haematemesis in a child 6 hours old, and in this case lesions were found in the stomach to account for the haemorrhage, but I regret that no microscopical examination was made. On June 11th, 1908, I was called by one of the district midwives to see a healthy primipara, aged 28; a well developed, full-time female child had been born at 9 a.m., and I was wanted to stitch a torn perineum; the child appeared to be healthy in every way. Six hours afterwards I was again sent for, and was informed that the child was very ill, vomiting blood. On arriving shortly afterwards I found the child dead, its garments, as also towels, etc., which had been used, soaked in fresh-coloured blood. I was told that the child had been lying by the mother's side since birth. She had noticed it becoming pale, and soon after it vomited a quantity of blood several times in rapid succession, became collapsed, and died just before my arrival and within an hour of the mother having noticed any change. I obtained permission to open the thorax and abdomen that afternoon. The larynx and trachea were clear, and the lungs and heart normal. The stomach was full of blood, and on cleansing the mucous membrane two erosions were found on the posterior surface, infiltrated with fair-sized vessels. From these the bleeding had taken place; the rest of the mucous membrane was pale; the intestines contained blood and meconium, but no further lesions were found; the rest of the abdominal organs appeared to be quite healthy.

Amongst the cases I have been able to look up I have not found one in a child so young, or one proving so rapidly fatal.

Gloucester. FRANCIS H. SPRAGUE.

[1] See *Lancet*, November 5th, 1904.

A BALANCE-WEIGHT FOR THE CLINICAL POLYGRAPH.

PROBABLY not a few beginners with the clinical polygraph have found among their other troubles a difficulty in keeping the spring of the sphygmograph in contact with the radial artery when the "arm" carrying the tambour for collecting the pulsations from the neck is placed *in situ*. The weight of this is apt, more especially in the case of slender wrists, to tilt the sphygmograph outwards, and thus to remove the instrument from the artery and to cause the loss of the radial tracing. If, in order to avoid such a result, the wrist strap of the sphygmograph is drawn more tightly, the consequences are unpleasant for the patient, and the undue pressure thus occasioned may diminish or suppress the arterial excursion. After various attempts to get rid of this annoyance I have secured a simple mechanical contrivance which may perhaps be of service to other workers. The principle of it is the provision of a weight in opposition to the force or leverage exercised by the "neck tambour" and by the arm which carries this tambour, and this in such a fashion as to allow graduation of the balancing or resisting force without altering the amount of pressure exerted on the radial artery by the spring and pad of the sphygmograph. To secure these ends a socket is fixed on that side of the box containing the clockwork of the sphygmograph opposite to the one carrying the tambour "arm," and into this socket is fitted an angled rod carrying a movable weight and notched so as to allow the weight to be temporarily adjusted at different points, the arrangement, in short, being similar to a steelyard. If after the sphygmograph has been attached to the wrist the tambour "arm" and the balance-weight are placed in position, the whole apparatus remains perfectly steady, and the inscription of the two tracings is much facilitated. The balance-weight is readily added to the present pattern of Dr. Mackenzie's clinical polygraph, and is not without value, at least in occasional instances, in the use of the sphygmograph pure and simple. It has been made for me by Hawksley and Son, 357, Oxford Street, W.

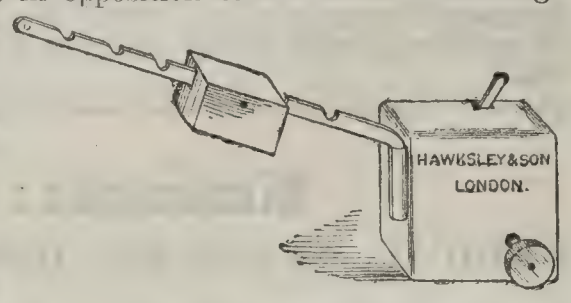

London, W. C. O. HAWTHORNE.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

REPORTS OF THREE CASES OF ABDOMINAL SECTION.

(By GEORGE F. ALDOUS, F.R.C.S.Edin., Surgeon to the Hospital, and to the East Cornwall Hospital, Bodmin.)

Two Abdominal Sections undertaken shortly after Childbirth.

CASE I.—F. L., aged 37, multipara, was admitted on March 11th, 1911, with the following history: On the previous night she had been attended by a midwife, who delivered her of a living child, but was unable to remove the placenta, and, being in difficulties, sent for Dr. Duncan Stamp, of Plympton, who, finding intestine protruding from the vulva, immediately ordered her removal to hospital.

I saw her at 6 a.m. on March 11th in the operating theatre. She was very collapsed and blue; pulse 140, temperature subnormal; the diagnosis of ruptured uterus was verified by an incision. The placenta was floating among the intestines, and a quantity of blood filled the peritoneal cavity, a rent of 3 in. in the posterior wall of the uterus, extending into the pouch of Douglas, through which undamaged intestine protruded into the vagina. I decided to remove the uterus, leaving both ovaries, and spent some little time in stitching up the rent in Douglas's pouch and in cleansing the peritoneal cavity. The abdomen was closed, leaving rubber drainage tubes in the lower angle and vagina. Recovery was uneventful, save for a rise of temperature on the fifth day, due to a small collection of pus in the pelvis, which was dealt with. Drs. Duncan Stamp and W. Lang Hodge kindly gave their assistance at the operation.

CASE II.—R. P., aged 23, primipara, was admitted on January 31st, 1911, suffering from intestinal obstruction with the following history: She had been confined on January 28th, 1911. Three weeks before this she was suffering from abdominal pain, and saw a doctor, who treated her; her confinement after ten hours' labour was not described as difficult, but necessitated an anaesthetic and forceps. Vomiting, with abdominal pains, began immediately after delivery, and the abdomen began to swell; during the next two days the vomiting continued, the bowels did not act, and the abdomen became very distended; she was therefore sent to hospital.

I saw her about noon on January 31st. She looked very ill, temperature 99°, pulse 160; the abdomen was enormously distended. Operative interference was indicated, but her condition suggested rapidity of manipulation. I therefore opened the abdomen by an incision between the umbilicus and pubes, a quantity of dirty serum escaped; the intestines were spotted with patches of grey lymph, and were generally adherent; a rapid examination revealed no point of obstruction, which was evidently due to the condition of general peritonitis; lumbar, suprapubic, and vaginal drains were placed in position after the peritoneal cavity had been well flushed out with normal saline. The operation lasted thirty minutes; the patient was very collapsed, but rallied after intravenous saline injection and strychnine hypodermically. She made a slow but good recovery, leaving the hospital in six weeks.

I am inclined to think that the peritoneal condition occurred some days before her labour, and was due to pneumococcal infection, which became more general and acute when the uterus got rid of its contents.

Solitary Cyst of the Liver.

M. H., a single woman, aged 43, was admitted on May 31st, 1911, with the following history: Till the previous week she had performed the ordinary duties of housemaid; she had noticed a swelling in the epigastrium for twelve months, which had become more prominent during the last month, but caused her no pain or discomfort. She consulted Dr. Colin Lindsay, of Plymouth, for biliousness; he noticed a large swelling in the epigastrium, and advised her removal to the hospital.

On admission the epigastrium was distended, extending downwards and backwards to the right kidney pouch; fluctuation was marked, and a distinct thrill was conveyed from the kidney pouch to the epigastrium; the heart's apex was in the left mid-axillary line; the stomach was pushed upwards and to the left; lung resonance was displaced up to the fourth rib on the right side.

Two days after admission the swelling became painful and increased in size, and on June 5th I opened the abdomen above the umbilicus. The cyst wall presented, and was tapped with a trocar; 12 pints (1½ gallons) of thin, dark, muddy-coloured fluid was drawn off. The swelling proved to be a solitary hepatic cyst occurring at the free border of the liver, having a thin layer of hepatic tissue covering it; the gall bladder was normal. The cyst wall was stitched to the parietal peritoneum and a drainage tube inserted. Dr. Pethybridge kindly examined some of the fluid, and found some crystals of haemoglobin, no blood cells or bile.

REMARKS.—Non-hydatid cysts of the liver are very rare. Moschcowitz in 1906 could find only 83 cases recorded. Bland-Sutton suggests that these cysts arise from dilatation of the bile ducts, which subsequently fuse to form a single cyst; he records a case which contained 2 pints of fluid. Diagnosis is difficult, the condition simulating pancreatic cysts, hydronephrosis, hydatids, etc.

REFERENCE.

Allbutt and Rolleston's *System of Medicine*.

Reviews.

THE OXFORD SYSTEM OF SYPHILIS.

e fifth volume of the *System of Syphilis* of the Oxford dical Publications[1] is made up of four sections—namely, e Affections of the Skin in Syphilis (by Phineas raham and Haldin Davis); Ocular Syphilis (by Devereux rshall); Aural Syphilis (by Ernest West); and Syphilis the Upper Air Passages (by StClair Thomson). The aneous manifestations of syphilis are described at gth in 180 pages, illustrated by 30 plates, most of m being direct-colour photographs. The subject is oduced by a chapter on the history and general aspects. e belief that syphilis was known to the Chinese many turies ago has not been confirmed by recent literary earch. Bedthencourt should be de Béthencourt, an early ter on lues. The pathology and classification of hilides is dealt with at some length, and the various ds fully described. It is not sufficiently brought out t bullous syphilides may occur, though very rarely, in secondary stage of acquired syphilis, and the possibility a drug (the ordinary blood mixtures so extensively ertised, and which contain potassium iodide) being the l cause must of course be excluded. The later cutaneous nifestations of syphilis are passed in review. A chapter lso devoted to the diagnosis, including the differential gnosis, of syphilides, but this important subject might l have been a little more fully developed. Syphilis of the ous membranes and the eruptions of congenital syphilis next dealt with; and the section concludes with some very rt remarks on treatment. This was, perhaps, inevitable on ount of the overlapping of contributions. Altogether, cutaneous section is a readable and fair account of a y complicated subject. No doubt in future systems ical diagnosis and differential diagnosis will be done y with altogether, the training, from a clinical point of w, in the knowledge of skin diseases and syphilis (for n must be mastered) not being compulsory in London, men becoming more and more dependent on the ratory for a diagnosis in cases that are obviously nilitic, for instance.

yphilis of the eye takes up some fifty pages and is strated by thirteen plates. In the differential diagnosis chancre from a breaking-down gumma, it is stated time will quickly settle the matter in case of doubt, also that a secondary rash will quickly follow. Usually e is no difficulty in coming to a conclusion, but surely here be any doubt the treponema should be sought for, no time lost in initiating treatment. About the same unt of space is devoted to aural syphilis, with one e (after Manasse), and the author gives a summary ew of conditions that, since the introduction of sal-an, appear to occupy more and more attention.

yphilis in the upper air passages concludes the volume pages and 7 plates), and gives a survey of primary, ndary, and tertiary syphilitic manifestations, with r diagnosis and treatment. As to skin-reaction tests, is recently been shown that positive results may occur ases of syphilis as well as in tuberculosis.

he sixth and last volume is devoted to syphilis in tion to the public services, the contributors being naval military surgeons. Sir Alfred Keogh leads off with ar introduction in which he insists on the importance ne study of syphilis. It cannot be too often repeated the attention paid in our schools to this great pan-ic disease has been quite inadequate. Sir Alfred gh says

> the Contagious Diseases Acts are not successful the experience of the Continent proves. Venereal diseases of all s still prevail in Paris and Berlin amongst the civil lation, and there is not the slightest reason to believe they are less frequent there than in London or Edinburgh.

adds, further, that the clandestine prostitute will ys evade their mesh. Some optimistic scientists may, ing from recent opinions expressed, believe that the Ehrlich-Hata remedy will banish syphilis, but this is y doubtful hope. Lieutenant-Colonel Melville writes on history and epidemiology of syphilis in the more important armies. In the introduction—historical survey—the author refers to Fergusson's views as to the immunity of the Portuguese to syphilis as compared to the virulence of the disease in the British troops during the Peninsular war; but he does not point out that Fergusson changed his opinions on this subject, and admitted later that the bad results among our troops was due to the way mercury was administered, laying aside at the same time his theory as to the exhaustion of syphilis among the Portuguese.[2] Moreover, Fergusson, like many others both in his time and since, included soft sores. Lieutenant-Colonel Melville's contribution is very full, and is illustrated by maps and statistics. Captain L. W. Harrison is to be congratulated on his excellent monograph dealing with the pathology and microbiology of syphilis as applied to the public services. His contribution should prove of great value to those in civil practice as well as to members of the public services. Major C. E. Pollock gives a very clear account of the clinical course and treatment of syphilis in the army. He favours the use of intramuscular injection, and the details as to technique and so forth are clearly given. The article is illustrated by some good direct-colour and other photographs. The remainder of the volume is devoted to matters naval. Surgeon C. N. Fiske, of the U.S. Navy, contributes an article on the noteworthy features of syphilis in that service; Fleet Surgeon Mourilyan, R.N., deals with the epidemiology of syphilis in the Royal Navy; and Staff Surgeon Charles K. Bushe, R.N., with the practical treatment of syphilis afloat. He touches on the subject of compulsory prophylactic measures such as these obtaining in the German navy, and contends that it would be improper to deny to men those measures of prophylaxis which knowledge has placed at our disposal. Treatment by means of intramuscular injections of insoluble mercurial preparations has been found to possess advantages, but some naval surgeons still adhere to older methods. Staff Surgeon W. Perceval Yetts, R.N., contributes a short paper on the value of Justus's test. Altogether the volume, notwithstanding the unavoidable repetitions by contributors writing independently, is a good one, and will be of particular value to those members of our profession who belong to the military services.

DERMATOLOGY.

THE fifth edition of Dr. NORMAN WALKER'S *Introduction to Dermatology*[3] has recently been issued. Dr. Walker has rewritten the book, adhering to the lines that have made his introduction so successful. In previous reviews the merits of this work have been fully dealt with and recognized. The present edition is a further improvement, and as an introduction to a difficult subject it can be strongly recommended to students and non-specialists as a clear account which can be read with pleasure. There is a personal character about the book that makes it valuable for the dermatologist as well. Several coloured plates taken from the excellent casts of Dr. Cranston Low and Miss Rae have been added. The book is published by Messrs. William Green and Sons of Edinburgh, and their part of the work is well done.

Dr. DUNCAN BULKLEY of New York has published a course of lectures on the local treatment in diseases of the skin[4] which reflect the results of his experience. He deals with the subject in a practical way, and a perusal of his remarks should prove of great value. The treatment of cutaneous diseases is not all a simple matter, as some medical men—and many nurses, too—believe. Just writing out a prescription, usually with the very latest advertised remedy, is no use at all unless the patient is made to understand (not an easy matter in many cases) how to apply the lotion or ointment, or other application ordered. If skin troubles could be dealt with on the

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[1] *System of Syphilis.* Edited by D'Arcy Power, M.B.Oxon., F.R.C.S.; and J. Keogh Murphy, M.B.Cantab., F.R.C.S. Vol. v. London: Frowde, and Hodder and Stoughton. 1910. (Sup. roy. 8vo, pp. 353; plates 53; pp. 356. Vol. vi, pp. 514; plates 17. £2 2s. each volume.

[2] The point has been threshed out and settled by Dr. George Ogilvie in his paper on Syphilis among British Troops in Portugal, 1812, etc. (*Brit. Journ. Derm.*, x, 1898, p. 232.)

[3] *An Introduction to Dermatology.* By Norman Walker, M.D., F.R.C.P. Fifth edition. Edinburgh and London: William Green and Sons. 1911. (Medium 8vo, pp. 346; 43 coloured plates and 79 illustrations. Price 12s.)

[4] *Principles and Application of Local Treatment in Diseases of the Skin.* By L. Duncan Bulkley, A.M., M.D. New York and London: Rebman. 1911. (Quarto feap, pp. 130. Price 4s. 6d.)

penny-in-the-slot system, there would be no need for studying these morbid conditions. Frequently it is difficult to make even trained nurses see what is really required. Dr. Bulkley's book will certainly help many practitioners to carry out treatment in an adequate manner, and therefore with better results. But for any one to think that dermatological knowledge can be acquired by listening to a lecture now and then and making a note of many formulae merely shows a simplicity that is singularly out of place in a practitioner of medicine. Why not go back to amulets, charms, and talismans? Though the author writes specially about local treatment, on this occasion he does not fail to call attention to general treatment adapted for the needs of each individual case. Altogether the book is one to be read, and can be recommended.

There is apparently no end to short cuts to knowledge of diseases of the skin.[5] One of the latest is from the pen of Dr. FELIX PINKUS, who reviews the various cutaneous and venereal ills in very rapid manner. The book belongs to a *Leitfäden* series—vade-mecums, sign-posts, or paths which but too often degenerate into mere trails or even snail tracks, leading no-whither in particular. In this age of pap or spoon feeding such volumes are falling as thickly as leaves in Vallombrosa—leaves that not only rustle but give forth sounds in many languages, an aërial Babel or babble. The book is what is considered an introduction, and as such may serve—must serve—some one, otherwise publishers would not issue so much printed matter. The illustrations are, in the majority of cases, poor. A correspondent once wrote to Mark Twain asking him if fish were good for the brain, and got the following reply, "Yes, begin with a whale." Of a very different class is another book on our list. In issuing an Epitomized Index to the twenty-one volumes of the *British Journal of Dermatology*,[6] Dr. WINKELRIED WILLIAMS has rendered a great service to writers on dermatological subjects. The value of an ordinary index is great, but the author has gone further, for he has epitomized the various papers of the periodical under notice—a labour of love indeed. That the Germans have not a complete monopoly of patient workers in arid fields this index is a proof. The book can be strongly recommended to workers in the domain of dermatology. There are few misprints considering the nature of the book: *Adiposis delerosa* for *Adiposis dolorosa; Cutaneous distrophy* for *Cutaneous dystrophy*, etc. It was a good idea to interleave with blank pages for the convenience of those with sufficient time wishing to continue the index.

INFECTIOUS DISEASES OF THE SKIN AND MUCOSA.

THE seventeenth fasciculus of the *Traité d'Hygiène*, originally started by the late Professor Brouardel and Dr. E. Mosny, but which is now published under the direction of Professor CHANTEMESSE and Dr. E. MOSNY, is devoted to the etiology and prophylaxis of diseases transmitted via the skin and orificial mucous membranes.[7] The thick volume of 720 pages is made up of a series of monographs by experts, and it may be stated at once that the authors have done their work exceedingly well. The various diseases have been exhaustively dealt with from the points of view of etiology and prophylaxis in an admirably clear manner. It would be impossible, in the space allotted, to do justice to the various sections, which embrace the microbial diseases, including those transmitted to man from animals, and the numerous morbid conditions of the skin arising from animal and vegetable parasites (Achalme).

Malaria is most thoroughly dealt with in a masterly way by Edouard and Etienne Sergent, who also contribute the chapter on blackwater fever, Marchoux writes on yellow fever, Simond on plague, Levaditi on recurrent fever, Thoinot and Ribierre on typhus, and Morax on the contagious ophthalmias. All these subjects are handled in a clear, up-to-date, and conscientious manner.

One of the most important monographs is that on syphilis and venereal diseases generally, by Jeanselme. It should be read by every one conversant with the French language, for it deals with the subject in a manner which should serve as a model. It is interesting to note, in passing, that Jeanselme considers congenital (or so-called hereditary) syphilis is "in the great majority of cases, but not in all," transmitted through the mother—a point that has been insisted on by Matzenauer, whose excellent monograph was reviewed in these columns some years ago, Pernet, and others. But the direct paternal origin is still adhered to by the majority, especially in France, so that Jeanselme's contrary opinion is a sign that opinions are undergoing a change across the Channel. The quality being so good all through, it would perhaps be hypercritical to call attention to an error on the part of the writer on erythrasma. He refers to dhobie itch as a disease that "appears to be merely an inflamed erythrasma"; this is not correct, as the fungus found in erythrasma is quite different from the fungus found in dhobie itch, in which there are at least three different species of trichophyton, more recently called epidermophyton—namely, *E. cruris*, *E. perneti*, *E. rubrum* (Castellani).[8] A curious printer's error is the heading "Syphilis aqueuse" for "S. acquise." The volume is well written that it should prove indispensable.

WAR MEDALS AND DECORATIONS.

FOR upwards of twenty years Dr. PAYNE has been an enthusiastic collector, and his cabinets contain no fewer than 2,500 medals and decorations, 500 of which were awarded to officers.[9] Many of these are of priceless value, while the collection as a whole is representative of all that is best, both historically and artistically, of the honours conferred on our soldiers and sailors for gallant deeds and duties manfully done. The author's original idea was to prepare merely a catalogue of his treasures, but he found the work so absorbing and of such deep interest that his effort has developed into a large volume beautifully and profusely illustrated by reproductions from his collection. The book begins with a list of military officers, arranged according to rank, whose decorations are in Dr. Payne's possession. This includes almost every grade of service from that of a field-marshal downwards, and is followed by a similar list of naval officers headed by Admiral Lord Gambier, who commanded the expedition to Copenhagen in 1807. In both lists, as might be expected, the medical departments of the services are well represented. A considerable portion of the work is taken up in describing the features and distinctive marks of various decorations and the history of their origin.

To the ordinary reader the most fascinating part of the book will be found in the pages dealing with the biographies of the officers and men who were the recipients of the more important decorations in Dr. Payne's collection. We can cordially recommend the volume to all who are interested in the subject. Apart from its high intrinsic value, it is an object lesson of the amount of work which can be done by a busy practitioner during his odd hours of leisure.

NOTES ON BOOKS.

MR. W. BRUCE HEPBURN'S book on *Dental Metallurgy* will certainly, as the author hopes, be useful "to dental students preparing for the British, Colonial, and American dental degrees." The discussion of the preparation of metals from their ores has been cut down to reasonable limits, but yet bulks largely in the book. The chapter on the behaviour of metals in the mouth suggests fields for useful research. Those on alloys, casting of metals, temper, and pyrometry, though short, are full of useful infor-

[5] *Hart-und Geschlechts-Krankheiten.* Von Dr. Felix Pinkus. Leipzig: Klinkhardt. 1910. (Sup. roy. 8vo, pp. 283; 68 illustrations. M.7.)

[6] *An Epitomized Index of Dermatological Literature.* An Epitome of Volumes 1 to 21 inclusive of the *British Journal of Dermatology.* By A. Winkelried Williams, M.B., C.M.Edin., D.P.H.Lond., etc. London: H. K. Lewis. 1910. (Roy. 8vo, pp. 275. 12s. 6d.)

[7] *Traité d'Hygiène.* Fasc. xvii. *Etiologie et prophylaxie des maladies transmissibles par la peau et les muqueuses externes.* Par Achalme, Ed. et Et. Sergent, Marchoux, Simond, Levaditi, Thoinot, Ribierre, Morax, Jeanselme, Merchotte. Paris: J. B. Baillière et fils. 1911. (Sup. roy. 8vo, pp. 746; 199 figures. Fr. 16.)

[8] See Castellani and Chalmers, *Manual of Tropical Medicine*, for fuller details.

[9] *A Handbook of British and Foreign Orders, War Medals, Decorations Awarded to the Army and Navy.* By A. A. Payne, L.R.C.P., M.R.C.S. Sheffield: J. W. Northend. 1911. (Pp. 811. 31s. 6d.)

[10] *Notes on Dental Metallurgy, for the use of Dental Students and Practitioners.* By W. Bruce Hepburn, L.D.S.Glasg., Lecturer on Dental Metallurgy, Glasgow. London: Baillière, Tindall, and Cox. 1911. (Cr. 8vo, pp. 221. 5s.)

An appendix, containing a table of alloys, physical tants of metals, etc., adds greatly to the value of the , but it would repay more careful editing. In too y places the text is marred by careless use of words—example (p. 20): "Iron pyrites contains iron and hur, and is largely used as a source of sulphur in the ufacture of sulphuric acid, the sulphur having been oved, and any traces of copper extracted."

DER the somewhat uninviting title, *Lectures on gy*,[11] Dr. CURT THESING presents an exceedingly esting book dealing with fundamental problems in gy. His statements of principles are open and unsed, and he weighs the claims of conflicting theories in nner which is at once impartial and clear. He mains the opinion, with which most will agree, that no one he great biological theories is sufficient to explain ything, but that each is of value in its proper place, so long as it fits in with known facts. He is at the e time a strenuous advocate of further advance in vledge, and points the way to the vast fields of vital esses which still remain unexplored and unexplained. philosophy is neither oppressive nor involved, and it livened by a great wealth of illustration. Half-a-dozen ured plates and numerous figures in the text add to the e of the book.

. A. E. H. TUTTON'S volume on *Crystals*,[12] in the Interonal Science Series, is intended as a presentation of the nomena of crystallography in a manner comprehensible e non-technical reader, together with a brief account of ypotheses as to the structure of solid matter which based on those phenomena and on mathematical conations. The book constitutes an amplification of the or's lecture to the British Association at Winnipeg in and the experimental demonstrations which were given are described and illustrated. The author has nly the qualification of having devoted many years to study of crystallography, and having attained a ng position in its investigation, but also the further of being obviously imbued with enthusiasm for his ect. He is possibly a little too optimistic as to the nt to which those who are not familiar with the subwill be able to follow all the discussions, but techities are throughout avoided as far as the matter its, and mathematical formulae are almost entirely nt. The historical development of the science is ly traced from the observations of Caesalpinus in 1600 he crystalline form of blue, green, and white vitriol to the present. The seven styles of crystalline form lucidly explained; isomorphism, polymorphism, and tiomorphism are discussed, and many beautiful omena exhibited by crystals under polarized light are ibed and illustrated. The so-called "liquid crystals" h have recently been observed are described, and olume concludes with a short account of Pope and w's theory as to the connexion between crystalline ture and valency.

the preface to his *Diagnosis and Treatment of ases*[13] Dr. HENRY A. CABLES (of St. Louis) states that bject was to provide a book of ready reference in at cases, and he believes that what he has written assist in correct diagnosis and indicate appropriate ment, as well as fix in the minds of his readers valuinformation. He conveys this information in short ristic paragraphs, commencing with "Remember" in type, each subject being dealt with first by reciting facts concerning its clinical features which Dr. es desires to emphasize, and, secondly, by a section eatment, the latter being abundantly supplied with ulae of prescriptions. In a short book of under ages printed in large type it is obvious that only a al review of the wide subject of medicine is possible, t is difficult to express the whole truth in the manner h the author has chosen. We agree that, speaking rally, he has selected the more important facts, but in cine one-sided teaching has the great disadvantage knowledge of exceptions is absolutely necessary if mistakes are to be avoided, so that if undue stress be upon one symptom, a beginner, for whom such a book sumably written, is likely to be misled. The names of drugs and preparations are those of the *U.S. Pharmacopoeia*, and some of the preparations are not known to us. The book is much disfigured by numerous slips in grammar, spelling, and latinity. Among the omissions which we think are of importance are: The use of hot-air baths in nephritis; the need for removing carious teeth in pernicious anaemia; the value of normal serum in haemorrhage; the relation of syphilis to disease of the aortic valves; the value of leeching to relieve the pain of pneumonia; the use of von Pirquet's test in the diagnosis of obscure tubercle; the value of purin-free diet and of vaccine treatment in certain diseases; while the directions for the treatment of diabetes appear quite inadequate. The author is opposed to the sanatorium treatment for phthisis, holding that all that is necessary can be carried out better in the patient's own home.

The object of Dr. FERGUSSON'S book on *The Vagrant*[14] is to focus attention on the practical remedies for vagrancy which have been suggested by the Royal Commission on the Poor Laws and have recommended themselves to the Poor Law authorities. He believes that the causes of vagrancy are mostly economic, and though a large proportion of those who become chargeable to the Poor Law are "doomed to be paupers from their births because they were born unfit," he holds that the question of heredity requires further elucidation before we can accept fully the theory that as a general rule paupers are born, not made, and that at any rate there is "no reason why the vagrant should remain a permanent institution." Some description is given of the labour colonies of various Continental countries, the problem as it presents itself in Scotland is stated, and the recommendations of the various Scottish county councils quoted. A concluding chapter deals with the need for the establishment of an industrial colony for the treatment of epileptics in Scotland, and an account is given of such a colony in Germany.

Dr. BOX has produced a little *Post-Mortem Manual*[15] for students engaged in *post-mortem* work, and for those medical men who may, in the course of practice, be called upon to conduct autopsies. As it is intended for use in the *post-mortem* room, no details of microscopy or bacteriology are included, though indications are given of the conditions under which such examinations may be deemed necessary. It is a beginner's book, but it is a very useful one. Even with great experience it is quite easy to overlook at the time some observation which subsequent consideration or collateral investigation show to have been needed. The beginner, with some such guide as this, if helped also by the provision of a brief written statement of the clinical history, as Dr. Box suggests, should be able to make an examination that will bear criticism. Every aid to the performance of really thorough autopsies is welcome. The most interesting and valuable observations made by experienced pathologists are often those that result from routine examination of parts seemingly far removed from the area ordinarily affected by the immediate cause of death. It is a very practical and accurate little manual.

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[14] *The Vagrant: What to Do with Him.* By R. Menzies Fergusson, D.D. London: J. Nisbet and Co. 1911. (Cr. 8vo, pp. 62. 6d.)
[15] *Post-Mortem Manual.* By Charles R. Box, M.D., F.R.C.S., F.R.C.P. London: J. and A. Churchill. 1910. (8vo, pp. 335; 19 illustrations. 6s.)

MEDICAL AND SURGICAL APPLIANCES.

Wooden Case for Ligature Jar containing Iodine Solution.

MR. C. HAMILTON WHITEFORD (Plymouth) writes: The boxwood cases with screw-down caps having repeatedly given me trouble owing to the threads failing to bite, I have have had made for me by Messrs. Allen and Hanburys, Limited, a case of soft wood, which has the advantage of lightness; the stopper is a plain plug with sloping slides, which wedges into the neck of the case. This does away with the screw-down cap, of which the threads get out of gear. Before placing the jar in the case a string should be tied round the neck of the jar, the ends of the string lying on the lid of the jar. Without such string there may be a little difficulty in lifting the jar out of the case.

British Medical Journal.

SATURDAY, SEPTEMBER 23RD, 1911.

RECENT DEVELOPMENTS IN THE DIAGNOSIS AND TREATMENT OF SYPHILIS.

WITH the discovery by Schaudinn in March, 1905, of the origin of syphilis in a protozoon, the study of the prophylaxis and treatment of the disease entered upon a new and, it is to be hoped, a final epoch. It has now become possible by the detection of the spirochaete to obtain proof of the syphilitic nature of any venereal infection. In former years there can be little doubt that many persons were subjected to the inconvenience and distress of prolonged antisyphilitic treatment when in reality they were free from the disease. Others, who at first permitted the active treatment of a suspicious infection, allowed their fears to be lulled to rest, and discontinued treatment only to find, with the lapse of years, the proof which had been wanting in the beginning. In still other cases it had been the practice to sacrifice valuable time and to await the appearance of the secondary rash to confirm the diagnosis. By Schaudinn's discovery much of this uncertainty has been removed.

In the following year, 1906, Wassermann perfected and published his method of serum diagnosis. By means of the so-called Wassermann test, the diagnosis of syphilis in the secondary and tertiary stages, as well as of such parasyphilitic affections as general paralysis of the insane and locomotor ataxia, has been placed upon a much more certain basis. Further than this, it is the special merit of the test to have provided us with a criterion of the merits of the different methods of treatment. The long dispute as to the relative merits of mercurial inunctions, of intramuscular injection of mercury, and of mercury given by the mouth, seemed likely at length to achieve a settlement by an appeal to the judgement of the Wassermann reaction. The reaction remains positive for a considerable time after the symptoms have disappeared or become latent. The most successful treatment is that which most rapidly converts a positive Wassermann reaction into a negative reaction, and keeps it so permanently. From such attempts to solve problems long disputed, the attention of workers was suddenly diverted by the startling announcement that Ehrlich, after preparing and investigating nearly 200 complicated derivatives of phenyl-arsenious acid, had introduced the preparation "606," a single injection of which would not only bring about the disappearance of syphilitic lesions, but would convert a positive into a negative reaction. During the last twelve months the work of investigating the claims of this new remedy has proceeded on all sides, and the time may now be considered ripe for discussion of the results obtained. It was for this reason that the Section of Therapeutics at the recent meeting of the British Medical Association at Birmingham arranged for a discussion upon recent developments in the recognition and treatment of the disease, a full report of which appears elsewhere the present issue.

There can be little doubt that the new reme salvarsan or "606," in the experience of nearly workers, has justified the chief of the claims which introducer has made for it. With all new remed there is, of course, a tendency to exaggeration, a this is especially so when the remedy is devised meet a disease of the nature of syphilis. Both abro and in this country much has been written in t public press by those who are little qualified by perience or training to pronounce upon the subje In Germany an attack has even been made upon distinguished introducer of the drug, who was accu of encouraging immorality by depriving the disease its danger. Such a contention is unjustifiable a untrue. It is ridiculous to speak of "606" as rend ing syphilis innocuous. The most that Ehrlich c claim—and it is surely a cause for congratulation- to have made less terrible the punishment which n follow upon a single offence—a punishment which f upon the guilty and innocent alike.

The papers which were read at Birmingham, especially the important statistics contributed Major T. W. Gibbard, R.A.M.C., and Major O. Harrison, R.A.M.C., relating to their work at Military Hospital, Rochester Row, can leave li doubt of the extreme value of the drug. The rapid with which it works exceeds that of all others. syphilis, where the accident of the site of the les is of extreme importance, and where, for exam hideous deformity of the face or widespread destruct of delicate nerve tissues may rapidly ensue, it is especial importance that resolution should be ra It is conceivable that time will show that this rapid of action constitutes the sole justification for its The permanency of the cure cannot yet be prov It is possible, or even probable, that the safest cou may be to combine injections of salvarsan with a c tinuous mercurial treatment. It is possible that mild and latent cases of syphilis mercury may still found to be the drug which is in all respects m suitable. All that can be asserted at present is t mercury has no power equal to that of salvarsan bring about the rapid resolution of severe and p gressive syphilitic lesions. Although the after-effe of the injection of the drug are sometimes unpleasa the risk to life would appear small, and untow effects, such as the blindness which has caused abandonment of the atoxyl treatment, have b recorded only with extreme rarity.

The method of administration of the drug is importance. The general consensus of opinion is t the intravenous method alone is trustworthy and f from serious drawbacks. The subcutaneous inject is extremely painful. The intramuscular is apt to followed by abscess formation or local necrosis.

The intravenous injection is no doubt less easy perform, but its technique certainly presents difficulties which should prevent its adoption general practice, and it behoves all who would deny to their patients the advantages of the rem to acquire the necessary dexterity. Certainly, cottage hospitals and similar institutions the int venous injection should present no difficulty. technique of the Wassermann serum test, on other hand, is a matter of considerable difficulty, can only be attained in a well-equipped laboratory one well versed in laboratory methods. We dep the attempts which have been made to simplify procedure so as to adapt it for use as a clinical t We do not believe that accurate or trustworthy evide can be obtained by the medical man who attempt

carry out the test by himself. Even among laboratory workers confusion has arisen by reason of the number of modifications and simplifications of Wassermann's original process which have been introduced. Before we can truly estimate the accuracy and reliability of the test it is essential that the relative merits of the original method and of all modifications should be decided, if necessary, by the establishment of a committee of inquiry.

We note that Major Harrison is of opinion that both Wassermann's original test and Sterne's modification of it have their uses. The Wassermann test, being less sensitive, is less likely to mislead in diagnosis, while the more sensitive modification of Sterne is more likely to give early evidence of retrogression and of the necessity for further treatment.

THE GENTEEL DABBLER IN PHYSIC.

In the seventeenth century fine gentlemen were apt to be dabblers in physic, as great ladies are now. Conspicuous examples are the Honourable Robert Boyle, styled in some inscription, "Father of Modern Chemistry and Brother of the Earl of Cork," and Kenelm Digby, whose name is associated with the treatment of wounds by "sympathetic powder." Another was Sir William Temple, whose name still flutters, like that of Ennius, about the lips of men, because Jonathan Swift was his dependent. Every reader of Charles Lamb must remember his essay on the Genteel Style in Writing, the great exemplar of which he finds in Temple. As Lamb says, his essays "scent of Nimeguen and The Hague. Scarce an authority is quoted under an ambassador." Don Francisco de Melo, "a Portugal envoy in England," tells him "it was frequent in his country for men spent with age and other decays so as they could not hope for above a year or two of life to ship themselves away in a Brazil fleet, and after their arrival there to go on a great length, sometimes of twenty or thirty years more, by the force of that vigour they received with that remove." Temple adds: "Whether such an effect might grow from the air or the fruits of that climate, or by approaching nearer the sun, which is the fountain of light and heat, when their natural heat was so far decayed; or whether the piecing out of an old man's life were worth the pains I cannot tell; perhaps the play was not worth the candle."

In *Martha Lady Giffard, Her Life and Correspondence*, edited by Julia G. Longe, recently published by Messrs. George Allen and Sons, London, there is an interesting account of Temple's famous garden—that garden in which William the Third taught Swift how to cut asparagus in the Dutch manner. Lady Giffard was Sir William's sister. She says her brother was an ardent herbalist, and doctored himself and others with his concoctions. Sage, rue, saffron, alehoof (or ground ivy), garlic, and elder, he "esteemed of the greatest value to health." A draught of spring water with a handful of sage boiled in it he recommended for a consumptive cough, and he thought, if used instead of tea, it would be very beneficial, though perhaps not so "entertaining to the taste." The spirit of saffron was the "noblest and most innocent of medicines," and the greatest cheerer of hearts and spirits. He had known a man brought out of the "very agonies of death by it." Ground ivy was admirable in "frenzies," "sovereign" for the reins, and was, according to Temple, the universal drink of the English nation before hops came into the country. "Garlic or onions made into a soup after a day of debauche" was so efficacious as to be called "Soupe à L'Yvroigne." Elder he recommended for the gout, dropsy, and like complaints, but the ashes of broom taken in white wine he considered to be of even more sovran virtue. A leaf of tobacco put into the nostrils and allowed to remain for an hour every morning he found a specific medicine for a cold; the same remedy, he says, was recommended to him by old Prince Maurice of Nassau for the preservation of his eyesight, and he found it most efficacious.

Temple's belief in herbal remedies did not, however, enable him altogether to avoid the witch-cauldron therapeutics of his day. Thus of a delectable mixture made of powdered centipedes made into little balls with fresh butter, he says: "I never knew it fail of curing any sore throat; it must lie at the root of the tongue and melt down at leisure upon going to bed." But on the whole he was a herbalist. Thus for indigestion, a malady "to which the whole family were subject," he prescribed common cherries (without their skins and stones), white figs, soft peaches, or grapes and apples, after meals; this he judged preferable to the "powder of crabs' eyes and claws, and burnt egg-shells generally prescribed." Sir William admits that the "Jesuit's powder" may be good in fevers, but says it had the reputation of "leaving no cures without danger of worse returns."

Temple was a martyr to the gout, and for this he used the heroic remedy of the "moxa," which was first introduced to his notice at Nimeguen, where he made his great treaty. He had been taken ill on the journey there, but obstinately refused to try any of the remedies suggested, until one of his colleagues at The Hague, M. Zulichem, told him of "moxa." M. Zulichem had a reputation for "never coming into company without saying something new," and his influence, backed by that of another envoy, Monsieur Serinchamps, who had tried it, determined Temple to use the "moxa" treatment; it proved so successful that he always had recourse to it in subsequent attacks of pain. "Moxa" is described by Lady Giffard as a kind of moss that grew in the East Indies. As our readers know, there is a Chinese variety consisting of bundles of Artemisia. "Moxa" used to be employed in modern times in the form of rolls of cotton impregnated with a solution of nitre in water. It acts as a counter-irritant. The way in which Temple used it is described as follows: "You take a small quantity of it," said M. Zulichem, "and form it into a figure broad at the bottom as a twopence, and pointed at top; to set the bottom exactly on the place where the violence of the pain was fixed, then, with a small perfumed match, to give fire to the top of the moss, which, burning down by degrees, came at length to the skin and burnt it till the moss was consumed to ashes, and the skin hard and black." This application, if it did not give relief at once, "might be repeated several times." Sir William tried it, and soon "raved upon it," and recommended it strongly to all his fellow sufferers for the rest of his life, preferring it to the alternative suggested to him of whipping the afflicted part with nettles. Another remedy for the gout recommended to him by old Prince Maurice of Nassau was the use of hammocks; the prince had been "allured to sleep" while suffering under it himself by the "constant motion or swinging of those airy beds." Count Egmont and the Rhinegrave, who "was killed last summer before Maestricht," also imparted their experiences to Temple, showing that then, as now, every man was ready to prescribe for a common ailment.

William Harvey said that Francis Bacon wrote on philosophy "like a Lord Chancellor"; may it not be said that Sir William Temple wrote on medicine like an ambassador?

HERMAPHRODITISM.

THE great advances made in operative gynaecology, demanding very careful examination of the genital tract, and the frequent discovery of hermaphroditic malformation by surgeons operating on congenital hernias, have thrown much light on the delicate question of mistaken sex. Men believed to be women are no rarities. It may be interesting, therefore, to give some account of two important contributions on pseudo-hermaphroditism published recently by MM. Th. Tuffier et A. Lapointe and by M. S. Pozzi.[1]

Professor Pozzi's article is an analytical report of nine cases of pseudo-hermaphroditism under his own observation. He rejects the generally accepted classification of Klebs, mainly because it is now known that there is no instance of a testicle and an ovary being found in one and the same human subject. Microscopic examination—histological proof, as he calls it—can alone settle the question, and it is only within recent years that this fact has been recognized. There is no such thing as a hermaphrodite. On the other hand, pseudo-hermaphrodites are, he says, by no means rare, and of these the immense majority are males that have passed for women. Pozzi divides pseudo-hermaphrodites into two classes, each including a regular and an irregular group. Women who have been taken for men are called androgynoids. The regular androgynoid has testicles proved to be so histologically, and a clitoris and vulval structures closely resembling their homologues in women. The irregular androgynoid has testicles proved to be so, with a clitoris-like penis and perineo-scrotal hypospadias simulating a vulva. Men who have been held by themselves and others to be women are termed "gynandroids." The regular gynandroid has ovaries proved to be so histologically, with external organs of the male type, the urethra running in the clitoris (as in lemurs), a well-marked perineal raphe, and no vulva. The irregular gynandroid has ovaries proved to be so, a peniform clitoris, and more or less imperfect development of the vulval structures and vaginal canal. The structure of the genital gland settles the sex, yet at the same time does not control the anatomical development of the genital tract. Still less does it settle secondary characters, as will be seen after a review of the reports of Pozzi and Tuffier's recently observed cases. Large, well-developed breasts and nipples—"gynaecomazia,"—are not at all rare. The growth of hair, in the beard and elsewhere, varies greatly in different cases, but Sainton traces these peculiarities in pseudo-hermaphrodites to glandular insufficiency. The trichogenic function is associated with that of the testis, ovary, thyroid body, and suprarenal body, and as the genital gland is never perfect in androgynoids and gynandroids, it is not remarkable that testicle-bearing subjects often have no beard, whilst the ovary-bearing gynandroid may have a hairy face and chest.

Pozzi has observed one authentic case of a regular androgynoid. A single "woman," aged 33, was actually a victim to rape when 8 years of age. The catamenia did not appear, and Siredey had examined "her" and diagnosed absence of the uterus. There had been a swelling in the left groin since infancy, and another developed on the right side at the age of 23. The breasts were very large. Ultimately it was found that there was a split scrotum, the left half bearing a genital gland, which was reducible. The right gland (which lay in the inguinal canal) and, ten months later, its fellow were removed. They were testicles; the left was associated with a uterine cornu. Cranwell recently collected several cases in which a uterine cornu and Fallopian tube were found in inguinal hernia sacs in undoubted males. In Pozzi's androgynoid there was a vagina of considerable depth; the labia majora were ill-developed; there was a slight trace of beard. Although the patient had no desire before the first operation, "she" felt greatly attracted by males afterwards; neuroses have since appeared, manifested by melancholic attacks and constant weeping.

Tuffier and Lapointe report, adding portraits and diagrams, an extreme instance of what Pozzi would call an irregular androgynoid, now living in Paris. *Desinit in hominem mulier formosa superne.* "She" is a handsome dark-haired "girl," aged 20, who has been a dressmaker's model and whose face was recently painted by a well-known artist. "She" seems the most feminine in appearance of all accurately reported hermaphrodites, yet the knees are big and the feet masculine. "She" recently applied to Tuffier for relief from a swelling in the left "labium." A smaller tumour was detected in the right "labium." An exploratory incision was made into the left "labium"—really a half scrotum. It was found to contain a testis and hydatid of Morgagni, in a perfect tunica vaginalis. A piece was resected and examined under the microscope: it was testicular tissue of a "young" type. The penis was small, and the prepuce did not completely cover the glans which was as large as a cherry. There was a channel under the penis which ran back into a funnel-shaped depression leading to the meatus urinarius, the vagina was absent. This subject has absolutely no desire for women, but coitus with males, possibly *per urethram*, has frequently been practised, as in certain cases of atresia vaginae in otherwise normal females. Pozzi published a very complete account of an "irregular gynandroid," a married "man," aged 30, on whom he operated, removing a large sarcoma of the ovary; then he found its fellow to be a normal ovary and there was a uterus, ill-developed, with Fallopian tubes.

It may surprise some to learn that 14 cases of ovarian tumours in pseudo-hermaphrodites have been published; in 5 the patient had been under the impression that she was a man. The history of Pozzi's case is interesting. It was ascertained that there was some doubt about her sex when she was born, and, strange to say, a fairly regular monthly show of blood set in at puberty and continued, yet was misinterpreted! The clitoris closely resembled a penis with hypospadias; it measured 2 in. in length when flaccid, behind it was the urinary meatus, and posterior to the latter a narrow and very sensitive canal, the vagina, whence menstrual blood was seen to issue. This haemaphrodite married, and there was no difficulty about intromission; "he" was intensely fond of "his" wife, and fifteen months after their marriage "he" became very unhappy because she suffered from haemoptysis. Medical advice was sought, and at the same time the "husband" consulted Labadie-Lagrave, Pozzi, and Guyon for the enlargement of the abdomen. Then the tumour and the genital malformations were detected, and ovariotomy performed after a delay of over a week to allow

[1] *Revue de gynécologie et de chirurgie abdominale*, March, 1911.

the periodical haemorrhage. The pseudo-hermaphrodite had a fairly developed downy moustache and ft voice, no gynaecomazia and masculine tastes; his" sexual instincts were always directed to males, and "he" was quite overcome when after his" own convalescence the "wife" died of thisis.

Pozzi adds 7 more cases of irregular androgynoids nder his own observation—instances of what may nveniently be called vulviform hypospadias—with fine series of original plates. He finds that there is t necessarily any perversion of the genital sense in seudo-hermaphrodites. So far from being bisexual, e majority have little desire, as might be expected, nce the genital gland, whether testis or ovary, is ver perfectly developed. Many are homosexual or inverts," not necessarily through moral or mental rversion, as a subject brought up as a woman may, r evident reasons, seek men and marry men. As ese androgynoids are far the commoner of the two pes, this accident is not rare. Falsehood and self-ception about sexual relations are so universal that e pseudo-hermaphrodite's personal relation of his her sexual acts and subjective experiences is of tle value, though numerous persons with these firmities have tried bisexual relations. Ortho-xual pseudo-hermaphrodites, by which Pozzi gnifies those whose instincts teaeh them that they ve mistaken their own sex, are rare, but Pozzi ports one case of an androgynoid, who suspected at he was not a girl on account of his instinctive raction towards them; his suspicions proved right. e social relations of the pseudo-hermaphrodite and e legal questions about error of sex discovered in ults are reviewed at length by MM. Tuffier and pointe.

The opinions of the distinguished French authorities ich we have discussed will undoubtedly be chal-ged by many living writers. The most disputed nt is the positive assertion that there is no such ng as true hermaphroditism, whether bilateral, ilateral, or lateral, according to Klebs's classification. s. Blacker and T. W. Lawrence reported a case of at they believed to be true lateral hermaphroditism the thirty-eighth volume of the *Transactions of the stetrical Society*. In the body of a fetus of over ht months' development they discovered an ovary h a Fallopian tube and uterine cornu on the right e, whilst on the left the genital gland had the roscopic structure of both ovary and testis, and s connected with a maldeveloped Fallopian tube l an enlarged Wolffian duct representing the didymis and vas deferens. Drs. Blacker and wrence published microscopic drawings of both ital glands with the text of their report. They the left gland an ovo-testis. Pozzi insists that s mixed organ, seen in some of the lower animals, ecially in the batrachia, is only an anatomical iosity which turns up at necropsies and is never ociated with male subjects. Drs. Tuffier and pointe, who do full justice to our countrymen, ee with Professor Pozzi, and declare that all jects bearing an ovo-testis hitherto described by petent authorities were women, and no ovo-is functioning as a testicle alone or as a testicle an ovary has ever been discovered. Thus there ivision of opinion as to the significance of the -testis, a fact to be borne in mind, as we see that grave question of decision of sex depends on the roscopic appearances detected in the genital gland, ier and Lapointe having actually excised a piece issue from one such gland in a doubtful subject in r to gain microscopic proof.

HOSPITAL ECONOMIES.

In a recent letter to the *Times* Mr. Danvers Power, formerly and for many years co-honorary secretary of King Edward's Hospital Fund for London, has drawn a lesson from the economies effected during the last seven years in the administration and maintenance of London hospitals. It is to the effect that so long as institutions of this order are so well served and prove so prompt to effect economies when their possibility is pointed out, it can be neither desirable nor needful for the Legislature to interfere with their administration. The letter, in short, is a kind of counterblast to the suggestions emanating from various unauthoritative sources that the time has nearly arrived when the voluntary hospital system should be abolished and these institutions be taken over by the State, as represented either by the central government or by local authorities. Mr. Danvers Power also points out that these economies, annually amounting now to the interest on a capital of a million, have been effected by attention to minute items of expenditure, whereas the kind of expenditure of which hospital subscribers as well as the shareholders in companies are commonly most critical is outlay on administration as such. The hospitals, in short, have once more proved the wisdom of the old saying, "Take care of the pence and the pounds will take care of themselves." What Mr. Danvers Power does not point out is that these economies are the direct outcome of his own labours. This, however, it is legitimate to mention, as it is no secret now that, besides taking more than the lion's share of the secretarial work up to the comparatively recent date at which a paid secretary was appointed, Mr. Danvers Power drew up the report in which these economies originated and superintended the work done in this direction through its earlier stages. The report in question showed the precise expenditure of sixteen of the larger London hospitals on a large number of different items and the extent to which, in the case of each hospital and each item, there was a variation in cost per bed above and below the mean. The fact that some variation above the mean was probably a necessity in certain cases and in respect of certain items was not overlooked, nor was direct compulsion to bring its expenditure on such items into closer relation with the mean exercised in the case of any institution. What Mr. Danvers Power did, in short, was to collect and bring to the knowledge of the different institutions information otherwise unattainable by them, and then tactfully to leave each of them to judge how far it could usefully apply the facts to its own circumstances. The later work done in this connexion covers the expenditure of practically all the London hospitals, and in the latest report of all, one of which we may subsequently give some detailed account, the hospitals are definitely classified according to the work which they perform. When the facts were originally investigated the variations above the mean spelt an apparently superfluous annual expenditure of some £43,000, and this latest report shows an economy of over that sum—in precise terms £45,000 a year. The argument which Mr. Danvers Power has recently based on this fact is no doubt perfectly legitimate, and, indeed, impressive, but at the same time it is not without the defect of being a somewhat double-edged weapon. If economies such as those in question are possible at a multiplicity of hospitals, each with its own totally independent administration, they should prove still more possible if the same institutions were brought under one central administration and received their supplies from one common source.

RETIREMENT OF DEPUTY SURGEON-GENERAL LLOYD THOMAS, R.N.

In the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of September 16th we gave a brief account of the career of Fleet Surgeon John Lloyd Thomas, who was on

September 3rd, 1911, placed on the Retired List with permission, in accordance with the provisions of the Order in Council of April 1st, 1881, to assume the rank of Deputy Surgeon-General. This is the first instance of a retirement under the new title in place of Deputy Inspector-General of Hospitals and Fleets. The brilliant services of this officer, however, and the prominent part which he took in the work of the British Medical Association, warrant a fuller record than the official list of the dates of his promotion. Deputy Surgeon-General Lloyd Thomas, who at the time of his retirement was the senior Fleet Surgeon on the Active List in the Royal Navy, entered the service in 1884, and was promoted to the rank of Staff Surgeon on February 11th, 1896, and to that of Fleet Surgeon, November 9th, 1896. The actual date of his commission as Fleet Surgeon was November 9th, 1900, but a recent Order in Council caused this last promotion to be dated four years earlier. As Surgeon of H.M.S. *Temeraire* (temporary flagship of Admiral H.R.H. the Duke of Edinburgh, Mediterranean Station) Deputy Surgeon-General Lloyd Thomas was in medical charge of the torpedo boat flotilla during the blockade of the Greek ports by the International Fleet in 1886. Whilst Surgeon in charge of H.M.S. *Britannia*, the school for naval cadets, 1887–89, he was specially mentioned to the Lords of the Admiralty for "introducing and conducting classes on first aid to the wounded to the officers and cadets, 98 per cent. of whom obtained certificates of proficiency—after examination—by the Board of St. John Ambulance Association." When serving at the Naval Hospital, Jamaica, he was assigned the special charge of yellow fever cases during an epidemic which lasted from November, 1891, to February, 1892. With reference to that occasion, it was stated in an Admiralty letter that "he had carried out his duties with zeal and attention, and in such a way as to merit the highest approbation." As surgeon of H.M.S. *Porpoise* on the China Station, 1894–97, Deputy Surgeon-General Lloyd Thomas witnessed the treatment (at Chemulpo, Corea) of the Japanese wounded immediately after the Yalu naval action; he was present at the bombardment and fall of Port Arthur in the China-Japan war in 1894, and at the bombardment and capitulation of Wei-hai-Wei in 1895. With the sanction of the Commander-in-Chief he landed in Shantung near the Wei-hai-Wei road and converted a Church of England Mission House into an emergency hospital for the Chinese sailors and soldiers; there the surgery incidental to warfare was carried out on an extensive scale, the missionary the Rev. H. Brown, being the chief anaesthetist. Deputy Surgeon-General Lloyd Thomas was "favourably noted for these good services" by the Lords of the Admiralty. "In recognition of services to the distressed Chinese on the wreck of the Chinese cruiser *Kwang-Yi* in 1894" the Order of the First Division of the Double Dragon (a Mandarin of China) was bestowed on him by the Imperial Government of China. As Staff Surgeon he was Senior Medical Officer of the Royal Navy Dépôt at Portsmouth, 1897–99. He was Staff Surgeon in charge of H.M.S. *Endymion* on the China Station during the Boxer rebellion and the siege of Peking in 1900. He was present off the Taku Forts during the bombardment, landed as Senior Medical Officer in charge of the Naval Brigade, with the allies, under General Sir Alfred Gaselee, for the relief of Peking, and was present in the actions on the way from Tientsin. Deputy Surgeon-General Lloyd Thomas was several times mentioned in naval as well as military dispatches, one of the former stating "he was most attentive to the matter of drinking-water supply, and it was greatly due to him that the health of the brigade was so good." For these services he was specially promoted to the rank of Fleet Surgeon on the Prince of Wales's birthday, 1900, and was awarded the China medal with clasp. The Medical Director-General of the Navy, on December 12th, 1900, in acknowledging the receipt of "the very interesting report" on the recent Expedition for the Relief of Peking, added that "it afforded him great pleasure to receive so valuable and comprehensive a contribution to our war literature." He was Fleet Surgeon in Medical Charge of the Gunnery School, Whale Island, 1902–5. In August, 1905, he was appointed to H.M.S. *Victory* for special service to represent the Admiralty at a Congress of International Military Surgeons in the United States at the termination of the Russo-Japanese war. He was Senior Medical Officer, Royal Naval Barracks, at Chatham in 1906–8, and held the same position on H.M.S. *Eagle* in charge of the Western District (Liverpool, etc.) in 1908–10. Deputy Surgeon-General Lloyd Thomas is the author of *A Surgeon's Notes with the Naval Brigade in China* (1901), and of a paper "On the Effect of Gun-firing on the Ear," which was published in the BRITISH MEDICAL JOURNAL of August 13th, 1904. He is a Corresponding Member of the Association of Military Surgeons of the United States of America. Deputy Surgeon-General Lloyd Thomas was formerly a member of the Central Council of the British Medical Association, and he was President of the Navy and Army Section at the Annual Meeting in 1909. This is a record of public work of which any man might be proud, and we may be allowed to express the hope that the distinguished officer may enjoy his well-earned rest for many years to come.

PTOMAINES.

DURING the last few days attention has been directed to the subject of food poisoning from two different quarters. The grocers, who are at present holding their annual exhibition in London, have expressed their indignation at the number of cases of sudden illness ascribed to the "germ of ptomaine" and their intention of getting an expert to inquire on their behalf into every such case. Similarly the Local Government Board addressed last week to local authorities and their medical officers a memorandum, of which an abstract will be found at page 713 of this issue, indicating its intention of extending its inquiries to comparatively isolated cases of supposed food poisoning as well as to considerable outbreaks of disease ascribed to the same cause. Whether the grocers' decision is the outcome of that of the Local Government Board is not clear, but in any case it seems rather foolish of them to fit the cap of alleged responsibility for the occurrence of cases of food poisoning on their own heads. As far as we are aware, no responsible medical man, or even lay man, has ever suggested that all or even a majority of the cases of food poisoning that occur are due to the defaults of grocers, and their specialist certainly has an easy task before him if it is merely that of proving that the "germ of ptomaine" is not responsible for their occurrence. The grocers seem to be of opinion that all cases of food poisoning are really due to indiscretions at table or to wrong admixtures of food such as tea and tinned salmon. The public, however, will have some difficulty in accepting this view, for, though food poisoning may not be so common as the frequent appearance of that term in general newspapers might suggest, there are numerous cases in which a sudden illness can reasonably be explained only on the assumption that there has been present in the food eaten some substance which should have found no place therein. On the other hand, this assumption may sometimes be made too readily, and still more often it may be wrongfully assumed that the deleterious substance has been already present in the food when bought, when really the poisonous quality has been acquired owing to the fashion in which such food has been handled after purchase. But on these and several other points connected with the subject there is at present absence of adequate precise knowledge, and it is for this reason that the ste

which the Local Government Board intends to take is greatly to be welcomed. We note that in the course of its memorandum the Board throws some doubt on the supposition that "ptomaines" ever exist in meat foods which have given rise to poisoning, and is dubious as to the true significance of the reactions held to denote their presence. It is a point of interest, as hitherto ptomaines and their first cousins, leucomaines, have generally been accepted as perfectly definite chemical bodies practically equivalent to cadaveric alkaloids, and possessed of the power of combining with acids to form salts.

MANAGEMENT OF THE FEEBLE-MINDED.

In the general review with which the Metropolitan Asylums Board prefaces its Report for 1910,[1] a digest of which will be found in another part of this issue, attention is drawn to the fact that although three years have elapsed since the issue of the Report of the Commission on the Feeble-minded and two years since that of the Poor Law Commission, no legislation affecting the constitution of the Poor Law authorities has taken place. This absence of legislation will not, it is said, surprise those who are acquainted with the divergent views and deep-seated differences of opinion revealed by these reports; but further attention is drawn also to the fact—and it is one which certainly merits careful consideration—that the problems which faced the Commissioners are changing with the passing of each year, and that it will be some time before the effect of contemporary social legislation upon Poor Law work can be gauged. Old age pensions, labour exchanges, and national insurance against sickness invalidity and unemployment, must inevitably react upon the work of the Poor Law authorities, though to what extent remains to be seen. The Board is of the opinion that these changes, already in operation or heralded, will eventually largely restrict the operations of the Poor Law, so far as adults are concerned, to those destitute persons who by total incapacity are debarred from any prospect of occupying a useful place in the community. Doubtless this is true; but a candid recognition of the present fluid state of social legislation, and the possible or even probable benefits to the poor that may accrue from recent measures, should not be allowed to postpone, but rather should be taken advantage of to accelerate, the reforms urgently pressed for by the Commission on the Feeble-minded, and particularly for a unified control and supervision of the mentally disabled.

THE ROYAL COMMISSION ON TUBERCULOSIS.

In a note on the first volume of the appendix to the final report of the Royal Commission on Tuberculosis, which appeared in the BRITISH MEDICAL JOURNAL of September 16th, p. 634, it was stated among other things that the volume brought forward no very new facts. We have received a communication on the subject from Dr. Stanley Griffith, the author of the report, who says that this is scarcely true. We freely admit his contention that the volume contains facts which "are new, inasmuch as they are records of work not previously published." In this sense the volume contains dozens of new facts which are all of much value, and have been acquired by the exercise of the most admirable patience and skill. Nevertheless, these new facts do not prove the existence of other new facts such as we had in mind. Indeed, it is precisely to this circumstance that the volume owes much of its interest, for all the facts it records go to build up the conclusions previously justified by the work of the same investigator and his colleagues, despite the length of time over which that work was continued, and the scientific impartiality with which the investigation was conducted. Dr. Stanley Griffith goes on to say that there is nothing in his report to warrant the statement that man is susceptible only in a minor degree to the bovine tubercle bacillus; man, he adds, is notably susceptible to this bacillus, though it is true that consideration of a certain group of cases appeared to him to indicate that bovine tubercle bacilli were possessed of a very slightly lower degree of virulence for man than the human tubercle bacillus. Here, again, the difference between himself and us seems to be merely one of terms. Apparently, and perhaps rightly, Dr. Stanley Griffith would confine the meaning of "susceptible" to openness to successful invasion, whereas in the article the term was used as connoting also some reference to associated powers of resistance. Whether man possesses any such power is another question; but its existence in considerable degree in respect of bovine tubercle would seem to be suggested both by the facts recorded in the various reports issued by the Commission and by the comparative rarity in man of tuberculosis of any kind, despite the circumstance that in the present condition of the milk supply he is exposed to attack by bovine tubercle bacilli from his youth upwards. On another point referred to by Dr. Stanley Griffith we have to admit an inadvertence. The date of the issue to the public of the final report was July 11th, and an abstract of its contents will be found in the BRITISH MEDICAL JOURNAL of July 15th. It has attracted little notice among medical men, for reasons which are not far to seek. When the subject of a commission is one of a scientific order those already generally familiar with it are in a position to form opinions for themselves so soon as they have evidence before them. In this particular case the evidence, as batches of it accumulated, was duly set before the profession from time to time, and was of such a kind that the profession as a whole paid Dr. Stanley Griffith, Dr. Eastwood, Dr. Cobbett, and others concerned the just compliment of accepting it as incontrovertible. In addition, when taken as a whole, it all pointed in the same direction, so the substance of the final report of the Commission had been anticipated and accepted long before its publication. So far as it has yet gone, the net outcome of the work of this Commission, apart from points of more specifically scientific interest, has been to emphasize the importance of safeguarding the food, and especially the milk supplies, of the country. We use the term "so far" because, although the Commission has fully completed its original task, it seems just possible that it may continue its work and its existence, if this has officially terminated, in the same or some allied form. Such a step would by no means be undesirable, for the Commission has created some excellent machinery for investigation, and there are still many problems connected with tuberculosis that such machinery might, perhaps, help to resolve.

ANTIVACCINATION STATISTICS.

ALTHOUGH it is a matter of ancient history now, an illustration of the methods of the antivaccination statistician which we have recently come across may not be uninstructive. The late Mr. Preston Thomas,[1] speaking of what he calls the unlucky fate which seems to pursue antivaccinists in their compilation of statistics, says that a conspicuous example was afforded by the figures put before the Royal Commission which, under the chairmanship of Lord Herschell, devoted seven weary years to the investigation of the subject. It happened, says Mr. Preston Thomas, that "the one man of exceptional eminence found willing to figure as an antivaccinationist was the distinguished Darwinist, Dr. Alfred Russel Wallace, who took occasion in the early part of his evidence to give the Commissioners a delightful little lecture on the importance of accuracy

[1] Metropolitan Asylums Board. Annual Report for the year 1910. London: Ben Johnson and Co., Limited. 1911. (Pp. 287. Price 5s.)

[1] *The Work and Play of a Government Inspector.* Edinburgh and London: William Blackwood and Sons. 1909.

in dealing with scientific questions, illustrating it happily with an account of the special precautions taken by Darwin and Tyndall in order to ensure entire freedom from error in their experiments. With this preliminary flourish, he submitted to the Commission statistics which he described as proving vaccination to be worse than worthless by the fact that the best vaccinated departments in France had during a long period the greatest amount of small-pox, and vice versa. Unfortunately, these statistics, which were very elaborate, were found on examination at the Local Government Board to be full of the grossest blunders, some being so obvious that it is astonishing that the most cursory glance had not shown their absurdity. Dr. Wallace at first made a vigorous fight in defence of his figures, declared that he had himself 'worked out the whole of them,' and even expressed his belief that they 'fully went to show that vaccination causes small-pox.' Yet, as entry after entry was shown to be preposterously erroneous, he finally had to admit that they were 'wholly valueless,' and asked to be allowed to withdraw them. But the Commission ruthlessly printed them, and the result is that the Blue Book contains some fifteen pages of statistical tables, each page being headed with a note that 'This table and the diagram drawn from it were handed in by me and subsequently withdrawn, the official tables on which they were based having been shown by the Commission to be untrustworthy.—A. R. W.'" This collapse, adds Mr. Preston Thomas, after Dr. Wallace's prefatory discourse on the supreme importance of accuracy, had its humorous side, and it is certainly remarkable to find a Blue Book which publishes a long series of statistics for the express purpose of showing their worthlessness. Dr. Wallace, however, would seem, like Cranmer, to have recanted his recantation. The Commission reported in 1896. In a book published nine years later[1] we find Dr. Wallace stating that he prepared a number of large diagrams, and pointed the arguments drawn from them in his evidence. According to him the Commissioners—or, at any rate, those among them belonging to the medical profession—were so ignorant of statistics and statistical methods that, like the British soldier, they did not seem to know when they were beaten. Dr. Wallace complacently adds that the most valuable parts of the report are the appendices "containing the tables and diagrams presented by the chief witnesses, together with a large number of official tables and statistics, both of our own and foreign countries, affording a mass of material never before brought together." Of the most striking feature of these appendices, the tables worked out by himself, and withdrawn as having been shown by the Commission to be untrustworthy, he says nothing! As if to make his silence more eloquent, he goes on to relate how he embodied the statistical argument in a pamphlet, which no attempt was made to rebut. It would seem that Dr. Wallace forgot that he had already most effectively "rebutted" himself.

THE "BRITISH PHARMACOPOEIA."

SIR DONALD MACALISTER, Chairman of the Pharmacopoeia Committee of the General Medical Council, informs us that the Committee, having resolved to proceed to the production of a new issue of the *British Pharmacopoeia*, has appointed two editors to supervise the preparation of the work under their direction. The joint editors are Dr. Nestor I. Tirard, F.R.C.P., Professor of Medicine, King's College, London, who has been for many years the Committee's Secretary, and Mr. Henry G. Greenish, F.I.C., F.L.S., Professor of Pharmaceutics, Pharmaceutical Society of Great Britain, who has acted as Secretary of the Committee of Reference in Pharmacy.

[1] *My Life*, vol. ii, p. 352.

THE SANITARY INSPECTORS' ASSOCIATION.

THE twenty-sixth annual conference of the Sanitary Inspectors' Association took place at Yarmouth on September 9th, and was the occasion of the delivery of addresses by its President and the Town Clerk on tuberculosis and tact respectively. They are both subjects of perennial interest, and it is to be feared that the last word still remains to be said on each of them. Of the quality known as tact we have seen many descriptions, but never one which did not seem open to the objection either that faithful adherence to the recipe would result in the would-be tactful person never getting his own way, or that he would constantly be implying his acceptance of statements which he knew to be untrue. Meantime one can fully agree with the Town Clerk that there are many men of the highest brain power and knowledge who fail to get on in life owing to their lack of what he described as a nice perception of what they should say or do in any given circumstances. Tact, he added, was of especial importance in dealing with committees, for committees would never be driven by their officials, but could easily be led by those among them who were tactful. An "expert" official, annoyed at his suggestion being adversely criticized instead of being forthwith adopted, should carefully refrain from exhibiting his annoyance and peacefully but strenuously urge his proposal. It was equally important in dealing with the public, with whom unshakable courtesy would go much further than skill in argument, or exhibition of learning, when endeavours were being made to obtain information as to the existence of insanitary conditions which contribute to the prevalence of tuberculosis and underlie many other diseases, or to secure their removal. As examples of men who lived by tact he instanced insurance agents, whose suavity might be a matter of business but whose agreeable address was proverbial. Tact is undoubtedly one of the foundations of success in life, and possibly the chief constituent of what is known as a good bedside manner, and this makes it the more regrettable that this quality is more difficult to acquire than the deliverer of this address appeared to think. Still the tactless may console themselves with the thought that it is not always the tactful who, in the long run, acquire most influence. As for the address on tuberculosis, this was one of those admirable popular summaries of scientific subjects which one has grown to expect from Sir James Crichton-Browne. In its course he reminded his audience that the final report of the Commission on Tuberculosis is not really quite so belated a document as we described it last week, since it was published at the beginning of July,[1] and speaking of tuberculosis dispensaries, as distinct from sanatoriums, expressed his general approval of them. They would, he indicated, probably obviate the need for resort to a sanatorium in a very large number of cases, provided that, in addition to being places where tuberculin treatment was carried out, they furnished material aid, food, and clothing when and while necessary, and if it were arranged so that they afforded to patients who had passed through a sanatorium the continuance of that supervision and guidance which was so requisite in the warding off of relapses.

PROLONGED PREGNANCY AND HEAVY FETUS.

A CASE of interest to the obstetrician, practitioner, and legalist was reported at a recent meeting of the Société d'Obstétrique, de Gynécologie, et de Pédiatrie de Paris by Dr. R. Poux.[2] He attended a woman who had been pregnant once before, delivery being undoubtedly prolonged to the eleventh month. On that occasion the child weighed over 12 lb.; the basiotribe had to be employed, and the extraction of the shoulders proved

[1] BRITISH MEDICAL JOURNAL, ii, 1911, p. 122.
[2] Accouchement provoqué à terme chez une multipare à gros foetus, dont la précédente grossesse paraissait avoir dépassé le terme ordinaire, *Ann. de gynéc. et d'obstét.*, July, 1911, p. 427–8.

very difficult. The patient went through her second pregnancy to term, and as the child was clearly big, Poux thought it advisable to induce labour. Pains set in, and at the end of fourteen hours a child weighing nearly 9½ lb. was delivered without instrumental or manual aid. Poux insists that his practice in the case of this patient was correct midwifery. In prolonged pregnancy the fetus is not rarely too big to allow of safe delivery, yet some cases do well. Whitridge Williams, in his standard work, *Obstetrics*, relates his experience of a patient who on two occasions did not fall into labour until considerably over eleven months after the last period. In both instances typical labour pains set in at the end of the tenth month; they subsided after a short time, and did not return for more than four weeks. Both children weighed over 12 lb. and measured about 22½ inches in length. The thoracic measurements were markedly increased—a condition which might easily prejudice labour. A light and short fetus delivered apparently in the eleventh month should suggest in certain cases an error of calculation.

X-RAY DIAGNOSIS OF STENOSIS OF THE OESOPHAGUS.

CAN all constrictions of the oesophagus be diagnosed with certainty by the *x* rays? Is the nature of the stenosis discoverable by this method? Should radioscopy supersede oesophagoscopy, or may the two methods be associated? Such are the questions which Frimaudeau sets out to answer.[1] His practice is to place the patient in an oblique position, and administer a wafer of 2 grams of bismuth subnitrate. The wafer's arrest reveals the situation of the stenosis, while the fixity or gradual disappearance of the bismuth furnishes some idea as to the hardness or otherwise of the constriction. If it is a case of loose stenosis, the paste of pure bismuth carbonate is given, since this takes a longer period to travel; if, on the other hand, the stenosis is considerable, then resort is had to bismuth milk. By these means the form of oesophageal dilatation and the permeability of the subjacent contracted zone can be studied. Etiological diagnosis is not so easy. The various stenoses, however, are accompanied by different and characteristic dilatations, and the form which these assume is of some value in arriving at the cause of the trouble. Above a cancerous stenosis is a cupuliform dilatation—a dilatation which at the base is very regular and round, and gives to the bismuth a cup-shaped appearance—while a cicatricial stenosis is accompanied by a conical dilatation. The author believes that the reason for this difference is that the greater number of cancerous stenoses are due to the increase in size of neoplastic gemmations and their tendency upwards and outwards from one of the oesophageal walls into the canal. Above the cancerous barrier the walls are left supple, and, moreover, the neoplastic infiltration never extends much higher than the stenosis. Above the stoppage, therefore, are normal and readily dilatable walls, which expand in rounded fashion with the impact of the liquid bismuth. In cicatricial stenosis, which follows the taking of caustic liquids, there exists between the entirely sclerosed and the normal walls an intermediate region of semi-sclerosis, the diminished dilatability of which gives a funnel form to the bismuth mass. Transitory spasmodic stenoses are accompanied by dilatations resembling those which result from neoplasms, but their form is not so rounded. Many of this, the smallest, class of stenoses can be recognized on the fluorescent screen by their mobility. The author admits that oesophagoscopy has advantages over radioscopy; but the former is really an operative procedure, and a painful one, which has many contraindications. He recommends commencing the examination with the *x* rays, and then practising oesophagoscopy as a complementary method in doubtful cases.

[1] *Arch. d'électr. méd.*, June 25th, 1911.

BLACKWATER FEVER.

DEEKS AND JAMES, Physicians to the Ancon Hospital, in the Isthmian Canal zone, Panama, have written a very interesting report on haemoglobinuric fever as it occurs in that part of the world. There are several theories as to the cause of blackwater or haemoglobinuric fever; one is that it is a special disease due probably to an ultramicroscopical parasite, the other that it depends on malaria, or is, in fact, only one of the manifestations of that disease. There are advocates of both of these views; those who maintain the latter are probably in the majority. Deeks and James, after an exhaustive study on the subject, conclude that the conditions required for blackwater fever are as follows: (1) The presence of a population non-immune against malaria; (2) the prevalence of malaria in such quantity as to produce an almost continuous infection in this population; (3) a large proportion of aestivo-autumnal malaria, because the amount of blackwater fever is in direct proportion to the intensity of this variety; (4) the neglect of prompt and continued administration of quinine, especially in primary attacks, to persons non-immune against malaria. They believe that haemoglobinuric fever is found in every locality, without exception, where these conditions obtain. There is no doubt that at the present time blackwater fever is one of the chief dangers for tropical residents, the general consensus of opinion being that after two attacks the individual should not return to the endemic area. Such being the case, any researches on the etiology of the disease must be of value, and Deeks and James have certainly merited recognition by their careful and accurate report.

WE regret to announce the death of Dr. Pavy, F.R.S., Consulting Physician to Guy's Hospital, which occurred from heart failure after a few days' illness. We hope to publish an obituary notice in a subsequent issue.

THE second annual conference of the British Hospitals Association will be held at Manchester on September 28th and 29th.

BY an order of Major-General Leonard Wood, issued on August 28th, antityphoid inoculation was made compulsory for all officers and privates of the United States Army under the age of 45.

THE International Sanitary Conference will be held this year at the Foreign Office in Paris on October 10th and following days. It is expected that representatives of some forty States will attend. To the conference of 1903 twenty-three Governments sent delegates.

IT is announced that Dr. David Finlay, Professor of Practice of Medicine at the Aberdeen University, will shortly resign the chair which he has held for twenty years. Professor Finlay is an Honorary Physician to the King in Scotland, and a member of the General Medical Council.

WE are officially informed that the Secretary of State for the Colonies has appointed Sir Ronald Ross, K.C.B., M.D., F.R.S., Professor of Tropical Medicine in the University of Liverpool, to be a member of the Advisory Medical and Sanitary Committee for Tropical Africa, in succession to the late Sir Rubert Boyce.

BRITISH ASSOCIATION.

(Continued from page 637.)

SECTION OF ZOOLOGY.

IN his presidential address to the Section of Zoology Professor D'ARCY WENTWORTH THOMPSON took as his text *Magnalia Naturae*, or the greater problems of biology. At the outset it was shown how great are the claims of Aristotle as a biologist, even though he lacked a knowledge of the physical sciences. Great as was his knowledge of the facts of natural history, his writings showed unmistakably that he was not unmindful of the greater problems, the hidden mysteries of biology. True as this might be, there had never been a time in which the *Magnalia Naturae* had been more studied and pondered over than the present. Theories and hypotheses formerly regarded as established had been reopened, but in different language. Natural selection had been assailed on all sides; the old disputations between the preformationists and the advocates of epigenesis were once more being discussed, and the hypothesis of a "vital principle or vital element, that had lain in the background for near a hundred years, had come into men's mouths as a very real and urgent question, the greatest question for the biologist of all." The mystery of organic form, of growth and reproduction, of thought and consciousness, had in all ages called for some adequate explanation, in spite of the materialism of Democritus, Lucretius, and Giordano Bruno. To Aristotle was owed the first scientific exposition of vitalism as set forth in his doctrine of the tripartite soul, much of which was comparable with the modern views of entelechy as propounded by Dreisch. Even in the middle age, long before the time of Descartes, the disputations between Suarez and St. Thomas showed antithetical points of view comparable, if not identical, with the vitalistic and mechanical hypotheses. It was, however, to Descartes that we traced the mechanical hypothesis of modern science, and ever since then men had attributed the phenomena of living things either to physical and mechanical causes or to some unknown and mysterious agency. In support of this statement a remark made by Kuhne a few years ago in Cambridge was quoted. He said that the physiologists for several generations had been leaning on the mechanical or physico-chemical hypothesis, while the zoologists had been very generally on the side of the vitalists. That this had been the case was due, no doubt, to the fact that the former were trained in the school of physics, whereas biologists had to rely to a large extent upon the "vague undefined force of heredity."

Physiology had been defined as the "chemistry of the proteins," and, again, as the "chemistry of the enzymes," but of late physiologists and embryologists had begun to feel the insufficiency of purely physical and chemical methods.

Nowadays, among both zoologists and physiologists there was "a greater spirit of hesitation and caution than of old"; the lessons of the philosopher were beginning to have their influence; the problems of development, of organogeny, and of philogeny were now recognized as problems of enormous complexity. While keeping an open mind on the question of vitalism, the ultimate problem was for the philosopher rather than the biologist, even though many of the latter now clung to the belief "that something other than the physical forces animates and sustains the dust of which we are made."

Physiological science was essentially an investigation into the manifestations of energy in the body, but morphology did not go nearly so far in the use of physical methods. Such considerations led to two important questions: Has the morphologist yet sufficiently studied the forms, external and internal, of organisms, in the light of the properties of matter, of the energies that are associated with it, and of the forces by which the actions of these energies may be interpreted and described? Has the biologist, in short, fully recognized that there is a borderland not only between physiology and physics, but between morphology and physics, and that the physicist may, and must, be his guide and teacher in many matters regarding organic form? Though this aspect of morphology had to some extent been dealt with by Verworn, Dreisch, Roux, and others, it had hitherto attracted but little attention. The form of any portion of matter, whether it were living or dead, its form and the changes of form that were apparent in its movements and in its growth, might in all cases alike be described as due to the action of force. The nature of the motions of living matter must be interpreted in terms of kinetics, and the conformation of the organism itself in those of statics.

Professor D'Arcy Thompson then passed to the consideration of a few concrete illustrations from the subject of *surface-tension*, enumerating, in the first instance, certain essential facts in connexion with this subject. Hofmeister, more than forty years ago, was the first to show that the rounding off of the general surface of an amoeba or of the end of the pseudopodium, was due to surface-tension. To the same cause Plateau showed that the myriads of sticky beads on a spider's web owed their form, size, and distance apart. Other such examples were quoted by the lecturer as furnished by previous writers, while he himself suggested a similar explanation for the varied and beautiful forms of the foraminifera and other protozoa, and also for the early cleavages in the segmenting ovum.

Such instances brought morphology within, or very near to, Kant's demand that a true natural science should be justified by its relation to mathematics. Such views must undoubtedly modify some existing ideas on the subject, but the way had to some extent already been paved by the experimental embryological work of Loeb and others. Important as such considerations were, "they will not touch the heart of the great problems that lie deeper than the physical plane."

"In wonderment does philosophy begin," said Aristotle, and so in amazement did all philosophy come to an end, as Plato had remarked. The biologists of to-day were in no self-satisfied or exultant mood. That living organism was a living organism was a fact which tended to reassert itself as the biologist's fundamental conception and fact. Nor would even this concept serve and suffice when the problems of consciousness and intelligence and the mystery of the reasoning soul were approached. These things were not, however, for the biologist, but belonged to the domain of the psychologist.

Ever and anon, in presence of the *Magnalia Naturae* one felt inclined to say with the Greek poet, "These things are not of to-day nor yesterday, but evermore, and no man knoweth whence they come." Far beyond and remote from physical causation lay the end, the Final Cause of the philosopher. The plain rationalism that guided men through the physical facts and causes began to disappoint them, and Intuition, which was of close kin to Faith, began to make herself heard. In the language of another of the greatest of the Greeks—"The ways of His thoughts are as paths in a wood thick with leaves, and one seeth through them but a little way."

ST. ANDREWS UNIVERSITY QUINCENTENARY FESTIVAL.

September 12th, 13th, 14th, 15th.

THE five hundredth anniversary festival of the foundation of St. Andrews University has come and passed away in a series of brilliant gatherings that has filled the "little city worn and grey" with unwonted revelry, and all those who were privileged to be present must agree that it has been an unqualified success. Favoured by fine weather, there was throughout no single item in the programme that could not be carried out as planned, for, although the King was unable to be present, his attendance had been from the beginning so unlikely that any feeling of disappointment was minimized.

"St. Andrews by the Northern Sea," formerly the seat of the Primate of Scotland, and oftentimes a royal residence, has shrunk to the dimensions of a little fishing port; its royal castle is marked by ruins which only partially indicate its former extent, the cathedral and adjacent priory, with the other ecclesiastical buildings, are shown by mere fragments of walls or the bases of great pillars, but the precincts have been preserved as sacred by their use as a burying ground.

The University buildings are scattered about the city, and those in use are not of ancient date. No hall exists of sufficient size to accommodate the unwonted concourse, so that a large temporary structure, called the North Hall,

was erected to the north of the United College of St. Salvator and St. Leonard, being reached through the quadrangle by a covered way. It was there that on the Tuesday evening the delegates and guests, for the most part wearing academic dress or uniform, were received by the Chancellor, Lord Balfour of Burleigh, accompanied by the venerable Principal, Sir James Donaldson, whose eightieth birthday happily coincided with the festival. On the same evening the students had a torchlight procession and a bonfire in the grounds of the Madras College.

Procession of Delegates.

On Wednesday morning all official guests assembled in the quadrangle of the United College, where a procession was formed, and headed by the band of the Scots Guards marched round the town to the restored church of the Holy Trinity. This procession was a highly picturesque performance, as the academic dresses worn displayed the most varied colours; three of the delegates wore gowns of various shades of yellow, others purple or blue, while the majority wore scarlet, and a few black. The Rectors of the German universities were distinguished by their faded crimson velvet mantles, heavy with gold embroidery, while round their necks they wore gold chains something like those worn by mayors in this country, but containing often two or three rows of jewelled links supporting one or more large medallions. The Rector Magnificus of Breslau was especially noticeable, as he is a magnificent specimen of a man, and set off his handsome dress most effectively. The delegate of the Royal Scottish Academy looked a quaint figure in a long narrow thirteenth century gown of some greenish-grey stuff.

Religious Service.

The service in the church was conducted by the Rev. Dr. Playfair and the Very Rev. Dr. Archibald Henderson, the Chancellor and the Principal reading the lessons, while the sermon was preached by the Right Rev. Dr. Alexander Stewart, Moderator of the Church of Scotland. The collect used was a translation made by the late Marquess of Bute of that read at the service in the Cathedral on the arrival of the Papal Bulls establishing the university:

"O God, who didst teach the hearts of Thy faithful people by the sending to them of the light of Thy Holy Spirit, grant us by the same Spirit to have a right judgement in all things, and evermore to rejoice in His Holy comfort, through our Lord Jesus Christ, Thy Son, who liveth and reigneth with Thee in the unity of the same Holy Ghost, one God, world without end. Amen."

The sermon, preached from St. John, iv, 38—"Other men laboured, and ye are entered into their labours"—served to remind the assembly of the debt owed by those who enjoy the present opportunities to those men whose often unrecorded work had maintained this ancient foundation through the good and evil fortunes of so many centuries.

Presentation of Addresses by Delegates.

In the afternoon the Chancellor received the delegates, who presented addresses from academic and other bodies throughout the civilized world. There were represented seventeen British universities, thirteen from the Colonies, three from India and two from Egypt, fourteen from America, Austria three, Belgium four, Denmark one, Germany fifteen, Greece one, Holland four, Hungary one, Russia and Finland eight, and Turkey one.

Delegates were also present from many learned societies in Great Britain and her Dominions, as well as from foreign countries, besides those from churches and town councils.

Mr. Andrew Carnegie.

Previous to this ceremony, and outside the official programme, Mr. Andrew Carnegie was presented with his portrait in his robes as Lord Rector of the University, painted by Mr. E. A. Walton.

Letter from the King.

At the reception of delegates the Chancellor, on reaching the chair, read the following letter from the King, the audience meanwhile rising from their seats:

"Buckingham Palace.

"To Lord Balfour of Burleigh, K.T.,
"G.C.M.G., P.C., D.C.L., LL.D.,
"Chancellor of the University.

"I desire to express my regret that I cannot be present at the festival of the 500th anniversary of the foundation of the University of St. Andrews.

"I am deeply sensible of the national significance of the celebration of this event in the history of the oldest University in Scotland, and recognize with pride the association of my predecessors with St. Andrews.

"I desire to assure the Court, Senate, graduates, and students of the University that I heartily sympathize with this auspicious event in their corporate life, and trust that it may conduce in all ways to the well-being and success of the University.

"George, R. and I."

With the conclusion of the reading of His Majesty's letter the band played the National Anthem, a verse of which was heartily sung by the great gathering.

Address of Welcome by the Chancellor.

The Chancellor then delivered his address of welcome, in which he traced the history of the University, and drew from the past the brightest hopes that the university which had survived the vicissitudes of five centuries had entered upon a new career of even greater usefulness and wider achievement. The Principal (Sir James Donaldson) added a few touching words, which went straight to the hearts of all who heard the veteran whose life has been so happily prolonged to see these glorious days.

Historical Tableaux.

In the evening a series of historical tableaux were given in the North Hall. They were introduced by a prologue spoken by Mr. Walter Mitchell in the habit of a Dominican monk. There were fifteen set scenes illustrating phases in the history of the University, the first showing Laurence of Lindores addressing his first students, and the last representing Alma Mater surrounded by her children. The following day the *Scotsman* published this sonnet by Canon Rawnsley:

ST. ANDREWS' QUINCENTENARY.

The Under-song.

Beneath the torchlike tower of good St. Rule
I found a fair sea shell, whose whorls and spheres
Were filled with whispering of five hundred years,
Therein I heard how Wardlaw set his school;
Here, where in time of rapine, raid, and dule,
Old Constantine brake swords and buried spears,
And turned to prayer; but tho' within mine ears
Were cries from martyr's stake and "witch's pool,"
Perplexity of churches, flight of king,
War between priests and people, student strife,
And shout of preachers instant for reform,
That shell, thro' all its echoes of fierce storm,
Sang a new song of more abundant life,
Of love grown large, and learning's widespread wing.

H. D. Rawnsley.

Conferment of Honorary Degrees.

On Thursday, September 14th, Lord Rosebery was installed as Rector, and after he had delivered his address the honorary degrees were conferred. This ceremony took place in the North Hall, the Chancellor, Lord Balfour of Burleigh, presiding, supported by the Principal, the Council of the University and other dignitaries, including the principals of other Scottish universities, while those delegates who were not to be recipients of degrees were seated to the right and left on the platform. Mr. Asquith was present, accompanied by Mrs. Asquith, but as a graduand he was seated on the floor. Lord Rosebery's brilliant address was heard by a delighted audience and was one of his most successful efforts, but as it has appeared in all the newspapers it is known to our readers. The graduation ceremony which followed was managed admirably, as the large number of over a hundred graduands were admitted with all due ceremony and dignity without the proceeding becoming tedious, and, including Lord Rosebery's address, the whole of the morning's performance occupied less than two and a half hours. The Doctors of Laws, who were admitted first, were presented by Professor Scot Lang, Dean of the Faculty of Arts.

Among those so honoured were: The Right Hon. H. H. Asquith, the Right Hon. Lord Strathcona, the Right Hon. Lord Balcarres, the Right Hon. Lord Pentland, Mrs. Sidgwick, Miss Lumsden, Sir Thomas Barlow (President of the Royal College of Physicians), Dr. Byrom Bramwell (President of the Royal College of Physicians of Edinburgh), Mr. G. A. Berry (President of the Royal College of Surgeons of Edinburgh), Dr. Anthony Traill (Provost of Trinity College, Dublin), the Vice-Chancellors of the Universities of Oxford and Cambridge, the Master of Balliol, the Principal of Aberdeen University, the Rectors of the Universities of Leipzig, Bonn, and Breslau, Professor Robert Saundby (President of the British Medical Association), Sir Thomas Clifford Allbutt, Sir Hector Cameron, Dr. Robert Bridges, Professor Gotch, Professor Crum Brown, Sir William Tilden, Sir Joseph Larmor, Professor W. W. Keen of Philadelphia, Lieutenant-Colonel Prain (Director of the Royal Botanic Gardens, Kew), Professor Schäfer, Professor Watts (President of the Geological Society), and the Lords Provost of Glasgow and Dundee.

The Doctors of Divinity presented by the Dean of the Faculty numbered only fourteen, but included Professor Burkitt, of Cambridge; Professor Kennedy, of Edinburgh, the Chaplain-General of the Forces; the Very Rev. Norman MacLeod, Principal Clerk of the General Assembly of the Church of Scotland; and the Rectors of the Universities of Strassburg and Marburg.

Garden Parties.

During the afternoon the guests attended garden parties at St. Leonards, where the band of the Scots Guards was in attendance, and at Mount Melville, the residence of Mr. and Mrs. James Younger. During his return from the last-named place Dr. Robert Farquharson had one of his fingers jammed in the door of a motor car, and was rather badly hurt, but was happily not prevented from attending the banquet held the same evening.

Banquet.

In the evening a banquet, given by Mrs. Bell Pettigrew, the widow of the late Chandos Professor, was held in the Bell Pettigrew Museum, a building which has been erected quite recently, and, having not yet been brought into use, its great hall could serve as a banqueting chamber. It was seated to accommodate 540 guests, but unfortunately its acoustic defects somewhat marred the speeches. At the high table were seated the Chancellor, His Excellency the American Ambassador (Mr. Whitelaw Reid), Lord Rosebery, the Gaekwar of Baroda, Earl Elgin, the Principal, Mr. A. J. Balfour, Lord Reay, Sir W. Turner, Sir Donald MacAlister, and other notabilities.

The toast list was a long one, containing ten items, with twenty-seven speeches, so that the proceedings did not terminate until after midnight. The toast of the evening, "The University of St. Andrews," was proposed by Mr. A. J. Balfour, who spoke of its associations with the older school of Scottish poets, and to which the Chancellor replied. Lord Rosebery spoke with disappointing brevity in proposing the foreign universities and learned societies, but he felt constrained by the late hour at which he was called upon and the magnitude of the programme in front of him to be brief.

Ladies' Reception.

On the same evening a ladies' reception was held in St. Andrews by Lady Balfour, Lady Leconfield, and Lady Helen Munro Ferguson, and in Dundee by Lady Baxter and Mrs. James Urquhart, the wife of the Lord Provost.

Visit to Dundee.

Friday was given up to Dundee, to which city the guests were taken by special train, and received at University College by the Earl of Camperdown, President of the College, who welcomed the visitors; and, after a speech from Lord Balfour of Burleigh, the audience had again the good fortune to hear Lord Rosebery, who in spite of having, as he said, been "still sitting that morning at the festive board at St. Andrews, and having heard, on a rough calculation, from eighty to a hundred speeches," was in a very happy vein. Possibly, with reference to his having been recently delivered of his rectorial address, he told the following story, which he said he had derived from Sir Henry Campbell-Bannerman. An old minister congratulated a young colleague, flushed with pride after preaching what he imagined to be a magnificent sermon, by saying, "Eh, but you must be a proud man to-day to have got all that weary, windy, wasteful trash off your stomach."

Excursions.

Luncheon was served in the Drill Hall, and the afternoon, which was bright and warm, was devoted to excursions to Glamis Castle, Rossie Priory, and the river Tay. Visits were also paid to the principal buildings and factories, the visitors being brought back to St. Andrews in the evening by special train.

Miscellaneous Functions.

Another dinner was held in the evening at the Bell Pettigrew Museum for graduates and students of the University, and presided over by the Chancellor, and the festival was brought to a glorious end by a students' ball held in the North Hall, the guests being received by the President and officials of the Students' Representative Council. Music was provided by the band of the Scots Guards, and reels were rendered by pipers under the direction of Pipe-Major Chisholm.

Thus concluded the memorable festival during which the "little city grey and sere" has blazed with unaccustomed splendour, and amid the afterglow stands out the venerable figure of James Donaldson, which will remain in the living memory of all who had the good fortune to be present.

"St. Andrews Again."

In saying a grateful farewell to the College of the Scarlet Gown we cannot do better than quote some verses which appeared in the *Scotsman*, by which a local poet has celebrated the occasion:

ST. ANDREWS AGAIN.

Beyond the links, above the dim sea haze
The city's towers arise,
As fair as in the unforgotten days
When first they met my eyes.

There, staunch and grim, the Castle walls' high line
Looms through the misty air,
As in a dream I see the ruined shrine
Of ancient faith and prayer.

And, like a flood, the tale of vanished years
Sings gently through my brain
The story of the past, its joys and tears,
Its splendour and its pain.

I hear the murmur of that storied tide,
But press with eager feet
To where the College gateway opens wide
On the familiar street.

Ah, once to me this seemed the very door
Of knowledge, fame, and truth,
When first with pride the scarlet gown I wore
And dreamt the dreams of youth.

Still, year by year, with hopes as bright and high,
From isle and strath and town,
The fervid youths of Scotland hither hie
To don the scarlet gown.

Before them Knowledge spreads her open scroll,
Truth shines with deathless flame,
And Honour waits attentive by her roll
To add another name.

Dear Mother, who, for half a thousand years
Hast taught thy scholars well,
And bade them when in struggle with their peers
"Be foremost and excel." *

May every year that o'er St. Andrews fleets
Add to thy old renown!
And true and loyal be each heart that beats
Beneath the scarlet gown!

J. T. LEVENS.

St. Andrews, September 12th, 1911.

* The motto of the University.

THE Russian Medical Association has decided to build a Pirogoff House on the lines of the Langenbeck-haus in Berlin.

THE twelfth French Congress of Medicine will be held at Lyons in October (22nd to 25th) under the presidency of Professor Teissier. The following questions are proposed for discussion: Diabetic coma; the part played by haemolysins in pathology; diuretics; epidemiology and prophylaxis of epidemic cerebro-spinal meningitis.

ASYLUMS OFFICERS (EMPLOYMENT, PENSIONS, AND SUPERANNUATION) BILL.

[FROM A CORRESPONDENT.]

THOUGH the operation of this bill will cover only a restricted portion of the nursing world, it contains certain novel principles, which, if logically extended, may seriously affect the large proportion of humanity that lives by taking care of the sick. Present interest centres round that part of the bill which deals with employment, the remainder not needing discussion here, though the whole of the medical profession will endorse the substitution of a right of a nurse to retire at any age after twenty-five years' service for a right to retire only on reaching 55 years of age, which is now the law. This point was fought for but had to be given up by those interested in the Superannuation Act passed in 1909, in order to save the remainder of the benefits conferred. The trying nature of asylum duty forms the chief argument for retiring officers when worn out; the retention of women, who have worked for twenty-five years in the asylum, after the age of 50 is almost an outrage, not only on the women themselves but also on the patients. If only for the sake of this amendment, the bill may well be passed into an Act.

With regard to the question involved under the term "employment," it will be worth while to consider the genesis of the bill. It is said that one of the representatives of Lancashire was approached by asylum officers living in his division, and that he promised that, if he had the opportunity, he would promote a bill to shorten the hours of work. The luck of the ballot for Private Members' Bills favoured him, and he produced his bill. It was a somewhat crude bit of legislation, such as is usually the outcome of amateur energy. It claimed, *inter alia*, a maximum of sixty hours of service a week, employment over that time being permissible only in circumstances of emergency, and to be paid for at the rate of time and a quarter, while for any breach of this enactment, outside emergency, the medical superintendent as well as the person thus employed were to be summoned before a neighbouring bench of magistrates, and were to be liable to a fine of £5 each.

This bill was fully debated. Some say that the debate was thus full because another bill, distasteful to certain members, was lurking behind. During the debate harsh things were said, as is usual when a subject with great possibilities is taken in hand by a number of persons having the least possible knowledge of its bearings. Fortunately it was referred to a Select Committee, which, after several sittings, has produced a workmanlike bill.

In the bill, as amended by the Select Committee, the visiting committee of every asylum would be required to prepare for the approval of the Secretary of State a scheme in accordance with the following schedule:

HOURS OF DUTY, ETC., OF NURSES AND ATTENDANTS; MATTERS TO BE DEALT WITH BY SCHEME.

1. Subject to the provisions of this schedule, every scheme shall fix—

(*a*) The hours of duty of the day staff and night staff.
(*b*) The number and length of the intervals to be allowed each day for meals.
(*c*) The amount of annual leave to be allowed.

2. The hours of duty fixed shall be such as will not exceed, in the case of the day staff, 140 hours, and in the case of the night staff 120 hours, in any period of two consecutive weeks.

3. At least three intervals for meals, amounting to not less than half an hour each, shall be allowed every day. No such interval shall be reckoned as part of the hours of duty unless the meal is taken in the same room as that of the patients, in which case it shall be so reckoned, and the scheme shall so provide.

4. The amount of annual leave allowed shall be at least fourteen consecutive days for each nurse and attendant, except in the case of nurses and attendants with less than two years' service, who may, if the scheme so provides, be allowed such less amount as the visiting committee may fix.

5. The scheme may, notwithstanding any of the foregoing provisions, provide for any member of the day staff being required, on any day other than one on which leave exceeding four hours is granted to him, to remain in the evening after the night staff have taken charge of the patients as one of the night serve staff, and (if it is thought fit) for an equivalent reduction being made in his hours of duty on some other day.

6. The scheme shall provide for enabling a nurse or attendant to be employed beyond the prescribed hours of duty in any case appearing to the medical superintendent to be a case of emergency, and for an equivalent reduction in the hours of duty of any person so employed being made.

7. The scheme may in dealing with any of the matters aforesaid discriminate between various classes of nurses or attendants according to the character of the work done by them, provided that the general limits laid down in this schedule are adhered to.

Very little fault is to be found with the provisions, though the bill introduces new ideas which require careful watching. The maximum of work is fixed at seventy hours a week. The evidence taken by the Committee showed that the average at present for England is eighty-four hours, the London County Council having the lowest average—sixty-six hours for males and seventy-two hours for females. It is curious that Lancashire itself has an average below the hours now fixed by the bill, showing that there was not much cause for complaint on the part of its officers. Ireland's average is just below that of England, while Scotland is considerably below, though in one case the service is the longest of all given.

In estimating the stress caused by any particular number of hours, it is obvious that the character of the work to be done must be taken into account. There is not only much difference in this character between various classes of asylums, but the work in each asylum varies in intensity. The Select Committee puts this point very fairly in its report:

> No one will deny the special stress and strain of asylum service. It may be admitted that some of the work—walking out with quiet patients, for example, or joining in games and entertainments with them—may be neither physically arduous nor even exacting, except for the element of the incalculable in dealing with the mentally deranged. But there is the atmosphere of lunacy all the time. Much of the work is tedious, monotonous, and wearing, not free from indignities and some personal risk; and even fifty hours a week spent in the charge of the acutely ill, or even dangerous, suicidal or troublesome patients, or in hospital nursing of a repulsive type, or in looking after idiots or the infirm and senile, may well constitute an excessive strain. The work calls for sympathy, tact, patience, and intelligence of a high order.

There can be no doubt that the work is of such a character as to require its being brought within some reasonable limits, and I need not stop to argue whether the limit now applied to asylum nursing is appropriate or not; but it has to be pointed out that this is the first instance in which it has been proposed to bring the relations between the sick, the doctor, and the nurse under parliamentary control. It is somewhat of a shock to learn that a nurse conceivably may have to leave her work before it is well done, for fear of trouble. Of course, in large institutions, where means can be found to ensure a punctual shift of nurses, it will be little less than carelessness if one is kept overtime. But can the compulsory limitation of hours, as a principle, be confined to asylums? There is the best authority for saying that there has arisen an Asylum Workers' Union, which has grown rapidly, and which is now adopting the approved methods of trades unions, seeking to deal with employers on behalf of the employed, and no doubt striving for "recognition" by employers. At present the element of the asylum confines the application of the bill, and therefore other institutions for the insane, such as the registered hospitals and private asylums, are not included, inasmuch as the work in them is very different from that of the public asylum; but it would be idle to think that a body, which might eventually exercise a good deal of pressure, will not be able to find plausible reasons for extending the provisions of the Act to every one who has to undertake the nursing of the insane, whether institutional or private. The stress, the monotony, the distastefulness of attending to sick persons, are only matters of degree. It is true that in many instances real altruism does lift the nurse far above all considerations such as these, but in the great majority there is an appetite for increased reward in return for less work, which will make them ever ready to listen to dangerous teachings. It is difficult to stay the march of events in this matter; the most that can be done is to note the commencement of the movement and offer as stout a resistance as possible. On this point the Committee said:

> Your committee see no objection in principle to statutory restriction of the hours. The ordinary case against parliamentary interference with hours of adult labour does not apply. Asylums

are under regulation by public authorities, and the State may equally well act through the central legislation or through the local administrative machinery.

In the face of the Mines Act the reference to parliamentary interference seems to be a trifle superfluous. One would hardly like to trust to such thin argument against the application of the Act to other than public institutions, or indeed to all forms of nursing, public or private.

It remains to be said that the Select Committee would have nothing to do with police-court proceedings, leaving the administration of the Act in such matters to those who are entrusted with the enforcement of the lunacy law, while it recommends the common-sense step of repaying overtime of work with overtime of recreation. The removal of money payment for overtime will have the good effect of reducing zeal for progressive demands.

LITERARY NOTES.

MESSRS. ADLARD AND SON have just issued a book of particular interest. It is a *Memoir* by Sir Samuel Wilks "on the new discoveries or new observations made during the time he was a teacher at Guy's Hospital." It is not, as the venerable author explains in the preface, merely a personal account of himself, but rather his medical history—that is to say, a record of how far he had a personal knowledge of many diseases first observed. The publication of the book has been superintended by Sir Bryan Donkin. The book is illustrated with an excellent portrait taken about 1884, when Sir Samuel Wilks was about 60 years of age. A more extended review of the *Memoir* will appear in an early issue.

Messrs. Longmans, Green and Co. announce the issue of the eleventh edition of *Quain's Anatomy*. With the view of making the edition more easily accessible to students, the volumes already published are being reissued at lower prices. The second part of the first volume, *Histology*, by Professor Schäfer, is expected to appear in the autumn.

We have received a reprint of an article on arterial lesions found in Egyptian mummies, contributed by Dr. M. Armand Ruffer to the *Journal of Pathology and Bacteriology*, vol. xv, 1911. The mummies examined came from the XVIIIth to the XXVIIth Dynasties (1580–527 B.C. and from the time of the Persian Conquest, 500 B.C.). Dr. Ruffer also dissected a Greek and a Coptic mummy, the former dating, in his opinion, from the XXIst Dynasty, the latter from the fifth or sixth century of the Christian era. His investigations, therefore, ranged over a period of 2,000 years, from 1580 B.C. to 525 A.D. The chief difficulty encountered arose from the extensive mutilations made in the process of embalming. Dr. Elliot Smith, says Dr. Ruffer, has shown that at the time of the XXIst Dynasty the embalmers removed the whole of the viscera, the aorta, and most of the muscles of the body. The body cavity and the holes left in the limbs after removal of the muscles are found filled with mud, sand, or rags, or all three. The sole of the foot is packed with sawdust mixed with some "resinous" material.

> The muscles and big blood vessels of the neck are also gone, the larynx is either pushed upwards or has been removed, and the neck is filled with mud or rags. The cheeks are filled out with a fatty material mixed with sand and sawdust, and the brain removed. It is only by accident, therefore, that the whole or a portion of the aorta, or one of the large arteries, is left behind. Fortunately for our purpose one artery, namely, the posterior peroneal, owing to its deep situation, often escaped the embalmer's knife. In a few cases also when the embalmers had evidently scamped their work, the arm or leg was untouched.

The limbs of such mummies of the XXVIIth Dynasty as Dr. Ruffer examined were intact, but the body cavity had been almost cleaned out. He goes on:

> The thoracic cavity contained an enormous quantity of jet black material showing a glistening surface, which I should certainly never have suspected of containing any tissue. In one case, however, a lump of this substance—which, to the naked eye, appeared to contain no tissue whatever—was placed in running hot water. The black substance slowly dissolved out, and then a small piece of aorta appeared, which, after long washing, showed exquisite calcareous patches.

The black shining material is not bitumen; the results of a chemical investigation made by Mr. Lucas will doubtless be published in due course. Dr. Ruffer gives a detailed description with illustrations of the changes in the artery examined by him. These consist in more or less complete calcification following on atheroma, exactly similar to what is seen at the present day. This would seem to show that the ancient Egyptians suffered as much as people do now from arterial lesions identical with those found at the present time, and Dr. Ruffer thinks that such lesions were as frequent three thousand years ago as they are to-day. As to the causation, one cause which is supposed to play a part in modern times—namely, tobacco—can certainly be eliminated, as this substance was not used in ancient Egypt. Syphilis, says Dr. Ruffer, can also be eliminated with considerable certainty, as no specimens of this disease in Egyptians have as yet been discovered. Alcohol, he adds, played a part in the social life of the ancient Egyptians; we know from pictures found in tombs that on festive occasions some of them certainly got drunk. Beer was a common beverage, and was made in the country and also imported. But the Egyptians as a race are not, and never have been, habitual drunkards. In connexion with this subject, Dr. Ruffer mentions that his own experience has led him to call in question the importance of alcohol as a cause of arterial disease. During the Mussulman pilgrimage he has made over 800 *post-mortem* examinations of people who had certainly never touched alcohol in their lives and he has found that disease of the arteries is as common and occurs as early in total abstainers as in people who take alcohol regularly. Another cause to which the production of arterial disease is often attributed is the supposed increased wear and tear of modern life. Dr. Ruffer says:

> This has always appeared to me an extraordinary theory, considering that people, even as late as the beginning of last century, worked far harder and had much greater difficulty in getting their living than in the present day. In my opinion the theory that the wear and tear of human life has increased is a myth, the fact being that our life is easier and that we work less than did our ancestors. There is no evidence that old Egyptians worked harder either mentally or physically. Indeed the time-tables of workmen which have been discovered show that the Egyptian navvies of ancient times toiled practically the same hours as the Egyptians do now. They enjoyed a holiday every seven days, as do many nations at the present time.

Dr. Ruffer does not think a cause of the disease is to be found in a very heavy meat diet. Meat is, and always has been, something of a luxury in Egypt, and in ancient times the diet was, as it is now, mainly of a vegetable nature and often very coarse, as is shown by the worn appearance of the crown of the teeth. He has seen advanced arterial disease in young modern Egyptians who ate meat very occasionally. In short, Dr. Ruffer's experience in the East has not strengthened the theory that meat-eating is a cause of arterial disease. Finally, strenuous muscular exercise can also be excluded, as there is no evidence that the ancient Egyptians were greatly addicted to athletic sport. Dr. Ruffer concludes by saying that he cannot at present give a reason why arterial disease should have been so prevalent in ancient Egypt. The paper is illustrated by several beautiful coloured sections.

In the interesting *Souvenirs d'un Médecin de Paris*, by Dr. Poumiès de la Siboutie (1789–1863), of which an English translation has just been published, there is a reference to the surgeon Souberbielle, who was on the jury before which Marie Antoinette was subjected to the mockery of a trial, and who voted for the death penalty. Souberbielle, who lived till 1846, often told Poumiès de la Siboutie that the Queen deserved her fate. But he made this testimony valueless by going on to say that at that time all Frenchmen were suffering from a fever of "liberty." He himself felt as if he were a Decius or a Brutus. Since then, he added, age had made him more moderate, and he said that then he would certainly not have condemned her. He claims credit for having had the unfortunate Queen transferred to a less unhealthy place than the cell in which she was first confined—"an interposition which might then have cost me my head." Souberbielle was a nephew of Frère Come, formerly a brother of Charity. Poumiès de la Siboutie says he had seen him when over eighty years of age operate with a sure hand. "He preserved till the age of ninety that freshness of old age which has been noted in almost all the revolutionaries of that time."

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

THE METROPOLITAN ASYLUMS BOARD.

*Annual Report for 1910.**

THE work of the Metropolitan Asylums Board includes the administration of the following institutions: Fifteen infectious diseases hospitals, with accommodation for 8,555 patients and 3,000 staff; four asylums for imbeciles, including an infirmary for aged patients, a training school, and an industrial colony, with a total accommodation for 7,351 patients and 1,350 staff; for Poor Law children two hospitals for the sick, three seaside sanatoriums and homes, a ringworm school, two ophthalmia schools, seven homes and working homes for the mentally deficient, and a training ship, with accommodation for 4,341 inmates and 850 staff; an ambulance service with a staff of 150, and central stores for the reception and distribution of goods to the various institutions.

Some idea of the magnitude of the work involved may be gleaned from the following figures: The area of the district served by the Board is 121 square miles, containing a population of 4,872,700; the inmates of the various institutions on the last day of 1910 numbered 18,215; the average daily number maintained was 12,792, and the net expenditure of the Board for the year in carrying out its work was £965,802.

Infectious Diseases Hospitals.

During the year 15,238 cases were admitted to the various hospitals for infectious diseases, being less by 7,408 than those admitted during the previous year. The admissions were composed of 8,782 cases of scarlet fever, 3,856 of diphtheria, 509 of enteric fever, 3 of typhus fever, 4 of cerebro-spinal meningitis, 297 of measles, 64 of whooping-cough, and 1,723 of other diseases. Scarlet-fever, diphtheria, and other diseases showed notable decreases, and enteric fever, measles, and whooping-cough increases on those of the preceding year. On the whole the admissions were the lowest recorded since 1891, the average annual admissions since that year numbering approximately 22,000. Compulsory notification of infectious diseases was begun in 1890, and in that year those admitted formed only 33.6 per cent. of the number legally admissible to the Board's hospitals. Since then, however, the proportion of those admitted steadily rose to the 86.5 per cent. of 1909, and then fell to the 84.9 per cent. of 1910.

In all 18,544 cases were under treatment in the fever hospitals during the year; 15,228 were discharged during the year, and 701 died. The various fevers gave percentage mortality-rates of 2.3 for scarlet fever; 7.83 for diphtheria (0.9 for diphtheria "bacteriological"); 15.78 for enteric fever; 15.8 for measles; 2.25 for whooping-cough; and 50.0 for cerebro-spinal fever, the mortalities including all deaths occurring from intercurrent diseases. The death-rates during the year, as compared with the average rates for the preceding ten years, were lower as regards scarlet fever by 0.71 and diphtheria by 2.36. Enteric fever was 1.22 higher.

Very instructive charts and tables are furnished in the report, showing the influence of antitoxin serum treatment upon the death-rate for diphtheria. As it has been suggested that the decline in the mortality in diphtheria which has followed the introduction of this treatment might be due to the inclusion of numbers of cases which had been certified as diphtheria after the bacteriological test only, such cases have been dealt with separately in the statistical analyses of the results, and notwithstanding the exclusion of the bacteriological cases, the death-rate calculated on the admissions for 1910 was the lowest on record, namely, 7.83 as compared with 30.0 per cent. before the introduction of antitoxin. As shown on the graphic charts, the fall in the death-rate is striking in all forms of diphtheria cases. The managers have accommodation for 2,040 cases at the three small-pox hospitals.

During the year 1910 only ten cases were admitted as cases of small-pox, and five of these, detained for observation at South Wharf, were not actually cases of small-pox. There were no deaths.

Imbecility.

The managers now possess accommodation for 7,381 imbeciles at Tooting Bec, Leavesdon, Caterham, and Darenth Asylums. At these institutions on January 1st, 1910, there were 6,844 inmates, and on the last day of the year there were 7,042. The average number daily resident was 6,843. During the year 913 were admitted, of whom 703 were direct and 210 indirect admissions. The total admissions exceeded those of 1909 by 129. Of the total admissions also 343 were considered to be congenital cases, and of the remainder, in whom the mental condition was considered to be acquired, 532 were first-attack cases, 25 not-first attack cases, and in 10 this was unknown. Of the acquired cases, in only 101 was the duration of the attack less than one year of admission, though in 139 the duration was unknown.

The total admissions were grouped according to the various forms of mental disorder into: Congenital or infantile defect, 343; senile and secondary dementia, 420; primary dementia, 32; insanity with gross brain lesions, 27; insanity with epilepsy, 23; general paralysis, 19; chronic and recent mania, 18; chronic and recent melancholia, 10; and less common forms, 18.

As to causation, and considering only the 703 direct admissions, senility (in 291) was the most prominent factor, cardio-vascular degeneration was assigned in 154, diseases of the nervous system in 62, alcoholism in 28, syphilis in 41, and other toxins in 11 more, bodily trauma in 27, and mental stress in 28. An insane heredity was ascertained in only 45, an epileptic heredity in 4, a neurotic heredity in 10, and of alcoholism in 7, giving a total neuropathic heredity in 66, or less than 10 per cent. of the direct admissions.

During the year 3 were discharged as not insane, 15 as recovered, 4 as relieved, 99 as not improved, and 594 died. These figures give a total recovery-rate on the direct admissions of 2.56 per cent., and a death-rate on the average numbers resident of 8.68 per cent. The deaths were due in 89 to nervous diseases, including 30 from epilepsy and 20 from general paralysis; in 59 to heart disease; in 22 to diseases of the blood vessels; in 19 to respiratory diseases; in 21 to diseases of the digestive system; in 20 to diseases of the urinary system; in 3 to accident or violence; and in the remainder to general diseases, including 172 from senile decay, 55 from pneumonia, and 77, or almost 13 per cent. of the total deaths, from tuberculous diseases.

The report states that the problem of providing further accommodation for cases of unimprovable type, which has been a source of anxiety for some time, remains unsolved. At present these unimprovable cases impede the excellent industrial training carried out at Darenth, where over 700 inmates are usefully employed at workshops and in the kitchens, laundries, farms, etc.

Children.

Recent years have witnessed several notable changes and developments in the work of the Board. In 1908 the Local Government Board Order authorized it to provide for sick and convalescent children, and the passing of the Children Act transferred the duty of providing for juvenile offenders on remand to the London County Council. In 1909 Queen Mary's Hospital, Carshalton, was opened, and in 1910 the Park Hospital, Hither Green, formerly an infectious diseases hospital, was reopened as an additional hospital for sick children.

On January 1st, 1910, excluding those relieved as casual paupers or as insane, the number of children who received indoor relief was 21,321. Of these, certain special classes were dealt with by the Board, including (*a*) sick, debilitated, and convalescent children; (*b*) those with contagious diseases of the scalp or skin; (*c*) those suffering from ophthalmia or other contagious eye diseases; (*d*) mentally and physically defective children; and (*e*) juvenile offenders on remand. The total number of those specially dealt with on January 1st, 1910, was 2,430, and on January 1st, 1911, 2,663. In all, to the various special institutions for children there were admitted during the year 6,405; 6,071 were discharged and 101 died.

* Metropolitan Asylums Board. Annual Report for the year 1910. London: Ben Johnson and Co., Limited. 1911. (Pp. 287. 5s.)

The gross expenditure out of general account on the children's institutions amounted for the year to £99,972. Of the sick and convalescent 2,385 were admitted to inland institutions and 942 to seaside homes; 1,019 to ringworm schools; 682 to ophthalmia schools; 72 to homes for defectives; and 1,235 to remand homes.

Training Ship Exmouth.

From the training ship *Exmouth* 3,300 boys have been sent to the Royal Navy and 3,800 to the Mercantile Marine since 1876. During 1910, 322 boys were admitted and 298 were discharged, 697 remaining under training at the end of the year. Of those discharged during the year 73 were entered into the navy, including 15 into the Canadian navy, and 165 entered the Mercantile Marine.

Ambulance Service.

The total number of cases removed by the Board's ambulances during 1910 was 37,240, as compared with 47,613 in 1909. Of these, 15,238 were cases removed to infectious hospitals, and 479 were infectious cases removed to other places. The total number of ambulance journeys was 22,479, and the miles run 283,074.

Medical Supplement.

The report closes with a medical supplement edited by Drs. E. W. Goodall and F. M. Turner, containing tabular statements concerning: (*a*) Complications amongst infectious diseases; (*b*) post-scarlatinal diphtheria; (*c*) the antitoxin treatment of diphtheria; (*d*) tracheotomy and intubation statistics; (*e*) laparotomy statistics; (*f*) details of miscellaneous diseases admitted; and (*g*) a summary of the tables published in the annual reports for the years 1900 to 1909. Brief papers are furnished on the isolation chambers at the Eastern Hospital and on two cases of laparotomy in enteric fever, by Dr. E. W. Goodall; on blood-pressure in diphtheria, by Dr. J. D. Rolleston; and on the Board's vacant accommodation, by Dr. H. E. Cuff.

Small-pox Statistics.

An interesting series of statistics as to the condition in respect of vaccination of the small-pox patients admitted into the Board's hospitals during the recent small outbreak of that disease in London has just been published. Anti-vaccinators might gather some useful information were they to study the different tables, more especially those in connexion with the mortality-rates.

The number of patients being small, the Board has considered it advisable also to republish some of the statistics relating to the patients, 9,659 in number, treated during the epidemic of 1901–2, as they appeared in the Board's Annual Report for 1902.

Of the 70 patients attacked during the recent epidemic, 46 patients bore traces of vaccination, 2 were doubtful, and 22 unvaccinated. The mortality in the vaccinated was 2.18, in the unvaccinated 40.91. As mentioned above, these numbers are too small to be of much practical use, but, going back to the epidemic of 1901–2, we find that the death-rate of the 6,945 vaccinated cases was 10.15 per cent.; of the 398 doubtful cases it was 39.22 per cent., while in the 2,277 unvaccinated cases it was 33.03 per cent.

The contrast between the number of vaccinated and the number of unvaccinated children is very striking, but it is absolutely in accordance will all experience of epidemic small-pox. Only 134 vaccinated children under 10 years of age were admitted, and amongst them the mortality was at the rate of 1.4 per cent. only. Of unvaccinated children under 10 years of age 1,274 were admitted, and the mortality-rate was 37.4 per cent.

MANCHESTER AND DISTRICT.

THE MIDWIVES SUPERVISING COMMITTEE.

THE annual report of the Manchester Midwives Supervising Committee is always interesting reading, not only for its careful analysis of statistics, but as showing the working of the Midwives Act at its best, and the report for 1910 just issued in no way falls short of previous reports. The number of midwives who notified their intention to practise in Manchester during 1910 was 159, of whom 47 belonged to the "bona fide" class and 70 per cent. were certificated midwives. With a total population of 716,137 for the city there were 19,212 births, which means a birth-rate of 27.75. This is the lowest birth-rate on record, being 0.76 per 1,000 less than in 1909. Of the total births, 11,015 were attended by midwives, that is, about 57 per cent. It does not follow that all the remaining 43 per cent. were attended by medical men, but the figures are in remarkable contrast with those for the adjoining borough of Salford, where over 75 per cent. of the births were attended by midwives. The routine method of inspection of midwives which has been in vogue since 1905 was followed, that is to say, examination of the sanitary condition of the midwives' homes, inspection of their bags and appliances, examination of their registers, notification books and temporary record books, and examination for personal cleanliness. The mode of practice of 68 of the midwives was investigated in the homes of the patients.

During the year 131 cases of puerperal fever were notified, giving an attack-rate per 1,000 births of 6.82. Thirty-two of the cases occurred after abortion or premature labour, and in 25 perineal tear was stated to be present, while in 22 forceps had been applied. The total fatal cases numbered 31, of which 10 were abortion cases, and in several of these a doctor had not been called in until several days after the onset of the disease. The case fatality per cent. was thus 23.7. The onset of the fever was in 91 cases within the first four days, while in 32 the attack began between the fourth and eighth day, and in 8 cases on or after the tenth day. In 41 cases midwives alone were present at the confinements, and in 67 doctors alone. Of the 41 cases at which midwives alone were present, 25 had more or less laceration of the perineum. Careful investigation was made in each case so as to elicit any source of sepsis, and in no small number of cases very likely causes were found, such as persons in the house with suppurating sores, patients with ulcers of the cervix at the time of delivery, phthisis with purulent expectoration, syphilis or yellow discharge during pregnancy, and 1 case was attributed directly to the midwife from want of antiseptic precautions in using an old Higginson syringe. The prevalence of puerperal fever has fluctuated much in the last few years, but it is to be noted that both the number of attacks and the number of deaths in 1910 are very considerably greater than in any of the last half-dozen years, the increase being in both the doctors' and the midwives' cases, though specially great in the doctors' cases. The cases attended by midwives alone in 1909 were 33 and in 1910 41, while the cases attended by doctors alone in 1909 were 34, as against 67 in 1910. The cases attended by both midwives and doctors were 15 in 1909 and 23 in 1910. The much greater number of doctors' cases may, perhaps, partly be explained by the fact that in most cases where doctors alone attend the personal cleansing of the patients and general attendance has to be left to unskilled relatives or neighbours, as the patients cannot afford to engage both a doctor and a skilled nurse, while in the midwives' cases both the labour and the subsequent attendance is entirely carried out by the trained midwife herself.

During the year midwives summoned medical aid in accordance with the rules of the Midwives Board in 2,279 cases, as compared with 1,961 in the previous year. The commonest reasons for calling in medical aid were tedious labour, laceration of perineum, feebleness or prematurity of the infant, and inflammation of the eyes. The attention of the Supervising Committee was specially called to the large number of cases of adherent membranes and placentae, and the midwives in one district were specially interviewed and their method of conducting the third stage of labour discussed. There was a temporary improvement after this, but the percentage of such cases has again become very high. As regards payment of fees to medical practitioners for attending on the summons of midwives, it may be well to repeat that the Manchester Midwives Supervising Committee has a flexible income limit for such cases. The fees paid vary from 2s. 6d. to 21s., according to the nature or difficulty of the case; but payment is only made where the income of the family does not exceed the following rates. Man and wife 21s. a week, parents with one child 23s., with two children 25s., with three children 27s., with four children, 29s., with five children, 30s. 6d., with six children, 32s., and with seven children 33s. a week

Under this scheme 497 applications for fees were received from medical men, though, as stated above, 2,279 cases had been attended. The applications were considered by the Medical Subcommittee, which recommended that payment should be made in 432 cases, amounting to £425, the amount in 1909 being £287. It will be seen from this that the average fee very nearly reached the maximum fee of 21s. which is allowed. Of the 65 applications that were rejected, in 42 the patients' income was above the scale limit, while 21 did not fulfil the conditions under which the fee is paid, and 2 were referred to boards of guardians. The fact that only 2 out of 497 cases were adjudged by the Supervising Committee to be paupers is a forcible comment on the procedure now recommended by the Local Government Board. Since the Manchester City Council decided itself to pay these fees, the Local Government Board has recommended that boards of guardians, not town councils, should hold themselves responsible for such cases. If that had been done in Manchester, either the whole of the 432 cases, for which the Supervising Committee paid, would have been pauperised, or, what is more probable, many of them, rather than submit to be pauperised, would have refused to accept medical aid, though the midwives advised it and the committee afterwards confirmed them as suitable cases for medical aid.

The committee during the year reported four midwives to the Central Midwives Board for negligence or misconduct, and in one case legal proceedings were taken against a woman for practising habitually and for gain, though her name had been removed from the midwives' roll. She was fined £2 and costs, and, as she repeated the offence, she was later imprisoned for a month. On the second occasion the magistrate drew attention to the fact that if her statements were true some medical man was helping her to break the law. The case showed how important it is that medical men should assure themselves that they have only dealings with properly certified midwives. The Supervising Committee and its officers are doing excellent work in Manchester, especially in their attempts to keep up the midwives to the highest standard possible, and they may reasonably expect that medical men will take every care lest inadvertently they should interfere with their good work.

An extensive outbreak of ophthalmia occurred in [the practice of one midwife, and it was found to be due to her applying perchloride of mercury directly to the corneae. A special ophthalmic nurse has now been appointed to visit every case, to see that proper medical aid is obtained, and to assist the mothers in carrying out directions. Two special nurses have also been appointed to deal with septic cases and for the investigation of stillbirths and other special work. The rules under which the midwives work have been carefully considered as recommended by the Central Midwives Board, and among the numerous amendments proposed it is suggested that the period of training of midwives should be increased from three to six months, and that more attention should be given to practical instruction. The report expresses a hope that before long the early notification of births may be secured. This has been strongly opposed by Manchester medical men. A deputation from the Joint Committee of the Divisions waited on the authorities urging them not to adopt the Notification of Births Act, and the question is at present in abeyance pending further consideration.

Street Accidents and the Police.

It has long been the opinion of Manchester medical men that the police, even though they may have no definite instructions to the effect, do all they can to avoid summoning local medical practitioners to street accident cases, and this seems to have been confirmed by the report of an inquest on a man who had been knocked down by a taxicab in Rochdale Road and so seriously injured that he died some little time after. A witness who had previously written to the coroner saying that there had been unnecessary delay in getting the man to the hospital stated at the inquest that there was great indignation among the people who were near the man at the delay in getting assistance. It was fully twenty minutes before the ambulance arrived, and no doctor was called though several could have been got in a few minutes. The coroner was probably quite correct in pointing out that the police had used a wise discretion in keeping the man lying on the ground. They had been trained in ambulance work and did their best for the patient, and as to the suggestion that he might have been taken to the hospital in the taxicab the coroner said it would probably have aggravated his condition if they had doubled him up and placed him in the cab, and it was better to wait for the ambulance, which was on its way to the scene within a minute of receiving the call. All this may be perfectly correct, but the crowd was not without reason in showing its indignation that no local medical aid was procured. The question of saving any responsibility of the Watch Committee for local medical fees, for which a scale is arranged of 3s. 6d. for a day call and 7s. 6d. for a night call, and the fact that it costs the Watch Committee much less if the case is hurried off to the hospital without obtaining local medical aid, ought certainly not to be considered in cases where immediate skilled attention might sometimes save life. Some time ago it was elicited that the police were afraid that they might individually be held responsible for any local medical assistance which they summoned in street accidents. Such a state of affairs would, of course, be intolerable; but there does seem to be an urgent need for the issue of more precise instructions that in any serious case they should summon local medical assistance immediately, and that the Watch Committee or other corporation authority would hold itself responsible to the medical man summoned. Whether the Watch Committee should afterwards claim the cost from the person injured or the person responsible for the accident would depend on circumstances and would be a matter for later consideration.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

National Maternity Hospital.

There was a large attendance at the annual general meeting of the National Maternity Hospital, which was held last week in Dublin, and at which the seventeenth annual report was read. The report stated that 890 patients had been treated in the hospital during the year, and 1,151 at their own homes. In addition over 4,000 patients had been treated in the out-patient department. During the year the hospital had received the sum of £1,700 out of the gift of Lord Iveagh to the King, and had also received a number of legacies. An overdraft of over £4,000, however, still remains to be paid off.

North Dublin Union.

The report of the Local Government Board Inspector on the state of the North Dublin Union Workhouse, following his recent inspection, contains some interesting information concerning the number of inmates and of persons receiving outdoor relief. The report states that the average number in the workhouse for the year ending March 31st, 1911, was about 200 less than the average for the preceding twelve months. The average number receiving outdoor relief for the same period is about 100 more, and the expenditure on outdoor relief is correspondingly higher than in the previous year. Since March last both those on outdoor relief and the inmates of the workhouse have shown a tendency to decrease, a result which the inspector attributes to the extension of the Old Age Pensions Act. There are at present thirty-six old-age pensioners in the workhouse paying for their maintenance, and 331 inmates registered as 70 years of age or over in the workhouse books.

Irish Local Government Board.

The annual report of the Local Government Board in Ireland contains some interesting information regarding the working of the Old Age Pensions Act. The number of appeals received during the year was 11,355, and the number decided (including appeals in hand on April 1st, 1910) was 13,509. The number of appeals under the head of "means" (including deprivation of property) was 4,094. The decisions in the case of parents who have assigned their farms to sons or daughters has always been a matter of difficulty. Hitherto the Commissioners have only allowed cases where the farms were assigned to the children on the occasion of marriage, which is an old-

established custom in many parts of Ireland. They are afraid, however, that this exemption of marriage assignments from the operation of Section 4 (3) has led to what in former times was only the custom in certain localities becoming almost universal. There is now a tendency on the part of almost every small landholder, on reaching the age of 70, to transfer his farm to some member of his family and then claim a pension as a matter of course. Many representations had been received from boards of guardians complaining that it has been found impossible to recover any part of the cost of the maintenance of an old age pensioner who temporarily sought medical relief in a workhouse infirmary, and urging that Section 6 of the Act should be amended so as to enable the guardians to draw the pension during the pensioner's stay in the institution. The removal of the pauper disqualification in connexion with the Old Age Pensions Act has had a very marked effect on Poor Law statistics. In January last, though pauperism generally increases in the first week of the year, the number in workhouses and on outdoor relief showed a decrease of 3,512 and 15,391 respectively, and on March 25th, 1910, the date to which the above statistics are made up, there were 15,683 fewer persons on outdoor relief than in the corresponding week of the previous year, while the number of aged infirm in workhouses had decreased by 2,187.

In connexion with the Housing of the Working Classes (Ireland) Acts the Commissioners report that they sanctioned loans to the councils of urban districts and to commissioners of towns to the value of nearly £150,000, which, added to the total in the last report, makes over £1,000,000 sanctioned for the purposes of Part III of the Act of 1890.

Special Correspondence.

PARIS.

Questions of Priority.—The Animals of Medicine.—Cholera at Marseilles.

THE announcement made in the *Presse Médicale* that Dr. Hideyo Noguchi, a Japanese professor working in the Rockefeller Institute in New York, had succeded in producing what he considered to be syphilitic lesions in rabbits by inoculating pure cultures of *Treponema pallidum* compelled Dr. Query to claim that this observation had first been made in France. To support his contention he pointed to his pamphlet published in 1908, which led to a discussion in the *Revue Scientifique*. Controversies as to priority are not very interesting; they may be justifiable, but they are certainly useless. Sooner or later the name of the discoverer is lost in the general acceptance of the discovery. Who now thinks of Vespucci or Columbus when America or Colombia is mentioned? A true discovery is the resultant of unnumbered and unrecorded attempts, and success comes at last to some one person better placed than his predecessors to grasp the facts. It is therefore unfair to glorify him as the only discoverer, and to deny all credit to his forerunners. It may be admitted that the hope of leaving a great name to posterity is a useful stimulus to some temperaments, but this applies more to literature than to science. If any one doubts this, let him ask himself whether any man of science would conceal or suppress a new fact because he did not expect that his name would always in the future be associated with it.

An interesting book might be written on the part which animals have played in the history of medicine; a new chapter has been opened by bacteriology. In early ages there was the serpent of Aesculapius, the guardian of secret caverns and mystic means of cure. In the early nineteenth century the theories of Broussais as to inflammation advanced the leech in the first place. It was the duty of the leech to bleed our great-grandfathers in any part of their anatomy where it was difficult to discover a practicable vein, and down to within the last twenty years his peasant patients would have looked askance at a country doctor who did not prescribe leeches for a contusion. In one out of every two cottages and farms there might then be seen on the kitchen chimneypiece a jar containing some half-dozen leeches, digesting the blood they had sucked at their last meal, or growing thin while awaiting the return of the doctor, who was the arbiter of their existence. In Paris, down to 1870, there were ten or a dozen wholesale dealers in leeches, who sold, one year with another, from four to five millions for distribution throughout France. At the present time there is in Paris not more than one place of business which sells, perhaps, a million leeches a year, and the price has fallen from 250 francs a thousand to 60 francs. The leech is no longer in fashion, and the favour of mankind has passed to the mammalia. The change was begun by Jenner, and completed by Roux. The progress of bacteriology and serotherapy is constantly giving more importance to horse serum, and the study of human diseases has been advanced by the discovery of the fact that the guinea-pig, the mouse, the rabbit, and the chimpanzee can be infected with certain of them.

But it is not only the higher animals which modern research is proving to stand in some relation to human diseases. Recently Dr. Calmette was instructed by the Superior Council of Hygiene to study certain cases of cholera which had occurred at Marseilles. His conclusions were: (1) That there was no epidemic of cholera at Marseilles, but that some sporadic cases, unconnected with each other, had occurred. (2) That the distribution of the cases was such as to show that the infection was not disseminated by any ordinary article of consumption, such as water or milk. (3) That there was every ground for attributing the cases to the consumption of uncooked shellfish, those supplied to Marseilles being largely those gathered locally, in a very haphazard way, in the estuaries of rivers, often near the openings of drains, or imported from contaminated districts. It seems, therefore, that we must add cholera to the diseases which may be conveyed to man by shellfish.

Correspondence.

TUBERCULIN IN PULMONARY TUBERCULOSIS.

SIR,—The mind of the profession at present seems to be agitated with the questions, Tuberculin or not tuberculin? and Sanatorium or not sanatorium? and the advocates on each side are very strenuous in their arguments. Reading all the correspondence which has lately appeared in the medical journals from time to time, I think it would be much better for those who have no practical experience of tuberculin on the one hand and sanatoriums on the other to avoid criticizing what they have no personal knowledge of. The old Scottish saying, "The proof of the puddin's the preein' o't" is most applicable here, and I prefer an ounce of practical experience to a ton of theory, as the latter very often does not work out at all the way it seemingly ought.

Has tuberculin been a success or not? Some of my medical brethren say it is useless; but I know that their methods of using it have been erratic and consequently cannot be relied on, and the opinion of others is based upon what they have heard and not what they have done themselves. The method adopted by Dr. Camac Wilkinson is at present looming large before us, and surely we should pay some attention to what he says, considering the many years' experience with tuberculin he has had. His dispensary is open to all his medical brethren, and he is only too pleased to give them all the information he can. I know I could not have been better received, and I had every opportunity to find out for myself what class of case he treated and how they did under his treatment. Regarding Class I, as specified by Sir Clifford Allbutt and his colleagues, out of 41 cases I saw I could not say that one could be so classified. Every case I saw knew there was something wrong, knew it for some time, and in the majority of cases their own medical man knew it. Now, when these cases attend complaining, and after a course of treatment leave to all intents and purposes better, one cannot close one's eyes to the fact that the use of tuberculin as advocated by Dr. Wilkinson is beneficial in its effects. One knows that the tuberculin test may be positive in typhoid, diphtheria, syphilis, pneumonia, and measles, but I think there is absolutely no difficulty in excluding all these except syphilis when trying to

arrive at a diagnosis, and I think one could even be able to exclude it by judicious questioning; consequently I would accept as correct the diagnosis made where the test is positive and really corroborates the physical signs. Dr. Wilkinson is most careful in his methods, and his diagnosis, to my mind, can be absolutely relied upon.

One can quite easily understand why those of the profession who have been using tuberculin in infinitesimal doses without good results have condemned its use. I am now using tuberculin in suitable cases on the same lines as Dr. Wilkinson, and not only am I thoroughly satisfied with the results, but my patients are also.

The dispensary *versus* sanatorium and the sanatoriums or not sanatoriums discussion has brought into prominence the fact that a combination of dispensary and sanatorium, as advocated and carried out by Dr. Philip, assisted by Drs. Lyall, Allen, and others, in Edinburgh, is the scheme *par excellence* to be adopted. Sanatorium space is limited, and, owing to various circumstances, all cases could not spare the time necessary to stay there. Treatment at the dispensary is thus necessary, and in very many cases is practically as efficacious. As Dr. Lyall pointed out to me, the result of their dispensary work was that, whereas ten years or so ago the class of case coming to the dispensary was nearly always in the advanced stages, now they nearly always get their cases in the early or incipient stage; in other words, they were hoping to get the disease stamped out. Their mortality tables bore this out. At the Edinburgh Victoria Dispensary and Hospital they have also recognized the advantage of additional treatment to the usual hygienic methods, and, besides graduated muscular exercises and respiratory exercises, they are now using tuberculin, and, I understand, the radio-active menthol-iodine treatment. Dr. Dieupart, Physician in Chief to the St. Denis Tuberculosis Dispensary, Paris, showed me when there the work they were doing with this combination, and his results were most gratifying. I am at present trying it myself, and will later give my own results. The Victoria staff are attacking the tuberculosis problem in the, to my mind, proper manner, condemning no treatment till they themselves have given it a trial, and I think if the profession were wholeheartedly to try the various treatments advocated by many of its members—of course, having proof that the treatment is safe—we would the more speedily arrive at a conclusion how best to fight the disease.

For some time I have been using intravenous injections of chinosol with formaldehyde, and considering the advanced cases I have had to deal with—those put out of sanatoriums as incurable, those rejected by sanatoriums, and others pronounced by their medical attendants as helpless—my figures when published will show that even where there is a good deal of destruction and mixed infection, that cases in almost every instance can be improved and a fair percentage seemingly cured. The intravenous treatment, owing to technique, cannot be used in all cases, but in conjunction with dispensary, sanatorium, tuberculin, or other treatments will, I am sure, come to occupy a prominent place among antituberculosis therapeutic measures.

To sum up, I consider a tuberculosis dispensary, sanatorium, hospital, farm colony, or open-air school, on the Edinburgh Victoria plan, with tuberculin, etc., or other treatments as considered advisable by an expert staff, plus a compulsory six months' special tuberculosis training for the medical student, which would ultimately enable him to more accurately, and earlier, diagnose the disease, would enable us to make tuberculosis in a few years as rare as it is now common.—I am, etc.,

Belfast. JOHN MCELROY, L.R.C.P. and S.E., etc.

SIR,—I do not propose to enter into a wordy correspondence with either Dr. E. Mariette or Dr. Fell, even supposing that you would permit it.

In my letter to you on this subject I ask for facts, and have met with recriminations, one telling me that I am guilty of culpable negligence in not giving tuberculin, while the other says that I am inexperienced and know nothing about it. With regard to the latter, it is in a sense true, because, after an experience of a disease which has been my whole work dating from a time when there were practically no English sanatoriums at all, I feel that I know very little about this very complex disease, and I would impress upon both Drs. Mariette and Fell, for their future guidance, that when I first started the treatment of pulmonary tuberculosis I felt that I knew all about it, and that it was an easy matter. I have heard the master of us all express the same opinion.

I repeat again that I asked for facts, a series of cases that had been treated by tuberculin, and genuinely reported, the good results with the bad. Dr. Fell says that the case of death after tuberculin that I cite is really not worth mentioning. Why? I gave the single dose of tuberculin to the patient under the instructions of his own doctor, a leading lung specialist. I carried out those instructions as regards dosage, etc., faithfully, and the patient died. I cannot see why the advocates of tuberculin should say it is not worth mentioning. Are all their cases of deaths also not worth mentioning? It certainly would help their statistics. There is no one keener on the treatment of pulmonary tuberculosis than I am. The success of my sanatorium is entirely dependent on the cures I can make, and if I could increase those cures by convincing myself—and I am quite open to be convinced—that I could do so by giving tuberculin, I should give it. It would increase tenfold the popularity of my sanatorium, and incidentally be a financial gain. As far as I can see, however, as good results can be obtained from sanatorium treatment properly carried out both by patients and doctors (Drs. Mariette and Fell, kindly note) as with tuberculin, and there is no risk.

Tuberculin has been in active use, I believe, for about eighteen years, and if it is only now to be regarded as a specific for pulmonary tuberculosis, then it has made a very late arrival. If what I hear is true, its use is being gradually dropped on the Continent. I am quite in favour of trying tuberculin for the cases Dr. Gregson quotes—namely, hip disease, and adenitis, and I will add abdominal affections, but for pulmonary tuberculosis, where cases as we get them are nearly always the subjects of secondary affection, I am not in favour of it. These latter get quite enough tuberculin of their own manufacture by autoinoculation, which can be regulated by exercise or rest. This autoinoculation theory is by no means new, as might be supposed from what one reads, but was worked upon and perfected by Dr. Otto Walther, of Nordrach, Germany, more years ago than I care to remember.

I think I may safely say that the tuberculin school will admit that tuberculin is not successful in every case, and I think the reason is that this school do not realize or know what the tubercle bacillus is really composed of. It is, perhaps, somewhat early for me to make any statement on this subject, but as the results of investigations I have come to the conclusion that the tubercle bacillus is made up of two distinct micro-organisms—namely, the staphylococcus and the streptococcus, with probably other modifications. The ordinary observer will have noticed that the tubercle bacillus often contains a row of unstained cells. Take away the outer envelope of the tubercle bacillus and these cells would correspond to a chain of cocci. Make a double stain, first by Gram for micro-organisms, and then the ordinary stain for tubercle bacilli, and rather curious phenomena are observed. One finds large irregular cells stained red, in which cocci, Gram-stained, are seen, and also tubercle bacilli. In some of these cells it can clearly be seen that the cocci range themselves in rows similar to those unstained cells seen in the tubercle bacillus. In other cells tubercle bacilli can be seen amid a group of cocci, the former more or less half formed, which give me the impression that the red-stained envelope of the tubercle bacillus was collecting into its interior the Gram-stained cocci. One also finds large blue-stained cells containing cocci, and also other bodies similar to tubercle bacilli, but Gram-stained, outside these blue cells. I have noticed tubercle bacilli, or rather the red-stained, rod-shaped envelope containing no dark cells, probably making their way into the blue cells to pick up the cocci contained therein. Supposing that the red-stained, rod-shaped envelope collected into its interior micrococci, the result, I presume, would be that these cocci would grow and stretch the envelope, and finally burst, pouring out into the adjacent tissues cocci probably of a character which had become more malignant by their imprisonment in the envelope. These cocci, as I understand it, may be either staphylococci or streptococci, or modifications of such or of other organisms.

Therefore, all tubercle bacilli should rightly be named either staphylococci tubercle bacilli or streptococci tubercle bacilli, or with the prefix of any other variety of organism present. From this it can be clearly seen where the tuberculin enthusiasts are making their great mistake, and why their tuberculin treatment is not wholly successful. They give a standardized tuberculin, but it may be a staphylococcus tuberculin given in a case of streptococcus tubercle bacillus infection, or vice versa. By good luck sometimes a tuberculin corresponding to the right infection is given, and then a good result is obtained which we all hear about.

As I have already remarked, it is perhaps somewhat early to make this statement publicly, because I have not yet perfected the subject, and until it is perfected tuberculin may remain an uncertain and possibly dangerous remedy, as far as I am concerned, in the treatment of pulmonary tuberculosis.—I am, etc.,

Yelverton, Sept. 18th. J. PENN MILTON.

SIR,—For some months past there have been many articles and letters in the JOURNAL on this subject, one side strongly urging tuberculin as against any other form of treatment, the other side just as strongly urging sanatorium treatment. For so far, most of those entering into the discussion have been medical men in charge of sanatoriums or "specialists" in the use of tuberculin.

It would be of great benefit if general practitioners would furnish to the JOURNAL the "end results" of their cases that have been sent to these different institutions. My own experience is as follows: In ten years I have sent to sanatoriums 20 cases for treatment varying from six weeks to six months. Of these 20 cases, 2 are living, though nothing more; 5 of these cases had injections of tuberculin while in hospital.

Other 2 cases which had pulmonary tuberculosis with tubercle bacilli in sputum ten years ago are to-day living and working. They have had no sanatorium or tuberculin treatment.

I have never given tuberculin in cases of pulmonary tuberculosis, for if you get these cases early enough you can cure them with good food, fresh air (night and day), and a bitter tonic.

If, on the other hand, you do not get them till mixed infection and cavity formation has set in, I cannot see how they are to benefit by tuberculin injections.

Some three years ago I treated 5 cases of pulmonary tuberculosis by rest from work, abundance of good food, fresh air night and day, and a bitter tonic. All these cases had tubercle bacilli in sputum. The only pulmonary sign was slight harshness of breath sounds at either apex, one at left base. Four of these cases are well and working hard in the factories to-day with no sign of lung trouble. One of the five is dead. Now if I had been using tuberculin or had treated them in a sanatorium I would have put the success down to one or other of these methods.

For many years now I have looked upon tuberculous disease as a side-process of evolution for weeding out the "unfit." In the early periods of the human race, when we were more animal and less human, the weeding-out process was done by "Nature, red in tooth and claw." To-day, with our advanced civilization tending to the care and propagation of the "unfit," Nature has to leave off her cruder methods and adopt more scientific ones. I am pleased to see that Drs. Allbutt, Brunton, Osler, and Latham concur with this idea, for they are quoted as stating that "Patients become infected and recover without knowing that they have been infected," and "practically every man and woman over 35 bears evidence of having suffered from tuberculosis."

I believe that treatment based on this theory will do more for the extermination of tuberculosis than any other.

In conclusion, I do not wish it to be thought that I am against the use of tuberculin, sanatoriums, or any other form of treatment. They have all done good, and will do good. I do wish to emphasize the fact that we should be slow in giving undue praise to any one method of treatment in our present knowledge, or rather want of it. If we want to combat this scourge we can only do so by improving the health of the individual and the "fitness" of the race.—I am, etc.,

Lisburn, Sept. 18th. J. L. RENTOUL, M.B., Ch.B.

SIR,—Dr. Penn Milton, in a letter of September 2nd containing a generally adverse opinion of tuberculin in pulmomary tuberculosis, pleads for a series of cases showing the true results of "a course of tuberculin." What does he mean by a course of tuberculin? There are many tuberculins and several methods, and unless men mention the brand of tuberculin used, the dose, and its frequency, and the condition of the patient, their communications are, to quote his own words, not worth the paper written on.

The facts that Dr. Milton administered an unmentioned quantity of an unnamed brand of tuberculin to a patient whose local and physical condition and temperature he does not mention, and that the patient subsequently died, make an extremely interesting narrative, but not a convincing argument, against the scientific employment of the tuberculins.—I am, etc.,

London, W., Sept. 10th. HORACE WILSON.

TEN YEARS AFTER SANATORIUM TREATMENT.

SIR,—Dr. J. C. McWalter, in his second communication, published in the JOURNAL of August 26th, appears to attach great importance to the presence of the tubercle bacilli, and if such is the case perhaps he will explain the negative results almost invariably obtained from microscopical examination of the sputum even in fairly advanced stages of pulmonary tuberculosis. I think many physicians now attach but little importance to their presence or absence, and prefer to base their diagnosis and prognosis on purely clinical signs and symptoms.—I am, etc.,

Cairo, Sept. 7th. T. GERALD GARRY, M.D., M.A.O.

THE NUTRITIVE EFFECTS OF BEEF EXTRACT.

SIR,—An error has inadvertently crept into our statement of the amount of nitrogen contained in the daily quantity of commercial extract taken in the human experiments described in our article of last week (p. 613 et seq.).

The error arose through working out the calculations on the basis of a measured quantity of 10 c.cm. instead of 5 c.cm. Consequently the amount of nitrogen stated has to be doubled—namely, 0.92 gram instead of 0.46 gram.

Thus in Table 1 B (p. 614, last column) "nitrogen of extract" should read 0.92 instead of 0.46 gram, both for Subject S and Subject C.

The same applies to Table 2 B (same page, column 6), "daily extra intake"; also to the footnotes appended to the protocols of Human Experiments I and II (p. 618).

The correction does not vitiate the conclusions drawn; on the contrary, it adds by so much to the amount of nitrogen retained in the body in the human experiments, and in this respect brings one of the two exceptions in the whole series of eleven observations into line with the majority.—We are, etc.,

W. H. THOMPSON, M.D., ScD.,
King's Professor of Institutes of Medicine, Trinity College, Dublin.

WILLIAM CALDWELL, M.A.,
Assistant in Chemical Physiology, School of Physiology, Trinity College, Dublin.

T. A. WALLACE, B.A.,
Third Assistant, School of Physiology, Trinity College, Dublin.

Dublin.

SEA-WATER INJECTIONS.

SIR,—I have read with interest the articles and correspondence about sea-water treatment in the BRITISH MEDICAL JOURNAL, as also the article on the use of saline injections in diarrhoea and vomiting in last week's number.

On returning from Paris in the end of June, I set myself with an open mind to use sea-water for cases of vomiting and diarrhoea, maldigestion, marasmus, etc., and had hoped, after working at it for some time, to publish a record of cases treated. I regret very much that it should fall to me to attempt a defence of the treatment with the extremely limited experience of the past two months; but since no one else has come forward, and since those who are criticizing it seem to have had no personal experience of it, I feel that in common fairness I am bound to enter the lists.

The question of vital interest to me is whether saline injections or whether sea-water injections are of greater value in saving child life in cases of acute vomiting and diarrhoea (since these only are under discussion at present). As the cost of the former is practically *nil*, while the cost of the latter is a serious consideration, I should only too readily use the former were I convinced of its superiority over sea-water, or even of its equal value. But a perusal of the article by Dr. Waller and Dr. Walker, along with the information I have gathered from those accustomed to treat such cases on similar lines, leaves me with no doubt whatever as to the superiority of sea-water treatment, and with a strong disinclination to risk loss of life in desperate cases by experimenting with saline injections. The points of superiority which I claim for sea-water, and which are demonstrated by the two cases which follow, are:

1. That, no matter how acute the case, the child can be fed from the commencement of the treatment, without fear of vomiting, and can thus quickly regain its loss of weight and strength.

2. That, as far as my experience goes, the diarrhoea can be much more quickly checked than by other methods.

3. That the handling and exposure involved in giving mustard baths and in washing out the stomach and bowel are entirely avoided. In dealing with the two following cases, which were treated in the Edinburgh Hospital for Women and Children, I shall limit myself to a very rough description of them, without attempting to enter into the details or the *rationale* of the treatment.

Case I. A child of 3 months, weighing 6 lb. 7 oz., was sent to me by a doctor (who had then seen it for the first time), in a state of collapse, with the eyes glazed. The history was that there had been some vomiting and diarrhoea for a week, and that for the last five days even sips of water had been returned, and frequent watery stools had been passed, one of which I fortunately saw (as corroborative evidence) just as we started figuring. The child was at once put to bed with hot bottles, and was figured 100 c.cm. of sea-water. An hour after it was given a feed of 3 tablespoonfuls of milk and 10 c.cm. of water (following Paris directions), which was retained, and repeated every 2½ hours. The injections were, of course, repeated in large doses for three days and then gradually reduced, and there was no return of either vomiting or diarrhoea. At the end of a week the child had regained 4 oz. of its lost weight, but it subsequently died of broncho-pneumonia.

Case II (at present under treatment) I have purposely chosen as a type of those which yield more gradually, but even here the value of the treatment will speak for itself. The child, aged 4 months, weighing 9½ lb., and suffering from acute gastro-enteritis, was admitted on September 14th, not in a state of collapse, but acutely ill. The face was blanched and drawn, there was great restlessness, the bottle had been entirely refused that day, and but for very short intervals of sleep the child cried all the first night and day. In the first twenty-four hours there were 10 motions (3 of which were passed during the first hour), which consisted of slime dotted with faeces, and accompanied by a rush of water. In the second twenty-four hours there were 8 motions, some of which showed a very marked improvement; while those passed during the third twenty-four hours (7 in number) consisted of faecal matter of normal consistence but green in colour, and with only a very slight amount of watery mucus. Feeding was, as usual, started an hour after the first injection and repeated at the usual intervals, a mouthful being returned after one feed only. To-day, the end of the fourth period of twenty-four hours, 8 motions have been passed, consisting of a small amount of faecal matter rather firmer than normal consistence, and in the case of the last motion of a normal yellow colour and with an entire absence of mucus. During the last forty-eight hours the crying has entirely ceased, the child has a quiet, contented appearance and healthy colour, sleeps well, and takes its feeds with relish.

I need not say that a knowledge of dosing, combined with judgement and discrimination in dosing, is necessary to get good results.

The suggestion that injections of sea-water given at the temperature of the room will increase collapse and possibly cause death seems reasonable, but what of the *facts*, which are that it revives babies already collapsed and causes in the large majority of cases a very definite reaction, with rise of temperature?

I feel I must again apologize for rushing into print on a very limited experience, instead of waiting for some months to record my results in detail and suitably arranged, but I cannot help feeling at the same time that the circumstances have justified my action.—I am, etc.,

Edinburgh, Sept. 18th. ALICE M. HUTCHISON, M.D.Edin.

*** Our correspondent seems to be labouring under a misapprehension. In respect of infantile cholera it is merely the relative, not the absolute value of sea-water injections that has even been questioned. What has been condemned is the fashion of their use at the Poland Street Dispensary and the exaggerated claims made for them.

AFFERENT FIBRES IN VENTRAL SPINAL ROOTS.

SIR,—The point at issue between Dr. Leonard Kidd and myself is this: Is there any justification for his advice to divide anterior as well as posterior roots for the relief of pain? He contends that the persistence of pain after posterior root section virtually proves that the anterior roots contain sufficient sensory (algetic) fibres to justify their division in such cases. I have pointed out, on the other hand, that this persistence is explicable on other grounds—namely, the possible affection of other links in the sensory chain.

In his letter in your issue of September 2nd Dr. Kidd asks me whether I have any evidence, "either at operation or at an autopsy, of any lesion of any part of the secondary or tertiary afferent neurones." Such evidence is obviously unattainable at operation, and I have no reference to the findings at any such post-operative autopsy. But may I be allowed in turn to ask what is, I think, a more pertinent question: Has Dr. Kidd any knowledge of the examination of such a case in which the damage was definitely shown to be confined to the anterior and posterior root neurones? There is, *per contra*, abundant evidence that in tabes dorsalis the pathological changes are *not* confined to these, but are found also in other parts of the central nervous system (vide Mott's article on tabes in the *Archives of Neurology*, vol. ii, 1903, p. 275 et seq.).

I neither deny nor affirm the presence of afferent fibres in the anterior roots, but all the weight of experimental evidence at the present time is against the view of the presence of "algetic" fibres of clinical importance. Thus, electrical stimulation of the central end of a divided anterior root has no effect on arterial pressure—a result incompatible with the presence of sensory fibres to any appreciable degree. When, however, Dr. Kidd brings forward experimental evidence of an "algetic" function of mammalian anterior roots, then will be the time seriously to consider his suggestion for a new surgical procedure.

In conclusion, I must point out that even then the operation would be quite futile, except in those cases in which the seat of the pain is peripheral, and where the same result could be far more easily attained by peripheral nerve resection; for his hypothetical "algetic" fibres of the anterior roots, being part of an "endoneural" system, would not undergo central degeneration after section of these roots, and would therefore leave the conditions unchanged in cases in which the pain was of central origin.—I am, etc.,

University College Hospital Medical School, W.C., Sept. 4th. OTTO MAY.

GLOMERULAR ACTIVITY.

SIR,—I trust you will allow me to correct a grave error which appears in Professor T. G. Brodie's Croonian Lecture, delivered June 15th, p. 73,[1] before the Royal Society, which I have only just noticed.

The "new conception of the glomerulus" of the kidney offered by Professor Brodie was discovered over thirty years ago by my brother, Dr. A. W. Smyth, of New Orleans (better known in connexion with the first successful operation for subclavian aneurysm by tying the vertebral artery for the first time, and mentioned at length in Erichsen's *Surgery*, and by Sir Frederick Treves and

[1] BRITISH MEDICAL JOURNAL, July 8th, p. 73.

others). The discovery in regard to the function of the kidney was published in a pamphlet at the time, and appears in the *American Encyclopaedia of Biography* and elsewhere.

A. W. Smyth showed that there was no communication between the Malpighian corpuscle and the uriniferous tubules, as taught by Bowman; that there was no filtration; that the water reached the tubules by their own epithelial cells; that the glomerule was a vascular hydraulic ram, acting with such force as in one instance to push a calculus half an inch in diameter down a ureter.—I am, etc.,

WM. WOODS SMYTH,
Fell. Med. Soc. Lond., etc.

Maidstone, Sept. 1st.

CYANIDE OF POTASSIUM AS A LARVICIDE.

SIR,—Such of your readers as work in the tropics might like to know that while making numerous experiments as to methods of killing the larvae of mosquitos (*Culex pipiens*) we have found that by far the best poison seems to be cyanide of potassium. This kills in solutions of 1 to about 300,000 in a few hours. The drug should be made into pills with aërated (that is, floating) soap or other floating material. About $\frac{1}{2}$ grain of cyanide of potassium should be used for each pill. The object of the floating medium is that the pill will remain on the surface of the water instead of sinking into the mud at the bottom; and the object of using pills is to enable men employed on the work to carry considerable quantities of the poison in a measured and convenient form. Of course care must be taken not to use these pills for drinking water, but only for waste waters. We should, however, point out that when the drug is dissolved to the extent of 1 part in 300,000, a man or large animal will have to consume several gallons of the solution at the same time before any danger of poisoning need be apprehended. The floating medium should be combined with some colouring matter or other substance which will warn the public that the water is not fit to drink. Of course, local health officers must be trusted to use the larvicide with due caution. It will be specially applicable for waste collections of rain-water on the ground. At present we can only suggest trial in the field.—We are, etc.,

RONALD ROSS,
Professor of Tropical Medicine, Liverpool,
E. S. EDIE,
Chemical Department.

Liverpool, Sept. 19th.

MEDICAL DEPARTMENT AT MISSIONARY EXHIBITION.

SIR,—As Secretary of the Medical Missions Department of the Society for the Propagation of the Gospel, and Interim-Secretary of the Mission Hospital Committee of the Westminster Exhibition Committee, may I appeal to doctors, missionaries, and others throughout the country who are in possession of interesting medical curios of other lands? A large exhibition is to be held in the Church House, Westminster, during June, 1912, and the medical subcommittee, of which Sir Francis Champneys, Bart., is chairman, will be very grateful to the owners of such curios if they will kindly give them on loan during the time the exhibition is being held. The greatest care will be taken of them, and they will be returned to their respective owners immediately the exhibition is over.—I am, etc.,

JAMES ANDERSON ROBERTSON,
Secretary Medical Missions Department, S.P.G.

Westminster, S.W., September 19th.

PATHOLOGICAL LABORATORIES AND THE PUBLIC.

SIR,—It has just come to our knowledge that a patient of ours, acting entirely on her own authority, sent a specimen of a discharge up to one of the recognized institutions for examining and reporting on pathological specimens. A long and technical report was sent in reply direct to the patient. It is evident that if such institutions are allowed to communicate directly with the laity without the authority of a medical man, much medical and social trouble will often result, for every medical man must at some time have attended patients whom it was necessary, in order to prevent scandal and domestic upheaval, to keep in ignorance of the exact nature of their illness. It seems to us that there is urgent need that these institutions should be bound by some regulation which will prevent such a dangerous procedure as that of direct communication between patient and institution.—We are, etc.,

J. COWPER, M.B.
J. A. B. HAMMOND, M.B.

Shanklin, I.W., Sept. 19th.

MEDICAL MEN AND MASONIC CHARITIES.

SIR,—May I once again, through the medium of your widely-read columns, appeal to medical men, and medical Freemasons in particular, for votes for the masonic charities? At the forthcoming elections there are three medical candidates. Votes for any of the masonic institutions are equally acceptable, as exchanges can be effected, and will be gratefully received and acknowledged by me.—I am, etc.,

WILLIAM WILSON,
Secretary, St. Luke's Medical Lodge of Instruction.

Goldhawk Road, W., Sept. 18th.

Medico-Legal.

ATTENDANCE OF MEDICAL MEN AT INQUESTS.

IN the Westminster Coroner's Court on August 31st an inquiry was held into the circumstances attending the death of a lady aged about 60, who had been found dead in a bath. All the evidence other than that derived from the *post-mortem* examination was furnished by a housekeeper at the flats where the deceased had resided, and by other like persons, its effect being to suggest that the deceased when found had been dead for some time, and that she had fallen into the bath accidentally. The *post-mortem* evidence was supplied by Dr. Freyberger, who stated his opinion that the deceased, when she reached the water, was already dead from heart failure. The jury returned a verdict of death from natural causes.

It is quite possible that the verdict is in accordance with the true facts; but this was one of those obscure cases in which every scrap of evidence available would have been of value, and more particularly any which could be furnished by a skilled observer such as a medical man. Such evidence is not always available in like cases, but happens to have been so on this occasion, since a medical man summoned to the flat as soon as the body was discovered, had taken pains to make and record due observations. Despite this fact, the officer in charge of the case, following the dangerous practice of this court set up by its president, Mr. Troutbeck, allowed the case to be concluded without there being called any medico-legal evidence other than that of the pathologist.

WORKMEN'S COMPENSATION ACT.

Claim for Loss of Finger.

C. D. R. asks what would be a reasonable claim for a carpenter to make under the Workmen's Compensation Act for the loss of the whole of the little finger and of the terminal phalange of the ring finger of the left hand, incurred while at his work.

*** The compensation due will be half the man's average weekly earnings during his total incapacity from work of any kind. When the wound has healed the employer may offer the man work at his old rate of wages. It will then be for the workman to show that he is not able to do it. The employer may then offer him such work as he can do and pay him his usual wages. There can be no claim under the Act for the loss of the finger itself, but only for the incapacity to do his ordinary work which follows such loss. The judge will decide after hearing evidence whether or not the man can do his old work, and also what amount (if any) of compensation is due on account of his partial incapacity.

The Filling-up of Reports.

E. G. S. asks to be referred to any books that would be likely to give help in filling-up the reports to an insurance company in the matter of workmen's compensation claims when one acts as referee on behalf of the insurance company and has to give a prognosis on the case.

*** The books which are most likely to be of service to our correspondent are Greer's *Industrial Diseases and Accidents*. Bristol: Arrowsmith. 1909. 7s. 6d. Barnett's *Accidents and Injuries to Workmen*. London: Rebman, Limited. 1910. 7s. 6d. Knocker's *Accidents in their Medico-legal Aspects*. London: Baillière, Tindall, and Cox. 1910. 30s.

The Services.

INDIAN MEDICAL SERVICE.

L. M. S. writes: For a long time past there has been talk and rumours that the station hospital system for native troops in India was about to be introduced, but nothing definite has actually been issued up to date. Certain it is there is grave and very general dissatisfaction with the conditions under which Indian Medical Service officers in military employ have to serve as things are. The causes of this discontent are, I think, twofold—(1) prospects in the service, (2) pay. With reference to the former, under the present pernicious regimental system, the prospects are absolutely *nil*. This, Sir, is not an exaggeration, it is a plain fact: a man joins the service, he is appointed medical officer of a regiment, and as such he must remain, as far as military duty is concerned. It comes about, therefore, that an officer of twenty-five or twenty-six years' service has exactly the same responsibilities and duties as are carried out by the lately-joined recruit of one year's service or less. Put in blunt, plain English, the prospects are non-existent; there are no chances whatsoever, because there are no posts available. Introduce the station hospital system, and this hopeless outlook is at once remedied. Turning to the matter of pay. The cost of living, houses, servants, has gone up enormously in India, certainly 50 per cent. during the last twenty years, and there has been no corresponding increase in pay, with, perhaps, the exception of the most junior rank. Take the case of a major from twelve to fifteen years' service, there has been no increase at all; from fifteen to twenty years his pay, some years ago, was increased by 12½ per cent.—compare this increase with the huge rise in the cost of living. The result is this: an officer can live as a bachelor on his pay with comfort, he can afford to have his periodical run home with its steamer, etc., expenses; but, if married, the outlook is hopeless, even if he waits until he is of rank of major and is, say, 40 years old. This pay is sufficient and only just sufficient to live and make ends meet with care. It must be remembered that he has heavy deductions made from his pay on account of Family Pension Fund, to which he must subscribe, to say nothing of the monthly compulsory payments to the Regimental Mess Fund, Band Fund, Sports Fund, Rifle Fund, Billiard Fund, etc., all these obligatory, he has no option whether he is present or not in the mess, he has to pay to these as well as his share of mess guests; the various amounts are deducted by the regiment from his pay, and the balance handed over to him. Out of this balance he has to pay the upkeep of his own home, rent, food, servants, clothes for himself and family, etc. By this time the pay has about gone; nothing remains for a rainy day, nothing for his wife and family, supposing he dies, except the pittance from the Pension Fund. Neither can he save the necessary money to pay the passage money home for his wife and family, let alone for a holiday for himself. No man can go on working indefinitely in this country, it is essential he should go home from time to time; on the present rates of pay it is not possible to do so. Such are the causes of discontent so very general in the military side of the I.M.S. I have tried to put them plainly and without exaggeration, as they have occurred to me, a member of the I.M.S. in military employ.

*** With regard to our correspondent's complaint of insufficient pay, we may point out that it is one which now affects all the Government services in India. The reason seems to be that with the fall in the purchasing value of the silver rupee, in the last forty years there has been an enormous rise in the cost of living in India—"I.M.S." puts it at a modest 50 per cent., but in servants' wages, pay of workpeople, house rent, cost of most articles of food, price of horses and ponies, etc., etc., the increase is probably nearer 100 per cent. than 50. Officers of all services suffer from this, and few junior regimental officers nowadays find it easy to live on their bare pay. The deductions from pay which "I.M.S." complains of are made from the pay of all officers with regiments, and his special mention of them as a grievance is not reasonable. It is quite true that the prospects of special promotion on the military side are small and special appointments are few. In the medical charge of a native regiment the work to be done is the same exactly, whether for a lieutenant of one year's service or less, or for a lieutenant-colonel of twenty-six years' or more service. The only prospect is promotion to the administrative rank, which goes first by selection, and then by the possible occurrence of a vacancy, the number of such posts being few and open to both civil and military branches. We think that we may safely say, without laying ourselves open to the accusation implied in the phrase, *laudator temporis acti*, that an Indian career no longer offers the same life of comparative ease and possibilities of saving money as it did up to even twenty-five years ago, and that this applies to all Government services where the rates of pay are fixed, and not merely to the I.M.S. officer in military employ.

Contract Practice.

CLUB SURGEONS AND FRIENDLY SOCIETIES.

A CORRESPONDENT writes: (1) When were club surgeons first appointed in England, and at what rate of pay? (2) Have wages and the price of food, etc., increased or not since then? (3) What is the capital of the friendly societies in England?

*** (1) No definite information as to the first question is at hand, but it is known that provident dispensaries existed previous to 1834, as the Royal Commission on the Poor Laws of 1834 refers to them, and as a result of its recommendation medical clubs were established in many parts of the country. A parliamentary return for 1803 states that there were then 704,000 members of friendly societies, but it is doubtful how far they were provided with medical attendance as a benefit, or at what rates. (2) The Majority Report of the late Poor Law Commission says that "whether wages have increased upon the whole is a question to which no definite answer can be given, for there is a great paucity of statistical information for the earlier years, and we are still without any reliable data of the average earnings in many trades, especially those of an unskilled or casual nature." A memorandum of the Board of Trade concludes that "allowing for trade cycles, a general tendency of wages to rise is perceptible through the last thirty years," but it further adds that "it is possible that the large mass of casual time labour is not making any substantial advance in weekly or yearly earnings." The Majority Report also says that "the cost of living has undoubtedly diminished during the last thirty or forty years." Taking the four principal items of workman's expenditure, namely, food, rent, clothing, and fuel and lighting, the Board of Trade shows that the cost of living has fallen from 121.7 in 1880 to 101.4 in 1903, and the Majority Report concludes "the working classes would thus appear to be better off, both as regards their income and their expenditure than they were in the middle of the nineteenth century." (3) The amount of the funds of the friendly societies is given in the annual report of the Chief Registrar of Friendly Societies for 1909 as follows: Ordinary friendly societies, £20,009,000; friendly societies with branches, £26,378,000; collecting friendly societies, £8,471,000.

Public Health AND POOR LAW MEDICAL SERVICES.

FOOD POISONING.

THE furnishing of special reports by medical officers of health on cases of food poisoning is already prescribed by various orders, but as these relate to considerable numbers of cases the Local Government Board issued last week a special memorandum dealing with the subject. In this it is pointed out that the Board in various fashions often becomes aware of cases of illness being attributed to food poisoning, but it is usually at a stage too late for any satisfactory investigation to be made by its inspectors, or for any useful assistance to be given by it to the officers of local authorities in dealing with the matter. If it received more complete and timely information it might sometimes be possible for the Board to secure the adoption of effective preventive measures, and, at any rate, a better opportunity would be afforded for elucidating points in the causation of food poisoning, and especially meat poisoning, which at present are obscure. In this connexion the term "food poisoning" is intended to cover all illnesses other than notifiable infectious diseases which are due either to contamination of food by inorganic poisons, or to the presence of those of bacterial origin.

Specific examples of the sort of cases of food poisoning which the Board has particularly in mind are those in which one or two members of a household suffer in consequence of the consumption of canned food from a particular can. Such cases do not constitute a serious outbreak of disease in the district, but often canned foods of the same origin may be causing illness elsewhere, and collection and examination of these scattered cases in different districts has in certain instances already afforded significant results. The Board is therefore anxious to obtain prompt information whenever they occur.

So soon as the medical officer of health has established the probability that a particular food is at fault, he should at once investigate the conditions of its preparation and obtain material for chemical and bacteriological examination. The complete history of all cases can be obtained simultaneously from assistants or by inquiry subsequently. Determination of the circumstances in which food poisoning has occurred often turns on the elucidation of apparently trivial points; after some days'

interval it is impossible to rely on accurate recollection of these, and as time goes on it becomes more and more difficult to get at the true facts. Hence it is neither desirable nor necessary to await the results of the laboratory investigations before commencing the inquiries. Supplementary inquiries suggested by such results can always be made subsequently.

When the suspected food has not been prepared for the market in the district, the co-operation of the vendor should be secured, he being invited to produce the original packages, invoices and any other facts available, to show by what firm the implicated food was supplied to him, and on what date and in what bulk. Samples of any remaining portion of the actual food consumed by the persons attacked should be secured, and like samples of food of similar origin or prepared from the same ingredients. If of a perishable nature they should be placed in an ice box or cold store pending examination. In the case of canned goods the cans with the labels should be preserved, and unopened cans of identical kind with those suspected also obtained if possible.

When the circumstances do not point to a poison of bacterial origin, samples should be sent for chemical examination—usually to the public analyst. Ordinarily, in the case of meat samples, little is to be gained by asking for examination for "ptomaines," since it is by no means certain that "ptomaines," in the sense of alkaloidal substances produced by bacterial action, are present in meat foods which have caused poisoning, and the significance of the reactions held to demonstrate their presence is dubious. Chemical analysis, however, may be valuable in determining special points, such as the presence or absence of preservatives and their nature, and other matters, such as acidity and saltness. When materials have to be sent for bacteriological examination, it is of obvious advantage that the necessary arrangements should be considered beforehand, and the samples should always be transmitted surrounded by ice or otherwise insulated. If material has also to be collected from the patients themselves, the advice of the bacteriologist should be obtained in order that it may be transmitted with proper precautions and in a condition suitable for examination. It is also important that material should be available for any investigations which the Board itself may desire to make. When such investigations are intended to be made, early intimation will be sent. In all cases, however, the chemist or bacteriologist consulted should be asked to preserve the samples until it has been ascertained that there is no further use for them.

The Board is aware that neither general practitioners nor the general public are under any statutory obligation to report any cases of food poisoning to the medical officer of health, but believe that if the object in view is understood the co-operation of all parties will be easily forthcoming. The memorandum concludes with an appendix containing the headings under which the inquiries in question should be made and reported.

NEATH RURAL DISTRICT.

AMONG the many instances of inefficient local sanitary administration which have been disclosed by reports of the medical inspectors of the Local Government Board, few have been more flagrant than that of the Neath Rural District, in the county of Glamorgan. As long ago as 1877 the late Dr. Airy reported to the Board that there was a general want of administration and a great prevalence of insanitary conditions. In 1885 and 1886 Dr. D. S. Davies visited the district in the course of the general cholera survey, and in 1890 the late Dr. Spear reported great inaction on the part of the local authority. Nearly all the common infectious diseases have been prevalent from time to time in the district, but no effective action for their prevention has been taken, and the annual reports of Dr. Whittington, the medical officer of health, have shown that unwholesome conditions were frequent in the district, and that preventable nuisances were common. Early in the present year the district was again visited on behalf of the Board by Dr. S. W. Wheaton, whose report has just been issued. He states that throughout its existence the district council appears to have shown want of initiative and to have left untouched many matters which needed its close attention. There is abundant evidence throughout the report of the truth of this statement. There are nearly 6,000 houses in the district, but in only three localities have sewers been provided, and in one of these the cost of sewering has been borne by a private individual. Water-closets are usually hand-flushed; but as the water supply is scanty they are often in a very foul state, the pans covered with dried filth and very offensive. In some parts the contents of the privies are simply buried by the contractor in a hole in the yard or garden of the house concerned. Many yards are so small that it is hardly possible to find a vacant spot for this purpose. The streams in the district are used as the recipients of privy filth, which is also thrown about on waste places and in back streets. Owing to the absence of sewers houses have been largely built with soakaway cesspools, and consequently the ground beneath the dwellings is becoming saturated with filth, which may have injurious effects for some time after the premises have been properly sewered. The sanitary staff of this district, which has a population of 42,000 persons and is 24 miles in length, includes only the medical officer of health and two inspectors of nuisances. A considerable portion of the time of both inspectors is taken up in supervising the work of the scavenging contractors. The medical officer of health has no office, and is not provided with any clerical assistance.

POOR LAW MEDICAL APPOINTMENTS.

SCALPEL writes: A. and B. are father and son. A. has been holding a district Poor Law appointment for many years. B. is at home helping A., with the idea of permanency, but is not yet in partnership. Query: Is there any rule of the Local Government Board in reference to such appointments which prevents B. holding the office of health officer to the workhouse and another district, which are combined in the appointment in the same union—(1) as an assistant, (2) as a partner?

*** We are not aware of any rule of the Local Government Board which would prevent B. holding the appointments in question. The Local Government Board takes no cognizance of any assistant or partner as one of their responsible officials, though either of these can be nominated to act as deputy in case of absence or illness of the chief.

Obituary.

JOHN DIXON, M.B., C.M.EDIN., ETC.,

LONDON.

DR. JOHN DIXON was born at Staindrop, in the county of Durham, in the year 1842. His parents were members of the Society of Friends, and in due time the son was sent to Ayton School, and at about the age of 13 he went to work at his father's mills. He longed, however, to be a physician, and set himself to study in order to pass the preliminary examinations. He studied in Edinburgh and took in 1870 his L.R.C.P., and in 1872 graduated at the university as M.B., C.M. He got into touch with patients at the Edinburgh Cowgate Mission Dispensary, and filled the post of Resident Physician in the Royal Infirmary. Coming to London, he filled posts at the Temperance Hospital, French Protestant Hospital, and Bethnal Green Mission Hospital, and had a lucrative private practice at Victoria Park. His heart was set, however, on medical mission work, and he retired from private practice and commenced in January, 1880, the Medical Branch of the Mildmay Mission to the Jews, founded four years earlier by the late Rev. John Wilkinson. He was for nearly thirty-one years connected with this work as Superintendent Senior Missionary, and during that period more than 60,000 individual Jews and Jewesses must have been treated in this institution, the attendances in the latter years averaging about 25,000 per annum. He was much sought by Jewish patients, enjoying their confidence to a very remarkable degree.

Notwithstanding physical infirmities and many trials, he persevered faithfully in his work, frequently overtaxing his strength, and on August 1st he went to the neighbourhood of Lochailort for change and recreation. But on the 15th, after a picnic in the neighbourhood, he felt unwell, and within two or three hours he passed away. His body was brought to London and buried at Winchmore Hill on August 18th.

J. G. R.

Medical News.

THE first international congress for the protection of motherhood and sexual reform will be held at Dresden on the 28th, 29th, and 30th of this month.

A MEETING of the International Medico-Psychological and Psycho-Therapeutic Association will be held at Munich on September 25th and 26th. Communications relative to the meeting should be addressed to Dr. von Hattinberg, Rauchstrasse, 12, München.

DURING the past summer session the number of students in the Faculty of Medicine in the Universities of Austria-Hungary were as follows: Vienna, 1,959; Innsbruck, 221; Graz, 387; Prague (German University), 344; Prague (Czech University), 669; Lemberg, 402; Cracow, 454.

THE Lettsomian Lectures before the Medical Society of London will be given by Dr. Archibald E. Garrod on February 5th and 19th and March 4th, 1912, the subject selected being glycosuria. The anniversary dinner of the society will take place at the Whitehall Rooms, Hôtel Metropole, on March 6th.

A SPECIAL course of lectures on illuminating engineering will be given at the Polytechnic, Regent Street, W., on Tuesday evenings at 7.30 p.m., commencing on October 31st till December 5th, and on Thursday evenings, commencing on January 11th, 1912, till February 15th.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—

2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

"GUILLOTINE" would be glad to receive hints as to the best method of treatment for enlarged tonsils where operation is declined.

ONYX has a patient who suffers much from cramp in thighs and calves of the legs at night. Four or five nights a week she has to "roll" out of bed and stand on the hearthstone to ease it, and this occurs generally three times a night. She has suffered thus for several years. The daytime is quite free from cramp. The thigh muscles rise up in a knot like a cricket ball, she says. (She suffers from arthritis in the big-toe joints also.) He would be glad to receive suggestions for treatment.

PROVINCIAL FEVER HOSPITALS.

FACIENDUM writes: Will any correspondent be good enough to recommend me a book, article, or pamphlet dealing with the recent views on isolation in small fever hospitals and structural alterations involved?

RICKETS.

"CALCIUM" would be glad to know the names of books and articles dealing with rickets.

*** This query is so wide and comprehensive that anything approaching a complete answer is totally impossible in the space at our disposal. Since the time of Glisson thousands of writers have dealt with the complaint which he was the first to describe. Every textbook on general medicine treats of it, either more or less adequately. The same can be said of the now very numerous treatises on the diseases of children. The most we can do is to suggest a selection from these last. "Calcium" might consult the articles on rickets in *A Practical Treatise on Children's Diseases*, Eustace Smith; *Diseases of Infancy and Childhood*, Emmett Holt; *The Diseases of Children*, E. Cautley; *Diseases of Children*, Pfaundler and Schlossman, vol. ii; and Allchin's *System of Medicine*, vol. ii. In most of these works he will find references to others on points on which he may desire special information. Jenner's lectures on rickets, too, although some of the views expressed are now untenable, can still be read with pleasure and advantage.

ANSWERS.

TYPHOID FEVER EPIDEMIC.

R. THOMAS HAYES (Rathkeale, Limerick) writes in reply to "T. P.'s" query, published in the JOURNAL of September 16th, "What ought to be done during an epidemic of enteric fever with milk and drinking water?" quoting the statement of the late Mr. Ernest Hart that "Every Englishman who was careful to safeguard his health boiled his milk and drinking water."

PARALYSIS AGITANS.

DR. H. J. THORP writes in reply to "L.R.C.P.": Careful attention to all hygienic measures and the following medicine: ℞ Acid nitro-hydrochlor. dil., ♏xv; liq. strych. ♏iij; liq. hyoscinae hydrobrom., ♏v; aq., ℥j. Three times a day. The persistent use of the continuous galvanic current is serviceable in some cases.

DELAYED DENTITION.

DR. H. J. THORP (Ipswich) writes in reply to "Tenax": Constitutional conditions influence the time of teething; in rickety children the teeth are very slow to appear. A dose of cod-liver oil three times a day may be helpful.

PRURITUS ANI.

KENT writes: I have lately cured a case with hazeline snow, using lysol ℥j to Oj hot water for temporary relief.

DR. H. J. THORP (Ipswich) writes: Pruritus ani is usually connected with piles, eczema, etc. Calomel, ℥j; acid. carbolici, ♏xx; vaseline alb., 1 oz. Fiat ung., a little to be smeared on the orifice of the bowel every night and the use of sponge instead of paper after every evacuation.

DR. JAMES R. RIDDELL (Medical Electrician, Glasgow Royal Infirmary) writes: Assuming that the condition is not dependent on ulcer, fissure, etc., but is regarded as a neurosis, I have found practically complete relief in a number of cases from the use of *x* rays. Perhaps a dose of about 3 H once a fortnight for three or four doses. An aluminium screen 0.1 mm. in thickness might be an advantage. In one case complete relief was got from the application of radium.

J. H. W. writes: A fellow-sufferer of more than twenty years' standing would suggest the use of ung. hydrarg. nit. dil. in small quantities, and after every evacuation to use cotton-wool, and to wash the part with soap and water. My trouble was caused by a small submucous fistula, about one-eighth of an inch long, and only large enough to admit the wire of a hypodermic syringe. This had been overlooked by three surgeons. The fourth excised it, and after the wound healed I had no trouble for some months. Occasionally I have slight trouble now, but the application of the above relieves me in a few minutes.

DR. T. REUELL ATKINSON (Chadwell Heath) writes: I have had for some time under my care a gentleman suffering from this irritating complaint. Except that he was a little constipated there was no cause, local or other, to account for the trouble. After trying many things, I found that the disuse of paper for cleansing purposes, washing after an evacuation with nearly cold water, the use of cascara evacuant, and finally smearing the edge of the anus with a little ung. cocain. was of most service. But now the patient has found out a cure for himself. He has lately been at the seaside, has taken a daily dip in the sea, and he tells me that after the first two days the pruritus disappeared and has not since returned. Here is another possible scope for the Quinton plasma!

W. McC. writes: In reply to "A. C.," who asks for suggestions for the treatment of pruritus ani, I may say that I was for years troubled with that complaint, for which no cause could be found. I tried everything that could be suggested in the shape of drugs without any improvement. Some years ago, in the columns devoted to AN EPITOME OF CURRENT MEDICAL LITERATURE, I saw that the *x* rays had been of service in the complaint. In July, 1909, I got a medical friend to give me three or four applications of the *x* rays of ten minutes' duration with weekly intervals. I lay on my face on a couch and held my nates apart with my fingers. The rays were suspended above, about a foot away, with a platinum sheet between. During my holidays in August the complaint was entirely gone. It recurred later on, but much less severe and at longer intervals. In June and July, 1910, I got another four applications, three at weekly intervals and one with a fortnight's interval. These later applications were applied with the round nozzle of the *x*-ray bulb applied close up to the anus, and I leant over the back of a chair in a standing position. My friend warned me that they might cause sterility. That did not matter much to me. The only effect of these applications to me has been a complete cure. My friend also advised me to apply after each motion of the bowels a weak mixture of citrine ointment 20 grains to the ℥j vaseline. Before having the *x* rays the drugs that I found most useful were a drop or two of a 10 per cent. solution of cocaine, and immediately after a drop or so of a solution of argent nit. gr.ij to spt. aeth. nit. ℥j.

BROMIDROSIS OF FEET.

DR. A. E. TAIT (Cheltenham) writes in reply to "Sudor": Wash the feet daily with soap and cold water. Use clean (fresh pair) stockings every morning. Before putting on the stockings pepper the inside with powdered boracic acid, and also the feet, being careful to pepper between the toes. By this method a miracle will be performed. I know of a case in which a most disgusting odour from the feet used to make the person a most disagreeable neighbour and most unwelcome in evening circles. The stench was completely removed by this method of treatment. The condition will return if the treatment is discontinued for any length of time. It is evidently due to the action of some organism of decomposition.

MUCOUS COLITIS.

M.B.—The following extract from *Climatotherapy and Balneotherapy*, by Sir H. Weber and F. Parkes Weber (London: Smith, Elder and Co., 1907) will, we think, supply the information asked for by our correspondent: "What is known in England as the 'Plombières treatment' for muco-membranous colitis, etc., comprises: (1) Intestinal douches, (2) sedative warm baths, and (3) 'under-water' douches directed against the abdomen: but these three parts of the treatment are not necessarily employed altogether. The intestinal douche (for which the Source des Dames is employed) is given with the patient reclining on a couch, so that a regular lavage of the large intestine is effected. It is termed a 'douche horizontale' to distinguish it from the 'douche ascendante' or rectal douche, for which the patient is seated on a stool. This intestinal or 'horizontal' douche is employed in cases of muco-membranous colitis and chronic diarrhoea; in chronic metritis the douche should not reach higher than the rectum. The sedative baths are given at 95° to 98.6° F., and the 'Tivoli' douches at higher temperatures. A 'douche Tivoli' at Plombières is a hot douche (3.5° to 5.5° F. hotter than the bath) given after the patient has left the bath; it is generally applied to the whole body, though specially directed to affected parts (sciatica, lumbago, etc.), and is sometimes accompanied by massage, as at Aix-les-Bains, Vichy, etc. What is, however, often spoken of in England as the 'douche Tivoli' or Plombières is the hot (about 107.5° to 111° F.) 'under-water' or 'submarine' douche directed under the water of the bath against the abdomen. The baths usually last forty to fifty minutes; the under-water douches last five to ten minutes, and are given just before the patients leave their baths."

LETTERS, NOTES, ETC.

S. J. N. has omitted to enclose his card.

PROSPECTS IN THE MEDICAL PROFESSION.

WE have received from the editor of *Guy's Hospital Gazette* a copy of the issue of that periodical for September 16th, coupled with an invitation to answer in its columns his criticisms of the opening articles in our recent Educational Number. On the whole, however, we prefer the obscurity of our own columns, since owing either to youthful exuberance or the possession of a free-flowing pen our critic buries his criticisms so thoroughly in phrases that we remain uncertain of their import. We gather, however, that he disapproves of the articles in question, and wishes us to understand that some men have ideals not limited solely to an income of so many pounds per annum, and that he is one of them. We are greatly pleased to know this, and wish we could also gather that he had really read the articles in question. Summed up, they amount to a statement that at the present time entry to the medical profession can, as a rule, be recommended only to two classes of persons—those to whom science appeals and who are independent of its financial outcome, and those who are content to do very hard work for very small pay. If our critic holds that this view is incorrect he is perfectly entitled to his opinions. Whether they should have any weight with other persons is, however, quite another question, for presumably he belongs to one of two classes: as the editor of a medical school magazine he must be either a student who, in addition to lack of experience, is in the position of the fox that lost its tail; or a teacher who, naturally enough, objects to anything being said which may diminish the number of his pupils.

NATIONAL INSURANCE BILL.

DR. ROWLAND FOTHERGILL (Brighton) writes: I am afraid in your reply to the correspondent signing himself "Anxious Enquirer," on page 592 of the JOURNAL, the point of his contention has been missed. To me his fears seem justified if we regard the amended Clause 14 (3) and (4) as final. Your quotation from this Clause (3) omits the words he refers to. On further perusal you will no doubt see that it deals with two classes of insured persons: (1) Those compulsorily obliged to be excluded from medical benefits controlled by the local Health Committees; and (2) those given the option of being excluded. The correspondent refers to the latter. The clause runs: "The regulations . . . *shall* authorize the local Health Committee . . . to allow any other persons (that is, those below the local income limit) in lieu of receiving medical benefit . . . to make their own arrangements . . . and the committee *shall* . . . contribute . . . towards the cost of medical attendance for such persons." The regulations cannot deprive any such person, thus given the option, of his option. They can only decide in what way the money value is to be given, and when. Clause (4) amplifies the permission in Clause (3), and allows and encourages associations, clubs, unions, etc., to remove their members from the control of medical benefits by the local Health Committees *en bloc*. Thus the foundation of the bill (prevention of disease amongst the poor) will be swept away. Your correspondent draws attention to a most serious crisis in the development of the bill. To wait to the drawing up of the regulations to prevent the disaster that must inevitably follow would be foolish. If anything is to be done it must be done now, on Report stage in the House, otherwise the opportunity is gone.

*** We did not overlook the class of insured to whom "Anxious Enquirer" referred, nor yet the wording of the clause which he had in his mind; but we disagreed, and still disagree, with his interpretation thereof. This was that Dr. Addison's amendment would allow a thriftless person to draw the money intended for his medical benefit, spend it on "beer and baccy," and then when ill betake himself to the Poor Law medical officer.

There are two objections to this view: (*a*) The word used in the amendment is "contribute," and such contribution is towards the cost of medical attendance and treatment received in virtue of a private arrangement which the insured person in question has been permitted to make; (*b*) such contribution is to be circumstanced by regulations drawn up by the body charged with the administration of the Act.

Now any administrative body constituted by any Act and charged with the duty of securing effect for that Act by making specific regulations is bound to read its clauses in connexion with their context, and any regulation which was subversive to the primary purpose of that Act would *ipso facto* be invalid. Hence, in our view, the word "contribute" could not be interpreted in any valid regulation in such fashion as to make it possible for a Health Committee to part with any portion of the medical benefit fund in favour of any insured person unless satisfied that such insured person had not only made an arrangement for his attendance, but had taken advantage of that arrangement. We even think that the meaning of the word "contribute" would not be fully satisfied unless the contribution were paid either direct to the second party to the arrangement—namely, some medical men—or against a voucher of his showing that he had received an equivalent portion to the sum due to him.

So far as the next amendment mentioned by our correspondent has any bearing on the particular point at issue, it merely helps to accentuate the truth of the view expressed, since the contribution authorized is, again, not a payment out of medical benefit funds to an insured person himself, but to some organization which has undertaken to provide him with medical attendance and treatment.

Still, if it is felt by the Association that there is any reasonable doubt on the interpretation of this word "contribute," it would be quite easy to introduce into Part III of the Act a clause defining the meaning of the term as used in Clause 14 and in other parts of the bill.

RETINOSCOPY WITHOUT ATROPINE.

MR. GEO. T. MOULD (London, W.) writes: With reference to Dr. Horatio Matthews's remarks (August 26th, p. 468), on Dr. Alexander Wilson's paper on retinoscopy without atropine, I have practised this method extensively for some years, and my experience is that, given sufficient practice and patience, one can get remarkably near the true refraction (that is, as estimated on the thoroughly atropinized eye). If one has patience and gives time to the case one will always get a period of relaxation (in the absence, of course, of any marked spasm), if only momentary, when one can estimate the refraction with remarkable accuracy, as may be checked by a subsequent retinoscopy carried out on the atropinized eye. Even in children I have often been struck with the minute difference, if any, in my estimation of the refraction of the atropinized and unatropinized eye. I do not think one can accept any estimation except that made during relaxation, as one can get a variety of readings according to the amount of accommodation exerted. I look upon it as important that an ophthalmic surgeon should be able to estimate the refraction of the unatropinized eye accurately, as it fairly frequently happens that one is called upon to prescribe glasses for a patient when, for various reasons, a mydriatic is undesirable. I always advise beginners to practise this method on every opportunity.

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The Bolingbroke Lecture

ON

THE TREATMENT OF ANTE-PARTUM HAEMORRHAGE.

DELIVERED AT THE BOLINGBROKE HOSPITAL.

BY

G. ERNEST HERMAN, M.B.LOND., F.R.C.P.,

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WHEN I was asked to deliver this Bolingbroke Lecture I was told that I was free to choose any subject. I have chosen *ante-partum* haemorrhage because this is an event which always causes anxiety, and yet the rules for its treatment have not yet become so crystallized that they cannot be discussed without dealing in platitudes. I purpose to speak only of the kinds of haemorrhage that depend upon pregnancy: not of those that may occur also in women who are not pregnant.

The haemorrhages that are peculiar to pregnancy are conditioned by the existence of a placenta. The bleeding comes not from the placenta, but from the uterine wall to which the placenta was attached. Every one with an elementary knowledge of midwifery knows that these cases are divided into two classes—unavoidable and accidental. These names were introduced by the elder Rigby, whose book was published in 1776. The essential difference is that (with the exception of a few cases which are a sort of transition between the two kinds) in unavoidable haemorrhage or placenta praevia, however slight the bleeding, there is certain to be more before delivery; but this does not apply to accidental haemorrhage. The separation before delivery of a small or large part of the placenta, when it is not praevia, is called "*accidental*" because it is no necessary part of the process of childbirth, but is due to some cause or causes that have not yet been found out and therefore cannot be guarded against. In the large majority of cases the piece of placenta separated is only a small one, and is at the edge of the placenta. There being only a few vessels torn through, and those among the smaller utero-placental vessels, the bleeding is not great in amount and is soon stopped, first by the contraction of the uterus, which compresses the vessels, and then by the clotting of the blood in them.

It is next to impossible to give a numerical estimate of the frequency of accidental haemorrhage, because one patient will be frightened and send for the doctor on account of a loss of blood which a less fearful patient will say nothing about. No sharp definite line can be drawn between a great loss and a small one any more than you can between a dangerous wound and a slight one.

There is a distinction between two different kinds of accidental haemorrhage more important than that of the quantity lost—that is, the difference between internal and external haemorrhage, between concealed and revealed. In the external or revealed haemorrhage the vessels torn through are near the edge of the placenta; the blood separates the chorion from the decidua, trickles down to the os uteri, and escapes outside. The ease with which the chorion is detached from the decidua and the time that the blood takes to get to the os uteri is different in different cases; if it takes place slowly the blood will have time to clot, and then there will not be an escape of fluid which the patient recognizes as blood, but only of serous watery fluid.

The difference in gravity between concealed accidental haemorrhage and that which is from the first revealed is so great that some systematic writers on midwifery dismiss altogether cases in which the haemorrhage is not concealed as being too trifling to detain the reader.

The best estimate of the frequency of accidental haemorrhage, slight or great, that I can form is that it occurs in less than one case in a hundred. In the large majority of cases it is a trifle. The most dangerous cases—I might almost say the only dangerous cases—are those which are from the beginning cases of concealed or internal haemorrhage. This means that utero-placental vessels are torn through in the central part of the placenta, and blood is effused between the placenta and the uterus. In some cases the edge of the placenta is not detached, but the blood remains between the uterus and the placenta, bulging out the uterine wall into a hard, firm boss. The uterus is tolerant of gradual distension, but intolerant of sudden distension. The sudden distension caused by haemorrhage between uterus and placenta produces very severe pain, and an amount of collapse out of proportion to the amount of blood poured out. The blood may remain in this situation till after the patient has been delivered, but more often, when the haemorrhage was at first internal, it does not remain concealed until the end, but at some part the pressure of the effused blood overcomes the adhesion between the placenta and the uterine wall, and the blood escapes externally. The pressure on the uterine wall while the haemorrhage was still internal tends to weaken the contractile energy of the uterus and to favour the occurrence of dangerous *post-partum* haemorrhage.

It requires almost more courage and originality to revive what has been disused and almost forgotten than to come forward with a novelty. Sir W. J. Smyly has shown his possession of this courage and originality in his resuscitation of the practice of plugging the vagina for accidental haemorrhage. But admiring these great qualities, and knowing also the immense opportunities of clinical experience offered by the renowned institution over which Sir William Smyly for some years presided, I nevertheless cannot accept his judgement, even though supported by the distinguished men who have followed him as Master of the Rotunda.

I hold, on the contrary, that plugging the vagina in accidental haemorrhage (*a*) is faulty in theory, (*b*) has not brought improved results in practice, and (*c*) is horribly painful to the patient. For these three reasons I think it should be discarded from practice.

(*a*) The theory is that by plugging the vagina tightly enough its canal can be so occluded that the blood will be pent up behind the plug, cannot escape, and will in consequence so press upon the bleeding points that haemorrhage will be arrested.

The fault in this theory is that it assumes that the vagina is a rigid canal. But the vagina is a very dilatable canal. However tightly it is plugged the vagina soon dilates, and the plug within an hour or two becomes a slippery ball that easily moves within the relaxed vagina, so that blood can flow past it. And if it were possible actually for a long space of time to occlude the vagina this would not benefit the patient, for it would convert the case into one of concealed accidental haemorrhage, which is a more dangerous condition than that in which the blood escapes outside, for in concealed accidental haemorrhage the danger is of sudden distension of the uterus, producing severe pain and collapse, with temporary paralysis of the uterine muscle, leading to dangerous *post-partum* haemorrhage.

Concealed accidental haemorrhage is rare. Early in the last century attention was drawn to the subject of internal uterine haemorrhage by the death of Princess Charlotte of Wales,[1] and in 1818 the French Academy of Medicine offered a prize for the best essay on the subject. Baudelocque won the prize, and a silver medal was awarded to Madame Boivin. This lady and Madame Lachapelle could between them lay claim to the experience of 42,000 cases of labour. Madame Boivin not only had never seen a case of concealed accidental haemorrhage, but she did not believe in its possibility; and I ask attention to her reasons for not believing it. She said, "I cannot believe that the uterus, filled with the product of conception, can, at any stage of gestation, admit so considerable a volume of blood (unless it has been recently emptied), nor can the quantity be sufficient to occasion the death of the woman. *Internal haemorrhage in pregnancy, by over-distending this organ, is a sure means of determining its contractions; the disease itself becomes its own remedy* (italics mine). The internal uterine loss, instead of being more dangerous, is less so than an external one, the case being that of pregnancy." Since Madame Boivin's time many competent persons have observed concealed haemorrhage, so that we must without doubt pronounce her reasoning to be fallacious; but her fundamental fact is true—namely, that *the blood is poured out under great*

pressure—and her inference is partly true, for patients with concealed accidental haemorrhage do not die from the loss of the amount of blood that has been poured out between the uterus and the placenta before the child is born; they die because the effused blood stretches the uterus, produces great pain and nervous shock from the tension of the uterine wall, and temporarily paralyses the contractile power of the uterus, so that, when at last it is emptied, dangerous and often fatal *post-partum* haemorrhage follows. Now, note Madame Boivin's practical conclusion from her fallacious reasoning. She adds: "Were it otherwise, *the tampon should be banished* from the therapeutics of uterine haemorrhage." She saw that, if pressure on the vessels is effective in checking haemorrhage, a tampon in the vagina cannot do this anything like so effectively as the blood itself penned in between the placenta and the uterine wall. Madame Boivin's argument is not yet out of date, for the present Master of the Rotunda, Dr. Jellett, says[2]: "If we prevent the blood which is being poured out from behind the placenta from leaving the uterus, the pressure inside the latter rapidly becomes equal to the blood pressure, and the haemorrhage ceases." This is exactly the theory upon which Madame Boivin refused to believe in the possibility of internal haemorrhage. As a therapeutic measure, it is on a par with the old practice of plugging the nares for epistaxis, now, I believe, almost disused, except that the nares can be effectively plugged, because the structures concerned are not capable of dilatation, whereas no plug will occlude the vagina for long.

There is, however, another and indubitable effect of plugging the vagina: The plug stimulates the uterus to contract, and this is what we want in accidental haemorrhage. But the question is not only what is good but what is best.

Pressure is the most primitive of all ways of stopping haemorrhage. The most accomplished operator at the present day, if he finds himself without proper instruments at hand, or without the needful light for their use, resorts to pressure to stop haemorrhage. It is therefore not surprising that in the early days of midwifery plugging the vagina was the first thing that was thought of in the treatment of haemorrhage during labour. From Paul of Ægina downwards, for accidental haemorrhage and for placenta praevia alike, midwives, male and female, used to stuff the vagina with towels, handkerchiefs, rolls of wool, lint, sponges, sometimes dry, sometimes wet, sometimes soaked in oil, butter, vinegar, alum, etc. It must be remembered that before the publication of the book of the elder Rigby in 1776, the profession had no clear conception of the difference between accidental haemorrhage and that due to placenta praevia. The use of a bag, to be placed in the vagina empty and then filled with air or water, began with Wellenberg in 1830. Since his time many kinds of bag and bladder have been used; some have put a bag in the vagina, some in the cervix. The latest kind of dilating bag, and, I think, the best, is that of Champetier de Ribes; and the part which this bag is designed to dilate is the cervix uteri. To this I shall recur presently.

I may mention that one advocate of the tampon actually says that by plugging the vagina he compresses the uterine arteries, and in that way stops the bleeding. He should tell that to the next surgeon he sees about to perform hysterectomy.

In short, I regard plugging the vagina for accidental haemorrhage as a treatment based on erroneous theory, the errors being: First, that the vagina can be thoroughly occluded; secondly, that retention of blood, if it could be accomplished, would stop the bleeding.

But theory ought not to count for much when confronted with the results of practice. What are these?

I take those of the Rotunda first. The death-rate among cases of accidental haemorrhage before Sir William Smyly had resuscitated the practice of plugging was 4.9 per cent. Since then it has been 4.5 per cent. Galabin (from whose work I take these figures) says that it is thus proved that plugging the vagina is a good treatment, but it is not yet finally demonstrated that it is better than the other method. The statistics of the results of treatment by plugging are very slightly better than those of the old method, not more than might be expected from the effect of modern improvements in antiseptic midwifery. I quote Dr. Galabin's opinion because elsewhere he says that this treatment is now generally accepted. I think that the very small improvement in the results during the plugging period is amply accounted for by the much stricter antiseptic regulations of the later years.

A former Master of the Rotunda[3] says that "treatment by plugging the vagina has met with far greater success than any other form of treatment." Has it? The late Master says "it is upon personal experience that we recommend it. It falls to the lot of the Master of the Rotunda Hospital to see so many cases of different severity that he learns to estimate with considerable accuracy the effect of different forms of treatment." In other words, the opinion of the Master of the Rotunda should be final.

In a book published in 1910 we have been told that in the six years previously there had been 39 cases. Nineteen were severe cases treated by plugging. There was one death. (P. 127.) In a table at the end of the book it is stated that there were two deaths. (P. 463.) The large number of "severe" cases—19 out of 39—shows that the Master of the Rotunda is easily convinced that a patient is in danger; more easily than Ramsbotham or Merriman. I think their results bear comparison with those of the Rotunda.

In every kind of bleeding from the placental site, the natural way in which bleeding is stopped is by uterine contraction, which compresses the vessels and arrests haemorrhage. The urgent need, therefore, is to bring about uterine contraction. The uterus cannot perfectly contract until it is empty; but the volume of the uterine content can quickly be diminished, and the tension within the uterine wall lessened, by rupturing the membranes. It is possible also that by putting on a tight binder some pressure can be applied directly on the bleeding points; though, as we cannot tell precisely where the bleeding points are, this is rather working in the dark; but the tight binder will do no harm, and it may do some good. If it is certain that there is no bony obstruction to delivery, and also that the child is a small one, it will be good to stimulate uterine contraction by giving ergot. As these cases are mostly multiparae, we usually have the help of a history as to former labours. In the worst cases—those in which the tension has made the wall of the uterus atonic—ergot unfortunately fails to make the uterus contract. But in such cases, though impotent for good, it is equally impotent for harm.

Mauriceau was, in 1688, the first person deliberately to teach the treatment of haemorrhage before delivery by rupturing the membranes. It was taught here by Francis Henry Ramsbotham,[4] and I quote his experience. He says: "Out of twenty-five successive cases of this kind, of very aggravated nature, occurring within the space of eleven years, in twenty-three instances the labour was terminated naturally and safely after the rupture of the membranes, and in two the loss of blood had been so profuse before I saw the patients as to induce me to deliver artificially—in both instances with a fatal result."

Merriman, Ramsbotham tells us, "adopted the same means in upwards of thirty cases of accidental haemorrhage. . . . In every instance the discharge has either entirely ceased, or been so much diminished as to secure the safety of the patient; and yet there were some among these patients whose cases, from profuse haemorrhage, were abundantly alarming." I think Ramsbotham's experience justified his teaching, and I hope I am right in representing this as the prevalent teaching in the English schools of medicine.

Plugging the vagina has been for many generations a frequent resource against uterine haemorrhage of all kinds. It is difficult to find out the exact results of it as applied to accidental haemorrhage, because the early records of cases treated by plugging the vagina do not distinguish between placenta praevia and accidental haemorrhage. The reasons which dictate this treatment in the one kind of haemorrhage apply also to the other. If it checks the haemorrhage in accidental haemorrhage it should also check it in placenta praevia. Müller,[5] writing in 1877, had collected 105 cases of placenta praevia treated by vaginal plugging; in 58 the bleeding was checked, in 47 it continued. Müller cautiously remarks, "We see well enough that the haemostatic effect of the tampon cannot be unconditionally trusted."

In placenta praevia there is a very clear and plausible reason for plugging the vagina. It is said that if you

pack the vagina very firmly the lower segment of the uterus—that is, the part which is bleeding—is compressed between the plug and the child's head. Now, this is plausible theoretically, but practically amounts to little, for the reason that the vagina is a canal capable of stretching. The knowledge of this has led the more thoroughgoing advocates of the vaginal plug to advise that plugging should be frequently repeated. This method of treatment of placenta praevia, though sound in intention, has now fallen out of practice because we have now better ways of pressing on the bleeding surface.

To my mind, therefore, plugging the vagina for accidental haemorrhage is not only unsound in theory, but it has not given improved results in practice; and therefore I think my third reason—namely, that it is extremely disagreeable to the patient—should be enough to make a wise practitioner refrain from it. Its advocates insist much upon its being properly done.

Let me quote the picturesque description of a case given by a French writer.[6] I have not met with an English description as dramatic and as clear:

"The bladder is emptied. The rectum was free. The vagina is cleaned, irrigated, rendered aseptic. The woman is put in the obstetrical position. To my left a nurse places herself with a large pot of sterilized vaseline. Professor Pajot says that about 500 grams (nearly a pound) is necessary. It is true. To my right, a midwife passes me, one after another, pads of absorbent wool, soaked in Van Swieten's solution, well expressed. The index and middle fingers of the left hand together touch with their pulp the lower segment. I take with the right the first pad, furnished with a double thread, and I plaster it with vaseline. The plugs form a cemented wall, the pads forming the stones and the vaseline the cement. I place the pad on the palmar surface of the fingers. I make it slip up with the thumb of the same hand, and I help it with the index of the free hand. The first pads are the most difficult to place. I dispose them as regularly as I can, like a crown, well piled up at the fundus. When the vagina begins to enlarge itself, the operation becomes easier. I unite the threads of the twenty-five first pads in a packet that I have held in one groin, to be out of the way. I use free plugs that I push at hazard into vacant spaces until there is a sensation of resistance. The cavity is filled, the perineum bulges, the vulva gapes. To get this result eighty-two pads of the size of a large nut are required. The operation is painful. The pad is pressed on by the perineum like a fetal part during expulsion. So one maintains it in position by a T bandage. I cause the woman to be isolated, for I am ignorant whether she has not been infected before admission; and I recommend, if the labour should be precipitate, to allow the plug and the fetus to be expelled. Next morning some plugs are withdrawn to allow the bladder to be emptied. They are white and dry. There has been no haemorrhage—or, if there has been, the dyke has been insuperable. Pains feeble, contractions frequent, fetal heart inaudible, pulse rapid, temperature normal. I decide to remove the plug, for if it is a dyke against haemorrhage, it is also a buttress against the expulsion of the child, driven on by mediocre contractions.

"Even the deepest plugs are free from smell. These are the only ones soaked. Their extraction is very painful. The threads are more troublesome than useful. It is necessary to break through this inextricable network, for to extract in one pull the whole mass of twenty-five plugs would be a torture, the vagina being sore, red, desquamated, as painful as a burn. The tampon has been described as heroic treatment. It may be; but what a punishment, and how many doors for infection it leaves open on the bleeding mucous membrane. The dilatation equalled a five-franc piece. Membranes intact. Although they were not tense, I dared not press on them to explore the fetal region. I have present to my mind the history of an accoucheur who, in examining, detached a cotyledon of the placenta. The woman, exhausted by antecedent losses, died, hardly giving him time to withdraw his finger.

"I ordered a large injection of boric solution, sublimate being intolerable in such a case; then the membranes were to be ruptured with a pointed instrument, not with the finger. Every effort at tearing them seemed to me dangerous, one would risk detaching some cotyledon. Before this order was executed the bag of membranes burst spontaneously. A small, dead, slightly macerated fetus was expelled into the bed, followed almost immediately by voluminous black clots, and then the placenta and membranes. Examination showed that the margin of the placenta did not touch the cervix. About eight centimetres separated it from the opening in the membranes.

"The patient did well. It should have been incidentally mentioned that the urine before delivery was solid with albumen, but that this disappeared during the lying-in."

In this case the actual operation of plugging could not have been more perfectly carried out, and if we reason *post hoc ergo propter hoc*, we should pronounce it entirely successful. But I cannot help thinking that if this patient had been under the care of Ramsbotham he would have ruptured the membranes and given ergot, and the result would have been the same in the end, but the patient would have been spared the punishment, and probably been delivered more quickly.

The reply may be made, and it is a reasonable one: Experience shows that the vagina may be plugged without increasing the mortality; and it is possible that even if its benefits have been over-estimated, yet it is safer than doing nothing.

I think the torture that it causes to the patient is enough reason against it. If done with skilled assistance, sterilized instruments and plugging material, and careful supervision by skilled attendants, disaster is not likely to follow. But I am told there are those who teach that a midwife called to a case of accidental haemorrhage should plug the vagina. Now an ordinary midwife cannot carry about in her bag a pound of sterilized vaseline and sterilized gauze or cotton-wool in quantity sufficient to fill up the vagina; and as the plugging is supposed to be wanted for the prompt arrest of bleeding, she cannot wait while these things are being procured. She must use what is at hand. Like her predecessors centuries ago, she will use handkerchiefs, towels, napkins, and the like. The midwife of to-day better understands the importance of cleanliness than did her predecessor of a hundred years ago, and she will therefore see that the things she uses are clean, in the domestic sense of the word. She may wait to boil them; but that takes time, and the waiting needs courage, if the patient is bleeding. She may saturate them in a germicidal solution. The duty of a midwife when called to a case of *ante-partum* haemorrhage, as laid down by the rules of the Central Midwives Board, is to send for a registered medical practitioner, and there her duty ends, unless it be that she is in a place where a registered medical practitioner cannot be brought to the patient without dangerous delay; and I suppose it is in such circumstances that some may think it her duty to plug the vagina. If she does, in two hours' time she will find the plug loose in the vagina, and that if this canal is to be occluded she must take out the plug, and plug again. Repeated pluggings mean inevitable abrasions and small lacerations of mucous membrane and absorption of the germicidal drug that may have been used. A midwife may find great difficulty in persuading the patient to submit to such disagreeable treatment; and I think she had better not try, but content herself with rupturing the membranes and applying a binder.

But one cannot but admit that occasionally, even in hospital practice, there are bad cases in which the haemorrhage is great; the patient is pallid, the pulse small and quick, and yet the os uteri is so little dilated that if the labour is allowed to go on without interference it is probable that the patient will either die before she is delivered, or die from the haemorrhage in the third stage of labour. If the vagina is plugged, the stimulation of the uterus will make delivery perhaps a little sooner, and the presence of the plug will for a little while prevent more blood from appearing outside, and in that way give the patient and her friends a fictitious sense of security. If plugging is done at all, it should be the cervix that is plugged, and the best plug is Champetier de Ribes's bag inserted after the membranes have been ruptured. This will more directly stimulate the uterus, prevent the escape of blood, and accelerate delivery, than any plug in the vagina. But assuming the case to be one in which there is cause for grave anxiety whether the patient will survive delivery, is plugging of any kind the best thing?

I think that in such a case the best hope lies in abdominal hysterectomy. Not the ordinary Caesarean

section, for in such a patient as I am imagining the bleeding on cutting into the uterus might be fatal. I should advise opening the abdomen, tying the ovarian and uterine arteries on both sides, so effectually guarding against haemorrhage, then opening the uterus and extracting the child, concluding the operation by amputating the uterus about a quarter or half an inch above the os internum, leaving the ovaries unless they should be found diseased. If the operation is completed in this manner the patient after recovery will still menstruate, so that she will have no reason to regard herself as unsexed. As accidental haemorrhage generally occurs in multiparae, the sterilization of the patient does not mean a great loss to her. If at the conclusion of the operation the patient's pulse is still small, its volume can be increased by filling up the abdomen with saline fluid.

It may be said: How, if we are dealing with a first pregnancy or with a woman still young enough to wish to have more children, is it the best thing to sterilize such a patient? The answer is that such cases are rare. Dangerous accidental haemorrhage is essentially a disease of multiparae. But assuming that we have to treat such a case, I would suggest that it would be good practice to perform Caesarean section, tying the uterine arteries before opening the uterus. The anastomoses between the branches of the ovarian and the uterine arteries would be enough to maintain the nutrition of the uterus.

I am told—I have no personal knowledge of the matter—that in America the uterine arteries have been repeatedly ligatured from the vagina in cases of placenta praevia, without any harm resulting. I think this is a very rational proceeding, for in placenta praevia the part bleeding is that chiefly supplied by the uterine arteries. It may be said, Why not do this for accidental haemorrhage? I do not think any harm would come of it, but, as we know of no way of determining the exact situation of the placenta, it might be that this part was chiefly supplied with blood by the ovarian arteries, and if so, no great effect would be produced by cutting off the flow from the uterine arteries. So that if the patient be really in danger I should regard trying the uterine arteries, except as a preliminary to immediate delivery, as a waste of time.

There is another mode of quick delivery which has of recent years come into vogue. I refer to rapid dilatation of the cervix with Bossi's dilator, or one of the modifications thereof. I take exception to the name of this instrument. It does not *dilate* the cervix; it tears it open. According to the dictionary the word "dilate" means to expand in all directions. When the cervix is opened up by the bag of membranes or by Champetier de Ribes's bag, the process takes many hours, but the cervix is expanded in all directions. But when it is rapidly forced open by diverging metal blades, it is not expanded in all directions, it is torn open in a few places. If proper precautions are taken to prevent infection, this tearing may be harmless. The bleeding from vessels torn across is, as every one knows, more quickly spontaneously checked than that from vessels divided by the clean cut of a sharp instrument. On the other hand, when the cervix is being torn open, it is not possible to control the direction or extent of the tear. I have been called upon to repair a vesico-vaginal fistula, produced by the manual opening up of the os uteri in a case of placenta praevia. The operator, when he began his manipulation, doubtless thought that he was going to "dilate" the cervix.

If the royal road to safety consisted in rapidly enlarging the cervix, so that the child can be dragged out by the vagina in a few minutes, I should think this could be done with less danger by Dührssen's operation of vaginal Caesarean section. I have not performed this operation, nor have I seen it done. Vaginal Caesarean section differs from the operation which is often called the classical Caesarean section in that it is not an operation the object of which is to avoid difficulty in delivery. It is only a method of effecting delivery more quickly than the natural forces will do it. The operator who performs vaginal Caesarean section may open the uterus, and get his hand on the child only to find that from contraction of the pelvis, large size of the child, or some other impediment, he cannot get the child out. In Caesarean section properly so called, not only can delivery be effected quickly, but all mechanical difficulty is avoided, for, if the incision in the uterus is long enough, no mechanical difficulty can hinder the extraction of the child. The mortality of Caesarean section in Europe at the present time averages about 8 per cent. The mortality of vaginal Caesarean section is 14 per cent.,[7] about double. It is not an operation to be undertaken by any one who has not entire confidence in his mastery of the method of stopping haemorrhage, and of the art of suture. From these comments it will easily be inferred that I do not think vaginal Caesarean section is an operation to be recommended for accidental haemorrhage.

To briefly sum up:

Accidental haemorrhage, slight in amount, is not uncommon, and seldom dangerous.

Concealed accidental haemorrhage is a very dangerous thing and is rare.

Plugging the vagina is bad treatment. Practically it is illusory, for it only prevents the escape of blood for a little while. Theoretically it is unsound, for if it did prevent the escape of blood from the uterus it would only convert the case into one of concealed haemorrhage, which is the most dangerous form. The private practitioner must also recollect that it is extremely disagreeable to the patient; to speak of it as "horrible torture" is scarcely too strong.

The best treatment for the majority of cases is to rupture the membranes. This acts instantly, lessens the tension within the uterus, and stimulates the uterus to contract. Before doing this, care should be taken that the long axis of the child coincides with the long axis of the uterus, and, if possible, that the head presents.

If the patient has lost so much blood that it seems likely that the inevitable haemorrhage of the third stage of labour will be fatal, then I think the best treatment will be amputation of the body of the uterus, after preliminary ligature of the vessels.

Placenta praevia, as a cause of unavoidable haemorrhage before delivery, has been known to many generations of medical men and midwives. Sir James Simpson, before the proper treatment of this condition had been made simple by Dr. Braxton Hicks and safe by Lord Lister, estimated the mortality of mothers with placenta praevia at 1 in 4 or more. Now, with due care, it does not exceed 1 in 20. Why this great difference? Why did the women with placenta praevia fifty years ago die in such numbers? First of all, because no patient with placenta praevia escaped internal examination, and no such patient was delivered without a wound. Before Lord Lister taught doctors and midwives how to procure asepsis by using antiseptics, many women with placenta praevia died because they were infected with septic poison by the vaginal examinations. This ought not to occur at the present time, and it will not occur when women are attended in their confinements solely by persons acquainted with the use of antiseptics.

There were and, I suppose, always will be, so long as human intelligence remains imperfect, a few who died from haemorrhage before the child was born. This is usually because the doctor either is not sent for soon enough or cannot get to the patient quickly enough, or it may be the patient's friends are perverse, and will not send for the doctor at all, or will not let him act when he does arrive. These cases are not usually due to any fault of the doctor.

The commonest cause of death, if the patient is not treated properly and early, is *post-partum* haemorrhage. Haemorrhage before delivery exhausts the patient, so that a moderate amount of bleeding in the third stage of labour is more than the ex-sanguine patient can tolerate.

But the most common cause of death in the past lay in the pernicious maxim, "Deliver as quickly as possible." This often meant that the medical attendant tore open the cervical canal, either with his fingers or his hands or with some dilator, or with the fetal head in the grasp of forceps, and dragged out the child, whether the uterus was contracting or not. The tearing open the cervix meant lacerations, the situation, extent, and direction of which the operator could not control; and the dragging out of the child while the uterus was passive was frequently followed by dangerous *post-partum* haemorrhage.

The path of safety is that laid down by Braxton Hicks, who in 1889 wrote that within the previous thirty years the mortality of placenta praevia had been reduced from 30 per cent. to somewhere near 5 per cent. He put the kernel of the matter thus: "The early handling of these

cases, and the general antiseptic management of midwifery cases, both before and after delivery, can rightly claim to have had much to do with these excellent results."

The first thing in the treatment of placenta praevia is never to forget that a pregnant woman with the placenta implanted on the lower uterine segment is not safe until she has been delivered. Therefore as soon as ever the diagnosis has been made, premature labour should be induced. The only reason that can be urged against the induction of labour in placenta praevia is the danger to the life of the child—the danger of its being killed by pressure on the cord during delivery, a risk which depends on the mode of delivery, and the danger of its death within a few hours or days after delivery from its being unable to assimilate food and maintain its body heat. This is a real, but only a comparative danger—a danger when compared with delivery of a child at term in a normal pregnancy. The pregnancy is not normal, and the longer it is allowed to go on the greater the danger both to mother and child. Therefore we ought to accept the fact that safety to the mother involves risk to the child from its premature birth, and induce labour as soon as the diagnosis of placenta praevia has been made.

I have already said that plausible reasons can be given for plugging the vagina in haemorrhage from placenta praevia which do not apply to accidental. But the reasons, though plausible, are not sound. I agree on this point with Braxton Hicks—a man whose name in this part of London ought to be, and will be, ever held in honour—who in 1889 wrote: "With regard to pressure by the tampon, I believe the general consensus in British midwifery is against its use, and with this I am in accord—partly because unless perfectly done, and this is difficult, it is of no use; and if perfectly done it is very distressing to the patient, especially if it be necessary, which it often is, to renew it to avoid septic generation. Still it has some advantages, because by distending the roof of the vagina we also dilate the os and provoke uterine action. But its action is tedious, and lacks the precision afforded us by the more recent methods."[5]

In theory, of course, the doctor, when he goes to a case of labour, ought to be equipped with everything that can possibly be required. If some fatal or grave accident happens, and the doctor does not meet it with the best treatment, but when blamed pleads in extenuation of his fault that he had not the necessary instruments with him, he may be told that he ought to have had them. Books on obstetrical surgery assume that the accoucheur always has every instrument and drug at hand, for it is their business to teach the best thing, and not to prescribe makeshifts. Push this doctrine a little further, and apply it to every doctor on his daily round, and not only to the man in attendance on a labour, and you come to the principle that every doctor ought to carry about with him the wherewithal to perform every conceivable operation in surgery, which is absurd. There always will be emergencies in which the doctor has to do his best with his ten fingers and such adjuncts as can be carried in his waistcoat pocket. Supposing then a doctor with this scanty equipment is called to a case of placenta praevia, a long way from his house, what should he do? He will find the cervix uteri dilated enough to admit his finger. If it is not he cannot as a rule make the diagnosis. It is true that placenta praevia has been perceived by abdominal palpation, but this has been only in exceptional cases and by exceptional hands. The diagnosis cannot be made by the ordinary man until the finger can pass the internal os and feel the placenta. The bleeding occurs because the os internum has begun to dilate. When dilatation has begun the uterine contractions, which occur intermittently throughout pregnancy, tend to press the placenta into the dilating cervical canal. The placenta cannot move on without detachment of a small part of it bordering on the uteri, and consequent bleeding from the severed utero-placental vessels. Local violence may bring about detachment of a placenta which is praevia, but such cases are very rare, and cannot clinically be distinguished from accidental haemorrhage. The statement is true of nearly all cases of placenta praevia, that when the doctor reaches them after having been sent for on account of haemorrhage, the cervical canal is open enough to admit his finger. Being then able to pass his finger through the cervical canal, what is the doctor to do?

To settle this, let us first ask, What will happen if he does nothing? Let us first assume that the case goes on favourably. The favourable cases are those in which the uterine contractions are vigorous and frequent. If such good uterine action is present, each contraction presses the placenta through the os internum and into the cervical canal, and in doing so tears through vessel after vessel running from the uterus to the placenta. Each vessel, as it is torn through, bleeds. Each vessel, until it is torn through, is a hindrance to the proper dilatation of the os internum and the retraction of the lower uterine segment. The bleeding is stopped, first, by compression of the vessels, when the lower uterine segment is retracted, and then by thrombosis of the vessels. The successive haemorrhages weaken the patient; but if the labour has come on much before the full term of pregnancy the child will be small, and if the uterus acts powerfully the probability is that the child will be born before the patient has lost a dangerous amount of blood. After delivery good uterine contraction and retraction will continue, and the third stage of labour will be accomplished without disaster. But there are many possibilities. The pains may be weak and few. Then from every vessel that is torn across there will be bleeding until uterine contraction recurs. The attachment to it of the placenta will hinder the expansion of the lower uterine segment, and disturb the polarity of the uterus, making the separation of the placenta slow, and prolonging the period of bleeding from the torn vessels. The best way in which the doctor can use his fingers is to pass his finger through the os internum, sweep it round, and separate the placenta all round as far as he can reach. With his one finger he cannot reach much more than an inch and a half from the os uteri. He can thus separate the placenta over a circular area of about 3 in. in diameter. By so doing he helps to restore uterine polarity—that is, he promotes the contraction of the body of the uterus and retraction of the lower uterine segment. But although he has done something to promote uterine contraction, yet it may be slow in coming on, and the patient may lose a great deal of blood before retraction of the lower segment stops it, although not so much as if the case had been left to Nature. The next thing for the doctor to do is to put two fingers through the cervix instead of one. This amount of stretching can be done so gently that the term "dilatation" may be fairly applied to it. It is seldom that the middle of the placenta is exactly over the os internum. Usually when the doctor has stripped off the placenta all round as far as he can reach, he will at one place have come to the edge of the placenta.

When he has reached the edge of the placenta, he should rupture the membranes, seize the child's foot, and bring it down. To do this it will be necessary to still further gently dilate the cervical canal, so that it may allow two fingers, *plus* the child's foot, to pass through it. When the foot has been drawn through the cervical canal, the leg and thigh will easily follow it, and then the half breech comes to occupy the lower segment of the uterus. When this has been attained, the accoucheur can control the haemorrhage by pulling on the leg. This should be done gently, with no more force than is necessary to stop bleeding, so that the cervix may be dilated, and not torn. For the avoidance of *post-partum* haemorrhage the child should not be dragged out when the uterus is not acting; the uterus should be allowed to expel it, and, if possible, the placenta. As these labours are, or ought to be, premature, the child will be small, and there will be no mechanical difficulty; the uterus can, and will, expel the child, although it may take some time about it. This is the method of treatment recommended by Braxton Hicks. It is the method by which safety can be ensured for the mother in 95 per cent. of cases of placenta praevia, provided that it is carried out with strict antiseptic precautions. It is summarized in the words, Early turning, slow extraction, antiseptics.

But though this means safety for the mother, it is far from that for the child. The doctor who is about to carry out this treatment should always warn the parents that the interests of mother and child are in this condition antagonistic, and that it is his intention to act in the interest of the mother. Even if the child is born living, it will be so small and feeble that there will be difficulty in rearing it, and it will very likely be suffocated during

birth from prolonged pressure on the cord while the breech is slowly dilating the lower uterine segment.

However much we may think the march of invention has improved upon this method, yet cases will occur in which the need for treatment is urgent and the doctor has with him nothing but his hands. He must then either follow the simple method of Braxton Hicks, or let his patient go on bleeding.

Now let us consider what can be done when the patient is in a well-found lying-in hospital. We can hasten dilatation of the cervix, and at the same time stop haemorrhage by putting in Champetier de Ribes's bag. Since the days of Keiller and Robert Barnes many kinds of dilating bags have been made, and still are sold; and this great variety of instruments seems to me to show that the principles of construction of the dilating bag are not yet universally understood. I therefore ask your attention to the important points: First, the bag should be made of waterproof silk. This is the material that can be folded up in the smallest compass. It should not be made of india-rubber. India-rubber stretches, and therefore if the bag is elastic the operator cannot tell what the dimensions of the bag distended *in utero* may be. One of the objects of the bag is to press upon the lower segment of the uterus, and thus stop bleeding. This object cannot with certainty be attained with a bag of indeterminate shape. Another object of the bag is to dilate the cervix, so that the fetus may be delivered. I can see no advantage in inflicting on the patient successive operations, first a small bag, then a large one. Unless the patient is the subject of some pelvic deformity, the bag, when distended, should measure $3\frac{3}{4}$ in. in diameter. When this bag has passed through the cervical canal the child can follow. The membranes are not necessarily ruptured in inserting Champetier de Ribes's bag; but if they are, as the bag plugs the lower segment of the uterus, much of the liquor amnii is retained. There is then no risk to the child in the actual delivery, but the danger to its life from having been prematurely born continues.

I know of no harm that has come from the careful use of a properly constructed Champetier de Ribes's bag. I have seen the statement made that rupture of the uterus is a risk that attends the use of this instrument. Rupture of the uterus may occur in easy labour, when there has been no interference, and therefore it may occur when Champetier de Ribes's bag is used; but I am not acquainted with any reported case in which there was reason to attribute the rupture to the use of this bag.

The method of treatment I have just described is simple and probably not unfamiliar. But it is not on that account unimportant. It has stood the test of trial, and by it Lord Lister and Braxton Hicks between them have brought down the mortality of placenta praevia from about 1 in 4 to something less than 1 in 20. But what about this 1 case in 20? We may be called to a case in which there has been great haemorrhage before the patient sent for treatment, and yet the cervix is but little dilated, although the patient is pallid from loss of blood.

A late famous surgeon, whose knowledge of obstetrics was less than his knowledge of surgery, Mr. Lawson Tait, recommended Caesarean section for placenta praevia. I am unable to concur with this. The collective mortality of Caesarean section is higher than that of placenta praevia; and I see no reason why in a patient rendered anaemic by bleeding from the placental site, Caesarean section should be attended with less risk than usual. By abdominal Caesarean section we avoid all mechanical difficulty and we can deliver quickly. Now in placenta praevia in order to prevent haemorrhage labour should be induced as soon as ever it has been found out that the placenta is praevia. The child will then be small, and there will be no mechanical difficulty in its delivery by the natural route. There is therefore no necessity for Caesarean section as a means of preventing difficulty in delivery. The risk of the child's death owing to its being born prematurely is the same whether it is delivered by Caesarean section or by the natural road.

If there were some good reason for performing Caesarean section in a case of placenta praevia, I think it would be sound practice to tie the uterine arteries before incising the uterus. It is not necessary to open the abdomen to tie the uterine arteries. This can be done by the vagina, and I am told that cases of placenta praevia have been successfully treated in this way in America. When the mortality of hysterectomy was so high as to make surgeons welcome any less dangerous alternative, bleeding fibroids were sometimes treated by tying the uterine arteries by the vagina. I myself treated and published two such cases, in which I tied the uterine arteries by the vagina, and this reduced the monthly loss and produced no ill effect. These cases show that, after ligature of the uterine arteries, the collateral circulation is equal to maintaining the nutrition of the uterus. In a pregnant woman the operation would be easier than in a non-pregnant condition, for the reasons that in advanced pregnancy the cellular tissue is looser and the uterine arteries larger than in the unimpregnated state. The operation is a simple one. Seize the cervix uteri with a volsella and pull it down to the vulva. By pinching the mucous membrane up with a forceps determine the level at which the vesico-uterine cellular tissue begins. At this situation cut through the mucous membrane with blunt-pointed scissors and extend the incision laterally through the vaginal fornix on each side. Then, with the finger or a blunt instrument, tear gently through the loose cellular tissue and separate the bladder and ureters from the uterus, taking care to carry the separation well out on each side. This done, you will be able with your finger to feel the uterine arteries beating on each side. Then with an aneurysm needle, or, better, with a needle specially made for the purpose (one of which can be bought in most instrument makers' shops), a ligature can be put round each artery and then tied. This will cut off the principal blood supply from the placental site.

Vaginal Caesarean section has been recommended. The mortality of this operation, in the latest table of results that I have seen, amounts to about 14 per cent., which is nearly double the average mortality of abdominal Caesarean section. It does not prevent mechanical difficulty in delivery. The objections that may be offered against the old Caesarean section appear to me to apply with greater force to the vaginal operation. A German critic has bluntly and crudely summed up the case against it that it is "too bloody an operation for private practice." In placenta praevia the part of the uterus cut into is precisely the most vascular part. It is true that bleeding can be controlled; but, granting this, I see no benefit to the patient from cutting open the uterus and dragging out the fetus in five minutes. It saves the time of the accoucheur, and that is the only advantage that I can see from it.

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THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on September 15th, under the chairmanship of Dr. de Havilland Hall. The accounts presented showed that the business of the society during the summer months had been unusually good. The number of new entrants has so far been greater this year than in any similar period of the operations of the society, while the disbursements for sickness claims have been well within the amount expected and provided for in the contribution rates. The great financial success of the society during the last few years has enabled the committee to add a further benefit to those already secured by membership in the society. This is in the shape of a sum payable at death of a member before reaching age 65. In future, on the death of a member who has secured £4 4s. per week, the following bonus will be paid to his representatives. If the death occur in the first ten years of membership the sum of £12, if in the second ten years the sum of £16, if in the third ten years the sum of £20, and if in the fourth ten years the sum of £24. This will in some degree mitigate the hardship felt when a member dies before 65, and thus loses the substantial cash bonus paid by the society to every member attaining that age. The financial result of the society's working for this year has been very satisfactory, and there is every reason to hope that when the books are closed next December a considerable addition will have been made to the already large reserves. Prospectuses and all further particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

A Lecture

ON

MALFORMATIONS OF THE FEMALE GENITAL ORGANS IN THEIR CLINICAL ASPECTS.

DELIVERED AT THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

BY

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SOME kinds of malformation, though of great interest from a morphological or developmental point of view, cannot be said to possess any clinical importance. Others are both interesting and important from a clinical point of view, and I propose to illustrate my remarks by cases that have come under my personal observation.

The clinical aspects of malformation have relation to the question of sex, to menstruation, to marriage, and to child-bearing.

1. *Malformations Leading to Confusion of Sex.*

These form the group known as pseudo-hermaphrodism. In the case of the ordinary child the external sex organs are regarded as affording sufficient indication of sex. The "testes," as the name indicates, are the witnesses that the child is a boy; and if they should be undescended at birth, the penis and scrotum are regarded as circumstantial evidence, pending the later appearance of the authentic witnesses. Similarly the vulva is taken to indicate that the child is a girl. But in the case of pseudo-hermaphrodites, these indications are indecisive or misleading: an essential male, possessing testes that have not descended, may have the outward conformation of a female, when the condition is described as androgyna; or an essential female with ovaries that may either remain in the pelvis or come down through the inguinal rings, may possess a well-formed penis and simulate the male; this is the condition known as gynandra. It is remarkable that we should be unable to tell the sex of a person with certainty except by microscopical examination of the genital glands. The following case illustrates this difficulty:

CASE I.—*A Case of Androgyny, the Patient Living as a Married Woman.*

Some years ago a woman, aged 28, who had been married ten years, came to the out-patient department, complaining of a swelling in the left inguinal region. It felt like an irreducible hernia. A statement to the effect that she had only menstruated twice in her life led to an examination, when I found that the vagina was shorter than usual, and ended above in a smooth cul-de-sac, in which there was no trace of a cervix. Bimanually there was no sign of a uterus. The vulva was quite normal in appearance, and the breasts were fairly well developed. She was admitted, and the "hernia" was operated upon. It was soon evident that it was not a hernia of bowel; in fact, there was no true peritoneal sac, but a glandular structure was discovered, extraperitoneal in position. This was removed, the peritoneal cavity was opened, and a finger introduced. There was no uterus, the peritoneum passing down from the back of the bladder on to the rectum, as in the male; and on the right side, at the brim of the pelvis, a glandular structure was felt, like the one in the left inguinal canal. The hernial orifice was closed, and subsequent microscopic examination of the gland removed showed that it had the typical structure of the testes. The patient was an example of androgyny.

The case had undoubtedly great medico-legal possibilities, but it seemed both unnecessary and undesirable to allow of their development, and the patient went out as she had come in—a "woman."

2. *Malformations that Preclude or are Unfavourable to Child-bearing, but Allow Menstruation and Marriage.*

(*a*) In this category are cases of under-development of the uterus of minor degree; menstruation is usually rather scanty and sometimes painful; the uterine cavity, as measured by the sound, may show a length of 2 to 2½ in., and the cervix presents the typical appearance of the "conical cervix" with pinhole os. We have probably all met with a number of cases of this type, as they are not very rare. When the condition is known beforehand, should such a patient be allowed to marry? If it were of great importance that the family should have an heir, it would be our duty to advise against the marriage; and whether an heir were important or not we should have to point out the improbability of issue.

Some modern young couples would profess to view such a prospect with equanimity, if not with satisfaction. Let them, then, accept the responsibility of choice and be prepared to abide by the result without mutual recriminations later on.

Can treatment improve the chances of conception? To this we must reply that if the stimulus of marriage is not sufficient to complete the development of the pelvic organs the prognosis is not good. Nevertheless, dilatation of the cervical canal has occasionally been followed by conception.

(*b*) Occasionally the uterus is not only small, but congenitally retroverted; and I met with one such that had a fortunate sequel, from which we might infer that treatment may be successful.

CASE II.—*Congenital Retroflexion and Under-development: Hysteropexy: Pregnancy.*

The patient, aged 27, had been married two years. She complained of difficulty in intercourse and was anxious to have a child. On examination, the vagina admitted only one finger; the uterus was small and retroverted. The vaginal orifice was dilated with specula, and the uterus was raised and brought forward. At intervals afterwards attempts were made to keep the uterus forward, and several pessaries were tried without avail. I advised hysteropexy, and this was carried out in May, 1908, three years after her first visit. In August of the following year she had a normal confinement of a boy, and in January of this year a girl followed. It was a case in which I should have given a very unfavourable prognosis as regards child-bearing.

(*c*) A third class of case is that in which there is some malformation of the tubes. Such a condition would not be discovered by ordinary examination. The following is an instance:

CASE III.—*Congenital Occlusion of the Fallopian Tubes.*

A married woman, aged 23, was operated upon for a fixed retroversion. On opening the abdomen, the fundus was found adherent in the pouch of Douglas. Both tubes presented a remarkable appearance, as if they had been cut across; about 1½ in. from the uterus each tube had a rounded, closed-up end, resembling the tip of the appendix, and further out, connected with the corresponding ovary, was the remains of the fimbriated extremity. I concluded that the condition was brought about by the formation of intraperitoneal bands, perhaps in fetal life. I made an artificial ostium at the end of each tube (salpingostomy), but I do not know if pregnancy ever occurred, for I was unable to trace the patient later on.

3. *Malformations that Preclude Child-bearing and Menstruation, but not Marriage.*

Two types of this class are met with.

(*a*) The uterus is markedly undeveloped, being either merely a rudiment or infantile, the sound passing in 1 to 1½ in.

CASE IV.—*Infantile Uterus: Primary Amenorrhoea.*

I met with such a case recently. A single woman, aged 23, came to the out-patient department at the Prince of Wales's Hospital, Tottenham. She stated that she had never menstruated. The vulva was well developed, but the pubic hair was rather scanty, and the breasts were childish. I admitted her for examination under anaesthesia, when it was found that the uterus was infantile in shape and quite small, the sound passing in only 1½ in.

(*b*) In the second type the uterus appears to be normal, and has the usual measurements; nevertheless menstruation does not occur. The secondary sexual characters may be those typical of the female. In such a case we are driven to the inference that the condition is one of defective ovulation, due to some ovarian abnormality. It must be borne in mind, however, that such a patient may be an instance of the type of pseudo-hermaphrodism that we have spoken of as androgyna.

In cases of both these types, with primary amenorrhoea, the non-occurence of pregnancy must be regarded as not only probable but certain, and if our advice be asked with regard to marriage, we must state that while such a patient may fulfil the requirements of wifehood she cannot expect motherhood.

4. *Malformations that Preclude Marriage and Child-bearing, but not Menstruation.*

These are cases of stenosis of the vaginal orifice. There is a sufficient aperture to allow of the escape of menstrual

blood, but intercourse is impossible, and consequently pregnancy.

With regard to prognosis, these cases present the characteristic that the condition can be remedied by surgical interference in such a way as to make marriage possible; but we should be very guarded in making any statement as to the probability of pregnancy following. I am not speaking of cases of mere rigidity of the hymen, because with these the difficulty can often be overcome without the aid of surgery, and the prospect of child-bearing is quite good. I refer more particularly to cases of a different kind, which the following examples will serve to illustrate:

CASE V.—*Stenosis of the Vagina, probably Acquired.*

The patient, aged 22, was sent to me by Dr. Herman in February, 1908. She had had some kind of ulceration in early life, which led to much scratching and rubbing of the vulva. The vulvar orifice was narrowed by cicatricial tissue, which would have made coitus and child-bearing impossible. She desired to marry. I performed a plastic operation, making a vertical incision through the posterior vaginal wall, drawing out the edges so as to make the raw surface diamond shaped, and then sewing together the upper and lower edges so as to make a transverse seam. The result was quite satisfactory, and early this year the patient's mother came to ask for a certificate of nubility for her daughter; after seeing the patient and inspecting the vagina I was able to give this.

CASE VI.—*Congenital Stenosis of the Vaginal Orifice.*

A married woman came to see me at Tottenham recently, complaining of difficulty of intercourse. She stated that menstruation was regular, though scanty. On examination there appeared to be complete atresia of the vaginal orifice, and I was so sceptical as to the occurrence of menstruation that I asked her to come to see me when the period was going on. This she did, and it was evident that there was a minute orifice in the vaginal septum, for I could see blood oozing through, a drop at a time. I admitted her and made a free incision in the septum, sewing over each edge to prevent reunion.

In both these cases the effect of operation will be to render intercourse possible; but I fear that the uterus may not be in a condition to make the prospect of pregnancy a good one.

5. *Malformations that Preclude Menstruation, Marriage, and Child-bearing.*

These are cases in which there is no vaginal orifice, and they fall into two categories; in the first the condition is in a measure remediable, whilst in the second it is irremediable.

(*a*) *Remediable.*—The malformation that answers to this description is atresia of the vaginal orifice. The typical history of such a case is that a girl of 16 or 17 comes complaining of having never menstruated and of monthly pains in the lower abdomen, with, perhaps, some swelling. Inspection of the vulva shows atresia of the vaginal orifice; where the opening should be there is a bulging membrane, and on rectal examination a boggy swelling is detected in the situation of the vagina. When the membrane is incised, dark thick blood escapes. The condition is known as haematocolpos. When a free incision is made with strict aseptic precautions the retained fluid is all evacuated, and the uterus and appendages settle down to the normal performance of menstruation.

The following case is a typical one of this malformation, but illustrates how such a case may go wrong.

CASE VII.—*Atresia of the Vagina: Haematocolpos: Incision: Infection: Pyosalpinx.*

A girl, aged 17, was admitted to the hospital as a case of retained menses; before admission the membrane had had a small incision made into it. A small incision does not allow free escape of the thick retained fluid, but it readily allows the entrance of pathogenic organisms, which find in the thick blood an ideal culture medium; this is what had happened. The girl had a high temperature and the vaginal contents were purulent. A free incision was made and the vagina was irrigated, but as the temperature kept up, a further examination was made and it was found that the tubes were greatly distended. The abdomen was opened and the tubes, which had become converted into pus-sacs, were removed. After a somewhat stormy convalescence the patient got well.

In the next case menstruation had never been attempted.

CASE VIII.—*Atresia of the Vagina: Absence of Menstruation.*

Some years ago I saw a girl, aged 16, at the St. Marylebone Dispensary; she had not menstruated and there was vaginal atresia. She was admitted to the Tottenham Hospital, and on incising the occluding membrane a small quantity of a whitish fluid escaped; it was composed of epithelial débris and cholesterin crystals.

In a case like No. VII, if all went well, treatment would render normal menstruation and marriage possible; in such a one as Case VIII it would permit of marriage but not necessarily menstruation. I doubt whether in either case pregnancy would follow, for I have never heard of a case in which a patient who had been operated upon for vaginal atresia had become pregnant. I have an impression that the changes brought about in the uterus as the result of retention of the menses would be unfavourable to conception; but if any of my readers have ever known of a case of pregnancy following I should be grateful for an account of it.

(*b*) *Irremediable.*—In this type of malformation no treatment will render either menstruation, marriage, or child-bearing possible. I refer to cases of absence of the vagina. With this malformation the uterus may be rudimentary, infantile, or large enough to menstruate, and in the last variety great trouble is caused by accumulation of blood in the uterus and perhaps in a small sac of vagina round the cervix. My colleague, Dr. Fenton, had such a case some years ago at the Chelsea Hospital for Women; it was impossible to make a vagina, and the only available treatment was hysterectomy, which was successfully carried out. Of the other two degrees of uterine development I have met with examples.

CASE IX.—*Absence of Vagina: Hernia of an Infantile Uterus in the Left Inguinal Canal.*

I saw lately at the Prince of Wales's General Hospital, Tottenham, a single woman, aged 22, who complained of primary amenorrhoea and of a swelling in the left inguinal region that felt like an omental inguinal hernia. On inspection of the vulva there was no trace of a vaginal orifice, and on rectal examination neither vagina nor uterus could be felt. The girl was engaged to be married. She was admitted for operation, and I first made a dissection to see if there were a vagina, but, after reaching a depth of about 2 in. between the urethra and rectum, I could find no evidence of a vagina and therefore desisted. Turning to the hernia I found a large hernial sac whose inner margin was so extensive that one could hardly speak of it as having a neck; the contents of the sac consisted of an infantile uterus; the left round ligament was short and unusually stout, and it appeared to have played a part in drawing the uterus into the canal. I divided the round ligament, returned the uterus into the abdomen and closed the large gap in the inguinal canal. It was necessary to explain to the patient and to her fiancé that marriage was out of the question.

CASE X.—*Absence of Vagina: Rudimentary Uterus: Horseshoe Kidney in the Pelvis.*

In September, 1904, a single woman, aged 20, came to the hospital at Tottenham, saying that she had never menstruated. She stated that an operation had been done at the University College Hospital for the removal of a tumour. On inspection of the vulva there was no trace of a vaginal orifice, but on rectal examination a large firm swelling was felt impacted in the pelvis. She was admitted for operation, and on opening the abdomen it was at once evident that the swelling was a horseshoe kidney occupying the hollow of the sacrum. The uterus was quite rudimentary, consisting of little more than the meeting point of two unusually long Fallopian tubes. On tracing these outwards the ovaries were found, long and narrow as in the fetal stage, and placed well above the brim of the pelvis. There was no trace of vagina. It was evident that at her previous operation this condition had been discovered, and the abdomen closed without doing anything—a course which I had no alternative but to follow.

It is interesting to note that in the normal condition the kidneys remain lumbar in position and the ovaries descend into the pelvis; whilst in this case the reverse condition obtained. The next case will illustrate the reversal on one side only.

6. *Malformations that Allow of Menstruation, Marriage, and Pregnancy, but may be Attended by Complications.*

(*a*) The first of these is the condition known as uterus unicornis, in which one half of the uterus fails to develop. The important complication that may occur is impregnation in the undeveloped horn, when the case runs the course of an extrauterine pregnancy, from which it is undistinguishable clinically. I assisted my colleague, Mr. H. W. Carson, at an operation for this condition some years ago at the Tottenham Hospital. But a patient with this malformation may fulfil successfully the functions of motherhood, as in the following instance:

CASE XI.—*Uterus Unicornis: Pelvic Right Kidney: Normal Pregnancies.*

In October, 1906, I operated on a woman, aged 34, on account of procidentia and what appeared to be a right ovarian tumour. She had had three children, the confinements being normal. On opening the abdomen the tumour was found to be the right kidney, fixed in the hollow of the sacrum; the left kidney was in the normal position. The right side of the uterus was undeveloped, only a rudimentary tube and ovary being present; the tube was connected with the main part of the uterus by means of a slender cord-like structure, the rudimentary horn. The right round ligament was also quite rudimentary, but the left was unusually well developed, so I used it to sling up the uterus to the abdominal wall. Later on the patient became pregnant and again had a normal confinement. Dr. W. H. Paine, who attended her, wrote to me about it, and mentioned that he had been puzzled by a firm swelling in the hollow of the sacrum, which did not, however, interfere with labour. I was able to tell him what the swelling was.

It was noteworthy in this case that the malformation of the right half of the uterus was correlated with the pelvic position of the corresponding kidney.

(*b*) Secondly, we have the condition known as double uterus, in its three degrees of septus, bicornis, and didelphys. With all these three malformations, pregnancy may occur and labour proceed normally without any suspicion being excited; on the other hand, various complications and difficulties may occur. I need not enumerate these in detail, but will refer you to some observations I made on the subject in a paper on uterus didelphys.[1] I will content myself here with relating a few cases that I have met with.

CASE XII.—*Uterus Septus with Fibromyoma.*

The only case of uterus septus that I have had to do with was in a single woman, aged 53, on whom I operated for a large fibroid in December, 1901, at the Tottenham Hospital. Supravaginal hysterectomy was done. The cervix was single, and it was only on cutting open the tumour afterwards that two distinct cavities were found in the body of the uterus.

CASE XIII.—*Uterus Bicornis with Ovarian Cyst.*

In 1904 I saw a single woman, aged 26, who had what appeared to be an ovarian tumour the size of a fist to the right of the uterus. She was admitted to the Chelsea Hospital for Women. On opening the abdomen I found the condition of uterus bicornis; the right horn was in close proximity to an ovarian cyst the size of an orange, and the horn and cyst together had given the impression of a larger ovarian tumour. Ovariotomy was done, and the uterus was left undisturbed. In this case the cervix was single (uterus bicornis unicollis), so there was nothing on vaginal examination to suggest that there was a double uterus. The patient married later on, and I saw her some years afterwards, but she had not then had any children.

In this case the fact that the condition was not recognized before operation was not important, because the ovarian cyst required dealing with in any case. In the next case the condition led to an unnecessary exploratory coeliotomy.

CASE XIV.—*Uterus Bicornis: Exploratory Coeliotomy.*

In November, 1910, a single woman, aged 22, came to the out-patient department at the Prince of Wales's Hospital. On examination she appeared to have a small, firm ovarian tumour on the right side. She was admitted for operation, when the condition was found to be one of uterus bicornis, both ovaries being quite normal. The abdomen was closed, and the state of things was afterwards explained to the patient in order that she might not have the abdomen opened with unnecessary frequency. In this case, as in the last, the cervix was single and menstruation was normal.

CASE XV.—*Uterus Didelphys.*

This case was reported in the *Obstetrical Transactions*, as previously mentioned. The patient complained of something coming down, and on examination I found a fold projecting from the lower part of the posterior vaginal wall. It looked like a rectocele. On examination under the anaesthetic the fold proved to be the remains of a septum running all down the posterior vaginal wall; traces of attachment of the septum on the anterior vaginal wall were also found. There were two cervices, and the two halves of the uterus were quite distinct. The patient had had a miscarriage soon after marriage, followed by the birth of a living child, the confinement being normal, and the double uterus had not been suspected. The septum between the two vaginae probably gave way during labour.

(*c*) The third group comprises cases with the persistence of both longitudinal and transverse septa—that is to say, double uterus and vagina with atresia of one half of the vagina. The patent half allows of menstruation, marriage, and child-bearing; but the retention of menses in the secluded half may lead to a diagnosis of a tumour, or if undetected before the onset of pregnancy it may lead to obstructed labour.

My colleague Mr. Gillespie, when taking charge of my cases recently at the Prince of Wales's Hospital, met with a case of unilateral atresia in a young girl of 17. As almost invariably happens, the diagnosis was pelvic tumour, and it was only when the abdomen was opened that the nature of the condition was recognized.

REFERENCE.

[1] *Trans. Obst. Soc. of London*, vol. xxxvii for 1895.

THE INEFFICIENCY OF THE PRESENT METHODS OF SALINE INFUSION.

A DESCRIPTION OF A NEW METHOD.

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DR. COUTTS in his letter to the BRITISH MEDICAL JOURNAL of September 16th, referring to the fact that the "sea-water injections" are given "at the ordinary temperature of the room," says:

> Babies with severe diarrhoea are almost invariably collapsed when first seen, and to inject 100 c.cm. of cold fluid into infants in such a condition is to court disaster, and is a procedure to be unhesitatingly condemned.

With this remark I am in entire agreement, but to me it is a strange fact that for some years past medical men have been infusing patients subcutaneously with saline solution believed to be at body temperature, whilst no one appears to have taken the trouble to investigate whether the fluid is really at body heat or not.

As a result of experiments I am firmly convinced that none of the present methods—not even the one used at the East London Hospital for Children and described by Drs. Waller and Walker—ensure that the patient receives saline at a temperature appreciably, if at all, greater than that of the surrounding atmosphere.

To an adult it makes far less difference whether the saline be at the temperature of the body or some degrees lower; but of one thing I am certain, and that is, that for a child already collapsed it is absolutely essential that the solution be hot.

The appearance of Dr. Coutts's letter, and also a paper on "The Management of Epidemic Summer Diarrhoea and Vomiting, including the Use of Saline Injections," by Drs. Waller and Walker in the same number of the JOURNAL, has led me to make known some recent observations and experiments on the subject of saline infusions.

Drs. Waller and Walker describe the method of infusion used at their hospital, and in the following words seem to suggest that the infants so infused receive the fluid at a temperature of 105° F. They write:

> The amount of saline prescribed . . . is put in at a temperature of 120° F. This allows for a drop of 15° F. in transit through the tubing, and at 105° F. the fluid has been found to be absorbed most readily.

Further on they state:

> The amount usually ordered is about 7 oz., and takes two hours to run in.

They proceed to give particulars of the apparatus they use. The idea on which it is based is good and sound; but, apart from relieving the nursing staff of a considerable amount of work, I very much doubt if the method which they adopt is an advance in the direction of insuring the patients getting the saline hot.

For some time I have used an instrument similar to the one which they suggest, though less crude, and since the publication of their article I have fitted up an apparatus exactly like the one described by them. With the latter instrument I set out to prove or disprove, as the case might be, the contention that by filling the flask at 120° F. and permitting the fluid to flow out at the rate of "7 oz. in two hours" the infant actually received the saline at 105° F.

As a result of repeated observations I was able to demonstrate that the temperature at which the child received the fluid was between 75° F. and 77° F., the atmospheric temperature at the time of the experiment being 64° F. The method which I used for recording the

temperature at which the fluid would enter the body was that suggested by Drs. Waller and Walker—namely, allowing the fluid to drop on the bulb of a thermometer surrounded by wool. The method, however, which I usually adopt for such readings is slightly more accurate. It consists of a glass T-piece encased in wool and put in the course of the fluid, immediately adjoining the needle, so that the salt solution on its way to the patient has to pass through one limb of the T-piece. Into the limb at right angles to the direction of the flow I introduce a small thermometer, so that the bulb is constantly in the stream of fluid. In this way a fairly accurate reading is obtained of the temperature at which the saline enters the body. As a matter of fact, the temperature thus recorded is usually a degree or so higher than that obtained when dropping the solution directly on to the thermometer.

Having satisfied myself on this point, I next proceeded to find out at what temperature it was necessary to have the fluid in the flask in order that it might be delivered at 105° F. if running at the rate of "7 oz. in two hours." I found that a temperature of 194° F. was necessary, not 120° F., as suggested by the writers referred to.

It will be self-evident to every one that the temperatur at which the patient receives the saline depends very much on the rate of flow, and herein, I believe, lies the secret of hot infusions. A child can, as a rule, take its 7 oz. in much less time than two hours, and, indeed, often takes much larger quantities with strikingly beneficial results, provided only that the saline be hot. To distend a child's skin with fluid at about 70° F. to 80° F. does much more harm than good. Over and over again one sees collapsed infants breaking out into a cold, clammy sweat, and becoming still more collapsed after the administration of a subcutaneous saline. This deplorable condition, I venture to think, can be prevented by giving saline which is really hot. But now comes the question, How is this to be done?

In the course of my experiments I have investigated most of the present-day instruments in frequent use, but it will suffice if I state a few facts about the more popular of them.

The Barnard infusion apparatus, I am told by the instrument makers, is sold in great numbers, and is the most popular appliance. It has long been the custom at this as well as at many other hospitals to use this instrument by infusing with saline kept at a temperature of about 110° F. to 120° F. in the reservoir, or flask, from which the fluid flows. It is indeed pathetic to see a painstaking nurse or sister striving to keep the fluid at about this temperature, and fearing that if it were to rise above 130° F. or so, the little victim would be scalded. As a result of accurate experiment I can state positively that the temperature at which the patient receives the solution is usually between 70° F. and 85° F., provided, of course, that the rate of flow is reasonable. Only when it reaches the absurd rate of 120 oz. in the hour with saline at 110° F. in the flask does the thermometer read 105° F. at the needles.

The chief point which makes this instrument extremely unsatisfactory is that the temperature at the point of introduction to the body falls, even though the fluid in the flask be kept at a constant temperature. For instance, saline flowing at the rate of 17 oz. an hour was started at the temperature of 130° F. in the flask. This was emitted from the needles at 96° F. for the first few minutes, but within half an hour it had fallen gradually to 84° F., although the saline in the flask was kept at the original temperature by means of a "water jacket."

The main loss of heat takes place in the ball in the course of the tube, in which the fluid stagnates. To obviate this it is suggested that one should have a basin of hot water with the tube coiled in it. Theoretically this is good, but practically it is unsatisfactory.

The only practical way of ensuring hot saline with this instrument is to start it with fluid at 140° F. in the flask, the rate of flow being 12 oz. in the hour, and within five minutes add hot water to the jacket, until at the end of fifteen minutes the saline is at 180° F., and then keep it at this temperature. It may be said by some that 12 oz. an hour is too fast a rate for a child. If so, then the Barnard apparatus is useless for hot salines.

Another form of infusion apparatus in frequent use is Arbuthnot Lane's bag. This is quite as unsatisfactory as the other method, and, in addition to the temperature falling rapidly, the rate of flow also diminishes, owing to the formation of a vacuum in the bag. This slowing of the stream helps to cool down the fluid still more. With this apparatus it is necessary to have the saline in the bag at a temperature of at least 140° F., with the rate of flow 12 oz. in the hour, to get saline delivered from the needles at 95° F. A further objection to this appliance is the fact that there is no method of estimating the rate of flow or the temperature in the bag.

The Lane instrument was, of course, designed for use on adult patients, and its adoption for use on children is utterly impracticable.

There is at present on the market an apparatus devised by Murphy for continuous proctoclysis. Its use for subcutaneous salines has been suggested, and it is claimed that one can estimate the rate of flow by means of a drop appliance. The chief point about this instrument is the vacuum flask for keeping the fluid hot, but this object is entirely frustrated by the drop device, which is placed within a very few inches of the flask, and, being made of glass, causes the saline to be cooled down to the air temperature as it drops. Such an instrument is useless for the administration of hot solutions to infants.

There does not appear to be any instrument at present made, so far as I know, which really guarantees the patient getting hot saline.

The apparatus which I have designed and used resembles in the main features that described by Drs. Waller and Walker, but I contend that it has several distinct advantages over theirs, the chief being that the patient does really receive hot saline, and that I can not only accurately observe the rate of flow, but I can record the amount of saline the child has received.

The instrument is simple and easily worked. Once the saline is started, it requires no further attention beyond clipping it off when the patient has had the prescribed amount.

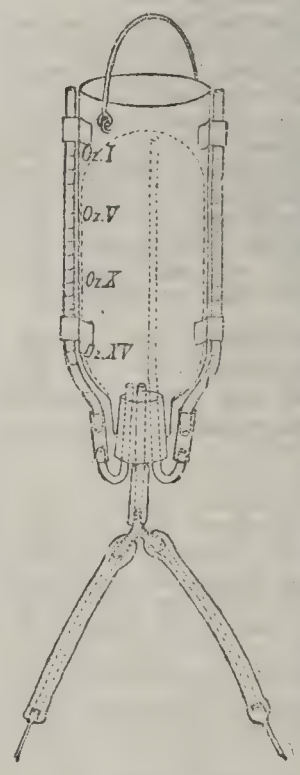

The screw clips for regulating the rate of flow are not depicted.

A diagram will simplify the description of this instrument.

The essential part is a vacuum flask, the neck of which is fitted with a rubber cork and three glass tubes, one long and extending to the bottom of the bottle, the other two short. The case in which the flask is held is fitted with a handle, and on each side a glass tube is securely fixed and graduated by experiment in ounces. To one of the short glasses passing through the cork a piece of rubber pressure tubing is attached to convey the saline to the patient. To the other glass tubes fitted in the cork small pieces of rubber tubing are attached, and when the bottle is filled and corked these short tubes are connected up with the graduated glasses, one on each side. The result of having them both graduated is that it matters little which tube is attached to which glass, for either will register. This simplifies the appliance somewhat.

When the flask is inverted and the saline running, air is carried to the top of the bottle by means of the long glass tube, and, the fluid escaping into the glass tube of the opposite side, acts as a register.

The register can be graduated to record the amount in the flask, or, as I prefer it, the amount the patient has received.

The solution is conducted to the patient by a short length of rubber pressure tubing. Pressure tubing is used to prevent the loss of heat, since rubber is a poor conductor.

This, like most other appliances, is fitted with a Y-piece, so that it can be connected to two needles and the patient infused in two places at the same time. Ordinary infusion needles are used, and screw clips to regulate the rate of flow.

A most important point about this instrument is that the total length of rubber tubing to each needle should not exceed 10 in.

When in use the apparatus is hung on a hook above the baby's body, or it may be put on a suitable stand.

A few words may be added as to the sterilization of the instrument, and the method of using it. To sterilize it, I keep it always full of formalin solution, 1 in 250, and wash it out immediately before use with hot sterile saline and then fill it up with fluid for use. The rubber tubes, cork, glasses, and needles, are all boiled.

The method of infusion which I adopt is to fill the flask with saline at a temperature of 135° F. and allow it to flow at the rate of 8 oz. an hour. This insures the infants getting saline at a temperature of 104° F.

In conclusion I would say that I do not for one moment suggest that this instrument is in any way perfect, but I claim for it that it is a decided improvement on all others, and that it does actually deliver the saline solution hot, which is, after all, the most important point.

PAINLESS SWELLINGS OF THE PAROTID SECONDARY TO LOCAL SEPSIS.

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THE following cases, although occurring in natives, I think are worthy of note, as they are associated with some peculiarities not commonly found in other inflammatory conditions of the parotid.

CASE I.

An Indian female, aged 18, was admitted on April 26th, 1911, with a soft, painless, oedematous swelling in the region of both parotids, which was most marked between the lobe of the ear and the angle of the lower jaw. The temperature was 98.6°, the pulse 82, and the breath extremely foul. No other signs were discernible. On May 2nd the patient complained of toothache, and I found the gums red and puffy. A few days afterwards they became more spongy, marked pyorrhoea was evident, and the teeth were loosening. I gave the patient pil. calcium sulphide, gr. ij, t.d.s., with a mouth-wash of potassium permanganate. The gums began to improve, and the swelling of the parotids completely disappeared by May 21st.

CASE II.

A native male, aged 16 years, was admitted May 12th, 1911, complaining of a sore throat and swelling in the region of both parotids. The swelling was soft, puffy, and painless, and most marked between the lobe of the ear and the angle of the jaw. The submaxillary glands on both sides were enlarged. The patient had definite follicular tonsillitis, the right tonsil being much the worse of the two. This corresponded with the larger swelling of the parotid on the right side. The pulse was 84 and the temperature 98.4°. Treatment consisted in gargles, a tonic containing iron, and fomentations to the swellings. The patient left hospital on May 21st cured.

CASE III.

A native female, aged 2 years, was admitted May 23rd, 1911, with a swelling in the region of the left parotid and a discharging sinus behind the same ear. The swelling was soft, oedematous, and painless. Facial paralysis was marked on left side. The temperature was 96° and the pulse 120. The mastoid was opened and drained. The parotid swelling disappeared a few days afterwards.

In each of the cases a definite cause could be assigned—namely, sepsis from neighbouring parts. One would expect some pain to have been present in the parotid swelling, but this was entirely absent. In all three cases that part of the gland which lies in front of the lobe of the ear and the angle of the lower jaw showed the largest amount of inflammation. The character of the swelling did not simulate that of mumps or that due to the more severe forms of inflammation. Fever was entirely absent in all three cases, and the condition quickly subsided after treating the septic focus.

THE Far Eastern Association of Tropical Medicine will hold its second biennial congress at Hong Kong in January, 1912 (20th to 27th), under the presidency of Dr. J. Mitford Atkinson. The work is arranged in the following groups: (1) Protozoology, helminthology; (2) cholera, plague, leprosy, tuberculosis; (3) tropical fevers, malaria, beriberi, dysentery; (4) surgery, obstetrics, infantile diseases; (5) climate, hygiene, sanitation. Dr. Francis Clark, of Hong Kong, is secretary-treasurer general.

SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

EDWIN GOODALL, M.D., F.R.C.P.Lond.,
President.

PRESIDENT'S INTRODUCTORY REMARKS.

THE President, after a few initial observations, opened the work of the Section by reading a paper on the possible relation of toxins to certain forms of insanity.

THE POSSIBLE TOXIC ORIGIN OF SOME FORMS OF INSANITY.

By EDWIN GOODALL, M.D., F.R.C.P.Lond.,
Medical Superintendent, Cardiff Mental Hospital.

IT is well known that mental disorder can be produced by intoxicants (alcohol, cocaine, hashish). It also occurs in connexion with such diseases as influenza, erysipelas, pneumonia, typhoid. When so occurring it cannot be always explained as due to fever or exhaustion, since it comes on in the prepyrexial stage (as in typhoid, variola), or the apyrexial stage (as in malaria). In these cases the mental disorder must be ascribed to a toxin.

The clinical and anatomico-pathological descriptions of various writers (Martin and Ringenbach, Franca and Anthias, Spielberger, Mott, etc.) show a considerable resemblance between the symptoms due to the trypanosome-toxin and those present in paralytic dementia, and some resemblance in the cerebral lesions. With sleeping sickness there is more fever. No remissions occur, I believe, in this disease, in striking contrast to general paralysis; on the other hand, I believe there is a lymphocytosis in it. As to the occurrence of the same in paralytic dementia, *vide infra*.

That acute delirious mania, acute hallucinatory and confusional states are due to toxaemia is freely assumed, but has not been demonstrated.

Most of the observations as regards micro-organisms in the circulation in mental diseases are isolated and unsystematic. Most of the cases I have personally examined gave negative results, but I have found diphtheroids and cocci in general paralysis, acute delirious mania, and acute mania and melancholia. In these cases there was no known source of secondary infection. The organisms found in the blood and cerebro-spinal fluids by various workers are bacilli, including diphtheroids and *B. coli*, diplococci, short chains of streptococci. Acute delirious mania has been especially investigated, and by Italian workers (Rasori, Ceni, Bianchi, Piccinino). Workers in this country on the subject of the circulation of micro-organisms include Lewis Bruce, Ford Robertson, McRae and Jeffrey, Candler, Marr, Muirhead; in America, Gay and Southard. The three last-named writers have published the most systematic work I am acquainted with.

Summarizing the work of the past twenty years, I should affirm that there are no adequate grounds for believing that the organisms which have been found in the tissues in any case of insanity play more than a secondary rôle. At the same time, they frequently cause death. (We fall victims, it has been said, most often to our secondary

infections.) Though not shown to be of prime pathological significance, they may yet be shown to be the cause of some of the symptoms. Much more work is required in this field, and better methods of cultivation of organisms are needed.

Apart from the demonstration of diphtheroids in association with inflammatory changes in the mucosa of the digestive and respiratory tracts in general paralysis (Ford Robertson), it has not been shown that there is a local source of infection in the mucous tracts or elsewhere, such as occurs in diphtheria and tetanus, in any of the insanities. It is a pure assumption that catarrhal enteritis provides such a local source (as described by Pardo). We do not know how the mental symptoms, which are undoubtedly due to disorder of the digestive functions, with its attendant constipation, which disorder occurs in recent insanity and in exacerbations of chronic insanity, are produced. Still more marked digestive disturbance, with prodigious constipation, and symptoms of auto-intoxication, occurs in cases of intestinal stasis prior to relief by short-circuiting, and yet without mental disorder (the *irritabile* is wanting). That there is disordered action of the digestive juices, and also impaired peristalsis in some mental disorders, has been proved by Pardo and Benigni, and can be shown by adequate physico-chemical examination of the stools in these cases.

We are not yet justified in saying, as certain Italian writers, more especially, do, that the presence of indigo in the urine is evidence of toxaemia of intestinal origin; much less in attempting to correlate its presence with symptoms of insanity. We cannot yet estimate the indigo quantitatively; hence no normal standard exists.[1] Various medical books tell us that the substance in the urine which on oxidation gives indigo is indoxyl-sulphate of potassium, the precursor of which "indigogen" is indol, which, again, is produced from tryptophane, by the action of intestinal bacteria; that the "abundant presence" of indigo testifies to the activity of protein putrefaction. This naturally affords the basis for an attractive theory of auto-toxaemia in some kinds of insanity. But how can a thing be said to be "abundantly present" which cannot be quantitatively estimated? And I believe we must be candid, and admit that we do not fully know what the precursors of indigo are, whether they are all derived from the intestinal contents or not.

As regards the bacteriology of the faeces in mental disorders, I am not aware of any work other than that of the Italian observer, Pardo. The following is a mere summary of work yet to be published, carried on by Dr. E. Barton White and myself, at the Cardiff Mental Hospital during the past two years. One gram of faeces from cases of acute mania and melancholia was examined in each instance, using decimal dilutions of an original solution of 1 in 100: as a control, the results with normal stool obtained by Dr. Houston, of the Local Government Board, were used. Cases examined, 23; total bacteria increased in 39 per cent., diminished in 26 per cent.; *B. coli* increased or diminished to like extent, whether as typical or atypical forms requires further investigation; the anaërobe, *B. enteritidis sporogenes* (? *B. welchii*, in some cases) diminished in all but one case (in which the amount was normal), often greatly diminished; *B. putrificus*, not found; spores of aërobic bacteria diminished in 76 per cent., in none increased; colonies isolated on agar-fuchsin made up practically of *B. coli*, typical in 80 per cent. of cases; the micro-organisms found were, with a few possible exceptions, those of normal stools; agglutination of *B. coli* very rare, and when present, equal with homologous and heterologous serum (these results agree with those obtained in 82 cases of acute mania and melancholia by Dr. Johnson and myself.[2])

As far as evidence based upon formation of agglutinins goes, *B. coli* is neither in circulation nor responsible for any toxin which may be. But evidence based upon complement-fixation and the opsonic index is also required. Streptococci: 13 cases examined; increased in 7, diminished or absent in 4, in normal amount in 2.

Our work lends no support to the statement of Pardo, that the putrefactive anaërobes are increased at the expense of *B. coli* and *B. aërogenes*, the normally preponderant organisms; nor to the statement that streptococci preponderate.

It is evident that much work has yet to be done in the bacteriology of stool in the acute insanities, to say nothing of physico-chemical research.

Let it be noted that Metchnikoff and his pupils have shown[3] that the three chief putrefactive anaërobes found in the human intestine produce toxins which are absorbed by the mucosa of the large intestine.

Work on the opsonic index in insanity has been done by Shaw and by Babington, who show that the index is lowered, in the acute insanities especially, to such common organisms as *B. coli*, *Staphylococcus aureus*, *Streptococcus faecalis*, *B. tuberculosis*. Baccelli and Terni find a raised index in epilepsy, a normal one in dementia praecox. A greater liability to secondary infections is perhaps all this implies, such as we see in other conditions of lowered resistance—for example, diabetes, chronic nephritis.

Although there is clinical evidence of toxaemia in the so-called "intoxication-psychosis," with the exception of acute delirious mania it cannot be maintained that there is evidence comparable with that furnished by a case of pneumonia or one of the common infectious fevers. The hypothetical toxin in the former instances must be of a lesser degree of virulence. Hence disordered metabolism is postulated as the cause of insanity, by way of auto-intoxication.

The outstanding pathological fact which indicates a toxic pathogenesis for some of the psychoses is leucocytosis. The condition is found very commonly in acute and recent mental disorder, and in states of exacerbation during chronic insanity. The most recent workers in this field are Dide and Chenais, Klippel and Lefas, Lepine and Popoff in France; Lewis Bruce, C. MacDowall in this country; Heilemann in Germany; Graziani in Italy. I believe the following statements are justified by much personal study of this question for the past three years, and by the work of these investigators.

The total leucocyte count is increased in varying amounts from 10 to 30,000 per c.mm. in acute and recent mania and melancholia (senility excluded), and in the periodic exacerbations of chronic cases of the same. Should the count fall in the course of the disease it rises again to rather above normal towards the close of the attack in cases which recover, and remains fairly high on recovery. In acute mania and melancholia the percentage-proportion of the neutrophile cells is increased in the early phases of the disease, also towards the close of the attack when recovery is to take place. In these disorders a low total count and a fall in the normal percentage of neutrophiles, if maintained, are of bad augury, and point to the onset of dementia. As regards dementia praecox, in the active phase there is some, but no considerable increase in the total number of leucocytes; neutrophiles are diminished, and lymphocytes, mononuclears, and eosinophiles increased. Cases of systematized delusional insanity do not exhibit leucocytosis.

As a generalization, in the acute and recent mental disorders there is leucocytosis with percentage increase of the polynuclear cells; in the subacute and chronic ones there is little or none, and the proportion of large mononuclears and lymphocytes is increased.

In acute mental disorders absence of leucocytosis and a fall in the percentage-proportion of polymorphs goes with deficient reaction, and is an unfavourable indication, as is the case in those infectious fevers in which leucocytosis is observed. This, from the standpoint of toxaemia, is significant.

In regard to paralytic dementia; in the first period, while still the patient is well-nourished and active, there is leucocytosis with proportional increase of neutrophiles; in the succeeding periods lymphocytes and mononuclears are increased at their expense, but it is to be noted that, even in these, exacerbations are accompanied by a rise in the neutrophile count. In six cases of well-marked remission recently examined by me the lymphocytes, transitional cells, and mononuclears (especially the last two varieties) were notably increased at the expense of neutrophiles. (Incidentally, three showed eosinophilia.) My friend, Dr. Schölberg, pathologist, of Cardiff, reminds me

[1] Stanford, *Journal of Mental Science*, April, 1911.
[2] BRITISH MEDICAL JOURNAL, April 9th, 1904.
[3] *Annales de l'Institut Pasteur*. 1908. Tome 22.

that in protozoal maladies (sleeping sickness, syphilis, malaria) the reaction of the white cells towards infection is by lymphocytosis, not leucocytosis. If further experience shows that there is the same reaction in general paralysis, a point of great significance will have been made out. The Wassermann test shows that in general paralysis we have a disease which is syphilitic *au fond*; its essential cause becomes, I think, again operative under privation and stress; further evidence of this may be found in the mode of reaction of the white cells (lymphocytosis). We should then look upon the polymorphonuclear increase as merely a reaction to a secondary infection, such as would cause acute phases and exacerbations in the malady. If this line of reasoning proves correct, an explanation would be available for the favourable results reported by von Wagner and Pilcz, of Vienna, who prolong remissions and ameliorate the disease by injections of tuberculin, for by this means lymphocytosis is promoted. There is no mention of the state of the white-cell count in the papers by Pilcz which I have consulted.

We have still no safe and reliable means of bringing about recovery in mental disorder, such as is seen in connexion with intercurrent disease (for example, pneumonia, erysipelas, cellulitis), in association with fever and hyperleucocytosis. Turpentine, yeast, cinnamate of soda, sodium nucleinate (introduced by Donath of Budapest and Fischer of Prague), all are unsatisfactory. The "reaction" is not pronounced enough, nor does it last long enough. Some of us are seeking to elaborate other methods, of which it is too soon to speak.

In conclusion, the following few observations may be made on mental disturbances in autotoxaemia. These, amounting to insanity in predisposed persons, occur in various maladies in which the nutrition is impaired, or in which metabolism and depuration are altered or hindered. Thus, in diseases of the heart, kidneys, liver; in rheumatism, gout, or chlorosis; in diabetes. We know that the like mental disturbances are found with Graves's disease, myxoedema, Addison's disease (ductless gland diseases). In the hypothyroidism of myxoedema Magnus Levy shows experimentally definite deviation from normal metabolism, removed by administration of thyroid. As the symptoms (including the mental ones) disappear or are greatly mitigated by such means, there is reason for the view that metabolic disorder accounts for the mental disturbances in this disease, and if in this, then also, it may be, in other ductless gland diseases. When, however, it comes to administering thyroid or pituitary gland in kinds of insanity in which there is no ground for supposing the action of these glands to be deficient, in order, as the jargon goes, "to promote metabolism," we are empirics indeed; yet, like empirics, we sometimes do good in this way. Is there any record of the metabolism in these cases before, during, and after treatment?

Some sporadic work in metabolism in the insanities has been done; thus, in dementia praecox (Pighini); in epilepsy and general paralysis (Kauffmann)—work in need of confirmation. For systematic work we have, I believe, still to refer to Folin (Maclean Hospital, Massachusetts), whose observations were concerned with the urine and amount to this: that unusual fluctuation in the urinary constituents occurs in general paralysis, which strongly suggests that this may be at one stage or another associated with disordered metabolism; as regards other mental disorders, individual peculiarities indicating abnormal metabolism are frequent, but no characteristic metabolism corresponding with a particular disorder has as yet been found. I may further mention researches upon the excretion of creatinin in the insane conducted by Mr. MacKenzie Wallis and myself, and subsequently by the former, at Cardiff Mental Hospital. These, and especially the last-mentioned research of Mr. Wallis, show that the excretion of creatinin, which in normal persons is practically constant for the individual from day to day, and independent of diet, varies from day to day in several kinds of insanity and is subnormal (as is also the coefficient, creatinin body weight). This variation has so far been found only in mental cases. These researches point to altered muscle-cell metabolism in the insane, and indicate by a special instance the need for further inquiry into questions of metabolism in mental disorders—the need, in other words, of the physiologist and the chemist in mental hospitals.

DISCUSSION ON THE DIFFERENT TYPES OF MULTIPLE SCLEROSIS.

OPENING PAPER.

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MULTIPLE sclerosis, because of its frequency, takes the first place amongst the organic diseases of the nervous system, and is more than any other likely to be misunderstood and confounded with other nervous diseases. Our knowledge of the nature of multiple sclerosis has been greatly increased in the last two or three decades—indeed, more in reference to symptomatology and diagnosis than to etiology, and, alas! very much less in regard to therapy. But we may hope that sooner or later every advance in the knowledge of a disease will lead to greater success in its treatment.

If one compares the old typical picture of multiple sclerosis as Charcot gave it to that one we know to-day, one is surprised at the abundance of symptoms and at the amount of different forms and types of this affection. Charcot himself recognized that not all the cases corresponded with the classical clinical picture, and he had already limited a small group of "formes frustes," "forms abortives," or "atypiques." But it was only with the recognition of the rôle that the eye symptoms, the sensory disturbances, the bladder and rectum disorders play in this disease, and specially through the discovery of new early symptoms by Babinski, Strümpell, Müller and myself, that it was possible to differentiate between a good many types the importance of which we formerly ignored.

In trying to classify the different types we meet with certain difficulties. Now, from which point of view shall we make our classification? First of all, we might take as a basis the course of the disease, and differentiate between the acute, the subacute, the chronic form, and the one which progresses with remissions. But, essential as these differences are, they do not carry us very far in our classification, yet we must admit that the acute form presents a special type.

One could also endeavour to make the division in regard to the character of the disturbance of the functions and to speak of the motor, the ataxic, the atrophic, etc., form of this disease.

Such endeavours have, indeed, recently been made. We cannot dispense with them altogether, but this is in no way satisfactory. A perfect differentiation is not to be arrived at in this way, and many cases would remain which could not be brought under any of these classes. Consequently, we have for the grouping only the basis of localization, and with that we will not surmount all the difficulties, but it would be the best way to arrive at an exact and thorough classification. In this method of grouping we meet at once with three principal forms already differentiated in the older textbooks and monographs—the spinal, cerebral, and the classical cerebro-spinal form. There is no doubt that this classification is a useful one, at least from the clinical point of view, which is for us the most important. We will for the present abstain from the relation of the clinical symptoms to the pathological anatomy—that is to say, we will not discuss the question whether by means of the *post-mortem* findings we can differentiate between the afore-mentioned three forms.

Clinical experience teaches undoubtedly that there are cases of multiple sclerosis in which the symptom-complex remains a long time, or even indefinitely, spinal or cerebral. We find, on the other hand, that the classical cerebro-spinal form is characterized from the beginning by the combination of cerebral and spinal symptoms.

But this grouping is only justified if on the basis of a special localization we succeed in establishing a greater number of subdivisions. The first principal spinal form is divided into the following subgroupings:

(*a*) The dorsal.
(*b*) The cervical.
(*c*) The lumbo-sacral and the sacral form.
(*d*) The mixed forms.

With this we progress a little further in the specification, but we shall recognize later on that with this rough manner of localization we shall never satisfy all demands. Of the above-mentioned types *a* and *d*, as they are so well known, hardly need a special discussion. To the dorsal and mixed class belong the majority of cases—namely, the typical forms which are characterized by the symptoms of spastic paresis or of diffuse myelitis transversa dorsalis.

The cervical form has been but lately appreciated at its proper value through observations of myself [1] and Cassirer.[2] Recently Finkelburg,[3] too, has written on the same subject. As this type is not yet sufficiently well known to the general practitioner, I beg you to allow me to sketch for you a brief outline.

The hitherto healthy and youthful individual falls suddenly ill without apparent cause. The patient has sensations of numbness and awkwardness in one arm, sometimes, but rarely, in both, but when both are affected then one always more than the other. Pains may be an associated symptom. These disturbances increase rapidly, reaching the greatest intensity within days, weeks, or months. The patient complains that he lets objects slip from his hand, that he finds himself unable to button his clothes or to distinguish between his purse and knife in his pocket, etc.

Physical examination shows the following condition: The principal symptom is ataxia in one or both arms, and is nearly always a combination of static with locomotor ataxia, accompanied by anaesthesia in the hand and the fingers. The sense of posture is the most seriously affected and the most constant symptom; frequently, too, the sensation of touch is involved, and in consequence follows astereognosis, while the sensation of pain and temperature is very often undisturbed. The tendon reflexes of the arms, especially the supinator phenomenon, cannot usually be elicited.

A most remarkable fact is that in this cervical form of multiple sclerosis the posterior column symptoms are the most prominent features. I may assert from my own experience that the acute ataxia brachialis is nearly always the result of multiple sclerosis. Yet it is but natural that symptoms often supervene which point towards an involvement of other regions of the transverse section of the cervical cord. These symptoms nearly always lie in the background. For instance, I found in several of my cases a slight atrophy of the small muscles of the hand without change of the electrical excitability or with partial reaction of degeneration. The involvement of the motor tract can be demonstrated by spastic phenomena in one or both legs; Brown-Séquard's syndrome may also be present in some cases, but only indistinctly. However, the symptom-complex is always dominated by the sensory ataxia in the arms.

The progress is also characteristic. All of our observations show that after weeks and months it comes to a considerable remission; it is even the rule that the symptoms disappear more or less completely, so that the less experienced observer is likely to diagnose curable myelitis cervicalis or a syphilitic affection of the cervical cord. But after a year, or even after a period of years, the disease becomes active once more, or new symptoms indicate clearly the nature of the process. Statements made by Finkelburg go to prove that the syndrome may develop also gradually. This cervical type of multiple sclerosis can exist entirely free from any admixture, but, however, there are cases in which the typical picture is complicated by symptoms appearing at the same time or preceding the attack, which prove the disseminating character of the disease. Thus in some of our cases we found bulbar symptoms together with the cervical; in others an affection of the optic nerve had either developed before the foregoing symptoms or existed at the same time or developed soon after.

Have these conditions escaped former observers? There are some reports from Thomsen,[4] Dana,[5] Gowers,[6] and others referring to an acute myelitic ataxia. To all appearances these descriptions mostly refer to the form just described, but their relation to multiple sclerosis has not been recognized. That this apparent acute posterior myelitis cervicalis is but a stage of disseminated sclerosis was first shown by me and my assistants. Much rarer than the cervical is the sacral type of multiple sclerosis, whose symptomatology points to a localization of the disease in the lowest part of the spinal cord. Some years ago[7] I drew attention to this form of the disease, and soon afterwards K. Mendel[8] and Curschmann[9] described analogous experiences. Functional disorders of the bladder and rectum are here the prominent symptoms. While generally multiple sclerosis causes but a slight and transient impairment of these functions, there is a small group of cases in which these disturbances form from the beginning, or over a long period of time, or permanently, an essential part of the disease. In some of these cases I recently observed the following interesting disorders: One of the patients was unable to combine the function of evacuation of bladder and rectum, while the difficulty to perform either of these acts separately is much more frequently observed. Another felt desire to defaecate when he had the desire to urinate, and vice versa. I do not think, however, that these symptoms are pathognostic for multiple sclerosis.

Sensory symptoms of ano-genital localization are combined with these anomalies, and finally the failing of the Achilles and anal reflexes indicates that the lesion is localized in the sacral cord. Now, in what way is this conus affection characterized as multiple sclerosis? On the one hand, by the fact that the course is, as a rule, not a stable one, not gradually progressive, but runs with remissions. On the other hand, that the vesico-genital symptom-complex is associated with symptoms of disturbances in other parts of the nervous system—for instance, Babinski's reflex or cerebral ocular symptoms.

The pathological anatomical proof of the sacral form is still wanting, but on looking through my collection I did find specimens which showed that in conus medullaris sclerotic foci may exist. In an older treatise of Taylor's[10] from my laboratory you will find in the first case an illustration of a focus which is carried through the whole transverse section of the conus. In the second case you see a small focus in the conus and degeneration of fibres in the cauda equina. In the third, a focus destroying both anterior horns and anterior tracts of the sacral cord. I have singled out one publication in which detailed description of the extension of foci in three cases has been made. It shows at once in all three a considerable affection of the conus medullaris in multiple sclerosis. It is the peculiar feature of the sacral type that the sclerotic patches develop from the beginning, and especially in the sacral region.

But it is now evident that with this manner of differentiation we do not classify thoroughly enough the spinal forms of multiple sclerosis. Indeed, we find on the basis of symptomatological consideration types which cannot be ranged under the above-mentioned groups. Therefore we will choose another mode of classification, based on the fact that in the different cases, as far as the symptoms are concerned, the different tracts of the cord seem to be involved.

That leads to the differentiation of the following forms: (1) The typical spastic forms with preponderating localization of the process in the pyramidal tracts; (2) the not infrequent spastic ataxic form which corresponds more or less to the type of combined degeneration of the posterior and lateral tract; (3) the ataxic or posterior tract type, a variety of which—the cervical one—we have already taken into consideration; while another—the rarer one—the sclerotic pseudo-tabes, I shall refer to later on. Now follow the uncommon forms, namely, (4) the type corresponding to poliomyelitis; (5) the syringomyelitis type caused by a diffuse involvement of the grey matter; and (6) the form corresponding to the type of amyotrophic lateral sclerosis.

Finally, we still have a (7) type in which the symptomatology has the features of myelitis transversa.

It was only by these two methods of grouping (1) in regard to the level of the lesion and (2) according to the localization on the transverse section that we could do justice to all spinal forms of multiple sclerosis. Of these only one needs a short explanation—the pseudo-tabic.

Although we find it already in older literature, especially in Charcot's works, it had been almost overlooked, because in these cases there were only a few tabetic symptoms. Yet I[11] demonstrated last year that in isolated cases clinical conformity of multiple sclerosis with tabes may be very close. I shall briefly describe the clinical picture of this type.

Generally the first subjective symptoms are paraesthesies in the legs or in all four extremities. There may also be associated pain, usually, however, not shooting in character. At the same time, or some months later, an unsteadiness follows, so that walking becomes more and more difficult. Upon examination we find hypotonia present, and some or all of the tendon reflexes absent. Movements of the legs or of the four extremities are affected by more or less considerable ataxia, which is caused by disturbances of sensation. That means that there is an anaesthesia for all kinds of stimulation, or tactile anaesthesia and bathy anaesthesia only. Occasionally you find Romberg's symptom. Weakness of bladder and diplopia may complete the clinical picture. But the Argyll Robertson symptom is absent, and if the optic nerve is affected it is in a different way than in tabes. Besides the points just mentioned, the disease is differentiated from tabes by its acute or subacute development, and by reaching its full extension mostly in rapid progression, for which real tabes would take many years. And finally, sooner or later, symptoms supervene which have nothing to do with tabes—for instance, nystagmus, failing of abdominal reflex, Babinski's sign, and others.

Nor is symptomatology stable, but is by its changing course characteristic of sclerosis.

Now for the second main group—the cerebral form of disseminated sclerosis—and I must say beforehand that pure types of this kind are not very frequent. Here also we must use for further classification the principle of localization.

We have then to differentiate:

1. The cerebral form in a restricted sense, in which the symptomatology indicates a localization of foci in the cerebrum.
2. The basal type, in which, according to the clinical symptoms, the central ganglions are the most affected.
3. The well-characterized pontobulbar form.
4. The cerebellar form.

To the first and second group belong the cases in which the symptomatology is dominated by cerebral hemiplegia. The hemiplegic type of multiple sclerosis was already known to Charcot. Further experience has taught us that to this heading belong different symptom-complexes. There are cases in which the general symptoms of this disease—paresis, hypertonia, the intentional tremor, etc.—are restricted to one side of the body. This hemilateral disease develops by degrees, in the course of one to several years, and usually with remissions and exacerbations. For instance, there is no doubt that among the cases which Mills[12] and Spiller have reported under the title of "unilateral spastic paralysis,"[13] there are certain ones in which the syndrome is not based on a simple tract degeneration, but on multiple sclerosis.

For example, Mills and Spiller[14] refer to a case described by Potts,[15] and they agree with the author that it is based upon disseminating sclerosis. They also tell us of a case of unilateral descending paralysis observed by Riesmann, in which they trace the clinical symptoms back to multiple sclerosis. But in these observations the hemiplegia is chiefly the result of spinal lesions, as it is proved in one case through the *post-mortem* examination reported by Thomas and Long.[16]

A second subform is characterized by repeated outbreaks of apoplectic seizures. Here the important point is the acute onset of the hemiplegia, which corresponds very closely to that in cases of arterio-sclerosis or lues, and even more closely to that in acute encephalitis. But in the course of months and years the attacks appear again; the hemiplegia always partially, or even in many cases entirely, disappears, so that but traces of it remain, and only after a number of attacks do the paralytic symptoms remain permanent. To this group belongs, also, the rare type of sclerotic pseudo-bulbar paralysis already described by Jolly[17] in 1872.* Other cerebral symptoms, as aphasia, cortical epilepsia, apraxia, may appear in this form, generally as passing symptoms. And as an especial type of this kind one could single out those unusual cases in which symptoms of insanity dominate the symptomatology. Such observations have already been found in the older literature—for instance, in Westphal.[18] Recently Nonne[19] described a characteristic case of this kind, and as anatomic basis of the psychical symptom-complex he showed the existence of sclerotic foci in the cerebral cortex.

I admit that for the present the basal form is not to be separated sharply from the cerebral one. It may be that the thalamic syndrome sometimes makes the differentiation possible. One type of sclerosis which is very distinctly characterized is the pontobulbar. The symptomatology here results from a diffuse or rather disseminated disease of pons and oblongata. In my experience the development is in most cases acute or subacute, so that one is inclined to diagnose encephalitis pontis. I[20] described cases of this kind in 1895, and I did not fail to emphasize the difficulties of the differential diagnosis. Particularly instructive in this regard is one of our observations, which I shall summarize: The case was that of a woman of 36, in whom within a fortnight an associated paralysis of the eyes on the left developed, together with dizziness, vomiting, and thirst. Besides there was contracture, combined with degenerative paralysis of the left facial nerve (degenerative reaction) and of the motor branch of the left trigeminus. Further I also found a slight hemiparesis dextra—consequently the picture of hemiplegia alternans. In this stage I diagnosed encephalitis pontis, and the case was described with this diagnosis by one of my assistants (G. Flatau). Afterwards it came to a partial relief of these symptoms, but then new ones appeared, so that an examination later on compelled me to diagnose sclerosis multiplex. In 1903 the patient came to the hospital for incurables with a fully developed sclerosis, and there she was put under my assistant, Dr. Maas. The necropsy soon afterwards[21] and the microscopical examination confirmed the existence of disseminated sclerosis of brain and spinal cord, with particular localization of patches in the dorsal half of the pons. Further observations of this kind were reported by Witzel,[22] Nonne and Marburg.[23]

Through the development of foci in the different levels of the pons and medulla oblongata all the well-known symptomatological pictures of hemiplegia alternans and bilateral paralysis of the cranial nerves may result. Often the first outbreak of the symptomatology reveals that we have to do with a disease caused by disseminated foci. In cases of acute or subacute development we have to distinguish the disease principally from encephalitis and lues cerebri. But from my own experience there are also cases of this kind with protracted or chronic development of the pontine symptom-complex which can easily be mistaken for tumor pontis. I myself made the mistake in the case of a young man who came to me. He was taken ill within six months with dysarthria, dysphagia, associated paralysis of the eyes, combined with contralateral hemiparesis and hemiataxia, together with headache and vertigo. I assumed it to be a case of glioma pontis. But it came soon afterwards to a remission of nearly all of the symptoms, and only half a year later there appeared new developments that left no doubt about the diagnosis of multiple sclerosis.

The cerebellar type of multiple sclerosis can hardly be said to be rare. By this I mean cases in which the troubles begin with symptoms of cerebellum, and the cerebellar syndrome continues prominent for a long time. Attacks of vertigo and cerebellar ataxia are the sole or main symptoms. Nystagmus may be combined with them. Asynergia and adiadokokinesis can often be shown to be present. In some cases of this kind which I have observed a differential diagnosis compelled one to take into consideration tumor cerebelli (including cysts), as well as the so-called diffuse sclerosis cerebelli. The further course of the disease by the supervening of new symptoms made the disseminating character of the process clear.

It is needless to enter into discussion about the third main group—the cerebro-spinal—because to it belong the well-known classical types of the disease. One may well say that the greater number of advanced cases belong to this group. But even after differentiating these three main groups a very important type remains, which hitherto we have not taken into consideration—the optic or ocular.

Let us consider the optic. That the optic nerve participates most frequently in the disease is a fact that needs no further emphasis. But there is a special form in which the

* We owe to Claude a further information of this kind, *Rev. neurol.*, 1905.

disease does not only begin in the optic but restricts itself to it for years, or it may have the tendency to relapsing attacks of optic disturbances. Instead of referring to the numerous instances in literature I shall report a case to you that I met with some weeks ago in my own practice:

A young woman, unmarried, 34 years of age, with hereditary disposition, always in good health, fell suddenly ill on March 2nd, 1895, with visual disorder of the left eye—she complained of a mist before the eye. The condition of the fundus was normal, but central acuity of vision diminished rapidly within a few days. The eyeball proved sensive to pressure. The oculist diagnosed neuritis opt. retrobulbaris. Rapid improvement was effected by means of diaphoresis and sodii salicyl. Then good health followed till June 6th, 1897. Then the right eye was attacked in the same way. Dimness of vision, pain in looking to the right and from pressure on bulbus; paracentral scotoma; ophthalmic examination normal: rapid recovery by means of diaphoresis and sod. salicyl. In September, 1897, the left eye was again affected in the same way—recovering quickly. 1902, temporary diplopia. In the beginning of 1910 the oculist found a marked optical atrophy, a diminishing of the acuity of vision, paresis of the right trochlearis associated with paresis of the left; even after this it came to improvement and disappearance of the diplopia. It was only in the course of these last two years that other symptoms developed, especially weakness of the legs, unsteadiness of gait, and tremor.

At an examination in March of this year I found a fully developed sclerosis—namely, spastic paraparesis, absence of abdominal reflex, intentional tremor, and partial optical atrophy.

This case, which I have singled out from many others, shows that there is a form of multiple sclerosis in which the process begins in the eyes and may be restricted to this part for ten to fifteen years, involving the optic nerve either alone or together, with the ocular motor nerves in acute attacks which are of a more or less rapidly relapsing nature.

Although there are many varieties of this type, I will not enter into any more details, but come to a conclusion with some general remarks.

One could object that one is in no way justified in speaking of the different types of multiple sclerosis—that it is rather a matter of a large number of heterogeneous early stages. For, as the disease has a marked tendency to dissemination, the further development, it would seem, always produces the same clinical picture.

Although admitting that the pathological-anatomical process has certainly from the beginning the tendency towards dissemination, I am led by my clinical experience to the conviction that the susceptibility of the different nervous regions to the disease, which is an individual matter, plays here an important part. That is to say, in the one case it is a certain level or a certain tract of the spinal cord that is affected; in the other it is the optic nerve or the brain stem; or, again, they form the points of least resistance to the disease. And what is still more important, in all probability the region once attacked by the sclerotic process will also be in future the *locus minoris resistentiae*, so that the morbid process has the tendency to return to weakened areas, as, for instance, tuberculosis and lues have the peculiarity to develop in a place injured by trauma.

This makes it comprehensible that a lesion spreading through the whole nervous system by means of innumerable foci can produce such a great many different clinical pictures. And if the pathological-anatomical examination does not furnish us with the corresponding types, the reason is that death resulting from this disease takes place mostly only after its full development has run from one to three decades.

Now one final observation: It is certainly a great advantage for the diagnostician to be familiar with all the different types of multiple sclerosis. But he should never forget that the disease is essentially characterized by the multiplicity of foci. And even when a case appears to be of a pure type it will be his first duty to find out whether some symptom is not present or has not existed that would be the manifestation of foci in some remote part. He only who complies with this exaction will be able to see his way through the vast field of multiple sclerosis.

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DISCUSSION.

Dr. RISIEN RUSSELL (London) congratulated Professor Oppenheim on his masterly address. He felt in England they owed him a great debt of gratitude for his admirable textbook. Speaking for himself, he could not help being glad that he was not now a medical student who would have to commit to memory the eighteen types of multiple sclerosis. He was amazed at the multiplicity of types recorded by Professor Oppenheim, and yet it was difficult to say which types one could weed out, but he thought they might find an opportunity of cutting down the number of those types based on the different regions attacked by the disease. He wished to emphasize the form of the disease which was so easily confounded with tabes dorsalis. He would like to know whether Professor Oppenheim had abandoned his former view that ordinary myelitis might become disseminated sclerosis. Looking at the matter from the standpoint of modern surgery, he had noticed a tendency in some cases to diagnose a tumour of the spinal cord, and in other cases a cerebellar tumour, when the symptoms were really accounted for by the existence of multiple sclerosis. In connexion with the ocular type of the disease he had not seen a case where true optic neuritis in multiple sclerosis could be confounded with a tumour. In spite of the multiplicity of types, he thought they might add yet another. Buzzard had called attention to the frequency of mistakes by practitioners in connexion with hysteria, and he (Dr. Russell) thought there was a distinct type of multiple sclerosis which might be confounded with hysteria. Another class of cases were apt to simulate neurasthenia.

Dr. F. E. BATTEN (London) said he was in entire agreement with Professor Oppenheim as to the division of the various forms of disseminated sclerosis into "types" for the purpose of clinical description. Just as "types" were necessary in describing the myopathies and in poliomyelitis, so in disseminated sclerosis they were of advantage. As for the question whether a true transverse myelitis type ever existed in disseminated sclerosis—that is to say, a complete loss of power and loss of sensation to a definite level without any affection of the cord or brain about the lesion—he had never seen such a case, and was of opinion that the line of anaesthesia was always indefinite in disseminated sclerosis. He had seen a case of disseminated sclerosis which exactly simulated a cerebellar lesion with forced movements to one side, but without optic neuritis. He had seen a gradual onset of hemiplegia of probably the same nature, but without optic neuritis. It had always seemed to the speaker extraordinary that advanced cases of disseminated sclerosis showed so few severe mental symptoms, and he asked for some pathological evidence as to the condition described as "dementia sclerotica." He remarked on the rarity of the disease in young children, having never seen a case in a child under 14.

Professor JAMES J. PUTNAM (Harvard, U.S.A.) thought the practical importance of distinguishing between the different types of multiple sclerosis was especially marked with reference to the early stages of the disease. These different types could not be explained by assuming foci of lessened resistance due to localized fatigue. He agreed with Professor Oppenheim that the bladder type and the ocular type were well marked. He had seen several cases in which mental symptoms, such as irritability and unreasonableness, were present, though not symptoms leading to complete dementia. Like Dr. Batten, he had not seen cases of the disease in young children. He thought it possible that the disease had a predilection for certain localities, as while it was common in Boston there were not many cases met with in New York.

Professor BOWDURANT (Alabama, U.S.A.) remarked that he had seen a number of instances of distinct mental disorder occurring in cases of multiple sclerosis. In his experience there were many cases in which the differential diagnosis between multiple sclerosis and general paralysis presented considerable difficulty.

Dr. JUDSON BURY (Manchester) said that the disease was very common in Manchester, nearly equal in frequency of occurrence to tabes. He had noticed a great prevalence of the spinal type. Affections of speech were sometimes absent throughout the whole course of the disease. He was in the habit of telling students that when they saw a case of spastic paraplegia they should think of disseminated sclerosis. Marked paralysis was not prominent, and it was difficult to explain the exaggerated reflexes without paralysis. A characteristic of all types of the disease was a disappearance of some of the symptoms and their replacement by other symptoms. As to the pathology, his impression was that the disease was caused by a toxin, the nature of which he thought would be discovered before very long and a remedy found. He had found suprarenal extract useful in some cases, and in others *x* rays did good. He had noticed that bladder symptoms were not uncommon early in the course of the disease. There was often a little hesitancy in passing urine, followed by dribbling, but these symptoms passed off after a time.

Dr. R. T. WILLIAMSON (Manchester) emphasized the frequency of the type commencing with failure of vision amongst the cases of disseminated sclerosis which had come under his own observation, the type described by Professor Oppenheim as the optic type. Often many years elapsed before other symptoms became marked—in one of his own cases twelve years. Often after a period of marked visual failure in one or both eyes recovery of vision occurred, partially or almost completely, and the only change remaining was pallor of the temporal half of the optic disc. Early visual failure had been so common amongst his own cases that he was inclined to regard a history of visual failure, with partial or complete recovery, a long period before the onset of spastic paraplegia, as a point in favour of the case being one of disseminated sclerosis. Another common type amongst his own cases had been spastic paresis and loss of the vibrating sensation in the legs, though other forms of sensation had been normal. The vibrating sensation (tested by a large vibrating tuning fork) was often the first form of sensation affected in disseminated sclerosis. The vibrating sensation had been lost on one or both legs in many of his cases. He thought there could be no doubt of the occurrence of the form of disseminated sclerosis, which Professor Oppenheim had described, in which the early symptoms were chiefly in the arms. In a case of this kind which he had recently seen, there was numbness in one arm with loss of the sensation of movements and of position in the hands, loss of the stereognostic sense, and loss of the vibrating sensation on the hand, whilst sensation to pain and temperature were normal, and touch almost unaffected. The arm symptoms subsided, but other definite signs of disseminated sclerosis developed later.

Dr. W. J. MIDDLETON (Bournemouth) agreed that mental symptoms were usually absent in this disease.

Dr. DAVID BLAIR (Lancaster) had seen several cases of disseminated sclerosis in the insane, but had seen no case in a sane person. He thought it was possible to overlook the condition in the insane, or to relegate the symptoms to some other category. There might be a difficulty in diagnosing the purely sacral form, or even, possibly, the cervical type.

Dr. CRAWFORD AITKEN (Carlisle) also spoke.

Dr. HOBHOUSE (Brighton) said that, apart from the hysterical symptoms which ushered in the disease and the dementia which occasionally ended it, there was a particular mental condition which he had come to regard as very characteristic of the disease when it occurred. In this condition there was great irritability, contrariety, and want of judgement. The patients made the lives of their relatives and dependents a burden to them. They were constantly changing their names and their rooms, and were really unfit to manage their own affairs. He could recall three or four cases of this kind in the last few years, and they were of some practical importance on account of the difficulty of managing them.

Dr. MOTT, F.R.S. (London), said that out of 2,000 *post-mortem* examinations on insane persons in his experience there had been only one case of multiple sclerosis.

The PRESIDENT stated that he had never seen a case of the disease in an asylum patient during twenty-one years' experience.

REPLY.

Professor OPPENHEIM, replying on the discussion, said that he was glad to find the speakers in agreement with him on the important points. He did not think they were justified in refusing to recognize a type because of its rarity. The object of classification was to diminish the difficulties of diagnosis. As to the Argyll Robertson symptom, it was so rare in multiple sclerosis that its presence in a particular case should exclude the diagnosis of that disease. There had been some cases reported by Uhthoff and others in which this symptom was present, and he himself had seen one or two, though he was not sure that they were not complicated by syphilitic disease. Undoubtedly, according to his experience, myelitis could be transformed into multiple sclerosis, but he thought it was only the disseminated form of myelo-encephalitis which had the tendency to this transformation. He would not like to speak of a hysterical type of multiple sclerosis. In many of his earlier treatises he had emphasized the fact that it was a common mistake to confound multiple sclerosis with hysteria. But this mistake occurred in nearly all types, because the relapsing character of the symptoms was a common feature. He had shown this in his first treatises regarding the disease, which was, as far as he knew, many years before the valuable works of Buzzard were published, with whom, however, he agreed in all important points. Slight mental symptoms, such as weakness of memory, irritability, slight diminution of mental power, were not rare, and he had also found real psychoses in the course of the disease, but a progressive dementia was very uncommon, though cases had been reported. He had had no experience with salvarsan in multiple sclerosis, but did not think it likely to be successful in treatment.

THE RELATION OF HEAD INJURY TO NERVOUS AND MENTAL DISEASE.

By F. W. MOTT, M.D., F.R.S., F.R.C.P.,
Physician to Charing Cross Hospital; Pathologist to the London County Asylums.

THE medico-legal importance of distinguishing cause from coincidence in cases of head injury in relation to nervous and mental disease has come into increased prominence since the introduction of the Workmen's Compensation Act; and when the State Insurance Bill becomes law the diagnosis and prognosis of neuroses and psychoses following trauma, and the detection of fraud and malingering, especially in cases of slight head injuries in which obvious and visible signs are absent, will be a constant source of anxiety to members of the profession.

Employers, except in the case of corporations and large companies, as a rule insure against accident or injury to their employees; the result is that workmen and employees are more certain of obtaining adequate compensation for injuries received; for should a company dispute the claim and the case come before a jury, just as is the case when railway, bus, tramway or other companies or corporations carrying the public are defendants in actions for damages, sympathy is generally, and sometimes not properly, felt for the individual rather than for the corporation or company. The knowledge of this fact has led to improper claims being made, and the insurance companies, like the railway companies, have frequently been compelled to resist the payment of unjust claims. Unfortunately this has led to just claims sometimes being classed as exorbitant, causing legal intervention, lawsuits, and much money being thereby frittered away in costs, to the benefit of neither party. If the medical men interested would act in the same spirit as when they are called upon

to decide in a consultation what is the nature of a man's disease, what is the outlook, and how best to treat his condition, how much better it would be. Would they in their senses recommend the worry and anxiety of a lawsuit to a man suffering from traumatic neurosis or psychosis? The assessment of damages must in the great majority of cases depend upon the medical evidence, and it would be better if the medical men employed respectively by the injured person and the company would banish from their minds all question of damages until they had agreed upon a joint report regarding the nature of the injury, the disease caused by it, the prospect of complete or partial recovery, the temporary or permanent incapacity for employment, the liability to late after-effects or shortening of life, and other questions which might arise were they called upon to give evidence in a court of law. Should they not agree upon any or all of the points, then before resorting to legal intervention, it would be better to agree to settle by arbitration; an expert of recognized ability and integrity being called upon to decide upon the points of variance; his opinion being regarded as final by both parties. These points having been settled, an actuary can calculate the claims more justly than a jury.

Such a mode of procedure would greatly benefit all genuine and deserving claims; now, unfortunately, legal intervention often leads to deserving cases being subjected to prolonged worry, anxiety, sleeplessness, and consequently bodily ill health. A pending lawsuit to recover a just claim by a sensitive and nervous person suffering from traumatic neurasthenia will aggravate the symptoms and lead to their prolonged instalment. As an example of this I will relate a case that occurred in my practice.

I was asked to see a case in consultation with the medical adviser of a bus company. A carman, a steady man who had not been away from his employment for thirty years, had received injuries and shock in consequence of the motor bus colliding with a cart and throwing him violently to the ground. He received a severe shock, but was able to get up, although unable to return to his work; he lay in bed and was visited by his own doctor, who took a somewhat grave view of his case; the effect of this probably was to suggest to the man that he might become paralysed, and the fear of such a condition, together with legal intervention and a possible lawsuit had led, when I saw him, to sleeplessness, general bodily ill health, and muscular wasting. Although I could find no obvious evidence of nervous disease, yet I felt at once the man was not malingering but was suffering from the causes I have mentioned, and was physically unfit for his employment. I ascertained that the company had no intention of resisting the claims by going into court. I advised them therefore to do their best to get the man well, and offer to send him to a convalescent home for three months, and to assure him that if he did not recover completely they would provide for him until he was able to return to his work.

Medico-legal cases naturally fall into two great groups—(*a*) functional, (*b*) organic. It is with the former, where the symptoms are almost if not entirely subjective, that the greatest difficulties to the medical man arise, but in many organic diseases following head injury, as I shall show by actual cases, great difference of opinion may arise as regards responsibility and assessment of damages. Likewise, medical opinion may differ as to how far the resulting head injury was a prime cause, a coefficient, a contributory cause, or a mere coincident of the symptoms for which damages are claimed. Cases admitted to the general hospitals on account of head injury are usually obvious, and have severe symptoms which clear up frequently without any operative influence. What becomes of a large number of these cases admitted to hospitals in London, with its wide area of shifting population, we do not adequately know. What, however, has astonished me is the relatively few cases that afterwards come into the asylums. There are a great number of people every year who receive very severe head injuries, and a considerable number of them require operative treatment, yet comparatively few of these come into the London asylums.

Of 65 cases of fracture or concussion admitted to Charing Cross Hospital within the last few years 22 per cent. died. The remaining 78 per cent. left the hospital; in some cases they were sent to the infirmary, in other cases to their homes or convalescent hospitals. Mr. Fenwick wrote to the addresses of all the cases that left the hospital, but only obtained answers from 13. A brief summary of these 13 cases is given. One of the 13 cases was afterwards admitted to Horton Asylum; he was certified and re-certified as suffering with "traumatic insanity." This patient was admitted to Charing Cross Hospital suffering with fracture of the base—extradural and subdural haemorrhage; two operations were performed. He was afterwards discharged to Camberwell Infirmary certified as suffering from traumatic insanity, and sent to Horton Asylum three months after the accident. The notes on admission state: He is the subject of mania. He is a little confused and rambling in conversation, with an abnormal sense of well-being and lack of realization of his position. His wife stated that he used to have occasional drinking bouts, and during them he became very suspicious and threatening towards her, and she went in danger of her life. His occupation was that of carpenter to an organ builder. He is still in the asylum, four years after admission, and has been certified several times as a case of "traumatic insanity." A year ago his daughter was admitted to the asylum suffering from "volitional insanity." The history given prior to the accident, together with the fact that the daughter has become insane during adolescence, supports the contention that there were two factors at work—an inborn temperamental, the more important, and an exciting factor, "the head injury," combined with drink. The following case, reported by Dr. Robert Jones in vol. iii, *Archives of Neurology*, is of considerable interest.

CASE I.

Male, aged 26, single. Admitted to asylum from prison. Up to age of 21 he was an abstainer and held a responsible position. He met with a serious accident, falling a distance of over 40 ft. down a lift, through the bursting of a hydraulic cylinder. He was picked up unconscious and remained so for several days, having fractured his skull and sustained a severe injury to the right frontal lobe, some of the brain substance having escaped through the wound. He remained in hospital for about two months, and four months later attended St. Bartholomew's Hospital, where portions of dead bone were removed from the wound. He was under treatment intermittently for about two years, and when sufficiently well was given some light work to do, but he was found to be of no use, and eventually—about two and a half years after the accident—he was pensioned. Up to the time of the accident he was bright, active, energetic, and trustworthy. He was a life abstainer and a Sunday school teacher. He was apparently forging his way to the front—gaining the respect of his employers and giving general satisfaction. After the accident, however, there is a record of gradually increasing moral obliquity and mental infirmity. During this period he has been three times convicted of indecent behaviour; on the first occasion (two and a half years after the accident) he was fined; on the second he was bound over, and on the last occasion he was found guilty but insane, and was sentenced to be detained during His Majesty's pleasure. Condition on admission to asylum: Viscera normal. Reflexes normal. Sensibility unimpaired. Pupils equal and react to light and accommodation. No affection of the ocular muscles. He complained that his sight had become impaired for long distances since the accident. There was an irregularly depressed linear scar, 6 cm. long, vertically across the forehead. It was about 5 cm. to the right of the middle line and extended upwards through the right side of the bridge of the nose, being 5 cm. in depth in the deepest place. The right frontal bone was obviously depressed and the skin was scarred above it. His mental state was that of organic dementia secondary to injury of the brain. His memory was greatly impaired. He was irritable, excitable, and preferred solitude, as society worried him. He further admitted that his home and those previously dear to him had lost their attraction for him. He had the delusion that people in the streets spoke of him, that they made signs and annoyed him by talking over his affairs, and he felt himself watched. He did not appear to realize his position, and talked freely and shamelessly. It is of interest to note that there was a family history of insanity in this case. The head injury, therefore, had affected the highest control, which probably was below the average.

Traumatic epilepsy may be the result, and a few cases may be found in the asylums of men with trephine holes, and I have met with one case of fracture of the base which led to chronic basic meningitis and internal hydrocephalus. This case is of sufficient interest to refer to in a little detail. It supports the statement of Köppen that a post-traumatic dementia may occasionally occur which may be mistaken for general paralysis.

CASE II.

Male, aged 47, shipwright, was admitted to Poplar Hospital four years previous to admission to Claybury (June, 1897) suffering from a fracture of the skull. He was a temperate man, and prior to the accident nothing ailed him. His wife stated

that the symptoms came on after the accident two years previously—"he was wandering about the house looking for money." She had been married nineteen years, three miscarriages, one child lived nine months, no children living.

State on Admission.—There is an old depressed linear scar of the vertex. There was a history of syphilis and gonorrhœa. The pupils were equal, reacted to light and to accommodation. The gait was steady, co-ordination of hands good, but a coarse tremor was present. The hearing was very defective; he could only hear the tick of the watch a few inches from the ear. He is suffering from dementia; states that he was in this building ten years ago. He has aural hallucinations and some loss of memory. He does not know where he lives; he is confused and cannot give a connected account of himself. He denies that he has been drinking much lately. States that he gets fidgety, but not very excited or depressed. Several medical officers of experience, including Dr. Jones, regarded him as a general paralytic in the notes that follow.

July, 1897. Dr. Jones's note is as follows: He is suffering from dementia paralytica (traumatic?). He is confused and lost in his statements, rambles, and repeats himself. His memory is impaired, and he has no correct knowledge of time or place. He thinks that he has been here a month, and that this is Maryland Point. His speech is hesitating, and he has a drawl suspicious of general paralysis. His appearance is dull, vacant, and listless. Talks of being smashed to pieces in a shipyard. (This was true.) In fair nutrition but impaired health. His pupils barely react. His knee-jerks are active. His gait is ataxic. He has large scalp scars and several on his knees and arms. His tongue quivers somewhat, and he is sallow. Then follows note in red ink: Pupils equal and regular; react to light and to accommodation. Vision: R. &, L. &. Cornea, lens, and fundus normal in each eye.

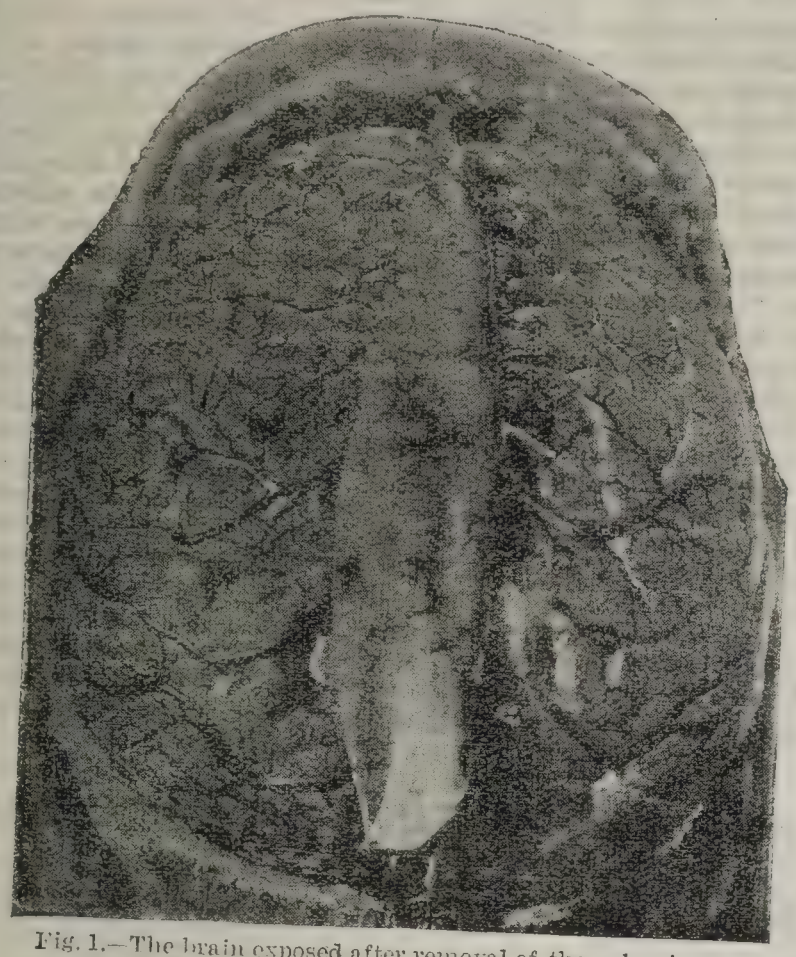

Fig. 1.—The brain exposed after removal of the calvaria and reflection of the dura mater to middle line.

After this date the notes are such as usually occur in a case that is regarded as a general paralytic, and he died fifteen months after admission. It may be remarked, however, that Wollesley Lewis (January 15th, 1898) held that this was not like a case of general paralysis. The patient died of bronchopneumonia. At the *post-mortem* examination old adhesive meningitis, caries of the left petrous bone, and blocking of the arachnoid channels connecting the ventricles with the subarachnoid space were found. The aqueduct of Sylvius was greatly dilated, and there was considerable internal hydrocephalus of the lateral and third ventricles, causing marked flattening of convolutions, which were dry and glassy-looking (see Fig. 1). This must have been the marked increase of intracranial pressure causing the optic neuritis. This was discovered at the necropsy and the backs of the eyes were removed.

Again, a small proportion of general paralytics are admitted with a history of head injury which took them to the infirmary or hospital.

From a medico-legal point of view the interest does not lie so much with cases of head injuries causing (*a*) fracture, (*b*) haemorrhage, (*c*) localized meningo-encephalitis, resulting in organic brain disease, because there are definite signs and symptoms of the actual injury; and there is paralysis or other resulting loss of function about which there can be no dispute as to its being the prime, and often, indeed, the sole, causal factor. It is quite possible, however, for a severe head injury, even necessitating trephining, to occur, and yet this may only be a coincidence or the exciting factor.

CASE III.

Male, aged 35. Was admitted to Bexley Asylum October 28th, 1903; died April 20th, 1907. The patient had been an engineer's artificer in the Royal Navy. He was on the *Renown* stationed in the Mediterranean. He wrote frequently to his wife, and these letters were very affectionately worded, and denoted love for his home, his wife, and children; they showed no sign of failing intelligence or loss of the auto-critical faculty. In August he met with an accident, which is described in a portion of a letter to his wife, here reproduced (Fig. 2). A month later he wrote, addressing his wife as Lady R., and in October—two months after the accident, as the letter shows—there are marked grandiose delusions of wealth, and the handwriting has markedly deteriorated (Fig. 3, p. 736). The comparison of these two letters shows that immediately following the accident the degenerative process, if it were present, did not manifest itself in his letter to his wife describing the accident; within two months there were very marked signs of dementia, indicative of a degenerative process. Some time after admission to Bexley Dr. Stansfield trephined over the frontal eminence, and it was found that the membranes were adherent at the seat of the injury. He did not benefit much by the operation. He became gradually more demented, and died three years and three months after the accident. The anatomical signs of general paralysis were found well marked *post mortem*. The man may have previously suffered from syphilis, and to those who believe general paralysis always to be due to syphilis the head injury only acted as the determining factor. Still, it may be reasonably asserted that if this man had not met with the accident he would not have suffered from general paralysis; or, at least, the chances were 50 to 1 against it occurring, for only about 2 per cent. of the subjects of syphilis subsequently develop general paralysis. Now, there are several facts in this case which support this contention. First, the man was in good health, employed as a skilled artisan; secondly, the injury was the result of an accident in no way dependent upon the

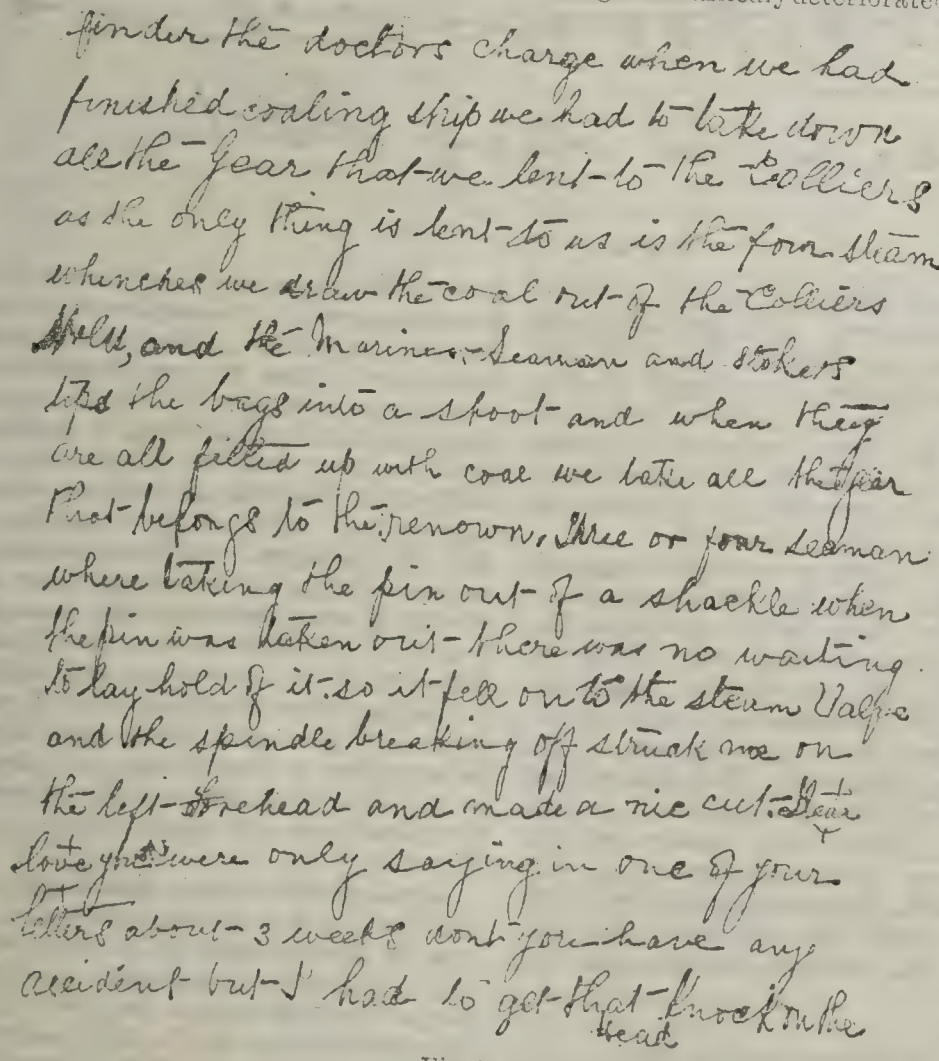
finder the doctors charge when we had
finished coaling ship we had to take down
all the gear that we lent to the Colliers
as the only thing is lent to us is the four steam
winches we draw the coal out of the Colliers
Holds, and the Marines Seamen and Stokers
lips the bags into a shoot and when they
are all filled up with coal we take all the gear
that belongs to the Renown. three or four Seamen
where taking the pin out of a shackle when
the pin was taken out there was no waiting
to lay hold of it so it fell on to the steam Valve
and the spindle breaking off struck me on
the left forehead and made a nice cut. Dear
love you were only saying in one of your
letters about 3 weeks dont you have any
accident but I had to get that knock on the
head

Fig. 2.

man's actions or state of consciousness; thirdly, letters prior to and immediately after the accident were not indicative of any mental decay; fourthly, there was a definite correlation of the accident with the onset shortly after of mania; fifthly, the patient lived more than three years after the onset.

Still it would be difficult to convince a jury that a head injury sufficiently severe to necessitate such a serious operation as trephining was not the prime cause of general paralysis, insanity, or epilepsy, and the fact that there was a history of acquired syphilis in the first mentioned and a neuropathic history in the last named would not convince the jury that if this head injury had not occurred the patient would have suffered from any of these conditions. But is it not logical to assume that a man may sometimes suffer as seriously from "commotio cerebri" as from a fractured skull? There may be little or no external evidence of injury to the head, nor may there be any gross nervous trouble—for example, irritation or paralytic phenomena—but the higher functions of the brain as an organ of mind have been profoundly disturbed, for the man may have lost consciousness for some time; as a rule he is unable to recollect how the accident happened or the experiences of his life for some time, perhaps hours, previously; and here I may remark we can differentiate between memory and recollection. Memory is the storing away of perceptor experiences out of consciousness, and recollection is reviving by will and association the images of those experiences in consciousness. Some of these patients, after they have recovered from the shock and are convalescent, are able to revive in consciousness the events which happened. The great feature of "commotio cerebri" is the resulting inability of the brain to exercise sustained attention on account of the mental fatigue which occurs. There is a disturbance of the physiological activities of the nervous elements which form the anatomical basis of consciousness. But this seat of consciousness and the higher function of the brain is the cortex cerebri, the structure latest developed.

There is only one point which might be considered against the view that the accident was the determining cause—namely, the patient may have been in the preparalytic stage when the accident occurred; the only tittle of evidence in favour of this was the fact that he began his letters to his wife in an effusively affectionate manner, but then the wife said that there was no difference in his letters to those she had always received. This interesting case is the most conclusive one I have met with of injury causing general paralysis. The wife unsuccessfully endeavoured to obtain some compensation from the Admiralty, and Dr. Stansfield, to whom I am indebted for the notes of this case, wrote to the Admiralty expressing the decided opinion that the accident was the cause of the mental disease.

Commotio Cerebri: its Effects on Memory.

Now it is a fact that trauma accompanied by horrifying circumstances, causing profound emotional shock and terror, has a much more intense effect on the mind than the simple head injury would cause, in spite of the fact that for some time after the injured subject may be unable to recall the circumstances. There is such a thing as "psychical trauma," and accepting this we can understand how it is that a drunken man receiving a head injury under such terrifying conditions as to cause mental shock suffers less than a man who is fully conscious. A nervous breakdown may result from psychical trauma alone, and the only explanation of this which I can offer is that the whole nervous system is in a state of bio-rhythm in response to stimuli entering all the sensory avenues which arouse in consciousness feelings and thoughts by association with past experiences stored in the memory. Physical or psychical trauma, still more the two combined, destroy for a time this vital reaction of the neurones.

Relatively only a few of the association memories cross the threshold of consciousness, and those that do become vivid by attention. It is attention that uses up nerve energy of the innumerable neurones that exist in the cortex; it may be premised that the commotion of the brain either bio-physically or bio-chemically interferes with the functions of the neurones which form the anatomical substratum of consciousness. But it may be asked why is it that the memory images of earlier experiences can be recollected, whereas those which happened just before and after the accident cannot? The following explanation may be offered: A present experience involves a conscious perception and attention, with transformation of potential into kinetic nerve energy; it may be likened to the chemical change produced in a sensitive photographic plate. The next perception involving conscious attention requires a new sensitive plate; in the meanwhile the last perception has faded out of consciousness and is undergoing a process of fixation. There is thus a series of perceptions constituting successive experiences, which are linked together by associations in time and place. But all perceptions are dependent physically upon different modes of motion in complex and varied combinations, and the molecules of the neurones are correspondingly set in motion. There is no reason to suppose they (the molecules) come to rest immediately after the external stimulus is changed; it is quite possible that the molecular movements resulting from a particular external stimulus continue long after the stimulus has ceased to act, by reason of the fact that the association neurones which have previously been affected by a similar molecular rhythm are set in vibration, and reverberation after reverberation occurs subconsciously long after the primary perceptor effect of consciousness has passed away. A successive series of experiences are thus linked up and intimately interwoven by conscious and subconscious cerebration. A sudden commotion not only breaks one or more of the series of perceptor links, but throws out of gear the mechanism of association in time and place that integrates and co-ordinates the succession of experiences of the conscious self upon which memory and recollection depends.

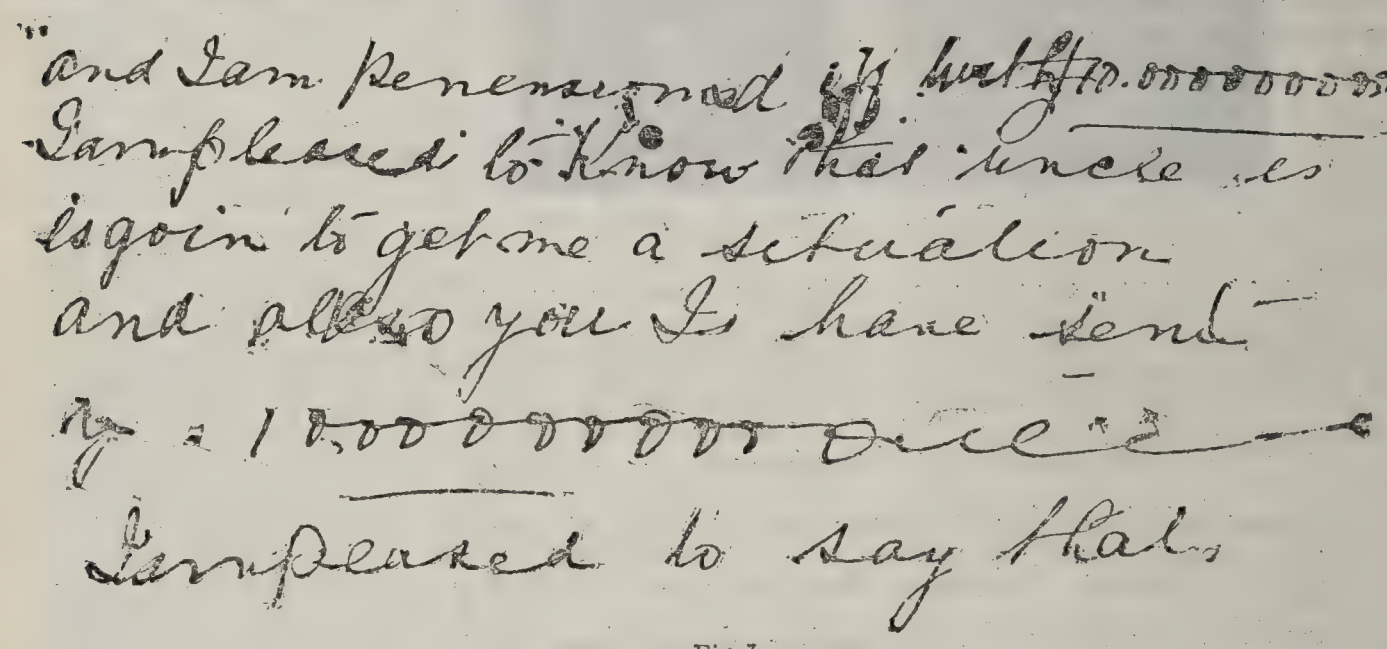

Fig. 3.

Consequently events that happened just previous to the accident, although conscious and perceived at the time, cannot be recollected. In alcoholic psychosis the same thing happens. Conscious perception of each link in a chain of events occurs, but they cannot be stored away out of consciousness to be recollected because, owing to the effect of the poison, the process of fixation, first by attention and afterwards by subsconcious bio-rhythmical reverberation of the association neurones, cannot take place.

Again, a further proof that commotio cerebri produces

a profound disturbance in the functions of the cortical neurones is afforded by the well-known fact that a man who has suffered with a severe head injury is rendered intolerant of alcohol; a dose which previously had little or no effect, after head injury readily produces toxic symptoms.

Diagnosis of Functional Neuroses and Psychoses.

The diagnosis of functional neuroses or psychoses and the detection of malingering is always a source of much tribulation to medical men. To form a just opinion on a case requires the exercise of a sound judgement of character and knowledge of the previous conduct and habits of the injured person, in order to estimate the effects of a head injury in which all the symptoms are of a subjective character.

Again, the medical man who knows, or has ascertained that the patient is the member of a stock in which epilepsy, insanity, hysteria, or other neurosis or psychosis occurs among its members, will recognize the probability of a neuropathic tendency; if there is not actually potential epilepsy or insanity in his patient, he will infer that a comparatively slight trauma in such an individual, such as that produced by a blow on the head which may or may not cause loss of consciousness, without any fracture or obvious injury of the head, is quite sufficient to cause serious symptoms in an individual predisposed to a neurosis or psychosis by an acquired or inherited *locus minoris resistentiae* in the nervous system. Thus a man who is known to be a chronic inebriate, or a subject of lead poisoning, or a person who has had syphilis, especially one who by his habits of life has been known to have exhausted his nervous system by sexual excesses, mental stress involved in gambling and speculating, associated with smoking and drinking, restless by day and sleepless by night—if such an individual on the verge of neurasthenia receives a slight injury a question of compensation may arise. A certificate may be written to the effect that he is suffering from "traumatic neurasthenia," thus implying that the injury was the sole cause of his condition, and a claim for compensation made.

Again, as a result of head injury to a chronic inebriate "delirium tremens" is not an infrequent consequence, and this for the sake of compensation claims has been termed "traumatic neurasthenia." Indeed, so much fraud has been perpetrated under the term "traumatic neurasthenia" that many lawyers know that such a diagnosis does not carry much weight in a court of law unless the man's previous character and conduct is above suspicion. The medical experts employed by railway companies are fully aware that after a settlement has been effected the symptoms frequently rapidly disappear but it does not always follow that because a rapid improvement has taken place after the claims have been settled the symptoms of neurasthenia following head injury have not been genuine. Many patients relieved of the anxiety and sleeplessness accompanied by bodily ill health caused by the pending lawsuit soon recover, because an important cause of the exaggeration and prolongation of the nervous exhaustion was thereby removed.

The differential diagnosis of traumatic neurasthenia from malingering is not an easy one, and it is of great importance, because a man may truly be incapacitated, especially in occupations involving mental work, for a considerable time after an injury. Seeing that the symptoms may be all subjective, it may be extremely difficult to decide how far the symptoms are genuine from those which might be put on, in order to obtain a better compensation; and in forming a judgement, as before remarked, previous conduct and character must be taken into consideration. A malingerer will probably overdo the symptoms; although he will say that he was stunned, he will describe the accident and the events preceding it, which we know is unusual when the accident or blow is severe enough to produce unconsciousness; instead of a mental dullness and apathy, with loss of memory, he will often show mental alertness in describing his symptoms. He may assert that he is unable to walk, or he may simulate hemiplegia and yet give none of the characteristic signs of functional or organic paralysis. Not infrequently, however, he has heard of increased knee-jerks, and then the jerk sometimes can be elicited by striking *at* but not *on* the tendon. This anticipation is very suggestive of his mental attitude. Again, spurious clonus can be often detected by making the patient count slowly, then at different rates, while you are obtaining the clonus; it will then be noticed that he is unable to properly attend to two actions at the same time, and the rhythm of the clonus will vary, or the contractions become irregular and halting. A plantar extensor response may be simulated, but by suggestion it can be changed from one side to the other, or converted into a flexor response. Asked to touch the tip of his nose with his finger, his eyes being shut, he may fumble about like an ataxic would, but none of the other signs of ataxy would be present.

The less severe forms of traumatic neurasthenia are more difficult to diagnose than those with marked mental symptoms amounting to a Korsakoff psychosis. The following is a fairly typical case of true traumatic neurasthenia.

Case IV.

Male, occupation, carver, aged 53, was knocked down by a taxicab and admitted to Charing Cross Hospital on April 4th, 1908. On admission he was somewhat dazed and complained of pain over the right eye and behind the left ear. There was no bleeding from nose, ears, or mouth. Shortly after admission subconjunctival haemorrhage developed on the right side. There was pain over the right eye and behind the left ear very severe. Pupils were equal, reacted sluggishly to light. Pulse 92, fairly good character. Temperature 97.6°. No abnormal nervous signs noted. The patient was quite sensible the next day, and subsequently made an uninterrupted recovery.

He was examined three years after the accident. He even now gets headaches after rush of business, but otherwise is as well as before the accident. For six months after leaving the hospital he felt very weak and absent-minded. Before the accident he never had any complaints brought against him for slowness in executing orders, but, returning to his place of employment as carver, he was dismissed after a few weeks because he forgot the orders and was slow in executing those he remembered. He was out of permanent work for a year, and three good jobs he lost on account of his inability to remember. He avoids alcohol, and now is quite as well as ever. He obtained £10 as compensation, which was manifestly insufficient.

"Commotio cerebri," either the result of concussion without a fractured skull or with a fractured skull, may be followed by a psychasthenia due to a functional disturbance of the brain as an organ of mind. A number of cases, summaries of which are herewith reported, show that a certain group of symptoms follow the period of unconsciousness; the patients are described as being dazed and presenting mental dullness and confusion; they are unable to recollect the circumstances of the accident and the experiences preceding it, even for some hours preceding it; for months, and even longer in severe cases, there is inability to undertake any prolonged mental effort without fatigue and headache. Generally speaking, there is headache without any cause. Any mental effort requiring sustained attention, deliberation, and judgement, the subjects of traumatic psychasthenia are unable to undertake, and irresolution and indecision is a frequent result, interfering seriously with any occupation involving responsibility. Thus the bank clerk who could add up correctly and rapidly columns of figures without effort is no longer able to do so. He makes mistakes, and he fears that he will do so. The foreman or overseer of a workshop or a factory now will overlook more that he will oversee. Even the carver of a large restaurant—Case IV—was unable to attend to the orders of the customers, and for a whole year was out of a situation. The condition is aggravated by insomnia and worry, for these sufferers of traumatic neurasthenia are conscious of their mental deficiency, and are filled with apprehension of making mistakes and losing their employment, consequently they are fearful for the future, especially if they have a wife and family to provide for. If there is an inborn insane tendency, delusions of persecution and obsessions may occur.

In severer cases of "commotio cerebri" resulting from head injury the symptoms of Korsakoff's psychosis may occur. Thus there may be marked mental confusion, disorientation of time and space, mistakes in identification of persons, and especially loss of memory of recent events, without delusions or hallucinations. The common cause of Korsakoff's psychosis is chronic alcoholism; it especially affects women, and chronic inebriate women as well as chronic inebriate men are not very infrequently admitted to hospitals and infirmaries having fallen down a flight of stairs or steps, or been knocked down by a vehicle in the street, or received a head injury in a brawl. Delirium

tremens or Korsakoff's psychosis may be the result: the former more likely in men and the latter in women. The patient may smell strongly of liquor, or be known to the police as a chronic inebriate—such information helps in a diagnosis. The cases of Korsakoff's psychosis may come on to the asylum, and in some instances the friends attribute the mental condition to a head injury (see Case VIII, p. 740), but I have never been satisfied that any of the cases I have seen were really primary traumatic cases. Nevertheless, such cases have been recorded, and do occur. I am indebted to Dr. Elgie for the notes of a case of Korsakoff's psychosis, the result of head injury, which was presumably complicated by localized contusion of the left hemisphere and a patch of meningo-encephalitis beneath the seat of the external injury.

CASE V.

"Commotio cerebri" and contusion of left hemisphere, followed by right-sided epileptiform convulsions, mania, and symptoms of Korsakoff's psychosis. Recovery.

Male, aged 38, married, painter. Admitted to Horton Asylum on April 14th, 1909. On March 16th he fell from a ladder to the ground, the distance being about 6 ft. He was admitted to the West London Hospital the same day in an unconscious condition, with a haematoma and ecchymosis over the left parietal and mastoid regions, extending also to the occipital. There were no signs of fracture; no paralysis; pupils equal. Knee-jerks both difficult to obtain and sluggish. He became semi-conscious, and on the 20th had a convulsion of the right side of the body lasting 40 seconds. The face was first involved, and there was slight paresis of the orbicularis and tongue muscles of the left side. On the 21st he had a similar attack. He improved slightly afterwards, but on the 26th he became pugnacious and irritable, and on the 27th had to be removed to Fulham Infirmary, whence he was certified and removed to the asylum. (These attacks indicate damage to the left motor area; probably meningo-encephalitis.—F. W. M.)

Condition on Admission to Asylum.—Fairly well nourished but pale and anaemic; a rough protuberance was noted in the right upper occipital region. Thoracic and abdominal viscera apparently normal.

Nervous System.—No motor impairment noted at first, but afterwards it was observed that he had some loss of the right naso-labial fold, and the tongue was slightly protruded to the right. The right eye was not closed as well as the left. Knee-jerks present, left slightly increased; ankle clonus, marked left; plantar reflex, both flexor; light touch normal, heat and cold normal; complete analgesia all over the body, except face; taste and smell both absent; pupils equal, regular, right sluggish; vision normal, fundi normal; hearing, some slight deafness left ear. The patient at first admitted having contracted syphilis, but afterwards denied it.

Mental Condition.—He was certified as suffering from confusional insanity, and was dull, very confused, disorientated, and mistook identities. He was very slow of comprehension, rambling and irrelevant in his conversation, talking utter nonsense, and was very amnesic. No hallucinations or delusions were detected. He could not understand written questions and was unable to read, forming words of his own: he was a good example of paralexia. Figures presented no difficulty to him. He could not write correctly from dictation, making mistakes in spelling. He had difficulty in recognizing everyday objects—for example, called a match a light pipe, and explained other objects by dumb show. Progress: He gradually became less confused, and could understand written questions, but still had difficulty in reading, using the wrong word at times, and words of three syllables he had to spell out. His ankle clonus disappeared, but he still had the slight paresis mentioned on admission, and the analgesia persisted. He was eventually discharged as recovered on August 27th, 1909. Treatment: Tonics and potassium iodide were administered, and he appeared to improve rapidly when taking the latter.

This case is interesting from several points of view. A man who probably had had syphilis, who was a painter and therefore may have had lead in his system, falls from a ladder to the ground. The injury is severe although there are no signs of fracture, for there is a haematoma and the man is rendered unconscious; even at the end of four days he is semi-conscious, and then a new symptom indicative of cortical irritation occurs—namely, the convulsive seizure affecting the right side of the body associated with facio-lingual paralysis. I should judge this as being the result of a localized meningo-encephalitis due to contusion of the brain the result of the injury. Five days later symptoms of mania developed, for he became pugnacious and irritable; in the interval there had been several convulsive seizures. Later the symptoms of Korsakoff's psychosis developed. Although he was able to recognize numbers and to know their meaning, the subjoined letter shows that he was unable to remember the number of the house he lived in (Fig. 4). There is an apology for his writing, but it was better than his verbal

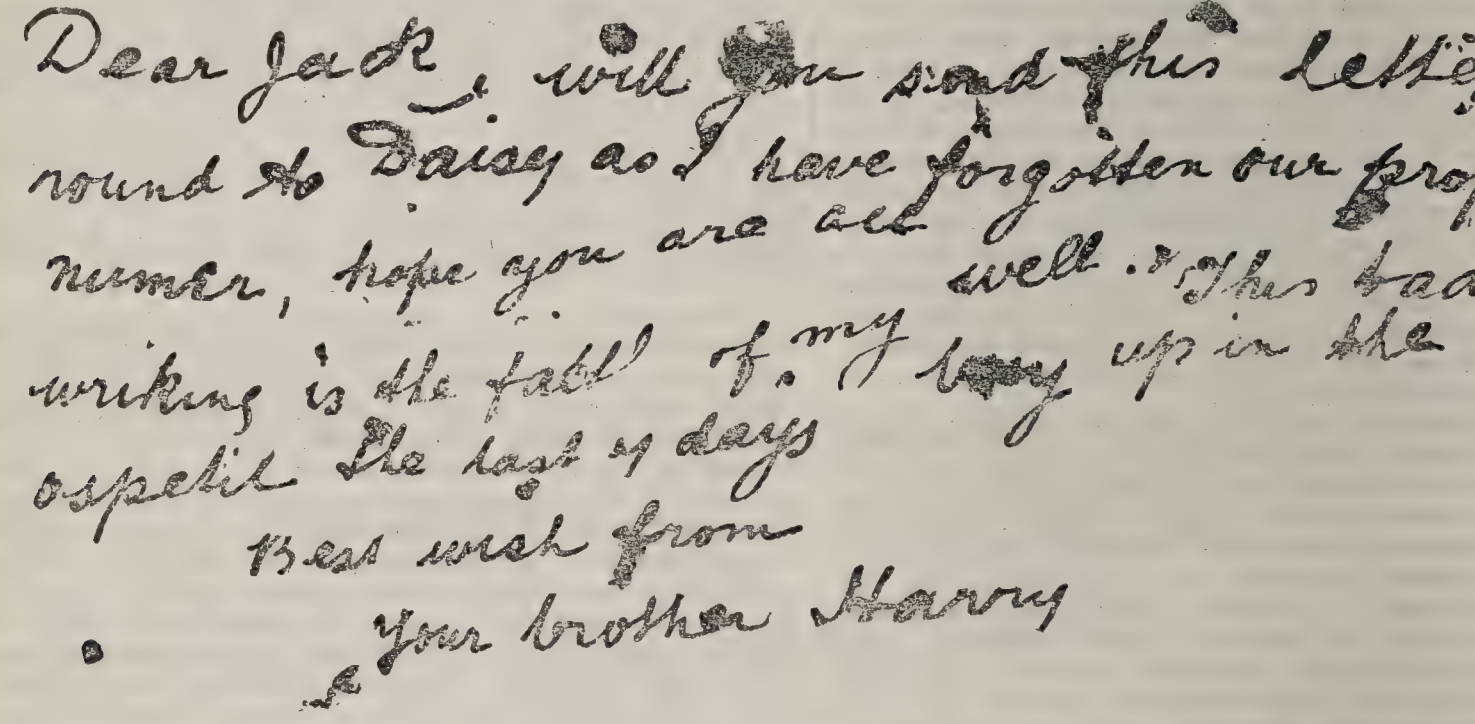
Dear Jack, will you send this letter round to Daisy as I have forgotten our proper number, hope you are all well. This bad writing is the fall of my hay up in the ospelit the last 4 days
Best wish from
Your brother Harry

Fig. 4.

speech. It is quite probable that the defects of verbal and written speech which the notes indicate may be correlated with a profound functional disturbance of the left hemisphere caused by the contusion, which was severe enough to produce irritation and paralytic phenomena in the facio-lingual area of the motor cortex, and which may have affected simultaneously or spread to the whole speech zone. It is apparent that the anterior and lower part of the speech zone was more severely affected than the upper and posterior part, for verbal speech did not recover as soon as visual typographical speech. The mental confusion and loss of orientation in time and space, together with the amnesia and the affixing of the wrong names to persons, may be the result of the profound disturbance of the whole speech zone of the left hemisphere. The brain, however, acts as a whole, and a small localized lesion might give rise by diaschisis to a profound disturbance in the whole speech zone, and this is probably what happened, for had there been an extensive contusion involving the whole speech zone there would have been paresis of the arm, and recovery would not have occurred as it did. The case shows that an injury producing only visible signs of a localized external contusion may produce a profound mental disturbance. The fact that there was a possibility of a predisposing toxic cause (syphilis or lead) may have had something to do with the establishment of the lesion; moreover, the notes state that potassium iodide led to a rapid improvement, which supports this supposition. Still, the complete recovery and the absence of any definite

history of either lead or syphilis leads me to the opinion that the symptoms were all due to contusion of the left hemisphere, combined with commotion of the whole brain. The fact that the localized cerebral symptoms did not come on till four days after the accident is in favour of a localized meningo-encephalitis, and not a subdural or intracranial haemorrhage, as in Case VII, especially as the new symptoms were accompanied by a return of consciousness.

Again, as is well known by the frequency of its happening, a person suffering from severe head injury smelling of alcohol may be taken to the police-station and placed in a cell, and it may or may not be discovered soon enough that drowsiness is not necessarily drunkenness, as the following very interesting case shows:

NOTES BY MR. FENWICK, SURGICAL REGISTRAR.

CASE VI.

Male, aged 39, carman. Admitted to Charing Cross Hospital on October 17th, 1910, under the care of Mr. Waterhouse; discharged November 23rd, 1910. Rupture of posterior branch of left meningeal artery.

History.—About 3 p.m. on October 15th, 1910, the patient fell from his van owing to the breaking of a rope by which he was endeavouring to hoist himself up. His head struck the road with force. He lay for a few minutes unconscious and then staggered up. A constable arrived and accused him of being drunk, and, in spite of the expostulations of a gentleman onlooker, marched him off to the police-station, a distance of 400 yards. He was certified as drunk by the divisional surgeon and placed in a cell, but later on, owing to total unconsciousness supervening, he was brought to Charing Cross Hospital on an ambulance. There was ample evidence from people to whom he had just delivered parcels that he was perfectly sober at the time of the accident. Family history and patient's history revealed nothing of note.

On admission to the hospital, about 7 p.m., the patient was unconscious, his breathing was not stertorous; there was a slight odour of spirits. The eyes rolled from side to side. Both pupils reacted to light, and the left was slightly contracted. The face was pale and the skin clammy. The right side of the face showed obliteration of lines, whereas the left appeared normal, and occasionally the left angle of the mouth was drawn up. The right eye was closed (partial paralysis of the seventh only) and could easily be opened, but the left eye was tightly shut and could only be opened with difficulty. The right arm and leg lay limp, while the left arm and leg were moved occasionally, the left hand being carried to the left side of the head as if there was pain there. (He was said to have had twitchings of the right arm and leg just as he was brought to hospital, but no medical man saw them.) Knee-jerks slightly exaggerated on both sides. Flexor response on right, none on left. No tendon reflexes obtained in upper limbs. Temperature 98° F., pulse 72, not very forcible. The head showed no external evidence of trauma. A few hours later the patient's mental condition improved somewhat; he appeared to recognize his wife, and to attempt to speak, but did not utter any sound.

The next day he was very restless, attempting to get out of bed, and turning from side to side. He appeared to understand simple commands, and would put out his tongue, which deviated to the right. He had incontinence of urine and faeces (large doses of calomel had been given).

Through the following week patient's condition improved slightly; he spoke, but unintelligibly. He was less restless; temperature and pulse were fairly normal; incontinence of urine and faeces remained, so also paralysis down the right side.

Mr. Waterhouse decided to trephine on 24th. A flap was turned down, and a disc of bone removed over the anterior branch of middle meningeal and the anterior margin of a large extradural clot was disclosed. This was removed with a scoop through the trephine opening first made, and also through a smaller hole made to facilitate the removal about 2½ in. behind the external auditory meatus. The clot was carefully collected and found to amount to 2 oz.

The patient on recovering from the anaesthetic was found to be sensible, was able to answer questions and to recognize people. Incontinence of faeces and urine ceased, he was able to move the right arm and leg, but these limbs were very weak, paralysis of the face also remained. He rapidly made progress, and six days after the operation the arm and leg, although weak, were much stronger than formerly. The facial paralysis was disappearing, and he spoke well. On November 8th, just over a month after the operation, the right hand grip was as good as the left, and the right leg as strong as the other; there was still some paresis of the right side of the face. Tendon reflexes were normal.

He was discharged on November 23rd, and was able to walk well, but it was noted that there was still slight facial paresis, that he suffered from headache on attempting to read, and that a letter written to his wife was almost illegible.

He was again examined July 10th, 1911, nearly eight months after the accident. He had had no fits. For several months after the accident he felt very weak, was absent-minded, and had slight pain or twitching sensations on the left side of the head. He returned to work in February, and at first had difficulty in remembering where to deposit parcels; he would find at the end of the day that he had omitted to deliver several. He gradually improved, and now he considers that he is as good a man as he was before the accident, except that he can now only lift 1 cwt. instead as 1½ cwt. as formerly. He says that for a month after leaving hospital his writing was very bad and that he had difficulty in spelling—"he couldn't think how to write."

When the patient left hospital he could only recollect events on the day of the accident up to lunch time, but recollection gradually returned, and about a month later he recollected the rope breaking, but not rising from the ground. He recollected being walked by the constable to the police-station, and asking the inspector what he was charged with, and being told that "he would be all right in an hour or so." His mind was a blank from that time up to when he found himself in Charing Cross Hospital after the operation. He has avoided alcohol, because of the warnings given him on leaving hospital.

Nervous System.—Pupils equal and react normally. No sign of paralysis anywhere. Face muscles act perfectly on both sides. Grip of the right hand as good as the left, and he walked well. Reflexes normal throughout. He received no compensation whatever, but was allowed half pay, and his job was kept open for him.

In this case there was only a slight "commotio cerebri"; the developing symptoms were mainly due to the compression caused by the extravasated blood. There was an anaemia of the brain cortex due to the escaped blood, causing loss of consciousness, together with the local effects of direct pressure. During this period of cerebral anaemia the neurones were not acting because there was oxygen insufficiency, and the mind for that period remained a blank. The brain failed as a perceptor, as well as a recollector, during the period of compression. But it will be noted that he now remembers nearly all the circumstances of the accident and what followed, so that the "commotio cerebri" was slight.

Concussion interferes, therefore, with the neurones directly in their vital reactions to the circumambient medium, whereas compression interferes with the oxygen supply to the circumambient medium. Remove the cause of the latter and the mind recovers.

Another question of great importance besides the immediate diagnosis is the prognosis, for a head injury which has produced "commotio cerebri," or concussion with fracture resulting in traumatic neurasthenia, may eventually terminate in an incurable and fatal brain disease. Several months may elapse before symptoms of traumatic epilepsy or general paralysis come on; and if such occurred within a few months rather than immediately after, or a long time after, it might be presumed that the head injury was a determining factor in the onset of the disease (vide Cases XVI and XVII). Indeed, it might be affirmed, and with good reason, that had not the injury occurred, the epilepsy or the paralytic dementia would not have affected the patient (Case XIV). Yet, as we shall see from hospital cases and asylum statistics, head injury *per se* is not a frequent cause of epilepsy, and modern investigation shows that syphilis is an essential factor in the production of general paralysis, consequently contributory determining causes must co-operate, and among these are occasionally head injuries. Still, as with epilepsy, there is in general paralysis always the difficulty of discriminating between cause and effect.

The first manifestation of both these diseases may be a sudden lapse of unconsciousness—a fit or seizure—whereby the individual may sustain a head injury. The loss of consciousness following the head injury may be due to the disease and not to the trauma. Thus, a bricklayer may fall from a ladder, or an engineer's mechanic may be injured by machinery, owing to a pre-existing disease causing a lapse of consciousness; later, if he developed epilepsy or general paralysis and claimed compensation, it might be asserted with justice that the accident was in consequence of a pre-existing disease, although there was no very definite evidence to prove that he had suffered from it. Such rebutting evidence in a claim for compensation, however, could not be made if a brick had fallen on the man's head, or if a head injury resulted from the breaking of a machine, as in Case III. Again, both epileptics and general paralytics in the early maniacal stage are impulsive and quarrelsome; they are therefore liable to receive head injuries from blows or from being knocked down, and the wife or friends may attribute the disease to the blow.

Before dealing more especially with traumatic epilepsy, general paralysis, meningitis, tumours, and other organic diseases which may follow and be caused by head

injury, I will refer to statistics of head injury in asylum practice.

Statistics of Head Injury in Relation to Mental Diseases.

Dr. Stansfield, the Superintendent of Bexley Asylum, kindly gave me the following information:

In 7,400 admissions since the opening of the asylum there were 16 male cases and 20 female cases where head injury might be considered as a contributory or determining cause. He also informed me that it was his opinion that head injury as a prime cause of mental disease was extremely rare; he could only recall one of the cases where it thus acted. (Case III.) Seeing that the notes taken at this asylum have been very carefully collated, this information is very valuable. But similar results were obtained at other asylums. Thus, Dr. Daniel could only obtain a history of head injury in 7 out of 919 female cases admitted to Hanwell Asylum in four years—1907–1911 inclusive. The cases were as follows:

CASE VII.

Congenital syphilitic imbecile, with interstitial keratitis and squint, daughter of a drunken imbecile mother. The child was always backward, and suffered from convulsions in infancy; the mother attributed her mental state to a blow on the head. It is probable that this was a mere coincidence, and had no causal relationship.

CASE VIII.

A married woman, a cook by occupation, with a history of alcoholic neuritis and Korsakoff's psychosis, received a blow on the head. There was no sign of head injury on admission; later on she died of chronic interstitial nephritis and valvular disease of the heart. Probably the head injury was a coincidence, but there may have been some causal connexion between the head injury and the onset of the psychosis.

CASE IX.

A girl aged 17; admitted to asylum suffering from insanity of adolescence (dementia praecox); she received a blow on the head at the age of 8. Probably no correlation.

CASE X.

A girl, aged 8 on admission, fell off a swing at the age of 5. A year later had an attack of biting and screaming; previously she had been normally developed physically and mentally. There is a step-sister, an epileptic imbecile, in Horton Asylum. The father is intemperate. It is very doubtful whether there is any correlation between the head injury, of which there are no signs, and the mental affection.

CASE XI.

A woman aged 69; admitted February 24th, 1910. There is a history of her having been struck on the head with a flat iron, to which her dementia was attributed by the friends; but there was a history of her having had a fit two or three months before the head injury, and she lost her memory in consequence. Besides there had been several previous attacks indicative of arterio-sclerosis and thrombosis with softening. So that the head injury can only be accounted as a contributory factor in the production of the dementia.

CASE XII.

A single woman, aged 48, had a bicycle accident twelve months prior to admission to the asylum; the accident was followed by insomnia, giddiness at times, defective memory, and headache with melancholic depression. In this case her insanity may be attributed to the climacteric period, and the head injury was an important determining cause.

CASE XIII.

A girl, aged 15, admitted November 3rd, 1910, with a history of injury to the back of the head five weeks before admission. The certificate stated that she was a congenital imbecile from birth. The paternal uncle died at Cane Hill Asylum. No doubt the injury produced acute symptoms, for she was taken to the infirmary, where meningitis was diagnosed, but these have passed off while in the asylum.

I have given a brief summary of these 7 Hanwell cases in order to show how very difficult it is to assert that injury ever acts as more than a contributory cause in the production of insanity, and is rare even as a coefficient.

Inquiries at other asylums help to substantiate this statement. Thus, Sir James Moody has kindly made an inquiry and informed me that of 984 male patients at Cane Hill there was only a history of head injury in 17, and when I analysed these cases I came to the conclusion that very few of the 17 had a causal relationship. At the Manor Asylum, Horton, Dr. White has been good enough to carefully examine all the case-books since the asylum has been opened. All cases in which there is any mention of injury of any kind (not necessarily head injury) at any time previous to the onset of the mental disease have been listed, and yet we only find 71 out of 2,561 cases = 2.7 per cent.

I have been carefully through the records of these cases, which are nearly all females, and I find that in the majority of the cases the notes prove no relationship between the injury and the attack of insanity. Occasionally one finds an old woman is knocked or falls down in consequence of senility or senility and drink; following this there is apparently a development of mania or melancholia or senile dementia, but how far the injury has been the cause or the consequence of the mental condition it is almost impossible to say, for the notes do not tell as a rule whether the patient was rendered unconscious, or whether she required hospital treatment or not. There are one or two cases of interest, however.

CASE XIV.

Woman, aged 48, was admitted suffering from general paralysis of the insane. Seven months before admission to the asylum in June, 1908, and five months before the symptoms of insanity became manifest, an iron saucepan fell on her head. There is no history of insanity, intemperance, or tuberculosis in the woman herself or her family. Was this blow, then, the cause of the disease? It was only the determining cause at the most, for there was a definite history of her having contracted syphilis after marriage.

CASE XV.

A. L. P., aged 22, a congenital imbecile, fell from a swing when 5 years old, suffered from concussion and was an inpatient at Guy's Hospital for about six weeks. Quite a few cases of epileptic or imbecile children are recorded as having fallen from a swing, and to this the mental disorder was attributed by the parents, but the medical officers who recorded these notes either were unable to pursue the inquiry further or did not take the trouble to interview the friends and ascertain more precise particulars as to whether the scalp was cut and required stitches, whether the child was unconscious, or whether there was any evidence of fits before the injury.

I will now pass on to consider the analysis of the case-book and *post-mortem* notes of 2,090 autopsies made by myself or my assistants at Claybury Asylum:

In none of the cases could the insanity have resulted from the head injury as the prime cause; in some it was possibly an exciting or accelerating factor. More than half the cases occurred in old people, suffering in many instances from brain conditions due to cerebral softening or vascular disease. The notes as a rule do not state whether the injury was severe, whether there was a loss of consciousness, or, in fact, any information which would allow one to decide a causal relationship between the insanity and the head injury. At the autopsy in only one (Case II) was there any evidence of fracture or severe injury of the skull.

Statistics of 2,090 Autopsies in Relation to Head Injury.

In 33 cases out of 1,057 female necropsies at Claybury there was a history of head injury of some kind at some period of life in 3.1 per cent.

Melancholia	9 cases
Senile dementia	7 ,,
General paralysis	4 ,,
Mania	4 ,,
Alcoholic insanity	3 ,,
Recurrent insanity	3 ,,
Epilepsy with insanity or imbecility	3 ,,

In 1,033 male necropsies there were 56 cases (5.4 per cent.) in which the notes stated that the patients at some period of their lives had received head injuries. Nearly one-half of these cases were general paralytics; in fact, it is the excess of paralytics which has raised the percentage of head injuries in males so much above that in females.

General paralysis	26 cases
Senile dementia	11 ,,
Melancholia	7 ,,
Mania	4 ,,
Epilepsy with insanity	3 ,,
Recurrent insanity	2 ,,
Congenital imbecility	1 ,,
Tumour cerebri	1 ,,
Internal hydrocephalus, fracture of base	1 ,,
Alcoholic insanity...	0 ,,

In only 1 case was a condition of injury found *post mortem* which could have been the essential cause of the insanity; this was so in the case of internal hydrocephalus secondary to basic meningitis, the result of fracture of the base (see Case II). In not a few of the cases of general paralysis head injury may have accelerated the course of the disease, but there is no evidence in any of the cases of a certain causal connexion between the head injury and the onset of the symptoms; and there was no

case which showed that the patient was mentally perfect before the accident or injury. In many of the cases the time prior to the accident or the nature of the accident was so indefinite as to afford no support to the opinion that the head injury was related to the disease in a causal way. There was often evidence that the disease had directly or indirectly caused the injury. Thus a lapse of consciousness led to a fall or a blow was received in a quarrel in the maniacal stage. Such injuries may undoubtedly have accelerated the progress of the disease.

Statistics Relating to General Paralysis and Trauma.

It has been stated that statistics show that cases of general paralysis in which there was a history of trauma run a more rapid course; individual cases occasionally occur where it may be safely affirmed that head injury has accelerated the course of the disease. Gudden's statistics pointed to the fact that the average age of onset of general paralysis was less in cases with head injury. With a view of ascertaining if this accorded with our experience at Claybury, I have collected the statistics of general paralysis with and without a history of head injury; and I may here remark that the notes regarding a history of head injury having occurred are more likely to be contained in the case-book than the history of any other etiological cause, for the friends are able usually to afford information on this point, whereas in such matters as hereditary insanity and history of syphilis no reliable information can be obtained in a large number of cases, unless the friends are personally seen and considerable trouble taken to make inquiries; even then difficulties must arise.

Autopsies on Cases of General Paralysis.

There were 21 male private cases, and the average age
t death was 46.5; among these there was not one with
history of head injury. There were 235 male pauper
aralytics in whom there was no history of head injury
n the notes, and the average age at death was 43.5; there
ere 29 male pauper paralytics with a history of head
njury of one kind or another occurring at all periods
uring the life of the individual; the majority, however,
re stated to have occurred within a few months to a few
ears of the admission of the case to the asylum; the
verage age at death in these 29 cases was almost the
me as in those with no history of head injury—namely,
3.3. In only a very few instances does there seem to be
y causal relationship between the injury and the pre-
pitation of the onset, or the acceleration of the course of
e disease.

In 1,033 male necropsies there were 61 with a history
trauma, and of these 29 were cases of general paralysis
e total number of male paralytic cases was 317),
aking about 9 per cent. general paralytics in which there
some history of a blow or a fall on the head. Of the
1 female general paralytics, there were only 4 with a
story of trauma, therefore less than 4 per cent.

I have carefully considered the following points in those
ses where trauma has been the reported cause, or con-
butory cause, of the paralysis; and the evidence afforded
the notes in the case-books in my judgement does not
a single instance allow one to assume that the head
ury was the *principal* cause of the general paralysis from
ich the patient died. In some instances the destructive
anges in the brain at death, together with the history
l clinical symptoms, indicated a duration longer than
period of time between the date of injury and the date
death; in others—and they are not a few—the time
psing between the date of injury and the onset of sym-
ms was too long to be accounted responsible as an
iting cause of the disease; in a great number of the
s the nature of the injury, whether severe enough to
uce a temporary loss of consciousness or to require
lical treatment, is not given, nor is the time and date of
injury mentioned, so that the influence of the injury
he production of the mental disease can never be
aised.

s a general result of my investigations I have come to
conclusion that head injury as an exciting cause was
of much importance either in causing the onset of
ral paralysis or in accelerating the symptoms. At the
time I have met with a few cases (see Cases III and XIV)
e undoubtedly head injury may have been the determining cause of the onset of the symptoms, and it is not unreasonable to suppose that a syphilitic, if he or she had not received some exciting cause, such as a blow on the head, might never have developed general paralysis, but these cases are rare.

General paralysis may not be discovered until an accident or a head injury takes the patient to a hospital or infirmary. Thus I have known the case of a prostitute who received a blow in a drunken brawl. She was already a paralytic at large, but not until she was taken to the hospital or infirmary on account of the injury was the nature of her affection recognized; she was then sent to the asylum.

My figures do not agree with those of Gudden, as you observe there is practically no difference in the average age of death of those cases with a history of trauma and those without. There is one essential cause of general paralysis, and that is syphilis. All conditions which lead in a non-syphilitic subject to neurasthenia may act as exciting and contributory factors; they are sexual excesses, head injuries, alcoholism, speculating, gambling, business worries, leading to prolonged mental excitement and insomnia, in fact all forms of nervous excitement, singly or combined, which will lead to an exhausted nervous system, especially when acting upon an inborn neurotic and erotic temperament in the subject of acquired or inherited syphilis.

Head Injury in Relation to Traumatic Epilepsy.

In considering the statistics of head injury in relation to epilepsy a large proportion of the cases in which there is a history of trauma as a cause must be discounted, for the friends fail to discriminate cause and effect; again, many congenital imbecile epileptics suffer from falls or injury, and that which was due to an inborn taint or defect is attributed to the fall or injury. At the epileptic colony, Ewell, there are 800 cases on the books; and of these I am informed by Dr. Collins, the Superintendent, there are, roughly speaking, 160 cases in which the friends have thought fit to mention injury—a very much higher percentage than that obtained among general paralytics, and still higher than that met with in other forms of insanity. Dr. Collins said there were about 6 cases out of the 160 which might be considered of traumatic origin. There is no doubt that trauma may be a cause of epilepsy, but how far the head injury is the primary and sole determining cause or merely an exciting or contributory factor in a person predisposed by an inborn taint, by alcoholism, or syphilis is difficult to decide. Very often an epileptic for some long time may have been manifesting signs of the disease unbeknown to relatives and friends; he may have had *petit mal* attacks or fits during sleep; then perhaps while at his employment he falls down in a fit and injures his head, perhaps severely, and remains unconscious for some time. His symptoms may now be exaggerated, the fits being more severe; or, owing to the accident, his friends notice his mental and bodily condition more closely, and naturally attribute all the symptoms they now see and the fits which subsequently occur to the head injury. Often the circumstantial evidence appears very convincing that the head injury was the cause, but, did we know all the facts, many cases in which injury was the *apparent* cause would be found to be really not due to the injury. Thus an epileptic imbecile died at Claybury aged 24. She was said to have had a blow on the head at the age of 9, and the fits and amentia were attributed to the injury. At the autopsy I found bilateral microgyria and porencephalon—a congenital defect which is a not infrequent cause of epileptic imbecility. The head injury could have had no part in the production of this defect.

Severe head injuries causing fracture of the skull and unconsciousness, some necessitating operative interference, may recover completely if they do not die within a short time of the accident; for a variable time afterwards they may suffer from the symptoms of traumatic psychasthenia, but they do not develop epilepsy unless there is some inborn or acquired condition favouring convulsive attacks. If, however, there is an irritative lesion of the cortex in or near the motor area a Jacksonian epilepsy may be the result, and the epileptiform convulsions of a typical Jacksonian type may by repetition spread so rapidly over the whole excitable cortex of both hemispheres that the fits become indistinguishable from essential epilepsy. If

head injury causes a traumatic epilepsy coming on very soon after the injury, a successful operation should cause the fits to stop. One well-observed case (in which all predisposing causes can be eliminated) cured by operation would be more convincing than a large number of doubtful and badly observed cases. Raymond has asserted that traumatism can produce a partial cortical epilepsy without any appreciable lesions of the motor cortex. Pitres and Kocher adopt a mixed theory that compression plays a predisposing rôle, the cerebro-spinal fluid being under pressure.

Alexander has recently performed the operation of fenestrating the dura in epilepsy. Some of his cases were of traumatic origin, and he has found the membranes thickened over the motor area and an accumulation of fluid. Epilepsy may be the result of injury to the cranial vault; splinters of the inner table are driven into the brain or a cicatricial thickening of the membranes act as a focus of irritative discharge. It is probable that one of these conditions exists in the following case.

CASE XVI.

An Italian, aged 41, was admitted to Colney Hatch Asylum two years ago. He has a fit every two or three months; he knows when they are coming on, for he has a spasm in the left foot, but faints and falls down unconscious. The fits generally occur at night; he does not know how long he remains unconscious. The fits always begin in the left leg. Five years ago he fell down a lift while acting as cook in a private family. He was taken unconscious to the hospital (Charing Cross?) and was trephined. There is a trephine hole, 2 in. by 2½ in. just above the *left* ear and 2 in. from the vertex. After two months he was transferred to the Chelsea Infirmary, where he remained two years. Three or four months after the accident the fits commenced. There is no paralysis of the right arm, leg, or face; the only evidence of motor affection is inability to close the right eye independently of the left. Knee-jerks present both sides, not exaggerated. He is a born left-handed man, and he says that he is unable to use his left hand as well as before the injury. These fits always beginning with spasm in the left leg suggest either a splintering of the inner table by *contrecoup* or some thickening and cicatrization of the meninges and cortex, the result of contusion by *contrecoup*. There was no history of epilepsy or insanity or any acquired cause or factors obtainable in this case.

CASE XVII.

A male, aged 20, admitted to Colney Hatch Asylum at the age of 19. Since 11 years of age he has suffered from epileptic fits. A gang of boys struck him over the left frontal eminence with a piece of iron. He walked home, and attended the Middlesex Hospital as an out-patient for six weeks; then he was admitted and trephined over the seat of the injury; only a small circular opening was made, not more than an inch in diameter. Two years after he left the hospital the fits came on. He knows when they are coming on by his head turning to the right; he gives a cry and falls down; tonic spasms are followed by clonic spasms. He does not fall into a sleep, but soon gets up; he is a little irritable, otherwise there are no psychic effects before or after the fits. Neither parents suffered from epilepsy, but the father was at Hanwell Asylum, and died there.

ORGANIC DISEASES DETERMINED BY TRAUMA.

I have seen several cases of head injury in syphilitic subjects lead to a *gummatous pachymeningitis*. I have published two cases in which, following a blow on the head in the region of the parietal eminence, severe headache, sickness, and flashes of bright light on the same side as the localized tenderness, together with pain on pressure at the seat of the injury, occurred. In both cases mercurial inunction, local and general, combined with large doses of potassium iodide, soon relieved the symptoms and eventually cured the patients. I have also published the notes of a case of meningo-myelitis syphilitica determined by trauma.

Tuberculous Meningitis.—Most physicians to children's hospitals consider head injuries, particularly falls, as an important determining cause of tuberculous meningitis in young children and infants.

Tumours.—Cerebral tumours—tuberculous, simple, and malignant—are said to be determined by falls or blows on the head; the only tumour which I should definitely associate with injury would be a gumma, which, as we know, starts from the meninges. Still, if there is produced by the injury a *locus minoris resistentiae* with congestive stasis and extravasation, there is no reason why, as pointed out by Dr. Colquhoun of Dunedin, a suitable nidus for the development of parasitic organisms or cancer germs is not provided, and on that account head injuries may be the determining cause of growths of all kinds. I may say, however, that there was only one case of growth in the 89 cases of head injury among the 2,090 autopsies, which is about the same proportion as among the non-traumatic cases.

Meningitis, Non-tuberculous.—Fractures of the base of the skull may occasionally give rise to an acute or chronic meningitis (see Case II).

TRAUMA AND GENERAL PARALYSIS.

I will now pass on to a consideration of general paralysis of the insane—the most important organic disease from a medico-legal point of view. In fact, a number of cases of claim under the Workmen's Compensation Act have occurred recently in the London County Asylums, brief abstracts of which I will give, as each one illustrates some one or more points of medico-legal interest.

SUMMARIES OF SOME RECENT GENERAL PARALYTIC CASES IN WHICH CLAIMS FOR COMPENSATION WERE MADE.

1. *Compromised Claim for Compensation.*—A man who was employed by a newspaper company delivering papers was knocked off his bicycle by collision with a car; shortly after the accident he was sent to Colney Hatch Asylum, and died two months later. An inquest was held, and the finding of the jury was that the injury had precipitated but had not caused the disease; this conclusion was arrived at from the *post-mortem* examination, as the changes in the brain were much too far advanced to have occurred within the short period of time since the accident.

2. *Unsuccessful Claim for Compensation.*—A builder's clerk received a slight head injury; while unloading wooden bricks one bounded up and struck him on the head; he walked to the hospital and had a slight scalp wound dressed. Shortly after he was admitted to Claybury Asylum, where he died two months after the accident. At the autopsy, a recent *pachymeningitis haemorrhagica* was found. The question arose, was the pachymeningitis the result of the blow on the head with the wooden brick? The wife admitted mental derangement had existed for some time prior to the accident. The haemorrhage appeared more recent than two months. Many cases of general paralysis show *pachymeningitis haemorrhagica* in which there is no history of trauma. Consequently the wife was unsuccessful in the claim for compensation.

3. *Compromise by the Railway Company in an Action by the Wife of a Railway Guard.*—The man was admitted to Cane Hill Asylum suffering from general paralysis. The wife attributed the disease to an injury sustained in a shunting accident. Evidence was obtained by the company to the effect that prior to the accident the man had been strange in his conduct, and therefore the injury had not produced the disease. As rebutting evidence it was shown that the medical adviser to the company had seen the man and examined him, and had ordered him back to his work. The case, therefore, did not come into court, the company compromising the claim.

4. *Successful Action for Damages against a Railway Company by the Wife.*—The employee of the company was engaged in unloading a truck; he slipped, it is said, and struck his head against an iron bar. According to the evidence of the doctor who attended him, the blow was a slight one and not sufficient to set up organic brain disease. Several doctors were called to give evidence, including a specialist who saw the man at the hospital but did not remember the case. He expressed the opinion that syphilis was an essential factor, but that a blow might act as the exciting cause. The county court judge gave as his judgement: "It is clear to my mind that the blow did have an effect upon him, and I do not see my way in the evidence before me to say that the effect of the blow has been sufficiently compensated for, and that had there been no blow the man would have been in the condition he is. In these circumstances I put no period to the effect on the incapacity as the result of the accident, and I think the company should pay 13s. 8d. per week from the date on which the last payment was made and continue to pay."

5. *Unsuccessful Action by Wife for Compensation.*—This case was of interest for several reasons. It was proved that the man met with the head injury owing to his interfering with another man's work. There was a definite history of syphilis, and both the cerebro-spinal fluid and the blood was examined by an expert, and he gave evidence in court to the effect that both gave a positive Wassermann reaction. Judgement was given against the wife, the reason being that the man had not met with the accident while attending to *his* occupation: moreover, the judge remarked that he was not satisfied that the injury was the immediate cause of the insanity.

No doubt the Wassermann reaction will in future play an important part in medico-legal actions arising from claims for compensation in organic disease of the nervous system. It is therefore important that some definite understanding should be arrived at as to the methods to be employed and the value of the test. From a considerable experience at the Claybury Laboratory, based upon observations made by my assistant,* Dr. Candler, and

* A full report of this investigation by Dr. Candler will appear shortly.

Dr. Henderson Smith, of the Lister Institute, upon cases under my care at Charing Cross Hospital and in the London County Asylums, I have come to the following conclusions:

1. The original Wassermann method is the most reliable.

2. Four dilutions at least should be made.

3. In the case of the cerebro-spinal fluid not less than 0.5 c.cm. should be used.

4. If the blood serum does not give a positive result, the cerebro-spinal fluid will be negative. On the other hand, if the cerebro-spinal fluid gives a positive result, the blood serum will also.

5. In general paralysis 97 per cent. of the cases gave a positive result with the cerebro-spinal fluid, accompanied by a lymphocytosis. The correctness of this percentage, which is similar to that of Plaut, has been proved by *post-mortem* macroscopic, and if necessary microscopic, investigation of a large number of general cases of paralysis.

6. If the blood serum gives a positive Wassermann reaction, and the cerebro-spinal fluid show a lymphocytosis but gives a negative Wassermann reaction, it is greatly in favour of the disease not being either general paralysis or tabes, but a gummatous meningitis which may clinically be a pseudo general paralysis or pseudo-tabes case. I have published several cases in my Morison Lectures proving the truth of this statement.

7. It is not safe always to assume that a case is not syphilitic, or at any rate will not yield to antisyphilitic remedies, because the blood serum yields on several occasions a negative reaction. I have occasionally seen instances in support of this statement. A case of ophthalmoplegia interna and externa gave a negative serum reaction on several occasions, yet in three weeks was completely cured by mercurial inunction and large doses of iodide.

8. The Wassermann reaction may disappear under the influence of "606" or mercury and again reappear.

9. The serum reaction is not nearly so significant as that of the cerebro-spinal fluid from a diagnostic point of view.

10. The examination of the cerebro-spinal fluid in general paralysis is most valuable; it may be necessary to make lumbar puncture more than once to obtain the reaction. Occasionally, but very rarely, even then a negative reaction may occur; this may be due to excess of cholesterol, at least that is the explanation I should offer tentatively. Cholesterol is always present when nervous tissue is breaking down; this possesses antihaemolytic properties, consequently excess might interfere with the action of the globulin substance that causes the deviation of the complement. This globulin may be removed by dialysis, by heating or by precipitation with alcohol, and the fluid then no longer gives a positive reaction. There are many other points to which I might have called attention, but I will content myself by thanking the superintendents of the London County Asylums and my surgical colleagues at Charing Cross Hospital for the kind assistance they have given me. Also particularly I desire to thank Mr. Fenwick, Surgical Registrar, for kindly interviewing a number of patients who had been admitted at some previous time for head injury and who had been discharged. A summary of these cases is appended.

THE AFTER-RESULTS OF 13 CASES OF SEVERE HEAD INJURY ADMITTED TO CHARING CROSS HOSPITAL.

None of these Cases of Fracture Suffered Later from Fits.

1. Rupture of middle meningeal posterior branch. Operation; recovery. Seen eight months later; memory had returned for all events which happened up to the time when signs of compression occurred, but during this time till operation "all is a blank."

2. Fractured base. Extradural and subdural haemorrhage (?). Rupture of cavernous sinus. Two operations. Dementia, persistent; now in Horton Asylum.

3. Compound depressed fracture of vault. Operation. Nine months after accident, memory enfeebled, liable to severe headaches; depressed and nervous.

4. Fractured base. One year after operation, recovered in every way, except unable to remember well.

†5. Fracture of base and vault. No operation. Eight months after accident, headache, weakness, dizziness, nervous, and depressed, memory very bad. Four months later, improved and returned to work.

† Loss of consciousness at the time of accident.
‡ Continuance of unconsciousness for some hours after admission.

†6. Fractured base. Two years after, severe headache, worse if worried or subjected to noise; lack of power of attention, and memory much impaired.

‡7. Concussion. One year ten months after accident, lack of concentration of attention, subject to headaches, unable to take interest in matters.

†8. Fractured base. Three years after accident, severe headache after rush of business, unable to give sustained attention for six months, out of work for one year. Gradual improvement; now quite well.

‡9. Fractured base. Two and a half years after, memory still very bad; cannot recollect names of friends or places; insomnia, but no headache.

‡10. Fractured base and concussion; returned to work three weeks after accident. Nine months after, no effects now.

†11. Fractured base. Three years and four months after "as good a man as ever"; out of work four months.

†12. Depressed compound fracture of frontal bone. Operation, elevation. Discharged nine days after admission, recovered; five years after accident still quite normal.

†13. Compound depressed fracture of vault. Extradural haemorrhage. Operation; complete recovery.

DISCUSSION.

Dr. BYROM BRAMWELL (Edinburgh) said he was sure that they would all agree in thanking Dr. Mott for his very able and interesting paper. He agreed in thinking that one of the great difficulties in these cases in which nervous symptoms followed traumatic injury was to decide whether the patient was healthy or not before the injury. He referred to cases of temporary paralysis of the lower extremities and bladder, following injury to the back, in miners, as the result of falls of coal or stone on the back, in which the bones were not injured. These were cases of concussion of the spinal cord, properly so-called. Now occasionally symptoms indicative of organic disease, such as spastic paraplegia, developed after the same sort of injury, but they were, comparatively speaking, very rare. He was in the habit of thinking that in these cases there probably had been punctiform haemorrhages into the grey matter of the cord. He had seen cases of brain tumour—syphiloma, tuberculous tumour of the cerebellum, glioma—in which the patients were, so far as could be ascertained, quite healthy up to the date of the accident, and in which it seemed reasonable to suppose that the brain lesion was the result of the injury. But these cases were very rare and difficult to prove. One of the most interesting points to which Dr. Mott had referred was traumatic neurasthenia. He (Dr. Bramwell) had had a large experience of railway and other compensation cases, and his experience was very definite that in these cases the patients did not get well so long as the question of compensation was pending. He referred to some cases of the kind. He considered that the value of the evidence of the skilled neurologist was not always sufficiently recognized by juries in cases of the kind. They were apt to rely just as much on the evidence of the surgeon as on that of the nerve specialist.

Dr. SHUTTLEWORTH (London) said that his remarks would be restricted to head injuries affecting children in relation to mental development. The occurrence of head injury was constantly alleged by parents, who had a natural repugnance to admitting original defect, especially of hereditary character, and their statements as to this being the sole efficient cause should always be carefully sifted. Injuries (1) previous to birth, (2) during the process of birth, and (3) subsequent to birth, must, however, be duly considered in relation to mental defect in children. Of the first class, instances were frequently alleged, but injuries to the mother during pregnancy could but rarely be scientifically associated with injury to the fetal head. Of injuries during the birth process, he had notes of a percentage among 1,250 cases tabulated at the Royal Albert Asylum, of 14.2 in which prolonged labour and 3.3 in which instrumental delivery were said to be contributory causes. Behind, however, the majority was the presence of a neuropathic predisposition, and it seemed highly probable that abnormal presentations and difficulties during parturition were more common with neurotic mothers than with others. Instrumental delivery was often unjustly blamed as the cause of damage to the brain, which, however, was probably more apt to result from unduly prolonged and unassisted labour, and which, by producing asphyxia neonatorum, contributed in a

considerable percentage of cases (20 per cent., according to the late Dr. Langdon-Down, and 12.96 per cent. in the Royal Albert Asylum statistics) to brain undevelopment. Dr. Little many years ago traced varieties of spastic paralysis in infancy to prolonged parturitional pressure, but out of 63 cases he described only 11 presented mental abnormality. With regard to the mental effect of traumatism in childhood, Dr. Shuttleworth thought parents were apt to exaggerate the effect of alleged falls and other injuries to the head. In a few cases only had he convinced himself that head injury alone was the sole efficient cause of mental defect. In many alleged cases stigmata of degeneracy demonstrated the congenital character of the defect.

Dr. RISIEN RUSSELL (London) said that he could cordially endorse all that had been said about the difficulty of expressing an opinion as to the connexion between injuries and mental defect. The subject of traumatic neurasthenia presented an extremely difficult problem, but he saw a good many of these cases where all possibility of malingering was excluded in which the patient's condition and the group of symptoms presented could not be simply simulated. He illustrated this by relating a case of neurasthenia which had undoubtedly developed as the result of vaccination. He considered that cases of paralysis agitans also did sometimes undoubtedly develop as the result of trauma, and he knew an instance of tabes which he believed to have been due to an injury.

Dr. F. E. BATTEN (London) referred to the cases of "Spät-apoplexie," in which paralysis developed some days or weeks after an injury, and was due to haemorrhage into the membranes or the brain. He could not agree with Dr. Byrom Bramwell or with Dr. Russell that organic disease was the direct effect of injury. The speaker quoted a case to show that the accident and injury sustained by the patient were caused by a cerebral tumour, not that the cerebral tumour was produced by the injury. He could not agree with Dr. Risien Russell that a progressive paralysis might follow injury. He held the view that such symptoms would either remain stationary or tend to improve. He quoted a case of well-marked general paralysis with a Wassermann reaction both in the blood and cerebro-spinal fluid.

Dr. COLQUHOUN (Dunedin, N.Z.) stated that the relation of trauma to tumour formation might have the following explanation. Bruised tissues being devitalized and the seat of congestion, stasis and extravasation offered a *locus minoris resistentiae* to stray organisms or cancer cells circulating in the blood or lymph, enabling them to develop and thus form a tumour. He cited a remarkable case of hydatid tumour formation in support of this hypothesis.

Dr. W. J. MIDELTON (Bournemouth) doubted if there was any such thing as a perfectly healthy person. Very few had escaped infection of some kind, such as measles or scarlet fever in childhood, and he held that such infection might persist in a dormant form for any number of years, and in conjunction with trauma be factors in the production of diseases of the nervous system. He thought that trauma might be a great factor in the production of paralysis agitans, but doubted whether injury alone could cause progressive disease of the nervous system.

Dr. ROBERTSON (Edinburgh) considered it improbable that a disease like general paralysis could develop in such a short time as two months, as in Dr. Mott's case. In his opinion, all cases of syphilis should be examined for the Wassermann reaction.

Dr. HADDON (Hawick, N.B.) also spoke.

Dr. F. G. SOUTAR (Gloucester) said that the response of different individuals to trauma varied. Some suffered severely, others not at all; hence there were probably other factors more important in the causation of nervous disease. The cases in which trauma had been specially noted were those of general paralysis and of dementia in adolescents; but in the former the accident was often merely an incident in the life of a general paralytic, and the adolescent who became a dement was one of a very small minority of the large number of youths who sustained more or less severe head injuries.

Dr. JOHN MILLS (Ballinasloe) dissented from the tendency of the discussion to assume that syphilis or general paralysis were often latent or predisposing factors in what was clinically "traumatic insanity." Traumatism occurred very frequently in Ireland, and general paralysis was very rare, except in the large towns. He knew of 6 cases of traumatic insanity, in none of which was there any evidence of specific infection. What clinicians were looking for from pathologists was some guidance as to the changes occurring when there was no suspicion of infection and when the patient showed the typical symptoms of traumatic neurasthenia.

Dr. W. SALISBURY SHARPE (London) gave details in further explanation of one of the cases referred to by Dr. Mott.

Dr. EDWIN BRAMWELL (Edinburgh) having spoken,

The PRESIDENT agreed that when the serum gave a negative Wassermann reaction it was safe to assume that the cerebro-spinal fluid would give the same. Working with Dr. Schölberg (Cardiff) he had got a very much lower percentage of positive results with cerebro-spinal fluid than most workers. Doubling the amount of amboceptor used (0.4 c.cm. in lieu of 0.2 c.cm.) did not in their experience regularly convert a negative reaction in the cerebro-spinal fluid into a positive one in cases of undoubted general paralysis. As far as he was aware, the original authors of this reaction obtained their positive results in cerebro-spinal fluid with the same amount of fluid as when serum was used. Wassermeyer and Behring had obtained positive reactions in the former in a percentage but little higher than that recorded by Schölberg and himself. It was, he noted, now stated that as much as 0.8 c.cm. of cerebro-spinal fluid might be taken if lesser amounts gave a negative result.

Dr. NATHAN RAW (Liverpool) said: It has always been a matter of surprise to me during my hospital and asylum experience to find how comparatively few serious injuries to the brain and skull have been followed by gross organic changes or mental disturbance, and yet, on the other hand, we sometimes see a slight injury to the skull produce traumatic epilepsy or even organic mental disturbance. I have a patient in hospital now who three years ago suffered from a severe compound fracture of his left parietal bone, with a resulting hernia of about half of his left hemisphere, yet his mental state is clear and he has had no symptoms of epilepsy. It is difficult to understand what really happens when the skull is subjected to injury. The condition known as "commotio cerebri" is often observed, followed by what is now often described as traumatic neurasthenia, and other neuroses and psychoses, but organic brain disease is in my experience not common. I would like to confine my few remarks to the effect of injury in the causation, or, what is more likely, the acceleration of general paralysis. During the last fourteen years over 137 cases of this disease have been under my care, and of this number 8 cases were attributed to injury. Careful inquiries, however, resulted in the fact that in 6 of the cases a definite history of syphilis was obtained, and in one other case general paralysis had been diagnosed before the injury occurred. The injuries were as follows:

1. Severe injury to spine.
2. Fall of hammer on head (vault).
3. Explosion, injuries to face.
4. Fall down hold of ship; fracture of vault of skull.
5. Fracture of frontal bone.
6. Severe kick from horse.
7. General injuries to head.
8. Concussion of brain.

All the patients were males and between the ages of 20 and 40. Autopsies were made in two fatal cases, and the typical appearances of general paralysis were observed, but no evidence of injury either to the skull or brain could be discovered. From my observation I am of the opinion that trauma is not a cause of general paralysis *per se*, but that in persons who are predisposed to the disease a severe injury may accelerate its onset and cause a rapid progression of the symptoms with an earlier fatal termination

PUNCTURE OF THE BRAIN FOR DIAGNOSTIC PURPOSES.

By Professor B. PFEIFER,
University of Halle.

FOR several years in Germany punctures of the brain have been made in order to discover the presence of tumours as well as of blood, pus, and cystic fluids within the skull. Since punctures of the brain, as far as I know, have not been performed in England, I think it will be interesting for you to hear something about this operation and the results obtained by it.

A number of years ago some punctures of the brain were made by Middeldorpf, Maas, and Meinhardt Schmidt, and also experiments on animals by Payr, in order to discover if the operation of puncturing the brain would be efficacious.

In 1904 Neisser and Pollack showed the manner in which this operation could be best performed, and indicated the different places on the skull in which the puncture could be most satisfactorily made. They referred to a number of cases in which by puncturing the brain they succeeded in finding especially pathological fluids, such as abscesses, haematomata, and cysts. In one case they were able to cure a patient by puncturing several times a cyst in the cerebellum and withdrawing the fluid. In another case they succeeded in extracting a soft matter mixed with blood and yellowish fluid, which on microscopical examination was found to contain large endothelial cells, and so they made the diagnosis of a softened tumour of the brain.

Since then I myself have endeavoured to make use of puncture of the brain in the clinic for nervous diseases in Halle, especially for the diagnosis of tumours, and I have published my experiences and results in different papers.

First, as regards the technical part of the operation, I soon was obliged to alter the instruments used by Neisser and Pollack, because it was not possible with a needle only 1 mm. thick to extract parts of solid tumours large enough to embed and to make cuttings from in order to get an exact microscopical diagnosis.

As the needle consisted of steel, the specimens were often soiled by rust. Then the needle was found to be too sharp, as it caused bleeding in one case through injuring an artery. Therefore, I use now borers 3 mm. broad at the point, and graduated needles made of platinum-iridium, the point sloping and blunt, 1.3 to 1.5 mm. thick, the cavity being at least 1 mm. in diameter. Into the cavity of the needle a silver wire is introduced.

In order to extract the tissue of tumours a very strong syringe, made entirely of glass, is used. To perform the operation, the mode of procedure is as follows: The scalp must be shaved and disinfected in the usual manner. Then the place in which the puncture is to be made should be marked and anaesthetized by the local application of chloraethyl.

Now the borer, made to revolve by electricity, must be forced through scalp and skull. The silver wire should be inside the needle when it is penetrating the hole in the scalp and skull until it reaches the dura mater, in order to prevent the entrance of blood and fine particles of bone into the needle.

If there should be a suspicion that blood or pus is present outside the dura mater the syringe may be used at this point; if not, the needle with the silver wire must be introduced through the dura mater into the cortex of the brain, the silver wire then taken out, and the syringe put on the needle.

Now an assistant inserts the needle slowly into the brain, watching the graduation on the needle, usually to a depth not more than 3 or 4 cm. In the meantime the operator uses the syringe. The syringe must be used also while the needle is being drawn out until the point of the needle again reaches the dura mater, then the use of the syringe should be stopped to prevent blood and bone particles entering the needle.

Proceeding in this manner I now regularly succeed in withdrawing cylinders of brain or tumour several centimetres in length and at least 1 mm. in diameter—sometimes also a number of smaller pieces. These pieces show often macroscopically pathological ingredients. When imbedded in paraffin and cut in series the histological diagnosis of tumour or other pathological process can be made with certainty.

On performing further punctures in the environment of the place in which the tumour first was discovered, an estimate of its size and its distance from the surface of the brain may also be obtained.

The operation is, when a local anaesthetic is applied, almost painless. General narcosis is not necessary, especially when before the application of chloraethyl an injection of stovain-adrenalin is made, which injection we have frequently used during the last year.

Sometimes it is difficult to find the hole in the skull when the hole in the scalp is displaced, or when, especially in puncturing the cerebellum, the pierced muscles become contracted. Attempts were made to remedy this in different ways, but none was quite satisfactory. In general any displacement may be prevented by using a large quantity of chloraethyl to freeze the scalp.

Some years ago, having performed the operation as now described, I referred to 16 cases of tumour of the brain in which it was possible by means of the results of the punctures either to disprove a wrong clinical diagnosis, or to correct a doubtful one, or to make more exact a correct one, by discovering the histological nature of the tumour, its size and distance from the surface of the brain.

It was shown that even negative results of the punctures may be valuable, inasmuch as they may prove that a certain part of the brain, in which after clinical examination a tumour is supposed to be localized, is not affected.

In one case which, according to the clinical examination, was considered to be a tumour, it was possible by puncture of the brain to diagnose a cysticercus. In several cases also hydrocephalus has been discovered when cerebro-spinal fluid was found only a short distance from the surface of the brain escaping very rapidly.

After withdrawing cystic and ventricular contents in several cases the patients felt better for a short time, according to the diminution of the brain pressure. This treatment may be frequently repeated when it is impossible to remove the tumour. But in those cases it would be more useful to make the "Balkenstich" proposed by Anton and von Bramann of Halle, as it ensures a greater and more lasting diminution of the brain pressure.

Because of the earlier local diagnosis of tumours which was possible by means of puncture of the brain, the entire removal of the tumours, performed in most of the cases by von Bramann of Halle, was also very successful.

Out of the above mentioned 14 cases 4 are still alive, five years after the operation, without having any general symptoms of a tumour of the brain, and they, therefore, must be considered as being permanently cured.

Since that time a number of cases of intracranial tumours, abscesses, cysts, haematomata, and also cases of meningitis serosa, successfully diagnosed by puncturing the brain, have been published by different authors. Complete cure was occasionally effected in puncturing haematomata. On the other hand, it must be acknowledged that this operation is not without risk.

I myself saw in a few cases slight bleeding result, but in only one case death occurred, which was caused by injuring the artery of the corpus callosum, the position of which was altered by a tumour located below. The bleeding was very slight, but, owing to the presence of a large tumour, which had damaged the brain, it was sufficient to cause death.

The dangers of puncturing the brain with possible injury of arteries, veins, sinuses, and also possible infection of normal parts of the brain by the needle piercing an abscess, have been pointed out, particularly by some surgeons.

Krause and Borchardt consider that punctures of the brain should only be performed by surgeons, whilst Neisser and Pollack, myself, and most neurologists think that this operation may also be performed by neurologists and other physicians who are experienced, just as well as punctures on other cavities of the body, such as the thoracic, abdominal, and spinal cavity.

Oppenheim holds the opinion that too many punctures performed on one patient may alone damage the brain without having caused bleeding or infection. However, providing that puncture of the brain only be carried out when, after minute examination by all clinical methods and careful supervision of the patient, there are doubts as

to the nature or locality of the disease, and providing also that no more punctures are performed than are deemed absolutely necessary, the operation of puncture of the brain meets with general approval in Germany.

Since my last publication about punctures of the brain three years ago, I have succeeded in making an exact histological local diagnosis by puncture of the brain in 12 further cases, ascertained later by removal of the tumour or, if not possible, by *post-mortem* examination.

Out of those 12 cases, through puncture of the brain, a correct clinical local diagnosis has been made more exact in 3, a doubtful one corrected in 7 cases. In 1 case chronic inflamed tissue was found, the inflammation, as later on *post-mortem* examination showed, caused by cysticercus.

In 6 of these cases the removal of the tumour was tried, but no permanent cure was effected, as, unfortunately, all these tumours were very large. Therefore they either could not be removed completely, or, in removing them, opening of the ventricle occurred, which caused the escape of cerebro-spinal fluid and later on infection. In 6 other cases either the tumour was considered not to be removable on account of its situation, or the condition of the patients was so bad that a removal of the tumour was thought to be useless.

I regret that there is no time to give more details about the different cases, and I must be content to give you these general ideas.

I would now like to show you some photographs illustrating the exactitude which may be obtained in making histological diagnosis of tumours and other pathological processes by puncture of the brain.

[Professor Pfeifer then threw on the screen several photographs, illuminated by a lantern, illustrating various cases in which puncture of the brain had been performed.]

DR. E. F. TREVELYAN (Leeds) asked if Professor Pfeifer had seen cases of Jacksonian epilepsy after brain puncture.

Professor PFEIFER, in reply, said: As regards cysts, not only has the diagnosis of cysts been made by puncture of the brain in several cases, but also, as I pointed out, in some cases remarkable therapeutic effect has been obtained in withdrawing cystic fluids. The histological diagnosis of a glioma is not difficult, and may be made with great certainty when specific stainings of Weigert or Mallory are made. Jacksonian or general epileptic fits I only saw in consequence of a haemorrhage. Puncture of the motor area of the brain did not cause Jacksonian epileptic fits in any case.

THE NEED FOR CHEMISTRY IN THE INVESTIGATION OF MENTAL DISEASE.

By R. V. STANFORD, M.Sc., Ph.D.,
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IN addressing to you the following reflections I must plead guilty to a considerable degree of rashness and presumption, for I am about to assume the manner and office of the preacher without even the extenuating circumstances of age or experience which form the usual excuse for such an enterprise. If, notwithstanding, I proceed, it is because there may be something of truth in what I have to say as to the function of pure chemistry in the study of mental disease, in spite of the fact that I can make no pretence to speak with the least authority on either subject.

According to current opinions, all the processes of life are inseparably connected with chemical change. Our analysis of living matter goes no further than chemical investigation will lead. The microscope stops short long before; it gives information as to normal and abnormal cells, and renders possible the diagnosis of all kinds of diseases due to abnormalities or to bacterial invasion. How, given these histological phenomena, the disease arises—on this the microscope can say little or nothing. We suppose that in some way the "physical basis of life" is reacting abnormally, either with the substances it feeds on or with those into which it should decompose, or we imagine that it finds presented to it noxious substances with which it can and does react greedily, with the result that its constitution is altered, its further decompositions and recombinations begin to fall outside the group in which they are associated with life, and finally numbers of molecules have departed so far from their proper types that they have lost the strange accompaniment of life altogether. This is the death of a cell.

Such a theory of toxins and toxaemia is entirely a chemical matter. Biology tells the chemist merely in what sort of living vessels and with the aid of what sort of apparatus these reactions proceed, but the reactions themselves, which form the essence of the matter, are as much the legitimate concern of the pure chemist as any precipitation carried out in a test tube. Thus the chemical study of the abnormal, as well as of the normal processes connected with the changes of living matter, seems to promise most fundamental discoveries, and it is not surprising that recent years have produced an enormous quantity of research directed to the elucidation of the chemistry of life, whether normal or diseased. The investigation of the causes and rational treatment of insanity has also profited by the introduction of chemical methods, and many important researches have been carried out in the effort to trace those curious and elusive disturbances of metabolism which can produce a diseased mind in an apparently healthy body.

Although the almost unmanageable dimensions to which bio-chemical literature has now attained testifies to the expectations which the development of the subject has aroused, as well as to the assiduity with which it is being pursued, yet few would deny that the proportion of positive progress made to experimental energy expended is decidedly lower in physiological chemistry than it is in some other branches of science, and it cannot be said that the chemical work which has been done in connexion with insanity is in a much better position than the general subject of bio-chemistry in this respect.

The difficulty of the chemical problems presented by living matter is too well known to need being emphasized. The substances with which the bio-chemist has to deal are the most complex in structure of all known compounds. Only in a few instances has their chemical nature been determined in any detail. Their physical properties are even more discouraging. Precipitation, filtration, crystallization, and most of the other usual chemical manipulations for effecting the separation and purification of substances become slow and laborious, or even impossible. The criteria customarily employed for the recognition of pure substances, such as melting point, boiling point, percentage composition, etc., are commonly inapplicable to these compounds, because they form mixtures with one another which behave very much like pure substances. Not only is it very difficult, therefore, to isolate and purify substances, but it is also by no means easy to be certain that they are pure when obtained.

Most bio-chemical investigations depend ultimately on quantitative analytical measurements. Indeed, in every branch of natural knowledge the real and certain advances are those which are supported by measurements of number and quantity. But how are reliable quantitative determinations to be made in physiological chemical work if the circumstances are so unfavourable as has just been indicated? What will be the labour and care required for the development of exact analytical methods when it is necessary to deal with mixtures of scores of substances which have undesirable physical properties and (for the most part) unknown chemical ones? Who will guarantee, without the most thorough and careful examination, the quantitative accuracy of any chemical reaction under such conditions? Surely it is evident that nothing can be done in this work, except it be preceded by a thorough study of the pure chemistry of the substances and of the methods involved. If the laying of these foundations is laborious, slow, and difficult, the work is rendered thereby only the more valuable when it is accomplished.

The special force of these arguments in regard to the investigation of insanity lies in this: systematic research into the causes and treatment of mental disease is of comparatively recent origin, and the application of chemical methods to the work is but just beginning. An opportunity is thus presented to attack the subject in a rational and connected manner, and to avoid the misdirection of effort which I venture to suggest has something to do with the low ratio of progress to work in bio-chemistry already referred to.

The time is past when even a young man can pretend to special knowledge in two or three different sciences; it becomes increasingly difficult to be reasonably efficient in one of them. It is not to be expected, therefore, that the physiologist who desires to pursue chemical methods of inquiry shall also be equipped to deal with the remarkable difficulties of a purely chemical kind which will beset his path. One can demand, however, that he should be aware of those difficulties and reckon with them; that he should know how easily enormous errors may affect his analytical processes, and consequently that he should either control the accuracy of those methods himself, or take care to employ such as have been shown to be reliable by satisfactory evidence. The history of bio-chemical research in insanity (as in other branches) does not fail to present cases in which chemical methods patently unaccredited or discredited have none the less served for the production of experimental results, from which it has been sought to derive far-reaching conclusions. Once these conclusions are in existence further discussion centres round them, and the experimental basis on which they stand is apt to be lost sight of.

Enough has been said to indicate the chemical difficulties which have to be dealt with whenever an attempt is made to apply chemical methods to the study of any biological phenomenon. A Cingalese proverb recommends one not to cut down a tree to catch a blackbird—but that is no exaggeration of the elaborate investigations which must be undertaken in order to entrap even the most modest biological problem to its final solution, and very often the wary bird will still escape while the tree-felling is in progress. Nevertheless, that fundamental insight into biological processes which is the high aim of bio-chemistry can be obtained only with a more accurate knowledge of the constitution of the substances connected with life, and by the employment of analytical methods of proved reliability in investigating the changes which they undergo.

DISCUSSION.

Dr. H. DEVINE (Wakefield) accentuated the necessity for a study of normal metabolism and the use of controls. So little was known of normal metabolic processes that great care should be taken in drawing premature conclusions in regard to the metabolism of the insane.

Dr. HADDON (Hawick) emphasized the importance of dietetics in insanity.

The PRESIDENT (Dr. Goodall) considered that the presence of a chemist and physiologist in a mental hospital was as necessary as that of the pathologist. He thought that a great deal of vague talk had been indulged in about "toxins," endogenous and exogenous, as well as about "disordered metabolism" in the insane.

THE SIGNIFICANCE OF SOME CONFUSIONAL STATES.

By HENRY DEVINE, M.D.,

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OWING to the tendency to ascribe a physical causation to abnormal mental states, the significance of the actual content of a psychosis is apt to be overlooked. This is especially so in the case of confusional deliria, which are frequently regarded solely from the standpoint of exhaustion or autointoxication, without reference to the fact that they may constitute one form of reaction to experience and have a personal significance to the individual.

If one investigates certain confusional states, they will be found to depend on the general tendency of human nature to evade real issues and take the line of least resistance. The highest psychic operation is the adaptation of the individual to reality[1]—the co-ordination between desire and circumstance. Since, however, reality often proves painful and difficult, the individual may seek to gratify his desires by turning away from facts as they exist and taking refuge in certain inferior mental operations.

Thus every person possesses what may be termed a "grandiose complex." In the highest type of mental organization this complex becomes the motive for ambition—that is, the desire for greatness is co-ordinated with reality. Inferior organizations, on the other hand, will gratify the complex by turning away from reality and giving themselves up to day-dreams or ambitious reveries. Janet has shown that this is especially marked in the case of psychasthenics, who, owing to their inability to adapt themselves to their social environment, often elaborate extremely complicated, romantic, and ambitious reveries.[2]

Freud has shown that dreams have a similar significance. They represent the "living through," or fulfilment—usually in a symbolic guise—of a wish which, for some reason or another, cannot obtain normal gratification.[3]

One may say, then, that the biological function of both these mental operations—dreams and reveries—is to afford an escape from reality, to gratify wishes which are impossible of fulfilment under the actual conditions of existence.

The resemblance between the general psychological structure of dreams or reveries and confusional states has often been noted. The purpose of this paper is to demonstrate that not only do the two conditions, normal and abnormal, display a similar structure, but in many cases they fulfil the same biological function to the individual. To illustrate this point a brief outline of four cases will be given.

The first case is that of a young woman of obscure parentage who had been brought up in a workhouse. She was a congenital deaf-mute, and, in addition, stunted, deformed, and unprepossessing in appearance. She was not an imbecile, however, and had acquired the faculty of speech and writing. At the age of 25 she became insane, and was sent to an asylum. The diagnosis of dementia praecox was made, and from her confused and incoherent story it was possible to piece together the following: She imagined the officials of the workhouse had stolen her away at birth, she being the daughter of certain exalted personages. Every one around her was regarded from a delusional standpoint. The nurses were her malignant persecutors, the patients *canaille* beneath her notice, and the medical officer the fortunate individual on whom she was proposing to bestow her hand. She related numerous indignities and persecutions to which she had been subjected, but, in spite of these, would sit all day long with a happy, rapturous expression and smile of superiority. She explained that her ugly appearance was only a disguise, due to a spell which had been cast upon her by her enemies; before long, indeed at any time, she was expecting to be "infruated," this neologism meaning that the evil spell was to be removed, and she was to emerge as a beautiful girl, straight and tall, with long golden hair.

The meaning of this psychosis is quite obvious. The patient was "living-through" her desires. Reality was summed up by a hideous form, deaf-mutism with its hindrance to companionship, and the grey outlook of workhouse life. Contrasted with all this, however, she possessed just the same natural desire for admiration, craving for affection, and instinct for maternity as any ordinary girl. Being impossible of realization in the face of reality, these hidden desires had obtained fulfilment and gratification by invading and transforming the personality. The patient had sought refuge in a psychosis.

The second case is that of a married woman, Mrs. S., aged 23. She developed an acute psychosis four months after the birth of her child. The mental state was one of extreme confusion. She was resistive, hallucinated, and generally inaccessible, giggling and turning away her head when questioned. Her condition made it impossible to obtain more than a few glimpses into the contents of her mind. She was fully convinced that her husband was dead, and described him as a "real bad 'un." She said that since coming into the asylum she had married again —"a good kind man, so fond of children." While being examined she suddenly started up and said, "Can't you hear them now? There he is upstairs. He is calling the children. I can hear them running to him and calling out 'Daddy.'" This was practically all the information to be obtained from her, but her handwriting gave an additional clue to her state of mind. When asked to write her name she begins with her Christian name, and readily puts it on paper. When she reaches her surname, however, she begins to hesitate, fumbles with her pencil, and at length contents herself with a few meaningless symbols. In short, she is unable to write it at all. After this failure she is asked to write her maiden name, which she does with the greatest facility.

Correlated with the delusional contents of the psychoses the meaning of this localized defect in writing becomes quite clear. The history revealed the fact that her husband had treated her with the greatest brutality and cruelty, for which he was now suffering a term of

imprisonment. As a result of her troubles the psychosis had developed. The complex of ideas associated with herself as Mrs. S. had been banished from consciousness by the above-mentioned delusional ideas. Her personality was changed, transformed. She was no longer Mrs. S., but the happy wife of some hypothetical person. Her marriage name tends to arouse the painful complex which the psychosis had succeeded in suppressing out of consciousness, and for this reason she was quite unable to reproduce it on paper. As in the first case, then the psychosis was a defence, a method of evading reality.

The third case I have already published in another connexion.[4] The patient, Mrs. D., has been suffering from an advanced cancer of the breast. For a long time she had tried to struggle against increasing pain and weakness, but eventually became delirious and was sent to the asylum. On admission she was in a state of great excitement and exhilaration, shouting and singing hymns and praises. The next day she was still morbidly exalted, but was able to give more or less coherent replies.

The substance of her story was as follows: For a long time she has been worrying about her breast, and had begun to fear that she would shortly have to leave her husband and little ones to struggle on alone. While she was being attended by the doctor, unknown to him, she was adopting other methods of treatment. Being a fervent Catholic she had obtained some holy water from St. Winifred's Well, thinking that if she had sufficient faith this might effect a cure. As she wished so it had happened. One day while baking some cakes she suddenly felt that everything had changed. The pain seemed to vanish, her worry and anxiety ceased, and a great joy stole over her. She realized that her prayers had been answered and the disease cured. The patient assured me that she was now perfectly well, and her only wish was to go home and look after the children.

This case affords a striking example of what Freud[5] has termed a "defence neurosis." For many months the patient had been struggling against her disease. She refused to give way, because there was the home to which she was so devoted to look after. When reality became too hard, her circumstances too unbearable, all her subconscious wishes became active, and she found relief in a state of delirium—a condition of partial dissociation. All her fears had vanished, her health had been restored, and a period of joy and thankfulness inaugurated.

The fourth case is that of a young girl who was engaged to be married. One day she complained to her mother of sickness and malaise, and became so poorly that she took to her bed. Examination revealed the presence of an abdominal tumour in the middle line, rising out of the pelvis, and from the history it appeared that she had not menstruated for some time. She confessed that she might be pregnant, and her fiancé was approached on the subject. A day or two afterwards the latter disappeared, and the girl, after a period of anxiety and distress not unnatural in the circumstances, became insane.

When admitted to the asylum she was in a state of the greatest elation, buoyantly happy, extremely restless, and completely disoriented. Her delirium was all about her marriage, which she believed was about to be celebrated. She gave invitations to all the nurses to be present at the ceremony, which was to take place at the White Lodge at Richmond Park, which she owned, and she wished every one to share in her happiness. She was overflowing with sympathy and pity for her fellow patients, and regarded herself as a ministering angel who had come to look after them.

Here, again, the psychosis was a defence against reality. Not only was the patient gratifying her desires in respect to her marriage, which circumstances had frustrated, but she revealed also the existence of fantastic wishes and ambitions quite out of keeping with her position in life as an ordinary working girl. The marriage was clothed with all the glamour of musical comedy.

One further point of interest must be mentioned in connexion with this case. The patient was not pregnant at all. The tumour rapidly grew in size, but the other signs of pregnancy did not appear, and eventually it became evident that she was suffering from an ovarian cyst. The tumour was removed, and the patient made a good recovery, both mental and physical.

This curious combination of unfortunate circumstances brings into prominence a somewhat important point. It shows that in describing the causation of the insanity of pregnancy too much stress should not be laid on the influence of the physiological epoch without reference to the fact that the psychosis may be the result of purely psychic factors—intrapsychic conflict. Thus in the present case the psychosis was solely due to the fact that the patient thought she was pregnant.

In all these cases, then, it will be seen that the psychosis fulfils a definite function. The contents are not entirely meaningless, but they bear a definite relation to circumstances in the patient's life. They may be described as prolonged dream states or reveries, and serve exactly the same purpose to the individual. The difference is one of degree, not of kind. The type of reaction varies from a purely hysterical delirium to the acute hallucinatory phases of dementia praecox, but in all cases the biological significance is the same.

Just as these confusional states occurred when circumstances had proved intolerable, so the tendency to escape from reality by normal methods is often seen to occur under similar conditions. A common instance is, of course, the reading of a novel or seeking distraction at the theatre. The same etiology is seen in the case of day-dreams. Borel[6] has pointed out that the tendency to reveries in children is favoured by conditions which render it difficult for them to keep their attention on actual conditions. One has only to carry one's mind back to the days of childhood to verify this. After being corrected for some fault, the "sulky" stage which follows often really consists of fantastic day-dreaming. The child will picture himself running away, take a mournful delight in the sorrow of his parents, who now realize how little they really appreciated him, will see himself amassing wealth and honour, returning at last famous amid the acclamations of the populace, and at length, like Joseph and his brethren, bestowing a magnanimous forgiveness on his astonished parents. Such are the contents of dreams and reveries, and such also are the contents of many confusional states.

In the cases which have been cited the antagonism between desire and circumstance is quite apparent. In other cases a more elaborate investigation is necessary, and the significance of the psychosis more obscure. Jung[7] has furnished very striking examples in some of his monographs, to which reference may be made. It is hoped, however, that the cases which have been described will serve to illustrate the fact that a confusional delirium may fulfil a definite purpose and constitute one form of reaction to experience.

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THE WASSERMANN REACTION IN INSANITY.

BY

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I HAVE examined 63 cases of paralysis of the central nervous system, 61 of which were cases of dementia paralytica in all its stages, one a case of locomotor ataxia and one a case of tertiary syphilis with a cerebral gumma. In all instances the serum and spinal fluid were examined for the Wassermann reaction, and in the latter the presence of a lymphocytosis and of excess of globulin was ascertained, also in most instances a quantitative estimation of the albumen was made. At the same time, a large number of cases of other psychoses were examined for similar conditions. I may state that these cases were not specially chosen for the possible incidence of syphilis; with the exception of the imbeciles, the majority were the usual routine examination of the patients on admission. The further investigation of the spinal fluid was extended in many instances to ascertain the presence of a protein reaction.

I have found that the Wassermann reaction is a more sensitive one when as antigen lecithin and lecithin *plus* cholesterin is used in preference to the crude alcoholic extract of guinea-pig heart or liver or ox liver.

Many points of interest have arisen in the chemical and cytological examination of the spinal fluid.

1. Does the excess of globulin indicate syphilis, or merely in one case demonstrate a chronic inflammatory condition with true cell degeneration, and in the other evanescent metabolic changes in the brain?

2. Is there a definite relationship between a demonstrable increase of globulin and the quantitative estimation of the albumen?

3. When globulin is present in excess is there an accompanying increase of lymphocytes?

4. Does a definite relationship exist between the globulin and the Wassermann reaction?

Wassermann Reaction.

In psychoses other than general paralysis for the Wassermann reaction I examined the blood serum in 180 cases—97 men and 83 women—and the spinal fluid in 97 cases, and in these I obtained 5 positive serums, or 2 per cent., but, on the other hand, 96 spinal fluids were negative. One patient, who was markedly tuberculous, gave a partially positive reaction in both serum and spinal fluid. When a positive reaction was found in the serum, the spinal fluid was always examined. It is interesting to note that four of the positive serums were cases of congenital imbecility, 21 cases of which were examined (17 per cent.).

The technique I have always used for the Wassermann reaction has been the quantitative method recommended by Mackenzie,[1] by which means the amount of complement deviated is ascertained. As antigen I used alcoholic extract of ox liver or guinea-pig liver and the haemolytic system was that of ox-rabbit. The blood corpuscular suspension was made up to 5 per cent. in normal saline, complement being supplied by fresh guinea-pig serum. With this method I found that my percentage of positive Wassermann reactions in general paralysis was not so great as that obtained by other workers—namely, in 61 cases the serum was positive in 51, or 83.6 per cent., partially positive in 2, or 3.2 per cent., and negative in 8, or 13.1 per cent., and the results with spinal fluid were still lower—44 cases positive, or 72.1 per cent., 7 cases partially positive, or 11.6 per cent., and 10 cases negative, 16.3 per cent. One case of locomotor ataxia was positive in both spinal fluid and serum, but a case of a cerebral gumma was negative in both fluids.

Browning, Cruickshank, and Mackenzie[2] have shown that an emulsion of lecithin combined with cholesterin is a very sensitive antigen, and in the presence of a syphilitic serum has the power of absorbing much more complement than when an equivalent emulsion of lecithin alone as antigen is employed. On the other hand, in the presence of a non-syphilitic serum, the lecithin *plus* cholesterin emulsion absorbs no more complement than a lecithin emulsion. At the same time the power of absorbing complement alone is equal in both instances. Thus the reaction by this method is essentially a qualitative one, and consists in comparing the relative amounts of complement absorbed by serum with lecithin emulsion and serum with lecithin *plus* cholesterin emulsion. The absorption of two or three doses more is considered a positive reaction. Dr. Ivy Mackenzie, of the Glasgow Asylums' Research Institute, very kindly gave me some lecithin and lecithin and cholesterin which he had prepared.

With this method, in the 61 cases of general paralysis examined I obtained 59 positive serums, or 96.7 per cent., 54 positive cerebro-spinal fluids, or 88.5 per cent., and the case of tertiary cerebral syphilis was positive both in serum and spinal fluid. Briefly, seven serums which proved negative by the quantitative method, using the crude alcoholic liver extract as antigen, and two serums which were partially positive, also three negative and seven partially positive reactions of the spinal fluid, were fully positive when tested with the lecithin and lecithin *plus* cholesterin emulsion as antigen. I found no control serum or spinal fluid positive.

The disadvantages of this qualitative method are the preparation of the lecithin, the more elaborate technique, and the greater turbidity of the emulsion, especially of the lecithin *plus* cholesterin mixture.

The Protein of the Spinal Fluid.

The protein reaction of the spinal fluid demonstrating the presence of globulin was ascertained in the 63 cases of general paralysis and syphilis of the nervous system, and in 184 cases of other psychoses. In the parasyphilitic and syphilitic conditions there was always an increase of the globulin, which was considered positive, excepting in two cases of general paralysis and the case of tertiary cerebral syphilis.

The spinal fluids of the two paralytics I considered gave a partially positive reaction, and the quantitative estimation of the albumen was just on the border-line between a partial and a positive increase; the lymphocytes at one count showed a very slight increase, and at another time showed no increase, and whilst their serum gave a positive Wassermann, the spinal fluid was negative. One of these patients is clinically a general paralytic, the other is doubtful; they have been eleven and seven years respectively in the asylum.

The spinal fluid of the case with cerebral syphilis gave a partially positive protein reaction and a partial increase in the quantity of albumen, but, on the other hand, there was a very well-marked lymphocytosis. The spinal fluids from 184 cases of various psychoses were examined, and in 39 instances only, or 21 per cent., a globulin reaction was obtained, three of which were fully positive (1.6 per cent.), and the remaining 36 cases were partially positive (19 per cent.).

In only one of these 39 cases—that of an imbecile in which the globulin reaction has always been found present in the spinal fluid—have I obtained a positive Wassermann reaction in the blood serum. The remaining 38 patients clinically showed no symptoms of syphilis of the central nervous system such as the Argyll Robertson phenomenon, nor was their Wassermann serum reaction positive. Thus it would appear that excess of globulin in the spinal fluid is not a symptom of syphilis. I found in the majority of these cases other than general paralysis, in which excess of globulin was demonstrated in the spinal fluid, that its presence was not constant, and appeared to depend on the mental condition of the patient at the time of its removal, whether that was acute or quiescent. In recoverable patients who had been lumbar-punctured two or three times during the period of their residence in hospital, or more chronic patients during excited and quiescent periods of their insanity, it was remarkable how the globulin disappeared with the subsidence of the acute symptoms. In a small percentage of cases who have been re-examined—notably two imbeciles, two or three well-marked cases of dementia praecox, and secondary dementias—the reaction was found constant. In the acute stages of epilepsy the reaction may be present, but it was not constantly found in status epilepticus. What the determining factor is in the production of the globulin I do not know. It was not present in the spinal fluid of every attack of mental excitement which was examined, and it occurred in any type of insanity, but I have noticed that it is more likely to be obtained when the excitement has been of some months' duration at least in the recoverable cases. On admission the fluid was very frequently negative; some months later a reaction was obtained. The fact that the globulin reaction is transitory in the greater number of these cases suggests that its presence is the result of a passing brain metabolism. In the few cases in which its presence is constant, possibly it is due to a more destructive metabolism with cell disintegration. In general paralysis the marked excess of globulin can be accounted for by the inflammatory condition with the cell degeneration. The tests I employed for precipitating the globulin were the Ross-Jones and Nonne-Apelt tests (phase 1), both ammonium sulphate reactions, Noguchi's butyric acid and sodium hydrate reaction, and the precipitation of the protein with 96 per cent. alcohol. Of these four tests I prefer the Ross-Jones method.

Dr. Rae Gibson, who performed the bulk of the lumbar punctures for me, found that the withdrawal of the fluid from an acutely excited patient had a distinctly sedative action, and was followed by no ill effects.

Quantitative Estimation of Albumen.

I used Aufrecht's albuminimeter, which is a graduated tube on which the deposit of albumen can be read in terms of percentage. The fluid used is a solution of picric and citric acid, but in proportions different to that in Esbach's. The method is a rapid one, as the deposit is precipitated by means of a centrifuge. I have made an arbitrary standard of three grades; no increase of albumen is up to 0.05 per cent., partial increase 0.075 per cent., and a positive increase is 0.1 per cent. upwards. By this method I have examined 115 spinal fluids in various psychoses, and found an increase of protein in 27 cases (23 per cent.); 4 were positive and 23 were partially positive. At the

same time I tested the fluids for a qualitative protein reaction. Forty-five cases of general paralysis, one locomotor ataxia, and one cerebral syphilis were also examined. The fluid of the case of locomotor ataxia and of 43 cases of genera paralysis gave a positive increase of protein varying from 0.1 per cent. to 0.35 per cent.; the average amount was between 0.15 per cent. and 0.2 per cent. The spinal fluid of two general paralytics and the case of cerebral syphilis, as I have already mentioned, gave a partial increase of the amount of protein.

I attempted to demonstrate a relationship between the qualitative protein reactions and the quantitative protein estimation, and I found that in 17 of the 39 cases (42 per cent.) which gave protein reactions, there was no increase above 0.05 per cent. in the estimation of the quantity of protein—that is, they were negative. Also 7 cases of the 27 spinal fluids which gave a partial increase of the quantity of protein, as estimated by the albuminimeter, gave no trace of a chemical globulin reaction. This evidence leads to the deduction that globulin is not the only type of protein present in the spinal fluid in psychoses other than general paralysis.

Cytological Examination.

In all cases a count of lymphocytes was ascertained by Ernest Jones's[3] field method. As a standard the increase of lymphocytes was considered pathological when it was above 3 per c.mm. The spinal fluid of the 63 paralytic cases, including the case of cerebral syphilis, had a lymphocytosis in all excepting the two general paralytics already mentioned, in whom the lymphocytes were just on the border-line of an increase. In an examination of the spinal fluid of 184 other psychoses, I only once obtained an increase of lymphocytes above 3 per c.mm., and that was in a case of delirious insanity, whose fluid was examined on admission, and the lymphocytes were found to be 6 per c.mm., although there was no trace of a globulin reaction or increase in the quantity of protein. In all these patients whose fluid was re-examined during mental exacerbation for a globulin reaction, if globulin were present in excess, I never found that the lymphocytes were increased even to number 3 per c.mm. Thus it would appear that an increase of lymphocytes and the production of globulin are independent of each other.

As regards the possible existence of a relationship between the Wassermann reaction and the globulin, my greatest percentage of positive Wassermann reactions in the spinal fluid of general paralytics was 88 per cent.; in the remaining 7 cases the reaction was negative, although in 5 of these the globulin reactions were positive and the albumen much increased, and in the remaining 2 cases the reactions were partially positive. Globulin, therefore, is not the active principle for the Wassermann reaction.

Dr. Ivy Mackenzie pointed out to me that in a rapidly progressing general paralytic whose spinal fluid gave a positive Wassermann reaction, by precipitating the globulin with ammonium sulphate and dissolving the precipitate in normal saline, the solution would give a positive Wassermann reaction. I have found this to be the case. Further, in the same spinal fluid I precipitated the globulin with ammonium sulphate, and in a similar quantity of fluid the total proteins were precipitated with alcohol, and I found that in nearly every instance the globulin precipitate was more active in deviating complement than the total protein precipitate. The latter precipitate is, of course, only slightly soluble in normal saline. These observations are not extensive, but in the few cases examined, because the globulin is more active in its deviating power than the total protein precipitate, a justifiable conclusion is that the active principle for the Wassermann reaction is attached to the globulin molecule. Ernest Jones[4] considers that the active principle for the Wassermann reaction is concerned with the globulin molecule.

Summary.

1. The lecithin *plus* cholesterin antigen has been found a more sensitive antigen than crude alcoholic extract of ox liver or guinea-pig liver.

2. Excess of globulin in the spinal fluid in various psychoses, because of its transient nature, appears to be a product of metabolic change; in those cases where the condition persists the cause might be due to inflammatory change or marked destructive cell change.

3. The presence of globulin, as ascertained by chemical tests, does not coincide in every case with an increase of the quantity of protein present, as estimated by Aufrecht's albuminimeter and the converse. The deduction is that we are dealing with more than one protein in the spinal fluid in insanity.

4. There appears to be no true relationship between excess of globulin in the spinal fluid and an increase of lymphocytes.

5. There is evidence that the active principle for the Wassermann reaction is attached to the globulin molecule.

6. In all cases of syphilis and metasyphilis of the central nervous system the spinal fluid showed an increase of globulin with an increase in the quantity of the protein as estimated by Esbach's solution in nearly all instances in a marked degree, and this condition is constant (4 per cent. partially positive). In nearly all cases a lymphocytosis is also present (96 per cent.).

REFERENCES.

[1] *Journal of Pathology and Bacteriology*, January, 1909. [2] Ibid., April, 1910. [3] *Review of Neurology and Psychiatry*, July, 1907. [4] Ibid., June, 1909.

DISCUSSION.

Mr. MACKENZIE WALLIS (Cardiff) referred to his own work on the globulin content of blood serum and pathological fluids. The presence of a lecithin globulin complex in pseudo-chylous fluids and the association of lipoids with serum globulin in blood serum was regarded as significant in view of the work of Dr. Muirhead. The speaker suggested that changes in this complex might provide an explanation of the Wassermann reaction.

Dr. G. M. ROBERTSON (Edinburgh) said that in many cases of general paralysis the purely clinical symptoms were uncertain, and that the function of all these tests was of great value. If all these tests—increased lymphocytosis, Wassermann reaction, and excess of globulin in the spinal fluid—concurred in a given case, then they might diagnose general paralysis with certainty. He believed that the day was coming when the disease could and should be diagnosed before any clinical symptoms arose.

Dr. SOUTAR (Gloucester) wished to know how they could examine patients by the Wassermann reaction when there were no symptoms to guide them. (Dr. ROBERTSON replied that it was the duty of the physician in charge of syphilitic patients to examine them by the Wassermann reaction at frequent intervals.)

The PRESIDENT (Dr. Goodall) asked Dr. Muirhead whether she considered it proper to take increased amboceptor, and how much, in the case of failure to obtain a positive reaction in the cerebro-spinal fluid. He gathered that Dr. Muirhead agreed with what he believed was the general view, that a positive Wassermann reaction, an increase in globulin and in lymphocytosis, did not necessarily go together in general paralysis.

A CASE OF OBSESSION AND HYSTERIA TREATED BY THE FREUD PSYCHO-ANALYTIC METHOD.

By M. D. EDER, B.Sc., M.R.C.S., etc.

A YOUNG man of 25 presented himself to me in May, 1910, complaining of pain in the neck. In asking for an appointment, he wrote that it was "a dull, aching pain, which has had a very depressing effect upon me mentally and physically." He had treated it as "nerves" and as "rheumatism" without any success. He added: "I decided to try a vegetarian diet on uric-acid-free lines." There was no improvement, and recently, when he entered a new office, the pain had grown much worse.

Physical examination discovered no cause for the pain. Although the young man was pale and anaemic-looking, it was a condition common to his work. He was a book-keeper in a city office, where light and air do never penetrate. There were certain peculiarities which attracted

ttention. He was 25, fairly built on delicate lines, spare, with long, tapering fingers. Although the day was warm, ie was wearing a flannel shirt, two under-vests, and a lannel belt. "I take chills so easily," he explained to ne. Many remarks he answered by a short giggle, and he skin, one noticed, was peculiarly sensitive to touch. During the examination every touch of the skin of the ace or neck caused a drooping of the eyelids. Noticeble also was the patient's constant stroking of his ace and mouth with his hands, softly caressing his kin, stroking the lip with his finger, the chin, the orehead, etc.

These characteristics, his general manner, which I annot undertake to describe here, the extreme care taken y a young man of 25, a pain of long standing which owed no physical signs, led me to conclude that the ain was hysterical in nature. His parents had died when e was quite a child; he was the youngest of a large mily, and had been brought up by his brothers and sters. To one sister, a few years his elder, he was parcularly devoted, and the brother and sister had for some me kept house together. He told me that he was shy nd self-conscious, and had often a dislike to going into e streets by himself. His work was extremely monoonous, and not one for which any normally constituted man being could pretend to care. He had been interested art and music and literature. He played a little, he inted and sketched, but only for his own amusement. e neither drank nor smoked, because he cared for ither, and had become a strict vegetarian for reasons of alth.

He had no strong passions, and had never had any sex ations. Until the age of 14 he assured me that he was norant of sex matters, and he was then informed by a nool friend. Up to 13 he was so innocent of sex that he s frequently present when a girl friend of 11 or 12 had r bath. He would simply stop in the room chatting or ding. Only once in his life had he felt any sex stirring. one occasion his sister and himself had adjoining bedms on a holiday tour; clad in a nightdress, she ran into room to fetch something, and accidentally displayed breasts and body. This excited his sex powerfully; had never spoken of it to any one, and, indeed, had felt r since that he was the vilest of men. His ideal for n and women was the celibate life—sexual intercourse med to him revolting.

ssociation tests which I carried out produced interestresults. At first I worked with a stop-watch, but I nd this distracting and that I could obtain certain lts by noting down whether the reaction time was long hort.

he tests were carried out on two occasions; I can here give a few words. Altogether 200 words were loyed (see table in next column).

will draw attention to the following points. In cases re the time, was short the reaction was a simple one—horn, pot—black; such reactions as Dr. Jung has wn to be general in well-educated persons. To quite a ber of words the patient could give no reaction word. in these cases his whole demeanour betrayed some erful reaction. There were twitchings of the face, king of the chin; sometimes he would rise from the r, excitedly raise his hands, or cry out in despair, ell, why does nothing occur to me?"

ote, furthermore, the association "drop."—"pen"; k"—stiff" (long pause); "food"—"nasty"; "dirty" log"; and his explanation, "I suppose myself," etc. arting with all the words that produced a long reactime, the patient was induced to concentrate his mind the ideas that presented themselves in the order of appearance, so that I obtained a number of what sychologists call "free associations."

was necessary to take the clues as the patient gave himself. and when once he acquired confidence and able to free himself of all self-criticism a considerable on of his mental life unfolded itself.

e word "touch" produced no associated word because led up too large a number of experiences. The under g was that of distinct sensual pleasure. Touching st any part of the body produced erotic sensations. reminiscences going back to early childhood when he 3 years of age, he saw himself again in the bedroom his sister lying naked and prone on the bed, and himself stroking the nates. This caused sensual pleasure. In passing along the streets he found it was especially the hind quarters of women that attracted him. He often pictured such women undressed and himself stroking the nates.

It was quite correct to say that only on one occasion had he become conscious of sex feeling towards his sister, but such incestuous feelings had been present, quite unrecognized by the patient, ever since he was a child. This sister and another older one had fondled him, attended to all his bodily functions in childhood.

Starting from "thigh"—"press," the patient was able to record not only a long history of masturbation, a practice that had been abandoned the last two years, but decided homo-sexual tendencies—tendencies only—and of whose nature he was wholly unconscious.

The first clue to the pain in the neck was supplied by "drop"—"pen," "neck"—"stiff," both with very long pauses.

The pain was intimately bound up with the patient's life from school age upwards. I can give here but the briefest account. He felt himself fitted for better work in the world than clerking. "Drop"—"pen"; at 6 o'clock each day his work finished, and he dropped his pen thankfully. The pain in the neck was first noticed at the office; he commenced the morning without it, but it came on after a few hours' work. He was subconsciously saying to himself, "You are not fitted for this work. See

Stimulus Word.	Reaction Time.	Reaction Word.	Remarks.
Coal	Short	Black	—
Mount	Long	—	"Can make nothing of it."
Tea	Short	Sweet	—
Drop	Very long	Pen	—
Rub	Very long	—	"How stupid of me—can think of nothing." Movement of hands.
Cow	Short	Horn	—
Pin	Short	Prick	—
Snow	Short	White	—
Plate	Short	Soft	—
Neck	Long	Stiff	—
Touch*	Long	—	—
Baby	Long	Nothing	—
Roof	Short	Dry	—
Watch	Short	Tick	—
Brother	Long	Tom (a brother)	—
Jump	Short	High	—
Blue	Short	Bliss	—
Pot	Short	Black	—
Seat	Short	Soft	—
Young	Long	Lady	—
Hand	Long	Soft	—
Toy	Short	Gun	—
Bath	Short	Chair	—
Tongs	Short	Coal	—
Fire	Short	Guard	—
Dirty	Long	Dog	Added "I suppose myself." Reference to masturbation.
Thigh	Long	Press	—
Sister	Long	Child	—
Food	Long	Horrid	—
Shy	Long	Boy	—
Cards	Long	Boring	—
Swim	Long	Never	—
Suck	Long	Teeth	—

* When this word was given he lifted his hands in despair. "Why does nothing occur to me?" he said. On reproduction he stated that he had a distinct feeling of sensual pleasure.

how the constant stooping gives you this pain in your neck."

I must turn to two other phobias which first came out in the word association tests: "Food"—"horrid." It transpired that ever since a tiny child he had been unable to eat among strangers. As a child he recollected older children coming to tea with him, and his finding it impossible to take the meal in their presence; he would go off and eat by himself in the kitchen. This phobia was a source of considerable annoyance to him in business life. He told me that he had sometimes walked up and down half an hour before a restaurant trying to go in and finding he could not. The fear deprived him of much pleasant social intercourse; he could not have friends to meals nor go out to other people's houses, as he did not wish to make himself noticeable. Those acquainted with Freud's work will suspect some sexual basis. As a child he had the habit of sucking his thumb; with his reaction to all tactile stimulus it is not surprising to learn that the mouth was, in Freud's language, a strongly erogenous centre. Besides this, he had received a shock in childhood. An older child had placed his penis in my patient's mouth when he was a baby of 4.

The next and last phobia I shall allude to was that indicated by the word "swim"—"never" (long reaction time).

I discovered that the patient had all his life a great dislike to washing his body; he would never go into a river or sea; he had not bathed for years. It was with great effort that he had overcome his resistance to washing his face or hands—he had, in fact, a dislike of water, almost like a hydrophobic. I was at first inclined to suspect some sex basis—shame of the naked body, or something of that nature. The explanation was different. At the age of 2 he was in a perambulator, which, left unguarded, had slid into a little stream. The fright had set up the fear of water.

In this brief account you will see that repressed wishes—or, as Dr. Hart terms it, conative trends—took a leading share.

This psychical repression—the *Verdrängung* of Freud—must be dwelt upon for a moment. A "repressed" wish is the outcome of some intra-psychical conflict which, following Freud, leads to a blocking of the usual associative activities. The mental process, the seat of this conflict, is removed from the field of consciousness; this removal of the psychical strain is in itself a relief. But with exclusion consciousness no longer acts as a control, and the mental process is led into other paths. Its energy is transferred into ideas or activities accepted by consciousness, which are frequently so disguised as to conceal entirely the original mental conflict.

In my patient there have been just such conflicts. Subconsciously was the idea that he could do better work than clerking, an idea which the patient's consciousness would not entertain. He put the idea away from him, he "repressed" it. His conscious thought was that he was fitted for nothing better. But the "repressed" trend made itself felt. The energy found an outlet in a somatic manifestation: there was conversion, to use Freud's term, to something assimilable in consciousness—pain in the neck to be put down to "rheumatism" or what not.

The difficulty of eating in company has a similar explanation. His mouth was an erogenous centre easily stimulated. The gratification produced by the stimulus is out of harmony with the rest of the patient's personality; the patient's consciousness cannot admit the wish for such a stimulus. Hence inhibition of the wish, repression, and transference to a particular phobia closely associated with the repressed wish—dislike to eating in company, which, though causing some annoyance, was acceptable to the patient's consciousness. It was impossible for the patient to admit in public, as it were, the sensitiveness of his oral mucous membrane; this was to him humiliation, shame, horror when he first became aware of it during analysis.

There is no time to offer an explanation of the homosexual and incestuous obsessions, which were an example of what is known as "mother-complex," the sister playing the rôle of mother in this particular case. According to Freud, we all come into the world psychically bisexual with tendencies towards all other "perversions," seeking sex stimuli in all directions and receiving them from all agencies.

The child is, to use his words, a "polymorphic pervert." In the normal development of sexuality the tendencies disappear, although what one may call "vestigial remnants" can be traced in all persons. Abnormal sex activities arise from the persistence in adolescence of psychical tendencies which belong to the sex life normal until puberty. For an adequate exposition of this theory, I must refer you to Dr. Brill's translation of Freud's *Three Contributions to the Sexual Theory.*

From considerations of time I am unable to deal with the patient's dreams, many of which were of an erotic nature—some clearly so, others masked. The interpretation of the dreams and the word associations were the chief helps in the patient's analysis. Assistance was obtained by notes and observations about himself that he gave me.

During treatment there was at first an exacerbation of the patient's woes. There were days when he could not go to his work, or could do nothing when he went. He had outbursts of hysterical crying and lamentation after each consultation. These gradually ceased and the patient was cured of his difficulties. The pain in the neck has not returned; he is able to enjoy the luxury of tea at an A.B.C. He washes and bathes himself, which will make it pleasanter for his next medical attendant. His sex inclinations are taking a more normal course. He was able to live with his sister without any troublesome emotions. He does not now regard the body as the vile thing he once considered it, but he still thinks that it is finer not to have sexual intercourse, although he admitted that he might one day marry and that the usual events would follow.

The patient was three months under treatment; I saw him once or twice a week, each visit lasting an hour to an hour and a half. This paper gives but a brief summary of the case, and I am afraid must be unsatisfactory to those unacquainted with Freud's work. I have no time to dwell upon any theoretical points—upon, for instance, the vexed question as to the explanation of the cure; but I would like to make two or three statements.

1. Please do not say or think my patient was a *degenerate.* I think we doctors may leave that term to the amateur biologists who revel in eugenics and such nonsense. The patient, who is typical, was a highly gifted complex-natured young man, in whom sex—using the term in the widest sense—had played a large share in development.

2. Such cases are numerous. I have known a score of men and women during the last twelve months suffering from troubles variously ascribed to "overwork," "menopause," "nerve exhaustion," "anxiety," and so on, but which were clearly due to repressed wishes, mostly of a sex nature. Most of the cases of so-called overwork of students are of this kind. A few months ago a student at a university, who had been told by a doctor at his university that he was to do no work for months, for the second time in two years, came to me as a friend; I sent him abroad for treatment, being myself unable to give the time to his treatment. He is recovering, and working unlimited hours a day.

3. Patience and resource are required to treat these cases. I found that when I was myself not very well nothing was elicited. It is a severe tax upon time, and for that reason I have not undertaken this treatment of many patients.

4. I trust no physician will think it more revolting to cure these psychical ills centering round sex than he would to treat such physical diseases of the sex organs as the gynaecologist deals with daily.

DOUCHE-MASSAGE IN DISEASES OF THE CENTRAL NERVOUS SYSTEM.

By E. R. SCHUSTER, M.D.,
Aix-la-Chapelle, Germany.

AMONG the numerous physical methods which are employed in the treatment of nervous diseases, the so-called douche-massage as practised for many years at Aix-la-Chapelle, Germany (and at Aix-les-Bains, France), has not received the attention which it deserves. This method of treatment has been fairly well known for its favourable influence on gout, chronic articular rheumatism, and chronic neuralgias, especially sciatica. To-day, by reason

of an almost six years' experience, I should like to testify to its useful employment in diseases of the brain and spinal cord. I may, perhaps, state at once that by douche-massage or any other means one cannot expect a sudden cure in these chronic diseases, on which it is often so difficult to exert any influence; but I believe that douche-massage is to be considered a valuable addition to our therapeutical equipment, and I think that its employment should no longer be omitted in the treatment of motor paralyses of central origin, as well as in the treatment of sensory disturbances, and especially in tabes. I may be permitted, first of all, to describe as far as possible the method in which douche-massage is usually employed at Aix la-Chapelle; then I propose to add a few words on its physiological action, especially on its influence on the blood pressure; and then I may be permitted to report some cases which were most favourably influenced by douche-massage. As concerns the method itself:

The spacious bath-room, which is well heated, contains a roomy basin into which the natural thermal water flows. Steps lead down into this basin, and the patient, undressed and usually furnished with a compress round his forehead, proceeds down the steps until his calves are covered by the thermal water. The doucheur (or doucheuse) stands in front of him and a little to the side, arranges the douche to the prescribed temperature, and holds the flexible pipe in his left hand, with the douche inclined downwards and about half a yard distant from the patient, and the doucheur is thus enabled to employ his right hand for the massage. The douche is usually at a temperature of 90° to 95° F., and can be graduated in regard to its diameter and its pressure, the latter being from 1 to 1½ atmospheres. The douche is gently conducted from one part of the body of the patient to the other, and the doucheur applies massage simultaneously, whilst the parts are played upon by the douche. The massage consists in the usual rubbings, pressings, kneading and tapping, and in passive movements. This procedure lasts, according to the indications of the illness and to the condition of the patient, up to fifteen minutes, rarely longer. The single parts are usually douched in an ascending order, first the feet, then over the tibia, then the thigh, first of one, then of the other side, then the hands, the arms and shoulders. The patient then stands up, turns his back to the doucheur, and receives the douche-massage on the calves, on the hips, and finally on the back. By then the basin of the bath has been gradually filled with the thermal water. The patient can now, the douching being at an end, sit down in the bath, which is from ½° to 1° lower in temperature, and he rests in it from ten to fifteen minutes. The whole procedure thus lasts on an average twenty to twenty-five minutes. After the bath the patient is sent to bed to rest from one and a half to two hours. (Patients generally live in hotels where the baths are, and can go in the lift quickly to their rooms for the necessary rest, thereby avoiding all chance of fatigue and of taking colds.) The subjective sensations during the douche-massage are always quite agreeable, provided account is taken of the temperature of the water, of the strength of the patient, his individuality and his condition; thus, for instance, with a very sensitive skin or a spastic condition of the muscles the pressure of the douche should be light only, or it may be broken by the hand of the doucheur. And, further, the massage should be so soft that all irritation or pain is avoided. By the full force of the douche, the warmth and mineral constituents of the thermal water (sodium chloride, sodium carbonate, and sodium sulphide, etc.), a strong mechanical local action on the muscles, joints, skin, and nerves is produced, and tissue change is promoted which in no other way would be so well borne.

The question might be put, whether the douche-massage can exert any objectionable action on the nervous system, and whether any damage may be produced? It might be supposed that the blood pressure would show great fluctuations, which possibly might influence the disease process unfavourably, as in most of these cases vascular changes will be present in the brain and spinal cord. I have been able by systematic measurement of the blood pressure with Recklinghausen's tonometer, particulars of which I will publish elsewhere, to come to the following conclusions:

The blood pressure generally rises during the douche-massage—at first quickly, but not more than about 10 to 20 cm. Then, however, it soon approaches again the state of its normal pressure, and sinks a little below, provided the temperature of the douche is not too high (above 96° F.). Afterwards in the bath the pressure remains either the same or it rises a little. The pulse at the same time is always stronger and fuller, and its frequency is either unaltered or lessened. This is especially conspicuous in cases of slight cardiac debility, with weak heart-sounds and a small pulse, accelerated to 96 or 100 or more. In these cases one finds that soon after the commencement of the douche-massage a lowering of the pulse-rate to 70 or 80 per minute, an increased amplitude of the pulse, and a stronger action of the heart may be observed.

I saw this in a case of brain syphilis, where the medulla oblongata was also affected, and where a conspicuous and continuous change in the pulse-rate without any accompanying irregularity had taken place. The pulse, which before was accelerated to 100 or 120 per minute, was always slowed down to 70 or 80 by the douche, and remained thus for the greater part of the day. This patient, a young man, for whom I had at first ordered a douche-bath every other day, felt subjectively, during and after it, so considerably better and fresher than after a mere thermal bath of like duration and heat, that at last, at his own request, I allowed him to have the douche-massage daily.

Even in elderly people, with arterio-sclerosis and emphysema, no considerable increase in the blood pressure ensues during the douche-massage, if not too high a temperature is employed. The after-effect is always sinking of the blood pressure, which naturally might be explained by the fact that the douche makes the heart's action easier, reducing the peripheral resistance by the gradually appearing and long-lasting hyperaemia of the skin. A few hours after the douche-bath the blood pressure usually attains the original height. Exceptions do occur naturally, as the blood pressure, especially in nervous patients, is exposed to extraordinary fluctuations, according to momentary psychic changes. At any rate, it is certain that by the douche-massage, with a little care and conscientiousness of the doucheur, as well as by the exact control on the part of the doctor, no kind of harmful change in the body-equilibrium, and especially in the blood-pressure condition, can be brought about.

In accordance with these objective deductions, we find that the patient almost always feels well and refreshed after the douche-massage. I have never heard complaints about oppression, giddiness, palpitation, or congestion. Amongst some hundreds of patients, to whom I have in the course of over five years ordered the douche-massage, I can remember only 3 cases who objected to it, on account of headaches, which appeared either directly afterwards or in the course of the day. (Two of these cases were suffering from tabes dorsalis; the third case was one of arterio-sclerosis in a gentleman who formerly had suffered from Jacksonian epilepsy.)

Having been able to convince myself of the entirely non-dangerous character of properly administered douche-massage, I have applied it with favourable success in different affections of the central nervous system.

I have ordered it in cases of locomotor ataxy, of chronic myelitis, meningo-myelitis, specific arteritis, of gummatous lesions in the brain and spinal cord, with their sequelae as spastic hemiplegia and hemiparesis, in Brown-Séquard's monoplegia, and also in paraplegia. According to requirements, either a strengthening and tonus giving or a relaxing effect may be produced by altering the temperature, strength, and duration of the douche-massage. The circulatory troubles occurring in paralysed limbs are always improved; disseminated infiltrations are removed; paretic muscles are prevented from atrophy through non-use and are brought to perform their normal functions by the stimulation of reflex action; sensitive cutaneous nerves are stimulated as well as calmed, especially in hyperaesthesia or paraesthesia. These results are regularly obtained in the painful affections of locomotor ataxy.

Characteristic in this connexion are the following two cases:

The first, a case of tabes with severe paraesthesia. He complained of numbness from the lower portion of the abdomen downwards, especially on the right side, of such severity that, though only slightly ataxic, he could hardly walk or stand.

Exactly as in a healthy person when a limb "goes asleep" its use becomes for a short time almost impossible, so in this case the unpleasant sensation deprived the unfortunate patient almost permanently of the use of his legs. In addition he suffered from lightning pains, so that for six months he was unable to do any work. Objective symptoms were loss of knee-jerks, Argyll Robertson's pupil, anisocoria, and delayed sensation to pain in the lower extremities. Wassermann's reaction was negative. Several courses of specific treatment and a month's treatment at Harrogate were without influence. (I then treated the patient for six weeks with mercurial inunctions (4 to 6 grams per inunction), and I also gave him two injections of Joha (= 0.4 and 0.2 salvarsan), and about 200 grams iodipin, 25 per cent. The Joha injections were followed by great weakness for some days; then, however, an improvement of the lightning pains and of the general condition took place, but the troublesome numbness remained unchanged. I then applied the douche-massage, and this in quite a mild form. The immediate effect was remarkable: the numbness yielded at once in such a way that the patient could walk considerably easier. The final result of the douche-massage, applied at first every second day, then daily, was a gradual lessening of the numbness, which was always most improved directly during or after the douche. Simultaneously the patient could walk better, and a stick became unnecessary. He was soon enabled to take walks of from five to ten minutes' duration.

The second case, in regard to whom I wish to say only a few words, was also a tabetic. He suffered for eight years from lightning pain, paraesthesia and hyperaesthesia in the intercostal and mammary regions, and from anaesthesia in the deeper skin layers. There was a moderate ataxia, Argyll Robertson pupil, absence of knee and ankle reflexes. Inunction treatment was made impossible by the sensitiveness of the skin. Here also the good effects of the douche-massage were shown; to the surprise of the very anxious patient, it was very well borne. A slight irritability of the cutaneous nerves, which took place at the first moment after applying the douche, gave way quickly to a comfortable, agreeable feeling, which persisted for a longer time after each douche bath. After the fourth douche the oversensitiveness quite disappeared. I cannot say whether this was due to self-suggestion in the somewhat hysterical condition of the patient or to an alteration in the cutaneous circulation, or because the bath treatment was combined with an inunction cure. The good results then remained permanent.

I saw the patient again a year later, and he reported that he had only had a few and slight relapses of his sensory troubles. On the other hand, I have also seen occasional failures; once in an analogous case to the last—a tabes with severe intercostal neuralgia. I had at last to discharge him unimproved. With a disease showing itself in such multifarious forms and in such very varying degrees as tabes, one can, alas, not expect to find a remedy which is capable of doing good in every case.

As mentioned, I have never seen any harm result from the use of the douche-massage. My cases bear evidence to the fact that in tabes dorsalis the douche-massage generally has important symptomatic healing effects. In not too advanced cases I have also obtained good results from specific treatment, it being immaterial whether the Wassermann reaction was positive or negative. The douche-massage, given in a mild form in sensory disturbances, can also be successfully employed in motor paralyses of central origin. There, also, not too energetic application is advisable; but whilst in the former it is sufficient to produce a stimulation of the superficial vasodilator nerves, in the latter it is useful to apply a douche of greater strength, in order to produce a deeper and more penetrating effect. This can satisfactorily be done with the douche-massage, and whilst it gives an intensive impulse to the action of the muscles, it at the same time exerts a calming and invigorating action. (Patients thus treated unanimously declare that they feel much more refreshed from the thermal douche than from the plain thermal bath.)

I have employed the douche-massage with favourable results, not only in many cases of syphilitic origin, but also in non-specific affections of the central nervous system. For instance, in multiple sclerosis, in psychoses, and in severe neurasthenia.

In cases of paralysis the invigorating influence on the paretic muscles naturally does not appear always equally early. Sometimes a greater number of douches is required, whilst in others already during the douche, or in the consecutive bath, an improvement is felt. This, of course, depends much on the extension, localization, and the age of the lesion. As a rule, at any rate, progress is much quicker than after simple massage; for first of all the mechanical action is stronger, and added to it is the thermal and chemical influence of the water. I also consider the douche-massage in some cases of severe hemiplegic paralysis of higher efficien than electrical treatment, this especially in cases where hypertonic condition of rigid, spastic, or contract muscles contraindicates an application of electrici Even in multiple sclerosis, where the spastic conditi often changes into real rigidity, I have seen remissio occur after the careful use of the douche-massage (appli twice weekly). The presence of spasms therefore for no contraindication to douche-massage, provided one kee in mind that a minute adaptation to the condition of t patient is necessary to bring about a success. Care mu also be taken when the patient suffers at the same ti from advanced arterio-sclerosis or myocarditis, althoug as formerly mentioned, the douche-massage influenc favourably the action of the heart by lessening t peripheral resistance.

In this connexion a case of threatening thrombosis the right arteria fossae Sylvii, which I observed two yea ago, might be of interest.

For a few weeks a hemiparesis of the left side had appeared; t gait was spasto-paretic, with dropping of the foot. The patie had to be carried to the bath, as after a few steps he wou get over-tired. There was slight inco-ordination, and the l first interosseous dorsalis was atrophied. Electrical irritabil was much diminished on the left side, especially on the dor region of the forearm and hand. Babinski's sign was present both sides, stronger on the left. On the left also Rossolim symptom and ankle clonus. The other tendon and periost reflexes on the left side of the body were likewise exaggerate From the right pupil no reaction to light, and mydriasis. T left pupil normal. Fundus and field of vision witho peculiarity. No visible signs of luetic infection. Wasserma negative.

The patient received first cool thermal baths of 33° Celsi combined with mercurial inunctions and iodipin injectio As after fourteen days no visible improvement appeared resolved on an application of the douche-massage. After t first douche already, besides an improvement of the gene condition, a good effect was noticed. The patient could mo his paretic limbs with much less effort than hitherto. He f soon so much stronger that he walked about a hundred yards the street without fatigue. The good results increased fr day to day, and at the end of two months' treatment he cou walk for about fifteen minutes at a stretch, mount staircas and use his left hand, though it was still weak, in dressi himself, etc.

I have seen similar results in a case of chronic myeli with hemiparesis of the left side, where the patient, w in spite of repeated specific treatment had been laid up f two years, after a few douche-massages was able to cr over a small corridor with the aid of a stick. This sa patient, eight months after commencing the treatme was able to take a walk of thirty minutes, and to atte to his ordinary duties. I could bring forward quite a lo list of such observations, but this would exceed the sco of this paper and the time limit.

Gentlemen, I have tried in these short details to gi you an idea of the douche-massage, its method and mo of application, as generally used at Aix-la-Chapelle f gout and rheumatism, and as I myself have succeeded applying it with some modifications also in chron diseases of the central nervous system. I have done for the purpose of directing your attention to this meth of treatment, which hitherto, I think, has not receiv sufficient notice, and I hope I have been able to offer modest contribution and addition to the already recogniz methods of treatment employed in these diseases, often difficult to deal with and so resistant to treatment.

THE judges appointed to examine and report on t exhibits at the Festival of Empire have awarded to Messr Newton Chambers and Co., Limited, a Grand Prix for the Izal disinfectant preparations.

THE fourth International Congress of Physiotherap which was to have been held at Berlin in April, 1912 (12 to 17th), under the presidency of Professors His a Brieger, has, owing to the fact that the Internation Congress on Tuberculosis has now been fixed for the sa time, been postponed till Easter week, 1913.

UNDER the will of the late Mr. Alexander Hogg Nasmyt a coalmaster and mine manager of Dunfermline, the Edi burgh Royal Infirmary and the Dunfermline and West Fife Hospital each receives a bequest of £1,000, while t Edinburgh Royal Blind Asylum, the Edinburgh Deaf a Dumb Benevolent Society, the Royal Edinburgh Hospit for Sick Children, and the Royal Edinburgh Hospital f Incurables each receives a sum of £500.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

EVIDENCE OF SEVERE ILLNESS AFFORDED BY APPEARANCE OF NAILS AFTER RECOVERY.

The amount of interesting correspondence occasioned by e publication of cases illustrative of this subject induces e to think that the following case occurring in my prac-ce may be interesting to your readers. I must admit at my attention has never been directed to the subject to the present time, but evidently such cases are mmon enough, and therefore warrant careful considera-n. I have had under my observation for several years a an between 70 and 80, who has during several winters ffered severely from chilblains on his hands, and in the rning when dressing, and after washing, the tips of the gers as far as the first joint, especially the first and cond fingers, become almost white and void of feeling. his is only relieved by brisk friction. In frosty weather is condition prevails till after the midday meal, even in a rm room, accompanied by blueness beneath the nails. a later stage the chilblains vesicate, and considerable lammation and swelling of the parts occur. With more less severity, during the cold weather, relieved some-hat by intervals of cessation of frost, the symptoms sist, the nails now (June 6th) presenting the appear-ces as in Figs. 1 and 2, pages 869–70, British Medical rnal, April 15th, the white lines not being quite so tinct, but the nails present a patchy appearance; those the little fingers on each hand have a faint purple pearance, the other fingers and thumbs being thus less rked. All the nails have ridges and depressions extend-the whole of their length and width, the depressions ng tender when pressed upon, and presenting a bluish t beneath: on coming to the end of the finger they get n, and exhibit a tendency to longitudinal splitting. A uliar appearance is presented by the ring fingers of h hands, under the nails a thick pulpy substance raises nail above its level, and apparently threatens its truction. The left ring-finger nail has a dark appear-e, especially at the base of the lunula, very tender to touch. The lunulae are absent, except those of the mbs, and the first and second fingers of the right hand. ubtless, as in former years, later in the summer the s will grow into a normal condition. I think the worse dition of the left fingers may be due to that hand ging down in walking, cold and congestion thus having e effect upon it.

ince these notes were compiled the condition of the of the left ring-finger justifies my opinion that the rruption of the circulation at the matrix has proved cient to destroy its vitality, for now the whole of the is evidently dead, of a dirty bluish colour, and raised he extremity by a substance of a warty character, rently extending to some distance beneath the nail. as yet there is no appearance of a new nail coming to ace the old. There is no pain, and the parts remain ionary.

s Dr. Flower suggests, a severe illness may without ot often cause this peculiar affection of the nails, but e correspondence, supplemented by Sir Samuel Wilks's interesting notes, recording his own case as well as e of "Sea Sickness" and "English Cholera," warrant conclusion that any temporary depressing influence produce such results, especially if frequently, as in own case, and still more marked in Sir Samuel Wilks's of the two attacks of sea-sickness, therefore, as he , "though at first he was under the impression that were indicative of some previous severe illness, he luded it could not be so, otherwise they would be of yday occurrence and well known to every medical ." The intimate connexion of the nails with the skin justifies the idea that scarlatina may often be ded with these peculiar appearances, especially if amation should be very profuse. I think, then, we conclude that such conditions may be, and generally produced by a sudden, more or less complete, obstruc-of the capillary circulation around the matrix of the nail, h would suffice to destroy its vitality, but, if not too continued, it may be restored by the free anastomosis of the vessels. If, however, it lasts long enough, death and desquamation of the nail would occur, just as with frostbite, which, if neglected or treated injudiciously by application of sudden heat, causes gangrene of the affected part.

Bristol. John Ewens, L.R.C.P.Lond. and L.R.C.S.Edin.

BREECH PRESENTATION.

Mrs. A., Eurasian, aged 31, has had eight children, four being head and four breech presentations. The first child was born when the mother was 22 years old. All the children were full-term, were of normal size, and were born alive, and six of them are still living. The other two died at the ages of 1 year 7 months and 2 months respectively. The labours have all been quite easy, and in no case was assistance necessary.

The first, fifth, sixth, and seventh labours were breech presentations, and the second, third, fourth, and eighth head presentations. I have examined the mother carefully, both during pregnancy and between pregnancies, and can find no abnormality whatever to account for the repeated breech presentations. The usual causes mentioned as likely to give rise to breech presentation (twins, premature child, dead child, contracted pelvis, excess of liquor amnii, etc.) have been absent.

With regard to the fact that laxity of abdominal walls and obliquity of uterus common in multiparae tend to cause breech presentation, it is interesting to note that the first labour was a breech presentation.

R. Kelsall, M.B., B.S., Captain, I.M.S., Civil Surgeon, Thayetmyo, Burma.

A CASE OF ANENCEPHALUS WITH SPINA BIFIDA AND EXCESSIVE LIQUOR AMNII.

The patient, an unmarried woman of 36 years of age, consulted me recently about her condition. Her last period was in November, 1910, the latter part, but she stated that conception occurred during the second week in December. On examination the abdomen was found to be distended to an enormous size, and the child could be distinctly made out, but apparently not of any great size; no neck could be made out definitely. She had had great sickness during the whole time of carrying the child, and had increasing constipation, accompanied with great flatulence. I was sent for recently by the nurse. Up to then there had been no evidence of premature labour. The nurse informed me that the patient had passed nearly two chambers full of water, which, on examination, proved to be liquor amnii. On examining the abdomen, which had been distended to its utmost capacity previously, it was found to be much reduced in size. The caput "per vagina" was felt as an irregular mass, but high up, the os only being dilated sufficiently to pass the forefinger. On being sent for a second time the nurse informed me that labour was coming rapidly, with only very moderate pains, and that something was protruding from the vagina, which she thought was the placenta. On examination (*per vaginam*) a soft mass could be seen and felt surrounding a sharp and irregular edge of the vertex, which was obviously absent; furthermore a soft, pappy, and brainy-looking exudation was coming away, which facts led me to suppose that the case was probably the rare example of an anencephalic monster. Shortly afterwards a male was born dead with ease, except for some difficulty as regards the shoulders, which were very broad, and gave some little trouble, as is often the case with these monsters. The child was apparently seven months old, and weighed over 4 lbs. It had a spina bifida extending down to the middle dorsal region of the vertebra, probably of the syringo-myelocele variety. The placenta was very small (also the cord), and adherent more or less, and had to be carefully pared away, the patient being well douched afterwards. She lost very little blood all through, and was very comfortable. The rarity of these cases and the difficulty in diagnosis sometimes led me to think this case worth commenting upon. Anencephalic monsters occur, roughly, one in nine hundred cases. At the Rotunda Hospital, Dublin, out of 11,521 births, thirteen of them were anencephalic monsters.

Portsmouth. W. Ronald Kirkness, M.R.C.S.Eng., L.R.C.P.Lond.

Reviews.

SURGICAL TEXTBOOKS.

OPINIONS may properly differ widely as to what precisely should constitute an introduction to surgery. Most of our textbooks begin with a more or less elaborate, frequently wearisome, disquisition on bacteriology, sepsis and asepsis, inflammation, and so on, so that the student may wander through many pages before he becomes even remotely acquainted with, far less interested in, the things that happen and the things that are done in surgery. We wish that every student beginning the study could have placed in his hands this little work by Mr. RUTHERFORD MORISON called *An Introduction to Surgery*.[1]

In the preface the author discloses his views in favour of a course of lectures in teaching surgery, provided the lectures are "directed towards those main principles of diagnosis and treatment that are based on a sound knowledge of pathology." This book is an abstract of his lectures, and bears out their main object, which is to emphasize the importance of general principles.

> As soon as the general principles are understood and their applicability realized, the student ceases to be overwhelmed by the masses of detail presented to him, and begins to feel an interest in subjects which before seemed surrounded by insurmountable difficulties.

This work then puts before us the general principles of surgery: if in a somewhat dogmatic and discontinuous fashion, it is with the definite object of making the principles stand out boldly, and we are referred to standard textbooks to fill up the spaces. The author's method of teaching may be illustrated by reference to the chapter on "The abdominal and pelvic viscera." He there says:

> Much confusion and bewilderment of thought have been occasioned by wrong habit of regarding certain portions of the body as allocated to one or other division of regional surgery, with implied special conditions, and apart from a due consideration of general principles. In abdominal and pelvic surgery this tendency has been most noticeable.

The pathology of any of the much discussed diseases of the present day—appendicitis and pancreatitis—is easily understood if principles are kept clearly in mind, that infection takes place by pyogenic organisms, and that inflammatory processes terminate in resolution, fibrosis, ulceration (including abscess formation), or gangrene. The principles governing the processes which occur in the various hollow viscera under similar conditions are very vividly portrayed by a series of diagrams. Partial obstruction of the exit of any hollow viscus results in hypertrophy of its walls: the familiar instance is the urinary bladder associated with urethral stricture, less familiar is the thickening of the wall of the gall bladder when a stone occupies the common bile duct, but is not large enough to block it completely, and perhaps less familiar still is the thickening of the stomach walls and diminution in the size of the cavity in partial obstruction of the pylorus. Very apt, too, are the author's illustrations of the results of complete obstruction to the outlet of the viscera. If to complete obstruction there be added inflammation, then the tension may be so acute as to result in interference with the blood supply, and gangrene follows. This condition of tension gangrene is shown to be the cause of gall bladder and appendix perforation. Inversions and torsions are graphically represented in a chapter of great interest, in which the general principles governing these conditions are kept clearly in view. The book is written in forceful dogmatic style, in keeping with the author's well-known individuality. We think it may well be put into the hands of every student as he first enters his hospital, and even practitioners to whom the hospital is a dim vision of the past will profit by being made to see the great fundamental principles underlying their daily and often tiresome routine.

[1] *An Introduction to Surgery*. By Rutherford Morison, M.A., M.B., F.R.C.S.Eng. and Edin., Professor of Surgery University of Durham, Senior Surgeon to the Royal Victoria Infirmary, Newcastle-on-Tyne. With 146 illustrations in the text and 5 coloured plates. Bristol: John Wright and Sons, Limited. London: Simpkin, Marshall, Hamilton, Kent and Co., Limited. 1910.

The fact that the textbook of surgery edited by Professors WULLSTEIN and WILMS[2] has gone into a second edition only two years after its first appearance is sufficient indication of the estimation in which it is held. There has not been time to make any alterations in the second edition. The first volume contains a general introductory chapter on wound treatment and on anaesthesia general and local, together with a systematic account of surgical conditions of the head and neck, including special sections on the ear and the throat, diseases of the thorax and breast, and of the spinal column. The appearance of such well-known names as Sauerbruch, de Quervain, and Riedinger at the head of various sections is a guarantee of the excellence of the book. The subjects in the various sections are clearly arranged, diseases are fully described, and local and general appearances are adequately illustrated, often by coloured plates which are well reproduced. The descriptions of treatment and of operative methods and technique are systematic and clear. In the third volume Dr. Rudolf Klapp of Berlin is the author of the section on diseases of the soft parts of the extremities, including diseases of blood vessels and nerves. The articles on diseases of bursae and of tendon sheaths are the fullest and best in this section. We find no mention of opsonin treatment of boils and carbuncles. Only two pages are devoted to burns, and no mention is made of picric acid in their treatment—a regrettable omission of a drug which has, in the hands of many surgeons, afforded great relief to pain as well as hindering suppuration. The subject of deformities of the extremities is treated by Professor Lange of Munich, and it is hardly necessary to say that it is well dealt with. The treatment of tuberculous hip disease is included in this section. It is interesting to note that Professor Lange advocates correction of severe contraction as soon as the acute painfulness of the joint subsides, thus differing from Lorenz and many others. Professor Lange's opinion of the practical benefit of tendon transfer and tendon grafting in the treatment of deformities following anterior poliomyelitis is, perhaps, unduly optimistic. Surgeons in France and England, while not denying that the proceeding is useful, have not been able to record such results as are claimed in Germany. For instance, it seems too much to expect so small a muscle as the extensor hallucis to take the place of the extensor communis digitorum; yet this is what Professor Lange claims that it can do. Professor Wilms is responsible for the section on malformations, and treats the subject in a rather perfunctory manner in seven pages. The same editor writes on injuries of the bones and joints. This section calls for no comment, except upon the fact that there is no discussion of the principles advocated by Lucas-Championnière of early movement and massage of fractures, or of immediate operation and union with plates and screws advocated by Arbuthnot Lane. In such a large work as the present some space might have been given to a discussion of the *pros* and *cons* of these methods. Professor E. Payr of Koenigsberg contributes the section on diseases of bones and joints, and Professor Ritter of Greifswald that on amputations and exarticulations. The book is sure to command recognition as a clear, full, and adequate textbook of surgery. The authors have not attempted to put before the medical world anything startling, but have apparently aimed at offering to the German-speaking student a presentation of the routine treatment of surgical diseases and injuries of the extremities as practised in Germany to-day.

[2] *Lehrbuch der Chirurgie*. Herausgegeben von Prof. Wullstein, Halle-a-S., and Prof. Wilms, Heidelberg. Zweite Auflage. Band I and III. Gustav Fischer. 1910. (Sup. roy. 8vo, pp. 626 and 611. M.10.50; G.bd. M.11.50 each volume.)

PHYSIOLOGY.

AN English translation by Miss FRANCES WELBY of the first volume (it is to be published in four) of the textbook of *Human Physiology*, written by Professor LUCIANI and edited by Dr. M. CAMIS of Pisa,[3] is in course of publication in four volumes. The first, with a preface by Professor Langley, appeared a short time ago. Professor Luciani's

[3] *Human Physiology*. By Professor L. Luciani. Translated by Frances A. Welby. Edited by Dr. M. Camis. With a preface by G. N. Langley, F.R.S. Vol. I—Circulation and Respiration. London: Macmillan and Co. 1911. (Med. 8vo, pp. 592. 18s.)

xtbook is well known as a philosophic work, admirably
itten and interesting to read; but we think the pub-
hers have made a mistake in not employing an editor
o would have brought the book up to date, at least so
as concerns British physiology. The scrappy list of
ferences given to British researches at the end of the
apters is quite insufficient. For example, in the section
respiration we find an extensive treatment of the
gulation of the respiration, without any mention of the
portant researches of Haldane and others of the
nglish school. So, again, in the section on the vascular
stem, the fundamental question of the influence of
avity and posture on the circulation of the blood is
missed in one line. There is no mention of the sino-
ricular node of the mammalian heart. In spite of the
lure to include recent work, the textbook is one which
ould be read by those studying for higher examinations,
l all who wish for a literary and philosophic treatment
the subject. Luciani has the same lucidity and charm
style which Sir Michael Foster possessed, and his text-
ok fills almost exactly the place which Foster's textbook
d in English literature. Very good are the admirable
torical summaries by which each subject is introduced.
that on the discovery of the circulation, Luciani urges
claims for priority of Cesalpinus against those of
rvey, and discusses the share which Servetus,
umbus, and Vesalius took in the discovery of the
ser circulation. An excellent feature is the way he
s forth classical experiments which prove the points he
iscussing. He writes knowing that he has breadth and
m enough in his four volumes, and owing to this his
k gains enormously over the dull, unembroidered
-volumed textbook. The student could not have a
ter introduction to physiology than Luciani's chapter
living matter. Miss Welby has done her work very
l. We notice one or two small slips. In the descrip-
of Fig. 48 the word "distend" surely ought to read
ollapse." In the description of Fig. 78, "recorded
ultaneously by two separate explorers," exploring
bours are meant, not researchers. In the last line of
e 219 the sense would be indicated better by "the
rial pressure falls to" than by "rises to."

rofessor VON FREY has issued a second edition of his
ures on physiology,[4] a scholarly work giving an ex-
ent summary of the chief facts of the science, with
rences inset in the type directing the reader to the
orities for the statements made. Into less than
pages Professor von Frey manages to compress the
of the information he imparts to his students, and
who attend his lectures must be able to fill in and
roider the concise exposition here given. There are
y good textbooks of physiology now attainable, but of
shorter this book of Professor von Frey is one of the
best, for every statement made is well weighed and
en with the fullness of knowledge of this distinguished
siologist. We are pleased to see the chapter on the
al cord dominated by the admirable researches of
rrington.

he preparation of the eleventh edition of NEUBAUER-
ERT'S handbook on the analysis of the urine[5] has been
in the hands of six chemical physiologists—A. Ellinger,
alk, L. J. Henderson, F. N. Schulz, K. Spiro, and
Vrechowski. The first half of the work, which has
issued recently, forms a portly volume of no less than
pages. It is a storehouse of information for those
ged in researches in medicine and pharmacy and for
nists. It deals fully with the methods of identification
estimation of the substances found in the urine, and
physical and chemical properties of this excretion.
first volume treats of the salts and their estimation,
e non-nitrogenous organic substances, including the
methods of investigating sugars and acetone bodies,
e estimation of total nitrogen and carbon, and of
onia, urea amino-acids, and creatin and creatinin.
editors have produced a work of great value as a
nce book: it should find a place on the shelves of
ysiological and clinical laboratories.

rlesungen über Physiologie. By Dr. M. von Frey. 2nd edition.
Springer. 1911. (Med. 8vo, pp. 397; 80 figures. M.11.)
lyse des Harns. Eleventh edition of Neubauer-Hübert's text-
Edited by A. Ellinger and others. Wiesbaden: Kreidels.
half, pp. 682.)

Professor A. PRENANT and P. BOUIN have compiled a truly colossal work on histology[6]—a solid volume of 1,200 pages, with 572 figures. The illustrations are executed with the usual excellence of the French artists, and give the reader an admirable view of the microscopical structure of the organs. Some of the figures are borrowed, others are newly made by or for the authors. The descriptive matter is clearly arranged and well written, and while authorities are cited, we note with regret that no references are given. Adequate attention is drawn to comparative minute anatomy. A very striking figure is that of the arterial supply of the pig's kidney, obtained after injection with cinnabar and petrol, by Roentgen photography. A microscopic section of the human kidney is also figured wonderfully well, and excellent is the whole account of the kidney, its development, and the histological evidence of the function of the different parts. The structure of the thyroid and parathyroid, and the development of each of these glands are wonderfully well illustrated. The text dealing with the hypophysis and the suprarenal glands is illustrated by admirable figures. The extraordinary size of the venous sinuses in the medulla of the suprarenal body are shown in two noteworthy drawings. In the chapter on the sexual glands we note beautiful illustrations of the development of the spermatozoa, and an interesting drawing of the testicle of the guinea-pig after exposure to the Roentgen rays, showing the disappearance of every sign of spermatozoon formation. Equally striking figures are given illustrating the development of the ova in the ovaries of embryonic and newborn rabbits and kittens. We can recommend this work as affording an excellent reference book on histology, and a mine of wealth to those who search for good illustrations of minute anatomy.

The second half of the first volume of ABDERHALDEN'S *Handbuch der Biochemischen Arbeitsmethoden*[7] deals with the general methods of physico-chemical research not included in the first half, such as the determination of the reaction of animal and vegetable liquids, the optical methods of research, the colorimetric determinations of heat value, and the methods of removing protein from protein-holding fluids. Dr. Friedenthal gives a full account of titration methods, of indicators used in titration, and of the electrical method of determining reaction by the use of concentration cells, a method which shows that such liquids as blood and urine are really neutral fluids, having an equal centration of H and HO ions. Professor Bichringer deals with refractometry, the polarimeter, the spectroscope and spectrophotometer, and colorimetry, while Drs. Hare and St. Weiser give the description of the colorimetric methods used in determining the heat value of foods. The second part of the third volume—a bulky part of nearly 900 pages with about 300 figures—contains articles by Professor Palladin on the respiration of plants, by Professor Stocklasa on the aërobic and anaërobic respiration of bacteria, on the physico-chemical investigation of living cells and tissues by Dr. R. Höber, the methods of biological gas analysis by Dr. F. Müller, who also deals with the methods of enumeration of blood corpuscles and estimation of haemoglobin, of the specific weight, dry substance, and viscosity of the blood and of the blood volume. Dr. P. Rona deals fully with the proof and estimation of products of protein metabolism in the urine and faeces, Professor Kutscher with the preparation of organic bases from the urine, and Professor A. Schittenhelm with the isolation and estimation of the products of the metabolism of nucleins—the purin bases; Drs. Embden and Schmitz give an account of the methods of isolating aceton, aceto-acetic, and beta-oxybutyric acid. Dr. Brugsch deals with general methods of metabolic researches, Dr. Langstein with the metabolism of the infant (the special beds, jackets, and urine-collecting apparatus figured for infant metabolism experiments are remarkable), Dr. Völtz with that of dogs, cattle, and birds, and Dr. Henze with that of sea animals. To Professor Johansson is allotted the treatment of the balance of

[6] *Traité d'histologie*. Tome II. Histologie et anatomie microscopique, par A. Prenant and P. Bouin. Paris: Masson et Cie. 1911. (Sup. roy. 8 vo. pp. 1239. figs. 572. Fr.50.)

[7] *Handbuch der Biochemischen Arbeitsmethoden*. By Professor E. Abderhalden. Berlin and Vienna: Urban and Schwarzenberg. 1910. First volume, second half. (Sup. roy. 8vo, pp. 1239. Abb. 58. M.9.) Third volume, second part. (Sup. roy. 8vo, pp. 680. M.35.)

incoming and outgoing energy in the body. Professor J. Loeb treats of his own subject—the methods of inducing artificial parthogenesis—while Professor Michaelis deals with immunity, and Dr. Fuhrmann with the methods of bacteriology. The work maintains its character as a valuable reference book for all those engaged in biological inquiries.

CHEMISTRY.

IN the study of chemistry, as of any other science, it is important that a knowledge of the theory as well as of the experimental facts should be acquired, and the study can hardly be followed in a scientific manner unless these two branches are taken *pari passu*: in the ordinary textbooks of chemistry, however, it is not usual to devote very much space to theoretical considerations, and an examination of Dr. A. SCOTT'S *Introduction to Chemical Theory*[8] shows that this side of the subject alone provides ample material for a volume, even when the matters dealt with are not treated more elaborately than is necessary for the student. This work can be unhesitatingly recommended as an excellent survey of the theoretical basis of modern chemistry; the atomic theory, classification of the elements in accordance with the periodic law, classification of compounds, thermo-chemistry, the ionization hypothesis, etc., are among the divisions of the subject that are dealt with, and the present position of scientific belief and the main steps by which it has been reached are presented in a lucid manner, the whole making a very readable book.

The growth of the science of organic chemistry, and the important place which it takes in a course of study, have brought into being so large a number of textbooks of the subject that a student is likely to be rather embarrassed in choosing amongst them. In such circumstances, only those having distinctive character and merit are likely to survive and attain to eminence, and HOLLEMAN'S *Textbook of Organic Chemistry*[9] can certainly be classed among these. The differences between a textbook and a work of reference have been clearly borne in mind, and the author has been in no uncertainty as to which of these he was writing; a very excellent textbook is the result. The English translation has been prepared by Dr. Jamieson Walker in collaboration with the author, and is not a mere rendering of the original Dutch, but the matter has been thoroughly revised and brought up to date. The distinctive character of the book is the orderly way in which the large number of facts are connected by theory, and the lucid manner in which physico-chemical theories are expounded in relation with the general subject. Facts are given before the theories that correlate them, as they should be; but a perusal of any part of the book does not leave on the mind the impression of a vast number of unconnected or little-connected facts, to be retained by an effort of memory, which is sometimes produced by books on this subject. Simple mathematical formulae and curves are freely used, but without assuming a knowledge of advanced mathematics on the part of the student. The spatial configuration of molecules, with its bearing on the easy breaking down of double and triple linkages between carbon atoms, physical isomerism, the stability of ring compounds, etc., is discussed at some length in a thoroughly lucid manner. In the chapter on proteins and their derivatives, the nomenclature recently adopted by agreement among various chemical and physiological authorities is fully set forth, and modern synthetic work in this group and its bearing on the structure of the protein molecule are discussed. In accordance with the purpose of the book, no attempt is made to deal exhaustively with any one class of bodies; to alkaloids and dye stuffs, for example, only a few pages each are given, and glucosides are only touched on incidentally; but regarded as a textbook, and not a reference book, it is not easy to point to any omission. The book is well suited for use by students of this subject, and by past students who may desire to familiarize themselves with the modern theoretical conceptions which make organic chemistry such an orderly and logical science.

Dr. GILBERT FOWLER'S *Introduction to Bacteriological and Enzyme Chemistry*[10] starts with a general account of modern organic chemistry, treated in an elementary way, and may thus prove useful to those who learnt their chemistry some years ago, and whose knowledge of this subject requires some brushing up. It then passes on to the chemistry of the sugars, and to a study of the various changes which carbohydrates undergo as the result of enzymic action. The fermentation changes to which indigo, tea, cocoa, coffee, flax, tobacco, etc., are subject are also treated, and the book concludes with a brief account of the agricultural applications of chemistry and the methods of sewage purification. Dr. Fowler is evidently most at home in the vegetable side of bio-chemistry, and it would have been better if he had entirely confined himself to this aspect of the subject. The short chapters he devotes to animal bio-chemistry, and which deal with fat-splitting enzymes, proteolytic enzymes in the alimentary canal, and those which clot milk and blood, would have been better omitted, for they are crude, imperfect, and in many places incorrect. One cannot conceive where he obtained his most confusing and antiquated classification of the proteins from; he could surely have gone for this to some recognized authority rather than have attempted to make, with his obviously imperfect knowledge of proteins, a classification for himself. In a book labelling itself an introduction to bacteriological and enzymic chemistry one would have expected to find some reference to the composition of bacteria. There has been a considerable amount of work performed on this part of the subject of late years. All mention of the large subject of immunity, and that branch of borderland chemistry which deals with toxins, antitoxins, bacteriolysins, and the like, is also omitted, if we except two brief sentences, both of which are incorrect. One of these sentences runs, "The coagulation of toxins by precipitins in serum-therapy is based on the initial precipitation of colloids." The other reads, "The secretion of an enzyme such as amylase is analogous to the secretion of toxins by pathogenic organisms." To the pathologist or student of medicine the book has little or no interest. It must, however, be said that it is not addressed to them.

NOTES ON BOOKS.

THE demand for a second edition within a year of the issue of its first is strong evidence in favour of the value and popularity of any book. Mr. PERCY SARGENT and Dr. ALFRED RUSSELL, the conjoint authors of *Emergencies of General Practice*,[11] may be congratulated on the reception accorded to their first issue having been so satisfactory as to justify them in such an early publication of a second edition. The new volume, which is one of the Oxford Medical Publications, is not a mere reprint of its predecessor, but is revised, in many chapters rewritten, and elaborated. We have nothing to add to the favourable opinion we expressed about the first edition when it was reviewed in the issue of the JOURNAL of December 24 last. The omission of the minor and more commonplace emergencies met with in surgical, and more particularly in medical, practice is, we still think, to be regretted from the point of view of the general practitioner. But the emergencies which are chosen for discussion as "acute and urgent conditions which require prompt recognition and treatment" are well set forth, and are presented in terms of clearness and precision. This edition is more profusely illustrated than the first, and the inclusion of Dr. Percy Smith's valuable chapter on "Emergencies Connected with Insanity" enhances very considerably the usefulness of the work to men in practice as well as to those who are reading for the higher examinations.

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[8] *An Introduction to Chemical Theory.* By Alexander Scott, D.Sc. Edin., Sc.D.Camb., F.R.S. 2nd Edition. London: Adam and Charles Black. 1911. (Med. 8vo, pp. 272. 5s.)

[9] *A Textbook of Organic Chemistry.* By A. F. Holleman, Ph.D., F.R.A.Amst. Edited by A. Jamieson Walker, Ph.D., B.A., assisted by Owen E. Mott, Ph.D., with the co-operation of the author. Third English Edition. New York: John Wiley and Sons. London: Chapman and Hall, Ltd. 1910. (Roy. 8vo, pp. 599: 21 illustrations 2.50 dols.)

[10] *An Introduction to Bacteriological and Enzyme Chemistry.* By Gilbert J. Fowler, D.Sc., F.I.C., Lecturer in Bacteriological Chemistry in the Public Health Department, Victoria University of Manchester. London: Edward Arnold. 1911. (Pp. 328.)

[11] *Emergencies of General Practice.* By Percy Sargent, M.B.C.Cantab., F.R.C.S., and Alfred E. Russell, M.D., B.S.Lond., F.R.C.P. Second edition. London: Oxford Medical Publications: Henry Frowde and Hodder and Stoughton. 1911. (Med. 8vo, pp. illus. 98. 15s. net.)

British Medical Journal.

SATURDAY, SEPTEMBER 30TH, 1911.

THE WHITE MAN IN THE TROPICS.

Sir Charles Bruce is one of those great proconsuls whose efficiency as administrators has done so much to preserve the integrity of our scattered empire and to keep its dependencies in organic relation with the Mother Country. He has had the opportunity in an almost literal sense of surveying mankind from China to Peru. Beginning his career as Professor of Sanscrit in King's College, he was afterwards Rector of the Royal College in the Mauritius, Director of Public Instruction in Ceylon. He then returned to the Mauritius as Colonial Secretary; later he was Lieutenant-Governor of British Guiana, afterwards Governor of the Windward Islands, and finally Governor of Mauritius. His training has thus been not confined to the comparatively narrow groove of administrative service, but has included elements of a larger culture which have given him a broader outlook than is usually found in our colonial governors. All interested in the development of the empire owe him a debt of gratitude for having given us the results of his wide and varied experience in a book to which we can give no higher praise than that it is worthy of its subject.[1] It would be outside our province to follow the distinguished author through all the chapters of his exhaustive book. It is sufficient to say that he deals with problems of colonial government in the broadest spirit. Those who heard his address at the Tropical School of Medicine in London in 1904, an address which we had the privilege of publishing in the Journal, will not require to be told that Sir Charles Bruce is something very different from the politician or official of the ordinary type. If any further proof of this were needed it would be found in the fact that he devotes no fewer than three chapters to the subject of health, a matter which till recent years was treated as outside the sphere of statesmanship. It is those three chapters of the book with which we propose to deal here. One of the armchair philosophers who speak with the confidence begotten of want of practical experience, declared a few years ago that the tropics must always remain uninhabitable to white men, and that the attempt to destroy the enemies of health which made them impossible as permanent places of residence and work for white races must necessarily be unsuccessful. To this *ex cathedrâ* deliverance the development of science, especially in the domain of tropical pathology in recent years, has given a decisive contradiction. Sir Charles Bruce, who has seen the practical effects of the work of the schools of tropical medicine, bears strong testimony to the like effect.

Sir Charles Bruce gives a sketch of the campaign now being carried on against disease in the tropics, which he says owes its origin in great measure to the initiative and encouragement of Mr. Chamberlain. It is to that statesman's credit that he quickly realized how seriously, within the area of the Crown Colonies, the future of all imperial interests, administrative, commercial, and industrial, was threatened by the ravages of disease. Mr. Chamberlain had the good fortune to have as an adviser Sir Patrick Manson, who had persistently taught, in the face of incredulity and ridicule, that the whole question of tropical hygiene lay in scientific knowledge and the application of that knowledge. Sir Charles Bruce recalls the memorable address delivered by Manson at St. George's Hospital in October, 1897, and we are pleased to see that he recognizes a fact which is conveniently forgotten by many, that this address was to a large extent the immediate initiative of Mr. Chamberlain's subsequent action, and may truly be said to mark an epoch in the history of the study of medicine throughout the empire.

Perhaps the most interesting of the three chapters devoted to health is that embodying Sir Charles Bruce's own personal experiences of tropical diseases. His first colonial experience was in Mauritius in 1868, where an epidemic of malarial fever of exceptional fatality had broken out in 1866, and was still raging. Up to the time of this epidemic Mauritius had been one of the healthiest colonies of the empire; as a naval and military station it was of unsurpassed salubrity. It was also a favourite health resort for Indian civilians on furlough, while commercial and agricultural enterprises were carried on amidst surroundings which seemed to combine every charm of the tropics with the most favourable conditions of life in temperate climates. The disease spread from Port Louis, the centre of life, commercial, social, and administrative of the island, and thence it spread, notwithstanding every effort. Settlements were erected higher and higher above sea level up to an elevation of from 1,200 to 1,400 ft. The census of 1901 gave striking proof of the ravages of five-and-thirty years of the disease. The population of Port Louis had decreased from 74,420 to 52,740. The epidemic had its origin in the introduction of the malaria-bearing mosquito by immigrants from India, and was a typical illustration of the distribution of tropical disease from centres of origin following the migration of labour.

Sir Charles Bruce had to deal with malaria on many other occasions, and in Ceylon in particular, where he was Director of Public Instruction, he had an opportunity of seeing that there, as in the tropics generally, epidemic and endemic diseases have a great influence on school attendance. He tells a striking story of a school established in a village known by the name of "fever village," which, being difficult of access, had escaped a visit from the department for some years. An inspector sent with special instructions to visit the school found it with some difficulty, seventy miles from the site where it had been established. The explanation was that the village with its school had migrated to successive places, from each of which it had been driven by the fever until it had reached the spot where it was found. This occurred in the North Central Province, which historically is the most interesting district in the colony, containing innumerable monuments of a great religious and political past. At the present day the province, once the most richly cultivated and thickly peopled part of the island, is a region of abandoned lands—the home of a sparse and anaemic population. Thus malaria, operating through centuries, has

[1] *The Broad Stone of Empire: Problems of Crown Colony Administration, with Records of Personal Experience.* By Sir Charles Bruce, K.C.M.G. Vol. i. with maps. Macmillan and Co., Limited, St. Martin's Street, London. 1910.

caused the ruin and depopulation of this once flourishing province. Sir Charles Bruce cherishes the hope that when restored to sanitary conditions such as generally prevail in the colony within the area of European commercial and agricultural enterprises and in the chief centres of administration, the province will probably be found to possess capabilities of development inferior to no other part of Ceylon.

The devastation wrought in these colonies in modern times by malaria may be compared to the waste of the Roman Campagna, and of parts along the coast of Sicily by that disease, and reminds us that it has been plausibly contended that the decadence of Greece was due to the same cause. This terrible scourge may perhaps also be accountable for the fall of mighty empires of old, the remains of whose great cities now lie in sandy deserts—witnesses to the evanescence of nations as of men, like the broken statue of Ozymandias, "King of Kings."

Sir Charles Bruce's residence in the tropics led him long ago to form a very strong opinion of the inadequacy of the *Pharmacopœia* to meet the requirements of our Colonial Empire. His experience has made him take much interest in the work of a revision of the *Pharmacopœia* by the adoption of medical herbs and substances of proved efficacy, either in substitution of or in addition to the recognized drugs. While we hold strongly, with Sir Thomas Watson, that in rational medicine, with the exception of human flesh, there is no substance or herb or drug which the doctor may not legitimately use, if it offers any hope of doing good, we confess we do not see any urgent necessity for giving the official recognition of the *British Pharmacopœia* to all native remedies. For one thing, we make no manner of doubt that all of them have been tried when the occasion arose by European practitioners who found the recognized drugs useless, and if there were the same amount of proof or anything like it that these things do good that there is in the case of quinine, for instance, it would certainly have been recorded. Is there any such record in existence? Again, the efficacy of the native herbs, assuming them to have the powers with which they are credited by Sir Charles Bruce, may possibly depend on details in the manner of preparation which the natives not unnaturally keep secret. The evidence would be as of as little value as testimonies to the failure of quinine when bark had been substituted for the alkaloid in a prescription, or of digitalis and ergot when inert preparations have been employed. We suggest, therefore, that the caution with which the General Medical Council has proceeded in this matter is due not so much to the obstinate conservatism popularly attributed to the medical profession as to the complexity of the problem—a complexity largely due to the difficulty of collecting a sufficient body of trustworthy evidence.

In the third of the chapters which he devotes to health, Sir Charles Bruce deals with tropical diseases that have their origin in civilization. Long experience has led him to divide the diseases of the tropics into two groups: Those that have their origin in uncivilized communities but are distributed through the agencies of civilization, and those that have their origin in civilization. Of the influence of the former group, he says that some idea may be formed from the evidence supplied by Uganda, where sleeping sickness and syphilis rage to an extent which threatens to destroy the population. But in Sir Charles Bruce's opinion the most fatal of all forms of disease originating in civilization are those arising from the excessive use of spirituous liquors introduced by the Europeans, and from the excessive use of narcotic drugs which has its source in Asiatic civilization. The only remedy likely to be effectual is that spirits, liquors, and narcotic drugs should be Government monopolies.

No one can peruse Sir Charles Bruce's book without having his ideas as to the greatness of our empire which unfortunately very few even of our legislators recognize, vastly expanded. It is a record of the administrative life of a man who has had to deal with all the difficulties of government under conditions with which stay-at-home politicians are never confronted. We should recommend a study of the book to every adult citizen of these realms. By this his mind would be lifted above the pettiness and parochialism of local politics and wire-pulling, and he would get an insight into the nature and complexity of the task which has been undertaken by the men of our race, and which has been accomplished at the cost of incalculable self-sacrifice and devotion to duty. The medical reader in particular would learn from it how large a part the science which lies at the basis of the art of healing has played, and must continue to play, in the preservation and expansion of our empire. He would learn from it that the greatest colonizing agency—far more powerful, we would say in all reverence, than religion—is medicine. It has often been pointed out in the JOURNAL how great a share has been taken in pushing forward the boundaries of civilization by doctors, and Sir Charles Bruce's book helps to show what a vast field for the expenditure of energies in the alleviation of the sufferings of the human race and in the advance of science still remains for further culture in the thousand isles on which Britain sits enthroned.

THE WASSERMANN METHOD AND PSYCHIATRY.

THE years which have elapsed since Wassermann, Brück, Plaut, Levaditi, and others applied Bordet's discovery of the deviation of the complement to the diagnosis of syphilitic and metasyphilitic or parasyphilitic diseases have only enhanced the value of Wassermann's original method. It is true that the fundamental nature of this phenomenon of complement fixation is still obscure, and that Wassermann's original method has been overlaid by a whole series of modifications which have themselves given rise to new contentions; yet in practice its application gives results so clear and on the whole so concordant that its decisive value is hardly contested by any authority. Particularly in the early differential diagnosis between parasyphilitic diseases accompanied by mental disorder and other forms of mental disease on the one hand, and between cerebral syphilis and parasyphilis on the other, is it already of assistance, and promises to be of greater use in the future. Abundant proof of this forecast is to be found in Dr. Felix Plaut's book[1] recently translated into English by Drs. S. E. Jelliffe and L. Casamayor. Dr. Plaut opens with a chapter on the development and nature of the serum-diagnosis of syphilis. In this he gives a concise historical account of this method, but as he takes for granted a very considerable knowledge of the subject by the reader, those who are not

[1] *The Wassermann Sero-Diagnosis of Syphilis in its Application to Psychiatry.* By Dr. Felix Plaut of Munich. Authorized translation by Smith Ely Jelliffe, M.D., Ph.D., Professor of Psychiatry, Fordham University, New York, and Louis Casamajor, A.M., M.D. Nervous and Mental Disease Monograph Series No. 5. New York: Journal of Nervous and Mental Disease Publishing Company. 1911. (Pp. 182 2 dols.)

rtunately situated would be well advised to read st Dr. Mott's illuminating Morison Lectures for 09.[2] With Dr. Mott, Dr. Plaut has been forced the conclusion that the original Wassermann ethod, which works with aqueous syphilitic liver tract as antigen, with guinea-pig serum as com-ement, and with artificial haemolytic rabbit serum, alone to be trusted.

As to the reliability of the test, Dr. Plaut says that, concerning the sporadically occurring positive reac-ons in the so-called normal control material as far it is found in patients with different known clinical fections, one may rightly accept that one has here do with syphilitics who, as so often happens, know thing about their infection." As an instance of is he states that he has found five wives of paretics d two husbands of paretic women who reacted sitively, yet showed no signs of a present or past philis, and were ignorant of any infection. Also, he s seen apparently non-syphilitic children for whose sitive reaction only the paresis or syphilis of the her furnished an explanation as well as the reverse that is, parents in whom the syphilis of the child ve the only support that they also were syphilitic, d in whom a positive reaction was then to be ained.

Before attacking his subject proper, Dr. Plaut scribes some clinical investigations made by him o cases of syphilis without complication of the vous system. These showed that the spinal fluids, irely independent of the action of the serum, cted positively in not one. Levaditi, Ravaut, and nanouchi having obtained similar results, this nt is of weight in arriving at a diagnosis.

Turning to general paralysis, Dr. Plaut considers, t, serum reaction, and then that of the spinal d; and here it should be mentioned that he con-ers it important that both fluids should be tested. material comprised cases of the most varied es and stages. A history of infection was denied half of the female and nearly a quarter of the le patients; but, out of 156 paretics, all without eption showed a positive reaction in the serum. practical conclusion drawn is that a negative lt excludes general paralysis; which is, in fact, only syphilitic affection in which a negative result of value. A negative (serum) result therefore udes general paralysis, but a positive result proves that the subject is syphilitic. Dr. Plaut found, , that the intensity of the reaction coincided with ical grouping neither according to the state nor the nsity of the disease. The spinal fluid was exa-ed in 147 cases, and the result was positive in 139, otful in 2, and negative in 6, though in the otful and negative cases the serum reacted posi-y. A negative reaction in the spinal fluid of eral paralytics is thus very rare. Further, it was d that in the earliest stages of general paralysis reaction appears in as clear a fashion in the al fluid as in the blood.

he immediate question, however, is not the pro-ion of positive reactions given by general para-s which relates to pathogenesis, but the value of method as a diagnostic criterion as between ral paralysis and other organic dementing dis-s—for example, cerebral syphilis, arterio-sclerosis, nolic dementia, etc. Here Dr. Plaut speaks with caution. Tabes dorsalis gives pretty much the proportion of positive results with the spinal as general paralysis, and may be excluded from present discussion.

st, with regard to cerebral syphilis, this being, in most doubtful cases, the chief disease in question. Dr. Plaut's cerebral syphilitics comprised 50 cases, of whom only 28 conformed to a typical symptomatic polymorphism. Both spinal fluid and serum were examined in only 18 of the 28, and of these 14 gave a negative spinal fluid and a positive serum reaction. On the other hand, 3 acted positively with both spinal fluid and serum. In general, therefore, general paralysis differs serologically in fairly clear fashion from cerebral syphilis, which latter usually gives only the ordinary reaction of syphilis; but inasmuch as exceptions do occur to this general rule, it cannot be considered absolute at present.

The importance of trauma as a factor in the causation of general paralysis is a controversial question, and there are still those who hold that trauma alone may suffice. Without entering into the interesting details of cases given by Dr. Plaut, proving the value of serological methods in differentiating between post-traumatic psychoses and general paralysis, it may be mentioned that in 20 of Dr. Plaut's cases trauma was given as cause, and that in every one of these without exception the Wassermann method showed the presence of syphilis. Thus, Dr. Plaut says, the champions of the pure traumatic origin of general paralysis must admit that trauma can form the "only" cause only in syphilitics. Alcoholic paresis, as Kraepelin has designated those forms of general paralysis in which alcoholic symptoms obscure the signs of the paretic process, at times calls for care in distinguishing alcoholic processes — alcoholic pseudo-paresis — and here the serological results are decisive, as also in the differential diagnosis of general paralysis and manic-depressive psychoses or irregular type.

Lastly, a large portion of Dr. Plaut's work has been devoted to the investigation of feeble-minded forms upon an hereditary syphilitic basis. Few subjects are of greater interest than this. How far a family may be saturated with syphilis, what the effects—apart from gross and immediately recognizable syphilitic lesions—may be, and through how many generations the poison may still be operative are all questions of great interest which cannot, perhaps, be answered to-day, but will probably be fully answered in the future. In the solution of these problems serological diagnosis promises to play a great and, indeed, indispensable part. Dr. Plaut's wide investigations only show that hereditary syphilis can be proved in the same manner and with equal certitude as can the acquired form; also that infantile general paralysis gives the same proportion of positive findings with the spinal fluid as the adult variety; but they also show that in many simple feeble-minded forms in which, from the entire absence of any sign of syphilitic brain disease, a luetic basis might not have been suspected, positive serum reactions proved its undeniable presence.

It has to be admitted that the high percentage of positive results obtained by Plaut and other German workers has not always been obtained by either French or English experimenters. Drs. Edwin Goodall and H. A. Schölberg, for instance,[3] even though they admit that their results "clearly support the view that a positive reaction in the cerebro-spinal fluid in cases of insanity, such as are commonly received at mental institutions for the poor, is very strong evidence of general paralysis," obtained only 75 per cent. positive findings in the serum of general paralytics, and 41.46 per cent. positive results with the

[2] BRITISH MEDICAL JOURNAL, February 20th and 27th, 1909.

[3] On the Wassermann Reaction in 172 Cases of Mental Disorder, and 66 Control Cases, Syphilitic and Other. By H. A. Schölberg, M.B.Lond., D.P.H., and Edwin Goodall, M.D.Lond., B.S., F.R.C.P., Medical Superintendent, Cardiff City Mental Hospital. *Journal of Mental Science*, April, 1911.

cerebro-spinal fluid. These results go to show, they say, that a negative reaction is sometimes obtained (both in the serum and cerebro-spinal fluid) in cases of general paralysis which are clinically typical and have been proved by autopsy to be genuine cases. They further say that the reaction may vary at different periods in the same case without any clinical reason. Granted that there is no possibility of variation in the technique involved in the highly complicated test, this observation would seem to permit of a possible explanation of the discrepant results obtained by some experimenters. The account given by Drs. Goodall and Schölberg, interesting as it is, does not invalidate the conclusion of the majority of authoritative investigators that the Wassermann reaction is of the highest diagnostic value.

A MEDICAL LORD MAYOR OF LONDON.

IT appears to be generally anticipated that the next official occupant of the Mansion House will be a member of the medical profession—namely, Sir Thomas Crosby. There have been plenty of medical mayors at one time and another, and possibly even one or more Lord Mayors, but never a medical holder of the Chief Magistracy of the City of London—a post of such celebrity, as well as dignity and importance, that probably the chief magistrates of all other great cities in the world would be content to be ranked second to its holder. Should Sir Thomas Crosby be elected and decide to accept the appointment, the fact that it has never before been held by a medical man will probably be one determining factor in his decision. The fact of his holding this high office could not directly benefit the medical profession, but it would be a point of distinct interest in its history; we hope, therefore, that for once in a way the expected will duly happen. Our acquaintance with what may be called the domestic history of the City of London is insufficient to enable us to say whether members of the medical profession, except as represented by the Society of Apothecaries, have ever played much part in the administration of its affairs. Still it is highly probable that in the past they held a fair share of the many honorary, but by no means sinecure, appointments in its gift, for formerly the number of medical men practising in the city was very much larger than it is at present. Indeed, Finsbury Square and its neighbourhood was at one time a notable medical locality, and many distinguished medical men resided therein. We have no list of them to hand, but we understand that a book specifically dealing with the medical associations of the neighbourhood is in course of preparation, and meanwhile memory of its medical interest is to some extent preserved by the circumstance that the Hunterian Society of London holds its meetings at the London Institution in Finsbury Circus. The fact that no medical man has as yet attained to the office of Lord Mayor is not remarkable in view of the engrossing nature of the profession of medicine and of the amount of municipal work which must be performed before a would-be Lord Mayor becomes even eligible for appointment. Appointment even to minor honorary offices in the City entails election, so those who eventually come within ostensible reach of the highest office are invariably men who have already passed a series of tests of a different character, but at least as trying as those by which the fitness of a man for the practice of medicine is judged. Finally, no one can be long in the City without realizing that the post of Lord Mayor, besides being one of great honour, is one which commonly involves considerable financial outlay, and invariably throws a great strain on the physical resources of its holder. Sir Thomas Crosby was elected alderman in 1898, served the office of sheriff in 1906-7, and, on the elevation of Sir Vezey Strong last year, became senior of the aldermen who have not yet passed the chair. On the medical side, he became M.R.C.S., L.S.A. in 1852; a Fellow of the Royal College of Surgeons in 1860; M.D.St. Andrews in 1862; he is also an Officer of the Legion of Honour, and holds the decorations of the Orders of the Crown of Prussia, of the Danebrog, Denmark, of St. Olaf, Norway, and the Rising Sun, Japan. In his student days he was House-Surgeon at St. Thomas's Hospital and a Demonstrator of Anatomy in its school. He has been for some years a member of the Senate of the University of London; was at one time president of the Hunterian Society; and until comparatively recently carried on an active practice in the City. Of late years he has been assisted by his son, a medical graduate of Cambridge, who seems destined to follow the path of his father still more closely, since he is already one of H.M. Lieutenants for the City.

DANGERS IN MANUFACTURE OF PATENT FUEL WITH PITCH.[1]

IN October of last year the Secretary of State certified the manufacture of patent fuel with pitch to be dangerous. To the Draft Regulations issued a month later manufacturers raised objections. In consequence, an inquiry was held into the Draft Regulations by Mr. Alfred Herbert Lush, who visited various works in South Wales and took evidence in Cardiff, Swansea, and London. There are something like 1,604,000 tons of patent fuel produced annually in this country, nearly all of it in South Wales. The bulk of the fuel is exported for steam purposes. The processes of manufacture are simple enough. Pitch is broken up and mixed with small coal in a proportion varying from 8 to 10 per cent. of the mixture. The mixture is first reduced to dust in disintegrating machines, heated sufficiently to melt the pitch and bind the components together, and finally pressed into moulds to form briquettes. Of the 1,300 men employed in the trade, only about 20 per cent. are actually engaged in handling the pitch or in the active manufacture of briquettes. The danger to health arises from the action of pitch fragments or pitch dust on the eyes and of pitch dust on the skin of the workmen. The dust causes irritation of the eyes and ulceration of the cornea, while upon the skin it produces dermatitis and warts. The warts, primarily non-malignant, become epitheliomatous. They are met with on the arms and scrotum. The actual ingredient of pitch which causes the warts has not yet been definitely ascertained. It may or may not be anthracene, as has been suggested. The operation of the Workmen's Compensation Act has brought pitch-worker's disease to the front. Thirty cases have been reported for compensation. It is proposed to prevent dust in the factories by encasing the elevators and disintegrating machinery, and to prevent the workmen suffering by protecting their bodies from dust by the wearing of overalls, and by removing the dust from the skin by bathing and washing at the works. The wearing of goggles is to be compulsory. It appears that there is some difficulty in getting the men to use the baths. Apart from the risk of catching cold on going into the open air after a warm bath at the factory, the men declare that bathing causes acute pain of those parts of the body which have been exposed to the pitch dust. Powdering the skin with Fuller's earth, or smearing the exposed parts of the body with vaseline before commencing work has been recommended. It is suggested in the report that the public baths might be used by the men provided a practical scheme could be devised for utilizing these baths, instead of erecting baths at factories. It is needless to say that this would never do. It would be better to build a new

[1] Report to His Majesty's Secretary of State for the Home Department on the Draft Regulations proposed to be made for the Manufacture of Patent Fuel (Briquettes) with addition of Pitch. By Alfred Herbert Lush, Barrister-at-Law. Messrs. Wyman and Sons, Fetter Lane, E.C. 1½d.

wing altogether and make those who use the baths responsible for their maintenance. Mr. Lush has furnished an interesting and open-minded report. We concur with him in the proposal that before the regulations are finally settled further experiments should be made to ascertain what are the best means for removing pitch from the skin.

THE THERAPEUTIC POSSIBILITIES OF AUTOMOBILISM.

THE therapeutic possibilities of automobilism were early recognized in this country, and have often been discussed in these columns, but it is in France, perhaps, that they have been most closely studied. Indeed, there is a tendency in that country to accord to touring in machine-driven vehicles a definite place in the *Pharmacopœia*, so to speak. Mouneyrat, for instance, seems to regard automobile driving as almost a specific in simple anæmia, and in support of his contention has shown the rapidity with which certain subjects tested by him increased the proportion of their red blood cells and the percentage in these of hæmoglobin. Similarly, Le Gendre has contended, though without attempting to explain the fact, that those subject to chronic constipation improve under corresponding treatment. Physiologically, the outcome of a properly dosed course of motor driving has been stated to be slight increases in the pulse-rate, in arterial tension, the body temperature and nitrogen output, coupled with readiness to sleep. The latter fact, however, is ascribed by Mouneyrat less to motor driving in itself than to a consequent *ignotum quid*, which is, perhaps, absorption of ozone. More recently L. Legroux[1] has endeavoured to distinguish definitely between the cases which benefit by automobile treatment and those in which it is contraindicated. He includes in the former category all sufferers from simple anæmia and atonic dyspepsia, as also the gouty, the neurasthenic, and those who suffer from insomnia of nervous origin. Some cases of asthma, he finds, are also benefited, provided they only slowly increase their doses and use a wind screen on occasion. In cardiac disease the measure is not indicated, but use of the automobile need not be forbidden provided the lesions are well compensated and that the patients do not themselves drive. In the case of pulmonary tuberculosis, on the other hand, the measure is directly contraindicated unless the disease is in a very early stage and unaccompanied by fever or other complications. So is it usually in regard to those who present evidence of kidney disease, prostatic enlargement, marked hæmorrhoids or pelvic inflammation; while, of course, those who suffer from disease of the eye or from epilepsy, even if allowed to go on automobile expeditions at all, should never be permitted to undertake driving. What these various authors regard as a desirable speed and a moderate dose are both points of interest. They all regard high speed as medically undesirable in respect both of those who drive and those who are driven, and Legroux definitely fixes on 50 kilometres an hour as the highest speed desirable, while the average speed should not exceed 40 kilometres, nor the total dose for the day 200 kilometres. Such a distance can be traversed in the course of between five or six hours by an average patient without undue fatigue and with benefit if his case be initially suited to the treatment. A speed of 40 kilometres an hour and a distance of 200 a day correspond, it may be noted, to slightly less than 25 and 125 miles respectively, so French views on the subject of what spells moderation in this connexion would not seem materially different from those current in this country.

[1] *Paris médical*, September 9th, 1911, p. 312.

STEPMOTHERS.

ONE of the daily newspapers has recently ascribed to the medical profession as a whole a general condemnation of all stepmothers, in the shape of an accusation that they prove cruel to the children of the previous marriage. We believe that a remark to this effect was recently made by a medical man at a public inquiry of some kind, but that the view is commonly held by medical men as a class is certainly untrue. Indeed, were it not that the word "mother" is a sacred term to all men, it is possible that many of those who have the intimate acquaintance with home life entailed by medical work would be disposed to express the very reverse view by stating "a little less mother and a little more stepmother would be an excellent thing for the morals and physique of the rising generation." Apart from the mother who founds her claims to respect on the fact that she has "buried nine of 'em," and from the prospective mother who makes no attempt to prepare herself for the highest office of womanhood—namely, the nourishment of her offspring—there are many mothers who prove a distinct obstacle to the success of their children, especially when these are boys. Misled by their affection they insist on coddling their children, even though initially healthy, and, deeming what would be good enough for the children of A. B. or C. insufficient for their own offspring, contrive to throw great difficulties in the way of their proper treatment either at home or at school. The net outcome is that such children tend to grow up delicate and to lack resistance not only to the physical but to the moral difficulties of life. They are thus far less likely to turn out valuable citizens than might have been the case had they from an early age been in the hands of a woman able to couple with that kindly interest in the welfare of children, which most adults feel, a clear perception of what was likely to be best for them eventually. Even fathers, though rarely so much under the influence of sentiment as mothers, are sometimes disposed to be over-anxious about their children, and that they often tend to spoil them even more than mothers is a matter of common observation. Indeed, apart from the numbers of children who have lost their lives, thanks to the inability of their parents to make up their minds to allow them to be submitted to some necessary operation, there must, among living children, be many a son and daughter who has benefited from the fact that their father has, to some extent, been guided in his treatment of them by the sidelight thrown on their character and physical and moral disposition by a second wife. At the same time, the ancient scoff *noverca injusta* is not inexplicable. A woman thoroughly wise in her management of another's children may prove the most foolish of fond mothers in respect of her own offspring, and if the two families are not far apart in age, a superficial observer noting the difference in treatment may fail to recognize that the real injustice is towards her own children. But the charges in question are still more often launched in the absence of a second family, and on behalf of nearly grown up children. Nor is the reason far to seek. When a widowed father has from one reason or another failed to keep up discipline, and allowed his sons and daughters to run more or less wild, the re-establishment of control brought about and often aimed at by a second marriage naturally creates resentment against the active agent therein. For young people, it need scarcely be said, love their own way not less than their elders, and, from a medical not less than a moral point of view, often suffer by gaining it.

THE ALBUM OF THE SOUTH INDIAN BRANCH.

MAJOR GABBETT, in his introduction to the *Album*[1] recently issued by the South Indian Branch of the British Medical Association, explains how there is in South India an enormous amount of material of pathological value which is wasted, partly because cases of tropical disease are so familiar to medical officers in India that they seem to be

[1] *Album of Photographs issued by the South Indian Branch of the British Medical Association.* With introduction by P. C. Gabbett, M.R.C.S., L.R.C.P., Major, I.M.S. London: John Bale and Danielsson, Limited. 1911. (Twenty-five plates, 10½ in. by 8½ in.)

considered hardly worth photographing, but more on account of the very small proportion of European doctors to the population. In Madras there is one European district medical officer to about one million and a half inhabitants, whilst it appears that the general hospital in the Presidency town has not a whole-time pathologist on its staff. Captain A. C. Ingram, a few years since, endeavoured to induce the medical officers in the Presidency to prepare and collect photographs of important cases. He himself took great pains to select and arrange those which were sent to him. The South Indian Branch sanctioned the expenditure from its funds necessary for the publication of the photographs already collected as an encouragement for more ambitious scientific artistic work of this kind. Thus an *Album* was prepared, which deserves great commendation; above all, as an example to medical officers in a position to supply material of this kind. The twenty-five plates include nearly forty photographs, mostly of very good quality, but clinical notes are wanting, the editor admitting that they were rarely supplied. As might be expected, there are many photographs of diseases relatively familiar, such as elephantiasis, big sarcomata and naevi, molluscum fibrosum, etc. They mainly illustrate, Major Gabbett observes, the size to which tumours are allowed to grow in India before the patient seeks help from a European surgeon. One plate shows an adult man subject to elephantiasis scroti, ulcerating granuloma pudendi, and carcinoma of the penis, with double hydrocele and left inguinal hernia as complications! Other photographs will be of higher interest to those who study and practise our profession in higher latitudes than the Madras Presidency. One photograph represents a woman subject to Mikulicz's disease, or achroacystosis, in which lymph cells replace the glandular tissue of the lacrymal and salivary glands. The case of leontiasis is one of some importance. A cast of the patient's head is preserved, we are informed, in the museum of St. Bartholomew's Hospital. Yet the patient, a Hindu ryot aged 25, is still, it would appear, in good health, with normal senses and good muscular development. The two photographs show extreme deformity of the cranial bones, giving a most satanic expression to the giant's features, for gigantism is here associated with leontiasis. The patient was under the care of Lieutenant-Colonel Robertson. Two good photographs of an achondroplasic dwarf deserve introduction into textbooks. Captain R. A. Willcocks contributes two somewhat important illustrations of an instance of papilloma of the penis due to *Rinosporidium kinealyi*. Papillomatous diseases of the genitals seem not confined to human subjects in the tropics, having been observed in the lower mammalia; dogs in New Guinea are subject to a remarkable disease of doubtful nature communicated by coition; polypoid excrescences develop in the genital tract. Mr. C. G. Seligmann has presented to the Museum of the College of Surgeons two specimens showing this disease in the male and female. Most probably it is allied to the parasitic papilloma in man, demonstrated in Captain Willcocks's case. Captain Ingram, Major Gabbett, and the South Indian Branch have set a very good example, and not to South India alone. There are places nearer than Madras where much clinical work demonstrable by photographic art is needlessly wasted.

OIL OF CAMPHOR IN PURULENT PERITONITIS.

NOTWITHSTANDING the great progress which modern surgery has made in the treatment of abdominal disease and the prophylaxis of peritoneal infection, purulent peritonitis remains, when once established, a very deadly malady. It is especially when acute disease of the vermiform appendix has been treated with insufficient promptness that this fatal complication remains familiar to the surgeon. Hence suggestions are heard from time to time urging the use of chemical agents, as well as saline irrigation and flushing of the peritoneum, which so often proves insufficient. Dr. Krecke[1] of Munich recommends oil of camphor for this purpose and claims excellent results. He treated with complete success 11 cases of acute general purulent peritonitis, all resulting from perforation of a sloughing appendix. The time which elapsed between the development of peritonitis and the application of oil of camphor to the peritoneal cavity ranged from eight to eighty hours, the age of the patients from 10 months to 70 years. The abdominal cavity was quickly opened, the appendix amputated, the pus wiped away, and then 100 c.cm. of a 1 per cent. sterilized solution of oil of camphor was poured into the peritoneal cavity. It was carefully distributed over the whole area of the peritoneum by means of gauze sponges, etc. Then the abdominal cavity was closed and a rubber tube holding a strip of gauze placed in the wound. Dr. Krecke advocates the use of oil of camphor as a prophylactic measure in all abdominal sections where the peritoneum is already infected. He read his report on the treatment of his 11 cases at a meeting of a medical society in Munich last winter. In the discussion which followed, Dr. Schläfli stated that very strong solutions are in use at Basle. Professor von Herff introduced from 30 to 50 c.cm. of 10 per cent. solutions of oil of camphor into the peritoneum in 53 cases where the peritoneum was infected before operation. All but one case recovered. Dr. O. Burckhardt has proved that streptococcal infection of the peritoneum in white mice after injection of oil of camphor seemed to be completely neutralized, although other infected mice not treated with the oil died rapidly with all the symptoms of fulminating peritonitis.

INCOMPATIBILITY.

THE subject of incompatibility among drugs is one of perennial importance; if, on the one hand, drugs are now more frequently ordered unmixed and the long prescriptions of an earlier day are no longer met with, on the other, the unceasing introduction of new substances of complex chemical composition provides fresh pitfalls for the prescriber who orders two or more medicines together. In a pamphlet by Dr. Walter G. Smith, entitled *Incompatibility and Some of Its Lessons*,[2] attention is principally given to chemical incompatibility, physical or pharmaceutical incompatibility being briefly touched on, while therapeutical incompatibility is excluded by the definition of incompatibility adopted—"any unintentional change which notably interferes with the elegance, usefulness, or safety of a prescription." It is, of course, among medicines in liquid form, mixtures, lotions, liniments, etc., that reaction between different ingredients most frequently occurs; and the formation of an insoluble compound is one of the commonest results. The author gives a number of rules as to solubility and discusses a large number of cases in which substances likely to be ordered together react with the formation of a precipitate. When very potent substances are present there is a danger of the most serious consequences due to the liquid portion of the mixture being deprived of one or more constituents which accumulate in the precipitate, and if the latter is small in quantity it may be all taken in the last dose. A familiar example of this is the ordering of Liquor Strychninae with an alkaline substance such as Liquor Arsenicalis, and cases of poisoning from this cause are recorded. Dr. Smith suggests as a practical rule that "all poisonous alkaloids should, so far as possible, be prescribed in simple solution, and not in too concentrated a state." A number of accidents, some

[1] "Die Behandlung der freien eitrigen Peritonitis mit. Kampferöl." *Zentralbl. f. Gynäk.*, No. 21, 1911, p. 792.

[2] *Incompatibility and Some of Its Lessons.* By Walter G. Smith, M.D. Second edition. London: Simpkin, Marshall, and Co., Limited; Dublin: Hanna and Neale. 1911. (Demy 8vo, pp. 41. 1s.)

of them fatal, which have been caused by mixing substances which react with great violence—such as a hypophosphite with potassium chlorate, nitric acid with an alcoholic liquid, etc.—are also referred to. The results of the use of incompatibles are not always so serious; a case is mentioned of a patient whose face was stippled with black dots of mercury sulphide as the result of a mercurial application followed by a preparation of sulphur. The risk of incompatibility is not altogether avoided if liquids are not employed; many powders react together when merely mixed, forming a pasty mass or a liquid, or undergoing double decomposition with production of an insoluble substance—as in the formation of lead sulphate when alum and lead acetate are mixed. As a Professor of Materia Medica and Pharmacy, Dr. Smith is naturally well acquainted with his subject, and prescribers and dispensers will find much useful information in his pamphlet.

SALVARSAN AND SUCKLINGS.

ARSENOBENZOL is not well borne by very young children, and that several authorities have attempted to act on the suckling indirectly by injecting "606" into the mother. So writes M. E. Jeanselme in a short essay, including collective and tabulated records of these experiments, prepared in order to settle, if possible, that question which constitutes its title.[1] After much instructive comment, he concludes that an injection of salvarsan practised on the mother sometimes brings about a distinct retrocession of the superficial syphilitic complications in the suckling—mucous plaques, maculo-squamous eruptions, etc. The italics in "superficial" are to be found in the original essay. Yet though these eruptive symptoms often vanish, they not rarely reappear—even successive recurrences have been reported. The effects of maternal injections on the deeper or visceral lesions of hereditary syphilis are quite unfavourable. They aggravate the disease and sometimes kill the child. On that account Jeanselme advises a careful examination of the child before the mother is submitted to treatment and allowed to suckle her infant. The surgeon must make sure that the liver, spleen, kidneys, and lungs are not badly involved. On the other hand, it is satisfactory for us to learn that inunctions of mercury have been found to check some of the gravest forms of hereditary syphilis which had been uninfluenced by maternal injections of salvarsan. Such was the case in four infants under Jeanselme's personal observation. One infant, cachectic and senile-looking, and with large firm spleen, grew absolutely worse, and coryza set in; inunctions of mercury were followed by good results. The second was undersized, and had coryza, a plaque and enlarged spleen; the injections of salvarsan produced no effect, and albuminuria with anasarca developed; inunctions were therefore practised. The third child was well nourished and free from visceral enlargements; there were mucous plaques around the anus and onyxis. These symptoms diminished, only to reappear, accompanied by a general rash, coryza, and rhagades; therefore, as in the other cases, inunctions were substituted for the salvarsan treatment. In the fourth both liver and spleen were enlarged, and there were plaques, coryza, and a general rash. Injections were followed by bad results, but mercurial inunctions set the child right. Jeanselme tabulates seven cases, six reported as successful, but the after-stories were not always satisfactory or convincing, being too short. The remaining ten were failures, and were admitted to be such by the original observers. It is clear that there is much to be learnt about the treatment of sucklings by the new antisyphilitic method.

[1] Le Salvarsan injecté à une mère en période d'allaitement, peut-il influencer la syphilis de son nourrisson?" *Annales de gynéc. et d'obst.*, July 1911, p. 394.

THE RELATION BETWEEN CORRESPONDING POINTS OF THE RETINAE.

IN *Brain*, vol. xxxiii, Part IV, there will be found a carefully reasoned article on this subject by W. Macdougall, which throws grave doubt upon this generally accepted explanation of the phenomena of binocular vision. When a normal man looks at any object, say, a candle, he perceives only one object, although each retina receives an impression of a candle. The paradox has been explained by the assumption, made by Newton and others, that there is a common cerebral centre for each pair of corresponding points. That is to say, it is supposed that the fibres of the two optic nerves and tracts are connected up to the same organ or centre in the brain in which the duplicate different impulses are fused into one sensation. Macdougall mentions several facts which are not explained by this theory. He shows that an illuminated surface appears little if at all brighter when viewed with two eyes than if viewed with one. If a brightly illuminated surface be looked at with one eye, and the second eye be then opened behind a darkly smoked glass, the surface appears for a moment less bright (Fechner's paradox). Experiments with a rotating disc show that the flicker point is the same whether the light fall upon one retina only or alternately on corresponding areas of the two retinae. Some facts of binocular rivalry and fusion cannot be explained upon Newton's theory. Many other objections are urged. Macdougall prefers to adopt Lotze's celebrated doctrine of local signs, and believes that the cerebral processes through which the stimuli applied to corresponding points produce their effects in consciousness take place in parts of the brain anatomically separate and distinct. This conclusion supports the Young-Helmholtz theory, and is wholly incompatible with Hering's theory of the visual processes. Macdougall finally suggests a scheme of the relations of corresponding parts, according to which their paths are connected on the efferent side (like all the retino-cerebral paths of each retina) in the way which permits of reciprocal inhibition by drainage, and also at their efferent ends in a way which secures reciprocal reinforcement. He shows that many of the peculiar phenomena of binocular vision can be explained in terms of the scheme suggested. The argument treads the intangible paths of psychology, and concrete criticism is difficult and unsatisfactory.

THE International Gynaecological Congress held at St. Petersburg in 1910 decided that the next meeting should be held in Berlin on May 29th, 30th, and 31st, 1912, under the presidency of Professor Bumm. The general secretary is Dr. E. Martin, 18, Artilleriestrasse, Berlin.

THE Countess of Aberdeen, who it may be remembered was elected an Honorary Member of the British Medical Association at the annual meeting held in Belfast in 1909, was appointed Honorary President of the Infant Mortality Congress, recently held in Berlin, Prince Hohenlohe being the President. Lady Aberdeen was unable to take part personally in the proceedings of the Congress, as Her Excellency was already engaged at Stockholm with the meetings of the International Council of Women, of which she is President.

WE are asked to announce that the Birmingham and District Edinburgh Graduates' Club will hold its annual dinner at the Grand Hotel, Birmingham, on October 5th at 7.30 p.m. Mr. Harold Stiles will be the guest of the club. All graduates wishing to attend who have not already been invited are requested to communicate with the Honorary Secretary, Mr. John T. Hewetson, 89, Cornwall Street, Birmingham, not later than Tuesday, October 3rd.

INTERNATIONAL HYGIENE EXHIBITION, DRESDEN.

(Continued from page 301.)

INFECTIVE DISEASES.

THE exhibits relating to infectious diseases are disposed in a large hall with deep, broad cubicles on either side. Each division deals with one or more disease, and in each the material is so arranged that the epidemiology, the clinical manifestations, the pathological changes, the diagnosis, the method of infection, and the means adopted to combat the disease are set forth side by side. The section starts with the modern equipment of a bacteriological laboratory, and with institutes in which the work of preventive and combative research is carried out. Each disease is shown in some special manner, either by means of excellent wax casts depicting the clinical changes, or by means of photographs, transparencies, or drawings. Statistics abound everywhere, but never become tedious, since the exhibitors have selected numerous ways of illustrating the incidence, the increase or decrease of the disease, and the effect of preventive measures. Ingenious looking-glass effects are utilized for certain lantern slides and deposits, while microscopes with special protective arrangements to prevent damage to the objective supplement the display. In every detail no pains have been spared to render the lesson as complete and as comprehensive as human brain could devise.

It is quite impossible to discuss the individual exhibits. The catalogue of this section alone is a volume of 200 pages, nor could a written description convey one-tenth of what is to be seen. To gain some idea of how complete the working out of the subject is we may cite diphtheria as an instance. Beginning with the distribution of the disease, the actual number of deaths from diphtheria and from croup, the percentage number of deaths, the percentage morbidity, and many other highly interesting details, are shown in diagram form. Here we learn, for example, that in the German Empire, from 1893 to 1907, the mortality has sunk to 17.4 per cent. of the original figure, in spite of an actual increase in population of something like 22.1 per cent. Next we see the disease in a manner which is clearer than the student usually sees it. The wax casts, the pictures, and other representations, are so arranged that a careful study of the clinical manifestations is rendered perfectly easy. The pathology, including the bacteriology, follow in the series, and all that is known is exhibited. This department passes over insensibly into that of the etiology, and the differential diagnosis, the characteristics of the bacilli and the pathogenicity of the bacilli for animals. Passing on to the means of combating the disease, antitoxin is the central point, but not the only one. We see how to perform intubation, we learn the technical details of applying steam as a method of treatment for croup cases, we are shown how to control the throats of school children after the attack is over, and what the results of such examinations have been. In short, what is not shown is either uncertain or of comparatively little importance to-day.

In other departments we learn the technique of Wassermann's complement deviation test, of precipitin tests for use in forensic medicine, of agglutination tests for specific serums and bacteria, of opsonin work, of normal phagocytosis determinations, and so forth. In each case the best apparatus is exhibited, and clear examples are added to the individual steps of the processes. We were, perhaps, a little disappointed in two matters, which, however, are excellently shown in the British Section. The first is the differentiation of the bacteria of intestinal origin, by means of the various sugar reactions, and by means of agglutination and agglutination *plus* absorption. The second is the question of variation and mutation. Both these important bacteriological matters have received such excellent treatment at the hands of Drs. Arkwright, Bainbridge, Penfold, and the other workers of the Lister Institute that it would, perhaps, have been superfluous to have reduplicated this subject in the special section. Syphilis, tuberculosis, leprosy, plague, and other diseases have been dealt with in a masterly fashion. But this has not satisfied the German organizers. Special sections have been devoted to diseases of special importance.

Tropical Diseases.

Dr. Cahnheim, the well-known leprosy expert, is in charge of this section, the president of which is Professor Nocht of Hamburg. It is curious that little, if any, statistical material has been collected, although general ideas of the distribution of the various tropical diseases are given and the visitor readily obtains a conception of the danger of the various infective agents in hot climates. Malaria is, as might be expected, excellently dealt with, and the pathology, the spread, and the means of prevention are made clear. Special points are made of other protozoological diseases, and of the methods adopted for studying them. A highly interesting series of illustrations depicts the chief European homes of tropical research. Among these we find a splendid picture of the Hamburg Institute für Schiffs-und Tropenkrankheiten as it will be within a few months. There is a wonderful model of the Wellcome Research Floating Laboratory on the Nile, and a series of illustrations of things tropical issuing from the able Director, Dr. Andrew Balfour, deservedly gains much admiration. Another interesting exhibit is the collection of snakes, arrow poisons, poisonous fishes, scorpions, etc. An automatic rattlesnake, which rattles its tail when the button is pressed, and another mechanical toy, in the shape of the enlarged skeleton of a venomous snake, showing the manner in which the poison fang acts and ejects the poison, form a constant source of amusement and instruction. The question of tropical hygiene is well exemplified by some old-world methods of dispensing drinking water in Cairo and other places. The gradual replacement of these highly dangerous practices by modern methods of yielding to the traveller pure harmless water forms an interesting corner. Another matter of importance is the protection against mosquitos, as adopted in malaria districts. Protection against the evil effects of the sun, proper ventilation under trying circumstances, and many other matters appertaining to the hygiene of the tropics are excellently exhibited by means of models, plastic representation, etc. Scenes with life-sized figures and also the natural surroundings abound in this section, and give a faithful picture of African and Asiatic habits and customs.

Cancer.

In the Cancer Section the material is abundant and well arranged. We must claim for our own country that the lessons to be learnt in Dr. Bashford's exhibit in the British Pavilion are more valuable than those in the general section. Nevertheless, the section contains information of high importance. In the first place, we have illuminating statistics arranged in almost every conceivable form. A valuable collection of publications on cancer forms an excellent basis for the section. The whole would be more educational if the system adopted in the majority of the other sections had been carried out—namely, of breaking up the exhibits from each person and institute and allowing the subject to determine the arrangement of the material. We find the subject of aplasia and anaplasia well illustrated by von Hansemann; that of the transmission of spontaneous tumours in mice and rats by Ehrlich, Loeb, and other investigators; while the occurrence of malignant neoplasm in the lower animals and in the vegetable kingdom finds interesting treatment by various experts. A very rich material dealing with the histology of malignant disease is shown in transparencies, many of which are stereoscopic. But, in spite of all, we have to own to a certain degree of disappointment in this section. Dr. Bashford has gone more systematically to work, and has achieved better results in far less space. He starts in the British Section with the increase of cancer, and shows in a most striking manner that this increase is real and not illusory. The increase cannot scarcely be attributed to the improvement in diagnosis, since the tables and charts show that it is not much less marked in those tumours which have long been recognized with certainty during the late stages than in the less readily recognized forms. The analyses of the increase, according to the organ affected and the general formation of the curves, suggest to the critical mind that the increase is not due to a spread of infection. This view received support from many other facts brought to light by Dr. Bashford's material. For instance, he shows that the common virus cannot exist for cat, mouse, and rat sarcoma, nor yet for sarcoma and carcinoma; he further shows that out of a pure adeno-carcinoma a sarcoma may develop in a certain number of instances. The wide distribution of cancer throughout the whole world, and throughout the animal

kingdom, is strikingly exhibited, as is the possibility of a transition from a nodular hypertrophy associated with cirrhosis of the liver to an adenoma and thence to an adeno-carcinoma. The histology, clinical course, and peculiarities of spontaneous tumours in mice are well exemplified, as are the yields of transplantation experiments. The success of auto-transplantation as compared with homologous transplantation is clearly shown, and the effect of operative removal of the tumour is also shown. In the next series we are shown what has been effected by immunizing experiments. The extraordinary action of embryonic mouse skin in effecting a complete protection against mouse mammary carcinoma is exhibited in a number of ways, and other methods of protection are also shown. In short, we can say that from the point of view of setting up in the near future a true hygiene with regard to cancer, this exhibit should prove to be the best and safest foundation. That the medical and lay public are highly attracted by it is shown that every few days a collection of people select this subject for a demonstration in the British Section.

Venereal Diseases.

The advisability of discussing frankly in public matters concerning venereal diseases has often been challenged in Great Britain, and it is extremely doubtful whether the majority of English people will agree with the scheme carried out in Dresden. No one, however, can doubt the honesty and earnestness of intention. The possible objections which may be seriously taken into account are, first, the likelihood or unlikelihood of good being done by frightening the public by the exposition of ghastly effects of these diseases; secondly, the possibility of youth being inquisitive and seeking to learn from curiosity rather from desire to acquire knowledge; and, thirdly, the danger that true collection of clinical manifestations may be entirely misinterpreted by the public and a wrong lesson learnt. Be this as it may, the section is one of masterly completeness. Experimental syphilis in apes and monkeys and in rabbits, transparencies and photographs of the spirochaetes and of gonococci, wax casts of genital and extragenital primary syphilis and of secondary and tertiary lesions, largely drawn from the great collection of the late Professor Lassar and from the museum of the German Society for the Prevention of Venereal Disease, casts of abrasions, sores, and other lesions simulating syphilis, offer a clinical lesson of great clearness to those who know how to see. Statistical tables and maps appropriately coloured offered an insight into the frequency of venereal diseases and the relation it bears to other circumstances, as to the illegitimate birth-rate and so on. The "abolitionists" have been given free rope, whatever may be the views of the organizers of the section. In view of Norwegian, English, Scandinavian, Danish, and other figures, this society seeks to prove the absolute failure of any form of State control of prostitutes. There is a small collection of medicaments used in the treatment of both syphilis and gonorrhoea; in connexion with this, a series of tubes show the technique and final appearance of Wassermann's complement deviation test.

STATISTICS.

Leading out of the section of tropical diseases is a small but excellent section dealing with dental hygiene, in which everything which the dentist and the public can wish to know about healthy and unhealthy teeth is shown. Beyond this is a room of fair proportions, split up into a number of cubicles by means of dividing walls, which is devoted to the subject of figures, curves, and schematic representations. Statistics seem to be dull to the public, and this room is usually but little frequented, but in reality it contains some of the richest material in the whole exhibition. Eugenics proper are not dealt with here, but the section of race hygiene; but some of the analytic tables come very close to it. With the help of a catalogue even those not already familiar with the subject should be able to spend hours profitably examining the numerous tables, etc. The increase of population generally, the alteration of expectation of life, variation of age at death, and the growth of towns and cities are set up in an excellent manner. The sources of the majority of the figures are the Census returns and the figures published by the various registrars. Uniformity is achieved at in some cases by recalculation, but in some tables the original figures appear to be reasonably comparable. Morbidity and causes of death form a great mass of highly interesting tables and curves. In these the student must exercise some caution. For instance, the phthisis death-rate, taking phthisis as meaning chronic tuberculosis of the lung, must vary of necessity from the death-rate from all forms of pulmonary tuberculosis. Besides, the inclusion of doubtful bronchitic cases or their exclusion must make a vast difference. But the tables, without directly indicating these differences, do so indirectly, and the student can select and arrive at the most interesting results. In no instance, however, is it a case of a clearness by means of which he who runs may read. The cancer statistics are found here, and are set up side by side with other causes of death.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

ANOTHER "FEMALE MEDICINE."

BLAK THYROL FEMALE PILLS.

OUR attention has been called by some correspondents, among them being Dr. Rocyn-Jones, Medical Officer of Health for Monmouthshire, to these pills, which are supplied by W. Thomas, at the following prices: No. 2, 2s. 6d.; No. 3x (strong), 3s. 6d.; No. 4 (extra), 5s.; No. 5x (special), 7s. 6d. per box. The variety analysed was No. 3x, a 3s. 6d. box of which contained 48 pills.

The pills are advertised in the following terms:

Blak Thyrol is a moon plant originally discovered in South Virginia, and its compound was found to have the most specific control over all the Blood Vessels of the body. By building up the system to its utmost capacity, it cannot fail to remove all obstructions and irregularities, which chiefly lie between the Fallopian Tubes, Broad Ligaments, and the Overies (*sic*)—these organs always needing assistance and are entirely under the influence of the moon. Blak Thyrol being a moon plant, is in complete sympathy with all the affected organs, and puts them in an excellent condition to do their work, provided they are taken exactly as directed. Send for a box at once, time is precious.

The directions on the label are:

One to be taken 3 times a day during LAST 9 days of term.

A slip of paper was enclosed with the box, on which was written:

Should the Pills act too much upon the Bowels, a pinch of Ginger in a drop of Tea occasionally should be taken, this will regulate the action of the pills. One pill only should be taken at a time.

The pills were coated with talc, coloured black. After removal of the coating they had an average weight of 5.1 grains. They contained sufficient oil of pennyroyal to give them a fairly strong odour of the drug. Analysis showed them to contain reduced iron, arsenic in small quantity, a trace of alkaloid, powdered ginger, a little powdered liquorice, and another vegetable powder. The reduced iron amounted to 14 per cent. of the pill, or 0.7 grain in each; the arsenic, calculated as arsenious acid, was 0.06 per cent., or about $\frac{1}{500}$ grain in each; this proportion of arsenic might be present as an impurity in a bad sample of reduced iron. The trace of alkaloid which was present was neither strychnine nor a solanaceous alkaloid, showing the absence of extracts of nux vomica, belladonna, and henbane, and it was probably derived from the unnamed vegetable powder. The microscopical characters of the latter did not agree with those of any drug usually employed as an emmenagogue or a purgative, and after careful comparisons it could not be identified; presumably it is the "moon plant originally discovered in South Virginia." No aloes, soap, or powdered colocynth was present. The extractive and resinous matter present possessed no distinctive characters, and probably represented only the constituents of the powdered drugs dissolved by the solvents employed in the analysis, together with the excipient used for making up the pill.

* Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1053, 1120; vol. ii, pp. 982, 1350, 1928; 1911, vol. i, pp. 26, 91, 823, 1324; vol. ii, pp. 32, 77, 456.

PROFICIENCY IN VACCINATION.

THE Local Government Board has issued a new Order in regard to proficiency in vaccination. It is pointed out that a certificate of proficiency in vaccination can in general only be obtained from a teacher authorized by the Board after due instruction and examination. The Order of 1905, however, permitted certificates of proficiency to be given to certain classes of medical men after examination only and without a previous course of instruction. The present Order extends the exemption from the course of instruction prior to examination to any person already holding a medical diploma or degree granted in a British possession or foreign country who is a candidate for examination by an examining body in the United Kingdom for a diploma, licence, or degree conferring the right of registration under the Medical Acts. The new Order supersedes the Order of 1905 and incorporates its provisions.

Out of the number of persons who have been authorized by the Board to act as teachers and examiners and to give certificates of proficiency in vaccination, the following are entitled to give such certificates (to the special classes of medical men defined in the Order) after examination only, and without a preliminary course of instruction, namely:

Station.	*Name of Vaccinator with Address.*
London—	
Tolmers Square Institute, Drummond Street, N.W.	Mr. Joseph Loane, 13, Great Alie Street, E.
Bristol—	
St. Peter's Hospital, Bristol	Mr. George Shepley Page, 78, Old Market Street, Bristol.
Liverpool—	
17, Mulgrave Street	Mr. Nathaniel Edward Roberts, 17, Mulgrave St., Liverpool.
Newcastle-upon-Tyne—	
The Dispensary, Nelson St.	Dr. Frank Hawthorn, 6, Regent Ter., Newcastle-upon-Tyne.
Edinburgh—	
The Western Dispensary, St. Cuthbert's Hall, Riego St., Tollcross.	Dr. John Brown Buist, 1, Clifton Terrace, Edinburgh.
Dublin—	
45, Upper Sackville Street ...	Dr. Alexander Nixon Montgomery, 45, Upper Sackville Street, Dublin.

A practitioner who has obtained a certificate of proficiency in vaccination granted by a teacher authorized for the purpose by the Board as a condition of obtaining a diploma, licence, or degree is not required to produce it before entering into a contract with a board of guardians for public vaccination.

STATE INSURANCE IN GERMANY.

AN official report by Consul-General Sir Francis Oppenheimer on the trade and industries of Germany for the year 1910 and the first four months of 1911 has just been issued.[1] As the report is stated to be "edited at the Foreign Office and the Board of Trade," it may be said to bear the imprimatur of the Government. After speaking of the labour troubles in 1910 Sir Francis Oppenheimer goes on to refer to the insurance laws. This part of the report will probably be of interest to many of our readers. The Consul-General says:

"A further element of uneasiness was introduced into the industrial life of Germany by the proposed revision of the German insurance schemes. The burden on German industry under the existing scheme already amounts to approximately 800,000,000 marks per annum. Under the new scheme the classes included in the various schemes have been further extended, and the additional cost is calculated at 135,000,000 marks [1 mark of 100 pf. = 1 shilling], so that the daily burden will in future amount to 3,000,000 marks per working day. A number of Chambers of Commerce (Plauen, Chemnitz, Essen, etc.) in their annual reports complain that the social schemes which have been extended without any reference to employers are approaching the limit of a bearable burden that the expenditure which they entail is becoming a serious a matter in the cost of manufacture that it must tell against Germany in foreign markets."

PROTEST OF THE MEDICAL PROFESSION.

"In Germany, as in the United Kingdom, the loudest outcry against the innovation came, however, from the medical profession, which has calculated that the extended scheme of compulsory insurance will withdraw an additional 8,000,000 persons from its private practice; the present number already amounts approximately to 14,000,000. As, however, the voluntary insurance has also been extended (those who are compelled to insure can insure also wife, children, parents, etc.), the number withdrawn from private practice may reach over 30,000,000, half the population of Germany. As from January 1st, 1912, those doctors who until then are bound to act at a fixed salary for the various branches of the fund intend to renounce the contracts which, by the extended scheme, will have been modified without their consent. They will attend members of the various funds only at a fixed minimum fee per visit payable in cash and against a receipt, which they hope will enable the patient to recover the amount paid from the fund of which he is a member."

BURDEN OF EMPLOYERS AND EMPLOYED.

"A calculation has been attempted by one of the leading commercial papers to ascertain to what extent the insurance schemes form a charge upon the industry of the country. The charge is a threefold one: In the insurance against sickness the employers pay one-third of the contributions; in the insurance against invalidity one-half. What sum calculated as a percentage of the wages bill is under these regulations payable by the employer? (*a*) In the insurance against sickness the maximum is fixed for the contributions by both the employer and the employed at 4½ per cent., and in certain exceptional cases 6 per cent. The average annual wage for the insured is taken at the low figure of 800 marks. The number of the insured is approximately 12,500,000; the total wage then represents a sum of 10,000,000,000 marks. The total expenditure incurred in respect of sick benefits in 1908 was 325,000,000 marks, which would represent a charge of 3¼ per cent. for employer and employed together. (*b*) In the insurance against accidents the charge amounts to about 1.8 per cent. of the wages, and is calculated as follows: (i) Total expenditure incurred in 1908 by the industrial (as distinct from the agricultural) accident assurance corporations = 147,874,428 marks; (ii) total wages earned in 1908 by persons insured in above corporations = 8,447,580,140 marks. (i) = 1.75 per cent. of (ii). This percentage fluctuates in the various industries according to the probability of accident. It amounts in exceptional cases to even 4.2 per cent. (cart transport), but sinks in others to 0.18 per cent. (tobacco). (*c*) In the insurance against invalidity the average charge for employer and employed together is calculated at 1.8 per cent. The contributions vary according to the wage class in which the worker is insured, as in the case of insurance against sickness. The fluctuations are considerable—namely, from 0.90 to 2.8 per cent. of the wage. In the lower wage classes the charge is relatively heavier than in the higher, and the majority of the workers belong to the latter. Of these three calculated percentages the employer bears, in the case of:

Insurance against—	Per Cent.
Sickness	One-third, that is, 1.08
Accidents	The whole, that is, 1.8*
Invalidity	One-half, that is, 0.9.

* About.

So that the total charge to the employer is calculated to represent, on an average, 3.78 per cent. of the wages paid and that of the workmen 3.07 per cent. But it is admitted that this calculation cannot claim to be more than a fair average. In some cases the charge for employer and employed together may reach a total of 11.5 per cent., of which 7.1 would fall upon the employer and 4.4 per cent. upon the employed. On the other hand, in particularly favourable cases the total amounts to 3½ per cent. only, of which 1.5 per cent. falls upon the employer and 2 per cent. upon the employed."

"An inquiry sent to various leading industrial concerns in Germany elicited the information that since 1888-89

[1] London: Published by His Majesty's Stationery Office. To be purchased, either directly or through any bookseller, from Wyman and Sons, Ltd., Fetter Lane, E.C., and 32, Abingdon Street, S.W.; or Oliver and Boyd, Tweeddale Court, Edinburgh; or E. Ponsonby, Ltd., 116, Grafton Street, Dublin. Eyre and Spottiswoode, Ltd., East Harding Street, E.C. Printed by Harrison and Sons, Printers in Ordinary to His Majesty, 45-47, St. Martin's Lane, W.C. 1911. Price 6d.

the actual social burden in cash per head of the employed had risen by 100 per cent.—that is, the amount has doubled in twenty years. In one concern (a blast-furnace works) the answer showed an increase of even 200 per cent. The burden has increased not only because the wages have increased; if to-day it amounts on the average to 3.78 per cent. of the wages, it amounted to only 2.52 per cent. of wages ten years ago and to only 1.89 per cent. of wages twenty years ago (these data were supplied by three leading machine factories in Cologne). In the foregoing calculation of the social burden no account is taken of the amount spent in various establishments upon voluntary welfare schemes, in which many of the leading works take a pride. In some of these establishments the voluntary burden amounts to as much as the legal burden, in others to considerably more. The new insurance scheme, which will materially increase this social charge, comes into operation on January 1st, 1912."

LITERARY NOTES.

The list of books in preparation at the Clarendon Press includes the late Lady Burdon-Sanderson's *Memoirs of Sir John Burdon-Sanderson*, which has been completed by his nephew and niece, J. S. Haldane and E. S. Haldane.

The Cambridge University Press will shortly add the following among other volumes to the series of Cambridge Manuals of Science and Literature: *Hypnotism*, by Mr. Betts Taplin, Vice-President of the Psycho-Medical Society.

Messrs. W. B. Saunders Company have in the press for immediate publication another volume of *Collected Papers*, by the staff of the Mayo Clinic. The work embraces the papers prepared for publication during 1910 by Drs. Charles H. and Wm. J. Mayo and their associates at St. Mary's Hospital, Rochester, Minnesota. The text will be illustrated by some 300 original illustrations.

It has always been a sign of decadence in a nation when its women refuse to nurse their children. This custom of allowing the maternal functions to be usurped by hired servants was recognized and deplored as the shadow of a coming catastrophe by far-seeing statesmen for years before the downfall of Greece and Rome. A similar custom prevailed in France before the Revolution, although for a time the teaching of Tronchin, which Rousseau (who put his own children to a foundling hospital) characteristically put forward as his own, made many fine ladies act their part as mothers. The fashion soon changed, however, and the neglect of the most sacred duty of motherhood again led to disaster. M. Raymond Fontaine, in an interesting article which appeared in a recent number of the *Progrès médical*, has given a brief sketch of the wet nurses of former days and the qualifications demanded of them. It must be remembered, however, that the employment of a wet nurse has always been the exception rather than the rule in the early days of any nation. The Roman mothers, like those of Republican Rome, were only prevented by death or serious illness from suckling their offspring themselves, and so great was the importance attached to their fulfilment of this duty on account of its effect on the child, that M. Fontaine quotes the case of a younger son being elected King of Lacedaemonia over the head of his elder brother because the former had been suckled by his mother, and was, therefore, considered to have more right to the throne. In those primitive days a mother suckled her child to make it completely her own, and such a child was regarded as belonging to a family far more closely than one who had had the misfortune to be suckled by a stranger. But with the advent of riches and luxury the antique customs fell into disrepute. During the Middle Ages, owing to the influence of the Church, maternal nursing continued to be the custom. Then it fell out of fashion, and in the time of Marie de' Medici the wet nurse was in the ascendant. She was selected by the mother. But it was not till 1765 that the first office for the inspection of wet nurses came into being. It was under the direction of medical men. Till the eighteenth century, however, the science of puericulture remained much as it had been in the time of Galen. Even at the present day the nursing in France is surrounded by the darkness of ignorance and superstition.

INSURANCE BILL.

MEETING OF ASSOCIATION COMMITTEE.

The Committee appointed by the Council of the British Medical Association to deal with the question of State Sickness Insurance, especially in connexion with the National Insurance Bill now before Parliament, resumed work after the summer vacation on Wednesday, September 27th. The first duty of the Committee was to consider the instructions of the Annual Representative Meeting, a summary of which was published in the British Medical Journal of July 29th, p. 225. These instructions were referred by the Council to the Committee with authority to take any necessary action in accordance therewith pending the next meeting of Council. The Committee also considered the proceedings in the Committee stage of the bill in the House of Commons, which took place after the Annual Representative Meeting. The effect of these amendments on the position of the profession are being carefully considered, and a report on the bill as amended will be issued to the Divisons and possibly to the profession generally in due course. Members generally have doubtless noted that the Annual Representative Meeting directed the Council to convene a Special Representative Meeting for the consideration of the bill as amended when the Committee stage of consideration in the House was completed, and any decision as to the attitude which the Association may advise the profession to adopt with regard to the bill as amended must await this meeting. The Committee further considered the invitation which, as has already been announced, the Association has received from the Chancellor of the Exchequer to appoint six representatives to represent the profession in a conference with the Chancellor himself and with representatives of the friendly societies on October 9th. The Committee appointed as representatives of the Association for the purpose Dr. E. J. Maclean (Cardiff), Chairman of Representative Meeting and Chairman of the State Sickness Insurance Committee; Dr. J. A. Macdonald, Chairman of Council; Dr. Michael Dewar (Edinburgh), Mr. James Pearse (Trowbridge), Dr. J. H. Taylor (Salford), and the Medical Secretary.

Additions to Central Staff.

A meeting was also held on the same day of a small Committee appointed by the Council for the special purpose of dealing with the organization of the Association and the profession for the Insurance Bill campaign, with power to make temporary additions to the central staff, and otherwise to incur such expenditure as may be necessary for that purpose. Reports were received first as to a number of undertakings that had been signed by members of the profession; secondly, upon the number of guarantees and subscriptions received for the Central Insurance Defence Fund; and thirdly, upon the number of new members who had joined the Association since the inception of the Insurance Bill campaign. Although the reports under these heads were gratifying to the Committee, it was realized that the most strenuous efforts must still be made, as it is clear that the profession has not achieved by the amendments so far made by the House of Commons the protection it thinks itself entitled to demand against the injurious effects which the passing of the Insurance Bill in its original form must inevitably have entailed both upon individual practitioners and upon the efficiency of the medical service of the country. In order that all possible assistance may be given to the local workers of the Association in carrying on the campaign it was decided to make temporary appointments of medical practitioners to assist in the work of the Medical Secretary's department. Dr. E. Rowland Fothergill, whose ability and enthusiasm as an active worker of the Association are widely known and appreciated, was appointed to act as such an Assistant for the period of six months, commencing at once. Other appointments are under consideration.

In making this announcement as to the work which is being done by the executive authorities of the Association with respect to the bill, we think it may serve a useful

purpose to call their attention to an article recently published in the *Times*, which gives a lucid summary of the medical aspects of the Insurance Bill in the light in which they are regarded by the lay public. We have to thank our contemporary for the courtesy shown by permission kindly given to reprint the article which appears below.

PROSPECTS OF THE BILL.

THE *Times* of September 22nd, commenting on the prospects of the Insurance Bill, in a leading article, said:

More than a month still remains before Parliament reassembles and resumes discussion of the Insurance Bill, which is the principal business of the coming Autumn Session and the effective cause of that unpopular expedient; but the air is already thick with portents of the approaching struggle. The paper issued by the Treasury, of which we published a summary the other day, is the latest of them. It has been preceded by sundry documents emanating from friendly societies, the pronouncements of the Trade Union Congress, miscellaneous correspondence, and other signs of activity in interested quarters. The most significant is the announcement of a sort of round table conference summoned by Mr. Lloyd George between himself, the friendly societies, and representatives of the medical profession, to be held in the first or second week in October. This invitation, which will no doubt be accepted by those to whom it is addressed, shows that the Chancellor of the Exchequer is alive to the serious differences of opinion which threaten his bill, but hopeful of overcoming them by amicable arrangement, or at least resolved to try with all the resources at his command. The policy of reconciling the claims of these two powerful sections by informal discussion before the bill goes into Committee again is well devised, and characteristic of Mr. Lloyd George's best political methods. It will enable him to bring once more to bear his remarkable capacity for adroit, resourceful, and conciliatory negotiation. If he succeeds he scores another triumph in the exercise of that art, and one more noteworthy than on any previous occasion. The difficulties are formidable. We do not wish to overrate them, and we believe that, given time and calm reflection, they can be adjusted. But it is foolish to underrate them; and the time, according to the present programme, is short. With all his patience in answering questions and criticisms, explaining details, and considering points raised, Mr. Lloyd George is in a hurry and inclined to glide too lightly over difficulties in order to reach his goal. His very readiness to accept proposals, first in one direction and then in another, without much regard to their effect provided that they do not touch the Treasury, arises more from a desire to get the bill through soon than from a conviction that the proposed changes are desirable. The danger of proceeding on these easy lines in a matter so complicated is that the whole thing is liable to get into a tangle. Concessions given with one hand are taken away with the other, incompatible provisions are adopted, and an apparent settlement of difficulties or of conflicting interests only means that none of the parties know exactly where they are; nor can anybody tell them.

That has already happened in regard to the comparatively few, though important, clauses hitherto disposed of in Committee. In particular, the acute differences between the medical profession and the societies have not been composed, and it is now more uncertain than before how the crucial question stands between them. The provisions governing the administration of medical benefit have been turned inside out, but, as the amended Clauses 13 and 14 now stand, it is impossible to say what the upshot really is. Clause 13, as amended, definitely takes away the administration of medical benefit from approved societies and hands it over to the health committees. This appears to settle the chief point at issue between the societies and the medical profession to the satisfaction of the latter and the defeat of the former, who are now protesting and preparing to resist the change. It is further provided that in each locality there shall be a panel of doctors, on which any medical man who wishes shall have the right to be included, and from which insured persons may freely choose their own attendant. This also is a concession to the medical profession. But a subsequent amendment introduced into Clause 14 provides for the maintenance of any existing "system" or "organization" through which insured persons receive medical attendance and treatment. The terms "any system or organization" are exceedingly wide and as vague as possible. What do they cover? It is understood that the intention was to safeguard certain existing associations or institutes which supply treatment to their members and employ salaried medical officers. This is obviously an entirely different system from the panel of doctors with free choice by the patient, and incompatible with it. But the section as it stands seems to go still further; it might very well be interpreted to cover the whole of the existing friendly society system of medical benefit and thus to stultify the antecedent provisions. The section, it is true, is permissive only; it authorizes the Insurance Commissioners to make regulations for the stated purpose, but it raises an expectation which amounts virtually to a right and is presumably intended to be used. The point must be cleared up. It may possibly provide an opening for coming to a real agreement at the forthcoming conference. On the other hand, the result may be to emphasize irreconcilable differences between the societies and the doctors, in which case the alternative would present itself of throwing over one of them, or of arranging some form of exemption or contracting-out. This is a possible course. The societies represent the admirable element of self-respecting independent, mutual thrift. To destroy or damage that would inflict more moral harm on the community than would be compensated by any material gain; but in the present state of medical organization and opinion it is doubtful if the societies could secure officers to carry on the work on existing lines. The Manchester Oddfellows' Society is circularizing its lodges to ascertain the views of the medical officers, and perhaps the result of the canvass may help to clear the ground.

The foregoing point, important as it is, by no means exhausts the outstanding difficulties connected with the medical profession or with the friendly societies: and behind both of them lie the quite distinct demands of the Labour Party, whose attitude has been stiffened by the endorsement of the Trade Union Congress, as we pointed out the other day. With regard to the medical profession it has been somewhat prematurely assumed that the demand for an income limit of £2 a week has been dropped, and that Dr. Addison's amendment enabling health committees to fix their own conditions has been fully accepted as a satisfactory substitute. That is not the case. There may be grounds for hoping that it will be so, but the attitude of the British Medical Association will not be determined until the conclusion of the Committee stage of the Bill, when a Representative Meeting will be held to receive the report of the Council. A great deal will depend on the constitution of the administrative bodies, the adequate representation of the profession, and the statutory recognition of medical advisory committees; all of which remain to be settled. The friendly societies, in their turn, raise a number of serious objections altogether apart from the medical question. The point on which they lay most stress is the proposed inclusion of "collecting" societies which will, they think, expose them to unfair competition. These societies are so called because the contributions are collected from house to house by canvassers, and they are apparently of different kinds. Mr. Lloyd George has tabled amendments to Clause 18—which will come on for discussion directly the House of Commons resumes consideration of the Bill in Committee—providing for the admission of any societies which fulfil certain conditions. From the public point of view no objection can be raised to the inclusion in the scheme of all properly constituted and responsible forms of association upon the same footing; but what the friendly societies proper allege is that the preferential treatment is offered to these other bodies, which are certainly not of equal standing, whatever their merits may be. There should be no difficulty in putting this right. Such preference can hardly be intended, unless, indeed, Mr. Lloyd George is utilizing this weapon as a means of bringing the friendly societies to terms. They also complain with justice, of being to a large extent deprived of control of their affairs, and they put forward other grievances. It seems that they are in fighting mood and are organizing opposition. On every side the indications become more clear and decided that this Bill will not be hurried

retended settlement of difficulties which are not settled ill only increase them. At the same time, it behoves the veral interests to be reasonable and to remember that ey cannot have things all their own way.

OFFICIAL EXPLANATIONS.

White Paper relating to the Insurance Bill has been sued. It is described on the title-page as consisting of Further Replies to Letters addressed to the Chancellor the Exchequer,[1] with a statement of the principal nendments which it is proposed to embody in the Bill."

Replies.

Among the replies to correspondents are the following:

Medical Associations.

4th August, 1911.

With reference to your letter, I am desired by the ancellor of the Exchequer to draw your attention to the nendment which has been accepted to clause 14 of the ational Insurance Bill, enabling the Local Health Comittees, which will administer the medical benefits under e Bill, to make arrangements with existing organizaons which provide persons with medical attendance and eatment, to continue such attendance and treatment to sured persons under the Bill.

The provisions of the Bill do not of course in any way ect the working of the organizations in the case of rsons who do not become insured.

Treatment of Consumption.

16th June, 1911.

am desired by the Chancellor of the Exchequer to nowledge the receipt of your letter of the 18th ultimo, l to say that the treatment of consumption is not ited by the Bill to treatment in sanatoria.

Functions of Health Committees.

13th July, 1911.

he new Local Health Committee will not have any ninistrative functions which conflict at all with the ies of existing Health Committees. It will be respone for administering the money which comes to it ough the Insurance Fund. If the Local Authority lertakes the responsibility under clause 14 or even under se 15 it would have a good claim for applying a varia of the proportion of the members with a view to ring a larger share of representation on the Committee clause 43 (4)).

he new authority will have an invaluable amount of istics at its disposal which will enable it to locate any ck spots" in any trade or district very quickly. endments to the Bill will make it clear that it is the of this new Committee to forward these statistics er clause 44 to the Local Authority and ask them to an inquiry.

Proposed Amendments.

nong the principal amendments which it is proposed nbody in the Bill are the following:

epresentation of Doctors on Administrative Bodies.

edical practitioners to have representatives on the rance Commission, the Advisory Committee, and the l Health Committees.

Local Health Committees.

nendments have been tabled to Clause 44, making it that the new Local Health Committees will not have dministrative functions which conflict at all with the s of existing Health Committees.

Dispensers.

anything in the Bill has the effect of depriving any ns, who at present have the right to dispense medi- of the right to dispense under the Bill (subject to the years' qualification mentioned in Clause 14 (5) (iii), ill will be amended so as to prevent their being ved of that right.

ndon: Published by His Majesty's Stationery Office. To be sed, either directly or through any bookseller, from Wyman ns, Limited, Fetter Lane, E.C., and 32, Abingdon Street, S.W.; er and Boyd, Tweeddale Court, Edinburgh; or E. Ponsonby, d, 116, Grafton Street, Dublin. Printed by Eyre and Spottisd, Limited, East Harding Street, E.C., Printers to the King's Most nt Majesty. 1911. Price 3d.

Alterations in Text of Bill.

An appendix containing a reprint of Clauses 1 to 17 of the Bill as amended in Committee, showing the alterations which have been made in the original text of the Bill.

Administration of Medical Benefits.

Under this heading Clause 14 now reads:

(1) Every [approved society and] local Health Committee shall for the purpose of administering medical benefit make arrangements with duly qualified medical practitioners [for insured persons to receive attendance and treatment to the satisfaction of] in accordance with regulations made by the Insurance Commissioners [from such practitioners].

(2) *The regulations made by the Insurance Commissioners shall provide for the arrangements made being subject to the approval of the Insurance Commissioners and being such as to secure that insured persons shall, save as hereinafter provided, receive adequate medical attendance and treatment from the medical practitioners with whom arrangements are so made, and shall require the adoption by every local Health Committee of such system as will secure—*

(*a*) *the preparation and publication of lists of medical practitioners who have agreed to attend and treat insured persons whose medical benefit is administered by the committee within the area to which the list relates;*

(*b*) *a right on the part of any duly qualified medical practitioner who is desirous of being included in any such list as aforesaid of being so included, but where the Insurance Commissioners, after such inquiry as may be prescribed, are satisfied that his continuance on the list would be prejudicial to the efficiency of the medical service of the insured, they may remove his name from the list;*

(*c*) *a right on the part of any insured person of selecting, at such periods as may be prescribed, from the appropriate list the practitioner by whom he wishes to be attended and treated, and, subject to the consent of the practitioner so selected, of being attended and treated by him;*

(*d*) *the distribution amongst and, so far as practicable, under arrangements made by the several practitioners whose names are on the lists of the insured persons who, after due notice, have failed to make any selection, or who have been refused by the practitioner whom they have selected:*

Provided that if the Insurance Commissioners are satisfied, after inquiry, that the practitioners included in any list are not such as to secure an adequate medical service in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area, and authorise the Committee to make such other arrangements as the Commissioners may approve.

(3) *The regulations made by the Insurance Commissioners shall authorise the local Health Committee by which medical benefit is administered to require any persons whose income exceeds a limit to be fixed by them, and to allow any other persons, in lieu of receiving medical benefit under such arrangements as aforesaid, to make their own arrangements for receiving medical attendance and treatment (including medicines and appliances), and in such case the Committee shall, subject to the regulations, contribute from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment (including medicines and appliances) for such persons sums not exceeding in the aggregate the amounts which the Committee would otherwise have expended in providing medical benefit for them.*

(4) *The regulations may provide that, in the case of persons who are receiving medical attendance and treatment under any system or through any organization existing at the time of the passing of this Act, and approved by the local Health Committee and the Insurance Commissioners, such medical attendance and treatment may be treated as, or as part of, their medical benefit under this Part of this Act, and may provide for the Committee contributing towards the expenses thereof the whole or any part of the sums which would be contributed in the case of persons who have made their own arrangements as aforesaid.*

[2] (5) Every such [society or] committee shall also make provision for the supply of proper and sufficient drugs and medicines to insured persons, *in accordance with regulations made by the Insurance Commissioners, which shall provide for the arrangements made being subject to the approval of the Insurance Commissioners, and being such as to enable insured persons to obtain from any person with whom arrangements have been made such drugs, medicines, and appliances as may be ordered by the medical practitioner by whom they are attended, and shall require the adoption by every local Health Committee of such a system as will secure:*

(*a*) *The preparation and publication of lists of persons, firms, and bodies corporate who have agreed to supply drugs, medicines, and appliances to insured persons whose medical benefit is administered by the Committee, according to such scale of prices as may be fixed by the Committee;*

(*b*) *A right on the part of any properly qualified person who is desirous of being included in any such list as aforesaid, of being so included, except in cases where the Insurance Commissioners after inquiry are satisfied that his inclusion or continuance in such list would be prejudicial to the efficiency of the service:*

Provided that—

(*i*) *If the Insurance Commissioners are satisfied that the scale of prices fixed by the Committee is reasonable, but that the persons, firms, or bodies corporate included in any list are not such as to secure an adequate and convenient supply of drugs, medicines, and appliances in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area and authorise the committee to make such other arrangements as the Commissioners may approve;*

(*ii*) *The regulations shall prohibit an arrangement being made with a medical practitioner under which he is bound or agrees to provide drugs or medicines for any insured person without the consent of the Insurance Commissioners, which consent they shall not give unless the circumstances of any locality are such as to make it expedient to do so;*

(*iii*) *Subject to the foregoing provision as to dispensing by a medical practitioner, the regulations shall prohibit arrangements for the supply of drugs and medicines being made with persons other than persons, firms, or bodies corporate entitled to carry on the business of a chemist and druggist under the provisions of the Poisons and Pharmacy Act, 1908, who undertake that all medicines supplied by them to insured persons shall be dispensed either by a registered pharmacist or by a person who, for three years immediately prior to the passing of this Act, has acted as a dispenser to a duly qualified medical practitioner or a public institution.*

(6) *There shall in each year be paid to the local Health Committee for each county or county borough out of moneys credited to a society which has members resident in the county or county borough such sum in respect of the medical benefit for every such member as, in default of agreement, may be determined by the Insurance Commissioners.*

[and no arrangement shall be made with a medical practitioner under which he is bound or agrees to provide drugs or medicine for any insured person at an inclusive fee, without the consent of the Insurance Commissioners, which consent they shall not give unless the circumstances of any locality situate in a rural district are such as to make it expedient to do so.

[3] An approved society may enter into an agreement with the local Health Committee for the administration of medical benefit among such of the members of the society entitled thereto as may be resident in the county or county borough for which the committee is established; and on any such agreement being made the committee shall take over such administration and there shall in each year be paid out of moneys credited to the society such sum in respect of every member of the society entitled to the benefit and resident in the county or county borough as may be agreed between the society and the committee.]

Sanatorium Benefits.

Under this head Clause 15 now reads:

(1) For the purpose of administering sanatorium benefit, local Health Committees shall make arrangements, to the satisfaction of the Insurance Commissioners—

(*a*) *With a view to providing treatment for insured persons suffering from tuberculosis or any other such disease as aforesaid in sanatoria and other institutions, with persons or local authorities having the management of sanatorias or other institutions approved by the Local Government Board; and*

(*b*) *With a view to providing treatment for such persons otherwise than in sanatoria or other institutions, with persons and local authorities other than Poor Law authorities undertaking such treatment in a manner approved by the Local Government Board, which treatment (including the appointment of officers for the purpose) it shall be lawful for a local authority, if so authorised by the Local Government Board, to undertake.*

[with persons or local authorities having the management of a sanatoria or other similar institutions approved by the Local Government Board for the treatment therein of insured persons entitled to sanatorium benefit under this Part of this Act.]

(2) The sums available for defraying the expenses of sanatorium *benefit* [treatment] in each year shall be—

(*a*) One shilling and threepence in respect of each insured person resident in the county or county borough payable out of the funds out of which benefits are payable under this Part of this Act.

(*b*) One penny in respect of each such person payable out of moneys provided by Parliament.

Provided that the Insurance Commissioners may retain the whole or any part of the sums so payable out of moneys provided by Parliament for the purposes of research.

(3) An insured person shall not be entitled to sanatorium benefit unless the local Health Committee *recommends* [considers] the case [one suitable] for [sanatorium treatment] *such benefit.*

(4) *A local Health Committee may, out of the sums available for defraying the expenses of sanatorium treatment, defray in whole or in part the expenses of the conveyance of an insured person to or from any sanatorium or institution to which he may be sent for treatment therein, or may make advances for the purpose.*

Hospitals.

Clause 17 now reads:

It shall be lawful for an approved society *or local Health Committee* to grant such subscriptions or donations as it may think fit to hospitals and other charitable institutions, or for the support of district nurses, and to appoint nurses for the purpose of visiting *and nursing* insured persons, [who are members of the society,] and any sums so expended shall be treated as expenditure on such benefits under this Part of this Act as may be prescribed.

SCIENCE NOTES.

THE idea of an extensive forest generally calls to mind the forests of South America or the heart of Africa, but it is a surprising fact that in proportion to its size Europe is much more extensively wooded than the rest of the globe. It is calculated that nearly a third of the surface of Europe is covered with trees, whereas the proportion over the whole land area of the world is only about one-quarter. Finland and Sweden have the greatest extent of forest land, half of their surface being covered with trees. Britain and Portugal are the least wooded of European countries, only a twentieth part of their area being covered with forests; though Southern Britain is richly wooded, the trees are for a large part in hedgerows, and are not collected into forests.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Scottish Sanitary Congress.

e thirty-seventh annual congress of the Incorporated nitary Association of Scotland was held at Oban on ptember 21st, 22nd, and 23rd.

President's Address.

he meeting was opened by the delivery of an address the President—Mr. Lindsay, Town Clerk-Deputy, sgow—on "The Inadequacy of the Existing Public alth Law." After dealing with "offensive trades," he ceeded to speak of "unsound meat." There was the nt of a concise standard dealing with the more common ditions rendering meat unfit for human food. At sent the Local Government Board had issued certain mmendations dealing only with the question of erculosis. These could not, however, be regarded as a le, owing to their not being worded with sufficient niteness. Undoubtedly the compilation of a standard ing with conditions rendering meat unfit for human was extremely difficult, owing to the large diversity nditions which must necessarily be taken into account ljudicating carcasses affected with disease, but there no reason why a more adequate and exhaustive dard should not be issued. Passing to the milk ly, the President said that an attempt was made last to pass a Milk Bill, but both bills were strenuously sed, and mainly because of financial reasons they did pass, as they could not make provision for the payment mpensation for tuberculous cows or for milk which suspected of communicating disease, either tuberculous herwise.

til the representatives of the milk consumers had immediate say in the methods of its production, and he power to refuse to take milk which was suspected producing illness or disease, the whole question of a 's milk supply could not be on a satisfactory basis so s the citizens were concerned. In connexion with it should be remembered that in county areas neither County Council nor the District Council had any rs to license or refuse to license a dairykeeper or his ses. Herein there was an outstanding difference een District and County Councils on the one hand, and n Councils on the other, because under cattle sheds Burghs (Scotland) Act, 1866, all burghs in Scotland ne power to refuse to license dairy premises in which were kept, if those premises were not up to the ard demanded by the regulations made by the trates and Town Councils of those Burghs. Did the lie on the Government or the local authorities, or the sh Members of Parliament? He thought all three nore or less to blame. The Scottish Parliamentary entatives—with one or two creditable exceptions—t take sufficient interest in these questions of public . Notwithstanding how often or how fully one wrote on the subject, there was too often but half-hearted se, if response at all. They did not seem to be with great enthusiasm for such urgent questions.

(*To be continued.*)

University of Glasgow.

following appointments have been made by the sity of Glasgow: Dr. John M. Munro Kerr, to the ad Chair of Obstetrics and Gynaecology; Dr. Robert ly, to the St. Mungo Chair of Surgery; Dr. John H. r, to the St. Mungo (Notman) Chair of Pathology; r. Walker K. Hunter, to the Muirhead Chair of e of Medicine.

Dundee Royal Infirmary.

hursday a presentation is to be made to Dr. David an, Professor of Surgery in the University of St. s, on the occasion of his retiral from the surgeon- Dundee Royal Infirmary. Several changes addi- o those already reported have been made. Dr. F. Whyte has resigned his appointment as nt Surgeon, and ten beds have been assigned to Dr. ow. Mr. John Anderson, M.B., Ch.B.Aberdeen, and L. Robertson, M.B., Ch.B.Edinburgh, have been o the list of Assistant Surgeons.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Golden Jubilee of Mater Misericordiae Hospital.

On Sunday last the jubilee of the Mater Misericordiae Hospital was celebrated by the performance within the chapel of the hospital of a solemn High Mass, and subsequently by the entertainment at luncheon of a large number of the supporters and friends of the hospital. The foundation-stone of the building was laid in 1852, and in 1861 the building was first opened for the reception of patients. Since that date continual additions and improvements have been effected in the building, which is now equipped in the most up-to-date manner, and affords accommodation for 350 patients. The hospital was founded by the Sisters of Mercy and is maintained by them. At the luncheon a telegram from the Pope was read by the Bishop of Canea, conveying the Apostolic Benediction to the institution, the staff, and all the benefactors of the hospital.

University College, Cork.

In addition to the Honan and other scholarships already tenable at University College, Cork, further scholarships have been offered by the following public bodies: The Kerry County Council offers for annual competition two scholarships each of the value of £50 per annum and two each of the value of £30 per annum. The Waterford County Council offers for annual competition three scholarships each of the value of £50 per annum. The Corporation of the City of Waterford offers two scholarships tenable either in University College, Dublin, or in University College, Cork. The value of these scholarships will probably be the same as that of the Waterford County Council scholarships. The scholarships are limited to candidates who have themselves resided or whose parents have resided for fixed periods in the counties of Kerry and Waterford and Waterford city respectively.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENT.*]

LEEDS.

Opening of the Medical Session.

The winter session of the School of Medicine of the University of Leeds commences on Tuesday, October 3rd, when the opening address to the students will be delivered by Mr. Mark Sykes, M.P., who will also distribute the prizes. Mr. Sykes is known in Leeds as a most attractive lecturer, and is sure of a cordial welcome. In the evening, as is usual, the annual dinner of the profession of Leeds and district will be held at the Queen's Hotel. Mr. Sykes will be the chief guest, and it is with peculiar pleasure that many old Leeds men will find the familiar figure of Dr. Eddison in the chair. Dr. Eddison went on the consulting staff of the infirmary in 1892, and retired from practice some few years ago, but has never ceased to be interested in medical matters. He is one of the most constant attendants at the meetings of the Leeds and West Riding Medico-Chirurgical Society. He has never lost any of his interest in the infirmary, supervises the affairs of the Medical Charitable Association, and, as many will remember, found time to attend the large meeting of the profession of the district to consider the National Insurance Bill.

The Water Supply of Leeds.

Those who live in Leeds and complain bitterly, and not it must be confessed without reason, of the uncleanly atmosphere, and of the offensive river, would do well to remember that throughout the long drought of this remarkable summer, they have had the incalculable blessing of an abundant water supply. Just before the recent rain the Chairman of the Waterworks Committee of the city council reported that there was in the reservoir at Eccup a supply sufficient for seventy one days. The water of Leeds is obtained from the Washburn valley. It is remarkably

fine; soft, and therefore good for washing, it is, at ordinary temperatures, very low in plumbo-solvent properties. Extensive works are at present being carried on at Colsterdale with the object of greatly increasing the security of the supply to the city.

Correspondence.

SEA-WATER INJECTIONS.

SIR,—We regard the medical profession in the British islands as under a debt to you for the prominence you have given to the subject of sea-water treatment by hypodermoclysis. You have introduced the subject, as it appears to you, with the refreshing cold douche of criticism. Permit us, as having some acquaintance with the subject at first hand, to present it as it appears to us.

Reports came to England through professional channels as to the extraordinary results of sea-water treatment in Paris. Moved in particular by Dr. Robert Simon's contribution to the *Medical Annual*, a few professional colleagues decided to visit Paris and verify the statements for themselves. Each preserved an open mind on the subject, and, by way of balance, the visit included Gaucher's clinic at the St. Louis, an introduction to Metchnikoff at the Pasteur Institute, and Wickham and Degrais's radium work at the Rue d'Artois.

So far as the sea-water clinic was concerned, what we actually saw outrivalled in interest the doings at the other renowned institutions. Here is a typical case from the first morning's clinic:

A puny infant, suffering with acute gastro-enteritis, was admitted moribund. The baby lay comatose, with no corneal reflex, no radial pulse, bluish face, chill extremities, and with about four respirations per minute. The child received the prescribed injection, and in an hour was presented to us again. We could hardly credit that the baby was the same. It lay on its mother's knees with mobile eyes, restored consciousness, moving its limbs freely, and with every appearance of returning vitality.

At the same visit, and at later dates, we satisfied ourselves of the progress and completeness of the cure in similar cases. The Dispensaire was full of them. We turned our attention to the adults, and among these found specific ulcers lasting for five years cured in six weeks—tuberculous ulceration in the back and over the spine healed quite early in the treatment—diffused psoriasis of old date vanished, as regards the major part, in a few weeks after commencing injections, and other and various cases and lesions.

We left this Paris clinic after systematic attendance, assured that here was a new remedy of wide scope and considerable power. Later supplementary visits and experience from other sources confirmed this view. How best to translate to our own country this effective treatment and also secure for it a general trial implied some equipment for utilization and for demonstration to the profession. To this end Mr. Otto Beit—whose princely munificence to the profession should place him above criticism—guaranteed the cost of equipment and a certain annual contribution for upkeep. Demonstration implies the existence of a clinic: and such is the history of the foundation of the Poland Street establishment.

During vacation time the medical editor of the *Daily Mail*, visiting the clinic, turned his observations to account in the interests of his journal. As a professional man he had a perfect right to visit and inquire as he thought fit; his proof sheets were not submitted to us, nor could we in any way control his action, any more than the action of your own representative. It will not, however, have escaped your attention that the *Daily Mail* reports have ceased for some time.

As a body of professional men we make no pretensions nor indulge in any nebulous statements. The treatment in England is in the probationary stage, and we have not published, nor can we publish, our results until these have accumulated sufficiently for statistical purposes. We are pledged to do so at the earliest fitting time. Meanwhile the visitation of the clinic for purposes of observation by medical officers of health from many large cities in England, and the personal inquiries as to management from prominent corporation officials, sufficiently attest the gravity of the seasonal plague throughout the country. "Children dying like flies" were the *ipsissima verba* of one health officer, speaking of his own locality.

The high mortality-rate of *foudroyant* cases of gastro-enteritis in slum children is indeed a perpetual burden to those responsible for public health. In Paris it was remarkable to see, under our observation, the large majority of these bad cases recover.

We invite professional men and women who wish to convince themselves of the gravity of a proportion of our cases to visit the *crèche* or sick nursery attached to the Poland Street Polyclinic. And we suggest that those who desire clarity of conviction as to the values of isotonized sea-water in these cases should put it to an independent test. But with the proviso, which also we have attached to our own work, that who would repeat Paris successes must repeat Paris methods.—I am, etc.,

GEORGE BURFORD, M.B.,
Chairman of the Poland Street Polyclinic Medical Committee.

September 26th.

SIR,—We have hitherto been kept so busy at the Quinton Polyclinic that there has been little time or inclination to enter into a controversy as to the value of isotonic sea-water plasma. Nor is it my desire in this letter to controvert, but rather to extend a hearty invitation to all medical men who are anxious to improve on the ordinary methods of dealing with acute gastro-intestinal catarrh, to come and visit the Quinton Polyclinic.

Many have done so, particularly medical officers of health, and they have expressed themselves gratified with our methods and results.

Your correspondent, however, paid but one visit on August 30th of brief duration, during which time he saw "some half-a-dozen patients" not one under 1 year and one over 2 years, and another 3 years.

In due time our report will be published. For the most part our patients are but a few months old, and I have never before seen such a series of desperate (many moribund) cases as have been coming during this epidemic—many come as a *dernier ressort*, having tried everything else previously.

However, furnished with the imperfect information derived from this brief visit, he proceeds to pass his opinion. He is also a captious critic, and thinks us too credulous; but we also have had long experience in a children's out-patient department, and have our own opinion as to the value of the mothers' statements.

Had he been more careful to acquaint himself with the work, he would have found the plasma *was* warmed before administration in many cases. We found it was a great drawback for the babies to travel to and fro to their homes, and so a *crèche* has been opened where the worst cases remain under treatment till able to return home safely, and so your correspondent's remark—"Where the staff have such imperfect and limited control and supervision over their patients"—does not apply.

He further states:

> The main demonstrable ingredient apart from water in "isotonic plasma" is common salt, the quantities of other ingredients such as iodine and bromine being so infinitesimal in the amounts injected that their effect may be neglected.

He evidently does not believe in the power of infinitesimals, but there are others who do, and all the latest discoveries in modern science substantiate this.

Our profession has made too many mistakes in the past by hastily condemning what at the time it was incompetent to judge of, from want of sufficient data; hence the persecution of many of its most brilliant discoverers who were earnest seekers after truth.

The truly scientific mind should approach any new method in an unbiassed spirit, and suspend judgement till sufficient evidence is obtained; but you, Sir, are quite satisfied to write an article drawing conclusions from false premisses, derived from insufficient data.—I am, etc.,

J. ROBERSON DAY.

London, W., Sept. 20th.

TUBERCULIN IN PULMONARY TUBERCULOSIS.

SIR,—The interesting correspondence in the JOURNAL of September 16th is gratifying evidence of an increasing interest in tuberculin dispensaries in particular and tuberculin treatment in general.

If Dr. E. W. Diver would do me the honour of studying
y views directly or visiting the tuberculin dispensary, he
ould hardly speak of my "unmistakable objection to the
natorium." In season and out of season I have merely
ated that sanatorium treatment for consumption among
e poor is for financial reasons impossible. Tuberculin
eatment at dispensaries is both possible and effective.
the *British Journal of Tuberculosis* of April this year,
say this:

Sanatorium treatment is quite the best for mixed infections,
nile all forms of pulmonary tuberculosis should be treated
th tuberculin.

ave expressed these views for the last fourteen years,
d, after a careful and varied experience, I am more than
r convinced of the correctness of my views.
Dr. Halliday Sutherland appears again upon the
izon, this time as the satellite of Sir Clifford Allbutt,
Lauder Brunton, Sir William Osler, and Dr. Arthur
tham, and, like these constellations, he passes a judge-
nt upon tuberculin dispensaries and their work on
at I venture to think is an insufficient knowledge of
ts. Our views upon pathology are so different that
re is no way of harmonizing them.
n my book and in my writings I have insisted that no
lts obtained in the treatment of pulmonary tuberculosis
of much value unless they have been controlled by
r-examinations for three years at least. Dr. Suther-
was qualified in 1906, but seems to have done some
k at Edinburgh, some at Liverpool, some in Westmor-
l, and some in Spain. Such a casual and itinerant
rver can hardly have exercised sufficient control over
observations to form conclusions of any value. He
her gives us a specimen of his evidence by quoting the
lts of a year's work at the Paddington Antituberculosis
ensary in 1910, when 828 cases of suspected and
rent pulmonary tuberculosis were treated, not by him
r, but by his friends. The object of the tuberculin
ensary is not merely to treat, but to treat *successfully*.
Sutherland in all his communications has made no
ence to successful results, for the very good reason
his itinerant observations defy investigation. It is a
waste of time for me to notice his lucubrations with
ct to the use of tuberculin in diagnosis and treatment.
. Vincent Moxey does not seem to know that I have
ghout courted the fullest investigation, and more
once have suggested that a commission should be
inted to investigate. If Dr. Vincent Moxey and
s in his position "want convincing," let them come
see the work for themselves at the dispensary.
s. Fell, Gregson, and Mariette are already convinced
ates of tuberculin treatment, and I do not doubt that
more experience Dr. Mariette will become as enthu-
c as most of my disciples. I shall be delighted to
me him at the dispensary.
stly, let me narrate the pathetic history of a medical
suffering from tuberculosis. He consulted several
rs (sanatorium experts), who scouted the idea of
culosis, and declared that he was run down and
l spend "a month at the seaside." He returned
rather than better. Then it was recognized that
ondition was more serious, and he was advised to
sanatorium treatment. While in the sanatorium
le bacilli were found. At the end of five months he
till worse, and left the sanatorium. Shortly after-
he came to see me, when he was obviously in a late
l stage of the disease. If he had come to me in the
nstance, I should have promptly tested him with
ulin instead of making a guess, which proved to be
wrong. At that stage treatment with tuberculin
have restored him to health; as it is, the trip to the
and five months in a sanatorium have brought him
parlous state.
se tragedies are much more common than are
lly supposed, and while leading authorities like Sir
n Osler speak slightingly of the value of tuberculin
early recognition of pulmonary tuberculosis and in
ent, the medical profession deserves to lose caste,
unfortunate victims of tuberculosis are forced to
eir tragic rôle "unhousel'd, disappointed, unaneled."
, etc.,

W. CAMAC WILKINSON, M.D., F.R.C.P.

, W., Sept. 23rd.

SIR,—My attention has been called to a delightfully characteristic letter from Dr. W. Camac Wilkinson in the JOURNAL of September 16th (p. 643).

I do not know why he should thus single me out for personal attack. I did not mention his name in my letter; I have not publicly thrown any doubt or discredit on the results he claims—why should I? With respect to tuberculin, I am a humble disciple in the same school as himself, and we are working, I believe, on very much the same lines.

He apparently misread my letter. My contention (and the point is so obvious that it need not be laboured further) is simply that, invaluable as tuberculin undoubtedly is, it cannot reasonably be considered the ideal treatment for either rich or poor apart from the advantages offered by the sanatorium. In any comprehensive national scheme for dealing with tuberculosis, both sanatorium and tuberculin are surely necessary.

This is not a personal matter, and I decline to answer Dr. Wilkinson's personal remarks.—I am, etc.,

Nordrach-upon-Mendip, Sept. 20th. ROWLAND THURNAM, M.D.

SIR,—It is unfortunate, though perhaps inevitable, that the discussion upon the treatment of pulmonary tuberculosis should degenerate into a conflict between the advocates of sanatoriums and tuberculin, instead of being an attempt to estimate the real value of two methods, which are not incompatible and should not be placed in opposition.

It may be taken as axiomatic that a tuberculous infection, like any other bacterial infection, can be fought only by the formation of specific antibodies. Whatever the mode of treatment, its success will depend upon the production of sufficient antibodies and their introduction to the focus of infection. In spite of some claims to the contrary, we know no drug which has a specific action upon tubercle bacilli comparable to that of quinine in malaria and "606" in syphilis. In fact, the rôle of specific drug treatment seems at present to be limited to protozoal infections, and even here it seems to me to be likely that the drugs destroy a certain number of organisms, and that these dead organisms act like a dose of vaccine, and stimulate the production of antibodies.

Sanatorium treatment—by which I mean abundant fresh air and the careful regulation of rest, exercise, and diet—when successful produces immunity indirectly. Specific treatment by tuberculin is the only method which aims at producing immunity directly. By sanatorium treatment a patient is placed in that environment in which his physiological functions will work best. He is kept at rest in hygienic surroundings, given suitable food and more sleep, his cough is lessened, fever abolished, and all strain—mental and physical—removed. The tired circulation, respiration, digestion, metabolism, etc., return towards the normal, and are later strengthened by the stimuli of increased diet, exercise, fresh air, and cool temperature. But an improved circulation, respiration, and metabolism do not produce immunity, although it seems to be thought by some that they do. A man with a perfect digestion and a sound circulation may have a lowered resistance to tubercle bacilli, whilst a man with less bodily vigour may be immune. Sanatorium treatment increases bodily vigour but does not necessarily produce immunity, but by rest and the reduction of fever—or, as we now say, the prevention of autoinoculations—the mechanism of immunity, which was previously overtaxed, becomes healthier and capable of responding to stimuli if these be offered to it. This seems to me the most important function of the sanatorium. To produce immunity this mechanism must now be stimulated to produce antibodies in sufficient amount, and the controversy is between those who would leave this to chance and those who think that by using tuberculin they can control the stimuli. It is in reality part of a broader controversy between those who practise expectant treatment and those who use specific therapy in infective diseases.

As regards the stimuli to immunity, sanatorium patients can be divided into three classes: (1) Those with excessive stimuli, which exhaust the mechanism of immunity—progressive cases; (2) cases with insufficient stimuli—chronic cases with little activity; and (3) those with adequate stimuli—improving cases. Real "sanatorium

cures" come from Class 3, but many so-called "sanatorium cures" will be found on examination to belong to Class 2. Class 1 cases may, by the use of absolute rest, be transferred to Classes 2 and 3. In my own experience cases in Class 3 are not common, and most cases after sanatorium treatment alone can be placed in the other two classes. The best results of sanatorium treatment seem to be obtained by those who advocate the system of graduated labour. Much of their success, I think, is due to the more thorough observation and regulation of the patient, and especially the recognition of the importance of absolute rest. There is a higher standard all round in these sanatoriums; the patients are more vigorous, and more able to respond to immunizing stimuli if these arise; but I am still sceptical that the stimuli can be so nicely regulated as the advocates of the method maintain. At any rate, the expectant attitude of the ordinary sanatorium is abandoned, and an effort is made to control the stimuli to immunity. Supposing that it be satisfactorily proved that adequate stimuli can be produced and controlled by graduated exercise, there is still the disadvantage that these stimuli consist of living bacteria and their products, and that these stimuli act upon tissues in the neighbourhood of the diseased focus. If the living bacilli are driven out in sufficient numbers to escape destruction, there may be an extension of the disease. This does happen. It seems to me preferable to use killed bacilli or their products as the stimulus and to inject these into a healthy part of the body, where the response is likely to be greater. I have now treated a large number of cases with tuberculin, and I am convinced that it is possible to control the stimuli with considerable accuracy, and to obtain a high degree of immunity in this way with no risk to the patient.

The rôle of the sanatorium thus seems to me to be to put the patient into the best possible condition to respond to immunizing stimuli. The rôle of tuberculin is to provide these stimuli with a greater accuracy and certainty than if they were left to chance or the production of autoinoculations by graduated labour. The condition of some patients is such that they can profit at once from tuberculin, but many require first to be got into a suitable condition to respond to tuberculin, and this is best done in a sanatorium. Sanatoriums would show better results if tuberculin were used more, and tuberculin treatment would be more successful if the advantages of sanatorium treatment could be utilized in every case.

Those who use tuberculin naturally prefer to have their patients in the best condition to respond, and would like them to have the advantages of a sanatorium if these can be obtained. Their opposition to sanatoriums is largely on economic grounds, but is partly the irritation felt by a man who uses bacterial methods of treatment against the man who still trusts to merely expectant treatment, and refuses to recognize its limitations.

The same scheme of treatment cannot be adopted with all our patients. A wealthy man I should advise to go to a sanatorium where tuberculin is properly used, not merely given when the patient's own doctor thinks it should be given, and stay there until he is cured. The middle-class patient I advise to go to a sanatorium for six weeks, so that he can be educated in the methods which he must afterwards practise at home. Whilst there tuberculin should be begun, and this is continued for as long as necessary afterwards at home. My difficulty in advising these patients is that so few private sanatoriums give tuberculin in gradually increasing doses. When it is given it is usually in small doses at long intervals—a method which I think quite useless in phthisis. Then, too, I find often that patients who have been in sanatoriums have not been properly educated in the methods of open-air treatment, so that time and money have been wasted, that they complain of the food and the lack of attention from the medical man in charge. Patients with fever are not kept at absolute rest, and even when there is some pretence at graduated labour this is done in a very careless fashion. The number of sanatoriums to which I can conscientiously send a patient is very limited, and if the patient's surroundings are suitable and his doctor sufficiently alive to the importance of the minute details that require attention, I prefer to start tuberculin at once, and find the patients do as well, if not better, than if they had been sent to a sanatorium for a time.

With working-class patients the problem is more difficu Very few can be admitted to sanatoriums. What can done with the majority? In Birmingham a few ve early cases (about 100 a year) are admitted to the Salterl Grange Sanatorium, where they are kept for periods up six months or more. At the Yardley Road Sanatorium, which I am visiting physician, patients are admitted f six weeks only. They are educated in open-air method the control of sputum, etc., and advised how to carry open-air methods when they leave. All but those with seve mixed infections are treated with tuberculin as soon possible, and this is continued after the patient has left f as long as necessary. All the patients admitted to t Yardley Road Sanatorium are in the second and thi stages—we get no first stage cases—and any one sceptic as to the influence of tuberculin on any but first stag cases can be given an opportunity to see these patients. Th combination of educational sanatorium treatment a tuberculin seems to me to be the best form of municip treatment, but the sanatorium has at present only fif beds, so that only about 400 patients a year can be treate in this way. If expense were not a consideration, educ tional treatment in a sanatorium should be given to a but, failing that, what can be done for those patients w cannot be so treated? I believe most strongly that di pensary treatment with tuberculin, combined with hom visitation by trained nurses, will prove to be the mo economical and successful method on a large scale. Ma patients who could have tuberculin had they received s weeks' preliminary treatment in a sanatorium would n be able to receive it at a dispensary, but there would very many who could be so treated, and in this I agr with Dr. Camac Wilkinson, who ignoring sanatoriu treatment and giving tuberculin alone, has shown th patients can be cured and that tuberculin can be safe given in large doses by those who have been proper trained in its use.—I am, etc.,

Birmingham, Sept. 23. W. H. WYNN.

PATHOLOGICAL LABORATORIES AND THE PUBLIC.

SIR,—I hasten to answer a letter in this week's issue the BRITISH MEDICAL JOURNAL on pathological laboratori and the public, in which the writer's remarks suggest th the practice complained of is not confined to the institutio referred to. This justifies reference to a subject whic might seriously reflect upon us, and which should not allowed to pass in silence or without protest.

Let me point out that the polyclinic laboratory established solely by medical men for medical men. It our inflexible rule that no specimen is accepted from laym and all reports are sent direct to the medical attendant. I am, etc.,

E. T. VINT,
Medical Superintendent

Medical Graduates' College and Polyclinic,
Chenies Street, W.C., Sept. 26th.

BRITISH HEALTH RESORTS FOR FOREIGN INVALIDS.

SIR,—For the furtherance of a movement which ma prove advantageous to the two great and friendly nation may I ask you to be so very kind as to inform your reade that, taking cognizance of Dr. Neville Wood's pape British Health Resorts for Foreign Invalids, read befor the Royal Society of Medicine, and published in th *Transactions* for January this year, the French Govern ment has commissioned me to visit the principal healt resorts of Great Britain, and to issue a report on thei suitability for various categories of French invalids and at the same time to inquire into the practice an teaching of hydrology in the medical schools attache to universities? I hope at an early date to arrive i London, where my postal address will be The Roya Society of Medicine, 15, Cavendish Square. Thanking yo in anticipation,—I am, etc.,

GUSTAVE MONOD, M.D.Paris, M.R.C.S., L.R.C.P.,
September 23rd. Médecin consultant à Vichy.

Obituary.

EDERICK WILLIAM PAVY, M.D., LL.D., F.R.C.P., F.R.S.,

CONSULTING PHYSICIAN, GUY'S HOSPITAL.

the death of Dr. Pavy, which occurred on September h, after a short illness, the medical profession of this ntry has lost one of its brightest ornaments. He had sed the usual span of human life, but he was still h and vigorous in mind, and able to take a prominent in movements for the furtherance of medical science. name has so long been known as that of the leading iority on diabetes—a disease to which he may be said ave devoted the work of his life—that to the younger eration the splendid reputation he had justly acquired hat particular sphere may have tended to obscure his in other provinces of medical research. Pavy, as those knew him were well aware, was by no means *homo s libri*, but an all-round physician of the highest type. an accurate knowledge of pathology he combined the dest practical judgement. A man so keen in the uit of scientific truth t easily have degene- l into a laboratory nt, but from this he saved by the large- of clinical outlook h he gained by his ientious work in the s. He never, in ing the disease, lost of the patient.

n at Wroughton, in hire, on May 29th, Dr. Pavy received iterary education at Merchant Taylors' l, and afterwards d at Guy's Hospital, he had a dis- shed career as a nt. He graduated at niversity of London, the M.B. degree in with honours in all ts, and winning the medal in medicine. 53 he proceeded to gree of Doctor. In he was elected ian to Guy's Hos- nd in 1860 he was a Fellow of the College of Phy- of London. Soon aking his degree he ppointed Assistant an and Lecturer siology at Guy's Hospital. He held in succession principal medical appointments, becoming in due full Physician, and exchanging the lectureship siology for that on the principles and practice of e. On his retirement from the active staff he was ed Consulting Physician. He was an Honorary an to King Edward VII Hospital.

College of Physicians he held many offices. He dstonian Lecturer in 1862 and 1863, when he took to set forth his views on "Assimilation and the of its Defects on Urine." He was Croonian in 1878 and 1894, Harveian Orator in 1886, and ensor in 1891 and 1892. In 1901 he was awarded Gold Medal. Dr. Pavy was Lettsomian Lecturer ology to the Medical Society of London in 1859. took as his subject certain points in connexion betes. In 1863 he was elected a Fellow of the ciety.

other offices of professional distinction which he e those of President of the Royal Medical and al Society and of the Pathological Society. He rresponding Member of the Société Anatomique and of the Medical and Chirurgical Society of h. He was a member and a former Vice-President of the Paris Medical Society. He was also honoured by leading medical societies in Philadelphia, Moscow, and Belgium. In 1888 the University of Glasgow conferred on him the honorary degree of LL.D.

Dr. Pavy was the author of a number of monographs chiefly dealing with disorders of digestion, food and dietetics, and diabetes. Among them may be mentioned: *Nature and Treatment of Diabetes*, a second edition of which appeared in 1869; a *Treatise on the Function of Digestion: Its Disorders and Their Treatment*, which also passed into a second edition in 1869; a *Treatise on Food and Dietetics Physiologically and Therapeutically Considered*, of which a second edition was called for in 1875. Among his other works were: *The Physiology of Carbohydrates: Their Application as Food in Relation to Diabetes* (1894); *Carbohydrate Metabolism and Diabetes* (1906). Dr. Pavy also contributed to the Philosophical *Transactions* of the Royal Society in 1861 a paper entitled "Researches on Sugar Formation in the Liver," and to *Guy's Hospital Reports* some remarks on the physiological effects of strychnine and woorali [curare]. He was also the author of papers on lesions of the nervous system producing diabetes, published in 1859, and on the immunity of the stomach from being digested by its own secretion during life (1863).

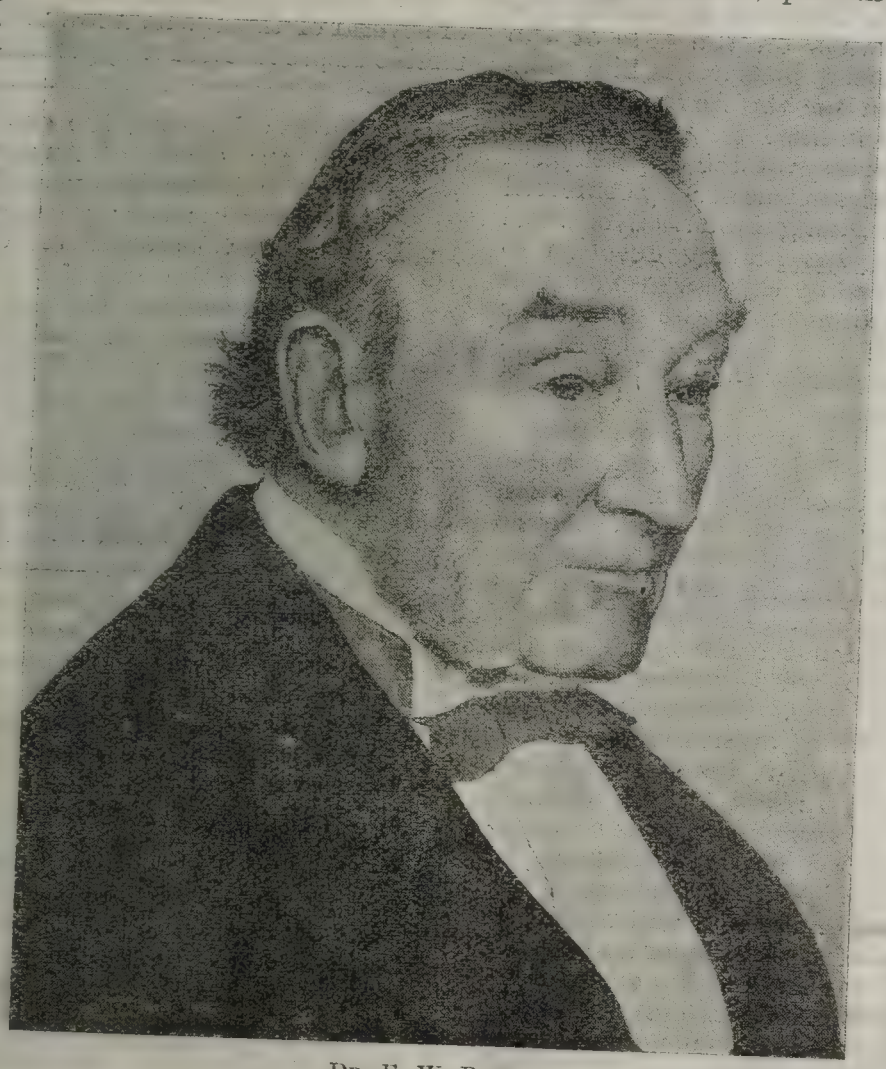

DR. F. W. PAVY.

In his later years he was President of the Association for the Advancement of Medicine by Research. In that capacity he rendered most valuable service. He was also President of the National Committee for Great Britain and Ireland of the International Medical Congress. In the work of that committee he took a very keen interest. He was Principal Representative of the British Government at the Sixteenth International Medical Congress held at Budapest in 1909.

Dr. Pavy was President of the Section of Medicine at the Annual Meeting of the British Medical Association in 1895, when the meeting took place in London. The subject of the presidential address before the Section was "Microbes, Toxins, and Immunity," a prelude to the discussion to take place at the meeting.

For many years Dr. Pavy had a very large practice, and his professional skill, combined with the kindness of his manner and his genuine sympathy with human suffering, won for him the confidence of his numerous patients. He married in 1855 Julia, daughter of Mr. W. Oliver, who died in 1884, leaving him with an only daughter; she married Sir William Borradaile Savory, the third baronet. Dr. Pavy's popularity among his professional brethren was strikingly displayed in 1909 on the occasion of his eightieth birthday. At a meeting of the Physiological Society held at Oxford, Professor Gotch, who presided, after a speech expressing hearty appreciation of the value of Dr. Pavy's work and of his personal character, presented him with a silver bowl bearing the inscription: "Frederick William Pavy, M.D., F.R.S., May 29th, 1909, from the Physiological Society, in token of affection and admiration." As we said, in recording this presentation: "Dr. Pavy's career is one which reflects honour on himself, his profession, and his country; he attained distinction as a physiologist and scientific physician at an early age, but he has never been content to rest upon his laurels, and has continued to work, both by observation and experimental research, at the subject of metabolism, with special reference to

diabetes, his last volume on the subject having been published so lately as this spring."

The portrait reproduced on p. 777 is a facsimile of an original drawing made by Mr. W. Strang, A.R.A., in 1908. This very characteristic work, which shows Dr. Pavy in his habit as he lived, hangs in the rooms of the Royal Society of Medicine. It was issued in a limited number by Mr. Thomas R. Way, of 6 and 7, Gough Square, Fleet Street, London, E.C.

DR. HALE WHITE contributes the following personal appreciation: There is no doubt that English medicine is the poorer now that Dr. Pavy has passed away, not only on account of his contributions to it, but also because he has always been a shining example to all of us to try and get at the truth of things. Long after the time at which most men rest from their labours he has continued his quest. The last conversation I had with him was but a few weeks ago; he then said he hoped he would die while still following his researches. He has had his wish. He was quiet and reserved, but his face lit up and became suffused with a smile of pleasure if he talked about any research in which he was at the time interested, and he was always on the side of the investigator. Hence it was a sincere pleasure to him to be the President of the Association for the Advancement of Medicine by Research, and even in his later years he took much trouble to attend the meetings of the Physiological Society. Not long ago the members of this society conferred a unique honour upon him by giving him a silver bowl to signify their admiration of his lifelong devotion to research. He was much touched by this, and very proud of the bowl. I was at a small dinner party he gave after he had reached the age of 80; the bowl stood on the table, and it was pleasant to see how greatly the gift had added to the happiness of this veteran, because he felt it showed that his long devotion to scientific investigation had been appreciated by those who by their training were capable of appreciating it. Often the love of original investigation is combined with an unmethodical use of time. Not so with Dr. Pavy; he was punctual in his attendance at the hospital, and almost always, after he had finished his round, he retired to his laboratory. He spared neither time nor money on it. He did not teach much at the bedside, except to those who were willing to learn by observing how thorough he was. The Sister always carried round with her a tray full of apparatus for testing the urine, so that Dr. Pavy might, if he wished, check the statements made by the clerks about it. He did not often give his reasons for a particular diagnosis or treatment; I remember he astonished us one afternoon by ordering a red-hot iron to be applied that evening to the spine of a man who said he could not walk, and whom we believed to have organic paraplegia. No sooner had we left the ward than the malingerer fled the hospital cured of his paraplegia. Pavy was an admirable general physician; no one had less reason to be afraid that his diagnosis would be shown to be wrong by the demonstrator of morbid anatomy. He was a strong man, never afraid of expressing his opinions, provided he had time and facts to form them; therefore it behoved those who engaged in controversy with him to see to the joints of their armour before they began. His precision, punctuality, love of order, and firmness, all combined to make an excellent chairman; a meeting always went smoothly if he presided over it. His strength of character made him remarkably self-reliant; this was shown in an amusing way after he had reached 80. He was telling some of us that he was going to a congress at Budapest; one of us had friends there, and offered to write and get rooms for him and look after him. He thanked us, but replied that he enjoyed travelling alone and fending for himself, which he did excellently on this occasion and many others. That he worked with the true scientific spirit of trying to solve problems apart from any further reward than the satisfaction of arriving a little nearer the truth is shown by his continuing his researches till his death, but it so chanced that they made him famous as an authority on digestion and diabetes, and hence a large practice flowed towards him. This was fortunate, for he was by nature both hospitable and generous; he enjoyed giving excellent dinners, and, as those who dined with him know, he understood the art of dining better than most men. Many years ago he built, maintained, and gave to the students at Guy's an excellent gymnasium. Whatever he did, he always liked to do as well as possible. This came out even in little matters; for example, he was famous for the excellence of his horses, and artificial light being a necessity, he liked to light his house as efficiently as he could; consequently he was one of the first in London to install the electric light. But this characteristic also showed itself in great matters, for it, combined with an indomitable perseverance, was evident in all his work. The recollection of Dr. Pavy spending time, thought, and money in trying to unravel the problems of physiology and pathology up till his death, happily postponed till the age of 82, will always be a help to those who feel daunted and discouraged by the immensity and complexity of the riddles they are attempting to solve. None of us can tell what will be the fate of Pavy's most cherished views, but this at least we know, that he will all time he will be an outstanding ornament to British medicine, for it is doubtful whether the physician ever lived who sought truth for so long or so whole-hearted as did Dr. Pavy.

[We much regret that, owing to the absence from town of several of those who knew Dr. Pavy best, we have been unable to procure other appreciations.]

DR. THOMAS DWIGHT, the successor of Oliver Wendell Holmes in the Chair of Anatomy at Harvard, died on September 8th, in the 68th year of his age. Born at Boston in 1843, he took his Doctor's degree at Harvard in 1871. In 1872 he was Lecturer on Comparative Anatomy at Harvard. Later he was for a few years Professor of Anatomy in Bowdoin College. In 1883 he succeeded Holmes, whose close personal friend he was. Professor Dwight was for five years Editor of the *Boston Medical and Surgical Journal*, and was the author of several works on anatomical subjects.

Medical News.

THE total number of students in the universities of Italy who obtained the doctor's degree in 1910 was 6. The number of students registered in the several medical faculties during the present year is 4,326.

UNDER the will of the late Mr. Isaac Lovell Berridge, hosiery machine manufacturer of Leicester, the infirmary in that town receives a bequest of £500.

DR. F. M. SANDWITH, Gresham Professor of Physic, will deliver four lectures on flies as carriers of disease at the City of London School, Victoria Embankment, on October 10th, 11th, 12th, and 13th. The lectures, which are free to the public, will begin at 6 p.m. on each evening.

THE seventeenth session of the School of Pharmacy conducted by the Pharmaceutical Society of Great Britain is to commence next Wednesday, the occasion being marked by the delivery of an inaugural address by Dr. J. Macdonald Brown. The Hanbury gold medal for this year will be presented on the same date.

AN examination of candidates for fifteen commissions in the Royal Navy Medical Service will be held at the Examination Hall, Victoria Embankment, on November 30th and following days. Full particulars and entry forms can be obtained on application to the Medical Director-General, Admiralty, S.W.

MR. M. GREENWOOD, jun., will begin a course of lectures and demonstrations at the Lister Institute of Preventive Medicine, Chelsea Bridge Road, S.W., on statistical methods and their applications in preventive medicine and pathology on October 16th at 5 p.m. The course is open free to medical men and others interested in the subject.

THE autumn meeting of the South-Eastern Division of the Medico-Psychological Association will be held at the Bucks County Asylum, Stone, Aylesbury, on October 4th. At 1.30 p.m. Dr. Hugh Kerr will entertain the members to luncheon. At 2.15 p.m. there will be a meeting of the Divisional Committee, and at 2.45 the general meeting will commence. Communications will be read by Dr. John Turner on "A Classification of Insanity," and by Dr. J. Corson on "Insane Heredity in the Insane of a Rural Population." It is proposed that the members will dine together after the meeting at the Café Monico, Piccadilly Circus, W., at 6.45 p.m., provided that a sufficient number of names are obtained.

The Services.

EFFECT OF GUN-FIRE ON THE HEARING.

is stated that an exhaustive study is being made by the dical Corps of the United States Navy with the object of vising means of protecting the ears of American sailors from e effects of gun-fire.

HALF PAY.

VAL SURGEON writes: In the article on the Navy which ppeared in the Educational Number you talk of "half pay" eing a possibility. In the higher ranks you may safely call it *probability*. I have recently finished my second spell in three ears—quite unsought for, and through no fault. Also, what s not generally known, when appointed from "half pay" to ship, which may very likely be in the North of Scotland, he officer appointed has to pay himself *all* the expenses of oining, including railway fare; this in addition to the ecuniary loss which "half pay" entails.

Medico-Legal.

CERTIFICATE SIGNING.

the Central Criminal Court, on September 7th, a medical ctitioner pleaded guilty to having made a false declaration h a view to enabling a certain person to obtain a passport trary to the regulations. This person was shortly after- ds arrested abroad for pocket-picking at railway stations. extenuation of his offence the medical man in question ded that he had no idea of the importance of the document n he signed it. He treated it as an ordinary certificate, which he, in common with all other medical men, signed great number. Judgement was deferred, the prisoner nwhile remaining in custody.

he case is worth noting, since it is perfectly true that lical men constantly have application made to them to end their signatures to certificates of one sort and another, often comply out of mere good nature without much ght of the possible consequences. Moreover, the practice ie Foreign Office in regard to passports has altered during nt years. At one time passports could be obtained without culty practically by any one and every one. Now, the eign Office not only insists on strict compliance with the lations regarding the signature of declarations in con- on with them, but expects that any one who signs the aration vouching for the respectability of the applicant only do so if he has real knowledge of his character and ding in the world.

Medico-Ethical.

advice given in this column for the assistance of members is sed on medico-ethical principles generally recognized by the ofession, but must not be taken as representing direct findings the Central Ethical Committee, except when so stated.

GRATIS PRACTICE.

T.—It is not customary for medical men to attend all their ations, no matter how well off, free of charge, or their vants, wives, and children.

THE OBLIGATIONS OF A SUBSTITUTE.

Y.—If B. is called to a case of accident or sudden illness in absence of A., who is the ordinary family attendant, he uld do what is necessary, and write to A. informing him of at he has done. He may charge a fee or allow A. to in- de the visit in his charges. If, however, A. is not the ily attendant and was called merely because he was the trest, and being away from home B. was then fetched, is under no obligation to write to A. In the former case should not continue in attendance, even if the patient ires it, without A.'s consent; and if he continues, he uld regard himself as A.'s substitute, and remit to him f the fees. In the latter case B. may undoubtedly con- ue in attendance and charge in the usual way.

THE RIGHTS OF A RESIDENT ACCOUCHEUR.

. writes that being in a difficulty at a confinement he ed in the junior resident accoucheur of the nearest pital to confirm his diagnosis. This gentleman insisted n being paid a fee of two guineas, although it was ex- ned to him that the husband could not afford to pay more n one guinea. We are asked to say whether our corre- ident was under any legal or moral obligation to pay the r guinea out of his own pocket. Our answer to this is dedly in the negative; as our correspondent offered it, ever, and it was accepted, we do not know that anything e can be said about the matter. In another case where our correspondent was out, the husband went to the hospital and fetched the same doctor, who attended, but found the child born; he then charged a fee of two guineas, and wrote to our correspondent to say what he had done. He did not, however, send him any share of the fee. In this case the resident accoucheur would have acted in accordance with the usual practice of the profession if he had sent half the fee to the practitioner whose case he attended.

Public Health AND POOR LAW MEDICAL SERVICES.

BEDROOMS AND THE LONDON BUILDING ACTS.

DR. J. KING WARRY, Medical Officer of Health of Hackney, draws attention in his last annual report to the absence of any provision in the London Building Acts for the compulsory provision of fireplaces in habitable rooms. As a result houses are now being erected, many of them to be let in tenement dwellings, in which there are rooms intended presumably for bedrooms, although they correspond in structure to a ventilated and lighted box-room. They are lighted by an ordinary sash window and provided with a hole in the wall about 6 in. square, which is guarded outside by a grating, but they have no fireplace or chimney. In one particular tenement visited by Dr. Warry he found a boy lying ill with measles in such a room. The hole in the wall was stopped up and the room was being warmed by means of an oil stove, with the result that the room and the adjoining passages reeked with the fumes from the combustion of the oil. There is no doubt that when these rooms are used as bedrooms there is a great temptation to close up the ventilating hole whenever the external temperature is even moderately low, so that the occupants are breathing over and over again the air which they are themselves vitiating. The use of a cellar as a sleeping-room is now forbidden, and there would appear to be equal need for prohibiting the like use of an unventilated box-room, as described by Dr. Warry. It is disquieting to find that they are legalized by the Building Acts.

TENANTS AND INSANITARY COTTAGES.

IN his report for 1910 Dr. J. Howard-Jones, Medical Officer of Health of the county borough of Newport, points out that the tenants of cottages are largely to blame for the unsatisfactory and insanitary conditions of a large number of dwellings. Acting upon his advice, therefore, a notice is now served upon the tenants of those houses in Newport which have been recently repaired or renovated, pointing out that it is the occupier's duty to keep the premises generally clean and in a sanitary condition, and that any neglect in this respect will be followed by a prosecution under the Public Health Acts.

INFECTIOUS DISEASE AND SCHOOL ATTENDANCE.

OF the 166 deaths from measles which occurred during 1910 in the metropolitan borough of Islington, 153 were among children under 5 years of age. When commenting on this fact in his annual report, Dr. A. E. Harris states that the only conclusion to come to is that the lives of many of these children might have been saved if they had not been sent to school, where they were brought into contact with the disease. He considers that there is no reason for the attendance of such young children at school, for they learn nothing, but at the same time are kept in confinement and in sitting postures which are absolutely detrimental to their future development. They should be kept at home and allowed to play in the fresh air, for even that of the streets or back yards would be found purer than the air of the schoolrooms, which soon becomes contaminated by the large number of children in the class-rooms. If the State, he says, insists on these children being taken daily from their homes, instead of making crèches of the schoolrooms it would be better to provide playgrounds in the open air, with shelters as a protection against rain, at centres in different parts of the borough, where the children, under a suitable and less expensive class of teacher than is at present employed, could be taught to play and to develop their little bodies so as to enable them successfully to resist any attacks of infectious diseases which might happen to come their way.

POWERS OF SANITARY INSPECTORS.

A CORRESPONDENT asks if a sanitary inspector has any authority to inspect a house after a death (not from any infectious trouble)?

*** The power of entry possessed by the metropolitan borough councils is obtained from Section 10 of the Public Health (London) Act, 1891, which reads: "The sanitary authority shall have a right to enter from time to time any premises for the purpose of examining as to the existence thereon of any nuisance liable to be dealt with summarily under this Act, at any hour by day, or in the case of a nuisance arising in respect of any business, then at any hour when that business is in progress or is usually carried on."

Letters, Notes, and Answers.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

FRAXINUS asks if any one can recommend a British manufactured cotton underclothing. He knows the popular German make, but prefers a British article if it can be procured. He has used the linen mesh underwear, but finds it deficient in warmth for winter, though splendid in summer.

DR. GEOFFREY COWAN would be grateful for information as to the best material for deadening sound to use in forming a partition. It is desired to divide a room into two by a partition, including a door (double if necessary), so that the conversation in one part shall not be audible in the other part.

V. V. V. asks for information as to a school or institution where two little boys, both of whom were operated upon in early childhood for cleft palate, could be taught to speak properly? They live in the North of London, and such school must be readily accessible to them, or the teacher from the school must be able to come to give them lessons regularly.

*** In response to inquiries we are informed that Miss E. M. Bullock, of 141, Fellows Road, Hampstead, N.W., is a highly competent teacher of articulation in cases of defective speech. There is also a Home School for the Deaf, "The Wych," Keats Grove, Hampstead Heath, N.W., where the methods used would be serviceable to the cases in question.

A CORRESPONDENT asks if it is possible to get two twin brothers, aged 11 years, but size of 5 years old, mentally deficient, into any home, without paying 10s. or more a week.

*** Application might be made to the Secretary, National Institutions for Persons Requiring Care and Control, 14, Howick Place, Westminster, S.W., who have a large Institution for Feeble-minded at Stoke Park, near Bristol; or to the Secretary, National Association for Feeble-minded, Denison House, 296, Vauxhall Bridge Road, S.W. Such cases are taken for training at small expense at the Earlswood Asylum, the Secretary of which is Mr. Howard, 36, King William Street, London Bridge, E.C.

ANSWERS.

ENLARGED TONSILS.

S. D. C. writes: "Guillotine" might perhaps adopt the method in vogue in this country before Richard Wiseman introduced excision—namely, destroy the tonsil by means of caustic or cautery applied through a tube.

B. O'C. writes: In reply to "Guillotine," who asks for the best method of treatment for enlarged tonsils when operation is declined, allow me to suggest to him the following pill three times a day for two or three weeks. It seems to me to be more beneficial than any local treatment. ℞ Calcii sulphidi iodoformi aa gr. ½. M. sec. art. ut fiat pil. j.

DR. ARTHUR H. W. AYLING (Brixton) writes: I have for many years past had excellent results from painting enlarged tonsils with tr. ferri perchlor. ʒij, glycerin. ad ʒij. The tonsils to be painted fully and, above all, regularly twice daily, night and morning. If "Guillotine" can persuade his patient to persevere with this treatment for at least a month, the tonsils should much diminish in size, and excision be obviated. In my opinion this little operation is far too frequently performed.

DR. G. A. GARRY SIMPSON writes: The only way for reducing enlarged tonsils, when tonsillotomy or other operative measures are declined, is by means of galvanocauterization—a somewhat tedious method. The tonsil is first painted with a 10 per cent. solution of cocaine, and a broad-pointed electrode, having been treated to a bright cherry red, is plunged into the substance of the tonsil, three or four insertions being made at one sitting, which can be repeated in a week's time. Each tonsil may require three or four sittings, when a good interval should elapse to see the amount of contraction that has taken place. I have reduced enormous tough and fibrous tonsils this way, but a good deal of patience is required.

LETTERS, NOTES, ETC.

SUPERNUMERARY TESTICLES.

DEPUTY INSPECTOR-GENERAL H. S. R. SPARROW, R.N. (ret.) writes: Recently, when examining candidates for entry into the Royal Navy, C. A., aged 16 years 8 months, was found to have three testicles, all descended into the scrotum, two on the right side and one on the left. I have examined many hundreds of recruits for the service, and was so struck by this abnormality, never having seen a case before, that I went over to the Board of Trade and asked Dr. Macintyre to examine the candidate, which he kindly did and confirmed my diagnosis. There is no medical regulation for supernumerary testicles, but the absence of them in the scrotum on one or both sides causes rejection. On referring to *Quain's Dictionary of Medicine*, I find that supernumerary testicles have been described, and men not infrequently believe themselves to be so gifted. The mistake has arisen from the presence of encysted hydroceles or of fatty or fibrous tumours of the cord, or of an old epiplocele. There is no well-authenticated case recorded of the presence of more than two testicles.

*** Our correspondent will find a note of a similar case in the JOURNAL of September 2nd, pp. 513–14. In the course of a Bassini's operation on a child aged 3 years, two cords were discovered in the inguinal canal and traced to two testicles lying in the scrotum. We added that, according to Ahlfeld only one instance is reported in which two testicles were found on one side in a properly dissected body, but that authority's *Missbildungen* was published in 1880, and since then histologists and pathologists have become even more particular about the authenticating of a double or a doubtful genital gland. In the March number of the *Revue de gynécologie et de chirurgie abdominale* Professor Pozzi published a highly important article on hermaphroditism, and he insisted that the sex of no case could be authenticated unless the genital gland could be "histologically demonstrated" as a testicle or an ovary. That is, the microscope alone can settle the question, and as with doubtful sex, so it is with dichotomy of the genital gland; in short, our correspondent's scepticism is most scientific, and the last sentence in his communication should be borne in mind by all surgeons who come across anomalies of the male organs. Yet the testes may, after all, have been double in his case. Not many years ago certain great authorities denied that primary ovarian pregnancy was possible, but Catherine Van Tussenbroek demonstrated a case in 1899 by the aid of the microscope, and several more have been authenticated by the same agency since that date. Our correspondent will find a digest of Professor Pozzi's important researches in a leader headed "Hermaphroditism," in the JOURNAL of September 23rd, p. 694.

RINGWORM AND HEAD LICE.

DR. HOWARD WISE (London, W.) writes: We have lately been hearing a good deal of the association of parasites and infections—mosquitos and ague, fleas and plague—and now bed bugs and leprosy are shown to be probably related. To those who would like to undertake some original research I would commend the study of pediculi capitis as a carrier of the ringworm infection. I have for some years been convinced of the relationship of these two, but have never read of their connexion in any medical work. The importance of the subject to the educational authorities is obvious.

POSTAL APPOINTMENTS.

RUSTIC writes: The postal appointment in my district has been made in the same extraordinary way as your correspondents. After a pretence of a fair election it was given to a man who had but a small claim to it, but was a friend of the local postmaster and of a political local magnate. It is very awkward for any of the unsuccessful candidates to complain; they lay themselves open to an insolent retort. Could not this be taken up by the British Medical Association and question asked from the Postmaster-General?

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

RANSPLANTATION OF A SEGMENT OF SMALL INTESTINE TO REPAIR THE RESECTED SIGMOID FLEXURE.

BY

W. STEPHEN FENWICK, M.S., F.R.C.S.,

ICAL REGISTRAR, CHARING CROSS HOSPITAL; SENIOR ASSISTANT SURGEON, QUEEN'S HOSPITAL FOR CHILDREN; SURGEON TO OUT-PATIENTS, GORDON HOSPITAL.

OLOTOMY, to say the least, is an unpleasant thing. I k one may state without exaggeration that there are patients who, learning for the first time that an arti-l anus has to be made, regard the prospect with any-g short of absolute horror. Apart from the actual nvenience from the soiling of the skin of the abdomen the wearing of a colotomy belt, the sense of decency fronted. Social intercourse to all those doomed to a anent colotomy must necessarily be a constant source nxiety. It is true that some patients whose bowels rally act with regularity manage a colotomy with rising success, but even they have to be most careful natters of diet and exercise. When, however, the els are normally loose, great difficulty is experienced ontrolling the evacuations, and life becomes utterly rable.

his was the case with the patient upon whom I per-ed the operation described below, and which I devised witnessing his distress when told that the artificial could not be dispensed with.

r three weeks he had struggled with his colotomy. elt had been fitted, but was constantly soiled, his ing was ruined, and, as he said, it was impossible for to associate with his fellow-men.

e patient (C. T. B.), a man aged 51, was first seen by n consultation with Dr. Ronald A. Taylor, of Adelaide l, Hampstead, on January 18th, 1911. I found him usly suffering from chronic intestinal obstruction, and the history that he gave I had little doubt that a ture of cancerous nature existed in the sigmoid re of the colon. Owing to the kindness of Sir erick C. Wallis I was able to admit him to Charing s Hospital, and on the 21st I opened the abdomen een the umbilicus and pubes, and found a small, hard, y movable growth situated in the colon just at the of the pelvis.

e small intestine was greatly hypertrophied and dis-d, and such was the congestion of the intestinal ls that the abdominal cavity contained a considerable tity of blood-stained fluid.

e colon above the growth was explored and found to a very short mesentery not more than 2 in. in length. patient's condition was too grave to allow of an attempt section, and indeed the distension of the intestines red it impossible. Accordingly the mid-line wound closed in layers, an iliac colotomy performed, and a s tube inserted. Owing to the shortness of the ntery, great difficulty was experienced in bringing owel to the anterior abdominal wall. Next day the my acted well, and subsequently three to four times

a week the patient, who is a chronic bronchitic et, had a hard fight from chest complications, but this the general condition rapidly improved, appetite ned, and weight was put on.

enty-two days after the operation an accident red—the patient was seized with griping pain in the abdomen, the bowels were confined, distension y ensued, vomiting commenced, in twenty-four hours ne faecal, and it seemed clear that an attack of acute uction had supervened. The mid-line wound was opened, and a band of recent origin low down in the was found to have obstructed the lumen of the intestine about 2 ft. above the ileo-caecal valve. was a linear patch of bowel which looked gan-us; this was oversewn, and since the lumen was narrowed by this procedure a lateral anastomosis erformed between the coils of intestine immediately and below the stricture.

was observed that some fairly strong adhesions existed between the growth, the colon at the colotomy, and adjacent coils of small gut. These were left alone as time was flying; about 1 oz. of warm sterilized olive oil was smeared over the coils of intestine, and the abdomen closed rapidly in one layer by fishing-gut sutures.

Before the patient left the table a gush of fluid faecal matter rising some inches in height occurred from the colotomy, and one had the supreme satisfaction of knowing immediately that the obstruction was effectively relieved. The subsequent course was uneventful. The patient left hospital four weeks later in order to pick up strength preparatory to an attempt to remove the growth.

On April 3rd the patient was again admitted, looking the picture of health. In less than four weeks he had put on 21 lb.—nearly a pound a day. As before stated, he had had a miserable time, and both he and his wife implored me to do something to close the colotomy.

On April 6th, assisted by Mr. T. W. R. Strode, House-Surgeon to Sir Frederick Wallis, and Mr. Thomas Beaton, I again opened the abdomen. Knowing exactly the position of the cancer (it could be felt about 3 in. below the colotomy), I made the incision at the outer margin of the left rectus muscle, roughly midway between the colotomy and the mid-line scar. Previously the artificial opening had been isolated from the operation area as far as possible by collodion gauze, and the skin prepared by the iodine method.

This incision gave splendid access to the growth. Some adhesions between the small intestine and the colon were broken down, but these were slight and gave no trouble. As far as could be made out from a rapid examination, there were very few adhesions in the abdominal cavity—apparently the oil used at the previous operation had done good work. The cancer was pulled up and two clamps were placed above the growth and two below, the upper pair being situated 1½ in. above the growth and about 1½ in. below the colotomy; the lower pair 2 in. below the growth.

The mass was cut away with a V-shaped portion of mesentery in which enlarged glands could be felt. As one of these glands was situated well to the outer side of, and at some distance from, the growth, it became necessary to remove rather more mesentery than was considered quite safe, having in view the blood supply of the portion of colon left below the colotomy.

After pulling up the rectum as much as possible, an interval of about 3 in. existed between the raw surfaces, and to close the cut ends, leaving a permanent artificial anus, seemed the obvious course. The conditions being favourable, I decided, however, to attempt to isolate a segment of small intestine, and with it bridge the gap in the large.

The extremities of the large bowel were guarded; a loop of ileum fairly low down was taken, and a portion about 5 in. in length was double clamped off, as indicated in the diagram (2). The bowel was divided between the clamps at A and B and the mesentery, with great caution to avoid blood vessels towards its root, for a distance of 2½ in. One or two vessels required ligature, but haemorrhage was not troublesome, and after the division the four cut surfaces were of good colour and oozed blood freely. The continuity of the small gut was next restored by uniting the cut ends C D in front of the mesentery of the freed segment with two complete rows of thread sutures, the innermost passing through all the layers of the bowel, the outer only the sero-muscular. The segment of small intestine, it was found, could be easily brought into excellent position between the cut ends of the large.

The problem now remained as to the manner in which the small bowel should be united to the large above and below, and restore the continuity of the sigmoid flexure. It was clearly impossible to suture in the usual way, as the upper extremity (F) of the large bowel was tucked away under the outer edge of the incision in the abdominal wall, and the lower extremity (E) was below the pelvic brim. The upper anastomosis might have been performed by Maunsell's method, through the colotomy as a dorsal incision, but it would have been very difficult. It was decided to employ two Murphy buttons—no risk of leakage existing because the colotomy was above the proposed junctions.

This was accordingly done, and proved not very difficult;

a male half was tied in by means of a purse-string suture at E and B, and a female at A and F.

It may be remarked that there was very little difference between the size of the lumen of the small gut—hypertrophied by long obstruction below—and that of the large bowel, which had diminished after the performance of colotomy. At this stage it was observed with some misgiving that the large bowel at F looked rather blue and congested, but, as bleeding was going on, it was considered safe to leave it *in situ*. As subsequent events proved, however, this was not the case. Presumably the congestion, added to the usual sloughing which occurs between the halves of the button, produced a small ring of gangrene in the colon which almost proved the undoing of the patient. A further ½ in. should have been removed.

After the anastomoses were completed a few stitches were placed, drawing together the cut edges of the mesenteries, as indicated in the diagrams, to avoid the possibility of internal herniae. Finally the abdomen was closed rapidly by interrupted fishing-gut sutures, and a rubber tube, with some gauze packing, was inserted at the lower end of the incision.

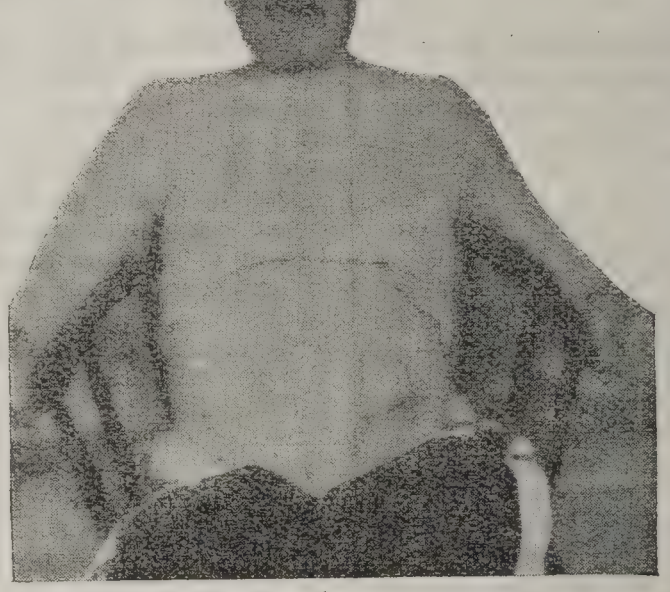

Photograph of abdominal wall showing scars of incision and faecal fistula on left.

The whole operation, from first incision to the last stitch, occupied ninety minutes. There was little or no shock. Pulse 96, and of good volume.

Next day, the temperature having risen to 100° and the pulse to 110, the wound was dressed. The gauze looked dirty; there was some thin sero-purulent discharge, which had a faecal smell. A linear strip of the mucosa at the lower end of the colotomy appeared to be sloughing, and it was feared that some gangrene of this portion of the bowel was occurring. The upper Murphy button could be seen with a speculum 1 to 1½ in. below the colotomy opening, and the bowel immediately above appeared black in colour.

Next day the patient's general condition remained fairly good, although the chest was again troublesome, but it was obvious that something had gone wrong in the operation area; apparently the bowel above the upper Murphy button had sloughed to some extent. It was decided to see what could be done under spinal anaesthesia. An oblique incision was made between the colotomy opening and the lower end of the recent wound. The general abdominal cavity was found to have been shut off by recent adhesions; the segment of ileum looked healthy, but a small portion of the colon between the upper Murphy button and the artificial anus had sloughed, the gangrenous intestine being about ¼ in. in extent at the mesenteric attachment, and spreading up as far as the colotomy at the antimesenteric border. The dead tissue was cut away and the colon stitched with catgut as far as possible to the small intestine around the upper button. Considerable sepsis ensued, but healing gradually took place. The patient's general condition never caused any real anxiet Each day the bowel was irrigated gently with wea peroxide solution from colotomy to anus.

On the seventh day after the operation the Murpl buttons were found free—the upper in the colotomy, t lower in the rectum.

On April 26th—twenty days after the resection—a attempt was made to close the colotomy under loc anaesthesia (eucaine). This proved very difficult, owi to the fixation of the tissues fro sepsis, but was eventually effecte The peritoneum was not opened

A normal motion was pass on the 29th, just over three wee after the major operation. considerable faecal fistula r mained and much faecal matt escaped, but the bowels wo opened naturally every oth day.

Subsequently (May 25th) further attempt to close t fistula was made under loc anaesthesia, but without co plete success. A small fae fistula still persists, but is g dually diminishing. The co dition of the abdominal wall the present day is shown in t accompanying photograph.

The bowels move natura every morning, and the patie states that very little faecal mat comes through the fistula, a then only when straining at stool. Throughout the rest the day he suffers no inconvenience.

While walking about he wears a belt, owing to so weakness of the abdominal wall in the region of t colotomy. He has put on 2 st. in weight, and looks a stro sturdy man.

I hope that the fistula will completely close in t course of time; failing this I may be tempted to t another operation. Obviously the difficulty in closing t colotomy opening resulted entirely from the sepsis followi the loss of bo above the upp Murphy button.

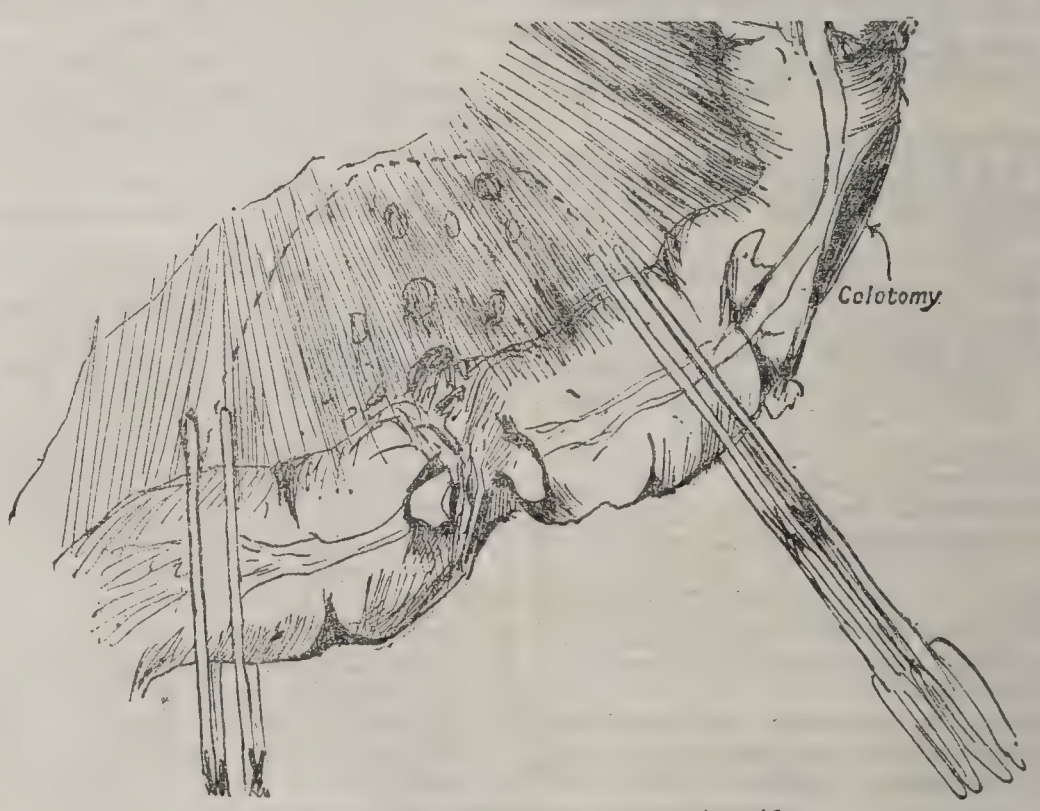

Diagram 1.—Removal of growth from sigmoid.

It may be argu Why not simp anastomose the ile to the colon bel the gap? Obviou this would do aw with almost the wh water absorbing s face, and in a pati already possessed abnormally loo bowels would doubtedly lead to disastrous resu Again, unless whole large bo were removed, colotomy openi could not be pensed with; mo over, in this c anastomosis co only have b effected by Murph button, which mittedly is not s where faeces are continually passing. Cases in which t operation might be performed are obviously rare, it is an additional procedure at the command surgeons which may occasionally enable them to rest a patient to, at any rate, a semblance of the norm In view of W. Sampson Handley's researches on spread of carcinoma of the large bowel, in the c recorded the amount of bowel removed above and bel the growth is considerably less than one could wish, the cancer was obviously a slow-growing one, and it

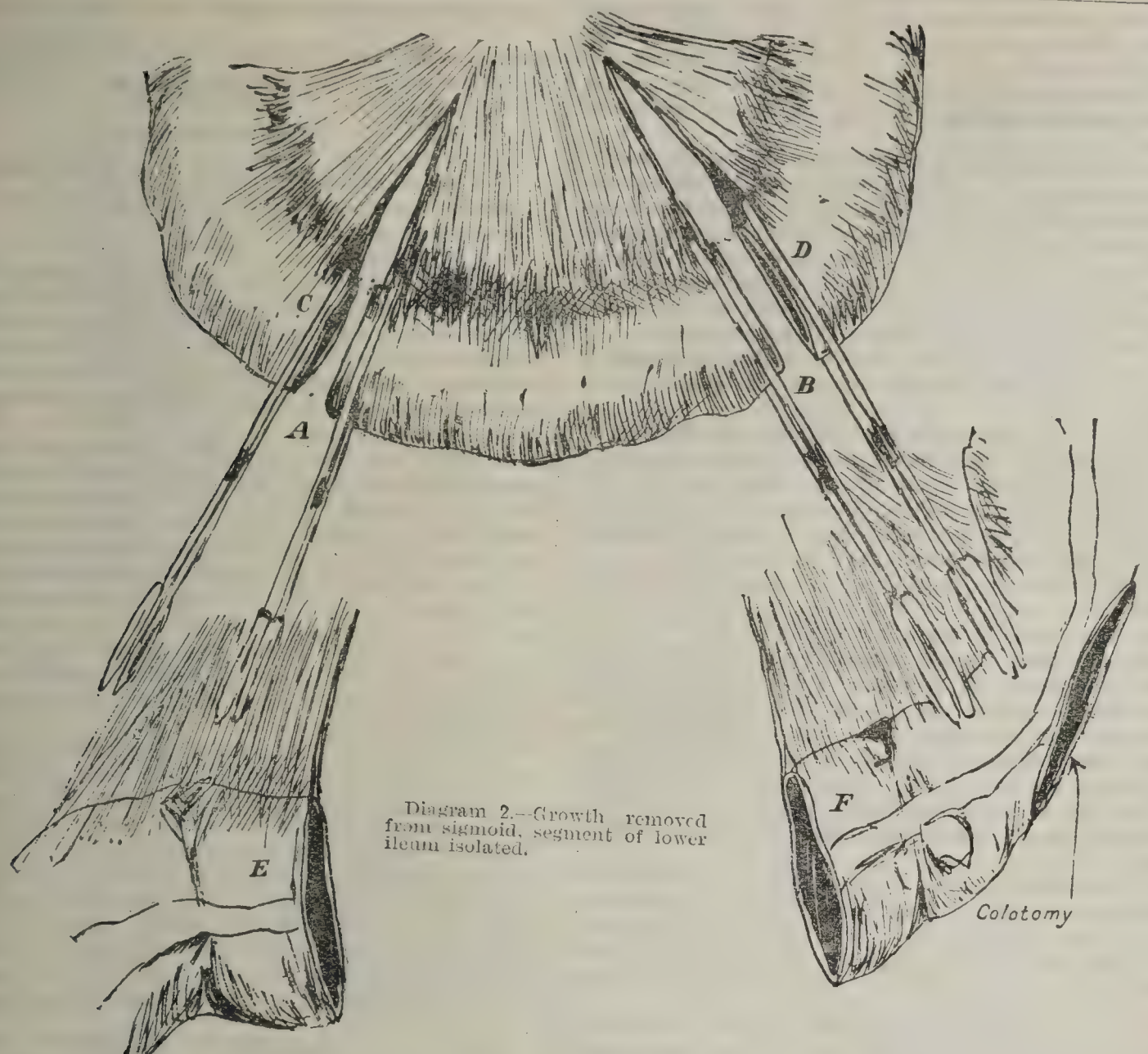

Diagram 2.—Growth removed from sigmoid, segment of lower ileum isolated.

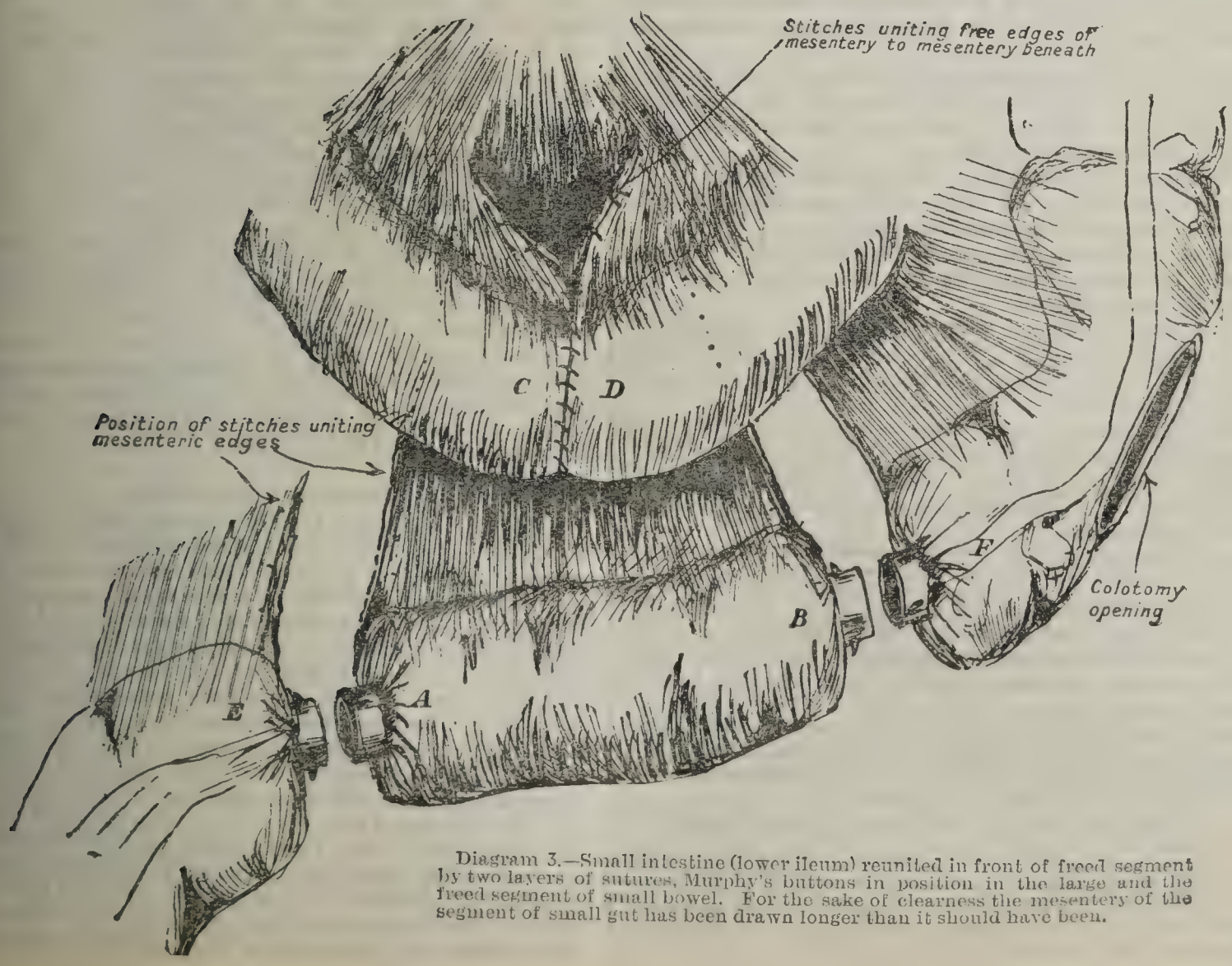

Diagram 3.—Small intestine (lower ileum) reunited in front of freed segment by two layers of sutures, Murphy's buttons in position in the large and the freed segment of small bowel. For the sake of clearness the mesentery of the segment of small gut has been drawn longer than it should have been.

possible that sufficient has been removed to prevent local recurrence. It is scarcely necessary to point out that this procedure will enable one to remove a very much larger amount of bowel above and below a growth, where a large loop exists, and to bridge over any deficiency of bowel resulting.

Without a preliminary colotomy the operation would have been impracticable; the manner in which the patient gained weight and strength after drainage of the large intestine was remarkable. This is by no means unusual in such cases; one very often sees a patient who has been brought to death's door by the intestinal stasis caused by a fibrous carcinomatous growth rapidly improve when the stasis is relieved. The fact that such improvement does occur is a very strong point in favour of a preliminary operation before attempting the much more grave resection.

Referring to the employment of the Murphy buttons in the anastomoses between the large and small intestine, it would have been much preferable to have used sutures, but in this case it was out of the question; if an inch more of large bowel had been present below, it might have been done, but would have occupied a much longer time.

When one considers the facts of the case—that is, that the buttons were not in the course of the faecal stream, and that the whole portion of intestine involved was, practically speaking, easily accessible—it will be seen at once that the majority of the objections to Murphy's invention did not apply. It is true that sloughing of the bowel occurred at one place, but I am convinced that this was due to the fact that the blood supply at that point was not as good as it might have been. Had the vascular supply been perfect, it is practically certain that the patient would have pursued an uninterrupted course to absolute recovery.

Report on Growth.—The specimen was a portion of large intestine 4¼ in. in length with a short mesentery of 2 in. On opening the bowel its lumen was found to be contracted to a diameter of ¼ in. by a typical, hard, carcinomatous growth, which occupied, roughly, the middle inch of the bowel.

The growth was found to have ulcerated especially towards the mesenteric attachment; 1½ in. of normal bowel existed above the growth and 1¾ in. below. There was some hypertrophy of the muscular coat above the growth, but no difference in size of lumen above and below.

In the mesentery seven to eight glands were found; one attached to the bowel immediately opposite the ulcerating surface appeared definitely infected; the others were enlarged, but suggested fibrosis only.

Microscopical examination of the growth showed it to be a columnar carcinoma. One gland was infected; the others showed no evidence of invasion.

My sincerest thanks are due to Sir Frederick Wallis for his great kindness in granting me the use of one of his beds for so long a period.

NOTE.—After extensive research through the literature of abdominal surgery the only reference I can find dealing with a similar operation to that described above is that given by H. Hartmann in his address before the Sixteenth Conference of Surgery at Paris.

"Dans l'entéroplastie on emprunte à une anse gréle une longueur d'intestin suffisante pour qu'en l'interposant entre les deux segments du gros intestin à anastomoser on puisse faire des sutures sans tiraillements. Ces deux derniers procédés l'entéroplastie (et l'anastomose récurrente) n'ont guère été employés sur l'homme."

No case is mentioned, no reference quoted, as to the *actual* performance of this operation in the human subject.

ALEXANDER GRANVILLE, M.R.C.S.Eng., L.R.C.P.Lond., of the Egyptian Ministry of the Interior, has received the King's permission to accept the Third Class of the Imperial Ottoman Order of the Osmanieh, and Reginald Gower Kirton, M.D., Chief Medical Inspector of Prisons, Cairo, the like permission to accept the Third Class of the Imperial Ottoman Order of the Medjidieh, conferred upon them by the Khedive of Egypt in recognition of valuable services rendered by them.

THE will of the late Mr. Edward Davis, recently of Cheltenham, but formerly a watchmaker of Glasgow, directs that the residue of his estate shall be divided between such general hospitals and infirmaries in Scotland as his executors may select. The net value of the estate was £145,255, and the institutions in question seem likely to receive at least a third of this sum.

THE DERMATITIS PRODUCED BY EAST INDIA SATINWOOD ("CHLOROXYLON SWIETENIA.")

[With Special Plate.]

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Two kinds of satinwood appear in commerce in th United Kingdom, derived respectively from *Chloroxyl Swietenia* and *Fagara flava*—the former an East India and the latter a West Indian species. Both varieties satinwood are highly ornamental when smoothed an polished, and are extensively used for the fittings of cabi and saloons in ships.

In 1898 and again in 1904 there were outbreaks dermatitis in wood-working departments of shipyards the Clyde which were traced to the irritant action satinwood, and on the latter occasion a number of pape on this subject were published by medical men.[1]

The attention of the Imperial Institute was directed this matter by Mr. J. Whitton, Superintendent of Par and Curator of Botanic Gardens to the Glasgow Corpor tion, and as both kinds of satinwood are produced British colonies their examination for irritant substanc likely to be the cause of dermatitis was undertaken at th Imperial Institute.

At this time considerable doubt existed as to whethe both East and West Indian satinwoods possessed irrita properties and were equally active, but my examination the substances isolated from both woods submitted to m from the Imperial Institute indicates that the East India wood is the more active and is probably the usual cause the satinwood dermatitis. This conclusion is in harmon with that stated in the *Annual Report* of the Chi Inspector of Factories for 1907, and arrived at as the resu of an inquiry by inspectors of factories in workshops usi both kinds of satinwood in the United Kingdom.

CHEMICAL EXAMINATION.

The chemical examination of both varieties of sati wood was undertaken at the suggestion of Profess Dunstan, F.R.S., Director of the Imperial Institute, b Dr. S. J. M. Auld, Senior Assistant in the Scientific an Technical Department of the Imperial Institute, who pu lished the results of his work on the East Indian wood i 1909.[2] These results show that the chief constituents East Indian satinwood are a crystalline alkaloid, chlo oxylonine ($C_{22}H_{23}O_7N$), two resins, a fixed oil, a peculia protein compound, and calcium oxalate. It is of interes to note that the quantity of alkaloid present in Ea Indian satinwood shows great variation, some specime examined at the Imperial Institute containing only trace whilst others yielded up to 0.07 per cent. of the alkaloid.

Considerable progress has also been made at th Imperial Institute with the investigation of West India satinwood, and the products isolated have been examine pharmacologically. The chemical and pharmacologica results obtained will probably be of sufficient interest t form the subject of future papers.

SATINWOOD DERMATITIS.

Reference has been made by Jones,[3] and subsequentl by Gardiner[4] to the condition of the skin which arise amongst satinwood workers. The former describes a cas in which not only the hands and wrists, but the face an neck of a joiner in a Govan workshop showed an acut inflammatory condition of erysipelatoid character, bu without concomitant sickness or fever. The inflame surface became moist in places and subsequently de squamated. Improvement followed on suspension of work but a return to the workshop caused a speedy reappear ance of the symptoms. The first attack was slow i developing (six weeks after first handling the wood), bu relapses were rapid after recovering from the initial disorde and return to work. Thus, in the case of the mechani just mentioned, three days sufficed to determine a secon dermatitis. Gardiner saw a papulo-vesicular rash on th backs of the hands extending to the forearms and a con dition of the face and neck at first strongly suggestive o

erysipelas, his description being quite in harmony with that given by Jones.

Wechselmann[5] refers to a case of satinwood dermatitis demonstrated by Oppenheim to the Vienna Dermatological Society, and contributes the record of one severe and five milder cases which came under his own observation. There is considerable agreement amongst these writers regarding the incidence and general character of the inflammation. Some workers (especially those exposed to the dust of the wood) develop after a varying period of contact great irritation of the skin of exposed areas—forearms, hands, neck, face—succeeded by a papular and to some extent vesicular eruption, which in its full development has distinctly erysipelatoid characters. Other workers equally exposed may show complete indifference to the irritant. Again, of the first division there are two distinct types: (*a*) The worker who, after more or less primary dermatitis and ensuing absence from his employment, is able to resume his occupation amongst satinwood dust without further inconvenience resulting (as if in his case some degree of immunity by acquired resistance had been established); (*b*) those who, on resuming work, immediately suffer a relapse, and are obliged permanently to abandon the wookroom in which satinwood is prepared or manufacture.

Experimental Inquiries.

In the spring of 1907 I received from the Imperial Institute, at Professor Dunstan's direction, samples of East and West Indian satinwood. Each was represented by a small billet as well as by the derived sawdust, the latter contained in glass jars with accurately fitting stoppers. Subsequently, in February, 1908, a specimen of the alkaloid chloroxylonine, extracted from East Indian satinwood was received. With these materials many observations were made in 1907–8, which satisfied me that the alkaloid was an irritant and capable of causing dermatitis; but the supply becoming exhausted, further experiment had to be postponed until the autumn of 1910, when two of the alkaloidal salts were sent. In 1909 I received two resins, No. I, an amorphous body, easily soluble in alkalis, and No. II, a crystalline resinous substance, sparingly soluble in alkalis; whilst this year a sample of fixed oil, likewise derived from East Indian satinwood, was forwarded.

I propose to consider here the action of this wood and of the principles enumerated.

East Indian Satinwood (*Chloroxylon Swietenia*).

In order to ascertain whether any toxic principle is extracted by water from this wood, (*a*) infusions made with cold water, the process being continued for 120 to 150 minutes, and (*b*) decoctions (90 to 150 minutes) were prepared. The proportion of each finished preparation was the extracted matter from 1 gram of the sawdust to 10 c.cm. of water. The fluid (whether infusion or decoction) was found to be neutral, and contained neither tannic acid nor soluble oxalates.

Action on Frogs.

Ten c.cm. of these filtered fluids were placed in a series of large jars, into each of which a healthy frog (*R. ex.*) was introduced. The fluid, which was from its small bulk in contact with the ventral surface only of the animal, was renewed every third day after thoroughly washing out the jar.

At no time was there any evidence of cutaneous irritation being experienced. No symptoms beyond free evacuation of fæces containing dejecta occurred for the first few days, but thereafter, animals placed in the decoction became apathetic; there was usually slight increase of the natural process of epidermic sloughing. Death took place in from five to twelve days. The skin on the ventral surface of the body showed some increase of vascularity—this phenomenon may be due mainly to hypostasis resulting from cardiac failure—but no distinct inflammation of the skin was present. The mucous membrane lining the mouth, stomach, and upper portion of the small intestine was in every instance congested, and in one of the five animals placed in the decoction there was slight extravasation of blood into the stomach. It may also be recorded that reflexes failed at a time when the heart was still beating effectively. The gastrocnemii responded feebly to indirect as well as to direct galvanic stimulation, and showed evidence of early fatigue after repeated contraction.

The corresponding infusion had lower activity than the decoction, the earliest fatal issue being in nineteen days, whilst the latest was in forty-one. There was no distinct increase of salivary evacuation and no augmentation of epidermic sloughing when contrasted with a control animal kept in a like amount of tap water, but otherwise under parallel conditions. No haemorrhage was present in the alimentary canal, but there was a limited congestion of the mucous membrane of mouth, stomach, and intestine.

Whilst the infusion can scarcely be regarded as definitely toxic towards frogs, the decoction is distinctly more active, but the symptoms of an irritant character (apart from other effects which do not concern us here) are at most but slight, and are chiefly displayed by the mucous lining of the alimentary canal rather than by the skin. The possibility of the entrance of fluid by the mouth in these experiments must be held in view.

The distinctly aromatic (coumarin-like) odour of the East Indian satinwood suggested the presence of a body possibly volatile and active. Experiments were therefore made by conducting a current of air through a flask containing 5 grams of the sawdust, and thence by a rubber tube 2 ft. in length through a wide-mouthed bottle, into which a frog had been introduced. The flask was gently warmed over a water bath. At the expiration of two hours the atmosphere of the large laboratory in which the experiment was conducted was redolent of the peculiar coumarin-like odour, but the animal showed no sign of excitement, nor was there subsequently the slightest evidence of desquamation or other positive effect.

Application of Satinwood to the Skin.

(*a*) *Rabbits.*—Application of the wood of *Chloroxylon Swietenia* to the inner surface of the outer ears of rabbits was practically without effect. In one series of experiments the dust was placed in bags of fine muslin 4 cm. in length by 1.5 cm. in width; in a second series fragments of wood 3.5 cm. in length by 1.5 in width, carefully shaped to fit the ear, were prepared. The ear was folded longitudinally over the bag or fragment, two thin strips of adhesive plaster being used to keep the body in position. Contact was maintained for five consecutive days. The result was negative. Moistening the dust or wood with (*a*) water, (*b*) almond oil, or (*c*) very dilute acetic acid, was also practised; but in no instance was redness, eruption, or the slightest evidence of itching or discomfort observed at the time of application or subsequently.

(*b*) *Man.*—Application of the unreduced wood to the skin proved an awkward proceeding for the ambulant subject, and as such was abandoned, the sawdust being substituted for experiment; of this, 5 grams was placed in a muslin bag of fine texture. The bag was moistened with water and secured in position above the internal malleolus. (It must be noted that this observation was made subsequently to a dermatitis of both arms occasioned by the alkaloid chloroxylonine.) The bag was worn for fifteen hours daily, was removed at night, and readjusted in the same position, subsequent to moistening with water, after the morning bath.

On the morning of the fourth day there was considerable irritation, with redness, and some brawny induration at and around the area of contact. (The bag was not reapplied.) Later in the day several elevated papules were noted on the reddened surface; much irritation, with itching and sensation of heat at intervals, becoming worse after retiring to rest; the night was much disturbed. I was aroused several times by the intense itching, and no doubt the part was rubbed, though protected as far as practicable by enveloping in a silk sock. On the sixth day a few moist points (vesicular) were observed. Desquamation ensued, and was very evident for the succeeding ten days. The skin felt harsh, dry, and uneven. Irritation continued at intervals for three weeks after its first development. It was worst after exercise or under the influence of warmth, as when sitting in proximity to a fire or after retiring to bed. Subsequently the observation was modified by preparing two similar bags, each charged with 4 grams of sawdust, and applying these above the right and left internal malleoli respectively. The right bag was moistened daily with water, the left with almond oil. Each application produced a moderate degree of dermatitis, though the oily preparation was somewhat the more effective in this respect.

The dry dust applied in like manner was less rapid than either of the above in producing its action.

These observations are in correspondence with statements made by Jones and others, who have described the origination of dermatitis amongst artisans who are employed in workshops in which satinwood dust is abundantly

present. The skin areas exposed to direct contact are the first to be affected, but the local results are not manifested at once in the case of those who have not previously suffered, but ensue after very various intervals of time. After the experimental applications just described it is probable that the interval was reduced by the chloroxylonine dermatitis which had preceded. The skin area selected had not been the seat of any application or eruption, but the dermatitis at a distant part of the body had induced a condition of hypersensitiveness which extended to all parts of the cutaneous system (though especially to the more delicate), rendering them quite abnormally receptive towards irritants. How long this hypersensitiveness lasts is unascertained, but probably for a considerable time. It is more than three years since the induction of dermatitis in my own case, and I still respond promptly to applications of satinwood products which have such a low degree of irritant property that they are inert to the skin of others. During this time, however, it has been necessary to test so many irritants that my condition is probably different from that of an individual who has suffered only a single dermatitis at some more or less remote period.

Principles of East Indian Satinwood.—Chloroxylonine.

In 1909 Auld[6] gave a detailed description of the alkaloid chloroxylonine, which he had separated from East Indian satinwood. After obtaining it in well-defined prismatic crystals from solution in ethylic alcohol, he found it to be soluble in acids and very soluble in chloroform. The addition of ammonia precipitates it from acid solution, but in excess causes resolution. (For further details concerning the chemistry of this body reference can be made to Dr. Auld's paper.)

The earlier part of the observations about to be recorded was made in 1908, with the pure base which had been sent in the spring of that year from the Imperial Institute; but in the latter part, two salts received in the autumn of 1910, were employed, chloroxylonine hydrochloride ($C_{22}H_{23}O_7N$, HCl) and nitrate ($C_{22}H_{23}O_7N$, HNO_3). It may be stated at once that the action of the salts is essentially that of the base in such amounts and proportions as those in which they have been employed for pharmacological purposes.

Information regarding the activity of the alkaloid, chloroxylonine, from East Indian satinwood is of the scantiest description. Wechselmann,[7] indeed, mentions an auto-experiment which consisted of rubbing alcoholic solution of the crystals upon the skin of the arm, with the result that an itching, burning sensation ensued, but no appearance of dermatitis is recorded. He also applied the alcoholic solution to skin areas previously the seat of satinwood dermatitis in three workmen, two of whom yielded no reaction, whilst the third reported that he developed a distinct, slight inflammation; apparently Wechselmann did not see the result himself.

The observations which are now recorded were made upon frogs, rabbits (applications to the external ear) and upon the human subject. In the last group auto-experiments as well as observations by Dr. Croll and Dr. Dilling and a number of my students who kindly consented to make the applications I wished to test, will be recorded.

Frog (R. esculenta).—Local contact of almond oil solutions of the alkaloid (1 in 50) were inoperative towards both swim web and skin of the axilla. Even unguents of the hydrochloride, (1 in 10) applied thrice on alternate days to the swim web after it had been dried, were not productive of any more definite reaction than slight localized vascular dilatation, certainly no inflammatory condition was established, nor was there any indication of discomfort on the part of the animal.

Hypodermic Injection.—February 9th, 1911. A healthy *R. esculenta* of 37 grams received in the dorsal lymph sac 0.005 gram of chloroxylonine hydrochloride, thoroughly triturated with 5 drops of neutral sterile almond oil. No evidence of irritation; copious bile-coloured dejection on the 10th; a small blood point appeared over the sternal region on the 18th; active purgation was recorded on the 25th, the animal succumbing on the 30th. There appeared to be some increase of desquamation during the later stage of the observation, but it is difficult to form a reliable judgement upon the extent of this phenomenon.

Post-mortem Examination.—A few blood points observed in the lining of the dorsal sac; from these there had been slight extravasation of blood into the cavity; some petechial spots also in the muscles of the legs and abdomen. Many of the coloured corpuscles are irregular in form (poikilocytosis). Nervous excitability was unimpaired in the nerve-muscle preparation, but the tetanus at first yielded to faradization, soon dwindled to a feeble clonus on repeating the stimulation.

A second frog of 38 grams received 0.005 gram of chloroxylonine nitrate under parallel conditions to the first. Bilious purgation, swelling of the thighs, with no objective evidence of irritation. The animal was decapitated on the nineteenth day.

Post-mortem Examination.—Heart beating regularly, 24 per minute. Some free haemorrhage under skin of thighs and in dorsal sac, none in the muscles or internal organs. Alimentary canal in general hypervascular. Other conditions as in No. 1.

In both cases the action is that of a slowly acting irritant producing localized haemorrhages, intestinal injection with ultimately petechial haemorrhages in remote tissues. Absence of discomfort on the part of the animal was conspicuous throughout.

Rabbits.—Application of the alkaloid in ointment form (1 to of paraffin molle) was made by gently rubbing the weighed amount upon the internal surface of the ear, the edges of which were afterwards approximated with sticking-plaster. The amount of the alkaloid present in each application was 0.5 mg. and there were three reapplications at intervals of two days. The ear was closely examined daily. No sign of inflammation or eruption of any form resulted, nor was there any evidence that the animal experienced any irritation of the part. An ointment of double alkaloidal proportion (1 in 5) was then substituted for the weaker one and applied in like manner to the ear of another animal. But, even though no fewer than five reapplications were made (the treatment in all occupying ten days), there was no inflammatory reaction, nor indeed positive result of any kind excepting a very slight subsequent desquamation. These experiments were not further persisted with, as it had been amply demonstrated that the skin of the rabbit's ear is not a sufficiently sensitive surface for testing such applications.

Local Application to the Human Skin.

In the spring of 1908 the writer rubbed 0.05 gram of a 1 in 10 ointment (therefore containing 5 mg. of the alkaloid) into a marked area, as large as the surface of a florin, of the flexor aspect of the left forearm, 10 cm. above the wrist; the part was protected by gutta-percha tissue secured by strapping. At the expiration of twenty-four hours the dressing was removed and the skin thoroughly washed. No effect, subjective or objective, resulted at the time of the application or during the succeeding ten days after the lapse of which (March 9th) 0.05 gram of a 1 in 10 ointment (10 mg. of the alkaloid) was applied in like manner to the same skin area, the contact of the ointment being, as before, for twenty-four hours. There was neither redness, itching, nor other immediate effect, and the experiment having been accepted as negative was no longer in mind when, on March 31st (twenty-two days after application) considerable itching was experienced at the seat of contact, which now showed five small papules upon a flushed base. These papules multiplied and increased in size individually, so that three days after attention had been called to the part they had extended for 5 cm. upwards towards the elbow beyond the upper border of the original inunction. A few oozing points also made their appearance on the inflamed area. The sensation meanwhile was of much heat with stinging or "wire-point" impactions, whilst at intervals itching was so pronounced that it was impossible to refrain altogether from rubbing. This itching intermitted completely from time to time; it was aggravated by warmth, and peculiarly by free muscular movement of the affected arm. At night-time sleep was much disturbed by the recurrence of this symptom and, even though the forearm was enveloped in a large silk handkerchief, some rubbing took place (the prompting to this was powerful during light sleep), and this undoubtedly served to aggravate and extend the local condition. On April 6th a slight furfuraceous desquamation commenced; the affected area, no longer extending, showed less vascularity, but the skin retained a harsh, infiltrated knotty feeling, and intermittent itching was still experienced.

The symptoms thereafter gradually abated, but the skin of the affected area remained in an extraordinarily sensitive condition. As it seemed advisable to test the effect of a third application, 0.05 gram of 1 in 10 chloroxylonine ointment was rubbed into the original area on May 5th (thirty-five days after the eruption had first shown itself). The skin, though harsh and still desquamating, showed no rupture of surface. There was no delay in the result; forty minutes after inunction great burning with "wirepoint" sensations were experienced locally, and

the part rapidly assumed an erysipelatoid appearance, which soon extended to the elbow and on to the extensor surface of the forearm, though it did not encircle the limb. This local condition was favourable to urticarial manifestations, a blunt point drawn across the affected area immediately provoking an oedematous elevation along the line of contact. Twenty-four hours after the application inflammatory action had extended upwards above the elbow and 2 cm. further on the extensor surface, but it did not pass beyond the flexure of the wrist. Several small weeping points, the serum exuded being clear, were observed at and around the area of contact. The limb was brawny and hot to the touch; it pitted on digital pressure.

The effects of this application extended over a period of five weeks. Slight pigmentation was observed after the subsidence of desquamation.

After dermatitis had been developed on both arms as a result of chloroxylonine contact or that of its salts, it was found that a prolonged rest having been permitted, reapplication of the alkaloid not only developed its local effect, but that the other arm, to which no recent application had been made, became hot and irritable at the site of the previous dermatitis.

Although relatively strong unguents (1 in 5, 1 in 10 of alkaloid) were used in the experiments detailed, those of much lower alkaloidal proportion, as 1 in 30, 1 in 50, sufficed to cause a return of dermatitis when applied to a previously affected area. Fig. 1 is derived from a photograph taken forty-nine hours after the application of 0.05 gram 1 in 30 ointment (=0.0017 gram actual alkaloid) to the area of the forearm which had been unused for nine weeks.

The results hitherto recorded deal with slight and moderate types of chloroxylonine dermatitis in which the condition remains localized to the area of contact and the tissues in close proximity, but it is important to illustrate by observation in which remote effects were undoubtedly produced.

No application had been made to the left arm for thirteen weeks. The skin in the selected area on the flexor surface was unabraded, though somewhat dry and inelastic. Into this area on February 15th, 1911, inunction of 0 05 gram of ointment containing 0.005 gram of chloroxylonine hydrochloride with 0.045 gram paraffinum molle, was made at 9 p.m. Except for a turn of fine linen round the limb, no dressing was applied.

Four hours later itching commenced at the seat of contact; at 10.30 p.m. the irritation was intensified, a burning, stinging sensation extending beyond the original area. At 11.30 a few papules were showing on a flushed and raised general surface developed in a light silk handkerchief, fastened with safety pin to the sleeve of the pyjama). Rest was much disturbed, on five occasions the would-be sleeper was roused by stinging pain, great heat, and almost unbearable itching.

February 16th, 8 a.m. (16 hours): Swelling, with dark flush, papillae prominent; a few papules, no vesicles; condition extends from 2 cm. below flexure of elbow down to the wrist. The arm was purposely used freely during the ensuing day, the discomfort and sensation of heaviness becoming very marked in the afternoon.

Twenty-six hours: Swelling and redness now 4 cm. above the elbow on the flexor surface, and thence passing over on to the extensor aspect. There are many papules and oozing spots, also formed vesicles, the latter being mainly in lower third of forearm. The limb is brawny, pits on pressure; no pulse can be detected at the wrist. Diameter of limb at marked point 3 cm. above wrist fold is 20.8 cm., or +3 cm. of the normal. Feeling of weight with burning and tension, occasionally lancinating pain and itching. The discomfort in the dependent limb was such that a sling had to be employed. In the evening (twenty-eight hours) swelling of the upper eyelid was observed, a distinct hard nodule being noted towards the inner canthus; considerable oedema of the lid developed in the course of the evening. Tumefied swellings also developed before bedtime in the helix of the right ear, which became hot and occasionally painful over the period on the left side, also under the right ramus of the lower jaw, the swelling being in the substance of the skin and not in the submaxillary gland. The ensuing night was a time of great discomfort. Considerable itching occurred of the right arm in the area corresponding with that to which the application had been made on the other side.

Forty hours: Masses of flat papules on a brawny base, especially above wrist, many oozing vesicles interspersed; relatively few excoriations, as the limb has been well protected by silk stocking. The right eyelid is now very oedematous, circumference of arm at measuring point 20.4 cm.

Forty-two hours: Fig. 2 is from a photograph taken at this time.

Forty-nine hours: Stiffness of left shoulder and discomfort in axilla, but no glandular swelling could be detected. A knotty swelling is felt on the chin; flat papules are showing on the forehead; a very irritable raised roseolar patch has developed in the epigastrium.

Fifty-one hours: Upper lip and alae feel swollen and are somewhat indurated to the touch. Much heat and itching in nostrils. No elevation of body temperature; urine clear, specific gravity 1016, no albumen.

Seventy-four hours: Still great irritation locally and in the remote swellings. Night following, no sleep till 3.30 a.m., and this owed to 2 grains of opium.

On the fourth day symptoms abated somewhat. Local heat, feeling of weight less, irritation more occasional. Arm diameter 19.5 cm. Swelling of ear, lip, forehead, and abdominal skin patch still marked, but irritation less. Great irritation and thin secretion from nostrils, fissures at angles of mouth, a spasmodic laryngeal cough prompted by suddenly supervening sensation as of a hair in the larynx.

Seventh day: Arm diameter 18.6 cm. Papillae prominent, paler, much excoriation; skin cracked, harsh, and in many places desquamating. Nostrils itching, painful in places, discharge thin, abundant. Cough as before, troublesome, expectoration (exceptional) thin.

Seventeenth day: Arm diameter 18.2 cm., desquamating freely; many small fissures above wrist, which has raw-meat appearance. Itching great at times, aggravated by heavy overcoat sleeve and by exercise. Sitting near fire or warmth of bedclothes provokes. Nostrils exhibit a few small ulcerations as well as fissures, covered with yellow serous flakes, blood-stained, cough extremely troublesome at times, explosive and without warning, the secretion is now slightly muco-purulent.

Forty-two days: Excitement has been declining. Now (April 7th) the diameter of the arm is normal—17.8 cm. Papillae still prominent, and an oedematous condition develops in them if back of nail be drawn over part. Touching still provokes itching.

Affection of the upper air passages after the development of dermatitis by chloroxylonine is conspicuous. There is a long-continued errhine action with thin watery secretion, followed by minute fissures or even small ulcerations of the nostrils, the adherent serum and mucus blood-stained and tenacious. The explosive cough following instantaneously upon a sudden sensation as of a hair in the larynx, the secretion, hardly noticeable at first, becoming abundant but watery, and so remaining for six to eight days, form a characteristic group of symptoms. Whilst I have twice experienced these conditions after the local application of chloroxylonine, they developed in the most intractable form after experimenting freely with East Indian satinwood resin No. II. After the dermatitis had occurred the paroxysms of coughing were so violent and frequent that for eight nights it was impossible to lie down, and a scanty measure of sleep could be assured only after liberal use of opium.

As a second case of dermatitis induced by chloroxylonine is of importance as corroborating the results experienced by myself, I add a summary of the chief points. The observer, Dr. W. Dilling, had previously applied to his arms No. II resin of East Indian, and certain resinous derivatives of West Indian satinwood (*Fagara flava*).

The result of these applications was uniformly negative, except for the occurrence of a few papules which followed inunction of the West Indian satinwood products indicated as B_2:

On April 20th 0.005 gram chloroxylonine nitrate incorporated into an ointment with 0.02 grams paraffinum molle was applied to a marked area the size of a half-crown on the flexor surface of the right forearm. The result was in every respect negative. On May 1st a similar application to the same area. Up to the 5th there was no effect, but on the morning of that date a papular eruption appeared (there had been no antecedent irritation) which rapidly extended itself to the wrist, on to the extensor aspect, and halfway up the forearm. In the afternoon characteristic irritation commenced. The appearances, which were similar to those already described, need not be detailed further. It was interesting, as the possible occurrence of these symptoms had not been mentioned, that the notes of the observer reported marked tickling in the larynx, as if from the presence of some foreign object, with a distinct but transient coryza. A fortnight after the dermatitis had appeared the papules were still evident, but itching had subsided, and by May 22nd had disappeared.

Application of a West Indian resin derivative (which had been used without effect before by the same observer) now occasioned, in thirty-six hours, active irritation, with a return of vascularity to the papules and some extension of the affected area. In other words, there was a distinct relapse in the local condition, and this lasted for several days. The associated experiments confirm the observation that bodies which are incapable of causing a dermatitis

primarily, readily do so after chloroxylonine has produced such a condition.

As in my own case, it was the second application of chloroxylonine that determined the dermatitis, though the lapse of time after the second inunction was only four days in Dr. D.'s case, whilst in my own it was twenty-two.

It has been recorded by all writers who have described the condition of workmen engaged in satinwood manufacture that some show a natural indifference or immunity towards the irritant. I add a few notes from an instance of this kind, in which the alkaloid was freely and repeatedly applied without any distinct result:

Applications were made in the first instance of solutions of chloroxylonine hydrochloride to the arm of the observer, Dr. Croll. The strength of solution was 0.00066 gram of the alkaloidal salt per 1 c.cm. absolute alcohol, and each application being the fortieth part of 1 c.cm. contained of this salt less than one-sixtieth of a milligram. From these applications, of which five were made at intervals of three days, there was no effect whatever. (In the case of the two observers who had experienced chloroxylonine dermatitis previously, a single application of the solution containing 0.0000165 alkaloidal salt caused a sharp reaction.)

Three weeks after the final employment of the solution inunction of 0.005 gram of chloroxylonine hydrochloride in 0.045 paraffinum molle was made into a marked area, which was employed throughout the observation. As there was no result a similar inunction was made on the fourth day following, and this was repeated on the eighth day. There was neither objective nor subjective result, excepting that curiously enough a tickling in the laryngeal region, provoking sharp cough, unaccompanied by secretion, made its appearance, but lasted only for a couple of days. Again, after an interval of eight days reapplication of 0.005 alkaloidal salt, incorporated with 0.02 gram paraffinum molle, was made.

It is now six weeks since the last application took place and no dermatitis has ensued; whether the observer is definitely and altogether indifferent to chloroxylonine cannot yet be stated, but it seems justifiable to conclude that he is towards its irritant action much more indifferent than the other two observers whose experiences have been detailed. The cause of such indifference is at present obscure and I do not propose to attempt its solution here.

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Forearm forty-nine hours after inunction of 0.0017 gram of chloroxylonine. (The dotted circle indicates the extent of application.)

Fig. 2.—Forearm forty-two hours after inunction of 0.005 gram of chloroxylonine hydrochloride. The inked circle indicates extent of application, the curved line above the wrist the limit of inflammation. Formation of vesicles abundant for 5 cm. above this line.

Fig. 3.—Forearm six days after East Indian satinwood resin, No. 2. The subject had experienced dermatitis on several occasions previous to this application.

RESINS OF EAST INDIAN SATINWOOD.

The resins are two in number. The first (I) an amorphous body soluble in alkalis, the second (II) a crystalline substance sparingly soluble in alkalis. Experiments with ointments containing 1 in 10 to 1 in 5 of the respective resins were made by repeated application to the inner aspect of the ears of rabbits. The results were completely negative. No effect was produced on contact of these bodies with the frog's swim web. Injected into the dorsal sac after thoroughly triturating with almond oil (neutral) doses of 0.015 gram of No. I were practically inoperative. No. II was not, however, entirely negative in action, as death ensued in animals receiving 0.015 gram in, on an average, thirteen days. There were no evidences of excitement upon injection nor afterwards, but slight haemorrhage was found *post mortem* in the dorsal sac whilst the stomach and upper portion of the small intestine were obviously congested. In one instance (out of four observations) there was a droplet of blood in the stomach which had escaped from a minute lesion in the posterior surface of the mucous lining.

Resin No. I: Application to the Human Skin.—Single applications of ointments, varying in proportion of resin from 1 in 10 to 1 in 2, were made to the arms of five individuals who had not experienced a previous dermatitis, with entirely negative result; 0.1 gram of the 1 in 10 ointment was applied to a defined area of the left forearm of a woman, daily, on five successive days. There was not the slightest effect. In my own case a single inunction caused in seven hours itching with sensation of heat at the area of contact: subsequently papules developed on the injected and slightly elevated patch. The symptoms were quite moderate in degree when, two days later, a second identical inunction was made in the same place. A sharp dermatitis followed eruption and swelling, spreading rapidly upwards beyond the elbow and over on to the extensor surface of the forearm with itching almost intolerable and rest at night much disturbed.

In kind the symptoms produced by the resin were similar to those caused by chloroxylonine.

Resin No. II.—This body was applied in 1 in 10 ointment form to the arms of five observers; of these four had not suffered from induced dermatitis. No result followed in the case of three of the latter, but six hours after inunction of 0.1 of the ointment (the amount used in each instance) the fourth (Ge.) had distinct local itching, and on the following morning the arm showed four distinct papules on a reddened patch which corresponded to the area of application. In forty-eight hours the papules were barely visible, and the general vascularity had disappeared. (Note. this observer informed me that he had always evidenced extreme sensitiveness to every kind of cutaneous irritation.) Applied to my own arm to an area which some months before had been involved in chloroxylonine dermatitis, No. II ointment provoked in five hours' time heat and itching, followed by a very distinct inflammatory condition, this being more severe than that occasioned by No. I resin. The congestion with oedematous swelling extended above the elbow. Fig. 3 is from a photograph taken six days after the application; it shows the papules and excoriations existing at that time.

Auld, in his paper already referred to, speaks of the two resins as non-irritant, and doubtless they are so to the skins of most individuals, but that they provoke a condition similar to that produced by chloroxylonine in those who have experienced the action of the latter is evident from my own case. That No. I may even cause a slight primary inflammation in a sensitive subject who is not otherwise predisposed is demonstrated by the reaction of Ge. On the two resins, No. II is without doubt the more active.

THE FIXED OIL OF EAST INDIAN SATINWOOD.

Auld[8] describes the separated oil as viscous, yellowish-brown in colour and having a specific gravity of 0.965. It remains clear on keeping, and in its action, Auld states that it appeared to him to be non-irritant. Wechselmann refers to an experiment in which he employed (by applying to the skin of the arm) a resinous oil which Loeb had separated from satinwood. His result was negative.

EXPERIMENTAL.

Frog.

Two frogs received $\frac{1}{5}$ and $\frac{1}{2}$ of a c.cm. respectively of the undiluted oil in the dorsal lymph sacs. There were no symptoms. Excited movement was entirely absent. After the lapse of fourteen days the animals were destroyed by chloroform. Examination of the muscles, alimentary canal, and dorsal lymph sac did not reveal any haemorrhages or even an abnormal degree of vascularity. There was no abnormality about the heart's action, nor yet the response of the gastrocnemii to electrical stimulation.

Rabbit.

The inner surface of a rabbit's ear was rubbed on five separate occasions in the course of ten days with $\frac{1}{5}$ c.cm. of the pure oil. No irritation resulted.

Human Skin.

Applications were made of ointments having strengths of 1 in 10 and 1 in 5 of the oil, as well as of the latter undiluted, to the forearms (flexor surface) of seven students who had not participated in any previous experiment with East Indian satinwood or its derivatives. The largest amount of pure oil employed in any of these observations was $\frac{1}{2}$ c.cm. The result was perfectly uniform whether the strongest or weakest preparation had been employed, for in no one of the seven did any subjective or objective symptom ensue.

But a positive result was obtained from both the subjects of an anterior chloroxylonine dermatitis. D. applied $\frac{1}{5}$ c.cm.

Fig. 1.

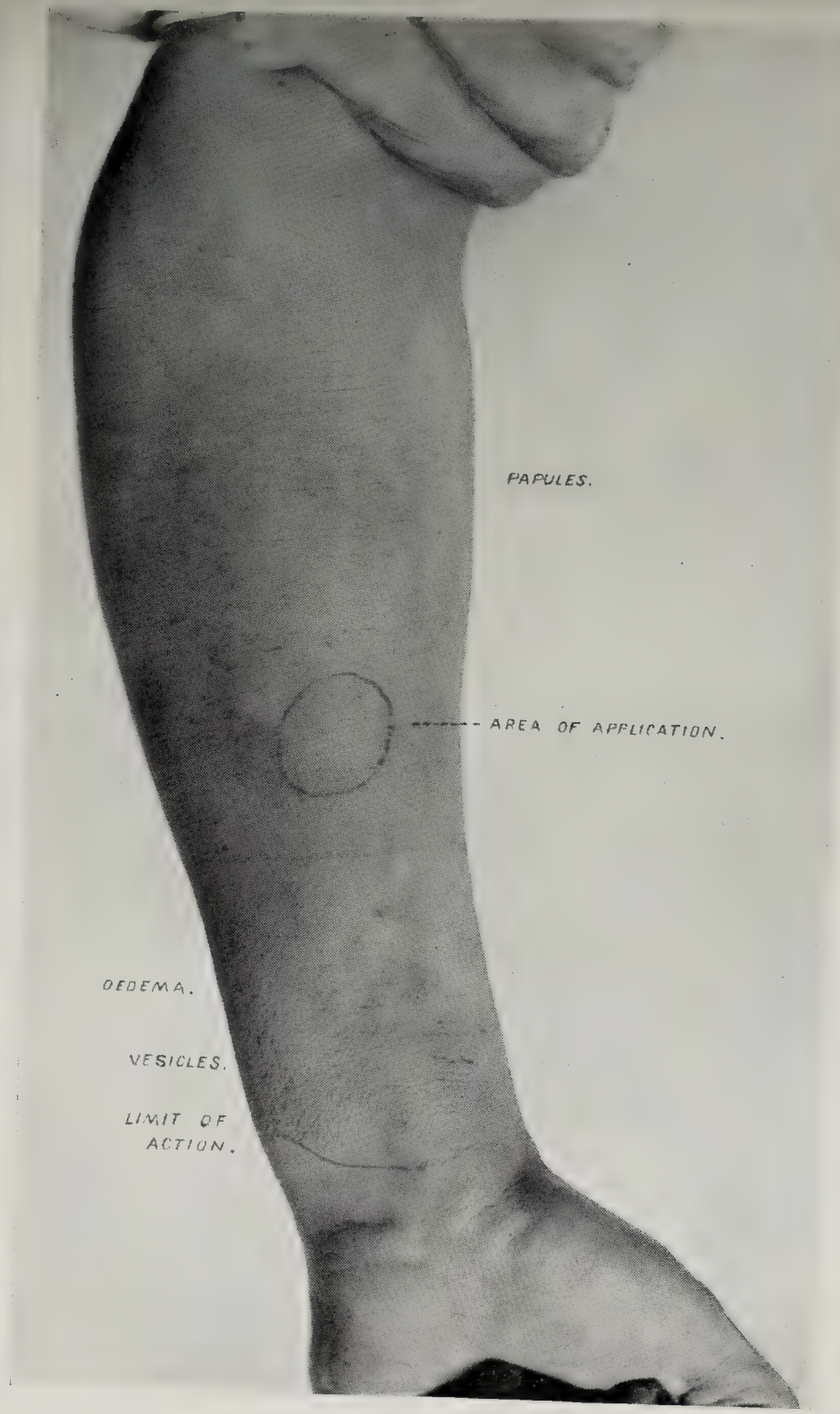

Fig. 2.

Fig. 3.

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the pure oil to the flexor surface of the forearm; no effect had been produced up to bedtime (twelve hours after the inunction), but five hours later he was awakened by violent itching of the part, which next day showed the presence of papules on a reddened base. I applied $\frac{1}{20}$ c.cm. in each of three localities: (1) to the front of the ankle-joint; (2) to the inside of the thigh 10 cm. above the knee; and (3) to the skin of the upper arm over the biceps. Dermatitis had been occasioned in the first locality, but there had been no application to it for thirteen months. Areas 2 and 3 had not been previously employed. In eighteen hours itching commenced in No. 1 area, and in twenty-nine hours in No. 2 a limited redness coextensive with the contact of the oil was developed. There was neither heat nor pain. Area No. 3 remained unaffected.

I found subsequently that inunction of 0.5 gram of the ointment containing 1 in 10 of the fixed oil was active in limited measure when applied to the forearm which had many times been the seat of dermatitis.

Regarded as agents which are capable of arousing dermatitis in those who have been rendered abnormally susceptible by chloroxylonine action, Resin No. II of East Indian satinwood is the most active, the oil is least active (moderate and slow effect, even when undiluted), whilst Resin No. I occupies an intermediate position.

But whichever of these derivatives is applied (allowing for variation in activity and modifications due to the concentration or dilution of the preparations used), the symptoms, subjective as well as objective, are so closely similar to those occasioned by chloroxylonine as to be practically indistinguishable. One would, indeed, be inclined to regard the resin and oil effects as provoking a chloroxylonine relapse were it not that the term might mislead, in so far as they can produce a distinct action on the more sensitive parts of the cutaneous surface which have not been the seat of the alkaloidal dermatitis.

Treatment of Dermatitis.

Treatment of the local dermatitis was attempted experimentally by many agencies. The indications are to relieve the cutaneous inflammation, and particularly to check the violent itching which sooner or later leads to friction, a proceeding which greatly aggravates and extends the area of excitement and inflammation. Amongst preparations combining astringent and sedative properties, the ung. callae cum opio, lead acetate (aqueous solution of various strengths) and the *B.P.* unguentum glyc. plumbi subacetatis, were employed. The most satisfactory of these is the last named, which fulfils the main indications for treatment best of any of the series. A thorough but lightly made application to the affected area and the skin in proximity is necessary every four hours to perpetuate the sedative effect and reduce inflammation. Purely sedative applications are also of much service, especially in the earlier and later stages of dermatitis, but they must be chosen with due regard to the possibility of their absorption. Thus, whilst the ung. veratrinae is of value at the very commencement of the condition it cannot be safely used after damage to the epithelium has supervened.

The internal administration of potassium bromide is not without value, especially given at bedtime in 15-grain doses. During the period of excitement of the laryngeal mucous membrane internal administration of 2 grains of opium was necessary to procure cessation of the violent cough, and this treatment had the further advantage of reducing the thin concomitant secretion for several hours cocaine as the *B.P.* trochiscus with krameria was only of temporary value.

But beyond medication other measures must be adopted. The contact with rough fabrics which would promote friction is to be carefully avoided, and for this purpose a fine silk handkerchief (or, if for an arm, the footless leg of a silk stocking secured to the vest by two safety pins) should be employed, whilst underwear and cloth clothing must be as light as practicable. Active muscular work greatly enhances the irritant effect of chloroxylonine and of the conditions succeeding application of the resins; whilst, conversely, rest and even the slinging of the arm is often desirable. At night time the sleeping-room should be kept cool by free ventilation; the bed coverings should be light.

Hitherto no prophylactic treatment has shown itself of value. Gardiner[10] suggests that acids might neutralize alkalinity of the wood, and so, on application, frustrate the advent of dermatitis, but I have not found any protection from the proceeding; moreover, both infusions and decoctions of the wood were devoid of alkalinity.

Conclusions Summarized and Discussed.

The absence of reaction of the skin of the rabbit's ear to East Indian satinwood and its principles has been uniform, even when the applications were frequently repeated. Possibly longer continuance of chloroxylonine inunctions (for which my supplies were insufficient) might eventually have yielded a positive result, but even so, the relative insusceptibility of the area as contrasted with that of the human integument would have rendered such results of small value. Some degree of toxicity towards frogs is attributable to the wood decoction, but this may be due to absorption from the alimentary canal to which the fluid might gain access. No active inflammatory condition of the skin is developed in frogs by local contact with 1 in 10 aqueous preparations, though in some instances slightly increased desquamation was noted.

When injected into the dorsal lymph sac of frogs, even in relatively large doses, chloroxylonine does not cause either pain or excitement, the toxic action is slow of development, whilst the tendency to haemorrhagic extravasation is neither powerful nor general.

Local application of East Indian satinwood dust, whether (1) dry, moistened (2) by water or (3) by almond oil, occasioned dermatitis in an observer who had already experienced that condition after chloroxylonine contact. The preparation No. 3 appeared to be the most active of the series.

Towards the human skin chloroxylonine and its salts (hydrochloride and nitrate) proved themselves to be, towards two out of three individuals, insidious but powerful irritants. The action did not supervene on the first but on the second application, an interval of four and twenty-two days respectively intervening before the occurrence of definite symptoms. Subsequent reapplications acted with much greater rapidity. (Whether any detectable lesion of the skin results from a primary contact with chloroxylonine, which, whilst producing no subjective or naked-eye changes, predisposes to the effective action of a second application, cannot be determined until successful induction of dermatitis in animals makes it possible to examine the skin histologically at all periods after contact has taken place.)

The local effect produced in the human skin indicates increased vascularity, at first limited to the extent of contact, and then extending widely beyond it. In the mildest form papules only may show upon the reddened surface; vesicles, oedema, and an erysipelatoid condition are evidences of more energetic action. Whatever be the degree, urticarial manifestations are readily induced (urticaria factitia). There is thus evidence of a strong tendency to serous exudation from the vessels, the tension at which this occurs being in correspondence with the severity of the local condition.

Sensations of heat, weight, and stinging pain arise mainly when inflammation and exudation are considerable, the two former being constant in character, but the itching which is associated with even moderate eruption intermits. At times it borders on the unendurable, and is developed at once by contact of rough objects, the slightest scratching, warmth, etc. Not infrequently a symmetrical area of the corresponding limb is the temporary seat of irritation, which may probably be referred to an overflow from excited nerve cells to those linked with them.

The remote inflammatory tumefactions which arise in sequence to the local condition of the arm following chloroxylonine were mainly situated on the face, ears, and neck, to a very limited extent on the trunk. The legs were unaffected, although, unlike the skin of the face, they had suffered dermatitis previously. The swellings were distinctly intracutaneous and not glandular in their seat. Involvement of the upper air passages is relatively late in occurring.

It is an open consideration at present whether we are to regard these remote effects, from which the nature of the experiment precluded all possibility of local contact, as vascular conditions produced through the agency of the vasomotor centre by the unusually powerful cutaneous irritation, or whether they are to be referred to absorption permitting the distribution of the alkaloid to distant parts of the body and its elimination subsequently by cutaneous and mucous surfaces, as well as by other channels. As adverse to the latter supposition are: the absence of renal effect, the long continuance of some of the remote sym-

ptoms, which do not, however, outlast the local irritation at the seat of contact, absence of pyrexia and malaise, and the non-involvement of the lymphatic glands. The abundant examples which could be adduced of remote vascular changes brought about reflexly through nervous intervention only, when an organ, and especially a highly sensitive structure such as the skin, is in an abnormal condition, make the former hypothesis more probable.

The local irritation following chloroxylonine causes a long-continued enhanced susceptibility of the nervous organization which predisposes the cutaneous system in general to respond with abnormal activity to bodies which have otherwise little or no claim to be classed as irritants.

Of the non-alkaloidal principles contained in East Indian satinwood: No. I resin is not (as it was employed in this inquiry) irritant to the skin of normal individuals. No. II resin is not devoid of action, for it produced a slight irritant effect in one instance where there had not been any previous dermatitis. No irritation followed the employment of the pure oil as an application to the normal skin.

But to individuals who had already experienced a chloroxylonine dermatitis all three bodies acted as irritants, No. II resin being in this respect very active, No. I resin moderately, and the fixed oil slightly active. In my own case the acquired hypersensitiveness appears to be discriminative in its tendencies, for whilst the satinwood products just mentioned as indifferent in action towards most individuals never fail to occasion dermatitis on auto-application, mustard causes no more than the simple rubefacient effect which is proper to its action.

Whilst in this inquiry, in correspondence with statements founded upon clinical observation of satinwood workers, one of the subjects of chloroxylonine applications has proved refractory to the irritant action of the alkaloid it would be premature to assume that such tolerance has no limit; all that can be safely stated is that he has shown a much greater resistance than the two observers, who each developed dermatitis after application of smaller amounts than have been used by him without definite result. No case has presented itself in the course of these observations which would illustrate the statement made by Jones[11] and Wechselmann,[12] to the effect that some satinwood workers, after a first attack of dermatitis, may acquire resistance towards the irritant, and so remain immune, although still exposed to the contact of the dust; on the other hand, towards the two individuals who reacted to the second application of chloroxylonine subsequent contacts were markedly more severe in their result, and the same may be said of the reapplication of both oily and resinous principles of East Indian satinwood.

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The St. John's House of Rest at Mentone will be reopened on November 1st. The institution is one which was founded just thirty years ago to enable clerical and other professional men to secure at small expense a period of rest in a favourable climate after the occurrence of some definite illness or when deemed in danger of a general breakdown. An anonymous benefactor has recently placed at the disposition of its authorities a sum of £100, in order to enable them to assist prospective patients on the journey out. Of the two honorary secretaries, the one resident in this country is the Rev. W. H. Oxley, the Vicarage, Petersham.

ACCORDING to some figures recently supplied by the Department of Commerce at Washington, U.S.A., the export trade of that country in patent medicines has much grown of late years. Even at export valuation, which represents the first cost of goods and leaves out of consideration the prices at which they will ultimately be sold, the proprietary medicines exported last year from America aggregated in value to £1,400,000, as against a total of £400,000 some fifteen years ago. This increase, spelling as it does a corresponding increase in the unhappy practice of self-drugging, would in any case be a matter for regret, and still more regrettable is the fact that nearly one-third of the whole of these goods are sent into this country.

CYSTIC OVARY IN THE PELVIS.

BY

EDWARD LAKE GOWLLAND, M.B.LOND.

THIS case presented several points of interest, and seems to me to be worthy of record:

C. E., aged 68 years, had for three days suffered complete retention of urine, relief only being obtained by the use of a catheter; there had been no action of the bowels for the same period. Previous to this she had for three or four months some slight difficulty in starting micturition, but no trouble with the bowels and no pain. The menopause occurred at the age of 52 years; there was a history of profuse menorrhagia for twelve years before the menopause. She had had no children, but several miscarriages.

Dr. Garrett, of Faversham, called me to see this patient after she had been unable to pass urine naturally for three days. The abdomen was not distended and moved well with respiration; a tumour could be felt occupying the whole hypogastric region, and reaching to within three fingerbreadths of the umbilicus; it was hard, non-fluctuating, fixed, and not at all tender. The percussion note was dull over the tumour, but resonant in the flanks.

On vaginal examination a large hard tumour was felt pressing forward the posterior wall of the vagina; the cervix could not be felt. It was most difficult, owing to the size of the mass, to examine the vagina at all thoroughly. Rectal examination also was most difficult, there being hardly room for the examining finger in the rectum, the condition reminding one exactly of a retroverted gravid uterus. The tumour was of almost stony hardness and absolutely fixed.

Operation.

The patient was removed to the Faversham Cottage Hospital, and I operated the same evening, expecting to find an impacted fibroid.

An incision was made from the umbilicus to the pubes. The bladder wall was found to be much thickened; the uterus, normal in size, was pressed forward and upward by a tightly-distended cystic ovary, to which it was firmly adherent over the whole of its posterior surface; the tumour was a multilocular cystic left ovary, which had developed downward and outward between the layers of the broad ligament, and now filled up the whole pelvis, having formed dense adhesions to all the surrounding structures. It was quite impossible to insert the fingers between the tumour and the sacrum, so tightly was it wedged in the pelvis and so dense were the adhesions.

Five separate cysts were punctured and their contents evacuated; the fluid could not be measured accurately, as a good deal of it escaped into the peritoneal cavity. The left tube and broad ligament were ligatured and divided, and thereafter adhesions were broken down and the tumour enucleated with considerable difficulty. A large-sized rubber drain tube was passed well down into Douglas's pouch, as the separation of adhesions had left a large oozing surface, the end being brought out at the lower angle of the wound. The wound was closed by catgut sutures in separate layers.

After-History.

The tube was removed in twenty-four hours and recovery was uninterrupted, the temperature never rising above the normal.

In all cases of abdominal section, except those for enterostomy, I order a large dose of castor oil forty-eight hours after the operation. I always give fairly large quantities of liquid nourishment quite soon after the operation, and I have never had any reason to regret this practice.

The special points of interest in this case are:

1. The sudden onset of complete retention of urine. No advice had been sought till three days before the operation.

2. The difficulty of diagnosis due to the extreme hardness of the tumour. On commencing the operation, I quite expected to have to perform supravaginal amputation for impacted fibroid of the uterus.

3. The denseness of the adhesions. After freeing the tumour, the posterior uterine wall was quite raw and ragged.

4. The sterility of the cyst contents. It was impossible, owing to the depth of the cysts, to evacuate them without a considerable quantity of the fluid escaping into the peritoneal cavity.

The tumour itself was an ordinary multilocular cystic ovary with a considerable overgrowth of the fibrous stroma, the lower part, which occupied the depths of the pouch of Douglas, being intensely hard, and cutting almost like a carcinomatous mass.

SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICINE.

ALFRED HENRY CARTER, M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

R. CARTER briefly initiated the proceedings by expressing welcome to members of the Section and those present as s guests, on behalf of himself and its other officers. He en pointed out some of the chief items on the programme work, indicating that the officers of the Section had ranged, as far as possible, for the discussion of problems ble to arise almost daily in the course of the work of y practitioner of medicine. It seemed to them that the ne of the Section would be more usefully employed in changing experiences on such subjects than in listening the reading of papers representing entirely new work.

DISCUSSION ON THE VARIETIES AND TREATMENT OF ASTHMA.

OPENING PAPER.

By G. A. GIBSON, M.D., D.Sc., F.R.C.P.Ed.,
Physician, Royal Infirmary, Edinburgh.

dramatic symptoms, its elusive pathology, its uncer- n therapeutics may well be said to invest the subject of hma with a cloud of mystery. As the mind of man at all times delighted in attempts to look behind the which screens the unknown, there can be little der that the affection has exercised a fascination for medical inquirer, and no more interesting topic could e been chosen for a discussion in this Section. It ld obviously be out of place on such an occasion to mit a treatise on asthma. It will only be possible for to lay before you some of the principal points con- ted with those particular aspects of the subject with ch you have asked me to deal. But, inasmuch as ain of these matters cannot be effectively grasped nout clear conceptions of the physiological and patho- al foundations on which our present knowledge and efs are built, it will be necessary for me, with your ission, to spend two or three minutes on a few oductory considerations of this nature.

he facts which furnish a physiological basis for the sification of the causes of asthma naturally fall into groups. There are, first, certain mechanical arrange- ts for the aëration of the blood. The upper air ages are obviously intended to warm and purify the s it is inspired, and these regions are highly vascular. aining at the same time, in association with the blood ly, a considerable amount of erectile tissue. There is, fore, in the arrangement of the structures, what may oked upon as a defensive or protective mechanism. The r air passages form practically two distinct categories larger tubes, with almost rigid walls, containing little muscular tissue, and the smaller tubes, endowed a considerable degree of contractility, and possessed arge amount of muscular tissue. An interesting point reference to the smaller tubes is that the muscular appears to have no tonus. One structural considera- nust be brought before you in this connexion. As is known, the cilia, which are found throughout a great f the respiratory passages, do not penetrate into the est bronchial tubes. Some years ago, in an article buted by the late Professor of Medicine in the rsity of Edinburgh and myself to the *Twentieth ry Practice* the opinion was expressed that the reason why capillary bronchitis was so much more severe than bronchitis of the larger tubes lay in the absence of cilia in the smallest tubes. This is the first opportunity which has been afforded me of publicly referring to the subject, and it is only right, in justice to the memory of the late Sir Thomas Grainger Stewart, to state that the idea was his, and not mine. It is an idea which has sometimes been dealt with by subsequent writers, and it is a pleasure to me to show where the credit of the suggestion ought to lie.

The nervous arrangements subserving the respiratory movements not merely involve afferent tracts, regulating centres and efferent tracts, but also the control of all those arrangements by higher centres. It may be said that practically every sensory nerve in the body may carry influences acting upon the respiratory centres, whether of inspiration or of expiration. The efferent tracts form likewise a widely-spread ramification, although they are probably not quite so universally distributed as is the case with the centripetal fibres. We may take it, nevertheless, that the fifth, seventh, ninth, tenth, eleventh, and twelfth cranial, as well as a large number of the spinal nerves, are concerned in the efferent impulses connected with respiration. All these nervous mechanisms are controlled by higher cerebral centres.

As bearing most particularly upon the subject of asthma, the investigations of Brodie and Dixon are of the highest value. These observers, by their ingenious method of studying the volume of air entering and leaving the lung, when placed in the oncometer, have shown that the bronchial tubes are supplied by certain nerves which act as dilators, and by others which act as constrictors. Their physiological results are of the greatest importance for the apprehension of asthma. Some years ago Watson Williams suggested that during ordinary respiration there was probably a rhythmical dilatation and contraction of the bronchial muscular coat, in association with the movements of the nose, throat, and larynx. It seems to me that this is not merely a reasonable but a probable suggestion; and the researches of Brodie and Dixon have provided a reasonable foundation for it.

Such are the preliminary considerations which have seemed to me absolutely necessary to recall before we are in a position to deal with the subject of asthma.

Many theories have been suggested to account for the characteristic paroxysm of asthma. Floyer appears to have been the first to advance the conception that the cause must be sought in a spasm of the bronchial tubes. This view was adopted by Cullen and Laënnec. After the discovery of the circular fibres of the muscular layer of the bronchial tubes, a contraction of these fibres was suggested by Williams and other writers as the real cause of the paroxysm. On the other hand, Walshe asserted that, at least in certain cases, a paroxysm of the bronchial muscular fibres, inducing a loss of expiratory power, was the more probable cause. A spasm of the diaphragm was suggested by Wintrich and supported by Traube, while a spasm of other inspiratory muscles was advocated by Budd, Jaccoud, and Germain Sée. A vasomotor neurosis, leading to hyperaemia of the mucous membrane of the bronchial tubes, was the opinion advanced by Weber and afterwards modified by Clark, while a somewhat analogous theory, invoking a spasm of the arterioles with, at the same time, an oedematous condition of the bronchial mucous membrane, was brought forward by Glasgow. Lastly, an acute catarrh of the mucous membrane was the view of Bree and Beau, while a specific inflammatory condition of the mucous membrane by microbic influences was suggested by Berkart.

The first part of the subject which you have asked me to bring before you deals with the *varieties of asthma*. From my own personal point of view this is an easy matter. To my way of thinking there is one form of true asthma—brought about, no doubt, by a number of different factors—of which there are a number of counterfeits. When turning this subject over in my mind in order to be ready to present it to you, a letter reached me from my friend, the Regius Professor of Physic at Cambridge. As it so entirely coincides with my own views, you will perhaps allow me to read it to you.

St. Radegund's, Cambridge,
July 11th, 1911.

Dear Gibson,—I fear I shall be unable to attend the British Medical Association meeting at Birmingham this month. I see you are going to open the discussion on asthma. You are

careful about language, and I hope you will protest against the shifting of labels, which encourages loose speaking and thinking in students and in *others*. Thus the name *asthma* is often used for what is *not* asthma; for example, cardiac dyspnoea and uraemic dyspnoea; as slovenly people talk of uraemic or Jacksonian epilepsy, meaning convulsions only. These ways cause no end of clinical fog and react unfavourably on precision of clinical thinking. In a drawing-room a lady may call a whale a fish; but to see it so called in the technical papers of a zoologist would shock us; it is, however, no worse than *cardiac asthma*.—Yours always,

CLIFFORD ALLBUTT.

There is undoubtedly a real distinction between primary asthma and secondary dyspnoea. Frankly speaking, it is sometimes rather difficult in certain cases to determine whether an attack belongs to the former or to the latter category; but, as a rule, the distinction is not difficult to make, and the absence of the accompaniments of secondary or symptomatic dyspnoea often clearly establishes the difference.

True neurotic asthma may be induced by a large series of causes. These factors may sometimes belong inherently to the nervous system. It occasionally happens that absolutely no cause can be elicited, and that the attack appears to take its origin in obscure influences affecting the central nervous system. Many of these cases manifest a rhythm or periodicity, as if some chemical material were stored up in the nervous centres and exploded at the end of a latent period. It is possible that modern theories of anaphylaxis may, in the future, aid us in our understanding of the reasons which lead to the perpetuation of such a rhythm.

More easy to grasp are those cases in which attacks are precipitated directly by the influence of the emotional and imaginative functions. As we all know, paroxysms are often induced by such emotions as anger, or joy, or fear; by the outbreak of a thunderstorm; by being left alone in the dark. They may attend agoraphobia or claustrophobia. In addition to such direct causes, acting through the central nervous system, we have to bear in mind that agencies acting directly upon the peripheral nervous system may induce attacks. Heberden has left on record an account of asthma induced by the pressure of an exotosis, pressing upon the vagus nerve; while Gairdner has likewise described attacks dependent upon the growth of a neuroma in the same nerve. All these may be regarded as examples of a direct influence on the nervous system, inducing asthma.

The reflex causes are multifarious, and act through almost every part of the body. The most important of these are concerned with the respiratory mucous membrane, whether nasal, laryngeal, or bronchial. The irritation of dust, fog, pollen, scent, and even of cold air, is universally recognized. It has long been known that various nasal affections are powerful agencies in producing asthmatic paroxysms; but the fact that they do not all do so is quite sufficient to let us see that there must be some primary neurotic condition as the basis of the affection. The other important fact—that hay fever is not always attended by asthmatic paroxysms—leads exactly to the same conclusion. Many an unfortunate sufferer has passed through a long series of nasal operations, only to find, at the end, that the asthmatic paroxysm was not absolutely dependent upon the condition of the mucous membrane.

The digestive tract — whether faucial, pharyngeal, gastric, enteric, or even rectal—is so thoroughly recognized as a powerful factor in the production of the asthmatic paroxysm that it is quite unnecessary to do more than mention the series. The urinary tract, both renal and vesical, undoubtedly acts in certain cases in a similar way. Occasionally cases have presented themselves before me in which mobility of the kidney—a subject which is no stranger to a Birmingham audience—has led to a paroxysm. In a manner entirely analogous, pelvic disorders, both ovarian and uterine, may produce an attack. The skin, lastly, amongst the more common causes of a paroxysm, cannot be neglected, as chilling of the surface has been known to lead to severe attacks.

The counterfeits of asthma, or the varieties of paroxysmal dyspnoea not dependent upon a real neurosis, are for the most part toxic in origin. It would serve no useful purpose on this occasion to enter upon even an enumeration of these; but it may be well to mention three of the most common: the dyspnoea (1) of diab apparently brought about by an acid intoxication; (2 uraemia, undoubtedly induced by the retention of n products of metabolism; and (3) of cyanosis, certa produced by faulty aëration of the blood. In all t forms of dyspnoea and their congeners there are points of distinction, not merely in the ordinary cli features, but in the results obtained by modern met of investigation, which serve to effect a diagnosis. well known, for example, that in true neurotic asthm a general rule, there is a considerable increase in number of the eosinophiles—an increase which is found in the forms of secondary dyspnoea.

To sum the matter up, asthma, in my opinion, is intrinsically to a spasm of the smaller and sma bronchial tubes, brought about primarily as the re of a neurosis. Such a restricted pathology may, h ever, be too narrow to suit every case, as the dition of spasm may spread widely throughout respiratory apparatus. We can with our own see the many efforts made by Nature to c come it in the movements of the nose, the cheeks, neck, and the chest. In many cases there is undoubte in addition, a catarrhal condition of the respiratory tu as evidenced by the presence of Curschmann's spirals, the cellular material in the expectoration. The g point, however, is that the central fact lies in the bronc spasm, and that experiments in the physiological q rupeds provide us with a complete picture of the asthm paroxysm.

With your permission, a brief reference may be mad one aspect at least amongst the many sequels which fol repeated attacks of asthma. As is universally recogni a paroxysm leads to overdistension of the lungs; repeated attacks induce emphysema, at first of marginal, but later of the universal, variety, attende sclerosis of the pulmonary blood vessels and dilatation the heart. How is the overdistension brought about? seems to me that the researches of Brodie and Dixon h thrown a brilliant light upon this matter. From t immemorial it has been known that the expiration du the paroxysm is unduly prolonged; and some of tracings which are now shown bring this point out v clearly. But, along with this, the fact has perhaps obtained sufficient recognition that the inspiration extremely forced; and in the remarkable work of Br and Dixon already mentioned it is urged that inspirat being so much more powerful than expiration, and occ ring, as it does, before the respiratory phase has come to end, must of necessity lead to overdistension of the lu and its consequences. There is in this a very interest suggestion. For many years the expiratory theory emphysema of Mendelssohn and Jenner has been v widely accepted in preference to the inspiratory theory Laënnec and Gairdner. This is not the place to disc the matter in full, but you will perhaps allow me to st that in my own view the investigations of Brodie a Dixon have gone far to show us that, after all, the insp tory theory cannot be summarily dismissed, as has so of been done in modern times.

There is one last point to which you will perhaps al a brief reference. It is commonly said that in asth the arterial pressure is above the normal. My pres house-physician, Dr. Burrow, has kindly looked up records of the asthmatic cases which have been in wards during the last five years, and he has found t in only one did the pressure reach even what we mi call a moderate degree. This was in a man of 50, w showed a systolic pressure of 140 and a diastolic 100 mm. Hg. In no other case did the pressure exc 120 systolic and 90 diastolic, while in one it was actua as low as 105 systolic and 93 diastolic. During paroxysm the arterial pressure certainly rises; but it a matter of considerable difficulty to get accurate readi at such a time, and, indeed, we must all naturally hesit before troubling a sufferer when in the throes of attack. One patient (a lady of 78), who was sent to recently by my friend Dr. Guthrie Rankin, had suffe from true neurotic asthma since her girlhood. In case the sphygmomanometer showed a diastolic press of 170 and a systolic pressure of 220 mm. Hg. Althou there was no renal complication, the impression was upon my mind that the high pressure was the result

number of factors operative in elderly people, and indeed, the large heart which the patient manifested was proof of senile conditions.

We are now brought face to face with the second part of the subject, *the treatment of asthma*. As regards the general basis of management, we may assume that it consists in carefully watching over digestion and assimilation, in maintaining circulation and excretion, in obviating nasal irritation and bronchial catarrh. The details of management in every individual case involve the careful consideration of climatic, dietetic, and medicinal regulations. We must always be in a condition of baffling uncertainty as to the type of climate which will probably be most helpful to an asthmatic patient. We know only too well that many a sufferer from this affection, whose life is absolutely miserable when he lives in a clear, dry atmosphere, upon a porous, gravelly soil, at once loses the tendency to the disease when he moves into a damp, foggy town built upon a cold clay soil. Such knowledge as this will always serve us pause when we are attempting to lay down rules for the guidance of our patients. Each case must simply be treated empirically in accordance with its own requirements.

Turning to the dietetic regulations we find ourselves on much more certain ground. There cannot be a doubt that the one great principle to follow is to prevent our patients from using much fluid along with meals. My own experience has taught me that it is well to begin the day with a tumblerful of hot water or a breakfast-cupful of weak China tea, and to let breakfast, an hour or an hour and a half afterwards, consist of food which is not diluted to any considerable extent, and which is only accompanied by a small cup of tea or coffee. In the middle of the forenoon a tumblerful of water, or any other bland fluid which the patient may prefer, is to be given. Luncheon, once more, is to consist of dry food, with not more than a claret-glassful of fluid. In the afternoon the patient is allowed to take as much weak China tea as is desired. Dinner is to conform to the same principles as luncheon; and late at night a tumblerful of fluid, hot or cold, according to the season of the year and the preference of the patient, may be given. The one great principle throughout the whole dietetic regulations is to try by every means to prevent any distension of the hollow viscera.

The drugs which have been employed both to ward off the paroxysms of asthma and to relieve them when they are present form a large and imposing array. First amongst those remedies which are of use from the prophylactic point of view are all remedies which aid the digestive system. Amongst this group we have, particularly, the intestinal antiseptics, such as salol and naphthol. Good though these are, their efficacy is surpassed, in my own personal experience, by the employment of calomel, combined with acetozone, in doses of one-twelfth and one-half a grain respectively, three times a day. With these drugs, and careful supervision of elimination, the alimentary tract can be kept in the most favourable condition. Amongst drugs which undoubtedly exercise an influence which may almost be termed specific in warding off attacks of asthma, the iodides have long justly held in the foremost place. We understand to a considerable extent how the iodides act in high arterial pressure, and in organic angina pectoris; but the exact method of action has still to be explained in regard to asthma. It occasionally happens that the efficacy of these drugs is increased by the addition of arsenic—just as we find similar assistance when treating arterial diseases.

In the treatment of a paroxysm, our methods will always be largely guided by what we know from physiological experiments. We have been taught by the results of investigations that muscarine, for example, will produce paroxysms of asthma in the ordinary animals employed in the laboratory which present a perfect resemblance to those seen in the disease. The forced inspiration, the long expiration, the rhonchi, the distension, the cyanosis of the mucous membranes, the clamminess of the skin, the staring eyes—all these may be produced at will by the employment of muscarine. On the other hand, belladonna and atropine, chloroform and ether, opium and morphine, put an end to such paroxysms. These are just the drugs which we all recognize as being helpful in cutting short the paroxysms of asthma in our patients. Lobelia, in the form of the ethereal tincture, has long been regarded as almost specific in its influence over the paroxysm; and the researches of Brodie and Dixon have shown that this drug has a powerful influence in experimental asthma, although its influence is shorter in duration than that of some of the remedies which have just been mentioned. Grindelia has been used by me for more than thirty years; but, on the whole, it has seemed to me to be less powerful than lobelia. The whole series of the nitrites is of immense value. Even so weak a preparation as spirit of nitrous ether is useful. Nitro-glycerine, erythrol tetranitrate, and sodium nitrite, all are to be most warmly commended for employment during a paroxysm of the disease. Perhaps you will allow me to express one warning note as regards the employment of cocaine. In many cases, instantaneous relief is brought about by the use of various sprays which contain this remedy. The relief which they often produce is so great that a patient is insensibly led on to use more and more of the remedy until it has completely mastered the will and the patient falls a victim to the cocaine habit.

Two methods of treatment need only be referred to in this place—one is the use of different forms of powders which, when burnt, gives off dense fumes. The basis of most of these is an aromatic herb combined with an alkaline nitrate. Even in faraway cottages in the Highlands, we may see homely remedies of this kind devised by the wise women of the district; and no doubt every one of us has witnessed the benefit produced by such means. The other (and last) point to be brought before you is that, in a large number of cases, but not in all, a paroxysm may be cut short by the direct application of cocaine and adrenalin to the sensitive spot, far back upon the nasal septum; just as treatment of that region by the rhinologist during the interval is frequently followed by complete relief of the patient.

DISCUSSION.

Professor Saundby (Birmingham) said he did not propose to discuss the mode of production of the asthmatic attack further than to say that all the evidence pointed to its being a reflex spasm of the inspiratory muscles, chiefly the diaphragm, and that the origin of the reflex might be anywhere in the respiratory or alimentary mucous surface, or even in the skin. The practical importance of accepting this view was that each case of asthma required a thorough investigation of the structures concerned, in order to detect any lesion which could be remedied by treatment. The brilliant results which often followed the removal of polypi in the nose afforded a good example of the benefit that might follow treatment based upon such examinations, but in many cases of asthma all that could be said was that the respiratory mucous membrane was unusually sensitive, as there might be no definite lesion—nothing that afforded an opportunity for local treatment, and the agents that determined the irritation might be obscure, difficult to define precisely, or even unknown. Of the last a by no means uncommon example was that due to locality. Every one had met with these cases, of which Trousseau's example of two brothers, one of whom could live on one side of the harbour at Marseilles and the other on the other, might be quoted. Some years ago a little boy, suffering from asthma, had been brought to the speaker; his father was asthmatic, and on his account the family had recently changed houses, moving two or three miles to a higher situation, with benefit to the health of the father, but the little boy had developed asthma at the new house! It was often possible to get rid of asthma altogether by such a change; or, conversely, there were people who never had asthma except in certain localities, as at a certain elevation or on the sea level or actually at sea. In these cases the particular factor that determined the occurrence of the attack was difficult to understand. The emanations of animals and furs, although undoubted, were also obscure in their nature. Some years ago a young woman was brought to the speaker who had only recently suffered from asthma, and on going into her history he found that her people kept a furrier's shop in the middle of Birmingham, but lived in a suburb, and it was only since she had left school and begun to take her share in the work of the

shop that she had suffered from asthma. The attacks ceased when she found another occupation. The emanations of certain flowers or of straw were equally capable of setting up an attack, but what the particular agent was was unknown. Fortunately, however, in these cases the exciting causes of the attacks were roughly known and could be avoided, but there were many others in which the most careful investigation failed to show any definite cause. It was quite usual to incriminate various articles of diet, and unquestionably it was most desirable that asthmatic patients should live a simple, life and that the last meal in the day should be small and easily digested, but, in spite of all these precautions, attacks of asthma occurred, sometimes succeeding one another so frequently as to reduce the patient to despair, and then happily they might disappear and the patient enjoy an interval of freedom as unexpected as the previous incidence. Asthma was, as a rule, developed in early life, and was distinctly a family disease, but it might be acquired, and the speaker had met with several cases which had developed in people past middle age, in consequence of influenza. The treatment of asthma, when the cause could be discovered, was as satisfactory as it was brilliant, but in the other case it was neither the one nor the other. Careful dieting, the use of iodides and fluid extract of grindelia robusta tended to diminish the frequency and severity of the attacks. The various asthma powders should be burnt in the bedroom every night when an attack was anticipated; a spray of atropine and cocaine was valued highly by some patients and in others seemed to be of little service; adrenalin was also worth trying, and in some appeared to do good. But these remedies often owed their reputation to the alternations, to which allusion had already been made, where periods of freedom followed periods of liability to the disease, without any precise explanation being forthcoming of the change, and independently of the action of any drug.

Dr. SAMUEL WEST (London) said that while he accepted the view that asthma was a neurosis, the question was where the seat of nerve excitability existed. The asthmatic attack might, it was true, be excited by a number of different peripheral irritations, but only in a person who was already asthmatic. The analogy with epilepsy was close, and just as epilepsy depended on some central nerve irritability, so did asthma. Asthma, like ordinary epilepsy, developed in childhood, and if a patient were not asthmatic when young he was unlikely to become so in after-life. In other words, if an adult developed some form of paroxysmal dyspnoea, it was probably not true asthma, but one of the many counterfeits to which Dr. Gibson had referred. The curious periodicity to which reference had been made was similarly seen in epilepsy. After all, the first essential in the discussion of asthma was correctness of diagnosis. Plastic bronchitis, for example, frequently led to attacks of paroxysmal dyspnoea which might be wrongly diagnosed as asthma. In another class of case occurring in children, the paroxysmal dyspnoea was due to the irritation or pressure of enlarged bronchial or mediastinal glands. The importance of strictly defining the meaning of the term "asthma" was shown in many of the published statistics of asthma in relation to diseases of the nose. If a writer spoke of seeing some hundreds of cases of asthma in the course of two or three years, and upon that basis discussed the effect of rhinological treatment, it was clear he must have a very elastic view of the meaning of the term.

Dr. WILLIAM HUNTER (London) said he had nothing to add to the remarks of previous speakers, and emphasized the illuminating manner in which Dr. Gibson had dealt with the anatomical and physiological features of the disease. The actual nature of the disease was unknown. He treated his cases for the most part with potassium iodide, and, after referring to the value of nitrites, said that in his opinion the spasm present was more important than the congestion.

Dr. STACEY WILSON (Birmingham) drew attention to the fact that the more they knew of the potency of reflex disturbances, the less they were willing to say that such a condition as asthma must necessarily be due to some inherited tendency, important though this was in most of the ordinary cases of asthma. He had recently seen a ca in which severe vasomotor spasm causing complete dea ness of the hands and feet, and accompanied by sympto of angina pectoris, was apparently due to irritation arisi in the colon. If such spasm could be produced by abd minal irritation, it was probable that the asthmatic spas might arise from reflex causes quite apart from hereditary tendency. Discussing the use of nitrites asthma, he said that it must not be forgotten that t spasm might be of a compensatory nature and of value the patient. The spasm might be compensatory to chang in the mucous membrane interfering with ciliary acti and if this were so it would afford a reason why nitrit were not more universally successful in asthma.

Dr. WILLIAM EWART (London) laid stress upon t peripheral nature of the causation, and of the limitation that peripheral field to the respiratory and alimenta tracts. Although the respiratory system was the ma seat of the spasm, it was apt ultimately to becor generalized. Another feature was the surprising varie in the kind of irritation. This was a key to the remarkal diversity of the remedies employed. With reference, particular, to the various "asthma powders," he pointed o that all they had in common was that they had to burnt. This, he thought, arose from the fact that C arising from combustion, which was now well known to the prime mover of respiration, was the thing most like to overcome the inspiratory immobility of true asthma.

Dr. OTTO GRÜNBAUM (London) said that in cases asthma associated with chronic bronchitis, vaccine tre ment was sometimes followed by distinct improveme He referred to a case in which morphine and potassiu iodide, except in very large doses, having failed to gi relief, a vaccine of catarrhalis and pneumococcus w followed by improvement. His experience was sufficie to permit him to conclude that some cases improved und the treatment.

The PRESIDENT thanked Dr. Gibson for his addre While recognizing that it was better to use the te "asthma" in a strictly nosological sense, he thought th something might be said for those who used it in symptomatic sense as indicating paroxysmal dyspnoea whatever circumstance it arose. He wished to emphasi the practical importance of the conception that asthr was essentially a neurosis, a condition which was close associated with the idea of nervous instability eith general or local. Such instability might be inherite and in such cases asthma depending on it generally ca on early in life, was liable to be excited by very slight a elusive provocation, and was likely to be more difficult treat. When asthma occurred for the first time later life, it was more likely to be due to some obvious peripher irritation, and success in treating it then turned largely the opportunity of dealing with the latter. He thoug the influence of diet was to be explained by the influen of the different classes of food upon nervous stability. H deprecated the limitation of treatment to the symptomat indications merely. More attention should be paid causal indications.

REPLY.

Dr. GIBSON, in reply to the discussion, said he w perfectly willing to admit that Professor Saundby w probably quite correct in charging him with narrowi down the pathology of the condition within rather stri limits. The mere fact that some expectoration, containi Curschmann's spirals and Charcot-Leyden crystals, w often found at the end of a paroxysm, showed that the probably was a certain catarrhal element in many cases. H was greatly interested in the remarks of Dr. Samuel Wes and granted quite freely that there was more than a me bronchial spasm in a large proportion of cases. One i stance which he had quite recently seen, in an America schoolboy, aged 13, seemed to him a proof of this. Th patient referred to had some protusion of the left eyeba and some dilatation of the left pupil, and he could not b regard this as the outcome of pressure on some of th ramifications of the sympathetic nerve, probably by son old tuberculous deposit. Dr. William Hunter's statemer as regards the value of the nitrites in the spasm entire

greed with his own experience, and one of the tracings hich he had sent round illustrated the instantaneous relief fforded by the employment of these remedies. Dr. Stacey ilson brought forward the interesting fact, in illustration f reflex influence, that affections of the colon might produce aynaud's disease. This was certainly true, and he himself had placed on record two instances in which Raynaud's isease had been entirely relieved by the fixation of a ovable kidney. Dr. Ewart's humorous remarks reminded m of the words of the old poet:

Non fumum ex fulgore, sed ex fumo dare lucem.

me of Dr. Ewart's remarks brought very vividly before m the interesting observations of Yandell Henderson upon apnia. The bacteriology of asthma, which had been ferred to by Dr. Grünbaum, could only be studied in ose cases in which there was distinct evidence of some ncurrent catarrhal condition. Probably in the future, in certain proportion of cases, bacteriological investigation d vaccine treatment would be helpful.

DISCUSSION ON THE DIAGNOSIS OF FEVER WITHOUT PHYSICAL SIGNS.

OPENING PAPER.

By W. Hale White, M.D., F.R.C.P.,
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our means of investigation become more numerous, the es in which we cannot explain the cause of pyrexia ll be fewer. For example, the *x* rays now help us to ognize deep-seated pus, and an agglutination reaction ches us to detect typhoid fever in those in whom the se of the pyrexia might formerly have been overlooked. When a patient is first seen, especially if he has just been ought to a hospital, the temperature may be misleading, rticularly if taken in the mouth, for if he has been athing cold air the thermometer will register too low; he journey has entailed much exertion it will register her than his disease warrants. That exertion will raise temperature has been shown by several observers, st recently by Bardswell and Chapman,[1] who found, for mple, that a normal individual walking for one hour at miles an hour raises his rectal temperature to 100.6° F.; king for one hour at six miles an hour he raises it to F. They justly point out that this fact invalidates y conclusions that have been drawn as to autoulation when the temperature of those suffering from rcle has been found to be raised as a result of rcise.

lthough man is a warm-blooded animal, under some umstances the external temperature raises his conrably. For example, I had been staying in my room uniform temperature for some time, therefore the perature in my mouth represented my internal perature with sufficient accuracy; it was 98.28°. I got a bath the water of which was 112°, and completely red me except my head. I got out after fourteen utes; the temperature in my mouth was 103.2° F. In same way, if I remain some time in the hot rooms of a kish bath my internal temperature is raised, but, of se, not so much as after an ordinary very hot bath of a few minutes, for in the Turkish bath sweating is ible.[2] Sometimes the power of the body to maintain mperature fairly constant, irrespective of that of the ounding air, breaks down, and then the patient has stroke. This is the best example of pyrexia without ical signs. The influence of external temperature is n in the fact that the temperature of fevered patients gher in the hot months than the cool. Wunderlich d that during the hot summer of 1865 his patients fever had unusually high temperatures. It is well n that the majority of cases of rheumatic hyperi occur in the months of June, July, August, and mber, and J H. Bryant[3] showed that most cases of pyrexia, whatever its cause, fell in these months.

e younger the patient the more easily is the thermomechanism put out of gear; therefore, in infants the rature is particularly likely to be raised by causes so that we fail to detect them.

ew comparatively simple chemical bodies have the property of causing pyrexia; that caused by belladonna may be overlooked. I remember two sisters who were admitted into the isolation ward under Dr. Hilton Fagge. Both were delirious and had a temperature of 104°, and each was covered with a brilliant red rash. It was suggested that they had scarlet fever, but after they had been in the hospital twelve hours we learnt that they had eaten belladonna berries. Possibly some cases in which the cause of the pyrexia is never discovered may be due to poisons. Cocaine will—in animals, at any rate—induce pyrexia, but the most remarkable drug is B. tetrahydronaphthylamine and the following table shows the result of injecting this drug into rabbits. The experiments were done in conjunction with Dr. J. Fawcett.[4] In one the temperature rose 9.9° F. Probably the drug acts by increasing the production of heat.

Table showing the Result of injecting a 3 per cent. Solution of B-tetrahydronaphthylamine into Five Rabbits.

Number of Experiment.	Dose injected.	Time taken to attain Maximum Temperature.	Rectal Temperature immediately before Injection. Degrees F.	Highest Temperature after Injection. Degrees F.	Rise
1	3 c.cm.	3 hrs.	101.6	107.4	5.8
2	3 c.cm	1¾ hrs.	102.7	112.6	9.9
3	4 c.cm.	2 hrs.	103.1	106.8	3.7
4	3 c.cm.	2½ hrs.	101.4	104.3	2.0
5	3.5 c.cm.	4 hrs.	101.8	105.0	3.2

An excess of carbohydrate food will sometimes lead to pyrexia, and I cannot do better than quote as an instance of this form of fever a case recorded by the late President of this Association, Dr. H. Davy.[5]

A boy during 1894, 1895, 1896, and 1897 had ten or eleven attacks of fever lasting two or three days. The onset was quite sudden. One in 1897 was severe, the temperature reaching 104.6°, and in 1898 he had another sharp attack, the temperature chart of which is appended (Chart 1). In June of the same year

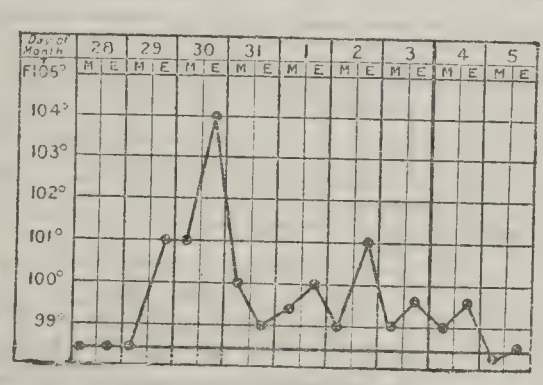

Chart 1.—Showing pyrexia in carbohydrate fever.

he had an attack in which the temperature reached 104.2°. These attacks were so frequent and so severe that they were ruining the boy's prospects at school. He then saw Dr. Eustace Smith, who advised a diet from which most carbohydrates were omitted. The boy never had another attack, except once after a good helping of black currant tart with sugar. As he attained adult life he was allowed carbohydrates without any harm following.

As Dr. Davy points out, carbohydrate fever must always be thought of in children who have those frequent attacks of pyrexia which were formerly called febricula and are now often erroneously said to be influenza. Such children are often pale and under weight. Why in some patients an excess of carbohydrate food causes pyrexia is not known; probably it is because, owing to faulty digestion, the carbohydrate undergoes abnormal decomposition. That some abnormal body in the intestines is the cause of fever may be quite unsuspected until an examination of the stools shows mucus and blood in them.

Leaving now examples of the pyrexia caused by drugs and food, we may take that induced by disorders of the nervous system; sometimes such pyrexia is the most extraordinary with which we meet. It is well known that fracture of the spine, especially if in the cervical region, will lead to pyrexia, and damage to certain parts of the brain, especially the corpus striatum, will also lead to pyrexia. I have published twenty-seven experiments[6] showing that damage to the corpus striatum in rabbits

produces considerable pyrexia, and I show you a chart illustrating one experiment (Chart 2).

In an ordinary case of cerebral haemorrhage in man, in

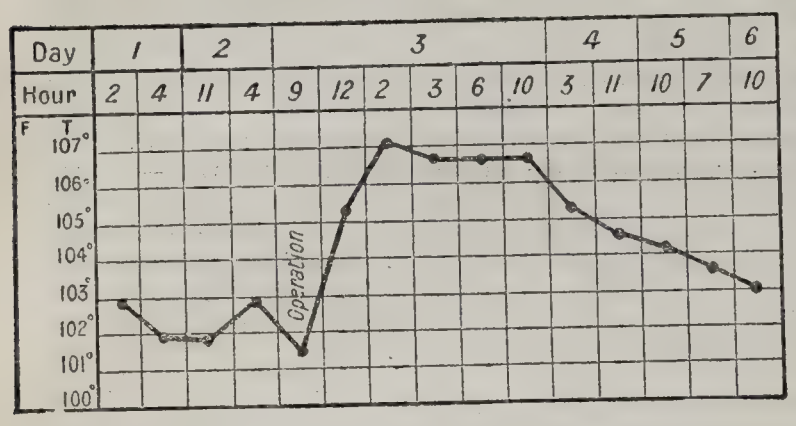

Chart 2.—Showing rise of temperature due to damage of rabbit's corpus striatum.

which not only the internal capsule but also the corpus striatum is damaged, if the loss of blood is very great there may be a fall of temperature which is often succeeded by a rise above normal; if the loss of blood is not great there is a rise of temperature from the first. Usually if the temperature is taken in both axillae it will be found to be highest on the paralysed side. Often the period of pyrexia is succeeded by some days of subnormal temperature. These points are shown in Chart 3.

I cannot stop now to discuss the cause of the difference between the two axillae. I have done that elsewhere.[7] As is well known, tumours of the pons often lead to pyrexia.

The importance of the central nervous system in relation to pyrexia is well shown in the study of hyperpyrexia. Thus J. H. Bryant found

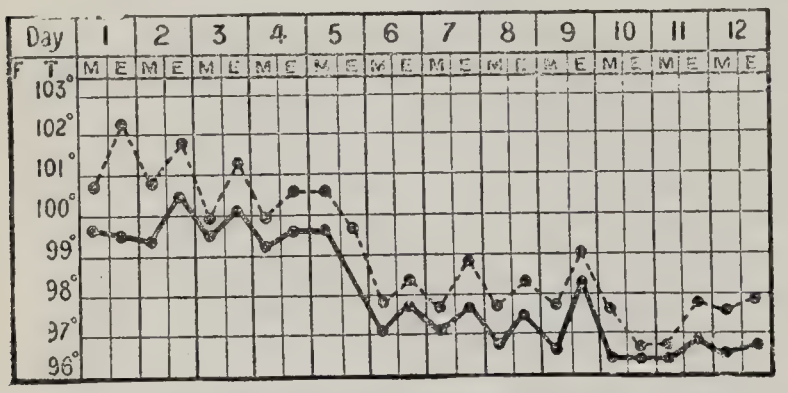

Chart 3.—Showing the temperature in the axillae after haemorrhage implicating the corpus striatum. The dotted line shows that in the axilla on the side opposite to the haemorrhage; the straight line that on the same side as the haemorrhage.

hyperpyrexia in 10 out of 258 cases of fractured skull. I have known the temperature rise to 107.4° in cerebral haemorrhage, to 107° in cerebral softening, to 108° in cerebral tumour, to 108° in delirium tremens, to 108.4° in chorea, and to 109.1° in convulsions. All such cases may be said to be examples of pyrexia without physical signs. The explanation of them in all probability is that the disease of the brain has thoroughly upset the thermotaxic mechanism, but it is the cases of hysterical pyrexia that cause the greatest difficulty. In some of the cases which have been published under this heading probably fraud has been practised. I was called once to see a nurse whose axillary temperature was stated to be 110°. I found it normal in the rectum, and discovered that immediately before the temperature in the axilla had been taken the patient had heated up her axilla with a very hot indiarubber hot-water bottle; but I think a survey of the published cases shows that some are genuine, and we must suppose that just as in hysterical paralysis or hysterical convulsions the cerebral motor mechanism has gone mad, so in hysterical pyrexia the cerebral heat mechanism has gone mad. I will give two cases as examples of hysterical pyrexia; neither has been previously published.

A woman, aged 30, whom I saw many times with Dr. Handfield Jones, and at various times twelve other doctors joined us in consultation. Every known means of investigation was employed. A lumbar puncture was performed; the blood was examined both as regards its cells, its agglutination, and its opsonic index relations, and there was never any indication as to the cause of the pyrexia. She took food well, did not waste, the pulse and respirations were not raised with the temperature; indeed they were often normal when it was at its highest; there were neither rigors nor sweats. When the temperature was normal she was perfectly well; when it was raised she was usually for three or four hours incoherent and very noisy, and in such a condition that every one of the doctors who saw her was quite sure that fraud was out of the question. The sudden end of the pyrexia is interesting; no cause for this could be discovered. When the temperature ceased to rise the patient became well, and has been so ever since. It is six years since her illness.

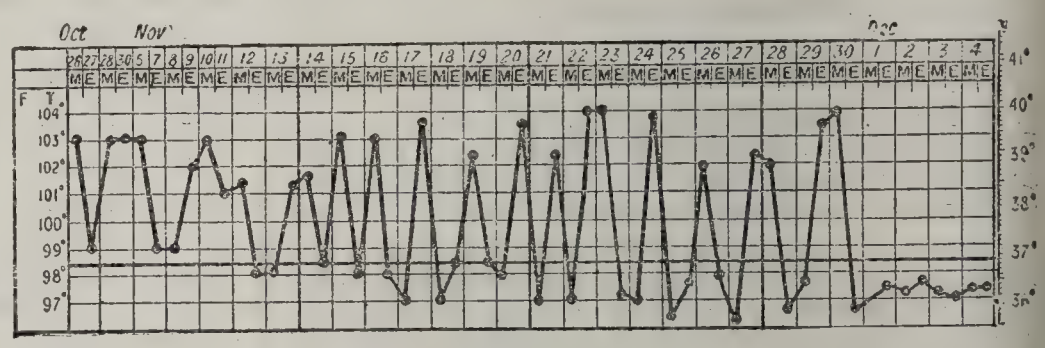

Chart 4.—Hysterical pyrexia

I give a chart of her temperature during the time I saw her on and off; it had been raised for six weeks before this, so it was raised on most days for eleven weeks (Chart 4).

The second case is that of a woman aged 30, seen with Dr. Hugill. She had always been "curious," and some years before had had some "mental trouble."

Two months ago she found just before her projected marriage that the man to whom she was engaged was already married. Dr. Hugill saw her a month after this, and was told that her temperature had been raised since the above discovery. After he took charge of the case he took the temperature himself, and is quite sure no fraud was practised. She did not waste, her tongue was moist, the pulse was frequently normal when the temperature was high; thus once, when it was 104.4°, the pulse was 78, respiration was often a little accelerated with the pyrexia.

Every possible means was taken to discover the cause of the pyrexia, but without any success. It will be noticed that as in the other case the pyrexia terminated suddenly (Chart 5).

In any case in which the cause of the pyrexia is not obvious the blood should be examined. Thus an excess

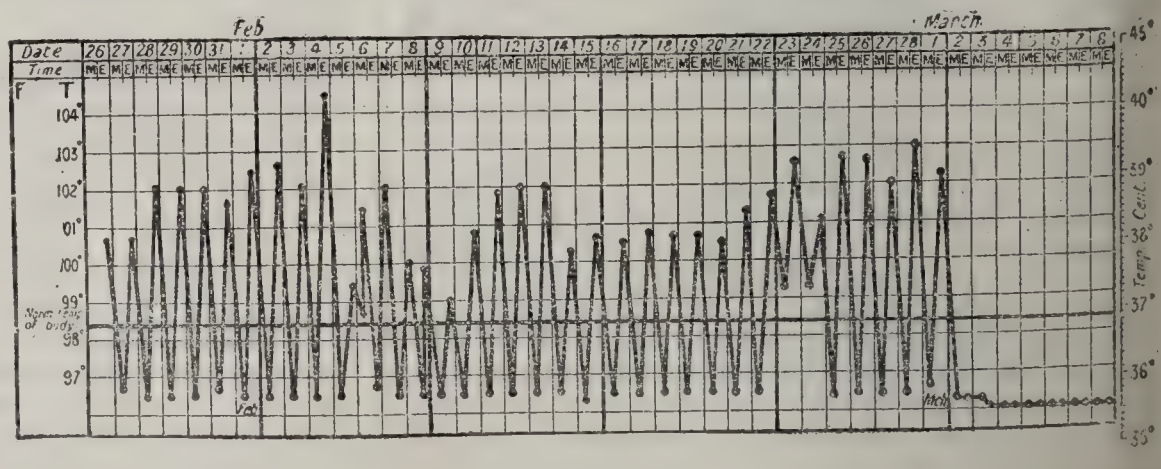

Chart 5.—Hysterical pyrexia.

of polymorphonuclear cells will often indicate pus, but this is of less clinical value than might be thought, for usually when there is a sufficient increase of polymorphonuclear

ls as to confirm the suspicion of pus it can be detected y other means. A considerable quantity of pus may be present without any increase in the number of these cells, and in several diseases they may be more numerous than is natural—for example, in pneumonia. In some examples of pyrexia a leucopenia—for example, typhoid—is present. Sometimes the parasite causing pyrexia may be found in the blood—for example, in malaria, blackwater fever, sleeping sickness, tick fever, relapsing fever, and filariasis—or, again, bacteria may be found in the blood, as in malignant endocarditis. Occasionally the finding of bacteria may lead to a correct diagnosis, but usually this can be reached without examining the blood, and unfortunately they cannot, in some cases in which they exist in the blood, be detected during life. A Wassermann reaction or one of its many modifications may show whether an obscure fever is due to syphilis. I remember seeing a case of syphilitic fever called rheumatic fever, but syphilis is a rare cause of obscure pyrexia. Then the examination of the blood for agglutination reactions helps to a diagnosis in typhoid fever, paratyphoid fever, Malta fever, dysentery due to Shiga's bacillus, and glanders. In the case of typhoid fever at least the value of the agglutination test is diminished by the fact that usually the reaction cannot be obtained until several days after the beginning of the illness; in a few cases of typhoid it is absent, and rarely the serum of patients whose pyrexia is not due to typhoid may clump typhoid bacilli. Thus a woman did not give a Widal reaction on admission to the hospital, later she did; she had malignant endocarditis, and this was proved by *post-mortem* examination not to be due to the typhoid bacillus. Further the typhoid agglutination reaction may last many years and may therefore lead to error if a patient who has had typhoid fever some years before subsequently suffers from pyrexia due to some other cause. Still, in spite of all these drawbacks the reaction is often of the greatest value. The estimation of the opsonic index may be of help. This method is usually employed when it is suspected that the pyrexia is due to the tubercle bacillus, and then much information may be yielded by observing the movements of the index through the negative and positive phases after manipulation of the part affected. But in some of the most severe cases of tuberculosis this method fails to aid us, and the estimation of the opsonic index must always be undertaken by a skilled observer and in any particular case it is desirable that observations of the movement of the index should always be undertaken by the same observer.

It must never be forgotten that obscure pyrexia may be caused by those diseases which are usually grouped together as diseases of the blood. For example, the temperature is often raised in pernicious anaemia (Chart 6) and usually in an irregular manner, and in Hodgkin's disease (Chart 7), in which disease, as Dr. Frederick Taylor[8] has pointed out, the pyrexia is often relapsing. The chart gives in a condensed form the patient's temperature for seven weeks, but the original paper gives the temperature taken continuously for twelve months and six days. There were long periods in which no day was entirely free from fever, but in these long periods there were alternations of periods of relatively high fever with periods of relatively low fever, and at other times there were alternations of periods of pyrexia with periods of apyrexia. We have all known considerable intermittent pyrexia to occur in cases of acute lymphatic anaemia, and in one remarkable case in which histologically the enlarged glands showed the same appearance as is characteristic of Hodgkin's disease there were recurrent attacks of pyrexia associated with profound illness, enlargement of glands and spleen and a large hyaline leucocytosis.[9]

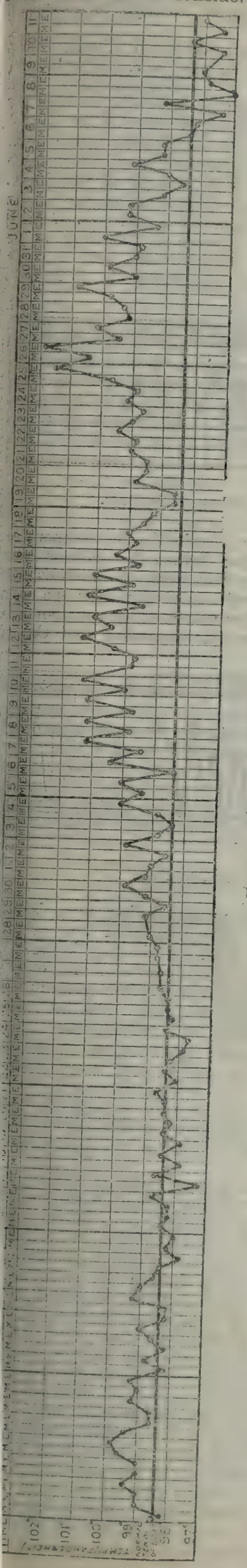

Chart 6.—Pernicious anaemia.

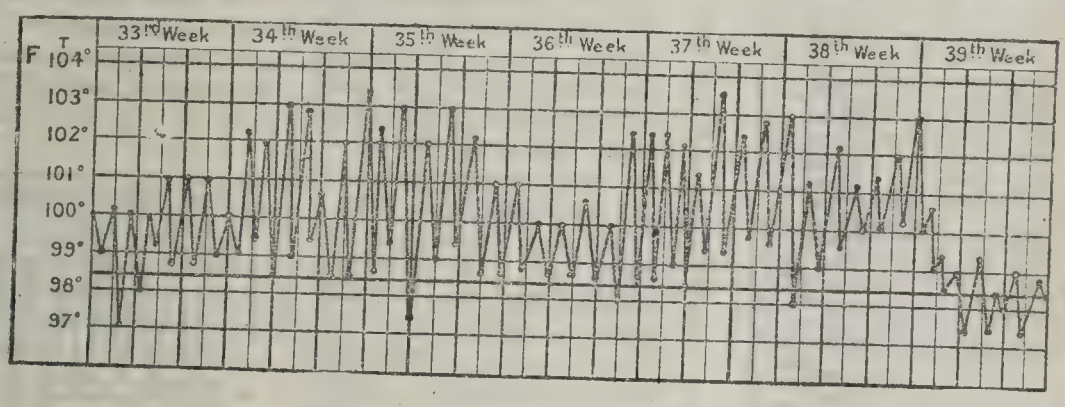

Chart 7.—Relapsing pyrexia of Hodgkin's disease.

The examination of the cerebro-spinal fluid is often of great help in cases of obscure pyrexia that may be due to meningitis, for it will often yield positive results before any optic neuritis is discernible. It is a common clinical problem to have to decide what is the matter with a young child who has pyrexia and some retraction of the head, for in children retraction of the head by no means always means that the patient has meningitis. As is well known, we pay attention to the turbidity of the fluid, the presence of albumen, the cytology as shown in a centrifugalized specimen, and the bacteriology; the normal fluid is perfectly clear, and does not contain albumen, cells, or micro-organisms. If the cerebro-spinal fluid does not reduce Fehling's test-fluid, meningitis is probably present.

It is probable that the explanation of obscure pyrexia is often overlooked when it should be sought in the condition of the urine. This may be perfectly free from albumen, blood, and casts; the patient may have no symptoms pointing to an examination of the urine, and yet the key to the riddle may be there.

For example, a boy, aged 16, had had several rigors during five weeks; during one of these his temperature was 107°. When he came into the hospital, excepting that he had suppression of the urine, and on close questioning he admitted to

having had a slight pain in the penis when micturating, absolutely nothing wrong was to be found by the most thorough examination, including *x* rays. After a little while he passed some urine. It contained neither blood, albumen, pus, nor casts, but the centrifugalized deposit was a pure emulsion of streptococci. No source for the infection could be discovered. He was treated with antistreptococcic serum, the streptococci disappeared from the urine, the rigors and pyrexia ceased, and he was discharged quite cured.

But the cause of the rise of temperature may be overlooked even when the urine is obviously abuormal. For example, a man had a pyrexial attack thought to be influenza, subsequently the urine contained blood, but the suggestion of acute Bright's disease was soon given up, for there were no symptoms of it beyond the haematuria, but as weeks went on the temperature remained raised, so the urine was examined bacteriologically, a pure culture of *Bacillus coli* was obtained from it, he was vaccinated and got perfectly well. Sometimes the case presents itself as one of septicaemia, and an examination of the urine will show the offending micro-organism. Thus, a woman, aged 45, had pyrexia and swelling of many joints. She was thought to have acute gout, she got much worse, and at the end of two or three weeks was at the brink of death with general pyaemia, high temperature, pus and blood in the urine. Attempts to find the offending micro-organism had failed until the urine was examined, when *Bacillus coli* was found in it. She was vaccinated and recovered completely. But the most common cases of obscure pyrexia to be cleared up by examination of the urine are those which occur in pregnancy. For example, a woman seen with Dr. Percival White during the seventh month of pregnancy was suffering from pain in the loins and fever. The urine contained a pure culture of *Bacillus coli*. She had five injections of autogenous *coli* vaccine, and after the fifth the temperature became normal. She passed successfully through a natural confinement at full time:

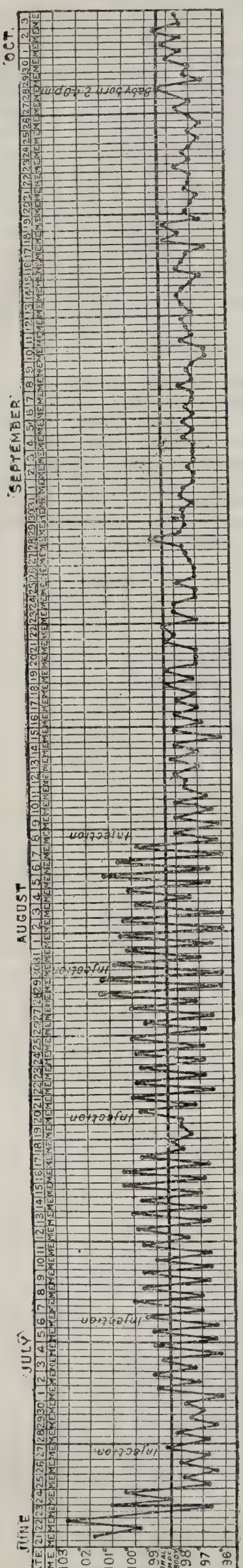

Chart 8.—Coli pyelitis: Chart of patient confined September 28th, showing raised temperature from June 21st to August 9th, normal temperature from then to confinement, and dates of giving vaccines.

her child was quite healthy. I show you the patient's chart (Chart 8). Before giving up as inexplicable any obscure case of pyrexia we ought always to examine the urine bacteriologically.

Forgetfulness of the fact that malignant disease may be the cause of pyrexia leads to mistakes. Whether it is that the malignant disease so lowers resistance that we overlook some slight secondary infection, or whether the growth itself leads to pyrexia, is difficult to decide. There certainly is something to be said for the latter view. As a rule the growth is rapidly growing and of considerable size, or there are many growths throughout the body. Hence, some of the best instances of pyrexia in association with malignant disease occur in cases of sarcoma. I have several times known a large growth of the liver to be associated with pyrexia for many weeks, and I show you a chart (Chart 9) of the temperature in a case of

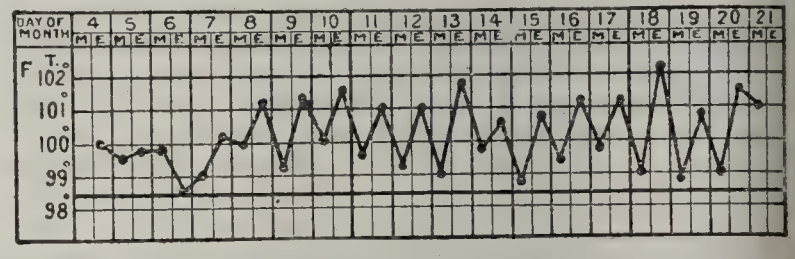

Chart 9.—Malignant disease of the liver.

malignant disease of the liver. Probably the temperature had been raised for some time before the patient came under observation. Talking of this organ reminds us that, as Carrington pointed out, cirrhosis of the liver is a cause of pyrexia, and of this I show you a chart published by him (Chart 10), and also we are reminded that the so-

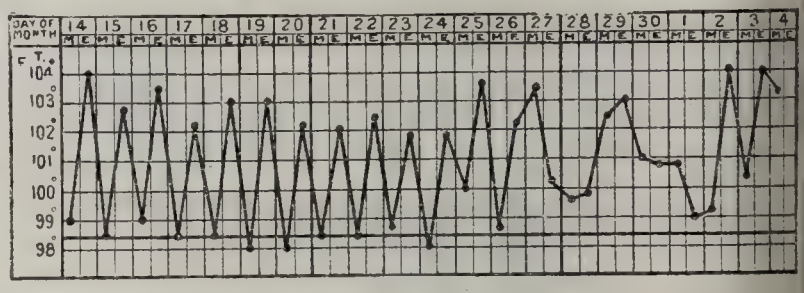

Chart 10.—Cirrhosis of liver.

called tropical liver with its accompanying pyrexia may be seen in this country. I have met with two or three instances of this. Thus, a man on his way home from India was taken with fever and a tenderness and enlargement of the liver. All these symptoms were present when he arrived in London, but they gradually subsided and no abscess formed. Pylephlebitis and inflammation in connexion with the biliary passages must be remembered as causes of pyrexia. Thus, a patient may have frequent attacks of pyrexia, due to cholecystitis without any jaundice; often slight shiverings, pain in the neighbourhood of the gall bladder, and considerable dyspepsia are present. As a rule, the gall bladder is not palpable, but it may be.

As far as my own experience goes, I should have thought that we most often make mistakes about obscure pyrexia by omitting to discover deep-seated pus. Especially an empyema after a pneumonia is regarded as chronic pneumonia or tuberculosis. The pyrexia due to an empyema is usually greater in the evening than in the morning, and shows itself the second or third day after the crisis of the pneumonia. In rare cases, in which pus forms early, there is no drop of temperature to show the crisis, and in other rare cases the rise in temperature is long delayed after the crisis. I have known it not appear till twenty days after. Occasionally there is an empyema on both sides, and once I have met with two empyemata on the same side. Very careful physical examination, a thoroughly good *x*-ray examination, and particularly some point of local tenderness, will be the best guide to the situation of the pus. More than once I have known pyrexia to be ascribed to bronchitis, but an examination of the sputum has shown that it contained masses of pure pus, and further investigation has shown that the patient is coughing up pus from an

empyema. Pus in connexion with the teeth, the antrum, and the cavities of the nose is often difficult to find, and so may be a small subdiaphragmatic abscess. Here the *x* rays may be invaluable. A retropharyngeal abscess may be overlooked, and often pyrexia after an operation thought to be caused by pneumonia is really due to suppuration in connexion with the wound. When in such cases there is difficulty of diagnosis, the amount of pus is usually small and the leucocytosis is trivial; indeed, I[10] have seen the slight degree of leucocytosis lead the physician astray, for he has argued from it that pus was not present.

Malignant endocarditis is perhaps the next commonest cause of difficulty. The murmur may at times be absent, or the temperature may be so slightly and so irregularly raised that the thought of malignant endocarditis is not entertained, or the anaemia, which may be very profound in malignant endocarditis, is thought to be a primary anaemia, and the murmur which ought to lead us to malignant endocarditis is regarded as haemic. Evidence from variation of the murmur, from emboli, from sweats and from rigors, is very valuable, but is often absent. It may be impossible to discover the offending micro-organism in the blood, and unfortunately it is just in these slight cases which are not easy to unravel that often we fail to find any micro-organisms in the blood. Leucocytosis is frequently absent, and is often present in other diseases, so that we do not get much help from an enumeration of the white cells. This disease is so much more common than is generally supposed, and the evidence of its existence may be so slight that, as a rule, if it is suspected, it is present. Some cases of rheumatic fever are difficult of diagnosis, and can only be unravelled by attention to every detail, and if a murmur is present there may for a time be considerable uncertainty as to whether or not we are dealing with subacute malignant endocarditis.

Probably failure to examine the urine bacteriologically is the next commonest mistake in connexion with obscure pyrexia.

Before the discovery of the tubercle bacillus many examples of obscure pyrexia due to tubercle were missed, and even now in some of these the cause of the pyrexia remains obscure for a long while, and such cases should perhaps come next in our list of difficulties; but repeated examination of the sputum, if there is any, or of the urine, will in some instances clear up many cases. Frequent estimations of the opsonic index will often help, and a thorough examination of the lungs with the *x* rays may aid us. Often a careful study of the lungs with the screen, combined with a prolonged look at the negatives, will reveal tuberculous deposits in the lungs, which would otherwise be missed. Then, too, attention must be paid to the movement of the diaphragm, for it often lags on the affected side, and often, too, the apex of the diseased lung does not light up well on deep inspiration. The various modes of applying tuberculin—for example, subcutaneous, into the eye, and the von Pirquet test—show that the patient has a tuberculous focus, but a reaction from any of them does not prove that his pyrexia is due to tubercle, but a negative result may be of importance. In miliary tuberculosis of the lungs rapid respiration and a slight lividity may indicate the seat of the trouble, and in tuberculous meningitis we may find tubercles on the choroid. It goes without saying that in any case of suspected tuberculosis physical examination must be very thorough, but pyrexia due to tuberculous disease of the lungs may be present for several weeks before any physical signs reveal themselves, and in such cases, in spite of all our means of diagnosis, we may be uncertain of the cause of the pyrexia until we find pulmonary physical signs.

Although typhoid fever is less common than it was, it is still a cause of obscure pyrexia, but it is most easily discovered in those who take most care. Paratyphoid fever must never be forgotten. Most of the other causes of obscure pyrexia have been already indicated; they are each of them much less frequent than pus, malignant endocarditis, infections which reveal themselves in the urine, tuberculosis, and typhoid fever, and it is almost impossible to rank them in order of frequency. I purposely have not mentioned influenza, for if the fever lasts more than a few days the original diagnosis is probably incorrect or some complication has ensued. Influenza is characterized by leucopenia; in ordinary cases the bacillus cannot be isolated from the blood, but Dr. Horder has done this in influenzal endocarditis, and I have obtained a pure culture of it from pleuritic fluid. My duty has been to open the discussion—therefore, I have made no attempt to treat the subject exhaustively, but I have only indicated the points about which discussion will probably take place.

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DISCUSSION.

Sir William Osler (Oxford) said he would confine his remarks to protracted cases of obscure fever without physical signs. They fell into certain groups. What might be called the neurotic cases were not very common. He had seen only a few instances of what could be called hysterical fever, but had seen three instances of protracted mild pyrexia in stout, nervous children approaching puberty. In two of these cases tuberculosis had been suspected. The nutrition was well maintained. The temperature was taken for many months, and the life of the family circled round the clinical thermometer. Getting rid of the nurse and breaking the thermometer cured the condition and relieved the nervous mother. In the group of what Leube called the cryptogenetic infections, tuberculosis probably headed the list. There were a good many cases of slight fever, of a few weeks' or a month to two months' duration, due to an unrecognized, sometimes unrecognizable, lesion in one lung, or in the mediastinal or mesenteric glands. Mild cases of tuberculous peritonitis were not uncommon, and they ran a latent course, except for the slight fever. Then there were the remarkable cases of acute tuberculous septicaemia, in which the most profound toxic features might develop from a small lesion. From some of these cases the bacilli had been isolated from the blood. Of great obscurity and very puzzling were the cases of chronic infectious endocarditis, the majority of which appeared to be due to a mild streptococcus. In a large proportion there was a definite heart lesion, but for months the old physical signs might present no changes. Month after month the patient might show nothing but the pyrexia. In one of his patients, a physician, whom he had examined in 1889, the condition of the heart in 1903, fourteen years later, was practically identical. There was no cardiac disturbance, the heart's action was regular, the pulse was good, but he had a daily rise of temperature to 102° F., occasionally 103° F. This continued from March until October, with occasional sweats, and the only embolic features were in the retina. On the other hand, there might be for months the fever of endocarditis without a murmur. The speaker had seen recently, with Dr. Relton of Rugby, an extraordinary case of this type, in which the fever had persisted on and off since September. On the occasion of his first visit, about the middle of April, there was a soft mitral murmur which had only recently developed. Later a well marked double aortic murmur occurred. The blood cultures were at first negative, but subsequently a streptococcus was obtained. A point of very great moment in the diagnosis of these cases was the presence of the ephemeral nodules, which appeared at intervals, chiefly in the skin of the hands and feet. They were, he believed, pathognomonic of the condition. Libman had pointed out that in these cases blood cultures were difficult to obtain, and nothing might grow for eight or ten days. The form of endocarditis was quite peculiar, vegetative in type, and very apt to extend to the wall of the left auricle. Syphilitic fever was of exceptional interest, and a number of remarkable cases had been reported from the speaker's clinic by Dr. Futcher. As was well known, it could occur in the secondary stages. In one of the most remarkable cases in his series, twenty-nine years after the primary infection, an intermittent fever resembling malaria occurred, following an outbreak of rupia. The fever persisted for months, but was promptly stopped when the cause was recognized. Dr. Hale White had laid special stress upon the infection of the urinary passages by the colon bacillus. This was a common cause of chronic febrile attacks, and it was

important to recognize that bacilluria might exist with little or no pus. Not infrequently the cause of a prolonged fever was the presence of tumours in inaccessible regions. In Hodgkin's disease it did not often happen that the glands were inaccessible. One of the first cases reported by the speaker was in an excessively stout man of 40, who had chills and fever at long intervals. The external glands were not enlarged, and the spleen could not be felt. At the autopsy on this case great enlargement of the spleen with uniform involvement of the abdominal glands was found. In one instance the cervical glands had been removed. Then the patient began to have the typical Pel-Ebstein type of fever. No involvement could be made out of the internal glands. The case seemed perfectly clear, but the diagnosis had been complicated by the discovery of colon bacilli in the blood. Subsequently the external glands enlarged. Deep-seated sarcomas, particularly certain tumours of the liver, such as that recently described by Moffat of San Francisco, might be associated for months with irregular fever. Small foci of suppuration in pleura and peritonitis might keep up the fever for weeks or months. One cause scarcely sufficiently recognized was the deep-seated small points of suppuration in the tonsils.

Dr. E. C. HORT (London) said: Dr. Hale White will, I am sure, agree that it is not only the absence of physical signs that is responsible for the obscurity of many of these puzzling cases of fever. The presence of physical signs is no doubt of great service in enabling us to connect, for example, the fever in lobar pneumonia with the presence of the pneumococcus, because we know that if we can get rid of the pneumococcus we may also be able to get rid of the fever. Again, the absence of physical signs that indicate, say, the presence of pus, is no doubt a serious disadvantage if pus after all proves to be present, because we know that if we can find pus we may be able to remove it and the fever it produces. But we do not know why the pneumococcus causes fever, nor why pus causes fever. The result is that our inability to determine the essential nature of fever when there are ample physical signs makes it doubly difficult for us to interpret the clinical meaning of cases of fever when there are none, because we have no sort of clue to guide us as to what fever production really means. If, on the other hand, we subscribe to what I have ventured to call the doctrine of the unity of fever, many of these obscure cases of fever without physical signs are no longer obscure. Now the doctrine of the unity of fever is based on the theory that in man fever is, speaking generally, apt to follow any form of cell destruction, and is the direct result of absorption of fever-producing substances set free from the cells destroyed. In other words, that a lock is capable of being turned by fifty keys so long as all the keys fit, and that it is immaterial, so far as the production of fever is concerned, which key is used, because once the lock of the cell is fully turned fever-producing substances will always escape. Now, if I am able to satisfy you that this theory is based on fact, you will, I think, agree that it has a very direct bearing on the subject of this discussion, because the problem of determining the cause of fever in any given case then resolves itself into one of determining the cause of cell destruction. I think I cannot do better

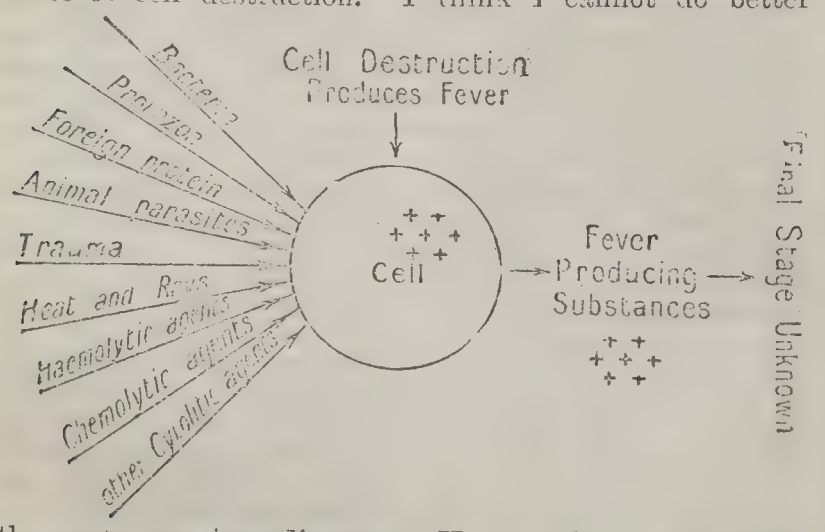

than refer you to a diagram. Here we have in diagram the living uninjured animal cell, which I can prove to you contains fever-producing substances. This is best shown by injecting into healthy animals small quantities of water by the subcutaneous or intravenous route. In both cases fever accompanied by other signs of intoxication is the result. Another method is to inject an animal with products of its own tissues, when fever will again ensue. In both these methods a process of true auto-intoxication is set up, due to absorption of products of destroyed native cells. We have, of course, known for some time that injection of foreign albumen will cause fever, and that injection of an animal of Species A with extracts of normal tissues from an animal in Species B again produces fever. And two years ago I was able to show that by injecting an animal with normal tissue extracts from an animal of the same species fever is again induced. But in both cases it is always foreign protein that is injected, and therefore these experiments do not prove, as the first set of experiments do, that fever is partly the result of absorption of native protein. Here, then, we have unmistakable evidence that if in a living animal the cells are destroyed in sufficient number, fever, accompanied by other signs of intoxication, will always follow, provided that the power of reaction is unimpaired. Wherever, then, cell destruction occurs fever may result, and the cause of destruction is so far immaterial. It may be heat or it may be exposure to x rays. Injection of certain drugs will cause fever after cell destruction; so also will injections of saline, with or without salvarsan; so also may trauma of almost every description. Cell destruction is probably the cause of fever in bacterial disease, though absolute proof is not yet available. In protozoan disease fever is almost certainly due, when the parasite leads an endocorpuscular existence, as in malaria, to absorption of products of the red cells destroyed by the maturating amœba. This I have proved by demonstrating that red cells when injected produce marked fever, and by the fact that after intravenous injection of water in small quantities haemolysis can be proved by the red colour of the serum. All cases of fever in man can be grouped under one of three headings, as the fever table I have drawn up shows. Every case of fever can be classed as one due to absorption of foreign products or to absorption of native products, or must be put in the group of unclassed fevers. If you accept my views the last group will contain very few cases, such as hysteria and so forth. The first group explains itself, though once we can prove that the toxicity of foreign protein lies in its ability to split up native protein Group 1 will be largely merged in Group 2. Meanwhile we note the fevers that may follow injection or ingestion of foreign serum, and the puzzling cases of idiosyncrasies to special articles of food expressed in fever, often of a very chronic nature. The real interest, however, lies in Group 2, of cases of fever due to absorption of native products after cell destruction, cases that but for the knowledge that normal tissues contain fever-producing substances would have to be grouped amongst the unclassed fevers. The conclusion therefore appears to be that whenever we get fever we ought to eliminate one by one all the possible causes of cell destruction. If bacterial disease causes fever by liberating fever-producing substances from the infected tissues it becomes doubly necessary to exhaust all known methods of excluding infection. If infection cannot be incriminated, all other causes of cell destruction must be passed in review before we fall back on such explanations as reflex fever, which explain nothing. I do not suggest that the doctrine of the unity of fever includes all possible cases of fever, but I do suggest that by its adoption the number of unaccountable cases will become progressively smaller and smaller. The theory is of course not new, but it has never yet been placed on a sound experimental basis.

ALL CASES OF FEVER IN MAN COME UNDER ONE OF THREE HEADINGS:

1. Absorption of foreign material.
2. Absorption of native material.
3. Unclassed fever.

1. *Absorption of Foreign Material.*—(*a*) Bacterial cytoplasm; (*b*) protozoan cytoplasm; (*c*) foreign serums; (*d*) special articles of food; (*e*) products of animal parasites.

2. *Absorption of Native Material.*—(*a*) Bacterial infection; (*b*) protozoan infection; (*c*) animal parasites; (*d*) cirrhosis of liver; (*e*) breaking down carcinoma; (*f*) trauma (1, aseptic fractures; 2, accidents involving tissue death; 3, aseptic operations); (*g*) involution of disappearing organs (1, thyroid; 2, thymus; 3, tonsils generally and adenoid tissue); (*h*) cherolytic agents; (*i*) (?) excess carbohydrates; (*j*) secondary effect

of absorption of foreign protein; (*k*) duct fevers, injury *plus* infection—ureter, urethra, bile ducts; (*l*) haemolysis (1, endocorpuscular protozoan (malarial); 2, pernicious and all severe anaemias; 3, malignant haemolysis; 4, bacterial haemolytic toxins; 5, retained haemorrhage of any kind; 6, resolving thrombus; 7, injections of saline in collapse, or with salvarsan).

3. *Unclassed Fevers.*—(*a*) Hysteria; (*b*) obscure cerebral fever, perhaps not true fever; (*c*) unexplained fevers not belonging to Groups 1 and 2.

Dr. Tyson (Folkestone) said that two points did not seem to him to have been sufficiently emphasized—namely, sex and age. As regards sex, there was little doubt that the temperature in the female, whether in youth or adult, was, as a rule, higher in disease than that of the male—perhaps from half to one degree. In children temperature was well known to be considerably higher than in the adult—as much as one up to two degrees—and was raised by comparatively slight means. Perhaps two of the more common causes of raised temperature in children were the effects of indigestion of various kinds of food, and, secondly, the prolonged exposure of children to the sun. But temperature in children could be very largely discounted. In regard to toxaemic conditions, he was inclined to attach considerable importance to the rate of respiration, although the temperature might be normal. The higher rate of respiration might lead one to recognize an increase in the absorption and the amount of poison. When all causes of raised temperature had been examined, he still believed there would be a large number in which it would be impossible to account for this raised temperature.

Dr. Hobhouse (Brighton) said that most of the causes of pyrexia without physical signs had been enumerated. He would like to raise the question whether there was not in children a purely physiological fever due to increased tissue change. They knew very little of the rate of growth and metabolism in any individual child, and he felt sure that in some cases there came a period in which the metabolism hastened by rapid development produced fever. They should never adopt this view, however, until every means of excluding other causes had been exhausted. He had come to this opinion from close personal observation of several cases. He thought that Dr. Hale White had rather underrated the effect of syphilis. Secondary, tertiary, and inherited syphilis might all cause prolonged fever without any physical signs appearing for some time. He recalled an interesting case of tertiary fever in a young man with no physical signs to begin with. He developed at last a slight doughy resistance in the epigastrium, and the condition being diagnosed, he quickly recovered, after several months' pyrexia. There was no doubt about the pyrexial character of cirrhosis. In one recent case under his care the disease was not even suspected, as there was not a symptom to suggest it. The patient in this case was a young teacher of 22, who, after nine weeks of pyrexia closely resembling typhoid, died, the sole lesion found being a well-marked multilobular cirrhosis without much diminution of size. Acute lymphothaemia might also give rise to difficulties in children and adolescents. Erythema nodosum with delay in the appearance of the nodules was also a rare cause of prolonged fever in children, while the possibility of latent tuberculosis should not be overlooked. A certain number of cases were never explained even on the *post-mortem* table.

Dr. C. O. Hawthorne (London) remarked that after such an exhaustive presentation of the subject it would hardly be possible to imagine "unexplained pyrexia" appearing as a question to be discussed in the Section for many years to come. He would venture to add to the precautions suggested by Dr. Hale White the necessity of using an accurately standardized thermometer. No doubt it became of importance in subfebrile cases rather than those marked by considerable pyrexia, but it was not important in a discussion on unexplained pyrexia to remark that occasionally cases of persisting though slight temperature disturbance depended on an inaccurate thermometer, sometimes seconded by forgetfulness of the fact that a sublingual or rectal record was naturally rather higher than a record taken in the axilla. He would like to put in a plea for the recognition of "rheumatism" as among the causes capable of producing fever without physical signs or other evidences of local disease. It was of course true that in cases of rheumatic fever, the polyarthritis and the fever often ran a parallel course, but even this did not necessarily mean that the one was the cause of the other. The facts were equally open to the interpretation that both the fever and the arthritis were the results of a common cause, and conceivably therefore one might occur apart from the other. There were certain clinical experiences which went to show that this separation did actually occur in practice. Thus, more particularly in children, the degree of the arthritis and the height of the fever did not always correspond, nor were the two events always coincident in point of time. And if, with very slight evidences of arthritis—or other localized evidence of rheumatism—there might be relatively high temperatures, was it not possible or even probable that the process of simplification might be carried still further and fever appear as the one and only clinical evidence of active rheumatic disease? The clinical histories of the members of rheumatic families, Dr. Hawthorne thought, bore out this suggestion, and it was noteworthy, as generally admitted, both that children with a rheumatic inheritance were particularly prone to be neurotic, and that it was especially in neurotic children that attacks of unexplained pyrexia were apt to occur. The doctrine of rheumatic fever without arthritis was perhaps little heard nowadays but it had been preached by such clinical authorities as Graves, Todd, Fuller, Sir Thomas Watson, and Dr. Samuel Gee.

Dr. Stacey Wilson (Birmingham) stated that it was his belief that rheumatism was not in essence a joint disease, but that the influenzal micro-organism did in most persons find its last nidus in the tissues or fluids of the joints, when the alkalinity of the tissues was lowered. The remediability of this condition by the action of salicylates explained their efficacy in most cases of rheumatism. Rheumatism was, however, a general infection, and in some patients it developed as such, and in these cases salicylates were ineffective. When this was the case the patient might often be cured by raw-meat feeding to raise his resisting power, together with an antiseptic such as sulphocarbolate of soda, alternated with quinine sulphate every two hours. The effect of rat bites in producing continuous fever without physical signs must be remembered as a possibility. Sometimes, again, recurrent attacks of obscure pyrexia might be due to a gastric ulcer, from which septic absorption was taking place.

Professor R. D. Rudolf (Toronto) called attention to the question of what was the normal temperature as taken in the ordinary clinical way. Some years ago he had the temperatures of a number of the students taken night and morning under the tongue, and the average temperature of the class was about 97.4° F. in the morning, and 97.6° F. in the evening. Wunderlich, who did so much for clinical thermometry, said that the normal temperature lay between 97.2° F. and 98.8° F., but this had been lost sight of by many who expected the temperature to run along that artificial line marked on the chart as 98.4° F. In the General Hospital, Toronto, they now had charts in which the normal temperature was marked as a band, the lower limit of which was 97.2° F., and the upper 98.6° F.

Dr. Melland (Manchester) drew attention to the fever accompanying acute leucocythaemia, in which there might be no physical signs. These case were often diagnosed as typhoid fever.

Dr. William Hunter (London), presiding, said that as a contribution to the discussion he would like to say a few words regarding the *Classification* of these obscure fevers. In his own practice he was accustomed to adopt not the clinical or anatomical one, which had regard to the various organs and their lesions with which fever was at times associated, but rather the etiological one, which had regard to the nature of the class of factors responsible for the production of the fever. These factors could, in his experience, be divided into two great groups, namely: (1) Those of *Non-infective* nature, produced by such causes as muscular exercise, overheating, the action of drugs, and nervous disturbances arising as a result either of functional disturbance or due to organic lesions of the nervous system such as had been so fully dealt with by Dr. Hale White. In his experience febrile disturbances arising from these

causes formed but a small group of the causes of obscure fever with which he was called upon to deal. (2) The second group of factors were those of *Infective* nature. Those constituted naturally by far the most common and important. He was accustomed to divide these into two groups, (1) those of *specific nature* associated with the various specific fevers such as pneumonia, scarlet fever, typhoid, tuberculosis, syphilis, etc., to mention only a few; and (2) those which were *non-specific* either in their local effects or in the degree of fever which might be associated with their presence.

Specific Infections.

The difficulties in distinguishing between the conditions frequently encountered in practice in connexion with the diagnosis or exclusion of pneumococcal infective lesions in the lungs and elsewhere, such as tubercle infection in connexion with the glands of the abdomen or of the thorax, and syphilitic diseases in the internal organs, were often very great. Still the tests now available in the form of Widal reaction for cases of typhoid, tubercle reaction for tuberculosis, Wassermann reaction for syphilis, enabled one with some degree of certainty to ascertain the presence or absence of these specific infections. This class of case, therefore, however common or important it might be, did not constitute, in his experience, any great proportion of the cases of obscure fevers with which he was accustomed to meet.

Non-Specific Infections.

By far the largest proportion of such cases were associated with the non-specific group to which he had referred; and if this were analysed they could be divided into two main groups: (1) The first and most important of these, the most frequently present, and the most frequently latent and obscure were *Septic infections* associated with staphylococcal and streptococcal wounds and other lesions in connexion with the mouth, gums, and teeth. These constituted by far the most frequent source of this infection. Secondly, the tonsils—a very common and important source in connexion especially with many acute and subacute rheumatic affections. The nasal passages and sinuses were a very common and overlooked seat of infection. Lower down the various conditions of "septic gastritis," "septic enteritis," "septic colitis," septic wounds in connexion with the rectum and anus, were a by no means uncommon source of infection; and, lastly, septic infections of the genital passages in women—for example, leucorrhoea, etc.—were sometimes the cause of obscure cases of fever.

In his experience, both as a general physician and as one interested in fevers, the mouth, throat, tonsils, and nasal passages were the most frequent seats of the latent sepsis continuously overlooked and responsible for the obscure fever which was so constantly associated with them. And when he analysed his own cases further, he found that at least three-fourths to five-sixths of these cases were connected with obvious and continuously overlooked sepsis of the gums and of the teeth—oral sepsis. This conclusion was no mere matter of personal opinion—it was based on the results of treatment. For on the removal of the sepsis here referred to, the obscure fever immediately disappeared. Moreover, the effects of this particular sepsis—long lasting and overlooked as it so continuously was—were not confined to mere manifestation of fever; for when particularly severe, or what was more often the case, particularly virulent (for the lesions were often but slight), the ultimate effects of sepsis of this character and arising in this situation could extend to infection to the blood itself and to infections of haematogenous origin in other organs.

The severe condition known as malignant endocarditis—or better termed, he thought, "infective" endocarditis—arose in a large majority of cases from an infection derived from those sources; this conclusion received confirmation at the hands of bacteriological observers, who had found in a large number of cases in the lesions of infective endocarditis the streptococcal organisms similar to those present in the mouth.

Having regard to the fact that the infection here dealt with was the most common, as well as the most commonly overlooked one in the body—that when present it was constantly swallowed and extended therefore down into the stomach and into the intestines—that it was always ready to waken up and take advantage of any weakened resistance in the body caused by other more obvious diseases, he thought that there was a necessity for recognizing and distinguishing the fever frequently thereby caused by a special name; and the name he suggested was one by which he was accustomed to speak of it—that of "Septic Fever." The name "septicaemia" had come to connote something of a more generalized and obvious infection of the blood. The term "septicaemic," if applied to those obscure cases of fever, did not actually convey an accurate impression of the variety, and in many cases slight degree of septic infection which could, in individual cases, give rise to the most marked fever. "Septic fever," then, was a frequent accompaniment and complication of all sorts of other diseases either without obvious organic cause, or associated with obvious organic lesions. He never ascribed the fever to any particular organic disease with which it might be associated until he had excluded every possible source of septic infection as the possible cause of it. Thus the fever, which in some degree was frequently present with gastric ulcer, was due to the septic lesions of the ulcer itself, often produced and kept up by extreme oral sepsis; and both the fever and the symptoms of gastric ulcer could often be simultaneously relieved by the removal of the sepsis in the mouth. And as with gastric ulcer so also with malignant disease of the stomach and intestine. The degree of fever which so often accompanied such conditions was not necessarily, or even primarily, due to the growth itself, but to the septic ulceration which sooner or later always took place in the growth centre.

While septic infection was thus the most common of the general infections of the body underlying many cases of obscure fever, another non-specific infection was always present to supplement the action of such infection in the intestinal tract, or, in individual cases, to produce independent febrile disturbances of its own. That infection was the *Bacillus coli* to which attention had been drawn by Dr. Hale White in his opening paper. He had seen a considerable number of cases of this infection occurring both independently and as a terminal complication of severe diseases, and he had no doubt that if looked for it was oftener present than was generally thought. The organ most frequently affected was the kidney, and in two cases recently he had been able to confirm and supplement the diagnosis made during life by finding small *coli* abscesses in the kidney *post mortem*.

DR. HALE WHITE briefly replied.

LUNG SYPHILIS.

By J. DOUGLAS STANLEY, M.D.Edin., M.R.C.P.,
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IN a paper on visceral syphilis published in a well-known journal in 1909, occurs the following statement:

> Syphilitic disease of the lung is so rare that it hardly enters in clinical medicine. It never causes destructive disease like tuberculosis.[1]

This statement is my apology for reading a paper to the Section of Medicine. For I regard the subject of lung syphilis as important, in that the lesion is largely amenable to treatment, and that if mistaken for phthisis, that is, tuberculous disease, the patient may be treated on wrong lines, and suffer from certain disabilities, social and professional.

Pathologists recognize syphilis of the air passages and lungs, but it must be admitted that clinicians show a reluctance to diagnose it which is not warranted by facts. The attention that the subject has received at the hands of teachers of medicine is not commensurate with its importance. So well known an authority as Strumpell says that no definite clinical description of pulmonary syphilis can be made. The result is that the clinician has not always syphilis in mind when investigating cases of chronic lung disease. Notwithstanding that there may be evidence of the presence of constitutional syphilis, I have personal knowledge of cases diagnosed as phthisis, pleurisy, chronic pneumonia, etc., though external syphilitic ulcers and gummata were present. There is reason to believe that syphilis and tuberculosis may exist together, and, judging from a number of cases and case reports which I have

investigated, there appears to be a predisposition on the part of the syphilitic patient to contract tubercle. If such be the case, it is a further reason for diagnosing syphilis as early as possible, in order that its effects may be diminished and the liability to tubercle, if a fact, reduced.

This combination of syphilis and tubercle is doubtless to blame for errors in diagnosis in some instances. Nor can it be denied that the diagnosis of lung syphilis is difficult, but careful investigation of the symptoms and signs and the application of recent methods should lead to recognition of the condition in a larger number of cases.

In this paper I include cases of acquired syphilis only. Hereditary syphilis as it affects the lungs of children is not of the same clinical importance; still I had a case under my care recently in a young woman of 26, where a diagnosis of phthisis was made, she being notified under the local regulations as such. Observation of the case in hospital soon showed the syphilitic rather than the tuberculous nature of the lesion. It is obviously difficult in the light of present knowledge to be definite as to the frequency of lung syphilis. In a series of 1,000 cases, notified as phthisis, I found 2 certain of syphilis and 1 doubtful. In the last seven years I have collected 15 cases, some of which have come to *post-mortem* examination, and some are still under observation—observation which confirms the opinion that they are syphilitic and not tuberculous.

The lesions produced by syphilis are various, and may affect the lungs and pleura only, or the trachea and bronchi. There may be lesions in the secondary or tertiary stages. Those due to secondary syphilis are not of much clinical importance, but at the same time should not go unrecognized.

A man, aged 38, a grocer's porter, came under my care at Queen's Hospital, complaining of pain in the left side of the chest, which caught his breath, and had troubled him for five days. There was cough, especially in the morning. He was hoarse. He admitted having contracted syphilis five weeks before. An indurated sore, enlarged inguinal glands, and marked coppery macular and papular syphilides were present. The fauces, pharynx, and buccal mucosa showed the typical conditions. Expansion of the chest was restrained on the left side. Pleuritic friction was heard in the left lower axillary region. Otherwise no physical signs were detected.

A careful laryngoscopic examination showed, in addition to laryngitis, deep red patches in the upper part of the trachea.

Under brisk antisyphilitic treatment the symptoms subsided, the trachea cleared, the friction disappeared.

It might be argued that the pleurisy was a coincidence; but in view of the liability of the pleura to tertiary lesions, I see no reason for denying its liability to infection in the second stage. It is also probable that the whole tracheo-bronchial mucous membrane was affected in this case.

The chief interest, however, is in the lesions produced in the tertiary stage. They are various, and a clear idea of them is necessary for diagnosis during life, and it must be admitted that descriptions of the morbid anatomy of late syphilitic lung lesions are not clear. The trachea, bronchi, lung tissue, and pleura may be affected separately or all together. There may be a diffuse mediastinitis, which has important bearings, of which I can only make passing mention here. It is the incidence of the lesions in these structures that determines the clinical character of the case.

The trachea is particularly liable to tertiary ulceration. This ulceration may perforate either into the surroundings or into important vessels—in a case recorded the superior vena cava. Should the ulceration remain superficial a worm-eaten appearance of the trachea results; should it extend and involve the tracheal wall the results may be stenosis so marked that a probe can hardly pass. It is important to bear in mind that this stenosis may be of considerable vertical extent. In one of my cases there was marked dyspnœa, with stridor of laryngeal type. The laryngoscope showed what appeared to be an extensive tertiary fibrosing lesion of the larynx. Tracheotomy was advised for the relief of the urgent symptoms. The trachea was opened with difficulty, but it was impossible to introduce a tube into the stenosed trachea, so extensive was the stricture.

I said the main bronchi may be involved in low down tracheal lesions, but if the process affects either main bronchus, as it may, similar conditions result—namely, ulceration, even to the extent of perforation and stenosis. But the most marked clinical effect is the liability to bronchiectasis, which may reach a marked degree when fibrosis of the lung is associated with extensive destructive changes in the bronchial walls.

A woman, aged 27, came to Queen's Hospital for treatment on account of bad ulcers on the right leg. She was referred to me as she had much cough and expectorated copiously. The ulcers were obviously tertiary syphilitic, and a characteristic scar on one cheek and syphilitic glossitis labelled the case. There was marked retraction of the left side of the chest: the symptoms and signs were those of bronchiectasis, the sputum being fetid as well as copious.

There was no history of any other definite illness that would account for her condition; she was clear that it had come on gradually. There was no evidence of tubercle.

She improved during the short time she was under anti-syphilitic treatment, but she would not remain in hospital sufficiently long.

There can be no doubt that tertiary lesions damaging the bronchial walls by ulceration and deposit of fibrous tissue, causing fibrosis of the neighbouring lung structure and the pleura, were to blame for the extensive damage present in this case.

As concerns the lung tissue, the early effects produced by syphilis are: (1) An intense cell proliferation which fills the alveoli and infiltrates the septa, peribronchial subpleural, and perivascular tissues. It is specially marked in the alveolar walls, causing the epithelium to desquamate. The vessels show the typical changes of syphilis. The process may be general or affect portions only of the lung. It gives a peculiar gelatinous appearance, and may be called syphilitic pneumonia. The process is fairly rapid, judging by a case I had under observation, in which the lungs were extensively involved in five to six weeks. It is, in fact, an acute interstitial pneumonia.

The next variety I call early diffuse sclerosis. The lung, which is not misshapen, looks, and still more feels, tough. It is pale in places, in others intensely mottled. It shows great increase of connective tissue in all situations, the alveolar walls particularly. Miliary gummata are plentiful. The most striking change, however, is the large quantity of proliferating elastic tissue. Stained with lithia carmine and thymol fuchsin, it may be seen penetrating in all directions, forming a dense network in the septa round the bronchi and the vessels in the pleura. Proliferation of elastic tissue occurs in tubercle, as described by Dr. James Miller, but in tertiary syphilis the process is much more intense. This fact does not seem to have received much attention.

The alveolar changes are also marked. The spaces are often filled with large cells loaded with pigment, a condition noted by Virchow, who considered it rare. It was marked in one of my cases, and would probably be seen oftener were there more opportunities of seeing lung syphilis in early stages.

The changes in the vessels are those characteristic of syphilis. I have no doubt that this diffuse sclerosis is the result of the previous process—syphilitic pneumonia or a less intense form of the process. There is pleurisy more or less marked, but I have not seen effusion, that being more frequent in the next variety.

The third form is a dense sclerosis. The lung may be contracted and misshapen, the pleura, whether adherent or not, is much thickened. On section the colour is an iron grey. Microscopically there are to be seen tough irregular masses of fibrous tissue everywhere. The proper structures of the lung are destroyed or distorted. The alveoli are made out with difficulty on account of the general condensation. In some places there is much emphysema. Here, also, is great increase of elastic fibres. Miliary gummata are common, as in the previous form, and so are vascular changes. There may be chronic pleural effusion resulting in compression and further disorganization of the lung. It is, I think, obvious that this very marked sclerosis of the lung is an advanced stage in the process of connective tissue proliferation due to syphilis.

So far I have made no mention of coarse gumma, wishing to emphasize the importance of diffuse and sclerosing lesions. Coarse gumma occurs, but opinions differ as to its frequency. Moxon held that it was rare. In the cases I have examined the lesions already described were more frequent and coarse gumma not commonly present. But coarse gumma may occur anywhere, though more usually in the neighbourhood of the root. In one case I found a large gumma 3 in. in diameter in the upper apex of the right lung, and another at the bifurcation of the trachea.

Lastly, while there may be gelatinous infiltration, diffuse

early sclerosis or intense fibrosis without coarse gumma, I have not seen coarse gumma without some or all of these lesions. Thus we may regard the infiltrative and fibrosing lesions as the most important.

The symptoms and signs vary, as may be inferred from this summary of the lesions. There may be none definite when the lung is undergoing partial gelatinous infiltration, and even when the lesion is an extensive sclerosis they are difficult to appreciate fully.

The case where, on necropsy, I found the very marked diffuse sclerosis just mentioned, was a man aged 36, who had contracted syphilis about fourteen years previously. He came under my care on account of severe headache and nephritis, which were diagnosed as syphilitic. About two months later he had a copious haemoptysis lasting three to four days; the blood was rather darker than is usual in lung bleeding, and was distinctly muco-sanguineous toward the end of the attack, a feature I have noticed in other cases. There were cough and dyspnoea. The physical signs were: Slight impairment of the percussion resonance on the right under the clavicle and between the vertebral line and the border of the scapula as far down as its spine. In the same areas the breath sounds were distant, and irregular crepitations were heard. The haemoptysis recurred; in fact, from then was seldom absent for more than a few days and always of the same muco-sanguineous type. The breath sounds became weaker over a larger area on the right, and on the left similar signs appeared. There was no perceptible increase in dullness. The vocal resonance was decreased. Several examinations of the sputum for tubercle bacilli were made, but were invariably negative.

The symptoms of renal disease increased, and, curiously enough, there was copious haematuria. The patient died of uraemia. The *post-mortem* findings (I need only refer to the lungs) were marked diffuse sclerosis, as already mentioned, and dense pleurisy, though not much adhesion. The surface of the lung showed in some places a very marked lymphatic network—an interesting feature which has been described by other observers.

I have already referred to the microscopic appearances. Therefore, the dominant symptom in this case was frequent haemoptysis, the chief physical signs slight impairment of resonance and progressive weakening of the breath sounds. This weakening of the breath sounds is considered an important sign, and was noted in three of my cases. The history and course of this case pointed clearly to syphilis. Clinical investigation showed lung and renal lesions. *Post-mortem* examination demonstrated the syphilitic nature of these lesions.

The symptoms and signs of lung syphilis are much more definite when the lesions are more chronic.

A woman, aged 37, came under my care in 1903 for what she called rheumatism of the left knee. As a matter of fact, it was one of those interesting cases of painful syphilitic arthritis.

Seven years before this she had a sore throat and her hair came off. Two years later she had ulceration of the forehead and an ulcer on the right leg. She had been married sixteen years; her first child was born at term, the second was born at eight months and died a month after birth, the third was born at term, but was always delicate. The patient had always been subject to bronchitis, but two years before coming under my notice her chest symptoms became worse. She had bad morning cough with much expectoration. There was night sweating, and she lost weight, was anaemic and felt very ill.

I discovered that the husband was under the care of my colleague, Dr. Kauffmann, for paraplegia, and he freely admitted syphilis. I found, in addition to this history, typical signs of syphilis—namely, scarring on the forehead, on the inner aspect of the right ankle, and on the sacrum. The lung signs were deficient expansion on the left, marked impairment of resonance on the right posteriorly in the interscapular area, with better resonance above and below. On the left, slight impairment of resonance at the base behind. The breath sounds were harsh all over, with lack of vesicular element, especially over the middle portion of the lungs, while on the right they were decidedly distant. Medium crepitations with rhonchi were heard, especially in the right interscapular area. There was impairment of resonance in front from the upper half of the sternum into the lung left and right, especially left.

The patient was put on full doses of iodide. The swelling and pain in the left knee-joint rapidly disappeared.

Ten days after her first visit she had blood spitting, the expectoration consisting of glairy mucus and blood intimately mixed and not frothy. This blood spitting lasted three weeks. The sputum was examined periodically for tubercle bacilli for some months. None were ever found. The diagnosis was lung syphilis affecting both, but especially the right, and extending into the mediastinum. Two months after being first seen the improvement was marked, the patient looked years younger and had gained weight. There was less dullness round the upper sternum. She attended regularly for some time, and improvement continued, but though the lung signs cleared up considerably there was persistence of the dullness in the right interscapular region, and the breath sounds remained distant and weak.

The subsequent history is interesting. About two years later she had more blood spitting and lost weight. She was admitted as an in-patient under the care of another physician. She showed irregular pyrexia and had cough and night sweats. The case was now diagnosed as phthisis, and treated in the ordinary way, but without benefit. On her discharge she came under my care again, and on being put on antisyphilitic treatment rapidly improved, and the lung signs again cleared.

And so she has gone on—for I still have her under observation—it being eight years since I first saw her. I showed her yesterday at the clinical demonstration at Queen's Hospital. She is a synopsis of the symptoms and signs of lung syphilis. The fact that she suffers from tertiary syphilis is certain, so also that she suffers from a chronic lesion of the lungs, the symptoms of this being cough, haemoptysis, and dyspnoea; the signs are those of a fibrosing lesion. That the case simulates tuberculous disease is not to be denied, and that it should be so diagnosed is merely to repeat what happens in many cases of lung syphilis. But when carefully criticized these symptoms and signs differ. The haemoptysis is more suggestive of slow ulceration of a bronchial surface in its muco-sanguineous appearance and its tendency to last for several weeks. Cough is irregular, and may be paroxysmal, as happened in four of my cases. It may be very slight in proportion to the actual amount of lung lesion, for in another case it was never a prominent symptom, but on the *post-mortem* examination there was extensive lesion of the lung tissue, but none of the bronchi, trachea, or glands. In the case quoted above it was particularly interesting to note pyrexia, sweating, and wasting—symptoms which occurred in some of the other cases, and have been recorded by other observers. They may be regarded as intercurrent and due to mixed infection, but they certainly help in the imitation of phthisis by syphilis. Their rapid disappearance under antisyphilitic treatment is striking. It has been maintained that the physical signs of syphilis are irregular when compared with those of tubercle in the lung. This is certainly true in many cases, and signs more marked round the root of the lung or best marked in the interscapular region, especially the right, should suggest a syphilitic lesion, given indications of the presence of the disease, a rule that I have found useful. Lesions are not confined to the root and central parts of the lung, however, as I have already shown. The constantly negative results of the examination of the sputum for tubercle bacilli was of the greatest importance in coming to a conclusion in these cases. I do not think that a diagnosis of lung syphilis can or should be made from physical signs alone. On the other hand, there seems no justification for reluctance in making a diagnosis given a history and indications of syphilis, especially indications of other visceral lesions and absence of tubercle bacilli. The majority of my cases were collected previous to the introduction of tuberculin reactions as aids to diagnosis, but within the last year I have had two cases where the method has been of value. Both cases showed lung lesions of an irregular and somewhat indefinite type; both showed signs of syphilis, congenital in one, acquired in the other. Neither reacted to tuberculin tests, and both improved under treatment. In these circumstances I think it quite legitimate to diagnose a syphilitic lesion of the lungs.

REFERENCE.

1 *Liverpool Medico-Chirurgical Journal*, January, 1909, p. 94.

DISCUSSION.

Dr. WILLIAM HUNTER (London) said that induration of the lung did not suggest syphilis to him but chronic pleurisy, with thickening of interstitial tissue. In 1,000 *post-mortem* examinations he had not seen a case of lung syphilis. The fact that these cases subsequently became tuberculous complicated the condition *post mortem*.

Dr. LAURISTON SHAW (London) admitted that, as a pathologist, his museum experiences were in accord with Dr. Stanley's admirable paper, but his clinical experience was in accord with the last speaker. Syphilis was not so rampant in London as was supposed. This was because they had become immune rather than owing to any special virtue among Londoners.

Professor SAUNDBY and Dr. STACEY WILSON also discussed the subject, and Dr. STANLEY replied.

A SIMPLE METHOD FOR THE THERAPEUTIC INHALATION OF CARBONIC ACID GAS.

By William Ewart, M.D., F.R.C.P.,
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I.—Introductory Remarks.

These are provisional suggestions only, for the elaboration of some better method. As a temporary device they may answer our practical purpose, which is a clinical study and application of the benefits to be derived from the inhalation of carbon dioxide. The profession has hitherto remained out of touch with this branch of practical therapeutics chiefly for want of any access to the materials, although the clinical facts have long been before us. For some years these facts were denied any practical consideration owing to physiological misgivings imported into medicine. The situation is now reversed. The latest move has come from physiology; and the delay, from our clinical hesitation. There is no longer any question as to the therapeutical possibilities of the agent, but they remain untried because there is no convenient handle to work them. The purpose of our method is to overcome this practical difficulty of handling.

A brief review down to the present date will render the subject more intelligible. The inhalation of CO_2 in slight excess of its normal atmospheric proportion has always been of familiar occurrence. "Lime-kiln" asphyxia, and that of dogs in the Grotto del Cane, near Naples, were traced to their true cause soon after the birth of chemistry. The physiological study of the gas has since then been almost exclusively directed to its lethal and asphyxial properties; and its conclusions have found their application in the sphere of practical hygiene. The evils of confined air were for a long period identified with CO_2 as "the sole cause," but later, only as the most important one. Leonard Hill has recently offered us an ingenious revision of both those views. Although some keener observers of nature had had their doubts as to the size of the toxic dose of CO_2, physiological teaching remained solid until six years ago as to the mainly toxic influence of the gas, overlooking the immemorial prevalence of its therapeutical uses, the most modern developments of which will remain deservedly associated with the names of the Brothers Schott, to whom we are all indebted, and not least the writer.

During the closing years of last century, having formed definite views as to the mode of action of the famous Nauheim heart treatment, I proceeded to study clinically their therapeutical application. Incidentally, reference may be made at once to an episode, the disappointing features of which I do not wholly regret, as they have contributed their own quota to the study of the question, without any harm and with some obvious benefit to the sufferers. That episode is recorded under the heading of "The Treatment of Splenic Leucocythaemia by CO_2 Inhalations,"[1] and in a subsequent communication.[2] But the main clinical work was devoted to the practical relief of cardiac, vascular, respiratory, and of various painful spasmodic affections, by the therapeutic uses which I had recognized in the non-toxic doses of the gas.

My original technique was elementary. The first striking result had been obtained previous to that date in a young man suffering from severe anginoid distress from double aortic disease with double mitral murmur, with a rough apparatus which I constructed in the pharmacy of St. George's Hospital: a common bottle, filled with marble chips, from which CO_2 was evolved by the addition of mineral acid, and then passed through an alkaline wash bottle. The next step was the use of "Kipps's CO_2 generator," but this was ultimately discarded for small portable gas "cylinders" specially made to order. With these the greater part of the clinical work was personally conducted, without any guide as to dosage other than a careful watch over the bubbling of the bottle and over the condition of the patient. The method and its main results, so far as they relate to the treatment of cardio-vascular disease, were embodied in a paper on "The Nauheim Treatment of Heart Disease by Inhalations of Carbonic Acid Gas, and on the Uses of the Inhalation in Cardiac Dyspnoea and in Anginoid Pain," which was read before the annual meeting at Portsmouth twelve years ago. That brief preliminary communication[3] was intended to be followed by a full account of the therapeutical observations and results in other conditions as well as the cardiac; but my leisure was taxed by other therapeutical problems, in particular those of pneumonia and of enteric fever. Nevertheless, as a general sketch of the main conclusions, it enabled me to identify the beneficial results of carbon dioxide inhalations with four sets of activities—the "sedative" property of the gas; its "respiratory" property, as a stimulant of inspiration, and in particular of expiration; its "cardiac" property as a cardiac stimulant and tonic (over and above its indirect actions as a cardiac sedative, and by respiratory reinforcement of the heart); and, lastly, its "vascular" property as a means of toning up a weak pulse and of toning down the abnormal rigidity of a hard one. They did not include, it will be perceived, the much larger range of its "tissue activities." That study, of which we owe the inception to Professor Yandell Henderson of Yale, was not then thought of; and at the present day its results are still in process of evolution. Those were the data upon which the clinical work was planned and carried out.

As to the virtues of the Nauheim baths, I may refer to the latest summing up of their clinical results by J. H. Honan, of Bad Nauheim.[4] He states that "in most cases they reduced high blood pressure, peripheral resistance, and dilatation, and raised low blood pressure; and that they increased the pulse volume and amplitude and the heart energy, and promoted elimination, the regulation of temperature, and the relief of nervous irritability."

Meanwhile at about the same time, unknown to me, Professor A. D. Waller, in the course of an exhaustive investigation in connexion with anaesthesia, "On the Influence of Reagents on the Electrical Excitability of Isolated Nerve,"[5] was demonstrating the remarkable *nerve reviving effect* of rebreathed air upon frogs' nerve killed by an atmosphere of chloroform, and identifying that effect with CO_2 (which also exercised an initial and transient "sedative or anaesthetic effect"), whilst oxygen was shown to be inert. He also reminded us of Brown-Séquard's conclusions (1857) that "CO_2 excites nerve centres; venous blood, or a plus of CO_2 in inspired air, causes an immediate increase of respiration, quite apart from the effect of an oxygen deficit." Waller's discovery, which possesses a fundamental significance in connexion with the stimulation of the medulla by CO_2, and with the theory of acapnia, was turned to practical account by W. Edwards Schenck, of Cincinnati,[6] who since 1896 has with unvaried success safeguarded his patients by the "method of rebreathed air" against the risks of chloroform anaesthesia, and also, since 1901, of nitrous oxide-ether anaesthesia.

The final chapter in this brief history is too well known to require any description. In 1905 Haldane and Priestley[7] revolutionized our physiology of the respiration by the publication of their great research. In their practical bearing the experimental results of that investigation are identical with those which had been arrived at by clinical observation. The task which now lies before us is a generalized therapeutical application of those practical contributions derived from the two separate sources of clinical pathology and of physiology—a prospect which this demonstration is meant to further.

The Therapeutical Purpose of the Present Communication.

After this brief statement, it may perhaps be taken for granted that the diffidence which found its not unexpected expression in the discussion at Portsmouth has been completely allayed by subsequent physiological research, and by the recognition not only of the physiological harmlessness of an inhalation of small percentages of CO_2, but of its predominant share in the stimulation and in the regulation of our normal breathing, which will probably remain its most solid claim to therapeutical usefulness; whilst the clinical observations on its improving effect upon the pulse, which had led to my using it originally in the treatment of heart failure, have received a plausible explanation in the results of Professor Yandell Henderson's illuminating investigation on its "Venepressor Function," in connexion with his "Acapnic Theory of Surgical Shock."[8] We may, therefore, refrain from any further discussion of the main therapeutical question, and of the varied scope of the therapeutical uses of the remedy, which have been suffi-

ciently indicated in our statement of its leading activities, and turn our attention exclusively to the two main technical questions—how to obtain a ready supply of the gas, and how to administer it. In dealing with the second of these, we shall have occasion to refer to some principles which apply to the technique of inhalation of gases in general, and in particular to that of oxygen. Before proceeding with our simple experiment, I must express my obligation to Messrs. Southall Brothers and Barclay, of Birmingham, for their invaluable help in lending to the demonstration the services of one of their assistants. The simple apparatus required may be obtained from them.

II.—A Ready Method for a CO_2 Supply for Clinical Use.

1. *The Gas Supply.*

The difficulties which encountered my early studies have vanished. Pure CO_2 was nowhere then to be obtained in an available form; it is now a drug in the market, in portable cylinders. These, however, are not procurable at a moment's notice, and in rural districts probably not for a considerable time. Moreover, supposing we have a cylinder at hand, the inhalation itself is not quite so safe and simple a matter from the cylinder supply as from the supply which we can arrange in its absence. For our small requirements there is a handy substitute for the cylinder—the ubiquitous "soda-water siphon," sometimes known under the alternative *alias* of "aërated-water siphon"—which, we must hope, is not more accurate than the first, as nitrogen would not answer our purpose. Granted that the siphon has been truly charged, and fully charged, with genuine CO_2, it contains as much of it as we may need at a single sitting. If the charge should be below the average, then two siphons or more may be used without any other complication than the trifling cost. I have ascertained by experiment in Professor J. A. Gardner's laboratory, which was kindly placed at my disposal, that a siphon, freshly charged in the pharmacy of St. George's Hospital, will yield as much as 2,400 c.cm. CO_2, or nearly $2\frac{1}{2}$ litres—equivalent, roughly, to $84\frac{1}{2}$ oz. in fluid ounce measurement. As this is a little inferior to the average capacity of a Winchester quart, which is reputed to hold about 90 oz., Winchester quarts become very serviceable for our purpose, and happily they are everywhere obtainable. We need two of them at least, which are labelled c and s, c being the carbonic acid gas container and s the siphonage bottle. It may be mentioned that the bottleful of CO_2 does not represent the total amount of gas liberated by decompression. The average siphon, after being emptied, retains a charge of about 870 c.cm. gas at the atmospheric pressure, which is unfortunately irrecoverable, and this runs up the amount originally dissolved in the siphon to the surprising total of 3,270 c.cm., or upwards of $3\frac{1}{4}$ litres.

The Liberation of the Gas from the Siphon.—For convenience and quickness this is best managed in a large bath, on a small deal table protected with a mackintosh or any other suitable support, or, failing a bath-room, on a large tray, with a foot-bath or basin for the overflow.

The whole apparatus, apart from the bottles, is easily carried in the breast pocket. It consists of moderate lengths of india-rubber tubing of about 5 mm. calibre, of two double-way perforated plugs for the bottles, of half a dozen short connecting glass tubes, and of four tube clips. With this material the bottles are converted into Woolff's bottles, the place of the long glass tube in each of them being taken by a length of india-rubber tubing weighted at the bottom, or better fitted with a short (1 in.) length of "compo" tubing suitably filed into arches at its free extremity. This adds to the portability of the tackle, which comprises in addition only the special mouthpiece to be described later.

The Woolff's bottles are to be coupled by connecting these two long tubes by means of the long intervening tube c s, so that water can be completely emptied by siphonage from one into the other in both directions alternately. In this arrangement the two short tubes in the plugs are terminal, one, c, at the head of the apparatus, the other, s, at the rear; they are to be provided with india-rubber attachments and with clips, and the tube c s also has its own clip. To the distal tube s we have to attach a removable long tube, duly weighted, to safely carry off the effluent water. The proximal tube c has also its removable long tube 1 for use at the time of the inhalation.

The operation is started with c full of water and s empty. The end of the short tube c is now slipped over the spout of the siphon, and has to be held safe under a tight grip of the left hand, whilst the right hand gives light touches to the lever at sufficient intervals to allow time for the rushes of gas and water to negotiate the narrowness of the tubing. Finally, the whole contents will have passed out of the siphon, and nearly the whole of the water will have been driven from bottle c into s, and part of it out of s through the overflow tube.

It is essential that the weighted tubes should reach to the bottom of both bottles. It is also indispensable that in bottle c the last half-inch of water covering the orifice at the end of the tube should not be driven out, as this would empty the tube c s, which must be kept full for siphonage.

The Clips.—We must therefore be careful to close the clip c s in time. The proximal clip c is closed next; and the gas being thus secured within the bottle c, the siphon is to be disconnected, but on no account before clip c is closed. The long inhalation tube 1, with its mouthpiece, and with its clip 1, which is intended for the patient's use, is now connected up with c, and the apparatus is ready for use.

2. *The Inhalation.*

The Gas Delivery.—For reasons to be presently explained simple inspiratory suction would not answer our purpose, as this would mean the inhalation of pure CO_2. To ensure its being inhaled in the desired percentage, it has to be slowly driven at a very low pressure into the inhaling tube 1. The simplest way is to pass the water from the bottle s back into c by siphonage. The pressure will be determined by the vertical distance between the fluid levels in c and in s, and, in order to maintain an even pressure, s will have to be raised gradually, by piling up blocks or books under it; or else c may be gradually lowered by an assistant, or moved from the table to a stool placed on a chair, and finally on to a low stool or to the ground.

As soon as these preliminaries have been arranged the siphonage can be started by opening the clips c s and c, provided the patient's clip 1 is open. From this moment onwards the siphonage and the inhalation can be entirely governed by that clip.

An intelligent patient may easily be instructed to open the clip 1 as he begins to inspire, and to close it at the end of inspiration (or simply to squeeze and relax the tube without any clip), the purpose being to economize the supply. In other cases the medical attendant or the nurse can manage the clip by watching the breathing.

The Regulating Mouthpiece.—This is a special feature in the apparatus. Its importance is the safety and relative accuracy which it lends to our procedure, whilst simplifying it as compared with cylinder supply inhalation.

The Conditions for Safety.—The following remarks, which are of general application, apply with special force to carbon dioxide, because of its poisonous properties. In any inhalation conducted "from the cylinder" safety implies two conditions, too little attended to until recently in oxygen inhalations: (1) Due control of the pressure; and (2) due graduation of the proportion of the gas inhaled. (1) In all cases a "bubbling bottle" is indispensable, not only as a means of warming the gas, but specially for the purpose of reducing the pressure of delivery from the cylinder down to practically the atmospheric pressure, and of enabling us to form some idea of the amount of gas being delivered. This is, therefore, an essential part of the oxygen apparatus. In the method now being described, as the delivery is not from a cylinder, but by siphonage, a bubbling bottle is not required. (2) In the case of CO_2 we absolutely have to guard against the possibility of an overdose; and it becomes essential that we should determine with fair approximation the *proportion* in which it is delivered from a cylinder and becomes mixed with the air to be inspired. Happily this can be satisfactorily carried out with the simple mouthpiece exhibited.

The Questions of Percentage and Dose.—The physiological estimate now current admits the general innocuity of a mixture of 6 per cent. CO_2 with air, for temporary inhalation, or of even more than 6 per cent. if oxygen be added. As a fact, much higher percentages than this are

inhaled for considerable periods, harmlessly as it would seem, by those exposed in the course of their avocations to higher concentrations of the gas. Provisionally we may confidently adopt 6 per cent. as the maximum limit for our short therapeutical sittings. We shall therefore have to arrange that the strength of the inhalation cannot possibly exceed that limit, and that it shall remain amply below it. The other aspect of safety relates to the total amount permitted to be inhaled. Here our method is on safe ground; the supply itself is limited. It may be safely stated that, after excluding all possibility of the gas reaching the air passages undiluted, the entire charge could be inhaled at one sitting without any major risk to life. Moreover by no possibility could the CO_2 be made to leave the container at a rapid rate unless the driving force were to be deliberately increased by raising the siphonage to a considerable height. There is no conceivable danger in that part of the method.

The description of the mouthpiece will elucidate the question as to safety both in the percentage and in the rate of delivery. I can only show you at present a rough model in aluminium, which is both light and capable of perfect disinfection. It is flat to fit comfortably between the lips, and hollow, with relatively large calibre owing to the thinness of the metal, the greater part of it being a free *airway* which nothing can obstruct. At both its corners it carries an aluminium tube, one smaller for CO_2, the other larger for oxygen or for any other inhalant. They project only at the outer end of the mouthpiece, for the attachment of tubing.

The smaller tube tapers slightly to a relatively narrow orifice, and over this can be fitted an additional length likewise tapering to a yet smaller orifice, which gives us the minimum diameter or minimum calibre in the whole

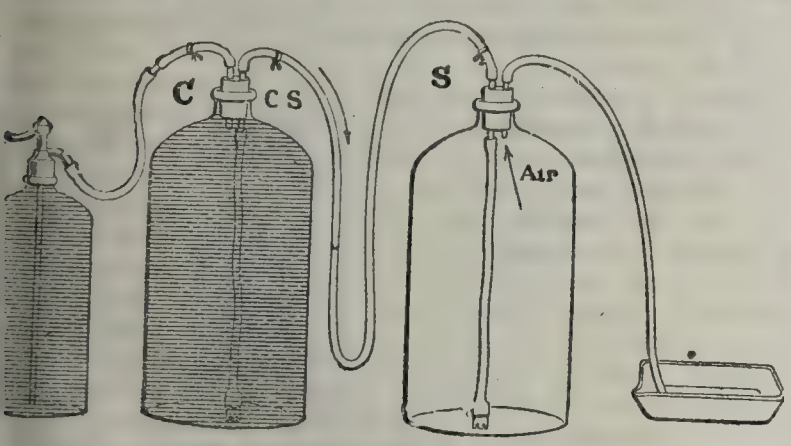

Fig. 1.—Position before charging.

induction of the CO_2 supply to the mouthpiece, and therefore determines the proportion in which CO_2 is added to the air which is freely inspired through the main opening of the latter, and through the other tube also so long as this is not connected with some independent gas supply. This is a question of measurements and of calculations of the relative sectional areas. These might be so arranged as to provide us with two dilutions of CO_2—for instance, down to 4 per cent. and down to 2 per cent. respectively.

The Mouthpiece in Use.

As the airway is very large and unobstructed, very little if any CO_2 would be drawn out of bottle c through the narrow orifice by the suction of inspiration, unless it were continuously driven by the siphonage. This gives to the CO_2 a slight additional pressure over the atmospheric pressure of the air supply, which disturbs the accuracy of our calculation based upon sectional areas alone; but, on the other hand, some of that advantage being lost owing to the much greater frictional resistance of the narrow tube, we can afford to neglect it. The main point is that the CO_2 supply is constant, and cannot rise above the percentage arranged for. We have already explained the intermittent [illegible] to be made of the clip 1; but it would answer just as well if the patient were made to use his fingers instead of a clip to compress the tubing.

Lastly, we may add a word concerning the other tube to the mouthpiece. Here again we have a definite percentage supply of gas determined by the sectional areas. When oxygen is the gas to be inhaled we may obtain it from a bag, in which case there is no additional pressure to be reckoned with. Or, again, we might use another apparatus such as we have described. Or, lastly, the oxygen might be derived from the cylinder, and have to be bubbled through a wash bottle. In that case there would be an appreciable positive pressure which we could only guess at and regulate by watching the rate of the bubbling. The mouthpiece would no longer act as a reliable measurer.

The Simultaneous Inhalation of O and CO_2.—The first instance of this combination having been used was probably that described in my paper of 1898, in which the two gases were inhaled from *separate* supplies, oxygen being used for the purpose of guarding against any ill effect from the CO_2 inhalation. The mouthpiece is a simplification, but the method is the same. Since then the joint use of the two gases has recently been advocated for the same purpose by Professor Yandell Henderson as a systematic method of rescue, and also as a preventive method, against the risks of surgical anaesthesia, the active agent of rescue being the CO_2, and the protecting adjuvant the oxygen.

The CO_2-and-O Tank.—With that object in view Henderson has now devised for emergency use in the operating theatre a tank containing a mixture of the two gases of definite strength. This convenience would not,

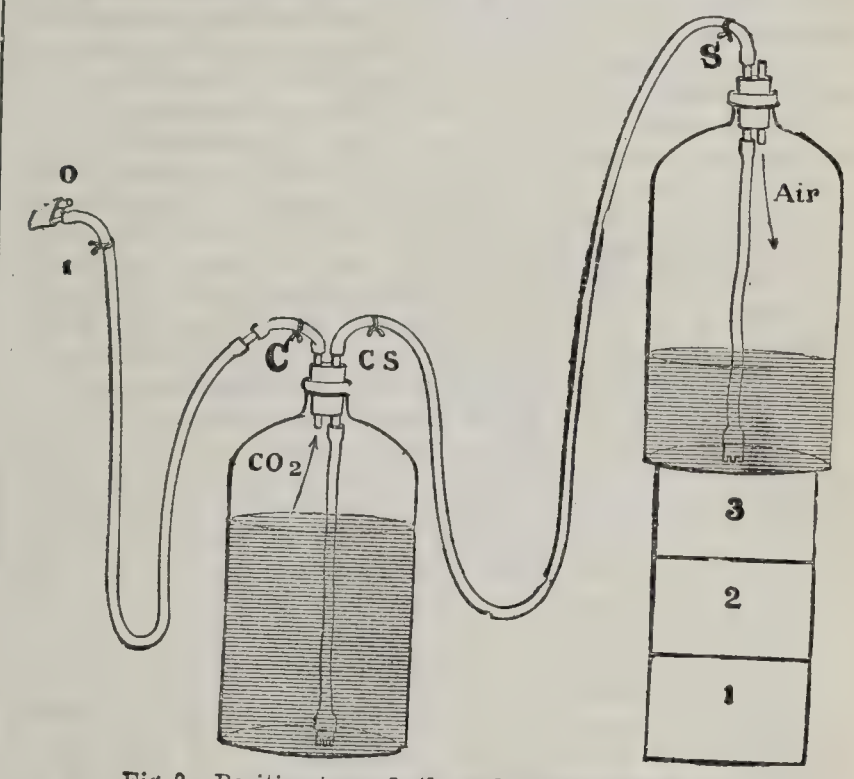

Fig. 2.—Position towards the end of the inhalation.

however, be available in everyday practice. But our apparatus lends itself with ease to the same purpose, with the special advantage that we can arrange at our choice the proportions of the gaseous mixture by marking off beforehand on the bottle (or on a series of bottles) the desired volumes, and then supplying the gases from the CO_2 siphon and from the oxygen supply respectively. For this purpose it would have been a convenience to have had a "siphon supply" for the oxygen, but this is so little soluble in water (8 per cent. only; at 10 atmospheres 1 volume water dissolving 0.49 only of O, but 16 volumes CO_2) that oxygenated water siphons are of no use to us. With this mixed charge the inhalation becomes a single-tube inhalation, and the larger tube may be used instead of the smaller one, or, if necessary, a much wider tube may be substituted for the mouthpiece.

In conclusion, it will be seen that the same apparatus is capable of being used at choice for the separate administration of CO_2+air, or of Oxygen+air, both in known proportions, or of CO_2 + O + air; and likewise for the joint administration of oxygen and carbon dioxide in measured quantities, which Henderson so strongly advocates as a cure and as a preventive for surgical shock, and for the risks of anaesthesia, but which is likely to find much more varied applications in our medical therapeutics.

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COLON DYSPEPSIA.

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UNDER the term "colon dyspepsia" I wish to draw attention to a by no means uncommon functional disturbance of the large intestine which may give rise to some of the ordinary symptoms of dyspepsia, or may only produce remote effects through the nervous system. The special type of functional disturbance which gives rise to these symptoms is a peculiar alteration in the muscular activity of the bowel, which may produce pain of the nature of colic, but in many cases the afferent impulses, instead of causing pain, result in other nervous phenomena. When a fresh name is added to medical nomenclature justification for doing so must be proved. Experience will, I think, prove that there is abundant justification in the present instance.

First, as to the applicability of the term "dyspepsia" to colon disturbance: Although usually applied to the stomach the term means painful digestion, and we well know that digestion is not limited to the stomach. Moreover, the symptoms here dealt with do often arise in connexion with the taking of food, and they sometimes come on a certain definite time after taking food, and may easily be mistaken for stomach pain.

The term "dyspepsia" has already been applied to symptoms arising in a part of the colon—namely, the appendix—and a certain amount has in recent years been written about appendix dyspepsia. I had better, therefore, explain before going further that while some of the cases described under the heading "appendix dyspepsia" would come into my group of colon dyspepsia, most of those with organic disease of the appendix would not, and they would be better described under some such terms as "chronic appendicitis." As already stated, the one clinical feature which seems to characterize the cases I am grouping together under this term of "colon dyspepsia" is an alteration in its muscular tone which is easily recognizable by palpation. If the colon is carefully examined throughout a series of cases it will be possible to divide them into two groups. In one the colon is soft and free from any tenderness, in the second it is harder and is often tender.

In the first group its muscular tone is normal; in the second it is abnormal.

It may be urged that the difficulties in the way of the palpation of the colon are great, but in the majority of cases this is not so if the hand be well trained and the right method adopted and sufficient patience employed. The method is simple. The patient must lie quite flat to admit of complete muscular relaxation. With the knees drawn up complete relaxation is not so possible, because the pelvis has to be fixed by the action of the anterior abdominal muscles.

The next important point is that nothing must be done to provoke the natural protective reflex of the abdominal walls, gentleness of movement, warmth of hand, the gaining of the patient's confidence, etc. With all due care and patience, the colon can be in most patients palpated in the right and in the left iliac fossae, and normally little can be felt except one or two of the longitudinal muscular bands, and which can be rolled as soft cords under the finger, and sometimes a sense of crepitation or gurgling can be felt owing to the presence of gas and liquid in the relaxed or moderately contracted gut. In a considerable number of patients, on the other hand, the caecum may be felt on gentle pressure as a soft cylinder of the size of the ball of the thumb or larger, and its degree of distinctness may be found slowly to vary under the hand owing to a variation in the degree of hardness of its muscular walls. In some few of the cases examined the caecum may be so hard as to be easily palpable, and in these cases it is usually tender, and sometimes extremely so.

What has been said of the caecum also holds true of the sigmoid flexure and adjacent gut as felt in the left iliac fossa. When abnormal it may be rolled under the finger as a moderately or very hard cord of the size of a finger or smaller, and occasionally in a severe case it may show localized hardenings so distinct that they might be mistaken for hardened faeces within the gut were it not that the hardenings can be felt to melt away under the fingers and reappear elsewhere in a manner that scybala could not do.

In the case of the transverse colon, when its muscular tone is normal, it cannot be palpated unless the patient be thin and the abdominal walls are wanting in tone. When, however, the bowel is abnormal its situation may be detected by the presence of tenderness on pressure, and often the bowel can be distinctly felt as a cord the size of a finger or thumb or even larger. Sometimes the whole length of the transverse colon can be palpated at the same time—but more usually first one part and then another becomes palpable as the muscular hardening involves one or other part of it and then subsides again. Sometimes persistent localized hardenings are palpable and may be mistaken for carcinoma or if at the hepatic flexure for a distended gall bladder. These hardenings are usually tender and sometimes are distinct enough to grasp, if the abdominal walls are sufficiently lax. In these cases where the transverse colon is liable to expansile spasm, the patients often suffer from pain or other nervous symptoms on exertion owing to mechanical stimulation of the over-excitable muscles. In cases where palpitation or other cardiac symptoms occur this fact adds to the difficulty in diagnosis.

The study of such a series will therefore suffice to show that in some the colon is soft, that is, normal, and in others it is hard and can certainly be described as abnormal. Now if all the cases with an abnormally hard colon be grouped together, it will be found that they show certain symptoms which appear due to the colon disturbance: the commonest of these is pain, and the next in frequency is attacks of mental depression often coming on more or less suddenly and without adequate cause. Some two or three out of every hundred cases with abnormal hardness of the colon will have cardiac disturbance of some sort, most probably palpitation, or some other reflex circulatory disturbance.

Before going further into the symptoms of colon dyspepsia it is necessary to say something as to the nature of the disturbance we are dealing with, and the theoretical considerations whereby the symptoms are explained.

First, as regards the nature of the change which produces the hardening of the gut. In an article in the BRITISH MEDICAL JOURNAL, June, 1909, I have adduced evidence which proves that the muscular fibres of the circular coat of the colon must have another form of activity besides longitudinal contraction, and that some, at all events, of the fibres must possess the power of actively lengthening themselves. In other words, a fibre can not only shorten itself by longitudinal contraction, but it can also lengthen itself by transverse contraction. This being so, the gut can not only limit its size by means of a longitudinal contraction of the fibres of its circular coat, but by the expansion of a sufficient number of these same fibres it can hold itself open as a tube with walls more or less rigid according to the vigour of the fibres which are in a condition of active expansion.

In the article above mentioned I pointed out that the term "contractile tone" describes the condition of the bowel when its lumen is lessened by the ordinary longitudinal contraction of the fibres of its circular coat, and the term "expansile tone" describes its condition when the bowel is held more or less open by the elongation of these same muscular fibres.

In order to understand the symptoms and treatment of this condition which we call colon dyspepsia, it is necessary to pursue somewhat further the theoretical considerations which are associated with this condition of expansile tone.

After studying carefully these cases for many years, it seems clear that the condition of expansile tonic hardening of the bowel is best explained by supposing that this form of muscular activity is due to the action of some specific stimulus or irritant—possibly an irritant normally produced in the bowel in small amount. The results of treatment seem to show that this irritant is produced by micro-organismal origin. Again, the study of these cases seems to show clearly that the amount of the effect produced is not determined by the amount of stimulus alone, but that, as in a reflex arc, the effect of the stimulus is heightened by the sensitiveness of the nervous mechanism.

In the same way the sensitiveness of the nervous system plays a most important part in the production of symptoms in colon dyspepsia. An over-sensitive nervous system

appears to have a twofold action in these cases. In the first place, there is a greater tendency to the production of expansile tone in the bowel by the amount of irritant present; and also, the pain or other disturbance which results from the expansile spasm has a greater effect upon the patient when the nervous system is over-sensitive than when it is normal. This subject is dealt with in the paper already quoted.

We are now in a position to discuss the symptoms which characterize these cases where there is expansile tone in the bowel. The main symptoms are due to the pain or other afferent impulses which result from the conflict between the muscles tending to produce expansion of the bowel and those tending to produce contraction. Whichever set is the weaker is overcome by the stronger, and the painfulness of such a forcible interference with muscle is well known. The pain of a viscus attempting a task beyond its power is well illustrated by the pain of colic or flatulent spasm of the stomach.

Another point is very clearly brought out by the study of a series of cases which show well-marked expansile tone in the colon. It is this: It is stated that the colon is destitute of ordinary sensory nerves, and that therefore no pain can be felt in it. However this may be from the physiological and anatomical point of view, from the clinical one it is quite clear that patients can feel pain in the colon, and that at times it is sensitive to the touch. This absence of sensory nerves is, however, of great importance in the interpretation of the symptoms, for although many patients can rightly interpret the meaning of the afferent impulses which reach the spinal cord from the disordered colon, many on the other hand cannot.

In these patients one of several different things may happen. First, the afferent impulses reaching the cord through the sympathetic or other channels may reach the sensory areas of the cord and be perceived as pain in that particular segment of the cord. As its channel of ingress is unknown it will be felt as a referred pain in the skin area which is in relation to that particular segment of the cord. These areas have all been carefully worked out by Dr. Head and others. Therefore many patients with colon dyspepsia suffer from pain referred to the skin areas of one or more of the spinal nerves below the seventh or eighth dorsal segment of the cord, for the colon is in relationship with all of them. The commonest are the tenth and twelfth dorsal and the first lumbar, and the most frequent site of reference apart from pain felt over the colon itself is perhaps to a spot just below the posterior part of the iliac crest over the area usually assigned to the twelfth dorsal or first lumbar nerves. Sometimes the pain is referred to the legs or feet, and on one occasion I caused a patient five or ten minutes' pain under the ball of the left great toe by pressing upon a hard portion of the rectum above Houston's valve during a rectal examination. This was a referred pain due to irritation of the first sacral segment.

Another manifestation of what ought to be felt by the patient as colon pain is still more remote. It is by no means uncommon to find that a patient who has well-marked expansile hardening of the colon, combined, perhaps, with extreme tenderness on palpation, does not complain of any pain at all. They will say they never have indigestion. The examination of the bowel, however, seems to show that the spinal cord must be receiving afferent impulses which are calculated to cause pain. In searching for remote effects in such a case as this, it is usual to find that the patient complains of frequent and severe attacks of mental depression and neurasthenic symptoms. As a matter of experience a case usually comes before the physician the other way round, and the patient who comes complaining of severe attacks of depression, coming on suddenly and without apparent cause, is often found to have a condition of bowel which ought to be giving rise to colon pain but is not. In these cases it is, I think, reasonable to suppose that the afferent impulses which reach the cord from the disordered bowel do not pass into the ordinary sensory tracts, but pass upward directly to the brain or vasomotor centres which regulate its blood supply, and thus their only effect upon the patient is a cerebral one.

Brain misery of one kind or another is frequently the result of colon dyspepsia instead of the abdominal discomfort that ought to result. Some patients notice this themselves, and say that when they do not get abdominal pain they get mental depression, but when they get pain in the abdomen they are more free from mental depression. I have once been able to demonstrate in a most striking manner the connexion between colon irritation and mental misery, for when examining a lady with well-marked colon tenderness, I found that comparatively light pressure upon a hard descending colon in the upper part of the left iliac fossa at once produced an attack of crying. The patient knew it, and said: "I cannot stand any pressure there; it always makes me cry." Even when her attention was diverted, very slight pressure on that particular spot would in the middle of a conversation bring tears into her eyes and an attack of crying. A week's treatment with intestinal antiseptics, etc., sufficed to so far lessen the bowel sensitiveness that this effect was no longer produced, and the patient soon got quite well. I have known a healthy-looking working man, with no cause at all for unhappiness in his work or his home, in answer to the question whether he ever felt depressed, say, "Depressed? Why, I felt as if I could do nothing but cry all yesterday afternoon." I have also known a gentleman confess that "he often cried himself to sleep like a child" when suffering from this type of bowel irritability.

I could mention scores of patients who would illustrate what I have here said, and who lost their depression as soon as the irritability of the colon was relieved. Perhaps the most striking illustration of the connexion between bowel irritability and cerebral disturbance was the following case:

A young girl of about 20, who was brought to me at the hospital with the history that for the last month or so she had had an attack of screaming each morning on waking. No matter whether they woke her up or not she began screaming at once, and screamed for an hour or more "like a stuck pig," to use her mother's graphic description. She had to be held down in bed to stop her hurting herself. She did not have any other screaming attacks during the day. There was no history of abdominal pain, and the examination of the abdomen was negative except that there was a slight amount of hardness and tenderness of the lowest palpable part of the sigmoid flexure. A rectal examination was therefore made, and it was found that there was extreme muscular hardening of the bowel at Houston's valve. With the finger in the valve it was sometimes found to become as hard and sharply defined as if it were a cartilaginous ring with a well-marked lumen. The spasm would then pass off and reappear higher up the bowel. With the finger in the rectal pouch the bowel could be felt to harden up to the size of a walnut and then go soft again; it was extremely tender. The patient was greatly relieved by the perchloride of mercury and perchloride of iron intestinal antiseptic, and in forty-eight hours her screaming attacks entirely ceased although her home circumstances were just the same as they had previously been. The patient had, however, a very unstable nervous system and would not persist in the treatment, and some months later had a relapse of her bowel trouble, and had to go into an asylum for suicidal tendencies.

Another way in which the bowel disturbance we are speaking of manifests itself is by cardiac disturbance. The most marked instance is one I first saw a few months ago.

It was the case of a lady who suffered with attacks which had been diagnosed as angina pectoris, and she was brought to me by her doctor, who doubted this diagnosis, in order that his opinion that it was pseudangina might be confirmed. In this case there was marked hardening of the colon, and by sudden painful pressure on the lower part of the ascending colon I was able to produce one of her typical anginous attacks, including a sense of suffocation and terribly severe pain in the chest and left arm. Treatment of the bowel condition is greatly relieving her.

Other cases I have seen with severe and crippling palpitation and some dyspnoea, on even slight exertion or excitement, which, while resisting cardiac and other treatment, yielded to treatment of the bowel condition. The diagnostic points as to the occurrence of these symptoms at times when the colon is muscularly active—for example, after meals, or on exertion from mechanical stimulation of the above, or when the nervous system is specially over-sensitive (for example, at the menstrual period), or when specially liable to gouty irritation (for example, in the early morning)—have been dealt with in the two papers already mentioned.

I have only time to deal in a very few words with the relationship of colon dyspepsia to mucous colitis. In this latter condition the irritant productive of the symptoms here spoken of appears often to be very abundant. In

many cases of colon dyspepsia a little coagulated mucus —as casts, etc.—may be occasionally passed, but the irritant causing expansile tone and pain is, I believe, different from the one causing the excessive secretion and coagulation of the mucus. It is possible that cases of colon dyspepsia are really early cases of mucous colitis, and that their recognition and treatment will lessen the frequency of this latter complaint. Most cases of colon dyspepsia are curable by careful attention to diet and the persistent use of some form of intestinal antiseptic, but it must be remembered that the symptoms are due to the colon taking on a habit of abnormal action which cannot very rapidly be broken.

I must apologize for the imperfections of this account, but it is not easy in fifteen minutes to give more than an imperfect outline of so complex a complaint.

DISCUSSION.

Dr. A. H. CARTER (President) said he had some difficulty in realizing the state of "expansile tone" as described by Dr. Stacey Wilson.

Dr. MALET (Wolverhampton) said he believed colic was rarely due to an attempt by the bowel to push on something it was unable to get rid of. It was really analogous to cramp. Pain in the loin was certainly a symptom of colon irritation.

Dr. EWART (London) referred to the reflex association of appendicitis with gastric dyspepsia.

RECENT ADVANCES IN CARDIAC THERAPEUTICS.

By FREDERICK W. PRICE, M.D.,

Physician to the Great Northern Central Hospital; Physician and Honorary Pathologist to the Mount Vernon Hospital for Diseases of the Chest, London.

THE introduction, within recent years, of graphic methods of examining the mechanism of the heart has resulted in an enormous advance in our knowledge of cardiac disorders. By these methods we can analyse the heart's action in a way that was never possible before, and as a result many of the problems which have baffled clinicians for many generations are now in process of solution. Concurrently with this possibility of examining and precisely analysing the cardiac mechanism the whole field of cardiac therapeutics has been thrown open for scientific and accurate study. There is great need for such a study, for hitherto inquiries have in large measure necessarily been conducted on merely general lines. This has seriously hindered the advance of cardiac therapeutics, because the findings of the experimental pharmacologists have frequently not been substantiated, and it should be remembered that the results of cardiac drugs in the human subject do not necessarily correspond with those found by the pharmacologist.

For the last two years or so I have been associated with Dr. James Mackenzie and Professor Cushny in conducting at the Mount Vernon Hospital for Diseases of the Chest a series of investigations dealing in detail with the action of digitalis and some of its allies on the human heart.

The subject is of great practical importance to the clinician, and I venture to lay before the profession some of the results of our investigations, with a hope that they will be of service in general practice.

It is common knowledge that digitalis and its allies are of very great value in *some* cases of cardiac failure, while in others they are ineffective. This has led some physicians to believe that the drugs are capricious in their action. Others, on the other hand, think that the frequent absence of result is due to the inefficacy of particular preparations, and thus special preparations have been recommended. It has, however, now been clearly established that the differences in the results following the administration of the drugs are not due to any uncertainty in the drugs themselves, but are due to differences in the cases treated. Among other things we have been attempting to find out these differences in detail.

Methods of Investigation.—In regard to the methods of investigation, with the exception of those cases where the symptoms required immediate treatment, all the patients were first of all given a course of rest before any drug was administered. The rule was not to commence with any drug until the pulse-rate, which had diminished as the result of rest and other causes, had remained stationary for at least some days. This plan allowed us to study the effect of rest, and it also prevented any drug being credited with results which were in reality due to adventitious circumstances.

Each case was daily observed, examined, analysed, and recorded with scrupulous care, attention being paid to the minutest detail. The patients' own sensations were carefully noted. The results of a definite amount of exertion upon the heart and respiration were ascertained by employing different standards of exertion, such as the ascent of a given number of steps. By noting the patients' sensations immediately after exertion we were able to ascertain improvement or otherwise. Similarly, in regard to objective signs of cardiac failure, the extent or severity of hyperalgesia present in the left thorax and hepatic region were carefully noted. An attempt was made to accurately measure the degree of dropsy by periodically weighing the patients and measuring the circumference of the limbs and abdomen. In regard to changes in the size of the heart our observations were limited to percussion. Blood pressure measurements were taken by means of Martin's modification of the Riva-Rocci apparatus, and as far as possible the same individual took records of the same cases throughout their whole course. Only the systolic pressure was taken, and in cases of completely irregular rhythm, where there is a constant variation in the strength of the pulse beats, the records were not considered to be sufficiently reliable as to be of much value. Graphic records were taken by means of the ink polygraph, and sometimes tracings were taken continuously for long periods, even up to an hour or two, so as to accurately determine the nature of any alterations of rhythm due to the action of the drug, since these are frequently first detected during the slowing of the heart after its rapid action following upon exertion, and they may be very temporary. The ink polygraph was sometimes supplemented by electro-cardiographic observations through the kindness of Dr. Lewis.

By these methods of examination we think we are able to study the action of cardiac drugs in detail and with accuracy. Our aim is, by adopting the methods of exact analysis, to try and bring cardiac therapeutics to the higher state of cultivation which has been reached by experimental science.

Our observations have so far been almost entirely limited to the *British Pharmacopœia* tinctures of digitalis or its allies. We have tried to compare the effects of different doses of the same drug and of different drugs on the same individual. In regard to dosage, our practice has been to, as a rule, give a drachm of the tincture a day, either 15 minims four times a day or 20 minims three times a day; or, if the case is urgent, as much as 15 or 20 minims every four hours or 30 or 40 minims three times a day, that is, 1½ drachms or 2 drachms a day. These doses were continued until some definite reaction was obtained. The drug was then stopped. If afterwards the heart relapsed to its former condition, which happened in a considerable proportion of cases, and usually in about a week, we endeavoured to find the dose which maintained the improved condition without producing any unpleasant symptoms. To find this optimum generally took a very long time; many observations were made and much patience was required. In this respect help was often obtained from the patient himself, who is usually able to say what quantity suits him best. In other words, his own sensations usually afford the best guide. Patients frequently complained when a particular dose was reduced. After a thorough trial with digitalis, we often tried strophanthus, squills, or one of the other drugs, and then perhaps went back to digitalis. We were thus able to estimate the relative usefulness of these drugs and to find out the comparative dosage.

The cases examined were: Twenty-one cases of mitral disease, 11 cases of aortic and mitral disease (in some of these the only evidence of mitral disease was the presence of a mitral systolic murmur), 1 case with aortic systolic murmur, 3 cases of cardio-sclerosis without evidence of valvular disease, 1 case of paroxysmal tachycardia, 1 case of tachycardia of obscure form, 1 case of complete heart

block, 1 case of emphysema with a mitral systolic bruit, and 3 cases of pulmonary tuberculosis with pyrexia. Of the mitral cases 10 were cases of auricular fibrillation while 11 were not. Of the aortic and mitral cases 3 were cases of auricular fibrillation and 8 were not. The aortic systolic case was not a case of auricular fibrillation. The 3 cases of cardio-sclerosis were cases of auricular fibrillation. Thus, of the 36 cases of valvular disease or cardio-sclerosis, 16 were cases of auricular fibrillation and 20 were not. The case of emphysema and the 3 cases of pulmonary tuberculosis were not cases of auricular fibrillation. Of the cases of normal rhythm, 1 case showed numerous extra-systoles and pulsus alternans, and another case showed extra-systoles only. In the case of paroxysmal tachycardia, the tachycardia became continuous.

Carefully analysing the results of all these cases the following facts can be elicited: All the cases of mitral disease with auricular fibrillation showed a marked and speedy slowing of the pulse and a remarkable improvement in the patient's condition following the administration of the drug. The same was also obtained in 2 of the 3 cases of aortic and mitral disease with auricular fibrillation; in the other case there was slight fever present. Of the 3 cases of cardio-sclerosis with auricular fibrillation a similar result was obtained in 2; in the third the result was only slight and transient; this patient was 67 years of age, while the other two were 27 and 53 respectively. The oldest patient in the cases of valvular disease with auricular fibrillation was 50 years of age, and all excepting 2 cases were under 40.

Of the 13 cases of valvular disease with auricular fibrillation, in 9 there was a history of acute rheumatism. Of the 3 cases of cardio-sclerosis with auricular fibrillation there was a rheumatic history in none.

Thus there was a marked slowing of the pulse and improvement in all the cases of auricular fibrillation, excepting 2—namely, 1 case of valvular disease in which fever was present, and another case of cardio-sclerosis where the patient was 67 years of age.

The best results were obtained in those cases with a rheumatic history.

Turning to the cases of valvular disease without auricular fibrillation, in only two was there marked slowing of the pulse and improvement, and in both the rate was a moderate one before the administration of the drug was begun. They were both cases of mitral disease, and in one there was a history of rheumatic fever, and in the other of frequent sore throat. In some of the other cases there was a slight action on the heart and slight improvement; in the remaining cases there appeared to be none at all.

In one case of mitral stenosis with normal rhythm a course of digitalis was administered until nausea appeared, and the drug had no effect on the pulse-rate. A second course was given, when the pulse-rate continued unaffected for seven days, then suddenly there was a marked fall, and at the same time there were all the indications of auricular fibrillation.

As a rule improvement could be started after a time by small doses—for example. 5 minims of tincture of digitalis three times a day. But they always required a much longer period to do so than large doses—for example, 20 minims four times a day, which produced their full effects rapidly; and sometimes the small doses produced no effect in cases which responded to full doses. The inference is, therefore, that it is better to commence with a full dose and continue until the patient is completely under the influence of the drug, and then, if further administration is required, to continue the administration, but to diminish the dose until it is discovered what dose will keep the patient in the best condition. When taken in doses amounting to 1 drachm a day, the average quantity which produced nausea in most cases was from 5 to 7 drachms. When a larger dose was given a reaction appeared after a smaller quantity had been administered.

In cases of auricular fibrillation there was in most cases a relapse to the former condition in about a week after the drug was stopped. Much perseverance was required to find out what particular dose best maintained the improvement. Up to now we have not sufficient data from which any definite conclusions can be drawn. The only certain thing is that there are great differences in the doses required. In one case it was as small as a drachm a week, while in another it was as large as 45 minims a day. As I have already said, the patients were often able to say which quantities acted best. Having discovered the best doses to maintain the improvement, patients were discharged, and were usually able to resume work as long as they continued taking the drug.

In cases without auricular fibrillation the improvement was usually obtained without continuing the drug.

In cases of auricular fibrillation the slowing of the heart was often distinct before the appearance of any stomach symptoms. This was not so in cases without auricular fibrillation, where nausea usually appeared first. The stomach symptoms appeared in both groups of cases with or approximately the same total dose. With the nausea there was loss of appetite, sometimes vomiting, a feeling of malaise, and not infrequently headache (which was sometimes very severe). In no case was there persistent vomiting. There was never diarrhoea with digitalis, but it occurred with strophanthus, squills, and helleborein. Strophanthus and squills caused vomiting and headache less frequently than digitalis. Only exceptionally was there a marked increased in the flow of urine, and, with the exception of one case, all of these cases exhibited dropsy.

An appreciable rise in the blood pressure was observed in only one case, namely, a case of aortic disease and mitral systolic murmur, with a rheumatic history, in which digitalis caused diureses, and raised the blood pressure, with no decrease in the pulse-rate. In three cases of auricular fibrillation there was a tendency for the ventricle to beat in coupled fashion.

In cases without auricular fibrillation the most common changes in the rhythm due to digitalis were sinus irregularities. They were best seen when the heart was slowing after exertion. During the slow periods other forms of irregularity tended to appear—for example, partial heart-block and extra-systoles. Partial heart-block was produced by digitalis in 6 cases; in all cases when the drug was stopped it disappeared in a few days. The extra-systoles were always of ventricular origin, sometimes only occasional, at other times alternating with a beat. Pulsus alternans occurred in one case.

Although many of the cases showed remarkable improvement, to our surprise we found distinct diminution in the size of the heart on percussion in only one case, that of auricular fibrillation. In no case in which digitalis failed to act beneficially did any of the other drugs succeed.

Strophanthus showed great variation in regard to dosage, especially in producing diarrhoea, but, as a rule, considerably larger doses than of digitalis were required.

Speaking generally, squills had little effect upon the heart, and larger doses than of digitalis were required.

The results with helleborein were very disappointing.

In no case was there slowing of the pulse-rate or improvement in the patient's condition resulting from the administration of aconite.

Conclusions.

The general conclusions which may be gathered from a careful study of these cases are the following:

There is a great variability in the action of digitalis or its allies in different patients. This variability is not due to any differences in the drugs themselves, but to differences in the nature of the lesions from which the patients suffer. Cases of auricular fibrillation generally respond in a remarkable way unless pyrexia is present, when very little or no result may be expected, or in the senile heart with extensive fibrous degeneration of the heart muscle. As a rule, there is a relapse to the former condition in about a week after the drug is stopped. The indication, then, is to find out what dose will best maintain the improvement without producing any unpleasant symptoms.

Marked improvement very rarely follows in cases in which there is not auricular fibrillation. If improvement occurs it can usually be maintained without continuing the drug. In two cases of tachycardia, arising from an abnormal source, digitalis caused the heart to revert to a normal rhythm, after inducing fibrillation of the auricle.

From what I have said it will be perfectly clear that it is of the utmost importance that we should be able to recognize auricular fibrillation clinically. We are able to do so by the following signs: (1) In a great majority of cases the pulse is continuously irregular, and this irregu-

larity is of a disorderly character. (2) In mitral stenosis the auriculo-systolic murmur disappears; if a diastolic bruit was present it persists. (3) The absence of a normal auricular wave in a tracing of the jugular vein. (4) An electro-cardiogram of the heart shows no sign of the normal auricular systole.

THE TREATMENT OF DRUG ADDICTION AND THE PROPHYLAXIS OF RELAPSE.

By W. OSCAR JENNINGS, M.D.Paris.

BEFORE submitting for your consideration the few remarks I propose to make, I will call attention to the fact that I have modified the title of my paper as set down in the official programme, and which was to deal with the treatment of morphinism. For what I have to say about morphinism applies more or less to drug addiction generally, and the treatment which is suitable for the cure of this condition is *de facto* part of the prophylaxis of relapse.

Drug habits of all categories may be divided into two chief classes—(*a*) habitual users who are kept in bondage only through the conviction that there is no escape for them, but who would gladly free themselves were it possible; (*b*) irresponsible drug fiends compelled to excess by an irresistible impulsion. The first take, as a rule, one drug only, usually opium or morphine; the second are generally compound narcomaniacs—that is, morphinists who are at the same time alcoholics or cocainists.

For patients belonging to the first of these categories I maintain that the word "morphinomania" is, in most cases, not only a misnomer, but that it is also responsible for much of the baneful consequences of morphine taking. The patient is led, by being so ticketed, to consider himself as irreclaimable or incurable. He is encouraged to believe that he is devoid of will, that he is more or less insane, and that to break off his habit he must be subjected either to chemical or moral restraint rather than reasonable guidance. And when such a plan of treatment is temporarily successful, as far as immediate suppression is concerned, the treatment that has effected an apparent cure degrades and lessens instead of strengthening the personality, and so becomes an almost certain cause of future relapse.

The first step towards renunciation should, then, be the restoration of self-respect, the demonstration that self-mastery is recoverable, and the inculcation of the conviction that with suitable therapeutic, hygienic, and dietetic measures methodically carried out failure is out of the question. When this conviction has been attained, when a reasonable confidence has been acquired in the efficacy of the measures employed, when hope and self-reliance has been restored, a patient who would otherwise have exaggerated insignificant nervous malaises into insurmountable obstacles, becomes once more capable of self-control, realizes the exact importance of what he has to put up with, and is able henceforth to endure cheerfully little discomforts that would previously have seemed unbearable. As in all psycho-somatic conditions, looking for trouble creates or exaggerates it, and the substitution for the anticipation of discomfort of the expectation of returning health is greatly helpful.

This moral support must, of course, be seconded by the association of whatever therapeutic, hygienic, and dietetic measures may be necessary for the prevention or the relief of the underlying factors of somatic craving, and which in each case are obviously suggested by symptomatic indications. It is scarcely necessary to add that the patient should place himself in the conditions necessary for success, and devote himself perseveringly for the requisite time entirely to the end in view.

Simple as the preceding programme may appear, it requires on the part of those who have been educated in the belief of the all-importance of drugs, a certain degree of "understanding," but when the so-called "morphinomaniac" has acquired this understanding he will recognize that his case is not so desperate as he had supposed, and unless he is a hopeless alcoholic, a cocainist, or a tobacco fiend, he would then be within measurable distance of emancipation. In support of these views the following cases which have recently come under my care may be quoted.

A physician, now 63 years of age, was "severed" from morphine in 1894 by the so-called rapid Erlenmeyer method, which, including convalescence, took two months to achieve. His sufferings were atrocious, his hair, which has never resumed its normal colour, turning white during the ordeal. He suffered so greatly, in fact, that after relapsing, he resolved never to go through a second "demorphinization." Six months ago, however, he was persuaded by his brother-in-law, a well-known surgeon, to submit to be weaned by the plan I have sketched of guidance without compulsion, and he was enabled in this way to give up the morphine, of which he was then taking about 6 grains a day, without constraint or distress in three weeks.

I reported in a paper published last year the case of a distinguished member of the R.A.M.C., an addict of six years' standing, and for a short time a cocaine taker also, who, notwithstanding the fact that his urine contained, on coming under treatment, a large quantity of albumen, was successfully weaned without suffering in twelve days.

The following observation is still more instructive:

> The patient, an addict of twelve years' standing, and who was then taking 15 grains of morphine daily, consulted Sir Thomas Barlow a little more than two years ago. He was sent to a well-known sanatorium, where the association of atropin with strychnine forms the routine treatment. But notwithstanding the greatest kindness and attention on the part of all concerned in his management, he failed in his attempt at emancipation. He then tried to cure himself by the help of an advertised specific, which for a short time enabled him to give up the use of hypodermic injections, but after taking two bottles of the "tonic" in question, which contains morphine and heroin, he developed an irresistible desire for alcohol, and while continuing to take this specific, relapsed to larger doses hypodermically. He finally decided to place himself under my direction, but to save time and expense, he resolved to make as much progress as possible previously by following the programme I have given of my own weaning.[1]

The suppression was carried out entirely voluntarily, and with the conviction of the certainty of success, self-mastery returned progressively and surely. The patient left the management of his solution entirely in his wife's hands, and in twenty-nine days the dose had been tapered down to vanishing point.

It may be remarked here, parenthetically, that those who are practically inexperienced in the re-educational treatment of drug addiction affirm as an argument in favour of chemical restraint that in the gradual weaning without a "knock-out" drug, however small may be the dose to which a patient has been progressively reduced, he will experience on making the final suppression much the same suffering as if the drug had been cut off rapidly. This statement, which is repeated constantly, and which is one of the *clichés* of drug curers, is one of the most deplorable mistakes that has been made concerning the treatment of drug addiction. The suffering of a patient whose dose has been reduced to what I have termed "vanishing point" is mainly psychical, and in exact proportion to his want of confidence in his medical attendant. "He who fears to suffer already suffers what he fears," but if hyoscine or intensive bromidization may occasionally be allowable in the treatment of drug fiends, and as a *pis aller*, it is erroneous to suppose that when suitable measures are applied, suffering cannot be prevented without such means. On the contrary: besides being dangerous to life, bromide coma causing, as I have seen, death from pulmonary oedema, and the acute mania induced by hyoscine frequently leading to fatal results, from the point of view also of suffering alone, a properly managed progressive weaning is infinitely preferable. When sufficiently gradual, and carried out under the conditions above mentioned, a patient may be weaned without knowing when the rubicon has been passed, and I have frequently had patients who continued to take salt water injections quite contentedly for weeks afterwards. In the interests of the more rapid suppression, some will, however, elect to put up with trifling discomforts, the importance of which may be judged from the fact that they are self-imposed. I may observe here that it is absurd to suppose that it is possible to deceive a morphine patient taking his normal dose by the substitution of salt water for his ordinary solution of morphine; a proceeding that is often counselled. When, however, the alkaloid has been reduced with the patient's co-operation to an insignificant minimum, the somatic requirement having become next to nothing,

ith a re-educated psychism the patient will not look for
ouble, and the auto-suggestive expectation of difficulties
ill therefore be eliminated.

In the case last quoted the final dose of morphine was
grain. The three following days the patient took
ithout comment, although half suspecting there was no
nger any morphine in it, the salt solution which his wife
ry wisely continued to give him. It may be objected
at only an exceptionally strong-willed patient could
ing himself to the mental attitude I have described, but,
a matter of fact, all that is required is the restoration
ordinary common sense and the conscientious observance
a number of little conditions which make up an easily
mprehensible programme. There may at first be some
le difficulty about perseverance in self-control in small
ings, but the practical point is that the patient is never
quired to do anything great, heroic, or beyond his power.
e last mentioned patient cured himself without seeing
y doctor at all by simple attention to what he had come
consider as a reasonable programme, and which, from
knowledge of the subject, appealed to his under-
nding.

a contradistinction to what has been just said, I should
to enter a little more fully into the treatment of the
ire for habitual stimulants by obliteration of the will
strong narcotic drugs.

t is a common belief that a disease is a kind of demon
t can only be expelled by a drug—that it is a condition
ich necessarily acquires a *medicinal* remedy. Being
ustomed, then, to suppose that health is to be restored
nly by drugs, when a drug addict has become enslaved
s to some specific or panacea that he looks for
ation.

lore than twenty years ago I investigated the hyoscine
tment, and since its revival about ten years since I
e experimented with it considerably, and have even
cases for treatment to exponents of this method. My
patients have sometimes derived benefit from normal
s, and I have occasionally given with good results
6 mg. a day, but as routine treatment, in what are
d "knock-out" doses, it cannot be too strongly
lemned. I am frequently consulted by medical men
tell me they have relapsed after a hyoscine cure.
not, I always suggest, go through the treatment a
id time, that has already *proved* successful on a first
sion? My correspondents generally reply that no one
d submit to a hyoscine cure again who has had personal
rience of it previously.

will take as an example the most recent case that has
under my observation. About six months ago, a
cal man wrote asking me to undertake his treatment.
s unable to do so at the time, but as he was anxious
cured as soon as possible, I suggested that he should
lt an eminent specialist who applies the knock-out
od. In the course of a few weeks I was informed by
colleague that the case was cured, at any rate tem-
ily, a statement which was confirmed by the patient
lf shortly afterwards. Dr. —— was then delighted
the *result*, assuring me that there remained no
g for morphine. As regarded, however, the *treatment*
hich the result had been effected, he was less en-
stic. "It was," he wrote, "heroic, but devastating."
true that I am cured," he added, "but if you ask me
ier I would submit to a hyoscine cure again, in case
pse, I reply emphatically, Never!"

en writing Dr. —— thought he was definitely cured,
few weeks later the craving returned and he relapsed.
ple of months later he came under my care, suffering,
gst other symptoms, from alarming heart attacks,
a pulse of 140 and feelings of impending cardiac
. Tobacco was reduced to a minimum, total ab-
ce from meat and stimulants enjoined, and thanks
régime, the patient, who took nothing but two or
doses of dionine, and cannabis indica, with strych-
spartein and caffein, and Vichy water, p. r. n.,
his time motoring, playing billiards, and other-
musing himself, is now quite well. He continues,
r, the almost daily use of Turkish or incandescent
aths, which were admirably efficacious during the
g.

sive hyoscine treatment may, then, I repeat, be ad-
e in some cases of real narcomania, where nothing
n be done, but for an ordinary morphine habitué,
amenable to treatment when properly managed, it should not be applied systematically. The same thing may be said of atropine. The induction of a comatose condition by huge doses of bromide is equally improper, and Crothers, whose high authority has been quoted by those who employ this method, is, on the contrary, entirely opposed to it.

I will summarize shortly what I have to say about the prophylaxis of relapse.

To wean a docile drug patient is comparatively easy—to convince him of the necessity of prudence in the future is more difficult. To be secure from relapse the patient must, however, adopt the simple life; he must endeavour to restrain his impulsivity and tendency to self-indulgence, and must devote himself perseveringly to the cultivation of self-control. He must endeavour to become once more the "captain of his soul," and to effect that devoutly-to-be-wished-for consummation the restoration of the *mens sana in corpore sano*. He must learn to prevent the metabolic instability that has a tendency to cause trouble after weaning. To this end all transitional medication must be given up as soon as it has served its purpose, and, as during weaning, reliance placed principally on hygienic and dietetic measures. Temperance will be necessary both in drink and food, and restriction in diet may require in some cases to be carried to the extent of abstemiousness and even temporary fasting. If drugs are to be avoided as far as possible the value of physical agents is undoubted, and the most admirable toni-sedative under such circumstances is the already mentioned Turkish or the incandescent light bath. "No other agent," says Dr. W. B. Snow, "is so active in restoring the functions of metabolism as systematically applied radiant light and heat," or to get over the metabolic instability that may remain after weaning. And, according to the reporter of the American Society for the Study of Inebriety, "the Turkish bath makes an ex-addict a cleaner man, places him on a higher plane, and thus becomes for him the best of psychical stimulants." Such a claim for the Turkish bath and for radiant energy may appear exaggerated, but any hygiene that is adopted with a view to control morbid desire or impulse may acquire, by the intention with which it is used, a practical spiritual efficacy.

My last prophylactic measure against relapse is cycling, and, as with the Turkish bath, of this I can say in truth—*experto crede*. "The wise for cure on exercise depend," and the Chinese, to use a recent psychological neologism, are said to "concretize" their spiritual aspirations by working a "prayer-wheel." This will no doubt, if worked with that purpose, enable them to control unhealthy impulses, and may be thus used as a preventive of the opium habit. For ex-morphinists the best prayer-wheel is a lightly-built "road racer," which, ridden *secundem artem*, is equally efficacious.

REFERENCE.

[1] *The Morphia Habit and its Voluntary Renunciation.* London: Baillière, Tindall and Cox. 1908.

DISCUSSION.

Dr. Crichton Miller (London), while agreeing in the main with all Dr. Jennings had said, could not bring himself to believe that, in the cases of morphinists taking large doses of the drug, the weaning process described by Dr. Jennings could be anything but intense agony. Unless they could promise the addict of morphine an absolutely painless cure, he would not come to be cured.

THE CLINICAL DETERMINATION OF BLOOD PRESSURE BY MEANS OF PACHON'S SPHYGMO-OSCILLOMETER.

By J. F. Halls Dally, M.A., M.D.Cantab., M.R.C.P.Lond.,

Assistant Physician to the National Hospital for Diseases of the Heart, Soho Square.

To-day I bring before you, and invite you to consider with me, the sphygmo-oscillometer of Pachon, the principles of its construction and its uses in clinical medicine.

Although used extensively upon the Continent, the instrument is comparatively new to this country. I do not propose now to enter into the details of its construction, since these have been fully described by its inventor,

Dr. V. Pachon, Professor of Physiology at the University of Bordeaux, in various papers,[1,2,3] a particularly lucid description being given in the *Paris Médical* of July 1st, 1911. Articles have also appeared in English in the BRITISH MEDICAL JOURNAL[4] and the *Medical Magazine*.[5]

Suffice it to say that in the construction of the sphygmo-oscillometer (Fig. 1) a flexible aneroid capsule, C, is enclosed

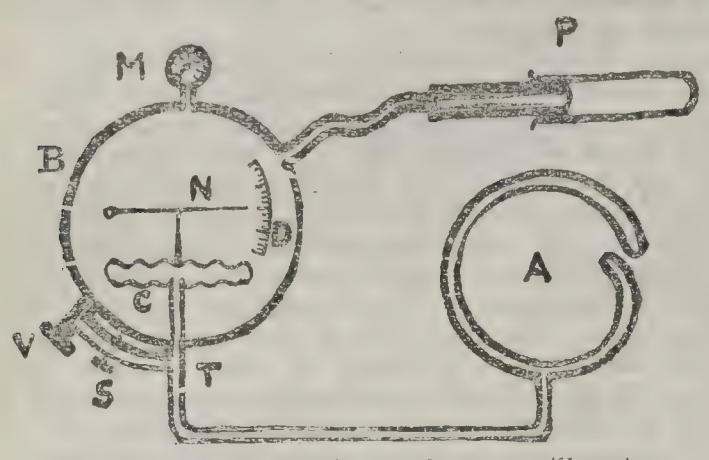

Fig. 1.—Diagram of Pachon's sphygmo-oscillometer.

within an airtight and rigid metallic box, B. These communicate directly with one another and with the armlet, A, by means of a three-way channel, T. The pressure within this system at any given moment is indicated on the dial of a small manometer, M. The separator key, S, on being depressed, closes the transverse limb of the three-way channel, and so allows pulsations set up in the armlet to be transmitted to the interior of the aneroid chamber, and so to the large registering needle, N. The armlet is most conveniently applied just above the wrist, and the pressure throughout the entire system is raised by means of the pump, P, to a point likely to be above the maximal blood pressure. The separator key is then depressed, and alternately the counter-pressure is gradually reduced until a point is reached at which the needle first exhibits definitely differentiated and increasing oscillations. This point marks the

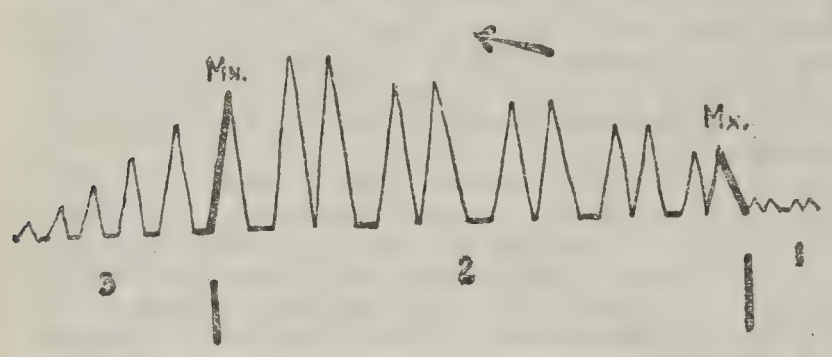

Fig. 2.—Diagram of oscillations showing point of entry (Mx.) into zone of increasing oscillations (2), which marks the systolic pressure, and point of exit from this zone (Mn.), which marks the diastolic pressure. The diagram reads from right to left.

maximal or systolic blood pressure (Mx., Fig. 2). In some cases these increasing oscillations are preceded by a succession of undifferentiated flickerings or fibrillary deflections (Zone 1, Fig. 2), due to the incomplete closure of the vessel, which becomes funnel-shaped at the level of the upper margin of the armlet. As the pressure is lowered the oscillations increase in size until they reach a maximum (Zone 2). The amplitude of the pulse can now be determined by counting the number of divisions on the scale over which the needle swings. The character of the pulse in regard to dicrotism, irregularities, and the effect of respiration, etc., may also be examined by keeping down the separator key. Finally, the counter-pressure is still further lowered until the oscillations suddenly diminish in size. The first of these corresponds to the minimal or diastolic pressure (Mn., Fig. 2).

Let us now turn for a moment to the consideration of the theory of construction of the instrument. It is based upon the "Theory of Oscillations" of Marey, who found that by enclosing a segment of a limb within an inelastic reservoir filled with fluid, the oscillations set up in the fluid were found to vary in amplitude according to the given counter-pressure. It is from this initial observation of Marey in 1876 that the method of oscillations is derived.

In theory, the course of events is as follows: When the counter-pressure is higher than the maximal arterial pressure, the artery undergoes compression, and there are, therefore, no oscillations. When the counter-pressure—for example, 14 cm. Hg (Fig. 3)—is reduced to a point just below the maximal arterial pressure—for example, 15 cm. Hg—the walls of the artery are separated slightly and for a very short space of time. A definite oscillation is at once observed. As the counter-pressure is lowered—for example, to 12 or 11 cm. Hg—the arterial walls separate further for a longer time, and the oscillations consequently become larger. Finally a point is reached at which the counter-pressure just equalizes the internal diastolic pressure, when the arterial walls remain apart. Below this point any oscillations are due to distension of the artery by the blood-wave, and not to separation of the arterial walls. Hence the oscillations will again decrease. In practice, however, the curve of oscillations is not so simple, since the zone of increasing

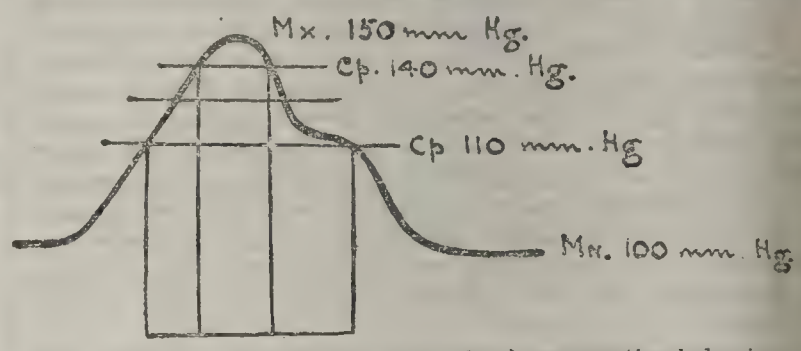

Fig. 3.—Diagram (modified from Pachon) representing behaviour of the pulse under counter-pressure. Mx. = systolic counter-pressure; Mn. = diastolic counter-pressure; Cp. = intermediate counter-pressure.

oscillations does not start from zero, but is often preceded by a zone of fibrillations to which I have referred above. Nevertheless, it will be seen that in this method we have a means of estimating both the systolic and diastolic pressures.

Until recently the difficulty has been to find a practical instrument which enables us to distinguish with precision the two levels of entry into and departure from the zone of increasing oscillations. Instruments constructed on the theory of oscillations have already been invented, but none of these work at constant sensitiveness. Pachon, by surrounding his aneroid capsule by an airtight box, has ensured that any pressure introduced within the system must exist equally on both sides of the aneroid chamber. Thus at rest the pressure within and without the aneroid is that of the atmosphere, but if a counter-pressure be introduced this excess of pressure will be found on each side of the aneroid chamber, and therefore any variations of pressure set up in the armlet will be directly transmitted to the interior of the aneroid capsule, and thus *in their entirety* to the registering needle when the separator key is pressed down. If we consider other instruments (such as that of Amblard) which also make use of the oscillations of a needle which are set up in an aneroid chamber, we see that, owing to the absence of the surrounding airtight box, the excess of pressure introduced by the pump will exert itself only in the interior of the aneroid, whilst on the outside there is only the atmospheric pressure. Hence the aneroid chamber will be already in a state of positive distension, and any variations due to the blood pressure will be transmitted at a mechanical disadvantage which is always greater in proportion as the counter-pressure is higher. By reason of these defects it has hitherto been difficult practically to determine the limits of the zone of increasing oscillations which mark the systolic and diastolic pressures, and therefore we have been unable in a single observation to compare the two. For this sufficient reason the diastolic pressure has not received the attention which it deserves, and now that we are in a position to institute a comparison between the maximal and minimal pressures, it will probably be found that of the two the *diastolic* is the more important.

Time forbids me to deal with several points of much interest, one of these being why the Pachon is usually found to give higher readings than the Riva-Rocci instrument. In the latter the extinction of the pulse is estimated by the finger below the level of compression of the artery. The disappearance of the pulse is generally attributed to obliteration of the blood flow by direct compression, but, according to Pachon, the pulse wave may be absorbed or damped down, and thus become so attenuated as not to be palpable below the level of compression, just as happens in aneurysmal dilatation where the wave is absorbed by the distensible sac of the aneurysm, with the result that the blood stream below this point becomes more uniform. In compression of a segment of a limb by an armlet a similar result may be obtained, because at the instant

when the counter-pressure equalizes the internal pressure the arterial wall is in a state of equilibrium, and this segment, normally almost inextensible, is changed into an area of less resistance—that is, one which is more distensible. By using the Pachon as a Riva-Rocci, although no pulsations can be detected by means of the finger applied to the wrist, appreciable oscillations will be manifest at the level of the compression.

To sum up, Pachon's sphygmo-oscillometer gives us information with regard to the diastolic as well as the systolic pressure. Its original design causes it to work throughout at constant pressure and maximum sensitiveness, and the personal equation is reduced to a minimum.

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[1] V. Pachon, Sur l'erreur de principe de la méthode de Riva-Rocci pour la détermination de la pression artérielle chez l'homme, *Comptes rendus de la Société de Biologie*, 12 juin 1909, Paris, Masson, éditeur. V. Pachon, Sur la méthode des oscillations et les conditions correctes de son emploi en sphygmomanométrie clinique, *Comptes rendus de la Société de Biologie*, 8 mai, 1909. [3] V. Pachon, La mesure de la pression artérielle par la méthode des oscillations, *Paris Médical*, No. 31, 8 juillet, 1911. [4] K. Eckenstein, British Medical Journal, December 3rd, 1910. [5] Halls Dally, *Medical Magazine*, February, 1911.

THE MANIA FOLLOWING PNEUMONIA.

By W. J. Tyson, M.D., F.R.C.P.,

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I am not now referring to the ordinary delirium, or "delirium febrile"—a delirium, as its name implies, which may come on in any case with high fever. We all know the active delirium associated with alcoholism, but the ordinary pneumonic delirium is not common, and it is often associated with the apical form.

Perhaps one of the most interesting and practical points about this delirium is that it may be the first symptom noticeable in the disease—that is to say, the physician is called to see a case of delirium, and on examination of the lungs he discovers pneumonia. Cases of this kind have been described by Sturges, Farquharson, Addison, Coupland, Osler, and Hermann Weber. In young children this delirium has been mistaken for meningitis, and cases of this description are mentioned by Addison and Osler.

The prognosis of this pneumonic delirium is as a rule good, but more particularly so when the delirium comes on while the patient is in bed and can be treated consequently early. The pneumonia is of the sthenic type, and occurs generally in comparatively young people.

Addison's remarks in reference to the above may be quoted:

"Such are the affections of the brain to which pneumonia not unfrequently gives rise—secondary affections—calculated to mislead the most wary, and such as must inevitably distract attention and perplex the judgement of those who do not habitually have recourse to the stethoscope."

The cases I wish particularly to call attention to are those in which the mania follows the pneumonia, and which I have had the opportunity of seeing three of these cases, but the *literature* is exceedingly scanty, and I have only been able to find the following records by authors:

Campbell of London, Canada: Three Cases of Pneumonia followed by Mania. *Medical News*, March 3rd, 1894, vol. xliv, p. 336.

Osler: *Maryland Medical Journal*, Baltimore, 1898.

Blandford: Reports cases. *Medico-Chirurgical Transactions*, vol. xlviii.

Hare and Dare: The Complications and Sequelae of Acute Lobar Pneumonia. *Medical News* of New York, vol. lxxxi, August 30th, 1902.

Bucknill and Hack Tuke, in their *Manual of Psychological Medicine*, mention pneumonia among the somatic causes of insanity: "Yet asylums do not further us with much help on this matter, and I have been unable to get but very little information on this point." "There is a vague opinion that insane people suffer more from pneumonia than the sane."

Hermann Weber: On Delirium or Acute Insanity during the Decline of Acute Diseases. *Medico-Chirurgical Transactions*, vol. xlviii, p. 135.

I think the reason of this scarcity is mainly because these cases occur in the hands of private practitioners, and so do not get recorded.

The following are the characteristic points in this form of pneumonic mania:

1. The pneumonia is of the sthenic or classical type.
2. The people affected are mostly of a *neurotic* temperament.
3. It generally happens in youngish people under 40 years of age.
4. It is associated with great sleeplessness, and there seems great difficulty in the treatment of this symptom.
5. The disease need not necessarily be very acute or much lung involved. In fact, the amount of lung involved does not seem to bear any relation to the amount or length of stay of the mania.
6. It occurs after the crisis. The cases of delirium that I quoted in the beginning of this paper may assume the type of case that I am now describing, but I think from my own experience and from the description of cases already recorded, the delirium that occurs early in the disease is a much more severe type of mania than the mania following the crisis.
7. *The pathology*, I suppose, is toxic, but I am unable to say why some suffer in this way, and others do not.
8. *The prognosis* of this mania is good, and it should be looked upon as part of the pneumonia, and should not be specially treated as a case of mania *per se*, and the question of asylum treatment need not be considered. I mention this point because in one of my cases the doctor in attendance considered the mania should be treated in an asylum.
9. *The Treatment*.—Perhaps the most important thing in this trouble is to treat the sleeplessness. Food is the best hypnotic, but it may be necessary to give some morphine or some other narcotic. The bowels should be attended to. A tactful, wise, and firm nurse is a necessity, and convalescence, if possible, should be carried out in the country.

ACUTE SUBCUTANEOUS EMPHYSEMA.

BY

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AND

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Subcutaneous emphysema is a relatively well-known condition in connexion with traumatic injuries of the chest, after surgical interference with the air passages, in laryngeal obstruction such as is met with in diphtheria, and after excessive straining such as occurs in parturition, whooping-cough, asthma, etc. The condition is also met with occasionally in ulceration of the trachea, and after rupture of tuberculous cavities.

Subcutaneous emphysema, however, occurring apart from such violent efforts as the above, is a rare condition; how rare may be judged by the fact that a diligent search through thirty years' *Lancets*, thirty years' British Medical Journals, fifty years' *Edinburgh Medical Journals*, twenty years' Clinical Society's *Transactions*, thirty years' Pathological Society's *Transactions*, and ten years of the *American Journal of Pediatrics* only resulted in the discovery of 10 cases, and in not one of these 10 cases was a *post-mortem* report included.

The following case would therefore, we think, be worthy of reporting simply on account of its rarity, but inasmuch as the *post-mortem* condition discovered possibly throws some light on the pathology of ordinary pneumonia, and since furthermore it seems to support to a considerable extent a recent view brought forward by Keith as to the mechanism of expansion of the lower lobes of the lungs, the case seems to us specially worthy of record. It is commonly held that the division of the lungs into lobes is functionless, and that the lungs are expanded as a whole, there being no difference whatever in the mechanism of expansion of the upper and lower lobes. Keith, however, has recently propagated the view that the division of the lungs into lobes has a functional significance, and considers that the upper lobes are expanded by the movement of the upper ribs, while the lower lobes and the dorsal portions of the upper lobes are expanded by the piston-like action of the diaphragm—a view supported by the observations of Pasteur, Fowler, and others, who have shown that diaphragmatic paralysis is associated with collapse of the lower lobes.

The subject was a fat child aged 12 months, which showed some signs of rickets (enlarged ends of bones, flat "bun" head, only five teeth, and enlarged liver). It was

taken ill with a *slight* cough on January 7th, 1911, and by January 14th had developed definite signs of pneumonia. It progressed favourably until January 20th, when the cough became slightly worse, *but was never violent*. On January 22nd a swelling appeared above the manubrium and gradually spread over the left clavicle into the neck, being specially prominent on the left side. It then extended upwards over the left cheek, which presented a swelling about as big as a Tangerine orange. The swelling spread down as far as the second rib and across the middle line to the right for about two inches. The child now became cyanosed, its respirations became more and more rapid, the swelling gradually increased, and finally the child, after being very restless, died about 12.15 a.m., January 23rd.

At no time was the cough violent, and at no time in the history of the case were there any signs of laryngeal obstruction.

The *post-mortem* report by Dr. W. Neave Kingsbury is as follows:

External Appearance.

Body was that of a fat, well-nourished child. The lower ends of radius and ulna, tibia and fibula were slightly enlarged. Head was squarish in outline, and the vertex was slightly flattened. Anterior fontanelle was not closed. There was no palpable rickety rosary to be felt on external examination. No Harrison's sulcus was present, but the chest appeared slightly more narrow than normal in relation to child's length.

There were five teeth present—upper and lower central incisors and right lower lateral incisor.

The left cheek was swollen, and looked as if a small Tangerine orange had been put into the mouth and pressed into the left cheek. There was swelling on both sides of the neck, more marked on the left side, and on this side it extended down over the clavicle to the level of the fourth rib.

Internal Examination.

On opening the chest the lungs did not contract, but filled up the whole of the chest cavity. The left lobe did not entirely cover the heart, but encroached slightly over it. The infundibula were visible, and with lens were seen to be distended. The lobules were distinctly marked out.

Right Lung.—Upper lobe, extending from apex to lower border of upper lobe and from posterior border inwards over internal surface for about half an inch and over outer surface for about 2 in.; the lung was practically solid, the solid areas being separated by small portions, which were capable of being inflated. In front, over the remainder of external and internal surfaces of upper lobe, the lung was crepitant and presented over this surface numerous bullae containing air. These bullae occurred over the lobules and along the interstitial tissue separating the lobules. The middle lobe was crepitant throughout and presented numerous bullae containing air over external surface. The bronchioles were dilated, while the alveoli showed vesicular emphysema. The inner surface at upper part showed a few bullae near the root of the lung. In the tissues were numerous larger air-containing bullae, which extended to and into the root of the lung and thence into the mediastinum. The lower lobe was practically solid throughout.

Left Lung.—The lower lobe was practically solid, except lower tip of anterior border. The consolidation extended into the upper lobe behind the apex and for about 1 in. outwards over external surface and about half an inch over inner surface. The front part of the upper lobe was crepitant. There were no bullae over surface of left lung nor in the fissure. There was no pleurisy, both pleurae, parietal and visceral, being smooth and glistening all over. The mediastinum presented numerous bullae containing air, which extended into the neck, apparently along the line of the great vessels.

Liver.—Enlarged, pale, and fatty. The lower margin extended more than an inch below the umbilicus. Weight about 32 oz. Weight of child about 32 lb. (proportion of liver weight to body weight at birth being about 1 to 20).

Spleen slightly enlarged; not weighed, otherwise normal. Kidneys, bladder, pancreas, stomach, intestines normal. On inner side of ribs at junction with costal cartilages were well-marked enlargements about three-quarters to seven-eighths of an inch across, forming greater part of sphere. They projected into the chest from junction of ribs and costal cartilage about half an inch.

The chief points of interest in this case seem to be (1) that the subcutaneous emphysema appeared independent of any violent attack of coughing, etc. (2) That it appeared first entirely on the *left* side, while at the *post-mortem* examination it was found that the *right* lung, not the left, contained interstitial air, and hence the right lung appeared to be the seat of origin of the condition. (3) No gross lesion, such as rupture of the lungs or air passages, was found on inflation, but histological investigation of the lung demonstrated that those portions of the lung which were not consolidated but were in a state of over-distension (vesicular emphysema) showed no actual solution of continuity but did show rupture of their elastic tissue when stained by Weigert's method. (4) The consolidated portion of the lung, that is, the lower lobes and the dorsal parts of the upper lobes, exactly corresponded to those portions which are, according to Keith, expanded by the diaphragmatic mechanism. This at once suggested that the diaphragmatic mechanism might be at fault, and the first thing that struck one in examining into this was the enormous size of the liver. A normal liver moves readily with the diaphragm, its Spigelian lobe travelling up and down the right crus. Anatomists assure us that as soon as the liver becomes enlarged this movement must be seriously impaired. If this is so, the descent of the diaphragm must be obstructed, and, if Keith's view is correct, the expansion of the lower lobes and of the dorsal parts of the upper lobes be seriously interfered with. Furthermore, one must bear in mind that under such conditions not only would the entry of air be interfered with, but that the circulation of the blood and lymph would also be impaired.

We suggest, therefore, that the enlargement of the liver was a most important fact in determining in this particular case the seat of the consolidation, and that the sequence of events in the above case was probably as follows:

1. Enlarged fatty liver (rickets), impaired action of the diaphragm resulting in diminished entry of air and impaired circulation of the blood and lymph through the lower lobes and the dorsal parts of the upper lobes.

2. Infection and acute inflammation of these regions of depressed vitality.

3. Compensatory emphysema of the non-consolidated parts of the lungs, over-distension of the alveoli, rupture of the elastic tissue followed by diffusion of air into the interstitial connective tissue.

4. The passage of this air via the root of the right lung, left common carotid artery, to the left side of the neck and cheek. Probably the condition of the rib cartilages was a contributory factor in the production of the condition.

Finally, the above case naturally suggested an investigation into the condition of the liver in ordinary pneumonia: the results of this investigation proved so interesting that they are being published in a separate paper.

SECTION OF DERMATOLOGY.

JAMES GALLOWAY, M.D.Aberd., F.R.C.P.Lond., President.

PRESIDENT'S INTRODUCTORY REMARKS.

THE PRESIDENT said: There is a rule, which I have found very helpful, in the Memorandum for Officers of Sections of our Association to the effect that Presidents of Sections are not expected to deliver a formal address at the opening meeting. I have had the opportunity of seeing Presidents of various Sections make an excellent appearance at the opening meeting by strictly adhering to this suggestion of our Council, so that I am sure I can do no better than follow their good example. A few words, however, indicating the arrangements made for our meeting appear to be advisable and almost necessary.

In the first place, I desire to thank the Council of the Association for their invitation requesting me to take the chair on this occasion, and also our President, Dr. Saundby, for very kindly and specially reinforcing this invitation. I shall do my best to make the meetings of the Section both successful and agreeable.

The officials of the Section have acted as a committee to make the plans for our meeting, but I need hardly tell you that the main work of organization has fallen upon our Birmingham colleagues.

The subject for discussion on the first day of the meeting—namely, The Vascular Disorders of the Skin, and their Relationship to other Morbid States—was chosen for various good reasons, partly because a large amount of clinical observation has accumulated recently illustrating these disorders, and also because the subject is of a sufficiently general character to allow of the participation in its discussion not only of those who have had special opportunities for study in hospitals and in laboratories, but also of our many colleagues who attend these meetings, whose experience is gathered from all parts of the United Kingdom, but for various reasons is not so freely com-

nunicated to the body of the profession as is desirable. There are few classes of disease which so frequently excite interest and stimulate latent powers of research as the striking diseases of the skin presenting erythematous, exudative, and purpuric manifestations, and other signs owing to vascular lesions. Frequent short reports of such cases in the medical journals, written by physicians in busy practice in the country, give sufficient evidence of this. The difficulties in the full diagnosis of such attacks and the necessity to trace the relationships between the cutaneous manifestations and important, though it may be obscure, underlying causes, may at any moment face the medical practitioner. It is hoped that some of those present who have had such experiences in the course of their professional work may express the opinions they have formed, and take part in the discussion.

The subject for the discussion on the second day was urged upon the committee almost of necessity. The cutaneous lesions of syphilis form such a large part of the clinical picture of this infective disease that they necessarily occupy a great section of dermatological study. Any development in the recognition and treatment of syphilis must immediately arouse the attention of dermatologists. So many of those who propose to attend the meeting desire to speak on the subject of the recent development of the treatment of syphilis that it was obvious that one of the days could be profitably devoted to this subject. I am glad to say that the subject also appealed to the President and Committee of the Therapeutic Section, and a joint meeting of these two Sections will be held to our mutual advantage. Various papers and short communications have been promised, and arrangements for their being read and discussed have been made.

It has long been a good custom of this Section to arrange demonstrations of cases of importance during the annual Meeting. These demonstrations have never failed to bring under observation unusual cases of disease, and to illustrate ingenuity and resourcefulness in treatment. The advantages of these demonstrations are so obvious as to need no emphasis on my part. Our Birmingham colleagues have not failed us in this respect, and their demonstrations will add greatly to the success of our gathering.

DISCUSSION ON VASCULAR DISEASES OF THE SKIN AND THEIR RELATION TO OTHER MORBID STATES.

OPENING PAPER.

By T. Colcott Fox, M.B.Lond., F.R.C.P.,
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The honour has fallen to my lot to-day to introduce a discussion on vascular diseases of the skin. This term has, I believe, been deliberately adopted in order to allow contributions to the discussion ranging over a wide field, but I understand that discussion is specially invited on the erythemata, some phases of lupus erythematosus, and varieties of vascular disease associated with permanent degenerative disorders of the blood vessels.

I propose to deal first of all with the great and interesting group of the erythemata. In order to clear the ground, let me remind you that the term "erythemata" has been used to denote almost any skin condition in which active congestion or hyperaemia and consequent redness is the prominant feature, and thus there has been included under the term a vast number of different conditions, such as phases of active congestion and stages of inflammatory or other eruptions. Let me remind you that there are simple active congestions arising directly under the influence of the nerve centres. We are all familiar with emotional flushing, including the so-called erythema pudendum seen in young women exposed to medical examination. We have flushing accompanying neuralgia. There is the flushing brought about by muscular exertion and contact with hot water. Then we find active congestion of the face excited reflexly apparently from some disordered activity, such as the gastro-intestinal tract or genitals, and bringing about forms of rosacea. Again, patches of flushing on the face and other parts are seen in febrile states, such as pneumonia and typhoid fever. In another category are certain stages of well-defined eruption, which we distinguish by attaching the term "erythematous" to the name of the disease—for instance, lupus erythematosus. Then, again, we know red patches with special features in such diseases as syphilis, mycosis fungoides, and leprosy. The term "erythroderma" has been applied to distinguish certain red states of unknown nature which are marked by persistence. Lastly, we have the essentially red and scaly patches characterizing pityriasis rosea and the eruptions knows as pityriasis and psoriasis.

Coming now to the group of eruptions to which the name "erythemata" is specially applied in these days, I will remind you of the very interesting fact that our illustrious countryman Willan grouped together under a heading, Exanthemata or Rashes, (1) the infective and contagious acute specific fevers, such as scarlatina and rubeola; (2) certain non-contagious rose-coloured, scarlatiniform, morbilliform, macular, and figured efflorescences; (3) also what he designated "erythema," comprising certain non-contagious eruptions of larger and coarser pattern, generally symptomatic, and now known as erythema multiforme; (4) purpura; (5) urticaria. Clinically the close analogy and relation of many of these eruptions is again recognized in these later years. Hebra, however, separated what appeared to be the purely hyperaemic erythemata from the inflammatory exudative group; but I think you will agree with me that both these groups of cutaneous reactions constitute one great family.

The so-called hyperaemic erythemata comprise a vast array of superficial, non-contagious, fine-patterned rashes symptomatic of various states; they may be more or less generalized in distribution and run an acute course. Immunity is not established, and recurrences may take place. These rashes may be roughly grouped into types known as scarlatiniform, morbilliform, and macular or roseolar. The latter may show a tendency to eccentric spread and ring formation. As they are the outcome of various blood poisonings, they may be associated with various grades of constitutional disturbance and implication of other structures. The type of many of these rashes and the febrile and other systemic disturbances makes them of great interest to the medical practitioner, both on account of difficulty of diagnosis and the significance of the poisoning. It is often difficult to detect the nature of the disturbing agent present, but a study of the whole group seems to show that these rashes are probably always symptomatic—that is, reactions to all sorts of toxic poisonings of the blood, generated either by microbes or of other origin. Let me illustrate this point by reciting some of the known exciting causes:

1. These rashes may be observed in the specific fevers, such as scarlatina, measles, varicella, variola, and enteric fever, quite apart from the eruptions specially characteristic of these infections, and they may occur as prodromata or from secondary causes.

2. They may arise in infections which are not characterized by any special eruption, such as rheumatism, influenza, malaria, tuberculosis, pneumonia, cerebro-spinal meningitis, trypanosomiasis, beri-beri, dengue, and gonorrhoea. In cholera, diphtheria, and tetanus the microbes are localized and act by toxins entering the blood current. The mention of rheumatism leads me to say here that it is always a standing difficulty to distinguish true rheumatic fever from some of these toxaemic and infective states in which the constitutional disturbances, and especially the implication of joints, bones, and muscles, closely simulate the rheumatic poisoning. Such states in the erythemata and purpura are often spoken of as rheumatoid, and have been in the past frequently confounded with true rheumatism.

3. These rashes may be incidental to various septicaemic, pyaemic, and sapraemic poisoning, including the so-called puerperal fevers, and infective endocarditis.

4. They may be caused by the absorption of toxins from local infected sources, such as anginas, aphthous stomatitis, impetigo contagiosa, vaccination sores, and septic wounds of many kinds connected with the skin, bones, or viscera. Many were the scarlatiniform rashes I saw in former years, following all sorts of operations, often slight, and this rash was considered to be really scarlatina by many observers.

5. The rashes may follow the ingestion of food, especially when containing ptomaines produced by the action of bacteria on nitrogenous products. Here I may mention the scarlatiniform rash arising from the ingestion of milk derived from the diseased udders of cows. Such causes may occasion more or less extended outbreaks simulating an infectious fever.

6. In a similar way many drugs, however introduced, may act, for example, belladonna, quinine, and fibrolysin.

7. A curious example is the production of these rashes by the use of enemata, and in this connexion I may mention the occurrence after abdominal operations such as appendicitis.

8. An interesting source of toxic poisoning is that arising from visceral disease, such as acute membranous colitis. Striking examples are seen in the later stages of renal disease. The autotoxic origin of many cases is a very seductive theory, but how far we can carry this explanation must be left for the future. There is a distinctive condition in which a generalized scarlatiniform rash recurs again and again at irregular intervals leaving desquamation. It is theoretically attributed to autoinoculation of a toxin from the alimentary canal.

9. Lastly, I will mention the group of heterogeneous serums, toxins, and vaccines. Of the various serums, which are nearly all vaso-dilator, that of the horse is the most toxic. It is of interest to note that the rash may evolve eight to twelve days after introduction, and run an acute course with elevation of temperature, sometimes glandular enlargements, oedema, or albuminuria. The rash which so frequently follows the use of diphtheria antitoxin seems to be caused only after a period of incubation, and it is further interesting to note that it may excite muscular and joint symptoms and other constitutional disturbance. Another point to note is the wide range of diversity in the pattern of the rash arising from the same agency.

I have naturally in this paper laid special stress on the skin symptoms, but I may repeat that the rash is only one feature in a more or less marked constitutional disturbance, which may implicate various organs. The pathogeny I will deal with later,

Erythema exsudativum multiforme is the name under which the second category of these erythemata is known. It expresses the fundamental redness of the lesion from active congestion, the greater infiltration of the eruption, and the multiformity of the elements arising on the one hand from the different stages of the process, and on the other from the frequent coexistence of different phases of the reaction. The increased exudation leads to the formation of lesions of larger pattern, due to deeper and more bulky implication of the skin, forming papules, nodules, and nodosities. Serous exudation may cause an appearance simulating urticaria, and often described as such (*E. urticatura*), and also form vesicles and bullae. There is also in many cases a distinct and sometimes marked tendency to the exudation of the red blood corpuscles, and when profuse may mask the congestive features, and suggest purpura leaving pigmentation. The tendency to eccentric spread is also seen in some eruptions, and they may be complicated with more or less diffuse oedema of the parts. The eruptions are bilaterally distributed, with a tendency to symmetry, and certain sites of predilection in some phases. Attacks are generally more or less acute, but may be recurrent, and in rare cases become chronic, as in the instances recorded by Osler, Crocker, and others. The special type called erythema iris, with its vesication and excentric spread, has a special tendency to recur at irregular intervals for years.

These erythemata, like the so-called hyperaemic ones, are only the expression on the skin of a constitutional disturbance, which may involve other parts of the system. The evidences of a general reaction may be almost unnoticeable or more or less severe and grave. The whole process may be suggestive of an infection, as it really is in some cases.

Apart from the eruption the other symptoms will vary widely according to the nature of the acting cause. Nephritis is not uncommon. Endocarditis is rare, but Stephen Mackenzie noted it, for instance, in cases of erythema nodosum. All sorts of troubles have been met with, such as severe gastro-intestinal disturbance, with crises of pain, reminding one of Henoch's purpura, also pneumonia, pleurisy, arthritis, and even hemiplegia. Osler has described a remarkable condition in the case of chronic haemorrhagic erythema, where the pigment deposited sets up fibrotic changes in the liver and other organs.

As to the pathological anatomy, the essential lesions produced in the skin are the dilatation of blood vessels in little tufts, with exudation of plasma and diapedesis of white, mixed with some red, cells. Unna described an angioplastic oedema.

The story of these cases is very suggestive of blood poisoning, and in going through the record of cases we find complete evidence of it in many cases. It will save repetition if I say that practically all the causes given as exciting the so-called hyperaemic erythemata are productive on occasion of these exudative eruptions. For example, I have seen them in diphtheria and osteomyelitis. The condition may therefore be brought about by a primary intoxication or infection, or by one arising secondarily. We come to a similar conclusion if we investigate the etiology of any one type. Thus erythema nodosum, which was considered by some to be a distinct malady, has been recorded as occurring in angina and stomatitis, influenza, glandular fever, tuberculosis, diphtheria, soft chancre, malaria, gonorrhoea, rheumatism, and in the course of the so-called scarlatinal rheumatism. It goes without saying that until we have established the scientific proof of the malady called rheumatism a number of these eruptions associated with joint and other symptoms will continue to be classed with rheumatism. However, these eruptions are met with in cases with the confirmatory symptoms of nodules and chorea, and one cannot doubt the frequency with which rheumatism is a cause in children especially.

We come across many cases of these erythemata in which the cause is obscure, but, looking at the class of exciting causes that we know, we are inclined to attribute many cases to metabolic changes brought about in body organs, such as the gastro-intestinal tract and liver. Such causes are more difficult to define, but the theory is a very seducing one.

Epidemics have been described and contagion suggested, but require close criticism. Possibly there is some cause in common, as in ptomaine and impure milk poisoning. I may mention the interesting observation recorded by Demme, who detected the constant presence of a bacillus pathogenetic to guinea-pigs cultivated from three children suffering from a severe bullous and nodose erythema becoming gangrenous. As causes, shock and exposure to cold have been incriminated, and possibly such influences may bring about some auto-intoxication.

Allowing the cause of these eruptions to be what I will call blood poisonings, how do they act in producing the lesions? This is a very vexed question, and various theories have been put forward. Köbner in 1869 started the idea that the exciting agent acts on the vasomotor nerve system, either centrally or peripherally. This theory, long in vogue, has somewhat lost ground in late years, and the direct action on the vessels is advocated. If microbes are in the blood—Buerger's theory is thought correct by many—then the capillary vessels become plugged to form thrombi or emboli and so cause the eruption.

The great variety of conditions under which these eruptions evolve necessarily means an inconstant state of the blood in different cases and at different stages, and the study only helps us to a limited extent.

Another great group of eruptions intimately connected with the vascular system, and characterized by haemorrhages from minute vessels, generally widely disseminated, is that known as *purpura*. These haemorrhages, like the erythemata, are symptomatic of many phases of disease. In a large measure they share with the erythemata the many infective and toxic causes to which we have already referred, but have some other modes of production. I have already mentioned the special tendency to the exudation of red blood cells into the eruption, sometimes almost completely masking the erythematous lesions, or the two types of lesion may be intermixed. Purpura may be met with in all the systemic microbial diseases, primary or secondary, acute or chronic, or haemorrhage may complicate the special eruption characteristic of particular infections. Sometimes the purpura appears to be due directly to the primary microbe and its toxin, as in variola, and sometimes to a secondary infection. The microbes of infections have

been found in the blood and in the eruption—for example, staphylococci, streptococci, pneumococci, and the colon bacillus, and sometimes rare organisms have been isolated. In many cases no organism can be found, and consequently we form a second category of causes brought about by the introduction of toxins into the blood, either from some local microbial source, as in diphtheria, angina, stomatitis, or an abscess, suppurating middle-ear disease, a boil, necrosis of bone, cystitis, chronic bronchopneumonia, and so on. Charrin produced purpura experimentally with the *B. pyocyaneus*, and also with its products, which are said to act on the vasomotor centres. We come now to a third category of causes in which toxins introduced from without or manufactured within the body are not of microbic origin—for example, the toxaemias of pregnancy, of nephritis, of cirrhosis of the liver, of jaundice, etc. Then again it may be produced by serums and antitoxins and drugs, such as potassium iodide, and in phosphorus poisoning, and by snake venom. Koehler in 1872 remarked that the injection into the dog of blood rich in what he called "ferments" produced an alteration capable of provoking thrombosis and circulatory troubles in the capillaries and haemorrhages. Hayem made analogous experiments, and injected blood serum of one animal into another of a different species, and produced a blood disorder which formed concretions embolizing the vessels. Apart from such causes, many of which may also produce erythemata, we see haemorrhages produced in some diseases of the nervous system, as in neuralgia, nervous shock, tabes, transverse myelitis, and perhaps hysteria. Again, it occurs in cases of obstructed circulation, and in convulsive states, such as whooping-cough and epilepsy. Further, it occurs in profound cachexias and in anaemias, and in the disease known as scurvy. It has been described in certain cases of sarcoma with profuse growths. And, lastly, there is the congenital and hereditary condition known as haemophilia.

The causes of purpura are so numerous that it is evident the constitutional symptom will vary enormously. In acute course with general constitutional disturbance, the constant presence of a slight degree of pyrexia, and the occasional presence of a lymphocytosis are said to be very suggestive of an infective or toxic process. We must always remember in such states the joints may be involved, and suggest rheumatism.

Unlike the erythemata, the haemorrhages may occur in many other sites than the skin and mucous membranes—such as the adrenals, for instance, in children. Extensive ulceration of the intestine is not uncommon in fatal purpura. There may be a single passing attack, or recurrences, and a chronicity may be established. In the latter case, as in chronic haemorrhagic erythema, the deposit of iron pigment seems to set up secondary hypertrophic cirrhosis in the liver and other organs. In this connexion I may refer to a case of purpura recorded which was produced by malignant endocarditis of two years' duration. There is left remarkable brown pigmentation of the legs, and plasma-cell formation in the spleen, liver, kidneys, and bone marrow, with elaboration of fibro-plastic tissue. Such a case reminds us of the so-called "haemochromatosis," in which apparently the red blood cells are disorganized, and trophic changes ensue in various viscera, and lead to secondary symptoms such as diabetes.

The pathogeny of purpura is a very vexed subject. In the vast number of conditions in which purpura may occur we will in a measure account for the different theories which have been put forward to explain the pathogeny. Here are the alterations in blood, such as the degree of coagulability and the count and alterations of blood cells, but it is difficult to define exactly in most cases what part the blood alterations take. The very loss of blood itself in severe cases brings about blood changes. We have, however, already mentioned Hayem's experiments on the production of a state of blood which favours thrombosis and embolism, but Unna said he did not think that destruction alone would produce purpura. H. R. Dean found that a blood count is of considerable assistance in the differentiation of a primary from a secondary purpura due to some acute infections. In the latter case, of course, there is a great increase in the total number of leucocytes with a relative and absolute increase in the polymorphonuclear cells. Toxins, or some of them, tend to produce vaso-dilatation. Will a simple diapedesis in such states explain the haemorrhage, which seems to be likely in the erythemata, and is slow though simple diapedesis hardly sufficient? Then do the toxins act on the vasomotor centres of the cord, or on the peripheral vasomotor nerves, or directly on the vessel walls? Do the vessels actually rupture as some authors state? There is also the problem of the alteration in the vessel walls which have been described in rare cases. There does not appear to be any habitual change of this character. In haemophilia there seems to be an innate fragility of vessels.

A third group of symptomatic eruptions connected with the vascular system is that known as "urticaria," and a striking feature in these lesions is the presence of characteristic disordered sensation, especially itching. The wheals, as these eruptive elements are called, can be provoked over anaesthetic areas—for example, in leprosy. Idiosyncrasy to exciting agents is often very marked in this group. Urticaria is symptomatic of a thousand and one causes. It can be evolved under the influence of the many infective and toxaemic conditions that cause erythemata and some purpuras. It may occur after operations, and, on the other hand, I will refer to Schauta's case, mentioned by Schamberg, of a female who was suffering from repeated attacks of urticaria until a purulent salpingitis was removed by operation. It has been recorded during the passage of gall stones and worms; in pleurisy before the absorption of fluid; and in the state of health associated with haemoglobinuria. The imperfect metabolism of foods is often suggested as a cause, and it is said that in some cases urticaria has been cured by intestinal lavage. Articles of diet, such as various fresh acid fruits, may cause it, and here a marked idiosyncrasy is often noticeable. Two special poisons producing urticaria are the toxin formed in hydatid cysts and that occurring in diseased mussels. The nervous system certainly seems to play a special part in some cases. Urticaria has been directly excited by emotions, and in this connexion I will mention the condition known as "dermatographism," in which a state of vasomotor instability allows very slight traumatism to produce wheals. Urticaria has been seen to arise as a reflex of ocular origin, and after a local irritation, such as leeching the os uteri. Many poisons formed by insects and plants can excite wheals, especially in the predisposed.

Many theories have been put forward to explain the pathogeny. The sudden evolution and transient nature of a wheal, its formation almost entirely by serum, and the part played by the nervous system, induced observers to believe that it was produced by some spastic action. Gull thought it due to spasm of the cutaneous muscles, and Unna suggested a sudden obstruction of the veins under nervous influence. Such an influence might radiate from the central or peripheral vasomotor centres. In later years the vasomotor theory has been disputed and arguments advanced in support of the inflammatory nature of a wheal, and its production by the direct action on the vessels of the exciting influence. The state of the blood has received much attention, and Sir A. Wright, who applied the term "serous haemorrhage" to a wheal, pointed out the lessened coagulability of the blood by diminution of lime salts in many cases.

Lupus Erythematosus (Cazenave) or Lupus Erythematodes (Neisser and Jadassohn).—The eruption known as "lupus erythematosus" since the year 1851, when Cazenave substituted it for "érythème excentrique," previously given by Biett, has in some respects resemblance to some of the erythemata, but I doubt if it is possible to collect them all in one group. Biett's name suggests the clinical appearance of erythema and the tendency of the lesions to excentric spread. Again, in many cases the distribution over the face and hands is similar. Yet the lesions are apt to be localized and fixed and unaccompanied by constitutional disturbance, and when of some duration pressure discloses an infiltration in the skin; then in these lesions a characteristic atrophy ensues. Moreover, the histology differs from erythema. As Macleod has put it, the blood vessels first become dilated, and this is followed by a perivascular infiltration of cells, which seems to result from a proliferation of the endothelium of the vessels, and also of the surrounding connective tissue cells. This endothelial proliferation may be so marked as to almost block the vessels. Later degenerative changes occur in the cells of the infiltration; some die and, he says, set up

a secondary inflammation with oedema, and then scarring ensues after a time in chronic patches—a fundamental change. There is, then, a good deal to be said in favour of the name "ulerythema centrifugum" suggested by Unna. We might mention other points in which it differs from the erythemata, such as the rarity of lupus erythematosus in children and the marked preference for the female. Undoubtedly a real difficulty may arise in the differential diagnosis of acute exanthematic outbreaks, especially when the attack is *d'emblée* and not supervening on a pre-existing lupus erythematosus. Not only is the systemic disturbance alike in the two groups, but the acutely evolved lesions are often indistinguishable from erythema and may be converted into vesicles and bullae. Now experience shows a notable coexistence of some past or present phase of tuberculosis in subjects with lupus erythematosus, and also a marked family history of tuberculosis, and, further, the latter disease has been found present in patients at autopsies. These facts are generally acknowleged, and I need not occupy your time with a collection of statistics. I will only illustrate the fact by reminding you that Sequeira found in the localized fixed type about 1 in 3 with a family history of tuberculosis, and a history of or the presence of tuberculous glands, bones, or joints in about 1 in 5, but phthisis is rare. In the disseminated phase he noted 15 cases, all in young women, and 10 of them were tuberculous, with a family history in 80 per cent. Again, W. Pick examined 43 cases from Neisser's clinic, and 18 gave positive evidence of tuberculosis. This striking finding goes far to support the view prevailing in France that lupus erythematosus is in some way a product of tuberculosis. I will here mention two special features met with frequently in the subjects affected with lupus erythematosus. The first is that the eruption occurs, as a rule, in subjects who are not very robust; and, secondly, often have a poor circulation. Such subjects are prone to contract tuberculosis or may come from a tuberculous stock, and it may be contended that the two conditions are not directly related to one another. It has been advanced that this association with tuberculosis, marked as it is, may be only a coincidence. Further, there is considerable evidence that tuberculosis was absent in some cases, as proved by autopsy. Are we to accept this is a fact? If lupus erythematosus is really a product of tuberculosis, what is its pathogeny? It was thought to be settled definitely that the lesions of lupus erythematosus were not a direct effect of tubercle bacilli in the patches, judging from the histology, failure of experimental inoculation, and other modern tests. And the theory was put forward and widely entertained that the eruption was due to the toxin of the tubercle bacilli—a tuberculide erythemato-atrophante—at any rate, in many cases. If not always due to the tubercle toxin—and some observers admit there may be other toxins at work—why is it that, though we know erythemata arising from tuberculosis, we do not see lupus erythematosus produced by any of the well known toxic causes I have mentioned in relation to the erythemata? It is not excited by any of the tuberculins in use. It has been asked why, if due to the tubercle toxins, we do not see lupus erythematosus more frequently in institutions where consumption cases are collected. But perhaps the answer is that active phthisis is not common in fixed localized phases of lupus erythematosus. However, the pendulum seems on the swing back again, for Gougerot has recorded the successful inoculation into guinea-pigs of material from lupus erythematous eruption. One author holds that the absence of constant reaction to tuberculin, the habitual absence of inoculability and bacilli have "ceased to be invoked imperiously against it." Further, de Beurmann and Gougerot have obtained positive results with Calmette's ophthalmo-reaction in four cases, and non-success, they say, in some does not negative tuberculosis, since lupus vulgaris may not react with the cuti-reaction on the patches. Again, Arndt has found tubercle bacilli in the lesions. Here we must leave this vexed question and wait for further observations. Robinson of New York, I believe, suggested the cause to be probably a local infection due to an agent as yet not discovered.

DISCUSSION.

Sir WILLIAM OSLER (Oxford) said that his experience had been that of the general physician, who saw more frequently the medical than the strictly dermatological aspect of the cases. He had been for many years interested in the visceral complications of the erythemata, the seriousness of which could be appreciated by any one who glanced over the tabular list of the 29 cases which he had reported, 7 of which had died. One point had impressed him greatly in following the cases for many years—the interchanging character of the skin features. The same patient had shown in different attacks, purpura, urticaria, and angio-neurotic oedema. The visceral features were very varied. By far the most common were the abdominal attacks, either gastric crises, vomiting and severe pain, or simple intestinal colic. The importance of the recognition of this feature depended on the fact that the cases were often mistaken for appendicitis. Many had been operated upon, and the surgeons had now shown them the nature of the lesion—an acute oedema or haemorrhagic effusion into the wall of the stomach or intestine. Dr. G. A. Sutherland had recently collected a long series of these cases from the literature, some of which had been mistaken for intussception. A point of interest was that the patient might suffer for years with the abdominal attacks, without any skin lesions. In one of the speaker's patients, a boy of 10, attacks of colic with slight fever had persisted from his first year, and it was several years before any skin symptoms appeared. Next in order of frequency, probably even more serious, were the kidney complications. In his series of 29 cases, 14 had albumen in the urine, with tube casts, and in 7 blood, and all the features of an acute nephritis were present. Five of the 7 deaths in this series were due to uraemia. The respiratory complications were rarely serious, except in angio-neurotic oedema, in which there had been a number of cases of deaths from oedema of the glottis. Endocarditis had not been common in this series, but it was a well-recognized complication of the arthritic or rheumatic form of purpura. Some obscure cases of erythema had very remarkable pulmonary complications. It was well known that asthma and urticaria might be associated. In Case XXVI in his series the disease began with erythema over the cheeks and nose. During one of the severe outbreaks pneumonia occurred, and subsequently the patient died of acute nephritis. Another of the cases had pericarditis and pleurisy. In a few rare instances cerebral symptoms had occurred. In an unreported case the patient, a girl of 16, had had periodic attacks of purpura with nausea and abdominal pain from her seventh year. She was readmitted with hemiplegia and aphasia and recurring convulsions, associated with an outbreak of purpura. Dr. Cushing operated, and found a very tense dura, and the brain and pia deeply congested, but no clot. The patient died in coma three days later. Also of interest were the remarkable cases of chronically recurring purpura, chiefly of the legs, followed in the course of years by sclerosis of the liver, spleen and pancreas, bronzing of the skin, and the general picture of haemachromatosis. It was important to remember the fact that gastro-intestinal crises might occur in haemophilia.

Sir MALCOLM MORRIS (London) said dermatologists had done much of late in the study of general diseases which caused skin manifestations, and Dr. Colcott Fox had collected all knowledge on the subject under discussion for several years. For clinical purposes the erythematous eruptions might be divided into (1) those of short course, (2) those of long course or intermittent. As regards the former there was often difficulty in diagnosis. It was only right to act on the safe side, and if in doubt as to a diagnosis one must wait for a certain number of hours. This was particularly true in scarlatiniform eruptions. In transient angio-neurotic oedema mistakes might be made, especially if the glottis was affected. Erythematous eruptions of long standing or those which relapsed were obscure in their pathology. He recalled the case of a man with erythema iris, which after a time developed a general dermatitis of the pityriasis rubra type. Whilst in this state a sackful of scales was thrown off in twenty-four hours. The patient after a few months went suddenly mad, and died in an asylum. At the autopsy nothing was found to account for the eruption, but one kidney was lacking altogether and the other was of the large white variety. Probably idiosyncrasy played a large

part in these eruptions, as exemplified in cases of egg poisoning. The prognosis chiefly depended on the condition of the kidneys. The role of organisms in relation to these eruptions of the skin was a doubtful subject. In some cases of angio-neurotic oedema, where other remedies had failed, injections of *Bacillus coli* vaccine had brought about a very marked improvement. In some of these cases a well carried out treatment of lavage of the large intestine had led to improvement.

Dr. Alfred Eddowes (London) said that hope of advancement of knowledge of this peculiar group of diseases lay in following Sir William Osler's example in carefully recording cases. He would refer briefly to cases in which he could definitely state the cause. A gentleman, formerly a patient of his, now aged 85, had had one illness in his life—namely, a general outbreak of urticaria directly following the drinking of a pint of sour beer, and which disappeared and never recurred after taking an alkaline aperient. Other cases related were due to definite causes, such as shrimps, mint sauce, etc. A case of urticaria papulosa and a permanent erythematous patch on one cheek occurred in a child subject to headaches, vomiting of the most distressing severity, and constipation. The latter symptoms were always cured in an hour or so provided the bowels acted. The motions in this case, as in urticarial cases generally, were most offensive. A case of purpuric erythema which he attributed to some temporary toxin in the intestines had been sent to a small-pox hospital as a malignant case of the latter disease, recovered in forty-eight hours after purging and was then sent home quite well. The diagnosis of such cases was of extreme importance. A case of lupus erythematosus of severe type and wide distribution, shown by him last year, had been cured by sour milk. A case of urticaria papulosa complicated by impetigo did not make progress under antiseptics externally and intestinal antiseptics internally, but quickly improved with iron and phosphates.

Dr. Leslie Roberts (Liverpool) said that classification of the cutaneous symptomatic vascular disorders was necessarily imperfect owing to defective knowledge of the internal diseases producing them. On purely clinical grounds there could be distinguished three well-marked groups: (1) The angioneurotic oedemas and erythemata; (2) vascular disorders followed by atrophy of the perivascular tissues; and (3) vascular disorders followed by cutaneous haemorrhage. He would confine his remarks to the second and third of these groups. Lupus erythematosus was the typical example of vascular symptomatic disorders followed by atrophy. The symptoms of this disease varied over a very wide range, but they might roughly be arranged in three groups: (1) The discoid variety, limited to small areas, such as the face and hands; (2) the chronic disseminated variety, associated with albuminuria and often with tuberculosis, and which might end fatally; (3) the forms which were acute from the beginning, which were associated with pyrexia and rapid pulse, and which almost invariably ended fatally. The relation of lupus erythematosus with tuberculosis was a vexed question. He was of opinion that there was undoubtedly some relationship, but there was not sufficient evidence for believing that lupus erythematosus was caused by the bacillo-toxins of tuberculosis. He agreed with those who believed that lupus erythematosus was a manifestation of toxaemia. The evidence indicated that it was connected with functional or organic disease of the lymphatic glands. In a very large proportion of cases of the disseminated and acute type the glands were the seat of actual tuberculosis, which appeared to favour the development of the toxin. The third group of cases—namely, vascular disorders associated with cutaneous haemorrhage—was of great pathological interest, inasmuch as they were associated in some instances with disease of the blood-forming organs. He would refer especially to the cutaneous haemorrhages associated with leukaemia. At the present moment he had a case of myeloid leukaemia under observation in which cutaneous haemorrhage was a marked feature. The haemorrhages were of three kinds—(1) petechiae, (2) contusions, and (3) tumour-like ecchymoses. The petechiae were most marked in the bends of the elbow, the axillae, and the neck. The contusions were diffuse tints which in parts closely resembled bruises, but in other parts were of slaty hue. The face was largely suffused with a dusky discoloration. But the most remarkable of the haemorrhages were the tumour-like formations. One of these formed on the right arm, and was the earliest symptom of the disease. When he first saw it he was inclined to regard it as a case of melanotic sarcoma. These cutaneous symptoms were associated with enormous enlargements of the spleen. The marrow of the bones, in all probability, participated in the disease. There was some exophthalmos, and the vessels of the conjunctiva were deeply injected. Over the right tibia was a painful swelling, but up to the present there had been no sarcoma-like outgrowths from the bones. The blood of this patient had been examined by his colleague, Dr. Buchanan, and the findings were: White corpuscles, 26,000; red corpuscles, 3,600; and haemoglobin, 74 per cent.

Dr. J. H. Sequeira (London) said: I propose to confine my remarks to the consideration of the acute or erythematous form of lupus erythematosus and its relationship to tuberculosis. It is much to be regretted that the term "lupus" was ever applied to this disease, for it has nothing in common with lupus vulgaris, and the association in name has certainly led to confusion of ideas. Lupus erythematosus is in all probability a toxic eruption, and in its acute type its clinical features are indistinguishable from those of the common forms of erythema, and in some cases there are pain and swelling of the joints. Where it differs from the erythemata is in its distribution and in its persistence. From the acute exanthematic type we pass by insensible gradations to the fixed and chronic variety. Characteristic instances of the two forms differ materially, but we meet with intermediate links in the chain which suggest that we are dealing with a single cause. The relationship to tuberculosis is not by any means clear, even in the acute variety which many authorities class as a tuberculous exanthem. I venture to mention 4 cases which I have in mind which show the difficulty in determining the cause. In one, a healthy girl of 15 had been in a pyrexial condition for many months, the fever lasting with some intermissions since August, 1910. There was at the onset evidence of intestinal infection in the fetidity of the stools, though no organism but the *Bacillus coli* had been demonstrated. The febrile attacks were accompanied by an acute eruption of erythematous character on the butterfly area of the face, on the back of the hands and feet, and on the elbows and knees. There was nothing to suggest tuberculosis, and the patient previous to her illness was an exceptionally well-developed healthy girl. It seemed almost certain that the affection depended upon an intestinal toxaemia. The urine had always been free from albumen. On the other hand, the second patient, also a young girl, was sent to the London Hospital by Dr. Clive Riviere. She had a characteristic acute lupus erythematosus, with pyrexia, and was evidently gravely ill. Dr. Riviere admitted the patient into the Victoria Park Hospital, and she died there. At the autopsy generalized tuberculosis of the lymphatic glands of the thorax and abdomen was found. Here the evidence certainly pointed to the eruption being a tuberculous exanthem. The third case, also a fatal one, again in a young girl, presented the characteristic eruption in the face and extremities. The patient had anasarca, and albuminuria with tube casts. At the autopsy an acute glomerulo-tubular nephritis was found. There was one calcareous nodule at the apex of one lung, but the glands were free from tubercle. Here it would appear that the toxaemia which caused the cutaneous eruption also caused the nephritis. The history did not suggest that the patient had had previous renal disease and the appearances at the autopsy were those of an acute affection. The fourth case, also fatal, was under the care of the late Sir Stephen Mackenzie. It illustrated very well a point brought out by Dr. Fox in his introductory address, namely, that the same toxin may produce erythematous and haemorrhagic lesions. In this instance the patient, also a woman, had a purpuric eruption occupying the butterfly area on the face and also lesions of the same type on the extremities. She died from pulmonary tuberculosis. In the present state of our knowledge it is impossible to exclude tuberculosis as a cause of lupus erythematosus, but intestinal toxaemia seems able to produce an identical outbreak on the skin.

AN UNUSUAL CASE OF SKIN PIGMENTATION.

By G. H. LANCASHIRE, M.D.,

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THE following is a brief account of a case of pigmentation of the skin which presents unusual features. In April of this present year Miss X. consulted me about a freckle-like eruption affecting the neck and body. She gave this history: As a child she had a patch of dark skin on the throat, which slowly increased in size. When 16 years old this patch was treated by some strong "peeling" process, after which it remained stationary in size and depth of shade. About last Christmas the discoloration began to spread from the region of the old patch down the neck towards the chest and shoulder on the left side. Recently the extension had become much more rapid. Since the onset the patient had been much troubled by attacks of shooting and stabbing pains in the pigmented area; these came on several times during the day and night, and were growing daily more severe. I myself happened to witness the patient when an attack came on suddenly without warning, and there could be no doubt of its excruciating nature. The pain usually lasted a few minutes, and—this was the interesting feature—appeared to be rapidly followed each time by a fresh deposit of pigment.

The photograph shows you the condition on examination. The patient is 31 years old, a brunette, looking in fair health, and fairly well nourished. She is by no means of the neurotic type and has a good history. There is still to be seen the original pigmented area in the middle of the neck above the thyroid gland. Lower down the pigment involves the whole area between the sterno-mastoids, and the left side of the neck, also the deltoid region of the left shoulder and a considerable part of the left pectoral region down to the nipple level. The pigmented area is sharply demarcated from the right front of the chest wall by a straight-lined border just to the right of the sternum, and therefore just beyond the middle line of the body. The pigment itself is seen to be deposited in the form of large freckles of varying shades from dark brown to café-au-lait. On the chin there is on both sides a much fainter and more diffuse pigmentation, so slight as to be scarcely noticeable.

The general health is described as "fair." There are no signs of organic disease. The reflexes are normal. The thyroid gland is slightly larger than usual, but this is a condition which the patient tells me varies from time to time. There is no exophthalmos. I prescribed rest, a bromide draught at bedtime, and an anodyne application for the shooting pains. Three weeks later I saw her again, and was scarcely prepared for the improvement which had taken place. The pains had ceased and there was no fresh pigmentation. In places the freckles had become a fainter shade.

I last saw her on June 14th. There were still no pains and no fresh pigmentation. On the other hand, there had everywhere been remarkable absorption of pigment, which was everywhere considerably paler. The original neck patch had not undergone any change, and now stood out much darker in contrast with the rest of the neck. She had had one small fresh patch of pigment near the left elbow about a week previously. This was very faint in colour, and "lasted only a few hours." The patient felt in better general health and was sleeping naturally.

A microscopic examination of one of the "freckles" showed nothing remarkable. There was the usual pigmentation in the basal epithelium, but there were slight inflammatory signs in the corium in the shape of dilated vessels with perivascular infiltration.

I have not been able to discover a similar case to this in medical literature, and should be glad if any one could throw some light on its pathology. The outstanding features of the case appear to be these: There is a long-standing patch of pigmentation in the neck, and rapid extension of pigmentation from this region after long years of quiescence. The deposit of pigment is unilateral and preceded by severe neuralgic pains. The freckles come out in crops, and the whole process continues and gains in intensity for four months. It then stops, almost suddenly, and a process of fairly rapid absorption sets in.

One is irresistibly led to think of some neurosis behind this train of events. Some of the features are remarkably like herpes zoster if one could imagine a herpes zoster continuing so long, and the clusters of vesicles and bullae replaced by pigment. Is this case also to be explained by some trophic nerve change? One recalls what is written of cutaneous pigmentation in association with neuroses; what is actually known is even less. There is the pigmentation seen in Graves's disease and in Addison's disease, where the sympathetic nervous system is suspect. One reads that section of the sympathetic in a rabbit's neck gives rise to pigmentation of the ears. There is the pigmentary anomaly (a vitiligo) seen sometimes in association with long-continued neuralgia. These are but a few examples. My colleague Dr. Dyson has recently given us a valuable contribution to our knowledge of the actual mechanism of cutaneous pigmentation. I cannot but feel that could one but interpret it aright the case I have described would throw some light on its pathology.

DISCUSSION.

DR. GALLOWAY (President) remarked on the association of severe neuralgia with long-standing structural defects of the skin, which in themselves did not suggest the possibility of bringing neuralgia in their train. He mentioned the occurrence of the severest type of neuralgia with plasic myoma of the cutis, a rare condition of which he had seen an example recently. The patient presented himself not on account of the small myomata, but on account of the severity of the neuralgia.

DR. ALFRED EDDOWES (London) referred to the possibility of arsenic poisoning in such cases. He mentioned a case of extensive herpes zoster with marked pigmentation of the area affected by the herpes. There were also other well-marked symptoms of arsenic poisoning in his case. He hoped health officers would keep an eye upon wall papering as a source of poisoning, and the paste used by paperers, which occasionally had sugar of lead put into it to "make it *keep*."

DR. SEQUEIRA (London) asked whether frequent applications in the form of fomentations or other stimulants to the circulation had been used to the painful area, as it was not uncommon for pigmentation to follow such local irritation.

MR. G. W. DAWSON (London) said it seemed to him that there might be some relation between this case and dermatitis hepetiformis. The recurring nature of the eruption, the pain and pigmentation, and the many forms dermatitis herpetiformis assumed led him to suspect the possible relation between the two.

DR. H. G. ADAMSON (London) said the case reminded him of two cases of unilateral freckling, one of which he had shown at the Dermatological Section of the Royal Society of Medicine, and another which he had seen recently. In

each of these cases there were freckles like measles, thickly scattered over one side of the chest in one case and one side of the lower part of the trunk in the other. These cases were regarded by the speaker as examples of unilateral pigmentation of congenital origin, and he thought that the freckling in Dr. Lancashire's case might be of the same nature. The fact that some of the pigmentation had only recently become evident was not against this view, many "congenital" skin affections not appearing until later in life.

SOME PRACTICAL OBSERVATIONS ON THE TREATMENT OF ECZEMA.

By G. G. S. Stopford-Taylor, M.D., M.R.C.S., etc.,
Senior Physician, the Liverpool Skin Hospital, Consulting Dermatologist, the West Kirby Convalescent Institution.

My paper is founded on the practice pursued in my own clinic, where on an average 300 cases are dressed weekly.

I have nothing new in the way of remedies, but it is to the application of old and well-tried drugs that I shall ask your attention.

I shall define eczema as a catarrhal inflammation of the skin, as being the best working definition yet suggested. Its clinical course is that of a catarrh, in as much as it frequently recurs, and is often associated with catarrh of other organs. It arises in response to some form of irritation proceeding from without or from within the body, and is perpetuated by the same or some other irritant. Eczema if not originally septic rapidly becomes so. Once excited it spreads by contact mediate or immediate, by peripheral extension, or by metastasis. It may be acute or chronic, wet or dry. It is our practice to endeavour to convert a moist type of the disease into a dry one, as the latter is more amenable to treatment.

It does not matter whether the case of eczema is due to a wound, a parasitic cause, toxic or nervous influences, it presents the same morphological appearance, and treatment must be directed first to the removal of all morbid products, and secondly, to the protection of the inflamed surface from the atmosphere and other sources of irritation. The first is accomplished by the application of starch and boracic poultices, as recommended by Jamieson, and boracic compresses. These should be dispensed with as soon as possible, as they have a macerating effect upon the tissues, and encourage the growth of micro-organisms; a protective dressing being substituted.

At this stage ointments and pastes, as usually applied on linen or lint, aggravate the disease by caking on, thus interfering with the escape of morbid products, such as pyo-pus and cast-off epithelial débris, and by the retention of heat, and consequently when a dressing is renewed undue manipulation is necessary to cleanse the inflamed surface. I have used for years ointments and pastes spread upon wet lint. The lint is first soaked in water, and then squeezed almost dry. Upon the smooth side an ointment or paste is spread and faced or covered with butter cloth to prevent the remedy adhering to the skin. The butter cloth or muslin acts also as a drain and thus facilitates the escape of discharge. This dressing is at once antiphlogistic, sedative, and protective. It is maintained in position with muslin bandages. It remains cool for hours, and when removed leaves the skin clean as compared with any other method of dressing, and is very comforting to patients. It has many other advantages, and may be applied under other conditions. For instance, a drying powder, such as dermatol, can be lightly dusted on a weeping surface, or a calamine lotion dabbed on, or an alcoholic solution of tar painted on a pruritic one, and if we wish to melt down an infiltrated area of disease we can cover the dressing with an impermeable material such as oiled silk or gutta-percha tissue. In acute cases the dressing needs changing twice a day, but in chronic ones twice weekly is sufficient. It is an ideal method for treating infants and children suffering from eczema. In facial eczema it is applied in the form of a mask. If properly applied, infants whose rest has been disturbed by itching for weeks sleep soundly the first night.

How exposure to the air causes an eczema to itch is common knowledge, but so far as I am aware no practical use has been made of this fact in the textbooks. One has only to watch the frantic struggles of an infant to rub and scratch its face when its mask is removed. To prevent this we always advise that a mask should never be changed until another is ready to replace it.

With it we can watch the progress of an eczema, assured that it has not been interfered with or irritated by any external agent. Again, this dressing often gives us the clue as to whether the exciting cause proceeds from without or from within the body, for it is obvious that if an eczema is guarded from all external sources of irritation, should a recrudescence occur the exciting cause is probably due to some constitutional or reflex condition.

Adami considers that inflammation is more than a series of changes constituting a reaction to injury; it is also an attempt at repair of actual or referred injury, and our treatment is directed to that end. In squamous eczemas, or those which have assumed a psoriasiform type from the beginning, suitable remedies should be associated with massage. This must be practised gently at first in order to see how the disease will bear it. If too stimulating, of course massage must be forbidden.

Vaccination, dentition, and artificial feeding are mentioned in textbooks as frequent causes of infantile eczema, but if we challenge the correctness of these assertions we find that in 95 per cent. of the cases (see Hall) the eruption has appeared upon the face before vaccination has been performed, and a larger percentage still before the infant has cut a tooth, whilst nearly half the cases are breast-fed. We believe that all these causes aggravate an existing eczema, but we claim that infantile eczema in the first place is caused by too much soap and water, rough towelling, and imperfect drying, and if we are asked for the reasons of our belief we reply by stating that if the use of soap and water is forbidden and a mask such as I have described is applied to the infant's face, the eczema rapidly subsides, and also because it is no longer irritated by the atmosphere and torn by the patient's finger-nails.

During an attack of eczema of the head and face the eruption usually appears upon the extremities and trunk. For this we believe that the neuro-vascular systems are responsible, for we know that an irritation of one part of the body will give rise to irritation at another, and of this we have many examples; and constant recurrences may be explained by the theory that frequent irritation has engendered an unstable condition of the vasomotor system.

At the far distant end of the numerous types of eczema we have the verrucose type. In these cases, where blistering plasters and other stimulating methods have failed, CO_2 stands unrivalled, the reaction set up by the freezing being sufficient to cause the disappearance of warty eczemas which have lasted for years.

The remedies used in my practice are of the simplest, and are contained in the *British Pharmacopœia*, the only exception being Lassar's paste, which I always use as being the most suitable for masks.

DISCUSSION.

Dr. R. Cranston Low (Edinburgh) said that he did not agree with Dr. Stopford-Taylor's views on eczema. He thought the name "eczema" should be dropped altogether. He looked upon these affections as divided into three classes: (1) Artificial dermatitis due to irritants, (2) dermatitis on the top of ichthyosis, (3) seborrhoeic dermatitis. He pointed out that the ordinary so-called infantile eczema began on the scalp and affected the parts—for example, behind ears, axillae, and groin—usually affected in seborrhoeic dermatitis. He entirely agreed with Dr. Stopford-Taylor with regard to the use of masks in infants, but in addition recommended the application of bandages round the wrists and ankles and the fixation of the limbs in the extended position so as to prevent scratching and to prevent the child turning round on its face and rubbing the face on the pillow. He also considered the so-called verrucose eczema as a seborrhoeic dermatitis on the top of a skin devitalized by the abnormal condition of the blood vessels.

Dr. William Dyson (Manchester) said that Dr. Cranston Low was of the opinion that the term "seborrhoeic dermatitis" should be substituted for that of "eczema," whereas Dr. Adamson thought the term "seborrhoeic dermatitis" should go and "eczema" be retained. The speaker's own view was that it would be better if both these terms were abandoned.

It was within the knowledge of everyone that eczematous conditions were produced by a multitude of causes, toxaemic from within and irritative from without, and a diagnosis of "irritative dermatitis" was a much more accurate term than that of "eczema."

CERTAIN AFFECTIONS OF THE SKIN RESULTING FROM DEGENERATION OF THE BLOOD VESSELS.

By James Galloway, M.D., F.R.C.P.,
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Those of us engaged in clinical work, either in private or in hospitals, must frequently see cases of disease possessing some common factors influencing their causation although they differ much in external appearances; and few of us rest content without making an effort to understand the mode of operation of such common factors in etiology. It is with the idea of tracing some of the influences of degeneration of the blood vessels as it affects the skin that I bring these remarks to your notice.

Senile Gangrene.

One of the most common and obvious forms of necrosis of the skin is that generally termed senile gangrene. This condition is sufficiently common to have been seen by everyone. Its phenomena of pain in the extremities, followed by necrosis of the tips of the toes or of the fingers, gradually increasing in area till perhaps its spread is determined by what has been called the "line of demarcation," give rise to one of the most trying affections of old age. It is conceded that the main factor in its causation is obstruction to the flow of blood in the extremities by the blocking of the arteries, resulting from senile "atheromatous" degeneration. The cause of this atheromatous change is rarely considered in arriving at such a diagnosis, though this is one of the most important points remaining to be elucidated in the study of vascular degeneration. In the minds of most, however, certain other factors in the causation stand out more or less distinctly, namely, the fact that the veins, venules, arterioles, and capillaries are also diseased; secondly, that all the tissues of the affected part may also be in a degenerate or unhealthy condition; and, thirdly, that all the tissues so affected have lessened powers of resistance, and consequently the always present parasites of the human body enjoyed increased opportunities for doing damage by their growth if they possess or develop noxious properties. In the case, therefore, even of the apparently easily understood "senile gangrene" the main factors producing evil results acting throughout the whole series of these diseases have already declared themselves:

1. Disease of the blood vessels including arteries, veins, and capillaries.
2. Degeneration of the tissues.
3. The noxious effects of bacteria and other parasites.

In the case of senile gangrene, vascular changes are obvious enough. Amongst the degenerative changes in the tissues one of the most important is the wasting and destruction of the elastic tissues of the skin, giving rise to the peculiar texture and want of elasticity characteristic of the senile skin. The influence of micro-organisms shows itself in the gangrene, the odour, the suppuration, the affection of the lymphatics, and other consequences.

Gangrene in Younger Individuals.

Passing from the consideration of this form of necrosis, we see that forms of disease closely resembling senile gangrene in their clinical features occur in younger persons during middle life or even in earlier years. In such cases it is obviously not permissible to consider that the cause of the vascular change which produces them is a simple process of degeneration due to lapse of years. We are faced with the knowledge that there are various infective conditions which have a special influence in inducing degenerative changes in the blood vessels. These changes, speaking generally, consist of reactions in the coats of the vessels of inflammatory character producing obstruction to the circulation. The noxious influences which produce these vascular changes are known to be numerous. On the borderland, between cases of senile necrosis and those we are now considering, is the variety of gangrene occurring in patients the subjects of glycosuria. Many such cases occur in elderly people who suffer from this fault of metabolism, but they occur also in younger patients and in early cases of the disease, and there can be no doubt that the glycosuria has an important influence in accelerating obstructive changes in the vessels, probably even of initiating these inflammatory and degenerative lesions.

In the same category as the glycosuric type of gangrene may be placed those cases depending on the vascular degeneration due to the faults of metabolism classed as "gout," in poisoning due to lead and certain other substances, both of organic and inorganic origin.

But by far the most important cause of necrosis of the skin and the extremities in middle-aged persons is vascular disease resulting from syphilitic infection. Such cases of terminal necrosis associated with syphilitic arterial disease are also sufficiently common to have been seen by most of us. The distressing helplessness and deformity which result are only too obvious. More important is the intense pain which these patients suffer. The phenomena preceding the actual necrosis of the extremities are those due to vascular spasm, and consist of the frequently described triad of symptoms—namely, first, contraction of the blood vessels with failure of the circulation, causing the easily recognized pallid skin and the dead fingers of which such patients bitterly complain. Associated with this period of ischaemia there is usually a large amount of neuralgic pain in the affected extremity, extending far beyond the area actually involved in the vascular change. Secondly, local congestion, producing the characteristic swelling and the purple, almost black, discoloration of the affected parts. This is followed by the third visible sign, the complete failure of circulation, followed by necrosis of small or large areas of the affected part. Perhaps the most distressing feature to the patient is the occurrence of neuralgia, already mentioned. It may be so severe in degree as to merit the term of being agonizing, continuing long after the spasmodic vascular signs have disappeared, lasting day and night and totally banishing any chance of rest or sleep.

In this class of disease must be included those described by Dr. Weir Mitchell, for which he proposed the term of "erythromelalgia." His cases of red and painful extremities ending in necrosis are probably all of them associated with definite disease of the blood vessels. The congestion of the extremities while in the dependent position is readily accounted for by the fact that obstructive disease affects the veins as well as the arteries, and the easy return of blood is thus prevented. The majority of the cases described as erythromelalgia no doubt come into the category of terminal necrosis of adult or middle age, resulting from the action of one or other of the poisons to which allusion has been made.

Terminal Necrosis in Young Adults.

The next group of cases which attracts attention is of special interest, and perhaps may serve as a bridge of communication with true cases of Raynaud's disease. They present paroxysmal pain in the extremities with obstruction to the flow of blood into and from the affected parts and end in necrosis. The cases up to the present have occurred mostly in the Hebrew race, and have been studied in this country by Dr. Parkes Weber and his colleagues, the patients occurring mainly among the Jewish population in the East End of London. The disease also occurs in the Jewish population in New York, and has been very carefully investigated in that city by Dr. Buerger at the Mount Sinai Hospital. Both arteries and veins are shown to be affected in this type of disease by an inflammatory process which leads to thrombosis; the consequences are the occurrence of pallor due to contracted blood vessels, followed by dilatation and cyanosis of the affected extremity and necrosis; severe pain is a characteristic feature.

Great interest attaches to the fact that the disease affects young persons, usually young men, sometimes 19 to 21 years of age and up to the age of 35 to 40, and no evidence of the ordinary causes of endarteritis, such as syphilis, is obtained, and yet severe disease of the blood vessels is present. To these cases Dr. Buerger has given the name of "thrombo-angiitis obliterans." He has had the

opportunity of making careful dissections of the limbs which have had to be amputated in the case of persons suffering from this disease, and has shown conclusively that in the affected extremities there was disease of arteries and veins producing obstruction both to the arterial circulation and the venous return. The effect of the alterations in the coats of the vessels was intensified by the tendency to thrombosis. Yet the ordinary causes of obstructive disease of the vessels, such as syphilis, were absent in these patients, and it is almost impossible to say at the present time what influence brings about so serious a lesion in these comparatively young individuals.

Cases of Raynaud's Disease.

The question must now be faced, Wherein lies the difference between many of these conditions and true Raynaud's disease, in which the phenomena already mentioned—pallor, congestion, cyanosis, pain, and finally necrosis of the extremities—are the most important features? The chief differentiating character in true Raynaud's disease would probably be defined as being the absence of anatomical or physical evidence of organic disease of an artery or a vein. The condition is entirely a functional one, whereas in all the other varieties of necrosis of the extremities mentioned it would be stated that there is definite disease of an artery or blood vessel. But this brings the distinction between cases of true Raynaud's disease and the others to a very narrow margin, the limitation of which is very difficult to determine clinically. Can we say definitely that a case of Raynaud's disease occurring even in a young person is entirely independent of permanent organic vascular change? The evidence derived from the whole group of cases renders it at least possible that apparently uncomplicated cases of Raynaud's disease may be in fact associated with organic change in the blood vessels supplying the affected part. The causes of such possible changes will have to be carefully investigated and the influence, especially of syphilis, not only of acquired but of congenital origin, must be seriously taken into account.

Other Cutaneous Changes due to Disease of Blood Vessels.

Passing from these varieties of definite gangrene of the skin and the consideration of their relationship to disease of the vessels, we come to this inquiry: If destruction of such a definite character as gangrene may occur from disease of blood vessels, is it not also so probable as to be certain that other disturbances of the skin of widespread distribution may arise from the failure of nutrition of cells depending on obstructive disease of the peripheral circulation?

A few months ago there was admitted into Charing Cross Hospital an elderly man who was sent to me by Dr. A. Winkelried Williams, of the Sussex County Hospital, Brighton. The disease from which he suffered was an unusual one, and had been carefully studied for some time by Dr. Williams and his colleagues. The patient had suffered for two years or more from a severe degenerative affection of the epithelium of the hands and feet. Flaccid blisters sometimes rose in these situations, followed by the removal of large areas of the epithelium. This troublesome condition could not be induced to heal. The lesions were very apt to become contaminated by infective organisms, and, in spite of all treatment to prevent infection, a pemphigoid dermatitis occurred over the whole body, sometimes healing, only, however, to recur. The appearances in the foot resembled those of cases which have been described under such names as "dermatitis repens," and "acrodermatitis perstans." He gradually grew more asthenic and died.

The case was carefully investigated during life from the point of view of the nature of the skin infection; little evidence, however, was obtained from bacteriological studies as to the cause of this mysterious malady. Numerous cultures of staphylococci producing white colonies—no doubt the white staphylococcus of the skin—were obtained and carefully studied, but nothing was discovered suggesting a more severe infective process; a diphtheroid organism was occasionally isolated. Histological examination of the skin was made after death, and gave evidence of much epithelial degeneration with desquamation, but very little inflammatory infiltration of the cutis. Throughout the subcutaneous tissue the blood vessels were observed to show disease of the middle and internal coats, producing much narrowing of their calibre; the cutaneous blood vessels were also seriously diseased. We were, therefore, concerned with a case of serious desquamative cutaneous disease, without much evidence of obstruction of the great blood vessels, but distinct evidence of widespread arterial degeneration and obstructive disease of the smaller blood vessels of the cutis. It is hardly possible, therefore, to avoid the conclusion that the structures of the skin, and especially of the epidermis, were very insufficiently nourished in this case. In other words, there was widespread dystrophy. Slow necrosis of the epithelium resulted, followed by repeated attacks of an infective dermatitis. A good many cases are now on record of similar forms of degeneration. They cannot be classified as any of the varieties of eczema. They produce severe exfoliating dermatitis and have a grave prognosis.

The study of such a case as this leads us a step further. Every one is familiar with the chronic forms of skin inflammation occurring in certain persons during adult life and especially in later years. To such cases the name of "gouty eczema" has been freely applied, a name which has deservedly received much criticism at the hands of dermatologists. There is little doubt, however, that the errors of metabolism known as "gout" are associated with widespread arterio-sclerotic degeneration. The change in the kidney in such cases has long been recognized, and we speak of the cirrhotic kidney of gouty origin. The tension of the circulation is familiar to our fingers on examining the pulse of these patients, and on looking closely at the skin the peculiar dry crackled appearance is also familiar. Is it not also highly probable that this crackling and desiccated skin may easily pass beyond this stage, and that desquamation may arise owing to dystrophy of the epidermis and lay the skin open to the ordinary infective inflammations grouped under the name of eczema? Indeed, it may be said that it is the degenerative changes in the blood vessels and in the elastic tissues of the skin which lay the foundation for attacks of the true gouty eczema.

Conditions producing Telangiectasis.

Passing on from the diseases which result from obstructive changes in the cutaneous vessels, there remain to be mentioned certain conditions which bring about degeneration of the capillaries, venules, and arterioles, without producing any visible change in the larger vessels. The influence of age is well known to bring about a tendency to permanent dilatation of the small superficial cutaneous vessels. To a greater or less extent these vascular changes due to age occur in every one. Exposure to the elements is also followed by permanent distension of the superficial vessels of the exposed parts, and also exaggerates the tendency to the formation of telangiectases resulting from age. It is also well known that various toxic influences—for instance, the use of alcohol—appear to have a direct relationship to the production of dilated cutaneous vessels. It is not, however, so well recognized that in certain forms of disease, especially of the abdominal viscera, cutaneous lesions resulting from permanent dilatation of capillaries and small vessels may arise. In malignant disease of the abdominal viscera it has long been known that certain individuals develop throughout the skin punctate or papular lesions consisting of permanently dilated capillaries; in the various forms of cirrhosis of the liver, in addition to the occurrence of dilated venules which are part of a newly-formed collateral circulation, grouped telangiectases of various sorts occur. Sometimes they are of the papular variety already mentioned in the case of malignant disease. More characteristic, however, is the appearance of dilated vessels not raised above the surface of the skin, and forming spider-like or stellate lesions. They are sometimes so closely set as to resemble a lacework of minute distended vessels of the skin. These cutaneous telangiectases are easily injured, and may bleed even more profusely than the nature of the lesion would lead us to expect. The etiological relationship of this form of vascular lesion with the acute varieties of lupus erythematosus suddenly arising in the course of visceral disease is probably a close one.

Mention must also be made of the type of telangiectasis affecting small areas of the skin and the mucous

membranes which occurs in family groups and appears occasionally to be associated with the haemophilic tendency. In many cases it gives rise to serious consequences as the result of profuse bleeding from those lesions which affect the nasal, buccal, vaginal, and other mucous membranes. Rare cases occur in which exactly similar vascular lesions develop suddenly and with great profusion in certain visceral diseases. Recently I have had under my observation a man about 38 years of age in whom this event occurred. He had served in the army in the tropics, had suffered from malaria, had taken alcohol regularly though perhaps not to a great excess, had had syphilis, and was finally invalided from the service on account of the development of pulmonary tuberculosis. When he came under observation there was definite tuberculous disease of the apices of both lungs. The liver and spleen were both enlarged. The cutaneous telangiectatic lesions appeared suddenly, developing all over the body, and many of them became raised above the surface as angiomata the size of a large pea, with radiating areas of dilated vessels passing in all directions from them, while in other cases large mats of lace-like dilated capillaries could be seen on the surface. Hundreds of these lesions occurred during the course of a year on the face, extremities, and the trunk. In such a case the difficulty of ascribing the effects produced to their proper cause is very great. The enlarged liver and the cause producing it, the syphilis, the chronic tuberculosis, must all be taken into consideration. The analogy, however, between this case and those of less degree occurring in the course of ordinary cirrhosis of the liver is so obvious as hardly to require demonstration.

A study of the reasons producing the different varieties of vascular degeneration must be a great help in gaining a full knowledge of the resulting cutaneous diseases. In looking over this field of observation the importance of syphilis as a cause of many forms of vascular disease is much impressed on the mind of the observer, and the possibility of effective treatment is greatly increased. Other causes of vascular degeneration make themselves evident in the course of the investigation, many associated with the diseases ascribed to errors of metabolism. It is for this reason, no doubt, also that diseases of the internal viscera, such as those of the liver, become associated with cutaneous vascular manifestations.

[The paper was illustrated by demonstrations of drawings and lantern slides.]

DISCUSSION.

DR. ALFRED EDDOWES (London) agreed that there was ample evidence of vascular changes leading to skin disease. The usual cause of syphilitic lesions was the development of endophlebitis and periphlebitis, which retarded the venous return and produced the bluish, raw ham colour. In acne rosacea there was fibrositis, which pressed upon the little radical veins and forced the blood currents outwards, and produced the telangiectasis in the shape of spider naevi. He considered that only irritation locally, such as seborrhoea, and a vascular change, such as urticaria (temporary) or gout (more permanent), were required to produce an acute eczema.

A CASE OF PRURITUS VULVAE.

By J. GOODWIN TOMKINSON, M.D.,
Physician for Skin Diseases to the Dispensary, Glasgow Western Infirmary; Medical Electrician (Dermatological), Glasgow Western Infirmary; Consulting Dermatologist, County Council of Lanark (M.W.), etc.

DOUBTLESS the great majority of, if not all, cases of pruritus are the expressions of a toxaemic state.

That the skin is intimately implicated in the changes dependent upon pregnancy is evident in the increased pigmentation which occurs in normal cases in various areas of the integument. Further, that a toxaemia may occur during that state is not surprising when the profound constitutional effects of pregnancy are considered. In that condition any variation in metabolism may not inconceivably lead to irritation of a nervous mechanism now become highly sensitive, and express itself in those disturbances of sensation included in the term "pruritus." Not improbably, however, other factors, reflex and mechanical, may exert in many cases contributory etiological influence.

A case of localized pruritus, in which the symptoms were so severe and persistent as to appear to justify the recording of it, came under my notice in December, 1910. At that time the patient, aged 47, was in a nursing home in Glasgow, where I saw her in consultation with a gynaecologist. The vulva presented an eczematous appearance with marked infiltration secondary to the scratchings in which she had freely indulged. There was some leucorrhoeal discharge associated with endocervicitis and endometritis. The patient had given birth to a child in the spring of the year, but the pruritus which had commenced during pregnancy still persisted. She was in a miserable state of mind and body, and with the exception of coming to the home had not been beyond her garden for eight months. Sleep was seriously affected. There was a personal and family history of rheumatism.

The patient was put on a carefully regulated diet, and antirheumatic remedies administered. Locally a cream containing 5 minims of carbolic acid and 3 drachms of subacetate of lead lotion to the ounce was used, preceded by the free bathing of the parts with hot water. Considerable temporary relief followed, and the eczematous condition of the vulva rapidly subsided. The pruritus however, very quickly reasserted itself.

The gynaecologist with whom I saw the case curetted the uterus. Tincture of cannabis indica was administered and an ointment containing carbolic acid and tar applied locally. Little or no alleviation followed, and the same may be said of subsequent treatment with the high frequency vacuum electrode.

It was then decided to submit the parts to radiotherapy, and if that proved unsuccessful to resort to further surgical treatment. Small doses, five in all, of *x* rays were given at intervals varying from six to forty-three days. The total quantity of *x* rays amounted approximately to a Sabouraud pastille dose. Improvement followed the first, and much more rapidly the second exposure. The last irradiation was made on May 4th.

The pruritus has virtually subsided, and the patient is now quite able to get about and to enjoy life. She still persists, however, in using the last ointment twice daily.

Although the patient is 47, as previously stated, there is as yet no evidence of the menopause, unless the persistence of the pruritus so long after delivery be regarded as due to the commencing nervous derangement associated with the climacteric.

While the indiscriminate use of *x* rays in pruritus vulvae is not to be recommended, there certainly are cases of rebellious character where radio-therapy may be employed with very good prospects of success; and it is satisfactory to remark that the result in this case—an extremely distressing one, where drastic surgical interference was contemplated—was achieved by the exhibition of very moderate doses, and these at long intervals.

DISCUSSION.

Mr. G. W. DAWSON (London) said he quite agreed with Dr. Tomkinson as to the value of *x* rays in pruritus ani. He remembered, about four years ago, a young man who consulted him for this condition; he stated that sleep was impossible, and that he had tried many treatments. Beyond the scratch marks and the usual thickening of the skin and slight enlargement of the veins in the neighbourhood of the anus, there was no rash. He was given two half-pastille doses of *x* rays at intervals of a week. The itching rapidly disappeared.

DR. ADAMSON (London) had also had excellent results in the treatment of obstinate cases of pruritus ani and pruritus vulvae by the application of *x* rays. A dose just short of a "pastille dose" was given two or three times at three weeks' interval.

DR. STOPFORD-TAYLOR (Liverpool) said that ordinary cases of pruritus vulvae et ani, due to an eczematoid condition, were cured by prolonged baths of corrosive sublimate, 1 in 16,000. Pruritus associated with lichen planus papules on the vulva could only be dealt with by the application of the galvano-cautery to destroy the papules. Those cases of eczema of the genital organ of nerve origin, in which leucoderma and leucotrichia were also symptoms, were best dealt with by the *x* rays.

Dr. Tomkinson, in reply to the discussion, said he had found the high-frequency vacuum electrode of the greatest value in pruritic states of the anus. Dr. Adamson's postural difficulty might easily be overcome by the use of a high-frequency couch, and a nurse's assistance in maintaining the patient's position.

DEMONSTRATIONS.

Sporotrichosis.

Dr. Adamson (London) showed photographs of a case of sporotrichosis and of cultures prepared from it. Sporotrichosis, he said, was possibly a common disease in this country, but we had not yet learnt to recognize it. Since the first case was described by Schenk, in America in 1898, the disease had proved to be common in France and in America, and in these countries much work had been done in connexion with the pathology of this affection, especially by de Beurmann. The disease led to gummatous lesions in the skin and subcutaneous tissues. In the American cases there had been a chain of gummata along the forearm as the result of a wound on the hand. In the French cases the lesions were generally multiple and scattered over the body. The disease had been proved to be due to a fungus—the sporotrichium—which was easily obtained in cultures from the gummatous lesions. Dr. Adamson's case was that of an Englishman, aged 50, who had just returned from Brazil where he had got the infection. It was a characteristic case of the American type, and the cultures (exhibited) of spirotrichium were obtained on Sabourand's glucose-peptone agar. It was the first case exhibited in this country, and as illustrating what the speaker had said, that the disease might prove to be common here, a case had since been reported by Dr. Norman Walker from Cumberland, and Dr. Grünbaum was to-day reading notes of another case. It was now known that the disease might affect not only the skin, but also the mucous membranes, conjunctivae, joints, muscles, bones, and testicle, and perhaps other organs. The lesions cleared up with large doses of iodide of potassium.

Dr. B. Cranston Low demonstrated a cast from Dr. Norman Walker's case of sporotrichosis, recently published in the British Medical Journal. He also demonstrated cultures and drawings from the same case. He described the microscopic appearances, and pointed out that the condition resembled the microscopic appearances seen in actinomycosis rather than that of syphilis and tubercle. Attention was drawn to the fact that when cultures were made for diagnostic purposes they should be kept at room temperature, and not incubated.

Dr. Street (Woburn Sands) said a case not yet submitted to cultural diagnosis, but much resembling those described as sporotrichosis, was now under his care. The eruption first appeared on the dorsal aspect of the feet, and was now on the dorsal aspect of the hands and forearms also. Besides the larger nodules, there were a quantity of smaller and very irritable papules. The case had been seen more than once by the President of the Section, and many of the more common sources of similar eruptions had been excluded. There was in this case a reasonable degree of animal infection.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HAEMORRHAGIC PANCREATITIS FOLLOWED BY RECOVERY.

The patient in the following case, a widow aged 33, was admitted to King Edward VII Hospital at Windsor, on June 25th, 1911, with a history to the effect that on the day of admission while at breakfast she had been suddenly seized with a feeling of great distension accompanied by faintness. During the day she had vomited frequently, and towards the afternoon more pain was experienced in the epigastrium. The bowels had acted well. Dr. Spurrier, of Maidenhead, after seeing her, had advised admission into hospital. She had had a similar attack in June, 1910, and another in April, 1911, separated by a week's interval, but none of these were at all equal in severity to the present.

State on Admission.—The patient was obviously in great pain. Temperature 99°, pulse 124, respirations 24. The abdomen was distended and very tender. The caecum was dilated; the main tenderness seemed to be on the right side of the abdomen.

Operation.—With Dr. Spurrier assisting, an incision was made through the right rectus at the level of the umbilicus. The abdomen and pelvis were full of dark bile-stained fluid. Nothing being found in the pelvis or appendix region to account for the symptoms, the incision was prolonged upwards. Patches of fat necrosis were present in the omentum. The head of the pancreas was found to be of the size of half an orange, and very hard. In the root of the mesentery and peritoneum in this region the fat necrosis was very marked, in some places resembling patches of whitewash. The gall bladder was distended, but a careful search for stones along the ducts gave negative results. The wound was sutured without drainage.

Result.—The patient had no further pain or bad symptom, and made an uninterrupted recovery, leaving the hospital on June 16th, three weeks after operation.

Remarks.

The intense pain in this case had also been present in the four other cases of haemorrhagic pancreatitis I have met with. In each case it was continuous, and the patients seemed to suffer more than in any other abdominal disorder. The urine at no time contained sugar.

Windsor. J. O. Skevington, F.R.C.S., Surgeon, King Edward VII Hospital.

SEA-WATER INJECTIONS.

The value of this variation of an accepted treatment for collapse can only be estimated by the results obtained in suitable cases, and it is desirable that for a time those using the treatment should give their experience for or against. My first case was to me highly satisfactory. A girl aged 6 had a return of summer diarrhoea with vomiting of the most severe type; all the classical signs of English cholera were present in a severe form. Treatment of the ordinary kind had no apparent effect, and included intestinal antiseptics, lavage, and, what I want to lay particular stress on, an ordinary saline injection was used in the interval between telegraphing for the plasma and its arrival. Fifteen hours afterwards there was no response. The child was comatose, respirations shallow, and icy cold, eyes sunken, half closed, and conjunctiva inflamed where exposed, and the extremities cold. The vomiting had ceased by this time, as it often does in bad cases, and the evacuations were reduced to a watery dribble, and the child was in what I might call the "meningeal" state of the disease, from which I cannot remember having seen a recovery in thirty years. I looked for Dr. Jacques Serda's symptom, but I cannot say that I found it. He says: "Au toucher, et ce signe est caractéristique, l'on constate une notable différence de température entre le front qui est chaud et les joues qui sont fraîches."

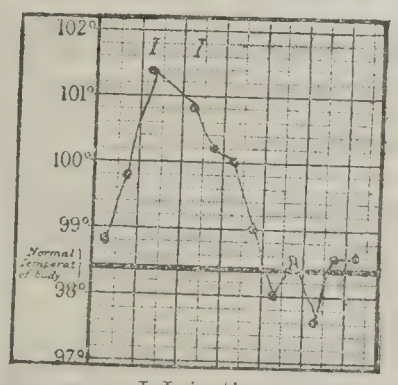

I, Injection.

Being unfamiliar with the treatment, I gave 50 c.cm. for a first injection, and repeated it in twenty-four hours. In the light of recent experience I should give 100 c.cm. another time and make the interval shorter. The injection was given behind the great trochanter, and took about ten minutes to flow, and was not felt by the patient owing to her half unconscious state. Three hours later the tumour caused by the injection (about the size of a turkey's egg) was absorbed, reaction was setting in, and the child was given milk made with Fairchild's Pepton powder. The diarrhoea abated from the time of the first injection, and fell to four, three, two, and by the fourth day one evacuation daily. The night after the second dose she was conscious, and next day "hungry," and has improved so rapidly that she has asked for "fish and chips."

Leeds. H. Waite.

THE DANGER OF CARBOLIC ACID OINTMENT IN HOT CLIMATES.

The following notes will show the possibility of a severe accident arising from the use of carbolic acid ointment in tropical climates.

The patient one evening feeling some slight irritation on the back of the hand, and attributing it to the bite of an insect, applied, as she had often done before, some carbolic acid ointment to the part, which at once became white and numb, while shortly afterwards a burning pain set in. Next day the back of the hand presented all the appearance of a rather severe superficial burn. She considered that the condition was due to the poisonous bite of some insect, but examination of the ointment showed that,

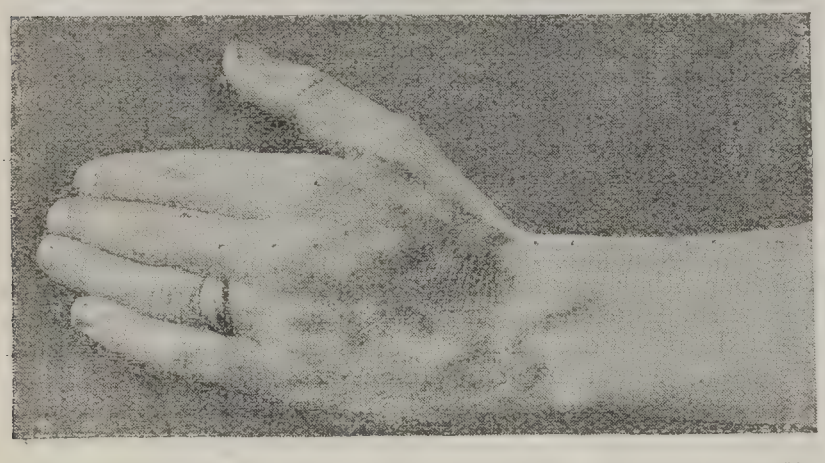

unnoticed in the evening light, she had applied practically pure carbolic acid, which had completely separated out from the paraffin ointment.

Her child's leg had also been rubbed the previous evening with the ointment, and was irritated and inflamed to an even greater degree.

The photograph shows the condition of the hand four days after the application.

Such an accident seems very liable to occur in hot climates, and so it has seemed worth while to draw attention to the possibility.

Hong Kong. J. C. Dalmahoy-Allan, M.D.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

DISTRICT INFIRMARY, ASHTON-UNDER-LYNE.

A CASE OF TRAUMATIC RUPTURE OF THE STOMACH: OPERATION AFTER TWENTY-FOUR HOURS: RECOVERY.

(Under the care of A. J. Rodocanachi, F.R.C.S.)

N. H., a girl 6 years old, had her tea and shortly afterwards was running on the roadway, when her toe caught on a grid and she was thrown on her face. She walked home, about a mile, and complained to her mother of abdominal pain. She was put to bed and given castor oil. She vomited twice that night, and almost constantly the following day. In the afternoon Dr. Ralphs was sent for, and he ordered her immediate removal to the infirmary. On admission her abdomen was much distended, tender in all parts, and dull in the flanks.

A diagnosis of ruptured viscus was made, and a laparotomy was commenced within thirty minutes of her admission. The abdomen was full of bile-stained fluid, and this was traced to a rupture of the stomach, fully 2 in. long, along the greater curvature at the gastro-colic omental attachment. The rupture was closed by a double row of Pagenstecher stitches, the abdomen was flushed with saline solution, and closed without drainage.

She was sick twice during the first twenty-four hours after the operation, but after that had no further abdominal symptoms, but an acute bronchitis caused much anxiety during the first week. Her temperature fluctuated between 99° and 102°. Her respirations were at one time 60 and the pulse 160 per minute, but after the eighth day all three became normal, and she was discharged quite well four weeks after the injury.

The interest of the case lies in the apparently slight injury, the large size of the rupture, and the successful result after so long an interval as twenty-four hours.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BOMBAY BRANCH.

June 29th, 1911.

LEISHMANIA TROPICA AND THE ORIENTAL SORE OF CAMBAY.

(From the F. D. Petit Laboratory, Byculla, Bombay.)

Dr. R. Row read a paper entitled "Further Observations on *Leishmania tropica* of the Oriental Sore of Cambay, with special reference to the limitations of the house-fly acting as a possible infecting agent." He said: The experimental infection of man, monkey, and dog by direct inoculation of *Leishmania tropica* in the ⊙ body stage is now well recognized by all workers on the subject. Nicolle, working in Tunis, has succeeded in conveying the disease by this method from one to the other of these animals; and my observations, though limited to the infection from man to monkey, and then from monkey to monkey, have all been done by a similar method—namely, that of direct infection of fresh monkeys with the ⊙ body stage of the parasite taken from a fairly recent lesion. It was pointed out by me in another communication that I have found it essential for infecting purposes to have the parasite in the ⊙ body stage, as I find it impossible to infect monkeys when the parasite has gone even into the preflagellate stage in culture. It is true that sometimes, especially when the material is rich in macrophages, laden with parasites, an irregular culture of even eight days, containing flagellates and some unaltered ⊙ bodies, is capable of infecting an animal; but here I think it is the unaltered parasite which is responsible for the production of the typical experimental lesion. This agrees with the observations of Marzinowski and the earlier results of Nicolle and Marceaux, but not with the more recent observations of the latter, who have gone further by successfully producing the identical lesion by infecting with cultures of even the fourth generation from a parasite of human or simian source grown in N.N.N. medium. The Cambay parasite, however, seems to be slightly different from the Algerian or Tunisian species, as I have found it impossible to culture mine in N.N.N. medium, or even to carry the culture beyond the first generation in the medium described by me elsewhere as being best suited for the purpose and all its modifications. Further, the incubation period of the experimental disease in Bombay has been invariably two months, while that found by Nicolle in Tunis varies between 16 to 166 days; and, lastly, the flagellate stage of the parasite which I had the opportunity of examining in Paris—thanks to the kindness of Professor Nicolle, Professor Mesnil, and Dr. Danloe—appeared to be distinctly smaller than that obtained by me in Bombay. These differences point to the probability of slight specific variation between the parasite we have out here and those found in North Africa, and account for the constant fact forcing itself on the workers on the parasite here, that to obtain an experimental lesion we must have the parasite in the ⊙ body stage.

It is now well known that *Leishmania tropica* in culture undergoes development into a fully-formed herpetomonas-like flagellate—very like what *Leishmania donovani* of kala-azar does—and although it is possible in some specimens to observe some sort of post-flagellate stage in the shape of obscure ⊙ bodies (after the flagellate drops off the flagellum and the body of the parasite rounds off), it is impossible at present to say definitely whether this post-flagellate appearance is not merely that of a degenerate parasite and the subsequent swelling up of the parasite *post mortem*, as I have not yet been able to infect a monkey with bodies of this description. Then what is the significance of the flagellate stage of the *Leishmania*? It would appear from analogy to what obtains in the case of *Herpetomonas muscae domesticae* that the flagellate stage is a precursor of the post-flagellate stage before these round off into ⊙ body-like cysts in the gut of the house-fly, and the analogy is so striking that some authors have suggested the house-fly, and others the bug or some other biting insect, as being the possible intermediate host in whose intestines all the changes up to ⊙ body stage would

probably take place before these bodies are available for propagating the disease. Thus Patrick Manson says in the chapter on Oriental sore:

> Not improbably it is conveyed by fleas or other biting insects, and by them either inserted into the skin or applied to some pre-existing wound or sore.

Laveran (as quoted by Patton [1]) has suggested "that the domestic fly is the most probable transmitter of this parasite because the sores most frequently occur on uncovered parts, such as the face, hands, and arms."

Acting on these suggestions from savants like Manson and Laveran, some workers have sought to establish that the parasite of Oriental sore "does develop" in the intestine of the house-fly. Thus Captain Markham-Carter, in a preliminary communication published in the BRITISH MEDICAL JOURNAL of September 11th, 1909, writes:

> Some fifty were then captured; the gut of ten were examined, and the usual infection with *Herpetomonas muscae domesticae* noted. In no case were typical large crithidial parasites noted. The remainder of the insects on being placed in the netted cage greedily swarmed round the watch-glass, and distended themselves until their bodies were scarlet with the ingested red cells. After twenty-four hours several flies were dissected, and their gut contents showed crithidial monadine parasites, highly suggestive of, and indistinguishable from, the forms obtained in culture. After forty-eight hours all flies examined showed crithidial forms. . . . From these feeding experiments I believe that, though the common fly in the East may not be the actual invertebrate host that infects men with Oriental sores, the parasite does develop within the gut of the *Musca domestica*, etc.

The commentary on this will be found as we examine the fate of the parasites when clean flies, and not those caught haphazard, are fed on it, and will be referred to in detail presently. However, it may be pointed out here that we do find a variety of flagellates in the gut of the Bombay house fly, and some of these flagellates, and even some stages in the development of the house-fly's herpetomonas, bear a very close morphological resemblance to the flagellates of the *Leishmania tropica* in culture, and however close may be the resemblance, considering 98 per cent. of the Bombay house-flies are infected with herpetomonas of all sorts, in some seasons, the observations made on the flies caught haphazard are, I submit, without any value in the absence of evidence of the gut contents being capable of successfully infecting a susceptible animal—for example, a monkey.

In the study of *Leishmania* the problem becomes more difficult, as we see there are two different ways by which the original ⊙ body undergoes reproduction. One, the complete one as seen in Nature, being by direct division of ⊙ body as we see them in lesions; and the other incomplete and seen only in artificial cultures; where the ⊙ body after dividing and subdividing into ⊙ bodies undergoes development into flagellates, and then the flagellates divide and subdivide until we get a culture of pure flagellates. Beyond the stage of flagellation we have not been able to go definitely and clearly.

In the case of herpetomonas and crithidia the flagellate stage is the one which can be clearly studied leading up to the post-flagellate and further still into the ⊙ body stage or cyst stage. But here it must be remembered that it is not clear whether any one has observed the reproduction of the ⊙ bodies directly into ⊙ bodies as one can see them occurring in the lesions of an Oriental sore, both in the macrophages and outside them. So what one see of the way of multiplication of the parasite of *Leishmania* ⊙ bodies does not obtain in the case of the multiplication of the ⊙ bodies of herpetomonas.

In spite of the want of absolute parallelism in the mode of reproduction of the two parasites (namely, *Leishmania* and herpetomonas) in Nature, one or two questions suggest themselves in the light of the above-stated considerations and suggestions from authorities like Manson and Laveran, and these I may state as follows:

1. Seeing that *Leishmania* develops into a flagellate stage like herpetomonas, is it possible to trace the further development of this flagellate into a post-flagellate and ⊙-body stage in the alimentary canal of any insect, such in the same way as it is possible to trace the development of the herpetomonas into a post-flagellate and cystlike stage in the gut of the house-fly or other insect?

2. In case we cannot see any such development in all the likely insects, blood-sucking or otherwise, what is the significance of the flagellate stage one sees in artificial cultures?

3. Are we justified in assuming that, unless one finds a suitable host in whose intestine we can trace all these changes up to ⊙ body stage, the problem of the etiology of the disease remains unsolved?

I propose here to attempt to solve experimentally only a part of the first of these questions, and in doing so I desire to confine myself only to the house-fly.

I have explained elsewhere that the house-fly can act as a transmitter of Oriental sore: (1) by directly transferring the virus from man to man mechanically—by means of its legs and other appendages; and (2) through its gut contents, which can be proved to contain unaltered ⊙ bodies, with which I have succeeded in producing a typical lesion in a monkey. In this paper I propose to give a few details of what happens to the ⊙ bodies in the gut contents of the flies when they are fed on a material rich in the parasites.

It is essential for an experiment of this nature to obtain clean flies—that is, such as are absolutely free from any flagellates (for example, herpetomonas)—and these are easy to obtain by breeding flies in the laboratory and manipulating the resulting pupae, with the precautions against any possible herpetomonas contamination. Having obtained clean flies, the next step is to keep them alive for several days and train them to take up blood at our pleasure. With not an inconsiderable difficulty, I have succeeded in both these respects. I have been able to carry out three series of experiments, each lasting from four to five weeks, during which period it was found possible to keep the flies alive and capable of taking up blood containing the ⊙ bodies. It is essential to have blood, because this seems to be the most important ingredient of the fluid in which the ⊙ bodies of *Leishmania* can develop into flagellates. As the results of all these experiments were found to be identical, I propose to sum them up briefly as follows:

When 4 to 6 flies are kept under a small glass capsule and suitably trained to take up a mixture of blood and citrated saline rich in *Leishmania* ⊙ bodies, it is easy to observe them individually and dissect any or all of them at various intervals, say, three, six, twelve, twenty-four, and forty-eight hours, etc., and examine the gut contents of any parasites or their altered states. I have followed a routine practice of laying the whole alimentary canal on a slide, and, after cutting this into four equal parts, to tease out each portion in a drop of saline placed in the order indicated in the figure—on a slide so that each slide would contain the contents of the various parts of the whole alimentary canal limited within the margin of each drop. The slides prepared in this way are dried, fixed, and stained in Giemsa, and examined serially day after day and the results noted. Further, it is possible to obtain the faeces of the flies thus fed by placing clean slides inside the capsule and removing them after suitable intervals, when the faeces can be obtained in the shape of small, dried droplets, which can be fixed, stained, and studied in the usual way. By having eight to ten such capsules, each containing 5 or 6 flies of the same brood, the observation can be extended over the whole period during which the flies can live in confinement, so that even should there be an incubation period within this limit for the development of the ⊙ bodies, one cannot possibly miss the chance of studying any possible development of the ⊙ bodies up to about four to five weeks, during which the flies have lived in confinement.

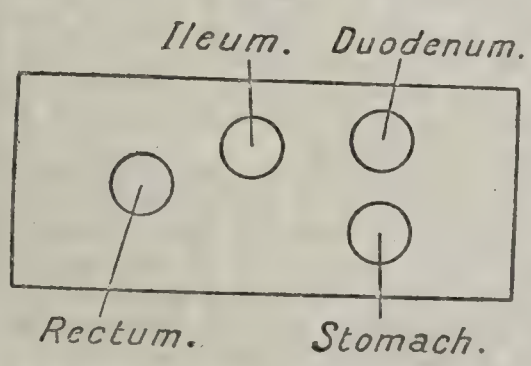

By feeding clean flies on blood for the first time, and watching the excreta on clean slides placed inside the capsule, I have been able to ascertain that the faeces obtained even within three hours contains blood altered as well as unaltered, so that it seems within these three hours ingested material can be excreted per rectum.

[1] *Memoir on Haemoflagellates in Parasitology*, 1909, p. 90, new edition.

Flies fed on blood saline mixtures rich in ⊙ bodies, when dissected within three hours of the feed, show in the alimentary canal bodies which can be recognized as ⊙ bodies, as do the faeces contain similar bodies which can be recognized as the unaltered parasites. But beyond six hours it requires a great effort to demonstrate them, as they undergo changes beyond recognition. All one can see is a variable number of well-staining large coccal bodies—in the mass of a great number of cocci and bacilli—looking like slightly swollen kineto-nucleus of the ⊙ bodies, the other parts of the parasites being apparently dissolved in the process of digestion, and these are found in greater numbers about the lower part of the intestine than higher up, and even these become obscured after twenty-four or forty-eight hours. In no case has a single body giving even a suspicion of preflagellate or flagellate stage been possible to detect in over a hundred slides examined at varies periods after the feeding. Thus it would appear that the ⊙ body is simply extruded either unaltered within the first three hours of the feed or after partial or complete digestion after these few hours.

One or two experiments carried on with the object of studying the infectivity of gut contents of the fly twenty-four hours after feeding them with ⊙ bodies has given me negative results, while, as stated above, the gut contents from a fly fed three hours previously, has resulted in the production of a typical lesion in the monkey, thus indicating that in this period, during which the faeces could be extruded after the feed, the ⊙ bodies can pass out of the fly gut unaltered as to their infectivity. Thus a fly can act as an infective agent within about three hours after he has had a feed on the juices of a sore rich in ⊙ bodies. It is true the pus from an ulcerating Oriental sore is poor in parasites, but should an unbroken lesion get scratched or abraded, or the margin of an open sore (which is very often rich in macrophages and parasites) get injured by similar means, and should a fly settle on it before the drying of the sanious discharge, the conditions for communicating the disease are fulfilled, provided the fly settles down and deposits its gut contents during the three hours or so on another person in a situation which may be immediately scratched, or where there may be already a broken skin.

In the light of these observations it seems, therefore, that the house-fly can infect immediately by mechanically carrying the parasite from the open fresh wound in the sore and depositing it on another under favourable circumstances, or even within three hours or so of a proper feed, through its digestive tract, by means of faeces containing the unaltered parasite. Beyond this the fly seems to be powerless to act as an infective agent.

I do not propose to attempt to answer the other part of Question 1, because my observations on one or two domestic insects are far too few, and these, too, are negative in their answer. Nor do I think I am competent to answer the other questions, as it seems to me more a question to be answered by biologists.

In conclusion, I desire to summarize the salient features which strike one during the study of the various physiological features of *Leishmania* marking these animals clearly from their other allied flagellates. In the case of the *Leishmania* we see the direct division of the ⊙ bodies in the lesion and the macrophages, the only development of these bodies set free in the fluids of the lesion being a slight elongation into cigar shapes and approximation of the blepharoblast to the nucleus, while in the other groups —for example, herpetomonas, crithida, and trypanosomes, reproduction is by division of the flagellates into flagellates, and these round off (in the first two) in the lower gut of the insects in which these flourish, the rounding off being a special feature of these. In other words, reproduction appears simpler in *Leishmania* than in the other groups, the retention of the flagellum in the dividing forms being a special feature of the last groups, reproduction and further division coming to a standstill directly after the disappearance of the flagellum and the commencement of the rounding-off stage, and yet one has to account for the acquisition of the flagellum by the *Leishmania* in cultures. To me all these phenomena point to a common ancestry of all these groups of animals, and the acquisition of a flagellum by the *Leishmania* in culture seems to be a property acquired by heredity—a quality latent under natural conditions, but liable to be made manifest under artificial conditions of culture. All these considerations, including the economy shown by Nature in the reproduction of *Leishmania* and the faculty these bodies possess in throwing out a flagellum under artificial conditions, point to the claims of *Leishmania* for a separate zoological place for themselves, and not to be lumped up with the herpetomonas, as some workers are inclined to have them so grouped.

Major GORDON TUCKER, I.M.S., in opening the discussion, referred to some cases of ulcers which had troubled some of the naval officers in the Mekran expedition, when they were engaged in the late gun-running operations. They attributed their troubles to some biting insects. These officers were convalescent when seen by Major Tucker.

Lieutenant-Colonel ASHTON STREET, I.M.S., in thanking Dr. Row for his interesting paper, related the case of a colonel of a regiment who had developed some of these Oriental sores while in Karachi a few days after being pestered by bugs in an hotel. This patient was positive that his disease was the result of bug bites. Colonel Street also referred to the difficulty he felt in understanding how flies could take up the parasite in Nature so easily when, as Dr. Row explained, it required considerable trouble in training the flies to take up blood containing parasites in the laboratory, and also how a non-biting insect could infect an individual by simply depositing the parasite in the way suggested by Dr. Row in his paper.

Dr. Row, in reply, said it was interesting to hear of some biting flies or insects as being the cause of the disease under discussion. Even if the disease of the naval officers referred to by Major Gordon Tucker were undoubtedly Oriental sores, it appeared very remarkable how these officers should have been able to become convalescent so rapidly from the ulcers, when it must be remembered that Oriental sores ran an obstinate course for months, and the parasites persisted in the ulcers almost to the very end. Unfortunately, no microscopic examination was available showing the identity of the disease. It was quite possible that some biting insect might be concerned in the propagation of the disease, but in the present state of our knowledge these insects remain yet to be demonstrated. As to Lieutenant-Colonel Street's questions, he said the common house-fly in liberty differed in his way from that in confinement, and so did a fly caught haphazard from that bred in the laboratory. This was only to be explained by the differences of environment imposed by conditions of confinement. Though a vegetarian by nature, the house-fly acquired the habit of feeding on animal juices, especially sanious fluids, and once he had tasted blood, he seemed to have a great attraction for this, as was seen every day in an out-patient department in any of the dispensaries in the districts where the flies were seen swarming and buzzing round a patient with open sores or discharging ulcers. The reason why (if the fly were concerned in the dissemination of the disease) more extensive areas were not affected or more people subjected to the disease might be that to get all the conditions necessary for a successful infection one had to depend on a combination of circumstances which was not so easily obtainable. Thus, there must be a scratch in a sore in a spot as would be rich in parasites, then the fly must suck up such a discharge before it gets dry, and this fly should get an opportunity to transfer its virus on a suitable surface within the first three hours; and, lastly, the part infected must be raw or rendered fresh by scratching, as they were dealing with a non-biting insect. As to the last, it was not difficult to understand, as it was the most usual thing for one to scratch off the tickling irritation set up by the house-fly when it once seriously settled on an uncovered part. With regard to the case of the colonel where the bug was held responsible, it should be remembered that the incubation period had been found to be longer—two months—in the monkey, and unless the day of the attack by bugs was recorded, no conclusion could be drawn from statements made from memory. It was more probable that the recollection of the bug-bite of a recent date would be connected with the coincidental appearance of the sores, which might have been really acquired elsewhere by some infection two months previously by quite a different method. Lastly, apropos of the bug, he pointed out that the original parasite might persist for several days in the bug's stomach, much the same way (as had been

stated in the body of the paper) as in an irregular culture, and one ought to be cautious of the fallacy *post hoc, propter hoc*, even should the bite of a bug fed from a parasite-laden sore be experimentally proved to be the cause of the true sore.

Reviews.

DISEASES OF THE NOSE AND THROAT.

A scientific witness before the Royal Commission on Vivisection said that textbooks were the very lowest form of literature he knew of. "There must," he said, "be a lot of padding and nonsense in a textbook." We presume this sweeping judgement was spoken in haste, or was meant to express depreciation of some worker in the same field, for, alas! the sickly mould of personal prejudice thrives even in the dry light of science. In any case, the textbook is an absolute necessity, and even the superior person has to learn the alphabet of his subject out of one. The number of textbooks may perhaps be taken as a rough index of the growth of knowledge and of the extent to which interest in a particular subject is felt by those who devote themselves to its study. Forty years ago there was no textbook in English which covered the whole field of diseases of the nose and throat. In 1880–82 appeared Morell Mackenzie's great treatise, which for many years held its ground as the leading authority on the subject in the English language, and which, though long out of print, is still indispensable to teachers of laryngology and rhinology, not only as the embodiment of the unrivalled experience of the greatest among the pioneers in that domain, but as the richest mine of references to the whole literature at that time available. Since the publication of Morell Mackenzie's book many others have appeared as the speciality increased in range and the number of toilers in the vineyard became steadily greater. How vastly it has grown cannot be more strikingly illustrated than by the comprehensive textbook just issued by Professor StClair Thomson.[1]

Of this book we can truly say that it is one of the finest examples of its kind that has appeared. We do not think we can be charged with exaggeration when we say that it is at once the fullest and clearest account of the diseases of the throat and nose that exists in the English language. The author is a specialist of the best type; that is to say, he is one whose special knowledge is based on the wide and solid foundation of general medicine and also surgery as it is implied in the fact that he is a Fellow of both the Royal Colleges. Before devoting himself entirely to the department of practice which he has taken for his province Dr. StClair Thomson had a long experience of general practice. He has prefixed as a motto to his book a pregnant phrase of A. Courty, which we may translate as follows:

> Specialism is the lowest degree of the art when it is not inundated by general knowledge; it is the perfection thereof when it is the crown of science. One should finish by specializing instead of beginning thereby.

It was the failure to recognize this truth that so long hindered the admission of specialism to the right of citizenship in the commonwealth of medicine. Specialism was, it must be confessed, for a long time regarded as a short cut to success in practice, and there was an element of truth in many of the gibes that used to be directed against men who, for instance, made the nose the pathological centre of the body or professed to cure most diseases by violent attacks on the rectum. This phase in the evolution of specialism is to a large extent happily past, and Dr. StClair Thomson's book is a concrete instance of the largeness of spirit and breadth of knowledge which now go to the making of a specialist of the highest type.

It is impossible in the space at our disposal to review in detail a book covering so wide a territory. We need only say that the descriptions are succinct, and every page bears the stamp of sound judgement and ripe experience; there is neither "nonsense" nor "padding" in it. It contains all that is required, not only by the modern student but by the general practitioner, who will find in it just the kind of practical guidance that he needs. To teachers its logical arrangement and the symmetry of its structure make it particularly useful. It may also be commended to all who have any intention of taking up the study of diseases of the nose and throat as a speciality. The work is so exhaustive that there are few specialists who would not learn something from it. Such a bird's-eye view of so large a subject as is here given by Professor StClair Thomson must tend to correct any tendency to that over-refinement in specializing which is apt to be produced by the concentration of the mind on what is after all a comparatively small part of the field of medical knowledge.

The book is in the best sense practical, and in particular the detail in which treatment, both general and local, is set forth makes it especially serviceable to the practitioner who may have to deal with forms of disease with which he is unfamiliar. As an instance may be given the very full account of the treatment of syphilis. Operations are very clearly described, and a well-arranged and judiciously selected list of formulae with which the book ends is not one of its least useful features. It is abundantly and excellently illustrated, the coloured plates in particular being exceptionally good. Reference is made easy by a copious index.

In conclusion, we must congratulate Professor StClair Thomson on the production of a work which is not only of a high degree of excellence scientifically, but is written in an easy and lucid style by no means common in medical writings. It is only fair to the publishers to add that they have produced the book in a manner worthy of its scientific value.

[1] *Diseases of the Nose and Throat, comprising Affections of the Phea and Oesophagus: A Textbook for Students and Practitioners.* StClair Thomson, M.D., F.R.C.P.Lond., F.R.C.S.Eng. London, York, Toronto, and Melbourne: Cassell and Company, Limited. (With 18 plates and 294 figures in the text. 25s. net.)

PLETHORA.

At the German Congress of Medicine held at Budapest in 1909, Professor H. Senator, of Berlin, presented a review of the subject of *Plethora*,[2] and shortly before his death he prepared a monograph which he has dedicated to the Berlin Medical Society as a memorial of his fiftieth year of membership.

Under the term "plethora" he includes polycythaemia, and it is to this that he devotes the greater part of his space. After attempting its systematic classification into absolute and relative polycythaemia, and tracing the history of the condition which is now called Vaquez's disease, he proceeded to consider the various conditions under which polycythaemia is met with. He recognized a physiological and pathological polycythaemia; under the former he included that observed: (1) After unusual muscular exertion; (2) after copious meals; (3) after loss of blood, although he admitted that this was rather pathological than physiological; (4) at birth; (5) in rarefied air and high altitudes; (6) in diminished oxygen tension; (7) in seaside climates, and (8) in hibernating animals. Pathological polycythaemia he found to occur in (1) diminution of the blood plasma, as in vomiting, diarrhoea, etc.; (2) diseases of the circulatory system, chiefly congenital or acquired heart disease; (3) poisonings by phosphorus, carbonic oxide, and benzin, adrenalin, pituitary extract, and many endogenous poisons, after the injection of tuberculin, in some infectious diseases—for example, influenza, in chronic nephritis, leukaemia, Addison's disease, neurasthenia, insanity, sleeping sickness, and chorea.

He then proceeds to give an analysis of the symptoms and of the state of the blood in the published cases of Vaquez's disease; he regards the thrombosis which has often been observed as secondary and due to the viscosity of the blood. In another place he speaks of the thromboses found *post mortem* as probably occurring just before death; but he admits that some occur earlier, and as a fact in many of the cases thrombosis was one of the earliest symptoms noticed. He gave the results of some observations of his own on the respiratory exchange, showing that in these cases there was an increase of the respiratory volume, of the CO_2 exhaled, and of the oxygen consumed; but he admitted that this excess was not constant, and he did not consider that the increase of the gaseous exchange was dependent upon the increase of the

[2] *Polyzythaemie und Plethora.* Von. Prof. Dr. H. Senator. Berlin: August Hirschwald. 1911. (Med. 8vo, pp. 80. M. 2.40.)

red blood corpuscles or of the haemoglobin. In considering its cause, he pointed out that the teaching of Pflueger and Voit was that the amount of gaseous exchange depends not upon the quantity of blood passing through the lungs but on the cell respiration—that is, on the oxidation in the tissues. So that in so far as there is an increased gaseous exchange this points to increased tissue respiration in response to some stimulus, which may be the excess of oxygen reaching the tissues, and partly the slowing of the circulation, with resulting increased consumption of oxygen. In support of this the experiments of Batelli and Stern are quoted. They found that when portions of organs were shaken up with oxygen they could be made to absorb more oxygen than did the tissues ordinarily during life, but other experiments have not confirmed this result. The polycythaemia that occurs during digestion at high altitudes and during pregnancy is next considered. In the first instance it is found to be highest with protein food, and seems to be a specific effect of the stimulus of the albumen. In pregnancy no better explanation has been found than the presence of a specific pregnancy toxin (Zuntz). Senator did not accept the view that the polycythaemia of high altitudes is to be explained by the rarified air, as it does not follow a stay in the pneumatic chamber, so that he attributed this also to a special stimulus of high mountains. He denied that it could be due to the magnitude of the respiratory wave, because this and the gaseous exchange do not always run parallel.

Under the head of morbid anatomy the chief point to which he drew attention was the enlarged spleen, which shows hyperplasia and a myeloid change with increase of leucocytes and diminution of normoblasts. The lymphatic glands are congested, but show no microscopical abnormality. The bone marrow is congested, hyperplastic, with many eosinophilous cells and giant cells. With regard to the etiology and pathogenesis of the disease, he stated that males suffered more than females, that the disease occurred between the ages of 35 and 50, that tubercle, syphilis, and malaria had no special relation to it, that it was doubtfully hereditary, as Nichanin's case, in which the mother and sister of the patient were also affected, was in his opinion doubtful. The increased number of red cells might, he thought, be explained on the one hand by diminished destruction, or on the other by over-production. Diminished destruction would suggest increased resistance to haemolysis, but there is no proof of this—in fact, so far as the point has been looked into, the resistance appears to be normal. When the red blood cells are increased experimentally the bone marrow undergoes atrophy instead of becoming hyperplastic, while the increased excretion of iron found in the urine and the presence of eosinophilous cells in the bone marrow point to increased destruction. The alternative theory of increased formation of red cells has in its favour the hyperplasia of the bone marrow, but this raises the question why there should be any increased formation of blood cells, or, in other words, any heightened activity of the blood-forming organs. It might be supposed to be compensatory to the insufficient supply of oxygen, or to be the direct result of some stimulus to these organs.

Senator disposes of Saundby's suggestion that the stimulus is determined by slowing of the capillary circulation from contraction of the arterioles under nervous influence, as in adrenalin poisoning, by saying that it is purely theoretical and has nothing to support it except the fact that there are other nervous symptoms present; and he thought the compensatory theory contrary to the evidence, as there is no diminution of the oxygen supply to the tissues, which may, in fact, be normal, or perhaps slightly less. He therefore fell back upon the hypothesis that there is some unknown stimulus which excites a primary increase of function of the bone marrow. The enlargement of the spleen he held to be secondary, as extirpation of this organ has no effect upon the number of the red blood cells. He asks why it is that in this disease the organism does not get rid of the excess of blood, but he gives no answer. Normally the amount of blood is maintained at a fixed level, but in this disease the regulating mechanism is destroyed—how or why we do not know.

In discussing diagnosis he laid stress upon the three symptoms of (1) redness of the skin and mucous membranes, (2) enlargement of the spleen, and (3) polycythaemia occurring in the absence of all known causes. He suggested that Morris's case in which there was no polycythaemia might possibly be analogous to the cases of leukaemia without leucocytosis, cases, that is to say, in which the leucocytes have temporarily disappeared from the blood.

With regard to treatment, he stated that a trial of the injection of bovine tuberculin which Franke claims to have a depressing effect upon the function of the bone marrow, gave no good result. He advocated limiting the amount of protein food, excluding articles of food that contain much iron, such as spinach and asparagus, and approved of periodical bleeding with oxygen inhalations and the administration of iodine preparations.

A short account is given also of Geisbock's disease or polycythaemia hypertonica, in which there is no enlargement of the spleen, but the heart is hypertrophied and the blood pressure is very high, 200 or even 300 mm. of mercury. In these cases there is hyperplasia of the bone marrow. There seems to be no relation between the polycythaemia and the blood pressure, and Senator found himself unable to suggest a satisfactory cause for either, and was driven back upon the hypothesis of a specific stimulus to the heart, blood vessels, and bone marrow. For treatment he recommended potassium iodide or iodothyrin.

In concluding our notice of this remarkable book it should be said that Senator believed that there was no fundamental difference between Vaquez's and Geisbock's types of disease and that intermediate forms will be discovered.

THERAPEUTICS.

A BOOK devoted mainly to the medical treatment of disease in which etiology and pathology—the foundations of rational medicine—are dealt with briefly and cursorily is apt, if adopted as a guide in practice, to lead to empirical drugging. This is more likely to occur when, as in Mr. JAGENDER LALL CHUNDRA'S *Treatise on Treatment*,[3] numerous quotations from books and papers representing different, sometimes opposite, views, methods, and prescriptions are jerked out without comment, and a variety of formulae, many of them containing new drugs of doubtful or unproved value, are recommended to fulfil the same indication. To the student and young practitioner this sort of thing is likely to be more harmful than helpful. The experienced man may perhaps be able to cull a useful hint from the bewildering mass of directions; but the scheme of the work is unsound and its execution faulty. Diseases are arranged in accordance with the official nomenclature, a selection being made of the more common and important in each section. Prophylactic, medicinal, hygienic, and dietetic methods and means are set forth in an orderly and summary manner. The work is by no means complete. Diseases of the skin, eye, ear and nose, lymphatic system, organs of locomotion and connective tissue, injuries and poisons, gynaecological and puerperal affections are omitted, and very scant reference is made to surgical expedients, or the circumstances which necessitate their employment. Gonorrhoea and syphilis are included among local diseases of the genito-urinary system, and many maladies frequently met with in India—for example, sunstroke, mumps, pyaemia, oriental sore, ulcerating granuloma of the pudenda, prickly heat, guinea worm, ringworm, lumbago, hernia, obtain no notice. Some curious theories are advanced. The exercise of "will force" is recommended as a preventive of cholera and small-pox, and plague is stated "to have some relation with slow form of carbon dioxide gas poisoning." The "custom among some of the hill tribes of India to bring patients suffering from cholera by the side of a falling cascade," and the practice of poor villagers of Bengal, who "paste the whole body of the patient with soft mud, and bring him to a cool shade and offer prayers to Oladebi—Goddess of Cholera"—are seriously mentioned as effective means of treatment and the same fanciful explanation is offered of the *modus operandi* of both. The book abounds in

[3] *A Treatise on Treatment, for the Use of Practitioners and Students of Medicine.* By Jagender Lall Chundra, L.M.S. (Calcutta University) 1911. Calcutta: 5, Gopee Kristo Paul's Lane. (Cr. 8vo, pp. 634, 12s. 6d.)

curious "babuisms." In cholera, we are told: "Don't give powerful astringent enema for checking diarrhoea at once and thereby make yourself ridiculous. like an attempt to cork an open aërated soda water bottle." The issue and circulation of pamphlets containing information regarding small-pox is recommended for the purpose of saving people "from drowning into the gulf of pox." The prevention of gonorrhoea by physical to the exclusion of moral methods is detailed at length, and parents are advised, "instead of giving fatherly lectures on tobacco and alcohol, to lead their sons out into the woodshed when they reach the age of puberty and tell them how to take care of themselves after coitus." The writer must have had in mind the "late revered father" of the gonosan testimonial, who had "frequently used the drug with benefit." There seems to be a tendency in India among clever and ambitious medical graduates to publish compilations of which this is an example. They reflect credit on their diligence in reading, good memory, and power of orderly exposition. They are of the nature of "cribs," and may to some extent be useful; but time and talents would be much more profitably employed in the study of disease on scientific and rational lines, and the publication of the results of patient and prolonged research.

Rapid advances in medicine and surgery made in recent years call for frequent revision of manuals of treatment. The book now before us, *Die Therapie an der Berliner Universitäts Kliniken*,[4] has reached a fifth edition within eight years. Its aim is to give a clear and succinct account of the methods of treatment adopted in the various clinical departments in the University of Berlin. The whole of medicine and surgery, including mental diseases, is dealt with in twelve sections, each of which has been written by members of the staff of the various special departments in the university clinics. In the scheme of arrangement, each section on medicine, diseases of children, orthopaedic surgery, and so forth, is self-contained, the diseases in each being arranged in alphabetical order. In this way the editor has most successfully avoided unnecessary overlapping. To deal fully with the treatment of all medical and surgical conditions, including an appendix on poisons and another on the Ehrlich-Hata "606" treatment of syphilis, in a book of 700 pages is manifestly impossible. The authors have had to confine themselves strictly to a statement of various forms of treatment employed in their departments, without saying much about why or when one method may be preferable to another. Methods of diagnosis are absolutely excluded from the scheme. The task set before the authors has been admirably carried out, and the editor and printer are to be congratulated on the clear arrangement of the book and the excellence of the index. The usefulness of the book is diminished by its extreme condensation. It might serve as a useful summary for a student wishing to revise his work rapidly before an examination, but the practitioner of experience would rarely consult it in cases of real difficulty.

We have indicated in previous issues the value of the late Rakhaldas Ghosh's *Treatise on Materia Medica and Therapeutics*[5] as a compendious and accurate exposition of pharmacy and pharmacology admirably adapted for both instruction and reference. A fourth edition of this work has recently been issued, thoroughly revised by Lieutenant-Colonel J. L. Calvert, I.M.S., Professor of Materia Medica in the Calcutta Medical College, assisted by the author's son, B. N. Ghosh, L.M.S. (Calcutta University). The original plan and size of the book have been preserved, and the alterations which, on comparison with previous editions, have been made are such as to exclude redundant or obsolete material and to introduce subjects which in the advance of the science of medicine have been considered deserving of record. These alterations have been carried out with judgement and care, and the work as revised fully maintains its character as a handy and convenient textbook whose contents are capable of easy reference.

A pocket-book capable of containing an adequate account of medical, surgical, and special treatment within its covers would require a very large pocket, but Dr. Leftwich has succeeded in producing within ordinary pocketable limits, not indeed an adequate, but nevertheless a very useful, account[6] giving under appropriate headings a reference to the best lines to follow in dealing with most recognized ailments. As a companion to a busy man who only wants to be reminded of orthodox practice or to learn the latest methods of dealing with unusual cases, the little book should be welcome. It is divided into three parts, of which the first supplies some shrewd observations on treatment in general and then enters into useful details as to the various means of treatment apart from drugs. All the information given is concise and to the point, and gives evidence of strong common sense combined with practical experience. The more modern methods of treatment, such as electricity in its various forms, vibratory massage, serum, and vaccine treatment, and the use of hypnotic suggestion, are described at somewhat greater length. The second part of the book deals with the treatment of each disease, and is arranged in alphabetical and numbered order. The essentials appear, by testing the work under various headings, to be well given, and with just sufficient fullness to enable treatment in any case of doubt to be started on the right lines. We can, therefore, cordially commend the book as being a trustworthy guide, well up to date as regards recent methods and theories, and, at the same time, as a useful reminder of all that is best in routine practice.

To those whose minds work on the therapeutic lines of one disease, one drug, and whose only difficulty in treatment is in the labelling of the particular disease, the rest being merely an affair of consulting an index, a book such as this brochure of Professor Oddi's, *La Biotrofina e le sue Virtù Terapeutiche: La Formioplastina*,[7] is a veritable stumbling-block. For here, it is a case of one drug, many diseases; indeed, the list gives cause for thought, for it ranges from tuberculosis to varicose veins, curing in the journey syphilis, pneumonia, infective diseases, marasmus, diphtheria, etc. The drugs which are to work this marvel are biotrophin and formioplastin, and the active principle is formic acid; this, in conjunction with the oxygen of the organism is said to be the active agency in inducing those changes which not only stimulate the growth of cells, but initiate all those processes whereby the body defends itself against the invasion of germs. A good deal is said on these lines about the cancer microbe, but no definite description of this microbe is given. A certain number of clinical records are given, and carry just as much or just as little conviction as the reader chooses.

DISEASES OF THE COLON AND APPENDIX.

Mr. Lockhart Mummery has expanded his Jacksonian Essay for the year 1909 into a very serviceable manual of *Diseases of the Colon and their Surgical Treatment*.[8] The early chapters deal with anatomy, physiology, morbid physiology, and bacteriology. They give a satisfactory summary of recent work. The section on methods of diagnosis naturally deals with sigmoidoscopic examination, and it is noteworthy that the claims made for the instrument, even in experienced hands, are not quite so extravagant as some that have been put forward elsewhere. Radiographic examination of the colon after bismuth "meals" or injections is discussed and its limitations indicated. [Hardly enough stress is laid on examination of the dejecta, upon the difficulties surrounding the detection of small quantities of blood, and the demonstration of its bowel origin. Hirschsprung's disease is well

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[4] *Die Therapie an der Berliner Universitäts Kliniken*. By Dr. Julius Croner. Fifth edition. Berlin and Vienna: Urban and Schwarzenberg. 1911. (Cr. 8vo, pp. 738. M.12.)

[5] *Treatise on Materia Medica and Therapeutics, including Pharmacy, Dispensing, Pharmacology, and Administration of Drugs*. By late Rakhaldas Ghosh, L.M.S. (Calcutta University). Edited by J. L. Calvert, M.B.Lond., M.R.C.P.Lond., Lieutenant-Colonel, I.M.S. Fourth edition. 1910. Calcutta: Hilton and Co. (742 pp., 8vo. 7s. 6d.)

[6] *A Pocket-book of Treatment*. By Ralph Winnington Leftwich, M.D., late Assistant Physician to the East London Children's Hospital. London: Edward Arnold. 1911. (Foolscap 8vo, pp. 348. 7s. 6d. net.)

[7] *La Biotrofina e le sue Virtù Terapeutiche: La Formioplastina nelle Malattie acute da Infezione e nelle Cachessie maligne (Tubercolosi-cancro-sifilide)*. By Professor R. Oddi. Pescia: E. Nucci, 1909. (Post 8vo, pp. 215. L.4.)

[8] *Diseases of the Colon and their Surgical Treatment*. By P. Lockhart Mummery, F.R.C.S. Bristol: John Wright and Sons. 1910. (Demy 8vo, pp. 322, plates 5, illus. 88. 10s.)

described. It is worth remembering that the cases treated by resection have done better than those by colostomy, and as even then the success is not very great, it is also worth considering whether Mr. Mummery's trial case of an appendicostomy to facilitate treatment of the constipation factor by lavage, is not the best operation, at any rate as a preliminary. The diagnosis of adhesions and kinking of the colon and of the various forms of pericolitis is given at considerable length, but the author's reluctance to advise an exploratory laparotomy seems hardly justified by the prospects of diagnosis even with all the resources he indicates. By all means avoid light-hearted operating on the least provocation, but when in doubt as to the nature of a colonic obstruction, surely it is consulting the best interests of the patient to "look and see" at the earliest opportunity. Most surgeons are now familiar with enterospasm, and many have found belladonna of no avail; the cases associated with deficient thyroid do not yield to thyroid medication, and on the other hand some at least do yield to his favourite operation of appendicostomy. The chapters on colitis, membranous and ulcerative, are full of good sense and sound advice as to treatment. The problems connected with cancer of the colon are considered in the light of such recent work as that published in the memorial volume of the late Mr. Barnard, and illustrated by many cases from personal experience. A closing chapter deals with various operations on the colon. Mr. Mummery speaks two or three times of "valvulae conniventes" in the colon; it is a trifling slip and one that will no doubt be corrected in the next edition, which will soon be called for if this unpretentious little book gets its deserts.

Mr. W. H. BATTLE and Mr. E. M. CORNER have published a new edition of their textbook entitled *Surgery of the Diseases of the Appendix*.[9] The book has undergone many alterations, more in the direction of additions than of changes in the principles of treatment enunciated in the earlier work. These have definitely increased its value as a clinical handbook, and a number of new illustrations contribute a large share to the improvement. The authors also discuss more fully the etiology of appendicitis, and are inclined to attribute some of its modern increase to the use of milled flour, on evidence for which we must refer our readers to the text. The most interesting new chapter is that on the early operation and its place in the treatment of appendicitis. The statistics given of operations within forty-eight hours show a surprisingly high mortality, but, as the authors remark, into this class come the cases in which early operation is a matter of urgency, owing to the ultra-acute type of the disease. Taking all facts into consideration, they urge that operations at the beginning of an attack should be advised in first attacks, instead of operation in the quiet interval after the attack; the mortality is almost *nil*, if an early operation is interpreted to mean within twelve hours after the onset. The attack is cut short and time and expense are saved. We believe that statistics would be found even more favourable to this view than those given if the experiences of other competent surgeons throughout the country were collected. Another chapter of great interest is that on the peculiarities of appendicitis at different periods of life. Of particular importance we consider is their definite statement that the disease as it occurs in children usually runs such a course that no delay in undertaking operative treatment should be countenanced. There can be no question that the disease is to be feared in children much more than in adults, and a definite recommendation to take all possible measures to prevent delay in operation is therefore justified. A valuable clinical chapter is that on the diagnosis of iliac tumours. A great variety of conditions in the iliac fossa may simulate appendicitis, and the authors give an admirable review of the differential diagnosis. As already stated, the main features of the book are unaltered. It is least satisfactory where it touches on the pathology of the affections of the appendix, but as it purports to be a practical contribution to the surgery of the subject it must be held to achieve its object successfully.

[9] *Surgery of the Diseases of the Appendix*. By W. H. Battle, F.R.C.S., and E. M. Corner, M.A., M.B., M.C., F.R.C.S. London: Constable. 1910. Second edition. (Med. 8vo, pp. 291; 100 illustrations, 10s. 6d.)

NOTES ON BOOKS.

IN an interesting report[10] on pernicious tertian fever in Bombay to the Principal of the Grant Medical College, Dr. N. F. SURVEYOR refers to the prevalence in Bombay during the years 1908 and 1909 of a peculiarly malignant type of tertian malarial fever. The patients were often moribund or comatose when admitted to the hospital, but in spite of their grave condition there was in many cases no fever, while the spleen was not enlarged. The blood contained rings and crescents, but not in large numbers. Treatment by injection of quinine in 10-grain doses caused rapid disappearance of the rings, but the crescents were little affected and disappeared but slowly, in one case lasting over two months. Picric acid in doses of 2 grains by the mouth, or picrate of soda hypodermically, appeared to have more effect on this form of the parasite, but has the disadvantage of staining the patient, temporarily, yellow. He describes fully his method of preparing the solutions of quinine and picrate of soda for hypodermic use, and his statistics bear out his opinion, as expressed above, of their relative value. He believes, moreover, that the absence of splenic enlargement is an unfavourable element in these cases, as the spleen is the battle-field where the chief destruction of the malarial parasite takes place, and the enlargement of this organ is a protective response on the part of the organism to the parasitic attack.

[10] Report on the Bacteriological and General Research Work, with some Observations on Malaria in Relation to Splenic Enlargement and the Treatment of the Crescentic Stage. By Dr. N. F. Surveyor, M.A., M.D.Bom., M.R.C.P.Lond., Professor of Bacteriology, Grant Medical College, and Honorary Physician, Jamsetjee Jeejeebhoy Hospital, Bombay. Printed at the Government Central Press. 1911.

MEDICAL AND SURGICAL APPLIANCES.

Tongue Suture Guard.

MR. E. STANMORE BISHOP, F.R.C.S. (Manchester) writes: Any surgeon who has had occasion to perform certain operations upon the mouth, and especially removal of the tongue, must have been faced with one serious difficulty—a difficulty not during the actual operation, but following it. Unless the base of the tongue is kept forward for some days, there is a serious danger that it may fall backwards over the epiglottis, and respiration become seriously embarrassed, if not imperilled. To avoid this it is the custom to pass silk sutures, one on each side through the base, which being left long, are brought out of the mouth and knotted over the ears. These sutures after a short time act as a string saw over the oral commissures, and produce great irritation at these points; they may even, if left long enough, cause slight ulceration of the commissures, and thereby much discomfort to the patient during the time they need to remain. In order to obviate this, most surgeons pass these threads through rubber tubes, which project somewhat both inside and outside the mouth. These tubes certainly obviate the "string saw" action, but it is very difficult to retain them at the point where they are required unless ceaselessly watched. They slip along the retaining threads, and, therefore, are often entirely inside or outside the mouth. In either case they cease to be a protection to the commissures, and should they slip inside may add, by their presence, considerably to the patient's discomfort. A reference to instrument catalogues fails to discover any alternative appliance, and therefore I have designed these mouth clips, which fit over the commissure on each side, and permit the threads to pass through a hole in the solid base which projects slightly between the lips. These cannot slip either into or out of the mouth. They have been made for me by Messrs. Weiss, who have admirably seized their intention. Though intended for the average thickness of lip, since they are made of celluloid, after steeping in boiling water, they can be moulded to any size of lip. It is, however, absolutely necessary that during their use, no light might be permitted near the patient's mouth, since, should they ignite, the lips might be severely burned before they could be removed.

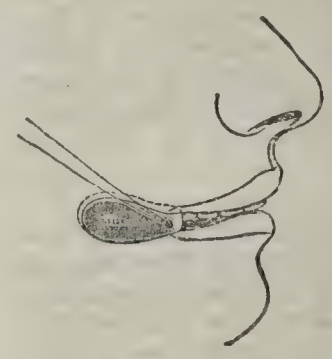

DR. PETER HUME MCLAREN, a former President of the Royal College of Surgeons of Edinburgh, who died on May 20th, aged 74, left personal estate in the United Kingdom valued at £62,871.

Introductory Address

ON

RESEARCH IN MEDICINE AND WOMEN IN RESEARCH.

Delivered at the London School of Medicine for Women

By SIR HENRY T. BUTLIN, Bart., D.C.L., LL.D., P.R.C.S.,

consulting surgeon to st. bartholomew's hospital.

Ladies and Gentlemen,—I imagine that an Introductory Address a century ago afforded the hospital staff the opportunity of welcoming the new students and of giving them some idea of the scope and nature of the work which lay before them. And I have no doubt that the orator did sometimes tell the young men that the profession they sought to enter was a great and noble profession, and of an interest sufficient in itself to repay them for their labours. A hundred years ago there was ample reason for the address, for, once admitted to the school, the student was left much to his own resources.

In these days the Introductory Address needs justification. What with students' numbers of the journals, what with resident colleges, wardens, tutors, and demonstrators, the student has no need of an address of welcome or of warning or of general advice. My own school (St. Bartholomew's) recognized this many years ago and abolished the Introductory Address; it has never regretted that it did so. But the custom still exists in most of the schools, and the orator, not being tied to the one subject, selects any subject which pleases him, usually without any reference to the opening of the winter session, or to the new students, except for a few words at the beginning or end of his address. In truth, it is difficult to find use or excuse for the Introductory Address in this twentieth century—except at the School of Medicine for Women, where the conditions are wholly different. The entrance of women into the medical profession, the foundation of this school, the success of women at examinations and in the honours lists, the story of the pioneers who fought so bravely, the story of the positions which women have captured, the financial success or otherwise of the movement, the lines of practice which are likely to open to them, and a number of other subjects, all of which might perhaps be treated at another place or at another time, are nevertheless much more fitly treated here. The story of the struggle cannot be too often told to the students of the school. Nay, more, it is scarcely over yet, and those who may have to fight have need to be heartened up to wage the battle bravely. When I was invited to deliver the address I therefore accepted gladly—first, because I was very proud of the compliment; secondly, because your school, individually and collectively, has been more than kind to me; thirdly, because, in the language of the day, I thought I had a "soft job" in hand. It seemed as if nothing could be easier than to select any one of the subjects I have mentioned and deliver an interesting address upon it, and I set the whole matter aside much longer than I ought to have done, for I have been heavily occupied this year. Finally, before deciding on the subject, I thought I would look through the addresses of the last fifteen or twenty years to see what had been done. Imagine my dismay when I discovered that every conceivable and appropriate subject had been dealt with, and by persons who knew far more about each one of them than I could ever know. They were experts in them. They had borne a part in the fray. They had fought with purse and pen, if not with sword. And they had naturally been listened to, when they thought fit to speak, with that profound attention which the hero commands when he describes his own experience and offers advice and counsel which are founded on it.

When I discovered the trap into which I had fallen I was very sad. I had so earnestly desired to deliver an address which should be worthy of you—at least to offer you my very best. And it seemed that I had really nothing to offer. But about this time I attended a committee at the Lister Institute of Preventive Medicine. Visiting the laboratories after the meeting, I saw one or two women at work, and learnt that they were engaged in research, and I wondered whether they were good at it. I had previously been introduced to a woman worker in the museum of the British Medical Association last year in London, and was pleased to find that some of the most beautiful microscopical exhibits had been prepared by her. The sight of these ladies interested me, and I thought I would find out whether medical research has been embraced by women to any large extent and whether they have succeeded in it or are likely to succeed in it. I am going to tell you what I have learnt, but the information is very scanty and would not fill or justify an address were it not that I am anxious to direct the attention of medical women, both qualified and unqualified, to research in medicine, and that to do so will give me an opportunity of making some general remarks upon research in medicine.

In my young days we spoke of such work as "original work," and very little encouragement was shown to it. At the present time it goes by the name of "research," and is very much in evidence and receives considerable support. The object of research is to discover something which was not previously known, or to correct or confirm some previous observations. There are two methods of research—the one by *Observation*, the other by *Experiment*. In medical research the method by Observation is much out of fashion; it is slow and may be often interrupted for want of material. The imperfection of the material is often very disappointing. The method by Experiment (not by any means limited to experiments on animals), on the other hand, is the fashion of the day; it is quicker, less liable to be interrupted, and may yield brilliant results in a very short space of time. It is, therefore, naturally beloved of all young research workers. But it is a two-edged weapon, and needs to be used, and its results to be accepted, with great caution. Mr. Hunter, who was a confirmed and most ingenious experimenter, said in the course of his evidence at the trial of Captain Donellan: "I apprehend a great deal depends upon the mode of experiment; no man is fit to make one but those who have made many and paid attention to all the circumstances that relate to experiments."[1]

I should not trouble you with these remarks on the two methods if the young workers were the only persons who preferred experiment to observation. But it is quite otherwise. Within the last few years I was associated with Mr. Shattock, whom you know as a distinguished pathologist, in the selection of a pathologist who would be expected to engage in research for a well-known cancer institution. Mr. Shattock was insistent that the pathologist should be an experimenter, and gave me to understand that, in his opinion, clinical pathology was played out and that nothing more was to be learnt from it, and that our knowledge in the future must be gained by experimental investigation.

Let me give you my experience of these two methods in the investigation of cancer. Many years ago there was great confusion in the minds of pathologists and surgeons regarding the differences and resemblances between sarcoma and carcinoma. I made a diligent study of them by observation of the cases at my hospital, the cases at other hospitals, and the cases recorded in the literature of many countries. The research was very long, very tedious, and very disappointing by reason of the small number of cases which were sufficiently recorded to be available for use. The results formed the subject of the Erasmus Wilson Lectures thirty years ago, and proved that the life-history of the varieties of malignant disease does not depend merely on their structure, but upon their seat of origin, and that the varieties of malignant disease of every part of the body must be separately studied if they are to be treated with success. Observations of a similar kind have been made by other clinical pathologists, with the result that the most successful operations for cancer at the present time are based on the results of clinical pathology. For no part of the body has this been done with greater success than for the breast. Charles Moore and Mitchell Banks urged the importance of very

[1] Palmer's *Works of John Hunter*, vol. i, p. 195. London, 1837.

large operations many years ago, but surgeons fought shy of them because they lacked that which was supplied many years later by Heidenhain and Stiles—a scientific basis. Recently, Handley has again added valuable information on the same subject, founded on clinical and microscopical observation.

I have never engaged, personally, in experimental investigation on account of the difficulty of doing so thirty years ago. But I have been associated with the Imperial Cancer Research, and in touch with its staff from the foundation of the Research, and have been a member of the Publication Committee of all its scientific reports. It has done nothing on the lines in which observation has been so useful. It has not unfolded the life-history of a single variety of cancer, so that we can base our operations on the information. It has not even discovered whether spontaneous cancer of a particular part of the body in the rat or mouse runs a similar course to spontaneous cancer of the same part of the body in the human subject. These problems are not suited for experimental investigation: they are determined by observation. On the other hand, within the space of eight or ten years it has definitely settled a matter of dispute which was discussed and fought long before I became a student, perhaps for centuries. It has proved, beyond the possibility of doubt, that cancer in its early stages is a local, not a constitutional or blood disease. It is impossible to overrate the value of this knowledge to the surgeon. So long as he believed that cancer is in the blood and that an operation only removes the local manifestation of it, he was hopeless of the results of his operations, and removed the tumour solely to afford the patient temporary relief. Now he goes to his operation filled with hope that, if the disease is limited and in an early stage and his operation is well designed and skilfully carried out, it may be quite successful. Thus, it will be seen that the two methods, *observation* and *experiment*, have their special values in relation to cancer, that each is supplementary to the other, and that neither is fitted to take the place of the other.

It will be noticed that I have dwelt on the use to which these researches have been put in the treatment of cancer and of the value of them to human beings. You may fairly think these ought to be the immediate objects of all research in medicine, and that researches which are not likely to be immediately useful should be discouraged. But while I freely admit that my sympathy is in favour of this view, I am bound also to admit that it is wholly erroneous. I have fought this question on the platform at the annual meeting of the British Medical Association on several occasions and referred to it again in July of last year, and I shall not repeat the arguments which I used or the examples to which I referred. I would merely say that the investigator should be solely interested in discovering the truth, and that his attention should not be diverted and his judgement warped by the desire that his research should terminate in a particular manner because that might seem likely to be more useful to medicine and surgery. It is notorious that some of the researches which have seemed to fulfil no useful purpose have yielded the most valuable practical results, while other researches, pursued with a useful end in view, have furnished nothing good. If a utilitarian value were considered essential to research many young investigators who have later produced the most brilliant work would have been choked off and discouraged, so that they might never have persevered in original research. I need only give two illustrious examples—Pasteur and Lister.[2] Their first researches had no utilitarian object. What a lamentable thing it would have been if they had been discouraged from research on that account! The great thing is that young people who are fitted to do so should be encouraged to search. What they search for is of comparatively small consequence. On the other hand, I would not have it supposed that a utilitarian research is derogatory to the dignity of the worker or necessarily damages his *morale*. Sir Humphry Davy deliberately worked out the problem of coal-gas and explosions, and invented a safety-lamp at the urgent request of the coal-owners. Professor Pasteur investigated the nature of the Pébrine disease of silkworms at the request of M. Dumas, and moved by pity at the wretched condition into which the silkworm industry had fallen. He discovered that it depended on a parasitic protozoon, and devised a successful method of stamping it out.[3]

Just a few words on the cost of research. Dr. Leonard Hill[4] pointed out some years ago what great results could be achieved by an able worker with the simplest materials and at the smallest cost, and that fine laboratories and costly apparatus are not essential to research in medicine. All this is very true, just as it is true that David killed Goliath with a stone cunningly hurled from a sling. I do not think David at the present day would sally forth with a sling to oppose a foreign host. And our profession is continually urging on the wealthy public the financial claims of research. In order to justify our demands let me give you two concrete illustrations of the cost which attends certain researches. The Imperial Cancer Research is provided with laboratory accommodation, free of rent, by the two Royal Colleges. I think we also provide heat and light and water. But the annual cost of the research, including salaries and wages, amounts to little short of £6,000.

A rich man of business who is interested in acoustics in relation to the human ear found that his views could not be proved unless he possessed accurate measurements of the dimensions of the cochlear passages of the ear, and that no such measurements have been recorded. In the course of last summer he wrote to ask me whether the Royal College of Surgeons of England would administer a certain sum of money which he was prepared to supply for the research, and referred me to our conservator, Professor Keith, for information on the subject. Professor Keith told me it was quite a proper subject for research, and advised that my old pupil, Mr. Sydney Scott, should superintend and direct it. I was disposed to recommend the Council of the College to accept the trust. But, before doing so, I thought I should like to know whether the sum proposed by the gentleman was likely to cover the cost. If it would not, we should then be obliged to abandon the research without having obtained any tangible result, or the College might have to complete it at its own proper cost. It was well I inquired. Mr. Scott made a rough estimate for me. The material would really cost nothing. But the research involved the cutting of an immense number of sections of the bone by an expert workman, and Mr. Scott only knew one workman in London whom he would care to entrust with the work. If a single section went wrong, all the other sections made from that bone might be useless. Every fourth section must be drawn to scale. Moulds would have to be made, and this could be done only by an expert. Finally, an exact model, mathematically correct, would be constructed. Mr. Scott estimated that this research, which I had thought quite simple, might require one year or two years to carry through, and that the cost would not be likely to be less than £1,000.

In order to determine whether women are likely to be useful and successful in research it is necessary to consider the qualities which should be looked for in an investigator—I mean, in an investigator who has the sole charge of a research, even though it be carried out in a laboratory where other persons are at work. I am not speaking of an expert assistant or even of a joint investigator.

For (1) experimental research (including experiments on animals) I should set down: dexterity and neatness in manipulation; a knowledge, not only of the principles, but of the practice of aseptic and antiseptic surgery; and certainly humanity, so that the experiments which are necessary should be performed with as little suffering to the animals as possible.

For (2) every kind of research I should look for personal

[2] The first researches of Pasteur were on the crystallization of tartaric acid and its salts. The first researches of Lister were on the contractile tissue of the iris and on the muscular tissue of the skin.

[3] *Histoire d'un savant par un ignorant*. 5me édition. Paris: J. Hetzel et Comp. P. 173. "Le Sénat fut saisi d'une pétition désolée, signée de trois mille six cents maires, conseillers municipaux et propriétaires fonciers des départements séricicoles. La grande autorité scientifique de M. Dumas, sa connaissance de l'industrie de la soie, sa sympathie pour les souffrances d'un des départements les plus frappés, —le Gard, son pays natal—tout contribua à le faire nommer rapporteur de la commission. Pendant qu'il rédigeait son rapport, l'idée lui vint d'engager M. Pasteur à se livrer à des recherches pour conjurer l'épidémie dont personne ne pouvait triompher. M. Pasteur commença par décliner cette offre."

[4] BRITISH MEDICAL JOURNAL, 1907, vol. i, p. 960. "Men of science are not made by institutes, money, or apparatus. Helmholtz did his best work on £120 a year, and modelled his inventions out of spectacle lenses and his wife's sewing gear. Faraday did his epoch-making work with bits of wood, glass, and wire. Claude Bernard filled his pupils with enthusiasm in a laboratory little better than a cellar."

leanliness; cleanliness of habit; industry, which must be xtended to mean continued industry; patience, and a rge stock of it; perseverance, and a determination to ursue the research to the end; extreme care in observa- on and strict attention to detail; careful recording of bservations, which should be done at the earliest pos- ble moment; thorough belief in the importance of the rticular research, amounting even to enthusiasm; nscientiousness.

Many of these desirable qualities will at once commend emselves to you: they need no more than enumeration. ut you may wonder why I have set down others of them. r instance, what has cleanliness of habit to do with search provided the investigator is cleanly when at ork? Well, preserve me from investigators of careless bits. How many years ago—not very many—is it since or T—— slew himself, a servant in his mother's house, d a laboratory attendant owing to his slovenly habits? was a distinguished classic at his university, had been coach there, entered medicine when he was nearer 30 an 20, qualified with ease, and then settled down to ake a reputation. We all liked him, and wished him ll, and when he desired to engage in research encourage- nt was given him. Unhappily, nothing would do but must study the bacillus of typhoid, the last thing which ould have been entrusted to so slovenly a person and so msy a manipulator. He used to carry his cultivations bacilli in his lunch basket—save the mark!—with the astrous finish I have described.

Again, what has conscientiousness to do with research more than it has to do with any other of the affairs ife? Do I mean that an investigator should be honest not appropriate or use unfairly the work of other estigators? Oh, no! I assume such honesty as this every investigator. The conscientiousness of which eak is of the worker to himself and his own work. this way: A worker has been engaged in a research ing many months. He has made many experiments observations, and they have all gone to prove the rectness of the result at which he has arrived. But e is still one experiment which it would be well to He tries it, and curiously it does not turn out quite t. He put two and two together and they did not e four. And every one agrees with *The Professor on Case*[5] that two and two do make four, "not *some* s but *all* the time." Now is the moment when his cientiousness should come into play. The temptation erwhelming to explain the failure by some fault in nique, and to set the result of that experiment on one rather than to repeat it again and again as he ought inly to have done. Had he done so it would again failed, and he would have learnt in the end, not two and two do not make four, but that one of his was not a two, and he would have avoided publishing result of his research which was afterwards dis- red to be incorrect by a more careful and conscien- worker. It must always be borne in mind that the hief of a faulty result does not end with that research, nay be the starting point of a long series of equally y results.

w, do women possess these qualities? I think so; of them, indeed, in a higher degree than men do. anity, dexterity in manipulation, cleanly habits, con- d industry, patience, perseverance, attention to detail— e truly feminine qualities. Indeed, there is only one on which I am not certain, and I express myself it almost reluctantly, because my doubts are founded formation regarding the ways of women which it is of me, perhaps, to use. There is nothing more tant in relation to research than the accurate record- observations and experiments. The making of these ls is very tedious: it is often inconvenient to make at the moment, and yet many of them must be made if they are to be relied on. Nothing is more won- , to my mind, than the extraordinary care which is d to this part of their work by the greatest igators. Read Lord Lister's *Collected Papers*,[6] you will see that I am right. Tyndall tells Faraday left private notes of more than 16,000 experimental researches.[7] Many men fail in this respect, largely from lack of patience. If women fail, I judge that it will largely be from lack of training. It has been told me that the lady secretaries of committees and business meetings are often astoundingly inaccurate in their minutes, that their record of those present cannot be relied on, that resolutions which were passed are not properly worded in the report, and I have even heard of minutes which recorded the wrong person in the chair; and what surprised me more than any other thing was to learn that when these inaccuracies are pointed out the secretary considers herself the aggrieved person. I am not speaking of uneducated persons, but of highly trained and even scientific women, and I wonder whether such people could ever be trusted to conduct and record an investigation. We men take these matters more seriously. Such lapses are not tolerated among us. It is of no consequence whether a secretary is paid or unpaid; he may be indolent and make very meagre records. But what he does record must be accurately recorded, and the only way to do so is to write the minutes at the time or make ample notes from which they can afterwards be written up. We have been trained in this kind of work for centuries, and I expect it has become a part of the nature of men.

Seeing the fitness of women for research, I hoped to find a good many of them at work. I can scarcely say it is so. The British Medical Association, as many of you know, awards about £300 a year in various sums to assist research workers to buy material and apparatus, but not for maintenance. The first award was made to a woman (Miss Julia Brinck) in 1890. In the twenty years since that time there have been awards to only three other women workers, and the amount of money which has been awarded to women has been £65 out of probably £6,000 to £7,000 total award. I do not think this is the fault of the Association, for it has always been very well disposed towards women workers. Only once has a research scholarship of the Association been held by a woman (Miss Janet Lane-Claypon in 1904), and she only held it for a year. I think because she was not qualified. But I am told that her work was so good that the committee expressed the wish that she would apply again as soon as the necessary conditions had been fulfilled.

The Brown Scholarship at Cambridge (for research) has been once held by a woman. And at the present time three of the Beit Fellowships are held by women. Apart from the Mabel Webb and Helen Prideaux Scholarships, which belong to your own school, and which are not sufficiently well endowed to maintain the investigator, and which can, therefore, only claim part-time work, very few research scholarships which are open to men and women have been held by women. On the other hand, there are very clear indications that the attention of women is being directed to research, and there is proof that committees and trustees are disposed to consider their claims favourably. The Brown Scholarship was awarded to a woman only as recently as 1909. Twelve women applied for Beit Fellowships, and three of them have been appointed —one in 1910, the other two this year. The Worshipful Company of Grocers has quite recently permitted women to apply for its two research scholarships (each worth £300 per annum). One woman has already applied, but her application did not fulfil the essential conditions. I trust this address may direct the attention of women still further towards research work.

I have no doubt I shall be asked whether I believe that women will be found competent for research, whether they have the breadth of mind necessary for such work, and whether they will ever be able to do more than carry out researches which have been designed for them and in which they are directed. Indeed, I do not know. They have done so many things in the last thirty years that I never thought they could do that I would not on any account venture to predict what they will accomplish in research. But I should certainly like to see them try.

Professor on the Case, Jacques Futrelle, p. 25 (T. Nelson and

Collected Papers of Joseph, Baron Lister. Oxford, 1909.

[7] *Faraday as a Discoverer*. New edition, London, 1870, p. 182. "His mode of keeping accounts excited the admiration of the managing board of this institution (the Royal Institution). And his science was similarly ordered. In his experimental researches he numbered every paragraph and welded their various parts together by incessant reference. His private notes of the experimental researches, which are happily preserved, are similarly numbered; their last paragraph bears the figure 16,041."

Introductory Address

ON

LUCIDITY.

DELIVERED AT

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL

BY

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PRINCIPAL OF THE UNIVERSITY OF LONDON.

SOME of the most difficult problems in education are those connected with professional training, and as time goes on these do not tend, I fear, to become more easy.

The requirements of the professions become every year more exacting; if the student is to get to work on the business of life before his grey hairs appear, he is driven to begin his professional training earlier, and to compress more and more into the few years at his disposal. And so it becomes increasingly difficult to secure in addition that general education which every one knows to be so desirable, that introduction to the world of literature, science, and art, which ought to be more useful, perhaps, to the medical man than to the member of almost any profession.

I confess that up to the present time medical men have held their own in a marvellous manner as students and exponents of all that makes up general culture, and that, judged at any rate by the standard of their leading men, they have managed to keep their wider interests and activities flourishing and fruitful, in spite of the exacting calls of a strenuous profession, and the years of very special study by which it has to be preceded.

If I may quote only one example of local significance, the annual exhibition of paintings by the St. George's Hospital staff used to give abundant evidence that even within the walls of a single hospital quite a number of accomplished physicians and surgeons may prove themselves to be equally accomplished as artists.

But whether this is to continue, whether the increasing pressure of professional training, and the overcrowded nature of the school curriculum which comes before it, are not going to rob the medical man of some of his literary and artistic interests and powers, I should not venture to predict. The serious business of fighting disease, and the necessity of mastering all the weapons with which the never-ceasing contest is to be waged, are making the medical man's life one of such grim earnest, that he will perhaps have in the future even less opportunities than he has now for those more refined studies and pursuits that presuppose some leisure and freedom of mind.

I wish, however, on the present occasion to draw attention to one feature of modern school and university life that represents a more serious defect, or at any rate the danger of a defect, in the medical profession, and not only in this, but in the other professions; may be, not only in professions, but in all walks of life.

It is, perhaps, not a matter of serious importance to the world at large whether a medical man can give expression to his ideas with the brush or pencil, provided that he be sufficiently learned and accomplished in the exercise of his calling. He is not necessarily a better doctor because he possesses and can exercise this artistic gift; neither is it necessary that he should have the powers of expression of an author or a musician. But there is need of one power that is as important to him, as to others, and that is the ability to express his meaning in the written words of his own language, the great power resulting from mastery over the pen.

I am led to chose this as a subject on which to address you, not merely from the want of anything new to say, but because it has been borne in upon me as a serious matter by the reports of some of our examiners in the University of London. They say that in medical examinations, and even in the M.D. examination, an essay or thesis is often not only devoid of any literary quality or finish, but is badly constructed and difficult to understand.

If this can be so at the end of a man's university career, what must it have been at the beginning, and is there any chance of its becoming any better as he grows older?

I do not think that the fault is entirely that of the candidates themselves. Whatever subjects they may have learnt at preparatory or public schools, the writing of their own language has in general not been one of them; even during their university career the use of the written English language, except as a machine for the taking of notes, or the answering of examination questions, or the bare record of work done, has not formed any regular part of their course.

The proper teaching of English at school is a large and important subject and one on which I do not propose to enter at present; the acquisition of a good literary style is a luxury to which all cannot aspire; to which, indeed, comparatively few can attain; but the power of expressing clearly one's own ideas in one's own language is a thing which ought now to be within reach of every English-speaking man and woman. That so many of us do not possess it, even those who are quite well educated and accomplished persons, is due, I think, not so much to the fact that we have not been properly taught as to the fact that we have not been encouraged to teach ourselves.

To me it has always seemed remarkable that while there are few who fail to express their meaning intelligibly by the spoken word, there are so many who fail to be intelligible when they write. The two faculties seem quite disconnected, and there is apparently nothing which necessarily makes the same person a good speaker and a good writer. Among those who are inarticulate in speech, and little able to convey their meaning in simple straightforward sentences, are to be found some both thoughtful and learned persons to whom writing seems the only proper and easy medium of expression. And on the other hand, every one must be familiar with examples of clever and accomplished speakers who lose all their power of expression when they write. And, more strange still, mastery over another language and ease of diction in a foreign tongue may exist side by side with the inability to write or to speak clearly in the mother tongue. I have known Englishmen who could be trusted to write a more intelligible treatise, possibly even to make a more lucid speech, in Latin than in English. Quite seriously I think some part of the cause is to be sought in the difficulty of our language, and many educated persons get lost in its intricacies just as they get lost in its spelling. One must, of course, realize that the same wealth of vocabulary and variety of construction which make the language difficult, bestow upon it the greatest possibilities in the matter of style. But for this very reason I do not believe that the remedy for the defect of which complaint is made is to be found in the imitation of great authors.

It is often assumed that constant reading and imitation of the great masters of English literature will enable one to acquire a style which is good because it is based upon theirs. John Bright and Professor Tyndall, to mention only two among many, attributed much of their own command of language to the fact that they had early in life been made intimately familiar with the English Bible and with the works of Milton, and that they had maintained their knowledge of these masterpieces of style through life.

But I think it will be found that they had both already, by another process to which I will presently direct your attention, acquired the power of expressing themselves in straightforward English, the one in speaking, the other in writing, at an early stage of their career; and it is to such persons, already so equipped, that the profound and unceasing study of the great authors brings an increasing mastery over the difficulties of the English language.

To introduce a child to the great masters of style with the injunction that he is to learn to copy them, and by so doing to acquire something of their power, is like expecting an artist to acquire the power of expressing himself by nothing but a course of copying in the picture galleries without independent effort. Listening to good music will not make a musician.

Although the systematic study of great authors is usefully pursued at schools, yet the usual methods of teaching English still leave the average boy and girl singularly deficient in the art of saying what they mean on paper now, people like ourselves who have more or less finished our education are not going to get very much more out of it than children, who in these matters are far more ready and apt pupils than ourselves, being, of course, more imitative and quicker to learn.

Except to those who have already acquired in some measure the faculty of expressing themselves *in their own way*, indifferent though that may be, I do not think that the mere study of authors who possess a great style is going to confer upon the ordinary reader any great power to express himself in the manner of those authors.

I am inclined to believe that the attempt to write good English is to many a person an effort that only makes him sink the deeper into the quicksands of unintelligibility.

For think what this effort means. Analyse the style of Ruskin or Stevenson, of Macaulay or Burke, of Pater or De Quincey; how is a reader who has not yet learnt to make himself intelligible to improve matters by imitating the delicate shades of expression, the fine suggestions, the haunting echoes, the persuasive rhythm of their sentences? Any one of us may admire the consummate skill of such authors just as we may admire the workmanship and the art of a painter without being able to paint a stroke ourselves; or still more easily, perhaps, the beautiful creations of a musician although we cannot write a note of music. Before even the young artist who possesses some natural gift can emulate these he must go through a long apprenticeship. And our great authors are artists in words whom it may not even be desirable for us to emulate. For the difference is that, whereas we cannot all be painters and musicians, but must content ourselves with remaining intelligent admirers and critics, we have perforce all to be writers whether we wish it or no, and our writing will be necessarily either good or bad or indifferent.

What, then, is the necessary foundation which I have been so long suggesting without naming, which is to be secured as the basis, before the delicate structure of good style can be firmly erected? It is simply this, that we should think about expressing our own meaning in absolutely clear and intelligible language before we think about the manner in which that language is to be manipulated, or the style in which the meaning is to be conveyed.

To express some thought of one's own in language which cannot be misunderstood, and which makes it quite clear to others is an extremely difficult task; it is one of the things which is least satisfactorily taught at school and at the university; it is one which has been least effectively acquired by most people among all the necessary things that they have to do in life. You have only to read carefully the letters in the newspapers from people who write, both, I presume, because they think they have something to say, and because they think they can write, to be convinced that what I say is no exaggeration. And then think of the thousands of people who do not write to the newspapers—and, in fact, do not write at all if they can help it, because they know that they are not able to do so with any credit to themselves.

One of the best educational exercises possible in the use of the English language is to take one of these letters and analyse it, and show a child, or, for the matter of that, a grown person, how it fails to make its meaning clear—how in some cases the words may have two meanings and in others no meaning at all.

Let me quote a recent example from a daily paper: "It surely should not be possible for an individual to destroy the trade of a town with which he has no connexion other than as the organizer of a society claiming a general right of interference by practically compelling the permanent closing of industries in which there was before his coming no actual dispute or necessity for interference except in virtue of this society's claim." I have purposely chosen a sentence in which there is really nothing wrong except that it is not clear, so that you are obliged to read it at least twice before you can understand what it means.

But this is after all only criticism, and, as I have said, we are condemned to be not only critics but users of words. And so a much better educational exercise is to get your pupil to write something of his own, and to criticize that in the same manner. Only so will he understand the difficulties by practice, and learn to profit by experience. Some of the best learning in the world is done by making mistakes, and in no subject is this method so effective as in the writing of one own's language.

How is the practice of composition actually taught? Set essays are written and corrected, or a subject is prescribed and the pupil's account of it is criticized. But I suspect that the criticisms are more often directed to the wrong use of words, to faults of grammar, to defects of style, than to the question of prime importance—namely, intelligibility. And yet a split infinitive is really a far less important fault than a failure to express one's meaning.

Translation ought, one would think, to be a good exercise, for here an effort is made to interpret the ideas of a foreign author into one's own language; yet translation fails to a large extent, because after all they are the ideas of another person which the pupil is called on to express. And so the result is that more attention is paid to the style and the manner than to the intelligibility, and a generation grows up that has never been called upon to make its own meaning clear to any one.

This result is particularly to be feared, and it is particularly noticeable in professional training. I can assure you that I have recently had appeals, both from young officers in the army themselves and from others on their behalf, asking how and where they are to learn to write clear and intelligible reports. For reports they have to write in the exercise of their profession, and these, if they are not clear, fail, of course, in the whole object and purpose of a report. Too late have such persons found out that they have never learnt how to express themselves in simple and clear language. Surely this is the very thing that should have been learnt in early school days.

And now we hear the same complaint from the examiners of medical candidates.

The difficulty is particularly acute with those who, like yourselves, have received a scientific education. I have actually heard teachers and examiners in scientific subjects say of a pupil or examinee that he evidently understands what he is trying to say, but is merely unable to express his meaning. And then they have given him full credit for the knowledge and pardoned him the failure to express it. But surely to be inarticulate on paper is as bad as to be inarticulate in speech. And I can never believe that the man whose ideas are clear can be permanently incapacitated from expressing those ideas intelligibly with his pen. If, however, our scientific teachers and examiners do not insist upon the clear expression of scientific statements which ought more than anything to lend themselves to clear exposition, perhaps the fault is to be laid to their charge.

The quality which I believe we have to seek, one which is so little fostered by our present system of teaching English, is, to put it in a single word, Lucidity.

Among the great writers those who impress us most, both by what they have to say and by the manner in which they say it, are those who possess this admirable quality of lucidity. As two pre-eminent examples among the modern I may mention Cardinal Newman and Charles Darwin; in very different ways; for in the one it amounts to the highest perfection of style, while in the other it appears to involve rather an absence of style. Newman's limpid passages, with all their grace, possess the very essence of clear and lucid exposition; analyse any one of these passages and it appears to exhibit nothing but the most direct simplicity. If this be art it is the art of a Duse, which is almost indistinguishable from unaffected nature.

He who possesses such lucidity may graft upon it the style of Milton, or Gibbon, or Ruskin, or Burke, and not much will be either gained or lost; of course a beautiful style confers an additional charm upon all writing, and a page of Newman is better reading than a page of Darwin.

I am aware that lucidity is a word which was originally applied to the mind, and only subsequently to literary expression. When the screen was lifted temporarily from the clouded mind, and the sunshine of reason returned, it was said of the patient in the old legal phraseology: "Non est compos mentis sed gaudet lucidis intervallis," and the history of the word is instructive, for it is still the lucidity of mind which has to come before there can be lucidity of expression. There cannot be clear writing without clear thinking; and he who learns to write clearly will in the process learn to think clearly.

Now if I have, up to the present, done little more than deplore the absence of this quality, I do not mean to imply that the only remedy lies in a reformation of our methods of teaching English as school, highly desirable as this may be.

I believe that lucidity of expression is one of those things

which can be acquired without teaching and by learning alone; further, that the only learning necessary is constant practice accompanied by intelligent self-criticism.

We are too apt to be satisfied with the words in which we express ourselves without pausing to think whether they are intelligible.

Take something which you have written and show it to any candid and discerning friend for his criticism, and see whether he does not find in it some flaw that is not at first apparent to yourself. He will tell you the same story as the examiners who look over your thesis: that the words do not say what you mean, and that the expression is in some way or other loose and unintelligible. It is very difficult at first to criticize what we have written ourselves—but the faculty is soon acquired. In ordinary life—since it was not made necessary for us at school—we have so little practice in this useful art. The only occasions when most of us have to weigh our words carefully in order that we may be quite sure that they will not be misunderstood are when we have to compose a telegram or to draft a resolution or an amendment at some meeting; and every one knows how difficult this is. Believe me, the same care is really necessary in anything that we write if it is to stand the test of criticism. The most wholesome experience of all is to have written a book, or an article in a journal, and to see your words staring you in the face in print, and to realize too late how inadequate they are, and that they remain in print to condemn the author for all time.

For the rest, the hasty letter is all that most people have in the way of practice, and the telephone is rapidly making this less and less necessary.

I have said elsewhere that the reason why our grandfathers and grandmothers could express themselves so much better than ourselves is, in my opinion, the fact that they had so much more practice in letter writing, and that the letter was so much more important in their day than in ours. With the disappearance of the long, infrequent, carefully written letter, which would often be criticised at its destination by many eager readers, a great field of literary practice has been removed and has had no successor.

If this be true—and it is the reason why I have been led to believe that the present defect is chiefly due to want of practice—then the remedy is simple: constant practice in careful writing.

It is this which makes most people more ready with their tongues than with their pen; they get more constant practice in speaking than in writing, and they are liable to be constantly called upon to explain themselves if their meaning is not clear. If this check were always ready to be applied to all that is written as to all that is spoken half the difficulty would disappear.

It has always seemed to me that one of the chief reasons why practice is so necessary in both speaking and writing is that the thoughts flow at so different a pace from that of speech or the pen. Many inexperienced speakers are constantly being tripped up in their words in the endeavour to keep pace with their own thoughts, trying to retain a hold upon the swift thought while they are following it in less rapid speech. If this be so with speaking, still more must it be true with writing, where the hand and pen lag behind at a yet greater distance.

I confess that writing has always been, and is even now, a slow, clumsy, and laborious process for getting a permanent record of our swiftly moving and evanescent thoughts, and that there is need of something better. It may be that the phonograph and dictaphone will ultimately make it unnecessary to transcribe in our present slow and laborious fashion; and I for one would welcome any scientific inventions which will make it easier for our recording instruments to keep pace with the mind. But I venture also to believe that for accurate thinking it is not a bad thing to have this drag upon the brain, and that to school the mind to keep pace with the pen is an excellent training for exact thought.

And so I return to my suggestion that, in order to remove this reproach from which the present generation suffers, which attaches particularly to professional students, and not least among them to medical men, we have to exercise ourselves constantly in the practice of lucid thinking by exercising ourselves in the practice of lucid writing. Schools and universities have their debating clubs and societies, in which any one can get valuable practice in speaking and learn by experience to express himself fluently and clearly and suffer for his sins if he does not do so. It is a pity that there are no societies which give a young man precisely the same valuable training in the use of the pen; and if any school or college will introduce a fashion for this sort of thing, I believe that a great public service will be done. There was a time when the magazines were addicted to symposia and induced prominent authors to take part in a written discussion on some topic of general interest: then one could at any rate see how accomplished masters of the art could wield the pen. A better thing would have been for the readers to do it themselves, just as it is a better thing to play cricket and football than merely to look on at cricket and football matches.

Failing this, there is a course which every one may easily pursue, and that is to get in the habit of seeing that every sentence which he is called upon to write is lucid; and the best way of acquiring this faculty is to keep what you have written and read it again in the cold light of reason, and when your mind is not full of the subject as it was when you wrote.

Most of the failures to be lucid are due to the habit of confusing what we think with what we write; and to imagine that because a thing is in the mind it is also on the paper.

It is a common experience that in some respects, and for the minor errors, an author is the worst person to correct his own proofs; he knows what he meant to write, and he actually thinks that it is there, and fails to see the mistake. In the same way, each man is a bad critic of his own writing. This is the reason why I began by suggesting that you should first get a candid friend to be your critic; and, failing him, this is why I suggest that you should read the written page at some time when you are not biassed by thinking of the subject rather than of the manner in which it is expressed.

The worst sinners of all are some of the scientific writers, and it is a standing reproach to science that at this period of its existence it is marred by so many ill-written, ill-constructed, and unintelligible books and papers. It was fortunate that in the earlier days of the great movement in the last century science enjoyed the aid of so many excellent writers. Davy, Faraday, Lyell, Darwin were such clear thinkers that they could not fail to be clear writers; but it was well, also, that somewhat later the public ear was caught by such graceful and skilful writers as Tyndall and Huxley. With them we find lucidity coupled with the graces of style, and since their day there have been many accomplished authors who have managed to make a textbook or an abstruse memoir delightful by their powers of expression. Even a mathematical textbook may charm by its manner—witness those of Dr. Salmon, who was equally accomplished as a mathematician and a theologian; and Clerk Maxwell showed in his little book, *Matter and Motion*, how the most advanced mathematical reasoning can be expressed in the most simple and lucid language. In the same way, was not Gladstone able to invest a Budget speech with a certain literary charm?

Among scientific books it is curiously enough some of the translations which fail most ignominiously in the attempt to be lucid. Let me quote an example from the English translation of a very well known textbook which, in its original language, is quite clear and intelligible:

> The successful scrutiny of the student of Nature reveals itself in finding out that which phenomena, apparently very diverse, have in common, and the results are the more brilliant, as the parallelized phenomena appear at the outset more diverse. The transference of observations from one case to another is naturally at first attended with some uncertainty, but with the repeated corroboration of the experiences in question there follows an ever-growing credibility until this tranference finally attains to the rank of an empirical law of Nature.

I believe this simply means that a law of Nature is exhibited by comparing different natural events and finding what is common to them. The meaning of the sentence is entirely obscured by the introduction of unnecessary words. You will see that the fault here, and in similar instances which might be quoted by the hundred, is that the translator, in the endeavour to make his version sound well, knowing that the sense has been provided by the author and that he is not responsible for that, has even

inverted the perverted maxim of *Alice in Wonderland* and adopted for his guide, "Take care of the sound and the sense will take care of itself."

Rather than incur the danger of falling into such bad habits let us, with Biron in *Love's Labour's Lost*, decide to express ourselves "In russet yeas and honest kersey noes."

In the days of the scientific revival of the nineteenth century, the great expositors who wrote with such admirable lucidity did much to facilitate the introduction of science into ordinary education; for it appeared—as, indeed, was really the case—that the accurate habits of thought encouraged by the study of science found their expression in this clear writing; and this led many people to see that the study of science, like that of philosophy, is an education in clear thinking. But now that much of the scientific writing is so badly expressed there is danger lest the opposite conclusion be drawn, and the impression is conveyed that the studies which lead to such loose writing cannot really be conducive to accurate and clear thought.

Let me, then, in the interests of science in general, and of medical science in particular, if it is to earn the respect of the multitude—in your own interests if you wish to acquire habits of exact thought, and so to become leaders in the advance of medical science—repeat my suggestion that you should by constant practice in everything that you write, by constant and critical inquiry whether its meaning is clear, cultivate the desirable quality of lucidity.

OPENING CEREMONIES AT THE MEDICAL SCHOOLS.

ST. BARTHOLOMEW'S HOSPITAL.

St. Bartholomew's men esteem themselves favoured of the gods in a good many connexions, and they are certainly fortunate when, usually as somewhat senior men, they flock into the famous Great Hall of the hospital for the October gathering of old students. There is a great difference between meeting old friends in some public caravansary and meeting them in a chamber which, vast though its proportions be, is practically the family dining room. The family spirit, in short, pervades the gathering at St. Bartholomew's from beginning to end of the evening. It was attended this year by the presidents of the Royal College of Surgeons and the Royal College of Physicians, the Master of the Society of Apothecaries, the Directors-General of the Medical Department of the Royal Navy, and H.M. Army, the Regius Professor of Medicine at Cambridge, the Master of Downing, the Vice-Chancellor of the University of London, the President of the Midwives Board, and the High Master of St. Paul's.

Mr. Walter Jessop, now Senior Ophthalmic Surgeon of the Hospital, was in the chair, and, in proposing the toast of the evening, said that just thirty years had passed since he had first been present at one of the October gatherings. On that occasion the chair was taken by Sir William Church, and the date—1881—marked what had proved to be the high-water mark of the financial success of the school; for the great repute which the school then enjoyed and which it still strove steadfastly and successfully to retain was the outcome of what was a comparatively simple organization as compared with that existing at the present time. The study of pathology, at that time limited to a weekly summer lecture, now had solely devoted to its service an enormous building and a very large staff, while similarly generous provision had been made for other comparatively new departments of medical science. The expenses of the school had grown correspondingly, and its constantly fluctuating income at times barely afforded a living wage to its greatly enlarged staff. Such a wage ought to be secured, and the committee of the school thought it could be secured if certain steps were taken. There was reason to believe that if there had been any permanently organized body representative of the school, the school might have already benefited by being made the recipient of bequests from old friends, and that it would still benefit in this way if such a body came into existence. It was, therefore, proposed to endeavour to obtain from the patron of the hospital, His Majesty the King, a charter authorizing incorporation of the school. The necessary application would not, however, willingly be made unless it were felt that it had behind it the sympathy and good wishes of the treasurer and almoners of the hospital, and it was not yet known whether these would be forthcoming. He did not think that the plan would affect the hospital unfavourably, for, apart from the fact that its interests and those of the school were inseparably bound up together, those who felt disposed to benefit the school would be likely to desire to benefit the hospital likewise. In the same connexion Mr. Jessop mentioned that the Lawrence family, descendants of one of the greatest surgeons the hospital had ever possessed, had recently brought up the amount of the scholarships maintained by it to £115 a year. The balance of his speech was devoted to reminiscences and to a record of the honours won by the school at examinations and in sports, and to an annotated list of old students of the school and active and consulting members of the staff whom His Majesty the King had recently honoured. The names included those of Sir Henry Butlin, Bart., Sir Anthony Bowlby, Sir Frederic Eve, Sir Frederick Wallis, Sir George Newman, Surgeon-General Lukis, Director-General, I.M.S., and Colonel Raglan Thomas, R.A.M.C. (T.).

Lord Sandhurst, the treasurer of the hospital, in his reply, said that there seemed a general impression among the public that St. Bartholomew's was a very rich institution. This was true in a measure, since it owned very large properties, but the charges falling on these properties were so great and, in consequence of modern legislation, tended so materially to increase, that as a matter of fact the hospital was really poor. Indeed, despite everything that he and the almoners could do, its income had for several years fallen short of inevitable expenditure by upwards of £10,000 a year. In the circumstances it was impossible to do everything for the hospital which was desirable, or to afford to the school the full measure of support that the services rendered by it deserved. So far, however, as the scheme for a charter was concerned, he could say that it would receive every assistance that he himself and his colleagues could afford it.

The toast to "The Guests" was proposed by Dr. Norman Moore, who spoke of St. Bartholomew's Hospital as a place which surpassed in its hospitality all other institutions in a city renowned throughout the world for its performances in that direction. Other hosts in the City of London were occasionally guests, but St. Bartholomew's was ever a host and never a guest. Moreover, it laid no restrictions on the guise or fashion of arrival of those who sought its doors, and for upwards of 700 years the chimneys of its hospitable kitchens had never ceased smoking. He then alluded in turn to each of the guests of the evening, and weighed with an attractive mixture of humour, erudition, and gentle sarcasm the claims which each of them might be considered to possess to respond to the toast for his fellows. Finally he allotted the task to Sir William Collins, on the ground that although Vice-Chancellor of the junior university represented at the dinner he was a man who had proved his ability to deal verbally with complex questions by joining the London County Council and rising to the position of Chairman, while in the House of Commons he had become one of those members to whom both parties were always ready to listen. In addition, he was a man known for his steadfast loyalty to both his old school and to his private friends.

Sir William Collins accepted the challenge for an unexpected speech and the task of responding for his fellow guests very gracefully. It was perfectly true, he said, that he represented a junior university, and one which everybody had been endeavouring to reform, each by trying to pull its Senate in a different direction. Sooner or later some degree of equilibrium between the forces might be established, and no one would be better pleased than himself if the net outcome were to bring the University of London into still closer relation with London's medical schools. As to his departure from the beaten track ordinarily followed by medical men, he had been influenced by a strong feeling that the medical profession ought to play a much more active part than it had done in the management of the affairs of the nation. The training of medical men distinctly fitted them to deal

efficiently with questions of the kind constantly debated in the House of Commons, and it would be no bad thing for that assembly, nor yet for the nation at large, if it included fewer representatives of the law and more representatives of medicine. The formal proceedings ended in a toast to the Chairman, on the proposition of Mr. BRUCE CLARKE, the party then moving over to the school library.

Sir Henry Butlin was present at the dinner, and his name, as often as it was mentioned throughout the evening, was greeted with prolonged applause.

ST. THOMAS'S HOSPITAL.

THE winter session at St. Thomas's Hospital commenced on Tuesday, October 3rd, and was marked by a prize distribution. The various awards were handed to the successful competitors by Dr. Dyke Acland, the Senior Physician to the hospital. After completing this task he delivered a brief address, in the course of which he impressed upon students the desirability of their doing their work honestly. This sounded very easy, and it was true that so long as they were in the wards of the hospital they would have no temptation to do anything which was not for the good of their patients, but when they came to practise their profession outside they would find that many potent influences impeded their efforts and hampered their actions. In respect of the most desirable way of pursuing a medical education those unfettered by limitations either of time or expense should no doubt endeavour to take honours, say, in natural science at one of the older universities, and at this stage their studies should have no special relation to general medical work. An all-round acquaintance with the whole cosmos of Nature was the best foundation on which to build an intelligent and broad-minded view of medical work, and nothing was to be gained by allowing the time allotted to science to be encroached upon by the study of subjects which should go hand in hand with clinical work in the wards of a hospital, such as pathology, pharmacology, and therapeutics. The universities situated in great cities had enormous advantages over the older seats of learning in respect of the practical teaching of purely medical subjects, but the bases of medicine were best taught by the latter. Indeed, there was no generally applicable reason for the teaching of the preliminary sciences at hospitals at all. In London, however, such teaching was necessary, since the efforts to found a teaching university which should relieve the hospitals of the preliminary subjects had so far failed. St. Thomas's had been one of the last of the medical schools to abandon the attempt to bring the scheme to realization. He did not feel in a position to make any precise forecast as to the effect of the National Insurance Bill on hospitals, but he was certain that if anything were done which impaired the efficiency of the voluntary hospitals, either by indirectly starving them of funds or putting them under State or, worse still, municipal control, grievous injury would be done to the sick and suffering. Moreover, if any system were introduced which deprived a medical school of reasonable and even generous support of the hospital to which it belonged, it would *de facto* do an injury to the object for which such hospital had been founded. An effective and living medical school was one of the most valuable assets which any hospital could possess, and any support which was afforded by it to its school was more than repaid by the stimulus which the existence of such school afforded to the medical staff, and by the fact that the hospital was able to depend on the school for a constant supply of men, chosen from students who had recently become qualified, to carry on the very responsible duties performed by the resident staff. There were those who professed to believe that a hospital should have no essential connexion with a medical school and who deprecated the spending of a single penny out of hospital funds except on what they called "the treatment of the sick." He could only say that their views were based on very imperfect appreciation of what was involved in the words "treatment of the sick." It was a very narrow and parochial view to maintain that a great hospital should concern itself solely with the treatment of the persons who happened to be admitted to its wards. Such a hospital failed in its duty if it did not concern itself with the education of the doctors, investigators, and nurses, who left its doors to go out into the world in every direction to advance the art of healing and enlarge the horizon of pathology. It was its duty to see that they left with high ideals as to the nobility of their profession and adequately equipped to carry on their work, whatever that might be. At St. Thomas's, the treasurer and almoners, by their sympathetic interest and encouragement of the school, not only benefited the patients under treatment in the wards, but bore their rightful share in the great work of educating successive generations of students, who in their turn were thus enabled to carry the lessons learnt by them to the relief of sickness and suffering in every part of the Empire. It should be the ambition of all those present to make their hospital great, not by reason of the extent of its buildings nor even of the multitude of its patients, but because of the character of the men who left it to go into the world. Finally, Dr. Acland quoted the words, *ἄνδρες πόλις καὶ οὐ τείχη* ("The strength of a city lies not in its walls, but in the character of its men").

The same evening the old students' dinner took place at the Hotel Cecil, Mr. G. H. MAKINS, C.B., being in the chair. The assembly was a large one, and included a very notable old teacher of the school in the person of Sir Thomas Crosby, Lord Mayor-elect of the City of London. To his presence due allusion was made by Mr. MAKINS when proposing the toast to the hospital and its medical school. Old students of the school included, he said, many distinguished men who had achieved their fame in fashions quite independent of any support afforded them by their connexion with the school, and one of them was Sir Thomas Crosby. His election to the chief magistracy of the City of London put his old medical school in possession of quite a unique and highly valued distinction. Moreover, since the medical profession was to provide a chief magistrate for the City of London, it was most appropriate that he should be a representative of a medical school attached to one of the two royal hospitals with which that city had been so closely connected in the past. The toast was acknowledged both by the treasurer of the hospital, Mr. WAINWRIGHT, and by the DEAN of the school, who dwelt on certain changes recently effected and others still in progress. Then Dr. T. D. ACLAND proposed a toast to the Chairman, enumerating in his speech the various offices held by Dr. Makins in the school and hospital, and mentioning the work which he had done during the South African war and in connexion with international medical congresses. The toast was received with musical honours, and was followed by a toast to the guests. This was proposed by Dr. FISHER, and, having been duly acknowledged by the President of the Royal College of Physicians, Sir THOMAS BARLOW, a vote of thanks to the honorary secretary of the Dinner Committee brought the proceedings to a close.

THE MIDDLESEX HOSPITAL.

THE arrangements for the first day of term at the Middlesex Hospital were, as usual, of an elaborate character, and included a prize distribution and an address. Prince Alexander of Teck presided, Princess Alexander distributing the prizes. It had been previously announced that this task would be performed by Commendatore Marconi, but as the outbreak of war in Italy had necessitated his return to his own country Her Royal Highness kindly undertook the office. It had also been arranged that a marconigram should be dispatched to His Majesty the King, and a special wireless installation had been fitted up in consequence. This part of the proceedings was duly carried out, a marconigram being sent by Prince Alexander in the name of the governors, staff, and students, stating that they took an opportunity of utilizing the latest scientific means of communication to convey to their patron a message of humble and respectful greeting on the occasion of the seventy-seventh anniversary of the foundation of the school. In his report on the school, Dr. H. CAMPBELL THOMSON, Dean, said that the entry of new students indicated another successful year. The address delivered by the Obstetric Physician to the Hospital, Dr. COMYNS BERKELEY, took the form of a detailed account of the hospital from its earliest days.

It appears to have become popular rapidly, for in 1746, a year after its foundation in Windmill Street, a rule was drawn up limiting the number of in-patients to the number of beds. Previously it would seem that two patients were

sometimes put into one bed. A year later, in 1747, it was decided that 15 beds should be the standard, and that 5 of these should be reserved for lying-in cases. A pound of pins and two pin cushions were ordered for the department, a nurse hired at a salary of £8 a year, and a certain Dr. Layard appointed man-midwife in ordinary. The Middlesex thus became the first lying-in hospital in England.

A little later the obstetric physician, backed up by the senior physician and abetted by the chaplain, plotted to convert the hospital into one for maternity cases only. A long fight followed, and ended in a decision to build a larger hospital on the site of the present institution. That site was then on the outskirts of the town and a favourite place for snipe shooting, being separated from Tottenham Court Road by ponds and marshy lands: while just to the north was an inn named the "Farthing Pie Shop" (now the "Green Man," opposite Portland Road Station), the last place of refreshment for travellers before they disappeared into the country. The new building had its foundation stone laid in the year 1755. It provided 64 beds, and cost £2,250. Towards the expense David Garrick gave the receipts of two performances. In the same year the office of house-surgeon was created, the first gentleman to hold the office being one Joseph Barker.

In 1774 the students of the hospital whose admission as apprentices to the staff dated from the original opening of the Windmill Street premises, formed a medical society, which the speaker said was still in vigorous existence and the oldest medical society in England. In 1821 the weekly board appointed a committee to inquire into expenditure; it reported that on drugs to have risen greatly, because the surgeons had taken to ordering their patients medicine, and the physicians were fond of trying new and expensive drugs which the board did not think should be given to patients in a charitable institution. The apothecary, too, had been reckless with leeches, doling them out at the rate of about 100 a day.

In 1843 a charter of incorporation was granted to the hospital, and the office of dental surgeon created and filled by Sir John Tomes. The Middlesex thus first started the first dental department in London, and it formed the chief place of study of this branch of medicine until the dental hospitals were founded.

After recording these and many other points of interest in the early history of the school, and carrying his account right up to the present date, Dr. Comyns Berkeley dwelt on the need for a new out-patient department, and in doing so asked his audience to picture for themselves the early career of a man who had so far succeeded in life as to have obtained appointment as a physician or surgeon to out-patients. They would first see, he said, a young man working at the hospital most of the day, and at home or in lodgings up to a late hour at night, and, in order to pass the qualifying examination, taking but scant holidays for at least five years. That examination passed, they would see him filling the various resident but unsalaried posts the hospital had to offer. Later they would see him working for one of the higher diplomas essential to a man who hoped to attain the position of a hospital physician or surgeon. During this time he would be paying for his board and lodging, and when at length he had obtained his higher diploma they would see him holding an appointment, say as medical or surgical registrar—a most exacting and laborious occupation. By this time he would, provided he had been ordinarily lucky in the way of passing examinations and obtaining junior appointments, have spent about eight years on the road towards his goal of an out-patient appointment and be receiving as registrar a salary of £40 a year and free luncheons. If he wished to add to his means, only work such as coaching was open to him, and the speaker, who had had twelve years' experience as a coach, could imagine no harder job. Finally, a vacancy on the staff would occur, and if their registrar proved to be the successful candidate among the many who were certain to apply, he would immediately find his expenses rise alarmingly; indeed, not for many more years would he be likely to find that he was earning enough to pay his house rent and other working expenses. Was there any other walk in life in which so much work was remunerated so inadequately? It was no wonder if what between working in the out-patient department day after day for years, teaching and lecturing to students, writing papers for learned societies, and perhaps undertaking research work and many other duties associated with the position of a man on the staff of a hospital, the health of an out-patient physician or surgeon occasionally gave way. That strain at the Middlesex Hospital was greater than elsewhere, thanks to the size and nature of the building in which the work was done. No doubt it was adequate at the time it was built, namely, in 1886, for then the out-patient attendance was quite small, but now the attendance was upwards of 141,000 a year, and the out-patient rooms were not only absolutely inadequate but a source of danger to the health of those who had to labour in them daily.

At the dinner of past and present students held at the Trocadero Restaurant the same evening, Dr. F. J. Wethered, who was in the chair, announced, in proposing the toast of the evening, that the Queen had promised to open the new wing and cancer block on her return from India. Prince Alexander of Teck, responding in his capacity as Chairman of the Weekly Board, made plain his inheritance of the late Prince Francis's interest in the Middlesex Hospital. His ambition, he said, was the establishment of special wards for diseases of the skin, eye diseases, and diseases of the ear, nose, and throat. There was space for the purpose at the board's disposal in the south-east block, and he had already obtained some generous donations. Replies were also forthcoming from the Dean, Dr. H. Campbell Thomson, from an old student, in the person of Fleet Surgeon Robert Hill, and from a present student, Mr. E. L. P. Gould. Dr. Comyns Berkeley, who was toasted as "The Lecturer of the Day," devoted himself to a plea for a better means of communication between the medical staff and the weekly board. The medical committee might choose every six months a physician and surgeon to represent it at the board meetings. In proposing "The Guests" Sir J. Kingston Fowler expressed a wish to see the Middlesex cease to be a private institution and become a public school. That was the only way in which medical schools could hope to obtain endowments, and he thought this special form of technical education deserved well of the public. The toast was acknowledged by the Mayor of Marylebone and by the member of Parliament for the eastern division of the borough, Mr. Boyton, the latter remarking that he had one thousand medical men among his constituents. The evening ended with a toast to "The Chairman," which was accorded musical honours.

UNIVERSITY COLLEGE HOSPITAL.

The opening of term at the medical school carried on in connexion with University College Hospital was celebrated on October 2nd, under the chairmanship of Sir John Rose Bradford, the proceedings including a distribution of prizes by Sir William Ramsay, followed by an informal address from him. Most people, Sir William Ramsay said, were not concerned to do new things. They found it sufficiently trying to cope with the difficulties of life as they occurred, and they were averse from thought; indeed, he himself was one of them. Probably, also, most people were more interested in persons than in things, and certainly nearly all women, and nearly all clergymen, whatever their denomination, took the view that the soul was more important than the body. Men of science, however, were necessarily more concerned with things than with persons, and with thought than with thinkers. Every one in the world was so far a scientific person in that he began life as an experimenter. Every baby was a philosopher, and acquired knowledge by the exercise of the first dictum of science, namely, trying. As soon as it had learnt to speak ordinary language, and even before that period, a baby began to ask questions, and it was not until an infant had reached the age of about six that its behaviour in the matter of inquiry became more or less conventional. Those who continued the habit of inquisitiveness were the future men of science, and if they did their duty these remained inquisitive throughout their days. In the practice of medicine scientific men were restricted in their opportunities, for the only plan of investigation open to them was the collection and comparison of observations. Investigations in the nature of real experiments could only be carried out by such medical men as were permitted to practise on the lower animals, and, as a matter of fact, almost all the great advances in

medicine and surgery which had been made during recent decades were due to the outcome of knowledge acquired in this way. The fashion in which prospective medical men should satisfy their inquisitiveness in respect of the speaker's own subject—namely, chemistry—was quite another question. It did not seem to him true that they ought to be taught chemistry purely from a medical point of view, and he had some doubt as to whether it was right to insist upon medical students acquiring sufficient knowledge of chemistry to admit of their passing searching written and practical examinations in the subject. A short viva voce examination would probably suffice to discover whether a student had assimilated intelligently all that was likely to prove of use to him in future life, this being a general knowledge of chemical action and laws. Such knowledge was all that a practitioner of medicine could fairly be expected to possess, and if steps were taken to secure it among students, application of the knowledge in after life could be left to the individual acumen of each man. In any case it seemed wrong to impose on medical students training in chemistry conducted much on the same lines as that necessary for specialists or for men who intended to devote their lives to medico-chemistry or chemico-medical research.

The same evening old and present students met together at dinner at the Imperial Restaurant, the assembly numbering over 120. Sir William Allchin was in the chair, and, after the loyal toasts had been duly honoured, proposed one to the medical school, delivering an eloquent and thoughtful speech in which he compared the rôle of a physician in the days of Sir William Jenner with the rôle of physician in the present age. The toast was acknowledged by the Dean of the school, Mr. Raymond Johnson, who stated that there had been a large increase in the number of entries of new students, a fact which must be a subject of general congratulation. He also commended to the notice of old and present students the duty of supporting the Hospital Magazine and the plan for the endowment of a bed in the hospital by them. A sum of £1,000 was required for this object, and so far £330 had been received. The various speeches delivered during the evening were interspersed with songs and instrumental music of exceptional merit.

KING'S COLLEGE HOSPITAL.

For several years the practice of initiating the winter term by any formal ceremony at this school has been abandoned, and in making arrangements for the annual gathering of the students the desirability of freeing them from formality has been kept in view. Some two years ago the practice of distributing the diners at small round tables was introduced, while last year the toast list was cut down very considerably. The plan worked so successfully, and has led to such an improvement in the attendance, that this year Dr. Playfair further extended the idea. The dinner, therefore, which was held at the Waldorf Hotel on Monday, October 2nd, with Mr. Arthur Nicholson, of Brighton, in the chair, was a purely friendly gathering at which no speeches were delivered and at which no toast was formally honoured other than that to the King. The company numbered altogether about ninety-nine, the members of the staff present including Sir Watson Cheyne, Mr. Boyce Barrow, Sir David Ferrier, Mr. Tirard, Dr. Silk, and Dr. StClair Thomson.

CHARING CROSS HOSPITAL.

Term commenced at the medical school of Charing Cross Hospital on Monday, October 2nd, the opening ceremonies being graced by the presence of its President, Princess Louise, Duchess of Argyll, who distributed the prizes won during the year. She also acknowledged a vote of thanks in a short speech, wherein she expressed a belief that the zeal and enthusiasm shown by the Dean, Dr. William Hunter, and his colleagues in remodelling the school would stimulate its students to an even keener desire for success. The Duke of Argyll was also present, and made a strong appeal for the foundation of a trust fund of £20,000 for the benefit of the school. Although this was really a kind of pathological annexe to the wards, the expenditure entailed by it had to be defrayed partly by the hospital staff—by the very men, in short, who ought to be well paid for their services instead of being taxed for giving them. The hospital itself would directly benefit by creation of the fund in question, for it would ensure that the medical and surgical staff were assisted in the wards by men with whom they were accustomed to work, and who had been efficiently taught by themselves in the lecture rooms and wards.

Dr. William Hunter, in his report on the school, described the concluded year as one of the most eventful in the history of the school. After the fullest consideration its council had decided to utilize a unique advantage which was possessed by the school thanks to its central situation and its proximity to the scientific laboratories of the University of London at King's College. These were at a distance of only about five minutes' walk, so the council had arranged that the students of the school should in future receive their education in the preliminary sciences at these laboratories. The negotiations to this end having been brought to a satisfactory conclusion in July, it had fallen to the speaker as dean of the school to be entrusted by his colleagues with the duty of carrying out the reorganization required. The outcome had been that the most extensive alterations and improvements had been effected in all departments, and the efficiency of the institution as the most central of the constituent colleges of the University of London had thus been greatly increased. The premises devoted to the purposes of a students' club had also been renovated throughout and greatly improved, while in addition the freeing of the school from the necessity of providing laboratories for the study of chemistry, anatomy, and other like subjects, had enabled rooms to be set aside for the purpose of reading and study by students who were carrying on their scientific work in the adjacent university buildings. Their junior students, therefore, would enjoy the double advantage of owning and using their own college, entering at once into its social life, and that of doing their laboratory work at the adjacent university. Students who had reached the final stages of the curriculum would likewise benefit markedly, for the reorganization of the school had placed at their disposal exceptionally good accommodation for general purposes and excellent laboratories for pathology, bacteriology, public health, and other subjects. It had also been found possible to make special arrangements for post-graduate work and research. In short, the reorganization of the school now effected had brought about a practical fulfilment of the statutes laid down by the founder both of the hospital and the school, Dr. Benjamin Golding, whose expressed aim it had been to provide in London a school of medicine where the more practical medical and surgical studies should be preceded and supplemented by a course of scientific study in the sciences of chemistry, botany, zoology, anatomy, and physiology.

The afternoon ceremony was followed by the annual dinner of present and past students, this being held at Gatti's Restaurant under the chairmanship of Dr. Cuthbert Lockyer, and largely attended. The toast of "The King" having been duly honoured, Dr. Cuthbert Lockyer proposed "Charing Cross Hospital and its Medical School." These seven words, he said, recalled to them some of the most enthusiastic moments of their lives, and the making of friendships which were precious to them, and which they all hoped would last for ever. He then spoke of some members of the staff who had passed away, and mentioned others who, as all were glad to know, remained still in the flesh, and possessed of an undiminished interest in the welfare of the hospital and the school. He congratulated the school on the fact that during twenty years it had proved able to supply from its own ranks enough men to fill one-third of the posts which had fallen vacant at the hospital. He had a profound belief in its successful future. Acknowledging the toast, Dr. William Hunter expressed the general pleasure at the great interest in the School and Hospital shown by H.R.H. Princess Louise. In addition to presenting the prizes to the successful students that afternoon, she had, with the Duke of Argyll, visited the school the previous day, and spent two hours in inspecting the reorganized premises and the hospital. He had now received a letter from the Princess asking him to convey her congratulations, as President of the hospital, to the students on the organization of the school.

and stating that the improvements which had been effected seemed to her certain to accord them greater facilities for their work. The letter concluded by expressing the hope that the public would come forward with the necessary funds, and enable them to carry on their great work. The remaining toasts were to "The Visitors," proposed by Dr. Mott, and acknowledged by Mr. Alban Doran, Dr. Macphail and Mr. Clifford Smith of the London County Council; to "The Chairman," proposed by Dr. Amand Routh; and to "The Secretaries of the Dinner," the latter being proposed by Mr. Stanley Boyd, and duly acknowledged by Mr. T. Beaton and Mr. R. F. Eminson. The evening included, apart from music and songs provided by members of the staff, a specially interesting feature in the shape of the presentation of an address and a cheque to Mr. Fiddler, who, after acting as hospital porter for thirty-four years, has lately resigned.

ST. MARY'S HOSPITAL.

At the medical school attached to St. Mary's Hospital the ceremony marking the opening of the winter term took the form of a prize distribution, coupled with a statement by the Dean as to the progress of the school during the past year. He was able to announce that for the seventh year in succession a St. Mary's student had gained a gold medal at London University. He also stated that an important innovation in the organization of the school had been made by the appointment of a whole-time Lecturer in Anatomy. Mr. Ernest Lane was in the chair, and introduced to the assembly the Right Hon. Lord Justice Fletcher Moulton, who then distributed the awards for the year. On the conclusion of his task, Sir Fletcher Moulton delivered an address dealing with the theories underlying inoculation treatment and with the alterations in practice likely to follow on their more general adoption. It appeared that the minute cells of the organism not only recognized a microbe when they met it, but differentiated between micro-organisms, and usually proved decidedly inhospitable to those whom it had previously encountered in unpleasant circumstances. Some change, in short, took place in the organism for the purpose of preventing the re-establishment of any particular microbe. It seemed that what had been named immunity was only the survival of the defensive hostility which had been called into existence by a specific infection, and which had enabled the organism to throw off the attack of the micro-organisms concerned. It appeared in short to be true that the cells of the organism possessed a kind of memory; this might, perhaps, be long-lived in the case of many microbic invasions, but it was certainly, and most unfortunately, exceedingly short-lived in the case of colds in the head. Whatever might be the effects of vaccine therapy on present systems of practice, the speaker was certain that it meant a great addition to the work of medical students. A modern textbook was often easier to master than its antiquated predecessor, but the new knowledge in question displaced nothing. It was knowledge too wide-reaching in its effects to relegate to the specialist, too necessary in everyday practice to be left to the few. Bacteriology, of course, already formed part of a medical student's curriculum, but the advent of the new treatment entailed more than an increased attention to the study of bacteriology. It meant, among other things, that the physiology and pathology of the blood and lymph streams would take a new position in medical studies. The study of the nature and behaviour of these fluids, to which were entrusted the care of the organic stability of the body, would be of prime importance.

On the conclusion of this very interesting address, Mr. Ernest Lane, in moving a vote of thanks, said that Lord Justice evidently looked forward to the time when medicine would be a thing of the past. Sir Fletcher Moulton was not the originator, however, of that idea. Even the Lord Justice was preceded by a gentleman who lived in the middle of the sixteenth century and wrote "Throw physic to the dogs, I'll none of it." Shakespeare did not see far enough into the future. It was of no use to throw physic to the dogs, they would reject it, and soon an inoculation department would be attached to every self-respecting veterinary establishment.

The Lord Justice, replying, said that he proposed to get some ingenious musical friend to compose a duet. The words would be "Throw physics to the dogs," and the leading part would be sung by the senior surgeon of St. Mary's, surgeons having to his knowledge preached the doctrine for more than half a century. The second part would be taken by Sir Almroth Wright, and it would indeed be a pleasant thing to see the surgeon and the director of inoculation in such happy agreement. The Lord Justice added, however, that he did not accept the chairman's inferential description of his faith, or want of it, in physic.

ST. GEORGE'S HOSPITAL.

The ceremony inaugural of the winter term at St. George's Hospital took place on October 2nd, and was of a somewhat elaborate character. It included a prize distribution, the delivery of an oration, a general meeting of St. George's Hospital Club, and a dinner in the evening. The prizes were distributed by Dr. H. A. Miers, D.Sc., F.R.S., Principal of the University of London, and it was by him, too, that the oration was delivered. The interesting observations that he had to make on the subject of lucidity in writing will be found set forth in full at page 838 of this issue. On the conclusion of the address and the proceedings connected with it, tea was served in the rooms of the St. George's Club, the general meeting of that club being held later in the large hall. At the old students' dinner, which was held at the Prince's Restaurant, Sir Isambard Owen took the chair, and over 130 past and present students assembled. The toast of the evening was acknowledged by Mr. A. William West and Mr. H. S. Pendlebury, while the toast to the orator of the day was gracefully proposed by Dr. E. I. Spriggs. This having been duly honoured and acknowledged, a toast to the past and present students of St. George's Club was proposed by Dr. Llewellyn Powell. It was acknowledged by Dr. C. N. Fegen and Mr. W. P. Tindal-Atkinson, and the toast of the Chairman, proposed by Dr. C. T. Dent, then brought the evening to a close.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

The ceremonies connected with the opening of the winter session at the London School of Medicine for Women always attract a large gathering of old students and their friends, and were made notable this year by an address from Sir Henry Butlin. They took place on October 2nd. Mrs. Garrett Anderson, who received her usual warm welcome, again occupied the chair, and in the course of the afternoon announced that twenty-seven new students had joined the school this year, while for a third time a Fishmongers' Scholarship had been awarded to one of its students. The most important event of the year, however, was the fact that an agreement had been reached with the Board of Education, and in virtue of this the school would in future receive a substantial annual grant from the Treasury as a technical school recognized as such by the Department of Education. A verbatim account of Sir Henry Butlin's address will be found on page 835 of the present issue.

OTHER LONDON HOSPITALS.

At Guy's Hospital there was, as usual, no formal opening ceremony, and the usual dinner and conversazione organized by the Pupils' Physical Society was omitted on this occasion as a mark of respect to the late Dr. Pavy. At the Westminster Hospital opening of term was adjourned until Thursday of the week, an old students' dinner being held that evening. At the London Hospital the staff, as usual, were at home to all and sundry on Tuesday afternoon, and the first of the Schorstein lectures was delivered by Dr. James Mackenzie. It will appear in full in a subsequent issue. In the evening a dinner of past and present students was held at the Hotel Cecil. Mr. Douro Hoare was in the chair, and those present, to the number of about 200, included Mr. Otto Beit and Sir Edward Mann.

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WOMEN AND MEDICAL RESEARCH.

There is a freshness about Sir Henry Butlin's utterances that gives a personal stamp to all he says. He is never content with the platitudes and commonplaces that form the stock of the ordinary introductory address. He always speaks from his own knowledge and experience, and whether we agree with him or not, he never fails to furnish his hearers and readers with food for serious thought. Moreover, he always speaks—as Mark Antony with much less justice said of himself—"right on"; and he speaks his thought plainly without fear or favour. It is this that makes his speeches on whatever subject he handles so original and so stimulating. The address delivered by him at the London School of Medicine for Women, which we publish this week, is no exception to this rule.

The long struggle by which women forced their way through the portals of medicine is now happily a thing of the past; they have conquered all along the line, and only those strongholds of lost causes, Oxford and Cambridge, remain to be stormed. Woman has triumphed, and none of the dire consequences which her opponents said must result from her victory have come to pass. Already any visitor to these shrines of ancient learning may see numbers of women at work in the physiological laboratories. Though we are mindful of the injunction, "Never prophesy unless you know," we do not think it very rash to predict that before very many years have passed the restriction of degrees to men will have been removed.

Sir Henry Butlin took as the special subject of his discourse the fitness of women for original research. The names of Madame Curie, Lady Huggins, and Mrs. Ayrton rise at once to the mind as examples of women who have done work of the highest class in experimental research. If no work of like excellence has yet been done by women in the sphere of medical research, that may be attributed to the fact that they have not had the opportunity of devoting as many years as men have centuries to such investigation. Another point is that experimental research is necessarily for the few, and we are inclined to think that, in proportion to their numbers and their opportunities, women now work as fruitfully as men. Many have borne testimony to their efficiency as assistants in laboratory research, and as the field of their activity expands they may be expected to do more on their own initiative. The qualities enumerated by Sir Henry Butlin—dexterity and neatness of manipulation, cleanliness, continued industry, care in observation, accuracy in recording results, and conscientiousness—women exhibit in a degree equal to men, when they have had the same training. Humanity also they have in equal or greater measure. Perhaps they are somewhat lacking in patience, and, however conscientious they may be, they are rather more apt than men to rush at conclusions. The ordinary woman boasts—and not altogether without reason—that her insight is keener and surer than that of man. This quality, though it often enables them in the ordinary affairs of life to arrive at a sound conclusion by intuition, is likely to be misleading in the laboratory. When John Goodsir was making elaborate researches to test the truth of a hypothesis, he said to his assistants: "Let us have God's own truth in the measurements." In such work intuition counts for nothing; what is wanted is laborious accuracy, which is wearisome to quick minds. We are all apt to be led astray by preconceived notions, but we venture to hint with all respect that at the present stage of her intellectual evolution woman is rather more likely than man to fall into error from this cause.

Sir Henry Butlin, who has evidently taken great pains to form a correct judgement on the subject, says there is only one point as to which he is somewhat doubtful in regard to the fitness of women for original work. He says with truth that there is nothing more important in relation to research than the accurate recording of observations and experiments. The making of these records is very tedious, and he has been told "that the lady secretaries of committees and business meetings are often astoundingly inaccurate in their minutes, that their record of those present cannot be relied on, that resolutions which were passed are not properly worded in the report." He adds that he has "even heard of minutes which recorded the wrong person in the chair." "We men," he says, "take these matters more seriously. Such lapses are not tolerated among us. It is of no consequence whether a secretary is paid or unpaid; he may be indolent and make very meagre records. But what he does record must be accurately recorded, and the only way to do so is to write the minutes at the time or make ample notes from which they can afterwards be written up. We have been trained in this kind of work for centuries, and I expect it has become a part of the nature of men."

We wish we could share this optimistic view of the superior accuracy of man. Having had a very large experience of minutes, reports, and so forth, we can only say that each and all of the backslidings which Sir Henry Butlin enumerates as peculiar to the female sex are only too common in the case of men. Indeed, if we may judge from the reports of societies that are sent to us for publication, we should be disposed to give the palm not only for accuracy, but for conciseness and neatness, to the ladies. Sir Henry Butlin reserves judgement on the question whether "women will be found competent for research, whether they have the breadth of mind necessary for such work, and whether they will ever be able to do more than carry out researches which have been designed for them, and in which they are directed." As we have said, women have already made brilliant discoveries in science, and their achievement will doubtless be larger in the future. Whether the quantity of their scientific work will ever equal that of men is another matter. It is probable that men will continue, as hitherto, to devote themselves to research in far greater numbers than women. But we can see no reason to doubt that the quality of women's work will, when they have a fair opportunity, be equal to that of men.

We may fitly conclude with the expression of a hope that Sir Henry Butlin's address will induce more women to endeavour to enlarge the boundaries of our knowledge. There is need for all workers who can spare time from the urgent task—which is a hindrance to so many who might add stones to the rising temple of truth—of earning a livelihood.

THE MECHANISM OF VARIATION IN PLANTS AND ANIMALS.

Although "sports" play such an important part in Darwin's theory of the origin of species, he suggested no explanation of their occurrence. It is upon this point that Professor A. Gautier has endeavoured to throw light by a series of researches which have extended over more than thirty years, and the results of which he summarized in a communication to the French Academy of Sciences on September 11th. In 1879 he observed that in plants, at least, variations produced by crossed fecundation cause not only external changes but modifications in the specific molecules of the new being. It has long been known to horticulturists and botanists that the specific characters of the graft may be transmitted to the grafted stock and inversely. All botanists know about the celebrated medlar of Bronvaux, near Metz; it is more than 100 years old, and was grafted upon a hawthorn tree. Every part of the tree above the graft is a veritable medlar, but some years ago, a little below the position of the graft, a branch of medlar grew from the old trunk of the hawthorn, differing from the other branches by bearing thorns; while its flowers, instead of being solitary like those of the medlar, were collected in corymbs like hawthorn flowers. Gautier regards this as showing that the grafted stock was modified in consequence of the conjunction of the two plasmas. This transmission of the characters of one species to another can be more readily shown in herbaceous plants. Professor L. Daniel grafted *Helianthus laetifolius*, a kind of little sunflower, upon *Helianthus annuus*; the former is a perennial plant with a woody stem and well-developed rhizomes swelling into tubers; the latter is an annual plant the stalk of which is provided with abundant pith, rich in inulin. By the coalescence of these two a race of sunflowers has been produced more persistent than the *annuus* with a hard woody stem having a dark green epidermis bearing numerous lenticules like the stalk of the little sunflower which furnished the graft. M. Jurie, the celebrated producer of hybrids at Lyons, five years ago communicated the case of a vine stock of the variety *Labrusca isabella*, a dioecious American vine, which was grafted in 1882 with a *Poulsard*, a hermaphrodite French variety; in 1899 a branch grown from the graft showed the foliage of *Labrusca* instead of that of *Poulsard*, the flowers were as early as those of *Labrusca*, and its fruit intermediate in colour between the two varieties, as Professor Gautier was able to assure himself by personal observation; the tendrils were continuous, generally four or five together as in *Labrusca*; in fact the stock had communicated to a branch of the graft part of its own specific characters. A similar modification was observed by M. E. Griffon on a branch of almond tree growing on a peach tree which had been grafted on an almond tree, and in many grafts made by Professor Daniel of capsicum on tomato, egg plant on tomato, and so on. These variations are sufficiently stable for them to be transmissible by seed. Professor Daniel has shown that this is so for varieties produced by grafting hedge garlic on cabbage, of Knight's pea on common bean, the plants grown from seed participating in the mixed qualities of the two species. There are, of course, limits to what can be done in this way; it is impossible to make a left-handed screw penetrate a right-handed one, even when thread and diameter are the same, and this is equally true of vegetable plasma. Chicoraceous plants may be grafted on one another, but those varieties which form inulin, a laevo-rotatory starchy substance, cannot be grafted on those which form ordinary (dextro-rotatory) starch. The inversion of these two isomers testifies to the inversion of the plasmas which have produced them and explains their non-conjugation.

He compares with this the facts of telegony—that is, where the female which has been impregnated by a male of a different species so as to produce a hybrid, is liable to produce offspring showing similar characteristics, although the latter fecundation is by a male of her own species. A similar law is probably that by which the inoculation of a certain virus modifies the plasma so as to render it for a long time unable to contract the corresponding virulent disease. Professor Gautier asks what are essentially the modifications which are produced in this manner, and appeals to his observations made during the last thirty years for the answer. It is known that there are some twenty varieties of vine with hermaphrodite flowers indigenous to this continent and about fifteen varieties with dioecious flowers of the American vine. In the species *Vitis vinifera Europaea*, which comprises all the French vines, there are nearly 2,000 varieties, the origin of which is not known, but their external characters suffice to distinguish them. Up to 1878 it was supposed that all the varieties of vegetable species, while differing amongst themselves in shape, in the form of their branches or leaves, in the disposition of their fruit, in its richness in sugar or colouring matter or its forwardness, were yet formed of the same protein, cellulose, colouring matter, and starch; but Professor Gautier, on examining very attentively the pigment of the fruit of the European vine, found that each variety produced in the skin or the pulp of the grape a specific pigment chemically differentiated. He gives the formulae of the pigment in six varieties, showing differences in the amount of carbon and hydrogen. These pigments are all feeble multibasic acids formed by the union of a trivalent radical, and all give by hydrolysis a phloroglucine and an aromatic acid peculiar to each, but always of analogous structure. This holds good for other vegetable families, each variety of acacia producing its special catechin, although these catechins belong to the same family and have the same general structure. In fact, except the ordinary substances, such as sugar, starch, and cellulose perhaps, all the chemical principles peculiar to the species or family, such as tannin, pigment, essences, and alkaloids, vary while preserving the essential features of their common chemical species. Since 1886 Professor Gautier has explained the sudden variations observed in plants and animals by the coalescence of alien plasmas by which the normal plasma of the creature is modified. The plasma which excites the modification may be brought by insects or microbes, or by moulds acting upon the subterraneous parts of a plant. In 1886 Professor Gautier reported that a branch of moss rose had appeared one day upon a smooth sepal rose in the garden of the Luxembourg. On examining this abnormal branch they found that it bore a certain number of bedeguars having a mossy surface, which were produced by the puncture of a *Cynips*, which communicates to the rose tree and to the gall in which it deposits its larva the property of producing the mossy excrescences which characterize it. In 1889 MM. Charabot and Ebray showed that the puncture of an insect may cause certain stocks of peppermint to produce branches whose inflorescence resembles that of a

neighbouring genus, the basilic (*Ocynum basilicum*), while, according to Meehan, when the roots of *Liatris* and *Vernonia* are attacked by the mycelium of a mould their flowers become completely altered, their anthers remain sterile, and from being hermaphrodite these flowers become unisexual, as if some virus like that of the vaccine virus modified the plasma of the plant and its function. Moreover, if we deprive a plant of one of its natural zymases necessary to its normal development, it may undergo such changes as to resemble a new species; thus, in cutting the stalk of maize down to the ground at the moment when the male pannicule is about to develop, the maize known as Pennsylvanian maize changes into *Zea mais pseudo-androgyna*, a new species capable of being transmitted by seed. No doubt these great and sudden modifications of race and species are not always transmissible by seed, but they fail altogether to conform to the rules of slow and successive adaptation, and they only occur in a small number of individuals amongst thousands submitted to the same external conditions. The modifications which supervene in this way involve a transmission of the fundamental constituents of the new being: but, far from being monstrous, the variations in the individuals and races so produced do not, as a rule, transgress the limits beyond which the anatomical resemblance would disappear, while the specific principles of which their plasmas are constructed preserve their general chemical structure while undergoing modification.

NATIONAL INSURANCE BILL.

UNDER this heading we publish elsewhere an appeal from Dr. Rayner, Treasurer of the British Medical Association, which we are sure will receive a satisfactory response. Our readers know that the Association has, during the last few months, made the most strenuous efforts to bring the whole profession into line, in order that it may effectually defend its interests, which are seriously threatened by certain provisions of the National Insurance Bill. The Association has also, by every available means, brought pressure to bear on the Government, with the object of securing just treatment and a better position for the profession in regard to the treatment of that large section of the community for which it is proposed to provide insurance against sickness. The value of the work which it has already done has been recognized by a large increase of membership. There has, however, been much misrepresentation as to the attitude taken up by the Association in regard to the bill. It may be well, therefore, to state emphatically that the profession thoroughly approves of the principle of the bill, both as it affects individuals who are not in a position to pay for medical attendance at the ordinary rate, and as it affects the community by helping to prevent disease. But the Association feels strongly that these desirable objects should not be secured at the expense of the men who actually carry out the work. In its endeavour to protect the interests of the profession the Association has incurred very heavy expenditure, and if the struggle is to be carried to a successful issue the sinews of war must be provided. We therefore earnestly commend Dr. Rayner's appeal to the attention of all members who may not yet have paid their subscriptions.

SHOREDITCH GUARDIANS.

AT their last meeting the Shoreditch Board of Guardians had before them the names of three candidates who had applied for the vacant appointment of medical officer to the Whitmore district, concerning which a warning notice has for some time appeared in our columns. It was reported, however, that two of these candidates had withdrawn, stating that on investigation they found that the remuneration worked out below that generally paid in London. The third candidate was a gentleman variously mentioned as Sullivan and O'Sullivan, of whom our sole knowledge is that derived from the various accounts given in newspapers of what happened at the meeting. When summoned before the board he appears to have stated that he had been for some years in the army, and had had experience at sea, and was now at work in Dalston with a partner who took the side of the British Medical Association as against the board. He himself, however, did not concern himself with disputes between the medical profession and the board; he was his own adviser, the appointment would suit him, and he would do his best for the poor. His appointment was duly proposed and seconded, but the board refused to accept him. It refused even to appoint him as acting medical officer, despite its being urged that the fees meantime paid to a private practitioner for attendance on the poor were very high. In the general discussion much indignation was expressed at the obstinacy exhibited by the medical profession in declining to permit the guardians to fill the appointment entirely on their own terms: with the general press for supporting the medical profession in the matter; and with the inconsiderateness of the public in expecting the guardians to lower their dignity so far as to meet representatives of the medical profession and discuss the matter with them. On the whole, one feels almost inclined to be sorry for the Shoreditch Board of Guardians. We are sorry, too, for the poor in that district, since they will be unable to cry, "Every man for himself and Dr. O'Sullivan for us all." On the other hand, we can congratulate such members of the board as objected to this gentleman's appointment, and the latter on the fine independence of spirit which enabled him to lay aside all consideration of loyalty to his professional colleagues and of the probable feelings of his partner, and to look solely after Number One. Whether the army, the sea, and the presumable land of his birth should be the subjects of condolence or congratulation on his absence from them is a question which we must leave each man to settle for himself.

THE SUPER-TAX.

IT is at this time of the year that returns are required from those who, by reason of their possession of a "statutory" income exceeding £5,000, are called upon to pay the additional duty of income tax known as the super-tax. It may be well to observe that all persons on whom the Special Commissioners of Income Tax serve a requisition are required to make a return for the super-tax whether they are or are not liable to the tax, and it is moreover incumbent on those whose income has amounted to £5,000 to declare the fact to the Commissioners in order that they may be served with a form of return. Liability to the super-tax depends entirely on the amount of the income of the year preceding the year of assessment, so that in considering the question of liability for the current year 1911–12 regard must be had solely to the amount of one's income as charged with income tax for the year 1910–11, ended April 5th, 1911. The income must include income from every source, professional and private, and must include also income belonging to the wife; subject in both cases to a deduction for life assurance premiums where paid. It should be borne in mind that the sums on which income tax has been paid (or deducted before receipt) for the year 1910–11 are the sole criterion, so that in the case of a practitioner whose professional assessment for the year 1910–11 (based on the three years' average) was £4,500 and his private income £300 there would be no liability to the super-tax of 1911–12, although in the actual year 1910–11 his professional income alone may have exceeded £5,000. Similarly, an access of private fortune that carries the income over £5,000 does not involve liability to the super-tax until the year following

that in which the income is brought over £5,000. The return that is now required is the third return that has been called for since the month of May, 1910, a circumstance that has caused considerable doubt in the minds of super-tax payers as to the appropriate figures to be included in each return. If any reader should find that he has in fact inadvertently taken the wrong basis in making either the return for the current year or that for one of the previous years 1909–10 (which should have been based on the income charged with income-tax for 1908–9) or 1910–11 (on the income for 1909–10), the Special Commissioners of Income Tax will, to judge by an instance that has come under our notice, rectify the matter on application being made to them.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

Few medical terms appear in the newly published part of the *Oxford English Dictionary*,[1] and the reason is found in the section of the alphabet which is covered therein. Beginning with the word *simple* (which has, by the way, a medical meaning, and an interesting one too), the rubrics run on to *sleep*, including 106 columns of sk's. Now, very few medical terms begin with sk, and so the interest of this part of the *Dictionary* is not nearly so great to the physician as some previous sections have been. At the same time even the sk's do not fall quite barren. There is, for instance, the malodorous *skatol*, which Dr. Craigie defined as "an aromatic (!) substance produced by the decomposition of albumen in the intestinal canal," and derived from the Greek σκῶρ, dung, the genitive case being σκατός. There is likewise *skeleton*, with the group of *skeleto* compounds; but these terms have so penetrated ordinary conversation that they can hardly any longer be regarded as medical; the same remark applies to *skull*. *Skiagram*, *skiagraph*, and *skiagraphy* are now used almost entirely in the medical sense of photographs obtained by means of the Roentgen rays; but there was an earlier meaning. Thus, *skiagram* was once used to designate a picture of the nature of a silhouette, and Gladstone used to employ *skiagraphy* to indicate the poetical as distinguished from the practical geography of Homer. Now, we have our *Archives of Clinical Skiagraphy*—a different matter, and not at all poetical. A purely medical word is *Skodaic*, "the resonant percussion note heard in cases of pleuritic effusion," taking origin in the name of Joseph Skoda, the famous Austrian physician. Another sk word is *skirie*, meaning, as used in the North, hare-brained or mentally deranged; it is probably derived from the Dutch *scheef*, asquint, and has therefore behind it the verbal image of mental obliquity. Leaving the sk's, we find a few medical terms among the si's. There is, for instance, the well-known *sinapism* or mustard plaster, from the Greek σίναπι or σίναπυ, mustard; and from it arise also the words *sinalbin* (white mustard) or *sinigrin*, *sinamine* (the basic compound obtained from thiosinamine), *sinapate* (a salt formed by the action of sinapic acid on an alkali), *sinapic acid*, *sinapine* (an organic base found in white mustard seed), *sinapism* (got from black mustard seed), *sinapistic*, *sinapite*, and *sinapoline*. *Sinciput*, meaning the front part of the head or skull, is derived from *semi*, half, and *caput*, head; an illustrative quotation from Holmes tells of "all the longest heads that ever knocked their sinciputs in stretching on their beds." *Sindon*, a pledget, usually with some medicament, used to fill up an open wound, is hardly ever employed nowadays; and *sine*, sinew, is quite obsolete. *Singultus*, or hiccup, is given as a non-naturalized word; and Dr. Craigie has hunted up an illustrative quotation for us from Byron's *Don Juan*:

"But, more or less, the whole's a syncope Or a singultus —emblems of emotion." *Singult*, which is now archaic, is a sob or a speech broken by sobs—for example, "frequent singults check'd his falt'ring tale." *Siphac* is from the Arabic, and signifies the peritoneum; "Nexte within thys abdomen or Mirach is contayned Siphach" is a quotation from Udall (1552). *Sinus* in two of its uses (pathological and anatomical) is a medical word, and *siren* has a teratological as well as a mythological signification; *siriasis* has none other than a pathological meaning. So full is the *Dictionary* that the hospital *Sister* will find herself defined and illustrated by quotations in its overflowing pages; and the *sitz-bath* and *sivvens*, that "infectious skin disease formerly prevalent in Scotland," are not forgotten.

[1] *A New English Dictionary on Historical Principles.* Edited by Sir James A. H. Murray. Simple—Sleep. Vol. ix. By W. A. Craigie, M.A., LL.D. Oxford: at the Clarendon Press; London, Edinburgh, Glasgow, New York, Toronto, and Melbourne: Henry Frowde, October 2nd, 1911. (Double section, 5s.—$1.25.)

"HERMAPHRODITISM."

In the leading article on Hermaphroditism which appeared in the Journal of September 23rd, p. 694, the definitions of "androgynoids" and "gynandroids" were accidentally reversed. As the error is important we wish to give prominence to the correction. Line 16 in the second paragraph should read, "Men who have been taken for women are called androgynoids," and the sentence a few lines further on should have been written, "Women who have been held by themselves and others to be men are termed 'gynandroids.'" In the next paragraph the denominations are given correctly. Thus the Pozzi-Siredey and the Tuffier-Lapointe cases were androgynoids. Lastly, Pozzi's married "man" who developed an ovarian tumour was a gynandroid of the irregular type. The terms are, it will be admitted, confusing.

"STANDARD" BREAD.

Although the more extreme features of the agitation in favour of bread made from flour constituting 80 per cent. of the wheat grain, and the predictions of rapid deterioration of the national physique if the use of white bread is continued, have already died away, it is doubtful how far this is due to a real comprehension by the public of all the facts bearing on the matter, or to a mere shifting of interest to other subjects. It was pointed out in these columns when the agitation was fresh, and it has been shown by numerous authorities, first, that the term "standard" applied to such flour or bread was altogether a misnomer, owing to wide variations in the proportion of nitrogenous constituents in different wheats, and secondly, that a flour containing a smaller proportion of nitrogenous constituents might be more nourishing than one containing a greater proportion, if in the latter case a portion were present in a non-assimilable form, as there was good reason to consider was the case with so called "standard" flour. Some of the chief facts bearing on the matter are presented in a manner comprehensible to the intelligent layman in a pamphlet of some twenty pages by Mr. A. Smetham, F.I.C., entitled *The Dietetic Value of the so-called Standard Bread*, which is a reprint of an article in the *Journal of the Royal Lancashire Agricultural Society*. His conclusions are not in favour of the substitution of "80 per cent." for white flour; still, he includes among his findings that "for those who prefer the flavour of 'standard' or brown bread, or who benefit medically from their use, these forms may be taken with advantage, and with the full assurance that proper nourishment is being obtained." Among the investigations he mentions are the elaborate researches carried out by Wood and Merrill for the United States Department of Agriculture, in which direct feeding trials were made with breads prepared respectively from white flour and from flour constituting 85 per cent. of the wheat berry; as Mr. Smetham points out, such a flour would conform to the requirements for "standard" flour, which is required to contain "*at least* 80 per cent. of the whole wheat." In the experiments referred to, it was found that whether the bread con-

stituted nearly the whole diet or formed a less prominent part of a mixed diet, the coefficient of digestibility for proteins, fat, and carbohydrates was higher when white bread was consumed than when "standard" bread replaced it; and not only so, but the reduction in digestibility was proportionately greater than the increase in the protein present, so that more nutriment per pound was obtained from white than from "85 per cent." flour. The difference between the protein of the germ and that of the bran must not be lost sight of in this connexion. On the other hand, the experiments carried out by Drs. Flack and Hill, the latest series of which was described in our issue for September 16th, showed that when rats are fed on flour and water only the inclusion of the germ increases remarkably the amount of nutriment that is obtained from the diet. Doubt, however, as to the true bearing of these experiments is thrown by Dr. William Tibbles elsewhere in the present issue.

RAYNAUD'S DISEASE.

RAYNAUD'S disease in its severer forms is fortunately a rare complaint. In its slighter degrees, not proceeding beyond local syncope, it is possibly not very uncommon, and may often go unrecognized. At first the three main phenomena—local syncope, local asphyxia, and symmetrical gangrene—were regarded as constituting the entirety of the complaint. But since the appearance of Raynaud's original theses many additions have been made to this triad. Not long after the publication of his second communication cases of scleroderma in association with the disease were published by Sir Thomas Barlow, Dr. Colcott Fox, and others. Other disorders, such as haemoglobinuria, urticaria, and joint affections resulting in ankylosis of the phalanges, have been noted in a considerable number of cases. In a lesser number mental symptoms, multiple neuritis, and transient eye troubles have been recorded. Some of these, indeed, such as haemoglobinuria, scleroderma, and arthritis, are so frequently associated with it, that they cannot be regarded as merely incidental complications, but as forming an integral part of the disorder. More than this, Sir Jonathan Hutchinson states: "It may not be too much to assert broadly that all changes in the circulation and nutrition of the extremities, which are brought about by the nervous system and which occur in the extremities, because they are peripheral and at a disadvantage as regards the influence of cold and the supply of blood, are, in essential nature, allied to the disease in question (that is, Raynaud's disease)." In three excellent papers, published in the *Medical Chronicle*, in the numbers for November, 1891,[1] October, 1902,[2] and September, 1911,[3] Dr. Wardrop Griffith has made notable contributions to our knowledge of the disease. In two out of the three patients dealt with in his earliest paper—that for November, 1891—he found limitations of movement in the elbows and wrists. This interference with motion could not be accounted for by any change in the overlying skin, and he ascribed it to shortening of both the ligaments and adjacent muscles. The third patient dealt with in this same paper presented a remarkable appearance of both hands, the most striking feature being that they were very short and stunted. This stunted appearance Dr. Griffith considered was entirely due to a remarkable shortening of the terminal phalanges. As the finger-tips did not present any evidence in cicatrices of loss of substance, and the rows of papillae could readily be seen, he attributed the loss of substance in the phalanges to an interstitial absorption. This assumption he was able to verify by skiagrams from one of the other two patients referred to in this paper, taken twenty-two years later. This patient was under his almost constant observation during all these years, and he was able to note the gradual development of the changes in the phalanges. In 1891, besides other changes noted in the hands, it is recorded that "there is some shortening of the terminal phalanges of the first and second fingers of the left hand. The ends of some of the digits, especially of the thumbs, are bulbous; others are much attenuated." Eleven years later, in 1902, the condition of the hands was further advanced. "The chief alteration in the appearance of the hands is due to a greater degree of flexion of the interphalangeal joints, and to an increase in the amount of shortening of the terminal, and in some cases of the second phalanges as well. The metacarpo-phalangeal articulations are much as they were; the extremities of the thumbs are still, as before, bulbous, but the terminal phalanx is almost gone, and can only with difficulty be made out, whilst its nail is extremely short." Skiagrams made in 1909, 1910, and 1911, confirmed the conditions of the phalanges noted so many years before. In the skiagram for 1911 the terminal phalanges of the thumbs are shown to be reduced to mere thin flat discs of bone, whilst the progressive character of the bone absorption is evident by a comparison of this skiagram with one taken two years earlier. A skiagram of the left hand shows a total disappearance of the terminal phalanges of several of the digits, and shortening and attenuation of at least two of the second phalanges in addition. In the space at our disposal it is impossible to give complete details, and for these recourse must be had to Dr. Griffith's original papers. For the same reasons, as in a former one, he considers in the case last mentioned the bone destruction had been due to an interstitial absorption, and all the evidence would seem to confirm the correctness of his contention. We are not aware that interstitial absorption of bone has been recorded before by others, and are prepared to accord to Dr. Griffith the credit of being the first to discover this interesting phase of Raynaud's disease

[1] Three Cases Illustrating Some of the Affinities of Raynaud's Disease, *Medical Chronicle*, November, 1891.
[2] Additional Remarks on the Affinities of Raynaud's Disease, *Medical Chronicle*, October, 1902.
[3] On the Changes in the Bones observed in a Case of Raynaud's Disease, *Medical Chronicle*, September, 1911.

CEREBRAL DECOMPRESSION FOR THE PREVENTION OF BLINDNESS.

IN a valuable article contributed to the *Annals of Ophthalmology* for April, 1911, De Schweinitz not only states the results of his own wide experience, but discusses the whole question in a perfectly judicial manner. He draws no distinction between choked disc and optic neuritis, agreeing with von Hippel that such a differentiation is certainly not justifiable on clinical grounds, and probably not on pathological. The exact pathogenesis of the phenomena is still in dispute, and so it is not desirable to use such a term as "papilloedema," as suggested by Elschnig. De Schweinitz has had a personal experience of seventy-five operations, some radical, some exploratory, but most of them decompression operations. He has also carefully studied the literature of the subject, and analysed the notes of 212 further operations. As a result, he finds that sight was saved in about 75 per cent. of the cases. Choked disc occurs in about 80 per cent. of brain tumours, but does not usually appear until the neoplasm has been present for some time. The earlier decompression is carried out, the better the result as regards vision. During the earlier stages of an optic neuritis it is quite usual to find good, often perfect, vision, but eventually it begins to decline, and is ultimately lost. Cushing and Bordley have pointed out that in cases of cerebral tumour, both with and without papilloedema, there are often present characteristic changes in the colour fields. Instead of the field for blue being entirely outside that for red, the two may interlace, or the blue field may be so markedly contracted as to be entirely inside the red field. A decompression operation restores these inverted fields to the normal sequence. De Schweinitz is,

however, of opinion that dyschromatopsia of this nature (colour reversal) cannot, in the absence of optic neuritis, be accepted as an adequate indication for a trephining operation. It is advisable in suspected cases carefully to map out the blind spot, for in cases of sinus empyemata Van der Hoeve has found that it may be enlarged long before optic neuritis ensues. De Schweinitz thinks the same may be true in cerebral tumours, but his investigations on the subject have not yet reached finality. A very interesting symptom of tumour is temporary amaurosis which may antedate the appearance of choked disc, and may last from a few minutes to a few hours. The repetition of this symptom is a strong indication for decompression, even when there is no choked disc. It is due to pressure by the third ventricle upon the chiasma. While not accepting *in toto* the views which Sir Victor Horsley expressed in Germany,[1] de Schweinitz thinks that if in addition to these general neurological indications which Sir Victor considered sufficient to warrant operation, any of the ocular symptoms already discussed could be detected, then an operation should not be deferred, and that time devoted in non-syphilitic cases to the administration of mercury and iodides is time wasted. If the optic neuritis has advanced too far, the operation will not save sight: it may even hasten its loss. Optic neuritis may follow injuries to the head. All such cases should be examined frequently with the ophthalmoscope, and the detection of optic neuritis should be followed by trephining.

READING FOR THE BLIND.

All who practise ophthalmic surgery frequently come across those sad cases in which the sight of an individual is either already lost altogether or so seriously impaired that for all practical purposes he is blind, or will become so. From want of knowledge or advice such persons often give themselves up to despair from their inability to know how to make themselves useful. A correspondent who is for all practical purposes blind has written to us pointing out how such people may be materially benefited if surgeons would recollect that reading for the blind is quite possible by means of the Braille type, which is now so generally used by those whose sight is lost and who have learnt how to use it. If surgeons would place this before their unfortunate patients much might be done to ameliorate their condition. After a little practice the blind are quite as well able to use a typewriter as those who can see. Nor are reading and writing by any means the only occupations left to those who lose their sight. Many among them carry on trades such as basket-making, mat-making, brush-making, and chair-caning, while among their ranks are some who practise massage and music-teaching. Such games as chess, draughts, and all kinds of card games may be played with specially adapted apparatus which is made for them. All who can afford to do so should engage competent blind persons to teach them how to get the best out of their altered and sad condition. If oculists were to realize the importance of this matter they could do much by being able to recommend blind instructors for their patients. There are many home teaching societies for the blind throughout the country whose teachers visit the blind in their own homes and give instruction. Much Braille literature is circulated in this way, and books are lent for reading and exchanged when finished with. Any one interested in the subject of what the blind can do for themselves may get information from Mr. H. J. Wilson (Secretary of Gardner's Trust for the Blind), 53, Victoria Street, Westminster, with regard to home teaching societies for the blind, schools, workshops, and such like institutions; while from Mr. H. Fainsby (Secretary-General of the British and Foreign Blind Association), 206, Great Portland Street, W., information may be obtained regarding apparatus and appliances made for the use of the blind, including the Braille type and literature printed in this manner.

[1] British Medical Journal, December 10th, 1910.

THE RADIUM ION.

Some interesting experiments have been carried out in Paris with regard to the electrolytic introduction of the radium ion into animal tissues. They are detailed by Haret, Danne, and Jaboin.[1] The ordinary procedure of ionization was followed, the electrolyte being an aqueous solution of a salt of pure radium. Rabbits and other animals were made the subject of the experiments. In one case the compresses were saturated in a radiferous solution of 20 micrograms of radium bromide in 10 c.cm. of water. Ionization was then practised upon the legs of a rabbit, the current being raised gradually to 30 milliampères in the course of five minutes. In the case of one limb a second application was made after an interval of seven days. The animal was then killed, and a careful separation of the tissues was made, the accumulations of the salt of radium in each layer being estimated by the emanation method. They are given here in fractions of micrograms:

	Leg which had received one application.	Leg which had received two applications.
Skin	0.058	0.11
Aponeurosis	0.017	0.04
Muscular tissue	0.026	0.07
Tissue surrounding bone	0.02	0.04
Bone	0.03	0.05

Other experiments are detailed, including one upon a heifer. The authors conclude that not only does radium pass into the tissues by ionization, but that such ionization is necessary to its passage if the skin is not to be broken. The mere application of compresses saturated in a radiferous solution without the electrical current failed to give a subcutaneous penetration. They also concluded that this transport of the ions must be independent of the circulation of the blood, since in one case the radium was found in the muscular tissue and in the bone in spite of a ligature. The effects of the ionization, as seen in animals which have been allowed to live, are not injurious. The penetration of the radium ion, indeed, provokes a sedative action, and leads to the rapid diminution of certain tumours, and as the radium persists for a considerable time in the tissues it may be possible, by means of successive sittings of ionization separated by intervals of a few days, to arrive at successful therapeutic results.

[1] *Comptes rendus de l'Acad. des Sciences*, No. 12, 1911; and *Arch. d'électr. méd.*, No. 311, 1911.

TABARDILLO OR MEXICAN TYPHUS.

Dr. Howard Taylor Ricketts, Professor of Pathology in the University of Chicago, died of the disease known in Mexico City as "tabardillo" just as he had brought to a triumphant issue a prolonged series of investigations into its etiology. As a graceful tribute to his memory, ex-President Diaz caused all that Ricketts and his colleague, Russell Wilder, had written concerning this disease, together with the official documents relating to his death and the panegyric pronounced at the unveiling of a memorial tablet in the bacteriological laboratory which now bears his name in the city of Mexico, to be collected and printed and published at the expense of the Republic in the handsome volume, *Howard Taylor Ricketts: sus Trabajos sobre el Tabardillo*.[2] "Tabardillo" or Mexican

[2] *Howard Taylor Ricketts: sus Trabajos sobre el Tabardillo (Tifo de México)*. Published in compliance with the command of the President of the Republic by the Department of Public Instruction and the Fine Arts. México: Tipografia de la Viuda de F. Diaz de Leon, Sucs. 1910. (4to, pp. 137.)

typhus is a disease like, though not "identical with, the typhus of the Old World and the spotted fever of Montana and Idaho." It has been transmitted by Nicolle from the human subject to the chimpanzee and from the latter to the ape (*Macacus sinensis*). Ricketts succeeded in transmitting it directly from the human subject to the ape by injection; he proved that the virus did not pass through a Berkefeld bougie, that it was conveyed by the body louse (*Pediculus corporis* or *vestimenti*) though by neither bugs nor fleas. He himself transmitted the disease from man to ape and from monkey to monkey by means of infected body lice. He infected apes by introducing the intestinal contents of infected lice into scratches made over their skins, though he was not successful when he tried to transmit the disease in a similar manner with an extract of the heads of infected *P. vestimenti*. Shortly before his death Ricketts found in the blood of patients suffering from this disease a short bacillus staining by Giemsa's method at either end, though but faintly, if at all, in the centre. This organism was found in all cases of the disease, though only between the seventh and the twelfth day of the fever, namely, shortly before the defervescence. In morphology they were not unlike the organisms of the haemorrhagic septicaemias, and were roughly 2 μ long by $\frac{2}{3}$ μ in width. These bacilli were always found in the intestinal contents of infected lice. The work of Ricketts and his colleague, Russell Wilder, details with the utmost exactness every step in the experiments undertaken, as well as their investigations into the various powers of immunization and agglutination and into the clinical and bacterioscopic aspects of the disease. In the collection of papers by Ricketts, recently published by the Chicago University Press,[1] the communications of the late professor on this subject are given in their original English. This collection is important, and we hope to publish a review in an early issue of the JOURNAL.

TUBERCULOSIS IN INDIA.

IT is somewhat remarkable that the world-wide crusade against tuberculosis should have hitherto been so little regarded in India. Until recently, it had not even been clearly ascertained that the mortality from all forms of tuberculous disease stood at a higher rate than in many large European communities, and it can easily be understood that anything like preventive or prophylactic measures must be very difficult to enforce among crowded peoples who regard precautions against the spread of the far more obvious scourges of cholera and plague as an impious interference with the decrees of fate. A beginning has been made by the municipality of Bombay and an interesting report has recently been issued by their Executive Health Officer, Dr. J. A. Turner, who has instituted a number of observations and experiments which are of considerable value. Hampered by the unwillingness of owners of cattle to submit their beasts either to inoculation during life or to examination after death, his results cannot be regarded as absolutely conclusive, but they go to prove that although the general mortality from tuberculous disease of the lungs and other organs is high in India, the prevalence of the disease in cows or buffaloes cannot be very great. Hence the probability that in spite of the abundant opportunity for the spread of the disease by infected cow-dung, which is used almost universally by the poorer natives in place of cement, infection of the human being must take place in other ways than by association with domesticated cattle. Precautions against spitting have been issued, but a considerable time must elapse before the kaleidoscopic crowd in the streets of Bombay is likely to observe them. The extraordinary prevalence of birds, the first line of scavengers in that city, cannot fail to act as a means of transmission for other forms of infection besides tuberculosis, while the ever-present swarms of flies must also be a factor to be reckoned with in any large endeavour to suppress the spread of infective disease. Active measures are being taken as regards notification, disinfection, and public instruction, and the excellent example thus set in Bombay will doubtless be followed by similar action in other large cities. Details are given in Dr. Turner's report as to the results of his search for acid-fast bacilli in milk and in roadside sputum, and it may be noted that in many instances where such bacilli could be detected their inoculation into guinea-pigs proved to be negative. In many cases, also, cattle responded to inoculation, but their milk did not show infective properties, nor in fatal cases were there marked signs of tuberculosis in the tissues. An immense field of research is thus open to future investigators in India.

[1] *Contributions to Medical Science by Howard Taylor Ricketts, 1870–1910.* Published as a tribute to his memory by his colleagues under the auspices of the Chicago Pathological Society. The University of Chicago Press.

MUSEUM DEMONSTRATIONS.

THE Council of the Royal College of Surgeons of England has made arrangements for a further series of demonstrations to be given in connexion with the Museum by Professor Keith and Mr. Shattock. The first demonstration will be given by Professor Keith on Friday, October 13th, at 5 p.m., on specimens illustrating recent discoveries in the anatomy and pathology of the heart. On Monday, October 16th, at 5 p.m., Mr. Shattock will give the second of the series, selecting as his subject the specimens illustrating necrosis, a section which is richly represented in the Museum. The other demonstrations, which will be given on Fridays and Mondays, at 5 p.m., will be duly announced.

WE regret to state that Lord Ilkeston underwent a surgical operation on October 3rd. He is making very satisfactory progress, and we are sure that the whole profession will share our hope that he may speedily be restored to complete health.

IT is proposed to hold the Naval Medical Dinner in London about the third week in November. Particulars will be given later.

THE Ceylon Government has offered the London School of Tropical Medicine £750 for the investigation of sprue and it is hoped that a further sum of £250 will be subscribed for the same purpose by the Ceylon Tea Planters' Association.

SIR WILLIAM OSLER has been selected to deliver the Silliman Lectures at Yale University in October, 1912. He will deliver a course of six lectures on the Evolution of Modern Medicine.

THE annual dinner of the London School of Tropical Medicine will be held at Prince's Restaurant on Tuesday, October 17th, at 7.15 for 7.30 p.m. The chair will be occupied by Dr. M. Cameron Blair, Senior Sanitary Officer, Northern Nigeria.

THE inaugural address to the Royal Medical Society of Edinburgh will be delivered on Friday, October 20th, by Professor Saundby, President of the British Medical Association. Professor Saundby was Senior President of the Society in 1874. The society was founded by Cullen and others in 1737, and obtained a Royal Charter in 1778.

THE first Hunterian Lecture of the Hunterian Society will be delivered by Dr. Theo. B. Hyslop on October 11th at 9 p.m., on "Intracranial Murmurs in their Relationship to Tinnitus Aurium." The lecturer will deal with some of the more important of the anatomical and physiological problems of intracranial physics, including the pulsatile, respiratory, and peristaltic movements of the cranial contents. Examples will then be given of morbid affections of the vascular and lymphatic systems which may, in some instances, be attended by acoustical phenomena, observable both subjectively and objectively. All members of the medical profession are invited to attend.

BRITISH ASSOCIATION.

(Continued from page 700.)

SECTION OF PHYSIOLOGY.

Reports of Committees.

Anaesthetics.

THE committee, consisting of Dr. A. D. Waller (chairman), Sir Frederic Hewitt (secretary), Dr. Blumfeld, Mr. J. A. Gardner, and Dr. G. A. Buckmaster, presented a third interim report. It consists of a general report signed by the chairman and four appendices. During the past year the attention of the committee has been directed to the clinical application of laboratory results contained in the report of the previous year, the particular points receiving attention being the administration of ether and the clinical application of the chloroform balance. A 10 per 100 mixture of ether and air was found to be adequate for the production and maintenance of surgical anaesthesia in man, and this percentage is approximately given by the "open ether" method of administration. A chloroform balance has been installed in the out-patient theatre of St. George's Hospital and has been in regular use for six months. Dr. Buckmaster and Mr. Gardner have been accumulating a mass of valuable data concerning the composition of the blood gases in chloroform anaesthesia.

Appendices.

Appendix I. by Dr. Waller, gives an account of the installation of a chloroform balance in hospital for ordinary daily use. An amount of detailed information as to the parts of the apparatus, the graduation of the chloroform balance, its sensitiveness, position of the balance, etc., is furnished. Appendix II, also by Dr. Waller, deals with the percentage of ether ordinarily afforded by an "open" method of administration. Mr. G. R. Phillips, in Appendix III, gives an account of his six months' experience in the use of the chloroform balance in St. George's Hospital. He alludes to certain improvements which it has been necessary to adopt in order to remedy certain defects, such as the adoption of a two-gallon gasbag in circuit next to the facepiece, and the necessity of having inspiratory and expiratory valves interposed between the bag and the facepiece. The apparatus has not as yet been used for any severe operation, but an extremely light anaesthesia can be maintained for long periods without the usual troubles, and the patients were enabled to return home much sooner. Provided that the percentage is evenly and gradually raised, the depth of anaesthesia required for an operation is much less than by a Skinner's mask, the inspirations are stronger, and the liability to vomiting distinctly less. Numerous illustrative cases are recorded. Children and alcoholics require as much as 3 or 3.5 per cent. to control them at first, but the majority of healthy young adults not more than 2.5 per cent. for this light stage. The effect upon children is even more marked than upon adults. For young children and infants the facepiece and bag are discarded, the stream of vapour being allowed to pass over the patient while they are partly covered over with a rug in the nurse's arms.

Appendix IV, by Sir Frederic Hewitt, deals with some general points of importance and interest in the use of the chloroform balance, which suggest the modification or abandonment of certain methods of administration. The balance has thrown a new and philosophic light upon general anaesthesia. Safe anaesthetization can be secured provided the strength of chloroform vapour does not exceed 2 per cent. The excitement and struggling during anaesthetization are attributed in the majority of cases to reflections in the inhaling system or actual apparatus causing symptoms of suffocation, or to irregularities in the vapour concentration causing irritation to the mucous membrane of the upper air passages. These points are discussed by Sir Frederic Hewitt in some detail. He proceeds to state that "while undoubtedly indebted to the chloroform balance and to other appliances for the possibility of reducing the risk of chloroform anaesthesia almost to a vanishing point, it is questionable whether, in the light of recent developments in ether administration, we have ever witness that widespread adoption of the more perfect of these two agents, which some writers have regarded as inevitable." On the other hand, a "long and successful reign" is predicted for the "open ether" method. Sir Frederic Hewitt announces his complete conversion to "open" as opposed to "close" etherization. A new era in anaesthesia is opening in this country; old and time-honoured methods and appliances are being discarded and simple methods and slow inductions used and practised.

Body Metabolism in Cancer.

A short interim report is issued by the committee, of which Professor Sherrington is chairman, and Dr. S. Monckton Copeman, secretary, appointed to consider body metabolism in cancer. The experimental work on mice, an account of which was given in last year's report, has been continued, and it had been proposed to test the effect of various substances derived from the genital glands (more especially nucein and its derivatives) upon the human subject. Owing to the difficulty in obtaining the necessary material, the work has been much delayed, but certain preliminary tests have been carried out to determine the dosage and best method of administration. No detailed statement can yet be made, but it is stated that the daily output of phosphates in the urine, both relatively and absolutely, in cases of malignant disease, is considerably reduced.

Mental and Muscular Fatigue.

A detailed account of the work of the committee appointed to consider the subject of mental and muscular fatigue is shortly to be published. The report to the British Association contains a short account of work done during the past year by Professor J. S. MacDonald and Dr. J. C. Chapman with a large calorimeter in the Physiological Laboratory at Sheffield University. The calorimeter was used simply for the purposes of heat measurement and not as a respiration calorimeter. Details in the construction of Atwater and Benedict's calorimeter are discussed, and the report concludes by stating that "in expressing the results of experiments it has been found essential to take full account of the surface of each subject; a consideration of the published results of others and of our own direct measurements have led us to adopt a modified formula for the surface in terms of the data of height and weight—

$$S = 3H^{\frac{1}{2}}W.$$

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

BOWDEN'S INDIAN BALM.

THIS article is supplied by Bowden's Indian Balm Company, Barnstaple, at prices from 7½d. to 10s. A tin priced 2s. 9d. was found to contain about 4 oz.

It is described on the package as

For all Inflammations, Muscular Complaints, Skin Diseases, etc., as Inflamed Eyes, Neuralgia, Face-ache, Bronchitis, Rheumatism, Eczema, Ringworm, Cuts, Stings, Wounds, Scalds, Burns, Strains, Piles, Chilblains, Chaps, etc.

Circulars enclosed in the package also contained recommendations for the use of the Balm for colds, congested nostrils, catarrh, whooping-cough and croup, lumbago, stiff-neck, erysipelas, bedsores, irritation after fever or vaccination, eruptions, abscesses, boils, ulcers, itching at the anus, sores, sprains, bruises, mumps, abrasions, stings of mosquitos and other insects, sunburn, sore and tender feet, inflammation of the bowels, cancerous sores, asthma, coughs and chest complaints, sore throat, whitlow, corns and warts.

It is further stated that:

This Preparation contains no less than seventeen ingredients, including Valuable Balsams, Extracts, Essences, Indian Oils, etc., and so is a veritable little Medicine Chest in itself. Few other remedies will be required where it is kept at hand and used habitually.

The most delicate Lady or Child, as well as the strongest Athlete, will find the Indian Balm to be a treasure. It can be used with perfect safety upon an open wound, be placed upon

* Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1901, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 982, 1350, 1928; 1911, vol. i, pp. 26, 91, 823, 1321; vol. ii, pp. 32, 77, 456, 767.

the Eyeball for Inflammation, or be used internally for Complaints of Throat and Chest. It will draw out every particle of injurious matter before healing any Ulcer or Sore, thus preventing a return of the trouble. Prompt application to Wound, Scald, or Burn is the best preventive of Blood Poisoning.

Lengthy directions are given for its use in a variety of cases; the following will suffice as examples:

Ophthalmia and Inflammation of the Eye.—Rub the Indian Balm round the Eyes two or three times a day. In acute cases apply inside the lids.

Inflammation of the Gums, Toothache, and Faceache.—Well rub the Balm on the Gums and Face. When the Tooth is hollow the Balm can be inserted on cotton wadding.

Inflammation of the Bowels and Pain in the Small of the Back.—Foment the parts with hot water, and briskly rub with Balm (10 to 15 minutes at a time) till relieved.

It would appear to be equally efficacious when administered internally, for we read:

Sufferers from Asthma, Croup, Bronchitis, and all Throat or Chest Complaints find the soothing and healing effects of Indian Balm, when taken internally on lump sugar, to be immediate and remarkable. It also enables patients to get rid of injurious phlegm. Public Speakers and Singers should use it. The Balm is pleasant to use and effectual in operation.

The "Balm" consisted of a brownish-yellow ointment. Analysis showed the presence of about 7 per cent. of volatile oil, in which oil of eucalyptus predominated, and a fatty basis. The oil did not contain as much cineol as an ordinary good specimen of eucalyptus oil, and some evidence was obtained of the presence of essential oil of camphor, terebene, and oil of lemon. The solid basis contained, besides fatty constituents, a very small amount of ammonia, and a little of a resinous substance; the latter was not ordinary resin, but showed no distinctive characters sufficing for its identification. It may have been derived from balsam of Peru, or some similar ingredient, but comparison of its properties pointed to the probability of a mixture of balsamic substances. The statement that seventeen ingredients are present may be true, for the essential ingredients are a fatty basis, a mixture of volatile oils, and a resin, and each one of these can easily be made of an almost unlimited number of ingredients mixed together; no other active substance was found. An ointment prepared from the following formula, which is based on the analytical results obtained with the "balm," strongly resembled the latter, and only differed from it in minor points:

Lard	35 per cent.
Cocoanut oil	35 ,, ,,
Tallow	10 ,, ,,
Rape oil	5 ,, ,,
Lanoline, anhydrous	4.5 ,, ,,
Balsam of Peru	1 ,, ,,
Oil of eucalyptus	5 ,, ,,
Terebene	1.5 ,, ,,
Essential oil of camphor	1.5 ,, ,,
Essential oil of lemon	0.5 ,, ,,
Solution of ammonia	1 ,, ,,
Annatto colouring	a sufficiency.

The circulars sent out with the Balm show that the proprietors sell a number of other preparations, including Herbal "M," "D," or "A" mixtures for "Menhoragia (Profuse M), Dysmenorrhea (Painful and Imperfect M), or Amenorrhea (Suppressed M)." The mixtures are declared to be "harmless, yet most effectual."

We are told that Indian Balm is much patronized by persons whose theological opinions are of a certain colour, and we have observed the following note on the circular:

Special terms are given to Charities and Missions. Where there is no agent, any obliging chemist can procure a single box from his usual Wholesale House, or keep a small quantity on hand for the convenience of a customer. There is no Ointment on the market to compare with Indian Balm for value and efficacy. A fair trial will prove this to be no rash or unfounded statement, but the exact truth.

MOTOR CARS FOR MEDICAL MEN.

INCOME TAX AND DEPRECIATION OF MOTOR CARS.

SEVERAL cases have come to our notice recently in which the Inland Revenue have refused to allow a sum to represent the "diminished value in respect of wear and tear" of motor cars and other machinery used by medical men. This refusal is, we understand, based on the fact that the Income Tax Act that provides for allowance for depreciation of "machinery or plant used for the purposes of the concern" applies in terms only to a "trade manufacture, adventure, or concern in the nature of trade." The medical profession is not regarded for this purpose as falling within this description, though in every other respect the profits of the profession are charged to income tax under precisely the same regulations. The result is that a trader who provides a car to enable his travellers to visit customers, or who uses a car himself in the course of his business is entitled to an annual allowance for depreciation, while the medical man is debarred from such an allowance, and this merely because in 1878, when the Act providing for depreciation of machinery was passed, the use of machinery in the exercise of a "profession" was not contemplated.

In view of the decision of the Inland Revenue in regard to the allowance for wear and tear, especial care should be taken to ensure that the expense of replacing an old car by a new one is claimed against the receipts of the year in which the expense is incurred. The sum to be claimed will be the full cost of the old car, and it may be remarked that if a car has been renewed since the beginning of 1908 the expense would, by the operation of the average, affect the income-tax assessment of the current year 1911-12. In any case in which such an expense has been incurred within that period and not claimed as a deduction it will be well to write to the Surveyor of Taxes at once, applying for a reduction of the current assessment by a sum representing one-third of the cost of replacing the old car. If the Surveyor of Taxes demurs to the allowance of the cost of replacement, it should be pointed out to him that the section providing for the cost of renewals is specifically made applicable to professions by the Income Tax Act of 1842 (Third Rule of the Second Case, Schedule D).

THE FORD CAR.

"MOTOR NOVICE," before purchasing, would be glad to have the opinion of any reader who possesses a 20-h.p. 5-seater "Ford" motor car, model T., whether found satisfactory.

Dr. A. E. KENNEDY (Plaistow, E.) writes: Would any member who has owned a "Ford" car for a year give information as to how it has worn and what defects it has developed? Such information is so valuable, and it is almost impossible to get unfavourable reports through the motor papers.

MOTOR CYCLE.

GALEN writes: A middle-aged practitioner wishes to make use of a light-weight motor cycle. District not very hilly. He will be glad to know what make is most suitable, especially one very easy to start.

LITERARY NOTES.

MESSRS. J. AND A. CHURCHILL have ready for publication the following new editions of well-known Students' Textbooks: A third edition of Dr. T. W. Eden's *Manual of Midwifery*; 150 pages have been added to the text, and the book contains 60 additional illustrations; a fourth edition of Professor Tanner Hewlett's *Manual of Bacteriology*; a fourth edition of *A Handbook of Physics and Chemistry*, by Herbert E. Corbin and Archibald M. Stewart, Headmaster of Alresford Grammar School; this book now covers the extended syllabus of work required for the first examination of the Royal Colleges; a ninth edition of *Quantitative Chemical Analysis*, by Frank Clowes and J. Bernard Coleman; vol. 5 of the new edition of *Allen's Commercial Organic Analysis*. This volume has been rewritten under the editorship of Mr. W. A. Davis, B.Sc., and Mr. S. S. Sadtler, S.B.

Those who look forward with pleasure to the quarterly appearance of the *Old-Lore Miscellany of Orkney, Shetland, Caithness, and Sutherland*, will not be disappointed in the October number of that delightful magazine, whose table of contents is even more than usually attractive. A charming sketch of an old-world Orkney township, put into the mouth of an aged Orcadian, is contributed by Mr. John Spence, who guarantees the facts and even the very words themselves to be "genuine old lore" gathered from a member of his own family, whose advanced age made her a link between the ever-changing present and an almost forgotten past. Reproduced here, these scattered recollections form a fitting pendant to Mr. John Firth's description of rural life in Orkney a hundred years ago; whilst the Rev. D. Beaton's short account of "An Interesting Caithness Church Record" gives a vivid picture of the unsettled condition of a country parish in the extreme north-east of Scotland during the stormy days of the great Civil War. Some interesting details relating to Orkney mound-lore and the ancient marriage customs of Sutherland are to be found amongst the Notes and Queries; and an extract from the Journal of the late Dr. Edward Charlton contains a graphic description of plover shooting in the island of Yell during the early part of last century. The illustrations are limited to an excellent reproduction of Raeburn's beautiful portrait of Lady Janet Traill, which forms the frontispiece of the present number.

Every one has heard of the exquisite stuffs, woven out of the brilliantly-coloured plumage of tropical birds, which formed some of the most precious of the trophies carried off by the Spanish conquerors of Mexico; but few, perhaps, are aware that the ancient Aztecs were singularly successful bird-fanciers, and that the manufacture of these stuffs was carried on in connexion with a magnificent aviary belonging to the Mexican sovereigns, which formed part of a large menagerie attached to the royal palace at Mexico. Bernal Diaz, the Castilian, one of Cortez's companions in arms, has left an amusing description of the "Bird House," as the entire menagerie was called, in his *True History of the Conquest of New Spain*, and this account forms the subject of a most interesting article by M. Pierre-Amédée Pichot, which appeared in the August number of *L'Hygiène*. According to the Spanish chronicler, the Bird House contained specimens of almost every native bird, from the golden eagle to the humming bird, all, as far as possible, living and breeding in their natural surroundings, and carefully tended by numerous keepers. Amongst the duties of the latter was the removal of the plumage of each bird at the commencement of the moulting season, the feathers being sent into the adjoining workshops to be converted into the wonderful fabrics which afterwards served as robes of state for the members of the royal family, or as tapestries for the adornment of the temple and palace walls. The Bird House, however, was not tenanted by feathered songsters alone. Close to the aviary stood a temple containing, in addition to the usual idols, a large collection of jaguars, pumas, and other wild beasts, together with a number of snakes; and we are assured by Diaz that a large portion of the diet of these animals consisted of the mutilated bodies of human sacrifices, varied, on one occasion at least, with that of Spanish soldiers fallen on the field of battle. This early specimen of a zoological garden vanished with the rest of the old Mexican civilization, being burned to the ground during the sack of Montezuma's palace; but the secret of the feather stuffs survives to this day, if one may believe the historian Bustamente, at Patzquaro, where they are still to be procured. An article of equal interest, though of very different purport to the foregoing, has been contributed to the August number of *L'Hygiène*, by M. L. Mirman, who writes on "The Protection of the Public against Cholera"; whilst M. Henri Meurisse's short account of the history and manufacture of "Beer and Cider" contains much useful information concerning the relative nutritive values of these favourite beverages; and M. Emile Gautier has given some sound advice as to the best way of ridding a house of ants.

An excellent little book entitled *The Evolution of Urine Analysis: An Historical Sketch of the Clinical Examination of Urine*, was issued by Messrs. Burroughs Wellcome and Co., on the occasion of the Birmingham meeting. In a "Foreword" Mr. Henry S. Wellcome states that for many years he has been engaged in researches on the early methods employed in the healing art, both among civilized and the uncivilized peoples; and he has had in his mind for some time past the organization of an exhibition illustrating the history of medicine, chemistry, pharmacy, and the allied sciences. It is intended that this project shall take concrete shape at the same time as the International Medical Congress to be held in London in 1913. The booklet on the evolution of urine analysis, which is profusely illustrated with reproductions from pictures in mediaeval illuminated manuscripts and old woodcuts and pictures, gives proof of wide research, and contains within its small compass a mass of interesting information. We venture to call attention to some trivial errors. In the frontispiece, a reproduction from a MS. of the fifteenth century, the title is given as "SS. Cosmos and Damian"; the more usual form of the first of these names is "Cosmas"; as such it appears in the list of saints in the Canon of the Mass. St. Cosmas gave his name to the famous surgical College of Saint Côme in Paris. Again, in the chapter on Uroscopy in the Middle Ages, mention is made of the "Salernan physicians"; "Salernitan" is the usual form, as we see in the *mulieres Salernitanae*, or medical women of Salerno, so often quoted by mediaeval writers. "De urinus" on p. 21, "Supremio gio" at p. 47, "La femme hydrophique (p. 69), are obvious misprints. The great name of "Scalliger" (p. 55) is endowed with a superfluous letter. "André Vésale" (p. 67) is a curious rendering of the illustrious name of Vesalius, who was not a Frenchman. The book whets the appetite of the antiquarian for the treasures which will be displayed at the Medical Historical Exhibition.

We are so much accustomed to believe that the science of child-rearing is essentially a modern development, and that those who preceded us were almost completely ignorant of its most elementary laws, that it is rather startling to find that, however neglected it may have been during the Dark Ages, the physicians of the older civilizations were fully aware of the importance of this branch of knowledge, and devoted much time and attention to the instruction of their female patients in the art of bringing up their babies. That their views, moreover, were in general more advanced than we are apt to imagine may be gathered from the writings of Soranus of Ephesus, who practised in Rome during the reign of the Emperor Trajan, and whose maxims on the proper treatment of young children form the subject of an interesting article by Dr. Charles Ségnin which appeared in *Le Progrès Médical* for September 16th. Unfortunately, the greater part of the works of this ancient medical authority have been lost, but the fragments which still remain suffice to prove that, with regard to nursery hygiene at any rate, he must have been an extremely sensible and level-headed practitioner. To modern ears many of his precepts sound strangely familiar, particularly those which relate to the treatment of the newborn baby and to the frequent use of the bath. Every baby, he says, should be washed twice daily from birth, at first in hot and later on in varying degrees of tepid water, until he is able to endure cold baths, which will render him less liable to chills when exposed to the open air. For the first six months his food should consist solely of milk (and here it may be remarked that Soranus was a firm believer in the value of the mother's milk for infants), but that period once passed his diet should be modified with such soft substances as the crumb of bread or flour dissolved in water or wine and honey. Later soup and new-laid eggs may be added to the daily bill of fare, together with bread soaked in wine and water; and if the child complains of thirst a small quantity of wine and water should be administered after meals. At the age of 18 months or 2 years his dietary should undergo another change, the quantity of milk being diminished and that of solid food increased. On no account, however, should the child's stomach be burdened with farinaceous foods at too early an age, a warning which was apparently only too much needed at a time when Roman nurses were accustomed to nourish their charges on such fare immediately they had passed the fortieth day from birth. It is possible that this pernicious practice, combined with the constant use of alcohol, may have been the cause of the prevalence of rickets amongst Roman children, an evil which is ascribed by Soranus to the ignorance of nurses and mothers alike. He urges them to keep children from walking too soon if they wish to save them from the deformities and malformations which at that period were terribly common in every class of society; but his wisdom stops short at this point, and throughout the whole of his writings there is no evidence that he recognized the imperative necessity for the feeding of children at certain fixed hours. On the contrary, the Roman baby seems to have had an indefinite number of meals a day, taken according to his (or more probably his nurse's) own sweet will and fancy, and consisting for the most part of food which placed far too great a strain upon his digestive faculties. It is therefore hardly surprising that there were many unsightly objects to be seen in the streets of Rome, and that the flowing toga of her citizens often concealed beneath its ample folds a pair of bandy legs or other evidences of a neglected childhood.

We all know how little patients are to be trusted in their accounts of what their doctors say about their complaints and their treatment. No wise practitioner therefore pays much heed to what may be said by a patient of his predecessors in charge of a case. An amusing collection might be made of mistakes made by patients in such matters. A very funny one (which we find in Grant Duff's *Diary*) is that made by an American lady in Paris, who is reported to have said: "Mon médecin m'a ordonné de suivre un *régiment!*"

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

WOMEN AND PUBLIC HEALTH.

THE Royal Institute of Public Health, having appointed Her Excellency the Countess of Aberdeen to the presidency of their association for the coming year, recognizes apparently that public health work is a part of women's work as well as men's. It is in the homes of the people that the improvement in the health of the community must take place, and thus the hygiene of the household must be made as much a part of the housewife's care as the rest of the domestic economy. Her Excellency, who has done so much for the health of Ireland, has recognized that women cannot do their part without an intelligent understanding of the laws of hygiene and elementary physiology, and accordingly Her Excellency approached the authorities of the new university colleges in Ireland with the view of getting them to establish a course in these subjects which would be useful for women. University College, Cork, has instituted a course especially for women students which ought to prove both interesting and instructive. It has also the great advantage of being recognized as forming one subject in the course for the Bachelor of Arts examination. It is expected that many women students will avail themselves of gaining a knowledge that will no doubt prove most useful and practical in after-life, and University College, Cork, is to be congratulated on being the first college to recognize the necessity of such a set of lectures.

SHORTAGE OF BREAD IN DUBLIN HOSPITALS.

As a result of a strike in the bakery trade in Dublin several of the hospitals have been deprived of their usual supply of bread during the week, and it is feared that serious consequences may result to the hospital inmates if some means cannot be devised to remedy the present shortage. Some of the hospitals have obtained large supplies of flour, and are endeavouring to bake their own supply, while it is stated that the Army Service Corps' bakers have offered their services. The executive committee of the Bakers' Union are understood to have informed a Dublin medical man that they were at no time cognizant of the fact that the hospitals were being deprived of the means of succouring the poor for want of bread supply, and that rather than see the poor suffer they would organize a body to bake and deliver the supplies necessary for the upkeep of all deserving charities in the district. This expression of opinion will be received with satisfaction, and it is hoped that the intention will immediately be put into action, as much inconvenience has already been caused, an inconvenience which is all the greater owing to the fact that during the railway strike difficulty in obtaining eggs and other supplies from a distance was experienced by several hospitals.

PUBLIC HEALTH IN DUBLIN.

The annual report upon the state of public health in the City of Dublin for the year 1910 states that the population of the Dublin registration area in the middle of that year was estimated to be 402,928, an increase of over 25,000 in ten years. The density of the population in the whole area was in the ratio of 29.3 per acre and in the city 39.2 per acre.

Births and Deaths.

In 1910 the births in the whole registration area numbered 11,397 (5,886 boys and 5,511 girls) which was equivalent to 28.3 per 1,000 estimated population. This rate is 0.3 below the average of the previous ten years, but it is pointed out that the decrease in birth-rate which appears to be general throughout Europe is slighter in Dublin than in most great cities. The deaths during 1910 numbered 8,029, the death-rate being 19.9 per 1,000 living, or 3.1 below the mean rate for the years 1900–1909. Of the deaths, 3,753, or 44.1 per cent., occurred in public institutions. The number of deaths from the principal epidemic diseases was 581, or 1.4 per 1,000 of the population.

Infantile Mortality.

There has been no diminution in the infantile mortality in Dublin, although the general death-rate has fallen considerably of late. The deaths in 1910 represent a rate of 142 per 1,000 registered births, as compared with a rate of 103 per 1,000 in London. This high death-rate of infants is practically confined to the lower classes. During the year the Early Notification of Births Act came into force, and the carrying out of its provisions was entrusted to six lady sanitary subofficers. The time under review is, however, too short to draw any conclusions on the working of the Act. The officers report that in no case has a mother shown any disinclination to receive instruction. Their observations suggest that the high infantile mortality is to a substantial extent caused by insufficient nourishment of both mother and child, and of the mother before as well as after the confinement.

Deaths from Infective Disease.

Nineteen deaths were ascribed to measles, 37 to scarlatina, and 105 to whooping-cough. Twenty cases of typhus fever were notified, and of these 5 died; the deaths due to enteric fever numbered 32, the lowest on record; 49 deaths were due to diphtheria out of 487 cases. The deaths from all forms of tuberculosis numbered 1,183, or 36 less than in 1909. During the entire year the Tuberculosis Prevention Act, 1908, was in force, and under its provisions 956 notifications of tuberculosis were received, including 516 males and 440 females. Over 900 of this number consisted of individuals between 15 and 45 years of age, and, as showing the position of those affected, it is noteworthy that 390 of the total number were inmates either of the Dublin unions or of the Richmond Asylum. In 587 of the notifications it was stated that no immediate attention was required, but when no objection was raised, an attempt was made to visit these patients, and to render them help by providing disinfectants, spittoons, etc.

Tenement Houses, etc.

The report points out that sanitary legislation is required which would enable the Public Health Department to enforce cleanliness on the part of tenants of tenement houses in cases where the landlord could not with fairness be held responsible. In Ireland, when a number of families occupy one house, the landlord is responsible if the yard and house passages are kept in a filthy state. If the law was changed as above indicated it is thought that the tenants would keep a watch upon one another and thereby ensure much greater cleanliness. It is also pointed out that periodical cleansing of the lanes and alleys—894 in number—which are not in charge of the corporation is absolutely essential, even though the cost cannot be recovered from the owners of houses abutting upon them.

In relation to street trading by children, the opinion is strongly expressed that total prohibition would be a great hardship, as in many cases an entire family may be dependent on the earnings of its juvenile members.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENT.]

WEST YORKSHIRE.

MAGGOT FUMES AND PHTHISIS.

A GREAT deal of discussion has recently taken place in the West Riding on the supposed virtues of the fumes produced in breeding maggots on phthisis pulmonalis. There are several establishments in the West Riding in which the maggots are developed in the decomposition of animal substances—chiefly horseflesh—for the purpose of bait for fishermen. Individuals suffering from phthisis have been in the habit of sitting in some of these places for several hours daily, and it has been asserted that their condition rapidly improved, and that in some cases they have been even cured. There is no scientific evidence of the truth of these statements, and there is no doubt whatever that the business of maggot breeding is an extremely offensive one, and that the atmosphere produced in the process is of the most pernicious character. That this is the case is apparent from a report recently issued by the West Riding Medical Officer of Health. An individual who carries on one of these maggot breeding places recently applied to his urban district council for permission to enlarge his establishment,

so that it could be used for a "sanatorium" for persons suffering from pulmonary tuberculosis. Dr. Kaye strongly advised the council to veto the proposal. He says "that he has gone carefully into the evidence concerning this mode of treating consumptives, and there is no evidence to show that it is curative or even permanently beneficial."

The Water Shortage.

Several places in the West Riding are still suffering from a shortage of water, one of the most unfortunate being the city of Bradford. Bradford has spent an enormous amount of money on its water, and it has been asserted that it was quite impossible for any drought to necessitate a curtailment of the supply. It is true that a large reservoir for storage purposes in the Nidd Valley is not yet completed, but the authorities have led the public to believe that even without this they could almost indefinitely keep up a full supply. It has been constantly stated that when the Nidd scheme is finished there would always be such a supply of water that, even with the natural increase of the city, it would fulfil all possible requirements for the next 100 years. It looks as if at present the supply is only large enough to last for four or five months without rain. Even with the addition of the Nidd reservoir there will only be two or three months' further supply. There has evidently been woeful miscalculation by the authorities as to their ability to serve the city efficiently with water. For some time past the water has been cut off from six in the evening until nine next morning. This is a most dangerous procedure. All flushing of waterclosets during the evening, night, and morning is prevented, and it would be no surprise to the medical men of the city if an epidemic were engendered.

A Bradford Sanatorium for Women.

Two inspectors of the Local Government Board held an inquiry at Bradford on September 26th into the application of the Bradford Corporation to borrow £20,500 to build a sanatorium for females suffering from consumption. The Bradford Guardians have a sanatorium for men at Eastby, and it certainly seems curious that one sex should be taken by the guardians and the other by the corporation. A large number of very pertinent questions were asked by the inspectors, and it was quite evident that their opinions on the proposals were critical in their nature. The whole scheme seems to be too solid in character and money to be spent in quite an unnecessary manner. That this is so may be judged from the fact that the cost per bed is to average £300, and that the architect considered that the building would last from sixty to a hundred years. It seems that the proposals were drawn up without any discussion with the Local Government Board, and they show the extravagant nature of the plans frequently evolved by local authorities. There is no doubt that they will eventually be considerably modified, both in the interests of the ratepayers and also of the patients.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Scottish Sanitary Congress.

(Continued from page 773.)

Measles and Whooping-cough.

Dr. John T. Wilson, M.O.H. Lanarkshire, submitted a paper on "The Administrative Control of Measles, Whooping-cough, and the Minor Affections of Childhood."

Housing of Seasonal Workers.

Dr. John C. McVail, M.O.H. Stirling and Dumbarton, read a paper on "The Housing of Potato Diggers and other Seasonal Workers." At present, he said, local authorities were not armed with powers which were fully effective for the proper control of the premises in which these workers were housed. The necessary powers could best be obtained by amendment of the Act so as to enable local authorities to make by-laws for the housing of out-door seasonal workers, the by-laws being subject to the final appeal to the Local Government Board. In order that the by-laws should be enforced it would be necessary to impose on the parties responsible an obligation to give timely intimation to the local authority of the expected arrival of the workers, so that the premises could be visited and examined while still unoccupied and any defects made good. Likewise, intimation should be required immediately before the workers came, in order that the premises might be visited during their occupation.

After discussion of Dr. McVail's paper, the following resolution was unanimously adopted:

> That this congress desires respectfully to direct the attention of the Secretary for Scotland to the insanitary and unwholesome conditions generally attached to the housing of potato diggers, berry pickers, and other outdoor seasonal workers, and to point out that the evils referred to cannot be remedied under the existing law. The congress is of opinion that a bill, probably consisting of a single clause, empowering local authorities to frame by-laws dealing with the conditions in question is urgently required.

Housing and Town Planning.

The subject of the next discussion was "The Housing Problem as affected by the Town Planning Act." The discussion was arranged in two parts, and Councillor MacPherson, Convener of the Public Health Committee, Edinburgh, opened it with a paper on "The Destruction of Slums." In the course of the paper he dealt with improvement of slum schemes. Much good had been done by the operation of these schemes in all the large towns. They had removed many a plague spot, and, at least for a time, greatly improved the surroundings and housing conditions of the community. His chief objection to these schemes was that they involved an enormous outlay, which, in his view, was largely wasted. It was, of course, said that the improved health of the community was the consideration obtained for that expenditure. He attached the greatest importance to the procedure by closing orders. Under the public Acts local authorities might pronounce closing orders, but they were subject to appeal to the sheriff. In Edinburgh under local Acts there was no appeal. Again, under the public Acts a closing order could be followed up by demolition. Under the local Acts Edinburgh Corporation, when a closing order had been pronounced and the owner had failed to put the property right, could not only demolish, but compulsorily purchase the condemned property at the nominal price which it was worth. An interesting discussion followed the reading of this paper, after which the Rev. Dr. Walsh, Dundee, opened the second part with a paper on "The Housing Problem as Affected by the Town Planning Act." In the course of his remarks he dealt with the three grand purposes of the Town Planning Act: (1) Sanitary conditions, (2) Amenity, (3) Convenience.

Sanitary Administration of the Highlands.

The second day's proceedings were opened by a paper by Mr. James Rose, County Sanitary Inspector for Sutherlandshire, on "The Difficulties of Sanitary Administration in the Highland Counties." In the course of his paper Mr. Rose referred to the conditions under which sanitary duties were performed. Take for example, he said, a case of scarlet or typhoid fever—it might involve a journey of 70 or 120 miles, and in some counties even double this distance; it might take two or three days to reach the locality, a day was lost in inquiry or possibly disinfection, but in any case two visits had to be made, and the expense, not counting the time, was anything from £3 10s. to £10, including the two visits. The other main difficulty was poverty. One of the most difficult problems in sanitation in the Highland counties was the condition of what was generally termed "the crofter township."

Tuberculosis.

Professor Glaister, University of Glasgow, in a paper on "The Latest Aspects of the Problem of Tuberculosis," gave a series of statistics regarding the mortality from tuberculosis in all forms and pulmonary phthisis in England and Wales and in Scotland respectively.

Dust in Schools.

A paper on "The Dust Problem in Schools," by Dr. Stevens, Hartlepool, was read in his absence by Dr. Brown, Ayr.

The Milne Treatment of Scarlet Fever.

A discussion, showing much difference of opinion among the medical men present, ensued on the reading of a paper by Dr. Campbell Munro, M.O.H. Renfrewshire, on "The Milne Treatment of Scarlet Fever." In reply to remarks on his paper, Dr. Munro reminded the meeting of the enthusiasm with which the Koch cure for consumption had been hailed, and the bitter disappointment which followed. He should be sorry if the congress dispersed with the idea that an invariable remedy for the infectivity of scarlet fever had been found. What he wanted was that cautious experiments should be made.

Dr. George Arbuckle Brown, M.O. Govan Parish School Board, introduced a discussion on "The Administration of the Children Act, 1908, as regards the person and clothing of children in public elementary schools."

THE CENSUS.

The twelfth census was taken on April 2nd, 1911, and a report was issued some time ago giving a series of tables showing the population of Scotland as a whole, of its counties, of its civil parishes, of its registration districts, of its burgh and of its parliamentary constituencies; and it is shown how the population of those divisions of the country, as ascertained by this census, compare with the figures of the census of 1901.

Population of Scotland.

The population of Scotland on census day was found to be 4,759,445, of whom 2,307,603 were males and 2,451,842 females. The total population was 287,342 more than at the time of the eleventh census, taken in 1901. The increase of males was 133,848, and of females 153,494. The male decennial increase was less than that found by the following censuses—1901, 1891, 1881, 1871, and 1821, but more than was found by the censuses of 1861, 1851, 1841, 1831, and 1811. The increase of females was less than was found by the 1881 and 1901 censuses, but more than was found by all the censuses between 1811 and 1871, and more than was found by the census of 1891. Thus the increase of males was greater than was found by five previous censuses, and less than found by five censuses; while the increase of females was greater than found by eight censuses, and less than found by two censuses. The total decennial increase was less than that found by any census since 1861, but is more than the increases found by the censuses of 1811 to 1851.

A Century's Growth.

The first census of Scotland was taken in 1801, and the population was found then to be 1,608,420. By all following censuses an increase of the national population has been found. In 1821 the national population for the first time exceeded 2,000,000; in 1861 it for the first time exceeded 3,000,000; and in 1891 it for the first time exceeded 4,000,000. The total increase of population during the period which has elapsed between the first census and the present one, a period of 110 years, amounts to 3,151,025, or 195.9 per cent. This increase has been very unequally distributed throughout the counties; twenty-nine counties have increased their population, some of them to a large extent; but four counties—Argyll, Berwick, Perth, and Sutherland—have lost population, and now have a smaller population than in the year 1801. The largest increase of county populations during this period of 110 years are found in Lanark, 1,299,421, or 879.8 per cent.; in Edinburgh, 385,065, or 314 per cent.; in Renfrew, 236,073, or 300.7 per cent.; in Aberdeen, 190,285, or 157.1 per cent.; and in Ayr, 184,125, or 218.7 per cent.

A scrutiny of the changes of population during the last decade, since 1901, shows an increase in eighteen counties, and a decrease in fifteen. The greatest increases of county population was found in Lanarkshire (107,786), in Fife (48,894), in Dumbarton (25,966), and in Renfrew (45,594). The greatest decreases of county population are found in Inverness (2,834), Orkney (2,803), Argyll (2,741), and Forfar (2,663).

The decennial rate of increase of population amounts to 6.4 per cent., that of the male population to 6.2 per cent., and of the female population 6.7 per cent. In the previous decade the rate of increase of the total population amounted to 11.1 per cent., and thus the decennial rate of increase now found is 4.7, or 42 per cent. less than the rate found by the 1901 census. The rates of increase found by the ten preceding censuses varied between 15.8 in 1821 and 6.0 in 1861. The increase found in 1831 was 13.0 per cent.; in 1811, 12.3 per cent.; in 1881, 11.2 per cent.; in 1901, 11.1 per cent.; in 1841, 10.8 per cent.; in 1861, 10.2 per cent.; in 1871, 9.7 per cent.; and in 1891, 7.8 per cent. The natural increase during the intercensal period, the excess of births over deaths, amounted to 542,759, and was 255,417 more than the ascertained increase, the difference being a measure of the excess of emigration from Scotland during the period over the immigration into Scotland.

Over-estimate of Population.

Since the passing of the Registration Act of 1854 it has been the habit in this department, as also in England and elsewhere, to make an estimate of the population for post-censal years on the assumption that the intercensal rate of increase of the male and female population, ascertained by the last census, had continued. This method of calculation, though reasonably good when the conditions affecting a rise or diminution of population in a post-censal period differ but little from those of the previous intercensal period, is of necessity faulty when they differ or new factors arise. It is on the above assumption that recent estimates of the population have been made, but, as the ascertained rates of increase of the male and female population for the decade 1901 to 1911 are both decidedly less than those of the previous decade 1891 to 1901, the population estimates of the last ten years have all been too large. In the earlier years of the decade the error was small, but in the later years very considerable, and reached a maximum in the estimates for the past quarter of this year, when it amounted to 214,542, or 4.5 per cent. A result of the over-estimation of the population during recent years has been an under-statement of the birth-, death-, and marriage-rates. Thus, the birth-rate of the first quarter of this year based on the estimated population was 25.0 per 1,000, while that based on the censal population is 26.1. The death-rate based on the estimated population was 16.2 per 1,000, while that based on the censal population is 16.9. The principal birth-, death-, and marriage-rates of the decade 1900 to 1911 will have to be recalculated on revised estimates of population and published in due course.

Male and Female Rate of Increase.

The rate of increase of the male population (6.2) is 5.7 less than that found by the 1901 census (11.9 per cent.), and less than found in all previous censuses, with the exception of 1861, which was 5.4 per cent. This is the third census which shows a decennial rate of increase of the male population of less than 10 per cent. The largest rate of increase of male population was that found by the 1821 census, which amounted to 18.9 per cent.

The rate of increase of female population (6.7 per cent.) is also smaller than that of all previous decades, with the exception of the decade ending 1861, and is 3.6 less than the rate of increase in the previous decade.

The ratio of males to females in Scotland by the present census is as 100 is to 106.2; the ratio in the previous census was found to be 100 to 105.7. It varies widely in the different counties. In Bute this ratio is found to be 100 to 127.2; in Forfar, 100 to 122.2; in Shetland, 100 to 121.7; in Roxburgh, 100 to 118.7; while in Linlithgow this ratio is 100 to 89; in Stirling, 100 to 95; Ross and Cromarty, 100 to 99.6.

Of the total population of Scotland, 3,129,824 live in the burghs, and 1,619,621 in the extra-burghal portions of the country. The burghal population has increased since 1901 by 188,421, or 6.4 per cent.; the extra-burghal population has increased by 98,921, or 6.5 per cent. It ought, however, to be kept in view that a comparison between the figures representing the burghal and the extra-burghal population can scarcely be said to define the urban as distinct from the rural population, for some burghs in Scotland are so small that their conditions are practically rural, while some communities outside burghs are of such a size that their conditions are practically urban.

Special Correspondence.

BERLIN.

International Congress for the Protection of Infant Life.

There is a modern Berlin saying: "If you desire a really first-rate start in life, you must take care to be a newborn pauper infant—illegitimate by preference—and if possible with a syphilitic taint." Absurd as this bit of blague may sound, many of the hundreds who attended the III Internationale Congress für Säuglingsschutz (*Gouttes de Lait*) must have left Berlin with the impression that it contains a kernel of truth—truth that stands for a great step forward in national health and improvement of the race. The model institutions for the care of infants, which during the last dozen years or so have arisen in Berlin, its suburbs, and daughter-townships—the beautiful Kinderasyl in the Kürassierstrasse in the centre of Berlin, the Säuglings-krankenhaus in Weissensee, and the superb Kaiserin-Augusta-Victoria-Haus zur Bekämpfung der Säuglings-sterblichkeit im Deutschen Reiche, to mention only three among many—the dispensaries, advice bureaux, the organizations for milk-distribution and home visiting, etc., worked by the different municipalities—Charlotten-burg being as usual in the van—and by the officially-recognized charitable societies, as well as by the Prussian State; all these would hardly justify their existence if they aimed at nothing further than to serve the needs of the day by receiving puny infants and turning them into healthy ones, by visiting, assisting, and instructing pauper mothers. They are meant to be, and are, first-rate scientific institutes, endowed and with every facility for study and research on all problems connected with infantile disease. And further, since year by year thousands of young mothers of the higher classes visit the homes in order to learn their hygienic and thera-peutic methods, their influence radiates far and wide, reaching private homes in every rank of life. As time goes on this influence must inevitably grow, and thus gradually these infant institutes take the place due to them as national educators of a very high order.

During and after tours of inspection by the congress, more than one member might have been heard grumbling about "far too much luxury for pauper babies," and "waste of the taxpayers' money." Such criticisms are as obvious as easy, but they are inapplicable if the great aim of the institutes be kept in view—namely, to be and remain representative examples and standards of the best that can be done, according to the knowledge of the day, for the improvement of the race by puericulture.

The congress itself, which was held in the fine build-ing of the German Reichstag (Imperial German Parlia-ment) from September 11th to 15th, was a very decided success. Not that it was marked by the announcement of any sensational novelty; on the contrary, many of its sittings bore the character rather of an interchange of opinions and experiences, through which could be felt the wish and hope that the outcome might be a certain unanimity of action in the future. There was a *rap-prochement* between workers in the same field belonging to different countries, and, after all, that is the chief object of an international meeting. The choice of the Hereditary Prince of Hohenlohe-Langenburg as president of a congress on the subject of which the great ladies of all European countries take so deep and so active an interest, was a happy one, and all were loud in praise of Heubner (Berlin), Seitz (München), Vice-Presidents; Bumm (the President of the Imperial Board of Health, Berlin), President of the Organizing Committee; Krohne (of the Prussian Ministry of the Interior, Berlin), President of the Local Com-mittee, and the various vice-presidents, honorary secre-taries, and other members of the Congress committees. The opening sitting was honoured by the presence of the German Empress, the patroness and active promoter of many institutes for puericulture, above all of the model establishment close to the park of the Charlottenburg Palace which bears her name. There were four sections—namely: I, Teaching and special instruction; II, The practical work for the care and protection of infants; III, Legislation and other official measures for the protec-tion of infantile life, with the Subsection IIIA, Guardian-ship; and, lastly, IV, Statistics. A special feature of the congress was the presence of a large number of ladies, many of them sick nurses in their official "uniform." Receptions, luncheons, and dinners were given to the members by the municipalities of Berlin and Charlottenburg by the Hereditary Prince of Hohenlohe-Langenburg, and others; there was the usual great congress-banquet in the Hall of the Zoological Garden; a gala performance of Mozart's "Zauberflöte" at the Royal Opera House, and much private hospitality was offered. A very efficient ladies' committee looked after the wives and daughters of members from afar, and conducted them through educational establishments, crèches, etc., as well as on shopping expeditions.

The weather was perfect throughout—neither hot nor cold, but bright, sunny, and breezy—so that the congress got through the five arduous days of sittings, inspections, and social engagements with far less fatigue than is usual on such occasions, and the interest in its proceedings remained alert until the close. The Dresden International Hygiene Exhibition had invited the congress for a "week-end" visit, and thus many members started on Friday afternoon for the Saxon capital, where new and prolonged inspections, fresh fêtes, and excursions awaited them.

Correspondence.

NATIONAL INSURANCE BILL.

Sir,—Owing to the large and exceptional expenditure the Association has incurred, and has yet to incur, in the interests of the medical profession as a result of the National Insurance Bill now before Parliament, I would appeal to those members of the Association who have not so far paid their annual subscription for this year to forward it without further delay to the Financial Secretary and Business Manager, 429, Strand, London, crossed "London County and Westminster Bank."—I am, etc.,

October 5th. Edwin Rayner,
Treasurer, British Medical Association.

TUBERCULIN DISPENSARIES.

Sir,—I notice with extreme regret that the dispensary of which I am medical officer has been dragged into the discussion going on in your correspondence columns. I had wished to have stood completely aloof, for two reasons:

1. The Paddington Dispensary, though the first of its kind in *England*, is but two and a half years old, and therefore hardly capable of furnishing statistics as to the result of treatment.

2. The discussion has been conducted on such personal lines that it can be productive of no good, either to the cause of true progress or to those who have taken part in it.

Had the two sides met in a friendly spirit they would, I think, have come to a mutual understanding long ago. To read the letters published one would think that those who wrote them held diametrically opposite views, and yet it seems to me that this is not the case.

Practically all the "tuberculosis dispensaries" established give tuberculin treatment to a certain number of patients, while I gather from Dr. Camac Wilkinson that he at least employs a *nurse* to visit and improve the home conditions. Barring the fact that the one lays the greater stress on preventive measures and the other on actual treatment, the only difference of opinion which appears to exist is as to *what extent* tuberculin should be used at a dispensary where every class of case is seen—from the incipient, or even only suspected, case to the dying patient—and as to the particular method of administration which should be chosen. After all, both these questions must remain matters of opinion on which every medical officer of a dispensary must decide for himself.

Personally, when the Paddington Dispensary was first opened, my first object was to get into touch with the enormous mass of tuberculous material in the district.

The weeding out of the advanced cases (the chief sources of infection), the examination of contacts for the discovery of unsuspected cases, and the education of patients in their own homes in regard to open-air and preventive measures in general, appeared of more urgent importance to me than the treatment of individual cases.

Judging from the fact that new cases suffering from advanced phthisis are now rare with us whereas during our first year they were comparatively common, I think we may assume that we have got in touch with the bulk of the advanced cases in the district. This must tell in the long run by considerably diminishing the sources of infection.

Out of the large number of consumptive patients in the first and second stages of the disease now on our books, a certain number are undoubtedly suitable for tuberculin treatment, and I propose to give it to them, because I believe that therein lies their best chance of recovery. My reason for not giving it to them before was not that I lacked faith in its efficacy, but that in starting the work of *eradicating* the disease from a new district other matters appeared to me to have a greater claim on my time.

As to the method of administration to be adopted I am perfectly open to conviction, and should be delighted if Dr. Camac Wilkinson would afford me an opportunity of studying the method employed by him and for which he claims such great success.

I feel strongly that a continuation of the discussion in your columns on the lines on which it has been conducted may do considerable harm to the antituberculosis campaign by giving the general public—who after all "pay the piper"—the impression that a greater difference of opinion exists among the medical profession than is actually the case. This is not the time to divide our forces by useless and bitter controversy, but to stand together and lay emphasis rather on those facts concerning which all sides are in complete agreement. Had the medical profession been more unanimous in insisting on a common sense view of the problem being taken when Koch demonstrated the infective nature of the disease, the main facts then known regarding its morphology and incidence would have led us to the adoption of a logical sequence of measures which would have gone far towards the eradication of the disease at the present day.—I am, etc.,

D. J. WILLIAMSON, M.D.,
Medical Officer.

Paddington and Kensington Dispensary for the Prevention of Consumption,
London, W., Oct. 1st.

TUBERCULIN IN PULMONARY TUBERCULOSIS.

SIR,—I shall be glad if you will permit me to say a few words in reply to Dr. J. Penn Milton's letter published in the JOURNAL of September 2nd. I think the expression as to results of tuberculin treatment not being worth the paper they are published on shows that Dr. Milton has not *seen* any cases treated after Dr. Camac Wilkinson's method. I reported a few cases, as may be seen by referring to the SUPPLEMENT of the JOURNAL for August 19th last. Dr. Milton should read the cases published by Dr. Camac Wilkinson in his book, *Treatment of Consumption*. The case that Dr. Milton refers to as having died after one initial dose of a tuberculin preparation was certainly not killed by that dose. I have now a series of 15 cases that have undergone a complete course of tuberculin treatment, and I shall do my best to publish them as soon as possible.

Dr. Milton refers to cases claimed to have been cured by tuberculin which were *not* tuberculous. If these cases were either treated by tuberculin and reacted positively, or had tuberculosis in the sputum, then the diagnosis of tuberculosis is justified. If Dr. Milton does not believe in the absolutely specific nature of the tuberculin test, he is far from appreciating the value of Koch's tuberculin. Patients who develop abscesses at the site where tuberculin is injected must blame the operator. Such a thing is, I think, due to carelessness. I have given over a thousand injections, and in no single instance has an abscess formed locally.

Dr. Milton pleads for an earlier recognition of the disease; let me say that this can be obtained only by using tuberculin in diagnosis.

"Any fool can get an early case well," quotes Dr. Milton. If so, why do early cases after treatment at sanatoriums die at the following rates, namely: In 1 to 1½ years, 25 per cent.; in 2 to 2½ years, 38.4 per cent.; in 3 to 3½ years, 55 per cent.; in 4 years, 56.7 per cent.—See Dr. Camac Wilkinson's letter in the JOURNAL of August 26th last.

My advice to Dr. Milton is to go to a Tuberculin Dispensary and see for himself.—I am, etc.,

L. D. PARSONS,
Port Surgeon.

Gibraltar, September 12th.

TEN YEARS AFTER SANATORIUM TREATMENT.

SIR,—In the JOURNAL of August 19th, 1911, page 408, I was much surprised to read the following statement by Dr. J. E. Squire: "I know of several cases of tuberculosis which I had treated ten years ago, and who are still alive, and I have no doubt that all who have had any large experience of the treatment of tuberculosis extending over ten years could say the same." In the same issue another sanatorium physician remarks that he has gone roughly over his notebook, and finds that at least eight patients who were under his care in 1901 are now living.

It is impossible, of course, to gather from such statements as these with how many patients these gentlemen have come in contact. In view of these facts, as well as of the statements which have recently appeared in your columns, that for any statistics on the subject of tuberculosis one must turn to Germany, I beg leave to call your attention to the Medical Supplement of the Twenty-Sixth Annual Report of the Adirondack Cottage Sanitarium for the year ending October 31st, 1910, which contains a report on 163 patients who were treated during the years 1901, of whom 74 are living, 82 dead, and 7 untraced. Of those treated the previous year, 74 are alive, 87 dead, and 8 untraced. In 1899, of 157 treated, 65 are living, 85 are dead, and 7 untraced. I might continue this statement on back to the year 1888, or indeed for a much smaller number of patients as far back as 1885. In all, from 1885 to 1901, 1,486 patients have been treated. Of that number, 429 are alive, 875 dead, and 182 untraced. I might say that the proportion of patients untraced in more recent years is very much smaller, and the condition of all patients on the anniversary of their discharge for the year ending October 31st, 1910, up to and including those treated during 1909, was as follows: Alive, 1,512; dead, 1,160; untraced, 206, making a total of 2,878.

	1885-1900.	1901-1909.	1885-1909.
Living	429	1,083	1,512
Dead	875	285	1,160
Untraced	182	24	206
Total	1,486	1,392	2,878

It seems to me that students of tuberculosis who have been engaged in the work for at least ten years should have some knowledge of these statistics.—I am, etc.,

LAWRASON BROWN,
Adirondack Cottage Sanitarium, Saranac Lake, N.Y.

September 14th.

SIR,—At the Birmingham meeting of the British Medical Association I asked if any one knew of a case of tuberculosis which he had sent to a sanatorium ten years ago and which was still alive.

Though assured there were many such, I submit that no absolutely satisfactory proof of any case has been produced.

If it were reported that a case of tuberculosis was cured at Lourdes, I imagine that the BRITISH MEDICAL JOURNAL would deny, first, that it was a cure, and, secondly, that it was tuberculosis. As proof of the latter it would probably demand, not merely that some worthy practitioner had called the case tuberculosis, but that tubercle bacilli had been demonstrated beyond doubt by a competent bacteriologist.

I suggest that equally stringent proof ought to be forthcoming as to the diagnosis of these cases which are announced to be alive ten years after sanatorium treatment—and although a considerable time has elapsed I do

not think that a single case answering the test has been produced—for I find it hard to think that any experienced bacteriologist guaranteed that tubercle were found in every one of a series of eight cases now alive.

The most interesting statistics have been supplied by the Charity Organization Society. It would seem that of some 600 sanatorium cases of phthisis only about 25 per cent. were alive after five years. Of course, some of these may be alive after ten years, but if they continue to die at the same ratio none can be left at the ninth year.—I am, etc.,

Dublin, Sept. 23rd. J. C. McWalter.

TREATMENT OF ANTE-PARTUM HAEMORRHAGE.

Sir,—In the Bolingbroke Lecture, as reported in the British Medical Journal, September 30th, Dr. Herman writes:

> In a book published in 1910 we have been told that in the six years previously there had been 39 cases ("accidental haemorrhage"). Nineteen were severe cases treated by plugging. There was one death (page 127). In a table at the end of the book it is stated there were two deaths (page 463).

This apparent discrepancy in Tweedy and Wrench's *Practical Obstetrics* is readily explainable. On page 127 I deal with revealed accidental haemorrhage, whilst on page 463 total mortality from both forms of accidental haemorrhage is included. This is made perfectly clear on page 462 under the heading "Intern Maternal Mortality."

My cases of accidental haemorrhage in the Rotunda Hospital numbered 45 in six years and not 39 as stated on page 127. Here I have in error omitted my sixth year's figures, but they are correctly reported on page 462.

Of far greater importance than the above are Dr. Herman's reiterated assertions as to the inability of the vaginal plug to prevent revealed haemorrhage. He writes:

> The fault in this theory is that it assumes that the vagina is a rigid canal. But the vagina is a very dilatable canal. However tightly it is plugged, the vagina soon dilates, and the plug within an hour or two becomes a slippery ball that easily moves within the relaxed vagina, so that blood can flow past it.

By the above it is clear that Dr. Herman's conception of a vaginal plug differs essentially from those who have had practical experience of its efficiency, and is it not unfortunate that views so erroneous can be put forward on a subject capable of easy practical demonstration?

I trust that the opportunity now afforded will be availed of by others beside myself to prove the fallacy of Dr. Herman's dangerous theory. His adherence to the view he again enunciates is a direct impugning of the good faith of those who have over and over again assured him that a properly applied plug does not become "a slippery ball that easily moves within the relaxed vagina so that blood can flow past it."

Inability to admit defeat is more commendable on the part of a soldier than a seer.

If we except the anonymous reviewer of Tweedy and Wrench's *Practical Obstetrics* I think that no other modern authority can be found who will endorse the beliefs expressed in the sentences extracted from the Bolingbroke Lecture.

Dr. Herman has quoted Stapfer very fully in his description of the manner in which a vaginal plug should be placed. Stapfer asserts that his lower pledgets do not even become soiled with blood. This, too, has been my own continuous experience, the expression of which in Tweedy and Wrench's *Practical Obstetrics* was made a text for a very unfavourable review in the British Medical Journal.—I am, etc.,

E. Hastings Tweedy,
Consulting Gynaecologist and Past Master, Rotunda Hospital.

Dublin, Oct. 2nd.

SALVARSAN IN SYPHILIS.

Sir,—In your leading article on Recent Developments in the Diagnosis and Treatment of Syphilis in the Journal of September 23rd, it is stated that "there can be little doubt that the new remedy, salvarsan, or '606,' in the experience of nearly all workers, has justified the chief of the claims which its introducer has made for it." I venture to remark that this statement is hardly in accord with the present status of salvarsan—at any rate, as regards the treatment of syphilis. Ehrlich's original intention was, I think, to produce a preparation which would destroy all the spirochaetes in the body without injury to the patient, and thereby render mercurial treatment in syphilis unnecessary. In other words, the original claims were to cure syphilis and supplant mercury. That neither of these claims has been fulfilled should now be obvious to any but the blindest enthusiasts. As I have elsewhere endeavoured to point out,[1] there is no evidence that salvarsan destroys all the spirochaetes in the body (apart from cases where the patient also succumbs), nor that it cures syphilis. It has been shown by Major French[2] and many Continental authorities that salvarsan only cures symptoms, not the disease itself. Even those who advocate its general employment in syphilis now recommend combined treatment with mercury, while more cautious practitioners only recommend it for special cases. Others consider hectine as safer than salvarsan and of equal effect; others, again, prefer to adhere to the older inorganic preparations of arsenic such as Donovan's solution, while some, including Sir Jonathan Hutchinson, hold that there is danger in all arsenical compounds.

One of the original claims for salvarsan was its relative freedom from toxic effects. This also has by no means been justified. The number of deaths after administration of salvarsan is already considerable; I believe more than forty have been recorded, and I have heard of several others which have not been published. It may be true, as the supporters of salvarsan retort, that many of these occurred in hopeless or unsuitable cases; it may also be true that some of the toxic nervous effects attributed to salvarsan were really due to syphilis, but there still remain disasters which cannot be explained in this way, and it is highly probable that such cases will increase if a preparation containing about 40 per cent. of arsenic is used indiscriminately. Arsenic has long been regarded as a useful auxiliary drug in the treatment of syphilis, but there is no evidence that it has a curative effect on the disease. From the pharmacological point of view the chief characteristic of the new organic preparations of arsenic is their high percentage of arsenic. Whether there is anything more than this—whether the names "salvarsan" or "606" exert a power of suggestion on the patient, as they apparently have done on not a few members of the profession—is another question, which concerns the psychologist rather than the syphilologist.—I am, etc.,

London, W., Sept. 25th. C. F. Marshall.

THE NUTRITIVE VALUE OF FLOURS.

Sir,—I am extremely interested in all matters connected with nutrition, and have specially watched for the reports of investigations into the relative values of fine and coarse flour, and for an explanation of the differences arising from them. I have therefore read the report of Drs. Flack and Hill in the Journal of September 16th, p. 597, with great interest.

In the first place, however, I am fain to observe that rodents are not suitable animals for the experiment. At any rate, I have always been under the impression that the great length of their intestinal canal makes the presence of cellulose in their food a *sine quâ non* of proper nutrition. Having this in my mind, the poor results obtained by feeding the rats on fine white flour by no means surprises me; indeed, they are what I should expect to obtain from a comparison of the effects of cellulose and non-cellulose diets. Neither am I surprised to read that none of the rats fed on white flour became mothers. Fine flour is not the natural food of rodents; but grain is; entire wheatmeal much more nearly approximates to entire cereal grain in its composition, and especially in its cellulose contents, and by improving intestinal digestion it leads to greater nutrition, which in turn encourages fecundity.

It would be interesting to hear what the authors consider to be, apart from the cellulose content, the special cause of the more rapid growth of the rodents when fed on "standard" and "Hovis" flours. In some experiments on rats and mice with oatmeal, Drs. Fordyce and Chalmers Watson attributed the effects of that cereal, in producing

[1] *Lancet*, February 25th, 1911; *New York Medical Journal*, July 15th, 1911.
[2] *Lancet*, June 24th, 1911.

growth, to stimulation of the thyroids, whose influence on metabolism has been well established. In their experiments the comparison made was between white bread and milk and oatmeal and milk.

There is no doubt whatever about the great nutritive value of the proteins in the germ; and the presence of nucleo-proteins and basic proteins enhances that value. But the removal of the germ does not rob the bread of very much protein. The total proteins of the grain average 12 per cent., and are distributed as follows: Endosperm (the source of fine white flour) 8.925, *germ 0.538*, aleurone, 2.048, episperm, 0.178, cuticle (including endocarp epicarp, and epidermis), 0.362 per cent. The germ forms a very small portion of the entire grain; and reasons have been preferred for its removal, which the majority of flour dealers and bakers consider important ones. But the germ is rich in nitrogen; according to Frankfurt it contains 6.44 per cent., including 0.80 per cent. of amide nitrogen; therefore the protein is about 35 per cent. of the entire germ. Considering the small increase which this makes to the total protein of the flour, one is led to ask, What is the difference, both quantitatively and qualitatively, of the soluble and insoluble proteins, enzymes, amino acids, etc., in the grain, fine white flour, and standard flour? The soluble proteins of the germ vary from 6.5 to 10.5 per cent. of the total germ, those of white flour from 1.02 to 1.28 per cent. In the germ, however, a considerable proportion of these proteins are enzymes of great importance to the embryo plant.

Again, one has to ask, What are the organic phosphorus compounds which are essential for growth, and to what extent do they predominate in whole-wheat meal over that in fine flour? In the germ nucleo-proteins, nucleins, basic proteins, and lecithins form the chief part of the phosphorized constituents; in the aleurone similar bodies exist, but the proportion of phosphorized fat is greater. As regards the phosphorus in the wheat-bran, it was first considered to be chiefly in the form of simple inorganic phosphates. Later on it was thought to be connected with the nuclein or salts of nucleic acids. But the researches of Patten and Hart showed that only 33 per cent. of the phosphorus could be accounted for in this way, and that the chief phosphorus compound is a magnesium-calcium-potassium salt of a phospho-organic acid, and this acid is probably identical with anhydro-oxymethylene-diphosphoric acid, which is widely distributed in the vegetable kingdom.

The reasons why the germ is removed from ordinary flour are: first, because it causes the flour to be darker in colour, and secondly, because the soluble proteins contain enzymes which have an unfavourable influence on the gluten during the process of bread-making. The aleurone is removed for the same reasons, also because it contains oils which are apt to become rancid and give a bad flavour to the flour. The cuticle, forming the three outer layers of the bran, contains little besides cellulose and lignin. When "germ bread" is made the germ is used in a very much larger proportion than it exists in entire wheat-meal; but it is usually submitted to a rather high temperature, by which means it is sterilized and those enzymes are destroyed which have a tendency to "soften" the gluten.

It is unfortunate that the excellent tables given by Drs. Flack and Hill are not self-explanatory, as they may not be very easily understood. I must confess that I was quite a time finding out how they should be read, although they are now plain enough to me.

I trust the importance of the subject will be a sufficient apology for trespassing on your valuable space.—I am, etc.,

Nottingham, Sept. 16th. WILLIAM TIBBLES.

AFFERENT FIBRES IN VENTRAL SPINAL ROOTS.

SIR,—If Dr. Otto May will refer to my paper published on August 19th, he will find that I offered the opinion that the ventral root afferents are few in number, and that only some regions of the spinal cord give origin to them in man; of the ventral roots I specially named the thoracic and lumbo-sacral in man. But evidently I did not make it clear to Dr. May that in writing of intractable pain I purposely excluded painful tabetic crises. The cases I referred to were all cases of intractable pain that gave clinically no evidence of any organic nervous lesion. They are capable of two explanations—namely (1) some were probably purely of so-called psychical origin, and were not benefited by operation; (2) others were, I believe, of peripheral origin, and were, in my opinion, examples of some obscure visceral affection; these were not cured by dorsal rhizotomy, because I hold that some visceral afferents pass up ventral roots in man. We must remember that visceral disease is often not discovered until autopsy; and it is probably present in many fatal cases in which autopsy is not performed. It seems to me possible that, in the hands of a first-rate animal experimentalist, it may yet prove to be possible to demonstrate that some of the spinal ventral roots of mammals have a slight algetic function, as judged by the reactions of the animal on stimulation of these roots.

I do not expect that all surgeons will follow the advice of myself, a physician, as to ventral rhizotomy. But, if I be right in holding that some of the spinal ventral roots of man contain a few algetic fibres, we cannot reasonably withhold ventral rhizotomy if the patient will accept some resulting motor palsy.

In conclusion, I should like to point out that even if ventral *plus* dorsal rhizotomy should be found to abolish pain, it would not necessarily follow that any algetic ventral root afferents exist in man; the ideal proof would be this: Take a case of pain in which dorsal rhizotomy has failed to cure; if now a subsequent ventral rhizotomy at once abolished the pain, almost all of us would take that as presumptive evidence in favour of the correctness of my teaching. But it would still be possible to invoke the convenient element of the psychical, and to say that the operation of ventral rhizotomy merely produced a psychical effect (as operations of all kinds often do).—I am, etc.,

London, N.W., Sept. 23rd. LEONARD J. KIDD, M.D.

CONGENITAL DEFICIENCY OF SPEECH AREAS.

SIR,—In reply to Dr. Tait's letter in your issue of September 2nd, I still think there are similarities between his case and mine. The case I described I have looked upon as one in which the auditory receptive centre was intact, whilst its connexions with the motor centre for speech were interrupted or undeveloped. The interesting point about the child lies in the fact that, as the motor speech centre (not the auditory centre, as Dr. Tait suggests) developed through the visual centre, so the connexions of the former with the auditory receptive centre appear to have developed also.

I would still urge Dr. Tait to give his case a trial with lip reading. Six months under a good and painstaking teacher would show success or failure. My case would obey commands heard and not seen, and did not lip-read when first admitted to the deaf school.—I am, etc.,

London, W., Sept. 5th. MACLEOD YEARSLEY.

MENORRHAGIA IN VIRGINS.

SIR,—Menorrhagia in virgins is presumably of very infrequent occurrence, as I find no special reference to it in either Herman or Galabin's works. Certainly in a rather extensive experience I have only seen two cases calling for any special treatment.

I have notes of two very bad attacks in maiden ladies under 30—one in February, 1898, in which haemorrhage was so profuse that were not the patient absolutely above suspicion I should have looked for an abortion. The drugs usually indicated, combined with *hot* douches and absolute rest in the dorsal position, had not the slightest effect, until I prescribed ergotine 4 grains, argenti oxidi ¼ grain, althaeae q.s.; ft. pil. i, silvered; to be taken every four hours. The result was a revelation, and the patient had no return.

My second case occurred recently in my practice here, and I regarded it as "emotional," the patient's mother, to whom she was most devotedly attached, having died very suddenly; while no doubt the depressing and enervating effect of the recent tropical heat would be a contributory cause. This case was very obstinate, continuing intermittently for two months, though never excessive, yet the patient lost weight. The same treatment as in the other case was carried out, and hot douches but only checked it temporarily. At last I remembered

the ergotine and silver pills, and prescribed them with similar result. I cannot remember where I got the prescription, nor can I explain the action thereof, as Mitchell Bruce attributes no haemostatic action to silver oxide.

If the result had not been satisfactory in my second case I had decided to examine under an anaesthetic, and if no local cause was found, to apply adrenalin to the uterine cavity by means of a flexible uterine probe, wrapped with sterilized cotton-wool.—I am, etc.,

C. STENNETT REDMOND,
L.R.C.P.and S.Ire.

London, N., Sept. 16th.

THE PROSPECTS OF THE MEDICAL PROFESSION.

SIR,—In the leading article published in the Educational Number of the JOURNAL you truly say that a heavy responsibility rests on the man who advises on the prospects of the medical profession at present, but you have certainly discharged your difficult duty to the full in the most accurate and excellent picture you have given us. I hope that all about to enter the profession, and also those who are to *pay* for them, will read and ponder over your article. A man asked me advice on this matter recently. Briefly I said:

1. You will have to pay about £1,000 for the young man's education.

2. Probably it will cost you another £1,000 or more to buy a practice to start him—that is, if he does not go in for one of the services.

3. He will probably be 24 or 25 ere he starts work, and he will have a very heavy curriculum before he passes.

4. He will probably be about 30 before he has secured the public confidence, and there are many failures.

5. He will not make much of an income even then, although it is the general belief of the public that the doctor makes plenty of money, and comparatively easily!

6. His work is never finished, it is very arduous, and scarcely a man can retire from general practice on what he has saved.

7. Then there is this recent legislation, which will ruin a great number of practices, and will be no catch to any one at the best.

The man said; "I have heard enough." But the subject is endless. I have had experience of practice for the last thirty-two years, and, when assistant, had to do with clubs. I look back with disgust on the whole system, both from the standpoint of the doctor and the patient. I think we can manage our own affairs quite well, and should have no State interference; but, if the State *will* interfere, then (as suggested in one or two articles in your JOURNAL) let it pay a sufficient salary to attract men into the profession, and give them adequate pensions after a certain age. I should not be surprised if it will have to come to this.—I am, etc.,

SPECTATOR.

September 12th.

SALARIES OF POOR LAW APPOINTMENTS.

SIR,—I was appointed district medical officer in 1874. Population of district under 10,000 then; it is now about 20,000. Stipend £100—£3 for superannuation fund. I actually receive £10 a year less for 40,000 than I did for 20,000, in consequence of falling off in extras. The district is much scattered, and one mile and a half journeys frequent, and I have to find all medicines and dispensing. Mr. John Burns resides three miles off!—I am, etc.,

PALINURUS.

SULPHURETTED HYDROGEN WATER.

SIR,—Being a frequent visitor to Harrogate of recent years, I can strongly support Dr. Ray's statement that one has only to visit the pump room or its immediate vicinity in the morning, or, indeed, at any time, to be convinced that the pump-well is strongly impregnated with sulphuretted hydrogen. If any widespread feeling prevails that such is not the case, it must be owing to some misunderstanding. I have heard and read of the famous sulphurous springs of Harrogate for more than forty years, and I always understood that the spa had been famous for more than two hundred years. There are some fifty different springs in Harrogate, the principal of which are:

The strong sulphurous springs of the old sulphur well in the Royal Pump Room, and the strong Montpelier sulphur well in the Montpelier Gardens. Both are impregnated with sulphuretted hydrogen gas, upwards of 25 cubic inches in the gallon, their chief salts being chlorides of sodium, calcium, potassium, and magnesium, sulphide of sodium, and carbonate of lime, with traces of sodium bromide and iodide. These waters are alterative, aperient, stimulant, and diuretic when taken internally. They are also used as baths. Besides these there are:

2. The mild sulphurous springs with alkaline impregnations, the most important of which are the mild Montpelier Well, and the spring at Victoria Gardens, both of which I have tried. They contain less sulphuretted hydrogen, but still sufficient to be apparent to any one; less sodium and magnesium chloride, but have in addition magnesium carbonate, also used internally and externally. They are antacid, alterative, etc.

3. Saline chalybeate waters. One of these is in the Cheltenham Pump Room, the other in the Montpelier Gardens. In addition to the salts already mentioned, they contain iron carbonate, so that they have a tonic action superadded to these other properties.

4. Pure chalybeate waters. The springs of the Tewit and St. John's Well have almost the composition of pure water with the addition of a small quantity of iron carbonate.

With such a variety of mineral waters, strong and weak, and a splendid system of public baths—electric and otherwise—perhaps the most elaborate in Europe—it is not surprising that invalids, with all sorts of chronic diseases, should flock to Harrogate in the season and at other times to seek the relief they so much require.

I always understood that the diseases most likely to derive benefit from the Harrogate waters were imperfect digestion in people who live too well, where the bowels and liver are inactive, habitual constipation, obesity, chronic swellings of glands and joints, chronic skin diseases, such as eczema, lepra, impetigo, acne, pityriasis, lichen, disordered menstruation, strumous affections, lupus, constitutional syphilis, chronic ulcers, certain diseases of the nervous system, and gout and rheumatism in various forms.

These remarks are not intended to detract from the famous and charming spas of "Bonnie Scotland"—namely, Strathpeffer and Moffat—but just to point out that, though Harrogate cannot vie with the others as regards scenery, it has other charms of its own, and it seems a pity that the wealthier portion of the British public, who rush away at all seasons to Continental spas and watering places, do not countenance more the excellent and beautiful spas of their own country, which are fully as good as can be found anywhere.—I am, etc.,

K. N. MACDONALD, M.D.St. Andrews.

Edinburgh, Sept. 4th.

GANGRENE OF THE LEG FOLLOWING DIPHTHERIA.

SIR,—The case related by Dr. Kramer, of Cape Colony, in the JOURNAL of September 2nd, p. 505, from particulars supplied by Dr. E. B. Hoffmann, of Ponterville (in which he quotes Dr. J. D. Rolleston in the *Proceedings of the Royal Society of Medicine*, vol. iv, No. I, November, 1910—a paper well deserving perusal), comes under the head of "gangrenes in fevers," ably dealt with in the article by Professor Paul Reclus in the *Treatise on Surgery*, in eight volumes, published under the direction of Duplay and Reclus, from the second edition of which, vol. i, p. 83, I quote as follows:

"These gangrenes should be classed among mortifications due to arterial change; they have their origin, in fact, in arterio-sclerosis, like the sphacelus of old age, alcoholism, syphilis, rheumatism, paludism, and gout. But a distinction must be made, for, whereas these last diseases, chronic in their course, set up a chronic endarteritis, the infectious fevers, typhoid, small-pox, scarlatina, diphtheria, whose evolution is acute, set up endarteritis, which is also acute" (distinction not precisely verified by cases here).

A memorable case, as I think, of this class is that related by Lister, while assistant surgeon to the Royal Infirmary of Edinburgh, before the Medico-Chirurgical Society of Edinburgh, March 17th, 1858, and published in the *Edinburgh Medical Journal* for April, 1858. The case is itself of great historical interest in its bearing on the coagulation of the blood, which is there explained in great fullness, with the fundamental experiments that so clearly set forth the views of the author in correction of previous notions on the same subject.

The case is part of a paper on spontaneous gangrene from arteritis, where the development, having taken nine

months, was chronic, in contrast with Dr. Rolleston's and Dr. Kramer's. Lister's case was as follows:

"The patient was a girl, 6 years old, who, having had scarlet fever nine months previously, and afterwards suffered severely from dropsy, was seized with deadly whiteness and coldness of both lower limbs up to a little above the knees. Her mother describes them as having resembled wax in appearance. She and her neighbours rubbed the legs perseveringly, and after an hour or two the left limb recovered its warmth and usual aspect, but the other continued in the same state for about two days, when the mother observed some pale blue discoloration between the ankle and the calf. This increased, spreading downwards to the foot: and at the same time undergoing various changes of tint to pink, red, and green, till at the end of four weeks the limb presented the appearance depicted in this sketch. [Not here reproduced.] . . . Her general health appeared remarkably good considering all she had gone through. . . . Accordingly, a line of demarcation having distinctly declared itself, I performed amputation immediately above the knee. Very little blood was lost in the operation. . . . The stump healed kindly, and the result was in all respects satisfactory." The existence of endarteritis and of an adherent coagulum, partly pinkish and partly dark in colour, was found in the popliteal artery on dissection.

Dr. Rolleston's case was that of a boy aged 13, that related by Dr. Kramer a girl aged about 11, and in all three children the amputation wound healed simply. In Lister's case, the gangrene only made its appearance nine months after the scarlatina, and altogether developed more slowly than in the other two; the arteritis in the first having thus apparently been "chronic" in contrast with the more "acute" condition in the more recent examples. But the pathological cause would seem to have been similar in all.

Rolleston says: "Gangrene of the extremities as a sequel of infectious disease is relatively rare, especially in children. Barraud in 1904 collected 103 such cases in patients up to the age of 30, but only 29 were under 14, and only 2 followed diphtheria. After a prolonged search I have been able to find references in literature to 8 other cases, exclusive of 2 cases of Raynaud's disease following diphtheria, so that there is a total of only 11 cases on record, including the present case, in which gangrene of the extremities followed diphtheria."

He gives a photograph of the gangrene two days after its onset, which was thus most acutely developed; and, besides, much useful and varied information, with many references to other writers consulted.—I am, etc.,

Liverpool, Sept. 6th. RUSHTON PARKER.

WHITEHEAD'S OPERATION AND STRICTURE.

SIR,—I am sorry to disagree with such authorities as Sir F. Wallis and Mr. O'Connor, but as one who within the past few years has had an experience of over 50 cases of Whitehead's operation of complete excision of the pile-bearing area (the one almost invariably performed by me), I must entirely dissent from their statement that stretching of the sphincter (not necessarily for ten minutes) often produces tearing of that muscle. As in every operation I perform I make a point of demonstrating an absolutely clean dissection of the ring of the sphincter as plainly as seen in a dissecting room, I should have been bound to notice such tearing if it actually occurred, but have never seen anything of the kind. Such demonstration of the sphincter can be easily done by everting and making taut with the finger the portion of the sphincteric ring from which it is desired to dissect off the varicose plexuses. It is only a matter of practice and a proper use of the knife, not scissors.

Transient weakness of control over a fluid motion I have seen, but it has never lasted more than three weeks after operation. Since reading Mr. O'Connor's letter about non-dilatation of the sphincter, I have tried it, but, I regret, without the satisfaction experienced by the writer. It seems to me a proper examination of the part to be removed cannot be made without a preliminary dilatation, and experience has proved conclusively that such dilatation interferes little with the proper dissection upwards of the pile-bearing area.

Whilst I am upon this subject let me give an observation upon the subject of stricture formation after Whitehead's operation, which I think, if carefully pondered as it should be, will probably explain the divergent views upon the subject. The first case of stricture of the rectum following Whitehead's operation I ever saw occurred in the practice of another surgeon in South Africa during the war. The man, who had been wounded, developed keloid in the scar of the bullet wound at the same time. An experience of over twelve years off and on in examining recruits subsequently showed me that quite a definite percentage of men show slight evidences of a tendency to the formation of keloid in the shape of button-like vaccination scars. I have been able, owing to the conditions of army surgery, to examine nearly all my cases of operation at considerable intervals after the event, a boon not always open to the surgeon in civil practice.

In the only case of stricture I have had amongst my own cases after operation—a man on whom I had performed excision of the pile-bearing area by my modification of Whitehead's method—came to see me a couple of months later with a well-marked stricture-like ring at the seat of operation. On viewing it I immediately remembered the former case, and on examining his vaccination marks found that the scars were represented by elevations the size of half a walnut.

Here I believe we have the key to the whole business: there is a stricture diathesis occurring in persons with a predisposition to keloid formation in scar tissue, and such cases should never be subjected to Whitehead's operation or any modification thereof, but only to some modified procedure such as ligature. I always now make a point of examining the vaccination scars in every case of piles sent to me for operation.

It would be interesting to observe if a similar tendency to hypertrophy of scar tissue occurs in patients the subject of urethral stricture.—I am, etc.,

Meerut, India, Aug. 17th. F. J. PALMER, Major R.A.M.C.

HIERA PICRA.

SIR,—With reference to the discussion on the above mentioned drug, perhaps the following extracts from *The Annals of Insanity*, by William Perfect, who practised in Kent, may be of interest. Dr. Perfect was called to see a case in 1777, of which he says:

She complained of pain and tension of the tonsils, dimness of sight, a slight degree of deafness, loss of strength, painful cramp in the legs, loss of recollection, vertigo, pains in the head and loins, nausea, lowness of spirits, and a general relaxation. All these symptoms had been greatly aggravated by the officious zeal of a person of her own sex who considered it religiously necessary that she should frequently take hiera picra steeped in gin—an indiscriminate practice with women in general, to which persons of nervous and irritable habits often fall victims, through the advice and recommendation of some Lady Doctor of their acquaintance. A most violent inflammation of the fauces, erysipelas, and piles, succeeded, with a slight aberration of reason, and distress of mind.

Of a patient he saw in 1784 he says:

. . . but through the officious care and obtrusion of a Female Dabbler in Physic, who was too often consulted in the management of her sex at the cessation of the menses, she was induced to take repeated doses of hiera picra and aloetic pills, by whose heating qualities the piles and strangury were produced, with racking pains in the loins, difficult respiration, imbecility and derangement of the intellect; pains in the bowels, and a return of the uterine haemorrhage.

From these extracts it would appear that hiera picra was not a safe drug in the hands of irregular practitioners and that it was probably a pill in 1784.—I am, etc.,

Burgess Hill, Aug. 28th. MAURICE P. SCANLON.

THE HUNTERIAN SOCIETY'S MEDAL.

SIR,—The Hunterian Society awards annually a silver medal for the best essay by a general practitioner embodying the results of his own observations. May we remind intending candidates that the last day for the present competition is December 31st, 1911? Any further particulars may be obtained from us. Thanking you, we are, etc.,

A. P. GIBBONS) Honorary
A. C. JORDAN) Secretaries.

Hunterian Society, London Institution,
Finsbury Circus, E.C., Oct. 3rd.

Obituary.

ALEXANDER GRAY, M.B., C.M.Glasg., BRADFORD.

The sudden death of Dr. Gray on September 15th was a sad loss to the medical profession of Bradford. He was attending as a spectator in the operation room of the Bradford Royal Infirmary, when he was seized with a sudden attack of angina pectoris, to which he succumbed in a few minutes. His kindly genial face and sympathetic manner were so well known in Bradford that all classes of the community have felt as if they had parted from one of their greatest friends.

Alexander Gray was born in Blackburn of Scottish parents, was educated privately, and in due course went to Glasgow University, where he graduated M.B. and C.M. in 1878. He practised for a few years at Newchurch, Lancashire, removing to Dalton-in-Furness in 1882. Here he held appointments as Surgeon to the Barrow Hematite Steel Company's Mines, the Roanhead Mines, and the Monzell Mines, and was a medical referee for the Prudential Assurance Company. He was one of the founders of the Baldwin Lodge of Freemasons and an ardent Churchman, helping to found a Church institute and club for young men. On the recommendation of the late Bishop of Carlisle, he was made an incorporated member of the S.P.G.—the first layman so honoured in the diocese. In 1892 he removed to Bradford. He assisted in the formation of the Yorkshire Association of Glasgow Graduates, acting for some time in the capacity of Honorary Secretary for Bradford and district.

Dr. Gray was a keen politician, being a strong Conservative and an ardent tariff and social reformer. He had served in the capacity of President of the East Ward Conservative Club, Bradford, for eighteen years. Dr. Gray was greatly interested in the work of the Bradford medical societies. He was a member of the old Medico-Ethical Society, and after its incorporation into the local Division of the British Medical Association continued to take a prominent part in its work. He was also frequently seen at the meetings of the Bradford Medico-Chirurgical Society. For some years he had been a divisional surgeon to the Bradford City Police.

Dr. Gray was twice married, his first wife dying early in his career. He was married again in 1884, and has left a widow and two daughters to mourn the loss of a devoted and loving husband and father. His funeral was largely attended by members of the medical profession, representatives of public bodies, and personal friends.

Mr. Henry Soltau, L.R.C.P., L.R.C.S.Edin., L.F.P.S. Glasg., who recently died in this country at the age of 62, went abroad in 1875 as a pioneer missionary to Burmah, his main object being to enter China from that side. He was not at that time a qualified medical man, but he had some knowledge of medical matters and was able to minister to the wild tribes of the frontier among whom he travelled. In 1880, after a hazardous journey, he and a companion succeeded in entering China from Burmah, they being the first Europeans who had attempted that route. After a short period at home, during which he gained some further knowledge of medicine, he returned to Burmah in 1883, at a time of great political unrest during which he and his colleagues underwent great hardships. In consequence of this Mr. Soltau was invalided home, and took the opportunity of obtaining his medical diplomas, so that in 1892 he was able to go out to South India as a qualified medical man. His previous hardships, however, told upon him, and in the year 1896 he took up medical mission work in London in connexion with the London Medical Mission in Endell Street, St. Giles, and his work amongst the poor of that district was very greatly appreciated. From that time onwards he concerned himself much with the cause of medical missions at home and abroad, and for a time acted as secretary of the London Medical Missionary Association. Recently, however, he was obliged to give up active work on account of increasing ill health. He was a man of real abilities and great personal influence, and at the same time he was particularly modest and retiring, and his loss is deeply felt in medical mission circles.

Sir Henri Jules Blanc, K.C.V.O., M.D., late of the Indian Medical Service, has recently died in Paris. Born in London in September, 1831, he had just completed his 80th year. He was educated at the University of Montpellier, attaining the degrees of B.A., B.S., and M.D. He joined the allied forces in the Crimea, and afterwards, in 1859, entered the Bombay Medical Department as an Assistant Surgeon, becoming Brigade Surgeon in 1886. He retired from the service in 1887 with the honorary rank of Deputy Surgeon-General. Sir Henri served throughout the China war of 1860–2 as an Assistant Surgeon with the Jagir Corps. In 1867–8 he went with the Abyssinian Expedition on special duty and as a member of the Abyssinian Mission; he was taken prisoner and kept in chains for nearly two years; on his liberation he received the thanks of the British Government and a compensation grant of £2,000. He joined the British troops, and was present at the storming and capture of Magdala, receiving the medal granted for campaign. On his return to India he was appointed Senior Surgeon and Professor of Surgery at Grant Medical College, Bombay. He subsequently settled at Cannes, where he practised as consulting physician. He was made a Knight Commander of the Royal Victorian Order in 1901. He was the author of *A Narrative of Captivity in Abyssinia* and several works on medical subjects.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Professor Diculafoy, the distinguished Paris physician, whose name is familiar to all students of medicine, aged 73; Dr. Charles Nélaton, surgeon to the Paris hospitals, *agrégé* professor in the Faculty of Medicine, and author of Tubercle in Surgical Affections, The Relation of Traumatism to Cardiac Affections, and other contributions to surgical literature, aged 60; Dr. L. Bruandet, professor of anatomy in the Medical School of Rheims, aged 36; Dr. Place, some time professor of physiology in the Medical Faculty of Amsterdam; and Dr. Karl Hennig, professor of obstetrics and gynaecology in the University of Leipzig, aged 85.

Medico-Legal.

WORKMEN'S COMPENSATION ACT.

Death from Rupture of Aorta.

In Neep *v.* Stanton Coal and Iron Company (Mansfield, July 13th) the cause of death was rupture of an aneurysm, and what His Honour and the medical assessor were called upon to decide was whether or not the death was accelerated by accidents arising out of and in the course of the employment.

During the last year of his life the deceased met with a number of accidents in the course of his employment, and it was alleged that the effect of these was to increase the susceptibility to rupture of the aneurysm, and that the rupture of the aneurysm was accelerated by the accidents. One of these accidents occurred on May 31st, when the man sustained an injury to his toes, while on June 25th he had a fall in the pit, but did not report it, as he was able to get up again. From this time he got gradually worse.

Dr. Tweedie stated that he made a *post-mortem* examination on June 17th, at the request of the coroner. The pleural cavities were full of blood, and the descending portion of the aorta had ruptured through an aneurysm. There were clots between the two coats of the artery. From what he saw he formed the opinion that the actual rupture must have occurred a few hours before death. A slip or any slight exertion might have accelerated death in a man in deceased's condition. It was true that an aneurysm might be caused either through hard work or disease, and in this case he found no disease of the kidneys. He considered the aneurysm was due to disease in the coats of the arteries, which was attributable to natural causes. The deceased had had accidents prior to his death. The aneurysm was of long standing, and there were indications of several patches of degeneration which would be produced by natural causes. The clot found between the two coats of the artery could not have been there for more than two or three weeks, and therefore the healing would be very slight.

In reply to Mr. Ellison, for the defendants, the witness said that he did not think the accident to his toe had any connexion with his death. His Honour said the medical assessor advised him that death was due to natural causes, and was not in any way accelerated by the accident. He therefore gave judgement for the defendants.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

MEDICAL REFEREES UNDER WORKMEN'S COMPENSATION ACT.

H. W.—The obligations of medical etiquette are as binding upon medical referees under the Workmen's Compensation Act as upon any other member of the profession.

THE ETHICS OF CONSULTATION.

J. M.—We must assume that B. disapproves of the methods of treatment suggested by C., and is therefore unable to co-operate with him in the treatment of the case. B. is apparently supported by the opinion of the general practitioner in charge, and in these circumstances A. should accept their advice, or, if he feels unable to do this, he must ask both to retire from the case and find fresh medical advisers. It is unreasonable to expect that B., a specialist, should accept the co-operation of one who is not a specialist if his proposals do not appear likely to be useful, and it is unfair to suggest that his reason for doing this is due to any unworthy motive or to any rule of professional etiquette.

UNQUALIFIED DENTISTS AND THE MEDICAL PROFESSION.

PERPLEXED writes that he has been called in frequently to attend cases of severe alveolar bleeding and collapse after the injection of local anaesthetics and extraction of teeth by unqualified dentists, and he suggests that if members of the medical profession refused to attend, but allowed a patient to die, the unqualified dentist would get into difficulties with the coroner, and he asks what is the general custom.

*** There can be no doubt that no medical man should allow a person to die because he was suffering from an injury inflicted by an unqualified dentist; if he did he would be likely to be "hauled over the coals by the coroner." As the law at present stands these men are doing nothing illegal, and, although the medical profession is well advised in refusing to assist them in any way in their practice, it is impossible to stand aside and refuse help in such urgent cases as those to which our correspondent refers.

THE OBLIGATIONS OF A SUBSTITUTE.

A. ST. J.—(1) A. goes for his holiday leaving a local colleague, B., in charge of his practice. B. is summoned to attend a confinement, but being already engaged tells the messenger to get another doctor. C. is called in and attends the case until it is finished; the messenger told C. the above facts. We are asked to say to whom the fee should go.

*** As C. was not asked personally by B. to undertake the work for him, C. might claim to be entitled to the whole of the fee, but if he is on terms of reciprocal obligation with A. and B., C. should take half the fee and the other half should go to A., whose case, as we understand the statement sent to us, it originally was.

(2) When A. went for his holidays he left a local colleague, B., in charge of his practice, and after his return he discovered accidentally that a number of his patients had gone to B. We are asked to say whether B. ought to take A.'s patients under such circumstances.

*** Unquestionably B. should not take any of A.'s patients to whom he was introduced when in charge of A.'s practice.

RETAINING FEE.

LIGHT.—The renewed application for an increase of the retaining fee should be made on the ground that so few visits having been required, the total income from this source is very small, and this argument should be supported by showing how dependent the applicant is upon fixed payments in order to enable him to live in his remote district. The increase in the number of men would not be a ground for asking for an increase in the retaining fee as, if it leads to a larger number of visits, our correspondent will receive more. If the fee paid is inadequate, it would be better to ask for an increase in the amount paid for each visit. We should think it impolitic to threaten to resign the appointment, as if the authorities were to drop the retaining fee and pay our correspondent for each visit, even at a fairly high rate, he might, if the visits are few, receive less in the year than he does at present.

Universities and Colleges.

UNIVERSITY OF LONDON.

Lectures by the Professor of Protozoology.

PROFESSOR E. A. MINCHIN, Professor of Protozoology in the University, will give a course of fifteen lectures on trypanosomes and allied flagellates at the Lister Institute of Preventive Medicine, at 5 p.m. on Tuesdays and Fridays during the second term (January to March). The lectures, which are free, will be addressed to Honours B.Sc. students and to medical men, and will be followed by exhibits of such preparations as occasion requires.

Chadwick Lectures in Hygiene and Municipal Engineering.

Dr. Charles Creighton will give a course of four lectures on the history of the plague, at the University, South Kensington, on Fridays, October 20th, 27th, November 3rd and 10th, at 4 p.m.

UNIVERSITY COLLEGE.

Dr. J. Sherwood New has been appointed Assistant and Lecturer in the Department of Hygiene and Public Health in succession to Dr. F. N. Kay Menzies.

Public Health AND POOR LAW MEDICAL SERVICES.

REGULATIONS FOR LEAD WORKS.*

REGULATIONS have been issued by the Secretary of State for the smelting of materials containing lead, the manufacture of red and orange lead, and the manufacture of flaked litharge, bearing dates of August 12th and September, 1911. Lead material means material containing not less than 5 per cent. of lead and zinc material containing not less than 2 per cent. of lead. Where a lead process is carried on which gives rise to dust or fume the floor of the room must be kept in good condition and sprayed with water daily. Flues are not to be entered until they have been ventilated, and no person must work therein for more than three hours without an interval of at least half an hour. No person under 16 years of age and no female shall be employed in any lead process. Suitable meal rooms and vestiaries must be provided, with adequate washing appliances. There is to be a monthly medical examination of the workers, either by the certifying factory surgeon or by some qualified medical practitioner appointed by the Chief Inspector of Factories to discharge temporarily the duties of the certifying surgeon, and like him to make examinations and give such certificates as are required under the Workmen's Compensation Act in regard to cases of industrial disease. Application for such temporary appointment is to be made by medical men to the Superintending Inspector. The occupier is required to give a copy of the regulations to any one in his employment on application. In Wales and Monmouthshire a copy of the Regulations in Welsh must also be affixed. This hardly looks as if school board education was making much progress in Wales. It is pleasing to see the announcement that opportunities should be given by employers to surgeons to become acquainted with the processes in lead works. Some of the Regulations resemble those at present in force in German lead factories.

ULVA LATISSIMA IN BELFAST LOUGH.

THE seventh report† of the Royal Commission on Sewage Disposal is concerned entirely with the nuisances due to excessive growths of green seaweed in sewage polluted estuaries, with special reference to Belfast Lough. For many years past there has been a serious effluvium nuisance in the Lough, which became so acute that in 1899 the Belfast Corporation was required by Parliament to purify the sewage of the town in such a manner as to meet with the approval of the Irish Local Government Board. It was then established by observation and experiment that the nuisance was caused entirely by rotting green seaweeds and especially by *Ulva latissima*, and that when this weed decayed (under anaërobic conditions) it suffered two distinct but consective fermentative changes, in the first of which fatty acids were produced, while later the sulphates present either in the tissue of the weed or in the seawater were reduced to sulphides, with the eventual evolution of sulphuretted hydrogen. Professor E. A. Letts, who had already been conducting experiments for the Belfast Corporation and Mr. Eric H. Richards, were requested by the Commission to make further experiments comparing the growth of ulva in various mixtures of polluting liquids, natural and artificial, with the growth of the seaweed in pure sea water, to determine

* Statutory Rules and Orders, No. 752. Factory and Workshop Dangerous and Unhealthy Industries. August 12th, 1911. Regulations for the Smelting of Materials containing Lead, the Manufacture of Red or Orange Lead, the Manufacture of Flaked Litharge. Home Office September, 1911.

† Seventh Report of the Commissioners appointed to inquire and report what methods of treating and disposing of sewage may properly be adopted. London: Wyman and Sons. Price 2s. 6d. (Cd. 5,543.)

if possible, which was the most stimulating constituent of those liquids found to promote growth, and to observe the changes in composition of the seaweed, if any, after growth in these mixtures. The report of their experiments is included in the seventh report of the Commissioners. They came to the conclusion generally that during the warmer parts of the year, when the seaweed is actively growing, the effects of sewage pollution, or of sprinkler effluent, were very considerable. The report also contains an account by Mr. C. C. Frye and Mr. G. B. Kershaw of successful attempts that were made to destroy the seaweed by copper sulphate. These experiments demonstrated that copper sulphate crystals, when carefully distributed in the proportion of about 1½ cwt. per acre over areas of slob covered with *Ulva latissima* and other similar seaweeds would destroy such weeds almost completely in the course of a week, but that the effect was only temporary, lasting about two months. It was also shown that the application of the copper sulphate in destroying seaweeds and killing many mussels, assisted the natural cleansing of the banks by the tides to a very marked extent.

Medical News.

THE Harveian Oration before the Royal College of Physicians of London will be delivered by Dr. C. Theodore Williams, M.V.O., on October 18th, at 4 p.m.

THE Child Study Society will begin its new session of lectures and demonstrations at 90, Buckingham Palace Road on Thursday, October 12th, at 7.30 p.m.

THE title of the oration to be delivered before the Hunterian Society on February 14th, 1912, by Dr. Glover Lyon is "The Cure of Consumptive: A review and forecast."

THE winter term of clinical lectures and demonstrations at the National Hospital for the Paralysed and Epileptic commences on October 10th, at 3.30 p.m., and will be continued on Tuesday and Friday, till December 15th.

DR. WATSON WILLIAMS will deliver the inaugural lecture, "The Influence of the Upper Air Tract on Respiration," illustrated by lantern slides, at the Central London Throat and Ear Hospital, on Friday, October 27th, at 3 p.m.

A SERIES of post-graduate lectures and demonstrations will be given at the Ancoats Hospital, Manchester, throughout the coming academic year (October-July) on Thursdays, at 4.15. All members of the medical profession are cordially invited to attend.

A PROVINCIAL sessional meeting of the Royal Sanitary Institute will be held at the Town Hall, Hull, on October 11th, at 12 noon, when a discussion on the notification of measles and the influence of school closure will be opened by Dr. J. Mitchell Wilson, County Medical Officer of Health, East Riding of Yorkshire.

A COMPETITION for not less than twenty commissions in the Royal Army Medical Corps will be held in London on January 24th, 1912, and the following days. Applications to compete should be made to the Secretary, War Office, not later than January 15th. The presence of candidates will be required in London from January 22nd.

THE eighth annual festival service of the Birmingham Guild of the Guild of St. Luke will be held in Gloucester Cathedral at 4 p.m. on Thursday, October 26th, when the sermon will be preached by the Right Rev. the Lord Bishop of Gloucester. All practitioners are invited to attend: further particulars respecting the guild can be had on application to Dr. W. T. Elliott, 65, Temple Row, Birmingham.

AT the general meeting of the Medical Society of London, to be held on Monday, October 9th, at 8 p.m., the incoming President, Dr. J. Mitchell Bruce, will deliver the opening address, which will be followed by a paper by Dr. Leonard Guthrie on recurrent jaundice with pyrexia, splenomegaly, anaemia, and pigmentation of the skin in a girl 4 years of age.

DR. HOWARD PIRIE has left England to take up the appointment of physician in the electrical department at the Royal Victoria Hospital, Montreal. Dr. Pirie was late assistant in the electrical department of St. Bartholomew's Hospital, and had charge of the corresponding work at Greenwich Hospital. He was also lecturer on electro-therapeutics at the London School of Clinical Medicine and North-East London Post-Graduate College, and secretary to the Roentgen Society.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

P. would be obliged for any information regarding practice in Tangier. He asks whether any legal restrictions exist preventing a British graduate from practising there or in invalid resorts on the same coast.

J. C. would be much obliged if any medical man who has had experience of the "radium ionic water" would let him know the results in uric acid diathesis, particularly with regard to the claim as to its effects in removing, or reducing, uratic deposits.

ZETA would feel obliged for information as to whether a patient with pulmonary tuberculosis—mixed infection of some years' standing—and who has ceased to react to large doses of T.R., would be likely to benefit by an autogenous vaccine. There is no cavity. His temperature is never above 99° and health excellent, but expectoration is profuse at times.

DIABETIC COOKERY BOOK.

F. H. R. asks: Is there any small book published on diabetic dietary and giving cookery receipts?

*** One of the following might meet our correspondent's requirements: *Cookery for the Diabetic*, by W. H. and Mrs. Poole, with preface by Dr. Pavy. London: Longmans, Green, and Co., 1891. *Diet in Sickness and Health*, by Mrs. Ernest Hart. London: Scientific Press. 1895. A number of cookery receipts are given, pp. 476 and 489, in Dr. Chalmers Watson's *Food and Feeding in Health and Disease*. Edinburgh: Oliver and Boyd. 1910.

INCOME TAX.

DOUGLAS has an appointment abroad, where he resides for over twelve months at a time, returning then to England for three months' vacation. He wishes to know whether he is liable to British income tax.

*** The question of liability depends upon whether our correspondent has a residence in this country. If while here he resides in hotels or temporary lodgings he will only be liable in respect of any part of his income that arises here. If, however, he has a house here, occupied, say, by wife and family during his absence, he will be liable in addition to pay tax on any sums that he remits to this country out of his income arising abroad.

INCOME TAX INQUISITION states that he has already furnished by request copies of his accounts for the years 1908, 1909, and 1910 to the surveyor of taxes, who now presses for copies of the accounts for the three years 1905, 1906, and 1907. He asks whether he can be compelled to give accounts for as many as six years.

*** The position suggested by the inquiry is that our correspondent has, in the opinion of the surveyor, been undercharged for previous years. If this be so, our correspondent should make a formal statement to the surveyor of what he considers should have been the proper assessment for each of the years 1908-9, 1909-10, and 1910-11, basing the figures so far as he is able on the result of the three preceding years in

each case, and asking to have the assessments adjusted to those figures. If the Income Tax Commissioners are not satisfied with these statements they can then call for the production of the accounts now asked for by the surveyor.

Loud Crepitant Crackles or Grating in Knee-joint.

G. V. P. writes: I shall be obliged to any readers of the Journal if they will throw some light on the following case: I have a patient who twenty years ago had a fracture of the tibia involving the knee-joint, also the lower end of the femur, this being followed by thrombosis of the external iliac vein and arthritis deformans of the knee. Except a general thickening of the structures of the knee, there has been no further trouble, but if the patient lies on his back and bends up the thigh at right angles to the body and then extends the leg on the thigh so as to get the whole limb stretched out perpendicularly, towards the latter part of the movement of full extension there is a regular shower of these curious crepitations and crackles loud enough for those in the room to hear them distinctly at some distance from the patient. If the patient is laid on either side and exactly the same movements imparted to the thigh and leg these sounds are not heard. Can any reader explain the exact causation of these sounds? also the reason why this simple change of posture should so completely modify them when the extension of the knee-joint remains the same?

ANSWERS.

B. B. G.—Freud's method of psycho-analysis was very fully discussed at a meeting of the Hampstead Division of the British Medical Association held on November 11th, 1910 (British Medical Journal, November 19th, 1910, page 1628.) See also two papers on the subject read at the recent annual meeting (British Medical Journal, September 30th, pp. 747 and 750).

Dr. A. H. Palmer (Burton-on-Trent) writes: In answer to "Onyx" let him try the old-fashioned "cork garter" for his patient.

Cramp.

Dr. H. J. Thorp (Ipswich) writes in reply to "Onyx": Firm pressure around the thigh or upon the great sciatic nerve sometimes gives relief. Cramp is often associated with some irritation of the stomach or of the intestines.

Permanent Specimens of Ankylostoma and Tapeworm.

I.M.S.—(1) Very fair permanent specimens of ankylostoma ova may be prepared by mounting suitable faeces in Farrant's solution. (2) Press the segment of the tapeworm between two glass slides and tie these with string. Then immerse in methylated spirit. After prolonged hardening pass through absolute alcohol, clear in clove oil and mount in Canada balsam.

Scar Tissue.

C. M. R.—Scar tissue can certainly be bruised, but as a rule it is not so vascular as skin, and therefore the amount of effusion into the superficial parts is not so great. The subcutaneous tissues may be just as much distended with blood as under normal skin. As to pain, the tendency is towards a diminution of sensation in such extensive scars, but a severe thrashing no doubt affects the deeper parts as well. The great point is that the nutrition of cicatrices is imperfect, and therefore any violence is likely to cause more destruction of tissue and the damage is less quickly and less perfectly repaired.

Pruritus Ani.

Dr. Conor Maguire (Claremorris) writes: With reference to suggestions for treatment of this troublesome complaint (British Medical Journal, September 23rd), I beg to say that I have used with success an ointment composed of vaseline and lanoline of each 1 oz., ol. amygdal. dulc. ½ oz., liq. carbonis deterg. (Wright) 3 drachms. Mix well, warming slightly. While melted suck some into an ordinary rectal glycerine syringe. Wash out bowel with cold water enema, and then inject about 2 drachms of the ointment. This at night on going to bed has always given complete relief for the time and cure for several months.

Treatment of Enlarged Prostate.

"68".—It may be said that in the absence of definite contraindications, the present treatment of enlargement of the prostate is operative. In an individual, otherwise healthy, the operation for enucleation of simple adenomatous prostate is attended with very little risk. Age, as a mere matter of years, is a factor of little import. In the presence of associated disease of the kidneys the risk is serious, and the symptoms must be urgent to justify operation. Dangers from heart and lungs can be minimized by the use of spinal anaesthesia. For simple adenomatous hypertrophy, suprapubic enucleation is the best operation. Our correspondent does not furnish enough data upon which to furnish a complete answer to his questions, but so far as can be judged from the information available, he might very well be advised by a surgeon to submit to operation. In the first place his symptoms cause him disturbed nights, and some inconvenience; the tendency will certainly be for them to get worse. Catheter life would probably minimize the inconvenience, but is itself attended with risk of sepsis sooner or later. Sooner or later the kidneys will feel the effect of the obstruction in the lower urinary tract, and operation will be then much more serious. Submission to operation will, so far as can be judged without examination, secure permanent relief from the troubles of micturition. The best advice we can give is to submit to examination by a competent surgeon and abide by his decision.

LETTERS, NOTES, ETC.

Clinical Assistantships.

The authorities of the Chelsea Hospital for Women desire it to be known that non-resident clinical assistants to the out-patient surgeons are appointed there for three months on payment of £5 5s. to cover two attendances a week, and £3 3s. to cover one attendance a week. Candidates, who must be qualified men, should address their applications to Mr. Ian Mackay, for submission to the medical committee.

Supernumerary Testicles.

Devonport writes: I was much interested in reading in the British Medical Journal of the candidate, "C. A.," examined by a retired naval medical officer for entry into the Royal Navy. The following statement rather surprised me: "There is no medical regulation for supernumerary testicles, but the absence of them on one or both sides causes rejection." Is this correct? If so it seems very harsh, and likely to deprive the country of the services of many efficient men.

*** We are informed that malformations of the genital organs are causes of rejection, in candidates for the navy. In the case of supernumerary testicles the case would be judged on its merits; the decision would depend on where the glands were situated. It is quite true that the absence of one or both testicles causes rejection and that there is no medica regulation for supernumerary testicles.

"Anaesthesia in Adenectomy."

Dr. Cecil E. Reynolds (London, W.) writes: Having read X.'s endorsement of Dr. Bygott's advocacy of adenectomy without anaesthesia, I feel impelled to ask these gentlemen if they have ever suffered an exploration of their own nasc-pharynx. Several years ago Mr. Bilton Pollard, at my request, kindly removed some small vegetations from my nasc-pharynx with the aid of cocaine, and this trifling operation lingers in my memory yet as most insufferable, albeit I am no stranger to physical pain and have at least average capacity for endurance. I know that sweep—it feels like a French nail going through the base of the skull. I admit that the sensitiveness of this region varies greatly in different individuals, but what is the objection to a correct mixture of nitrous oxide and air? The risk is *nil*, and it is scarcely justifiable to inflict pain in order to save time. I am not surprised to read that patients over 25 suffer from shock in these circumstances—a fellow feeling makes us wondrous kind.

Ten Years after Sanatorium Treatment.

Sanatorium writes: Dr. J. C. McWalter asks Dr. J. Edward Squire if tubercle bacilli were demonstrated in the cases of tuberculosis which he treated ten years ago. I can mention a case of a female relation of mine who in 1902 came under my care with disease of the upper and lower lobes of the right lung. Later the left lung also became affected. The sputum contained tubercle bacilli. I sent the patient to a sanatorium in the late summer of 1902, and she returned about spring, 1903, with the disease quiescent. She got married a year later, and after the birth of a child with severe confinement she again returned to the sanatorium in the spring or summer of 1905 for a few months. Since then she has undergone several operations for uterine trouble, has had another baby, and has worked hard. Apart from uterine mischief, she is to-day really better than she was ten years ago.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Note.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

The Schorstein Lectures
ON
AURICULAR FIBRILLATION.

Delivered at the London Hospital,
October, 1911,
BY
JAMES MACKENZIE, M.D., LL.D.,
Lecturer on Cardiac Research, London Hospital; Physician to the Mount Vernon Hospital, etc.

LECTURE I.

Introduction.

t not infrequently happens that discoveries of impor- ance which have far-reaching consequences are not ppreciated, even by many of those directly concerned with he subject, until long years after the discovery has been ade.

I have little hesitation in applying this remark to the bject of these lectures, for auricular fibrillation of the man heart is the most important discovery yet made the domain of the functional pathology of the heart, d few physicians are aware of its significance. The mptoms directly due to auricular fibrillation and the mptoms of heart failure induced by this condition are clear and definite, that we have little difficulty in re- gnizing this condition as a distinct clinical entity. Its cognition is not of mere academical importance, but is of e greatest practical value, for when we recognize the rious symptoms, they afford us grounds for a sure dia- osis, a safe prognosis, and for a rational line of therapy a large proportion of cases of serious heart failure. he great frequency of its occurrence renders it impera- e that all practitioners should become familiar with its mptomatology, for 60 or 70 per cent. of all cases of ious heart failure met with in practice owe the failure ectly to this condition, or have the failure aggravated its presence. Some of the symptoms have been over- ked in the past, while the significance of others has been appreciated. Moreover, the response of hearts ected with auricular fibrillation to remedies differs so ch from the response of all other forms of heart action, mal and abnormal, that the recognition of its character- es materially alters the views universally held as to the on of drugs upon the heart.

Type of Case showing Auricular Fibrillation.

efore setting out in detail the features characteristic of icular fibrillation, it might be convenient that you uld appreciate the kind of case with which I am going eal. The most common evidence of this condition is irregular action of the heart of a very disorderly kind. s that form of irregularity so frequently met with in elderly, and in patients with hearts damaged by pre- s rheumatic infection. In the latter class the associa- of irregular hearts with mitral stenosis has long been gnized, and, on account of this association, the gular pulse is sometimes described as the "mitral e," with which all clinicians are familiar.

hile senile and rheumatic hearts are those most fre- tly affected by this condition, there are numerous s in which auricular fibrillation occurs, where there o history of rheumatism, and at an age when senile ges are not present in a marked degree. Auricular lation is present in the great majority of cases with sy, or dyspnœa due to heart failure, where there is regular pulse. Thus, in Withering's report of cases hom he administered digitalis successfully, where symptoms of heart failure were associated with an ular pulse, and in whom digitalis acted in a special ner, there can be but little doubt that these were of auricular fibrillation. Other cases are found ded as "delirium cordis." In those predisposed to ular fibrillation violent exertion may induce the tion, and many of the recorded instances of heart train afford excellent examples of auricular fibrillation. f the heart failure which accompanies it.

4

Methods by which Auricular Fibrillation has been Recognized.

It is an opinion widely held that the methods of investigation by means of graphic records and the electrocardiograph are of little practical value, however interesting they may be from a scientific standpoint. It is also a familiar assumption that physiological research is of little help to medicine, and the practical outcome of such a view is seen in the lack of collaboration among the different branches of medical science.

Now I wish, in dealing with this subject of auricular fibrillation, to point out not only how very important its recognition is to the clinician, but how it has been brought about by a long-continued search extending over many years, in which the features that led to its recognition were ascertained by the systematic use of graphic records, by the application of the results of experimental research, by the co-ordination of the clinical and physiological observations, and by the employment of the electrocardiograph in clinical and experimental investigations.

While these methods have been the means by which this obscure condition has been revealed, they are not now necessary for its clinical recognition in the great majority of cases. By the systematic co-relation of clinical symptoms, recognizable by the ordinary methods of physical examination, with the results of graphic and electrocardiographic records, the features of auricular fibrillation have become so clear that we can recognize, with little trouble, the salient features of the great majority of cases. While, therefore, I intend to lay before you the steps by which we have come to our knowledge of this condition, in order that the proof of the condition may be complete, I also wish to point out that its recognition becomes easy to the careful physician in the usual routine examination of the patient.

Historical.

It may bring the matter better to your mind if I cite my own experiences in the investigation of this condition. More than twenty-five years ago I began what seemed a hopeless undertaking—an attempt to ascertain the significance of heart irregularities and the mechanism by which they were produced. It soon became evident that the stereotyped phraseology which had been in use for centuries in the description of irregularities was inadequate and misleading. No advance could be made so long as the only means of describing the features was the impressions of observers. Graphic records enabled the salient features to be perceived and demonstrated. At first these records were taken by means of a Dudgeon sphygmograph, but I found that little advance could be made by records limited to the radial pulse, which gives information regarding only one chamber of the heart—namely, the left ventricle. After a good deal of trouble I devised a simple method of recording the movements of the jugular veins; this was done by fixing a tambour to the Dudgeon sphygmograph in such a way that at the same time that the radial pulse was being recorded I could get tracings also from the jugular pulse. By this method I could demonstrate, in a large proportion of cases, the action of three chambers of the heart, and occasionally the whole four chambers. Before I undertook this investigation others had recorded the jugular pulse and recognized its features, but little had been done to apply the information so obtained to the interpretation of the irregular action of the heart. By the systematic comparison of the tracings obtained from the jugular pulse with those from the arterial pulse or apex beat certain differences in the action of the chambers of the heart became evident, which permitted of a large number being separated into recognized groups. I published in 1893 a differentiation of some of the irregularities, based on the manner of their production. Some years later, and independent of my work, a number of observers were led to the examination of irregularities, and the research has been continually pursued, with the result that we are now able to appreciate the mechanism by which the great majority of irregularities are produced, so that what was until lately the most obscure part of clinical medicine is now one of the best known and the most completely proved.

In the course of separating the irregularities into groups I came across one group which showed such well-marked characteristics that I had little difficulty in recognizing it. At first my attention was attracted to it by the peculiar

nature of the jugular pulse. In tracings from the necks of normal persons the jugular pulse, when present, always shows a wave preceding the carotid pulse, a wave which we recognize as being due to the right auricle (Figs. 1 and 2). Now, in the group with which I am dealing there was a complete absence of this auricular wave, and the

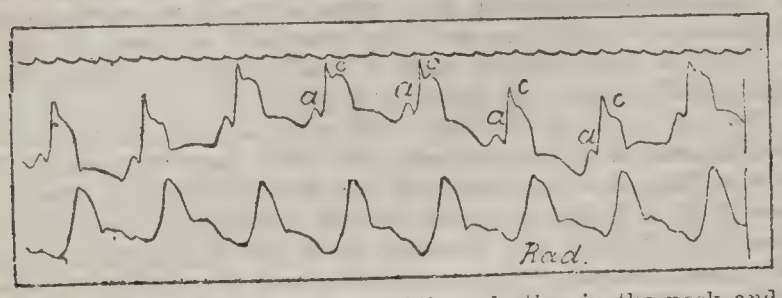

Fig. 1.—Simultaneous tracings of the pulsation in the neck and of the radial. In the neck the pulsation is mainly due to the carotid (*c*) and the jugular pulsation is limited to a small wave (*a*) preceding the carotid and due to the right auricle.

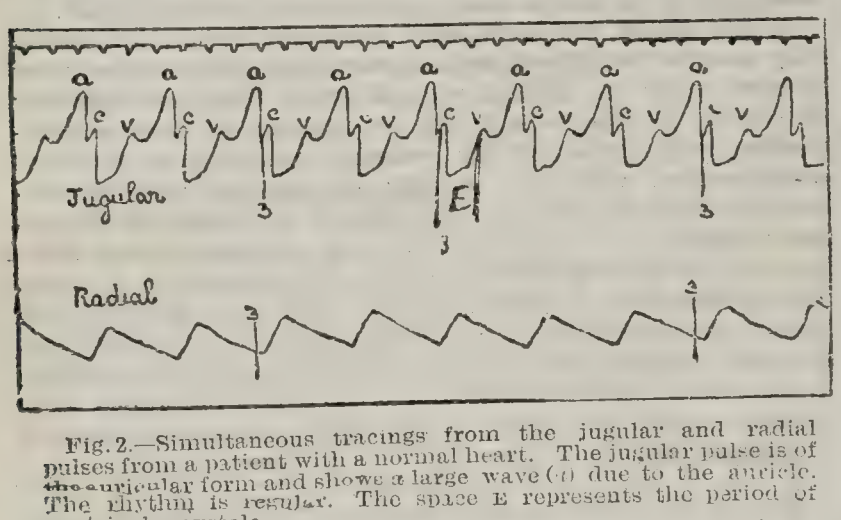

Fig. 2.—Simultaneous tracings from the jugular and radial pulses from a patient with a normal heart. The jugular pulse is of the auricular form and shows a large wave (*a*) due to the auricle. The rhythm is regular. The space E represents the period of ventricular systole.

jugular pulsation, when present, fell mainly during the ventricular systole (Fig. 3). These two types of pulse had been recognized by observers before me, and described by the terms "negative," or normal venous pulse, and "positive," or pathological venous pulse, the pathological factor being supposed to be tricuspid regurgitation. For a variety of reasons, I showed that these terms were misleading, and demonstrated that the essential difference between them was that in the so-called negative, or normal

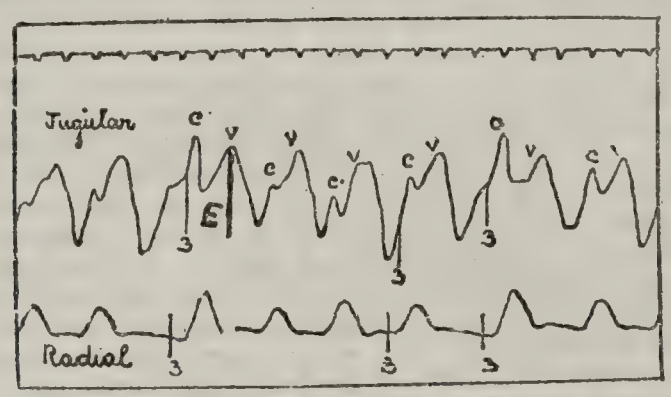

Fig. 3.—Simultaneous tracings of the jugular and radial pulses from a patient with auricular fibrillation. The jugular pulse is of the ventricular form, and there is an absence of the wave (*a*), due to the auricle, preceding the carotid wave (*c*) as in Figs. 1 and 2. The rhythm is irregular. The space E represents the period of ventricular systole.

venous pulse, there was always a wave caused by the auricle, whereas in the so-called positive, or pathological venous pulse, there was no such wave (compare Figs. 2 and 3). In order that this fact should be emphasized, I called the one form the auricular form of venous pulse, and the other the ventricular form of venous pulse. My intention in thus changing the nomenclature was to keep before me the fact that there was some change in the heart whereby the auricular activity was altered. By the systematic observation of patients for a long period of years, particularly those with mitral stenosis, I found that the jugular pulse of the auricular form changed suddenly into the ventricular form. One patient came under my care in 1880 with mitral and tricuspid stenosis. I had observed in her for many years a well-marked presystolic murmur, and had repeatedly obtained tracings from her jugular and liver pulses, which showed well-marked waves due to the auricular systole (Fig. 4). The heart was always regular, except for t occasional occurrence of an extrasystole. This patie became seriously ill in 1897; her pulse became rapid ar irregular, and she suffered from great dyspnoea. Aft a partial recovery the rate of the heart fell, but remain continuously irregular. There were other evidences

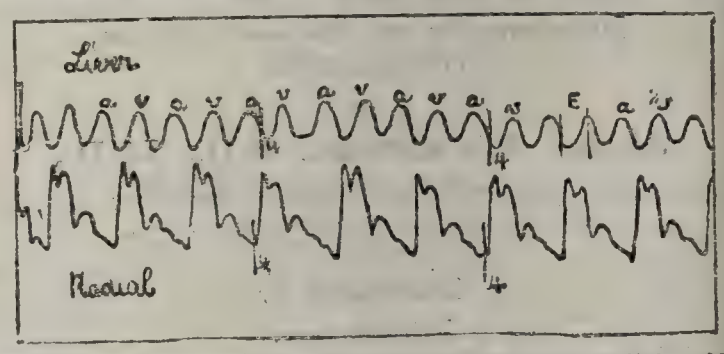

Fig. 4.—Simultaneous tracings of the liver and radial pulse The liver pulse is of the auricular form, and shows a wave (*a*) preceding the ventricular systole (space E). The rhythm is regular Compare with Fig. 5.

a great change in the heart's action, as all evidences auricular activity had disappeared; thus the presysto murmur which had been present was gone, and there w a total absence of a wave in the jugular and liver puls due to the auricle. In other words, these pulses h changed from the auricular to the ventricular form venous pulse (Fig. 5). The patient died in 1898, and the *post-mortem* examination mitral stenosis and tricusp stenosis were found, and the auricles were enormous distended and thin-walled. From that time till a coup of years ago I have speculated as to what the auric is doing in such cases. From the fact that in this ca and in a few others the auricle was found distend and thin-walled at the *post-mortem* examination, I ca to the conclusion that the disappearance of the sig of auricular systole was due to the auricle havi become distended, atrophied, and paralysed. This view put forward in a book on the pulse which I published 1902. Shortly after this was published I had a series cases, some of which I had watched for years, and at t *post-mortem* examinations the auricles were not thinn but were hypertrophied. With this fact before me I sa that my previous explanation could not be correct, for t fact that the auricles were hypertrophied indicated th they must have contracted during the years that I h

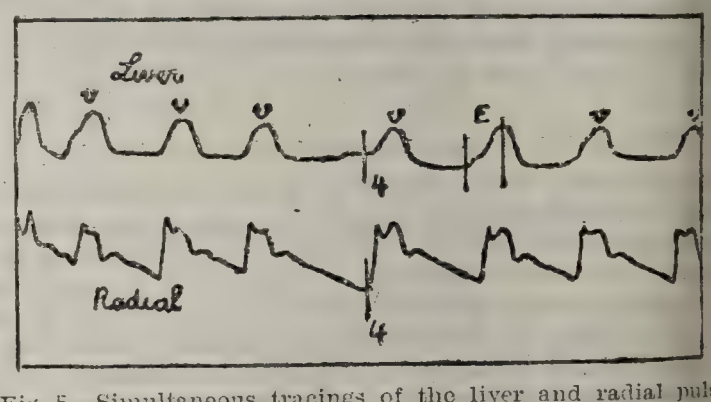

Fig. 5.—Simultaneous tracings of the liver and radial pulse from the same patient as in Fig. 4, a year later. The liver puls is of the ventricular form, and there is now no auricular wav preceding the ventricular systole. The rhythm is irregular an auricular fibrillation is present.

watched them, and when there had been an absence of signs of auricular activity. As it was clear that t auricles could not have contracted during the norm period—that is to say, immediately before ventricul systole—the only alternative I could see was that th contracted during ventricular systole. As in the mea time I had studied several hundreds of cases and had se this condition start under a variety of circumstanc particularly in individuals with frequent extrasystoles put forward the view that ventricles and auricles co tracted together, and assumed that the stimulus for co traction arose in some place that affected auricles a ventricles simultaneously. As at this time I could n conceive of any other possibility to explain the facts suggested that the stimulus for contraction arose in auriculo-ventricular node, and I called the conditi "nodal rhythm," under which name the clinical aspe of auricular fibrillation are described in my book on diseas of the heart, which I published in 1908.

With the advent of the electrocardiograph, we obtained a more accurate method of recognizing the contractions of the chambers of the heart. When electrocardiograms were taken of the cases that I had called nodal rhythm, my clinical observations were verified, inasmuch as no evidence of the normal auricular systole was found. In cases where the heart periodically became disorderly in its rhythm, and where I was able to demonstrate that the auricular form of venous pulse was present with the regular heart action, and the ventricular form during the period of irregular action, the electrocardiograms also showed evidence of auricular contraction during the normal period of the heart's action, and a disappearance of the normal auricular activity during the period of irregular action, fully confirming the observations I had made on nodal rhythm.

The attention of other observers had also been arrested by some of the clinical features of this condition. Thus Hering in 1903 separated from among other irregularities the irregularity peculiar to auricular fibrillation, and called it the *pulsus irregularis perpetuus*. He was mainly concerned with the physiological aspect of the subject, and did not recognize the full clinical picture, with the disappearance of all signs of auricular activity. Many other observers had noted the "positive" venous pulse, and in attributing it merely to tricuspid incompetence they had failed to appreciate its real meaning, and so missed the significance of its appearance.

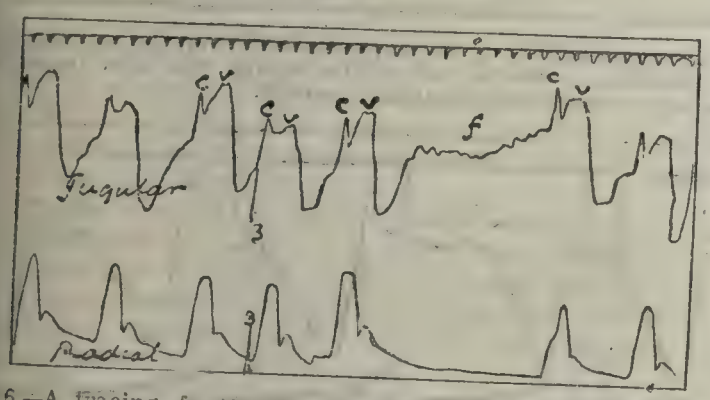

Fig. 6.—A tracing from a patient with auricular fibrillation, showing the small fibrillary waves (*f*) in the jugular vein.

Although the disappearance of the auricular contraction was the feature that puzzled me in these cases, I realized that my explanation of it, as being due to synchronous contraction of auricles and ventricles, was far from being established, and I endeavoured to interest others in the subject, who might investigate the matter by experimental methods, and find out, if possible, what the auricle was doing. Cushny was the first to suggest that auricular fibrillation might be a factor of clinical importance, and in 1906 he and Edmonds drew attention to the resemblance between the radial tracings in a case of paroxysmal irregularity in the human subject with the tracings from a dog, in which they produced experimental fibrillation of the ventricles. On reading this communication, I was struck with the idea, and found what I thought to be evidence of auricular fibrillation in numerous small waves in the jugular pulse (Fig. 6, waves marked *f*), and I published in 1907 tracings with this explanation, but I failed to appreciate the real significance of what auricular fibrillation was, and I thought it only a passing event. The matter was, however, brought to a final issue by Lewis in 1909. He had been pursuing an inquiry by experiment into the nature of cardiac irregularities, and had produced experimental fibrillation in the dog, and at the same time he took graphic records of the venous and arterial pulses. With the onset of fibrillation, the arterial pulse became irregular, and the venous pulse changed from the auricular to the ventricular form. When Lewis showed these records to me, I at once recognized them as being in every respect identical with the radial and jugular tracings I had obtained from my patients with irregular rhythm. Pursuing his investigations further, Lewis was able to detect in the electrocardiogram of experimentally produced fibrillation certain oscillations during ventricular diastole, which were induced by the fibrillating auricle. Examining more critically the electrocardiograms of clinical cases of nodal rhythm which I sent to him, he found these oscillations also present, and demonstrated their correspondence with the small fibrillation waves I had noted in the jugular pulse. Since 1909 Lewis has carried out a long series of observations on auricular fibrillation in the human subject and in animals, with the result that we now know that the vast majority of cases which I had described as nodal rhythm are due to auricular fibrillation. (For details, clinical and experimental, see Lewis's recently published book on *The Mechanism of the Heart Beat*.)

These results have been confirmed by several observers. Rothberger and Winterberg had independently in 1909 drawn attention to the fact that in *pulsus irregularis perpetuus* the electrocardiogram corresponded to that of auricular fibrillation experimentally produced. More recently James and Williams and Jolly and Ritchie have confirmed these results.

In the investigation which I have been carrying on for so many years I was not content merely to describe the mechanism by which the irregularities were produced, but I always kept before me the bearing these symptoms had on the patient's present and future state, and what indications they gave for treatment. To this end I made careful notes of all attendant circumstances, such as the patient's history, the size of the heart, the degree of heart failure, the response to treatment, and the future progress of the case. The result is, that though I failed to recognize the nature of the altered rhythm of the heart, yet from my notes of about a thousand individual patients, many of which I had watched for a number of years, I had been able to study many of the characteristics of this group and to recognize the clinical features. From these observations I am able to present a picture of this condition which, though far from complete, permits of the recognition of many features of the greatest practical importance.

What is Auricular Fibrillation?

The term "fibrillation" is applied to a curious condition of the muscle fibres of the heart, where the individual fibres, in place of contracting in an orderly and simultaneous manner during systole, contract rapidly and independently of one another. The auricle, when in a state of fibrillation, presents an entirely different aspect from what it does during its normal action.

"The walls of the auricle stand in the diastolic position; systole, either complete or partial, is never accomplished; the wall, as a whole, is stationary, but careful examination of the muscle reveals an extremely active condition, it appears to be alive with movement; rapid, minute, and constant twitchings or undulatory movements are observed in a multitude of small areas upon its surface" (Lewis).

When the ventricle passes into fibrillation, the circulation is at once brought to a standstill, and McWilliam has suggested that this is probably the cause of sudden death in the human subject. When the auricles pass into fibrillation, death does not ensue, for the fibrillation cannot pass along the bundle which connects auricle with ventricle.

Conditions Inducing Auricular Fibrillation.

In experiment auricular fibrillation can be produced by electrical stimulation of the auricular wall. In the human heart it is found to arise under a variety of conditions. It is probable that it is produced by altered nutrition of the muscle. Thus, I detected it in 1892 in a patient recovering from a mild attack of rheumatic fever, and there was no other evidence that the heart was affected. The attack passed off after some hours, and the youth has grown up into healthy manhood with no evident lesion of the heart. I have seen it appear in the heart in pneumonia, during the attack and during convalescence, with disastrous results in both cases. Digitalis can induce it in predisposed cases. I have known it occur intermittently in a fatal case of infective endocarditis, and Price has shown its occurrence in a fatal case of diphtheria. *Post-mortem* examinations in these last two cases showed that marked changes of an inflammatory nature had occurred in the walls of the auricle.

Effort, sometimes slight and sometimes violent, may provoke auricular fibrillation. This occurs most frequently in the middle-aged or elderly. Thus, a healthy and vigorous member of our profession at the age of 50 years ran rapidly for 200 yards, and was seized with an attack which lasted for two hours. This was eight years ago, and he is still well and actively engaged in his work. In many cases these attacks lasting for a short period are apt to recur with increasing frequency until they become

permanent. While they are occurring intermittently they are often easily provoked by effort, though they may not infrequently arise from no apparent cause. Thus, in one man under my care at the Mount Vernon Hospital, the heart would be detected beating irregularly several times a day, the irregular period lasting from half an hour to two hours. This irregularity was due to auricular fibrillation, as shown by records by the polygraph and electrocardiograph. He himself was not conscious of the altered rhythm, nor was there any recognizable cause for the onset. I have found it in a few people dying of exhausting diseases, as cancer.

We are not yet in a position to decide with sufficient accuracy the nature of the changes in the heart wall which favour the occurrence of auricular fibrillation. In the hearts which I have had examined, which showed auricular fibrillation during life, there has been found in the auricle and ventricle an increase of fibrous tissue and of nucleated cells in the muscular walls. In most cases there is probably some definite change which predisposes to this condition, and it only needs an adequate stimulus to provoke it. This stimulus may be of a varied kind, for while the onset can frequently be traced to violent bodily effort, it often occurs when there is no excessive effort. At present, we can only say that one predisposing condition is certain organic changes in the muscle wall of the auricle.

Duration of Auricular Fibrillation.

In the majority of cases when auricular fibrillation sets in it persists for the remainder of the individual's life. I have watched individual cases for over ten years in whom it was constantly present. In many cases it may appear for a few hours and may never recur, or it may recur at infrequent intervals for some weeks and months and then disappear. Many cases of paroxysmal tachycardia owe the paroxysms to auricular fibrillation, and in such cases it may last for a few seconds, a day or two, a few weeks, or even months. As a rule, however, when it is intermittent in its appearance, the tendency to its recurrence becomes greater, till finally it becomes permanently established.

Effect on the Ventricles.

Under normal circumstances the stimulus for contraction arises from a definite area in the auricle (Keith and Flack's node). From this point the stimulus passes through the auricle to the auriculo-ventricular node, and along the bundle to the ventricle. In fibrillation of the auricle the stimulus for contraction seems to arise in the fibrillating fibres of the auricle, and is transmitted to the auriculo-ventricular node in an irregular manner. It is probable that the manner in which the ventricle is affected depends on the power of the node and bundle to receive and transmit the auricular stimulations. It might be suggested that with the onset of auricular fibrillation the ventricle takes on a rhythm of its own, and indeed at one stage of my investigations I had suggested an idio-ventricular rhythm. But, in experiment, if after fibrillation has been set up, the bundle is cut, the ventricular rate at once alters, and the ventricle assumes its own peculiar slow rhythm.

Rate.—Changes in the rate and rhythm of the ventricle and in the size of the heart are very common with the onset of auricular fibrillation. In several cases I have detected these changes shortly after its inception. I have found the greatest difference in rate, ranging from 40 to 130 beats per minute. It is but seldom that we get the opportunity of seeing auricular fibrillation start, as the patient is frequently unconscious of the change in the heart's rhythm, though some recognize the curious sensation of fluttering. The patient may consult us because of the distress which may sooner or later appear, and then we usually find the rate remarkably increased, generally between 110 and 140 beats per minute and over. I have met with a number of cases in which the rate has become slower on the inception of auricular fibrillation. This always occurs when fibrillation has arisen as the result of the administration of digitalis. If we assume that digitalis slows the heart in fibrillation through its action on the vagus and the auriculo-ventricular bundle, we might assume that the slowing occurs in consequence of some affection of the auriculo-ventricular bundle. In support of this view, I have observed a case for many years, in which there was persistent increase in the interval between the auricular and ventricular systoles, and in which at one time there was partial heart-block. When the patient's auricle started to fibrillate the ventricular rate fell from 60 to 40 beats per minute, and has continued at this rate for six years (Fig. 7 and 8). I have published a series of cases under the title "Nodal bradycardia," and included among them are cases with a rate of about 30 beats per minute, and also with a rate falling even lower at times and finally inducing the phenomena characteristic of Adams-Stokes disease. In one of these cases the heart fell suddenly to 40 beats per minute and was quite regular the slow rate persisted for a fortnight, when it suddenly

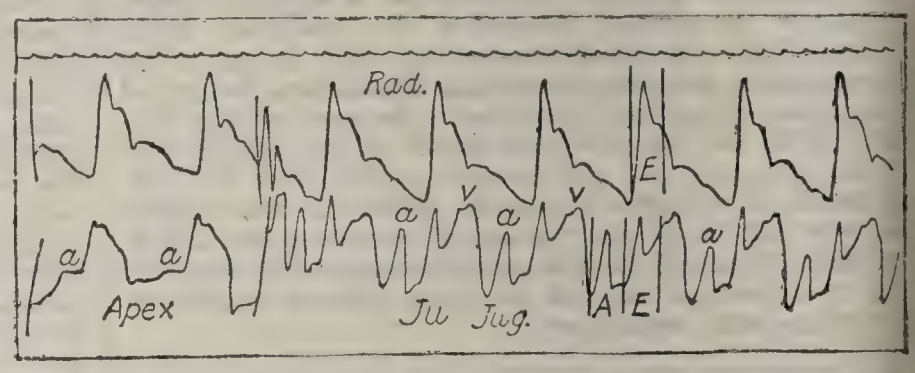

Fig. 7.—The jugular pulse is of the auricular form, and the *a—c* interval (space A) is increased. At the left of the tracing two apex beats are recorded, showing a wave (*a*) due to the left auricle.

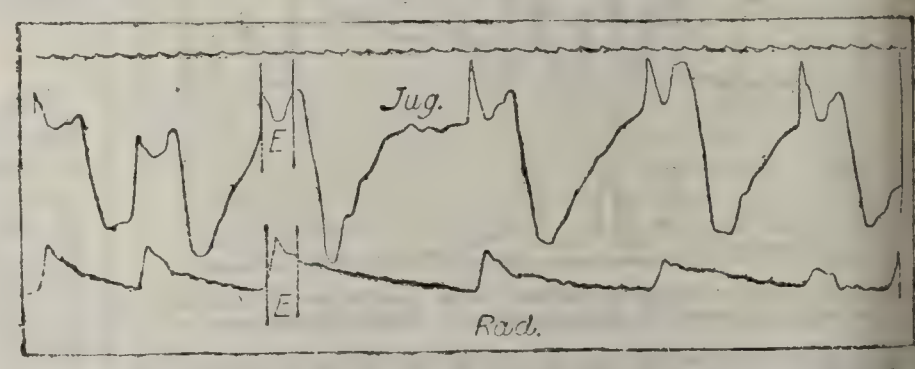

Fig. 8.—From the same patient as Fig. 6. The jugular pulse is of the ventricular form. The rate is slower than in Fig. 6, and the rhythm is irregular. Fibrillation of the auricle is present.

increased in rate and the auricle resumed its normal action. In this case during its normal action there were no evidences of heart-block.

Rhythm.—When the auricle passes into fibrillation the ventricle usually becomes irregular in its action. The alteration is sudden, as shown not only by experiment but by clinical observations, in cases in which I have actually observed the change in the heart's action. The cessation of fibrillation can be recognized by the return to a regular rhythm, occasionally the return is accompanied by a few irregular beats, due to extrasystoles. Though many speak of this condition as the *pulsus irregularis perpetuus*, I have seen a number of cases where the rhythm of the ventricle was regular. In the majority of such cases the rate was under fifty beats per minute. In all likelihood heart-block was present, and the ventricle was contracting in response to a stimulus independent of the auricular fibrillation. In several instances the slow regular action has been induced by digitalis, as we know that in certain cases digitalis is apt to induce heart-block. In a case recently under observation the rate under digitalis fell from 110 to 70 beats per minute. Prior to the administration of digitalis the rhythm was very irregular, but when the rate fell to 70 beats per minute it was quite regular. The patient had no jugular pulse, but by the electrocardiograph Lewis demonstrated that auricular fibrillation was present.

The Size of the Heart.

In the great majority of cases a considerable enlargement of the heart follows the inception of auricular fibrillation. Though the auricles are often greatly distended, it is not possible to tell from clinical examination how much of this enlargement is due to the auricles and how much to the ventricles.

With the onset of fibrillation the increase in size does

not take place at once, though in a few cases of periodic fibrillation I have seen the heart increase greatly in size within a few hours of the onset, and the enlargement would quickly disappear within a few hours after the cessation of the fibrillation. As a rule little change in the size of the heart takes place at first, and if the heart is capable of maintaining an efficient circulation little increase in size may be detected for years. In the majority there is an inability to do the work efficiently, so that gradually the heart's strength becomes exhausted and an increase in its size follows. With appropriate treatment a considerable diminution may take place, but this is by no means constant. I have been surprised at its persistence in cases of old-standing auricular fibrillation, in whom a very striking improvement of the heart's condition has taken place as the result of treatment. In most of the cases we have carefully studied at the Mount Vernon Hospital and at the London Hospital we have failed to detect any decrease in the size of the heart in patients who had suffered from extreme failure and who had made a surprising recovery.

Effect on the Heart's Efficiency.

A great many patients in whom auricular fibrillation had occurred suffered from lesions of the heart, which impaired its efficiency. In all these the occurrence of fibrillation at once increased the impairment, and the symptoms of heart failure became intensified. In others, where there had only been a slight impairment of the cardiac efficiency, the onset of auricular fibrillation speedily provoked symptoms of extreme heart failure, while in others little difference could be detected. In a few cases the onset of auricular fibrillation has only slightly embarrassed the heart in its work.

To a great extent the symptoms of heart failure arise most markedly in those in whom the change in the auricular action has affected the ventricle, particularly in increasing its rate. In a few cases marked limitation of the heart's powers of response to effort has followed, with relatively slow acting hearts.

The symptoms of heart failure commonly produced are of the same kind as arise in heart failure from other causes, for example, shortness of breath on exertion and consciousness of the heart's action, particularly when some effort is made. With increase in the failure, oedema of the legs and lungs sets in. The face becomes livid, the patient cannot lie flat in bed, but has to be propped up. The liver becomes enlarged, while the veins in the neck become engorged, and the pulsation in them becomes extremely marked. With these changes dilatation of the heart and great increase in the rate may be detected. As a rule, the onset of these symptoms is slow and partial, but occasionally they may set in with great rapidity; they may rapidly disappear if the heart reverts to its normal rhythm.

The Cause of Heart Failure in Auricular Fibrillation.

However it may be brought about, the onset of fibrillation embarrasses the ventricle in its work. There can be no doubt that the orderly action of the auricle in regulating the supply of blood to the ventricle and in stimulating it in a normal manner results in a more efficacious action of the ventricle than the variable and irregular stimulation to contraction. When the ventricle is rapidly stimulated irregularly to contraction there results a partial exhaustion of the strength of the ventricle, and symptoms of heart failure supervene. Other factors may be embarrassing the heart in its work, as the presence of valve lesion; in many cases there is also concurrent change to the ventricular muscle, the result of the same causes which had produced the fibrillation in the first place. In cases that have drifted and died, where we have had a *post-mortem* examination there has been found extensive fibrous degeneration of the heart muscle. On the other hand, I have seen so many individuals with auricular fibrillation who have led strenuous lives, engaged in hard manual labour, that I infer that in them the muscle of the ventricle had not been seriously affected.

Auricular Fibrillation and Digitalis.

Of the least in importance of the discoveries resulting from the recognition of auricular fibrillation as a clinical entity is the light that is thrown upon the action of drugs of the digitalis group. I can only here refer briefly to a few points which I have been able to elucidate. I think every one who has carefully studied the description usually given of the effects of digitalis on the human heart cannot but be struck with the absence of agreement among the different writers as to the manner of its action, its dosage, and the best preparation. In some instances some peculiar reaction which the observer may have noted is looked upon as the characteristic effect of digitalis, but the mechanism of this peculiar reaction has not been understood. It is a good many years since I was struck with the varied reactions which I obtained from the use of digitalis. I collected a great number of cases; in some I got a definite reaction on the heart, while in others no reaction was obtained. When I separated these into groups I saw that the probable reasons for the varied reactions in the human heart were that digitalis gives a reaction according to the nature of the lesions from which the heart is suffering. You will observe that if this is found to be correct, we can at once understand how the physiologist and experimental pharmacologist have missed the most important effects of digitalis, for, so far as the heart in experimental work is concerned, they cannot reproduce the conditions under which the physician has to employ the drug.

It is not only in auricular fibrillation that digitalis acts beneficially, for there are many other conditions which benefit by it; but cases of fibrillation stand apart from all others in regard to their response to this drug. All cases of auricular fibrillation are not responsive, for there are factors which render certain hearts unsusceptible, as the presence of fever or extensive fibrous degeneration. It is in certain cases where there is a fair amount of healthy muscle that its almost specific action is seen. It is some ten years since I realized this peculiar response to digitalis. When I was appointed to the Mount Vernon Hospital, and later to this hospital, I seized the opportunity to start a series of observations under conditions which permitted a degree of accuracy unattainable in private practice. In these observations the same drug and the same dose were given to patients with and without auricular fibrillation. With only rare exceptions all the cases that showed a marked effect upon the heart were cases of auricular fibrillation, for, although the other cases might exhibit some benefit from the use of the drug, they never showed the same tendency to slowing of the heart's rate.

The slowing effects of digitalis are shown in a very striking manner in those cases of auricular fibrillation where heart failure set in with a great increase of rate of the heart. The chart (Fig. 9) is a good illustration of these types. The patient from whom the chart was obtained suffered from extreme heart failure, and the rate of the heart was 140 per minute and very irregular. She was given 1 drachm of digitalis per day, and after five days the pulse-rate fell in the manner shown in the chart. At the same time there was a remarkable improvement in the patient's general condition.

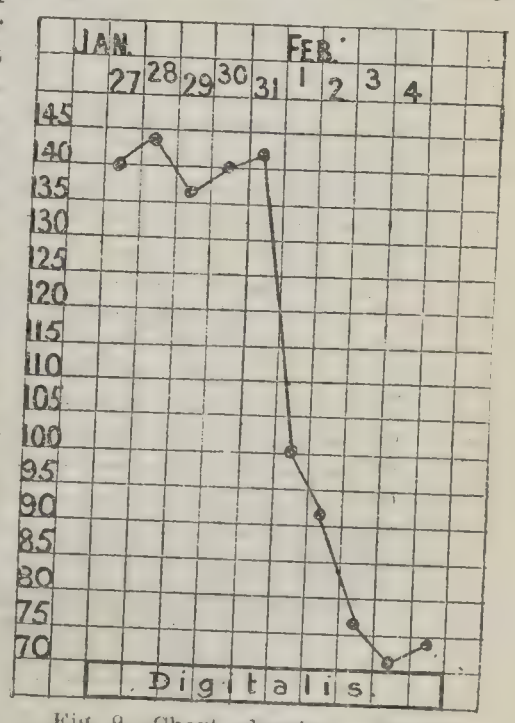

Fig. 9.—Chart showing a typical reaction of digitalis in a case of auricular fibrillation with severe heart failure and rapid pulse-rate. The administration of the digitalis began on January 27th in doses of 15 minims four times daily.

The difference in the reaction of hearts affected with auricular fibrillation and those with the normal rhythm is well brought out by the chart in Fig. 10, where the average heart-rate from six cases of mitral stenosis with auricular fibrillation is compared with six cases of mitral stenosis with the normal rhythm. The record begins with the rate on the day previous to administration of the drug, and it will be seen that the rate in the cases with

auricular fibrillation is greater than the rate of cases with the normal rhythm. This, I may remark in passing, is a point of some interest, for cases of heart failure with mitral stenosis with the normal rhythm rarely have as rapid a pulse as those with mitral stenosis with auricular fibrillation.

In each case the tincture of digitalis was given, 1 drachm per day, and was continued till nausea or vomiting ensued.

I have already referred to the fact that digitalis in some hearts induces auricular fibrillation. When this occurs the rate of the ventricle becomes greatly decreased. The following experience will serve as an illustration:

A female aged 21 suffered from mitral stenosis following rheumatic fever. She suffered from slight heart failure.

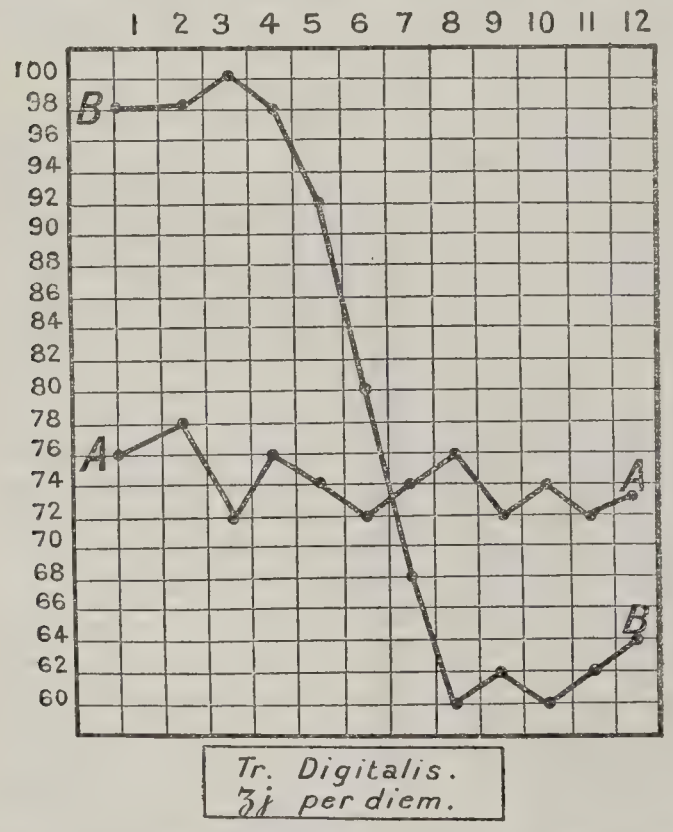

Fig. 10.—Chart showing the effects of similar doses of digitalis in 6 cases of mitral stenosis with the normal rhythm (A), and in 6 cases of mitral stenosis with auricular fibrillation (B). The figures at the side represent heart beats, those at the top, days. In each case the digitalis was given until nausea or vomiting occurred, when it was stopped. The average quantity was 7 drachms (1 drachm per diem). This had practically no effect on the rate in cases with the normal rhythm (A), while there was a rapid decrease in the rate in the cases with auricular fibrillation (B).

The rhythm was normal. Digitalis was given and pushed till nausea occurred. No change took place in the rate or rhythm. She was then put on digitalis a second time, and nausea again occurred, and at the same time there was a sudden fall in the pulse-rate, which became irregular (Fig. 11). Tracings taken of the radial and jugular pulses showed that the auricle was fibrillating. The drug was stopped, and four days later, when I was examining her, the heart suddenly increased in rate, and became quite regular, and the jugular pulse assumed the auricular form, showing, in fact, a sudden disappearance of the fibrillation and a return to the normal. In Fig. 11 the chart shows the remarkable slowing of the pulse-rate during the period

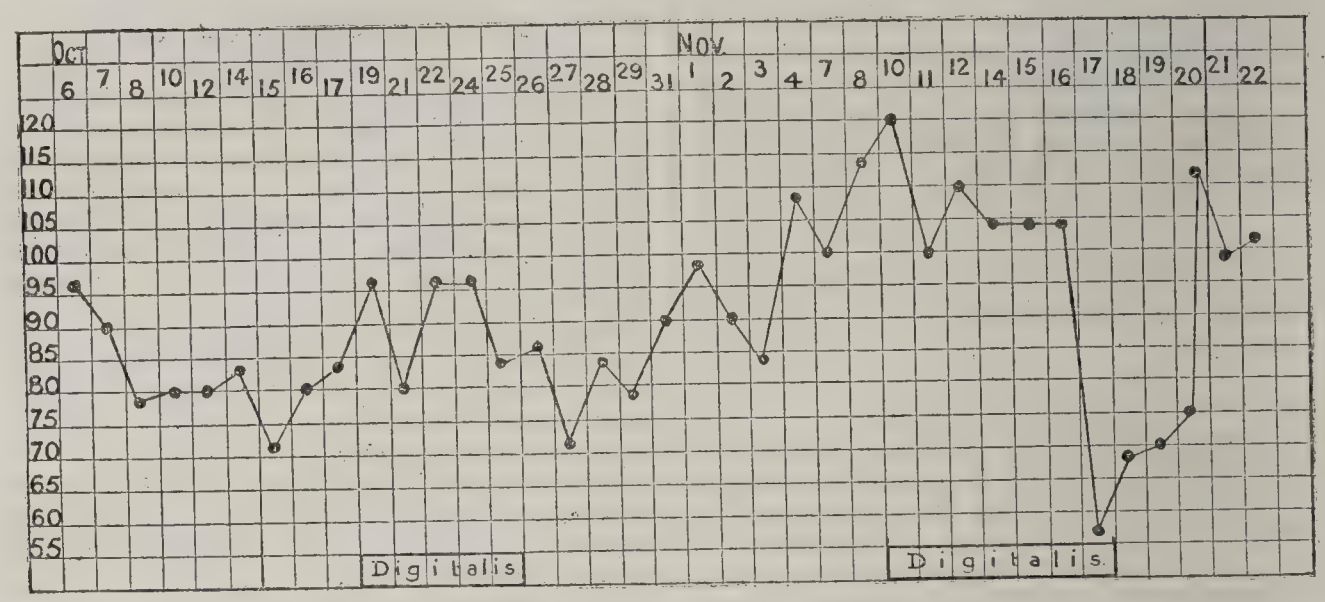

Fig. 11.—Chart showing the effects of similar doses of digitalis in a case of mitral stenosis. The patient took 1 drachm of digitalis per day from October 19th to October 25th, when vomiting was produced with little or no improvement in the pulse-rate. She again took the same quantity from November 10th to November 17th, when she again vomited, and the pulse-rate suddenly fell from 104 to 56 beats per minute. The fall in rate was due to the onset of auricular fibrillation, and the rhythm became irregular. This attack of auricular fibrillation persisted for four days till November 20th, when it suddenly passed off, the heart's rate increased, and the rhythm became regular.

of fibrillation from November 17th to November 20th. In this case, as I said, the change from auricular fibrillation to the normal took place when I was examining her. I was particularly struck with the great increase of the rate when the rhythm of the heart became regular.

The peculiar response of hearts affected by auricular fibrillation to digitalis is one of such importance that it is bound to modify the attitude of the profession in its use of drugs of the digitalis group. It gives us for the first time a clear conception of the reason that digitalis has acquired such a reputation as a cardiac drug. It helps us to realize why the drug has seemed so capricious in its action, slowing the rate in one patient, and having no effect on another. By the pursuit of observations on the lines suggested, we are gradually obtaining a clearer conception of its effects on the heart itself, and on its nerve supply. The inquiry into this subject is turning out to be one of great interest. The reaction to digitalis varies in different cases of auricular fibrillation, and the reasons for this variation are enabling us to obtain a better insight into the mechanism of the heart's action. This research is, however, only beginning, and it means a long and patient observation of individual cases on the lines we are pursuing in this hospital.

THE Catholic Nursing Institute, 60, Lambeth Road, S.E. desires it to be known that it is prepared to receive patients of any religious denomination. The ordinary payment is one guinea a week, a few private rooms at two guineas a week being also available. Patients admitted can be treated either by their own medical attendants or by those attached to the institution. The nursing is performed by Sisters who are trained nurses.

THE report submitted at the fourth annual meeting of the Army and Navy Male Nurses' Co-operation shows that this body is making steady headway, both the number of cases nursed by the association and the receipts for the services thus rendered having very materially increased. It is satisfactory that the society should be successful, for there is plenty of room for the employment of male nurses and the army and navy are their natural training grounds. Indeed, we do not know where else male nurses could be thoroughly trained in general nursing. It is also of advantage to the nation that men discharged from the nursing section of the Royal Army Medical Corps should be enabled to continue to pursue their vocation, since sooner or later their services may again be required. In future No. 11A, Welbeck Street, is to be used both as a residential home for the nurses and as the office of the association.

Presidential Address
ON
ASPECTS OF MEDICINE AS A PROFESSION.

Delivered at a Meeting of the Birmingham Branch on October 12th.

BY

J. T. J. MORRISON, M.A., M.Sc., F.R.C.S.,

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Of the three oldest liberal professions, that of medicine has had an eventful history in this country to which there is no parallel in the records of divinity or of law. Its peculiar connexion on the one hand with science, whose advance is incessant, and on the other hand with society, whose complex structure changes from one decade to the next, has eventuated in a career full of the strangest vicissitudes in the past and fraught with the promise of an adventurous future. At the moment we are passing through a period of unusual agitation; some disturbance has startled the whole profession from its composure and given rise to a commotion of the members with results which are both visible and audible. The near prospect is so overcast that he would be a bold man who attempted by way of prediction anything more than an intelligent anticipation of coming events. The supposed direction in which the current of change is running will be indicated later; but this much can be taken for granted—the ship of medicine is being borne along on the tide of social evolution, and frequent adjustments and readjustments, internal and external, are inevitable; skilful pilotage is demanded, and the crew need to be wide awake and ready to reply promptly to the call for concerted action.

As a measure of the width and swiftness of recent change I take the contrast between the fearsome operation coat of yesterday's surgery and the white robes of to-day's. That object lesson is an epitome of the revolution effected in the whole realm of scientific medicine within the span of a single generation. As to the profession, during the same period we have seen the curriculum lengthened to five years; the *Medical Register* closed against new comers possessing only a half qualification and opened to medical women; the suppression of the unqualified assistant; the extinction of the open surgery where medical practice was varied by the sale of feeding bottles and druggists' sundries; a great increase in the class of practitioner who writes prescriptions and dispenses nothing but advice; the arrival of the registered midwife; the growth of the sanitary services administered by health committees and education authorities; the reconstitution of the British Medical Association; and the development of professional solidarity.

A wider survey carried across several centuries will hover over scenes of strange and instructive interest; be figured by the light and shade of varying fortune, they assemble a series of dissolving views, and culminate in the present-day aspect of medical affairs.

Close attention is fixed nowadays on questions of sociology in which medicine is involved, and on this occasion I propose to discuss topics of that character, distributing my remarks under two heads. In the first place I will refer to the life-history of the medical profession in England—how it made an entry into society, by what formative influences it acquired strength and substance, and through what stages it has travelled in its progress. That is a chapter of social biography which is yet to be written in detail. Whoever will study the subject, dipping into this phase or that at random, will find many incidents that are curious and even grotesque if examined in present-day conditions, but examined closely these facts fit into their setting like pieces of mosaic. Under the heading "Medicine and Legislation" I submit an outline map of the narrative, marking a few of the higher features and tracing the chief tributaries flowing into the main stream. And next, I will notice some features of a field of practice which has been cultivated diligently of late by the aid of modern implements, with consequences of serious import to the profession; the heading of this sketch is "Medicine and Public Practice."

I.—MEDICINE AND LEGISLATION.

In the rise and progress of medicine as a distinctive calling, development has proceeded along biological lines, in the sense that whereas some features after serving their purpose have become obsolete, others have gone on growing and modifying their character. So far as form and firmness have been acquired, the proximate credit belongs to special acts of Parliament, and nowhere else is the distinction between what is permanent and what transient in medical affairs more clearly established. It is an essential idea expressed in all medical acts from the first one to the last, that the medical profession exists for the public, and not the public for the profession. Rightly understood, the interests of doctors and of the community meet on common ground, if only for the reason that an ill-rewarded and aggrieved profession is an unsatisfactory asset of a nation. But a permanent principle of medical legislation as pervasive as saltness in the sea must perforce be put in the forefront of medical reform bills, so as to make a convincing impression that the welfare of the public is intended, or the proposals will not be entertained by the Legislature.

The First Medical Act.

Passing by a still-born ordinance of 1421, the roll of medical statutes begins in the sixteenth century. As the first operative Medical Act, and because it dates the legal birth of the medical profession in England, the Act for the appointing of Physicians and Surgeons, A.D. 1511, is of commanding importance. The preamble speaks of the wide prevalence of quackery practised throughout the realm by a great multitude of ignorant persons, such as common artificers, smiths, weavers, and women, who boldly take upon them great cures and things of great difficulty, in the which they partly use sorcery and witchcraft, and partly apply such medicines as be very noxious, to the grievous hurt and destruction of the King's lieges and to the infamy of the faculty. Therefore, for the security of all people it was enacted that a board of examiners should be constituted in every diocese, and any person presuming to practise without licence from the examiners was liable to a fine of £5 a month. The members of a board comprised the bishop, and medical and surgical assessors. A saving clause guarded the privileges of Oxford and Cambridge, although their graduates had no rights defined by statutes.

The authority vested in a bishop, for it was he who "examined, approved, and admitted," will not seem strange when regarded in the setting of those remote times. In the Middle Ages, as well as before and after, the Church was the depository of all learning, the study of medicine was zealously pursued by clerics, and monasteries were the centres of medical relief for the poor. Medicine, indeed, owes the preservation of her life through many centuries to the Church. The practice of physic rested on the teaching of Hippocrates and Galen, whose writings were venerated as medical oracles; and access to these, together with ability to read them, was confined to the clergy. Hence the field of educated medical practice, in contrast to surgical, was occupied almost exclusively by monks and secular priests right up to the time when medicine emerged as a specialized calling. The great Thomas Linacre, whose name is graven deep in the history of English medicine, is an eminent example of the physician who was also a church dignitary, for he was physician to Henry VIII and prebendary of York. Links with the ecclesiastical phase still exist, or did until lately. The Archbishop of Canterbury can confer the non-registrable degree of M.D. Lambeth; the University of London was founded because Oxford and Cambridge required their graduates to subscribe to the Thirty-nine Articles; and the London College of Physicians had an ordinance requiring its officers to take the Sacrament three times a year.

The Act of 1511, therefore, fitted exactly into the circumstances of the age. There was nothing incongruous in the device of a board of medical and surgical examiners presided over by a bishop; on the contrary, it harmonized perfectly with the past and with the present, merging the one into the other smoothly, and satisfying the claims of both with the nicest ingenuity. A tribute is due to the memory of the men (perhaps Linacre was the chief)

who devised the great measure which brought our profession into legal being. Their humane and public-spirited policy is matched by the sagacity with which they conciliated the powerful aid of the Church whilst opening an avenue to the aspirations of medicine. They avoided the mistake of offering an ungrateful affront to venerable traditions, and the opposite mistake of checking the rise of a new and beneficial movement; and in so doing they gave a fine display of the statecraft that knows how to take occasion by the hand to widen the bounds of freedom.

In short, no adequate alternative to the diocesan boards can be suggested. A previous attempt to use the only English medical schools—those of the two universities—for the like purpose had failed; and medical organization was rudimentary or absent. The two aims of the Act were to extinguish quackery, and to instal a body of qualified practitioners. The second object was gained; it stands for all time, and the event marks the origin of a new species in human society. On the other hand, the first aim miscarried, nor has the wit of man from that day to this invented a radical cure for the mischief of quackery. The only means of putting the law into motion was indictment by an informer, who received half the fine if conviction followed; this was a weak spot that made evasion of the law easy; but, as matters then stood, a stronger agency would have conflicted with that standing ally of quackery—the liberty of the subject.

Royal College of Physicians.

Linacre's speedy rejoinder was the Royal College of Physicians, founded at his expense in 1518 by charter, which was confirmed by the Act of 1522, and amplified by other charters and Acts. A detailed analysis of the provisions is beside my purpose. Briefly, the licensing authority of the bishops as regards physic was tranferred to the college, and further powers were given far exceeding those of the General Medical Council. The duty accepted by the college as the reason of its existence was the protection of the public in two ways: quackery was to be put down and a good standard of legitimate practice maintained. The censors had the authority of a bench of magistrates; they could summon and arrest practitioners accused of malpractice, examine witnesses on oath, and punish by fine, prohibition, or imprisonment. Against unlicensed practice the legal remedy was indictment in the courts. Clearly a high sense of civic and professional duty animated the leaders of the profession when they instigated King and Parliament to impose on their college a task as unending as the labours of Sisyphus. The oath of fidelity to the duties of their society bound the Fellows to a painful course of action for 300 years—till 1828, in fact—when the physicians were non-suited in the case of the College *v.* Harrison, a London surgeon unlicensed by the college, charged with the offence of giving internal remedies.

The earlier transactions record a series of triumphs. Armed with large powers and equal zeal, the authorities harried the empiric to such purpose that his takings, denuded by fines, ceased to yield a living wage. Meanwhile the profession, regulated by the college discipline, rose in importance, attracted worthy recruits, and showing a semblance of organization. So far so good; but the chronicles of the eighteenth and nineteenth centuries tell a different tale. Misconceiving their functions, the physicians turned the artillery of the college against surgeons who dared to prescribe drugs, with results that can be imagined by those acquainted with the surgical temperament. The feud was bitter and protracted, and not only were the resources of two kindred bodies wasted in civil war, but the possibility of a consolidated profession was indefinitely postponed. No doubt the letter of the law did not shield the surgeons; nevertheless the college was badly advised in using an instrument designed to protect the public against impostors as a weapon of attack upon qualified professional men. On the whole, it would seem that the physicians had become unduly jealous of their preserves, and were passing through a stage when their way way of thinking was collegial rather than national, and rather medical than professional.

Turning to another quarter, a more judicious plan of campaign, such as the Legislature plainly intended, was directed against the counter prescribing of apothecaries, whose activities in that line dwindled to a small compas During the Great Plague apothecaries gained a hig reputation for humanity and skill by rendering the best servioes at the bedside of the sick at a time whe London was largely deserted by the faculty. Quit naturally and justly a grateful public rewarded ther with an influx of business, and following this came revival of the battle of the shops in an acute form Having acquired larger means and the support of in fluential citizens, the apothecaries determined to brin the contest to a decisive issue, and a pitched battle wa fought in 1703 over the famous case of the College *v.* Ros The trial arose out of a complaint by a patient who allege he had been injured by Rose's treatment. Non-suited i the Queen's Bench, the defendant appealed successfull to the Lords on the grounds that the judgement woul ruin the trade of apothecaries, that it would be a tax o the nobility and gentry, who would be unable to get med cines for their servants without consulting a physician and also be an oppression of poor people. The Lords' decisio has been challenged by lawyers. It is based not on la but on expediency, and conflicts with all previous judg ments since the Act of 1522. The effect was tantamoun to the grant of a diploma to every apothecary, and thereb the floodgates of empiricism so long closed by the colleg were reopened. Garth's well-known satire alludes to th mischievous result:

> Nigh where Fleet ditch descends in sable streams,
> To wash the sooty Naiads of the Thames,
> There stands a structure on a rising hill,
> Where tyros take their freedom out to kill.

Here, then, we see another instance of an abrupt adjus ment between medicine and society. Its reactionar character is an index of public opinion and of failure o the part of the profession to appreciate and keep in touc with changing social movements. The Act of 1522 ha become a social misfit in the course of two centuries, i which the conditions of English life were modified pr foundly by the Reformation and three revolutions. Wha the age wanted, and was determined to get, was that form of medical aid now rendered by the family practitioner- a class that did not appear until the nineteenth century and the provision made by consultants to meet the press ing need—namely, gratuitous advice to the poor, and th establishment of dispensaries where prescriptions wer dispensed at cost price—was inadequate. Pending th arrival of the family doctor, his place was occupied b apothecaries, barber-surgeons, herbalists, and quacks o every hue, for with the dissolution of the monasteries th clerical doctor vanished.

Surgeons' Charters and Statutes.

Barber-surgery was initiated by the exclusion of th clergy from surgical practice on the ground that effusio of blood was repugnant to the Church. Into the field thu abandoned entered the lay servitors, a class more or les trained as assistants to the surgical monks, and expert i such feats of minor surgery as venesection. Mediaeva trade unionism found expression in the formation o guilds, and in due course the London barber-surgeons wer federated as a special section of the barbers' guild. Tha they were an influential and useful body is to be inferre from the fact that they were the subjects of the first Roya Charter relating to surgery—that of Edward IV, 1461- fifty years before the Medical Act. The charter empowere them to oversee the work of persons practising surgery i the city, to punish malpractice by fine or imprisonmen and to institute a board of examiners without whos licence practice was forbidden.

From a much earlier date civic law recognized an authorized a society of regular surgeons quite distinc from barbers. The members of the Guild or Fellowshi of Surgeons, as it was styled, stood on a footing of equalit with physicians. Among them were men holding th office of surgeon to the King; some had certainly bee army surgeons; and others, possibly, were alumni of foreig universities, such as Bologna, where the teaching of surger reached a high level, and the degree of doctor of chirurge was obtainable.

Collision between the surgeons and the barber-surgeon was inevitable in the awkward arrangement of two riva authorities entitled to control surgical practice in th same area. A treaty of alliance in 1493 composed a

disputes, and the two contracting parties were incorporated by the Act of 1540.

The papal decrees forbidding clerics to perform operations not only led to the rise of barber-surgery, but also split surgery from physic. This arbitrary cleavage of medicine has produced a crop of ills from which the profession still suffers, and is a clue to centuries of incohesion. Differentiation of practice into medical and surgical was right enough, and in the way of progress to better things; but the disruption of the commonwealth of medicine into self-governing States, not merely unconnected by a common bond, but with conflicting aims which kept them constantly at loggerheads, was unfortunate, and the possibility of reunion diminished as vested interests accumulated. The fifteenth century found the profession represented by three independent sections; and selfishness was the actuating policy of each to the detriment of all. A good example was set by the surgeons when they closed their ranks and united to form a single corporation. Combination had, indeed, been attempted as far back as 1422 by the Fellowship of Physicians and the Fellowship of Surgeons—the germs of the Royal Colleges—and a conjoint society was formed having the title of "The Commonalty of Physicians and Surgeons of London," and invested with ample powers relating to the examination of candidates, and the discipline of practitioners. That functions now possessed by the General Medical Council and the conjoint colleges should have been anticipated nearly 500 years ago is a fact of remarkable interest. It is also noteworthy that provision was made for the gratuitous treatment of the poor, and for the punishment of unlicensed practitioners. The commonalty did not survive long enough to make a conspicuous mark on contemporary history, though the first, and as far as known the only, President, Gilbert Kymer, M.A., M.D., was sufficiently distinguished to be preferred to the deanship of Salisbury.

It is a mistake to suppose that barber-surgery was anything more than a temporary intrusion into the province of legitimate surgery. Surgeons have always stood in a class distinct from barbers, and the Company of Barbers and Surgeons was simply an official union for convenience sake, its effect being to give the surgeons control over the work of barber-surgeons, and to put an end to vexatious disputes. Barber-surgery, in fact, was a short-lived parasite, and with the advance of science the word and the pursuit alike became obsolete. Moreover, the Barbers' Company, in common with all the city companies excepting the Apothecaries', ceased to perform its original functions, and its members were only barbers in name. The time therefore arrived when the nominal union was too absurd to be continued. The non-surgical members were reluctant to lose the dignity reflected on the company by the professional section, and objected to separation in a manner highly complimentary and no less inconvenient to the surgical members. But the surgeons insisted, and at last in 1745, after prolonged agitation, obtained the Act entitled "An Act for making the Surgeons of London and the Barbers of London two distinct corporations." The Surgeons' Company became the Royal College of Surgeons of London by charter in 1800, and the Royal College of Surgeons of England with its present constitution by a supplementary charter in 1843.

The Apothecaries Act of 1815.

Commencing as a section of the Grocers' Company, the London apothecaries were raised to the dignity of an autonomous company with the unique style of *Society* by charter of James I. Their familiarity with the properties of the drugs they imported and sold, together with their avocation as dispensers, suggested to themselves and the public that they were fit and proper persons to prescribe for the sick. Small wonder that they were so regarded when even royalty submitted to the treatment of official court apothecary. The repressive measures of the physicians during the Stuart period met with increasing unpopularity and ultimate defeat; but they served the useful purpose of delaying the spread of quackery, especially the grosser forms practised by ignorant empirics much below the apothecaries' level, who were deterred by the punishment inflicted on their superiors.

The legal freedom to practise conferred upon apothecaries by the Lords' decision in the case of Rose enlarged the boundaries of quackery and let in a swarm of charlatans—an effect extremely injurious to the monopoly of the pharmacist, and in no way beneficial to the community. Active steps were taken by the fraternity to guard their interests and do the public a good service at the same time; the help of the College of Physicians was invoked but refused; and in the last resort a movement was set going to secure reform by means of legislation. Several bills were introduced without success owing to the opposition of the two colleges on one side, and of the chemists and druggists on the other; but eventually a compromise was agreed upon, and resulted in the passage of the Apothecaries Act, most of which remains in force. The statute sets out that the community is endangered by ignorant persons using the functions of an apothecary, and power was therefore given to the society to appoint a court of examiners authorized to license persons found qualified to practise as apothecaries. Any uncertificated person convicted of so practising—that is, prescribing for and supplying drugs to a patient—was rendered liable to a penalty of £20 for every such offence. The Act applies to England and Wales.

Thus arose less than a century ago a new grade of medical practitioner neither physician nor surgeon. His descendants are the 30,000 hard-working doctors ministering ungrudgingly to people in all walks of life, and composing the backbone and body of the profession to-day. The prototype of the modern general practitioner filled a humble place in the social scale, not disdaining to vend pennyworths across the counter of his open shop in the intervals between his rounds. Thackeray's word-picture of Pendennis, the apothecary of Bath, is an informing description of the type:

> Early in the Regency of George the Magnificent there lived in a small town in the heart of England called Clavering, a gentleman whose name was Pendennis. There were those alive who remembered having seen his name on a board which was surmounted by a gilt pestle and mortar over the door of a very humble little shop in the city of Bath, where Mr. Pendennis exercised the profession of apothecary and surgeon, and where he not only attended gentlemen in their sick rooms and ladies at the most interesting period of their lives, but would condescend to sell a brown-paper parcel to a farmer's wife across the counter, or to vend toothbrushes, hair powder, and ladies' perfumery.

During the Thirties and Forties the general practitioner gradually moved upwards from the shop-keeping grade, thanks largely to the progressive policy of the Apothecaries' Society in raising the standard of examination and insisting on a fuller curriculum of study; but his status was immeasurably below the exalted plane of the consultant. The inclusion of midwifery as a compulsory subject for the licence marked an onward step, which gave an impetus to the scientific study and teaching of that important branch of the family doctor's work; incidentally, it gave the happy dispatch to the weird title "physician-man-midwife."

The attitude of the College of Physicians in repulsing the overtures made to them before the Act of 1815 passed into law is open to criticism. An Association of Apothecaries petitioned the college to institute a licence creating a class of dispensing practitioners to take the place of unqualified shopkeepers. It is regrettable that a point-blank refusal was the answer to so reasonable a suggestion. The physician's fee was prohibitive to people of slender means, who had, therefore, to choose between charity and the apothecary; and the remedy for a situation which had become intolerable was obvious to the public and the Legislature. But the physicians stood aside and missed a fine chance. Too dignified or too short-sighted to adapt itself to the need of the times, the college concerned itself only with the sphere occupied by consultants, and refused to extend its wing over a lower order of practitioners. A less exclusive policy would have secured the permanent supremacy of the college throughout the medical domain, and enabled it to control the examinations and professional conduct of the new medical type, with the consequence that the Apothecaries' Society would not have been diverted from its proper pharmaceutical functions. Subsequent legislation had the effect of compelling the college to institute a general practitioner's licence.

The Medical Act of 1858.

The Medical Act of 1858 is by far the greatest measure of its kind on the statute book, and with various amend-

ments it controls the medical profession of the United Kingdom to-day. Its main achievements may be shortly summarized as follows: (1) The General Medical Council was instituted with large powers of regulation and discipline. (2) The *Medical Register* compiled by the Council is published annually; it denotes the legal unification of the profession, and enables the public to ascertain who are legally qualified. (3) Medical education and examinations conducted in scattered centres have been adjusted to a qualifying standard which approaches uniformity. (4) The right to practise in any part of the kingdom was conferred on every registered practitioner.

These results are so familiar and so well woven into the texture of the profession that it is startling to find they record a crisis in the annals of English medicine comparable to the adoption of an orderly constitution by an uncivilized people. From the standpoint of 1911 it is hard to realize what we are told of the chaotic state of medical affairs just over fifty years ago. The doings of the licensing bodies, unfettered by external control or inspection, are reminiscent of the days of the Judges when there was no king in Israel and every man did that which was right in his own eyes. These twenty authorities entitled to issue qualifications—seven in England, eight in Scotland, five in Ireland—so far from possessing any vestige of co-ordination, were mutually opposed, competing with unfriendly rivalry for students and fees, the methods pursued in some quarters being easy to imagine. There was the widest diversity in standard of examination, course of study, and scale of fees. Students, finding one door of entry too narrow, turned to the wider portals, from which willing hands were outstretched to pull them through. And, what is more anomalous, the licensing bodies legally possessed local territorial rights of practice which were reserved for their own licensees. For instance, the London College of Physicians controlled the practice of physic in London and seven miles round; and although courtesy relaxed the restriction in favour of Oxford and Cambridge men, all other persons, including graduates of London University, were debarred from practising in London unless licensed by the college. The Apothecaries' Society enjoyed the monopoly of practice as dispensing family doctors throughout England and Wales, to the exclusion of licentiates of the Dublin Apothecaries' Hall, and, as would be supposed, the Irishmen retaliated in kind. Both the college and the society prevented Scottish graduates, as such, from descending over the Border to engage in any form of medical practice. The Scottish and Irish colleges had similar powers of local jurisdiction. In this condition of confusion worse confounded the only barriers to the prosecution of invaders were the trouble and costliness of litigation.

As to the medical schools, the metropolitan were notorious for jobbery in elections to the staff; a clique of leading surgeons dominated the College of Surgeons, and ran both that institution and the schools, so that flagrant abuses connected with teaching and examination had no chance of reform; and provincial schools were kept at arm's length.

Turning to the external relations of the profession, in the matter of medical titles there was virtually no legal restraint of imposture; medical pretenders were plentiful; personation at examinations was easy and frequent (Palmer the Rugeley poisoner evaded examination in that way); and the public had no reasonable means of discriminating between the genuine practitioner and the counterfeit. Scant respect was paid to the rank and file of the profession, and matters were made worse by the limitations of the average member; if a cultivated mind was one of his strong points, his modesty concealed the fact to perfection; nor was he less skilful in repressing any obtrusive evidence of good general education.

Moreover, the idea of voluntary combination appealed but feebly to men who were too unintelligent to perceive the potentiality of organized union, or too indifferent to join the movement. The British Medical Association, born at Worcester in 1832, began what has grown into an imperial organization, with the unambitious name of "The Provincial Medical and Surgical Association." So slow was its growth that the initial membership of 313 had not risen to 2,000 in twenty-five years.

The depressed level of the profession, whether regarded in the unit or the mass, was mortifying to its well-wishers, who saw also the resulting loss to the public. The recognition that reform was badly wanted spread contagiously in all directions, enforced by the vehement advocacy of Thomas Wakley and helped on by the zeal of our youthful Association. Obstacles, as always, blocked the path of reform. Mutually conflicting vested interests made common cause against measures designed for the general good. Legal coercion, therefore, was the only possible remedy, and a medical bill appeared as a hardy annual in one session after another for twenty years, until finally the Medical Act passed into law.

This short account will, I hope, suffice to show the plight of the profession at the middle of the nineteenth century. The Medical Act transformed the scene like a magician's wand. Order was educed from chaos; and if indeed, it be true that histories make men wise, the lesson of 1858 is calculated to teach us how to deal in principle with medical problems still awaiting solution. The mainspring of the fifty-five clauses of the Act is the third, which established the General Council of Medical Education and Registration. A central controlling authority was thus set up, connected on one side with a State department and on the other with each of the licensing bodies, co-ordinating the action of these isolated pieces of machinery with a view to the welfare of the nation. If it were more clearly understood that the Council has no legal power to move outside the ambit of the Act, the avowed aim of which was to benefit, not the profession, but the public, we should hear less unfair remarks about its alleged shortcomings. That is not saying the composition of the Council would not be improved by shifting its centre of gravity further from the corporations and nearer to the main body of the profession or that its functions are always exercised to the full. But when the Council is blamed for not suppressing quackery or stopping the sale of patent medicines, and so on, the answer is that, in default of fresh legislation, the Council is powerless to do such things. For its share in effecting the contrast between what was and what is the Council has placed the State under a great obligation. Nevertheless there is no State acknowledgement, no subvention from the Treasury, and, with the high sanction of the Government, the necessary funds for carrying on the national work of the Council are supplied by the younger doctors. But we have the consolation of being told we belong to a noble profession.

II.—MEDICINE AND PUBLIC PRACTICE.

Public practice includes all kinds of medical work directed by public authorities and committees; its characteristic mark is the intermediate controlling link placed between the doctor and his patient or pursuit; and it increases at the expense of private practice. Whatever may be the individual bias of members as to the advantages or disadvantages of the movement to the community as a whole, the rapid advance of public practice is too obtrusive to be ignored, and too momentous in its results to be viewed with unconcern by the medical profession. Certain aspects of the subject as they appear to me, and some relevant facts and figures, I propose to submit for your consideration; but if any attempt is to be made to gauge the forces at work, the causes, actual or presumed, must also be indicated.

Amongst proximate influences the most potent is the conviction rooted in the national mind that the health of the people is the supreme law. Hence much legislation designed to prevent or arrest disease and so to promote physical efficiency. The assistance of medical advocacy has been given without stint, in disregard of the way the measures would react on the immediate interests of doctors. The achievements of medicine have also contributed liberally to the same end, broadening the fields of possibility and showing how new discoveries and modern tools can be applied scientifically to the solution of health problems. It should be noticed that questions of hygiene continue to be pushed to the front by the pressure of the reports of the Poor Law Commission, of school doctors, and of service recruiting officers; and the corporate determination is reinforced by the individual dread of preventable infection.

Another factor is the economic. The monetary loss to the country resulting from preventable disease amounts to a large sum annually. Indeed, the incomplete data ava

able for computation suggest a total far surpassing the dreams of the most avaricious Chancellor of the Exchequer. Tuberculosis alone entails an estimated loss of £16,000,000 sterling a year. The Local Government Board statistics show, in round numbers, that the pauper population of 2,000,000 costs £15,000,000 per annum; and since, according to the Minority Report, 30 per cent. of pauperism is due to preventable sickness, and the sick pauper costs much more than the able-bodied, a large proportion of the cost represents sheer unnecessary waste.

A third factor is the growth and practical application of moral ideas. Charity, wise and foolish, has given rise to uncounted agencies for public medical work, and the voluntary hospitals established on this basis are the most formidable rivals to private practice in the large towns. So also the provident principle has been applied with excellent effect to encourage thrift and self-help, and has produced numerous well-conducted dispensaries and societies, the value of which to the community cannot be overstated. Setting aside the vicious forms of the contract system, provident agencies afford large scope for legitimate medical work and deserve kindly encouragement. The latest bloom to appear on the tree of moral ideas is called "civic conscience": unless I am greatly mistaken the ripened fruit of this flower will connote a revolution in the sphere of public medical practice, with notable effects in the department of institutional treatment.

Underlying the foregoing proximate causes there is a mysterious force which dominates them all. Its nature is revolutionary—I do not say wholly beneficent, nor would it be proper here to discuss the question. It actuates the democratic movement of the age, one outcome of which, namely, the assumption of large political power by manual workers, is altering profoundly the organization of society.

Classification.

Passing by with simple mention the medical services controlled by the Admiralty and War Office, the staff of medical referees and factory surgeons appointed by the Home Office, the vaccination officers of the Local Government Board, and the medical inspectors under the Central Midwives Board, there remains a wide range of public agencies for the prevention of disease and the relief of the sick and injured. These may be classified broadly into State-controlled and the voluntary. I shall restrict my remarks to three groups in the former class and to one of the latter—namely, the institutions administered respectively by Poor Law authorities, sanitary authorities, education authorities, and voluntary hospitals. The three groups named are ubiquitous, or at least very widely distributed, and they provide free medical service for the whole of the community below the income-tax limit—that is, according to Chiozza Money, 87.5 per cent. of the entire population, and to no inconsiderable number above that limit.

Poor Law Medical Institutions.

It is an ancient pre-Norman principle of common law that "no one should die from lack of sustenance," the onus of provision resting on the "parson and parishioners,"—that is to say, responsibility is communal in every parish.

The Poor Relief Act of 1601, which founded the Poor Law, provided for the parochial relief of the impotent, a term which included sick persons. This enactment followed the confiscation of the monasteries, whereby large endowments of almsgiving were dried up, with disastrous consequences to the poor. Subsequent legislation for the poor is scanty in the extreme. The Act of 1834 gave control of relief to a central authority, now the Local Government Board, by whom, apart from direct parliamentary action, the existing system for dealing with destitution has been created.

Since 1867 the policy of the board has been along the lines of encouraging institutional treatment, and of lessening the volume of out-patient or dispensary work. Of the 928,671 paupers registered in England and Wales on January 1st, 1908, ninety thousand (91,738) were inmates of infirmaries or sick wards of workhouses, and altogether 300,000 were under medical treatment. The staff employed for this purpose numbered 3,713 district medical officers, exclusive of resident doctors and consultants, at an annual cost of nearly half a million sterling for the upkeep of the service in salaries, dispensaries and drugs. The large total of infirmary patients is more impressive when contrasted with the statistics of voluntary hospitals. In London alone the service of beds in the well-equipped Poor Law infirmaries numbers 16,557, as against 11,362 beds in hospitals; and in the large centres of population generally the provision in Poor Law institutions greatly exceeds that of the hospitals. Thus Birmingham, with 905 beds in ten hospitals, has an aggregate of 2,243 in the infirmaries at Winson Green, King's Norton, and Aston.

Moreover, these huge institutions have sprung up in the space of little more than a generation. They were authorized by the Metropolitan Poor Act of 1867, first in London, and by the Amendment Act next year throughout England and Wales, and rapid though the development has been, it is yet so far from complete that two-thirds of the in-patient paupers are still warded, not in infirmaries, but in general mixed workhouses, where the circumstances as a rule are very unsatisfactory. This progressive expansion is largely due to the enlightened policy of the Local Government Board, but it is also partly accounted for by the failure of medical charities to keep pace in their extension with the increase of public requirements. The humane and scientific method of treating the sick poor now compulsorily provided by the ratepayer was preceded by a stage in which the voluntary hospitals were utilized for the purpose, as they still are to a varying extent; but the demand created by the growth of medical science, particularly in the field of operative surgery, has far outstripped the supply.

In the details of construction, equipment, quality of professional service, nursing, and economy, the infirmary rivals the modern hospital. It is not desired to convey the impression that there is equality in all respects; on the contrary, in some features the advantage is on the side of the infirmary; but the percentage of medical staff, general and special, and of nurses, to the number of patients, due allowance being made for chronic cases, is generally inadequate; and the comparative aloofness from inspection and criticism, the paucity or absence of published records of work done, and the exclusion of medical students, do not tend to the best results.

A striking feature connected with the infirmary is its attractiveness to a class above the level of the very poor, especially in districts unprovided with a general hospital; and universally it is available for the reception of "casualties." At West Derby, Liverpool, over £5,000 a year is recovered from the relatives of better-class patients; in some towns persons actually apply for admission as paying patients, and a charge ranging to half a guinea a week is levied. At Camberwell, with an infirmary of 800 beds, remote from a public hospital, 312 ordinary hospital cases of accident and urgency were admitted in one year. The Birmingham Infirmary is always open to receive persons injured in the neighbourhood, 480 such cases being treated last year. On the other hand, many pauper patients are treated in medical charities, some being referred by guardians, others applying directly; and it is a common practice of unions to subscribe regularly to hospitals, though it is not so commonly understood that this is an ingenious mode of obtaining free professional services in relief of the rates. Conversely, hospitals relegate to infirmaries a proportion of chronic and incurable patients who can be properly treated in the latter, and whose further retention would be unfair to more suitable cases excluded by lack of room.

I wish to emphasize the point that the activities of the two classes of institution are conducted in a common sphere; the patients, the maladies, and the treatment being of exactly the same kind in both. Wherein a distinction can be drawn in these respects it relates to the inverse ratio of acute to chronic and of destitute to better off. In other words, Poor Law infirmaries are general hospitals maintained by the rates. It is also remarkable from the economic standpoint that, whereas all professional services in the former are remunerated, in the latter the work is done by honorary officers; and further, that, whereas the hospital patient is treated gratuitously, the cost of the parochial patient may be recovered from himself or his relatives. As to the question of disfranchisement, it has been decided by the Court of Appeal that if the maintenance of a person receiving medical relief in an infirmary is incidental to such relief, no disqualification shall follow.

On summing up the foregoing data relating to Poor Law medical institutions—their recency, magnitude, continuous expansion, quality of treatment and nursing, attractiveness and accessibility to non-destitute classes, and economics—one is bound to admit the capital importance of the modern city infirmary as a factor in the consideration of medico-social problems.

MUNICIPAL MEDICAL INSTITUTIONS.

(*a*) *Under Sanitary Authorities.*

The existing system of preventive medicine is a recent offshoot of Poor Law administration. Recognizing the loss of life and waste of public moneys resulting from infectious disease, the Commissioners about the middle of last century advised that boards of guardians should act as authorities for the removal of nuisances. From this humble beginning a great stride was taken by the Sanitary Act of 1866, which dates the origin of the modern system.

Under the various Public Health Acts, municipal and other councils are charged with the responsibility of maintaining in health all the population within their districts. The statutory powers vested in a sanitary authority include the providing of a general hospital for the sick inhabitants of the locality. They may erect a hospital, or contract for the use of one, or combine with another sanitary authority for the like purpose. "There is no limitation either to the diseases which may be treated in such hospitals or to the class of persons who may participate in their benefits. . . . Town councils may also subscribe to the funds of a general hospital—*e.g.*, the Town Council of Newcastle contribute £315 annually to the Royal Infirmary and £105 annually to the Newcastle Dispensary; and in Liverpool the corporation have made a grant of £5,000 to the Children's Infirmary" (Report of Poor Law Commission). Further they may, with the sanction of the Local Government Board, provide temporary aid for the sick poor; thus, the Manchester City Council pay the fees of medical men called in to assist midwives, and they distribute medicine during the diarrhœa season. Many towns also give supplies of antitoxic serum, and provide for the free diagnosis of doubtful cases of diphtheria, enterica, and tuberculosis by bacteriological tests.

In pursuance of their powers the urban councils of Widnes and Barry have each erected a hospital for accidents and urgent surgical cases. The Liverpool municipal hospitals, intended nominally for infectious diseases, have admitted and treated many other types, including cases of abdominal tumour, appendicitis, cystitis, bronchitis, and poisoning.

As the public and the profession become more widely informed in regard to the legal responsibilities and powers of sanitary authorities a great extension of rate-maintained institutions for the sick is certain to follow. Significant evidence is seen in the new municipal campaign against consumption which is covering the country with a network of sanatoriums and tuberculin clinics. The prevalent idea that the powers of a Health Committee in the provision of hospital accommodation are restricted to infectious disease is unfounded; no such limitation is prescribed by statute, and the treatment of any and every type of disease may be undertaken, subject only to the sanction of the Local Government Board.

In practice, however, sanitary authorities in the main concentrate their functions on the care of patients suffering from infectious disease. Altogether in this country they provide for as many acutely sick persons as are cared for by the Poor Law medical service, owning over 700 hospitals containing in the aggregate upwards of 25,000 beds. This number closely approximates to the accommodation of all the provincial endowed and voluntary hospitals combined. As an index of the rate of expansion it may be mentioned that Birmingham has acquired its present municipal service of 1,020 beds in about thirty years.

In the above short survey of public health work I have dwelt on the department of treatment because that bears more directly on the subject I am considering. But, of course, the real aim of the service, and indeed the reason of its existence, is to prevent disease; and the fact that treatment has issued insensibly and inevitably out of prevention, proves the essential identity of their nature, as of a root and a stem. When we speak of prophylaxis, which I take to mean the preventive treatment of a person for a disease when there is no such disease in his body, we are expressing what is no less rational than paradoxical. Common usage is apt unduly to restrict the meaning of medical practice to one branch—the curative. To shut prevention and cure into separate compartments is to make an artificial distinction between two aspects of a single function. Under civilized conditions, medicine is a specialized apparatus for the prolongation of life, working to that end by various parts which are interdependent, and which blend together without a break, as was taught long ago by Celsus in the dictum, "*Omnes medicinae partes innexae sunt ut ex toto separari non possint.*" Treatment is the complement of prevention, and in its turn brings about prevention. What is anomalous in the current practice of medicine is the disproportionate application of science to curative measures; and it may be conjectured that the future will devise a more rational system, and transpose the volumes of energy now devoted respectively to treatment and to prevention.

(*b*) *Under Education Authorities.*

The Education (Administrative Provisions) Act, 1907, imposed upon education authorities the duty of providing for the systematic medical inspection and supervision of elementary school children, and empowered them to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children. When it is noted that the Act applies to one-fifth of the population, it will be seen that the field covered is of large dimensions, so large, in fact, that the task of inspection has to be spread over several years. Thus in Birmingham, of the 95,000 elementary school children, only one-half have been medically examined during the three years the system has been in force.

The School Medical Service employs a staff of 986 practitioners, of whom 73 are women, and in addition draws on the assistance of an indefinite number. No one now supposes the object of inspection to be merely the compilation of statistics. The Board is out on the serious business of dealing with the health of some 7,000,000 children between the ages of 3 and 14, and is steadily laying the foundations of a vast system of preventive and curative agencies, the gradual development of which cannot but have far-reaching effects on the welfare of the nation and on the relations between medicine and the public.

VOLUNTARY HOSPITALS.

The oldest English hospitals, as St. Bartholomew's and St. Thomas's, trace their descent from a monastic origin through a middle stage of municipal control, and thence by gradual transition to the management of private bene- factors. During the eighteenth century charitable impulse, flowing strongly in the direction of institutions for the sick, led to the foundation of numerous hospitals in London and the Provinces—for example, the Westminster in 1719, Guy's in 1721, the rebuilt St. Bartholomew's in 1729, St. George's in 1734, the London in 1740, the Middlesex in 1745, and the Birmingham General Hospital in 1779. The Queen's Hospital stands on a peculiar footing having been established by Act of Parliament as an adjunct to the Birmingham Medical School for the clinical teaching of students.

The progress of this movement has sustained no check since its inception, and has produced the vast array of voluntary medical institutions in town and country offering free treatment to nine-tenths of the population. In London, leaving out of account many kindred agencies, 97 hospitals deal annually with over two million out-patients. Taking Birmingham as fairly typical of what goes on in provincial cities, last year's returns of twelve voluntary institutions give an aggregate total of 255,600 out-patients.

The bed-rock on which these institutions are founded is charity, and here at once arises the question, What is meant by this word? I suggest a not inaccurate short definition is almsgiving to the needy, subject to proper safeguards; but if the right definition is to be inferred from the system actually in vogue, something very different is meant. If charity is not philanthropic it is uncharitable, and indiscriminate giving is not true philanthropy; it unavoidably tends to make the poor poorer; by removing the spur of necessity it eliminates a powerful incentive

self-help; and by feeding the springs of pauperism it creates the need it seeks to relieve. The process of digging one hole to fill up another would be ludicrous if it were not pitiable.

Every doctor has had ample opportunity of forming a judgement on the question of hospital administration. I recognize that the profession is not a wholly impartial jury; some members have interests on one side, some on the other. But divesting ourselves of prejudice as completely as possible, let me ask, Can the existing system be seriously justified? Does it accord with the real retention of benevolent founders and supporters, or with the best interests of the community, or with fair dealing to the profession? Does it even yield substantial benefit, or, indeed, any benefit at all, to a large proportion of the sick applicants? Speaking for myself after twenty-five years' intimate experience of the work, I feel I must give an unhesitating answer in the negative.

With due deference, I would invite the profession seriously to consider whether the time has not come for the Divisions of the Association to exercise their unquestionable power in the matter of local hospital reform. All other methods hitherto tried have failed to remedy evils that are acknowledged by universal consent. The clamour of complaint is swelled by leaders of public opinion, hospital managers, subscribers, patients, the staff, and general practitioners. If in no other way, the wrongs are sure to be righted sooner or later by legislation, but it is so humiliating to confess that the collective intelligence of a scientific and practical body of men, whose interests are vitally concerned, and who are conscious of their responsibility to guide the community in matters germane to their calling, is insufficient to devise an effective means of mitigating this acute social disorder. The difficulties to be faced are great and manifold, and care should be taken neither to minimize nor to exaggerate them. Having regard to the complexity of the problem, it will probably be found impracticable to solve the whole question otherwise than by a series of measures. The immediate demand for reform centres in the out-patient department, and the proposals of the Insurance Bill give opportune occasion for starting about the first necessary steps in that quarter. It cannot be overlooked that amelioration will involve drastic changes. The principles of charity and voluntaryism may or may not have to go; that question is on the knees of the gods; in any event the annual appeals and growing deficits seem to say that those principles have been stretched to their utmost in existing circumstances; and they have long been vitiated by grants from the rates through boards of guardians, town councils, and, recently, education authorities, as well as by the transparent fallacy of subscriptions given with phrases which prove that language is a means of concealing the thoughts of persons to regard the hospital not as a charitable institution, but as a glorified club agency.

The first essential is a clear idea of the functions proper to a hospital, for without this there can be no workable adjustment with other available forms of medical aid. I submit that such functions should include consultative and out-patient service for the poor, casualty practice (that is, for accidents and emergencies), special institutional treatment, clinical research, medical education, and the training of nurses. I shall touch on the first point only.

Forty years' agitation for out-patient reform begun by Dr. William Ferguson, and carried on by many able and determined men, including Timothy Holmes in London, Dr. Thomas Heslop and Sampson Gamgee in Birmingham, has for its discouraging sequel an increasing shoal of applicants. This fact might inhibit any renewal of the effort were it not for new conditions outside and inside the changeful profession. Much has happened since the Birmingham Hospital Reform Committee sat in 1890. The promotion of the provident dispensaries, which must surely command our admiration and support, and the utterances of influential laymen, are signs of a new public attitude towards the question, and they show how men are casting about for a remedy. Of greater importance, the key to the situation, is the reconstitution of the Association in 1902. Every Division is now invested with powers scarcely realized as yet either by the public or by themselves; and once we are convinced that we are embarked on a cause combining the two-fold good of the public welfare and satisfaction of the just claims of the profession, there need be no hesitation in putting those powers into operation.

In estimating the claims of the out-patient system, no critic denies its extreme popularity. The astonishing record of 250,000 out-patients in Birmingham last year settles that point, even when full allowance, say 50 per cent., is made for deductions. Such numbers excite mixed emotions. They pleasantly stimulate the cardiac mechanism of the committee-man and fire his imagination. In other onlookers this mammoth total stirs up indignation, and they regard it as the gravest indictment of the system. Viewed in relation to the limited number of the medical staff, and the time available for advice, beyond what is given to teaching, these figures alone, apart from any other test, demonstrate the unsuitability of a large proportion of the applicants, and the futility of trying to cope efficiently with more than a fraction of the need.

In connexion with the statistics, imagine that scene of confusion and pathos, the waiting-room, which is in itself a menace to the health of the occupants. Granted that the conditions in different hospitals vary between wide extremes of good and bad, I am only concerned here with the ordinary instance where a promiscuous throng of men, women, and children, with ailing bodies and troubled minds, are crowded together for hours in unhygienic surroundings. The social grades range from well-dressed independence down to ragged destitution; the types of disease touch the widest limits between triviality and incurability; and victims of communicable disease, mingled with their fellow-miserables, scatter the seeds of infection which find a ready soil in the tissues of neighbouring patients. But no denunciation of the out-patient department has surpassed the scathing words of the Bishop-Designate of Birmingham and his colleagues in their Minority Report, as follows: "We are bound to conclude that to a large proportion of the patients dealt with, it is, so far as any preventive or really curative effect is concerned, little better than a delusion. It is, indeed, difficult to take seriously in the twentieth century, as an organization professing to treat disease, the typical arrangement under which an overworked and harassed house-surgeon gives a few minutes each to a continuous stream of the most varied patients; without knowledge of their diet, habits, or diathesis; without any but the most perfunctory examination of the most obvious bodily symptoms; without even the slightest 'interrogation of the functions'; and without any attempt at domiciliary inspection and visitation." So uncompromising a verdict by a competent and impartial body of laymen, empanelled to try the case on evidence, demands the most serious attention of the medical profession and of all hospital administrators.

No less mischievous are the consequences to various interests outside the hospital. The best planned schemes of medical relief on a provident basis have no possible chance of success against the competition of the free and facile out-patient department. No doubt hospital authorities side in theory with the principles of thrift and self-help; they may, and do, lend the waiting hall as an advertising station for the dispensary, but is it really worth while to invite people to come for free treatment and in the same breath advise them to go elsewhere and pay for it? If the provident principle is to have fair play some radical alteration is imperative.

Then, lastly, as regards medical men, the general practitioner who looks to the artisan inhabitants of the district for the substance of his practice is placed at a hopeless disadvantage by the formidable rivalry of gratuitous and lavish medical service. He is in the plight of a gleaner who toils despairingly in a broad field, the harvest of which has already been reaped inequitably by other hands. The veil of much sophistry and sentimentality has failed to obscure the hard fact that doctors with negligible exceptions embrace their profession as a means of honourable livelihood. Very few can afford the luxury of practising as a hobby, and this is fortunate in the genuine interests of the community and of medical progress. A great deal of what we hear about the charitable work of hospital staffs is illusory; nor is there any necessary reason in the true interests of all concerned why a quota of the finest product of the schools should be condemned to years of drudgery, as the price exacted in return for a distant expectation which may turn out to be as insubstantial as the fabric of a dream. The cynical

proposal of the Insurance Bill to saddle the profession with a load shirked by the State is no new departure; it is a frigid application of the treatment meted out to the honorary staffs of all medical charities. That a community is bound to provide adequately for its indigent sick is a principle owned alike by the common law of England, by statutes, and by morality; and it is economically sound into the bargain. Nevertheless, as long as doctors submit to exploitation, so long will the public evade their obligations in respect of citizens unable to provide for their medical requirements. The gratuitous operative and other work done by men of established reputation represents a large contribution in relief of the rates, and is requited, as we were recently reminded, by a few commonplaces at annual meetings.

Other features of the out-patient department ask attention, but I must close this part of my subject. The radical cause of hospital abuse in the wide sense, when traced home, is found in the inherent defects of a bad system. No blame is attached to individual persons, least of all to hospital administrators; their assiduous and self-sacrificing labour entitles them to the gratitude of all classes, and they and the staff alike are in the toils of the system. The efforts of reformers in the past have largely failed, and were foredoomed to fail, because a paper warfare, supported by strong language but unsupported by effective action, could yield no other result. In my opinion, any action, other than parliamentary, if it is going to be successful, must come from the general body of the profession, and I believe we are now in a position which brings the possibility of reform within reach; and the one remedy which many of us have been advocating for years, and upon the securing of which all efforts should be concentrated, is to shut down the out-patient department as now conducted and, using Sampson Gamgee's phrase, turn it into the "poor man's consulting room."

THE OUTLOOK.

There is no more outstanding feature of contemporary medical affairs than the invasion of public practice and its aggressive march at an accelerating rate of speed. To what goal is the movement tending? From the considerations bearing on the answer to this question one weighty fact emerges—the province of public practice is widening at the expense of private practice; expansion of the former spells contraction of the latter; and when you compare the boundaries of the two in the medical domain fifty years ago with those marked on an up-to-date map, a substantial alteration in the balance of power is apparent. For good or for ill, the activities of the private practitioner are getting hemmed in within ever-narrowing limits as legislative and social action absorbs more and more of his territory. Surrounded by a rising tide of State intervention, the coastline of independent medical work is undergoing a process of gradual erosion, varied now and then by the sudden engulfment of a landslide, and the indications suggest that before long only the wealthy uplands will remain unsubmerged. Whilst this encroachment has been tolerably rapid, it has been on the whole so insidious that many of the profession, engrossed as they are in the exacting demands of practice, have not fully realized the character and extent of the influences which are conspiring to sap the very means of livelihood as now obtained. Failure to grasp the situation explains the apathy which has so long delayed union and left the profession an easy prey to exploitation.

It is indisputable that there is a progressive tendency on the part of Governments to utilize the services of medical practitioners for national purposes, either by a direct link with a State department, or through statutory regulations. Many confluents help to swell the current movement, and their cumulative effect bears cogent witness to a higher public estimation of the functions of medicine and of their practical application under administrative control.

The monumental report of the Poor Law Commission has struck the minds of thoughtful men too forcibly to admit of the impression being obliterated. Both the great political parties are committed to a policy of social reform in which the scarlet thread of hygiene is intertwined, for it is agreed that the problem can only be solved by a remedy containing an ingredient antidotal to the sickness, of which destitution and physical inefficiency are the offspring.

The outlook to which the finger of recent and fore shadowed legislation unmistakably points, is a readjustment of the relations between medicine and the community resembling the reduction of a dislocation. And if, as so often in the past, the apparatus of medicine is out of joint with the recognized wants of the age, then it may be said that forcible disturbance by parliamentary action is the historic mode of performing the indicated operation.

After taking pains to look at the situation steadily, one cannot escape the conclusion that the medical profession is swinging on the hinge of fate in the direction of a national health service. Nor is the significance of the present position summed up by the mere statement that the strain of private general practice in the mass has increased in severity, and the returns decreased in value. The movement imports a great deal more; it modifies the status of medicine, and is moving the profession to a new place in the body politic. By means of this transition, so it seems to me, whatever shall prove to be the true conception of the climax to which civilization is on the road, medicine is destined in the near future to exert a forceful influence on the evolution of civilized society, greatly in excess of what has been seen or attempted hitherto.

A LARGE FIBROCYSTIC TUMOUR DISTENDING THE BUTTOCK.*

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A WOMAN, aged 30, the mother of one child 11 years old was admitted to the Samaritan Free Hospital on April 7th 1911. Six years earlier she had difficulty in passing water and was sent to a hospital under the care of an experienced surgeon, who has kindly informed me that she then had a lax cyst to the left of the vagina and another swelling behind the uterus on the same side. It was thought that there was a second vagina which might contain pus, and an incision was made into the lower swelling, but no pus was found and very little fluid. The patient was discharged a month later, and was requested to return for further examination.

A fortnight after she went home a tumour came down in the vagina suddenly, without pain or haemorrhage when she was stooping to clean a fireplace. A year later another surgeon of large experience was consulted, and I am indebted to him for the knowledge that the patient then had three swellings, respectively in the vagina, in the buttock, and in the abdomen. The growths were quite small and did not interfere with the patient's movements at that time. Soon afterwards it was necessary to have the water drawn off by catheter, and except on this one occasion the patient did not consult any medical man from July, 1906, until April, 1911, although she was unable to sit upon a chair for nearly four years.

Her story was that the swellings enlarged until the abdomen was as big as that of a woman seven months pregnant, and the tumour of the buttock was about half the size to which it ultimately attained. In August, 1910, she suffered from severe diarrhoea with blood in the stools which continued for four days, and then the abdomen suddenly diminished almost to its proper size, and at the same time the lower tumour increased enormously in bulk. In the evening, after this change took place, the woman in a fit of desperation, attacked the larger external tumour with the blunt end of a hatpin, striking it many times until she became exhausted, but apparently without breaking the skin. Next morning her bed was soaked in fluid, an escape of which occurred on other occasions and gave relief. Such a discharge was observed in the hospital, and it consisted of a serous exudation from the skin. After the size of the abdomen diminished the patient was more comfortable, and she was always able to get about, although with increasing difficulty. Latterly she carried the external tumour in a piece of sheeting attached to her waist, but went out only after dark, because the tumour could not be hidden. T

* This case was described at the meeting of the Obstetrical and Gynaecological Section of the Royal Society of Medicine on October 5

bowels were kept open by laxative medicine. After admission to hospital catheter specimens of the urine had a specific gravity of 1020 to 1025 and were sometimes free from albumen; sometimes they contained a trace, which was attributed to accidental contamination. Micturition and defaecation were very difficult processes. The other systems were healthy, but the patient was very thin and anaemic

When the woman was in bed on her hands and knees, particularly if the legs were more or less out of sight behind the tumour and the bed clothes, the posterior part of her body appeared to rest upon the end of the tumour, and the hind-quarters sometimes bore a close resemblance to those of a seal, so that the ignorant, especially if they caught only a glimpse of these parts, might easily have imagined that they had seen a creature half woman and half animal.

The larger external tumour was attached to the left side of the anus and to the left buttock. Its dimensions were as follows:

Greatest perpendicular measurement from sacrum to pubes	37½ in.
Greatest horizontal circumference ...	35½ ,,
Smallest circumference of neck	29 ,,

It was entirely covered y skin, the distal part of hich had a scaly ap- earance, as if from a rolonged, recently- aled eczema, and it as not broken any- here. In the recumbent sition the anus was not en until the tumour as pulled away from the posite buttock. It was dragged upon that the icous membrane of the t side was exposed and y tender. When the ient stood erect the is was still further led down and became ible below the right tock. Digital exam- tion of the rectum sed severe pain, and finger did not pass vards into the pelvis, downwards into the ernal mass of tissue. cussion over the upper t of the tumour ad- nt to the anus showed t there was an area resonance measuring t 6 in. by 4 in., but ing in extent. The smaller external growth was ched to the left posterior aspect of the vagina well in the ostium, which was much distended. This our had a constriction near its base, and its measure- ts were:

In largest circumference	14½ in.
In circumference of neck	9¾ ,,
In length	7½ ,,

was covered by mucous membrane, and its distal ion showed an extensive area of ulceration resembling so commonly seen on a prolapsed uterus, which at first glance it was supposed to be.

he vagina above the site of origin of this tumour did appear to be affected or even displaced. The cervix was in normal position, and the passage of a sound ed that the fundus was fairly well forward, but it not be felt by a hand upon the abdominal wall. abdomen was uniformly but only slightly enlarged, there was an area of dullness above the pubes rising y to the umbilicus, but no definite tumour was ed out by palpation. Behind and to the left of the vagina there was an abnormal ill-defined thickening of the tissues as if there was an isthmus of new growth extending from the internal to the external parts. The tumour protruding from the vagina seemed also to be attached to the narrow neck of tissue joining the other two growths. The large external mass appeared to be either cystic or a very soft solid containing cysts. It became obviously more tense when the patient strained. The vaginal tumour seemed to be a soft solid. The woman complained of no pain except in the anus when it was examined and when the bowels moved. She was wonderfully cheerful.

These conditions were seen by most of my colleagues and by others, amongst whom Sir Francis Champneys kindly examined the patient with me after she had been anaesthetized, and he kindly permits me to say that in his opinion the tumour was fibrocellular and subperitoneal, and that it occupied the abdomen and came down into the buttock. He also agreed that an attempt should be made to remove it. The very serious nature of the proposed operation was clearly explained to the patient, and she was anxious to have it performed.

Figure showing the larger external tumour of Mr Malcolm's case.

The proceeding consisted of making a circular incision round the large external tumour, well away from its base and from the resonant area. The skin and a layer of fat were divided, and there was another well-marked, deeper capsule, within which Douglas's pouch was opened and a large mass of soft, shapeless material like a congeries of large coils of intestine matted together was exposed. This was not intestine and was not in the pouch of Douglas, but extraperitoneal, and it consisted of elongated thin-walled cavities containing, but not distended by, a thin clear, yellowish fluid. The rectum was easily defined and avoided, there being a layer of loose connective tissue between it and the new growth.

As it was clear that the tumours could not all be enucleated from below, an incision was made in the middle line of the abdomen above the pubes, and a new growth was exposed very closely adherent to the left side of the bladder, which was raised high up towards the umbilicus. In separating the tumour the bladder was opened accidentally, although its position had been defined by passing a catheter into it. The opening was immediately closed, and was in itself unimportant. The abdominal tumour rose as high as the umbilicus. It was soft and somewhat flat, like a thick cake, and it lay altogether in front of the abdominal cavity. There was another smaller rounded growth behind the uterus. Neither of these expanded the broad ligament. All the tumours met in a narrow portion in the anterior part of the left side of the pelvis, and they were removed, two from above and two from below, with the exception of a small portion at their point of junction. After many vessels were ligatured the incisions were closed, the great cavity in the external wound being drained. Several of my colleagues kindly joined in adopting the usual measures for preventing shock, and the patient was put to bed alive, but the operation had been an exceedingly severe one, and she died about half an hour later.

A *post-mortem* examination was obtained, and it was then discovered that the ureters were dilated to a diameter of half an inch, and the kidneys and their pelves were also enlarged. All the other organs appeared healthy, but anaemic. The remaining portion of the new growth was removed. This part was very narrow—not more than an inch in diameter—and it was held firmly against the anterior portion of the left side of the pelvic brim. There was no difficulty in separating it from any hollow viscus, or from the bone and muscles external to it, but it was adherent to, and apparently continuous with, the fascial structures which covered these muscles and which seemed to hold it in position. Its removal laid bare the ascending ramus of the pubic bone and the obturator vessels and nerve.

The parts removed at the operation, after much fluid had drained from them, weighed 39½ lb. All the solid parts consisted of a soft, very cellular fibroid tissue, and Mr. Shattock discovered some unstriped muscle fibres in parts of the lower growth. The vaginal tumour has been preserved in the Royal College of Surgeons. It is solid, and has shrunk very much. The larger external mass had a solid area about 4 in. thick below the cystic part, and this—a portion of which was exhibited—lay on the table as a flat piece of tissue pliable in any direction. This solid part was clearly an expansion of some portion of the floor of the pelvis, and it was continuous with the inner capsule mentioned in describing the removal of the tumour, which undoubtedly was the greatly thickened pelvic floor expanded over the cystic portion of the growth.

It is not easy to form an opinion as to the site from which this remarkable tumour arose. A soft solid or cystic growth behind the uterus and another beside the vagina existed six years before the patient was first seen by me, and it would appear that the para-vaginal growth rapidly escaped through the cicatricial tissue formed after an incision was made into it from the vagina. Probably these were the first parts to develop. The anterior abdominal and the larger external masses seem to have consisted of an extension of new growth along the fascial planes upwards and downwards. The large cystic portion was attached to the upper surface of the new growth which developed along the fasciae of the pelvic floor and apparently invaded the muscular tissues also. Probably the cystic portion was dragged or pushed down out of the pelvis and abdomen during the straining excited by the attack of diarrhoea in August, 1910. The pouch of Douglas and its contents were necessarily displaced as the pelvic floor descended. In the lower abdomen and about the brim of the pelvis the muscular structures forming the abdominal and pelvic wall were completely laid bare by the removal of the growth. Chiefly for this reason I would hazard the conjecture that the tumours grew from fascial tissue.

They showed no sign of malignancy except the obvious tendency to continuous growth, and the fact that the patient remained so comparatively well arose from the absence of pressure upon any important organ except the urinary tract. The urethra appears to have been first pressed upon, but the pressure seemed rather to diminish than otherwise as the growth enlarged. At any rate the need for catheterization ceased.

The great danger of the operation was due to the long delay in operating, which allowed the abnormal renal condition to develop with a consequent anaemia and depreciation of resisting power in the body, and which necessitated an excessive manipulation in removing the growths.

When I saw the patient she was convinced that surgical interference offered the only hope of recovery. At an early stage of the illness this was not so obvious, and it was most unfortunate that she did not afford the fullest opportunities for considering her case to one of the surgeons whom she consulted in 1905 and 1906, or to some other surgeon at an earlier date. When these tumours were of moderate size it would, in my opinion, have been sound practice to have examined them from within the abdomen, and this procedure would in all probability have been followed by their removal and by a complete cure of the patient.

CONGENITAL DIAPHRAGMATIC HERNIA ASSOCIATED WITH EMBRYONIC ORGANS.

BY LESLIE RAWES, M.R.C.S.ENG., L.R.C.P.LOND.,
SARISBURY GREEN, HANTS.

THE following case is, I think, of interest not only from the fact that a diaphragmatic hernia was present, but also that the various organs were under-developed.

A. F., a multipara, was delivered of a full term male child after a protracted labour. She was attended by a nurse, who gave the following history: For three days previous to the birth of the child the mother had been "feeling queer," but no definite labour pains had occurred, and "the waters had broken" twenty-four hours before the child was born. On questioning her as to the baby's general appearance at birth, she told me he was "very white," and she was twenty minutes before she could "get life into him." The child had not cried, but had been moaning all the time as though in pain, and would not take the breast, nor had he passed any meconium. I saw the child the same day, and to outward appearances he was normal, though pale; he was still moaning, but lay very still, with legs fully extended, and there was no further symptom to guide one in localizing the seat of pain, if pain it was. Respirations appeared normal and regular, and the pulse was also quite regular, but small. Very little haemorrhage had occurred on cutting and tying the cord.

Actual size of heart and left lung.

I left instructions that the baby was to be kept warm, and the mother should try and get him to take the breast. On arrival at the house next morning I was told the baby was dead, having lived only twenty hours.

Necropsy.

The following condition was found *post mortem*: The right lung was small, measuring about 3 in. by 1 in., the greater part of that side of the chest being empty. The left lung was extremely small, and resembled a large raisin, the whole organ being about the size of a half-penny; filling the remainder of the left side of the chest was the stomach and the whole of the small and large intestine, with the exception of the descending colon and rectum. The small intestine was empty and massed together; the large bowel contained meconium, which could be expressed per anum. The greater curvature of the stomach was directed upwards with the posterior surface of the organ lying anteriorly, so that the whole viscus was "upside down." The appendix was normal, and measured 1½ in.

The heart was small and pushed over to the right side, although lying in close apposition to the left lung. The liver was normal in size and position. The pancreas and left kidney were bound down together in the left renal region. Both kidneys resembled a small walnut in size, and presented a rough fissured surface.

There was a large opening in the centre of the left side of the diaphragm (with a smooth rounded edge), which would admit three fingers quite easily.

THE Honorary Secretaries of the Odontological Section of the Royal Society of Medicine are prepared to receive applications for grants in aid of scientific research in connexion with dentistry. The research work in question may be of any kind deemed likely to throw light on any of the problems connected with dental surgery, and the conditions under which grants are made by the Section are of the kind usually attaching to such grants by other bodies. Full information may be obtained on application to the Secretaries of the Section at 15, Cavendish Square, London, W.

SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF ELECTRO-THERAPEUTICS AND RADIOLOGY.

Hugh Walsham, M.D.Cantab., F.R.C.P., President.

PRESIDENT'S INTRODUCTORY REMARKS.

DR. WALSHAM said; I am not about to give any opening ddress; indeed, the time at my disposal and the rules of ur Association forbid. Nevertheless, I should like to say few words on the progress and position of our speciality. is sometimes good to pause, look back, and review our osition. It is only five years ago since we became an ccredited Section of the Association, and, although we ad the fierce light of criticism upon us as a new Section, am glad to say we have survived that criticism, and our nnual meeting would not be complete without its Section Electro-Therapeutics and Radiology.

I venture to think that it is only those of us who n throw back the memory for the past quarter a century that can fully appreciate the great strides at have been made in our department of medi-ne. It was not until the attention of the profession as called to the researches of Duchenne on the reaction muscle and nerve to electrical stimulation that the ysician and surgeon began to perceive that there was nething after all in the application of electricity to edicine. The pioneer of medical electricity, at least in is country, was undoubtedly Dr. W. E. Steavenson. eavenson was a man of absolute integrity and straight-wardness of character, whose only purpose was to reach d teach the truth. He has long since passed to his rest. the foundation laid by Steavenson the superstructure electro-therapeutics has gradually been built up, and link you will agree with me that there is no man who contributed more to this work of building up than his cessor in the field, Lewis Jones.

ow the advance made in electro-therapeutics and iology is obviously for the most part dependent upon advance of the physical and natural sciences. We owe ebt of gratitude, therefore, to the physicist, the mathe-tician, the chemist, the botanist. Faraday, working in laboratory at the Royal Institution, taught us the laws hose atoms of matter with their unbalanced electric rges which he called ions. We have heard much of of the method of ionization, and I think we are ined to hear still more in the future.

gain, are we not indebted to a long line of physicists—Plücker, the discoverer of the cathode rays in 1859; to tof. Goldstein, Varley, Crookes, Lodge, and Leonard, their work which culminated in the discovery of the ys by Roentgen in 1895?

nd then we have our debt of gratitude to the hematician; for has not Sir J. J. Thomson shown is corpuscles, or the electrons of Johnston Stoney—e atoms of negative electricity that do the work in our uum tubes—"vibrating along the far-reaching line of refined mathematical analysis with a certainty hardly ior to that of ocular demonstration"?

. Johnston Stoney died in London on July 5th. He one of the deepest thinkers and closest reasoners that perhaps ever lived. As long ago as 1862 he fore-owed the electron. From mathematical reasoning Dr. ey came to the conclusion that the lines in the spectra ses are to be referred to periodic motions within the cules and not to the irregular journeys of the mole-amongst one another.

ain, we owe much to the chemist—to the Curies for discovery of radium; to Rutherford, Ramsay, and Soddy and Deane Butcher, among others, for their researches on radio-active bodies generally.

Finally, our gratitude must be extended to the botanist, for Marshall Ward—first at the Medical School at Netley, afterwards as Professor of Botany at the University of Cambridge—was the first who demonstrated the action of those electro-magnetic disturbances in the ether which we speak of as light, both visible and invisible, upon low forms of vegetable life, and thus led up to the subsequent therapeutical work of Finsen.

On the other hand, these discoveries in physical science would have been of but little practical value had we not had the men at once ready to lay hold of them and turn them to the best use in the diagnosis and treatment of injury and disease. We have even men who have not only given up their time, but who have sacrificed their health to this pursuit.

Electricity has done much for the science of medicine in the past. What it will do for us in the future who can prophesy? We do not know yet what electricity is; we do not know what the ether is, though the past century has disclosed many facts concerning them. But, to quote Sir Oliver Lodge, from his little book, *The Ether of Space*, "When the present century or the century after lets us deeper into their secrets, I feel as if it would be no material prospect which will be opening on our view, but some glimpse into a region of the universe which science has never yet entered, but which has been sought from afar, and perhaps blindly apprehended by painter and poet, by philosopher and saint."

CONVEYANCE OF ELECTRICITY THROUGH SOLIDS, LIQUIDS, AND GASES, AND THE PRODUCTION OF RADIATION.

By Sir Oliver J. Lodge, F.R.S., D.Sc., LL.D.,
Principal of the University of Birmingham.

My subject, as it appears on the programme, may suggest that I am going to enter into a discussion upon electricity generally. The nature of electricity, as your President has already very truly said, is not yet fully known, but so many facts have lately been discovered that it is interesting, and in some cases important, when dealing with the nature of electricity, to realize more precisely the point of view at which we have now arrived. The great discovery of recent years has been that of the electron. Many investigators have contributed to it, but the electron was first isolated and described by Sir J. J. Thomson, of Cambridge. As every one is now aware, the electron is isolated electricity apart from matter; it is the atom of electricity, being atomic in the sense of being indivisible. The actual ultimate atom which we do not expect to subdivide—at any rate, in this generation, and perhaps for a great while to come—is the electron or the electrical atom. The electron represents negative electricity, about which we know a great deal more than we know about positive. Indeed, our knowledge of positive electricity is severely limited.

With this idea of the electron in our minds—and there is no doubt, I may say, that the electron exists and plays the important rôle which is ascribed to it—we may review briefly the different methods of electrical conduction. The transfer of electricity from place to place in metallic, liquid and gaseous media must mean the transfer of electrical charges. Need that mean the transfer of electrons? Not necessarily, for, as I have pointed out, the electron is a negative charge, and the transfer may be either of the positive or the negative charge. But we know practically now that in a metal it is the electrons which convey the current. The term "ion" is best used, I think, for the "charged traveller," whatever it is, by means of which the current is conveyed. In a metal the "traveller" is the negative charge; in other words, the ion is the electron. How, then, are we to picture electrical conduction in this piece of metal? We may think of it as having its positive charges all fixed, jammed, crystallized, immovable, while in its pores, so to speak, is an immense crowd of very mobile electrons. There are millions upon millions of these latter in every cubic centimetre. Moreover, whenever the metal is not charged it possesses only its normal quantity. To charge it negatively we

have to push in more electrons, and to charge it positively to pump out electrons. The terms "positive" and "negative," by the way, are unfortunate in some respects, and were coined by Franklin at a time when neither he nor any one else could possibly have understood the forces with which they were dealing. It was purely a matter of accident as to which was called positive and which negative.

A current in a metal, then, is a flow of electrons through it. The metal is a conductor because the electrons are moved and carry the charge. The electrons are the ions. If they are supplied in great numbers they may overflow, burst through, and fizz out. It is this bombardment by the negative electrons which is to be observed in a vacuum tube. The bombardment of the cathode rays represents the electrons rushing out of the metal with a speed comparable with the speed of light—to be precise, about one-twentieth of the latter. In a metal, I repeat, it is the negative electricity which conveys the current.

But what are the ions or charge-travellers in the case of a liquid? By "liquids" I mean definite chemical compounds such as salt and water. What is it that conveys the current in that medium? We have in the liquid the hydrogen going in one direction and the oxygen in the other, the one being positively charged, the other negatively, and the current is conveyed by both. Speaking roughly, it is conveyed about equally by both. The proportion in which the positive and negative ions share in the conveyance of electricity is known by the facts of electrolysis, and there is no other mode by which liquid conveys the current.

Now let us take a gas. The atoms of a liquid are free in the sense that they can pass one another; they are not fixed as in the solid. In the gas the atoms are quite free, and can conduct. Through the gas I suspect that it is mainly positive electricity which conveys the current. I make that assertion on the strength of certain experiments which I have not time to explain this morning, and it must not be regarded as so well established as the others. You will ask why I think that it is not the electrons which are carrying the current. Well, they *are* carrying it to some extent, but the positive atoms are a certain number of times more numerous than the negative. Take the case of nitrogen. Here they are twenty thousand times more numerous, and move at one twenty-thousandth part of the speed. The positive atoms in a gas, therefore, are numerous and slow, but by reason of their number they can carry through the mass of the tube by far the greater part of the current. It is the positive atoms in the tube which are the chief carriers, and if that positive stream be stopped the result will be only a trace of current—perhaps only one twenty-thousandth part of the original flow. In order to get the main current we must allow the positive atoms to travel between the electrodes.

In the metal the electrons travel *through* the atoms of matter, in the liquid they travel *with* the matter, in the gas they travel free, or *without* the matter. Here in the metal they flow through it like heat, and the old fluid theory of electricity which was laughed at has, nevertheless, a good deal of truth in it. But when the electrons come to the edge of the metal some difference has to be made. They may rush out free, or, as in the case of the liquid, they may carry the atoms with them and give the phenomenon of electrolysis.

So much for the different kinds of electrical conduction. I now come to the question of radiation, and at the very beginning I have to make the statement that the acceleration of an electron is the cause of radiation. Radiation appears wherever an electron is accelerated. The term "acceleration" is a technical one. Popularly, "to accelerate" means "to hurry up," but technically the term is equally applicable to a slowing down. Anything which changes the speed, whether in the direction of increasing it or of decreasing it, is positive or negative acceleration. But, in addition to hurrying up and slowing down, velocity may be altered in another way. The path may be curved so that its direction is changed, and instead of going straight it can describe an orbit, like that of a planet going round the sun. Where there is any one of these kinds of acceleration—a hurrying up, a slowing down, or a curving round—there must be radiation.

But the amount of radiation to be obtained from a gentle hurrying up or a moderate curving round would be practically nothing. To get anything like appreciable radiation the hurrying up must be violent, as though it were the result of a blow. It is thus that the gun accelerates the shot, or the cricket bat accelerates the ball, and in these cases we have the creation of sound waves. In the case of the electrons we have light waves emitted and also other waves. That is a secondary result of the acceleration of electrons. The atoms are shaking the electrons as bells might be shaken. In the vacuum tube, by reason of these flying electrons, Roentgen rays are started. There is some radiation even from the cathode, but there is much more if the electrons are stopped dead by means of a target placed in their path; and the more quickly they are moving and the more suddenly they are stopped, the greater the resulting radiation which is obtained. In that event we do not get light radiation, nor any of the coarser kinds of radiation. What we get is the fine shimmer or shell of radiation, the one whipcrack of radiation which we know as the x rays.

The positive electrons travel comparatively slowly—not slowly in the ordinary sense of the word, but slowly for the velocities with which we are dealing. Their speed is about two-thirds of a mile per second, and this is comparatively leisurely. It is owing to the difference between the velocities that electric valves are possible, and in what remains to be said I want to illustrate the action of an electric valve. By taking this theory into account we have improved electrical valve construction. In the tube I have on the table, the bulb being fairly free from negative bombardment, the positive charges come off leisurely and deliver up their load. But if I change the direction of the current the negative electrons shoot out like bullets at a terrific speed, and with tremendous energy. They would hit and burst the glass unless it were protected, in this case by copper shields, and their drive along the tube can only be compared to a fire of Maxim guns. Now, the function of the valve is to make the current go in one direction only. The firing stops the current one way and lets it through the other.

We will suppose the electrode in the bulb part of the tube to be emitting a negative bombardment. The bombardment comes from it, indeed, in all directions, but the spiral wire has a comparatively large surface, and, moreover, a rounded surface, so that the bombardment is fairly dilute. The positive electrons in this case saunter round the tube, escape the negative bombardment as they come into the interior, and there deliver up their charges. They have a fair chance of fulfilling their function. They do not all escape, it is true, and a glow means that one has been struck, but in this way the current is conveyed by the stream of positive charges which escape the bombardment as well as they can, and deliver up the current. But suppose that the bulb is positive, and that the narrow part of the tube is the seat of negative bombardment. The positive charges cannot travel down the tube in the teeth of the firing of these infinitesimal Maxim guns, and consequently the positive charge is not carried. Hence the tube has a pronouncedly easy way of working and a pronouncedly hard way, and I suggest that it is probably because the positive charges are carrying the main part of the current that the valves which stop the current in the other direction have the effect which I will demonstrate to you.

[Sir Oliver Lodge concluded with a demonstration of his valve in the charging of a jar. A jar was first connected with the induction coil in the ordinary way without the valve, and scarcely any spark was given, the reason being, Sir Oliver pointed out, that the jar was short-circuited by the coil, and accordingly all that could be obtained was an occasional overflow. But on interposing the valve the jar was no longer short-circuited by the coil, and the charges could enter it through the coil and be trapped and accumulated. The result was a much more considerable spark and the jar remained charged. The interposition of the valve stopped the charges from rushing back again, and forced them to be piled one on top of the other.]

DISCUSSION.

The PRESIDENT moved a vote of thanks to Sir Oliver Lodge, and this was seconded by Dr. DEANE BUTCHER, who laid stress upon the great debt which the English school of electricians owed to their distinguished visitor of the morning. The vote was carried by acclamation.

DISCUSSION ON IONIC MEDICATION AND THE THEORY OF IONS.

OPENING PAPER.

By Henry Lewis Jones, M.A., M.D., F.R.C.P.,
Medical Officer in Charge of Electrical Department, St. Bartholomew's Hospital.

Ionic Theory and Practice.

As our knowledge progresses we come to recognize that the effects of electricity on the human body are falling into line as chemical and physical actions. Indeed, this resolution of so-called vital processes into chemical and physical processes seems to mark all, or almost all, our advances in medical knowledge; and it is with a sense of relief and satisfaction that we learn from time to time of a chemical or a physical explanation of any obscure phenomenon, because we understand that when that stage is reached progress becomes more probable.

Leduc, by his writings on ions in their medical relations, has done a great deal to advance the general body of electro-medical knowledge, and, in the light of the laws of ionic movement so clearly stated for us by him, we are able to understand what happens in almost every kind of electrical treatment. The shock of the induction coil, the sting of the continuous current, the painlessness of high-frequency applications, are all intelligible when looked at from the ionic standpoint.

Leduc has taught us how to apply massive currents without damage to the skin, how to test nerve and muscle with the minimum of discomfort to the patient, and how to treat with success various disorders which ten years ago seemed out of reach of electrical treatment. In all our electrical procedures we now have to learn to think ionically.

Turning now to the immediate practical results of ionization in medical work—the subject we are about to discuss this morning—I would commence by saying that we all seem to need a little more originality of thought to help in the search for fresh applications of ionic medication. The points already gained are heterogeneous and in some respects of relatively small significance, and they are waiting to be cemented together into a coherent mass by the addition of further facts and fresh applications of ions to other morbid states.

What have we gained so far? There are some facts collected on the utility of ionization in cutaneous affections, and in affections of the accessible mucous membranes, and particularly in corneal ulcer. Some good results, too, have come to hand in neuralgia and neuritis. Finally, in some joint conditions ionic applications seem likely to be valuable, and I hope that our discussion to-day may be fruitful in concrete instances of successful ionic treatment of these and other morbid conditions.

In opening a discussion on ionic medication, one feels that the subject is in need of criticism, and I hope that much criticism may be forthcoming to-day. The general principles are now tolerably well understood by those who wish to understand them, and it is to these that I am specially addressing myself. We are prepared to admit the penetration of this or that ion from a moistened anode or cathode, as the case may be, but we want to know more of the depth to which it penetrates. Do the ions penetrate sufficiently to be of practical utility in joint affections? It must be borne in mind that a current of electricity, for instance, in the body is purely dependent upon the ions supplied by the electrodes and their moistened coverings, so far as its transport into the skin is concerned; and therefore in considering the actual entry and exit of the current we may feel that the ions we employ are, so to speak, the exclusive carriers of the current, but, the skin once traversed, the electricity finds itself in the presence of an infinite number of tissue ions which serve as the carriers of the current, and the ions of the electrode coverings must at once lose the greater part of their importance, partly by reason of the slowness of the movement, partly by entering into insoluble combinations with the lymph, and partly by the loss of their impetus and its transmission to fresh chains of conducting ions.

Apart from the influence of extraneous ions upon the tissues into which they are driven, we have to consider the influence of the rearrangement or redistribution of the component ions of the body which is brought about by a current. Take the case of a knee-joint treated by ionization with salicylate of soda, and deriving benefit from the treatment. We must inquire whether the entry of a few milligrams of salicylic ions has caused the improvement, or whether the general commotion of the ions of the tissues has not rather been the active agent in bringing about improvement, and evidence upon this head is badly needed.

A condition for which simple applications of continuous current are very useful is that known as sprain. I have frequently seen a painful sprained limb rendered apparently sound by a few minutes' treatment. This effect is very possibly ionic in its character, the relief of pain being the result of a clinical rearrangement of ions in the tender structures, rather than of the introduction of the medically active ions from without.

I have lately been applying the principle of ionization for the treatment of facial paralysis. When one comes to consider the matter, one recognizes that the electrical treatment of this complaint is capable of improvement. Surely treatment should be directed as much as possible towards the swollen or inflamed or sclerosed part of the nerve trunk; if this can be relieved the various muscles of the face will soon recover themselves. On this account I am now accustomed to treat cases of facial paralysis by ionization directed to the trunk and primary branches of the facial nerve. It is difficult as yet for me to speak with certainty about this method, because cases of facial paralysis differ so much from one another in severity, but I do regard the ionization of the facial nerve as a useful treatment and an advance in medical technique, particularly in cases which are obstinate, prolonged, or are accompanied by facial twitching and spasm during the period of recovery. This spasmodic twitching in cases of facial paralysis is due to the survival in part of the mischief which originally caused the paralysis, but which in its reduced and lessened condition is acting as an irritant to the nerve trunk instead of paralysing it. Probably the effusion of the early days of the complaint is gradually replaced by some little fibrous tissue which hampers and compresses the nerve trunk.

In trigeminal neuralgia and in other neuralgias the good effect of salicylic ionization is very marked, and its influence in this condition goes far to allay our doubts as to the penetration of the ions into the subcutaneous tissues. Salicylic ionization of the face also is valuable for episcleritis, and this seems to signify that salicylic ions introduced into the distribution area of one branch of the fifth nerve can influence the conditions in another branch of that nerve.

Ionic medication has been received in this country with enthusiasm, and, I fear, with misguided enthusiasm in some cases, and has been abused. What are we to say of the people who claim to introduce iodine by painting the skin over with tincture of iodine and then superposing a moistened negative electrode until the iodine is decolorized by the alkali which appears, and using the loss of colour as a proof of the success of their manœuvre? In spite of these difficulties, I feel sure that the further study of ionization will provide medical practice with new and useful methods of treatment.

DISCUSSION.

Dr. Reginald Pratt (Leicester) said that, although not a specialist in electro-therapeutical treatment, but merely a general physician, he had used ionization for four years, and had had some gratifying results. Among others he had treated two patients for lumps in the chest, both of which cases he diagnosed as chronic mastitis. In one case zinc ionization was given—50 milliampères, twenty-minute sittings, eleven applications—and in the other case iodine ionization—30 milliampères, twenty-minute sittings, eight applications—and the effect was very marked. The first case was entirely well; in the second case, in which the course of treatment was not yet finished, the lump had almost entirely disappeared. The speaker also related a gratifying success following the application of zinc ions to the base of the bladder in the case of an old man

who had been wholly dependent upon the use of a catheter for emptying the bladder for several years, and who was in a miserable condition from cystitis, with pus in the urine, purulent discharge in the urethra, and frequent attacks of orchitis. Before treatment the patient used a catheter four times every night, and after treatment he did not require to pass it more than once. The urine was free from pus, and had remained so for three years. The positive electrode in this case was in the form of a rod of zinc covered with cotton-wool soaked with a 2 per cent. solution of zinc sulphate, which was introduced into the rectum. The speaker had used this treatment in recurring perimetritis, probably gonorrhoeal in origin, the active pole being placed in the vagina, with the result that no attack had occurred since the treatment, and the patient was freer from pain and better able to walk than she had been for two years. He had also used it for chronic rheumatic enlargements of the knees, with much relief to the pain and stiffness; and for the treatment of the pain of neuritis, in which he had found iodine ions give much relief and greatly hasten the cure.

Dr. L. W. BATHURST (London) emphasized certain points in technique. The pads or cloths for the electrodes should be thick (equal to sixteen layers of lint) and thoroughly saturated with the solution. He knew of no better metal covering than a fine wire gauze called "tricotine," which was recommended by Dr. Allpress Simmons, and was sold at about one shilling a yard for the trimming on ladies' hats. As to the current intensity, relatively strong ampèrage was essential, but it must vary in accordance with—

1. The size and thickness of the electrodes.
2. The portions of the body to which they are applied.
3. The sensitiveness of the patient.
4. The actual effect on the skin of the individual.
5. (Possibly) the ions employed.

In the ionization of a large joint, such as the knee, he looked upon a current of 30 or 40 milliampères as a minimum, 50 to 70 milliampères as an average, and 100 to 150 milliampères as an exception. He had seen burning from quite low currents, and looked upon the essential factors in its prevention as the thickness of the pads and even pressure of the metal electrodes over them. The length of each sitting should be from ten minutes to half an hour; it was an advantage to give daily treatment at first. He had used chlorine ions from sodium chloride chiefly in the treatment of stiff joints, scars with much fibrous thickening, and keloid growths. One case of keloid of the face after extensive burning in childhood was immensely improved after five or six weeks' treatment twice a week, and another patient, who, after amputation of a supernumerary finger, had great stiffness owing to scar tissue, gained free use of the fingers in a month. Salicylic ions had been used for rheumatic affections of joints, including rheumatoid arthritis, and for neuritis, neuralgia, sciatica, and lumbago. Any neuralgia not caused by an autointoxication was relieved to a greater or lesser extent by salicylic ionization. An exception might be made in the case of neuralgia following herpes zoster. Cases of tic douloureux with spasm had been very much relieved, and there could be no doubt as to the relief of pain afforded by salicylic ions in rheumatic joints. In conclusion, the speaker cited three cases as representative of results with zinc ionization, including one of chronic ulcer on the inner side of the heel, which cleared up.

Dr. A. HOWARD PIRIE (St. Bartholomew's) brought forward two considerations based on the theory of the transport of ions. The first related to the production of general anaesthesia due to reduced electrical conductivity. After suggesting that it was an electrical action which caused the chemical changes ordinarily taking place in a brain cell during consciousness, and that the mixing of a non-conducting volatile gas with the blood meant a reduction of the conductivity of the blood and of the brain cells, he stated that he had tested the conductivity of petrol, ethyl chloride, chloroform, ether and alcohol, and had found them non-conductors of electricity. Probably all non-conducting freely volatile liquids would act as general anaesthetics. Unconsciousness could also be produced by leaving the resistance intact and altering the voltage with suitable interruptions, as in Leduc's method. In this case the chemical action going on in the cells was not brought to an end, but it was disorganized, and as the cells of the brain did not perform their functions, unconsciousness supervened. Directly the current was withdrawn the cells were free to resume their functions, and therefore the return to consciousness was immediate and not slow, as in the case of a general anaesthetic. By this theory it was possible to imagine other kinds of electrical currents which, when applied to the brain, would disorganize the chemical action of the cells, and so produce unconsciousness. Parts of the brain could even be singled out and rendered unconscious, while the vital centres of the medulla were left unaffected. Continuing, the speaker mentioned a practical point in connexion with the destruction of the roots of hairs by electrolysis when a platinum or gold needle was placed at the root of the hair sodium ions driven into the tissues, and acids, especially HCl, liberated in the same position. Ordinarily, with a naked needle, scarring of the skin took place over a certain area, but a method of preventing scarring was to insulate the needle with glass or otherwise to within $\frac{1}{32}$ in. of its free end. When this was done the HCl was produced in the root of the hair, which was destroyed, while the skin was left intact. Even after 100 hairs had been removed at one sitting he saw no mark of the operation the day after.

Professor WERTHEIM SALOMONSON (Amsterdam) thought that medical science was greatly indebted to Dr. Lewis Jones for introducing, in this country at any rate, a novel method of treatment which had already been responsible for the cure of a large number of patients. There was, of course, no doubt that the ions travelled very deeply into the body. If Dr. Pirie's experiment that morning had not proved it, they would have known that this was the case from the behaviour of urine after the introduction of iodine or salicylate ions, and also from Leduc's well-known experiments. For that reason, whenever the more poisonous ions, such as alkaloids and the like, were introduced, they required to be very careful, and to know exactly how much of the drug had been absorbed. The difficulty was that a certain number of ions stayed in the upper layers of the skin and were not absorbed, and he believed that this fraction was not a small one. Could Dr. Lewis Jones furnish them with any idea as to the amount which was really absorbed in the case of such introductions?

Dr. R. W. MACKENNA (Liverpool) said that he had been making daily use of ionic medication for over four years in a department of medicine—dermatology—in which it was of the greatest service. He had found the salicylic ion most useful, when other remedies had failed, in subduing the intense pain of post-herpetic neuralgia. The chlorine ion had given excellent results in alopecia areata, the iodine ion had proved of service in the treatment of ringworm of the scalp, while the zinc ion had established a place for itself in the treatment of rodent ulcer, coccogenic sycosis, and lupus. He desired to emphasize particularly the very remarkable results which might be obtained by treating lupus with zinc. The essential lesion in lupus vulgaris was the nodule, which was a gelatinous mass of tuberculous tissue, covered in non-ulcerating cases with a thin layer of ill-developed epithelium. The difficult problem of causing the electric current to concentrate itself upon these nodules was solved some years ago by his partner, Dr. Stopford Taylor, who made the valuable suggestion that before treatment with ions a patch of lupus should be rubbed over briskly with a solution of liquor potassae (*B.P.*). The potass dissolved the ill-developed epithelium covering the lupus nodules, while the surrounding healthy epithelium remained almost intact. The surface to which the potass had been applied had to be carefully wiped with a piece of absorbent cotton-wool soaked in distilled water or normal saline, and a thick pad of cotton-wool saturated with a 10 per cent. solution of zinc sulphate had to be applied to the part, the zinc electrode being held firmly over it and connected with the positive pole. When the current was switched on it chose the path of least resistance, and the ion-laden stream rushed into the exposed nodules, just as sheep ran through a hole in the hedge. The duration of each treatment was from ten to twenty minutes; the

ttings were repeated every fortnight, and the strength
current was such as the patient could comfortably bear.
o dressing was applied. All that was necessary was to
struct the patient to dab the part treated, several times
ily, with calamine lotion, or a lotion of zinc sulphate
ntaining 15 grains to the ounce, or a 2 per cent. solution
sozoiodol of zinc. A crust formed which was allowed
fall off spontaneously, after which the treatment was
peated. The ultimate result was a smooth, pliable, and
astic scar as good as, if not superior to, the best scar
tained by the Finsen lamp. The method had the great
vantage over the Finsen treatment that it could be
plied in cases of intranasal lupus. The cases best
ited to the treatment were those in which the lupus
dules were discrete.

Dr. James Metcalfe (Bradford) had done some little
rk in connexion with this subject, and most of the
sults had been extremely satisfactory. He found in
ne of these cases of long-standing arthritic trouble,
ch as stiff joints with a great deal of pain, that the
plication of salicylic ions had most remarkable results.
t to his mind the solutions in common use were too
ak. The bulk of the 2 per cent. solutions were not
ong enough to get the results required. Ten per cent.
even a greater percentage of solution was advisable. A
ger milliampèrage was also an advantage. If a large
liampèrage were employed in these joint and arthritic
ditions, together with a large indifferent electrode, or
ferably if either limb were placed in a bath instead of
ing an electrode at all, one got a better result and
lied much more current with much less pain than with
indifferent electrode of comparatively small size. One
is patients had a big nodule in his heel, which had
n gradually increasing in size for several years, and
ything possible had been done to relieve it. But he
almost crippled, and the speaker then determined to
the application of lithium iodide. He made an *x*-ray
ure of the nodule before and after treatment, and the
lts when compared were remarkable. He had a
siderable number of applications—between twenty and
ty in all—but the pain gradually disappeared and the
le, which was an extremely large one, almost as big
walnut, gradually got smaller, until eventually it was
cely perceptible and quite painless. The speaker had
ionic medication in the acute pain of neuritis, and
also he had had very satisfactory results, but the
ous conditions in which it could be applied were very
erous, and he believed that there were a large number
iseases which could be remedied by this form of
ment.

. N. S. Finzi (London) spoke on the experimental side
e question. One of his experiments had been men-
d that morning—namely, the introduction of ferri
ide ions into the knee-joint of a living monkey. The
in this instance was subsequently removed and
d in a solution of ferrous sulphate; it was then
l that the whole of the patellar tendon over which the
had been applied was stained a deep blue, and that
blue extended right into the cartilages of the joint.
all ions penetrate deeply in this manner? Some
iments which he performed three or four years ago
ed that they did not. Certain ions did not penetrate
er than the epidermis, while others reached, and were
ited in. the corium. The ferric ions from ferric
ide, for instance, were all deposited in the epidermis,
did not even reach the corium. Calcium ions, and
bly zinc ions also, were deposited in the corium in
rm of a granular precipitate. It was most important
em to know whether the ion was or was not pene-
g when they were using it in deep-seated conditions.
was a way of learning whether the ions were or
not penetrating, without removing the skin and
ng it, as in his experiments. When using iodine
ithium and similar ions it was noticed that if the
e were raised to a certain degree the current would
elf rise for a considerable time, but when using a
enetrating ion, such as the ferric ion, after a short
inary rise of the current there was a steady fall.
neant that instead of a decrease in the resistance of
in, as with the penetrating ions, the resistance was
greatly increased by the deposit of non-conducting ions in the skin. With regard to the treatment of ringworm with iodine ions, which had been mentioned that morning, a statement made in the course of a paper on ointments, published in the British Medical Journal for July 22nd, was of interest. It was stated that fifty years ago an ointment of potassium iodide was recommended for ringworm, but that it had apparently gone out of use.

Dr. Delpratt Harris (Exeter) had found ionization answer remarkably well for superficial structures. A lady came to him for rheumatoid arthritis, her chief trouble being that she could not sufficiently stretch her fingers to play the organ, of which she was fond. Every form of medical treatment had been tried without avail. In a month or six weeks, after treatment with the ions of potassium iodide, she was able to stretch the octave. The success obtained in this instance drew attention to the fact that her knees were similarly affected, and that she was obliged to come downstairs resting each foot on every step. Lithium citrate was tried, with the result that the patient was able to walk downstairs like any other person. Ions were superficial in their action, but not so superficial that they could not be got into the phalangeal joints. The zinc ions did a great amount of good in rodent ulcer, which, he found, healed within a week or ten days. These ions seemed to answer admirably for the more superficial conditions of the skin, but the deeper structures were more difficult to reach.

Dr. C. Fred. Bailey (Brighton) called attention to the danger of over-enthusiasm. Last year before the Section he read a paper on the treatment of rheumatoid arthritis by an ionization method, and although the discussion that followed was interesting—Professor Leduc in particular giving some remarkably useful hints—it had only to be compared with the discussion of that morning to show that the whole subject had undergone a very material advance. This advance made it all the more necessary to refrain from an excess of enthusiasm. The time had arrived when it would be well to have a clear and definite reason for the use of ionization when it was decided to adopt that method of treatment. If a reason were given there was every likelihood of a successful issue. The speaker had been accustomed to use chain metal electrodes, but some of the newer methods, such as Dr. Bathurst had mentioned, seemed to be very useful. He was rather puzzled by a statement made by one speaker in the discussion to the effect that the treatment of a bladder condition was instituted by the use of a zinc electrode per rectum. Of course, there was a great difference between the action of penetrative and non-penetrative ions, but zinc ions, in which he had always been more or less interested, were particularly non-penetrative, and he rather doubted whether the use of zinc per rectum was likely to have any particular effect on the bladder. In his experience the treatment of rodent ulcer by zinc ions was rather disappointing. Rodent ulcer seemed to recur more frequently after zinc ionization than after any treatment he had come across. When he did treat such conditions with zinc ions he gave a full Sabouraud dose afterwards to prevent recurrence, and under this combined method the results were fairly satisfactory.

Dr. E. Reginald Morton (West London Hospital) said that, like the preceding speaker, he had known of a number of cases of rodent ulcer treated by zinc ionization. Such treatment tended to be fairly brutal, for a strong current was obtained, deep penetration used, and the ionization applied for a long time. To be quite frank, he had not treated a single case of rodent ulcer by zinc ionization for a long time past. He had treated all such cases with solid carbon dioxide, and he had only seen one recurrence. His first case, which he showed in the Dermatological Section at the last annual meeting, was looking better than ever to-day. He brought the case before a class of post-graduates, and only one of those present was able to say with certainty on which side of the nose the ulcer had appeared. The recurrence in the one instance was in a patient who had refused to go the full length of treatment, and in whom a recurrence was expected. This solitary exception went to confirm his view as to the general efficacy of this therapy. With

regard to ionization, he had certainly come to the conclusion that for medical treatment they must use large currents and large electrodes. He was very fond of using lithium iodide, and one of his cases was that of a golfer whose game after treatment had improved some six strokes for the round.

Dr. MAURICE R. J. HAYES (Dublin) said that he made a start with ionization by using iodine ions in the treatment of lupus. Aniline ions were a failure. Subsequently he used zinc ions in the treatment of rodent ulcer, and found early rodents most amenable to this method. Rodents of old standing, and those in which the edges were raised and infiltrated, could not be successfully treated by zinc ionization. A solution of copper sulphate had been tried repeatedly in the treatment of ringworm, and generally with very good results. The zinc ion had been found very efficacious in the treatment of lupus erythematosus, even in extensive cases which had had various applications of the ordinary kind. An extensive case of lupus erythematosus of the face had completely healed, the current strength being 10 milliampères and the time of application ten minutes.

Dr. W. HARWOOD NUTT (Sheffield) said that several speakers had mentioned the fact that in their technique they had one limb at one pole and the other limb at the other pole. Was it unscientific and wrong to reverse the current, say, for a quarter of an hour, and put iodine ions through the other limb? If this were possible it would be an advantage from the point of view of time economy alone. A great deal had been said that morning about the introduction of ions into the human body, but there was also a process of ionic extraction which ought to be taken into account. A further point for consideration was, if a bath were used, as some speakers had suggested, did one extract uric acid ions and get a solution of urea, and if the current were reversed did one drive back the ions of urea? Was it unscientific, also, to use the same solution for more than one patient?

REPLY.

Dr. LEWIS JONES, in reply to the discussion, said that the points raised in the discussion were too numerous to be considered in detail within the limits of the time available. Dr. Finzi had partly answered Professor Salomonson by pointing out that some ions were stopped almost at once, while others penetrated further. The speaker still occasionally treated rodent ulcer with zinc ions, but he was careful to select his cases. Such selected cases commonly were curable and remained cured after a single application. But old and deep-seated cases were not suitable for treatment by ionization with zinc. Zinc went out of action as an ion and was thrown down as a precipitate, and they must try whether they could not find some other ion which had a useful action upon rodent ulcer. Perhaps the salicylic ion, which was well tolerated, might be tried. Certainly they should be able to cure rodent ulcer ionically. In answer to Dr. Pratt, there was no doubt about the penetration of ions. Potassium iodide could be introduced, but it was necessary to know how far it could be driven. He congratulated Dr. MacKenna very heartily on his success in the treatment of lupus. Evidently caustic potash was useful to break down the protection of the tubercle bacillus. The speaker had ionized nodules of lupus with a steel needle, liberating caustic alkali in the nodule, but the method of rubbing with caustic potash and so making a free channel through which the current would go was very ingenious. Other ions might be found to have an even better effect than zinc. Butyric acid had been suggested to him as likely to have penetration and toxicity for the tubercle bacillus, but he had not had the opportunity to make an experiment with it. His experience of strong solutions in ionic work was that these were apt to cause pain when applied to raw surfaces. Moreover, a 1 per cent. solution really contained all the possible ions wanted for any current. Dr. Bathurst had taken very great pains with his ionic work at St. Bartholomew's, and the speaker could confirm his conclusions. The fine wire gauze recommended by Dr. Allpress Simmons was excellent for joint ionization. He admired Dr. Pirie's theory, but he was not sure that a solution of gas was a non-conductor. As to the notion of reversing the current at intervals, a reference to Professor Erb's *Electro-therapeutics* would give, under the head of "Cataphoresis," a detailed account of the proposed way to introduce potassium iodide. The old experimenters, desiring to introduce potassium iodide, devoted half the time to the introduction of the iodine constituent and half to the introduction of the potash constituent, not realizing that when driving in the potash they were pulling the iodine out again. Reversal at intervals, he thought, should be avoided as being unsuitable to the effect desired. There was a case on record—he could not quote the authority at the moment—in which a series of lithia baths were given to an individual, and as a consequence of these electrolytic baths lithium was detected in the urine of the patient, and uric acid was definitely found in the water of the bath. Lithium had been driven in and uric acid extracted from this gouty patient. The general results recorded by the speakers furnished a proof of the value of ionization. He claimed that in this form of treatment there was something useful for the dermatologist, the gynaecologist, the ophthalmic surgeon and, indeed, for the specialist in every branch of surgery and medicine.

DISCUSSION ON
THE "X"-RAY TREATMENT OF RINGWORM

OPENING PAPER.

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RINGWORM of the scalp is a disease which, although no dangerous to life, demands energetic and determined treatment, for the following reasons:

1. It is very disfiguring.
2. It is contagious.
3. It persists for a lengthy period.
4. It occurs during a child's school days, and thus interfer with its education.

The disease has a tendency to die out and disappear aft having run a definite and protracted course, during whi the general health of the patient suffers, and permaner baldness may result. Whilst ringworm of the scalp amenable to ordinary treatment, there is perhaps disease in which so many and varying methods have be adopted with so small an amount of success, and up to t present we have no routine method at our command.

During the last few years the disease has been broug into special prominence from the fact that its existen entails a monetary loss to the various school boar inasmuch as the Government grant depends upon t regular attendance of the pupils. In every large to there is always absent from school a big percentage children from this cause, entailing much monetary loss a neglect of education. In some of our large cities spec ringworm schools have been opened, and in a few a det mined campaign against the disease has been organize Whilst the disease is far less common in this country th it is upon the Continent, it is more common than is usua believed to be the case. In looking up the returns of ca from the various centres, one is struck by the mark difference in numbers in towns which are close togeth and in which the conditions are similar. At first I h great difficulty in accounting for this wide discrepancy, I I am informed that whilst in one town the returns made up entirely from cases which are reported to t authorities, in others a medical inspection is made. Th can be little doubt that where a careful examination of heads of the children is made, the disease is found to ex in many unsuspected instances.

For several years school board authorities have b seeking for a method of treating this disease which shorten the period of treatment, allow the children return earlier to school, and save money. It is gener conceded that epilation, in which both the diseased h and the spores are got rid of at the same time, is the way of treating the disease. To bring about epilation the older methods is both a difficult and dangerous t

n the *x* rays, however, we have at our command a method hich is safe, sure, and certain.

In considering the various methods of treatment now ually adopted, there can be no doubt that the *x* rays ve a large balance in their favour.

1. When the treatment is efficiently and carefully carried out cure can be secured in from six to eight weeks, as against enty-seven months, which was the average as calculated by bouraud.
2. The actual time occupied in treatment is shortened.
3. The results of the treatment are certain.
4. Reinfection can be more easily guarded against.
5. Epilation comes about without any interference on the rt of the parents, hence the neglect to carry out instructions a matter of comparatively small importance.
6. The treatment is free from danger.

The objections which have from time to time been ised against *x*-ray treatment are:

. That it necessitates special and expensive apparatus.
. That its proper performance requires special knowledge.
. That the application of the rays to the head is dangerous.
. That the hair may not grow again.

As regards the first objection, although the initial outlay the apparatus is great, it is more than compensated for the immense saving in time which results in its use.

As to the second objection, if treatment is to be successful cial knowledge is always necessary.

As to the method being dangerous, no case of permanent ury has been reported out of the hundreds of thousands t have been treated. I personally have seen no ill ct produced other than those which have arisen from lty technique, and these have, in every instance, been to negligence or want of knowledge of the apparatus of its power. With the best apparatus now obtain-, epilation can be produced with ease and certainty.

s to the fourth objection, cases have been recorded where hair has failed to reappear after a dose which could o way be considered excessive. It must not, however, forgotten that permanent baldness sometimes occurs r the ordinary methods of treatment have been used. oubt very much whether this condition is any more mon after *x*-ray treatment than it is after epilation ght about by other methods.

discussing the subject of the *x*-ray treatment of ring-n, it must be remembered that I am looking at it from point of view of the methods as applied to-day, and from that of the antiquated procedure of five years

uring the last two or three years our methods of suring the dosage have been vastly improved, and the al "treatment tubes" rendered more efficient. Until years ago I invariably employed small, frequently ted doses, as I did not then consider the full-measured was safe. This was largely due to the uncertain n of the Sabouraud pastilles. These, however, have e undergone much improvement, and, if used in con-ion with the other apparatus I shall describe, are ctly reliable.

choosing apparatus for radio-therapy, it is of para-t importance that the group should be so arranged the output of radiations shall be constant both in sity and quality.

refer to use a coil of the non-intensified variety ng a spark length of from 10 to 12 in., provided with a capable of giving constant and unvarying interrup-. The mercury-dipper break is the only one which, r as I know, will comply with these conditions, and only when it is not run too fast. The break should a tachymeter attached, and be provided with an atic cut-out. A milliampèremeter and spark-gap (or other arrangement for rendering the current uni-ional) should be placed in the secondary circuit. tube holder should be one which can be fixed in any d position with ease, which protects the patient from ct rays, which is provided with an arrangement for ng the Sabouraud pastille, and with attachment for g adapters. It should be placed inside a lead-lined e, and the remainder of the apparatus should so be ged that it can be manipulated from without, the t being watched through a ray-proof lead-glass w.

h this apparatus we have three factors to guide us in the correct dose:

1. The amount of current passed through the tube as registered by the milliampèremeter.
2. The number of interruptions, as registered by the tachymeter.
3. The pastille dose, as registered by the tint obtained.

Taking these facts into consideration, there can be no doubt that the production of epilation by means of the *x* rays is the safest method we have at our disposal.

In respect to the question of tubes, I prefer those with not too much metal in them. My tubes contain a very slight amount of metal, and I have a good battery of them and change them frequently.

A point upon which I should like to lay some stress is summed up in the question: Is there a difference—and if so what is it precisely—between the production of epilation in two minutes and in a quarter of an hour? Taking it for granted that the dose in each case is accurately measured, I venture to think that there is a distinct difference. My own preference is to occupy five minutes at least in producing epilation. On the Continent the time given is sometimes only half a minute or even less, with the Snook. Another point to which I would draw attention is this: If the operation is to be successful, one must not be too careful about the amount of hair that may be taken off. So long as the hair has to come off at all, what does it matter whether we take it off a considerable area, so as to allow an ample margin, or confine it rigidly to a small circle?

It is very uncommon to meet with ringworm in persons who have passed their fourteenth year, and this immunity to the disease after a certain age points to the conclusion that some change in the tissues has taken place and is producing this result. This change may be brought about in some by inoculation. There is here an opportunity open for research, for I cannot help thinking that we may by some means be able to produce immunity from the time of the child's birth instead of from the age of 14.

Finally, I suggest three points, in order that our discussion may not range vaguely over too many, and that we may arrive at some definite conclusions:

(1) *Is x-ray treatment for ringworm the best method that can be adopted?* (2) *Is it safe?* (3) *Is it certain?*

DISCUSSION.

Dr. Reginald E. Morton (West London Hospital) had no hesitation in saying that the *x*-ray treatment of ringworm was the best method available. The patches of permanent baldness were rare and trifling. He had used a coil of the intensified type, and had never found any difficulty in regulating the dose and keeping the tube quite steady. The interrupter, however, demanded special care. A break was required which would run perfectly regularly and slowly, like the old-fashioned dipper break. Certain interrupters which were admirable for radiographic purposes were unsuitable for the treatment of ringworm. Light metal anode tubes gave by far the best results. The speaker expressed himself in agreement with Mr. Hall-Edwards upon the question of the massive doses used for epilation purposes. He mistrusted any dose of less than five minutes' duration. It was necessary to remember that the hair follicles had to be affected at a considerable depth below the surface of the skin, and for his own part he allowed seven minutes for the colouring of the pastille.

Dr. J. A. Cobb (Wolverhampton) saw an undercurrent of reaction in progress against the use of *x* rays in treatment. Perhaps as recently as two years ago it was practically *x* rays or nothing, but to-day, he thought, some little scepticism was in evidence, especially as regarded their use in dermatology. It seemed to him that there could be no question, however, that the *x* rays were the best method in ringworm. There could be no demur to the unqualified reiteration of that statement. The cases got well much more quickly than with other procedures, and the cure was more thorough. It did not always happen that the typical sequence of events occurred with absolute regularity, but on the whole that was so. Occasionally there were little patches where complete epilation did not take place. The whole area exposed would become absolutely bald with the exception of two or three "islands," but even in these it would generally be found that the hairs would be

loose and would come out on being rubbed. It was a little difficult to explain exactly why these "islands" occurred. The real truth probably was that there had been some interference beforehand. Very often a little dermatitis would be set up by the ringworm, and this would be sufficient to prevent the full effect of the rays on the hair follicles. It was also undeniable that a very thick covering of hair over the area to be treated would retard or prevent the full epilation. In fact, if the scalp were allowed to remain untouched previously to exposure the epilation would probably be very imperfect. The complete shaving of the part to be exposed added greatly to the certainty of the effect. The speaker had never seen any permanent cases of baldness. Sometimes the parents became nervous after three or four months of alopecia, but there had always been a return of the proper hair in a better condition than formerly. One practitioner had made it a condition of treatment that the parents should sign an undertaking to the effect that they themselves would take the risk of permanent alopecia. The speaker did not think that the frequency of permanent alopecia was sufficient to justify not only the trouble involved in the signing of the undertaking, but also the amount of unpopularity which the treatment would probably acquire if that danger were held out dramatically before the parent. His own feeling was to take the risk and say little or nothing about it, but he was not quite sure that it was wise. Coming to the question of methods, there were, it seemed to him, two main lines of technique. Like Mr. Hall-Edwards, he practised at first the giving of frequent small doses, and he rather thought that by such a manœuvre he obtained better results than with the one large dose. The alopecia after such procedure was practically invariably complete, and there was no need for the application of any antiseptic to supplement it. Indeed, it was still very doubtful whether it was necessary to use any antiseptic in addition to the *x* rays. It was the generally accepted principle that the rays effected the epilation, and that some antiseptic was required to clear up the remaining spores and mycelia. One case of favus of the entire scalp within his experience was completely cleared up after very frequent applications, perhaps running into twenty or thirty; and, of course, although favus was very much more intractable, the principle of treatment must be practically the same. As to the aspects of ringworm treatment on behalf of educational authorities, he thought it desirable that the work should be done privately if possible instead of in school clinics, and it would be useful to consider whether a uniform fee for the whole country could not be offered to the authorities. With regard to technical matters, his own experience of tubes had been rather different from that of Mr. Hall-Edwards and Dr. Morton. He found the small light anode tubes run down very speedily, so that sometimes he had not been able to give a Sabouraud dose, but he instanced one make of heavy anode tube which had proved to be useful, constant, and effective. He had used the gas break, which, of course, was one of rapid interruption, and it might be that this was the reason why he had difficulty in giving a Sabouraud or prolonged dose with the lighter anode tube.

Dr. A. VAVASOUR CLARKE (Leicester) thought that the discussion would be of value if it enabled them to say what was the actual position with regard to the *x*-ray treatment of ringworm at the present moment. Nothing had been said about the pathologically different varieties of ringworm, and he was told that there were considerable differences in the results of *x*-ray treatment upon the different varieties. The question of safety, of course, was the whole point in discussion. It would be well to know how frequently it was necessary to re-treat their patients after one dose had been given.

Dr. DELPRATT HARRIS (Exeter) raised the question as to the length of time which a ringworm cure occupied. Some had stated six weeks, others one week, and he knew of one instance in which the claim was made that the ringworm cleared up within a few hours. It was obvious that the school medical officers ought to have some general standard upon which they could reckon. He thought a period of a hundred days, which figured in a certain estimate, was excessive, but he greatly desired to know what the avera was. In his own town he had to contend with a go deal of prejudice, chiefly due to one lady, who spread t idea that the *x*-ray treatment of ringworm led to canc But he had no case even of alopecia brought to his notic and, had it occurred, he would assuredly have heard of through the diligence of the lady aforesaid. He found t dark, curly, Ethiopian type of hair particularly stubbo and in one or two cases he had not been able to secu epilation at all, but with a fair-haired subject epilation w distinctly satisfactory. The question as to how soon t dose should be repeated was an important one. Dr. Lewis Jones's *Medical Electricity* it was stated, thought, that it was safe to repeat the dose at the end a month, but the speaker had often found the epilati incomplete at the end of a month, and he was ve cautious about using the epilation dose a second ti within so short a period. He often let it run for two, even three, months, but that might be excessive cauti He was convinced that the different forms of spores h a great deal to do with the ease or difficulty attending t treatment. Moreover, he found the ringworm less diffic when confined within the compass of a penny or a cro piece. It was difficult when it was discrete. The sh of the head presented an obstacle to treatment, and of between the circular areas there was a diagonal pa which did not receive the rays at the first action. Aga if previous treatment had been given, it was sometin difficult to cause complete epilation with the *x* ra Finally, he pointed out that with the advent of new tu and apparatus the old Sabouraud directions requi careful revision.

Dr. F. EMRYS-JONES (Birmingham), speaking out of th years' experience with Mr. Hall-Edwards, said that could remember one case in which the hair did not ret until about six months after the treatment, and in a cases—comparatively very few—the hair had not come every part of the patch irradiated owing to the de tralization of the tube. It was in cases such as these t reinfection was most likely. The time taken for the was from five to fifteen minutes—generally seven or ei Considerably better results were obtained with the use Kienbock's adaptor for cases in which the whole scalp affected. In treating cases either at the hospital o private practice they always took the risk themsel Roughly speaking, the cure took place in from si eight weeks. Very long and curly hair was rather n difficult.

Dr. LOUFELDT (Hamburg) mentioned that Profe Albers-Schoenberg, of Hamburg, recited to him rece 2 cases of ringworm in that city which showed sign burned skin after an application of "unguentum plant following upon *x*-ray treatment. (Epilation had follo the *x*-ray treatment, and the skin then looked w Albers-Schoenberg, who had not himself treated children, was of opinion that they had had too lar dose of *x* rays, or, alternatively, that the burning was du some indisposition of the skin, and that this unaccusto reaction was in no way due to the "unguentum plant The speaker, however, knowing the physician who tre them, did not believe that any mistake had been mad the *x*-ray dosage.

Dr. G. HARRISON ORTON (St. Mary's Hospital) said he thought it could be safely laid down that, for hos cases at least, *x*-ray treatment was the best of possible methods. In private practice he thought it to try ointments, especially in the case of for a reasonable time before resorting to *x*-ray expos The next question raised by the opener of the discus had reference to the safety of the treatment. Ou 815 doses given during the last three or four years a Mary's Hospital he thought they had three areas in w some amount of baldness had persisted for about years. In all these cases Kienbock's method was ployed. The return of hair was fairly complete, sometimes there were various little scattered area baldness, for which there seemed no apparent re Nor was there any apparent reason for the definite re of the scalp which occurred in a certain number of c The tubes were always carefully centred before t

nt began. He used the light anode tube supplied with Osmo regulator, one tube giving ten pastille doses aight on end. It was important always to give a tille dose, as incomplete epilation meant incomplete e, and most of the cases which returned were due to the r not dropping completely. He found that the thick ly hair of the children in a Portuguese orphanage near hospital was much more tardy in dropping than that very fair children. For the latter the dose should be her under the standard, while for dark children one uld go to the full B tint. Multiple doses were to be demned as absolutely unsafe. The reaction period was nown in such cases, and he really did not see any ject in giving a multiple dose. On the other hand, he never seen any idiosyncrasy of consequence when the bouraud dose had been given. With regard to the e in which it was safe to re-treat a patch, a month ned to him to be much too soon. He would not treat e cases in which patches remained until the new hair ved some signs of growth. He had always used a intensive coil and a pastille dose, turning in about or twelve minutes. He did not recommend doing ore quickly, because the margin for error was exely small; it was not safe to go on for a very long . If the tube were too soft one was very liable to uce a severe dermatitis. In ordinary circumstances e were no returns for re-treatment, certainly not when tion was absolute and complete. The only returns for reinfection. With regard to the time in which cure could be effected, if every hair had dropped out child was cured in a month. The London County cil children were sent back to school much earlier than months. During the period between the application rays and the dropping of the hair it was important the child's head was washed to use mild soap gently and some simple ointment. Lately he found some rather severe redness of the scalp, and vered that after *x*-ray exposure the children had playing in the sun without their hats. The children d be warned not to go out into strong sunlight ered.

C. F. Bailey (Brighton) said that the use of lotion application of after-treatment of any kind appeared n an important point, and it ought to be definitely l as to whether this was or was not advisable. He r asked whether Mr. Hall-Edwards was of opinion ractically all tinea when diagnosed should be treated *x* rays. Were there any particular cases which he treat by other methods, and, if so, how would he them? Further, what were the indications for using s immediately? There were probably a certain r of cases which he would not treat at once. He ished to hear Mr. Hall-Edwards's views on the on of shaving. Was every case to be shaved as a of routine, or would he allow remission of this in a ses? He pointed out that even when the hairs had the follicles still contained a large number of spores, were reinfecting centres. Had Mr. Hall-Edwards latistics as to the number of cases which were ted, and as to the relative number which were ted by the spores left behind in the hair follicles, ose which were reinfected from other children?

A. Howard Pirie sent the following note, which was his absence: My experience of treating ringworm en satisfactory, and I am sure that it is the best for getting rid of the disease. During the last have carried out the treatment for the London Council. Of 22 cases sent to me, 20 of these have ischarged cured, 1 refused treatment, and 1 is reatment at present. The average time required to he cure is four months. The first month is engaged ding the hair. Baldness follows for six to eight nd during the next month the hair grows and the able to return to school. I use the five-exposure with a tube of 20 cm. diameter. I do not the distance from the scalp to the glass, but keep ance about 5–7 cm.—that is, I bring the tube a safe from the child's head, so that a spark will not pass hild. I measure the dose by a pastille placed on l's scalp, and tell by the change in the colour of tille by the light of a Tantallum lamp when the skin has received a pastille dose. By this method I have treated two heads in fifty minutes, giving five pastille doses to each head. Both children epilated satisfactorily, and the hair grew again in two months. I made an experiment with the bone and scalp of an adult (got from the *post-mortem* room) to find what quantity of *x* rays reached the brain when a pastille dose fell on the surface of the skin. The experiment showed that the skin would have to receive forty pastille doses before the surface of the brain received one pastille dose. There is no danger of damaging the brain in a child from the application of one pastille dose. In practice I have noted that children are in good health as a rule during the treatment, and that no harmful effect follows the application. Since my first case, which I treated about six years ago, I have treated many cases of ringworm by *x* rays, and, so far as I know, the hair has grown perfectly in every case.

Dr. A. A. Russell Green (Walsall) reported a series of 35 cases, due to microsporon, which were treated *without* the use of the pastille. The dose was measured by the tachymeter, and the current through the Chabaud tube was kept constant by means of an Osmo regulator. There were no bald areas, but there were two return cases owing to reinfection. All the remainder were cured.

Dr. William Dyson (Manchester) said that in competent hands the treatment was safe; it was certain if epilation were complete, and it was rapid in that a cure might be effected within four weeks. Each case, in his opinion, should be examined with the microscope, as the microsporon forms of ringworm were the only cases of tinea which called for treatment by means of the *x* rays. The other forms were equally amenable to other forms of treatment.

Reply.

Mr. Hall-Edwards, replying on the discussion, after entering into some details with regard to fees and hours in the treatment of children for ringworm, turned to some of the questions of technique which had been raised by various speakers. He preferred to use an adaptor if he could fix the child's head and properly regulate the dose, but the legs of the Kienbock adaptor frequently hindered complete epilation. The question had been asked, Should they take off all the hair in private practice? The answer was, No, for the reason that the parents of one's cases in private practice did not use bath-bricks to clean their children's heads. There were many ways of treating ringworm and of treating it successfully, but when they were dealing with the very poor the *x* rays were the best. The hospital treatment of ringworm, however, was not unattended with difficulty. Hospitals had no very large number of tubes at their disposal, and although a tube would sometimes run nicely, at others after it had been put on and left running for a little time it would be found that something had gone wrong, and therefore one did not know what dose the child had had. If that child was exposed again within a few weeks one was running a very severe risk. The observance of these precautions was the only way of preventing accidents.

DISCUSSION ON THE THERAPEUTICS OF RADIUM.

OPENING PAPERS.

I.—W. Deane Butcher, M.R.C.S.,
Surgeon, London Skin Hospital.

THE SCIENTIFIC ASPECTS OF RADIUM-THERAPY.

The therapeutic action of radium has now been studied by a host of observers for many years, and an enormous amount of literature has grown up around the subject. The time has therefore arrived when we may hope to obtain a sane and sober judgement as to its utility.

What are the special cases amenable to radium treatment? Firstly and principally, small circumscribed lesions of the skin or mucous membrane, lupus, rodent ulcer, epithelioma, warts, ulcers, and growths of the skin and nails whose malignancy is suspected but not proved. These should be at once attacked with radium, and may be attacked with some certainty of success.

And here let me raise my voice against the practice of excising a portion of a doubtful growth to test its malignancy, since this defeats the very object of radium treatment—namely, the destruction of the neoplasm without opening the blood and lymph channels.

Secondly, radium is the treatment of choice for naevi, especially the small birthmark whose rapid growth betrays its embryonic origin, and the large fluctuating, haemorrhagic naevus which can hardly be attacked by any other means.

Thirdly, it is indicated in any disease of the skin associated with pain or itching. In a previous paper read before this Section I have alluded to the marvellous power of radium in suppressing itching, and its use in pruritus.[1]

In malignant disease of the oesophagus, the rectum, or uterus, radium will bring at least some measure of temporary relief of pain and spasm, although I believe it does a great deal more.

What are we to say of the efficacy of radium in extensive or deep-seated cancers? I confess I have not seen a perfectly successful cure, although some of the cases shown by Dominici at Paris and at the London meeting of the Association were almost convincing. It is a fact of the deepest significance that cancer implanted in the mouse does not grow if subjected to radium irradiation.

With regard to filtration, in my opinion the attempt to influence a voluminous or deeply-seated cancer by filtered rays is visionary. We can only hope to reach deeply-seated organs by some surgical procedure, such as the introduction of a radium tube by Robert Abbe's method, or the introduction of the radium ion by Haret's method.

I had hoped that Dr. Abbe would have been here himself to describe his procedure, which I belive to be a definite advance in surgical practice. Unfortunately he is unable to come over. His method is to puncture the tumour or a deep-seated organ with a trocar, and to introduce one or more celluloid tubes each containing a tube of radium. This he is able to do into a goître or a diseased organ, such as the kidney or liver. For radium is the great haemostatic; and we may safely say that there is no tumour, however vascular, into which one may not boldly plunge a trocar, trusting entirely to the haemostatic action of the radium tube. This action is even more marked in the case of large pulsating and fluctuating tumours and naevi.

Haret's method is equally efficacious in bringing the radium to the seat of the malady, and has the advantage that it does not open the lymph channels. It consists in the electrolytic introduction of the radium ions into the tissues. Haret applies a compress saturated with a solution containing 10 micrograms—that is, $\frac{1}{100}$ milligram of radium bromide. This he drives into the tissues by applying an electrical current of 10 milliampères for thirty minutes. He has thus caused the radium to penetrate for 9 cm. into muscle, aponeurosis, and bone—the radio-activity persisting for fourteen days or more.

This method is said to have given good results in a number of cases, and appears to have many points in its favour, since it is a means of introducing what is practically a number of microscopic and intercellular Roentgen bulbs into the very heart of the neoplasm.

With regard to the *rationale* of radium treatment, it is interesting to note that the action is by no means entirely a destructive one. Small doses of radium irradiation have a decidedly stimulating effect on the growth of the epithelium on the surface of a wound, and of fibrous and scar tissue in its deeper portions.

I may here refer to the possible stimulation of the ordinary process of auto-immunization by radium or radium emanation. The arguments brought forward in the discussion on vaccination at the Royal Society of Medicine are equally cogent for radium and for Roentgen irradiation. In this connexion it is interesting to remember that the vitality of vaccine lymph seems to be increased rather than diminished by exposure to radium emanation.

The progress of radium-therapy and the study of its physiological action have been greatly hampered by the rareness and the dearness of the metal, and the impossibility of procuring the quantity necessary for the treatment of extensive lesions. This is, we hope, at an end, for within a week or two the Radium Institute will be opened, and we shall have an adequate supply of radium for the treatment of our patients, be they rich or poor.

Happily, in the treatment of malignant growth electron bombardment, we are no longer restrict to the use of but one radio-active substance. I Churchward has recently directed our attention the treatment of rodent ulcer by calcio-phosphate uranium. Of still more importance is the recent wo of Hahn, who has shown that some of the derivativ of thorium, especially mesothorium, are even more acti than radium. We may hope that in a short time we m be in possession of a radio-active substance which is n only much cheaper, but also much more plentiful than rival.

An experiment of Professor Rutherford's at the Roentg Society suggests the possibility of using the radi emanation itself as a means of irradiation. He show a capillary tube containing radium emanation, which w made of such thin glass that it was easily penetrated the alpha particles. As a fluorescent screen was gradua brought up to this tube, it suddenly lit up vividly wh about 2 to 3 cm. distance—that is, when within the ra of the alpha particles. One could not help conjectur what would be the effect of pumping the emanation its into a sinus or fistula, or even the substance of a malign growth.

With regard to the treatment of internal disorders disturbances of metabolism by radium emanation, ra active waters, and the like, I have no personal experien Professor His of Berlin and other writers of repute rep good results in the treatment of rheumatism and gout radium emanation.

This question as to the utility of radio-active waters worthy of your serious attention. Gudzent and Löwent have shown that after a long treatment by radi emanation the excretion of uric acid is as prompt a complete in a gouty patient as in a healthy individu Gudzent, moreover, has demonstrated that some forms radiations prevent the transformation of soluble sodi urate into the insoluble form.

As to the question of dosage, it was decided at International Congress at Brussels that the unit radiation should be the quantity of rays emitted by 1 of metallic radium in one minute. A complete prescr tion for a radium irradiation would thus require following data:

1. The weight of metallic radium present in the specim used.
2. The area of the applicator over which the radium sal spread.
3. The material and thickness of the filter.
4. The duration of the irradiation.

The unit of radium emanation is the "millicur which is the quantity of emanation in equilibrium w 1 mg. of metallic radium.

For measuring radio-active waters, etc., a very m smaller unit is required. The "Maché" unit is the quan of radio-activity which causes a leak of one-thousandth an electrostatic unit per second—that is, 3×10^6 electr per second through a standard electroscope. Some ide the smallness of this quantity may be gathered from fact that an atmosphere of 1 Maché per litre contains 1 of emanation in 500 billion parts of air.

It might seem impossible that so minute a quantity this could have any definite physiological effect on organism; but in dealing with radium bombardment have to do with quite infinitesimal quantities of ma imbued with enormous energy. London found tha closed capsule containing 18 mg. of radium produce reddish-brown patch on the skin after an expos of only fifteen seconds, and calculated that the weigh beta particles involved was less than 0.0000000000005 g or half one billionth.

In conclusion, you will, I think, allow that I h satisfactorily made out a serious and sober claim the utility of radium in medical practice—a claim whi well authenticated and documented, and which ca easily be set aside by the vague statement that radium never cured and never will cure a case of cancer.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, September 12th, 1908, p. 720.

I.—J. H. Sequeira, M.D., F.R.C.P.Lond., F.R.C.S.Eng.,
Physician, Skin Department, London Hospital; Consulting Dermatologist, Radium Institute.

ADIUM IN RODENT ULCER AND OTHER SKIN CONDITIONS.

R. Butcher having so fully dealt with the scientific spects of the use of radium, I propose only to ask your tention to some practical considerations which have been ted in the course of my own work. This is, perhaps, the ore interesting to a large number of members of the ction because no great quantity of radium has been ployed. The bulk of the work has been done with four plicators, one containing 16 mg. of radium sulphate read on an applicator 1 in. square, another containing mg. on a circular disc ½ in. in diameter, and two small plicators of one square centimetre area, each containing mg.

I have treated nearly 400 cases, almost half of which re cases of rodent ulcer. I will refer to these first. Of 7 completed cases of which I have full notes, I have tained a successful result in 116. Of these, 14 have n well for over four years, and 50 for eighteen months l upwards. The attention which was focussed upon the atment by radium owing to the addresses given in this ntry by Sir Frederick Treves and Dr. Louis Wickham l others has naturally brought a large number of cases re recently, but these have not been under observation so long a time. The situations of the ulcers in the cases were as follows: Inner canthus, 23; outer thus, 6; eyelids, 11; nose, 36; cheek, 27; lip, 6; head and temple, 7; eyebrows, 2. This makes a total 118, but in two cases there were two lesions. The ation had varied from a few months to twenty-four rs. The radium has usually been applied to the super- l lesions for three or four hours unscreened at one ng. I have found that this method produced much er results than the frequent repetition of small doses. r ten days an inflammatory reaction occurred, and at end of the third week the scab which formed usually off. In some cases one treatment of this duration was cient, but in a large proportion the process had to be ated. Where the lesions have been deep the applica- of the radium unscreened has been followed by long sures with screens of lead varying from 0.2 to 1 or n. in thickness. In such cases the applications have from twelve to twenty-four or more hours, and the nts have usually been admitted to the ward of the ital or kept in a nursing home.

here has only been one untoward result in these cases, hat was thrombosis of the superior longitudinal sinus ase where the rodent ulcer was situated at the root e nose. Fortunately the patient, as to whose treat- I had the advice of Dr. Theodore Thompson, made plete recovery.

5 cases of apparent cure I have no recent report of atients. In reviewing the cases in which the radium ment was not successful, 56 in all, I find that the ving conditions militated against cure:

. Involvement of the cartilage. In 21 cases the nasal cartilage was affected, in 5 the ear cartilage, and in 1 the thyroid cartilage.
. Involvement of the bone. This was the cause of failure in 19 instances.
. Involvement of the orbit. Ten cases.

is not fair to criticize some of these cases, as the e was in a very advanced condition when the patient under treatment, and *x*-ray treatment, ionization, ad been used before radium was applied.

ly recognition of the condition before the cartilage one are involved is essential to success in radium ent of rodent ulcer with the moderate quantity of n at present at our disposal. When the Radium ute opens we shall have the opportunity of using quantities, and we may hope for an improvement he successful results hitherto obtained.

he time at my disposal I can only shortly touch the other conditions in which radium was used. en cases of epithelioma have been treated for the d of small recurrences after operation. So long as ands have been unaffected, I have seen most aging results. One case of epithelioma of the palate which had recurred after two operations was quite well more than two years after the radium was applied.

Senile keratomata usually yield to an hour or a couple of hours' treatment, and common warts after the application of the radium for one or two hours. Leucoplakia of the tongue reacts exceedingly well, and in 3 cases I think we can claim to have prevented epithelioma. The removal of naevi of the common type is much more rapid by the carbonic acid snow treatment, and in the large port-wine stains I must confess that I am not favourably impressed by the radium treatment. Small moles of the hard and soft types react well to radium, but I do not believe that it is more efficient than the solid CO_2. One case of lepromata on the cornea was treated, but the result was not satisfactory.

I have occasionally used radium in the treatment of lupus, either because the site was not easily reached by the Finsen light or *x* rays, or because the patient had been in such a condition of general health as not to justify these measures. Small nodules are removed by the radium with the formation of a small, sometimes telangiectatic, scar.

The advantages of this painless method of treatment, and the possibility with experience of exactly adjusting the dose to the effect required to be produced, render radium-therapy one of the greatest advances made in the treatment of the large number of cutaneous diseases to which I have referred.

DISCUSSION.

Dr. N. S. Finzi (London) said that it was quite true, as Mr. Deane Butcher had suggested, that the filter added nothing to the radium rays, but it removed from them the rays which for certain purposes were not only of comparatively little use, but actually had certain harmful properties. The action in increasing fibrous tissue was very much greater when only a thin filter or no filter at all was used than in the cases in which a thick filter was employed. This seemed to show that the effect was due to the action of the beta rays, and that the gamma rays did not produce it. He quite agreed with the opener in his remarks about the measurement of doses by the amount of metallic radium present, but they were still waiting for Madame Curie's standard, the present standards all varying. Dr. Deane Butcher had told them that he had never seen a satisfactory result in cancer. This depended upon what was meant by the word "satisfactory," because, of course, they could not yet talk of cure, even where a growth had completely disappeared. The speaker had a case in which the growth had now disappeared for well over two years, and Dominici had one in which it had disappeared for four years. He went on to quote two cases as typical of those he had to treat:

1. A woman, aged 47 years, had a tumour on the mucous surface of the cheek. This was thoroughly removed, but one month later it recurred with enormous rapidity, and when he saw her three weeks afterwards there was a great mass, the size of a Jaffa orange, in the cheek. An opening into the growth had been made, with the idea that it contained pus, and into this the radium tubes containing 105 mg. of radium bromide (equivalent to 50 mg. of pure metallic radium) were inserted, and remained thus for sixty-nine hours, the filter used being 1.5 mm. platinum. The result was that, except for a pre-auricular gland and a few cutaneous nodules, the entire growth disappeared. The gland was removed surgically, the radium being inserted into the wound, and the nodules were treated with external applications. The patient had had two prophylactic doses, and now, seven months after the commencement of treatment, was perfectly well, though in all probability if radium had not been employed she would long ago have died.

2. The other case was one of carcinoma of the cervix, in which the patient had a growth larger than a fetal head, completely filling up the vagina and pressing on the rectum. This was treated with 205 mg. of radium bromide filtered through 2½ mm. of platinum, and applied for forty-eight hours. Microscopical section after the second application showed that most of the growth cells had disappeared, and now there was nothing left but a smooth ulcer.

Both these patients were dying, both had very large growths, and yet both were at present well, and he thought it would be admitted that these, at any rate, were satisfactory results. There were four great principles to be

observed in using radium in cancer: (1) Treat thoroughly the whole area, any metastasis, and the place where secondary deposits were likely to occur; (2) filter the rays through an adequate amount of metal; (3) use as much radium as possible; (4) give maximal doses. Out of his 88 completed cases there was local disappearance of the growth in 15, of which 4 recurred and 2 died of intercurrent disease; of the remainder, 12 showed very great relief, 36 substantial relief, and 25 little or no relief.

DR. W. ARMSTRONG (Buxton) congratulated Mr. Deane Butcher on the very judicial way in which he had summed up the question of radium-therapy. The speaker had had a very considerable experience of radio-active water (taken by drinking), and he thought this means of radio-active treatment to be better than the tube. The emanation possessed an extraordinary strength as compared with that of radium itself, so that a very small quantity of radium went a very long way indeed. There were two great effects upon which they could rely in the administration of radium, either by tube or emanation: (1) A general increase in nervous vitality; (2) the excretion of toxins. Workers in radium emanation had been able to increase the toxic properties of sweat, and in a paper on the subject, which he would read at a later stage in the proceedings of the Section, he would give a very careful analysis of some 600 cases in which he had used these various methods. He believed that when in England the same number of men as in Germany took up the question the results obtained would be fully equal to those published by the German scientists.

DR. WILLIAM HOLDER (Hull) gave instances of the good results of radium treatment in inoperable cancer and lupoid cases affecting cartilages. His testimony was that of a general practitioner who had had the use of 80 mg. for two years. Large doses of radium were not required for the best results, and he found the greatest successes follow from the use of radium at reasonably protracted intervals instead of the too frequent renewal of its applications. The practitioner using radium was encouraged by the very rapid retrogression which followed its early application, even in the case of large cancerous growths, and hence he was inclined to follow up the applications too rapidly. The result of too frequent applications was an over-rapid softening of the cancerous tissue and its absorption into the system, thus setting up a toxic influence on the patient which had its dangers. The reason for this became evident when one considered how the malignant tumour went and by what it was absorbed. The absorption and removal of effete and super-growths could only be undertaken by the absorbents of the body—namely, the lymphatic system. Remembering that Nature only intended the lymphatic system to be sewers for removing naturally used-up tissues, it was common reasoning that if the rapid removal of softening malignant tumours were added to their natural work the result would be to choke the natural sewers, which were not designed to carry away suddenly a mass beyond their carrying capacity. This too rapid softening of large malignant tumours presented a cause for the retained toxic tissue which possessed the patient, and destroyed the chance of cure which a slower method might effect. The speaker had had the greatest encouragement in the use of radium, especially in lupoid and small malignant cases. His experience was that epithelioma of the mouth was not very amenable to radium, and radium treatment was not to be encouraged in such cases so much as in other cases which Dr. Deane Butcher had truly shown to be treatable and curable.

DR. WILLIAM HILL (St. Mary's Hospital) had had the co-operation of Dr. Finzi in 30 cases of malignant disease of various kinds and in various situations in nose, throat, and gullet; and though radium applications were uncertain in their effects, like most therapeutic procedures, yet he could testify to the immense benefit in a large proportion of 21 cases of malignant disease of the oesophagus. The results had been recorded in detail before the Medical Society of London in February of the present year, and at that date in 3 cases there had been a temporary local surface disappearance of the growth for many months. Two of these, however, had since relapsed, and one of the two had died. The third case was still free from evidence of recurrence, and nine months had elapsed since the last application of the radium salt. Seven cases showed very

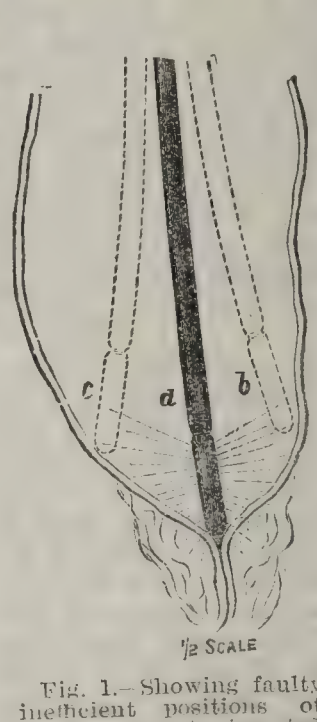

Fig. 1.—Showing faulty inefficient positions of radium apparatus inserted blindly without endoscopic bougie.

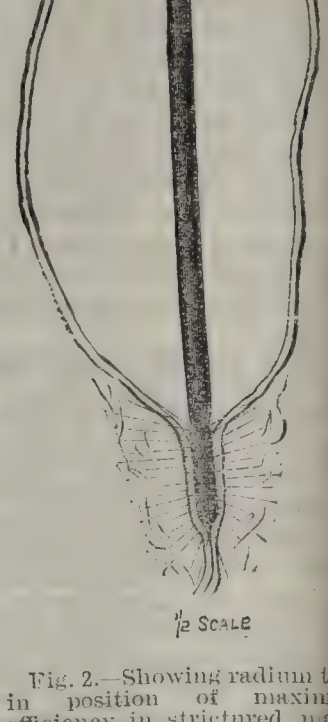

Fig. 2.—Showing radium tube in position of maximum efficiency in strictured malignant gullet.

remarkable temporary improvement in subjective symptoms and objective signs, 7 others very substantial temporary improvement, and 4 were unrelieved. Since February they had continued the treatment in some of these cases, and also in some fresh ones, and they had a curious run of three unsatisfactory applications, in which the patient was apparently rather worse than better for the treatment. This series of unfortunate results was coincident with the employment of an increased weight-dose and an increased time-dose (twenty to thirty hours) without any marked increase in the screen-dose, and perhaps they had overdone the time-dose for the gullet. There was one dosal factor which had not been sufficiently emphasized and on which the speaker, for one, was in need of further information. In ordering a bottle of medicine it was customary not only to prescribe the amount of the dru the amount of dilution, and the time at which it should be taken, but also to specify when the medicine should be repeated. Dr. Finzi, following Dominici, gave a large weight-dose of radium so for the maximum time-dose in conjunction with an appropriate screen-dose. The large, prolonged, and continuous application having been made, nothing further was done for five or six weeks, until after the primary and secondary reactions had passed off. The application in the cases of which he had been speaking had been made through the oesophagoscope, and the radium apparatus had been retained from ten to twenty-eight hours at a stretch in the gullet. The amount used had varied from 50 to 205 mg., and the screening in the latter applications had varied from 1½ to 2½ mm. of platinum

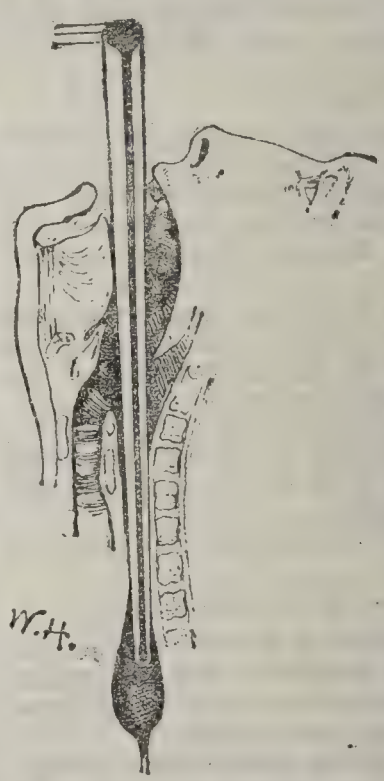

Fig. 3.—Hill's Slotted Oesophagoscopic Funnel in dilatation above malignant stricture preparatory to dilating lumen of stricture by graduated œsophagoscopic bougieing and application of radium apparatus.

Most of the patients had had several applications, so that the total number of hours in individual cases had varied from 20 or 30 to 100, or even 130 in all. This was in addition to more prolonged external applications when the cervical gullet was involved. Guisez of Paris, on the other hand, who had treated a considerable number of cases of gullet cancer, and claimed improvement in all his first 15 cases, adopted quite another time-dose, applying either 50 or 100 mg. of radium bromide in a silver screen ½ mm. thick for four or five hours every two days until twenty-four to thirty hours in all had been totalled. The speaker wished to know whether there were sound scientific grounds for following the time method of Dominici and Finzi, and what were the disadvantages of the time method of Guisez, and of the absence of method as regarded the time dose which seemed to characterize the practice of the few in this country who had been trying radium, mostly in small quantities. In conclusion, he could say unhesitatingly that though the action of radium salts in cancer was uncertain and often disappointing, possibly because of faulty technique, yet the proportion of cases in which it caused marked temporary diminution of the growth in size as well as a palliation of symptoms was sufficiently substantial to induce him to advise beginners not to be discouraged from further trial by a sequence of three or four failures.

Mr. Colin Campbell (Southport) thought that Dr. Hill's insistence upon the measurement of the radium dose was particularly fortunate at that hour of the discussion, for so many references had been made to radium bromide and sulphate that it would be well to have some guiding principles laid down. The speaker had been working with radium since it first became available nine years ago, and had two small amounts, one of 5 mg. and the other of 1 mg. of pure radium bromide. The duration of application was an important factor. He had known a case in which the difference between thirty-five minutes and fifty minutes for the radium tube to be placed up the nose in the treatment of tuberculous ulcer of the septum was sufficient to give rise after the longer application to a radium ulcer which took three months to heal. It was very necessary to give a prolonged dose in applying pure radium bromide, and a neglect of this rule might result in a serious lesion. His own maximum dose for mucous membranes was thirty-five minutes. With regard to the efficacy of the drug, a great many cases of nasal and buccal ulceration, especially when tuberculous ulcers occurred in the region of the mouth, showed most satisfactory results, especially in the extraordinary amelioration of pain. He had also found remarkable results in the treatment of pruritus ani. One patient suffering from this condition was practically in agony. Everything had been done for him that seemed possible, and it was suggested that a red-hot poker would be the only really efficient cure. Applications of radium were given every day to each of the deep fissures in turn, and in the course of twelve days the itching was entirely checked. It was relieved within about ten minutes of the application.

Dr. J. A. Codd (Wolverhampton) asked whether the hæmostatic action of radium was immediate. From what Mr. Deane Butcher had said he imagined that it was. The cancerous haemorrhagic growth was punctured with a trocar, whereupon blood gushed out and the radium tube was inserted in, apparently with the result that the haemorrhage immediately ceased. He scarcely expected that the result could be so immediate. Dr. Butcher had further said that a filter, of course, did not increase the penetration, but the speaker understood that it did increase the efficiency of the radium in the respect that, if sufficient filtration were used, any amount of the energy which was at their disposal might be brought into play. He took it that there was no limit to the penetration of radium so far as the thickness of the body was concerned, and that if a radium tube were placed on the thickest part of the body and a screen were placed on the other side, the radium would penetrate as far as the screen. The gamma rays would penetrate the whole body without suffering any appreciable diminution, so that any growth, however thick it might be, was capable of being reached—at any rate with the gamma rays, which were the therapeutic agents. By using as much filtration as necessary and as much radium behind it, the penetration could be complete enough for curative purposes, and the injury done by the soft beta rays could be eliminated by sufficient filtering. It would be well to know if there were any remedy for the involvement of bone, cartilage, and the orbit in rodent ulcer, of which Dr. Sequeira had spoken as offering an obstacle to radium-therapy. In one case particularly—he was not now speaking of radium, but of the *x* rays—of intractable rodent ulcer of the nose, he could not get granulation tissue to form on the cartilage. The rodent ulcer, indeed, was eliminated, but the therapeutic effect desired was not obtained. The reason might have been that granulation tissue would not form over cartilage. Was there any remedy other than the removal of the cartilage or scraping for the inertia which prevented the complete cure?

Dr. C. Fred. Bailey (Brighton), speaking as one who was able to take up a somewhat detached point of view with regard to radium-therapy, said that he had been inclined to examine one agent against another—radium against the *x* rays, against freezing with carbon dioxide, and so forth. He had found radium an advantage in dealing with small rodents, and in other cases a combined radium and *x*-ray treatment had proved successful. The treatment of malignant disease was often very disappointing. Two years ago a patient whose breast had been removed had three or four nodules form around the scar. Radium was applied to the nodules and *x* rays to the general surface and to the supraclavicular region. The nodules disappeared after the radium treatment, and the masses which had formed above the clavicle practically disappeared also. After a time the patient came again with fresh nodules, and from what one had heard this kind of recurrence might be expected in one's cases. It might be possible to go for a considerable time before malignant disease reasserted itself, but one could never prevent recurrences deeply in the chest.

Professor Coleridge Farr (University of New Zealand) said that it should be borne in mind that radium with a filter was quite a different agent from radium without a filter. With a thick filter all the rays were absorbed with the exception of the gamma; with a thin screen the alpha rays only were absorbed, and without a screen one had the alpha, beta, and gamma radiation. He pointed out that there were several other radio-active bodies—actinium and radium D, for example. Would it be worth while to develop these therapeutically?

Reply.

Mr. Deane Butcher, in replying on the discussion, said that he had been very pleased to tap so much information as the discussion had elicited. He had no doubt that radium was useful for deep cancer, but he had not seen a case which was completely satisfactory. He did not doubt that even a small amount of either Roentgen or radium treatment would enormously increase the comfort of the patient. Immediate and permanent cure seemed almost too much to hope for. As to filtration, while not depreciating its value, it appeared to him an advantage rather to open the body surgically and to introduce the radio-active source nearer to the focus of the disease than to depend upon the less certain mediation of the filter. The question of the haemostatic action of radium when thus introduced into the tissues had been raised. The procedure was to draw out the trocar and to put the celluloid tube in its place. The celluloid tube might be taken out afterwards with perfect safety, but the haemostatic action did require a certain amount of time to assert itself, as had been suggested. He was delighted to hear a mention of the relief of itching as one of the extraordinary powers possessed by radium; itching was a condition which radium could relieve in any situation. He thought they would in the future hear more of the very small doses of radium, either by emanation or tube, which exerted what he might call, perhaps vaguely, a vaccination effect. He could not answer the question as to the relief of rodent ulcer affecting bone. There was nothing for it, he was afraid, but surgical intervention.

THE ACTION OF FILTERED RADIUM RAYS WHEN APPLIED DIRECTLY TO THE BRAIN.

BY

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AND

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DANYSZ[1] was apparently the first to investigate the action of radium on the brain and spinal cord. He found haemorrhages in the central nervous system without any changes in the nerve cells.

Heinecke[2] found deep haemorrhagic softening spreading from the spot at which the radium tube had been applied.

Scholz,[3] experimenting on young rabbits and mice, found marked injection of the meninges, but made no microscopical examination.

Obersteiner,[4] also experimenting with mice, made very careful histological examinations. He found small and large haemorrhages in the cerebrum, cerebellum, and medulla; also under and in the meninges. Several times also he saw round-cell infiltrations of the meninges which went along the vessels into the brain. The nerve cells were for the most part unaltered, but in the anterior horn cells of the spinal cord the granules were in several cases big, serrated, and stellate. (The spinal cord was exposed to the radiations.) He also describes enlargement of the Holmgren canals, and in places there were cells which were much altered, vacuolated, and torn—he suggests from excessive enlargement of these canals. The nerve fibres were fairly normal, but Marchi staining showed more black dots in the cord than normal. In a few brains the endothelium showed fat granules to a marked degree. The blood contained round cells with fat granules.

All these used unfiltered rays and enormous doses, and as they all experimented on small animals the proportionate size of the radium tube to the brain was very large. All were external applications, except that Danysz introduced tubes under the skin of the back against the spinal column. Alquier and Faure-Beaulieu,[5] however, though still applying the radium externally, used a filter of $\frac{1}{10}$ mm. lead to the brain, and gave therapeutic doses in two cases to rabbits' brains and to the spinal cord of a third, using $\frac{2}{10}$ mm. lead. The only lesions noticed are little haemorrhages about the size of a nerve cell, some under the pia mater, and others in the grey substance. Neuroglia and nerve cells were unaltered. They also gave a toxic dose to a fourth rabbit. With the toxic dose the haemorrhages were larger.

As in all these cases the rays have been unfiltered or only very slightly filtered, they must be considered as belonging to a different class from our experiments, quite apart from the fact that in none was the application made directly to the brain.

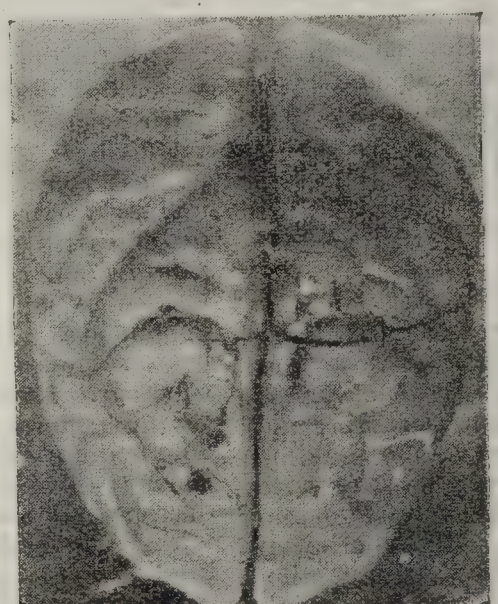

Fig. 1.—Photograph of the brain of the monkey in the third experiment. The tubes have acted on both sides on the precentral and post-central gyri, and also on the left occipital lobe. It is seen that very little effect has been produced on the surface of the brain.

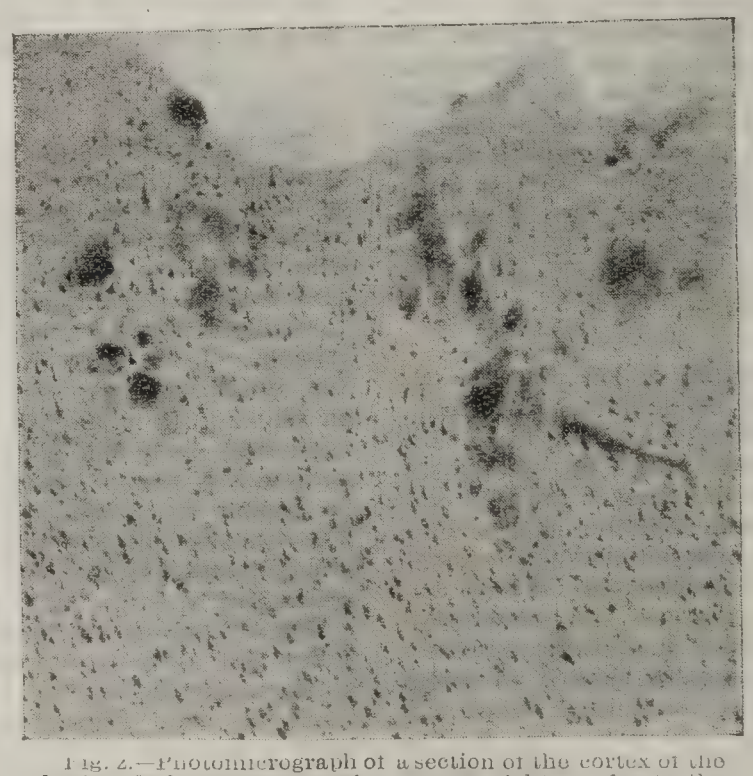

Fig. 2.—Photomicrograph of a section of the cortex of the brain of the second monkey cut at right angles to the surface showing the haemorrhages. It will be noticed that the nerve cells show up very strongly on account of the hyperchromatosis.

Method of the Research Recorded.

We used a platinum tube 0.5 mm. thick containing th equivalent of 55 mg. of radium bromide—on Rutherford' standard the amount of pure metallic radium was 27.7 mg The tube was used in a rubber case 1 mm. thick.

The rays were thus filtered through 0.5 mm. platinum an 1 mm. rubber, the latter probably absorbing all the secondar radiation from the platinum. The rays escaping would there fore be a mixture of penetrating beta rays and of gamma rays A flap having been turned down, a monkey's skull was trephine and sufficient bone removed to allow free access to the pre central and post-central gyri, which were then exposed b turning down a small flap of the dura mater. The radium tub was then gently laid, encased as described, on the pre-centra and post-central gyri, and left on for two and a half hours i each of two experiments, during which time the animal wa carefully anaesthetized.

In a third experiment the same tube wa applied on the right side for nearly fou hours, while a tube containing the equiva lent of 100 mg. of radium bromide wa applied to the left side for the same time and in a further experiment six week later, on this same animal, for three and half hours to the occipital lobe, unde anaesthetic as before.

The first two animals were killed on th thirty-first and twenty-sixth days respe tively, and the third on the forty-fifth da from the first experiment and the si teenth from the second experiment.

None of the animals showed the slighte symptom. There was no disturbance the arm movement, and the right sid was used as readily as the left, and th notwithstanding the fact that the thin monkey received on the left side of h brain a dose four times as great as the fu dose that could be applied to the sk without damage.

The treated areas were stimulated wi faradic electricity immediately after th application, when the movements corr sponding to the stimulated area were fou normal; these areas were again stimulate before the animal was killed, when each case a region was found in which reaction to stimulation occurred.

It was found on opening the skull th there was a distinct whitened area whic was slightly adherent to the dura mater where the radiu had been applied, and it was this area which was non-excitabl

Results.

The changes found were as follows:

(*a*) *Meninges.*

The pia mater and arac noid are infiltrated wi erythrocytes and very fe leucocytes. Leptomening are greatly thickened wi young fibrous tissue extendi into the sulci and the corte by thickening of the walls the perivascular lymphatic This fibrous tissue is o viously much younger in t animal killed on the twent sixth day, and in this ca there are numerous sm plasma cells and more leuc cytes.

The first animal sho marked endothelial prolife tion of the walls of the blo vessels; in some places pra tically occluding the lume and some of the arterio show thickening of the wal which have a slightly hyali appearance. In the seco animal these changes a absent. Further, in the fi animal is shown every sta of intravital coagulation, while in the second the vess are empty, and there is no evidence of such clotting.

(*b*) *Cortex Cerebri.*

The punctiform haemorrhages described by seve

authors we have ourselves seen. In the first animal they occur in the first two layers of the cortex, but in the second they are seen to extend as deeply as the fifth layer. The haemorrhages are smaller and less numerous in the first animal. These extravasations can be seen to consist of collections of erythrocytes which have passed into the perivascular lymphatics, distending these completely, and the corpuscular extravasation frequently extends into the surrounding neuroglia. They are determined in shape by the outline of the perivascular lymphatic they fill. The haemorrhages can just be detected by the naked eye, and they are numerous but confined to a few of the vessels. In the first animal, but not in the second, there also occur at rare points in the gyrus precentralis, near the free surface, and either at the junction of the first and second layers or in the second layer of the cortex, small collections of leucocytes, chiefly polymorphic. They are not present in situations in which there are erythrocytic exudations, and they appear also to be independent of the thrombotic areas about to be described.

These thrombotic areas are best seen in animal No. 1. The affected cortex shows very strikingly areas of thrombosis of pial vessels; they are wedge-shaped, with the apex in the lowest cell-layer of the cortex, their breadth being about a quarter the depth of the cortex. The neuroglial substance within the area affected is vacuolated, the nerve cells have for the most part disappeared, or where preserved exhibit marked chromatolysis. The changes in the vessel walls in the small venules and arterioles in these areas are as follows:

1. Shrinking and disappearance of the lumen.
2. Disappearance of nuclei of the cells of the vessel wall.
3. An appearance of fusion of the endothelial cells.
4. Remnants of erythrocytes in the obliterated lumen.

As regards the nerve tissues, no discoverable change was present in either nerve cells or neuroglia, except in regions where haemorrhages or thromboses have occurred—that is in the first two or three layers of the cortex. The changes in the thrombotic areas have just been described. In the areas in which haemorrhages occur, the cells even at some distance from the extravasations are in a state of hyperchromatosis—that is, they stain more intensely and their chromatic granules are diffuse. In some cases the nuclear bodies are undoubtedly somewhat shrunken. There is no displacement of the nucleus and the number of cells does not seem to be lessened. This change in the nerve cells occurs throughout the whole area of cortex in which haemorrhages are distributed, and is not more intense here to any given haemorrhage. It is interesting to note that where the leucocytic infiltration occurs the nerve cells present no changes. These changes were not seen in the second animal.

Animal No. 2 was examined for degenerated nerve fibres. In the cerebrum are seen degenerated axones, fine and coarse, proceeding from the region of the haemorrhages. The fine are scattered and distributed to neighbouring gyri, but they do not go round more than one gyrus.

In the pons are seen a few degenerated fibres in the raphé and on the side of the lesion. It must be noted that animal No. 1 was killed at a later stage than animal No. 2, and possibly if No. 2 had been killed a few days later, some of the changes seen in No. 1 might have been developed.

Conclusion.

It will be seen from the foregoing observations that radium rays from which the less penetrating beta rays have been filtered off, and employed as in a strictly clinical procedure, exert no influence, discoverable by present methods, on the nerve tissues, but do cause notable changes in the blood vessels. This conclusion has an obviously practical bearing on the therapeutical employment of radium.

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[1] Physz, Acad. des Sci., Paris, December 28th, 1903, and January 16th, 1904. [2] Heinecke, *Münch. med. Woch.*, December 1st, and November 31st, 1904. [3] Scholz, *Deut. med. Woch.*, No. 3, 1904. [4] Steiner. *Arbeiten aus der neurolog. Institut und der Wiener Hirnstadt*, p. 86, 1905. [5] Alquier, and Faure-Beaulieu, *Nouvelle Iconographie de la Salpêtrière*, xxii, 109, 1909.

DISCUSSION.

Professor Coleridge Farr (Chair of Physics, University of New Zealand) described the aëration system of water supply, obtained at various depths from 80 to 700 or 800 ft. below the ground, which was used in his colony. Like all spring water, it was radio-active, and contained radium emanation, a gas which physically was about one hundred thousand times more active than radium but otherwise was much the same as that substance, and gave off alpha rays. Having discovered that this aërated water contained radium emanation, they endeavoured to find out whether this property had any effect upon the people who drank it. A great many trout were hatched for sporting purposes in the radio-active waters, and a careful investigation of these fish showed that if the trout were confined near the outflow of the well where the water could not become aërated, they died in considerable numbers. The death-rate of the trout was 80 or 90 per cent. within a week. The fish that survived developed a protruding eye which the fisher people called "pop-eye," and both the high death-rate and the appearance of "pop-eye" disappeared when the water became aërated. These effects had been put down to the excess of ordinary gas in the water. The water contained excessive nitrogen, defective oxygen, and the radium emanation. There were practically no other gases. Other troubles took place in connexion with the hatching of trout. Trout eggs were placed in a series of boxes and the water allowed to trickle over them. It was found that the egg life died more readily in the upper layers of the boxes. In addition to this, a disease appeared among the young of the trout hatched under such circumstances which the trout people called "blue swelling." It was a development of the yolk sac in the form of a blue appendage filled with liquid, not gas. This also occurred more frequently among the trout which were hatched in the upper layer of boxes than among the others. By means of experiments carried out in two wells having identical gas contents, a slight excess of nitrogen in both, but with the radium emanation much more pronounced in one than in the other, he concluded that the last two troubles—the wastage of egg-life and the "blue swelling"—developed in consequence of radium emanation in the water. This was more likely than that excess of nitrogen should be the cause of it. A greater number of eggs failed to hatch, and a greater number of young trout had "blue swelling" in the case of the water which had the excess of radium emanation. The high death-rate of the developed trout and the "pop eye" were generally thought to be due to the excess of nitrogen.

Dr. F. Hernaman-Johnson (Bishop Auckland) asked whether it was generally known that it was possible to take radiographs in some forms of spring-water. He began his experiments in radio-active water with the water of the sea. The effect of sea-water on skin diseases was very much like that of weak radium emanation, and he thought it probable that the action of sea-water in this respect was due to some dissolved radium emanation. A series of experiments with photographic plates had resulted in obtaining what Dr. Lazarus-Barlow called "skotographic effects," but the speaker had found that deep spring water gave similar results. The physiological effects of sea-water were stated by the French school to be very similar to those obtained with radium emanation, and the results at least made it clear that fresh sea-water was very beneficial therapeutically. Spring water possibly had the same action.

Mr. Deane Butcher (London Skin Hospital) said that the experiments detailed in the paper were all the more interesting because of their rarity in England. Further investigation in this direction was badly needed. Perhaps the paper would have been more appropriately read before the Physiological Section than before their own, but a point of considerable importance therapeutically, and one on which he desired to ask Dr. Finzi a question, had reference to the new procedure of embedding a tube in the substance of the tumour. What were the results of such a method? Was not the result one more particularly on the vascular rather than on the nervous system? It seemed to the speaker that even more useful information would be obtained if these experiments were carried out on other systems than the nervous system, as the nerve tissues were comparatively immune to *x* rays and to radium, whereas the blood vessels were acted upon in a

very singular manner. He wished to know whether the main impact of the radium was on the cells, the fibres, the nerve tissues, or the blood vessels, and he looked forward to much more experimental work of the kind, both with *x* rays and with radium.

REPLY.

Dr. FINZI, in reply, said that the tubes were not embedded in the brain: they were laid gently on the surface. The experimenters were very careful not to get any trauma, because it would have interfered with the subsequent results. As to the impact of the rays, he could only say that the rays were penetrating ones, and probably deluged equally the whole of the nerve fibres and vessels near to them. The fact that the injuries were chiefly in the vessels showed a selective action of the radium rays upon them.

THE DIATHERMIC TREATMENT OF CIRCULATORY DISORDERS.

By Dr. FRANZ NAGELSCHMIDT,
Berlin.

(Abstract.)

AFTER a brief reference to ordinary high frequency, and to the fact that the now familiar diathermy apparatus enabled the therapeutist to use twenty or thirty times the amount of energy which was at his disposal in the d'Arsonval machine, Dr. Nagelschmidt laid stress upon certain laws a knowledge of which was necessary to the understanding of the action of these currents.

1. High frequency currents go straight through the human body by the shortest way, and permeate with nearly equal intensity the whole mass of organic tissue lying between the two electrodes.

2. The different resistance of the various organs of the human body to high frequency is nearly negligible clinically, and, most important of all, there is no entering resistance of the skin.

3. The high frequency currents find their way through the human body most easily where the resistance is lowest, and as the red corpuscles show the best conductivity, a most marked action is to be noted on these and on the blood channels.

4. Different actions could be produced by the diathermic currents depending on the mode of application. The blood pressure in the whole body could be raised by strengthening the action of the heart, or by superficially irritating the skin; or reduced by dilating the peripheral blood vessels, or by acting over certain parts of the medulla oblongata.

Diathermy, Dr. Nagelschmidt continued, was perhaps the most potent means of influencing the general and local circulation. It enabled one to introduce anywhere on the surface or to any depth of the organism a quite definite amount of energy. There was no loss by absorption and no spreading out of the action beyond the limits they desired to influence. The therapeutic effects, moreover, could be modulated according to the situation and the special condition of the troubled area.

He proceeded to bring forward the history of a number of cases, devoting attention to the important troubles of the circulatory system, especially the functional disorders producing an impaired circulation. He began with the so-called *état préscléreux* of the French writers, in which the diathermic treatment had been able to reduce the pressure of the blood in a remarkable manner. Differences were found in some cases up to 100 mm. of mercury, and the effect persisted for months and years, sometimes after only a few applications, and others after prolonged treatment. The histories of a number of cases of arteriosclerosis were then given, together with an even larger number of angina pectoris. A typical case may be cited:

Dr. P., a country practitioner, was in the habit of making his rounds on a bicycle. After several months of severe work he suddenly noticed symptoms of heart failure. The pulse was sometimes full and hard, sometimes like a thread. He had a painful sensation of pressure in the chest, extending down to the left arm, as well as a general feeling of weakness and a fea that sometimes the heart would stop beating. Diathermi sittings were given on January 3rd, 5th, 9th, 10th, and 17t After the first two sittings the feeling of depression disappeare and after the fifth sitting the treatment was stopped, as th patient was quite free from any trouble. Six months later H was still quite well and off for a holiday, and in a letter o July 15th from Gastein he wrote, "I feel absolutely well, an am able to make mountain ascents of from four to six hour duration without fatigue."

It was remarkable to see how patients in a very grav condition recovered immediately under the influence diathermy. In a few seconds or minutes the depressio pain, and restlessness ceased.

Dr. Nagelschmidt then turned to the regulating effect diathermic currents in peripheral and circumscribed case citing as instances in point the relief in a case of diabet ulcer and another of obliterating sclerosis, with danger imminent gangrene. He admitted, however, that th effects were not durable in all cases, as, for example, whe severe anatomical changes had taken place. The existen of an aneurysm of the aorta led to a bad prognosis. Th could alleviate the patient's sufferings, but soon aft stopping treatment the pains recurred. If no prom therapeutic success followed in a case of angina pecto they might always expect in the background an aneurys a grave myocarditis, or something allied to it. There we certain rules necessary to be observed in order to obta results. The first of these was to diagnose carefully a to consider the state of the patient's blood pressure, a the second was to remember that diathermic treatme had only a local action, and that no therapeutic effe would be obtained if the electrodes were not applied to t right place. Further, they must know the dose which th patient needed and could support, for a dose which w too small would sometimes not act at all, and sometim it would have the opposite effect from that desired. A t strong dose, on the other hand, might be detrimental.

The effect on the circulation, he said in conclusion, w not the only one which diathermic or high frequen currents produced, but he had wished to limit himself that occasion to discussing the most important and prom action it possessed on circulatory disorders, as it enabl them to assist quickly and efficaciously many patie whom up to the present they had been able to help h little.

DISCUSSION.

Mr. J. HALL-EDWARDS (Birmingham) said that th could not expect much of a discussion on the subject the paper because only two or three of these instrume were in use in this country. Of one of these the speak was the possessor. He purchased it when he saw it Paris because he was convinced that it was one of the m scientific instruments he had ever seen. Dr. Nagelschm that morning had only told them a portion of the sto for the instrument had surgical as well as medical appli tions, but of these they had already heard in London, Dr. Nagelschmidt having read a paper on the subject bef the Electro-Therapeutical Section of the Royal Society Medicine in October, 1910. It was the speaker's exp rience that the surgeons were afraid of it, but for medi treatment he had been able to use it extensively during t last six months. He had not used it for the treatment such cases as Dr. Nagelschmidt had dwelt upon, for no had come his way, but in cases of long-standing neural in which almost everything had been tried he had seen give most excellent results. In such cases from one-h to three-quarters of an ampère of current was given. early cases of rheumatoid arthritis also it had been use for stopping pain and for retarding the rate at which t deposits took place. He was rather sorry that Dr. Nag schmidt had used the term "high frequency" at because it was likely to give rise to misunderstandi Ordinary high frequency had its uses, but they were o very limited character, and unfortunately in the early da of high frequency apparatus some gentlemen, carried aw by enthusiasm, made statements which were not tr He would suggest to Dr. Nagelschmidt that he delete term "high frequency" and use that of "diatherm The former was not a term that appealed to him fro scientific point of view, still less from the point of view treatment.

THE "X"-RAY TREATMENT OF MALIGNANT DISEASE.

By Edward Reginald Morton, M.D., F.R.C.S.Edin.,
Physician-in-Charge, X-ray Department, West London Hospital.

EVERY new form of treatment has to go through certain phases, which may be likened unto the diseases of childhood. At first it suffers from its friends, whose enthusiasm causes them to make extravagant claims on its behalf: then its enemies, among whom will be found some of its former friends, have a turn, and the pendulum swings more or less smartly to the other side. Later on, when both camps have had time to consider their position, we arrive at some resemblance to the truth. Many of us here can remember all these stages in the matter of the *x*-ray treatment of malignant disease; those who do not can recall similar conditions regarding radium, sour milk, vaccines, and "606"; these are at present going through their infantile complaints.

As it is now several years since the "slump" in *x*-ray treatment took place, the present would appear to be a very suitable time to take stock of our position, as no doubt many of us here have continued our work in this line of research irrespective of the opinion of others regarding the real value of the method as a therapeutic measure.

Among the points that I wish to raise is that of how far beneath the surface *x*-ray treatment can be or is effective. In my own opinion, it is only those rays that are stopped by the tissues and absorbed that can have any effect. Those rays that pass right through the patient, as in a screen examination, have no influence. Though a large number of rays are absorbed under such conditions, they are naturally not the ones that produce the image on the screen. I am aware that some observers maintain that even those rays that pass through the part have some influence, and if there are any here who hold that view, we must we may hear their reasons for this.

With any *x*-ray tube of medium hardness rays of many degrees of penetrability are given off; the more easily absorbed are the most active, and exert their action upon the more superficial tissues. The more penetrating rays are absorbed at a depth depending upon their penetrating power, but apparently the therapeutic value of a pencil of rays falls very rapidly as the penetrability increases. So much is this the case that I have come to the conclusion that such rays as are not absorbed by the first inch of tissue have so little therapeutic action as to be unworthy of serious consideration.

Mentioning this to a colleague recently, I was asked how I accounted for the effect upon the spleen in leukæmia. In this disease we influence the spleen more or less indirectly; and it makes little difference where we apply the rays, since their action is exerted upon the blood itself as it flows through the cutaneous capillaries.

Just now it seems very important that we should come to some general understanding as to how far beneath the surface we can expect to produce results such as we require in the treatment of malignant disease.

During the early days of *x*-ray treatment we were much hampered by the onset of a superficial dermatitis which necessitated the suspension of our efforts for a time. Hence arose the practice of placing some material between the tube and the skin which would absorb those rays chiefly responsible for the dermatitis. There is little doubt that the introduction of the *x*-ray filter strengthened the position of radio-therapeutics in a great measure.

The filters may be roughly divided into two main groups—metallic and non-metallic. At first they were practically all non-metallic, such as leather, tungstated lint, wash-leather, among others.

Before these gave very excellent results, there arose a demand for something rather more accurate, to meet which sheets of metal, chiefly aluminium, were introduced. Given that metallic sheets of any kind and thickness could readily obtainable almost anywhere gained for them an immediate popularity. This brings me to the next point I wish to raise—the relative value of non-metallic and metallic filters for use in the particular class of work we are now discussing.

It is somewhat difficult to get filters of different thicknesses so adjusted as to have the same power of stopping the output from the *x*-ray tube, but with the aid of the fluorescent screen we can get a fair degree of accuracy. When metallic screens were first suggested I selected sheets of aluminium of what appeared to be a proper thickness to correspond with the filters of tungstated lint I had been using. I almost invariably found that it was more difficult to keep back the superficial dermatitis when using the metallic filters. I presume this was due to the secondary radiation from the metal in the manner described by Sir J. J. Thomson in this Section last year. On this account I have discarded the metallic filters for this class of work, or if I do use one, there is always a layer of tungstated lint placed between the metal filter and the skin. I am safe in saying that my results have been better since I went back to the use of the non-metallic filter.

The next point I wish to raise is that of the relative value of massive and fractional doses, given at long and short intervals respectively. Here my experience has been a repetition of that with the filters. When more or less satisfactory methods were introduced of measuring *x*-ray doses, the best of which still leave very much to be desired, I experimented with massive doses given at intervals of from one to two weeks. So far as I can make out the dose varied from one-half to two-thirds of the epilation dose. This method was found to be distinctly retrograde, and I have returned to the system of giving smaller doses at frequent intervals, always through a filter and as much as the skin will stand without showing more than a mild hyperæmia.

I do not think there are any other details of technique that require discussion just at present. So far as I can make out, the condition of the tube and its distance from the skin are very generally agreed upon. My own practice may be summarized in this way: I use an "elderly" and well-seasoned tube having a water-cooled anticathode and a resistance equivalent to a 5 in. spark-gap or thereabouts. The distance from the anticathode to the skin is 9 in. and over the latter are placed two layers of the tungstated lint. The current through the tube varies from 1.5 to 2.0 ma., time of exposure ten to fifteen minutes, and this is repeated three times a week so long as the condition of the superficial tissues permits.

Under these conditions I find that I can carry on treatment almost indefinitely, just keeping short of any active dermatitis. The relief of pain is, as a rule, very prompt, and provided the case is one that is amenable to this form of treatment, I get the best results.

Just here I would like to ask if any one here has any explanation to offer as to why we so often get such contradictory results when dealing with what appear to be more or less exactly similar cases. At one time I had under treatment simultaneously two cases of round-cell sarcoma which were almost identical except that one was on the scalp and the other on the upper arm. They were treated with the same apparatus and in exactly the same way. The scalp tumour melted away almost as if by magic; the other was scarcely, if at all, affected and ended fatally in a very few months, chiefly the result of dissemination. This is the most striking instance in my experience, since the two cases were under treatment at the same time, but like most others who have had a considerable experience, I can recall instances where treatment has not been followed by results one was entitled to expect.

This failure to bring about consistent results is not peculiar to the *x* ray; it applies to all remedies more or less, but the clear recognition of this fact will make us careful. It also shows the advisability of recommending a trial course of treatment in almost all cases. It is impossible to predict what is going to happen in any given case, and for this reason I always advise a trial course of treatment—not less than six applications on alternate days (but preferably ten or twelve)—and note carefully any changes that have taken place. If this is favourable, we have every reason for continuing. The highly satisfactory way in which pain is relieved, when present, is ample justification for this procedure. At the present time, and rightly so, there is a very strong prejudice against the production of any actual *x*-ray dermatitis, and this is an accident all radiologists try to avoid. Looking back over the large number of cases I treated in the days before the introduction of filters, and when we did not mind the occurrence of a lively dermatitis so much as we do now, I have been struck with the very favourable turn taken by

cases that had been more or less severely burnt, as we would describe it now; in fact, the case which was the most successful of all that I have treated from the commencement of my work in radiology was one that developed a very severe dermatitis as a result of several massive doses administered at short intervals. It was more nearly a cure than any I have ever done. This and others pointing the same way make me ask the question whether it may not be a good thing in some cases to carry our irradiation to the extent of producing a sharp dermatitis, not for its own sake, but for the sake of the intense irradiation that produces it. It must be remembered that the patient whose surgeon has declared to be suffering from inoperable malignant disease is in a very desperate position, and a dermatitis would not be the worse of the two alternatives. I cannot help thinking that this is a point which might be profitably considered.

There are other points bearing on matters of technique that might be raised, but time does not permit of their being considered on this occasion. Among such facts about the present position of the *x*-ray treatment of malignant disease as we can be more or less sure of are: the *x* rays have a definite inhibitory action upon the growth of all cellular, living animal tissues when applied strongly and for a sufficient time, and under favourable conditions will bring about their destruction and removal; this does not take place to any appreciable extent after the rays have traversed a certain thickness of tissue, which is about half an inch.

Cancerous and other diseased cells, having a lower vitality than normal cells, are more easily destroyed than the latter, and we can affect them at a greater depth.

I may say here that I do not believe in what some enthusiasts are pleased to refer to as "selective action." The lower vitality of the diseased cell is ample to account for what takes place, and there is no need to strain our imaginations in the effort to attribute to a purely physical force a faculty more or less confined to sentient beings.

The prospect of bringing about a definitely favourable influence upon any particular case is very much a question of the thickness of the growth. If more than half an inch and advancing, *x*-ray treatment is not likely to do very much real good. It is this difficulty of efficiently acting upon the advancing margin of a malignant growth that prevents our efforts being more successful than they are.

The small lymphoid nodules so frequently found near the scar following an operation for cancer can be made to disappear very rapidly as a rule; I am aware that many of these tend to disappear spontaneously, but not in the wholesale fashion that frequently follows efficient irradiation.

The relief of pain, when present, is one of the most constant and satisfactory features about this method, and we can claim in addition that the great majority of the cases that come to us are definitely improved, locally and generally, for a time at least. In the present unsatisfactory state of our knowledge regarding the real nature and cure of malignant disease, these considerations amply justify the employment of the method to an even greater extent than it is employed at present.

While we have reason to be pleased with what we are able to do to help this unfortunate class of patient, it falls very far short of what we should like to do for them, and the question arises in my mind, Is it not possible to do more than we have been doing? I firmly believe that we can do more for them, but it will necessitate a closer co-operation between the surgeon and the radiologist than has existed up to the present.

Post-operative *x*-ray treatment is not so general as it should be, and, in addition, there is a tendency to wait too long before instituting it, even until there are definite signs of recurrence, which is not the best time. In operable cases I consider that the site of the growth should receive a full dose of *x* rays before the wound is closed, the latter being held as wide open as possible. With modern apparatus this can be given in five minutes, if necessary, and there is no serious objection to this being done. This should do much to destroy any stray cancer cells that have escaped removal, and thus diminish the percentage of recurrences. As soon as the patient can bear it, post-operative treatment should be commenced, and at least twelve applications given on alternate days. After a month or six weeks a second course should be given, to be followed by a third after a second interval of two o three months.

One of the weakest points about the treatment c malignant disease by the *x* rays or any other form c radiation is that it gives us no control over metastasis. I is the object of the procedure I have advised to make som effort to deal with this contingency.

Probably the cases we have most to deal with are thos that have been sent to us as inoperable, either from th site of the growth or on account of its extent. In pract cally all of these cases there is not very much of a rea and lasting good that we can do. We can improve th general and local condition for a time, but in practicall all of them dissemination sets in, sooner or later, when th end is not far off.

Here, again, it is the lack of any control over metastas that ultimately defeats our best efforts, and it is th thickness of the growth itself that prevents our treatmen reaching the part that really matters, the advancin margin.

In a large number of cases that have come under m care, the conditions have been such that it was possible t remove a large amount of the more superficial part of th growth, and had this been done as a preliminary t vigorous *x*-ray treatment to the base of the wound I fe confident that the case would have done better. Yet whe I have suggested that this should be tried, the surgeon i question has made a very weak attempt to show that suc a procedure was not possible, the real truth being that h did not want to take further trouble with a case that wa not likely to do well. Granted that the operation woul not be a pleasant one, both at the time and afterwards, th principle is a sound one, and we should not let our ow feelings count in a matter of this kind until the scheme ha been proved futile.

As matters stand at present, I do not see how the *x* ra treatment of malignant disease is going to make an advance unless we can induce surgeons to work mor closely with us in dealing with these cases. We hav shown that we can do a great deal for these patients; firmly believe that we can do a great deal more if surgeon will help us in the way I have indicated. Stated briefl we want surgeons to adopt post-operative *x*-ray treatmen in all cases as a matter of routine, and see that it is don thoroughly; in cases deemed inoperable we want them clear the ground for us, when circumstances permit, so a to give the method, and the patient, every possible chanc A full dose of the *x* rays should be applied to the ope wound at every operation for the removal of a malignan growth.

DISCUSSION.

Dr. N. S. FINZI (London) supported Dr. Morton in h plea for co-operation between surgeon and radiologist, an also for earlier and prophylactic treatment with *x* rays a the bases of wounds. Very frequently the radio-ther peutist received his cases when they were in a perfect hopeless stage, and he was not given a fair chance to prov the efficacy of his therapeutical agent. He disagreed wit Dr. Morton, however, in his insistence upon the necessit for the ray to be absorbed in order that it might influenc the cell. The speaker was in the habit of using th gamma rays of radium, which no ordinary cell could sto at all, and yet he saw the most marked effect upon thos cells. To him it appeared quite as easy to understan that the passage of the rays through the cells shou influence them as that the cells should be influenced b the stoppage of the rays within them. The difference the action of the rays on various growths depended to great extent upon the vital reaction of the patient, an this was a point not taken nearly sufficiently into accoun The patient himself had a certain amount of growth destroying power, and it might be that by injuring th growth by *x* rays they increased such power. If, on th other hand, the power was absent, the condition of affai might be likened to that of a negative opsonic index. I agreed with Dr. Morton that in certain cases they shou proceed so far as to get a dermatitis. He looked wi equanimity upon an erythema or even a blistering of th skin if the growth itself was being fundamentally attacke

Professor WERTHEIM SALOMONSON (Amsterdam) had ha good results with the *x* rays in superficial new growth

but his results were very unfortunate if the lesion were deep seated. A fair degree of success had been obtained in tuberculous tumours in the mediastinum, and among the deeper growths sarcoma seemed to be affected nearly as well as carcinoma. But although a good many cases had been treated, he could not boast of the cure of a deep-seated tumour save in two cases of glandular enlargement due to tuberculosis.

Mr. J. Hall-Edwards (Birmingham) said that he had so recently put forward his views on the subject in the Electro-Therapeutical Section of the Royal Society of Medicine, that there was little more for him to add on that occasion. He quite agreed that in some cases it was advisable and even necessary to give a dose which would bring about a dermatitis, but such cases were generally all but hopeless from the first. In early recurrences of carcinoma of the breast the best method of treatment was to give minute doses frequently repeated. The growths could be found to melt away much more frequently after that procedure than after giving half a pastille dose. Only quite recently cases were sent to him in which there seemed to be no hope of doing good, and yet by following that method they had obtained some excellent results in early recurrences during the past twelve months. One case was that of a lady who came to him with a tumour of the face about the size of half an orange, not implicating the skin, and after six weeks' treatment, during which time she received eighteen or twenty small doses, the growth entirely disappeared, and apparently she was perfectly well. He could not say that he had ever seen a cure in malignant disease brought about by *x* rays, but in a large percentage of cases there had been relief. The size of the growth of the tumour could be slackened and the life of the patient made much more comfortable. He could not help thinking that when the general knowledge of the subject was more complete they would be able to bring forward even better results than were possible at the present moment. As to using the rays after operation, he had been following this plan for some twelve months, giving a series of doses of the rays immediately the patient was able to leave his bed. The results so far were satisfactory, but it would be several years before they could speak definitely. Of the sixty cases recorded there had been only one recurrence, but they were all cases in which the recurrences, if they took place at all, would not show rapidly.

Dr. F. Hernaman-Johnson (Bishop Auckland) related particulars of some experiments on plants which had an interest in connexion with Dr. Morton's remark about the contradictory results obtained when dealing with what appeared to be exactly similar cases. The speaker grew some mustard seeds on moist cotton-wool, some of them developing into fine and others into feeble plants. He then discovered that the same *x*-ray dose which would inhibit or have a bad effect upon the feeble plants would either have no effect at all upon the healthy plants, or would stimulate them. He would not like to say that there was any further analogy between plants and tumours, but it was easily thinkable that the same dose of *x* rays which would affect one growth favourably would affect another in the reverse direction.

Mr. Delpratt Harris (Exeter) gave the clinical details of a case of a child, aged 7 or 8 years, who had a round-cell sarcoma of the left cheek. The child did well to a certain extent under gentle *x*-ray treatment, but improvement came to a standstill, and the growth gradually increased. Remembering that some one had said that a jolly good kick will do more for humanity than many "fits of the elbow," he decided to give a massive *x*-ray dose. A screened dose of 18 Sabouraud was given at one sitting, the coil being one of 14 in. and the tube an example of the ordinary self-regenerating variety. The result that followed the first sitting was most pleasing. The growth inside the mouth became much smaller, and the child was able to use his jaws in taking food. Within a month's time another massive dose was given, and after four or five similar efforts it could hardly be said on which side of the child's face the growth had appeared. The case, however, had an unfortunate ending. The child was playing with some companions when somebody smacked him on the tumour side of his face, with the result that a great swelling reappeared, and in the absence of proper care at home—the child's mother was a ne'er-do-well—the child died. The speaker thought that this massive dose of 18 to 20 Sabouraud had a future before it. He had always used aluminium for screens.

Dr. W. Ironside Bruce (Charing Cross Hospital) called in question Dr. Morton's statement that the therapeutic effect of the *x* rays did not proceed beyond the depth of ½ in. below the skin. The treatment of leukaemia, in which there seemed to be an evident action on the spleen, would be difficult to explain on that hypothesis. If this point were dismissed on the ground that the spleen was only influenced indirectly, there still remained such a condition as myoma of the uterus which, it was now generally agreed, could be beneficially treated by means of *x* rays. Certainly the effect in such a case must be produced below ½ in. from the skin. Dr. Morton had raised the question as to whether metallic or non-metallic filters were preferable. The speaker had never taken to metallic filters at all. He had always kept to felt, and, although this had its disadvantages, he did not know that it suffered in any respect by comparison with the metallic filter. Filtration was a matter of very great importance when one considered that the chief disadvantage of the *x* rays in comparison with radium lay in the fact that with the former a smaller dose had to be given. Radium could be applied for a considerable time, whereas the *x* rays could not. Beyond this there was little value to be obtained from radium which could not be equally obtained from the *x* rays, and Sir J. J. Thomson had stated that, with a certain amount of absorption of energy either with the Roentgen rays or the beta rays from radium, the effects produced were very much the same. The speaker had attempted to give longer exposures with the *x* rays than those which were customary, and had even gone up to three hours' exposure without producing any effect upon the skin. He had done this, of course, by increasing the thickness of the filter. The amount of the current employed was from 3 to 5 milliampères, and the only difficulty was in the matter of the tube, which stood the exceptional demand upon it at great cost to itself. But, after all, even if such treatment entailed the loss of the tube, it was an inexpensive method of relieving malignant disease. He thought that metastases might account for *x*-ray failures in a great many cases. He was asked to examine a patient before a scirrhus of the breast was removed because she had a dullness at the base of one lung, and, it was thought, had probably developed a pleurisy. In that particular case he found quite an extensive metastasis in the lungs. Dr. Morton's suggestion of combining *x*-ray treatment with operation was a valuable one, and exposures in such cases should be made while the skin flaps were still open, and a very deep filter should be used and large doses given.

Dr. Maurice R. J. Hayes (Dublin) agreed with Dr. Bruce as to the good results which could be obtained by irradiation of the spleen. He used two Sabouraud doses upon different areas twice a week, and the results were very encouraging. As to malignant disease, his experience of the results produced in recurrent cancers in the supra-clavicular glands had not been very satisfactory. Recurrent sarcoma of the breast was extremely intractable. One case of sarcoma of the breast which had undergone operation, however, was sent to him immediately afterwards for treatment, which was given, and the patient had remained well for the two and a half years which had since elapsed. The courses of post-operative radiation in malignant disease had been pleasing in their results.

Reply.

Dr. Reginald Morton, dealing first with the point raised by Dr. Finzi as to the necessity or otherwise of rays being absorbed by the cells in order to produce benefit, asked whether Dr. Finzi was quite sure that no *x* rays or radium rays were absorbed in the cells which were affected, although the bulk of the radiation passed through the cells and went further on. In his opinion absorption of the ray was necessary in order to produce a therapeutic result. He agreed with Professor Salomonson in saying that the more superficial the growth the more

likely were the *x* rays to do it good. One of the objects of his paper was to encourage surgeons to make these deep-seated cases surgically into superficial ones and let the radio-therapeutist treat them. It was only in really severe cases that he recommended running the gauntlet of dermatitis. The small dose given at frequent intervals was the best under ordinary circumstances. Dr. Delpratt Harris's procedure of giving a dose of 18 Sabouraud at one sitting was rather startling, but he was extremely glad that the results had been so successful. The filter used by the speaker was ordinary lint saturated in a solution of sodium tungstate and dried horizontally so as to prevent the tungstate sinking down to one side. Dr. Bruce had criticized his statement as to the negligible effect of *x* rays at a greater distance than half an inch below the surface of the skin. He was referring, however, to an active influence such as they required to use in order to destroy a cancer cell. After all, it was not yet proved that the *x*-ray effect was a direct one upon uterine myoma. In speaking of the unevenness of results, he was thinking more particularly of the local action. The local growth in one case would be entirely swept away; in another it would be found uninfluenced even to the smallest degree, and yet the treatment would have been carried out under identical conditions. He did not think the outlook with regard to the submaxillary glands was quite so discouraging as had been suggested.

THE TREATMENT OF CERTAIN DISEASES OF THE ALIMENTARY TRACT BY "X" RAYS COMBINED WITH THE INTERNAL ADMINISTRATION OF METALLIC SILVER.

By FRANCIS HERNAMAN-JOHNSON, M.D.Aberd.,
Radiographer to the Bishop Auckland District Hospital, Durham.

THE healing of non-specific skin ulcers, whether they be simple or malignant, can in most cases be brought about by judicious *x*-ray treatment. This is a commonplace of radio-therapeutics; and it would appear at least probable that, could the same measures be effectively applied to the alimentary tract, analogous conditions of the gastric and intestinal mucosa might be similarly benefited. Some years ago I attempted to treat such conditions by simply irradiating the skin area over the supposed site of the lesion by means of a hard tube. The method was admittedly crude and unsatisfactory; rays sufficiently penetrating to reach the diseased area of necessity did not possess much therapeutic activity, and my results were, as might have been expected, variable and inconclusive. To secure a fair prospect of success, it was obviously essential that soft, physiologically potent radiations should be brought to bear on the internal ulcerated surfaces. For a long time this appeared not only impossible, but, failing the introduction of a focus tube into the patient's digestive organs, beyond the range of possibility. It was not till the publication of Sir J. J. Thomson's address to this Section last year that I began to see how the problem might be solved.[1]

The gist of Professor Thomson's remarks was, I may remind you, as follows: When the rays from an ordinary tube are allowed to fall on certain metals, the latter give off what is termed a "secondary *x* radiation." This latter is, in penetrative power, *specific* to the element concerned. It is the same, whatever the quality of the incident ray; but, in order to excite a given metal, rays must be used which are harder than the particular secondary radiation which it is desired to produce. Of the metals mentioned by Sir J. J. Thomson, *silver* was stated to emit rays which, as regards absorption by animal tissues, were practically identical with the beta radiation of radium.

A consideration of the above facts led me to the following conclusion—that if silver, in a suitable form, could be introduced into the alimentary tract and made to cover an area of ulceration, the result of exciting the metal by hard *x* rays projected through the back of the ulcer would be a bombardment of the diseased surface similar in effect to that from a highly active radium salt. The word "bombardment" I use advisedly, for Professor Barkla has shown (Roentgen Society, April 6th) that not only does silver give off an *x* radiation capable of penetrating 1.4 cm. of water before falling to half value, but also corpuscular or particulate rays comparable with those emitted by the radio-active elements.

For the purpose in view, an insoluble, finely-divided preparation of silver was essential. An inspection of the *Pharmacopœia* did not reveal anything suitable, so I obtained some of the metal in a chemically pure precipitated form. Silver so prepared is a dark, amorphous-looking powder, gritty in the mouth, but tasteless. I experimented on myself for a fortnight, taking quantities up to 8 grams (about quarter of an ounce) per day. As no evil result followed I now felt justified in giving it to my patients.

My first case was one of suspected duodenal ulcer; but it is to the apparent cure of a patient suffering from disease of the colon that I will now ask your attention for a few moments.

I first saw this patient, then a youth of 17, in the spring of 1908. He was attacked by diarrhœa, abdominal pains and headache; the pulse was quickened and the temperature somewhat raised. The motions consisted of blood-stained fluid practically devoid of faecal matter; they were, however, foul-smelling in the extreme, and contained numerous shreds of necrosed tissue. More or less tenderness existed over the whole abdomen; the right iliac region, in particular, was acutely sensitive to pressure. The attack cleared up in about ten days, but the patient did not regain his normal health. Three months later he suffered a relapse, and on partial recovery was sent to the South of England. I did not see him again till November of last year, when he returned home a chronic invalid. He was still able to crawl about, but constant headache and lassitude, chronic constipation and dragging pain in the right flank combined to render his life, at 21, a misery.

Physical examination revealed muscular rigidity over the ascending colon, and there was diffuse tenderness on deep pressure over the whole of the right abdomen, both in front and behind.

A careful consideration of history and symptoms left no doubt in my mind that there existed chronic ulceration of the large bowel, with accompanying general toxaemia.

As the patient would not consent to see a surgeon, and as ordinary medical treatment was without effect, I decided to try *x* rays.

The technique followed I will describe in some detail, as it illustrates most of the points which I have found to be of importance in treating cases by this method. The first essential is that the silver shall be at the proper place during the *x*-ray exposure. It was therefore necessary in this case to administer a preliminary bismuth meal, followed by a screen examination. This showed that food reached the caecum in five hours, and was delayed twenty-four to thirty hours in the ascending colon. Treatment was therefore commenced as follows: At 9 a.m. a "silver breakfast" was given, consisting of a pint of milk, with enough breadcrumbs to make a moderately stiff paste; about 8 grams of precipitated silver being intimately mixed with the whole. At 4 p.m. (seven hours later) an exposure was made, the conditions being these: A self-regulating tube (Müller pattern) was placed above the region of the caecum, the anticathode being 25 cm. (about 10 in.) from the skin. A current of 0.4 milliampère was passed for ten minutes, the penetration number of the tube under these conditions being 8 to 9 Wehnelt. An interval of five minutes for cooling was allowed at half time, and the milliampère readings remained practically constant throughout the sitting. An area of skin 7 in. (about 17 cm.) in diameter was left unscreened, and no filters were used. The anodal end of the tube was raised somewhat, so that its long axis made an angle of about 20 degrees with the surface of the body. The exact position of the ulceration could not, of course, be defined, and the bulb was therefore placed alternately above and below the patient.

This procedure was repeated three times a week for four weeks. At the end of this time the constipation had considerably improved, headache was lessened, and the patient could bear more pressure over the affected portion of the gut. I continued treatment for another two months, but reduced the number of sittings to two per week. Meanwhile, a gradual improvement took place, and the patient finally returned to work, having received in all thirty applications. He professed himself completely cured. No tenderness or rigidity remained in the abdomen, a painless action of the bowels took place every day, and ordinary food could be eaten without ill effect. No relaps

ns occurred up to the present, four months after the cessation of treatment.

I have treated in all 7 cases by the above method—somewhat similar to the above, but with symptoms pointing to the descending colon: 3 of suspected duodenal ulcer; 1 of gastric ulcer; and 1 of pyloric obstruction with tumour, possibly malignant. Of the series—if I may be permitted to use this term for so small a number—4 are apparently cured: 1, a duodenal ulcer, failed to show any improvement; the remaining 2 are still under treatment. The gastric ulcer patient ceased to attend as soon as her pain disappeared, which was in about three weeks. She has just returned with a relapse. Lastly, the pyloric tumour appears to be diminishing in size, there is less vomiting, and the patient feels much more comfortable. (In this connexion it is interesting to recall a case recently recorded by Lauder Brunton and Glover, where an appendix which was the site of malignant disease diminished rapidly under injection of an aqueous solution of radium emanation.) A man suffering from rectal cancer lately came to see me. I have advised him to consult a surgeon. If, however, the condition is deemed inoperable, I purpose introducing per rectum an emulsion of precipitated silver in olive oil, and subsequently raying with a very hard tube. This emulsion, I may say, can, if necessary, be injected beneath the skin—for example, in the case of a recurrent carcinomatous nodule. The "cross-fire" method of the French school may thus be imitated; and if the skin be previously frozen for five to ten seconds with carbon-dioxide snow the injections may be made painlessly. The same preparation may be used in tuberculous sinuses.

Between the method of treatment above described and ordinary medical and dietetic measures there is no essential antagonism; but for the sake of experimental accuracy I have avoided any such aids. In some instances suggestion may have played a part, but in the case recorded at length could hardly have counted for much. It is also possible that the silver itself may be beneficial; some years ago I obtained improvement in cases of intestinal ulceration by the use of finely divided aluminium, known under the trade name of "Escalin." Also, Mr. Henry Wellcome has shown that metallic silver has a germicidal action. Three of the above cases had defective teeth removed on commencing treatment. No matter what rational therapeutic measures are employed they are likely to fail if a septic mouth continually throws toxins into the system.

An old practitioner once gave me the following warning: "Always make sure that your medicine has been taken before ascribing improvement to its effect. Applying this, we may ask: Can it be shown that the methods used result in the production of an appreciable secondary radiation at the diseased area? A simple photographic experiment settles the question. An *x*-ray plate in a light-tight bag is supported on a stand, and a hard bulb placed beneath at a distance of about 25 cm. Between tube and plate is introduced a thin flat dish of glass containing water to a depth of 2 cm. A teaspoonful of "silver meal" is floated on a thin piece of rubber, which again is set on the plate, the film surface of the latter being uppermost. The film now corresponds with the silver-coated surface of the gastric ulcer, except that paper and rubber intervene, and practically nullify the effect of the corpuscular radiations. The current is switched on for some seconds, and the plate developed. General fogging takes place; but where the silver lay is to be seen a patch the density of which is almost double that of the remainder. This effect is due to secondary "back-fire."

The question of the choice of a metal may here be briefly touched on. I chose silver because its radiation resembles that of radium, and therefore might reasonably be supposed to possess therapeutic activity. The possibility of using *bismuth* naturally presents itself, this substance being well known and fairly cheap. It has, in fact, been suggested that sterilized bismuth should be introduced into operation wounds after removal of cancer, with a view to subsequent raying. On the other hand, warnings have been given as to the danger of using the insoluble salts of the metal for diagnostic purposes. A reference to Sir J. J. Thomson's paper will show that, with increasing atomic weight, increasing hardness of the *x* ray is necessary to excite a given element; so that when we come to iodine, a primary beam is required of a greater penetrative power than is ever used in medicine. Now, the atomic weight of iodine is 126; that of bismuth, 206. Furthermore, if in the photographic experiment described above we substitute bismuth for silver no increased effect is visible. This negative result is what might be expected from theoretical considerations, and we may therefore conclude that bismuth salts, while of no value for *x*-ray treatment, are eminently suitable for diagnosis. It would be a great pity if any undeserved discredit were cast on this useful method of abdominal exploration. I have never seen any ill effect recorded, nor have I observed any in my own practice.* As regards the suggestion concerning operation wounds, if we substitute *silver* for *bismuth* there would appear to be much in favour of such a proceeding where malignant disease is present.

These last remarks are, I fear, in the nature of a digression, and I must return to the subject in hand. Precipitated silver, when mixed with milk for internal use, has a somewhat evil appearance, and its cost is rather high. Few patients, however, will grumble on either count provided they are experiencing benefit.

That it is possible to subject the mucosa of the stomach, duodenum, or any given portion of the large bowel to a soft secondary radiation of considerable intensity is, I submit, beyond dispute. It remains to be proved, however, whether or not this radiation is of any therapeutic value. I am far from imagining that the few cases I have been able to report can settle such a question; but there is some additional evidence, collateral rather than direct, which may be worth a passing mention. A case of rodent ulcer of the cheek under my care was making but slow progress, and I tried the experiment of putting a new shilling inside the mouth to form a backing to the diseased area. *X*-ray treatment was continued as before, every other day. At the end of a week there occurred a most alarming swelling, the whole of the face presenting an inflamed appearance. I was afraid of sloughing; but in about fourteen days the swelling subsided, and in less than a month the ulcer was entirely replaced by healthy scar tissue. In the case of another patient, an inmate of the Union Infirmary, sent to me by the Auckland Board of Guardians, I introduced silver ions from a 2 per cent. solution of the nitrate, and subsequently used *x* rays. The ulcer healed rapidly; it might, however, have done so with ionization alone. I have furthermore experimented with mustard seeds grown on moist cotton-wool, and find that a dose of *x* rays which is not sufficient to inhibit growth under ordinary circumstances produces a marked effect when some precipitated silver is previously scattered amongst the seeds.

Assuming that ulcers of the alimentary tract can in some instances be cured by the method described, it is quite possible that the results are not due solely to local stimulation. Many such patients present signs of general toxaemia, and there is a growing tendency, both in our own country and America, to regard this toxaemia as in some degree causative. Certain experiments of Crane, referred to by Dr. Reginald Morton in the *Medical Annual* for 1909, are of interest in this connexion. He found that in certain cases *x* rays acted like a dose of vaccine, and caused a rise in the opsonic index. In some of my patients I have seen headache disappear so quickly as to suggest that a rapid formation of antibodies had taken place.

In conclusion, I would remind you that only a year or two ago it was seriously suggested that the limits of *x*-ray therapy were fast being reached. The discovery of specific secondary radiation has already falsified this view; and if anything I have said to-day serves even in some

* Since the publication of Sir J. J. Thomson's address and the writing of the above statements, I have performed further photographic experiments, which show that even in the case of very heavy elements, such as bismuth and lead, a secondary effect can be obtained, *provided the substance concerned be placed in direct contact with the film*. I communicated these results to Sir J. J. Thomson, and in the course of the reply he was kind enough to make he says: "So far as I know, no Roentgen bulbs have been made large enough to excite the secondary radiations characteristic of bismuth. As you suggest, there would no doubt be some *corpuscular* radiations, which might affect a plate actually in contact, although it would have little penetrative power." As a matter of fact, the paper of the envelopes usually employed to protect *x*-ray plates is sufficient to cut off all effect, and it is highly improbable that any damage could be done to the intestinal mucosa even by exposures far exceeding those generally employed for diagnostic purposes.—F. H.-J.

small degree to stimulate inquiry in a new field, I venture to think this paper will have accomplished a useful purpose, no matter whether the conclusions expressed therein be right or wrong.

REFERENCE.

1 BRITISH MEDICAL JOURNAL, August 27th, 1910, p. 512.

DISCUSSION.

Dr. MAURICE R. J. HAYES (Dublin) said that the idea that metallic drugs might be used for secondary radiation had suggested itself to one Dublin physician, who had a patient suffering from malignant disease in the rectum. He could not say that the patient had been cured, but the effects produced were a diminution of the discharge from the bowel as well as a diminution of the discomfort and pain, and the ulcer had diminished in size. Such a method in the cases which the speaker had seen was much more beneficial than the mere external radiation without the internal administration of the drug. A far greater reaction was obtained in a much shorter time than without the application of any metallic salt. He supposed most people were aware that silver had been used as an intestinal antiseptic.

Mr. J. HALL-EDWARDS (Birmingham) said that after hearing Professor Thomson's paper he, too, was full of enthusiasm, and made some very successful experiments. There was no doubt that a marked secondary *x*-ray effect was given off from all metallic surfaces. He took a number of discs of various metals and placed them at the bottom of a wooden box, and every one of the discs was quite visible on the fluorescent screen, while the silver and heavier metals were very dark. He wrote the name of each metal upon the disc in ink; and although, as in the case of tin, the ink was very thin, the wave length of the secondary rays was so short that it did not penetrate even the thickness of the ink—at any rate, the word "tin" together with the others was distinctly seen in the image. Dr. Hernaman-Johnson would be the first to admit that his results were not at all conclusive, but he had done good service in bringing them forward.

Dr. N. S. FINZI (London) uttered a word of protest. Dr. Hernaman-Johnson described an experiment he had conducted as a precautionary measure upon himself. No doubt he had had some reason for believing that there would be no ill effects, but would it not have been much easier to have experimented with animals?

Dr. HERNAMAN-JOHNSON said, in reply, that he was interested to hear some similar treatment had been followed in connexion with diseases in the rectum. He agreed that small doses were a necessity in cases of this kind. As regarded the risk to himself, he used not a silver salt but precipitated silver, which was metallic, and practically insoluble. Of course, he did not begin at once with the maximum dose. The matter was quite a different one from taking a nitrate, which was soluble. He did not suppose that the results could be considered conclusive, but, at any rate, he hoped they were sufficient to warrant further research in the matter.

FRACTURES UNDIAGNOSABLE EXCEPT ON X-RAY EXAMINATION.

By C. FRED. BAILEY, M.D.,

Assistant Physician and Medical Officer in Charge of Electrical Department, Sussex County Hospital, Brighton.

THE perusal of the article on fracture of bones, in the first edition of Treves's *System of Surgery* dated 1895—namely, before the advent of *x* rays—a standard work of that date, gives one a faint idea of the immense increase of accuracy in diagnosis with which *x*-ray examination has supplied us. One reads in the final paragraph of "Signs of Fracture" this statement:

"When there is reason to fear a fracture, *but its existence can be neither proved nor disproved*, one must be *assumed to exist*, and proper (*sic*) treatment adopted."

In 1911 a careful *x*-ray examination (1) would abolish, or very nearly abolish, all these cases of doubt as to the existence or non-existence of fracture; (2) it would show the exact character of the fracture, even if its existence were not in doubt; and (3) consequently it would enable treatment to be accurately suited to the injury instead of being as haphazard as the paragraph advises.

With reference to the absolute diagnosis of the presence or absence of fracture, *x* rays have shown that fractures not infrequently take place in previously unsuspected bony structures, such as, for instance, the fracture of a transverse process of a lumbar vertebra, from muscular action; also that certain fractures, formerly supposed to be rare, are found to be comparatively common, such as fracture of the head of the radius, of which I shall show several examples; and that in a large number of injuries formerly diagnosed as "severe sprains" we may frequently discover incomplete degrees of certain fractures, with which in their complete form we have been always well acquainted; and, lastly, we owe it to the *x* rays that this substitution of many accurate diagnoses for former haphazard ones has by this time given us a multitude of trustworthy data, sufficient to enable us, by comparing them one with another, to obtain a more correct idea of the various stages in the production of these common fractures.

It is the partial or incomplete fractures which are valuable as showing the real mechanics of fracture production—they tell us where the fracture began, and give us some idea of the "stresses" which existed, whether compressive or tractive, at the time the fracture took place.

Mechanically, if by the action of opposing forces such a condition of "stress" or "strain" is produced in any particular area of bone, of such magnitude that the cohesive force of that area is unable to withstand it, then a solution of continuity will occur there, varying in amount directly as the amount of "stress," and inversely as the amount of cohesive force.

It is mainly, though not solely, in fractures from "indirect violence" that we come across these cases where this "stress" or "strain" has been only slightly greater than the amount of cohesive attraction, and in consequence the amount of bone fracture is slight, and a definite diagnosis of fracture cannot be made without *x*-ray examination. Also, when the forces acting at the time of the injury may be resolved into *two* compressive forces acting in *opposite* directions along the length of a long bone, then the stress produced at one particular point may simply cause a splintering and crumbling of the cancellous tissue and a bulging outwards of the compact tissue. Here the bone practically retains its shape and there is no appreciable deformity. In this variety, also, the mistake is commonly made in a diagnosis that no fracture exists.

There are other cases where the surgeon is almost or quite certain that a fracture is present, but which bone is fractured, or the type of fracture, and position of the fragments, cannot be much more than guessed at without the *x* rays. Most of these fractures present few, often none, of the signs we are accustomed to look for. For instance, (1) the sign of local trauma, due to effusion of blood from lacerated structures, may be slight or absent or very late in its onset; (2) there is no "preternatural mobility"—in some because the fracture is incomplete, in others because of impaction; (3) crepitus is not present; (4) with reference to "deformity"—in many it can hardly be said to exist, but in others it is not readily made out; (5) "loss of function" may not be at all noticeable; (6) "pain" may be quite slight. Such fractures are veritable traps for professional reputations, and any specimens of them have a claim to be dragged into the light of day and held up as warnings, if for no other reason.

1. A gentleman aged 60, somewhat of an invalid, and not the type of individual one would wish to confine to bed if it could be avoided, sent for me, saying "he had sprained his ankle on the preceding afternoon." He gave the history that the cause was a slip on a raised piece of stone at the side of the path, but said he had walked about during the evening without pain. There was no swelling or ecchymosis, the tibia and fibula could be made out clearly, movements were normal, he could walk, there was no crepitus. The only suspicious fact was that on grasping the leg high up and pressing on the fibula, a little pain was caused at the back of the external malleolus.

I suggested an *x*-ray examination to settle the diagnosis, but rather half-heartedly, feeling pretty sure it was merely a sprain. However, on the next day I did *x* ray the ankle

The fluorescent screen gave a normal picture, but two photographs were taken—a stereoscopic one in the antero-posterior and a similar one in the lateral diameter. Beside the fact that one has no permanent record, there are various reasons why one should never be satisfied with a diagnosis based only on the view given by the screen. No radiographer, however practised he may be, can be sure of seeing these fractures. Photographs give the

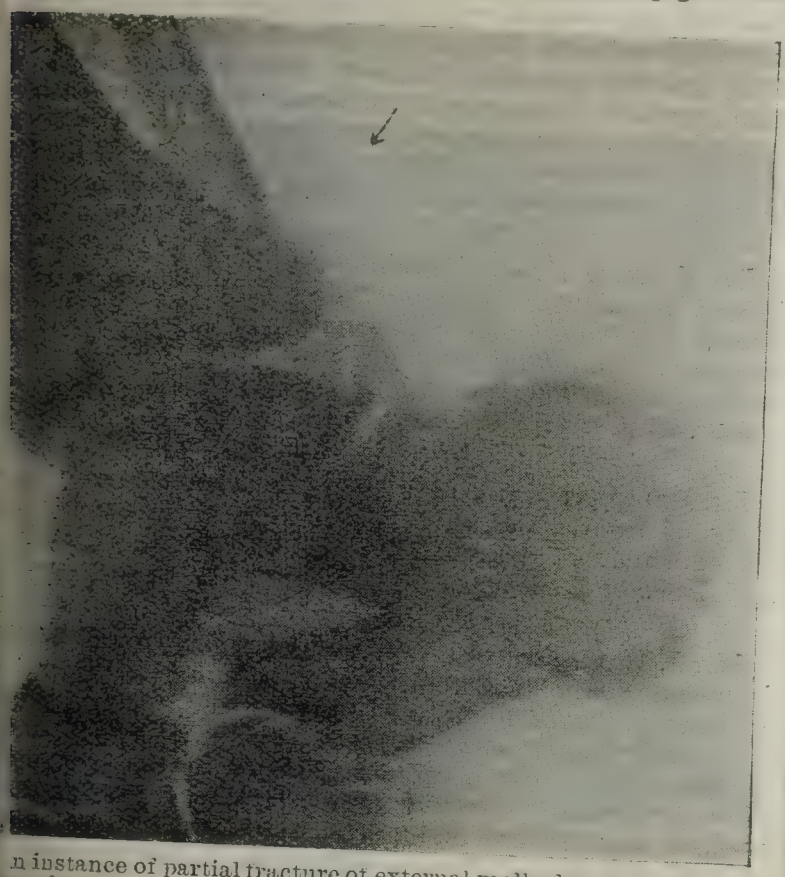

An instance of partial fracture of external malleolus; no ordinary signs, fracture not diagnosable with "screen"; fracture extends about two-fifths across the bone.

best approach to reliability we can obtain, and even these may fail; still, a failure must be very rare if the following precautions are taken.

In this case the radiographs show a crack in the anterior edge of the fibula, the fissure extending across one-third of the breadth of the fibula. Such a fracture can easily be diagnosed by ordinary methods; unfortunately, if the patient walks about, the incomplete fracture may become complete, and I should ask that a skiagram be taken before it may be suggested that the fracture was fractured from the

A case of partial fracture of distal end of shaft of radius only.

The next example is of a similar fracture that is one that I saw under my colleague at the Royal Berkshire County Hospital. The patient stated that he had been seen by two doctors and that there was no fracture." He had been walking about for three days, and the hospital surgeon who then examined it believed the fracture was

But he had him radiographed. The picture shows a more extensive than the last, but it is doubtful whether the split in the fibula goes completely through the bone. There was no displacement.

The next is a rather interesting tibial fracture; it had escaped diagnosis until it was radiographed at the hospital. It could not be made out on the screen. A fissure has occurred in the articular surface in a transverse direction; it extends slightly into the cancellous tissue for 2 in.; the compact tissue is apparently unbroken.

4. The next skiagram is interesting in comparison; it is that of the tibia of a girl, aged 7, showing a very delicate fissure commencing, as in the last, at the outer side of the tibia, and extending downward and inwards into the cancellous tissue. There were practically no symptoms suggesting fracture.

5. This example shows a fissure extending into the tibia from the knee-joint.

6. This radius shows how a transverse fracture may exist with so little displacement that it is hardly apparent on the skiagram. In the antero-posterior view there is a tiny bulge on either side, and the lateral view shows a very slight backward deviation of the carpal end. It can hardly be said to be impacted in the

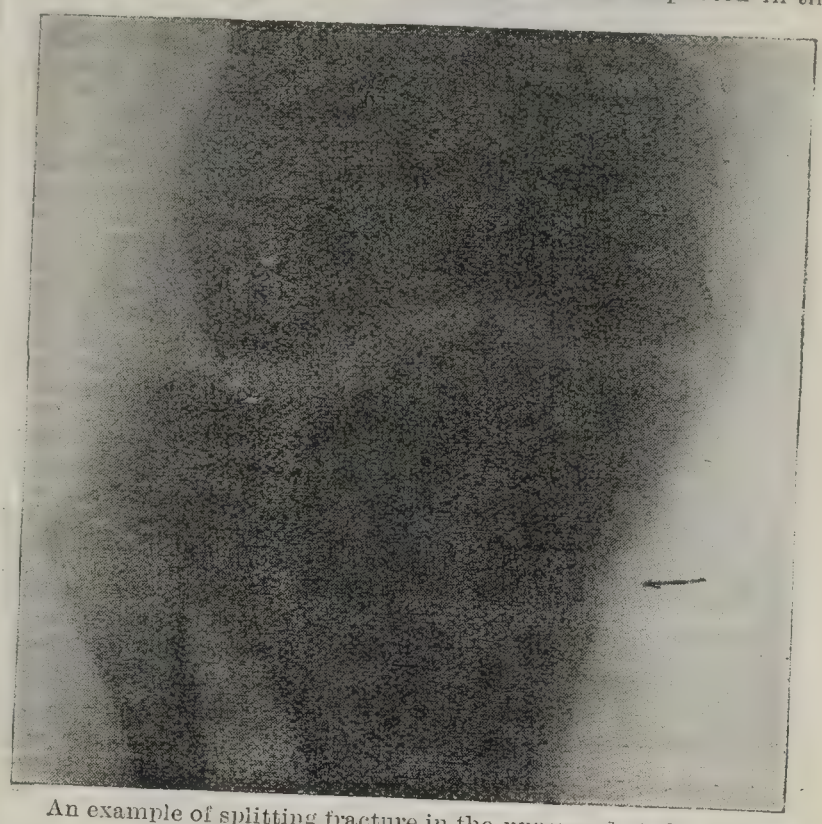

An example of splitting fracture in the upper end of the tibia.

usual sense. It is quite unrecognizable by ordinary methods. It is an example of compressive stress.

7 and 8. These photographs show a more marked fracture of a similar type. The posterior compact tissue of the radius is fractured and bulges outward; the anterior compact tissue is only slightly strained.

9. These, however, are awkward fractures to miss, as the following skiagram shows. This, I believe, was, in the first case, an exactly similar fracture to these last. The history, to my mind, proves it. A schoolboy fell and hurt his forearm; the injury came under the observation of the matron and the school doctor. No fracture was diagnosed. About ten days afterwards, in the forearm, this deformity of a projection in the lower third was observed. The patient was now radiographed, and the skiagram showed a marked bend of the radius. Apparently a compressive stress or strain at this point had produced such a destructive influence that, although in the first place the bone remained, as it were, fused together in a straight line, in a few days the fused edges of bone became softened, and the radius gradually bent, under the influence of muscular action, until finally this marked deformity was produced.

10. Undiagnosed Colles's fractures are very common, so that where there are signs of wrist injury it *is* advisable to have an *x*-ray examination made; anyhow, the patient should have the responsibility of refusing it. I only show this one specimen, as it had been treated with lotions and liniments as a sprain, under the advice and a diagnosis of "no fracture" by a chemist. Not only is the radius fractured, but the styloid process of the ulna has also been detached.

11. This next fracture of the radial upper end with separation of part of the head has a history which suggests that one should suspect a reduced dislocation of the elbow, for often a radial-head fracture is superadded. This boy was said to have "put his elbow out"; a fellow schoolboy put it in again. The medical man who examined it says, "I could find no displacement or sign of fracture." Several weeks after the doctor found that pronation and supination had gradually become very limited in extent; he brought him to be radiographed. Afterwards he writes and says, "I hardly see how such a fracture could be diagnosed without *x* rays."

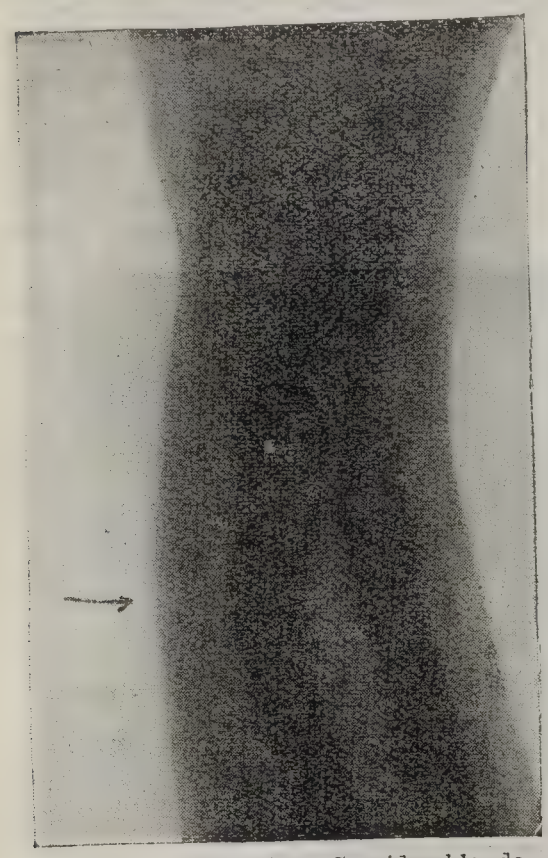

Fracture of radius. Considerable deviation backward of carpal end of radius, probably not present when injury first happened, but gradually occurred afterwards, due to use of the forearm while the bone was broken.

12. Here is a similar fracture brought to the hospital.

13. Partial spliting of the radial head in a woman of 35. This gave absolutely no symptoms — no pain, no limitation of movement, no bruising.

14. A marked example where the head of the radius was quite separated from the shaft. Nevertheless there was considerable doubt in the surgeon's mind as to whether any fracture at all had occurred.

DISCUSSION.

Dr. J. A. CODD (Wolverhampton) recalled one case of a very fine but definite fracture of one of the phalanges of the thumb which was not noticed on a screen examination, and was only discovered when a radiograph was taken. In another case an injured elbow had been for many weeks under treatment, and the patient was sent to him for *x*-ray examination. There was nothing very definite in the plain radiograph, but the fracture was revealed when a stereographic record was made. He had known undiagnosed Colles's fractures in which the plain radiograph showed nothing, whereas the stereograph gave a very good result.

Dr. A. HOWARD PIRIE (St. Bartholomew's) said that in some cases of fracture which were undiagnosable except by the *x* rays the stereoscopic method was the better, and in other cases skiagraphs made in two directions were to be preferred. When the fracture was at the elbow-joint in a case in which the patient could not straighten the limb, the stereoscopic method was an advantage, because an antero-posterior view was more or less blurred, while a clear stereoscopic view taken in the lateral direction gave an exact diagnosis. But in cases of Pott's fracture it was not unusual for the *x* rays to give no indication of the condition when examined in one direction, whereas when examined in the other direction the fracture became visible. A stereoscopic view made in the first direction was not so helpful as two skiagraphs taken at right angles.

Dr. F. EMRYS JONES (Birmingham) related several cases in which injuries suggesting nothing more than sprains proved upon *x*-ray examination to be fractures.

Dr. REGINALD E. MORTON (West London Hospital) said that he had seen numerous cases in which the *x* rays were the only method by which diagnosis could have been made. A radiographer who depended upon screen examination of a fracture alone was asking for trouble. Every case should be examined by means of the *x* rays, and a radiograph—in some cases a stereo-radiograph—should be taken. There were, however, certain situations in which the stereoscopic method did not help them in the least, and in which two skiagraphs representing the antero-posterior and lateral views would afford the most information.

Dr. JAMES METCALFE (Bradford) had seen recently an oblique fracture of the lower end of the fibula in a young lady, who sustained the injury while skating. She went about for three weeks without consulting a medical man and when a doctor did see the case he could not say that there was any fracture whatever. The *x*-ray examination then proved the presence of fracture, and proper treatment was adopted. He instanced various other similar cases and urged the necessity of submitting every case of fracture to *x*-ray examination before treatment.

Dr. MAURICE HAYES (Dublin) referred to a case of fracture of the odontoid process of the second cervical vertebra which had come under his notice, and had only been diagnosed upon *x*-ray examination. He added some particulars of cases of fracture of the capitellum which had come within his experience.

Dr. DELPRATT HARRIS (Exeter) gave particulars of some cases of fracture of the astragalus, and laid stress upon the difficulty of diagnosing such conditions without the assistance of the *x* rays.

Mr. J. HALL-EDWARDS (Birmingham) had no doubt that in hospital cases particularly, a good many of these fractures were never found, and that, indeed, they could not be seen with the *x* rays. The bone might be in such a position as to show no fracture at all in the radiograph. He agreed with preceding speakers that the stereoscopic method was useless unless the crack was turned in the axis of the tube. He was afraid that crepitus was still accepted by many men as the chief and cardinal sign of fracture, but it appeared to him that to try to obtain crepitus was a most unscientific procedure.

Dr. BAILEY, in reply, said that evidently a large number of these fractures were in the first instance only partial and it was extremely probable that subsequent movements—muscular action, and so forth—converted these partial fractures into complete fractures, which then became easily diagnosable. He did not think that a hard and fast rule need be drawn to the effect that every case of fracture should be submitted as a matter of routine to *x*-ray examination, but the possibility of hidden fracture ought to be well understood. He described his photographic procedure. He employed a frame, leaded on either side, having an opening measuring 6 × 10 in., while the plate had twice these dimensions—namely, 12 × 10. Thus by shifting the plate he was able to make two exposures on the same piece of emulsion. The advantages of the two photographs on one plate were: (1) Stereoscopic effect (with a little manipulation); (2) only one development necessary; (3) the impossibility, having two identical pictures, of a plate defect being mistaken for part of the *x*-ray image.

PYELOGRAPHY AND THE USE OF COLLARGOL IN THE DIAGNOSIS OF DISEASES OF THE URINARY TRACT.

By WILLIAM IRONSIDE BRUCE, M.D.,

Physician, *X*-ray and Electrical Departments, Charing Cross Hospital; Honorary Radiographer, Hospital for Sick Children, Great Ormond Street.

X-RAY examination has proved a great success in the diagnosis of diseases of the urinary tract, but the limit of its usefulness in this direction has not yet, I am sure, been reached. A comparatively recent development, which I propose to give you a short account of, is a method of estimating the size and condition of the renal pelvis, which has been named "pyelography." Such investigations are made for the purpose of recognizing the presence of hydronephrosis or pyonephrosis—conditions which result

n one or both kidneys being reduced to a thin shell containing urine or purulent urine. Under such circumtances the kidney may not be functionally worthless, but minimum of secreting power is certainly present. urgical procedures adopted at this stage of the disease ust obviously be unsatisfactory; accordingly the object f the surgeon is to recognize the commencement of ilatation of the renal pelvis and to deal with it before the idney substance is reduced to a minimum. At St. Peter's ospital for Stone and other Urinary Diseases, Covent

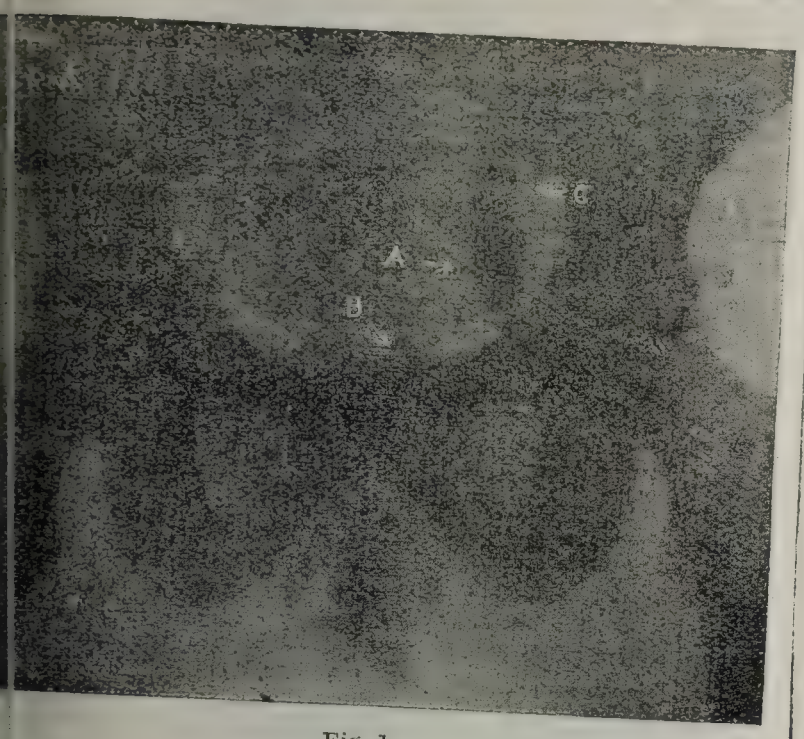

Fig. 1.

len, with which institution I have the good fortune to connected, pyelography has been tried and found able. Mr. Thomson Walker[1] has published his results, I cannot do better than to give you shortly his account e method.

was introduced by Voelcker and Lichtenberg[2] in ; by injecting into the renal pelvis a 2 per cent. solu- of collargol, which is an inert soluble salt of silver e to the *x* rays, they obtained a shadow of the pelvis, showed its contour. The technique of the method follows: A catheter is passed into the ureter by

Fig. 2.

of a cystoscope or Kelly's tube, so that its eye he pelvis of the kidney, the contents of which are to run off. The cystoscope and the water in the used for the purpose of catheterization are and the ureteric catheter left in position. Warm solution is then slowly injected through the catheter by means of a large all-glass antitoxin of a capacity of 20 c.cm., the needle of which fits of the catheter. The fluid may be allowed to by hydrostatic pressure by lifting the syringe a foot above the level of the body, or the piston can be used to start the flow. The quantity of collargol solution injected will of course vary; 40 c.cm., or more, may be necessary in a much-dilated pelvis. Pain or discomfort in the region of the kidney is taken as an indication to stop the injection, and the syringe having been removed the end of the catheter is blocked and *x*-ray examination immediately proceeded with. It is best to use a catheter which is also opaque to the rays, for thus information

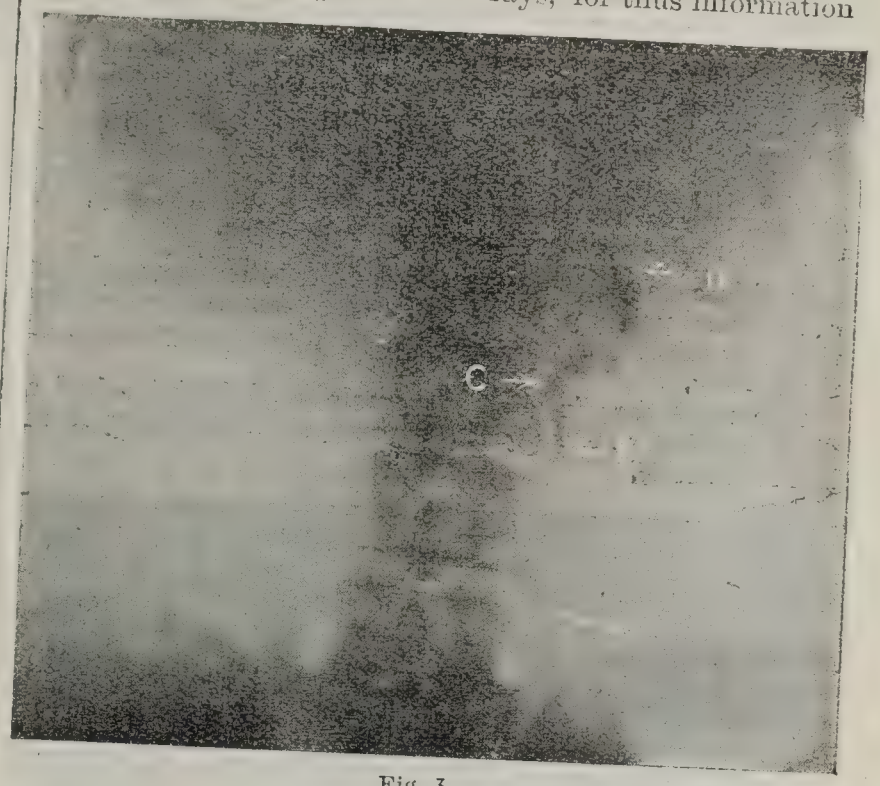

Fig. 3.

regarding the uretero-pelvic junction is obtainable. The radiogram having been secured, the plug is removed from the catheter and the collargol solution is allowed to siphon off. The examination may be associated with considerable pain in some persons, but little or no pain in others; but, since renal colic may follow, it is advisable to give a hypodermic injection of morphine half an hour before commencing injection. After examination the urine clears in a day or two, but in a dilated pelvis it may be stained two weeks.

From radiograms secured under these conditions it is possible to see (1) whether the ureter passes straight into

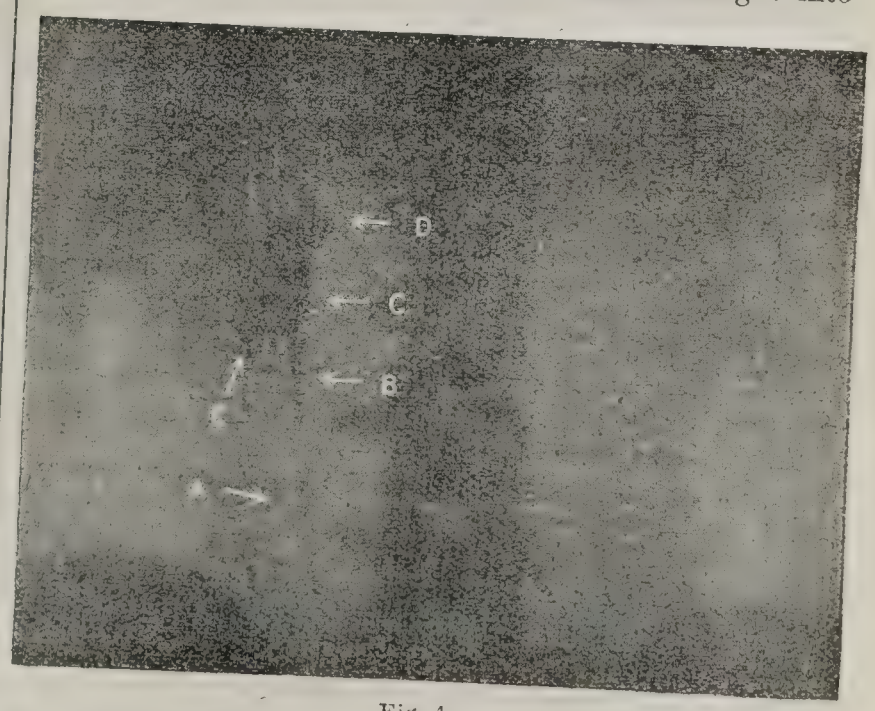

Fig. 4.

the pelvis of the kidney, and (2) what is the size and shape of the renal pelvis.

To illustrate the method I propose to give you very shortly the notes of some of Mr. Walker's cases:

First, a case in which a large calculus had for some years been impacted in the pelvic portion of the left ureter, as can be seen in radiogram Fig. 1, in the position marked A→. An opaque bougie passed along the ureter and round the calculus can be made out in the positions marked C→ and B→. After removal of the calculus the pelvis of the left kidney was investi-

gated by collargol, and it proved to be much dilated, as is well seen in radiogram Fig. 2, in which the mass marked A→ represents the much dilated pelvis. The opacities D→, E→, B→, and C→, on the opposite side, represent calculi in the right kidney.

The next case is one as follows:

A woman who complained of pain in the right side, which varied in severity and was relieved on lying down. Increased frequency of micturition was noticed during the day and at night. Nephropexy had been performed some years previously and on palpation the right kidney was readily felt in the right loin, the lower pole being reached below the level of the umbilicus. The capacity of the right renal pelvis on injecting collargol was found to be 27 c.cm., and in the radiogram (Fig. 3) the outline of the pelvis of the kidney with the opaque catheter marked A→ *in situ* can be distinguished. The ureter passes up in front of the transverse process of the lumbar vertebrae and opposite the body of the third, in the position marked C→, takes a sharp curve outwards as it expands into the pelvis of the kidney, the upper calyx, marked D→, being definitely dilated.

In this case pyelography showed that the upper calyces of the renal pelvis were dilated, and confirmed the opinion that this dilatation was due to the abnormal position of the kidney.

The next case is that of a male aged 20, who had a stone crushed at the age of 6 years, after suffering from left renal colic.

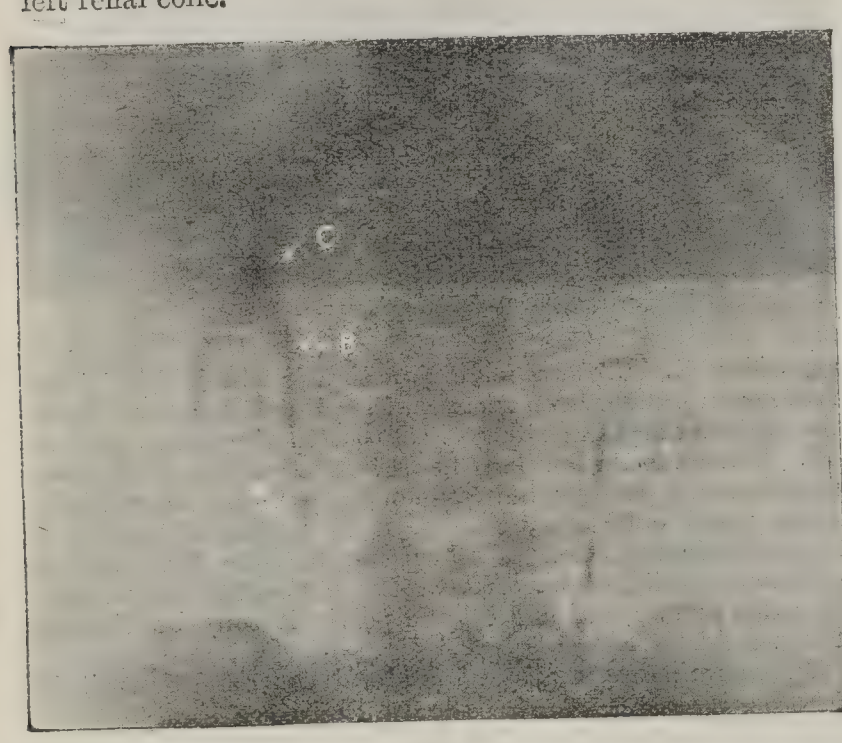

Fig. 5.

He complained of pain at the end of the penis on passing urine, which had increased during the last month, the frequency of micturition being increased to two hours during the day with some urgency. On exertion the pain in the left side became localized in the region of the left kidney, but the kidney could not be felt on palpation and was not tender.

An opaque catheter was passed up the left ureter and warm collargol slowly injected. Pain was felt at 7 cm. and a radiogram (Fig. 4) was taken showing the shadow of a dichotomous pelvis with calyces. The ureter passed in a straight line into the pelvis, so that there was no angling. From this it was concluded that no important degree of dilatation was present. A→, opaque catheter; B→, ureter entering straight into pelvis; C→, pelvis; D→, upper calyces; E→, lower calyces.

In another case—

that of a man aged 24 years, there was constant aching in the right renal region, which was worse on movement and better when he lay down. The right kidney could not be felt and was not tender. Pyelography showed a normal pelvis and calyces. In this case the ureteral catheter was partly withdrawn before taking the radiogram, and the collargol solution is seen passing down the ureter. Fig. 5: A→, Upper end of catheter; A→ to B→, collargol filled ureter; C→, pelvis of kidney; D→, sectionally opaque catheter in opposite ureter.

REFERENCES.

1 *Lancet*, June 17th, 1911, Pyelography and the Early Diagnosis of Dilatation of the Kidney. 2 *Muench. med. Woch.*, January 16th, 1906.

DISCUSSION.

Dr. MAURICE HAYES (Dublin) asked whether it was necessary to anaesthetize the patients. His experience was that to catheterize the ureter for ureteric examinations was extremely difficult in the case of men, although in the case of women it was easy.

Dr. EMRYS-JONES (Birmingham) said that there was a great difference in the way in which patients bore catheterization. In a group of cases of which he had cognizance one suffered very badly from shock and nearly died, two suffered rather severely, and the other had absolutely no pain at all.

Dr. IRONSIDE BRUCE, in reply, said that at St. Peter's Hospital, Covent Garden, where the data which figured in his paper were obtained, anaesthetics were never used when introducing catheters, either in the case of men or women. Catheterization was easy in capable hands, but he agreed that most severe pain could be produced by a wrongful introduction, and that there were some patients who upon the slightest dilatation of the pelvis had renal colic.

THE DIFFERENCES IN THE APPEARANCES OF PHTHISICAL CHESTS AS SHOWN BEFORE AND AFTER TREATMENT.

BY W. BERNARD KNOBEL, M.D., M.A.,
Midland Open-air Sanatorium.

I MUST ask your indulgence if I touch briefly on the aspect of phthisis which is a little outside the region of radiology. But it is impossible to consider the signs obtained by one method without considering and comparing them with those obtained by other means. The use of *x* rays in phthisis is to add to and to corroborate the signs obtained physically. Further, if I put forward one sign as being in my opinion a constant sign of phthisis I do not wish you to infer that I think the presence or absence of that sign alone determines the diagnosis. Phthisis is diagnosed and the results of treatment determined as much by symptoms as signs and by a consideration of all the signs obtained by any means.

If one examines a case of what is called active phthisis with the fluorescent screen certain signs indicative of the disease may be observed. There may be on one side:

1. Limitation of the movement of the diaphragm.
2. Uneven movement of the diaphragm.
3. Alteration in the curve of the ribs with narrowing of the intercostal spaces.
4. Impaired translucency of an apex.
5. Definite shadow or shadows.

The question of shadows I will discuss later, and for the moment consider the signs in early cases in which no shadow is apparent on screen or plate.

All the other signs are found in cases of phthisis, but it does not follow that they are all present in the same case. The most infrequent sign is, I think, uneven movement of the diaphragm. When this is present it is generally associated with cogwheel breathing, and it certainly seems as if one was the cause of the other; at the same time I have found uneven diaphragmatic movement without cogwheel breathing, and vice versa.

Limitation in the movement of one side of the diaphragm is, in my experience, a frequent but not a constant sign. It is often well marked in quite early cases.

I have observed in many early cases drooping of the rib on the affected side where there is no spinal curvature or other condition to account for it. Although one does not always find it present, especially in cases associated with emphysema, yet it is so frequent a sign that I regard it as an early sign of considerable importance.

The one *x*-ray sign which I have always found to be present in cases of active phthisis is impaired translucency of an apex. I have never seen a case without it. It is observed in cases where no shadow is apparent on screen or plate. In a case where there was a definite shadow near the root of the lung and no shadow at the apex there was poor illumination of the apex, but very fair illumination of the rest of the lung. In some cases not only is there deficient illumination of the apex, but the whole of that lung does not light up as well on inspiration as the other side.

Apart from shadows, the *x*-ray signs of phthisis are signs which are independent of the local tuberculous lesion. They are not directly caused by the lesion, but are signs of impaired function, and the necessary consequence of increased airlessness of the lung which would particularly affect the apex.

Now if we turn to the physical signs of early phthisis here may be slight drooping of the shoulder, deficient expansion, and impaired percussion resonance, increase in vocal resonance, weaker breath sounds, cogwheel breathing and crepitations. Again, they are frequently not all present in the same case. In very early cases it may only be possible to detect one or two—impaired percussion resonance and weaker breath sounds being, I think, most frequently found. At the same time, it is well known that in cases complicated by some intercurrent condition, such as emphysema, bronchitis, or asthma, the only signs elicited may be those of the complication. Therefore the first point I wish to make is that deficient illumination of the apex by *x* rays is the most constant, and therefore the most important, sign of active phthisis. Moreover, when one is equally experienced with the fluorescent screen and the physical methods of examination, it is, I think, easier to detect differences between the two sides by seeing than it is by hearing.

Some of the physical signs—the drooping of the shoulder, deficient expansion, the weaker breath sounds, and cogwheel breathing, are obviously not directly caused by the lesion itself, but must be due to a loss of function. Of the others, the impaired percussion resonance and increase in vocal resonance may in part be due to increased airlessness, and in part to the actual lesion. It must be admitted, however, that the majority of the signs of early phthisis, both ray and physical, are caused by a loss of function of the

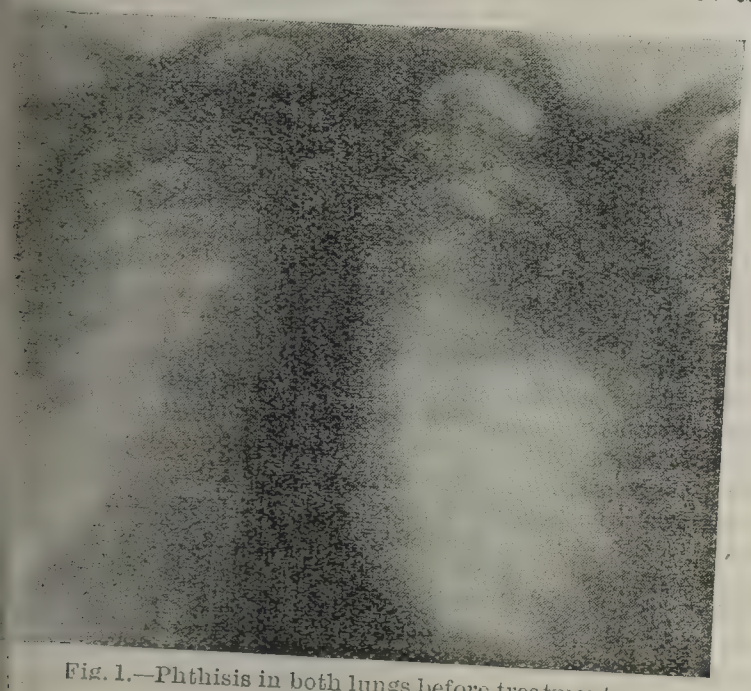

Fig. 1.—Phthisis in both lungs before treatment.

diseased lung. The charm of a screen examination in phthisis is that one is able to separate the signs due to the local lesion, that is, the shadows, from those due to loss of action. One is able to see the lung working, and to compare one side with the other. With a physical examination one is not altogether able to determine the cause of the signs. I admit that a local lesion must be present if it give rise to no shadow, but where no shadow is present I doubt if there will be any physical signs due to actual lesion.

Then, there is a loss of function of one lung in early phthisis, it must be due to what can be called a local toxaemia. Just as the general signs and symptoms of the disease are due to a general toxaemia, so I think the local signs of impaired function are due to a local toxaemia.

Now the aim of treatment, whether by sanatorium methods or tuberculin, is to restore immunity. We do this to get rid of the disease from the lung; that is a process of time. If immunity is restored and maintained the disease will gradually disappear by conversion into fibrous tissue or by absorption. How long that process takes I do not know. But with the return of immunity, just as there is a disappearance of the general signs and symptoms that were due to general toxaemia, so there is a disappearance or modification of the local signs due to loss of function.

After four or six months' successful treatment of early phthisis I find better expansion, better percussion resonance, better breath sounds, better movement of the diaphragm, wider intercostal spaces, and better illumination of the apex, which may equal the other side. In my experience, the most marked change in the signs as the result of treatment is in the illumination of the apex, and perhaps of the whole lung, by *x* rays. In cases where a definite shadow is present at the apex with poor illumination before treatment, at the end of treatment the shadow is still there but with much better illumination round it. I have always found the better illumination of the apex the earliest and most easily detectable local sign of improvement. Even in much more advanced cases with considerable shadowing, with improvement in symptoms and general signs, there is improvement in the illumination of the portions of the lung not covered in shadow.

While I have seen considerable improvement, and in some very early cases the disappearance of the *x*-ray signs, where they may have been well marked at the beginning, I have not seen them altogether disappear with treatment, and it seems reasonable to suppose that impaired function due to toxins is followed for a time by impaired function due to disease or habit. I would instance one case that was under my care some time ago.

The history of the case was that two years previously there had been right-sided pleurisy with effusion and pyrexia for many weeks afterwards, from which she gradually recovered completely, and the attack was thought to be rheumatic. She had been very run down for about six months before I saw her.

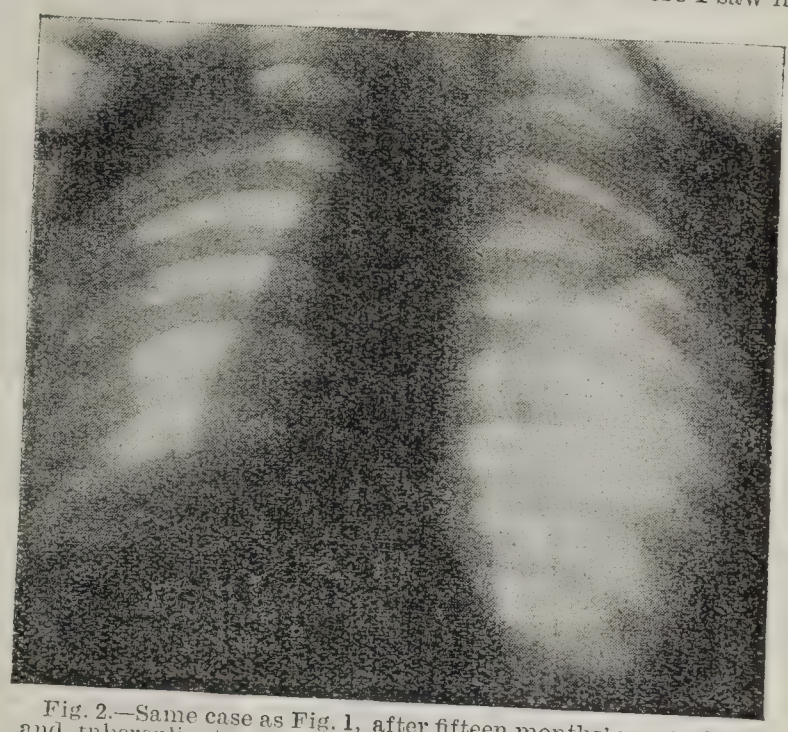

Fig. 2.—Same case as Fig. 1, after fifteen months' sanatorium and tuberculin treatment, showing considerable lessening of shadows.

On physical examination I found on the right side very slight impairment of percussion resonance and harsh breath sounds over the apex. On the left side I found deficient expansion, impaired percussion resonance, weaker uneven breath sounds, and one or two crepitations. By an *x*-ray examination I found a definite shadow at the right apex, but with very fair illumination and some uniform shading of the right base. On the left side no shadow was found on the screen or plate, but there was distinct deficient illumination of the apex, slight drooping of the ribs, and less movement of the left side of the diaphragm. My diagnosis was old disease at the right apex, with thickened pleura at the base and recent active disease at the left apex. At the end of six months' treatment the physical and *x*-ray signs at the right apex were practically the same, but on the left side there was distinct improvement in the expansion and percussion resonance and in the illumination of the apex; there was less sloping of the ribs, but the diaphragm still moved less on the left side than on the right.

I come now to the question of shadows. The presence of a small shadow is by itself of no value whatsoever in the diagnosis of phthisis, for by the diagnosis of phthisis one means the diagnosis of what is called active phthisis. If a shadow is present before treatment, it will be present after treatment when the patient is cured. It may be somewhat altered, but it will still be a definite shadow. If one examines a radiograph of a chest which shows a shadow in the lung, except in the case of certain comparatively rare conditions, one can definitely say that the patient of whom the radiograph was taken has or has had phthisis. But one could not possibly say what condition that patient was in as regards immunity to tuberculous infection. One could not say whether the plate had

been taken before or after treatment. I admit that where there is extensive shadowing one can say that the case must be one of advanced phthisis, and where there are small, coarse, discrete shadows one can say that the case is one of healed phthisis and the shadows caused by calcareous nodules. In the ordinary length of time—three to six months—in which one can "cure" moderately early cases of phthisis, I have not seen much alteration in the shadows. After a longer time I have seen shadows get less opaque or more diffuse. In one case a patch of consolidation has largely disappeared after fifteen months' treatment. In more advanced cases one sees dense shadows become lighter in parts from the formation of cavities, and the walls of cavities become denser after treatment.

The great value of radiographs in phthisis is to give one an accurate picture of the extent of disease that is capable of casting a shadow. Every other sign of phthisis is better observed on the screen. Two radiographs taken of the same case before and after, say, three or six months' treatment, may show slight differences in the shadows, and any alteration in the slope of the ribs, but it is not easy to show differences in illumination. The deficient illumination of an apex, which may be quite apparent on the screen, is often not shown on the plate owing to the more penetrative rays used for photographic purposes and the length of exposure. And, further, any alteration in the movements of the diaphragm can, of course, only be observed on the screen. For these reasons, I think the most valuable method of using *x* rays for the diagnosis of phthisis and for determining the results of treatment is examination with the fluorescent screen.

DISCUSSION.

Dr. HUGH WALSHAM (President) thoroughly agreed with Dr. Knobel in his remarks about the greater comparative value of screen examination. Half the cases of early tuberculosis would be missed if reliance were placed upon the radiograph. It was only by means of the screen that the deficient illumination at one apex could be appreciated. On the screen, long before a shadow could be detected, the deficient illumination at one apex would be obtained. Dr. Williams, of Boston, U.S.A., was very dogmatic some years ago as to the unilateral limitation of the diaphragmatic movement being the earliest sign of pulmonary tuberculosis, but the speaker had been in communication with him lately, and believed that he was less positive than formerly in this respect. The condition was not so much limitation of the diaphragm as a stuttering or stammering action of the diaphragm. He did not quite agree with Dr. Knobel if he understood his suggestion to be that a shadow could be seen on the screen before it could be seen on the plate. He thought that in some of these obscure cases if a plate were taken a shadow could readily be detected.

Dr. ALFRED HENRY CARTER (Birmingham) wished for a clearer idea as to the diagnostic value of radiological observation in quite early stages, before there were any unequivocal signs on physical examination. Was it possible under these circumstances to get evidence of a lesion in the lung by means of the *x* rays before unequivocal physical signs? He also raised the following point: In the illustrations which Dr. Knobel had shown them he pointed to certain areas of consolidation which showed a distinct shadow and then showed the same case as it appeared a year later, when the absence of shadow, or shadow in the same degree, suggested a disappearance of the consolidation. From the physical signs, although these would be altered, it might be that one would be able to deduce a further development in the results of the disease, although no longer active, whereas the appearance on the screen would almost seem to suggest the disappearance of the consolidation. He would like to have a little more information from the *x*-ray expert as to the changed result from the point of view of the shadow which had previously been present.

Dr. MAURICE R. J. HAYES (Dublin) dwelt upon the absolute necessity for the examiner and the physician also to spend some time in darkness before making a screen examination.

Mr. J. HALL-EDWARDS (Birmingham) said that as a pure radiologist he was obliged to Dr. Knobel for his paper. The speaker had not had a very great experience in this particular subject, and he thought that a man must be very well trained in the observation of diagnostic conditions by other methods before he could fully appreciate what a good radiograph would show him. As to technique, he thought the best results would be obtained by taking very rapid pictures. Much had been done with the new apparatus by means of which radiographs were taken in a single flash and no movement was able to blur the image. Undoubtedly if more attention were paid to this subject the value of the rays in the diagnosis of early phthisis would be greatly increased.

Dr. C. F. BAILEY (Brighton) said that for three or four years past he had had an opportunity of supplementing his work in the out-patient department by seeing the results of *x*-ray diagnosis in the case of the same patients. Speaking as a physician, he could say that undoubtedly diagnosis was greatly assisted by the supplementary *x*-ray examination, and he strongly agreed that the ordinary physician should come and study the result of the *x*-ray examination. He must be willing to take trouble and pains, however, or the work would prove fruitless. He recalled one case in which there was a dullness at the base of the lung, and the question arose as to whether there was consolidation, and it was found that the dullness was actually due to a greatly thickened pleura, whereas the lung underneath was emphysematous. The *x* rays practically clinched the diagnosis. He had always felt that the deficient illumination of the apex was *the* point. That sign had been the factor which had helped him very greatly.

Dr. G. H. ORTON (St. Mary's Hospital) quite agreed that screen examination was extremely important. On the occasion of the last discussion on this subject, at the London meeting, a large number of speakers contended that if the chests from which plates were taken provided such an amount of shading the disease existing must have been capable of detection by physical signs. But nothing was said on that occasion as to this deficient illumination. The technique of the procedure was extremely important. The observer must remain in semi-darkness, which was preferable to absolute darkness, for ten minutes or even longer. The tube must be adjusted so that the suspected apex was barely illuminated. He used a very soft tube indeed. Deficient illumination at the apex when obtained was one of the earliest signs. With the very rapid exposures, the breath being held in deep inspiration, it was possible to get a plate which showed the difference in density, but sometimes it was so slight that it was difficult to observe it. Of course, when both apices were affected it was very difficult to judge between the two. Associated with this failure of an apex to brighten there was frequently a limitation of the movement of the diaphragm, and he looked upon this also as a very early sign. At a later stage the diaphragmatic movement might be equal on both sides. The limitation made its appearance at a very early stage. Afterwards, when the damage was done, the remaining part of the lung took on a compensatory action and the diaphragm movements increased again. There was another class of cases in which emphysema and other complications were present. Here there might be very slight physical signs while the *x* rays showed a large amount of disease. This was quite a definite class of case, and any physician who would take the trouble to investigate a number of such cases would find the rays offering in such instances an astounding revelation. He had had several cases lately brought to him by well-known physicians, who admitted that there were no definite physical signs; but it was demonstrated to the satisfaction that there were shadows and a failure to brighten in the region of the root of the lung.

Dr. DELPRATT HARRIS (Exeter) asked whether in this connexion there had been any use at all of the *x* rays as a curative agent. They were likely to be of service more particularly in cases in which there had been empyemata.

REPLY.

Dr. KNOBEL, in reply, addressed himself to the two questions put to him by Dr. Carter. He did not see any

great value in the answer to the question as to whether the *x* rays would show a lesion before there were unequivocal physical signs. Phthisis was diagnosed by any sign that could be obtained. The case came to one primarily for symptoms. One might get a suspicion of phthisis from physical signs, and it might be confirmed by the *x* ray. If there were no symptoms and no physical signs, phthisis was not going to be diagnosed by the *x* rays. An old lesion could be revealed in that manner, but that was not necessarily active phthisis. One could, however, get confirmation by the *x* rays and in many cases determine the diagnosis. Dr. Knobel was proceeding to state the reasons why a deficient illumination should be regarded as a diagnostic sign, when Dr. Carter, interposing, said that it was not a question of the diagnosis of phthisis, but as to whether one could get definite signs on the screen where there was a definite absence of physical signs. Dr. Knobel said that this might be so in a case where all the physical signs were masked by the complications. In other cases where the lesion was found at the root of the lung and was surrounded by a large amount of healthy lung he could not speak with any certainty.

Dr. Walsham said that he thought it might be some answer to Dr. Carter's question to state that frequently they found cases where they saw a shadow in the apex extending possibly to the third rib. Then if the physician were asked with a stethoscope to trace down and mark with a pencil where he considered the physical signs to extend, the *x* rays would always go further. This mottling shadow extended for a considerable distance through the lung, so that when a shadow was found at the apex some degree of shadow was nearly always found at the opposite side.

Dr. Knobel, referring to the disappearance of shadows as shown on plates, said that a year after treatment the shadows undoubtedly got less. The ultimate result of the patch of tubercle was a scar or calcareous nodule. He did not think any one had the least idea how long it took to get into that condition.

RADIUM WATER THERAPY.

By William Armstrong, M.R.C.S., J.P.,
Buxton.

[*Abstract.*]

Mr. Armstrong opened with a reference to the use of the different thermal waters, of which Buxton and Bath in this country, and Gastein and Wildbad on the Continent, were the most celebrated examples. With the discovery of radium, and the ensuing scientific activity in that field of research, it had been proved that all the indifferent thermal waters possessed radio-activity in various degrees, and that when the radio-activity was lost they had no more therapeutic value than any other pure water. His own experience with radium emanation in water extended over a year and a half, and comprised the treatment of over 600 cases.

The apparatus employed was supplied by the Radium-Gesellschaft, of Charlottenburg. The activator was standardized to supply a given quantity of radium water of stated strength daily, and as radio-active water cannot be transported without very great or even total loss, small apparatus were designed for home use capable of generating sufficient quantity of water for the daily purposes of one patient.

Radium drinking-water was given to the extent of one-half to one litre daily, containing from 1,000 to 10,000 Maché units per litre. The quantity was divided into three or four doses, and taken as soon after meals as possible. A strength of 1,000 Maché units was useful in milder cases. The course of treatment varied from that of three or four weeks per annum upwards.

Radium inhalation was much more effective when given with oxygen, and could be used by means of a single apparatus, or in an inhalation room. Inhalations of 2,000 Maché units per litre of air were given for half an hour twice daily.

Radium baths could be given alone, or, more effectively, combined with oxygen. Temperature, 90° to 98°; strength, 10 to 30 Maché units per litre; duration, twelve to thirty minutes, from three to five baths being taken per week. In addition to the above applications of radio-activity, packs of radio-active earth were applied to inflamed joints or painful structures for from half to one hour.

Radium emanations, whether drunk or inhaled, were eliminated, in order of quantity, by the lungs, the skin, and the kidneys.

The physiological effects were:

(*a*) Increased diuresis, 10 to 20 per cent. If radium water were taken on an empty stomach the higher average was obtained.

(*b*) Increased excretion of uric acid, 10 to 15 per cent.

(*c*) Increased carbonic acid exhalation, 20 to 65 per cent.

(*d*) Increased toxicity of sweat (urea from 0.05 to 0.09).

(*e*) Lowered blood pressure.

(*f*) Decreased blood viscosity.

(*g*) Enhanced autolysis (self-digestion).

(*h*) Greater promptitude in uric acid excretion, overcoming the special difficulties of the gouty by retardation of purin body metabolism; slowing of the formation and the breaking down of uric acid, and alteration in the mutual relationship of the two processes.

(*i*) Dissociation of uric acid and its salts into carbon dioxide and ammonia.

(*j*) Increased activity of peptonizing and diastatic ferments.

(*k*) Prevention of the transformation of the easily soluble lactam urate into the less soluble lactim urate.

The clinical results were as follows:

Gout.—Relief of pain, swelling, and stiffness, with a solvent action on gouty deposits.

Rheumatism.—Inhibition of inflammation and relief of pain.

Arthritis.—Considerable general improvement, with rapid changes in recent non-acute cases.

Neuritis.—Diminution of pain; improvement in nerve-health.

Diabetes.—Gradual decrease in sugar; rapid decrease in acetone and diacetic acid; increase of weight; more complete oxidation; increased output of carbon toxins.

Glycosuria.—Rapid decrease, and eventually, in most cases, complete disappearance of sugar.

Albuminuria.—Increased excretion of toxins by lungs, skin, and, to some extent, kidneys; decrease of blood pressure; increase of specific gravity of urine in contracted kidney; decrease of albumen in parenchymatous kidney.

Arterio-sclerosis.—Steady and continuous decrease of blood-pressure.

Neurasthenia, Loss of Vitality, etc.—Results most definite and satisfactory, with rapid improvement.

Sympathetic Nerve Affections, etc.—Marked improvement.

Lessened Sexual Vitality.—Results very good.

The general results included a marked improvement in appearance, an increased vitality, and an improvement in digestion.

The reader of the paper then passed in review the effects of the radio-oxygen bath. The radium water had a strength of from 10 to 20 Maché units per litre; from 30 to 40 pints of oxygen were liberated in each bath, the effervescence lasting for twenty-five or thirty minutes. The bath acted directly on the skin and sensory nerve endings; indirectly on the heart, vascular system, the nerve apparatus generally, the kidneys, and the blood. It had been used with more or less success in cardiac affections with increased arterial tension, neuritis and neuralgia, various dermatoses, certain forms of eczema, and a number of other conditions.

The investigations seemed to him to point out:

1. The absolute necessity of high dosage.
2. The entire freedom from risk or danger in giving large doses.
3. The increase in general nerve vitality, especially of the sympathetic nervous system.
4. The marked stimulation of two sources of elimination of body toxins which up to now have been but slightly influenced by methods of treatment in use:
   (*a*) The output of carbon toxins from the lungs; and
   (*b*) The much larger quantity of toxic matter got rid of by transpiration and perspiration.

These points were of the greatest importance when

dealing with the tendency in present-day diseases towards lowered vitality and failure to excrete the body poisons.

He did not claim for radium-therapy any miraculous effects, but he strongly urged that within its limitations it added a weapon of value to the armoury for dealing with refractory and complex ailments.

DISCUSSION.

Dr. G. S. Ryerson (Toronto) related particulars of a case of osteosarcoma of the upper extremity of the humerus, which, being inoperable, was subjected to radium. A tube of 10 mg. was introduced into the part, and two 4 mg. plaques of 500,000 activity were placed so as to produce a cross-fire. This was continued for forty-eight hours, when the part was packed with iodoform gauze, and injections of radiogen were begun. After this treatment had been continued with decreasing frequency for five months, the result was a complete relief of swelling, pain, and other symptoms.

Dr. R. B. McVittie (Dublin) had been using radium water in the case of a man who had very bad emphysema of the lungs and a dilated heart. It was found that when he was given radium water twice a day—in all a very small number of Maché units—his breathing became affected to such an extent that he became asthmatical. In every way he was worse after the applications, save that there was a decrease in his albuminuria. But it was found that upon increasing the radium water the percentage of albumen always decreased, and on stopping it for a day or two it began to increase. In spite of this effect, it was necessary to keep to very small doses, because of the condition of the man's chest. Ultimately the man died. In another case the radium water did a great deal of good, improving the complexion of the patient and giving him lips of better colour and a cleaner tongue. But his breathing was laboured and troublesome, and that was the unfortunate part of the treatment.

Mr. Armstrong, in reply, said that he had never known any ill effect of the kind to occur within his experience.

RADIUM EMANATION AND PHYSIOLOGICAL PROCESSES.

By Dr. S. Saubermann,
Charlottenburg, Berlin.

[*Abstract.*]

Dr. Saubermann's communication to the Section was a very elaborate one, and was accompanied at every point by experiments conducted through the lantern and on the table, as well as by diagrammatic illustrations. He reviewed the now familiar atomic processes of radium disintegration, and claimed that the gaseous element or emanation which made its appearance almost in the centre of that series was the real producer of the wonderful ray-emissions which characterized the successive steps. The so-called radium-therapy, in his judgement, was nothing but an emanation-therapy, and the internal use of radium salts was like killing the goose which laid the golden eggs, since the required effect was to be obtained by the use of the emanation only.

The mere presence of radium emanation either initiated or intensified chemical processes, especially that of oxidation; while biologists had shown that relatively large quantities of emanation caused a diminution of cell dividing and regeneration, and delayed embryonic growth. As to physiological effects, he regretted that for a long time the striking discoveries as to the connexion between emanation and organic metabolism made no impression upon practical medicine. From the year 1903 he advocated the opinion that the well-known effects obtained at natural spas were not derived from physical forces, but resulted from the increase of chemical action, especially oxidation, owing to the presence of radium emanation in the waters.

After showing a diagram illustrating the dependence of the ferment secretion on activation, and how certain of the ferments activated one another—one ferment, for example, penetrating the intestines as prosecretin in the blood, and returning as secretin to act on trypsin and the steapsin of the pancreas—Dr. Saubermann said that it was difficult to deny that very many ferments were interrelated, and that by activating any deficient ferment by means of emanation they would succeed in influencing a long chain of others. The function of the organs and their secretion was in accordance with the requirements of the body, and corresponded with the characteristic qualities of the food. Moreover, the body ferments were specific, and therefore acted only upon substances which were absolutely of the same kind as their own body constituents. There existed a great number of ferments, especially in the blood, each of which could only fulfil its single and intended function. In this connexion the speaker drew attention to the possibility of hindering the oxidation of sugar in the blood by phosphorus, arsenic, mercury, sublimate, nitrobenzol, carbon oxide, and other substances, so that sugar actually appeared in the urine, effecting an artificial glycosuria. They could not follow the analysis further than the amino-acids, which they separated from the albumoses by the function of the pancreatic ferments, but it was very likely that the oxidation might be continued even to ammonia, as Ehrlich had proved that some ferments decomposed the albumen in case of necessity only, but availed themselves of ammonia for the synthesis of nitrogen combinations. By administering aethylamin, for example, the body excreted aethyluriac, the existence of which in the urine was owing to the presence of carbaminic acid—a product of ammonia and carbonic acid. But the main quantity of urea excretion had another source, for by decomposition of wasted cells, as well as of food-albumen, much nucleo-protein was produced. From this the purin bases were derived by further oxidation, the latter being considered the parent substance of uric acid.

These operations were due to the autolytic ferments (the activation of which, with emanation, had been effected by Neuberg) and to the proteolytic ferments, the existence of which in the blood and tissues was known. According to these facts, the origin of gout was not an excessive increase of uric acid or a hypertrophic action of uric-acid-forming ferments, but an insufficiency of the uricolitic ferments, which could be pathological or a consequence of alcoholism or hereditary defect. Similar might be the origin of cystinuria, which was a perfectly hereditary anomaly, since the cystin was a component of all sulphur-containing proteins, and in the case of healthy people never showed itself in the urine, even when the existence of mercaptan in the faeces proved that oxidation of the cystin had taken place. In this manner it was shown that cystinuria was the determination of the absence of cystinolytic ferments, but he felt convinced that an emanation treatment would be possible. It would be easy to bring further proofs of the connexion between life and ferment, but those produced should be sufficient as a foundation. From all these facts he concluded that disturbed metabolism was nothing but disturbed fermentation.

After regarding diabetes from this point of view, and suggesting that the disappearance of abnormal substances from the blood could be obtained by radium emanation, which favoured oxidation by its mere presence and substituted the action of a missing ferment, Dr. Saubermann went on: "I would recall the fact to your memory that according to the discoveries of Pavloff, metabolism is dependent on nerve activity also; since secretion of the saliva and stomach glands are actions of the nervous system, which are initiated by the nerves of smell and taste. For example, when dogs were given food without knowing it, the secretion of the digestive organs was abnormally delayed and diminished. The effects of fermentation, therefore, appear to be dependent indirectly also on the sympathetic nerve, quite in accordance with our experience that the energy of atomic disintegration influences the nerve ends throughout the body—a fact deserving very careful consideration."

The passage of radium emanation in the body, Dr. Saubermann continued, was for a long time a complete mystery. Tests with animals had been made, but in a faulty manner, and the results gained were absolutely worthless, due to the use of from one to a hundred Mache units for drinking, bathing, and injection. On the other hand, the therapeutic and clinical results claimed with these insufficient doses were so exaggerated that places like Lourdes, Kevelaar, and other miracle-working spa

threw envious glances in the direction of these competitors. He considered it, therefore, a special stroke of good fortune for the radium emanation therapy that he was able to interest the well-known scientist, Professor Paul Lazarus, Leyden's successor in his private clinic, and director of the Marien Hospital at Berlin, who took up the scientific side of the question. Professor Lazarus made the very sensible condition, before beginning further therapeutic work, that the behaviour of radium emanation in the body must first be found out. They shared the task, Lazarus undertaking the medical and the speaker the technical part. The results of these original researches were brought by Professor Lazarus before the Congress of Internal Medicine at Wiesbaden and the Society of Internal Medicine at Berlin. The remainder of Dr. Saubermann's address consisted of a very long extract, given by permission, from the findings of Professor Lazarus. Since this extract was regarded by Professor Saubermann as the main part of his own lecture before the Section, we quote from it somewhat extensively:

"Radium emanation can enter the organism in several ways, but in accordance with the character of an inert gas it totally and rapidly leaves the body. The main portion leaves through the lungs, a large part through the intestines, and some through the skin and kidneys. The manner of entering decides the degree and speed of the emanation-passage through the organism. It lasts *seconds* by inhaling; *minutes* with an injection; *hours* with the stomachal or rectal application. Consequently we distinguish five ways of absorbing emanation:

"1. Through the lungs.
"2. Through the digestive organs.
"3. Through the skin.
"4. Through the medium of different forms of injections.
"5. Through the employment of local applications externally, on wounds for instance.

"The lung is the quickest medium of absorption and discharge of the radium emanation. The large resorptive surface of the alveoli facilitates a direct indrawing into the circulating lung-blood with each breath. Here the radium emanation, in accordance with the laws for indifferent, respirable gases, is physically dissolved, but a chemical composition, as, for instance, that of carbon oxide, does not take place. Therefore, the absorption of the radium emanation is dependent, like all other gases foreign to the body, on the coefficient of absorption, the temperature, and partially on the pressure. The solubility of the emanation in blood is less, like all salt solutions, than in water of the same temperature. . . . The emanation penetrates from the air that is breathed into the alveolar air, from thence into the blood, and with the blood into the organs and tissue cells, which, in accordance with their specific solubility, will take up the emanation. The more regular the concentration of the emanation, the sooner there will be reached a saturation of the blood, in conformity with the duration of inhalation. At the moment when the admission of the emanation ceases, the curve changes its direction; the emanation leaves the blood and enters the air of the lungs and the tissues, and in a short time the whole of the body emanation diffuses to a large extent through the alveoli."

After noting that the kidneys, intestines, and skin are also the media for the excretion of the breathed-in emanation, Professor Lazarus went on to speak of the emanation administered per os, which, he said, entered the organism in three ways. The first represented the direct penetration of the stomach and intestines; the second, diffusion into the capillaries of the lymph and portal vein systems, the emanation circulating through the liver; the third, a method which he termed "retroiration." As to this last, his tests left no doubt that a very large portion of the emanation imbibed reached the arterial blood. Emanation certainly circulated with the blood, whether administered per os or per pulmones. By inhalation the emanation reached primarily the lungs, and secondarily the intestines, but the opposite took place in the drink cure. The difference between the two resided principally in the speed of the emanation's passage. Though the emanation was absorbed more rapidly in the case of primary inhalation, it would be retained scarcely as long as it was being breathed, but in the case of the drink cure the emanation was gradually introduced into the circulation, and it left the system also relatively slowly. It was obvious, therefore, that the emanation circulated only for so long in the blood as it was being absorbed by the organism. The speed of resorption and the tendency to diffusion of emanation within the organism was very great.

Professor Lazarus went on to claim that he had proved that the entire diffusible body liquids would be impregnated by emanation administered by the mouth. The question then arose as to why the inhalation cure should be represented by various sections to be more effective than oral administration. The latter fell into discredit owing to the poorness of the preparations in which the emanation was already entirely or partially disintegrated. The variable nature of purchasable preparations had also to be considered, and a third mistake was the splitting up of the oral administration by extending it over far too long intervals. The important feature in emanation treatment was the constant saturation of the body, which he best achieved by giving the patient a dose every twenty minutes for a period of three hours. By the process of ten or more doses or sips from a bottle containing the total quantity, this constant saturation of the body was obtained in a manner which would have been impossible had the total quantity been administered at once. He called this form of application the sipping cure.

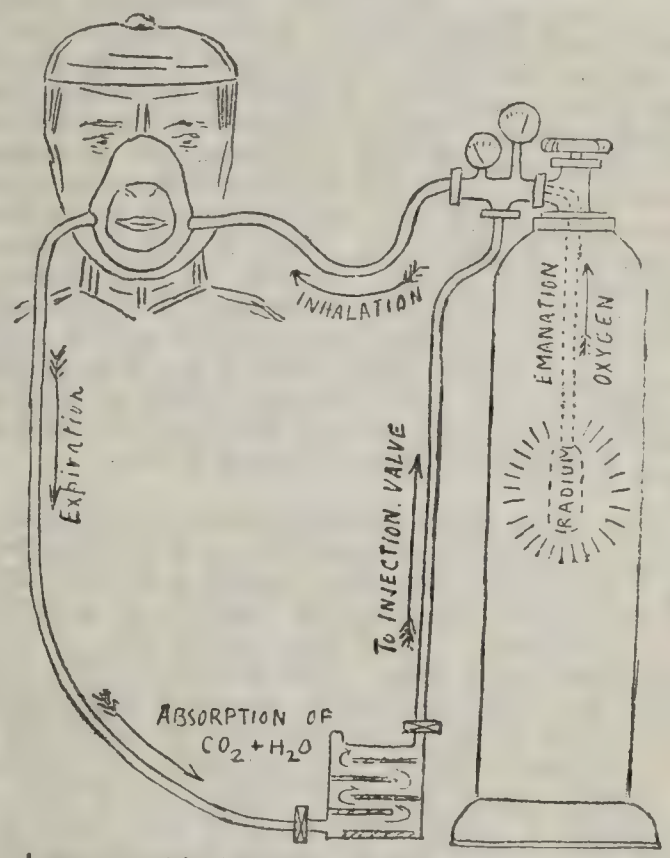

Arrangement for inhalation of radium emanation and oxygen in closed circuit.

The final portion of the paper was a description of a system evolved by Professor Lazarus and Dr. Saubermann by which it was claimed that the inhalation of radium emanation could be rendered efficient. The system depended upon the direct "high activation" of a respirable gas such as oxygen, and upon a closed circuit of respiration, reduced to the smallest space possible, together with a special system of charging. A perforated steel tube was inserted into the axis of an easily transportable steel cylinder and filled with radium substance. This cylinder was filled in the customary manner with oxygen, and contained the desired activity according to the power of the radium preparation introduced. After four days a state of half-saturation was reached, and from then there would be a state of balance for the emanation. Maché units to the number of 200 to 250 per litre of oxygen were employed; a reduction valve permitted of the exact regulation of quantity issuing from $\frac{1}{4}$ to $\frac{1}{2}$ litre per minute. A so-called inspiration tube led from the source to a breathing mask, so arranged that it would close around the face airtight, and from this a so-called expiration tube was connected with a regenerating system which was confined to a very small space. In this absorber, arranged on the well known principle of the oxygen life-saving apparatus, the breathed-out emanation would be purified from CO_2 and H_2O vapour, whereupon

it would be drawn by means of an injector into the inspiration tube. By this means nothing would be lost from the emanation. It was added that the charging of the organism with such high doses of emanation proved to be quite harmless. Parallel with the lengthening of the inhalation there proceeded an increase of the activation of the breathed-in air, and the breathing out into a highly active atmosphere prevented the escape of emanation from the blood.

In a concluding passage, after dealing with the established fact of the absorption of emanation through the intact skin, Professor Lazarus was thus quoted by his colleague: "Emanation injections, whether intravenous, subcutaneous, or intramuscular, must prove useless, because the emanation will escape per pulmones in a very short time. The numerous negative results speak for themselves. Effects can only be obtained if solutions of radium salts are employed, as though establishing a kind of radium dépôt within the body, which can produce emanation under given circumstances for some time. I have practised such injections for the past six years in exudations in joints or in serous cavities, but always locally, and I have never been able to record a damaging effect by permanently depositing emanation within the organism."

DEMONSTRATIONS.

PROFESSOR WERTHEIM SALOMONSON (Amsterdam) showed a modified form of the Benoist penetrometer, which he had devised for the purpose of giving at a single reading the penetrating power of an *x* radiation in Benoist units to the first decimal. The instrument was provided with a small screen covered with lead-glass, and an arrangement was made whereby the transparency to the *x* rays of a silver plate of 0.11 mm thickness could be compared with that of an aluminium plate having a thickness varying from 2 to 12 mm. In this way the degree of hardness could be indicated in Benoist degrees ranging from 2 to 12. By adjusting two carefully worked wedges of aluminium a parallel fixed plate of any desired thickness—to 0.1 mm. or even 0.01 mm.—could be obtained, enabling the penetrating power of the rays to be indicated even to a decimal fraction of a Benoist degree.

DR. A. HOWARD PIRIE (St. Bartholomew's) brought forward a synchronous stereoscope for use with a fluorescent screen. Two *x*-ray tubes were lighted alternately by the *x* rays, the flashes following one another at intervals of about $\frac{1}{1000}$ minute. This was carried out by means of the Snook apparatus. The picture on the screen, owing to this rapid alternation, appeared to be doubled, and the object of the stereoscope was to enable one eye to see one picture alone and the other eye to see the other picture alone, the result being stereoscopic. For this purpose a flexible driving shaft was fixed to the rotating axle of the Snook, and to the free end of the shaft was attached a disc with two apertures, so that the disc, rotating with the shaft at the same speed as the Snook, allowed the two apertures to appear in rapid alternation before the eyes. One eye would thus see the first *x*-ray tube lighted up, and after a momentary interval the other eye would see the second tube, and the combined impression of the shadow of the object cast on the fluorescent screen would fulfil all the conditions for stereoscopic vision. The stereoscopic apparatus was similar in size and shape to a lady's hand-mirror.

THE PRESIDENT said that he had an opportunity of examining the stereoscope in his own consulting-room, and greatly admired the absolutely stereoscopic result which was obtained.

Demonstrations accompanied the reading of some of the other papers which are separately published. Dr. Lewis Jones's paper on ionic medication was followed by a demonstration carried out by Dr. Pirie, illustrating the movement of iron ions through twelve layers of parchment paper. Dr. Nagelschmidt was enabled to carry out some experiments on the diathermy apparatus, by the kindness of Messrs. Siemens, Brothers, and Co., Limited; and a demonstration involving the arrangement of a large amount of apparatus accompanied Dr. Saubermann's paper.

A cordial vote of thanks was accorded to the President and officers of the Section, on the proposition of Mr. HALL-EDWARDS, seconded by Dr. R. E. MORTON; and Dr. WALSHAM, in responding, bore testimony to the valuable work done by the Honorary Secretaries, Drs. Orton and Emrys-Jones, and, in an unofficial capacity, by Mr. Hall-Edwards.

SECTION OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

F. MARSH, F.R.C.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

LET me first of all extend a very cordial welcome to all members attending the Section and to our visitors from beyond the seas. I am sure we all very much appreciate the presence of the latter, some of whom have come great distances to give us the benefit of their knowledge and experience in the special subjects set down for discussion. The exchange of opinions and views cannot fail to be of mutual benefit, and I trust the visit will be a pleasant and profitable one.

Birmingham—soon to become, if only for a short time, the second city in the kingdom—will, as a city of very many industries, doubtless possess some features of interest for every one. In the evolution of specialism it has been true to its motto, "Forward," for a hospital for diseases of the ear and throat was established some seventy years ago. The present building, providing accommodation for 41 in-patients, will, I think, compare favourably with that of any big city and the record of clinical work done therein will also bear comparison. In one matter, however, Birmingham lags behind other large cities, in that there is no chair, nor provision for teaching these special subjects, in the university.

Owing to the multiplicity of industries, there is no one "trade" affection of the regions we are interested in peculiar to the city, nor, possibly from its position on a group of hills 400 to 600 feet above sea level, is there any one predominant disease of these regions.

At the present time a question of grave importance, though perhaps much less so to consultants and specialists than to the large body of general practitioners, is that of the National Insurance Bill. As it at present stands, it will not much affect specialists from a monetary point of view—the class coming under the income limit will with few exceptions continue as heretofore to obtain special treatment at hospitals, but when compulsory payment has to be made for medical treatment, what is now given as a charity will ere long be demanded as a right. The State, following the path of least resistance, will probably attempt to meet this demand by subsidising hospitals. This is foreshadowed by Clause 17, which gives power to friendly societies to subscribe to hospitals, and which will probably be deleted, as the Chancellor of the Exchequer has decided not to deal with the hospital question at present. The question, however, will be dealt with, and if hospitals accept the subsidy, they will be brought gradually under State or Municipal control.

It would almost seem that some State assistance will be needed unless the privileges now given are to be considerably curtailed, for it cannot be expected that employers of labour and their employees will continue their subscriptions to hospitals on the present scale and at the same time pay insurance premiums, in most cases larger in amount than their present contributions. (Some £20,000 is now contributed annually to the Birmingham Hospital Saturday Fund by the class now to be insured.)

It therefore behoves the medical staffs, the majority of whom are consultants and specialists, to consider the position in advance and come to a decision whether a State or municipal subsidy, involving some control, should be opposed or supported, and if such subsidy and control is accepted or is unavoidable, what steps should be taken to ensure—

1. Satisfactory regulations for appointment of medical staffs.

2. Adequate representation of medical staffs on governing bodies.

3. Adequate payment of medical staffs (now honorary) for work done for the State.
4. The control of clinical teaching by medical staffs.
5. The restriction of the benefit of treatment to the class for whom it is intended.

To give effect to any decision the support of the whole profession is essential, and this can only be obtained through the one organized body of the profession—the British Medical Association. It is, therefore, important that all consultants and specialists who are not already members should join the Association, whether they personally will be affected or not. I think, too, that a representative committee of members of hospital staffs should be formed at an early date to formulate a policy, and have it approved by the Association, before further legislation on the lines forecasted is enacted.

This year our Section includes the trilogy of Laryngology, Otology, and Rhinology, which to some may seem a retrograde step after their separation last year. I am rather disposed to think it an advantage, for although certain affections of the larynx and of the labyrinth are in no way due to conditions existing in the upper air passages (the mouth, nose, and pharynx), yet for many diseases this region is a ground common to both, and should be considered the centre point for both laryngologists and otologists. Both should be prepared not only to diagnose but to treat any causative lesion in these regions. It is difficult to credit Mr. Mark Hovell's story of the patient who had been treated by an aurist by inflation, whose nose was stuffed by polypi which had received no treatment whatever. Should a division eventuate, the rhinologist would undoubtedly hold the commanding and the most logical position.

I trust, however, the tendency to further cleavage will be checked, and that the time will not come for one operation or one method of treatment to be alone specialized in. Such an issue would be alike disastrous to the profession and the public. Still more to be deprecated would be any division of the three in the examination regulations of universities or qualifying bodies, though few of the former and less still of the latter have any examination of value in these subjects. The time surely has come for this state of things to be amended by requiring candidates in their final pass examination to show they possess at least an elementary knowledge of the diseases of these regions.

A departure which will be watched with interest by all specialists is that recently made by ophthalmologists, who, at the instance of Mr. Doyne, have recently instituted at Oxford a Diploma in Ophthalmology, which is granted to medical men passing an examination in this subject after a special course of study. Should the diploma become the hall mark of ophthalmology, the advisability of taking a similar step will need consideration by specialists in our trilogy, especially as so little attention is given to these subjects by universities and examining bodies. The danger is that at some future time the diploma may be granted without the restriction of a prior qualification in medicine and surgery, which would ultimately result in narrowness of view and deterioration. A wide outlook is essential when many local symptoms have a constitutional cause, and I believe that that specialist will be the most successful who has had a fair experience in the practice of general medicine and surgery before limiting himself to special work.

DISCUSSION ON THE TREATMENT OF CHRONIC ADHESIVE PROCESSES IN THE MIDDLE EAR.

OPENING PAPERS.

I.—MACLEOD YEARSLEY, F.R.C.S.,

Senior Surgeon, Royal Ear Hospital; Medical Inspector of London County Council Deaf Schools; Lecturer at the London Training Colleges for Teachers of the Deaf; Examiner to the Joint Examination Board for Teachers of the Deaf, etc.

(*Abstract.*)

THE term "chronic adhesive processes in the middle ear" represents the conditions in which there is interference with the functions of the conductive apparatus—tympanic membrane, ossicles, Eustachian tube, and lining membrane of the middle ear—from abnormalities due either to cicatricial tissue left by a former suppuration or to adhesions resulting from a chronic catarrhal inflammation.

The treatment of these conditions necessarily depends upon accurate estimation of the symptoms and of the physical and functional examinations. The condition of the fossae of Rosenmüller, for example, should be carefully investigated. In like manner the relation between the acuteness of hearing for the acoumeter and for spoken and whispered speech affords a rough guide to prognosis, which is usually better when the hearing for the acoumeter and spoken speech is better than for the whisper, and vice versâ.

As in other intractable diseases, the remedies recommended for the treatment of this variety of deafness are multitudinous.

Inflation, a well-established method, should be effected through the catheter. Frequently repeated catheterization—three times weekly, or even once daily—is a desideratum. The Valsalva method and its modifications are to be deprecated.

The large part played in the etiology of these adhesive conditions by abnormalities in the nose and naso-pharynx, and especially in the fossae of Rosenmüller, necessitates careful attention to these regions. It is a debatable question how far the nose should be attacked save when obvious interference with nasal function is present.

In addition to syphilis, gout, and rheumatism, the possible etiological influence of pyorrhoea and intestinal toxaemias should not be forgotten.

Turning to the question of local treatment, oto-massage is, when used with discretion, a valuable remedy. Short piston stroke and rapidity of vibration are the important points. It should be stopped when improvement ceases.

The application of hot or superheated air (400° F.) both through the meatus and through the Eustachian tube, has not been so beneficial as its advocates claim.

Intratympanic injections of liquid paraffin, with or without menthol, are frequently used. The solution introduced by Lake for this purpose—Hydrarg. iodid. gr. 16, lanolin. ʒvij, parolein. ad ʒiv—has given good results, especially when combined with oto-massage.

Electrical treatment—galvanism—as Urbantschitsch showed in 1909, has little or no effect upon deafness, but that author found the tinnitus relieved by its use.

Thiosinamin, or its derivative fibrolysin, has recently been tried, with somewhat conflicting results. Out of 20 cases in which the speaker had employed this agent, 3 were improved, 16 unimproved, and the result in 1 was doubtful. One of the cases reported that he lost his paracusis Willisii after about the tenth injection.

As to operative treatment, there is ample food for discussion, and it would be well if the indications and contra-indications for these procedures could be authoritatively laid down. Mobilization of the malleus, division of the posterior fold, and tenotomy of the tensor tympani have been useful in some cases. Exploratory tympanotomy is usually disappointing, but in one case the speaker was able thereby to discover and to divide some adhesions about the head of the stapes with permanent benefit to the hearing.

A method of treating the deafness that is associated with flaccid membranes has recently been advanced by Mr. Charles Heath, of London. His statements appear to be at variance with accepted teaching, but, of course, none the less deserve attention.

In severe deafness, when treatment has failed to relieve, the patient may be taught lip-reading or he may employ an artificial aid to hearing.

With regard to artificial aids to hearing, much still remains to be learned. There seems to be a useful field for the combination of microphone and telephone, but investigation, preferably by the otologist in co-operation with the electrician, is required.

II.—DR. HUGO FREY,

Docent of Otology, University of Vienna

(*Abstract.*)

THE first great difficulty in estimating the value of any given method of treating chronic adhesive processes in the middle ear lies in the fact that in the past too little attention has been paid to the differential diagnosis of this condition. In all cases in which new methods are

employed observers should be scrupulously attentive to the results of the classical methods of testing the hearing as well as to the results of the physical examination of the ear. Carelessness with regard to these essential preliminaries will lead to the inclusion of oto-sclerosis and even of cochlear disease in the same category as the lesions now being dealt with. The absence of definite proof on the part of authors that such proper care has been exercised in the cases they report will prevent any reliable judgement being formed upon the treatment they advocate, and in this way, perhaps, methods which may be of considerable value are liable to be overlooked or ignored. Under the name "chronic catarrhal adhesive processes" only those changes should be included which are characterized anatomically by a hyperproduction of the connective tissue of the middle ear and clinically by a prolonged and, it may be, a progressive course.

Apart from senile changes, which may, of course, set up excessive connective-tissue growth, chronic adhesive processes in the middle ear are the result of some previous catarrhal or inflammatory condition. The after-results of healed chronic suppuration, with its extensive scars and dry perforations, are not included in this class. The functional troubles which chronic adhesive processes induce may not appear for many years after the causative catarrh or inflammation.

This consideration shows that the prophylaxis of deafness, etc., from this cause involves special attention to these initiative inflammations, and especially to the nasal and naso-pharyngeal abnormalities which induce them. Hypertrophied tonsils and adenoids, pathological conditions of the septum, turbinals, and accessory sinuses, must, therefore, be treated efficiently in all cases, with a view to the prevention of deafness later in life.

In respect of the treatment of chronic adhesive processes in actual being, efforts are directed to the mobilization of the conducting apparatus of the middle ear. For this purpose inflation by Politzer's method and by the catheter give (even nowadays) incomparably the best results. In addition benefit is sometimes obtained from pneumatic massage, applied by means of an electro-motor air-pump.

When the Eustachian tube is narrowed, the catheter and the passage of the Eustachian bougie is advisable, while vibratory massage of the tube, the lateral wall of the pharynx, and the posterior end of the inferior turbinal is also serviceable in rendering the temporary benefits of simple catheterization more lasting. Coarse vibratory massage by means of an electrically actuated cushion applied to the tragus and the infra-auricular and mastoid regions, in addition to the methods just mentioned, often relieves many subjective discomforts.

The injection of liquids into the Eustachian tube through the catheter is commonly practised. Of the various substances employed for this purpose, liquid paraffin is the best. Irritants should be avoided, unless there is still some active inflammation present, and then weak solutions of silver nitrate are of considerable value.

The introduction of hot air or hot steam *per tubam* is not so frequently employed as it should be. Many cases respond to this treatment more rapidly and completely than to any other. In the same way the application of hot air externally to the aural region is often a source of benefit. Sun baths, likewise, have been followed by a marked improvement in tinnitus.

Electrical treatment—faradism, galvanism, and high-frequency—is less useful than some of its advocates claim. A new method which seems to have met with some success is the application of light rays directed either from a Nernst lamp through the meatus upon the membrane or from a small lamp placed in the meatus itself.

Thiosinamin and its derivative fibrolysin have been the subject of repeated trial of recent years, but with very conflicting results. Apart from their effects upon scar tissue left after suppuration they do not seem to be of much value.

Internally the patient's general health should receive attention, and he should be given iodine in medium doses for about six weeks, as it occasionally brings about considerable improvement.

Vigorous hydropathic measures are objectionable, but climatic influences may be beneficial. In the matter of altitude the patient should not be permitted to go any higher than 3,000 ft. above the sea level. Residence in a balmy sea climate such as the Mediterranean is often of benefit.

In the absence of any improvement resulting from the foregoing methods of treatment, recourse may be had to operation, the results of which in the past have not been so satisfactory as they would have been if suitable cases had been selected for operation.

Operations on the nose have already been mentioned. Their action is prophylactic rather than curative, but this kind of prophylaxis should be energetically carried out, even to the extent of removing abnormalities which cause no inconvenience in the nose itself.

The introduction of Hay's pharyngoscope has provided means of inspecting minutely the pharynx and Eustachian orifice, and minor lesions in these regions will now receive proper surgical treatment with benefit to the middle-ear disease.

Of intratympanic operative measures the dissection of the posterior fold of the membrane, in cases in which catheterization does not completely correct retraction, has been productive of benefit. But to obtain a lasting result the operation must be followed by massage of the malleus by means of Lucae's probe. Tenotomy of the tensor tympani is of less service than removal of the malleus, and perhaps also of the incus. Incision through the incudo-stapedial articulation also is sometimes beneficial, but attempts to mobilize the stapes are dangerous and useless.

Future progress depends on successful endeavours to estimate the exact effect upon the hearing of the situation of adhesive lesions in the middle ear.

DISCUSSION.

DR. ANDREW WYLIE (London) said that he had met with considerable success in treating deafness due to chronic adhesive processes from the use of hot air, introduced by means of the catheter through the Eustachian tube. He showed an apparatus which he had devised for heating the air electrically, and charging it with medicaments. The chief difficulty in applying the treatment arises from the catheter becoming unbearably hot. This he had avoided by using a catheter made of vegetable fibre. Out of 1,000 cases so treated 420 were cases of post-suppurative deafness, and about one-third of these showed decided improvement. The degree of heat employed varies with the patient, but the application should be stopped when the membrane becomes red.

DR. W. JOBSON HORNE (London) thought that since in all these cases there was a residuum of hearing, it was important to inspire the patient with hope and to carry out a course of treatment from time to time. The general health should be attended to, and the blood tension should guide them in the matter of tonics. Nasal treatment was indicated when marked relief followed catheterization, but it was not contraindicated when the use of the catheter yielded a negative result. Deafness in these cases was of longer duration than patients suspected, a fact which showed the great importance of special attention to the naso-pharynx in early life. The improvement in hearing which sometimes followed the onset of accidental suppuration in chronic dry catarrh of the middle ear was a remarkable and suggestive circumstance. It seemed as if a little pus were helpful at times. He agreed with all that had been said about the co-operation of aurists and electricians in the manufacture of artificial aids to hearing.

DR. P. WATSON-WILLIAMS (Bristol) emphasized the importance of removing adenoid vegetations in the naso-pharynx and any definite nasal obstruction in cases of middle-ear deafness due to catarrhal conditions. When the usual methods of politzerization, etc., had proved unavailing it was well simply to perforate the membrane as a first step. If, so long as the perforation remained open, the hearing was improved, then the membrane and malleus could be removed with some hope of permanent benefit. Politzerization, oto-massage, etc., were, however, usually beneficial, unless stapedio-vestibular adhesions were present, and, as the removal of the membrane or ossicles could not influence such adhesions as these, cases likely to benefit by surgical procedure were few and far between.

Mr. H. F. Mole (Bristol) had always been sceptical of the claims made for fibrolysin, and two cases he had recently seen had confirmed him in his scepticism. He asked whether one could tell when mobilization of a malleus adherent to the inner tympanic wall would be likely to relieve deafness, as he had seen many cases where such mobilization had been effected without any improvement.

Dr. W. S. Syme (Glasgow) held that nasal and naso-pharyngeal abnormalities should be removed whether catheterization produced benefit or otherwise. Referring to oto-massage, he advocated the employment of an air pump with a longer and stronger stroke than that in general use. After using the short stroke for a time the long stroke should be resorted to, due attention, of course, being paid to its effect upon the symptoms. Fibrolysin he had found beneficial in post-suppurative conditions; a more prolonged use of it might benefit post-catarrhal deafness. School inspection showed a proportion of children afflicted with adenoids as compared with enlarged tonsils lower than specialists knew to exist, and he pleaded for stricter attention to the diagnosis of these growths in view of their influence upon hearing in later life.

Dr. Pegler (London) doubted whether the improvement which so often followed the removal of nasal abnormalities could always be referred to the restoration of ventilation and drainage, and narrated a case in which the results of nasal operation strikingly supported his contention. He regarded the benefits obtained, not only from nasal operations but also from operations on adenoids, as probably due to the removal of some nerve irritation proceeding from the nose or naso-pharynx to the middle ear [by way of the Vidian, otic, and Gasserian ganglia]. The speaker extolled the use of the air-reservoir apparatus in catheterizing obstructed tubes, especially when the air was medicated. He also had used hot air with benefit.

Dr. Bronner (Bradford) ascribed the not infrequent attacks of middle-ear catarrh from which many people suffered to sleeping with the head uncovered. The best method of preventing excessive formation of connective tissue in the middle ear was to induce hyperaemia by means of hot air. Elderly people benefited by the prolonged use of potassium iodide. He had found iodized or mentholized air of great service when introduced by the compressed-air apparatus.

Dr. Dan McKenzie (London) had employed Bier's hyperaemia method, obtained by an elastic band round the neck, of service in some cases. He agreed with Dr. Frey with regard to the beneficial effects of coarse vibration applied to the spine or skull. An early recourse to artificial aids to hearing was imperative in middle-ear deafness in order to prevent or postpone the inevitable nerve deafness consequent upon disuse.

Mr. Sydenham (Walsall) suggested the direct injection of medicaments through the tympanic membrane by means of a hypodermic syringe. He had used fibrolysin in this way with apparently good result.

Mr. H. Tilley (London) said that the value of nasal and naso-pharyngeal operations in the treatment of middle-ear deafness could be definitely foretold from the results obtained by the use of the catheter. If no improvement followed inflation, then the effects of nasal treatment upon the hearing was highly doubtful. Patients certainly often expressed themselves as better, but if they were carefully tested some months after operation it would be found that no improvement had been obtained. His experience with fibrolysin had not been encouraging. In this, as in other new methods proposed, test cases should be selected by otological societies, and the results of such methods accurately investigated. This was the only plan by which reliable information could be obtained. With regard to the bougie treatment of Eustachian stenosis, he held that dilatation by bougies was of no avail in constrictions which had been in existence for from six to ten months.

Dr. J. Gibb Wishart (Toronto) had had successful results in the use of hot air in selected cases. By the use of the Holmes pharyngoscope the exact condition of the Eustachian orifice could be ascertained, and they might expect a revolution in treatment to follow the more general employment of the instrument. As it was introduced through the opposite nostril, all instrumentation could be controlled by vision.

Mr. H. J. Davis (London) said that the evidence in favour of the nasal treatment of this variety of deafness was overwhelming. Even a simple remedy like an alkaline nasal spray would often improve the hearing by clearing the nose. Regarding intratympanic injections through the catheter he had found that the greatest temporary benefit followed the use of alkaline fluids; sometimes, however, acid fluids (5 per cent. lactic acid) proved more beneficial. If improvement resulted from oily liquids it was usually more prolonged than was the case with watery solutions. He ascribed the occasional good effects of potassium iodide to the fact that it made the tympanic cavity more moist. A 3-grain dose was sufficient.

The President said that at present the preponderance of opinion with regard to nasal operations seemed to be that if improvement was obtained by inflation, nasal and naso-pharyngeal abnormalities might be hopefully rectified. Intratympanic injections and massage were the mainstay of treatment, and he anticipated a more general use of inflation with hot air.

Reply.

Mr. Macleod Yearsley, in reply to the discussion, said that, unlike Mr. Mole, he had found mobilization of the ossicles to be of service in cases of malleus fixation with increased bone conduction and with deafness of short duration. He agreed with Dr. Syme in preferring high dry climates to the neighbourhood of the sea. He was at present engaged, in company with an expert telephonist, in experimenting with electrical aids to hearing. He regarded nasal operations as beneficial in arresting the progress of catarrh.

THE DIAGNOSTIC VALUE OF THE SUCTION SYRINGE IN MAXILLARY ANTRAL SINUSITIS.

By P. Watson-Williams, M.D.Lond.,

Lecturer on Diseases of the Ear, Nose, and Throat, University of Bristol; President of the Laryngological Section, Royal Society of Medicine.

(*Abstract.*)

The antral suction syringe devised by the author has a strongly curved needle, with a larger bore than the Lichtwitz exploring needle and cannula, and the curve is longer and has a sharper bend than Krause's trocar, so as to pierce the middle meatus. It is readily inserted, and, after cocainization, with little or no pain. For diagnostic purposes the syringe is nearly filled with distilled water, which is injected into the cavity of the antrum, and at once sucked back into the syringe, so that one obtains a sample of the antral contents.

It is generally held that a good transillumination of the antrum, with a well-marked infraorbital *tache*, and particularly with a good pupil reflex is sufficient to negative the presence of pus in the cavity. But the use of the antral syringe as a routine method in every case in which antral disease is suspected will show that a normal transillumination is not to be relied upon as excluding pus.

The syringe is of particular value when there are recurrent catarrhal attacks simulating an ordinary cold without pus formation. In time purulent sinusitis develops, but it is important to be able to determine the existence of sinusitis in this early stage and so to avoid the pronounced pathological changes in the mucosa, as well as the interference with health that accompanies the fuller development of the sinus disease. Cultures made from the washing in these early cases will show the presence of infective organisms.

DISCUSSION.

Dr. BROWN KELLY (Glasgow) said that Dr. Watson-Williams's suction syringe was the revival of an old method of diagnosis introduced many years ago by Moritz Schmidt, who had modified a Pravaz syringe for the purpose.

Dr. N. C. HARING (Manchester) used a two-way cannula introduced through the inferior meatus, so as to wash out the antrum and to obtain washings uncontaminated by the nasal mucosa.

DYSPHAGIC CONDITIONS WRONGLY ATTRIBUTED TO OESOPHAGEAL SPASM.

By WILLIAM HILL, M.D.Lond.,
Surgeon, Diseases of the Ear and Throat, St. Mary's Hospital, London, etc.

(*Abstract.*)

IN opposition to several other observers, the author denies that idiopathic spasm of the oesophageal muscle in the region of the cardiac orifice of the stomach can induce obstruction so severe and prolonged as to lead to great dilatation of the oesophagus above. So far as his investigations go, spasm of a really unyielding nature is not found even when some spasm admittedly exists, whether it be of the rare reflex kind or secondary to tumefaction or ulceration. The existence of primary spasm is supposed to take place "at the initial and terminal portions of the gullet" (Guisez), where sphincters of the oesophagus are conceived to exist. But the existence of a sphincter at the cardiac orifice is denied by Professor Macalister,[1] and gastroscopic examination from below supports his descriptions. The upper sphincter, stated to be at the orifice of the gullet, is in reality a sphincter of the end of the pharynx.

Regarding the lower end of the oesophagus, the narrowest part of the tube is where it passes through the diaphagm, and Chevalier Jackson has described the occurrence here of a primary "phreno-spasm," but the author is unable to confirm Jackson's findings.

Finally, the author holds that functional dysphagia is usually due to pharyngeal paresis and rarely to pharyngeal spasm. There may occasionally be concomitant paresis of the gullet, but pure primary spasm of the oesophagus, whether functional or organic, is, in his experience, "often heard of, but never seen." If the difficulty in swallowing is located purely in the oesophagus, an organic lesion will be found if sought for.

REFERENCE.
1 *Textbook of Human Anatomy.*

DISCUSSION.

Dr. JOBSON HORNE (London) agreed that care should be exercised in using the term "idiopathic" or "functional" in dealing with dysphagia due to oesophageal spasm. He instanced a case of malignant disease of the oesophagus which had been relieved by the passage of bougies not many years previous to death, and which, in consequence, had been diagnosed as oesophageal spasm.

Dr. BROWN KELLY (Glasgow) did not agree with Dr. Hill. Spasm of the oesophagus was, in reality, easily excited, as the complete closure which followed the impaction of foreign bodies, too small to cause obstruction, showed. The speaker's experiences confirmed the views of many other observers as to the existence of cardio-spasm.

[NOTE.—The papers read in this Section of which abstracts appear in this number of the JOURNAL will be published in full in an early issue of the *Journal of Laryngology, Rhinology, and Otology.*]

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

MULTILOCULAR OVARIAN CYST IN A CHILD AGED 12½ YEARS.

THIS case is somewhat remarkable owing to the size of the cyst and the age of the girl—namely, 12½ years. The mother stated that the child had always been "of a high stomach." She had not menstruated and there had not been any pain. Three weeks previous to being seen the abdomen was noticed to be enlarging, but she continued to walk nearly a mile to school until her admission to hospital, and it was not till the last week that she had been inconvenienced, then becoming breathless on exertion. There had also been some increased frequency of micturition.

The whole of the abdomen was filled with a tense, regular swelling, the left flank being somewhat fuller than the right; the abdominal wall was much stretched. There was a small area of resonance below the ensiform cartilage and in the right flank. A distinct thrill was felt. There was loss of resonance all over the tumour, but no shifting dullness. No uterine souffle was to be heard on auscultation. Examination by the rectum revealed a tense swelling filling Douglas's pouch and the left lateral fornix; less so the right. On pressing the swelling upwards, movement was communicated to the left hand placed on the abdomen. A diagnosis of dermoid or ovarian cyst was made and the patient was admitted to hospital for operation.

Operation.—The abdomen was opened by a median incision extending from the pubes to 2 in. above the umbilicus; the pearly white wall of the tumour presented immediately. It was found to be a large multilocular ovarian cyst, filling the pelvis, both flanks, and reaching upwards as far as the liver. On account of the size many of the loculi had to be punctured and the contents, thick, greenish-yellow fluid, evacuated; about 6 pints were thus removed. The cyst originated in the left ovary, and was adherent to a small portion of the sigmoid. These adhesions were easily broken down, the left broad ligament tied with interlocking ligatures, and the cyst removed. The peritoneal cavity was carefully mopped out and 3 pints of saline solution left in it. The abdomen was closed in the usual manner. For the next twenty-four hours 1 pint of saline solution was given by the rectum every three hours.

The patient made an uneventful recovery.

The size of the cyst was, before puncture, roughly that of a Rugby football; after puncture of some of the cavities and removal from the body it weighed 3 lb. 6 oz., and measured 15½ in. in length and 8½ in. in width.

Evesham. NORMAN G. HARRY, M.B., B.C.Cantab.

EPILEPSY AND CONSTIPATION.

IN your report of the Medico-Psychological Association proceedings, in the JOURNAL of August 19th, Dr. Hayes Newington's remarks (p. 397) in reference to the frequent association of constipation with epilepsy, and the importance of correcting this condition, remind me of a case which I treated some six years ago, and which I think should be published in brief as bearing out in some measure the view above expressed.

The patient, a domestic servant aged 27, suffered from an extreme degree of constipation, sometimes not having her bowels moved for periods as long as a month. She had suffered from epilepsy for two years, the attacks occurring at intervals of about a fortnight.

I performed Lane's operation of ileo-colostomy. The result was a tendency to a too free action of the bowels at times, but since the operation there has been no return of the epileptic attacks. The case was demonstrated at a meeting of the Hull Medical Society.

Hull. T. CAMERON, M.B., C.M.

AN EPIDEMIC OF INFECTIOUS JAUNDICE.

MEMORANDA in the JOURNAL of April 22nd and June 24th on this subject must, I imagine, relate to instances of what has been met with by several medical practitioners. Between November, 1910, and May, 1911, I have had fourteen cases of infectious jaundice, occurring in three villages about two to three miles apart, and there were several other slight cases which were not medically attended. With one exception the fourteen cases were all between the ages of 6 and 30 years, and males and females were equally affected. As a general rule the older the patient the more severe was the disease. The symptoms were very much as Dr. Hallowes described. In the worst cases there was severe epigastric pain; vomiting—in one or two instances sufficiently bad to prevent anything being taken by the mouth for twenty-four hours—temperature up to 102° F., in one case 104° F., followed in two or three days by well marked jaundice, tenderness and slight enlargement of the liver, and very persistent constipation. The jaundice in the severer cases lasted a week or ten days. In the

mild cases—always little children—loss of appetite, constipation, sickness, a feeling of discomfort in the epigastrium, and a transitory jaundice, often lasting only a day, were the only symptoms.

The treatment I adopted in most cases was calomel or hyd. c. creta, salines, and, if necessary, enemata, and then salicylates, and liquid extract of cascara until the jaundice disappeared. At the time I regarded the cases as influenza of the gastro-intestinal type with this peculiarity, that the part of the intestinal tract principally affected was the duodenum. When the duodenitis had lasted two to five days, the swelling in the common bile duct or its orifice caused obstruction to passage of bile. I noted two cases of obviously the same disease in children in which all the symptoms were present except jaundice. I certainly agree with Dr. Hallowes in thinking that this is not the same disease as that described as Weil's disease. It would be most interesting to determine whether all cases of so-called catarrhal jaundice and epidemic icterus are not due to the influenza bacillus.

Evershot, Dorset. A. G. Whitaker, M.R.C.S., L.R.C.P.

CUTANEOUS TRICKS.

A young lady consulted me with the following history: For many months she had been in the habit of sitting in front of a mirror, and with a pair of pincers plucking out every hair she could discover on her face; so persistent was she in this process that at times she would spend the whole night in front of her glass. The case was in my experience unique, as I had never met with such continuous efforts to get rid of the fine hairs which are always present on the face. The girl was not in any sense of the word hairy.

Another case which I saw during the summer of 1907 was even more unusual. A young girl was brought to me because she was in the habit of plucking out her eyebrows and eyelashes; so complete was the process that with the naked eye I could not see a single eyelash or eyebrow. The hairs in other positions were present and normal. The girl did not appear to be ashamed of her habit, but frankly told me that at times she did it with full knowledge, at other times she acted automatically. It was not a family trick. She commenced this plucking when she was 7 years of age. (She was 21 when I saw her.) I tried to gather a history of mimicry, but failed to do so.

The case of a man springs into my mind as I write who is constantly picking pieces of skin off his fingers without the excuse that they itch. Another man pulls out his moustache, whilst scarcely a family exists in which we do not find a nail-biter. I have seen children with whooping-cough pinch pieces of skin out of their faces.

These cases of self-inflicted damage to the skin often puzzle our diagnostic power and baffle our moral sense. It is impossible to conceive why a young girl is prompted to plunge a naked leg into boiling water; such patients are often shameless and act as if possessed by some malicious power.

Imagine a girl applying pure carbolic acid to the skin of the forearm and then consulting a doctor as to the cause of the lesions on the skin, as in the case described by Dr. Norman Walker last year.[1] Yet two such cases have come before me during the last twelve months. We shrug our shoulders and mutter "hysteria"; but does that enable us to understand the why of such cases? Does it enable us to suggest any line of treatment or conduct which will make these individuals truthful and useful members of society? There is only one way I know of any avail, which is to tell them the naked truth, and, what is of more importance, never allude either to the habit or the manifestation again. These patients always want an audience; they are the vampires of any family and will suck the vitality out of all those who sympathize with them. Many a mother has lost her own health and increased her daughter's morbidity by showing too much sympathy. I have already alluded to nail-biting, and although doctors are seldom consulted as to this common, troublesome and disfiguring habit, it is often a real annoyance. Patients grow into disgust with the habit, and as life advances they cure themselves by the exercise of their will power. The pleasure of nail-biting must be great or it would never become such an established habit, a habit which is often so abiding that the victim will bite through a glove.

Man is so constituted that he has a disposition to repeat what he has done before; a walk on the deck of a ship is very confined and monotonous, but it becomes so much a custom that a sailor will often confine himself within similar limitation. Kane once made an excellent road through an island and yet the inhabitants adhered to the old road. We all remember how in the case of Fielding's Jonathan Wild the power of habit was so overwhelming that he could not keep his hands out of the Count's pockets when they were playing at cards, although he knew the pockets were empty; just as the Count could not abstain from cheating Mr. Wild, although he knew perfectly well that Wild had no money to pay him. A nerve track is like a path across a meadow, deeper and more difficult to eradicate after long use. We often see grimaces and odd tricks in our friends; we have them ourselves. We do not know how they begin, but we do know they affect families for years and enable us to recognize them. Smoking, swearing, or scratching often become ineradicable, and will cut into our daily lives and seem to become a part of ourselves. All habits are bad, even good ones, was a paradoxical saying of Sir James Paget, and whether it be nail-biting, finger-picking, or eyelash-plucking, we must check it before the path is laid from the nerve centre, or we may be too late.

London, W. Tom Robinson, M.D.,
Physician to the Western Skin Hospital.

[1] British Medical Journal, 1910, vol. i, p. 1481.

GASTRO-INTESTINAL HAEMORRHAGE IN A NEWBORN INFANT.

In the British Medical Journal for July 1st, just to hand, p. 17, I note a communication on the above subject from Mr. Fentem, and as he suggests recording such cases, I send the following:

A month ago I attended Mrs. W.; normal labour; a little chloroform given at the last to ease severe pains; second child. No history of any account in either parent; both healthy; aged 27 and 23 respectively. On the fifth day, about an hour after I had called, when all had been going on well, I received an urgent message that the child, a male, had vomited blood, and was passing red and black clots per rectum. While watching it I saw it bring up a large quantity of bright red blood and mucus. Examination did not show anything, and from the appearance of blood I gathered that the whole gastro-intestinal tract must have been oozing. Treatment was calcii chlorid., ½ grain every hour, and gelatine water, as much as the child could be made to swallow from a feeding bottle, allowing it to take the breast as well. It did not seem upset in any way from the loss of blood, and its colour kept good. There was a good deal of vomiting after treatment commenced, and it varied, being blood-stained at times and clear at others, but by the bowel the motions continued as at first. The condition lasted three days and then cleared up as abruptly as it had begun. The child at present time (a month after) is quite healthy, and apparently none the worse for its alarming symptoms.

Lismore, N.S.W. E. M. Humphery, M.B., Ch.M.

Mrs. S. was in her sixth confinement on September 15th. She was always a tedious case. At 11 p.m. same date she gave birth to a son; normal labour.

This child, twenty-one hours after birth, vomited about 2½ oz. of blood. The clothes were changed, the baby washed, and then replaced in its cradle but, in twenty minutes, a similar amount was vomited.

All that day the napkin was stained slightly with blood, and towards evening it passed per rectum a large quantity of black blood and clots. I saw this last haemorrhage; it could not be less than 6 oz. of blood, probably more, but after this attack it passed no more blood, either by rectum or mouth, and since then it has done well; although pale and anaemic, it is doing well and thriving.

This is the only case I have seen in twenty years.

Rhode. W. T. Mills.

Reviews.

TICKS.

RATHER more than two years ago we noticed the publication of Part I of *Ticks: A Monograph of the Ixodoidea*,[1] and pointed out how the recent establishment of the fact that these parasites might spread disease from animal to animal, and even to man, rendered the preparation of such a book very opportune. The superfamily Ixodoidea is divided into two families—the Argasidae and the Ixodidae—and Part I dealt with the first family.

Part II, dealing mainly with the Ixodidae, has now been published. It is divided into two sections—the first of some 30 pages, and the second of over 200. The first section contains a historical review dealing with the classification of ticks, a brief general statement of the characters of the superfamily, and a more detailed consideration of the generic diagnosis of Ixodidae, which is well illustrated by drawings in the text. The second part is concerned solely with the genus Ixodes; following a description of the generic characters is a key for the determination of species. The remainder of this section is mainly occupied by a detailed description of the species recognized as valid by Professor Nuttall and Mr. Cecil Warburton, by whom Part II has been prepared. Following this is a table of the geographical distribution of the genus, and next comes a very long list of genera and species, and of doubtful species, compiled by Professor Nuttall with, as we can well understand, great labour. Altogether fifty-one species are recognized as valid, although in three cases with some hesitation. The concluding part of this section consists of notes on the biology of Ixodes by Professor Nuttall, who, in an appendix, reprints with a few slight alterations his paper on the adaptation of ticks to the habits of their hosts, published in *Parasitology* last March. Professor Nuttall concludes that the Argasidae represent the relatively primitive type of ticks, because they are less constantly parasitic than the Ixodidae, which are more highly specialized. In those species of the Ixodidae which usually occur upon wandering hosts—and they constitute the majority—both sexes are found upon the host, whereas in other species, which occur on hosts possessing more or less fixed habitats, the males are rarely or never found upon the host. In *Ixodes ricinus*, which is taken as the type for the description of the life-history of the genus, both sexes are present upon the same host. It is not proved that the male sucks blood, but his abstinence is fully made up for by his consort. The female remains attached to the host for a week or a fortnight, gradually increasing in size owing to the distension of the body with blood derived from the host. The distension attains its maximum rapidly at the end, and the gorged female then drops to the ground. With regard to this Professor Nuttall has the following interesting note:

> That the dropping of gorged females from the host may be influenced by temperature was once observed to a remarkable degree when experimenting with *Boophilus decoloratus*, which was being raised by me in Cambridge. A cow infested with this tick, many females being replete, was taken out of the warmed experimental stall into the cool air of a courtyard. The females immediately began dropping off, and "rattled like peas" on the ground. In nature it is a common matter to pick up ticks along the paths pursued by cattle or game, and this observation on *Boophilus* suggests a possible explanation why these paths should at times be particularly infested, for it is along them that animals like cattle frequently return from pasture in the cool of the evening. In nature, the female will at most wander a foot or two from the path pursued by the host from which she fell, and will lay her eggs at the foot of the vegetation bordering the path. The offspring would, therefore, be literally "put in the way of finding their food."

The fallen female seeks refuge beneath the surface vegetation, or stones, or by burrowing into loose soil. She lies quiet for days or weeks, according to the temperature—the period being longer in cold weather—before the eggs appear. These are very numerous, numbering hundreds, or a thousand or more. The more completely gorged the female has been the more eggs she lays. Sooner or later, according to the temperature, the larvae emerge from the eggs and climb to the tips of grass blades or other vegetation. The larva lives on the reserve of the yolk mass for a short time, and then attaches itself to a host and proceeds to suck blood. It is replete in four or five days and then falls to the ground, and after a brief period of activity begins to undergo transformation into the nymph. After waiting some ten days to harden and darken after casting the larval skin, the nymph attaches itself to a host and gorges for three to five days, when it drops off. The adult develops within the nymphal skin, and emerges from it after a variable period—weeks or months. The adult having hardened proceeds to attack a fresh host, thus completing the cycle. It thus appears that *ricinus*, in common with most Ixodidae, requires three hosts upon which to feed in the larval, nymphal, and adult stages respectively.

Part II is illustrated by 202 figures in the text (94 drawn specially for this publication), and by 14 figures on special plates from photographs by Mr. E. G. Wheler and Mr. L. E. Robinson.

A third part, consisting of a bibliography of the Ixodoidea, prepared by Professor Nuttall with the assistance of Messrs. L. E. Robinson and W. F. Cooper, dealing with ticks and their relation to disease, has obviously been a most laborious undertaking, and the authors have thought well, as the literature is increasing so rapidly, to leave every alternate page blank for notes.

With regard to the relation of Ixodes to disease, Professor Nuttall states that the only species of Ixodes, in respect of which it has been conclusively demonstrated that it plays a part in the spread of disease is *Ixodes ricinus*. It appears to be the chief carrier of redwater (piroplasmosis) in cattle in Northern Europe. Apparently it has been occasionally the carrier of staphylococcus to man.

[1] *Ticks: A Monograph of the Ixodoidea*. By George H. F. Nuttall, M.A., M.D., Ph.D., Sc.D., F.R.S., Fellow of Magdalene College, Quick Professor of Biology in the University of Cambridge; Cecil Warburton, M.A., F.Z.S., Christ's College, Zoologist to the Royal Agricultural Society; W. F. Cooper, B.A., F.Z.S., F.L.S.; and L. E. Robinson, S.R.C.Sc.Lond. Part II: Ixodidae. 1911. Cambridge: At the University Press; London: Cambridge University Press Warehouse, and H. K. Lewis; New York: G. P. Putnam's Sons; Leipzig: Brockhaus; Berlin: A. Asher and Co.; Bombay and Calcutta: Macmillan and Co., Limited (Sup. roy. 8vo, pp. 105–348 + xix; figs. 116–307. 12s. net. Bibliography, pp. 67. 6s.)

INDUCED CELL-REPRODUCTION AND CANCER.

IT is not easy to estimate the real value of Dr. H. C. Ross's book on *Induced Cell-reproduction and Cancer*.[2] It is difficult to account either for the form in which the author has chosen to publish his work or for his haste in doing so. From the general tone of the book, it would appear that he is greatly impressed with the importance of his discoveries and is anxious to establish his claim as the exponent of a new theory. Dr. Ross explains that he had been engaged in cytological research for five years before the book was published, and that it was in August, 1910, that he performed his crucial cancer experiment. In view of its remarkable result, there ought to have been no difficulty in repeating it, and it is to be regretted that confirmation was not awaited. The book presents the curious mixture of an introductory and very elementary textbook and a preliminary communication describing the results of research. In a work of such pretension it is surely superfluous to give a list of apparatus required when the list includes nothing beyond the common implements of microscopic technique. The laborious explanation of his "jelly method" for the benefit of "beginners" suggests that the author does not allow for a high degree of intelligence on the part of the reader. The jelly method is really simple and that is one of its chief merits. All that is required is a 2 per cent. solution of agar in water, on the one hand, and a solution of the experimental substance on the other. The two are heated and mixed, giving a solution of known strength, containing 1 per cent. of agar. A drop of this is put on a slide, and sets when cool. The blood corpuscles are suspended in citrated saline, placed on the jelly and covered with a cover-slip. The corpuscles are by this means pressed into the jelly, and can be conveniently studied. The substances dissolved in the jelly, such as stains, alkaloids, etc., diffuse gradually and uniformly into the cells. The subject of diffusion seems to have been one of the first to engage Dr. Ross's attention, but the results do not command confidence. Dr. Ross formulates certain "laws of diffusion" and seeks to determine the

[2] *Induced Cell-reproduction and Cancer*. By H. C. Ross, M.R.C.S., L.R.C.P. London: John Murray. 1910. (Med. 8vo, pp. 319. 12s.)

"coefficient of diffusion" for various cells, but his method of arriving at the results is strange. Thus, he says that the amount of substance, stain for instance, which will diffuse into a leucocyte is directly proportional to the concentration of the substance in the jelly, "therefore we may plot it thus: diff = S." But the diffusion is also directly proportional to the time, "therefore diff = S + T"; but diffusion is further directly proportional to the temperature and the amount of alkaline salts present and inversely proportional to the amount of acid and neutral salts, and so we get the formula diff = S + T + H + A − salts. This sums up the author's "laws of diffusion." For each of these factors units are taken; thus 5° C. is the unit of temperature and ten minutes the unit of time. If now for any variety of cell the above equation be written in terms of these units, the sum of the coefficients represents the "coefficient of diffusion" for that particular variety of cell. Thus the polymorph has a coefficient of 12 and the lymphocyte 14. Dr. Ross believes these coefficients to be useful, but they really possess no scientific value, and this part of the book must tend to prejudice the reader against the remainder of his work.

The author has studied the staining properties of leucocytes. Polychrome methylene-blue was used for the most part, and it was found that the complete staining of the nucleus was a sign of death; achromasia was the sequel, the nucleus gradually losing its stain, and the cytoplasm becoming fluid. It was further found that some constituent in the stain caused cell-division, and this process was studied in great detail. From his observations Dr. Ross makes the assertion that the generally accepted ideas of mitosis are utterly erroneous, at any rate in the case of leucocytes. In his opinion there is no question that the chromosomes are derived not from the chromatin granules of the nucleus, but from the Altmann's granules of the cytoplasm; the nuclear wall does not disappear during mitosis, but actually forms the mitotic spindle, and the centrosomes are formed by the division of the nucleolus. He goes so far as to say that what are usually regarded as nuclear chromatin granules are in reality cytoplasm granules which have got stuck on to the nucleus in the process of preparation. These are probably the most remarkable statements in the book, and were they shown to be accurate would revolutionize all previous ideas in cytology.

The division of leucocytes is illustrated by numerous photomicrographs, but it can hardly be said that they aid the exposition. From further experimentation it was found that extracts of putrefying tissues were active "auxetics" or excitors of cell division, and this was shown to be due to the presence of creatin and xanthin. The globin of the red blood corpuscles has, it is stated, a similar effect. The action of various alkaloids such as atropin was studied in detail. They excite pseudopodial movement in the leucocytes, and this excitation may be so intense that the pseudopodia are thrown off to form blood platelets. According to the author, this is the true origin of the blood platelet—a point which has for long been in dispute. The platelets themselves are actively stimulated by atropin. In the presence of an "auxetic" alkaloids tend to induce asymmetrical division in the leucocytes, and this is considered to be of importance, owing to the fact that such divisions are frequently observed in malignant growths.

Having obtained a means of exciting normal and asymmetrical division in leucocytes *in vitro*, Dr. Ross endeavoured to account for the production of tumours by such means. He had previously directed his attention to the process of healing, which in his opinion is brought about by the reproduction of the cells of the part, stimulated to activity by the extractives of their dead neighbours and by the globin from the effused blood. Practical demonstration was afforded by the treatment of callous ulcers with globin. Exuberant granulations were produced, and under suitable precautions the ulcers healed rapidly. The origin of tumours is accounted for on a similar line of reasoning. The initial cause of a benign tumour is the death of a cell or group of cells brought about by trauma or otherwise. The extractives from the dead cells induce division in the neighbouring cells, which leads to the formation of a tumour. The development of a malignant tumour depends on the same principle, and its malignant value is ascribed to the presence of cholin or some similar alkaloid which induces asymmetrical division. Why these alkaloids should be produced in certain cases is not explained, but it is surmised that bacteria may be the cause, for it is known that *Bacillus subtilis* can produce cholin without giving rise to suppuration. The excess of katabolic over anabolic activity, resulting in an increase of the "auxetics" in the blood, is held to account for the age-incidence in carcinoma.

The fact that cell proliferation is caused by auxetics contained in the soluble remains of dead tissues offers for the first time an explanation of the remarkable age-incidence of the disease; and the augmented asymmetrical division induced by these auxetics combined with alkaloids of putrefaction seemed to be a reasonable explanation of the cause of cancer.

At the same time, however, there is present in normal serum some agent which restrains the action of these auxetics, and it was thought that by increasing the amount of this substance in a cancerous patient the malignant growth would to some extent be checked. On this assumption several patients were treated with daily rectal injections of defibrinated sheep's blood. Under this treatment two patients suffering from "internal growths" showed marked improvement, but relapsed when the treatment was discontinued. Several other cases were treated with apparent benefit, but others have not shown improvement, and the latter are definitely stated to have been "advanced cancer of the liver" and "peritoneal cancer." To put his theory of the origin of the cancer to the test, Dr. Ross devised a "crucial experiment." This consisted in treating an inoperable fungating scirrhus with globin which was dotted over a circumscribed portion of the ulcerated surface. The portion so treated gradually showed signs of healing, and eventually a bit was excised and sections made from it. These showed that the abnormal cells were giving place to normal granulation tissue. Continued treatment produced further amelioration. Cholin was now added to the globin and the mixture applied to a minute portion of the treated part of the ulcer. Within forty-eight hours a conical excrescence made its appearance at the site of application, and sections made from this showed a typical epitheliomatous infiltration of the granulation tissue.

Here, then, we have Dr. Ross's theory and his proof. His claims to have made several remarkable discoveries are discounted in no small measure by the crudities with which they are accompanied, as well as by his disregard of previous work. It is to be regretted that these defects have marred what may prove to be a valuable piece of work, which Dr. Ross did not allow his enthusiasm fuller time to mature.

THE NATURE AND TREATMENT OF ASTHMA.

Dr. Brügelmann of Baden-Baden has been a lifelong student of asthma, and has already published his views on the subject in so convincing a manner that they have been thought worthy of translation into other languages. He has always maintained the thesis that irritation of the respiratory centre is the essential cause of the spasm and that it may arise from traumatic, toxic, or reflected influences. In the most recent edition of his book[3] he is prepared to account for the sudden onset of the severe symptoms and at the same time points out a way of relief. The primary result of the central irritation is to produce spasmodic contraction of the trachea, and he has observed that a rapid swelling of the pharyngeal tonsil takes place, which further narrows the air passage and leads to still more urgent dyspnoea. The application of a solution of atropin and cocaine to the posterior pharyngeal region will, he says, cut short the attack.

In the general discussion of the nature of the disease he points out certain features of resemblance between asthma and urticaria, and from his observation of the pharynx he assumes that an urticarious swelling of the mucous membrane is also present in the bronchi and possibly in the linings of other organs which are sometimes liable to disturbance during an attack of asthma. He further claims to have established the existence of asthmogenic points in the nasal mucous membrane. The theory that asthma is set up by irritation within the nose has long been maintained by some rhinologists, and operations without number have been performed to remove such sources of irritation. These operations have sometimes proved

[3] *Das Asthma, sein Wesen und seine Behandlung.* By Sanitäts-Rath Dr. Brügelmann of Baden-Baden. Fifth and enlarged edition. Wiesbaden: J. F. Bergmann. 1910. (Roy. 8vo, pp. 267. M. 5.)

permanently successful, but in a very large number of such cases the asthma has returned in course of time. Dr. Brügelmann asserts that there are within the nose a certain number of points, which can be found by careful search, the mere touching of which with the end of a probe will produce unmistakable sensations which may perhaps be best described by the absurd, but well understood, term of "setting the teeth on edge." In asthmatic persons this sensation will be followed by an attack, and the author claims that the permanent cure of the disease can be achieved by the destruction of these susceptible points by cautery or otherwise, if they can be found.

Asthmogenic points of this kind have been looked for by many skilled rhinologists, but generally without success. Dr. Brügelmann admits that the difficulty of discovery puts the average practitioner at a disadvantage, and that the skilled hand alone can hope to determine the exact position of the points in question. His thoroughgoing belief in his own powers is manifest throughout the book, and his success in treatment has no doubt been influenced to no small degree by the confidence which such "cocksureness" is apt to engender in the mind of the neurotic patient. His book on the whole subject of asthma treats very fully of all the theories that have hitherto held the field and of every conceivable form of treatment that may have been devised. Many of these have an undeniable value in certain forms of the malady, but no law can be laid down where the variety of susceptibility is so great. Incidentally the author may perhaps wound the feelings of the advocates of certain health resorts when he asserts that there is no climatic immunity from asthma to be obtained; but while he recognizes the impossibility in general, he makes mention of a few places where recovery appears to have taken place with unusual rapidity. The power of the will may play a considerable part in the suppression of a tendency to asthma. The fear of an impending attack, the expectation of a recurrence during certain seasons and in divers places may be held in check by a powerful determination to resist, and if so checked in the earlier years the final extinction of the susceptibility may be achieved. The respiratory centre may be rendered less irritable by this will power, and may thereby lose its tendency to reflex action.

The book as a whole contains a very comprehensive account of its subject, and much original matter deserving of thoughtful consideration.

STATISTICAL STUDIES.

THE July number of *Biometrika* (vol. viii, Parts I and II) contains several papers of interest. The one which will appeal most to members of the medical profession is that of Dr. David Macdonald on the pigmentation of the hair and eyes of children suffering from the acute fevers, its effect on susceptibility, recuperative power, and race selection. After reference to the work of Beddoe and Virchow on the value of pigmentation in the separation of race elements, and to the well-known instances cited by Darwin as to the susceptibility to the action of certain poisons, attacks of flies and the incidence of parasitic worms in animals with varying degrees of pigmentation and to previous references to facts of which the author treats, Dr. Macdonald proceeds to record the observations which he has made in the Glasgow Corporation Fever Hospitals. The four acute fevers with which he deals are scarlet fever, diphtheria, measles, and whooping-cough. Some of the conclusions at which Dr. Macdonald arrives are of considerable interest. He finds (1) that the medium haired child is more liable to become infected than the red-haired, and much more so than the dark or jet black haired; (2) that the medium-eyed child is more liable than the dark-eyed and much more than the blue-eyed child; (3) that the dark-haired child has a higher recuperative power than the red and still more than the fair-haired child; (4) the same is true of the medium and dark-haired child; (5) the medium-haired and medium-eyed classes are undoubtedly selected both for handicap by the greater number of severe cases of infection with subsequent disability and for extermination through a greater proportion of deaths.

The statistical evidence upon which these conclusions are based is furnished in considerable detail. Not only are the results interesting in themselves but they may be of assistance to the medical man in making a prognosis.

A paper by Professor Karl Pearson on the opsonic index—mathematical error and functional error, while not of any great practical importance, throws down the gauntlet to Sir Almroth Wright, and to him the criticism of the paper may be left. Among the Miscellania are a number of small papers, some of which are of medical interest. In a note on the age distribution of deaths from diabetes mellitus Mr. G. D. Maynard refers to a previous statement made by him, "That the diabetes death-rates at age periods could not be fitted satisfactorily by any single frequency curve. The form of the curve obtained seemed to indicate that the population dealt with under the term 'diabetes mellitus' was not homogeneous." In this paper Mr. Maynard attempts to resolve the complex distribution into its components. Three curves have been found to give a very close fit to the original observations. The first subcurve, or growth curve, ranges from birth to 20 years; the second, or reproductive curve, from 15 to 50 years, while the third is the old-age curve. "It is conceivable," writes Mr. Maynard, "that the growth type may be associated with some pathological condition of an organ mainly of importance during development. The statistical analysis indicates that a different group of cause factors is concerned in the production of the three different types," which can only be discovered by the clinician and pathologist. "Each type has its peculiar age period, and one can say that, except in very rare instances, any case occurring in a child under 10 years of age will belong to the growth type; if the disease is present in a young adult between 20 and 30, most probably to the reproductive type, and in persons over 55 to the old-age type."

Dr. Frank Rock, in a short paper on the toothbrush and decayed teeth, comes to the conclusion, from an examination of a number of boys and girls in the schools at Edmonton, that, "however necessary for cosmetic purposes, it would appear from these data" that the use of the toothbrush exerts "no influence in the prevention of decay."

There are many other papers of general scientific interest, particularly those dealing with the inheritance of fertility, but space will not permit of detailed reference.

NOTES ON BOOKS.

THE *Yellow Fever Bureau Bulletin* for July, 1911, (vol. i, No. 3) is devoted to articles on "Quarantine Measures," "Microscopic Examination of Blood and Tissues," and a paper on "Some Differential Leucocyte Counts in Yellow Fellow Cases" by Dr. SEIDELIN, the Scientific Secretary. In addition there are reports from West Africa, Barbados, and other places. It appears that another case of yellow fever was reported from Barbados on June 7th, 1911, one before that having occurred in May. The comment on this is that it is highly probable that more cases have occurred which have not been heard of. The *Bulletin* should prove of value in directing attention to such cases, and also as to the prevalence of the disease in different parts of the world.

The volume of the *Annals of Tropical Medicine and Parasitology*[1] for August, 1911, contains a number of interesting and instructive papers by workers at the Liverpool School of Tropical Medicine and elsewhere. An "In Memoriam" article deals with the lamented death of Sir Rubert Boyce, and shows to what an extent the Liverpool School of Tropical Medicine was indebted to his foresight and energy. Tropical medicine has suffered a heavy loss by his untimely death. Other papers of interest in the volume of the *Annals* under discussion are "Notes on Tropical Diseases in Southern Italy," by Professor Gabbi: "The Diagnosis and Distribution of Human Trypanosomiasis in the Colony and Protectorate of the Gambia," by Drs. Todd and Wolbach; "The Mechanism of the Production of Suppression of Urine in Blackwater Fever," and "The Reducing Action of Trypanosomes on Haemoglobin," by Drs. Yorke and Nauss; "The Papataci Flies (*Phlebotomus*) of the Maltese Islands," by Mr. Newstead; "The Antimalarial Operations at Ismailia," by Dr. Stephens; "On the Relation of the Organic Phosphorus Content of Various Diets to Diseases of Nutrition, particularly Beri-beri," by Drs. Simpson and Edie; "The Experimental Transmission of Goître from Man to Animals," by Dr. McCarrison; and "Notes on New Species of African Mosquitos," by Messrs. Newstead and Carter.

[1] University of Liverpool. August 1st, 1911. Series T. M., vol. v, No. 2. *Annals of Tropical Medicine and Parasitology.* Issued by the Liverpool School of Tropical Medicine. Liverpool: At the University Press, 57, Ashton Street. 7s. 6d.

NATIONAL SICKNESS INSURANCE IN SWITZERLAND.

The new Swiss Federal Insurance Law against sickness and accident was promulgated on June 14th, 1911, and September 12th was fixed as the date of its coming into operation.

The subject of State insurance has occupied the attention of the Swiss Government for some years, and a detailed "Message" from the Federal Council to the Federal Assembly gives a summary of the history of the movement for State insurance, with a most valuable discussion of practically all the questions that might arise. So long ago as the year 1890 the Swiss people sanctioned by a vote of 283,000 to 92,000 an article of the Constitution which authorized the Federal Government to introduce sickness and accident insurance, leaving open the question whether it should be compulsory in general or for certain classes only. Various projects were discussed for several years, but in October, 1899, a bill was passed by 113 votes to 1 in the National Council and unanimously by the Conseil des Etats. On a popular referendum, however, it was rejected by 341,000 to 148,000 votes in May, 1900. This rejected bill would have compelled all persons earning less than 5,000 francs a year to be insured for sickness, while others might voluntarily insure, and for each insured person the Government would have given a subsidy of at least 1 centime a day (about 3s. a year). The contributions of those compulsorily insured would have been paid in equal parts by employers and employed, while persons voluntarily insuring would, of course, pay the whole of the contributions, though receiving the State subsidy. The benefits were medical attendance and medicines and sick pay up to 60 per cent. of the wages with funeral benefit of 20 to 40 francs. All the existing sick clubs were to be placed under cantonal supervision, and if they provided benefits equal to the State scheme they would receive the State subsidy. A scheme of compulsory accident insurance was conjoined to this and the cost to the State was estimated at about 7,500,000 francs, or roughly £300,000, which was considered a very liberal amount for a country with only about three and a quarter million inhabitants and by no means wealthy.

But though this bill was rejected on the referendum it was made clear that it was only on details that there was opposition and that the principle of State insurance laid down in 1890 was still received with favour. The Government therefore at once set itself to frame another scheme, the Federal Council being instructed to make a full inquiry and report. This report was presented to the Federal Assembly in December, 1906, together with a draft bill to carry out the recommendations of the Council, and it is this draft bill which has formed the basis of the Act which has just been passed. The Council fully recognized in its report that compromise would be necessary to reconcile conflicting interests, and that it was necessary to proceed by gradual steps only, beginning with what was practically realizable at present. It was distinctly in favour of legislating simultaneously for both sickness and accident, and claimed that its draft bill was kept as free as possible from all unnecessary technical details and complications which would have had the effect of rousing opposition, and on that account it had given the executive authority considerable powers to advance within certain limiting principles.

In discussing the separate provisions of the proposed bill the "Message" of the Federal Council began by saying that it was evident that the law of 1899 had been rejected in the referendum principally because it introduced general compulsion into sickness insurance, and it was with great regret that the Council on that account had to renounce the general introduction of compulsion. But it proposed that each canton should be at liberty to decide for itself whether sickness insurance should be compulsory for all or only for certain classes in its area, or whether it should be purely voluntary. It is shown that while in 1896 there were in existing societies only 260,000 persons insured for sickness, in 1903 there were 435,000—that is, 13 out of every 100 inhabitants. Of this number, about three-fourths were working for employers, so that of the 600,000 which the law of 1899 would have covered, about 54 per cent. were actually insured in 1903, and it was thought that the grant of a subsidy would rapidly increase the number of voluntary insured. It was hoped, too, that if each canton were left to introduce compulsion as it liked, the plan would offer less difficulties than the introduction of compulsion at one stroke throughout the whole of Switzerland. The advantages of the subsidy would soon be seen, and the people would more readily consent to have the insurance made compulsory all over the country, so that the classes that have most need of insurance but who neglect it might be brought in. In giving a subsidy of 3·65 francs, as was first suggested, though later it was altered to 3.50 francs, for every person insured for medical attendance only, the State would be paying 60 per cent. of the total annual premium required for medical attendance, which was estimated to be 6.12 francs per year for a person entering at the age of 30. The fact that even with that assistance there were persons who could not afford to pay their share of the remainder without public assistance was not regarded as any argument against a system that was so beneficial to others, and the Council suggested that there was nothing to prevent the cantons making up the contributions of indigent persons, even without instituting compulsory insurance.

Federal Supervision of Insurance Societies.

The Council pointed out that the Federal Government has never exercised to any great extent the powers of supervision which it had under the Constitution over existing insurance societies, and in fact the powers hardly applied to sick clubs whose area of operations was only local. The result had been deplorable, as a great number of societies failed to realize the nature of the risks, and actually took little or no account of the fact that the number of days' illness per year increases greatly with the age of members. Under a pretext of "mutuality" or "solidarity," they instituted a system by which one part of the insured paid too little and another too much. This "improvidence in provident societies" had been a common cause of their dissolution. Many of them had found it necessary either to increase their contributions or lessen their benefits, which was especially hard on aged members who could not insure elsewhere. What made matters worse was that when that happened young persons would not join, but preferred to start another club of their own, which, in spite of the warning, often committed the same faults. There was thus a fatal succession of three phases—first, when the mean age of the members was low and current expenses small the clubs seemed to be flourishing, but often failed to set aside any sufficient reserve in view of the old age of their members; next, as the mean age rose and expenses grew, they had to raise their contributions or lower their benefits, and their position became stationary; and lastly, there came suddenly or slowly complete discomfiture or dissolution. No fewer than 31 per cent. of the clubs that existed in 1880 were thus dissolved before 1903, in addition to a considerable number founded since 1880. The Council, therefore, advised that there should be proper Federal supervision of all sick clubs recognized as eligible for the subsidy. This supervision must above all deal with the solvency of the clubs; they should be required to give proper securities, and the State would then assume a sort of moral responsibility for them. It was therefore enacted that when a club asks to be approved the authorities shall make an examination, and if it is found that it can meet its engagements on the basis adopted by it it will be approved, provided, of course, it conforms with the other conditions.

It is impossible here to mention all the conditions to be complied with by societies which seek to be approved for the State subsidy; but some of them would be considered very onerous by English friendly societies. The Swiss societies are liable to a heavy fine and the withdrawal of State approval if they contravene any of the conditions imposed. The clubs fix their own contributions, but are bound to submit all their rules and accounts annually to the Federal Council, and to give security that they are able to fulfil their engagements. It is also made quite clear that the clubs cannot fix the medical and pharmaceutical tariffs themselves, this being the business of the cantonal governments after consultation with the clubs and the professions. They are bound to accept males and females for the same contributions, but no person will be allowed to belong to more than two clubs, and the subsidy for any person who is a member of two

clubs will be paid to the club which he first joined, while the clubs will be bound to take care that no member makes a profit out of the insurance. No person may be excluded from a club on religious or political grounds. A condition which may seem very onerous is that the sickness clubs may be required to act as agents of the *Caisse Nationale* for accident insurance in such matters as the collection of the accident insurance premiums, payment of accident benefits, and other administrative matters of the accident insurance, and in providing medical attendance for the first six weeks after an accident, the *Caisse Nationale* reimbursing the clubs according to a tariff fixed by the Federal Council, though they will have a right of appeal to the Federal Council against the imposition of this duty.

Functions of the Cantons.

In addition to the option left to the cantons of making the sickness insurance compulsory, the Council recommended, and it is now enacted, that the cantons should have the right to establish "public clubs," as the State was logically bound to guarantee that persons whom it may compel to insure should be able to find an insurer. Such a guarantee could not exist if the canton did not establish public clubs, unless it should compel the "free clubs" to accept any persons proposed for insurance, which was not advisable. The first proposal of the Council was that the cantons should be entitled to compel employers to pay part of the contributions for their employees; but this proposal was not adopted in the Act as far as sickness insurance is concerned, the cantons only being empowered to compel employers to see that the contributions of their employees who are compulsorily insured in public clubs are regularly paid.

Transfer of Members.

The Council considered it most important that proper provision should be made for the transfer of members (*liberté de passage*) from one club to another when they changed their domicile or place of business. Such persons would often lose their membership in their original club, and find that their age or state of health was a bar to their joining any fresh club. Statistics showed that this affects no less than 20 per cent. of the members of existing clubs, owing to the fact that so many of the clubs only extend over a single commune or a single business establishment. The clubs themselves were in favour of a certain amount of free passage, but the question was a very delicate one to deal with owing to the great diversity of the clubs. With the public clubs or with those whose operations extended all over the country there was, of course, little difficulty, and all the trouble was with local clubs, but it was felt that if a State subsidy were given it would be unjust that persons should thus lose benefits for which they as well as the State might have been contributing for years. Two methods of getting over the difficulty were considered—namely, "permanent membership" and "free passage." If a person changing his domicile or business had a right to continue his membership of a local club it would compel the club to extend its organization and possibly even to engage a special doctor or sick visitor for every member who went permanently to live at a distance. This would, of course, be quite impracticable for local clubs, and it was suggested that some club in the person's new place of residence should be compelled, at the cost of the original club, to undertake the administration for the person. Here again there was the difficulty that unless the new club had some pecuniary interest in addition to receiving the bare costs incurred, its supervision would be lax, and there would be danger of malingering, while to give the new club a pecuniary interest would be almost tantamount to an additional insurance for the same person. On these accounts the Federal Council rejected the idea of "permanent members" and considered that conventions between clubs for "reciprocal supervision" would only be of value in cases where a member fell ill while temporarily away from home, though it should be left open to the clubs to make conventions for permanent removals if they thought fit. Distinct preference was given to the system of "free transfer" from one club to another, without any "waiting period" and without allowing age or state of health to be any bar. At the same time it was necessary to safeguard the new club in every case. There is a tendency for young people to go to the towns to gain a living, and when they are enfeebled by age to return to the country, and in that way the country clubs would suffer if they were compelled to accept all the aged and feeble. The payment to the new club of the insured person's individual reserve was not favoured, on the ground that to be fair it would be necessary that both clubs should have the same technical bases, tariffs, and benefits. The experience of Austria had shown this to be impracticable, and the Austrian clubs had been content to remit an aliquot part of the reserve funds.

The transfer of members is so important in its bearing on the provision of medical attendance for "removals," that a summary of the enactments of the new law will be useful. *Le libre passage* is defined as "the right of the insured to pass from one club to another." When an insured person changes his domicile or profession or employer, or when his club is dissolved or ceases to be approved, he has a right, provided that he has been a member for a year, to be transferred to any club whose entrance conditions he fulfils, and if such club does not exist, to any other club, special arrangements being made for clubs having religious or political objects. Age and state of health are no bar to the transfer, and no entrance fee can be demanded and no "waiting period" imposed by the new club, but the contribution required is to be suitable to the age at the time of transfer. If in the new place of domicile there is no club whose conditions of entrance he fulfils, he may continue to be a member of his old club so long as he remains in Switzerland, and, if so, his club may charge any club in his new domicile with the duty of collecting his contributions, paying his benefits, and exercising supervision, the new club being reimbursed for any costs incurred.

Admission of Women.

The statistics showed that, while in the interval between 1880 and 1903 there had been an increase of 117 per cent. in the number of men insured, there had also been an increase of 110 per cent. in the number of women. But while there were 30 out of every 100 adult males insured for sickness, there were only 7 women, and in 1903 only 42 per cent. of the total Swiss clubs would accept women members. The statement has often been made that women are more inclined to simulate incapacity than men are, and are in reality more subject to illness. Statistics were, however, obtained as to the comparative morbidity of men and women, and from 71,000 observations, extending in each case over a year, of which 28,000 were of women, it was shown that out of every 1,000 female club members 257 were in each year attended for illness, while the figure for men was 291 per 1,000, so that the frequency of illness was less among the women. On the other hand, the average length of each case of illness in women was 25 days, against 22 days for men. Thus, taking the figures together, the morbidity was practically almost equal in the two sexes—namely, 6½ days for women and 6¼ days for men. Another series of observations of 82,000 cases, of which 37,000 were women, gave almost the same results, though in this case the morbidity was very slightly less for women—namely, 6.88 days for women and 7.07 days for men. Statistics were also obtained from Germany, Austria, and France, which are important enough to repeat here.

	Sick Persons per 100 Insured per Year.		Mean Duration of Illness. Days.		Days of Illness per Insured per Year.	
	Men.	Women.	Men.	Women.	Men.	Women.
Germany (1888-1902) ...	37.4	32.1	16.9	19.1	6.3	6.0
Austria (1902)	49.4	41.3	17.2	19.8	8.5	8.2
France (1902)	30.5	30.0	20.7	20.5	6.0	5.0

Of course, the relative morbidity of the sexes largely depends on the age and profession of the persons considered, as at certain ages there may be more illness among men and at other ages more among women, and the statistics do not rigorously take that into consideration. They are only sufficient to show the broad and general experience of the clubs, but the conclusion to which the Federal Coun

came was that it was possible to insure women on the same terms as men, and that none of the clubs that accepted women had had any reason to regret doing so, nor had their financial position been compromised. The Council therefore recommended that it should be a condition of approval for the State subsidy that a club should accept women on the same terms as men, and this condition is incorporated in the new law, special works or professional clubs alone excepted.

Benefits and Subsidies.

A necessary condition for approval is that the clubs must provide a fixed minimum of benefits; but to allow of elasticity the Council recommended that two different amounts of subsidy should be offered, the idea being that one fixed subsidy would be relatively too high for small and too low for large assurances. It was found that out of 1,760 clubs which formed 97 per cent. of the total, 912 provided both sick pay and medical attendance, 776 provided only sick pay, and 72 only medical attendance. Of those that provided only sick pay 89 per cent. gave 1 franc or more per day's sickness, the other 11 per cent. paying less than 1 franc, and it was calculated that if a subsidy of 3.65 francs a member a year were given, 95 per cent. of the clubs would be able to provide 1 franc a day sick benefit without any increase of contributions. But it was also thought desirable to subsidize clubs that only provided medical attendance and medicines without sick pay. The Departement de l'Industrie calculated that medical attendance and medicines was equivalent to sick pay of 80 centimes a day, but for the purpose of subsidy the Federal Council recommended, and it is enacted, that 1 franc a day sickness benefit should be regarded as the equivalent of medical attendance and medicines. The calculation as to the equivalent values depends on several factors, the most important being the waiting period (*le stage*), the *délai d'attente*, and the duration of benefit (*durée de secours*). The waiting period—that is, the period that must elapse between joining a club and becoming eligible to receive benefits—is really a means of getting over the difficulty that no initial medical examination can be perfect, and it was found that in only about 9 per cent. of clubs was the waiting period over three months, while in 91 per cent. it was three months or less, and the Council therefore recommended, and it is enacted, that three months should be the maximum waiting period allowed. Again, while medical attendance would naturally begin with the commencement of an illness, in most of the clubs sick pay was not payable for the first few days of illness (*délai d'attente*). As many of the English friendly societies are now urging on the Government that sick pay under the National Insurance Bill should be payable from the beginning of the illness, the figures for Switzerland are interesting, as they show that in 1903 in 1,423 clubs the *délai d'attente* was three days or less, while 319 clubs imposed a delay of over three days. The Council therefore decided to recommend, and it is enacted, that sick pay should be assured at the latest after the third day, the clubs being at liberty to fix a shorter time if they could afford it, but on no account a longer time.

Another extremely important factor is the duration of benefits. It goes without saying that sick pay is of the greatest value when an illness lasts a long time and when the sick person may have used up all his own resources, but the financial burden of giving sick pay for very long periods is so heavy that it really belongs to a special branch of insurance, namely, invalidity insurance. The statistics showed that in 1903 the duration of benefit was less than six months in 1,210 clubs, from six to twelve months in 604, and twelve months or more in 219 clubs. The law of 1899, which was rejected on the referendum, had imposed twelve months as the duration of benefit, but the Council now recommended that it would be sufficient to impose a minimum period of six months as the duration of benefit to entitle to the subsidy. Thirty-three per cent. of the clubs already fulfilled that condition, and the subsidy proposed, with the waiting period and *délai d'attente* suggested, would enable all the clubs to fulfil the condition without increasing their contributions. Accordingly this period of 180 days out of 360 consecutive days is adopted in the new law both for medical benefit and sickness benefit, but an alternative is allowed in the case of medical benefit, for if a club provides medical benefit for nine months in the year it can only be held liable for three-fourths of the cost of medical attendance and medicines. This is in marked contrast with the English National Insurance Bill, which provides medical attendance as long as the illness continues.

The question was carefully considered whether the subsidy should be the same for all the insured or should vary with the amount of the sick pay insured. As already stated, no subsidy would be given unless at least 1 franc a day sick pay were guaranteed; but as any person might insure for a larger amount, the question arose, Was it right to expect any subsidy from the State for a person who had sufficient means to insure himself for, say, 3 francs a day, or was it advisable to graduate the subsidy according to the amount insured, giving a smaller subsidy for the higher assurances? The Federal Council recognized that the beneficiaries of high assurances, such as 3 francs a day, had less relative need of being subsidized, and accordingly they recommended that a unit subsidy of 1 centime a day should be given for the unit benefit of 1 franc a day sick pay *or* medical attendance which was regarded as equivalent to 1 franc a day, and that 1½ centimes a day should be given where the insurance was for 2 francs or more a day, or where it was for 1 franc sick pay *plus* medical attendance. Thus, 2 francs a day benefit or more would be relatively less subsidized than 1 franc benefit; but it was not considered just to refuse all subsidy when the benefit insured exceeded, for example, 3 francs. This principle is adopted in the new law with a modification of the figures, as it is enacted that for a person insured for 1 franc a day *or* for medical attendance there will be a subsidy of 3.50 francs a year for males and 4 francs for females, while for all persons insured for medical attendance *plus* at least 1 franc a day there will be 5.00 francs a year subsidy. The Council entirely rejected the idea of giving a higher subsidy for persons compulsorily insured than for those voluntarily insured, on the ground that voluntary insurance was an evidence of an individual effort on the part of the insured person, which was more deserving of a subsidy than compulsory insurance. In addition to the above subsidies, the State offers an extra 50 centimes if the benefits are assured for 360 days out of 540 consecutive days, and if a canton declares the insurance compulsory and pays part or the whole of the premium for indigent persons, the State will contribute up to one-third of the expenses. But no society has a claim on the State for more than one-half the contributions paid in premiums or donations to the society.

Maternity Benefit.

The Council desired specially to encourage the provision by the clubs of maternity benefit. Most of the existing clubs in Switzerland that accepted women members refused all benefits for illness resulting from confinements or miscarriages, but the Council considered that it was often practically impossible to say how far an illness, such as pleurisy or even a general infection, was caused or aggravated by confinements, and economically the illness was just as important whatever its cause. The Swiss law forbids women workers to go back to work within six weeks after confinement, even though they may be quite fit physically, but the Council expressed regret that this law was largely a dead letter. The new law, therefore, recognizing all this, provides that a confinement shall be regarded by the clubs as an ordinary illness, for which at least six weeks' sick pay must be given, and if the woman works at all during the six weeks, any wages she earns are to be deducted from the sick pay, while if she suckles her infant for at least four weeks after the six weeks, she shall be entitled to a special *indemnité d'allaitement* of at least 20 francs. Thus the maternity benefit is at least 1 franc a day for six weeks, with an extra 20 francs if the mother suckles her infant for at least ten weeks. To enable the clubs to meet the extra cost involved in this arrangement the ordinary State subsidy is 4 francs a year for women against 3.50 francs for men, and there is also a special subsidy of 20 francs for each confinement and another 20 francs to meet the *indemnité d'allaitement*. Medical attendance is, of course, only provided if the woman is insured specially for it, in addition to her insurance for sickness benefit; but if she has the two insurances the State subsidy is 5 francs instead of 4 francs.

Free Medical Attendance.

Suggestions have been made from time to time that medical attendance and medicine should be provided gratuitously for the whole population, and in 1900 there was a proposal in the Federal Assembly that the Confederacy should pay annually to each canton 2.50 francs a head of population, on condition that the canton provided all its inhabitants free medical attendance and medicines. In 1902 an assembly of delegates of insurance societies proposed as a sort of compromise that the Confederacy should subsidize the cantons but should leave them at liberty to apply the subsidy either to encourage sickness insurance or to provide free medical attendance. Neither of these proposals was received with favour by the Federal Council, partly because there did not seem to be any very general demand for free medical attendance and partly because the proposed subsidy of 2.50 francs a head, though it would be a heavy burden, would be quite insufficient in itself and would involve each canton in considerable additional expenditure.

Medical Arrangements.

The remarks of the Federal Council with regard to the medical tariffs and the relations between the doctors and the societies are of special interest in view of the struggle now going on in England. The Council fully recognizes that there is reason for the claim that the Federal Government should make itself responsible for seeing that the doctors and pharmacists are properly remunerated. We are told that some of the clubs, from a false motive of economy, have given their preference to those doctors with whom they have been able to drive the hardest bargain, and have thus caused such a desperate competition among the members of the profession as has resulted in ridiculous fees which compromise both the material and moral position of the medical profession. The Council recommended that there should be a right of appeal to the Federal Council against any agreement or tariff established by an approved society which was not considered appropriate to the medical services required. The Council also expressed regret that the medical profession itself has not realized, either individually or collectively, what it had a right to expect from a legal measure of protection.

The provisions of the new law with regard to medical attendance may be summarized as follows: Every member of a club that provides medical attendance has a free choice of doctor from among the doctors of his district, and a club, either on its own motion or on the demand of an attending doctor, may call in a second doctor. The clubs may, on a basis of tariffs, make conventions with doctors or with associations of doctors to entrust all their members to those doctors only, but every doctor who has been in practice regularly for at least one year in the district is at liberty to join the convention. An exception to the last provision is made in the case of mountainous districts where the means of communication are difficult and where public clubs have made a convention with certain doctors for annual salaries, as in these cases the public clubs may oppose any other doctor joining the convention. Free choice of doctor does not apply to patients in hospitals, and there is a special provision that public clubs, in distinction from the free clubs, may require the hospitals to provide their members with hospital treatment. Any club may engage medical men to supervise the medical service of its members. If the doctors in a district refuse the terms offered and a club does not succeed in making a convention with them, it may, with the assent of the Federal Council, and for not more than a year, replace medical attendance by an indemnity to be paid to its sick members, who would then presumably have to make their own private arrangements for medical attendance. The amount of this indemnity is to be fixed by the cantonal government, and must equal "the average expense" of medical treatment. It would seem that this means the average cost to other clubs which have been successful in making conventions, but the phrase *la moyenne des frais médicaux* is not further defined. Similar arrangements apply to pharmacists. The words "doctor" and "pharmacist" designate those who hold the Federal diploma; but a somewhat dangerous exception is made, as persons authorized by a canton to practise medicine or pharmacy in virtue of *un certificat scientifique de capacité* are also included in the list for that particular canton. This would seem to embrace holders of foreign medical degrees, but it might also include, at the discretion of the canton, persons not holding any purely medical diploma. The medical and pharmaceutical tariffs are fixed by the cantonal governments after consultation with the clubs and with professional associations, and regard must be paid in fixing and applying them to local circumstances, such as the difficulties met with in mountainous districts, and to the annual indemnities which the clubs have been able to engage themselves to pay. It is more than probable that this last provision, which is by no means clear, will lead to difficulties. The tariffs are to indicate for each consultation or attendance of the doctor and for each medicament a maximum and minimum amount which neither party may increase or reduce. Conventions with doctors or pharmacists are to be submitted for the approval of the cantonal government, which is to see that they are conformable with law and equity, but the decision of the cantonal government may within twenty days be made the subject of appeal to the Federal Council. If on account of some grave personal or professional fault a club contests the right of a doctor or pharmacist to attend its members or to furnish medicines, a special arbitration tribunal may exclude such doctor or pharmacist from the list, and fix the duration of his exclusion. This tribunal is to be established and its procedure fixed by the cantonal government, and must contain an equal number of representatives of each party. There is no mention of any income limit for medical attendance in the new law, and, seeing that every Swiss citizen, male or female, has a right to join a club if the entrance conditions are fulfilled, there is nothing in the law apart from the rules of particular clubs to enforce any income limit, and presumably this will be a matter for each canton to deal with as it may decide.

Accident Insurance.

It is not proposed to enter into details here as to the accident insurance which is conjoined with the sickness insurance. As far as the sickness insurance was concerned the Federal Council considered that its chief business had been to establish the conditions of approval and supervision of existing insurance societies, but the task in the matter of accident insurance was very different. Here the Council proposed to set up a special national insurance authority and to determine the categories of persons to be compulsorily or voluntarily insured; and, in the compulsory insurance, to fix the benefits and to regulate the proportions of the contributions between employers, the insured, and the State. By the new law a special *Caisse Nationale* is to be established by the Confederation, with an Administrative Council composed of sixteen representatives of employers, sixteen of the insured, and eight of the State. The *Caisse Nationale* is under the supervision of the Federal Council, and the Confederation undertakes to provide a capital sum of 5,000,000 francs towards a reserve fund, another sum of 5,000,000 francs as *fonds de roulement* and half the administrative expenses, it being provided that the administration may be entrusted to the sickness insurance societies as agents for the *Caisse Nationale*. It is specially provided that occupational diseases are included under the term "accident." The premiums vary in proportion to the wages and to the risks incurred by the insured. In the compulsory insurance and for occupational accidents—that is, accidents during or connected with work for an employer—the premiums are paid entirely by the employer, but the premiums for non-occupational accidents are paid three-fourths by the insured and one-fourth by the State. In addition, for persons voluntarily insuring themselves against accidents, the State pays a subsidy of one-eighth of the total premium, provided that the person's annual income does not exceed 3,000 francs. The benefits provided in the compulsory insurance are medical attendance and medicines, daily pay from the third day after an accident of 80 per cent. of the average wages during temporary incapacity, part of which may be devoted to hospital treatment, permanent invalidity pension of 70 per cent. of the annual wages, which may be reduced if the incapacity becomes only partial, funeral expenses up to 40 francs, and a pension for surviving

dependants. In computing the wages for fixing the benefits no account is taken of anything above 4,000 francs a year.

THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

The Hanbury Gold Medal, which carries with it a cheque for £50, has been awarded this year to M. Eugen Leger, who is a member of the Committee of Revision of the French *Pharmacopœia*, and is at the head of the pharmaceutical department of the St. Louis Hospital in Paris. The award was made to him in respect of his work in connexion with the chemistry of the active constituents of drugs. The adjudicators are the presidents of the Linnean, Pharmaceutical, and Chemical Societies, and of the British Pharmaceutical Conference.

The presentation was made to him on the occasion of the opening of the seventieth session of the School of Pharmacy in London on October 4th, in connexion with which an inaugural address was delivered by Dr. J. Macdonald Brown. In the course of his remarks he mentioned the *British Pharmacopœia*—its compilation had always seemed to him to have been based upon a false foundation. Its production should have been left mainly to the Pharmaceutical Society—to the pharmacist first, and to the medical man afterwards. The general supervision of the last edition had been entrusted by the General Medical Council to a committee comprised of nine doctors and one chemist. This was an anachronism which in editions to come would no doubt be swept away by the progressive spirit of the age. The further edition which was at length in contemplation would be brought out under the general editorship of Professors Tirard and Greenish—men who in their respective spheres of therapeutics and pharmacy both held a foremost place. The grievances of pharmacists might, no doubt, be confidently left in their hands; still, he trusted that the next edition of the *British Pharmacopœia* would allow pharmacists more freedom of action than in the past, so that the standard work of pharmacy might be one worthy of its name.

Speaking of the profession of pharmacy, Dr. Macdonald Brown said it was not a trade, but a very poorly paid profession—so poorly paid, indeed, that a whole series of accessory saleables had to find place in the chemists' showcase in order to enable him to earn a reasonable living at all. The pharmacist was a long way above the mere shopkeeper, although in his ideal of life he was nowadays much beset by commercial difficulties. Among these were the underselling and the unfair competition engendered by drug stores, general stores, and the like, apart from the honest opposition of his pharmaceutical rivals. There was also the use of drug tablets to be considered. One of their evils was that they really removed the administration of remedies from doctor and chemist alike. Not to be forgotten, too, was the asinine credulity of the British public in regard to patent medicines. Finally, there were the synthetical chemical preparations constantly poured forth from the chemical laboratories of Europe; medical men were tempted by the advertisements in their journals to try them, and the unfortunate chemist had to order them. In most cases, after a few doses had been dispensed, some newer remedy appeared in the following week's issue, and the remedy of yesterday remained neglected and unused on an obscure shelf, serving only as a monument of lost capital and doctors' fickleness. All these and many other minor trials ofttimes made it hard for the pharmacist to fight the good fight. In introducing the National Insurance scheme Mr. Lloyd George had said that his object was to dissociate dispensing from the diagnosis and treatment of disease in order to secure for the sick poor the same benefits that accrued to people in a better station of life. The plan had been hailed with acclamation by the Pharmaceutical Society, which, however, was taking every means in its power to secure full recognition of qualified pharmacists in the scheme. Their interests were being watched by Mr. Glynn Jones, M.P. In the past doctor and pharmacist had both sinned deeply in trenching on each other's domain. The future, however, seemed to promise a closer alliance and a better understanding between them.

The deliverer of this address, it may be noted, is himself a member of the Pharmaceutical Society, having been in his early youth one of the last of those admitted to pass the qualifying examination of the Pharmaceutical Society under the age of 21. Subsequently he commenced the study of medicine at the University of Edinburgh, and having in turn become M.B., C.M.Edin., in 1880, F.R.C.S. Eng. and Edin. in 1883, proceeded to the M.D Edin. in 1900. He was for a long time engaged in the teaching of anatomy at Edinburgh and at Owens College, Manchester, and was examiner in anatomy at the Royal College of Surgeons at Edinburgh and at the University of Aberdeen.

BRITISH ASSOCIATION.

Section of Physiology.

(Continued from page 853.)

Among the many interesting communications made to the Physiological Section, reference may be made to some which have a direct practical bearing in relation to medicine.

Influence of Substances on Phagocytosis.

Dr. H. J. Hamburger, who, along with others, has for the past four years been paying particular attention to the physiology of phagocytes, read a paper "On the Influence of Iodoform, Chloroform, and other Substances dissoluble in Fats on Phagocytosis," in which he states as a result of his investigations that iodoform, like calcium, promotes phagocytosis to a considerable extent. The explanation given is that iodoform, being soluble in fat, is taken up by the lipoid membrane of the cells, rendering the membrane more flexible, and thus decreasing the surface tension and consequently facilitating amœboid motion. In order to test the validity of this suggested explanation, other substances soluble in fat, such as chloroform, chloral, camphor, turpentine, balsamum peruvianum, and benzine, were tried. It was found that all these substances promoted phagocytosis to a very considerable extent.

Ventilation in Confined Quarters.

An important discussion on "Ventilation in Confined Quarters, especially in Relation to Ships," was opened by Dr. Leonard Hill, F.R.S., and to which Professor N. Zuntz contributed. Dr. Hill, after briefly describing the effects of air containing varying percentages of CO_2 on the body, gave it as his opinion that too much importance had been paid to the chemical purity of the air, and not enough to the temperature. Coolness and movement of the air must be maintained, since these factors promoted the metabolism and activity of the body. The activity of those engaged in sedentary indoor occupations depended on the temperature and humidity of the air. Feelings of vigour and "fitness" depended on the ceaseless inflow of sensations from the sense organs, of which the skin was a highly important factor, and it was very largely influenced by the temperature and relative humidity in the air. In battleships the great difficulty was to secure a good ventilation without excessive cooling of the individual. Cold caused the men to close the ventilating orifices, and thus a tuberculous person became a greater source of infection to others. The power to sleep and work had been greatly enhanced in India by the introduction of the electric fan. Mr. Hill thought that "every employer and benefit society would find it pay both in increased output of work and lessened loss from ill health if every factory and workshop were brought below 60° F. and well swept with currents of air." It was as necessary to pay attention to the wet-bulb temperature in ships as Haldane had shown it to be in factories and mines. It should not exceed 75° F., and must usually be kept below 70° F. In confined spaces the pulse frequency was more accelerated during work, and took a longer time to slow down again when electric fans were on than when they were off. The pulse frequency depended on the wet-bulb temperature, and the CO_2 percentage made relatively little difference to it. The breathing volume, on the other hand, depended chiefly on the CO_2 percentage.

Professor Zuntz was not able entirely to agree with Dr. Leonard Hill in all his conclusions. He was in agreement in refuting the idea of the injurious effect of CO_2 up to 3 or even 4 per cent. of the atmosphere, and in

attributing no importance to the exhalations together with the CO_2, as this innocuity seemed to be definitely proved by the experiments of Benedict in Atwater's respiration calorimeter, though noxious effects had been produced in animals whose bowels were the seat of intense fermentations—for example, guinea-pigs. Similar injurious effects had been observed in man in diseases attributed to the absorption of poisonous materials from the intestines. An objection which might be urged against Benedict's results was that he circulated the air through vessels containing SO_4H_2, which might destroy volatile toxins. Professor Zuntz contended that the most important point in ventilation was the prevention of excessive moisture in the air, condensation of which would obstruct the capillary pores of the walls and diminish ventilation through them; a fungoid fauna arose on the walls and noxious gases and vapours were produced. The question was how to provide for the ventilation of a room to prevent the condensation of vapours. The action of electric fans would elevate the efficiency of working men for some hours, but if the room were to be maintained in a sanitary condition, either the fresh air must be increased to Pettenkofer's standard or the overplus moisture must be condensed and eliminated by cold surfaces, as in Atwater's apparatus.

Frequency of Colour-blindness in Men.

In a short communication by Dr. EDRIDGE-GREEN on the *Frequency of Colour-blindness in Men*, he stated that he found the percentage of colour-blind to be as high as 6 per cent., and 25 per cent. with a diminished colour-perception. This was considerably in excess of the figures furnished by Holmgren. The definitely colour-blind included the dichromic, the trichromic, those who had much shortening of the red end of the spectrum, and those who were unable to distinguish between colours when the image of the retina was diminished in size. Those who had diminished colour-perception included, in addition to the above, the tetrachromic, the pentachromic, and those who had shortening of the violet end of the spectrum, or slight shortening of the red end of the spectrum.

Anaesthetic Inhaler.

Dr. A. G. VERNON HARCOURT, F.R.S., described three additions to an inhaler based on the vacuum principle, with an addition fitting it for use on the plenum principle, as previously recommended by the British Association Committee on Anaesthetics. The addition consisted of a forked 3-way tube, one branch being connected with a bellows and the other two with the chloroform bottle and the air-inlet respectively. Each stroke of the bellows should coincide with the inbreathings of the patient. The second addition was that of an oxygen bottle connecting through a valve with a conical reservoir of about 250 c.cm. capacity, and the third was the addition to the use of the inhaler, namely, to use the same apparatus for administering oxygen only. The details of the additions, and the reasons for their adoption, are discussed at some length in the paper itself.

EDUCATION SECTION.

Report of Committee.

The committee appointed by the Education Section of the British Association "to inquire into and report upon the methods and results of research into the mental and physical factors involved in education," presented an interesting report upon the results of their investigations.

The committee, which was an unusually large one, conducted their inquiries on the tests actually in use or to be used in the diagnosis of feeble-minded children, by means of a series of questions which were circulated to school medical officers, another series addressed to the head mistresses of special schools, and a third set widely distributed amongst teachers in elementary schools, in the hope of finding out how far the medical officers and teachers were in agreement on the subject of mental deficiency.

The information incorporated in the report had been obtained from nineteen of the largest towns in England, and might therefore be regarded as fairly representative of the country as a whole. It would be interesting to know how the percentage of feeble-minded and defective children in a rural population compared with the urban population, but there was nothing in this report upon the subject.

The report contained a summarized statement of the answers received to the three questionaires, together with three appendices.

Attention was drawn to the grave need of some standardization in the matter both of diagnosis and subsequent treatment. The actual standards of admission to the schools appeared to vary very greatly in different parts of the country, as did also the frequency of the return of children from the special to the ordinary school. It was stated that one medical officer frankly said that he should regard return as indicating an error in diagnosis in the first instance. Such a statement from a competent medical officer is very important, and gives ample food for reflection. There appeared to be an equally great variety in the methods of testing, and the specially designed tests, such as Binet's or de Sanctis's, seemed scarcely to be used; the personal judgement seemed in most cases to be considered more reliable. The attempt to teach "the three R's" was stated to be a "lamentable failure," and the common-sense suggestion was made that if the greater part of school time were devoted to hand work of distinctly useful character, probably much better results would be obtained.

From the curves given in Appendix II it appears that the age of the maximum number of children now in "defective schools" (*sic*) is somewhat younger in London than in the provinces. There is also much tabulated and statistical information contained in the first two appendices. Appendix III consists of a long and detailed report on the methods of testing mental deficiency, from the pen of Dr. Shrubsall. This report is of considerable interest and marked by flashes of subtle humour, such as when he deals with the form and size of the head.

The report as a whole is a valuable one, and gives evidence of the expenditure of a considerable amount of labour. No definite or striking results have been obtained, but it is a very good instance of the process of what is known as "taking stock."

SCIENCE NOTES.

THE hobbies and amusements of busy men are profitable subjects of inquiry to the sociologist. If he finds that members of any profession have in their leisure moments made numerous important contributions to the general intellectual stock he may reasonably infer that the standard of intelligence in that profession is high. We make bold to say that were our own profession submitted to this test, notwithstanding the engrossing nature of its everyday work, it would rank high; there is scarcely a branch of knowledge to which medical men working as amateurs have not made contributions worthy to be ranked with the best work of specialists. These reflections are suggested by a perusal of the memoir on canary breeding published some time ago in *Biometrika*[1] by Dr. A. R. Galloway. The paper, which is beautifully illustrated by coloured plates, summarizes the results of eighteen years' work. The subject is, perhaps, too far off the beaten track for it to be desirable to go into details, and it may suffice to say that its main thesis is that the numerous existent varieties of canary have had their origin in a grey or cinnamon sport occurring in the female bird. Evidence is adduced from (1) a study of wild sports generally in nature and confinement; (2) the occurrence of cinnamon and cinnamon-bred hybrids, which frequently show the characteristics of canary varieties, arising *de novo*; (3) an examination of the earliest canary literature; (4) collateral evidence of a similar nature in poultry and pigeons. Some errors into which certain writers on the subject have fallen are also noticed and explained. Dr. Galloway translates "Des serins dont je viens de parler" by "Canaries of which I am about to speak." This should, of course, be "canaries of which I have just spoken," but we can point to no other blemish in this most interesting piece of work, which deserves to be included among the chief contributions to the literature of the subject.

[1] "Canary Breeding. A Partial Analysis of Records from 1891–1909," by A. Rudolf Galloway, M.B., C.M., M.A.Aberd. *Biometrika*, vol. vii, No. 1.

Nova et Vetera.

ROYAL DEATH-BEDS.

Dr. Henry Barnes (Carlisle) writes: With reference to your interesting articles "On Some Royal Death-beds," and your invitation for further contributions on the same subject, I venture to send you the following notes on two cases which I have collected in the course of my antiquarian studies. Both cases are long anterior in date to those you have recorded, and both are referred to in the course of addresses which I have delivered at different times. The first was mentioned in the Presidential Address which I had the honour to submit to the annual meeting of the Association at Carlisle in 1896, and the second was embodied in a paper which I contributed by request to the St. Louis Medical History Club in 1907, "On Serenus Samonicus, Physician to the Emperor Severus." On the present occasion I have added some further material collected at different times.

Edward I.

Edward I. King of England, was born at Westminster on June 16th, 1239, and died at Burgh-by-Sands, near Carlisle, on July 7th, 1307. He was known not only as a great warrior, but as a wise legislator, being the first to bring before a Parliament (held in Carlisle) the question of river pollution. He was a man of great physical strength, but his health began to fail in 1306, when he was at Winchester during the season of Lent. Later on he began to suffer from dysentery, and he spent the winter at Lanercost, a monastery of the Order of St. Augustin, about nine miles east of Carlisle. It is reported that on his journey from York to Carlisle his sufferings increased so much that on September 8th Richard de Montpelier was ordered to proceed to London to procure remedies. The King arrived at Lanercost on October 1st, 1306, with his Queen Margaret, and stayed there until the 5th. After a short visit to Carlisle they returned to Lanercost on the 8th, and, the King's health being then in a very declining state, they remained there until February 28th following. The Royal Physician was Nicholas de Tyngewyke, and he was held in high esteem by the King, as may be gathered from the terms in which the King wrote of him to the Pope when soliciting some ecclesiastical preferment. Writing on October 7th, 1306, Edward renews a request which he had previously made to the Pope in regard to the preferment of his "*dilectus clericus—Magister Nicholaus de Tyngewyke, medicus noster, utpote pro personâ honestae vitae, bonae conversationis, eminentis scientiae, habilisque ad quamlibet dignitatem ecclesiasticam, nostro judicio, obtinendam.*" With the help of this skilful physician the King's health was so far restored that he contemplated resuming the command of his forces in a fresh campaign against Bruce in order to avenge the murder of Comyn by Bruce, and the repeated attacks on the English. Although in great bodily weakness, he determined to lead his army in person, and about midsummer day, 1307, he made a solemn offering in the cathedral church of Carlisle of the horses and litter he had been accustomed to use, and on July 3rd he mounted his charger to begin his seventh campaign against Scotland. His almost unexampled labours, however, had already undermined his vigorous health, and the first day he could only march two miles, his old enemy, dysentery, again attacking him. The next day he managed to ride two miles further. After a day's rest the King reached Burgh-by-Sands on July 6th, and here on July 7th his death took place. In the Proceedings of the Commissioners on the Public Records of the Realm there is a list of the drugs ordered by the King's physician. The list includes distilled oil of turpentine, aromatic flowers for baths, carminative electuaries, plasters and ointments of various kinds, the oils of wheat, ash, and bay, water of the Roses of Damascus, a wine of pomegranates, remedies prepared from pearls, jacinths, and coral, and many remedies which I am unable identify. The amount of the apothecary's bill was £134 16s. 4d., and the cost of conveying the drugs from London to Carlisle was £159 11s. 10d.

Lucius Septimus Severus.

This Roman emperor began his reign in 193, and spent the last three years of his life in Britain, his death taking place at York on February 4th, 211 A.D. After many successful campaigns in various countries, he landed in Britain in the year 208, and organized a campaign for the subjugation of Scotland. Historians tell us that he led an army of 80,000 Roman soldiers across the Firth of Forth, and he penetrated so far into the north of Scotland as to be enabled to take notice of the length of the days and the shortness of the nights, which were so different from those of Rome. He encountered enormous hardships, and although he never met the enemy in open battle, he is said to have lost 50,000 of his troops. The tribes, however, surrendered for a time, and the Emperor retired to York. In this campaign he had been accompanied by Serenus Samonicus as his physician. The Emperor had two sons, Geta and Caracalla. The latter prince had been since about the year 197 nominally joint Emperor with his father, and their relations had often been greatly strained. It is stated that on one occasion Caracalla had actually made an attempt with his own hands to put an end to the life of his father. Foiled in this attempt, he, according to Herodian, approached the Emperor's physicians and endeavoured to persuade them to use means to bring about the end he desired. This, however, they indignantly refused. War with the wild tribes in the north again breaking out, the Emperor, irritated by the attempts on his life and impatient from declining health, issued orders for a fresh campaign, which was entrusted to Caracalla, but the latter, instead of prosecuting it with vigour, busied himself with gaining over the army to act in his interests. In the meantime the death of the Emperor took place, and there are vague traditions that this event was in some way hastened by Caracalla. Geta and Caracalla were proclaimed as joint emperors, but in the following year Geta was assassinated by his brother, and this was followed by the massacre of many of the most distinguished men in the State whom Caracalla suspected of favouring his brother's cause. It is said that 20,000 persons lost their lives in this massacre, and the list included Serenus Samonicus, physician to the Emperor Severus, who had acted so nobly in maintaining the best traditions of the profession when asked by Caracalla to bring about the death of the Emperor.

THE NORWEGIAN LICENSING SYSTEM.

A Scottish Doctor's View.

In the *Medical Temperance Review* for August there appeared an interesting and, in many respects, notable article on the "Samlag"* licensing system in Norway, from the pen of Dr. W. L. Reid, the President of the Glasgow Branch of the British Medical Temperance Association. The article, published under the title of "A Sketch of and Observations on the Liquor Traffic in Norway," was, we believe, originally read as a paper before the Glasgow Branch of the British Medical Temperance Association in March last.

It was apparently the outcome of a visit to Norway in the summer of last year, and it embodies the results of inquiries and personal observation during a period of three months. As a historical sketch of the Norwegian liquor laws, the article is plainly incomplete and in some of its details inaccurate; but as a fair and impartial—although necessarily fragmentary—statement of personal experiences and of ascertained results of the "Samlag" system, and as an epitome of the opinions of advanced temperance reformers in Norway, the article has great value.

Speaking of his own personal observation and experience, Dr. Reid says:

> In our three months' stay in Norway we saw only two drunken men, well-dressed young fellows about 20, staggering along one of the streets of Bergen about 10 o'clock in the forenoon. We could get no explanation of this admittedly unusual phenomenon.

Much of the article is concerned with a recital of opinions which Dr. Reid and his party themselves heard expressed with regard to the "Samlag" system as they "journeyed along the west coast, from Christiansand in the south to Trondhjem in the north, and afterwards to Christiania in the south-east," and these were uniformly favourable to the system. Even avowed prohibitionists,

* A "Samlag" is a disinterested company which controls the retail sale of spirits in a town or district.

like the International Chief Templar, Herr Lars O. Jensen, and Dr. Johan Scharffenberg of Christiania, testified to its good results.

Dr. Reid, while frankly recognizing the limitations of his treatment of the question, claims that the opinions quoted are fully representative.

It may be said (he urges) that I, as a passing visitor, have given a very superficial view of the subject. That may be so, but I must plead that I took the opinions of those in various stations of life who had been born and brought up with daily experience of the methods and results described, and some of them highly educated men.

Those familiar with the working of the "Gothenburg," or "Samlag," system in Norway will find no difficulty in accepting Dr. Reid's evidence. They know that the opinions quoted represent a view widely held by temperance workers in Norway, who are practically unanimous in their support of the "Samlag" system as a valuable half-way house on the road to prohibition. In Norway, as in Sweden, the superiority of the system to ordinary private licence is not questioned, and whatever further advance may be taken in both countries in the direction of prohibition will be due, by general admission, to the preparative and educative results of the "Samlag" system of disinterested management. Neither country, it is safe to say, will ever consent to revert to a private licence system so far as spirits are concerned, and in both countries there is a growing body of opinion in favour of extending the "Samlag" system to the sale of beer and wine.

It is curious, however, to observe that Dr. Reid, while testifying in a frank and unambiguous way to the merits and good results of the Norwegian "Samlag" system, concludes his paper with a clear declaration against its suitability for his own country (Scotland).

I have come to the conclusion (he says) that while the "Samlag" has done great good in Norway, and has paved the way and even created the desire for total prohibition, it could not do much for us [that is, in Scotland].

His reasons for this statement are hardly convincing:

It is to be remembered (he says) that in Norway, until lately, there was no idea of total prohibition and local option only for strong drinks, whereas in Scotland both have been long thought of, spoken of, and fought for—so much so that Acts of Parliament to this end have been repeatedly framed, introduced, and passed the second reading and Committee stage of the House of Commons. Indeed for many years Scotland has been as ripe for these advances as disinterested management could possibly make it—so much so that the extension of the latter method would be, with us and now, a retrograde movement.

Such reasoning hardly takes account of all the facts. It is true that there is in Scotland a strong body of opinion favourable to local veto. It is also true that there is a more limited, and far less influential, body of opinion which demands prohibition for Scotland on a national scale. This is not disputed. The important question—which Dr. Reid does not face—is, however, this: Assuming the necessary legislation to be passed, would such a body of opinion be powerful enough to make prohibition effective in the towns and cities as well as in the rural districts of Scotland? The alcohol habit is certainly not less firmly established and rooted in Scotland than it is in Norway, where permissive powers of local veto, so far as spirits—the national beverage—are concerned, have been in existence in the rural districts since 1845, and in the towns (thanks to the admitted success and educative effect of the "Samlag" system) since 1896. Yet even in Norway, where, with due respect to Dr. Reid, temperance sentiment is more advanced and the problem to be solved less complicated than in Scotland, local veto has not so far proved itself a practicable policy in the larger towns. If this be so—and the fact is not open to dispute—can local veto be put forward as a sufficient (that is, universally practicable) policy for Scotland?

Great as might be its suitability for and success in certain districts, is there sufficient ground for the belief that it could, in the present state of popular habit and public opinion, be successfully applied to the urban centres of Scotland?

If not—and many thoughtful observers would answer these questions in the negative—is no alternative remedy, such as disinterested management, to be available to meet the case of the towns and cities? Are prohibitionists prepared to take the responsibility of leaving a trade admittedly dangerous, but which local public opinion refuses to prohibit, in the hands of persons trading for their own profit, and subject to the social disadvantages and abuses which experience has shown are inseparable from a privately conducted liquor trade, when they have to their hand an alternative method of control which has indisputably, and by the admission of prohibitionists themselves, proved itself to be a powerful temperance instrument and an effective weapon in the hands of reformers?

That way the interests of temperance and, it may be added, of prohibition itself, assuredly do not lie. British prohibitionists, following in the footsteps of their colleagues in Norway and Sweden, must face the problem of the towns, and, while holding fast to their ideal, be ready to move towards their goal—where advance otherwise is denied—by a "bridge" which has served Norwegian prohibitionists well.

THE THIRD CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY.

THE Third Congress of the International Society of Surgery was held at Brussels on September 26th to 30th, under the presidency of Dr. LUCAS-CHAMPIONNIÈRE, of Paris.

Exhibition.

The exhibition was devoted to the subject of the treatment of fractures, and consisted of a series of demonstrations by various surgeons, illustrating their methods. Its chief interest lay in the comparison of the methods of treatment with which the name of the president is associated with those of the increasing number of surgeons who aim at the exact reduction of displacement by open operation. The comparison was most striking. Dr. Lucas-Championnière showed a large series of radiographs, combined with clinical histories, and these, again, taught the lesson which he has untiringly inculcated, that fixation apparatus has been used to excess in the past, and that for many fractured limbs the best functional results are obtained when the use of fixation apparatus is discarded altogether, and attention is devoted to the restoration of the functions of the limb by massage and mobilization. On the other hand, there was a series of elaborate demonstrations of the operative fixation of fragments, the most notable of which was that of Dr. Lambotte, with whose methods surgeons are familiar.

The subjects discussed at the congress were the surgery of the lungs, acute and chronic colitis, and pancreatitis.

Diagnosis and Treatment of Pancreatitis.

Dr. MICHEL, of Nancy, presented a report on the diagnosis of pancreatitis. He stated that the diagnosis of pancreatitis was always difficult on account of the situation of the organ. It must be based on the physical signs, the character of the pain, and certain functional disturbances, such as the presence of steatorrhea, rapid loss of flesh, and glycosuria. Palpation was able to establish the relation of tumour, if tumour there were, to the stomach and the large colon. The pain associated with pancreatitis was often extraordinarily severe and was localized at certain definite spots. The three groups of symptoms were of little value alone, but taken together they were usually sufficient to establish the diagnosis. Pancreatitis was either acute or chronic. In the acute form diagnosis had to be made from intestinal obstruction and perforative peritonitis. In all these a surgical operation was necessary. Chronic pancreatitis often complicating gall stones was difficult of diagnosis; it might be mistaken for lesions of the biliary channels, and sometimes it was almost impossible to differentiate it from new growth. Investigation of functional disturbance was of the greatest importance. This was carried out by chemical examination of the stomach and duodenum contents; by examination of the faeces, for which the methods of Gaultier and Schmidt were to be recommended, and also those which were designed to demonstrate the intestinal ferments, trypsin, etc.; thirdly, by the examination of the urine by the method of Sahli, and particularly by the reaction of Cammidge. Diagnosis was most often one of probability, arrived at by exclusion, and requiring confirmation by surgical operation. Finally, the reporter emphasized the fact that the surgeon should always remember in the diagnosis of abdominal conditions that behind the stomach

was a gland the lesions of which are much more frequent than has hitherto been believed.

Delagénière related two cases bearing on the diagnosis of acute haemorrhagic pancreatitis. He thought that acute pancreatitis usually supervened on a pre-existing chronic lesion. In support of this opinion he described a case of acute gangrenous pancreatitis in a woman of 49 who had suffered for a long time from abdominal symptoms simulating intestinal obstruction. He thought that the reaction of Cammidge had a real value.

De Bersaques related a case of haemorrhagic cyst of the pancreas in a woman of 50 whose chief symptom had been attacks of haematemesis.

Des Santos considered that rigidity of abdominal muscles furnished an important point in diagnosis between perforation and acute pancreatitis; abdominal rigidity was not present during the first hours after the onset of pancreatitis, whereas it was present from the beginning in perforation lesions. The second point in the diagnosis was the pain on palpation in the costal vertebral angle in pancreatitis. When this symptom was present it was necessary to make a diagnosis between pancreatitis and visceral embolism, particularly embolism of the renal artery.

Korte reported on the treatment of pancreatitis. His report was based on 52 cases of pancreatitis, of which 8 had recovered without operation, 6 had been examined *post mortem* without operation, and 38 had been operated on with a mortality of 47 per cent., in the first week 20 per cent., in the second and third weeks 35 per cent., and later 100 per cent. The diagnosis was chiefly based on the phenomena of peritoneal irritation in the upper abdomen. If a tumour occupying a transverse direction was also present, it gave valuable support to the diagnosis. If in a case of peritonitis an extensive serous exudation was found mingled with blood, and there were patches of fat necrosis, the epigastrium must always be opened up and the pancreas examined. The reaction of Cammidge was almost always useless in acute pancreatitis, and the same was true of glycosuria, which was only found in 8 of the cases reported. The prognosis of operation was very much better before necrosis had set in than afterwards; it depended chiefly on the intensity of the inflammation; patients showing marked obesity rarely recovered. Incision should be made in the epigastrium; the exudate was evacuated and irrigation with saline employed. The pancreas should be exposed through the gastro-colic ligament, the gland itself incised, tamponed, and drained. In cases of great urgency the surgeon should content himself with this; in other cases the bile ducts should be explored. A lumbar incision must only be made when there are signs of a retroperitoneal collection of fluid, and may in some cases be combined with the anterior incision. Suppurations of the subphrenic space should be opened through the epigastrium or by a transpleural incision. Patients suffering from acute pancreatitis showed a marked tendency to collapse. In the 44 cases operated on and examined at autopsy gall stones were present in 21, and in one other case there was a non-calculous cholecystitis.

Giordano reported on the same subject. He considered that the treatment of suppurative pancreatitis must be surgical, and the organ should be reached either by the epigastric or by the lumbar route, or by both combined. He presented a number of clinical reports illustrating the disease, and also described a recent case in a boy of 7 years, in whom the onset of symptoms was preceded by the eating of various indigestible articles. When admitted to hospital three weeks later the abdomen was hard, retracted, and very painful in the epigastrium, and also in the left costo-vertebral angle. A left lumbar incision evacuated a collection of thick pus situated deeply in front of the vertebral column.

Soubbotitsch described six cases of pancreatitis, one of whom had recovered after operation. The case which recovered was that of a woman who was operated on within eight weeks from commencement of her disease, when an enormous abscess had developed. In this case calculous cholecystitis appeared to be the origin of the affection.

Schoemaker agreed that it was probable that attacks of acute pancreatitis always supervened on pre-existing chronic lesions. Of 7 cases on whom he had operated 5 had had for a long time symptoms of dyspepsia and epigastric pain. As far as operation was concerned, he contented himself with exposing and draining the pancreas.

(To be continued.)

LITERARY NOTES.

So much attention has been lavished of late upon the education of backward and deficient children, that the almost equally pressing needs of the forward child seem to be in some danger of being overlooked. Miss Anita U. Boggs, writing in the October number of *The Child*, remarks with great justice that "the solution of the problem of the forward child is exactly that of the retarded child"; and the present school system is as unfitted for the one as it is for the other. The intelligent boy who finds that he can keep up with the rest of his class without difficulty, and whose full mental capacities are consequently never called into play, runs risks as serious, though of a different kind, as those incurred by his less gifted brother when condemned to tasks beyond his powers. Both, if wrongly treated, are a danger to themselves and ultimately to the community; and if it is worth the while of a State to lavish money on the special training of retarded and deficient children in the hope of moulding them into self-supporting citizens, it is surely equally necessary that the clever child should enjoy similar advantages. Instead, therefore, of leaving such children to idle through the ordinary school curriculum, wasting their time and their talents alike in studies unworthy of their powers, and acquiring habits which may prove detrimental to them in after-life, Miss Boggs suggests that they should be placed in "small classes of ten or fifteen children with the most intensive work possible from both teacher and pupils," in which "the pupil goes through thoroughly (*sic*) his studies as fast as his mental capabilities will permit. Let intensive work take the place of a required number of school years," and the gain should be incalculable to those quick children who rapidly become bored and listless when compelled to follow the usual school course. The question of education bulks large in the present number of *The Child*, which contains several articles upon this important subject. It is also touched upon by Mr. Arthur Greenwood in his discussion of "Juvenile Labour Problems"; whilst as regards hygiene, Sir John Byers has displayed his customary skill in handling the problem of child hygiene in Ireland; Sir James Crichton-Browne has contributed an interesting account of somatic and cerebral growth, and Mr. H. W. Armit has supplied a short sketch of that portion of the British Section of the International Hygiene Exhibition at Dresden which relates to child welfare.

At the present moment, when the question of sport enters so largely into the life of nearly every woman of even moderate means, it is sometimes difficult to picture the daily life of a generation whose womenkind were as yet uninitiated in the joys of golf or hockey, and to whom motoring, bicycling, and all other forms of rapid motion were unknown. That our ancestors were fond of the open air seems evident, however, from the amount of time they devoted to riding and hunting; and in France, at any rate, during the eighteenth century, outdoor gatherings and country expeditions gradually became *le dernier cri* amongst fashionable amusements. Dr. Lucien Nass, writing in the September number of *L'Hygiène*, gives an interesting description of the country sports indulged in by women of the upper classes during the last years of the old régime and the commencement of the new era under the Directory and the Consulate. To the modern high school girl they might appear hardly worthy to be dignified by the name of sport, but Dr. Nass rightly considers them the forerunners of modern athletics, inasmuch as they served to reintroduce the taste for open air and physical exercise amongst women. For violent exercise of any sort was almost unknown amongst the fair habitués of Versailles and the Trianons. The great ladies at the Court of Louis XV and Louis XVI preferred to spend the long summer afternoons listening to music in some shady garden, or dancing under the trees (for it must be remembered that up to the middle of the eighteenth century dancing was still an outdoor pastime), and their

most strenuous form of exertion seems to have been the graceful swinging immortalized on the canvases of Watteau and Fragonard. But the generation which followed the downfall of old France refused to accept the amusements any more than the beliefs of their predecessors. The sudden relief from the nightmare of the Terror found expression in a veritable mania for pleasure which attacked all classes, and amongst the feminine portion of the community took the form of a delight in games in the open air. More active than their mothers, the young girls of the Directory and the Consulate were yet far from emulating the sportswomen of to-day. They expended their energies in such nursery games as hot-cockles, hide and seek, and blindman's-buff played out of doors; and it is a significant fact that in spite of the inconceivably scanty garments which they wore both summer and winter, the women of the period were remarkable for their excellent health. We are told by contemporary writers that the Parisian *élégantes* cultivated large appetites, and walked abroad in every kind of weather, whilst headaches were unknown, and vapours were banished along with the powder and patches of a vanished past. It is sad to find that this outbreak of vigour did not last long. Under the Empire, games and a healthy appetite were alike discarded as hopelessly *démodés*, and ill-health and an interesting melancholy became the hall mark of elegance and culture. Another article which appears in the same number of *L'Hygiène* contains some interesting historical details concerning lunar influences and the important part they played in the medicine of the past; whilst Dr. Nathalie Fedoroff has contributed a short study on human physiognomy, and M. Francis Chevassu gives an amusing account of the rivalry which existed for many years between the wines of Burgundy and Champagne, to which we referred in the JOURNAL of May 6th. The table of contents also includes a brief sketch of the late Dr. Georges Dieulafoy, whose contributions have more than once appeared in the pages of *L'Hygiène*.

Writing in the *Bulletin* of the Johns Hopkins Hospital for September on Zabdiel Boylston, one of the pioneers of inoculation in America, Dr. Reginald H. Fitz of Boston says he was descended from Thomas Boylston, who went to America in 1635. His son, who died in 1695, was a medical practitioner. This son was the father of Zabdiel, who was born in 1679 and died in 1766. He, too, was a medical practitioner. Towards the end of April, 1721, Boston was for the sixth time invaded by small-pox. The population of the town was then 11,000. Aeneas Salter, who was employed at the end of the epidemic to make a scrutiny of the inhabitants, found "that the number of persons who continued in Boston (many fled into the country) were 1,056, whereof about 700 escaped; the small-pox decumbitents had been 5,989, whereof 894 died, which is nearly one in seven." In 1712 the attention of Cotton Mather had been drawn to inoculation, and under the date May 26th, 1721, the following entry occurs in his diary:

> The grievous Calamity of the *Small-Pox* has now Entered the Town. The practice of conveying and suffering the *Small-pox* by *Inoculation* has never been used in *America*, nor indeed in our Nation. But how many Lives might be saved by it, if it were practised. I will procure a Consult of our Physicians, and lay the matter before them.

He prepared a letter to the physicians of Boston giving an abstract of articles by Emanuel Timonius, dated Constantinople, December, 1713, by Jacobus Pylarinus, of Venice, 1716, and others describing the method and successful treatment of small-pox in Turkey and neighbouring countries by inoculating healthy individuals with the disease. The physicians seem to have taken no action. Boylston, encouraged by Cotton Mather, undertook the experiment on June 26th, 1721. He could not inoculate himself because he had already suffered from small-pox, but he inoculated his son, aged 6, and two of his negro slaves, one aged 36, the other 2½ years old. It is related that against Boylston

> the vulgar were enraged to that degree "that his family was hardly safe in his house and he often met with affronts and insults in the streets. . . . Many sober pious people were struck with horror and were of opinion that if any of his patients should die, he ought to be treated as a murderer."

Cotton Mather, speaking of the popular clamour against inoculation, says:

> The Destroyer, being enraged at the proposal of any Thing, that may rescue the Lives of our poor People from him, has taken a strange Possession of the People on this occasion. They rave, rail, they blaspheme; they talk not only like Ideots but also like *Franticks*.

Boylston felt it necessary to justify his conduct by a public statement, and he accordingly made the following announcement some three weeks after his first experiment:

> I have patiently borne with abundance of Clamour and Ralary, for beginning a new Practice here (for the Good of the Publick) which comes well Recommended from Gentlemen of Figure and Learning and which well agrees to reason, when try'd & duly consider'd viz., Artificially giving the Small-Pocks, by Inoculation, to One of my Children, and Two of my Slaves, in order to prevent the hazard of Life, which is often indanger'd and lost by that Distemper in the Common way of Infection . . . until the third Day, my little Son's Fever with the rage of the People, sufficiently affrighted me, but I no sooner us'd means, but the Fever abated and the Small-Pocks came out. . . . And in a few Weeks more, I hope to give you some further proof. And as the Thing was new and for fear of erring in doing, I left it wholly to Nature, which needed no help in my Negro man, who was taken in a day or two before the other two in which time the Symptoms abating, caused me to hope for the same in the others.

Although twice called to account by the authorities for continuing the practice of inoculation, Boylston persevered. He was opposed by his professional brethren, the people became more and more incensed against him; as Mather puts it: "A Satanic fury raged, the town was still possessed by the Devil." When Boylston went out his family went in fear lest he might be torn in pieces. He was, however, supported by most of the leading clergymen. But inoculation came gradually more and more into use as the epidemic increased in severity. During its course Boylston inoculated 244 persons. It is gratifying to record that Boylston lived long enough to see inoculation well established and to find himself recognized as one of the world's benefactors.

MOTOR CARS FOR MEDICAL MEN.

DR. W. H. O. WOODS (Bridgend) writes: In answer to "Galen's" inquiry let me give him three machines to choose from: (1) Twin two-speed Enfield (Redditch), starts at walking pace, easily controlled, one handle working clutch and gears; 2¾ h.p., 130 lb., £52 10s.; climbs well, easily controlled; can be had as single-geared machine; chain drive, single-geared as belt or chain. (2) 2¾ Douglas (Bristol), twin, belt drive; more difficult for novice to control and mount; very fast and powerful; 130 lb.; £50 8s. (3) Single cylinder, 2½, A. J. Stevens (Wolverhampton); two-speed, clutch separately worked to gears, chain drive, 140 lb. For a novice requiring an easily-mounted and controlled machine Enfield would suit. Let me advise him to have nothing to do with 1¾ or 2 h.p. machines; they require help on hills, unless in perfect tune. The question of weight is a bugbear, which in twelve months he will disregard. The handling of machines varying from 100 to 140 lb. is not noticeable after two months. I ride a 2¾ Enfield, 100 lb., and pay thirty visits a day on it. Lately I have had it overhauled, and then borrowed a Premier, 170 lb. Result: I am going to sell lightweight and get a heavyweight. If he gets a belt-driven machine on no account buy one with a belt smaller than ¾ in. The pulley then is small and bends belt at acute angles. They wear, break too soon, and cause endless worry and expense. Belt drive is more comfortable than chain, quieter and less harsh, easier on bearings and tyres. Single cylinders are easier to keep in tune than twin, but harder on tyres. These three machines are I think, the best lightweights on the market. The single-speed Douglas, in my opinion, has the engine too high in the frame for comfort. If district is not hilly and "Galen" is not more than 10 st., a 2¾ fixed-gear will take him anywhere.

DR. A. C. REID (Nottingham) writes: "Galen" would be pleased with a 2¾, chain-drive Royal Enfield, free engine, and two-speed gear. I have ridden this type—without free engine and two-speed gear—since May, and am delighted. It is a great improvement on the 2¾ belt drive, which I rode for twelve months. It will take any hill "Galen" is likely to meet with, and is very economical in running. If I can do this on one gear "Galen" will do it easier on two, and the difference in cost is not great.

CELT writes: I myself am, and have been, riding a twin-cylinder Douglas machine for the past three years, and have found it most satisfactory in every way. The firm, also, is a nice one to have dealings with. Other good machines are New Hudson lightweight, with three-speed gear, and the A. J. S. with two-speed gear. If buying a Douglas he should get a two-speed model, with free engine and clutch.

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NATIONAL INSURANCE IN SWITZERLAND.

An analysis of the new Swiss Federal Insurance Law which came into force a month ago is given at p. 925, and will be read with special interest at this time when the problem for which the Federation has found a solution is still under discussion in this country. As will be seen a measure providing a scheme of insurance against sickness and accident which would have been compulsory on all persons earning less than £200 a year and open to others, with a State subvention in either case, was adopted by the Swiss Legislature twelve years ago, but rejected on a referendum. It was, however, made clear that its failure was due to popular objection not to the principle, but to certain details, and especially to the application of compulsion to sickness insurance. The proposal of 1899 embraced both sickness and accident, and the law which has now come into operation covers both these sources of incapacity. For us the chief interest lies in a comparison of the provisions of the Swiss and British schemes having relation to sickness insurance.

The Swiss scheme differs in some important points from that now before the House of Commons, perhaps most notably in the large discretion given to the cantons as to whether the insurance shall be compulsory or only voluntary, and the want of uniformity that is sure to result from this will probably lead to difficulties. A much greater degree of compulsion is laid on the Swiss societies to accept persons offering themselves for insurance than it is proposed to apply to the English friendly societies, and on the whole the British scheme is far more considerate to the friendly societies than the Swiss scheme is to the Swiss clubs. The power given to the cantons to establish public clubs for sickness insurance, while paying due regard to existing clubs, will, perhaps, avoid many of the objections connected with the deposit contributors in the British scheme. There is something analogous in the clause relating to Ireland, where a county council may under certain circumstances take steps to establish an approved county society: but to extend this to England, Wales, and Scotland, however useful it might be, would probably be regarded by the friendly societies as a form of Government opposition, and there would certainly be a loud outcry from the friendly societies if it were proposed to imitate the Swiss provisions about free transfer from one society to another. From the standpoint of the insured the British scheme is far more liberal. The State subsidy of 5 francs (4s.), where both sick pay and medical attendance are insured, is less than half what the British Government offers, while the compulsory payment of part of the premiums by employers makes the British scheme beyond comparison more favourable to the working classes. Moreover, with regard to the minimum benefits which societies must provide as a condition of approval, again the British scheme is far more liberal, both in the amount and range of the provisions. On the other hand, the Swiss scheme is more considerate in its treatment of women as compared with men, making far less distinction between the two sexes.

With regard to the medical arrangements, the Swiss law evidently intends to prevent the sick clubs having matters in their own hands, and they can hardly have that "control of the doctors" which the English friendly societies are claiming under the National Insurance Bill. At the same time the Swiss profession will not be so free from the societies as the British profession is determined to be. The fact that the Federal Council estimated that the yearly cost of medical attendance and medicines for each insured person would only be 6.12 francs (about 4s. 10d.), which would be divided between doctors and pharmacists, makes it quite clear that a strong professional union will be necessary if satisfactory fees are to be obtained. The provision by which a club which is unable to agree with the doctors as to fees, may replace medical attendance by a monetary allowance to the patients, is, except that no income limit is mentioned, somewhat on the lines of Dr. Addison's amendment (Clause 14, 3) of the National Insurance Bill. It will apparently enable the Swiss clubs that insure for medical benefit to discharge their legal liability without actually arranging for medical attendance, while the doctors will treat the members as private patients. The fact that under the Swiss law this substitution of a monetary allowance for medical attendance may only continue for a year is a distinct drawback, and it is not clear what would happen if at the end of the year the clubs were still unable to come to some agreement with the doctors. Possibly the canton affected might then think it necessary to use its power to establish "public clubs" for these patients, but such a wide discretion as to the whole arrangements is left to the cantonal governments that it is impossible to forecast what the final effect on the Swiss medical profession will be. In both countries it is clear that the profession will have to work out its own salvation.

THE PROGRESS OF ELECTRO-THERAPEUTICS.

The complete report of the proceedings in the Section of Electro-Therapeutics and Radiology at the Annual Meeting, which will be found elsewhere in this issue, demonstrates again the steady advance towards scientific precision which is being made in medical electricity. It is a significant fact that each of the set discussions and the larger number of the papers were concerned with the therapeutical properties of electricity and radio-activity, while the use of *x* rays in diagnosis was the subject on this occasion of only two or three communications. It may be that the limits of the diagnostic value of the *x* rays have been reached and settled, and that the radiological method is now the commonplace of many departments of medicine instead of the monopoly of one, although apparently the exact importance of *x*-ray as against physical signs in the early diagnosis of phthisis still leads to differences of opinion. With the exception of a paper which gave rise to a discussion on this subject, another on the *x*-ray diagnosis of otherwise undiagnosable fractures, and a third on the interesting method by which collargol is injected into the renal pelvis to assist *x*-ray examination in diseases of the urinary tract, practically the whole of the proceedings were concerned with the expanding armament of

electro-therapeutical agencies and their precise value in treatment.

In the forefront of the attack upon skin diseases the Roentgen tube has in some quarters been ousted by the tube of radium, and in rodent ulcer the latter is hailed almost as a specific. Dr. Sequeira's list of cases treated at the London Hospital was very encouraging. In malignant disease radium has gained few absolute successes, and the recurrences have been so persistent and disappointing that even those who have obtained most gratifying ameliorations and a disappearance of the lesion for two years or more hesitate to use the word "cure." The strategy which is to be followed in radium therapeutics is not yet a subject of general agreement. Mr. Deane Butcher, who opened the discussion, described as visionary the attempt to influence a deeply seated cancer by massive filtration, and he favoured the surgical opening of the tissues and the insertion of a radium tube as closely as possible to the focus of the disease, after the method suggested by Abbe of New York. Other workers, however, stood rather as apostles of filtration, and advocated the use of large doses of radium, refined by the passage through an adequate amount of metal. Meanwhile, put to less ambitious employment, radium is doing splendid service, and the sure and speedy relief it gives in pruritus is not the least of its advantages.

Ionic medication as at present practised is a therapeutic resource of even later date than radium, and Dr. Lewis Jones, the godfather of the method in this country, opened a discussion on the subject, which showed that ionic methods are now occupying a very large field and are being applied in the treatment of widely different conditions. While expressing satisfaction at what had been accomplished, he pleaded for further research, particularly with regard to the relative penetration of the various chemical ions and the exact tissue processes which follow their entrance into the body. He even suggested a doubt whether the good effect of salicylic ions in a joint, for example, was due directly to these extraneous projectiles or to the component ions of the living tissues, which, subjected to the commotion of an electrical bombardment, became the active agents in bringing about relief. However this may be, the clinical reports of subsequent speakers were encouraging, and the indications for ionic therapy appear to range from certain rodent ulcers to rheumatoid arthritis, and from neuralgia to lupus.

After a consideration of subjects of such new interest, there seemed quite an old-world flavour about the discussion on the *x*-ray treatment of ringworm. The conclusion which was arrived at when the same subject was discussed two years ago at Belfast was reiterated even more confidently—namely, that no injurious effect of *x* rays on the brain has been discovered after treatment for ringworm, and that the minor but still serious possibility of permanent alopecia is avoidable, since the rare cases of lasting baldness are generally explainable on the ground of faulty technique. Mr. Hall-Edwards's suggestion that by means of inoculation immunity to ringworm might be brought about in children from birth was probably intended for a wider circle than the workers in the speciality he was addressing.

The address by Sir Oliver Lodge, Principal of the University of Birmingham, although it lacked the immediate applicability to radio-therapeutics which made Sir J. J. Thomson's address before the Section last year so memorable, was extremely interesting. There were some fine imaginative touches in his picture of that fierce, if infinitesimal, battlefield, where the electron is the machine gun, and quite a poetic touch in his description of that tremble of radiation freed from all its coarser forms—that pure, vivid, ethereal shimmer which we call the *x* rays. A phrase used by one parliamentary correspondent recently, "The crackle of the *x* rays as Lord Lansdowne exposed the skeleton in the cupboard," would scarcely appeal to Sir Oliver on the ground of strict science. That the presence of a physicist can be distinctly stimulating on such occasions was shown in a paper read later in the Section, in which the author outlined a new method of treatment, the direct outcome of the suggestion made by Sir J. J. Thomson last year. Taking advantage of the secondary radiation which follows the excitation of silver by an *x*-ray tube, Dr. Hernaman-Johnson, after pluckily trying the method on himself, has given to patients suffering from ulcers in the alimentary tract what he calls a "silver breakfast," consisting of a few grams of precipitated silver mixed with milk and breadcrumbs. The radiation from an *x*-ray tube has been projected upon the meal when it was estimated to have reached the site of the lesion. A few successful cases are claimed to the credit of this method, but at present the evidence that this secondary radiation is of any therapeutic value in such a situation is the evidence of analogy rather than that of demonstration, and in considering its value, the serious risk attending the absorption of silver salts, that they produce permanent discoloration of the skin, cannot be left out of account.

This brief review of a few salient points in the proceedings leaves unmentioned many others, notably the note by Sir Victor Horsley and Dr. Finzi on the results which followed the application of a radium tube to the brains of monkeys, and the practical communication by Dr. R. E. Morton on the *x*-ray treatment of malignant disease. But enough has been said to indicate the valuable character of many of the experiences which were exchanged.

THE LUNACY COMMISSION.

THIS year's Lunacy Bill has been reduced practically to a single clause, providing for the addition of two paid Commissioners. It is of the utmost importance that these should both be medical men.

The medical element in the Lunacy Commission is already wofully deficient, there being only three paid medical Commissioners to supervise the treatment of over 130,000 patients. The medical staff is exactly the same as at the first appointment of the present Commission, more than half a century since, when the insane were about one-fourth of their present number, and the complexity of the conditions of care demanded much less onerous attention. Even in Georgian times five physicians were deemed to be necessary to supervise the insane of the comparatively diminutive metropolis of that period. In Scotland at the present day two senior and two deputy medical Commissioners are required to supervise some twenty odd thousand lunatics. In the same proportion the English Commission should consist of twelve senior and twelve junior medical men. This fact alone demonstrates the utter inadequacy of the present provision.

The English Commission, however, is aided by three paid barristers, who take an active share in the supervision of the treatment of the insane. England and Ireland, we believe, are the only civilized

countries that employ an equal proportion of medical and legal officials in this way.

The present bill gives an opportunity of bringing the supervision of the treatment of the insane in this country more nearly into line with that of other civilized countries.

Legal societies and associations are using their powerful influence to prevent this advance by advocating the appointment of one legal and one medical commissioner. The support of professional privileges and advantages is no doubt usually commendable, but on this occasion, when the welfare of so many thousand sick persons is jeopardized, the proposal would certainly appear to be contrary to public policy. It is to be hoped that this professionally selfish attitude will be abandoned, but in any case the medical profession should exert its utmost influence to prevent the continuance of a system which appears to imply that insanity, although it may be admitted to be due to disease, is in some obscure way related to crime.

CONGRESS OF THE UNIVERSITIES OF THE EMPIRE.

A FURTHER meeting of the vice-chancellors of the home universities who constitute the Home Committee to make arrangements for the Congress of the Universities of the Empire, which is to be held in London next year on July 2nd, 3rd, 4th, and 5th, was held recently at the University of London under the chairmanship of Sir William Collins, Vice-Chancellor of that university. The meeting was also attended by Sir Charles Lucas, head of the Dominions Department of the Colonial Office; Sir Theodore Morison, a member of the Council of India; and Dr. Heath, of the Board of Education. In November last year an invitation was extended to the fifty-one universities in the British Empire to send representatives to the congress, accompanied by an intimation that the topics to be considered would fall under the following heads, but inviting suggestions: (1) University organization; (2) universities in their relation to teachers and undergraduate students; (3) universities in their relation to post-graduate and research work; and (4) universities in their relation to schools and to agencies for higher education. At the recent meeting the suggestions received from oversea universities were considered, and Dr. R. D. Roberts, Secretary to the Congress, made a report upon a preliminary conference of representatives of the Canadian universities, held at Montreal last summer, which he had attended. The congress, which was summoned by the Principals of McGill University and the University of Toronto, was attended by representatives of fifteen of the nineteen universities in the Dominion. The representatives of the Universities of Alberta and Manitoba were prevented from attending at the last moment, and only two of the smallest universities failed to accept the invitation. Dr. Roberts reported that in addressing the Canadian conference he had instanced, as a few of the questions which seemed to be demanding attention, the following: The first was whether any common understanding was possible among the universities of the Empire as to the extent to which they could recognize each other's entrance examinations; another was the desirability of increased facilities for post-graduate study; a third, the possibility of some plan for the interchange of professors; a fourth, what could be done by universities in regard to the after-careers of their students. There was, further, the whole question of the financial support given from public sources to universities in the British Empire, as compared with the provision for university education made in other countries. There was finally the suggestion, made by Principal Peterson and others, that a central bureau should be formed to furnish information to the universities of the Empire upon these and other questions. The Principal of Toronto University reported that it had appointed a committee which was carefully considering the list of subjects which should be brought before the congress, and the conference finally decided to appoint three committees, one for the western provinces, another for the maritime, and a third for the central provinces. In conclusion Dr. Roberts stated that from conversations with the heads and professors of universities in the eastern parts of Canada, which alone he had leisure to visit, he had formed the impression that the question of enlarged facilities for post-graduate study was regarded as of prime importance from the Canadian point of view. The University of Sydney has appointed Earl Beauchamp, formerly visitor of the university; Professor Anderson Stuart, dean of the Faculty of Medicine; Professor Warren, dean of the Faculty of Engineering; and Mr. H. E. Barff, Registrar, as delegates to represent it at the congress next year. The Home Committee has appointed a subcommittee to draw up a detailed programme for the consideration of a meeting of the full committee on November 4th. Inquiries with regard to the congress should be addressed to Dr. R. D. Roberts, at at the Congress Office, University of London, South Kensington, London, S.W.

INTRAVENOUS TREATMENT OF SYPHILIS IN THE SEVENTEENTH CENTURY.

THE *Annales des maladies vénériennes* for October contain an interesting paper by Dr. Payenneville of Rouen on the intravenous treatment of syphilis in the seventeenth century. Referring to the employment of the method by Professor Baccelli of Rome in 1893, Dr. Payenneville shows that it was not then new, but had already been employed two centuries earlier. It would appear that Michael Ettmüller of Leipzig published a dissertation on the infusion of fluids in 1691. Although it was not the treatment of syphilis Ettmüller had especially in view, his work gives the details of the marvellous cure of a soldier in the Danzig Hospital. The patient is said to have been suffering from an inveterate syphilis with ulcers of the legs, a tumour (? gumma) of the right arm, intolerable headaches, exostoses, and nodes. After the injection of 7 drachms of resin of scammony "infused in essence of guaiacum" the soldier vomited, but in the course of twenty-four hours his symptoms abated, and the ulcers healed up in three days. The name of the Danzig medical man who carried out the treatment was Schmidt, and the case must have caused some sensation at the time, for a report of it was published in the *Journal des Savans*. The intravenous method had previously been tried experimentally on animals, and Ettmüller gives details of the investigations. Among other experiments, the following by Escholz is related: Half a drachm of corrosive sublimate was dissolved in plain water (amount not stated) and, without waiting for the whole to be dissolved, a little more than a fluid drachm of the solution was injected into a vein of a large dog. The animal died. At the autopsy the observers were surprised to find that the blood in the heart, in the vena cava, and even in the vein close to the incision, was fluid, and showed no sign of coagulation. Ettmüller, when alluding in his dissertation to syphilis, which he includes among the cachexias, suggests that it might be worth while to follow the lead given by the Danzig doctor in the case of patients who could not stand mercury or in whom the disease was "inveterate." Although the results in the Danzig soldier were so favourable and so immediate, Ettmüller expresses doubt as to the cure being complete, but does not question the possibility of such an event, especially if the exhibition of the well known remedies preceded the injection; the remedies or specifics for syphilis were then legion. Further, Ettmüller thinks that if the essence or volatile salt of viper dissolved in a suitable fluid were injected the result would be successful.

As to the technique of the method, Dr. Payenneville adds the following interesting details. The seventeenth century writer pointed out that intravenous infusion was not difficult to perform. After selecting the vein, the parts were wiped with hot compresses, or with hot wine, hot elder flower water, or camphorated spirits of wine. Precautions of an aseptic or antiseptic nature were evidently taken. Then the cannula, which replaced a needle now used, was introduced into the vein which had been opened with the lancet. It need not be pointed out here what expert phlebotomists they were in those days. An instrument is described consisting of a small bladder attached to a silver siphon-like instrument, narrowed at one end for introduction into the vein; or a small silver syringe was used which was easier to manage. Ettmüller concludes by saying that before employing intravenous infusions, the usual methods of treatment the result of experience should be used. In his own words, "The infusion must not march at the head of the army, but find its place among the reserves." Howbeit, the intravenous infusion method appears to have had little or no success until it was revived in recent times. In a note Dr. Payenneville points out that Christopher Wren was the first to carry out intravenous injections of fluids in animals. These experiments were followed up by those of Robert Boyle, Timothy Clarke, Richard Cowen, and, according to Dr. Payenneville, the method was also applied by them to man. Sigismund Escholz (1661) and I. D. Mayor of Kiel (1664) certainly carried out the method in man, employing drugs, and both claimed priority. One word more may be permitted, and that is, intravenous injection or infusion is, in the majority of instances, a comparatively easy matter, in males at any rate, for there are more difficulties when the patients are women. But the point in the administration of salvarsan in this way is the reaction of the patient in any given case. That is the point to bear in mind, though fortunately, as a rule, the treatment leads to no trouble.

FRANCIS GALTON LABORATORY.

AN appeal signed by Lord Rosebery, Chancellor of the University of London; Sir William Collins, Vice-Chancellor; Sir Edward Busk, Chairman of Convocation Dr. Miers, Principal of the University; and other members of the Galton Committee has been issued, with the approval of the Senate, for £15,000 to build the Francis Galton Laboratory. The late Sir Francis Galton, in leaving the residue of his estate to the university for the endowment of a Professorship and Laboratory for National Eugenics, expressed the wish that the university would see fit "to preserve the capital thereof wholly or almost wholly intact, not encroaching materially upon it for cost of building, fittings, or library," the income from his bequest being insufficient to cover both endowment and adequate buildings. It is pointed out that the scope of the science of eugenics and the work of the laboratory have been defined as "the study of those agencies under social control that may improve or impair the racial faculties of future generations physically and mentally." In accordance with the suggestion of Sir Francis Galton, Professor Karl Pearson has been appointed first Galton Professor, and he is assisted by a staff of highly-trained workers who now find very insufficient accommodation in a few small rooms temporarily placed at their disposal at University College. The appeal states that the output of the laboratory in the form of original investigations has been very large, and that already influential movements are on foot for the academic recognition of eugenics, and the establishment of similar laboratories both in America and in Germany. It is probable that legislation in future will deal largely with social problems, and the committee goes on to say in the appeal that it is essential that the statistical facts on which such legislation may be based shall be analysed in a purely scientific manner by workers who can give time and energy to investigation, quite independently of any ulterior end or party bias. Already, we are told, the laboratory is consulted very largely by medical officers of health, by school medical officers, and by independent medical men engaged in statistical problems who have not a staff adequate in numbers and training to deal with these matters. On the ground that the institution has already been of great value and will render increased public service with its fuller development, the university feels justified in sanctioning an appeal for such external aid as will enable its staff to carry out effectively this portion of their functions. Sketch plans of a new laboratory by Professor F. M. Simpson, F.R.I.B.A., are affixed to the appeal, and contributions and promises of support will be received by Sir Edward Busk, University of London, South Kensington, S.W.

MERCURIAL POISONING FROM VAGINAL ABSORPTION.

THE coroner of Allegheny County, Pennsylvania, recently demanded the services of Dr. C. B. Schildecker, of Pittsburg, for the investigation of three cases of fatal mercurial poisoning.[1] In each instance the deceased was advised by a friend to "use" antiseptic tablets. The first patient was single, and had reason to suspect that she might be pregnant. Her lover went to a druggist, who sold him six 7.3-grain bichloride tablets, and told him to "use" them. The tablets were inserted into the patient's vagina. Intense pain was the result, and the patient could not extract them on account of muscular spasm. About half an hour later a physician arrived and administered vaginal douches of warm water, but failed to find any remnants of a tablet. Within a few hours symptoms of acute mercurial poisoning set in, and the patient died on the fourth day. Dr. Schildecker discovered all the signs of necrotic exfoliative entero-colitis, very advanced, in the rectum, yet traceable as high as the duodenum. The mucosa and muscular tissue of the vagina and vaginal portion of the cervix was necrotic, and necrosis had attacked the Fallopian tubes, ovaries, and broad ligaments, yet spared the endometrium, muscular wall, and serous coat of the entire body of the uterus above the os internum. Thus the chemical irritant had been carried to the uterine appendages, and, further, round by the lymphatics, and not straight along the uterine cavity and tubal canal. There were no signs of peritonitis, but the peritoneum in the posterior part of the pelvis was separated from the underlying tissues by a collection of about 10 oz. of clear serum. In the second and third cases the patients were young married women, who introduced the tablets in order to prevent conception. As in the first instance, both patients attempted to remove the tablets on account of the burning pain which rapidly followed their introduction, and both failed. The second was treated by continuous enteroclysis, and seemed convalescent at the end of a fortnight, when she died in a state of collapse. A perforation was discovered in the descending colon, with signs of general peritonitis. In the third case the physician arrived within twenty minutes, and immediately gave intravaginal injections of hot water and, as soon as possible, hot milk. Continuous enteroclysis was then practised, and the patient seemed to be doing well until the third day, when tremors developed, followed by paralytic symptoms. She died at the end of the first week. These cases show that absorption of bichloride tablets takes place through lymphatics, and is exceedingly rapid; within twenty minutes a lethal dose can be absorbed. The reflex spasm preventing the patient from extracting the tablet is a phenomenon to be remembered. Apart from noting the ethical fact that none of the three patients had any business to introduce tablets into the genital canal, the author points out the evils which may be caused by criminally careless druggists

[1] *American Journal of Obstetrics*, 1911, p. 473.

and ignorant friends advising the "use" of these preparations without any warning as to their dangers.

THE MEDICINAL VIRTUES OF STONES.

It is the custom of every age to smile in a superior manner at the habits and superstitions of preceding ages, but living, as we do, at a time when millions are spent every year by a credulous public upon the miraculous cure-alls of every quack who beats the big drum, and this in spite of every warning, we can ill afford to speak scornfully of any peculiarities our ancestors may have exhibited in their choice of domestic remedies. It is, perhaps, true that the Gothic nations displayed a genius of their own in the treatment of diseases by worts of various kinds; indeed, the medical philosophy of Saxon times was largely based upon the healing virtues of worts and herbs. It is not surprising to find, however, that, in its constant endeavour to obtain surcease from pain and death, suffering humanity has, at one time, placed under contribution the mineral world also. In this connexion, Fontaine in a recent number of the *Progrès médical*, has given an interesting summary of the supposed curative virtues of stones. After all, we have no reason to suppose that the element of faith need have played a more prominent part in those rough and ready therapeutics of the Middle Ages than it has perforce to do in much of our modern treatment. Quite a reputable analogy may be drawn between the intrinsic virtues of a stone and what we may term its "accessory" virtues by a mention of the following well-known story. A vagrant having one day asked for food at the door of a great house, was told there was nothing for him. Nothing daunted, he begged the servants to give him but a little hot water, from which, with the addition of a stone, he could make some soup. The water being forthcoming and the stone added to it, he suggested that some vegetables would form a desirable addition to the mixture, and finally some pepper and salt. The whole having been well stirred and boiled, the servants had perforce to agree on tasting it that the stone made very good soup. It was Matthiolus of Siena who learnedly remarked that stones enclosed in their interior the inward parts of the earth, and were therefore of service in a variety of ailments, "thanks to the diversity of the matters composing them, and"—an important addendum—"to the influence of the stars." For therapeutic purposes stones were made use of whole, ground up, or powdered, and in the latter case were mixed by expert hands with many other ingredients. Particularly valuable were stones found in the bodies of animals, and marvellous properties were attributed to them, as they were formed by "special humours," and baked by "the vital heat of the body." As a remedy for poisons, more especially for snake-bites, the dirt and grit found about the tear duct of the stag was highly prized; the theory—again according to Matthiolus—being that the old stags killed and ate certain snakes, as a kind of elixir vitae. In the treatment of gravel, and difficulty of micturition again, certain stones obtained from the crayfish dissolved in a glass of white wine and taken as a beverage were a sovereign remedy; while in the case of children cutting their teeth with difficulty the correct thing to do was to apply a slug stone to the neck or arm, when everything would go smoothly. We believe this would prove as effective, although not perhaps so esthetic, as the string of beads so highly recommended by cultured and intelligent circles at the present day. The stone found in the gall bladder of the ox appears to have been ignored by the ancients but its virtues obtained full recognition in the Middle Ages. Powdered and taken as beverage, it instantly relieved gravel, whilst inhaled into the nares in the powdered state it cured nasal catarrh and running at the eyes. Finally, a piece the size of a pea mixed with the juice of the animal was an infallible remedy for epilepsy. The name of bezoar was given to stones found in foreign countries, and this title appears to have conveyed an exotic flavour which appealed vividly to the Western imagination, and materially added to the efficacy of the cure. The best known of these, which were generally found in the paunch of the she-goat, came from Golconda, and Napoleon when in the East was presented with several, but it is not recorded to what use he put them. On the whole, however, as we have remarked, the evidence goes to show that the Anglo-Saxon genius has lain more in the medicinal uses of plants and animals than stones, but a nation which swallows with such avidity the therapeutic garbage of the latest quack vendor can hardly afford to assume an air of conscious superiority in discussing the peculiarities of the remedial measures called into use by their ancestors.

ELECTRICITY AND ANIMAL GROWTH.

The experiments carried on by Sir Oliver Lodge, near Evesham, to test the stimulative effects of electricity on growing crops are fairly well known, and the results, so far as certain forms of vegetable life are concerned, have been satisfactory, a considerable addition to the yield having been secured by the use of electric currents set up by overhead wires. These observations suggested that electricity might be found equally stimulating to animal growth, and in the official *Journal* of the Board of Agriculture reference is made to experiments on these lines carried on by Professor Silas Wentworth of Los Gutos, California, at his experimental farm on a ranch near Roseville. The report states that a flock of 2,000 sheep was divided, one half being placed in a field under the power wires of an electric wire company, while the other half were removed from electric influences. In the field under the electric power line the production of lambs averaged a fraction over two lambs to each ewe. In the adjoining field where electrical influence was lacking the lamb average was rather less than one to each ewe. The fleeces from the sheep in the electrically influenced field proved 20 per cent. heavier. Professor Wentworth thus claims that the electric influence on animal life "will more than double the production of lambs and generally increase the yield of wool."

DEATH CAUSED BY MORAL SHOCK.

F. Follo, in the *Giornale Internazionale delle Scienze mediche* (Naples), 1911, xxxiii, 433, describes how a healthy woman of 19, with a hysterical mother, was washing clothes with a companion on the afternoon of July 30th, in a stream near a mill where, many years previously, two people had been drowned. The spot was known to be haunted, the ghosts of the drowned persons giving rise to special mysterious signs. The young woman and her companion noted that the water escaping from the mill-race made a loud gurgling noise, and that the noise was not human, nor animal, but mysterious. She became frightened, had a severe pain in her forehead, her legs shook, and she slowly got home—three furlongs. The headache persisted next day, with fever, and she was unable to work; next day the doctor was called in, and found the temperature 103° F., the chief complaint being of headache. On August 13th the fever was less, but the patient tended to become comatose; the headache had been extremely severe, evoking the hydrocephalic cry. Convulsions appeared, and death followed on August 22nd. *Post mortem* there were signs of leptomeningitis and encephalitis, the cerebral ventricles containing excess of turbid serous fluid; the auditory meatuses were normal. The anatomical diagnosis given was cerebral hyperaemia, producing cerebral oedema, which gave rise to leptomeningitis causing death. The judicial authorities asked whether the disease causing death could itself have been produced by fright; for the patient, during the development of her illness, had accused one N. M. of emitting the mysterious noises that so frightened her. Follo discusses

the medico-legal aspect of the case, and concludes that the patient was psychically highly impressionable; that the weather was hot; and that death was due to fright, the fright producing cerebral hyperaemia, consecutive cerebral oedema and leptomeningitis. A footnote adds that N. M. was indicted for culpable homicide; the law, however, decided that though the patient died of moral shock, her death occurred "*per infelicitas fati*" (*sic*), and could not be attributed to N. M., because it was an event that could not be foreseen. So no penal proceedings against N. M. were undertaken.

MALARIA IN INDIA.

THE third number of *Paludism*, the transactions of the Committee for the Study of Malaria in India, describes what has been done up to date in the fight against malaria in that country. The committee hopes to be able to organize a special branch for the study of malariometric investigations. It believes that in malarial work the need for quantitative values has become very urgent, and that it has become absolutely necessary to arrive at some method of measuring the amount of malaria in communities more accurately than can be done by the methods now in use. It is, for example, necessary to know more about the relationship of numbers of *Anopheles* to the prevalence of parasites and many other points of great importance. A commencement has really been made, and one article on the subject appears in the present number of the transactions. As the committee points out, however, such studies will require a worker's whole time, and as certain determinations for practical use have become essential to any further progress it thinks it is very desirable to have at least one worker who can devote his whole time to the development of malariometric methods and their application to the study of Indian malaria. The committee has, therefore, decided to ask the governing body of the Indian Research Fund to approve an endeavour to obtain from England an entomologist for the bionomical investigation and a worker recommended by Major Ross for the malariometric inquiry.

THE CANADIAN MINISTRY.

THE new Ministry which has been formed in Canada by Mr. R. L. Borden contains two members of the medical profession, Dr. Reid, Minister of Customs, and Dr. Roche, Secretary of State. Dr. John D. Reid, who was born in Eastern Ontario in 1859, was educated at Queen's University, Kingston, where he graduated in medicine; he was first elected to the Canadian House of Commons in 1901. Dr. William James Roche was born at Clandeboye, Ontario, in 1860, and received his medical education at Trinity Medical College, Toronto University, and the Western University, London, Ont. He commenced practice at Minnedosa, Manitoba, in 1883. He was a member of the Manitoba Medical Council for several years, and was first elected to the House of Commons in 1896. He was assistant chief whip of the Liberal-Conservative party.

WE have much pleasure in stating that Lord Ilkeston is making steady progress towards recovery. The Board of Management of the Birmingham General Hospital at a full meeting passed a resolution expressing sympathy with him in his illness and hope for his speedy restoration to health. The resolution was moved by Professor Saundby as senior physician, seconded by Dr. Short as chairman of the Medical Committee, and passed unanimously.

THE fourth Norman Kerr Memorial Lecture will be delivered before the Society for the Study of Inebriety by Professor G. Sims Woodhead, on Tuesday, November 14th, at 5 p.m., in the Guildhall, Cambridge. The subject of the lecture is "The Action of Alcohol on Body Temperature and on the Heart's Action." The lecture will be illustrated by diagrams and lantern slides.

GENERAL MEDICAL COUNCIL.

ELECTION OF DIRECT REPRESENTATIVES FOR ENGLAND AND WALES.

ADDRESS OF DRS. LANGLEY BROWNE, LATIMER, AND VERRALL.

To the Registered Medical Practitioners of England and Wales.

LADIES AND GENTLEMEN,—As the election of the three Direct Representatives for England and Wales to the General Medical Council will take place early in November, we venture to ask for your support and votes.

It is specially important at the present time that your representatives should be well acquainted with the different conditions of medical practice, as these conditions will, in all probability, be considerably modified by the National Insurance Bill. With the action of the General Medical Council and the British Medical Association in reference to this bill we are in cordial sympathy and agreement. The experience we have acquired in many years of general practice, in addition to long service on the Council and Committees of the British Medical Association, as well as on other bodies, municipal and medical, should be of value to the profession. We therefore offer ourselves for election.

The General Medical Council has been, and still is, engaged in urging upon the Government the necessity for legislation to remove the dangers to public health arising from the unrestricted practice of medicine and surgery by unqualified persons. A very extended inquiry on this subject has been made, both at home and abroad, and some of the evidence obtained has been published as a parliamentary paper. No effort should be spared to bring this work to a practical issue.

Some alteration is desirable in the regulations relating to medical education in order that the last year of the curriculum may be devoted entirely to clinical work. A proposal has been made to permit of certain science subjects (biology, chemistry, and physics) being taken during the last terms of school life by medical students before registration. This has met with the approval of the head masters of most of the public schools, and we are prepared to give it our support.

Should you do us the honour to elect us as your representatives, it will be our aim to do all in our power for the credit and welfare of our profession, and to merit the confidence you place in us.

(Signed)

HENRY WILLIAM LANGLEY BROWNE,
Representative Member, General Medical Council; late Chairman of Council, British Medical Association.

HENRY ARTHUR LATIMER,
Representative Member, General Medical Council; late Deputy Chairman, Representative Meeting, and Member of Medico-Political Committee, British Medical Association.

THOMAS JENNER VERRALL,
Member of the Council; Chairman of the Medico-Political Committee; and late Deputy-Chairman of Representative Meetings of the British Medical Association.

AT a meeting of the Medico-Legal Society, to be held at 11, Chandos Street, Cavendish Square, London, on Tuesday next, at 8.30 p.m., Mr. Roland Burrows will contribute a note on a recent murder trial. Mr. Walter Asten will read a paper on traumatic neurasthenia.

THE Decimal Association (established to promote the adoption of a decimal system of weights, measures, and coinage in the United Kingdom) announces that a weights and measures law, rendering the use of the metric system compulsory in Bosnia-Herzegovina, will come into force on September 1st, 1912.

POST-GRADUATE lectures are to be delivered on each Tuesday, at 6 p.m., from Tuesday, October 17th, to Tuesday, November 14th, at the Royal Dental Hospital, Leicester Square. The first lecture deals with heredity and jaws, and is to be delivered by Mr. J. G. Turner. The fee for the course is two guineas, but past and present students of the hospital and internal students, as also internal students of the University of London, will be admitted free.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LEEDS.

Opening of the Session of the Faculty of Medicine.

The winter session of the School of Medicine of the University of Leeds was opened on October 3rd, under the presidency of Mr. A. G. Lupton, the Pro-Chancellor, who was supported by the Lord Mayor, the Dean of the Faculty, and by a large number of the professorial body, and other members of the teaching staff. The opening address to the students was delivered by Mr. Mark Sykes, M.P. The address, which was listened to by the students and a large gathering of the general public with close attention, was one which will long be remembered as being full of interest and of information, and as expressing the views and opinions formed by a man of culture and of keen powers of observation and of generalization as to the history and development of the art of medicine. Mr. Sykes, who spoke almost without consulting his very scanty notes, and drawing from his own observations, described the medical and surgical practices of the nomadic Kurds and Arabs, people much in the same stage of civilization as those of the age of bronze. He showed that, side by side with methods which gave evidence of a keen insight and a true scientific spirit, there existed views which could only be described as those of the most foolish superstition. Thus in bullet wounds—and he illustrated this by the case of a perforating wound of the arm—they pass through the wound a stick to which has been attached a string soaked in saltpetre and gunpowder. The string is then drawn through the channel formed by the bullet and the apertures are covered over by a layer of ashes. This sound and scientific proceeding was, however, invariably followed by an attendant being deputed to sit by the patient's side all night, with strict injunctions sedulously to beat a drum to frighten away the evil spirits which might find access by the apertures, and to guard against a sleep during which the patient might be met by Iblis or Satan. These same men could treat fractures and other injuries with success. Their staple remedy for bronchitis, colds, rheumatism, fevers, and indigestion was the use of the actual cautery. Headaches were treated by tying a string around the head until the skin was actually cut. Yet in the midst of all this one might find men who could carry out the most skilful massage and who could so set a limb that the injured man might be carried miles on mule, horse, or camel back without any injury. An interesting survey of the development of modern medicine through the Dark Ages was given and our debt to the Arabs was emphasized, for they it was who, with their conservatism, had preserved and handed on to us something of the older medical learning. The charlatanism of the Middle Ages was cleverly dealt with, as was also that dogging of the steps of true science by the brewers of love philtres, the adepts in black magic, conjurors, satanists, quacks, and the whole brood of such filthy creatures, revolting, hideous, and terrible. Looking to the future, he thought there were three main points of view from which the progress of medicine would be regarded—those of international hygiene, of domestic hygiene, and of national eugenics. The facility of intercommunication, which increased year by year, and not only by land, but by sea and air, was also conducive to the spread of pestilence, and possible ducts of deadly pestilence might be found in the Hejaz Railway, the Suez Canal, and the Trans-Siberian Railway. The time was drawing near when the European would demand far more rigorous methods of defence than those at present available. But, in addition to the duty of defending our shores from the invasion of disease, there was the duty of setting our own houses in order by attending to the housing of the working classes, by educating all in the duties of life, and promoting the physical welfare of the race. Touching, finally, on national eugenics, he said this was a difficult question, which might be fearlessly followed up to the furthest point, so long as the investigation did not rest upon the false hypothesis of assuming that if we did succeed in breeding a people with perfect bodies they would necessarily also have perfect souls. This was not the case, and, for all we knew, the Apollo of the Belvedere might have been a conceited monkey, the Farnese Hercules a thick-headed brute, and the Venus of Milo not a bit better than she should have been!

The Lord Mayor proposed a vote of thanks to Mr. Sykes, and this was seconded by Mr. J. P. Walker, President of the Students' Representative Council.

The dinner of the medical profession of Leeds and district was held in the Queen's Hotel after the address, and was well attended. Mr. Sykes was the chief guest.

The West Riding Medical Charitable Society.

The excellent work of this society, which held its annual meeting at Wakefield, has from time to time been commented upon in these columns. The annual meetings, which are held in various towns in the Riding, though mainly devoted to the careful allocation of grants to the pensioners of the association, are looked forward to by many as affording a means of bringing together members of the medical profession who are not necessarily associated by proximity of residence or by being members of the same medical societies. The society now numbers 777. The grants allocated at the meeting this year to forty-nine applicants amounted to £1,738, a sum which brings up the total amount which the society has been able since it began its beneficent work to devote to the relief of the more unfortunate members of the profession to the handsome total of £51,373.

WEST YORKSHIRE.

Maggot Fumes and Phthisis.

Allusion was made last week (p. 836) to an application by a maggot breeder to his urban council for permission to enlarge his establishment so as to be able to treat people suffering from phthisis with the fumes arising in the production of these worms. The urban council at its first meeting rejected the proposal, but at a meeting held on October 3rd the scheme was with some modifications accepted. It appears that an upper story is to be provided to the maggot-breeding building in which people can inhale gases generated by the process through perforated gratings in the floor, and also a sanatorium building for the open-air treatment, with proper provision for water supply and drainage. The urban council has complied with the proposals on condition that the proprietors give an undertaking to make the effluvia inoffensive by passing them through a furnace before reaching the open air. The combination in treatment of the pernicious atmosphere of the maggot-room and the open-air method is one of the extraordinary incongruities in this astounding proposition. It is really lamentable that local authorities should in any sense lend their aid to the proprietors of a maggot-breeding establishment to treat disease. Dr. Kaye, M.O.H. for the West Riding, in his report to the County Council, gives it as his opinion that the trade is an offensive one and ought not to be established without the sanction of the local sanitary authority. As there are no by-laws specially applicable to maggot breeding, he suggests that the Local Government Board be requested to frame a set. He states:

> The process commences with the exposing of some raw animal tissues (usually the viscera of horses or cows) until they become extensively "fly-blown". . . . This material is then placed in receptacles, where it is allowed to become "alive" with maggots, which feed upon the putrefying mass until they attain a certain stage of development, when they are removed from their surroundings and packed for sale. The sanitary authority can, of course, insist that the premises shall be so situated as not to create a public nuisance by the odours that arise from the decomposing flesh, but they ought also to be able to lay down conditions which would prevent the breeding of myriads of "blue-bottle" flies which are at liberty to fly away and settle on human beings and human food after being in contact with diseased and putrefying animal matter. . . . At one of these maggot-breeding establishments persons suffering from pulmonary tuberculosis are allowed to sit alongside the seething troughs of maggoty filth and inhale the gaseous products of decomposition. As might be expected the gases, consisting chiefly of ammonia, have an effect on the cough and expectoration for the time being, but the transitory result does not justify the means adopted.

MANCHESTER AND DISTRICT.

The Teaching of Anatomy.

The inaugural address at the opening of the medical session of the Manchester University was delivered by

Professor Elliot Smith on October 2nd, the Vice-Chancellor being in the chair.

Professor Elliot Smith dealt with anatomy as a subject for the instruction of medical students. He said that in many respects present-day methods of teaching anatomy were appropriate only to the surgery of 100 years ago, when the student had no real opportunity of dissecting the human body, and almost all the teaching had to be by lectures. But to-day that necessity no longer existed, and there were far too many lectures, from which the student learnt little more than could be got from a good textbook. After a year's preliminary work, the student approached anatomy with a feeling that at last he was getting at the beginning of his life's work, but a course of lectures on the bones soon made his enthusiasm disappear. What was needed was the formation of a visual picture of anatomical structures, which could only be gained by guiding the student in his practical work. At the same time there were many systems of the body, such as the lymphatic system, which could not be properly studied in the dissecting room, and the general principles of the science would always have to be explained in lectures. In Manchester it was felt to be better not simply to regard anatomy as a pure science, but to keep before the student its practical application. Nothing interested the student more in his anatomy days than the little tit-bits of medicine and surgery which cropped up, and it was the teacher's duty to exploit that interest. Formerly the teaching of surface anatomy was neglected until the student came to clinical work; but surface anatomy was not only interesting because of its clinical value, but was essential to a complete visualization of anatomical structures. It had therefore been made a rule to combine the study of surface anatomy with the general anatomy of each structure. In this the medical school owed a great deal to the Manchester School of Art, and this unofficial co-operation, by which medical students had the advantage of studying surface anatomy from living models, had been of great assistance to both schools. Attempts were being made in almost every country to reform the method of teaching anatomy, and the point of view of the reformers was that anatomy should be based on embryology, which lay at the root of all true teaching of anatomy. Not only would such a method of teaching clear up points in the structure of man which, without it, were unintelligible to the student, but it was the only way by which the complexities and origin of anatomical structures could be adequately explained. The main difficulty presented was in the practical work. Facilities were needed for demonstrating the facts of embryology, and microscopic demonstration was essential. Anatomists must demand as their field the whole of anatomy, not only gross human anatomy but microscopic anatomy, which had been taken over by physiologists. The tendency was for physiologists to give up histology to the anatomists, and the physiologists would gain by doing so. Only by regaining its interest in fine anatomy could the purely descriptive and technical anatomy of the present get back the life it had lost when histology was taken out of its scope.

THE MANCHESTER TOWN COUNCIL AND THE VISITING OF PHTHISIS CASES.

At the last meeting of the Manchester Town Council a proposal of the Sanitary Committee came up for the appointment of a special medical officer and nurse to visit homes from which cases of phthisis had been notified. It was stated that the medical officer of health regarded these appointments as a matter of urgency. The Lord Mayor read a letter from Dr. T. Arthur Helme, the chairman of the Joint Committee of the Manchester and Salford Divisions of the British Medical Association, which drew attention to the fact that the National Insurance Bill proposed to deal with tuberculosis on a national basis, and until it was seen what effect the bill would have it would be quite premature for Manchester to make the proposed appointments. The Chairman of the Sanitary Committee said that there was nothing in the Insurance Bill that touched the election of a medical officer and nurse to visit the homes of the people, and the bill only dealt with sanatoriums and sanatorium patients. Since the new regulations had come into force there had been a great increase in the number of notifications of phthisis, and if the cases were to be notified to the medical officer of health it was his bounden duty to send one of his officers to see to them. The preventive measures which the committee wanted to take could not be taken without visiting the homes of the patients. When the medical officer visited the home he would do what private practitioners did not do, examine the children and other persons in the house to see whether they had taken the disease. The committee, he said, was always careful not to enter into competition with the private practitioner, and, considering the extent to which the city suffered from phthisis, he was grieved that the medical practitioners should have allowed the letter to be written, for they of all men should desire to lessen this disease. Councillor Dr. Chapman said the council might safely leave the honour of the medical profession in its own hands, as no body of men had spent so much time and energy in trying to teach people how to do without the doctor, and to suggest that the doctors had interested motives was not the proper way to approach a big subject such as this. It remained to be seen whether or not there would be any necessity for these appointments when the Insurance Bill became law, for if certain duties were taken up by the new local Health Committees there would be no need for greater help in the Corporation health department. It was true that the notifications had increased, but the medical officer of health's last annual report showed that the number of cases of phthisis and of deaths had lessened. He said that the new medical officer would be at liberty to enter into practice, and while he was receiving a salary from the Corporation he would be introduced into houses where he might increase his practice. It was a complete misrepresentation of the ordinary practice of family doctors to say that they took no notice, when visiting a case of phthisis, of the other members of the family. He proposed that the council should refer the matter back for six months. This was duly seconded, but after some further discussion the proposal to make the appointments was adopted.

It need hardly be said that the object of the letter which was criticized in such an unfair way by several members of the Council was completely misrepresented, and the slightest attention to the terms of the letter should have shown that it only suggested waiting until the Council was in a position to know whether the appointment was necessary or not. There is a distinct tendency not only in Manchester but in other towns, for sanitary authorities to forestall the work of the local Health Committees to be set up by the Insurance Bill. The Divisions of the British Medical Association in Manchester and Salford are in full agreement with the policy of the Association, which is to oppose existing sanitary authorities getting control of any public domiciliary medical service, and it was with this in mind, and to prevent an appointment which may before long be found to be quite unnecessary, that the letter in question was written.

LIVERPOOL.

ST. LUKE'S DAY SERVICE.

THE annual service for the medical profession in connexion with St. Luke's Day will take place at St. Luke's Church on Sunday, October 15th, at 3 p.m. The sermon will be preached by the Right Rev. A. F. Winnington Ingram, Lord Bishop of London. Members of the profession are invited to wear academic costume. The offertory will be given to the British Medical Benevolent Fund.

DUBLIN GRADUATES' ANNUAL DINNER.

The annual dinner of the graduates of the University of Dublin resident in the North of England will be held at the Adelphi Hotel on Saturday, October 21st, at 6.45 for 7.15 p.m. The chair will be taken by the Right Hon. Sir Edward Carson, K.C., M.P. for the University. The principal guest will be the Earl of Derby, and there will also be present Professor O'Sullivan, professor of pathology in the university, the Bishop of Liverpool, Sir Alfred Dale, and many other guests.

LINCOLN.

A NEW WATER SUPPLY.

THE city of Lincoln is at length using water of a satisfactory character, the ceremony of turning the new supply

into the mains for the first time having been performed on October 4th, after a service at the cathedral. The occasion was naturally one for rejoicing, since the efforts of the Corporation to secure an adequate supply of water of good quality have continued for a good deal over ten years. The new source was first secured some three years ago, the efforts then already on foot having been greatly stimulated by a serious outbreak of typhoid fever, the history of which will not have been forgotten. The source of the water is a pebble outcrop of the new red sandstone formation, not far from the village of Elkesley, in Nottinghamshire. It is part of a vast underground reservoir calculated to cover some 200 square miles, and supplies have for long been drawn from it by some other large towns such as Nottingham, Newark, Mansfield, and Retford. The supply, however, is so free that it is calculated that Lincoln can draw at least 30,000,000 gallons a day without interference with the rights of other towns. The water is regarded as practically soft, the total hardness being calculated to be equal, it is said, to 7 Clark degrees. This fact is curious, for the outcrop is seemingly connected with the water-bearing stratum which the corporation in 1906 succeeded in reaching after several years' work and after boring to a depth of over 2,000 ft., only to find that the water arising, though ample in quantity, was much too hard for domestic use.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Pathological Institute of the Royal Infirmary, Glasgow.

The new pathological institute was formally opened last week by Sir William Osler. The new building, which forms an important feature of the extensive reconstruction scheme of the Royal Infirmary, is situated in the eastern corner of the infirmary grounds and abuts on Glenfield Street. It is a fine building which reflects great credit on the architect, Mr. James Millar, who has already had experience of modern laboratory requirements in the new university medical extension. The feature of the institute is a large central hall, well lit by roof windows. Round the hall runs a gallery. The eastern end communicates with a large museum, consisting of a central well with two galleries. The museum is beautifully lit both by roof and side windows. Off the central hall open the various laboratories and research rooms. On the ground floor are laboratories for the teaching staff and a large general laboratory for research purposes. From the gallery entrance is gained to the lecture theatres, bacteriological laboratory, histology room, and the chemical laboratory, while a staircase gives access to the photographic room and library. At the western end of the building the *post-mortem* room, with a small chapel, etc., are situated. The lighting of an institute in the centre of a large city like Glasgow is always a difficult problem, but by the use of white paint throughout the building the light has been made as effective as possible.

Address by Sir William Osler.

The opening of the institute was attended by a large number of medical men, who thoroughly enjoyed the address delivered by Sir William Osler, entitled, On the Place of the Pathological Institute in the General Hospital. He congratulated the authorities on the adoption of the name "institute," which he took to indicate that it was not that the infirmary should bear its share with the university in advancing scientific medicine. An institute was more than a deadhouse and much more than an auxiliary pathological laboratory. It was the cerebrum of the infirmary—the place where the thinking was done, where ideas were nurtured, and thoughts materialized into researches on the great problems constantly before them—the nature of disease. On correct knowledge depended the possibility of the control of disease and the measures for its prevention or cure. From observation and thinking came their present vast store of knowledge. Men must begin not to see straight and to think clearly. These methods, difficult to acquire, had in the past given Galilius and the new anatomy; Newton and a new universe; Morgagni and the new morbid pathology; Virchow and the new pathology. The ancients thought as clearly as we did, but never learnt the value of experiments, which enabled Harvey in a short period to solve the problem of the circulation. After referring to the value of the work of Andrew Buchanan on the coagulation of blood, he paid an eloquent tribute to the great scientific and practical value of Lister's work carried out in the wards of the old infirmary. The present generation stood still too closely to that great epoch-making work to appreciate its supreme value.

In regard to the relation of the institute to the university, he said that the institute was an integral part of the infirmary, the director and staff worked in co-ordination with the clinical staff, and the departments so dovetailed that every member had an interest in its work. The secret of the success of the Johns Hopkins Hospital lay in the dominating influence of the pathological department. Everything depended on organization. It was right to have the professors of pathology in the same relationship to the pathological laboratories as the professors of clinical surgery to the wards. Only with this type of organization could a great institute as a university unit fulfil its threefold mission to the students, staff, and public. The student learnt the structural changes wrought by disease, and recognized the correlation between the symptoms in life and the *post-mortem* appearances, which was the bed-rock of diagnosis. In the final stages in the wards he saw the marvellous benefits which had followed the practical application by Pasteur and Lister of the methods of science. The only redemption for the director of any institute consisted in having associates who knew more about certain subjects than he did himself. An Admirable Crichton in these days was a quack. In the art of delegation, in the subdivision of labour, in specialization among his subordinates, the director would alone find safety. The students should be encouraged to do original work, and the young men on the staff should be workers at the institute, each with his place, each with his problem. Even the older members of the staff, when not overburdened with practice, would find mental refreshment and stimulation in a few hours of laboratory work.

Lastly, the institute existed for the benefit of the public. Every patient benefited from the work done in it. The chief weapons in the fight against the acute infections had come from the laboratories, where men recognized that the epidemics were preventable if their nature could be discovered. Even with imperfect knowledge of the cause; Glasgow had shown how much could be done by sanitary measures, which has converted the town from one of the worst to one of, if not the best. To wipe out typhus, make typhoid a last ditcher, and halve the mortality of tuberculosis were some of the peace victories in which the citizens of Glasgow shared. Two great problems still remained. To make effective the knowledge they already possessed would do for tuberculosis and a host of minor ailments, of which they already know the causes, what had been done for typhus and typhoid. That part concerned the public, but more directly the work of the laboratory was the finding of the solutions to the four great riddles—the unravelling of the problem of cancer, of the exanthemata, and of the perversions of metabolism, which caused such common conditions as gout and arthritis; and fourthly, the problem of the internal secretions. Drawing an illustration from his young days in Canada, he alluded to his experience in making maple sugar. An enormous quantity of sap yielded after boiling but a small product of sugar. The sugar left after the enormous sap of countless investigations might appear very small, but sweeter or better sugar had never been tasted than that of their making, and among all samples in the market, no brands ranked higher than those from the old Glasgow Royal Infirmary. It was for them in the new infirmary and in that splendid institute to see that the quality was maintained.

Clinical Research at the Glasgow Western Infirmary.

Dr. Carl H. Browning was on October 5th appointed Director of the new Clinical Research Laboratory at the Western Infirmary, Glasgow, and was at the same time elected University Lecturer in Clinical Pathology. Dr. Browning, who had a distinguished career as a student in

the University of Glasgow, first worked on the subject of immunity under Professor Muir in that university, and afterwards for two years in Frankfort under Professor Ehrlich. In 1907 he returned to Glasgow as assistant in bacteriology in the Pathological Department of the University, and in the following year, on the creation of a lectureship in bacteriology, was appointed to that office. In 1910 he was appointed Assistant Pathologist to the Western Infirmary.

THE ROYAL (DICK) VETERINARY COLLEGE.

The eighty-ninth session of the Royal (Dick) Veterinary College was opened on October 4th. Sir William Turner, who was in the chair, said that a site had been secured for new buildings, and that towards the cost of the latter several public bodies, such as the Corporation of the city of Edinburgh, the Carnegie Trust, the Highland and Agricultural Societies, and the Executive Committee of the Edinburgh Exhibition, had materially contributed. In addition the college had now been recognized as a public technical institution by the Scottish Education Department, and had received a grant from it. The new Principal, Dr. Bradley, in an inaugural address, said that from a utilitarian standpoint veterinary science had proved of inestimable benefit to the community, and in the immediate future the veterinary profession would have to take a much larger share than heretofore in the work of protecting the public health. During recent years it had become more and more clear that a veterinary officer had a function in public health administration scarcely less important than that of the medical officer. Of the diseases menacing the community many were of animal origin, and to assist in safeguarding mankind from the latter no one was better fitted than the veterinary surgeon. In most large towns there was already a staff of specially trained veterinary officials, and the day was not far distant when a large proportion of all veterinary surgeons would be engaged in public health work. This fact necessitated considerable changes in the veterinary curriculum. It would have to be of a broader character than hitherto, the future veterinary surgeon being provided as a student with knowledge which he could subsequently develop and utilize either as a general practitioner of veterinary medicine, or as a member of the army veterinary service, or as an official connected with the public health service. In addition to training students, veterinary schools should also make provision for the conduct of research work.

EDINBURGH UNIVERSITY: PROPOSED DEGREES IN VETERINARY SCIENCE.

An important scheme of co-ordination between the University of Edinburgh and the Royal (Dick) Veterinary College has been approved of by the senators of the University of Edinburgh, and will be shortly submitted for the approval of the Privy Council, the object of which is to grant degrees in veterinary science. The degrees proposed to be instituted are B.Sc. and D.Sc. in veterinary science.

THE DR. JESSIE MACGREGOR LECTURE.

In accordance with the conditions laid down by the trustees of this fund, Dr. Agnes Ellen Porter, to whom the prize was awarded this year, delivered a lecture entitled "A Short Survey of Immunity in Tuberculosis," in the anatomical department of the University of Edinburgh, on September 29th. The treasurer of the Royal College of Physicians (Dr. Norman Walker), in introducing Miss Porter, referred to the high standard of work submitted by candidates for the prize. The next award will be made in 1914.

ST. ANDREWS AMBULANCE ASSOCIATION, GLASGOW.

The St. Andrews Association has this week replaced its horse-drawn ambulances by motor vehicles. The early experience of the association with the motor ambulance, presented in 1906, was not entirely satisfactory, but proved of value in determining the requirements of a motor ambulance. Last year the association bought a short-wheel Wolseley-Siddley chassis and a wagon body was supplied by a local carriage builder. This ambulance has proved so satisfactory that the association decided to acquire two more similar motor ambulances and dispense with their horse-drawn ambulances, with the exception of three, which are retained in case of emergencies. It is expected that the new motor service will very materially reduce the time hitherto required for removing a case of accident to the hospital. Under the old arrangements, about half an hour was required, but with the motor ambulances it is expected that ten minutes will suffice.

GLASGOW OPTICIANS AND GLASGOW EYE INFIRMARY.

A few weeks ago application was made by the governors of the Glasgow Eye Infirmary to the Board of Trade for a licence to register under the Limited Liability Act without the necessity of adding the word "limited" to its name. One of the provisions of the licence asked for was that the infirmary should be empowered to sell spectacles to those requiring them. The attention of the Law and Parliamentary Committee of the Institute of Ophthalmic Opticians was directed to the effect which the granting of such power might have on the business of opticians in Glasgow, and it was decided to oppose the granting of the licence. At a meeting of the council of the institute held on October 4th in London, it was reported that as a consequence of the representations made, the Board of Trade had deleted from the licence the clause objected to. Mr. A. Boardman, in moving the adoption of the report, observed that the institute had secured a signal victory in the interests of the opticians of Glasgow—indeed, of the whole country.

WICK PARISH COUNCIL AND ITS MEDICAL OFFICER'S SALARY.

At a recent meeting of the Wick Parish Council a letter was submitted from the Local Government Board in regard to the proposed reduction of the salary of Dr. Banks, Medical Officer for the Northern Division of Wick Parish. After giving careful consideration to the matter, the Board was unable to agree with the Parish Council that there were reasonable grounds for reducing the salary of the medical officer. Reckoning that there were 350 poor on the roll of the parish, and that half of that total was in the northern district of the parish, the medical officer had to attend 175 persons. Looking to these figures, and to the extensive nature of the parish, the Board could not regard the salary of £55 at present allowed to Dr. Banks as excessive. It was unanimously agreed to allow the salary to remain as at present. Both Dr. Banks and the Parish Council are to be congratulated on the turn events have taken.

MEDICAL OFFICER OF POLMONT INSTITUTION.

The Secretary for Scotland has appointed Dr. Thomas Harcourt Lawrie to be Medical Officer of Polmont Institution, Polmont.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

NATIONAL INSURANCE BILL.

AT a meeting of delegates of dispensary medical officers held on October 4th in the Royal College of Surgeons Dublin, the following resolutions were passed:

1. That we, the delegates assembled here to-day, view with alarm the amendment of the Insurance Bill suggested by the Select Committee of the Irish Party, proposing to delete the medical benefits while retaining the sickness benefits, thus throwing over on us an enormous amount of extra work, without any corresponding remuneration, and that a deputation of dispensary medical officers be elected to wait on the Irish Parliamentary Party and Mr. Lloyd George.
2. In the event of medical benefits being denied to Ireland under the Insurance Bill, we hereby recommend our *confrères* in the dispensary service to refuse to carry out the work imposed on us, unless we are properly compensated for our extra work.
3. That the medical benefits of the Insurance Bill, as applied to Ireland, be not deleted.
4. That the deputation appointed to-day confer with the dispensary medical officers appointed by the Conjoint Committee of the British Medical and Irish Medical Associations, with a view to a settled policy, before waiting on the Irish Party and Mr. Lloyd George.
5. That each dispensary medical officer be asked to subscribe 5s. to defray expenses.

Scarcity of Water in Irish Towns.

A serious situation in connexion with the water supply of several Irish towns has arisen as a consequence of the prolonged drought. In Londonderry affairs were so serious that the corporation recently resolved to shut off the whole city supply from Saturday night until Monday morning, and special arrangements to introduce an emergency supply have been devised. In Monaghan the town supply, which had been running low since June, gave out entirely last week, and the inhabitants had to depend for their entire supply on two public and some private pumps. In Clones, also, the reservoir has dried up, and pumps have been called into requisition. These afford sufficient water for cooking purposes, but those who require large quantities have to cart it. In Armagh trouble is anticipated if there is not soon an abundant rainfall, and in Dublin warnings have been issued by the Waterworks Committee, urging consumers to curtail as far as possible the use of water in their homes.

Cerebro-spinal Fever in Roscommon.

At the last meeting of the Stokestown Board of Guardians a report was received from the medical officer of the district, stating that epidemic cerebro-spinal meningitis was becoming prevalent in parts of the union, and recommending the closing of the primary schools with a view to preventing the spread of the disease. Some months ago four fatal cases of the disease were reported in the southern portion of Roscommon, and its appearance now in the Stokestown district has given rise to uneasiness.

South Australia.

[FROM OUR SPECIAL CORRESPONDENT.]

The United Friendly Societies' Dispensary.

The daily papers have this week been full of the "Doctors' strike," so-called, so much so that even the enterprising showman announces in a facetious advertisement that the doctors' strike makes no difference with respect to his moving picture exhibition. I alluded to the matter in dispute in my last letter (British Medical Journal, April 8th, p. 1020).

The relations between the lodges and the medical profession were for many years quite satisfactory, when there sprang up from nowhere in particular a benevolent agitator named Caffrey; he appears to be of the same type as our late visitor Tom Mann, whose name has been so conspicuously lately in connexion with the Liverpool riots. Mr. Caffrey's mission appears to be that of explaining to the "lodgers" that they are labouring under a serious injustice in allowing the doctor to delegate the dispensing of their prescriptions to neighbouring chemists. To remedy this grievance Mr. Caffrey does not desire that the doctors should dispense their own drugs, but advocates the establishment of a central dispensary where not only will the best drugs be sold, but the lodge patients will be able to purchase at cost price the various proprietary and quack remedies which are so dear to the lay mind. An Act of Parliament has been passed to legalize the movement, at the head of which Mr. Caffrey figures under the high-sounding title of "Chief President."

To finance this dispensary it was proposed to deduct ten per cent. of the medical officers' pay. Now the doctors' rate of remuneration has certainly not increased during the last thirty years, whereas it is certain that the cost of living has, as also has the rate of payment to all branches of the labouring classes. When the medical profession, as represented by the Medical Defence Association, stood out against this unwarranted attempt at sweating them, the Dispensary Committee gave all the lodge doctors notice that their services would not be required after September 30th, so that really instead of a strike it is a genuine "lock-out" on the part of the tyrannous employer.

The organizer cheerfully asserts that he has engaged English medical men to fill the breach, some from this State and others from adjoining States, and their names are shortly to be announced. They are to be paid £750 a year with the right of private practice. Naturally they are said to be men of the highest professional standing and mature experience. The following is a list of the operations which the "Chief President" says they will be expected to perform gratis, and have only to add amongst the extras for which they will receive special remuneration appears a line as follows: "Abdominal section, one guinea."

Reducing all dislocations; setting all fractures; opening abscesses, sinuses, fistulas; removal of foreign bodies from ears, eyes, nose, mouth, and throat; relieving contractions and adhesions of joints; scraping and removal of lupus and tubercular growths; removal of ingrowing toe-nails; wet and dry cupping; tapping hydroceles; removal of rodent ulcers, wens, and other growths, not cancerous; removing mucous polypi of nose; removal of ranula (cystic tumour of mouth); excision of tonsils; all operations of emergency; post-nasal growths; operations for tumours; and tying of arteries.

The members of the profession have agreed to stand by one another in this emergency, and so far only one man has refused to sign the agreement not to apply for these posts.

One naturally asks, Where does the unhappy lodge patient come in? As far as one can see, he will be deprived of the services of his trusted family doctor, and, in addition, have to pay tram fares constantly in order to consult the doctor or obtain the medicine.

The South Australian Branch.

The theme of Dr. W. T. Hayward's retiring address at the annual meeting was the early history of our Branch, with a sketch of its pious founders, of whom but few besides himself survive after thirty-two years. The incoming president, Dr. Hone, one of the most brilliant graduates of the Adelaide University, presided at the annual dinner held at the newly-opened Grand Central Hotel.

The Australasian Medical Congress.

There will be a considerable exodus of medical men and women from here shortly to attend the triennial congress in Sydney, which commences on September 18th. One question affecting the British Medical Association will be debated by a subcommittee, and that is the advisability of taking steps to federate the existing Branches in Australia and New Zealand. This is not to be done with a view of separating from the parent Association, but in order to have a strong federal or provincial council to control the State Branches and to formulate and organize medical policy under the Southern Cross. Such autonomy must come in the medical, as in the political world, and perhaps the necessity for it will arise sooner than we expect, for under other names we have Lloyd Georges even in this sunny land. It has already been suggested that a "Wages Board" should be constituted to deal with the present doctors' lock-out.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

The Health of Calcutta.

The census of 1911, as compared with that of 1901, revealed an increase of population in the town proper of 5 per cent. This increase is entirely due to immigration, for, owing to the paucity of females, the death-rate habitually exceeds the birth-rate. The increase of males was 6.8, and of females 1.1 per cent. On the other hand, the suburbs of Calcutta underwent an increase of 45 per cent. during the same period.

The report of the health officer, Dr. T. Frederick Pearse, D.P.H., for the year 1910 indicates that climatic conditions were favourable and that the health of the city was good. The birth-rate fell from 22.9 in 1909 to 19.3. The decrease is attributed to high prices of food, causing diminished fertility. As compared with past years, the rate was high. Calculated on the female population, it amounted to 59 per 1,000, or 30 per 1,000 if the number of males and females were equal. The death-rate, calculated on the census of 1911, was 26.7 per 1,000—the lowest for over twenty years. The reduced rate was due to diminished mortality from cholera, plague, and small-pox, and to a slight extent from malaria and bowel complaints.

Suburban rates continue higher than urban. Infantile mortality was high, amounting to 273 per 1,000 of births. It is stated that while the death-rate of infants under

7 days old was 107 per 1,000 births, the death-rate of infants of women attended by the corporation midwives was only 41 per 1,000. Four midwives were employed in the more populous districts; they attended 250 cases, and the maternal and infantile mortality was considerably below the average for the town. A female sanitary inspector was also temporarily employed, but though she appears to have done good work, the corporation hesitates to engage her permanently

The mortality caused by cholera (1901) was the lowest for ten years. The number of deaths due to plague was 993—the lowest since 1898. Rat destruction continues, but there were no inoculations. The plague season of 1911 has been rather more severe. The city was almost free from small-pox, only 48 deaths having been registered. There was a falling-off in vaccination. From "epidemic dropsy" 171 deaths were registered. Reference is made to Dr. Greig's theory that the disease is due to defective nutrition—a conclusion from which Dr. Pearse advances reasons for dissenting. Deaths from malarial disease continue to present a low level as compared with previous years. They are more numerous in the suburbs than in the town. The "mosquito brigade" was actively employed in destroying larvae. No improvement is manifest in the mortality caused by tubercle, which is more fatal among women and in certain parts of the town than in others. The health officer recommends the establishment of a tuberculin dispensary under a qualified medical officer. Bronchitis causes a higher mortality than any other disease, and is especially fatal among infants. Details are given regarding an outbreak of narcotic poisoning, attributed to chewing *pan* and *betel*, which seems to have caused considerable alarm.

The record of work done by the health department is satisfactory and indicative of progress. The investigations conducted in the municipal laboratory are numerous and important. The health officer concludes his report by offering suggestions for the future, which are sound and deserving of adoption.

Special Correspondence.

BERLIN.

A Medical Head for the Medical Department: Frederick the Great's Opinion.—Women and Medical Research.—Post-Graduate Instruction in Berlin.

GREAT satisfaction is felt in medical circles here that the bureaucratic Prussian tradition of having a jurist as head of the medical department in the Ministry has at last been broken through by the appointment of a physician, Professor Martin Kirchner, the eminent bacteriologist and epidemiologist, to be its chief. Kirchner is no novice in administrative work. For the last twelve years, while fulfilling his duties as Professor of Hygiene and Social Medicine in the Berlin University, he has been a member ("Vortragender Rath" his title was) of the Ministerial department which he is now to direct. Twice he spent some time in Russia in order to study, first, leprosy, and then cholera, and took an active and very efficient part in the preparation and the carrying through Parliament of the Imperial German legislation on epidemics and the Prussian law on the same subject, which was its outcome.

At this juncture one cannot help recalling Frederick the Great's shrewd and caustic rescript to his Cabinet in 1784, on the appointment of an eminent judge to be Director of the "Ober-Collegio-Medico"—Frederick's equivalent to our present Ministerial Department. In his queer and incorrect German he writes: "How can a Law-man suit Medical Business? He knows nothing about that, and None of the kind must be set into it any more. A good and sensible medicus is what is needed, and you must try to find one for it; he would suit the work better than one coming from the Law—which I wish herewith to make known to you, that you may act accordingly." After Frederick's death his sensible advice was ignored, and for more than a century continuously a "Law-man" had sat as chief arbiter of Prussian medical affairs. Now the breach in the long custom has at last been made, and there is every prospect that in Martin Kirchner the Prussian Ministry has really found the "good and sensible medicus" desired by Prussia's great king.

In a chronicle of the Berlin University, which has just appeared, a paragraph is devoted to the positions held and the work done by medical women. It forms a most appropriate illustration of Sir Henry Butlin's introductory address at the London School of Medicine for Women. Two women hold the post of demonstrator in Hertwig's Anatomical-Biological Institute; Rubner, in his physiological institute, has a woman assistant; in the Pathological Institute Frau Rabbinowitsch-Kempner, a bacteriologist of repute, has her own room for special investigations; Frau Cécile Vogt, her husband's co-operator in anatomical research, is now assisting him in the arduous work of describing and classifying the large university collection of pathological brains; and in Dr. Vogt's Neurological Institute one of the preparators is a woman; and women are employed as voluntary assistants in various institutes.

The Central Committee for Post-Graduate Medical Instruction in Prussia has arranged a course of lectures on modern diagnosis and its technique (with special consideration of functional methods), to be held gratis and for medical men only, in the hall of the Kaiserin-Friedrich House, from October 24th.

Correspondence.

SEA-WATER INJECTIONS.

SIR,—I can take no exception to the tone of the letters of Drs. Burford and Day. Neither of these gentlemen ventures to impugn the accuracy of my version of what I saw and heard at my visit to the "Quinton Polyclinic." It is only suggested by one of them that my visit was a short one and that I had jumped to hasty conclusions on insufficient data. My visit, it is true, was under an hour's duration, but during that time I saw quite sufficient to convince me that the exaggerated reports of the successful work at the polyclinic, appearing each day in the *Daily Mail*, were unwarrantable. Indeed, Dr. Burford, in his letter, appears to admit this. He writes of the medical editor of that paper: "As a professional man he had a perfect right to visit and inquire as he thought fit; his proof sheets were not submitted to us, nor could we in any way control his action any more than the action of your own representative." But surely a remonstrance from a single member of the staff of the polyclinic would at once have put a stop to these daily inaccuracies. If such a remonstrance were made, and in spite of it the medical editor persisted in publishing such grotesque accounts, the staff of the polyclinic are entitled to every sympathy for having suffered it. But in this view of the case and of his former statement, how are we to interpret the following sentence from Dr. Burford's letter: "It will not, however, have escaped your attention that the *Daily Mail* reports have ceased for some time."

Dr. Day comments on the ages of the children I mention as having seen at the polyclinic. He may be assured I stick rigidly to facts. I merely mentioned the ages of those I saw personally examined in the consulting room whilst I was there, and made no ridiculous and easily refutable statement as to the ages of other children or infants that might be attending the polyclinic. He states that if I had made myself better acquainted with the work of the institution, I would have found that the "plasma" was warmed in many cases before administration. For the sake of suffering infants I am glad to learn it, and would have been still more so had I gathered that this was done not in "many," but in every case. The inaccuracy, however, did not arise with me. Every case that I saw was injected with the fluid at the ordinary temperature of the room. I made direct inquiry on this point from both the nurse and one of his medical colleagues, and understood that this was the routine, and no mention was certainly made of any exceptions to the rule. His medical colleague, indeed, laid especial stress upon the fact that the water was sterile and not sterilized. The stress laid upon this point led me to infer that it was considered that heat might interfere with some mysterious "vital" element present in the fluid. I am glad both Dr. Burford and Dr. Day have the wisdom to abstain from

claiming any such mysterious virtue for the "isotonic plasma" in their present letters. Such claims are more suitable for the lay papers than for professional journals.

Dr. Day writes that I evidently do not believe in the power of infinitesimals, but there are others who do. Now both Dr. Burford and he either were, or are, professed homœopaths, and naturally infinitesimals would have greater power in their beliefs than in mine. I am glad, however, that he ascribes the virtue of the "plasma" to these infinitesimals, and not to some imponderable, undemonstrable, mysterious "vital" element. In this case a fluid chemically equivalent to the "plasma" can be manufactured in any laboratory, and there is no need to employ the "plasma," which is valued at such a prohibitive price.

I must assume that Dr. Alice Hutchison wishes to be taken seriously, but it is difficult to say whether her letter is the more amazing or the more amusing. She has had two months' experience of sea-water methods, and is so impressed by them that she feels bound to testify in their favour. As a proof of her success with such methods she cites the cases of two infants, one of whom died, while in the other, after three days' treatment, the motions were reduced from ten to eight in the twenty-four hours. "Only this and nothing more." Well, the results would not seem so dazzlingly brilliant that there need have been any unnatural haste to put them on record. If such be her idea of success, it would be as gratifying to many to have her notion of what constitutes failure, as it would have been to Mr. Pecksniff to have had Mrs. Todgers's notion of a wooden leg. Her notes on the two cases are brief, but, nevertheless, they display more misconceptions of infantile summer diarrhœa than I should have thought it possible to have dragged into so small a space. Some comments on these misconceptions I would recommend to the notice of the authorities of the Quinton Polyclinic. Her first patient died of bronchopneumonia. As she might learn from the paper of Drs. Waller and Walker, bronchopneumonia is a frequent complication, and death in such cases is always rightly assigned to the primary diarrhœa. It may be news to her, but it is often possible to cure such diarrhœas at the expense of the lives of the patients. Next, she lays stress on the watery character of the stools, one of which she was fortunate enough to see. Now watery stools, by themselves, are no proof of any severity of attack, as they may occur in the mildest of cases. But Dr. Alice Hutchison is evidently so enamoured of the term "cholera," as applied to such cases, that she should have gone further and searched for the comma bacillus. Of her second patient she records that "it cried all the first night and day." This statement in itself is sufficient proof that the attack was of the mildest. Babies with severe diarrhœa do not cry at all. The utmost they can do in this direction is a very occasional—almost inaudible—whimper: if, indeed, they raise any sound at all. Had she given the baby a dose of castor oil and withheld all milk for a few hours, there would have been no need for sea-water injections, and her patient would probably have been speedily cured, and not have passing eight motions on the fourth day of attack.

One of Dr. Hutchison's reasons for her predilection for sea-water is one that is prominently put forward by the Quinton authorities, that "the child can be fed from the commencement of the treatment without fear of vomiting." In putting forward such a claim is to proclaim a profound ignorance of the usual course of the disease in the great majority of instances. Of course, milk can be given in most cases after sea-water injections without the fear of causing vomiting, just as it can equally be given without sea-water use, should those in charge be reckless enough to administer it.

Vomiting and diarrhœa are, it is true, features of every case, but they are of very uneven duration and importance. In a large percentage of cases the vomiting stops before the diarrhœa begins, and in a vast majority the vomiting has ceased before the child is brought for treatment. And when once it has ceased it seldom returns, at least in any degree to cause anxiety. In the minority of cases in which it returns with any degree of severity it is of very serious significance, and when it assumes a coffee-ground character it almost invariably foretells a fatal termination. Washing out the stomach and the withholding of milk are advised for other reasons than those connected with vomiting.

Dr. Hutchison's naïve remarks about the exposure involved in the giving of mustard baths and packs will hardly wean sisters and other hospital residents from the reprehensible opinion that such measures are the most powerful and lasting restoratives that have as yet been devised, and that in comparison with them the usual adjuncts, such as alcohol and strychnine injections, are of secondary importance and value. It is distasteful to deal with such elementary details, but the late summer weather, accountable for the epidemic of diarrhœa, would seem to have dried up the Pierian springs in the North, a contingency that cannot be contemplated with any complacency by one of my nationality.—I am, etc.,

London, W., Oct. 10th. J. A. Coutts.

Sir,—With regard to sea-water injections: An infant in a state of collapse from diarrhœa and vomiting is suffering from deprivation not only of (*a*) water, and (*b*) proteins, fats, and carbohydrates, but also of (*c*) salts.

It is well known to physiologists that the salts present in the living body are of very great importance. The prime cause of the heart beat itself is to be found in the presence of sodium ions in the blood plasma, stimulating certain muscular fibres in the wall of the sinus venosus to contract, and thereby to start the beat.

Again, in dealing with excised hearts, and muscles generally, the slightest variations in quality and quantity of salts supplied to the tissue modify the nature of the contractions obtained.

It is, therefore, not surprising that deprivation of salts should help to cause collapse, and that their administration should do good in such cases.

It does not matter whether all life came out of the sea or not. The point is that the living animal body must be supplied with certain salts of Na, K, Ca, Mg, etc., in order to keep on living. Under ordinary circumstances they are ingested by the way, as it were. Hence the tendency to underrate their importance.—I am, etc.,

W. A. H. McKerrow, M.B.Aberd.

Kensington Dispensary, Oct. 6th.

SALINE INJECTIONS.

Sir,—In the course of his article in your issue of September 30th (p. 725), in which he includes the saline infusion apparatus used at the East London Hospital for Children among the category of inefficient contrivances, Dr. Stuart Carruthers has lost sight of two facts.

The first—namely, that it differs in no material respect from his own apparatus—is of very slight importance.

The second is that he has not allowed for the difference of atmospheric temperature between the dates on which his own and our observations were made.

Further careful investigation since reading Dr. Carruthers's criticisms has not revealed the necessity to make any alteration in the routine beyond such as is called for by the increased rate of the loss of heat from the conducting part of the apparatus due to the change in atmospheric temperature. Fluid is now used in the flasks at 135° F. instead of 120° F. with the ward temperature at 63° F. The ward sisters initiated this slight alteration by the light of their own unaided intelligence as soon as the hot weather ceased.—We are, etc.,

Harold K. Waller.

London, E., Oct. 10th. Gerald Walker.

TUBERCULIN DISPENSARIES.

Sir,—Whatever else Dr. Camac Wilkinson may have done, he has certainly set the ball rolling in this country as regards the use of tuberculin in the treatment of pulmonary tuberculosis. I think there is little doubt that before another twelve months has passed we shall see the tuberculin treatment adopted as a routine practice at almost all sanatoriums and to a large extent in private practice also. The medical professsion has hitherto been deterred from using this potent and valuable remedy by the dread of untoward, if not disastrous, consequences if it were used in any but the minutest doses. Dr. Wilkinson has insisted, in season and out of season, that with proper precautions and in skilled hands tuberculin might safely be given in big doses to the great majority of cases of consumption, if taken soon enough.

Having had some experience of tuberculin treatment, given after the method advocated by Dr. Wilkinson, I feel justified in endorsing his contentions in this respect. At the present moment we have in connexion with the work of the Health Department of Leicester about 90 cases of consumption whom we are treating with tuberculin, the doses in those cases which have been longest on the treatment being some thousand times greater than I should have ventured to have given prior to studying Dr. Wilkinson's work. Moreover, although most of these cases are being treated as out-patients, I have never yet seen anything which would indicate that the treatment, properly carried out, is either dangerous or risky. As regards the results, it is too soon yet to speak from my personal experience, but so far they are very encouraging. The Corporation of Leicester is about to open a municipal tuberculosis dispensary, the chief treatment at which, until something better is discovered, will be by means of tuberculin. I may say, however, that the technique adopted in giving the injections is similar to that employed by Dr. Hilda Clark at the Portsmouth Tuberculin Dispensary, as being much simpler than that adopted by Dr. Wilkinson.

I agree with your correspondent, Dr. W. H. Wynn, that it is often desirable, where such a course is practicable, that cases should begin the tuberculin treatment in an institution. Here in Leicester we have thirty beds reserved for pulmonary tuberculosis at our isolation hospital, and our practice is to keep the patients for a month or six weeks, during which time they are taught practically the value of fresh air and learn the sanatorium régime, including such matters as taking and recording their own temperatures, breathing drill, regulated exercise, bathing, proper feeding, etc. They also pass through the initial stages of the tuberculin treatment. I believe that the beds set aside for this purpose are calculated to be of far greater value to the community than if utilized, as is generally the case at most isolation hospitals, for detaining such diseases as scarlet fever for unreasonably long periods. I may say that in Leicester we discharge our scarlet fever in uncomplicated cases after three or four weeks. If a similar practice were adopted at the numerous isolation hospitals up and down the country the sanatorium problem would soon be solved.—I am, etc.,

C. KILLICK MILLARD, M.D., D.Sc.Edin.

Leicester, Oct. 2nd.

SIR,—In the JOURNAL for September 16th a letter appears from Dr. Halliday Sutherland which, I am sorry to say, is not all correct, not that I wish to be unkind in saying so.

The letter gives the impression that the majority of the patients go to Dr. Camac Wilkinson's tuberculin dispensary with very little evidence of disease, and with very few physical signs objectively apparent on examination. As it is now over a year since I first commenced going to the dispensary, I can tell a very different tale. I do not think I can recall a single case which could not have been diagnosed by physical signs alone, without the aid of tuberculin. Furthermore, wellnigh 50 per cent. of the cases have afforded the convincing phenomenon of tubercle bacilli flourishing in their sputum. The last consecutive 8 cases admitted to treatment, which I saw at my last visit to the dispensary, gave this proof, in addition to characteristic physical signs. It is needless to say more about this.

Dr. Sutherland disparages the tuberculin reaction. I could name some eminent men in London (not to mention that vast mass of medical opinion in other parts of this country and in other countries, especially Germany) who consider tuberculin to be a most valuable aid in revealing the true nature of doubtful cases, and especially whether a demonstrable lesion is active or quiet.

Then, with regard to the danger of muddling measles, typhoid fever, pneumonia, diphtheria, syphilis and chronic phthisis with each other, I shall simply ask my professional brethren, the general practitioners, what they think about it. What real practical bearing tuberculin has on this point, Dr. Sutherland alone knows. In his strictures on the pathology of the tuberculin dispensary he neither proves nor disproves anything. He cannot propound a theory of the tuberculous process which is infallible. Of current and accepted pathology I have no doubt Dr. Wilkinson has kept abreast, judging from the fact that he was the responsible teacher of pathology for seventeen years, and of medicine for ten years, in the University of Sydney; and in the light of his long and intimate studies in tuberculosis, his views on that morbid process are entitled to consideration and respect. But whatever the theories may be, there exists the convincing fact that tuberculin is doing for the really ill phthisical poor what no other treatment has done. The annals of the tuberculin dispensary will prove this.—I am, etc.,

R. W. FELL.

Buntingford, Oct. 2nd.

TEN YEARS AFTER SANATORIUM TREATMENT.

SIR,—Dr. Lawrason Brown expresses great surprise at a statement of mine that "I know of several cases of tuberculosis which I had treated ten years ago who are still alive." At what is he so surprised? It cannot be that I should know consumptive patients of ten years ago who are still alive, for the figures which he quotes from the Saranac Lake Sanatorium reports—with which I, in common with most workers in this country, am well acquainted—show that this is not an uncommon experience.

Possibly the surprise is that I say "several" patients instead of hundreds. As this modest way of putting the case might mislead others to the belief that, after over twenty-five years on the staff of a London consumption hospital, I can only refer to a very few instances of former consumptive patients who are alive after ten years, I should explain why I said "several."

An assertion had been made that such cases did not exist, which, if accepted, was calculated to create a feeling of the hopelessness of treatment. I did not wish this to pass unchallenged, and therefore stated that, to my personal knowledge, it was incorrect. Naturally, I am not in touch with many of my hospital patients after they leave the institution, and, as a consulting physician, I have no private patients of my own—all are under some one else, though some report to me occasionally. Thus the number of cases whom I have recently seen and personally know to be living after ten years is necessarily restricted. If I were to get statistics from the hospital records, I could only repeat information supplied to me. The statement of Dr. McWalter is contrary to the experience of those who have practical knowledge of the treatment of consumptives. A statement of the number of cases in the practice of any individual or institution is of secondary importance in this connexion; for if a man had only had a single case of consumption under his care and this case were living ten years later, it would serve to disprove the assertion that such cases do not exist. Undoubtedly statistics showing large numbers of such survivals are important as evidence that the occurrence is not singular, but Dr. Lawrason Brown's reference to the number of patients with whom I or any one else has come in contact is beside the point.—I am, etc.,

J. EDWARD SQUIRE.

London, Oct. 6th.

SIR,—I felt tempted to reply to Dr. McWalter's former letter, but on reflection I refrained, as I thought no medical man would be so credulous as to imagine that there were no cases of tuberculosis which were sent to a sanatorium ten years ago which were still alive.

His letter in the JOURNAL of October 7th induces me to state I happen to be one of these cases, and I could furnish quite sufficient proof from both physical and bacteriological examination that I was tuberculous. My sputum was examined by several medical men, by the Clinical Research, and by the Durham School of Medicine. The report of the bacteriological examination was as follows:

This specimen was very purulent, and contained a large number of tubercle bacilli.

My temperature was between 102° and 103° for three months, and between 100° and 102° for one and a half months. My pulse was almost uncountable; my weight was 9 st. 3 lb. and my height 6 ft. 1 in. The right side of my chest was practically immobile; there was very extensive consolidation reaching from the root of the right lung, and at a later date I had extensive breaking-down, with haemorrhage and cavity formation, also frequent and persistent attacks of pleurisy at both apices. I was examined by several of the leading London doctors, to

say nothing of my numerous medical friends, and I know that they all held one opinion—"Poor fellow! It is only a question of time!"

I trust I have given Dr. McWalter sufficient proof that there is no doubt that my case was one of acute tuberculosis; to-day, with the exception of slight retraction on the right side, I am absolutely sound, and am prepared to undergo any test of physical endurance with Dr. McWalter; and I think, after a week's hard manual labour, my weight, pulse, temperature, etc., will compare very favourably with that of Dr. McWalter himself, or of any other man who might care to compete.

Surely, Dr. McWalter has seen in the *post-mortem* room many cases of adherent lung, with old cicatrices and encapsuled tuberculous nodules, which can be traced to an infection of many years previously.

I have had equally good results with many of my own patients, whom I have treated and who are in regular work to-day.

I think, were Dr. McWalter to see me, he would say, "This man, barring accidents, has yet many years to live."—I am, etc.,

C. Stanley Steavenson, M.B.

The Sanatorium, Middleton St. George, co. Durham, Oct. 10th.

THE NUTRITIVE VALUE OF FLOURS.

Sir,—In our experiments we purposely chose rats, because they are mixed feeders like man and have an alimentary canal not widely different from his; the caecum is very small when compared with that of a herbivorous animal, such as a rabbit or goat. The want of cellulose cannot be the explanation of the failure of white flour as a sole nutritive substance. First, because the addition of the germ to the white flour made this flour a complete food. We may add now to our previously published results the fact that the young rats who were born and nourished by mothers fed on Hovis flour (white flour *plus* germ) have now grown to maturity on Hovis, and one has just given birth to a healthy family of young ones.

Secondly, as we said in our last paper, we find that the addition of an extract of the offal of wheat makes the white flour a more efficient food. Similarly, Frazer has found that the addition of an extract of the outer layers of the rice berry, an extract made with weak acid, added to polished rice, prevents beri-beri.

Thirdly, all our rats were bedded on chaff in wooden boxes, and could eat cellulose if they wished. Therefore, it does not seem to us that our experiments, if duly weighed and considered by the reader, will be held to be rendered inconclusive by Dr. Tibbles's friendly criticism, as the writer of your editorial says (October 7th, p. 850).

As to the nature of the bodies concerned, it is at present impossible to give Dr. Tibbles a conclusive answer. While the experiments of Schaumann and of Edie and Simpson favour the view that it is the lack of organic phosphorus compounds, the Japanese researcher, Ternuuchi,[1] tells us that he has found an extract of rice-bran, made by him, most efficient in preventing the neuritis which occurs in animals fed wholly on polished rice, and that this extract does not contain a thousandth part of the phosphorus originally present in the bran. He therefore concludes that the essential substance is something other than an organic phosphorus compound.

Feeding experiments conducted with milk and flour are not at all to the point. We set out to determine the relative value of flours to the children of such poor as are fed almost entirely on bread and water. There is no doubt that a food like milk contains those subtle substances which are removed in the preparation of white flour and polished rice. It is very necessary to realize that the value of the food is not determined merely by its protein, fat and carbohydrate content. There are substances, the constitution of which is yet unknown, necessary to the growth and health of the organism—substances which may be destroyed by the heat used in the sterilization of tinned food, or removed by the refined methods of milling of to-day.—We are, etc.,

Leonard Hill.
Martin Flack.

London Hospital Medical College, Oct. 9th.

[1] *Zentralblatt f. Biochemie u. Biophysik*, 1911, Band xi, p. 719.

THE PRESENCE OF VALVES IN THE VEINS OF THE PORTAL SYSTEM.

Sir,—In my paper on the above subject in the British Medical Journal of September 16th I stated that:

In all modern textbooks on anatomy to which I have had access it is stated dogmatically that there are no valves in the veins of the portal system.

My attention has since been directed to a serious oversight in this matter, for in *Quain's Anatomy*, vol. 2, part 2, p. 543, the following statement occurs:

There are no valves in the portal vein or in its larger tributaries, although such are known to exist in some animals. Valves are, however, present in the child in the veins of the stomach and of the wall of the intestine; but, according to Hochstetter and Bryant, they early become insufficient, and in the adult to a great extent disappear.

—I am, etc.,

Edinburgh, Sept. 22nd. D. P. D. Wilkie.

TREATMENT OF ANTE-PARTUM HAEMORRHAGE.

Sir,—The question as to the effect of the vaginal plug is not one to be settled by putting ink upon paper. I do not impugn the good faith of Dr. Hastings Tweedy or any one else, but only his judgement. I invite those who think they can occlude the vagina with a plug to try it, and investigate the condition of the vagina two hours after the plug has been inserted.—I am, etc.,

London, W., Oct. 9th. G. E. Herman.

TREATMENT OF SPECIAL AILMENTS IN LUNATIC ASYLUMS.

Sir,—Inmates of asylums are not always willing nor able to ask for assistance with regard to certain infirmities to which all are alike subject.

First, I would mention imperfection of vision and glasses to remedy it. It has been my lot to provide for a lady whose age necessitated the use of glasses, and with which she has been able to read, and merely as a visitor to her. I had thus to provide those as near as I could get; but imagine what the condition of such patients is without glasses! Practical blindness as regards books.

The condition of the teeth. This is a difficulty, but the accumulation of tartar for years is not desirable. Other disorders connected with the nose and with the antrum are exceedingly difficult to deal with in a reluctant, timid, nervous female inmate, and I go so far as to launch this query, "Are such disorders much considered among these chronic inmates of asylums?" If not, could not some method be devised by which investigation in a routine way could be made without alarming the patient? I believe the first point to be one worth taking up and ventilating.—I am, etc.,

Hove, Sept. 13th. Edgar Duke, M.D.

A large serum farm is to be established in Ohio State. The farm, which was purchased by the State two years ago, consists, we learn from the *Medical Record*, of 90 acres of land in Licking County, Ohio. It is proposed to erect ten buildings, including laboratories, in which the work of the institution will be carried on. The Legislature has already made an appropriation of £12,000 for the purpose.

The following hospitals benefit under the will of the late Mrs. Charlotte Maud Barnato, of Eastbourne: The London Hospital, £1,000, for the upkeep of its women's wards: £500 each the Cancer Hospital, St. Mary's Hospital, the Samaritan Hospital for Women, the Paddington Green Hospital for Children, the Soho Hospital for Women, the Great Ormond Street Hospital for Children.

The Dunlop Pneumatic Tyre Company has issued a booklet describing in detail the route from Bombay to Delhi, what sights should be visited on the journey, and the provision which should be made by those who propose to use motors on their way to the Durbar Coronation ceremonies. The letterpress is illustrated by some nine engravings, one of which shows the whole route, and the other eight the portions thereof which it is proposed should be traversed each day. The total distance appears to be 1,000 miles. Copies can be obtained gratis on application at the head quarters of the company, 14, Regent Street.

Obituary.

JOHN HUGHLINGS JACKSON, M.D., F.R.C.P., F.R.S.,

CONSULTING PHYSICIAN TO THE LONDON HOSPITAL AND TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

THE announcement of the death of Dr. Hughlings Jackson on October 7th will produce a deep sense of regret and loss not confined to this country, for his name is known in every country where neurology is studied. He began the investigation of the nervous system and its diseases at a time when knowledge of its intricacies was unorganized and mainly empirical, and consisted, to quote the words of the late Dr. Schorstein, of "a series of disconnected fragments, beautifully worked and finished, but not forming and never having formed part of a completed unity." Hughlings Jackson brought to bear on this scattered unconnected material a mind which combined singular acuteness in analysis with a remarkable power of philosophical thought. To quote again from Schorstein's article in the *London Hospital Gazette*, on the occasion of Dr. Hughlings Jackson's retirement from the active staff in 1894, his two greatest characteristics—if his unique modesty be omitted—were "an unceasing and laborious attention to the minutest details coupled with a power of widest generalization." These, as will be seen by the tributes to his memory which we are enabled to publish below, were qualities which impressed themselves on all who were privileged to know him, and must be evident to any one who studies his writings.

John Hughlings Jackson was born in 1835 at Green Hammerton, a village near Knaresborough, in the county of York. He was of good parentage, the youngest of several brothers, but lost first his mother and then his father during his early life. He was sent to a boarding school in a neighbouring town, and never had any more advanced form of education, but obtained a sound knowledge of Latin and of French, with the usual other acquisitions. He was apprenticed at an early age to the late Dr. Anderson, one of the lecturers at the York Hospital Medical School. Thus his education, both scholastic and professional, was wholly provincial almost up to the date of his diplomas. He had obtained all his certificates at York, and in 1855 became for a short period a student at St. Bartholomew's Hospital, London, and ever afterwards gratefully acknowledged the intellectual stimulus he received by attending the lectures of Sir James Paget, then in the zenith of his power as a teacher and thinker. He took the diplomas of M.R.C.S. and L.S.A. in 1856, and shortly afterwards returned to York as House-Surgeon to the dispensary. Here he was associated with the late Dr. Laycock, afterwards Professor of Medicine in Edinburgh, who always took much pride in his pupil, and foretold his success. Dr. Jackson, after two years' work at the York Dispensary, decided not to attempt provincial practice, but to settle in London. He was in comfortable circumstances, and his ambitions at this time were literary rather than medical. He had been preceded as a pupil of the York School by Sir Jonathan Hutchinson, who had then recently begun his long connexion, happily still maintained, with the London Hospital and its medical school, and though Dr. Jackson's friendship with Sir Jonathan Hutchinson, whose junior he was by seven years, did not begin until the latter had left York for a like period, it was probably largely on Hutchinson's advice that in 1859 Jackson determined to try his fortune in the metropolis. The elder man was able in many ways to hold out a helping hand to his younger colleague in his early days in London. Though their interests in medicine looked different ways, they had in common a deep reverence for facts, keen powers of observation, and a determination to seek and utilize all clinical opportunities. Jackson took the degree of M.D.St. Andrews in 1860, and became M.R.C.P.Lond. in 1861. He was appointed Assistant Physician to the National Hospital for the Paralysed and Epileptic in 1862, and it may here be noted that he was promoted to be Physician in 1867, a position he retained until 1906, when he was appointed Consulting Physician. It was no doubt largely at Hutchinson's instigation that Jackson joined the staff of the London Hospital, to which he was appointed Assistant Physician in 1863; he became Physician in 1874, and in 1894, after twenty years' service in that capacity, retired under the rules of the institution and was appointed Consulting Physician.

In his early days in London Hughlings Jackson, like many men of his generation who subsequently attained distinction, and indeed of each generation since, did a good deal of work as a paid contributor to the medical journals, to this among others, and always retained a kindly feeling for those who in this path were following in his footsteps, a fact which it becomes us most gratefully to acknowledge. He has been accused of being an involved and puzzling writer, but with all respect to those of his most sincere friends who have expressed this opinion to his face—often to Jackson's half-amused perplexity—we venture to assert that the criticism did him less than justice. It is true that his more important papers had to be read with close attention, but this was not because the thought was obscure, or the style involved, but because the argument was close compacted and the thought was new, and the terminology therefore necessarily unfamiliar.

The thirty years of active work at the London Hospital, during which he was also Physician to the National Hospital for the Paralysed and Epileptic, Queen Square, were full of strenuous observation and hard thinking; the mere list of his contributions to medical literature during this period given in the *London Hospital Gazette* in 1895 fills five quarto pages in double column. In their titles may be traced the course which their author followed in his clinical studies of nervous disease, first perfecting and extending the means of observation and accumulating its results, and then proceeding to the great generalizations with which his name will ever be associated. Thus some of his earliest records have to do with the use of the ophthalmoscope as a routine method of examination. One of his first papers was on the use of the ophthalmoscope in affections of the nervous system, published in the *Medical Times and Gazette* in 1863, and in the following years we find in the *Royal London Ophthalmic Hospital Reports* "A Physician's Notes on Ophthalmology," and elsewhere papers on defects of sight in diseases of the nervous system, or amaurosis with hemiplegia, and on tobacco smoking in diseases of the nervous system. Other articles afford evidence that he was giving attention to locomotor ataxy and the amaurosis with which it may be complicated, to chorea, as well as to speech defects in relation especially to hemiplegia. In 1867 he contributed to this JOURNAL a note on "The Ophthalmoscope in Physicians' Practice," in which he said:

"I have used the ophthalmoscope very extensively, and I feel sure that by its aid I have obtained much help towards a clearer knowledge of diseases, especially of the nervous system. It is, for instance, of value in showing to us in a striking manner how widespread are the tissue-changes in some cases of advanced granular disease of the kidney. By an observation of the fundus of the eye, an experienced ophthalmoscopist will occasionally predict with confidence and with correctness the existence of advanced granular disease of the kidney. The ophthalmoscope also gives us another point of view from which to regard constitutional syphilis. By the way, it not infrequently corrects such easy inferences as that 'amaurosis,' occurring in a patient undoubtedly the subject of syphilitic disease of the nervous system, is most likely to be due to deep changes of a syphilitic nature in the eyes themselves. As a mere matter of fact, amaurosis occurring with 'syphilitic epilepsy' is nearly invariably optic neuritis. . . . It is absolutely necessary to use the ophthalmoscope in cases of acute or chronic cerebral disease *as a matter of routine*. The optic neuritis is, it seems most likely, but a fragment—fortunately a visible fragment—of a much wider change which a 'foreign body' in the nervous system 'excites.' From such a point of view the varied conditions of the optic discs are of the highest pathological interest. When the physician uses the ophthalmoscope in a case of severe cerebral disease, he is not merely seeking a new symptom, but he is observing changes in a nervous organ. A statement of this sort is too wide to be very satisfactory." This is a most characteristic touch, and he proceeds: "I will, therefore, venture to indicate a group of cases for conjoint research by physicians and ophthalmologists—namely: Convulsions, with optic neuritis, or its sequela, atrophy, and especially those cases in which the convulsions begin unilaterally.

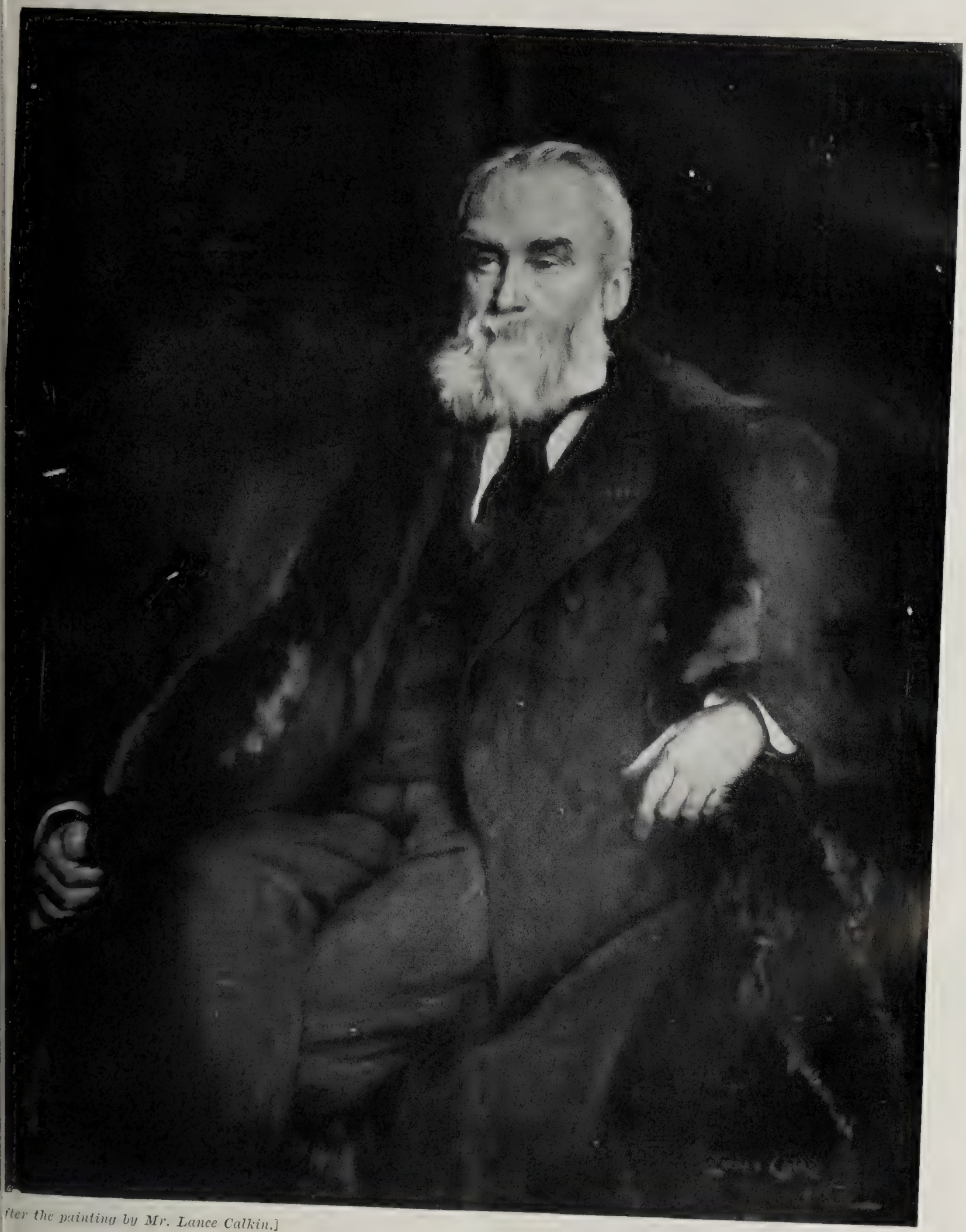

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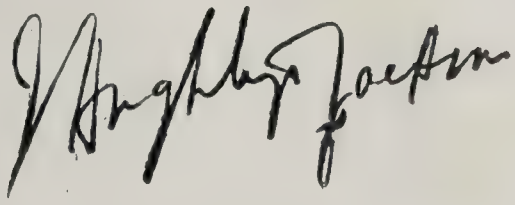

In these cases there is usually, now and then, more or less one-sided palsy, as well as occasional spasm. Cases of this sort occur sufficiently often in physicians' practice to enable those who like classifications, founded on groupings of such symptoms, to form a clinical entity. Yet the cases to my thinking are valuable chiefly as showing a convenient point where many of us may work together at the condition of the brain which permits occasional convulsion or other forms of disorder of nervous function."

This brief note shows how fully Hughlings Jackson at that time understood the value of the ophthalmoscope in clinical medicine, and as an instrument of research. It is not too much to say that it was his example, and the enthusiastic advocacy of his pupil, friend, and colleague, the late Sir Stephen Mackenzie, which, in London at any rate, established the ophthalmoscope some thirty years ago as an essential part of a physician's clinical equipment.

It is not easy for us, to whom, as Schorstein said, "the idea of brain localization is as much a matter of course as the circulation of the blood," to realize the confusion and uncertainty which existed in 1864, when the only doctrine of cerebral localization was embodied in the fantastic tenets of the phrenologists as handed down from Gall and Spurzheim. In 1864 Dr. Hughlings Jackson, in this JOURNAL and in the *London Hospital Reports*, recorded a series of cases of aphasia occurring coincidently with right hemiplegia. Broca had made the observation two years before, but Jackson reached it independently as the result of his own clinical observations. In his contribution to this JOURNAL Jackson, with characteristic caution and frankness, after stating that Broca believed "that disease of the brain *on the left side only* produces loss of speech," and adding "if I were to judge from the cases under my own care I should think so too," went on to observe that certain exceptions had been reported to him, exceptions afterwards believed to be accounted for when it was found that they occurred in left-handed persons. Jackson was careful to point out also that by defect of speech he meant "not difficulty of articulation, but want of brain power either to form ideas or to find words. . . . This mental symptom has been described by Trousseau under the name *aphasia*." But perhaps the part of this communication then of most suggestive nature, and now of greatest historical interest, is contained in the following paragraph, which shows how Jackson's mind was reaching out to the recognition of the cause and significance of the symptom-complex with which his name is specially associated. He wrote:

> I think that I can show by records of numerous cases that when, in severe epileptiform seizures, convulsions affect the right side of the body, there is, after the paroxysm, greater mental defect, and a greater loss of speech, than when the left side is convulsed. In the former—temporary spasm of the branches of the left middle cerebral artery—there are the symptoms faintly marked, which are, as it were, more permanently written down in the defect of speech and hemiplegia which follow complete blocking up of the artery. Indeed, I think there are good reasons for believing that epileptiform seizures are due, not to general spasm of the blood vessels of the brain, but to spasm in certain definite arterial regions, or possibly in regions mapped out by vasomotor nerves. I have observed several cases of chronic epileptiform seizures which seemed to have had their origin in an attack of embolism of one of the middle cerebral arteries. Chorea has a suspicious semblance to such cases; and I think it will be found, clinically, that when chorea affects the right side only the mind and speech are worse than when it affects the left. This is, I think, the rule; but I have seen several exceptions, and I am now attending at the London Hospital two cases in which, with chorea on the left side, speech is considerably affected.

Here, again, we note in the concluding sentence the characteristic caution and scientific conscientiousness which impelled him always to record any fact which appeared to militate against a hypothesis, however attractive.

During the next few years Jackson seems to have been much occupied in the observation of unilateral convulsions and in pondering on their significance. He published several detached notes on the subject and brought together the results of his investigations in an address given to the St. Andrews Graduates' Medical Association in 1870, and in the article on convulsions he contributed in the following year to Reynolds's *System of Medicine*, for which he wrote also the article on apoplexy. Here we may again quote from Schorstein, for the story could not be better told:

> Dr. Jackson piled up an overwhelming mass of closely observed clinical cases, reinforced by some *post-mortems*, and drew conclusions. The general tendency of the research was to show that there is a class of convulsions starting in the area of the middle cerebral artery, differing from an ordinary epileptic seizure. That these begin in certain parts of the body, in certain ways; and practically always in the same way, in the same part of the body, on each successive occasion, in the same case. That in the hand, the seizures tend to begin in index finger and thumb; in the face, at the angle of the mouth; in the leg, in the big toe; the most specialized parts being the parts first affected. The exact progression of the convulsion, "the march of the spasm," was noted in each case. That consciousness is affected late in the seizure, as compared with the better-known form of epilepsy, was an important point of difference.
>
> This form of convulsion had been partially described by Bravais as early as 1824, and Dr. Todd refers to similar cases, or rather the paralysis following such convulsion, as epileptic hemiplegia. These references were good partial descriptions of the cases, but there was no suggestion of the gap which separates them from classical epilepsy. To these fits, known also as "epileptiform seizures," the name of "Jacksonian epilepsy" has been generally given in England and abroad.
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> Side by side with the closer definition of these forms of convulsive seizure, Dr. Jackson was able to suggest the probability of the existence of motor centres for various movements within the area of the middle cerebral artery. It was a piece of pure constructive reasoning, based entirely on clinical and pathological research. At the beginning of 1870 his speculations formed a series of brilliant hypotheses, fitting in entirely with observed clinical facts but needing confirmation. Dr. Jackson had the happy experience of finding his hypothesis confirmed within a very short space of time. In the course of 1870 (the year of the war) Fritsch and Hitzig, and in 1873 David Ferrier, in a series of most elaborate experiments, confirmed his observations almost exactly.

Hughlings Jackson himself summarized his observations and conclusions in the Lumleian Lectures delivered before the Royal College of Physicians in 1890, and published in our columns at the time.

Hughlings Jackson's next great contribution to neurology was given to the world in the Croonian Lectures on the evolution and dissolution of the nervous system, delivered before the Royal College of Physicians of London in 1884, but, as was his wont, he had, during several preceding years, given indications of the direction in which his mind was working. In these lectures he formulated his doctrine of the hierarchy of the nervous centres, but we may be excused here from discussing the influences of this pregnant conception on neurological thought, since it is the main subject of Dr. Head's interesting note published below.

Dr. Hughlings Jackson was elected a Fellow of the Royal College of Physicians of London in 1868, and delivered the Goulstonian Lectures in the following year—an honour usually reserved for the most distinguished of those Fellows last elected. He chose "Certain Points in the Study and Classification of Diseases of the Nervous System." He was a member of the Council of the College from 1885 to 1887, and a Censor in 1888 and 1889. He was elected a Fellow of the Royal Society in 1878, was a corresponding member of the Royal Academy of Medicine of Belgium, and received honorary degrees from the Universities of Glasgow, Edinburgh, Leeds, and Bologna. He was a member of the British Medical Association, was President of the Section of Pathology and Bacteriology at the Annual Meeting at Worcester in 1882, and delivered the Address in Medicine, on "The Comparative Study of Diseases of the Nervous System," at the Annual Meeting at Leeds in 1889.

Dr. Hughlings Jackson received other evidences of the honour in which he was held in his own generation and in his own country. The neurologists of Great Britain all rejoiced to acknowledge their great debt to his writings and to his personal teaching, for most of them had been his pupils. They not only regarded him with the respect due to his great achievements, but with a personal affection inspired by his intellectual honesty, his readiness to acknowledge the efforts of others, and the gentle and ever-courteous manner in which he would maintain his own opinion in face of criticism. When the Neurological Society was founded in 1885, Dr. Hughlings Jackson was appropriately chosen to be its first president, and in 1897 the society resolved to commemorate the great services which its illustrious member has rendered to humanity through his work on the functions of the nervous system by

founding the Hughlings Jackson Lecture. It invited him to deliver the first of these lectures, and Dr. Jackson selected for the subject of this address, which was delivered on December 8th, 1897, "The Relations of Different Divisions of the Central Nervous System to One Another and to Parts of the Body." The second lecture was delivered on November 29th, 1900, by Professor Eduard Hitzig of Halle, and was entitled "Hughlings Jackson and the Cortical Motor Centres in the Light of Physiological Research." In 1906 the Hughlings Jackson Lecture was given by Sir Victor Horsley, and from it we propose, with the author's sanction, to make a somewhat lengthy quotation, because it contains a tribute at once generous and reasoned to the validity of Jackson's conclusions the more valuable because uttered by one who has tested them not only by research in the laboratory but in their application to the treatment and cure of disease. The title of the lecture was "Dr. Hughlings Jackson's Views of the Function of the Cerebellum as Illustrated by Recent Research," and it is the more proper that we should make this quotation from it since it dealt with a part of Hughlings Jackson's work to which reference has not hitherto been made in this imperfect notice of his life. Sir Victor Horsley, in the opening sentences of his lecture, said:

"The power of genius evinces itself by the happy use of analysis and synthesis, with as a result the discovery of principles. Dr. Hughlings Jackson's writings are *all* such expositions of principles, and no one rises from their perusal without realizing that his conclusions are final without dogmatism, that a subject dealt with in his way always remains open for further scientific advancement, and finally that his reader has learnt far more than can be at once simply and adequately expressed. His teaching of first principles will always be gratefully remembered by the ever-increasing army of neurologists, but this is the opportunity for those of us who have enjoyed the inestimable privilege of being immediately his pupils specifically to recall the profound depth of our indebtedness to him. We feel that his precept and example has influenced us both in methods of work and in methods of thought. Of the former I need only now particularize his constant inculcation of accuracy in observations, and, above all, his insistence on the necessity for correlating disturbances of function with the structural changes found after death. Of even greater value has been his method of thought, by which a thinker can keep his mind open to appreciate broad principles even when it is most inclined to be narrowed by close attention to detail. Above all, the intellectual width of his demonstration of the true principles of localization of function in the central nervous system, and how, with the coexistence of such localization the functional activity of the nervous system as a whole can yet be estimated and philosophically considered. Indeed, the greatest principle which underlies all he has written is the true nature of localization of function in the central nervous system, namely, that it is relative and not absolute, that conceivably every part of the body is represented in every nerve centre, just as it of necessity is in the single primordial ovum, and that, when the central nervous system, considered functionally, is regarded in the view of Flourens as working as a whole the determination of action by any given part is never more than relative." In bringing his lecture to an end Sir Victor Horsley said: "The general conclusion with which any statements of cerebellar function must now be summarised, namely, that all research, ancient and modern, tends to confirm the view of Flourens, Luciani, Jackson, and Edinger, that the cerebellar cortex is the first chief station of representation of the afferent basis of movements of all these skeletal muscles. Gratefully to acknowledge to Dr. Jackson his share in bringing order out of confusion in this and many other departments of neurology is the object of our meeting here; and greatly as I feel the honour of being selected as the Society's representative to-day, I esteem the charge of communicating your thanks to him as my highest privilege. May I add the expression of our hope that we may long continue to enjoy his illuminating speech and his stimulating example."

This hope was unhappily not fulfilled; during the few remaining years of his life Hughlings Jackson's pen remained idle, and he withdrew more and more from active participation in scientific or social life. The familiar figure sitting quietly observant at a meeting of one of the medical societies, or perched in the corner of the high old-fashioned carriage in which he went about his business in London, was no longer to be seen, and he led a life more and more solitary, pervaded by a gentle melancholy, perhaps anticipating, with a serenity of mind inseparable from our conception of him, the end which he may have been conscious was not far away. But up to the last he retained an interest in the lives of his pupils and their families. The immediate cause of death was, we understand, exhaustion following pneumonia.

We have endeavoured briefly to give a general impression of a character and of a life's work which might well occupy and would amply repay the study of years. The imperfections in the record are to some extent repaired by the following appreciations which we are privileged to print:

Sir JONATHAN HUTCHINSON writes:

By those who knew Hughlings Jackson intimately I do not think there will be much dispute that his mental powers approached more nearly to what we call genius than almost any of his contemporaries. It may seem to many strange to say that a man so gentle and so polished had his best comparison in one who is usually reputed to have been rude and bearlike—Dr. Samuel Johnson; but there was really much in the two men that was essentially alike. Dr. Jackson had the same power that Johnson possessed of brushing aside all subterfuges and going to the very essence of the matter. He had the same contempt for prevarication and make-believe, the same love for the essential truth. I refer, of course, not so much to his professional or scientific attainments as to his general character. I have never known a man whose verdict on all social questions were more trustworthy, or who arrived at them apparently with less effort. Over his great predecessor whom I have named, and who was, I think, the man whom he most nearly revered, he had, of course, the comparative advantage which scientific knowledge gave him, and of freedom from prejudice, whilst they were on a par in the exemption from all vanity or the intrusion of self in the pursuit of truth. When Dr. Jackson and myself first made acquaintance he had been some two or three years in the profession, and, in the belief that it did not afford attractive scope for mental powers of which he was not unconscious, he was on the point of abandoning it, intending to engage in a literary life. From this I was successful in dissuading him, and for many years I plumed myself upon this as the most successful achievement of my long life. Of late, however, I have had my misgivings and have doubted whether—great as had been the gain to medicine—it might not have been a yet greater gain to the world at large if Hughlings Jackson had been left to devote his mind to philosophy. There are others who are better skilled than myself to give an opinion on this head but at some future time I may hope to be able to produce some details in illustration of his character which may go far to justify my misgivings. We shall never know to what extent medical science has been indebted to him; but in the meantime we may be well satisfied with the man as he was, and thankful to recognize the achievements of a mind so richly and almost intuitively endowed.

Dr. THOMAS BUZZARD writes:

The scientific eminence of Dr. Hughlings Jackson is world-renowned; his personal qualities have been far less widely recognized. It is unnecessary for me to dwell upon the former, but I should like, as a very intimate friend of some forty-five years' standing, to place on record some of my experience and impressions of the latter.

The son of a Yorkshire father and a Welsh mother Jackson displayed characteristics which appeared to derive from the nationality of each parent. On the one hand he was energetic, courageous, cautious in drawing conclusions but when convinced, sturdily indisposed to change them except under the influence of more or less overwhelming evidence; at the same time eminently reasonable, and free from displaying undue obstinacy. On the other hand, he had a disposition of a singularly tender and affectionate nature, far from impulsive in the acquisition of a new friendship, but ever staunch and firm in support of an old one. His view appeared to be that of Polonius:

> The friends thou hast, and their adoption tried,
> Grapple them to thy soul with hoops of steel;
> But do not dull thy palm with entertainment
> Of each new-hatched unfledged comrade.

Jackson was possessed of energy which it would be wrong to describe as untiring, for he was never physically very robust, and after a spell of hard work of much less duration than can easily be borne by perhaps the majority of ardent students, he would feel much fatigued, and need repose and simple food. I do not think that he had ever, even in his youth, indulged in athletic pursuits of any kind, and certainly had not experienced the need of physical recreation by amusing exercise, which appears to be considered a necessity by very many at the present day. In spite of this he lived a life of 76 years, which was mainly passed in work. The outcome of this industry, as shown in his very numerous publications, was as original and epoch-making as it was voluminous.

It appeared to me that Jackson showed deficiency in artistic perception, and this want, I am disposed to think, acted prejudicially on his style of composition, which, to my mind, lacked lucidity of expression. He and I often discussed this question. He would never agree to the justice of my criticism, and always maintained that, in writing upon scientific subjects, the truth was often sacrificed to elegance of expression. He was almost painfully conscientious upon this point, and, spending endless time in endeavours to safeguard a statement which he thought might be found too general in its application, would, I think, so obscure his meaning as to create a danger exceeding in importance that which he was intensely anxious to avoid. And yet he was a devoted student, friend, and admirer of Herbert Spencer, who, I cannot help thinking, grappled more successfully with the difficulty of qualifying an expression without imperilling its significance.

Hughlings Jackson was a great reader. He carefully followed the output of scientific research, especially, though by no means exclusively, in the field of subjects which so long engaged his attention. His interest in the science of life was wide and general, but he was also a great reader of fiction. Those who, not knowing him intimately, only saw in Jackson a man of dignified and grave aspect, serious in expression almost to a fault, will scarcely believe how devoted he was to the works of Charles Dickens, some of which, it may fairly be said, he read, and often re-read, every year. His sense of humour was of the keenest, and his innate drollery, finding vent in most amusing and unexpected ideas, contributed in no small degree to make of him a delightful companion.

Childless himself, Jackson was perfectly at home with children, who, quickly losing the awe first inspired by his serious aspect, recognized in him a simplicity of nature which resembled their own, and the sense of disparity in years was lost in their mutual confidence.

Hughlings Jackson was the embodiment of truthfulness and justice. The idea of anything like "embroidery" of statements with the view of shaping them to support a theory of which he enjoyed the pleasure of authorship, was absolutely repugnant to his nature. Nothing, also, could exceed his generosity in proclaiming the right to priority of all those whom he recognized as having anticipated him in an idea or observation.

His loss will be felt wherever the science of medicine is seriously cultivated; to his friends it is irreparable.

Dr. Henry Head writes:

When we speak of Dr. Hughlings Jackson as the greatest scientific clinician of the nineteenth century in this country, we emphasize the fact that the whole of the material from which he drew his conclusions was found in the wards of a hospital. He never performed an experiment, and yet he has influenced the course of knowledge in medicine more profoundly than any other single observer. Each patient was to him an example of some disturbed process and helped to elucidate the laws of normal and morbid functions. He was not interested in what may be called the natural history of disease; he was no collector of morbid specimens, but a careful observer and interpreter of the complex phenomena produced by disease processes. His first clinical lecture in the *London Hospital Reports*, delivered at the age of 29, opens with the words of Bacon, "It is easier to evolve truth from error than from confusion," which remained one of his favourite dicta to the last. When he began to study cases of nervous disease, medicine was dominated by the brilliant advances in physiology of the French school, and only this young man dared to print the following splendid apology for clinical observation—"I should be misunderstood if I were supposed to underrate the physiological study of disease of the nervous system. Indeed, I think that to neglect it shows want of education, but to neglect the clinical shows want of experience and sagacity. Never forget that we may run the risk of being over-educated and yet under-cultivated."

The physiologist was teaching that the brain could be sliced away without material loss of function, and Jackson's view that local convulsions were produced by a local lesion which discharged the nervous centres of the cerebrum, was passed over in contemptuous silence. But when Hitzig and Fritsch showed, in 1870, that the cortex of the brain could be stimulated, Jackson's views were widely accepted, and by universal consent these convulsions bear his name. Here many men would have paused; but Jackson had already shown that post-epileptic manifestations were due to the release of lower centres from a control normally exerted by those above them, and that this loss of control was due to exhaustion. From this conception he passed to the ideas, enunciated in the Croonian Lectures of 1884, "On Evolution and Dissolution of the Nervous System." He described three levels of evolution in the nervous system, each rise in level being characterized by a change from the general to the special in function and from the simple to the complex in structure. Dissolution occurs in an inverse order: the highly specialized functions disappear before those that are simpler and more general. Here he showed the full importance of the discovery made by him nearly twenty years before—that cerebral lesions affect movements and not muscles—and throughout his life he constantly sought for new and ingenious examples of this law.

As far back as 1877 he laid down that "the cerebellum is the centre for continuous movements and the cerebrum for changing movements," and thereby formulated the modern doctrine of the tonic nature of cerebellar activity. This formed the subject of his last paper communicated to *Brain* in 1906.

Forty years ago he defined apraxia and described a case so accurately that it is cited in modern works on this condition. To him we owe our knowledge of temporo-sphenoidal disease, of double hemiplegia, and of many of the most important manifestations of epilepsy.

So wide-reaching are the principles he laid down that they have not yet received their full application. Much that sounded obscure to those of us who listened to his almost prophetic exposition on some apparently straightforward case of disease has borne fruit in the work of other neurologists; and if neurology holds up a brave head in this country it is largely because every man now working here has, at one time or another, received from that generously opened mind some seed which has germinated into a piece of orderly work.

Dr. Risien Russell writes:

It is no exaggeration to say that the country has lost one of her greatest men by the death of Dr. Hughlings Jackson, and it is no less true that comparatively few of his countrymen are in a position to realize this fact. His retiring disposition and unassuming manner were not calculated to bring him prominently before the public, although his brilliant achievements had placed him on so high a pedestal in the field of science, not only in this country, but all the world over.

Dr. Jackson has been fitly described as the "father of English neurology." No father has been more loved, and no father has ever set his sons a better example of how best to live their lives. No sordid motives influenced him in his life-work, which goes down to posterity as a monument of his greatness.

While fully recognizing that none of the honours that usually fall to members of the medical profession at the hands of the State would have been fitting for one so peculiarly different from the generality of men, there were nevertheless those of us who hoped that some special distinction might be thought of that would have been worthy of his acceptance. It is certain that in no other country in which men of science are selected for distinctions by the State would a Hughlings Jackson have been allowed to go to his rest without receiving the highest honour that could be paid him. It is not, however, surprising that Dr. Jackson never received any such acknow-

ledgement of his services to his fellow-beings and to his country, for it was the privilege of few to know and understand him and the great work that he has done. His was a brain the workings of which were too profound to permit of its real worth being appreciated by the large majority of those who came into contact with him. Only those who were allowed to come into close and almost daily relations with Dr. Jackson were in a position to recognize his real worth, and to appreciate that he was like a giant among pigmies. Successive generations of house-physicians and clinical clerks who worked at the National Hospital in Queen Square knew him best and understood his teaching in a way that was not possible to the ordinary student of neurology, and nothing could equal the charm and fascination of his teaching to those who were in a position to understand him.

Distinguished as the medical staff of the National Hospital has always been, it is no discourtesy to any member of it to say that Dr. Hughlings Jackson has always stood out as the leading figure in that great group. As a teacher Dr. Jackson was at his best when a privileged few were collected around him at the bedside, and he was ever ready to make suggestions as to points calling for investigation and as to lines of inquiry likely to prove profitable. The enthusiasm which he evinced in the prosecution of any original inquiry was most contagious, so that all who worked with him could not fail to become infected. Moreover, he was always eager to see in the experimental laboratory the results of investigations undertaken to prove or disprove his views on any subject.

His quiet humour added to the charm of his teaching, and cannot be better illustrated than by a way in which he has been known to terminate one of his illuminating discourses, saying that he must not be taken too seriously, as it had been said that he was only a "Bedlamite theorist." Another illustration is to be found in an occasion when, after the completion of an operation of trephining, he expressed to those around him his regret that the opportunity of putting a joke into the head of a Scotsman had been allowed to slip.

Whenever it was necessary for him to quote the views of others in his writings, or to refer to the results of an experimental inquiry, he was always most careful to avoid the possibility of any inaccuracy, so that when it was possible he would submit that part of his paper for criticism by the person concerned before it reached publication.

So great was the interest which he took in the work to which he had devoted his life, that even long after he had retired from the active staff of the hospital he always eagerly responded to any call from one of his colleagues or a house-physician to see some unusual case or to observe some phenomenon in which he was specially interested.

I count myself most fortunate that I was privileged to study under such a master; the personal debt which I owe him has been too great for me ever to hope to repay except by lasting gratitude.

Sir William Gowers writes:

In his clinical work Dr. Hughlings Jackson subordinated everything to observed facts. In each department his search for these was pursued indefatigably. He determined what was likely and devoted himself to their detection, ignoring more obtrusive facts, which he left to the observation of others, and recognizing the least indication of those which he expected. The process was repeated on every opportunity and the observed facts compared and acutely analysed. This method was applied to hemiplegia and aphasia, in which it yielded brilliant results. The amount of thought devoted to the subjects was very great, and he was quick to seize the more general relations of any fact. Assertion of self was absolutely unknown in his work. Not even the semblance of an unkind remark was ever heard. A difference of opinion was explained away if it was possible; otherwise it was ignored. The contradictions he endured on the subject of optic neuritis and its coincidence with good vision were explained by the difference in the fields of observation and a confidence that the discrepancy was transient. All know how quickly that was verified. Any confirmation of his own observations was sure of a grateful reception and full recognition. The embodiment of kindness with knowledge always made a deep impression on strange visitors. He habitually spoke in a quiet conversational way, clearly but without rhetorical efforts.

Dr. F. J. Smith, Physician to the London Hospital, writes:

Dr. Jackson was never a popular or showy lecturer; those who went round the wards with him did so because they really wanted to learn, and because they felt sure that what Jackson said would stand any test. It was somewhat difficult to get him to talk freely over a case, but when he did so one found that there was no extraneous matter.

For the politics and government of the school he cared but little, and never was elected a member of the college board, though when he did attend a meeting of the staff no one was listened to with greater respect—a respect which was just typical of his whole personality and atmosphere; perhaps he was too reserved to excite any warmer feeling; what he said was always on the side of right; he was never carried away by any spurious wave of sentiment.

To modern generations of London students he is but a name amongst those of other authorities; to those of us who knew him his death is something more than the loss of an old teacher; he will, in my opinion, be known in the future as the greatest genius in his speciality that the world has ever seen.

[The portrait of Dr. Hughlings Jackson reproduced as a special plate is a reproduction made, by the courtesy of the authorities of the London Hospital Medical College, of the portrait painted by Mr. Lance Calkin and presented to Dr. Jackson at the opening of the winter session of 1895. The presentation was made on behalf of the subscribers by Sir James Paget, and a replica was at the same time given to the college.]

JOSEPH BELL, M.D., F.R.C.S.E., F.R.S.E., J.P.,

DEPUTY LIEUTENANT, EDINBURGH.

Dr. Joseph Bell died at his country house, Mauricewood, Milton Bridge, Midlothian, on October 4th. His health broke down in February last, and although he rallied and was able to be out to enjoy a drive, he did not resume practice. A week or two ago serious heart symptoms recurred, and ended his life.

He was born on December 2nd, 1837, in Edinburgh, educated at the Edinburgh Academy, and afterwards at the University, where he graduated M.D. in 1859, becoming a Licentiate of the Royal College of Surgeons in the same year, and a Fellow in 1863. He came of an interesting medical ancestry. The annals of the Royal College of Surgeons of Edinburgh contain the following notes:

252. Benjamin Bell. Entered 5th April, 1771. The well known author of a *System of Surgery*. His family is not of the same blood with that of John and Charles Bell. (Nos. 277 and 297.) He was married to a sister of Dr. James Hamilton (senior of that name in the Royal College of Physicians), whose portrait is at Heriot's Hospital. Father of Nos. 293 and 315. Died in 1806, aet. 57.

293. George Bell. Entered 1st May, 1798. Son of No. 252. In large practice as a surgeon in Edinburgh. Father of No. 365. Surgeon to Royal Infirmary for many years. Died 1832, aet. 55. See No. 323.

315. Joseph Bell. Entered 18th October, 1808. Son of No. 252. Father of No. 403. Brother of No. 293. Born 25th November, 1786. Died 1848.

323. Adolphus M'Dowal Ross, M.D. Entered 29th September, 1812. Partner of George Bell (No. 293) whose wife was his sister. He was the medical attendant of Sir Walter Scott. Died 20th October, 1842, aet. 52. He married the youngest daughter of David Hume, Professor of Scots Law.

365. Benjamin Bell. Entered 4th July, 1823. Son of No. 293. Born 1802. Died 1843.

403. Benjamin Bell. Entered 20th January, 1835. Born 13th April, 1810. Son of No. 315. Father of No. 560. President of the College 1863-64. Died 13th June, 1883.

560. Joseph Bell, M.D. Entered 3rd February, 1863. Son of No. 403. Born 2nd December, 1837. Lecturer on Surgery, Edinburgh. Surgeon to Royal Infirmary.

So that for something like 150 years, without a break, the Bell family provided members of the medical profe

sion in Edinburgh and Fellows of the Royal College of Surgeons of Edinburgh. This must be almost a unique history. And the college annals do not give the whole, for there were several other members of the family in the medical profession both in England and Scotland.

To go further back, Dr. Bell's ancestors belonged to Dumfriesshire, where they had been landed proprietors from the beginning of the fifteenth century, and leaders of the Clan Bell in the old Border times.

After taking his M.D. degree at the University of Edinburgh in 1859, Joseph Bell became resident house-surgeon to Professor Syme, and afterwards resident physician to Dr. (afterwards Sir William) Gairdner. In 1858-9 he was one of the Presidents of the Royal Medical Society. For two years he was a demonstrator of anatomy under Goodsir. At the age of 26 he taught classes of systematic and operative surgery. These classes were carried on with great success for fourteen years. In 1878 he was senior acting-surgeon to the Royal Infirmary, and then became a lecturer of clinical surgery. Before this he had acted as Professor of Clinical Surgery in the University during Syme's illness. For this he was specially well qualified, as he had been Syme's special assistant for some five years. He passed through the ordinary course of a hospital surgeon at the Royal Infirmary, from dresser to senior surgeon and consulting surgeon. He always had a warm affection for the Infirmary, and took a great interest in the well-being of the nursing staff. He was the first surgeon to give systematic instruction to the nurses. He was one of the originators of the Royal Edinburgh Hospital for Incurables, and he remained surgeon to that institution to the end of his life. For many years he was surgeon to the Royal Edinburgh Hospital for Sick Children, and in 1873, in the first volume of the *Edinburgh Hospital Reports*, he published a paper on "Five Years' Surgery in the Royal Hospital for Sick Children." In the same volume he published an extremely interesting paper on "The Surgical Side of the Royal Infirmary of Edinburgh, 1854–94; the Progress of a Generation." He was Surgeon to the Edinburgh Eye Infirmary; Vice-President of the Queen Victoria Jubilee Institute for Nurses, as well as Chairman of the Executive Committee. For many years he was an Examiner to the Royal College of Surgeons, later Treasurer and President. He had held the office of President of the Edinburgh Medico-Chirurgical Society, and for twenty-three years, from 1873 to 1896, he was editor of the *Edinburgh Medical Journal*. In 1895 he was elected by the General Council of the university as one of the assessors on the University Court, an office which he held for many years and up to the time of his death, giving invaluable help on many occasions.

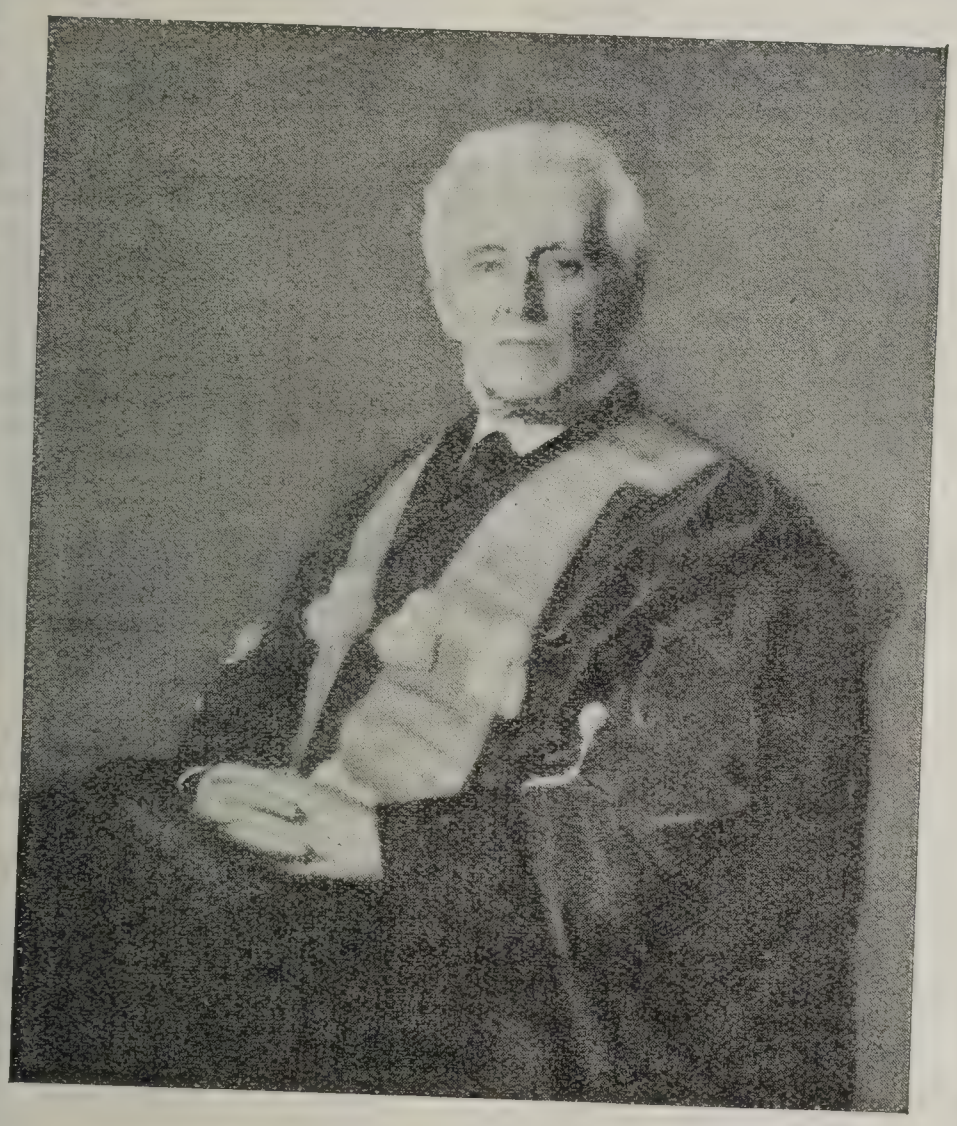

Dr. Joseph Bell

[*Photograph by Drummond, Young, and Watson, Edinburgh.*]

In addition to the two papers already referred to, he was the author of *A Manual of the Operations of Surgery*, the seventh edition of which was published in 1892; *Notes on Surgery for Nurses*, the sixth edition of which was published in 1906. In the *Edinburgh Medical Journal* of 1865 he had a paper, "On Nomenclature of Scapulo-humeral Dislocations;" and in 1867, in the same journal, papers on "Pulsating Tumours of the Orbit" and "Pulsating Tumour in Orbit Cured by Ligature of the Common Carotid." In 1897 he was President of the Edinburgh Harveian Society, and on May 14th of that year gave a charming oration. One paragraph of that oration is worth quoting:

> Pardon a word of family vanity which has been an encouragement. My great-grandfather, Benjamin Bell, was an original member 115 years ago. My grandfather, Joseph, was a guest 60 years ago, and my father, Benjamin, was president this day 30 years ago. It is a wonder to me you have not wearied of such a family.

The whole oration is full of interest.

In politics he was a Conservative, was Chairman of the University Conservative Association, and as such signed the nomination paper of Sir Robert Finlay, the member of Parliament for the Universities of Edinburgh and St. Andrews.

He was Senior Elder of St. George's United Free Church, and was never absent from morning service.

In 1865 he married Edith Catherine, daughter of the Hon. James Erskine Murray. She died in 1874. By her he had one son and two daughters. The son died some years ago after an operation. He was an officer in the Seaforth Highlanders. Dr. Bell was never the same man after his son's death. Both his daughters are married to officers.

His recreations were fishing and shooting. He was a member of the University Club, Edinburgh; an original member of the Round Table Club, and its first Secretary. This club was founded in December, 1868, and of its original members, twelve in all, only four survive. He was also a member of the "Aesculapian" Club, founded in 1773; and of the Medico-Chirurgical Club, founded in 1822.

Dr. Bell was a marked figure in Edinburgh. Nearly to the end of his life he retained his buoyant and even boyish disposition. He was bright, cheerful, and happy. He had many admiring friends. He was a kindly man, and, unknown to all but a few, he did very many fine and helpful actions to those in trouble. Till his illness in February last he carried on a large family practice.

He was a brilliant and impressive teacher. He missed nothing as a clinician. Among his pupils in the Edinburgh Royal Infirmary was Sir Arthur Conan Doyle, who, it is generally believed, took him as the prototype of the famous detective of the "Sherlock Holmes" stories. Sir Arthur Conan Doyle says of his old teacher:

> Personally I can say very little of Dr. Joseph Bell, for I have never met him in his own house, and really only know him as my professor. As such I shall always see him very clearly, his stiff, bristling, iron-grey hair, his clear, half-humorous, half-critical grey eyes, his eager face, and swarthy skin. He had a very spare figure, as I remember him, and walked with a jerky, energetic gait, his head carried high, and his arms swinging. He had a dry humour, and a remarkable command of the vernacular, into which he easily fell when addressing his patients. His skill as a surgeon and his charm as a lecturer are, of course, proverbial.

As a doctor he was greatly beloved by his patients, in whatever rank of life they were. He lightened their

burdens and cheered their lives by his fine sympathy and brightness and by his encouraging words. His nature was essentially bright, happy, and youthful. He will be long missed by a wide circle of friends and patients.

His funeral took place from St. George's United Free Church on the afternoon of October 7th. There was a large attendance of the office-bearers of his church, of the Royal Colleges of Physicians and Surgeons, of the University, of the Royal Infirmary, of the Longmore Hospital, of the Queen Victoria's Jubilee Institute of Nurses, of army veterans, of the Children's Hospital, and of the public.

DR. LEONARD KEATLEY YELF, formerly of Moreton-in Marsh, Gloucestershire, died on October 3rd at Bransgore near Bournemouth, in which neighbourhood he had been living since his retirement from practice some fifteen years ago. Dr. Yelf, who was a native of the Isle of Wight, commenced his medical career as an apprentice to a medical man at Leamington, completing his medical studies at King's College Hospital, where he became M.R.C.S., L.S.A. in 1852. He subsequently spent some two years in Australia; on returning home he took the M.D. St. Andrews and then settled down in Moreton-in-Marsh, in the Cotswold district of Gloucestershire. He remained busily at work in that neighbourhood for some forty years and took an active part in founding the cottage hospital in that town. On his retirement he was made consulting surgeon to the institution and at the same time was presented with a silver bowl and purse of money as a testimonial from his numerous friends and patients. These terms are interchangeable, for he had acquired the affection of all classes. His memory has been kept green in the neighbourhood since his departure by the fact that he was succeeded in his practice by one of his sons. Dr. Yelf was married and is survived by his wife. Of his many children two are members of the medical profession.

Medical News.

IT is said that in the United States there were 3,421 arrests in eighty cities in the course of a single year for spitting in streets and other public places. The fines inflicted amounted to about £1,000.

SIR ALMROTH WRIGHT has been commissioned by the mining groups of the Rand to investigate and report on the question of immunization against pneumonia, a disease which is said to be the cause of the largest mortality among the native labourers on the goldfields.

A CONVERSAZIONE will be held by the medical staff and lecturers of the Royal Dental Hospital of London at the Royal Institute Galleries, Princes Hall, Piccadilly, on October 18th, at 8 p.m. Mr. A. H. Gilkes, Head Master of Dulwich College, will distribute the prizes to the successful students at 8.30 p.m.

DR. CHARLES F. HARFORD has been transferred from the post of Physician to the Church Missionary Society to that of the Secretary of the Medical Committee with supervision of the medical missions of the society. These comprise 48 stations in which 91 medical men and women and 59 nurses are working. The statistics for the last completed year were: Beds, 3,388; in-patients, 31,871; out-patients, 1,136,518. Dr. Harford will still continue work as Principal of Livingstone College, as he did when holding his former post.

THE members of the Westminster Division will dine together at the Criterion Restaurant on October 26th, and after dinner a cinematograph demonstration will be given of living micro-organisms, including those of sleeping-sickness and of syphilis. Any member of the medical profession may attend the demonstration, and will also be welcomed to the dinner, tickets for which can be obtained from Mr. J. Howell Evans, F.R.C.S., 25, Berkeley Square, W.

THE Medical Society commenced its winter session on October 9th, the presidential address being delivered by Dr. J. Mitchell Bruce, who said he thought it would be in the interest of the society and of medicine that general practitioners should take a larger share than heretofore in the work of the meetings of the society. Not only were certain aspects of disease best studied and best understood by the general practitioner, but in some of its relations disease could be adequately studied and described by him alone.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examinations indicated:

FIRST M.B. (*Part II, Physics*).—K. Atkin, C. N. Carter, H. B. Dodwell, J. S. Eloff, H. W. Featherstone, E. A. Fiddian, H. G. Galbraith, L. S. Gathergood, A. A. Gemmell, E. A. Grylls, J. H. Gulliland, W. F. T. Haultain, H. D. Y. Herries, N. S. Hewitt, H. C. Hopkinson, B. E. Jerwood, C. M. Jones, F. Moor, E. S. Orme, A. H. Pearce, C. G. Schurr, F. N. Sidebotham, R. O. Sternberg, B. H. Swift, C. H. Vernon, G. H. Ward, V. Wilkinson.

FIRST M.B. (*Part III, Elementary Biology*).—S. L. Bhatia, H. Chell, H. G. Galbraith, H. D. Y. Herries, H. C. Hopkinson, B. E. Jerwood, C. G. Schurr, R. O. Sternberg, C. H. Vernon, V. Wilkinson, A. G. P. Wills.

SECOND M.B. (*Part II, Pharmacology and General Pathology*).—W. G. Bigger, H. J. Bower, E. C. Bradford, J. Brewer, I. M. Brown, E. H. P. Brunton, L. B. Clarke, G. M. Cowper, J. L. Davies, K. B. Dickson, E. L. Dobson, J. M. Evatt, W. D. Galloway, C. H. M. Gimlette, W. B. Gordon, C. H. Gow, N. Gray, R. J. Hearn, C. Helm, A. M. Humphry, B. L. Hutchence, R. W. P. Jackson, J. S. Kennedy, S. D. Kilner, H. H. Mathias, J. B. Matthews, S. C. Miskin, O. G. Morgan, W. New, A. V. O'Keeffe, H. G. Oliver, R. A. Peters, R. S. Scott, L. E. S. Sharp, W. H. Shephard, A. G. Shera, L. R. Shore, A. C. S. Smith, W. S. Soden, E. W. Todd, R. L. M. Wallis, G. C. Wells-Cole, F. A. Williamson.

UNIVERSITY OF LONDON.

ST. MARY'S HOSPITAL.

THE annual dinner of the medical school of St. Mary's Hospital took place at Princes' Restaurant on October 3rd, the assemblage numbering 152. The chair was occupied by Mr. A. T. Norton, C.B., who, in proposing the toast to the hospital and school, gave a vivid description of the district of Paddington as he remembered it in his youth. At that time the present site of the Great Western Railway station was occupied by a wood, while a creek meandered along the present Westbourne Grove. Having described the past and forecast the future, he suggested that the scope of vaccines and serums had still to be determined, and that unless the National Insurance Bill were altered there would be a falling off in the number of recruits for the medical profession. Mr. Austen Leigh, chairman of the hospital board, in responding to the toast expressed a hope that never again, as last summer, would St. Mary's Hospital have to perform the work of four hospitals during the hottest part of the year. During the summer its neighbours, the Middlesex, St. George's, and Paddington Green Hospitals, had all been closed for a considerable time. Sir John Broadbent, the Dean of the school, who also responded, said that the entries for the winter session were considerably larger than last year. The evening concluded with a warmly-greeted toast to the chairman.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved in the subjects indicated:

FIRST M.B., CH.B. (B., Botany; Z., Zoology; P., Physics; C., Chemistry).—R. Aitken (B., P.), W. D. Allan (B., P.), *J. Alston (B., P.), W. Baird (B., P.), W. Barras (B., P.), M. N. Bhattacharjie (B., P.), *T. Blackwood (B., P.), R. M. S. Boyd (Z., C.), W. E. Boyd (Z.), *J. Bradford (Z., C.), J. Buchanan (P., C.), D. R. C. Cameron (B., Z., P., C.), D. S. Campbell (B., P.), J. F. Campbell (B., P.), W. Campbell (B., P.), T. W. Carstairs (Z., P.), J. Chalmers (B., P.), A. Le B. Clark (Z., C.), D. H. Coats (B., P.), J. Connal (B., P.), W. K. Connell (B., P.), A. F. Cook (B., P.), A. S. Cook (B., C.), W. G. Cook (B.), R. S. Crawford (B., Z., P., C.), *H. P. Crow (Z., C.), J. F. Cunningham, M.A. (B., Z., C.), *W. Cunningham (B., P.), J. W. Dalglish (B., P.), R. S. Dickie (B., Z., P.), *J. Dunbar (B., P.), *E. M'M. Dunlop (B., Z., P., C.), J. J. Finlay (Z., C.), T. Finlay (B., Z., P.), T. Fleming (B., P.), G. J. Fraser (C.), M. M. Frew (B., P.), W. W. Galbraith (C.), L. W. Gemmell (C.), J. A. F. Gibson (Z.), R. S. Gibson (Z., C.), N. W. Gilchrist (P.), R. K. H. Gillespie (B., Z., P.), C. C. B. Gilmour, M.A. (B.), J. G. Gilmour (B., Z., P.), J. Glaister (B., P.), P. F. A. Grant (B., P.), D. Heard (B., P.), A. C. Hepburn (B., Z., P.), W. A. Higgins, M.A. (B., P.), A. R. Hill (B., P.), O. Johnston, (B., P.), *J. C. Knox (B., C.), R. Kyle (Z.), R. M. Lang (B., P.), H. B. Lawrie (C.), J. A. Leiper (B., Z., P., C.), P. Y. Lyle (B., Z., P.), H. L. M'Cormick (B., Z., P.), P. M'Diarmid (B., P.), R. W. MacDonald (P.), J. W. Macfarlane (B., P.), *J. M. Macfie (B., P.), A. D. C. M'Gowan (P.), A. M'Innes (B., Z., P., C.), J. MacInnes (B., Z., C.), A. F. M'Intosh (B., P.), J. M. Mackintosh (B., P.), K. S. Macky (B., P.), G. Maclean (P., C.), P. D. MacLean, M.A. (P.), D. M. Macmillan (Z., P.), F. R. Martin (B., P.), J. C. M'I. Matheson (B., P.), A. M'C. Millar (B.), W. D. Miller (B., P.), J. D. Milligan (B., P.), P. O. Moffat (C.), *F. W. Morrison (B., Z., P., C.), W. W. Morrison (B., P.), A. Morton (B., P.), J. H. Murray (B., Z., P.), T. F. Noble (P.), M. O'Callaghan (B., Z.), J. A. O'Connor (B., P., C.), R. L. Ormsby (B., P.), A. W. Panton (B., P.), J. R. Pate (Z.), J. A. Paterson (B., Z.), T. S. Paterson (B., Z., P., C.), J. H. Paul, M.A. (B., P.), W. J. Poole (B., P.), *W. B. Primrose (B., C.), H. Quigley (P.), R. S. Reid (B., P.), J. G. Rennie (P.), J. K. Rennie (B., P.), J. Richardson (B., P.), K. M'A. Ross (B., Z., P.), A. Stenhouse (B., Z., P.), D. S. Stevenson (B., Z., P.), P. A. Stewart (B.), W. M. Stewart (B., P.), *A. S. Strachan (B., C.), J. B. Sweet (B., Z.), C. B. Templeton (B., P.), R. T. Todd (B., P.), J. L. Torley (B., Z., P.), A. J. van der Spuy (B., P.), G. T. Walker (B., P.), R. R. Waters (B., P.), J. D. Watson (B., P.), W. J. C. Watt (B., P.), *R. S. Weir (B., P.), T. M'S. Wilson (B.), *J. T. Wylie (B., P.). Women: *C. I. Buchanan (B., P.), M. C. Cairney (B., P.), A. K. Cormack

(B., Z., P., C.), J. B. Davidson (B., Z., P.), J. C. Gilchrist (B., P.), J. F. Henderson (Z., P.), H. I. W. Kerr (B., Z., P., C.), M. C. B. Leigh (B.), *D. M'Cubbin (B., P.), M. J. Maclachlan (B., P.), *E. C. M'Vie (B., C.), E. S. Martin (B., P.), M. A. Noble (B. P.), M. H. Routledge (B., P.), M. Scott (B., Z.), I. M. Sinclair (Z.), *J. Stalker (B., P.), M. A. H. Stewart (B., Z., P.), I. S. Thomson (B., P., C.), *M. B. D. Wilson (B., P.), I. H. Younger (P.).

* Passed with distinction.

Second M.B., Ch.B. (A, Anatomy; P., Physiology; M., Materia Medica and Therapeutics).—D. K. Adams, M.A. (M.); A. Baird (M.), H. S. Banks, M.A. (M.), A. M'A. Blackwood (A., P.), A. Blashky (A., P.), *J. S. K. Boyd (M.), J. L. Brownlie (A), S. Bryson (P.), A. G. Buchanan (P.), E. T. Burke (A.), J. J. Burke (A.), J. Cameron (A.), W. L. Cassels (M.), B. Cohen (M.), G. G. Cooper (M.), T. M. Crawford (A., P., M.), L. Crombie (P.), W. Cullen (M.), G. D. de Kock (A., P.), A. Dick (M.), J. N. Dobbie (A.), J. Dunbar (A., M.), W. E. Elliot, B.Sc. (A., M.), W. C. Fleischmann (P., M.), J. B. Fotheringham (P.), W. Fraser (P., M.), I. Grant (P.), J. G. Hendry (A., P., M.), T. C. Houston (M.), W. Y. Jamieson (A., M.), W. J. B. Lavery (A.), A. Lindsay (A., P.), J. W. M'Donald (P., M.), J. M'Ghie (A., M.), J. G. M'Kinna (P), K. N. Maclean (M.), N. Macleod (A. P.), R. M. M'Minn (M.), E. S. Macphee (A., M.), W. S. Martin, M.A. (P., M.), J. P. Mathie (A.), T. S. Meighan (M.), A. U. Millar, M.A. (A., P., M.), T. A. O'Brien (A., P.), J. L. R. Philip (A., P., M.), A. Rankine (M.), D. R. E. Roberts (M.), S. D. Robertson (M.), N. I. Sinclair (A.), W. R. Snodgrass, M.A. (A., M.), J. F. Steven, M.A. (P.), H. Stewart, M.A. (A.), R. Stewart (M.), W. B. Stewart (P., M.), H. C. Watson (M.), J. Whiteside (A., P.), A. S. Wilson (A., P.), A. M. Young (M.), J. M. Young (M.). Women: C. S. T. Anderson (M.), G. G. T. Anderson (A., P.), M. J. Brown (A., P.), E. Crawford (A., P., M.), L. B. Hardie (M.), M. P. Hislop (M.), A. R. M'Kail (A., P., M.), S. A. J. Rankine (M.), M. Walker (P), J. A. Woods (M.).

[illegible] * Passed with distinction.

Third M.B., Ch.B. (P., Pathology; M. Medical Jurisprudence and Public Health).—J. C. H. Allan (M.), J. Angus (P., M.), R. A. Barlow, B.Sc. (P., M.), S. Blumenfeld (M.), V. Borland (P., M.), J. W. Burton (P., M.), N. Cameron (M.), G. W. Clark (P., M.), R. Craig, M.A. (M.), G. Dalziel (P., M.), J. H. Dible (M.), P. Figdor (M.), A. R. H. Geyer (P.), L. Glushak (M.), C. W. F. Greenhill (P., M.), J. M'F. Grier, M.A. (P., M.), J. F. Hutton, M.A. (P., M.), T. P. Inglis (M.), A. J. Joubert (M.), C. J. H. Kirk (P.), R. A. Lennie (P.), J. A. M'Connochie (M.), J. H. Magoveny (M.), W. Montgomery (M.), K. D. Murchison (P.), A. A. Murison (M.), A. Neilson (M.), A. Peden (P.), J. Purdie (M.), J. F. Quigley (Lambhill) (P., M.), D. W. Reid (M.), J. R. R. Ritchie (M.), A. L. Robertson (M.), E. Robertson (P., M.), J. G. M'G. Robertson (P., M.), J. I. Robertson (M.), A. W. Russell (M.), J. F. M'G. Sloan (P.), K. C. van der Wat Smit (M.), J. A. Smith (P.), J. K. Smith (P., M.), A. R. B. Soga (P., M.), J. A. Stewart (M.), W. P. A. Stewart (P., M.), W. R. Taylor (P., M.), E. G. Y. Thom, M.A. (P., M.), E. N. Thomson (M.), A. Walker (M.), T. Walmsley (M.), M. White, M.A. (P., M.), F. J. Whitelaw (P., M.), *W. B. Wilson (M.) Women: J. K. M'E. Hunter (P.), *M. A. Kirk (P., M.), J. M. Walker (M.).

* Passed with distinction.

Final M.B., Ch.B.—*M. J. Aitken, A. J. Archibald, T. S. Barrie, *W. E. H. Beard, J. E. Black, *J. Bower, *D. S. Brough, A. D. Buchanan, W. M. Buchanan, *C. Cameron, M.A., J. Campbell, G. Cochrane, M.A., J. A. J. Conway, *R. C. Corbett, J. Findlay, M.A., L. L. Fyfe, W. G. Goudie, J. R. Grice, M.A., C. H. Haddow, *J. S. Hall, D. C. Hayes, J. R. Herbertson, A. G. Holms, Isabel Inglis, J. Johnstone, A. Kirkhope, J. M'C. Lang, N. M'Farlane, Barbara Macgregor, M. Mackinnon, W. Wyllie MacNaught, *Katherine S. Macphail, *F. Matheson, J. Matheson, J. Mitchell, A. Muir, *Ellen B. Orr, H. Paterson, *J. E. Paterson, *H. C. D. Rankin, H. Y. Riddell, W. L. Scott, Christina H. Shearer, A. H. Sinclair, J. Smith, Isabel J. Stark, J. A. H. Telfer, W. Tudhope, J. L. Ure, G. A. Valentine, H. F. Watson, A. Wilson, D. Wilson, W. P. Yates.

* Passed with distinction in one or more subjects.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.

[illegible] a meeting on October 6th the following candidates were [illegible]itted to Membership of the College:

P. Ball, W. P. MacArthur, R. J. Rowlette.

ROYAL COLLEGE OF SURGEONS OF IRELAND.

Retirement of the Registrar.

[illegible] meeting of the Council, held on October 5th, the resigna- [illegible] of Mr. G. F. Blake, the Registrar, was accepted with [illegible] regret, and the following resolution was unanimously [illegible]ted:

The President, Vice-President, and Council of the Royal College [illegible] Surgeons in Ireland have accepted with much regret the re- [illegible]gnation of the Registrar of the College, Mr. George Francis [illegible]lake, J.P.

During the long period of thirty-one years that Mr. Blake dis- [illegible]harged the onerous duties of Registrar to the College his devotion [illegible] its interest, his courteous deportment to all with whom he has [illegible]lations, and the admirable manner and efficiency in which he [illegible]rried out the important work connected with his office were [illegible]yond all praise.

The President, Vice-President, and Council feel that by the [illegible]signation of Mr. Blake the College has lost the services of a most [illegible]icient officer and a kind friend whom it will be difficult ade- [illegible]ately to replace.

They hope that in the many years which they trust are before [illegible]n, he will enjoy his well-deserved rest from duty. He may at [illegible]same time be assured that his valuable services to the College [illegible]ll long be remembered and appreciated.

(Signed) Robert H. Woods, *President.*
R. Dancer Purefoy, *Vice-President.*
Charles A. Cameron, Kt., C.B., *Secretary.*

CONJOINT BOARD IN ENGLAND.

The following candidates have been approved in the subjects indicated:

First College (*Part I, Chemistry; Part II, Physics*).—†H. S. Baker, W. F. Barrett, *H. S. Bryan, †G. Dayall, C. F. Good, F. J. Good, *J. A. Hart, Elma J. Ishmael, *R. F. Jarrett, R. Jenner-Clarke, P. R. E. Kirby, *T. W. Le Mesurier, Louisa M. Lister, †E. M. Litchfield, †G. S. B. Long, *W. D. McRae, J. F. M. Payne, T. M. Payne, *D. G. Pearce, *W. D. Pearman, N. M. Sen-Gupta, †G. R. Sharp, †W. W. S. Sharpe, Violet A. Shaw, *E. W. Terry, C. P. G. Wakeley.

* Passed in Part I only. † Passed in Part II only.

First College (*Part III, Elementary Biology*).—R. Ambler, H. S. Baker, W. F. Barrett, C. F. Good, E. G. Howell, R. Jenner-Clarke, T. L. Kan, P. G. Russell, Violet A. Shaw.

First College (*Part IV, Practical Pharmacy*).—M. Barker, W. F. Barrett, A. W. C. Bennett, E. C. Bowden, R. G. Brown, R. C. C. Clay, C. F. Constant, G. M. Coope, E. D. Fountain, H. C. C. Hackney, A. E. Huxtable, H. B. Hyde, T. H. James, K. J. T. Keer, W. M. Langden, J. L. Lauder, G. Lawrence, E. T. H. Lee, F. M. Lipscomb, E. F. Llarena, M. Mackenzie, B. McDermott, W. F. Morgan, W. H. Parr, C. J. B. Pasley, J. Remers, H. T. Retallack-Moloney, D. R. Reynolds, H. C. Rigg, H. Robinson, M. Scott, A. H. Warde, N. J. Wigram.

Second College (*Anatomy and Physiology*).—C. L. Balkwill, O. Barkau, D. Basu, W. M. Binning, C. Bluett, G. A. G. Bonser, F. W. Chamberlain, E. L. Christoffelsz, J. E. Davies, W. S. Desai, A. P. Ford, F. B. Gilhespy, E. W. Griffith, F. A. Gunesekera, D. H. Hargrave, J. F. Holmes, O. R. Horwood, A. M. Jones, J. P. Jones, W. H. Jones, J. G. L'Etang, D. M. MacManus, S. Mallinick, G. F. Meinertzhagen, A. R. Muir, H. F. Mullan, K. M. Nelson, W. J. Paramore, L. R. Pickett, J. W. Rammell, C. A. Robinson, G. W. R. Rudkin, H. C. Samuel, M. Sharaf, C. Shaw-Crisp, A. E. Staffurth, G. S. Stathers, H. C. Viehoff, P. P. Warren, E. J. Wright.

ENTRANCE SCHOLARSHIPS.

Guy's Hospital.—The following entrance scholarships have been awarded at the medical school of this hospital: The two *Junior Science Scholarships*, value £120 and £60 respectively, to Mr. Lemarch Snowden Debenham, of St. Paul's School, and Mr. Peter George McEvedy, of the preliminary science class of the college; the two *Entrance Scholarships in Arts*, of the respective value of £100 and £50, to Mr. T. A. V. Wood, of Wolverhampton Grammar School, and Mr. F. Gilbert Scott, B.A., of Merton College, Oxford.

St. Mary's Hospital.—The awards of entrance scholarships made this year are as follows: Two *University Scholarships*, each of the value of 50 guineas, to Mr. A. S. Cohen, of University College, Cardiff, and Mr. F. A. Williamson, B.A., of Queen's College, Cambridge; two *Open Scholarships in Natural Science*, one of the value of £50 and the other of £25, to Mr. G. E. Barker, of Latymer School and Birkbeck College, and Mr. A. R. Fuller, of Leighton Park School, Reading. The Epsom scholar is Mr. T. R. Davies.

Medico-Legal.

DEATHS FROM BURNING.

During the course of an inquest on September 27th on the body of a child which had died from burning, Dr. Waldo, the City Coroner, mentioned that it was frequently stated that of the enormous number of deaths of children which occur in England and Wales each year the greater proportion were due to the practice of using for children's garments flannelette which had not been rendered fireproof. These deaths, he said, were preventable, and ought to be prevented, but to draw such constant attention to one particular factor in the position was not the best way of doing so. The initial cause of these fatalities was not the wearing of flannelette or any other fabric of an inflammable character, but the fact that children were left alone in rooms whose lighted fireplaces were not fenced off by proper fireguards. Another initial cause was the failure of mothers and other persons supposed to be in charge of children to keep matches out of their reach.

WORKMEN'S COMPENSATION ACT.

Appendicitis or Accident?

In Miller *v.* Londonderry Collieries, Limited (Newcastle, May 4th), the question was raised whether appendicitis was or was not due to an accident. Evidence was given that while lifting a full tub in the mine the applicant's foot slipped, and he fell backwards. Immediately he felt a pain in his right side, and could not straighten himself. He was put off work, and Dr. Hopper attended him. Three weeks later he returned to work, but still felt the pain, and in October Dr. Hopper found that he was suffering from appendicitis, and Dr. Ayre Smith operated for this at the Sunderland Infirmary.

The point at issue was whether the strain he received while lifting the tub set up the appendicitis. Drs. Hopper and Rutter held that a strain could set up appendicitis in a healthy appendix. Drs. Ayre Smith and G. B. Morgan expressed a contrary view.

His Honour held that the incapacity to work arising from the appendicitis was not due to the accident, and therefore found judgement for the defendants.

The Duty of Medical Referees.

This was a stated case on appeal in an arbitration under the Workmen's Compensation Act, 1906, between John Garrett, miner, and the respondents, Waddell and Sons, coalmasters, Coalburn. The appellant, who was a miner in the employ of the respondents, submitted himself for examination to a certifying surgeon for the district Lesmahagow, and obtained a certificate to the effect that he was suffering from acute bursitis over the elbow, being one of the diseases to which the Workmen's Compensation Act applied, and was thereby disabled from earning full wages at the work at which he had been employed, and that the disablement commenced on October 6th, 1910. Thereafter the respondents got a reference to a medical referee on the ground that the appellant had not contracted the disease in respect of which the certificate was granted, or that he was not suffering so as to be unable to earn full wages. The medical referee dismissed the appeal of the respondents with the restriction that he was now (December 13th, 1910) able to resume his ordinary work. Following upon that the respondents paid compensation weekly at the rate of 16s. 3d. to December 13th, while the appellant returned to work. On January 24th, 1911, the appellant instituted the present proceedings for an award of partial compensation at the rate of 9s. 4d. per week, averring that not having fully recovered his earning capacity he was not able to earn wages exceeding £1 per week. The respondents objected to a proof of that averment on the ground that the decision of the medical referee precluded the appellant from claiming compensation after its date. The Sheriff-Substitute found in law that the medical referee's decision, including the foregoing restriction, was final, and barred the appellant from insisting on payment of compensation beyond December 13th, and dismissed the application for arbitration. The workman appealed.

The Court remitted the case back to the Sheriff-Substitute. The Lord President said that the statute provided that the medical referee's decision should be final on the correctness of the certificate granted by the certifying surgeon. Therefore it seemed to his lordship that the medical referee could only devote his attention to "Yea" or "Nay" on one point involved under two heads of inquiry—(1) Was there industrial disease? and (2) Was the result of that industrial disease such that the workman was thereby disabled from earning full wages? Having gone into those two branches of inquiry, the medical referee, his lordship thought, could only answer it "Yea" or "Nay" whether the certificate was rightly granted. His lordship did not think that the medical referee here had any right to add to his decision that the man had now recovered, and he did not think that the referee's deliverance in that part was protected by the finality clause of the statute. Accordingly, his lordship thought the Sheriff-Substitute was wrong in not going on with the petition. The appeal was therefore allowed.

Compensation for Scarlet Fever.

An important decision under the Workmen's Compensation Act was given last week in the Manchester County Court, where a mortuary porter alleged that he had contracted scarlet fever while at work at the Monsall Fever Hospital. The judge said that this was the first case in which the question as to the liability of hospital authorities to pay compensation to the members of their staffs who contracted infectious diseases while at work had arisen. The evidence showed that the work of the claimant included the cleaning of the mortuary at the fever hospital, and it was proved that all he had to use was a broom and a bucket of water, and that he was not supplied with any antiseptic. The doctor called for the claimant said that if the body of a person who had died from scarlet fever were taken into the mortuary, as several had been, it could be said to be a perfect hotbed of the disease. They had the uncontradicted fact that this man's duty exposed him to every conceivable kind of disease germ that might arise. The danger to the man was increased by the fact that he had recently had influenza, so that he was all the more liable to be attacked. The scarlet fever that he contracted was followed by nephritis, which totally incapacitated him from work. After carefully considering the evidence, the judge said that he found the fever was contracted in the mortuary, and amounted to an accident within the meaning of the Workmen's Compensation Act, and he awarded the claimant 15s. a week during incapacity, with costs on the higher scale. A stay of execution was granted pending appeal.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

PAYMENT FOR AN EMERGENCY CALL.

DUBITANS.—Our correspondent is undoubtedly entitled to a fee for the assistance he rendered, and it would only have been common courtesy on the part of his colleague if he had seen that our correspondent was paid and thanked him for his services. As he did not do this, we think the best course would be for our correspondent to charge the patient for an ordinary night visit.

PROFESSIONAL SECRECY.

G. J. P.—This question was much discussed about fifteen years ago, and at that time the Royal College of Physicians of London obtained the opinion of Sir Edward Clarke and Mr. Horace Avory, which was to the effect that a medical man should not reveal facts which had come to his knowledge in the course of his professional duties, even in so extreme a case as one in which there were grounds to suspect that a criminal offence had been committed. Under the circumstances related by our correspondent there seems to be every reason that he should follow the rule of professional secrecy.

THE OBLIGATIONS OF A SUBSTITUTE.

A. TEEVAN.—We cannot agree that a practitioner who is called to a case of accident or sudden illness in the absence of a colleague is justified in continuing in charge of the case without the consent of the regular family attendant, except on the condition that he acts as his substitute. This decision is based on the grounds that he was called in as his substitute, and therefore must continue to act in that capacity. Had the patient called him in quite independently and not because the other practitioner was absent, the case would have a different aspect. We do not think there is anything in our decision inconsistent with maintaining the principle that patients have the right to change their medical attendants; but we have always held that this is subject (1) to the obligation of a substitute not to use his position to the prejudice of the regular medical attendant, and (2) that before a new medical attendant can undertake the charge of a case, the practitioner formerly in attendance must be clearly but politely informed by the patient or the patient's friends of the change. With regard to the question of calling a hospital resident into consultation instead of a brother practitioner, and the practice of hospital residents undertaking for payment outside work, we are quite in agreement with the views expressed by our correspondent; but this did not arise out of the question as submitted to us.

Public Health AND POOR LAW MEDICAL SERVICES.

NATIONAL UNION OF PUBLIC HEALTH AUTHORITIES.

A CONFERENCE of Public Health Authorities, under the auspices of the National Union of Public Health Authorities, will be held in London, this day, Friday, October 13th, for the purpose of considering the following subjects: (1) The urgent need for dealing immediately, on national lines, with the question of the prevention and treatment of tuberculosis. (2) The provisions of the National Insurance Bill in so far as they affect Public Health Authorities, especially those relating to the proposed local Health Committees. The conference will be open to the representatives of all Public Health Authorities, whether such Authorities are members of the Union or not.

The Services.

ROYAL NAVY MEDICAL SERVICE.

THE course of instruction of the newly-entered acting surgeons at Haslar was brought to a close on October 10th. The prizes were distributed by Admiral Sir Arthur W. Moore, G.C.B., G.C.V.O., C.M.G., Commander-in-Chief.

The gold medal was gained by Acting Surgeon V. L. Matthews, of the London Hospital. The silver medal was awarded to Acting Surgeon R. A. Rankine, M.B., of Guy's Hospital. The two above-named officers took the first and second places in the combined London and Haslar examinations.

Three navy regulation pocket cases—prizes for subjects in which instruction is given at Haslar—were awarded to Acting Surgeons R. A. Rankine, V. L. Matthews, and W. L. Cowardin.

The following list shows the places gained by the combined marks of the London and Haslar examinations:

		Marks.
1.	Acting Surgeon V. L. Matthews ...	3,716
2.	Acting Surgeon R. A. Rankine, M.B. ...	3,660
3.	Acting Surgeon Q. H. Richardson ...	3,396
4.	Acting Surgeon W. L. Cowardin ...	3,263
5.	Acting Surgeon H. White	3,222
6.	Acting Surgeon L. A. Moncrieff ...	3,207
7.	Acting Surgeon A. C. Paterson ...	3,154

HALF PAY.

SPENDNOUGHT writes: The experience of "Naval Surgeon" (BRITISH MEDICAL JOURNAL, September 30th, p. 779) regarding half pay is merely that of practically all naval medical officers who have got over their first few years of service. Recurring spells of half pay are now the lot of the great majority, if not of all. In fact, I believe I am correct in saying that the estimates for the department are so framed that a number of officers must be at all times on half pay, their being so carrying no reflection on their zeal or character.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

L. asks to be recommended an open inhaler for ether administration as simple as possible consistent with efficiency.

SCHOOL INSPECTOR asks any medical inspector of schools in an English county to give information as to the mileage-rate allowed by the Education Authority for the use of a motor cycle in school inspection.

MICUS would be glad to know if any practitioner has experience of the treatment of sterility associated with dysmenorrhœa and acute anteflexion. The textbooks advocate dilatation of the os and curettage. Has this proved of practical value?

.R.C.S. has under treatment a case of tertiary syphilis where he used salvarsan about three months ago. The result was an immediate and rapid disappearance of all symptoms—these chiefly being perforation and ulceration of the palate. At the present date, however, there is a reappearance of palate eritation. The patient has been provisionally on a mixture of hydrargyri perchloridum plus potassium iodide, and relief as followed, but the question is whether he ought to have his salvarsan repeated. Our correspondent will welcome any nformation on this point, or on the advisability of waiting onger, from any readers who may have encountered similar ifficulty. The patient neither smokes nor drinks.

ANSWERS.

FREUD'S METHOD OF PSYCHO-ANALYSIS.

M. D. EDER writes: As several medical men have written sking me for references to any books on Freud's methods ublished in English, perhaps the following information will e of general interest. The following books have appeared: *The Psychology of Dementia Præcox*, by Dr. C. G. Jung (out of rint). (2) *Selected Papers on Hysteria and other Psychoneuroses*, Professor S. Freud. (3) *Three Contributions to Sexual Theory*, Professor S. Freud, with an introduction by Professor I. J. utnam. All these have been translated by Dr. A. A. Brill, d are published by the Journal of Nervous and Mental isease Publishing Company, New York. Mr. H. K. Lewis is e London agent. Dr. Brill has now in the press a transla- n of Freud's *Die Traumdeutung*. I am translating Freud's tle essay on dreams—*Ueber den Traum*—but this is not to ppear till after Christmas. A full bibliography of English terature on the subject, by Dr. Ernest Jones, appeared in *Jahrbuch für psychoanalytische und psychopathologische rschungen*, Band II. 1 Hälfte 1910. (Deutike, Vienna). The t volume of the year gave the complete German and Swiss bliographies. In addition to the *Year Book*, there is now blished the *Zentralblatt für Psychoanalyse* (Bergmann, sbaden). Perhaps I may just add that Dr. Bernard Hart published *Psychology of Freud and his School* (*Journal of dical Science*, April, 1910), and that two articles on the ecative aspects, by Dr. E. Jones and the Rev. Dr. Pfister pectively have been published in *School Hygiene*, February, rch, July, and August, 1911. It would exhaust your space my patience to give the German literature; I think that ints of the bibliographies are obtainable.

BUTTER, MARGARINE, DRIPPING.

he nutritive value of margarine is practically the same as of butter; 102 lb. of the former being equal in this respect to 100 lb. of the latter. The difference between them, therefore, is entirely one of flavour. It may interest our correspondent to know that dripping is more than equal in nutritive value to butter, whilst costing about half as much.

LOUD CREPITANT CRACKLES OR GRATING IN KNEE-JOINT.

MR. ARTHUR E. BARKER, F.R.C.S. (London), writes: Your correspondent "Q. V. P." invites in your issue of October 7th an explanation of the fact that loud "cracklings" are heard in a patient's knee-joint when the limb is drawn up while lying on the back, and then actively lifted into the vertical position, while the same movements are accompanied by no sound while lying on the side. I imagine that the explanation lies in a probable roughening of the surfaces of the joint as the result of the injury described or by rheumatoid changes. When the extensors of the knee are in strong action during gradual elevation of the whole heavy limb from the horizontal these surfaces would be brought firmly in contact, and the play of one over the other would produce more friction than when the same movements were executed with the limb on its side and its weight taken off the extending muscles.

BROMIDROSIS OF FEET.

DR. H. J. THORP writes, in reply to "Sudor" in the JOURNAL of September 23rd: Thoroughly dust the boots and stockings every day with powdered boric acid. Sulphur should be taken internally.

LETTERS, NOTES, ETC.

THE MEDICAL PROFESSION.

MR. H. F. STEPHENS (Guy's Hospital) sends us the following extract from the *New Age* of September 28th, which may interest some of our readers at a time when there is so marked a tendency to revile the medical profession:

> The medical profession has experienced some sharp criticism of late, but there are several things to its credit that nobody has properly appreciated. It is undeniably a triumph of commercial organization and a testimony to *esprit de corps* that we can speak with respect of the medical profession as a whole at all. For it means that the reputation of the whole body may with comparative safety be entrusted to each of its members. Each member, in short, accepts and to the best of his ability maintains the reputation of his profession. That is so great an achievement that I count it as the germ of the restoration of the mediæval guild system. You will note further that the medical sense of responsibility extends beyond the boundaries of professional interest. In the case of lawyers and the clergy I doubt if any public responsibility exists at all. You do not find lawyers perturbed with shame at the increase of crime; they do not, in fact, accept the responsibility of reducing crime. Nor are the clergy of all denominations stricken with bad conscience when the community to which they are supposed to minister visibly goes from bad to worse. In neither of these instances is society's illness regarded as a reflection on the efficiency of the legal or clerical profession. The medical profession, on the other hand, does definitely feel itself to be at fault when bodily diseases prevail beyond the accepted maximum limits. If some plague spreads or the death-rate goes up in any district, if diseases once rare threaten to become epidemic, or if the food or water or sanitary arrangements of any district prove to be unsatisfactory, the medical profession as a whole accepts the responsibility, and within limits spares no pains to remedy the defect. This is an admirable state of things, and may it continue and perfect itself.

SKIN ERUPTION IN POLIOMYELITIS.

DR. E. J. BRUCE (North Leverton, via Lincoln) writes: I observe in the EPITOME of the BRITISH MEDICAL JOURNAL of September 16th, par. 144, a note on this subject. I have under my care at present a child aged 8 years, suffering from anterior poliomyelitis, who, two or three days after the onset of the disease, developed a rash which exactly coincided with that described by Brown, except that the distribution of the vesicles was somewhat different, being most profuse on the neck and chest, with only a few isolated vesicles on the affected legs and arms. The eruption cleared up in three days, leaving the skin rough and scaly. It is the first case of poliomyelitis in which I have seen an eruption, which had all the appearances in its first stage of varicella. It would be interesting to know whether other medical men have seen a like condition, as it might be a valuable aid in the early diagnosis of this somewhat rare but serious disease.

HOSPITALS AND GENERAL PRACTITIONERS.

DR. G. F. HOLLOWAY (Bedford Park, W.) writes: Within the last few weeks a patient of mine arranged to have his child operated on by me for tonsils and adenoids at £4 4s., including chloroformist—not, I think, an excessive fee, as the income was £600 a year. He then sends off the child in a cab to a hospital, and has the operation done for 10s. 6d. (a cousin equally well off from another part of London was also done the same day), and on the plea of poverty throws me over. This is the sort of incident (very common in the last few years) which cause us, as a class, to refuse to support or subscribe to hospitals, despite the good and necessary work most of them do. In fact, when we are so impoverished how can we do so? I can only recommend brother general practitioners to be careful to avoid sending cases to consultants who lend their aid to this class of institution,

ST. JOHN AMBULANCE BRIGADE.

ARGUS writes: However "desirable it may seem that the members of the St. John Ambulance Brigade should know the address, 'phone number, and name of the honorary surgeon, should they have occasion to send an urgent message" as given in last week's JOURNAL, it certainly is not desirable that one's private patients should be bounced off to that officer, who in most cases would continue to treat the accident. Further, there is far too much advertising the honorary surgeon on posters for bazaars and public functions, as "The local division of the St. John Ambulance will be in attendance at ———, under the honorary surgeon, Dr. Z.," etc. I was recently called to attend a fractured arm, and during the time I was in attendance the parents were continually pestered by callers, advising them to have Dr. Z., because he was the ambulance doctor, as if being an honorary surgeon to the St. John Ambulance Brigade he was the only one on earth competent to treat a fracture.

PROSTATECTOMY.

A WELL-KNOWN medical man, who signs himself "A Grateful Patient," writes: Having lately passed through a long illness culminating in prostatectomy, I should like, by your kind courtesy, to be allowed to make a few remarks on my case. About six years ago I had the misfortune to sit rather forcibly on the wooden interval between two seats on the District Railway. Result—a short rupture of the urethra *or* a primary prostatic haemorrhage; bed for four days; recovery apparently complete. Nearly three years ago I was knocked down by a horse 'bus and kicked by one of the horses in the perineum. Result—haemorrhage, suppression, and gradually ensuing catchter life. The catheter life became "total," and since eighteen months ago I could not pass one drop of urine. On December 26th, 1910, I suddenly began to suffer agonizing pain every time the bladder contracted on the catheter. Haemorrhage was also frequent, and on June 30th I was relieved of intolerable life by prostatectomy. There were in the bladder, under the shelter of the overhanging prostate, three oxalate of lime calculi, with terribly pointed and sharp "spikes." The prostate was so large that it had to be trisected before it could be removed. Had I been attending any one else I should probably have remembered the *x* rays; they never occurred to me, and so (I know not why) the presence of calculi was a surprise to me! Looking back on my symptoms, I see the unconscious vivisection I self-subjected myself to by not much sooner diagnosing the calculi. As to the operation, I have nothing to say except that at the age of 65 it has restored me to a sort of urinary adolescence! In fact, I am as well as I ever was in my life. But there has been a point in my case which has a certain independent interest. For three months prior to my operation I had a most terrible form of pruritus scroti, and after several kind dermatologists had failed to cure it, one among them connected it with the prostatic condition, not knowing there were calculi in the bladder as well. But he warned me that soon after the operation the pruritus might not disappear at once. It still persists in a very minor degree, and is evidently on the up-grade as to cure. The hot summer has been against it and me, and perhaps cooler weather may assist towards its final departure. I should like to say that the alleviation of the intolerable itching (especially at night) has been due to the local use of a preparation of Parke, Davis and Co., called "Emodientine," the formula of which is published, and I gratefully acknowledge my indebtedness to this preparation, as I must have tried quite twenty other combinations and hoped-for remedies, but—all failures! I have purposely withheld the names of every one concerned in my case, as I am sure that those to whom I am so indebted would wish. But I am also sure the moral of my case is this: Do not delay operation where the prostatic adenoma is an established fact.

IRRITATION OF SKIN.

SUFFERER writes, in reference to the query of Dr. A. Yavasour Elder, of Khartoum, Soudan, in the JOURNAL of August 19th, about the "skin irritation" in one of his patients: Let me state a somewhat similar form of complaint in my own experience. In a hot dry climate, like that of the Punjab, in hot weather, I used to get the ordinary form of "prickly heat," but on coming to this particular station I am in now, the prickly heat disappeared, and I was not afflicted with any skin irritation. This is a warm damp climate, different from the Punjab. I left this station, and remained for years in other stations of the South of India, but never suffered from skin irritability or even prickly heat (except in the very mildest form, occasionally). But about a year or two ago I returned to this, my present station, and within a month or two I was afflicted with the most exasperating itchiness of the skin, especially in the hollows of the flexures. All I can say for it is that it may be neuro-vascular, as I am subject to hepatic congestion. I have been so for a considerable time, and have been more the last year or so. But there is another point to be remembered. I occupy a different house now, in my present visit to this station, and the water used for my bath is from a different source; it is drawn from wells that are sunk in very "old ground"—I mean that the old fort which my bungalow is erected upon has been a habitation, during years of history, for large numbers of a garrison, and probably the soil is highly nitrogenous. When I complained of my skin irritation to a former resident in this house, he said he suffered from the same thing, and found that after the bath had been taken an entirely fresh supply of water (not soapy) should be used to the skin of the whole person. He found this cured him. I found only a moderate result from this, but better results from getting sea-water from the shore close by. A friend who came to live with me, and who was also a resident in this station, also began to suffer from the same irritation of the skin. I found it tended to nervous irritability and rather reflex form of itching; I mean that suddenly at one moment an itching like some mosquito bite would start in one place, and as soon as one had violently scratched the spot, another place, quite in a different part, suddenly irritated. I am inclined to think it is caused by some very minute water parasite in the bath water, or it may be some peculiar action of the chemical constituents on the pores of the skin. It is the most exasperating and maddening experience one can have. Hot bathing is the only relief—I mean in hot water. As I leave shortly for a cure (hepatic) in Europe, I may then learn how far the liver is responsible for it, perhaps.

SUPERNUMERARY TESTICLES.

DR. DONALD NAESMYTH (Ashtead) writes: I have read with interest "Devonport's" remarks on the statement that non-descent of one or both testicles causes rejection in a candidate for the Navy. He says that such rejection "seems very harsh, and likely to deprive the country of the services of many efficient men." Surely if some of our leading authorities on surgery pointed this out to the Admiralty the rule might be amended. Presumably it was passed because such cases are (or are thought to be) more liable to hernia, but if there is no evidence of hernia at 14 years of age I take it the liability to develop it later is not more than in the case of the young man with testicles in the scrotum. It is a rule which is grievously hard, too, on a physically strong boy who is keen on the Navy and who is prevented from following his desired career by this slight developmental defect. I hope this matter will not be allowed to rest here, but that some effort will be made to alter a rule which is unnecessarily severe.

TREATMENT BY CARBONIC ACID SNOW.

SOUTH AFRICA writes: Various contributions have been printed in your columns with regard to treatment by carbonic acid snow, and more especially in connexion with granular lids. But the writers do not give full details as to the method to be adopted. Of course, if one has to treat a lid with a few isolated granules one can easily understand the application of a pencil to them. But supposing, as is often the case, the lid is swollen and full of granules, how should the case be handled? Is one application to be made extending over the whole surface, or are different sections to be treated at intervals? It is a pity that writers when advocating new methods of treatment do not take the trouble to give full details. Possibly they forget that practitioners living thousands of miles from Europe have not the opportunity of visiting hospitals and seeing these new treatments carried out. In this way the value of the proposed new treatments cannot be tested by those who would like to give them a trial.

THE WHITE MAN IN THE TROPICS.

I. M. S. writes: In your leading article, "The White Man in the Tropics," which appeared in your issue of September 30th last, you lead one to infer that the tropics may be made, and actually are, inhabitable by white men. If I remember rightly, this is not the first occasion of your so expressing yourself. I hold no brief for the armchair philosophers whom you condemn, but I have had a fairly long experience of India, and I say with the utmost confidence that it is *not* a white man's land. Europeans can *exist* in the plains of India. They can, exceptionally, live to a good old age without periodical visits to the hills or to a temperate climate. No European, however, could devote himself to agriculture or other laborious open-air work; the climate would not permit it. I know of no instance of any European family inhabiting the plains of India, in the sense that I understand you to declare to be possible. Nor do I believe that the climate would permit the perpetuation of pure Europeans to even a third generation without frequent changes to the hills or to some other temperate climate. If you could see from your editorial armchair a few English women and children who have been compelled to spend even one hot weather on the plains of India, you would, I am sure, fall into line with the other armchair philosophers to whom you so unfeelingly refer.

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Harveian Oration

ON

LD AND NEW VIEWS ON THE TREATMENT OF CONSUMPTION.

LIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS, OCTOBER 18TH, 1911.

BY

THEODORE WILLIAMS, M.V.O., M.D.OXON., F.R.C.P.,

NSULTING PHYSICIAN TO KING EDWARD VII SANATORIUM AND TO THE BROMPTON HOSPITAL.

o hundred and fifty-five years have elapsed since lliam Harvey instituted this Festival, directing that a low of the College shall be appointed to make an tion in commemoration of all the benefactors of the l College "with an exhortation to all Fellows and nbers of the said College to search and study out the ets of Nature by way of experiment; and also for the our of the profession to continue in mutual love and ction among themselves, without which neither the nity of the College can be preserved nor yet particular n receive that benefit by their admission into the ege which they might expect, ever remembering ; 'Concordiâ res parvae crescunt, discordiâ magnae buntur.'"

ch are the words of Harvey, and such are the precepts h this College has, to the best of its ability, endeaed to obey for centuries.

e have had many and distinguished benefactors, and e have been duly celebrated in the various orations, as Harvey, by his immortal discovery has outshone all other luminaries, and as he was the founder of the itution, the numerous orations have been, for the most dedicated to the celebration and exposition of his nificent labours and achievements. When we bear in l the numbers and the distinction of the past orators the many periods of history in which they lived, it will vious to all here to-day that it is impossible for me to anything regarding the discovery of the circulation h has not been already said; for again and again the eian orators have eloquently set forth its originality importance, the steps by which it was attained, and work of previous labourers in the same field.

nen you, Sir, appointed me Harveian orator and con- l on me the highest honour you have to bestow in College, you accompanied the command with a desire after due and proper reference to the work of our benefactor, I should dwell more particularly on the ct to which I have devoted a large portion of my life nely, tuberculosis—and I will endeavour to carry out wishes to the best of my ability.

st, to comply with my orders, let us briefly conate the state of knowledge concerning the cir- on of the blood before Harvey commenced his igations.

Discovery of the Circulation of the Blood.

stotle had taught that in man and the higher ls the blood was elaborated from the food in the whence it was carried to the heart and distributed gh the veins over the body. His successors of the ndrine School of Medicine, Erasistratus and Hero- further amplified his system, and explained that the veins carried blood from the heart to the ers. the arteries carried a subtle kind of air or

According to Dr. Pye-Smith's admirable epitome subject, only two changes had been made for the al physician in this theory of the circulation between ristian era and the sixteenth century.

n had discovered that the arteries were not, as name implies, merely air tubes, but that they conblood as well as vital air or spirit, and it had been lly ascertained that the nerves (*νεῦρα*), which arose he brain and conveyed animal spirits to the body, ifferent from the tendons and sinews (*νεῦρα*) which themselves to bones.

The state of knowledge may be summarized as follows:

1. At the time of Linacre (1524) physicians knew that the blood was not stagnant in the body, for this had been apparent even to the ancient augurs when they inspected the entrails of a victim, and, as Dr. Pye-Smith remarked, to every village barber who "breathed" a vein; but no one had a conception of a continuous stream returning to its source, that is, of a circulation in the true sense of the word, either in the system or lungs, for they were only cognizant of some slow and irregular movement of the blood.

2. Physicians before Harvey supposed that one kind of blood flowed from the liver to the right ventricle of the heart and thence to the lungs and the general system by the veins, and that another kind flowed from the left ventricle to the lungs and general system by the arteries.

3. They supposed that the heart's septum was pervious, and allowed blood to pass directly from the right to the left side.

4. They had no conception of the functions of the heart as the motor power of the movement of the blood. They doubted if its substance were muscular; they supposed its pulsations to be due to the expansion of the spirits it contained.

They believed the only dynamic effect which it had on the blood to be that of sucking it in during its active diastole; they supposed the chief use of its constant movements to be the due admixture of blood and spirits.

When we come to the sixteenth century we find that Jacobus Sylvius discovered the valves of the veins, more fully described later by Fabricius, and that Vesalius ascertained that the septum between the right and left ventricle was complete in the adult.

Servetus, whose works having been burnt were probably never seen by Harvey, had certain theories of the existence of the lesser circulation, which were confirmed later by Realdus Columbus, for the latter taught that blood and spirits pass from the right to the left ventricle, not through the septum, but through the lungs.

Such was the state of knowledge when Harvey commenced his long and painstaking series of researches and observations, and he prefaces his account of them with the following words, with which all students of cardiac pathology have probably some time or other felt sympathy:

> When I first gave my mind to vivisections as a means of discovering the motions and uses of the heart, and sought to discover these from actual inspection and not from the writings of others, I found the task so truly arduous, so full of difficulties, that I was almost tempted to think with Frascatorius that the motion of the heart was only to be comprehended by God. For I could neither rightly perceive at first when the diastole took place, nor when and where dilatation and contraction occurred by reason of the rapidity of the motion, which in many animals is accomplished in the twinkling of an eye, coming and going like a flash of lightning, so that the systole presented itself to me now from this point, now from that; the diastole the same, and then everything was reversed, the motions occurring, as it seemed, variously and confusedly together.
>
> At length, by using greater and daily diligence, having frequent recourse to vivisections and employing numerous observations, I thought I had attained to the truth that I should extricate myself and escape from this labyrinth, and that I had discovered what I had so much desired—both the motion and the use of the heart and arteries. Since which time I have not hesitated to expose my views upon these subjects, not only in private to my friends, but also in public in my anatomical lectures, after the manner of the Academy of old.

Then after many years of demonstrations in his Lumleian Lectures he published his well-known *Exercitatio de Motu Cordis et Sanguinis*, a work of 67 pages, marvellous for its conciseness, in which he proves for all time:

1. That it is the contraction, not the dilatation, of the heart which coincides with the pulse, and that the ventricles, as true muscular sacs, squeeze the blood which they contain into the aorta and pulmonary artery.
2. That the pulse is not produced by the arteries enlarging and so filling, but by the arteries being filled with blood and so enlarging.
3. That there are no pores in the septum of the heart, so that the whole blood in the right ventricle is sent to the lungs and round by the pulmonary veins to the left ventricle, and also that the whole blood in the left ventricle is again sent into the arteries round by the smaller veins into the venae cavae and by them to the right ventricle again, thus making a complete double "circulation."

4. That the blood in the arteries and that in the veins is the same blood.
5. That the action of the right and left sides of the heart, auricles, ventricles, and valves is the same, the mechanism in both being for reception and propulsion of liquid and not of air, since the blood on the left side, though mixed with air, is still blood.
6. That the blood sent through the arteries to the tissues is not all used, but that most of it runs through into the veins.
7. That there is no to-and-fro undulation in the veins, but a constant stream from the distant parts towards the heart.
8. That the dynamical starting point of the blood is the heart and not the liver.

One part of the circulation Harvey did not discover—namely, the capillaries. He had demonstrated the communication between the arteries and veins in three situations—the choroid plexus, the spermatic vessels, and the umbilical vessels, but, having no microscope, he had to leave the discovery of the capillaries to others, and four years after his death Malpighi, by the use of the newly invented microscope, showed in the lungs of a frog how the blood passes from one set of vessels to the other.

Thus was the wondrous cycle made complete, and the circulation of the blood, both lesser and greater, manifested to mankind.

Though Harvey's discovery was attacked and subjected to the severest criticism, he lived to see it firmly established in the annals of medicine, and to witness the conversion of the greater number of his opponents; but this is not to be wondered at when we consider the mass of evidence from observations and experiments on all classes of creation on which the discovery rests, the splendid and convincing logic of Harvey's arguments, and the modest and unpretending simplicity with which the discovery was put forward.

With your permission, Mr. President, let us now picture Harvey contemplating some of the scientific truths which have been revealed as the result of the great discovery.

Harvey himself sanctions such speculation, for in his second Disquisition to John Riolanus Junior he remarks:

> How speedily is pain relieved or removed by the detraction of blood, the application of cupping glasses, or the compression of the artery which leads to the part. It sometimes vanishes as if by magic.

He then refers us to his Medical Observations, where his views will be found at length exposed and explained, observations which were, alas! destroyed when his house was sacked by Cromwell's soldiers. He could then see local abstraction of blood and the use of the tourniquet set forth; but when our great master glanced over ages to come he would soon have come upon a harvest of new facts—physiological, clinical, pathological and therapeutical—which might all be traced to his grand discovery! What would he have thought of the phenomena of embolism of the arteries, which is the key to so many pathological conditions of the brain and other organs, or, again, of thrombosis and the inflammatory conditions of the walls of the veins and their effects on the circulation?

How delighted Harvey would have been with the discovery of mediate auscultation by Laënnec and the consequent provision of a ready method for ascertaining and of estimating the sounds and murmurs of the heart. With what interest would he not have followed the experiments carried on in this city by Hope, C. J. B. Williams, and Glendinning, which, to use the terms of the report, concluded

> that the first or systolic sound is essentially caused by the sudden and forcible tightening of the muscular fibres of the ventricle when they contract; and that the second sound, which accompanies the diastole of the ventricle, depends solely on the reaction of the arterial columns of blood on the semilunar valves of the arterial orifices.

Harvey would also have welcomed the graphic method introduced by Ludwig and his disciples and applied by Volkmann, Chauveau, and Marey to the registration of the pulse in the form of the cardiograph, sphygmograph, and to the measurement of the blood pressure; and probably, if he could have availed himself of such help, he would further have enriched our field by fresh discoveries of no small importance.

When we come to the practical uses of the knowledge of the circulation, what would Harvey not have thought of transfusion of blood, of the administration of anaesthetics, of hypodermic injections, etc., all which depend on this knowledge?

Transfusion of blood* is only used in extreme and exceptional cases, and then is a procedure fraught with some danger; but the administration of anaesthetics is one of the greatest boons that has ever been granted to humanity and animal suffering, and has, in Sir James Paget's words, more than any other discovery added to the sum of human happiness.

> Past all counting is the sum of happiness enjoyed by the millions who for the last years have escaped the pains which were inevitable in surgical operations, pains made more terrible by apprehension, more keen by close attention, sometimes awful in a swift agony, sometimes prolonged beyond the more patient endurance, and then renewed in memory or in terrible dreams.

What a delight to Harvey to feel that his discovery has been the foundation of such blessed improvement in medicine and surgery!

Intravenous injections of medicines, according to Sir Lauder Brunton, were first practised by Sir Christopher Wren, the famous architect of St. Paul's, who was a medical graduate of Oxford and a very successful experimenter, and, according to Bishop Spratt,[1] "by his injection divers creatures were immediately purged, vomited, intoxicated, killed or revived according to the quality of the liquor injected." Intravenous injection was certainly an outcome of Harvey's discovery, and the process has been perfected by successive experimenters and largely employed. But perhaps more important and certainly more useful has been hypodermic injection, the first instrument for which was devised by Dr. Alexander Wood, and which is so simple a procedure that it is employed not only by medical men and nurses, but too frequently by patients themselves, and often to their disadvantage!

Not only are drugs of various kinds administered in this way, but the different vaccines, tuberculin, and the like, and this method to which Harvey's discovery opened the door presents a vista of possibilities of which the master could hardly have dreamed.

Tuberculosis.

I will now proceed, according to your wishes, Mr. President, to give some account of the knowledge of tuberculosis which existed at the time of Harvey and, with your permission, will trace the steps by which that knowledge has been extended and increased in the centuries which separate us from Harvey. The tale is not altogether a pleasant one, but one moral, at any rate, can be drawn—namely, that no satisfactory progress can be made in the investigation of disease unless the Harveian system of searching out the secrets of Nature by way of experiment is employed.

King's Evil.

When I take up my parable concerning tuberculosis of various kinds, a smile of contentment would, I think, spread over Harvey's philosophic countenance as he realized the successive advances in knowledge; for in his time the principal treatment for *les scrofules dites écrouelles*—that is to say, cases of scrofula or king's evil—was the Royal touch, which was held to be of special virtue when the Sovereign had just been consecrated.

One of the first acts of Henry IV of France when he entered his new capital, Paris, was to administer his Royal touch to 600 scrofulous patients who flocked to him. According to Laurens, who published a book in 1609 on the subject, and also according to Professor Landouzy, to whom I am much indebted for information, the king's evil was regarded as a disease, both hereditary and contagious, for the suppurating sores were held capable of contaminating healthy people, and their healing was difficult. In 1645 a pious lady founded in the Isle of France a hospital dedicated to St. Marcoul, reserved for contagious scrofulous cases—*reserré au mal des écrouelles qui se communique*. The practice of the Royal touch began in France with Clovis and in England with Edward the Confessor, and continued to a late period—in France till Charles X (1824). In Spain the practice was in great vogue, and the Spaniards who were scrofulous would crowd to any city visited by their king, for "*le roy le touchant, Dieu les guérit.*"

* Transfusion of normal saline solution is practically free from danger, and has proved of the greatest value in saving life in cases of profuse haemorrhage.

According to Dr. Pettigrew:[2]

In no reign in the history of England did the practice prevail such an extent as it did in that of Charles II, and it is not ittle remarkable that more people died of scrofula, according the bills of mortality, during this period than in any other. was even recommended by the faculty, for at the instigation Sir John Floyer, a physician of eminence, Samuel Johnson s twice touched by Queen Anne, and, as Boswell remarked, vidently without success." Both William III and George I linea to touch for king's evil, the latter referring the child an English gentleman to the Pretender as possessing the editary power of the Stuarts. The English gentleman so. His son was touched and recovered, and the father s converted to the Stuart cause.[3]

I will say no more on the king's evil, as it has been subject of the FitzPatrick Lectures at the College s year, and has been ably and exhaustively treated by . Raymond Crawfurd, whose book I have read with ich interest.

Old Works on Consumption.

Harvey's writings do not contain many references to erculosis, though it is possible the lost Medical servations treated of the subject; but I have taken pains of going carefully through that remarkable ument, the *Praelectiones Anatomiae*, published by the lege, which, owing to the deciphering skill of Mr. Scott the British Museum and the liberality of the College, plies us with Harvey's Latin notes of his famous ures, interspersed with sundry English expressive otations. These contain much that is remarkable instructive, but I failed to find any reference to sumption or other forms of tuberculosis. The *elections* contain a good description of the anatomy he lungs and of the process of respiration, so that, ough we are acquainted with Harvey's views on y diseases, we do not know what doctrines he held uberculosis.

he first writer on this and other kindred subjects after vey's period was Dr. Christopher Bennett (Benedictus), ellow of this College, who published (in 1656) a little in Latin, entitled *Tabidorum Theatrum sive Pthisios phiae et Hecticae Xenodochium*, which gives an unt of several forms of tabes, or wasting, and devotes 30 pages to phthisis, basing the diagnosis of that se on the character of the sputum, its frequency, the of its being tinged with blood, the pains in the chest, the shortness of breath, and colliquative night sweats. wells on the weak, small, and frequent pulse, on the g off of hair, and the curving of the nails, and, above on the so-called "Hippocratic" countenance. "*Seu mortis imago, viz., facies lurida ac emortua, oculi dentes, nares acutae, genae depressiores, collapsa tem- corpusque totum strigosum sceleto finitimum.*" And mplete the horrors of the poor patient, he adds as a cteristic, "*omnium virtutum deficientia.*"

e descriptions are picturesque, though often obscure, he treatment proposed is bleeding, cough mixtures, nhalations, with hygienic and dietetic rules—some of utter excellent—but there is no mention of fresh air, , or exercise.

e next work on consumption of importance published is country was at the beginning of the eighteenth ry—to wit, Richard Morton's *Phthisiologia; or, ise of Consumption*. It was originally published in , afterwards translated into English, and ran through than one edition, being evidently widely read and ved in the eighteenth century. The author treated nsumptions"—not only of pulmonary consumption, many kinds of wasting disease, such as that arising discharging abscesses, from diabetes, from loss of and from excessive diarrhoea due to various causes he devoted his chief attention to pulmonary con- ion, of the acute forms of which disease he certainly n attentive observer, and had a considerable expe- . Some of his distinctions are shrewd, such as those n the different kinds of cough prevailing in con- ion and catarrh, and his remarks on the "pro- ks" are occasionally quite sound—as, for instance, y Consumption, though it be cured, is apt to return, that has once been in a Consumption, unless he s himself very regularly, falls back into the same ion, even upon the least Occasion. For not only the being already impaired by a former Attack from the Distemper, are the more apt to receive a new Impression, but there is likewise a greater Inclination and Disposition to this Distemper from the Habit of the Body itself in these than in other Persons. Yea, moreover, even after the most perfect Cure of a Consumption, there is reason to suspect that there are some crude Tubercles yet remaining, which at length may, by often meeting with an Occasion, be inflamed, and ripen into Apostemes (abscesses), and so at last become Ulcers."

What, however, can we say of his view of the etiology as thus set forth? "The cause of a Consumption of the Lungs in general is a vitiated Disposition of the Mass of Blood and of the Spirits in the Nerves, contracted gradually from several procatartick or predisposing Causes, in which the sharp or malignant Serum or Water of the Blood being separated by the soft and glandulous Substance of the Lungs, does stuff, inflame, and at length also exulcerate the Lungs themselves, which is the immediate Cause of this Distemper."

Morton maintained that the dry cough of consumption was caused by tubercles in the lobes of the lungs which cause a tickling in the upper part of the windpipe, and stated that the same dry cough may be caused by "chalky stones" generated in the substance of the lungs. He also observed the same symptoms arising "from 3 Nails, that slipt by Chance" (as the person was laughing) "through the Windpipe down into the Lungs and Continued for a whole Year, the sick Person being in other respects very well"! Morton was a believer in the doctrine of phthisis ab haemoptoë, and does not seem to attribute the haemoptysis to pre-existing tubercle. He also gives illustrations of phthisis by contagion, for which, according to him, the prognosis is very unfavourable. Morton's pathology is very obscure and somewhat indefinite, but when we come to treatment of his cases, most of which are acute, he begins by bleeding "to prevent the Hectick and colliquative Heat or Catarrhous State of the Blood," then in order to carry off the load of the dispirited and diseased humours lodged in the habit of the body with convenient medicines, he recommends vomits, purges, diuretics, and sweating medicines. Finally he administers woodlice, crab's eyes, the simple powder of crab's claws, red coral and white amber in the form of powders or julep to "temper the Sharpness of the Blood."

Poor consumptive, who might well exclaim with the Frenchman, "*Laissez-moi mourir, mais ne me tuez pas?*"

Sydenham,[4] the great physician of gout and fevers, dismisses phthisis in a few pages of his epistles. After a short and rather striking sketch of an advanced case, he describes a less acute case, and considers that the treatment "which would suffice would be to abstain from meat and wine for a few days and to take a balsam of sulphur and anise with sugar in the form of tablets and then a cough mixture of oil of sweet almonds, syrup of maidenhair, and syrup of violets: this to be taken off a stick of liquorice. If the cough do not yield to these remedies, or if it have arisen from peripneumony or pleurisy or is accompanied by fever, and this is generally the case, it is folly to trust to pectorals," the disease must be attacked by bleeding and purging; but if "notwithstanding the latter method, the cough not only continue, but do shake the lungs as to have paved the way for phthisis," he recommends balsam of Peru; but Sydenham concludes "that of all the remedies for phthisis, long and continued journeys on horseback bear the bell, in respect of which must be noted, that if the patient be past the prime of life, more exercise of the sort in question must be taken than if he was a youth or boy. Bark is no surer a cure for ague than riding for phthisis."

In Mr. Ancell's[5] *Treatise on Tuberculosis* (1852) will be found a list of the different theories which have prevailed in bygone ages to explain the occurrence of tuberculous diseases. These are fifty-four in number and extend from the time of Hippocrates to that of Dr. Hughes Bennett, and they are as diverse as they are numerous. They show the large amount of attention bestowed on the subject in all ages and, in many cases, testify to the lively imagination of their authors.

Most of these theories refer the cause of consumption to errors of digestion and errors in the formation of the lymph or chyle, or blood, or to defective respiration, or they assign an origin from inflammation, and as a rule mistake predisposing causes for the vera causa, which

though long suspected was never actually discovered till Robert Koch appeared on the scene.

Laënnec's benefit to this department of medicine was two-fold. He successfully applied his great discovery to the clinical phenomena of pulmonary consumption, and he also gave us the first good account of the morbid anatomy of tubercle, and insisted on what has been definitely proved since his time—namely, on the unity of the disease.

Matthew Baillie had in 1795, from observations on children, stated that tubercles were the essential cause of consumption, and demonstrated their seat in the cellular tissue, distinguishing them from lymphatic glands, but the first to properly describe miliary tubercle was Bayle, the friend and contemporary of Laënnec, and to this day the miliary tubercle found in the serous membranes is called in France "*granulations de Bayle.*"

Bayle, like Laënnec, denied an inflammatory origin to miliary tubercle, and held it to be a product "*sui generis.*"

Broussais,[6] on the other hand, considered that tubercle had an inflammatory origin, and that consumption depended on a chronic phlogosis, inflammation of the lungs, or catarrh, parenchymatous or bronchial, which, if prolonged by the cause that produces it, could impress the lymphatics of the lungs with a certain impulse, leading to the formation of tubercle or various deposits of tuberculous matter.

Anti-inflammatory Treatment of Consumption.

Any one studying the writings of Andral and Bayle will soon come to the conclusion that they, with Laënnec, had grasped the main truth of the nature of tubercle and its close association with consumption, proving that they were opposed to Broussais's opinion that tubercle originated from inflammation; but, unfortunately, whatever their pathology might be, they, in common with other pathologists of the time, founded all their treatment on an anti-inflammatory basis, and did not seem to have been able to contemplate any treatment for any serious disease without anti-inflammatory measures. Concerning blood-letting, Morton, Donar, Mead, Pringle, and Munro all recommended it for the early stages of consumption to subdue inflammation. Cheyne advised bleeding in haemoptysis, where it certainly has great effect, in order to reduce the inflammatory state of the lungs produced by the irritation of tubercle and to arrest the progress of the disease. Even Sir James Clark, who was a very cautious physician, counsels bleeding under certain restrictions, as the following extract will show. He was of opinion[7] "that keeping before us the condition of our patient, the nature of his constitution and the pathological condition of his lungs, and considering the utmost benefit which we can generally expect to derive from the practice is the removal or the diminution of congestion or inflammation complicated with, and often dependent on, the presence of tubercles—keeping all these circumstances in view, blood may be abstracted with advantage at any stage of consumption when the symptoms require it. After pulmonary congestion has been diminished by general bleeding, the abstraction of blood by cupping or leeches, where further depletion is necessary, has a very beneficial effect."

Most of the above authorities advised bleeding on the ground of reducing inflammatory conditions of the lungs, but some of the French physicians entertained other views of its possibilities. Laënnec's opinions on the subject are highly interesting, and are evidently more shrewd than those of his contemporaries. He says:

> The most rational indications for the treatment of phthisis are—
>
> First, to prevent the secondary eruption of tubercles, as in this case, if the primary tuberculous masses were not extremely large or numerous, which they very seldom are, a cure would necessarily take place after they, the masses, are softened and evacuated.
>
> Secondly, to promote the softening and evacuation or absorption of the existing crop of tubercles.

Laënnec remarks that bleeding and derivatives have been used to prevent the development of tubercle, the greater number of physicians, however, not considering these a means of curing or even of preventing phthisis, but only calculated to allay the inflammatory affections with which it is complicated; but he adds that Broussais maintained that by bleeding he stopped the inflammatory conditions and rendered the occurrence of phthisis rare.

Laënnec himself held that bleeding could neither pr vent the formation of tubercles nor cure them when forme He says: "It ought never to be employed in the treatme of consumption except to remove inflammation or acti determinations of blood, with which the disease may l complicated; beyond this its operation can only tend to useless loss of strength."

Laënnec doubted if any one of the remedies reported promote the softening of the tubercles really did so, but l thought the alkalis, including the carbonates of am on and soda, helped expectoration. He considered the be means of opposing the disease was by sea voyages or residence on the sea coast in a mild climate, and l attempted to establish an artificial marine atmosphere the Clinical Hospital in Paris, where he placed twelv consumptives in a ward the air of which was impregnate with fresh seaweed. He states that in all of these patien the disease remained stationary, and in some the emaci tion and fever were sensibly lessened, and that nine le believing themselves to be cured.

Louis seems to have been sceptical about the treatme of phthisis generally, and only believed in palliati measures.

Another method of treatment which was much in vogu at the beginning of the nineteenth century was by emetic as we know by the evidence of Morton, Parr, Bryan, Rei Marryatt, Young, and Sir James Clark himself, for th latter cites the cures of De Vettis at Naples by emetics tartarized antimony, and states the benefit derived fro this form of treatment is chiefly in threatened consumptio explaining that the repeated action of emetics may prever the deposition, or at least the retention, of tuberculou matter in the bronchial ramifications and air cells, an thus prevent the localization of the disease.

I have dealt rather fully on the treatment of consumptio at the time of Laënnec, Louis, James Clark, and other because I wish to show that the short duration of life i their case was clearly connected with the depressin measures then in vogue, and that the disease was not, has been urged, of an utterly different type to that whic prevails now, when the duration of life is much greate and this can be proved by a comparison of some of th clinical descriptions.

The best evidence on this point is that of Dr. C. J. B Williams,[8] a favourite pupil of Laënnec, who in 1871 gav the following facts:

> In the first ten years of my practice (1830–40) the beneficia effect of treatment was limited to incipient cases, and especiall to those who were able at an early stage to take long voyages such as those to Australia and to India.

He adds:

> My general recollection of the histories of the develope disease at that time is that of distressing tragedies, in whic no means used seemed to have any power to arrest the malady and life was rarely prolonged beyond the limit of two years assigned by Laënnec and Louis as the average duration of th life of a consumptive.
>
> In the next period of ten years (from 1840 to 1850) a marke improvement took place in the results of treatment, apparentl in connection with the allowance of a more liberal diet, an the habitual use of mild alterative tonics, as they might b termed, particularly iodide of potassium with sarsaparilla, other vegetable tonics. Several of the early cases recorde were treated in this way, and with improved results in respec of the general health of the patients and diminution of coug and expectoration.
>
> It was in the latter half of this period that chemists began t produce cod-liver oil of sufficient purity and freshness to be f for the human stomach; and I have no hesitation in stating m conviction that this agent has done more for the consumptiv than all the other means put together.

When I entered London practice in 1866 the toni treatment of consumption had commenced, and, accordin to the evidence of the first Brompton Report and Dr. Hughes Bennett, Dr. C J. B. Williams, and other cod-liver oil was at the head of all consumption treatmen and was in extensive use in hospital and private practic The prevalent idea of treatment was, at that time, part tonic, including a liberal dietary, and partly sedative subdue symptoms.

The climatic treatment was changing from the warm moist atmosphere of Madeira and the cold, moist one Pau to the dry, warm, and more bracing air of th Mediterranean shores. Sea voyages were still in vogu and a few patients wintered in Egypt, while the Englis winter resorts were also in fashion.

To live in an equable temperature, to sleep in a well-rmed room, and to winter in a more or less warm nate was the order of the day, and the era of an nitigated open air by day and night had hardly dawned. e Brompton Hospital experiment of sending patients to deira, and my statistics, drawn from my father's cases, nonstrated that Madeira was undesirable for nearly forms of consumption, as, in spite of most of these ients being especially selected as suitable, they lost petite and became languid, while the disease progressed idly and excavation proceeded.

That the introduction of cod-liver oil into the treatment consumption exercised a wonderful effect on the outlook he disease was well seen in the raised average of life ong Dr. Pollock's out-patients at Brompton, in contrast ormer estimates, and this seemed due to the oil alone, these patients enjoyed no other special advantages in way of food, exercise, climate, or sanitation, and my istics also showed that the patients who persevered in use of cod-liver oil at home did better than those who e sent to warm climates for the winter and did not severe in its use.

n the Medico-Chirurgical *Transactions* of 1870 were lished my statistics on the duration of life in 0 cases of pulmonary consumption among the upper middle classes. These patients were selected with limitation of having been under treatment for one r and upwards, thus excluding most of the acute cases, ch group was calculated to amount to 3 to 5 per cent. he whole number. Of the 1,000, 198 had died, and the rage duration of their life since the onset of the dis- was 7 years and 7 months; 802 were living, with ood expectation of further life in 72 per cent., and a ent duration of 8 years 2.19 months since the first ck. This was the result arrived at before the era of toriums, high altitude treatment, and vaccines.

Sanatorium Treatment.

ow let us consider sanatorium treatment. It is well vn that the open-air and sanatorium treatment was nated in 1840 by Bodington of Sutton Coldfield, supported by Henry MacCormac, but it had been tically ignored in this country until a much later and until after it had been adopted by Brehmer örbersdorf fifteen years after Bodington's time, and on by Dettweiler of Falkenstein.

is curious to see in Bodington's original essay on the eatment and Cure of Pulmonary Consumption on ciples Natural, Rational, and Successful," how com- ly its author grasps the principles of open-air treat- when he says: "The only gas fit for the lungs is oure atmosphere freely administered; its privation is most constant and frequent cause of the progress of lisease. To live in and breathe freely the open air out being deterred by wind or weather is the one and tial remedy in averting its progress." Bodington, as ate Dr. Bulstrode,[9] whose admirable Milroy Lectures College had the privilege of listening to some years points out, had a clear insight into the requirements e consumptive working man, for he says: "Provision d be made for the employment of the convalescent cured patients, who, if possible, should not return to former occupation" (presumably an unhealthy one), should be employed as agricultural labourers or nevs."

lington furnished a suitable house for the reception ients, engaged a medical superintendent to give them ost hourly watchfulness," and made all necessary gements, but he was before his age. His views were led and his sanatorium soon emptied of patients and rted into a lunatic asylum!

lived long enough to see the establishment and l of sanatoriums, at least in Germany, where it had vhispered that the need for fresh air was the sorest, e prophesied that when he was dead and buried s the medical profession would be more disposed him some justice than when he lived.

as a kind of posthumous justice to Bodington's ry the City of Birmingham has erected the first ipal sanatorium for consumption in England a iles from the pioneer's original institution, and ngham is now proud of her once neglected son. German soil the sanatorium idea, after weathering opposition, slowly developed, the first example being Brehmer's at Görbersdorf in Silesia, in which methodical hill climbing up graduated ascents was specially enjoined with the object of furthering the development of the heart —a small heart, according to Brehmer, being one of the greatest predisposing causes of phthisis. This sanatorium grew and prospered, and at present there are no fewer than four at Görbersdorf.

Dettweiler, a patient and afterwards an assistant of Brehmer, established at Falkenstein in the Taunus mountains a sanatorium, where for Brehmer's graduated "ascents" he substituted the *Liegehalle* system, in which patients lie for several hours together in open shelters, and this system continues in general use in German sanatoriums.[10] Dettweiler fed his patients largely, proclaiming the kitchen to be the true pharmacy of the sanatorium, and he established a high ideal for the medical superintendent of such an institution, for he contends that it must be "all in all to him, his Religion, his Politics, his Despair, and his Delight." Dettweiler held for a long time a foremost position as the head of Falkenstein, which was a leading German sanatorium.

Dr. Walther of Nordrach strongly opposed the *Liegehalle*, which he nicknamed "quarrelling halls," I presume in consequence of what he observed among the occupants; and he advocated instead a species of solitary confinement during the rest hours, but enjoined outdoor walks in all weathers with a stuffing dietary, and his example has been followed in several of the British sanatoriums.

Many of these institutions were established in North and South Germany, some for the poor from charitable funds, some for the well-to-do classes as private speculations, and some to supply the requirements of the German Insurance Society, the present result being a total of 137 with 16,548 beds for the working classes alone.

Whatever difference of opinion may exist as to the need for sanatoriums in this country, there is in Germany no doubt about their success, not only for the insured and for workers, but for all classes of society.

Dettweiler was, I believe, the first to start a sanatorium for the poor at Ruppertshain in the Taunus, and was followed by von Leyden, B. Fraenkel, Pannwitz, and others, who organized Belzig, while Bielefeldt and Gebhart stimulated the insurance companies to erect sanatoriums for their consumptive members, of which at present there exist 38, with 3,169 beds for men and 1,314 for women.

The records of these sanatoriums, kept for a number of years, and classified for the Imperial Health Office by Drs. Hamel and Engelmann, show decidedly favourable results, both as regards general and local conditions; but, as the German authorities in their statistics make the capacity for work the standard of improvement rather than tabulating cases as arrested or cured, comparison with most of the English statistics is difficult.

According to these German tables, 44 per cent. male and 51 per cent. female consumptives were capable of work four or five years after leaving the sanatorium. The statistics of the Hanseatic Towns Sanatoriums, where the proportion of early cases was apparently greater, give 47 per cent. of male and 57 per cent. of female, and the Prussian and Hessian Railway employee sanatoriums yield still better results, for they show 59.6 per cent. of patients at work five years after leaving the sanatorium. Naturally, the results of sanatorium treatment greatly depend on the amount of disease present when the patient is admitted and the length of the consumptive history.

The statistics of the German sanatoriums are instructive and important, as they are based on thousands of cases of the working classes; but as they treat of the subject only from the point of view of capability for work and wage earning they are incomplete. When a comparison was once attempted between these and my statistics, which are fairly complete, I was asked what proportion of my cases returned to work, and I had to explain that they belonged to a different class, and few did manual work as wage earners, so that a comparison was not possible; but what is really wanted is a whole life comparison to see how long these patients lived. As Sir R. Douglas Powell and Dr. Hartley emphasize in their recent work,[11] every effort should be made to persuade those suffering from phthisis to apply for treatment in the early stage, and it will be noted that the result of treatment depends largely on the proportion of early cases, though we must not

accept the popular statement that all cases of phthisis, if taken early, are curable. The dictum may be said to be true if applied to the ordinary types of chronic phthisis, but we must except acute cases, which all pass through an early stage to a fatal issue.

Acute miliary tuberculosis, for instance, sometimes primary, sometimes secondary, often presents the signs and symptoms of an early case of consumption, but speedily develops and destroys the patient in a few weeks. Acute pneumonic phthisis, or galloping consumption, is another hopeless form, when the patient's power of resistance is feeble and the dose of bacillary poison overwhelming. In the early stages the symptoms are often obscure and mask the true nature of the disease, which declares itself gradually; the lungs become consolidated with tubercle and rapidly break down into suppurating cavities, whole lungs being destroyed, and the victim perishing in a few weeks or months. It is true that in some of these cases the disintegrating process comes to a standstill and fibrosis sets in, the patient living on with a greatly diminished lung surface, though the disease is incapable of cure.

Fortunately acute tuberculosis and acute phthisis (galloping consumption) form only a very small percentage of the cases of consumption.

Though the open-air treatment has spread everywhere in Great Britain, the number of public and private sanatorium beds is comparatively smaller than in Germany, and, exclusive of Poor Law infirmaries, cannot exceed 3,000, whereas Germany counts tens of thousands. This is chiefly due to the enormous increase of these institutions under the German Workmen's Insurance Act.

We have some very good specimens in this country, as, for instance, the King Edward VII Sanatorium, founded by His late Majesty, an ideal establishment beautifully situated, and Frimley, the Brompton Hospital Sanatorium, well adapted for the working classes, to mention two among many others in the United Kingdom. These institutions are doing untold good, both in the way of treatment and instruction, and recent complaints against sanatoriums seem exaggerated and unreasonable, though they may partly be accounted for by the nature of the cases admitted, which are generally too advanced and fitter for consumption hospitals, and many more such hospitals are needed in this country.

A comparison has recently been made by Messrs. Elderton and Perry, under the auspices of Professor Karl Pearson, F.R.S., between the results from sanatorium treatment and those obtained in pre-sanatorium days by Dr. Pollock and myself. As far as I am concerned, I highly appreciate the care and attention which have been bestowed on my laborious figures, and I am pleased to note that Messrs. Elderton and Perry's conclusions agree so well with my facts; but I do not consider that sanatoriums have been long enough established in this country to furnish the information required for reliable statistics, and I hold that a fair and useful comparison is not yet possible. I would deprecate also comparison of American sanatoriums, such as the Adirondacks, with records of private patients in Great Britain, necessarily under different conditions.

I propose later to offer an opinion as to the needs of this country with regard to sanatoriums, hospitals, dispensaries, and labour colonies; but for the present will only say that the successes achieved at some of the working-class sanatoriums and the results of certain private sanatoriums justify a steady continuance of work which is first curative and secondly educational.

We note how the patient with a limited tuberculous pulmonary lesion is removed to the thoroughly hygienic surroundings of a sanatorium and is compelled to live a healthy life, his food, his room, his exercise, his rests being all placed under minute direction.

Here he slowly but gradually recovers, losing his symptoms, regaining his strength, until he is able to return home, where he presents himself not only fit to do work but to act as an apostle of fresh air and wholesome living.

The introduction of a system of graduated labour into the treatment of consumption as a substitute for walking exercise has been an important addition, and forms a prominent feature at Frimley, the Royal Victoria Hospital, Edinburgh, Maltings Farm Sanatorium, and at the King Edward VII Sanatorium.

Dr. Paterson,[12] who has introduced the system so successfully at Frimley, lays down as a condition of any work being undertaken that the patient's temperature shall not reach 99° F. in case of males, or 99.6° F. in cases of females, and that if there be any rise of temperature after even the lowest grade of work, the patient should be placed in a state of complete immobilization until the register returns to the normal. It is found that, after a few days, the same grade is accomplished without rise of temperature, and in a week's time a higher grade is attempted with success, until, by degrees, the highest is reached and the patient is able to perform several hours of pickaxe, shovel, or wheelbarrow work, without any unfavourable symptoms.

There are six grades of work besides walking, commencing with carrying small baskets of earth a certain distance and ending with pickaxe work, shovelling, hauling stones, and general heavy navvy work; while for the women patients the grades of exercise and work are similar, but the baskets and shovels are of smaller size and they are not allowed to work as hard as the men.

Dr. Paterson holds that in these working consumptives there occurs "an artificial inducement of auto-inoculations adjusted to the resisting power of the protective substances, and that it is possible to control the auto-inoculation by complete immobilization." According to Sir Almroth Wright,[13]

> it is by the agency of these auto-inoculations that the protective mechanism of the blood is set in motion, so that whenever bacterial products escape from localized foci and pass into the circulation, intoxication phenomena and immunizing responses must necessarily supervene.

Thus, after inoculation from a tuberculous focus, a large production of protective substance is calculated to take place.

Whatever the theory may be to account for the change, it is most interesting to see patients become gradually accustomed to labour without any rise of temperature; and while the system does wonders for the bodies, and especially for the muscles of our patients, it also has a most beneficial effect on their minds. Depression and gloom give way to cheerfulness and hope. The discovery that they can do honest work without suffering, and that day by day their working powers increase, has a most encouraging effect on their spirits, which rise proportionately with their returning strength.

Probably one reason why sanatorium treatment was not more quickly taken up in this country was that, at the time, the attention of the medical profession was much occupied in considering the high altitude treatment of consumption, introduced to special notice by Sir Hermann Weber in his well-known paper read before the Royal Medical and Chirurgical Society on May 11th, 1869, which set us about investigating these climates and their effects.

In the following summer I visited Davos, and, through the kindness of the late Dr. Spengler and Dr. Unger, I examined a number of German patients who had passed some months at an altitude of 5,000 ft. At the time there were no English, though some had been there during the winter.

What I saw of the patients and of the climate induced me to give a full trial to the high altitude treatment for consumption, and I have watched its effects on over 400 of my patients, sending them not only to the mountain resorts of Switzerland, such as Davos and St. Moritz, but also to North and South America and South Africa, and the statistics of most of these cases have been published in my Lumleian Lectures delivered before this college on aëro-therapeutics. They confirm the results of Archibald Smith, Jourdannet, Guilbert, Lombard, and of Hermann Weber as regards mountain climates, of which the characteristic features are:

1. Diminished barometric pressure and consequent rarefaction of the atmosphere.
2. Diathermancy of the air, or the increased facility by which the sun's rays are transmitted.
3. Asepticity or freedom from pathogenic germs, as proved by the researches of Pasteur and others.

The effect of mountain air on the organs and functions of healthy and of sick persons has been ascertained by repeated careful observations to be as follows: The skin is tanned by the solar rays, and, according to Dr. Bowles

ncipally by the ultra-violet rays, in the attenuated iosphere.

he circulation is at first quickened, the heart's impulse omes more powerful, but the pulse-rate at the end of or eight weeks falls to normal, or even below normal. respiration is at first quickened, but after a similar rval it gradually slows, and is reduced to normal, or w normal. The breathing becomes deeper, the inspira- longer, and the expiration more complete, and thus is lained the slowing of the respiration. There is reduc- in the blood pressure and in the amount of urea eted by the kidneys, but more carbonic acid and water eliminated by the lings. When acclimatization is plete, the urea appears in full quantity in the urine the blood pressure again increases.

companying and exactly coinciding with the reduc- in the pulse and respiration the thorax expands in ral directions, causing an increase in circumference rious levels of from 1 to 3 in. and even more, also an uentation of the spirometric record and increased ility of the chest walls.

ie effect of mountain climates on selected cases of nic tuberculosis is remarkable. Cough and expectora- vanish. There is considerable gain of weight, the ral appearance is greatly changed for the better, and difficult to recognize in the bronzed and vigorous iduals the pallid invalids of a few months before. ular power is largely increased, and many of the nts walk 10, 15, or even 30 miles a day, and climb tains.

e local improvement is more striking. Tubercle i are generally banished from the sputum. Respira- at first increased in rate by the elevation, becomes r and easier. The physical signs show, in cases of lidation, resonance over both lungs, the disappear- of all signs of dullness, bronchophony, and crepita- and the substitution of harsh breathing like the ensatory breath sound heard over the unaffected n pleuritic effusion.

many of these early cases of consolidation the dis- rance of the physical signs is so complete that the ian has to refer to his notes to discover which lung riginally attacked.

softening and excavation cases the improvement takes rm of disappearance of moist râles and often of ous sounds, and hyper-resonance becomes evident to the large development of emphysema around the s.

ll my statistics of consumptive patients the high e cases yielded the most favourable results, and, s most important, the fewest relapses.

climate of high altitudes does most for the tuber- consolidation patients, for a large proportion of become cases of arrest. Those with limited cavities derive the same amount of advantage as patients nly consolidations, though they also are much ed.

glad to find that my favourable experience of the titudes is confirmed by the statistics of the Basel- Sanatorium at Davos (5,200 ft.). Comparison with man sanatoriums before alluded to, the proportion of cases being much the same in both institutions, that the percentage of patients able to work 5 years eir discharge is to the advantage of the Swiss, the apables being almost double those from the German iums.

st now say a word on the treatment of consump- anti-tuberculous serum and vaccines.

Anti-tuberculous Serum.

attempts have been made to produce an anti- lous serum by inoculating with tuberculin animals to be immune from tubercle, and then using the of that immune animal for hypodermic injection sumptive patients. This was done in France by and Hericourt, by Bouchard, Daremberg and n, and by Marmorek; in Italy by Maragliano; and nited States by Trudeau and Baldwin, Sternberg, ers; also by Dr. Horrocks and myself at the n Hospital under the auspices of the Lister ; but though we all succeeded in obtaining a erum and scored a certain amount of success, this was never sufficient to warrant perseverance on a large scale on my part.

Tuberculin.

Vaccines, in the form of tuberculin, were started by Koch himself, as we know, in 1890, and the first form, known as the Old Tuberculin, had an extensive trial in most countries.

This Old Tuberculin was pronounced to be a failure by the majority of observers, and, according to the Brompton Hospital report on the cases treated in the wards, the tuberculin caused breaking down of the tuberculous masses in the lungs and the formation of cavities, and even sometimes led to the extension of the disease; but it was noted later on that this appeared to be often followed by contractile changes due to increase of fibrosis. I was one of those who drew up this report, and I visited Professor Koch at Berlin to obtain his instructions as to the carrying out of the tuberculin treatment, so that the experiments should be fairly tried. My colleagues and I tested it both in hospital and in private practice, and came to the conclusion that it did more harm than good, and this was the general verdict, confirming that of Koch's own colleagues, Virchow, Gerhardt, von Leyden, Senator, and Ewald.

But it has since been suggested that Koch used too large a dose of tuberculin, producing a powerful reaction, which is better avoided, and that a smaller dosage is desirable. There are now several doses of tuberculins, two of which, T.R. and B.E., have different effects from the Old Tuberculin of Koch, and these are generally employed in greatly reduced quantities.

My colleague, Dr. Hector Mackenzie, who has a large experience on the subject, reports:

> Whether one uses Old Tuberculin, T.R., or B.E. for treatment, the initial dose is about the same, .00001 c.cm. This is given at intervals of two to eight days. If a local or general reaction occurs the interval should be increased and the dose diminished. The dose is gradually increased, avoiding reaction until, after some months, doses of .1 c.cm. up to 1 c.cm. can be given without local or general reaction.

Bovine tuberculin is also used for cases of human tuberculosis.

There is still much conflicting evidence, and medical men are by no means unanimous as to the advantage of tuberculin treatment; yet the testimony of Trudeau, Bandelier, Moller, and Ritter indicate that carefully selected tuberculous patients treated in a sanatorium with tuberculin make better progress than similar cases treated in sanatoriums without tuberculin.

It may be that tuberculin, which we know to possess a wonderful faculty for penetrating tuberculous tissues, has also the power of exciting the antibodies in the neighbourhood, such as the opsonins and other protective substances, and of stimulating their production, so that a system of defence is thereby organized. The fact that tubercle bacilli disappear earlier from the sputum during this treatment is very remarkable, and everything points to the necessity of further investigation in the matter, but such investigation ought to be carried on in a hospital or sanatorium rather than at a tuberculin dispensary, where there is no means of observing the effect of the tuberculin on the patient's system, or of controlling the inoculations and their results.

The Crusade against Consumption.

To sum up. What are the prospects of the crusade against tuberculosis in this country, and how can we further them? We must bear in mind the blessed agencies of prevention which, when set in motion, go on pursuing their beneficent course independently of fashion and caprice. Such are improved drainage, more cubic space and less overcrowding, better food and more of it, more air and sunlight, cleanliness of house and person, and greater opportunities for play and exercise. It is probable that a large proportion of the two-thirds reduction in our phthisis mortality during the last fifty years is due to such agencies, and as the standard of public opinion is raised these ought to be more widely spread and to act more powerfully.

What a splendid effect a good town planning scheme ought to exercise on the public health!

Then comes the education of all classes, including the children, by tuberculosis exhibitions and by popular lectures and tracts, which now permeate and enlighten

the country, showing the people how they can help themselves.

We may count on these hygienic, sanitary, and educational agencies to contribute effectively to the prevention of tuberculosis and to the further reduction of the phthisis death-rate.

And what is our means for dealing with the consumptive patient?

The great difficulty, especially among the poor, is to detect and separate for treatment early cases of tuberculous disease; and here undoubtedly the dispensary system introduced by Dr. Philip is of the greatest use, as home visitation of the consumptives and connecting them with philanthropic and other agencies is thus secured. Out-patient departments of consumption hospitals ought, if well organized, to fulfil the same functions, and it is possible in this way to classify the patients according to their requirements.

For when we come to the consumptive patients themselves we most of us find that few are fit for admission into a sanatorium, and many require the care, treatment, and nursing of a hospital. The working classes, and especially those who have families to support, do not leave off work until compelled to do so from sheer inability, or unless they have been early alarmed at the danger of persistence in their occupation. Consequently medical men, when called in, find they have to deal with cases of more or less active disease, involving a considerable amount of lung surface and often in advanced stages.

The consumption hospital is the proper place for such patients, where they can be treated with all the approved methods of modern medicine, and where they may in time improve sufficiently to be able to benefit by the sanatorium, or where, if they deteriorate and sink, their last days can be passed in comfort.

Another great advantage of the consumption hospital is that it isolates from the rest of the population those advanced and acute cases which are the most likely to become centres of infection.

England was the first country and London the first city to recognize the need for consumption hospitals, and our metropolis had established four special hospitals before other cities had done anything in the matter.

The sanatorium is intended to receive consumptives in early stages, with limited lesions, free from pyrexia, and able to take exercise. If such patients are submitted to the complete system of sanatorial treatment for at least six months, though often a longer period may be necessary, they frequently leave the institution with disease arrested or greatly reduced, and are able to undertake work again. Where, as at Frimley, the mass of the patients undergo during their stay training in various grades of labour, they generally return to their former occupation, if a healthy one, or change it, if unhealthy, for one more suitable.

Change of occupation is, however, one of the difficulties for the consumptive, for if he returns to an unhealthy calling he may have a relapse, and if he undertakes new and healthy work his earnings will probably be at first too small for his support. In the middle classes, which fill the King Edward VII Sanatorium, the problem of providing healthy occupation has been largely overcome, and we get excellent reports from old patients who still carry out essential parts of their sanatorium régime in their different callings.

Besides home institutions we have now in the Queen Alexandra Sanatorium at Davos a high-altitude sanatorium, where with sanatorium life the great advantage of mountain climate is combined.

I am convinced that any comprehensive scheme for dealing with consumption in this country should include the establishment of a large number of consumption hospitals scattered over the country in close connexion with dispensaries and sanatoriums, and as a further link in the chain some form of labour colonies and exchanges should be available.

The task of further reducing and abolishing tuberculosis is not a hopeless one, but it does not lie wholly with the doctors. It lies also with those who have it in their power to remove or lessen the principal causes of tuberculosis—namely, the overcrowding of our cities, the want of open spaces and ventilation, the insanitary houses, the lack of a good supply of water and pure milk. If all these defe were remedied the number of phthisis cases would comparatively small.

The Government and the local authorities could insi too, on the removal of advanced cases of consumpt to a hospital or infirmary, and thus do away w one chief source of infection, and we should s see a rapid fall in the number of contact cases and the mortality tables.

Benefactions to the College.

And now at the close of my oration I must not forget mention the benefactors to the College during the p year.

On October 27th, 1910, the Medical Committee of G Hospital, through Dr. Herbert French, presented to College an excellent portrait of a former President a present Senior Fellow, Sir Samuel Wilks.

Among the books presented were seven valuable M and two printed books, bequeathed to the College by late Harveian librarian, Dr. Payne. Dr. Crawfurd ga Prayer Books of Queen Anne and of George I, contain the Service for the Healing, two pamphlets on the Kin Evil, and a silver touch piece of James II, and other and valuable books were presented by Dr. Ormer Dr. William Ogle, Sir Dyce Duckworth, Sir William Osl and the present Harveian librarian.

Sir George Sutherland Mackenzie, K.C.M.G., C. bequeathed, contingent on a life interest of his t brothers, a legacy of £30,000, free of duty, to the Ro College of Physicians and the Royal College of Surgeo for enabling them to assist students in scientific medi research.

I take this opportunity of recording my obligations the Harveian librarian, Dr. Norman Moore, and to Registrar for kind help in preparing this oration.

I would conclude by exhorting the Fellows and Memb of this College to continue in that mutual love and affect which Harvey enjoins, and I would offer my sinc thanks to you, Mr. President, for the great honour y have conferred on me in appointing me Harve Orator, and to the Fellows and Members for giv me so attentive a hearing.

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A QUARTERLY court of the directors of the Society Relief of Widows and Orphans of Medical Men was he on Wednesday, October 11th, Dr. Ryden, Vice-Preside in the chair. Fourteen members were present. T Chairman referred to the great loss the soci had sustained by the death of its president, George Fielding Blandford, who was elected a member 1869, and who had always taken the keenest interest its work. A vote of condolence was passed to Dr. Bla ford's widow and family. The chairman then moved vote of congratulation to Sir Thomas B. Crosby, one the vice-presidents of the society, on his being select to hold the high office of Lord Mayor of London; t was carried. Four gentlemen were elected members the society. The acting treasurer reported that funds of the society would allow of some increase of grants being made, and brought forward two alternati schemes. It was eventually resolved that in future yearly grants to orphans be £25 instead of £15. T sum of £515 was voted as a Christmas present to annuitants of the charity, each widow to receive £ each orphan £3, and each orphan on the Copeland Fu £5. Relief is only granted to the widows and orpha of deceased members. Any registered medical prac tioner who at the time of his election is residing wit a twenty-mile radius from Charing Cross is eligible membership. Full particulars may be obtained from Secretary, at the offices of the society, 11, Chan Street, Cavendish Square, W.

The Schorstein Lectures

ON

AURICULAR FIBRILLATION.

Delivered at the London Hospital,
October, 1911,

BY

JAMES MACKENZIE, M.D., LL.D.,

ECTURER ON CARDIAC RESEARCH, LONDON HOSPITAL; PHYSICIAN TO THE MOUNT VERNON HOSPITAL, ETC.

LECTURE II.

this lecture I propose to deal with the subject of ricular fibrillation from the point of view of the ictical physician, discussing the manner by which it y be recognized, its prognostic significance, and its atment. Before dealing with the more common methods clinical examination I shall refer shortly to the main tures which are detected by graphic and electro-diographic records.

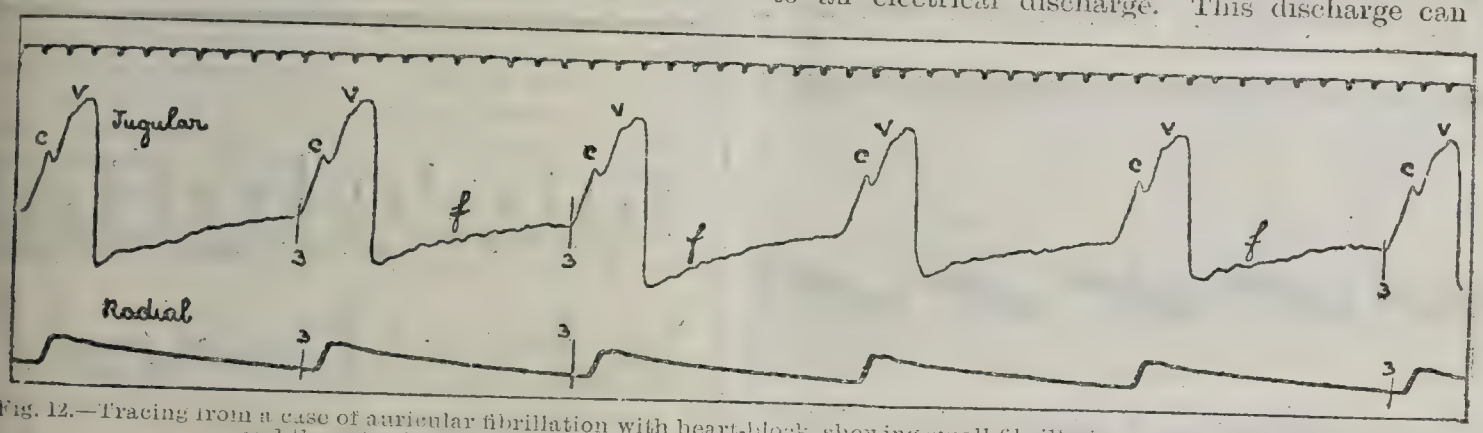

Fig. 12.—Tracing from a case of auricular fibrillation with heart-block, showing small fibrillation waves. The rhythm is regular and the rate about 30 per minute, and the jugular pulse is of the ventricular form.

The Evidence from Graphic Records.

have already dwelt upon the important part that phic records have played in throwing light upon cular fibrillation, and I have pointed out that all

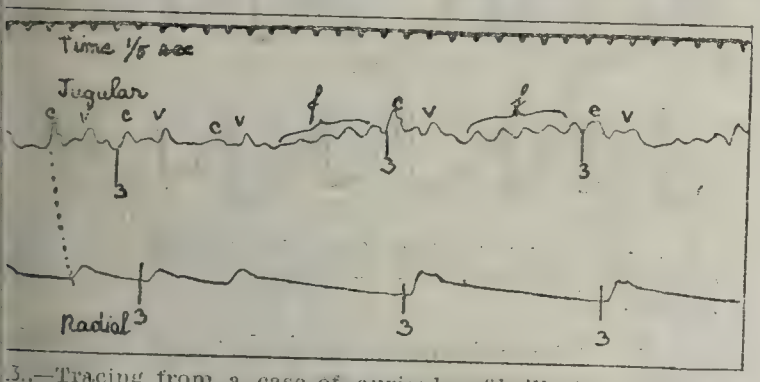

.3.—Tracing from a case of auricular fibrillation, showing coarse fibrillary waves (*f*).

of an auricular wave disappear from the apex beat the jugular and liver pulses, and that these pulses ge at the onset of auricular fibrillation from the ular form to the ventricular. It may be taken as

the fibrillating auricle. They are not present in every case, nor always perceptible in those cases that show them. When present, they are most evident during those long pauses of the ventricle which are so frequent in auricular fibrillation. These fibrillation waves are of a variable size, sometimes very minute, as in Fig. 12, and sometimes very coarse, as in Fig. 13. In Fig. 15 they will be found to vary in size and duration at different times.

I have already dwelt on the difference between tracings taken before and after the onset of fibrillation, and Figs. 14 and 15 show this difference in a case recently under observation. This patient had repeated attacks of paroxysmal tachycardia, due to auricular fibrillation. The last attack did not pass off. Fig. 14 was taken in February, 1911, and Fig. 15 in June, after the auricular fibrillation had persisted for two months. It will be observed that in Fig. 14 the rhythm is perfectly regular, and preceding the wave *c* there is an auricular wave, as in all normal acting hearts.

The Evidence from the Electrocardiogram.

The contraction of each chamber of the heart gives rise to an electrical discharge. This discharge can be conducted from the body to a string placed between the two poles of a magnet. The electric currents produced by the contraction of the auricle or ventricle cause deflections of this string. By a suitable arrangement the movements of

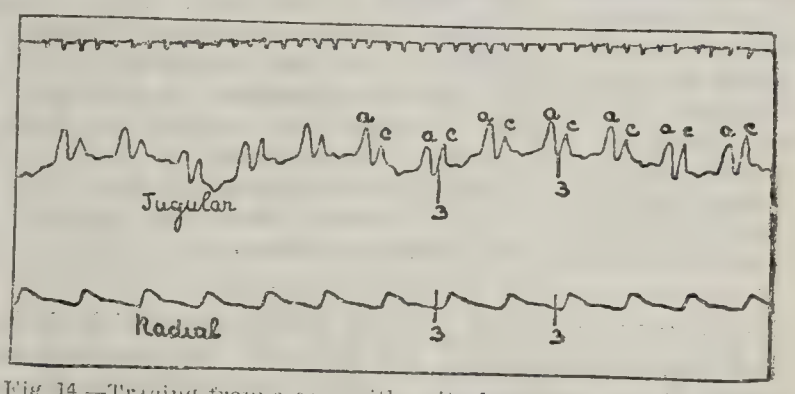

Fig. 14.—Tracing from a case with mitral stenosis, with a normal rhythm. (Compare with Fig. 15.) (February, 1911.)

the string are projected on to and recorded by a moving photographic plate. The records thus obtained show variations of a very definite and characteristic kind, which can be recognized as due to the contractions of the

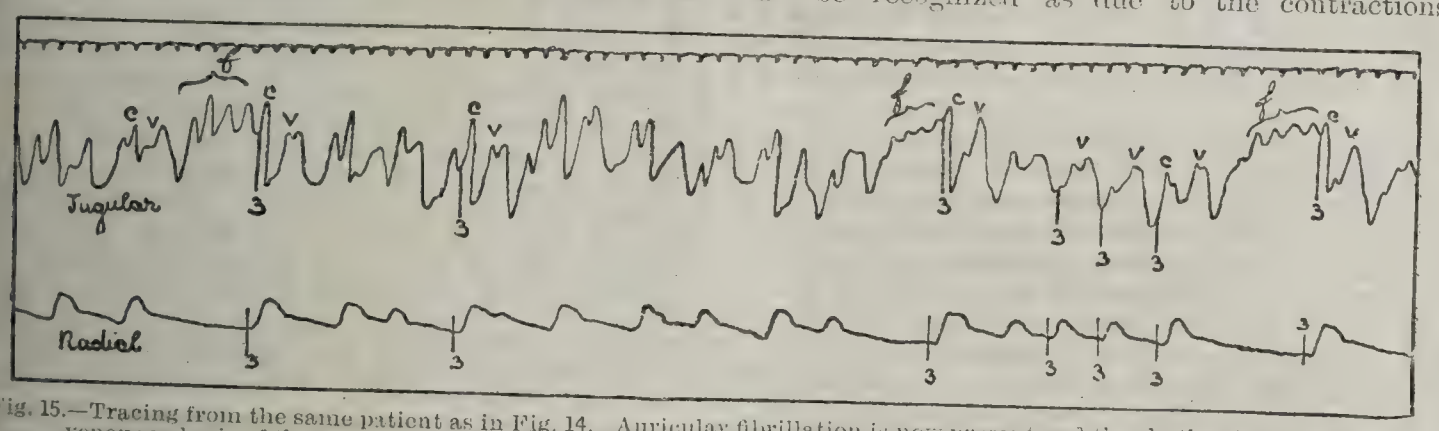

Fig. 15.—Tracing from the same patient as in Fig. 14. Auricular fibrillation is now present and the rhythm is irregular. The venous pulse is of the ventricular form, and there are fibrillation waves (*f*) during the long pauses. (June, 1911.)

ished that when we get a continuously irregular with the ventricular form of venous pulse we have of the presence of auricular fibrillation.

re is an additional feature, which is also of value in nizing the presence of auricular fibrillation, and that presence of the small waves caused in some way by chambers of the heart. In the normal acting heart there is a peak (P) which is due to the auricle. This is followed by a series of movements, but we need only concern ourselves here with the elevations R and T, which are characteristic features produced by the ventricular contraction (Fig. 16).

While the normal electrocardiogram shows features similar to those in Fig. 16, a great number of differences can be obtained, each due to some abnormal action of the

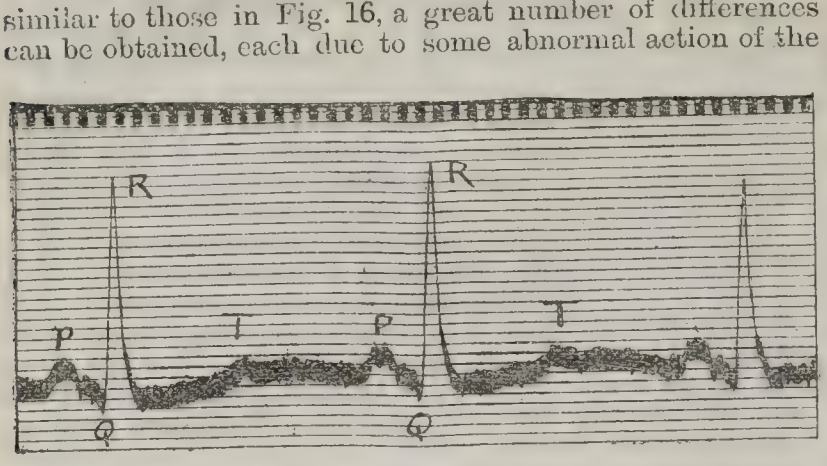

Fig. 16.—Electrocardiogram of a heart with the normal rhythm. The elevation P is due to the auricle, and the summits R and T are due to the ventricular systole (Lewis).

heart. So far as the electrocardiogram of auricular fibrillation is concerned the records show some very characteristic signs, the chief being a total disappearance of the peak, P, due to the auricle (Fig. 17). The variations R and T, due to

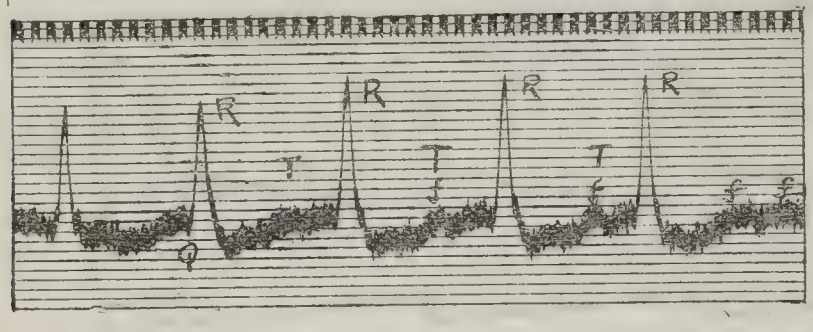

Fig. 17.—Electrocardiogram from the same patient as Fig. 16, taken during an attack of auricular fibrillation. The elevation P is absent and there are small waves (*f f*) due to the fibrillation of the auricle (Lewis).

the ventricle, maintain their characteristic form. Between the ventricular beats the records may show a series of small movements, which we now recognize as being due to the fibrillating muscle of the auricular wall. This absence of the auricular movements and the presence of the movements during ventricular diastole are the means by which auricular fibrillation can be recognized in the electrocardiographic record. Further, there is also the characteristic disorderly rhythm. Figs. 16 and 17 were taken from the same individual—Fig. 16 when the rhythm was normal, and Fig. 17 when there was present a transient attack of auricular fibrillation.

Clinical Characteristics.

The Patient's History.—The conditions which induce auricular fibrillation vary, but there are two classes among whom it is very frequent—namely, patients with a heart affection following upon rheumatic fever (frequently associated with mitral stenosis), and elderly patients with fibrous degenative changes, usually spoken of as "senile." It is customary in rheumatic hearts to take into account only the valvular changes, while as a matter of fact the really serious element is the slow, insidious change in the muscle that has started during the attack of rheumatic fever, and which finally provokes fibrillation of the auricle.

The Patient's Sensations.—Many people become conscious of the heart's action when it departs from its normal rhythm. Thus, extrasystoles are sometimes recognized by the individual's consciousness of the long pause or of the big beat which follows the pause. The patients liable to paroxysmal tachycardia are conscious of the attack by the feeling of a gentle fluttering sensation in the chest. When the attacks of tachycardia are due to auricular fibrillation this fluttering is also present, but usually it is not a continuous fluttering sensation but is interrupted by thumping sensations, due to the occasional occurrence of bigger beats. This consciousness of the heart's action is frequent in cases of auricular fibrillation, the patients being conscious of the fluttering and thumping action of the heart. In many cases where the heart does its work efficiently these sensations are not perceived unless the heart is submitted to over-exertion, or when it begins to fail.

Character of the Pulse.—The symptom by which th clinical observer can most readily recognize this conditio is by the character of the pulse, the rhythm usually bein irregular, and the irregularity of a very disorderly kin Irregularities, apart from those due to auricular fibrillatio usually have a distinctive character, as the irregularity the heart of the young, where variations in rate coincid with phases of respiration, as the intermittent pulse, the irregular heart due to extrasystoles, the irregularit breaking in on an otherwise regular rhythm, unless occurs alternating with a normal pulse beat. In auricul fibrillation, as a rule, the pauses between the beats a continuously changing, and two succeeding beats a rarely of the same strength, or the pauses between th beats of the same duration. The character of the irreg larities will be better recognized from the radial tracin in Fig. 18. These tracings were taken from five patient and it will be found that the duration of the beats always varying and that the rhythm is quite disorderly.

Changes in the Heart's Murmurs.

I have already dealt with the evidences of auricul activity obtained by graphic and electrocardiograph

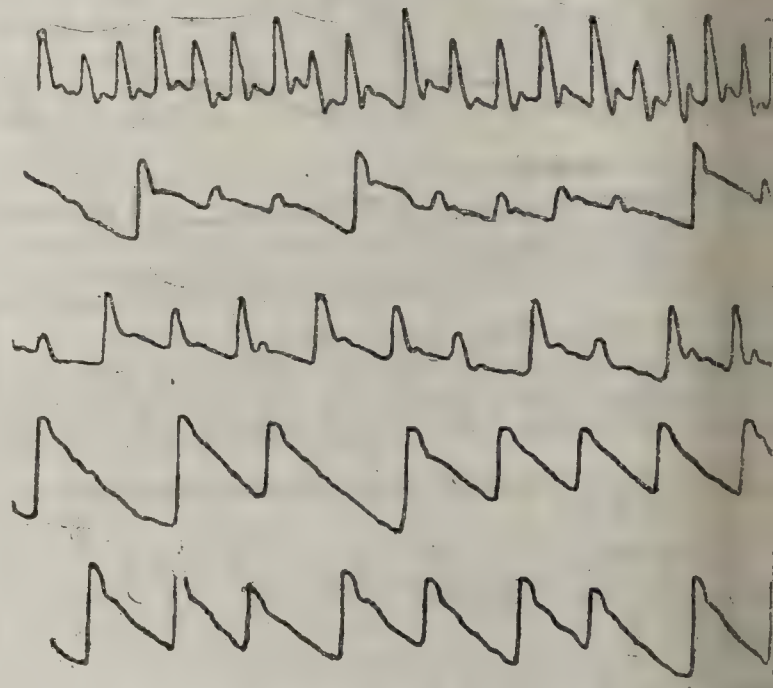

Fig. 18.—Radial tracings from five patients with auricula fibrillation, showing the disorderly nature of the heart rhythm.

methods. The evidence of auricular activity obtained the clinical examination, apart from the inspection the jugular pulse, is limited to cases with mitral steno We must bear in mind that stenosis of the mitral va is a gradual process, at first not recognizable unti certain degree of narrowing has arisen. This narrow obstructs the flow of blood from auricle to ventricle, a gives rise to a murmur on the contraction of the auri The presence of a presystolic murmur is usually an indi tion not only of an obstruction to the flow of blood fr auricle to ventricle, but also of gradually progress fibrotic changes in the valves and around the mitral orif With progressive narrowing the presystolic murm becomes louder and longer, while a new murmur m appear after the second sound. This diastolic murmu due to the obstruction of the flow of blood through mitral orifice at the end of ventricular systole. It is fa and short at first, but with further narrowing of the mi orifice it increases till it fills up a great portion of the stolic period of the cardiac revolution, and may run up the presystolic murmur. When this happens the diast period is filled up entirely by murmurs. We may take that the appearance of this diastolic mitral murmur always an evidence that the progressive narrowing of mitral orifice has reached an advanced stage. But fibrotic changes that cause mitral stenosis are not limi to the valvular orifices, but are also present in the muscu walls of the heart. These changes in the auricular predispose to auricular fibrillation, and this may arise

ifferent stages. With the onset of fibrillation a change kes place in the character of the murmurs.

If a presystolic murmur due to the auricular systole as present prior to the onset of the fibrillation it t once disappears when the pulse becomes irregular. a diastolic murmur due to mitral stenosis has en present it persists, because it is caused, not by ie systole of the auricle, but by the inrush of blood om the auricle into the ventricle when the ventricle laxes after its systole. I wish to emphasize this ange in the character of the murmurs in mitral enosis with auricular fibrillation, for even those who tect the clinical symptoms of auricular fibrillation do not em to have grasped the significance of the change in the urmurs. I have carefully studied a large number of ses of mitral stenosis with fibrillation, and many of them ve come to an autopsy, and in none of them have I tected a presystolic murmur of the crescendo type. here a murmur has preceded the first sound, it has filled e whole diastole when the rate was rapid. When the art's rate is rapid in auricular fibrillation, this diastolic urmur often fills up the whole space between the second d first sounds, and it may simulate, and is often taken r, a presystolic murmur due to the systole of the auricle. however, this murmur be noticed during one of the ng pauses, which occur frequently in most cases, or when e heart's rate becomes slow, it will be found that this urmur follows the second sound, but pauses some little stance before the first sound, and there is a silence mediately before the first sound in the place where the escendo presystolic murmur due to the auricle should pear.

This is brought out in the diagram in Fig. 19, where

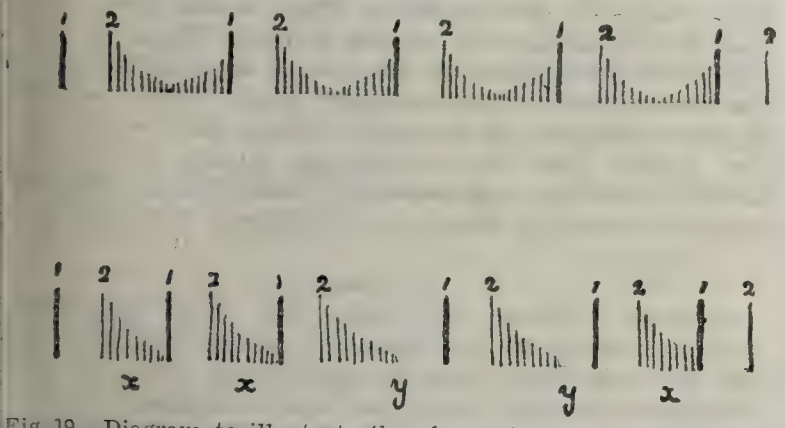

Fig. 19.—Diagram to illustrate the change in the murmurs that ise in cases of mitral stenosis when auricular fibrillation sets in. ie downstrokes 1 and 2 represent the first and second sounds of e heart, and the shading between the second and first sounds present the diastolic and presystolic murmurs (A) with a regular ythm. In B auricular fibrillation causes the rhythm to be regular, and when the diastolic period is short, as at x, x, x, the astolic murmur fills up the whole interval. When, however, the astolic period is lengthened, as at y, y, the diastolic murmur es not fill up the whole period, and there is then a silence fore the first sound where the presystolic murmur was before rillation set in.

nd B represent the sound and murmurs in mitral osis before and after auricular fibrillation. In B it will een that there is no presystolic crescendo murmur and t the diastolic murmur fills up the whole of the space ween the second and first heart sounds when the rval is short (x, x), but when the interval is long (y, y) diastolic murmur does not reach the first sound, and e is a silence before it.

rom these considerations, we can in the great majority ases conclude that auricular fibrillation is present when e is a diastolic mitral murmur without a presystolic mur. As a rule, the irregular action of the heart is suggestive, but in many cases of mitral stenosis with cular fibrillation, when the patient is under digitalis, heart becomes slow and almost, or even quite, regular. fact that the auricle is fibrillating is the explanation ie observation which has puzzled many physicians in past, that in mitral stenosis a presystolic crescendo mur may be absent while a diastolic murmur persists.

Symptoms of Heart Failure.

hile these are signs by which we may detect the ence of auricular fibrillation, it is usually the signs of t failure which attract attention. These signs, how- , are not peculiar to or characteristic of auricular llation, but are common to heart failure induced by r conditions. These signs of heart failure may range from a slight breathlessness on exertion to dyspnoea of the most severe kind, accompanied by dropsy, enlarged liver, and the symptoms associated with extreme heart failure.

As a rule, the onset of symptoms of heart failure is slow and gradual, due in a measure to the individual's persisting in living in his usual manner though the heart is hampered by the abnormal action. On the other hand, the onset of heart failure may be very rapid. Within a few hours of the occurrence of auricular fibrillation, the distress of the patient may be very severe, the countenance dusky, the heart dilated, orthopnoea, and a feeling of distress is experienced. I have seen these phenomena arise rapidly in cases where the fibrillation occurred intermittently, and the relief experienced by the patient when the heart resumed the normal rhythm was as remarkable and striking as the onset of the suffering. At once the patient knows that the heart's action has altered, and he breathes easier, and the feeling of distress disappears. Within a few hours the heart and liver have become reduced in size, the lividity of the face has gone, and the tenderness of the chest wall and over the region of the liver speedily disappears.

In many cases the onset of heart failure is accompanied by wasting, the patient sometimes losing a good deal of weight in a few months. Accompanying this there is usually a certain amount of flushing of the cheeks, usually of a dusky colour, and occasionally a slight sallow tinge of jaundice.

Amongst the more common signs of heart failure there is one which I have not seen—namely, definite attacks of angina pectoris. As I have already stated, pain and hyperalgesia are not uncommon in the heart failure associated with auricular fibrillation, while I have never met with typical attacks of angina pectoris in these cases, with one doubtful exception. In quite a number of cases where the patient had angina pectoris, the attacks ceased with the onset of the fibrillation. Needless to say that the onset of auricular fibrillation in those cases induced such embarrassment to the heart's action that the patients all drifted, and only lived a few months after its onset.

Prognosis.

We must bear in mind that auricular fibrillation is in reality a symptom of some myocardial change, and that, to be logical, we should only consider it from the point of view of a myocardial affection. We are at present so ignorant of myocardial disease that we are forced to put one symptom forward as if it were in itself a disease. Illogical as this seems, it has its use, for the occurrence of auricular fibrillation induces such a profound change in the heart's action, affecting its efficiency, reacting on the ventricle, and modifying its behaviour to drugs, that we are compelled to look upon it as a condition apart. Considering the variety of conditions that induce auricular fibrillation, it is difficult to state briefly its prognostic significance. In referring to the pathological lesions associated with it, I showed that they were of a very diverse kind in nature and in degree. It is in all probability the extent of these pathological changes which determines the prognosis of auricular fibrillation, and an attempt should be made to estimate their extent. If we look upon the inception of the new rhythm as in itself embarrassing the heart in its work, then the maintenance of an efficient circulation depends on whether the heart is able to do its work when hampered by the new rhythm. That this is the fundamental question will be recognized when we study the effect of fibrillation in certain individuals. I have repeatedly seen individuals in whom fibrillation occurred for a short time, and in whom heart failure set in with an extraordinary rapidity, the patient becoming breathless, having to sit up in bed, the face becoming livid, the heart dilated, and the liver swelling, within a few hours after the onset of fibrillation. With the restoration of the normal rhythm these symptoms quickly disappeared. When fibrillation became permanent in such individuals the signs of heart failure persisted sometimes in spite of all treatment, till death supervened in a few weeks or a few months.

On the other hand, I have repeatedly seen fibrillation set in and the individual be altogether unconscious of its presence. These cases may go on for years with little inconvenience; but the majority after some years gradually show signs of a limitation of the field of

cardiac response, and their future depends upon how they respond to treatment and on their ability to diminish the amount of their bodily work and to live within the limits of the heart's strength.

Much more frequently there is a considerable limitation of the heart's power of response to effort, and if the usual life of the individual be pursued, without appropriate treatment, there is a great tendency for the heart gradually to fail. There is no doubt that the onset of fibrillation can lead directly to a fatal termination, or, rather, can be associated with conditions that lead to death. Thus, one of my patients died suddenly forty-eight hours after the inception of auricular fibrillation. Another one fell down dead six months after its inception. I have seen a number of other patients die suddenly who had auricular fibrillation, but some of these suffered from a considerable degree of heart failure. It has appeared to me probable that in these cases the ventricle has passed into fibrillation, as McWilliam suggested. This view is probable also from the fact that the histological changes in the ventricle were similar to those in the auricle in some of the cases of sudden death.

The usual mode of death in auricular fibrillation is a steady advance of the heart failure, as shown by the breathlessness on exertion, orthopnoea, dropsy, and enlargement of the liver, etc., sometimes with an absolute failure of response to all forms of treatment. Thus, I have seen death ensue in this manner a few weeks after the inception of fibrillation, and others have drifted on for a few months, while some have led a somewhat chequered career for a number of years, seldom fit for much bodily exercise.

In giving a prognosis in cases of auricular fibrillation it is necessary to appreciate a good many other things besides the mere presence of the fibrillation. It is necessary to form an opinion of the extent of the changes that have led up to the fibrillation, and in many cases to find out how long these changes have been going on; as, for instance, the date of an attack of rheumatic fever; and how the patient comported himself before the onset of fibrillation; if, for instance, he was liable to attacks of heart failure, in which case such attacks point to a tendency to exhaustion which may be aggravated by the fibrillation. In addition, the character of the murmurs present in mitral stenosis will shed light upon the progress. When auricular fibrillation sets in, it is necessary to observe the accompanying changes in the heart and the way in which it maintains the circulation. Thus, an increase in the size of the heart, or a rate over 120 beats per minute, usually leads to a speedy exhaustion of the heart's strength. I have occasionally met with a case with a heart-rate of 100 and 120 per minute, with no increase in the size of the heart, who suffered little inconvenience; but as a rule any rate over 90 beats per minute tends to induce dilatation and consequent exhaustion. On the other hand, when there is little increase in rate, or even when the rate is somewhat slower than normal and the response to effort good, the prognosis is usually very favourable.

In those with symptoms of manifest heart failure prognosis depends to a great extent on the way in which they respond to treatment. I have already described the action of drugs of the digitalis group in patients with fibrillation, and I will show later more fully the action of drugs in these cases, and the response of the heart to them, and what an important bearing it has upon prognosis.

I have already said that there are a great many individuals with fibrillation who lead useful and energetic lives, and whose capacity for work is little, if at all, impaired by the new rhythm. In such the prognosis is distinctly good.

There are, however, so many exceptions to these details that a clearer insight may be gained by looking at each case from a broader standpoint of how the heart responds to effort, not, however, ignoring the details, but giving them their due consideration. It is in estimating this reserve power that we get the most valuable information. It may be taken for granted that if distress is induced by exertion, so long as the exertion is persisted in, it will ultimately lead to serious heart failure. On the other hand, when individuals with fibrillation are able to undertake work equal to that done by a perfectly healthy man, there is proof of such a degree of healthy heart muscle and freedom from valvular or muscular embarrassment that a good prognosis can be given.

We meet, however, with such varying degrees of exhaustion, that an estimate must be acquired of the amount, though it is impossible to describe with accuracy what that amount may be. Even with distinct limitation of the heart's power, as shown by the response to effort, the prognosis may still be favourable, so long as the patient lives within the limits of his powers, avoiding such efforts as cause him distress or exhaustion.

In transient attack of auricular fibrillation the attacks usually tend to become more frequent, until auricular fibrillation becomes permanently established. The prognosis of such cases depends on the way the circulation is maintained, this to be estimated in the manner already described. Transient attacks may appear for a short period and then disappear entirely. In two of my cases I detected a transient attack of auricular fibrillation twenty years ago, and the patients still lead vigorous and active lives. From the recognition of such cases we can conclude that auricular fibrillation is not of necessity a sign of extreme damage.

A most valuable aid in prognosis may be found in observing how the patient responds to treatment. In sudden attacks of severe heart failure, when the heart's rate is over 120 per minute, it will be well to suspend judgement until the reaction to digitalis is found out. Many such cases respond speedily to digitalis, and with the resultant decrease in the heart's rate a remarkable degree of recovery may ensue, so that the patients may be able to undertake laborious work so long as the rate is kept down by the digitalis. This would seem to imply that the exhaustion is mainly brought about by the ventricle being stimulated to too great an activity, and that the slowing enables the ventricle to get more rest, and so regain a measure of strength. From this result, we can also gather that the ventricular muscle must be fairly healthy, and we can estimate, within certain limits, the amount of healthy muscle by the degree of recovery.

Treatment.

General.—When any individual with heart failure presents himself for treatment, it may be taken for granted that the individual has been undergoing a greater amount of exertion than the heart has been competent of performing. Hence the exhaustion of the heart's strength has been brought about in the first place by overwork. It may be that the amount of work has been small, as measured by what a healthy heart can perform, but when a heart is hampered by an inherent defect, such as auricular fibrillation and the organic changes in the valves and muscle so commonly associated with this condition, the heart may be capable of a very limited amount of effort. With this conception of the cause of heart failure, the first and obvious course to pursue is to ease the heart of its work. In doing this much discrimination is required, and a thorough inquiry into the patient's mode of life has to be made in order to find out what circumstances, such as overwork, sleeplessness, digestive trouble, pain or work, may have provoked or aggravated the heart failure. These have to be attended to in every case, and relief may be at once afforded with the removal of the disturbing or exhausting cause.

The Use of Digitalis.—While it is important to attend to such circumstances in heart failure with auricular fibrillation, as in all other forms, there are circumstances in cases of heart failure with fibrillation which when appreciated help greatly, not only in the restoration of the heart's strength, but in the prevention of heart failure. I have already dealt with the reaction of hearts affected with auricular fibrillation to digitalis from a physiological standpoint; it is in treatment of auricular fibrillation that we find the great value of this drug, and I cannot speak too highly of its therapeutic action.

It is seldom that I have been able to say that I have saved a patient from immediate peril by the use of drugs, but this I can say with confidence, that I have repeatedly seen patients in evident peril of death removed rapidly from danger and restored to a condition of comparative health and fit for work by the judicious use of digitalis. The manner of its application needs, however, very careful

ttention, for it is a drug that needs to be applied on ertain definite lines, if full benefit is to be obtained from ts action. I think it necessary to insist upon this point, or the somewhat "rule-of-thumb" methods of its use so enerally employed fail to get the full amount of benefit hich this drug is capable of bestowing.

To understand the action of digitalis it is necessary to ppreciate the manner in which heart failure progresses n cases of auricular fibrillation, and the way it is con-olled by digitalis. It may be taken for granted that hen a patient with auricular fibrillation has a pulse-rate, r, to be more accurate, a ventricular rate, of 90 beats er minute and over, he will in course of time gradually se strength, his heart will become more feeble, and vidences of heart failure will gradually supervene. This rocess may be very gradual, but it is very sure. On the her hand, heart failure may set in rapidly, more espe-ally when the heart's rate rises to 120 and 140 and over. he severity of the failure, however it is brought about, mpels the patient to seek rest, and we generally find ch patients in bed, sitting up and breathing in a laboured shion, with considerable distress, the heart usually lated and the face of a bluish tinge, and possibly with opsy and pulsation of the liver. In all such cases the ompt administration of digitalis is urgently called for, d, if given in sufficient doses, relief may be obtained in a w days, the relief being accompanied by a remarkable owing of the pulse-rate. When this is accomplished, the gitalis should be stopped for a few days, and resumed small doses when the rate begins to increase. The te of the pulse should be watched, and the quantity ught for which keeps the heart under 70 beats per nute. It is seldom advisable to keep the rate under beats per minute, although in some cases the patient ls fittest when it is at a rate of about 50 beats per nute. In this we must be guided by the patient's sations and the manner in which he responds to ort.

Even when patients suffer from only a moderate degree heart failure, and are able to go about, it is well to place m under the influence of this drug if the pulse-rate is r 90 beats per minute, and in some cases if it is over per minute. My usual procedure in such cases is to end to any circumstance that may aggravate the heart ure, and then to give the patient digitalis until the se-rate is reduced. If the failure is of some severity, ut him to bed until the proper effect is obtained, but ere it is less in degree I permit him to go about his irs.

n all cases where the heart has been sufficiently reduced ate I find out the quantity of the drug that is necessary to p the heart at the rate at which it can perform its work h the greatest efficiency. In doing this the patient's sations are of the greatest help, whether he is confined ed or attending to his affairs. They readily appreciate change in their response to effort, and some such ptom as a disagreeable action of the heart or breath-ness can be employed as an indication that the heart's ngth is being exhausted. Once the patient under-ds the meaning of these sensations, he is usually quick perceive what digitalis does for him, and its administra- can usually be left quite safely in his hands. On lines I have seen many people lead useful lives for periods of years with no bad effects, except when have not taken the drug in sufficient quantities to the heart at the required rate.

he foregoing line of treatment is applicable chiefly to s in whom auricular fibrillation has arisen recently or re the heart failure is of recent date. In more nced cases, when the condition has induced from time me periods of heart failure, and there has appeared change that accompanies chronic heart disease, such persistent shortness of breath, enlarged liver, and sy more or less continuous, the persistent use of alis may still tend to restore a measure of strength to eart and give relief, enabling the individual to lead a l life, though at a lower level, for an indefinite d.

the search for an appropriate line of treatment in tanding cases, I have used many methods and many s, often with little or no benefit, but in a certain pro-on of apparently hopeless cases I have seen extra-arily good results following the use of digitalis, pushed until a reaction was obtained, and then stopped for a time, and again resumed, time after time. Not infre-quently after it has seemed useless to continue the drug, I have seen the individual acquire such an amount of strength as would scarcely have been anticipated.

As the conditions preceding auricular fibrillation and producing it are all due to changes in the heart muscle, of a slowly progressive nature, it is easy to recognize that the heart's strength cannot always be restored, and that as the amount of efficient muscle becomes reduced, a period is reached when no method of treatment is of avail.

Method of Administration.—A great diversity of opinion is to be found in regard to the form in which digitalis should be given, and also in regard to the dosage. So far as I have worked out the subject in regard to auricular fibrillation, I see no reason for giving the preference to any particular preparation. The best and most assured way, in cases of marked failure, is steadily to push the drug, whichever form be employed, until a reaction is observed. Usually the digestive system is the first affected, loss of appetite, nausea, vomiting, or diarrhoea being set up, the patient usually feeling ill and miserable. If the digitalis is effective on the heart, as a rule a marked slowing of the pulse is found at the same time, or even before any diges-tive disturbances arise. In some cases a slowing of the pulse is the first sign of a sufficiency. When this stage is reached I always stop the administration of the drug for a few days. In a day or two the feeling of nausea passes off, and patients feel remarkably well and bright. The pulse-rate is carefully observed, and when the rate shows signs of increasing half-doses of the drug should be given, and the dose increased or diminished according to the manner in which it affects the pulse-rate, the object in view being to give just the amount which enables the heart to carry on its work with the greatest efficiency. As I have previously stated, the patient himself by his own sensations speedily acquires the knowledge of how much of the drug is needed, and by attending to his own experiences he will soon find out the smallest dose which is needed to give the best results.

A good deal of my work has been done with the tincture of digitalis, and I may say that I have used this prepara-tion for over thirty years, and have never yet come across an ineffective preparation, my standard being the reaction in susceptible individuals. Professor Cushny has tested experimentally a number of samples from the Mount Vernon and this hospital, and has found each sample effective.

The quantity I usually start with, where the failure is marked, is 1 drachm of the tincture per day, in doses of 15 to 20 minims. This is steadily pushed until a reaction is obtained; then it is stopped and employed in the manner already described. Usually a reaction is obtained within a week, sometimes in a few days. Where there is great distress and more urgency I give as much as 2 drachms of the tincture daily, and then get a reaction in two or three days.

I have frequently used Nativelle's digitalin granules, and find them also very efficacious. I have found that one of these granules is equal to 15 minims of the tincture.

Other drugs, such as strophanthus and squills, have the same effect as the digitalis, and in some cases they may cause less digestive disturbance, but in the majority of cases I have found that when the digitalis is ineffective so also are these drugs. In the majority of cases the effects of digitalis are less disagreeable than these other drugs.

In some urgent cases it may be necessary to produce a reaction more speedily, though I have rarely failed to get a reaction in good time by digitalis by the mouth. In order to obtain a speedy reaction, strophanthin may be injected into the veins. In a series of observations which have been carried out at the Mount Vernon Hospital it has been found that in auricular fibrillation with a pulse-rate of over 140 per minute, intravenous injections of stroph-anthin can reduce the rate and give relief in five or eight hours, but I am of opinion that it is only in very excep-tional and urgent cases that this method is required.

It is often stated that digitalis is a dangerous drug and may cause sudden death. I know of two instances where the drug was pushed in cases with a very rapid action of the heart, and sudden death occurred when the heart became very slow. But when we

reflect that cases with heart affections do die suddenly, and that many patients with heart affections do have digitalis given them, it is not surprising that some cases with heart affections who are taking digitalis do die suddenly, but it is not quite logical to attribute the death to digitalis. As I have said, I have had a number of sudden deaths from auricular fibrillation in cases who were not taking digitalis, and I have given digitalis on the lines laid down here to a very large number of patients, and I have never had a sudden death among my own patients; but I must insist upon the effect of the drug being watched, and the drug stopped when the signs of a sufficiency appear. I have frequently seen in consultation patients who were in great distress, because the signs of a sufficiency were not recognized and the drug continued too long.

In these lectures I have endeavoured to draw attention to some of the more striking features of auricular fibrillation. It must not be supposed that I have exhausted the subject, for there are many phenomena which I have not considered, and many more which I have failed to observe. I meet frequently with cases which present new features, and I am at a loss to account for many of the symptoms. A wide field of investigation lies before the clinician, the physiologist, and the pharmacologist, but it is imperative, if ever the subject should be fully revealed, that the general practitioner should take his place as an investigator, for it is he who has the best opportunity of detecting its onset, and of watching the progress of individual cases.

INFUSION ANAESTHESIA:

THE USE OF NORMAL SALINE INFUSION AS A MEANS OF ADMINISTERING ETHER.

BY

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THE progress in the principles and technique of general anaesthesia has been marked in recent years by two considerable and separate advances. The first of these followed upon a long period devoted to the experimental study of the pharmacological properties of chloroform, and was based upon the demonstration of the fact that the inhalation of a vapour containing not more than 2 per cent. of chloroform was for all practical purposes free from danger. The establishment of this fact led to the invention and extensive use of numerous regulating inhalers; of these, perhaps the best known are the German Roth-Dräger, the French Dubois, and the English Vernon Harcourt. No sooner, however, had the advantages of these methods come to be realized than it began to be recognized that there are other dangers contingent upon the administration of chloroform than those which may develop during the actual course of the operation. The possibility that chloroform might be responsible for deaths occurring two or three days after it had been administered slowly won recognition for itself in spite of considerable opposition, and the conditions under which post-anaesthetic acidosis is most apt to develop are now fairly well defined. Although unanimity on this question is far from having been reached, one may venture to express the opinion that at the present day many anaesthetists would hesitate to administer and many surgeons would hesitate to consent to the administration of chloroform in cases of acute or chronic septic processes in the young, in states of inanition or of diabetes.

The increasing importance which is being attached to the possibilities of acidosis has naturally led to greater attention being directed to the use of ether, as that drug is undoubtedly less apt to produce this complication than is chloroform. The methods of administering ether formerly usual in this country very soon failed to justify themselves in the face of critical examination, and it was found that the closed inhaler was by no means so indispensable as had been supposed. The administration of ether by the open method, so long familiar in America, proved to be comparatively easy, and in a high degree satisfactory, in a large proportion of patients, specially the young and weakly. It is questionable, however, whether the metho would ever have come into extensive use in this country ha it not been for the discovery that by combining the actio of certain narcotics and of atropine with that of ether a anaesthesia could always be obtained which had almo all the advantages of chloroform anaesthesia and none its special dangers. The establishment of the value of th scopolamine-morphine-atropine-ether combination was th second great step in the development of general anae thetics in recent years, and the opinion may be venture that at the present time there is no anaesthetic of mor general applicability. In regard to the comfort of th surgeon and the safety of the patient during the oper tion, in regard to post-anaesthetic acidosis, and finally regard to post-anaesthetic gastric and pulmonary complic tions, this method, when applied to all classes of surgic practice, gives on the whole results which are decided better than those of chloroform. It is probable that th opinion would be most likely to meet with opposition relation to post-anaesthetic lung complications. That is, however, not altogether unsupported by evidence shown by the following records from some of the Germa surgical clinics.

Anaesthesia Produced by Chloroform or Ether.

Surgeon.	Number of Laparotomies.	Percentage of Lu Complications.
Korte	3,909	7.2
Czerny	1,302	3.9
Kümmel	1,754	2.5
Trendelenburg	1,829	5.4

Anaesthesia Produced by Ether Administered by the Open Method.

Surgeon.	Number of Laparotomies.	Percentage of Lu Complications.
Krönlein	1,409	0.56

However much one may be disposed to allow for t effect of the personal factor in the making of the observations, the figures show an advantage on the si of the use of ether by the open method so great as to unmistakable.

Within the last year it has become obvious that t superiority even of ether given by the open method is n to remain unchallenged. The great volatility of ether, a the necessity, therefore, of using it in enormous amoun when given by the open method, brings into prominen much more clearly than does chloroform the disadvantag inherent in the administration of anaesthetics by the res ratory tract. To this aspect of the matter a little furth attention may perhaps be devoted, and an attempt made enumerate some of the more obvious of the difficult necessarily contingent upon the use of what may be call the respiratory method. In the first place, it limits e entirely to the use of highly volatile substances, and would seem probable that if solubility rather than volati were the only physical character demanded for the a ministration of an anaesthetic, pharmacological resear might be able considerably to enlarge the number of ava able drugs. Secondly, the respiratory method must alwa in essence be indirect, the anaesthetic being absorbed fr the vapour introduced into the air passages, so that t dose actually entering the blood is rendered variable the notorious variability with which it enters the ch being subject to all the accidents of laryngeal spasm, respiratory spasm, and of variations in the depth a energy of respiration; furthermore, even supposing vapour to be regularly introduced, it must be supposed t the absorption of it is greatly influenced by variations the pressures to which it is exposed and by the presence the large amount of mucus, the secretion of which it te to excite. Thirdly, the exposure of the very great surf of the respiratory tract to an irritating vapour cannot be regarded as a serious disadvantage and danger. any one who has inhaled a breath or two of ether o chloroform vapour it must always be a source of surp that serious complications are not invariably produced

a prolonged anaesthetic, as we know they quite frequently are. Fourthly, it is clear that to produce anaesthesia the anaesthetic drug must be introduced into the blood and maintained there at a certain percentage. Any further amount than this present in the body will act as a reservoir upon which the patient continues to draw after the administration has been stopped. Hence it must follow that it is an inherent disadvantage of the respiratory method that the absorption of the drug cannot be stopped abruptly, but must go on until the patient has rid himself of the vapour which fills his lungs and the anaesthetic-sodden mucus contained in his bronchial tubes and usually in his stomach as well. Many an anaesthetist has had cause to deplore the existence of this thoracic reservoir when during the administration of chloroform the patient has developed laryngeal spasm and has continued fatally to absorb the chloroform which was shut up in his lungs. The disadvantages of the respiratory method which have been enumerated in this paragraph are, it is obvious, greatly accentuated in all cases of intrathoracic disease. Fifthly, in operations on the mouth, jaws, or pharynx the difficulties of the surgeon, in the nature of the case quite great enough, are much increased by his having to share the field of operation with the anaesthetist, and it not infrequently happens that from time to time either the surgeon or the anaesthetist has to be content with a less degree of technical perfection than he would have attained if he had not been embarrassed by the necessities of the other.

It is clear that the direct administration of an anaesthetic by the blood, if it can be safely effected, disposes of all these difficulties. For, being absolutely direct, the administration can be reduced to the minimum amount necessary, the drug can be introduced with perfect regularity and in an exactly measured dose, the administration can be stopped instantaneously, and the anaesthetist will know that there is no reservoir of the drug whatever upon which the patient can continue to draw, while, finally, the lungs are not exposed to irritation.

The possibility of administering ether intravenously does not seem to have been seriously entertained until within the last year or two. The method had been used upon animals experimentally by several observers before Burckhardt introduced the use of it in man. His immediate and striking success encouraged others to follow him, and all who have used the method speak of it with unqualified satisfaction. In April of this year Kümmel, at the Berlin Surgical Congress, was able to report 90 cases. He speaks of the method very warmly. He found it particularly suitable in operations on the head and neck, and in patients greatly exhausted by prolonged and serious diseases. Such patients, he said, frequently leave the table in a much

Brief Summary of Cases in which Infusion Anaesthesia has been Employed.

Nature of Case.	Nature of Operation.	Sex.	Age.	Condition Before Operation.	Induction.				Course of Anaesthesia.	Duration of Operation.	Dose.		Condition at End of Operation.	Post-Anaesthetic Vomiting.
					Time in Minutes.	Struggling.	Cyanosis.	Vomiting.			Ether in Ounces.	Saline in Pints.		
Malignant glands in neck	Extensive dissection	M.	45	Good	7	1	—	—	Some variation in depth	2 h.	2½	1¼	Good	—
Intestinal obstruction	Inoperable malignant growth, colotomy	F.	47	Fair	5	1	—	—	Ditto	2⅓ h.	3	1½	Good	—
Femoral hernia	Radical cure	F.	60	Good	10	—	—	—	Regular depth throughout	1 h.	1½	1½	Good	—
Carcinoma of colon; faecal fistula; abscess of abdominal wall	Resection of ascending and transverse colon, and part of stomach	F.	32	Fair	15	—	—	—	Ditto	3½ h.	4½	4½	Slight shock	
Sarcoma of upper jaw	Excision of upper jaw and malar bone, with malignant tumour of pterygoid region	M.	72	Fair	15	Slight	—	—	Ditto	2⅓h.	3	3	Good	—
Gastric haemorrhage	Exploration of interior of stomach and duodenum for persistent haemorrhage	M.	58	Bad	15	—	—	—	Ditto	1½ h.	2	2	Fair	—
Pyelonephritis	Dislocation of kidney; incision and drainage	M.	19	Bad	12	—	—	—	Regular and light	1 h.	1½	1½	Bad	—
Chronic appendix abscess; (?) growth	Drainage of abscess and removal of appendix	M.	45	Good	13	Slight	—	—	Regular depth throughout	1½ h.	2	2	Good	—
Abscess of lung	Exploratory incision of lung	F.	28	Poor	12	—	—	—	Ditto	1 h.	1½	1½	Poor	—
Malignant glands in neck	Extensive dissection	M.	50	Good	17	Slight	—	—	Ditto	1½ h.	3	3	Good	—
Carcinoma of rectum	Exploration; colotomy	F.	34	Good	15	—	—	—	Ditto	1½ h.	2½	2½	Good	—
Acute intestinal obstruction	Colotomy	F.	50	Fair	12	—	—	—	Ditto	1 h.	1⅞	1⅞	Good	—
Gall stones	Cholecystectomy and removal of stones from the common duct	F.	60	Good	17	—	—	—	Slight straining	2½ h.	3¼	2¼	Good	—
Double irreducible inguinal hernia, one hernia inflamed	Bilateral radical cure	M.	49	Good	15	Slight	—	—	Regular depth throughout	1 h.	3	3	Good	
Deflected septum, adhesions to turbinates	Submucous resection	M.	24	Good	12	—	—	—	Ditto	1 h.	1⅛	1⅛	Good	—
Cerebral tumour	Extensive decompression operation	F.	31	Fair	14	—	—	—	Ditto	1⅓ h.	2	2	Good	—
Epithelioma of tonsil	Resection of parts of upper and lower jaws and lateral wall of naso-pharynx	M.	49	Fair	16	+	—	—	Some shock throughout	2 h.	3¾	3¾	Fair	—
Bronchiectasis	Removal of ribs	F.	18	Fair	15	—	—	—	Regular depth throughout	1⅓ h.	1½	1½	—	—
Carcinoma of breast	Excision	F.	52	Poor	14	—	—	—	Regular light anaesthesia; some collapse	½ h.	1¼	1¼	Poor	—
Carcinoma of rectum	Combined abdomino-perineal operation	F.	56	Fair	13	—	—	—	Some shock	2 h.	4⅛	4⅛	Fair	2
Septic peritonitis, puerperal	Incision; drainage	F.	33	Very bad	10	—	—	—	Regular light anaesthesia	¾ h.	1	1	Bad	—

better condition than they were in before the operation, and they come round quickly and without discomfort. In no case of the 90 did post-anaesthetic vomiting occur, and this in spite of the fact that in a large number of the cases the operations were done for abdominal diseases of the gravest kind. In the subsequent discussion Hagemann referred to 11 cases in which the method had been used in the Greifswald clinic with satisfactory results. Claremont, Wendel, Beitmann, König, and von Sawadzki had also used it. Wendel of Magdeburg laid particular stress upon the value of infusion anaesthesia in operations upon the thorax with the hyperatmospheric apparatus: he had never seen any serious effects from the use of the method.

Technique.

Burckhardt, the originator of the method, used an ordinary infusion apparatus containing a 5 per cent. solution of ether in normal saline. He allowed enough of the solution to run in to produce surgical anaesthesia, and then interrupted the stream until the patient showed signs of coming round, when the dose was repeated. Kümmel and his co-editor, Schmitz-Pfeiffer, soon realized that the total interruption of the stream of fluid brought with it a tendency to thrombosis in and about the cannula. To counteract this disadvantage they arranged two vessels, either of which could be put into communication with the cannula separately; one contained the ether solution and the other normal saline. The procedure followed was to run in a dose of the anaesthetic adequate to produce anaesthesia, then, in order to maintain the continuity of the stream, to continue the infusion with a slow stream of saline, repeating the process as necessary. The uneven anaesthesia produced in this way has disadvantages from the point of view of the anaesthetist as well as from that of the surgeon, and these are particularly obvious to those who have learnt by experience to appreciate the smooth anaesthesia which can be obtained with a regulating chloroform inhaler. To the anaesthetist the great objection to methods of administration by periodic doses of the anaesthetic is that there is necessarily produced a greater concentration of the anaesthetic in the blood after each dose than is essential for adequate anaesthesia. This principle has been so fully emphasized by those to whom we owe the introduction of the Vernon Harcourt apparatus that it is not necessary for it to be further laboured here. Fully aware of the importance of this principle, one recognized quite early that by the application of it the infusion method might be freed from a defect inconsistent with the best modern practice. The chief modification, therefore, which is introduced into the apparatus is an indicator rendering possible a minute graduation of the inflowing stream.

Apparatus.

A 5 per cent. solution of ether in normal saline flows from a reservoir, which is fixed 8 ft. above the floor level, through the indicator, and then through a warming chamber into the cannula, and so into the vein. The indicator consists of a cylindrical bulb with a capacity of 8 oz. When the apparatus is working, the lower half is full of the solution, while the upper half contains air. The solution flows from the reservoir into the bulb through a pipette, and drips on to the surface of the fluid below. The system being a closed one, the pressure within it is transmitted through the indicator by means of the air contained therein; hence it follows that the rate at which the solution drips from the pipette furnishes a satisfactory index of the rate at which it is entering the vein. The flow is entirely controlled by one tap placed immediately below the indicator. When once anaesthesia is established, the ease with which the apparatus is controlled leaves the anaesthetist more than usually free to watch the condition of his patient.

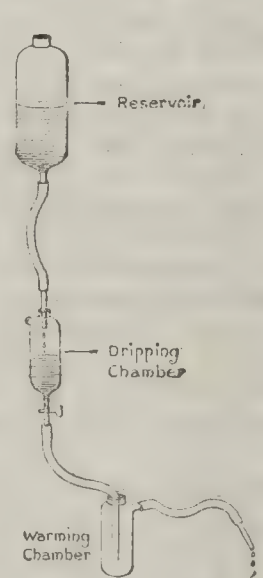

Method of Induction.

An hour before the induction a hypodermic injection is given, which consists of scopolamine gr. $\frac{1}{100}$, morphine gr. $\frac{1}{6}$, atropine gr. $\frac{1}{100}$.

These doses are to be regarded as typical of those required for a fairly robust adult: in other cases they may have to be modified according to the age and condition of the patient. The patient is placed on the operating table and the selected arm lightly bandaged to a splint to prevent flexion of the elbow; a few drops of eucaine having been injected into the skin, the vein is exposed through an incision of a third of an inch. The cannula having been tied in, it and the wound are packed round with sterile gauze. The strictest asepsis is, of course, preserved throughout this procedure. The solution is run in rapidly during the period of induction, which usually lasts about ten minutes.

Conclusions.

It is usually possible to attain surgical anaesthesia with the use of 8 oz. of the solution, while for the maintenance of the anaesthesia as little as a pint an hour (1 oz. of ether) is in most cases enough.

The most striking features of infusion anaesthesia are:

1. Extreme flexibility so that the condition of the patient can be adjusted with great nicety and can be changed in the direction of deepening or lightening of anaesthesia with really remarkable rapidity.

2. That the patient begins to come round very soon after the anaesthetic is stopped and is able to converse rationally within a few minutes.

3. That post-anaesthetic vomiting and pulmonary irritation are both of them extremely rare.

As might be expected in cases where the condition of the patient is extremely bad, saline infusion in itself has a beneficial effect.

In some of the earlier cases a transient haemoglobinuria occurred after the operation; since the establishment of the use of a 5 per cent. solution no such complication has been observed though it has been carefully looked for.

The accompanying table (see p. 975) gives a brief summary of the cases in which this method of anaesthesia has been used. Mr. C. W. Morris has assisted me in almost every case and rendered invaluable help. I should like to take this opportunity of thanking Messrs. Wilfred Trotter and Morriston Davies for the interest they have shown in the method and the help in elaborating the technique.

THE SYMPHYSIAL LIGAMENT OF THE PARTURIENT GUINEA-PIG.

BY J. BLAND-SUTTON, F.R.C.S.ENG.,
SURGEON TO THE MIDDLESEX HOSPITAL.

PARTURITION in the guinea-pig is accompanied by a extraordinary change at the pubic symphysis. Owen described the change in this way: Prior to parturition the symphysial ligaments become soft and extensile, and the innominata gliding on the sacro-iliac joints diverge at the symphysis. After this process the symphysis quickly returns to its former or normal state, and in a few days presents only a little thickness and mobility.[1] I have been unable to ascertain if this was an original observation on the part of Owen.

In 1902 the British Medical Association met at Manchester, and Professor Stirling communicated a note to the Section of Physiology and Anatomy entitled Parturition in the Guinea-pig.[2] The very large size and relatively mature condition of the guinea-pig fetus and the narrow pelvic outlet of the female guinea-pig led Stirling to examine the condition of the pelvis at the time of parturition, and he was astonished to find the separation of the two halves of the symphysis and the wide expansion of the ligament.

Recently I endeavoured to satisfy myself on this matter. A pregnant guinea-pig was isolated and when the lit

pigs were born she was decapitated. The pelvic parts are represented in Fig. 1. In this instance the ligament had

Fig. 1.—The pelvic organs of a parturient guinea-pig showing the extensibility of the symphysial ligament during delivery.

ecome elongated into a wide band, 3 cm. long. In this nstance only one cornu had become gravid, and this ccounts for the inequality of the cornua in the figure.

After delivery the ligament contracts, and the pubes uickly return to the normal position, but the symphysis oes not regain its firmness. In a female guinea-pig hich has never been gravid the symphysis remains firm ven after maceration, whereas in a guinea-pig which has orne young the bones at the pubic symphysis fly apart fter maceration (Fig. 2). The specimens from which

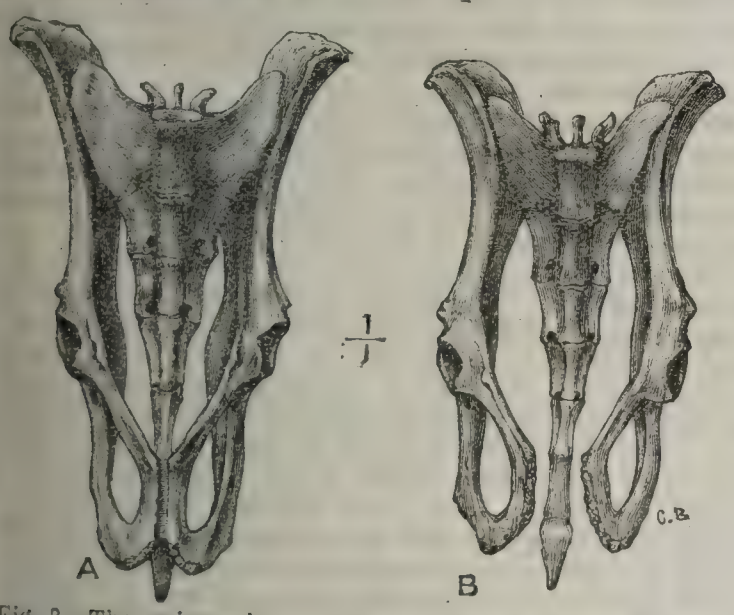

Fig. 2.—The guinea-pig's pelvis. A, from a virgin; B, from a multipara.

ese drawings were made are now in the museum of the oyal College of Surgeons. A microscopic examination of e symphysial ligament from a parturient guinea-pig ows nothing to explain its extensibility.

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Comparative Anatomy and Physiology of Vertebrates, 1866, vol. ii, 380. [2] BRITISH MEDICAL JOURNAL, 1902, vol. ii, p. 777.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Professor EDWARD MALINS, M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

PROFESSOR MALINS said: My first duty is to welcome all those who are interested in the work of this Section; to say also that visitors are invited to take part in the discussions. I may remind you that the time allowed for the reading of papers is fifteen minutes, and for any subsequent speakers ten minutes.

In the present age we cannot, even if we would, dissociate ourselves from the spirit of progress. It is essential to our vitality, indispensable to our mental well-being. The pursuit of truth is an ever-absorbing quest; in our profession it opens to us a wide range of opportunity. We may congratulate ourselves that in the department we represent our position has been well maintained, and that our knowledge has advanced since the last meeting of our Association. Sound and substantial work is indicative of steady application, the outcome of which affects materially the success of our vocation. There is more to be done in various directions, in none more earnestly than in seeking to lessen the number of deaths in childbirth, and to diminish the amount of illness attendant upon this process—a process in itself natural, but so often banned by the penalties of civilization. We are told on high authority that "puerperal morbidity" "supplies at least one-third of all the cases which come under observation at our hospitals for diseases of women." Are we indifferent to this? Should it reach our ears as the voice of one crying in the wilderness? Should we not rather pause to consider the seriousness of such an indictment, and lend our powers to the prevention of such evils? Should we not in striving to seek out causes also endeavour to "take arms against a sea of troubles, and, by opposing, end them"?

I cannot offer a better method of engaging in this combat than that afforded by the Midwives Act of 1902. As you know, this was enacted not without many difficulties; but by considerable patience, combined with tact, censure has been discouraged and misapprehensions corrected. By the courtesy of the secretary, Mr. G. W. Duncan, I am able to give some details of the development of the Central Midwives Board at the present date; the Board is now working upon a firm foundation with excellent results. The Midwives Roll for the year 1911 contains 31,625 names, of which number 10,408 have passed the examination of the Central Midwives Board; about another 10,000 appear from the fact of holding certificates from other bodies, such as the Obstetrical Society of London, etc. The remainder are of the old type of midwife, now generally known as the Bona Fide; these will gradually be eliminated, but they die hard, and often in country districts, from unpreventable reasons, are succeeded by others of the same type. Two thousand two hundred to 2,300 women annually pass the examination of the Central Midwives Board, though a proportion only of something like 55 per cent. intend to practise as midwives. The certificate is much sought after as a qualification for a post—for example, a hospital matron—and it is required in most of the Government appointments, in the army, Indian, and Colonial nursing services. At the present time the certificate is not only valuable, but it is indispensable for a maternity nurse who wishes to take a good place in the front rank of her profession.

Without doubt the efficient training and education of midwives will tend greatly to prevent the chances of

puerperal infection. Rigid asepsis in the conduct of their cases, intelligence in the use of the thermometer and in estimating the value of the pulse, are paramount necessities, the right appreciation of which not only conduce to confidence and success, but admit of the importance of ascertaining the earliest deviations from the normal standard of recovery. With the medical practitioner also rests a grave responsibility in attention to similar details. The contrast shown by statistics between the mortality and the morbidity, in private practice as compared with public lying-in institutions, has led to criticism which is not easy to refute. In many instances this is undeserved; nevertheless, the opprobrium ought to be effaced. The medical attendant should be absolutely free from the breath of suspicion in the exercise of the first principles of his art.

It is probable that some of those here to-day may live to see the present voluntary system of hospital maintenance superseded by State aid or municipal control and administration. From our aspect of the position, we regard the health of the women of the country as one of its chief assets. We consider that there could be no better or wiser object of the State than the care of women in childbed and its attendant perils. The plea for municipal maternity homes in this country has been argued by Sir William Sinclair with much force and ability. It is not within my province now to dwell upon this subject beyond expressing my firm conviction that, if consummated, this plan would be, unquestionably, one of the most valuable social reforms within our history. Last autumn, at the time of the meeting of the International Congress on Obstetrics and Gynaecology at St. Petersburg, I was much impressed with the advantages of this system. In that city there are fifteen maternity homes of about twenty to thirty beds each. In the year 1909 19,759 childbirth cases were admitted, the mortality among which was but a fraction per cent. Further, of all the cases of confinement in that city, 41.9 per cent. took place in the municipal maternity homes. I wish that time allowed me to say something of the constitution of the governing body, and of the admirable administration, each of which could readily be construed into favour of the advantages to be gained from the care and facilities thus afforded.

An assembly like the present will justify me, I hope, in alluding to a recent event, the centenary of the birth of Sir James Simpson, who was born on the 7th of June, 1811, and died on the 6th of May, 1870. It brings to our minds the greatness of his powers, and the immense value of his work in the department of obstetrics, indeed also in other directions connected with the art of medicine and surgery. Simpson's career was an epoch-making one—a remarkable example of the manner in which difficulties were overcome; a life of strenuous application and unremitting attention to details, crowned with the gift of genius which enabled him to command a distinction which placed his name upon the scroll of Fame, to be had in everlasting remembrance. I speak with feelings of profound reverence for his memory, associated as I was with him during a period of my early professional days. His purpose in life was, to use his own words, "to alleviate human suffering and to prolong life." Could a higher or more noble ideal entitle him to the praise of posterity?

DISCUSSION ON RESUSCITATION OF THE STILLBORN.

OPENING PAPER.

By Sir FRANCIS CHAMPNEYS, Bart., M.D.,

Physician-Accoucheur, St. Bartholomew's Hospital; President of the Central Midwives Board.

THE causes of the first breath taken by an infant are—(*a*) predisposing, (*b*) exciting.

(*a*) The predisposing cause is air hunger, which begins (theoretically) at the beginning of the premonitory stage of labour—that is, at the time when canalization of the cervical portion of the uterus is commencing. This relieves the uterus of some of its contents, leads to diminution of the area of its walls, and (incidentally) to shrinking of the placental site. This shrinking of the placental site leads in its turn to diminution of the blood supply to the placenta, and incidentally again to diminution of the aëration of the fetal blood.

This shrinking, very insignificant during the first stage of labour, becomes somewhat more pronounced with rupture of membranes, but very pronounced with the birth of the child.

In the third stage of labour the shrinkage is rapidly completed, as a rule, and the placenta is detached. The external sign of this process is retardation of the fetal heart.

After birth, the child usually cries almost at once; but it is quite common for it to remain without breathing for several minutes, if kept warm and let alone. If the cord is beating strongly, this condition may safely be watched with interest until it terminates unaided. As a rule the practititioner is afraid to do this, and proceeds to excite the child to breathe, and the nurse is apt to interfere also, but it is unnecessary. The fact is that when this occurs the child is continuing its fetal mode of breathing (through the placenta), while, if this fails, it has the alternative of breathing by its lungs. For the time it is amphibious.

This condition proves that even after the expulsion of the child the placental site need not be so much diminished as to render placental respiration inadequate; still less does the placenta become rapidly detached under these circumstances. If such a case is observed without interference the colour of the child is often florid and good; presently it becomes more livid, and draws it first breath; and often, at this time, some slight bleeding takes place, and the detachment of the placenta has begun.

(*b*) The exciting cause of the first breath is often the impact of the comparatively cold air. In some cases the predisposing cause—air hunger—reaches to a pitch sufficient to cause the child to breathe before it is completely born. If the head comes first this is generally of little moment. If the head comes last—as in breech cases—it may cost the child its life. Here the child, far from being amphibious, is deprived of *both* modes of respiration.

If the child does not begin to breathe in a reasonable time, the necessary stimulus is usually supplied without difficulty by some irritation to the skin. The traditional method is by spanking, but this—though useful later in life—is not so good as rubbing the spine with a soft cloth. If the air hunger remains unsatisfied the child falls into a state of *asphyxia*.

Two Stages of Asphyxia.

Cazeaux has distinguished two conditions of asphyxia which he calls respectively "apoplectic" and "syncopal." In the "apoplectic" state the surface is livid, but the muscular tone is not lost and there is response to reflex irritation. In the "syncopal" state the surface is pale, the muscular tone is lost, and there is no response to reflex irritation. The names "apoplectic" and "syncopal" are theoretic, and I prefer the names of the "livid and blue" and of the "pale and flabby" asphyxia, which denote facts and not theories.

The fact is that "pale and flabby" asphyxia occurs frequently in head-last cases, in which there has been less pressure on the head than usual, and that all really bad cases belong to this class. "Syncope" was supposed to be caused by pressure on the brain.

Unsatisfied air hunger leads, as above implied, to inspiratory efforts. The process is best seen in breech cases where there is difficulty with the head. Here, unless the head is delivered (as a matter of experience) within three or four minutes, the child is generally lost. The placental site has shrunk until the circulation in it has either ceased or become too small to keep the fetal blood aërated, and convulsive inspiratory efforts begin. Under ordinary conditions inspiration will draw matters lying against the mouth and nose into the air passages for a certain depth. But it must be remembered that before the first breath is drawn the whole of the air passages are collapsed; or, to put it in other words, the air cells in the lungs are practically in contact with the outer world. The first inspiration of air will draw matters lying against the mouth and nose not only into the trachea and bronchi, but into the air cells themselves; indeed, in such cases vernix caseosa, lanugo, etc., may be found lying under the pleura. Such children, even if resuscitated, generally die of a low form of lobular pneumonia—

o wonder. It is therefore of the utmost importance to void the occurrence of this condition.

The length of survival of apparently dead children is ery remarkable. Children have been laid aside for hours s dead, and have even been buried (as for example, for ight hours) and been resuscitated (F. C., p. 134). Akin to uch cases is a remarkable case of twin birth, in which a ractitioner ruptured the cord in attempting to turn, and he child was born alive ten minutes later and survived.[1]

The prevention of premature inspiratory efforts (which re always convulsive and so much the more dangerous) onsists principally in taking care that the final state of elivery in head-last cases shall not be prolonged, and, ncidentally, in keeping the fetal body warm, so as to revent the stimulus of cold to the skin; but such onsiderations cannot be debated here.

Treatment.

As in all other medical matters, prognosis governs treat- ent, and no treatment which is not based upon prognosis n be intelligent. In this matter prognosis depends incipally upon the diagnosis of the kind of asphyxia esent.

The blue children practically all recover; the pale children ill die unless properly treated, and sometimes in spite of roper treatment. A blue child may often be safely let one. It is often sufficient to assure ourselves that the art is beating not too slowly and to clean out its mouth. it seems too sleepy to be comfortably left, it requires a tle stimulation only to make it cry. The details will be scribed presently.

A pale child is another matter. It requires intelligent eatment.

Here I may remark that the main facts of asphyxia onatorum and the *rationale* of their resuscitation seem be unknown to a large proportion of the profession, lging by the letters periodically written to medical rnals by gentlemen who betray ignorance of the rest elements of the subject. Among other points the dition of asphyxia is hardly ever mentioned.

In the case of blue asphyxia the reflexes are not lost, l stimulation of the surface is often all that is required. the case of pale asphyxia the task is to raise the child of the flabby condition in which there is no reflex ponse to the condition in which this is recovered. other element in prognosis is the *condition of the pupils.* profound asphyxia they are widely dilated, as in death. e re-establishment of the c rculation produces no effect them, but on the re-establishment of respiration they nce contract.

t used to be recommended to allow a little blood to flow n the cord. This is useless and is irrational. Doubt- it was suggested by the blue colour of the child. But blue child probably has less blood in it than the pale d; for, as ought to be known by every one, 4 to 6 oz. lood normally enter the child's body after its birth and re the cessation of the circulation in the cord. This d is partly drawn into the fetal body by the expansion the lungs, but chiefly forced into it by the contraction he vessels of the cord, beginning from the placenta. object of this blood is to supply the newly-active nonary circulation. The pale child is usually in a e in which this process has already begun.

Artificial Respiration.

n performing artificial respiration four objects are ed at:

1. Removal of foreign bodies from the air passages.
2. Procuring the patency of the air passages.
3. Excitation of the circulation.
4. Ventilation of the lungs.

To Clear the Air Passages.—This is necessary before inspired, otherwise the matters lying in the genital l will be inhaled into the air passages. Lay the child ts back with the head hanging over the edge of a ; wipe out the mouth with a soft handkerchief, press thorax gently with one hand, stroking the trachea ard with the other, and retain the finger at the top of rachea until the manœuvre is complete. The mucus gravitate towards the posterior nares. Put a cloth the child's mouth, blow gently, and the mucus will lown out of the nostrils, but not into the operator's face. The finger held at the top of the trachea prevents its being forced into the chest. In rare cases it may be necessary to pass a catheter into the trachea. If passed 3½ in. from the lips, it will be below the glottis and above the bifurcation of the bronchi. The chest should be compressed with one hand, and the operator should blow down the catheter, which will cause an up-draught in the trachea and empty it of mucus. If he sucks, he will cause an up-draught in the catheter and a down-draught in the trachea, and will fill his mouth with mucus and other things from the woman's genital organs. This is quite unnecessary.

2. *To Secure the Patency of the Air Passages.*—This is seldom necessary, except in the case of premature children. When it is required, a catheter, passed as above and secured by an elastic band, is the simplest and best. The difficulty arises from the inaction of the divaricator muscles of the larynx in deep asphyxia, and the smallness and flabbiness of the air passages in a premature child increase the difficulty.

3. *To Excite the Circulation.*—This is generally brought about by providing for (4) ventilation of the lungs indirectly. But the circulation may be directly excited by pressure over the praecordia, which directly stimulates the heart and raises the blood pressure. This is probably the chief reason for any success obtained by such methods as those of Howard, Marshall Hall, or Schäfer in infants. The objection that it is undesirable to excite the circulation in deeply asphyxiated children because the blood is impure is theoretical and is not borne out by experience. On the contrary, the excitation of the circulation gives the best hope for the resuscitation of the child.

4. *To Procure the Ventilation of the Lungs.*—Time will not permit me to discuss the various methods. I would refer those who are interested in the subject to my book, *Artificial Respiration in Stillborn Children* (H. K. Lewis, 1887) in which careful experiments on all the principal methods are described (pp. 140, and pp. 4 et seq., pp. 39 et seq.). It may, however, at once be said that the group of methods which consist in pressure on the thorax, and many of which are highly useful in adults, are useless in newborn children. The thorax of the adult is at rest in a position of moderate inspiration, and the costal cartilages are elastic. The thorax of the newborn child is at rest in a position of expiration, and there is no recoil in the cartilages. The only benefit, as said above, is from compression of the heart. Of all the methods consisting in expansion of the thorax two only need be considered—namely, those of Sylvester and of Schultze.

A.—*Sylvester.*

I need not describe this, but there is one point which needs mentioning. The arms should be everted, as this renders the pectoral muscles tenser, and they should be seized above the elbows. Attention to this point secures the introduction of an extra quantity of air.

The disadvantages of the method are that the escape of fluid from the air passages is not favoured by the supine position, and that the mode of respiration (superior thoracic) is very unlike that of infants, which is diaphragmatic. It can be combined with heart pressure. The advantages are that a comparatively large quantity of air can be drawn into the lungs by it.

B.—*Schultze.*

This method requires much care, but, when its principles are mastered, it is highly efficacious. The points to attend to are to take care that the whole body of the child is supported by the fingers under the arms, and that the body is only steadied and not grasped. If it is grasped the effect will be lost.

The child should be whirled so as to produce what is called centrifugal force.

The disadvantages are the risk of an unskilled operator letting go of the child, and failing to master the manœuvre. The advantages are that for some reason, in practice, it does often procure patency of the air passages where other methods fail (page 89). Also that, at the end of the expiratory movement, the child is inverted, so that fluid more easily escapes from the air passages. Also that it actually does procure descent of the diaphragm, so that natural infantile breathing is more or less imitated.

There remains to be mentioned:

C.—*The Method of Direct Inflation, Mouth to Mouth.*

The proper method of effecting this is to remove all removable fluid as above described, and then, through a cloth, to blow the lungs up gently but firmly. On no account should the child's nose be held. It is a valuable safety valve. The disadvantages, real or alleged, are as follows:

1. Danger of rupturing the lungs.
2. Danger of tuberculous infection.
3. Danger of inflating the stomach, and so impeding the descent of the diaphragm.

1. The danger of rupturing the lungs can be avoided by gentleness in inflating, and by leaving the child's nose free.

2. The danger of tuberculous infection has to be remembered.

It is founded upon a single but a striking series of cases occurring in the practice of a tuberculous person who was in the habit of using this method (page 146).

3. The danger of inflating the stomach is imaginary (p. 146).

It does not impede respiration in practice, and the air is easily pressed up through the oesophagus.

There is one other method of reviving a child in asphyxia—namely, the rhythmical tongue traction of Laborde.[2] The tip of the tongue is seized by the fingers covered with a handkerchief, or by a forceps, and the base of the tongue is strongly pulled upon fifteen to twenty times a minute (p. 181). I have used this method on an adult under anaesthetic with good effect, but not on infants. Laborde mentions 32 cases (p. 184), in many of which all other means had failed, and there was apparent death. An experiment on a dog is described (p. 144) which had for its object the determination of the nerves concerned; the afferent nerves are the lingual, glossopharyngeal, and superior laryngeal; the efferent are the phrenics.

To sum up the treatment: Never hurry; it is not a question of seconds, and success depends upon a fine exercise of the judgement. Make a good diagnosis—first, as to life or death; secondly, as to the stage of asphyxia (if life is not extinct). If the child is macerated, it is obviously dead and past hope. If the heart beats ever so slowly (and slowness, not feebleness, is the dangerous sign) it is not dead. Remember that the beats may be separated by very long intervals, and feel the precordia for at least a minute by the clock. If the child is livid and not flabby it will probably come round; wipe out its mouth and pharynx, rub it with a soft cloth down the spine, and press gently on the precordia. If this produces no effect, or if it be in the pale stage, inflate the lungs by the mouth and then by Sylvester's method. If air enters the lungs, well and good; if not, try Schultze's method, or insert a catheter as described above. Vary the treatment between occasional inflation of the lungs, artificial respiration, pressure over the precordia, irritation down the spine, according to the judgement, remembering what may be expected of each method, and that no one will suffice for all cases. Never be content until the child breathes regularly and appears to be continually improving.

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[1] *St. Bartholomew's Hospital Journal*, July, 1904, p. 167. [2] *Tractions rhythmées de la langue* (Paris, Alcan, 1904).

DISCUSSION.

Dr. HERBERT SPENCER (London) said the Section was much indebted to Sir Francis Champneys for the thorough, clear, scientific, and frank way in which the subject had been introduced. With regard to the varieties, blue and white, the speaker was of opinion that the pale variety was usually due to anaemia and shock, the result of the injuries to the viscera during birth. Sir Francis Champneys had not given any particulars as to the method of passing a catheter into the larynx. The speaker had found that by passing the left forefinger into the mouth behind the larynx, and gripping the larynx between the finger and the thumb outside, an excellent guide was found for the passage of a small male catheter into the trachea. In hospital practice he had found a cylinder of oxygen of great value in diffusing an atmosphere of oxygen in the neighbourhood of the child's mouth while artificial respiration was carried on by Sylvester's method. Dr. Spencer thought that Schultze's swinging movements were dangerous and should not be employed. Cases had been published where the lungs had been punctured by a broken clavicle when Schultze's method was employed. The speaker had shown twenty years ago, by his observations on newborn children, that the delicate lungs of the child were very easily injured by pressure. Thus he had found haemorrhage into the tissue of the lung caused by a rigid cervix which marked the skin of the chest over the injury. How much greater danger must there be when the weight of the child's body falls on the balls of the operator's thumbs! These severe injuries had actually been observed. For these reasons he was strongly opposed to Schultze's swingings, and was accustomed to say in lecturing to students—though of course he would not say there—that it is a murderous method, and that it is not the victim which should swing.

Dr. HELLIER (Leeds) said: I have always depended principally on Sylvester's method. This is usually successful if done properly. For this the feet must be held firmly by an assistant, or else proper extension can not be made on the arms. Schultze's method will sometimes succeed when Sylvester's fails. No doubt there have been cases of serious visceral injury by Schultze's method, but it must not be forgotten that asphyxia itself has been shown to be a potent cause of visceral haemorrhage in the newborn when no trauma has existed. Schultze's method is not suitable to be taught to midwives.

Dr. THOMAS WILSON (Birmingham) said that the teaching of methods, generally speaking, was not satisfactory, and it would be a great service if from this Section an authoritative opinion could go forth on the best practical means in which to instruct midwives and medical students. In performing artificial respiration emphasis should be laid on the necessity of securing an expiratory movement first, especially where there was a probability of the child having made premature attempts at breathing. Sylvester's method was more generally employed in this country, and appeared to be more easily acquired by and imparted to students and nurses. Schultze's method had been blamed for very many lesions and accidents that properly belonged to a difficult or instrumental, especially in a head-last labour and in premature children. In children with soft and only slightly elastic thoracic walls any method of artificial respiration was frequently futile, and success could only be gained by direct inflation. This method was inferior to the former in that during its use there were no definite variations set up in intrathoracic pressure on the large blood vessels, and so the stimulating effect on the circulation was less. The speaker thought that great importance must be attributed to the proper and systematic use of the warm bath. By conserving heat it often saved the child's life, while it also was of service in improving the circulation, especially in white asphyxia. The use of oxygen had not been proved to show any advantage over that of ordinary air, and it had to be remembered that the oxygen was required, not merely in the lungs, but through the circulation to the respiratory centre in the medulla. Moreover, it was important that where possible the methods taught in hospital should be applicable in private practice, where oxygen was rarely to hand when required. Whatever methods of resuscitation were employed should be persevered in for a long enough time and until the heart ceased to beat.

Dr. ROBERTS (London) urged the importance of *post-mortem* examination of brain and cord in such children, as had been mentioned by Dr. Spencer. A subject of interest to him was the condition of children born by Caesarean section. They were often very faint, but did not become so at once. He should like to know if Sir F. Champneys could explain this. A blue baby easily revived unless some congenital deformity of heart, lungs, or great vessels existed. In dealing with a white baby, he attached much importance to artificial respiration in a bath—sometimes a hot bath was quite enough; and rubbing the thorax with brandy and heart pressure were often useful. Buist's method was less severe than others, and tongue traction was of some use. A cold bath should never be used with a white baby, and it should be remembered that the child after resuscitation might relapse.

Dr. R. E. Buist said the Section was indebted to Sir Francis Champneys for the sound way in which the main position had been stated. Some of his propositions must underlie any speech on the subject. Many cases of white asphyxia would die, and many of these were cases of visceral haemorrhage. Some of the cases of injury for which Schultze's method had been blamed were probably due to this, but not all. The depth of asphyxia might be guided by the possibility of reaction, medullary reaction fading after that of the skin, and eventually the intrinsic muscular contractility of the heart was alone left, and the re-establishment must follow these stages in reverse order. Schultze's method was frequently badly taught, and he had caricatured some of its exaggerations as performed by men fresh from college. He submitted that Sir Francis's assistence on centrifugal force tended in this direction. The method he described many years ago was a mere subvariety of Schultze, in which the alternate pressure and release of the diaphragm from weight of the viscera is employed apart from the centrifugal force. He thought that in all methods mechanical respiration was more efficient after a preliminary inflation of the lungs. Laborde's method was apt to give the baby a sore tongue if applied with forceps. As to the hot bath, it had to be remembered that it was easier to produce asphyxia in hot water than in cold, but many cases that would continue to be called asphyxia of the newborn were not essentially asphyxia.

Professor Strassmann said that Schultze's method might easily lead to haemorrhage, as he had seen in a case with blood extravasated under the capsule of the kidney. He thought some cases of asphyxia were due to shock from compression on the brain.

Reply.

Sir Francis Champneys, in reply to the discussion, said in Schultze's method the child should only be held by its armpits. The midwife should not be taught Schultze's method, but he was convinced that he himself had saved a considerable number of lives by using this method, and had never had any injuries from it. With regard to oxygen, this, of course, could only be used in hospital. Inflation, he agreed, was inferior to artificial respiration, but inflation might possibly start a further entry of air to the lungs.

ECLAMPSIA COMPLICATING LABOUR IN A GIRL AGED 12: RECOVERY OF MOTHER AND CHILD.

By C. Hubert Roberts, M.D., F.R.C.S., F.R.C.P.,
Physician to Samaritan and Queen Charlotte's Hospitals, London.

The following case seems of some interest, owing to the extreme youth of the patient and also because both mother and child recovered, although the attack of eclampsia from which the former suffered was a severe one:

A Jewess schoolgirl, aged 12 years, was admitted to Queen Charlotte's Hospital on April 2nd, 1911 (midnight), labour having commenced shortly before admission. She was, of course, unmarried. She was first seen by our assistant resident medical officer at 2 a.m. Labour had advanced slowly, and she was then in the first stage. The patient was quite well nourished and well developed; height 4 ft. 11 in., weight 6 st. 9½ lb. She was very pallid and there was oedema of both legs, but none of the face, abdominal wall, loins, or vulva. Her mental condition was one of great anxiety, and in the waiting room she became very excited and uncontrollable. On examination she was evidently pregnant full term and in the first stage of labour. The child was alive and presenting by the vertex in the left occipito-posterior position. The cervix admitted one finger and the membranes were intact. She was given chloral and pot. bromide āā gr. xx.

A specimen of urine drawn off showed albumen two-thirds on boiling. The pelvic measurements were—interspinous 9¾ in., intercristal 10½ in., conjugata externa 6¾ in. There seemed to be no evident deformity of the pelvis or skeleton. It was noted that the patient had a purulent vaginal discharge (A. P. V. D.). During the night she was very restless and troublesome. At 9 a.m. on April 3rd labour had only advanced very slowly, though the pains were strong. The cervix was now the size of a two-shilling piece, and the membranes had not ruptured. She was given another 20 grains of chloral by the mouth.

At 4.30 p.m. the patient had a typical eclamptic fit lasting 50 minutes; after this had passed off she became violent and could only be kept in bed with difficulty. An injection of morphine, ⅓ grain, was given, followed by a rectal saline and the application of a hot pack. Linseed meal poultices were also applied to the loins.

The cervix was now the size of a five-shilling piece and the membranes still unruptured. The occiput was posterior, but the head well flexed.

A second fit (slight) occurred at 5.10 p.m. (April 3rd); consciousness was quickly regained, but she again became violent and, in fact, at times was almost maniacal. The skin had not then reacted to the hot pack at all well. A rectal tube was passed and the lower bowel washed out and then filled with saline solution. The cervix had dilated further, but would not yet admit of the application of the forceps. Another injection of morphine, ⅓ grain, was given, after which the patient became much quiter.

At 8 p.m. (April 3rd) the cervix was found fully dilated. Forceps were applied under chloroform, the head being in the left occipito-anterior position. Very little difficulty was experienced in delivery. The child (male), which weighed 7 lb. 2¾ oz., cried at once.

The uterus contracted well after artificial delivery of the placenta. The amount of *post-partum* bleeding was estimated at about 18 oz. While under the anaesthetic a pint of warm saline solution was infused under the breasts. The first stage of labour occupied sixty-eight and a half hours, the second twenty-five minutes, and the third twenty minutes. Total, sixty-nine hours fifteen minutes.

During the next day (April 4th) no fits occurred till 1.30 p.m., when she had a very severe convulsion lasting three minutes, during which the patient became very blue. Following this the patient became practically unconscious for some time and her pulse was very feeble and rapid. Chloral hydrate was given by the bowel, and subcutaneous injections of digitalin, gr. $\frac{1}{100}$, also morphine gr. ¼.

At 3.50 a.m. she had another very severe fit, followed by deep coma, and her feeble pulse gave cause for great anxiety.

Between 6.55 a.m. and 9.30 a.m. the fits were repeated every hour, and the patient's condition became very grave. I saw her at 9.30 a.m. (after her ninth fit), and as the bowels had not acted satisfactorily an anaesthetic was given and the stomach tube passed. The stomach was then washed out with sodium bicarbonate, half a pint of which was left in. Two ounces of castor oil were introduced into the stomach by the tube. Another rectal saline was also given. The patient was now passing very little urine, and none could be collected for analysis. Her temperature had risen to 102°, and the pulse was 140. I ordered the hot packs to be repeated. At 1.30 p.m., April 5th, she had another fit lasting a minute, and was again very violent. During, or just after, this fit her temperature rose to 105°, and the pulse was 130 to 150. We were obliged to give chloroform deeply to control her violent movements. Morphine, ⅛ grain, was also repeated (sub cutem).

During the afternoon and evening of April 5th, she had two more fits, making twelve in all, but these were of a much less violent character.

At 9.10 p.m. a distinct change for the better was noticed, the patient became more peaceful and rational, her bowels had acted, and some urine had been passed. This on boiling was nearly solid with albumen. The pulse was still rapid. However, she was able to take milk and water by the mouth.

Next day, April 6th, the patient was really conscious for the first time, and more or less clear in her mind. There had been no more fits, but she complained of severe headache, and vomited several times during the morning.

The temperature had fallen to 99° and the pulse to 120 to 130 per minute. The lochia were healthy, and the uterine involution (measured according to the Queen Charlotte's method) satisfactory. The oedema had almost disappeared, and a fair quantity of urine had been passed, though this was difficult to measure accurately.

April 7th. Condition much improved; has passed 24 oz. of urine during the night, and the bowels had acted well. All headache and vomiting had ceased and the mental condition was quite clear, though the patient showed much irritability when spoken to.

From this date (April 7th) onwards there was very little to report and her convalescence was rapid, the puerperal temperature remaining normal. The amount of urine secreted gradually increased, and on April 18th only the very faintest trace of albumen could be detected.

The rest of her history is uneventful, and she left the hospital on the twenty-fourth day apparently quite well, and her baby then weighed 7½ lb. While in the hospital the child was fed on citrated 1 in 3 milk from the first. There was some slight discharge from the child's eyes on the thirteenth day, but, as previously noted, the mother had an *ante-partum* vaginal discharge. I may say that at Queen Charlotte's Hospital silver nitrate solution 1 or 2 per cent. is used as a prophylactic measure against ophthalmia in every case with excellent results.

Remarks.

I am of opinion that cases of eclampsia in very young primigravidae are necessarily of rare occurrence. In my case the patient was only aged 12, and for this reason I have ventured to bring it before this Section. I cannot

find any records of a similar case (as regards age), and I think the result—to say the least of it—was fortunate, in that both mother and child recovered. Many of these cases end fatally, but I should like to ask other members of this Section whether they consider eclampsia in very young girls more serious than that occurring at a more mature age. I should like to point out that, quite apart from eclampsia, it is our experience at Queen Charlotte's Hospital that as far as labour is concerned in very young subjects they do very well indeed, possibly owing to the elasticity of the pelvic ligaments and bones, and that they often bear children of fair size without instrumental aid.

As regards the onset of the fits, in the case I report a few came on before delivery, but the majority occurred afterwards and were associated with pyrexia, anuria, and grave symptoms of cardiac failure. The fits were also characterized by their extreme violence and the semi-maniacal condition of the patient following the convulsions. Hitherto, I believe, it has been the custom to regard convulsions coming on after delivery as not of very grave import. Personally I take the opposite view, and think that if fits continue in the puerperium the prognosis is often grave. Taking all cases, the average mortality seems to be about 25 per cent. for mothers and 50 per cent. for the children.

In respect of treatment, I rely greatly on chloroform, purgation, diaphoresis, saline infusion (in all forms), and venesection in selected cases. If venesection is done it is my custom to infuse the patient afterwards with saline solution into the same vein. A very useful thing, and one which was adopted in this case, is to wash out the stomach early under anaesthesia, and at the same time to introduce whatever purgative is thought advisable through the tube before withdrawing it. High rectal salines slowly introduced into the bowel are of great value, and possibly the use of glucose enemata. Morphine combined with hyoscine is useful if the patient is violent, but I warn you against the use of morphine in a patient who it not passing an average amount of urine. I also think chloroform may be given in excess.

I do not propose to consider the much-vexed question of induction of labour in eclampsia. I find most cases are in labour when admitted to the hospital, or labour soon comes on, sometimes tumultuously. The chief difficulty I have met with is delay in dilatation of the cervix, with the child showing evidences of fetal distress. I take it that it is in these cases that some authorities have advised or performed Caesarean section, but, according to Stevens, Hammerschlag, Blacker, and others, the maternal mortality is very high (55 to 58.9 per cent.). Personally I have never performed Caesarean section for eclampsia, as I have found such measures as the use of Hegar's dilators, Champetier de Ribes's bag, or manual methods sufficient to dilate the cervix (under anaesthesia), and thus admit of the application of the forceps or the performance of version.

I have no experience of nephrotomy or decapsulation of the kidneys in eclampsia coming on after delivery.

DISCUSSION.

Dr. THOMAS WILSON (Birmingham) said that in many cases eclampsia came on without any warning that could be gained from examination of the patient, or, more especially, of the patient's urine. Cases proved fatal in which symptoms appeared to be not unfavourable, and others recovered in spite of the gravest symptoms. Hitherto no method of treatment had been discovered that gave satisfactory results generally. The extreme variation in the mortality of the disease in different countries and in different parts of the same country still waited for a satisfactory explanation.

Dr. HERBERT SPENCER (London) thought that there was not much to say in criticism of Dr. Hubert Roberts's rare and admirably described case. Though the speaker had not had a case of eclampsia in so young a patient, it was well known that young primiparae were especially liable. His own practice was mainly in accord with that described by Dr. Roberts, except that he did not now use infusion—at least, not in considerable quantities, on account of the cases of cerebral haemorrhage which had been observed after its use, apparently owing to over-distension of the vessels. The speaker agreed with Dr. Thomas Wilson in finding it exceedingly difficult to give an accurate prognosis in these cases. He did not agree with him, however, in his opinion that eclampsia came on suddenly without premonitory symptoms; on the other hand, he thought most of these patients had oedema, headache, epigastric pain, and alteration in the urine before the onset of the fits.

Dr. HELLIER (Leeds) said: I recognize the general tendency to-day to rely on expectant methods in treating eclampsia, but we may yet have cases where induction of labour is indicated. Given a case of eclampsia where term has not been reached and labour has not begun, I advocate in many cases the rupture of the membranes, and the expediting delivery by the use of the less violent methods. After all, eclampsia occurs only in connexion with pregnancy, and recovery in most cases is complete when labour is over. This points to the fact that there is something to be gained by emptying the uterus. I am not in favour of the more violent methods of doing this. Should a patient who has recovered from eclampsia be advised to avoid further conception? The danger of recurrence is between 1 and 2 per cent. only, and I advise that Nature be allowed to take its course.

Dr. JOHN CAMPBELL (Belfast) said: We know so little of the causes of eclampsia that it is impossible to lay down any hard and fast rules as to treatment. Nevertheless, it is necessary for the practitioner to have a certain routine which is suitable to the majority of cases. My own plan of procedure when called to a case of eclampsia is to give a hypodermic injection of $\frac{1}{4}$ grain of morphine, and to induce labour or hasten labour, if it has already set in, by rupturing the membranes and draining off the liquor amnii. The morphine injections are repeated if the convulsions continue. The labour is expedited by forceps when the cervix has dilated. While the use of morphine and the rupture of the membranes are essential in treatment, ancillary measures may be adopted in accordance with the conditions of the individual case. No violent methods are admissible. The following case, which is an unusual one, apparently supports the above line of treatment. A woman, about seven months pregnant, had several convulsions, and was comatose when I saw her. Morphine was given, the membranes were ruptured, and the waters were allowed to flow away through a Bozemann's uterine catheter. The convulsions gradually ceased, the coma passed off, the albumen disappeared from the urine, and the patient went on to full time, and was delivered of a healthy living child. Probably the opening in the membranes had been valvular and had closed, allowing the liquor amnii to reaccumulate. This rare case would seem to show that escape of the liquor amnii is beneficial to the woman, and that induction of labour is an important item in the programme of treatment. As regards preventive treatment, I think the student and practitioner should be taught to look out for albuminuria and for other premonitory symptoms, and to advise the patient to take precautions with the view of avoiding the onset of convulsions. A fact of interest is that one sees many women of the working classes who give a history of having had headaches and oedema, and of having felt ill for a week or two before the convulsions set in. These women are confined to the house for the greater part of the week and go out shopping on Saturday afternoon or evening. This shopping expedition is so often followed by the onset of convulsions, that one is driven to the conclusion that exposure to cold or wet precipitates the attack in a patient already predisposed to it. Hence the importance of carefully watching the pregnant woman, and of adopting prophylaxis when necessary.

Professor STRASSMANN (Berlin) thought the season of the year made a difference in the frequency of eclampsia. He used morphine injection, but he did not advocate abdominal or vaginal Caesarean section, and he had not tried decapsulation of the kidneys. He thought the profession ought to be taught conservative treatment, and that any operative treatment necessary should be reserved for hospital.

Dr. BUIST (Dundee) said it was necessary for those with limited opportunities of gaining experience to keep a

eady attitude in formulating general methods, and to ve regard to the results of larger clinics or collective atistics. As to prognosis, while one must be guarded in ophesying recovery, each could in individual cases make his mind that the patient would die. In these the use of ch methods as decapsulation of the kidneys came in, and, ough the experience that some of the women recovered ve a therapeutic method that was at first merely piric, it might collectively acquire a strong foundation.

THE PRESENT POSITION OF VAGINAL OPERATIONS IN RELATION TO THE UTERUS AND ITS ADNEXA.

By Professor Paul Strassmann, M.D., LL.D.(Hon.),
Berlin.

REMEMBER with special gratification the six months pent in England in 1891–2 before becoming Assistant the Charité Hospital, Berlin, under Gusserow. At that time England, through its great success, taught other clinics the sphere of ovariotomy and the abdonal operation for the adnexa. The names of Spencer lls, Lawson Tait—whom I have seen operating here—l the great number of other operators, are classics in naecology to the German profession to-day—just as niliar as the work and name of Shakespeare and Watt to the educated classes of my Fatherland. t would not be going too far if I assert that the times which a Lawson Tait could report after short intervals his first one thousand cases, then on his second and rd thousand, could hardly return. Even though the nber of women who come for consultation regarding vic troubles and who need local treatment or operative , and also although the number of operators and the ulation have risen, still such figures from any one of n could only be attained over a greater period of time. y is this?

. Some of the diseases are no longer so frequently seen formerly. These are the enormous ovarian tumours the huge myomas, which nowadays we would boldly ignate as "neglected diseases."

. We have become conservative regarding the inflam- ory diseases. It is no longer assumed that in- matory swelling of the adnexa together with orrhoea in the husband is an absolute indication for removal of the appendages.

Laparotomy has had to yield a wider sphere to the stic vaginal operation. Even to-day an endeavour is g made to conquer the ever-present danger of lapar- y, though it occurs in a smaller percentage, by means aginal incisions. By an honest acknowledgement of consequences of laparotomy one must seek for rovement by means of the vaginal operation.

he dangers and consequences of laparotomy are: Greater possibility of peritonitis; (2) unavoidable act with the intestines and disturbance of the in- inal activity; (3) omental ashesions from this, and greater painfulness and swelling of the stump, ach diseases, etc.; (4) the necessity to place the nt with raised pelvis (Trendelenburg position) in r to get a clearer view of the pelvic floor (especially erous in cases of tubal pregnancy); (5) hernia.

egarding the first point—danger of peritonitis—we can with better technique, the curtailment and elimina- of antiseptic substances—in short, with the best ible management of the peritoneum, a far better lt has been attained than formerly. However, the ger is not yet so negligible in cases of inflammatory ndages, doubtful extrauterine pregnancies, and in operations that we should not look for wider autions.

ne of these aids is the drainage of the abdomen towards xterior, which we cannot eliminate at all by the ing of the pouch of Douglas and the posterior vaginal from above. I will make no further allusion to the that with such a drainage through the abdominal a hernia will originate as a necessity. But in life- g operations—ex-perforative peritonitis—I never the consideration of a future hernia to deter me from ecessary operation. The intestinal activity is, apart the consideration of the wound reaction, that which calls for anxiety and nursing during the first days after laparotomy.

I should stray from my subject, were I to enter into all the preventive measures in the treatment of intestinal disturbance after laparotomy; I would only draw attention to the fact that too much care cannot be given to the position of the omentum.

When it is carefully spread out in front of the intestines, oftener between them and the abdominal wall, one can count on less disturbance of the intestinal peristalsis. Any hernias which may occur later are not so big nor so troublesome, because they only contain omentum. Intestinal peristalsis does not so easily prevail against these. Hernias which contain intestine without omentum are formed into big sacs from the constant activity of the intestines.

The frequent observations of stomach troubles after laparotomy, for which neither local treatment nor examination can find any cause, and which make one diagnose "hysteria," can only be explained by the traction on the stomach following omental adhesions. This has been seen after repeated observations following several operations.

Nowadays we try to cover all operative stumps with peritoneum. However, I can never reckon with safety that there will be no marked swelling of the stump, either from the existence of adhesions, or from inflammation due to bacteria, or from buried ligatures, especially when of non-absorbable material (which I hold should never be used in gynaecological operations). It is by no means a matter of indifference whether untouched intestine and omentum, as in the vaginal operation, are spread out in this position, or, as with laparotomy, irritated intestines, perhaps also rubbed with swabs, are cemented to the surrounding tissues and the stumps. Naturally, the vaginal operation may also cause disturbances, so that the wound of the appendages and the stump become adherent and swell, or exudates develop. But these find a natural outlet through the vaginal wound, or are soon prevented by the important drainage towards the vagina. Therefore, they disappear much quicker, and leave behind, if at all, the most localized troubles; and especially are stomach and intestinal cicatrices not so frequent as with laparotomy, abdominal fistulas naturally being totally excluded.

The elevation of the pelvis, the so-called Trendelenburg position, can be heartily welcomed as an improvement of laparotomy from the surgical side. It is a great gain, without which—I think of the median incision for cancer (Wertheim operation)—we cannot be abdominal surgeons. But it is a question whether the Trendelenburg position, the packing back of the intestines and the abdominal wound with its consequences, will not be proved superfluous in many cases, if one operates vaginally. I shall immediately speak of this.

I should like to first of all mention the herniae of the abdominal wall. By the vaginal route we have not to deal with hernias; even when they are very large and exceptional, then only when the extirpation for prolapse has been falsely done without repair of the pelvic floor. Hernias have decreased since the sewing of the fascia has become the chief matter in the laparotomy. Abscesses of the fascia are also rarer. The suprasymphysial transverse incision of Kustner-Pfannenstiel has removed a great cause of hernia, but yet it gives rise to a well-known melting or suppuration under the flaps, and is not serviceable in all cases. However, I willingly admit that every operator should consider whether, in view of the possibility of a later hernia, he should not employ this incision instead of the vertical one. As in all the events of life one cannot separate the good from the bad, so also must the disadvantages and weaknesses of laparotomy be shewn from a favourable point, and I should like to do this first, before speaking of the employment and advantages of the vaginal operation. For many patients laparotomy is the right and only procedure. By it the other abdominal organs can be seen and operated upon. Although I have probably operated vaginally on ten cases of appendicitis, still I am a firm believer in the rule that laparotomy should be preferred when there is a suspicion of appendicitis. Owing to the difficulty of this diagnosis in connexion with the female generative organs, final opinion must always admit that the operation may be done vaginally, provided the appendix is healthy.

Laparotomy is to be preferred for tumours of doubtful

character which, from their symptoms or examination, are connected with the intestines in the upper part of the pelvis.

The size of a tumour is never a reason for laparotomy; it depends on its character. Cystic ovarian tumours, even when they reach up into the abdominal cavity, can still be operated on vaginally, and this is still more important in the case of aged patients.

I cannot appreciate the objection against the vaginal operation that one is working in the dark and can see nothing. I maintain that it is quite the opposite. Also, I cannot accept the statement that in the clinic students can be shown more by a laparotomy than by a vaginal operation.

The vaginal operation is often more ingenious and not seldom easier than laparotomy. Anybody who has spread out the uterus and its appendages on a perforated towel outside the genitals will see everything more clearly and better demonstrated than when lying inside an abdominal incision.

Complete view of the ligaments and all adhesions, inspection of the posterior uterine surface and the pouch of Douglas, without disturbance of the intestines and omentum, sure control of the blood supply and no necessity for the Trendelenburg position, easy drainage by the vaginal wall—these are, indeed, the advantages which an expeditious operator must always consider before he deems himself justified in making use of laparotomy, accompanied as it is by greater interference.

I can no longer recognize as an objection the lack of clearness of the surroundings. An almost daily experience teaches me that, especially with retroflex operations, laparotomy is a too big attack against a relatively light disease. The vaginal operation affords a more certain test than the Alexander-Adams operation, which in spite of many advantages leaves the uterus still in the dark.

So far I have not felt the need of Ott's specula for ventroscopy. Undoubtedly they will have a restricted use. I have attained an extremely good view chiefly by sufficient dislocation of the uterus. I would not employ it for the view of the gall bladder and appendix, because of the principles I have now mentioned. The speculum and illumination is as little necessary as by laparotomy—neither to loosen a uterus and ovary adherent with both hands (combined) to the pelvic floor, or as in kidney operations to shell out the kidney. The hand is easier, safer, and less dangerous.

Now I shall devote myself to separate groups of diseases and prove the place and the qualifications of the vaginal operations in the important groups. Three questions of a general nature are urged against the vaginal operation; they are in a slight degree right and require explanation:

1. Narrowness of the space.
2. Danger of injuring the bladder and ureters.
3. Consequence of the vaginal incision and cicatrix in convalescence and during later deliveries.

The relations to the bladder and to the consequences after the operation will be mentioned at the end of my address. I will now deal with the question of obtaining more room. The narrowness of the space played a bigger rôle—if I may say so—in the beginning of the vaginal era than now. By means of better management of the incision and additional incisions, and thanks to the mobility due partly to the use of retracting instruments, partly to having the parts not operated on slipping back on long ligatures, we have to-day stretched the utilization of the space to the utmost. It is also astonishing that many experienced operators who are not deterred in midwifery by Caesarean section, and also by the vaginal extirpation of the puerperal uterus, are so cautious regarding its use for gynaecology. As we have learnt to utilize the space for midwifery, so must we further benefit from it for gynaecological operations. One must never hesitate to enlarge the rigid passages of a nulliparous or senile patient as widely as those of a multipara, for the removal of large tumours. Not one case in thirty during the last year had failure of primary healing of the vaginal incision. Even in rare cases of secondary healing is there scarcely any trouble with the cicatrix, which prevents ectropion and eversion of the posterior wall. When the catgut loosens at the end of the first or beginning of the second week there is sometimes a slight burning sensation as with the perineal stitches in midwifery. This is stopped by lead acetate solution, ointments, or powder.

The route through the posterior vaginal wall is indicated for tumours which project through it. It does not require the loosening of the bladder, but is limited in its application. The uterus and ligaments must be twisted and there is a worse view than by anterior colpotomy. When the incision is too big the utero-sacral ligament is in danger, and from this and also the sticking together of the wound and the rectum comes retrofixation of the uterus.

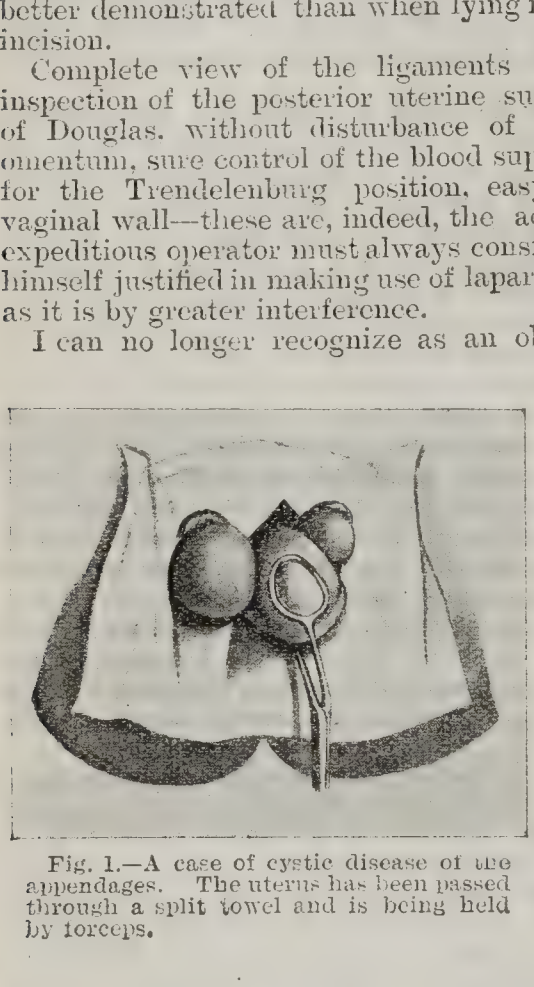

Fig. 1.—A case of cystic disease of the appendages. The uterus has been passed through a split towel and is being held by forceps.

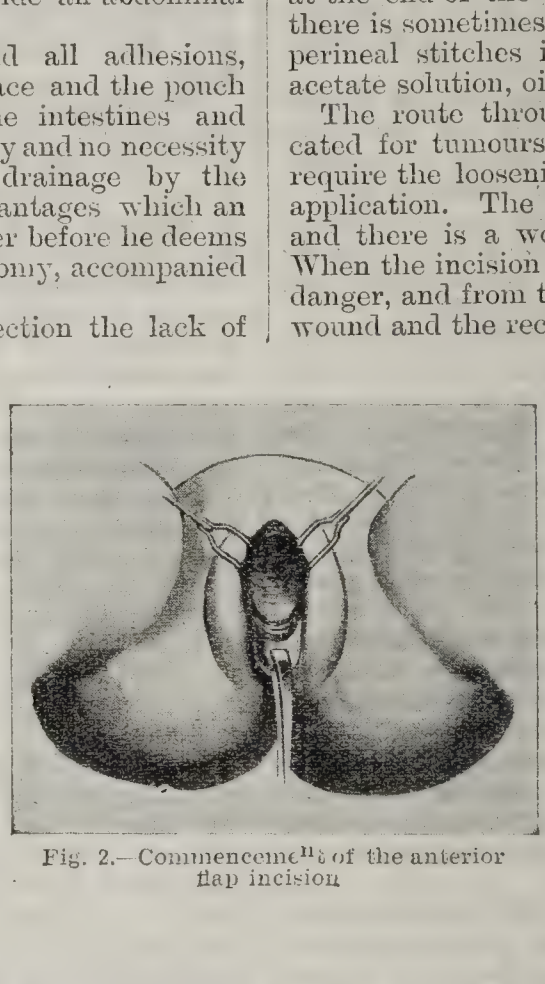

Fig. 2.—Commencement of the anterior flap incision

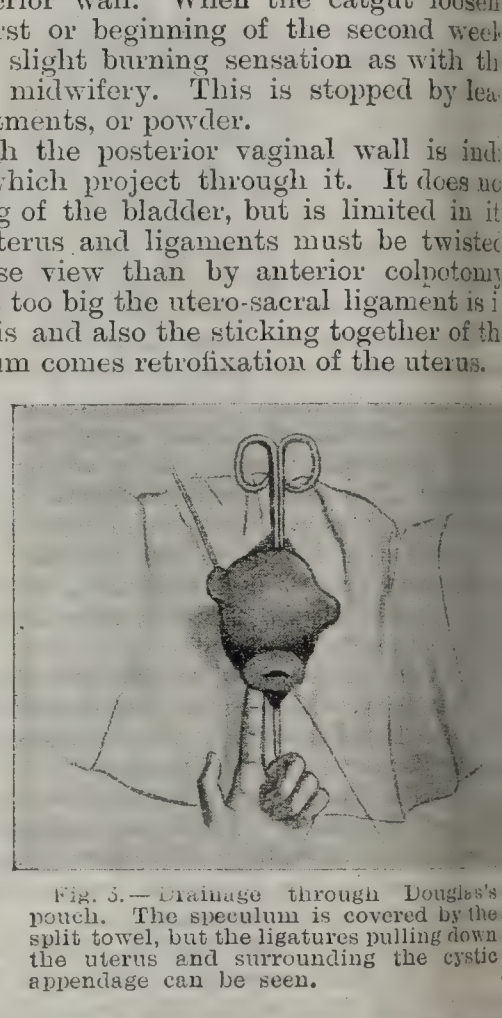

Fig. 3.—Drainage through Douglas's pouch. The speculum is covered by the split towel, but the ligatures pulling down the uterus and surrounding the cystic appendage can be seen.

The anterior vaginal incision requires more anatomical carefulness. The search for the vesico-uterine fold of peritoneum will be learnt by experience. There is a far better view, and displacements can be corrected with perfect safety When drainage is necessary, the posterior vaginal wall, which is very suitable, can be opened before to avoid loss of time. I have tried the anterior flap incision since 1903.

It begins below and also slightly from the hymen, and goes—according to the size of the vagina, which is drawn forwards—in a curve below the deepest bladder crease towards the opposite side; the lowest part of the incision must not be on the cervix but in the movable vaginal membrane which lies at the lowest columnar folds. It must not go too deep on the cervix, so that a secondary retroflexion will be caused by the cicatrix later.

The fascia is cut through. The muscle fibres of the vesico-vaginal septum transversely cut with scissors, and the bladder separated from the midst and the edges of the uterus. The uterine fold need not be sought for. Its double fold can be seen pulled down by the finger, incised, and after the scissors have been opened in it, the peritoneum split to either side into one broad flap. The same flaps are got as in total extirpation of a myomatous uterus from above, only here the fascia and vagina are separated together and the bladder is scarcely exposed.

During these incisions the cervix is pulled outwards as far as possible by curved forceps, and the lateral vaginal walls are kept back by small fenestrated retractors.

Now, after the vesico-uterine fold is opened, allow the cervix to slip back, because it takes up unnecessary room and retards the protrusion of the uterus and appendages as well as the mobility of the ligaments in the upper half. However, a silk ligature is passed through the cervix, so that at the end of the operation, and whenever necessary, it can be drawn forwards. The uterus need not always be so pulled forward. When a tumour is in the anterior part of the uterus it can be drawn forward or punctured, etc.

Strongly adherent annexes will be loosoned by the combined ethod; two or four fingers are placed in the pelvis and the nexes are shelled out with counter-pressure from outside. have seen very expert operators, who usually work with ncette and scissors, separate the annexes abdominally from eir adhesions only by the hand, and I hold that this procedure also good for vaginal operations. The movable uterus can drawn forwards without bullet forceps as far as the pendages. Then use the bullet forceps or catgut sutures. hese may be used at the same time for vesico fixation (see low).

In general by all operations—except naturally those ring pregnancy—the uterus should be drawn forwards, we have formerly mentioned. The uterine forceps hich I show you, is for holding the uterus, not for pulling —only for twisting it to one side. In order to prent contact with e skin, the erus is drawn rough a towel, olit in the iddle. All adsions must be vided, and the uch of Douglas ely seen. Omentum and testines are shed aside, and der cover of the hesions the rt desired to be erated on is ught forwards, whilst by laparotomy the intestines st first be freed and then the uterus itself reached. llet and artery forceps must never be applied in the k. When it is necessary to catch hold tightly of omen-n, intestine, tube, or ovary which will be preserved, I ommend you to use special smooth forceps.

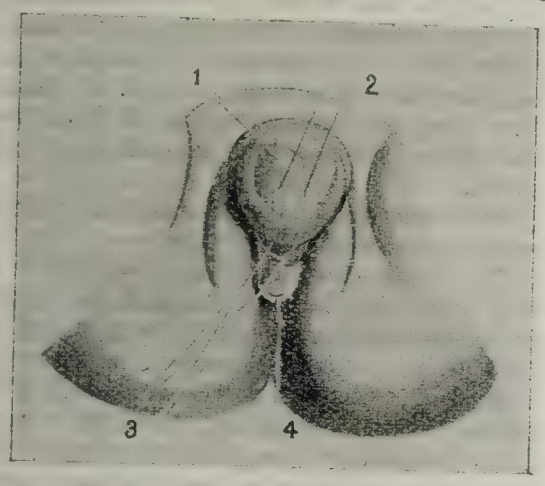

Fig. 4.—Retrofixation of the uterus. 1 and 2, the catgut ligatures in place; 3, a catgut ligature to close the plica; 4, a silk ligature holding the cervix.

n difficult cases of pus tumour, for which total extirpa- is necessary, the ligation of the uterine vessels in the er parts must first receive attention.

n cases of solid but not suppurative chronic peritritis and perisalpingo-ovaritis the freeing of the esions is sometimes first successful after all instruments specula have been removed. Then the half or whole d can be introduced.

n radical operation is that, after extirpation, a great , if one does prefer the sored uterine casion only? a not inconrable number ases of young men well ed for the inal operation ave adopted servative meres after ing the anteflap incision. he vaginal ation facilis a conservaand still an ative proce in those

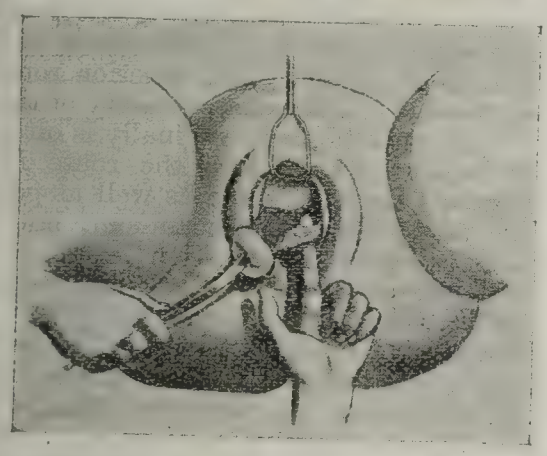

Fig. 6.—The left uterine vessels isolated by the forefinger; the cervix drawn down by forceps; the vaginal flap kept back by a retractor.

en on whom one cannot perform laparotomy because he insignificance of the findings. But simple adhes often afford great surprises: closed tubes, adhesions ing down the ovaries, remains of haematomata, etc., these have been diagnosed as "nervousness." arotomy is too severe an operation in these cases, the correction of all the alterations leaves behind too much inconvenience.

he admission of air into the abdominal cavity is very ed with the vaginal operation. Though we now y that in general the bacilli in the air do not cause re infection, yet it is a real consideration for the tines if the contact with the outer air or with gauze swabs occurs only for moments or not at all. Should the intestines strongly protrude, a small gauze compress is sufficient to keep the pelvis free.

Adhesions of the organs in the lower part of the abdomen and tumours can be as well treated surgically from the vagina as from the abdomen.

It is not necessary to speak before this gathering of experts on the methods of removal of appendages or tumours, the shelling out of myomas, or the radical removal of organs.

One of the greatest advantages of the vaginal operation lies in the drainage. After operations with pus or turbid suspicious fluid in the pelvis and tubes, the vaginal procedure allows one to wait for convalescence with greater composure; also after elder tubal pregnancies, whose contents are not always bacteria-free, as the slight elevation of temperature shows, and through which a suppuration of the abdominal wall occurs.

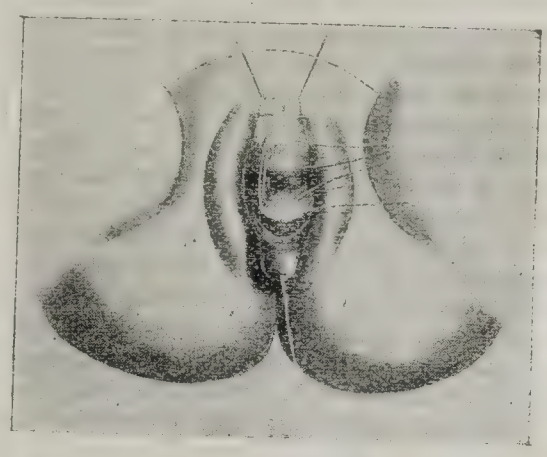

Fig. 5.—Sutures in place for ventrifixation. One already tied.

I drain through the posterior vaginal wall after shelling out large myomas, or especially after extensive wounds of the uterus, and here sometimes through both vaginal walls. This can be done at the end of the operation by placing the finger over the anteflexed uterus and pushing a clamp through Douglas's peritoneum and the posterior opening between a speculum and the posterior wall of the uterus. In cases of inflammation of the appendages and tubal pregnancy, I begin the operation by making the drainage opening in the posterior vaginal wall, and so arrive at a diagnosis at once. So the effusion of blood can discharge very much to the benefit of the reconvalescence.

The route through the anterior vaginal wall offers the greatest safety in preventing displacements, and to correct any if present. For many years I have done vesico-fixation by the vaginal route. Concerning its technique—only two sutures should be used, a little above and below the middle of the anterior wall of the uterus. A third provides the closure of the plica. These sutures are secured by a pair of forceps. Then the uterus is replaced by pulling on the silk ligature attached to the cervix.

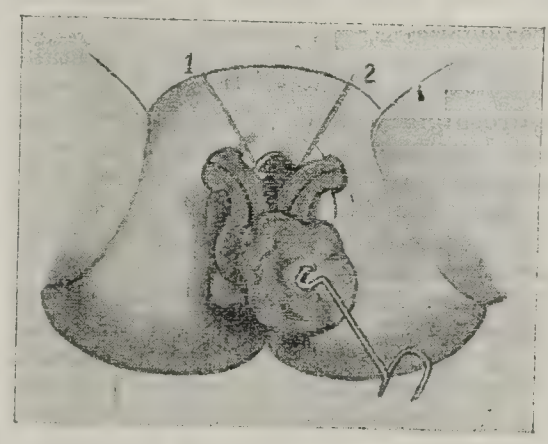

Fig. 7.—A fibroid of the fundus held by a corkscrew extractor. The uterus has been diverted as high up as possible, and the ligatures round its vessels are seen at 1 and .

Ectropion c the vesico-uterine fold follows by drawing it with the forefinger, even till over the clitoris. The two sutures should not be passed through the peritoneum higher than 1 cm. above the boundary of the immovable bladder peritoneum. The first is tied when the second is in position, and so the uterus still has its mobility under the command of the second suture. The third suture closes the vesico-uterine fold and then the fascia. The vesico-vaginal septum must be accurately brought together again, or else a cystocele might be formed and too strong adherences to the vaginal wall would result. Any oozing blood vessel should be ligatured with fine catgut. I have twice seen haematoma in this pocket which required reopening and clearing out. To prevent such events is the task of good wound treatment. No post-operative haemor-

rhage should occur. Still, even as after colporrhaphy and every vaginal operation, haemorrhage may come from the flaps. Once I saw such a case on the sixteenth day, I suspect because a small necrotic piece had been cut out of a fold which had been fastened with a clamp. Therefore I have given up the use of clamps.

In the operation of vesico-vaginal fixation the adhesions of the uterus are clearly seen; the operation presents, as it were, an obliteration of the under half of the vesico-uterine fold. When the vesico-vaginal septum is properly caught together there are no bladder disturbances and no distorted cicatrices of the cervix. In order to keep the uterus forward after the vaginal operation I have attempted to cement the lower part of the uterus by slightly splitting quite superficially the peritoneum of the lower uterine segment in the middle and on the sides. For drainage I have had the best results with gauze soaked in weak lead acetate solution. The vaginal wound unites very quickly, and then healing sets in over the drainage area, so I resolved to remove the drain not before the eighth day; for tubal pregnancies first on the tenth day. Since we have done this it has been unnecessary to open later the pouch of Douglas on account of retention of wound secretion, nor have we had any ileus. The after-treatment of vaginal cases is very simple. I advise a permanent catheter for one day on account of the position of the uterus and to guard against the massage of the bladder. Pains from meteorism and the fear of flatulence subside very quickly. Patients who have had a laparotomy and then a vaginal operation (for example, by repeated tubal pregnancies) know well how to praise the difference between the two methods.

I wish next to recommend the vaginal exploratory incision. Exploratory laparotomy has its indications for obscure stomach and intestinal symptoms and, perhaps, for perforations. When, however, the conditions which call for operative interference are situated in the pelvis, then the posterior vaginal wall should be opened and the abdomen spared. An important indication for the exploratory incision is the differential diagnosis between inflammatory conditions and tubal pregnancy. Laparotomy is dangerous, too, for acute inflammatory cases, but these the vaginal operation frequently cures.

In cases of acute peritonitis following criminal operations interfering with pregnancy, timely opening of the pouch of Douglas and drainage has saved some cases. The time may yet come when the opening of the posterior vaginal wall for acute inflammation of the appendages, which also by conservative treatment means long months of illness and year-long injury to the body's capacity for work, will be raised to the same position as puncture of the tympanum in otitis media.

An unruptured tubal pregnancy is frequently a mistake in diagnosis. In lucky cases, perhaps, there is a small ovarian cyst or a hydrosalpinx. But where is the clinic which has not done a laparotomy with coexistent pregnancy? The vaginal procedure does not leave its mark on the abdomen, and so show the fatal mistake. In cases of malignant ascites the vaginal emptying and diagnosis replaces in many cases laparotomy.

Our observations of the last few years have shown us that even in exploratory laparotomy with drainage towards the vagina a better drying of the peritoneal spaces occurs, and the peritonitis following the exploratory incision for malignant tumours seems to have decreased.

The correction of uterine deviations by the vaginal route is in the broadest sense practicable. I consider that one is never justified in opening the abdomen only for prolapse. My standpoint is as follows: I do not consider the Alexander-Adams operation for prolapse to be right, except there may be a hernia also which needs to be corrected.

Total extirpation of prolapsed uterus is indicated for bleeding uterine tumours or annexial disease, but not otherwise. I do not perform the Schauta-Wertheim interposition of the uterus, but vesico-fixation during the period of sexual activity; after the menopause the same with vesico-vaginal fixation. The uterus is placed in good position and immobile by accurate approximation of the divided fascia of the vesico-vaginal septum by the use of buried catgut.

For retroflexion I do ventrifixation, or, better still, sub-peritoneal ventrisuspension, and the Alexander-Adam operation much less than the vaginal operations.

Opening of the abdomen only comes into question wit me when there is a suspicion of appendicitis or simila conditions. When I find by laparotomy—on account o other reasons—that the uterus lies behind, I place the firs peritoneal stitch in the fundus. The Alexander-Adam operation by shortening the round ligaments is anatomicall very tempting, but is still an operation which works in th dark. I will not force myself to decide whether a uteru is free from adhesions or a fibroid in the posterior wall. movable organ may still have adhesions. The healing o the inguinal wound has discomforts in fat cases; nerves i the inguinal canal can be easily damaged and unpleasan neuralgia and spots of sensitiveness can follow, not t speak of hernias. The Alexander-Adams operation is ofte followed by recurrences. Therefore many operators in a incomprehensible way, instead of doing the vaginal opera tion, perform laparotomy with flaps, loosen all adhesions and then shorten the round ligaments in the inguina canal.

The vast majority of cases of pelvic adhesions can b safely improved from below.

But the Alexander-Adams operation is to be preferred i cases of very narrow vagina in virgins, nulliparae wit conditions of dyspareunia, hernia and predisposition to i and finally varicose veins on the legs when they ar together with this predisposition. Then I make the in cision over the inguinal canal in a curve directed down wards over the triangle of the thigh. The round ligament are shortened and the hernia closed and the ligature of th internal saphenous vein by the Trendelenburg method The patient is greatly delighted that by one incision sh can dispense with her truss, ring, and rubber stocking.

Movable retroflexion without tear of the pelvic floor an cervix is treated by a ring, and the patient can decid whether and when she will have an operation. Cases o prolapse and tear of the pelvic fascia or floor are operate on early or late, according to the patient's desire. At th same operation I do curettage, repair of cervix an perineum, and correct the position of the uterus.

Fixed retroflexion, adhesions of the uterus and appen dages, also chronic perimetritis, through which the dis placement is only a link in the chain of events, should b submitted to a course of conservative treatment befor anything else. Never operate before a course of tampons hydrotherapy, loading with weights, baths, massage. Thi will be sufficient when the uterus lies in good position, bu is not enough for retroflected cases. The opening of th posterior vaginal wall, with freeing of the adhesions, i clearly not indicated, although it forms a connecting lin between the brusque replacement of the adherent uteru and the operation. The anterior route is to be preferred on account of the constant safety of the position.

To remove tumours vaginally is often more difficult tha by laparotomy. Before the route is decided upon th diagnosis must be made as well as possible; not only th size and shape of the tumour, but also the position pedunculation, composition from several sections, th probable condition, whether unilocular, cystic, or multi locular, solid or papillary.

General surgeons who are called on to perform gynaeco logical operations naturally prefer laparotomy, as the are accustomed to this operation, but the route for th true gynaecologist is per vaginam. Still laparotomy ha its place.

Ovarian tumours form a third, possibly a half, of th vaginally operable cases. I favour this route only whe I can reach a pelvic part of the tumour from the posterio vagina; otherwise I take the anterior path.

Cystic ovarian tumours are diminished by punction, a also dermoids, which one may presume to exist on feelin a hard mass within a cystic ball. The contents d not usually go into the abdominal cavity, and when the do there is no trouble, because drainage is easily done A multilocular cyst can be more easily cleared out fro below by the fingers and forceps than the skull of a chil by perforation of the brains. In cases of tumours wit liquid contents there is scarcely any boundary line to th vaginal operation. Pseudo-mucinous contents can also b removed in that way.

I would try to remove suppurative cysts vaginally i cases of torsion of the pedicle. When the relations to th

intestines are not quite clearly defined, laparotomy is naturally more suitable. This applies also to large solid tumours. In doubtful cases the vaginal exploratory incision can do no harm.

With ovariotomy for innocent growths I avoid, if possible, removing the tube. I try as far as possible to keep to Farré's line, and to cut down in the hilum of the ovary. The parametrium is thereby not opened, and the uterus not distorted by cicatrices. Vaginal ovariotomy has with me a mortality of practically *nil*. In cases of malignant ovarian tumours the uterus should also be removed because of the bad prognosis regarding duration of life. In the *Zeitschrift für Geburtshilfe*, No. 66, I have published 9 cases of total vaginal extirpation of the uterus for such tumours which were malignant. After five years one had recurrence, the others still remain healthy.

I do not intend to speak before you on operations for cancer of the uterus. My principles are—cancer of the uterine body is operated vaginally, beginning cancer of the cervix in fat and older patients (over 55) also vaginally. Extended cancer of the portio and the cervix and beginning cancer in younger women is operated by laparotomy, mostly after some weeks' preparation—curettage, cauterization—and always with extirpation of the glands. What is won by laparotomy in cases of extended cancer of the cervix is equalled by a higher primary death-rate.

Now for the operation on myoma. I take as favourable position regarding these tumours as possible. I operate only when there are definite indications. When operation is decided on you must determine whether it is a single hard mass, too large to pass through the pelvis. In these cases laparotomy is quicker and more considerate. If, however, there are multiple tumours lying deep in the pelvis and pushing the vagina directly outwards, the vaginal operation has a very wide scope for use. Tumour masses weighing many pounds can be removed by this way, after gradual removal of all the numerous small fibroids. The blood control comes into question first after the shelling out of the tumour and the bringing forward of the uterus. However, I should like to describe the technique of total vaginal extirpation with the use of the flap incision:

The cervix is circularly incised and the pouch of Douglas and the utero-sacral ligament cut through. The flap is cut and the vesico-uterine fold opened. The uterine blood vessels will be palpated with the index finger, caught, cut, and ligatured when possible on both sides. The cervix is exceptionally cut open. When separated it is useful to clamp with pulling forceps. The tumours are enucleated by splitting, the corkscrew (Doyen) being most useful. When they are situated on the fundus they can be enucleated by inversion of the uterus. Now, it is still important to clamp and ligature the upper part of the broad ligament with the round ligament on this side or the other of the appendage, two or three at the most ligatures for each side. The edges of the wounds are brought together. Thus the operation is carried out bloodlessly.

The abdominal myoma operation offers, by an examination of the operable cases, a somewhat unfavourable outlook, as the more difficult cases belong to it. I am dissatisfied with the vaginal operation, and will only say that in the last few years I have operated on 64 myomas abdominally and 218 vaginally. The mortality of the abdominal is 8=12.3 per cent. In the vaginal operations there was 168 radical operations, with 2 deaths, and 50 conservatively treated, with 3 deaths; altogether 218 with 5 deaths=2.2 per cent.

The conservative myoma operation—enucleation—has an unfavourable prognosis, because of the large cavities in the muscular wall. Small haematomata are easily formed, come through the ligature, and form adhesions with the intestines. Thrombosis, with all its consequences, may occur.

I would no more attempt any conservative operation if the uterine cavity has been opened. My operations for extrauterine pregnancy (1902–1911) were treated: 10 by laparotomy, 199 by vaginal operation (the simple incisions for haematocele not included). From all these operations I have only lost one. This was a case which had been elsewhere previously curetted and perforated. I did an extirpation when there were large masses of adhesions and an oscillatory temperature, and ought probably to have restricted the incision. The patient died after several weeks of fever. The earlier the period of pregnancy and the later after the first rupture or peritoneal shock, the better the prospect, since the broad ligament is much more flexible.

I have operated at nighttime on old nulliparae with narrow vaginas, and have not failed to appreciate the difficulty and coolness which must be observed. But I am still more convinced that this procedure is right, and I think I have it to thank for success in cases of pulseless women. In these cases we do use lumbar anaesthesia in the lateral position.

When a haematocele has been in position for a long time, it is better to be content with colpotomy and the clearing out of the haematocele with drainage. It is above all others the only practicable well-known route in cases with fever. One takes care, however, to fasten the margins of the wound, so that at the next menstruation there will be no occurrence of haemorrhage from the vagina. Happily, operations on inflammatory appendages are becoming less frequent. A few cases with fever or perimetritis have been operated on in the first year after infection. Later there are always some cases for operation; those with continual relapses, large collections of pus, or those with continuous bleeding desire finally to become healthy and active. I have also, when the diagnosis was wrong and when a pyosalpinx was accidentally met with, closed the abdomen and finished the operation vaginally.

The value of a bacteriological examination during a laparotomy should not be underestimated, but can we, in the event of a negative finding, await calmly the course of events if the pus pours out at the time of operation? I am not in a position to defend laparotomy for pyosalpinx, even though it has a low percentage of risks. Only, when a pus tumour lies very high—for example, when after the puerperium it is in the upper part of the pelvis and as a centre contains a suppurative ovarian tumour or abscess—it should be removed by laparotomy, with, however, an incision in the flank, which I leave freely open and drain.

In the removal of pus tubes I begin at the abdominal end, and so pull the tube out of the broad ligament so as to injure the blood supply as little as possible. Whenever possible at least one ovary should be left.

The radical operation is the only safe guarantee for pelvic inflammation in women who are compelled to work and who cannot take care of themselves during the menstrual period, and perhaps are liable to fresh infection. This frees them from all troubles. Pelvic inflammation with or without pyosalpinx must sometimes, and safer, be treated by removal of the uterus only when necessary by splitting.

Among the consequences of the anterior vaginal operation we must consider the cicatrix. It is no exaggeration to say that women are in the majority of cases quite unconscious of it. It gives rise to no trouble during coitus.

The neighbourhood of the bladder during vaginal operations is a danger which must be remembered, and one must be always careful when in its proximity. Injury of the ureter does not come into question, because the full width of the bladder can be pushed backwards as far as the ligaments. A very small part only of the bladder is laid free by the flap incision.

Naturally one must expect some mechanical disturbance of function, and how to avoid this must be learnt. The so-called post-operative cystitis is in many cases only a post-operative paresis of the bladder, and is got also with the vaginal and abdominal radical carcinoma operations, etc. As a test and also for treatment I recommend injecting 5 grams of a 5 per cent. emulsion of iodoform in oil of sesame into the bladder. In cystitis the first micturition gets rid of the oil altogether. With paresis the oil remains floating on the surface and is only gradually emptied. The more skilled one becomes in the procedure of the vaginal operation, and the more aseptically that one catheterizes, the more frequently women will be able to pass water themselves during the first days. Three-quarters of the patients can do so themselves by the second day. Severe symptoms of cystitis make one consider laparotomy. However, the same symptoms also occur after laparotomy, as is well known, even after the Alexander-Adams operation.

Interference with delivery by the vaginal cicatrices of the flap incision has not been observed if care is taken to close the vesico-uterine fold, if the fundus be left free enough, and the insertion of the round ligament is not sewn to the vaginal wall or the bladder. Pregnancy has a

softening influence, and during delivery obstruction or tears occur only when bad connexions have been made, as between the cavity left by a myoma and the vaginal wall.

Allow me, in conclusion, to thank you for the extensive attention to my words, and to express my gratitude that you have entrusted me with the task of giving a summary of the present position of the vaginal operation. I am thoroughly convinced that it has won for itself a large sphere, and its control will always be spreading wider.

Laparotomy will always have its high value in general and also for gynaecology. But patients who, thanks to the wide accessibility of our scientific literature, interest themselves still more in the special questions of our subject know very well about operations with or without laparotomy.

Our activity and care may come more into evidence with laparotomy. The abdominal scar remains a witness of what the surgeon has done. However, one soon begins to estimate the vaginal operation as an artistic thing, and the ideal pleasure which it guarantees, if it can restore a patient by that way to health, makes up for any trouble which it has caused.

DISCUSSION.

Dr. HERBERT SPENCER (London) said the Section was much indebted to Professor Strassmann for his valuable paper, and especially for the conservative attitude which characterized it. He thought the frequency with which acutely inflamed appendages were being removed by general surgeons in cases of so-called "acute abdomen" due to gonorrhoea was little less than a scandal. With regard to hernia after abdominal section, although it was a frequent sequel and one of the chief disadvantages of the abdominal method, yet he did not agree with Dr. Strassmann that it *always* occurred, for he had seen many cases in which there was no hernia, even after nearly twenty years. Personally, the speaker did not use catgut at all, for fear of tetanus and on account of the difficulty of sterilizing catgut and of tying it with safety. Two years ago he was talking in New York with three experienced gynaecologists, two of whom used catgut and had lost patients from tetanus, the third of whom used silk and had never seen a case of tetanus. With regard to large ovarian tumours, his objection to removing them by the vaginal route was that it necessitated cutting up the tumours, with the possibility of local implantation should the case turn out to be malignant. The speaker also asked Dr. Strassmann whether he had never had difficulty in controlling haemorrhage in operating by the vagina on inflamed and adherent tumours. Personally he had met with this difficulty, and he believed it could best be overcome and the vessels tied by elevating the pelvis of the patient while in the lithotomy position, as recommended by Professor de Ott. He was glad to hear that Dr. Strassmann left gauze in for eight or ten days; the speaker had done this for nearly twenty years, and was convinced of its value. Like Dr. Strassmann, too, he did not operate on all cases of cancer of the cervix by the extended abdominal operation, on account of its high rate of mortality in comparison with the vaginal method. He must say that he used the abdominal method more frequently than Dr. Strassmann, although it was true that the vaginal operation was in many cases less dangerous than the abdominal. His reason for preferring the abdominal route was mainly on account of the better view it gave—the greater room for investigating and treating intestinal adhesions and fistulous tracts from suppurating tumours communicating with the intestine. He had successfully treated two such cases which it would have been quite impossible either to discover or treat by the vaginal route.

Dr. AMAND ROUTH congratulated Professor Strassmann on his paper and his excellent results. The vaginal route was tending to be neglected owing to the safety of the abdominal route and the greater technical experience required by the operator in the vaginal operation. The risk of hernia after the abdominal route, where drainage had been adopted, could be avoided by always draining by the vaginal through the posterior cul-de-sac—a procedure which was always possible and easy. The mortality of operations by the vagina was even at this date less than that of abdominal operations, owing to the absence of intestinal paresis and to the pelvic drainage which remained after the vaginal operation. It was satisfactory that Dr. Strassmann had spoken so strongly against the need of operation in cases of acute or chronic salpingitis. Most of such cases recovered without any operation. The most fatal abdominal operations were for the removal of an acute pyosalpinx. Operations after a few months, when the pus was sterile, were less dangerous, but still were far above the modern 2 per cent. mortality of gynaecological laparotomies. If a pyosalpinx were present it could almost always be easily reached by the vagina, and could be incised and drained. If the tubes and ovaries were matted by adhesions in the subacute or chronic stages, it was astonishing how digital manipulations to separate adhesions through the posterior cul-de-sac followed by drainage per vaginam promoted lymph absorption and freed the parts involved. Pelvic tumours could often be easily removed per vaginam. Fibroids up to the size of a fist in parous women and multiple fibroid uteri of a larger size were advantageously removed per vaginam, and cases of small uteri with uncontrollable haemorrhage diagnosed as fibrosis should almost always be removed by that route, as well as cases of cancer of the uterine body and early cases of cervical cancer. Pelvic ovarian cysts, diagnosed as unilocular, by their elasticity could also be dealt with per vaginam, especially during pregnancy. Cases of ruptured tubal pregnancy were as a rule best dealt with by the abdominal route in the acute stage, but encysted haematoceles should always be dealt with by the vagina. The post-operative cystitis following pelvic hysterectomy for fibroids or cancer was, he believed, almost always due to the pressure of the gauze on the posterior vaginal wall. If gauze were not used cystitis would not often recur. Professor de Ott's pelvic *éclairage* did not help one much in the performance of these operations, though it was admirable for viewing the pelvic and abdominal contents when not obscured by a pelvic tumour.

Dr. HELLIER (Leeds) said: I have for many years felt an increasing preference for the abdominal route, having tried the vaginal route also from time to time. My reasons are that as regards ovarian tumours I prefer in almost all cases to remove them *intact*. Adhesions, especially intestinal adhesions, can be dealt with under the light of day, a torn bowel coat can be carefully repaired, and the occasional presence of malignant intestinal growth can be dealt with by enterectomy. The appendix also can be removed if necessary. In my experience the patient is more liable to lose blood in vaginal operations, and the abdominal route gives the best control. I admit the great utility of vaginal drainage, and make use of it in abdominal operations when needed. In large myomata I feel sure that they can be removed more quickly by the abdominal than the vaginal route, and *time* is a consideration. I have had much success in treating procidentia by the vaginal route, using vesico-vaginal interposition, but I have published my results elsewhere.

Dr. PURSLOW (Birmingham) asked whether Professor Strassmann had had experience of dermoid cysts bursting during the manipulations required to extract the tumour, and thought that this accident was more frequent in vaginal than in abdominal coeliotomy. He had been impressed with the great danger of operating on acute pus accumulations in the pelvis by the abdominal route, and would in most of these cases treat the condition by vaginal incision, even though removal of a pus sac by abdominal section might be required later. He had found that the differential diagnosis between pyosalpinx and tubal gestation was one of the most difficult in gynaecology, and in some cases it was absolutely impossible. He certainly thought that vaginal hysterectomy involved more danger of serious bleeding than abdominal, and he would in anaemic women, other things being equal, prefer the latter.

Dr. A. W. RUSSELL (Glasgow) said: The main virtue and educational value of Professor Strassmann's comprehensive statement of the present position of the vaginal operation lie in the fact that it is an exposition of the scope of an operation of which he is an acknowledged

master. Few of us have attained that mastery, and are compelled to be eclectics as to our methods of operation, and our choice of route may depend largely on our knowledge and experience of the technique. The diagnosis is most important, and that cannot always be reached even with examination under an anaesthetic. In such cases, fortunately not very frequent, where the pelvic roof is completely covered in by adhesions, it may be found advisable to close the abdomen, and, if the symptoms persist, enucleate the mass by the vagina at a later date. With regard to absorbable ligatures, I admit the difficulty as to the knot, but with care and double ligature of important vessels I prefer its invariable use, and have no fear of tetanus or any septic trouble if the vagina itself has been properly prepared and the catgut sterilized by modern accepted methods. I could never feel happy in leaving any kind of gauze in the vaginal cavity for longer than forty-eight hours after an operation, and I prefer to pack again, if necessary, but more lightly. I was long ago profoundly impressed with the published work of such men as Landau and Pryor, and I wish the main point of my contribution to the discussion to be a commendation of the use of vaginal clamps in vaginal hysterectomy. After a considerable experience of the use of these, removing them at the end of forty-eight hours, I have escaped all fear of haemorrhage, have shortened the duration of the operation, and practically avoided all shock.

Dr. Thomas Wilson (Birmingham) said he had employed the vaginal method frequently for many years past, but recently in a rather diminished proportion of his abdominal sections. The groups of cases for which the method was suitable had been altered by recent advances in abdominal methods. In cancer now four out of every five cases were operated upon by the abdominal method. This applied to corporeal as well as cervical cases, and the vaginal method was reserved for very fat or decrepit patients. In the treatment of displacements, after a careful trial of vaginal fixation for backward displacements, this operation was given up in favour of Alexander's operation for movable displacements and abdominal section with some form of ventrifixation for fixed displacements. In the treatment of prolapse, abdominal section was never necessary, some form of vaginal fixation being easily performed at the same time as the pelvic floor was repaired; for women of child-bearing age vesico-fixation, and for those beyond the menopause vesico-vaginal interposition of the uterus was the appropriate operation. In operations for fibroids carried out during the last four years about 30 per cent. had been done by the vaginal route. Incision and drainage could not be considered a curative method for pyosalpinx. In these cases the removal of the wall of the tube was called for; the difficulties in diagnosing the exact relations were sometimes insuperable by the vaginal method. Where operation was necessary in such cases the abdominal route afforded great advantages in a clear oversight of the field of operation, and in affording opportunity for conservative measures wherever possible. Occasionally trouble was caused in operating through the vagina by a friable broad ligament tearing through and bleeding vessels becoming retracted to the lateral wall of the pelvis high up. In such a case it had once or twice been necessary to open the abdomen. The exact limitations and indications for both vaginal and abdominal method could not be accurately defined; the route to be employed should be decided according to the conditions and requirements of the individual case.

Dr. John Campbell (Belfast) said: We all approach a debatable subject like the present with a certain amount of personal bias. I confess I do. My early training under the late Lawson Tait in this city of Birmingham, which I may describe as the birthplace of modern pelvic surgery, has impressed a permanent influence on my mind in favour of the abdominal route. The eloquent advocacy of the vaginal method by Professor Strassmann has not quite changed my view. Certain cases are suitable for vaginal operation, and a majority for the abdominal. When there is a doubt it is safer to adopt the abdominal method. As regards ovarian tumours, the removal of the tumour entire should be aimed at. This can only be done through an abdominal incision, except in a very few cases. Adhesions in chronic pyosalpinx and salpingitis can be far more safely separated by the aid of sight than by touch alone. The abdominal incision gives a far better chance of removing the tube unruptured. In the case of most fibroids the abdominal route enables the operator to control the bleeding readily and to operate more quickly. Displacements of the uterus, including both backward displacements and prolapse, have in my hands yielded far better permanent results when treated by some form of ventro-suspension or ventrifixation than when operated on through the vagina. The abdominal method gives results which are more lasting and more satisfactory to the patient. The objections to catgut as a ligature have but little foundation if the catgut is properly prepared. Disastrous cases have been recorded, but in many of them we have no indication as to the method by which the catgut was prepared. The modern methods appear to render it as safe as silk. It is desirable that the non-absorbable ligature should soon become obsolete everywhere.

Dr. Scott Carmichael (Edinburgh) said: Professor Strassmann has made a good case for vaginal operation, and with much of what he says I am in cordial agreement. With his plea for the vaginal operation in the treatment of uterine displacement, and more especially those cases of prolapse with large cystocele, the method of vaginal fixation with displacement of the bladder upwards to a varying extent, according to the size of the cystocele, offers the most satisfactory results. I consider direct ventrifixation an unsurgical and unscientific procedure, and reserve intra-abdominal shortening of the round ligaments for small groups of cases of retroflexion in young married women. With the advantage of vaginal route for inflammatory conditions of the adnexa we must also agree, but I limit it to mild cases, and not to those where there are large inflammatory masses and adhesions high up. It is also to be recommended in cases of ectopic gestation, especially in the early cases. I cannot agree with him in the adoption of the vaginal method in ovarian neoplasms, the uncertainty of including malignant changes alone being a contraindication. Again, in cancer of the uterus there is only one truly scientific operation, and that is the abdominal operation. The pathology of cancer requires for the complete removal not only the removal of the local focus, but the lymphatic area of thread up to the glands, and this alone can be done by an abdominal method. As to post-operative irritation of the bladder, this I believe in most cases to be not associated with cystitis, the mucous membrane of the bladder in these cases being healthy as seen by the cystoscope.

Dr. May Thorne said: I should like to give my thanks to Professor Strassmann for his valuable paper, but in advocating the vaginal route Professor Strassmann has, perhaps, overdrawn the dangers of the abdominal route. The dangers of possible involvement of the appendix make me feel that it is desirable to see widely the field of operation, and this can only be obtained by the abdominal route. The far-reaching end-effects of a chronic appendicitis can hardly be over-estimated, and even if but a small percentage of cases are missed by the vaginal route, this adds a strong argument to the advantage of the abdominal route. I find linen ligatures reliable and good, and use them both for intra-abdominal and extra-abdominal work.

Dr. Johnstone (Belfast) said: The choice of operation will depend largely upon the experience and personal predilection of the operator. In the class of inflammatory affections of the adnexa and of the pelvic peritoneum generally, I find myself more and more in accordance with the practice of Professor Strassmann, and am now inclined to operate on all, or almost all, cases with either acute or subacute infections by the vaginal route. In regard to extrauterine pregnancy, I think that an acute rupture can be equally well dealt with by either the abdominal or vaginal route; haematocele can be particularly well dealt with by the vagina. As regards the removal of tumours, I have practically abandoned the vaginal route in favour of the abdominal. I cannot understand why any surgeon who has tried the abdominal route in a case of early cancer either of the cervix or body should revert to the vaginal operation. These are pro-

cisely the cases in which the abdominal operation is both easy and rapid of performance, and in which the advantages of an extensive removal of the uterine lymphatic tract, such as is secured by this method, is most likely to be followed by a lengthy freedom from recurrence. In the case of myomata any but the smallest tumours are, in my judgement, more easily and quickly removed by the abdominal than by the vaginal route. In view of the present tendency to remove ovarian tumours entire, I have given up the removal of these tumours by the vagina.

Dr. GEMMELL (Liverpool) said: The vaginal route can only be used in a wide manner by a long practice and extraordinary dexterity. The difficulties in diagnosis of pelvic diseases, or, rather, their complications, is constantly demonstrated in the operative work of all. After an experience of some years in vaginal section, as a routine treatment, I have limited its scope very markedly, and favour the abdominal route. Catgut as a suture and ligature material has been quite satisfactory. No sepsis has been traced to its use, and never any slipping of ligatures.

Mr. STANMORE BISHOP (Manchester) said that the vaginal and abdominal methods of operation were both useful, but in certain cases, such as ectopic pregnancy, certainty and speed in stopping haemorrhage was of great importance and most easily obtained by the abdominal route. The occurrence of cystitis depended, not on the route of attack, but on the use of catheters. Catherization was not required in women either before or after operation. In his own practice he had experienced neither cystitis nor bladder paresis since the date, a good many years ago, when he had given up using a catheter. Catgut ligatures should never be used inside the peritoneum, but outside it nothing else should ever be used. Iodized catgut was preferable to all others, and the reverse surgical knot was the best security against slipping.

During the discussion Dr. CUTHBERT LOCKYER prepared a contribution thereto, but as time was very limited and he was an officer of the Section, he waived his right to speak in favour of ordinary members. His notes expressed the view that in London the tendency of the present day was to discard the vaginal route in favour of abdominal section for the major gynaecological operations. Although with a with a view to popularizing certain vaginal operative procedures he had translated Wertheim's book on vaginal peritoneal operations some years ago, his attitude towards the vaginal route differed from that of Professor Strassmann; the latter found it possible and even preferable to do most operations by this route, but Dr. Lockyer considered it had very distinct limitations. When practised per vaginam the more extensive operations took longer than per abdomen. Perfect haemostasis was far less certain, bowel adhesions less easy to deal with, bladder complications from bruising far more frequent, while the vermiform appendix if high up could not be dealt with at all. In respect of vaginal technique he appreciated the advantages of Professor Strassmann's anterior flap, but so far had never used it. He had employed Suchard's paravaginal incision and found it very helpful; for lighting the pelvis in cases of posterior colpotomy he used a forehead light and long bayonet-shaped retractors which passed right into the coelomic cavity. The vaginal route was valuable for exploratory diagnosis (probe incision), and Wertheim hooks were useful for drawing down the ovaries and tubes through an incision into the utero-vesical pouch. The speaker advocated the vaginal route also for acute suppuration of tubes and ovaries with subsequent vaginal drainage, and had not met with persistent sinuses afterwards, but had found it necessary to remove the diseased tissues later by the abdomen. In certain puerperal cases, such as in criminal abortion, drainage by the pouch of Douglas was valuable. Drainage of an appendicular abscess per vaginam had given excellent results in the speaker's experience. Diffuse retrouterine haematoceles opened through Douglas's pouch did exceedingly well. Dr. Lockyer had removed ovarian cysts per vaginam when complicating pregnancy several times without disturbing the uterine contents, and considered it a better procedure than laparotomy under these conditions. Cervical fibroids could be removed by myomectomy, and the uterus saved, by using the abdominal route, as some of the specimens in the museum which were lent by Dr. Lockyer conclusively proved. The speaker had also found it convenient to remove pedunculated fibroids lying in the pouch of Douglas per vaginam with or without morcellement. He also still employed the vaginal route for cancer of the body of the uterus. For cervical cancer, early or late, he preferred Wertheim's extended abdominal operation, unless contraindicated by obesity or age. As regards the age limit, patients over 60 years of age stood the more extended operation badly, and so did patients suffering from diabetes. Dr. Lockyer had recently removed a cancerous cervix per vaginam for a fat subject with a fixed uterus as a means of improving the patient's condition, but the indications of supravaginal amputation were limited to such an object, and should not be done unless there were contraindications to a more thorough attempt at cure. Of the vaginal fixation operations for retroflexion the speaker held a poor opinion, and was not surprised to hear Professor Strassmann speak of recurrence. The Tod Gilliam operation, of which Dr. Lockyer sent an account to the BRITISH MEDICAL JOURNAL and the *Lancet*, from Toronto, was the method which, in his opinion, gave best results. Vaginal hysterectomy was to be preferred to abdominal hysterectomy for the clinically malignant uterus—that is, the fibrotic haemorrhagic state spoken of as chronic metritis. Dr. Lockyer made free use of vaginal drainage in abdominal operations where pus had been encountered, but he did not use it as some did as a routine in Wertheim's operation for cancer. Professor Strassmann had raised the question of choice of ligatures. Dr. Lockyer was accustomed to linen thread, and should continue to use it, except for the operation of perineorrhaphy and that of suspending the bladder; in both of these cases he preferred the buried sutures to be of catgut, and for the stay sutures he used silkworm gut. He agreed with the lecturer in deprecating the leaving on of clamps where it could possibly be avoided. As to the various bogeys raised in objection to laparotomy, hernia after drainage was a fact, but an infrequent one, and drainage per Douglas would do away with it; that omental adhesion caused stomach trouble and nervous symptoms was unknown to the speaker; that there was greater risk of peritonitis in abdominal section was fast becoming a theoretical objection; and, finally, that less air entered the abdomen when operating per vaginam was a matter of no practical moment.

THE CAUSE AND CURE OF ECLAMPSIA.

By HASTINGS TWEEDY, F.R.C.P.Irel.,

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DURING the seven years of my Mastership of the Rotunda Hospital, which terminated last November, I was responsible for the treatment of 74 cases of eclampsia. Six of these patients died, a percentage mortality of 8.11 per cent. These are the best statistics for the same period that have ever been published from the Rotunda Hospital, and for this reason must arrest attention. The results are open to one of three interpretations:

1. The disease has become milder.
2. Greater laxity in diagnosis.
3. More satisfactory treatment than heretofore.

The first explanation—that is, the disease has become milder—can be dismissed in a few words. The annual hospital reports have clearly demonstrated that very severe cases were encountered. It is impossible to believe that the appearance of a mild form of the disease would exactly correspond to the beginning of my term of office and continue for seven years. Although every one recognizes the fact that a series of severe cases may be followed by another series of a much milder nature, no one has suggested that eclampsia of a mild degree would be manifested for seven years.

Before Sir William Smyly reintroduced the morphine treatment the mortality in the Rotunda Hospital was 35.3 per cent. It fell to 20 per cent. in those cases treated by morphine during his Mastership and that of his successor.

The second explanation—namely, that there was greater laxity in the diagnosis of the disease—is not

true, for it will be seen from the following how very rigidly spurious cases are excluded:

1. All deaths associated with convulsions occurring after the sixth month of pregnancy have been considered as due to eclampsia. Before the sixth month the diagnosis rests on the pathological findings. If there is obvious chronic renal disease it should not be classed as a case of eclampsia.

2. No woman who gives a history of previous fits unconnected with pregnancy or labour should be included, nor has such a case been included in our list.

3. We have not included any case of convulsions free from albuminuria. This limitation is of the utmost importance, for there are many conditions which simulate eclampsia, such as epilepsy, heat-stroke, etc.

4. An unconscious pregnant woman, who shows marked toxic symptoms after the sixth month, with albuminuria, is considered to have eclampsia, whether or not she has had convulsions.

It is possible that some cases of true eclampsia may pass unrecorded, but, on the other hand, if a less stringent definition is accepted, it is absolutely certain that many spurious cases will be included in a statistical table.[1]

The third explanation—that the treatment is more satisfactory than heretofore—is the correct one. This treatment is based on observations made by me whilst still Assistant Master in the Rotunda Hospital during the year 1895. I then observed that neither medicine nor food could be safely placed in the mouth of an unconscious patient. If placed in the mouth they are likely to find their way into the lungs rather than into the stomach, thus predisposing to bronchial inflammations and leading to pulmonary oedema. I demonstrated that digestion was in abeyance during the unconscious state, and that the presence of food in the stomach increased the severity of eclampsia. These views were incorporated by me in a paper read in 1896 before the Obstetrical Section of the Royal Academy of Medicine in Ireland, and I there advocated stomach lavage, administration of purgatives by the stomach tube, poultices to the loins, rectal and intravenous injections of salt solution. I also insisted on the importance of keeping the patient in the side position to enable mucus to drain readily from the mouth, holding that were it allowed to collect in the pharynx it would cause spasm of the glottis, a fruitful source of asphyxia. I was then, and am still, a firm believer in morphine, which was administered under the direction of Sir William Smyly.

These, then, were my opinions on re-entering the Rotunda Hospital as Master, but it was left to my staff to carry them out in practice. It did not occur to me that it might be dangerous to give milk to a patient who could swallow naturally or who had recovered consciousness. Neither did I realize how difficult and uncertain was the carrying out in all details of treatment by those not specially trained. Above all, I was unaware that the presence of a properly instructed doctor frequently determined the safety of the patient, who must inevitably have died had the case been left in the charge of a couple of probationer nurses. My knowledge only extended to the observation that digestion was in abeyance during the period of unconsciousness. I considered I was supporting the patient's strength and preventing heart failure by administering nourishment to a woman who had struggled to consciousness through this terrible disease.

The statement that I have now to make is that food is the actual exciting cause of eclampsia, and the primary cause of the toxaemia giving rise to heart failure. This has been partially known for years, as proved by the popularity of an all-milk diet as a prophylactic against eclampsia. But that the blandest forms of food—milk, whey, etc.—could have any harmful effect was a point that required very convincing proof. It was because of their irritating effect that foodstuffs have been considered by many to excite convulsions; and this view I fully accepted until recently. I thought I recognized decomposition as a factor in the disease, but it seems doubtful if the deleterious action could be thus accounted for. As an irritant it would be hard to conceive any food as drastic as cotton oil, yet experience in the administration of this drug enables me to say that it shows no tendency to increase the severity of eclampsia. In respect to decomposition, fits at times recur so soon after the administration of whey as to preclude the possibility of decomposition. It seems probable, therefore, that food particles are permitted to enter the circulation ununited with, or incapable of uniting with, their proper antibodies. Many observers have endeavoured to prove the existence of an anaphylactic condition in eclampsia, and most of them have centred their attention on the placenta as the offending structure. So far as I know, it has never been suggested that substances taken by the stomach can act as anaphylactic poisons. In other words, the epithelium of the intestinal tract has been assumed to be protective in this particular. Why it should be so is at least surprising. All other structures of the body are liable to degeneration. The kidney epithelium when diseased permits the passage of albumen, similarly the liver and the pancreas can cease to functionate. Why this universal rule should be withheld from the stomach epithelium would be wonderful if it were true. But that it is not true will be proved in the further study of eclampsia.

Pregnancy is, of course, a necessary predisposing cause, and the reason for this I cannot explain; but it is quite easy to theorize on the subject. Observation has shown us that many pregnant women do not drink enough fluid. Concentration of the toxins which arise from maternal and fetal waste may overtax the excretory organs and cause degeneration. The curious cravings which some pregnant women experience, due entirely to accumulation of toxins, will cause much indigestible food to be taken, and this food is frequently incompletely masticated. Thus, potato skins, lumps of apparently raw cabbage, orange pulp, etc., have been removed from the stomach and bowel by lavage. Of my six fatal cases I desire to call attention to five, for though nominally responsible for the sixth, I was actually away from the hospital, and have no personal knowledge of the details. The others will indicate the imperfections which existed in my early treatment.

M. C., 6-para, aged 34, was admitted on the morning of November 11th in labour; she was deeply jaundiced and oedematous, with marked albuminuria; her aspect was dull and lethargic. The case was diagnosed as uraemia; milk and water in large quantities to drink and saline purgatives were prescribed. At 8.30 p.m. of the same day she delivered herself naturally of a stillborn but fully developed child; she slept well that night, but on the following morning complained of headache and dimness of vision. The oedema and jaundice increased. The bowels were moved by means of a large enema, and a saline enema was injected and retained as desired. A slight fit took place at 2 p.m., and was followed by a severe one at 5 p.m., with a third of less severity in ten minutes' time. The patient never recovered consciousness, and died in profound coma on the night of the 14th, just forty-four hours after the last convulsion, and sixty-six hours after delivery. Her temperature rose to 103°, with pulse of 120, immediately after her first fit, and remained at these points to the end. Her urine was high-coloured, considerably diminished in quantity, and loaded with albumen.

A. C., 1-para, aged 24, admitted September 18th, 1907; eclampsia. A fit occurred just as the baby was being born; it was very severe, and lasted ten minutes, and was followed by another in an hour's time. Within the next four hours she had two more fits. A fifth occurred nine hours after delivery; from this the patient recovered, and her condition seemed very good, but eleven hours after delivery the sixth took place, and in this she died before the Assistant Master could be summoned. Child alive. No autopsy was permitted.

M. K., 9-para, aged 35, admitted May 25th, 7.45 p.m., with a history of five fits. A sixth took place immediately she reached the hospital, and two more followed this at intervals of half an hour. The patient was deeply comatose, and labour did not start until four hours after admission. Four hours later she delivered herself of a full-term, stillborn child. I saw her before I retired to bed, and then considered her condition in every way favourable. She showed distinct signs of regaining consciousness, urine was being secreted, and her pulse was strong. It was, therefore, with feelings akin to dismay that I learnt on going my rounds in the morning that the patient had died suddenly at 8.25 a.m., twenty-five hours after delivery, and that my assistant had only just time to be called and observe her condition before the fatal termination. No further eclamptic seizures had taken place, and all who saw her concur in stating that she became deeply cyanosed, with swollen tongue, and died in apparently a choking condition.

M. R., 4-para, aged 32, admitted May 2nd, 1907. Three fits before admission. Eleven hours after admission she delivered herself naturally of a dead child, and during these hours had five fits; two fits after delivery. Consciousness returned twenty-one hours after delivery, but her breathing remained difficult, and cyanosis was marked. On the evening of the third day after admission respirations became rapid and laboured, with weak pulse, and the patient fell into an unconscious state and died in two hours. Thus forty-eight hours had intervened between the last fit and death. No autopsy was permitted.

S. A. H., aged 32 years, 1-para, admitted January 29th, 1908; delivered January 31st, 1908. History of six or seven fits before admission. Had seven fits between admission at 6.25 p.m. and 7.30 a.m. of January 30th. Improvement continued during

next day, when labour started, and she delivered herself at 10.30 p.m., January 31st. For some hours previous to delivery the patient began to show signs of circulatory and respiratory failure, which continued after delivery, becoming progressively worse in spite of free stimulation. The patient died 4 a.m., February 1st, 1908, forty-four and a half hours after the last convulsion and seventy-four hours after delivery. Treatment consisted in washing out the stomach and bowel, morphine, purgation, bleeding, transfusion, and stimulation.

Thus two of these patients died from asphyxia during a fit, an accident that can and should be avoided. Of the others, two recovered partial or entire consciousness, with complete cessation of convulsions, establishment of urinary secretion, and birth of their infants, yet secondary toxaemia with collapse supervened, whilst the remaining patient did not develop convulsions until milk in large quantities was administered to her. What, then, I ask, was the cause of this partial recovery with relapse? The only reply I can make is that improvement slowly but gradually took place during the starvation period. The factor operating adversely was the milk or whey given when consciousness or the power to swallow was re-established.

But it was not the fatal cases alone which convinced me of the harmfulness of milk and the impropriety of leaving patients to the entire charge of probationer nurses. Many of the patients who recovered illustrated the same truths, and led me and my assistants to the practical conclusions which are embodied in this paper—conclusions which have proved so satisfactory that I can now show a continuous series of 29 cases extending over a period of two years and nine months with no maternal mortality. In my last year I caused careful records to be kept of the effect of the administration of milk on convalescents, and give details of two cases to illustrate it.

L. C. had eight *ante-partum* convulsions, followed in forty-two hours by forceps delivery. She was conscious for forty-one hours before delivery, which occurred at 6.55 p.m. on March 17th, 1910. Two hours after delivery she was given 1 oz. of milk, and received 4 pints in all within the next twenty-eight hours. At 1.30 a.m. on March 19th the patient showed every sign of severe intestinal toxaemia—a rapid small pulse, marked abdominal distension, sweating, and mental aberration amounting almost to delirium. She had one or two irregular convulsions, which resembled hysterical manifestations more than eclamptic fits. At 2.30 a.m. she had a severe convulsion, followed by two more within an hour, after which her pulse rose to 170, and was for a time so fast and small as to be practically uncountable. A large quantity of very sour curd was washed out of the stomach, and thorough rectal lavage brought away considerable faecal matter and flatus. Following this she recovered consciousness for thirty-six hours, during which time she got no food.

Then followed the third group of convulsions, amounting in all to more than 100. Her bowels had not moved for thirty-one hours; abdominal distension was again a marked feature.

A. R. had four *ante-partum* fits, followed in twelve and a half hours by forceps delivery, at 1.30 p.m. on September 15th, 1910, after which she regained consciousness in six hours. Sixty-nine hours after regaining consciousness she was given 1 oz. of milk, 5 oz. at the end of one hour, and again 5 oz. in three hours. Half an hour after the last dose there was a recurrence of severe convulsions—three within an hour. They yielded to our usual treatment, and she remained free from them for another thirty-six hours. She was conscious for thirty-three hours. Four ounces of whey was then given, and within three and a half hours following this another group of five convulsions occurred.

I now hold that all toxaemic patients should be treated as eclamptic, even though they have not developed fits. The lateral position must be insisted on for the removal from the throat of mucus; inhalation of oxygen and artificial respiration should be undertaken whenever the patient shows any sign of respiratory obstruction. Food of any kind is deleterious, and should be withheld for long periods after consciousness is regained.

On admission my patients were given ½ grain of morphine hypodermically; the stomach was washed out, and a purgative poured through the tube. There is no importance attached to the nature of the purgative; it must be efficient.

Formerly 1 to 1½ pints of fluid were left in the stomach, but this has been omitted latterly, as occasionally it was found to regurgitate into the mouth, and was also open to the fear that by its weight and position it might embarrass the heart. After the stomach is washed out the catheter is passed and the urine withdrawn, measured, and examined. The patient is then turned on her side and the rectum and lower bowel thoroughly washed out with a solution of sodium bicarbonate through a long rubber tube. If an enema has been given immediately on admission it will have some effect in softening faecal masses, and will probably make subsequent rectal washing more effective. Lavage must be very thorough, a pint to a pint and a half of fluid is used at a time, and the procedure continued till a large amount of faecal matter has been washed out. Gallons of water may have to be used before these masses are sufficiently softened. When once the bowel is cleared 1 to 1½ pints of solution of sodium bicarbonate (½ drachm to a pint) is left in the rectum.

If, in spite of this, the urine remains scanty, submammary infusion of a similar solution is practised; these injections may amount to from 1 to 2 pints.

We formerly employed saline solution for the purpose, but the fear that salt would add to the difficulty of elimination caused us to substitute plain water, which we finally discarded, because of the theoretical fear that laking of the blood would result. On theoretical grounds this substitution appears to be justified, and we have no reason to regret its employment. Linseed-meal poultices to the loins help to increase renal activity; they are changed every three hours. Mucus that forms in the mouth falls into the cheek and is wiped out with moist cotton-wool. I think it is a great mistake to wipe mucus from the pharynx, particularly when it requires the introduction of a gag. Such manipulation irritates the patient to quite an unnecessary degree, and is one of the many causes of spasmodic choking.

It is a grave error of treatment to leave a patient in the charge of one or two probationer nurses. They cannot be trusted or even expected to take the initiative in resorting to measures to restore an asphyxiated patient. A member of the hospital staff should always be in attendance. This is frequently a difficulty, but must not be considered an impossibility by those who realize its importance. If mucus forms in the throat and spasm of the glottis occurs, the attendant is instructed to draw the patient's head and shoulders over the side of the bed and at the same time to turn the face down towards the floor. This can be facilitated by grasping the hair. It is immediately followed by an outpouring of bloody mucus from the nose and mouth, with rapid relief of symptoms. Oxygen and artificial respiration are important aids in the re-establishment of breathing.

The patient is disturbed as little as possible for twelve hours, although if the bowels have not moved treatment is persisted in every eight hours to effect this. The catheter, too, is passed every eight hours. Morphine, beginning with ⅓-grain doses and followed by ¼-grain doses every two hours, is given whilst the fits persist until 2 grains have been administered within twenty-four hours. At times doses as moderate as these produce surprising slowness of the respirations. When they fall to six or seven per minute it is an indication that enough morphine has been given. Atropine or scopolamine may with advantage be substituted, together with artificial respiration. Should consciousness be restored sufficiently to permit of swallowing, the patient is encouraged to take frequent draughts of hot or cold water, and until recovery is complete all forms of nourishment should be withheld.

As to the lines of treatment to be avoided:

Accouchement forcé comes first. Many of our patients recovered from eclampsia and carried their children for considerable periods afterwards. I do not like to see labour occurring during the seizures, but, should it do so, the os rapidly dilates. When fully dilated, delivery may be expedited with forceps, but, as a matter of fact, I have seldom found forceps application necessary. Delivery is usually easy, and there is considerable difficulty in conducting an aseptic artificial delivery in these cases; for this reason, if for no other, spontaneous delivery is preferable. I would not permit a patient to die undelivered, and if death threatened would perform vaginal Caesarean section.

Vapour baths and other means to promote diaphoresis are obviously improper procedures. Eclamptics are suffering from paucity of fluid in the circulation, and this in spite of their tissues being possibly solid with oedema. What is greatly wanted is a less saturated condition of the blood, and it is impossible to suppose that profuse sweating can have any other action than to increase this

abnormality. Only a minimum of toxins (if any) can be eliminated by sweating.

Chloroform is closely associated in its effects on the liver and other organs with the eclamptic poisons. I have long learnt to dread this anaesthetic in all toxaemic conditions. Stroganoff, however, thinks that his patients benefit by the quiet induced with very small doses of chloroform (12 to 15 drops) during any manipulative interference, and if by this dose he facilitates the passage of the stomach tube, or lessens the struggle during submammary infusion, he has achieved a great advantage at a cost which I cannot think is excessive. Had I known of his method, it would certainly have been tried by me. It will not, I think, materially alter statistics, but it should be remembered as a possible aid to treatment.

In conclusion, I do not for one moment suggest that all patients will recover from eclampsia in the future. Fits—epileptic, uraemic, or eclamptic—have always an element of danger apart from the actual disease. The resultant high blood pressure may cause haemorrhages into the brain, liver, or abdominal cavity. Such an occurrence has recently been reported by the present Master of the Rotunda Hospital, who, on opening the abdomen preparatory to the performance of Caesarean section, found it filled with blood.

No other disease better repays the attendant for personal supervision. There is no detail of treatment that does not require a careful practical training in its carrying out. Even in passing the stomach tube special skill is requisite. Bowel lavage, submammary infusion, and the clearing of mucus from the pharynx are all highly technical procedures, a perfect mastery of which should not be assumed on the part of those placed in charge.

Patients with profound toxaemia make a tedious recovery. Elimination is always slow. Heart failure may supervene although no new poison may be added to the blood. For these reasons a certain number of deaths must be expected. Nevertheless, it is impossible any longer to pretend that the treatment of eclampsia is either empirical or useless.

REFERENCE.

[1] *Rotunda Hospital Reports*, 1908-9.

DISCUSSION.

Dr. A. W. Russell (Glasgow) said that he regretted that he had been prevented from hearing the first part of Dr. Tweedy's communication, but he had heard enough to provide him with one or two points on which to speak. Dr. Tweedy's very favourable results claimed earnest attention, and led one to hope for marked improvement upon past results. A considerable experience in a clinic where the cases were numerous—and many of them so very serious that in one week there had been four consecutive deaths—had compelled the conclusion that eclampsia was a very complex phenomenon and its curative treatment not a mere matter of routine. One must never forget to lay the strongest emphasis upon the preventive treatment by treating the patients under observation and regulating their diet and other treatment, if need be in the maternity hospital itself. The speaker had seen cases where death seemed to be hastened by saline transfusion, and he had a profound distrust of the use of morphine, as it seemed impossible to regulate the dose owing to the well-known persistence and even extension of its effects. The removal of 10 to 15 oz. of blood at the time of intravenous transfusion of a sterile saline solution with the addition of sodium acetate had seemed to be often helpful. What was really needed was renewed investigation of the whole condition. In a recent case about the end of the seventh month, when the symptom of impairment of vision was becoming grave and the fits threatened to recur, an emergency Caesarean section proved to be successful, and not only the mother's but also the child's life was saved.

Dr. Burst (Dundee) said that in eclampsia it was particularly necessary to be careful in drawing conclusions as to treatment from the issue, favourable or not, in the individual case or even a series of cases. Against the latest series of fatal cases from Glasgow Maternity must be placed the earlier series of cases from the same clinic in which success followed the use of saline infusion. Dr. Tweedy's theory of lack of fluid in the circulation as the chief pathological mechanism of eclampsia suggested several physiological difficulties which present knowledge did not clear away. With regard to the use of morphine, the long series of collective results published by Voit showed a definite balance in its favour, but he agreed with Dr. Tweedy that it should be used in full doses.

Dr. Beckett Overy (London) thought that Dr. Hastings Tweedy's paper was in accord with the latest work on autointoxication. Combe in Lausanne and Guelpe in Paris had shown the dangers of this, and it seemed to the speaker that the increased stress thrown on the organism by pregnancy might be the determining factor where autointoxication was present. Both these workers had shown the dangers of milk in increasing the nitrogenic decomposition in the intestine. In view of these facts, Dr. Hastings Tweedy's theory and practice deserved the greatest consideration.

Dr. Edge asked what milk had been used previously, its source, quality, and modifications. He did not think such a valuable agent should be discarded without full evidence of fault. Good thin skimmed milk was generally used.

Dr. Smallwood Savage (Birmingham) inquired whether in Dr. Tweedy's opinion the chronic atonic gastric dilatation which was so commonly met with in women, and so often closely associated with neurasthenia, had anything to do with what he had described as toxaemia produced from the stomach in eclampsia.

Reply.

Dr. Hastings Tweedy, in replying, said that his series of cases was not a small one, and the fact that statistics were spread over seven years made it impossible that he had had to deal with what might be called a mild epidemic of the disease. Furthermore, Stroganoff, whose treatment was very similar to his own, could show the best statistics as yet published, in numbers which amounted to several hundreds. Professor Strassmann's difficulties could easily be reconciled with the views as to the causation of eclampsia now suggested. Eclamptic patients died usually in an asphyxiated condition or were poisoned by excess of toxins. The avoidance of administration of milk was only one of the means of avoiding death. The other chief means at their command was to prevent asphyxia by clearing out the throat, and this could be instantly and satisfactorily accomplished by the plan he indicated.

THE DANGERS OF FIBROMYOMATA OF THE UTERUS IN THE LATER YEARS OF LIFE.

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To those interested in this Section the principal feature of the Pathological Museum is the marvellous exhibition of specimens, microscopic sections, and photographs relating to the degenerations and complications of fibromyomata of the uterus. The collection of no fewer than 177 of these tumours—the largest and most instructive ever made at any Association meeting—is well worth careful study, and this paper may emphasize its importance by illustrating from the clinical standpoint some of those degenerations and complications when they occur during the later years of life.

The last words have not yet been said on the subject of uterine fibromyomata. So far, nothing is definitely known of their modes of production or origin; consequently no practical suggestions as to their prevention have yet been made. In time, knowledge concerning their genesis, along with such therapeutic measures as *x* rays, may banish surgical treatment. On our present lines, however, the operative procedures have been rendered so safe, that we are entitled with clear consciences to state dogmatically that the majority of women compelled to seek advice on account of the signs and symptoms of fibromyomata should submit to radical treatment. For it is being more fully realized, as time goes on, that we have no justification in merely watching the progress of events, and in negativing or even unduly delaying operation, except in such a case as that of a young childless woman whose tumour is small and causes only trifling symptoms. It is now generally acknowledged that the advent of the usual age at which the

menopause occurs does not inevitably end happily the untoward symptoms or the dangers inherent in an active fibromyoma. I do not underestimate the evil of premature and needless recourse to surgical interference, and it is not suggested that hysterectomy or myomectomy ought to be performed in all cases of fibromyomata. There are many women who must possess them, but never being aware of their presence, do not receive medical attention. In 742 autopsies of women under 20 years of age recorded in the Johns Hopkins Hospital, it was found that in 148—about 20 per cent.—the uterus contained one or more fibroids. As this corresponds with the estimates of other examiners, it is therefore manifest that the majority of fibroids do not produce symptoms so serious or do not grow to a size so large as to bring their possessors into the hands of the surgeon. Yet, on the other hand, a fair and impartial study of our own cases and a careful consideration of the published reports of others must lead to the conclusion that, unless in exceptional circumstances, whenever fibromyomata are active enough to compel a woman to seek advice on their account, we ought to counsel early surgical interference.

This argument need not be laboured at greater length, as most gynaecologists have accepted it. Some practitioners, however, while willing to counsel operation in women before or about the age of 40, advise, if that time has been reached, that it is judicious to delay and observe the possible effects of the change of life. With that counsel I disagree, and for this reason, among others, that the future behaviour of the tumour cannot be foreseen. Diminution in size may be undergone, but, on the other hand, there is no certainty that serious degenerations may not arise or evil effects not be produced in other organs. Naturally, these dangers are more prone to appear in the later rather than in the earlier years of life.

Fewer women would be subjected to the suffering, discomfort, and danger which attend so many uterine fibromyomata at almost every year of life after puberty were there more general acceptance of the following three indubitable facts: First, hysterectomy performed on account of fibroids is not nowadays nearly so dangerous an operation as it was even ten years ago, especially if undertaken before complications have ensued; secondly, the menopause has been conclusively proved to be at its best but a dilatory and inefficient surgeon; and, thirdly, many more women than it has ever been suspected have died directly or indirectly from fibroids in the later years of life. Even for such a common symptom as menorrhagia, it is pitiful that so many women, buoyed up by the assurance that the menopause, at about 45, must bring their troubles to an end, are obliged to spend years in a struggle against the enemy which is undermining their health, and which could, almost certainly, be easily and safely defeated by operation. Too often cessation of the bleeding is delayed year after year even into old age, the precious days being meantime wasted in a miserable state of invalidism, while, if or when the haemorrhage does finally end, life may still be endangered or even lost by some serious secondary degenerative process or by some other complication. Further, it must be remembered that the presence of a quiescent, small fibromyoma may never have been suspected; it may never have been diagnosed, or, even if known, it may so have ceased to grow or cause trouble that its existence is almost forgotten, and yet that a degenerative action may develop with so great severity as to threaten or destroy life, or that a serious visceral complication may be induced.

During the short time at our disposal it is impossible to do more than mention briefly a few of the dangers of fibromyomata in the later years of a woman's life, and illustrate the statements by the narration of a few cases. Perhaps it is right to say here that my experience of fibroid diseases of the uterus is fairly large, as I have performed on their account hysterectomy on 140, and myomectomy on 32 occasions, and have watched the careers of a good many women who had, and have, fibromyomata which have not been removed.

1. Sepsis and necrosis of the tumour is a serious danger in the later years of life. A few months ago I saw a lady, 60 years of age, suffering from a foul-smelling bloody discharge. She was unmarried, led a very secluded life, and only after great persuasion did she consent to a consultation, much valuable time being thus lost. When ultimately seen by me she was confined entirely to bed, she was extremely emaciated, and her pulse was rapid and feeble. The general appearance and the deathly colour were, indeed, strongly suggestive of the presence of advanced malignant disease.

A hard, movable tumour could be felt in the abdomen, extending upwards from the pelvis to midway between the symphysis pubis and the umbilicus, and could be seen protruding beneath the emaciated abdominal wall. Vaginal examination proved that the cervix was healthy but dilated by a large gangrenous tumour, which filled up the upper part of the vagina. The prognosis was very grave, but as the only chance of recovery lay in removing the horribly septic mass, nearly all of it was scooped, scraped, and cut away from the interior of the uterus, and from its attachment to the wall. Manifestly hysterectomy, much as it was desirable, was impracticable at this time. Septicaemia was too widely diffused, and the heart was too feeble. Phlebitis in both lower limbs developed in a couple of days, and although the general condition seemed somewhat improved by what had been done, there was not sufficient strength to combat the toxaemia, and death resulted.

From the acknowledgement of the patient that a hard lump had been in the abdomen for over twenty years and that, until the menopause at the age of 50, menstruation had always been too frequent and profuse, it is certain that a fibromyoma had been present for many years. The menopause brought about benefit in the arrest of growth and cessation of bleeding. But the tumour did not atrophy and disappear, and, although quiescent, it possessed latent destructive powers. Old age and the inevitable vascular changes lessened its vitality, its position became more of a foreign body which the uterus endeavoured to expel, and ultimately pyogenetic germs from the vagina invaded its substance. Between the profound anaemia caused by the bleedings from the sloughing mass, the exhaustion, and the diffused septicaemia, the patient died at the age of 60, many years after the tumour had apparently lost all power of inflicting injury. Very many similar examples of necrotic changes in fibromyomata in elderly or old women have been published, and too frequently it appears that hysterectomy has failed to save life. For example, a well-known surgeon performed that operation on a woman 69 years old on account of a very large septic fibroid and an incarcerated ovarian cyst. The peritoneum had been infected through the left Fallopian tube before operation, and the patient died.

Necrosis is indeed one of the most dangerous degenerations and one of the commonest in the later years of life, two-thirds of the cases recorded occurring between 40 and 70 years of age.

2. Calcification can convert a fibromyoma into a mass so hard that it cannot be cut with an ordinary scalpel. It arises subsequently to some other retrogressive process, such as fatty degeneration of the muscular fibres, and is therefore encountered chiefly in women over 50. If the tumour affected is of the subperitoneal variety, as it frequently is, various discomforts and dangers may arise from the hard mass changing its position or becoming adherent to peritoneal surfaces. Retention of urine may occur from a pedunculated calcified tumour falling into the true pelvis and obstructing the urethra, the condition being relieved permanently only by removal of the tumour. More serious are the following cases selected from many reported at various times. A maiden lady having fallen on her abdomen in the street, died, at the age of 72, from injury to a coil of small intestine which was lying between the anterior wall of the abdomen and a large calcified fibromyoma. Morestin recorded the case of a woman, 63 years old, subject for two years to chronic constipation. Several attacks of obstruction occurred, relieved by purgatives and enemata, but at last it became complete, and two very hard masses were felt in the pouch of Douglas. An operation was performed and the caecum being greatly distended, was opened. Solid faeces and flatus came away. The pelvis having been explored, it was evident that its cavity was blocked with hard fibromyomatous tumours. Sixteen days later, at another operation, it was found that one of the calcified tumours, as large as an orange, arose from the lower part of the back of the uterus, which was also encumbered with numerous bands of adhesions. The uterus with its tumours was removed by subtotal hysterectomy, but anuria set in on the second day and death occurred on the fourth day. The kidneys had been damaged by the pressure of the hard tumours on the ureters

Pinaud saw a patient, 68 years old, who had serious symptoms of septicaemia set up by retained blood in the uterus, which was displaced by a hard calcified fibroid filling the pelvis. Again, in an autopsy made two hours after death on a woman, 59 years old, who had died almost immediately after admission to hospital, Lesné and Lagane found that death had resulted from purulent peritonitis, which, in its turn, had been caused by a rent about an inch in length running along the fundus of the much enlarged uterus. This laceration exposed the surface of a calcified fibroid lodged in the uterine cavity, which had thinned out the distended and softened walls until rupture had happened.

Very many more fatalities have been reported as occurring in elderly women in consequence of the presence of calcified fibroids. The purely mechanical dangers are, therefore, real enough, and since every fibroid is liable to calcification as life advances, the possibility of these or similar accidents cannot be ignored if the tumour has not been removed.

Is there no possibility that the presence of a calcareous fibromyoma may not predispose to the development of cancer? On two occasions I have had experience of the association of these conditions. It may have been coincidence, but in both cases the tumours had been present for many years, and, whatever theories may be held regarding the ultimate causative factor in the production of cancer cells, there is universal agreement in the belief that long continued irritation plays an important rôle in reducing the resisting powers of the tissues, and in thus predisposing to cancerous development. It is thus perfectly conceivable that the irritation produced by the continuous friction of intestines and omentum upon a pedunculated, irregular, bony mass can produce conditions favourable to the formation of cancer. In the last case seen by me the patient was 54 years old, and unmarried. Menstruation, always profuse, had ceased eighteen months previously. A lump had been felt in the abdomen for about twenty-five years. For a year there had been "indigestion" and increasing weakness. After the abdomen was opened the hopeless nature of the condition was at once evident, cancerous disease being widespread throughout the abdomen. The uterus was the seat of fibroid disease of long standing, and one large subserous pedunculated tumour was removed for examination. It was later found to be an ordinary fibroid in an advanced state of calcareous degeneration, and one could not feel its irregular stony surface, regard the position it had occupied in the abdomen, nor consider its free mobility among the delicate tissues of the surrounding organs, without realizing and being impressed by the possibilities of evil resulting from its presence after several years.

3. A not uncommon late danger of fibromyomata is the prolongation of bleeding for many years after the normal period of its cessation, even into old age. A striking example was seen by me in a woman 66 years of age. It would take too long time to detail her history, which I have reported elsewhere. Bleeding of a profuse character had continued to distress her month after month, and was not lessening when she came into hospital. For only twelve months, when she was 54, had it ceased. A cure was effected by removal of a submucous fibromyoma. The history seems almost incredible, but it was carefully verified, and the case affords a striking example of the inability of the years to bring about in every case relief from some of the effects of a fibromyoma. Probably on account of the excessive haemorrhage, with the consequent anaemia and the lengthy periods spent in bed for many years, there was in my patient an enormous development of fat over the body, and secondary cardiovascular changes had occurred. In the past, her life had been frequently endangered, and the prospect of a healthy old age is unfavourable.

4. A fibromyoma may threaten life after the menopause on account of torsion of the pedicle. I have seen a case in which there had been several attacks of pain at irregular intervals for a year. As the temperature had been slightly raised each time, they were diagnosed as due to peritonitis. The patient was 53, and the menopause had been passed seven years previously. When I saw her a hard mass, tender to touch, could be felt in the lower abdomen, and operation revealed the cause of the attacks of pain and pyrexia in a pedunculated, subserous, fibromyoma twisted on its pedicle and bound down by adhesions.

Much resembling such a case in symptoms are others, occurring also in the later years of life, caused by infarctions. Leith in his newly published *Ingleby Lectures* states that "torsions and other influences which lessen the blood supply and disturb the circulation may lead to necrosis within fibroids similar in character to the anaemic, and occasionally to the haemorrhagic, infarcts of the organs supplied by the so-called 'end arteries.'" Connell of Sheffield saw a spinster of 50 who had suffered on several occasions for some weeks from subacute attacks of pain and vomiting, which had always commenced during defaecation. An abdominal tumour, about the size of a sixth-month pregnant uterus, was discovered. The last attack was the most severe, and operation was performed on the third day, when the patient was very ill. Diagnosis had been made of a fibromyoma with torsion of its pedicle, but after a large interstitial myoma had been enucleated and the uterus and appendages removed, it was found that the cavity of the uterus was distended with blood clots, and that the tumour and the uterus were in a state of infarction. The uterine and ovarian vessels were thrombosed, and did not require ligaturing.

These cases illustrate the dangers to which it is possible that women may be subjected years after the menopause through torsion of the pedicle or disturbance of the circulation leading to infarction of a uterine fibromyoma.

5. Suppuration may take place in fibroids after pyogenetic germs have invaded their substance, the possible paths of entry being the vagina, Fallopian tubes, ovaries, intestine, bladder, or blood stream. Most frequently, as might be expected, it occurs in those in which hyaline degeneration or necrosis has already existed. It is not of very common occurrence, but most of the cases recorded have been in women over middle age. One seen by me possessed the special interest that until the formation of pus in the substance of the tumour the existence of the latter was unknown. The patient was 46, and the only unusual symptom was slight increase of the menstrual discharge. Rather suddenly pain in the lower abdomen, temperature rising to 101°, and slight rigors developed. The skin became markedly sallow in colour. The uterus was found to be large and fibroid, but the cause of the pain and pyrexia was difficult to determine. Pyosalpinx seemed the most probable, but at operation the tubes were seen to be healthy. Hysterectomy was performed, and on afterwards cutting open a submucous tumour it was discovered to have become soft and necrotic, while in one part there was an area containing pus. The patient recovered and was permanently relieved of pain and fever. Kelly and Cullen quote an interesting case. A woman, 55 years of age, was known to have carried a subperitoneal fibromyoma for thirty years. The history is not given, but the tumour ultimately required removal, and was found to contain 10½ quarts of pus. Another case was recorded last year by Nielson. The patient, a maiden lady, aged 65, had had fibroids diagnosed twenty years previously. For six months before operation the health had begun to deteriorate, and there were occasional rigors and pyrexia. At the end of this time there was a sudden attack of pain with abdominal distension, and an operation being performed the tumour was found to have grown from the posterior wall of the uterus, to be separated from the uterine cavity by a very thin wall, and to have been converted into a cyst full of pus to the extent of 160 oz.

A sad example of the danger of expectant treatment, the patient ultimately dying of suppuration of the tumour, first thoroughly aroused me to the latent dangers of a large fibromyoma and to the necessity for radical operation, even when symptoms are in abeyance. Nearly eleven years ago a lady, 37 years of age, was sent to me on account of abdominal distension. A large fibromyoma of the uterus was readily diagnosed, and although there were practically no symptoms and the general health was excellent, hysterectomy was advocated. The patient and her husband, being disinclined to follow this advice, next consulted a well-known surgeon whose opinion was unfortunately at variance with mine. Writing to the family physician, he said that while agreeing with my diagnosis, he differed as to the need for operation. To quote his words, "I strongly hold that one would

not be justified in submitting Mrs. G. to what would be a very hazardous operation. No matter how distressing, it is the rarest thing in the world for a uterine fibroid to kill a woman, and if she is fairly comfortable, as in the present case, I am clear that she should be left alone." This advice, given by a more experienced man than I then was, and being in accordance with the patient's own wishes, settled the question, and nothing was done. For three years everything went on as usual, but at the end of that time general ill health set in, accompanied by high temperature and abdominal pain. Improvement was slow, but in three months the patient was going about again. Three years later another similar illness developed, the tumour rapidly increased, and it was soon recognized that its upper part was fluctuant. Confiding in the truth of the strongly expressed second opinion that no operation was required, the lady refused further consultation. Death, however, occurred, and her physician has never had any doubt that suppuration had arisen in the tumour, and that the end came from septicaemia and purulent peritonitis. This patient was, apart from having a fibromyoma, a splendidly healthy, athletic woman, and, humanly speaking, death at 43 would not have happened had the tumour been removed before degenerative processes set in.

It may be argued that some of the complications and degenerations which have been so briefly discussed are rare enough to be practically negligible, and that they need not influence our judgement when deciding for or against operation. To believe this would be, however, a grave fallacy, as has been proved not only by the reports of individual clinical observers and pathological workers, but by a study such as that of Tracy, who has analysed a series of no fewer than 3,561 cases of fibromyomata. From all sources it has been conclusively proved that over 30 per cent. of all tumours removed show non-malignant degenerations and changes in their substance, that about 5 per cent. have other complications, and that of the cases in which these degenerations and complications occur, over 60 per cent. are in women over 40 years of age.

6. The most serious risk, however, to which a woman is subjected in the later years of her life by a fibromyoma is that of cancerous disease of the body of the uterus. Modern pathological investigation has settled that question beyond the possibility of a doubt. Professor Leith, for example, says: "Apart from fibroids, cancer of the cervix uteri is about twelve to fifteen times more frequent than cancer of the corpus uteri, but when fibroids and cancer are co-existent in the same uterus, cancer of the body appears to be as frequent as cancer of the cervix. Therefore, when the presence of a fibroid has been definitely ascertained, the possibility of the concurrence or future onset of cancer has to be borne in mind." The unhealthy changes in the endometrium developed by a fibromyoma must tend to prepare the way for, and form the point of origin of, cancerous degeneration. Naturally, the disease most commonly occurs at the usual age of cancer incidence—between 45 and 60.

Implicit confidence can never be placed in individual surgical statistics. They can seldom be verified, and should, therefore, be accepted with caution. Still, it is probably only too true that cancer of the body of the uterus develops in about 2 per cent. of the fibromyomata which come under treatment, and unless that statement can be disproved it furnishes one of the most emphatic proofs of the danger attached to these growths in the later years of life. Every experienced gynaecologist has seen examples. I have reported fully one in a lady, 54 years of age, whose menopause occurred at 50, and who commenced to have bleedings two years afterwards. Gradually they increased in amount. Curetted material revealed the presence of adeno-carcinoma. After panhysterectomy had been performed the diagnosis was confirmed by sections which showed far advanced malignant disease. The uterus was enlarged and its cavity distended by a submucous fibromyoma adherent by a broad base to the wall near the fundus. That was five years ago, and the patient is in good health to-day. An interesting case, reported by von Kubingi, is that of a woman 62 years of age, who, after a menopause eight years previously, had bleedings for some months and noticed that her abdomen was enlarged. For twenty-three years she had known she had a fibroid, but had not been urged to undergo an operation. Now it was imperative, and the uterus was removed. In its fundus was a nodular fibroid as large as a child's head, and the cervical canal was obstructed by a cancerous nodule, the cavity of the uterus being filled with a sero-sanguineous secretion. The last case I quote is one reported by Gibson lately. The patient was over 60, and twelve years past the menopause. For many years she knew she had a fibroid, but "was given to understand that it would never do her any harm after the change of life." There had never been a pregnancy. With the exception of having grown thinner for the previous five or six months, she had been in good health. But bleeding started severely, and, after four weeks, examination was made and the original diagnosis of fibroid confirmed. Panhysterectomy was performed. The tumour had become necrotic and the endometrium was the seat of carcinoma.

The recital of these cases, typical of so many, must surely strengthen our determination that women of 60 and upwards shall be less frequently subjected to the danger, distress, pain, and shock of such serious and doubtfully successful operations which would be avoided had the tumours been removed when the patient's vitality was unimpaired, her recuperative forces still powerful, and malignant changes not yet accomplished.

7. Of sarcoma as a complication or result of fibromyoma not much need be said. The cheering statement is made by Leith that it "appears to occur in fewer cases than formerly, probably because removal of fibroid tumours is now undertaken both earlier and oftener." The practical inference is that it need not always figure in the list of the dangers which threaten women in late life, as, though it usually arises about the menopause, it may be at age 60 or later. One example has come under my notice. The only suspicious symptom was the rather sudden onset of severe haemorrhage. A large fibromyoma was discovered. The patient, 55 years of age, was unaware of its presence. After panhysterectomy a growth was found in the wall of the uterus and projecting into its cavity, and the microscope showed it to be a typical spindle-celled sarcoma.

In the short time at our disposal we cannot discuss complications of fibromyomata such as changes and diseases produced in tissues and organs other than the tumour or the uterus, the dangers of which are frequently intensified as the years pass. The brief summary of those described may, however, I trust, aid in deciding the opinions of some who, seeing cases only occasionally, experience difficulty in guiding their patients aright. While one's decision must not be mechanical, but must be governed in each individual case by such circumstances as the symptoms of which complaint is made, and the age, social standing, intelligence, and general condition of the patient, one must always bear in mind that while there are special dangers from fibromyomata during the years of a woman's sexual activity, there are others even more serious liable to develop during the later years of her life.

DISCUSSION.

This paper was discussed in conjunction with the following paper on dysmenorrhoea due to very small fibroids.

DYSMENORRHOEA DUE TO VERY SMALL FIBROIDS.

By THOMAS WILSON, M.D.Lond., M.Ch.Birm., F.R.C.S.Eng.,
Lecturer in Midwifery and Gynaecology in the University of Birmingham; Obstetric Officer to the General Hospital; Acting Physician to the Maternity Hospital, etc.

THE removal of the uterus, of the appendages, or of both, for the cure of menstrual pain, though occasionally necessary, must be considered a confession of therapeutic poverty. Menstruation is a function common to all women, and is usually performed with a degree of discomfort and inconvenience that may fairly be called slight or moderate. In a small minority of instances disturbances of the local or general well-being are so great that for a part of each month the woman becomes incapacitated. In the worst cases all known remedies fail except the strongest sedatives, and choice has to be made between allowing the patient to run the gauntlet of a drug habit and the performance of a radical operation. In the present state of our knowledge the latter is decidedly the lesser evil.

Fortunately such cases are rare; in the course of my

practice in the last ten years I have performed radical operations for the relief of intractable dysmenorrhoea in ten instances. In four of these careful examination of the uterus and appendages during the operation and after removal disclosed no recognizable pathological change. In a fifth the vagina and cervix were double and the body of the uterus small and ill developed. In each of two others a small submucous fibroid of the size of a pigeon's egg was present at the fundus and had escaped detection at previous dilatations and curettings, and in one of them at a previous laparotomy. In one of the remaining cases, operated upon nine years ago, an interstitial fibroid, measuring only 7 mm. in diameter, was present in the anterior wall of the uterus at the level of the isthmus, and in the light of subsequent experience was the cause of the dysmenorrhoea for which the radical operation was undertaken. The following are the notes of the case:

CASE I.—*Severe Dysmenorrhoea: Abdominal Radical Operation: Interstitial Fibroid 7 mm. in Diameter at Level of Isthmus.*

At the age of 17 the patient began to menstruate, regularly each month, without pain. A year later there was an attack of pleurisy, after which the periods became profuse and attended by considerable pain. At 24 the uterus was dilated by the late Professor Taylor, with temporary relief to the symptoms. When first seen by me the woman was 28 years of age, looking old, miserable, and unhappy, complaining of dull aching in the lower abdomen and sacrum on any exertion, pain and scalding in micturition, and of severe dysmenorrhoea and menorrhagia. The lungs and kidneys appeared to be sound; there were no abnormal signs about abdomen, external genitals, or appendages; the uterus was rather slender, anteflexed to the second degree, and its cavity measured $2\frac{3}{4}$ in. After three months' medical treatment the uterus was dilated by laminaria tent, followed by Hegar's dilators, and was curetted. Some relief followed, but the symptoms soon returned, and gradually became worse until $3\frac{1}{2}$ years later, when the patient was admitted to the General Hospital for a radical operation. She was then 32, and complained that her periods were very profuse, sometimes with small clots, and recurred every twenty-four to twenty-five days, lasting for six days. Pain began in the lower abdomen about three days before the flow; when this commenced the pain increased in severity, troubling the patient up, and causing vomiting for twenty-four hours; the patient was obliged to remain in bed for two and a half days, and the pain gradually ceased by the end of the third day. In the intervals strength was slowly regained, to be lost again at the next period.

Case I.—The uterus has been laid open by a T-shaped incision through the anterior wall; an interstitial fibroid, 7 mm. in diameter, is present in the anterior wall at the level of the internal os.

On July 15th, 1902, the uterus and both appendages were removed by the abdominal route on the second day of a menstrual period. The ovaries and tubes were normal in size and appearance, and free from adhesions; there was no sign of recently ruptured Graafian follicle. The uterus was laid open before being hardened. In the middle of the anterior wall at the level of the internal os was a small interstitial fibroid measuring 7 mm. in diameter. The walls of the body of the uterus measure 2 cm., of the fundus 1.5 cm., and of the cervix 1 cm. in thickness. The cervical canal is 4.2 cm. in length; at the level of the internal os is a smooth band 0.5 cm. in width, and above this the cavity of the body measures 3.7 cm.; the width of the body cavity between the openings of the Fallopian tubes is 3.5 cm. The cervical canal shows a well-developed plica vitae. The mucous membrane lining the body measures about 2 mm. in thickness at different parts; its surface is dark red in colour, irregularly broken, but evenly granular in its whole extent.

Four months after the operation I learnt that the patient had made steady improvement, and was more able to undergo fatigue than at any time before, and two years later she wrote "that she was perfectly well and strong." Two years after the operation Dr. Beatrice Webb kindly interviewed the patient for me, and found her housekeeping for a large family, able to walk two miles, thoroughly enjoying life; in fact, she had "never been so well before." The patient's weight became slightly less after the operation, but soon returned to normal. There were no indigestion and no cardiac symptoms. The nerves, which were very bad before the operation, remained irritable for a time, and have now become steady. "It is a point of much interest to observe that, although both ovaries were removed, flushes were not experienced until a year after removal of the uterus and both ovaries, when they became rather frequent and caused a little giddiness; they very seldom occur now."

The fibroid in this case, which might almost be called minute, appeared at the time to be merely a pathological curiosity, and I have to confess that I did not attribute the severe uterine symptoms to its presence. Three years later another patient came under my care in whom two very small interstitial fibroids at the level of the isthmus were observed after the removal of the uterus for dysmenorrhoea. In this case large membranous casts were passed at each period, and there was also severe vaginitis, so that the evidence of causal connexion between the small fibroids and the dysmenorrhoea was defective.

CASE II.—*Secondary Dysmenorrhoea: Two Small Interstitial Fibroids at Level of Isthmus: Vaginitis and Exfoliative Endometritis: Vaginal Hysterectomy.*

A. L. began to menstratue between 15 and 16, with very little pain. At the age of 26 she had typhoid fever, after which the periods became very profuse and painful, so that the uterus was curetted a year later. The menorrhagia and dysmenorrhoea were much relieved for three years, and then gradually became worse for two years until the patient was first seen by me at the beginning of 1905. At this time the menstrual periods occurred every three weeks and lasted seven days with profuse loss. For three or four days before the periods there were aching pains in the sacrum, which got better as the flow came on; on the second day severe bearing-down pains were followed after several hours by the passage of a large membranous cast. During the last year there had been increasing yellow discharge between the periods, and this was found to be due to diffuse and severe vaginitis.

A month's medical treatment in the General Hospital in April, 1905, was followed by distinct improvement in the symptoms. After a few months they became worse again, and soon the patient was unable to continue her duties. She was readmitted in December, 1905, for the treatment of vaginitis and the dilatation of the uterus by a laminaria tent four days before the expected period: this began on December 15th, and several large casts representing the whole lining of the uterine cavity were passed on the 17th with decidedly less pain. On leaving hospital the symptoms soon became worse than ever, and the patient begged for something to be done so that she might be able to carry on her work as a nurse.

On July 1st, 1906, the patient being then 32 years of age, the uterus was removed by the vaginal route, the right appendages being preserved. The uterus was examined by Mr. Hewetson, to whom I am indebted for the following observations:

"The organ is slightly enlarged, and contains two small interstitial fibroids in the posterior wall behind the internal os; the endometrium is soft, polypoid, and thickened, the muscular wall soft, fibrotic, and hypertrophied. The microscope shows glandular hypertrophy of the endometrium; the muscular coat shows thickening of the arteries and infiltration of round cells between the muscular bundles."

After the operation the patient greatly improved, but at the beginning of 1907 there was an attack of abdominal pain and swelling lasting one day, and a month later a second more severe attack lasting several days. The right ovary was palpable and tender. As the patient appeared to be losing ground again the abdomen was opened and adhesions of the

omentum to the right appendages separated. The right appendages were removed, and on examination showed signs of inflammation with haemorrhages.

The patient made a smooth recovery, and since then has remained in very good health, continuously fit for duty.

This case, taken in conjunction with the first, directed my attention to the possibility that fibroid tumours so small as to be unrecognizable on physical examination, may give rise to serious symptoms by growing in a specially unfortunate position. The suspicion has become a certainty by reason of the following case, which has occurred in my practice recently:

CASE III.—*Severe Dysmenorrhoea: Removal of Small Interstitial Fibroid from Posterior Uterine Wall at Level of Isthmus: Cure.*

A single woman of 32 was sent to me by Dr. Foulds of Droitwich for severe dysmenorrhoea. There was no history of serious illness. Menstruation began at 14, was of $\frac{2}{3}$ type, not excessive. The periods have always been attended by pain, which has increased in severity, and is of a severe griping character; it begins on the second day of the period, and compels her to take to bed for two days. Dull aching pain, with sharp exacerbations, sometimes continues for a fortnight afterwards.

The patient is a strong healthy woman. The uterus is made slightly uneven by a small tumour in its posterior wall; it is otherwise normal and movable, and there are no abnormal physical signs about the appendages.

On December 19th, 1910, with the help of a left vagino-perineal incision, an anterior vaginal coeliotomy was made, the uterus delivered, and both sets of appendages examined and found normal. In the left posterior wall of the uterus at about the level of the internal os was an interstitial fibroid tumour the size of a hazel nut; this was enucleated and its bed closed by interrupted catgut sutures. The uterus was returned into the pelvis, and the incisions closed in the usual way. Throughout the operation bleeding was excessively free from an uncommonly large number of vessels.

The patient made a good recovery, and wrote six months later saying she has "never had a return of that horrible pain I used to dread so much"; in fact, there is no pain at all at the periods.

These three cases show that fibroids very small in size may, when intramural at the isthmus, give rise to intractable and incapacitating dysmenorrhoea. The presence of one or even of many interstitial fibroids is not necessarily accompanied by pain either at the menstrual periods or in the intervals, and the conditions under which pain arises are very imperfectly understood. A tumour projecting towards the endometrium or towards the peritoneum tends to be pressed out of its interstitial position by the action of the enveloping muscular uterine wall, until it becomes submucous or subperitoneal, first sessile and finally with a pedicle. Such a process may probably be accompanied by pain, but I have not been able to watch it in progress, and so cannot tell. The process differs from that observed in connexion with submucous fibroids, in that there is not necessarily any dilatation of the cervix—that is to say, the polarity of the uterus is not necessarily invoked.

The uterus, like every other hollow muscle, possesses the property of tonicity. In the wall of the stomach, intestine, vermiform appendix, gall bladder, and urinary bladder, the tone varies from time to time, the muscular tissue entering into the formation of the organs being now firm, and again lax and yielding. The uterus examined bimanually is usually found to be a well-defined, uniformly firm elastic body, its consistence resembling that of a voluntary muscle, such as the biceps, during contraction. Not infrequently one observes on first taking hold of the organ that it is ill defined, soft in consistence, and apparently larger than normal; on continuing the examination for a few seconds up to a minute or so the organ is found becoming firm, well defined, and apparently smaller. A condition of relaxation has given place to one of contraction—diminished to increased tone. These variations in consistence are most easily observed during pregnancy as the well-known intermittent contractions, but similar changes can frequently be observed during the process of involution in the few weeks succeeding labour or abortion, or even apart from pregnancy, especially where there are signs either of congestion or of want of healthy tone in the pelvic organs. Not rarely a puzzling variation is felt in the atonic uterus; it appears that there are areas firm and tcontracted set in the midst of the generally lax organ, and these irregular contractions are apt to give rise to a suspicion that small fibroids are present. On watching and waiting for contraction to take place the apparent nodules are taken up into the general firmness of the organ, which then appears normally smooth on the surface and uniform in consistence.

The intermittent alterations in tone here referred to are not known to be accompanied by any variation in the size of the cavity of the uterus or in the calibre of the internal or external os. The contractions during labour differ in that they give rise to shortening of the uterine wall, diminution in the size of its cavity, and dilatation of the cervix; and, further, in that they are felt by the patient as defined "pains," and that as they become most strongly developed they give rise to severe contractions of the voluntary muscles—the well-known bearing-down pains of the second stage of labour.

During menstruation intermittent variations in tone are often readily recognized, and in this condition Herman has made out that there is dilatation, slight but distinct, of the internal os. Such contractions would appear to be elementary "pains," so to speak, similar to those occurring during labour. The menstruating uterus, in fact, exhibits a certain elementary degree of polarity, the body certainly showing intermittent contractions and the cervix dilating, while it is at least possible that the body cavity is varying in capacity from time to time. This being so, it follows that anything that interferes with the function of "polarity" may very possibly cause the contractions of the uterus to be felt as pains, such pains, no doubt, varying in character just as do the pains of the first stage of labour. Especially may anything that interferes with the regular and easy dilatation of the internal os be expected to cause pain, and nothing is more likely than that a fibroid of even small size, seated in the thickness of the wall at the level of the isthmus, may give rise to such interference.

The cases discussed in this paper give a hint that in certain instances where the uterus is ill-developed, as shown by relative smallness or slenderness of the organ or by acute bending in the region of the isthmus, severe menstrual pain may be due to irregularity or perversion of the peristaltic contractions concerned in the function of polarity.

Two remarks on diagnosis and treatment are necessary, in conclusion. The ideal treatment was pursued only in the third case here related; in the other two the small fibroid tumours were not discovered until careful examination of the uterus was made after removal. Radical operations will, no doubt, often be performed in similar cases in the future because of the impossibility of recognizing the presence of insignificant fibroids deep in the wall of the uterus by examination, even after the abdomen has been opened.

DISCUSSION.

Dr. A. W. RUSSELL (Glasgow) did not think that Dr. Tweedy had sufficiently acknowledged the extent of the danger of degenerative processes of fibromyomata other than the cancerous changes. His experience coincided with Dr. Thomas Wilson's in finding that there was a marked tendency to changes in the heart and other organs when these tumours were not removed, and there were, of course, the other degenerative processes which made infection more liable to occur. The danger of growth to enormous size must not be forgotten, for they might become a serious handicap to locomotion, and might involve even a risk of accident, as had occurred in his experience by causing the patient to roll out of bed when turning. Dr. Thomas Wilson's cases carried a valuable lesson, and he could remember a specially interesting case where he had to contend for operation in consultation against a senior consultant, who did not think the small size of the tumour called for operation. The symptoms, however, had persisted till the patient had become a confirmed invalid on account of chronic pain. The alleged neurotic element was disregarded, and operation was followed by renewal of health and cessation of pain. He had seen other similar cases, and it was now his custom to recommend removal when there was severe dysmenorrhoea accompanied by the presence of multiple small fibromyomata.

Dr. BUIST (Dundee) said the practical conclusion which one must draw was that the popular belief that the menopause ended the danger of fibromyoma was neither safe nor true, and it must be impressed on the medical

ttendants that the operation-shy myoma patient must be nder continual observation. One danger which he was not are that Dr. Stark had not mentioned arose from shrinkg of fibromyoma at the menopause, allowing it to sink into e pelvis and produce pressure symptoms from which the se had been hitherto exempt. Dr. Wilson's cases were nportant, and, with the suggestions of examination by terior hysterotomy or uterine bisection, added to the ssibility of curing dysmenorrhœa and preserving full xual life.

Dr. J. J. Bell (Bradford) said: I agree with the ints raised by Dr. J. Stark. The extreme danger which ises in cases of neglected or untreated fibroid growth of e uterus and the degenerative changes are additions to e danger of the presence of the tumour in the abdomen, d definitely point to the pathway of treatment, and Dr. ark is to be congratulated upon bringing this series of ses before the Section. And little doubt can be enterined as to the duty of all who are called upon to advise tients who suffer in earlier years from the presence of all fibroid or fibromyoma of the uterus, that early eration is imperative in the interest alike of patient and rgeon. Dr. T. Wilson's cases are a most important ntribution to the elucidation of a most difficult problem, d the meeting is much indebted to him for bringing m before the Section. One has frequently to advise on h cases, the cause of which is not only not known, but even surmised, and the pain in these cases, thought to due to an over-sensitive nervous system, are in reality e to a local cause; and I would like to ask Dr. Wilson if all such cases as his he would recommend exploratory eration as a method of diagnosis, and I would suggest t complete removal of the uterus and appendages uld be better than enucleation of the growth, as one so quently finds a number of tumours in various stages of elopment which at a future date may require a second ration, which would be deplored by patient and geon.

NOTES OF A CASE OF TUBERCULOUS ELEPHANTIASIS OF VULVA.

By C. E. Pursłow, M.D., M.R.C.P.Lond.,

rary Obstetric Officer, Queen's Hospital; Clinical Lecturer in ynaecology, University of Birmingham; Consulting Surgeon, Birmingham Maternity Hospital and Lying-in Charity.

rarity of the condition must be my excuse for ging this case before you.

he patient, A. R., aged 37, was admitted to the en's Hospital on May 19th, 1910, when she gave the wing history:

ne had been married seventeen years, and had had child sixteen years before admission; there had been bortions. Menstruation had been regular and normal. sought advice at the hospital on account of, in her words, "swelling, inflammation, itching, and ulcers he private parts." These symptoms had been in ence for two years. Twelve years before admission had an operation (abdominal section) at the General pital which left two scars, and nine months later ilar operation at the Women's Hospital. The first ion discharged for eight months and the other for two hs. She had also had numerous abscesses in both s.

e patient was operated on by Mr. Christopher Martin ne Women's Hospital in December, 1894, and he has y furnished me with the notes made at the time, and iven me permission to publish them.

e abdomen was opened, and the condition was then l to be tuberculous peritonitis; there were tubercles e intestines, ovaries, back of uterus, and tubes, and culous glands in the iliac fossae and omentum. The nen was closed without anything more being done. the patient attended Mr. Martin's out-patient room, July, 1895, a note was made of a sore on the left n, which at the time was thought to be venereal, here was no further development of symptoms ng to syphilis.

lition on Admission to Queen's Hospital.—On examining domen there were three scars of incision, one in the line, one in the right semilunar line, and the third in ft iliac region. There were also extensive scars of suppurated glands in both groins. The whole vulva and mons veneris presented an extraordinary experience, and I have never seen anything like it. It is shown in the accompanying photograph, which was taken before the operation. The parts affected were considerably swollen, and the surface was covered with small round depressions, with intervening elevations. Some of these depressions were discharging a thin serum, but the majority appeared to be dry. The surface was not reddened. The change involved both labia majora and minora, the prepuce of the clitoris, and the mons veneris, but did not affect the vestibule or the parts within the labia minora. There was no pyrexia, and, except for the local condition, the patient's appearance was good. The urine contained a faint haze of albumen. There was no sign of pulmonary phthisis. Previous to admission the patient had been under treatment in the out-patient department. Various lotions and powders had been tried, but with no benefit; *x* rays were also applied for a time at weekly intervals, but the condition did not improve in appearance, and the patient would not have any further applications, as she said that the burning and itching, which were her most troublesome symptoms, were made worse by this treatment. Finally, she was advised to have the parts removed, and she willingly consented.

Operation (May 21st, 1910).—Incisions were made round both labia majora and minora and mons veneris, the incisions meeting behind at the fourchette; the enclosed area was removed by knife and scissors; bleeding points were tied and the skin edges brought together by sutures, using silkworm gut for the region of the mons and catgut elsewhere. The parts healed without difficulty; there was no pyrexia, and the patient left the hospital on the twentieth day after operation.

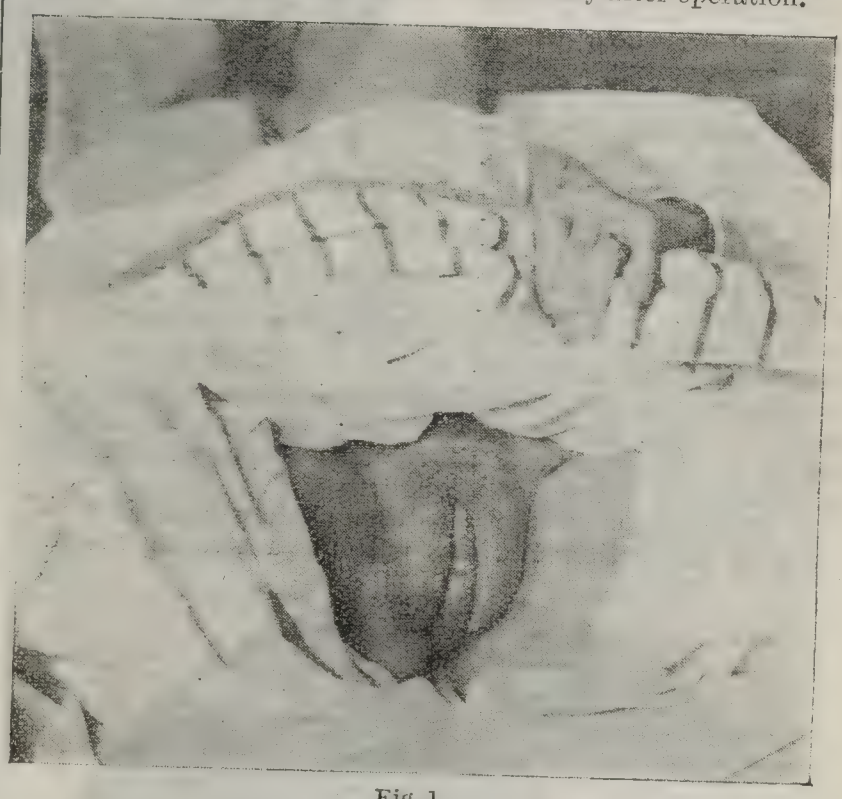

Fig. 1.

She was seen and examined six months later, and there was no sign of recurrence. The specimen was presented to the Museum of the University of Birmingham, and was thoroughly examined by Dr. Hewetson, Curator of the Gynaecological Section of the Museum, who has very kindly furnished me with the following report:

Microscopic Appearances.

Sections were taken from the congested area around the vaginal orifice, and also from the pale hypertrophic periphery of the specimen.

Central Congested Portion.—Here the epidermis is distinctly thinned. The stratum corneum forms a thin layer which readily peels off. The epidermis is generally frayed and thin. The papillae are enlarged and are largely converted into fibrous tissue, with occasional inflammatory cells scattered about their substance; occasional hair follicles, sebaceous glands, and sweat glands are visible passing into the subcuticular layer, often surrounded by an area of inflammatory cells. The bulk of the subcuticular layer generally occupied by areolar fatty tissue has been converted into a dense belt of fibrous tissue rich in dilated and engorged capillaries and venous spaces. Occasionally the arteries show well-marked endarteritis.

Periphery of the Specimen.—The epidermis here also is thinned and oedematous, but the stratum corneum is better preserved and shows less tendency to shed. The papillae, however, are enormously increased in size, due to oedematous infiltration and well-marked inflammatory infiltration. Hairs are more abundant. The subcuticular tissue is here also converted largely into fibrous tissue, with less congestion but more acute perivascular infiltration and more distinct endarteritis. There is no evidence of malignant invasion and no evidence of tuberculous infection. The sections suggest a wholesale lymphatic obstruction, with resulting hypertrophy of fibrous tissue, which has embarrassed the vascular supply, leading to

oedema and giving rise to a tissue hypertrophy analogous to elephantiasis.

False elephantiasis is alluded to by many writers, but is generally stated to be a very rare condition, especially in white women; it must not be confounded with true elephantiasis due to the presence of *Filaria sanguinis hominis*.

Kelly[1] states that he has seen 8 cases of this disease, of which only one occurred in a white woman; he attributed it to an obstruction of the lymph channels which drain the external genitals, and states that, in his belief, syphilis is the commonest cause of the obstruction. He advises excision in all cases. He states that the parts affected in order of susceptibility are the clitoris, the labia minora, and then the labia majora, the perineum may be involved, but beyond this the disease does not invade surrounding tissues; he also states that in most of the cases cicatrices were found in the inguinal region.

All the authors whom I have consulted who ventured upon an explanation of this condition attribute it to syphilis. The only account I have been able to discover in which a full description of tuberculous elephantiasis is given appears in a paper by MM. Emile Forgue and Georges Massabau, headed "L'Éléphantiasis tuberculeux à propos d'un cas d'éléphantiasis tuberculeux de la vulve."[2]

A photograph of the condition before operation is given in this article and this presents a striking resemblance to the photograph of my case which I have had the honour of bringing before you.

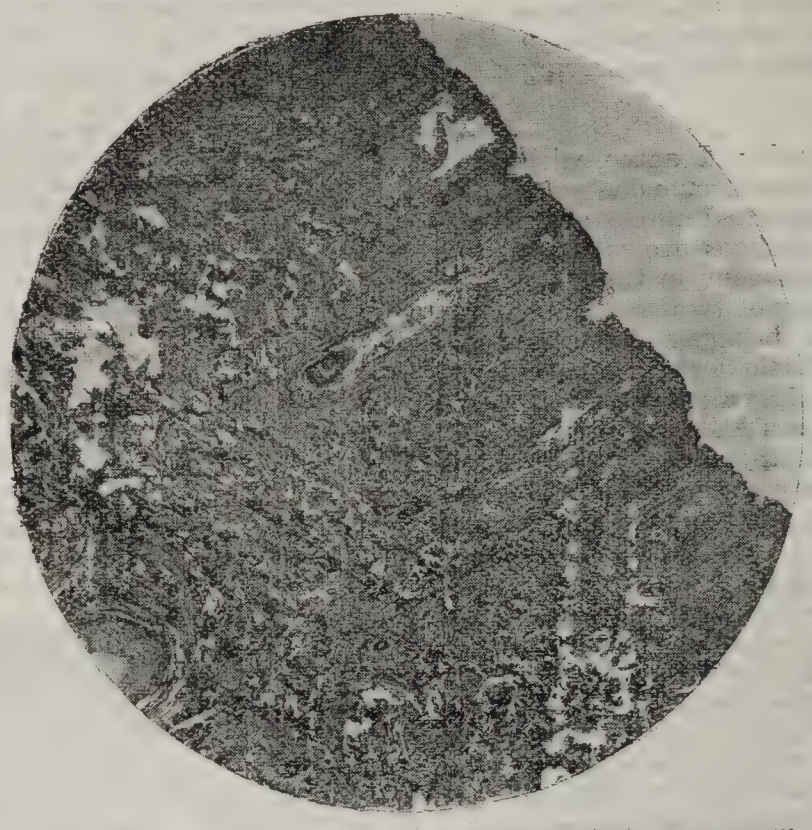

Fig. 2.—Showing disappearance of the stratum corneum. Atrophy of the stratum granulosum; absence of oedema of the papillae and dense fibrosis of the subepithelial layers. The section is taken from a part of the specimen close to the vaginal orifice.

The patient, 35 years of age, had suffered when 15 years old from tuberculous enlargement of the glands, which had been treated by incision and curettage, and a tuberculous fistula had developed in the groin; there were signs of phthisis at the left apex.

The appearance of the vulva described by these authors is much like that met with in my case, except that the projections in theirs were more marked, and they liken the appearance in some places to that of a cauliflower.

The condition recurred ten months later and the patient was readmitted to hospital. The legs were then also swollen, and later oedema appeared in the axilla and lateral walls of the thorax. The pulmonary symptoms increased in severity, haemoptysis supervened, and the patient died one month after admission.

The authors give a detailed account of the histology of the condition accompanied by photographs, and I now hand round the copy of the *Revue* containing these illustrations. From these and the written description it is clear that the microscopical findings bore a close resemblance to those described in Dr. Hewetson's report.

MM. Forgue and Massabau draw attention to the frequency with which spurious elephantiasis is due to syphilis, and they refer to a work by Calderoni in which all the cases published between 1880 and 1890 were collected; these were 51 in number, and of this number only 8 were tuberculous. The authors quote from several writers descriptions of the condition, most of these writers calling the disease "tuberculous elephantiasis."

Some cases of a similar condition of the scrotum are also referred to; it appears to be a common feature of all the cases described that the elephantiasis is preceded by enlargement and suppuration of the inguinal glands.

Fig. 3.—Showing a section through the skin of the more peripheral parts of the specimen. The stratum granulosum is hypertrophied. The papillae show hypertrophy, marked oedema, and round-cell infiltration. The stratum corneum shows a tendency to shed. The subepithelial layer is dense and sclerosed.

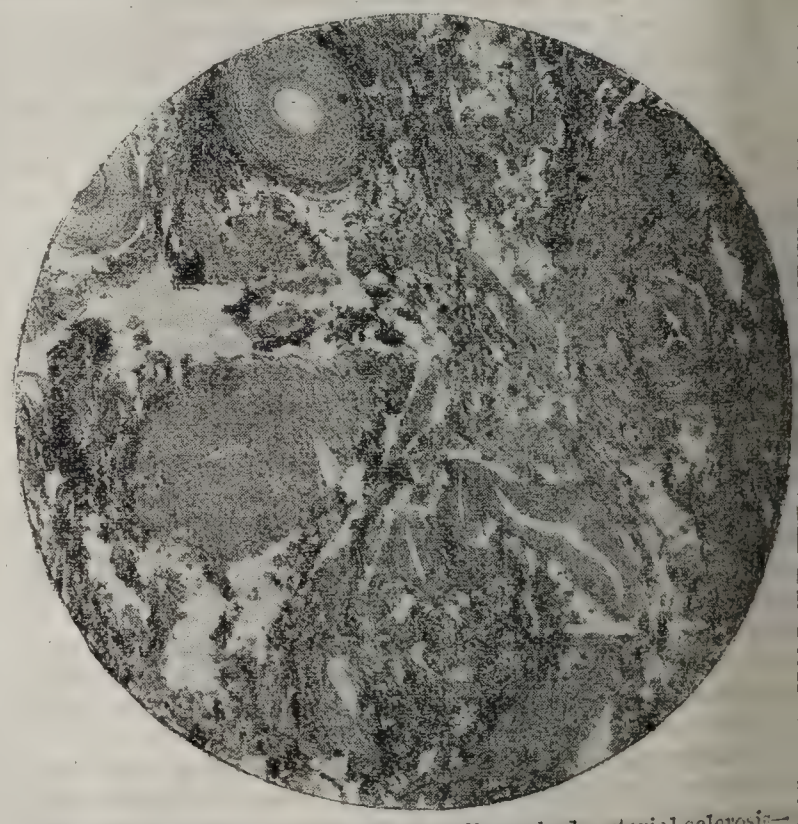

Fig. 4.—Low-power view of the well-marked arterial sclerosis—occasional endarteritis seen in many parts of the specimen. Hairs in their follicles are also seen in the section.

The histological appearances which have been described in the reported cases are summed up by MM. Forgue and Massabau as follows:

There is excessive hyperkeratosis, with increase in the size of the papillae; the subcutaneous fibrous tissue is more or less split up by oedema, the lymphatics are dilated, numerous embryonic round cells are found disseminated throughout the tissues.

They aver that the histogenesis of these cases is in every way comparable to that of syphilitic elephantiasis.

As regards the clinical aspect, they note that in most ases the development of the condition is slow and not ccompanied by any acute pain.

They give a very gloomy prognosis, stating that, after ne diseased parts have been removed by operation, sooner later there has almost always been recurrence in cases hich have been followed for a sufficiently long time, and at visceral lesions in most cases supervene; one of the ublished cases dying seven and another eleven years ter the operation from pulmonary phthisis.

Since writing the above, and during the present month, y patient has presented herself again at the hospital, and regret to say that the prognosis given by MM. Forgue d Massabau appears likely to be verified in this case, as ere is now distinct evidence of recurrence in the vulva; e says that she first began to feel symptoms again three eks ago. I shall hope to be able to keep the case under servation, and to publish a later report.

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SECTION OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

F. Marsh, F.R.C.S., President.

DISCUSSION ON THE TREATMENT OF TUBERCULOSIS OF THE LARYNX.

OPENING PAPERS.

I.—Dundas Grant, M.A., M.D., F.R.C.S.

able collaborator having undertaken in his review of subject to include consideration of general treat- t as well as local treatment, I shall occupy the time ved me in discussing certain factors in laryngeal rculosis which, in my experience, are of practical ortance in relation to its treatment.

Treatment in Relation to Certain Etiological Factors.

hatever views may be held as to the determining es of the localization of tuberculosis in the larynx, e can be no doubt that local irritation is a very rtant factor, and the causes of irritation may be iological, mechanical, pathological—that is to say, be associated with function, physical irritation or natism, and pathological changes in the neighbouring ns. We shall, therefore, have to keep before our s the use or abuse of the voice in speech and cough, nhalation of irritants, deglutition of hard, imperfectly icated food, etc.

regard to the *use or abuse of the larynx for vocal ses*, those who have not witnessed it will scarcely e the extraordinary improvement in the voice and in ndition of the vocal cords in laryngeal tuberculosis the maintenance of silence for three or four weeks. his the patient must be conscientious and enter into pirit of his fight against his disease, and in no disease more ready to do so than in the one we are con- ng, especially if inspired with hope and courage by a d and sympathetic adviser. Whispering is better nothing, and may be practised under observation after eaking voice, on trial, is found good. It must, how- e a genuine *voiceless* whisper, not the subdued jerky which is sometimes used in its stead. A lady t, under the care of Mr. Noble Bruce and myself, l out this "silence cure" conscientiously for a r of months, and only at the end of that time did ow herself to speak in an ordinary voice, of which ad almost lost the habit. The clearness of the was then a startling revelation, and the laryngoscope l that the previous infiltration with superficial ion, both in the cords and interarytenoid tissue, had ally disappeared. It has now subsided entirely.

Cough is even more irritating to the larynx than phona- tion, and though a "useful" cough is inevitably to be permitted, many of the coughs indulged in by our patients are both useless and injurious. They are, fortunately, to a certain extent to be controlled by an effort of will, and the exercise of this effort is of more value than drugs; where- fore the patient should be drilled in its exercise. When the larynx is involved the cough spots are doubly excitable. Some patients preface every utterance by the emission of an aggressive and unnecessary "hem," which must be authoritatively proscribed. It will probably be agreed that heroin is the remedy *par excellence* to quiet the cough centre, and for "useless" coughs is probably indispensable. Codeia and compound tincture of camphor seem to quiet them in many cases without locking up the expectoration. What I have said with regard to the whisper is equally true of the cough—that is to say, that there is a "voice- less" cough, practised without closure of the vocal cords or ventricular bands. This, although not supplying that temporary resistant occlusion which is necessary for the production of full-bodied explosive expectoration, is still sufficient for the ejection of a considerable amount of secretion at very much less expense in the way of irrita- tion of the larynx. The acquisition of this voiceless cough is worthy of the patient's attention.

The form of treatment known as "continuous antiseptic inhalation," and ardently advocated by Dr. Burney Yeo [1] and Dr. David Lees,[2] has found considerable favour at the hands of my colleagues. I have seen every reason to be gratified with its effect, although I am not thoroughly convinced as to its mode of action so far as its destructive power over bacilli is concerned. I thoroughly believe that it is by checking the cough that it is beneficial, and when it does not check the cough I doubt whether it does much good. The formula should therefore be modified accord- ing to its effect in this respect in the individual patient. It has the subsidiary effect of deterring the patient from indulging unduly in conversation, thereby affording addi- tional rest to the larynx. Burney Yeo's perforated zinc respirator, or some modification of it, is the form most in vogue. Dr. Beverley Robinson,[3] of New York, was one of the first and most strenuous advocates of this form of continuous inhalation, and his records of cases are both instructive and encouraging. The main ingredient in the drops with which the wool in the respirator is moistened is creosote, variously combined. Menthol (which, as a French writer has sarcastically stated, "enters into all the sauces") is an almost invariable component, but it must be kept within such limits as not to irritate and excite cough. It is, perhaps, best reserved for applications to the larynx in oily solution.

A useful and pleasant formula is: Creasot., ʒiij, ol. pin. sylvest., spir. chlorof., āā ʒjss, ol. cinnamon., ol. citronell., āā m v. A little menthol, say, 5 grains, gradually increased, may be added unless found irritating.

Air which has not been warmed and filtered by the nose is another irritant, and in patients who are not in too advanced a stage the removal of nasal obstructions, especially the submucous rectification of deflected septums, has repeatedly led to improvement. Dr. Bucklin,[1] of New York, considers the removal of nasal obstruction sufficient to determine a cure in many cases of pulmonary tuber- culosis. This is, in my opinion, an exaggeration of a truth of which I have seen many proofs. One most important irritant is the secretion from the nose and naso- pharynx when these cavities are the seats of catarrh or suppuration on their own account, or from the propulsion into them of excreta from the diseased lungs.

It was to me a surprising discovery during my earlier days at Brompton Hospital, on inquiring of patients whose improvement had especially struck me, to find that they dated their improvement from the time when they were ordered to use a wash for the nose. This point deserves to be most carefully noted by those who have not yet had it forced on their observation.

For this purpose any simple alkaline and antiseptic lotion of isotonic specific gravity may be employed, but the following has been found very useful for routine purposes:

Sod. biborat	96 grains
Sod. chloridi	48 ,,
Sod. salicylat.	48 ,,
Glyc. pur	72 minims.

Aq. menthol (made like aq. camph.) to 6 oz. (a teaspoonful in about 1 oz. of warm water).

Dr. Glegg informs me that this lotion would be more accurately isotonic if the amount of sodium biborate were reduced to 24 grains, and that of the sodium chloride increased to 84 grains.

It may be employed by means of my "inspiratory" nasal douche, of which the one shown in the figure was the original model, but which can be very simply replaced by means of a short glass tube with a flattened bulb at one end to fit comfortably into the nostril, the other end touching the bottom of wine-glass or egg-cup into which the solution is poured. The patient can then (in the absence of contraindications) draw the fluid through the nose by means of a snuffing action, with or without closure of the opposite naris, the liquid getting into the pharynx, from which it is then hawked out. The Woakes's nasal douche, or any of its congeners, may also be employed.

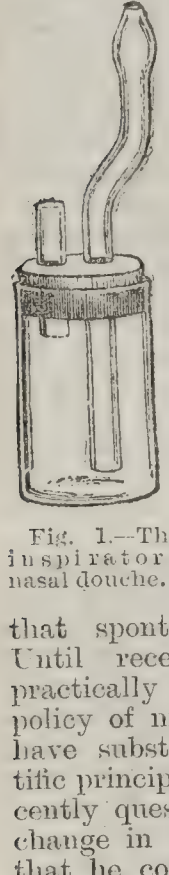

Fig. 1.—The inspiratory nasal douche.

The inhalation of tobacco smoke, dusty air, or irritating vapours must be strictly prohibited.

Treatment in Relation to Certain Local Conditions.

In many cases, of course, the local infiltration is so considerable or so progressive that spontaneous absorption is not to be expected. Until recently the resources at our disposal were practically non-existent, and we were driven to a policy of masterly inactivity for which, fortunately, we have substitutes whose efficiency is founded on scientific principles as well as evidenced by experience. I recently questioned a pathologist as to the nature of the change in the healing of tuberculous lesions. He replied that he could answer me in one word, "Fibrosis." The local measure likely to bring this about is an irritant which will set up an inflammatory change in the tissue, and cease its further irritant action as soon as it is removed. Such is the galvano-caustic puncture effected by means of a fine platinum point introduced deeply into the tissue. The result is an active cauterization of the deeper parts, producing a zone of fibrosis with the minimum of destruction of the surface epithelium. Its use was strongly advocated by Mermod[5] and Grünwald,[6] and its value was confirmed by the extensive trials given to it by Siebenmann.[7]

In the earlier years of the Laryngological Society I showed a case of a tuberculous ulcer of the vocal cord to which I had made an application of the galvano-cautery point so limited that the sloughy patch produced by the traumatism was taken for pachydermia by several examiners. The ulcer healed, and eventually the patient recovered his health so thoroughly as to go through an active career in the Bechuanaland Police. I did not realize the full value of the agent I was employing, but during the last three years I have been using it constantly and have shown numerous cases illustrating its beneficial effect. In fact, when I inquired of the sister in charge of the Throat Department at Brompton Hospital which cases derived the most benefit from the treatment there, she unhesitatingly replied that it was those for whom I had used the galvano-cautery. I at first feared it would be followed by pain and by inflammatory oedema, but to my surprise I found almost immediate diminution or even elimination of pain and practical absence of oedema. In these respects there was a marked contrast to what we had often seen after the active use of lactic acid. The traumatic irritation seems to cease to extend when the cautery point is removed, whereas it is not so limited in the case of chemical caustics injected into the part. The galvano-caustic puncture produces in about a week a diminution in the infiltrative swelling and the formation of a dimple at the point of puncture. Several points may be punctured at the same sitting, as, for instance, the two aryepiglottic folds and each half of the epiglottis. It may be repeated in a fortnight, if desired, but I do not do it sooner.

A sufficient degree of anaesthesia of the larynx for galvano-cautery puncture is generally secured by the use of 5 drops of a 20 per cent. solution of cocaine, to which a small proportion of adrenalin has been added. By means of a glass or other intralaryngeal syringe the solution is allowed to drop on to the laryngeal surface of the ep glottis and from there to diffuse itself over the inn aspect of the larynx. A drop may also trickle over th laryngeal surface of the epiglottis and the fauces may l painted once or twice with a 10 per cent. solution. Th syringing is facilitated by the previous insufflation of small amount of anaesthesin. In the case of exceptionall sensitive patients it is advisable or even necessary to giv a general sedative, such as a hypodermic injection $\frac{1}{6}$ grain of morphine and $\frac{1}{100}$ grain of atropine thre quarters of an hour before the cauterization. The sam method of anaesthetization is applicable in the case other intralaryngeal operations.

With regard to the galvano-cautery points, I find it pr ferable to have the copper supports side by side instead one above the other, in order that the alteration of th curve may be easily effected according to the situation the part to be cauterized. I usually thin the point b means of a fine file; this renders the operation easie though of course it shortens the life of the platinum poin

Circumscribed tuberculomata may project from an portion of the larynx, but most frequently from th ventricles and from the interarytenoid region. In th latter position they are often, however, really the upp margins of ulcers extending down the posterior wa Such projections may be removed with forceps or curette and I have in several cases been able by their means relieve the obstructive dyspnoea and to obviate the nece sity for tracheotomy. It is often possible to reduce the by repeated galvano-caustic punctures.

Painful ulceration of a limited area of the epiglottis the aryepiglottic fold may justify removal of the portio by means of punch forceps, such as Gouguenheim' Schmidt's, or Lake's, and the beneficial results as regar pain have been instantaneous. The more extended u of the galvano-cautery has rendered these operations many cases unnecessary and less frequent than formerl In a recent publication trichloracetic acid has been adv cated as an application to tuberculous ulcers and veget tions in the larynx. In the few cases in which I ha since tried it it seemed to justify the writer's favourab opinion. When ulceration has taken place we have destroy the tubercle bacillus and at the same tim combat the other micro-organisms which implant the selves in the ulcerated tissues. Here lactic acid has place, although in the past too much has been expect of it. It may be applied by means of a wool swab gradually increasing strength from 50 per cent. upwar Lake has combined it with formalin and carbolic acid namely, formalin 7 parts, carbolic acid 20, lactic acid water up to 100. The larynx should be previous cocainized, and the application should be as careful limited to the ulcerated area as is possible. It is advisab to cleanse the parts beforehand with a 1 per cent. soluti of sodium bicarbonate by means of a laryngeal syrin or spray.

Antiseptic powders may be insufflated by means of powder-blower, or inhaled by Leduc's tube, to wh I shall again refer. Among such powders may be me tioned iodoform, di-iodoform, resorcin, urotropin, a others. I shall give some formulae for these when c sidering the symptom of pain. Iodoform may be appl by means of a spray of a saturated solution in ether. T insertion of the galvano-cautery point through the floor the ulcer into the infiltrated tissue on which it is form assists in inducing healing.

Treatment in Relation to Certain Symptoms.

Certain symptoms are, as such, so important as to for special consideration.

When ulceration takes place on the walls of the lary (epiglottis, aryepiglottic folds, etc.), the most pronoun symptom is the violent tearing *pain*, especially marked swallowing. This, indeed, is the characteristic horror this disease. The treatment of this symptom is natur that appropriate for the treatment of the ulcerati but special measures are usually required. When first commenced the study of laryngology, our m resources were the application of morphine in glycer (recommended by Isambert) and the insufflation morphine in starch (by Morell Mackenzie). former gave slight, the latter very considera relief, but probably as a local coating and general narc

ather than as a local sedative. Later came the discovery of cocaine, and with this, then as now, a very grateful ocal anaesthesia was produced which was rather slow n induction, quick in subsidence, and possessed of well-nown deleterious effects. This was followed by the dvent of orthoform, producing local anaesthesia, slowly nduced but of considerable duration. It acted, however, nly on the ulcer and not on the unbroken surface. This s a minor inconvenience in the disease we are con-dering, and any injurious effects are extremely rare. believe it has a tendency to diminish the oedematous welling of the part. Anaesthesin has the advantage of roducing a mild anaesthesia with great rapidity, but the ffect is very transitory. It acts, however, on the nbroken mucous membrane, and has antiseptic and congestionizing properties. It may, therefore, be com-ned with orthoform. These remedies may be applied means of a powder-blower when convenient, but the tient may introduce them for himself by means of educ's tube, as before mentioned.

Leduc's tube consists of a tube of glass of about ¼ in. calibre and of about 10 in. in length. At one extremity small portion of it is curved at an angle of 60 degrees, ile at the other the last 3 in. are bent at an angle of out 45 degrees. The diagram will best indicate its

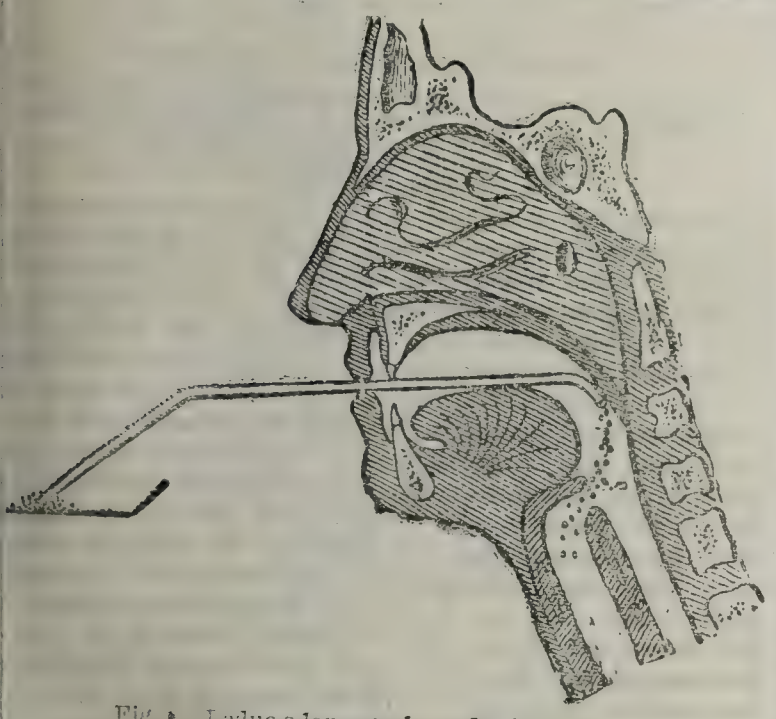

Fig. 1.—Leduc's laryngeal powder inhaler.

e as well as the mode of using it. The following tions with the diagram attached are given to the nts at Brompton Hospital who have to use it:

t a small quantity of the powder in a saucer. Place the d end of the glass tube in the mouth so as to reach to the of the throat, the hole at the end of it pointing down-s; close the lips firmly round the tube and dip the long bent end in the powder, as in the picture. Then draw in breath quickly as if sucking. The powder ought to pass ly into the throat.

e following are the formulae of some useful powders:

Anaesthesin and orthoform	...	...	Equal parts.
Resorcin	...	...	One part.
Orthoform	...	...	Three parts.
Urotropin	...	...	One part.
Anaesthesin and orthoform, of each			Two parts.
Sacch. lact.	...	...	Three parts.

ay seem to have minimized the value of menthol in ation, but I have no doubt of its great usefulness as tralaryngeal and intratracheal injection. Rosenberg[8] nstrated its value, and if we do not expect it to be a ca, we shall not be disappointed. I have seen con-ble diminution of cough and expectoration follow the ion twice or thrice a week (daily, if possible) of about of fresh olive oil, containing 10 per cent. of menthol per cent. of guaiacol, by means of an intratracheal ge (Bronner's is excellent). It will be generally l that the subglottic region is one of the most ble cough zones, and the menthol acts as an excellent ve to the mucous membrane Moreover, during the which follows the injection, the liquid is driven up he ventricles of the larynx, as the approximation of the ventricular bands is one of the first movements in the action of coughing, and the ventricles constitute a most favourable nidus for the development of the tubercle bacilli, as well as the other pathogenic organisms which share in the deeper extension of the disease.

In some cases the pain is due, as I have already said, to the presence of an ulcer on some exposed part of the larynx so limited as to be capable of extirpation. Thus the epiglottis in part, or as a whole, may be removed by means of Schmidt's, Lake's, or Barwell's punch forceps, and one or both arytenoid swellings may be punched away with Gouguenheim's instrument. Instant relief usually follows this proceeding, brutal though it may appear. I have resorted to it less frequently, as I have found it possible to avoid it by the free use of the galvano-cautery, and I have seen reason to believe that the liberal use of the punch forceps is apt to facilitate the occurrence of regurgitation of liquids into the larynx. This is, however, probably attributable to the fact that in some of the cases in which I practised it there had been considerable destruction of the rest of the framework of the larynx.

There remains to be described the anaesthetization of the larynx by the injection of alcohol into the superior laryngeal nerve. This is effected by means of an ordinary vaccine syringe, the Record, provided with a special needle rather coarser than a hypodermic one and with the point bevelled at a much more obtuse angle. It is thus most unlikely to puncture any blood vessel. It is also provided with a shoulder at a distance of 1.5 cm. from the point, so that it can readily be recognized when it has penetrated to this depth, as shown in the figure.

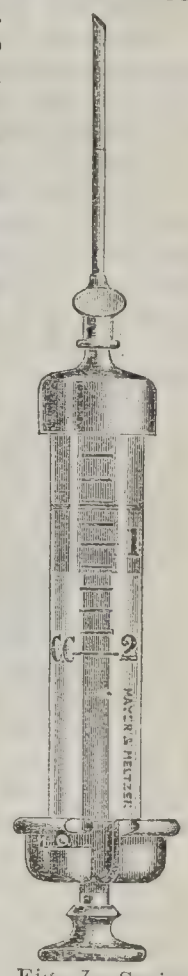

Fig. 3.—Syringe for injection of alcohol into superior laryngeal nerve.

The solution that I use is the one recommended by Dr. Purves Stewart for anaesthetization of the branches of the fifth nerve; it consists of 2 grains of hydrochloride of eucaine β in an ounce of 80 per cent. alcohol. The method of injection which I practise is the one recommended by Dr. Hoffmann in the Proceedings of the German Laryngological Society for 1909, and he describes it so clearly that I cannot do better than reproduce his description in his own words. He

places the patient in a horizontal position and, with the thumb of the left hand, presses the sound side of the larynx towards the middle line so that the affected half projects distinctly; the other fingers of the hand lie on this. The index finger enters the space between the thyroid cartilage and the hyoid bone from without until the patient announces that a painful spot has been reached. With a little practice one arrives at it at the first go-off, when one has become familiar with the topographical relations. One now places the nail of the index finger on the skin (which has been previously disinfected) in such a way that the point of entrance for the needle lies opposite its middle. The needle is pushed in for about 1½ cm.; this distance is marked off on the needle perpendicular to the surface of the body. According to the thinness of the subcutaneous layer of fat, the perforation has to be more or less deep. The needle is then carefully moved so as to seek a spot at which the patient states that he feels pain in the ear. The syringe, filled with 85 per cent. alcohol, warmed to a temperature of 45° C. (113° F.) is screwed on to the handle, and the piston is then slowly pressed down. The patient now feels pain in the ear, the passing off of which he indicates by raising the hand. During the operation he has to avoid both swallowing and speaking; if, however, he makes a movement of swallowing, we must follow the movement of the syringe with a light touch. The injection is kept up until no further pain occurs in the ear, then the needle is removed and collodion or sticking plaster is placed on the spot of injection without pressure.

As a rule there is almost immediate relief for a time, owing, no doubt, to the anaesthetic effect of the eucaine, but a more permanent relief, due to the action of the alcohol on the nerve, is sometimes delayed. I published last year[9] the reports of the first six cases in which I employed this method, in all of which swallowing could be accomplished afterwards without pain. The length of duration of the anaesthesia has varied, and in some cases I have repeated the injections at the patients' urgent

request, which I take as evidence of the relief which it procured them.

One of the most serious problems, and, so far as I can see at present, an imperfectly solved one, is how to nourish satisfactorily a patient in whom regurgitation of liquids into the larynx during drinking has established itself. The physical conditions producing this are usually such an amount of loss of substance in the interior of the larynx that there is no obstacle to the entrance of liquids—later, also, of more solid aliments—with, at the same time, such rigidity of the framework as the result of infiltration, that the impaired sphincter muscles are unable to draw them together to counteract the patency of the tube.

A most ingenious means of meeting this is the method of drinking devised by Wolfenden.[10] In this the patient lies on his face on a couch with his head hanging over, and so much inverted that he can drink from what may be called the remote side of the cup. I have found many patients greatly relieved by this, but the change of attitude involves more fatigue than the debilitated patient can always undergo, and the limits of its usefulness are, unfortunately, too soon passed.

My helper, Dr. Kisch, has found that external compression of the larynx by means of the finger and thumb sometimes meets the requirements of the case. Bryson Delavan[11] devised a feeding-bottle with a bellows for blowing in air and for forcing the liquid down a feeding-tube. The introduction of a feeding-tube is, however, most unpleasant to the patient, and in the condition of the larynx which renders regurgitation unavoidable there is the risk of the tube, especially if at all flexible, entering the larynx and aggravating the situation.

In Wolfenden's method the liquid has to flow over the orifice of the larynx, and *a priori* the tendency for it to enter it ought to be great, although experience shows it to be inconsiderable. I have recently tried the opposite attitude, as suggested to me by Casselberry's[12] method of feeding an intubated child. The patient is laid on his back on a hard couch or the floor with a cushion under his shoulders, so that the head drops back. He then drinks from an ordinary infant feeding-bottle. A patient to whom I gave plain water by this method told me it was "the best drink he had had for months." I recommend this method to favourable consideration.

Theoretically, as a last resource, it might be possible to introduce by means of a tracheotomy wound a tracheal cannula covered with a distensible jacket which could be blown up sufficiently to occlude the trachea and prevent the access of liquids to the bronchi. We know, however, that when there is advanced pulmonary disease, as is almost inevitable at the stage we are discussing, tracheotomy is usually the beginning (to say the least!) of the end. This proceeding was carried out in a case of carcinomatous tracheo-oesophageal fistula by the late Michael of Hamburg, but the circumstances in tuberculous disease are necessarily different. Even the permanent soft rubber oesophageal tube, which is so well borne in many cases of oesophageal cancer, is scarcely tolerable in tuberculosis. It is, however, the most likely of the methods I have mentioned. In practice, unfortunately, regurgitation in most cases means a speedy termination. If I seem to suggest rather violent measures, it is in view of the heart-rending spectacle afforded by many of the sufferers in this agonizing stage of the disease, but which many are spared from experiencing by the supervention of a desirable euthanasia resulting from their pulmonary or general tuberculosis.

In tuberculosis, as well as in other affections of the larynx, great discomfort, nausea, and even vomiting, have been caused by the *accumulation of inspissated secretion* in the lower part of the pharynx. Remarkable relief from these symptoms sometimes follows the daily cleansing away of these collections by the use of a laryngeal syringe with a 1 per cent. solution of sodium bicarbonate. A spray or even a gargle may be used when syringing is impracticable.

MAIN POINTS.

I will conclude by summarizing the main points to which I wish to draw attention.

1. Rest of the larynx as regards both voice and cough.
2. Attention to the condition of the nasal passages.
3. The value of the galvano-caustic puncture in extensive and persistent infiltration.
4. The use of Leduc's tube for the inhalation of antiseptic and anaesthetic powders.
5. The injection of alcohol into the superior laryngeal nerve to produce prolonged anaesthesia.

There are, of course, many others, but it seems to me that those above enumerated have not generally received the full consideration and appreciation to which their efficacy entitles them.

Above all, it is necessary to avoid counsels of despair. Many cases, even apart from the early ones, are susceptible of cure, improvement is now quite usual, and even among the worst there are very few in which great relief cannot be procured.

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II.—P. WATSON-WILLIAMS, M.D.,

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DURING the past twenty years, to go no further back, the treatment of laryngeal tuberculosis has been the subject for discussion on several occasions in this Section of the British Medical Association, and very many times has this topic occupied the special attention of laryngologists assembled under the auspices of congresses and societies in this and other countries; and yet, though some of us have seen considerable variation in the principles of therapy advocated and practised, the discussions have never brought out a general consensus of opinion in favour of any particular views; and it is not to be expected that we shall hear to-day the last word on the relief of sufferers from this very frequent complication of pulmonary tuberculosis; inasmuch as one must always assume that the laryngeal disease is secondary, unless it can be demonstrated otherwise by *post-mortem* examination. During the earlier portion of the period I have referred to the treatment upheld was essentially surgical on the line for which Krause and Heryng claimed such a high percentage of successful results; yet by 1901 these methods were receiving less support, and when the treatment of laryngeal tuberculosis was discussed in this Section at the annual meeting at Cheltenham in that year, I urged that silence was a golden rule in most cases; and in the same year StClair Thomson emphasized the value of silence. In 1905 again this Section discussed the subject, and a prominent part was taken by Jobson Horne, whose painstaking researches in laryngeal tuberculosis have assisted us greatly in developing methods of treatment on a sound pathological basis, and in the recognition of the early manifestations of laryngeal involvement during what was at one time termed "the pretuberculous stage."

The occurrence of *primary* laryngeal tuberculous disease is so exceedingly rare that we must always assume that it is a secondary lesion until it is demonstrated by *post-mortem* examination to have been primary, and as that is too late for questions of treatment to arise, for the purposes of this discussion we may leave the question of primary laryngeal disease out of consideration.

The subject of our discussion being the treatment of local infection complicating a systemic tuberculous infection, it follows that the general treatment of tuberculosis is an essential factor in so far as general treatment influences laryngeal lesions. Therefore I must refer, if only in general terms, to the two chief methods now in vogue for the treatment of tuberculosis—namely, sanatorium methods and the vaccine treatment by various tuberculins.

Sanatorium Methods of Treatment and the Effects of Altitude and Climate.—To what extent may we rely on sanatorium treatment alone in dealing with laryngeal tuberculosis? My experience has left me with a firm

conviction that any treatment that improves the general physique and favourably modifies or arrests pulmonary consumption will generally result in a corresponding improvement or cure of a laryngeal complication. One of the essential features of the sanatorium method is rest and strictly regulated exercise, and the resting of the involved larynx by complete abstention from the use of the voice is included in the principles of treatment which we may summarize under the term "sanatorium treatment." It is particularly in tuberculous laryngeal lesions involving the vocal cords and processes, and the arytenoid and interarytenoid regions, that prolonged silence is so valuable, and in the great majority of cases these are the regions most frequently affected. Without any local application or treatment whatever, and without the administration of any form of tuberculin, I have repeatedly seen ulcers on the vocal cords and processes heal up, interarytenoid swelling and ulceration disappear, arytenoid regions swollen with tuberculous infiltration resume their normal contour and aspect, and, with the pulmonary lesions healed, the voice has reacquired its natural strength and quality. For instance, a medical friend, in whom nearly the whole of the upper lobe of one lung was tuberculous, while the vocal cord and corresponding arytenoid region were likewise involved, and who had tubercle bacilli in the sputum, recovered completely and has remained well for over eight years. In another case, a clergyman with a tuberculous right upper lobe, with tuberculous sputum, and laryngeal tuberculosis involving both vocal processes and interarytenoid space, all symptoms and signs completely disappeared; his hoarse voice became normal and strong, and when I last saw him, three years after he left the sanatorium, he was in excellent health and regularly preached and conducted entire services twice every Sunday, in addition to addresses during the week. This patient had been restored to health by sanatorium treatment and silence, without surgical interference and without any vaccine.

I am certain that numerous cases quite as gratifying could be cited by others as examples of the lasting arrest and practical cure of laryngeal tuberculosis by sanatorium methods alone. On the other hand, laryngeal lesions do not always disappear or improve concurrently with the pulmonary lesion, and then the desirability of direct local treatment demands consideration.

I do not pretend that residence in a sanatorium is essential in every case for the carrying out of sanatorium methods, but I would urge that it is rarely possible to have the full advantage of these methods of treatment outside a sanatorium; and it is exceedingly difficult for a patient to entirely abstain from using the voice, even to the extent of whispering, unless he is at a sanatorium. Nevertheless, in some cases we do get excellent results at the patient's home, and one patient whose laryngoscopic pictures will be thrown on the screen is an example in point (Fig. 1), although in his case lactic acid was repeatedly applied to a small breaking-down tuberculoma.

Fig. 1.—Tuberculous infiltration on right vocal cord which disappeared under "silence" and lactic acid applied locally.

Does climate and altitude *per se* influence the course of laryngeal disease apart from the effect of climate and altitude on the lung condition? I believe not, excepting in so far as high altitudes, say, over 3,000 ft., seem to be too stimulating and cause increased irritability of the larynx. I believe that moist climates, freedom from wind and dust, and moderate elevation are most favourable both for pulmonary and laryngeal tuberculosis. Dry air is of no account, because the normal nose completely warms and saturates inspired air before it reaches the larynx; but if a patient's nasal passages are inflamed or diseased, so as to interfere with nasal respiration, the dryer the air the more the larynx will suffer. On this account, and for other reasons, nasal obstruction and intranasal disease should be dealt with—a point Dr. Dundas Grant has sufficiently emphasized.

The Influence of Tuberculins on Laryngeal Tuberculosis

This demands our serious consideration, and I am convinced that in a large percentage of cases run a more favourable course with judiciously regulated administrations of tuberculin. After all, by the use of tuberculin we simply aim at the restoration and enforcement of those cellular functions which we believe are the chief means by which an attacked organism can overcome the infective invasion. In some who incur a tuberculous lesion these processes are set in motion without specific stimulation; in others we seek by sanatorium methods to increase the activity of biological processes generally; but whether we seek the same end by a sanatorium, or by the use of tuberculins, there is one essential factor we can never alter—the innate potentiality of response on the part of the individual's tissues; and I do not think we are justified in wilfully discarding the undoubted advantages of sanatorium methods in order to prove, what is equally beyond dispute, that tuberculin, whether autogenous or artificially prepared and administered, is capable, in certain and favourable cases, of determining arrest of a tuberculous infection.

My own experiences with the use of tuberculins in laryngeal tuberculosis began over twenty years ago, when in January, 1891, I used Koch's original tuberculin. In October, 1891, I communicated[1] to this Association in Bristol the results obtained in four cases; but they were all advanced cases of pulmonary tuberculosis with extensive laryngeal disease; and, as might now be expected, the results were not altogether encouraging. The initial dose in each case was a milligram gradually increased to 0.015 gram. In one case typical tuberculous ulceration of the vocal cords healed rapidly when the patient had received two injections—namely, 0.001 and 0.002 gram (Figs. 2 and 3). He had seven injections in all, gained 9 lb. in weight in his last three weeks in the Royal Infirmary ward, and left very greatly improved and with a normal larynx. I refer to these cases largely because they are of interest historically, being, I believe, the earliest instances of the use of tuberculin for laryngeal tubercle in this country. I do not advise such relatively heroic dosage in the weight of fuller experience.

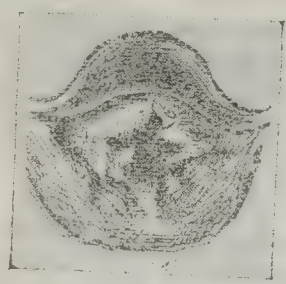

Fig. 2.

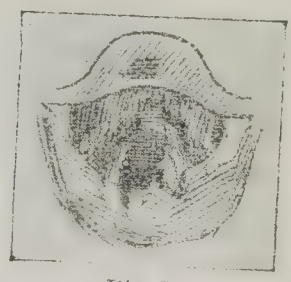

Fig. 3.

Extensive laryngeal tuberculosis improved by injections of Koch's original tuberculin. Fig. 2, M. H., January 21st, 1891. Fig. 3, M. H., March 11th, 1891.

What impressed me most of all in these cases was the very remarkable sedative effect of the injections, and in one case it was so pronounced that I gave the final injection of a centigram solely for the purpose of obtaining relief from the intense pain in the larynx. Sprays and inhalations were unavailing, but the injection was followed by marked relief within a few hours, and did not return during the remaining eight days the patient continued to live.

Since those days we have learnt the importance of early diagnosis for treatment, and also the value of small doses, and my rule now is to aim at just avoiding any definite febrile reaction. I now usually advise either bacillary emulsion, beginning with $\frac{1}{5000}$ gram, or P.T.O. in gradually increasing doses from 0.0001 running up to 1 c.cm., giving about two injections a week; and then continuing with either bacillary emulsion or else P.T., beginning with 0.02 c.cm. and gradually increasing. With bacillary emulsions I think Professor Walker Hall's method of adding 5 per cent. of nucleinate of soda tends to promote leucocytosis, and is therefore an advantage. But in every case I try just to avoid reactions, and if a slight febrile reaction occurs I think it is better to keep repeating the same dose till no febrile reaction is produced before increasing the dosage. Excessive local reaction is attended with inflammation and oedematous infiltration, which may be so acute as to result in tissue necrosis, and as a consequence a quiescent local infection may become active, and the infection may be made to spread to fresh foci. Therefore the effect of any given dose should be noted before increasing the amount of subsequent doses.

We have much to learn, not only in regard to the influence of mixed infection, but also as to the differentiation between varieties of tubercle bacilli and their typical clinical manifestations. There is some reason to believe that pulmonary tuberculosis, and therefore its laryngeal complications, are due to human type infection; and that primary abdominal lymphoid gland tubercle and lupus are generally due to bovine type infection. Nathan Raw has adduced very strong reasons in its support, and though the arguments for or against this thesis are rather outside our discussion, we are concerned in so far as our choice of tuberculin is determined by such views. Raw[2] concludes that "the two diseases are so rarely seen together in the human, that there seems to be some ground for presuming that they are antagonistic to each other, and that bovine tuberculosis may possibly confer an immunity against human tuberculosis," and in this view I concur.

Local Treatment must be considered under two headings: Treatment which aims at eradicating the lesions, and treatment which aims at relieving the patient's sufferings, where palliative measures alone are possible.

Can we ever expect to cure a tuberculous larynx by the help of local treatment? If not, our patients ought to be spared the discomfort or suffering which surgical interference involves. In some cases where the infection is conveyed to the larynx through the lymphatics, resulting in a widespread acute miliary laryngeal tuberculosis, no local treatment can arrest the disease, but the majority of tuberculous laryngeal lesions are the result of local invasion, either through the surface epithelium, as shown in the section from one of Jonathan Wright's specimens (Fig. 4), which I will show on the screen; or else through the ducts of the glands, as demonstrated to this Section by Jobson Horne in 1905. I have already suggested that under general treatment, combined with complete abstension from the use of the voice, these local infections will very frequently subside as the pulmonary lesions improve. But there are other cases where the larynx does not improve, and sometimes where the laryngeal infection progresses even under rigid sanatorium methods. Then we ought to decide whether local treatment will tend to arrest the laryngeal disease. If there is localized ulceration, I have found that careful and firm applications of lactic acid to the ulcers tends to make them heal. When a circumscribed tuberculous deposit causes excessive pain which cannot otherwise be relieved, it may be removed and the cut surface treated as a tuberculous ulcer; and I have never seen any case in which the tuberculous infection spread in consequence. But where ulceration has not already caused a breach of surface, I think these localized tuberculous deposits are better treated by submucous injection. I have resorted to submucous injections for nearly twenty years, and though I frankly confess that the cases in which these injections appear suitable and necessary are relatively few in number, the results have been remarkably beneficial.

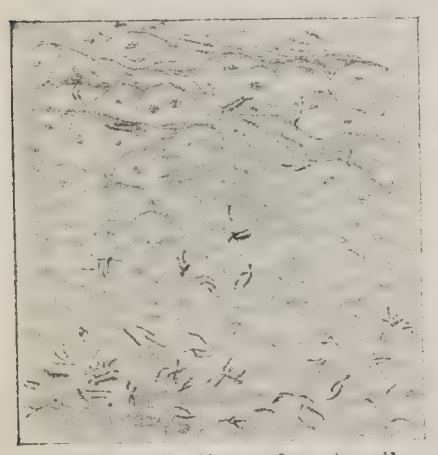

Fig. 4.—Section of a tonsil, showing the entrance of tubercle bacilli through the unbroken surface epithelium.—Jonathan Wright.

I will briefly relate one illustrative case of a patient who for thirteen months had complained of pain in the region of the right thyroid ala, which had increased until I saw her.

She could swallow nothing without previous applications of cocaine to the larynx, and even then swallowing food was painful. The right arytenoid, together with the arytenoepiglottic fold, was merged in a large semiglobular tuberculoma, which partly encroached on the glottic aperture, and extended outwards to the outer surface of the cricoid cartilage. She was hoarse, weak, and thin (weight, 6 st. 9 lb.), with both apices involved. Six weeks later the swelling in the larynx had increased, and a superficial ulcer could be seen by the Killian position on the deep inner side of the laryngeal swelling (Figs. 5 and 6). She went to Nordrach-on-Mendip Sanatorium, and there I made two submucous injections into the swelling of 50 per cent. solution of guaiacol (Fig. 7). Pain was rather marked until the following day, and then was gradually relieved, so that in four days' time she could swallow anything without pain and without resort to any local anaesthetic. Although she used a cocaine spray a few times she steadily improved, lost all pain, the voice recovered completely, and the swelling disappeared almost completely (Fig. 8). In three months she gained 12 lb. The relief had been so remarkable that she was anxious to have more injections, but I found no reason to repeat them. In a further three months she declared she felt "splendidly well, better than I have for many years; the throat never pains or even bothers me now; all the relief without question dates from the injection." Meanwhile she had had the advantage of sanatorium treatment under Dr. Thurnam, with silence not very rigidly carried out.

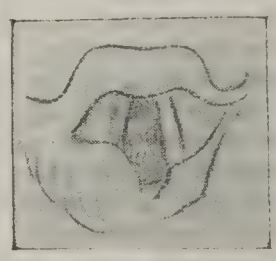

Fig. 5.

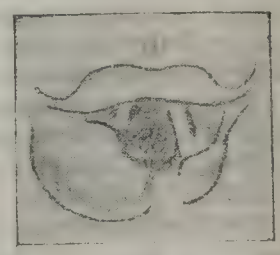

Fig. 6.

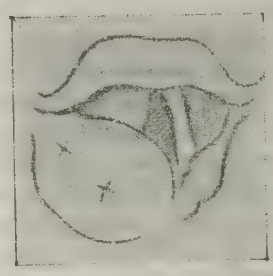

Fig. 7.

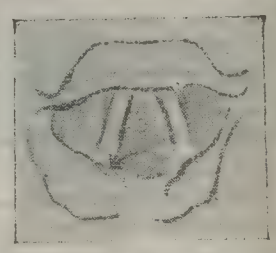

Fig. 8.

Localized laryngeal tuberculosis of right arytenoid and ventricular band, etc. Fig. 5, February 18th. Fig. 6, March 26th. Fig. 7, March 28th, one hour and a half after injection. Fig. 8, July 4th, showing the effect of submucous injection of guaiacol.

There is one class of local lesion to which I invite attention—namely, those chronic cases of tuberculous larynx in which firm fibrous granulations are projecting from the interarytenoid space or from the vocal cords, and, while being perfectly quiescent, cause aphonia. If the pulmonary lesion has healed or has become quiescent, and the patient's general health is good, I see no reason why we should refuse to restore a voice, if we are confident that can be brought about by removal of the mechanical obstruction to the apposition of the cords (Figs. 9 and 10).

Fig. 9.

Fig. 10.

Chronic laryngeal tuberculosis before and after curettement and lactic acid applications.

My colleague, Dr. Dundas Grant, has referred to the value of galvano-caustic punctures. I do not propose to add anything further on that method beyond stating that I have found it valuable in circumscribed lesions, particularly when the position of the lesion renders it difficult to make submucous injections.

The partial or complete removal of the upper half of the epiglottis I have occasionally found most beneficial when ulcerating tuberculous deposits are causing much pain. In favourable cases, where the lung condition and general state of the patient is relatively satisfactory, a clean extirpation of the ulcerated epiglottis improves the patient's chances and adds immensely to his comfort, while even in patients for whom recovery is out of the question the relief of pain may be far more complete than can be obtained by local sedatives. Yet cocaine or novocain sprayings, or orthoform insufflations, etc., or morphine or codeine internally, are often invaluable, and in the majority of cases render ablation of the epiglottis quite unnecessary. Very occasionally tuberculous disease in the larynx causes such marked narrowing of the air tract that tracheotomy

becomes necessary to relieve dyspnœa, and even when actual asphyxia is not feared, the relief from respiratory embarrassment that tracheotomy affords is worth remembering (Fig. 11).

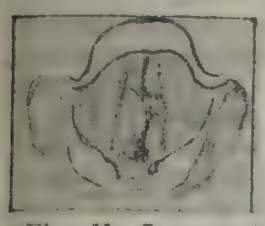

Fig. 11.—Laryngeal stenosis, due to extensive tuberculous deposit with fracture of the vocal cords, requiring tracheotomy.

I fear that in my very incomplete sketch of what appear to me to be the principles which underlie the proper treatment of laryngeal tuberculosis I have laid myself open to the accusation that I have said nothing fresh and have not even laid down rules for our guidance. To the latter charge my reply must be that it seems to me that no hard or fast rules are possible—each case must be dealt with on its merits, and whether any local treatment is desirable, and if so, what form it should take, depends very greatly on the general condition of the patient, the activity and extent of the pulmonary lesion, the patient's response to general treatment, as well as on the situation, extent, and character of the laryngeal complication. But my parting word is to avoid local treatment unless there is a definite and strong reason for interference.

References.

[1] P. Watson-Williams, On Tuberculin in Laryngeal Tuberculosis, *Provincial Medical Journal*, November, 1891. [2] Human and Bovine Tuberculosis, British Medical Journal, October 9th, 1904; Human and Bovine Tuberculosis, with Special Reference to Treatment by Special Kinds of Tuberculin, *Med.-Chir. Trans.*, vol. xc.

III.—G. Seccombe Hett, M.B.Lond., F.R.C.S.Eng.,

Surgeon-Laryngologist to Mount Vernon Hospital for Consumption, etc.

Mr. President and Gentlemen,—After listening to the papers by Dr. Dundas Grant and Dr. Watson-Williams, I feel there is little left to say about the treatment of tuberculous laryngitis. They have given a masterly survey of the modern treatment of the condition.

I have here some notes of private cases and others from records of the Mount Vernon Hospital, together with macroscopic and microscopic specimens, to which, if I may, I will call your attention. They illustrate some special points in the surgical treatment of tuberculous laryngitis, and from them I think certain deductions may be drawn.

My observations are taken from 350 cases of tubercle of the larynx, in which, besides the local condition, records have been kept of the condition of the chest, the course of the case, the patient's general condition, resisting power, and the pathological findings. These cases have been followed up as far as possible in their after-history.

The various kinds of local treatment have been applied and contrasted.

For practical purposes one can assume that all cases of laryngeal tuberculosis are associated with a pulmonary tuberculosis, either active or quiescent. It is an old-established and well-known fact that if the chest condition is favourable the larynx may become arrested. This, however, is in my belief not necessarily so, unless the laryngeal condition is treated as well as the pulmonary. I would put in a strong plea for the routine examination of the larynx in cases of phthisis, so that if the latter is diseased, it may be diagnosed and treated early. At Mount Vernon Hospital, where all cases are examined by the laryngoscope on admission as a routine, it is not infrequently found that there is local tubercle, although the patient has no symptoms.

It is also a fact that in some cases where the chest is riddled with tubercle the disease in the larynx can be arrested, so that even if the patient dies within a few months he is spared that most distressing and painful end, worn out by pain and starved from inability to take nourishment, which may occur in a case of tuberculous laryngitis. There is also a brighter side to the results of local treatment, and the latter is by no means concerned alone, or even to a large extent, in affording relief to a painful death. My records show cases in which extensive signs in the chest were associated with considerable laryngeal disease, and yet the patients are in a very fair health and able to attend to the ordinary affairs of life several years afterwards.

I have been speaking of the serious cases with extensive and widespread laryngeal lesions. In localized laryngeal disease, provided the chest affection can be arrested, the prognosis is often very fair. I should like to say a word about the classification of tuberculous laryngitis. This has an important bearing on the line of treatment to be adopted and the results which can be expected from such treatment.

It seems desirable that some more satisfactory classification of the results of the infection of tubercle bacillus on the larynx could be evolved other than that at present in vogue. We are accustomed to read that there is a condition known as "tuberculosis of the larynx"; that this is associated with tuberculosis of the chest, has definite clinical characters, and a somewhat grave prognosis; that there is another condition called "lupus," with definite local signs, associated usually with so-called lupus of the nose and pharynx, and usually unassociated with tuberculosis of the chest; that the former condition is common, the latter rare, and that they are two sharply defined and entirely different types of disease.

Lupus of the larynx is often said to be so benign that it heals spontaneously and requires no local treatment, while in tubercle of the larynx active local treatment is taboo as being useless, dangerous, and unjustifiable, and so the latter also is severely left alone. These statements are, however, incorrect, and many intermediate forms are seen, in most of which local treatment is useful. The records of Mount Vernon Hospital show cases presenting the clinical picture of lupus of the larynx, in which the patient has some dysphagia and pulmonary tuberculosis is present, and where there is no sign of past or present lupus in the nose, throat, or skin, and these cases are not uncommon; in other words, they violate one or more of the points laid down in textbooks as being important in a differential diagnosis between the two conditions. The local signs are often intermediate: thus, the epiglottis may be lupoid, while other portions of the larynx are definitely tuberculous.

The pathological findings of Dr. H. G. Butterfield coincide with the clinical appearances noted. Of the cases under my care from which portions of the larynx were removed surgically, tubercle bacilli were demonstrated in nearly all. The microscopic appearances of the series varied from acute tuberculous lesions to very chronic ones in which tubercle bacilli were hard to demonstrate, and in some cases could only be done by special methods, such as that of Much. The specimens did not fall into sharply defined classes, intermediate forms being found (see pathological reports on series of cases).

It is conceivable that two different types of infection may exist, such as bovine tubercle at one end of the series and human tubercle at the other, while intermediate forms are due to mixed infections, but this, of course, is merely surmise.

The clinical appearance of the larynx and the course of the case is usually directly proportionate to the capacity for healing in the chest or its chronicity—that is to say, to the resisting power of the individual.

Septic infection may be superadded at any time, and this is especially the case where there is ulceration, even in the most chronic or lupoid cases. When this occurs the condition of the larynx may become rapidly desperate. This is an indication that even in chronic cases an arrest should be brought about as rapidly as possible.

As a rule, the more chronic type of phthisis is associated with a laryngeal condition which, even if extensive, responds well to local treatment. I have had cases with chests so riddled, and with such extensive signs in addition to the laryngeal lesion, that the physician has questioned whether they should be given sanatorium treatment. In such cases, if the temperature were normal and the patient fairly well and gaining weight under sanatorium treatment, it was found possible to do radical treatment, and often to achieve good results.

A point upon which I would lay stress is the necessity for the co-operation of the physician and laryngologist in deciding whether radical measures should be adopted.

I do not consider that operations, such as the removal of the epiglottis, should be performed in the out-patient department. If such be done, a very pessimistic view of the results of radical treatment will be taken. The patient should be under observation in a sanatorium, or under similar conditions, where the resisting power can be carefully gauged. If this be done, much more radical proceedings can be adopted, and consequently there is a greater chance of arrest.

In my department most local applications have been abandoned as a means of arrest. The simple laryngeal alkaline spray is used for cleaning purposes, vocal rest is systematically carried out, and surgical measures are used if necessary. On these two latter methods I rely mainly for hope of arrest, together with and while the patient is under sanatorium conditions. Local sedatives are employed to relieve dysphagia, etc.

In tuberculosis of the larynx limited to the vocal cords, absolute vocal rest for six months will generally bring about arrest if general treatment is carried out and the chest becomes quiescent. Localized lesions and ulcers of the cords are treated by one or two applications of the cautery, and this has seemed to aid the healing.

Where the cords are affected unnecessary coughing must be avoided by the patient, and for this purpose dry inhalations of creosote, phenol, and tincture of iodine are very useful.

For affections of the arytenoids or interarytenoid region I use the deep cautery puncture. This frequently brings about arrest; but if the part affected does not begin to react favourably after several applications at fortnightly intervals, I have no hesitation in punching out the swollen arytenoid or interarytenoid growth. I have never seen failure of healing in the cases thus treated.

In infiltration of the ventricular bands I employ deep cautery puncture exclusively. Frequently the infiltration is massive, and long-continued applications are necessary.

Lesions of the epiglottis require special mention, for the treatment of epiglottis disease is a debatable subject. I advise vocal rest and sanatorium treatment to start with, but do not find that arrest is brought about, as a rule, by these means alone.

More usually there is ulceration and dysphagia or the lesion continues to progress. My practice is then to advise removal, if such removal seems justifiable, and after the patient's general condition and resting power has been carefully studied.

In very chronic cases of epiglottic disease the epiglottis sometimes ulcerates away down to the base of the tongue, where the process stops and spontaneous arrest occurs. This process is, however, slow and uncertain, and intercurrent septic infection may occur, or the tuberculous process may spread along the aryepiglottic folds or other parts of the larynx become infected. These chronic cases are very favourable ones for removal, especially if the disease is limited mainly or entirely to the epiglottis, and so the slow, dangerous, and uncertain surgery of Nature should be anticipated.

The cautery is advocated for the arrest of tubercle of the epiglottis. I have found, however, that this is ineffective. I have tried it in chronic cases, but have finally had to remove the epiglottis. One case was vigorously and deeply punctured at intervals of a fortnight for three months without much difference in the appearance of the organ, and was then removed with a perfect result.

Where the patient's general condition, from a widespread or rapidly progressive nature of the lung lesion or other cause, precludes radical measures, and dysphagia is troublesome, I apply galvano-cautery puncture to the epiglottis and arytenoids for the relief of pain, and often find that it acts like a charm.

With regard to the prognosis after the removal of the epiglottis, punching out arytenoid infiltrations, or interarytenoid tuberculous ulcerations, I have been struck by the excellent healing after these proceedings. Of the latter two every case healed well. Out of 350 cases of tuberculous laryngitis, removal of the epiglottis was discussed in 30 and carried out in 24. Two cases of the 30 healed spontaneously under sanatorium treatment, but one patient was having iodides, and the other was suspected of being specific. Three others were unsuitable owing to their general condition, and so were not operated on. Of the 24 cases operated on, all healed perfectly within a fortnight except one very advanced case, who died from a pulmonary haemorrhage. In those cases in which the epiglottis was the only portion of the larynx affected, the results have been perfect.

Where there has been disease of the other portion of the larynx, the ultimate results have depended on whether local and general treatment have been able to check this. In no case was the condition of the larynx rendered worse. In every case where dysphagia was present this has been cured. In several cases of very advanced and extensive laryngeal disease, arrest has been able to be brought about after removal of the diseased epiglottis.

No patient had haemorrhage from the stump, difficulty of swallowing, or other complication after the operation. There was seldom a rise of temperature, and no unfavourable result on the lung condition was produced. I think one should lay stress on the fact that no patient has had any ultimate bad effect from the loss of his epiglottis, and that after the operation there need be no fear of "food going the wrong way." There is a superstition to this effect which dies very hard.

The epiglottis should be removed as completely as possible. I have seen the cut edge break down and become tuberculous where only a portion has been removed for local ulceration.

To effect removal I use a modified Lake's epiglottidectomy forceps and pull the epiglottis as far as possible through the ring of the instrument. This is done by threading a silk ligature through the epiglottis and then through the ring of the instrument, or else by fixing a catch forceps on to the epiglottis and then passing the latter through the epiglottidectomy forceps. If a ligature is used, I employ Horsford's needle forceps to pass it through the epiglottis. Horsford's instrument is an excellent one, but it is sometimes difficult to thread it through the epiglottis, and so I have modified Tilley's tonsil catch forceps for the purpose. The pattern of epiglottidectomy forceps which I use is modified, so that it makes a V-shaped

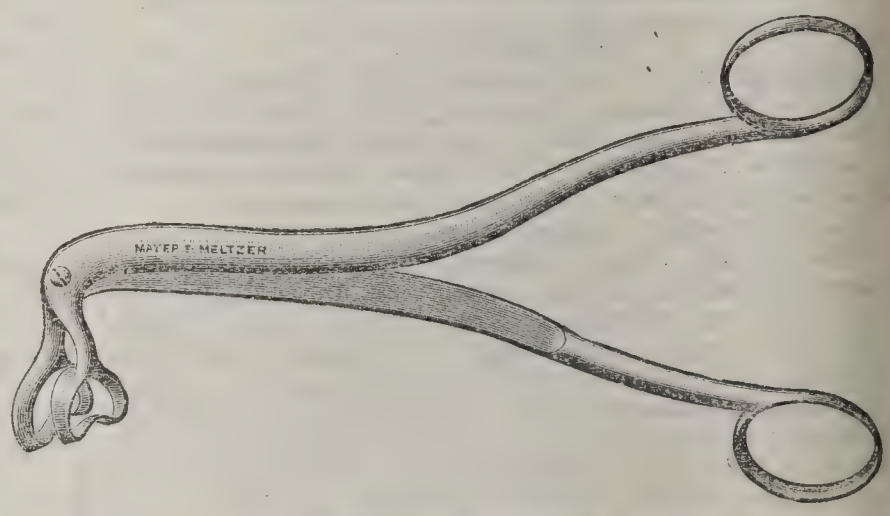

Epiglottidectomy forceps.

instead of a circular or flat cut; this enables a more complete removal to be effected. [Mr. Hett here demonstrated the method of using the instruments upon a *post-mortem* specimen.]

In cases of interarytenoid tuberculous growths I remove the growth with Lake's forceps, or, if small, employ galvano-cautery puncture. It is noteworthy that in many such cases there is a lesion of the nose, such as a septal deflection, atrophic rhinitis, polypi, or chronic sinus disease. Probably the tuberculous process has started in an already established simple interarytenoid pachydermia, which is

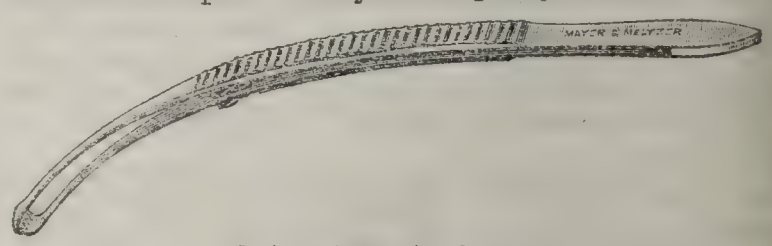

Epiglottis fixation forceps

secondary to an affection of the nose. Bearing this in mind, I treat and, if necessary, operate upon pathological conditions of the nose in cases of phthisis. In operations upon the nose in these patients local anaesthesia is generally employed.

In tuberculous ulcerations of the larynx I employ the curette where the patient's condition warrants it, and then rub in carbolic acid, formalin, and lactic acid. This is generally done by the direct method, especially in subglottic ulcers. Caution should, I think, be exercised in the use of the curette, as there is often considerable reaction, and I regard it as a more serious procedure than removal of the epiglottis and arytenoids.

Pedunculated tuberculomata sometimes impede the movements of the vocal cords and cause irritation of the larynx or obstruction to respiration. These I remove by the direct method with Paterson's forceps.

Tracheotomy may be necessary for the prevention of asphyxia, although this is rare in tuberculosis of the larynx. It occurs, however, in some chronic and massive infiltrations of the larynx where the ventricular bands or subglottic growth actually obstruct respiration. It is noteworthy that in these cases the vocal cords are sometimes unaffected and phonation is good. The enforced vocal rest due to tracheotomy may cause complete arrest of the tuberculous process.

The tracheotomy tube can seldom be dispensed with. I hardly feel that tracheotomy is justifiable to ensure vocal rest, and should not employ it unless obstruction to respiration rendered the procedure imperative.

A syphilitic process in the larynx may be associated with phthisis and the diagnosis rendered difficult. In one case an infiltration of the epiglottis responded to antispecific treatment during treatment in hospital for phthisis, but the patient returned later with an ulcer on the epiglottis. This was diagnosed clinically as tuberculous and the epiglottis removed. Sections of the ulcer showed tubercle bacilli.

Lastly, I should like to point out that after removal of the epiglottis the cut surface heals almost like an aseptic wound. Sections have been cut of every case, and are shown with the macroscopic specimens. In nearly every case tubercle bacilli are to be seen, and in two cases in which this is not the case the structure is typically tuberculous. One case where the epiglottis is shown and also the larynx (the latter removed *post mortem*), the stump of the epiglottis is soundly healed and healthy. This patient died three months after operation from a pneumothorax.

The appended notes of twelve typical cases show the after-course of the cases, and the temperature charts demonstrated that no undue reaction followed. The notes of a case with a large tuberculous abscess in the mid-line of the neck, due to a tuberculous perichondritis of the larynx, together with a photograph of the condition before operation, are shown.

Case I.

W. T. Seen on June 10th, 1911. The patient was a somewhat emaciated man of 45, a painter by trade. He complained of hoarseness, shortness of breath, and cough of five months' duration. He had also had a swelling in the neck for three months, which had been increasing in size lately. On examination of the neck there was a large cystic semipendulous swelling in the mid-line of the neck deeply attached in the thyro-hyoid region. The skin was movable over the swelling. The swelling was the size of a turkey's egg.

Laryngoscopic Examination.—The mucous membrane of the larynx was catarrhal, and the left arytenoid was swollen and oedematous. There were active signs of phthisis over both upper lobes. An incision was made over the swelling under local anaesthesia, and a thick-walled tuberculous abscess dissected out. The cavity led to the neighbourhood of the left crico-arytenoid joint. The incision healed fairly well, and the patient is able to do light work.

The abscess was dissected out under local anaesthesia. These cases have all undergone surgical treatment, and macroscopic specimens with microscopic section accompany the notes in each case. The specimens of epiglottis show every stage of disease. Some show widespread infiltration without ulceration, others localized superficial ulceration, while several show deep excavating ulcers with erosion of cartilage.

Case II.

J. P. First seen on July 12th, 1909. The patient, a man of 43, was seen complaining of hoarseness of eighteen months' duration. Dysphagia and shortness of breath had recently come on. On examination he was found to have widespread disease of the larynx. The epiglottis was very much enlarged. Both arytenoids were swollen, as were also the ventricular bands. The chest showed consolidation of both upper lobes, with crepitations at the apices.

July 27th. Patient was put under sanatorium conditions. Tubercle bacilli were present in the sputum, and there was a tuberculous ulcer on the buccal surface of the right cheek.

August 3rd. Patient's general condition was improving, although the chest signs were active. The epiglottis was removed.

August 17th. The epiglottis stump was healthy. The ulcer on the cheek was treated by applications of lactic acid. The arytenoid on the left was punched out.

September 21st. The laryngeal condition was improved. The stumps of epiglottis and arytenoid were healed. The dysphagia was gone, and he felt pretty well. The chest condition, however, remained much the same. He remained in hospital for a short time longer, the larynx continuing satisfactory.

Pathological Report.—The specimen was sent as a tuberculous epiglottis. The appearances are those of a structure composed of a fairly fine fibrous reticulum, the meshes of which are occupied by extravasated red blood corpuscles, lymphocytes and leucocytes, and covered by a squamous epithelium. The whole of this, including the epithelium, is affected by the tuberculous infection, *the nature of which was definitely proved by the finding of the bacillus.* The epithelium is necrotic and ulcerated in places, and very little of it exhibits normal staining reactions. Giant cell systems are numerous.

Case III.

A. S. The patient was an undersized, anaemic clerk, 22 years of age. He was seen at a throat hospital, where he had been admitted for difficulty of swallowing. He was very ill and weak, and had a high, irregular temperature.

He was admitted to the Consumption Hospital on April 27th, 1909. On admission he was found to have widespread laryngeal disease. The epiglottis was swollen and dependent. The ventricular bands were hypertrophied, and the arytenoids enlarged, glistening, and oedematous. There was an ulcer the size of half a crown on the posterior pharyngeal wall. There were signs of cavitation at both apices. He was kept in bed, and local applications were applied to the pharynx. He improved in condition, and was sufficiently well in a fortnight to allow of the application of the cautery to the arytenoids, which lessened his dysphagia. Tubercle bacilli were found in the sputum.

July 6th. The left arytenoid was punched out.

July 27th. The right arytenoid was punched out.

Both cut surfaces healed well, and he was now up all day with a normal temperature. The cautery applications were continued to the epiglottis and ventricular bands. His condition was now very much improved, and the ulcer on the posterior pharyngeal wall was healed. There was still infiltration of the larynx, but he had a fair voice and no dysphagia.

He was readmitted in September, as the condition of the larynx was not very satisfactory, although his general health was fair and he could attend to his business.

September 21st. The epiglottis was removed.

September 28th to October 5th. Applications of the cautery were made to the ventricular bands.

October 19th. There was some infiltration, and granulations were present in the neighbourhood of the left aryepiglottic fold. This was punched out.

November 2nd. His condition was good and the larynx showed healed cicatrices. Subsequently the patient was seen in the out-patient department during 1910, when the larynx showed no signs of active tubercle. The patient was fairly well and had a normal temperature. In all seventeen applications of the cautery were made to the larynx, in addition to the removal of the epiglottis and both arytenoid swellings.

Pathological Report.—The arytenoid removed was found on microscopical examination to consist very largely of a fine fibrous reticulum with very few cells and with distinct evidence of having been infiltrated with fluid. The changes are practically confined to the periphery, and consist of masses of plasma and endothelial cells, with here and there a complete giant cell system. The epithelium is complete over the whole of the arytenoid, and shows very little irregularity of any kind. There are extravasations of blood here and there which probably resulted from manipulation during the operative procedures. *Tubercle bacilli were found on examination.*

Case IV.

K. R. Seen on June 17th, 1909. The patient, an unmarried woman of 29, was admitted complaining of hoarseness and dysphagia. On examination the epiglottis was found to be much enlarged and infiltrated. There was swelling of the left aryepiglottic fold and ulceration and infiltration of the left ventricular band. There was considerable consolidation of the right upper lobe. Tubercle bacilli were present in the sputum.

June 30th. The epiglottis was removed.

July 6th. The epiglottis stump was clean and healing.

The stump was well healed a fortnight from the time of operation with subsidence of all dysphagia and improvement of the general condition. The patient left hospital and was fairly well until 1911, when she developed tuberculous disease of the spine.

Pathological Report.—This specimen shows the whole body of the epiglottis converted into a mass of granulomatous material with giant cell systems in all stages of formation. Here the epithelium is markedly affected, and is proliferating in a distinctly irregular manner. The description can be summed up as an early stage of the condition seen in the cases of B. and I., where the process has advanced a stage further, and the epithelium has become necrotic. In this case the clinical *diagnosis has been confirmed by the finding of tubercle bacilli.*

Case V.

S. M., a shoemaker, 43 years of age. Admitted into Mount Vernon Hospital on May 9th, 1911, complaining of cough and expectoration for over two years. Hoarseness for about a year. The laryngoscopic examination showed a broken down chronically infiltrated epiglottis, reddening and thickening of the ventricular bands, and markedly enlarged arytenoids. Chronic widespread infiltration of both lungs with thickened pleura was

found. Tubercle bacilli were not found in the sputum, which was muco-purulent, until the fourth examination.

May 16th. The epiglottis was removed. No consequent reaction or rise of temperature took place and the stump healed well.

June 12th. The swelling of the arytenoids had very much diminished.

June 26th. The patient had been treated by injections of tuberculin, and by this date had reached 1 mg. of T.R. The moist sounds had almost disappeared and the sputum was considerably diminished. The temperature was afebrile throughout and the patient had gained 4 lb. in weight.

Pathological Report.—Tuberculous epiglottis. The portion of this epiglottis examined shows a very sharp demarcation between the regions affected by disease and those unaffected. The central portion around the cartilage is entirely fibromatous, but the whole of the periphery of the epiglottis is affected by inflammatory changes of a granulomatous character. There are typical giant cell systems in all stages of advancement up to the fully-formed, but no areas of necrosis of any size. *An acid-fast bacillus* was found in the neighbourhood of the giant cell systems which was not absolutely typical in its morphology, but *which was in all probability a true tubercle bacillus*. Readings on Leitz stage: Horizontal, 0—12.8; vertical, 0—103.1.

CASE VI.

H. H. This patient was 28 years old when he came to the hospital. He was admitted as an in-patient on October 18th, 1910, with cough, weakness and emaciation, dyspnœa, and much expectoration. His voice was normal, but he had a slight thickness of the throat. The epiglottis was infiltrated and ulcerated, and he had some interarytenoid swelling. The chest showed affection of all the lobes with cavities in both upper lobes. There was a good deal of fibrosis, the pleurae were thickened and there were scattered crepitations over both lungs and tubercle bacilli in the sputum. The patient was kept in hospital for five months, and was treated by oral administration of tuberculin (T.R.).

March 7th, 1911. The larynx began to progress, and he was readmitted and the epiglottis removed. No rise of temperature or exacerbation of the chest signs took place. In hospital he gained 12 lb., and has been much stronger since.

May, 1911. He was seen at this time and had remained pretty well. The laryngeal condition was healthy—no signs of active tubercle in the larynx.

Pathological Report.—Tuberculous epiglottis. Practically the whole of the portion removed for examination was fibromatous in character, with here and there large collections of small round cells in the neighbourhood of the epithelium, which showed no signs of ulceration. One specimen showed a *collection of giant cells of tuberculous type*, but no tubercle bacilli were found after repeated attempts.

CASE VII.

F. H. W. This patient was 37 years of age and by profession a clerk. He was admitted to the out-patient department at Mount Vernon Hospital on March 7th, 1911, but eight months previous to this date had begun to find his voice weak. He had had a cough and hoarseness for four months, and had lost weight. The epiglottis was infiltrated and ulcerated at the edge, the cartilage being exposed. The right upper lobe was consolidated, and dry crepitations were heard over it. The left apex was slightly involved.

March 27th. He was admitted as an in-patient. There was much pyorrhœa and some septic stumps. The mouth was rendered as aseptic as possible by extractions and local treatment. Three applications were made of the galvano-cautery to the swollen epiglottis. No improvement of the laryngeal lesion occurred, and the arytenoids became swollen.

April 26th. The epiglottis was removed.

May 17th. On this date the patient was discharged, having gained 10 lb.

Subsequently he was seen in June, 1911, when his throat was arrested and healthy.

Pathological Report.—The changes in this case are active, and show every sign of having a considerable duration. Practically every lesion is very close to the epithelium, and is composed of granulation tissue of some length of standing, containing *typical giant cell systems*. The entire extent of the remainder of the epiglottis has become more or less fibromatous, while the tuberculous lesions themselves are showing distinct signs of assuming a fibromatous character. Vessels are very numerous and well formed, and the epithelium over its entire extent shows very well-marked acanthosis. After repeated examination no tubercle bacilli could be found.

CASE VIII.

J. I. The patient, a man of 30, looked weak and ill and was admitted to the hospital on May 27th, 1909. He complained of cough, weakness, blood spitting, and shortness of breath of over a year's standing. For two months he had had hoarseness and recently great pain on swallowing, so that he said he was starving for want of food. On examination the epiglottis was found greatly swollen, while there was widespread tuberculous disease of the vocal cords, ventricular bands, and arytenoids. Both upper lobes were invaded and his general condition was very bad. The advisability of removal of the epiglottis as a palliative for the extreme dysphagia was made the subject of a consultation and was finally decided on, the circumstances being fully explained to the patient.

June 12th. This was carried out after the patient had been given complete rest under sanatorium conditions. The dysphagia was completely relieved and the stump healed, despite the widespread laryngeal disease. The general condition improved somewhat during his stay in hospital.

Pathological Report.—The whole of the epiglottis is affected throughout and shows numerous giant cells in all stages of growth. The epithelium is necrotic and ulcerated over a large part of its extent. The clinical diagnosis was confirmed by *finding tubercle bacilli in the greatest profusion*.

CASE IX.

G. P. The patient is 23 years of age and a labourer. A man of poor physique; he had had a cough for three years, and was attending the out-patient department for this when he became hoarse and had pain on swallowing.

February, 1909. He was seen in the throat department, and found to have reddening and thickening of both ventricular bands, with an ulcer on the right ventricular band extending on to the vocal process. The ulcer looked like a tuberculous one. The ulcer was curetted several times. The right ventricular band became much swollen, but the condition settled down, and he was discharged as arrested.

February, 1910. He again attended with some infiltration (not very active) of the right ventricular band, but the epiglottis was much swollen and thickened, and he was again admitted. A syphilitic rash developed on his elbows, and he was put on iodide and mercury. I was, however, nearly certain that the larynx was tuberculous, and it did not react to antispecific treatment. A von Pirquet gave a positive result, although the chest signs were indefinite and no tubercle bacilli could be found in the sputum on repeated examination. The cautery was given a trial, but, as the condition continued to progress and dysphagia was marked, the epiglottis was removed. The stump healed perfectly and the symptoms were relieved. Examination showed a typical tuberculous epiglottis with bacilli in section. The larynx has remained arrested, with a healthy stump of epiglottis. There is still some infiltration of the right ventricular band. Patient is well and able to follow his occupation.

Pathological Report.—In this case practically the whole of the epiglottis is abnormal in structure, in that it is almost entirely composed of granulation tissue and giant cell systems in all stages of formation, with small necrotic areas here and there. There is patchy, irregular, lymphocytic infiltration over the whole of the tissue immediately underlying the epithelium, which shows marked necrosis and ulceration, particularly on the upper and posterior surfaces. In the small area at the base of the epiglottis, which is apparently normal, the vessels are thickened and show a well-marked perivascular infiltration with lymphocytes. *Tubercle bacilli were readily found on examination.*

CASE X.

F. S. The patient is 39 years old, and by profession a coachman.

May, 1909. Was seen at Mount Vernon Hospital. He complained of cough and hoarseness, which he had had for one year. The cords were red and thickened, the left ventricular band was enlarged, and he had a slight interarytenoid pachydermia. There was a syphilitic history, and the laryngeal condition cleared up under mercury and pot. iod.

Chest Condition.—The right upper lobe was consolidated, there were moist sounds, and the signs of a cavity at the left apex.

July, 1910. He was readmitted because the left side of the epiglottis became infiltrated and broke down, forming an ulcer which was thought to be tuberculous. The epiglottis was removed, and showed a clean healthy stump ten days after. There was no rise of temperature before or after removal of the epiglottis. No other portion of the larynx showed signs of tubercle. The patient's general condition was fair, although there were still some moist signs in the right lung at the time of his discharge from hospital.

July, 1911. The patient was well and the larynx remained arrested. He was following his occupation and had a good voice. Examination of sections of the epiglottis showed tubercle bacilli.

Pathological Report.—The changes down the posterior surface of the epiglottis are those consistent with a diagnosis of acute tuberculous infection. The whole of the tissue on this side is extremely cellular and shows numerous groups of well-marked giant cell systems, in and around which *numerous tubercle bacilli were found without any difficulty*. On the lingual surface of the epiglottis the appearances are quite different. Here there is merely a loose, ordinary looking connective tissue, but there are quite distinct and localized perivascular infiltrations. Immediately underneath the epithelium on this surface, from the tip to half-way down the epiglottis, there is a well-marked cellular infiltration composed almost entirely of lymphocytes. The epithelium itself is practically normal, except at the tip, where it shows well-marked irregular proliferations.

CASE XI.

C. A. P. Seen on March 3rd, 1909. The patient, a strong athletic man of 27, came complaining of no singing voice for five months. Huskiness and hoarseness of three months' duration. On examination, there was infiltration and ulceration of the epiglottis, swelling of the right arytenoid, and a granulation on the right vocal process and right vocal cord. On examination of the chest, consolidation of the left upper lobe and right apex were found by Dr. C. S. Price. There was about 3 oz. of expectoration in twenty-four hours, and tubercle

bacilli were abundant in the latter (H. G. Butterfield). The patient was put under sanatorium conditions, with vocal rest.

March 10th. The epiglottis was removed. The stump healed well, and the patient's expectoration diminished. He gained weight rapidly. Temperature 100° at night up till the end of April.

June 30th. Granulation removed and right vocal process curretted by the direct method. Subsequently three applications of the cautery were made at intervals to the right arytenoid.

September 23rd. Larynx arrested. No tubercle bacilli in sputum. General condition satisfactory. Temperature normal at night.

August 24th, 1910. Patient has returned to his professional work as a naval officer. Larynx and chest remain arrested and there was no sputum. Subsequently he went on foreign service, and when last heard of was perfectly well and had a normal voice. The epiglottis, which was shown at the meeting, presented the above characters. A section of the epiglottis is also shown. Mr. Butterfield's report, together with the laryngoscopic appearances, are included below.

Pathological Report.—The appearances presented by the specimen sent for examination are those of acute tuberculous disease of the epiglottis. There is little or no fibrosis, and the whole extent of the epiglottis appears to have been a good deal infiltrated with fluid exudate. The majority of the cells visible are plasma and endothelial cells. *There are a good many quite typical giant cell systems with tubercle bacilli both in and between them.* There is no marked change in the epithelium beyond what one would expect to find in the covering of a structure affected by acute inflammation. The readings are: Horizontal, 0—16.1; vertical, 0—106.6. Associated with the tubercle bacillus in this case were the following organisms: Gram-staining diplococci, staphylococci, streptococci in short chains.

Case XII.

E. C., a bricklayer, aged 35. He was first seen in June, 1910, with hoarseness of six months' duration. He had always been subject to coughs. He had been losing weight (13 st. to 9½ st. in one year). There was a history of pleurisy just before the hoarseness came on. On examination of the larynx there was extensive infiltration of the epiglottis, both ventricular bands were enlarged, the left arytenoid was swollen, and the right ulcerated. He was admitted to hospital, when his chief complaint was of dysphagia.

August 16th. The epiglottis was removed.

August 21st. The stump looked healthy and healed, and the left arytenoid was removed with punch forceps. Up to this time he had been kept in bed since admission, but was now allowed up for part of the day. Evening temperature, 99° to 100°, with fine crepitations over both apices and left base since admission. Tubercle bacilli were found in sputum.

September 5th. The temperature now remained normal, and he was up all day. The right arytenoid was punched out.

The patient remained until the end of July, when he was doing light work, and, according to the resident medical officer, was quite fit to do heavy work.

Pathological Report.—The specimen sent was an arytenoid, and shows a rough meshwork of fibromatous material, enclosing irregular masses of granulomatous material which contain giant cell systems in all stages of formation. *In and around these giant cells tubercle bacilli were found.* Besides the granulation tissue there are patches of infiltration, which show lymphocytes for the most part. The epithelium is definitely affected, and down one side is becoming necrotic and ulcerated. There is definite irregular proliferation, especially marked at the apex of the arytenoid. Altogether this forms a very good connecting link between the cases of K. R. and those of P. and I., since in the former the epithelium has not yet been affected to such an extent, and in the latter the process has extended as far as almost complete necrosis and ulceration.

Pathological Report on the Specimens shown at the Meeting.

In the consideration of these twelve cases, which are typical examples of a much larger series, the most striking characteristic as a whole is the way in which they are seen to run quite insensibly from the one extreme type to the other end of the scale. Three of the cases are of especial interest in that the patients were the subjects of syphilitic infection as well as tubercle, but the points of difference as brought out by histological examination between them, and the cases of tubercle uncomplicated otherwise than by secondary infection with the ordinary pyogenics, are really very small, except that two of the cases were remarkable for the number of tubercle bacilli, which could be found with the utmost readiness. There is a marked tendency for the epithelium to be rather more severely affected where the general changes in the body of the epiglottis were not remarkable for their extent.

With regard to those cases where there were no grounds for thinking, from either bacteriological or clinical evidence, that there was any marked factor in the condition other than tubercle, one finds that it is possible to arrange the cases in a series with at one end of the scale involvement of the entire structure of the epiglottis, while at the other end we find those cases where the evidence as to the nature of the infection is by no means so clear. In the latter the lesions are apparently confined to one spot, and tubercle bacilli cannot be found, though by the method introduced by Much it is possible to demonstrate the presence of Gram-staining rods and granular material.

This latter class of case, where the pathological findings are exactly similar to those of old tuberculous infection in glands where tubercle bacilli cannot be found by ordinary methods, is clinically the class which shows a great tendency to assume a chronic course and, with treatment, to recover.

On the other hand, there are the cases where the whole of the pathological findings lead one to the conclusion that they are cases of acute infection. The cases of P. and E. C. are extremely good examples of this.

Both of the specimens of these cases—the one an epiglottis, the other an arytenoid—show an abundance of tubercle bacilli and involvement of the entire thickness of the part removed by operation. Both of these patients became arrested under treatment.

Another consideration which forces itself on one in a survey of this series is that it is apparently impossible to divide these cases of laryngeal tuberculosis into "lupus of the larynx" and generalized laryngeal infection.

The transition from the lupoid cases to the other extreme is quite gradual and indefinite, and the occurrence of the epithelial changes associated with a lupoid condition is quite irregular in its distribution through the series.

H. G. Butterfield, M.A., M.D.Oxon.

DISCUSSION.

Dr. W. Jobson Horne (London) had no hesitation in agreeing with the statement that although that Section of the British Medical Association had held many discussions on the treatment of laryngeal tuberculosis the last word on the subject had not been said. He would go further, and state that the last word will not have been said until the all-important fact had been recognized—and widely recognized—and for some years, and had been acted upon, that in the matter of tuberculosis the larynx was a part of the lungs. It had been said that it takes twelve years for a scientific fact to become generally accepted. He had promulgated this opinion as far back as 1898. He was opposed to extreme surgical measures, such as the amputation and the extirpation of parts of the larynx. If the early examination of the larynx in all possible cases of phthisis, even in those cases which presented no pulmonary symptoms or signs, were insisted upon, then extreme surgical measures would not be necessary. These views were not to be misconstrued into a tendency to nihilism on his part in the treatment of laryngeal tuberculosis, but they were to be accepted as a desire for conservation of the organ which they were called upon to treat. He based his opinion upon the results of his investigations into the development of the disease, and into the natural process of its arrest. These results were given to the Association as far back as 1898, when the Association met in Edinburgh. He now briefly summarized them as follows: (1) That when the larynx is infected with tubercle the disease is already established in the lung. Primary tuberculosis of the larynx is a negligible quantity. (2) That the disease in the larynx progresses *pari passu* with that in the lungs, when the disease in the larynx presents ulceration that in the lungs has advanced to cavitation; and, vice versa, when that in the lungs has become arrested then that in the larynx heals. (3) That when the disease in the lungs is confined to the pure miliary form, the larynx is not infected. (4) That infection of the larynx takes place by the sputum from the lungs, through the opening of the ducts in the laryngeal mucosa. (5) That the regions of the larynx more prolific of glandular structure are more vulnerable to tuberculosis. (6) That the regions of the larynx covered with columnar cell epithelium are more prolific of glandular structure, and are more vulnerable to the disease than the parts covered with squamous epithelium. Hence the central part of the vocal cords becomes involved only by continuity and extension of the disease and offers the greatest resisting power. (7) That the rational treatment is to preserve the mucous membrane covering the larynx and to induce a metaplasia of the columnar mucosa into the squamous variety. That is to induce a condition of *pachydermia laryngis*. This is the natural process of arrest of the disease. The natural process of arrest can be induced and imitated by absolute rest of voice and the submucous puncture with a galvano-cautery point. He considered that if these views were generally recognized, and that if an early examination of the larynx were insisted upon, in fact if every resident medical officer of a sanatorium had expert knowledge in the technique of laryngology, then the extreme surgical measures which had been suggested to them would not be required. Several points of detail

had been raised which the time at his disposal did not permit of his entering into. One was the method of anaesthetizing the larynx for the purposes of operative measures, such as the puncture of the galvano-cautery. Another was the method of anaesthetizing the larynx for the purpose of relieving dysphagia. Into these matters he hoped to enter more fully, and to bring before them methods which he had practised for many years. One was the method of using a laryngeal syringe for the application of cocaine. A new instrument he hoped to be able to bring under their notice in the course of the meeting was a simplified form of insufflator for the application of powders to the larynx and other regions.

Dr. TREVELYAN (Leeds) emphasized the importance of examining the larynx in every case of phthisis in order to detect the earliest cases of tuberculous laryngitis. He looked upon the prognosis of the ordinary (not early) case of tuberculous laryngitis as very serious. The early cases should be treated on open-air lines with tuberculin and by suitable local measures. He had rarely seen any real local improvement in the larynx, either as a result of the open-air régime or the use of tuberculin or of both combined. He had not obtained any good results from continuous inhalation or intralaryngeal menthol injections. He had seen considerable and long-lasting improvement follow upon tracheotomy in a few exceptional cases of stenosis in laryngeal phthisis. In regard to palliative treatment, he found that the bolting of eggs was a useful method of feeding in painful deglutition. Dr. Trevelyan was in favour of judicious endolaryngeal treatment in early laryngeal phthisis in the hope of cure and also with the object of preventing the distressing symptoms of the advanced disease.

Dr. MORITZ (Manchester) said: In regard to the therapeutic measures which we may adopt for their treatment, as well as in regard to the way in which they are likely to be influenced by treatment of any sort, we may distinguish four forms of laryngeal tuberculosis—namely, (1) tuberculous infiltrations covered by an unbroken mucous membrane, (2) superficial erosions and ulcerations, (3) deeper ulcerations, (4) tuberculomata. The first form will naturally resist the therapeutic influence of externally applied antiseptics or paints. We do not know of any agent which will act through the unbroken mucous membrane and destroy the underlying tuberculous deposit, and it seems to me inadvisable to diminish or destroy the natural resistance which the mucous membrane offers to the tuberculous process by the application of caustics, such as lactic acid, chromic or trichloracetic acid, or of the galvano-cautery, either as a flat burner or, as Grünwald recommends, by galvano-puncture. I have tried this latter method repeatedly, but I have, I am sorry to say, several times seen the "closed tuberculous deposit" convert itself into an open ulcer, particularly when the tuberculous infiltration, as usual, was situated in the interarytenoid space. I therefore consider the tuberculous infiltration with unbroken mucous membrane as a "*Noli me tangere*," and my plan is to treat it by ordering complete silence, prohibiting speaking as well as whispering, combining with this sanatorium treatment. In many cases we thus see the swelling gradually though slowly disappear, provided the tuberculous process in the lung is not too far advanced. A few cases of this sort treated by small injections of tuberculin, with or without the observation of the opsonic index, have also done well, but I can scarcely say that they did better than those who received no tuberculin injections. In regard to Groups (2) and (3), the treatment we adopt for the larynx has to depend greatly upon the general condition of the patient and the state of the accompanying pulmonal affection; failing strength, high fever, far advanced or rapidly spreading pulmonal phthisis prohibit all operative procedures, excepting those for the relief of urgent laryngeal dyspnoea or dysphagia. Larger operations should be undertaken only in cases where the general condition permits us to hope that by a cure of the local condition a prolongation of life may be attained. In regard to Group (2)—superficial erosions and ulcerations: These form a grateful field for the application of various therapeutic measures. I have seen such ulcerations frequently heal after the application of Whitehead's varnish—a preparation of iodoform, friar's balsam, and collodion—with which Whitehead used to swab out the oral wound after excision of the tongue. I have also found "pyoktanin" (arsenic-free methylene blue) useful. The application of this drug was very much praised at the Laryngological Section of the International Congress in Berlin twenty years ago, but since then has gradually fallen into oblivion—I think undeservedly so. I have found both Whitehead's varnish and pyoktanin useful, provided they are applied frequently—at least three or four times daily. Of course, this can only be done when the patient is in a hospital under the care of a resident laryngologist. The patient has at the same time to keep silent. Only when cases do not heal with this treatment I recommend the application of lactic acid or trichloracetic acid, after previous cocainization of the larynx, or, if these fail to be successful, the galvano-puncture. Unfortunately, it is absolutely impossible to say whether the case is going to do well. This depends, as before mentioned, upon the general condition and also upon the local vitality and power of resistance of the mucous membrane; the latter, again, being possibly dependent upon the fact as to whether there exist tuberculous foci in the submucous or deeper layers of tissue covering the laryngeal cartilages. These may be present without any obvious macroscopical signs. The accurate pathological and microscopical examination of larynges removed from patients who have died from tuberculosis shows this. The deeper deposits, as well as the open, deep ulcerations with undermined edges and with more or less general infiltration or oedema of the surrounding tissue give, in my opinion, a bad prognosis—they fall into Group (3). One may, if the general condition is good, try whether scraping and curetting according to Heryng's method, with or without the consecutive application of the galvano-cautery, will influence them beneficially. One will thus be able to produce an apparently more healthy surface, but in most cases within a short time this will become reinfected, and thus a small ulcer will become converted into a larger one. Thus in these cases our first maxim should also be, "*Nil nocere!*" When there is much pain a spray of a 20 per cent. solution of antipyrin, with 10 per cent. eucaine lactate, which I recommended more than twenty years ago, helps to clear the sloughing surface and relieves the pain more effectually and for a longer period than eucaine or cocaine alone, or orthoform or anaesthesin, etc., do. As for Group (4), it seems to me that tuberculomata should be removed by cutting instruments, with or without the consecutive application of the galvano-cautery. I have not come across any cases with far advanced laryngeal ulceration and such slight pulmonal symptoms as to justify laryngotomy, and therefore cannot speak from my own experience in regard to the operation or its success. Of 64 such cases collected by Grünwald, 27 per cent. died soon after the operation, 46 per cent. died shortly after from the lung affection, and 30 per cent. only remained well for a longer period.

Dr. ANDREW WYLIE (London) said: The previous speakers have discussed most of the points in connexion with this disease, and Dr. Horne has, as usual, detected the weaknesses in the debate, but I may mention to Dr. Horne that laryngeal syringes are always used for anaesthetizing the larynx, and I would suggest never to use a glass syringe but Mendl's. For dysphagia several methods of relief have been advocated by Dr. Grant, such as Leduc's for the inhalation of powders, and injections of eucaine and alcohol into the superior laryngeal nerve with great success, but the method of placing your patient on a table, lying on his chest, and his head over the table and sucking soft food through a tube, is excellent. I agree with Dr. Watson-Williams that moist climates are the best for tuberculous patients, especially laryngeal tuberculosis. Patients seem to improve when sent to the moorlands in this country more than in the dry air of Switzerland or Africa. Dr. Grant has mentioned the treatment of any nasal affection, before any active treatment of the larynx was commenced; similarly polypi, septal obstructions, rhinitis, sinus suppurations, and adenoids, must be treated before any results can be got in treating a laryngeal affection. With all these methods of treatment surgically and medically, I believe that the treatment, and one of the most difficult to do, is a masterly inactivity—in fact, no treatment at all. This is

not an easy thing to do when the patient and the friends are pushing the surgeon to do something. If we had the courage of our opinions, we would perform tracheotomy in all these cases, and then we would be sure of rest to the larynx. One of the best local treatments of a mild character is daily laryngeal injections of phenol, menthol, and paroline. After the patients have got educated to this injection, the nurse can perform it after Mendl's style. These forms of injections do not irritate the larynx, the phenol acting as an anaesthetic. Rest to the larynx, moorland air, and practically no real active treatment is what my experience has found to be best.

Dr. Dan McKenzie (London) agreed that the method of treating laryngeal tuberculosis should be one of considerable inactivity. He was averse to surgical measures unless in cases where an epiglottic or arytenoid ulcer interfered with swallowing. He had had considerable success after the galvano-cautery puncture of the larynx in certain cases, and had been surprised by the benefit upon the laryngeal disease after restoring physiological patency to an obstructed nose.

Dr. Pegler (London) supported Dr. Dan McKenzie as to the importance of clearing the nasal passages of serious obstruction to breathing in cases not only of laryngeal but also of pulmonary tuberculosis without laryngeal complications. Of such cases as he had he could report definitely good results. The cases must, of course, be selected, and if the tuberculous infection was not in too advanced a stage, the healing of the tissues was not necessarily slow, but, of course, the submucous resection of the septum with its conservative treatment of the mucous membrane was always to be preferred—supposing, too, the fault of the obstruction lay with the septum. Dr. Trevelyan had mentioned good results from tracheotomy in laryngeal tuberculosis. The speaker had adopted this procedure in cases of severe dyspnoea or dysphagia many years ago, but the effect seemed to have been to shorten life very considerably, and he had, therefore, quite given up the operation. No doubt, however, under the present more favourable conditions of sanatorium life the case would be altered, and far better results obtained. He always had understood, however, that the prognosis as to life in tracheotomy for laryngeal phthisis was not good. Dr. Pegler recalled the discussion at the Cheltenham meeting, which some members sitting near him would well remember. It appeared to him that the discussion as to the active or non-active treatment of laryngeal tuberculosis was now, as then, very much divided into two camps, leaving the general position practically the same.

Dr. N. C. Haring (Manchester) said: The general treatment of phthisis includes that of laryngeal tuberculosis, leaving very little scope for surgical interference, which should be entirely limited to circumscribed lesions, the removal of which may be undertaken to give relief but with no idea of cure. The special additional treatment of a phthisical patient who suffers from laryngeal tuberculosis in addition to the usual treatment consists in the enforcing of voice rest and soothing of irritant cough. The presence of mixed infections must be clearly kept in mind; streptococci, staphylococci, and spirochaetes may be present in addition to tubercle bacilli, and the use of antisyphilitic treatment often clears up some of these mixed infections with marvellous celerity. Tuberculin treatment has in my hands been of use in certain cases; in two or three of the cases in which the laryngeal condition was much improved the lung condition at the same time steadily deteriorated. It is of little use to indulge in surgical work on a larynx in a moribund patient, and in most of the cases where interference more than that of the lightest character is entertainable the condition of the lungs forbids it.

The President (Mr. Frank Marsh), in summing up the discussion, said that there was great unanimity in favour of conservative measures, such as rest of voice, removal of local sources of irritation, general therapeutic, sanatorium, and climatic treatment. It was also generally agreed that a moist climate was preferable to a dry one. There was naturally some divergence of opinion upon the value of the different methods of local treatment. Clearly no one method could be exclusively followed; each case must be treated by that which seemed most suitable for it. The galvano-cautery, galvano-puncture, linear incisions, submucous injections—each had their advocates, especially the galvano-cautery. There was divergence of opinion as to the value of tuberculin and also on the question of removal of the epiglottis, but the cases related and the results obtained by Mr. Seccombe Hett showed that this procedure was of value in properly selected cases; it seemed important there should be no fixation of the larynx, otherwise considerable difficulty in swallowing would follow. The importance of early diagnosis was strongly emphasized by all. He thanked the introducers for the very able and broad-minded way in which they had dealt with the subject.

Reply.

Dr. Dundas Grant agreed with Mr. Hett as to the almost magical relief from pain afforded by the removal of the epiglottis in appropriate cases. In those cases of his own in which the regurgitation of liquid into the larynx seemed afterwards to become more marked, it was probably because there was already considerable destruction of the rest of the framework of the larynx. He had also found relief follow the punching out of the arytenoid swelling by Gouguenheim's method, but he hesitated to interfere so extensively with the anatomy of the part. He was pleased to have Dr. Horne's corroboration of the excellent effect of silence, and he noted his recommendation as to the purposive use of adrenalin for the differentiation of oedema from tuberculous infiltration. In some of his cases, however, portions of what he took to be simply oedematous tissue proved when removed by means of punch forceps to be genuine tuberculous infiltration. In one case of well-marked oedema, however, in which a pure culture of streptococci was obtained, the oedema subsided and left behind it a typical tuberculous infiltration. This might have been identified earlier if adrenalin had been used; it was obviously a case of secondary mixed invasion. He was surprised that Dr. Trevelyan had been so disappointed with the results of the continuous respirator; he thought it possible that he might have used too much menthol. He was interested in hearing that for non-continuous inhalation Dr. Trevelyan found a 10 per cent. solution of menthol in spirit valuable. The speaker's own experience was, in the cases in which he had done tracheotomy, that the lungs generally underwent speedy deterioration, but there were certainly cases in which tracheotomy was beneficial so long as the tube had not to be permanently retained. In reply to Dr. Moritz, he thought that in some of the cases in which operation on the infiltrated tissue had converted a closed ulcer into an open one, the ulcer was already present, though concealed by the oedematous swelling. He was very interested that Dr. Moritz found pyoktanin useful; the speaker had found it of the greatest value in the treatment of tuberculosis of the middle ear. He agreed with Dr. Wylie as to the value of intratracheal injections of mentholized oil; he made it almost a routine method of treatment. Also with Dr. Pegler as to the importance of removing nasal obstructions; and he explained Dr. McKenzie's difficulty by the polymorphous nature of the disease which presented itself in different types in different men's experience. Dr. Haring's statements were extremely weighty, but the speaker urged a greater tincture of optimism. The combination of syphilis and tuberculosis was not infrequently seen, and a number of cases supposed to be tuberculous, which had recovered under potassium iodide and mercury, were possibly of this nature. He had seen cases which confirmed Mr. Marsh's opinion as to the choice of climate, and quoted a case illustrating it. He had no doubt as to the usefulness of tuberculin, but it was most important to be on the look-out for any excess of reaction, whether from further auto-inoculation or other causes. He again wished only to say that the prognosis of laryngeal tuberculosis had immensely altered for the better since he first began to study the disease some thirty years ago.

Dr. Watson-Williams, in reply, said: Dr. Trevelyan spoke of cases of laryngeal tuberculosis being in his experience severe and grave cases, and he considered the prognosis in the face of laryngeal involvement as almost

invariably bad. This is certainly opposed to my experience. I do not consider mere laryngeal involvement as in any way necessarily adding to the gravity of the patient's outlook; many a patient whose larynx is free goes down before the progressive lung disease, though truly the larynx generally becomes involved before the patient succumbs. But I would emphasize the importance of recognizing as true though early laryngeal tuberculosis, those early manifestations on which Dr. Jobson Horne has thrown so much light. In reply to Dr. Wylie, I would say that masterly inactivity—a term which I used myself at Cheltenham—is all very well, and though in most cases it is, I think, the best method of dealing with laryngeal complications, it is a motto that some of us carry too far, and we only weaken the *laissez faire* attitude by a refusal to recognize the value of local treatment in selected cases. And I would like, finally, to add that I see no reason why a tuberculous patient should be denied the relief that follows restoration of nasal respiration. The occurrence of tuberculosis is, I believe, sometimes determined by the evil effect of nasal obstruction on respiration, and when we see the immense improvement that follows restoration of physiological respiration in the non-tuberculous patient, it is a strong reason for affording the tuberculous subject those advantages of which he is in sore need.

Mr. HETT, in reply, said that he had deliberately chosen that most serious type of laryngeal tubercle—that is, that in which the epiglottis was involved, for the purposes of demonstration and discussion. There was little doubt among laryngologists experienced in the treatment of laryngeal tubercle that simple vocal cord lesions, or those affecting either the ventricular band, arytenoid or interarytenoid space alone, could often be arrested if the chest condition were favourable, but he wished also to show that they were not justified in adopting a *laissez faire* policy in the more serious types. He had been impressed by the unexpectedly favourable results which he had obtained by adopting radical measures in some cases of the more severe and widespread lesions. An epiglottic lesion was generally associated with disease of other parts of the larynx, and after removal of the former, local treatment, such as cautery, etc., was often able to cause arrest of the remaining disease. He thought it would generally be felt that an ulcerated epiglottis associated with disease of ventricular bands, vocal cord, and arytenoid, together with disease of both apices, a raised temperature, and a profusion of tubercle bacilli in the sputum, would justify the worst possible prognosis, and yet one of the cases—a naval officer—was able to be on active service within a year from the commencement of local and general treatment. Cases such as this—and this was not an isolated example—forced one to the conclusion that one was not justified in standing by without attempting to prevent the inevitable termination of an early and distressing death. Even if only a small proportion obtained permanent relief, it must surely be the right thing to give the patient the chance of arrest. With regard to temporary benefit, there could be no doubt as to the relief of dysphagia by surgical measures, and, further, it was remarkable how well the cut surfaces healed, even in severe cases, if a thorough and surgical removal were adopted. An interesting point had been raised with regard to the diagnosis between tubercle and syphilis of the larynx. He had seen cases of phthisis with infiltration of the epiglottis or ventricular bands in which the diagnosis had been difficult to make, and which had only been established by the appearance of specific lesions elsewhere, or by the result of antispecific treatment. He thought that some spontaneous cases, especially of infiltrations of the epiglottis, could be accounted for by the fact that they were specific. Two cases of the series were interesting in this connexion—one that of F. S. In this case the laryngeal condition cleared up under potassium iodide. The patient was subsequently readmitted, as the epiglottis had begun to ulcerate. On removal and on cutting sections of the latter, tubercle bacilli were demonstrated. The other case, that of G. P., who developed syphilitic lesions while under treatment: His larynx was infiltrated, but there were no tubercle bacilli in the sputum or definite signs in the chest. It was thought that the epiglottis was tuberculous, and it was removed. Sections showed that it contained tuberculous giant cells and tubercle bacilli. The last point he would draw attention to was that tuberculous patients should be operated upon under good sanatorium conditions. The results of operations for tubercle of the larynx in out patient departments were generally disappointing.

DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF CONDITIONS IN THE ACCESSORY NASAL SINUSES GIVING RISE TO OCULO-ORBITAL SYMPTOMS.

OPENING PAPERS.

I.—Professor A. ONODI,

Director of the Clinique of Rhino-Laryngology, University of Budapest.

(*Abstract.*)

OCULO-ORBITAL lesions of almost any kind may be induced by nasal accessory sinus disease; while in most cases the causal connexion between the nasal and the oculo-orbital lesions is obvious, there are nevertheless some cases in which the lesions are independent of each other.

Turning first of all to the diagnostic value of individual eye symptoms, Birch-Hirschfeld has asserted that central scotoma is an early and important symptom of tumour or suppuration in the posterior sinuses. It is apparently due to damage of the vulnerable papillo-macular bundle. The important points in diagnosis are rapid development, unilaterality, and the transition from a relative to an absolute scotoma, combined with a peripheral narrowing of the visual field. Holme has maintained that the enlargement of the blind spot for colour precedes the appearance of the central scotoma. Professor Onodi has observed the absence of these phenomena in suppuration of the posterior sinuses and also in one case of sarcoma filling up the nasal cavity. The stress laid on the unilaterality of such changes as are characteristic of accessory sinus suppuration is not well founded, as they may affect both eyes, even when the nasal disease is unilateral. The value of these symptoms lies in the fact that they suggest nasal disease, and so lead to an examination of the nose, and, if manifest suppuration is absent, to an exploratory opening of the accessory sinuses. Assertions have been made that the visual field is always narrowed in ethmoidal cell suppuration. This Professor Onodi is unable to confirm. Visual disturbances may, of course, exist apart from obvious changes in the fundus, and, vice versa, ophthalmoscopic changes may be found without any interference with vision being present.

Apart from occasional isolated cases, in osteoma of the frontal sinus, ethmoidal and sphenoidal cells, the absence of orbital inflammation is the rule.

According to Kuhnt, 93.7 per cent. of all cases of diseases of the lacrymal apparatus have a nasal origin, and orbital inflammation in general arises from accessory sinus disease in a large proportion of cases.

Five cases of post-operative blindness, some contralateral, have been recorded, due either to indirect fracture of the optic canal or to direct injury of the optic nerve.

With regard to treatment, it is known that visual disturbances of nasal origin may disappear spontaneously or after simple treatment. In like manner cases are met with in which operative interference has not helped the visual symptoms. On the other hand, a large number of cases have been recorded in which operation has been followed by disappearance of the eye symptoms. Rapid cure has, indeed, followed simple resection of the middle turbinal or the opening of sinuses which have not been secreting pus or mucus. But several of the reports of this event are not altogether beyond criticism.

Turning now to therapeutics, the various operations for the relief of the causal sinus disease are reviewed. In the case of the maxillary antrum, the nasal opening is often sufficient, but if severe oculo-orbital symptoms are present, the radical operation through the canine fossa will be necessary. In orbital abscess and fistula, incision and drainage and, if necessary, the free opening up of the orbital cavity must be undertaken.

In like manner, the orbital complications of frontal sinus suppuration demand the radical operation upon that cavity, and, at the same time, the free evacuation of the anterior ethmoidal cells.

If ethmoidal suppuration, without frontal sinus disease, is the cause of oculo-orbital lesions, the ethmoidal cells should be freely opened, and, at the same time, orbital abscess due to perforation into the orbital cavity may, when it is present, be drained into the nose. Sometimes a counter-opening at the inner canthus is also advisable. In mucocele of the ethmoid the endonasal route is usually sufficient.

When sphenoidal sinus disease is present, that cell must be radically treated and the spread of the inflammation by suppurative periostitis to the optic nerve prevented, if possible.

Multiple sinusitis is treated by suitable combinations of these methods; thus the ethmoidal and sphenoidal cells may be opened through the antrum, etc.

In latent sinus disease—that is to say, when rhinoscopic findings are negative—the middle turbinal may be resected, the ethmoidal and sphenoidal sinuses opened with fair prospect of succes, as we have already remarked. If no pus is found and improvement follows, the good result upon the eye troubles may be ascribed to the local withdrawal of blood and to the relief of pressure. This procedure may be resorted to when no other cause can be found for the visual disturbance.

Post-operative blindness may be avoided by the exercise of care in curetting the posterior ethmoidal and sphenoidal cells, where, as Professor Onodi's anatomical researches show, the optic canal occasionally occupies a vulnerable position.

Finally, in lacrymal stenosis the duct should be opened endonasally, a "window resection" being performed. Marked stenosis in antrum disease, or after operations on the inferior turbinal, should lead to an opening of the duct through the antrum.

II.—Dr. Adolph Bronner,

Senior Surgeon, Bradford Royal Eye and Ear Hospital; Laryngologist to the Bradford Royal Infirmary.

(Abstract.)

With regard to the general treatment of nasal sinusitis, too little attention seems to have been paid to the vaccine and serum methods.

Empyema of the maxillary antrum should be treated by making a large opening through the inferior meatus of the nose or through the canine fossa. When the orbit is affected a common result is phlegmonous cellulitis from venous thrombosis, but cavernous sinus disease and thrombosis of the central retinal vein may also be induced. Besides these complications, asthenopia (muscular or retinal), cyclitis, iritis, choioiditis, and cataract may be observed. They are chiefly due to congestion and the action of toxins.

If the orbit is affected in frontal sinus disease, Killian's or Watson-Williams's operation should be performed, as in most cases the anterior ethmoidal cells are also diseased. If there are optic neuritis, or cerebral symptoms, the posterior wall of the frontal sinus should be removed and the brain exposed. If, however, the symptoms are not urgent, endonasal operation with the view of providing free drainage is often quite successful. There is always a danger of infection of the diploë after external operation on the frontal sinus. For this reason, if there is much local inflammation it is wiser to open up the sinus and to wait before performing the more extensive radical operation.

Periostitis of the orbit following ethmoidal suppuration is often mistaken for disease of the lacrymal sac. In some cases of ethmoidal suppuration extranasal operation may be called for, but the symptoms frequently disappear after the simpler intranasal operation. If there is meningitis from disease of the cribriform plate or upper wall of the orbit, these regions must be exposed and freely drained. Sarcoma of the ethmoidal region, which is not uncommon, should be operated on through an external opening.

In all cases of obscure retrobulbar neuritis, slight unilateral optic neuritis, and meningitis the sphenoidal sinuses should be carefully explored. The posterior ethmoidal cells are frequently involved along with the sphenoidal sinus, and their proximity to the optic nerve and the cavernous sinus renders them very important. Disease in this region may lead to optic neuritis and retrobulbar neuritis and to central scotoma from congestion of the retinal vein or the action of toxins. Ocular paralyses also are not infrequent, and cerebral and extradural abscess from caries of the sella turcica occasionally results. These conditions necessitate the formation of a large opening into the sphenoidal and neighbouring sinuses. In cases of extensive bone disease we may try to remove it by an external operation.

In urgent cases, where several of the accessory sinuses are implicated, it is advisable to operate on all the cavities at once, either through the antrum or through the frontal sinus (by removing the lower wall), or each cavity may be treated as a separate entity.

DISCUSSION.

Dr. Watson-Williams (Bristol) said that in his experience contractions of the visual fields and other changes were frequently found in sinus suppuration, and were of value in diagnosing doubtful cases. Still, in suppuration of the posterior as well as of the anterior cells the ophthalmologist was often unable to discover any abnormality in the eye. The early recognition of sinus affections was important, first, because severe eye mischief might be set up by mild or latent sinus disease; and, secondly, because distressing psychic symptoms might be due to it. With regard to latent sinus disease, it should be noted that a clear mucous discharge might be highly virulent bacteriologically. Sinus infection might thus exist without pus formation.

Mr. Herbert Tilley (London) said that in his experience lesions of the optic nerve were not often due to sinus disease, but that when they were the nasal trouble was, as a rule, fairly easy to recognize. Without denying the possibility of eye mischief being caused by obscure, latent nasal disease, he nevertheless thought such cases rare. Vaccine treatment might be valuable in acute or subacute cases with a monomicrobic infection, but acute cases frequently recovered without any treatment. The lack of success in treating chronic sinus suppuration with vaccines he ascribed to the hypertrophy of the mucous lining which was present. Even when a vaccine eliminated the pyogenic elements in the secretion the flow of mucus continued, and the onset of a "cold" was enough to bring about a return of the suppuration. Acute frontal sinusitis was best treated by irrigation with ʒj tr. iodi in a pint of warm normal saline. In chronic antral suppuration after a year's trial of the endonasal operation he had returned to the canine fossa route, as by that way alone was it possible to deal effectually with the diseased sinus. He detailed a case of frontal sinus disease with diplopia and external swelling in which operation showed the inferior and posterior sinus walls to be absent and the dura mater to be exposed. With regard to osteomyelitis, he had never seen it occur in acute cases, but he had seen it several times follow operation for chronic suppuration. In order to cure sphenoidal sinus suppuration, as much of the anterior wall of the sinus as possible should be removed, so as to avoid the subsequent closure of the opening.

Dr. W. S. Syme (Glasgow) said that in a series of 17 cases of chronic suppuration of the sphenoid he had been surprised to find that as many as 5 showed, according to the oculist, inflammatory changes in the disc, while in one there were signs of optic atrophy. The absence of obvious signs of sphenoidal disease, by no means an uncommon state of things, was probably due to subsidence, if not disappearance, of the disease, by reason of atrophic changes about the sphenoidal ostium. In such cases the most obvious complaint was naso-pharyngeal catarrh, with, perhaps, a little pus or muco-pus lying between the middle turbinal and the septum, and some atrophy of the posterior end of the inferior turbinal. Diagnosis could be established by blowing air through a cannula inserted into the sinus. In many cases, however, it would be impossible to diagnose the disease unless the sinus were freely opened up and the interior examined with a probe. In these mild or latent cases, oedema, especially of the antero-external recess, would be commonly found in that part of the sinus,

namely, which was nearest the optic foramen. Dr. Syme concluded by giving a summary of the anatomical variations of the sphenoidal sinus which had been found in a number of skulls examined by him.

DR. N. C. HARING (Manchester) referred to the difficulty created by the personal equation in cases of mild or latent sinusitis, one observer diagnosing disease where another would have denied its presence. Apparent resemblance between some types of post-influenzal meningitis and sphenoidal sinusitis occasionally caused confusion in diagnosis, but lumbar puncture and examination of the cerebro-spinal fluid had proved of value in his hands in such cases. With reference to the serum tests for tuberculosis, he looked upon injection of Koch's "T.O." (equal dose of human and bovine strain) as reliable when a local as well as a general reaction resulted.

MR. B. SEYMOUR JONES (Birmingham) narrated a case to show that direct pressure on the optic nerve, and apart from the influence of toxins, might determine neuritis. He was inclined to look upon colour scotomata, however, as due to toxic influences, and narrated a second case in which antrum suppuration apparently gave rise to optic neuritis and colour scotomata. With respect to latent cases, he was convinced that exploratory operation of the ethmoidal region by resection of the middle turbinal should be carried out when the ophthalmologist was satisfied that there was no constitutional or toxic cause for the eye condition. The early recognition of visual disturbances from nasal disorders, as his records showed, was all-important for successful treatment, as only partial success had been obtained when the eye lesion had been in existence for more than four months.

DR. W. JOBSON HORNE (London), as a result of his pathological experiences, was of opinion that sphenoidal sinus suppuration was diagnosed oftener than it existed. The possibility of reinfection of an opened sphenoidal sinus from a diseased posterior ethmoidal cell should lead to careful examination of the latter before operating. He agreed that vaccines were only of service in recent sinusitis with a pure infection, and that those cases could be cured without a vaccine.

DR. WALLIS (Shrewsbury) had found that fully 90 per cent. of all cases of sinus suppuration showed some visual field anomaly—in most cases peripheral contraction. Central scotoma was only found in acute sinusitis, or when the ocular symptoms were acute. The only cases free from visual field changes were young children with thick-walled sinuses and cases of mucocele. General contraction was most frequently present when the anterior group of sinuses was affected, while temporal, and particularly bi-temporal, contraction was usually associated with posterior sinus disease. Bi-temporal hemianopsia, acromegaly being absent, was characteristic. Ring scotoma, always an uncommon symptom, had been found in sphenoidal sinusitis. His results were at variance with those of other investigators. If field anomalies were looked for systematically they would be found.

DR. DAN MCKENZIE (London) suggested that in spite of the apparent conflict of opinion regarding "latent" and "manifest" sinus disease, all rhinologists would agree that when a case was referred to them for an opinion the only safe way was to expose and puncture and wash out the suspected sinus or sinuses.

DR. BROWN KELLY (Glasgow) called attention to osteomyelitis of the superior maxilla causing eye symptoms as a condition liable to be confused with antrum disease. It was usually associated with dental troubles, in childhood with the premature eruption of a molar, and in adults with a recent severe toothache or badly performed extraction. He had seen marked eye symptoms, especially proptosis, caused by posterior ethmoidal disease. Like other observers, he had noticed improvement in vision follow the opening of these cells, although no pus was found. He had also met with optic atrophy due to nasal disease, but, like Mr. Tilley, he had found only a small proportion of cases of nasal disease in the many patients referred to him by ophthalmologists.

DR. H. J. DAVIS said his experience agreed with that of Mr. Tilley: Ocular symptoms were not so frequent as one would expect, considering the propinquity of the orbital nerves to the sinuses. Dr. Wallis's remarks could only be explained by assuming that patients with visual field anomalies were unaware themselves of any ocular defect.

MR. H. H. B. CUNNINGHAM (Belfast) said that asthenopia which glasses failed to relieve, and amblyopia from toxic influences other than those due to, for example, tobacco or gastric disorders, would frequently be removed by treatment of nasal troubles, such as enlarged turbinals pressing on the septum or infected ethmoidal cells. He agreed with Dr. Bronner that plugging of the nose after operation was inadvisable, and recommended hydrogen peroxide as equally effective and much safer.

THE PRESIDENT, summing up, said that obvious lesions in the nasal cavities associated with ocular symptoms should be operated on. When no obvious lesion was present, it was advisable to expose the ethmoidal and sphenoidal region in order to unmask any possible latent cause. Professor Onodi's investigations had shown the need for care in operating on these cells. He had known a case of complete blindness follow curetting of the ethmoidal cells.

SUBMUCOUS RESECTION OF THE NASAL SEPTUM.

AN ANALYSIS OF ONE HUNDRED AND THIRTY CASES.

By DAN MCKENZIE, M.D., F.R.C.S.E.,
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(*Abstract.*)

INDICATIONS FOR OPERATION.

IN addition to obvious nasal obstruction, the operation may be necessary when the secondary effects of the obstruction are more striking than their initial cause. Thus, chronic laryngeal catarrh secondary to septal deviation was present in 7 cases, in all of which the operation proved beneficial. A good result also followed the operation in a case of laryngeal tuberculosis. Of 4 cases of chronic catarrhal deafness, 2 were improved by the operation and 2 remained as before. One case of unilateral atrophic rhinitis affecting the widely patent side of the nose was cured by the operation. Straightening of the septum is also necessary at times to permit of free access to diseased sinuses. Of 6 cases of asthma treated by submucous resection of a deviated septum, 1 was cured, 3 were improved, but only for a time, and in 2 no good resulted. Three cases were operated on for headache, with success in 2 of them.

THE OPERATION.

All the cases were operated on according to the principles of Killian. In 82 cases a general anaesthetic was employed, and in 48 a local anaesthetic (cocaine and adrenalin). In either case the recumbent position is preferable.

Much stress is laid upon securing thorough asepsis, and "button-holing" of the flaps or perforation of the septum should be carefully avoided. The author considered perforation to be a disaster, so far as the operation itself was concerned. The drawback to "button-holes" is that granulations tend to sprout from their edges and to form synechiae.

The most gratifying results were obtained when the operation was undertaken for the relief of obvious nasal obstruction. As the operation weakens the skeleton of the nose, boxing, football, wrestling, etc., should be avoided unless a nose-guard is worn, of the type devised by the author.

DISCUSSION.

DR. W. JOBSON HORNE (London) said that the time had arrived for a stocktaking of the results of the operation. He thought that its advantages had been overstated.

MR. H. TILLEY (London) deprecated the use of the term "disaster" applied to a perforation. If the hole were not too small it might actually be beneficial.

Mr. H. J. Davis (London) said that perforations were not uncommon, and often enhanced the benefits of the operation.

Dr. L. H. Pegler (London) considered that a hole in the flap assisted drainage and prevented blood extravasation between the flaps.

Dr. A. Wylie (London) agreed with Dr. Horne in questioning the very high value which had formerly been placed on the operation.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF BLACKWATER FEVER.

In view of the case of blackwater fever recently recorded in the columns of the Journal, and which unhappily ended fatally,[1] the following record of a case, which I recently saw in consultation with Dr. Albert Bowhay of Gunnislake, may be of interest.

The patient was a young man aged 32, who had eighteen days previously returned from West Africa, where he had been mining for twelve months. During that period he had remained perfectly well, and beyond taking the usual prophylactic doses of quinine he had had no medical treatment. At home he took on an average 3 grains of quinine daily, and once or twice as much as 12 grains in the day. The night before the illness commenced he had taken 6 grains, and on the following morning a further dose of 6 grains.

On the day previous to my seeing him he had felt unwell, and his temperature began to rise. Dr. Bowhay, suspecting malaria when he was called in that evening, ordered him quinine in 3-grain doses, of which he had two. Within twelve hours of the first onset of illness the urine showed signs of containing haemoglobin, and the colour rapidly deepened to a dark porter. The temperature rose quickly; on the following morning it reached 104°, and the patient rapidly became prostrate. Vomiting set in about midday, and when I saw him towards evening he was quite collapsed, with a thready pulse of 120, a temperature of over 103°, and a dry tongue. His colour was dark yellowish-brown, and the porter-coloured urine was being passed in considerable quantities. Having in mind the supposed harmful effects of quinine in these cases, it was decided to suspend the administration of that drug, at any rate until a microscopic examination of blood specimens had been made. He was accordingly placed on a mixture containing 12½ grains of sodium salicylate, 5 grains of potassium bicarbonate, and 10 minims of nux vomica, every four hours, and he was also given 4 grains of calomel forthwith. The collapse was treated by rectal injections of normal saline, half a pint being given night and morning; as regards food, all solids were withheld and he was given small quantities of iced milk every hour.

Under this treatment he began to improve rapidly. Within twenty-four hours the urine had practically cleared, the jaundice began to disappear and the temperature fell, and progress has been steadily maintained since. The salicylate mixture was continued for three days and a further dose of calomel was given on the second night.

An examination of the blood films, prepared when the illness was at its height, failed to show the presence of any malarial organisms. Had they been present it would have been necessary to consider anew the question of giving quinine, and we had decided to give the drug intramuscularly in 6-grain doses had recourse to it been deemed necessary.

The urine was found to contain a considerable amount of albumen and a few casts; it gave the spectroscopic bands of oxyhaemoglobin. No red blood cells were detected in the urine.

An examination of blood films taken a week after the illness, when the patient was convalescent, again showed no malarial organisms.

Plymouth. A. Bertram Soltau, M.D., F.R.C.S.

[1] British Medical Journal, 1911, vol. i, p. 1462.

CHLOROFORM DURING SLEEP.

I have many times administered chloroform during sleep to children with excellent results. One case in particular was that of a child who had already had chloroform and was terrified and most difficult. In his sleep he took the anaesthetic perfectly and had no troublesome symptoms of any kind, either during the anaesthesia or afterwards.

I agree with Dr. Nason that one has to begin very gradually.

Lichfield. E. W. Welchman.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GENERAL HOSPITAL, BIRMINGHAM.

THREE CASES OF ACUTE ANTERIOR POLIOMYELITIS IN ONE FAMILY.

(Under the care of Professor Saundby.)

[Reported by K. Douglas Wilkinson, M.B.Birm., Resident Medical Officer.]

These cases were seen in the out-patient department by Dr. Stanley Barnes, who obtained the details of their history and sent the cases for treatment into the wards. There were five children, of whom three had definite attacks and one what appeared to be an abortive attack of the same disease.

On Friday, September 1st, Eva, aged 3, had a fall, after which, although not much hurt, she seemed drowsy and unwell. On Sunday, September 3rd, she came down dressed in an old frock, which was most unusual, and on being sent upstairs to change it, her right leg gave way and seemed paralysed. She remained in bed until Wednesday, September 6th, when she got up and managed with difficulty to walk a distance of about half a mile. Since that day she had been in bed, unable even to sit up.

On Saturday, September 9th, Norman, aged 13, felt ill, and next day remained in bed, as his head ached; on Monday, September 11th, he went to school, although his head still ached, and in the afternoon, when a schoolfellow gave him a gentle push, he fell down. Next morning he found that his legs were weak, and later in the day his arms also became weak. Since that day he had remained in bed, unable to sit up unassisted.

On Tuesday, September 12th, Winifred, aged 5, complained of headache and of pains in the back of her neck and legs. She was, however, quite well next morning, and has shown no weakness.

About the same time Harold, aged 14, had headache and vague pains in the legs, but it was not until September 21st that he noticed his legs were weak. On that day he had intense headache, pains in the thighs, his legs were heavy and weak, and he had to lie down.

On admission Eva showed great weakness of the recti abdominis, quadriceps and hamstring muscles, the dorsiflexors of the feet and the glutei were also affected, but to less extent, and the weakness was much more marked on the right side. She had retention of urine for one day. Norman showed paralysis of the recti abdominis and the transverse and oblique abominal muscles; there was also weakness of the quadriceps, of the hamstrings and glutei on both sides, more marked on the right, and of the triceps and dorsiflexors of the foot on the right side only. Harold had weakness of the adductors and extensors of the thighs and of the dorsiflexors of the right foot.

None of the children showed any sensory defect, but there was considerable pain in the affected muscles at first, and the deep reflexes were abolished. All have made good recoveries, without apparently any permanent motor defect.

Dr. W. Ledingham Christie, M.D.New Zealand, F.R.C.S.Eng., who resides in Bristol, where he has been a member of the board of guardians and of the City Council, is about to proceed to Sarawak as surgeon to the hospitals of the Borneo Company.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Friday, October 13th, 1911.

Sir A. PEARCE GOULD, President, in the Chair.

Myeloid Sarcoma of the Tibia: Transplantation of Bone.

SIR FREDERIC EVE showed a case of myeloid sarcoma of the tibia in a girl aged 18, in whom transplantation of part of the fibula had been carried out. In October, 1910, she slipped on a polished floor and the left leg bent outwards. After resting for six days she was able to walk with great difficulty. She had been in bed for the last seven weeks. On admission to hospital on March 27th, 1911, there was a rounded swelling of the head of the left tibia; on its outer side it was soft and fluctuating. The knee was fixed at an angle of 90 degrees, and there was very slight movement in it. Distinct lateral movement existed just below the level of the swelling. It seemed probable that a spontaneous fracture took place when she fell in October. A radiograph showed an endosteal sarcoma at the head of the tibia which had completely destroyed the end of the bone, with the exception of the articular cartilage. An operation was done on April 8th, 1911, when, after confirming the diagnosis of myeloid sarcoma by an exploratory incision and immediate microscopic examination, the tumour was exposed by an incision on each side of the knee connected by a transverse incision below the patella. The knee-joint was freely opened, and the tumour separated from the popliteal artery and vein and from the surrounding structures. The tibia was then sawn through well below the growth. The articular surface of the femur was sawn off. The growth had spread widely among the surrounding structure, and was not enclosed in a capsule of bone. In the course of dissection the external popliteal nerve, which was embedded in the tumour, was divided, but its ends were subsequently sutured. The fibula was exposed by a longitudinal incision and the muscles separated from it, care being taken to preserve the periosteum. A portion of its upper end, 6 in. in length, was removed. A hole was then bored in a vertical direction in the extremities of the femur and tibia respectively, and into these holes the portion of the fibula was bolted in such a manner that the ends of the two bones were separated to the extent of over 1¾ in. The wound healed by first intention, and the union between the two bones of the leg had gradually become firmer, although the patient is not yet able to bear her weight on the foot. Radiographs taken from time to time showed that the transplanted fibula had gradually increased in circumference by new formation of bone, and at the same time the interval between the divided extremities of the femur and tibia had become narrower, owing to growth of bone from the periosteum and cut surfaces. There was, therefore, good reason to hope that the limb would ultimately become a useful one. Recently some interesting observations had been made by Axhausen and Lobenhoffer on the changes which take place after implantation of portions of living bone. The observations of the first named were chiefly made on animals, but had been confirmed by the latter as regards man. The conclusion at which they had arrived was that when bone covered with periosteum was transplanted the bone substance itself died, and only the periosteum lived. The new bone formation proceeded, therefore, from the periosteum, and ultimately led to separation of the entire bone. In transplantation operations, therefore, the periosteum must be preserved if the growth and permanent fixation of the graft were required. These views were entirely opposed to those pronounced by Sir William Macewen. In Sir Frederic Eve's case the radiographs showed a new formation of bone beneath the periosteum of the graft.

Exhibits.

Among the other exhibits were the following: DR. JAMES GALLOWAY: A case of *Severe facial neuralgia associated with myoma cutis.* DR. WILFRED HARRIS: A case of *Acute encephalitis.* DR. H. D. ROLLESTON and MR. W. P. TINDAL-ATKINSON: A case of *Spondylose rhizomélique.* MR. R. C. ELMSLIE: A case of *General thyroid malignancy.* MR. P. LOCKHART MUMMERY: A case of *Excision of the rectum for cancer six and a half years after operation;* a case of *Excision of the rectum for cancer seven years after operation;* and a case of *Complete excision of the rectum for cancer two and a half years after operation.* MR. CHARLES WARD (Pietermaritzburg): Notes of a case of *Pseudo-hermaphroditism.* DR. H. BATTY SHAW: A case showing *Unusual area of audibility of a cardiac murmur,* and a case of *Recurrent attacks of dyspnœa (asthma), accompanied on each occasion by a faint erythematous annular rash on the limbs and body.* MR. P. S. MARTIN: A case of *Haemorrhagic pericardial effusion.* MR. H. MORRISTON DAVIES: A case of *Arterio-venous anastomosis for syphilitic endarteritis.*

Paper.

DR. ALEXANDER GREGOR and MR. L. B. HOPPER communicated a paper on an epidemic of *Acute anterior poliomyelitis in Cornwall.*

THE GLASGOW MEDICO-CHIRURGICAL SOCIETY.

THE society held its first meeting for the current session on October 6th, when a presidential address dealing with the history of Glasgow as a centre of medical education was delivered by Mr. A. FREELAND FERGUS. In the course of his remarks Mr. Fergus pointed out that many of those who had borne great names in the South were men hailing from the West of Scotland, Lanarkshire in particular having contributed the two Hunters, Matthew Baillie, and William Smellie. The Glasgow school owed its origin in a great measure to the influence and work of Cullen, who was perhaps the first to give systematic instruction in medicine in the city. In the teaching of the school there had been an interesting continuity, for Cullen had taught Joseph Black, Black had taught Thomas Thomson, Thomas Thomson had taught Graham, and Graham, who was both Master of the Mint and Professor of Chemistry at University College, London, had taught Lister. All these men were connected with Glasgow, and the name of each of them was to be found on the rolls of the Royal Faculty of Physicians and Surgeons. It was practically during his work in Glasgow that Lister introduced the modern biological pathology which had so markedly influenced not only surgery, but also medicine and public health, and the Royal Infirmary might fairly be described as the institution in which modern surgery had been called into being. Mr. Fergus also spoke of the influence of Sir William Tennant Gairdner. If a good teacher meant a good coach, Gairdner was not much of a teacher, but if it were of importance that young students should be brought into contact with men who invariably took a philosophic view of these subjects, and were profoundly learned and minutely painstaking in respect of them, then Gairdner was undoubtedly the best teacher of his time.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

THE bronze medal founded last year in memory of the late Mr. C. B. Keetley was presented at the opening meeting of the thirtieth session of the West London Medico-Chirurgical Society on October 6th to Dr. Phineas Abraham. Subsequently the new president, Mr. MCADAM ECCLES, delivered an address dealing with the future of surgery. Part of the advances so far achieved were due, he said, to the better training and higher skill of surgical nurses, who did not always receive the credit due to them for their assistance. Surgeons were already somewhat apt to neglect non-operative cases and the lessons to be learnt from them; it would be a serious drawback to the surgery of the future if its exponents did not remain versed in anatomical, pathological, and even purely medical knowledge. The National Insurance Bill, despite its many clauses, practically ignored operative treatment; it seemed to have been thought out on the lines of the medical and surgical practice of the middle of last century, when potions and pills were the rule of the day. In a large degree the future of surgery rested in the hands of

general practitioners—on their acumen in diagnosis, prompt realization of the necessity for surgical interference, and ability to recognize when to act for themselves and when to send for pure surgeons. In the early future the public would expect from general practitioners perfectly definite guidance on surgical matters, and to fit medical students for their task the teaching in the wards and out-patient departments of hospitals would have to be somewhat differently arranged.

Reviews.

SIR SAMUEL WILKS'S REMINISCENCES.

Sir Samuel Wilks is the Father of the College of Physicians, and may justly be regarded as that of English medicine during the present century. His status in the profession, the veneration in which he is held, and the lasting value attaching to his very numerous original contributions to medical science, both in the far past and of recent date, have led to his *Reminiscences*[1] being looked forward to with pleasurable anticipations. From the preface we learn that the work remained in manuscript for more than two years, and it was only on the solicitation of Sir Bryan Donkin that the author was induced to consent to publication. The first feeling on taking up the book may be one of disappointment. Many might have hoped to have some account of the giants of the past, such as Bright, Addison, and others, with some of whom Sir Samuel lived and worked, what manner of men they were in personal appearance, conversation, and similar details. But any one acquainted with the author would have known that any such hope was doomed to disappointment, and that the recording of mere peculiarities in appearance, manner, dress, and the like trivialities would be distasteful to him. Any slight feeling of disappointment that might be experienced at the omission of personalities is more than compensated for by the inclusion of weighty matter of a more interesting character.

The plan and scope of the work is easily told. One or two pages at the beginning are occupied with a brief description of the author's training and career, and the bulk of the remainder with short summaries of the chief papers that appeared in the *Guy's Hospital Reports*, from the year 1836 onward. To say that these records furnish intensely interesting reading is to accord to them but a fractional part of their merit. They show that more progress has been made in medical knowledge since the date mentioned than in all the centuries that preceded it. The book is in a large measure a brief history of this progress, and of the development of modern scientific medicine, in which the author has taken a conspicuous part. The English profession in general, and the Guy's School in particular, may well feel a just pride in the vast amount of original work contributed by that one school alone.

In the space allotted to a review it is impossible to attempt to deal even with a tithe of the interesting subjects treated of in this little volume. All that we would propose to do is to indicate some of the more important matters in which the author took a personal share, either as original discoverer, or by his contributions establishing on a firmer basis the discoveries of others. In the year 1845, when 21 years old, and still a student, in an essay which gained a prize of the Pupils' Physical Society, he was the first to discriminate between the acute and chronic forms of Bright's disease. This essay was afterwards printed in the *Hospital Reports* for the year 1853. As showing the primitive conditions obtaining at that time, he relates how albumen was then tested for by placing the urine in an iron spoon, the tip of which was inserted in the flame of a candle. It is strange to read, too, that the *Reports* for 1870 contain a paper on the clinical thermometer, which, so far from having come into general use, was then regarded as a curiosity. On several occasions he records how Bright was the first to attribute unilateral convulsions, without loss of consciousness, to a circumscribed focus in the opposite brain, and is anxious that he should have the credit of an original observation. Some twenty years or so after Bright's paper had appeared, Wilks himself pointed out that such lesions were often syphilitic and curable by iodide of potassium. He was the first, too, to prescribe bromide for epilepsy, although Locock had advised the drug for puerperal convulsions some years before. By his papers in the *Reports* for 1862 and 1865 he confirmed the opinion of the discoverer that Addison's disease depends upon a lesion of the suprarenal capsules. He, however, considered the degeneration in the capsules distinctive and special, and that, owing to a non-recognition of this, Addison had been induced wrongly to include several cases under the disorder bearing his name. In the year 1863 appeared his article "On the Syphilitic Affections of Internal Organs," which he considers was his most original and noteworthy contribution to medical science. At the present day it is difficult of credence, but up to the time of the appearance of this paper syphilis was universally regarded as an affection merely of the more external parts. The author, however, showed how the liver, lungs, brain, and numerous other organs were frequently involved. He describes syphilitic disease of the arteries and points out how it can be distinguished from ordinary atheroma. From this to the recognition of syphilis as a precursor of aneurysm was an easy step. It is impossible to magnify the importance of such a contribution, and we are not surprised to learn that at first it was received with incredulity, and that it took several years before the views expressed in it gained anything like general acceptance. The author was the first to show specimens of internal syphilis, including gummata, at the Pathological Society, where they were received both with incredulity and considerable criticism. This incredulity, the author remarks, was a good thing for him as it was mainly instrumental in his election to the Royal Society.

Amongst other diseases to which he has made notable and original contributions may be mentioned Hodgkin's disease, acute atrophy of the liver, osteitis deformans, acromegaly, alcoholic paraplegia, linea unguium, verruca necrogenica, typhlitis, and chorea. Exigencies of space compel us to refrain from dealing with any of these, interesting as most of them are.

Like all the truly great, he is modest about what he himself accomplished, but he is strict in claiming for his school of Guy's anything that he considers her due. The whole profession owes him a debt of gratitude for the publication of his work.

[1] *Biographical Reminiscences of Sir Samuel Wilks.* A Memoir by Sir Samuel Wilks, Bart., M.D., LL.D., F.R.S., on the New Discoveries and New Observations made during the Time he was a Teacher at Guy's Hospital. London: Adlard and Son. 1911. (8vo, pp. 200, with portrait. 6d.)

GYNAECOLOGICAL SURGERY.

It is pleasing to come across a new work on gynaecology that is really original, for that adjective may certainly be applied to the *Textbook of Gynaecological Surgery*, by Dr. Comyns Berkeley and Dr. Victor Bonney.[2] The authors have taken much thought before compiling this treatise. As operators of experience, they might have written a work entirely on the old familiar lines, and it would still have been authoritative and instructive, but they have done better. A salient feature deserving commendation is the originality of the illustrations drawn by Dr. Bonney himself. Even the sketches demonstrating the steps of a perineoplasty are far above the average, although it is hardly possible to explain the different manœuvres thoroughly by pictorial means. The illustrations relating to Wertheim's operation and vaginal hysterectomy are likely to prove far more useful. All are black-and-white sketches, free from that extreme finish, well known to us in many modern textbooks, which may increase the value of a drawing as a work of art, yet take from its clearness. The observations on the bearing of the surgeon, to which the first pages of the text are devoted, deserve to be read by all members of the profession who undertake operations of any kind on any part of the body.

The habit of abusing assistants, the instruments, or the anaesthetist, so easily acquired and with difficulty lost, is not one to be commended; the mental incertitude of which such behaviour is the indirect expression will inevitably spread to

[2] *A Textbook of Gynaecological Surgery.* By Comyns Berkeley, M.A., M.D.Cantab., F.R.C.P.Lond., M.R.C.S., Gynaecologist and Obstetrician to the Middlesex Hospital, etc., and Victor Bonney, M.S., M.D.Lond., F.R.C.S.Eng., M.R.C.P.Lond., Assistant Gynaecologist and Assistant Obstetrician to the Middlesex Hospital, etc. With 392 figures in the text from drawings by Victor Bonney, and 16 coloured plates. London, New York, etc.: Cassell and Company, Limited. 1911. (Demy 8vo, pp. 720. 25s.)

the other members of the staff, so that at the very time when the surgeon is most in need of effective help he will find it fail him.

Further on we read:

A surgeon should not gossip, for it is impossible for him to do his best work if he is continually engaged in irrelevant chatter; whilst a silent surgeon is unprofitable to those around him, for he should clearly outline the steps of the operation as it proceeds and by apposite and instructive remarks compel the attention of those who are there to learn.

Many operators, we fear, fail to act up to the ideals thus enunciated. Turning to the subject of operative dexterity and speed, we find some yet more judicious remarks. After rapid operating there is risk of oozing, whilst when the surgeon is slow haemorrhage is less likely to be overlooked, as it occurs whilst the parts are still exposed.

It is for this reason that the results of the brilliant surgical prodigy and of the old-fashioned laborious plodder are not so different as at first sight might be expected, since the after results due to mauling and exposure of the tissues by the latter are in the former balanced by the local peritonitis and fever set up by post-operative oozing.

The directions for the preparation of patients and for the management of the operating theatre and of the room in a private house where an operation has to be performed are plainly set forth, and the warning about hot-water bottles, too often disregarded, is put in italics. This preparatory department of the textbook is confined to eighty-six pages, four hundred and fifty-two being apportioned to the main object of the work—the description of operations—and over one hundred and fifty to post-operative treatment and complications, and immediate and remote results of operations. The latter subject is fully treated, the experience of the authors and their colleagues at the Middlesex and Chelsea Hospitals being published in a condensed statistical form.

The reader will naturally seek with special interest for those chapters in the textbook where the authors relate the steps of certain modern operations about which there is much debate—namely, Wertheim's abdominal operation for cancer of the uterus, subtotal hysterectomy, panhysterectomy, and operations to remedy malpositions of the uterus. The authors treat the question of Wertheim's operation with marked discretion. To him, they point out, we owe the present position of this operation, but the only point in its procedure that he actually invented is the application of the vaginal clamp. Drs. Berkeley and Bonney consider that the operation is based on the soundest pathological principles, as it takes both cancerous infiltration and permeation into account. They show that the relatively high mortality of a "Wertheim" and the lower mortality of a simple vaginal hysterectomy mean that the worst cases of uterine cancer can be, and therefore are, treated by this method, and then demonstrate, from reports, that a "Wertheim" is not appreciably more fatal than the simpler procedure if only cases of a similar nature are submitted to operation. They point out that after-histories must be complete, and that British statistics are still of small value, since the operation has been but little performed in the United Kingdom until some two years ago. Turning to the gland problem, in the authors' opinion the importance of the routine removal of glands lies not so much in the extirpation of those obviously enlarged as in the prophylactic excision of those that appear healthy. The glands in the parametrium and along the iliac vessels are first affected and the authors always remove them. To reach the regional glands an abdominal incision is necessary. The authors hesitated on one occasion about a very corpulent patient, still they preferred the abdominal to the vaginal route. A carcinomatous gland as big as a walnut was found on the brim of the pelvis. Yet the cervical growth was small and the uterus very mobile. The vaginal operation would have been useless. The operation is carefully described, and, as we have already stated, Dr. Bonney's drawings are clear and instructive; no less than seventeen illustrate that one procedure. The authors employ a vaginal clamp of their own devising.

The profession is beginning to feel weary of tedious repetitions about operations for uterine fibroids. The authors, however, treat this question after a relatively original method. They are to be commended for making a clear distinction both in classification and in operative technique between subtotal hysterectomy for fibroids in the uterus, operations for the removal of the uterus when the tumour occupies the supravaginal portion of the cervix, and, thirdly, operations for the extirpation of broad ligament fibroids. The authors point out, as others have done, certain objections to Doyen's panhysterectomy. Dr. Bonney practises and describes in the textbook a procedure where Doyen's steps are reversed; he begins from the front, stripping down the bladder after clamping the round ligaments, then the anterior wall of the vagina is opened and the portio drawn up. The dissection of the uterus from its lateral and posterior attachments can then be effected with relative ease. As the peritoneum is often displaced and the relation of the uterus to the rectum uncertain when the fibroid has developed in the posterior part of the cervix, and as in other cases there may be strong intestinal adhesions to the fundus, this method will prove relatively easy, when Doyen's operation, beginning with an incision into the vagina posteriorly, is impracticable. The authors very properly dwell, in the last chapter of their textbook, on the remote after-results of hysterectomy for fibroids, but they make no mention of any of the recent statistical reports on after-histories, save those drawn up by one operator. The out-patient departments of our hospitals, as the authors know full well, reveal bad after-histories, of which the operators, often perfectly honest surgeons attached to other institutions, are and remain perfectly ignorant. In denouncing catgut as often too early absorbed, the authors state that they have known instances in which the peritoneal flap covering the stump of the uterus after subtotal hysterectomy has separated, allowing the bowel to become adherent, and causing death by intestinal obstruction.

The treatment of malpositions and prolapses of the internal organs is not a satisfactory subject, for, notwithstanding surgical triumphs over huge tumours and even cancers, the certain restoration to comfort of a woman suffering from prolapse remains problematical, whatever operation may be tried; yet we all would abolish the pessary, if possible. The authors have found hitherto that the repositor is sufficient for inversion of the uterus, so that they have never been compelled to resort to the knife. They show no enthusiasm about shortening of the round ligaments, but describe the steps of that procedure. They display their customary taste for salutary warning when, in the paragraphs on ventro-suspension, they observe that intestine, slipping undetected between the uterus and parietes, has been wounded when the sutures were passed, or has become adherent there, with resulting obstruction later on, "*as in two cases we have knowledge of.*"

Lastly, we consider that Drs. Berkeley and Bonney are setting a good example to those who follow in their steps by including a sample of a "nursing chart used by the authors for all cases of abdominal section." In so doing they maintain the excellent custom originally set in fashion by Sir Spencer Wells, who to the last entered all his cases in his well-known special notebook. The chart for the hospital and the notebook for the operator, which he should employ for private as well as for hospital cases, are indispensable agents in preventing his experience from falling into oblivion or from causing him, through gaps in his memory, to mislead himself and others—a very frequent evil effect due to defective registration. Drs. Comyns Berkeley and Victor Bonney, by giving prominence to the preservation of clinical reports, show that they know how to teach their readers the great lesson that surgery signifies more than operating, and that an operation is a means, not an end.

ROTUNDA HOSPITAL.

THE reports of a hospital with large material are always of interest. In his paper on Eclampsia which appears with the report of the Section of Gynaecology at Birmingham, Dr. TWEEDY has dealt with the whole series of cases of which the latter part is reported here. Twenty-nine consecutive cases treated on a definite plan over a period of two years without a single death give rise to a strong presumption in favour of the innocence of the treatment. The somewhat similar series of 26 cases reported in the *Monatsschrift f. Geburtshülfe u. Gynäkologie*, August, 1911, as occurring in Parma, suggests the need of caution in accepting conclusions. The care with which the morbidity of the Rotunda cases is analysed makes the

report[3] always instructive. This year the rate is 4.33 (B.M.A. standard). Two interesting cases of extraperitoneal Caesarean section are reported. The gynaecological report contains tabular analyses of 11 cases of Wertheim operation for cancer and 14 abdominal myomectomies, and among other features of interest the pathologist records a case of sloughing of the spleen, one of carcinoma of the tube, and one of ovarian pregnancy which was demonstrated to the Royal Society of Medicine.

PELLAGRA.

The translation which Drs. Lavinder and Babcock of Dr. Marie's work on *Pellagra*[4] is, we believe, the first book on the subject published in the English language. The translators have been moved to produce it by the recognized presence of pellagra in several parts of the United States.

The obscure disease entitled "pellagra" (*pelle*, skin, and *agra*, rough) has proved for centuries a distressing form of ailment in many of the countries bordering on the Mediterranean. The signs and symptoms of pellagra are an erythema upon the exposed parts of the body, gastro-intestinal disorders, nervous phenomena of toxic origin, terminating frequently in cachexia and insanity.

The disease has been ascribed to many causes, but it was not until C. Lombroso, in 1872, formulated the opinion that spoiled maize was the origin of the disease that any approximately scientific conclusion was arrived at. Lombroso claimed to have shown that *penicillium* and *aspergilli* were pellagrogenous, but only when growing upon spoiled maize, from which they imbibed toxic substances. Dr. Marie's book was admittedly a condensation of Lombroso's writings, and it is an exposition of the belief that the cause of pellagra is spoiled maize and the fungi attacking it. Read from this point of view, Lombroso's conclusions seem convincing, but there are many gaps in the evidence. Although a strong case has been made out connecting diseased maize with pellagra, there have been several dissents, and none more weighty than the theory formulated by Dr. Sambon in 1905, that pellagra was due to a parasite conveyed by a sand-fly (*simulium*). It will be remembered that a Field Commission, headed by Dr. Sambon, visited Italy in the spring of 1910, and published a report, which, although viewed from an epidemiological standpoint, for the most part was so convincing in its deductions and conclusions that Lombroso's theory has been shaken in a manner which demands further investigation and experiment to settle the question one way or the other.

The book before us gives an excellent history of pellagra in different countries; spoiled maize is fully dealt in its bacteriological and microscopical characters. The signs and symptoms of pellagra in its cutaneous manifestations, its psychic and paretic phenomena, and in its pathological aspects, are carefully and clearly set forth, and the chapter on prophylaxis is especially interesting. Lombroso's theory, sometimes termed "the Zeist theory" from the generic name Zea given to the various maizes, presupposes the nature of the prophylaxis required; it is to forbid the consumption of spoiled maize infected by fungi. The difficulty, however, in carrying out this seemingly simple form of prophylaxis is considerable, as spoiled maize is considerably cheaper than wholesome maize, and the poverty in many pellagra-infected countries is so pronounced that it becomes a question of the maintenance of life, even marred by the danger of contracting disease.

The appearance of this book is most timely; for even if the Zeist theory is to be upset, as in all probability it may be by further investigation, it sets before English-speaking people a succinct and careful study of pellagra. No doubt the believers in the parasitic explanation of pellagra will find much in Lombroso's statements to support their own contentions; but they must admit that the Zeist idea has been carefully investigated, that the conclusions are logically enunciated, and that an excellent piece of work has been accomplished which will require close investigation to convince medical science that they are to be set aside.

Drs. Lavinder and Babcock have placed us under a deep debt of gratitude. The translation has been excellently done, and the translators have added to the text much to interest and to attract the reader and brought our knowledge of pellagra quite up to date. The illustrations number nineteen in all, and would alone serve to show that in the United States of America pellagra is similar in every respect to the form met with in Europe and Egypt.

[3] *Reports of the Rotunda Hospital.* By E. Hastings Tweedy, M.C., P.I. (Master), etc. Dublin: John Falconer. 1911. (8vo med., pp. 49.)

[4] *Pellagra.* By Dr. A. Marie, École de Hautes Etudes, Paris. With introductory notes by Professor Lombroso. Translated by C. H. Lavinder, M.D., U.S.A. Public Health and Marine Hospital Service, and T. W. Babcock, M.D., State Hospital for the Insane, Columbia, S.A. The State Co., Columbia S.C. 1910. Illustrated. (Post 8vo, pp. 454.)

NOTES ON BOOKS.

The April and July issues of the journal edited by Dr. G. E. Brooke, of Singapore, on behalf of the Malaya Branch of the British Medical Association, thoroughly justify the existence of this Far East quarterly publication.[5] Among other interesting items are a review by Dr. R. D. Keith of the system of medical education pursued in Singapore; a history by Dr. W. R. C. Middleton of the working of birth and death registration which was introduced in the Straits Settlements as far back as 1868; and an account by Dr. K. C. Sinha of a case in which sudden inflammation of the knee-joint, occurring some two years after an accident, was found to be due to the lodgement of some pieces of granite in the head of the femur. The author observes that the Chinese, unlike the Malays and Tamils, exhibit great toleration of pain and marked fortitude in suffering. In one of the briefer articles Dr. E. D. Whittle draws attention to the fact that as far back as 1721, or some seventy years before the publication of Winterbottom's *Account of the Native Africans*, a surgeon in the Royal Navy named John Atkins, described sleeping sickness under the title of the "sleepy distemper."

[5] *The Malaya Medical Journal.* Vol. ix, Parts 2 and 3. Edited by Gilbert E. Brooke, M.A., L.R.C.P., D.P.H. Singapore: The Methodist Publishing House; printed for the Malaya Branch of the British Medical Association.

MEDICAL AND SURGICAL APPLIANCES.

An Ammonium Chloride Inhaler.

There seems to be some special fascination in the work of devising inhalers for ammonium chloride, for the number of such appliances which have been brought to our notice during the last few years is very large. The latest is an apparatus made by Messrs. C. J. Hewlett and Sons, Charlotte Street, London, E.C., to which they have given the name "Ammochlorique" inhaler. Its construction is sufficiently shown in the drawing. The ammonia is dropped on to a moistened sponge at the bottom of the bowl and the hydrochloric acid is introduced into the bulb, which has an aperture at the side. When the mouthpiece is drawn upon, the draught brings the acid into contact with the vapour of the ammonia, and a cloud of ammonium chloride is obtained. The suitable quantities of the acid and alkali are provided in sealed tubes, which can be easily broken when the apparatus is to be used. In spite of the ingenuity displayed in the making of this and other inhalers the manufacturers appear to fail to take into account the desirability of devising a box in which the apparatus can be conveniently kept and carried when not in use. One of the merits of this particular apparatus is its small size.

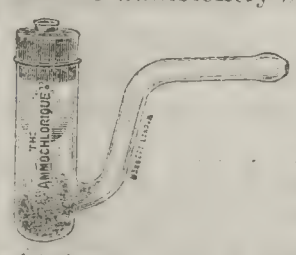

The name of William Henry Bull, V.D., F.R.C.S.Ed., Colonel commanding 2nd South Middlesex Mounted Brigade Field Artillery, R.A.M.C., has been placed on the Commission of the Peace for the county of Buckinghamshire.

The South African branch of the Royal Sanitary Institute, recently established, will hold a congress in Capetown on November 9th, 10th, and 11th. The subjects proposed for discussion are: The disposal of sewage, the prevention of tuberculosis, inspection of food and milk supplies, and school hygiene; papers will also be read dealing with other aspects of public health work. The honorary secretary of the branch is Dr. A. Jasper Anderson, Medical Officer of Capetown.

British Medical Journal.

SATURDAY, OCTOBER 21ST, 1911.

CONDENSED MILK FOR INFANTS.

THE Local Government Board has issued a report by Dr. F. J. H. Coutts on the composition of condensed milks, with special reference to their use as food for infants.[1]

Particular attention is called to the undesirable practice of feeding infants on machine-skimmed condensed milk, which does not contain the fat essential for growth and health. There is no doubt that before the passing of the Sale of Food and Drugs Act, 1899, a considerable number of babies were fed on skimmed condensed milk, and up to that time the labels of certain brands had either no indication that they were made from skimmed milk, or the notification was so small and so obscurely placed as to be easily overlooked. To remedy this evil, Sections i (*c*) and xi of the Act of 1899 prohibit the importation or sale of "condensed, separated, or skimmed milk, except in tins or other receptacles which bear a label wherein the words 'machine-skimmed milk' or 'skimmed milk,' as the case may require, are printed in large and legible type."

Dr. Coutts finds, as the result of the present inquiry, that this regulation has not produced the desired effect of abolishing or reducing to a negligible minimum the use of machine-skimmed condensed milk as a food for infants. He has ascertained, on the contrary, that in certain districts a considerable proportion of babies are fed almost exclusively on this diet. This is the case in several of the poorer districts of London, where the medical officers of health are well aware of the practice and consider it to be a serious evil. Reports available from the provinces show that the extent of the practice varies in different localities, but "there is evidence from nearly all parts that this material is used, and that in some districts its employment is probably extending."

How is it that parents feed their babies from tins bearing the words "machine-skimmed milk" plainly printed on the labels? The answer, says Dr. Coutts, may be summed up in the words "poverty" and "ignorance." Some mothers know that full-cream condensed milk is better, but do not know in what its superiority consists, so they are tempted by poverty to buy the cheaper article. "They would not think of using ordinary fresh skimmed milk for their babies; but the presence of sugar in and the viscosity of the condensed variety give a fallacious appearance of richness and render the food more satisfying to the baby." Dr. Coutts also remarks that some women are under the impression that all condensed milks are the same, consisting alike of pure whole milk and sugar; they do not realize that "machine-skimmed" implies impoverishment. Another factor of importance is that it is more profitable for the retailer to sell the skimmed than the full-cream variety. "Figures put before me indicate that a retailer may make a profit of 10 per cent. on a well-known brand of full-cream milk, but 15 to 20 per cent. on certain brands of machine-skimmed milk."

Considering cost quite apart from the questions of convenience and portability, Dr. Coutts finds that condensed milk, especially the machine-skimmed variety, does not compare altogether favourably with fresh milk. For example, he purchased a well-known brand of Dutch machine-skimmed milk which cost 3d. for the so-called 1 lb. tin, but the actual contents weighed less than $13\frac{3}{4}$ oz. A similar size tin of a popular brand, bearing the name of an Irish firm, but made in Lombardy, contained even less milk but also cost 3d. The ordinary retail prices in Whitechapel, where these purchases were made, were 4d. per quart for fresh full-cream milk, $\frac{1}{2}$d. per pint for fresh skimmed milk, and 2d. per pound for sugar. In the tin containing $13\frac{3}{4}$ oz. Dr. Coutts estimates the sugar as amounting to 6.19 oz. and the condensed milk as equivalent to 41.25 oz. of fresh skimmed milk. But the cost of these amounts of these two commodities would be 1.80d., instead of 3d.—that is, the purchaser of fresh skimmed milk and sugar would effect a saving of nearly 5d. in every shilling.

Many brands of condensed milk bear statements intended to impress purchasers with their purity and freedom from bacteria. Dr. Coutts quotes numerous examples, of which the following two are typical: (*a*) "This milk . . . is absolutely free from bacteria and all noxious germs, and excels in every respect ordinary milk"; (*b*) ". . . milk, being perfectly sterilized, is positively safe for infant feeding." For the purpose of testing the accuracy of such statements, samples of fifteen brands of condensed milk were submitted for bacteriological examination to Drs. Gordon and Elmslie. Five of these consisted of full-cream sweetened milk, four of full-cream unsweetened milk, and six of machine-skimmed sweetened milk. None of the specimens tested proved to be sterile. In the case of most, the bacteria abundantly present were organisms such as are abundant in the air, a fact which suggests that the gross bacterial contamination was derived from the air at some stage in the preparation. In the four cans of unsweetened milks no organisms were found which were likely to have existed in the original milk before condensation. But from all the sweetened milks the streptococci obtained were, as shown by their cultural reactions, almost certainly derived from the original milk. "It is evident, therefore," the investigators conclude, "that in the method of condensing sweetened milk sterility is not secured." They found that the organisms of the *Bacillus coli communis* group were all killed in the process of condensing, either by the heat, or by drying, or by autolysis in the presence of the large quantities of sugar employed.

The preparation and the chemical analysis of condensed milk are also dealt with very fully in Dr. Coutts's report.

[1] Reports to the Local Government Board on Public Health and Medical Subjects. New series, No. 56 (*Food Reports*, No. 15). London: Wyman and Sons, 1911, 6d.

FIFTY YEARS OF MEDICAL LIFE.

DR. DAVID W. CHEEVER of Boston, a former President of the American Surgical Association, has recently contributed to the *Boston Medical and Surgical Journal* some interesting reminiscences of his professional life. He began as a general practitioner in 1858. The fee for a visit made during the day was then from a dollar and a half to two dollars; later it became two dollars; later still it was fixed at a sliding scale from three to five dollars. A confinement was finally fixed at

thirty dollars (£6), this including three subsequent visits. The fees for visits outside the town were measured by time, not by distance. Dr. Cheever says the fees of specialists and those of surgeons and obstetricians are now in striking contrast to these moderate charges.

During the first ten years of his professional career Dr. Cheever's field of work was remarkably large and diversified. He wrote for the journals, took private pupils, and was demonstrator of anatomy. After ten years his work gradually drifted to surgery. For five years his professional earnings never exceeded £100 a year; it was ten years before he could afford a horse. When he began practice there were no specialities. Fifty years ago even ophthalmology was looked upon askance in Philadelphia. The woman doctor had scarcely appeared above the horizon. In those days the professor of surgery lectured on the eye, the ear, the skin, and syphilis; the professor of anatomy took physiology as a part of his province; and the course of obstetrics included medical jurisprudence. There were numerous flourishing 'pathies — hydropathy, the water cure; Thompsonianism, the vegetable-remedy cure: eclecticism, which professed to combine the good effects of all. Osteopathy and Christian Science were not yet born.

When Dr. Cheever began practice every surgeon in Boston undertook cases of all sorts. Not more than twenty years ago one, now a leader a surgery, told him that he had decided to give up medicine and stick to surgery. He looked upon this decision as somewhat hazardous, and so did Dr. Cheever, whose advice he asked. During the twenty-five years from 1858 to 1883, which he calls the pre-aseptic time, he did a large amount of surgery, involving short operations and long attendance. "Now the surgeon does a long operation and has a short attendance. Then shock and pyaemia were the ghosts of the operating surgeon, so to speak. Now the failure of asepsis is the one non-negligible factor. Then an exploratory incision was fatal, either through sepsis or irritated and aroused new cell growth in tumours. Now an exploratory operation is an everyday incident—'The doctor opened him but found he could do nothing, and he closed him up. He is all right again.' Then a mistaken diagnosis in surgery was fatal, very often. Now it is a trivial oversight, of temporary inconvenience." Instruments of precision were wanting, and the surgeon had largely to rely on touch and unaided eyesight. "As the savage sharpens his eye by use, so the old-school doctor cultivated and perhaps excelled in minute observations." This suggests the reflection: Do we not perhaps rely a little too much on blood counting and other laboratory methods, and are we not in danger of losing the power of observation, just as we have almost lost the capacity of prescribing? The ready-made remedy has supplanted the magistral formula. Modern pharmacy has supplied us with innumerable convenient methods of administering drugs, but does not this tend to treatment of the disease rather than of the patient? Dr. Cheever calls venesection a lost art, and we remember thirty-five years ago that when a physician in a large London hospital ordered a vein to be "breathed," as they used to say in the seventeenth century, no one knew how to do it. We may also recall an experience of our own, in which a surgeon had ordered leeches to be applied to a woman's abdomen, and neither dresser nor nurse knew which end to apply. Dr. Cheever gives many interesting examples of the difficulties with which surgeons had to contend half a century ago. Looking back over his half-century of professional life, he concludes that the profession has lost and the public has gained. It is now harder for the doctor to get a living. As he says, "The whole doctor is now cut up into so many little parts by specialities, that his patients are fewer although his fees must be, to individuals, larger." The specialist himself has fewer patients than the old general practitioner, and must accordingly charge more. The patient has to pay three, four, even six doctors instead of one.

Dr. Cheever sums up the position of medicine and surgery as follows: "General medicine has lost in specialities the general care of the brain, the nerves, the lungs, the heart, obstetrics, the diseases of women, the diseases of children, partially the stomach, wholly the skin. General surgery has specialized the eye, the ear, the throat and nose, the kidneys, the genito-urinary system, the bladder, the uterus and ovaries, fractures, spinal and other deformities, the brain, perhaps the rectum." One is tempted to ask, What is left? Dr. Cheever is, as may be gathered, a strenuous opponent of over-specialization. "What," he asks, "is the effect on the doctor of focussing his limelight on a square inch of the human economy?" This is the stock argument of what we venture to call the ultra-conservative school. It might be answered that it is not the effect on the doctor so much as that on the patient that matters. But, as we have often said, no one should practise as a specialist except on a broad foundation of professional knowledge. Dr. Cheever himself was in general practice for ten years before he gave himself to the speciality of surgery. The man who, as an English surgeon politely expressed it, buzzes about one of the orifices of the body, is not a satisfactory type of practitioner; but, on the other hand, the physician whose view is so wide that he cannot see what is close to him is like the astronomer of the fable who, gazing at the heavens through his telescope, fell into the ditch at his feet. The art of healing has become too vast and complex a thing for any one mind to master, and subdivision is necessary if practice is to be efficient. The day of the general physician in the old sense is past, and the end of the general surgeon is almost in sight. There is all the more reason, therefore, why the fullest provision should be made for the widest medical education, supplemented, whenever possible, by a period of general practice. We look forward to a time when the artificial distinction between medicine and surgery will be abolished, and when general knowledge will be combined with special skill to make the healer who can cope effectively with every situation with which he may be called upon to deal within the province of practice in which he has trained himself to be a master workman.

TUBAL GESTATION AND GONORRHOEA

Ectopic pregnancy may or may not have been common in past days; it was certainly overlooked in a great many cases, yet undefined conditions which cause it now may have been absent then. Perhaps checks to impregnation must be taken into account. Anyhow, tubal gestation is very frequent now, as a glance into any treatise on gynaecology will show; still, its pathology, especially as to causation, is as yet not quite evident. Is it due to some change in woman's constitution which causes the "decidual reaction" in the tubal mucosa favouring implantation, noted by Clarence Webster? If so, does this change imply part of a degeneration which will ultimately extinguish the species, or is it a reversion to an older

type, when the Fallopian tube was part of the uterine cornu?

Couvelaire, whose valuable *Etudes anatomiques sur les grossesses tubaires* was reviewed in the JOURNAL of March 15th, 1902 (p. 661), rejected the theory that a previously pathological change in the tubal mucosa is a necessary condition in tubal pregnancy. He disbelieved in Lawson Tait's "desquamative salpingitis," for he found that during the earlier stages of the implantation of the ovum there is no loss of epithelium, although later on it always degenerates. There are pathologists who still hold that the implantation is primary, and Couvelaire may be right, but now, as in 1902, the majority of observers feel almost certain that it is the result of a previous salpingitis. That disease, inflammation of the Fallopian tube, is usually of puerperal or gonorrhoeal origin. As puerperal infection is relatively acute, tending to destroy the mucosa and render tubal as well as uterine gestation impossible, it would not be surprising that the slower and more subtle invasion of the gonococcus should render the subject more liable to arrest of the ovum in a tube which is diseased, but not reduced to a sac full of pus.

Dr. Rabinowitz, writing on successive tubal pregnancies,[1] including some in his own experience, has come to the conclusion that the most frequent cause of ectopic pregnancy is a previous salpingitis of gonorrhoeal origin. Ladinsky, a colleague of the writer at a Jewish hospital in New York, operated on about 150 cases of tubal pregnancy within sixteen years. Rabinowitz ascribes this "enormity of material" to the prevalence of gonorrhoea in immigrant women who join their husbands after the latter have sojourned in the West for several years. During this enforced celibacy they too frequently contract gonorrhoea.

Rabinowitz analyses 147 cases of successive tubal pregnancy reported by competent observers, and finds several suggestive data in support of the gonorrhoeal theory. In 6.8 per cent. the patient had borne one or more children in the interval between the first and second ectopic pregnancy. As conception took place after a long period of relative sterility (a fact, by the way, already noted by Parry and the older observers), the mucosa of the generative tract had passed through sufficient time to regenerate; 5 per cent. conceived repeatedly during the interval between the two tubal pregnancies, but these intercalated uterine pregnancies all ended in miscarriage. According to Rabinowitz, this certainly noteworthy evidence implied that while the tubes were not sufficiently diseased to interfere with the passage of the ovum, the uterus had but partially returned to the normal state, and therefore conception did not go on to term. Lastly, 131, or 89.7 per cent., of the 147 cases passed through no uterine pregnancy between the first and second tubal gestations, thus proving conclusively, at least in the author's opinion, that the tubes were in a hopelessly pathological condition. The above clinical evidence is most suggestive yet not absolutely convincing.

[1] Successive Tubal Pregnancies, *Amer. Journ. Obstet.*, August, 1911, p. 238.

GENERAL MEDICAL COUNCIL ELECTION.

THE brief address of the three candidates recommended by the British Medical Association to the medical practitioners of England and Wales for election to the General Medical Council at the election next month was published last week. Dr. Langley Browne, of West Bromwich, and Dr. Latimer, of Swansea, are just concluding the term of five years for which they were elected in 1906. Owing largely to their exertions, the General Medical Council recommended that the registered medical practitioners in England and Wales should be accorded an additional representative, and the sanction of the Privy Council to this increase comes into force at this election for the first time; it thus comes about that Mr. T. Jenner Verrall is now associated as a candidate with Dr. Langley Browne and Dr. Latimer. In Scotland Dr. Norman Walker, who during the last five years has represented the registered medical practitioners resident in Scotland with so much ability on the Council, offers himself for re-election, and his address is published in our advertisement columns. We are informed that Mr. George Brown, Dr. Sidney C. Lawrence (M.O.H. Edmonton), and Dr. Arthur Hawkyard, of Leeds, purpose to come forward as candidates for England and Wales in opposition to the three gentlemen recommended by the British Medical Association. Mr. George Jackson is also a candidate; his address is published in our advertisement columns this week. The formal notices of the President of the General Medical Council as to the elections in both countries were published in our advertisement columns last week. Any registered medical practitioner is qualified to be nominated as a candidate, and every registered medical practitioner resident in England, which for the purpose of the Act under which the regulations are made includes Wales, is entitled to take part in nominating three candidates. The nomination papers, which must be accompanied by a declaration in writing signed by the person nominated acknowledging that he consents to be nominated, must be delivered on or before the First day of November to Mr. Norman C. King, the acting Registrar, at the Medical Council Office, 299, Oxford Street, London, W. The notice that an election of a representative of the registered medical practitioners in Scotland under similar conditions is about to be held directs that the nominations must be sent to Mr. James Robertson, at 54, George Square, Edinburgh, on or before November 1st.

THE NATIONAL INSURANCE BILL.

THE conference at the Treasury, attended by representatives of the British Medical Association and of the friendly societies, which was adjourned last week, was resumed on Monday, when the Chancellor of the Exchequer was accompanied by Mr. McKenna and Mr. Masterman. The same representatives of the British Medical Association were present, and there were also present representatives of the National Conference of Friendly Societies, Ancient Order of Foresters, the Manchester Unity of Oddfellows, the Rechabites, the Friendly Societies Medical Alliance, the Hearts of Oak Benefit Society, and the National Deposit Friendly Society. The conference lasted for upwards of six hours, and was then adjourned. We understand that as the result of the exchange of views which took place it is hoped that it may be possible for terms to be arranged which, while removing the chief practical difficulties experienced by the friendly societies, will yet be in accordance with the principles that the medical benefits shall be administered by the local Health Committees and that the patient shall have free choice of doctor, both of them points on which the medical profession insists. It was clearly understood on all hands that no authoritative statement can be made on behalf of the profession until the proposals under consideration have been submitted to the Divisions and considered by the Representative Body of the British Medical Association. The position is receiving the careful consideration of the State Sickness Insurance Committee, which will make a report to the Central Council of the Association at its meeting on Wednesday week (November 1st). The Representative Meeting on July 25th instructed the Council, immediately on completion of the

Committee stage of the Insurance Bill, to issue a report to the Divisions on the position of the profession under the bill as amended in Committee of the House of Commons, and to convene a Special Representative Meeting to consider the matter. It must be borne in mind that the clauses of the bill containing the provisions as to the income limit, the free choice of doctor, and administration of medical benefits by the local Health Committees and not by the friendly societies have been dealt with by the House of Commons in Committee, and as far as the text of the bill is concerned these matters must remain *in statu quo* until the Report stage of the bill. The Special Representative Meeting will be held early enough for the Council to give effect to its decisions on these and other matters by representations to the Government and Parliament before the Report stage in the House of Commons. Special meetings for the discussion of the bill have been arranged in various parts of the country during the next fortnight, and will be addressed by the Medical Secretary or Deputy Medical Secretary. A full list is given in the Supplement. As will be observed, meetings are to be held at Plymouth (October 24th), Darlington (October 26th), Wandsworth (October 26th), Glasgow (October 27th), Edinburgh (October 28th), Preston (November 2nd), Manchester (November 3rd), Bury (November 4th), Camberwell (November 7th).

LONDON SCHOOL OF TROPICAL MEDICINE.

The annual dinner of the London School of Tropical Medicine was held on Tuesday, October 17th, at Prince's Restaurant, Dr. Cameron Blair, Senior Sanitary Officer, Northern Nigeria, being in the chair. Among those present were Sir Patrick Manson, Dr. C. W. Daniels, Dr. F. M. Sandwith, Professor W. J. Simpson, and others connected officially with the school. Among the guests were Sir James Porter, K.C.B., Director-General of the Royal Navy Medical Service; Surgeon-General A. M. Branfoot, C.I.E., President of the Medical Board, India Office; and General Sir Reginald Talbot. The dinner, admirably organized by Mr. P. Michelli, C.M.G., secretary of the school, was well calculated, in accordance with the precept of Quintilian, to conciliate the audience in favour of the orators of the evening. The speeches all had the supreme merit of brevity, though some of the speakers displayed a tendency to a tropical luxuriance of fun and anecdote not inappropriate to the occasion. After the customary loyal toasts, the "London School of Tropical Medicine," was proposed by Surgeon-General Branfoot, who, after a short account of the origin of the school, spoke strongly of its value to medical officers of the Indian Service. He said he always asked those who had been through a course at the school what they thought of it, and the reply was uniformly most favourable. Sir Patrick Manson, in responding, spoke of the steady extension of the school, which placed a heavy strain on the funds. He made a strong appeal for further financial support. He said that the accommodation for students who found it convenient to live in close proximity to the scene of their work had been encroached upon by the provision of new laboratories, and there was a difference of opinion whether expansion should now take the direction of again increasing the residential accommodation. It was suggested that this question should be submitted to a referendum. This was done in the course of the dinner, and those who signed the paper were unanimously in favour of the proposal to provide more rooms for students. Sir Patrick Manson announced that it had been decided to produce a journal devoted to the work of the school. At present it would appear once a session, but it was hoped that in time it would be published more frequently. The toast of "The Guests" was proposed by Captain A. W. Clarke in a racy speech. Sir James Porter, in responding, referred to the proposed establishment of a Naval Medical College at Greenwich. The Admiralty, he said, was ready to carry out the scheme in an ungrudging spirit, but the wheels of Government moved slowly, and there were difficulties in the way. Accommodation for thirty newly entered officers would, however, be ready on December 31st, and after that he hoped they would be able to build further. It was intended that every year fifty officers should pass through the school; men of five or six years' service would go through a course of six months, and seniors of fourteen years' service would go through one of three months. Those newly admitted to the service would study for two months at Greenwich, and then pass on to Haslar, where their practical acquaintance with the conditions of medical service afloat must necessarily be acquired. At present the Admiralty could only provide professors of pathology and hygiene; for the rest they would have to depend on the Dreadnought and the School of Tropical Medicine. Details of the arrangements were now being discussed, and in due course a report would be submitted to the Consultative Board, on which the medical profession was represented by Sir Watson Cheyne, Sir Dyce Duckworth, and Professor Simpson. Sir James Porter said he saw in the establishment of this college a means of greatly increasing the prestige of the Naval Medical Service. The health of the Chairman was proposed by Mr. Cantlie in his usual breezy manner. Alluding to the fact that Dr. Cameron Blair had arrived in Nigeria shortly after a devastating epidemic of malaria, he burst into poetry with the following adaptation of a famous Highland song:

Had I been there with "Jeyes" in hand,
  Quinine as my stand-by,
That day along the Niger's banks
  I'd scotched the wary fly.
Not all the force of toxic germs,
  Anopheles or gnats,
Not all the hosts of tsetse flies
  Nor hordes of plague-struck rats,
Not all the Sultans in the land
  Had borne me backward then;
For I wage war on all the ills
  That prey on Niger men.

With a graceful acknowledgement from the Chairman the proceedings came to an end. As a proof of the success of the school we may point to the fact, alluded to by more than one speaker, that since its foundation in 1899 some 1,200 students have passed through it. During the past year the number was over 130. For the present session 47 students have entered for the complete course and 7 for special courses in haematology, entomology, and protozoology.

ACTION OF RADIUM ON TOXINS.

The lessened virulence of certain toxins after being made radiferous has been noted in Metchnikoff's laboratory at the Pasteur Institute by Fabre and Ostrovsky.[1] The toxins have been mixed intimately with radium sulphate, or have been exposed for a number of days to the radiation from small quantities of the salt. In a series of experiments upon the diphtherial toxin the quantities of radium sulphate employed varied from 20 to 50 micrograms, and the duration of contact with the toxin was thirty days. With non-radiferous toxin the "control" guinea-pigs died within from twenty-four to seventy-two hours after inoculation, but the animals inoculated with the radiferous substance survived at least from five to twelve days, and in certain cases from twenty to thirty days. The lesions of the suprarenal capsules of guinea-pigs treated with the radiferous toxin were of much less intensity than was the case with the "control" animals, and the mixtures of diphtherial toxin with 50 micrograms of the salt had a correspondingly smaller toxicity than mixtures with 20 micrograms. A similar difference between the action of the radiferous and the non-radiferous toxin was discovered with emulsions of the

[1] *Archives d'électricité médicale*, September 25th, 1910.

living Koch bacillus and with the "necrotuberculin of Ostrovsky." In the latter case the radium sulphate was left in the presence of the toxin for more than thirty days so as to allow the emanation to attain its equilibrium. An exception was discovered in the case of the tetanic toxin, upon the virulence of which the radium had no retarding influence. The authors attribute this negative result to the fact that the tetanic bacillus, anaërobic, lives in the soil—an environment much more radio-active than air and water—and thus acquires a degree of insensitiveness to the experimental radiations.

AN OBSTETRIC FATALITY OF THE THIRTEENTH CENTURY.

SIR JAMES FOWLER, in his book on Beaulieu (Bewley) Abbey,[1] touches upon one or two matters of medical interest. Beaulieu (Bellus Locus) is said to have been founded by King John, not because he loved the Abbots of the Cistercian order—indeed, "he was angry beyond measure without cause" against them—but on account of an evil dream he had, in which he seemed to stand before a judge who ordered him to be beaten upon his back with scourges and rods by these very Abbots. Waking up from his dream with aching bones, King John was induced to take a more kindly view of the Cistercians, and in 1204 the abbey was founded in the New Forest, in the beautiful valley running up from the Solent. One of King John's sons, the famous Earl of Cornwall, married as his first wife Isabella, daughter of the Earl of Pembroke and widow of the Earl of Gloucester; she died at Berkhampstede in 1239, and was buried in Beaulieu, the site of her grave being accidentally rediscovered (for the slab over it had been removed) in 1835 by the colt of a neighbouring farmer putting its feet into it through the covering of earth. The body of a woman in a leaden sheeting was found, and it is believed that this was the wife of Richard, Earl of Cornwall, and King of the Romans. In 1239 (1240) the earl was in England—indeed, he received that year the Manor of Lidford and the Forest of Dartmoor, "possessions which extended his Cornish estates as far as Exeter"—but he had to deplore two great losses at that time, for his wife died in childbirth and her new-born son perished soon after. The obstetric details, as furnished by Holinshed, are interesting: "This Isabel died . . . after this manner. For she being great with child, and near to the time of her deliverance, fell into *morbum ictericum* or the hicket, and delivering a child into the world which had life and was baptized by the name of Nicholas, they both presently died thereupon, which thing when the Earl understood, being then on his journey into Cornwall, he burst into tears and greatly lamented that loss." We gather from this record that the cause of the countess's death was the jaundice of pregnancy (icterus gravidarum), a complication of gestation hardly less fatal now, perhaps, than it was in the thirteenth century. It may have been of that type which is now known to be due to acute yellow atrophy of the liver, or it may have been of the variety which is found associated with the prodromata of eclampsia. But it is interesting to note that Holinshed adds, "or the hicket," and the *New English Dictionary* states that *hicket* is an early form of *hiccup*. It would seem, therefore, that the disease received this alternative name from the frequent association of jaundice with hiccup, the latter sign being one of the indications of the gastric or intestinal disturbance which follows on liver disease. Dr. Wright, in his *Dialect Dictionary*, mentions Kent and Surrey as counties in which "hicket" is still employed; but he further states that it there means to retch as well as to hiccup. Possibly, therefore, the word as used by Holinshed may have meant vomiting rather than hiccoughing. Sir James Fowler brings out another detail regarding this unfortunate countess—namely, that her husband, whilst insisting upon her body being buried in Beaulieu, allowed her heart to be placed at Tewkesbury; but, further, one is amazed to read that her bowels were interred at Missenden Abbey. Truly, it was an age when hearts found separate sepulture—witness the case of Robert the Bruce and that which gave its name to Sweetheart Abbey—but this threefold distribution of parts was surely less common, although Sir James Fowler states that sometimes the heart would be sent to one abbey, the bones to another, and the flesh, "after suitable preparation," to a third. The idea was that "the departed would derive greater advantage from the prayers of several congregations."

[1] *A History of Beaulieu Abbey, A.D., 1204–1539.* By Sir James K. Fowler, K.C.V.O., M.A. Warden of Beaulieu Abbey. *The Car Illustrated.* 1911.

VIBRATORY MASSAGE IN PHARYNGITIS.

THE value of mechanical vibratory massage in certain forms of pharyngitis is discussed by N. R. Blegvad,[1] who has adopted this treatment in 56 cases during the past two years. He states that 30 suffered from pharyngitis and rhino-pharyngitis alone, 20 suffered also from some nasal condition which required preliminary treatment, 5 suffered from severe vasomotor rhinitis, and one had pain in the throat of hysterical origin. The treatment, he says, cured 5 patients in 3 to 13 applications, but as a rule, 20 to 30 applications were necessary. Of the 56 patients, 24 were relieved of all their symptoms, but 2 relapsed, a short, second course of massage being required; 29 patients partially recovered, but 11 of these had to break off treatment at too early a stage. Only 3 patients derived no benefit, and one of these was the hysterical patient. Inquiries as to the permanency of the results were made in December, 1910, and 36 patients answered in the affirmative. This was all the more satisfactory as many had been treated unsuccessfully for years by other means, such as painting the throat and removing granulations. Their professions also frequently made great demands on the voice, for 10 were clergymen or teachers, 9 were in business, 5 were singers, and 10 were telephone operators. G. Fanöe has reported his experience of the same treatment prescribed for 182 patients during the past 14 years.[2] The majority of these were able to return to work without suffering from relapse; 105 patients depended on their voices for a living, and 140 had been unsuccessfully treated by other means, some for as long as eight years. The writer massaged through the nose in two-thirds of his cases, the remainder being massaged through the mouth, over the entire posterior aspect of the pharynx from as high up as the sound reached, down to a point a little below the upper border of the epiglottis. Both writers prefer mechanical vibratory massage to the manual massage introduced twenty years ago by Kellgren and Braun, who induced tetanic contractions of the muscles of the upper arm, the vibrations thus started being transmitted to the tissues by a copper sound covered with wool. These vibrations are relatively slow, and never exceed 30 in the second, whereas a mechanical vibrator gives 100 to 200 vibrations in the second. They use the late Professor Storch's vibrator, which consists of a Wagner's hammer worked by two dry cells. When the current is passed the whole machine vibrates, and the vibrations are conducted to the tissues by a straight or curved sound covered with wool. The excursions of this vibrator are small, regular, and 167 to the second. At first the pharynx and rhino-pharynx are so irritable that a preliminary application of a 4 per cent. solution of cocaine is necessary. Five to ten minutes later the pharynx is massaged for about three minutes with a short pause every half minute. If secretion is excessive, a 2 per cent. solution of silver nitrate is applied; but for dry atrophic pharyngitis, a solution o

[1] *Ugeskrift for Laeger*, June 1st.
[2] Ibid., March 30th.

iodine, potassium iodide, and glycerine is applied. The massage induces a diminution of reflex irritability, which is at first so great that, in spite of the previous application of cocaine, the patient tolerates the treatment only for a few seconds at a time; after a short course of massage this period is extended to two or three minutes, and finally the application of cocaine may be dispensed with. Further results of the treatment are increased local hyperaemia and secretion, which in atrophic forms of pharyngitis are most beneficial. The pharynx also loses its tendency to bleed on the slightest provocation, and bleeding finally ceases even with vigorous massage. Diminution of cough also follows the treatment, the redness of the pharynx grows less, the exudate becomes less tenacious and may finally disappear. But granulations usually persist even after the subjective sensations have ceased and after the patient has returned to work. It has been argued that the success of pharyngeal massage depends on suggestion; but Dr. Fanöe has tried it in 40 patients, most of whom were neurotic and hypochondriacal. Although they exhibited the usual symptoms of pharyngitis there were no signs of this disease, and treatment by massage was useless. The treatment is indicated, it is added, not only in pharyngitis, but in vasomotor rhinitis, which includes a large class of cases associated with megrim, supraorbital neuralgia, asthma, attacks of sneezing and lacrymation. Atrophic rhinitis, especially ozaena, is also suitable for the treatment, but hypertrophic rhinitis and polypi are more successfully treated by operation. Ulcerative conditions of the throat should also be excluded, as well as inflammatory conditions of the pharynx due to distant causes, such as disease of the accessory sinuses and nasal obstruction. After the removal of such exciting causes the pharyngitis may be successfully treated by massage. Pharyngitis, associated with limited secretion, a sense of dryness and pricking in the throat, cough, and tiredness of the throat after speech, is the form that reacts most satisfactorily to the treatment.

MARRIAGE AMONG LEPERS.

A certain amount of correspondence has recently appeared in newspapers in British Guiana relative to a proposal put forward by the surgeon-general of the colony regarding its leper village or asylum. This asylum, in order to secure more perfect control over the inmates, was last year enclosed by walls at very heavy expense. A proposal involving further outlay to provide within it accommodation for lepers who wished to marry or were already married provoked sufficient opposition to induce the Combined Court to refuse to sanction the necessary expenditure. The opposition appears to have been based on three separate grounds, one being that while a great deal of money had already been spent on the segregation of leprosy, little had been done towards lowering the general mortality-rate of the island, and especially the rate amongst children and unindentured coolies. It was urged that one remedy frequently advocated in this connexion should no longer be neglected, this being the provision of cottage hospitals in the larger villages of the colony. A second ground was that, if further money was to be spent on building operations at the asylum, it should be devoted to providing special accommodation for lepers sufficiently well off and willing to pay for it. It would appear that in the present circumstances a leprous person in British Guiana, whatever his previous position in life may have been and whatever his means may be, once interned in the asylum is exposed to the necessity of having to share quarters with lepers drawn from the very poorest classes, even with persons whose life previous to their segregation has been passed in street begging. A third objection was that, though it might be impossible to prevent the inhabitants of leper asylums or villages propagating children, it was improper in any wise to encourage them to do so. It must be admitted that there is considerable force in all these views; the value, for instance, of cottage hospitals in lowering sickness and death rates is indubitable. Not only do they enable patients to avoid exhausting journeys, but they secure prompt treatment for conditions which might otherwise be neglected, and enable the general practitioners who form their staffs to develop the surgical talents which many of them possess. It would also seem indisputable that, in the interest alike of the prospective infants, of their parents and of the public, anything which tends to increase the birth-rate among leprous populations is to be deprecated. It is true that leprosy is not an inherited disease, but it is difficult to be certain that children born of leprous parents have been removed from association with them sufficiently early to escape contagion, and it must in any case be somewhat heart-breaking to the parents to have their children removed from them almost as soon as they have had time to grow fond of them.

RUPTURE OF VESSELS IN CONTUSIONS OF THE ABDOMEN.

Ducuing and Florence have published an interesting essay on this topic,[1] discussed from different standpoints. The views of living and deceased surgeons are criticized, and the physiology of shock reviewed in detail and compared with clinical reports of cases under observation. The relation of shock to haemorrhage is held to be all-important, the diagnosis of traumatic collapse, or true shock, from bleeding being essential in cases in which men have been struck by poles of wagons, ends of tillers, buffers, etc. When vessels are ruptured, clinical records show that the patient is often collapsed, but the condition is not pure shock, for it is mainly due to loss of blood. Hence immediate operation is indicated in order to discover, at least, the source of haemorrhage. Doyen speaks of deferring surgical interference until the initial collapse has passed away; Tédenat teaches that to operate on a patient in collapse only adds to the dangers of the injury and induces the surgeon to intervene where the injury is mortal. Ducuing and Florence insist that this rule applies only to rupture of the intestine where there may be but little bleeding. Guinard operates during initial shock, in spite even of hypothermia; and Forgue asserts that "shock is not a contraindication to operation unless it does not depend on haemorrhage." Houzel, in true surgical spirit, remarks that if the vena cava be torn, for example, it must be tied at once, even if it could be shown that only 1 per cent. of cases of this kind were saved by such promptness, for without it none would be saved. The haemorrhage of necessity aggravates the shock. Therefore, surgery insists that the ruptured vessel be ligatured, but, at the same time, remedies must be given for the shock. Again, when the shock has passed away but haemorrhage is clearly going on, operative interference is urgent. There is, Ducuing and Florence admit, some difficulty about intermediate cases where a patient has received an abdominal injury and yet shows no definite symptom of shock or haemorrhage. Kicks on the abdomen from a horse's hoof often set up symptoms both obscure and long in making their appearance. Professor Nimier, who has himself been a trooper, finds that cavalry soldiers are given to malingering about kicks, for rest in hospital is a luxury to them. But to the civil labourer it means at least loss of work and wages, hence he is not in a hurry to go into a hospital after getting a kick, and is apt to delay application for admission if he does not feel very ill. Ducuing and Florence testify to the fact that troopers do remarkably well when expectant treatment is practised for a kick in the abdomen, whilst two stablemen under their own observation, who appear to have held out for a few hours, died of peritonitis after admission into hospital, no operation being undertaken. In suspicious cases a very short abdominal incision, or a puncture of

[1] *Revue de gynéc. et de chirurg. abdom.*, vol. xvi, 1911, p. 13, and vol. xvii, pp. 15, 203.

Douglas's pouch, is advisable. The surgeon must take deceit or even fear and hyperaesthesia into account, but on the other hand he must not neglect the arrest of haemorrhage.

THE VANISHING LEECH.

LEST equivocation should undo us it may be well to explain by way of preliminary that in the title of this note the word "leech" is not used in its old sense of doctor. We speak of the leech which used to be so conspicuous a figure in medical practice. Readers of Dickens may remember his account of a visit to a sick friend in chambers where he met several lively leeches which apparently had escaped from the patient's room. Nowadays we are not sure that a leech could be procured at a moment's notice in many well-appointed pharmacies. Our Paris correspondent recently gave some interesting particulars as to the decline of the trade in leeches in France since 1870. Whereas then there were ten wholesale dealers in Paris, now there is only one, and the Assistance Publique, with which in 1849 this particular dealer did business in leeches to the amount of £3,200, buys hardly £8 worth. Without the export trade he could not make a living out of leeches. It appears, however, that a large number of them is still shipped to the United States. According to M. Jacques Boyer, with whose article in the *Mois littéraire et pictoresque* we are made acquainted in the *Temps*, the leech breeder formerly exercised his industry in the neighbourhood of Bordeaux. There, in artificial marshes, he fed them at the expense of worn-out old horses, who five or six times a month were sent in among the leeches, by which they were bled white. Now the leech is no longer bred; it is caught in Croatia, Dalmatia, and Turkey. It is consigned to its destination in baskets, like oysters, or in cases lined with peat. On reaching France the cargo is placed in a dark cellar in cases covered with clay, where the unfortunate leech remains without food till it is let loose upon a patient. The naval service still uses leeches, and in connexion with this fact M. Boyer tells an amusing story, which shows that the methods of the Circumlocution Office are not confined to this country. A jar of leeches was bought in 1907. Each leech when taken out has, it appears, to be signed for by the doctor. It came to pass that five leeches died a natural death without the medical certificate. It took two years of inquiry, a vast amount of correspondence, references to commissions, and reports to Ministers, to get the matter finally settled, and the death of the unfortunate Sanguisugae officially authenticated.

THE LEBANON HOSPITAL FOR THE INSANE, ASFÛRIYEH, SYRIA.

THE thirteenth annual report of this unique hospital for the insane, for the year ended March 31st, 1911, affords ample evidence of its continued progress. The hospital stands by itself in more ways than one. It was founded as the result of the pity and philanthropical enthusiasm of one man, Theophilus Waldmeier, whose resignation of its directorship is announced in this report. It is the only hospital for the insane between Constantinople and Cairo, and until its opening the poor and many others of the insane of the wide area and different nationalities which it serves were treated with unconsidered cruelty, as they were in mediaeval Europe. It is an international institution, for it is supported by funds collected and administered by committees in Great Britain, America, Holland, and Switzerland, as well as in Beyrout. Also, like other healthy organisms, it is a growing institution. Its Medical Superintendent, Dr. H. Watson Smith, who has now succeeded Mr. Waldmeier as Director, has had to resort to all manner of devices to cope with the increasing demands for accommodation, demands which can only be met by the erection of additional houses. Dr. Smith's annual report shows that notwithstanding the limited means at his disposal good work is being done and results obtained which are fairly comparable with those of any other modern hospital for the treatment of the insane. Mere statistics, however, convey no true picture of the real work done by this pioneer institution in breaking down superstitious beliefs and prejudices, in spreading the light of modern conceptions of insanity, and in educating the people of this wide region in humane and rational methods of treatment. With Miss Gooch, the Secretary, to whom subscriptions may be sent at 35, Queen Victoria Street, E.C., we believe that such an admirable institution will not be allowed to stand still for lack of funds for its further extension and development.

SLEEPING SICKNESS.

THE new commission appointed by the Government with the advice of the Royal Society to continue the study of sleeping sickness in Nyasaland consists of Colonel Sir David Bruce, Captain Hamerton, R.A.M.C., Professor Newstead of the Liverpool School of Tropical Medicine, Major Harvey, R.A.M.C., Staff-Sergeant Gibbons, and Mr. James Wilson. Sir David Bruce, as on many previous expeditions, will be accompanied by Lady Bruce. Two members of the commission have already left to select head quarters, which will probably be established in Central Angoniland. One of the points upon which further information is urgently required is with regard to the species of tsetse fly and parasite responsible for the cases which have occurred in Nyasaland. Until recently it was believed that sleeping sickness was disseminated solely by *Glossina palpalis*, but the occurrence of a number of isolated cases of the disease in the Nyasaland Protectorate and the valley of the Luangwa River in North-Eastern Rhodesia, from both of which localities *G. palpalis* is believed to be absent, has caused grave suspicion to attach to other species, *G. morsitans* and *G. brevipalpis*. Stephens and Fantham have advanced evidence to show that a trypanosome found in a Rhodesian case of human trypanosomiasis is different from *T. gambiense*, and the experiments of Warrington Yorke, who, working with Stannus, found the same trypanosome in Nyasaland cases, showed that it is extremely virulent, and strongly support the suggestion that the parasite is a new species. It has been established that trypanosomiasis in domestic animals can be conveyed by bites of several species of tsetse flies, including *G. palpalis*, so that the possibility of *Trypanosoma gambiense* being communicated to man by more than one insect vector is a point which requires investigation. Should it be proved that the trypanosome found by Stephens and Fantham and Yorke and Stannus is distinct from *T. gambiense*, the probability that more than one species of *Glossina* is acting as a carrier of sleeping sickness would be increased. The relation of *Glossina* to wild animals will also be the subject of investigation, for it may be that the insects are enabled to maintain themselves by attacking animals as a rule and man as an exception. Sir David and Lady Bruce, accompanied by other members of the commission, will leave Marseilles on November 10th.

WE are pleased to be in a position to state that Lord Ilkeston continues to make steady progress towards recovery.

AT the meeting of the Birmingham City Council on Tuesday last, anterior poliomyelitis (infantile paralysis) was, on the recommendation of the Health Committee, added to the list of notifiable diseases.

THE retirement of Professor Finlay from the Chair of Practice of Medicine in the University of Aberdeen, which was announced in the JOURNAL some weeks ago, will, it is now stated, not take effect till the end of the summer session, 1912.

THE THIRD CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY.

(Continued from page 933.)

Hospitality.

The great hospitality shown by the Belgian members to their foreign guests, who by this time have become friends more than guests, was a marked feature of the meeting. Madame Ch. Willems, Madame Jules Lorthioir, Madame Depage, and Madame Verhoogen made excellent arrangements for the lady visitors, and in addition to many private entertainments, took them excursions to Terveuren, the charmingly situated golf course in the environs of Brussels, as well as to Laaken, where they were shown the royal gardens and hothouses. The Baroness Lambert entertained one evening at her splendid rooms in the Avenue Marnix, and there was a gala performance at the Théâtre Royale de la Monaie, where Madame Croiza represented Orphée in Gluck's "Orphée et Eurydice." It was agreed that the next meeting of the society should be held at New York in the year 1914, and Dr. Depage, the active secretary to whom the society owes so much, was unanimously chosen President in succession to Professor Lucas-Championnière. The subjects selected for discussion were: (1) Plastic surgery, especially in relation to grafts; (2) the surgery of the duodenum; (3) the technique of amputations.

Surgery of the Lungs and Pleura.

Garré reported on the subject of pneumothorax. He stated that the development of lung surgery had for long been hindered by the dangers of pneumothorax and secondary infection of the pleural cavity, and the latter was to a large extent bound up with the former. In all incisions of the thoracic wall and diaphragm, in operative procedures in the lungs, the heart, the mediastinum, and the thoracic oesophagus, an operative pneumothorax had to be dealt with. The prevention of this operative pneumothorax was the foremost question in the surgery of the lung. If the pleural cavity were widely opened, the resulting total pneumothorax produced dangerous effects on the mechanisms of respiration and circulation, the chief of which arose from the hampering of the functions of the opposite lung by the movements of the mediastinum. Momentarily these dangers could be lessened by fixing the lung on the opened side and so checking the mediastinal movement. When pleural adhesions were present the dangers of total open pneumothorax were lessened, and attempts had been made by Roux and others in the early days of lung surgery to produce artificial adhesions with this end in view, but unfortunately they could not be produced with sufficient security to avoid the danger and they hamper the operation seriously. The new era of the lung surgery began when apparatus was invented to prevent the collapse of the lung by alterations in air pressure. The first apparatus invented was that of Sauerbruch, which was designed to lessen the atmospheric pressure on the trunk by enclosing the patient in a cabinet within which there was produced a negative pressure of 7 mm. of mercury, the head alone protruding outside. The difference in pressure was sufficient to keep the lung expanded and corresponded to the physiological difference in pressure between that of the pleura and that of the open atmosphere. Modifications of this apparatus were introduced by other surgeons. A totally new form of apparatus was introduced by Brauer in 1905, the design of which was to give an increased air pressure within the lung; this was done by enclosing the head within a box, and in portability and simplicity compared very favourably with the cabinet of Sauerbruch. Other forms of apparatus had been invented which produced the same result by substituting for the box a mask or an intubation cannula. Both methods—hyperpressure and hypopressure—prevented pneumothorax and facilitated endothoracic operations, and the two had practically the same value, so that in choosing which should be employed the considerations of portability, facility in use, and certainty in producing the desired results were those of chief importance. The majority of recently introduced apparatus worked on the principles of hyperpressure, and the so-called insufflation method of Meltzer was worthy of attention and had been favourably reported upon by Elsberg. No doubt further experiment would produce simplification in method, and at present an apparatus which fulfilled all the requirements had not been produced. Dangers which had to be provided for were sepsis, vomiting during the anaesthesia, and sudden failure of the apparatus during operation. Acute dilatation of the stomach was one of the complications which had been noted.

Pulmonary Emphysema.

Garré reported on this subject. He stated that the clinical condition designated by Freund the rigid dilated thorax had been established by anatomical and clinical observations. The immobility of the ribs was caused by fibrous degeneration of the cartilages, with calcification and the formation of vacuoles, which further diminished the elasticity of the cartilages. The thoracic wall was thus fixed in the position of inspiration, and produced as a direct consequence pulmonary emphysema. Resection of the second to the fifth costal cartilages on the one side was capable of restoring to the thorax its power of expiratory movement. The vital capacity of the lung was doubled thereby. Clinical observations continued over three years demonstrated the favourable effect of this mobilization of the thorax on pulmonary emphysema, and on the circulatory troubles which are produced by it. Failures were principally due to operations undertaken too late, or to operative intervention in cases when rigidity was not the primary cause of the emphysema. If the operative procedure was confined to cases of fixed dilated thorax, the results were excellent.

Parasites and Tumours of the Pleura and Lungs.

Ferguson presented a report on this subject. In the first part he described the different parasites, animal and vegetable, attacking the lungs and the pleura; the *Taenia echinococcus*, actinomyces, *Cysticercus pulmonaris*, *Oidium albicans*, etc. He described the natural history of each and the lesions produced. The second part of the report was occupied by a description of the tumours of the lungs and pleura. The latter he divided into four classes: endothelial cancer, endothelial sarcoma, cancer, sarco-endothelial and endothelial tumours with a well-developed stroma.

Pleuro-pulmonary Abscess and Gangrene.

Van Stockum reported on this subject. He said that pleuro-pulmonary abscess and gangrene could be described under the same title, "Pulmonary suppurations." Only local suppurations interested the surgeon. Pulmonary suppurations contained always pyogenic and saprophytic organisms. According to the predominance of one or other of these types, the focus conformed to the condition of abscess or gangrene. The cases were divided into acute and chronic; chronic cases resulted from an acute suppuration complicating a chronic affection, in particular old pulmonary dilatations. More rarely they were pulmonary abscesses, whose complete recovery had been retarded by complications. The diagnosis of pulmonary suppuration was easy; the cardinal symptoms were those of cavity and fetid expectoration, but it was often very difficult to recognize the exact site, size, and the number of the foci. Radiography was of great importance for diagnosis; sometimes it would show the exact situation of the abscess cavity, in other cases it showed only the lobe of the lung in which the abscess was situated. Surgical treatment was the only one which gave a good result, and drainage of the abscess through the thoracic wall was indicated as soon as the diagnosis was established. When success did not attend the attempt to open the focus, it was necessary to be content with establishing drainage from its vicinity. If adhesions between the lung and pleura were absent, costo-pulmonary suture must precede pneumotomy. In such cases the application of the method of Sauerbruch (apparatus of Brauer) was of great assistance. In some special cases resection of the affected portion of the lung could be undertaken. After the operation the surgeon should do everything possible to obtain obliteration of the cavity. Progress should be watched with the cystoscope; any obstructions to drainage should be removed, and exact tamponnage of the focus aided this. When nevertheless recovery was slow, inhalations of compressed air were of value. This method should be applied by Brauer's

apparatus twice daily for an hour. If this treatment failed resection of several ribs became necessary.

MACEWEN described the results which he had obtained in the treatment of abscess and gangrene of the lung.

TUFFIER related a new operation for the treatment of pulmonary cavity by grafting adipose tissue. He had employed the operation five times with grafted tissue—in one case a lipoma kept in cold storage for six days, twice a portion of the omentum taken from operations for hernia, once an omentum removed for the specific purpose. In all these cases operative recovery had taken place. Success could only be expected when the obstacle to the closure of the cavity was mechanical rather than pathological. It might, perhaps, be applicable in tuberculosis in place of artificial pneumothorax.

DELANGLADE had observed 14 cases of non-tuberculous abscess of the lung. He supported the value of radioscopy. He always exposed the focus freely by resecting at least three ribs. He considered it always dangerous to break down pleural adhesions. Drainage had to be very prolonged if the formation of secondary abscess was to be avoided.

CECI referred to the difficulties sometimes met with in localizing purulent collections.

POTHERAT described an example from his own practice. The focus had been localized by radioscopy when percussion and auscultation had failed to reveal it. An extensive costal resection was performed, the focus was freely opened, and complete recovery followed in three months. The expectoration in this case contained the *Bacillus tetragenus* in pure culture.

GARRÉ replied on the discussion. He expressed disapproval of the operation proposed by Tuffier.

(*To be continued.*)

MOTOR CARS FOR MEDICAL MEN.

THE FORD CAR.

DR. F. E. LARKINS (Birmingham) writes: I should like to reply to "Motor Novice" *re* Ford cars. In April of this year I wanted to get a second-hand car in a hurry, and the only one I could get that was any good in the district was a 1910 20-h.p. Ford. As there was no other to pick from, I *very* reluctantly bought it. I had no confidence in it whatever. It was a year old when I bought it, and I have driven it 5,000 miles without the slightest bother whatever. I am now completely converted, and can most strongly recommend "Motor Novice" to go in for one; if by chance he is in my neighbourhood I would be only too glad to let him try mine and answer any doubts he has. They are really downright good stuff, a continual pleasure to drive, foolproof, and absolutely simple to keep tuned up.

MOTOR CYCLE.

Dr. G. A. GRIERSON (Grimsby) writes: I can strongly recommend "Galen" to purhase a 2-h.p. Humber. I have been using one for town and country work for seven months, and it has been a constant source of pleasure. It will do well over thirty miles per hour, but its great feature is the ease with which it can be started; one has simply to mount and pedal away; it requires no paraffin injecting, even after standing in the cold for a night, and does not even require the carburetter to be flooded. It is also an excellent hill climber.

B. H. writes: In reply to "Galen's" inquiry about a lightweight motor cycle, let me strongly advise a 2½-h.p. Motosacoche. The chief points in its favour in my opinion are: (1) Easy to start; (2) very cheap in upkeep; (3) light on tyres—tyres cheap to begin with; (4) practically free from sideslip; (5) can be taken in and out of gates, etc., easily; (6) general reliability. I have toured the Peak District and the Wye Valley on mine with complete satisfaction, as well as using it for my work. I think, too, that a single cylinder means less complication than twin cylinders, which is an important point for a doctor. Another important point is that the Motosacoche is so easy to pedal if, as has happened to me once or twice, one runs out of petrol at an inconvenient place.

Dr. T. INGRAM (Welford, near Rugby) writes: I have used a 2½-h.p. two-feed free engine A.J.S. (A. J. Stevens, Retreat Street, Wolverhampton) since April, and have ridden over 4,000 (four thousand) miles since then. It has given practically no trouble, and is going now as well as ever. Its chief points are, in my mind: (1) Ease in starting; (2) reliability; (3) cleanliness. This latter feature is, I consider, very important in our profession. A chain drive does not require the constant adjustment of a belt, nor does it throw up the mud to the same extent. I have owned machines with both forms of transmission. The makers of the A.J.S. I have always found very obliging, and anxious to give any hints they can as to tuning up their machines, etc.

INFANTILE PARALYSIS.

IN the forty-first annual report of the State Board of Health of Massachusetts, lately issued, there is an important article on the incidence of infantile paralysis in the neighbourhood of Boston in 1909. There were nearly 1,000 cases grouped for the most part in and around Boston. Special investigators were appointed by the board to gather information as to the probable cause of this outbreak and the manner of its spread.

Our knowledge with regard to this disease has advanced so rapidly within a recent period that what was written a few years ago about its pathology and causation is largely out of date. The most important step in our knowledge of the disease consists in the establishment of its infectious character. With the ability to produce the disease in monkeys by inoculation, there has been given an opportunity to study its etiology, symptoms, and pathology; which did not exist before. While it is generally believed that infantile paralysis is becoming more common and more widespread, it must also be borne in mind that there is a possibility that this is because the disease is better known, and more frequently recognized.

In the Massachusetts report it is stated that the recognition of outbreaks of infantile paralysis is of comparatively recent date. Bergenholz, a Swedish observer, writing in 1881, is generally credited with having been the first to recognize and describe such an outbreak with sufficient accuracy as to make it acceptable. Since then outbreaks have been reported with increasing frequency. Of 8,054 cases reported in the last five years, the United States contributed 5,514 cases. The bulk of these cases has been reported from the Northern States, the outbreaks in the Southern States being insignificant. In the same way in Europe, Norway and Sweden contributed about 1,500 cases, and Germany practically the rest, except for an outbreak in Australia.

The investigators state that they have gone over the literature of the disease very carefully, and have drawn the following conclusions:

1. That outbreaks of infantile paralysis have very greatly increased in several parts of the world in the last five years, in a measure not to be explained in any way by the increased interest in the disease.
2. That it is more prevalent in cold than in warm countries.
3. That from the northern part of the United States of America have been reported more cases than from any part of the world.

It is abundantly proved that the disease is communicable. Direct transmission is apparently frequent, transmission by means of a healthy carrier is more than probable, an infection occasionally seems to remain in a house where the disease has previously occurred. On the other hand, the disease is evidently not very "contagious" in the ordinary acceptance of the term.

In regard to the outbreak in the year 1909 in Massachusetts, there are 354 cities and towns in that State, in 136 of which there occurred cases of infantile paralysis in 1909. The disease was relatively much more prevalent in small towns than in the larger towns. The investigators have had instances of direct contagion from child to child, with an incubation period of one to fourteen days. There were a number of instances of what appeared to be indirect contagion by a healthy carrier, and there were 11 instances in the 150 cases where the disease followed intimate contact with persons with old infantile paralysis, often of many years' standing. Regarding the incidence of the disease, 363 were males and 263 females; from 2 to 3 years of age seems to be the most frequent age of those attacked. The average total death-rate was 8 per cent. The mortality was greatest over 10 years of age, reaching 20 per cent. in that period. Under 1 year the mortality was also high—16 per cent.—between the ages of 1 and 10 being lowest, 4 per cent. The disease was made one of the notifiable diseases, like scarlet fever, in Massachusetts in November, 1909. In a recent circular addressed to physicians it has been advised by the Board that such cases should be quarantined, and that urine, stools, and sputum should be disinfected. The report gives several tables dealing with the distribution of paralysis, when it was found that, out of 628 cases, 192 affected one leg only, 151 both legs only, 82 both arms and legs, back 83.

LITERARY NOTES.

Is there to be a revival of the unedifying controversy that raged among the doctors around the death-bed of the Emperor Frederick? It is announced in the newspapers that what is described as "a valuable contribution to history," in the form of a life of the late Professor Ernst von Bergmann, is shortly to be published. Among its contents are said to be a number of letters written by the German surgeon to his wife from San Remo, where the long tragedy was entering on its last act. The account of the tracheotomy given by him, if we may trust the papers, strikes us as remarkable. Thus Major von K. is represented as saying to Morell Mackenzie: "If Bramann is not called in at once I'll take care you're placed before a court martial." A German court martial on a British civilian in a country independent alike of Germany and Great Britain is a premonition of the "Mailed Fist" which has since sometimes been displayed with an unnecessary flourish, but we are asked to believe that it made Mackenzie "desperate"! Bergmann is represented as saying that Mackenzie removed a piece of the right vocal cord—which was unaffected—instead of the left cord, which was diseased. This makes us wonder all the more at the ingenuity of Virchow, who on the strength of his examination of the "unaffected" cord was able to name the disease, *pachydermia laryngis*. The dead in this case have long buried their dead; would it not be better to let them rest in their graves?

Dr. Theodore Williams, in the interesting survey of old English books on tuberculosis given in the Harveian Oration, which we publish this week, makes no mention of Gideon Harvey's *Morbus Anglicus;* "or the Anatomy of Consumptions. Containing the Nature, Causes, Subjects, Progress, Change, Signs, Prognosticks, Preservatives; and several Methods of *Curing* all *Consumptions*, Coughs, and Spitting of Blood. With Remarkable *Observations* touching the same Diseases. To which are added, Some brief Discourses of *Melancholy*, *Madness*, and *Distraction occasioned* by Love. Together with certain new Remarques touching the *Scurvey*, and *Ulcers of the Lungs*," the first edition of which was published in London in 1666. Through the courtesy of Messrs. Burroughs and Wellcome we have had an opportunity of examining the second edition, which appeared in 1674. Gideon was a Dutchman, who in 1660 applied for denization in this country. He was for some time at Oxford. He studied medicine at Leyden and Paris, and seems to have graduated at one of the smaller universities of France. After a period of wandering he settled in London, and in 1675 was appointed physician to Charles II. Harvey was something of an Ishmael in his relations with the profession. He was at war with the College of Physicians, which he attacked in a pamphlet entitled *The Conclave of Physicians*, and with the apothecaries, because in a popular book called *The Family Physician* he professed to disclose the secrets of the drug vendor's trade. When William and Mary came to the throne he was appointed "their majesties' physician to the Tower," a place which he held till his death, about the beginning of the eighteenth century. Harvey's books, which are many, are written in a racy but scurrilous style, and have no scientific value. In the one of which we have quoted the title he mixes up in most admired disorder all sorts of wasting diseases, which he calls variously "bastard consumptions, hypochondriak consumption, scorbutik consumption, amorous consumption, consumption of grief, studious consumption, apostematick consumption, scirrous consumption, cancerous consumption, ulcerous consumption, dolorous consumption, aguish consumption, febril consumption, verminous consumption, pockie consumption, bewitched consumption, consumption of the back, and consumption of the kidneys." He evidently uses the word "consumption" as equivalent to "cachexia." He does, however, devote fifteen chapters out of thirty-six to consumption of the lungs, its causes, diagnosis, prognosis, treatment, and prevention. By way of prevention he recommends change of air. He says it is "of absolute necessity for all initiate Consumptives to change their Air how bad or good soever it may be reputed, wherein they have contracted, or bred, their consuming Seminaries; if bad, as thick, foggy, misty, smoaky, moist, putrid, clowdy, or salin and acrimonious, they must make choice of a serene, thin, dry, temperate, sweet, and pleasant air." For a moist consumption he considered the middle of England, as Worcestershire, Gloucestershire, or Oxfordshire, to be enriched with an air propitious for their recovery. But he said the South of France was better. For dry consumptions a moister air is, he says, more proper. He was particular as to diet. He enjoined consumptives to

> Abstain from all obstructive, melancholique, and Dreggish Victuals; as Beef, Pork, Geese, Ducks, Cheese, Crusts of Bread, Pyecrust, Pudding, Salt fish, hard boyl'd or fry'd Egs, or any kind of fry'd Meat. Likewise from hot Spices, as Pepper, Ginger, Cloves, etc., and pickl'd meats, as Anchiovy, Pickled Oysters, or Herrings, Pickl'd Cowcumbers, etc.
>
> Feed onely upon meats of easie digesture, and inclining somewhat to a moist temperature; as Veal, Chickens, Poulers, Mutton, Lamb, Sweetbreads, Potch'd Egs, &c., and among the sorts of fish, Soals, Whitings, Perch, &c., among herbs, Lettice, Endive, Succory, Sorrel, Porcelain, Chervil, &c., but more sparingly that they must be boyl'd.

Meat is not to be taken too freely. He goes on:

> Buttermilk affords a most Medicinal and Soveraign food in this Disease: I remember I once knew a young Fellow at the *Hague*, who was fallen into an Ulcerous Consumption upon spitting of blood, and notwithstanding the danger of his Disease required the most potent Remedies, refused all help, and wholly devoted himself to Buttermilk, by which sole Dyet he recover'd, beyond the expectation of all that saw him: whence you may deduce of what consequence a strict dyet is.
>
> Refrain from flesh meat at Supper, in lieu whereof you may entertain yourself with a Pippin roasted with Saffron, and sweetned with Sugar of Roses, and *Carui* Confects.
>
> Drink no kind of strong Ale or Beer, or any Liquor that contains Hops or Broom for it's Ingredients: but make use of small Ale, brewed out of an indifferent proportion of Malt, and a sufficient quantity of brown Sugar, in new River water, which excells that of the *Thames*. This makes the pleasantest and most delicate small Liquor, proving very agreeable to the Palat and Stomach, and preventing Diseases. Most wines seem noxious, yet Rhenish Wines (I mean these small wines, *Bachrach* and *Deal*) doth accidentally impinguate by helping the digesture, removing obstructions, and rendring the blood fluid and digestible. This is verified by the corpulent and fat habits of body of the Inhabitants of the *Rhine*, whom I observed all along, in defending that River from *Basil* in *Switzerland* as far as *Collen*, to be universally very fleshy, fat and healthful; and my self, though entring into *Germany* in a lean case, was so much improved, before I left the *Rhine*, that in respect of corpulency and fatness I differed little from any of them; which I could impute to nothing but their Wine.
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> For *motion* observe these Rules. 1. Walk daily in a pleasant, airy, and umbragious Garden, Park, or Field. 2. Gentle travel in a Coach or on Horseback through a healthful and divertifing countrey, doth oft conquer an initial consumption.

Gideon Harvey must have enjoyed some measure of court favour, for on his death he was succeeded by his son in his office of Physician of the Tower.

Professor Charles E. Moyse, of Montreal, is known to fame as the author of several writings, all marked by delicate fancy, and some, such as "Shakespeare's Skull," touched with graceful humour. We have recently received from Mr. Elkin Mathews a small volume of verse by the same author, entitled, *The Lure of Earth, and Other Poems*. (Elkin Mathews, Vigo Street, London. 1911. Pp. 71. Price 1s. net. Vigo Cabinet Series.) A really great poem might be likened, with a good deal of justice, to a pebble thrown into the water, the ever-widening circles made by its fall being taken to represent the almost unlimited influence it unconsciously exerts over the literature which comes after it and the innumerable verses for which it has served both as inspiration and as model. The poet's eye, in a fine frenzy rolling, doth glance from heaven to earth and earth to heaven in the search for a subject worthy of his lyre, and the masterpieces of Shakespeare, Milton, and our other great poets must always continue to be legitimate sources of inspiration to others. It is Keats's exquisite "Ode to a Nightingale" which has inspired what, we think, is by far the finest poem in Professor Moyse's short collection of verse, *The Lure of Earth*. But all the others will be welcomed by lovers of poetry as the expression of a true literary feeling and a highly cultivated taste. The author possesses a strong sense of the beautiful and a love of Nature in all her varying moods, which lift his writings above the ordinary, and which, joined to a great facility of expression and a happy knack of avoiding the commonplace, make this little volume a worthy companion to those which have already proceeded from his pen.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE WESTERN INFIRMARY, GLASGOW.

Opening of New Wing and Clinical Laboratory.

THE new south-west wing and the clinical laboratory were formally opened by Sir James Barr on Friday, October 13th, and on the invitation of the managers of the infirmary a large assembly of medical men and laymen interested in hospital affairs took advantage of the occasion to inspect the new buildings. The new wing comprises a large surgical ward of twenty-two beds, with all the most recent additions which modern knowledge has proved advantageous. This ward is called after the generous donor, William Robertson, who gave the managers £8,500 to build it. In addition Mr. Robertson has promised a further sum of £3,500 to build and equip an operating theatre in the proposed connecting block between the main building and the south block, which is to complete the building scheme of the infirmary. The other two wards comprised in the south-west wing are to be devoted to patients suffering from diseases of the skin, and are to be known as the McCall Anderson and A. B. Buchanan Memorial Wards respectively. When the late Sir Thomas McCall Anderson died, in 1908, the authorities at the Hospital for Skin Diseases in Elmbank Street came to the conclusion that the objects aimed at by the founders of the Hospital for Diseases of the Skin would be best carried out by making its connexion with the Western Infirmary more intimate by transferring the outdoor department from Elmbank Street to the Western Infirmary, where indoor accommodation has already been provided. Accordingly the funds at their disposal were utilized in founding the McCall Anderson Memorial Lectureship in Dermatology in the University of Glasgow, and the remaining sum, amounting to £2,000, was given to the Western Infirmary for the endowment of beds for the treatment of skin cases. In recognition of the two gentlemen who were the original physicians at the institution in Elmbank Street, the two wards so endowed were named after them. Along with these wards the clinical laboratory, of which Dr. Carl Browning has been appointed the Director, was also formally opened. This well-equipped building was given to the infirmary by a generous donor who desires to remain anonymous. After the new buildings had been inspected, Sir James Barr delivered an address.

Address by Sir James Barr.

In the first place, allow me to express my thanks to you, Mr. Chairman, and the other members of the Board of Management of this infirmary, for the high honour you have conferred on me in asking me to officiate at this important function. For such a duty as this in England we would have been on the look-out for a member of the Royal Family or some very notable individual to draw, or, on the other hand, a millionaire to be drawn. Here you seem to keep your millionaires on the premises, and have no necessity to look for any such outside help. For my own part I can see no reason why you should have selected me, except that I happened to have been a student of the University of Glasgow about forty years ago. I was not a student of the Western Infirmary, because it was only then being built, and it is only now being finished. At that time I was very pleased with Glasgow and wished to remain in this city, but a temporary illness and the strong advice of my friend, Sir William Gairdner, prevented me accepting a junior appointment in the Fever Hospital. Otherwise I might have been permanently located in this city, whether in the cemetery or not I cannot say, but some of my friends thought such a contingency quite possible.

A great many improvements have been effected in Glasgow since I was resident here—improvements which I can view with warm admiration, as, although they occurred subsequent to, they were not consequent on, my departure. When I view the stately pile of buildings which cover Gilmorehill, your splendid hospitals—not only this magnificent infirmary which is attached to the university, but the new Royal and Victoria Infirmaries and the excellent maternity hospital—I must say that Glasgow has good reason to be proud of her generous and liberal-hearted citizens. There is, perhaps, no city in the kingdom supplied with better hospital accommodation, better equipment, or better management. Regarding your own Western Infirmary, anything which your very able superintendent does not know about hospital construction or hospital management is not worth knowing.

Among your princely donors I must especially mention the name of Mr. Robertson, to whose noble generosity we owe our presence here to-day, and, as befitting the occasion, the large surgical ward has been named after him. This is not the end of his generosity, as he intends to build and equip an operating theatre attached to the Robertson Ward as soon as the ground floor has been built. There is an opportunity for another generous donor, who I am sure could not spend money on a better object or buttress a better man. I am very pleased that you have also named two of the wards after McCall Anderson and A. B. Buchanan. The former I knew well, and could speak of him when alive as a tower of strength to this infirmary, a man who was respected and beloved by all who knew him.

On examination of the last annual reports of the Western Infirmary, the Royal Infirmary, the Victoria Infirmary, and the Maternity Hospital, I find that the expenditure annually in the maintenance of these hospitals is over £100,000. I am not going to find fault with the expenditure. I am one of those who has largely contributed to similar expenditure elsewhere. I think you have had good value for your money—nay, you have had far more than value, as you have had an enormous amount of highly skilled medical services, which, on a very low scale of remuneration, would total up another £100,000. The Scotsman is proverbially thrifty, though, according to Lord Rosebery, thrift is a vanishing quantity, and it can scarcely be called a bad investment where you get 100 per cent. return on your money.

On the other hand, one is forced to ask the question, Is all this expenditure necessary? No doubt it is a cheap way of obtaining medical attendance for about a fourth of the population of Glasgow. A subscriber to any of these charities can afford to be apparently generous when he can obtain for every guinea he subscribes five or six guineas' worth of board, lodgings, and medical attendance for his dependents. But I ask again, Does this indiscriminate pauperization do real permanent good to the beneficiaries? As Karl Pearson says:

> The very existence of human society depends on a strong gregarious instinct having been evolved among men. Our highest human product—sympathy with our fellow-men—is as much a product of evolution as the gregarious instinct of a herd of deer or the combined action of a pack of wolves. Only it is more completely developed, and with increasing knowledge we have lost more and more touch with its instinctive gratification. The sympathy is there, ready to run riot in a thousand ways, which sober reflection may not show to be for the ultimate advantage of the herd. It is easy to give a shilling to a beggar, to subscribe a pound to a charity, or to found stipends for the blind or the deaf and the dumb. Our strong instinct of sympathy with suffering has been gratified, but shall we really have contributed to the total enjoyment of the race? May be, and may be not. Of one thing, however, I feel sure—that no judgement will lead to lasting social gain which is reached by appeal to the emotions, which is based on inadequate knowledge of facts, or which collects data with the view of supporting any preconceived opinion.

A race of paupers is not the stuff of which Scotsmen used to be made. It was not from such material that Scottish names have been planted all over the English-speaking portions of the globe. I am not disparaging the Scottish virility of the present day; I think there is plenty left, but it requires cultivation. There are a great many people in this world who would be better out of it, and it would be much better for the world if they were out of it. I therefore pray of you in the exercise of the generous impulses of your nature to consider not merely the present but the future of the race.

Medical men are necessarily altruistic in their feelings and actions. No one can be brought frequently into contact with disease without trying to do all in his power to relieve human suffering, but that is only one act in the drama of life. It is not sufficient to cure disease; it is also necessary to lessen its incidence, and thus in our strenuous efforts to prevent disease we deprive ourselves in no small measure of the means of subsistence. In the practical abolition of small-pox, typhus, and typhoid fever

many a man has seen some avenues to fame and fortune closed. We are now attempting to abolish consumption, but are making no serious attempt to raise up a race immune to the disease. There are propagandists whose small horizon does not carry them beyond the environment; they wait for the development of the disease before they attempt to abolish it with tuberculin dispensaries and sanatoriums. This method will never stamp out the disease apart from the beneficent operation of natural laws. Consumption is a racial disease, though a very clumsy and expensive one, which kills off the weaklings. Dr. D. W. Hunter, of the Royal Albert Asylum, says: "This world is not a hot-house, and a race which owed its survival to the fact that the tubercle bacillus had ceased to exist would on the whole be a race hardly worth surviving." Recently I met a clever man who was visiting his daughter in an asylum, and he could not understand why she had become insane. Yet this man had a strong tuberculous predisposition, and had wintered in Egypt on account of tuberculous disease of the lungs before his daughter was born. Where ignorance is bliss it is folly to be wise. Those who cannot breed a healthy stock had better not make the attempt.

What would you think of a medical officer of health attempting to grapple with a plague of flies by trying to kill the flies? A fly is credited by Newstead with being able to lay 120 to 140 eggs in one batch, and may lay several batches during its short life, and you would not expect him to wait till all these were hatched. Our medical officer in Liverpool—and I have no doubt yours in Glasgow—promptly removes the garbage and horse manure in which flies breed. Ronald Ross and other pioneers do not attempt to stamp out malaria by dosing people with quinine and killing mosquitos; they attack the breeding ground of the mosquitos, and allow those in existence to die a natural death. My friend, the late Sir Rubert Boyce, found in the West Coast of Africa that the tins in which the canned meat was imported were thrown out and got quickly covered with luxuriant verdure. These tins then held little pools of water in which the mosquitos laid their eggs and multiplied unobserved. After this discovery the method of dealing with this breeding ground was very obvious.

Regarding tuberculosis, I believe in Glasgow your vision is not obfuscated by the erroneous methods of the propagandists. You are improving the dwellings of the people and their conditions of life. You are energetically dealing with your milk supply, and tracing the tubercle bacillus to its lair. I also implore you not to neglect the hereditary tendencies.

There is another racial disease—pneumonia—which is laying low an enormous number of the Glasgow citizens every year. It is killing more people every year in the United Kingdom than phthisis, but we do not hear a word about any attempt to stamp it out. It would seem that the Britisher is not able to get more than one idea into his head at the same time. In Glasgow the incidence and death-rate are much higher than in any other city in the kingdom. According to your medical officer of health the death-rate from pneumonia in every 100,000 inhabitants was, in 1909, 134.6, and in 1910, 149.4, whereas the death-rate from phthisis in those two years was 140.9 and 129.7. The Registrar-General gives a still higher death-rate, as he credits Glasgow with every death which occurs in the city, whereas your medical officer says that outsiders have no right to come here to die. They can come to enjoy themselves, or spend their money, or in a forlorn hope to get cured of their maladies, but when they die—though that may be very much against their inclination—their deaths must be debited to the township from which they came.

Pneumonia kills off the weaklings and those soaked in alcohol. I have hazarded the opinion that your excessive death-rate from this disease may be due to Scotch whisky. I am not saying anything against the quality of the whisky; if a person wants to kill himself he may just as well do so with Scotch whisky as with French brandy. If it merely attacked the alcoholics, it would, perhaps, not matter much; but, unfortunately, it also attacks the strong and cuts off a large number of valuable lives of both sexes in the prime of life. The good lives cut short are soon forgotten—"The evil that men do lives after them, the good is often interred with their bones." There is here a large field for research lying ready for the workers in your new clinical laboratory—not how to treat pneumonia, for that is very well understood, but how to prevent it.

In Middlesbrough, in 1909 and 1910, they had very mild, moist summers, with a low infantile mortality, and consequently a large number of delicate children survived. The health authorities were congratulating themselves on their improved sanitary conditions, their improved environment; but this spring they had an epidemic of measles which practically wiped out the whole of the delicate children. A clergyman would probably say that man proposes and God disposes. I am inclined to say that this is evidence of one of Nature's methods in the evolution of the race, and it is fortunate for the race that Nature does often assert her laws. Our health authorities are spending yearly large sums of money, but they have yet only touched the fringe of preventive medicine, and no method which neglects the stock will succeed in raising a healthy race.

In the establishment of a clinical laboratory you are moving in the right direction, and I believe this one excels anything of the kind in any hospital in the kingdom. I take a very special interest in this matter, as many years ago I established a small one in the Liverpool Royal Infirmary for the use of the tutors. I am glad that your laboratory is going to be properly equipped, and that you are about to appoint a well-qualified director at an adequate salary. Such work, in my opinion, should always be well paid. I hope, also, you will have a great many research scholars, because if you are to move in the van of progress original work must be encouraged. It will not be sufficient to find out what particular microbe is attacking a particular patient, but the workers should try to find out the causes of particular maladies and how to prevent them. It would be much better to find out the causes of appendicitis and how to prevent its occurrence, rather than directing the use of the surgeon's knife.

A great many people think that the only use of hospitals is to treat diseases and relieve human suffering; but if your energies are limited to such work, disease may increase more rapidly than your hospitals are able to cope with it. No doubt it is a noble and valuable work to restore to the fighting line citizens who are *hors de combat* in the battle of life, but it is even more important to teach men and women how to take cover and prevent themselves being wounded. Diseases such as appendicitis and pneumonia are, under ordinary circumstances, easily prevented; why, then, should death take such a heavy toll? Unfortunately there are a very large number of fools in the world. What a happy world we would have if we could only get rid of them! but the millennium is not going to come in our time. I look upon them as mere cumberers of the ground, obstacles in the path of progress which should be removed, but there are others who think that fools are necessary for wise men to make a living.

There are some who tell us that if we abolish disease the medical profession will have to retire to a home for the destitute, while others do not take the matter seriously, and, like Hezekiah, thank God that there will be sufficient disease to last their time. For my own part, I think that as much money could be made out of the preservation of health as out of the treatment of disease, but this implies a much higher form of medical education than that which has hitherto been attempted by any medical school; in fact, in the first place, it would often imply a totally new set of teachers, and in the next place the community would have to be taught the physiological laws of health, and you would have to raise up a stock which would not be catching every little ailment to which flesh is heir. The Scottish are a hardy, vigorous, and enterprising race—at least your forefathers were—so you had better begin the experiment here.

It seems to me that we are now moving in the opposite direction, and that instead of preventing disease we are going to encourage it by this new Insurance Bill, which will lead to any amount of malingering and swindling. In this respect it will be much more pernicious than the Workmen's Compensation Act. Some think that it will ruin the finances of the hospitals, and consequently hamper their work, but whether it does so or not it will not lessen the necessity for hospitals. It will impair independence, increase sickness, and hasten the degeneracy of a spoon-fed race. It is a great step in the downward path to

socialism and degeneracy. It is directly contrary to the manly, fearless, independent spirit which has hitherto characterized the Scottish nation. It will lower the standard of medical education and prevent intellectual young men from entering the medical profession.

Possibly these evil forebodings may not be realized. I hope they will not. The common sense of the nation may counterbalance hasty and ill-considered legislation. Lord Rosebery says the Englishman generally tumbles on his feet, but when the future of the race is at stake there should be no tumbling or stumbling. If we are to maintain our position among the nations of the earth we must have an intrepid, independent race, and not as at present, where the submerged tenth are largely adding to the population a race of cowardly hooligans and untutored savages who in the case of any invasion would be worse than a useless incumbrance. It is very funny to find that the War Office in their arrangements for the sick and wounded of the army and the Territorial Force in case of an invasion propose to leave the voluntary hospitals for the use of the civil population. In such an event as that, when the life of the nation was at stake, I think the useless civil population might be allowed to take care of itself. Every man, every woman, and every child who were worth their salt would be somewhere in the fighting line. In this kingdom we have far too much unskilled labour, far too few intelligent skilled workmen, and a dearth of captains of industry. No wonder, therefore, that the country is swamped with moral and physical degeneracy, disease, and death.

The medical teaching in Glasgow is about the most practical in the kingdom, and the men turned out by the university will hold their own for sound practical knowledge. They can apply the science and art of medicine with credit to themselves and with benefit to the community. A considerable number of these men settle in your city, and you have no moral right to deprive them of a means of livelihood by treating gratuitously those who can afford to pay. There are people everywhere mean enough to abuse any charity; there are many who would pick a medical man's pocket as readily as they would pick his brains, and you must see that they can no more do the latter than the former with impunity. I know that the infirmary staff work very amicably with the general practitioners, and proof of this is given by the fact that the latter class have elected your medical superintendent to represent them on the Council of the British Medical Association. May this harmony always continue.

BRITISH MEDICAL BENEVOLENT FUND GUILD.

A branch of the British Medical Benevolent Fund Guild in Glasgow was formed at a drawing-room meeting held in Lady McCall Anderson's house on October 14th. Sir George Beatson presided, and among those present were Sir John Tweedy, London; Sir James and Lady Barr, Liverpool; Sir Hector Cameron and the Misses Turner, Edinburgh. The Chairman explained that it was not proposed to form a new society, but to set on foot an auxiliary or adjunct institution to the British Medical Benevolent Fund. Dr. May Thorne (London) explained the objects of the guild, which she said was anxious not merely to be a giver of doles and even sympathy, but to be a real help in advising and assisting people to earn their own living. The ordinary responsibilities of the upbringing and education of children by medical practitioners were greatly increased by the very small means that many had, and by the uncertainty of those means. The doctor's bill was frequently the last to be paid. The British Medical Benevolent Fund for many years had been giving grants to medical practitioners, and, where necessary, to the wives and children and widows and children; but it became borne in on some that grants were not sufficient; that if a measure of personal service could be brought in it would be of infinite value. Therefore, this handmaid of the fund—the guild—was organized two years ago in order that the funds might be more efficiently used than perhaps they had been in some cases in the past. The guild consisted of members and associates, and its objects were to help the British Medical Benevolent Fund by obtaining additional subscribers to the fund and making it more widely known, and to assist members of the medical profession, their wives, and families who were beneficiaries of the fund. Lady Barr spoke of the formation of the Liverpool Branch, which she said had now 120 members. Sir John Tweedy said the British Medical Benevolent Fund was instituted in 1835, and since then about £72,000 had been distributed in annuities and £75,000 in grants. During these years there had been 530 annuitants, and there were 131 persons at present on the list; altogether 8,330 cases had been relieved by grants. It was agreed to form a branch of the guild in Glasgow, and on the motion of Sir Hector Cameron the following ladies were elected a committee: Lady MacAlister, Lady McCall Anderson, Mrs. Bryce, Mrs. Maitland Ramsay, Mrs. Renton, Mrs. Grant Andrew, Mrs. Mackintosh, Mrs. John Cowan, Mrs. William McLennan, Mrs. Ebenezer Duncan, with Miss Alice McCall Anderson and Miss Beatson as joint secretaries. Sir James Barr moved a vote of thanks to the speaker, and Mrs. Maitland Ramsay proposed a vote of thanks to the chairman.

THE INSURANCE BILL.

Meeting of Medical Practitioners in Scotland.

A meeting of medical practitioners to discuss the present situation in regard to the Insurance Bill will be held at the Students' Union Hall, Edinburgh, on Saturday next, October 28th, at 3.30 p.m. All members of the medical profession resident in Scotland have been invited to attend, and the meeting will be addressed by Dr. J. A. Macdonald, Chairman of the Council of the British Medical Association, and by Mr. J. Smith Whitaker, Medical Secretary.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

BIRMINGHAM.

THE HOSPITAL SATURDAY FUND AND ITS SANATORIUM.

THE collections this year constitute a record in the history of the fund, the total up to date being £21,463, as compared with £20,251 in 1910, and there are still a number of contributions to be received before the end of the year. The number of contributing firms already shows an increase over last year's total, after making good the places of those who have dropped out for various causes. The fund distributes £10,000 annually among the hospitals and nursing societies of the city, numbering twenty-seven institutions in all, and this year's distribution will follow the apportionment made last year, the more important amounts being as follows: General Hospital, £3,150; Queen's Hospital, £2,100; General Dispensary, £1,040; Children's Hospital, £800; Women's Hospital, £500. The growth and popularity of the fund are most encouraging to the committee at the present time, when it is embarking on a very considerable extension of its work in the building and maintenance of a new home for consumptives, to be called the Sir William Cook Memorial Home. The foundation stone was laid by the Lord Mayor of Birmingham on Saturday, October 14th. The site is upon Romsley Hill, above Rubery, between the Clent Hills and the Lickey. It is situated 800 ft. above sea level, facing due south, and yet with a western outlook, which on a clear day is only bounded by the Welsh mountains. Mr. F. W. Martin, of Birmingham, is the architect, and he has provided for a sanatorium with two wings, built of brick and with stucco fronts. Only one of the two wings to be occupied by the patients will be built at present. Along the front there is a broad terrace. In front on the ground floor there is a corridor, and the rooms opening into it are lofty and airy with large windows, at which the patients' beds will be placed. Behind are drying rooms for bedding and clothing. On the first floor there is a sheltered lounge. The medical officer's office, quarters, and dispensary are situated at the angle formed by the two wings, while behind is the administrative block, with dining and recreation halls, reading rooms, and the matron's and nurses' quarters. A kitchen, laundry, and servants' hall are also planned. The floors throughout are of fire-resisting concrete. The site consists of 25 acres of land, which cost £1,250, and this sum, together with £800 for the laying out of the grounds and the erection of a gardener's house, was presented by an anonymous donor. The buildings and furniture will bring the total outlay to

£14,500, and when the committee undertakes the erection of the second wing, thereby increasing the accommodation from 30 to 60, a further expenditure of £4,500 will be required. Donations from private individuals came to £3,330, of which Sir John Holden, Bart., gave £650. Members of the late Sir William Cook's family have presented £1,000, the profit on last winter's Bingley Hall exhibition was £2,000, and £3,700 have been raised by the collection of pennies and halfpennies from workpeople in Birmingham. A sum of over £10,000, in addition to the initial outlay, is thus in hand, but £2,500 remains to be raised before next summer. The Hospital Saturday Fund Committee has undertaken the responsibility of the management.

LONDON.

ANNUAL REPORT OF THE MEDICAL OFFICER (EDUCATION).

A summary of the annual report (for the year ended December, 1910) of Dr. James Kerr, Medical Officer of the Education Department of the London County Council, was presented to the Education Committee of the Council on October 18th, when the complete document was ordered to be printed.

Commenting on the increase and cost of school medical work, the subcommittee presenting the report remarked that there had been, necessarily, an augmentation of the medical staff engaged. Beginning with 40 quarter-time doctors in 1908, this staff had been increased to 56 on September 1st, 1909, and to 72 on September 1st, 1910. The professional staff employed at the end of 1910 numbered 84 doctors (70 men and 14 women), giving time equivalent to the full time of 24 medical officers. As on January 1st, 1911, this staff had been increased further to 114 doctors (96 men and 18 women, equivalent to 32 full-time medical officers). The permanent staff at the end of 1910 comprised the Medical Officer (Education), 3 assistant medical officers (full-time), 2 assistant medical officers (half-time), 7 assistant medical officers (quarter-time), including specialists in mental, ophthalmic, aural, orthopaedic, and dental work, together with the 84 quarter-time medical inspectors mentioned above. This staff had been increased as from January 1st, 1911, by 2 assistant medical officers (full-time) and by 28 quarter-time medical inspectors. The subcommittee added that the Council's arrangements, made four years ago for carrying out the statutory duties imposed by the Education (Administrative Provisions) Act, 1907, had now fully developed, and medical inspection was completely organized in all the schools. It was expected, therefore, that the present staff would be sufficient.

Dr. Kerr's report recorded the results of 37,420 complete examinations during 1910, 12,656 children, or 33 per cent., being found to require treatment. In all, 172,619 children were examined in 1910, and 52,954 children, or 32.6 per cent., received advice cards. The proportion of children who would be selected by the doctors after careful examination and given advice cards could be fixed now, on the basis of the last two years, as 65,610 out of 210,039—that is, 32 per cent. of those examined. Of the 172,619 children recorded, 119,751 were returned as normal—that is, free from any defect. Bad defects of vision or eye diseases were recorded in 18,923 cases. Children with defects of throat or nose numbered 29,927; of ears or hearing, 9,499; skin diseases, 2,913—this included 453 ringworm cases found by the doctors, ringworm cases being generally excluded by the nurses. Other diseases were recorded in 15,296 cases. As regards "state of nutrition," 46.7 per cent. of the children were classified as of "good condition," 41.8 per cent. as "moderate," and 11.5 per cent. as "bad." During 1910 some beginnings were made with dental treatment, but so little had the public realized the value of this service that its developments must necessarily be slow. Medical inspection was now carried out in the Council's secondary schools, training colleges, trade and technical schools. It was just as important in these institutions as in the elementary schools, and from the economic point of view probably more important. In the secondary schools special attention was given to curvature of the spine. A review of 1910 revealed a striking diminution in the incidence of scarlet fever and diphtheria; measles, on the contrary, had been unusually prevalent.

Some interesting charts will form part of Dr. Kerr's full report, showing the correspondence of the standard of physique of the children with the predominant occupation of the parents of a given district. In riverside areas the averages have been found the lowest.

Special Correspondence.

PARIS.

Rhinotherapy of Tuberculosis: A Medical Challenge.

Was I not right when, some time ago, I warned the readers of this JOURNAL that the nose, if I may say so, has not yet said its last word? As a matter of fact, Dr. Pierre Bonnier, the principal exponent of rhinotherapy, has once more, in a communication made by him to the Biological Society, pushed this feature into public notice. The matter of his discourse is nothing more or less than tuberculosis and its cure by means of appropriate intra-nasal treatment. But what is tuberculosis? It is simply the encounter of two organisms—the bacillus and the human being—both of which are struggling as to who shall digest the other. The consumptive, therefore, is a man who can no longer digest his bacilli. Ajax fighting with Ulysses grows angry and cries, "Kill me or I will kill thee!" And the positions of the man and the bacillus are exactly the same as those of the Greek warriors. One of the adversaries must triumph and the other should be eaten up. A phthisical person is in reality suffering from bacillary dyspepsia. But this dyspepsia, when it is a question of that defensive digestion upon which Dr. Bonnier has naturally conferred a new title ("diaphylaxis"), is of nervous character and has its seat of origin in the medulla. Moreover, has not Dr. Bonnier already shown that the direct stimulation of certain parts of the medulla through the medium of selected roots of the trigeminal nerve can cure the majority of our digestive troubles and even general infections? Has he not seen cases of otorrhoea, rhinorrhoea, bronchorrhoea, leucorrhoea, and inveterate parasitic fevers cured by the same means? These cures were wrought through the patient's recovery of the power of digesting his microbes, because, according to the author, his nervous system has recovered its capacity of doing police duty over his infected tissues, of reviving, probably, and regulating phagocytosis by giving the necessary orders. By applying this simple method to tuberculosis it is therefore possible, by means of a very slight cauterization of the upper part of the inferior turbinate bodies, to quicken into new life the faculty of digesting microbes in consumptives who are losing ground. In proof of this, Dr. Bonnier cites two cases of phthisis, both cures solely by his treatment.

In fact, the management of the health is becoming more and more like that of an automobile. Just as the control of the various parts of the complicated machinery of the car is centralized under the hand of the chauffeur, so it appears the machinery of the human body will eventually be regulated through the nose, providentially provided by Nature as a centre for the purpose. But is not the multiplicity of the simple methods extolled by modern medicine apt to be surprising and a little disconcerting to the ordinary mind? They increase like the number of chemical elements—a fact which does not prevent either doctors or chemists from dreaming of an ultimate unity. Doubtless it is only a question of solving an antinomy, as Kant would say. The Americans have undertaken the solution of the problem in the mathematical spirit which characterizes them, and which leads them to look upon all debated points as a mere question of quantity. Four of the simple methods to which reference has been made are the subjects of dispute. Only one must survive. In order to settle the question, therefore, the Osteopathic Association has issued a formal challenge to the American Medical Association, the Homoeopathic Institute, and the American Association of Electrical Medicine. Each of the four schools will take its share of 800 patients from the hospitals of New York, preferably chosen from among those suffering from pneumonia or syphilis, and will treat them according to its special doctrines—some by phosphates, some

by electricity, some allopathically, and some according to the pure doctrines of Hahnemann and Burggraeve. A jury, on which the authorities of the various hospitals will be represented, will analyse the statistics of deaths and cures, and the length of time required for either result. The palm will be awarded to the school which shows the largest number of cures, the greatest rapidity in restoration to health, or the fewest and most prolonged deaths. No account will be taken of the opinion of the patients themselves, who in this respect are considered absolutely incompetent judges, and are merely required to be perfectly submissive.

It is strange to think that Americans can propose such a trial without a smile. One might safely wager that after the experiment not one of the four schools would be willing to acknowledge itself beaten, and that probably the one with most deaths to its account would be loudest in proclaiming the excellence of its methods. Molière died too soon. If he were alive to-day we should send him to America.

Moreover, it seems to me that the problem is badly and inadequately stated. It is not only sick people who ought to be put under the care of these American "sportsmen," but new-born babies, that they may be guided to their destination. Whichever school could ensure them the longest duration of life would be well worthy of the cup of Æsculapius as a symbol of triumph. If on the one hand the experiment would require more time, on the other it would be more conclusive. The only danger would be that, as time went on, such persons as were not satisfied with the régime to which they had been submitted since birth, would inevitably adopt that which at the time was most in vogue. Hence would arise disorder and confusion, and the need for some definite control which would exclude all equalitarian and democratic sentimentalism. No one is less disposed towards self-abnegation and more completely devoid of all scientific enthusiasm than a sick man. But as he is not a mass of inert matter, doctors must always expect to have trouble in their dealings with him. In the absence of a definitely curative medicine, wisdom has not its exclusive seat in any school—osteopathic, allopathic, homœopathic, or electropathic. It is rather to be found in that of "apathy" and "ataraxy" which, knowing the aphorisms of Hippocrates as to the difficulties of an art in which experiment is uncertain (*experimentum periculosum*) and judgement difficult (*iudicium difficile*), think it childish to hope to solve the problems at sight, and avoid absolute dogmas like the plague. As a matter of fact, has not the former as many victims to its account as the latter?

Correspondence.

EPIDEMIOLOGY OF POLIOMYELITIS.

THE DUST NUISANCE—A PLEA FOR THE BETTER CLEANSING OF SMALL TOWNS.

SIR,—Having studied for the past few weeks the epidemiology of this disease in such of the cases as have occurred in Cornwall, I feel justified in associating its prevalence with the effect of an unusually dry summer on such small towns and country villages as cannot have that attention to cleansing which is usually found in the larger centres.

Dr. Batten's classical paper on the subject, published in the JOURNAL of September 2nd, page 492, appears to me to support the view that the disease is dust-borne. In the discussion which followed at Birmingham, Dr. Parsons stated that it was obvious that the number of cases was on the increase, and epidemics in larger proportions were probable in the near future. Surely, the dust raising in small towns and rural districts is on the increase, and is it not in these localities that the greatest incidence of the disease is? The better cleansed larger towns are proportionately free, whilst the smaller-sized ones, with frequently anything but an impervious pavement, but rather a dust-producing one, especially on the outskirts, appear to be visited more frequently and to a greater extent.

At first I took as a working hypothesis that the disease was insect-borne, but Dr. Soltau of Plymouth called my attention to the large number of cases occurring at this time of dust laryngitis and bronchitis, and suggested that the disease was disseminated in this manner. This appears to show that the catarrh of the throat, and especially of the nasal passages—a so constant prodromal symptom in the cases I have seen—is of dust origin. The germ of the disease, which is ultra-microscopic, may still be associated with flies in that it may quite likely be generated in decomposing organic matter, but only associated with flies because they themselves are attracted by this material. The disease is most prevalent in August and tends to disappear in the rainy season; at this season, in its early part, flies are driven indoors and would be more likely to produce a greater incidence, but the reverse occurs. Hence flies would appear not to enter into the causation of this terrible disease, which may within a few days, or even hours, permanently maim a child, if it does not kill it, and the older the child is the greater the damage apparently.

In support of the dust-borne origin of the virus, I may draw attention to the peculiar infectivity of the disease; it is not so infectious as the usual infectious diseases, and children in the same bed with affected children escape—in fact, it rarely attacks two in a family, and if it does, the same infected source has doubtless been the origin, rather than a direct infection one from the other. It would appear that the spray in coughing might be the only means of direct transmission, but since the throat symptoms are usually too mild to cause cough, it is clear that even this method, if it does occur, must be very unusual, although in support of it Dr. Batten tells us that the virus has been obtained from the mucous membrane of the nose, and that inoculated monkeys contract the disease, this itself supporting a dust infection of the upper respiratory passages. On the other hand, were the fly the carrier the virus would enter the human subject by the mouth, and it would be less likely that the living virus would be so readily found in the nasal mucous membrane, which moreover was the seat of catarrhal symptoms at the commencement of the disease in the majority of cases I have seen. Certainly, of the last 3 cases all exhibited this condition, two proving fatal and the third nearly so, producing paralysis in all the limbs, together with affection of the movements of the chest and larynx, in a boy almost 8 years of age—in fact, one of these fatal cases was suspected of diphtheria, 2,000 units of antitoxin being given by the doctor and a swab taken which proved negative.

Mention has been made of the incidence of the disease along railway lines, which appears also to support the dust-borne origin of the disease, whilst the incidence among waders in sewage-polluted water would only suggest to me that the local authority which allowed such a condition to exist is the very one to possess an inefficient cleansing system, and hence sufficient dust and organic matter about to affect its young population in the manner I have suggested.

The use of the water-cart at more frequent intervals and a rapid removal of decomposable organic matter during the excessive heat, with some attention to road surfaces as regards dust, and especially on the main roads through villages, would during hot Augusts, in counties such as Devon and Cornwall, where motor traffic is at this season increased, have the effect in preventing such epidemics as have unfortunately visited these counties this summer.—I am, etc.,

R. BURNET, M.Sc., M.B., D.P.H.

County Sanitary Office, Truro.

THE INTERNATIONAL ASSOCIATION OF MEDICAL MUSEUMS.

SIR,—The announcement has been received from Professor B. Fischer, Senckenberg Institute, Frankfort-on-Main, of the formation of a new association among the pathologists of Germany which has as its objects the exchange of anatomical and histological material and the erecting of a central microscopical collection where the results of scientific investigations may be preserved. The new society, which is known as the "Verein zum Austausch anatomischer Präparate," is formed in direct connexion with the Deutsche pathologische Gesellschaft, the meetings of the two bodies being held jointly, and the committee of the Exchange Society being formed by two members of the executive of the Deutsche pathologische Gesellschaft, together with a president, vice-president and secretary-treasurer drawn from among its own

members. A circular letter of invitation to membership, addressed to German pathologists, states that the German Exchange Society is framed along the lines of the International Association of Medical Museums, of which, in its constitution, it is declared to be a member. The central dépôt of the Verein at the Senckenberg Institute at Frankfort-on-Main is constituted the central dépôt of exchange in Europe for the International Association of Medical Museums, and the director of this institute, who is *ex officio* the secretary of the Verein, becomes the permanent general European secretary of the Medical Museums Association. These conditions were arranged before the organization of the German branch by correspondence between Professor Fischer and the president and secretary of the International Association of Medical Museums, and were concluded with the advice and approval of Professor Aschoff, under whose direction the European section of the association was placed at the meeting at Washington in May, 1910.

The formation of this Verein in Germany brings the International Association of Medical Museums into the same close connexion with the Deutsche pathologische Gesellschaft as has recently been established with the American Association of Pathologists and Bacteriologists by the action of this body at its meeting in May last. The union of these great national bodies through an international medium, which is directly concerned with the interchange of scientific material, the development of preservation methods, and the storage of the results of scientific work, is bound to be of great practical advantage, and marks a step in advance in the domain of scientific medicine.

A point of interest in the organization of this German branch of the association is the establishment at Frankfort-on-Main of a central microscopical collection, which has as its objects the maintenance and preservation of valuable microscopical specimens, especially those showing the results of original investigations. All authors of important histological work are begged to place slide preparations of their work at the disposal of the central collection. The Senckenberg Institute undertakes the expense of the preservation and cataloguing of these specimens in return for the rights of ownership in the collection, which will be open to members and others for study and for the furtherance of scientific criticism. Such a central collection is an extension of the present sphere of activities of the International Association of Medical Museums proper, and one that is sure to commend itself to the consideration of the executive of that body for wider adoption.—We are, etc.,

A. S. Warthin, M.D.,
University of Michigan,
President.
Maude E. Abbott, M.D.,
McGill University,
Secretary-Treasurer.

Oct. 11th.

TREATMENT OF ANTE-PARTUM HAEMORRHAGE.

Sir,—I have read with much interest the Bolingbroke Lecture, also Dr. Tweedy's letter which appeared in the Journal of October 7th.

I had occasion recently to plug the vagina for accidental haemorrhage in a patient who had been a hospital nurse previous to her marriage. The result was entirely satisfactory, and several advantages of this method of treatment were impressed upon my mind.

In the first place, I realized the importance of carrying out fully the technique laid down in Tweedy and Wrench's *Practical Obstetrics*, and therefore paid special attention to thoroughly wringing the plugs of cotton-wool dry before insertion, to fixing the cervical ring of plugs firmly before continuing the process, to packing the vagina full so that the plugs were felt above Poupart's ligament, and finally to applying a firm binder and T-shaped bandage over the perineum.

Secondly, the patient required no anaesthetic.

Thirdly, she complained of no severe pain.

Fourthly, there was no gush of blood along with the birth of the fetus, showing that internal as well as external haemorrhage had been arrested, despite the fact that labour pains did not come on till five hours after the plugging had been accomplished.

Fifthly, the plug acted as an excellent stimulant to the induction of labour.

When first seen the patient was in an anaemic and collapsed condition, but she soon began to improve after the plugging was finished.

The whole treatment seems to me to be very simple and efficacious. I have frequently seen it demonstrated with the best possible results. I have never heard complaints of that terrible pain which some authorities say is so frequent an accompaniment of this simple procedure.—I am, etc.,

Edinburgh, Oct. 10th. A. Fergus Hewat, M.B.

MENORRHAGIA IN VIRGINS.

Sir,—Dr. Stennett Redmond mentions my book by name as one containing "no special reference to menorrhagia in virgins." If he will look at pp. 324–5 he will find the subject referred to, and at p. 328 he will find some advice as to treatment which might have helped him.—I am, etc.,

London, W., Oct. 10th. G. E. Herman.

SEA-WATER INJECTIONS.

Sir,—For the sake of your many readers, I feel a reply to Dr. J. A. Coutts's letter in your issue of October 14th is called for, because it is calculated to mislead and prejudice. We are all, or should be, endeavouring to do our best for suffering humanity, and anything which offers help where other means have failed is surely worthy of serious consideration. I do not, therefore, propose to invoke the humour of Dickens but rather to deal with facts—*facta non verba*. For this purpose I have selected, more or less at random, a dozen typical cases. I may say nearly all our patients have been previously treated elsewhere for varying periods, and when possible I have inquired the names of the doctors attending, and in some cases the doctors have sent the patients themselves, when they were able to do no more; in other cases, the parents having been told by the doctor that no more could be done, have on their own responsibility brought their children.

It has thus happened that we have had no opportunity of treating the disease at the commencement, but only after days or weeks of unsuccessful attempts have been made to give relief. So desperate have been some of the cases that they have died soon after reaching the polyclinic. One brought up from Worcester arrived alive, but expired before it passed into the consulting room to see me. I merely mention this to give an idea of the gravity of the cases we have had to deal with.

With regard to the "plasma"—*pace* Dr. Coutts—it is no more possible to manufacture this in the chemist's laboratory than it is to manufacture Vichy or Carlsbad or any other natural "mineral" water, and we know these waters have specific virtues of their own.

In a recent number of your Journal Dr. Waite of Leeds contributed an instructive case. He treated a girl aged 6 with all the usual means without success, and then telegraphed for "plasma." While waiting for its arrival he gave an ordinary saline injection, and without result. Then the plasma arrived, and was at once injected, and "*the diarrhoea abated from the first injection.*" How can Dr. Coutts explain this?

In the following cases I have only given the initials of the doctors attending, as I have not their permission to publish their names, but the notes of these cases I shall be happy to show *in extenso* to any medical men who care to visit Poland Street.

Case 1.—C. E., 6½ months, from Woolwich, came first on September 4th, 1911, having suffered for three weeks with severe diarrhoea and vomiting with convulsions which no treatment had relieved. Dr. F. had ordered albulactin and virol, but nothing could be retained; he vomited constantly, and after taking each bottle had an evacuation, as many as ten to twelve motions in twenty-four hours. When he came his eyes were glazed and sunken, and he was terribly emaciated. After the first treatment the evacuations were reduced to three in the night and he was able to retain a mixture of milk. On September 12th he could sit up for the first time for three weeks, and he had no more convulsions after the first treatment. On September 14th was taking nearly a quart of milk a day, and on October 13th appeared a fine healthy child.

Case 2.—G. B., 10 months, Belvedere, Kent, an hour's journey from town. Came September 19th, 1911, having been ill for two months with diarrhoea under Dr. M. of Erith. The child was steadily getting worse, and when first seen appeared in a drowsy state, with subnormal temperature

(97° F.) and an ashy-grey countenance. The treatment was commenced, and the child fed with milk and water, and improved steadily, and on October 11th (after three weeks' treatment) was doing well, sleeping and feeding well.

Case 3.—B. M., aged 1 year 2 months. Camberwell. Came in September 8th, 1911, having been ill for eight weeks with diarrhoea and vomiting, and also a bad cough. Dr. McM. "had given her up." The child was very emaciated, passing exceedingly fetid, watery evacuations, with a sore mouth and lips and bedsores; fretful, and fed only on barley water, milk, egg-water, and brandy. On September 11th she weighed 11 lb., and was taking food well and evacuations becoming normal. She continued to make steady progress, and on October 9th weighed 15 lb. 8 oz., a gain of more than 4 lb. during the month's treatment.

Case 4.—M. H., aged 5 months. Came in September 6th, 1911, from Chiswick. Suffering from diarrhoea and wasting for nine weeks. After the first treatment improvement commenced, and at the same time she gained in weight 8 oz. in ten days and 4 oz. in seven days. Taking food well and digesting it and sleeping very well. On September 27th—that is, after three weeks' treatment—all the functions of the child were working normally.

Case 5.—C. S., aged 6 weeks, from Catford, S.E., sent up by Dr. M. on August 24th, had been passing sixteen to eighteen evacuations daily for many days. The treatment reduced the number to three in twenty-four hours, and there was improvement in every way—appetite returned, child appeared comfortable, face filled out, and improvement was steadily maintained, and on September 9th the child was discharged well—that is, in sixteen days.

Case 6.—On August 31st, 1911, E. M., aged 1 year 1 month, arrived at Poland Street in a motor car, having come all the way from Hindhead. She had been ill for four weeks and was having evacuations six or eight a day, and two days previously almost every hour, and vomiting everything. She had lost weight considerably. Dr. S. said she could not recover, so the parents risked the journey to London, where she safely arrived on a pillow, swathed in blankets. She was pale, lethargic, taking little notice, with retracted abdomen. The parents remained in London and brought her next day. The vomiting had ceased and diarrhoea was less. She continued to have daily treatment and progress was steady, and on October 6th she returned to Hindhead perfectly well.

Case 7.—N. M., aged 8 months, was taken ill when the parents were staying at Whitstable on their holiday. She had been suffering from diarrhoea for four weeks, very violent for the last two weeks, as often as eight to fifteen motions in twenty-four hours. After any food she took the bowels acted. Dr. P., of Whitstable, who attended, said he could do no more, and then the father came up to see if she could have treatment at the Quinton Polyclinic. She had been treated with saline irrigations, etc., and fed on virol, egg-water and brandy, Allen and Hanbury's food, Nestlé's food. Panopeptone and peptonized milk had been injected per anum. She came on September 1st. The vomiting ceased after the first administration, and the motions were reduced to seven or eight in twenty-four hours. The convalescence was complicated by an attack of broncho-pneumonia, which she recovered from, and is now (October 14th) practically well, though very weak and flabby after having gone through such a dangerous complication.

Case 8.—R. W., aged 5 months, was sent by Dr. S. N. from Birmingham. He had suffered from diarrhoea on and off for two months, averaging eight stools daily; had been dieted with arrowroot, white of egg, brandy, Nestlé's milk, mutton broth, rusks, and virol, but without any satisfactory result. He arrived September 12th, 1911, and treatment was administered. He was fed on a milk and water mixture; vomiting ceased, diarrhoea lessened, and by September 20th he was able to return to Birmingham after eight days' treatment.

Case 9.—D. C., aged 9 months, from Hertford, was brought up on September 25th, 1911, having been ill with "enteritis" for eight weeks, going on week after week without any improvement. Had been under Dr. O., and lately only had watery foods, peptonized milk and water, and Allenbury's food, having very watery evacuations, four in the day and two at night, always vomiting after milk and water. He was so reduced in strength that he had frequent faintings, "going into long swoons," as his mother described it, and was restored with brandy. He was given the treatment and put on a mixture of equal parts of milk and rice-water and told to come up next day, although the journey was a long one. The improvement began at once; there had been no vomiting and only passed two motions. A third visit was paid on September 27th, when the child was well, after only three visits to the polyclinic. There was no vomiting, a daily normal evacuation, and the child was taking and enjoying the milk.

Case 10.—B. S., aged 16 months, from Ealing, sent by Dr. S., of Windmill Road, on August 28th, 1911. She had had diarrhoea for seventeen days, at worst fourteen to sixteen evacuations a day, with occasional blood and slime. Milk had been withheld for a week, and she had been given white of egg, brandy, and bovril. The treatment was given, and rice-water and milk ordered. Next day there had been no vomiting, and only one evacuation; had passed a better night, only woke twice. After a third visit she was sufficiently well to cease coming—that is to say cured in three treatments, and has continued perfectly well since.

Case 11.—M. W. H., aged 3 months, from Shepherd's Bush, came September 25th, 1911, having suffered with diarrhoea for seven weeks, during which time the prison doctor (where the father worked as warder) had attended him, and said it was impossible for him to live. He had also been attended by Dr. R., when on a visit to Aylesbury. His weight at birth was 9 lb., but when he came here he only weighed 7 lb. 10 oz. He had also been taken to St. Mary's Hospital, where they withheld food, and he became so weak the mother "feared he would die in her arms." He was very wasted, with sore buttocks and the skin hanging in folds, the extremities were cold, the anterior fontanelle depressed. The next day his mother brought him he had got on wonderfully well, only had two motions since the previous morning and no vomiting. The milk and rice-water agreed well—was more satisfied—smiling for the first time, and had the "best night for eight weeks." He continued to make rapid progress, and on October 2nd weighed 9 lb. 10 oz., a gain of 2 lb. in seven days.

Case 12.—D. T., aged 6 months, Chiswick, came on September 23rd, 1911, sent by Dr. B., Duke's Avenue, who was afraid she could not pull through, and sent her as a last hope. She had suffered from diarrhoea for nine weeks, passing six stools in twenty-four hours. She had thrush in the mouth and sore buttocks, and prolapsus ani. Admitted to crèche at once on September 25th with a temperature of 104.6° and a sharp attack of broncho-pneumonia—the highest temperature 105°. Left well October 15th.

—I am, etc.,

London, W., Oct. 16th. J. ROBERSON DAY.

SIR,—Permit me without prolixity to notice the rejoinder of your correspondent to my reply, devoted to misapprehensions on the subject of sea-water therapy in general and the administration of the Poland Street institution in particular.

It is not necessary to wage any polemic against his critique of the Quinton Polyclinic—a critique based on a single visit of an hour's duration, with observation of some half-dozen cases, and admittedly no personal experience. It is unfortunate that on the occasion of his single inspection no arrangement had been made for the services of one of the professional staff as cicerone; for then some averaging of the cases of the 150 patients over each day might have been submitted, and opportunity given for a whole day's investigation, instead of the limited data obtained in a single hour. In this respect he was less fortunate than the medical representative of the *Daily Mail*, who, with equal freedom of entry, came early and came often, recording his impressions in vivid journalese, but based on observations taken with care and checked by repetition. And, as regards personal fitness, may I say that the latter is a graduate of two universities, and, in the matter of balancing evidence, worthy to rank with your own distinguished contributor?

The Quinton Polyclinic may well be left to justify its own existence, such justification being, we believe, ample in the eyes of the profession so soon as its statistics, verified and analysed, are prepared and published. It is to the arbitrament of extensive and enlightened clinical trial that we appeal. Here, as in all science, the final test is verification; the actual experience of daily practice is alone convincing. And we have no doubt as to the issue when sea-water therapy, properly practised and safeguarded, is carried out on a larger scale than has hitherto been practicable in these islands.—I am, etc.,

GEORGE BURFORD.
Chairman of the Poland Street Polyclinic Medical Committee.

London, W., Oct. 17th.

SIR,—I have been using sea-water plasma both in the form of injection and recently by mouth, and should like to add my evidence about its value. I was led to give it mouth from the following case:

On July 12th, 1911, I was called to see J. R., aged 50, late at night. He had a history of vomiting and diarrhoea for four days. I found him in a typhoid state—temperature 102.2°; pulse 90, thin and weak; sordes on lips and tongue; bases of both lungs congested; feet and hands cold. I gave him immediately a rectal injection of brandy and warm saline, which he did not retain, and next strychnine $\frac{1}{60}$, and packed him round with hot bottles, and intermittently gave him some warm meat juice in dessertspoon doses. But when I saw the thick, dirty, foul tongue, I argued to myself that while a crystalline element might pass through the stomach wall, nothing in the colloid form would. He was making attempts to vomit, so I next cleaned his tongue, and as he was no better after a couple of hours, I happened to have with me a 100 cm. tube of sea-water plasma that I had meant to use that day on a patient to whom I was giving the injections, and at whose house the apparatus was. I gave the patient a teaspoonful, and left directions that he was to get a teaspoonful every hour. Next morning I found that he had slept. His skin was moist,

and he was hungry; his temperature was 101°, and his pulse was 100 and full; the vomiting and diarrhoea had ceased. He made an uninterrupted recovery.

When the injections are used sometimes a considerable amount of pain comes on after four hours, and at times the temperature goes up to 104°. My impression is that 100 c.cm. through the needle is not to be recommended, and that 25 c.cm. for a child is quite enough. I cannot always get rid of the suspicion that some of the salt-water plasma supplied is longer stored than the period of three weeks, and that whatever the value of Quinton's theory is, it is not to be judged until we have absolute reliable evidence that the water supplied is other than inert.

For neurasthenia in adults of the type of prematurely aged, worn-out men and women, for whom the Weir Mitchell treatment has been found useful, I find that the sea-water treatment is admirable. The patients eat better, sleep better, become less sensitive, and, if it is necessary to use massage, they submit more easily to it and are more enthusiastic about their progress. The only case in which sea-water treatment failed with me was one in an aged neurasthenic who was also a morphine *habitué*.

In patients who suffer from mucous colitis with the coincident depression I find the injections (one of 50 c.cm. every third day) give the best results, large flakes of mucus coming away about ten hours afterwards. To those patients I give acid. phosphor. ♏ x with tinct. nux vom. ♏ iij thrice a day after the third injection. It does away with the need for lavage of the bowel as practised at some Continental spas.—I am, etc.,

Ardrahan, co. Galway, Oct. 8th. C. H. Foley, M.B.

Sir,—Owing to stress of work I have been unable to give you my experience of the sea-water treatment for epidemic enteritis, or summer diarrhoea.

Since the first week in August, up till the present time, I have treated in the course of my practice 125 cases of this distressing complaint, the majority being in infants varying from a few weeks to 6 months old, and some, about 20 cases, in children of from 1 to 3 years of age. The cases have mostly arisen among working class people, but not all; the greater number were children fed with cow's milk, and the remainder with condensed milk. Five cases were breast-fed.

The average number of motions passed by the children suffering from enteritis was nine in the twenty-four hours. Most of them could not before treatment retain anything in the stomach either, the constant purging being associated with vomiting.

Several cases had as many as twenty actions of the bowels in the twenty-four hours, and one child, who recovered, had 173 separate evacuations in eight days.

In every case I stopped all forms of milk, except in breast-fed babies when the cause was usually to be found in the mother, and put the patients on albumen water, cold water, Brand's essence, and brandy as a routine treatment. I tried all the usual intestinal antiseptics, but am fully convinced drugs are useless in these cases.

In five cases I used normal saline solution injected into the rectum, and of these 3 recovered and 2 died.

In desperation I decided to try sea-water injections. I wrote to Paris for the prepared water, and used it in six cases, and then gave it up as unsatisfactory. The first case I used it in was an infant 2 months old—a very severe case. In all I gave three injections of 50 c.cm. on three consecutive days without any improvement. I then changed the diet again, and had the child removed to the country, and he *slowly* recovered.

The second case did not improve at all, but seemed more collapsed each time I gave an injection, and died.

The third case died, after having two injections.

The fourth case also died: it was one of twins—both had diarrhoea. The one I injected was the worse of the two, but both were very ill.

The fifth case I injected only once, and he became very collapsed while I was injecting, and died the same night.

The sixth case I injected twice, and he recovered.

In these six cases I noted no marked improvement at all after the injection; on the contrary, two of them became very collapsed, and I thought one was going to die during the operation. Of the two "injected cases" that recovered, in the first I attribute the recovery to the care given, and the diet and change of air. The other may have benefited by the sea-water treatment, but I am inclined to think it recovered in spite of it.

In conclusion, out of 125 cases there were 21 deaths, due to collapse, 6 of the total number of cases were treated with sea-water, and of these two recovered, but not in any remarkable way as if greatly benefited by the injections. —I am, etc.,

Chatham, Oct. 8th. Frederick B. Jefferies, F.R.C.S.Ed., M.R.C.S.Eng., L.R.C.P.Lond.

SALINE INJECTIONS.

Sir,—Drs. Waller and Walker, in their letter published in the Journal of October 14th, p. 947, referring to my criticism of their method of infusion which appeared in your issue of September 30th, declare that I have lost sight of two facts. First, that their apparatus differs in no material respect from mine, and, secondly, that I have not allowed for difference in atmospheric temperature between the dates on which their observations and mine were made.

If they would only read more carefully they would see that in my article I said, my appliance "resembles in the main features that described by Drs. Waller and Walker, but I contend that it has several distinct advantages over theirs," the difference being in at least three very important points. Surely, then, it cannot be said that I have lost sight of the fact that my appliance is similar to theirs?

As to the second point, I did make full allowance for the difference in atmospheric temperature, and, in spite of the fact that the ward sisters at the East London Hospital were sufficiently far-seeing to increase the temperature of the fluid in the flask from 120° F. to 135° F.—which, by the way, is the figure I suggested in my paper—I still maintain that the patients infused at the rate of "7 oz. in two hours," even with saline in the flask at 135° F., do not receive it at anything like 105° F., as implied by these writers.

I have again made observations with the instrument described by them, but this time I have simulated, as nearly as possible, the new method "initiated" by the sisters. For the sake of brevity, I give only the average of the results of a series of experiments. The figures are: The temperature of the saline in the flask was 135.6° F., the rate of flow 7.2 oz. in two hours, the atmospheric temperature 68.6° F., whilst the actual temperature at which the fluid was delivered from the needles was 91° F. This result is a little different from Drs. Waller and Walker's 105° F.!

Since a temperature of 135° F., which I have all along used in my apparatus, has been adopted by the ward sisters, perhaps one may reasonably expect to hear that, with the advent of frosty weather, they have likewise "initiated slight alterations by the light of their own unaided intelligence" in the direction of increasing the rate of flow, lest the stagnation of the saline in the tubes should predispose to the formation of ice.—I am, etc.,

Guy's Hospital, Oct. 16th. N. Stuart Carruthers.

TEN YEARS AFTER SANATORIUM TREATMENT.

Sir,—In the Journal of October 7th I see that Dr. McWalter submits "that no absolutely satisfactory proof has been produced" that any case of tuberculosis which had been sent to a sanatorium ten years ago was still alive.

The statistics which Dr. Lawrason Brown gives in his letter in the same number of the Journal are perhaps the best answer to this statement, as he shows that out of 1,486 cases treated more than ten years ago, 429 (nearly 29 per cent.) are still alive. Perhaps Dr. McWalter rules these out of court as they are produced by an American sanatorium, and if so I admit that it will be hard to produce statistics of a similar kind from a British sanatorium for three main reasons, which are as follows:

1. British sanatoriums have only been established for about twelve years.

2. I do not think that any British sanatorium used to follow up its cases in the same way that the Adirondack Sanitarium does, so that it is impossible to say what has happened to the earlier patients.

3. When sanatoriums were first started in this country, they became the refuge to which all the most advanced and least hopeful cases were sent, and as a rule the early cases were treated on the old lines till they were too far advanced.

During the time that I was assistant medical officer at the Cotswold Sanatorium in 1899–1900 it was the exception to get an early case, but we had any number of advanced cases which as a rule improved for a time, only to relapse later, and die because they were too bad to obtain any real and permanent benefit.

In spite of this I can recall, without reference to notes, at least ten cases which were treated at either the Cotswold Sanatorium or at Nordrach-Colonie (by Dr. Walther), which are alive at the present time, and in which there was no doubt as to the diagnosis, and I have no doubt that Dr. Walther could give many similar instances.

My own sanatorium was established just ten years ago, and out of seven patients treated in the first three months two are still alive, four are dead (one dying of heart disease and one at the sanatorium), and one cannot be traced.

It is at present the fashion to decry sanatoriums, and to state that they are failures; but the fact remains that sanatorium treatment—especially when combined with the judicious use of tuberculin—remains the best method of treatment that we have to-day, but the sanatorium must be an efficient one, and not merely a home for consumptives. At the same time I do not claim that it is able to work miracles, for it undoubtedly has its limitations, some of which are natural and others artificial.

Tuberculosis, like every other infectious disease, has its slight and its severe cases; but it is unlike every other infectious disease—except perhaps syphilis—in that it has often obtained a strong hold before it is diagnosed, and is practically always of a very chronic nature. Further, there is always actual destruction of lung tissue, and no treatment can ever restore the destroyed lung, and certainly no treatment can in a few weeks or months cure, or even render quiescent, or overcome a tendency to, a disease which has probably existed for months or years.

In most cases the sanatorium, because of the expense and time, can only begin the "cure," and the patient must work out his own salvation by steady persistence in the rules and life that he has learnt whilst a patient. Unfortunately many patients relapse because they have to return to their old surroundings and conditions under which they contracted the disease, and until we can alter these conditions it is difficult to see how we can expect any better results.—I am, etc.,

North Wales, Oct. 10th. GEORGE A. CRACE-CALVERT.

MERITS OF A RELATIVELY LOW PROTEIN DIET.

SIR,—One of the most important practical questions in the debate on diet, published in the BRITISH MEDICAL JOURNAL of September 23rd, is the amount of value to be attached to the dietary habits of peoples or individuals as a guide for us. It seems to be apparent that, as man is slowly evolving out of ignorance, his past habits cannot be construed as a reliable criterion for us; his past modes of life have not always resembled ours, and his past health was probably inferior to ours of to-day. But perhaps the most important question is whether his diet was actually chosen because it appeared to afford him the greatest energy and the best health with which to meet his struggle for supremacy. Was not it rather that certain foods were more convenient, and that with flesh thrown in it is much easier to cook palatable dishes than it is for the vegetarian? Religion must also be considered, for it has played an important part in the choice of food. Again, if the habits of our forefathers are to be our guide, the habits of those of poor physique, like the Hindus, must in fairness be considered as well as those of the flesh-loving Westerner.

Do we choose to follow the habits of the past in many other matters equally important? What about alcohol, fresh air, cleanliness, and general sanitation? The habits of our unborn descendants should be of more importance to us than those of our ignorant forefathers!—I am, etc.,

Atlanta, Ga., Oct. 5th. A. W. STIRLING.

"CARDIAC ASTHMA."

SIR,—Dr. Gibson, in opening a discussion on asthma at a meeting of the British Medical Association, read a letter from Sir Clifford Allbutt, in which he spoke of the slovenly people who use terms without precision, and he singled out that of "cardiac asthma" as being a particularly reprehensible example. Dr. Gibson states that his views are exactly those of Sir Clifford Allbutt.

As I am one of the slovenly people who has repeatedly used the term "cardiac asthma," I would very much like these learned physicians to tell me where I am wrong.

I have given a great deal of attention to the various forms of dyspnoea in cardiac affections, and there is one of the forms which I have described where the patient goes to sleep quietly, feeling fairly comfortable, and wakens up with a feeling of distress. He has to sit up and breathe in a heavy and laboured fashion for half an hour or more. The attack subsides, sometimes rapidly, and sometimes persisting in a milder form for many hours.

As I always consider the term "asthma" to mean laboured breathing, and more particularly that form characterized by periodic attacks of distressed breathing, I had little hesitation in calling the attacks which I have just described "cardiac asthma" to distinguish this kind of breathing from other forms of cardiac dyspnoea.

There is no doubt that in the past the term "asthma" has been used in a wide sense, and, as its origin indicates, it does not imply any particular form of disease. That the asthmatic attack which I have described is of a reflex nature I have little doubt. It seems from Dr. Gibson's description that you can use such terms as "brain asthma," "nasal asthma," "pharyngeal asthma," "kidney asthma," "uterine asthma," "ovarian asthma," "rectal asthma," and even "cutaneous asthma," but according to him and to Sir Clifford Allbutt, the term "cardiac asthma" is anathema.

I am sure if such distinguished literary members of our profession will clearly and succinctly define what they mean by the term "asthma" and point out wherein I have gone wrong, they will confer a benefit upon many members of our profession.—I am, etc.,

London, W., Oct. 13th. J. MACKENZIE.

THE TREATMENT OF CHRONIC ADHESIVE PROCESSES IN THE MIDDLE EAR.

SIR,—In the abstract report of Mr. Macleod Yearsley's judicious and practical introduction to the discussion on the Treatment of Chronic Adhesive Processes in the Middle Ear,[1] I note the unqualified deprecation of Valsalva's method of inflation and its modifications. While admitting that this method is liable to abuse, and that when abused it is capable of producing injurious effects, I am convinced that when judiciously practised it is reasonably free from deleterious action, and that it affords a means of continuing and of enhancing the effect of the surgeon's Eustachian catheterization, in the intervals between his interventions. For those who, for one reason or another, are unable to undergo a course of "frequently repeated catheterization — three times weekly, or even once daily"—as desiderated by Mr. Yearsley, it must commend itself on the score of economy (both of time and money), and, to my mind, on that of usefulness also, presuming, of course, that it is practised with discretion. The usual charge levelled against it is that its prolonged use is likely to produce relaxation of the tympanic membrane. This may follow—not necessarily result from—undue zeal in the use of the Politzer bag or the Eustachian catheter in the hands of the practitioner, and similarly it may follow the over-use of Valsalva's method of inflation.

On the other hand, I have seen numerous cases where long use of Valsalva's method or its modifications has not been followed by relaxation, and numerous cases in which relaxation of the membrane has been present without any form of inflation having been practised. In reality the continued pressure on the membrane resulting from long-standing Eustachian obstruction is a much more probable mechanical cause of this condition than the occasional strain upon it involved in the Valsalvan experiment. No doubt the ease with which this method can be practised readily leads to its abuse, and the practitioner cannot be too

[1] BRITISH MEDICAL JOURNAL, October 14th, 1911, p. 917.

careful in limiting its use to cases in which it is appropriate as well as in restricting the frequency and duration of its employment, according to circumstances which the trained practitioner of aural surgery can readily appraise.

It is well known that the addition of a fraction of chloroform vapour to the air used in this experiment facilitates its passage through the Eustachian tube, and that the use of an apparatus of some sort instead of the simple finger and thumb renders its over-frequent practice unlikely. On these accounts I was led about twenty years ago to devise a simple appliance, known to many as the Eustachian self-inflator, by means of which air, mildly impregnated with diluted chloroform vapour and menthol, may be blown up the Eustachian tubes by a modification of the Valsalva method. I ought, perhaps, to have brought this more prominently than I have before the notice of my fellow-practitioners,—I am, etc.,

London, W., Oct. 18th. DUNDAS GRANT.

THE PROSPECTS OF THE MEDICAL PROFESSION.

SIR,—The perusal of "Spectator's" letter in the JOURNAL of October 7th makes sufficiently melancholy reading; but when we consider the causes which have contributed to this deplorable result, are we not driven to sum them up as, in the main, a want of unity and harmonious working between the members of our profession? Hence I fear I must join issue with "Spectator" as to our management of our own affairs.

In this age of commerce one is constantly hearing of the benefits of free and unrestricted competition, but to me at all events, and, I doubt not, to many others, it appears that most of the ills we suffer from result from an excess of "freedom" in the competition between the members of our profession. In fact, that profession seems of late to have been worked more on the lines of a business or trade, the interrelations of its practitioners being of a character suitable enough, it may be, to tradesmen with goods to sell, but hardly, I think, such as should regulate the mutual dealings of men whose ostensible mission in life is the amelioration of the physical conditions of the community.

On public occasions we are referred to—and refer to our noble selves—as members of an army engaged in a war with disease and death. Yet do the feelings of the average medical man for his neighbour bear the least resemblance to the spirit that must animate the units of an army engaged in difficult operations in hostile territory? Rather, I think, do they reflect the conditions that prevail among marauding brigands than the discipline, mutual trust, and good fellowship necessary to a successful army.

What we suffer, and the suffering and injustice we are at this moment threatened with, is, I am convinced, to be ascribed to the "every man for himself and devil take the hindmost" policy that has characterized our mutual relations up to the present.

I rejoice to see that there are now symptoms that a change, or the beginning of one, is impending. The astonishing success that is attending the efforts of the British Medical Association in uniting medical men in opposition to the injustices threatened by the State Insurance Bill emboldens me to hope that the powers of our Association will be turned to even wider issues. Men are meeting each other in friendly council now who not long ago would have taken a thinly disguised pleasure in ignoring each other's existence.

Now, I ask, when our battle is fought out over the present issue, are we to continue the old evils in the "private practice," the virtues of which are so plentifully extolled just now?

Whether my own professional environment be worse than the general I do not know, but I shrewdly suspect that it is typical of most towns, and here I find one of the greatest evils in the indiscriminate lowering of fees, "practised solely with a view to the catching of patients or customers," as my poorer patients often call them, and not as a concession to those who are too poorly endowed with this world's goods to pay better ones.

When I started practice I called dutifully on my "colleagues," and among other things inquired as to the proper fees to charge. Invariably I was told that the minimum was the humble half-crown. On this I based my accounts, except where it was obvious that the total would be out of proportion to the income of my patient in the case of a long attendance. For long I regarded the frequent growls at my bills, and the unfavourable contrast made with those of some of my fellow-practitioners, as without foundation. But time has shown that there was truth in the statements made in the course of these complaints, and that in many cases.

To my knowledge this miserable underselling is widely practised, and that, be it remarked, not merely by struggling members of the profession, but in many cases by men such as members of the local hospital staff, and professional aristocrats of presumably assured position.

Naturally the quality of their work suffers accordingly, and the shrewder members of the public who are not absolutely wedded to the quest of cheapness find this out for themselves, to the advantage of those who do not court quantity of work at the expense of quality, by the acceptance of inadequate fees to cut the other fellow out.

The same observations apply most markedly to contract work in general. Have we not invited a low estimate of the capitation fee now suggested in the political world by the "competitive prices" fixed by ourselves in tendering for friendly society appointments, and probably the widespread outcry against club practice is due to the faults arising in this way on our own side, as much as to the thing itself. Had we at an earlier period decided to take charge of the conduct of all contract work ourselves, in the way it is regulated in one or two towns, our position to-day would have been so absolutely impregnable that none would have dared attack it. Had those "statutory local committees" of medical men of which we now hear been voluntarily formed years ago, what good might they not have affected! Reasonable wage limits suitable to each locality could have been enforced, minimum tariffs devised and adhered to, and such a general spirit of trust in each other thereby engendered, that by the increased warmth and cordiality of our mutual feelings we should be amply repaid for the sacrifice of "free competition."

If it be not considered too Utopian, might not charitable appointments be governed in the same way? Why should not local medical committees make representations to hospital and other committees as to the medical men considered most suitable and deserving of recognition? This would go far to encourage us in keenness in our work and in a due respect for the esteem of our brethren.

All this and more, it seems to me, is perfectly attainable still if the lessons of the present crisis of our profession are not ignored. Most of us admit the evils. It is for us to make use of our utmost power to abolish them.—I am, etc.,

October 8th. OPTIMIST.

INTRAVENOUS TREATMENT OF SYPHILIS IN THE SEVENTEENTH CENTURY.

SIR,—In your issue of October 14th, p. 937, you give an account of a paper by Dr. Payenneville on early work on intravenous injections. I happened to go into this subject somewhat fully in 1902, and my researches were published in the *Guy's Hospital Reports*, vol. lviii.

I have not at present been able again to refer to my authorities, but, according to the paper I then wrote, it was Fabricius, of Danzig, who injected the syphilitic soldier in 1666. Schmidt, of Hamburg, in the following year injected five patients, probably with jalap. Two of these were women suffering from syphilis, and one died. Schmidt attributed this to the patient's carelessness as to diet and to her going out of doors too soon. The injections seem to have been followed invariably by a rigor and vomiting.

Purmann (1683) gives a list of the drugs then used intravenously, which includes: aqua croci metallorum, opium, aqua chrysalea, spiritus nitrosi vel vitrioli, oil of sulphur, arsenic, plantan water, aqua cardui benedicti, aqua marjoranae, aqua cochleareae, snail water, spiritus salis ammoniaci, spiritus salis essentificatus cornu cervi (with or without spiritus vini camphorati), amber, cinnamon, confectio alkermet, sal volatile oleosum silvii, sal volatile cornu cervi, spiritus liliorum conval. and spiritus cinnamomi cum oleo succini.

This seems a fairly comprehensive list. There seems no doubt that Christopher Wren, when Savilian Professor of

Astronomy at Oxford, was, as Bishop Spratt says, "the first author of the noble anatomical experiment of injecting liquors into the veins of animals," but Major was the first to apply the method successfully in man.—I am, etc.,

October 15th. J. M. FORTESCUE-BRICKDALE.

SWEETS IN CHILDHOOD.

SIR,—The suggestion that sweets lead to dental caries is much easier made than proved, and to withdraw the much prized and succulent dainty is too wholesale a measure to be carried out without serious consideration.

I agree with your correspondent, Dr. H. Letheby Tidy, that the desire of children for sweets rests on a physiological basis, just as, at the other extreme of life, the desire for fat as a food is common in old people. Looking at the matter from a common-sense point of view, children, even infants, are indefatigable in their energy; from early morn till dewy eve a child will keep on the go, until too tired for his bath he is put to bed without it. All this means a tremendous loss of force in the shape of energy and heat; Nature then comes to our assistance by calling out for that which will replace the heat and muscular energy in the shortest time, and for this the glucose of our sweets is the one and only food. In Lancashire, before sweets became so cheap the earliest substitute was "the sugar butt," otherwise a slice of bread with sugar in the place of butter. We know that glucose in the stomach is immediately split up into alcohol and CO_2 for the supply of heat and energy.

It must be common observation that old people, who in their earlier years could not tolerate fat in any form, as years roll on acquire a taste and liking for it. And why? Because in their case the body heat, owing to slower movements, is much more slowly lost, and Nature calls for a food which will supply the heat more slowly and retain it longer. The extremes of life are nourished each by its own particular food in response to the demands of Nature. Consequently it would be not only unkind to the children but absolutely contrary to physiology to withdraw pure sweets from them. We never think of persuading old people to give up the fat; why interfere with the sweets because some ignorant person attributes dental caries to their use?—I am, etc.,

Darwen, Sept. 10th. F. G. HAWORTH, M.O.H.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

NEW REGULATIONS.

THE following is the text of the official regulations for admission and particulars of service just issued by the Admiralty. They have been forwarded to us by the Director-General.

Qualifications.

1. Every candidate for admission into the Medical Department of the Royal Navy must be not under 21 nor over 28 years of age on the day of the commencement of the competitive examination. He must produce an extract from the register of the date of his birth, or, in default, a declaration made before a magistrate, from one of his parents or other near relative, stating the date of birth.

2. He must declare—

(1) His age and date and place of birth;
(2) That he is of pure European descent,* and the son either of natural-born British subjects or of parents naturalized in the United Kingdom;
(3) That he labours under no mental or constitutional disease or weakness, nor any other imperfection or disability which may interfere with the most efficient discharge of the duties of a Medical Officer in any climate;
(4) That he is ready to engage for general service at home or abroad, as required;
(5) Whether he holds, or has held, any commission or appointment in the public services;
(6) That he is registered under the Medical Act, giving the date of his registration as a medical student, or of his beginning professional study;
(7) Whether he has previously been examined for entry in the Naval Service, and, if so, when.

* If any doubt should arise on this question the burden of clear proof that he is qualified will rest upon the candidate himself.

3. The certificates of registration and birth must accompany the declaration, which is to be filled up and returned as soon as possible, addressed to the Director-General, Medical Department, Admiralty, S.W., to permit of reference to the candidate's medical school.

4. The Dean or other responsible authority of such school will be requested by the Medical Director-General to render a confidential report as to the candidate's character, conduct, professional ability, and fitness to hold a commission in the Royal Navy.

5. The candidate will then be interviewed by the Medical Director-General, and his physical fitness will be determined by a board of Naval Medical Officers. The Medical Director-General will then decide whether he may be allowed to compete.

6. If accepted, he will be eligible to present himself at the entrance examination, which will be held twice a year. (*See* heading Examinations, section 16.)

7. The appointments announced for competition will be filled from the list of qualified candidates, arranged in order of merit; but should it at any time be considered expedient to grant commissions beyond those periodically competed for, the Admiralty have power to admit annually not more than six Candidates according to requirements, specially recommended by the governing bodies of such Colonial Universities as may be selected, and whose qualifications are recognized by the General Medical Council.

Candidates so proposed are to be approved by the Director-General of the Medical Department of the Navy.

They will have to pass a physical examination before a Board of Naval Medical Officers in their Colony, and will be required to register their qualifications on arrival in England. They will be allowed, if they wish it, to compete at the next examination for entrance, and take their position according to the order of merit. Should they decide not to compete they will be placed at the bottom of the list. It will, however, be in any case necessary for them to pass a qualifying test at the time of the usual half-yearly examinations.

8. A fee of £1 will have to be paid by each candidate to enable him to take part in the competition.

9. Candidates who have served in the Officers' Training Corps, and who are in possession of the Certificates laid down in the regulations for that Corps, will be credited at the entrance examination with additional marks, as follows:—Candidates in possession of Certificate A will receive 1 per cent., and those who possess Certificates A and B, 2 per cent. of the maximum number of marks allotted.

10. A Candidate will not be allowed to compete at more than two examinations.

Regulations as to Acting Surgeons.

11. A Candidate successful at the entrance examination will be appointed as Acting Surgeon in the Royal Navy, and will be required to pass through such courses as the Admiralty may decide. (*See* under the heading Examinations.)

At the end of the courses the Acting Surgeon will be examined, and, after he has passed, will be given a commission as Surgeon in the Royal Navy. The commission will date from the day of passing the entrance examination. An Acting Surgeon who fails to qualify in the examination at the termination of the course of study will be allowed a second trial at the next opportunity, the period between the two examinations not being counted as service for either promotion, withdrawal with gratuity, or retirement after 20 years' service, and should he qualify, he will be placed at the bottom of his list; should he again fail his appointment will not be confirmed, and he will be required to withdraw.

12. A gold medal, a silver medal, and three Navy regulation pocket cases will be awarded as prizes in connexion with these examinations; and the gold medallist will have a distinguishing mark after his name in the Navy List, provided he obtains at least 80 per cent. of the aggregate maximum marks in the London and Haslar examinations combined.

13. A Candidate who at the time of passing the examination for entry into the Medical Branch of the Royal Navy holds or is about to hold an appointment as Resident Medical or Surgical Officer in a recognized civil hospital, may be allowed to serve in such civil appointment provided that the period of such service after the date of entry into the Royal Navy does not exceed one year. Pay from Naval funds will be withheld from officers while thus serving, but the time concerned will reckon for increase of full and half pay while on the active list, and retired pay or gratuity on retirement or withdrawal, except that no officer will be

allowed to retire on a gratuity until he has completed four years' service exclusive of the time spent as Resident Medical or Surgical Officer. The eligibility of this appointment to count for time will be decided by the Medical Director-General.

14. The seniority of Surgeons on entry will be determined by the sum total of the marks they obtain at the London examination and the examinations at the conclusion of their probationary period as Acting Surgeon. Their names will then be placed in the Official Navy List. Candidates who hold or are about to hold a post as Resident Medical or Surgical Officer to a recognized civil hospital will retain the position in the list which they obtained on entry, and when their period of service as Resident Officer is over, they will join the next "Acting Surgeons' Course," and will be required to obtain qualifying marks. Surgeons entered without competition will take seniority next after the last Surgeon entered at the same time by competition.*

15. Surgeons on entry are required to provide themselves with a regulation pocket case of instruments.

Examinations and Professional Study.

Examination for Entry.

16. Candidates will be examined by the examining board in the following subjects:

(*a*) Medicine, including medical pathology and therapeutics.
(*b*) Surgery, including surgical pathology and clinical surgery.

The examination will be partly written and partly practical, marks being allotted under the following scheme:

Medicine.		*Surgery.*	
Paper	400	Paper	400
Clinical	400	Clinical	400
Oral	400	Oral	400
	1,200		1,200

No candidate shall be considered eligible who obtains less than 50 per cent. of marks in each subject. The examination will be held in London and will occupy four days.

Course of Study and Examinations for Acting Surgeons.

17. It has been decided to establish a Naval Medical School at the Royal Naval College, Greenwich. As the nucleus of an Instruction Staff two Fleet Surgeons will be appointed to fill the posts of Professor of Bacteriology and Clinical Pathology and Professor of Hygiene. The latter will be in charge of the studies of Naval Medical Officers undergoing courses at this school.

18. The course of instruction for Acting Surgeons will be six months in duration, and the first two months will be passed at the Naval Medical School at Greenwich. This period will be devoted to the study of Tropical Medicine, Bacteriology and Clinical Pathology, Hygiene and Skiagraphy. The remaining four months will be passed at Haslar, and will be devoted to the study of Naval Hygiene, Recruiting, Physical Training, diving, and submarine work, etc. A Medical Officer (Fleet Surgeon) will be retained at Haslar to superintend these studies and fill the post of Lecturer on Naval Hygiene. At the conclusion of the six months' course, examinations in the subjects studied will be carried out as detailed in paragraph 11.

Post-graduate Instruction and Examination for the Rank of Staff Surgeon.

19. The Post-graduate Instruction of Naval Medical Officers will consist of two distinct courses:

(i) A six months' course prior to advancement to Staff Surgeon;
(ii) A second course of three months' duration for officers of not less than 14 years' seniority.

Course (i), which is compulsory for all Surgeons, will be followed by an examination before the Medical Examining Board in London, the successful passing of which will be a qualification for promotion to the rank of Staff Surgeon. The course is to be taken when a Surgeon has between 4½ and 6½ years' seniority, and as near the date when the latter period is completed as the exigencies of the Service admit. The courses will take place twice a year.

The subjects of study and examination will be—

Compulsory:
(*a*) Clinical Medicine and Clinical Surgery.
(*b*) Operative Surgery.
(*c*) Anaesthetics (practical).
(*d*) Ophthalmology.
(*e*) Clinical Pathology.
(*f*) Hygiene.

Optional:
(*g*) Bacteriology.
(*h*) Throat, Nose, and Ear Diseases.
(*i*) Skiagraphy.

A Surgeon who fails to obtain a pass will be allowed a second trial, but should he again be unsuccessful, he will be compulsorily retired on attaining eight years' seniority, with such gratuity as the Admiralty may see fit to grant, but not exceeding £500.

Instruction in bacteriology and clinical pathology, hygiene, and skiagraphy will be given at the Naval Medical School; the remaining subjects will be studied at the "Dreadnought" Hospital and other civil hospitals in London, as may be arranged from time to time by the Medical Director-General of the Navy.

The Surgeons going through the course will be accommodated at the Royal Naval College, Greenwich, and will be under the general control of the President. Their instruction throughout will be under the immediate supervision of the Professor of Hygiene, appointed in charge of studies.

Course (ii) is not compulsory, but is designed to afford senior officers the opportunity of refreshing their general knowledge of surgery and medicine, and of making themselves familiar with modern advances. There will not be any fixed syllabus of instruction or examination, but arrangements will be made in each case by the Medical Officer in charge of studies at Greenwich to meet individual requirements, and a report will be made by this officer to the Medical Director-General at the close of the course. The officers attending this second course will also be accommodated at Greenwich.

Voluntary Classes at the Home Ports.

20. Voluntary courses of instruction of about six weeks' duration are held at the Naval Hospitals at the three Home Ports, for the benefit of Medical Officers of ships and establishments at these ports, and every facility will be afforded to such officers (especially at the Naval Barracks) for the study and practice of bacteriology, clinical pathology, skiagraphy, etc., in the hospital laboratories, a report from the Surgeon-General of the hospital being transmitted to the Admiralty at the close of each course.

Medical Libraries.

21. A small medical library of a value not exceeding £10 is supplied to each ship carrying a medical officer.

22. *Relative Rank.*

	Military Branch.	Army Rank.
Medical Director-General ...	Vice-Admiral	Lieut.-General.
Surgeon-General, R.N. ...	Rear-Admiral	Major-General.
Deputy Surgeon-General, R.N.	Rear-Admiral	Major-General
	Captain of three years' seniority	Colonel.
Fleet Surgeon	Commander	Lieut.-Colonel.
Staff Surgeon	Lieutenant of eight years' seniority	Major.
Surgeon	Lieutenant under eight years' seniority	Captain.

Pay and Allowances.

Full Pay.

23. The following scale of full pay for Naval Medical Officers is to take effect from 1st July, 1911:

	Year of 365 Days.	One Day.
	£ s. d.	£ s. d.
Surgeon-General, R.N. (Salary)	1,300 0 0	—
Deputy Surgeon-General, R.N.	821 5 0	2 5 0
Fleet Surgeon:		
On promotion	492 15 0	1 7 0
After 2 years	511 0 0	1 8 0
,, 4 ,, ...	547 10 0	1 10 0
,, 6 ,, ...	565 15 0	1 11 0
,, 8 ,, ...	602 5 0	1 13 0
,, 10 ,, ...	638 15 0	1 15 0
Staff Surgeon:		
On promotion	365 0 0	1 0 0
After 2 years	383 5 0	1 1 0
,, 4 ,, ...	438 0 0	1 4 0
,, 6 ,, ...	456 5 0	1 5 0
Surgeon:		
On entry	255 10 0	0 14 0
After 2 years	273 15 0	0 15 0
,, 4 ,, ...	310 5 0	0 17 0
,, 6 ,, ...	328 10 0	0 18 0

On first appointment to the Service, Medical Officers will receive full pay from date of appointment, but subject

* *See* Clause 7 of the Regulations for Entry.

to the provisions of Article 1342 of the King's Regulations, 1906.

Charge Pay.

(a) *Hospitals and Sick Quarters.*

24. The Medical Officers in charge of the following hospitals and sick quarters will be granted charge pay:

Haslar, Plymouth, Chatham, Malta, Hong Kong, Bermuda, Portland, Yarmouth, Haulbowline, Cape, Gibraltar Hospitals, Shotley and Yokohama Sick Quarters, and Royal Marine Infirmary, Deal.

The rate of charge pay will be as follows:

	s.	d.	
Surgeon-General	10	0	a day.
Deputy Surgeon-General	7	6	,,
Fleet Surgeon of over four years' seniority ...	5	0	,,
Fleet Surgeon of under four years' seniority and Staff Surgeon of over four years' seniority	2	6	,,

The Deputy Surgeons-General in charge of sections, and the Fleet Surgeons in charge of sections at the Royal Naval Hospitals at Chatham, Haslar, and Plymouth will be granted charge pay at the following rates:

	s.	d.	
Deputy Surgeon-General	5	0	a day.
Fleet Surgeon	2	6	,,

(b) *Ships.*

Charge pay at the rate of 3s. 6d. a day will be granted to the Senior Medical Officers of all ships with complements of over 650.

(c) *Hospital Ships.*

The following charge allowances may be granted to Medical Officers in charge of hospital ships:

	s.	d.	
If above the rank of Fleet Surgeon	5	0	a day.
If of the rank of Fleet Surgeon, or junior ...	3	6	,,

Allowances.

(a) *Flag Allowances.*

25. An allowance of 5s. a day in addition to full pay (and charge pay if granted) is granted to the Senior Medical Officer, being a Fleet or Staff Surgeon, of a flagship bearing the flag of a Commander-in-Chief. An allowance of 2s. 6d. a day is granted to the Senior Medical Officer, being a Fleet or Staff Surgeon, of a ship bearing other flags or broad pennants.

(b) *Hospital Allowances.*

The hospital allowances for Naval Medical Officers at home and abroad in lieu of provisions, for themselves and servants, and for fuel and lights, are as follows:

...	At Home.	Abroad.
	£	£
Deputy Surgeon-General	67	112
Fleet Surgeon and Staff Surgeon of over four years' seniority	53	112
Staff Surgeon of under four years' seniority, and Surgeon	39	108

NOTE.—These allowances are also granted to Medical Officers of Marine Divisions and Dockyards, at the Marine Rendezvous, and the Inspecting Medical Officer of Royal Naval Auxiliary Sick Berth Staff.

(c) *Special Allowances.*

Medical Officers conducting the courses of instruction will receive the following allowances:

	£	
Greenwich.—The Professors of Bacteriology and of Hygiene	150	a year each.
The Professor of Hygiene, for charge of studies of Naval Medical Officers undergoing courses of instruction will receive an extra allowance of	50	a year.
Haslar.—The Fleet Surgeon, for instruction of Acting Surgeons	150	,,
The Junior Officer assisting in Haslar course	50	,,
The Junior Officer instructing the Sick Berth Staff	50	,,
Plymouth.—The Junior Officer instructing the Sick Berth Staff	50	,,
Chatham.—The Junior Officer instructing the Sick Berth Staff	50	,,

(d) *General Allowances.*

Medical Officers employed elsewhere than at a hospital, and not victualled in kind, receive an allowance of 1s. 6d. a day in lieu of provisions, fuel, and lights, under the conditions laid down in the King's Regulations.

The travelling allowances, extra pay, lodging money, and compensation for losses are fixed for Naval Medical Officers according to their relative rank in the service.

Salaries of Medical Department of the Admiralty.

26. The emoluments of the Medical Director-General, Deputy Director-General, and Assistants, are to be as follows:

	£	
Medical Director-General (salary)...	1,800	per annum.
Deputy Director-General (salary) ...	1,100	,,
Assistants to Director-General (salary)	750	each per annum.

27. *Half Pay.*

Rank.	Daily. £ s. d.	Yearly. £ s. d.
Surgeon:		
Under 2 years' service) including service allowed by paragraph 13	0 6 0	109 10 0
After 2 ,, ,,)	0 7 0	127 15 0
,, 4 ,, ,,)	0 8 0	146 0 0
,, 6 ,, ,,)	0 9 0	164 5 0
Staff Surgeon:		
On promotion	0 10 0	182 10 0
After 2 years' service in rank	0 11 0	200 15 0
,, 4 ,, ,, ...	0 12 0	219 0 0
,, 6 ,, ,, ...	0 13 0	237 5 0
Fleet Surgeon:		
On promotion	0 14 0	255 10 0
After 2 years' service in rank	0 15 0	273 15 0
,, 4 ,, ,, ...	0 17 0	310 5 0
,, 6 ,, ,, ...	0 18 0	328 10 0
,, 8 ,, ,, ...	0 19 0	346 15 0
,, 10 ,, ,, maximum ...	1 0 0	365 0 0
Deputy Surgeon-General:		
On promotion	1 5 0	456 5 0
After 2 years' service in rank	1 7 0	492 15 0
,, 4 ,, ,, ...	1 9 0	529 5 0
Surgeon-General	1 18 0	693 10 0

Retirement and Retired Pay and Gratuities.

28.—(*a*) Compulsory retirement will be as follows:—

Surgeon-General and Deputy Surgeon-General, R.N.	At the age of 60, or at any age, if he has had 3 years' non-employment in any one rank; or after 4 years' continuous non-employment in any two ranks combined. Except that if in any particular case the Lords Commissioners of the Admiralty may consider that the interests of the public service will be materially advanced by the further retention of a Surgeon-General on the active list, the age for the retirement of such Surgeon-General may be extended to 62.	To be retired irrespective of age if found physically unfit for service.
Fleet Surgeon, Staff Surgeon, and Surgeon.	At the age of 55, or at any age, if he has had 3 years' non-employment in any one rank; or after 4 years' continuous non-employment in any two ranks combined.	

(*b*) Voluntary retirement and withdrawal will be allowed as follows:

(i) Every officer will have the option, subject to their Lordships' approval, of retiring after 20 years' full-pay service on the scale of retired pay provided in paragraph 29, or with a gratuity on the scale provided in that paragraph if not eligible for retired pay.

(ii) At the expiration of 4, 8, 12, or 16 years' full-pay service, every officer will be permitted, subject to their Lordships' approval, to withdraw from the Naval Service, receiving a gratuity on the scale laid down in paragraph 29.

NOTE.—The four years' service is exclusive of time served as resident officer in a civil hospital (*see* paragraph 13).

The name of an officer so withdrawing will be removed from the lists of the Navy, with which all connexion will then be severed, except in the case of officers who withdraw after four years, who are liable to serve in the Reserve (*see* paragraph 38).

In order that arrangements may, as far as possible, be made for the relief of officers who may wish to withdraw on a gratuity, it is desirable that six months' notice of their wish should be forwarded for the consideration of their Lordships.

(iii) Applications from officers to retire or withdraw, or to resign their Commissions, will receive every consideration, but no officer will, as a rule, be permitted to resign within three years from the date of entry.

(iv) The Admiralty reserve to themselves power to remove any officer from the list for misconduct.

29. Gratuities and retired pay will be awarded on retirement and withdrawal on the under-mentioned scale:

Rank.	Gratuities.	Daily.	Yearly.
Surgeon, Staff Surgeon, and Fleet Surgeon:	£ s. d.	£ s. d.	£ s. d.
After 4 years' full-pay service	500 0 0*	—	—
,, 8 ,, ,, including service allowed by paragraph 13	1,000 0 0†	—	—
,, 12 ,, ,,	1,500 0 0	—	—
,, 16 ,, ,,	2,250 0 0	—	—

* Applicable to officers entering after August 11th, 1903.
† In the case, however, of a Surgeon retired on attaining 8 years' seniority for failure to pass for Staff Surgeon, the gratuity awarded will not exceed £500 (*see* paragraph 19).

Rank.	Gratuities.	Daily.	Yearly.
Fleet Surgeon:		£ s. d.	£ s. d.
After 20 years' service (including proportion of half-pay time)	—	1 0 0	365 0 0
After 24 years' service (including proportion of half-pay time)	—	*1 2 6	410 12 6
After 27 years' service (including proportion of half-pay time)	—	*1 5 0	456 5 0
After 30 years' service (including proportion of half-pay time) or on compulsory retirement at the age of 55	—	*1 10 0	547 10 0
Deputy Surgeon-General	—	1 15 0	638 15 0
Surgeon-General	—	2 0 0	730 0 0

* To obtain this rate an officer must hold the rank of Fleet-Surgeon.

30. An officer retired with less than 20 years' service on account of disability, contracted in and attributable to the Service, will receive half pay of his rank, or, with the consent of their Lordships, a gratuity on the scales given in paragraph 29, but such officer will not be entitled to receive any special compensation for the disability in addition to the gratuity as above.

31. An officer retired with less than 20 years' service on account of disability, contracted in but not attributable to the Service, will receive:

(*a*) If he has over eight years' full-pay service, either a gratuity on the scale given in paragraph 29, or half-pay, according as their Lordships think fit;
(*b*) If he has less than eight years' full-pay service, such gratuity as their Lordships think fit, not exceeding the rate of £125 for each year of full-pay service.

32. Under circumstances other than those specified in paragraphs 30 and 31, and other than misconduct, neglect of duty, etc., an officer retired with less than 20 years' service will not be allowed half pay or retired pay, but will receive a gratuity on the scale laid down in paragraph 29, if he has eight years' full-pay service, and on that provided in paragraph 31 (*b*) should his full-pay service not amount to eight years.

33. The power vested in their Lordships of granting reduced rates of half pay and retired pay in cases of misconduct is extended to the award of gratuities on retirement, and the gratuity awarded will be reduced to such an amount as is thought fit.

34. An officer retiring after 20 years' full-pay service will be eligible, if recommended by the Medical Director-General, for distinguished or meritorious service, to receive a step of honorary rank, such step to be awarded at their Lordships' discretion, and not to confer any claim to increase of retired pay or of widow's pension.

35. All retired officers will be liable, till the age of 55, to serve in time of declared national emergency, in a rank not lower than that held on retirement.

This liability will not exist in cases of withdrawal on the conditions specified in paragraph 28 (ii), except as indicated in that paragraph as regards officers who withdraw after four years on a gratuity of £500.

36. Retired officers will receive special consideration as regards appointments on shore connected with the Admiralty.

Widow's Pension.

37. Widows' pensions and compassionate allowances for children are given under the conditions specified in the King's Regulations and Admiralty Instructions, and on the scale laid down in Appendix XVIII. A.

When an officer retires or withdraws on a gratuity his widow and children will have no claim to pension or compassionate allowance.

Officers serving in the Reserve, who during re-employment are injured on duty, or lose their lives from causes attributable to the Service, come under the same regulations as regards compensation for themselves, or pensions and compassionate allowances for their widows and children, as officers of the same rank on the permanent Active List.

Service in the Reserve of Naval Medical Officers.

38. The special attention of Candidates is directed to the following rules under which officers are allowed to withdraw after four years' full-pay service in the Royal Navy, with the advantage of joining the Reserve of Naval Medical Officers:

After four years' service in the Royal Navy an officer, if he wishes, may pass from Active Service to the Reserve of Naval Medical Officers, when he will reap the following advantages:

(i) He will be granted a gratuity of £500 on passing into the Reserve.
(ii) His name will be retained in the Navy List; he will retain his Naval rank and be entitled to wear his Naval uniform under the regulations applying to officers on the Retired and Reserved Lists of His Majesty's Navy.
(iii) If he agree to remain in the Reserve for four years, he will receive a retaining fee of £25 per annum. If, at the expiration of this period, he agree to remain in the Reserve for a further period of four years, he will continue to receive the same retaining fee.

Should an officer prefer it, however, he may simply enter the Reserve for a period not exceeding eight years, with power to give six months' notice of his intention to resign his position at any time (in which case he will receive no retaining fee). He may also adopt this method of Reserve Service after the expiration of four years served under the conditions referred to in (iii), by renouncing his retaining fee for his last four years' service in the Reserve.

No officer will be allowed to remain in the Reserve for a longer period than eight years. Whilst belonging to the Reserve, officers must report any change of address to the Secretary of the Admiralty.

Officers of the Reserve will be liable to serve in the Royal Navy in time of war or emergency. When called up for such service they will receive the rate of pay, namely, 17s. a day and allowances, to which they would have been entitled after four years' service on the Active List.

Promotion.

To Staff Surgeon.

39. (*a*) Rank as Staff Surgeon will be granted to Surgeons at the expiration of eight years from the date of entry, subject to their Lordships' approval and to the following qualifications:

For the rank of Staff Surgeon an officer must—

(i) Have served three years at sea;
(ii) Have passed the qualifying examination referred to in paragraph 19, under the heading Examinations;
(iii) Be recommended for advancement to Staff Surgeon by the Medical Director-General.

(*b*) Special promotions will be made, at their Lordships' discretion, to the rank of Staff Surgeon, in cases of distinguished service or conspicuous professional merit. Such promotions will be exceptional and not exceed the rate of one a year. The total number at any one time of Staff Surgeons holding that rank by such special promotions will not exceed eight. These limitations will not, however, apply to promotions for gallantry in action.

(*c*) *Accelerated Promotion.*—Certificates will be granted to Surgeons at the qualifying examination for Staff Surgeon according to the following scale of marks:

50 per cent. of marks for a pass.		
75	,,	,, first-class certificate.
85	,,	,, special certificate.

An officer obtaining a first-class certificate will be eligible for an advance of 12 months' seniority. An officer obtaining a special certificate will be eligible for an advance of 18 months' seniority. This accelerated promotion will not be granted on examination results alone, and an officer must also be recommended as deserving of advancement. It will be open to their Lordships to reduce the amount of seniority allowed if considered advisable by the Medical Director-General. If a Surgeon fails to pass at the first attempt, the results of a successful second trial will not count towards accelerated promotion.

40. Rank as Fleet Surgeon will be granted to Staff Surgeons at the expiration of eight years from the date of promotion to the latter rank, subject to the approval of their Lordships, and to the following qualifications:

(*a*) For the rank of Fleet Surgeon a Staff Surgeon must—
(i) Have served three years at sea in that rank;
(ii) Be recommended for advancement to Fleet Surgeon by the Medical Director-General;
(iii) Never have declined service except for reasons which are accepted as satisfactory by the Lords Commissioners of the Admiralty.

(*b*) Special promotions from the rank of Staff Surgeon to that of Fleet Surgeon will be made, at their Lordships' discretion, in cases of distinguished service or conspicuous professional merit. Such promotions will be exceptional and will not exceed the rate of one in two years; the total number at any one time of Fleet Surgeons holding that rank by such special promotions will not exceed six. These limitations will not apply, however, to promotions for gallantry in action.

41. Promotions to Surgeon-General and Deputy Surgeon-General will be made strictly by selection, and will be confined to officers who have proved themselves to be fitted both professionally and as administrators for these ranks. For advancement to Deputy Surgeon-General two years' sea service in the rank of Fleet Surgeon will be required, or five years' combined service at sea in the ranks of Fleet and Staff Surgeon.

Distinctions.

42. In addition to the possibilities of gaining war medals and other distinctions for active service or distinguished performance of duty which Medical Officers share in common with the rest of the Navy, the following prizes and distinctions are confined to the officers of the Medical Department:

(*a*) Prizes are given at the end of the Acting Surgeon's course of instruction, as already detailed in paragraph 12.

(*b*) *Gilbert Blane Medals.*—In 1830, the late Sir Gilbert Blane, Bart., formerly a member of the Board for Sick and Wounded Seamen, established with the sanction of the Board of Admiralty for the encouragement of Naval Medical Science, a fund vested in the Corporation of the Royal College of Surgeons of London, in trust for the purpose of conferring a gold medal once in every two years on each of the two Medical Officers (Fleet, or Staff Surgeons, or Surgeons) who shall produce the most approved journals of their practice "in the form in which they have been kept from day to day" while in medical charge of a ship of war in the Royal Navy.

The Presidents of the Colleges of Physicians and of Surgeons, and the Medical Director-General of the Navy award the medals biennally for the two best journals sent into office during the preceding period of two years.

Officers awarded these medals have a distinguishing mark placed after their names in the Navy List.

(*c*) *Chadwick Naval Prize.*—A trust called the Chadwick Trust has been created by the will and codicil of the late Sir Edwin Chadwick, K.C.B., that once in every five years the Trustees may present the sum of £100 and a gold medal to be called the "Chadwick Naval or Military Prize," to such Officer of the Naval or Military Medical Services as shall during the preceding five years have specially assisted in promoting the health of the men in the Navy or the Army, and shall be nominated for such presentation, in the case of a Naval Officer, by the Director-General of the Medical Department of the Navy.

An officer awarded this prize has a distinguishing mark placed after his name in the Navy List.

King's Honorary Physicians and Honorary Surgeons.

43. Under Order in Council of 13th May, 1859, a limited number of Medical Officers on the active or retired list are appointed as Honorary Physician or Honorary Surgeon to the King.

Special Pensions.

44. There are three good-service pensions of £100 a year; two Greenwich Hospital pensions of £100 a year, and 13 of £50 a year awarded to Naval Medical Officers.

Leave of Absence.

45. Full-pay leave of absence will be granted to Medical Officers under the conditions specified in the King's Regulations and Admiralty Instructions, Articles 844 to 854 and 1393.

Sick Leave.

46. Sick leave is granted to Medical Officers under the conditions laid down in the King's Regulations and Admiralty Instructions, Articles 1391 (Addenda 1911) and 1347.

Miscellaneous.

47. The Principal Medical Officer of a Fleet.—The Medical Officer of the Senior Flagship of a Fleet is to be recognized as the Principal Medical Officer of that Fleet. He will be appointed on the Staff of the Commander-in-Chief, and wear an aiguillette. He will act as the Commander-in-Chief's principal adviser on all medical and sanitary matters connected with the Fleet, and it will be his province to report to the Admiral periodically upon the arrangements for the treatment of the sick, the sanitary conditions, and the state of the medical appliances in the various ships; also to supervise and report upon the arrangements for the treatment and transport of wounded, the instruction given in first aid, and other matters as he may be directed. He will have direct access to the Commander-in-Chief, and be in a position to propose for his consideration any measures likely to conduce to the efficiency of the medical organization of the Fleet, and he will be directly responsible to the Commander-in-Chief for keeping him informed on these matters generally.

48. A special cabin will be appropriated to the Fleet or Staff Surgeon or Surgeon in charge of the medical duties in each ship.

R.A.M.C. SCHOOL OF INSTRUCTION (HOME COUNTIES).

A COMPLIMENTARY dinner was given recently at the Grand Hotel, Trafalgar Square, to Captain F. M. Parry, R.A.M.C., late Adjutant R.A.M.C. School of Instruction, Home Counties Division, by the officers of Territorial R.A.M.C. units in the Division. The chair was taken by Colonel J. Turton, F.R.C.S., V.D., the Administrative Medical Officer, Home Counties Division, and he was supported by Lieutenant-Colonel C. P. Oliver, M.D., First Home Counties Field Ambulance; Lieutenant-Colonel D. L. Hamilton, Second Home Counties Field Ambulance; Lieutenant-Colonel J. J. de Zouche Marshall, Third Home Counties Field Ambulance; Lieutenant-Colonel C. J. Jacomb-Hood, Second Eastern General Hospital; Lieutenant-Colonel M. W. Russell, R.A.M.C., Staff Officer to the Principal Medical Officer, Eastern Command; Major G. A. Edsell, M.D.; Captain F. M. Parry, R.A.M.C.; Captain H. H. J. Fawcett, R.A.M.C. (Captain Parry's successor); Lieutenants Flint, Houchin, and Willan, Second Home Counties Field Ambulance; Lieutenants Coad, Mackenzie, and Barkley, Third Home Counties Field Ambulance; Major and Quartermaster Briscoe, Second Eastern General Hospital; Lieutenant T. South, 8th Battalion Middlesex Regiment; and Messrs. Robert Gould, C.E., J. W. Marshall, and C. de Z. Marshall. Lieutenant-Colonel Marshall acted as Honorary Secretary.

Universities and Colleges.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE report which will be presented to the annual meeting of Fellows and Members to be held on Thursday, November 16th, has reference to the year ending August 1st, 1911. It contains a brief report of the proceedings of the annual meeting on November 17th, 1910, when a resolution was adopted affirming the desirability of admitting members to direct representation on the Council. (See BRITISH MEDICAL JOURNAL, 1910, vol. ii, p. 1754.) The following reply was sent by the Council to the proposer and seconder of this resolution:

As the matter referred to in the resolution was fully considered by the Council during the present year, they are not prepared to reopen the discussion.

The report further contains the usual summary of proceedings of the Council during the year. These proceedings have been reported in the BRITISH MEDICAL JOURNAL from time to time.

The Museum.

The report notifies the numerous additions to the museum, and the scheme for enlarging the pathological and anatomical collections by making more space for them on the College premises, mentioned in the JOURNAL of July 15th, in the paragraph on the conservator's report and the annual show of additions to the museum. The ground floor of Room III, the old "Western Museum," is to be devoted to general pathology, which includes many of Hunter's most valued preparations. A series of floor cases, after a model prepared by Messrs. Fred. Sage and Co., Limited, are in course of construction; they are stands with open shelves of plate glass supported on uprights of gun metal, measuring 5 ft. long, 4 ft. 9 in. high, and 1 ft. 6 in. wide, with a footplate of mahogany. Thirty-six shelves will be required, and the total cost amounts to £574. The scheme was sanctioned by the Council last March.

A building, usually known as the Librarian's house, but which has been used for museum purposes for many years, is under reconstruction, after plans prepared by Mr. E. G. Frere, in order to provide accommodation for the invertebrate and vegetable collections, the surgical instrument series, and the nucleus of the new medico-legal collection, instituted on the suggestion of Sir John Tweedy and

Dr. W. H. Broad, President and Secretary of the Medico-Legal Society, to which the Council of the College agreed in July, 1910. The new collection will be arranged after the plan of the Medico-Legal Museum in the University of Edinburgh. The alterations in the building to be devoted to the above purposes will cost £795.

The arrangement and cataloguing of the pathological collection has advanced considerably in the past year. Mr. Shattock and Mr. Cecil Beadles have made considerable progress in the general series, and Mr. Alban Doran has completed the obstetrical and gynaecological collection, amounting to 560 specimens, and type-written cards describing the preparations are being prepared for the use of visitors. The College has acquired the collection of defective and malformed pelves, formerly in the possession of the Obstetrical Society of London, and presented during the present year by the Royal Society of Medicine. A complete series of measurements have been taken by Dr. J. Davis Barris. Mr. Arthur H. Cheatle has presented his valuable collection of specimens showing injuries and diseases of the ear, and has been engaged in the revision and extension of the series already belonging to the museum. Mr. Stephen Mayou has been occupied in the revision and re-cataloguing of the eye series; the new preparations are preserved in formalin and mounted in specially prepared bottles. An appeal is to be made to surgeons engaged in ophthalmic work, in the hope that an ample supply of material may be available to give a complete representation of the surgery and pathology of the eye and orbit. The cataloguing of the odontological collection is progressing, the task being undertaken by the Honorary Curator, Mr. J. F. Colyer. Mr. Burne has prepared a provisional catalogue of several important sections of the physiological series. The report further dwells on the additions to the museum made during the past year and exhibited at the annual show in July.

The number of visitors to the museum during the year was 13,342, of whom rather more than half attended on Friday and Saturday, when the museum is open to nurses and lady visitors. The admission of special classes on Saturday afternoon was continued under the superintendence of the Assistant Conservator, Mr. R. H. Burne. Altogether 78 classes were admitted, 22 being classes of teachers from the London County schools; 33 ambulance classes brought by their teachers, usually qualified medical men; and 21 classes of students from polytechnic, natural history, and other educational institutions.

Much independent work by the Conservator, Dr. A. Keith, and by scientists and medical men has been undertaken in the museum and work-rooms attached to it. Researches on the structure of the sino-auricular node, a limited area of neuro-muscular tissue at the auricular end of the superior vena cava, have been continued by Dr. Ivy Mackenzie and Dr. Adele Oppenheimer. Among those who have made use of material in the museum are Professor Cossar Ewart (evolution of domestic breeds of cattle), Professor Boyd Dawkins (identification of the teeth of extinct animals), Professor James Wilson of Dublin (telegony), and Mr. W. F. Haslam (evolution and mechanism of instruments employed for the removal of stones from the male bladder). Many other authorities have made use of the museum for special research during the past year; 500 copies of the Guide to the Museum, issued in 1910, have been sold and 90 presented; its price 6d.

The Library.

The report states that during the year the library was opened for 272 days, that the number of readers was 1,627, that the supply of books and journals had been well kept up, and that the work of cataloguing had made good progress. An interleaved copy of the list of periodicals in the College library, brought up to date by Mr. Fusedale, contains 1,663 entries. In the acknowledgement of gifts of books special reference is made to a large collection of pamphlets and manuscripts on the inheritance of haemophilia, presented by Dr. Bulloch, and collected by him, or specially copied for him, during his research on haemophilia for the Eugenics Laboratory, University College, and to the gift by Mr. C. B. Lockwood of a copy of Palmer's edition of the works of John Hunter, once the property of the late Edwin Canton, containing newspaper cuttings and various other documents relative to John Hunter, and a small fragment of Hunter's coffin shroud.

Results of Examinations.

In an appendix the returns of results of professional examinations are given.

Fellowship.

	First Examination.	Final Examination.
Candidates	252	136
Passed	77	59
Referred	175	77

Conjoint Board.

	First Examination.				Second Examination.	Third Examination.		
	Chemistry.	Physics.	Biology.	Pharmacy.		Medicine.	Surgery.	Midwifery.
Candidates ...	213	208	234	216	341	609	644	584
Passed	137	134	151	192	205	348	338	385
Referred... ...	76	74	83	24	136	261	306	193

Diploma in Public Health.

	Part I.	Part II.
Candidates	74	62
Passed	37	45
Referred	37	17

Licence in Dental Surgery.

	Preliminary Science Examination.		First Professional Examination.		Second Professional Examination.	
	Chemistry.	Physics.	Mechanical	Metallurgy.	General Surgery.	Dental Surgery.
Candidates	142	136	158	141	169	131
Passed	87	84	123	128	112	98
Referred	55	52	35	13	57	33

Finance.

The financial statement shows that the total receipts in respect of revenue were £25,703 12s. 9d., and the total expenditure £23,481, leaving a balance of £2,221. A further special expenditure was that of £3,000, a payment on account in respect of the new examination hall.

A Quarterly Council was held on October 12th, Sir Henry T. Butlin, Bart., President, in the chair.

Annual Report.

A draft copy of the annual report of the Council, to be presented to the Fellows and Members at the annual meeting on Thursday, November 16th, was submitted to the Council by Sir Frederic Eve on behalf of the committee, and was approved.

University of Wales.

Mr. C. D. Mansell Moullin was reappointed to represent the College on the Medical Board of the University of Wales for three years, from May 12th, 1911.

New Catalogue of the Gynaecological Preparations.

The thanks of the Council, accompanied by a substantial honorarium, were given to Mr. Alban Doran for his services in preparing a new edition of the catalogue of the above preparations. The Council also sanctioned the publication of an illustrated synopsis of the same section, prepared by Mr. Doran.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examination indicated:

D.P.H. (*Both Parts*).—W. McE. Clendinnen, J. F. Corson, D. V. Cow, A. V. Craig, F. D. Crosthwaite, P. P. Debono, T. S. Dudding, *†R. H. W. Fisher, K. Fraser, †J. Gilmour, †A. C. N. McHattie, Ada McLaran, W. Nicoll, A. B. Pestonji, R. M. F. Picken, Mary J. Pirrett, Laura G. Powell, R. F. Priestley, L. Reynolds, E. T. Roberts, †B. H. Robertson, J. A. R. Thompson, G. H. H. Waylen, E. A. F. Wilkes, Lisette A. McD. Wilson, F. L. Woods.

* Distinction in Bacteriology. † Distinction in Hygiene.

UNIVERSITY OF LONDON.

Lister Institute of Preventive Medicine.

THE Governing Body of the Lister Institute has made the following appointments: Drs. E. E. Atkin and W. Ray to be Assistant Bacteriologists; Mr. Arthur W. Bacot to be Entomologist; Dr. Casimir Funk to be a Research Scholar.

The Middlesex Hospital.

The following entrance scholarships have been awarded at the medical school of the Middlesex Hospital: The *University Scholarship*, value £50 to Mr. A. T. Edwards, of St. John's College, Cambridge; three *Entrance Scholarships*, one of £100 to Mr. W. T. Warwick, one of £50 to Mr. J. K. Muir, and a third of £25 to Mr. W. L. Thomas; the *Freer Lucas Scholarship* (estimated value £126) has been awarded, on the nomination of the head master of Epsom College, to Mr. E. St. Clair Gainer.

The London Hospital.

The competition for entrance scholarships at the medical college of the London Hospital resulted in the following awards: The *Price Scholarship in Science*, value £120, to Mr. H. W. L. Molesworth; the first *Entrance Science Scholarship*, value £60, to Mr. D. Valentine; the second *Entrance Science Scholarship*, value £35, to Mr. A. G. Harsant; the *University Scholarship in Anatomy and Physiology*, value £60, to Mr. L. P. Costabadie, of Gonville and Caius College, Cambridge; the first *Burton Scholarship in Arts*, value £30, to Mr. C. A. Hutchinson; the second *Burton Scholarship in Arts*, value £20, to Mr. C. O. Carter. The Epsom scholar for the year is Mr. A. Alexander.

UNIVERSITY OF GLASGOW.

THE following were among the degrees conferred on October 12th:

M.B., CH.B.—J. E. Paterson, C. Cameron, J. L. Ure, T. S. Barrie, F. Matheson, W. W. MacNaught, J. M'C. Lang, M. J. Aitken, A. J. Archibald, W. E. H. Beard, J. E. Black, J. Bower, D. S. Brough, A. D. Buchanan, W. M. Buchanan, J. Campbell, G. Cochrane, M.A., J. A. J. Conway, R. C. Corbett, J. Findlay, M.A., L. L. Fyfe, W. G. Goudie, J. R. Grice, M.A., C. H. Haddow, J. S. Hall, D. C. Hayes, J. R. Herbertson, A. G. Holms, Isabel Inglis, J. Johnstone, A. Kirkhope, N. M'Farlane, Barbara Macgregor, M. Mackinnon, Katherine S. Macphail, J. Matheson, J. Mitchell, A. Muir, Ellen B. Orr, H. Paterson, H. C. D. Rankin, H. Y. Riddell, W. L. Scott, Christina H. Shearer, A. H. Sinclair, J. Smith, Isabel J. Stark, J. A. H. Telfer, W. Tudhope, G. A. Valentine, H. F. Watson, A. Wilson, D. Wilson, W. P. Yates.

On the same occasion the Brunton Memorial Prize for the most distinguished graduate in Medicine of the year was handed to Mr. J. E. Paterson, and the Struthers Prize in Anatomy to Dr. W. B. M. Martin.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

The Schools of Surgery.

THE commencement of term on October 16th was marked by a prize distribution, the following being winners of the principal awards: The *Barker Anatomical prize* (£31 10s.), Eleanor Taylor; special prize (£15 15s.), T. Mulcahy; the *Carmichael Scholarship* (£15), E. Connell; the *Mayne Scholarship* (£8), J. T. Duncan; the *Medals in Operative Surgery*, J. T. Duncan, gold medal, H. J. Burke, silver medal; the *Stoney Memorial Gold Medal in Anatomy*, M. Shipsey; *Practical Histology*, G. M. C. Powell; *Practical Chemistry*, V. A. Power; *Public Health and Forensic Medicine*, G. N. Smythe; *Materia Medica*, G. N. Smythe; *Biology*, N. E. Stephens; *Systematic Anatomy*, W. H. Carden; *Topographical Anatomy*, W. P. Cooney; *Practical Anatomy*, first year, A. F. Carbury, second year, M. Shipsey: *Practice of Medicine*, M. J. Hillery; *Surgery*, M. J. Hillery, *Midwifery*, M. J. Hillery; *Physiology*, W. H. Carden; *Chemistry*, L. M. Rowlette; *Pathology*, G. N. Smythe; *Physics*, J. W. E. Graham.

Except when otherwise stated, the award was in each case a medal and £2 in money, second awards of a certificate and £1 being also made.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the Final Examination for the Diploma in Public Health:

A. P. Granger, G. L. Cawkwell, W. H. Dickinson, W. L. Burgess, W. L. Martin, J. A. Clarke, W. L. Johnston, J. M. Taylor, J. S. Peebles, W. H. Mackenzie, L. Grant, R. A. Krause, D. G. Robertson, T. H. Balfour, W. S. I. Robertson, J. Alexander, Jessie M. Campbell, W. J. Feltham, and R. T. Young.

IN consequence of the verdict of a coroner's jury which inquired into the death of a young married woman alleged to have been due to the results of an illegal operation, Mr. Charles Louis Lumley, residing at Elgin Mansions, Elgin Avenue, was brought up at Marlborough Street Police Court on October 17th on the charge of murder, and remanded. After the charge had been stated, the solicitor for the defence said that he would reserve his cross-examination. Mr. Lumley is described as a medical practitioner, but his name was removed from the *Medical Register* in 1900 in circumstances stated in our columns at the time. At the inquest Mr. Lumley said that he still had in his possession his diplomas of L.R.C.P. and L.M.

Public Health AND POOR LAW MEDICAL SERVICES.

THE SHOREDITCH GUARDIANS.

THE following report of the meeting of the Shoreditch Guardians on October 11th is quoted from the *Shoreditch Observer* of October 14th:

At the meeting of the Shoreditch Board of Guardians on Wednesday, Councillor H. Winkler presiding, a letter was read from the City Division of the British Medical Association, stating that at a meeting of the Division, to which all the medical practitioners residing in Hoxton and the adjacent districts were invited, it was unanimously resolved to ask the Association to continue their warning notice to the medical profession generally against accepting the vacant office of medical officer to the No. 3 (Whitmore) district of Shoreditch until the salary for the office shall be raised to £175 per annum.

At the commencement of the present controversy the board were offering £115, but on the Local Government Board pointing out that this sum was inadequate the guardians raised the amount to £150.

On the motion of Mr. Vandy, it was decided that the letter be received.

Mr. F. Kehler pointed out that if the guardians did not consider the letter the doctors' demands would go up to £300.

The Clerk (Mr. R. Clay) reminded the board that they were paying the medical profession a much larger sum than £175, so that they had better meet them somehow.

Mr. R. Kendall, who described himself as a revolutionary Socialist, urged that it would be wise to submit to the terms demanded, so that the guardians could show the people that they were generous towards the medical profession. It would stop all controversy, and, if they did not do so, the board might have to pay £300, £500, or £5,000 before long.

Mr. F. Kehler pointed out that, if the demand was conceded, the friends of the doctors would say that the guardians were prepared to grant anything they asked.

The motion that the letter be received was carried, and Mr. Jobson gave notice to move at the next meeting of the board that Dr. O'Sullivan be appointed. He had offered himself at the salary of £150 offered by the board, and was fully qualified, and should be appointed subject to full inquiries.

The Clerk read a further letter from the district medical officers stating that they were greatly desirous of the conference with the board, which had been suggested with a view to an early and equitable settlement of any differences existing, and they hoped that the board would consider the matter favourably. At the same time none of them had ever spoken or published any matter of a scurrilous nature in regard to the guardians.

Mr. Jobson suggested that the guardians should treat the writers in the same way as they were treating the board, and throw the letter in the waste-paper basket.

On the motion of Mr. J. W. Vandy, vice-chairman of the board, it was decided that the letter be received.

Dr. Alban Dixon, who is doing the work temporarily in the No. 3 district, in reply to the application of the guardians to reduce his fees of 2s. 6d. and 1s. 6d., wrote that as the work had continued so long he was prepared to charge his cash fees of 2s. a visit and 1s. for consultation, and it was unanimously decided to accept these terms.

*** We regret to learn that exception has been taken by Dr. Patrick Joseph O'Sullivan to the article published in our issue of the 7th instant, p. 848, which he interprets as conveying an imputation upon his professional qualifications. This was certainly not intended, nor should we have thought that such an interpretation was capable of being placed upon it, and we desire at once to give such assurance to Dr. O'Sullivan.—ED. B. M. J.

MUNICIPAL TUBERCULIN DISPENSARIES.

AT a conference of public health authorities held at the Caxton Hall, Westminster, on October 13th, a discussion on tuberculosis was introduced by Dr. Henry E. Armstrong, M.O.H., Newcastle-on-Tyne. On the motion of Dr. Fremantle, a resolution was adopted calling upon the Government to deal promptly on national lines with the human and bovine causes of the disease. At the instance of Dr. A. Mearns Fraser (M.O.H., Portsmouth), the following resolution was also adopted:

> That inasmuch as considerable success in the cure of tuberculosis is claimed from the use of tuberculin at tuberculin dispensaries, the Government be asked to appoint a commission to inquire into the results obtained from the various methods of tuberculin treatment in this and other countries, with the view of affording public health authorities reliable information on the subject.

In moving this resolution, Dr. Fraser said that it was too soon to state the results of the municipal tuberculin dispensary established at Portsmouth, since it had only been at work about four months. He was able, however, to say that the prospects were encouraging, and that persons suffering from

the disease had shown so much readiness to take advantage of the method that at the present time 150 persons were attending, the largest number with which the staff could cope. He added that in the case of some eight or nine persons, who had been out of work owing to their illness, six had after a month's treatment been enabled to return to work. Further, some half-dozen patients in the union infirmary had left that institution and were now attending the dispensary. All of them had been able to return to work. In both these directions the dispensary was relieving the rates, since the families of these persons were not forced to seek Poor Law relief.

NEW BOARDING-OUT ORDER.

The President of the Local Government Board has issued a general order prescribing regulations for the boarding-out of Poor Law children. The new order replaces the two sets of regulations hitherto in force by a single code of revised regulations applicable to all children boarded out by guardians of the poor, whether within or beyond the union to which the children are chargeable.

All relief, other than medical or institutional, to or on account of children living apart from their parents is definitely brought within the provisions of the boarding-out regulations, and all these children are now afforded the protection of the new order. The order requires that every boarding-out committee shall include a proportion of women, and that every boarded-out child shall be periodically visited by a woman.

With regard to the appointment of the committee, boards of guardians are given a wide discretion. They may appoint a committee consisting wholly of members of their board, or one consisting partly of members and partly of other persons, or if they prefer it they may make an agreement with an entirely independent committee.

The order is accompanied by a circular letter in which the Local Government Board explains the general principles on which the regulations are based, and the reasons for requiring the strict observance of such regulations.

Mr. Burns has devoted considerable attention to this branch of Poor Law administration, and it will be remembered that he recently appointed as additional inspectors of boarded-out children four ladies who, apart from their other qualifications, are also trained nurses.

As showing the number of children to whom the new order will apply, it may be stated that on January 1st there were 9,669 children boarded-out by boards of guardians at the cost of the poor rates. Of these, 7,675 were placed within the union to which they were chargeable, while the remaining 1,994 were boarded-out beyond the union. On the date named there were also 895 children in receipt of outdoor relief who were not living with their parents.

DUTIES OF MEDICAL OFFICER OF HEALTH IN INFECTIOUS CASES.

ENQUIRER.—Among the duties of a medical officer of health, as laid down in Art. XIX of the Order of the Local Government Board, dated December 13th, 1910, is that of inquiring into the causes and circumstances of an outbreak of any infectious disease of a dangerous character, and if he be not satisfied that all due precautions are being taken, he must advise the persons competent to act as to the measures which appear to him to be required to prevent the extension of the disease, and must take such measures for the prevention of disease as he is legally authorized to take under any statute in force in the district, or by any resolution of the council. The medical officer of health in the case referred to no doubt considered that he was carrying out this duty in notifying the principal of a private school that there was a case of scarlet fever in the household of a pupil attending the school. Under the special circumstances narrated by our correspondent, it would, perhaps, have been more prudent for the medical officer of health to have asked the father of the infected child to withdraw from school attendance at the private school the non-infected child. It is possible, however, that the medical officer of health was not aware of the circumstances attending the removal of the child to the isolation hospital and of the disinfection.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

THE OBLIGATIONS OF A SUBSTITUTE.

OBO.—We should think that in the circumstances C. was certainly on terms of reciprocal obligation with A.

K.—The interval of two years has been suggested, but in any case there ought to be no obvious connexion between the acting as a substitute, as assistant, or in consultation, and the transfer of the patient.

MEDICAL PRACTITIONERS AND THE SALE OF DRUGS.

EXPERIENCE.—The General Medical Council does not appear to have given any decision on the subject, and we are not in a position to state what view it might take if the case were brought before it. The Royal College of Physicians of London has the following by-law: "(CLXXXII) Licentiates of this College shall not compound or dispense medicines except for patients under their own care." Further, we presume that before considering this step our correspondent has assured himself that he will not be running counter to local medical opinion.

Obituary.

LOUIS STROMEYER LITTLE, F.R.C.S.Eng., M.D.Vict., B.A.Lond.,

CONSULTING SURGEON TO THE SHANGHAI GENERAL HOSPITAL; FORMERLY SURGEON TO THE LONDON HOSPITAL, WHITECHAPEL, E.

His numerous friends, both in England and China, will learn with deep regret of the death of Louis S. Little, which took place at Whitehill, Bletchingley, on October 4th. Although the greater part of his professional life was passed in China, there are still remaining many who will remember the brilliant promise of his early work at the London Hospital, where he was appointed Assistant Surgeon at the unusually early age of 21 years.

He was born on November 23rd, 1840, the third son of Dr. W. J. Little, Physician to the London Hospital, one of the pioneers of modern methods of orthopaedic surgery in this country, and the first describer of that form of spastic paraplegia that is very commonly named after him "Little's disease." The son was named after Dr. Louis Stromeyer of Hanover, the originator of subcutaneous surgery, who had operated on the father. At the early age of 7 years he went to St. Paul's School, and continued there until 14 years old, when he was sent to Germany to continue his studies at Hanover and Kiel. It is said that whilst the German scholastic authorities were profoundly impressed with his extensive knowledge of Greek and Latin, they were equally so with his ignorance of mathematics, even of arithmetic. Such was his capacity and bent, indeed, that there is little doubt that a continuous study of the classics would have enabled him to take a high place in the world of scholarship. Afterwards, when he studied mathematics under de Morgan at University College, he proved that his former ignorance of that science was due to defects in the Pauline teaching, and not to any incapacity on the part of the pupil. In 1860 he became B.A.Lond., but went no further with the degrees of that university. He was one of the last, if not the last, to hold the singular position of articled pupil to the Royal College of Surgeons, Thomas Blizard Curling, F.R.S., being his master. Having entered at the London Hospital, he took the diploma of M.R.C.S. in 1862, and that of F.R.C.S. in 1866.

In the same year that he took the Membership he was elected Assistant-Surgeon to the hospital. His father's position as Physician to that institution must undoubtedly have been of assistance to him; but he was much more indebted to the recognition of his unmistakable ability for his election to such an important post at the early age of 21. His work soon showed that the honour was not undeserved. As an operator he was original in design, whilst he was cool, rapid, neat, and resourceful in performance. At the London Hospital he did the first subcutaneous osteotomy in this country for bony ankylosis of the knee, the case being recorded in vol. liv of the *Medico-Chirurgical Transactions*. In a preceding volume of the same *Transactions* he recorded a case where with a hooked probang, passed through the mouth, he successfully removed a gold plate and teeth from the stomach of a woman; the plate is still in the museum of the Royal College of Surgeons. About the same time, as Surgeon to the National Orthopaedic Hospital, he performed the first osteotomy in this country for bow-legs.

In 1864, from February till May, he was with the troops in Schleswig during the Schleswig-Holstein campaign. After the storming of Düppel, with 2,000 Danish, Austrian, and Prussian wounded, he had hard and arduous operative and other work, being on his feet continuously for above forty hours at a stretch. His experiences are recorded in

vol. i of the *London Hospital Reports*. This paper is extremely interesting and valuable, not only from his description of gunshot wounds and his views of their proper treatment, but from his exposures of the shortcomings of medical service in actual warfare then existing, and his indication of the way in which they were to be remedied.

In 1866 he worked in the cholera epidemic in the East of London, and was one of the pioneers of the treatment of that complaint by means of saline infusion into the veins. In vol. iv of the *London Hospital Reports* is a paper by him on the results of this procedure, at that time possessing all the elements of novelty. In 1869 he was appointed full Surgeon to the London Hospital, but in the same year, a brilliant opening having been offered to him in China, he left London for Shanghai. His two elder brothers had preceded him there, one of them being Archibald Little, the well-known traveller and writer on China, and the other, Robert Little, editor for many years of the *North China Herald*. From 1869 until his retirement in 1899 he had sole charge of the Shanghai General Hospital, and rapidly gained the leading surgical practice in that part of the world. His busy and strenuous life left him little time or opportunity for putting his experience on record. It is known, however, that his work on liver abscess was both original and successful, and a paper contributed by him on this subject to the medical journal of the French navy was highly esteemed by the surgeons of that service. His recreations were intellectual, and he founded an observatory at Shanghai, where he photographed the transit of Venus. In conjunction with Tainter, of the Imperial Maritimes Customs, he settled the longitude of Shanghai, which until then had not been accurately known. In recognition of this work, he was elected a Fellow of the Royal Astronomical Society. On leaving China he went, by way of Australia, to South Africa, where the war was then going on. He offered his services, which were accepted, and he was given charge of surgical beds in No. 9 Hospital at Bloemfontein. After three months, however, his health failed, and he returned to England. He was awarded the South African medal, and his last public duty was to give evidence before the Commission.

He was in a large measure a victim to his profession. Although he had nearly completed his 71st year, there can be no doubt that his life was curtailed by one of the accidents that are inseparable from an extensive practice. In the course of an abdominal operation many years ago he inoculated a finger, and, in spite of thorough mercurial treatment, after a lapse of time symptoms of locomotor ataxia gradually supervened. His digestive system, too, never recovered from a former attack of sprue, and up to the end the selection of an efficient diet presented great and increasing difficulties. He was the first to note the early symptoms of tabes in himself, and, although he knew all the pains and disablement attaching to that disorder, he never permitted himself any complaint of the harshness of fate. His friends were always sure of a ready welcome, and ever found in him the same vivacious and intellectual companion. Throughout his life books had always been to him a great resource, and with increasing feebleness and diminishing powers of locomotion they became to him still more a means of comfort and solace. His memory was remarkably retentive, and there must be very few that possess his full knowledge of the best literature, poetry and prose, both British and foreign. Any misquotation he would readily correct, and would furnish chapter and verse to prove his contention. History was with him a specially favourite study, and his knowledge of it much more extensive and accurate than that of many who make that subject a professional calling. He made himself acquainted with each fresh discovery in every branch of science, and every development in his own profession he would discuss with interest and acumen. If his friends had any complaint against him it would be that with such attainments, allied to such literary tastes, his own contributions to literature should have been so few and of so distant a date. On this point, however, it may be said that during his professional career in China his engagements left him scant leisure for writing, had his inclination been ever so great.

He leaves a widow and one son, an officer in the Royal Navy. Two other children predeceased him. His sole surviving brother, Mr. E. Muirhead Little, is Senior Surgeon to the National Orthopaedic Hospital.

Dr. H. SELFE BENNETT (London) writes: It must require a considerable amount of courage and determination to throw up an assured position on the staff of an important metropolitan hospital to listen to a call from the East and start afresh in Shanghai. This, however, is what Little did early in his professional life. Such an experience, although exceptional, may not be altogether unique, but in the similar and rare cases considerations of "pocket" have probably been not inconsiderable; in the case of my friend, however, this change had certainly a distinct element of speculation in it. That energy which had carried him through the arduous period of the cholera epidemic, when, in concert with his colleague, the late Dr. Sutton, he had worked "like a horse" in the wards and *post-mortem* room of the London Hospital, enabled him to make the vital experiment of transplantation a success. Of his professional life as Surgeon to the Shanghai General Hospital it is not mine to speak, for I have no knowledge, as my acquaintance dates only from his return to London. He had been educated at St. Paul's School, and was one of Dean Colet's 153 fish of the apostle's net; his affection for that ancient foundation never abated, and he never ceased to take interest in "Res Paulinae"; thus it came about that we had many bonds of union. Our fathers had been friends, our brothers (like ourselves) had tramped daily from Finsbury Square to school in St. Paul's Churchyard; we were both students of medicine (howbeit with that short interval which makes so long a distance), and had been brought up in the same atmosphere. Such a community of early experience does not, however, necessitate friendship, though it induces that sympathy which conduces to amity. It is often as difficult to say why we like as to give reason for dislike (as in the well-known instance of Dr. Fell), and it is also frequently the case that it is not till we have lost that we reason as to why we loved. Louie, as his friends affectionately called him, charmed by reason of his natural gentleness (though it could hardly be said of him that he "suffered fools gladly"); his obvious sincerity, fairness, and width of mind; his entire absence of pretence or "bounce," for his honesty was transparent, and all falsehood abhorrent to his clear judgement. His stores of learned memory were never paraded; to the last he was an omnivorous reader—nothing in the heavens above (he was a member of the Astronomical Society) nor in the earth beneath was alien to his mental capacity; nevertheless, the best epitaph would be that to those who knew him best he was a lovable man.

WILLIAM STEPHENSON, M.O.H., BEVERLEY.

EX-PRESIDENT OF THE EAST YORK AND NORTH LINCOLNSHIRE BRANCH, BRITISH MEDICAL ASSOCIATION.

THE small and rapidly lessening group of men who can claim the honour of having been house-surgeon to the late Sir James Paget has recently lost one of its members in the person of Dr. William Stephenson of Beverley. He gave up active practice and most of his appointments a short time ago, but continued to live in Beverley, and died there at the end of August at the age of 71. As a student Dr. Stephenson was a St. Bartholomew's man, and filled the post of Resident Accoucheur, as well as that of House Surgeon to Sir James Paget. He became M.R.C.S. in 1861, and L.S.A. in the following year. He settled down in Beverley between forty and fifty years ago, and acquired a large practice and many appointments, including those of Medical Officer to the Rural District Council, Surgeon under the Factory Acts and to the Post Office, Medical Officer and Public Vaccinator to the First District of the Beverley Union, and Surgeon of the Beverley Dispensary and Hospital. For many years he took an active interest in the work of the auxiliary forces, and at one time held a commission as Surgeon-Lieutenant-Colonel in the second Volunteer Battalion of the East Yorkshire Regiment. He also received the officer's long service decoration. In private life his hobby was the collection of old silver, furniture, and china, and his antiquarian knowledge was deep and wide. He left behind him a family of two sons and three daughters, but was predeceased by his wife. At one time he was President of the East York and North Lincolnshire Branch of the British Medical Association.

LILLIE SAVILLE, L.S.A., M.D.Brux., R.R.C.,

IMPERIAL CHINESE HOSPITAL, TIENTSIN.

Many people in this country and abroad were shocked and grieved to hear of the sudden death of Dr. Lillie Saville at Tientsin on August 28th. Born in 1869, Miss Saville figured in contemporary literature earlier than is the lot of most. In *South Sea Bubbles* the Earl and the Doctor write from Huahine: "On our return called and gossipped for an hour with Mr. Saville and his family. It is hard to say how thoroughly refreshing the sight of his two darling little children was, even to the bachelor half of us." After a good ordinary education in England, Miss Saville was enrolled, under the auspices of the London Missionary Society, as a student of the London School of Medicine for Women, where she proved herself a keen and conscientious worker. Dr. Rukhmabai instanced her on one occasion as a student whose daily life and work really entitled her to say she was going out to missionarize "the heathen." In 1894 Miss Saville obtained the diploma of L.S.A. and the degree of M.D.Brux. In 1895 she was sent by the London Missionary Society to Peking, where she threw herself into the work with great energy, and gradually developed a great liking and understanding for her Chinese patients and pupils. In 1900 the Boxer rebellion broke out, and Miss Saville was shut up in Peking during the siege. The experience proved a real forcing-house; ordinary barriers were broken down; missionaries and members of the Embassy were thrown together against a common background of grim reality and danger. The daily work was arduous in the extreme, and Miss Saville was ready to turn her hand to whatever might be required. On one occasion she remonstrated with a wounded man in hospital for keeping a loaded revolver under his pillow. "When I see the Boxers come leaping over that wall," he said, "I have two bullets ready here—the first for you and the second for myself." At the close of the siege Miss Saville was awarded the Royal Red Cross in recognition of her services. She had suffered, of course, from the strain of work in China, culminating in so crucial an experience, but on her return to England her friends were struck by her increased attractiveness and vitality—not only in character but in appearance.

She returned to Peking after a rest, but her health proved unequal to the strain of mission work; after filling with credit various temporary posts in England, she was invited in the autumn of 1907 to go out to Tientsin to work in the Imperial Hospital with Dr. Yamei Kin under the auspices of the Chinese Government. Here she courageously took up her abode in the native city, three miles from the British concession, and devoted herself to her dear Chinese." The work was very hard, including the training of Chinese girls as nurses and dispensers, and, during Dr. Kin's absence in England, no doubt more than usual fell on Miss Saville's shoulders. An official account of her illness has not yet been received, but her friends have been told that she was seized with violent sickness on August 25th, accompanied by cerebral symptoms and great prostration. On the morning of August 28th she passed quietly away.

In addition to her other work, she had proved herself an excellent friend to the wives of the regiment, and, in recognition of this, and of her Royal Red Cross, her body was covered with the Union Jack, and she was carried to the grave by six non-commissioned officers of the Inniskilling Fusiliers, while six others sounded over her the last post." "Rows on rows of Chinese girls, graduates, probationers, nurses, and dispensers bore a striking testimony," so writes the English chaplain, "to their grateful love and admiration for her."

Absolutely straight and sincere, Dr. Saville was not one of those who disarm all with whom they come in contact, though her friends and disciples were many. Behind a manner that could be dogmatic and uncompromising lay a mind singularly open to the reception of fresh truth. Her early death has robbed the profession of one who had accomplished much good work, but who, even in times of weariness, always suggested youth rather than maturity in her unflagging capacity for growth.

Deaths in the Profession Abroad. — Among the members of the medical profession in foreign countries who have recently died are Professor Leopold, Director of the Gynaecological Clinic at Dresden, aged 65; Dr. Gustave Julliard, Professor of Surgery in the University of Geneva, aged 75; Dr. Gaulard, sometime Professor of Obstetrics at Lille, aged 66; Dr. V. Griffon, Physician to the Paris hospitals; Dr. Paul Girod, Professor in the Medical Faculty of Clermont-Ferrand, aged 56; Dr. Julius von Michel, Professor of Ophthalmology and Director of the Eye Clinic of the University of Berlin, aged 67; and Professor Richard Schulz, a well-known surgeon of Brunswick.

Medical News.

Mr. Bland-Sutton has resigned the post of Senior Surgeon to the Chelsea Hospital for Women in order to devote himself to his duties at the Middlesex Hospital.

The inaugural lecture of the winter session at the Central London Throat and Ear Hospital will be delivered by Dr. Watson-Williams on Friday next, at 3 p.m. On the same evening will take place at the Trocadero the annual dinner of the medical staff, Dr. Andrew Wylie presiding.

The annual meeting of the State Children's Association will be held at 24, Park Lane, W., by invitation of the Earl and Countess Brassey, on Wednesday, October 25th, at 4 p.m. Lord Brassey will take the chair, and among the speakers will be the Bishop of Oxford, Sir Albert Spicer, M.P., and Mrs. S. A. Barnett, Honorary Secretary.

The Incorporated Association of Hospital Officers, which consists of officers of hospitals and convalescent homes, will hold its annual dinner at the Holborn Restaurant on November 4th, when Colonel Sir John Young, C.V.O., will be the guest of the evening. On November 17th, at an ordinary meeting, a discussion on the medical treatment of London County Council school children will be opened by Mr. H. C. Barker, B.A., LL.B. Further information can be obtained on application to the Honorary Secretary, 32, Sackville Street, London, W.

A public conference will be held at the Mansion House on Tuesday next, at 3.30 p.m., to further the efforts of the Secret Commissions and Bribery Prevention League in making known the Prevention of Corruption Act, 1906, and in enforcing its provisions, the Lord Mayor presiding. Professor Robert Saundby, President of the British Medical Association, has written to the Secretary of the League regretting his inability to be present, and pointing out that the British Medical Association "has passed resolutions condemning the receipt of commissions by medical practitioners, and the harmfulness of such practices has been steadily kept before the profession."

In his presidential address at the opening meeting of the Obstetrical and Gynaecological Section of the Royal Society of Medicine on October 5th, Dr. Amand Routh reviewed the socio-political influence exercised by the old Obstetrical Society of London, from which the section had originated. It had successfully aimed at securing better obstetrical education both for medical students and midwives, and the maternal mortality due to puerperal sepsis had consequently fallen from 3.35 deaths per 1,000 births in 1893 to 1.56 deaths per 1,000 births in 1909. In regard to the future there was urgent need for research work by physiological chemists on many points relating to obstetrics: among those specifically mentioned were the nature of the recurring biochemical blood changes which influence the onset of the cycles of menstruation and ovulation, the nature and influence of the internal secretion of the ovary, and the constitution of the toxins concerned in puerperal eclampsia.

A poster mounted on thick cardboard, which has recently been issued by the Liverpool School of Tropical Medicine, shows at a glance the main reasons for carrying on a crusade against mosquitos, the dangers to which they give rise, and the means of avoiding them. This information is conveyed in a few terse sentences printed in the middle of the poster, while at the top is an illustration of the sort of back yard which is so common in the tropics and which facilitates the multiplication of insect life of all kinds. At each side are illustrations of the larval stage of the *Stegomyia* and of anopheline mosquitos, showing their appearance in water and their respective resting positions at the surface, while at the bottom are some coloured pictures showing the actual size of the developed insects, the distinctive fashions in which they respectively attach themselves to flat surfaces, and their appearance when highly magnified. This poster does credit to the ingenuity of the school from which it emanates, and should prove decidedly useful in the tropics.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

MAXIM asks for information as to any efficacious and painless remedies for ringworm.

W. L. W. would be glad to learn of a suitable institution for a boy aged 15 with chronic coarse choreiform movements and good intelligence.

IGNORAMUS asks which month is most suitable for sending a case of gall stones to Carlsbad for the cure. Any particulars as to cost of such cure, length of visit necessary, hotels or rooms, would be most acceptable to him.

M.B. writes: A girl aged 15 has been under treatment for two years, and has had the advice of two consultants without improvement. Her symptoms are: slight tenderness over the gastric region, with daily vomiting. Food of no sort is retained, save a little milk, peptonized; half of this she retains. She has been tried with all sorts of gastric sedatives, counter-irritants, etc., but to no good purpose. Her temperature is normal, pulse good, menses regular, gets about and is cheerful. There is no evidence of distension nor organic lesion of any kind. I should be glad of any suggestion. It is believed to be nervous in origin.

ILLUMINATING LAMP.

LIGHT writes: I live in a country village, where there is neither gas nor electric light. I should be very glad to hear from a fellow practitioner similarly situated who has found a really good lamp, suitable for ear, eye, throat, and nose work. I understand that there are good acetylene and incandescent paraffin lamps, but have quite failed to get any particulars of such through the ordinary channels.

DIET LIST FOR CONSUMPTIVES.

DR. RAYMOND H. SHAW (Great Yarmouth) wishes to obtain a diet list for consumptives, with specified amounts and weights, suitable for use in an infirmary where he has eight to ten consumptives. Up till now he has ordered a special diet in each case, but this is inconvenient for the kitchen, where diets are sent out according to regulation, and also expensive. He asks any reader who uses such a diet in a sanatorium or infirmary to favour him with a copy.

ANSWERS.

RETIRED PHYSICIAN.—Post-graduate courses in practical dentistry can be arranged for at the dental hospitals in London: (1) The Royal Dental Hospital, Leicester Square, W.C. (2) Guy's Hospital Dental School, London Bridge, S.E. (3) National Dental Hospital, Great Portland Street, W. Full particulars can be obtained from the Deans of the Hospitals.

ACTINOMYCOSIS.

IN answer to "H. H. B." (BRITISH MEDICAL JOURNAL, August 26th, p. 468) Dr. Ashe (Kimberley, South Africa) suggests much larger doses of potassium iodide. In a case of his own 3 jss was given thrice daily, and apparently cured the patient, but after about a year the disease recurred. A vaccine prepared from the patient's own discharge then seemed to cure, but this proved also to be only temporary, and the patient ultimately died. Cures with similar vaccine were reported in the BRITISH MEDICAL JOURNAL in February or March, 1908.

MOTOR CYCLE MILEAGE.

DR. C. E. MOSS-BLUNDELL (Huntingdonshire County Council) writes: In answer to "School Inspector's" query *re* motor cycle allowance (October 14th, p. 959), the Leicester County Council allowed me 3d. a mile for a time, but it was found so difficult to estimate the mileage covered when reinspecting, following up, etc., that I compounded for £100 per annum. My mileage worked out at about 12,000 per annum, but, of course, not all this was on duty. I took my holidays on my machine, etc., and also used machines for competitions and the like. On a big mileage it pays to buy a new machine every year to ensure reliability. The most economical way to motor cycle is to buy a new machine of first-class make every Easter and sell it the following Easter. You can always get £38 to £40 for a Triumph a year old, so your loss for the year is £10. If "School Inspector" likes to write to me I can tell him all he wants to know, as I am about the oldest motor cyclist in England in point of riding seniority, and have ridden in every class of competition and race for years.

LETTERS, NOTES, ETC.

A WARNING.

DR. CHAS. W. CHAPMAN (London, W.) writes: A tall, well-developed man between 30 and 40 years of age, with ginger-coloured hair, and giving the name of Fitzgerald, called on me on October 17th at 9.15 a.m. As my consulting-room was not available at the moment he was shown into the drawing-room. He was fairly well dressed in grey tweeds, with a cloth cap. The story was that he was a doctor from Australia, had been in bad company the night before, where he had been robbed of his watch and money. After he left a silver table bell was missing. Information has been laid at the Marylebone Police Station.

THE LUNACY COMMISSION.

LUCIDUS ORDO writes: In your issue of October 14th you refer to the rivalry between the medical and legal professions as to the appointment of the new members of the Lunacy Commission. Why not appoint commissioners who have both medical and legal qualifications, and so satisfy both professions? There are several gentlemen who have both qualifications and have also several years' experience in the treatment and care of the insane.

WATER STRAINING.

OUR attention has been invited to an appliance devised by Dr. Frederick William Alexander, M.O.H. for Poplar, for the purpose of straining muddy or otherwise foul water before admitting it to a Pasteur or other like filter, or before boiling it in the absence of a filter. It consists of a series of conical bags, suspended one above the other between four uprights, the idea being that the water shall be allowed to filter downwards through each bag in succession. It is said that the material of the bags can be either canvas, linen, flannel, felt, or fine metal gauze. The objects indicated are both desirable, since water containing much sediment rapidly throws candle filters out of working order, and may set up severe intestinal irritation of mechanical origin, despite destruction by boiling of all micro-organisms. The idea of this strainer would not, however, appear to be altogether original, since a device of the same general kind was used, we believe, in Egypt during the last Nile expedition. However, a provisional patent for the appliance has been granted.

VARIETIES AND TREATMENT OF ASTHMA.

A SUFFERER FROM ASTHMA writes: I have just been reading the account in the BRITISH MEDICAL JOURNAL of October 7th of the discussion on the varieties and treatment of asthma at the Birmingham meeting of the British Medical Association, and as I was unable to be present at the meeting as I was suffering from an attack of asthma, I should be much obliged if you would kindly grant me space to make a few observations. I was very disappointed after reading Dr. Gibson's paper, as I was expecting to find something helpful both for myself and my patients. All that Dr. Gibson said was known many years ago; what we sufferers want to know is how to cure true asthma, and I venture to say the members of the medical profession have nothing to boast about as regards the treatment of this dreadful malady. How absurd it is to tell a working man who suffers from asthma, who has a wife and family to keep, to leave his house and situation and find some place to live in where it suits him. The two chief drugs to-day, as they were many years ago, are morphine and potassium iodide; the former administered hypodermically during the paroxysm, the latter between the attacks. Unfortunately many people cannot take iodides in any form, and personally I would rather have an attack of asthma than suffer from iodism. I trust the time is not far distant when some member of the medical profession will find a cure for true asthma, and thus gain the gratitude of many thousands of sufferers.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	15	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Inaugural Address
ON
MEDICAL EDUCATION, PAST AND PRESENT.

Delivered on October 20th to the Members of the Royal Medical Society of Edinburgh.

By
ROBERT SAUNDBY, M.D., LL.D., M.Sc., F.R.C.P.,
President of the British Medical Association; Professor of Medicine in the University of Birmingham; and Emeritus Senior President of the Society.

Mr. Senior President and members of the Royal Medical Society, I thank you for giving me this opportunity of taking part once more in one of your meetings. Forty years have passed away since my name was entered upon your roll, but a year earlier I had attended the inaugural meeting, which was presided over by the late Dr. Alexander Bennett, at that time Senior President of the society, and had listened to an address from Dr. Warburton Begbie, that wise and learned physician who had given us a brilliant summary of the early history of medicine. I would have joined the society at once, but my friends advised me to postpone my entrance for another year, it not being usual for first-year students to become members; the reason, no doubt, being that as every ordinary member is under an obligation to read a dissertation within two years after his entrance, a second-year student would not be in a position to do this with much advantage to the society.

Personal Reminiscences.

However this may be, I was elected a member at the beginning of the winter session of 1871–2, the Senior President being Dr. William Livesay, a friend with whom I have maintained close relations up to the present time. When I joined I made it a rule to be present at every meeting, not allowing even the pressure of an approaching examination to prevent me from spending an hour or two there each Friday evening. I have no reason to believe that I wasted my time by doing so, and I probably returned to my books all the fresher for the change. If the debate was not interesting, I used to go downstairs and look over some of the fine folios which were kept in a cupboard in the little back room, and my interest in the library led me to seek and obtain the office of librarian, which I held for a year. The interest thus awakened in medical books and libraries, and the experience gained in that post, helped me when I was asked to become librarian of the Medical Institute, which was founded in Birmingham about the time that I went to that city. I held that office many years, until I became Chairman of the Library Committee, and afterwards President, in all serving continuously in one or other capacity for twenty years. I also served six years as President of the Birmingham Library, which is a general library. I trace back the interest in library work which has led me into these offices to my early work in this society.

At the beginning of the winter session of 1873–4 I was surprised to find myself fifth on the list for the election of President, and, although I missed the honour by a few votes, I was more pleased than disappointed, as I had hoped for no such distinction. The following year I was elected Senior President, and this appreciation by my fellow members, coming as it did unsought and unexpected, gave me greater pleasure than any other distinction which has reached me during my life, not excepting the high office in the British Medical Association which I now hold. I fulfilled all my duties as President during the winter session, but the following year I left Edinburgh for good, and have since had no opportunity of attending a meeting until to-night. When I recall our debates I think how different they were from those in which I have since taken part in many medical societies. We were not afraid to say what we thought, as we were never hampered by the fear of making enemies, nor held ourselves under any obligation to "suffer fools gladly"—considerations which make our grown-up medical societies so dull. I do not think we were rude to one another, but we had no hesitation in stating our opinions, and no one was thought the worse of because he expressed an unorthodox view. A very regular attendant at our debates was a young homœopathic practitioner whose name, I think, was Bowie, and, being a good speaker as well as older and more experienced than most of us, he sometimes worsted us in argument; but had we read that classic writer, Sir Thomas Browne, we should have known that "a man may be in as just possession of truth as of a city and yet be forced to surrender." These discussions tended to make us tolerant, and showed me that it is unworthy of a liberal profession to exclude homœopathic practitioners from our medical societies on account of their opinions. Forgive me for recalling these faded flowers of memory, which, perhaps, are of more interest to me than to you; but every man looks back on his student life as a happy time if only for its unrealized advantages. The path of duty is then so plain, involving nothing but the need for preparation for the next examination; but later on life becomes complicated, and the road is a labyrinth of devious paths, amid which to choose the right one is a frequent source of trouble and perplexity.

Some Old Edinburgh Professors.

I came to Edinburgh just too late to see those two giants, Syme and Simpson, who had died that year (1870). Lister had been appointed to the Chair of Clinical Surgery in the summer of 1870, and Sir Alexander Simpson entered upon the duties of his uncle's chair in the winter of the same year. One of my earliest and least pleasant recollections is of the rowdy reception given him at his inauguration lecture by certain students anxious to demonstrate their preference for their favourite, Dr. Matthews Duncan.

Goodsir was dead, and for three years the Chair of Anatomy had been occupied by Sir William Turner, who is, happily, still with us; you all know how admirable he is as a man and administrator, and can understand how well we appreciated his qualities as a teacher. Christison was still as active and alert as a young man, but his mind had become rigid, and his lectures were getting out of date. Bennett, whose vigorous teaching had given an impulse to medical education that had reverberated throughout the length and breadth of Britain, had fallen into bad health, and although he retained the Chair of Physiology until 1874, and continued from time to time to lecture and to teach clinical medicine, he had lost much of his old energy and spirit. He was a great teacher, and deserves to be remembered, not because he introduced cod-liver oil for the treatment of tuberculosis or published the first case of leucocythæmia, but because he inspired many pupils, who took his methods and some of his spirit into other schools; he was a great master of method and first taught systematic case-taking in the wards, while he was a pioneer in the use of instruments of precision in clinical work as well as in physiological research. He had been Senior President of this society, and throughout his life he was its warm friend, commending it to his students at the commencement of every winter session. I regret that this hall contains no memorial of him. About twenty-five years ago I wrote suggesting to the society that an effort should be made to raise a sum of money to purchase a replica of the bust which had been recently placed in the college library, and I offered a subscription for this purpose. I do not doubt that the money could have been raised, but nothing came of my proposal, and this hall is the poorer for lacking any monument of this memorable man.

Henderson had recently died and had been succeeded in the Chair of General Pathology by Professor W. R. Sanders. His course of lectures was mainly devoted to morbid anatomy, but nothing could have been more lucid than his description of the naked-eye appearances of the changes in disease. At that time there was no good textbook, and I filled four thick notebooks with his lectures, which were easy to follow and conveyed the facts in a clear and simple manner. I liked him less as a teacher in the wards, as he was too silent, and though he took infinite pains in the examination of his patients, he hardly noticed us students, and did not help us to follow what was in his mind. He belonged to the school of physicians that existed during the middle of the last century, who abstained almost

entirely from the treatment of their cases and contented themselves with accurate diagnosis; such treatment as his patients got was due to the house-physician.

The Chair of Medicine was occupied by Professor Laycock, who was said to have owed his appointment to the influence of Simpson, who had used him to keep out Bennett. If this is true, Simpson did the university a great disservice, as Bennett would have been eminently in his right place as Professor of Medicine. Laycock had not had the training of a hospital physician when, at the age of 43, he was appointed to the Edinburgh Chair, but had been in general practice at York. He was, however, known as a voluminous medical writer, and the author of a curious book on the nervous diseases of women, which is still worth reading. He was an original thinker and writer, but not a practical physician. He knew little of pathology or morbid anatomy, and despised and sought to dispense with the use of instruments of precision. Thus, he would tell us that the clinical thermometer might be a useful instrument, but the practitioner should seek to educate his hand to estimate temperature, and, putting his hand upon a patient's body, he would announce the temperature as 102°; he would then send for a thermometer, which would mark 98.8°, and another thermometer having confirmed this result, he would pass it off by saying, "Ah, gentlemen, I have a thermal anaesthesia this morning." He believed in the possibility of making physiognomical diagnoses—that is to say, he professed to be able to recognize disease by looking at the patient's face—a claim which he was never able to establish to our satisfaction. He was fond of pointing out diathetic peculiarities as shown in the teeth or the shape of the ear, and it is said that one day, examining a child who presented some such signs, he sent for the mother and exhibited her to the class as showing without doubt indications of the same constitution; but when the woman had grasped the meaning of his demonstration she upset all his conclusions by protesting in her Doric tongue, "But, sir, I am no' the bairn's mither; I am just her stepmither"! He used to read his lectures from manuscript at that sleepy hour of three to four in the afternoon, but although I hoped to get a medal in his class I could not keep awake, and my notes were consequently imperfect. I had not heard that he asked for names and not for mottoes on our examination papers, and so sent in mine with a motto. When the results were announced I heard that "the gentleman who had sent in a motto had written a very good paper on the practice of medicine, but the views were not those taught from this Chair." My hope of the medal vanished, but Laycock was quite a fair examiner, and did not insist upon his own views from candidates for the degree, as he gave me a double *bene* at my final.

A teacher to whom I owed most was the late Dr. G. W. Balfour, in whose wards I worked more or less for two years, and who made me his resident in the summer of 1874, just three and a half years after I had entered the medical school. I had to get a qualification, but had no difficulty in passing the examination of the College of Physicians; indeed, one of the examiners, who did not know me personally, seemed surprised to meet a candidate who knew anything, but in those days the college was the resort of men chiefly from Ireland who had failed to pass their examinations elsewhere, and sought an easy entrance into the profession. To show how low was the standard, I remember on one occasion helping Dr. Balfour at a clinical examination of three or four candidates of whom not one was able to recognize the simple cases submitted to them. I asked Dr. Balfour what he would do. To my astonishment, he said that when he had to deal with men like that he just gave them fifty (that is half marks), and let them go; seeing that I looked surprised, he added that the college did not allow the examiners to pluck candidates in clinical medicine, and therefore he could do no more.

It was not long before a change was made in this and other things, so that although some of you may regret it, I do not think you will find the examination so easy to-day as it was forty years ago. Dr. Balfour had the reputation of being satirical, and as students are not fond of being made to look foolish, he had not a large following; but I think he was maligned, or else he became more gentle as he grew older, for he lived to become greatly appreciated as a teacher by many generations of students, and I know he was always most patient with me, taking infinite pains to teach me the elements of medicine. It was the custom in those days, and I hope it is so still, for students in Edinburgh to attend day by day for a whole session the practice of one physician or one surgeon, a plan which is in my opinion infinitely better than that followed in most English schools, where students go from one teacher to another, thus, no doubt, seeing a great variety of cases, but studying too few properly, while the teacher never gets to know the students properly, and has no opportunity of correcting misunderstandings and mistakes. We had then no tutorial classes, and at any rate were not a "spoon-fed" race. There were, of course, crammers, but the men who went to them were held to confess their inferiority by so doing. We spent only one or two hours a day in the infirmary, but our time was well spent. For two years I devoted this time equally between the wards and the *post-mortem* room and found time to clerk in both; indeed after my first year I always held some office in the infirmary, and stayed up through the vacations to do the work. In that way I believe I learnt as much in four years as men do now in five or six, but I devoted too little time to preliminary science, which I have always regretted.

Changes in Medical Education.

These reminiscences may serve to bring to your notice the changes that have taken place in medical education since I was a student—changes which have been wholly for the better in all the material circumstances under which your studies are pursued. Here, as in most places, laboratories have been provided, new class-rooms and a new infirmary built, and each department of study has now adequate provision for carrying out practical work under the supervision of a properly paid teaching staff. There has been, too, a great improvement in the methods of teaching, as not only are lectures more abundantly illustrated by experiments and demonstrations, but each student is made to carry out for himself and see with his own eyes those processes and results which lie at the foundation of our knowledge. The present infirmary is not only one of the largest and best equipped hospitals in the kingdom, but, owing to the cheapness of travelling, it is possible for poor persons to come long distances to seek the medical and surgical skill to be found within its walls, so that its practice is drawn from a much wider area than was formerly the case, and its wards are filled with a greater variety of clinical material.

The curriculum has been lengthened to five years, and the disappearance of the pupil and unqualified assistant has rendered it very exceptional, if not impossible, for any student to have duties which would interfere with his giving the whole of his time to his studies. Medical teaching is on the whole in the hands of professors in no way inferior to those of the past, while the amount of tutorial assistance given to students is infinitely greater than it used to be. Yet I think most examiners would agree with me in saying that the performances of students at the final examinations are distinctly disappointing. Whatever they may have known when they passed those subjects, they do not carry with them that general knowledge of chemistry, physiology, anatomy, and pathology which should be a lifelong possession.

Too Much Teaching and Too Little Thinking.

Such a result makes one ask whether there is not too much teaching and too little thinking, whether the student's time is not so monopolized by classes that he has insufficient time and perhaps insufficient stimulus to work things out for himself, for the latter is a most important part of every educational process if the result is to be more permanent than the passing of examinations. Medical education has become less homogeneous, and is broken up into compartments in which the student perhaps attends too exclusively to the subjects in which he will shortly be examined, and regards each examination as an end in itself without recognizing its relation to his profession. The intervals between the examinations are so short, and these follow so closely upon the classes in which the subject has been taught, that the student has insufficient time to digest and assimilate his rapidly acquired knowledge, and as soon as the examination is

past his superficial learning as rapidly disappears. In consequence we find that students in their final years have to be taught again clinical chemistry and medical and surgical anatomy in cramming classes to enable them to make a decent appearance at their final examinations.

It was shown by a return presented to the General Medical Council in 1908 that the majority of students in England take more than six years to become qualified, while the percentage of rejections at the final examination is little less than fifty. In Edinburgh the statistics are better in both respects, and I hope this is due to greater educational success than that to which we have attained in England. There can be no doubt that the organization of medical education in Edinburgh is, on the whole, superior to that of any English school. Your professors are better paid, which gives your university the advantage of securing the best men, and there is no school in which there is so large a body of competent and competing teachers who make teaching their first consideration. In most English medical schools the science teachers were comparatively ill-paid and under-equipped, although a great improvement has taken place in recent years in this respect at the provincial universities, but the strictly professional classes are taught by men with whom the calls of practice come before those of hospital or class-room. Things are better than they used to be, but unpunctuality in hospital visits still leads to much waste of time. I look with admiration to the example of Edinburgh, where, although most of the staff of the infirmary reap little pecuniary return for the time they devote to their work, yet they are all to be found in their places ready to commence their rounds as the town clocks strike twelve. The same devoted spirit has enabled your teachers to organize by far the best post-graduate teaching in this country. To do so has involved to many of them the sacrifice of part of their vacation, although they give so large a proportion of their time to teaching throughout the academic year. For these reasons Edinburgh students are under exceptionally favourable circumstances for acquiring a good medical education; but, on the other hand, English students have unequalled opportunities for clinical work, and, if they take proper advantage of them, should acquire a better practical training than is possible for the great majority of students in Edinburgh, as the proportion who can obtain resident hospital appointments here must necessarily be smaller. But the excess of opportunity in our English schools seems to involve the absence of the keen stimulus of competition, so that valuable posts go begging for candidates. In Birmingham we have no choice, but are glad to fill our posts with any one who applies; and I would like you to know that when appointments are advertised as vacant at the Birmingham hospitals we are glad to receive applications from Edinburgh graduates, as we have not sufficient applicants from our own students to fill them.

Resident Appointments.

By a recent ordinance of the Ministry of Education all German students are now compelled to spend a year as clinical assistants in a hospital after passing their qualifying examinations, exemptions being granted only in special family circumstances. By this means a great improvement has been effected in the training of the average German medical practitioners, yet the ordinary provincial German hospital is inferior to those in England, and is more on a level with our workhouse infirmaries. Such a regulation would be impossible to enforce here without an Act of Parliament, and our legislators are too busy with vote-catching schemes to have time or inclination to consider the improvement of medical education, although there can be no doubt that it would benefit the medical profession, the hospitals, and the public. The General Medical Council has no power to alter the conditions under which a practitioner may exercise the privileges conferred upon him by the status he has acquired on registration, and its influence over medical education depends solely on the fact that it presents the licensing authorities, who possess the power of fixing the conditions under which they award their diplomas; but even they cannot prescribe a course of post-graduate study, and it would be useless to require residence in a hospital before granting the diploma, as an unregistered medical or surgical officer would be unacceptable to the hospitals unless some change were made in the law by which the intermediate status of aspirants to the medical profession could be recognized. Meanwhile I would urge you not to go into practice without first holding an appointment in some hospital, and I would draw your attention to the numerous vacancies that occur in English hospitals and to the paucity of the number of candidates who present themselves for these posts.

Improvements in the Curriculum.

But let us return to the discussion of the reasons why medical education is not more satisfactory in its results, and by what means it may be improved. The course of study naturally falls into five groups. First comes that of preliminary science, comprising botany, zoology, chemistry, and physics. In most English schools botany and zoology are taken in a combined course of elementary biology, and physics is also taught in a special course adapted for medical students, but a large and, in my opinion, unreasonable amount of time is devoted to chemistry, with the poorest educational results. It is to be desired that all these subjects should be studied and the examinations on them passed before the student begins his proper medical curriculum, and it is undesirable that the standard required in any of them at this stage should be more than an outline of their principles. Such subjects as physiological, pathological, and clinical chemistry should be learnt later when the student knows enough to see their utility and bearing upon the practice of his profession. The General Medical Council, by an almost unanimous vote, last May altered its regulations so as to permit and encourage the study of preliminary science subjects at those secondary schools recognized for this purpose by the licensing bodies, the year so spent to count as one of the medical curriculum. The object of this change is to permit boys to stay a year longer under school discipline, and to start free from the embarrassment of this group of subjects, which often proves a stumbling-block on account of the inexperience of the first year's student, who does not understand how to derive advantage from university lectures, or how to teach himself subjects which differ so greatly from the literary studies he has pursued at school. I fear that desultory and idle habits are often acquired by the young student during this first year, and that these may explain many subsequent failures. Anatomy should be commenced at once on the student's entrance to a medical school, and, in my opinion, three years are none too long in which to acquire a knowledge of this important subject, which should remain a permanent possession. This is, of course, inconsistent with the rule of many schools that forbids students to go to the hospital until they have passed anatomy and physiology, but which is a great mistake. It is quite true that junior students may waste a great deal of time at the hospital if, as in so many English schools, half a day is set aside for hospital work; but where, as in Edinburgh, an hour or an hour and a half daily is all the time needed for attendance at hospital, it is to the advantage of the student that he should attend to familiarize himself from his earliest years with the symptoms and treatment of diseases. I am opposed to the so-called block system which is supported by some teachers of anatomy, who should be the last of men to do so, by which students are forbidden to take out lectures in the more advanced subjects until they have passed in those of the group with which they are at the time concerned. I believe that it is greatly to the advantage of the student that examinations should come at fixed periods, without any option of postponing them except for special reasons.

In my time our first professional examination was held in October and April; the men who had begun in the summer session of the previous year coming up in October, while those who had postponed entrance until the winter went up in April, after having attended two winters and one summer. In the same way the second professional examination was held at the end of the third winter, and all third-year men went up for it at that time, there being only one examination in the year. The consequence was, we all knew, that failure meant postponement for a year, and although there was no fixed interval between one examination and another, the disadvantage of failure was obvious. We all worked hard for that examination, and the majority of us passed. After I had

passed my second professional examination I went to London to pass the examination in anatomy and physiology of the Royal College of Surgeons of England, and I remember being struck by the different way in which an English student with whom I got into conversation in the hall spoke of his chance of passing. He said he was "having a shot at it," and this attitude of mind I found afterwards to be very characteristic of the English medical student, attributable, as I think, to the fact of there being four examinations in the year, at any one of which he may present himself, no pressure being put upon him by his parents or his teachers to present himself for examination at a particular date. The diffident or lazy man naturally puts off the crisis as long as he can, but if he fails it involves no particular penalty. I understand there has been some relaxation of the old stern rule in Edinburgh by holding a supplementary second professional examination in July, originally intended for the benefit of those men who are rejected in April; but with that regard for the weak which is characteristic of these days, I am told that entrance for the April examination is no longer obligatory, and that any one may now postpone his examination until July. I think this is to be regretted, but it is much less harmful to the student than the plan of the English Conjoint Board.

The third group of subjects includes pharmacy, materia medica, and pharmacology, divisions of a subject which has diminished greatly in importance of recent years. But the other subject in this group is pathology, which, as it includes general pathology, morbid anatomy and histology, experimental pathology, bacteriology, the study of morbid toxins, prophylactic and curative vaccines and serums, has become immense; too much time can hardly be devoted to it, and during his fourth year it should mainly divide the attention of the student with his clinical work. The subjects of forensic medicine, toxicology, and public health should, in my opinion, form no part of the ordinary medical curriculum, but should be post-graduate subjects for a special diploma. The student who has been well grounded in anatomy, physiology, and pathology is prepared to learn medicine, surgery, and midwifery, but should at this stage take out a course of clinical chemistry in which he should be taught all the methods in use for examining the various secretions, excretions, and stomach contents, while he should also be taught operative medicine and operative surgery. By operative medicine I mean such proceedings as lumbar puncture and paracentesis of the cavities of the thorax and abdomen.

Systematic Lectures.

Systematic lectures are by no means to be despised, as, while we should aim at teaching all diseases by actual cases—and there can be little advantage in discussing those diseases which are never seen here—yet it would give a student a partial and erroneous view of disease if he were left to suppose that the cases of pneumonia, for example, which he has had an opportunity of watching in the infirmary are the only types of the disease with which he is likely to meet. Systematic lectures enable us to give a broader view of disease and to correct this narrow conception of it. The same disease may vary much in its type at different times and in different places, and it may happen that during the three or four years of a student's career he may meet only with one type of pneumonia or typhoid fever or other infectious disease, so that if he has to trust solely to his own experience in the range of his personal observation he would go into practice ill-prepared for what he might meet at any time. It is strange that it should ever have been possible for an experienced physician to deny the change of type in disease, yet this was what Professor Bennett undoubtedly did in the heat of controversy with his older colleagues, who justified the abandonment of bleeding on the ground of the change of type in disease. Bennett ridiculed this and denied its possibility. No doubt he was right in refusing to believe that there ever had been or ever will be again a type of pneumonia or fever in which bleeding was such a universally useful measure as it was thought to be seventy or eighty years ago. Yet the epidemics of influenza which began twenty years ago have taught all of us who have had any experience that the same disease may undergo the most remarkable modifications, and have shown how inadequate a description based on the observation of a single group of cases may be. The same lesson is learnt from the history of the recent epidemic of plague. When the present recrudescence began in Hong Kong the disease appeared to be so little infectious that the Welsh Fusiliers were set to carry the sick Chinese to the hospitals and to pull down their houses, yet no case of the disease occurred amongst the soldiers. A year or two afterwards plague broke out in Bombay in a most virulent form, many cases occurring among the nurses and doctors in attendance on the sick—a difference that cannot be explained by any sanitary inferiority on the part of Bombay. A little later the disease showed itself in Alexandria among the Levantine Jews in the bazaar, and was supposed to have been imported in packages of rags and old clothing in which these people deal. The general condition of this Jewish quarter in Alexandria could not be called sanitary, yet the epidemic was easily checked. I could quote many more instances to illustrate my point that the character of an epidemic depends more upon its type than upon the environment, and that although it is wise and right to make our sanitary conditions as good as possible, there is no justification for the optimistic view so often expressed that sanitary conditions can protect us against fatal and virulent epidemics. For these reasons I desire to retain systematic lectures in medicine, surgery, and midwifery as supplementary to the clinical work and teaching. I put clinical work before clinical teaching, as every man must begin to think for himself and work by himself when he takes up clinical work. Spoon-fed clinical knowledge is of little value even for passing examinations. Nothing can teach you so much as diligent case-taking. If you go into general practice you will no longer have any opportunity of studying your cases as you can in hospital, but if you use your time well while you are here you will store up in your memories clinical pictures that will last you all your lives, and you will acquire methods which will always be of use to you.

Prospects of the Profession.

I should like to say a few words on the prospects of those who enter the medical profession, and I do congratulate you on your choice, for I am not one of those who believe that ours is an overcrowded, underpaid, and miserable occupation, but is one that affords a reasonable prospect of early independence and a fair competence. Those who paint such doleful pictures must shut their eyes to the state of things in other professions, and would find it difficult, if challenged, to point to any open calling in which the chances, and even the average pecuniary prospects, are better, or so good. A young barrister must wait years for briefs; a young solicitor thinks himself lucky to obtain a post as a managing clerk, and even with money may wait years before he can find an opportunity to get into independent practice; young engineers are even worse off, and are glad to take work at £60 or £80 a year.

Every young doctor, as soon as he is qualified, can easily earn his living, and has the widest choice of how to do so. The army, navy, and colonial service, the mercantile marine, and many appointments in our colonies and dependencies, offer abundant opportunities for those who desire to see the world; but the man who wishes to stay at home, but shrinks from practice, may choose between lunacy, public health service, the prison service, or the numerous appointments recently created in connexion with elementary schools. While general practice is not so good as it once was, special practice has increased enormously, and specialists are to be found making comfortable incomes in comparatively small centres. Operating surgeons, eye and throat specialists, and gynaecologists, who were formerly to be found only in large cities, and who forty years ago, if they did exist, derived their incomes more or less from general practice, are now everywhere. A few years ago I had to send out a circular to all the consultants and specialists in Birmingham, and to my surprise I found they numbered sixty-five, while when I came to Birmingham in 1876 I do not suppose there were twenty-five, and most of them had been or still were in general practice.

Although general practices are not so large or so lucrative as they used to be, it is now possible for any young man to start without buying an introduction, as people

move about from one town to another or from one part of a town to another so often that the bond between doctor and patient, which is purely personal, is broken by the force of circumstances, facilitating the entrance of newcomers into practice and diminishing the advantage of the established man. The result is that though there is as much or more money earned in general practice as at any time, it is divided among a larger number of competitors, and younger men get a larger share than they used to do. One of the causes of the instability of general practice is the disappearance of the partnership system. The inability of medical men to work together as partners points to a defect in their training which results from the lack of discipline in early life formerly afforded by apprenticeship, and is to be regretted, as a partnership prevents the break-up of a practice that otherwise occurs at death and makes it easier to take holidays or to tide over a serious illness. While in country districts the motor car is a great help, diminishing the doctor's toil, saving his time and widening his range of rounds, it may bring him into competition with the practitioners of the neighbouring town who may come out to attend some of his best patients, but on the whole it is a great boon to the country practitioner, opening up possibilities of earning a larger income with less expenditure of toil and time, and finally saving him from a great deal of the hardship and exposure that cut short the lives of many good country doctors. If the incomes earned in general practice have diminished mainly in consequence of competition inside the profession, it is also true that special practice attracts many of the best men who formerly entered general practice. This must have an effect upon the standing of the general practitioner. If to this be added the conversion by legislation of a large proportion of the population into contract patients, the temptation to enter general practice will become still less.

The provision of medical aid by some kind of insurance is no new thing, and its existence bears testimony to the thrift and independence of the wage-earning classes; but the mode of payment by capitation fees is bad, because it does not take into account the varying needs of the sick, and suits only those practitioners who are content to dispense drugs wholesale without wasting time on diagnosis—a mode of conducting practice which, unfortunately, suits the prejudices of the working classes, who only want a bottle of medicine and hate to be examined. This is what contract practice means, and if that is to be the general practitioner's fate, I advise you not to become one. Such work is not fit for highly trained medical men, and if Parliament sanctions such a scheme it will be served by the worst educated members of the profession, and must lead to the evolution of an inferior class of practitioner.

My advice to you is to keep out of contract practice, and if you follow my advice I am sure you will not regret it. Do not be tempted by the offer of an income that can only be earned by the sacrifice of all your ideals and by the loss of your self-respect.

In conclusion, let me again thank you for inviting me to address you, and ask you to accept my earnest wishes for the continued success and prosperity of the Royal Medical Society of Edinburgh.

The annual dinner of the Huddersfield Medical Society on October 18th was marked this year by a presentation to one of its past presidents, Dr. Norman Porritt. The presentation was made by Dr. Irving, who, after giving some account of Dr. Porritt's career, added that when he left Huddersfield he would carry with him the affectionate regard of all his patients and the goodwill and esteem of every member of the medical profession who had ever come into contact with him. The presentation took the form of two pairs of silver candlesticks, to which were added some silver vases for Mrs. Porritt. Dr. Porritt, who has been in practice in Huddersfield for some thirty years, has held the offices of President of the Huddersfield Medical Society and Chairman of the Huddersfield Division of the British Medical Association. He was a Leeds student, and a very few years after becoming M.R.C.S. and L.R.C.P. was awarded the Fothergillian gold medal of the Medical Society of London for his essay on the operative treatment of intrathoracic effusion. He was also one of the earliest medical men to appreciate the advantages of shorthand, and for some years past has been treasurer of the Society of Medical Phonographers. His retirement creates a vacancy on the surgical staff of the Huddersfield Infirmary.

ON CERTAIN CLINICALLY OBSCURE MALIGNANT TUMOURS OF THE NASO-PHARYNGEAL WALL.

BY

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On account of the supposed difficulty of obtaining really adequate access to the naso-pharynx, the diseases of that region, apart from certain trivial and easily treated conditions, have aroused comparatively little interest. The only tumour originating there which is at all familiar is the naso-pharyngeal fibroma—a condition which always develops in the least inaccessible part of the space and can invariably be removed without complete exposure of the part. Nevertheless, the naso-pharynx is a region rich in pathological interest and subject to the growth of numerous tumours, which are by no means infrequent and are of great diagnostic importance.

I propose to direct attention in this paper to one class of these growths, which, while it produces a clinical picture singularly precise and characteristic, is no less singularly liable to give rise to errors in diagnosis.

Pathologically considered, the tumours of the naso-pharynx may be grouped as follows:

Teratoma.

Tumours originating in lymphoid tissue—
- Lymphosarcoma.
- Myxoma.
- Myxosarcoma.

Periosteal growths—
- Naso-pharyngeal fibroma and fibrosarcoma.

Sarcoma of the pharyngeal wall—
- Homogeneous forms: Round cell, spindle cell, etc.
- Alveolar: Endothelioma.

Carcinoma of mucous membrane—
- Squamous.
- Columnar.

We are not concerned here with the pathological aspects of the subject, so that no detailed discussion of these various classes need be attempted. Some estimate, however, of the relative frequency of the various growths may be made. My own experience is not large enough to justify a statement of frequency in percentages, being confined to eight cases in which radical operation has been attempted, and some five or six others seen under various circumstances. From this small experience the outstanding fact is that endothelioma is by far the commonest malignant tumour of the naso-pharynx. So marked is this predominance that one may expect any given malignant tumour to be of this structure, and must reckon on the peculiarities of such growths in working out the requirements of diagnosis and treatment. A second outstanding fact is the very great frequency with which males are affected as compared with females. I have seen one case only in a woman. Finally, malignant disease of the naso-pharynx is a disease chiefly of the young adult, the age limits of 18 and 35 years including the great majority of the cases.

For clinical purposes the cases may be divided into those in which the tumour projects markedly into the cavity of the pharynx and those in which this polypoid development is absent.

The former class is of but little diagnostic interest. The symptoms of haemorrhage, alteration in the quality of the voice, and nasal obstruction will be early and well marked, and the diagnosis is perfectly straightforward. In the cases with little or no internal projection the position is very different. The diagnosis is entirely dependent upon the recognition of the symptoms of infiltration of the naso-pharyngeal wall, and my experience would tend to show that these are by no means widely known or correctly estimated.

The class of infiltrating tumours without marked projection is nevertheless relatively large and strikingly homogeneous. I have operated on some six cases, and have seen two or three others. All the cases presented remarkable similarities, and were usually recognizable at a glance. In each case the tumour was an endothelioma, and was situated in the lateral wall; in no case

was the evidence of obstruction of the naso-pharynx at all pronounced, and I may add in no case was the diagnosis made until an advanced stage of the disease had been reached.

Anatomical Considerations.

In order to bring out the very characteristic clinical features of this class of tumour it is necessary to recall the anatomical relations of the part of the naso-pharyngeal wall in which they are found.

The lateral wall of the naso-pharynx on its inner aspect presents the triangular orifice of the Eustachian tube, having below it the prominent Eustachian cushion formed by the levator palati muscle. It is this region of the pharyngeal wall which is particularly affected by the tumours we are considering. If a dissection is made here, proceeding from within outwards, the removal of the mucous membrane discloses the Eustachian cartilage and the levator palati muscle; external to these is the inferior division of the fifth nerve, and external to this again the internal pterygoid muscle.

The tumour appears to start in the substance of the pharyngeal wall. Consequently it early involves the Eustachian tube, causing deafness; the levator palati, causing defective mobility of the soft palate on the same side; and the inferior maxillary nerve, causing neuralgic pain in the ear, the side of the head, the jaw, and the tongue. Further progress of the disease leads to closure of the jaws through involvement of the internal pterygoid. The strictly anatomical distribution of the symptoms is always a striking feature, and it should be noted that, owing to the nearness to one another of the structures involved, symptoms so diverse as deafness, trigeminal neuralgia, and an affection of the palate might be produced by a lesion no larger than a walnut.

Symptoms.

Some further analysis of these symptoms may now be given. Deafness is generally the first to appear. It is of the Eustachian tube type, and may be relieved temporarily by inflation of the middle ear. There is nothing inherent in the state of affairs to make inflation of the ear or passage of a Eustachian catheter impossible, though in one of my cases Dr. Law, who kindly referred the patient to me, was led to suspect the nature of the case by finding that the catheter could not be passed. The deafness is not necessarily at all an outstanding feature, and may not attract attention unless examined for.

Pain always has a distribution strictly corresponding with that of the fifth nerve. In one case, corresponding in general type with the others, it seemed to have begun in the second division of the trigeminal, and here we must suppose the growth to have extended slightly into the nose and then penetrated outwards into the spheno-maxillary fossa, a variation in the spread anatomically quite comprehensible.

In all the other cases the pain was in the early stages limited to the inferior maxillary nerve, and therefore felt over the side of the head, in the ear, along the lower jaw, and in the tongue.

At first no alteration of sensibility can be made out, but after some months some defect can usually be shown, especially in the tongue and the area of the mental nerve. The pain is very severe, and, as it appears as an apparently isolated phenomenon, the other signs already present being very slight or being regarded as unconnected with the pain, the diagnosis of trigeminal neuralgia is usually made. In one case so little dependence upon any organic disease could be made out that the patient was treated for some time by suggestion.

The affection of the palate is of considerable interest, for it is not produced by paralysis, the mechanism usual in the cases familiar to the neurologist. It is, in fact, due to a direct involvement of the levator palati by the tumour which is particularly prone to infiltrate muscles. Hence the first effect is a diminution in the extensibility of the muscle, so that while during elevation the palate is symmetrical, as the muscle can still contract, during rest it is asymmetrical, because the muscle cannot relax. Relatively late in the case oedema of the same side of the palate develops, and this may cause some defective elevation.

The closure of the jaw is usually so late a manifestation that it has relatively little interest.

Enlargement of the cervical glands is a constant feature in late cases. The disease in the glands has the usual characters of these endotheliomata, such as an especial tendency to involve and infiltrate muscles. The glands involved are the deep cervical, and they frequently form swellings behind the pharynx.

Diagnosis.

When the significance of the combination of deafness, neuralgia, and an affection of the palate is understood, there can be little danger of these cases escaping notice. It may be laid down absolutely that no single lesion except one in the lateral wall of the naso-pharynx can produce these three symptoms in association.

Once suspicion is aroused, digital examination of the naso-pharynx usually settles the diagnosis at once. It must be remembered, however, that no pronounced pharyngeal projection may be present, but merely a hard, nodular infiltration of the tissues about the Eustachian tube. Sometimes a sufficiently deliberate examination to make the diagnosis certain cannot be carried out without the use of a general anaesthetic.

From the diagnostic standpoint, these cases seem to be of especial interest to the otologist and the neurologist. The need for careful investigation of the naso-pharynx in cases of Eustachian deafness is more than ever obvious in view of these conditions and the fact that they may reach a very considerable development without causing any striking nasal obstruction. Again, the association of chronic deafness with persistent neuralgic pain should always give rise to the suspicion of some serious underlying condition. It is especially, however, the neurological aspects of these cases which seem to me of interest, and I would lay particular stress upon the importance of very carefully looking for deafness or affection of the palate in any case which is ostensibly one of trigeminal neuralgia beginning in the third division, specially in young adult males. We have seen even that occasionally pain of this type may begin in the second division.

Again, a careful examination for alteration of sensibility in the face receives from these cases a further confirmation of its recognized importance. Some caution, however, is necessary here. It must be remembered that these growths have a very strong tendency to extend upwards through the foramen ovale, and involve the Gasserian ganglion. When a case, ostensibly one of trigeminal neuralgia, is found to show some alteration of sensibility in the area of the nerve, the possibility that one has to do with an endothelioma of the Gasserian ganglion will naturally be considered. Should an operation for the removal of the ganglion be undertaken in one of the cases we are considering, the ganglion may indeed be found implicated in an endothelioma, and yet the true nature of the case be wholly overlooked. Under such circumstances the primary naso-pharyngeal tumour will, of course, go on developing, and will probably be incorrectly regarded as a recurrence of the growth in the ganglion. It would seem that there is considerable reason for believing that a number of cases which have been regarded and treated as primary endotheliomata of the Gasserian ganglion have in reality been cases of infiltrating naso-pharyngeal growths running the obscure course which we have seen to be normal for them.

One further diagnostic difficulty must be mentioned, and that is given rise to when the involvement of the glands is excessive, and altogether overshadows the symptoms of the primary growth. It is not improbable that a proportion of the common cases of glandular tumours in the neck without discoverable primary lesion are instances of the condition we are considering. I have had to deal with one such case in which the ultimate development of involvement of the Gasserian ganglion made it obvious where the disease must actually have originated.

Prognosis and Treatment.

This paper is intended to be principally concerned with matters of diagnosis. A word may, however, be added with regard to prognosis and treatment.

Owing to the obscurity of the early stages of the disease it has not been possible to secure freedom from recurrence for longer than fifteen months in any of the cases operated on. There is every reason to believe, however, that a general recognition of the clinical features of the disease

would permit of its being attacked at a stage when a permanent cure might be obtained.

With regard to treatment, some little experience has convinced me that there is only one method capable of giving access to the naso-pharynx adequate for the free removal of these tumours, and that is osteoplastic resection of the upper jaw. The classical operation in which the bone flap includes only the maxilla does not, however, give so satisfactory a view of the parts concerned as a modification which I use. This is to include in the bone flap the malar bone with the upper jaw. No one who has practised or seen the two operations could have any doubt as to the great gain obtained from this extension of the flap. The operation, although formidable in appearance, is easy to carry out, is not dangerous in itself, and leaves no deformity.

In conclusion, I would refer once more to the extreme clearness of the clinical type presented by these cases of infiltrating endotheliomata of the naso-pharynx, to the exact anatomical distribution of the symptoms, and to the frequent absence of any of the symptoms usually regarded as those of naso-pharyngeal tumours.

DEVIATIONS OF THE NASAL SEPTUM AND THE SUBMUCOUS RESECTION OPERATION.

RECORDS OF ONE HUNDRED CASES.

By J. WALKER WOOD,

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)EVIATIONS of the septum to one or other side are xtremely common. A strictly vertical septum is rare. forell Mackenzie examined 2,000 skulls, and found symmetry of the septum in 77 per cent. of skulls xamined. Many other observers who have studied the asal septum have also noted this asymmetry, and their gures bearing on this subject vary from 96 to 53 per cent.[1] n the lower races of mankind a deviated septum is the ception, being only found in 20 per cent. A vertical ptum is the rule in the lower animals, deviation being most unknown. In the Anglo-Saxon race the deviation more often to the left side than to the right. This has en explained by the fact that most of us use the right nd in blowing the nose, and that, unconsciously, the tip the nose is bent to the right, throwing the cartilage over the left side. This statement is open to the objection at in the skull of the Gibraltar man (of the early anderthal type) found at Gibraltar in 1843 there was marked deviation of the bony septum to the right. Also skull of a short Cist man found in Aberdeenshire owed a very marked bony deflection with a compenory enlargement of the middle turbinal bone of the posite side. These two skulls take us back several usand years, when I doubt very much if pocketndkerchiefs were in use. I think it is more probable both cases that the deviations were traumatic. In the t-mentioned skull I am quite sure that its possessor fered from marked nasal obstruction.

n the adult a certain number of deviations are due to matism, as falls, blows on the nose while boxing, etc., by far the largest number of deflections are due to lty development of the upper jaw and bony palate in y childhood, a result of mouth-breathing consequent n the presence of adenoids in the naso-pharynx. A ain small number of septal deviations may be wholly genital.

n attempting to classify deviations, apart from their origin, I have divided them into two main groups:

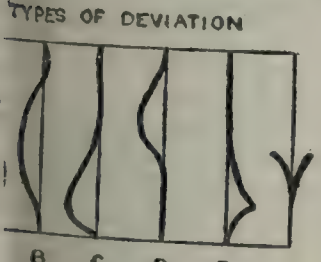

Fig 1.

A. Deviations pure and simple, of which one can recognize the "S" shaped (A), various bow-shaped (B, C, D), and angular forms (E, F). This classification may be applied to a deviation from the vertical axis of the septum, the horizontal, or a combination of both—that is, above down or from behind forwards (see Fig. 1). Deviations of the simple type (above) associated with growth of certain parts, hyperostosis, hyperchondrosis (spurs, crests, and projections). Overgrowths of this kind are usually found where bone and cartilage or bone and bone meet (see Fig. 2). Apparently they

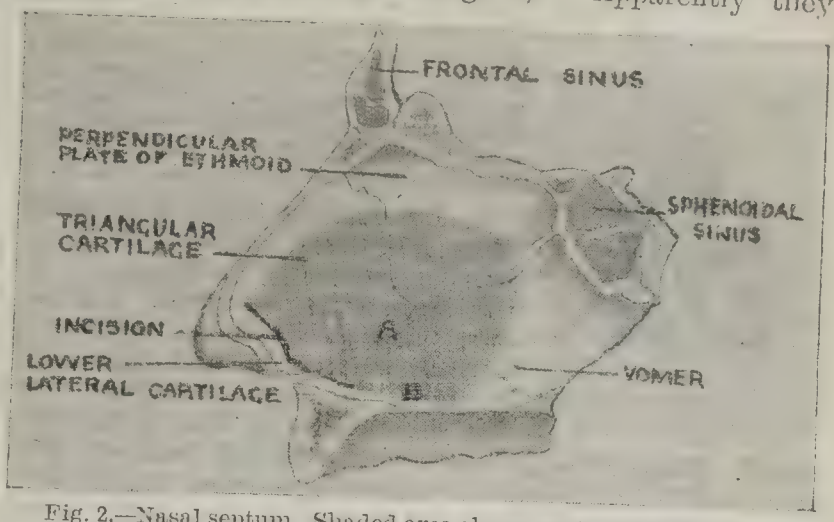

Fig. 2.—Nasal septum. Shaded area shows parts usually removed by a submucous resection. A, Site of vomerine crest. B, Maxillary crest.

are due to the separation of periosteum or perichondrium by accumulated blood at the time of the accident, and subsequent inflammation and irritation resulting in overgrowth. Certainly these forms are more frequently met in cases with a history of trauma than in those without. The observation and study of a large number of nasal septa at all ages has led me to form the opinion that the slow, gradual, but constant, upward pressure of the developing jaw is more likely to produce a bending or dislocation of the component parts of the nasal septum than to fracture them. It is reasonable to suppose that sudden external violence would in all probability cause fracture of some part (other than the cartilage) rather than a bending or deviation of an elastic, resilient structure, such as the triangular cartilage. Unless the cartilage be partially ossified, as sometimes it is observed to be, it is difficult to imagine how fracture could take place. Fractures of the vomer are rare, but fracture of the thin, papery-like perpendicular plate of the ethmoid is frequently seen. Dislocations are very common. Both are the origin of a hyperplastic periostitis, resulting in the formation of a crest or spur or thickened septum, hence nasal obstruction.

Deflections of the septum are seen at all periods of life and in both sexes. Statistics obtained from my own cases show the average age when advice is sought to be 30.5 years. Deviations are rarely seen in children under 7 years of age, and these deformities appear to reach their maximum development between the fourteenth and twenty-fifth years. Sex apparently has some slight influence, for in the 100 cases which I am now considering 62 were males and 38 females. No doubt the male nose is more likely to suffer injury than the fema

When should a deviation be corrected? Only when symptoms arise which can be traced to the deviation as a likely cause. These symptoms include headaches, obstruction, deafness, and laryngeal troubles.

1. *Nasal obstruction* may be of two kinds—inspiratory and expiratory obstruction. Of the two forms, the inspiratory is apparently the one most frequently complained of. While both forms are usually found to be present on the same side, it may happen that one form is present on one side, the other being present on the opposite. This may be understood readily by considering the site of the obstruction. Obstruction to inspiration may be due to (*a*) blockage low down close to the vestibule (septal), (*b*) blockage high up above the level of the inferior turbinate, or opposite the middle turbinate (septal). In this form the associated symptoms are obstruction and headache, but the symptoms special to this form of obstruction are all related to the larynx and its surroundings. Obstruction to expiration is caused by some blockage of the inferior meatus of the nose (the chief channel of the expiratory air current). This form is not so frequently a source of complaint, although it is more often associated with disease of the ear. It may be accompanied with headache.

Patients do not usually themselves differentiate between these two forms of obstruction; the fact is more often elicited by the rhinologist while conducting his examination. At the same time, I have found the complaint of "stuffiness" to be more likely due to expiratory obstruc-

tion, while the complaint of, "I cannot breathe through the nose," seems to be due to inspiratory obstruction.

CASE.—Male, aged 32. Complains of obstruction and attacks of sneezing and watery discharge from the nose. Duration three years. No cause known. Nose: Septum deviated to left below, expiratory obstruction; septum deviated to right above, inspiratory obstruction. "S"-shaped septum. Compensatory enlargement right inferior turbinate. Right middle turbinate cannot be seen (see Fig. 3).

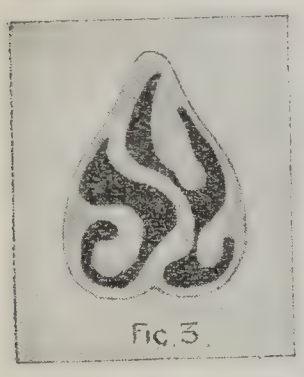
FIG. 3.

In considering the symptoms of these 100 cases, obstruction alone was complained of in 19 cases. It was more or less complete. Fifteen cases had headache in addition; 8 cases obstruction and unilateral deafness, the deaf ear always on the same side as the obstructed nostril. Two of these 5 cases were suffering from chronic otitis media, which could be traced to deficient drainage of the middle ear. In 6 cases laryngeal symptoms were a marked accompaniment of the obstruction.

2. *Headaches.*—Deviations of the septum are responsible for quite a considerable number of cases of intractable headache,[2] and the physician, therefore, would be wise to always make an examination of the nasal cavities before ascribing such headaches to neurasthenia or other similar disorder. The position of the headache is variable; usually, however, it is referred to the same side of the head as the obstructed nostril. Should the deviation exert pressure upon either middle or inferior turbinate, orbital or nasal pain may be an additional source of complaint. In the 100 cases under consideration headache was the symptom in 22 cases; alone in 11 cases; in conjunction with laryngeal symptoms in 8 cases, and aural ones in 3 cases.

CASES.—Male, aged 24. Complains of inability to breathe through the nose. Duration twelve months; accident ten years ago. Inspiratory obstruction, left side; headaches referred to the left side of the head. Nose: Septum deviated to left, slight spur posteriorly right (see Fig. 4). Female, aged 56. Complains of stuffiness in nose preventing breathing. Duration three years. Pain over right side of nose; frontal headache; impaired sense of smell, inspiratory obstruction (intermittent). Nose: Thickening of the septum (bilateral), worse on the right side; septum and middle turbinates in contact (see Fig. 5).

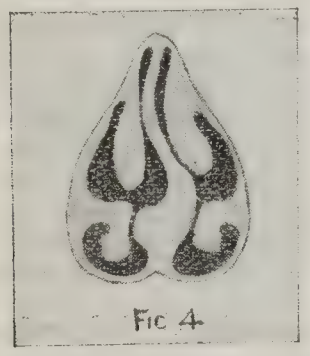
FIG. 4.

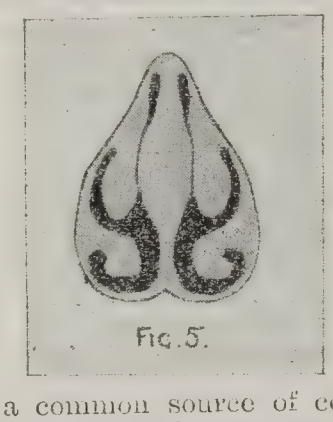
FIG. 5.

3. *Laryngeal troubles* were a common source of complaint. Such symptoms as loss of voice, hoarseness, inability to produce certain notes, "nasal voice," always catching cold in the throat, were complained of in 16 cases. Their meaning is quite clear when the respiratory function of the nasal cavities is considered. These patients had been breathing air which was inadequately warmed, moistened, and filtered; as a result, the delicate mucous membrane lining of the larynx and trachea had suffered; attacks of inflammation of these parts, with hoarseness and loss of voice, were frequent. One patient, a well-known actor now in Australia, who was particularly prone to catching cold and attacks of hoarseness, had a most marked deviation. This was corrected by means of the Killian operation. Several months later he wrote to me from Brisbane:

> My throat is splendid; you have made a new man of me.

All his symptoms were due to faulty nasal respiration. Two other cases are worth mentioning:

1. A gentleman who had had several attacks of laryngitis and had physical signs of phthisis in his chest. From an examination of the larynx, it was decided that the laryngitis was probably not tuberculous, but due to chronic rhinitis and nasal obstruction from a markedly deviated septum. The deviation was corrected, the laryngitis improved, and, after a course of treatment for his chest trouble, he made an excellent recovery.

2. A young girl who had some hoarseness and occasional loss of voice. There was a chronic laryngitis with a large interarytenoid pachydermia. She also had an obstructed nostril from a septal deviation. The Killian submucous operation was performed and the laryngitis treated, unfortunately with no great success. The chest was examined on several occasions, with negative results. A von Pirquet and Calmette's reaction were tried, also with negative results. Iodides and mercury had no effect. Eventually I removed the pachydermia by the indirect method, and it was submitted to microscopic examination. The pathologist's (Dr. Wyatt Wingrave) report was as follows: "The tissue consists almost entirely of tuberculomatous elements—namely, infiltration by epithelioid and lymphoid cells with a few giant cells. It is of the chronic type, as shown by the presence of plasma cells."

Eventually some slight physical signs of phthisis were noted in the chest. She is now under treatment at a well-known sanatorium in the South, and is making rapid progress towards recovery.

I do not cite this case as an illustration of the beneficial effects of a submucous resection. The opinion which I have formed regarding the case is that at first the laryngitis was of a simple catarrhal nature, directly due to breathing unprepared air, but that ultimately the tubercle bacilli (for there must have been lung disease, although undiscovered) found a suitable nidus, and the laryngitis became tuberculous.

Typical cases of laryngitis due to nasal obstruction are illustrated by the two following cases (see Figs. 6 and 7),

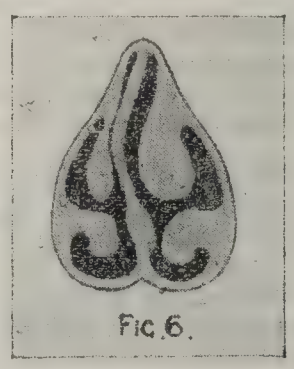
FIG. 6.

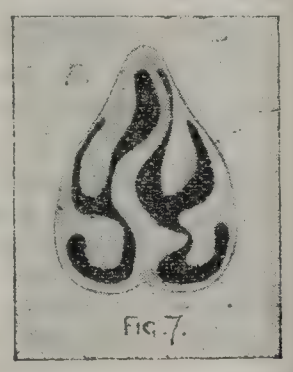
FIG. 7.

both of whom improved greatly as a result of the nasal operation:

CASE.—Male, aged 27. Complains of hoarseness and nasal obstruction. Duration twelve months. No accident. Nose: Septum deviated to right (above). Compensatory enlargement of left middle turbinate. Inspiratory obstruction. Chronic laryngitis and pharyngitis.

CASE.—Male, aged 50. Complains of stuffiness in nose, hoarseness, and "nasal voice." Duration three months, increasing. No accident. Nose: Septum deviated to right (below, slight); septum deviated to left (above, and large spur projecting into inferior turbinate). Intermittent obstruction, worst at night. Chronic laryngitis.

4. *Deafness.*—The association of deafness and nasal obstruction has long been recognized. How are they related? There are three types: (*a*) A blockage within the nose usually means Eustachian catarrh and intermittent obstruction. The air within the tympanum becomes absorbed, leading to retraction of the drum on the outside and on the inside, pulling the stapes and Scarpa's membrane out of their respective windows. A lowering of labyrinthine pressure results, and hence deafness. (*b*) Negative intratympanic pressure results in an increase of secretion from the mucous membrane of the middle ear, and this favours the growth of micro-organisms. (*c*) A blocked nasal passage means an increased expiratory effort, causing a portion of the contained air in the blocked side to be forced up the Eustachian tube under pressure, tending to stretch the ligaments of the ossicles and the drum itself. At the same time the stapes and the membrane of the oval window are forcibly driven in, raising labyrinthine pressure to excess and giving rise to tinnitus with deafness. This form is typically met in the "pocket-handkerchief deafness," to which Mr. Chas. Heath has recently drawn the attention of otologists.

Aural symptoms were evidenced in 25 of my cases—alone in 14, in conjunction with nasal obstruction in 8, and headaches in 3. The results of the operation have been most satisfactory, for if the operation did not cure the deafness it at least prevented it from becoming worse. The following case exemplifies this type of deafness with obstruction:

CASE.—Male, aged 25. Complains of deafness in left ear, duration, six to eight months. Cannot breathe through left nostril; duration, two years. Accident four years ago. Nose

Septum deviated to left; no view obtainable of either middle or inferior tubinates on left side. Compensatory enlargement of right middle and inferior turbinates. At operation cartilage split, one small piece on right side lying along septal cartilage and partly over overgrowth of vomer. Hyperostosis of osseo-cartilaginous junction (vomer) (see Fig. 8). Ear: Chronic catarrh, membrane indrawn and partly fixed.

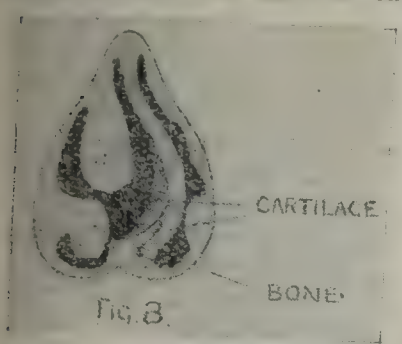

Fig. 8.

In regard to the operation, a full description may be read in all modern text-books of rhinology. It is unnecessary for me to enter into these details here, although there are a few practical points which I would like to mention.

The Anaesthetic.

A general anaesthetic is unnecessary, except for extremely nervous patients or those in whom a considerable amount of bone chiselling has to be done. A submucous resection is a simple operation in experienced hands. It is usually undertaken to alleviate some minor discomfort. It is not an operation of necessity. It can be performed painlessly with local anaesthesia, and therefore for these reasons I consider it wrong to subject a patient to the dangers and discomforts of general anaesthesia. From the point of view of the surgeon a general anaesthetic merely adds another difficulty—that is, haemorrhage. Even plugging the nasal cavities with adrenalin for ten to fifteen minutes before the administration of the anaesthetic only mitigates to a very slight extent this troublesome complication.

The adoption of local anaesthesia has the following points in its favour: First, no danger; secondly, no pain; thirdly, no haemorrhage; fourthly, the surgeon has the intelligent co-operation of his patient; fifthly, the operation can be undertaken sitting up; sixthly, considerably less surgical shock.

The method of local anaesthesia giving the best results is associated with the name of Freer. A few crystals of cocaine hydrochlorate are picked up with a small cotton-wool mop saturated with adrenalin chloride (1 in 1,000) and gently rubbed into the mucous membrane of the septum on both sides. Three or four applications, extending over a period of about ten minutes, are usually sufficient to produce a perfect anaesthesia. Medical men frequently ask me if I never get cocaine poisoning by this method. I have never seen it. This cannot be said by those who still plug the nasal cavities with gauze strips or wool mops saturated with cocaine solution. At the same time the patient should be warned that should he feel the cocaine in his throat he must immediately cough it up. The advantages of this method are obvious; they are: (1) Simplicity of application; (2) knowledge of the exact amount of cocaine applied—being concentrated, less in bulk is required than in weaker solution, and hence risk of absorption is less; (3) action can be limited to the area to be operated upon; (4) freedom from danger, toxic effects are unknown; (5) no trouble with old and decomposed solutions.

While the operation is in progress, it is advisable to instruct your patient to breathe through the mouth, as nasal respiration causes the separated septal mucous membrane to flap about, and may thus impede the view of the operator.

The Operation.

The operation should be carried out with all aseptic precautions. Numerous experiments by many competent observers have shown that the mucous membrane of the nasal cavities is practically sterile. Even when non-pathogenic organisms are introduced (experimentally), they are found to rapidly disappear. To what is this sterility due? (*a*) The presence of vibrissae in the vestibule, which arrest many of the larger air-borne particles and organisms. (*b*) The cilia of the ciliated epithelium lining, continually waving in the one direction, tending to drive out any extraneous matter or organisms. Bactericidal action of the mucus, killing or rendering inert pathogenic organisms, to be washed away later by the watery secretion from the glands of the olfactory region.

In performing the operation, the position of the incision is of more importance than its shape. It should be made well forward just within the muco-cutaneous junction on the convex side of the deviation, and should only include the mucous membrane of that side. If made too far in, a projecting piece of cartilage may be left which will effectually block the air current. In dealing with a prominent spine or crest greater accessibility is obtained if the incision be carried a short distance along the floor of the nose. There is present in some nostrils a web-like formation at the junction of the skin of the vestibule with the mucous membrane of the septum. This is congenital. If this web be incised and separated before making the primary incision, considerable trouble later will be saved. Separation of the mucous membrane is often most difficult, especially in the traumatic forms of deviation. In the first place, be sure you have cut through the muco-perichondrium; any attempt to separate the muco-perichondrium from the mucous membrane can only be attended by failure, but once *beneath* the muco-perichondrium, separation is quite easy. In several cases I have found that the mucous membrane has become adherent through being nipped in an injured cartilage. Button-holing is then almost inevitable, but, granting an intact mucous membrane on the opposite side, is of no consequence. In some cases the cartilage will be found to have undergone partial ossification. Its removal then with Ballenger's swivel-knife is attended by considerable difficulty. A much more efficient means of removal is provided in the septal punch forceps designed by Charles Heath. (This punch was really intended for the removal of the bony parts of the septum—the vomer and ethmoid.) Another difficulty associated with the cartilage arises when the deviation is situated high up, bordering on the bridge of the nose. Care has to be shown not to remove too much, for this would endanger the shape of the external organ, yet if a projecting piece is left, it has the effect of throwing the detached mucous membrane out, and preventing its proper apposition with that of the opposite side. Blood is liable to collect between these surfaces and the blockage remain unrelieved. A septal punch with up-turned blades (Heath) is useful in removing this area of cartilage, but *never remove more of the septum than is necessary to correct the deformity.* In the traumatic forms a splitting of the triangular cartilage is sometimes encountered. The force of the trauma has driven the cartilage upon the vomer, and has been split by it into two wing-like processes which project on either side. Great care is necessary in separating the mucous membrane in these cases, as often it is most adherent round the site of the split. When dealing with thickenings and spurs situated posteriorly, it is well to bear in mind the possibility that they may be accessory air cells—spheno-vomerine bullae.

According to Parker and Freer,[3] if these bullae are met with and recognized as such, they are best left alone and should not be opened. If unintentionally they are opened, the possibility of sepsis spreading to the sphenoidal sinus should be remembered (see Fig. 2). The spheno-vomerine bulla appears to be a prolongation forward of the sphenoidal sinus between the bony layers of the vomer at its junction with the sphenoid. In performing a submucous resection recently, and encountering one of these spurs causing considerable obstruction, I decided to remove it, knowing the possibility. In this case it did not communicate with the sphenoidal sinus. The size of the cavity was equal to a fair-sized pea.

The obstruction removed, the incision should be closed with a fine catgut suture. While deprecating the necessity for plugging, I think that it is advisable that the nasal cavities be plugged on both sides with a strip of ribbon gauze. A new form of ribbon gauze I have found most useful for this is that introduced by Parke, Davis and Co.; it is ordinary sterile ribbon gauze impregnated with adrenalin chloride. The plugs should be removed within twelve hours, when a pear-shaped plug of wool may be inserted on whichever side the surgeon thinks necessary with the object of maintaining the vertical position of the now only mucous membrane septum. All plugs may be dispensed with in the course of a day or two.

No after-treatment is called for. Watery lotions should be avoided, but, if crusts are troublesome, the instillation of a few drops of hydrogen peroxide renders their expulsion easy. A weak eucalyptus or menthol ointment keeps

the mucous membrane soft, and helps to prevent crust formation.

Complications.

This operation is not without certain minor dangers, most of which can be avoided by careful management. Operations within the nasal cavities usually do very well, septic troubles being almost unknown. The few complications which occurred in the 100 cases under consideration are briefly mentioned.

Haematoma of the Septum.—In this case the nose was plugged on one side only with gauze strips. A few hours after the completion of the operation the patient sneezed violently and a portion of the plug was blown out, the patient pulling out the rest of it as its purpose was unknown to him. When I saw him the following day both nostrils were completely blocked by a typical haematoma of the septum. It was not incised, and the ultimate result was not unsatisfactory.

Perforation of the mucous membrane occurred in a small number of cases. I have not found it to be detrimental, but if it be recognized that a small perforation has been made, *make it a big one*. Small perforations are troublesome; large ones never are.

Haemorrhage may complicate the operation if undertaken with general anaesthesia. It is rare with local anaesthesia.

Secondary haemorrhage after the operation may also occur. Frequently it can be arrested without plugging if the patient be instructed to sniff (forcible inspiration), which has the effect of emptying the veins of the head and nasal cavities.

Synechia may form if adjacent surfaces of turbinal and septum be injured, but this is rare.

"*Toothache*," involving the incisor teeth of the upper jaw, is sometimes complained of after operation. It is usually only temporary, and is due to injury of the branches of the large palatine nerve in removing the crest.

Acute otitis media occurred in one case where the plugging had been continued longer than usual. A plug in the nose, no matter how small it be, always gives rise to an acute rhinitis, and it is just as well to warn your patient beforehand that for a short time after the operation the obstruction may be greater than it was previously. Complications, such as acute otitis, are more due to this than to the operation. In this case paracentesis of the drum became necessary, and gave the requisite relief. Recovery was uneventful.

Acute frontal sinusitis occurred twice, and was undoubtedly due to plugging. One case recovered by expectant treatment, rest in bed, warm fomentations, and strict attention to the nasal toilet, but in the other removal of the middle turbinal body was required with lavage of the affected sinus.

Tonsillitis was much more frequently observed, and this may also be traced to the plugging of the nose. It was usually mild in form, responding quickly to treatment.

A complication which is said to develop later is *atrophic rhinitis*. So far none of my cases have developed it, although, in a few, crusts which are difficult to expel continue to form.

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A CASE OF TONSILLAR CALCULUS.

BY

JUSTIN McCALLUM McCARTHY, M.D.DURHAM, M.R.C.S.ENG.

THE patient in the following case, T. D., aged 30, a machinist, worked solely amongst metals. On January 7th, 1911, he consulted me at my house for inconvenience in the throat: he described it as "a tickling or roughness in the back of the mouth," which had troubled him for a month or more, but was increasingly troublesome during the last fortnight. He had worked all along until the day he called on me.

Previous History.—He had had only one illness, which occurred when he was a boy; it lasted about a month, and, from his account of the matter, it would seem to have been rheumatic fever.

State on Examination.—A swelling of the right tonsil was found, and between the pillars there was seen what looked like yellow membrane. Diphtheria being suspected, a swab was applied and the substance found to be very hard. Further examination with sinus forceps proved the substance to be something embedded between the pillars, but non-adherent to the wall.

Treatment.—On applying laryngeal forceps, they slipped twice. Fearing that if this occurred when extracting the body it might slip down the throat with disastrous consequences, one was forced to find a safer method of dealing with it. A pair of ovum forceps suggested themselves, and were applied. They held the body securely, and with steady traction it was brought through the opening, the parts being severely stretched, but there was no blood, nor any tearing of the tissue.

Result.—The body proved to be a calculus, of which the following is a report by the Clinical Research Association:

This specimen is about 2.5 cm. in greatest length, 2.5 cm. in greatest breadth, and about 1.5 cm. in depth, and weighs 4.635 grams (71.59 grains). It is but slightly nodular and has one surface very irregular and indented, but the others are roughly polished. Chemically it consists for the most part of calcium phosphate with a fair admixture of calcium carbonate and a trace of magnesium phosphate.

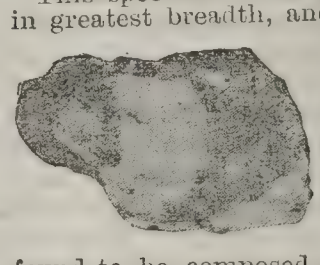

A part was decalcified and was found to be composed of necrotic calcareous débris, and no doubt represents a "plug" from a tonsillar crypt.

The urine, in consequence of this report, was subsequently examined, with the following result: Specific gravity 1020, slightly acid; neither albumen nor sugar; phosphates.

Microscope.—Numerous small crystals of oxalate of lime.

REMARKS.

Two features seemed to make this case worthy of a report:

1. The rare size for a tonsillar calculus.
2. The minimum of discomfort to the patient, he not losing from first to last an hour's work on account of it.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY INDUCING AN ARTIFICIAL PNEUMOTHORAX.

BY HERBERT RHODES, M.B.LOND., ETC.,

HONORARY PHYSICIAN, FARRINGDON GENERAL DISPENSARY; MEDICAL OFFICER TO THE X-RAY DEPARTMENT AT THE LONDON TEMPERANCE HOSPITAL.

THE method of treatment of pulmonary tuberculosis by inducing an artificial pneumothorax is not new. It was first tried apparently by James Carson, who lived about 1840; recently Forlanini, Späth, and Murphy have improved the necessary technique, and reported many successful cases. Now Ludolf Brauer of Marburg, Lucius Spengler of Davos, and Saugman of Norway have carried out the treatment extensively, and, on the whole, very successfully.

The recent literature on the subject published in England seems to be limited to three articles in the *Lancet* of July 15th, 1911, advocating the method used by Saugman. I have learnt and practised Brauer's method, and from the cases I have studied and the literature I have read I think his method seems to offer a greater chance of success, and, on the whole, less danger to the patient.

The indications for this treatment are: (1) Pulmonary tuberculosis limited almost, if not entirely, to one lung. (2) Recurrent haemoptysis if at all severe. (3) Continued fever, cough, and general increase of disease on one side, while the other lung is healing, or only slightly affected. Slight inactive disease in the fairly sound lung is not a contraindication. The increase in the blood flow through this lung seems to influence the healing process favourably. In some cases it is impossible to produce a pneumothorax, owing to extensive pleural adhesions.

The operative procedures divide themselves into two distinct stages: the preliminary operation and the after-filling.

The patient's chest is examined with the *x* rays, and a site for the operation chosen where the pleura appears thinner and the disease less pronounced. The patient is given an injection of morphine. He lies on his side with a pillow under the sound chest. The skin and subcutaneous tissues are anaesthetized with novocain and adrenalin solution, after careful sterilization of the skin by painting with iodine, etc. The whole operation must be carried out under the strictest aseptic conditions. An incision is made over the selected intercostal space, and the tissues are separated so that the external surface of the parietal pleura is exposed; this is facilitated by the use of the retractors invented by Brauer and Spengler. When a space about a quarter of an inch square has been defined, bordered by ribs and retractors, and having parietal pleura for its base, the latter is punctured in an oblique direction by a blunt hollow needle, shown in the illustration. If the operation is immediately successful, one hears a rush of air into the pleural space, and the needle is at once connected with a manometer having a three-way cock, so that nitrogen may be introduced through the needle, while the pressure is measured. The blunt needle and open operation obviate to a large extent the dangers of nitrogen or air embolism and of puncturing the lung tissue. Five hundred to a thousand c.cm. of sterilized warm nitrogen are allowed to flow into the pleura or injected under a pressure equal to 2 or 3 cm. of water. The warmed nitrogen obviates the possibility of pleural reflex. If the patient experiences much pain or seems faint, or his condition otherwise deteriorates during this injection, it must be stopped at once, but the idea is to make as large an air bubble in the pleura as possible, so that the after-fillings may be made with greater success and less danger of puncturing lung, adhesions, visceral pleura, etc. After a sufficiency of nitrogen has been introduced, the wound is sewn up, an antiseptic air-tight dressing is applied, the chest is examined again with the *x* rays, and the pneumothorax which has been induced is observed, and its limits as far as possible defined.

If the blunt needle does not at once tap the pleural space, it may be necessary to pass a gum-elastic sound down its lumen to clear away any obstruction from the orifice of the needle or its immediate vicinity.

Two days later a sharp-pointed hollow needle, either such as that used by Saugman for his operation, or a blunt cannula of similar calibre and length with a trocar which can be removed, is introduced into the nitrogen bubble in the pleura, and a further 500 or 1,000 c.cm. of nitrogen are injected under a slight pressure (from 3 to 5 cm. of water). If adhesions are very dense this injection may be painful. The more these adhesions can be stretched, the more successful will the treatment be, and if some of the firm ones are broken down the lung collapse will be more complete, and in consequence the lung rest gained will lead to a more certain healing of the ulcerating and inflamed lung tissue. This after-filling must be repeated at varying intervals for at least two years.

The indications for refilling are pain or discomfort in the chest, slight fever, or return of the cough. In a certain proportion of the cases (about 30 per cent.) an effusion forms in the pleura during the three or four months succeeding the commencement of this treatment. Patients who suffer from this complication often complain of much pain when the fluid is forming, but do not seem to progress less favourably; the fluid eventually clears up under a dry diet, and it is probably never necessary to aspirate the effusion.

It is most important to examine the chest with the *x* rays before each after-filling, observing the size of the pneumothorax and the shape of the lung as determined largely by pressure in the pleura and pull of pleural adhesions.

The apparatus which I use is similar to that used by Dr. Lucius Spengler, who, with Drs. Frey, Neumann, and Noble, I have to thank for much instruction and help in acquiring knowledge of the subject.

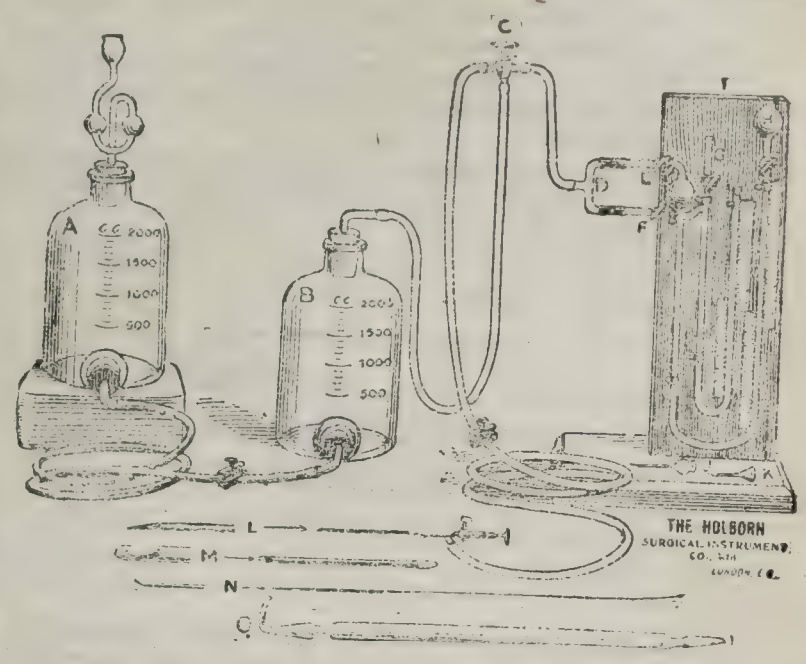

The bottle B is filled with 1 in 1,000 perchloride of mercury solution, and nitrogen is forced into it from a cylinder through sterilized cotton-wool, the displaced sublimate solution flowing to the bottle A, then the tubes leading from A to B and from B to C are clamped until the patient is ready for the filling; F is a three-way cock, which makes it possible for nitrogen to flow from B to the hollow needle L at a pressure measured by the manometer I. There are two manometers; one guarded by the stopcock F is a mercury manometer, the other guarded by the stopcock E is a water manometer. The former is used when, for any reason, coughing, excessive negative pressure in the pleura, etc., the oscillations in the water tube are too great and the fluid tends to overflow. L is a Saugman needle; M is Brauer's blunt needle for the puncture of the pleura in the initial operation; N the sound to pass down the needle M; and O one of the retractors. (The apparatus was made by the Holborn Surgical Instrument Company.)

The results of this operation are, on the whole, most encouraging. Since the first case which I saw five years ago at the Clavadel Sanatorium I have seen a large number of patients treated by this method, and there is no doubt that several of my friends and patients have recovered from an apparently quite hopeless condition, and are now enjoying life as the result of this treatment.

One patient I am treating at present, who has been seen frequently by Dr. James Calvert, was operated on by Brauer rather more than a year ago, and has been free from fever, cough, or other unpleasant symptoms since the operation. She is exceedingly well in general health, although at the time of the operation—four years after she was first treated for consumption—the note upon her condition shows that there was consolidation and excavation of the upper lobe, bronchial catarrh, and pleural thickening, adhesion, etc., in and over the lower lobe on the left side, and harsh breathing with some crepitation from the apex to the level of the second rib on the right side in front and to the angle of the scapula behind. The sputum contained numerous tubercle bacilli and many elastic fibres. The temperature was always raised, the pulse was 98, and the cough most distressing. The signs in the right lung have disappeared and the left lung is well collapsed, showing a good pneumothorax with a little fluid at the base. She lives a healthy open-air life, tempered by visits to London, to theatres and garden parties, and says she never felt better.

Another patient whom I have had many opportunities of examining had a very large cavity in the left lung, and from this such severe haemorrhage—recurring fifteen or sixteen times in a fortnight—that it was thought he could not possibly live. Although there was a considerable amount of disease in the upper part of the right lung, Dr. Frey, of the Clavadel Sanatorium, decided to ask Dr. L. Spengler to produce a pneumothorax on the left side. The result was most satisfactory; the haemoptysis ceased, and only recurred slightly before one of the subsequent after-fillings. The temperature became normal and the cough was much decreased in severity. This patient suffered very much from breathlessness, owing partly to the high pressure in the pleura produced for the purpose of completely collapsing the walls of the cavity and thus stopping the haemorrhage. This breathlessness necessitated almost continuous inhalation of oxygen during two or three months.

In their last book on this subject (*Rhinesche Beobachtungen bei Kunstlichen Pneumothorax*), Professor Brauer and Dr. Lucius Spengler detail the facts about some 87 patients treated by Brauer's method. In all these a pneumothorax was produced. They mention 26 more in which it was found impossible to produce a pneumothorax.

After a careful study of these accounts, I have compiled the following statistics:

1. In 17 patients the disease is apparently arrested.
2. In 39 patients the lung condition has been greatly improved and the prognosis is favourable.
3. In 14 patients the lung condition has been improved, but for some reason, such as abdominal tuberculosis, carelessness,

or fresh infection of the other lung, they have done on the whole badly.

4. In 17 patients there has been no good result.

3. Of the whole number 21 patients are now dead.

These results have been obtained in patients who were all seriously ill and becoming worse. There has been no selection of cases for statistical purposes.

Dr. Niehaus, who has charge of the Basle Heilstätte at Davos, has performed this operation according to Brauer's method 24 times.

In 7 cases he did not succeed in producing a pneumothorax.

Of the remaining 17, 1 died nine months later of haemorrhage from an incompressible cavity.

Seven are fit for or at work.

Nine are still under treatment, and the prognosis in these cases is described as good.

A NOTE UPON THE MECHANICAL EFFECTS OF A MASSIVE LEFT-SIDED PLEURAL EFFUSION.

BY N. C. RUTHERFORD, M.B., F.R.C.S.,

SENIOR ASSISTANT TO THE PROFESSOR OF ANATOMY, ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following case is the third of a series illustrating the effects of a pleural effusion in producing displacements of the thoracic and abdominal viscera, which have been prepared in and described from this department. The two previous ones (1 and 2) have dealt with right-sided pleural effusion. In this case the left side was affected and the study of it is therefore complementary to that of the other two.

The subject was a male aged 69 years. The tissues had been preserved by the injection of a solution of 15 per cent. formalin, the form and relations of the viscera being thereby accurately retained.

The accompanying photograph was taken after removing the anterior thoracic wall and sectioning in a coronal plane the contained structures from the level of the innominate vein to the upper surface of the liver, the diaphragm being thus included in the section.

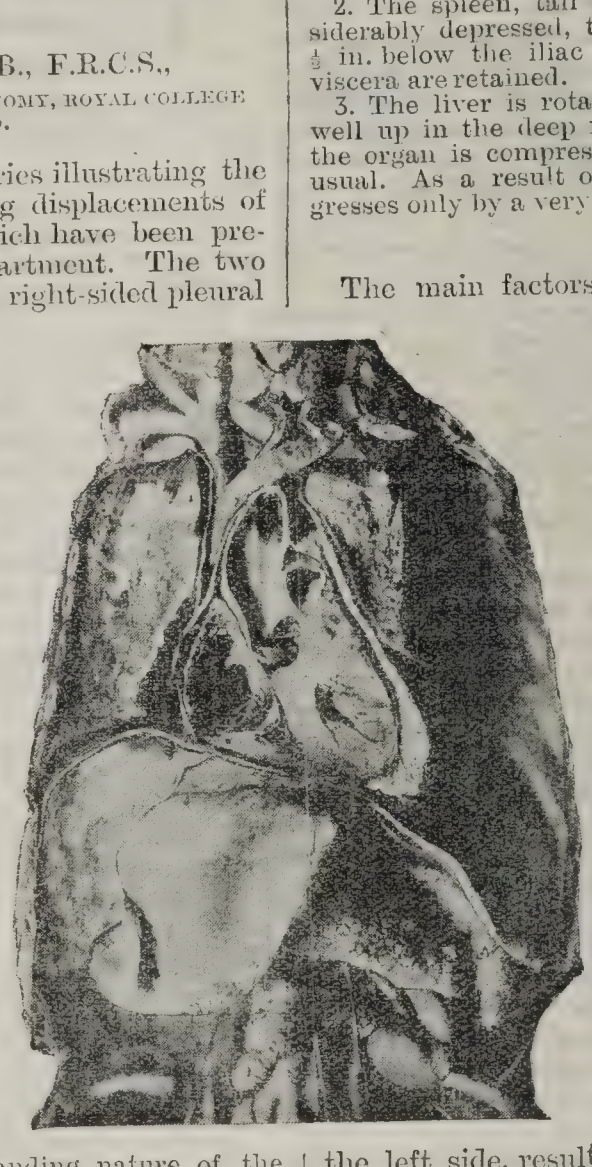

OBSERVATIONS.

The Thoracic Viscera.

1. The capacity of the left pleural cavity is greatly increased and its walls are covered by a thick gelatinous coagulum.

2. The pleura is greatly thickened. The thick white layer seen in the photograph between the collapsed left lung and the thin cut edge of the pericardium is evidence of the long-standing nature of the condition.

3. The shape of the left lung is retained despite its greatly decreased bulk. This is especially noticeable in the still well-marked basal border. Firm adhesions retain the rounded dorsal border in the costo-vertebral sinus of the pleura.

4. The heart is translated to the right and is raised within the thorax. It is rotated clockwise through 22 degrees around an antero-posterior axis which passes through the aortic arch. There is, in addition, rotation of the organ, clockwise, around a nearly vertical axis connecting the arterial and venous stems, where continuous, above and below, with the base of the heart.

5. The curve of the ascending aorta is straightened, causing relaxation of its coats and increase in the capacity of the aortic sinus, due to the shortening of the vessel. The mode of origin, position, and direction of the branches arising from the aortic arch are secondarily affected. The roots of the vessels seem as if partially intussuscepted within the lumen of the arch. This results in the formation of transverse folds between their mouths. One of these (that between the innominate and left common carotid) is seen in the photograph. The innominate artery is more transverse in direction and crosses the trachea at a higher level than is usual.

6. The trachea deviates markedly to the right.

Further dissection than that seen in the photograph reveals that:

7. The left pulmonary vessels run obliquely upwards to the lung root; they are stretched and the veins narrowed.

8. The oesophagus, in its course behind the pericardium, is bowed to the right, and the sectional form of the tube is changed by the edge of the distended costo-mediastinal sinus of the pleura. The greatest convexity of the bow lies over an inch to the right of the middle line.

9. The descending thoracic aorta is displaced on to the front of the vertebral column, except at its commencement. It appears markedly flattened between the costo-mediastinal sinus of the pleura and the bodies of the vertebrae.

10. The vena azygos major, where it arches forward over the root of the right lung, is markedly convex to the right, due to the pressure of the displaced oesophagus and trachea in its concavity.

11. The thoracic duct shows considerable dilatation below the level at which it crosses the median plane, and it is very tortuous above that point.

The diaphragm shows a most interesting change. Its left dome is much flattened, and is thrown into numerous folds, whilst its right dome is abnormally high and of smooth surface, as if stretched.

The Abdominal Viscera.

1. The abdominal contents deviate slightly to the right.

2. The spleen, tail of the pancreas, and left kidney are considerably depressed, the lower pole of the last organ reaching ½ in. below the iliac crest. The interrelations of the three viscera are retained.

3. The liver is rotated clockwise so that the right lobe lies well up in the deep right dome of the diaphragm. Further the organ is compressed transversely, making it deeper than usual. As a result of these two changes the left lobe transgresses only by a very little the median plane.

Comments.

The main factors in the production of these various changes are two, namely:

The alteration in the form of the diaphragm.

The distension of the costo-mediastinal sinus of the pleura.

By reason of the former factor the kidney, the tail of the pancreas and the spleen have descended about 5 cm., and the encroachment on the volume content of the abdomen by the depression of the left dome of the diaphragm has necessitated a compensatory raising of the right dome and, with this, of the liver. The effect of this is to raise the heart bodily and relax all the mediastinal structures running through the length of that space, especially those in the superior compartment, at the same time producing the first of the two rotations of the heart above noted. Under these circumstances respiration would be abdominal in type and carried on almost solely by the right half of the diaphragm, the costal mechanism being incapacitated by the marked distension of the left side, resulting in a generalized inspiratory position of the whole thoracic parietes. By reason of the latter of the two factors mentioned the whole of the mediastinal structures are pushed over to the right to the greatest extent at the mid-level of the thorax. In this connexion it is worthy of note that the aorta, oesophagus, and thoracic duct seem to have been affected separately, and their position and relations altered in detail rather than *en bloc*, the pleural sac having insinuated itself between the two former.

The physical signs over the right lung would be altered as a whole, by a combination of indirect and direct encroachment upon its containing space, whilst the movement of the posterior mediastinal structures would result in the production of an area of dullness on percussion to the right of the vertebrae from the fourth thoracic downwards.

I am indebted to Professor Geddes for the opportunity of publishing this, and to Mr. William Gill for the accompanying photograph.

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THE late Dr. George Fielding Blandford left net personalty of the value of £88,244. Dr. Hughlings Jackson left estate valued at £22,637 gross, with net personalty £22,56

CREATIN AND CREATININ IN ANIMAL METABOLISM.

BY

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AND

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(Preliminary Communication.)

Our work on the nutritive effects of meat extracts has naturally led us into this field of inquiry, which is already occupied by many workers in this country and also abroad.

It is generally accepted that when creatin is taken a considerable amount is retained in the body without reappearing in the urine. Folin,[1] who first pointed this out, concluded that creatin is absorbed and retained by the muscles. In his first experiments he used a starch and cream diet, because it gave rise to little urea formation, and was therefore well adapted to decide whether any creatin was transformed into urea or not. He found no evidence of this, but concluded that the amount retained depended on the low content of protein in the diet. He did not connect the retention with the starch content of the food.

The next fact bearing on our position is one noted independently by Cathcart[2] and Benedict,[3] namely, that creatin appears in the urine during starvation. Cathcart further showed that this output is stopped by taking starch, but not by fat.

Putting these facts together, it seemed to us, as no doubt it has to others, that Folin overlooked the significance of his results, and that the retention of creatin, whether given with food or formed in the body, is mainly connected with carbohydrate metabolism.

This provisional hypothesis we tested as follows. A dog was starved for two days and then fed on the following diets for periods of two days each. Throughout the series the daily diet contained, as a basis: Bread 20 grams, milk 20 c.cm.; lard 5 grams. To this was added other substances as shown below in the different periods:

Added to Diet.	Urine Nitrogen in Grams.	Creatin Output in Grams.	Creatinin Output in Grams.
(*a*) Starch 50 grams; creatin 1 gram	3.569	0.602	0.403
(*b*) Starch 75 grams; creatin 1 gram	2.747	0.426	0.376
(*c*) Starch 50 grams; crude casein (Merck) 25 grams; creatin 1 gram	4.459	0.676	0.388
(*d*) Starch 50 grams; meat (four times extracted) 25 grams; creatin 1 gram	3.024	0.710	0.327
(*e*) Diet same as (*d*) less creatin ...	2.702	0.095	0.329
(*f*) Diet same as (*b*) less creatin ...	2.625	0.026	0.387
(*g*) Diet same as (*a*) less creatin ...	—	—	—

Comparing (*a*) and (*b*), it will be seen that with the addition of 25 grams of starch the output of creatin fell in the two days from 602 to 426 mg. Again, comparing (*e*) with (*c*) and (*d*), it will further be seen that if the content of starch remains constant the output of creatin also remains practically the same, notwithstanding the introduction of protein. In the above there is, as a matter of fact, a slight increase in the output when casein was added to the diet, and a distinct increase when washed meat was added. We assume, however, that both these substances contained some creatin in themselves. The casein, as stated, was not pure, and the last wash-water of the extracted meat still gave a creatinin reaction on hydrolysis. We see also in the feeding period (*c*), where the same washed meat was added to the 50 grams of starch, but no creatin given as such, that an excretion of 95 mg. took place in the two days, which, if deducted from the amount excreted in period (*d*), would bring it into very close harmony with that in period (*a*).

These facts strengthened our provisional working hypothesis. It has been confirmed also in another way.

We reasoned that if it were correct there ought to be a disturbance of creatin and probably of creatinin metabolism in diabetes. We found this to be so in three cases which we have examined. In all three there was an excretion of creatin in the urine, apparently increasing with the severity of the glycosuria. There was also a marked diminution in the output of creatinin. But on referring to the literature we learned that both these facts had already been established, the former by Cramer and Krause[4] last year, the latter many years ago by K. B. Hoffman[5] and others.

We continued the investigation, however, and have found in regard to one (the mildest) of the diabetic cases that the addition of creatin in 1 gram doses to the food had no pronounced effect on the output of sugar, whereas the administration of creatinin in doses of 0.15 to 0.18 gram, whether hypodermically or with the food, temporarily increased the output of sugar by nearly 50 per cent.

From this a practical point arises, namely, that soups, meats, and meat extracts liable to contain creatinin should not be given with the diet.

We may add that we are inclined to think that creatin is probably concerned with the liberation of energy from carbohydrate material in muscle, and that creatinin is an end product of this metabolism in mammals. In this we find ourselves more in agreement with Noël Paton[6] than with E. Mellanby.[7] We have to thank Dr. A. R. Parsons, Dr. H. T. Bewley, Dr. James Little, and Dr. Jocelyn Smyly for kindly enabling us to make the observations on the diabetic cases. Mr. W. Caldwell kindly did most of the sugar analyses in these latter observations, and also assisted us with the calculations.

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SEVENTY-NINTH ANNUAL MEETING OF THE British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

Sir Thomas Chavasse, M.D., F.R.C.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

The President said: It is not customary for the President of the Section to inflict an address on the audience, and I intend to adhere to such an excellent rule. I think we cannot enter upon our deliberations here without a word on the great loss we have sustained so recently in the death of Mr. Furneaux Jordan. As an original investigator, clear thinker, lucid teacher, and skilful surgeon he has left an imprint on the surgery of our time which will ever remain and redound to the credit of our school. Gentlemen, it gives me much pleasure to welcome you to Birmingham, and I hope that the scientific work will be profitable, and that you will enjoy also the opportunities afforded you of visiting places of interest in our neighbourhood. I now ask Mr. Rutherford Morison to read his paper introducing the discussion on the treatment of general septic peritonitis.

DISCUSSION ON THE TREATMENT OF GENERAL SEPTIC PERITONITIS.

OPENING PAPER.

By RUTHERFORD MORISON, F.R.C.S.,
Professor of Surgery, University of Durham.

BEFORE opening the subject of treatment for discussion it is advisable to offer some general pathological considerations bearing upon the subject.

The extent of peritoneal surface has been estimated to be almost equal to that of the skin.

The shock and rapid death which result from scalding a large area of the skin are probably due to a cause similar to that which is responsible for the shock and death that follow the corresponding diffuse injury resulting from the rupture of some gastric and intestinal ulcers.

The cause of general septic peritonitis is the same as that of septic infection elsewhere in the body, namely, invasion by pyogenic organisms. Their entrance in sufficient quantity to produce diffuse inflammation is practically never through the blood, but is a consequence of some gross surgical lesion. It is most frequently due to a leak in the vermiform appendix, or to a perforating gastric or duodenal ulcer. The most virulent organisms found in the peritoneum are, as elsewhere, usually streptococci. A streptococcal infection of the peritoneum, like that of the skin, may cause death from toxaemia in a few hours, although the local reaction is very moderate.

The terminations of inflammation of the peritoneum are the same as those of inflammation in other parts of the body; they are, resolution, fibrosis, and destruction, partial or complete.

1. Inflammation may cause nothing more than a passing hyperaemia (resolution).
2. It may end in the formation of adhesions (fibrosis).
3. In local destruction of peritoneum with abscess (partial destruction); or
4. In diffuse destruction with gangrene (total destruction).

Let us deal first with the cause of the peritonitis—germ invasion. When this was first realized every surgeon attempted to get rid of the cause—the germs—with the most appalling results. In a paper on appendicitis,[1] which I wrote about twelve years ago, I gave, after a short trial of them, an emphatic warning against these attempts, saying:

> The more thorough the operation performed on these patients the more quickly they die.

We have had to learn by bitter experience in this, as in other domains of surgery, that the discovery of the germ producing the disturbance in no way aids us in curing the patient. A real cure, if it be ever found, will not arise from the gross mechanical methods employed by the surgeon.

The fact is that bacteriology has done such important work for surgery that now surgeons are obsessed by it, and despise the unaided use of their own senses, and the experience of their old masters. Until a wider outlook is taken, and more help can be given to the *vis medicatrix Naturae*, the treatment of septic infection must be unsatisfactory. For surgical purposes the name of the organisms present, or even the fact of their presence, is of little avail, for we now know that no mechanical means can get rid of them, and that the name of the variety is of little importance, because some patients with a streptococcal peritonitis recover, whilst others with a *Bacillus coli* infection die. Beyond arresting the supply of germs from the primary focus, an operation can only deal with the effects of inflammation.

I do not think it is appreciated how much there is in the old idea which considered nothing of importance but the associated circulatory disturbance. It is possible to watch all the important and naked-eye results of a peritonitis in an inflamed conjunctiva. Let me illustrate my meaning as to the circulatory disturbance by an example. In an arm too tightly bandaged, and after removal of the constriction, there may result: (1) Transitory hyperaemia; (2) fibrosis (Volkmann's ischaemic contraction); (3) partial destruction, (ulceration, sloughing); (4) gangrene—the same terminations as occur in a streptococcus infection.

When it becomes apparent that the condition of the circulation is the chief surgical guide both as to treatment and to prognosis, the practical importance of this knowledge is realized. It is much more important for purposes of treatment to know how much, and what portions, of the peritoneum are red and sodden than to know which variety of organism has been found in the exudate. In other words, the soil and the seed both require consideration. Whatever germ is present, the prognosis is always good if the heart is strong, and the pulse of good volume and not over 100. It is always bad if there is cyanosis, if the extremities are cold and the pulse over 120. (A patient with cold hands rarely recovers.)

Every one now seems to believe that the sunken appearance and the symptoms of shock in cases of septic peritonitis are due to toxaemia. We know so little what toxaemia is that its influence is impossible to estimate. It is certain that the same symptoms follow the strangulation of a loop of intestine (and I have seen them occur after the ligature of piles attended and followed by no loss of blood in a nervous patient). Surely in these instances the cause is not toxaemia? Anything which seriously disturbs the balance between the somatic and splanchnic circulations will produce these symptoms, and I prefer to believe that this is their origin in cases of septic peritonitis.

A more rational treatment naturally followed upon the belief that the peritonitis subsequent to infection by germs is not a disease to be fought altogether with surgical weapons, but that it is a protective reaction of the peritoneum, one to be aided and abetted if possible, but one very readily damaged or upset. So far as I know I was the first to make the observation, contrary to the then received belief but one now generally accepted, that the peritoneum possessed exceptional immunity to septic infection, for in a paper[2] read before the Medico-Chirurgical Society of Edinburgh on March 1st, 1893, the following sentences occur:

> On several occasions I have observed in abdominal wounds, dressed for the first time on the tenth day, that though the superficial parts were suppurating the peritoneum was not involved, both of course having been exposed to the same deleterious influences. I have also noticed, not without surprise, that rougher surgery may be perpetrated with impunity inside of the peritoneum than would be tolerated by any portion of the organism outside of it. The unavoidable conclusion is that the peritoneum has a resisting power not belonging to other tissues.

In an article on peritonitis[3] Bond writes:

> The safety of the patient depends on the integrity of the peritoneal epithelium and of the phagocytic defence.

Other aids in the reaction against the attack of organisms of special surgical interest are a free secretion of peritoneal fluid and the plastic powers possessed by the peritoneum.

Dudgeon and Sargent[4] have found that nearly all cases of peritonitis which recover exhibit a primary infection (probably derived from the bowel) with the *Staphylococcus pyogenes albus*, and they regard the peritoneal fluid containing this as of a protective nature and one which should not be washed out. It is certain that, in cases of septic peritonitis not due to sudden injury or to operation, preliminary changes of a protective nature are started at once. One of the most important of these changes concerns the omentum, which may often be found glued in such a position as to prove its value as a life-saving mechanism, and there can be no doubt that without it the mortality from abdominal emergencies would be much greater than it is.

Treatment.

The percentage mortality from general septic peritonitis has enormously decreased of late years, and the chief reason is that an increasing majority of the medical profession regard such a death as a serious reflection upon their promptitude, courage, and skill. Instead of injecting patients who have a ruptured vermiform appendix, or a perforated gastric or duodenal ulcer, with morphine, till their complaints cease, arrangements are now made by doctors, who realize their responsibility, for immediate transference to a properly equipped hospital. Every surgeon knows some practitioners who have made this a

strict rule, and have seldom, if ever, lost a case, while the public are beginning to recognize that skilful diagnosis and early recognition of the need for operation may be of greater importance than the method of its performance.

Nevertheless, the fact that in an important meeting such as this the treatment of septic peritonitis has been one of the subjects selected for discussion proves, if further proof is needed, that we neither have, nor expect in the near future to have, the necessary knowledge to deal satisfactorily with this dread scourge.

Some figures, collected for me by Mr. C. F. M. Saint, verified by the Surgical Registrar, Mr. R. J. Willan, and relating to cases admitted to the Royal Victoria Infirmary, Newcastle-upon-Tyne, during the year 1910, convey greater instruction than anything I can say.

Appendicitis.

There were in all 427 cases, with 18 deaths.

Post-mortem examination proved that the cause of 16 of these deaths was general septic peritonitis.

Six of the 18 were not operated upon, and all were suffering from advanced general peritonitis on admission.

Of the 12 cases operated upon, 1 died of portal sepsis 10 days, and one of pulmonary embolism 7 days after operation.

In all of the remaining 10, general septic peritonitis was present at the time of the operation.

There were 290 acute cases, and all of the deaths (18) occurred in this series. (There were no deaths in the interval cases.)

Sixty-two of the 290 acute cases had not perforated, and had no associated peritonitis. There was one death from portal sepsis in this series.

Thirty-eight had perforated, but had not yet developed any gross peritonitis. In this series there was one death from pulmonary embolism.

One hundred and fifty-seven were associated with localized peritonitis and abscess. All recovered.

Thirty-three were associated with general septic peritonitis. Twenty-five were operated upon, 13 recovered and 12 died. Eight were not operated upon. Of these, 2 recovered and 6 died.

These figures convey the lessons derived from the mortality, which of course is the most important consideration of all, but there are others to remember. For many years in Newcastle we have taught as the ideal that the inflamed vermiform appendix should be removed before rupture or abscess has had time to develop, and that only by this means a serious and prolonged illness, with the possibility of a ventral hernia at the end of it, can be insured against; until about five years ago this view was very commonly acted upon. Then there came a wave of opinion, based chiefly, I think, on London teaching, in favour of waiting for an interval in the most acute cases, and of taking leucocytosis as a guide, or for localization. The results of this were so disastrous, and so many patients were sent in with general septic peritonitis, that the importance of early operation in appendicitis again became universally acknowledged.

The next figures to which I wish to draw attention are those abstract from the statistical tables of ruptured duodenal ulcer admitted to the Royal Victoria Infirmary during 1910. There were 36 cases in all.

Of this number, 3 were admitted very ill with septic peritonitis and died soon after admission without operation. The diagnosis in each was verified by *post-mortem* examination.

Of the patients died after operation, 3 of them from general septic peritonitis and 3 from septic bronchopneumonia (1 twelve days after operation, 1 eight days after operation, 1 two days after operation).

The time at which operation was performed has been divided into periods thus:

Under six hours and under there were 11 operations. All the patients recovered.

Over six and under twelve hours there were 6 operations. All the patients recovered.

Over twelve and under twenty-four hours there were 8 operations. Six of the patients recovered and 2 died.

Over twenty-four and under forty-eight hours there were 2 operations. Two of the patients recovered and 3 died.

Over forty-eight hours there were 6 cases. Of these, 2 recovered and 4 died. In the 2 cases which recovered the perforation had been entirely excluded by adhesions from the general peritoneal cavity.

The next figures refer to ruptured gastric ulcers admitted during 1910.

The total number was 16. Of these, 12 recovered and died from septic peritonitis (verified by *post-mortem* examination).

Under six hours and under there were 3 operations. All the patients recovered.

Over six and under twelve hours there were 7 operations. Of these, 6 recovered and 1 died (shock; patient was quite collapsed when operated upon; his pulse was 152).

Over twelve and under twenty-four hours there was 1 operation. The patient recovered.

Over twenty-four and under forty-eight hours there were 2 operations. Both patients died.

Over forty-eight hours there were 3 admissions with 2 recoveries and 1 death. It is noted of the 2 cases which recovered that the gastric opening was localized by plugging and adhesions.

The case which died had been perforated one week and was admitted moribund. She died just after admission, no operation being performed.

Amongst the less common causes of general septic peritonitis admitted to the Royal Victoria Infirmary during 1910 there were 3 cases of ruptured small intestine from kicks. All were operated upon. Of these, 1 recovered and 2 died. The patient who recovered was operated upon twenty-four hours after the accident. Of the 2 that died, 1 was operated upon two and the other seven days after the injury. Both deaths were due to general septic peritonitis.

One woman was admitted with general septic peritonitis due to rupture of the urinary bladder from a kick fourteen days before. She died after operation, the cause of death being general septic peritonitis present at the time of the operation.

Three young women were admitted with general gonococcal peritonitis. Two were operated upon, and one was left alone. All three recovered.

Three cases of general pneumococcal peritonitis were admitted. They were all little girls and very ill. One was operated upon and died. The cause of death was general peritonitis and commencing pneumonia. Two were not operated upon and died, one of general peritonitis and double empyema, and the second of general peritonitis and pneumococcal meningitis.

The last case with which I shall trouble you, and which I only present because the lesson it conveys involves an important principle of treatment, refers to a woman who was admitted to the Royal Victoria Infirmary under my care on July 16th, 1910.

She was the mother of seven children. Two days before admission she had introduced a bone crochet needle into her uterus with the object of procuring abortion. It broke, and half of it had not since been seen. She had walked in, and immediately after admission had a rigor. Her pulse was 120 and her temperature 106° F., and she looked very ill. The lower part of the abdomen was tender on pressure. Vaginal examination showed a three months pregnant uterus only.

Operation was done soon after her admission. The cervix was first divided anteriorly to admit of exploration. Her story was verified by the discovery of the knitting needle lying across the interior of the uterus, and vaginal hysterectomy was done. (The uterus containing the fetus and the crochet needle can be seen in the Pathological Museum.)

The peritoneum covering the uterus was found to be acutely inflamed and raised into bullae at parts by effusion underneath it. (There is no record in the notes of any bacteriological report.)

This woman certainly had an acute septic metritis with commencing peritonitis, and there is but little doubt that her recovery was due to prompt removal of the infective focus.

The trend of my remarks has, I hope, led to the assumption that "general septic peritonitis" includes for the present purpose a consideration of causes as well as manifestations, so far as the former serve as a guide to treatment.

General surgical principles have been lost sight of too often in dealing with the treatment of any special disease, and this has been especially true in the case of general septic peritonitis.

The first knowledge required concerns its cause. It is now everywhere accepted that *the* cause of general septic peritonitis is a gross surgical lesion, allowing of the entrance of organisms by a definite channel, and that blood and other infections are so rare as not to count in practical diagnosis. The statistics I have given prove, if further proof should be required, that if the cause can be effectively and early dealt with the patient will not die of peritonitis.

With regard to diagnosis of the cause, I can only say of the practitioners in our district that it is now the exception for a mistake to be made in the case of ruptured gastric or duodenal ulcer or perforated appendix. It seems impossible for any one who has read the lucid papers of Moynihan on duodenal ulcer to miss the diagnosis of that, the most difficult of the three.

The first principle to grasp is that the peritoneum has a capacity to deal with organisms and dirt with such effect that, if an overwhelming dose from the source of supply can be prevented, recovery will follow. The only method by which this can be certainly and successfully accomplished is surgical, and consequently the first question after the diagnosis has been made in a recent case concerns an operation. When should it be done? Where should it be done? The answer to both questions is made clear by my figures. The operation should be done as soon as possible, and it should be done in a properly equipped hospital. Objections have been frequently raised by friends of the patient, and possibly by the doctor, against the removal of any one so seriously ill. The answer to this is that patients are very rarely made worse by a careful removal, and they often lose their lives in consequence of the most careful attempts to treat them at home. The fact should be recognized that the best domestic arrangements can only inadequately serve the requirements of present day surgery.

Operation.

There are three depressing factors in every such operation which require attention. The first is exposure. It is essential to keep the patients warm during the operation. This only requires to be mentioned to be approved, but it is occasionally forgotten.

The second concerns the anaesthetic. Whatever anaesthetic be chosen, as little of it and for as short a time as possible should be given. The first requirement is met by skill on the part of the anaesthetist; the second by having everything ready before the operation is undertaken and losing no time during its performance. My preference is for chloroform until the laryngeal reflex is deadened, followed by ether for the remainder of the operation.

The third—perhaps the most important of all—concerns the handling of the patient during the operation. No rough manipulations should be permitted. Pulling about and disturbance of the abdominal contents is one of the most potent causes of shock, and the mortality following rough operations is considerably in excess of those where every movement is performed as gently as possible and with a definite object.[5]

The Abdominal Incision.

The best abdominal incisions are two in number; a straight one in the middle line and (Fig. 1) an oblique in the direction of the fibres of the external oblique muscle. They do less permanent damage to the abdominal wall, allow of more easy extension, and can be more effectively closed against subsequent hernia than any other.

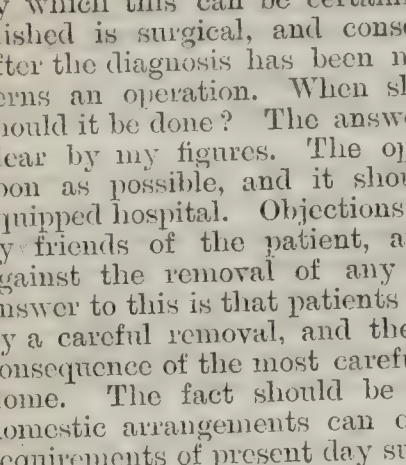

Fig. 1.—Oblique (appendix) incision. The length of the incision diminishes for each layer divided. This diminishes the risk of hernia, and makes closure of the wound more easy. The peritoneum is not divided as far as th deep epigastric artery.

The incision runs directly over the causative lesion if a diagnosis has been made. If there is no definite diagnosis to guide, the umbilicus should be excised by an elliptical incision, and the abdomen opened in its centre for the purpose. The incision should be long enough to allow of easy inspection and manipulation without mauling or rough retraction. Through it the diseased appendix will be removed, the ruptured gastric or duodenal ulcer closed, or other primary focus dealt with according to surgical rules. For excluding an irremovable focus from the general peritoneal cavity the use of gauze tampons, supported and protected by omentum and retained by temporary sutures, are occasionally indispensable. Gauze should never, if it be possible to avoid it, come in contact with the small intestine, because of its liability to produce adhesions and obstruction.

Cleansing the Peritoneum.

One of the many debts which abdominal surgery owes to the late Lawson Tait is the method of cleansing the peritoneum by washing it out. It was said that, by this means, a more thorough cleansing and one which damaged the peritoneum less than any other could be made. Like all striking surgical suggestions, this was enthusiastically received, universally adopted, carried to excess, and finally condemned. But the condemnation of washing out is not a just one, for it still holds the field as the best method of cleansing the peritoneum when it is necessary to do so. If mopping appears to be needed, the mops should be wrung out of normal saline (ʒj of sodium chloride to one pint of water), and if lavage be necessary, normal saline solution at a temperature of 100° F. should be employed. In the majority of cases any cleansing at all is unnecessary and, as often carried out at the present day with *dry* mops, is injurious.

The truth of this is abundantly proved by the extraordinary results achieved by Murphy of Chicago in general septic peritonitis from appendicitis. He neither mops nor washes, and his results carry conviction because, of his cases operated upon within forty hours after the commencement, less than 4 per cent. have died.

When is it Necessary or Advantageous to Cleanse the Peritoneum?—Much less often than we could have believed possible before the extraordinary capacities of the peritoneum for self-defence, and the ease with which these might be disturbed, were realized. My present practice is to reserve it for cases in which operations have been done early and extravasation has occurred widely in the peritoneum—for example, in gastric and duodenal ulcers, in recently ruptured appendix abscess with diffused pus, ruptured gall and urinary bladders, and haemorrhages, and to introduce the tube first under the diaphragm and wash out from above downwards with the shoulders of the patient raised. I entertain no doubt that by this measure not only are lives saved, but that, with drainage added, subdiaphragmatic and pelvic abscesses and intestinal obstruction are prevented.

Drainage.

An old rule, and still a good one, is "When in doubt drain." This rule now, however, has a new significance. Because the older surgeons so often had doubts many of them drained in nearly every case. None of us now doubt his capacity to *prevent* peritoneal sepsis, and prevention of sepsis is no longer an object of drainage. We drain, some more, some less, to get rid of septic products. My present views are that a temporary suprapubic glass drainage tube is useful as arresting or preventing general peritonitis by

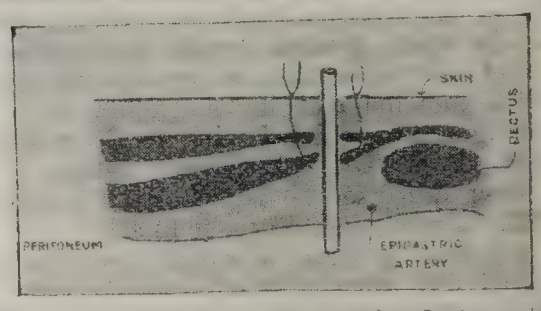

Fig. 2.—Section of abdominal wall, showin drainage tube at the inner end of the incision. Sutures are inserted, to be tied when the tube is removed. The tube is separated from the deep epigastric artery by a portion of peritoneum.

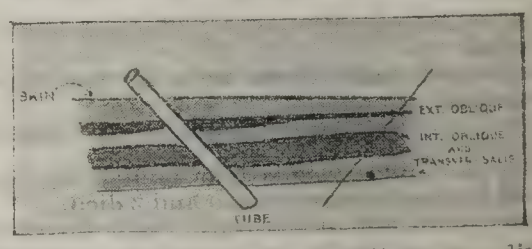

Fig. 3.—Section of abdominal wall. Oblique appendix incision, showing drainage tube *in situ*. When the tube is removed the openings in the different layers do not correspond, and he tendency to hernia is diminished.

allowing of the washing out of gastric and other extravasations, the washing if possible being carried out during the repair of the focus of infection. The tube should be removed, and the small wound closed when the operation is completed. Provision should always be made for the closure of a drainage tube opening (Fig. 3). I lost one patient from a small knuckle of intestine getting into such an opening which had been left unsutured.

The indications for more permanent drainage are the presence of infected matter or the possibility of leak fro

imperfect suture or damaged viscera. For general septic peritonitis the drain should be pelvic, and pelvic only, and it should be emptied at the time of the operation and kept empty afterwards by the syringe pump constantly used for the purpose by Lawson Tait (Fig. 4). In these

Fig. 4.—Syringe with long rubber tube introduced into wider drainage tube.

cases the *Fowler posture*—that is, sitting up—is now universally adopted before, during, and after operation, and if not employed to excess it is most useful.

In patients who are very ill *an intravenous infusion of normal saline solution* and a small dose of adrenalin at a temperature of 100° F., slowly administered during the course of the operation, is invaluable. The total amount should rarely exceed 2 pints, and not less than fifteen minutes should be occupied over the introduction of each pint.

The dressing I advocate is a voluminous one of wool with the object of producing elastic compression and retaining heat. The value of both is, I think, underrated in wound treatment generally, though it is unlikely to be forgotten in the school of Gamgee.

In the after-treatment there is no more useful measure than the method of *proctoclysis* advocated by Murphy, and now used with such success all over the world. Some patients are reported to have recovered after the absorption of as much as 22 pints in twenty-four hours, and there is this to be said in favour of the method, as compared with venous and subcutaneous infusion, that it is much less dangerous, since the colon is possessed of a natural discrimination.

Stomach lavage is another valuable measure. Nothing helps to arrest the vomiting or gives such relief in the sickness of general septic peritonitis as this.

Morphine.

The most emphatic condemnation of the use of morphine, backed up by a large amount of scientific evidence, have failed to convince me that the effects of pain and restlessness are not worse than the evil effects of this narcotic, and I do not grudge a single dose. No one, surely, doubts the serious effect of repeated administrations.

Purgatives.

Nothing is more surprising in surgery than the revolution that has occurred with regard to the use of purgatives. It seemed at one time impossible that any other view should be taken than that the only way to prevent, and the only way to cure, septic peritonitis was by free purgation, and it is humiliating, though perhaps useful, to find that a view so generally accepted and acted upon should have fallen into apparent disrepute. There is no doubt that it was once a fashion that was abused in surgery, but the proper use of purgatives should not be forgotten.

The general belief, and one well founded, is that a patient with general septic peritonitis is and looks very ill. The facies Hippocratica, so familiar to readers of textbooks, is naturally expected and looked for, but there are notable exceptions. In several cases of appendicitis under my care the patient has been so well as to be walking to the operating table and exclaiming against the fuss that was being made, but the operation revealed a fetid gangrenous perforated appendix, and a large quantity of stinking purulent matter free in the peritoneal cavity. A similar absence of symptoms may be sometimes noted in ruptured gastric or duodenal ulcers. After the initial severe pain and fright have passed off these patients may look very well, and insist there is nothing much wrong with them; and it is difficult to believe, until operation proves it, that general septic peritonitis is already present. In these instances it requires care to prevent an operation from doing harm, and some measure of harm will be done unless anything more than the focus of infection be dealt with and the most gentle local cleansing employed. The peritoneum of these patients is already dealing successfully with what has escaped into it, as proved by their good condition, and their recovery depends on the stoppage of further supplies of a like nature, and the avoidance of damage to the already handicapped abdomen.

The absence of shock and serious symptoms in these cases is, as far as I have observed, associated with little disturbance of the peritoneal circulation, and the exposed intestines and peritoneum are not red.

There is an accepted aphorism in certain surgical circles that every case of general septic peritonitis not obviously moribund should be operated upon. When surgeons are guided by such rules as this, they inflict needless suffering, and bring discredit on themselves and their calling. It is time for us to recognize that surgery made easy by such methods is bad surgery, and that operations which discover no cause requiring surgical help for the peritonitis are bad operations. I have endeavoured to convey my own conviction that the object of surgery in these cases is to remove the focus of infection, and that, if this cannot be done, the operation has failed in its endeavour.

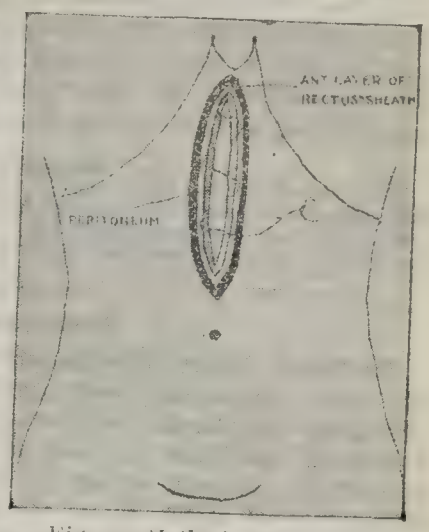

Fig. .—Method of suturing peritoneum. Above the umbilicus the peritoneum is so brittle that an ordinary continuous suture tears it. This is overcome by the use of a continuous mattress suture which includes both peritoneum and the deeper layer of the rectus sheath

Interference is often of doubtful benefit in cases of general septic peritonitis of more than three days' duration, from whatever cause they may have arisen.

In the great majority of such instances the focus of infection has by this time been shut off, and much harm can be done by a senseless and untimely operation. In this view Berry[6] agrees with me.

A note of two cases which I saw during the last two months will convey my meaning. Both were women with a long-standing history of chronic gastric ulcer. In both rupture had occurred three days before my visit. Both had general septic peritonitis, and both were very ill. With the older woman, her general condition was the bad feature of the case.

She was pallid and sweating, had a quick feeble pulse and elevated temperature, but was easier of pain and had slept frequently during the last twenty-four hours. Her abdomen was distended but not tense, and not very tender or markedly rigid. There was some dullness in both flanks but not sufficient to indicate any considerable amount of fluid. The diagnosis made was that the rupture in the stomach was shut off from the general peritoneal cavity, that operation would be very dangerous and of doubtful benefit, and that it was best to carefully watch and wait.

In the younger patient the abdominal condition appeared to be the more serious.

She was flushed but had a dry warm skin. Her pulse and temperature were higher than normal but not dangerously so, and the pulse was of fair volume. Her abdomen was tense and much distended, with signs of free fluid in the flanks. In her case the diagnosis made was that the rupture was shut off, but there was still active peritonitis without dangerous absorption.

Both were treated by partially sitting up, constant heat to the abdomen, frequent saline injections into the rectum, and small doses of morphine when required for pain or restlessness—a method known in America as Ochsner's; both developed a pelvic abscess towards the end of the second week; in both this was evacuated per rectum, and both recovered.

In some of these cases, with failing circulation and cyanosis of the hands, I have seen great improvement follow the addition of 1 drachm of tincture of digitalis to the first pint of rectal injection.

In acute pneumococcal, gonococcal, post-operative, and puerperal peritonitis—at least, in the stage when it usually comes under surgical observation—operation is unlikely to do good and may do grievous harm; that is to say, when there is no removable septic focus, early operation is not satisfactory treatment. I have had several patients recover from operation for an enormous collection of pneumococcal pus in the peritoneum after the acute

stage had passed, but have never seen anything but harm result from early operation.

Acute gonococcal peritonitis, though sufficiently alarming in its commencement, with palliative treatment soon settles into a condition that calls for little anxiety.

Unless post-operative peritonitis is due to some leak capable of repair, no good should be expected from operation. That the failure of operation in puerperal peritonitis may be due to the difficulty of a sufficiently early diagnosis in the dangerous cases is suggested by the note of my uterine case. The lesson emphasized most strongly, and the one on which I wish to lay the greatest stress, is the importance in the peritoneum, as elsewhere, of recognizing and removing the *focus of disease*.

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[1] *Edinburgh Medical Journal* [2] *Some Mistakes in the Technique of Abdominal Surgery.* [3] BRITISH MEDICAL JOURNAL, December 5th, 1906. [4] *Lancet*, February 25th, 1905. [5] See Crile, *Boston Medical and Surgical Journal*, December 15th, 1910. [6] *Lancet*, September, 1907.

DISCUSSION.

Professor KOCH (Groningen) said: I think all surgeons and most physicians will agree that operative treatment of diffuse peritonitis is always indicated. This will certainly be the case as long as there will not be found a specific treatment by serum or vaccine for this infection. When we all agree about the necessity of operation there may be still much difference of opinion about the following questions: (1) Is operation indicated in all cases at all times? (2) What is the best method of operation and after-treatment, and have we to use different methods in different cases?

As to the first question, I believe that all cases should be operated on as soon as possible, only those cases that are brought moribund into the hospital being left alone. The prognosis will be better the sooner the operation is performed. All statistics have taught us so. In later years the results of treatment of peritonitis have shown much progress; this is for the most part brought about by the fact that the majority of cases operated on by every surgeon are cases of appendicitis and to the general conviction that appendicitis is best treated the first day. If we subtract the appendicitis (and pyosalpinx) cases from the larger statistics the results are much less favourable. Doing this in Rehn's statistics the mortality rises from 50 to 70 per cent., in Hirschl's from 50 to 89 per cent., in Krögius's from 50 to 61 per cent.

I think the results of each surgeon will depend very much upon this—whether he is getting his cases in the beginning and whether he has more or less cases of appendicitis amongst them. I myself am in a bad position, as patients mostly come very late to the hospital at Groningen. They often do not call in the help of their physicians until they have been ill for some days. For these people—and I suppose there are such people in many other places—it would be of great value to be taught something of the dangers of abdominal pains, just as is done for tuberculosis and cancer.

By early operating we can save the larger number of diffuse peritonitis cases. When we see the patients in later stages I think we must operate on them also; then we give them in doing so the only chance of recovery.

As to the second question—the methods to be adopted—I have to say that in the worst cases general anaesthesia is not to be used. By giving these patients an injection of morphine, and by the use of local anaesthetics, we can very well do without general anaesthesia. In the less severe cases I think general narcosis is to be preferred, as it gives us much more liberty to do all that is necessary without causing pain.

When we know the cause of the peritonitis the incision is to be made as near as possible to this region. So in most cases the right iliac region will be incised. I think it is better to cut through the different abdominal muscles in the same direction, as we make in this way a simpler wound and get a better entrance into the abdomen. After all, it is better to get cured with a hernia than to die with a beautifully "conserved" abdominal wall. When nothing is known about the cause of the peritonitis the incision is best made in the median line. These cases are often very difficult when we cannot find the cause. After the opening of the abdomen, when the exudate escapes, we may observe a great betterment in the patient's condition, which may allow us to resort to general anaesthesia when we had previously avoided it. After opening the abdomen we have to go straight down to the cause of the peritonitis and remove it by extirpating the morbid appendix or closing the perforated bowel. Then we have to clear the abdominal cavity as well as we can from the exudate. We may do this by sponging or by flushing out. In my cases I have used both methods and cannot find much difference in the results. Now, knowing how difficult it is to get the cavum peritonei cleaned by flushing, I cannot think it worth all the trouble to wash the abdomen out. But the sponging is also very troublesome, and perhaps the peritoneum is not quite indifferent to the rubbing or mopping. So I have for the last two years made use of an instrument to suck out the exudate. In former times I used a tube which was in communication with a water suction pump, but the bowels often were sucked into the tube. In my new instrument aspiration of the bowels is made impossible, as the sucking tube is surrounded by a perforated second one, and the space between the tubes communicates with the atmosphere; the pressure in this space never becomes negative. The inner tube is brought in communication with a bottle placed near to the operation table, and from this bottle the air is withdrawn by the water pump. By putting my instrument in the lowest places where pus accumulates the pus is withdrawn very easily and without disturbance. For cases where washing is wanted I combine the tube with a second one to introduce water, so you can wash and suck out at the same time.

As a rule two or three incisions are made with the intention of emptying the abdomen as well as possible.

When the bowels are distended very much they come out when the abdomen is opened, and it will often be found impossible—or at least give much trouble and cause loss of valuable time—to replace them. In those cases punctures of the bowels are of much value. As for the making of one or more fistulae of the bowels, as recommended by Heidenhain, I never saw much benefit from it. Appendicostomy has often been of great use to me, not so much to drain the bowel as for the purpose of giving water to the patient during the first days after the operation.

Milking out the bowels, as recommended by Dahlgren, I have seldom performed, as I have the conviction this is exhausting the powers of the collapsed patients.

The wounds are sutured by me and drains applied to the lowest parts of the abdomen, where pus may be expected to accumulate. The skin is never sutured, as I have sometimes seen gangrenous purulent phlegmons of the subcutaneous tissue after it.

After the operation one of the most cruel symptoms we have to treat is the persistent vomiting. I think this is best treated by the continuous drainage of the stomach, a thin drain being introduced through the nose, as is recommended by my friend and countryman Westerman. This treatment is much more effective and less fatiguing than repeated washing out of the stomach.

If an appendicostomy is made the administration of water is of course very easy, and is a much better method than the continual proctoclysis, which is very troublesome, and is apt to soil the bedclothes. In many cases subcutaneous and intravenous injections of physiological salt solution are made; in bad cases I have often seen the good effect of the addition of some drops of adrenalin solution to those injections (Heidenhain). Though the effect of these injections is only transitory, they may, however, be of use in helping the patient through the worst moments. Fowler's sitting position of the operated patients seems to be very good, but demands much care on the part of the nurse: Küster's ventral position was always refused by my patients. In the after-treatment the use of medicines as coffee, wine, strophanthus, camphor, and ether is valuable.

As to the question, if we have to treat all cases in the same way, I should think the answer must be in the negative. For in those very bad cases where the circulation is insufficient, the pulse small and frequent, the skin blue and cold, every impression on the skin causing a long-lasting white spot, we cannot do more than give an outlet to the pus by one or more small incisions, made without narcosis, and drain the abdominal cavity. To seek for the origin of the disease would be too much for the powers of these patients. Cure will seldom follow these operations,

but they will cause a diminution of the suffering. Mostly the pain is bettered, and when the stomach is drained the dreadful vomiting will cease also. In less severe cases operation ought to be done as radical as possible, by removing the cause and cleaning the abdomen as well as possible.

Mr. Herbert J. Paterson (London) said that the Fowler position, the importance of rapidity in operating, and the method of continuous proctoclysis, had all been the result of the teaching of American surgeons. The whole operative treatment of diffuse peritonitis was admirably summed up in Dr. Murphy's pithy remark, which could not be too often repeated: "Get in quick, and get out quicker." He was glad that Mr. Morison had emphasized the axiom that operation was indicated in an overwhelming majority of cases. The Ochsner treatment had been misunderstood, and had sometimes been an excuse for delay in cases which would probably better have been operated on. Pneumococcal peritonitis was often very difficult to diagnose, the signs very inconstant, and often slightly marked; the temperature and pulse might be normal, and it was often very difficult to decide that the patient had peritonitis at all. He agreed that operation was contraindicated in pneumococcal peritonitis, but he personally considered that in gonococcal peritonitis operation was indicated, as the diagnosis was as a rule easier. In pneumococcal peritonitis his experience was unfortunate, as all his cases had proved fatal; but in gonococcal peritonitis his experience was happier. It was a good working rule, that unless one could make a good guess as to the cause of the peritonitis, it was better to postpone operation, and treat the patient on the lines laid down by Ochsner. Rapidity in operating and avoidance of unnecessary exposure of viscera were the most important operative factors influencing the fate of the patient. Last year Dr. G. W. Crile had given the Section an admirable summary of his investigations in shock, and showed how important it was to avoid every possible cause of shock, mental or physical. For this reason the speaker was an uncompromising opponent of washing out the peritoneal cavity in any shape, in any form, and in any circumstances. Fortunately they had long passed the days when patients after operation for peritonitis were placed in baths of antiseptics to flush out their abdominal cavities, or were put back to bed with tubes, Medusa-like, projecting from all parts of the abdomen, through which continuous irrigation was carried out, until the peritoneum could no longer withstand such treatment, and revenged itself by the removal of the patient from such misguided energy. He had followed up cases at the time when the fashion for washing out was at its zenith, and he was convinced that irrigation greatly increased shock, and the shock at operation was echoed in the tardiness of the patient's subsequent recovery. He believed that the peritoneum could deal with foreign matter better than the surgeon, and that, as regards washing out, any possible gain was more than counterbalanced by the increased immediate risk. Subdiaphragmatic abscess was rare if the Fowler position was adopted. Administration of chloroform was absolutely contraindicated in these cases. The greatest advance was continuous proctoclysis, and to this and the use of ether as the anaesthetic the improvement in results was mainly due. (The speaker showed his apparatus for continuous proctoclysis by the Murphy method.) In conclusion, he referred to the administration of cathartics after operation. In bad cases his own practice was to commence the administration of small doses of calomel almost as soon as the patient had recovered from the anaesthetic. The evils attributed to peristalsis were exaggerated, and if such evils existed at all, they were more than compensated by the peritoneal drainage and removal of toxic products effected by the use of calomel.

Mr. G. P. Newbolt (Liverpool) considered that cases of appendicitis giving rise to general septic peritonitis were seen by the surgeons earlier now than even five years ago. As to the results obtained, statistics varied greatly as used by different men. Great confusion seemed to exist in the definition of general septic peritonitis, which, in his judgement, was an infection of the whole peritoneal cavity, and not an infection limited to an area around an infected organ. He did not believe that any surgeon could save 96 per cent. of genuine cases of general septic peritonitis. The three factors contributing to success were speedy operation, skill in anaesthesia, and efficient drainage with proctoclysis. There was frequently great difficulty in determining when to refuse to operate in these cases, as now and then the most desperate cases recovered after operation. Chloroform, to his mind, was a dangerous drug; he much preferred ether. He administered a small dose of morphine, $\frac{1}{6}$ grain, after operation, to allay restlessness. The formation of subdiaphragmatic abscess in those recovering from operation for this disease often proved extremely troublesome to deal with and required careful watching for.

Mr. Grant Andrew (Glasgow) said: Given a case of general septic peritonitis, from whatever cause, my practice is first to make a small suprapubic incision, about 1 to 1½ in. in length, opening the general peritoneal cavity. This at once gives valuable information as to, first, whether free fluid is present in the cavity, its nature, its odour, its amount; and as to, secondly, the condition of the serous covering of the bowel—its vascularity, its degree of distension, and the presence of newly-formed adhesion. If in doubt as to the seat of the exciting cause, this preliminary incision is of great value, because from the nature and character of the free fluid alone a diagnosis can usually be made. Having proved that the fluid is free in the general peritoneal cavity, a narrow strip of gauze, with string or tape attached, is passed right down to the pouch of Douglas, and there left meanwhile to act as a drain. The exciting cause is then dealt with. I desire to deal alone with the appendix as the *fons et origo mali*, for I now always, and in every circumstance, expose the appendix by the gridiron method. This enables one to close the wound entirely without the risk of hernia. The offending appendix, in this class of case usually gangrenous, and possibly perforated with an extruded concretion lying in its immediate neighbourhood, is removed in the usual fashion. The stump must be well buried. The bed of the appendix and the surrounding structures are swabbed with iodine, 4 per cent., mopped dry, and the gridiron wound, after similar treatment with iodine, is closed in layers. The upper part of the body is now slightly raised, so that all intra-abdominal fluid gravitates towards the pouch of Douglas. The gauze placed in the suprapubic wound is now removed, and any pus which may have collected in the pouch or in the lower part of the pelvis is mopped out, siphoned out, or sucked out by rubber tube and syringe. This wound is also closed after the edges have been disinfected with iodine. If the condition of the patient permit, the Fowler position is assumed immediately the patient is returned to bed and "proctoclysis" is commenced. I am firmly convinced that this method of closure without drainage is sound surgery. It must be proved, however, to be not only as safe but safer than when drainage is employed. If the cause be removed much more can be left to the peritoneum than was formerly thought possible. What risk is run by primary and complete closure of the wounds? As general peritonitis is already established I have yet to learn that drainage will make any difference to the result. I believe the presence of packing and the use of a drain, either rubber or glass, is to exert a devitalizing influence on the bowel and to encourage the formation of a faecal fistula. Nothing is gained by leaving the wound open, and, furthermore, if partially closed and a drainage tube inserted at the angle of the wound, it is there a hernia will occur. The question might be asked, In what proportion of cases will you secure an uninterrupted recovery, if recovery at all?

Since September last I have operated upon 17 cases which come under this category—that is, free pus in the general peritoneal cavity without limiting adhesions and not confined to the pelvi-peritoneum. The appendix was gangrenous in each case and the primary cause of the peritonitis. In each case the same technique as above described was practised, both the appendical and the suprapubic wounds were closed. Recovery took place in every case save one, who died six hours after operation—a hopeless case. In 8 out of the remaining 16 cases primary union of both wounds occurred. In 8 cases the wounds became infected in varying degree, necessitating the removal of the lowermost surface stitch in 3 of the cases and of all the surface stitches in another; as the incision was gridiron this did not weaken the cicatrix. In one case a pelvic collection

formed, which burst into the bowel and was discharged per rectum. In another pain was complained of in the region of the liver, and with a remittent temperature one feared a subdiaphragmatic collection, but this gradually subsided, and finally cleared up. In no case did a faecal fistula result.

These records compare favourably, I think, with those from any other line of treatment, and prove that subsequent drainage is unnecessary if the exciting cause be removed.

Professor GILBERT BARLING (Birmingham) said the term "general septic peritonitis" was often very loosely used, and many people did not mean quite what they said. This led him to say that he was at variance with Mr. Grant Andrew when he referred to his series of cases where he had successful results following upon immediate closure of the abdominal wound in "general septic peritonitis." He did not think that what Mr. Grant Andrew called septic peritonitis was what he himself always was accustomed to regard as general septic peritonitis. What he (Mr. Barling) meant by that term was that the whole peritoneal cavity was infected right up to the diaphragm, and he maintained that the vast majority of these cases would not recover no matter what was done. Another point which he wished to make was as to the nature of the infection. He had great respect for any form of infection, but the one he feared most was streptococcal infection. If he understood Mr. Rutherford Morison aright in saying that it did not matter greatly what the kind of infection was, he felt compelled to disagree with that statement. He narrated a case where he had removed the appendix in a little lad, and had regarded the case as one as nearly as possible certain to do well; but that boy died in thirty hours, and when the bacteriological report came it was found to be a streptococcal infection. He was convinced that there was greater danger from infection by that germ than any other. Of course one did not know the germ till after cultivation, so that one's treatment was not affected by the knowledge of the germ, but one's prognosis was. As regards the question of incision, he emphatically supported Mr. Rutherford Morison's ideas, and thought no harm came of extensive incisions. It appeared to him that the spread of peritonitis was to a certain extent mechanical. The spread upwards from the appendix region was limited in the middle region of the abdomen by the transverse mesocolon. The mechanical arrangement of the peritoneum had a good deal to do with the spreading or limiting of septic peritonitis. Coming to the question of swabbing and irrigation, he thought that both had their advantages, and one should not exclude the other. If one found a localized collection in the pelvis there seemed no reason why this should not be cleaned out as thoroughly as possible by swabbing. Similarly, if one had to deal with a recent duodenal or gastric perforation one might not possibly swab out all extravasated materials, and it was here that irrigation was most useful. Professor Koch referred to cleaning the exudate from off the peritoneal surface in some cases. He wished to clearly understand what was meant. He was of opinion that where an exudate had formed it was better to leave it alone; and he instanced a case of pneumococcal peritonitis in which (influenced by some recent French literature which he had been reading on the subject) he carefully removed as much of the exudate as possible. The result was disastrous, because in forty-eight hours that patient died from general pneumococcal infection, and he believed that it was a mistake to have removed the exudate (said to be like boiled wash-leather), because it exposed raw surfaces to the absorption of organisms. On the question of the treatment of appendicitis, he would say that it was true that they would like to see every case of appendix infection operated upon at once. That was to say that every case should be diagnosed immediately, should be brought at once into an operating theatre, and be seen without delay by a competent surgeon; but, unfortunately, delays often took place, the diagnosis was not always accurately made, the patient's friends did not always send for the physician; and so it was necessary to take the world as they found it. To make a routine of operation in all these cases directly one saw them on the second or third day, and to attempt to close the abdominal would would be in many cases disastrous; whilst they might guess shrewdly as to the condition of affairs inside the abdominal cavity they could not tell for certain what it was like until they had opened. Sometimes the symptoms were intense in their severity, and the condition found in the appendix region slight; sometimes the reverse was the case. It was, therefore, necessary that they should adopt no hard and fast line of treatment, but that they should take their cases as they came and treat each on its own merits.

Dr. J. CRAWFORD RENTON (Glasgow) said that he was in agreement with all that Mr. Rutherford Morison had said in his paper, and he spoke only to emphasize the importance of urgent cases being operated on without delay. The public were being educated now in many directions; particularly were they instructed in the dangers of tuberculosis. He would like to see information regarding urgent abdominal conditions spread more widely if it would tend, as he thought it would, to the more speedy bringing of such cases into the hands of the family doctor and of the surgeon. In speaking of the importance of getting the bowels to act as soon as possible, he was accustomed to administer, as soon as the patient had recovered from the anaesthetic, small doses of calomel every two or three hours for three to four days, and then to use an ordinary enema. In addition, normal saline injections were used. Pituitary gland tabloids he gave before as well as after the operation, to counteract shock. The Fowler position should be adopted as soon as possible, and the patient brought into the hospital in that position. Post-operative vomiting was likely to be less if ether (after a few preliminary whiffs of chloroform) were used, and if it did occur it could be treated by stomach lavage, which, with the Fowler position, never failed.

Mr. GARNETT WRIGHT (Manchester) said: While in general agreement with the previous speakers, I am at variance with them on the subject of removal of patients to hospitals and nursing homes if their own homes are at all reasonably good. While this does no harm in early cases, it is harmful in those cases which are on the borderland, ready and apt to become grave, where the general circulation is beginning to fail. In such circumstances it is better to operate at home, in spite of the fact that the after-treatment is more difficult, because these cases may become very much worse by the removal from home. I wish also to emphasize the importance of doing the minimum required to remedy the defect which has caused the peritonitis. In the majority of cases lavage and mopping are unnecessary and may do harm by prolonging the operation and increasing shock. If there is extravasation of intestinal contents, they should be got rid of, and the best method is by lavage. In appendix cases no more mopping is required than is necessary to clear the field. After the removal of the appendix, free drainage should be provided. In general free drainage of the septic peritoneal cavity is of greatest value, and in desperate cases may sometimes be employed with success without dealing with the exciting cause. The chief improvement in after-treatment has been the use of proctoclysis—continuous saline injection. It is difficult and requires special apparatus and good nurses, and is unobtainable in private houses. Where it cannot be done, intermittent administration, supplemented by subcutaneous injections, may be employed. As regards the point raised by Mr. Gilbert Barling, that all cases should not be operated on immediately, and that sometimes a case proves worse than it looks, it appears to me that the latter statement is a potent argument in favour of operating as soon as possible.

Mr. C. P. CHILDE (Portsmouth) said: The operative prognosis in general peritonitis is governed chiefly by two factors. The first is the degree of toxaemia present, estimated roughly by the clinical picture the patient presents; the second is the ease and rapidity with which the operation necessary for the relief of the condition can be accomplished, and the patient got back to bed. The prognosis depends far more on these than on the actual condition found when the abdomen is opened. The latter may appear very alarming; for instance, the peritoneal cavity may be full of foul pus, without limiting adhesions of any kind. Yet if the patient's general condition at the time is passable (a fair pulse, the skin not in a cold sweat, not pinched and sunken in the face); further, if the operation can be so quickly performed that at the termination of it

he is not much worse than at its commencement. he will, as a rule. recover. In fact, if the general state of the patient is good, before even the abdomen is opened and the condition within it is known, always providing that nothing unforeseen occurs to greatly prolong the operation itself, the prognosis may be assumed to be favourable. The power of resistance of the patient to the microbic infection as evidenced by the clinical picture, is a far more reliable guide in prognosis than the extent or nature of the infection as evidenced by the pathological finding.

For instance, I operated a little while ago on a case of gangrenous femoral hernia requiring enterectomy. When the constriction was divided pus flowed freely along the director from within the abdomen. The latter was therefore freely opened by prolonging the incision upwards. The lower half of it was found full of pus without any limiting adhesions whatever. A culture showed the infection to be streptococcal. The patient's resistance power to this particular infection, as evidenced by her general condition, was good. The operation—enterectomy, gently sponging away the pus, and freely draining the abdomen—did not occupy a great length of time. The general condition of the patient at the end of it was unchanged. She made a perfect recovery.

If the local condition within the abdomen—namely, pus diffused freely in the peritoneal cavity—or the nature of the infecting organism, the streptococcus, and not the general clinical picture, had been taken as the guide, she ought to have died rapidly.

In regard to treatment, a great advance has taken place of recent years in many particulars. The most important of all, and one in which there is still great room for improvement, is early recognition of the acute abdomen and early operation—operation which, before the abdomen becomes distended, can almost always be done quickly and without in itself placing a great additional strain on the recuperative powers of the patient, and operation which takes place before toxaemia has had time to develop. If these two conditions were generally complied with, it is hardly too much to say that the mortality from general peritonitis would be reduced almost to vanishing point. Apart from this, which is the preventive treatment, the following appear to me to be the most essential points to attend to:

1. *Position.*—When a patient is admitted to hospital suffering from any acute abdominal affection, my instructions are that he always be placed at once in the Fowler position. If operated upon he is carried to the theatre, operated upon, and returned to the ward in this position, which is retained till all danger is past.

2. *Clothing.*—The patient is clad from head to foot in a cotton-wool jacket.

3. *Operation.*—The skin disinfection with iodine obviates unnecessary exposure, washing, shaving, etc. It saves time, which is of the utmost importance. The operation consists in the removal of the infecting focus with the least possible delay. If the case is quite early—for example, a perforated gastric ulcer or appendix operated upon within say six hours, the abdomen may frequently be closed throughout; but it is difficult to be sure when this can safely be done, and far the majority of cases are drained with rubber tubes. Probably in a much larger percentage than actually occurs, it would be safe to close the abdomen and leave the peritoneum to deal with the remaining infection, but the surgeon not having the requisite courage which comes of definite knowledge on this point adopts the safer course. I have practically abandoned all washing out of the peritoneal cavity. Discharges wherever seen are gently sponged away with gauze swabs, wrung out warm in saline solution. Moist swabs are in my opinion better than dry, for the reason that they inflict less injury on the delicate inflamed peritoneum. Drainage tubes surrounded with gauze are placed in position whence most of the discharge flows. The tubes are for drainage, the surrounding gauze not for drainage but for shutting off the space. In the later cases of perforated gastric ulcer the pelvis is always drained by a large rubber tube brought out above the pubes. I have seen an omission of this precaution followed by a large pelvic abscess. Secondary abscesses sometimes form, owing no doubt to pockets of infection which have escaped drainage, and which Nature's defensive processes have been unable to deal with; but these secondary abscesses are always localized, and are rarely dangerous to life. The removal of the infecting focus, if done in time, seems always to cut short the disease. If secondary abscesses form, after a few days, in a case which has been doing well, the temperature will begin to rise and will maintain an irregular type, but the patient will be evidently not very ill. I am not in a great hurry to open these abscesses, for two reasons. First of all, in many cases in a few days they will discharge themselves through one of the openings already present. If they do not do so, by waiting a little while the most convenient route for opening them can generally be determined. Far the majority of them form in the pelvis, owing to the gravitation of infective matter towards the lower abdomen in all of these cases, and in women they can be usually opened through Douglas's space. When this is accomplished a large drainage tube is inserted into the cavity, fixed with a catgut stitch to the cervix, and cut off flush with the vaginal orifice. Through this the cavity is irrigated out twice daily with sterile water, and when the catgut stitch gives way and the tube comes out, which is usually in about a week, vaginal douching is continued until the abscess has closed.

4. Proctoclysis is employed from the beginning, and is of the greatest service. Twelve to sixteen pints is not an uncommon amount absorbed in the first twenty-four hours, when administered by an experienced nurse, and I quite agree with Murphy that generally, if the fluid is not retained, it is because it is improperly given. If, as occasionally happens, the patient will not retain it, axillary infusion is substituted.

5. Small doses of calomel are administered by the mouth till the bowels have been got to act and flatus to pass.

6. The rectal tube is inserted for ten minutes every four hours. This frequently enables the patient to pass flatus—an all-important matter—and further assistance is given in this direction if required by the administration of turpentine enemata at intervals.

7. If vomiting persists, lavage of the stomach in some cases at once and for good arrests it.

8. Care should be taken that there is no tight bandaging. This, in the case of a distended abdomen, is a serious handicap on the patient's breathing capacity, and the loosening of the upper part of the bandage will often bring the greatest relief.

9. In the acute cases vaccines are not of much use on account of the time taken in their preparation. At Portsmouth we employ the Clinical Research Association for this purpose. But in cases in which I have given instructions for the preparation of an autogenous vaccine the patient has usually been convalescent or dead before its arrival. Caution is necessary in gauging the value to be ascribed to vaccines. For instance, in the case of streptococcal peritonitis above mentioned I ordered an autogenous vaccine to be prepared at once. Before its arrival the patient was convalescent, and it was therefore not administered. Had I been able to procure it more quickly, and had I used it in the first twenty-four or forty-eight hours, I should undoubtedly have been much biassed in its favour, and have been inclined to attribute the result to its influence, seeing that a purulent streptococcal peritonitis is probably the most fatal peritonitis of all.

Mr. Stanmore Bishop (Manchester) drew attention to the similarity of reaction to inflammatory stimulation in the eye, joints, and the peritoneum, quoting the axiom of Hilton in *Rest and Pain* on the behaviour of muscles around, and connected with, an inflamed joint. The musculature covering the peritoneum behaved in exactly the same way, and presented marked rigidity in peritonitis, so that this condition could be distinguished readily from colic, in which no rigidity existed. Great importance should be attached to the preparation of the patient, and particularly was this so where efforts were made to reduce to a minimum the quantity of anaesthetic. For this purpose preliminary administration of the scopolamine-morphine-atropine combination was commendable. He administered after the operation pituitary extract, whose effect was to increase the blood pressure in the abdominal organs, and so promote increased peristalsis. He expressed astonishment that Dr. Crawford Renton should administer pituitary extract *before* the operation in view of its action in increasing peristalsis. It seemed to him that common sense must govern such procedures as the employment of drainage and morphine. The drainage obtained from drainage tubes was limited. If a tube were introduced into the pelvis, in forty-eight hours it was surrounded by a coating or tube of fibrinous exudate, which limited drainage by its adherence to the rubber tube; and if the tube were removed prematurely, of necessity the intestine would be dragged upon; it should be left till it was perfectly loose.

Mr. Leonard A. Bidwell (London) advocated the use of pituitary extract after operation. He was of opinion that it had considerable value in re-establishing peristalsis. He was accustomed to give 1 c.cm. every four hours for the first two or three days. One advantage of it was that it counteracted the disadvantages of morphine, so that he generally gave at least one dose of morphine, $\frac{1}{6}$ grain, to give the patient a quiet night. On the question of flushing and wiping out the peritoneal discharges, he thought there was no hard and fast rule to be followed. If flushing were done, it was absolutely necessary to provide free exit for the fluid. His next point was as to the great value in general septic peritonitis of the use of a rectal drain—that is to say, an opening made from within, through the pouch of Douglas, by means of a pair of strong curved forceps into the rectum, and a tube passed through this opening, and then through the anus

and stitched to the skin of that region. This permitted closure of the suprapubic wound. The rectal tube he found was frequently removable in two or three days. It had been alleged that if the rectal drain were used it would be impossible to administer saline solution per rectum, but in his experience there was no interference with the administration of salines.

Mr. D. P. D. WILKIE (Edinburgh) called attention to the importance of an immediate microscopic examination of the peritoneal exudate at operations on cases of general peritonitis. Such examinations in a large number of cases revealed the fact that the particular type of bacterium causing the inflammation was of less importance than the reaction on the part of the patient. Presence of streptococci did not necessarily mean a bad prognosis, provided the cellular reaction was a vigorous one. The important point was the relative number of micro-organisms free in the fluid to the number of phagocytic cells. If many of the bacteria were found free in the fluid the prognosis was, as a rule, a grave one. At *post-mortem* examinations on cases dying from general peritonitis the jejunum was frequently found greatly distended, whereas the ileum was found collapsed and adherent in the pelvis, and the patient had obviously died partly from a peritoneal but also partly from an intestinal toxaemia. After the operation of opening and draining the abdomen in such cases the inflamed intestines coming together adhere, peristalsis was interfered with, and forming of pus was very liable to occur. In order to favour peristalsis and free drainage, he had advocated the pouring in of a few ounces of sterile vaseline oil to delay the formation of plastic adhesions; the experimental and clinical results which so far had followed the use of this method had been very encouraging. In the after-treatment of desperate cases two methods had been found to be of considerable value. The one was the passage of a continuous oxygen current through the drainage tube in the pelvis. Oxygen was rapidly absorbed by the peritoneum; it excited an active hyperaemia which tended to overcome the venous stasis associated with severe cases of peritonitis. In several cases a rapid and marked improvement in the patient's general condition had resulted from the employment of this method. The other method which he had tried in cases which appeared desperate, and after all the ordinary methods of after-treatment had been employed, was the injection of blood serum withdrawn from the median basilic vein of another patient in the ward who had just recovered from an infection by the same bacterium. Sixty c.cm. of blood were withdrawn from the vein; the serum was allowed to separate, and then injected into a similar vein of the patient whose condition appeared hopeless. Of 7 cases treated in this way 2 recovered, and one had little doubt that their recovery was in large measure due to the antitoxin thus administered.

Mr. BLOOMER (Stafford) pointed out that the peritoneum was capable of removing its own troubles, and narrated the case of a young lad who had had abdominal section performed with success seven times for various conditions originating from an appendicular abscess.

REPLY.

Professor MORISON, in reply to the discussion, said he thought he had gained more than he had given in this discussion. He was grateful that he had not been asked to define what general septic peritonitis was. In regard to the statistics presented by him, he asked the Section to accept them as true; they were not his own, but were compiled from the work of all the surgeons of the Newcastle Royal Infirmary, and they proved every fact in his paper.

ON GASTROSCOPY: A PLEA FOR ITS ROUTINE EMPLOYMENT BY GASTRIC EXPERTS.

WITH DEMONSTRATION ON THE LIVING SUBJECT.

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ENDOSCOPIC examination of the stomach has been advocated and practised on the Continent of Europe in a fitful way for more than forty years, though only during the present century has it been employed in this country and in America. The fact, however, that it has never been generally adopted by gastrologists naturally suggests that even the more recent gastroscopic procedures have not really proved worthy of adoption. The ardour of most endoscopic enthusiasts who have from time to time brought out or employed so-called improved gastroscopic methods has invariably been damped sooner or later by accidental perforations of the gullet or of the stomach, which have often been followed by fatal results; each new method has in turn become obsolete; and all indirect vision periscopic examinations of the stomach have until quite recently been utterly discredited by cautious gastric experts. The position has been well put by Mr. Sherren in a recently published address on the early recognition of and prevention of carcinoma of the stomach, who said, "You may be surprised that I have not mentioned the gastroscope as a diagnostic instrument. In its present form its use is probably more dangerous than exploratory laparotomy in the hands of a competent surgeon." For "probably" I would substitute the word "certainly," seeing that Mr. Sherren has in view the gastroscopic procedures originated by Mikulicz thirty years ago, and recently resuscitated and carried out on an extensive scale by Mr. Souttar and Dr. Theodore Thompson at the London Hospital and elsewhere: no doubt he spoke from personal knowledge and observation of the necessary element of danger incidental to the blind insertion of an angular, rigid tube through the gullet into the stomach.

Yet obviously the stomach is readily accessible to endoscopic examination *per vias naturales*, and, as I have shown by many actual demonstrations on healthy and diseased living subjects, its interior can be visually explored at least as efficiently and safely as can the bladder by cystoscopy. It may, perhaps, be found with further experience that gastroscopy has not quite so wide a field of application as has cystoscopy in bladder and renal diagnosis, and it certainly will not always do away with exploratory laparotomy; yet if a viscus is safely explorable without laparotomy, we may be quite certain that advances both in surgical and medical treatment are bound to follow its more or less routine exploration. It must be admitted that physicians and surgeons who are gastric experts usually arrive at remarkably accurate diagnoses on clinical and other grounds without resort to either laparotomy or to endoscopy; but it stands to reason that such measures as skiagraphy of the stomach, and microscopical and chemical examination of its contents removed by tubage, which are now systematically practised, can afford information which must be substantially inferior to that obtainable when these methods are reinforced by direct and indirect vision—endogastric inspection. To surgical experts whose demand for early diagnosis is so urgent for successful radical operations (in, for instance, carcinoma of the stomach), early gastroscopy must often be almost a necessity—for where both surgeon and patient might hesitate at an exploratory laparotomy, a gastroscopic examination might afford clear indications either for or against such a procedure.

To take a parallel instance, it is well to remember that the valuable information obtainable by gastric radiography was far too long neglected by the many and restricted to the practice of the few in this country and abroad, and, in my opinion, speaking as an experienced endoscopist, though not as a gastrologist (and, therefore, I have no axe to grind), the time has come when gastric endoscopy can no longer be neglected by those who lay claim to be considered gastric experts.

DIRECT VISION OESOPHAGO-GASTROSCOPY.

To Kussmaul, apparently, belongs the merit of having first attempted, with some measure of success, to make a direct vision endoscopic examination of the stomach *per vias naturales*. In a lecture published in 1868, he described his observations on a tolerant patient, a "sword-swallower," the interior of whose stomach he demonstrated to the Freiburg Society of Naturalists by means of a straight, direct vision gastroscopic tube 47 cm. long and of 13 mm. diameter; the illumination, however, was too feeble for the method to be of much practical use. Killian was more successful with essentially the same method thirty years later, as the employment of either the Kirstein head lamp, or the Kaspar handle lamp provided better illumina-

tion. Chevalier Jackson, in 1905, substituted a metallic filament lamp at the distal end of the endoscope for a proximal source of light; he used tubes 70 and 80 mm. long. In an illustrated monograph published in 1907, Jackson gave coloured drawings of a large number of observations on normal and pathological stomachs. This method of direct vision inspection of a small field is suitable enough for the examination of the gullet and the region of the cardia, but in the collapsed empty stomach there is always danger of traumatism in ulcerated conditions, and it is rarely possible with a long narrow open tube to make anything like a complete survey of the gastric interior.

Recently (1910) I modified Killian's instrument by adding a plain glass slanting window at the proximal end of the endoscope, together with a tap for purposes of inflation, as in Canny Ryall's sigmoidoscope; by means of this instrument the stomach can be more efficiently and far more safely inspected when fully inflated with air than when empty and collapsed. It is obvious, however, that even a direct vision inflating endoscope with a small field of vision, not much larger than a threepenny-bit, must be very inferior to an indirect vision periscopic apparatus on the principle of the cystoscope with a large field about the size of half a crown.

Periscopic—that is, Indirect Vision—Gastroscopy.

After Nitze had perfected his cystoscope, he turned his attention in 1879 to endoscopy of the stomach, but whilst he recognized that the stomach should be accessible to endoscopic examination, he assumed, in spite of Kussmaul's experience, that a rigid, straight gastroscope could not be passed, and he therefore constructed a jointed instrument which could be blindly inserted in a flexible condition and afterwards straightened. The illumination, however, was apparently so poor that a satisfactory inspection of the inflated stomach was never achieved by Nitze's periscope.

In 1881 Mikulicz was more successful in actually obtaining very fair views of the interior of healthy and diseased stomachs under inflation by means of a rigid optical apparatus. He discarded the straight tube, however; his gastroscope was a rigid periscopic tube, 65 cm. long and 14 mm. in diameter, bent at an angle of 150 degrees, that is deviating 30 degrees from the straight, at the junction of the middle and distal thirds. This bend in the instrument Mikulicz thought necessary on account of the projection of the lower dorsal vertebrae, and to enable the part containing the terminal prism to project comfortably forward into the stomach. This method of gastroscopy failed to conform to endoscopic requirements in an essential particular, for this rigid, angular instrument was inserted blindly through the gullet into the stomach, guided by touch instead of being passed under vision throughout, and on account of fatal perforations occurring, this method soon became obsolete. Although I cannot approve of the method on account of the element of danger incidental to all blind instrumentation, it must be remembered immensely to the credit of Mr. Souttar and Dr. Theodore Thompson that they were the first systematically to employ indirect gastroscopy *per vias naturales* in this country, and by a large number of observations they have shown that once their instrument has been passed into the stomach without mishap an accurate and helpful diagnosis can often be made in various morbid conditions of the stomach.

In 1895 Rosenheim employed a straight gastroscope, made up of an optical tube, together with an inflating tube, enclosed in an outer straight metallic sheath. If this outer metallic sheath had been an open tube, and had been passed through the gullet into the stomach *under direct vision* by means of proximal illumination, Rosenheim would have solved the problem of safe and efficient gastroscopy by a combination of the direct and indirect vision methods; but although an oesophagoscopist he stuck to the non-endoscopic, faulty, blind method of introducing his rigid straight outer tube, which was closed at its distal end by a rubber tip. Rosenheim's gastroscope has not been extensively used; gastrologists wisely shrank from blindly ramming a rigid metallic rod into the stomach, and we find in 1896 Elling and Kuttner returning to the principle of the jointed gastroscope as originally employed by Nitze. Kelling's instrument was blindly introduced in a flexible condition and then rendered rigid by an ingenious mechanism, and made to assume the same shape as Mikulicz's gastroscope, that is to say, its lower third was bent at an angle of 30 degrees away from the straight. This beak of Kelling's instrument was so constructed that the terminal prismatic window could be made to revolve, a device which Souttar has incorporated in his latest gastroscope.

An important improvement in Rosenheim's method was announced by Rewidzoff in 1897; for the outer metallic sheath he substituted a flexible gum elastic one; this was first passed blindly into the stomach, and the rigid, straight periscopic tube afterwards inserted through it. A gastroscope on the same principle has recently been made by Loewenstein for Kausch of Berlin. Loening and Steida have substituted an india-rubber tube for a gum elastic one, which is likewise passed blindly into the stomach by the aid of a mandrin, and through which a straight periscope is afterwards safely inserted. With this instrument, once it has been passed through the gullet and cardia without mishap, an excellent exploration of the gastric interior (with the exception of the region of the cardia) can be carried out; its only shortcoming is that it cannot be passed under direct vision through the deep pharynx, oesophagus, and cardia; in fact, it is purely a gastroscope and not an oesophago-gastroscope, and I hear that this imperfect though comparatively safe method of gastroscopy is nevertheless already responsible for at least one death. Loening and Steida's published results, however, form the most important contribution to gastroscopy which has hitherto appeared, including as they do illustrations and full descriptions of a large number of lesions found by gastroscopy, their findings being in many instances confirmed by subsequent laparotomy.

The Method of Lower or Laparo-Gastroscopy.

This has been advocated by Rovsing, and has been practised also by Loening, Steida, and others. It has been employed (in those who have been gastrostomized for gullet stricture) to observe the movements and appearances of the normal stomach more particularly, and to compare them with those observed by upper gastroscopy *per vias naturales*. A better view of the inferior region of the cardiac orifice is obtained by this method than by any other short of making a large incision into the stomach wall.

The New Method of Combined Direct and Indirect Vision Oesophago-Gastroscopy.

In the British Medical Journal of October, 1909, in criticizing the gastroscopic methods resuscitated by Souttar and Thompson, I pointed out that the ideal gastroscope should include a straight, rigid endoscopic tube which could first be passed under direct vision through the gullet into the stomach; and the optical tube could then be safely inserted through it. This necessary combination of the direct and indirect vision methods seems sufficiently obvious, but it is a remarkable fact that it has taken over forty years to evolve such a really acceptable method of gastroscopy.

My original suggestion of combining the direct and indirect methods might have long remained a mere suggestion had it not been for the initiative of Dr. George Herschell early last year, who urged that practice was better than precept, and, after discussing the subject with me, he promptly acted on my advice and procured a Loening periscope 56 cm. long from Heynemann of Leipzig. This, however, proved rather too large for the purpose, being 11 mm. in diameter, and a periscope 2 mm. smaller was then procured by Dr. Herschell. The instrument was at first completed by combining this periscope with a Killian tube and later with my direct vision inflating oesophago-gastroscope, a perforated cap with rubber washer being necessarily added to the equipment to prevent escape of air at the proximal extremity of the outer tube during inflation.

My latest pattern gastroscope has an inner optical tube 9 mm. in diameter and 70 cm. long, as I considered 56 cm. too short for efficient endoscopic examination of the stomach in, for instance, a very tall man with marked gastroptosis;

and I find it convenient to have at hand two outer tubes, one a short one 50 cm. in length, oval on section, with diameters of 13 and 15 mm., and the other a longer one 60 cm. in length, and circular on section, with a diameter of 16 mm. (outside measurements in every case).

The apparatus devised by us therefore consists essentially, as will be seen by reference to the accompanying illustrations, of combining Killian's direct vision oesophago-gastroscope, as modified for inflation by myself, with a straight, indirect periscopic tube differing from that of Loening in being smaller in diameter, and 14 cm. longer.

It has quite recently been brought to our notice that a gastroscope on the same principle, but differing in detail, has lately been brought out concurrently and independently by Foramitti of Vienna.

The patient, if tolerant, can be examined in the upright position sitting on a low chair, under cocaine anaesthesia; but for prolonged examinations the dorsal position on a table with a movable headpiece, is preferable; most serious work, however, demands general anaesthesia, chloroform being the anaesthetic of choice unless the patient is very debilitated and suffers from a weak heart, when C.E. mixture or ether *by the open method* is first indicated. An injection of morphine and scopolamine twenty minutes before the examination serves to prevent excessive secretion, half narcotizes the patient, and reduces the amount of anaesthetic vapour necessary.

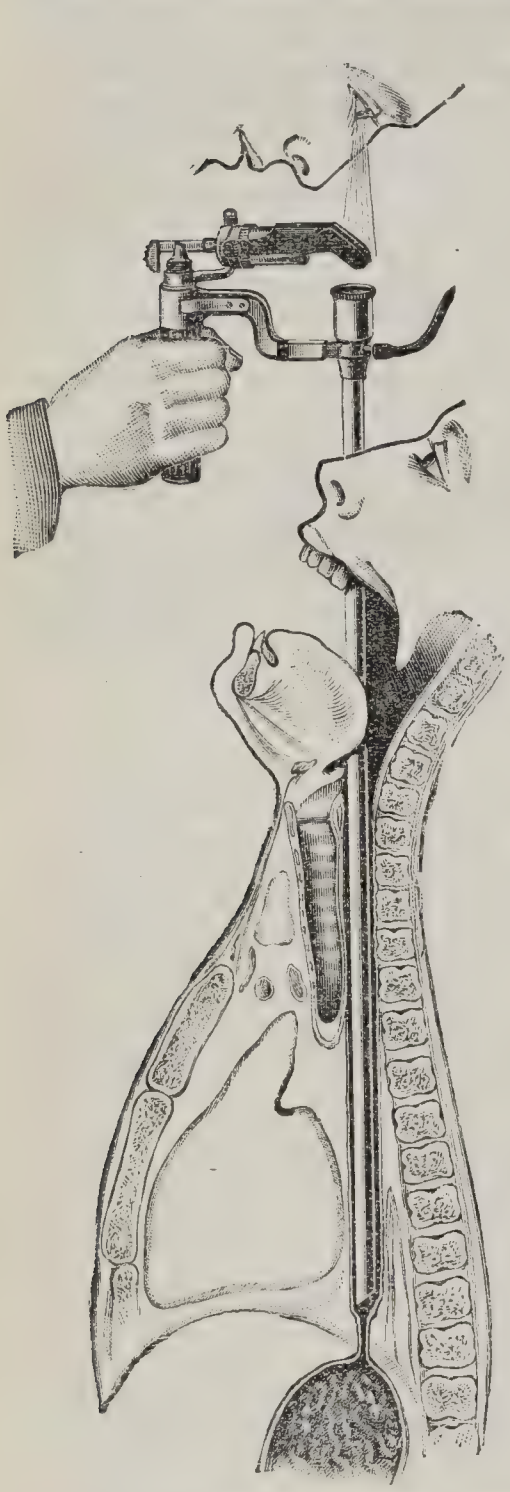

The author's direct vision inflation oesophago-gastroscope. After the instrument has been passed into the stomach and the region of the cardia explored, the Brunings's handle lamp is removed and Killian's handle substituted. The window is also removed and the perforated cap with rubber valve inserted in its place. The periscope can then be safely passed through the hole in the cap and down the outer tube into the stomach (see next figure).

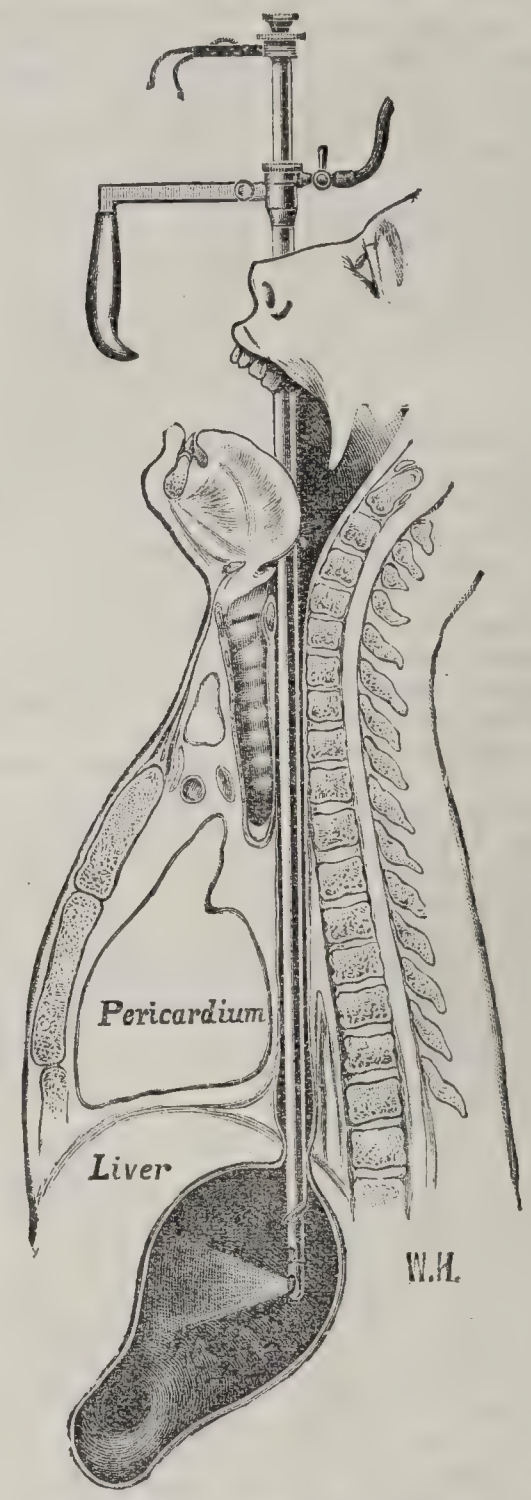

This diagram shows the periscope for indirect vision, inserted through the direct vision portion of the oesophago-gastroscope, in position suitable for examining the cardiac portion of the greater cul-de-sac of the stomach.

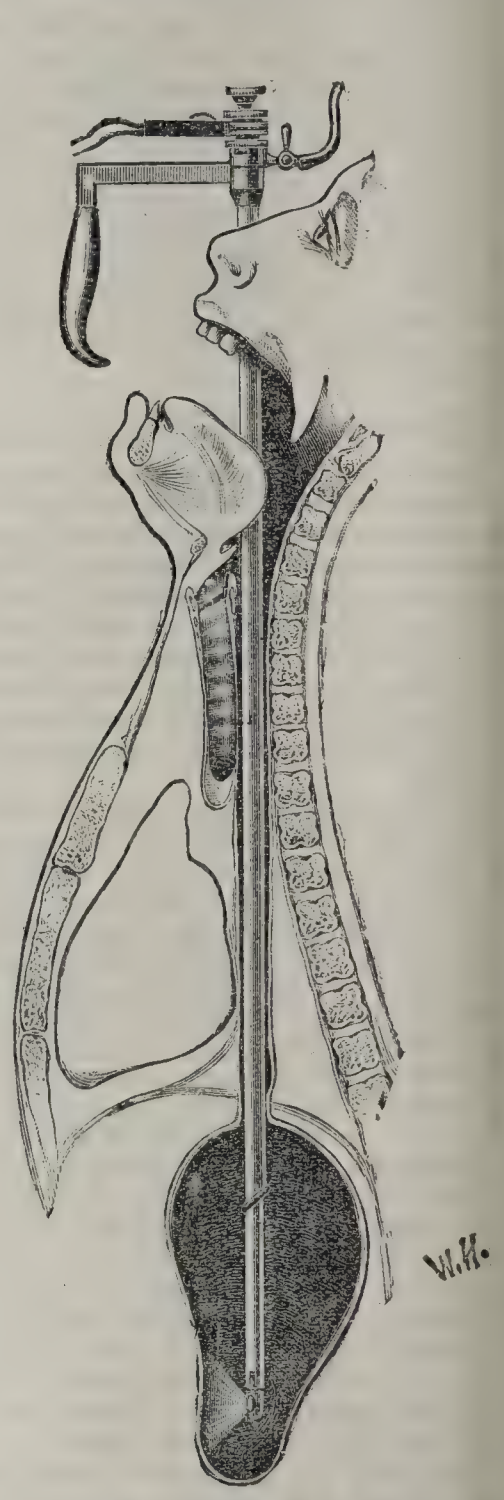

This diagram shows the forward position of the chest necessary for examining the distal portion of the greater cul-de-sac of the stomach, and also the lesser cul-de-sac or pyloric antrum and the pylorus.

TECHNIQUE OF OESOPHAGO-GASTROSCOPY.

The technique of the passage of the outer direct vision oesophago-gastroscope is practically identical with that of direct oesophagoscopy, which must be mastered before attempting gastroscopy. The method I am advocating as more efficient and safer than the older discredited method is, it must be clearly understood, however, safe only in the hands of really expert oesophagoscopists.

If no food has been taken for twelve hours it will rarely be found necessary to resort to lavage of the stomach. If, however, excessive secretions, or blood, or bile, or food residues are found present on passing the direct vision endoscope, the viscus can be easily washed out through the latter with a rubber tube attached to Sonoran's aspirator. No fluid must be left in the stomach after lavage, for when inflation is performed this will be churned up into a froth which may partially obscure the view.

During the passage of the direct tube lesions in the gullet, more especially of the phrenic and cardiac con-

strictions, should be sought for and investigated with and without inflation. The presence of stricture and ulcerations generally in these regions should lead to caution in the onward passage of the endoscope, and in most instances to its abandonment.

When passing the inner optical tube through the outer tube, inflation should be commenced before the end of the former reaches the stomach in order to prevent contact with the mucosa, which may soil the lamp and window of the periscope and obscure vision.

The first thing to do on insertion of the optical tube is to localize a horizontal fold of the lesser curvature near the upper margin of the pyloric antrum which appears as a very prominent landmark; it is situated near the junction of the vertical and horizontal portions of the lesser curvature, and an hour-glass constriction often starts from ulceration of this fold; with this landmark as a starting-point the pyloric canal and pylorus can be inspected. The rest of the stomach, more especially the lesser curvature, can then be explored by gradually withdrawing and orientating the gastroscope until the region of the cardiac orifice is reached, when the light appears to go out; this region, together with the subphrenic portion of the oesophagus, can only be inspected by means of the direct vision outer tube—that is, by direct oesophago-gastroscopy.

With a *fully* inflated stomach the rugae and convolutions of the mucosa almost completely disappear, except in cases of hypertrophic (alcoholic) gastritis; with moderate inflation, however, these are often plainly visible. Blood vessels, more especially engorged veins, form a prominent feature in portal congestion—for example, nutmeg liver—but normally blood vessels are not very marked, except along the lesser curvature. Multiple haemorrhagic erosions (gastrostaxis), definite chronic peptic ulcers, malignant growths (with or without ulceration), hour-glass constrictions, and pyloric stenosis can be readily recognized when moderately advanced, even by those who have had little experience in endoscopic examinations.

The chief difficulty experienced by the beginner is in moving the distal end of the instrument so that the window is an inch or so from the anterior or from the posterior wall, or from the anterior curvature on the right and the greater curvature and fundus on the left. This change of position of the tip of the instrument in an antero-posterior plane and in a lateral plane is accomplished by manipulating the spine—for example, by raising or lowering the shoulder-blades by sandbags, or by bending the dorsal spine laterally either to the right or left; but these manipulations can readily be learnt with a little practice.

With the patient on his back, and with no support under the shoulder-blades, the end of the oesophago-gastroscope will be rather near the spine—that is to say, to the posterior surface of the inflated stomach, and this will enable the anterior wall to be examined; with moderate elevation of the shoulders and slight drooping of the head and neck, the endoscope will be more or less midway between the anterior and posterior surfaces; whereas if a larger sandbag is put under the scapulae and the head and neck somewhat dropped, the end of the instrument will be near the anterior surface of the stomach, and if the window be made to look backwards the posterior wall of the stomach can be inspected.

Movements due to beating of the heart and of the aorta and to respiration, more especially from contraction of the diaphragm, do not materially interfere with the view in a moderately distended stomach, but air distension does not altogether abolish the peristaltic contractions of the viscus, and in moderate inflation the open pyloric canal can be seen to close up and then open again; it is only in the latter phase that the pyloric orifice can be seen; these phases often occupy only half a minute. The focal distance of terminal prism for life size is about 1½ in., and as the window of the gastroscope is usually at least 3 in. from the pyloric opening the latter is much diminished in the picture, and is generally seen as a black round hole about the size of the uncut end of an ordinary lead pencil. The normal closed pylorus itself cannot be seen as far as my endoscopic observations go, as the adjacent distal part of the pyloric canal contracts with it, and so shuts off the view. The proximal end of the pyloric canal often appears as a large triangular and sometimes polyangular orifice occupying more than half the field; when the lumen is dark this is mistaken by beginners for the open pyloric ring itself.

No better instance of the value of per-oral gastroscopy can be cited than its employment in the differential diagnosis of multiple haemorrhagic gastric erosions (gastrostaxis) and chronic circumscribed peptic ulceration. In the latter condition laparotomy, with or without excision of the ulcerated area, together with gastro-enterostomy, is one of the usual methods of treatment, whereas in gastrostaxis surgical measures are contraindicated. In a female with a history of repeated bouts of gastric haemorrhage whom I endoscoped under general anaesthesia some six months ago with Dr. Hertz and Sir Alfred Fripp at Guy's Hospital, the presence of multiple haemorrhages was easily made out by all of us. Three bleeding erosions were especially marked and appeared in the field together, situated in the region of the lesser curvature near the junction of its vertical and horizontal portions; as these erosions were quite close to the window of the gastroscope, their image was considerably magnified, and the slight loss of substance of the superficial layer of the mucosa was plainly visible; there were also a few other scattered bleeding spots, but no large chronic ulcer could anywhere be discovered. The clinical symptoms, however, had led Dr. Hertz to conclude that a definite ulcer might be a factor in the case, and as I had not at that period sufficient gastroscopic experience in morbid conditions to be quite sure that I had thoroughly inspected the whole of the gastric mucosa, we agreed that it would be justifiable for Sir Alfred Fripp to open the stomach and make sure that no large ulcer had been missed by us with the endoscope. The three bleeding erosions close together, discovered in the first instance by Dr. Hertz through the gastroscope, were found by Sir Alfred Fripp at the exact place on the lesser curvature which I had previously indicated, and a few other bleeding spots which I had seen in the region of the greater curvature were also found; no large ulcer was present, however; the case was a typical one of diffuse erosive gastritis with muliple haemorrhages, and Sir Alfred proved this most convincingly by inducing a small haemorrhage wherever he exerted slight pressure on the spongy mucosa with his thumb-nail.

In a similar case, with enlarged experience, I should have the courage of my opinions and veto operative interference, where, after a careful and thorough search with the gastroscope, I found only small multiple haemorrhages with no genuine large ulcer. If in any doubt, the obvious thing to do is to withdraw the inner periscopic tube, and exert moderate pressure on two or three points of the mucosa, through the outer direct vision portion of the oesophago-gastroscope with a long silver probe; in true gastrostaxis slight bleeding will be observed on each separate spot pressed upon.

The endoscopic appearances of true gastric ulcers, in contradistinction to small haemorrhagic erosions, are varied but unmistakable; they are distinguished by their size, with which every one is familiar who has seen definite peptic ulcers *post mortem*, or during life in the course of opening the stomach; their margin is usually irregular, often raised, but their colour is variable. Some are more or less covered with bright blood, which can be wiped away through the direct vision tube, the periscope having been withdrawn to admit of this. In other cases the surface is reddish-brown from altered blood clot; in others the ulcer has the typical dirty green appearance with perhaps bleeding edges; and in others again the colour may be of a bright yellow. In a large ulcerating carcinoma all these appearances may be found in the same subject, and very white necrotic patches exactly resembling the condition seen in oesophageal cancers may also be present. A growth of moderate size was easily recognized in one case, a patient of Dr. Herschell's whom I examined with him at St. Mary's Hospital, a cauliflower-like growth the size of a moderate-sized walnut was plainly seen by all present and found to be situated close to the cardiac orifice. This man had apparently, on a previous oesophagoscopic examination, an early malignant stricture limited to the phreno-cardiac portion of the gullet, and had that proved to be really the case, the question would have arisen whether the cancerous area might be operable by combined thoracicotomy and laparotomy, a junction being afterwards established

between the cut end of the oesophagus and either the stomach or the jejunum. The presence of this fungating growth, however, prevented one advocating such an heroic operation as excision of the oesophago-gastric junction, which would certainly have been unsuccessful in this instance from the point of view of chance of cure, even if the patient had been fortunate enough to survive the immediate effects of this highly dangerous type of operation.

During the present month (July) I have in conjunction with my colleague, Mr. Maynard Smith, gastroscoped three of his hospital patients. All three patients were males. In the first a large irregular somewhat elongated ulcer with its surface covered with brownish altered blood clot was easily found on the posterior aspect of the stomach rather near the lesser curvature; the mucosa in the neighbourhood was thickened and irregularly congested. In the second case a deeply excavated ulcer, yellow in colour, with very prominent thickened edges was found near the upper part of the entrance to the pyloric antrum at about the junction of the horizontal and vertical portions of the lesser curvature. The appearance and situation of each of these ulcers were confirmed in every particular by Mr. Maynard Smith when the abdomen was opened for gastro-enterostomy. In the third case it was uncertain, in Mr. Smith's opinion, from the symptoms whether there was ulceration in the stomach, or in the duodenum, or both; on thorough gastroscopic exploration no ulcer could be found in the stomach; but the appearances were suggestive of some stenosis of the distal half of the pyloric canal as an open pylorus was never seen though patiently looked for. No ulcer was found on exploratory laparotomy subsequently.

Souttar has, I am informed, successfully employed the gastroscope in cases where it was suspected that the gastro-enterostomy orifice was becoming unduly stenosed. With the instrument I use not only could the anastomotic orifice be localized and inspected by the periscope, but on its withdrawal leaving the outer direct vision tube *in situ* it might be possible to dilate the strictured os.

Again adopting the same procedure topical applications can be made to ulcers, small portions of a tumour removed for microscopical examination, and a pin or needle sticking into the gastric mucosa could be released and retrieved *per vias naturales*.

Among the more obvious contraindications to gastroscopy are marked cardiac weakness, suspected aneurysm, a seriously debilitated state of the patient, the stage of acute haemorrhage and of acute gastritis, and the presence of malignant disease in the oesophagus or at the oesophago-gastric junction if causing marked stricture.

My efforts to place gastroscopy on the same sound basis as oesophagoscopy have received the practical support not only of Dr. Herschell but also of Mr. Mayo Robson, Sir Alfred Fripp, Dr. Hertz, Dr. Wilcox, Mr. Maynard Smith, and Mr. N. Biggs, and I have had letters of encouragement from Sir Thomas Barlow, Mr. Moynihan, Mr. H. Paterson, and many others.

I must especially acknowledge the very valuable assistance I have received in my investigations on the cadaver and on the living subject from Mr. C. W. M. Hope and Mr. J. W. Harrison, clinical assistants in the Throat Department at St. Mary's Hospital.

AN INQUIRY INTO THE VALUE OF THE STERILIZATION OF THE SKIN BY IODINE.

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AT the annual meeting of this Association in Leicester, 1905, I gave a summary of a number of experiments which I had made with a view to determining the most efficient method of rendering the skin of the patient sterile. As a result of that investigation I found that, though the problem of disinfecting the skin of the patient differed somewhat from that of disinfecting the surgeon's hands, yet the agents—namely, alcohol and mercury perchloride—which had been found most efficient in the one case proved equally so in the other. During the last two or three years, however, a new method of treating the skin by iodine has been introduced by Antonio Grossich and has been very widely adopted. It consists in the painting of the skin area to be sterilized with tincture of iodine, and repeating the application after an interval of from five to ten minutes, stress being laid on the avoidance of all preliminary washing with soap and water. This method has naturally been modified in various ways by different surgeons but without important changes.

A little time ago I was led to examine the literature on the subject to see upon what grounds this use of iodine had been so widely advocated and on what bacteriological foundation its superiority to the older methods was based. To my surprise I found that but little experimental work has been published on the subject. Dozens of papers had been written dealing with the clinical aspect of the question, its convenience, and the improved results attributed to its use. But the bacteriological proof of its superiority seemed to me to be lacking. I do not wish to infer that no research of this kind has been made, but that the amount of such work was small and many of the tests employed open to grave objection. Grossich himself seems to have made no bacteriological tests, though he refers to the work of Walther and Touraine, who make the bold statement that after five, certainly ten, minutes' application of the tincture of iodine to the skin all the micro-organisms are destroyed.

They made the following experiment:

> The back of a guinea-pig was dry shaved; one half was then cleansed with soap and water, followed by ether and alcohol, and finally painted with iodine. The other half of the back was simply painted with iodine without any preliminary cleansing. Small portions of the skin were then removed from each area thus treated and cultures made. From the area which had been previously cleansed, twenty-seven colonies grew; from the second, only one.

This verified what Grossich had maintained, that a preliminary washing, so far from assisting the sterilization, distinctly hindered it. To this point I shall refer again later. Myanchi made a few experiments on doctors and nurses, whose fingers had been painted with tincture of iodine. The cultures made from them generally proved sterile. The treatment with simple alcohol proved to be less powerful than that with iodine. Kutscher made several experiments, both cultural and by inoculation of animals.

> He rubbed virulent anthrax spores on the shaven skin of a rabbit, and then treated the surface with iodine, according to the Grossich method. White mice were then inoculated with small portions of the treated skin, and agar plates inoculated with further portions. Of the four inoculated mice three died of anthrax, and on all the agar plates a rich growth developed.
>
> Lastly he made experiments with silk thread and filter paper, on which a suspension of various micro-organisms had been dried. These test objects were then treated for a varying time with iodine tincture. He found that both anthrax and staphylococci, even after sixty minutes' immersion in iodine, were not killed.

Bruening made a more elaborate test, comparing the bactericidal power of iodine tincture with that of simple alcohol 96 and 65 per cent. The conclusion he arrived at was that tincture of iodine has greater bactericidal power than either 96 or 65 per cent. simple alcohol, and that the painting of the skin with the iodine tincture produces also a greater lessening of its infectivity than does, under similar conditions, either of these two alcohols.

Decker, from his experiments, comes to the conclusion that iodine tincture has no bactericidal action. Its efficiency depends solely on its hardening action on the epidermis. In the majority of his tests (excision of small portion of the skin or scrapings from the epidermis) bacteria (both staphylococci and streptococci) developed. Valuable as Bruening's paper is, neither it nor any of the others gave me the information I was seeking—namely, what is the proof that Grossich's method of painting with tincture of iodine is superior to the older method of rubbing the skin with sublimate alcohol? I confess it was with no little reluctance that I started on making some investigations on my own behalf, for a long apprenticeship to similar experiments had taught me not to expect to solve the problem by a few simple tests, but to anticipate a tedious and time-robbing task. My experiments fell into three groups:

1. Cultural experiments merely to determine the relative bactericidal powers of the various agents.
2. Inoculation tests on animals.
3. Experiments on the skin.

1. *Cultural Experiments.*

These were made with test objects infected with different micro-organisms, principally staphylococcus, pyocyaneus, and sarcinae. The majority of the experiments were made with small portions of ligature silk, which had been soaked in a watery suspension of a forty-eight hours' agar culture and then gently dried in the incubator. In place of the silk threads on several occasions large glass beads were used.

These were inoculated in the same way as the threads, and were employed with a view to exposing the micro-organism more fully to the action of the antiseptic than is perhaps the case where silk threads are used. This modification did not, however, materially affect the results, though a slightly greater proportion of the culture tubes remained sterile—a fact which, it seemed to me, was due rather to the detachment of the microbes from the test object than to the greater exposure of the germs to the action of the antiseptic. As my object was to determine the relative efficiency of the various methods, not their absolute bactericidal power, only comparative tests were employed, and these were always made side by side at the same time under exactly similar conditions. My first step was to determine whether it was necessary to neutralize the antiseptic action of the iodine which adhered to the test object. Eight silk threads were infected with the staphylococcus and then immersed in tincture of iodine. At intervals of one minute two threads were removed, one simply rinsed in sterile water before being dropped into liquefied agar, the other was immersed in a 10 per cent. solution of thiosulphate of soda until completely decolourized, then rinsed in sterile water before being placed in the agar. The result was all the tubes containing unneutralized threads remained either sterile or practically so, and all the neutralized ones showed a free growth of staphylococcus. In all subsequent cultural experiments the antiseptic was neutralized, the iodine being treated with thiosulphate of soda, the mercury with sulphide of ammonia.

I then began to inquire into the bactericidal powers of alcoholic solutions of iodine. I knew from clinical experience that it was undesirable to use a stronger percentage of iodine than that contained in the officinal tincture. But I wished to learn what percentage of alcohol gave the best result. The bactericidal power of alcohol has been the subject of much discussion. According to Koch's classical experiment on anthrax spores it has little or no such property; for even after four months' immersion in absolute alcohol the spores were not killed. These experiments, however, have been repeated and modified in many ways by subsequent investigators, and there is now a general consensus of opinion that, although absolute alcohol has little or no bactericidal power, dilute spirits do possess this property in a marked degree, varying with that of dilution. This question was the subject of my inquiry some years ago, when I came to the conclusion that in from 60 to 70 per cent. spirit we have the greatest bactericidal power. Spirit of this strength, when tested side by side with aqueous solutions of perchloride or biniodide of mercury (1 in 1,000), showed a marked superiority. The test objects which were immersed in a 70 per cent. alcohol were frequently sterilized within five minutes, whilst those placed in the watery mercury solutions were never within the half-hour. It was therefore probable that the pharmacopoeial tincture would prove less powerful than a tincture made with a weaker spirit. And this proved to be the case. A long series of comparative tests made with various micro-organisms, both spore-bearing and non-spore-bearing, showed that the tincture of iodine when made with 70 per cent. spirit was always, and often markedly, superior in sterilizing power to the officinal preparation.

I then passed on to consider to what extent the germicidal power of the tincture of iodine was due to the presence of the iodine. It has been stated by Kutscher that the bactericidal power of tincture of iodine is due entirely to the presence of the alcohol, the iodine being a superfluous ingredient. To decide this I made some comparative tests with tincture of iodine (70 per cent. spirit), plain alcohol (70 per cent.), and an aqueous solution of iodine of the same strength as the tincture. The aqueous solution of iodine, whilst showing that it possessed decided germicidal properties, was less potent than the 70 per cent. spirit, which in its turn was inferior to tincture of iodine (70 per cent. alcohol). This was still more clearly seen when the tests were made more severe by the use of microbes of greater resistant powers.

I was now wishful to learn how the iodine preparations compared with the mercury ones. For the purpose of comparison I selected, as the result of early experiments, an alcoholic solution of mercury perchloride (1 in 1,000 of 70 per cent. spirit), as representing the most powerful mercury preparation suitable for clinical use; and tested it side by side with the 70 per cent. tincture of iodine, the officinal tincture of iodine and 1 in 1,000 aqueous solution of mercury perchloride. The result was that the 70 per cent. sublimate alcohol proved superior in bactericidal power to the 70 per cent. tincture of iodine, and still more to the officinal tincture. The aqueous solution of sublimate was hopelessly outclassed, never sterilizing the test object within the half-hour. Taking the average of a large number of tests with different non-spore-bearing septic micro-organisms:

Sublimate spirit (70 per cent. alcohol) sterilized in 2¼ minutes.
Tincture of iodine (70 per cent. alcohol) sterilized in 7 minutes.
Tincture of iodine (officinal) sterilized in 10½ minutes.
Aqueous solution of sublimate sterilized never under 30 minutes.

When dealing with more resistant organisms the superiority of the two first-named was more marked, but the order remained the same.

2. *Inoculation Experiments on Animals.*

In all the experiments so far described the test objects had been carefully treated so as to neutralize any further action of the antiseptic. All conclusions drawn from culture experiments with antiseptics, in which this precaution has not been taken, are valueless. And we shall not be wrong if we regard the results of all culture experiments, even where the antiseptic has been neutralized, as invariably overestimating the bactericidal power of the chemical, for our neutralization is at the best but an imperfect performance.

I was now wishful to learn what was the comparative power of the various iodine and mercury preparations I had been using, when the antiseptic was unneutralized. For this purpose it was necessary to resort to inoculation of animals.

An unfortunate interruption to my work has prevented me up to the present from having more than a single test carried out, which, but that the result is in agreement with the previous experiments, would hardly be worth recording.

Four short pieces of stout ligature silk were inoculated with a twenty-four hours' culture of the anthrax bacillus. One thread, to act as a control, was then by a simple device inserted under the skin of a guinea-pig. The other three threads were immersed for ten minutes in the officinal tincture of iodine, tincture of iodine (70 per cent. alcohol), and sublimate alcohol (1 in 1,000 of 70 per cent. spirit) respectively. Each was then, whilst still wet with the antiseptic, inserted under the skin of a guinea-pig, with the following result:

The control guinea-pig died of anthrax on the third day.
The officinal tincture of iodine one died of anthrax between the fourth and fifth day.
The other two remained quite well.

Further experiments are being made for me with other virulent but less resistant organisms, the results of which I must report later.

3. *Experiments on the Skin.*

Because sublimate alcohol proved to have a superior bactericidal power to that of tincture of iodine, that fact alone in no way disproved the contention of those who maintain that the latter is the better agent for disinfecting the skin. The sterilization of the skin is not a simple process, and other factors besides destruction of the organisms play an important rôle. The older method of skin preparation consisted of three parts:

1. The removal of the microbes from the epidermis by the mechanical cleansing power of the soap, water, etc.

2. The destruction of the organisms by the germicida[1] action of the spirit and of the sublimate.

3. The hardening action of the alcohol on the epidermis, so that the microbes are less easily detached.

The first of these has long been known to be the least important, and one which might be omitted without impairing the result. But Grossich has shown, by means of microscopic sections of the skin, that the preliminary washing with soap and water is not merely unnecessary but actually harmful. It does not materially lessen the number of microbes, and, by macerating the epidermis, hinders the penetration of the iodide tincture.

What is true of the iodine is equally true of the sublimate alcohol, as is, I think, shown by the following experiment:

Three areas of the skin of the arm were selected; the first was well scrubbed with soap and hot water, then rubbed for a couple of minutes with strong alcohol, and then for an equal time with an aqueous solution of perchloride of mercury. In other words, was treated by Fürbringer's method.

The second skin area was treated in the same way, save that the preliminary washing with soap and water was omitted.

The third area was merely rubbed for a couple of minutes with sublimate alcohol.

All three areas, after being well rinsed with water and dried, were then rubbed with a solution of ammonium sulphide, with a view to showing the amount of mercury taken up by the skin of the different areas. The first area showed but a slight greyish discoloration; the second was darker, but the third was deeply stained with the black sulphide of mercury, which persisted until the surface epithelium had been thrown off.

It would therefore seem that what Grossich has maintained as essential for the proper penetration of the iodine is no less important for all alcoholic antiseptics, and the preliminary washing of the skin with soap and water must in the future either be given up or take place some time before the alcoholic agent is used.

The relative importance of the other two parts of the disinfection of the skin—namely, the destruction of the organisms and the hardening or tanning of the epidermis—has long been a matter of warm dispute. The trend of opinion is, however, more and more towards the view that the hardening and fixing of the epidermis so that the microbes are less easily detached is of greater importance than the destruction of the organisms, which must of necessity be imperfect.

We have seen that the iodine tincture cannot claim to have a stronger bactericidal action than the sublimate alcohol. Has it a greater power of penetrating the epidermis? Has it a more astringent action on the skin? It has been asserted that it possesses both of these qualities. If this be true, it may yet claim to be the superior agent. As regards the statement that iodine tincture has a greater penetrative power than other antiseptic solutions, one cannot but remember that almost every agent which has been advocated for the disinfection of the skin has been credited with unusual powers in this direction. There is no doubt that alcoholic solutions in general have this power in a greater degree than simple aqueous ones, and we also know that alcoholic solutions penetrate more easily if the skin is dry at the time of application.

But I know of no facts that would suggest that an alcoholic solution of iodine can penetrate the epidermis more deeply than an alcoholic solution of a like strength—say, of sublimate. The rapidity and intensity with which sublimate alcohol is taken up by the epidermis is masked on account of the solution being colourless. But if the skin be subsequently treated with ammonium sulphide, it will be found that the mercury has penetrated no less deeply than the iodine. I have recently been making comparisons of the depth to which the epidermis is stained by various alcoholic solutions, including iodine, sublimate, and various colouring agents, such as gentian violet, and so far am unable to detect any appreciable difference. The percentage of alcohol seems to be the determining factor.

Lastly, has the tincture of iodine a superior hardening effect on the epidermis to that of sublimate alcohol? I think there can be no doubt it has, though both agents possess this property in a high degree. If the epidermis after treatment with either be examined with a magnifying glass it will be noticed that the effect of the solution has been to contract the skin, causing the natural folds and furrows to become narrower, deeper, and more numerous, whilst the openings of the sweat ducts have retracted. The effect of this is to render it more difficult to rub off the bacteria, seeing that the places where they lurk are rendered less accessible by reason of this shrinkage. This astringent action has been the cause of much confusion in estimating the real value of alcoholic solutions in disinfecting the skin. For, if it is tested, as is often the case, immediately after treatment, a high percentage of sterility will be obtained, the dry, hard skin, not readily giving up either its epithelial scales or its microbes. This is obviously an insufficient test; what we are desirous of learning is whether the skin, when moistened with the warm albuminous fluids of the body—the conditions met with in surgical practice—is sterile, or at least non-infective. Unfortunately one finds as the result of experiments that the hardening of the skin, whether produced by sublimate alcohol or iodine, is gradually lost in the presence of blood or albuminous fluid, too rapidly to warrant the surgeon relying on its action, save for relatively short operations. Moreover, apart from this loss of astringency, a direct neutralization of the iodine takes place in the presence of blood. Every surgeon who has made use of the Grossich method must have noticed at the end of the operation that wherever the blood or peritoneal fluid has come freely into contact with the skin the deep brown iodine stain has completely disappeared. The iodine, in consequence of undergoing such neutralization, has been deprived of the antiseptic action.

Almost every experimentalist uses a different method of testing the sterility of the skin; this is one of many reasons which makes a comparison of the results of different workers almost an impossibility. In many cases the test is far too simple, as when the dry disinfected skin is stroked with a platinum loop or dry piece of gauze, whereas in others it is too severe, extending even to the excision of portions of the skin. The test should present an idea of the number of microbes that would be liable to be detached during an operation.

Personally I made use of the following procedure:

A short length of wet, sterile, stout ligature silk was held by two pairs of forceps and drawn gently three or four times across a part of the disinfected area. The thread was then treated with a sterilized solution of ammonium sulphide or thiosulphate of soda, according to the antiseptic employed, before being dropped into a tube of liquefied agar, cooled down to a point slightly above that at which it solidifies. Most of the experiments were made upon skin which had been artificially infected with a pure culture of some readily recognizable micro-organism, generally one of the sarcinae, which had proved to have almost the same resistance to antiseptics as the staphylococcus. Other micro-organisms occasionally used were the *Bacillus pyocyaneus* and the spore-bearing potato bacillus. A skin thus infected offers many advantages when testing the relative efficiency of two or more sterilizing processes.

(*a*) It gives greater uniformity to the test.
(*b*) It enables one to regulate at will the stringency of the test.
(*c*) And, lastly, it does away with the possibility of accidental infection from microbes floating in the air.

The procedure adopted was as follows:

A broth culture (or a watery suspension of an agar culture) of the selected organism was gently rubbed on an area of the skin. After it had become quite dry, half the area was treated by one method and half by the other. The iodine was applied strictly in accordance with the directions given by Grossich—a freshly made tincture was painted freely on the skin and reapplied after an interval of from five to ten minutes. The sublimate alcohol was applied in two ways—one, simply painted twice on the skin like the iodine, and the other rubbed on the skin with a piece of lint for three minutes.

On several occasions both the iodine and the sublimate alcohol were compared with plain alcohol of a like strength

The result of these tests, briefly stated, was as follows:

The simple spirit proved to be decidedly inferior to the iodine and sublimate alcohol. These two clearly showed themselves to be powerful skin disinfectants. A true sterility of the skin was, of course, never obtained, but both methods always greatly reduced the infectivity of the area, even when it had been previously grossly contaminated. When both skin and silk thread were dry the result was distinctly good, the majority of the tubes remaining sterile. But when the thread was wet, and still more when the skin was tested after being moistened with sterile saline or albuminous fluids, the results were disappointing. In an unpleasant proportion of cases the skin proved to be still surgically infective, and this was so when it had not been previously artificially infected. Neither of the two methods can be said to guarantee

sterility, and the skin, which had proved to be practically sterile directly after the process of disinfection, gradually became more and more infective as, under the influence of fluid, the hardened epithelium became loosened.

Up to the present (for the experiments are still going on) sublimate alcohol has given the better results. There was a slight superiority even when it was merely painted on the skin like the iodine; when it was freely rubbed on, as in the usual method of alcohol disinfection, the superiority was more marked and at times pronounced.

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TWO CASES OF SARCOMA: TREATMENT BY RADIUM.

Presented by Professor G. Sterling Ryerson, of Toronto, on behalf of Dr. Louis Wickham, of Paris.

The first case is that of a young girl, aged 10 years. A tumour appeared on the third toe of the left foot in December, 1907. The toe was amputated on February 11th, 1908, and the biopsy showed that it was a small round-celled sarcoma. It recurred in the foot and the anterior half was amputated on February 22nd, 1910.

It reappeared in Scarpa's triangle in August, 1910. The third recurrence and the difficulties of the operation in this situation caused the surgeon in charge to hesitate at re operation and to consider the advisability of adopting some other means of treatment. The patient was sent to Drs. Wickham and Degrais, and treatment by radium was commenced on April 4th, 1911. The first series of applications lasted from April 4th to May 1st. The radium plaques were applied on the surface at night—a total of ninety-six hours. The apparatus contained 4 mg. of radium, activity 500,000. The place of application was changed each night.

The second series of treatment began on June 19th and lasted until July 7th. The same activities and doses were used for night applications of twelve hours each.

The tumour rapidly disappeared. On July 21st the patient again presented himself. The growth in Scarpa's triangle had quite disappeared. The skin over the site of the tumour was somewhat reduced but quite soft and pliable. Behind and above the internal malleolus a firm, rounded, insensitive tumour was found, which the mother said had made its appearance on July 10th, apparently a recurrence in the amputated foot.

Treatment by radium, as in the case of the metastasis in Scarpa's triangle, was ordered. It is noteworthy that the recurrence had taken place in the unradiatized foot, whereas the radiatized triangle is free from morbid growth.

The second case is that of an English boy who was operated on in April last by a London surgeon for a large sarcoma of the inner and anterior portion of the thigh. The tumour was submitted to Mr. C. H. Wells, of the Clinical Research Association, for examination, who reported on April 4th, 1911, as follows:

"This growth has the general structure of round and oval-shapel cells in a delicate stroma with blood vessels. It is invading muscle, and therefore showing malignant properties. From the arrangement of the cells around the vessels there is a suggestion that the growth might be of endothelial origin, but we cannot substantiate this."

The growth recurred, and amputation at the hip-joint was proposed to the parents, but so serious an operation, with a doubtful outlook, was rejected. The patient was taken to Dr. Wickham, and at that time the tumour, which occupied the inner and anterior aspect of the thigh, measured 12 cm. in length by 8 cm. in width, and could be felt to penetrate deeply into the muscular structures of the thigh. It was therefore not merely a sarcoma of the skin. The part was deeply congested and angry in appearance. Radium treatment was begun on July 4th and continued as follows until July 9th: Four flat applicators were used on the growth at the same time, each containing 4 mg., activity 500,000. From July 9th to the 15th a similar application was made to the surrounding parts on account of the marked congestion of the surface. If you will examine the boy you will find an elevated scar, but an absence of deep thickening. He is, as you will observe, anaemic.

An examination of the blood by Dr. R. Laud on July 21st showed a slight leucocytosis.

In presenting these cases I am desired by Dr. Wickham to say that, in his opinion, radium is not the rival of surgery, but rather another instrument added to the surgeon's armamentarium. To use his expression, "Radium is a prolongation of the surgeon's bistoury." It penetrates where the eye furnishes no information and the finger no indications. For him and for myself I would insist that all operable cases should be operated upon, but that where doubt exists as to the malignancy of the growth and as to the depth to which it has penetrated radium should be used either before or after operation, or both. Radium is not a certain cure, but it is an uncontestable fact that as an adjuvant to surgery in operable malignant and semi-malignant growths and as a means of prolonging life and relieving pain in inoperable ones, radium has demonstrated itself to be of inestimable value to humanity.

DISCUSSION ON THE TECHNIQUE OF WOUND TREATMENT.

OPENING PAPER.

By Alexis Thomson, F.R.C.S.,
Professor of Surgery, University of Edinburgh.

I assume that we are all disciples of Lister, and that we all believe in his main principle that the first and essential aim of the surgeon is to prevent the entrance into the wound of pathogenic micro-organisms. The principle is unalterable, and we are not met here to discuss it. Our discussion concerns the means and methods of carrying it out in our daily work. We must not forget that technique is merely a means to an end, not an end in itself. We must look upon the technique of a wound as a bacteriological problem, and we who make wounds must be trained in bacteriological methods. Every time we operate we practise bacteriology with the disadvantage that the conditions are more difficult than those which obtain in a laboratory. Our task consists in excluding micro-organisms from everything and from every person, including the patient, that may come into relationship with the wound. The difficulties of creating a germless environment under these conditions are obvious, but are not unsurmountable; we are met here to-day to discuss the different methods by which success is most likely to be obtained.

It must have struck those of us who have visited a large number of surgical clinics that, although there is an increasing tendency towards uniformity, there are hardly any two surgeons who follow exactly the same technique. I am inclined to agree with those who believe that the operative results depend more on the thoroughness with which the particular method is carried out and on the personality of the operator than on the actual technique he employs. There are many ways to Rome.

I do not propose to confuse the issue before us by perpetuating the discredited controversy regarding the terms "antiseptic" and "aseptic." We are wrong when we speak of an aseptic method; it is the result which, if we are successful, is aseptic. I assume that there is no surgeon who does not depend on some chemical agent possessing germicidal properties as one of the links in his Listerian chain. In discussing our methods of sterilization, attention must be drawn to the possibility of the high-pressure sterilizers being at fault; they should be tested from time to time either by a self-registering thermometer or some material such as acetanilide and methyl blue.

With regard to instruments, it is our own practice to transfer them from the kettle to a sterile towel, but, if it is a long operation, or if there is an element of infection present, there should be a circulation of instruments from the tray beside the surgeon to the sterilizer and back

again, or they should be immersed in an antiseptic solution.

With regard to suture materials, there is increasing evidence that catgut can be efficiently sterilized—for example, by boiling in alcohol, soaking in iodine solution, or by the Bartlett method. If much iodized catgut is embedded in a wound it excites an exudate, for the escape of which provision may require to be made. In abdominal operations iodized catgut should not be allowed to come into contact with peritoneal surfaces as the iodine is apt to cause adhesions. There is a tendency in some clinics to use iodized catgut which is unnecessarily thick. It is to be regarded as evidence of a high standard of wound technique if silk is used for buried sutures and ligatures with unvarying success.

In respect of purification of the hands, the tendency is towards less complicated methods, especially those in which dehydration by means of alcohol is an essential feature. The doctrine of never contaminating the hands must be strictly adhered to. The widespread adoption of the use of gloves has been of great service in improving wound technique. The nurses and assistants should wear gloves, and should rinse the hands in an antiseptic solution after putting on the gloves and from time to time during the operation.

With regard to the operator, the question of gloves is still *sub judice*. The operator who never wears gloves runs the risk of infection in his own person, and sooner or later his fingers become contaminated and it is very difficult to purify them again. The operator who wears gloves only in infected cases is handicapped in his manipulations, and, being unused to gloves, is apt to puncture or tear them. I have no hesitation in saying that some surgeons are more dangerous with gloves than without them. It is pathetic on occasions to see the condition of the gloves shortly after the operation has commenced. Given that a surgeon only wears gloves when he is going to encounter infection, this is a matter which is not always known before the commencement of the operation. Apart altogether from risks of infection, it may be urged that in explorations of the abdomen and in the separation of adhesions between viscera the glove is much less damaging than the uncovered skin of the hand.

The skin of the patient has long been regarded as the weakest link in the chain. We do not agree with Oeckmann, a Dutch author, who believes that we shall come to regard the skin of the patient as of as little importance as the air of the theatre. The most noticeable advance has been the giving up of the wet soak, which macerated the epidermis, and in adopting dehydration of the skin in order to fix and inhibit the activity of the organisms in the deeper layers of the epidermis. Many surgeons have obtained excellent results by the use of alcohol alone. The alcoholic solution of iodine introduced by Grossich has proved the most important rival to alcohol. The recent literature on wound technique is almost exclusively devoted to the use of iodine for disinfecting the skin. Kocher does not agree that tincture of iodine is more efficient than the same strength of alcohol alone. My senior university assistant, Mr. J. M. Graham, has carried out a large number of observations which tend to show that iodine is more efficient than alcohol alone, and that although it does not render the skin invariably sterile, it reduces its bacterial content more than any other agent. When a culture was obtained from iodized skin it was always the *Staphylococcus albus* or *citreus*, never the *aureus*. Histological examinations show that iodine penetrates more deeply into the pores of the skin when there has been no preliminary washing. If it is necessary to wash the skin, this should be done beforehand in order to allow of subsequent dehydration. If the skin is greasy the fat should be removed with ether or benzine. The freer the skin is from moisture and grease the more efficient is the action of the iodine.

It is important that the tincture be freshly made—it should not be older than a week.

Except in children, who are more susceptible to its irritating action, we apply the iodine both before and at the end of the operation, and, if the operation be an unusually long one, we do it also during the course of it. The reason for this is that a culture is more frequently obtained from the skin at the end of an operation than at the beginning of it. In children and in old people it is advisable to wash away the iodine with alcohol except along the edges of the wound. The coloration of the skin by iodine has been objected to by some surgeons. We regard it as an advantage, for it shows at a glance the extent of the area that has been disinfected.

It is the general conclusion that the disinfection of the skin by iodine is the simplest, most efficient, and least damaging of all methods, and that it is specially valuable in emergency operations and in the practice of military surgeons. With the iodine method the covering of the skin is not so essential from the point of view of infection, but should still be practised in order that the iodine on the skin may not irritate the tissues exposed in the wound. This applies particularly to the peritoneal surfaces in abdominal operations. Among the objections which have been urged against the use of iodine are, first, that the vapour causes lacrymation in those taking part in the operation; this does not occur if the alcohol is not stronger than that of rectified spirit. The objection that it causes eczema in children and necrosis of the skin edges in old people is avoided by using iodine which is not too strong and by applying it only before the operation is commenced.

DISCUSSION.

MR. HERBERT J. PATERSON (London) agreed that it was impossible to keep one's instruments sterile during an operation unless they were either repeatedly reboiled or kept in an antiseptic solution. As regards the use of catgut, it had the serious disadvantage that occasionally it gave way too soon, and so led to disaster. Ability to bury silk or linen with impunity was the test of the surgeon's technique, and it was a matter for serious consideration and discussion whether it would not be advantageous, provided they used gloves, to give up catgut and return to the use of buried silk or linen thread. He would be glad if Professor Thomson would express his opinion as to whether there was disadvantage in the use of non-absorbable suture, apart from the risk of the necessity for their subsequent removal. With regard to the sterilization of the hands, he favoured the use of ordinary methylated spirit. He preferred to use his gloves dry sterilized, as he found that, if the gloves were put on wet after boiling, the hands were never sterile at the conclusion of the operation. If, however, the gloves were dry sterilized, he had found that if the hands were sterile at the commencement they were also sterile at the conclusion of the operation. As regards the use of gloves, he mentioned the objections raised to their use by Dr. R. T. Morris of New York, who had written about "the iron hand in the rubber glove." Personally he did not think that the use of gloves interfered in any way with one's work. While recognizing that some surgeons, notably Mr. Stiles of Edinburgh, obtained without the use of gloves results which could not be improved on, he thought that the use of gloves was a distinct aid to asepsis. For the patient's skin, he regarded the iodine method as the most reliable. The true test of any method of skin sterilization was not whether the skin was sterile at the beginning, but whether it still remained sterile at the end of the operation. His method was to rub the skin for five minutes with acetone two nights previous to the operation. This was repeated on the night before operation, and the skin was then painted with a solution consisting of liq. iodi fort. ʒj.; sp. vini rectif. ʒij; aq. destill. ʒj. The skin was again painted with the iodine solution just previous to the operation. Out of 54 tests the skin was sterile in 46, and of 22 occasions on which the skin was tested before and after operation, on 21 occasions there was no growth on culture, and on 1 a growth of *Staphylococcus albus*.

Mr. G. P. NEWBOLT (Liverpool) said he had used gloves in operating for eight years, and found them invaluable. He regarded the preparation of the patient as playing an important part in the whole scheme. Patients should not be operated on too soon after admission to hospital; this was especially true of rectal and mouth cases. He adopted a modified aseptic technique. The air of operating theatres was not sterile, so he advocated the use of antiseptic lotions in conjunction with asepsis in other directions. Concerning materials, he was accustomed to using stock preparations of catgut (Van

Horn). The skin of the patient was prepared by painting with equal parts tinct. iodi and liquor iodi; by this method he had operated on emergencies with no other preparation of the skin—without even shaving—with perfect results. He was strongly of opinion that clean dissection of the tissues meant the minimum of injury, and therefore also the maximum chance of aseptic healing. The test of skin preparation and of good technique of wound treatment was seen in successful wiring or plating of fractures.

Professor Koch (Groningen) said that in most cases he agreed with what had been said by Professor Thomson. For the past two years he had used the iodine method, and although he did not think that it was always an absolutely aseptic skin which resulted from its use, yet the after-effects were the same in so far as no sepsis followed. He was disposed to think that something else than the disinfectants used was efficacious in preventing infection of wounds. For example, in Holland it was a common practice to treat wounds in the first instance with balsam of Peru, which was not recognized to be a germicidal agent; and yet those cases in which it was used invariably did well. The healing of compound fractures was quite as good as when they were treated with copious antiseptic flushing and counter incisions—that is to say, only two or three cases in every 100 suppurated. He thought that it was a proof that wounds might do well enough, even though the skin was obviously an unclean one; but where preliminary washing was done he found that some of his cases did badly. Therefore he regarded the preliminary washing as harmful where balsam of Peru was used. To keep wounds from becoming infected he was strongly of opinion that the dressings should not be interfered with after the operation. As to the question of gloves, he had never found it necessary to employ them. His method was to wash the hands thoroughly with water and then with argol. He was particularly careful not to handle the wound, nor to touch it at all with the fingers unless compelled. Even in amputation of the breast he invariably got primary union. His success was due to his avoidance of the introduction of his fingers into the wound. He mentioned also the application of a gum solution over the skin, as recommended by Professor Döderlein.

Mr. Thomas S. Ellis (Gloucester) said that the treatment of wounds was dependent not on bacteriology alone. In a cicatrizing wound the contraction which was perpendicular to the surface had the effect of fixing the skin at the margin. If this were prevented and the neighbouring skin kept movable the contraction which was parallel to the surface of the wound would have the effect of gently drawing true skin from the margin. The true skin might be developed to an extent far greater than was generally supposed. He showed photographs of a child where burning had destroyed the whole of the integument from a line just below the margin of the lower lip nearly to the sternum. The skin at the lower edge of the wound was persistently pulled outwards and upwards. By this manœuvre so much skin was developed that the usual contraction was obviated, and the child could now look upwards with perfect ease. Nothing in the way of skin grafting was done. The same principle was applied by him in dealing with the skin of amputation flaps, and the surgeon should not be satisfied until the skin was freely movable over the stump. This process was assisted by manipulation with a piece of rubber about the size of a sheet of notepaper.

Mr. Charles W. Cathcart (Edinburgh) said he had found the following method simple and successful for the last two years or so: Washing and shaving of the skin, then dehydrating with alcohol or spirit, painting with tincture of iodine (*B.P.*) and covering with sterilized cloth. This was done the night before the operation. Before the operation the skin was again painted with tincture of iodine. For emergency operations the same method was used, varied sometimes with swabbing with 1 in 20 carbolic solution for 20 to 30 minutes, as advocated by Lord Lister. He was satisfied with the iodine spirit method of preparing and storing catgut. As regards the value of iodine in preparing the skin, the hyperaemia caused by the iodine painting was an important factor in the good result. He spoke also of the evils of packing sinuses with gauze or worsted. The discharge was dammed back by this proceeding, and the packing acted as a foreign body, preventing the sinus from healing. He advocated dressings kept moist with waterproof for granulating sores, and frequently found dry dressing for such cases as applied by nurses and students a serious hindrance to healing.

Dr. J. M. Elder (Montreal) held that no operation could be absolutely aseptic; the air was infective in a minor degree if nothing else was. The whole benefit derived from iodine or alcohol depended upon the local hyperaemia they produced. Their effect was the result of a biological action (as indicated by Mr. Cathcart) and not that of a bactericidal one. The patient must rely on the phagocytic influence of his own blood—determined to that part by the iodine or alcohol—for his protection. Dehydration of the surface meant hyperaemia in the deeper layers, and it was this hyperaemia which protected, not the presence of any chemical agent to any particular depth in the skin.

Mr. Cuthbert Wallace (London) said that in all discussions on the technique of wound treatment he had heard very little about the results of various methods; statistics were frequently asked for, but they had not been produced. Nothing in surgery remained sterile for more than a few moments. In the technique of every surgeon one thing was constant—namely, the use of soap and water, and he thought that nothing else was needed. His own practice was the following:

1. *The skin of the patient* was shaved, if necessary, and the patient given a daily bath. On the operation day the patient was bathed and thereafter put in a clean bed. On the table the skin was washed with soap and water and the operation proceeded with.
2. *The operator's hands* were washed in running water, dried on a sterile towel and clothed in dry rubber gloves. The fingers were kept out of the wounds; such an operation as radical cure of hernia was performed without introducing fingers into the wound at all.
3. *The instruments* were boiled in water and laid on a dry towel. They were rinsed from time to time in sterilized saline solution.
4. *The ligatures used* were of iodine catgut, which he felt satisfied was reliable both as to strength and sterility.

For ten years he had never used any so-called antiseptic or chemical preparation; he had trusted soap and water entirely. In St. Thomas's Hospital for many years statistics had been kept by the resident assistant-surgeons. His own were collected from the hospital books kept by four different men, so that he had no control over them. They referred to cases originally clean, such as hernia and varicose veins. There were records of 600 cases, and the suppuration percentage was less than 4; and it must not be forgotten that these results were obtained in a teaching school where all the assistants changed constantly and many were not under his direct orders.

Lieutenant-Colonel Henry Smith, I.M.S., said that in the tropics they were accustomed to operating practically in the open air, which was often laden with dust. To work in a closed room would be like working in the atmosphere of a furnace, and impossible. They were therefore of the antiseptic school mostly. Instruments were kept in 1 in 40 carbolic solution. Sponges he did not use, preferring a douche of 1 in 2,000 bichloride of mercury solution. Sterile water would do as well, but he had to depend on a native staff, and found himself compelled to use an antiseptic solution. He had been interested in the question of tetanus, and his experience was that it occurred mostly, if not entirely, in hernia operations. Any wound treatment which left an anaërobic area was liable to tetanus. Hypodermic injections of quinine were frequently followed by tetanus, because an anaërobic area was formed. Similar conditions prevailed in hernia operations. A ligatured stump was an anaërobic area, therefore hernia stumps should be cut off and sewn up. According to Sir D. Semple's experiments, tetanus spores were found in half the wounds of the "man in the street" in India. He was opposed to the use of gloves, on the ground that they hampered the operator's dexterity. The greater the dexterity and the greater the rapidity in operating the less likelihood was there of sepsis. He regretted that dexterity in the handling of instruments was so much a neglected factor in the surgeon's work. He would advise any young man looking forward to a surgical

career that instead of taking a six months' post-graduate course he should spend six months in a workshop, and if the young surgeon meant to do abdominal work the six months should be spent on the tailor's bench to learn how to handle a needle and thread.

Mr. DOUGLAS DREW (London) said there were three points to which he particularly wished to refer; they were the sterilization of the hands, the patient's skin, and the suture material. In the interesting discussion which had taken place one point had been brought out very clearly, and that was that by whatever method the hands and the patient's skin were sterilized before the operation was commenced they were agreed that in the majority of cases they did not remain absolutely sterile till the end of the operation. If this were so—and the experiments of Mr. H. J. Paterson and others tended to prove it—it appeared to be a good plan to protect the wound against the possibility of infection from the patient's skin by covering it with gauze, and from the surgeon's hands by keeping the fingers out of the wound as far as possible, or by the wearing of gloves. With regard to the question of gloves, dry sterilization was preferable to boiling if it could be relied on, but it perished the rubber very quickly. If the gloves were boiled, he considered it an important point to empty out all the water, otherwise it trickled up and down the sleeves with the movements of the arms, and might prove a source of infection. Although he had used gloves for some years, he was not convinced that they had in any way improved his statistics. Of suture material, he much preferred linen thread in all wounds in which there was no risk of infection from the nature of the operation, but in intestinal operations and the like, if a continuous suture of thread or silk became contaminated, it was a great nuisance to get it out, so that in operations of this class he preferred to use catgut. The chief difficulty he had met with in the use of iodized catgut was that it sometimes absorbed too quickly, and he had had three abdominal wounds burst open from this cause, so that he thought it safer to reinforce the catgut with silkworm gut through the skin. Mr. Drew thought that the drainage of the wound was not often needed if care was taken not to leave a cavity in which serum could collect, but in such large wounds as a breast he always used drainage.

Dr. IRVING H. CAMERON (Toronto) said: It was not my intention to intervene in this discussion, but when I find a brother Celt (Colonel Smith) standing alone in his advocacy of a lost or losing cause I am impelled to associate myself with him in its defence. And I do so not simply because of its failing fortunes, but because I believe it really does embody the truth and represents the philosophical position. Whenever I listen to a discussion upon wound treatment, and hear the advocate of each new or special method bolstering up his case by the citation of statistics I am almost moved to merriment by my sense of humour, and invariably recall those pregnant lines of Pope: "For forms of Government let fools contest, That which is best administered is best." That method with which each one is most familiar and most practised in is undoubtedly the best for him. For myself I much prefer the devil I know to the devil I do not know. Of one thing I am certain: that the human or animal skin cannot be sterilized, and that therefore the pursuit of the aseptic method is following an *ignis fatuus*—a Will o' the wisp. This the advocates of asepticity themselves confess when they record the bacteriological results of their investigations. Asepticity being, therefore, admittedly unattainable, the problem is to inhibit the growth of germs for a certain length of time until the antiseptic elements of the tissues have attained the dominance, and to promote by all means which experience and experiment have placed at our disposal this resisting power. The former of these, I am free to confess, I still believe to consist in the cautions and the precautions which I learnt from the founder of the antiseptic system. In other words, I am proud to say I am still a Listerite. Tension within a wound is the most potent cause of lowered resistance, and if we have reason to anticipate tension efficient drainage is the prophylactic and the remedy. If there be more than serum to drain away gauze alone will not do it. To advert for a moment to some of the points which have been mentioned. The use of iodine tincture (alcohol) alone as an antiseptic application I am disposed to commend in emergency surgery and in out-patient work; but I regard it as essential that no water shall have been recently applied to the surface, as otherwise the superficial epithelial cells become waterlogged and non-absorbent, and the iodine does not enter in. The iodine and the alcoholic and the dry dressing are sometimes spoken of as if they were new ideas, but those of us who can go back thirty or forty years can readily recall the Lugol's solution and the *panscment alcoolique* and the *pansement ouaté* of the French surgeons of that day. My friend, Professor Elder, thinks that the virtue of the iodine resides in the protective hyperaemia it induces, and I am quite prepared to admit with him that the hyperaemia plays no unimportant part; and, if so, my favourite application of mustard, both to the surgeon's hands and the patient's skin, finds an equal *raison d'être*. Moreover, the sulphallylic acid of the mustard is one of the most potent antiseptics known, and every farmhouse can provide it on emergency. With Colonel Smith's condemnation of sponges I cannot agree. Nobody of experience can deny the superiority of the sponge as an absorbent over all the swabs and wipes and textile substitutes, nor its unequalled virtue as an elastic pad in rubbing off adherent surfaces. And right here in Birmingham we were long since taught by Lawson Tait how to prepare and keep them. I still use them on all occasions with unfailing safety and unabated satisfaction. With regard to gloves, I never use them, though all my colleagues and assistants do, in the three or four hospitals which I serve. I am therefore in the habit of speaking of myself as the control experiment. I do not find my results in point of suppuration worse than theirs; in fact, I may say, in justice to myself and with a view of keeping my subordinates properly humble, I believe they are better. If gloves are to be worn, I think cotton ones are preferable to rubber, as cheaper and more readily changed during an operation. Masks I do not wear, because they befog my glasses. Caps I do not wear, because they are hot, and I have nothing to cover, and I find no difference in practical results. How do I dress a wound? Generally by a method which practically I learned from Thomas Keith of Edinburgh twenty-five years ago—a method, therefore, which will be familiar to Professor Cathcart and Professor Alexis Thomson. I call it Keith's dressing. It consists of a pad of absorbent cotton (sterilized), soaked in a solution of 1 part of carbolic acid to 7 of glycerine. An antiseptic powder is often dusted over the wound under this, and the Keith's dressing is covered by a pad of antiseptic gauze—Bichlands, alembroth, or other—held in place by adhesive plaster. The wound is dressed once—on the seventh day—to remove the stitches, and not again in ordinary cases. The instruments are boiled and placed in 1 in 20 carbolic, which is subsequently diluted to 1 in 60 or 80. If they are laid upon a towel, it is a wet bichloride or biniodide one. My hands are dipped with great frequency throughout an operation in a mercurial solution, and therefore are as nearly sterile at the end of an operation as at the beginning. I have a surgical staff of twenty-one—all good surgeons. Each has his own ideas and methods. All have pretty much the same results. None of them follows my method, not because the results are disappointing, but because the means are "old-fashioned" and "not up to date." Twenty-one years ago, in this very room, I heard Lawson Tait express the same opinion as Colonel Smith has just uttered. He said: "If I had a son who was going in for surgery, I would apprentice him to an artificer of every kind in Birmingham until he had acquired the technical skill of each." Those who recall the shape of Tait's hand and its seeming unfitness for its task and remember the dexterity and manual skill which he evidenced on all occasions, will conclude, with Colonel Smith and me, that practice makes perfect in surgery, as elsewhere.

Sir THOMAS CHAVASSE (President) thought that in view of the divergence of opinion expressed the personal equation must enter largely into the technique of wound treatment. *Quot homines tot sententiae.* He recalled that the results obtained by Lord Lister were as good as those achieved at the present time, and he remembered how much Lord Lister suffered from profuse diaphoresis when operating,

and how he used to remark on its inconvenience. The speaker was not himself in the habit of using masks regularly, but for the last eight years he had been using rubber gloves, and he thought that his results were distinctly better than in the days before their use. It seemed to him that there was as much reason as ever to remember the teaching of Lord Lister that cleanliness and carefulness played a large part in technique. Cleanliness and carefulness could be carried out by many different methods and in all sorts of places. The main thing to remember when new ideas cropped up was to eliminate what was false and to endeavour not to bolster up half-truths and methods, apparently of the utmost value, but soon likely to prove of no more value than many methods used in days gone by.

FIBROMATOUS TUMOURS OF THE MESENTERY.

By W. J. Greer, F.R.C.S.I.,

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In the preparation of a report of a case which, if not rare, is at least uncommon, I found myself willingly lured along paths not too well trodden in the hope of being able to arrive at some knowledge of the earlier records of tumours of the mesentery in general, and, if possible, to set out minutely any cases similar to the one below noted. A measure of success has followed a somewhat tedious quest.

So far as I have been able to discover, it seems that the early chronicles accessible to me give reference to mesenteric tumours discovered at autopsy on women who had been considered to be pregnant (Horstius,[1] 1578–1636). Frank[2] relates an observation obtained from Tulpius, which, like that of Horstius, doubtless, concerned a hydatid tumour. The description by Aselli[3] in 1627 (the discovery was earlier) of chyliferous structure and glands, pancreas and Aselli, drew attention for the first time to the physiological importance of the mesentery and its relation to practical medicine. But before this, at the beginning of the sixteenth century, the work of Vivieni,[4] of Florence, appeared in relation to a tumour found in the mesentery of an infant. The works of Matthéus Martini[5] in 1625 and Baillou[6] in 1635 described certain phenomena which resulted from affections in the mesenteric region, though they contain nothing very precise. Sydenham,[7] 1656–89, noted mesenteric tumours in infants, mostly tuberculous in origin. Baglivi,[8] in 1696, reproduced most of the more ancient heresies, but his writings contain nothing of special importance. In 1723 J. J. Grambs[9] published, at Frankfort-on-the-Main, a case of a membranous growth, probably a lymphoma. Morgagni,[10] in 1761, notes two cases, one that of malignant mesenteric tumour weighing 25 lb., secondary growth in the testicle, the other a lipoma of the mesentery. At this period it appears that tuberculous disease of the glands was the only mesenteric disorder considered to be of any importance. Lieutaud[11] in 1767 published his observations, and devoted a chapter to maladies of the mesentery, while Sauvages[12] about the same date held that all enlargements of the mesentery were attributable to the glands, but, not being quite satisfied with the term *Carreau* (tabes mesenterica), he substituted the name "physconia mesenterica," but, as a matter of fact, added no real knowledge. In the year 1787 the work of Baumes[13] on tuberculous glands in the mesentery of infants appeared, and for a long period after this no advance in accuracy was made. Portal[14] in 1803 adopted a classification of these tumours and attempted to set out their clinical characters, but the era of great medical and surgical events was at hand.*

In 1809 a pupil of John Bell, Ephraim Macdowell, of Kentucky, performed the first ovariotomy. Macdowell's work inspired others, and in a short period the principles of diagnosis and treatment of abdominal tumours became well established. Still greater deeds followed. The advent of anaesthetics was inaugurated by Morton and Simpson in 1846–7, and in another ten years Lister had discovered the fundamental truths of antisepsis.

These events, with pathology passing from strength to strength, soon rescued the subject of mesenteric tumours from chaotic obscurity and compelled its definite recognition among abdominal disorders.

Fig. 1.—Fibromatous tumour of mesentery.

The recent history of mesenteric diseases has been made by many hands, but while large numbers of malignant tumours, cysts, and lipomata have been recorded, only a comparatively small number of tumours of a fibromatous nature can be collected—in all about 33 — and several of these are not entirely free from the suspicion of belonging to another class. However this may be, it is certain that fibromatous tumours of the mesentery are not common.

Augagneur,[15] in a work published in 1886, could only find one case—that of Pean—and remarks, "the existence of fibromas of the mesentery is still problematic." Other monographs have followed since this date, grouping the cases and bringing up the numbers. I have endeavoured to mention them all in the bibliography appended.

The first case which, as reported, seems to conform to the character of a fibroma, is that of Bricheteau,[16] 1824.

Several American and Continental authors have, when recording a case, collected a number up to date, but Mr. Alban Doran[17] appears to be the first British surgeon to assemble the reports with his contribution. The first successful extirpation of a mesenteric tumour of the kind is, I think, due to Buckner,[18] in America, 1852, while the first record in Britain is, I believe, that of Dickinson,[19] reported to the Pathological Society of London in 1870.

With regard to the etiology of these tumours there

* I am much indebted to the thesis of M. Augagneur for many of these historical details, and have endeavoured to arrive at some accuracy in the matter of dates with the assistance of the *Dictionnaire historique de la médecine*, par MM. Dezeimeris, Ollivier (d'Angers), et Raige-Delorme. 1828.

is little to be said, as there is little known. They develop in connective tissue, are slow in growth, and rarely recur after complete removal. It is quite possible that a good many of them contain malignant elements which may have escaped histological search. This is not surprising, considering, as Mr. Bland-Sutton[20] observes, the difficulty of distinguishing between a myoma, a slowly growing spindle-celled sarcoma, and a fibroma. In this connexion it is well to remember that Rogowski[21] collected 20 cases of solid retroperitoneal tumours, and found sarcomatous tissue in all of them. The account of my addition to this subject is as follows:

Case.

History.—J. E., male, aged 54, referred to me by Dr. A. H. James, of Blaenavon, was admitted to the Newport and Monmouthshire Hospital under my care on July 4th, 1910. The family history is unimportant, the personal history that he always enjoyed good health.

Symptoms.—Nine weeks ago he noticed a swelling in the abdomen, and began to suffer from pain and constipation; had to give up his work as a labourer on account of the pain and discomfort; he was well nourished and florid.

Examination.—The heart, lungs, kidneys, and nervous system all normal. The abdomen slightly distended; a tumour to be felt about the umbilicus, somewhat tender, readily movable from side to side, not so movable in other directions; smooth, greatest depth in vertical line; dull on percussion; surrounded with area of resonance; no fluid to be discovered in the peritoneal cavity.

Diagnosis.—Believed to be a tumour of great omentum, probably malignant.

Operation, July 15th, 1910, with the assistance of Dr. Pienaar. Abdomen opened in middle line over tumour; omentum found free; tumour seen to be in mesentery; at periphery is felt superior mesenteric artery; presenting layer of mesentery incised and tumour enucleated, leaving large cavity; small bleeding points ligatured with catgut; at bottom of cavity is felt abdominal aorta; greatest fixation of growth is at upper part of root of mesentery; cavity dried and space closed with catgut, no drain. At beginning of jejunum a loop of gut, which looked like another tumour, but was gut hypertrophied in response to obstructional pressure caused by tumour. Abdomen closed with catgut and silkworm-gut sutures.

After-History.—Uninterrupted recovery; patient discharged August 12th, 1910.

Pathology.—Tumour weighed 3 lb. 4½ oz., white, nodular, capsule smooth; looked like ordinary uterine fibroid.

Histological Examination.—Fibrous and myxomatous tissue, few well defined blood vessels, inflammatory areas, non-malignant.

The accompanying photograph and high and low power photomicrographs show the character of the growth.

Statistics.

A consideration of the recorded cases shows that the average age at which these growths have appeared is about 37, the youngest being 9 months and the oldest 70 years; 11 subjects are females, 21 males. In one case neither sex nor age is stated and in another age is omitted. There are 12 deaths in the series, and of these 7 followed attempts at removal, 3 submitted to exploratory punctures died, and the 2 cases treated medically both died. Of the 7 deaths following operation, in 3 of these patients resection of gut was required, shock, sepsis, or cardiac embolism being the immediate cause of death. The operative death-rate works out at about 22 per cent. Of the 20 cases which recovered from operation, in 14 the operative method was enucleation, in 1 morcellement, in 5 it is stated "tumour removed"—probably enucleation was done in these latter, unless, of course, in cases with pedicles. In 8 intestine was removed in lengths up to 7 ft. 8 in. The largest successfully removed tumour weighed over 40 lb.

Begouin[22] in his paper has collected cases of tumours of the mesentery of various kinds in which operation was practised 29 times, giving 15 deaths and 14 recoveries, a mortality of 52 per cent., and he remarks with Gallic clearness, "Ce sont la les faits brutaux." He notes that the nature of the tumour has not in itself any influence on the gravity of the operation; 15 lipomas gave 8 recoveries, 4 sarcomas 2 recoveries, 7 fibromas 3 recoveries, and 1 tuberculous case gave 1 recovery. Simple laparotomy in 11 cases resulted in 4 deaths. Vance[23] in his article gives a total mortality of 40 per cent. in all varieties of tumours of the mesentery, and Bowers[24] remarks on the high mortality and on the fact that treatment can only be surgical.

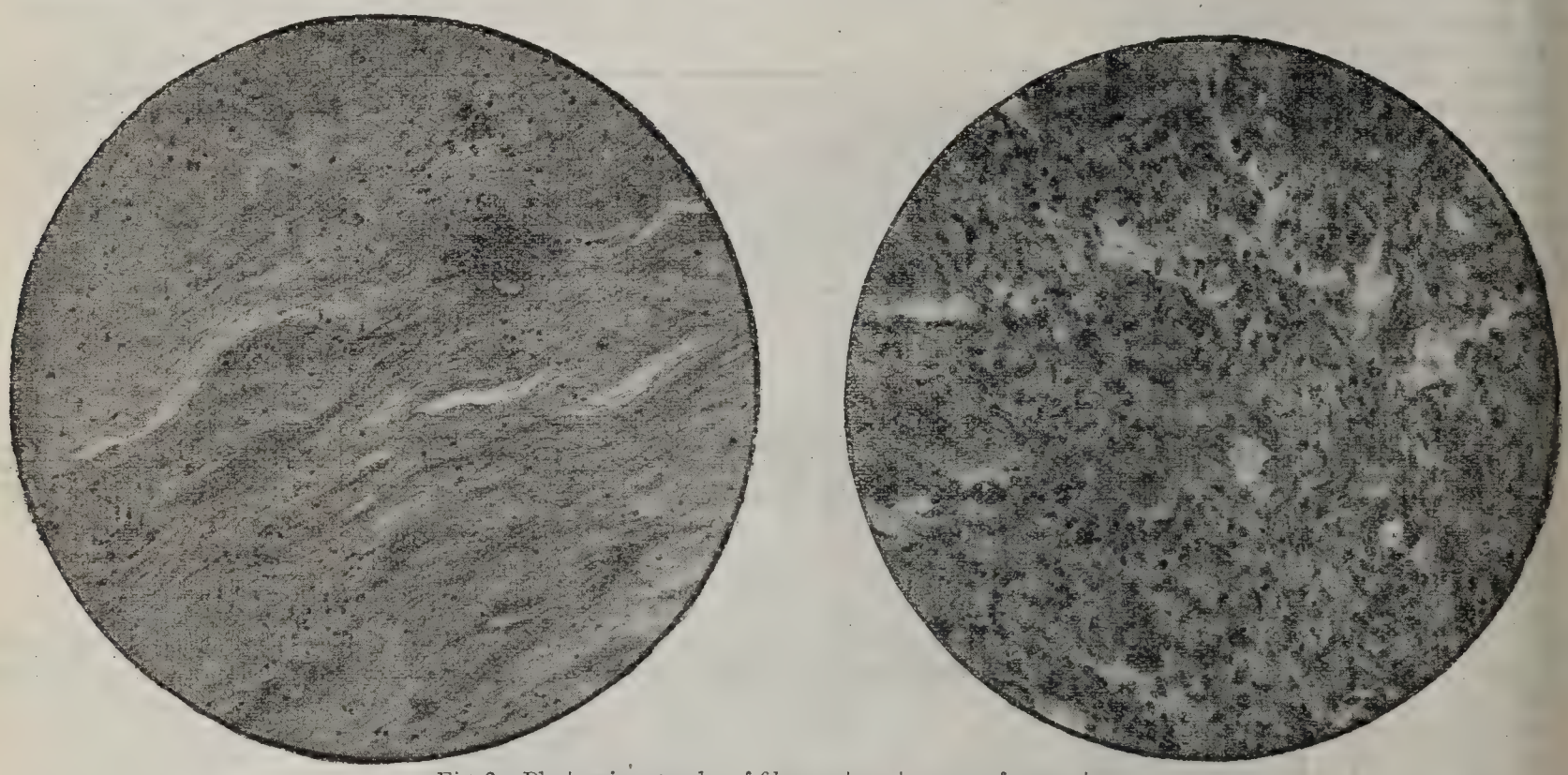

Fig. 2.—Photomicrographs of fibromatous tumour of mesentery.

To put the matter bluntly but truthfully, the expectant treatment of this disorder is certain to result in a painful and distressing death. Early operation offers the only hope of deliverance.

Diagnosis.

Most observers emphasize the difficulty of diagnosis. In looking over the records it will be noted that errors are frequent; the tumours are thought to be cystic or solid growths of the ovary, uterine fibroids, or omental tumours. The most constant symptoms are pain and constipation, though in several cases the growth has developed painlessly. There may be nausea, even vomiting and wasting. The tumour may be noticed by the patient for periods varying from a few weeks up to fifteen years. Masset[25] concludes that the evolution of mesenteric fibroids is generally rapid, and quickly causes compression and interference with nutrition. The position of the swelling is at the umbilicus; it is more mobile transversely than in the vertical line, and is not adherent to the anterior abdominal wall, as omental tumours often are.

The tumour is usually hard unless undergoing cystic or myxomatous degeneration, is smooth and well defined. Bowers[24] does not believe that it is possible to decide whether the tumour is solid or cystic, and in support of this view he points to those solid tumours which were aspirated at the operation in the expectation of finding fluid. Percussion gives a dull note over the tumour with

RECORDED CASES OF FIBROMATOUS TUMOURS OF THE MESENTERY.

Reporter.	Sex	Age.	History.	Operation.	Attachment.	Nature of Tumour.	Result.
1824. Frichetean[16]	M.	55	——	No operation; medical treatment	Mesentery, embracing duodenum	Fibro-cartilaginous tumour, 18 lb.	Died.
1852. Buckner[18] ...	F.	—	Believed to be ovarian cyst tumour size of orange above pubes	Enucleation lasted 30 minutes	Mesenteric tumour surrounded by gut	Not definitely stated	Recovered.
1870. Dickinson[19] ...	F.	2	Abdomen began to enlarge at 3 months; wasting	Medical treatment; no operation	Retroperitoneal and between layers of mesentery	*Post mortem*: Histological examination; fibrous tissue, fat, cartilage, cysts, calcareous masses, 21 lb. 5½ oz.	Died.
1873. Péan[29]	F.	40	Enlarged abdomen diagnosed as ovarian cyst	Morcellement, pedicle fixed to wound	Fixed to lumbar spine by pedicle and also to pelvic bones	Pure fibroma, 16 lb.	Recovered.
1874. Ladmiral[30] ...	M.	60	Wasting; vomiting; abdominal tumour	Exploratory puncture	In simple contact with lower surfaces of liver and spleen; slight adhesion to transverse colon resting on spine	Fibroplastic tumour; *post mortem*, weight 8 lb.	Died.
1882. Spencer Wells[31]	F.	40	Pain for 4 years; abdomen enlarged; movable tumour	Enucleation; wound closed	Root of mesentery	Fibromyoma, size of adult head	Recovered.
1883. Wolffler[32] ...	M.	52	Patient much run down; pains in lower extremities; morphine to relieve pain	Very difficult; enucleation with resection of 3 ft. 8½ in. of intestine	Mesentery	Fibroma, 1½ lb.; microscopic examination	Died in 24 hours.
1887. Burger[33] ...	F.	15	Tumour size of a child's head; fluctuation; diagnosis of ovarian cyst; diarrhoea	Puncture	Probably from the mesentery	*Post mortem*: Fibromyxoma; cystic; microscopic examination	Died.
1887. Peraire[34] ...	F.	16	Tumour of abdomen for two years size of head at term; wasting; constipation	Enucleation of tumour with purulent sloughing centre; cavity sutured to abdominal wound; drained. Operation by Richelot	Encapsuled retroperitoneal tumour surrounded by intestine	Histological examination: fibroma, 2 lb. 6 oz.	Died on seventh day; perforation of gut; peritonitis.
1890. Brookhouse[35]	M.	56	Unwell for 2 years; tumour noticed for 10 months	Enucleation; wound closed	Layer of mesentery formed capsule	Dense tissue fibroma with small cystic cavities; straw-coloured fluid; 13½ lb.	Died in 32 hours from shock.
1890. Brosé[36]	—	—	——	Operation by Moricke: enucleation	Mesentery	Fibroma	Died.
1893. Müller[37]	F.	33	Tumour in abdomen for 4 years; diarrhoea 3 months.	Removed with 11 in. of small intestine; end to side junction and fixation at lower end of wound	Between folds of mesentery	Pure fibroma	Recovered; gangrene of lower end of gut, with eventual healing.
1893. Roux[38]	F.	46	Swelling in abdomen, painless, size of child's head; another tumour, same size, in left iliac fossa; in all three tumours	Enucleation; counter opening through triangle of Petit; gauze drain; abdomen closed	Mesentery	1 fibroma, 2 fibrolipomas; in all 6½ lb., all hard fibromas	Recovered.
1895. Folet[39]	F.	10	No illness; tumour casually discovered, about size of two fists	Enucleation; wound closed	Between folds of mesentery	Fibroma; 4 lb.	Recovered.
1895. Folet[39]	F.	20	Believed to be pregnancy; then ovarian cyst size of adult head; attacks of pain, constipation, wasting	Tumour tapped, no fluid; enucleation with great difficulty; damage to intestine; resection of gut, and fixation of end to wound	Between folds of mesentery; large pedicle attached to intestine and large vessels	Fibroma	Died in 24 hours; peritonitis; turbid fluid in the pelvis
1897. Shepherd[40] ...	M.	28	No pain; abdomen enlarged for a year; tumour for 3 months	Enucleation; 7 ft. 8 in. of gut removed	Tumour surrounded with mesentery	Fibromyoma	Recovered.
1897. Sheild[41]	F.	50	Abdominal swelling; procidentia	Enucleation; drainage	Transverse colon, flattened; small intestine on tumour	Fibromyoma; 9 lb.	Recovered.
1897. Pinaud and Begouin[22]	F.	50	Tumour in right iliac fossa, near median line; size of a child's head, mobile, nodular; thought to be sarcoma of ovary; existing for about a year; no symptoms	Enucleation by M. Demons; cavity closed, its walls brought together; wound closed; no drainage	Tumour invested by mesentery, and attached to ureter	Fibromyoma; histological examination	Died on 18th day; embolism; cardiac abscess in cavity of tumour; superficial sloughs in gut.
1898. Jackspill[42] ...	M.	9 mo.	Tumour size of child's head in right hypochondrium; fluctuation; exploratory puncture shows bright red fluid	Puncture	Mesentery	Microscopic examination; fibromyxoma cavernosum	Died.
1899. nid[43]	F.	38	Noticed movable tumour for one year; pain; patient three months pregnant	Enucleation, 13¾ in. of small intestine removed; anastomosis with Murphy's button	Mesentery and small intestine	Fibroma. Histological examination	Recovered.
1900. exer[44]	M.	41	Colic; tumour palpable, movable	Tumour with 2 ft. of bowel removed	Mesentery; pedicle to vertebral column	Pure fibroma 10 in. in diameter, 5 lb.	Recovered.

RECORDED CASES OF FIBROMATOUS TUMOURS OF THE MESENTERY (*Continued*).

Reporter.	Sex	Age.	History.	Operation.	Attachment.	Nature of Tumour.	Result.
1901. Duranona[45] ...	M.	41	Abdominal pain for 3 years; abdomen measured 85 cm.	Tumour removed adherent to intestine and epiloon; gut removed; length not stated	Mesocolon	Lobulated fibroma	Recovered.
1901. Murphy, J. B.[46]	F.	26	Symptoms of ovarian tumour; pain in right side	Tumour removed with 24 in. of adherent gut; union with button	Mesentery	Fibroma, not myxomatous	Recovered.
1902. Gildemeister[47]	F.	22	Taken ill with vomiting and obstruction; tumour in left abdomen; pulse 132 before operation	Tumour removed by Mikulicz-Radecki	Between folds of mesentery; attached to front of vertebral column	Fibroma with many calcareous deposits	Recovered.
1902. Kengla[48] ...	M.	70	Abdomen enlarged 3 years; no symptoms but obstipation	Tumour removed with 87 in. of gut; anastomosis by Murphy's button	Mesentery	Pure fibroma, 4½ lb.	Died third day.
1902. Lathuraz[49] ...	F.	42	Large tumour in abdomen, which measured about 6 ft. 6 in. at umbilicus	Enucleation	Between leaves of mesentery	Fibromyxoma, over 40 lb,; small cysts	Recovered.
1903. Dallmann[50] ...	F.	40	Headache, indigestion, constipation	Difficult enucleation by v. Bramann; tampon drainage	Mesentery and mesocolon	Fibroid myxomatous masses, 6 lb.; highly coloured haemorrhages	Recovered.
1904. Doran[17] ...	F.	34	Tumour; simulated ovarian cyst	Tumour tapped, little or no fluid; enucleation	Retroperitoneal	Fibromyoma, 30 lb., myxomatous	Recovered.
1905. Abrazhanoff[51]	F.	42	Tumour of slow growth (15 years) in right abdomen, slightly movable; pain, vomiting; dull, tympanic note	Enucleation; excision of ileum; junction of end with Murphy's button; layers of mesentery sewn together; necrosis of centre of tumour; abdomen closed without drainage; had to be reopened on third day and drained; purulent parotitis ensued; operation May 13th, 1902	Mesentery	Fibromyxoma	Recovered.
1906. Bowers[24] ...	F.	15	Weakness, wasting, nausea	Tumour aspirated, found solid; enucleation	Lesser omentum, pedicle to mesocolon	Soft fibroma; pathological report, 4 × 3 × 1½	Recovered.
1906. Guinard[52] ...	F.	64	Abdomen large; diagnosed as fibroma uteri, with malignant degeneration; naevi and pigment spots on abdomen and thighs; wasting	Meso cut through and tumour removed; no pedicle	Between folds of mesentery, or rather meso-iliac colon; slight adhesion to latter's internal fold	Fibroma, ossified or infiltrated with calcareous salts	Result not given; reported 2 days after operation.
1907. Monprofit[53] ...	M.	63	——	Enucleation with resection of 6 ft. 6 in. of ileum reaching to within 4 in. of the caecum	Mesentery	Myxoma, 11 lb.	Recovered.
1911. Greer	M.	54	Patient noticed swelling in abdomen, pain, sickness, constipation; tumour easily palpated, movable; varying area of dullness surrounded by varying area of resonance, diagnosed as tumour of omentum	Enucleation from root of mesentery; superior mesenteric artery runs round periphery of tumour; deep cavity with aorta and vena cava at bottom; closed with catgut; layers of mesentery also closed with catgut; no drainage; abdomen closed: thickened gut above in jejunum believed to be hypertrophied to overcome obstruction caused by pressure of tumour below	Root of mesentery	Fibromyxoma 3 lb. 4½ oz. Histological examination	Recovered.

a surrounding area of resonance. This is particularly true after the growth is large, but if small there may be overlying resonance. Lockwood[26] believes that irregular and inconstant areas of dullness and resonance point to a tumour of the mesentery. Doran[17] says that this is not constant; it will probably be of greatest service when the tumour is small and very freely movable. Douglas[27] advises percussion in the Trendelenburg position as a means of excluding uterine and ovarian growths.

Operation.

As regards the operative procedure, the most feasible seems generally to be cautious enucleation followed by thorough haemostasis of the cavity and its closure with catgut sutures. If this cannot be fully secured tampon drainage will be necessary, following ordinary surgical principles. If the growth is pediculated, then ligature of the pedicle will be called for. The operation may be quite simple, but the surgeon will need to be prepared for serious complications and difficulties. Injuries to blood vessels and resection of lengths of gut may make an exacting demand on the skill and experience of the most proficient.

The dangers are haemorrhage, shock, sepsis, gangrene of gut, failure of the anastomosis. The contraindications to operation are those which pertain largely to the general health of the subject. If the patient is debilitated and obviously doomed it is prudent to presume that "Death will find some ways to untie or cut most Gordian knots of Life and make men's miseries as mortal as themselves"[28] other than by the method of the ready scalpel.

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THE TREATMENT OF FRACTURE OF THE CARPAL SCAPHOID AND THE INDICATIONS FOR OPERATION.

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FRACTURE of the scaphoid has hitherto been regarded as a rare accident, but it is, on the contrary, comparatively common. It is, however, often undetected, and a diagnosis of sprained wrist is accepted as explaining the symptoms. Even when a skiagram is taken the fracture may escape notice, as the scrutiny of the plate is concentrated upon the lower end of the radius. In the literature numerous references to this rare condition appear, and, indeed, these references are becoming so common that the qualification of the fracture as rare must be departed from. In this short communication no reference to the practice of others will be made, but the paper will be confined to the cases personally seen.

Mode of Production.—The scaphoid breaks usually under the influence of direct violence. It is specially exposed to violence when during a fall the individual comes down upon the hyperflexed wrist. In this position the lower and posterior aspect of the scaphoid constitutes the most prominent part of the wrist, and it receives the full force of the blow. In the circumstances which result in a Colles's fracture the lower and anterior end of the scaphoid comes into violent contact with the ground, and it is liable to be injured, though the pressure is there distributed between all the carpal bones. The bone on which we were as schoolboys instructed to rest our wrists when being taught to write is the scaphoid, and during a fall it comes in for its share of the stress. The lower end of the radius of course receives the collected forces from the carpus, so it breaks instead of them. As a matter of fact the scaphoid, too, is often broken when the radius goes, and it remains as one of the causes of disability so commonly following a Colles's fracture. Whether the posterior aspect during falls upon the back of the wrist, or the anterior aspect during falls upon the palm, strikes the ground, the upper end is fixed by the radius, and the scaphoid is pounded between. The skiagram of the carpal bones shows the scaphoid to be usually the part of an arch the cope of which is the semilunar, so that if pressure be applied from either end the arch gives way at its middle, and the transverse fracture is therefore the usual type.

Another mode of production may here occur. From the skiagrams it is apparent that the fracture takes place immediately below the styloid process of the radius, so it may be that the scaphoid breaks when a force tries to dislocate the hand outwards, the scaphoid becoming sheared off at the level of the styloid. I think this, however, to be exceptional.

Whether displacement will be added to the fracture will depend upon the nature of the applied violence. Displacement when it occurs consists in the upper or freer fragment being driven on to the dorsum of the lower one, and also in splintering of the bone with impaction. The lower as well as the upper fragment may become displaced, constituting a subluxation of the bone.

The Diagnosis.—A provisional diagnosis is all that is possible in most cases till the parts are viewed under *x*-ray illumination. The history of the accident is of importance. There is no essential deformity, though the hand may be a trifle abducted. Swelling is usually present, and it is situated directly over the dorsum of the bone. On grasping the hand at the root of the thumb, as if one were trying to feel the radial pulse, but too low down, the relative thickening of the wrist may be demonstrated, and by the same manœuvre the area of the tenderness may be localized. Pain is complained of on movement, especially passive abduction. Movements at the wrist are therefore curtailed. Crepitation is exceptionally present unless we include a coarse, smooth click. These symptoms may persist for months, and give rise to a condition which might be termed an internal derangement of the wrist; for instance in one case the displacement was slight, yet hasty movements gave rise to sudden acute pain, due, as found at operation, to a fold of synovial membrane being nipped between the two slightly separated fragments. The *x*-ray examination naturally becomes of paramount importance in the absence of other definite signs. The mere screening of the wrist is insufficient to reveal a fracture when the displacement is slight. When a plate is to be taken the best results are got when the fully adducted hand is forcibly kept flat on the plate while a moderate attempt is made by the patient to supinate it. The attempt must not be so strenuous as to give rise to tremor or movement while the plate is being taken. In this way the arched appearance of the bone is best brought out.

Treatment.—Having observed the exact positions of the fragments in the skiagram, one is able to place the case into its proper class. Thus, if the skiagram show little displacement of the fragments, expectant treatment may be persevered in for three months. By expectant treatment is meant the employment of massage and the limitation of active movements, but not passive. Rigid fixation is not indicated in such cases. Operative measures are demanded in cases which show much displacement or in those which fail to recover under expectant treatment, even though there be little displacement. Operative treatment may be divided into attempts to wire the fragments, to remove the upper and more displaced one, or to remove both fragments. The wiring of the fragments is seldom

practicable; it takes time and really causes considerable interference with surrounding structures. Excision of one or both fragments is rapidly performed without damaging the neighbouring parts, and it gives the best results.

In the cases operated upon an oblique incision down the inner side of the internodii tendon was made and the bone removed. The skin was then closed without drainage. No splint was applied. Movements were encouraged from the first. After about six to eight weeks the wrist joint should be fairly serviceable, but before full work can be undertaken a period of at least three months must be allowed to elapse, and in the case of workmen under the Compensation Act the time of convalescence is drawn out indefinitely. Before doing such an operation it is better to wait till the case has been legally settled, otherwise the results may be disappointing. Sex, occupation, and social status have much the same bearing upon the selection of the line of treatment as they have in other similar conditions.

DISCUSSION.

Mr. JOHN PATRICK (Glasgow) pointed out that in cases of supposed fracture of the scaphoid it was advisable to skiagraph the other wrist also, as divided scaphoid was not so very uncommon. He was cognisant of the case of a workman claiming damages for fracture of the scaphoid, when it was shown by skiagraphs produced in court that both carpal scaphoids were normally divided.

THE PRESIDENT (Sir Thomas Chavasse) cordially thanked Mr. MacLennan for his communication.

OPERATION FOR ABDOMINAL ANEURYSM, WITH A PRELIMINARY REPORT OF TWO CASES.

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THE comparatively rare occurrence of abdominal aneurysm and the consequent lack of experience in its operative treatment, makes it the duty of every surgeon to record cases which come under his care. In this way only can a definite line of treatment be conscientiously urged for a disease which, inactively dealt with, is nearly always fatal.

It is noteworthy that every reported series of cases treated by operation contains a percentage of cures, but it is also true that the reports of the earlier cases dating from the year 1865 show a large mortality. The results, however, were sufficiently satisfactory to have justified the continuance of surgical methods.

Osler sums up the question of treatment of abdominal aneurysm from a study of 16 cases. He says: "Nature occasionally cures a case; I have seen at least two cases of spontaneous healing in aneurysm of the abdominal aorta." "Now and again the physician is able to effect a cure. I have never been so fortunate as to see such a case." "In a few instances the surgeon prolongs life, or even effects a complete cure."

Most of Professor Osler's patients were operated upon. He reports as follows on three of the cases: "Pulsation much diminished; discharged in four weeks." "Great improvement; lived 3½ years." "Discharged in four weeks; no change." All the other cases died in times varying from a few hours to six months.

Encouraging as these results undoubtedly are, they were obtained at a time when abdominal surgery was in its infancy, and the treatment of aortic aneurysm had little passed the experimental stage.

A study of the fatal cases suggests the question: Could death have been obviated by any modification of the operative technique, or was it the natural sequence in the majority of cases of a disease passed beyond the limits of surgical control?

Without hesitation it can be shown that the safety of the operation can be increased enormously with the rigid application of modern principles.

It must be remembered that sepsis, which was accountable for some of the earlier deaths, will not be eliminated, even under modern conditions, until it is realized that the technique which gives satisfactory results under ordinary circumstances may fail in the presence of a quantity of buried metal.

This has many times been pointed out in the case of operations for the treatment of fractures. Accidental sepsis may be retrieved in certain cases by the removal of the screws and wire from a fracture, but once the wire is introduced into the sac of an abdominal aneurysm it is past recall, and no ingenuity will permit the surgeon to retrace his steps. The first step, therefore, towards the reduction of mortality is to personally supervise the sterilization of all appliances necessary for operation. Sepsis means secondary haemorrhage and death. To avoid it little reliance can be placed on the activity of the leucocytes in the presence of advanced arterial disease combined with the introduction of a large surface of permanent wire. Thus in these cases it can be seen that "air" infection may be fatal, even though "contact" and "implantation" infection have been eliminated.

Here, to my mind, lies the danger of the Moore-Corradi method, so popular with all writers on the subject. The proximity of a large galvanic battery in or near the field of asepsis, the insulated wire and cannula which cannot be sterilized by boiling, and the great prolongation of the operation may surely prove weak links in the chain of asepsis so carefully forged.

Furthermore, the experiments to show the effect of electrolysis on the coagulation of the blood are meagre, and require confirmation. Hunner made experiments on dogs in this connexion, and concludes that without electrolysis wire in the lessened current of a sac will collect fibrin, but will not do so in the strong aortic current. The cases which he quotes, however, seem rather to disprove this contention.

The conditions of current distribution which appertain to the electrolysis of a naevus are entirely different, and I agree with D'Arcy Power and Colt that the process cannot be compared when applied to an aneurysm.

Having reduced the mortality from sepsis to a minimum, death caused by advance of the wire from the sac of the aneurysm into the aorta beyond, requires no less attention. At least 6 cases have succumbed to this cause. The remedy is supplied by the introduction of the ingenious apparatus designed by Colt.

Rupture of the aorta or of a secondary aneurysmal sac is next in importance. This is probably brought about by the rapid filling of the sac with coagulum and the directing of the shock of the blood stream against diseased arterial wall not before involved.

In two of my cases I hoped partially, at least, to obviate the possibility of this catastrophe by the administration on two occasions of "606." One of the patients had a recent history of syphilis, the other a positive Wassermann reaction.

We have still to bear in mind further dangers against which no weapons can be directed. There is the possibility of emboli being carried from the sac during or after the introduction of the wire; death from this cause, however, has been very rare.

In theory the collateral circulation after obliteration of the coeliac axis or superior mesenteric artery would not be sufficient, nor have the channels been determined. In the case of the latter vessel closure would be followed by haemorrhagic infarct from the lower end of the duodenum to the middle of the transverse colon. These calamities could only occur, however, if there was rapid filling of the sac, for cases have been studied *post mortem* showing obliteration of a coeliac axis aneurysm without disturbance to the organs supplied.

If a wire be introduced into a fusiform aneurysm in mistake for the sacculated variety, failure must follow.

Such, then, are the dangers, and with most of them it has been shown that modern surgery is in a position to cope.

The early attempts to deal surgically with aneurysm of the aorta were various and attended with mixed results.

Ligature of the aorta has been tried in at least 12 cases, and was fatal in every instance. This would suggest that the operation should be abandoned when ligature is indicated above the renal vessels.

Compression of the aorta met with more success. Murray of Newcastle cured a patient by this method in 1863.

Moore was the pioneer of the treatment of aneurysm by the introduction of wire into the sac, and Corradi modified this method in 1879 by the passage of a galvanic current through the wire. These are the two methods

adopted in principle by present-day surgeons. It is unnecessary to travel over the history of the recorded cases. Osler deals exhaustively with the medical side of the question, and Hunner has collected all the cases up to 1900 to exploit the subject from the surgeon's point of view. Hunner *inter alia* mentions 12 cases of abdominal aneurysm, 6 treated by the simple introduction of wire and 6 by the Moore-Corradi method with electrolysis. Two of the 6 cases treated by the simple Moore method were cured. The aneurysm was consolidated after operation in a third case, but the patient died three months afterwards from rupture of the aorta. One of the 6 cases treated by the Moore-Corradi method was successful. Hunner points out that the majority of the cases were in such a desperate condition that it is a matter of speculation how much death (occurring from one day to one month) was hastened by operation. In all the cases in which an autopsy was held the effect of the wire in whipping out the fibrin was well defined. The appearance of Colt's apparatus has marked an advance in the surgery of aortic aneurysm. A glance at the illustration of the appliance as it appears in Messrs. Down's illustrated catalogue will be better than a description for those who are not familiar with the instrument. It has many advantages, but first of all is the possibility of introducing a given surface of wire without having to touch any portion of the instrument which enters the sac. Secondly, the great rapidity with which the wire can be introduced, a few seconds accomplishing this portion of the operation; and, thirdly, the practical impossibility of a loose end of wire entering the aorta.

For those who prefer the Moore-Corradi method there is a special arrangement for the passage of an electric current through the wire.

A brief mention of two cases operated upon by me during the last twelve months will suffice to illustrate the remarks just made.

Case I.

In August, 1910, my colleague, Dr. Lumsden, asked me to see a case of abdominal aneurysm which had resisted medical treatment. The patient was a man of 38 years of age, with a good family history. He had served in the army for fifteen years, during which time he contracted syphilis. For the last seven years he was employed in Guinness's brewery. His symptoms began eight months before his admission to hospital in August last year. Dyspepsia and pain in his back were the worst symptoms until July, when he noticed the abdominal pulsation. The patient was kept under rigid medical treatment for five weeks, but even in this short time the symptoms became more severe, and the pulsation in the abdomen obviously increased. There was a loud systolic murmur below the tumour in the region of the bifurcation of the aorta, traceable downwards along the iliac vessels. There was no murmur over the tumour. Expansile pulsation was easily demonstrated. The diagnosis of aneurysm of the coeliac axis was made.

Operation was performed on August 30th, 1910.

The following are the points of interest in connexion with the operation and after-treatment:

The patient was placed in the position familiar in gall-bladder operations. The table was sloped so that the inclination of the body was such that the head was at a higher level than the feet. A sand-bag was placed under the back, below the shoulder-blades. By this means the aneurysm was brought nearer the surface, and when the abdomen was opened the small intestines fell away into the pelvis.

The incision was made over the tumour through the left rectus muscle, above the umbilicus. The left lobe of the liver above and the stomach below completely covered the tumour. The gastro-hepatic omentum was adherent to the sac. The vessels did not appear.

The aneurysm was easily isolated and appeared like a dilated thin-walled gall bladder somewhat larger and more rounding than an orange. The sac gave an uncomfortable feeling of thinness and friability on manipulation. The aorta could be just felt above and pressure controlled the pulsations in the sac.

The origin of the tumour was lost in the aorta in the region of the coeliac axis, and it was quite impossible to determine the exact vessel from which it sprung. Probably the aorta and its branches in this region were involved.

A trocar and cannula was plunged for about 2 in. into the sac, the point of the trocar aiming, as far as could be estimated, for the mouth of the vessel leading into the sac.

When the trocar was removed, blood welled out without any impulsive force. A cartridge containing a cage of 150 in. of Colt's wire was applied to the mouth of the cannula, through which the wire was driven into the aneurysm by means of the steel rod supplied with the outfit.

There was no further bleeding, but the puncture point in the aorta was strengthened by a few sutures through the wall of the sac.

The operation was performed in a very short time.

For the first five days the pulsations of the aneurysm were severe tumultuous, and it was deemed advisable to give hypodermic injections of morphine to ensure absolute quietude on the part of the patient, who was uneasy and restless. After the fifth day the pulsations became less, the pain in the back disappeared, and the tumour, allowing for the resistance of the buried lines of suture in the abdominal wall, was harder and slightly reduced in size. Six weeks later, the man was discharged from hospital after an intramuscular injection of "606." A second intravenous injection was given recently, owing to the presence of a positive Wassermann reaction. After another short interval, he resumed light work at the brewery.

His present condition, eleven months after operation, is briefly this: An abdominal aneurysm can still be diagnosed from the continued pulsations and the persistent murmur below the tumour. The latter, however, has a firm consistency; all pain and discomfort have disappeared, and the man is able to work without inconvenience. There is little doubt that the progress of the aneurysm to disaster was checked by the operation. Time alone will show the exact part played by the wire in bringing about so satisfactory a result.

The second case is still more impressive:

Case II.

This man, 30 years of age, sent to me by Dr. Day, presented symptoms so like the first case that it is unnecessary to enumerate them. He had a history of syphilis dating a few years back. There was a loud systolic murmur over the tumour. Pain in the back was again the prominent symptom. It was this which drove him to seek relief, although he noticed, in addition, an increasing pulsation in the left hypochondriac region. He was given an intravenous injection of "606," and a week later an intramuscular injection of horse serum immediately before operation.

The operation was performed in precisely the same manner as in Case I, but the relations of the tumour were different. The pancreas was firmly adherent to the front of the sac above, the liver did not appear, and the stomach presented an anterior relationship below. The aneurysm was the size of a large orange; it appeared to spring from the aorta below the origin of the coeliac axis. The splenic vein, together with the gastro-hepatic omentum, impeded access to the front of the sac. The exact anatomy was difficult to accurately ascertain.

There was no bleeding whatever in this case on withdrawal of the cannula after the introduction of the wire, nor on removal of the trocar before the cartridge was put in position. A wisp of 105 in. of wire, with a surface area of 2½ in., was used in this case instead of a cage. In suturing the puncture point the needle injured the splenic vein, but the oozing thus produced was easily controlled. In this case, again, the pulsations for a few days after operation were more tumultuous and intense. The pain in the back was very severe. After the fifth day, however, all pain and discomfort had gone, there was now no trace of the loud murmur present before operation. On examination four weeks after operation there is no doubt that the tumour has reduced considerably in size, and has a hard, firm consistency. This case in the time has improved remarkably, but it is too soon to prophesy the final result. The disappearance of the loud murmur a few days after operation is noteworthy. It should be mentioned that the anaesthetic in each case was open ether, preceded by a hypodermic injection of morphine and atropine.

There have been five cases of aneurysm treated with Colt's apparatus in Dublin. The first was operated on by Major Holt, who introduced a small wisp of 75 in. into an abdominal aneurysm in 1904. The case died two days afterwards of double pneumonia. The *post-mortem* examination showed the sac contracted, and firm clot adherent to the wire. A second case, as yet unrecorded, operated on in Dublin, died after some weeks, apparently from slow leakage from the sac of the aneurysm. The third and fourth cases came under my care and have been recorded in this paper, and the fifth is at present in the Richmond Hospital, having been operated upon successfully within the last two weeks by Professor Conway Dwyer.

The difficulty in diagnosis in cases of abdominal aneurysm seems to be the cause of the paucity of early cases which come to be treated by the surgeon, and the high mortality heretofore following operation must be attributed in a measure to the late recognition of the disease. Under modern conditions, however, a surgeon (even in advanced cases) can say assuredly that the operation is unlikely to do harm, and that a certain hope is held out to a patient who must succumb under any palliative method of treatment.

A FURTHER SERIES OF EIGHTY-ONE CONSECUTIVE CASES OF CLEFT PALATE TREATED BY OPERATION,

WITH SPECIAL REFERENCE TO THE AFTER-RESULTS.

By JAMES BERRY, B.S., F.R.C.S.

(With Special Plate.)

AT the Leicester meeting of the British Medical Association in 1905, I gave a detailed account of all the cases of cleft palate (67 in number) upon which I had operated up to that date, and I exhibited to the meeting a considerable number of the patients themselves.

The present series of 81 cases is a direct continuation of the earlier one and includes all cases (both hospital and private) from 1905 to the present date, the last operation having been done less than a fortnight ago.

In the accompanying tables will be found full details with regard to the sex of the patient, the age at which the operations were undertaken, the extent of the cleft, and the results, both as regards the condition of the palate and of the speech of the patient. I have not refused to operate upon any case under the age of 16, however wide or unpromising the cleft, except in a very few cases in which the general health was so bad that no operation at all seemed justifiable, and in a certain number of those in which one or more previous operations, performed by other surgeons, had resulted in so much destruction of tissue that no further operation was possible. Operation was undertaken, however, in 10 cases of this last class, the cleft being completely closed in every case except two in which a very small hole in the hard palate still remains; some of these operations presented unusual difficulties, and although the speech was greatly improved in nearly every case, the benefit in this respect was not as great as in most of those in which the whole of the operative treatment was in my own hands. Operation was also undertaken in five patients of the age of 16 and upwards, with benefit to the speech in all cases with probably one exception (No. 84). In cases in which the previous unsuccessful operation had been the turnover flap one (commonly known as Lane's operation) the destruction of tissue was usually so great that no further operation could be attempted, and obturator treatment was recommended (see Fig. 20). My guiding principle with regard to these cases of previously unsuccessful operation has been to operate if it seemed possible both to close the cleft and to leave the patient with a soft palate sufficiently good to improve the patient's necessarily defective articulation.

It will be seen from the second column that in rather more than half the cases the operation was performed after the age of 3 years. But probably in every one of these cases I should have operated before the age of 3 years had I had the opportunity of doing so. I may be permitted here to state again my strong belief, founded upon a considerable experience, not only of my own operations but of those performed by others, that the best period in most cases for the performance of a cleft palate operation is between the ages of 1 and 3, according to the nature and width of the cleft, although there is a minority of cases of comparatively slight clefts, chiefly of the soft palate, in which operation may be undertaken with advantage even in the first year of life.

This opinion is also, I believe, that of the great majority of the surgeons whose experience of cleft palate operations is large (for instance, Mr. T. H. Kellock, Mr. R. W. Murray of Liverpool, Mr. Burghard, and a host of others).

With regard to the nature of the operation, in all cases the operation has been, as in the previous series, that of Langenbeck (also known by the names of Fergusson and Smith), or some slight modification of it. It is well to remember that an essential feature of this operation in most cases is not mere paring of the edges and median suture, but also the formation of a flap of muco-periosteal tissues from the hard palate. This fact seems to be strangely ignored by some of the advocates of the "turnover flap" method, who seem to imagine that the Langenbeck method consists merely in paring the edges and suturing in the middle line before or after free incisions for the relief of tension! *

With regard to the actual method of operating, I have but little to add to what I said at Leicester in 1905, when I entered at some length into the operative details.† I would merely say that I do not now find it necessary to make quite such extensive lateral incisions as I did formerly. In operating upon clefts of the soft palate, I have, to a certain extent, replaced the lateral incisions by the wide tension stitch shown in Figs. 15 and 19. Of the importance of detaching the soft palate from the posterior edge of the hard palate in all but the most trivial cases there can be no doubt whatever, if a good result is to be obtained.

An interesting letter has recently appeared in which the writer, an advocate of the turnover flap operation, says: "To the beginner and to the surgeon who has but few opportunities of operating for cleft palate, the question is not so much whether he will close a cleft in the best possible manner, but whether he can rely on being able to close it at all." And again: "There are many whose experience of cleft palate work is slight, because their opportunities are few, and who would like their work in this branch to be on the same level of excellence as the rest of their operative procedures."

This sounds to me very much like saying that it is better to perform an easy operation, even though its results may be poor, rather than to take the trouble to learn how to perform a somewhat more difficult operation which yields much better results. This argument may be a good one as far as the surgeon is concerned, but I doubt whether most cleft palate patients and their relations would see the matter in quite the same light. In an uncivilized country the argument might perhaps be a valid one, but surely in this country, where there are scores, possibly hundreds, of surgeons all over the country who are thoroughly competent to perform a Langenbeck operation, it is scarcely necessary for surgeons whose opportunities are few, and

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—A thin, poorly nourished infant with double hare-lip and cleft palate.

Fig. 2.—The same infant after two months' careful feeding and immediately after operation on the hare-lip. The improvement in the nutrition is obvious. No operation has yet been performed upon the palate.

[These two photographs illustrate the point that the proper way to treat these wasted infants is to feed them properly, *not* to subject them to an immediate and extensive operation on the palate.]

Fig. 3.—An ordinary complete single cleft of the palate with hare-lip. From a child who died of another cause soon after birth.

Figs. 4 and 5.—Somewhat similar cases about two and about ten years respectively after closure of the hare-lip. Showing how the anterior part of the cleft in the palate undergoes spontaneous closure after the cleft in the lip has been closed.

Fig. 6.—From a case of double hare-lip and cleft palate, showing spontaneous closure of the anterior part of the latter, after operation upon the lip.

Fig. 7.—Median cleft of the soft and part of the hard palate without hare-lip, the type of case that is often most difficult to close by operation. From a drawing made, as were most of the others also, from a cast and from the living subject. The cast enables the artist to reproduce the exact size with greater accuracy. (Case No. 103.)

Fig. 8.—The same child some little time after complete closure of the cleft by an ordinary median (or Langenbeck) operation at the age of 1 year and 10 months.

Fig. 9.—A somewhat similar cleft (20 mm. wide) in a child aged 10 years just before operation. There was no hare-lip. This cleft was completely closed by median operation. The mark near the teeth shows the puncture made for the introduction of the raspatory used to separate the muco-periosteal tissues from the underlying bone. (Case No. 95.)

Fig. 10.—Cleft of the soft palate and posterior part of the hard just before operation. The dark lines show the preliminary puncture for detachment of muco-periosteum and the subsequent incision for the relief of tension. (Case No. 145.)

* See specially the remarks of a speaker at the recent demonstration of cases of cleft palate operations at the Royal Society of Medicine. *Proc. Roy. Soc. Med.*, June, 1911, pp. 192 and 193.

† Moreover, my colleague, Mr. Percy Legg, and myself have in the press at the present time a monograph on this subject, in which we have described in minute detail, with abundant illustrations, the various steps of the operation that we commonly practise.

TO ILLUSTRATE MR. JAMES BERRY'S PAPER ON CLEFT PALATE.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

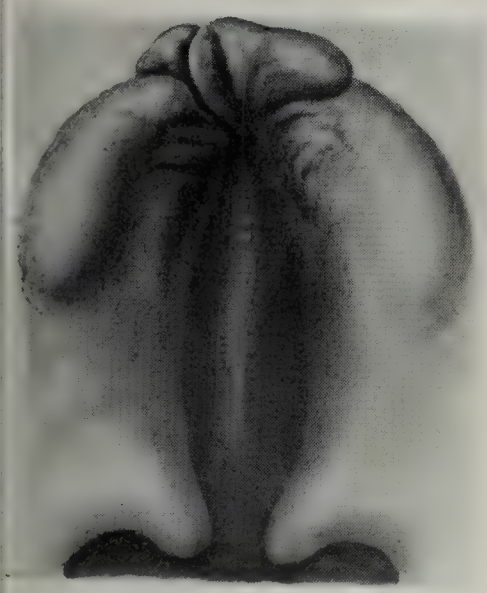

Fig. 6.

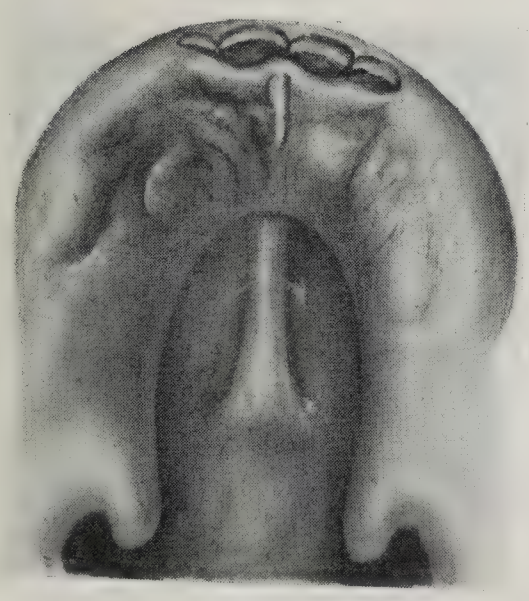

Fig. 7.

Fig. 8.

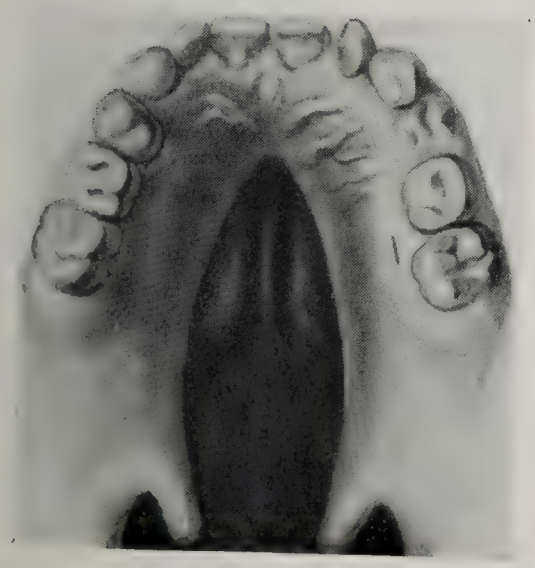

Fig. 9.

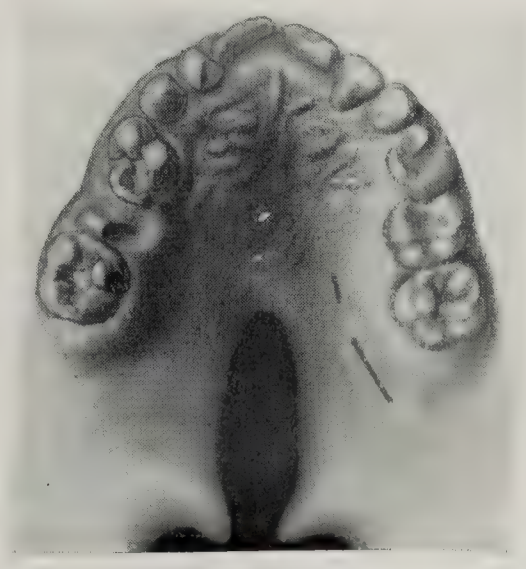

Fig. 10.

TO ILLUSTRATE MR. JAMES BERRY'S PAPER ON CLEFT PALATE.

FIG. 11.

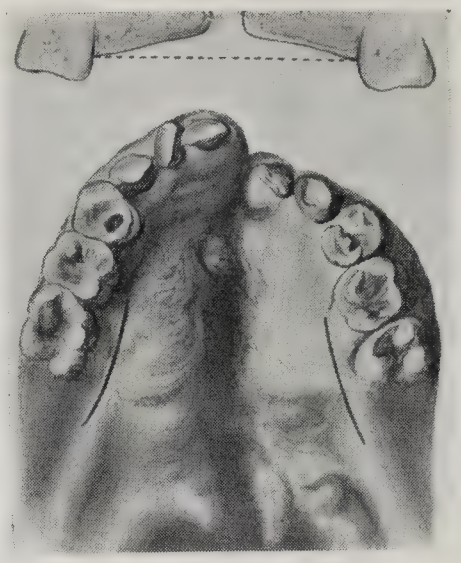

FIG. 12.

FIG. 13.

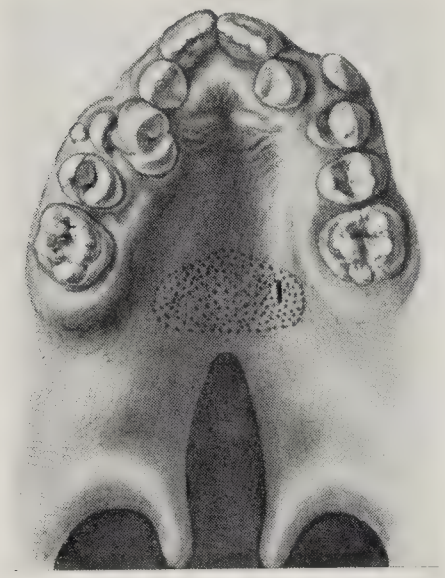

FIG. 14.

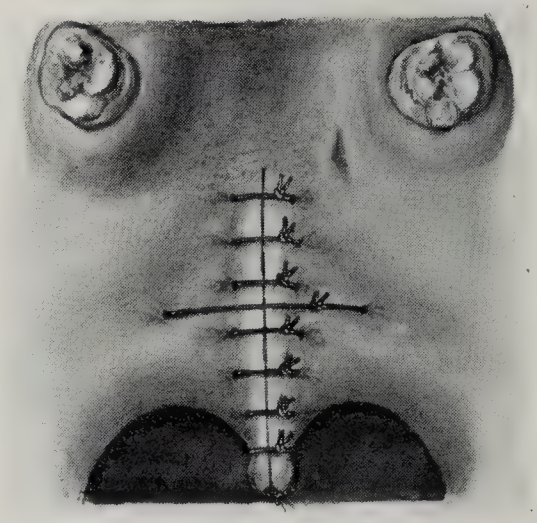

FIG. 15.

FIG. 16.

FIG. 17.

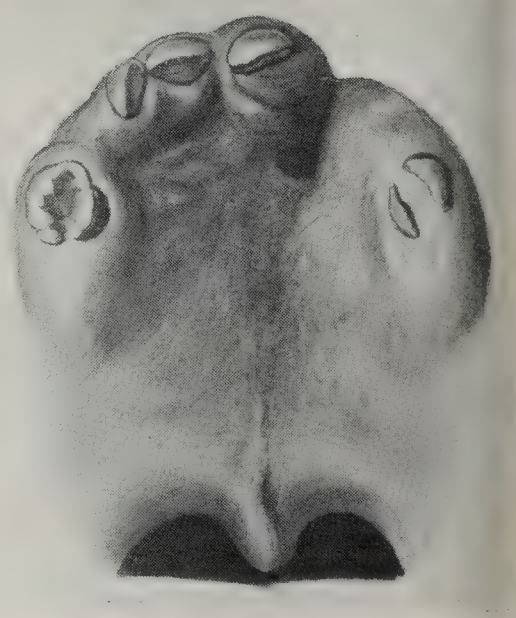

FIG. 18.

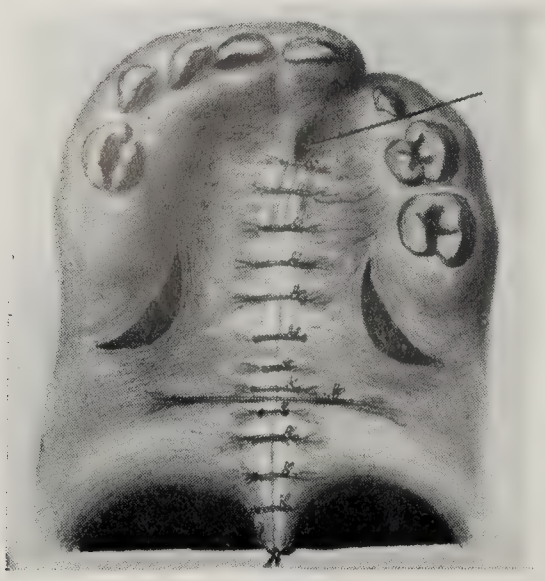

FIG. 19

FIG. 20.

never likely to be many, to undertake this operation at all. Cleft palate is not a condition which, like strangulated hernia, demands an immediate operation at all costs.

Those who, without a due knowledge of the subject, and with a light heart, undertake cleft palate operations, and leave their unfortunate patients with mutilated and functionally useless palates for the rest of their lives, undertake a very heavy responsibility. It is, in my opinion, by no means very difficult to learn to do a cleft palate operation properly. But such an operation demands both patience and gentleness.

I well remember a remark made to me many years ago by the late Sir Thomas Smith, himself a most skilful and successful operator in this branch of surgery. A well-known surgeon, a contemporary of his, had been describing Langenbeck's operation as he performed it, and concluded by expressing his thanks to Sir Thomas for having taught him how to do it. "I am sure," said Sir Thomas, "that I never taught him to do it in that fashion; he is *much too rough* in his manipulations."

Mortality.

I come now to the mortality of the operation. It will be seen from the tables that in this series, as in the former, *there has been no mortality at all.* Not only has no patient died as the result, direct or indirect, of the operation, but with one or two exceptions (certainly No. 84, who developed an empyema a month after the operation, and made a good recovery; and perhaps also No. 75) no patient has been seriously ill.

Let us now contrast this mortality with that of the turnover flap operation performed in the first year of life, the operation for which the remarkable claim has recently been made that it is actually a "life-saving" operation, and that it enables the infant "to improve its nutrition and resistance to all forms of infection." In the recent debate at the Royal Society of Medicine,[1] Mr. Barrington Ward did good service by bringing forward statistics as to the immediate operative mortality in a large series of Mr. Arbuthnot Lane's cases operated on within the first year of life. These he admits to be 18 out of 144 first operations in the first year of life (mortality 12.5 per cent.), although Mr. Lane prefers to quote the figures 5.9 per cent. obtained by including secondary and tertiary operations as well as the primary operation upon the same patient.

Mr. Ward remarks that "the deaths of infants under 1 year of age over England and Wales in 1901 were at the rate of 10.9 per cent.," and then by the simple process of subtracting 10.9 from 12.5 arrives at the conclusion that it is evident that the operation involves a mortality of 6 per cent. over the normal death-rate"![2] In other words, the total mortality of all infants under 1 year of age is compared with the *immediate* mortality after the operation. Truly, with this wonderful arithmetical method of computing mortality statistics very remarkable figures could easily be obtained.

With the mortality of these infants after they have left the hospital, presumably with extensive unhealed wounds in their mouths, Mr. Ward, perhaps wisely, does not deal.

Mr. C. H. Fagge, at this same debate, with a courage and honesty which does him great credit, gave us statistics of a series of 38 of his own cases operated upon under one year of age at the time of their first operation. Of these 3 died in the hospital, "but the remote mortality was much more alarming, for an effort to trace these patients by correspondence for this meeting showed that 14 others had died from various causes, of which 6 were directly or indirectly due to subsequent operation for hare-lip." So that 17 out of 38 were known to be dead, and out of the remaining 21 it was not stated how many were traced and known to be alive (other than the 6 whom he exhibited at the meeting). How many of the whole series were turnover flap operations was not definitely stated, but I gather that Mr. Fagge is not now a very whole-hearted supporter of this method.

If Mr. Fagge's immediate mortality is 7.8 per cent., and his remote mortality is *at least* 36.8 per cent., that is 44.6 per cent. in all, it seems a pity that Mr. Arbuthnot Lane, whose immediate mortality is admitted to be 12.5 per cent., does not bring forward statistics to show how small the remote mortality of his "life-saving" operation really is. It seems to be impossible to obtain any statistics on this latter point, or any detailed information as to the actual results of the turnover flap operation as regards either the condition of the palate or of the speech. More than fifteen months ago Mr. Percy Legg, anxious to obtain some definite information as to the results of this operation in early infancy, applied to the Children's Hospital in London, where this operation appears to be most often performed, for permission to follow up and trace a series of these cases. He was refused permission on the ground that "it seemed likely that some of the staff would utilize the same material."[3] We are still waiting for them to do so.

Mr. Lane's bold statement, wholly unsupported by statistics, that "early operation saves a large number of lives which would otherwise be lost," does not receive much corroboration from the above-mentioned figures, and requires no further comment from me, especially as I have recently dealt with this question somewhat fully elsewhere.[4]

DESCRIPTION OF SPECIAL PLATE.

Fig. 11.—The same palate eighteen days after operation. A minute hole at the anterior part of the wound has not yet quite closed.

Fig. 12.—A narrow complete cleft of the whole palate. A previous operation elsewhere had resulted in much thickening of the palatine soft tissues and consequent flattening of the palatine arch. (See inset, transverse section of palate drawn to scale.)

Fig. 13.—The same palate several weeks after complete closure of the cleft by median operation.

Fig. 14.—Cleft of the soft palate only. The dotted area indicates the detachment of the muco-periosteal tissues from the underlying bone. The black mark shows the puncture through which this was effected. (Case No. 140.)

Fig. 15.—The same patient immediately after operation, showing the number and situation of sutures used, and especially the wide tension suture. The last stitch but one passes through the oral (lower) half only of the uvula, so as not to strangulate it. In this case no lateral incisions were made.

Fig. 16.—The same patient a few weeks after operation.

Fig. 17.—To show how the nasal mucous membrane may be utilized in the closure of a unilateral cleft palate. The incision on the left side has been carried up into the nose along the side of the septum. (Case No. 130.)

Fig. 18.—A similar case after operation. The nasal mucous membrane being of a deep red colour appears in the photograph as a dark triangular area immediately behind the hole in the front of the palate, which in this case has not yet been closed.

Fig 19.—Complete unilateral cleft of the whole palate immediately after the performance of a median operation, showing wide tension suture and lateral incisions. In this case a small hole has been left at the anterior part (to be closed at a second operation), in order to avoid cutting the anterior palatine artery, and thus possibly endangering the vitality of the flaps. (Case No. 131.)

Fig. 20.—One of the few cases of cleft palate in which I have refused to undertake any operation. Two operations had been performed elsewhere several years previously. At the second one the anterior part of the cleft was said to have been "closed by a flap operation." The mother of the child stated that the holes seen on the front of the palate have come since the child left the hospital (from atrophy of the flap) and that they were still enlarging. A single narrow bridge is all that unites the edges of the cleft, and the tissues on the right side of the palate are exceedingly thin. The irregularity of the teeth is noticeable, although there had never been any cleft of the alveolar margin or of the lip. (From a coloured drawing.)

Ultimate Results as Regards the Palate.

Returning now to the results of my operations as regards the palate, I think I may fairly claim that they are satisfactory. Of the 59 cases in this series in which the hard palate was involved as well as the soft, union of the soft palate occurred 58 times after the first operation. The fifty-ninth case (No. 137) was one of complete double cleft of the whole palate operated on at fourteen months; after the second operation union took place.

Of the 21 cases of cleft limited to the soft palate, complete union after the first operation occurred 17 times. In three cases a small hole was still present when I last saw or heard of the child; spontaneous closure will probably occur in two of these, and perhaps, also, in the third case. This last is the child of a doctor (kindly sent to me by Mr. Rutherford Morison), and I yielded to the request of the father that I should endeavour to close the rather wide cleft in the palate (13 mm.) without making any lateral incision. The remaining case of cleft of the

soft palate (No. 135) has been a complete failure. The patient was a pale, fretful, delicate child of 18 months, with a narrow cleft (only 4 mm. wide). The palate failed to unite even after two operations, and the mother, perhaps not unnaturally, does not desire any further operation. I do not know why the operation failed, unless it was from the poor general health of the child.

As regards union of the hard palate, it will be seen from the tables that in many cases the first operation did not effect complete closure, one or more, usually small, supplementary operations being required. Occasionally a large part of the cleft in the hard palate broke down after the first operation. In some cases of complete cleft, or of very wide cleft involving only three-quarters of the hard palate (which is often the most difficult of all to close by operation), I have intentionally left the anterior part of the cleft to be closed by a second operation.

When once the soft palate and posterior part of the hard palate have been well closed there is generally but little difficulty in closing the anterior part of the hard palate by a subsequent operation, since the separation of the soft tissues from the underlying bone can be effected with more freedom.

As regards the condition of the palate after the turnover flap operation in infancy, it appears to be impossible to obtain any exact and reliable information. For some years I have taken every opportunity afforded to me of seeing these cases, and I have not yet seen a case in which there was a good movable soft palate, or in which the speech could be considered to be really good. But I hope that I may some day come across such a case.

With regard to the all-important question of speech, I have given the result in each case as far as I have been able in the last column of my tables. In some cases the resulting speech has been so nearly perfect that it is very difficult to detect that there is anything wrong with it at all. I have recently seen a boy (No. 66 of my previous series), now aged 9, upon whose cleft (11 mm. wide and involving the soft and part of the hard palates) I operated at the age of 3 years and 10 months. Neither myself nor others who saw him with me could detect the slightest abnormality in his speech. (It is interesting to notice that this operation was performed at the very period in which, according to a well-known advertisement, which for the past five years has been appearing on the front page of our principal medical journals, a cleft palate operation "should not be permitted." This advertisement is a quotation from an *anonymous* writer in the BRITISH MEDICAL JOURNAL.)

In several other cases a very high degree of perfection in speech has been obtained as the result of operation. In most cases a considerable trace of nasal intonation remains, although the patients can pronounce all their consonants normally and can make themselves well understood. If the speech of all the cases in this series is not as good as I could have wished, it must be remembered that much of my hospital material has been very unpromising. At least ten of the cases in this series have been the subject of previous operations by other surgeons, which had resulted in much destruction of tissue, and several other cases were imbecile or otherwise the subject of marked mental deficiency. From such cases it is scarcely reasonable to expect really good speech. An extremely good result was obtained with the oldest patient in my list (No. 114), a woman with complete cleft of the whole palate, operated on at 26 years. My best results have naturally been with private patients, for whom lessons in articulation and careful training at the hands of a governess are obtainable. One of the difficulties that we have to contend with in hospital practice is that of obtaining for the patient after he has left the hospital sufficient skilled training in articulation, without which even the most perfectly restored palate will usually not give perfect speech.

The utmost that the surgeon can do is to restore the palate to its normal condition. Careful training in articulation, if obtainable, will do all the rest. But it should be skilled training, such as ordinary school teachers and the mothers of hospital patients are rarely, if ever, competent to give.

In conclusion I may say that it is my firm belief that the turnover flap operation, before many years have passed, will be performed solely by those who do not follow up their cases and who consequently do not know what their results really are.

I have brought here to-day five patients whose operations were performed at ages varying from $2\frac{1}{2}$ years to 12 years, for condition of cleft palate varying from cleft of the soft palate (1 case) up to complete double cleft of the whole palate, hard and soft. I hope you will examine their palates, and allow me to demonstrate their speech to you. All of these patients are hospital cases, and most of them unfortunately have had no special training at all. [The speech of these patients was then demonstrated to the meeting.]

REFERENCES.

[1] *Proceedings of Surgical Section of Royal Society of Medicine*, June, 1911, p. 195. [2] Ibid. [3] *Lancet*, June 11th, 1910, p. 1645. [4] Ibid., June 10th, 1911.

TABULATED PARTICULARS OF THE EIGHTY-ONE CASES.

SEX.

Male patients	43
Female patients	38
Total	81

AGE AT TIME OF OPERATION.

Under 1 year	2
Between 1 and 2 years	14
,, 2 ,, 3 ,,	17
,, 3 ,, 4 ,,	9
,, 4 ,, 8 ,,	19
,, 8 ,, 12 ,,	10
,, 12 ,, 16 ,,	5
16 years and over	5
Total	81

EXTENT OF CLEFT.

I. Complete cleft of hard and soft palates	37
II. Cleft of soft palate and part of hard	22
III. Cleft of soft palate only	21
IV. Central cleft of hard palate only	1
Total	81

RESULTS AS REGARDS CLOSURE OF THE PALATE.

Thirty-seven Cases of Complete Cleft of Hard and Soft Palates.

Complete union (22)—	
(*a*) After first operation	15
(*b*) After supplementary operation, mostly for a small hole in the hard palate	7
Left with small holes in palate, not yet completely closed	14*
Hard palate only partially closed after one operation	1
Total	37

In 36 of these 37 cases the cleft in the soft palate was closed at the first operation.

* Some of these are still under treatment; others cannot be traced, and in them the holes may already have closed.

Twenty-two Cases of Cleft of Soft and Part of Hard Palate.

Complete union (17)—	
(*a*) After first operation	12
(*b*) After one or more supplementary operations, mostly for holes at the junction of hard and soft palates	5
Left with a small hole, which probably has already healed, or will soon heal	4
Left with a large hole, not yet closed	1
Total	22

In all these 22 cases the cleft in the soft palate was closed at the first operation.

Twenty-one Cases of Cleft of the Soft Palate only.

Complete union after first operation	17
Left after one operation with a small hole, not yet closed	3
Complete failure (further operation refused)	1
Total	21

One Case of Central Cleft of Hard Palate only.

Partial closure	1

EIGHTY-ONE CONSECUTIVE CASES OF CLEFT PALATE TREATED BY OPERATION: WITH SPECIAL REFERENCE TO THE AFTER-RESULTS.

No.	Name.	Age at Time of Operation on Palate.	Hare-lip also?	Nature and Extent of Cleft Palate.	Any previous Operation on Palate by another Surgeon.	Date of Operation on Palate.	Any Complications following Operation.	Result of Operation	Remarks.
68	Herbert B.	4	Double hare-lip, operation at 1 month elsewhere	Complete cleft hard and soft palate; 10 mm. wide	None	(1) 9 x '05 (2) 12 iii '06	None	First operation, closure of soft palate. Second operation, closure of hard palate	March, 1911: A very small hole still remains at anterior end of the hard palate. Not a very satisfactory case; teeth defective, home surroundings very poor. Speech fair, but not as good as it might be. Has improved much in last year or two.
69	William T.	12	Double, operation in infancy elsewhere	Complete cleft hard and soft palate, but alveolar portion closed spontaneously; 13 mm. wide	None	16 x '05	None	Complete closure; good movable soft palate	February, 1911: Speech good; slight trouble with *s*, *sh*, *st*, and initial T. At work as a van boy.
70	Emily A.	3 5/12	None	Cleft hard and soft, but not alveolar border. Rounded anterior end; 18 mm. wide	None	(1) 23 x '05; (2) 26 iii '06	None	Soft palate closed after first operation. Hard palate closed after second operation. Soft palate rather short, moves fairly well	A very wide cleft at first operation; no attempt made to close anterior part of the cleft. Child mentally deficient, dirty in habits, dull and apathetic. 1911: Speech poor. Mental condition improved; cannot read, but knows some letters.
71	Esther S.	3 6/12	None	Cleft soft and posterior ½ of hard. Uvula destroyed by previous operation elsewhere; 13 mm. wide	Previous operation on palate elsewhere in infancy, followed by non-union and good deal of destruction of tissues	13 xi '05	None	Complete closure; good movable soft palate, but rather short (from previous destruction of tissue)	April, 1911: Speech fair. Cannot say initial S, T, Z, K, Sh, and St. Cannot recite. Had no special training.
72	May W. ...	7	None	Cleft soft and ½ hard	None	(1) 4 xii '05; (2) 30 iii '06 (for suture of uvula only)	None	Complete closure; good movable soft palate	June, 1911: Speech "fairly good." Still has trouble with *ch*, *l*, *j*, *n*, *s*, *t*. Has had no lessons in articulation. Mother says "speech has improved enormously since operation." (Mr. H. Blakeway.)
73	Arthur K.	3	Operation at 5 months elsewhere	Complete cleft hard and soft palate: spontaneous closure of alveolus; 15 mm. wide	Previous operations at 4 months and 8 months by other surgeons; both complete failures	(1) 22 i '06; (2) 16 vii '06; (3) 10 vi '07	None	Complete closure; good deal of contraction and stiffness of soft palate, result of destruction from previous operations	April, 1911: Speech fair. Can pronounce all consonants, but still has slight nasalization. No training, but has careful mother.
74	Hannah W.	16	None	Central oval (7 mm. × 5 mm.) at posterior part of hard palate; bifid uvula	None	30 i '06	None	1910: Hole much smaller but not completely closed	1911: Not seen lately. Speech said to be much improved. Published *Trans. Clin. Soc.*, 1906.
75	Jane, J. ...	9	None	Cleft soft and ¼ hard; 13 mm. wide	None	12 ii '06	*	Complete closure; good movable soft palate	February, 1911: Speech good; *s* is practically the only consonant with which she has difficulty.
76	Montague H.	2 7/12	Left, operation at one year elsewhere	Complete cleft hard and soft palate; 12 mm. wide	None	(1) 13 iii '06; (2) 18 vi '06	None	Complete closure; good movable soft palate	1911: Speech good; has been carefully trained by mother.
77	Richard G.	6	Left, operation in infancy elsewhere	Complete cleft hard and soft palate; 11 mm. wide	None	20 iii '08	None	Complete closure except for tiny hole at front of hard palate	March, 1911: Not seen by me since 1908, but Dr. Selby of Teynham writes: "Result has been superlatively good." May, 1911: Father writes: "Result of operation a decided success."
78	Gladys M.	3	Operation at 3 months elsewhere	Complete cleft hard and soft palate; 15 mm. wide	? Operation on palate in infancy	1 vi '06	None	Complete closure; good movable soft palate; much irregularity of alveolus and teeth	1911: Speech poor; no training—poor home.
79	Ivy L. ...	2	None	Cleft soft palate; 6 mm. wide	None	25 vi '06	None	Complete closure; good movable soft palate	June, 1911: Speech good; no training—poor home.
80	Frederick B.	6	None	Cleft soft and post. ¼ hard palate; 12 mm. wide	None	2 vii '06	None	Complete closure	June, 1911: Speech fair; had only a few lessons in articulation. Can pronounce all consonants. Mother says he speaks "much better than before operation."

* Fourteenth day smart secondary haemorrhage occurred once only; good recovery.

No.	Name.	Age at Time of Operation on Palate.	Hare-lip also?	Nature and Extent of Cleft Palate.	Any previous Operation on Palate by another Surgeon.	Date of Operation on Palate.	Any Complications following Operation.	Result of Operation.	Remarks.
81	Harriet F.	21	Left, previous operation elsewhere	Complete cleft hard and soft palate, except for a narrow bridge, result of previous operation; cleft 10 mm. wide	Previous operations by other surgeons at 8, 11, and 13 years	2 vii '06	None	Complete closure	1911: Cannot be traced. Believed to be in service somewhere.
82	Emrys P.	$3\frac{1}{12}$	None	Cleft soft palate; 12 mm. wide	None	16 vii '06	None	Complete closure	April, 1911: Not seen since leaving hospital, but Dr. W. J. Lewis reports: "Palate appears anatomically good, but the greater part of the voice comes out through the nose." Speech apparently bad—patient seems to have had no training at all.
83	Albert B.	7	None	Cleft soft palate; 12 mm. wide	None	23 vii '06	None	Complete closure; good movable soft palate	May, 1911: Speech good.
84	Gladys H.	16	None	Cleft soft and $\frac{3}{4}$ hard palate; 18 mm. wide	None	15 x '06	*	Soft palate united; large hole in hard palate	June, 1911: Heard of recently, but not seen since discharge. Parents unwilling to allow completion of operation.
85	Augustus A.	6	None	Cleft soft and post. $\frac{1}{4}$ hard palate; 5 mm. wide	None	21 xi '06	None	Complete closure; good movable soft palate	May, 1911: Speech good; some difficulty with *g* and final *st*.
86	Emily T.	$12\frac{5}{12}$	None	Cleft soft palate and post. $\frac{1}{4}$ hard palate; 15 mm. wide	Two previous operations elsewhere, at 9 m'ths and $4\frac{4}{12}$ y'rs. Both failed completely	3 xii '06	None	Complete closure; good movable palate	May, 1911: Speech good.
87	Alfred W.	11	Left, operation in infancy elsewhere	Complete cleft hard and soft; spontaneous closure of alveolus; 15 mm. wide	None	17 xii '07	None	Complete closure; good movable soft palate	May, 1911: Speech good.
88	Wm. Rich. B.	$2\frac{3}{12}$	Right, operation elsewhere	Complete cleft hard and soft palate; 9 mm. wide	None	(1) 31 xii '06; (2) 31 v '07	None	Complete closure except for small hole at anterior end of hard palate when last seen	1911: Not seen recently, cannot now be traced.
89	Mathilde A.	9	Left, operation at 1 year and 2 years elsewhere	Complete cleft hard and soft palate; spontaneous closure alveolus; 15 mm. wide	(?)	11 iii '07	None	Closure except small hole junction hard and soft palate	1910: Has returned to France.
90	Maud H....	$1\frac{5}{12}$	None	Cleft soft palate; 10 mm. wide	None	7 v '07	None	Complete closure; good movable soft palate	1910: Speech good.
91	Doris C. V. D.	$6\frac{1}{12}$	Left, operation in infancy elsewhere	Complete cleft of hard and soft palate; 12 mm. wide	None	7 vi '07	None	Closure	1911: Cannot be traced.
92	John I. ...	$2\frac{1}{12}$	Left, operated on at 4 months	Complete cleft hard and soft; spontaneous closure alveolus; 10 mm. wide	None	15 vi '07	None	Complete closure except for minute hole; good movable soft palate	1911: Slightly mentally defective. Speech poor.
93	Hetty M.	$2\frac{3}{12}$	None	Cleft soft palate and post. $\frac{1}{4}$ hard; 11 mm. wide	None	6 ix '07	None	Complete closure; good movable soft palate	1911: Speech good.
94	Cecil Reginald B.	$\frac{4}{12}$	Double, operation, Oct., 1907	Cleft of soft palate	None	7 x '07	None	Complete closure	1911: Speech poor (Mr. H. Blakeway).
95	Gladys L.	10	None	Cleft of soft and post. $\frac{3}{4}$ hard; 20 mm. wide	None	14 x '07	None	Complete closure	Two surgeons, consulted previously, refused to operate. 1911: Gone to Canada, speech good when last seen.
96	Charles F.	$2\frac{6}{12}$	Right, operation in infancy elsewhere	Complete cleft hard and soft palate; spontaneous closure alveolus	None	4 xi '07	None	Complete closure except for small hole in post. part of soft palate	1910: Speech fair; improving.
97	Frank P.	2	Double, operated on at two months	Complete double cleft hard and soft; 11 mm. wide	None	(1) 13 i '08; (2) 24 v '09	None	Complete closure except for small hole in hard palate	1911: Speech good.
98	Victoria M.	$2\frac{3}{12}$	None	Cleft soft palate and posterior $\frac{1}{2}$ of hard; 10 mm. wide	None	17 ii '08	None	Complete closure; good movable soft palate	April, 1911: Speech good. Since gone to Australia.
99	Ivy B. ...	9	None	Cleft soft palate; 6 mm. wide	None	16 iii '08	None	Complete closure	1911: Cannot be traced.
100	John W....	10	Double, operation in infancy elsewhere	Complete cleft hard and soft	None	16 iii '08	None	Complete closure; good movable soft palate	1911: Speech good. Speech before operation almost unintelligible.

* Infection of wound; empyema developed 4 weeks after operation.

No.	Name.	Age at Time of Operation on Palate.	Hare-lip also?	Nature and Extent of Cleft Palate	Any previous Operation on Palate by another Surgeon.	Date of Operation on Palate.	Any Complications following Operation.	Result of Operation.	Remarks.
101	Ruth M....	2 1/12	Left, operation in infancy elsewhere	Complete cleft hard and soft palate	None	23 iii '08	None	Immediate result: Hole at junction of hard and soft palate, otherwise complete closure	1911: Cannot be traced.
102	George W.	5	None	Cleft soft palate; 15 mm. wide	None	30 iii '08	None	Complete closure; good movable soft palate	1911: Imbecile. Speech necessarily defective. Mother says, "Talks ever so much better than before operation."
103	Kathleen T. ...	1 10/12	None	Cleft soft and ¾ hard; wide, rounded anterior end	None	30 iii '08	None	Complete closure; good movable soft palate	1911: Speech fair; difficulty with *h*, *d*, and *t*.
104	Robert J.	2 6/12	Left, operation in infancy elsewhere	Complete cleft, hard and soft	None	(1) 15 iv '08; (2) 23 vi '09	None	Complete closure	1911: Not seen recently; speech said to be good.
105	Margaret G.	2/12	None	Cleft soft palate	None	18 v '08	None	Complete closure: good movable soft palate	April, 1911: Speech good.
106	Cyril D....	1 6/12	Left, operation in infancy elsewhere	Complete cleft hard and soft	None	1 vi '08	None	Complete closure; good movable soft palate	May, 1911: Speech good.
107	Dorothy W.	3 1/12	Left, operation in infancy elsewhere	Complete cleft hard and soft; spontaneous closure of alveolus; 14 mm. wide	None	(1) 15 vi '08; (2) 27 vii '08	None	Complete closure; good movable soft palate	May, 1911: Speech good.
108	Joseph F.	1 6/12	None	Cleft soft palate	None	20 vii '08	None	Complete closure; good movable soft palate	March, 1911: Too shy to talk much. Speech appears to be good.
109	Basil L....	3½	None	Cleft soft palate 13 mm. wide	None	12 x '08	None	Complete closure except for small hole	April, 1911: Speech improving. Still has difficulty with final *s* and *z* (letter from father).
110	Dorothy S.	6½	Left, operation in infancy elsewhere	Complete cleft hard and soft; 9 mm. wide	None	12 x '08	None	Complete closure; good movable soft palate	April, 1911: Can pronounce all consonants, but difficulty with *g* and *sk*. Dull mentally. No training. Mother says, "Speech has improved wonderfully."
111	George S.	12	Left, operation in infancy elsewhere	Complete cleft hard and soft	None	(1) 12 x '08; (2) 1 ii '09	None	Complete closure except for small hole behind incisors; good movable soft palate	April, 1911: Speech fair, dull mentally. Further operation declined.
112	Alfred S. W.	1 7/12	None	Cleft soft and ¼ hard; 10 mm. wide	None	24 x '08	None	Complete closure; good movable soft palate	1911: Palate perfect; does not speak as well as he ought to. (Letter from Dr. Gray of Newmarket.)
113	Annie J....	6	None	Cleft soft and post. ½ hard; 15 mm. wide	None	(1) 2 xi '08; (2) 14 vi '11	None	Complete closure; good movable soft palate	1911: Too recent to test speech.
114	Constance G.	26	Left, operation in infancy elsewhere	Complete cleft hard and soft	None	(1) 9 xi '08; (2) 20 i '10	None	Complete closure; good movable soft palate	May, 1911: Speech good.
115	Bertie B.	8	Left, operation in infancy elsewhere	Complete cleft, hard and soft; very wide at birth, but alveolar part closed spontaneously	None	11 xi '08	None	Complete closure; good movable soft palate	Mentally deficient; blind in one eye; has a very poor home, cannot read, and is much neglected. No special training; speech bad, but could certainly be greatly improved by careful training.
116	Albert R.	3	None	Cleft soft palate; 7 mm. wide	None	11 i '09	None	Complete closure	1911: Cannot be traced.
117	Hilda Rose B.	1 2/12	None	Cleft soft and ¼ hard	None	(1) 18 i '09 (2) 4 vii '10 (for uvula only)	None	Complete closure; good movable soft palate	1910: Mentally deficient; too young to test speech.
118	Silas S. ...	2 3/12	Left, operation at 2 months	Complete cleft hard and soft; 15 mm. wide	None	26 iv '09	None	Complete closure	March, 1911: Not seen, but mother writes: "Boy speaks quite plain now; only a slight detriment in some words."
119	Nelson S. D.	2 7/12	Left, operation in infancy	Complete cleft, hard and soft palate	None	17 v '09	None	Complete closure	1911: Speaks fairly well; some difficulty with *b*, *th*, *m*, and *g*. (Letter from Dr. George Tayler, of Trowbridge.)
120	Charles W. A.	10	None	Cleft of soft; 10 mm. wide	None	6 i '09	None	Complete closure	1911: Not seen recently.

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121	Lilian C...	6	Left, operation in infancy elsewhere	Complete cleft hard and soft	None	(1) 6 vi '09; (2) 21 vi '09 (for uvula); (3) 26 vii '10 (for uvula); (4) 1 vi '10	None	Still a small hole at junction of hard and soft palate	July, 1911: Speech much improved, but not yet good.
122	Catherine S.	16	None	Cleft of soft and post. half of hard	None	14 vi '09	None	Complete closure; soft palate rather short and not moving well	1911: Speech good, difficulty with *sk*.
123	Alice H....	5 5/12	None	Cleft soft palate; 12 mm. wide	None	19 vii '08	None	Complete closure; good movable soft palate. Minute hole front of soft palate	Child mentally deficient. 1911: Speech fair. Difficulty with *l*, final *s*, and *ll*.
124	Harold A.	8	Right, operation at six weeks elsewhere	Complete cleft hard and soft palate, spontaneous closure alveolus	Previous operation in early infancy	(1) 4 x '09 (2) 8 xi '09	None	Complete closure	1911: Speech fairly good; easily understood. Most difficulty with *j*. Still has nasal intonation. (Dr. J. P. Roughton of Kettering.)
125	John E....	2 2/12	Left, operation elsewhere in infancy	Complete cleft hard and soft palate; 14 mm. wide	Previous operation elsewhere	12 xi '09	None	Complete closure except for one small hole at front of hard palate. Soft palate rather short	1911: Speech fair—improving; should ultimately be quite good. Still has difficulty with *d*, *t*, *g*, and *b*. Has a careful mother. Operation difficult on account of destruction of tissue at previous operation.
126	Henry A.	5 5/12	None	Cleft soft palate; about 10 mm. wide	Two previous operations elsewhere, both unsuccessful	13 xii '09	None	Complete closure	1911: Not traced.
127	Ethel M.	5	None	Cleft soft palate and ½ hard; 11 mm. wide	Previous operation elsewhere 3 years ago	(1) 18 xii '09; (2) 14 ii '10; (3) 25 v '10; (4) 21 xi '10	None	Complete closure except for a minute hole at back of hard palate	January, 1911: Speech fair—improving rapidly. Operation very difficult on account of destruction of tissues at previous operations.
128	Dorothy D.	1 11/12	Double operation elsewhere	Complete cleft hard and soft palate	None	19 i '10	None	Complete closure except for a small hole which will probably close spontaneously	Poorly nourished child; kept in hospital two months before operation. Not seen since leaving hospital.
129	Edith P....	13	None	Cleft soft and post ⅓ hard; 20 mm. wide	None	(1) 7 iii '10; (2) 23 v '10	None	Complete closure; soft palate still rather stiff from scarring	1911: Speech fair; *k* and *sh* bad.
130	Winifred B.	2 8/12	Right, operation November 30th, 1908	Complete cleft hard and soft palate; 9 mm. wide	None	21 iii '10	None	Good movable soft palate. Still a narrow slit at anterior end of hard palate	February, 1911: Patient beginning to talk, but speech could not be tested.
131	Ernest C.	1 1/12	Left, operation at ten weeks	Complete cleft hard and soft palate	None	(1) 13 iv '10; (2) 6 vi '10	None	Complete closure except for minute hole left after second operation; probably soon closed	1911: Not traced.
132	Louis W.	6	Left, operated on in infancy elsewhere	Complete cleft hard and soft palate; 10 mm. wide	Previous operation in infancy	19 iv '10	None	Complete closure, good movable soft palate	April, 1911: "Palate perfect; speech good." (Dr. H. Kerswill, of Sandwich.)
133	Violet F.	2	None	Cleft soft palate, 6 mm. wide	None	2 v '10	None	Complete closure	1911: Not seen recently.
134	Albert E.	6	None	Cleft soft palate	None	9 v '10	None	Complete closure	1911: Not seen recently; speech reported "good." (Per Dr. T. N. Kelynack.)
135	Alfred B.	1 1/12	None	Cleft soft palate; 4 mm. wide	None	(1) 23 v '10; (2) 13 vi '10	None	Failed to unite; cause unknown	1911: Mother refuses further operation.
136	Eric B. ...	4 1/12	None	Cleft soft palate: 10 mm.	None	30 v '10	Otorrhœa during convalescence	Complete closure except for minute hole ant. part of soft palate; good movable soft palate	1911: Speech much improved, but not yet good; mentally deficient.
137	Reginald R.	1 2/12	Double, operation in infancy	Complete cleft hard and soft palate; 9 mm. wide	None	(1) 24 vii '10; (2) 6 ii '11	None	Soft palate broke down after first operation; union after second operation	1911: Too young to speak.
138	Lilian M.	6	None	Cleft soft palate and post. ½ in. of hard; 18 mm. wide	None	(1) 7 xi '10; (2) 3 vi '11; (3 5 vii '11	None	Still a small hole at junction of hard and soft palate	Recent case.

No.	Name.	Age at Time of Operation on Palate.	Hare-lip also?	Nature and Extent of Cleft Palate.	Any previous Operation on Palate by another Surgeon.	Date of Operation on Palate.	Any Complications following Operation.	Result of Operation.	Remarks.
139	John M....	3 1/12	Left, operation a year previously	Complete cleft hard and soft palate; 9 mm. wide	None	27 ii '11	None	Complete closure	Recent case.
140	William C. B.	13	None	Cleft soft palate	None	3 iii '11	None	Complete closure; good movable soft palate	July, 1911: Recent case. Mother says: "Speech already much improved"
141	Edwd. Hugh G.	1 6/12	Double, operation, Nov., 1909	Complete cleft hard and soft palate; 14 mm. wide	None	13 iii '11	None	Soft palate and part of hard united	Recent case; hole in hard palate to be closed shortly.
142	Gwendoline C.	1	None	Cleft soft and 3/4 hard, round anterior end; 10 mm. wide	None	20 iii '11	None	Complete closure except for minute hole ant. part of soft palate; good movable soft palate	Recent case.
43	George W.	3 1/2	Double, operation in infancy	Complete cleft hard and soft palate	None	3 iv '11	None	Complete closure	Recent case.
44	Clara W.	10	Left, operated on elsewhere in infancy	Complete cleft hard and soft; spontaneous closure of alveolar margin	None	14 vi '11	None	Complete closure; good movable soft palate	Recent case.
45	Sylvia D.	6	Double, incomplete	Cleft soft palate and post. third hard; 10 mm. wide	None	19 vi '11	None	Complete closure except for minute hole ant. part not yet quite healed	Recent case. Went home July 8th, 1911.
16	Roland H.	1 8/12	Double, incomplete operation in early infancy	Cleft soft and 3/4 hard	None	10 vii '11	—	Complete closure	Recent case.
17	Phyllis McK.	2 6/12	None	Cleft soft palate; 6 mm. wide	None	12 vii '11	—	Complete closure	Recent case.
8	John K....	2 5/12	None	Cleft soft palate; 6 mm. wide	None	17 vii '11	None	Healing well	Recent case.

DISCUSSION.

Professor J. T. J. MORRISON, (Birmingham) congratulated . Berry heartily on his paper and on the results he was ieving. He assured him that his assertions and his itings were in his (Professor Morrison's) judgement not iated by the slightest inexactitude.

Mr. C. W. CATHCART (Edinburgh) felt himself often in ubt as to the best method and time to operate. He ught that the surgical world was indebted to Mr. rry for his work and anxiety to place the operative atment of cleft palate on a sound basis.

Professor BARLING (Birmingham) was not sorry that the periment of operating on cleft palate in early infancy d been tried. It was to Lawson Tait that the credit of y early operation was due, but his results were known. He personally would like to know the fate of le children with cleft palates left unoperated on till the of 2 or 3 years—that is to say, what proportion of n died, and how much their death was due to malrition. If they died from malnutrition, it seemed to that the concomitant hare-lip was the chief factor in sing the malnutrition. The best operation time in t palate was just before the child began to talk. To the chief real difficulty had always been to effect sure at the junction of the hard and soft palates.

Mr. F. W. GOYDER (Bradford) admitted that he was ught up a believer in the flap operation, but after ring Mr. Berry he thought he would require to ndon his position. An argument against very early ration was that whether the palate was closed or not child had to be fed by spoon, so that from the point of w of feeding they were very little better after than re operation, and the risks of early operation were ly much greater. He was desirous of knowing whether speech results depended on the length and mobility of soft palate. He was inclined to believe that the height he palatine arch had more to do with the difficulty of ch and of closing the soft palate than anything in the palate itself.

Mr. MORLEY WILLIS (Nottingham) believed that the flap operation in the early months of life was totally unjustifiable. He thought it was not right that medical journals should publish weekly in their advertisement pages the statement that the flap operation had been quite justified, and found suitable.

Mrs. DICKINSON BERRY (London) found no direct relation between defective articulation and the high arch palate. The defective articulation commonly noted in schools for the mentally defective had not the nasal character of the defective speech exhibited in cases of cleft palate even after operation.

Mr. BERRY replied that in his opinion the hare-lip operation was very much more important for nutrition than the cleft palate operation. A movable well-formed soft palate was really essential to good articulation.

APPENDICITIS WITHOUT PHYSICAL SIGNS.

By HERBERT J. PATERSON, M.C., M.A., M.B.Cantab., F.R.C.S.

IT is now generally recognized that chronic appendicular disease may exist without physical signs. Indeed the appendix may be the seat of gross lesions although the patient has never had a recognizable attack of appendicitis. In acute appendicitis the physical signs may be very slight, in rare cases absent, so that there may be little indication of the serious condition of the patient.

Chronic appendicitis may, especially in children, give rise to indefinite abdominal pain and discomfort, the origin of which is obscure, and the true cause of which is only discovered when the disease lights up, and shows itself as an acute attack of appendicitis. In other cases chronic appendicitis may mimic gastric disease with remarkable fidelity. In a paper published last year I suggested the term "appendicular gastralgia" for such cases. Personally I have operated on forty-four such cases. In some of them operation was undertaken for a supposed gastric or duodenal ulcer, but later experience has led me to believe that in the majority of instances it is possible to make a

correct diagnosis as to the appendicular origin of the gastric symptoms.

The prominent symptom is pain, varying in degree. Some patients describe the pain as severe, while others complain of severe continuous discomfort.

As a rule the pain follows the ingestion of food, although the interval between the taking of a meal and the onset of pain is very variable. In most cases the pain is referred to the epigastrium, usually to the left of the middle line.

Sometimes the patient states that the pain radiates downwards to the right iliac fossa, a symptom very suggestive of its appendicular origin. In one of my patients the pain radiated to the left iliac fossa, and at the operation the caecum and appendix were found in the left iliac fossa.

A noteworthy feature of these cases is that in many instances there is a periodical exacerbation of the symptoms. This was so in 30 of the 44 patients. Three of them were quite well during the interval between the attacks, but the others suffered from discomfort and flatulence after food.

Another striking feature is the long history in a large number of the cases, the average duration of illness in my patients being five years. Tenderness in the epigastrium, usually to the right of the middle line, is an almost constant feature. In one half of these cases there was tenderness over the appendix area, as well as in the epigastrium. Twenty-nine of the patients suffered from vomiting in varying degrees. Seven of the patients vomited blood on one or more occasions, and three had melaena. I think that there can be little doubt that the haemorrhage comes from the gastric mucous membrane. In one case in which I opened the stomach the whole of the mucosa was studded with numberless bleeding points. The interior of the stomach was in the condition which has been described as "weeping blood." Probably the condition is due to the irritation of hyperacid gastric juice or to the continual presence of gastric juice in a fasting stomach. I have seen an exactly similar condition in a case of duodenal ulcer associated with hyperchlorhydria, and I believe that in the majority of cases of duodenal ulcer any haemorrhage which ensues comes not from the ulcer, as is generally supposed, but from the mucous membrane of the stomach. In one of my microscopic sections of the gastric mucosa from a case of duodenal ulcer, blood can be seen escaping between the epithelial cells.

As regards gastric analysis, the findings are usually those of chronic gastritis, except that the protein HCl is higher than is usual in this condition. In 17 of the 34 cases free HCl was absent, while in 11 it differed but little from the normal.

In 4 cases only there was hyperchlorhydria, and in one of the four I subsequently reopened the abdomen and found a duodenal ulcer. Probably the ulcer was present at the first operation, but with so little induration and thickening that it could not be felt. In many of the cases there is a marked increase of the volatile acids.

The condition of the appendix presents fairly constant features. In many instances, judged by its external appearance, it is not extensively diseased. Usually it is bulbous, somewhat thicker than usual, and on opening it a narrowing or constriction is found near the base, the distal side of the constriction being dilated and giving rise to the bulbous appearance. A concretion was found in nearly half of the cases.

In some instances the disease is more extensive than that described above. In many of the appendices there were minute haemorrhagic patches in the mucosa, and in 14 a definite ulcerated area of mucosa. In 3 cases the appendix was not obviously diseased externally, but was very long (in one case 6 in.) and contractile. In 2 of these the lumen of the appendix was filled with faeces, and in the other a concretion was present. In all microscopic examination showed extensive inflammatory infiltration.

I operated on a patient recently who had symptoms of duodenal ulcer. On opening the abdomen I found no duodenal ulcer, but the appendix was full of pus. He had never had any attack suggesting appendicitis.

The frequency with which duodenal ulcer is associated with appendicular disease is very striking. During the past three years I have discovered obvious appendicular disease in 66 per cent. of the cases in which I have, at operation, found a duodenal ulcer.

This association seems to me to be too frequent to be regarded as a mere coincidence, and suggests that appendicitis may be one of the causes of duodenal ulcer. Possibly duodenal ulcer is the result of toxic absorption from the appendix or from the large intestine. It is well known that acute duodenal ulcers occur in cases of extensive burns, and also in acute appendicitis. It may be that chronic duodenal ulcer is a similar pathological process, but of slower progress.

Perhaps the gastric erosion to which I have alluded is the prelude to definite ulceration. If this be so, the sequence of events would be as follows: Appendicular disease; secondarily, erosion of the gastric or duodenal mucosa, then superficial ulceration (the so-called "medical ulcer"), and later, a recognizable indurated ulcer. The chief conditions from which these cases have to be differentiated are duodenal ulcer, gastric ulcer, and gall stones.

Of these duodenal ulcer is the disease which gives rise to the greatest difficulty in the differential diagnosis. The symptom produced by duodenal ulcer and by the latent appendicitis to which I am referring are in many respects very similar. There is often the same history of recurrent attacks; both duodenal ulcer and appendicular disease may give rise to hyperchlorhydria, and also to the absence of free HCl.

Even "hunger pain" may be a symptom of appendicular disease. The points which aid us in distinguishing the two diseases are: First, in duodenal ulcer the patient is usually free from symptoms between the attacks; when the appendix is the cause of the symptoms the patient suffers from flatulence and discomfort after food even between the attacks. Secondly, the radiation of the epigastric pain to the lower part of the abdomen is suggestive, if not diagnostic of appendicular trouble. Thirdly, the presence of tenderness over the appendix, when present, points to the true origin of the symptoms. Fourthly, in duodenal ulcer hyperchlorhydria is the rule, and absence or diminution of free HCl the exception; in appendicular disease the diminution or absence of free HCl is the rule and hyperchlorhydria the exception. Another point of value is this: In my experience, gastric lavage, the administration of bismuth and alkalis, have little or no influence on the pain and discomfort due to appendicular disease.

The important surgical lessons to be learnt from these cases are:

1. In operation for supposed gastric or duodenal ulcer failure to discover these lesions suggests examination of the condition of the appendix.

2. In cases of recurring abdominal pain of obscure origin we should bear in mind that the appendix may be the cause, although there may have been no definite clinical attacks of appendicitis.

With regard to acute cases, while it is true that in most cases marked tenderness and rigidity over the appendix leave no room for doubt as to the condition present, cases occur in which these signs are absent, especially if the petient be not seen until some hours after the onset of the attack. I have seen cases in which there was neither rigidity, tenderness, or distension, and yet, on opening the abdomen, there was extensive general peritonitis.

It is important to realize that the local signs and general condition of the patient frequently give no indication of the gravity of the condition within the abdomen.

If we judge such cases on their merits there appears to be no reason for immediate operation, and yet if we do delay we are submitting the patient to a greatly increased risk.

The following are three recent examples:

CASE I.

A young woman, aged 19 years, was seized with general abdominal pain three days before admission to hospital. The next day she vomited twice, but the pain was easier. On admission the temperature was 99.8° F., and the pulse was 11 but she had no physical signs, not even tenderness in the right iliac fossa. Under the anaesthetic it was noticeable that there was a slight impairment of respiratory movements in the right iliac region. I found an acutely inflamed appendix, with a perforation from which pus was escaping. There were no adhesions round the perforation, but fortunately the collection of pus was local, and had not yet become disseminated.

CASE II.

A boy was admitted into the hospital with the history that two days previously he woke up with abdominal pain; the pa

was not severe and did not get worse. He vomited once. On admission his temperature was 100° F., pulse 96; he did not look ill, and he said the pain was easier than it had been. He referred the pain to the ninth costal cartilage in the nipple line. There was very slight tenderness in the right iliac fossa, but no rigidity and no abdominal distension. Nothing abnormal was discovered in the chest. He had had previously two similar attacks. On opening the abdomen I found a collection of pus lying free in the right iliac fossa. There were no adhesions. The appendix was enormously enlarged and pus was escaping from a perforation in its walls.

Case III.

A girl attended the casualty department complaining of pain in the lower part of the abdomen. There was no tenderness. She had vomited twice, and her temperature was just over 100° F. She was treated for ptomaine poisoning and sent home. She returned two days later with slight tenderness in the right iliac fossa. She did not look ill, but on opening the abdomen I found the peritoneal cavity full of very offensive, purulent fluid. The appendix contained a large concretion; the distal half was completely gangrenous and perforated.

I could give a number of similar cases, in all of which the symptoms appeared very slight, and the physical signs absent, or nearly so, and from the operation findings I feel justified in saying that postponement of operation would in all probability have led to a fatal result. Such cases should teach us that in dealing with acute appendicitis there is no place for procrastination.

In my opinion there is no *via media* in dealing with acute appendicitis. Clinical instinct, whether inherited or acquired, may be a valuable gift, but I venture to think that when face to face with acute appendicitis he is fortunate who has no confidence in his prophetic power. No clinical acumen can tell what will happen in a given case of acute appendicitis. Our prediction may be correct, but, if we are honest, we must admit that at best it is a lucky guess.

Micro-organisms have a way of managing their own affairs without reference to our expectations. Even a case which at its onset presents the mildest clinical features may suddenly and without warning light up and have a fatal termination. Any attempt to judge such cases on their merits will sooner or later lead to disaster. We may argue till doomsday as to which cases it is safe to have and which dangerous, but the indisputable fact remains that it is absolutely impossible to distinguish between the two.

Now that we realize the importance of rapid operation, with a minimum of trauma and the use of Murphy's proctoclysis, there should be no difference of opinion as to the best time for operation.

The risks of surgical intervention during the acute stage have been so greatly reduced that there is absolutely no justification for delay. The mortality-rate from operation should at the outside be not greater than 2 per cent., and if we could only get our cases earlier, the mortality would probably be not higher than ½ per cent.

Since I followed the plan of operating on every case as soon as diagnosed my mortality has been just over 4 per cent., but all but one of the fatal cases had been ill for a week before the operation. One patient who had been ill only two days had already a diffuse peritonitis. He lived fifteen days after operation, and died apparently because the reaction of the peritoneum was so feeble that the peritonitis did not clear up.

In acute appendicitis the symptoms are so deceptive, the physical signs so inconstant, the indication of danger so slight, the ultimate issue so uncertain, that the wise course is indeed, the only safe course—is immediate operation as soon as the diagnosis is made. Early diagnosis and immediate operation will enable us to approach within measurable distance of the ideal expressed in Dr. Murphy's remark, "We ought to have no deaths from appendicitis."

TUBERCULOUS MESENTERIC GLANDS AND SOME ABDOMINAL CONDITIONS THEY MAY GIVE RISE TO.

By G. P. Newbolt, F.R.C.S.Eng.,
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On more than one occasion when operating for appendicitis I have found the mesenteric glands in the ileo-cæcal region affected by tuberculous disease, and one is peculiar with the fact that three conditions are likely to be confused with one another in this region—that is, appendicitis, tuberculous glands, and ovarian or tubal disease, though in males, of course, the latter conditions do not arise. The points I wish to discuss are the following:

1. Whether it is always possible to make a diagnosis of tuberculous mesenteric glands before operating?
2. Whether tuberculous mesenteric glands give rise to serious trouble?
3. What should one do if one finds them when operating?

I have frequently read in papers published in the journals that it is generally possible, if care is taken, to make a correct diagnosis of abdominal disease. I accept the "generally," but there are dozens of exceptions, and many of us have met with examples of this on the part of well-known physicians and surgeons. Personally I have known three different experts to diagnose ovarian disease, appendicitis, and tuberculous glands in a case of simple appendicitis, and also of duodenal ulcer, gall stones, and appendicitis in another patient. In an extremely interesting case under my own care, in which beyond lumbar and iliac pain finally localizing itself in McBurney's spot no other symptoms were present, I found a hydronephrosis of small size affecting the right kidney; and my answer to the first question is in the negative, for one may easily mistake a condition in which mesenteric glands are at the root of the trouble unless there are evidences of tubercle elsewhere, especially when the condition is acute.

2. Do tuberculous mesenteric glands give rise to serious trouble? They may do so, and my own experience affords examples of these conditions. I presume tuberculous glands in the abdominal cavity are liable to follow the same course as those in the neck—that is, they may clear up or they may suppurate. In addition there is the danger that they may by their presence cause some form of intestinal obstruction, either by producing volvulus or by the formation of bands. If they suppurate an abscess may form and burst externally, or it may be opened by the surgeon. On the other hand, the abscess may rupture into the abdominal cavity, setting up a peritonitis. In the more chronic forms these glands may give rise to abdominal pain severe enough to require their removal; and, lastly, they may be associated with colitis, though in these cases there is usually cæcal or appendicular trouble also. On the other hand, they may exist and give rise to no trouble, and may clear up after opening the abdomen, just as cases of tuberculous peritonitis do. During the last five years amongst numerous laparotomies I have met with the following conditions, and upon these my paper is based. I will take the acute cases first.

1. *Volvulus of the Jejunum with Ruptured Suppurating Tuberculous Mesenteric Glands.*—This patient was a boy, aged 15, and I first saw him at 9.30 one evening. He complained of great pain referred to the left side of the abdomen, on a level with the umbilicus, and was vomiting. There was a history of his having eaten a lot of plums and nuts. His pulse was 80, and his bowels acted after an enema. Nothing could be made out by palpation, and I fear I did not quite realize the seriousness of his condition. However, as he did not improve laparotomy was performed at 4 p.m. the next day. He was still vomiting, and had passed no flatus for twelve hours, and his pulse had quickened to 120. He was neither rigid nor distended. I thought that the cause of obstruction must be a band high up in the small intestine. Under the anæsthetic a lump was felt the size of a Tangerine orange beneath the umbilicus. A free median incision was made, and a mass of tuberculous glands exposed, one of which had burst and was discharging pus; there was also a volvulus of the jejunum high up, and a band of omentum adherent to and constricting the gut. As the gut was badly damaged, I excised the glands with a foot of intestine, doing an end-to-end suture. He did well for 24 hours, and then got restless, and sank some 36 hours after operation, apparently from shock. *Post mortem*, the union was good and there was no general peritonitis. Here, then, the presence of the tuberculous glands produced a most serious condition, terminating in the death of the patient, and when considering the causes of acute obstruction in young adults it is well to bear this condition in mind. Earlier intervention, with removal of the band and scraping out of the glands with a gauze wick drain would probably have saved this patient.

2. *Ruptured Suppurating Tuberculous Mesenteric Gland, with Peritonitis Simulating Acute Perforative Appendicitis.*—In this case the boy, aged 12, was sent into hospital with a history of an attack of acute appendicitis. He had been ill for a week.

On admission at 1 a.m. he had acute pain in the iliac region with a pulse of 152. He was tender, but not very rigid, nor did he look very ill. I considered that he was suffering from an attack of acute appendicitis with perforation. On opening the

abdomen I found a collection of turbid fluid in the pelvis, the omentum was adherent, and was covered with lymph. The appendix was removed and seen to be full of threadworms. As the condition of the appendix did not seem sufficient to account for his symptoms a further search was made, and a suppurating mesenteric gland was found and seen to be leaking. This was opened and scraped out, a tube sewn into the cavity, and a gauze drain left alongside. He did well, and four days later I removed the tube and gauze, and as all was clean I closed his abdomen. He made an excellent recovery. In this case there was no possibility of making an exact diagnosis before operation. There was not so much rigidity as in a case of perforative appendicitis, and his facial expression did not point to an acute poisoning. Evidently the pus was not at all virulent in character. Examination of the scrapings from the gland showed evidences of tubercle.

3. *Acute Appendicitis with Large Tuberculous Mesenteric Glands.*—In this case the patient again was a boy, whose age was 17. He became suddenly ill after periods of ill-health, the cause of which was uncertain, though he had been seen by several eminent physicians. Here again the condition seemed to be an acute appendicitis, and on opening the abdomen one found that the appendix was lying behind the caecum, and it was only after a difficult dissection that it was removed, for the parts were difficult of access. Three large tuberculous glands were present, and two were removed for examination, but the third—a large one lying on the main vascular supply to the caecum—was left, as I did not wish to prolong the operation. Recovery was retarded by a relapse, when the boy got up four weeks after operation. He had a rise of temperature, his pulse rose to 120, and there was distinct thickening and resistance over his caecum in the region where the glands had been removed; in addition he had well-marked colitis. This condition cleared up gradually with rest and dieting. The glands were microscoped, and showed no evidences of tubercle, but guinea-pigs inoculated from one of the glands developed definite tuberculosis.

In this case there was no history and no evidence of tubercle. There were no scars, no glands in the neck, and the boy's illnesses were put down to neurasthenia. His convalescence was prolonged, and the case gave rise to a good deal of anxiety, as I was uncertain what would happen to the big tuberculous gland left behind. Whilst writing this paper, Mr. Simpson, of the Children's Infirmary, Liverpool, allowed me to see the notes of a case under his care in which a child aged 12 months was operated upon for a probable intussusception, a lump being felt in the right iliac region, together with blood and slime in the motion. On examination the caecum was markedly thickened, and there were a lot of enlarged glands near this organ. It was something like my last case, in that there was a colitis together with enlarged mesenteric glands, and probably some ulceration of the caecum.

These instances therefore show that it is always well to bear in mind the possibility of tuberculous glands being the cause of acute abdominal conditions, especially when the disease is in the region of the appendix. I think, also, that many bands may have arisen originally from the adherence of omentum to an inflamed gland.

We next come to the condition in which the disease is more or less chronic, and here the diagnosis is more easily made, as the patient is longer under observation. Some months ago I asked a surgeon of great experience in abdominal work what he did when he met with tuberculous glands whilst operating in the abdomen—say, for appendicitis—and his reply was that he left them alone, as he found they did not cause trouble. Generally speaking, I suppose he was right, but not always. Of this the following case is a good example:

A girl, aged 19, was admitted to the Royal Southern Hospital on August 11th, 1910, for chronic appendicitis. Her appendix was removed in the usual manner, and at the time of operation several calcareous tuberculous glands were noticed to be present in the mesentery of the ileum at its lower end. After operation she still complained of the pain in her right iliac region, and six months later I reopened her abdomen and dissected out the glands, which were apparently the cause of her pain. The result was excellent, so that in this instance I think the glands were the cause of her trouble. They were hard and fibro-calcareous, and may quite well have involved fibres of the sympathetic nerve supply.

Again, E. L., aged 37, married, had been ill for eighteen months with indefinite pains in her lower abdomen, supposed to be due to right tubal or ovarian disease. There was tenderness in her appendicular region, and a lump could be felt there. Vaginal examination under ether was negative. Laparotomy was performed and a soft caseating gland removed from the mesentery of the ileum, together with several smaller ones. There were old adhesions, but no trace of an appendix, though I turned the caecum out of the abdomen and examined its posterior surface. It may have been attacked by disease and destroyed, but of this there was no definite evidence. She made a good recovery.

I should like to draw attention to the case of a boy, aged 8, who was admitted under my care suffering from pain and tenderness in the right iliac region.

On opening his abdomen I found clear fluid shut off in the right side of his pelvis, several tuberculous glands, and some miliary tubercles on his caecum. His appendix was diseased; it lay posterior and was bound down by adhesions. It was removed and one gland excised for the purposes of examination. He had a high temperature for three days after operation, but did well and greatly improved in health after his laparotomy.

I have no doubt that this was a case of early tuberculous peritonitis cut short by surgical interference. It is a well-recognized fact that direct infection of the lung may spread from the lymph glands of the neck, so that it is not difficult to imagine the same process taking place in the abdomen. This case rather suggests that the disease started in the appendix, just as one has seen tuberculous disease of the Fallopian tube starting the same sort of trouble, which has been cut short in the same way. I have notes of two well-marked cases of this disease in my own practice. Instances occur in which the patient desires an operation for the relief of symptoms which are attributed to the presence of these glands.

C. L., aged 25, a joiner, consulted me for pain and shortness of breath, which he put down to a lump which could be felt in his epigastrium. The lump was movable and could be forced into the left lumbar region. On cutting down it proved to be a mass consisting of three glands situated in the base of the mesentery of the small intestine. I dissected the glands out, and he made a good recovery. Had these glands been left they might easily have given rise to acute trouble, as they were caseating.

Even if the glands caseate or suppurate it does not follow that acute mischief will supervene, for it is possible that any abscess may be shut off and may open at the surface. This was evidently the case in W. H., aged 10, who was sent up to from a country district, with a discharging sinus at his umbilicus. After laying open the sinus it was found to originate in a tuberculous gland near his appendicular region. His appendix was also removed. He made a good recovery, though his convalescence was prolonged. I only recollect one case in which a large abscess formed in the right iliac region, which I think was due to the suppuration of glands in the caecal region. Here free drainage was followed by recovery. There was no reason to suppose that the pus was of appendicular origin, and there was no bone disease.

When one is called to a case in which it is probable that the thickening felt in the appendicular region is either a tuberculous caecum or a chronic appendicitis with enlarged glands, it is often difficult to determine one's course of action.

In the early stages a good deal can be done by excising the diseased parts. But where there is matting one must realize that interference is liable to be followed by a troublesome sinus which may take months to heal, and which will be credited to our intervention. That sinuses form without surgical interference, however, is known to all of us. When faced with a condition like the above it is well to close the abdomen as soon as possible.

Nowadays, when operations for appendicitis are so common, it is well to bear in mind the occurrence of these conditions, for the simple operation for a chronic appendicitis, with its short convalescence, and the tardy recovery from the tuberculous condition, are two very different things.

In removing these glands when operating the procedure may be simple, as in cases in which no big vessels are near, for here they can be rapidly turned out with a dissecting forceps, or they may need a careful dissection, especially when they lie on the vessels supplying the gut. It is often possible to scrape out the gland, leaving the capsule and inverting it, or when pus is present by employing drainage. Where it is necessary to excise an adherent mass involving the blood supply to the gut the latter will also have to be resected, but these cases are few and far between. Again we have to consider what happens if they are left alone. Often they give rise to no trouble, and one knows that they disappear just as they do in other situations. In an old case of tuberculous peritonitis, needing many operations for the cure of fistulae, I noticed that many glands were enlarged in different parts of the abdomen, but they have practically all disappeared, and the last time I operated very few enlarged glands were to be seen.

Conclusions.

Tuberculous mesenteric glands may give rise to acute abdominal crises, and of these the examples I present of volvulus and acute peritonitis due to the rupture of a suppurating gland are the most common, though no doubt acute obstruction from bands may occasionally be put down to this disease.

Besides the acute various subacute or chronic conditions may occur, giving rise to pain, simulating appendicitis, etc., which need surgical interference. Medical treatment and open air is not always sufficient to cure, and several of my cases have come from country districts where they have been under treatment. The condition is chiefly met with in young adults. Tuberculous mesenteric glands and tuberculous peritonitis merge the one into the other, and it is probable that early operation by removal of the appendix and the glands in the caecal region, where possible, may occasionally cut short this disease. Whether the laparotomy or the removal of the appendix as a focus of irritation does this it is difficult to say. Whenever the glands are so much enlarged as to be palpable, and when, in addition, they give rise to pain, they should be removed, in order to get rid of a condition which may terminate in an acute emergency. Where there are a large number of glands of small size it is useless to attempt to remove them, but if any one of them is caseating it should be excised. That is to say, when met with in the course of an abdominal operation, when complicating an appendicitis and few in number, they should be dissected out, unless this involves risk to the patient, and in this case one should wait and interfere later if necessary.

SOME FUNCTIONS AND SURGICAL USES OF THE OMENTUM.*

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From the earliest times the great omentum has been credited with the performance of some definite and useful function. The views as to the nature of this function have varied during the succeeding eras of medical progress; thus, while the older writers ascribed to the omentum simple physical and mechanical functions, modern observers have attributed to this peritoneal fold numerous elaborate and discriminating protective functions, and have assigned to it an importance which to the uninitiated seems quite extraordinary. Among the older views regarding the function of the omentum, several are of special interest. Aristotle [1] looked on the omentum as a fatty apron designed to protect the viscera from cold. Vesalius regarded it as a ligament of support for the transverse colon. Verhagen recognized in the omentum a device to protect the abdominal viscera from sudden jars and from friction. Haller believed that the omentum served to pull the stomach downwards when that organ was full, and so to facilitate the descent of the diaphragm in respiration. It was not until within quite recent times, however, that the "protective" functions of the omentum were recognized, and that surgeons and pathologists noted the important part which the omentum so frequently plays in helping to localize inflammatory processes in the abdomen.

Once this useful action of the omentum had been appreciated, many observers, chiefly from pathological though partly from experimental studies, developed this protective theory and endowed the omentum with the "capacity for intelligent" movement, guided by positive and negative chemiotaxis, and Albrecht went so far as to designate the omentum "a large abdominal leucocyte."

Surgeons have not been slow to take advantage of the adhesive properties of the omentum, and have repeatedly used it to reinforce suture lines in gastric and intestinal operations, to plug perforations of hollow viscera when closure of these by invagination was impossible, and to cover areas denuded of peritoneum.

The study of the modern writings on this subject left me under the impression that considerable dubiety still existed as to the nature of the functions of the omentum in health and disease, and also as to the exact value of using this organ in surgical operations as a reinforcing and protecting agent in cases where doubt existed regarding the security of a suture line or the vitality of a viscus. Accordingly, over two years ago I commenced an experimental research on this subject, and the results of this work form the basis of what follows.

If we agree with Schieffendecker,[2] "that there exists no special organ for pathological processes," then we must acknowledge that, so far as our present knowledge goes, the normal functions of the omentum are limited. It is only when the normal gives place to the pathological within the abdomen that we see the omentum demonstrating its numerous spheres of usefulness. The first point to be investigated in this research was naturally the functions of the omentum in normal or approximately normal conditions. Such questions as the protection afforded to the intestines by the omentum against external violence, its capacity as a storehouse of fat, or the function ascribed to it by Eccles,[3] of acting as a yielding surface which accommodates itself to the variations in form of the subjacent coils of intestine, did not seem to call for or to lend themselves to experimental investigation, but the question of its function as an absorber of fluid offered a more hopeful field of study.

Absorption of Fluid by the Omentum.

Several observers have suggested that a leading function of the omentum may be the absorption of fluid from the peritoneal cavity. To investigate this point several experiments were carried out by the writer. The fact that ascites does not follow the complete removal of the omentum in animals tended to make me believe that its absorptive function was certainly not all-important, still in such cases it was possible that the other peritoneal surfaces might have accommodated themselves to an increased absorption after removal of the omentum.

The method employed was to remove completely the omentum in an animal, and three weeks later to inject into its peritoneal cavity a certain quantity of saline solution, then to kill the animal after a certain number of hours, and to carefully collect all the fluid left in the abdomen. A control animal with its omentum intact was injected with the same quantity of saline solution, and was killed and examined after the same interval of time. Cats were used for these experiments, as they possess the largest omentum of all the available animals.

It was found that removal of the omentum did cause an appreciable but not a marked delay in the absorption of saline from the peritoneal cavity, and on the average it was found that the rate of absorption in animals with intact omentum was to that in animals after excision of the omentum in the ratio of 3 to 2. It was, therefore, unjustifiable to maintain that the omentum is a specialized absorptive organ. Rubin,[4] using a different method, has carried out similar experiments with approximately the same results.

Absorption of Solid Particles.

When at an abdominal operation some foreign body, such as a piece of gauze, a silk thread, or an instrument, is inadvertently left in the peritoneal cavity, it is customary, if at a later date search be made, to find it wrapped up and encapsulated in the omentum. This is no invariable rule, however, as if the foreign body be left in or fall into the pelvis, it evades the excursions of the omentum and is found lying free or enclosed by local peritoneal adhesions.

Small solid particles, such as bacteria or particles of organic débris of any sort, when they escape into the free peritoneal cavity, are in a very striking manner caught up by the omental net. This can be very clearly demonstrated by the following experiment. The abdomen of a cat (under ether anaesthesia) was opened and 5 grams of sterilized powdered animal charcoal were introduced into the peritoneal cavity and the abdomen closed. In a second cat the omentum was removed and the same quantity of charcoal introduced before closing the wound. The latter animal died two days later, and all the abdominal viscera were found irregularly coated with the black powder. The first cat was killed on the second day after operation, and on opening the abdomen it was found that the whole of the charcoal had been taken up by the omentum, and that the other abdominal viscera had a normal glistening appearance. That this "scavenging" function of the

*The experimental part of this research was conducted in the Laboratory of the Royal College of Physicians of Edinburgh, and the expenses of this part of the work were defrayed by a grant by the Carnegie Trust.

omentum is practised in a similar manner on bacteria has been pointed out by Durham, and will be referred to later; it is undoubtedly one of the important functions of the omentum.

THE INFLUENCE OF THE OMENTUM ON AN ANIMAL'S RESISTANCE TO PERITONEAL INFECTION.

A series of seven experiments was carried out to determine whether removal of the omentum lowered to any degree an animal's resistance to peritoneal infection. In seven rabbits the omentum was removed, and three weeks later, the animals all being in excellent condition, a slightly sublethal dose of an emulsion of *Staphylococcus aureus* was injected into the peritoneal cavity of each. Seven other rabbits of equal size and weight acted as controls. Five of the rabbits without omenta died of peritonitis, whereas but two of the control animals died, and these two survived for a considerably longer period than did the fatal cases in the animals without omenta. The omentum apparently performs some useful function in combating generalized peritoneal infections. What is that function?

By injecting a certain dose of an emulsion of *Staphylococcus aureus* into the peritoneal cavity in a series of animals in half of whom the omentum had previously been excised, and then by drawing off the peritoneal fluid, by means of a capillary pipette, at intervals of an hour, one was able to study the cellular changes in the peritoneal exudate in each case.

It was found that the cellular reaction in the fluid was quite as rapid and was even more intense in the animals with no omentum as in those with an omentum. It was noteworthy, however, that whereas in the latter very few bacteria were visible in the fluid within two or three hours after the injection, in the former cocci were found in large numbers both free in the fluid and within the polymorph leucocytes. By killing one of the animals with an intact omentum at this stage, one could readily demonstrate that the omentum was densely covered by cocci, very many of which were being phagocyted by polymorph leucocytes. The omentum seems to act to germs as a spider's web does to flies. The battle between the bacteria and the leucocytes is transferred from the free fluid to the surface of this vascular peritoneal fold, where the phagocytes are in close touch with their lines of transport and their reinforcements. Little wonder, then, that they stand a better chance of victory.

When smaller sublethal doses were injected and the peritoneal fluid examined daily for ten days or so, it was interesting to note that the mononucleated phagocytes appeared almost as quickly, and in as large numbers, in the exudate of the animals without as in that from those with an omentum. This does not tally with the view expressed by Beattie,[6] and frequently quoted, that a main source of these large mononuclear cells is in the omentum. The *restitutio ad integrum* was invariably much more rapid in an animal with an omentum than in one which had lost that organ, and fluid containing flakes of lymph and débris and a fair number of cells was frequently obtained from the abdomen of one of the latter class of animal, even one to two weeks after the peritoneum of the control animal had returned to normal. This only demonstrated further the importance of the "scavenging" action of the omentum.

IS THE OMENTUM CAPABLE OF "INTELLIGENT MOVEMENT"?

The way in which the omentum will travel to and shut off any localized inflammation or apply itself to a viscus on the point of perforation has been beautifully demonstrated by Rutherford Morison,[7] and has led him to christen this organ the "abdominal policeman." Do the movements of the omentum depend on chemiotactic influences, as has been suggested by several writers, and have we any real grounds for believing that inflammatory processes in other organs actually attract the omentum, which somehow contrives to move to the seat of trouble? The answer to this question must be emphatically in the negative. Inflammatory processes which are situated outside the normal range of the omental excursions do not attract that organ; for example, an inflammatory focus at the *bottom* of the pelvis is usually entirely ignored by the omentum, unless the latter happen to be unusually long and pendulous. It is only by the transmission of irritation from one peritoneal surface to another, and on account of the peculiar adhesive properties of the omentum, that the latter comes to adhere more firmly to the focus of greatest irritation. The following experiment settled the question completely to my mind.

Under ether anaesthesia the abdomen of a rabbit was opened. Its omentum was lifted up and laid over the liver. The left-hand corner of the omentum was fixed with one catgut stitch to the parietal peritoneum in front of the liver. An emulsion of *Staphylococcus aureus* was then injected into the submucous and subperitoneal coats of the appendix. The animal died five days later from appendicitis with localized peritonitis. *Post mortem* it was demonstrated that the omentum had not made the slightest movement in the direction of the inflamed appendix, although its right-hand border could readily be lifted down to the seat of trouble.

This was no case of negative chemiotaxis, merely the inability for combined action between those two physical factors which determine the position taken up by the omentum—namely, respiratory and peristaltic movements and peritoneal irritation and roughening.

The movement of the omentum to an infective zone is not a matter of minutes, but of hours or days; consequently one practically never finds the omentum plugging a sudden perforation of a hollow viscus—for example, a traumatic rupture of the intestine. The fact noted by Durham, that in a rapidly fatal case of general peritonitis the omentum is found curled up under the stomach, I have repeatedly observed, and agree with him that this position is determined by peristaltic movements and not by negative chemiotaxis. Repeated examinations have failed to discover any evidence of muscle fibres in the omentum.

ENCAPSULATION OF NECROTIC TISSUE BY THE OMENTUM.

De Renzi and Boeri[8] published in 1903 the results of some interesting experiments demonstrating a valuable function which the omentum can perform. They found that ligature of the blood supply to the spleen in an animal was followed by recovery, and when the animal was killed some weeks later all that was left of the spleen was a small fibrous nodule *encapsulated in the omentum*, which had wrapped itself round the devitalized organ. If, however, they removed the omentum at the same time as they ligated the splenic vessels the animal died, apparently from toxaemia from the decomposing spleen. Pirone[9] confirmed these results. I repeated these experiments, and found that of 5 cats in which the splenic vessels were ligatured 4 recovered, and when these animals were killed after an interval of from three to ten weeks, the omentum was found bunched up and completely enveloping the remains of the spleen. On cutting across this mass of omentum, the atrophied spleen was found. It had a firm capsule of omentum, a necrotic caseous centre, and a thin shell of degenerated but living splenic tissue.

In the one animal which died, it was found that the omentum had been caught up in the abdominal wound, and thus could not get at the spleen, which was completely necrotic. Of 8 cats in which the omentum was excised and the splenic vessels ligatured, 5 died at periods of from two to sixteen days after the operation, and *post mortem* there was found in each case a necrotic spleen and signs of general peritoneal irritation. The remaining 3 animals recovered, and lived for several weeks, though showing symptoms of chronic toxaemia. A month later they were killed, and in each the spleen was represented by a sac of necrotic pus.

These results suggested that the omentum might well be used in human surgery to wrap round a strangulated portion of intestine the vitality of which was doubtful, in a case where the condition of the patient was such as to make enterectomy undesirable.

OMENTAL WRAPPING FOR PARTIALLY DEVITALIZED INTESTINE.

In 1907 Lanz[10] recorded a case in which, during the operation of partial gastrectomy, the transverse mesocolon was divided and the middle colic artery was ligatured, and in which the operator successfully prevented a subsequent gangrene of the colon by wrapping the omentum round the portion of bowel the vitality of which was threatened. This observer carried out several experiments on animals which appeared to show that the bowel will survive the separation of its mesentery over a greater length if the omentum be wrapped round the

separated portion than it will if such swathing in omentum be not resorted to.

Scudder[11] repeated these experiments and confirmed Lanz's results. The researches of Rydygier,[12] Tonsini,[13] and Schlosser[14] demonstrated that the vascular supply to large tracts of intestine may be ligatured with impunity, provided the ligatures be applied at some distance from the intestine, and that the nearer to the intestine the ligatures are applied the greater is the likelihood of gangrene of the bowel.

I have carried out ten experiments on cats to test the value of wrapping the omentum round a portion of bowel deprived of its blood supply. The method adopted was to understitch with a fine needle and silk, and to ligature the *ultimate* branches to a certain area of small intestine, and to divide the mesentery behind these ligatures. In cats the blood supply to 3.5 cm. of small intestine may thus be ligatured without causing gangrene; but if 5 cm. of intestine be similarly treated gangrene almost invariably supervenes.

In five animals 4.5 c.m. of small intestine was deprived of its blood supply, and the omentum was then wrapped round this portion of bowel and fixed by sutures. In the other four animals ligatures were likewise applied, but the omentum was excised (3 cases) or fixed in another area of the abdomen (1 case).

Of the five animals in which wrapping with the omentum was practised four recovered. These animals were killed some weeks later, when it was seen that the bowel was functionating well; there was no stricture or ulceration, but on making microscopic sections of the portion of bowel involved no vessels of any size could be detected passing to this area of gut from its enveloping sheath of omentum. The fifth animal of this series died of distemper seven days after operation, and the *post-mortem* examination revealed that the portion of intestine ensheathed in omentum was so deeply congested that its permanent recovery would have been unlikely.

Of the three animals in which the blood supply to 4.5 cm. of intestine was ligatured and the omentum excised, two died within three days of gangrene of the bowel, perforation, and peritonitis; the third animal died four days later with symptoms of intestinal obstruction, but *post mortem* the portion of bowel appeared to have been viable.

In the fourth case, where the omentum was left in the abdomen, but was not wrapped round the segment of intestine the mesentery of which had been ligated, the animal recovered. On killing it some weeks later considerable stenosis of the affected portion of gut was found, and numerous adhesions had formed between it and the surrounding coils. In one further case the blood supply of a segment of bowel was ligatured, the omentum was excised, and the detached omentum was then wrapped round and round the devascularized portion of the intestine. The animal died two weeks later from a perforation of the intestine at one end of the portion of gut which was ensheathed in the omentum. There were numerous adhesions between the detached omentum and adjacent coils of small intestine.

From these experiments I concluded that the wrapping of a portion of intestine the vitality of which is doubtful in the great omentum is of some value in preventing gangrene and perforation, but that it is a practice whose range of usefulness is distinctly limited. It is obvious that the enveloping omentum cannot within a matter of hours provide a new blood supply to the loop of intestine, and its favourable influence would appear to be due to the fact that it retards the emigration of bacteria through the bowel wall into the peritoneal cavity, and prevents or delays the development of a general peritonitis, from which many cases of this nature die before any gross perforation has occurred. I cannot, therefore, agree with von Haberer,[15] who regards this practice as being of no value.

Omental Grafts.

The practice of removing portions of omentum and applying them as grafts to reinforce lines of intestinal suture, or to replace peritoneal defects, was first advocated by Senn[16] in 1888. He found that such portions of omentum adhered firmly to the surface to which they were applied, and became vascularized, and he observed no bad results from such grafting. Springer[17] showed that the entire omentum may be severed from its attachment and yet not become gangrenous. It undergoes fibrous changes, and usually becomes adherent to the parietal peritoneum of the anterior abdominal wall. He found that though omental grafts "take" readily, they adhere not only to the surface to which they are primarily applied, but to all adjacent peritoneal surfaces. I have carried out several experiments to test the value of grafting isolated portions of omentum, to reinforce suture lines, etc., and my results fully confirm those of Springer—namely, that this practice has the unavoidable disadvantage that it almost invariably leads to extensive peritoneal adhesions to surrounding viscera.

The application of a corner of the normal attached omentum to a doubtful suture line—for example, the duodenal stump in a pylorectomy—is, however, a method of undoubted value.

The Omental Plug for Perforations of Hollow Viscera.

Not infrequently the surgeon is called upon to treat cases of perforated gastric or duodenal ulcer where, owing to the induration and friable character of the gastric or duodenal wall surrounding the perforation, closure and invagination is impossible. Bennet[18] recorded in the *Lancet* in 1896 a case of perforated gastric ulcer in which, owing to the induration round the ulcer, the perforation could not be closed in the usual way, and in which he used a plug of omentum to occlude the opening, the patient making a good recovery. Since then several similar cases have been recorded.

The experiments of Enderlen[19] and Justi[20] demonstrated how perfect may be the end result in cases where defects in the stomach, gall bladder, and urinary bladder have been plugged by the omentum.

The writer had carried out ten experiments in order to gauge how far one may rely on an omental plug to prevent leakage from a wound of the stomach, the intestine, or the gall bladder. As the results of these investigations were quite uniform, only two experiments need be referred to here in any detail.

Experiment 1.—Under ether anaesthesia the abdomen of a cat was opened, a portion of the anterior wall of the stomach was lifted up with toothed forceps, and snipped off with curved scissors, leaving a round aperture the size of a sixpenny piece. Into this opening a fringe of omentum was thrust, and this plug was fixed by interrupted sutures to the peritoneal coat of the stomach around the aperture. The animal made a good recovery and did not lose weight. It was killed four weeks later, and, on opening the stomach, the site of the omental plug could be discovered only with difficulty. Microscopic sections showed the fibrosed portion of omentum firmly welded with the stomach wall, and entirely covered by cylindrical gastric epithelium with numerous irregularly-shaped glands growing down into the organizing plug.

Experiment 2.—Under ether anaesthesia the abdomen of a cat was opened, and the entire fundus of the gall bladder was cut away. The opening in the gall bladder was then plugged by a portion of omentum, which was fixed to the peritoneal coat of the bladder around the aperture. The animal appeared none the worse for this treatment, and was in robust health when killed two weeks later. *Post mortem* there were no evidences that any leakage of bile had taken place, and the gall-bladder was filled with bile, and apparently had been functionating normally at the time of death. Microscopic sections showed that the omental plug had a covering of normal gall bladder epithelium, and was firmly incorporated within the walls of the aperture.

In one case where a defect in the stomach wall was plugged with a *detached* portion of omentum the animal died of a perforative peritonitis, the omental plug having failed to adhere to the margins of the wound.

These experiments convinced me that the sealing of a perforation of a hollow viscus such as the stomach by means of a portion of the omentum is under certain circumstances not only a justifiable but even a desirable procedure.

The Value of the Omentum where an Abdominal Wound is Infected.

No more than a passing reference need here be made to the fact that in accidental wounds, such as stab wounds of the abdomen, the omentum almost invariably protrudes into and plugs the aperture, and prevents a visceral prolapse.

It is of interest, however, to note that when an operation wound of the abdominal wall becomes infected the

omentum almost invariably applies itself to the deep surface of the wound, and thereby exerts two beneficial influences. In the first place it prevents the infection spreading to the general peritoneal cavity, and in the second place it tends to hold the wound margins together and so to decrease considerably the tendency to a rupture with prolapse of the intestines.

In my earlier experiments on cats, I lost many animals from sepsis of the abdominal wound, followed by rupture and visceral prolapse. Of the animals in which the omentum was not removed, but which developed septic abdominal wounds, only 5 per cent. died from prolapse of the viscera, whereas, of the animals in which the omentum had been excised, and in which the wounds became septic, 85 per cent. died from rupture with prolapse of the intestines.

When, therefore, there is any reason to suspect that an abdominal wound has been exposed to infection, it is advisable to see that the omentum is spread out behind it, before suturing up.

Of the other surgical uses of the omentum, such as omentopexy in cases of hepatic cirrhosis with ascitis, the plugging of wounds of the liver which cannot be brought together by suture, or the use of excised portions of it to fill cavities and dead spaces in other regions of the body, as practised by Tuffier, considerations of time forbid more than mere mention.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HERPES ZOSTER IN THE LEGS.

THE herpetic eruption here described was seen recently in a boy aged 12 years. The areas involved correspond very well with those assigned by Head and Campbell (*Brain*, 1900) to the nerve supply of the fourth and part of the third lumbar nerves. Herpes affecting the skin below the knee appears to be very rare. Out of 294 cases in which a single root area was believed to be affected, these authors found only 4 affecting the last two lumbar and first two sacral nerve areas, of which only 1 concerned the fourth lumbar. In none of these cases could the spinal ganglion be microscopically examined, and although the same must be said of the present case it seemed advisable to publish an illustration of the eruption.

Although the total amount of eruption was not unusually large, the whole area affected was considerable. It therefore affords confirmatory evidence of the correctness of Head and Campbell's view, more particularly in the case of the fourth lumbar root-zone. None of the cases examined microscopically by these authors showed two ganglia affected, but it is probable that this may occasionally happen.

The diagram shows the anterior and posterior aspects of the right lower limb, and little description is needed. One or two special features may be mentioned. Only a portion of the area assigned to the third lumbar was involved. There was no eruption along the inner side of the thigh at its upper half. Further, there was a very definite gap between the lower end of the third lumbar area and the beginning of the fourth, a tongue of skin which the above authors consider is supplied by the third lumbar. The area of the third lumbar extended across the knee in front, but behind it was confined to the inner border of the popliteal space. The area of the fourth lumbar followed pretty closely the line of the skin in front, while posteriorly it reached practically to the middle line at a point half-way up the calf of the leg. There was no eruption at and below the inner malleolus.

Hull. E. E. LASLETT, M.D.

DIPHTHERIA ANTITOXIN BY THE MOUTH.

IN the JOURNAL of June 17th, p. 1456, there is some reference to the oral administration of antidiphtherial serum. My own plan is to give at once 2,000 units hypodermically and 1 drachm of a 200 units per cubic centimetre serum by the mouth every four hours. The theory behind this practice is that there are two lines of defence—the lymphatic and the systemic. The first is antitoxic and the second is for increased cell resistance. Both are in the serum. The lymphatic resistance cannot be transferred to the patient by the oral use of the serum and the systemic cannot be transferred to the patient by the hypodermic. *Together* they form the *whole* resistance of the animal. Hence my method of use.

Last case seen on Wednesday at 5 p.m. Antidiphtherial serum given orally at once and at every four hours, and at 11 p.m. 2,000 units hypodermically. The throat and glands were very swollen, tonsils almost meeting; the patient could scarcely swallow water. On Friday the patient was eating toast freely. On Saturday all membrane was gone, and the child was sitting up playing with toys. The patient was quite well on Monday and dismissed. Total amount of serum used: 2,000 units hypodermically and 3 oz. orally.

This is a usual result. The therapeutic value of any serum hypodermically exhibited is absolutely regulated by the efficiency, or want of efficiency, of the lymphatic resistance to the organism used in its production. Tell me what the lymphatic resistance is to any organism, and I will have no difficulty in accurately forecasting the therapeutic value of the hypodermic use of its antiserum. The failure to recognize this dual resistance and the necessity for the dual administration of the serum is the cause of the failure of serum-therapy. (See *Australasian Medical Gazette*, November, 1910.)

Melbourne, Victoria. D. MONTGOMERIE PATON.

CHEIRO-POMPHOLYX.

As I am given to understand that cases of cheiro-pompholyx are somewhat rare in private practice, I considered that the following report of a case would be of some interest to your readers:

H. R., aged 36, consulted me for a vesicular rash situated on both hands and legs, which was of a most irritating nature. He had just returned to work after a holiday, and stated he felt quite well in himself; he had no temperature. One great peculiarity of the disease is the symmetry it possesses on both upper and lower limbs. The history of this case was as follows:

August 23rd. Slight irritation in both upper and lower limbs; towards evening had a shivering fit.

August 24th. Spots first noticed on hands and legs; went to a chemist to obtain something to stop the irritation.

August 25th. On this day I first saw the patient. The dorsum of both hands was covered with a herpetiform eruption, also between fingers; palms of hands free, also front of wrists; isolated patches on backs of both wrists. On the legs the eruption was situated on the front part of the limbs from the knee downwards, also instep of feet. The vesicles were very numerous over the front of feet and back of both Achilles tendons. Soles of feet free, also between the toes.

August 27th. Large bullae on both insteps and round region of internal malleoli. These caused great pain; relief was given by letting out the serum, which was of a light yellow colour.

August 29th. Considerable swelling of left ankle, bullae drying up. Higher up the limbs, where small vesicles had dried up, patches of discoloured skin remained *in situ*.

August 31st. Right ankle slightly swollen; left ankle still very much swollen.

September 2nd. Swelling of both limbs subsided; small nodules on hands, the remains of the dried up vesicles. On the legs there remained small hard nodules, brownish in colour, also over feet. Upper portion of limbs: isolated islands of brown pigmentation, scaly, appearance not nodular.

September 5th. Brown patches, more or less indistinct, covered with fine scales.

Treatment consisted of quinine internally and local application of carbolic lotion 1 in 60.

W. ROWS KEMP, B.A.Camb., L.M.S.S.A.Lond.

Sunderland.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

Pathological Section.

Tuesday, October 17th, 1911.

Professor R. T. Hewlett, President, in the chair.

The President, in opening the proceedings, remarked that, on looking back, he became struck with the wide range of matter involved in the pursuit of pathology at the present time. He referred to the importance of chemical and physical knowledge in biology. The similarity of organic forms and those which physical forces are competent to produce, had revived the idea of the possibility of spontaneous generation. He referred also to the value as well as to the limitations of biometrical methods in experimental work.

Uterine Carcinoma in the Rabbit.

Dr. A. Leitch gave an elaborate histological account of a specimen of multiple uterine carcinoma of the glandular type. The disease occurred in connexion with missed pregnancy, and its origin was possibly related to this. Portions of the tumours were transplanted to a large series of other rabbits, but the grafts all failed to grow into tumours; and although in some cases they for a while increased in size, retrogression invariably took place.

The Diplococcus Rheumaticus.

Dr. F. J. Poynton and Dr. A. Paine demonstrated the production of acute appendicitis and of multiple arthritis in four young rabbits from a series of twenty-four, intravenously inoculated with a diplococcus isolated from the knee-joint of a boy, aged 14 years, suffering from a first attack of rheumatic fever, and who made an excellent recovery under the use of salicylates. The lesion produced in the appendix was local necrosis. The diplococcus was demonstrated in the walls of the appendix. In one case there was some degree of peritonitis, with an exudate from which a pure culture of the diplococcus was grown. The authors pointed out the bearing of these investigations upon human appendicitis, alluding to previous work by Adrian, showing the production of appendicitis from a haematogenous source.

Mucicarmine.

Dr. P. Cole illustrated the value of this stain. The best fixative was a saturated solution of mercuric perchloride with the addition of 5 per cent. glacial acetic acid. It mapped out the presence of mucin with the utmost accuracy; but it also stained colloid.

Sarcoma-producing Mouse Carcinoma.

Mr. S. G. Shattock and Dr. L. S. Dudgeon communicated the result of an experiment made with one of the above tumours. The observations of Ehrlich and Apolant, that certain mouse carcinomata on being grafted into a further series of mice are replaced by sarcomatous formations, had been amply confirmed by Dr. B. R. G. Russell. The theoretical difficulty of explaining such a result on the assumption that the epithelial cells of the grafted carcinoma furnish the cells of the sarcoma, was so insuperable that the only way of evading it would be to regard the grafted tumour as an endothelioma in place of a proper carcinoma. The transformation of epithelial cells into connective tissue was a phenomenon unknown, at least after the conclusion of embryonic development; whereas the same transformation of endothelium, seeing that the latter tissue is of mesoblastic source, did not present the same difficulty. The fibroblasts produced in the organization of an intravascular thrombus were derived from the proliferated endothelium of the vessel. The apparent transformation, however, offered no histological anomaly, for the simple reason that the process was not one of transformation, but of substitution; the sarcomatous growth arose from the connective tissue of the host. The experiment of the authors consisted in the repeated subcutaneous insertion of the particular tumour worked at by Dr. Russell, but after the cells had been rapidly killed by grinding the pulp in thin layers at 37° C. In one group of series six mice received four subcutaneous injections of the killed material, after it was remade into a pulp by moistening it with salt solution. The injections were made weekly into the same region. No growth of any kind ensued. The experiments showed that for the incitement of the sarcomatous growth in the host the action of the living carcinoma cells was necessary, and that the access to the circumjacent tissue of the materials extractible from the dead cells was not sufficient.

Section of Otology.

Friday, October 20th, 1911.

Dr. W. Milligan, President, in the Chair.

Modern Developments in Aural Surgery and the Present Position of Otology in the Medical Curriculum.

Dr. Milligan, in taking the chair for the first time, delivered an address, in the course of which he said: Since the Otological Society of the United Kingdom was founded in 1900 many important changes have taken place, not the least being its absorption by, and its establishment as a separate Section of, the Royal Society of Medicine. The original membership of the Otological Society of the United Kingdom was 57; to-day the Otological Section of the Royal Society of Medicine numbers 156. This large increase in membership, combined with recent developments in otological work and a general expansion of its literature, has influenced your Council in deciding to hold six meetings in London instead of four as formerly, and an extra-metropolitan meeting as well when such can be conveniently arranged. Much of the recent progress in otology, both in this country and abroad, has been due to advances in bacteriology, to more accurate pathological research, and to improvements in surgical technique. Another factor which, to my mind at any rate, has done much to mark progress and to elevate the position of otology in the medical landscape has been the more intelligent and generous provision by hospital boards, both lay and medical, of facilities for the adequate treatment of persons suffering from diseases of the organs of hearing. The day has passed when the aural clinic is relegated to the tender mercies of the most recently appointed member of the surgical staff—a gentleman whose interests, in all probability, ran in quite different grooves, and whose absence from the clinic was more frequent than his presence. Nor, again, are unintelligent and mischievous regulations, such as that the aural surgeon must confine his attentions to out-patients and to the outside of the skull cap, framed by intelligent medical boards of the present day. Encouragement rather than discouragement is now meted out to the *chef de clinique*, and opportunities are afforded to him to persevere in his endeavours to add some quotum to the sum of human knowledge of diseases of the ear. To a large extent this gradual evolution of our speciality, slow as it has been in this country, has been forced on by the unalterable law of demand and supply. The public have clamoured for a more rational and scientific treatment of diseases of the ear and the more enlightened hospital boards throughout the country have grasped the situation and have appointed specially qualified officers to take charge of special aural clinics. But, if the position of the aural clinic and of its appointed officer is more satisfactory, is it so also with the position of the medical student? To day more than ever do we require efficient and properly trained aurists to deal with the vast numbers of school children who are being examined under the Medical Examination of School Children's Act. Have the majority of the medical inspectors the necessary qualifications adequately to discharge this onerous duty—a duty to the individual as well as a duty to the State? Have our universities and teaching schools foreseen what was coming, and, if they have, what have they done to assist in the matter? The most generous critic of our university system must, I fear, admit that adequate legislation relative to the teaching of otology has been practically *nil*, and also that hundreds of graduates are turned out year after year by the medical mill with a most rudimentary knowledge, if knowledge at all, of the principles and practice of aural surgery. When President of the Otological Section of the British Medical Association in 1902 I ventured to try to stir up enthusiasm in this matter by suggesting that in the interests of patients suffering from exanthematous diseases—one of the most prolific sources of ear disease—applicants for resident posts in fever hospitals should be required to produce

evidence of their having attended a course upon diseases of the ear, and of their having some practical acquaintance with the subject. On another occasion, in order to endeavour to encourage interest in otology, and to make sure that the young specialists' knowledge was the result of genuine work, both practical and theoretical, and not merely the outcome of a few months' visit to the chief Continental clinics, I suggested that the various British universities should so arrange matters as to allow any candidate who desired it to proceed to an honours degree in otology, evidence being forthcoming of his having had both theoretical and practical instruction over a given period. Both suggestions fell upon academic ears too deaf to receive any mental impression, and so far we are to day practically as we were ten years ago. But a time has come when it appears to me that we, as a society of British otologists, should be up and doing, and should make representations to the universities and teaching bodies throughout the country that in our opinion the attendance of the medical student for from three to six months at a recognized aural clinic should be made compulsory. So far as I have been able to ascertain, not one of the universities of the United Kingdom insists upon its students having a practical and theoretical acquaintance with otology prior to qualification, while the only medical school in London which makes attendance at its aural clinic compulsory is the London Hospital. A step such as this—the thin end of the wedge, no doubt—would within a few years be productive of much good, and would ensure a more rational and intelligent treatment of diseases of the ear than exists at present in many parts of the country. Doubtless any such proposition would meet with opposition, but it appears to me that if this society is to justify its existence, its influence and energies should be directed to endeavour to secure the greatest good for the greatest number, that, besides being a society for the education of its existing members, it should be national in its aspirations, and should so influence medical politics as to ensure that the medical student and practitioner of the future shall possess a more extended and practical acquaintance with diseases of the ear than he has had in the past. Such a consummation is heartily to be desired, and would if accomplished of itself amply justify the existence of this section of the Royal Society of Medicine.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, October 19th, 1911.

J. B. LAWFORD, President, in the Chair.

Presidential Address.

AFTER the formal presentation of Vol. xxxi of the *Transactions*, Mr. LAWFORD in his introductory address dealt in considerable detail with the subject of vaccine therapy, passing in review the work of many Continental and British investigators, and then went on to refer to their bearing on the treatment of eye diseases. He concluded by a reference to immunity, active and passive, and to the prospect of success in eye diseases. The address also included an appreciative allusion to the late Dr. Hughlings Jackson, an original member of the society, and was one of the earliest physicians to insist on the importance of ophthalmoscopic examination in diseases of the nervous system.

Hereditary Diseases of the Eye.

A paper by Mr. J. S. Manson, of Warrington, was communicated by Mr. E. NETTLESHIP. It was a case of *Hereditary lamellar cataract* occurring in four consecutive generations, affecting 13 persons (6 male and 7 females) and transmitted in all cases by females who were themselves affected. Three members of the pedigree, in three different generations, had a congenital deformity of the little fingers, which appeared to have been independent of the cataract, for only one individual showed both the digital and lenticular abnormality.

Mr. NETTLESHIP also read a paper describing a further case of *Hereditary night-blindness*. It was the form without ophthalmoscopic changes, in which the abnormality was associated with myopia, and descended, as in colour-blindness and several other conditions, through females themselves normal. Twenty cases had been discovered in this extensive genealogy. Photometric records and field measurements of several were recorded; in one there was a partial ring scotoma. Several members of the pedigree were myopic without being night-blind, and several (some of them night-blind, others with normal sight) were mentally affected. There was only one consanguineous marriage in the entire pedigree.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Friday, October 13th, 1911.

EVOLUTION OF THE MEDICAL OFFICER OF HEALTH.

DR. A. BOSTOCK HILL, in a presidential address, said that the nineteenth century must be memorable as that in which modern hygiene was born, and that in which the medical sanitary officer first came into existence. In the first decades of the century the most important sanitary work accomplished was the passing of the Registration Acts. This enabled the statistician for the first time to collect statistics in a scientific form on which should afterwards be based the present administrative system of public health. Although the first Public Health Act was passed in 1848, it was not until 1872 that power was generally given to appoint sanitary officers, and not until 1875 that their appointment was compulsory. In their early days the chief work of medical officers of health was the advising on the removal of those great nuisances which had been shown to be hostile to a reasonable degree of public health. In many of the minor districts the appointments were made without the councils who made them understanding the need for public health work. In a large number of instances the officers were actually discouraged from doing more than was absolutely necessary. The emoluments were such that little work of a scientific character could be expected, and what was performed was rather in spite of, than on account of, the desire of the authorities. It was not to be wondered that for many years, and to some extent even at the present time, the medical officer of health was regarded as a sort of superior inspector of nuisances. The first association in the public mind of the medical officer of health was with "drain pipe hygiene," and a first step was the education of the public in what was now considered to be the real and important work of public health. It was advisable that in their teaching they should let it be distinctly understood that the great improvements in the hygienic conditions of the people were not solely due to what might be called hygienic efforts. The improved supply of food now available to all classes had been a far more potent factor in improving the public health than all the sewage works laid down in the country, while the introduction of tea and coffee should be accounted one of the most important steps ever undertaken in preventive medicine. Our conception of hygiene was widening every day, and nothing was a greater proof of this than the introduction of such legislation as that dealing with invalidity insurance and that foreshadowed dealing with Poor Law administration. Dr. Hill concluded his address with an account of the public health work which was being carried out by the Warwickshire County Council.

OXFORD MEDICAL SOCIETY.

AT the first meeting of the session, on October 13th, Mr. WHITELOCKE, President, in the chair, the following were among the cases exhibited or described. Dr. FREAN: The case of an Indian student, aged 20, who had been found one morning in bed with flaccid limbs and deeply unconscious. Consciousness slowly returned within the next forty-eight hours, and the patient remembered nothing of his illness. The evening previous to the attack he had dined quietly with his tutor. There was no history of any excess and no history of epilepsy. Mr. ADAMS: A case of *Double proptosis* in a male aged 50. It followed a sudden attack of irritation in the right eye, which became puffy and later definitely proptosed, and the vision deficient. No inflammatory trouble could be detected by puncture of the orbital tissues on two occasions. Proptosis and chemosis followed in the left eye. The temperature rose, and the patient died in forty-eight

hours from the beginning of the symptoms. At the *post-mortem* examination the right sphenoidal sinus was found inflamed and to contain muco-pus, early corresponding changes being present in the left side also. Dr. Mallam: A case of *Crossed paralysis* in a woman aged 56. The history began in 1906, when the eyesight became impaired. At the present time she had a nuclear or nerve lesion of the third, fourth, and sixth nerves of the left side. On the right side there was a supranuclear lesion of the seventh nerve, hemiplegia of the right side of the body, and blindness in the right fields of vision, the left halves of both retinae being insensitive. There were no signs of intracranial pressure, and there had been only occasional, though at times severe, headache. The condition was thought to be one of gummatous meningitis, and the patient was improving on potassium iodide. Dr. Higgs: A case of a woman, aged 23, in whom eclampsia began at full time. Chloroform was given, the membranes ruptured, and internal version performed; the child was born without difficulty. In removing a slightly delayed placenta it was found that the uterus had been torn from the vagina, and the omentum was projecting through. The patient was in such a critical condition that it was deemed advisable to do nothing but give an ordinary vaginal douche. The unconsciousness with occasional convulsions persisted for four days, and the temperature was raised. In the fourth week the patient's condition was normal except for the existence of "white leg." In the seventh week she was able to get up, and since that time had been in very good health.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

At a meeting on October 5th, Mr. H. H. Taylor, Vice-President, in the chair, the following were among the exhibits: Mr. G. Bate: (1) A case of severe spasmodic torticollis in which, palliative measures proving unavailing, the spinal accessory nerve had been resected for about an inch. The result being almost nil, the posterior divisions of the upper cervical nerves were then divided, a complete cure of the spasms being obtained. (2) A case of tabes with gastric crises treated by Forster's operation. Laminectomy of the fifth to the eighth dorsal vertebrae was first performed, and then the dura opened and the posterior divisions of the seventh to the tenth dorsal nerves were divided. Three months had since elapsed, and the gastric crises had quite disappeared. Mr. W. Broadbent: A case of *Hypertrophic pulmonary osteo-arthropathy*. The patient showed well-marked enlargement of the lower ends of the forearms and wrists, clubbing of the fingers, swelling above and around the knee-joints, which contained fluid, and enlargement of the ankles. He had had a cough from boyhood. The sputum was fetid. There was dullness over the lower lobe of the left lung, with distant cavernous signs. The heart was displaced over till the apex was in the left axillary line. No tubercle bacilli were found. Probably there was an old emphysema which had ruptured into a bronchus. Dr. Fothergill: A fetus which had been retained *in utero* for forty years. The patient had been shown at the Society thirty-nine years ago with a large abdominal tumour. On that occasion one member thought it was a fetus encysted in the abdominal cavity, probably with a fibroid tumour of the uterus. In the discussion which followed there was no member who agreed with this diagnosis, most speakers regarding the swelling as a fibroid. The *post-mortem* examination made nearly forty years after the following condition of things was found. The tumour consisted of the fetus lying in a bag of membranes which had become more or less completely calcified. It was in the breech position. All the parts were easily distinguishable. The substance of the fetus had a curious cartilaginous consistency, suggesting that it might be partly converted into adipocere. It had probably reached about the eighth month, and weighed about 4 lb. The record case of long retention of a fetus reported in the *Transactions of the Obstetrical Society* were one by Cheston of a lithopaedion which had remained for fifty-two years, another by Barnes for forty-two years.

Reviews.

NATURE VALUE AND PURITY OF FOODS.

In the very brief preface to the third edition of *Food and the Principles of Dietetics*[1] Dr. Robert Hutchison tells us that the whole book has been thoroughly revised, and we may add that it retains to the full all the qualities which have rendered earlier editions so extremely valuable to medical men. While giving physiological and chemical data which enable the reader to test his own empirical conclusions and form an independent judgement, the author does not shirk the duty of expressing his own conclusions and opinions. If on some of the questions most canvassed at the present time we find that the reader is advised to suspend judgement, this is due not to any want of courage on the author's part, but to the fact that the materials for a final judgement do not at present exist. If some of those who so vehemently proclaim the infallibility and universal applicability of certain systems of diet were to imitate Dr. Hutchison's reticence we should be spared a good deal of riotous writing and noisy declamation, and a good many worthy people whose interest in life now largely consists in trying to find out "what to eat and what to avoid" would have leisure to turn their hands and brains to some more useful work than the observation of their own digestive and assimilative processes. There is a very good discussion in the second chapter of the question as to amount of protein required daily, and Chittenden's experiments and conclusions are duly set forth and discussed. Dr. Hutchison's main conclusions are:

> Although such a standard may be adopted with apparent impunity for a period amounting even to several months, it does not follow that it can be safely pursued for years. The remote consequences in a lowered resistance to disease and in general diminution of tone might well be injurious. As Rubner has put it, the excess of proteid in the ordinary diet is to be regarded as a margin of safety, just as one builds a bridge considerably stronger than is necessary for the maximum load it has to carry.

In this connexion we may rescue from a footnote the author's observation on a point which seems often to be ignored in physiological experiments on diet:

> It is not improbable that the minimum amount of proteid on which life can be healthily maintained varies in different individuals, and that, therefore, the question, How much proteid is required daily? admits of no categorical reply. Perhaps the closest approximation to a solution of the problem which the present state of scientific knowledge admits of is comprised in the statement that of the total amount of energy which the diet contains something between 10 and 15 per cent. should be supplied in the form of proteid.

We will not venture to dogmatize when an expert of experience so extensive as Dr. Hutchison hesitates, but it seems probable that he is right in suggesting in a later chapter that the general preference of the more energetic and progressive races of mankind for a diet containing animal food in considerable ratio is to be traced to an effect on the nervous system. He says:

> Energy is not to be confused with muscular strength. A grass-fed cart horse is strong; a corn-fed hunter is energetic. Energy is a property of the nervous system; strength, of the muscles. Muscles gives us the power to do work; the nervous system give us the initiative to start it. Muscles do their work upon carbohydrates, which are the characteristic nutritive constituents of vegetable foods; the brain appears to require nitrogen, which can only be attained in a concentrated form from animal sources. If proteid food, therefore, be regarded as a nervous food, a diet rich in it will make for intellectual capacity and bodily energy, and it is not without reason that the more energetic races of the world have been meat eaters.

A new chapter on "some dietetic 'cures' and 'systems'" has been added to this edition. It deals among other systems with the purin-free diet, and contains brief directions for such a diet, including a suggested daily menu. This chapter adds materially to the value of the book and might, we think, be expanded with advantage in future editions. Altogether the book may be heartily commended as a most useful guide in practice.

[1] *Food and the Principles of Dietetics.* By Robert Hutchison, M.D.Edin., F.R.C.P. With plates and diagrams. Third edition, revised and enlarged. London: Edward Arnold. 1911. (Demy 8vo, pp. 615. 16s.)

Increasing knowledge of the chemistry of physiological processes, together with the accumulation of the data furnished by analysis of almost every kind of foodstuff, and the steady progress of investigations in which both of these are involved, are doing much for the scientific study of diet, and a book which gives up-to-date information on these matters in a compact and convenient form is to be welcomed. In Professor SHERMAN'S *Chemistry of Food and Nutrition*[2] the principles of the matter and the materials for forming judgements as to the nutritive value of foods are presented in a very useful manner. Starting with a general account of the chief carbohydrates, fats, and proteins, and the action of enzymes, in which a fair knowledge of chemistry on the part of the reader is assumed, the author proceeds to a discussion of the course of food through the digestive tract, and the chemical changes which its different constituents there undergo are considered in some detail. The subject of the fuel requirement of the body and the fuel values of different kinds of food leads on to consideration of the conditions affecting the food requirements, and the extent to which different constituents of food are interchangeable; food habits and dietary standards are discussed, and the views of various experimenters summarized and compared. Some very important chapters are devoted to the part played by certain elements which appear only in the "ash" of ordinary analyses of foods, iron and phosphorus being the most notable of such elements; the various investigations which have been made as to how far these elements can be taken up by the animal body from inorganic compounds, and the development of the modern views on this important subject are well treated. At the end of each chapter references are given to other works and to original papers in which the subject of the chapter is dealt with; the investigations carried out at the experimental stations of the United States Department of Agriculture are largely drawn on, as are also the publications of the Carnegie Institution of Washington. This excellent volume will not displace any of the existing treatises on diet, but will worthily take its place by their side.

The second edition of Dr. HARVEY W. WILEY'S standard book on *Foods and their Adulterations*[3] is a welcome work of reference, as the subjects of which it treats are so often discussed in the public press that all medical practitioners should know where to get the necessary information when questioned upon points at issue. The first edition was reviewed four years ago (August 22nd, 1907, page 527), and the present volume has been in part rewritten. The regulations for food inspection and for the enforcement of the Food and Drugs Act have been omitted, but the article on infants' and invalids' food has been expanded and a new part added, in which simple tests are given for ordinary adulterations, while the preparation of infants' and invalids' food is described in a practical way. We turned to the sections on flour and bread to see what Dr. Wiley has to say under these heads. "Graham flour" is the name by which in the United States the flour is known which contains practically the same constituents and in the same proportion as the wheat kernel, but the character and amount of the gluten varies in different wheats; flour with a high percentage of gluten permits the formation of loaves containing much moisture, which may be as high as 40 per cent., although the loaves give no obvious indications of this; the amount of protein (gluten) present in various kinds of flour does not vary more than 2 per cent. Bread of the Vienna or French type made of the finest flour contains, when dried, 13.23 per cent. of protein, while bread made from Graham flour contains 12.5, so that the advantage lies with the white bread. This is probably due to its being made with the best quality of flour, containing a high percentage of gluten. But the proportion of moisture is more important to poor people than the minute difference of protein, as from three to four-tenths of the weight of the loaf is composed of water. In the District of Columbia, U.S.A., the law does not allow the quantity of moisture to exceed 31 per cent.; the amount appears to depend partly upon the quickness of the oven, since the quicker the oven the sooner the outside of the loaf is consolidated, so that the moisture in the inside finds it difficult to escape. The hygiene of bakehouses is an important subject; the great objection to the ordinary hand-made process is that it is disgustingly dirty, for according to Arpin and Anman, a workman during the kneading of a batch of bread loses from 200 to 340 grams in weight, a loss mainly represented by perspiration which runs off his body and becomes in part mixed with the dough. In Hamburg the workmen's co-operative society makes bread on a very large scale entirely by machinery for the use of the working classes; the whole process is conducted under as perfect aseptic precautions as is a capital operation in a large hospital, and the resulting bread is of the very best quality, "far better," we were told by a resident in Hamburg, than she could obtain in the bakers' shops.

Among the multifarious duties of an inspector of nuisances that of inspecting meat and other foodstuffs is becoming of increasing importance. It was no doubt the recognition of this fact which led to the establishment a few years ago by the Royal Sanitary Institute of a special examination in these subjects. The examination is very thorough and practical, and a great deal more than a superficial knowledge is required of successful candidates. Some 150 questions which have been set by the Institute examiners during the past ten years have been gathered together by Mr. G. T. BILLING and Mr. A. H. WALKER in a volume entitled *Meat and Food Inspectors' Examinations*,[4] and the authors have appended to each question appropriate answers, which are fairly accurate and concise. It is hardly necessary to point out that in no sense can the book be considered a textbook, but in co-operation with practical instruction and the recognized works on the subjects it will be of value to many candidates for the examinations and more especially to those who have little practice in giving expression to their knowledge on paper.

GAELIC MEDICINE.

WHEN Dr. Johnson declared that the Scottish Highlanders possessed no literature in their native language which was more than a hundred years old he was, as Dr. CAMERON GILLIES points out in his introduction to his *Regimen Sanitatis*,[5] grievously in the wrong. The learned doctor in common with the rest of mankind, was unaware of the existence of a "great mass of Gaelic scientific writing lying unknown for long ages"; and part of this writing is now introduced to the public for the first time by Dr. Cameron Gillies in his excellent translation of an ancient manuscript treatise on health compiled by various members of the famous medical family of MacBeath.

For centuries members of this clan occupied the important post of heritary household physician to the Kings of Scotland, and to the almost equally powerful Lords of the Isles; and it is the concentrated essence of their knowledge and experience which we find here, compiled into a volume by a certain John MacBeath, who followed the family calling, and who handed over the writings left by his forefathers, together with his own notebooks "to a professional Irish scribe in order that the substance might be written in the best and most compact form." The result is a manuscript tract which still exists in the British Museum (where it was found by Dr. Cameron Gillies) after having been in the possession of the MacBeaths for many generations. But when and how it made its way so far south is a puzzle that will probably never be solved.

This ancient medical treatise was not originally intended for publication. It was simply used as a handbook by John MacBeath and his descendants, and it needs but a short perusal of its contents to convince one that, wit

[2] *Chemistry of Food and Nutrition.* By Henry C. Sherman, Ph.D., Professor in Columbia University. New York: The Macmillan Company; London: Macmillan and Co., Limited. 1911. (Post 8vo, pp. 355. 6s. 6d.)

[3] *Foods and their Adulterations.* By Harvey W. Wiley, M.D., Ph.D. Second edition. London: J. and A. Churchill. 1911. (Sup. roy. 8vo, pp. 641. 21s.)

[4] *Meat and Food Inspectors' Examinations.* Model answers to questions set by the Royal Sanitary Institute and other examining bodies. Compiled by G. T. Billing and A. H. Walker. London: The Sanitary Publishing Company, Ltd. 1911. (8vo post, pp. 16 price 3s. 6d. net.)

[5] *Regimen Sanitatis: the Rule of Health.* A Gaelic Medical Manuscript of the Early Sixteenth Century, or perhaps older, from the *Vade Mecum* of the famous MacBeaths, Physicians to the Lords of the Isles and the Kings of Scotland for several centuries. By H. Cameron Gillies, M.D. Dedicated to John, Fourth Marquis of Bute. Printed for the author by Robert Maclehose and Co., Limited, University Press, Glasgow. 1911. (Imp. 8vo, pp. 139.)

regard to learning, in spite of much that would not pass muster nowadays, these old Highland doctors were on a level with contemporary physicians of other lands. Not only were they widely read in the medical literature of the day, and thus kept in touch with the great schools of Montpellier and Salerno, but they seem to have possessed the faculty of knowing how to turn both knowledge and practical experience into account, and some of the rules laid down by them with regard to diet might be followed with advantage even at the present day.

As its name implies, the *Regimen Sanitatis* is concerned more with the preservation of health than the cure of disease, and the MacBeaths were fully aware that diet plays as important a part in the one case as in the other. Hence we find much advice regarding the quality and quantity of the meals of healthy persons, urgent recommendations to moderation in eating and drinking for fear of internal troubles. We read:

You should so eat that you have a remnant of desire (for more) left, for it is better to multiply the times (to have meals more often) than a great quantity (at one time). And it is better to eat a little in two times than a great deal at one time, because the food that is eaten at one time in large quantity it cannot be digested, and it will pervert the power of digestion of the stomach.

The habit of drinking large quantities of liquid during meals is also condemned, and a moderate amount of fluid during mastication and digestion is advised, with the addition of a "wash-away drink" after digestion. As regards the quality of these liquids, young men are strongly urged to use wine very sparingly, but old men "ought to have it in good quantity . . . because . . . the moderate old man . . . will desire as much (only) as he is able to digest." On the other hand, "the moderate old man" should exercise great care with regard to the solid portion of his diet. We are told that "it is sufficient for the old men to eat flesh-meat alone in the morning and bread only at their supper, and let them not take immoderate (or exceptional) foods at (any) one time." Amongst the "immoderate (or exceptional) foods" were reckoned every kind of fruit, though in justice to the MacBeaths it must be added that they were modern enough to look upon nuts as a valuable addition to the larder of every household! Some of the rules to be observed upon rising in the morning afford us an interesting glimpse into the habits and customs of mediaeval Scotland and the standard of personal cleanliness usually observed amongst her sons.

The *Regimen Sanitatis* says:

When a person rises in the morning let him stretch first his hands (arms) and his chest and let him put clean clothes on and let him then expel the superfluities of the first digestion and of the second digestion and (of) the third digestion by the mucus and superfluities of the nose and of the chest for these are the superfluities of the third digestion, and then let him rub the body if he has proper time because of the remnants of sweat and of dust which are on the skin. . . . And then let him comb his head and wash his hands and his face out of cold water in the summer and out of hot water in the winter and let him wash his eyes with water (which has been) held in the mouth and warmed there dipping his second finger in it. . . . And let him then rub his teeth with the leaf of the melon in the summer and with the skin of the yellow apple in the winter. And then let him say his Hail Mary or any other (similar) thing which he may desire. After that let him make effort (exercise) of moderate walking in high (elevated) clean places and let his food be prepared so that he may take food the first time after that exercise what time desire begins naturally.

All of which tends to prove that the morning toilet during the Middle Ages was not always so hurried and inadequate an affair as has sometimes been supposed.

The question of blood-letting, which played such an important part in medical treatment for centuries before and after the compilation of the *Regimen Sanitatis*, receives considerable attention at the hands of the MacBeaths, who advise that operation to be performed about Christmas to save from the illnesses which come of the filling (the excess) accustomed to be done commonly at that season."

Dr. Cameron Gillies is to be congratulated upon the successful issue of what has evidently been to him a labour of love. He is the first who has made a definite attempt to restore and publish some of the old Gaelic literature, whose very existence has hitherto been practically unknown and unsuspected, and he has performed a most difficult task with singular judgement and skill. His work has a distinct value as a reflection of the mental equipment considered necessary in a family of physicians whose practice at one time and another probably included the greater part of the Scottish nobility; and incidentally it throws some interesting sidelights upon the manners of a turbulent and warlike people at the most stormy period of their development. The volume is rendered doubly attractive by the exquisite reproductions of the original MSS. which face each page; and the extensive notes and glossary will doubtless be appreciated by those amongst Dr. Cameron Gillies's readers who possess a working knowledge of Gaelic.

THE SURGERY OF THE CHEST.

The twenty-second instalment of the new treatise of surgery[6] which is being published in Paris under the direction of MM. A. Le Dentu and Pierre Delbet deals with the surgical affections of the chest, and is contributed by Dr. Charles Souligoux. The remarkable extension of the field of operative treatment of various internal maladies which has taken place within the last decade is rapidly including certain affections which have hitherto been regarded as only amenable to medical aid. French surgeons have, perhaps, carried surgical enterprise in this direction further than others, and the author of the work under notice does not hesitate to recommend vigorous action in many cases where opinion has hitherto been on the side of caution. This is more particularly manifest in the sections dealing with wounds of the chest, penetrating to and disturbing the thoracic organs, very full details being given of the surgical measures advised for their relief. There would appear to be considerable differences of opinion among the surgeons who have had much experience in such cases, and several distinct methods are described, and these have special interest where wounds of the pericardium and heart are concerned. Many attempts have been made of late years to bring relief to certain forms of heart failure where there is reason to believe that the physical resistance of the chest wall is adding greatly to the strain by removal of the ribs or cartilages over the cardiac area. A few cases have been recorded in which substantial relief has been afforded and the patient's life rendered less miserable, but the percentage of success is not at present very high. Such cases as those quoted by Dr. Souligoux go to prove, however, that very grave surgical procedures can be tolerated, even to the extent of opening the pulmonary artery and removal of embolic clots. The surgery of the pleura, while presenting less of novelty or of heroic manipulation, is nevertheless open to advance even in the treatment of every-day cases of effusions of different kinds. In dealing with pleuritic haemorrhage the surgeon is sometimes tempted to operate, while the physician prefers to trust to the processes of Nature aided by rest and sedatives; and it is evident that no positive rule can be laid down, but the various considerations which should determine the best line to take in doubtful cases will be found fully discussed in the section descriptive of haemothorax, the author naturally favouring the vigorous course wherever possible. The same tendency may be noted in the chapters dealing with the various types of purulent pleuritic effusions, and the hesitation which some surgeons have felt in operating upon tuberculous empyemata is swept aside; but here again it may be noted that many different methods of opening the chest wall have been advocated, whether for evacuation of the pleuritic cavity or for the more radical procedure with which the name of Estländer was first associated. Many surgeons in France, as elsewhere, have attempted to obliterate permanent pleuritic cavities by removal of portions of the chest wall, and a considerable number of successful cases can now be recorded. The same tendency to heroic surgery which has occasionally been crowned with success may be noted in the efforts made to remove growths from the inside of the chest, and even foreign bodies from the lungs or bronchi. Dr. Souligoux's work contains a very full account not only of the actual surgery of the chest, but of all possible surgical affections to which the chest and its contents are liable, and hence it may be commended on all grounds as a notable exposition of the present position of knowledge and practice on the subject of thoracic surgery.

[6] *Affections chirurgicales de la poitrine.* By Dr. Ch. Souligoux, Surgeon of the Paris hospitals. Paris: Baillière et Fils. 1911. (Sup. roy. 8vo, pp. 280; 48 figs. Fr. 6.)

RHINOLOGY.

WE have before us a work by Dr. WATSON-WILLIAMS, which is the natural expansion of the sections on *Diseases of the Nose and its Accessory Sinuses*,[7] which the author has placed before us in the successive editions of his highly valued book on the *Diseases of the Upper Air Passages*. The new volume contains a promise that a second will shortly be published, but readers of the earlier book will welcome the present book with confidence and interest, and they will not be disappointed. The student of modern rhinology will naturally be drawn in the first instance to the chapters on the surgery of the accessory sinuses, the growing importance of which shows itself in every fresh treatise. Here Dr. Watson-Williams steers a judicious course between the extremes of ultra-intranasalism and aggressive operative surgery. The absence of bias in either direction is shown, on the one side, by the thought and originality he has displayed in the elaboration of intranasal operation and instrumentation, and, on the other, by his contributions to the external surgery of the nasal sinuses. His sphenoidal sinus cannula and exploring syringes (p. 243) and the corresponding forceps (p. 246) are well-designed intranasal instruments. The "osteoplastic" operation for ethmoidal disease (p. 243) or some intranasal neoplasms (p. 113) shows a careful study of external nasal surgery. The application of this method to Killian's frontal sinus operation is, of course, confined to the lower, infundibular and ethmoidal stage (p. 234). It gives increased access to fronto-ethmoidal cells, and restores solidity to the spot where the grippers of a "pince-nez" exercise pressure, as well as making the preservation of the "bridge" and its periosteum less important, but it involves an increase in the number of incisions with the possibility that the corresponding cicatrices may remain visible, though, as the author remarks (p. 244), this external operation generally leaves no scar or facial defect whatever. It is to be hoped that beginners in sphenoidal sinus surgery will not forget the qualification in Dr. Watson-Williams's statement (p. 246) that the posterior wall is "nearly" always thick and strong. We are glad to see the warning (p. 101) that "curetting the ethmoidal cells is dangerous," as we have seen this recommended with unjustifiable light-heartedness. The point is emphasized in the passage (p. 242) referring to the occurrence of blindness following operations on the posterior ethmoidal cells, "probably due to the use of a curette and injury to the optic canal and nerve."

There are many clear, helpful, and accurate illustrations scattered throughout the volume, and we cannot too highly praise the collection of stereoscopic plates at the end, which constitute a condensed atlas such as is alone sufficient to make the book worthy of acquisition and study. We look forward with interest to the appearance of the companion volume on laryngology completing the work.

SALVARSAN IN GENERAL PRACTICE.

IN a book with a title translated in the above heading[8] Dr. RICHARD LENZMANN gives a clear and compact review of the present state of knowledge as to the use and value of salvarsan. He states briefly Ehrlich's conception of chemo-therapy, and details the steps that led to the discovery of the famous remedy. He describes and figures the apparatus which may be used and states his own preferences. Intravenous injection he regards as the only method which is without serious disadvantages, but where this is difficult or impossible, as, for example, in treating congenital syphilis of the newly born, he recommends a new method of subcutaneous infusion. In a dilution of 1 in 1,000 he finds that subcutaneous infusion is well tolerated with local anaesthesia. In this way, by the infusion of 200 c.cm. of fluid, it is possible to inject 0.2 gram of salvarsan. In children, where the greater dilution of 1 in 1,500 can be used, it is usually possible to dispense with local anaesthesia.

The ill effects which have been described as following the injection of the drug are discussed with fullness and fairness. He regards any evidence of myocardial inefficiency as especially serious, and as affording a contra-indication to the use of the drug. Cases with compensated valvular lesions, on the other hand, tolerate it well, and in particular benefit has followed its use in aortic regurgitation of syphilitic origin. Of especial interest is his detailed estimate of the value to be placed upon a positive and upon a negative Wassermann reaction in the diagnosis of both active and latent syphilis. "Cannot a man who has had syphilis also have cancer of the liver?" he asks, and those who have had much experience of *post-mortem* work during the last two years will appreciate the force of the question. In the last chapters of the book the author makes an attempt, in our opinion somewhat prematurely, to estimate the value of the drug in other infections, such as malaria, enteric fever, variola, scarlet fever, as well as in pernicious anaemia, leukaemia, and in malignant disease. On the whole, the author is very successful in his attempt to summarize a complicated literature and to give practical rules for the guidance of those who are disposed to make trial of the drug.

NOTES ON BOOKS.

DR. GEORGE M. GOULD is not only the senior and the most prolific of medical lexicographers, but the most successful from the publisher's point of view. The success has been due to a combination of accuracy and good judgement. His big illustrated dictionary of medicine, biology, and allied sciences, expensive as it necessarily is, has gone through several editions since its first appearance in 1894. His *Pocket Medical Dictionary*[9] has this year reached a sixth edition. It has been carefully revised; we have not failed to find any new word which might fairly be expected to be included, and we are prepared to take the author's word for it that a large number of useless and obsolete terms have been struck out. The volume, which is of handy size, well printed on thin paper and strongly bound in limp leather, is intended to meet the needs of the medical reader and writer of to-day. It is particularly strong on that peculiarly confusing set of medical terms by which a disease or a symptom is known (or forgotten) by the name of the observer who first described it. One of the alterations in this new edition is that these eponymic terms, formerly given in separate tables, are now placed throughout the book in their alphabetical order. The volume contains over 34,000 words in some thousand pages, but is only 1 in. thick. It is in every respect a thoroughly good and useful book.

The main contention of the author of a pamphlet entitled *How the Insurance Bill will Work Out*[10] is that the benefits provided under the bill are not those most needed by the working classes. He holds that the provision of temporary sick pay and medical attendance should be left to the friendly societies and trade unions, and claims that the 9d. provided would give a pension of 10s. a week from the age of 65 to death to all who retire from work, whether disabled or not, with a lower pension, never below 5s., for all below 65 who are incapable of earning one-third of their ordinary wage, together with sanatorium and maternity benefit, assistance for widows and orphans, assistance to those who insure for sick pay with a friendly society, and return of contributions to those who leave the fund. Without denying what would have to be actuarially investigated, it is distinctly questionable whether the needs of the working classes would be met in this way. The friendly societies have not been able to cover much more than one-third of the ground as regards provision of sick pay, and the suggestion to leave the provision of medical attendance to the friendly societies shows a complete failure to appreciate the inadequate character of the medical service which the societies now provide. To relieve the friendly societies of the burden of their aged and disabled is surely not the chief or one of the main objects of a national system of insurance.

A Guide to Diabetic Cookery[11] has been published by Messrs. Callard and Co., the well-known purveyors of diabetic food specialities, with the laudable object of

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[7] *Rhinology: a Textbook of Diseases of the Nose and the Nasal Accessory Sinuses.* By Patrick Watson-Williams, M.D.Lond., Lecturer on Diseases of the Nose and Throat at the University of Bristol, etc. London: Longmans, Green, and Co. 1910. (Med. 8vo, pp. 290; plates 47. 15s. net.)

[8] *Die Anwendung des Salvarsan (dioxy-diamido-arseno-benzol) in der Ärztlichen Praxis: Eine Studie aus der Praxis für die Praxis.* Von Sanitätsrat Dr. Richard Lenzmann, Oberarzt am Diakonenkrankenhause zu Duisburg. Jena: Gustav Fischer. 1911. (D. roy. 16mo, pp. 196. M. 4.)

[9] *A Pocket Medical Dictionary.* By George M. Gould, A.M., M.D. Sixth edition, revised and enlarged. London: H. K. Lewis. 1911. (Pott 8vo, pp. 1023. 5s. net.)

[10] C. Knight and Co., printers, London. Price 1d.

[11] *A Guide to Diabetic Cookery.* Published by Callard and Co. London. (Post 8vo, pp. 63. 1s.)

enabling diabetics to get a greater variety of dishes; in doing this they have not lost sight of economy and have arranged the quantities for one person. The introduction to the book contains certain general observations which are intended to guide diabetics in their choice of food, but, as the authors should have assumed that every patient has consulted a medical practitioner, it would be less likely to cause a conflict of opinion if they would in future omit this part. There are many statements which, if not incorrect, deal with points about which differences of opinion at least exist, such as that "in the large majority of cases patients are unable to assimilate small quantities of potato or of milk," or that "bitter ale may generally be taken;" as Burton bitter ale may contain quite as much sugar to the pint as milk, it is hardly consistent to commend one and condemn the other. Even cream contains 3.5 per cent. of sugar, and is only permitted because it is taken in small quantities. On the other hand, all fruits are forbidden, although many contain only 2 to 8 per cent. of sugar, and these may usefully be added in small quantities to the dietaries of many patients. The same criticism applies to the diet table at the end of the book, which contains a list of articles of food and drink permitted and forbidden, where strict and not always accurate rules are laid down. The absolute prohibition of certain articles of diet because they contain starch must conflict with the directions of those physicians who from their experience in the treatment of diabetic patients recognize the principle that diabetics can assimilate a certain amount of carbohydrate food, and seek to determine how much each case can take. It is usual to find diabetics allowed a limited quantity of ordinary bread or toast, potatoes and many kinds of fruit, but these are all included in the forbidden list. Apart from this, and looking upon the book merely as a collection of cookery recipes, we can in a general way cordially commend it, but in some of the sweets an excessive amount of glycerine is allowed. For instance, on page 79, there is a recipe ordering "four tablespoonfuls" of glycerine, a quantity which might not only disturb the digestion and cause diarrhœa, but is held by such authorities as Knelz and Seegen to produce a distinct increase of the excretion of sugar.

MEDICAL AND SURGICAL APPLIANCES.

A Phonophore Stethoscope.

Some years ago Messrs. Arnold and Sons, of Giltspur Street, West Smithfield, E.C., brought out a stethoscope which they named the "Phonophore." Its construction secured a considerably increased volume of sound, and the appliance gained favour among those dissatisfied on general grounds with ordinary stethoscopes or whose needs, owing to some lack of aural acuity, were not adequately met thereby. Of this appliance the same firm has recently brought out a modification in which the bell-like attachment constituting the chest-piece is provided with two sound tubes instead of one. These tubes are continued upwards, the sound thus being conveyed to each ear direct from the collecting chamber. Each ear, therefore, receives the same amount of sound, although the same amount of sound may not be perceived if there is any difference in the hearing power of the two ears. The gross volume of sound is also stated to be greater than that supplied even by the original phonophore, but this is a point not easy to test precisely. In any case, however, this modification of the phonophore is worth examination by any one interested in stethoscopy. The modification, the nature of which will be further gleaned from the annexed illustration, is sold, we understand, at the same price as the original appliance.

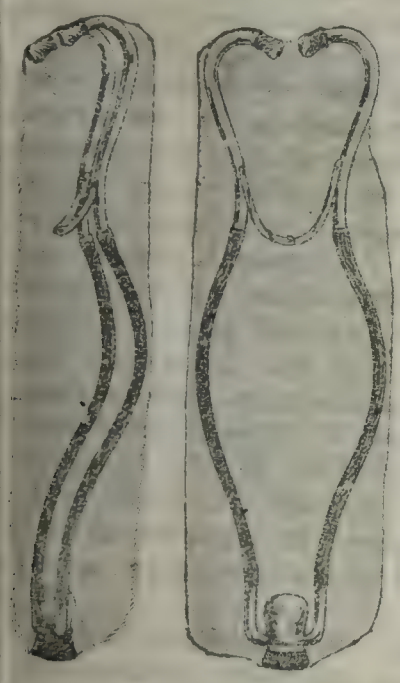

The twenty-second Cookery and Food Exhibition will be opened on Tuesday, October 31st, at the Royal Horticultural Hall, Westminster, by Her Royal Highness Princess Christian of Schleswig-Holstein at 3 p.m. The exhibition will remain open until Saturday, November 4th.

LITERARY NOTES.

Among the medical figures of the Renascence was one Symphorien Champier, Doctor of Paris and Montpellier, and later affiliated to the College of Physicians of Pavia. He was the chief physician and the trusted counsellor of Anthony, Duke of Lorraine and Bar, who took him with him on his campaigns into Italy and elsewhere. The doctor was present at the Battle of Agnadel, and afterwards at that of Marignan, where he displayed such valour—a quality, says a document of the time somewhat unkindly, which was not looked for in him—that he was knighted on the field of battle. What an honour this was we learn from that redoubtable Soldado, Dugald Dalgetty, who claimed precedence because he had been knighted on a stricken field. Champier was first a court doctor, and among his numerous works are several which savour more of the courtier than the physician. Such are the following: *La Nef des Dames vertueuses*, *La Nef des Princes*, *La Grande Chronique des gestes et vertueux faits des Ducs et Princes de Savoye et Piedmont*, etc. Moreover, he was a remarkable administrator, and his fellow townsmen of Lyons twice made him their Mayor. He was also a notable medical author. His *Hortus Gallicus* is an interesting catalogue of plants indigenous in France which can be utilized in medicine. In the library of the late Dr. Frank Payne there were several volumes of Symphorien Champier's works. One of them, *Symphonia Galeni*, is mentioned by Rabelais under the fictitious title of *Campi Clysteriorum par S. C.*, in the satirical catalogue of the Library of St. Victor. Champier was also the author of a little work entitled the *Myrouel des Apothicaires*, which is a dissertation on the materia medica of the time and the adulteration to which certain products were exposed. The book has a second part with the title, *Les Lunectes des Cyrurgiens*, which is a collection of precepts for the operators of the time. From this last part Dr. Henri Bouquet has extracted some passages on medical etiquette and cognate subjects. He says that a doctor must before all things have the fear of God before his eyes, and must have regard solely to the cure of his patient. If the case seems to be going wrong the doctor must admonish the patient's relatives and friends to induce him to set his spiritual house in order, "not by giving him to understand that he is in danger of death, but by hinting to him that sometimes diseases originate in the soul, as it is said in Holy Writ." He admits that sometimes doctors think of nothing but their fees, but this is because as a rule they are born of evil parentage. He complains that if a doctor comes from Ethiopia, or is a Jew or an Arab, or a foreigner of any kind, he is highly esteemed in France because the people of that country are light-minded and easily deceived by vaunting promises, and are attracted by anything new. Then we have an amusing characterization of various nationalities. Spaniards are boastful, and often malicious. Italians have the worldly wisdom which is often folly in the eyes of God. They are apt to be envious, and owing to the dissensions between Guelphs and Ghibelines, they are apt to be quarrelsome among themselves. Germans are strong in body and brave in war, good mathematicians, but too much inclined to novelty in theology. This is doubtless a hit at the Reformers. He adds, however, that whereas Germans were formerly the most barbarous people in Europe, and cared nothing for medicine, their treatment being usually nothing more than the prescription of good Rhenish, they had become the most elegant Latinists of the time. The English and Scots are described as philosophers and theologians; they are said to have no regard for any nation but their own. Champier repeats more than once a precept which is often found in mediæval writers, that doctors should not undertake the care of incurable or "bad" cases lest their reputation should suffer. Apothecaries and surgeons should not introduce into a house any physician whom they know to be vicious or ignorant; if they do so they are accountable to God for the evil thus done. On the other hand a physician should recommend an apothecary whom he can trust. It may be gathered that in some French cities in the sixteenth century it was the physician who was called in first, whereas in others recourse was first had to the apothecary. This custom is said by Champier to be the cause of many evils. He insists that physicians, surgeons, and apothecaries should all stick to their proper business.

British Medical Journal.

SATURDAY, OCTOBER 28TH, 1911.

THE NATIONAL INSURANCE BILL.

The House of Commons resumed the consideration in Committee of the Insurance Bill on Tuesday afternoon, after the Prime Minister had carried his resolution giving the whole time of the House to Government business. The clause under discussion was Clause 18, which defines the conditions for approval of approved societies. On Wednesday Mr. Asquith carried the closure resolution which fixes a time limit for the discussion of the remaining clauses in Committee. The resolution does not show the dates on which the various clauses will be taken, but the number of the allotted days. Altogether sixteen days are to be given to the Committee stage of the remainder of Part I, together with Part III, which contains certain general provisions; five days are allotted to the Report stage of the bill and one to the third reading. Part II of the bill—unemployment insurance—including any new clauses dealing with the subject matter of Part II, are to be sent to a Standing Committee, which will have to conclude its work before the Report stage.

With regard to those clauses in Part I which particularly interest the medical profession, it will be observed that Clauses 43, 44, and 45, which contain the provisions with regard to the appointment, constitution, powers, duties, and finances of the local Health Committees, will be taken on the eighth allotted day. Two days will be given to Clauses 46 and 47, so as to give time for a discussion upon sanatoriums. Clause 59, which concerns the application of the Act to Ireland, is to be taken on the twelfth and thirteenth allotted days. The new clauses, among which is included that constituting local Medical Committees, and defining their constitution, powers, and relations to the Health Committees, will be taken on the fourteenth allotted day. The schedules are to be considered on the fifteenth and sixteenth allotted days, and the Committee stage is to be brought to a conclusion on the sixteenth day. The Chairman is empowered to put in force the kangaroo closure—that is to say, "to select the amendments to be proposed with respect to any motion, clause, or schedule under debate." This arrangement came into force on Thursday, October 26th, which was the first allotted day.

It appears, therefore, that the Committee stage in the House of Commons will not be concluded until late next month, and we understand that the State Sickness Insurance Committee at its meeting on Wednesday last resolved to recommend the Council at its meeting on Wednesday next to fix a convenient date towards the end of November for the special meeting of the Representative Body which the meeting in Birmingham instructed it to summon immediately upon the completion of the Committee stage of the Insurance Bill. The report which the same resolution instructed the Council to make will be issued to the Divisions at the earliest possible date. As the parliamentary session must be ended before Christmas, and as the bill has yet to go to the House of Lords, the Government will probably desire to make the interval between the Committee and the Report stages as short as it can, and it will therefore be necessary for every Division to make arrangements to hold a meeting for the discussion of the matter at short notice.

The scheme embodied in the National Insurance Bill introduced by the Chancellor of the Exchequer on May 4th, 1911, was not the scheme—we are referring, of course, to the medical part of the scheme upon which the whole of the superstructure of the fifty-nine clauses of Part I rests—that the British Medical Association would have drafted had it been asked to draft a scheme. It was, of course, not asked, being the body most competent to draw up a practical, just, and efficient scheme, but that is the way legislation has been conducted in this country for a century or more. It is very expensive in money and mistakes, but it is what the voters vote for. The profession and the Association were confronted, then, with a scheme which obviously presented many defects. What was to be done? The profession might have said at once that it would refuse to work under such a scheme, and there were those who thought then that this would be the wiser course. No question was ever more thoroughly debated, and the profession, speaking through the British Medical Association, through the General Medical Council, and through the medical corporations, decided that it would endeavour to work the scheme on terms. These terms were reduced to writing in the six propositions which the British Medical Association drew up as embodying the principles essential to be fulfilled if the scheme was to be workable. This decision committed the profession among other things to the policy of convincing the House of Commons and the Government that the bill must be amended. The bill as amended meets the wishes of the profession on certain cardinal points, among others the right of the patient to the free choice of doctor, and the administration of medical benefit by the local Health Committees and not by the friendly societies.

This decision of questions of principle was seriously affected in its application by the amendment adopted on the motion of Mr. Harmsworth, to the effect that the regulations may provide that in the case of persons who are receiving medical attendance and treatment under any system, or through any organization existing at the time of the passing of the Act and approved by the local Health Committees and the Insurance Commissioners, such medical attendance and treatment may be treated as, or as part of, their medical benefit under the Act, and may provide for the Committee contributing towards the expenses the whole or any part of the sums which would be contributed in the cases of persons who had made their own arrangements.

As we ventured to point out in the Journal of August 19th, p. 386, one of the risks against which the profession has most need to guard is "the attempt by amendments like that of Mr. Harmsworth to bolster up existing organizations, such as the medical aid institutes and friendly society medical clubs, by recognizing them in the bill." It has been argued that any such amendment could make little difference in the long run, not only because medical clubs are doomed by the practically unanimous opinion of the profession, but because the opportunity of the free choice of doctor will place the members of friendly societies in this respect in the

same position as other insured persons. Probably in any case it will be thought advisable by the Association, on the Report stage, to seek, if not the deletion of Mr. Harmsworth's subsection, at all events the addition of words making it quite clear that nothing in it shall take away the right of every insured person to avail himself of this privilege.

With regard to the income limit, the position seems to be this. The Representative Body on June 1st laid down the principle that the limit should be £2 a week. In the interval before the Representative Meeting at Birmingham it was made evident that many members of the profession, though they were ready loyally to abide by this standard, yet considered that for the district in which they worked it was too high. At Birmingham the question was dealt with in a series of resolutions defining the attitude of the Association on each point of detail, and we may quote from the JOURNAL of July 29th, p. 225, the following sentences: "The collective effect of these resolutions is that the Representative Body reaffirms the determination of the Association to establish throughout the country a maximum income limit of £2 per week for persons who are to be entitled to receive medical treatment and attendance under arrangements made by the local Health Committees under the bill, and to support the local profession in any district in establishing in respect of that district such lower income limit as is in the opinion of the profession suited to the circumstances of that district. The Council has been instructed to use its best endeavours to carry out these objects in every possible way, and especially by continuing to press that a definite maximum income limit of £2 a week for medical benefit should be fixed in the Insurance Bill. The meeting agreed that persons who, under the general income limit of £2, or such limit as may be fixed locally, are excluded from obtaining medical attendance under arrangements made by the local Health Committees, should be entitled to receive their medical benefit in the form of a pecuniary equivalent to be applied to defraying the cost of medical attendance."

Immediately after the Representative Meeting steps were taken to give effect to its instructions in the matter of the income limit, and the Chancellor of the Exchequer was urged to make the fixed maximum limit of £2 a week statutory. As these representations were unsuccessful, steps were taken to secure the moving in the House of an amendment which would give effect in accordance with the decision of the Representative Meeting. This was in the following terms:

> Every local Health Committee shall, for the purpose of administering medical benefit "in respect of insured persons whose income from all sources does not exceed £104 a year," make arrangements with duly qualified medical practitioners.

It was moved on August 2nd by Sir Philip Magnus, who was supported by Sir Robert Finlay and Sir Henry Craik. Sir Philip Magnus stated to the House that if it were carried he would follow it with a consequential amendment providing that persons excluded from obtaining medical attendance under arrangements made by the local Health Committee should receive a contribution to the cost of attendance obtained under arrangements made by themselves equivalent in amount to the average cost of the provision of medical benefit by the local Health Committee.

The proposal was resisted by the Chancellor of the Exchequer and was not accepted by the House of Commons, but on the same day the House adopted by 271 to 41 a subsection moved by Dr. Addison providing that the regulations made by the Insurance Committee should authorize the local Health Committee to require any person whose income exceeds a limit to be fixed by the committee and to allow any other persons in lieu of receiving medical benefit under such arrangements to make their own arrangements for receiving medical attendance and treatment, the committee contributing towards the cost of medical attendance and treatment for such persons sums not exceeding the amount which the committee would otherwise have expended in providing medical benefit for them.

It will be for the Divisions and the Representative Meeting to consider whether this provision will place it in the power of the profession to give effect to its determination that no person whose income exceeds £2 per week shall receive medical attendance and treatment under arrangements entered into with the insurance authorities constituted by the bill, and whether a further attempt should be made at the Report stage in the House of Commons to secure the insertion in the bill of an explicit provision that the maximum income limit shall be £2 per week.

The three amendments—free choice of doctor, income limit, and administration by the local Health Committee—were carried in the House by overwhelming majorities, not because the House thought that the good will of the profession was indispensable, but on the inherent merits of the case, and the suggestion of the mass meeting of Friendly Societies' representatives at the Albert Hall that the House should reverse its practically unanimous resolutions can hardly be seriously entertained even by the "die-hards" and "last-ditchers" of the friendly societies. Let the societies once frankly acquiesce and give up all attempts to frustrate those decisions by introducing side-issues and they may rest assured that the medical profession will not be unreasonable in the application of the bill. The profession is not demanding vengeance but a better medical service.

At the National Conference of Friendly Societies at Edinburgh several speakers complained that a distinct hardship would be inflicted on their members who were over 65 years of age and on those who, though below 65, could not fulfil the employment test owing to some chronic disease. The conference unanimously resolved that "Government should be required to amend the bill for the purpose of making adequate provision out of the existing reserves for the excess liability of permanent sick, aged, and others who will be left on the hands of the societies," and further, "That arrangements shall be made to ensure medical attendance for all existing members of friendly societies who are excluded from the State scheme on the same terms and conditions as those members who become insured persons under the bill." It is necessary here to point out that at least part of the difficulty arises from the fact that many of the societies have worked on the principle of making the younger members pay for the older, and as the proportion of aged or infirm members has increased with the age of the societies, they have been compelled either to increase their subscriptions or to reduce their benefits. But as the Chancellor pointed out in the debate in the House on Clause 1, "the Government is taking the whole responsibility of the reserve between 16 and 65 for every member of a friendly society, and is undertaking it at 20s. in the £," in spite of the fact that many of the societies are not worth 20s. in the £. Large sums of money will thus be released, and out of the bonus thus given the societies will be in a

position to deal liberally with their aged and infirm members. In addition the Government gives a promise to make some arrangement to allow persons between 65 and 70 who fulfil the employment test to receive the State 2d. and the employers' 3d.

Still further, the Chancellor has promised favourably to consider a proposal to amend Clause 55 "so as to allow societies, if they desire, to apply a part of the reserve released under that clause in respect of members between the ages of 16 and 65 for the relief of such persons, and also of any other persons under the age of 70 who cannot be transferred to the State scheme." In any case the hardship will be confined to a comparatively small and a rapidly diminishing number. Nevertheless, the societies will undoubtedly experience some temporary difficulty in dealing with their aged and infirm members, and consider that they have some reason in seeking the assistance of the medical profession.

The societies suggest that it would not be unreasonable to ask the medical profession to continue to attend their aged and permanently invalided members, not, of course, at the old 4s. rate, but on the same terms as the State scheme will pay for insured persons. It is urged that the total number affected will only be small to begin with, and will be a rapidly diminishing number, so that any arrangement would only be to tide the societies over a temporary difficulty; but the societies regard this as of such vast importance that if some arrangement could be obtained there is ground for believing that much, if not all, of the opposition they at present offer to the claims of the medical profession would be removed. If we may judge from the conciliatory speech of Mr. Moffrey, as President at the National Conference of Friendly Societies at Edinburgh, the leaders of the societies recognize that they are bound to accept the verdict of Parliament as to free choice of doctor, income limit, and administration of medical benefit by the local Health Committees, and it can only be after a full acquiescence in these provisions that the profession will even listen to suggestions which in fairness to the societies we have endeavoured to put in their strongest light.

THE NEW REGULATIONS FOR THE ROYAL NAVAL MEDICAL SERVICE.

THE new regulations for admission to the Royal Naval Medical Service have at last been issued, and were published in our issue of last week.[1] We have already published the Admiralty Circular Letter of August 11th, 1911,[2] which gave details of the various alterations adopted by the Admiralty on the recommendations of the Durnford Committee, which was formed so long ago as November, 1908, and made its report in July, 1909. It cannot be said that there has been undue haste in giving effect to the recommendations of the Committee; in fact, it is an open secret that there has been much opposition to any scheme for the improvement of the medical branch of the navy, and it is probable that only the logic of hard facts—inability to obtain sufficient candidates, and the probability that a much bigger scheme would have been called for later on—induced the authorities to give effect to the recommendations.

We may say at once that all the new regulation are to the good so far as they go; the pity is tha they do not go far enough. There are many points, t which we will refer later, which would not cost th country a penny, and which will have to be settle before the service can be considered efficient an contented.

By far the most important change is that relatin to the entry and post-graduate training of medica officers. A school is to be formed at Greenwich i the Naval College, where the acting surgeons on entr will do part of their course—hygiene, bacteriology and tropical medicine—before going to Haslar fo instruction in naval hygiene, hospital administra tion, recruiting, and physical training. The fu course is to last for six months—two months a Greenwich and four months at Haslar. Acting su geons who fail to obtain qualifying marks at the en of the course of instruction are to be given a secon chance; and, should they fail, will then have t withdraw. It is not stated whether the men wh fail are to be given a second course of instructio and are to remain on full pay or not, and this is point which should be cleared up. It would see advisable not to spend too much money on outf until a candidate has been successful and has obtaine his commission, or he will find himself with a larg amount of useless expensive uniforms, and will realiz by bitter experience the difference between buyin and selling.

The post-graduate course of instruction has bee altered. Instead of three courses of three month duration during the surgeons', staff surgeons', an fleet surgeons' period of service, and which were no compulsory, there will now be two courses—one com pulsory, of six months' duration for surgeons, an which will take place prior to the examination for th work of staff surgeon, and another course of thre months' duration, which is voluntary, and will b undergone by officers of not less than fourteen year seniority.

As regards the first course, this is an enormou improvement. It is to be thoroughly practical. Th teaching in ordinary professional subjects will be the hands of eminent civilian teachers. Clinic work in the large London hospitals is to be allowe and the teaching in naval hygiene and tropic medicine will be in the hands of the two fle surgeons appointed for this purpose to Greenwic who will also instruct the acting surgeons on entry.

The examination for promotion to the rank of sta surgeon is to be a thoroughly practical one, inste of the present written examination only, which usually regarded as unsatisfactory. For proficien in this examination accelerated promotion is to granted, and those who obtain 85 per cent. of mar will be eligible for an advance of eighteen month seniority, and those who gain 75 per cent. twel months. This will be a great inducement to stud particularly to those men who enter late.

The fleet surgeon who is appointed Professor Hygiene at Greenwich is also to be Director Studies, receiving an additional £50 a year for th latter duty. He will be able to make confident reports to the Director-General as to the abilities the various medical officers, which should be of mu use.

Another excellent reform is appointing the princip medical officer of a fleet on the staff of the Com mander-in-Chief. Given a wise and sympathe admiral, this should lead to the sanitary efficiency a fleet and to the systematic organization of i medical service in war, which at present, although

[1] BRITISH MEDICAL JOURNAL, October 21st, 1911, p. 1042.
[2] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, September 2nd, 1911, p. 329.

a process of evolution, requires hastening on. The principal medical officer will also be in much more intimate touch with the other medical officers, and will be able to give confidential opinions as to their efficiency both to the Commander-in-Chief and to the Director-General. Principal medical officers of hospitals will also have reports of the efficiency of medical officers of stationary ships and establishments referred to them for independent report. All this is a great improvement on the old method, where confidential reports were sent in only by commanding officers, who were necessarily unable to judge of the professional capacity of their medical officers, and were too apt to consider the social side and the "bedside manner" only.

Promotion to the ranks of staff and fleet surgeon still remains by seniority with the chance of accelerated promotion for proficiency in the examination for staff surgeon, but the promotions to the administrative grades of deputy surgeon-general and surgeon-general are to be made strictly by selection—a very necessary reform. A certain amount of sea service is also to be requisite for promotion to the ranks of staff surgeon, fleet surgeon, and deputy surgeon-general, and this is obviously fair.

For failing twice in the examination for promotion to staff surgeon there is a penalty attached. Those who thus fail will be retired with a gratuity not exceeding £500 on attaining eight years' seniority, and possibly this may deter candidates from entering. The regulation seems fair, as the examination is a qualifying one only; there is special preparation for it at the public expense, and no officer of ordinary ability should fail; those who are too lazy to work will simply meet with their deserts, and have no title to sympathy. No details are given as to the manner in which the officer who fails in one examination is to spend his time before presenting himself at another. There is no interference with voluntary withdrawal at four, eight, twelve, and sixteen years' service on gratuity, except as above stated.

Pay in the ranks of surgeon, staff surgeon, and fleet surgeon has been slightly increased by about 6d. a day, but the pay of the deputy surgeon-general has been raised from 42s. to 45s. a day, to make it equal with that of the colonel in the Army Medical Service. On the other hand, the allowances in lieu of servants, lights, provisions, etc., remain the same, and will not in any way compare with those granted to executive officers of corresponding rank. It is difficult to see why this invidious distinction should be made.

Another welcome change is the extension of charge pay to deputy surgeons-general and fleet surgeons in charge of sections of the three large hospitals, who are granted 5s. and 2s. 6d. a day respectively. The medical officers in charge of the sick quarters at Deal and Shotley are to receive 5s. or 2s. 6d. a day, according to rank, and the senior medical officers of sea-going ships with complements of over 650 are to receive 3s. 6d. a day. It is understood that the latter allowance is to encourage officers to seek sea service, and probably it will succeed, but it is difficult to understand why the medical officers in charge of depôts, such as Whale Island and the Royal Naval Barracks, where there are very large complements, should be excluded.

The pay of the Director-General and his deputy and assistants has been increased—not before it was time, for the expenses of living in London are considerable, and the allowances do not in any way cover the cost; it was, for instance, absurd to expect an officer to get decent furnished rooms, firing, lights, and attendance for £50 a year, which was the allowance for fleet and staff surgeons, and the Director-General was not so well off as the surgeons-general in charge of Haslar, Plymouth, and Chatham Hospitals.

The cumbersome titles of Inspector-General and Deputy Inspector-General of Hospitals and Fleets have been abolished, and the handier titles of Surgeon-General and Deputy Surgeon-General substituted. The shortened titles of Inspector-General and Deputy Inspector-General, which were in general use, were meaningless, and the new titles will indicate the profession to which the officer belongs.

The provision of a small medical library to ships is much to be commended; it will call for skill in selection, and it is to be hoped that new editions of the works to be supplied will be provided as they come out. It will also relieve the medical officer of some expense which those who wish to keep themselves up to date now incur.

All these changes should lead to greater efficiency and more contentment in this essential branch of the navy, but there are sins of omission, and these need to be repaired.

The cabin question has not been settled, and the senior medical officer of a ship may still have a cabin inferior in size and badly situated allotted to him, while the junior medical officer even of staff surgeon's rank may not get a cabin at all, and will in any case have the mortification of seeing young lieutenants, engineer officers, and marine officers, who are his juniors by many years in age and rank, having cabins granted to them because they are watch-keeping officers. This is a crying evil, and until it is settled in an equitable manner will cause discontent, and prevent young medical men from joining the service.

The control of the sick berth staff is not mentioned, and the old anomalous condition continues. This applies more particularly to naval hospitals where neither the principal medical officer nor the medical officers working under him have any authority. The delegation of authority in a ship may perhaps be difficult, but this does not apply in any sense to hospitals, and the folly of the whole procedure will only be realized when we are in the grip of war and it is too late to alter things. It is unfortunately not recognized either by the civilian element at the Admiralty, who will not have to suffer, and are therefore indifferent, or by naval officers who have had no experience of what a naval war means, that an efficient and contented medical service is absolutely necessary.

The curious anomaly of placing an executive naval officer in charge of a naval hospital abroad still continues, and is an undoubted cause of inefficiency. The principal medical officer is constantly hampered in carrying out his duties, particularly where the naval officer in charge is wanting in tact and desirous of showing his authority. This applies still more when the naval officer in charge has an interfering wife; the position of the unfortunate medical officer may then become absolutely intolerable. This state of affairs would not be tolerated for a moment in any military or civil hospital, and the foreign hospitals should be placed under the same conditions as those at home.

It is still considered necessary to have as President of a Medical Board of Survey an executive naval officer frequently junior in rank to the medical officers on the board, and necessarily unqualified to give an opinion on questions which are obviously outside his competence. We believe that many of the best class

of executive officer would be glad to be relieved of this unpleasant duty.

The question of medical guard still remains unsettled and is at the caprice of any senior naval officer, however eccentric his views on the subject may be. It should not be difficult to lay down a definite procedure, and the point urgently requires consideration.

The more equitable distribution of honours should be considered. It is true that at the recent Coronation the medical branch was awarded a fair share, but this is the first time for many years, and it will hardly be believed that among the wealth of honours awarded for our two most recent wars (the Boer war and the Boxer war in China) the medical officers of the navy who took part were only awarded two D.S.O.'s.

These, then, are the more crying sins of omission from the recommendations of the Durnford Committee—at all events, they are not touched upon by the Circular Letter—but the report of the committee has not been published, so we are unable to say whether or not any of these subjects is dealt with therein.

No one will deny that the navy requires an efficient medical service, least of all the men whose lot it is to serve in the premier fighting force of the country. This efficient service is quite possible. The recommendations of the committee have gone a long way towards making it so, and we would venture to represent to the Admiralty the urgent necessity of considering the various points mentioned with a view to attracting to the medical service the most suitable class of candidate.

THE RETURN TO CHEMISTRY.

In his Presidential Address to the Obstetric Section of the Royal Society of Medicine, to which brief reference was made last week, Dr. Amand Routh drew attention to the trend towards chemistry which is discernible in modern scientific medicine, and deplored the small progress which has of late been made in the understanding and treatment of such dire diseases as hyperemesis gravidarum, chorea of pregnancy, and eclampsia; he ascribed the delay to a lack of knowledge of the chemical substances which may be supposed to cause the onset of menstruation, of labour, and of lactation, as well as of various toxaemias of gestation. There is much truth in Dr. Routh's contention, and it can hardly be doubted that progress along the road which leads to prevention in obstetric medicine must be made by means of an increased, and much more accurate, acquaintance with the physiological and pathological chemistry of the reproductive processes. It is impossible to allow that the surgical removal of the uterus, the ovaries, and the Fallopian tubes will continue to be the only treatment of grave disorders of menstruation, or that the sole cure of some of the maladies of pregnancy must ever be looked for in the artificial induction of abortion with its concomitant feticide, even if it be therapeutic feticide.

Dr. Routh refers appreciatively to Dr. A. E. Garrod's article, "Where Chemistry and Medicine Meet," which appeared in this JOURNAL[1] some months ago, and there are many stimulating and suggestive thoughts contained in that contribution to clinical chemistry. With the help of some apt and arresting comparisons and a tinge of pictorial imagination, Dr. Garrod makes the difficult subject of the proteins intelligible to the ordinary mind, and deals in an illuminating fashion with the chemistry of the protective mechanisms, of diet, and of such diseases as gout, diabetes, calculus, and acidosis.

It would seem that in different species of animals the tissue proteins have different fractions entering into their constitution, fractions which resemble the atoms in a molecule; but even between the individuals of a species the proteins vary in subtle ways. So it comes about that, chemically regarded, each man has his own particular brand of proteins, his own peculiar form of tissue life. Carrying this conclusion over into the sphere of the chemistry of the interchanges between mother and fetus in pregnancy, we begin to understand why one woman will develop grave vomiting, another eclampsia, and another will enjoy the best of health; some part of the explanation will be found in all probability in the constitution of her proteins and in the way in which they react to the influences bearing upon them from without (diet, etc.) and from within (life of the fetus).

A few years ago a really great addition was made to our knowledge of the chemistry of pregnancy in a work by Professor Paul Bar of Paris, entitled, not very happily, *Leçons de pathologie obstétricale*.[2] It is really a contribution of more than nine hundred pages to the discussion of the chemical interchanges between mother and fetus in that marvellous association of lives which Bar terms "the homogeneous harmonious symbiosis of gestation." The conclusions he reached were founded upon and fortified by a great mass of figures obtained from the chemical analysis of the excretions of pregnant patients. In turn the nitrogen exchanges, and the needs and supply of the fetus with phosphorus, sulphur, lime, sodium chloride, iron, and carbon compounds, are investigated, and many far-reaching conclusions arrived at. One of the most important is that in a healthy pregnancy, a gestation which Bar in a felicitous phrase defines as *fetus sanus in matre sanâ*, the mother does not lose in strength by her self-sacrifice for the unborn infant; the nitrogen interchanges show that the pregnant woman has a greater power of extracting from her food all the materials required for the growth and development of her fetus, and that at the end she has a balance over, so that she actually stands to gain and not to lose. But it is important to remember the qualification that both mother and fetus must be healthy; pregnancy is a stress-period, and comparatively slight deviations from the laws of hygiene may be attended by grave results.

There can be no doubt that there is a pressing need for the application of the most recent methods of physiological and pathological chemistry to the investigation of the reproductive processes, to menstruation, to pregnancy, to labour, and to the puerperium, and especially to pregnancy and its maladies. This conclusion carries us back to the plea published by Dr. J. W. Ballantyne in this JOURNAL[3] more than ten years ago—the plea for the establishment of pre-maternity pavilions or wards in connexion with maternity hospitals, places in which all the functions of the healthy and unhealthy pregnant patient could be scientifically investigated and beneficially treated. The inclusion in the medical staff of such pre-maternity hospitals of a skilled physiological chemist would do much to open up the way for a more adequate investigation of the chemical problem underlying reproduction, normal and morbid.

[1] BRITISH MEDICAL JOURNAL, June 17th, 1911, pp. 1413-18.

[2] P. Bar, *Leçons de pathologie obstétricale*, Paris, 1907.

[3] BRITISH MEDICAL JOURNAL, April 6th, 1901, pp. 813-814.

GENERAL MEDICAL COUNCIL ELECTION.

It will be seen from the preliminary list published in the Supplement that the candidature of Dr. Langley Browne, Dr. Latimer, and Mr. Jenner Verrall for re-election or election to the General Medical Council has already received a very large measure of support from all parts of the country. The British Medical Association resolved some years ago that it would in future take an active part in selecting candidates for election to represent the medical practitioners in England and Wales, but owing to various circumstances this is the first occasion upon which it has been possible to put the plan settled by the Representative Body into force. Last July every Division in England and Wales was invited to nominate candidates, and the list of successful candidates thus obtained was submitted to a special meeting of the Representatives of Divisions in England and Wales held at Birmingham during the annual meeting of the Association in July. The result of the ballot was that the three gentlemen mentioned were chosen, and the Association is pledged to support their candidature. This, of course, is a matter upon which the Divisions and the Representative Body can do no more than recommend; but in any case there is, we venture to submit, a strong obligation on every registered medical practitioner to make use of his votes. It is a common reproach against the profession that its members show an unfortunate apathy in respect to matters affecting their material and social interests. One of the chief arguments which has been used by those who were opposed to increasing the number of Direct Representatives has been the small proportion of the total number of registered medical practitioners who have taken the trouble to vote. It is hoped on all hands that on the present occasion this reproach may be removed. With regard to the way each practitioner should cast his vote, this is, of course, a matter for individual decision, and we can only venture to point out that Dr. Langley Browne and Dr. Latimer have done yeoman service as members of the Council, and that, as their past records show, they may be trusted by the general body of the profession to represent its views and to promote its best interests. As to Mr. Verrall, although he has not yet served on the General Medical Council, he has been for many years engaged in the public affairs of the profession, and has proved himself to be a man of unbiassed judgement, well acquainted with the needs of the profession and skilful in the conduct of public business. The other candidates are Mr. George Jackson, who served one term as a Direct Representative on the Council, but was not re-elected in 1907; Dr. Arthur Haydon, secretary of the Brussels Medical Graduates' Association, who has become a candidate, as it appears from his address published in our advertisement columns, mainly to bring about the registration of foreign degrees, "as an additional academic distinction," and Mr. George Brown, Dr. Arthur Hawkyard, and Dr. Sidney C. Lawrence, who are standing conjointly. In Scotland, Dr. Norman Walker, who is seeking re-election, has, so far as we have yet heard, no opponent, and it will not be surprising if the profession in that country refrains from putting him to the trouble of a contest. Dr. Walker has shown himself an extremely diligent, competent, and level-headed representative of his countrymen. In his address, which was published in our advertisement columns last week, he refers to the fact that he was a member of the special committee appointed by the General Medical Council to consider the National Insurance Bill, and, we may add, a fact which he does not mention, that it was largely at his instance that the Council resolved to take immediate action and to represent its view to the Government and to the country at the earliest possible moment. In a further reference to the bill in his address, he expresses his regret that the medical corporations have contented themselves with a series of resolutions, and have left to the British Medical Association the whole burden of this portion of the fight. "The Association," he writes, "has risen to the occasion, and occupies to-day a more influential position than ever before. Its difficulties are far from over; whatever arrangements it may succeed in making will displease some among us, but the profession has in this matter committed its interests to its care, and we shall, I am sure, loyally abide by whatever decisions its leaders may arrive at."

EPIDEMIC PARALYSIS (POLIOENCEPHALOMYELITIS).

During the past few months a number of cases of poliomyelitis, or polioencephalomyelitis, have occurred in various parts of the country. Reports which may perhaps fairly be considered to have been somewhat alarmist have appeared in the newspaper press indicating that such outbreaks have occurred in Devon, Cornwall, Suffolk, and Cambridgeshire, and we hope to publish authentic information with regard to these and also with regard to an outbreak in Huntingdonshire in an early issue. We learn also that there has been an outbreak in the Birmingham district, although the medical officer of health is not yet in possession of information sufficiently reliable to enable him to make a statement as to the number and distribution. Professor Sims Woodhead has been good enough to inform us that not only have cases of acute anterior poliomyelitis been observed in Cambridgeshire, but also a number of instances of epidemic cerebro-spinal meningitis. He is of opinion that the two sets of cases are related, and that certain other curious reports are to be associated with these conditions. There are at present several cases of acute anterior poliomyelitis in Addenbrooke's Hospital. The disease has occurred especially in children over 1 and under 8, and Professor Woodhead adds that the mortality seems to have been about 22 per cent., and that there is some evidence of infection. We shall be glad to receive information from correspondents who may have encountered series of cases of this nature in other parts of the country. Meanwhile, we may direct attention to a paper by Dr. F. E. Batten, who opened the discussion on the epidemiology of poliomyelitis in the Section of Diseases of Children at the annual meeting,[1] published in the current issue of *Brain*.[2] Speaking in the Section, Dr. Batten defined the term "poliomyelitis" as signifying "an acute infective disease, having a special selective action on the nervous system which gives rise to a variety of symptoms dependent on the portion of the nervous system affected." In his article in *Brain* he adds to this the following classification of the symptoms: "(1) A localized paralysis of one or more limbs; (2) an ascending paralysis, often rapidly fatal, owing to the involvement of the respiratory centres; (3) an acute ataxia; (4) a paralysis of one or more cranial nerves; (5) hemiplegia; (6) the symptoms of meningitis; (7) an acute mental defect; and (8) a type of case in which pain, especially on movement, is the most marked feature—so-called neuritis." Owing to the fact that not only the spinal cord but any part of the nervous system may be affected, he would prefer the term "polioencephalomyelitis," but appears to admit that this is a clumsy word for ordinary use, and that much is to be said in favour of the term "epidemic paralysis" as a wide term which would include most of the manifestations of the disease; the word "epidemic," however, though true for a large number or cases, is by no means applicable to all. He accepts the view that there are abortive cases with transient symptoms with or without paralysis, but that they cannot be identified except when occurring in

[1] British Medical Journal, September 2nd, p. 492.
[2] *Brain*, vol. 34, Part I, p. 45.

direct association with marked cases of the disease. The interesting series of cases in the same family which have recently been under the care of Professor Saundby, of the Birmingham General Hospital, would seem, as the record published last week shows, to offer a connecting link, since the symptoms in some of the cases were such as are often followed by permanent paralysis, while in one of the family suspicion would not have been aroused had the case been isolated. Dr. Batten urges that the disease should be added to the list of notifiable diseases on the ground that it may be transmitted from person to person as has been made evident in all the recent epidemics investigated, and that it is a serious detriment to health and a danger to life. The advantages which he believes would be obtained through notification are that it will lead to the general recognition that the disease is infective and so tend to prevent its dissemination by contact, that the accumulation of records will show the extent of the prevalence of the disease, and that investigations which must throw light both on the cause and means by which the disease is disseminated will thus be stimulated. This view was endorsed by the Royal College of Physicians of London last April, when it adopted a resolution recommending the London County Council to include poliomyelitis and polioencephalitis among the notifiable diseases, in view of the infectivity of the disease, its annual occurrence in London, and its crippling effect upon children and others.

THE STUDY OF SPECIAL DISEASES AT CAMBRIDGE.

THE foundation stone of a new hospital, in which the researches carried on under the auspices of the Cambridge Committee for the Study of Special Diseases will be prosecuted with larger facilities, was laid in July and the building is now in course of erection. We have often had occasion to call attention to the excellent work done by the committee, and in the JOURNAL of April 1st, 1911, we gave an illustrated account of the building, which is so designed by the architect, Mr. Herbert W. Maguire, of London, as to be capable of use either as a research hospital or as a private residence. The contract price of the building is nearly £1,800. The larger part of this has already been given or promised, but a considerable sum is still required in order that the hospital may be opened free of debt. We have repeatedly called attention to the value of the work done by Mr. Strangeways and his collaborators and assistants, who have been striving to throw light on one of the dark places of pathology—the nature and causation of rheumatoid arthritis and allied diseases. The committee not long ago issued a third *Bulletin* recording the results of the work. Among its contents the one of most general interest is a continuation of a former communication dealing with the changes found in the joints of hands from cases of so-called rheumatoid arthritis and chronic gout, by Mr. Strangeways and Dr. Emily H. Morris, the R. C. Brown Research Scholar. It is based on a prolonged study of many hundreds of skiagrams of all forms of arthritis, and the dissection of a large number of *post-mortem* specimens. Mr. Strangeways and Dr. Morris deserve the thanks not only of pathologists, but of the profession and also of the public for having undertaken the uninviting task of clearing the backwoods of an almost unreclaimed territory of pathology. Dr. William J. Mallory and Dr. Emily Morris's observations on uric acid excretions in gout and rheumatoid arthritis, though of physiological rather than of direct pathological interest, are quite in place in the *Bulletin* since the knowledge of normal processes logically precedes that of disease. Dr. Emily H. Morris contributes a series of elaborate observations on the temperature and pulse-rate in 95 cases of rheumatoid arthritis. Two papers of particular value as showing that the pseudo-diphtheria bacillus is a frequent inhabitant of the healthy vagina, are contributed by Dr. Morris in a report on the clinical and bacteriological examination of the vagina in 60 cases of rheumatoid arthritis, and by Dr. P. Hall Smith, clinical research scholar of the committee, in a paper on the incidence of a history of vaginal discharge in 115 cases of rheumatoid arthritis. Dr. Hall Smith concludes that in many cases of rheumatoid arthritis in women who have suffered from a purulent vaginal discharge there appears to be some relationship between the presence of the discharge and the onset of the arthritis and, possibly, the joints first attacked. The proof of the frequent occurrence of the pseudo-diphtheria bacillus is important in view of the fact that there is some reason to believe that this organism has been used as a vaccine. Dr. Hall Smith also records the result of an examination of the urine in 90 cases of rheumatoid arthritis in women. Albumen was found in 40 of the 90 cases. We cannot conclude without once more calling the attention of the profession to the self-sacrificing labours of those who are devoting themselves to the study of a disease at once so obscure and so uninteresting to the ordinary practitioner as rheumatoid arthritis. That disease causes an enormous amount of suffering which medicine has so far been almost entirely impotent to relieve. The Cambridge workers are gradually preparing for cultivation ground which it may be hoped will in time yield a fruitful harvest. The pioneers in this task, "obscurely great," may share the fate of most early workers and see others gather the produce of their labour. But we know that with them it is a labour of love, and that they take no thought either of glory or of profit. We think it right, therefore, to give them what encouragement we can by showing that the usefulness of their toil is not unrecognized. For themselves we are sure that the most grateful mark of appreciation that could be given would be sufficient financial support to make the hospital now springing into being enter on its career of usefulness free of any burden of debt. We may remind the profession that the committee consists of the foremost men in the profession. The work could not be under better auspices, and it would be a disaster to the public and something of a disgrace to the profession if the work were hindered by lack of funds.

THE TEACHING OF AURAL SURGERY.

IN his introductory address to the Section of Otology at the Royal Society of Medicine, the President, Dr. W. A. Milligan of Manchester, while congratulating his colleagues on the better position attained by their speciality in the chief general hospitals, complains that few medical schools compel their students to attend the aural clinics, and deplores the want of instruction in this subject from which the average student suffers. With this complaint we sympathize, and we agree that in a well-organized teaching hospital arrangements should be made for students to devote some part of their hospital time to attendance on the practice of the aural surgeon. We know that this is done in some schools, and there should be no insuperable difficulty in doing it in all. Dr. Milligan, however, goes on to urge that attendance at an aural clinic for from three to six months should be made compulsory; but, in saying this, we fear that he does not appreciate the difficulty of arranging the time table for the work of a medical student in his later years. Attendance on special subjects must be counted by hours, not months; and one hour a week for three months would be, perhaps, within the limits of the practicable. No one supposes that thorough instruction in this speciality could be obtained in this way, but the methods of diagnosis might be learnt and sufficient introduction given to stimulate a thirst for further knowledge. Anything approaching adequate instruction in the speciality must, we conceive, be left for post-graduate study by lectures and attendance at special

clinics, while those who aspire to become specialists ought to be trained as clinical assistants and house-surgeons in charge of these clinics. The fact that general practice is nowadays being encroached upon on all sides will not be disputed, and it is therefore only right to point out to students how desirable, if not necessary, it is for them to to equip themselves by special knowledge of some subject, as those who go into practice with no more knowledge than they have been able to acquire during the five years' curriculum will undoubtedly be at a disadvantage later on.

CAN A MEDICAL PRACTITIONER CLAIM UNDER THE COMPENSATION ACT?

THE case of Curtis *v.* Talbot and Others, which was heard in the Court of Appeal on October 16th, raised a legal point of some interest to the medical profession and to hospital managers. The applicant was house-surgeon at the Kidderminster Infirmary, his salary being £100 with board and lodging. When he first went there the infirmary had no *x*-ray apparatus, but in May, 1910, such apparatus having been installed, it was decided to use it on some patients suffering from ringworm. Dr. Curtis agreed to try it on his arm in order to test the effect of the pastille. The results of a fifteen minutes' exposure were so serious that he was compelled to undergo an operation, and was away from work for a considerable time. He made a claim for compensation at the county court pursuant to the Workmen's Compensation Act. Medical witnesses expressed the view that it was the applicant's duty to submit to the experiment, although it was conceded that his duties were practically prescribed by the rules of the institution, which had not been altered since the apparatus was installed. The county court judge refused to award compensation on the ground that the accident did not arise out of and in the course of employment,[1] and on appeal the Court of Appeal has affirmed this decision. It is interesting to notice that in both courts it would seem to have been tacitly assumed that the house-surgeon was a workman within the meaning of the Act. In the county court the judge said nothing on the point, possibly on the ground that it was unnecessary for the purposes of the decision, and his example was followed in the High Court. Lord Justice Fletcher Moulton, in the course of the argument, appears to have dwelt on the fact that it was no part of the applicant's duty to make such a dangerous experiment upon himself. He also pointed out that the proper exposure might have been ascertained from persons familiar with the apparatus, and that, in any event, he did not see how an experiment on a healthy skin could have been of use for ringworm. The duties of a member of a hospital staff would be onerous indeed were he to be compelled to test every new treatment on his own proper person. The matter was reduced to an absurdity when counsel for the appellant said (*arguendo*), "Suppose he had been about to perform an operation?" The Master of the Rolls interposed to inquire: "Ought he to cut off his own leg first?" Counsel did not suggest that, but said that testing the *x*-ray apparatus was equivalent to the operating surgeon testing the keenness of a knife with his thumb! As the case depended upon its own peculiar facts and clearly went off on the point that the accident did not arise *out of* and in *the course of* the employment, the question whether the house-surgeon was a workman within the meaning of the Act remains open, at any rate in England. Judges sometimes leave questions open for solution by others who are to come after them, and the fact that the point has not been settled, and may arise again in some future case, should be borne in mind by hospital authorities. It would be well for them to look into the terms of any policies they hold with insurance companies. We have received a letter from Mr. Lionel Stretton, Senior Surgeon to the Kidderminster Infirmary, suggesting that hospital authorities should take care to have their policies endorsed to the effect that the insurance company admits that all officials for whom premiums are paid are accepted by the company as workmen within the meaning of the Act. He adds that the Kidderminster Infirmary has already taken this precaution. It ought, perhaps, to be added that in Ireland the Court has decided that there being no contract of service between a dispensary doctor and the guardians of his district, he is entitled to no compensation if injured in the course of his duties. That case may be distinguished from the present by saying that it is clear Dr. Curtis was under a contract with the hospital authorities.

[1] See BRITISH MEDICAL JOURNAL, May 6th, 1911.

A CHARGE AGAINST CERTIFYING SURGEONS AND MEDICAL REFEREES.

THE Bradford papers recently contained headings such as "Grave Charge against Bradford Medical Men" in the form of statements made by Mr. Walter Barber, a secretary of 22,000 trade unionists in Bradford, in relation to the conduct of medical men examining cases for compensation under the Act of 1907. Mr. Barber is reported to have said that "he was quite satisfied in his own mind that a large number of the medical fraternity in Bradford have sold themselves body and soul to the insurance companies and it is with the utmost difficulty that compensation can be got for a workman suffering from an industrial disease." This statement was received with cries of "Shame" from the audience—the alleged conduct of the doctors, not the remarks of the speaker, being apparently regarded as shameful. He went on to say that trade unionists wanted the Act so altered that they could appeal against the decision of medical referees. Mr. Barber has made similar statements previously; and it is high time that his impertinent suggestions were repudiated by the medical profession. There is not a word of truth in his statement. It is a fact well known to nearly every doctor in Bradford that there are numerous malingerers amongst the applicants for compensation under the Act. It would almost seem as though Mr. Barber was unable to conceive that a medical man is doing his duty unless he indiscriminately gives an opinion in favour of the applicant. Fortunately the medical profession has sufficient backbone to judge a case on its merits, and to give its decision honestly and honourably, as the law demands. The extravagance of Mr. Barber's utterance is the more evident when one considers the actual duties of a certifying surgeon. The Act provides that where a certifying surgeon appointed under the Factory and Workshop Act, 1901, certifies that a workman is suffering from an industrial disease, and the disease is due to the nature of any employment in which the workman was employed at any time within the twelve months previous to the date of the disablement or suspension, the workman or his dependents are entitled to compensation. The workman's condition is thus considered in the first instance by the certifying surgeon. The Act then provides that if the employer or the workman is aggrieved by the action of a certifying or other surgeon in giving or refusing to give a certificate of disablement, or in suspending or refusing to suspend the workman for the purposes above specified, the matter is, in accordance with regulations made by the Secretary of State, to be referred to a medical referee whose decision is to be final. As a remedy for the alleged grievance, it is suggested that the medical referee's decision should be the subject of appeal. But to what tribunal? A bench of judges in scarlet and ermine would not undertake to say whether a man was suffering from lead poisoning or not. Their decision, if any, could only be based on evidence: that evidence would have to come from the medical profession. And so we should get into what Mr. Walter Barber would probably describe as a vicious circle.

SLEEPING SICKNESS.

IN pointing out last week (p. 1028) some of the unsettled questions with regard to the etiology and distribution of sleeping sickness which the Commission about to proceed to Nyasaland would doubtless seek to set at rest, we mentioned that of the precise nature of the trypanosome responsible for the cases in that district and in Rhodesia. The current issue of the *Bulletin of the Sleeping Sickness Bureau*[1] contains a note on a recent paper by Mesnil and Ringenbach on the Rhodesian trypanosome. Dr. Bagshawe states that these authors have found that the parasite in question is very polymorphic. As regards its external morphology, there would appear to be no essential difference between it and *Trypanosoma gambiense*, but though this is so, the authors believe that the fact that in a certain number of examples the nucleus is situated very far back is sufficient to constitute a difference between the two trypanosomes. They note, as others before them, the extreme virulence of the Rhodesian strain, the parasite when inoculated under the skin of rats and mice killing these rodents in nine and five days respectively. By means of crossed immunity and serum experiments, the authors conclude that the two trypanosomes are related to each other, and though open to conviction, they lean towards the view that the Rhodesian trypanosome is no more than a variety, though a well marked variety, of *T. gambiense*.

SYSTEMATIC LECTURES.

IN an address delivered at the distribution of prizes at Westminster Hospital Medical School, and published in the BRITISH MEDICAL JOURNAL of December 24th, 1910, Lord Ilkeston discussed the subject of medical education. Among other things, he said that "systematic lectures on medicine and surgery must go; the time for them in their academic form has long passed." This has been said by others, and doubtless many who have dismal memories of a lecturer mumbling over trays containing illustrations of the varieties of fracture in a half-empty theatre on a dull afternoon in winter will echo the opinion. If a poll of students were taken, we think there would be a very heavy majority against the systematic lecture as being stale, flat, and unprofitable in itself, and in these days, when excellent textbooks on all subjects are within reach of every one, a superfluous remnant of a state of things that has passed away. The time was when books were few, or could be got only at a price beyond the means of the ordinary student. Then the pearls of wisdom had to be gathered direct from the lips of the teacher. The machinery of modern medical education is becoming steadily more practical; chemical, microscopic, and bacteriological laboratories are necessary annexes of the ward, and the study of disease is completed, when medical art has suffered defeat, by observations on what may be called the field of battle—in the deadhouse. Of demonstrations, it will probably be agreed on all sides, there cannot be too much. In his address to the Royal Medical Society of Edinburgh, published in this issue, Professor Saundby makes a strong defence of systematic lectures which, he says, enable the teacher to give a broader view of disease than if the student is left to pick up his knowledge from the cases he actually sees in the ward. In this the President of the Association is at one with Billroth, who discusses the question in the Introduction to his classic work on surgical pathology. The great Vienna surgeon says that as there is a considerable number of surgical diseases which even in the largest hospitals are never seen in the course of many years, but of which the practitioner must have some knowledge, systematic lectures are by no means superfluous when they are brief and concise. He goes on: "One often hears it said, Why should I hear lectures on special surgery and pathology? I can read them up far more comfortably in my own room! That may be the case certainly, but unfortunately it is only too seldom done." This is, of course, true, and it is also true that, as he adds, the living voice of the teacher is always, or ought to be, more impressive and practically stimulating than when we read. This, too, we freely admit, but we venture to make the comment that there is much virtue in an "ought." Abernethy "dramatized" his lectures, and thus indelibly fixed the doctrines he wished to teach on the minds of his hearers. William Jenner would crystallize a far-reaching generalization from his experience in a phrase that remained in the memory. Russell Reynolds at his best was as delightful as he was informing. But, on the other hand, how many a one is there who might with even greater truth than the late Duke of Devonshire, in his historical aside in the middle of one of his own speeches, say of his own lectures, "This is d——d dull!" Such lectures are as far as possible shirked by students, and are of little use when they have unwillingly to listen to them. On the whole, we think the solution of the question is to be found in the quality, stimulating or otherwise, of the lecturer. Really good lecturers are the exception rather than the rule. We are therefore disposed to sum up against systematic lectures as a compulsory part of the curriculum, which is already full, almost to breaking strain, of practical work. If a man has a gift of oral exposition, he will find ample scope for its exercise in clinical demonstrations.

VACCINATION IN GERMANY.

A VERY valuable report[2] on vaccination and the vaccination law in Germany, compiled from official sources, by Professor Dr. Martin Kirchner, Medical Privy Councillor in the Home Ministry, follows the lines of the well-known *Denkschrift* compiled in the imperial Health Office, and entitled "*Blattern und Schutzpockenimpfung*."[3] From the preface we learn that it is written as a full reply to the various antivaccination petitions which have reached the Reichstag during the last decade, and Dr. Kirchner hopes that any reader who is inexpert in the subject will here be enabled to form a conclusion without prejudice and with the seriousness which, in the interests of the public welfare, the subject demands. There are twelve chapters, the first four being devoted to a description of small-pox as it attacks the individual, its epidemic prevalence in former times, and the various attempts made to prevent its spread, till we reach Jenner. As to treatment, as Pott wrote in 1882, once the disease has shown itself (in the unprotected) "there is no means, no therapeutic procedure which can soften or abridge its course; all the methods that have been tried have proved worthless, and most of them do more harm than good." This statement includes the much-vaunted "water treatment." Antivaccinists also term the disease a "dirt disease," hence they argue that good hygienic conditions will prevent its occurrence. This is an error, as history has shown; but another argument against it is that the two acute eruptive diseases which most resemble small-pox—namely, measles and scarlet fever—have not been affected apparently by improved hygiene, which has done so much against cholera and typhus and typhoid fevers. Another point emphasized is that small-pox is still in many countries and islands as fatal as of old. In Haiti in 1880–1 it caused 1,200 deaths in a population of 12,000, and thence spread over the province, sweeping away 140,000 in a population of 1,300,000. Again, in Servia in 1905 it caused 4,778 deaths; and in Persia, where there was no State institute for obtaining animal lymph, the small-pox deaths have averaged 50,000 to 100,000 yearly. In Chap. V

[1] London: Sleeping Sickness Bureau, Royal Society, Burlington House, W. 1911. No. 30, vol. iii.

[2] *Schutzpockenimpfung und Impfgesetz*, unter Benutzung amtlicher Quellen bearbeitet von Professor Dr. Martin Kirchner, Geheimem Obermedizinalrat . . . im Ministerium des Innern. . . . Berlin: R. Schoetz. 1911. (Pp. 158.)

[3] The last edition appeared in 1900. Berlin: Julius Springer. Price 1s. 2d.

—on the German Law of 1874—we find a discussion of the word "compulsion," as regards vaccination. Physical compulsion, as a last resort, when all citations and persuasions have failed, is a legal possibility as regards children but not as regards adults; the latter are only fined, and there is a difference of opinion as to whether they can be fined more than once; most of the provinces decide this in the affirmative. This is the law of 1874, but if small-pox breaks out anywhere in epidemic form the old "regulations" of 1835 come into force, and really compulsory vaccination is promptly enforced on the immediate neighbours. With regard to children in non-epidemic times, patient explanation by the authorities of the importance of vaccination to the whole community has hitherto always sufficed to overcome the objections of parents; but the police have legally the power to adopt physical compulsion, as Geheimrat F. von Stein explained in the German Parliament in February last. The vaccinal condition of England is regarded with pity in the copious statistical Chapter IX. The percentage of unvaccinated children sank from 23.6 in 1892 to 16.1 in 1904, since when it has steadily risen to 22.3 in 1907, and the British child once freed from vaccination is freed for life, we are reminded. The great towns are still worse; the said percentage for London was 25.8 in 1907. "This is the celebrated vaccination condition in England," and Dr. Kirchner says that the consequence will be a vast small-pox epidemic at some future time, "which the English will long remember."

THEIR MAJESTIES' VISIT TO INDIA.

Sir Richard Havelock Charles, K.C.V.O., M.D., F.R.C.S.I., Lieutenant-Colonel, Indian Medical Service (retired), and Serjeant Surgeon to the King, will be in attendance on their Majesties during their Indian tour, and will be in medical charge. Sir Havelock Charles was a member of, and in medical charge of, the staff which attended their Majesties when, as Prince and Princess of Wales, they visited India in 1905 and 1906; he was at that time Professor of Surgery in the Medical College, and Surgeon to the College Hospital, Calcutta. In the Indian suite, for duty under Sir Richard Havelock Charles, is included Lieutenant-Colonel Robert Bird, F.R.C.S., C.I.E., M.D., F.R.S.Lond., now Professor of Surgery in the Medical College, Calcutta.

We regret to record the death of Dr. A. P. Hillier, M.P. for the Hitchin Division of Hertfordshire, who appears to have taken his own life in a moment of mental aberration.

In response to the appeal for £15,000 to build the Galton Laboratory for National Eugenics, sums amounting to a total of £2,260 have been given or promised. Among the donors are: Mr. W. E. Darwin, Professor Pearson and Mrs. Pearson, Professor Arthur Schuster, F.R.S., the Earl of Rosebery, Lord Iveagh, Major Leonard Darwin, the Master of Trinity, and Lord Avebury.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

The House of Commons reassembled at 2.45 p.m. on Tuesday, October 24th, for the autumn session.

Milk and Dairies Bill.—In reply to Mr. Charles Bathurst, the President of the Local Government Board stated that he did not propose introducing his Milk and Dairies Bill during the autumn session.

Business of the House.—The Prime Minister introduced a motion taking the whole time of the House for Government business. He explained that it was the intention of the Government to proceed only with those bills—with the exception of the National Insurance Bill and the Finance Bill—which had passed the Committee stage, unless it were found in individual cases of other measures that there was a general agreement and a desire that progress should be facilitated. The bills which it was proposed to pass were the Shops Bill, the Coal Mines Bill, the Naval Prize Bill, the Burgh Police (Scotland) Bill, the Railway Companies (Accounts and Returns) Bill, and the Small Landholders (Scotland) Bill. Special appeals were made by members interested in them in respect of particular bills, especially the Scottish House-letting Bill. The effect of this decision may be that the Health Visitors Bill, the Rag Flock Bill, the Public Health (Acquisition of Water) Bill, and the Lunacy Bill, amongst many others, will not be proceeded with further this session, and will require to be re-introduced next year.

The Lunacy Bill.—It should be noted that the Lunacy Bill, as it was printed in the British Medical Journal on October 14th, has been reduced in Committee in the House of Lords to a short bill of only three clauses, and does not provide that the two commissioners to be appointed shall be medical men. The need for more medical commissioners is urgent, and it is to be hoped that before next year expert opinion will exert itself so as to secure a more satisfactory measure.

National Insurance Bill.—The House resumed the consideration of this bill at Clause 18. This clause deals with the conditions under which societies may become "approved societies" for the purpose of the bill, and has aroused much interest in respect of the conditions on which industrial, dividing, and other societies, as well as the great friendly societies, may participate in the work of the bill. The Chancellor of the Exchequer made a general statement as to his proposals on this subject, and it was arranged that a detailed account of them should be postponed until the following day, when they would be circulated in the House with an explanatory memorandum. The first section of the clause—

> 18. (1) Any society, that is to say, any body of persons, corporate or unincorporate (not being a branch of another such body), registered or established under any Act of Parliament, which gives such security as is required to be given under this part of this Act, and otherwise complies with the requirements of this Act relating to approved societies, may be approved by the Insurance Commissioners, and if so approved shall be an approved society for the purposes of this part of this Act.

was subsequently added to the bill, together with the following addition moved by the Chancellor of the Exchequer:

> Provided that where any society establishes for the purposes of this part of this Act a separate section consisting of insured persons, whether with or without honorary members not being insured persons, and so constituted as to comply with the requirements of this Act relating to approved societies, such separate section may be approved by the Insurance Commissioners, and if so approved shall be an approved society, and the provisions of this part of this Act relating to approved societies shall apply only to such separate section of the society.

Some discussion arose as to whether the effect of this addition might not be to place the large industrial societies in a position of advantage as compared with the trades unions and the friendly societies, and as to the need for the permission of honorary members of the societies. The points were ultimately explained to the satisfaction of the House, and it appeared that the provision for the enrolment of honorary members was necessary for the admission to the management of the societies as "approved societies" of the chief officers of the trades unions, the friendly societies, as well as those of the dividing and industrial societies who otherwise would be excluded under the limit of income (£160 a year) as laid down in Clause 1 as amended.

The House adjourned at 9.7 p.m.

THE THIRD CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY.

(Continued from page 1050.)

DIAGNOSIS AND TREATMENT OF COLITIS.

Acute Colitis.

SONNENBURG presented a report on acute colitis. From the surgical point of view the interest was rather in the circumscribed forms of acute colitis than in enteritis and gastro-enteritis. Acute phlegmonous colitis, in course of which the inflammatory process extends to the peritoneum, is rare, but the writer presented certain examples which had come under his notice. There was no doubt that appendicostomy or enterostomy, with washing of the bowel, was useful in some cases of acute generalized colitis—for example, those produced by the ingestion of toxic meat. Acute circumscribed colitis occurred chiefly in four situations—the sigmoid flexure, the splenic flexure, the hepatic flexure, and the caecum. The incidence of the disease at these points was favoured by certain anatomical conditions. Local constipation was easily established, with resulting injury to the wall of the bowel, and an increased virulence of the intestinal organisms. Fatal peritonitis from streptococci might follow circumscribed colitis of an apparently benign type. Sigmoiditis was caused in some cases by false diverticula, and these diverticula might lead to perforative peritonitis. There often occurred a perisigmoiditis which might end by perforating a neighbouring organ, such as the bladder. Constipation played a part in the etiology. Fever, pain, and irregularities in evacuation were associated with the appearance of a tumour; this tumour might subside under appropriate internal treatment, or might persist and end by forming an abscess. Examination of the blood was able to give important help in the diagnosis, the diagnosis from carcinoma was sometimes difficult. Acute colitis of the splenic and hepatic flexures followed a similar course. Splenic colitis, however, presented some peculiarities, and the inflammatory condition might produce a stenosis under which the bowel behind became loaded. Women were more frequently attacked by this special form than men. Suppuration was rare. The duration of the disease was variable, and relapses were frequent. The differential diagnosis from affections of the liver, pancreas, and the kidney was sometimes difficult. Typhlocolitis was now acknowledged as a special form, although at one time denied. Diagnosis from appendicitis was difficult. The prognosis of acute colitis in general was favourable if there were no complications. The adhesions which followed pericolitis might produce very marked symptoms. The treatment consisted in the first instance of aperients; sometimes in the particularly acute forms enterostomy with lavage was indicated. When peritonitis or abscesses appeared, ordinary surgical treatment was required. Operations designed to deal with the sequelae of acute colitis and pericolitis chiefly merited discussion; major operations, such as resections, could usually be avoided.

DE QUERVAIN insisted on the importance of a thorough examination by radiography in cases of doubtful diagnosis.

KÖRTE had operated on a case of acute inflammation of the transverse colon simulating acute appendicitis. A tumour of apparently malignant character was found involving the transverse colon extending to the mesocolon. Microscopic examination showed that it was of a purely inflammatory nature.

DURAND drew attention to a particularly grave form of colitis producing rapid necrosis of more or less extensive sections of the bowel. He had observed two anatomical forms of this lesion. The first was that of small disseminated foci resulting from recent ulceration and tending to perforation. The second form was an ultra-acute necrosis of a whole segment of the colon. In one case the whole ascending colon was necrosed.

Chronic Colitis.

GIBSON stated that since 1900 he had practised valvular caecostomy in treatment of chronic colitis after the technique of Kader's gastrostomy and had obtained satisfactory results. It was not necessary for a catheter to be constantly worn in the wound. It should be introduced four times a day for the purpose of lavage. Appendicostomy was an alternative to this, but in some cases where the appendix could not readily be employed valvular caecostomy was of use. The fistula closed spontaneously when the catheter was finally withdrawn.

D'ARCY POWER approved of the classification of colitis recommended by Hawkins. Ulcerative colitis was practically the only form of chronic colitis the surgeon was called upon to treat. Ulcerative colitis was a slowly progressive lesion, and, apart from the local condition, a profound and fatal anaemia might result. The first thing was to endeavour to find the cause of the condition, and such lesions as cancer, polypi, and chronic appendicitis should be looked for. When satisfactory improvement did not follow internal treatment, the sooner appendicostomy was performed the better. This operation did not greatly shorten progress of the disease, and was advantageously combined with vaccine therapy.

SEGOND discussed first what types of chronic colitis were suitable for surgical treatment. It was necessary first to separate primary colitis from symptomatic colitis due to a neighbouring affection. Surgical treatment was called for only when medical treatment failed. Three classes of colitis required separate consideration: First, the severe type associated with diarrhoea and haemorrhage; secondly, colitis of less gravity with false diarrhoea; and, thirdly, colitis in which constipation was the predominant symptom. It was necessary to reserve a special place for cases provoked by chronic appendicitis. He presented a critical examination of the actual results of surgical intervention and the operative indications according to the different types. The general indications were to give rest to the colon by keeping it empty, to asepticize the intestinal canal by large irrigations, and to act directly in the lesions of the mucous membrane by specific solutions. To carry out this programme four methods had been proposed: First, an artificial anus, which realized best the double indication of keeping the colon empty and applying specific lavage; secondly, entero-anastomosis and particularly exclusion of the colon by ileo-sigmoidostomy; thirdly, the association of an entero-anastomosis with a more or less extensive resection of the colon; and, lastly, the production of a fistula by valvular caecostomy or appendicostomy.

VAUVERTS related a case of a caecal anus for colitis attended by success, and a case of ileo-sigmoidostomy for colitis followed by permanent amelioration.

KÖRTE had seen the slighter forms of colitis recover after irrigations, whilst the graver forms necessitated an operation. If the condition of the patient admitted it, it was advisable first to examine by median laparotomy the extent of intestinal lesion. If the upper portion of the iliac colon was healthy a left colostomy was sufficient, whilst if the affection extended higher it was necessary to perform a valvular caecostomy. For irrigation he recommended bismuth, boric acid, albargine, and particularly emulsions of Dover's powder. Appendicostomy was only sufficient for the slighter cases. In the more serious types the caecostomy must be sufficiently large to place the bowel completely at rest. For the same reasons ileo-sigmoidostomy was only efficacious in the slighter cases.

DELAGÉNIÈRE remarked on the intimate relations which existed between colitis and appendicitis. He classed the operations which he had performed for colitis under four headings: First, simple removal of the appendix, generally followed by recovery, not immediate but after a certain period of subsequent medical treatment; secondly, entero-anastomosis, which he had performed in three case—once with an excellent result, twice with a result of only moderate value; thirdly, in these last two cases he had performed an exclusion of the colon, with notable amelioration; fourthly, in two cases he had performed appendicostomy, with encouraging results.

ROTGANS drew attention to the simple or idiopathic ulceration of the colon, and described the principal forms.

POTHERAT recalled the principal signs of stenosing pericolitis; the condition was a rare one, and might prove fatal. It was consecutive to an acute or a chronic ulcerative colitis. Treatment consisted in freeing the intestine from the adhesions which bound it down. In one case, in which the lesions were very extensive, he had performed an entero-anastomosis.

SONNENBURG referred to the great value of radiographic examination. He thought that it was necessary to exercise

extreme care in recommending operation for chronic colitis accompanied by constipation. In particular, entero-anastomosis had not given the desired result. The constipation and the pain persisted after intervention, and radiography showed that the course of the intestinal contents was not modified by the operation.

Giordano was firmly of the opinion that in grave forms of colitis it was absolutely necessary to have recourse to an open caecostomy to keep the lower bowel entirely empty. It was sometimes necessary to keep the caecal orifice open for a year or more. In the less serious types he had found that ileo-sigmoidostomy gave excellent results.

BRITISH ASSOCIATION.

(Concluded from page 930.)

Section of Anthropology.

Dr. W. H. R. Rivers, F.R.S., selected "The Ethnological Analysis of Culture" as the subject of his presidential address to Section H. (Anthropology) of the British Association. He said that great as had been the addition to the stores of facts of anthropology of recent years, there had been but little corresponding advance on the theoretical side of the subject, the reason being that there was no general agreement about the fundamental principles which should guide the conduct of the theoretical work; indeed there was a considerable degree of divergence as to the methods of work of the various schools in different countries.

In this country theoretical anthropology was primarily inspired by the idea of evolution based on a psychology of mankind as a whole, a psychology differing in no way from that of civilized man. In France, as with ourselves, the chief interest was in evolution, but the French school held that the psychology of the individual could not serve us a guide to the collective actions of men in the early stages of social evolution, sociology requiring the application of principles and methods of investigation peculiar to itself. Anthropologists in America had hitherto been so occupied in the collecting and recording of facts relating to the fast disappearing traces of ancient culture, as to have had little time left for theoretical considerations. The tide, however, was turning, but it was as yet too early to state definitely the attitude which would be adopted, though there was some evidence that American opinion would approach more nearly to the British than to the French school of thought.

With regard to the German school there was a fundamental difference. In spite of the evolutionary standpoint adopted by Adolf Bastian, German anthropologists were following the geographical or ethnological movement initiated by Ratzel and extended by the work of Graebner and P. W. Schmidt. Ratzel was led to the formulation of his ideas by the study of armour made of rods or plates or laths, which he found in North America, Northern Asia, Japan, and in a less developed form in some of the islands of the Pacific Ocean. The resemblances, to his mind, could only be explained by direct transmission from one people to another, and he ultimately became an untiring opponent of the idea of independent evolution based on a community of thought held by Bastian. As an example of the different methods of approaching the solution of an anthropological problem by the British and German schools, that of primitive decoration might be taken. In Island lands there were transitions from designs representing human, animal, or plant forms to those of a purely geometrical pattern. In this country the prevalent idea was that such transitions furnished evidence of a process of evolution in all parts of the world leading to a degradation of the former designs to those of the latter pattern. German anthropologists, on the other hand, saw in these transitions a blending of two cultures, the one practising the decoration of their objects with human and animal forms, the art of the other being based on geometrical forms. So in every case where one saw evidence of independent processes of evolution based on psychological tendencies common to mankind, the modern German school only saw evidences of a mixture of cultures. The President, reared in the ideas dominant in the British school, then proceeded to give an account of his conversion to the German standpoint as the result of his own investigations in Oceania with the Percy Sladen Trust Expedition. From a study of the systems of relationships Dr. Rivers was able to demonstrate either in the present or in the past many extraordinary and anomalous forms of marriage, all of which could be explained if there had once widely existed throughout Melanesia a state known as the dual organization of society with matrilineal descent, accompanied by a condition of dominance of the old men enabling them to monopolize all the young women of the community. From this starting-point he was able to trace out a definite scheme of marriage throughout Melanesia. So far the work was of a purely evolutionary character and served but to strengthen the point of view with which he had set out. Turning to the linguistic side of the systems of relationships, a study of the terms showed that they fell into two classes—the one generally diffused throughout Oceania, the other differing considerably in different cultural regions. A further study of these led to the belief that the evolutionary scheme previously adopted could no longer be held valid. The result of the two lines of inquiry in conjunction with one another led to the belief that a definite course of social development had taken place in an aboriginal society under the influence of an immigrant people. Similarly a study of the secret societies of Melanesia showed that they belonged neither to the aboriginal nor to an immigrant people, but had arisen as the result of the interaction of the two. Further study made it clear that the immigrant people had reached Melanesia at different times, with possibly traces of a third stream, the earliest of all. Melanesian society was therefore of a very complex and heterogeneous character, the resultant of a mixture of three or four main cultures. Such being the case, it was unscientific to take out of the complex any institution or belief and regard it as primitive merely because Melanesian culture on the whole possesses a more or less primitive character; further, it was also probable that some of the immigrants had a relatively advanced culture. *Mana* was cited as an illustration. In recent speculations *mana* was taken as the basis of pre-animistic ideas and practices, as well as the basis of that primitive element of human culture which was the common source from which both religion and magic had been derived. In Dr. Rivers's opinion such a view was mere assumption and contrary to probability, the analysis of culture indicating that it was not legitimate to use the Melanesian evidence to support the primitiveness of the concept of *mana*, nor did it support the view that this concept was more primitive than animism; neither could the Melanesian facts be used as evidence in favour of the concept of *mana* as underlying primitive magic.

The salient point was this: If cultures were complex, their analysis was a preliminary step which was necessary if speculations concerning the evolution of human society, its beliefs and practices, were to rest on a firm foundation.

In further support of this contention, evidence was furnished from parts of the world other than Melanesia. In this country it was usually held that in Australian culture we had a homogeneous example of primitive human society, though there was a coexistence of two different forms of social organization—a dual organization and matrimonial classes with what appeared to be totemic clans like those of other parts of the world, side by side—another example of the mixture of cultures.

Having shown the importance of ethnological analysis, Dr. Rivers then proceeded to consider the process of analysis itself and the principles upon which it must be based. The fundamental weakness in most previous attempts at analysis was that they had started with the study of material objects, which were the least trustworthy of all the constituents of culture, as they could be spread by mere contact without any admixture of peoples and without influence on other features of the culture. Dr. Rivers regarded the case for the value of magico-religious institutions as not much stronger, citing examples in support of this contention. Language he regarded as of greater importance, but social structure, the framework of society, was even of still greater value—at any rate, in the majority of instances—as it was much less easily changed, except as the result of a very intimate blending of peoples. As an instance of this, Dr. Rivers again turned to Oceania, where there were islands on which European missionaries and traders had been settled for quite a century past. The natives had adopted the

use of European ornaments, utensils, weapons, and language, some even holding the beliefs and practising the ritual of a European religion; and yet, in spite of all this, there was clear evidence in many places that the social structure was still untouched. Therefore, it was with social structure that we must begin the attempt to analyse culture, and to ascertain how far community of culture was due to the blending of peoples, how far to transmission through mere contact or transient settlement. The study of social structure would, therefore, afford the surest criterion of what was early and what was late in any given culture, and thereby furnish a guide for the analysis of culture.

The importance of the facts of ethnology in the study of civilized culture was now generally recognized. By a cruel irony, just as this importance was becoming recognized, the material of the science was vanishing. In many parts of Melanesia it was only from the oldest men that any trustworthy information could be obtained. Dr. Rivers concluded with a well-justified plea for individual effort, non-official enterprise, and official co-operation. The occasion was critical—the occasion of a need which to future generations would seem to have been so obvious that its neglect would be held an enduring reproach to the science of our time.

"METHODS OF RESEARCH."

A MEETING of the Eugenics Education Society was held on October 19th at the Grafton Galleries, Grafton Street, W., when Dr. Archdall Reid, F.R.S.E., contributed a paper on "Methods of Research." Major L. DARWIN presided, and a large audience included Sir Bryan Donkin, Sir Ray Lankester, Professor Sedgwick, and others. Dr. Reid's paper raised so many controversial points that, in order to allow ample time for discussion, it was published in the *Eugenics Review* before the meeting and taken as read.

By way of preface, Dr. REID said that science was founded upon veritable facts, and a veritable fact was one that might be perceived, not only by the original observer, but also by those to whom it was communicated. Some facts might be directly observed; others were so obscured by surrounding conditions that they could not be observed directly, and to discover them experiments must be performed, statistics collected, or some such special procedure followed. Facts, having been ascertained, must be interpreted, and almost any collection of relevant facts admitted of two or more contradictory interpretations, between which decision had to be made. If they did not begin with facts, their thinking was all in the air; if they did not generalize from the facts, then they made no scientific use of them. Dr. Reid described the Newtonian method and said that every hypothesis, no matter in what branch of science, which had received universal assent, had been established by Newton's method. There was amongst students of living beings a curious delusion. Furnishing shining examples of the proverb that a little knowledge was a dangerous thing, they regarded as pre-Baconian that employment of deduction which was really post-Newtonian. The laudation of the exclusive or almost exclusive employment of experiment and other special means of collecting facts with which they were so familiar in biology furnished another example of the danger of half-knowledge. Accurate interpretation had been slow in coming to biology; hypotheses were plentiful, but verifications of them were rare. At long last there arose a man who, possessing the necessary mental endowments, was the first to apply systematically the method of deductive verification to hypotheses concerning living beings—just as Newton had been the first to apply it systematically to the problems of inorganic nature. Doing a work as great as Newton's, he became Newton's only peer. That man, no formally trained biologist, but the greatest of biologists, was Charles Darwin. These two men were the glory of the nation and of science. Never again, he thought, would any man do work as good as they did; for they had laboured and now the opportunity was past. Kings and conquerors, statesmen and theologians died and were forgotten; their work, undone by others, passed and was no more. But, growing ever clearer and more potent, the voices of Newton and Darwin came across the years and so would come while human civilization endured.

Dr. Reid went on to argue, regarding natural selection, that variations were, as a rule, spontaneous. The germ plasm, like all other living things, tended to recover from injuries and return to the normal. If it was of such a type that it did not recover, it was eliminated by natural selection, and the race was continued by more resistant strains. In biology, medicine, and sociology, they frequently met people who admitted on the one hand that natural selection was a source of evolution, and maintained, on the other, that injurious agencies were causes of deterioration; that meant that they believed that races which constantly deteriorated ultimately achieved evolution; that races which constantly went downhill ultimately reached the hilltop. They furnished shining examples of that evil which had made interpretative biology, unlike all other interpretative sciences, a tumbling ground for whimsies, a field for unending controversy, an incoherent collection of contradictory guesses. In science they had the right to guess, but not to leave their guesses unverified. Dr. Reid summarized his conclusions as follows: (1) All authentic and relevant facts, no matter how collected, were equal before science. (2) Every hypothesis was a mere guess until every other alternative hypothesis had been considered and it had been demonstrated that only the chosen hypothesis accorded with the whole of the available and authentic evidence. (3) This could be done only by continually appealing to crucial instances. (4) This method, the only known method for establishing truth, had, except by Darwin, been consistently neglected by biologists, who, as a consequence, held all sorts of diverse criteria for evidence and proof, and therefore all kinds of contradictory opinions. (5) In particular it had been flagrantly neglected by the adherents of the experimental and biometric schools, whose doctrines, as a consequence, were demonstrably mere guesses and in most cases erroneous guesses. Thus, the "central" doctrines of both Mendelism and Mutationism were demonstrably erroneous, while the biometric supposition that moral and intellectual characters were inherited in the same sense and in the same degree as physical characters was plainly unmeaning and therefore nonsensical. Nonsensical, too, was all the eugenic advocacy that had been based on it. (6) Natural selection might be observed; its occurrence was indisputable. (7) Evolution through natural selection could not be observed, but its reality might be demonstrated as surely as that of any other truth that had been inferred. (8) The hypothesis that variations were normally spontaneous was the only relevant hypothesis which was compatible with the law of evolution through natural selection. The alternative hypothesis—that variations were commonly caused by the direct action on the germ plasm of its environment—was demonstrably erroneous. Finally, Dr. Reid said he was sorry his paper was so aggressive and even truculent in tone. This question of scientific method and of how truth might be reached, and known as truth when it was reached, was fundamental.

Major DARWIN expressed his keen satisfaction in recognizing in Dr. Reid such an ardent advocate of the principles with which his (Major Darwin's) father was associated. When he came to details, however, he was reminded of Emerson's saying: "We don't want our friends to be a mush of concession." Dr. Reid would never be likely to fall into that fault. Major Darwin said he must differ from Dr. Reid as to the relative importance to be attached to heredity and environment. Man differed from animals very largely in his power of acquiring knowledge, and men differed amongst themselves in their inherent power of educability. That was the quality they, as eugenists, wanted to cultivate.

Sir RAY LANKESTER said he attached chief importance to Dr. Reid's preliminary statement of method, of what the proof in biometrical matters really rested on, what could be used as evidence, and how it could be used. He believed there was a tendency to believe that a fact ascertained in a particular way was of more value than a fact ascertained in another way. There was an undue tendency to believe that a fact based on statistics had more value than one based on other methods of observation. When Professor Pearson spoke of estimating the inheritability of the quality of modesty he must be asked what was meant by modesty. To apply statistics to things having no definite meaning was hopeless. He thought lack of definition was the drawback of both biometricians and Mendelians.

Professor Sedgwick said he had greatly enjoyed Dr. Reid's paper. He cordially agreed with the main thesis as to methods of research, and with all the conclusions except the eighth. In his opinion, Dr. Reid somewhat unnecessarily disparaged the intellect of biologists in suggesting that they had not the power, through lack of training, to apply the Newtonian method. He would say, on the contrary, that they all knew it and were constantly using it in matters of importance. But, when it came to scientific hypothesis, it was an entirely different matter. No one who stated an hypothesis felt strongly impelled to set about the search for evidence that would throw it over; he left that to "the other fellow."

Dr. Gossage objected that Dr. Reid had mixed up recorded observations and facts. Recorded observations were not by any means necessarily facts. It was possible that the method of experiment was better than the method of recording observation. In a large number of cases in Nature they were not able to get an exactly similar experiment as they were in the laboratory. The habit of working in a laboratory tended towards care, whereas a good many of the observations recorded in biology were obtained by people without training in methods of observation. In these matters the great need was to obtain definite facts, and more of them, and they should be sure that the things accepted as facts were really facts.

Dr. Reid, in replying to the discussion, urged that reproduction was one thing and inheritance quite another thing. He was reproducing a knowledge of the English language such as his father had; he was also reproducing a head and other physical characteristics. They might collect statistics and find that children invariably reproduced the heads of their parents, and also, in nearly the same intensity, the language of their parents. Did that prove language to be inborn—that it came in the same way as the heads came? The point he wished to make was that statistics did not prove that point. Replying to Dr. Gossage, Dr. Reid said he was not aware that a correct inference was not a fact.

The meeting concluded with a vote of thanks to Dr. Reid for his paper.

SUPPRESSION OF MALARIA AND PLAGUE IN INDIA.

At the meeting of the Imperial Legislative Council held at Simla on September 22nd, the honourable member in charge of the Education Department, in reply to a question by the Honourable the Raja of Dighapathia, laid upon the table the following memorandum:

Memorandum by the Sanitary Commissioner with the Government of India regarding the Measures taken for the Suppression of Malaria and Plague in India.

1. The registration of vital statistics in India, except in a few of the towns, is necessarily carried out by means of an illiterate agency, with the result that the registered causes of death are always very misleading. For this reason it is not possible to indicate with any degree of accuracy the direct effect of scourges like malaria and plague upon the growth of populations, but there can be no doubt that in some provinces they have been among the most important causes of the low figures recorded at the census of 1911. The provisional totals of that census show that in the United Provinces and the Punjab the present populations are actually less than the populations of 1901, and although it is difficult to appraise the relative importance of the many and various factors to which this unfortunate result is due, the great influence of the terrible epidemics of malaria and plague, from which those provinces have suffered during the decade, must be admitted. The adverse effects of plague are chiefly manifest in an enormous increase of mortality, but epidemic malaria is disastrous not only in that way but in bringing about a great reduction in the number of births during the year following the epidemic. In the United Provinces the first four years of the decade preceding the recent census were a period of returning prosperity after the famines of 1897 and 1900, but in 1905 the crops were again bad, and in 1906 famine occurred in Bundelkhand and the south of the Agra Division. In 1907 the rains soon failed entirely in August, causing a severe famine, which continued until 1908, when the provinces were devastated by the most severe epidemic of malaria ever experienced in them, and during the decade as a whole the deaths recorded as due to fever exceeded those during the previous decade by more than 1½ million. Plague appeared in the provinces in 1897, but the deaths during the decade prior to the census of 1901 numbered only 362 as compared with 1,314,746 during the decade prior to the census of the present year. In the Punjab the decade as a whole was one of considerable agricultural prosperity, but the state of the public health was deplorable. Prior to the census of 1901 the deaths from plague in the province had numbered only about 3,000, but during the decade preceding the census of 1911 the deaths from that disease were over two millions. In 1908 the province was visited by one of the very severe epidemics of malaria to which at intervals it is subject, and for the decade as a whole the number of deaths recorded from plague and fevers together exceeded the number during the previous decade by more than 1¾ million.

2. At the outset of any attempt to describe the measures that are being taken to eradicate malaria and plague from India it may not be out of place to record the fact that to the action taken and to the discoveries made in this country not only India but the world in general owes almost the whole of the knowledge upon which efficient and precise measures against those diseases are everywhere based. As regards malaria it may be recalled, firstly, that the Cinchona enterprise of the Government of India, commenced more than fifty years ago, has been the chief means of bringing about such a fall in the price of quinine as to render practicable the policy of making the drug available to the poorest peasants throughout the world; secondly, that India was the first country in which an endeavour was made to mitigate malaria among the poor by the plan of selling single doses of quinine for the smallest coin in general daily use among the people; and, thirdly, that to an officer of the Indian Medical Service (Sir Ronald Ross) belongs the credit of the discovery of the mode by which the disease is contracted and spread, and therefore the discovery of the precise measures by which alone its eradication is possible. As regards plague, we may recall firstly the discovery and provision of an effective mode of protection in inoculation; secondly, the attainment of exact knowledge regarding the part played by rats in the epidemiology and endemiology of the disease; and thirdly, the discovery of the mode of infection and conveyance by means of the rat-flea, which has led to the abandonment of many useless and very troublesome measures, previously considered essential, and has rendered it possible to name accurately the particular methods necessary for the avoidance and prevention of the disease.

3. The measures which are at present being taken for dealing with malaria are based upon the recommendations of an Imperial Conference on the subject which was held at Simla in October, 1909. The conference considered that the first step in a satisfactory and widespread endeavour to deal with malaria in this country should be the establishment of a permanent organization comprising:

A Central Scientific Committee.
Provincial Committees.
A general committee consisting of the members of the Central Committee and delegates from the Provincial Committees.

The progress that has been made in the establishment and work of this organization is fully described in Nos. 1 to 3 of the publication *Paludism* which is laid on the table. The deliberations of the conference showed that a first essential in the campaign against malaria is a complete knowledge of all the circumstances connected with the disease in different localities, and to secure this it was arranged, early in 1910, that each province should be given an opportunity of training a number of officers and subordinates in modern methods of malaria research. To this end there was established at Kasauli a central malaria bureau, containing a museum, laboratory, and reference library, and at Amritsar a house was secured which serves as a permanent laboratory for malarial investigation and teaching. At the latter place three classes of instruction under Major Christophers, I.M.S., have been held, the number of officers and subordinates who

have attended them being 48 in all. The next step was the appointment in the different provinces of specially trained officers and subordinates whose sole duties are in connexion with malaria. These officers are provided with adequate working staffs and tour from place to place investigating the disease and assisting in its prevention. The measures now being undertaken in the several provinces are briefly the following:

Madras.—A Malaria Board is to be constituted and a special malaria officer is to be deputed for three years. Another officer, Major Perry, I.M.S., has been deputed under the instructions of the Central Committee to investigate the malarial circumstances of the Jeypore Agency in this Presidency. In some parts of the area of investigation malaria is very severely prevalent and in others only very moderately so, and it is hoped that important practical results in connexion with the best methods of preventing malaria will accrue if the causes of the variations of malarial intensity can be ascertained. In 1910 the practical antimalarial measures carried out in the Presidency included the introduction of effective drainage in different places, the filling up of useless ponds and pits, the prohibition of wet cultivation in proximity to dwellings, the destruction of mosquito larvae by petrolage, and the free distribution of quinine in malarious areas.

Bombay.—The Sanitary Board has been appointed the Provincial Committee for dealing with malaria. One of the Deputy Sanitary Commissioners, Major Hutchinson, I.M.S., attended the first malaria class at Amritsar, and on his return arrangements were made for the collection and compilation of mortality statistics on the lines recommended by the Central Committee. For the investigation of malaria in Bombay City, Dr. C. A. Bentley was on special duty from 1909 to 1911, and his valuable final report has just been published and is laid on the table. It proves conclusively the necessity for detailed investigation before great sums of money are spent on schemes designed to effect the improvement of malarial conditions, and indicates that in Bombay carefully devised measures for the destruction of the dangerous species of Anopheles mosquito would very probably result in complete eradication of malaria from the city. If vigorous and proper measures are taken by the municipal corporation, on whom the carrying out of the measures devolves, the Government of Bombay will assist them with a grant of one lakh of rupees from provincial revenues. The other antimalarial measures carried out in this Presidency during 1910 included the deputation of twenty-seven subassistant surgeons to carry out operations for the mitigation of malaria in certain selected districts.

Bengal.—The Sanitary Board is the Provincial Committee for dealing with malaria. A specially trained officer, Captain Fry, I.M.S., has been appointed for malaria research in the province, and has been provided with a staff of assistants which will be increased as necessity arises. The antimalarial measures carried out in 1910 included minor measures of draining and petrolage in several towns and the construction of permanent masonry surface drains. For the free distribution of quinine in affected districts twenty-three subassistant surgeons were deputed. A proposal from the Local Government for a special engineering establishment for drainage schemes is under consideration.

United Provinces.—Major J. C. Robertson, I.M.S., was placed on special duty for malaria research in November, 1908, and during the remainder of that year and the greater part of 1909 Captain J. D. Graham, I.M.S., was also engaged in that work. In March, 1910, the latter officer was deputed to attend the malaria class at Amritsar, and in May he took over the duties of special malaria officer, and has continued to perform them since. A Provincial Committee and eight Divisional Committees have also been established in these provinces, and during 1910 various important inquiries into the malarial circumstances of towns and rural areas as well as valuable educational and other measures for popularizing the use of quinine and making the drug available to the poor were actively carried on. In four selected districts travelling dispensaries toured from village to village giving medical relief to persons suffering from malaria and other diseases.

Punjab.—An influential provincial committee for dealing with malaria has been appointed, and a specially trained officer, Lieutenant-Colonel J. R. Adie, I.M.S., with an adequate staff, has been deputed as chief malaria officer. During recent years large quantities of quinine have been distributed gratuitously by various agencies. Early in 1909, Major Christophers, I.M.S., was placed on special duty to investigate the causes of the terrible epidemics of malaria which from time to time affect this province. His very valuable report has recently been published and is laid on the table. It shows that periodical flooding is an important factor in the causation of epidemics of malaria in this province, and that the measures necessary for their prevention and control may quite possibly come within the range of practical politics. This matter is now under consideration.

Eastern Bengal and Assam.—In 1907 the Duars Planters' Association approached the Government of this province with a memorial requesting that the services of experts should be procured to inquire into the nature and causes of blackwater and other fevers, and to suggest remedial measures. As a result, the Government of India ordered a special inquiry to be conducted by the Central Research Institute, assisted by an advisory committee. Major Christophers and Dr. Bentley were entrusted with the scientific portion of the investigations, and their report upon blackwater fever, which was published in 1908 as No. 35 of the Scientific Memoirs, is almost universally regarded as settling finally the vexed questions with regard to the etiology of that dangerous disease. A large proportion of the planters in the Duars have taken action in accordance with the findings of the report, and the result has been a great diminution in the number of cases of blackwater fever, and a much reduced amount of malaria among them. The second report by the same officers on malaria in the Duars was written in 1909, and in view of the importance of the results recorded in it the Local Government in March, 1910, appointed a committee to inquire into the sanitary and economic conditions under which the tea-garden coolies live. Both reports are about to be published, and action upon them is being taken. In addition a very complete organization for dealing with malaria in this province has recently been established, Dr. Bentley having been appointed special malaria officer on completing his inquiry into malaria in Bombay city. Among the anti-malarial measures adopted, in addition to organized attempts at mosquito reduction, is a new system for supplying quinine in a very effective and cheap form. The system is described in detail on page 93 of No. 2 of *Paludism*. Six quinine demonstration camps will also be established, and various important methods of educating the people in measures for the prevention of malaria form a noteworthy feature of the scheme in this province.

Burma.—A provincial malaria committee has been formed, and Major Lalor, I.M.S., has been employed solely in malaria work.

Central Provinces.—The Sanitary Board is the provincial committee, and a specially trained officer, Major Kenrick, I.M.S., has been appointed special malaria officer. The investigations were commenced in October, 1910, and some results of them will be found on page 98 of *Paludism* No. 2 and page 24 of No. 3.

Troops and Prisoners.—It would occupy too much space to describe the carefully devised measures against malaria that have been carried out among these bodies of people for some years, but the following statistics will give an idea of the degree of success attained. Among European troops in India the rates of admission to hospital on account of malarial fever were 485 per 1,000 of average strength for the decennial period ending with 1888, 374 per 1,000 for that ending with 1898, and only 223 per 1,000 for that ending with 1908. The following table shows the fall in the rates among Indian troops and Indian prisoners:

Quinquennial Admission-rates from Malaria per 1,000 of Strength.

	1889–1893.	1894–1898.	1899–1903.	1904–1908.
Indian army	467.0	341.0	305.0	228.0
Indian prisoners ...	393 0	320.0	277.0	199.0

3. When plague first appeared in India, nothing was known as regards the mode by which it is contracted and

spread, and all that could be done was to attempt to eradicate it by the means adopted in European countries for dealing with epidemic disease. With this object very strenuous efforts were made, but success was not attained, and sometimes the measures led directly to the misfortunes they were designed to avert. It soon became clear that it was impossible to deal effectively with the epidemic in the absence of help from the people themselves, and a policy of persuasion and assistance was substituted for the more rigorous measures, but this also failed to prevent the extension of the disease. In the meantime considerable progress had been made in the study of the epidemiology of the disease, and it was felt that if the remaining gaps in our knowledge could be filled, greater precision might be given to the measures which it was possible to adopt. To this end the Government of India in the autumn of 1904 addressed the Right Honourable the Secretary of State for India with a view to undertaking a more complete inquiry into the etiology of plague, and a Plague Research Commission was established, working under the direction of an Advisory Committee in England. As a result of the establishment of this Commission, by May, 1907, satisfactory replies had been found to most of the questions concerning the epidemiology and mode of spread of the disease. In the meantime the value of antiplague inoculation had been conclusively proved, and in August, 1907, the Government of India were able to make definite recommendations relating to the following subjects: (1) the prevention of contact between man and infected rats and rat-fleas, (2) the destruction of rats, (3) other measures for excluding rats from dwellings and for limiting their numbers, (4) evacuation of areas in which plague is prevalent, (5) provision of facilities for inoculation, (6) measures for the extirpation of plague from localities in which it persists throughout the period of abatement, and for preventing its spread from them. After a brief interval the Commission resumed its labours, and at the present time the services of five specially-trained officers are entirely devoted to the further study of important problems in connexion with the epidemiology and mode of persistence of the epidemic. The preventive measures that are at present being taken against the disease are based upon the findings of the Commission, and are known to be those which alone can prove effective; but, as their success depends entirely upon the extent to which they find favour with the people, the results in different parts of the country are by no means uniform.

Detailed accounts of these preventive measures will be found in the annual reports of the several provincial Sanitary Commissioners, and only a few remarks upon them need be made here. In Madras, measures of rat destruction, evacuation of infected areas, and inoculation are supplemented by measures for the segregation of patients and contacts, the disinfection of infected houses and effects, and the surveillance for seven days of persons coming from infected areas. In Bombay, inoculation, evacuation, and rat destruction are the chief operations carried out. In Bengal, evacuation is the most popular of all measures. In the United Provinces, evacuation is not unpopular in rural areas, and the inhabitants of towns sometimes agree to adopt it, but the people are averse to inoculation. It is believed, however, that, if their confidence can be gained by treating them for ordinary diseases, their prejudices against inoculation may in time be overcome, and to this end a number of travelling dispensaries have recently been established, four officers of the Indian Medical Service and thirty-two subassistant surgeons being employed on this duty. In the Punjab a similar system of travelling dispensaries has been in existence since 1907, and it is reported that inoculation is gradually coming into favour. In this province evacuation is unpopular. Rat destruction is carried out in places where plague persists during the quiescent season and in other places as soon as the disease appears. In Burma the measures advocated at the close of 1910 were evacuation of small towns and villages, inoculation of those who would accept it, and the systematic trapping of rats. In some towns strenuous efforts for the destruction of rats by a method known as "driving" have been adopted, but it is said that the plan leads to large recurrent expenditure and is only a temporary expedient.

4. Since 1908-09 a recurring grant of 30 lakhs of rupees has been made from Imperial revenues for improving sanitation in the different provinces with special reference to plague, and in 1910–11 a special non-recurring grant of 57 lakhs was made from Imperial revenues for expenditure chiefly on drainage schemes likely to improve malarial conditions in towns. It is hoped to discuss schemes of urban sanitation at a conference of Sanitary Commissioners which will be held in Bombay in November of this year.

5. Included in the non-recurring grant just mentioned is a sum of 5 lakhs of rupees which has been set aside as a special fund to be devoted to research in connexion with sanitation, and some of the suggested methods of utilizing this grant in connexion with malaria and plague will be found on pages 1 and 7 to 9 of *Paludism*, No. 3. It is proposed that one of the objects of expenditure shall be the investigation and carrying out of various methods by which the people of India may be educated in subjects of elementary hygiene and domestic sanitation, and in a knowledge of how best to prevent themselves from being attacked by malaria, plague, and other epidemic diseases. It is felt that although the very important discoveries and the vigorous prophylactic efforts that have been made in India have resulted in a very accurate knowledge of the measures necessary for the control of malaria and of plague, even a modicum of success in effective prevention cannot be hoped for unless the people themselves are willing to co-operate whole-heartedly in the campaign. It is thought that this active co-operation will not be secured until the people have learnt to understand and to have faith in the principles on which the measures are based, and that their education in these matters is a primary and essential condition of success. In this connexion it should be borne in mind that the history of epidemic plague as it occurs among human beings is this: Plague occurs among rats in a house. So soon as rats begin to die they at once migrate from the infected spots. The rats having been attacked by plague migrate from the house, but they leave behind them their nests, and in their nests they leave a large number of rat-fleas, which contain plague bacilli, owing to their having sucked blood of infected rats. The rat-flea ordinarily will not bite human beings, but when it becomes hungry it thinks a human being is better than nothing: it comes out and bites human beings and they become attacked by plague. The question of the prevention of plague is therefore chiefly one of domestic hygiene, and one way to prevent plague is by teaching the public that they should not allow collections of rubbish about their houses, behind which rats can build their nests. They should be taught also not to throw about in the vicinity of their houses remnants of food which will attract rats, and in fact every precaution should be taken to prevent the rat from becoming a domestic animal. The rat is not a domestic animal in the houses of Europeans, but it is a domestic animal in the houses of a large number of Indians. What is wanted is to educate Indians up to this particular point. As regards malaria, reference is invited to the speech by the Hon. Maulvi Alli Chaudhuri at the Imperial Malaria Conference, in which he said, "Whatever measures might be adopted, the best and never-failing method will be to educate the people. It is absolutely necessary to educate the young and the old on this subject by means of lessons introduced in the school books and by leaflets, health series, and popular lectures."

Just as in the case of plague the co-operation of the people is necessary for the eradication of the disease, so it may be pointed out that the attempts of Government to stamp out malaria are frequently nullified, owing to the fact that individuals persist in allowing old pots, gurrahs, kerosene oil tins, etc., to accumulate in their compounds and thus furnish breeding places for mosquitos. If our campaign against malaria is ever to be crowned by success it is essential that the efforts of Government should be supplemented by individual endeavours to secure sanitation in and around the household

This matter has engaged the serious attention of the Indian branch of the St. John Ambulance Association, which has now inaugurated a series of lectures in "Home Hygiene," with special reference to tropical conditions. An advanced manual has already been published and a simple primer, which will be translated into the various vernaculars, is now under preparation.

September 15th, 1911. C. P. Lukis.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LEEDS.

A NEW VICE-CHANCELLOR OF THE UNIVERSITY.

THE death of Sir Nathan Bodington last May meant the loss to Leeds University of its first Vice-Chancellor, and a largely attended meeting of the Court, which is the supreme governing body of the university, was held on October 20th to receive the recommendation of the council as to the appointment of his successor. The chair was taken by the Chancellor, the Duke of Devonshire. The recommendation of the council, which had been arrived at after very long and careful consideration by a subcommittee, was that the position should be offered to Professor Michael E. Sadler. In proposing the adoption of the recommendation, the Duke of Devonshire said that the task which had been imposed upon the committee of the council of making a recommendation was a particularly onerous and difficult one, but that after full consideration the members of the committee had come to the conclusion that if they could secure the services of Professor Sadler they would have a Vice-Chancellor who would reflect great credit upon the university, and one in whom they could safely repose their confidence. The resolution was seconded by Lord Allerton, who mentioned that the recommendation of the committee had been unanimously endorsed by the council. Speaking of Professor Sadler, he said he was a man of singular charm of manner, which was well calculated to overcome temporary and petty difficulties, and that he had had a distinguished career. He was, however, a man of firm will; had it been otherwise, they would not have recommended him, and he was confident that in representing the university he would on all occasions represent it with dignity and with efficiency. The resolution was supported by Sir F. S. Powell and by Professor Vaughan, and was adopted unanimously.

The new Vice-Chancellor is a son of Dr. Michael Thomas Sadler, for many years in practice at Barnsley. He was born at Barnsley in 1861, and was educated at Rugby, Oxford, Heidelberg, and Jena. A scholar of Trinity College, Oxford, he took a First in Moderations in 1882 and a First in Greats in 1884. After taking his degree he became a Student of Christchurch, of which college he was steward from 1886 to 1895. He was a member of the Royal Commission on Secondary Education, 1893–95, and Director of Special Inquiries and Reports in the Education Department, 1895–1903. As Secretary of the Oxford University Extension Delegacy, and subsequently of the Committee of the Delegacy of Local Examinations, he showed himself possessed of great business capacity, the power of grasping details, and the art of dealing with all sorts and conditions of men. His work in connexion with the delegacy brought him in relation with the lives of large communities, and the experience so gained will be of primary importance in the position he is called to occupy in a modern university. At the time of his selection, Professor Sadler occupied the Chair of the History and Administration of Education in the University of Manchester.

On the evening of October 23rd, Mr. A. G. Lupton, the Pro-Chancellor, entertained the numerous members of the teaching staff and the members of the council at dinner in the refectory of the university, and afforded them an opportunity of meeting in an informal manner their new academic head. It is certain that Professor Sadler will receive a cordial welcome from every one connected with the university, and will, in his multifarious duties, have the loyal support of all members of the teaching staff.

OPENING OF THE NEW WING OF THE GENERAL INFIRMARY.

It will be remembered that a disastrous fire took place at the infirmary last October. It occurred in the block that was opened in 1894 as part of the great extension of the institution carried out during the energetic chairmanship of Mr. R. Benson Jowitt, and threw out of action some 90 beds. During the last twelve months, therefore, those in charge of the medical children's wards, the eye and ear wards, and the gynaecological ward have been greatly handicapped in their work. An extra demand has had to be made on their patience by the decision of the board to reconstruct the entire block. As the block was originally built it was separate from the rest of the building, and was approached by a covered passage on the ground floor, and by a covered bridge on the first floor; later, a second bridge was made on the level of the second floor. The block was provided with a central staircase with entresol wards. It has always been felt that the back wards were somewhat cheerless, and in that respect stood in marked contrast with the other wards of the infirmary. The position of the block is such that it has been found possible to make it communicate with the main corridor in the same way as the other front wards of the infirmary by erecting the staircases at one end of the block. The original central staircase with all the small entresol rooms has been removed, with the result of throwing the front and back wards into one on each floor. The improvement which has resulted from this alteration is greater even than was anticipated, though when the suggestion was originally made by Mr. Secker Walker it met with almost universal approval. Opportunity has been taken to build the roof on fireproof principles and to furnish the whole block with the most modern sanitary fittings. The new block, as it is always called, though soon it will have to resign the adjective to others, is to be opened by the Lord Mayor on Tuesday next (October 31st). On the same day a meeting of the King Edward Memorial Fund is to be held, on the invitation of the Lord Mayor, whose term of office is now almost at an end, and who will report on the present condition of the fund. The original amount asked for was £150,000. Of this about £103,000 has been given or promised. As in all efforts of the same kind, the latter thousands represent the greatest difficulties; but the rudest shock which those interested in the securing of subscriptions experienced was the announcement of the proposed terms of the Insurance Bill.

MANCHESTER AND DISTRICT.

THE MANCHESTER CORPORATION AND SUBSCRIPTIONS TO HOSPITALS.

SOME months ago the Joint Committee of the Divisions of the British Medical Association in Manchester and Salford had occasion to protest against the Manchester Education Committee acceding to the request of the Children's Hospital for a donation from the corporation. The ground for the request was that the hospital was being used to a large extent by school children who upon medical inspection had been found defective; it was pointed out that the British Medical Association objected to charitable hospitals being used for the purpose, whether subsidies were given or not, and that the Education Committee ought to establish clinics where necessary. Some very contradictory statements have been made from time to time in the City Council as to the donations made by the corporation to various hospitals, and the Education Committee thought the question should be considered by the Finance Committee, and the matter of subscriptions dealt with by the council and not by the individual committees of the council. The town clerk was consulted, and agreed that it was expedient that the question of contributions to hospitals should be dealt with as a whole by the council acting through the Finance Committee. As a result the Finance Committee has just issued a report on the matter which states that the contributions made annually to the hospitals are: by the Gas Committee £200 the Electricity Committee £71, the Tramways Committee £125, and various payments out of the common fund £152, making a total of £548. In addition the Education Committee contributes £20 10s. to three hospitals in return for services rendered by the medical staffs to school children at certain schools. The report considers that these sums are only small in view of the large number of workmen employed by the corporation who use the hospitals. As the result of the medical inspection of the 120,000 school children the number of scholars treated at the hospitals has largely increased. The Finance Committee has therefore communicated with the various trading committees and ascertained that they are willing to increase their contributions to the hospitals as follows:

The Gas Committee to £250, the Electricity Committee to £150, the Tramways Committee to £250, making a total of £650. The Finance Committee further recommends that a sum of £850 be contributed out of the city fund account, which will make a total of £1,500 to be granted each year to the various hospitals of the city.

LONDON.

THE COUNTY COUNCIL ASYLUMS COMMITTEE.

Asylum "Ins and Outs."

THE Asylums Committee, in a report to the London County Council on October 24th, mentioned the case of a female patient, aged 67, who was admitted to Colney Hatch Asylum on September 12th, 1911, for the sixteenth time since April, 1872. The patient had also been in other asylums on eleven occasions. She was married at the age of 18, and had had thirteen children, five of whom were dead. Her first attack of insanity was at the age of 21, when her first child was born. The patient's children were said to be all healthy with the exception of two, who had recently shown symptoms of insanity. She had two aunts in the asylum, and two of her sisters had suffered from insanity; both were dead, one having committed suicide. The committee submitted these particulars by way of supplementing the history of a male patient given some time ago,[1] observing that it seemed a striking illustration of the need for legislation to prevent the increase of the unfit.

Deportation of Alien Pauper Lunatics.

The Asylums Committee also reported as to the proceedings taken under the Aliens Act, 1905, with a view to deporting to their own countries foreign lunatics chargeable to London ratepayers. The number of certificates granted by stipendiary magistrates since the Act came into operation was 86, and 59 patients had been deported. This left 27 to be accounted for, and as to these, the Home Secretary did not see his way to make an expulsion order in 14 cases, 4 died before the expulsion order was issued, one case was removed to a private institution, and 8 cases were still under the consideration of the Home Secretary. In addition, 12 patients had been deported without a certificate being necessary. The total number deported to date was 71.

Expenditure.

The district auditor reported on the accounts of the London County Asylums for the year ended March 31st, 1911. The total expenditure of the committee was £720,249, the cost of maintenance of the ten asylums varying from £70,061 in the case of Claybury to £11,544 in the case of the epileptic colony. The expenditure on maintenance showed an increase of £17,157 on the figures of the previous year; this was due chiefly to the higher cost of provisions and necessaries. The auditors gave definite figures on this point. Provisions in the year ended March, 1910, cost £173,422, in 1911 £184,263—an increase of £10,841; necessaries in 1910 cost £60,482, and in 1911 £63,412—an increase of £2,930.

The committee also reported that Dr. Geoffrey Clarke, second assistant medical officer at Long Grove Asylum, had been appointed first assistant medical officer at Colney Hatch Asylum; and that Dr. J. J. Murphy had resigned his appointment as first assistant medical officer at Banstead Asylum, in order to go abroad; the committee had received the resignation with regret.

ACCOMMODATION FOR IMBECILES.

The Metropolitan Asylums Board had under consideration, at its meeting on October 21st, a report from the Asylums Committee setting forth the pressing need for more ample accommodation for imbeciles. The board's imbecile asylums at Caterham, Leavesden, Tooting Bec, and Darenth were designed for only 7,495 patients, and already contained 7,239. Until further steps could be taken, it was desirable to relieve Darenth of as many of its unimprovable imbeciles as possible. For this purpose the Fountain Hospital might be used. It had been temporarily detached from the fever service last January, and already housed about 100 feeble-minded girls. It would be possible to find room in it for 500 of the unimprovable imbeciles at present at Darenth. The board approved the suggestion, and resolved to request the Local Government Board to sanction the temporary use of the Fountain Hospital for the purpose stated.

[1] BRITISH MEDICAL JOURNAL, March 25th, 1911, p. 716.

THE REPORT OF THE MEDICAL OFFICER (EDUCATION).

A short discussion took place at the meeting of the Education Committee of the London County Council on October 25th with reference to the report for 1910 of the Medical Officer (Education), Dr. Kerr, a summary of which was published in the BRITISH MEDICAL JOURNAL last week (p. 1035).

Mr. A. J. Shepheard described Dr. Kerr's report as a most interesting document and a credit to its compiler. A perusal of its pages made it clear that a number of the children in the schools were unable to take advantage of the educational facilities provided for them by reason of bodily infirmity, insufficient food, or lack of medical attention. A great deal of work lay before the committee in order to secure that the expenditure on education was not wasted to some extent on this account. He hoped that money spent on feeding necessitous children would not be grudged; it was a splendid investment from a national point of view. It would be extremely advantageous if experiments were made in the direction of providing cheap meals for children whose parents could pay for them. This was done with satisfactory results in secondary schools; the children would receive in many cases more nutritious food, and the invidiousness of marking off some of the scholars as "poor men's children" would be avoided. With regard to medical treatment, Mr. Shepheard expressed the hope that if the majority on the Council found in the end that the present method of providing medical attention for the children was not a success they would frankly admit it and establish clinics.

Miss Adler described the report as "almost a monumental work" on one side of social life in London. She also emphasized the fact that the present scheme of medical treatment was not successful in providing treatment for some thousands of children. For instance, it was mentioned in the report as to one school in the centre of the hospital district that 71 children were reported to be in urgent need of dental treatment. At the end of twelve months only 17 of the children had attended at any institution for treatment.

Mr. Oscar E. Warburg, Chairman of the Committee, submitting the report, expressed the view that deeper causes required attention, and that the mere supply of free meals was not all that was necessary to secure that children were able to make the best use of educational facilities. Poverty, irregularity of employment, and overcrowding rendered the home conditions of the children so inimical that not all the school organization could counteract them.

Dr. Kerr's report was sent forward to the Council for approval.

BIRMINGHAM.

THE HOSPITAL SATURDAY FUND AND ITS SANATORIUM.

Speech by Professor Saundby.

THE paragraph under this head published last week referred briefly to the laying of the foundation stone of the Sir William Cook Memorial Home at Romsley Hill. The scheme is really one for the establishment of a country hospital for consumptives, and has excited much interest among the medical profession in Birmingham. Professor Saundby, the President of the British Medical Association, in speaking at the ceremony on October 14th, congratulated the promoters of the memorial on their choice, and then proceeded as follows: Sir William Cook was a most eminent citizen of Birmingham who throughout many years of public life showed that he was keenly interested in the health of this city and in the welfare of its workers, so that if his name is to

be attached to any institution it should be for the promotion of these objects, and search as they might they could have found no better plan. Tuberculosis is the most prevalent cause of sickness and of death, and, although it has recently received much public attention and means are being provided to check its progress and relieve the sufferers, they are still far from being adequate to grapple with the enormous number of cases, and every fresh reinforcement is welcome. The difficulties of dealing with tuberculosis, especially with tuberculosis of the lungs, are, first, that everyone suffering from the disease in a sufficiently advanced stage to cough, is an unwilling distributor of infective material wherever he may be, in the dwelling-house, the workroom, or in public conveyances. He is a source of danger to everyone who is not immune, that is, who is liable to contract the disease. In order to put a complete stop to this public peril it would be necessary to remove all these cases from their homes and place them in contact with immune persons only, but the practical difficulties, both financial and sentimental, are enormous. The alternative is to provide some means of conferring immunity on the principle of vaccination, but, so far, medical science has not succeeded in discovering this. Meanwhile, every case in the condition above described that can be removed from home and placed under favourable conditions for recovery is a gain to the community, so that I am glad to know it is not the intention of those who are promoting this institution to restrict admissions to cases in an early stage. These early cases no doubt offer the best prospect of cure, but they are not those which most urgently need institutional care, for it is possible to treat many of them efficiently in their own homes. The educational influence of a sanatorium is most effective in training them in the way to treat themselves, and to avoid becoming a danger to others; but, in order that they may be supervised and induced to persist in the necessary precautions, compulsory notification is absolutely needed. In the second place, there is the difficulty of obtaining the early detection of the disease, for which it is primarily necessary that the patient should seek medical aid, and his doing so will depend upon the nature of the early symptoms, which are not always urgent, and also on his temperament. But when the patient goes to the doctor the medical examination must be both skilful and careful if the early signs are to be detected. Too many people hate to be examined, and are perfectly satisfied if they receive a bottle of medicine. In fact, they like the doctor all the better if he takes that simple course. This is the danger of contract practice which the Chancellor of the Exchequer evidently did not appreciate when he told the medical profession that the general practitioner would be compensated for losing his private patients by his club practice becoming "wholesale instead of retail"—that is, by their numbers being vastly increased. But no medical practitioner can do justice to more than a limited number of patients in a given time, and if his income is made to depend upon the number he sees, it is to be feared that his examinations will be imperfect. No experience or gift of guessing from external appearances can prevent such mistakes being made as cases of early phthisis being mistaken for anaemia or dyspepsia. It is for this reason that the medical profession distrusts the proposals for medical benefit as foreshadowed in the National Insurance Bill, and sees in them only a plan for lowering the standard of medical practice. If doctoring means no more than putting drugs of which we know little into bodies of which we know less, it is a contemptible thing, and were it no more than this it would not attract men of high character and ability. Its pursuit always requires time and care, and any system which does not ensure these essentials is a sham which no eloquence or good intentions can make worthy of your confidence. This institution, of which the foundation stone has been laid to-day, will be a means of aiding the scientific prevention and treatment of this formidable disease. I am honoured by being allowed to be present as a representative of the medical profession and to take part in these proceedings, and I heartily propose this vote of thanks to the Lord Mayor for giving us by his presence here to-day the assurance that this work is one in which the city of Birmingham is interested and will heartily support.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

LORD IVEAGH'S GIFT TO THE KING FOR DUBLIN HOSPITALS.

AT a meeting of representatives of the hospitals that have participated in Lord Iveagh's recent gift, it was decided that some special means should be taken of showing appreciation of Lord Iveagh's generosity. In consequence a general meeting of all the members of the boards and medical staffs of these hospitals was summoned to meet in the Royal College of Surgeons on Tuesday, October 24th, when the following resolution was proposed and adopted:

> That the governing bodies and medical staffs of the hospitals of Dublin now assembled hereby offer to the Right Hon. the Viscount Iveagh, K.P., their united and most grateful thanks for his lordship's munificent gift to the King for those hospitals, and they desire to express to him their sense of his lordship's splendid generosity.
>
> The governing bodies and medical staffs are mindful of a similar generous gift for Dublin hospitals made by The Viscount Iveagh to His Majesty King Edward VII.
>
> The governing bodies and medical staffs in offering these heartfelt thanks to Lord Iveagh, beg to assure his lordship that it will be their endeavour so to employ the funds which have been placed by him, through His Majesty, in their hands, that the poor, who seek aid at these hospitals, may derive the greatest possible benefit from his lordship's charity.
>
> That this resolution be forwarded to Lord Iveagh in a suitable form.

HOUSING OF THE WORKING CLASSES.

The Pembroke Urban Council, acting on a series of reports from their Medical Officer of Health, Dr. Knox Denham, and on reports from its sanitary subofficers, has decided to undertake the clearing out of insanitary areas and the erection of decent dwellings in its district on a large scale. The district, which constitutes a very important suburb of Dublin, is well known to include areas which are grossly insanitary and overcrowded. The reports on which the council is now acting show that 638 families, numbering 2,859 persons, are housed in 302 small houses, containing in all only 1,130 rooms, and that in a large number of cases as many as from 8 to 10 persons live and sleep in a single room. Some of the houses have little or no sanitary accommodation, and are deficient as regards ventilation and lighting. The scheme now proposed to remedy this state is estimated to involve an expenditure of over £100,000, but it is expected that by proper management the houses will be self-supporting and that the ultimate cost to the ratepayers will be small.

At the opening of the City Sessions last week the Hon. the Recorder of Dublin made some interesting remarks regarding the effect of proper dwellings on the health and morals of the poorer classes. He stated that he agreed with the opinion, now widely held, that the costliness of disease and intemperance, from which much crime originated, would soon force attention to the subject of providing wholesome houses as the best and cheapest mode of dealing with the subject. The question, he felt, could not be met by building sanatoriums, while slums were tolerated that fed the disease more quickly than sanatoriums could deal with it. In support of his opinions he quoted some statistics from Liverpool which showed that improved housing was followed, not only by an improvement in the death-rate, but also by an enormous decrease in crime amongst the inhabitants of the improved areas.

HEALTH OF BELFAST.

Annual Report of the Medical Officer of Health.

The annual report dealing with the health affairs of the city has been presented. It is shorter and less elaborate than those of the previous few years; it occupies 157 pages, as compared with 230 for 1909 and 198 for 1908; there is no index and fewer tables and diagrams. Among the main statistics the population is given according to the old estimate of the Registrar-General, although the Census figures have been available for some months; this involves an error of some 6,000. The death-rate was 18.6, as compared with 18.2 of 1909. The increased death-rate in the

principal zymotic diseases was 2.7, as compared with 1.3 in 1909. The number of cases notified under the Infectious Disease (Notification) Act was 1,362, or 3.4 per 1,000 of the population, as compared with 2.5 of the preceding year. The birth-rate was 27.8, which is 0.4 under that of the preceding year and 2.9 below the average for the preceding ten years. On the whole the health of the city has been fairly satisfactory, although evidently one of those apparently unavoidable set-backs have occurred. This was clearly due to the epidemic prevalence of some infectious diseases, the prevention of which has up to the present baffled health authorities. Thus 734 cases of scarlatina were notified, as against 355 last year; 259 deaths from whooping-cough occurred, as against 213 in 1909; but the most serious rise was in the measles mortality—504 deaths were registered, as against 10 in the preceding year, or against an average of 160 in the last ten years. The mildness of the season is evidenced in the diminution of deaths from respiratory affections by 214, and by 294 as compared with that of 1908.

On the whole, the increased mortality is clearly due to the epidemi: of measles, which reached its acme from April to July. The principals of the various national schools were notified of all cases coming under the cognizance of the Health Department, and were supplied with forms to notify the authorities of all cases occurring in their schools. Dr. Bailie adds:

The question of compulsory notification has been under consideration from time to time. Short of making the disease notifiable and providing sufficient hospital accommodation and the compulsory removal of patients suffering from this disease, I am of opinion that the methods outlined with a possible increase of the sanitary staff, if found necessary, for the purpose of making house-to-house inspections in streets where a first case becomes known, and taking any precautions found necessary, is as effectual a means of preventing an outbreak of this disease as is at present known.

Whether, with a falling birth-rate, the future generations will be content with such precautions when over 500 children are swept out of existence in a year is a moot point.

As regards consumption some interesting facts are given; of the 300 patients who were discharged from the Whiteabbey Sanatorium and kept under observation, 2 were improving, 42 had returned to work, 16 had left the town, in 45 the disease was advancing, 12 had returned to hospital, 61 had died, and 42 had given wrong addresses. Of the 154 discharged from the Forster Green hospital and kept under observation, 53 were improving, had resumed work, 10 had left the town, 18 could not be traced, in 29 the disease was advancing, 19 had died, and 4 had gone to other hospitals. This is not very encouraging as regards recovery; only 62 had resumed work—the true test of recovery—out of a total of 454, but the steady fall in the death-rate from the disease, which is spoken now for the first time for five years, is most encouraging—namely, 2.7, 2.5, 2.3, 2.1; in 1910 it was 2.1, the same as for 1909.

Dr. Bailie again refers to the want of proper control of the milk supply of the city. He says:

It is regrettable, however, that practically two-thirds of the milk supply of the city is produced in districts outside our jurisdiction in so far as the supervision of the dairies and the manner in which the milk is produced is concerned. I am still strongly of opinion that for the protection of the citizens your officers should have statutory powers to inspect the dairies which supply this two-thirds at all times and not as a favour as at present. This opinion has been forced upon me owing to the fact that within recent years several outbreaks of infectious diseases were to my satisfaction traced to milk supplies from outside the city, and in every instance the source of the outbreak was discovered by your officers. Your inspector reports that defective sanitation is prevalent, while the provisions for light and ventilation are very unsatisfactory. He also reports that he discovered a number of cowsheds, which, although supplying milk to Belfast for years, have never been registered nor officially inspected. In my opinion this is a very serious state of affairs when we consider that milk is so easily contaminated and so liable to carry infectious disease.

It is one of those amazing anomalies that exist in public life and administration that although the medical superintendent officer of health has made many similar reports and recommendations, and every individual in private heartily approves of the report, and acknowledges the necessity of its recommendations, yet year after year is allowed to elapse and but little is done. The same phenomenon was in evidence some years ago when typhoid fever in Belfast had an incidence of four to eight times that of Liverpool, till finally public feeling boiled over in public meetings, and the authorities were forced to take the problem in hand in earnest; the present satisfactory freedom from typhoid is proof of the soundness and of the absolute rightness of the movement.

A large number of interesting and important matters are dealt with which it is impossible to notice with fullness. The various private philanthropic bodies are doing good work, such as the babies' clubs, the Charity Organization Society, that for the nursing of the sick poor, and many others. It is a pity that a little more central organization could not be established, and overlapping avoided. This, however, will no doubt come in time.

The Housing and Town Planning Association of Ireland.

As an outcome of the recent health congress in Dublin a Housing and Town Planning Association of Ireland has been formed, with the object of promoting the provision of healthy houses and suitable spaces in connexion therewith throughout Ireland, and of ensuring that in the reconstruction or development of Irish cities and towns due attention should be given to plans for combining healthy dwellings with industrial facilities. The methods of the association will include the holding of conferences, the delivery of popular lectures, and the encouragement of the formation of local housing and town-planning committees. No steps, however, will be taken to incur expenditure before judicial tribunals in connexion with schemes promoted or opposed by local authorities, or to assist in the promotion of or opposition to private bill procedure in which any local authority is interested. A circular has been issued by the provisional council asking all members of the public interested in the work of the association to become members.

Infantile Mortality.

The report of the Dublin Committee formed to consider the steps which can be taken to lower the high infantile mortality states that since the adoption of the Early Notification of Births Act in November, 1910, forty ladies have been trained as voluntary visitors, and have attended 500 cases. Each case is visited once a fortnight with a view to educating the parents regarding the rearing of infants. Free dinner tickets and articles of clothing are supplied in necessitous cases. In no case has any objection been made to the visitor on the part of the parents.

Workhouse Patients as Lunatics.

A matter of some importance in connexion with the alleged increase of lunacy in Ireland was discussed last week at a meeting of the joint committee of the Richmond Lunatic Asylum. In the last report of the medical superintendent attention was drawn to the increasing tendency on the part of some of the unions to send into the asylum from the workhouses persons suffering from senile decay. The report pointed out that statistics of "recoveries" and "improved" would give an untrue percentage if decrepit old age was to go into the different classifications of lunacy. These people were undoubtedly weak and helpless, but were not insane in the proper acceptation of the term, and it was a cruelty not only to them but also to their relatives to have lunacy thus thrust upon them. As a result of the discussion a resolution has been forwarded to the different union authorities urging the advisability of treating senile cases in the hospitals or infirm wards of the workhouses.

Medical Substitutes' Fees.

A point of importance to medical officers was decided in a letter from the Local Government Board read at a meeting of the Edenderry Board of Guardians on Monday, October 23rd. Some time ago Dr. Waters was appointed temporary medical officer for the Johnstown Dispensary District. The relieving officer in requesting Dr. Waters to act informed him that the remuneration would be a guinea a day. Dr. Waters acted for twelve days and submitted a bill to the guardians for 12 guineas. This the board refused to pay, on the ground that the settled remuneration for medical substitutes in the Edenderry Union was 4 guineas a week. Dr. Waters replied by stating that the relieving officer had specifically engaged him at a guinea a day, and in consequence the matter was referred to the Local Government Board. The substance

of the latter's reply is that a relieving officer has no power to bargain with a doctor, and therefore the guardians are not justified in paying the rate of remuneration arranged by him.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

General Medical Council Election.

Dr. Norman Walker, who is offering himself for re-election as the Direct Representative of the registered medical practitioners in Scotland on the General Medical Council, will address a meeting of the profession in the hall of the Royal Faculty of Physicians and Surgeons of Glasgow on Monday evening next, October 30th. Sir Hector Cameron will take the chair at 5 p.m. All members of the profession are invited to attend.

The Insurance Bill.

Meeting of the Profession in Scotland.

As the outcome of a suggestion from the Fife Branch the Scottish Committee has arranged for a national meeting of the profession in Scotland, to be held in Edinburgh on Saturday, October 28th, in the Students' Minor Hall, Park Place, at 3.30 p.m., at which addresses will be given by Dr. Macdonald, Chairman of Council, and Mr. Smith Whitaker, on the present position of the profession with respect to the Insurance Bill. Sir William Turner, K.C.B., has kindly agreed to preside, and it is hoped the attendance will be a large one.

Professor David MacEwan.

The meeting of the Board of Management of the Dundee Royal Infirmary on October 4th was marked by the making of the presentation to Professor David MacEwan, which was announced as in prospect in our issue for September 30th. Before the ceremony took place the board entered in the minute book a record of the regret felt at the loss of Professor MacEwan's services and at a severance of the ties so long existing between him and the board. The presentation was made by Mr. T. H. Smith, who dwelt on the skill, ability, and cheerfulness which had always characterized Professor MacEwan's work for the maimed and afflicted of Dundee. The gift made was a silver tea service and tray, inscribed as follows:

> Presented by present and past members of the Board of Directors to Professor David MacEwan in recognition of his valued services during forty-three years to Dundee Royal Infirmary. September, 1911.

Practically all the members of the infirmary visiting staff were present at the ceremony, and the gift was duly acknowledged by Professor MacEwan in a reminiscent speech.

Proposed Veterinary D.P.H.

The opening lecture of the winter session of the Glasgow Veterinary College was delivered on October 20th by Dr. David N. Knox, President of the Royal Faculty of Physicians and Surgeons. Sir Hugh Shaw Stewart, Bart., presided over a good attendance.

Dr. Knox said human and veterinary medicine demanded special technical instruction and experience for their highest fulfilment in practice, but they were based on scientific principles and investigations common to both. Each department of study shed light on the similar department of the other. The veterinarian was constantly deriving benefit from the work of the human pathologist, as well as conferring benefits in return to his medical brethren. It was thus quite impossible to separate the two branches of study. The veterinary surgeon must be as highly trained as the medical in all subjects common to him and the medical practitioner, while in the more purely special subjects of the veterinary surgeon he ought to be more highly trained than the medical, if that were possible. This was an idea of his formerly expressed, he thought, in that very room, and he had seen no reason to change it. It was based on the fact that the veterinary surgeon got no great assistance in diagnosis or even as to the results of treatment from his patients. They could not tell him where they felt pain, or when their illness began, or what part of the body was affected. This must be found out by the practitioner, guided by his scientific knowledge of anatomy, physiology, and pathology. It was thus obvious that to be successful in his work the veterinary practitioner must have a thorough scientific knowledge of his profession always at his finger-tips. After a reference to the progress which had been made in the science of bacteriology, Dr. Knox said that the facts might give a hint, not so much to the student as to the governors of that college and to the veterinary profession generally. In the medical profession there was a body of men who had undergone a special training and obtained a special diploma of public health, and who were the recognized officers of public health throughout the country. He would like to suggest that a similar D.P.H. should be instituted by the Royal College of Veterinary Surgeons. He was well aware that there was a society already in existence called the Veterinary Society of Officers of Public Health, a society which was doing and had done most excellent work in various places. He had no wish to depreciate the members of that society. They were in the same position, however, that the early medical officers of health were in Glasgow forty years ago—the period when the late Dr. William T. Gairdner and Dr. J. B. Russell were at the head of health matters, and began the work that had since been so worthily carried on by their successors. These men were giants and did giants' work. The ordinary medical practitioner was no more able to carry on his work successfully without special training than he could fly without a special aviation car. The Society of Veterinary Officers of Public Health had doubtless great men among its members, fitted in every way for their work by their own self-training, but he was sure their profession would be as much benefited by a specially trained class of health officers as the medical profession had been. He had had the opportunity of reading an account of the proceedings of their society at its annual conference in Edinburgh, and he was struck by the knowledge of the various Acts relating to byres, cowsheds, and dairies possessed by the speakers, by the accuracy and fullness of their reasoning as regards meat and milk inspection, and the relations of animal diseases, such as tuberculosis, to the general health of the community. He also saw, however, that the various speakers felt that for the success of their work something more was wanting. The Chairman said that, as regards the inspection of meat,

> he felt confident that in time, as posts fell vacant or as public bodies became educated to the vast differences that existed between the man who had made a study of human diseases and the man who made a study of animal diseases, especially those communicable to man, then they would see a change in the type of man appointed to supervise meat inspection.

Now there was a great deal of truth in all that, but was it the whole truth? Were all veterinary surgeons, however skilled they might be in the diagnosis and treatment of animal diseases, equally skilled meat inspectors? He did not think Mr. Robb would say that they were. There was more wanting than that veterinarians should be appointed meat inspectors. Mr. Lindsay (Town Clerk Depute) put his finger on the spot when he said:

> In order that the district inspectors would be able to confirm their diagnosis in doubtful cases, a laboratory ought to be established by the central authority at some convenient place.

This gave the whole difficulty away by admitting that there were doubtful cases where no man, however experienced, could with the naked eye, and unaided by sure scientific tests, recognize all incipient cases of disease, or should be trusted to pass milk or carcasses as in all cases fit for human food. Scientific laboratories were an absolute necessity of efficient inspection, and his proposal came to this, that they should have a class of veterinary surgeons specially skilled and capable of working in such laboratories. He was afraid that at present, and for some time to come, the officials in such laboratories would mostly require to be found in the ranks of medical officers of health. In fact, he did not see where else properly trained bacteriologists could be obtained, and until the veterinary profession wakened up to the necessity of providing such training for their inspectors this difficulty would exist. If the veterinary surgeons there that day thought that too big an order to execute all at once—he meant to institute a veterinary D.P.H.—there was an alternative that might be easier in execution, and which he should like to see that college undertake. It was this: to institute what might be called post-graduate courses in public

health where veterinary surgeons might receive special practical training in public health work to fit them for special posts as inspectors, etc. This would require the setting up of a public health laboratory, where specialized instruction in chemistry and bacteriology might be given, and this could be followed by a practical examination in the subjects taught.

Compulsory Acquisition of Land.

The Local Government Board has just issued a circular dealing with the regulations for the compulsory acquisition of land by a local authority under Section 2 and the First Schedule of the Housing and Town Planning Act, 1909, for the purpose of Part III of the Housing of the Working Classes Act, 1890. By virtue of Section 60 of the Act of 1909, the provisions relating to the compulsory acquisition of land for the purposes of Part III of the Act of 1890 are made applicable where land is required to be purchased compulsorily for the purpose of a town-planning scheme. The provisions contained in the order will, accordingly, also apply to these cases. The order and schedule, like other orders and schedules in connexion with the Housing, and Town Planning Act, 1909, are somewhat mystifying, and require a good deal of study. Possibly, when they are all issued and consolidated, and can be read consecutively, it will be easier to gather more definite information from their perusal.

Correspondence.

CARDIAC ASTHMA.

Sir,—A challenge from Dr. Mackenzie is not to be avoided, or I would gladly have forborne to occupy your pages by what must be no perfunctory defence. His challenge is, that as he "is one of the slovenly people" who has repeatedly used the term "cardiac asthma," he would much like to know where he is wrong.

Well, first, let us—now that the matter has become personal—substitute for "slovenly" the word "lax." Why, then, lax? And, in explaining why, where am I to begin? Not, I trust, with the principles of the British Constitution! Yet I must step a little backwards; we must see where we are. We must ask what a name is, in medical science; and how names are to be applied. Now, at some time in the far future it may be possible to designate diseases by manufactured names of specific indication; the name may then attach itself to the central character of its disease, and may not only identify it, but also classify it. I need not say that to attempt any such nomenclature, at any time to which we can definitely look forward, is visionary; and meanwhile to attempt it would be to hamper ourselves with all sorts of cross-meanings and false implications. For the present, at any rate, the best names are those which signify least; which have neither denotation nor connotation, but are mere labels. Unfortunately we have lost the art of making names, as we have lost many another art. We cannot now make such excellent names as measles, typhus, epilepsy, gout, etc., just tickets which commit us to nothing more than identification. A name, then, must not be a seal but a label; as by "Charles's Wain" we label and identify a group of stars, but indicate no more than this.

And to proceed; having then a label, to what is it to be applied? To a disease. But what is this? I must be forgiven, if I seem to repeat myself too often, when I describe a disease as a certain assemblage and procession of signs and symptoms, positive and negative, recurring with fair uniformity. By the name "epilepsy," for instance, we label, not a convulsion—for the convulsion, if indeed it take place at all, may be very like a convulsion in another series—we label a certain series, of which "convulsion" may be, but is not always, a term. Thus, again, in the disease which is the occasion of this question, in asthma, spasmodic shortness of breath is not the disease, but a term in it; by the name "asthma" we label and identify a series, an assemblage and procession of signs and symptoms, positive and negative, recurring with fair uniformity. As in epilepsy so in asthma, it is not the paroxysm which fills our idea of the series; the paroxysm is but one term in it. It is possible, though not probable, that a paroxysm of dyspnoea occurring in another series, in a cardiac disease as Dr. Mackenzie suggests, might be closely like a paroxysm in asthma, but, even if so, diseases are not the same because they may have one or even more terms in common; a horse is not an ass because both have solid hoofs and a thick skin.

A disease is not a species, it is true; it is only a disorder of a species. This truth, however, is one of which it is difficult to convince the student and others who hunt at the bedside after "entities." It is true also that there are no lines of demarcation between one disease and another: I have often said that one may walk dryshod from any one disease in our nosology to any other. But this is true of all biological classifications. Classification is but a convention, a device to meet the limits of our understandings, an arbitrary means for the arrangement of our thoughts; but if we agree that physicians cannot think without making such artificial arrangements, as the astronomer cannot think without classifying the stars into groups and naming the groups "Boötes," "Orion," and so forth: then, if our thoughts are to follow precise paths, and if our concepts—as of asthma, for instance—are to be consistent, then we shall be as careful as the custodian of a museum *not to shuffle our labels*. I dare say the sky contains another group of stars as like to a bull as Taurus is. Never mind what the label may be, if we have adopted it let us stick to it and keep it exactly to its place.

Dr. Mackenzie tells us that he "has always considered the term 'asthma' to mean . . . periodic attacks of distressed breathing." Perhaps he has, if he says so; but shall we not then answer that here lies his—"laxity"? By what name, then, will he label that disease, the concept in his and our minds of that series recurring with fair uniformity a uniformity which nearly all clinical observers have recognized, to which the name "Asthma" has been applied with a consent almost as universal? Need I stay to describe this series, one often lasting from the cradle to old age? Is this series, as a series, even approximately like any process of cardiac disease?

Dr. Mackenzie retorts that if Dr. Gibson and I may speak of "uterine asthma," "nasal asthma," and the rest, surely then he may apply the label "Asthma" to heart disease, and speak of "cardiac asthma"? Well, let us grant, at any rate for the moment, the use of those subclasses of the general concept of "Asthma," adjectives which do but qualify the name "Asthma," not shifting the general label; if, then, Dr. Mackenzie can demonstrate to us an asthmatic series of events determined by some irritation originating in the heart, as in the nose or stomach, I am sure we shall listen to him with as much interest and instruction as we have listened to him on many other important matters. I have never seen any such series so determined. But if Dr. Mackenzie means no more than this—that certain phases of cardiac disease bear some resemblance to certain phases of asthma—then his remark is less valuable than those we have been accustomed to await from him. For my part, cardiac dyspnoea, even in its only too well known nocturnal paroxysms, seems to bear less resemblance to the dyspnoea which forms one of the phases of asthma than Dr. Mackenzie would have us suppose. Still, were they identical, I should urge that in classification we have to regard not the phase itself only, but also its place as a term of a series. We gain nothing, but lose much, scientifically speaking, if we call an eel a serpent, similar as in certain characters they may be. We classify not by single or superficial, but by manifold and profound resemblances.

Finally, Dr. Mackenzie hints at etymology, at what the origin of the word "Asthma" may be, and argues that the word does not "imply any particular form of disease." One so efficient as Dr. Mackenzie may toy with a little pedantry; he can afford it; while no one knows better than he does that, whether in science or in general conversation, words have their histories, their adventures, and their distributions, and that to pin them back to their derivations would make almost as much confusion as shifting our labels. By general consent we have agreed to call a certain series "asthma"; good names are scarce; let us not throw this good one into the scrap heap.—I am, etc.,

Clifford Allbutt.

P.S.—Although not necessary to the argument of this letter, it occurs to me, on reading it over, that I may be

misunderstood if I do not provide, that we rarely see the whole of a series in an individual case; we see parts of it; we recognize a few successive phases, or disjointed parcels. Upon a vast array of clinical experience, tested by our own observation, we construct in our minds, after the manner of a "compound photograph," a general concept or type, the ideal series by which we interpret the dark or fragmentary ways of particular cases. By reference of more or less isolated phases to the ideal series we are enabled to place them; and thus to perceive not only their surface but their deep affinities.—C. A.

Cambridge, Oct. 23rd.

THE SYMPHYSIAL LIGAMENT OF THE PARTURIENT GUINEA-PIG.

SIR,—In the BRITISH MEDICAL JOURNAL for October 21st Mr. Bland-Sutton makes a communication under this head, and refers to a note by Professor Stirling read at the Manchester meeting of the British Medical Association in 1902. He seems to be unaware of Dr. Matthews Duncan's paper, "On the Pelvic Articulations in Parturition," published in the *Dublin Quarterly Journal of Medical Sciences*, August, 1854, and republished in his *Mechanism of Natural and Morbid Parturition*, 1875. On p. 144 will be found a statement as regards the guinea-pig that the pubic bones are separated by stretching of the ligament to about an inch.

In the next paragraph the changes in the parturient cow are described, and on p. 146 the changes in the pelvic ligaments in the human female are described, and the nutation of the sacrum (afterwards utilized in Walcher's position) and symphysiotomy discussed with many references to the literature of the subject.

In the museum of St. Bartholomew's Hospital are a series of wet and dry preparations showing the condition of the pelvic ligaments in the guinea-pig in the unimpregnated and parturient states, together with a guinea-pig fetal skull to show the amount of stretching required. These preparations were presented to the museum by Dr. Matthews Duncan on his appointment as physician-accoucheur in 1877, having formed part of his collection in Edinburgh. The series consists of four pelves in all and a fetal skull. The catalogue numbers and descriptions are as follows:

1327. The pelves of three guinea-pigs (*Cavia aperea*), and the skull of one just born, showing the adaptation of the pelvis to parturition Above, the pelvis is shown in its ordinary state, with close approximation of the pubic bones. Below this is a pelvis taken at the time of parturition, with the pubic bones separated nearly 1½ in., the ligament of the symphysis being elongated to the same extent, and the expanded portions of the ilia being carried outwards and upwards, with slight elongation of the sacro-iliac ligaments. The lowest of the three pelves was taken seventy-two hours after parturition, and there remains only a very slight separation of the ossa pubis. 33. 33.

Presented by Thomas Wilson, Esq. (dry specimens).

1328. Pelvis of a guinea-pig at the time of parturition, with separation of the pubic bones and elongation of their ligament. 33. 34.

Presented by Dr. Conquest (a wet specimen).

These specimens were constantly used by Dr. Duncan in his lectures and by his successor.—I am, etc.,

London, W., Oct. 22nd. F. H. CHAMPNEYS.

TREATMENT OF ANTE-PARTUM HAEMORRHAGE.

SIR,—In the issue of the BRITISH MEDICAL JOURNAL for October 14th, p. 949, Dr. Herman writes: "I invite those who think they can occlude the vagina with a plug to try it and investigate the condition of the vagina two hours after the plug has been inserted." I am very happy to accept this test, which, after all, is the only one of any value. I have done it not once nor twice, but very many times, and, though I have not used either vaseline or threads, my experience has been exactly that described by Dr. Tapfer of Paris, and given in detail in Dr. Herman's Bolingbroke Lecture, published in the JOURNAL of September 30th. After several hours the outer plugs were unstained by blood, and the bleeding was controlled; nor have I found that the vagina is "such a dilatable canal that the plug within an hour or two becomes a slippery ball that easily moves within the relaxed vagina, so that blood can flow past it." Should this occur I should say that the plugging had been imperfectly carried out. But Dr. Herman adds a very important statement which, if it were true, would banish the plug from my practice. He says, "If it were possible actually for a long time to occlude the vagina this would not benefit the patient, for it would convert the case into one of concealed accidental haemorrhage, which is a more dangerous condition than that in which the blood escapes outside, for in concealed accidental haemorrhage the danger is of sudden distension of the uterus, producing severe pain and collapse, with temporary paralysis of the uterine muscle, leading to dangerous *post-partum* haemorrhage." In answer to this I say that I have succeeded in occluding the vagina for a long time in cases of external accidental haemorrhage, and that I have never known it to be followed by internal haemorrhage, that I have never heard of such a case, nor do I think it possible. The essential difference between external and concealed internal haemorrhage is that in the former the uterus is strong enough to resist the pressure of the effused blood, which is forced outwards. If this can be prevented the pressure in the uterus will soon be equal to that in the blood vessels, and the haemorrhage will cease. In internal concealed accidental haemorrhage, on the contrary, the uterine wall is so weak that it yields to the pressure of the blood, and the haemorrhage continues. I can see no reason to adopt Dr. Herman's statement that the uterus yields to sudden effusions and not to gradual, nor am I aware that there are any known facts to support such a hypothesis. On the contrary, in the few cases of concealed accidental haemorrhage which have been submitted to microscopical investigation it has been found that the uterine wall, and especially the muscular elements, were in such a degenerated condition that it was incapable of contraction or retraction, and this explains why, after extraction of the fetus, *post-partum* haemorrhage followed, which could only be controlled by hysterectomy. (See v. Weiss, *Archiv für Gynäkologie*, 46, p. 256.)

Statistics are of little use in determining the results in this complication of pregnancy, because it is impossible to state where the exact line is to be drawn between slight and severe cases, and therefore, however unsatisfactory, one is obliged to form one's opinion upon experience. The experience of a Master of the Rotunda Hospital is very considerable, because not only are a very large number of women delivered in the institution, but because he lives in the hospital and personally superintends the management of most of the abnormal cases. Up to the end of the first year of my Mastership I adopted the treatment recommended by Dr. Herman of rupturing the membranes, but in the severer cases, where labour pains were weak or absent, the haemorrhage continued unchecked; indeed, most of the fatal cases that I have met with have been those in which the membranes had been ruptured.—I am, etc.,

Dublin, Oct. 19th. W. J. SMYLY.

TEN YEARS AFTER SANATORIUM TREATMENT.

SIR,—The letters of Dr. McWalter, Dr. Squire, and others seem to call for reply from superintendents of sanatoriums which have been established for more than ten years. May I, therefore, ask you to give space for the following statistics of Woodburn Sanatorium, Edinburgh?

	1899–1900.	1900–1901.	1901–1902.	Total.
Patients admitted ...	44	36	33	113
Patients now living ...	10	11	10	31
Patients dead	32	23	23	78
Patients untraced ...	2	2	—	4

Of the 78, 17 died within three months, 33 died within two years, 20 died within four years, and 8 lived from four to eight years after the beginning of their treatment. Many of them succumbed sooner or later to tuberculosis; these had grave complications affecting the larynx, the kidneys, the nervous system, or the alimentary canal. Others died from typhoid fever, acute pneumonia, cancer, and other diseases.

The 31 patients who, according to my latest information concerning them, are now living, form 27.4 per cent. of the

total number admitted to the sanatorium from October, 1899, to October, 1902. Of these, the great majority are in excellent health, and are living normal and useful lives. They compare favourably with the ordinary citizen who has not had opportunity to learn the lessons of sanatorium life.

In those days no tuberculin was used; so that the results were obtained by ordinary sanatorium treatment, with a carefully planned dietary.—I am, etc.,

Edinburgh, Oct. 23rd. ISABELLA MEARS, L.R.C.P.I.

SURGICAL TREATMENT OF PULMONARY EMPHYSEMA.

SIR,—In your report of the third Congress of the International Society of Surgery in the JOURNAL of October 21st there is a good example of the mechanical view which surgeons too frequently take of medical phenomena. Garré recognizes the fact that rigid chest walls are a frequent source of pulmonary emphysema. This is patent to every one except, perhaps, Dr. Harry Campbell, who thinks that this is Nature's method of exercising continuous traction and thus assisting the circulation. As the remedy, Garré recommends resection of the second to the fifth costal cartilage on the one side, and this advice no doubt will strongly commend itself to the surgical carpenter; but, I say, why allow the surgeon to intervene when this condition can be prevented by the regular employment of respiratory gymnastics, and by regulating the amount of lime salts in the blood? Prevention is surely better than surgery.—I am, etc.,

Liverpool, Oct. 21st. JAMES BARR.

THE NUTRITIVE VALUE OF FLOURS.

SIR,—In reference to the interesting letter by Drs. Leonard Hill and Martin Flack in the JOURNAL of October 14th on the above highly important subject, in which the work of Simpson and Edie carried out in the Liverpool laboratories is quoted, I should like to be allowed to point out that further experiments have brought us close to the view that the active substance in the subpericarpal layers is not a phospho-protein, but a glucoside—possibly a galactosan, for these layers are particularly rich in galactosans in all cereals.

Simpson and Edie only stated that they were engaged in an attempt to isolate the active body, "whether it be one of the organic phosphorus compounds or a substance which associates itself with these in its reactions, as do ferments with nucleo-proteids." In addition, they refer to Ternuuchi's work regarding the absence of organic phosphorus in active extracts.

Recently we have received a most important paper by workers in the Bureau of Science of the Government of the Philippine Islands, Messrs. Chamberlain and Vedder, showing that polyneuritis established in fowls by feeding on polished rice can be combated and prevented by a daily ration of an alcoholic extract of the rice meal from the separated pericarpal layers, containing only 0.16 milligram of phosphorus pentoxide, and 4 milligrams of nitrogen.

We have been able to confirm these results on pigeons which had heavily lost weight and were suffering from polyneuritis due to exclusive feeding on polished rice. This result tends to support the view upon which we have been working, that the active body is a glucoside in the pericarpal layers. Such bodies are present and well known to botanical chemists in the subpericarpal part of cereals; they are known as hemi-celluloses, and are named pentosans or galactosans, according to whether they yield a pentose or galactose on hydrolysis.

The active extract prepared by the method of Chamberlain and Vedder does not yield pentoses on hydrolysis, but does yield a reducing sugar. Since ordinary cane sugar is also present, it is difficult to obtain separation, but at present we have little doubt that the body we are dealing with is an active glucoside.—I am,

Liverpool, Oct. 24th. BENJAMIN MOORE.

SIR,—Having read the reply to my letter on this subject I have again referred to the report of Drs. Hill and Flack on their experiments on rats with various grades of flour. I am still unconvinced that the absence of cellulose does not account for the very poor results obtained by feeding the animals on fine white flour. My opinion is that rats need cellulose in their food, and if they do not get it their nutrition fails. It is beside the question to say that the animals could have eaten cellulose if they wished, because it formed part of their bedding and cages.

I am fully aware that it is impossible to separate the effects of the offal from the amino-acids and enzymes contained in the cerealin and germ; and, as my previous letter shows, I am quite willing to allow that the extremely superior results of feeding the rats on entire wheat meal and "standard" flour are due to the presence of such substances. What I am anxious about (and in this I am sure Drs. Hill and Flack are in entire agreement with me) is that the subject shall be evolved from its present nebulous condition. I agree that there are, in addition to cellulose, subtle differences between the various flours. These also I referred to. I do not think the difference is entirely dependent upon phosphorus. I showed that only one-third of the phosphorus is in an organic condition. I think the difference is involved in the presence or absence of the amino-acids and enzymes of the grain, and the condition of the latter. A vast difference exists in the condition of the enzymes in boiled and unboiled milk. The same difference occurs in the condition of the enzymes of cooked or uncooked cereals or their flours. This leads me to observe that the report does not state whether the rats were fed with cooked or uncooked flour, and therefore the condition of the enzymes is unknown.

Equally important are the amino-acids to cellular activity. Among the most important are asparagin, leucin, and tyrosin. We know that tyrosin exists in greater abundance in brown than in white flours; the brown colour of bread made from entire wheat meal, or even from fine flour and bran, is attributed to its action on the gluten. Asparagin and leucin are also more abundant in whole wheat meal than in fine flour. What influence these bodies have upon animal growth is not yet clearly known, but I think it is an established fact that they are the primary elements of protein construction in the vegetable kingdom. As stimulants of cell formation they are well known. Every time the baker uses a potato leaven for making bread he stimulates the growth of the yeast by asparagin. Germ and malt culm, also used as yeast foods by the baker, owe their effect to the presence of the amino-acids from the germ and acrospire respectively. As stimulants of enzymic action they are also well known, digestion being more rapid and complete in their presence than in their absence. I think, therefore, it is to the greater amount of such amino-acids in the germ and cerealin that one may look for the different effects obtained by feeding with flours of various grades.—I am, etc.,

Nottingham, Oct. 16th. WILLIAM TIBBLES.

VACCINES AND CHRONIC NASAL CATARRH.

SIR,—Lord Justice Fletcher Moulton, in his address at the opening of St. Mary's Medical School this term, showed such intimate knowledge of the problems of immunity that one cannot help wishing he belonged to medicine as a whole-timer, that he might help us to a better understanding of some of her newly discovered laws. Even without a commission in our service he makes an extremely efficient general officer for inspection purposes, and gives us, as in this speech of his at St. Mary's, something to stimulate thought and investigation.

Speaking of the natural defences of the body against infections, a lifelong immunity in the case of some, but "unfortunately extremely short-lived in the case of colds in the head," he said that it appears to be true that the cells of the organism possess a kind of memory.

Memory is "the revival of past impressions;" it is transient or permanent as those impressions have been lightly or deeply engraved. In those infections which leave an almost lifelong impression—for example, enteric fever—inoculation periods are protracted and continuous, large doses of the specific microbe stimulate the immunizing responses, so that not only the cells of the body but their descendants are so impressed that they are unable to forget the lesson.

With slighter maladies the period of inoculation and the doses are infinitely smaller, and the impression is proportionate. If one attempts to set up an artificial immunity against colds in the head, one should aim at

something like the classical example before us in the preparation of diphtheria antitoxin. Let us consider what an elaborate scheme has to be carried out to immunize a horse against diphtheria. At least fifteen inoculations are required; they extend over a period of four months, and the doses employed range from the initial single unit to a final dose one thousand times as great. At the end of this period the animal is completely protected against any doses of diphtheria microbes or any quantity of diphtheria toxin.

What vaccine maker would dare to propose to his patient, the victim, perhaps, to five or six catarrh-producing germs (and some of them first-cousins to *B. diphtheriae*), that against each of his enemies he should undertake a four months' campaign of such an assiduous nature, for it is doubtful if it would be possible to use such blunderbuss charges as would enable him to deal with all his enemies at the same time? Therefore we have to be content with compromise, and either set up a temporary immunity by a few graduated doses against that microbe to which the patient is most susceptible, or wait until he develops a fresh cold and then as promptly as possible use a vaccine of that particular microbe uppermost at the time.

One of my patients, rather sick of having acquired a fresh *B. septus* cold soon after a series of successful inoculations against a very chronic pneumococcal infection of his posterior nares, came to me a few months ago and said: "I thought you vaccine people were going to prevent colds." I said: "We hope that will be within the power of the physician of the future," and urged that even at present vaccines were, if not effective in prevention, at least better than most known methods of treatment during an attack. The experience of my patient happily enabled him to admit this with a good grace.

The object of my letter is to draw attention to the fact that it is the technique employed in immunizing against nasal catarrh which is at fault, and not the underlying principle.—I am, etc.,

London, W., Oct. 18th. H. LYON SMITH.

THE TREATMENT OF CHRONIC ADHESIVE PROCESSES IN THE MIDDLE EAR.

SIR,—Dr. Dundas Grant's letter, in your issue of October 21st, is welcome, because it affords an opportunity for the discussion (and such discussion must be both complete and temperate to be of any value) of several points which require illumination.

In my address at the Birmingham Meeting, to which Dr. Dundas Grant has referred in such kindly terms, I endeavoured to draw definite expressions of opinion upon certain clearly defined questions, but my attempt was unsuccessful, no member of the Section, apparently, caring to offer any decided opinion upon them. The points which require full discussion are: (1) Whether auto-inflation may not do more harm than good. (2) The pathology of the lax tympanic membrane and its treatment. (3) The true cause and significance of *paracusis Willisii*. Perhaps, now that Dr. Dundas Grant has set the ball rolling, otologists of experience may be induced to express themselves freely upon these matters in your columns.

As regards the second point, I spoke thus in my address:

> In connexion with flaccid membranes, I should like to discuss the treatment and theories advanced by Mr. Heath. The matter requires careful consideration, not merely amongst practitioners in general, but amongst those who make a speciality of otology. Accepting his statements as published, they would appear to be at variance with accepted teaching, but, of course, none the less deserve attention at our hands. If, after such consideration, they fail to meet with recognition, the sooner we know this the better; on the other hand, if former teaching be proved to be erroneous in this respect, we must act accordingly, and proclaim the new truths.

I framed this paragraph especially to draw some expression of opinion from those gentlemen whose names are published by Mr. Heath in support of his method, but only one of them spoke, and then only to dissociate himself from it.

It appears to me, therefore, that if otologists will discuss the points which I have indicated in a dispassionate and scientific spirit and without making excursions into other matters, some valuable conclusions for our future guidance might be reached.—I am, etc.,

London, W., Oct. 21st. MACLEOD YEARSLEY.

SIR,—Dr. Dundas Grant, in his letter on "The Treatment of Chronic Adhesive Processes in the Middle Ear," says:

> On the other hand, I have seen numerous cases where long use of Valsalva's method or its modifications has been followed by relaxation, and numerous cases in which relaxation of the membrane has been present without any form of inflation having been practised.

This sentence seems to me to add further proof to my belief that chronic catarrhal otitis media is not one disease but two: (1) Chronic hyperplastic otitis media; (2) chronic atrophic otitis media. In the first group the cases are associated with adhesions, etc.; in the second with atrophy and relaxation of the drum membrane.

The causation of the two diverse conditions depends, in the first place, on the result of the primary catarrhal otitis media. If the inflammatory conditions are imperfectly absorbed hyperplastic otitis media results. This division gives, I think, a simple explanation of Dr. Dundas Grant's remarks. His cases in which long use of Valsalva's method was not followed by relaxation were those of hyperplastic otitis media. The whole of the tympanic structures were agglutinated and bound down, and no mere inflation, unaided, would free them. In those of relaxed drum with no history of inflation, the condition was one of primary atrophic otitis media, and the history might quite possibly be found to include excessive inflation—under another name, excessive blowing of the nose. One more point: Though I have examined many cases of relaxed drum I have never yet seen one in conjunction with an occluded Eustachian tube. In conclusion, I must add that on rational grounds catheterization, Valsalva, or auto-inflation appears to me only suitable for cases of acute catarrhal otitis media or in cases of hyperplastic otitis media, after an inflammation has been produced by Heath's method, and that it is the worst treatment possible in the atrophic cases.—I am, etc.,

Liverpool, Oct. 25th. CHAS. A. ADAIR-DIGHTON.

TREATMENT OF TUBERCULOSIS OF THE LARYNX.

SIR,—Referring to the BRITISH MEDICAL JOURNAL of October 21st, the opener of the discussion on the treatment of tuberculosis of the larynx mentions my name in connexion with a prescription for a nasal lotion given on page 1001. I did not wish to suggest, as stated, "that this lotion would be made more accurately isotonic" by altering the figures. My point was that for physiological reasons it would be an advantage to diminish the amount f borax, a distinctly alkaline salt, and therefore in many ases unpleasant to the nasal mucous membrane. The olution can be made isotonic again by increasing the mount of sodium chloride, *secundum artem*. A practically neutral salt might be substituted for the borax, as ts often done, by using the sulphate or phosphate of soda iin sufficient isotonic equivalent amount.—I am, etc.,

Birmingham, Oct. 21s WILFRID GLEGG.

SALINE INJECTIONS.

SIR,—I think that if your correspondents paid more attention to the two types or stages of summer diarrhoea the advocates of either form of injections would find that there was but little difference in their results, at any rate not sufficient to base an argument upon. In its chronic form or when it has become subacute, summer diarrhoea is very amenable to subcutaneous injections of saline, from which I have seen really astonishing results. I do not for a moment doubt that sea-water plasma would be equally efficient. In the acute case (I have seen a strong child of 14 months die in eleven hours from the onset of the illness), or in the acute stage, I have not found subcutaneous saline of any value, neither have I seen evidence that the plasma gives here any encouraging results. The cases quoted by Dr. Day belong to the chronic type or they had reached the chronic stage. The least duration of illness given is

"many days." In such cases similar results may be obtained with normal saline. Mr. Jefferies's cases were, I should judge, of the acuter type or stage, and he would no doubt have had just the same number of deaths had he used subcutaneous saline or made no injections at all.—I am, etc.,

HUGH P. COSTOBADIE.

Midsomer Norton, nr. Bath, Oct. 22nd.

RESUSCITATION OF THE STILLBORN.

SIR,—There is one small point of which I see no mention in the report of the discussion on the resuscitation of the stillborn.

If by lightly flicking on the epigastrium the slightest contraction of the diaphragm can be produced, there will be no fear as to the result.—I am, etc.,

London, N., Oct. 24th. HENRY BIRD.

DISPENSING AND THE INSURANCE BILL.

SIR,—Medical men do not seem to have considered at all what a serious affair it will be for the general practitioner to give up dispensing when this Insurance Bill becomes law. Most medical men think what a fine thing it is to have no dispensing—that it is more professional. This is true; but let us look a little more into the matter, and then we shall learn what giving up dispensing is going to cost us, and let us learn this before it is too late.

It is going to lose us thousands of patients. We shall be giving away prescriptions to insurance patients, and if they do not keep them they can make a copy of them and get any chemist to repeat the prescriptions for their wives and children, and the latter are our chief source of income, and will be more so in the future, unless we are going to lose them owing to our usual blindness. The British Medical Association, it seems to me, has not considered this question at all, whereas it should have made it one of its chief resolutions that we will not give up dispensing. It seems to me what will happen will be this: An insurance patient gets a prescription from a doctor, gets it made up at the chemist's, and tells the chemist to make up another one similar to his, as his wife or daughter has the same symptoms; and some doctor has lost a private patient. I should like to know what is the general opinion about this question.

Also, to whom will the prescriptions belong? A Harley Street physician said that writing prescriptions was the undoing of the profession. I refuse to write prescriptions, which are used over and over again, and used for others besides the recipient.

Why should we give up dispensing? What is the object? If I do my own dispensing I know that my patient is getting what I want him to have, and, what is more, I have been told more than once by patients that they like their doctor to dispense their physic.—I am, etc.,

Goodmayes, Essex, Oct. 2nd. R. M. RUSSELL.

THE *MEDICAL REGISTER*.

SIR,—It has been observed in a report of the inquest on the body of Mrs. Gorringe, in connexion with which reference is made to Mr. Charles Louis Lumley, a practitioner whose name was struck off the *Medical Register* by order of this Council in 1900, that the coroner, Mr. Troutbeck, is stated to have said: "It was difficult for a doctor to ascertain whether a man, obviously with medical knowledge, was on the *Register*." If the coroner is correctly reported he is under a misapprehension.

The preamble of the Medical Act, 1858, begins as follows: "Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." I am directed to say that the Council is most anxious to carry out the primary duty imposed upon it by this Act, and a similar duty imposed by the Dentists Act, 1878. It is always willing, and indeed anxious, to give information to public officials, to registered practitioners, and to the public in all cases in which there is any doubt as to whether a person is or is not a registered medical practitioner or dentist. Inquiries are constantly made by telegram, by telephone or in person, and they are always promptly attended to. In consequence of minute differences in names, and of practitioners making use of names or compound names other than those by which they are registered, it is preferable that inquiries should be made in writing; but in cases of emergency they can be made orally, and the public may be assured that all the means at our command will be made use of to afford them the fullest information.

Copies of the *Medical Register*, which is the only official list of registered practitioners, and which can be obtained through any bookseller, are distributed by the Government to coroners, law and county courts, and various public offices. Moreover, every medical practitioner on completing his first registration is entitled to receive a copy from the Council on application.—I am, etc.,

NORMAN C. KING,
Acting Registrar.

General Council of Medical Education and Registration of the United Kingdom, 299, Oxford Street, London, W., Oct. 19th.

THE GENERAL MEDICAL COUNCIL ELECTION.

SIR,—With your permission, and in answer to several letters and inquiries I have received, I should like to state through the medium of your columns that I shall again be a candidate for one of the vacant seats on the General Medical Council. I think the profession should have the opportunity of expressing its agreement or otherwise with the attempt which is now being made by the British Medical Association to monopolize the direct representation for those favoured by the Council of the Association.

I think the general body of members of the Association cannot quite realize the unfairness of the scheme under which their three candidates are now being put forward, and if the profession is foolish enough to ratify the scheme by returning the Association nominees, direct representation in England and Wales will be nothing less than a mockery.—I am, etc.,

Leeds, Oct. 16th. ARTHUR HAWKYARD.

*** A statement as to the actual facts of the case as regards the support of the three candidates by the Association will be a sufficient answer to Dr. Hawkyard's letter. On July 1st the secretaries of Divisions were requested to ask their Divisions to nominate candidates to be put forward by the Association in pursuance of the scheme previously approved (see SUPPLEMENT to the BRITISH MEDICAL JOURNAL, May 27th, 1911). The nominations of the Divisions were returnable on July 10th. On July 12th a list of the nominations was sent to the honorary secretaries of all Divisions, who were asked to bring the matter before their Divisions in order that their representatives might be instructed for whom they were to vote. This list was also published in the JOURNAL of July 22nd. The list, containing the names of the eight candidates thus nominated, was before the English and Welsh representatives at Birmingham, who selected by ballot the names of Drs. Langley Browne and Latimer and Mr. Verrall. We may point out that it was quite open for Dr. Hawkyard's Division or any other to have nominated him. It will be seen, therefore, that Dr. Hawkyard's statement that the Association candidates are those "favoured by the Council of the Association" conveys quite a wrong impression of the actual procedure.

THE Orient Line has decided that as from January 1st next all its steamers bound to and from Egypt, Colombo, and Australia will call at Toulon instead of Marseilles, both outwards and homewards. The change is being made in the interests of passengers—Toulon being well sheltered from the mistral, which so frequently renders the landing and embarking of passengers at Marseilles an unpleasant experience.

UNDER the will of the late Mr. Daniel Myers of Myddelton Square, Clerkenwell, the following bequests are made: The London Hospital, £1,000 for the endowment of a bed; Guy's Hospital, £500; the Metropolitan, Royal Free, Middlesex, University College, St. Mary's, and Poplar Hospitals, £300 each. Like sums are also bequeathed to the Great Ormond, North-Eastern, and East London Hospitals for Children, and to the City of London Hospital for Diseases of the Chest.

The Services.

INDIAN MEDICAL SERVICE.

ACCELERATED PROMOTION.

IT is notified that the rules for accelerated promotion be given retrospective effect to and made applicable to: (1) Existing majors of the Indian Medical Service who have not completed sixteen years' service and have not been able to get study leave to qualify for accelerated promotion; and (2) Majors of the Indian Medical Service who entered the service after January 30th, 1893, and had already taken study leave and qualified for accelerated promotion while in the rank of Major before completing sixteen years' service.

STUDY LEAVE.

The Secretary of State for India recently decided that, if an Indian Medical Service officer was unable to obtain study leave, and was thereby prevented from qualifying for accelerated promotion to the rank of Major, he might qualify at any time up to the end of his sixteenth year of service. In that case his promotion would be antedated. This concession is now extended with retrospective effect to all Majors whose commissions are dated July 29th, 1893, or later, and who have undergone qualifying courses before the end of their sixteenth year.

ARE THE RULES AND REGULATIONS OF THE R.A.M.C. (TERRITORIAL) COMPATIBLE WITH THE BEST INTERESTS OF THE MEDICAL PROFESSION?

DR. G. ARBOUR STEPHENS (Swansea) writes: The excellent response which the medical profession made to Sir Alfred Keogh's laudable attempts to form an auxiliary branch of the R.A.M.C. speaks well for its patriotic desire to do what it can to help the State, but, on the other hand, the profession is entitled to expect in return a proper regard for its best interests as well as its ethics.

Now that the probationary period of four years is drawing to a close it is well for medical men to ask if the army authorities have carried out their part of the contract, if not by substantial considerations of a positive value, at any rate by the negative virtue of not interfering with their civilian life.

Placing patriotic motives aside for the moment, let us ask what advantage is it for a medical man to join the R.A.M.C.T.? Is it any gain to be bothered with all the red tape methods which are now so much in evidence? Is the financial remuneration in camp sufficient to justify the considerable interference with one's practice that the army authorities expect? Does one find the leading men of the profession giving up their time to help the movement, except as *à la suite* colonels? Rather, is it not a reflection on one's practice for a medical man to join a field ambulance?

To aggravate matters still further the War Office has applied the system of confidential reports that is in vogue in the regular R.A.M.C. to the medical men who are members of the Territorial R.A.M.C., by which means it is possible for an opponent to score over a fellow-practitioner.

That such a system is inconsistent with the ethics of the medical profession no one will deny, and unless medical men can have some guarantee that their civilian practice is not likely to be damaged by becoming members of the R.A.M.C.T., the prospects of the force are likely to diminish.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

AT a meeting of the Senate on October 21st the degree of M.D. was conferred on E. C. G. Maddock, Major I.M.S., for a highly commended thesis on Dengue Fever.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following candidates were admitted to the Fellowship at a meeting of the College on October 18th:

E. W. C. Bradfield, Captain, I.M.S.; H. P. Cook, Captain, I.M.S.; F. A. F. Corbett, C. F. Cuthbert, L. J. M. Deas, Captain, I.M.S.; J. E. Dewar, A. N. Fleming, Major, I.M.S.; R. M. Glover, S. C. S. Gupta, S. M. Livesey, H. G. Murray, R. E. Powell, S. N. Ray, C. H. Reinhold, Captain, I.M.S.; C. M. Schaffter, J. Strathearn, R. Verel, J. I. P. Wilson.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.

ON Wednesday, October 18th (St. Luke's Day), the stated annual meeting of the President and Fellows of the Royal College of Physicians in Ireland was held for the purpose of electing officers for the coming year. Dr. Hawtrey Benson was re-elected President for a second year of office, and Sir John Moore was again appointed Representative on the General Medical Council. In the evening the annual College dinner took place, and was attended by a large number of Fellows and their guests.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—H. S. Dastur, A. H. B. Hudson, W. D. Bathgate, J. W. Gordon, R. A. Cooper, H. R. Fisher, J. Y. McLean, H. A. G. Dykes, A. G. Bee, W. G. Anderson.

SECOND COLLEGE.—R. E. Illingworth, R. McC. Paterson, Susanna H. Good, A. M. Burge, A. G. Cowper, C. A. Bernard, W. J. M. White, C. Popham, K. A. Deodhar, and P. de Montagnac; and 7 passed in Anatomy and 10 in Physiology.

THIRD COLLEGE.—J. McCagie, C. S. Ogilvy, A. Hegarty, K. R. Mehta, A. C. Fleming, V. C. H. Dearden, A. E. P. McConnell, H. W. Ward, W. Millerick, Mary W. Doran, J. E. Rees, M. P. Power, L. E. L. Coghlan; and 10 passed in Pathology and 13 in Materia Medica.

FINAL.—J. J. Bell, Belfast; R. T. Bayley, British Guiana; R. C. Fuller, Ireland; J. A. Jones, Wales: S. Hoashoo, South America; A. B. Arora, India; H. R. Macnabb, co. Down; T. S. Nair, India; W. J. Moore, Dunoon; J. P. Synnott, Ireland; B. L. Shome, Calcutta; A. N. da Silva, B.A., Portuguese India; D. A. Evans, Wales.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have been approved at the examinations indicated:

SURGERY.—*E. E. Allen, *E. G. Brisco-Owen, †F. G. Norbury, †G. S. Richardson.
MEDICINE.—†E. E. Allen.
FORENSIC MEDICINE.—E. E. Allen, H. N. Eccles, E. B. Keen, F. C. Shone.
MIDWIFERY.—E. E. Allen, L. M. Ladell, H. Rimington, F. C. Shone, H. G. Steel, W. H. Vincent.

*Section I. †Section II.

The Diploma of the Society has been granted to Messrs. E. E. Allen, F. G. Norbury, and G. S. Richardson.

Obituary.

WILLIAM RICHARD HUGGARD, M.D., F.R.C.P.LOND.

H.B.M. CONSUL, DAVOS.

DR. WILLIAM RICHARD HUGGARD, who had resided and practised in Davos, Switzerland, for over twenty years, died there on October 10th. He was educated at the Queen's Colleges of Galway and Belfast and University College, London. He graduated M.D., M.Ch., R.U.I. in 1875, and B.A. in 1876, taking the M.A. degree three years later. He became a Member of the Royal College of Physicians of London in 1880 and a Fellow in 1898. Dr. Huggard at first turned his attention to the study of nervous disease and insanity, and for some time resided in London, where he was Physician to the St. Pancras and Northern Dispensary. About 1884 he made up his mind to settle in one of the high-altitude resorts in Switzerland. He went to Geneva and in due course obtained the Swiss Federal Diploma (1885). He chose Davos as his place of residence, and became not only one of the leading members of the medical profession there, but one of the best-known inhabitants, as for many years before his death he had been British Consul. He published a *Handbook of Climatic Treatment, including Balneology*, in 1906, and in 1909 received from the R.U.I. the honorary degree of LL.D., "as one of its most distinguished graduates."

E. C. M. writes: Among the members of his profession Huggard was almost universally known, had many friends, and several lifelong intimates. My claim to write of him lies in the triple relation of patient, clinical assistant, and colleague, in which I stood to him over a period of nearly a decade. Towards his patients Huggard's attitude was one of invincible helpfulness. Everything to him was always worth the trouble, and it is difficult to believe that he ever allowed discomfort or anxiety, much less pain, to continue unchecked if the remedy lay in his power; and he certainly never allowed a kind thought to remain unrealized. Huggard shone as a clinician, but towards the experimental side of medical practice his mind was always open and sympathetic. It was principally owing to his support that for twenty years or more a clinical laboratory was carried on in Davos by a succession of workers, several of whom added to bacteriological knowledge or technique.

Wherever possible he verified thus his clinical results, and very soon after the first publication of the opsonic method, he showed that this confirmed experimentally his observation of the value of yeast in phthisis. As a colleague Huggard did not allow the brightness of his own clinical acumen to overshadow the lesser lights of others. The patient's adviser received a frank statement of the case, often with unexpected discoveries, it might be, of a fundamental nature. But the patient's confidence in his own doctor was provoked in a hundred little ways. Apart from his professional work, one will remember Huggard as one whose native Hibernian humour had increased by constant cultivation, but the humour was always subordinate to his kindness. His body was laid to rest at noon on a serene and cloudless day at the scene of his twenty-five-year-long labours. It was a satisfaction to all who knew and loved him that the end was rapid and that he was not himself conscious of any failure of mental power.

COLONEL WILLIAM PLEACE WARBURTON, M.D., C.S.I.,

LATE MEDICAL SUPERINTENDENT, EDINBURGH ROYAL INFIRMARY.

Colonel Warburton, who was for eleven years and a half Medical Superintendent of the Edinburgh Royal Infirmary, and only retired in July last, died at Lowestoft on October 13th, at the age of 68.

A son of the Hon. James Warburton, of Prince Edward Island, Canada, he was born in 1843, educated at the Prince of Wales's College, Charlottetown, Prince Edward Island, and at the University of Edinburgh, where he took the degrees of M.B., C.M. in 1865, and the degree of M.D. in 1885. He entered the Indian Medical Service in 1866, and retired in 1899, after a brilliant career of thirty-three years. He was first superintendent of dispensaries and of a district gaol in the Punjab. Then he was superintendent of the Central and District gaols, Thuggee School of Industry and Female Penitentiary at Lahore. In 1874 he was appointed Medical Officer to the Maharajah of Kapurthala; in 1894 he was appointed Principal Medical Officer and Sanitary Commissioner in Assam; in 1895 he was appointed Inspector-General of Civil Hospitals in the North-West Provinces and Oudh. At the time of his retirement from the Indian Medical Service in 1899 he was honorary Surgeon to the Viceroy of India, and was honoured by being made a C.S.I.

In November, 1899, Colonel Warburton was appointed to succeed the late Surgeon-Major-General Lithgow as Medical Superintendent of the Royal Infirmary of Edinburgh, and during his tenure he proved himself an efficient and popular officer. His large experience in administrative posts in India was of great service in relation to various important changes that were made in the working of the Edinburgh Infirmary. The outdoor surgical department was entirely reconstructed and rearranged, greatly to the advantage and convenience of the surgeons and of the patients.

In 1876 Colonel Warburton married Harriot Emily, daughter of the late P. S. Melvill, C.S.I., Bengal Civil Service, by whom he had two sons and one daughter.

A memorial service was held in the chapel of the Edinburgh Royal Infirmary on Saturday, October 21st. The Chaplain to the Infirmary and the Rev. G. F. Terry, of St. John's Episcopal Church, Edinburgh, officiated. There was a large congregation, including many of the managers and a large number of the medical and nursing staff.

At the funeral, which took place at Brookwood on the same date, Sir Joseph Fayrer, Bart., M.D., F.R.C.S.Edin., represented the Board of the Royal Infirmary of Edinburgh. At a meeting of the managers of the Edinburgh Royal Infirmary on October 23rd a resolution was adopted placing on record their sorrow on learning of the death of Colonel W. P. Warburton, who only retired at the end of July from the office of General Superintendent of the Infirmary, after eleven years' service. The resolution recorded that the history of the infirmary during his incumbency had been one of constant progress, in every detail of which he took the deepest personal interest. Shortly after his appointment the infirmary was enlarged by the completion of three new pavilions. An important constitutional change also occupied much of his energies—namely, the training of nurses and the reorganization of the arrangements of the nursing school. This was a subject in which he took a great interest; and his personal devotion to the work, and the practical assistance he gave to the Lady Superintendent of Nurses, did much to help to raise the standard of the Edinburgh Nursing School. While recording their sense of personal loss in the death of Colonel Warburton, the managers at the same time expressed their deep sympathy with the family in their sorrow.

GEORGE SNYDER NICKERSON, M.B., Ch.B.Vict.,

GOVERNOR OF SENNAAR.

We regret to record the death of Colonel George Snyder Nickerson, an old student of Owens College, Manchester, who, after serving for some years as an officer of the Royal Army Medical Corps, left that service and rose to the distinguished position of Governor of the Sennaar Province of Egypt. He became M.B., Ch.B.Vict. in 1896, served a term of office as House-Surgeon to the Royal Infirmary, Manchester, and as Clinical Assistant at the Barnes Convalescent Hospital, and then joined the Royal Army Medical Corps. As a member of this service he served with the Nile Expedition in 1899, being mentioned in dispatches and receiving the Egyptian medal with two clasps; a little later on he was seconded for service with the medical department of the Egyptian army, and rose to the rank of Colonel in this service. His connexion with the Royal Army Medical Corps, otherwise than as an officer of the reserve, ceased some four or five years ago, and since then he has held various lay administrative appointments in the service of the Government of the Sudan Provinces of Egypt. At the time of his death he was, as stated, holding high administrative office as Governor of Sennaar, and his death, while still under the age of 40, was due to a fall from a horse at Senga on the Blue Nile.

Owing to similarity of names, the career of this officer has been confused in some of the obituary notices in the newspapers with that of another equally distinguished member of the medical profession—namely, Major William Henry Snyder Nickerson, V.C. The latter, who is a brother of the deceased, is, we are glad to say, still alive and still serving in the Royal Army Medical Corps. Until a comparatively short time ago he was stationed at York, and is now, we believe, at Cherat. Both were students at Owens College, Manchester, and became M.B., Ch.B.Vict. in the same year.

HORACE SAVORY, M.A., M.B., B.C.Cantab.,

SOMETIME MEDICAL OFFICER, HAILEYBURY COLLEGE.

We regret to have to record the death of Dr. Horace Savory, formerly of Haileybury College and Bedford. It took place at Abbot's Bromley, Staffordshire, in the second week of this month. He received his medical education partly at the Middlesex Hospital, partly at Cambridge University, becoming M.R.C.S. and L.R.C.P. in 1889, and three years later M.A., M.B., B.C. of his university. Meantime he had filled all the resident appointments at the Middlesex Hospital, where, as at each place that he subsequently worked, he made many friends, and is still affectionately remembered. While still at the Middlesex Hospital he was selected for the new appointment of Resident School Medical Officer at Haileybury College. He took up this appointment at a time when he was still sufficiently young himself to be thoroughly in touch with those of whom he was in medical charge, and when his professional knowledge of illness and accidents had been matured by a long residence at a busy hospital. The excellence of his work, however, will best be gathered from the following appreciation contributed by the Hon. and Rev. Edward Lyttelton, who during Dr. Savory's tenure of office was Head Master of Haileybury and is now Head Master of Eton. He writes as follows: "The post was new, and the general lines on which it was to be worked had to be ascertained by experiment. Savory, who was chosen mainly through the agency of Mr. G. B. Hudson from the Middlesex Hospital, soon showed remarkable qualifications for the work. He was at first not very strong, but the fine air of Haileybury and judicious admixture of golf and cricket soon banished all trace of weakness, and during the time

he was there he gained the reputation of a keen and self-devoting physician, deeply concerned with the welfare of the boys and of the school, and a bright and delightful companion both to boys and men. There were times when perplexities gathered thick around him, some of them of the most acute kind, and in the spring of one year he had to cope almost single-handed with a desperate outbreak of measles, influenza, and some fifteen severe pneumonia cases. He brought all his patients through, but the strain must have been terrific. He had warm sympathy with many sides of school life, and was regarded with general affection and respect."

On giving up this appointment Dr. Savory entered a partnership in Bedford, and received appointment as assistant physician at the County Hospital. Subsequently he made a further move, this time establishing himself at Abbott's Bromley, near Rugeley, in Staffordshire, where he was in charge of the Woodward schools. In addition to contributing a few papers to medical journals, Dr. Savory was the author of a publication entitled *Food and Meals for the Schoolboy*, and was an active member of the Medical Officers' School Association.

GEORGE THOM, M.R.C.S.Eng., L.S.A.Lond.

WE regret to announce the death, at the age of 65, of Dr. George Thom at his residence, 1, Clarendon Terrace, Devonport, on October 8th, after only twenty-four hours' illness.

He was born in 1846, and was educated at the High School, Edinburgh. In 1865 he went to King's College Hospital, London, and obtained the diplomas of M.R.C.S. and L.S.A. in 1870. He was Medical Officer at Highgate Infirmary, later became House-Surgeon at the Royal Albert Hospital, Devonport, and subsequently started general practice in that town. He was appointed Surgeon at the hospital, and when he retired a few years ago was elected Consulting Surgeon.

He was an old and well-known member of the British Medical Association, and had held the office of President of the South-Western Branch. He was one of the oldest Justices of the Peace in Devonport.

As he was working until the day before his death, the shock to his family was all the more severe, and the sympathy of his very many friends with them in their bereavement shows the esteem and regard in which he was held. He leaves a widow, three sons, and a daughter to mourn his loss.

Public Health
AND
POOR LAW MEDICAL SERVICES.

RETURN CASES OF SCARLET FEVER.

A CASE of considerable interest to local authorities and the medical profession was heard before Judge Ruegg, K.C., at the Hanley County Court on October 18th. The plaintiff, William Thomas Cook, boot and shoe dealer of Fenton, sued Dr. C. H. Phillips, of Hanley, for £50 damages for alleged professional negligence. Dr. Phillips, who was defended by the London and Counties Medical Protection Society, is the medical superintendent of the Bucknall Isolation Hospital, under the Stoke-on-Trent and Stoke Rural Joint Hospital Board, and it was alleged that he discharged the plaintiff's stepson, Harold Ronald Knox, whilst he was still suffering from scarlet fever, and that as a consequence plaintiff himself contracted the fever three days later.

The plaintiff's wife said the boy was fetched in a taxicab when he was discharged. She could not remember whether the window of the cab was open or not. The next day he had a slight running from the nose, and after her husband had been taken to the hospital three days later, she found the boy was desquamating on the lower part of the back and on the feet. She admitted receiving printed instructions warning her against allowing discharged patients to catch cold, as the slightest cold producing a discharge from the nose made the patient again become a source of infection.

Dr. Frank Shufflebotham thought the lad ought not to have been discharged in a state of desquamation. He quoted Dr. Caiger in *Allbutt's System of Medicine* as saying that "desquamation, although usually complete in six or eight weeks, may persist and be contagious for a period of three or four months." He admitted, however, in cross-examination that in the last edition of the work this was modified, and that in recent years an increasing body of medical thought held the view that peeling was non-infectious in its later stages.

Dr. A. R. Moody said the peeling without the discharge was nothing like so infectious. Still, he would not say it was without risk, and he would not discharge a patient until it had ceased.

For the defence, Dr. Phillips said the boy was in hospital eight weeks. There was only a little roughness of the heel when he was discharged. There was no running of the nose. This might have been brought on in the homeward journey, and would have the effect of stirring into activity the latent fever germs in the nose. The witness himself did not regard the later stages of desquamation as infectious, although as a matter of fact, when there was a great deal of peeling, he did not discharge patients, because of the feeling which existed in the district as to its infectivity.

Dr. George Reid (Medical Officer of Health for Staffordshire) said the present views of the public health world were to disregard peeling of the epidermis as being a source of any danger whatever. He mentioned Huddersfield, Southport, and Leicester as following this practice, and said that at Huddersfield the figures of return cases were: Under the old system 4.8 per cent., under the new system 4.0 per cent.

The judge said the condition of the boy on the day following his discharge was consistent with his having caught cold. He was satisfied that condition did not exist at the time the patient was discharged. Assuming desquamation existed by itself, it would be impossible for him to find negligence on the part of the medical superintendent after the evidence he had heard, which, he was bound to say, was new to him. It was admitted by medical men on both sides that opinion in favour of desquamation not being infectious was gaining ground. There must be judgement for the defendant.

POOR LAW SUPERANNUATION.

X. Y. Z., who is a union medical officer aged 49, and has served seventeen years, but is now permanently disabled by bronchitis and asthma, asks whether he is entitled to superannuation on his resignation.

*** As our correspondent has neither attained the full age of 60 nor completed an aggregate service of 40 years, he cannot claim superannuation under the Act of 1896, but if he ceases to hold office on account of the condition he describes he will be able to receive out of the common fund of the union a sum equal to all his contributions paid under the Act. This will not require the sanction of the Local Government Board. In cases of special hardship arising from loss of office, where there is *no statutory claim to compensation*, the guardians may, if they think fit, grant a gratuity not exceeding two years' salary and emoluments, and it will rest with the Local Government Board to decline or sanction such grant.

"PRIVATE AND CONFIDENTIAL."

SEMPER IDEM is exercised because the M.O.H. in his district carries on his correspondence in typewriting, the work being done by a clerk, and suggests that the medical officers of health should write letters of a confidential character in their own hand, or, at least, give some guarantee that their nature should be kept private and confidential.

*** We cannot endorse the suggestion that a medical officer of health is bound to write letters on business in his own hand, and it ought to be possible to trust the discretion of a confidential clerk. At the same time letters of a private and confidential nature should undoubtedly be so marked.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

THE USE OF THE BRUSSELS M.D.

INQUIRER.—There is no illegality in a registered medical practitioner using a non-registrable M.D. degree, and many instances could be given of members of the medical profession who have used or still use such titles.

MEDICAL ETIQUETTE.

M.R.C.S. (Wales).—We agree that our correspondent was treated with discourtesy by the employer of his patient and her medical adviser, but we think he might have recalled Norfolk's warning to Buckingham, in the opening scene of *Henry VIII*—"Heat not a furnace for your foe so hot that it do singe yourself"—and made a sufficiently emphatic protest without throwing up the case. The employer may have been ignorant of inter-professional courtesies, but her medical adviser should have appreciated these, and might have been asked for an explanation of his conduct.

PROFESSIONAL DESIGNATION.

Codex.—A Member of the Royal College of Surgeons and Licentiate of the Royal College of Physicians is certainly entitled to style himself "Physician and Surgeon" on his door-plate if he chooses to do so; it is a matter of taste. With respect to the other question—whether he, not being a graduate of the university, should call himself "Dr." on his garden lamp—we would draw attention to By-law 179 of the Royal College of Physicians of London, from which he holds his licence.

Medical News.

The name of Dr. Benjamin Arthur Richmond, of Rotherhithe, has been added to the roll of Justices of the Peace for the County of London.

Dr. Alexander Hendry, of Ballater, who has been Surgeon-Apothecary to the King's household at Balmoral since 1910, has been made a Member of the Royal Victorian Order, Fourth Class.

The late Dr. F. W. Pavy left estate valued at £27,769. He bequeathed £2,000 to Guy's Hospital for an endowment fund for the Pavy Gymnasium founded by him, and £1,000 to the British Medical Benevolent Fund.

The National Vaccination Service in Persia is much embarrassed by the fact that the Government subvention is not paid with regularity. During the past summer it has been possible to maintain only one vaccination station.

The Bradshaw Lecture on intrathoracic tumours and aneurysms regarded from the clinical standpoint will be delivered by Dr. Graham Steell, of Manchester, before the Royal College of Physicians of London on Thursday next, at 5 p.m., at the college.

A congress on industrial accidents is to be held at Marseilles at a date not yet fixed. Representatives of abour and of insurance companies, as well as of the nagistracy and the medical profession, will take part in he proceedings. All information on the subject can be obtained from Professor E. Imbert, of the Ecole de Médecine, 2, Cours du Chapitre, Marseilles.

The fourth Norman Kerr Lecture before the Society for he Study of Inebriety will be delivered by Professor Sims Voodhead in the Lecture Theatre of the Pathological Department, Medical Schools, Downing Street, Cambridge, n November 14th, at 5 p.m., the subject selected being ne action of alcohol on body temperature and on the eart. The lecture will be illustrated by diagrams and antern slides.

The list of the awards accorded to British exhibitors at ne Turin Exhibition has been published. Among those eceiving honours in the various sections are: Messrs. urroughs, Wellcome, and Co., the Cambridge Scientific nstrument Company, the Cambridge University Press, r. W. Martindale, the Oxford University Press, the ellcome Chemical Research Laboratories, and the ellcome Physiological Research Laboratories.

The annual dinner of the staff and past and present idents of the Royal Dental Hospital of London will be ld on Friday, November 24th, at the Hôtel Métropole Whitehall Rooms), under the presidency of Mr. Walter arrison. Gentlemen either now or formerly connected th the hospital or medical school who may through dvertence not have received special notice, and who sire to be present, are requested to communicate with e Dean at the hospital, 32, Leicester Square, London. e Medical Committee will be at home to the old students the hospital on the following day from 2.30 to 5 p.m., en the various departments of the hospital and school l be open, and specimens and cases of interest will be own by members of the staff and the lecturers.

A new university has been founded by the United tes in the Philippine Islands. There was already a iversity of St. Thomas, founded by the Spaniards in l, but it was thought that this old institution did not t modern requirements. The new university comes a College of Medicine and Surgery, which was ned in 1907, besides Colleges of Veterinary Science, of iculture, of the Liberal Arts, of Law and Political nce, and of Engineering. The teaching of pharmacy be provided for under the head of the Liberal Arts. provision for instruction in dentistry has yet been e. The seat of the new university is Manila. A se of the Act founding the university is to the following effect: "No student shall be denied admission to the ersity by reason of age, sex, nationality, religious f, or political affiliation."

Letters, Notes, and Answers.

Communications respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the Journal, etc., should be addressed to the Office, 429, Strand, London, W.C.

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* British Medical Journal *alone unless the contrary be stated.*

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Correspondents not answered are requested to look at the Notices to Correspondents of the following week.

Manuscripts forwarded to the Office of this Journal cannot under any Circumstances be returned.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Aitiology, London.* The telegraphic address of the British Medical Journal is *Articulate, London.*

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2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

Aghagalla would be glad to hear of any treatment for pigmentation of the face during pregnancy; the patches still remain, six months after the birth of the baby.

D. P. H. has been asked by an Englishwoman now resident in Pretoria, S.A. (altitude 4,462 ft.), whether the high altitude is detrimental to her child aged 2, born in that town, who has a slight murmur, probably congenital. He would be grateful for an opinion upon the point.

Income Tax.

George Llied, formerly an assistant, was taken into partnership on January 1st, 1911, and wishes to know whether for the year 1912–13 he will be correct in returning for assessment an average of his salary for 1909 and 1910, and the cash result of the year 1911.

*** The income tax assessment on a practice carried on in partnership is made in one sum on the average profits of the practice, and each partner's income is reckoned to be his share of this assessment. Thus, if our correspondent has in the year 1912–13 one-third share of the practice, one-third share of the income tax assessment will represent his income for income tax purposes, regardless of what his own profits may have been on the average.

Effects of Chloroform on the Pupil.

Letheon asks: What are the effects of general anaesthetics (notably chloroform) upon the pupil apart from those occurring as a result of inhalation?

*** Any effect produced upon the pupil by a general anaesthetic is due to the latter's influence on the central nervous system. Such influence can only be exerted after the absorption of the anaesthetic by the blood. So far as our present knowledge goes, the effect does not vary with the channel by which the anaesthetic enters the blood circulation, whether it be by inhalation, absorption from the stomach or intestines, or direct introduction by intravascular or interstitial injection. The intensity of the effects will vary with the amount and the concentration of the anaesthetic in the blood, and these may be and probably are affected by the method of introduction, since some methods allow less loss of the agent; in other words, permit more of it to enter the blood in a unit of time.

ANSWERS.

Cramp.

Dr. George Hall (Montreal) writes: Elix. pot. brom. ʒ ij in a little water, before retiring, has given good results in the class of cases described by "Onyx" in the Journal of September 23rd, 1911.

Enlarged Tonsils.

Dr. H. J. Thorp (Ipswich) writes in reply to "Guillotine": Scrofulous children require good food, cod-liver oil, and the following medicine: Ferri tartar., gr. v; pot. iodi, gr. ij; syrup, ʒj; aq. ad ʒss; t.d.s. The application of tinct. iodi to the tonsils daily or alternate days.

VOMITING WITHOUT A CAUSE.

Dr. THOMAS HAYES (Rathkeale) writes: In answer to "M.B.," it is evident that the "girl aged 15" is a neurotic, suffering apparently from what the late Sir Henry Marsh, of Dublin, more than sixty years ago called "regurgitating disease of" the stomach. Best treatment is asafoetida, tinct. val. vol., and 1 grain of ext. aloes aquos at night. I had one case of a bad kind many years since that made a good and rapid recovery.

ILLUMINATING LAMP.

G. writes: In reply to "Light," I am in practice in similar circumstances, and if a "Priestley Smith's" candle lamp is not powerful enough for his requirements, I can give him particulars of several convenient and efficient incandescent paraffin or petrol lamps supplied by firms in the U.S.A., with whom I am in communication.

STATHERN writes that "Light" might get a good illuminating lamp such as he requires from the Invetrol Gas Light Company, Derby Street, Burton-on-Trent. The illuminant is petrol, and the light is brilliant. The cost of upkeep is very small.

DIPLOMAS IN PUBLIC HEALTH.

LAGOS.—(1) During his first leave "Lagos" should put in the six months' laboratory work demanded by the regulations, and three of the six months which must be spent in acquiring practical knowledge of the duties of a public health officer. Since economy of time is of importance, he should make the necessary arrangements before coming home. During his second leave he should complete the six months' practical work just mentioned. (2) Provided that before taking his first leave "Lagos" has already gained a fair literary acquaintance with the subjects of the first examination, and that in the time between the two periods of leave he acquires similar knowledge of the subjects of the second examination, he should be able to pass the first examination at the end of his first leave, and the second at the end of his second leave. (3) The first examination is the more difficult, many men who know their work well failing to pass, owing to lack of sufficient practice in doing analyses rapidly. (4) The most popular books among D.P.H. students are perhaps *Hygiene and Public Health*, by L. C. Parkes, M.D., D.P.H., and Henry Kenwood, M.B., F.R.S.Edin., D.P.H., 4th edition (London: H. K. Lewis. 1911. 12s. 6d.). *Theory and Practice of Hygiene*, by J. L. Notter, M.A., M.D., and R. H. Firth, 3rd edition (London: J. and A. Churchill. 21s. nett). *Hygiene and Public Health*, by Sir A. Whitelegge, K.C.B., M.D., B.Sc., F.R.C.P., D.P.H., and Sir G. Newman, M.D., D.P.H., F.R.S.E., 12th edition (London: Cassell and Co., Limited. 1911. 8s. 6d. net). The last named, being of pocket size, is well suited to gaining knowledge of the subject at odd moments as a prelude to a thorough study of more detailed works. (5) It is true that there is a tendency in some quarters to discount examinations at which candidates are tested by those who have taught them, so on this ground the view that the D.P.H. of the Royal Colleges of England should be preferred by "Lagos" is probably sound.

NOTIFICATION OF ANGLE OF ASTIGMATIC LENSES.

TRIAL FRAME.—There is no system which is universally adopted for the notification of the angle of astigmatic lenses; every conceivable variety of mounting is used, and when ordering a glass it is absolutely essential for a small diagram to be made, indicating with an arrow or line the axis of the lens. If this be not done, the optician is incapable of knowing which system the surgeon is using, and as likely as not the axis will be set wrong. In 1904 the International Ophthalmological Congress appointed a commission to inquire into the matter, and in 1909 they reported in favour of the following:

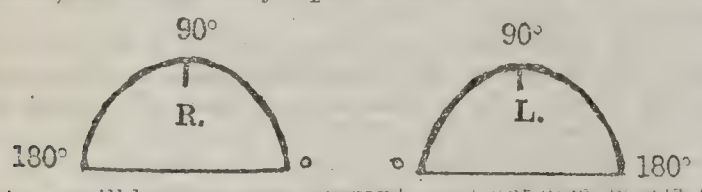

This, as will be seen, goes upwards and not downwards, as is usual in this country. Probably not a single person in England uses this system, which makes the confusion worse than ever.

FEES FOR MIDWIFERY AND BOARDS OF GUARDIANS.

BETA writes that last year the local board of guardians agreed to pay a fee of £2 to any medical man residing in the union when called by a midwife to a confinement. Now, after having paid several fees in the earlier part of the year, they have returned the account sent in and state that "they will only consider the application for payment after the doctors have themselves endeavoured to obtain payment from the patients." The agreement was that the guardians should be responsible to the doctors, and this was sanctioned by the Local Government Board. Are the guardians legally bound to pay the sum agreed upon?

*** The guardians were no doubt bound to pay the fees they had sanctioned for all cases attended by "Beta" up to the time when he received notice that they would not continue to do so except on new conditions, but we doubt whether "Beta" will be able to recover such fees for any cases he may be called to attend in the future or after having received formal notice of the desire of the guardians to allow their first terms.

LETTERS, NOTES, ETC.

"OMNOPON."

WE are requested by the Hoffmann-La Roche Chemical Works Company, Limited, again to notify to our readers that "pantopon," to which reference was made in the EPITOME of October 14th, paragraph 225, is known here as "omnopon." Legal difficulties have prevented its registration in this country as "pantopon." Hence there sometimes arises confusion, to which we are sorry to have inadvertently contributed.

ST. JOHN AMBULANCE BRIGADE.

HABEBATUR writes: Your correspondent's complaint (BRITISH MEDICAL JOURNAL, October 14th, p. 960) concerning ambulance surgeons is the exception, not the rule. I am certain very few if any more can have the grievance of the writer. As a lecturer I instil into the student the fact that they can never know or judge the capabilities of a medical man, as their fundamental education is insufficient. Again, I teach them that medical men do things by a process of exclusion—or, in other words, by a process of reasoning—not like the ambulance student, who does things like an automatic machine. However, bad as the grievance may be, it is not as bad as the medical practitioner who, nervous lest his patient would seek other advice, gave him 2s. a week for weeks to go to the hospital for massage. The patient, however, walked the distance, stuck to the 2s., and must have always pondered over the doctor's ability.

A ZULU CONFINEMENT.

NATAL MEDICO sends the following note, which he says is a literal account of what happens at an ordinary Zulu confinement:

The Lying-in Room.—A small beehive-shaped grass hut, about 10 ft. in diameter and 8 ft. high in the centre, with a mud floor (smeared with cow dung), and a door 2 ft. broad, and so low that you have to grovel on hands and knees to get in. There are no windows, an open fire is burning in the centre, and there is no chimney so the place is filled with smoke, acrid and tear producing. At the side is tied a small goat; dogs, chickens, and cats stroll in and out. The furniture consists of a few dirty grass mats, some black, three-legged pots, and some beer receptacles, a wooden pillow, a few sticks and dirty blankets complete the outfit.

The Midwife.—It should be rather "wives," for there are generally a dozen or more present, stalwart, middle-aged females, with lusty arms and vigorous voices. They are all more or less dirty and perspiring, for they have been working hard, holding and squeezing and pommelling and pushing the unfortunate patient. Each one has her own theory as to the condition of affairs and its cause, and each theory is loudly asserted and contradicted.

The Patient.—She is sitting up, or rather squatting on her heels, hanging for dear life with both hands on to a rope tied to the roof. She has no clothes on, perhaps a small rag which will be used to wrap the baby in. A grass rope is tightly fastened round her middle, "to keep the infant from slipping up again": there is not even a mat under her, nothing but the aforesaid cow-dunged mud floor. There is no bed, and if it is a forceps case the accoucheur has to devise one, or manage on the floor. Sometimes a few boxes of different sizes and degrees of dirtiness may be found and padded up with old clothes and sacks, and so a bed be manufactured. The aseptic ritual is manifestly impossible, but an attempt is made with newspapers and towels to improve the condition of things, and matters generally progress satisfactorily, except in cases where the patient is already moribund. If left alone the attendants will give an enema by standing the patient on her head and inserting a cow's horn, and by this means blowing the necessary fluid into the rectum!

The Child.—The umbilical cord is bitten or torn off close to the child, thus causing many umbilical hernias.

After-Treatment.—The patient will go on the following day to the river, and in a few days will resume her normal habits.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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THE SURGICAL REQUIREMENTS OF NARCOSIS AND THE AVAILABLE METHODS.*

BY

DUDLEY W. BUXTON, M.D., B.S., M.R.C.P.,

LECTURER ON ANAESTHETICS IN UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, AND SENIOR ANAESTHETIST IN UNIVERSITY COLLEGE HOSPITAL; CONSULTING ANAESTHETIST TO THE NATIONAL HOSPITAL FOR PARALYSIS, QUEEN SQUARE.

The old criteria of what constitutes surgical anaesthesia have undergone a marked change since the introduction of asepticism in surgical procedure. It has now become possible to undertake prolonged and complicated operations upon most regions of the body, which, when all environing circumstances are favourable, prolong the life of the patient or cure him of his malady. These environing circumstances fall equally within the province of the anaesthetist and the surgeon. They are (1) the condition of the patient, especially as regards the efficiency and sufficiency of his circulatory, respiratory, and metabolic systems, his resistive powers to trauma; (2) the character and duration of the operation, especially as regards its insult on tissues and extent of shock evolved by the concomitant trauma; (3) the characteristics of the anaesthetic employed, especially as regards its reaction towards tissues and liability to produce shock.

In the early days of surgical narcosis one criterion of the efficiency of anaesthesia was demanded—insensibility to pain. All the methods employed culminated in this. They were intermittent in plan, so much was given, and when conjunctival reflex, or absence to response to slight trauma, was obtained, the supply of anaesthetic was suspended until evidence of return to consciousness warned the administrator that a further supply of the anaesthetic was required. This system, while providing valuable help to the anaesthetist, yet increased the risk to the patient, since he was constantly see-sawing between oblivion and dawning sensation, and also because he was subjected to an uneven dosage of the anaesthetic, at one moment large, at another small. The douche method of employing chloroform, which has persisted, supplies an example of this. When a drachm is poured upon the minette cover the strength of vapour it supplies is 3 per cent. vapour at first, and this, after five aspirations, drops to 2 per cent., and so on, to be raised again to 3 per cent. when a fresh douche is poured on.

The first great advance in anaesthesia was achieved when a continuous system of supply was introduced. At this period, in the case of ether, an inhaler, either closed or semiclosed, was employed; but chloroform, although used from a dosimetric inhaler by a few experts, was in the main employed by the plan of constant dropping upon an absorptive surface.

The physiological counterpart of mere loss of perception of pain is the lulling to sleep of the higher brain centres. Mantre has painted in vivid colours the gradual procession of events during narcosis—the initial excitation, the consequent paresing of the centres, those most highly differentiated first, those involved in automatic and vital processes last. But the effects are continuous and there are no definite halting points—insensience, fall of blood pressure involving a poor supply of blood to the central nervous system, impaired lung ventilation, gradually weakened force of breathing and slowing of the rhythm of respiration, gradual but progressive suppression of tissue metabolism by abolition of the biochemical action, then at last standstill, respiratory collapse and tissue death.

This is, perhaps, an easy matter—at least, the power can be acquired—to render a patient anaesthetic and maintain him at that; but, rightly or wrongly, in many cases this is not enough for the surgeon's purposes. The lower reflex centres, as Crile has pointed out, remain more or less active, and unconscious muscular movements may in many instances be provoked by stimuli originated by the steps of the operation. The rigidity of the recti abdominis muscles, the opprobrium alike of the surgeon and the anaesthetist, is, in fact, either an asphyxial effect of overdosage or a reflex protective response to peripheral stimuli which is frequently produced in anaesthesia over an habitually painful area. The rigidity is a muscular action quite on all-fours with the sudden flexion of the thighs upon the pelvis so common in children during the operation of circumcision.

The abolition of all muscular movements, muscular flaccidity, slow shallow breathing, and abeyance of reflexes are demanded, desiderata which are obviously far more than mere anaesthesia, and it was for this reason that I employed the term "narcosis" rather than "anaesthesia" in the title of this paper. As an example of this let me refer to the modern operation of enucleating the tonsils. The surgeon in this case requires that chloroform shall be given, that the muscles of the velum palati shall be absolutely flaccid, that the pharyngeal reflexes shall be practically extinguished, and then, through the exigencies of the operation, he more or less occludes the air passages during his manipulation of the tonsil. There is as a rule but little bleeding, but occasionally, through some defect in the method of anaesthetizing or through some surgical mischance, there may be smart haemorrhage causing further interference with respiration. This in a profound degree of narcosis cannot but make for difficulty, and often for acute danger.

It is clear, then, that the exigencies of the operation may call for a degree of narcosis far transcending the third degree, that is, the stage of anaesthesia. This depth of narcosis has to be arrived at before the operation is commenced, and the danger arises of overdosage during the period of induction. When, however, the actual operation is in progress new factors come into play. It has been shown by Leonard Hill and others that a condition of profound narcosis, when the medullary centres controlling circulation and respiration are both deeply drugged by the anaesthetic and deprived of properly oxygenated blood, they are more than commonly prejudiced by any superadded interference with respiration. Such a contingency may arise during operations on the mouth, nose, pharynx, and glands, and be caused directly through the necessary steps of the operation. It may result in thoracic or abdominal operations through fluids expelled from the lungs or stomach, which drown the patient whose laryngeal reflex has been allowed to become abolished. Other effects produced by the anaesthetic directly, but brought about indirectly by the operation, are that during prolonged operations the tissues of the patient suffer from prolonged contact with the anaesthetic, especially if that agent is given in large quantity or in a concentrated form, and "shock"—anaesthetic shock—becomes developed. Again, the actual progress of the surgeon's work, by causing haemorrhage, trauma—that is, damage to tissues, and especially dragging upon viscera and the visceral peritoneum—will produce "shock." Thus when the dangers of the period of induction are passed the patient becomes beset by the peril of shock due alike to surgical and anaesthetic causes. This peril may be immediate, and lead to death upon the table, or delayed so that the patient expires within the following twenty-four hours or later. I am assuming that this shock is a necessary result of an inevitable operation, and as such must be accepted. The anaesthetist's duty will consist in adopting measures to counteract as far as possible such a danger.

In the first place, the condition of the patient at the time of the operation and before its commencement requires careful study. He may be practically normal or be in an advanced state of pre-existent shock. Take the two conditions: on the one hand, a robust man of, say, 25 years of age, with a rapidly growing sarcoma of the thigh, and, on the other, the stout, emphysematous man of 70, suffering from intestinal obstruction with faecal vomiting. Between these degrees one meets with every degree of incipient shock. Secondly, the anaesthetist has to gauge the recuperative power of his patient. No obvious shock may exist before the operation has commenced, but there is marked anaemia, the blood pressure is low, the lung ventilation is abnormally slight, and the kidneys are what Sir Andrew Clark was wont to term "inadequate." This type of patient will develop shock rapidly, and will withstand the insult to his tissues with difficulty.

Shock.

To comprehend the plan of campaign which the anaesthetist must adopt, it is essential that there should be a

* Paper read before the Walthamstow Division of the British Medical Association.

clear understanding of what is meant by the term "shock," and what are its physiological causes.

The salient features of shock are—fall of blood pressure, lowered temperature, weak breathing with greatly diminished lung ventilation. The causes are usually ascribed to exhaustion of the vasomotor nervous mechanism arising from frequent peripheral stimulation through sensory tracts. It is assumed that blocking of these tracts by means which remove temporarily their conductivity will prevent this shock. It appears that some forms of trauma induce greater degrees of shock than others—thus dragging upon viscera, peritoneal structures, crushing, tearing, and rough handling induce the maximal result. Depletion of the nervous centres of blood, or supplying them with blood of poor quality or which contains a toxic ingredient—for example, a supervenous character, an excess of carbonic dioxide, excess of ether, of chloroform or other anaesthetic—will predispose to shock and intensify its effects.

Assuming that these views really cover the ground of shock pathogenesis, various means have been suggested whereby shock may be eliminated or diminished. Leonard Corning, many years ago, suggested blocking the sensory area of operation by tightly fitting cords on the heart side of the area involved, and injection of an analgesic into the site of operation, in order to render the terminals of the sensory nerves apathetic. He further suggested injections into the theca of the cord, with the view of blocking all stimulation along the sensory roots.

We are now familiar with Schleich's infiltration method of local analgesia, Oberst's attempts to block large sensory nerves in their continuity, and von Bier's subarachnoidean injection, the technique of which has been so successfully practised and improved by A. E. Barker.

Unfortunately the problem, like most of those presented by the practice of anaesthesia, cannot be stated in such simple terms; and, further, most of the methods mentioned, even if they fulfil their intention and remove or diminish shock to an appreciable extent, are liable to introduce fresh and often dangerous complications into the case. Perhaps we avoid the perils of Scylla only to be swept into the vortex of Charybdis. As regards the effect of inhalational anaesthetics upon anaesthesia, it is argued that while on the one hand they may induce lowering of blood pressure and diminish lung ventilation, so on the other hand they may, if given in diminished doses, fail to block sensory areas, and thus increase shock. An ingenious theory, which, however, has not been experimentally proved, was propounded, that in light anaesthesia sensory stimulation, when it reached the cord, escaped from its normal channels through the fact that the cord regulating systems were thrown out of gear, and so the exciting effects overflowed into neighbouring nerve channels, and led to a number of reflex results which could only arise under narcosis. Hence, we are told, the danger of light anaesthesia is one with which we have to reckon. It would appear that we get it both ways. Much of this argument, I submit, arises from a confusion of terms, if not of thought. Without venturing to disparage the brilliant work done by Crile, elucidatory of surgical shock, we must bear in mind that his views are not accepted by all as covering the ground he proposed to travel. This has recently been enforced by Malcolm.[1] Shock, as we meet with it in our everyday work, is sharply divided into two conditions: (1) Sudden, such as shows itself in a patient apparently in absolute safety and revealing no shock phenomena until some surgical procedure is performed, such as tearing away a prostate, and (2) gradually developing conditions marked by a falling blood pressure and diminished pulmonary ventilation. Even if exhaustion of the vasomotor centres through overstimulation exists in the second state it hardly explains the first. There appears to be ground for the belief that besides fatigue of the medullary centres and synapses, other causes are at work in bringing about the complex condition which we term shock. Vasomotor dilatation which should result from exhaustion of the centres is by some denied, and indeed vasomotor constriction with gradually developing cardiac tetanus is declared to be produced by those procedures which are provocative of shock. Yandell Henderson has extended the researches of Meischner, Mosso, Haldane, and others, and applied the acapnia theory as explicative of shock. Starling and Jerusalem endorse Henderson's experimental work, and show that deficiency of carbonic dioxide in the blood causes diminution of the cardiac output, and fall of blood pressure. An optimum tension of carbonic dioxide in the blood exists which gives the maximum cardiac output per minute,[2] and it is probable that this optimum rises as the temperature of the blood in the coronary system falls. Yandell Henderson's observations show that in such operations as abdominal sections, which are most liable to engender shock, the exposure of large serous surfaces leads to a rapid loss of carbonic dioxide from the blood stream. It will be evident from your clinical experience that the cases in which most anxiety is present are those which, on the one hand, give rise to vagal action, cardiac inhibition, respiratory failure, and sudden fall of blood pressure, and on the other, those of patients who are the subjects of abnormal terror. In dealing with the first class we should achieve our object if we were able to block the afferent or sensory impulses by local or intrathecal injections, or by paresing the vagi nerves and vagus centres.

But even if we adopt the measures for blocking the sensory paths, and do so effectively, we fail to eliminate the psychic shock, which in its turn produces severe and even fatal shock effects, even though no pain is experienced. In this way we fail to "minister to a mind diseased." Nor can we control vagal interference by any degree of narcosis which is compatible with the proper performance of circulation and respiration. With the narcotizing by anaesthetic agents of the vagal centres, destruction of the kindred vasomotor and other centres in the medulla oblongata must occur. Indeed, it has been experimentally proved in the case of chloroform—at all events, in dogs—that one of the effects of large doses, that is, high percentages of vapour, is to superinduce hyperexcitability of the vagal centres, so that even slight sensory stimulation usually produces cardiac standstill. From this inhibition, if the blood circulating through the tissues contains a certain tension of the anaesthetic, the heart cannot escape. In order to understand the practical aspects of the subject with which I propose to conclude my paper, we must refer to the after-affects of anaesthetics. It is not enough for us to carry our patient through the dangers of the period of induction and the stress of the operation: we have to order our measures so that he may not succumb to increasing shock, pneumonia, renal catarrh, uraemic convulsions, acidosis, glycosuric coma, developing after the completion of the operation. I will not occupy your time with discussing how far the anaesthetic is accountable for these disasters. In the case of pneumonia[3] and renal complications[4] I have dealt at length with the matter elsewhere. All these effects depend upon the actual quantity and dosage of the anaesthetic employed. The mechanism by which they are produced is, no doubt, complicated by the nature of the operative procedure, by starvation too rigidly enjoined before the administration, and often by the concomitant asphyxial element which certain methods of giving anaesthetics allow to creep in. The main point, however, so far as the anaesthetic is concerned, is the effect upon the tissues produced by the elimination of the drug. Upon the cells of the liver, of the kidneys, and of the lungs the brunt mainly falls. We know that the effects of the various anaesthetics differ, those into which a haloid salt enters being the most destructive to protoplasm, but we cannot doubt that the injury to the tissues concerned must vary directly as the amount which has to pass from the blood through the excreting organs. In too many cases this question of elimination is lost sight of and because an anaesthetic offers supreme safety for brief operations it is vaunted as safest under all conditions.

We come, then, to the practical issues of this paper—how to deal with particular types of patient; how to deal with particular classes of surgical procedure.

The Examination of the Patients.

We may roughly class the patients into:

1. Normal.
2. Mechanically deficient.
3. Asthenic.
4. Those with circulatory abnormality.
5. Those with respiratory abnormality.
6. Those with metabolic abnormality:
   (*a*) The obese; (*b*) hepatic derangement; (*c*) renal derangement.

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7. Those with some affection of the central nervous system.
8. Those with general disease for example, lymphatism.
9. The alcoholic and those addicted to a drug habit.

1. *Normal Patients.*

The only points of especial interest about normal patients are those of age—the very young and the very old—physique, and nerve stamina. Physique is the most important consideration; age must be reckoned less by years than by the evidences of tissue wear and tear. It is always worth remembering that a patient who has withstood the stress of life until an advanced age has a great reserve store of strength, and will win through crises which would be fatal to younger and less robust persons. Personal history, the mode of life and habits as regards exercise, food, alcohol, all help. The very young have a less stable nervous system, lose heat rapidly, and suffer early from shock; they readily fall the victims to nerve storms, and fear or fright damages them more than others. Rapidity of the induction of anaesthesia, and very gentle handling should be guiding principles, and one must never lose sight of the importance of giving as little of the anaesthetic as is possible after the induction is completed. It is surprising how little is really required, and the danger of continued administration of an anaesthetic in a strength which is even slightly above what is adequate rapidly damages the delicate tissues of the child. Above all things, unlearn the old dictum that children and parturients enjoy immunity towards chloroform, and, I would add, accept with caution the other dictum, "chloroform before six and after sixty," because ether is a valuable anaesthetic for even younger children if given properly, wisely, and for not too prolonged a period.

As to physique, I would add a caution about powerful muscular persons, apparently in the heyday of manly vigour. As a rule, such tolerate anaesthetics, certainly during the induction period, less well than do the feeble and languishing. Remember the chances of heart strain, athlete's heart, conditions which tell against a patient who struggles during the induction. For such types of persons nitrous oxide gas is the best agent for commencing; then ether may be given, even if chloroform has been decided upon for the period of maintenance of anaesthesia. This sequence should also be employed for alcoholics in middle age.

2. *Mechanical Difficulties.*

It would take too long to consider all these conditions; I propose to deal with:

(*a*) Obstruction in the air passages.
(*b*) Postural interference with respiration necessitated by the exigencies of the operation.
(*c*) Interference with respiration due to intrathoracic or intra-abdominal disease.
(*d*) Interference with respiration due to disease or injury to the central nervous system, such as cerebellar tumours, pressure upon or damage to the spinal cord producing paralysis of respiratory muscles.

(*a*) *Obstruction in the Air Passages.*—The operation for removing post-nasal adenoid growths and hypertrophied tonsils, although regarded as a simple affair, yet to the anaesthetist presents grave difficulties. Its dangers are evidenced by the disproportionate number of deaths which occur during its performance. The patients are commonly delicate, often lymphatic, and generally fat and flabby, and their pulmonary ventilation and blood pressure are below the normal. The operation may be very simple and rapidly performed, but on the other hand it often presents unforeseen difficulties and so becomes prolonged. Nitrous oxide gas with oxygen is undoubtedly sufficient for the rapid operator to perform removal of the adenoid growths, but does not allow deliberate tonsillotomy or tonsillectomy in addition. The attempt when made leads to gambling, rough manipulation, and undue interference with respiration. These make for haemorrhage and shock. Children of the type to which I refer cannot with impunity lose any blood loss or sustain shock. Personally I regard ether chloride as a dangerous anaesthetic for these cases, as it depresses the circulation, but when followed by ether it gives us an excellent sequence. It is often urged by surgeons that ether for these cases causes more vomiting than chloroform, leads to excessive salivation, and so renders the operation more difficult. However, if ether is properly administered and all asphyxial conditions are avoided, excessive bleeding need not occur, while by its use the shock is minimized. For complete tonsillectomy, when cautious and slow enucleation is performed, one is compelled to select a chloroform mixture, and the 1 volume of alcohol in 10 of chloroform is, I think, far better than the A.C.E. or C.E. mixtures. Crile has suggested that for all operations on the mouth and nose pharyngeal plugging and anaesthesia carried on through an intubation tube should be practised, and this plan, although hardly practicable for the cases we are discussing, is valuable for tongue and jaw cases.

Alternative methods are prolonged chloride of ethyl administered by Barton's apparatus; open ether induction followed by ether vapour given through a tube from a warmed chamber through which warm air or oxygen is carried.

A class of cases which are difficult to manage is that which includes goitres and grandular growths pressing upon or displacing the trachea. Involvement of the laryngeal nerves increases the danger. There is a complication in goitre cases which is sometimes lost sight of: the tendency these patients have to profuse secretion both from the salivary and tracheal glands. When the thyroid enlargement is associated with the other symptoms of Graves's disease the acme of danger is attained. Chloroform used by the older methods led to, or was associated with, a high mortality, and this led Kocher and others to extol the merits of local injections by Schleich's infiltration method. This plan, admirable though it is in small adenomatous cases, fails to remove one grave factor causing fatality—it does not abrogate either traumatic or psychic shock. Nitrous oxide, even with oxygen, causes too much turgescence, and increases respiratory difficulties. With ethyl chloride the patient is either too deeply or too lightly narcotized, the level of anaesthesia can hardly be maintained. Ether given by closed methods undoubtedly increases turgescence, and provokes increase of saliva and mucus, which interfere with breathing. Mrs. Dickinson Berry, who has used an open ether method largely in these cases, insists that with care it can be safely and advantageously employed.

The safest method if ether is used is to inject atropine gr. $\frac{1}{100}$, or this together with morphine and scopolamine, half an hour before giving ether by the open method. In this way a certain diminution of the bronchial secretion can in some cases be obtained, but in my own experience this dose of atropine will not always prevent salivation, and if it does it is liable to cause discomfort for hours, owing to the dryness of the mouth and pharynx.

I have given anaesthetics to a large number of cases of goitre, both simple, malignant, and exophthalmic, and I have used chloroform in low percentage vapour with a copious stream of oxygen. This plan has so far answered extremely well, and possesses the great advantage that one can readily lighten and deepen narcosis as the steps of the operation demand. Although I have never employed rectal etherization for these cases, I have done so for laryngectomy, but the plan, valuable as an alternative, has inherent objections which make it less useful now that we possess accurate means of giving chloroform in definite percentages.

I may mention here that Crile regards the main danger of exophthalmic goitre operations as consisting in the abnormal dread—that is, "psychic shock"—which is usually existent. He would overcome this by daily injections of scopolamine and morphine under the pretext of examination, and when the patient is accustomed to these he withholds from him the knowledge that an operation will be performed, increases the dose of the injection, and administers a general anaesthetic; then the tumour is removed. This plan, although ingenious, might involve the surgeon in pains and penalties if the patient became recalcitrant or his friends intervened after a fatal issue.

(*b*) *Postural Interference with Respiration.*—The lateral and the prone decubitus, especially in obese and heavy patients, and when in the former case the arm is allowed to fall upon the chest, may cause complete cessation of respiration. The use of an arm rest, or, failing that, the holding up of the uppermost shoulder by an assistant, will obviate the danger. But under no circumstances must cyanosis be overlooked or allowed to increase; oxygen in such contingencies is of the utmost value.

The extreme Trendelenburg and lithotomy positions also interfere with breathing—in the former case, through the venous congestion, evidenced by the face becoming deeply cyanosed; and in the latter, possibly through the thighs being pressed upon the abdomen, pushing up its contents, and so preventing the normal play of the diaphragm.

In the Trendelenburg position actual oedema of the soft tissues about the eyes may occur. A case of this character was published by Mr. Carter Braine. So extreme may be the dyspnoea caused by overflexion of the thighs in the lithotomy position that breathing under chloroform may cease, and cases have occurred in which only prompt recourse to artificial respiration has prevented a fatal result. Of course, in these cases the anaesthetic is a factor making for danger, since, in the postures indicated, the usual amount of anaesthetic is too much. The onset of cyanosis means the respiratory centre is not properly supplied with oxygen, and so the lethal dose is diminished. When this fact is remembered the remedies at once suggest themselves—a lessening of the strength of the vapour of the anaesthetic and the total amount of the anaesthetic given, while an abundant supply of oxygen is offered.

(*c*) As in the case of pressure exerted upon the trachea, so in that of interference with respiration through intra-thoracic and intra-abdominal tumours or collections of fluid in these cavities, the symptoms of dyspnoea often do not appear until the patients pass under the influence of the anaesthetic. While conscious they acquire the knack of adjusting their posture or what not, which enables them to breathe without apparent difficulty. When unconscious this power of adaptation to circumstances no longer exists, and dyspnoea, progressive to respiratory standstill, is liable to occur. The danger is due to impaired pulmonary ventilation, and the remedy lies in careful selection of the right anaesthetic, and adjustment of its strength to the capacity of the patient. Initial embarrassment of breathing contraindicates the use of an agent which will increase the dyspnoea by its local irritant quality, while it calls for a supply of oxygen to counteract the patient's difficulty of effecting sufficient pulmonary ventilation. But even if this necessary equilibrium is attained, there yet remains the danger of sudden death through incautious movement of the patient undertaken in order to facilitate the procedure of the operation. The more successful the anaesthetist may be in establishing satisfactory breathing under adverse conditions, the more liable is he to permit some sudden movement of the body, which may either allow fluid to pass from the diseased to the healthy lung, and so may water-log the only available air chamber, or may so disorganize the system of compensation effected as to produce fatal respiratory and heart embarrassments.

In the report of the British Medical Association published in 1900, certain deaths were associated with the inhalation of ether. In all of these persons the fatality arose through aspiration of faecal vomiting into the air passages. Probably no cases are more fraught with danger, and require more skill and judgement, than those in which we have to deal with intestinal obstruction with faecal vomiting. So soon as the muscular tonus is lost, the back pressure causes the stomach and intestinal contents to be regurgitated through the oesophagus into the pharynx, whence it is liable to be aspirated into the air passages. These patients are often *in extremis*, and their state does not permit of heroic measures. Lavage, valuable as it is, is only temporizing, for the stomach, once emptied, rapidly refills, and unless the condition of the patient admits of repeated washing out, the danger is not removed. I have suggested a means[5] of combating the more serious cases by plugging the pharynx, and maintaining a free flow of the fluid through a stomach tube, while respiration and anaesthesia are carried on by means of intubation or a preliminary laryngotomy. Many surgeons prefer intrathecal injections in such cases, and I have seen some cases do extremely well. On the other hand, this procedure does not, in all instances, obviate aspiration of vomitus into the lungs, or prevent the fatal result. Further, the method imposes a severe strain upon the patient, who, even if he is without pain, remains conscious of the progress of the operation. Upon the whole, I believe a general anaesthetic in skilled hands offers the patient the best chance of life, especially if it is associated with local analgesia, practised upon the abdominal parietes, thus enabling the surgeon to open the abdomen under light anaesthesia, and relieving the pressure due to the distension.

(*d*) Dyspnoea, through pressure in the region of the respiratory centre, or paralysis of the intercostal muscles, leaving intact only the mechanism for diaphragmatic respiration, desperate though the condition seems, may be met by a similar line of treatment. The respiratory centre is in such cases already narcotized by ineffectual respiration, and can only tolerate a minimal quantity of an anaesthetic, which should always be chloroform. Chloroform does not increase the respiratory work, as it does not fill the lung with watery secretion, nor does it stimulate the exhausted nerve centres and the fatigued heart muscle. Even a minimal amount of the anaesthetic will produce profound anaesthesia, while the associated tendency to a lowered oxygen content may be met by a free use of oxygen supplied from a cylinder. In desperate cases intubation and a rhythmic supply of oxygen, given alone or with the chloroform vapour, offers the best chance.

3. *Asthenic Patients.*

Asthenic patients present perhaps the most difficult problem. We have to deal with individuals who possess little resistive power against "shock." All their tissues appear to have their vitality lowered, while their nervous system is particularly liable to reflex shock, and is least able to withstand it. The preparation of the patient in such cases assumes the utmost importance; all depletive measures become dangerous, and it is advisable, whenever possible, to insist upon a three days' preparation, involving absolute rest, dieting, and the use of appropriate drugs. In the case of these patients the fear element bulks large, and I am convinced that the preliminary use of scopolamine-morphine injection is valuable. If ether is to be used, and it is often advisable that this agent should be adopted, atropine must be added to the preliminary injection. The condition of these patients makes them peculiarly liable to untoward sequelae—protracted and severe vomiting, pulmonary and renal catarrh, even pneumonia and uraemia may occur, although I think they are most commonly due to the incautious employment of unduly copious quantities of the anaesthetic, and so are preventable. This forms an additional reason for employing scopolamine and morphine before the general anaesthetic, since they lessen the quantity of the general anaesthetic required to a remarkable degree, and so fend off from such patients their gravest dangers.

4, 5, 6. *Circulatory, Respiratory, and Metabolic Inadequacy.*

When we turn to circulatory, respiratory, and metabolic inadequacy, we find that whatever applies to these conditions, applies equally to asthenic patients, and the courses of procedure suggested for the several types correspond. I need hardly dwell upon what to-day is common knowledge—that an infirm heart will not be helped by undue stimulation, that a respiratory enfeeblement is probably circulatory when traced to its source, and that perverted metabolism after anaesthesia is the result less of the use than of the abuse of an anaesthetic.

That some patients who do not "die" upon the table from the anaesthetic, are killed by it ultimately, I have no doubt. In the acute mode of death the medullary centres are poisoned, but in the delayed death the tissues are poisoned by doses of the anaesthetic in excess of what they can eliminate without being destroyed. And this statement, I believe, applies equally to such general diseases (8) as lymphatism. If the normal individual can sustain a certain percentage of an anaesthetic, the abnormal patient succumbs to still less, and it is the acumen and judgement of the anaesthetist which enables him to adjust the dose of the anaesthetic to the patient's requirements.

Patients who either through self-habituation to alcohol or other drugs, or through medical use of narcotics, have become inured to them, are commonly difficult to anaesthetize. We all know the inconvenience—and worse—which meet us when anaesthetizing the heavy drinker and confirmed smoker. One deals with them on general principles, but it is worth while to remember that although such persons require large quantities of an anaesthetic, yet they are peculiarly liable to anaesthetic collapse. In the

case of alcoholics, it is important to get them "under" rapidly and without struggling, so that I recommend the nitrous oxide-ether sequence, even though chloroform is to be used ultimately.

Dosage and Methods.

We now come to the inquiry, What means have we of regulating our doses, what methods offer the best chances in these cases, and how do these methods satisfy the requirements of the surgeon, who seeks not anaesthesia only, but a degree of narcotism which will abolish many of those reflexes which persist in normal anaesthesia, and will carry the narcotism as far as the medullary centres, lowering blood pressure and lessening respiratory movements?

These are:

(*a*) Ether given by the open method.
(*b*) Chloroform given by a regulating dosage method.
(*c*) Injection into subdural space.
(*d*) Local analgesia—intravenous injection.
(*e*) Nitrous oxide associated with local injection.
(*f*) Mixed methods of morphine scopolamine, and inhalant general anaesthetics.

We must deal briefly with these modes of procedure under the three heads:

(1) As regards the patient's welfare.
(2) As regards the operative procedure.
(3) As regards the convalescence.

(*a*) *The Open Ether Method.*—Many plans, differing in important detail, have been adopted in America, on the Continent, and in this country:

(i) The drop method of the Mayous.
(ii) Allis inhaler with drop or douche.
(iii) Professor Dumont's quasi open plan.

It is usual to overcome the profuse secretion of mucus and saliva incident to inhaling copious doses of ether by a preliminary hypodermic injection of atropine, while in the case of nervous persons and of those whose condition renders it advisable to restrict the amount of the general anaesthetic used, a preliminary hypodermic of scopolamine and morphine should be given simultaneously with the atropine. This plan possesses the advantage in some cases of dulling the respiratory centre and so making the thoracic movements less pronounced. The forced breathing so common when ether is used is a serious impediment to the surgeon in abdominal operations; but it can be controlled usually, although not always, by the combination of morphine and scopolamine when injected an hour before the anaesthetic is given.

There is one caution needed in reference to open ether methods: They are liable to produce overstimulation, and so intensify shock. This is not inherent in the methods, for with care a light narcosis can be maintained, though, as a rule, the necessity for this is not kept in mind. When oxygen is used with the ether, as it should be, it masks the usual signs of this overstimulation, for instead of the patient's face becoming dusky it remains merry-red; however, the slower respiration and the quickening of the pulse, together with the wide dilatation of the pupils, will always prove a sufficient indication of the danger which is being incurred. I have seen several cases of the evil effects of open ether methods, especially when "douching" was employed.

The very large quantity of ether inhaled is in itself an evil, as it imposes a great strain on the organs concerned in elimination. In spite of the escape of vapour into the room, and the associated discomfort to surgeons and nurses, there is a strong feeling among many surgeons that patients who are in a septic condition are less liable to post-operation death when "open" ether methods are employed. Personally, I believe the dangers of post-operative acidosis when chloroform is given are due in many cases rather to overdosage by the anaesthetic and the intrusion of asphyxial complications.

Snow showed that the most complete muscular relaxation was obtainable where ether was used; and when the operation calls for a very profound narcosis—that is, a degree transcending the third degree—ether is safer than chloroform, as it does not so readily paralyse the respiratory centre.

(*b*) That chloroform should be given by a dosimetric system is now generally conceded. The only matter of dispute is what plan is the best. Skilled workers rely upon their personal expertness when using an open drop or douche method, but such plans must be open to constant sources of error. The only really safe system is the use of an inhaler which accurately delivers definite percentages, and allows the anaesthetist to vary the strength of the vapour he is employing at will, and to meet the exigencies of the patient or the operation. Such inhalers are now obtainable, and, having a definite maximum, they are safer than when the patient receives unknown strengths, with no halting point between dosage and overdosage.

Of course, like all scientific apparatus, these inhalers require that the person using them should have mastered their mechanism.

The most portable of these dosimetric chloroform inhalers, and, as I think, the most satisfactory, is the Vernon Harcourt inhaler; and this is so, even although the inhaler in question is constructed on the "blow over," and not the "plenum," system.

(*c*) When one speaks of the method by intrathecal injection, one labours under some difficulties. It is extremely difficult to decide as to its merits merely from statistics. These are unfavourable when the results of a number of surgeons are grouped, but favourable when certain clinics are accepted as representative. That the plan is valuable in some cases cannot be denied, but that some patients run greater risks, suffer more severely from after-effects, and may be paralysed for weeks, seems to be true. The method commends itself to the surgeon, if muscular relaxation is obtained, but this is not always the case. The mental state of some patients is very deplorable under this form of analgesia, and to remedy this a preliminary injection of morphine and scopolamine is advised. The method has not shown itself so far to be of universal application; its technique is not always easy, and is hardly one which could be entrusted to a tyro. If successful the analgesia is admirable. If danger arises we possess no means at present with which to combat it. In England stovaine is commonly used in an isotonic solution by the method which A. E. Barker has so ably elaborated. Abroad tropacocaine, alypin, and novocain each has its admirers. Cocaine, although still used, is a dangerous drug, and should be avoided.

(*d*) Local analgesia need not detain us. It is admirable in those cases for which it is suitable, but I think should be avoided for any but trivial operations, especially if the patient is nervous and asthenic. When local insensibility is obtained by intra-vascular injections, there is a greater risk incurred than by use of an infiltration method. Indeed, this method must be admitted to be at present only upon its trial.

(*e*) The employment of nitrous oxide gas in major surgery has been adopted in order to obviate the reputed dangers of the more powerful anaesthetics. Bert commended it in his day, and the French surgeon Péan employed it largely. Its advantages are patent, and its inconveniences are probably not insuperable. The degree of narcosis obtained is not a deep one, and the dangers of asphyxial complications are always present. It is difficult to bring about complete muscular relaxation and to maintain anything like a uniform level of narcosis when this anaesthetic is used for any length of time, even although its use is combined with that of oxygen.

The method of using a preliminary injection of alkaloidal bodies before allowing the patient to inhale a general anaesthetic, or to be injected with stovaine, has now been thoroughly tried and proved to possess many advantages.[6] The patient is rendered drowsy and free from apprehension; he requires less of the general anaesthetic and is hardly aware that he is taking it; the muscular relaxation is commonly, although not always, more complete than when a general anaesthetic is given by itself; the after-effects are usually slight and the post-anaesthetic sleep prolonged. The drawbacks are that the usual guiding phenomena of narcosis are lost, the reflexes, the pupillary and ocular phenomena, are profoundly modified; the danger of overdosage, of paralysing the medullary centres, is increased, so that the most unflagging attention must be paid to the patient's condition, which often demands complete removal of the general

anaesthetic even for prolonged periods. If cyanosis appears, this withholding of the anaesthetic is called for imperatively. It need hardly be said that when morphine is contraindicated on general principles it is better to avoid using scopolamine also, although this latter drug certainly renders the associated use of morphine more free from danger. The older method of employing morphine and atropine before chloroform or ether is, I think, less safe than the combined use of scopolamine, morphine and atropine. Some surgeons have extolled this injection method as a preliminary to the continuous inhalation of nitrous oxide-oxygen for even prolonged operations. The average doses are scopolamine $\frac{1}{100}$ grain, morphine $\frac{1}{6}$ grain, and atropine $\frac{1}{75}$ grain, given one hour before the general anaesthetic. Sometimes it is well to divide the dose, giving half an hour before and half just before the inhalation. It is commonly thought that young children are not so suitable for this method, and I have little experience of its use for them. As to dosage, although the amounts I have mentioned are usual, yet it is necessary to modify them according to the physique and state of the patient. Some robust men need more, some feeble persons require smaller doses. A word must be said about the after-treatment of these cases. The patients usually pass into a profound slumber when the operation is finished, and so need heedful watching for some hours, indeed until the narcotic effects of the injection and anaesthetic have passed off. As the respirations remain slow and shallow the progress of elimination is very slow, and the sleep may persist for a long time. The stupor need cause no alarm if the breathing is regular and adequate and albuminuria or glycosuria is known not to be present. I have no more time at my disposal, and must therefore conclude this brief summary of the means we possess to satisfy the demands of modern surgery, at the same time safeguarding our patients from unnecessary risks.

[The address was followed by a detailed explanation of the apparatus mentioned.]

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PRELIMINARY NOTE ON EXPERIMENTAL INVESTIGATIONS ON THE PITUITARY BODY.

BY DR. HANDELSMANN

AND

SIR VICTOR HORSLEY, F.R.S.

In the last few years the bibliography concerning the pituitary gland has been steadily growing. Scarcely a month passes without a new work on the subject, either on the pituitary gland alone, or in connexion with the other glands of internal secretion. The present note cannot contain a summary of such an extensive bibliography, and we must refer our readers to the latest collected works on the pituitary gland, especially to that of Biedl, *Innere Sekretion*, 1910.[1]

In our experiments we have tried only to determine what influence a complete or partial extirpation of the gland exercises on the organism. The first to perform such experiments was Horsley in 1886, after whom a series of authors (about twenty) repeated the experiments with results which were not uniform. In some investigations the animals succumbed soon after the operation, in others they survived for long periods. Among the more recent experimenters are Stederius, Gemelli, Aschner, Ascoli, and Legrain, and especially Paulesco and Cushing. Of these writers the last named has conducted a series of researches for several years, and has with his colleagues treated the subject in great detail. The first three authors found that the removal of the gland does not always lead to death, but that at least the gland is essential in development. The last three say that complete removal of the gland causes death very rapidly. Cushing says:

> Total removal of the hypophysis leads inevitably to the death of the animal with a peculiar and characteristic train of symptoms—cachexia hypophyseopriva, that is, low temperature, slow respiration, typical flexion attitude of back and incurvation of tail, spasmodic opening of the jaws; the animals are drowsy, lethargic, anaesthetic to a painful stimulus, and finally pass into deep coma. Sometimes, however, death did not occur as promptly as Paulesco claimed; for puppies might remain in an apparently normal condition for at least three weeks before the terminal phenomena appear and the latter might persist for one to three days.

Removal of the posterior lobe, according to Paulesco and Cushing, does not produce the fatal symptoms, but only complete removal of the anterior lobe.

We have made experiments on 54 animals—namely, 20 cats, 21 dogs, and 13 monkeys*—in which the pituitary gland was reached by either of two methods—(1) temporal, (2) palatal. The second method we have employed only in the cat. In the temporal method the opening of the skull was made on one side only, the left. In some cases we did not remove the gland, but only separated it from the base of the brain; in some others we cauterized the infundibulum. In about half of all the experiments we observed cerebral symptoms—*mouvements de manège*, hemiparesis, hemianopia, and in all monkeys temporary ophthalmoplegia on the side of the operation. All these symptoms gradually passed away. In all cases, with the exception of animals dying from operative shock, we have made a very careful microscopical examination of the sella turcica and of the base of the brain. Dr. Handelsmann will in a further paper give the full details of our experiments, and we will in the present note only describe the general conclusions arrived at.

Of the whole series of experiments, in 15 (2 cats, 9 dogs, and 4 monkeys) the gland—for example, pars anterior, pars posterior, and pars intermedia fissurae—was completely removed; that is, we could not find even cells of the pars intermedia infundibuli. We had also some animals in which there were some few cells of the pars infundibuli remaining; but these animals we do not count as having had a complete removal of the gland (contrary to Cushing), because sometimes in these remnants we found quite active cells with colloid in the lumen of the acini, and so on. On the other hand, to show that after the so-called complete removal of the gland† all the animals do not always die quickly with symptoms of cachexia, as Cushing and Paulesco claim, we present the following facts.

Eight animals died within forty-eight hours—for example, from shock, haemorrhage, or infection. We do not consider that those authors who have obtained similar results are justified in ascribing these fatal results to the loss of the function of the gland. Of the remainder, three died within four days with no symptoms regarded by Cushing as characteristic of a cachexia; but where not due to one of the above-named causes were, in our opinion, attributable to oedema cerebri.

There remain four cases (all monkeys); in three of these death occurred naturally on the 13th, 14th, and 39th days, and one animal was killed in good health on the 115th day.

In the three instances in which the animal died naturally no "characteristic" symptoms were observed, and the animals became asthenic and died, as many monkeys do in captivity. However, we reserve, of course, any absolute opinion on these cases, as it is clear they may be claimed in support of the opposed view—namely, that the removal of the function of the gland is necessarily fatal. This absolute conclusion is, however, obviously negatived by the fourth case.

Further, we have observed a parallel death-rate in animals in whom incomplete extirpations had been made.

It is clear that the whole question of the vital importance of the gland will require careful reviewal, and this has been rendered especially necessary by the researches of Cushing.

* Some of these animals were demonstrated at the meeting of the Physiological Society on March 18th, 1911, and the specimens from the same animals on July 1st, 1911.

† According to our view, the epithelial cells of the pars intermedia must be differentiated into those lining the cleft between the lobes (pars intermedia fissurae) and those forming a circle round the infundibulum (pars intermedia infundibuli).

‡ We say "so-called" because very possibly there is in some cases an accessory gland in the canalis cranio-pharyngealis which perhaps becomes hyperactive when the gland is removed.

Cushing and his colleagues came to the conclusion from most laborious and careful investigations that the anterior lobe was the essential element in the gland; that if it was completely removed death must follow very rapidly (in the adult within a few days). This conclusion we cannot confirm, for three of our animals (Cat No. 11, Dog No. 121, Monkey No. 169) survived in health, and yet the pars anterior was completely removed. In these cases it is clear that survival could only be attributed to the preservation of the acini of the pars intermedia infundibuli if the gland is absolutely essential to life.

We are not prepared to make final conclusions on such a difficult subject from a few experiments, and it is clear that scientific opinion must be reserved on the question and whether viability in the hypophyseoprival condition depends on the pars intermedia.

Our material enables us to make comments on certain subordinate points.

1. *Condition of Remains of Gland in Imperfect Extirpation.*—We have obtained a considerable number of complete survivals in all the classes of animals examined—that is, cats, dogs, and monkeys—and in whom *post mortem* minute fragments of one or other of the parts of the gland were found enclosed in the fibrous scar occupying the interpeduncular region. These for the most part preserve the normal appearance of their constituent cells. Occasionally they are atrophied. The full discussion of their histological changes will be given later, but it is clear that in some cases the remains found can hardly with justice be accredited with the survival.

2. *Condition of the Infundibulum.*—The physiological importance of the pars anterior may be considered in conjunction with the hypothesis that it furnishes hormones for subsequent treatment by the rest of the gland. Such a view has been supported by the consideration by Herring and others of the importance of the infundibulum as a duct and channel of transference of the products of the really active lobe, the pars posterior.

Our experiments show that these views must be regarded very closely before they are accepted, since we have not only divided the infundibulum without causing death, but we have also completely occluded it cicatricially in cases where also infinitesimal remains of other parts of the gland were found imbedded in the scar.*

3. *Glycosuria.*—We have observed the occurrence of slight glycosuria in two instances out of seven cases of complete or almost complete extirpation.

4. *Relation of the Hypophysis to Other Internal Secretion Glands.*—We have not observed changes in other internal secretion glands which could be with certainty attributed to the lesions of the hypophysis. This point will also be dealt with in the full paper by Dr. Handelsmann.

REFERENCE.

[1] Besides Biedl's book we must mention J. Bauer, *Zeitsch. f. d. ges. Neurol. u. Psych.*, 1911, Bd. iv, Heft 3-4; Verga, *La patologia chirurgia*, Pavia, 1911; A. Mühter, *Berl. klin. Woch.*, 1910, Heft 8-9; A. Kohn, *Muench. med. Woch.*, 1910, Heft 28.

* During the passage of this note through the press we have seen a paper published by Morawski (*Zeitsch. f. d. Ges. Neurologie*, etc., Bd. vii) confirming our results in very full detail.

A COMMITTEE has been formed in Berlin, with Dr. Kirchner, Ministerial Director, as chairman, for the erection of a memorial to Robert Koch.

THE committee of management of the Mount Vernon Hospital for Consumption has arranged for the reception of paying patients at its Northwood Sanatorium. Information can be obtained from the Secretary of the hospital, 7, Fitzroy Square, London, W.

THE Department of Tropical Medicine of the New York Post-Graduate Medical School is organizing an expedition to investigate pellagra in the Southern States. The work will start in the spring, and is made possible by the gift to the institution for this purpose of £3,000 by Colonel Robert M. Thompson and Mr. J. H. McFadden.

THE Organization Committee of the Sixth International Congress of Obstetrics and Gynaecology has arranged that the next meeting shall be held in Berlin on September 10th, 11th, and 12th, 1912. The following question is proposed for discussion: "The treatment of peritoneal wounds in its relation to obstetrics and gynaecology." The General Secretary is Dr. Ed. Martin, Berlin N. 24, Artillerie Strasse 18.

ACUTE POLIOMYELITIS:

WITH SPECIAL REFERENCE TO THE OUTBREAK IN PLYMOUTH, STONEHOUSE, AND DEVONPORT.*

BY

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THE recent outbreak of acute poliomyelitis in the district has caused marked attention to be paid to the disease, and has indeed caused alarm both in our own profession and amongst the general population. That the alarm was not without foundation is shown by the large number of cases which have occurred in the Western Counties, so that it is hardly an exaggeration to say that a new terror has been added to the approach of the summer months. This has, unfortunately, been fostered by reports in the daily press, which has persisted in confusing poliomyelitis with cerebro-spinal fever, or "spotted fever," and has given such prominence to the supposed presence, in epidemic form, of the latter disease, that in many places the summer season has been ruined. Happily, only sporadic cases, if indeed any at all, of cerebro-spinal fever have occurred, but poliomyelitis is in itself a disease to dread. It is a malignant affection, attacking children of all ages, but more especially those of tender years, and in the large majority of cases, even if life be spared, leaving only a crippled victim, who carries with him a lifelong handicap.

EPIDEMIOLOGY.

Much attention has recently been paid to the epidemiology of the disease, and Batten[1] has collected the reports of the various epidemics which have occurred during the last thirty years, of which the most severe was that which attacked the population of New York in 1907, when Starr[2] collected 2,000 cases.

In our Three Towns of Plymouth, Stonehouse, and Devonport, with a population approximating to a quarter of a million, the disease has this year for the first time assumed an epidemic form; the number of cases, so far as I have been able to collect them, was 73. This, however, must be considerably less than the actual number, for many of the slight cases would escape observation, and some of the rapidly fatal cases would not necessarily have been diagnosed as such. For instance, a child dying in a paralytic or comatose condition might have been regarded as a case of sunstroke or of meningitis. One such example occurred in Devonshire, where two children were supposed to have died of sunstroke, whilst a child who had been staying in the same house developed poliomyelitis immediately on its return to Plymouth. It is more than likely that both the fatal cases were infected with poliomyelitis, more especially as they were young children who had not been exposed to the sun.

The disease becomes prevalent in June, and persists through the summer months, July and August showing the greatest incidence. In the Three Towns the first cases appeared early in July, and a few isolated cases have occurred as late as October. It seems probable that the virus is capable of living through the winter and of being exalted in virulence by summer heat, for it is able to offer resistance to relatively low temperatures, experiment having shown that it can withstand a temperature below 0° C. Exposure for four hours in a freezing mixture has failed to kill it.[3]

ETIOLOGY.

Increased incidence in any disease demands a searching investigation as to causation, and the large number of epidemics which have occurred in the last two decades afford sufficient reason for inquiring into the factors which are at work, and which may be amenable to preventive or remedial measures.

Is poliomyelitis infectious or contagious? That it has been labelled "infective poliomyelitis" is no proof. Before coming to a conclusion on this question it is necessary to distinguish between diseases arising from a common cause, and hence bearing a superficial resemblance to infectious diseases, and those in which infection is actually spread from patient to patient, the latter only being regarded as "infectious." The evidence hitherto adduced seems rather to favour the former theory—infection from some

* A paper read before the Plymouth Medical Society.

common cause. It is uncommon to find more than one case in a family, and in none of the Plymouth cases was more than one affected in the same household. Nor, with the one exception already quoted, where a common cause, equally with direct infection from patient to patient, might be suspected, was there any evidence of contagion. Further, it is practically unknown for the disease to spread in hospitals, though no isolation precautions are usually taken. On the other hand a school has in one instance appeared to act as a disseminating focus (Wickman[4]), and Krause[5] mentions cases of healthy persons who have contracted the disease after coming into a previously contaminated house. Wickman[6] believes that the disease can be conveyed through the intermediary of healthy persons who had been in contact with infected patients, and advanced proof of its being transmissible by food or by objects handled by patients. As an example, a lady took charge of some sketches made by a sufferer from poliomyelitis, during the period of convalescence, and shortly afterwards she was attacked by paresis of both legs and complete paralysis of the right thigh (Levaditi[7]).

The proofs, however, of infection by direct contagion, or through the intermediary of "contacts" are scanty, and it would be well to devote attention to the search for some common cause of dissemination. This is not to be found in faulty sanitation or overcrowded dwellings. In the Three Towns the disease has been scattered uniformly over all parts, and no area has suffered in particular. If the cases have more aggregated than elsewhere it has been in Stoke, which is one of the best situated localities, with wide roads and no slums. Some of the worst parts of Plymouth, as the Barbican and the neighbourhood of King Street, where overcrowding and poverty are at their worst, have escaped almost entirely, whilst families living elsewhere in every possible comfort and luxury have been attacked. This feature has been noticed in previous epidemics (Zappert[8]).

An infection may be spread in various ways, the more common being (*a*) by air and dust, (*b*) by insects, (*c*) by food, and (*d*) by contact with patients.

As regards the last, the scanty proofs available have already been discussed.

Food has been mentioned as an alleged vehicle of infection for poliomyelitis, but a food epidemic would not be so widespread, tending rather to produce numerous cases within a small area, such as the locality served by a particular dairy. When you remember the way in which the disease was distributed in the Three Towns, and think further of the way in which it has appeared all over Cornwall in isolated cases, it becomes evident that food cannot be blamed.

The possibility that the infection is fly-borne has suggested itself to me, but there are several strong arguments against this view. The seasonal incidence is incorrect, for poliomyelitis is more prevalent in the earlier months of summer, whereas fly-borne diseases, such as epidemic diarrhoea, reach their height in September and October. The proximity of stables as a possible etiological factor, in that they form centres for fly breeding, formed one of the points on which information was asked in the circular letter to which so many of you have been good enough to make full replies, but in only two cases were stables reported as being in the immediate vicinity.

We come, therefore, to the question of air or dust conveyance, which I am inclined to regard as the most likely means of dissemination. It has been a year of exceptional dust combined with exceptional heat, and these are two features which are not to be ignored. Further, the virus is one which probably gains entrance to the body by the naso-pharynx. Experimental evidence will be adduced in favour of this, as well as clinical evidence. It seems likely that the heat and dust of 1911 have been factors, both to maintain the virus at a high degree of potency, and to favour its dissemination. I believe that when the records from all parts of the country are collected, further evidence will be adduced in favour of this view. From the few inquiries I have been able to make in rural districts it seems that the cases have occurred in close proximity to main roads, rather than in houses removed to a distance from the roads; this may be due to the former being constantly clouded with dust from passing traffic. The recent development of rapid road traction has, as we all know, played havoc with road-side property, owing to the clouds of dust raised. Possibly disease as well as discomfort is spread in this manner. The recent Order of the Local Government Board having made it optional to authorities to declare poliomyelitis notifiable, it should be possible to collect evidence for or against this suggestion. If it be proved, it would form a powerful lever in agitating for better road surfaces, and more especially for the widespread use of antidust remedies. Looking at the question from a material point of view alone, the waste to the State from so many crippled children would justify a large expenditure on any preventive measures. In towns the question of dust laying would equally apply. In our own towns the method in use is that of sprinkling from water carts, a comparatively useless method, as it is in no sense a cleansing of streets, is very transient in its effects, and in the very action causes a cloud of dust to arise. We have in Plymouth very few tarred or paved streets, and it is hardly a fair argument to say that no cases occurred in such streets, as many macadamized streets equally escaped.

Nature of the Virus.

A great amount of experimental research has been carried out in the last few years in order to ascertain the nature of the virus, and, though hitherto a causal organism has not been isolated, it is within the bounds of reasonable hope that it will soon be. Without going into details, an attempt will be made to summarize the results of this experimental work, of which fuller accounts can be obtained by reference to the bibliography appended, more especially the articles by Levaditi in the *Journal of the Royal Institute of Public Health*.[9]

The first step was Landsteiner and Popper's[10] successful communication of the disease to monkeys by means of inoculating a fragment of the spinal cord of a child who had died from poliomyelitis, the fragment being triturated in isotonic saline solution. The monkeys showed the clinical and *post-mortem* signs of the disease. The American investigators, Flexner and Lewis,[11] have in the last three years published many valuable communications, and numerous Continental observers[12] have contributed to our knowledge. The first inoculations were made directly into the central nervous system, but subsequently it was found possible to reproduce the disease by injection into the peritoneal cavity, the blood vessels, and the nerves, and to pass the disease successfully through many monkeys in series, Flexner and Lewis having a virus in its twenty-fifth generation. The only other animals in which experiment has successfully reproduced the disease have been rabbits.[13]

As to the nature of the virus nothing certain is yet known. It is at present ultra-microscopical, or, at any rate, has defied staining. It is capable of traversing Berkefeld filters, for when an infected cord is suspended in glycerine and the fluid then filtered the filtrate is toxic. Fragments of infected nerve tissue preserve their toxicity for four days at ordinary temperatures, and for seven to twenty-two days if kept in glycerine, 1 in 3. Exposure to a temperature of 60° C. for fifteen to twenty minutes killed the virus, and an hour at 50° C. was also fatal, whereas four hours in a freezing mixture did not destroy its pathogenicity.

The virus is capable of travelling through some of the tissues. Thus the injection of a nerve trunk with a few drops will produce the disease, though if the nerve be divided the onset of the infection can be prevented. In this there is a resemblance to tetanus. It can also travel by means of the circulatory and lymphatic systems, for the disease has been caused by injecting virulent material into the inguinal glands, and the virus has likewise been traced in the lymphatic glands which drain the area in which a subcutaneous inoculation has been made. In a fatal case in a child, inoculation of material from a mesenteric gland produced the disease in a monkey.

Perhaps the most interesting discovery has been that the mucous membrane of the naso-pharynx of paralysed monkeys contains the virus, for this membrane has been removed, rubbed with quartz sand, filtered, and the filtrate when injected has produced the disease. Lastly, if the mucous membrane of the naso-pharynx be scarified, and the virus then rubbed in, paralysis will follow, though painting on the virus without scarification had a negative result.

Thus it will be seen that experimentally the disease can be produced in a variety of ways. If the theory of dust infection be accepted, the last quoted observations are more than suggestive of the site of entrance.

Pathology.

The disease is an acute toxic process affecting the central nervous system, and having a particular affinity for the anterior horns of the spinal cord. A detailed description of the inflammatory and thrombotic changes, with resultant fibrosis, need not detain us, as it will be found fully described in all textbooks.[1] In its affinity for the nervous system, and the fact that the spinal cords of victims are pathogenic, there is a marked resemblance to rabies, which also has hitherto baffled attempts to isolate an organism. A parallel might be drawn between diphtheria and poliomyelitis in their action on the anterior horns, but in the former it is a toxin which causes the nerve lesion, whereas in the latter the virus is itself present in the nervous tissues.

Statistics of Epidemic.

Passing now to the results of the local outbreak, it will be found that they conform fairly closely to those previously described.

Number of cases	73
Sex.	
Males	33
Females	20
Not stated	20
Age.	
Oldest	52 years.
Youngest	11 weeks.
Average age of 71 cases	6 years.

Ages of fatal cases, 2½ years, 6 years, 7 months, 16 years, 2 years, and 17 years.

Results, so far as can be Recorded.	
Complete recovery	7 = 10%
Deaths	6 = 8.2%
Two legs paralysed	10
One leg paralysed	19
One arm paralysed	7
Two arms paralysed	1
Arm and leg paralysed	5
Three limbs paralysed	2
Four limbs paralysed	3
Back paralysed	2
No details except that paralysis remains	11

Clinical Notes.

I propose only to touch on certain symptoms which are not fully dealt with in textbooks.

The clinical course of the illness is fairly definite in the majority of cases. It commonly commences abruptly with a rise of temperature, usually up to about 102° F., the highest I have seen being 104.6° F. There is a general malaise, and vomiting and diarrhœa have been described in some epidemics, though rarely in this. A not uncommon feature is the presence of a rhinitis or sore throat, and in a considerable number of cases here it has been supposed at first that the patient or other members of the family were suffering from a common cold. This is very suggestive of infection by way of the naso-pharynx. Others[2] noted inflammation of the tonsils in many cases. A further confirmatory symptom noticed here and in Norwall has been epistaxis.

After about forty-eight hours, as a rule, the paralysis is apparent, and it almost always shows itself first in the lower limbs, and may proceed to affect the upper limbs, the muscles of the abdomen or back, and those of nutrition and respiration, according to the severity of the infection. In rare cases the cerebral nerves have been involved, owing to an encephalitis, and in one case there were distinct mental changes, as evidenced by extreme irritability and slight delusions, which came on after the paralytic period. In the very severe cases the resemblance to Landry's paralysis is very striking. Bladder and rectal troubles are common—a condition probably due to the loss of power in the abdominal muscles rather than to any actual visceral interference. The symptom of frequent micturition, however, suggests that the virus may be eliminated by the kidneys, and in so doing set up a mild nephritis.

Pain is a symptom which is very common, and it often persists for a long time, even as late as eight weeks after the infection. The paralysed limb may be so exquisitely tender as to render handling almost impossible, and when this symptom is prolonged into convalescence it renders it very difficult to apply adequate massage and electricity. A possible explanation is that the inflammatory and exudative processes involving the anterior horns cause pressure also on the grey matter of the posterior horns.

In no case have I seen optic neuritis, even where encephalic trouble was present.

Diagnosis.

Cases which do not conform to type present the greatest difficulty in diagnosis. A case I now have under observation in the hospital has typical infantile paralysis of the right leg and a spastic condition of the left leg, the latter limb also having an extensor plantar reflex. Such a mixed symptom-complex rendered diagnosis difficult, and a lumbar puncture was negative in result. I think it may be explained by the presence of an ordinary poliomyelitis causing the trouble in the right leg, coupled with a right cortical infection resulting in the spastic condition of the left leg.

As regards diagnosis, the great difficulty appears to have been to discriminate between poliomyelitis and cerebro-spinal fever. Clinically, however, the diseases are widely differentiated in the majority of cases, the first-named being a destructive lesion, and the second—at any rate, in its earlier stages—an irritative lesion. In cerebro-spinal fever the rigidity of the limbs, the presence of Kernig's sign, the extensor plantar reflex, the early appearance of optic neuritis, should prevent a mistake, whilst lumbar puncture affords a very ready and certain means of diagnosis. Even if it be not possible to undertake a careful search for the meningococcus, the great excess of cerebro-spinal fluid, and in that fluid the presence of an excess of albumen, are distinguishing signs which poliomyelitis does not give.

Treatment.

The ordinary means to abate fever and pain, coupled with careful nursing, are all that we can at present employ. Urotropine, of help in cerebro-spinal fever, I have found useless, because, though its oral administration leads to the presence of formaldehyde in the spinal fluid, this drug is hardly likely to be brought into sufficiently intimate contact with the virus.

In all stages the greatest care should be taken to prevent contractures from the overaction of non-paralysed muscle groups, and I have found it wise to employ plastic splints to this end. This, coupled with massage and electricity, and the administration of small doses of potassium iodide, form the routine treatment after the acute stage has passed. Subsequently, careful surgery, by means of tendon or nerve transplantation, may be expected to achieve considerable results in restoring the function of the limbs.

Immunity.

The knowledge as to immunity and serum-therapy is in its infancy, but there is reason to hope that the future may contain a serum treatment for poliomyelitis akin to that for rabies.

The fact has been established that artificial immunity can be conferred by progressively increasing doses of the virus. Monkeys, also, which have recovered from the disease exhibit a complete resistance to reinoculation.

The serum from monkeys who have recovered from the disease has some inhibitory effect on the virus; 2 c.cm. of such serum, mixed with 2 c.cm. of a filtrate of the virus of maximal potency, and injected into a monkey, caused no ill effects, whilst a control monkey died from a similar dose of the virus. Normal monkey serum had no inhibitory effect, nor had normal horse serum.

I have endeavoured to put before you a summary of the recent researches into the causation of poliomyelitis. Much yet remains to elucidate, but we may anticipate great steps forward, leading to the goal of successful prevention and treatment. Until then, whilst the uncertainty remains as to the methods of dissemination and infection of the disease, it must be regarded as infectious, and should be made notifiable everywhere. A moderate degree of isolation should be exercised, especially as regards children, and it might be well to employ an antiseptic naso-pharyngeal wash, such as hydrogen peroxide, which

has the power of destroying the virus, in all cases of contact.

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CLINICAL OBSERVATIONS ON AN EPIDEMIC OF ACUTE POLIOMYELITIS IN CORNWALL.*

BY

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THAT acute anterior poliomyelitis has appeared in this country in a serious epidemic form is conclusively proved. There was a series of cases in Bristol from June, 1909, to January, 1910, as reported by Parker in the BRITISH MEDICAL JOURNAL of March 18th, 1911. The disease during the present year has appeared in the counties of Devon and Cornwall. In the former county the disease has been more severe than in Cornwall, there having been about 90 known cases in Devon, while in Cornwall the number of ascertained cases to the present date is 42.

The first and the majority of cases coming under our own observation occurred in Penryn. This town has a population of about 3,000 inhabitants, and is situated at the head of one of the tidal estuaries of the River Fal—the Penryn River—about two miles above Falmouth. It is a very ancient town, and the inhabitants are mostly working-class people. The majority of the houses are old, huddled together, and in many cases are in a very insanitary condition. The sewage is water carried, and is discharged into the creeks in a crude condition, and is left exposed on the ebb tide. Little attempt is made by the sanitary authorities to remedy matters, the streets being badly scavenged and the town generally dirty.

The first case occurred on January 23rd. The next case was noted on May 27th (Case XII), and in connexion with it it is interesting to note that a horse belonging to the patient's father had what is locally known as "poke-neck." It is said to have been paralysed in the neck and forequarters. It fell down in the stable and was unable to rise. When taken out, with assistance, it again fell. It was shot without having been seen by the veterinary surgeon. This happened a week before the child was taken ill. Case V occurred on June 8th. This boy's father had been in the house of Case XII.

Of the 9 cases in Penryn, 5 were in West Street, which is a narrow street on the main road, with a considerable amount of motor traffic. The road has been tar-sprayed for the first time this summer, so that the dust nuisance has been reduced to a minimum. The occupants generally are poor and not over cleanly in their habits. Though we have been unable to trace contact in all those cases, there is strong presumptive evidence that such did take place, as the street is the only playground of the children. No doubt, too, there is much visiting among each other's houses: and also one of the cases occurred in a grocer's shop. Two cases occurred in the village of Mylor, also situated at the head of another tidal estuary of the Fal. There was distinct contact with one of these cases with another case in Truro. One occurred in Budock and two in Falmouth, four in Camborne, and two in St. Austell. No two cases occurred in the same house, with the exception of the St. Austell cases.

It is interesting to note that the children in Penryn bathe regularly in the sewage-contaminated creeks. Of those attacked, no single case had at any time bathed or waded in this polluted spot. This is quite contrary to the experience of the Massachusetts epidemic, where 62 out of the 150 were proved to have been swimming or wading in polluted waters.

Another interesting observation during the course of the Penryn epidemic was the number of cases of herpes zoster occurring in the practice of one of us (Hopper). The majority of the persons affected were old, and mostly women. Various parts of the body were affected by the eruption—namely: (1) Six had lesions over the neck, shoulder-blades, deltoid and pectoral muscle; (2) four over the intercostal muscles; (3) three over the recti and buttocks; (4) three on the lower limbs (total of sixteen). In most of them constipation was a marked feature, and in many of the cases there was severe pain and general malaise. In no other space of time have so many cases occurred in this district, and therefore the question naturally arises, Is the same organism at work in both diseases?

Age.

The ages of the patients ranged from 10 months to 50 years. The rejection of the term "infantile paralysis" is now therefore fully justified, seeing that persons of all ages are subject to the disease. With one exception, however, those who have lost the use of their limbs, or have their limbs permanently impaired, are under the age of 8. All cases of the encephaloid type have been fatal.

Sex.

There were 14 males and 7 females.

Mortality.

There were 5 deaths in the 21 cases recorded, giving a mortality of 23.8 per cent.

Symptoms.

The most outstanding symptom, and one which occurred in every case, was derangement of the intestinal tract: there was either constipation or diarrhoea, or both. In all cases the motions were exceptionally large, and very foul-smelling. In contradistinction to this, except in five cases, three of which had epistaxis and two had slightly reddened fauces, there was no affection of the naso-pharyngeal mucous membrane. Two cases had slight enlargement of the cervical glands. One case was diagnosed as summer diarrhoea. This is certainly against Flexner's theory that the virus enters the body through the air passages, and would rather point to the alimentary canal as the point of entrance. This view is strengthened by the fact that there were six cases in which retention of urine was observed: one had incontinence. One case had to be catheterized for eight weeks. Great irritability and pain were present in all the cases; in some cases the latter was most distressing, the patient crying out for hours; the least movement of the paralysed limbs increased this. A rash was present in six cases which were seen through all the stages of the disease. In every case it was typically urticarial, a fact which again supports the theory that the infection is intestinal. The temperature never rose above 103° F., generally it was about 100° F. in the observed cases; but it must be borne in mind that some of the cases were not seen till the initial stage had passed and the paralysis had developed. Only one case recovered completely; all the others will be disabled more or less for life.

Classification of Cases.

We have arranged the cases into groups in a more or less arbitrary manner. There is no marked distinction between the encephaloid type and the others, which in reality only differ in degree and often pass the one into the other, depending apparently on the virulence of the organism, the resisting power of the patient, and the part of the nervous system attacked.

*A paper read before the Clinical Section of the Royal Society of Medicine on October 13th, 1911.

Group I.—Encephaloid Type.

Case I.

E. K., female, aged 30. No occupation. The patient suffered from habitual constipation with consequent digestive troubles, and was inclined to be hysterical. First taken ill on July 11th, and then complained of headache over the right parietal region. This continued till she was first seen, on July 18th, when the following was noted. Temperature 99° F., pulse weak, but regular. Pupils equal, but dilated; reaction normal; reflexes exaggerated; very constipated.

July 19th and 20th. No change. Marked restlessness and no sleep. Temperature normal.

July 21st. Menstruating. Headache less. Temperature 100° F.

July 22nd. Got out of bed, fell down, and was found in dazed condition. Passed faeces and urine in bed. Pain in all joints. Reflexes exaggerated; pupils normal. Temperature 102° F.

July 23rd. At intervals patient very drowsy; at other times hysterical, clapping hands, shouting and crying; right arm spastic. Headache severe; retraction of head and neck with great pain on movement. Knee-jerks much exaggerated. Urticarial rash over abdomen. Will not recognize any one. Temperature 102.4° F.

July 24th. The patient is very irritable; headache very severe. *Tache cérébrale* well marked. Rash still present. Kernig's sign negative. Right arm rigid.

July 25th. The patient seems better to-day. Passed a huge, very foul-smelling motion as the result of calomel and enema; tongue clearer. Temperature 100° F., pulse 90. By evening drowsy and difficult to arouse.

July 26th. Drowsy, with intervals of delirium. Urine and faeces passed in bed. All limbs rigid, also head and neck. *Tache cérébrale* still well marked.

July 27th. Becoming comatose. Limbs still rigid.

July 28th. Lies motionless with all limbs flaccid, but with the exception of the right arm they all move on stimulation. Squint well marked. Swallowing now becoming difficult. Left pupil more dilated than right. Urticarial patches still on abdomen, which is much distended.

July 29th. Squint still present, but not so marked. Limbs all move voluntarily; some rigidity of left arm. Swallowing still difficult. Comatose, but can be roused. Faeces, urine, breath, and sweat extremely foul-smelling.

July 30th. Squint gone; other conditions the same.

July 31st. Drowsy, with intervals of consciousness.

August 1st. Died comatose; sensation was complete throughout.

Case II.

G. B., male, aged 3 months (Dr. Tonking's case, Camborne). Taken ill on August 27th with pain in head and vomiting; seen by Dr. Tonking on August 28th at 11 a.m. Pain in throat; salivation due to being unable to swallow. No Kernig. Neither plantar nor knee reflexes obtainable. Died at 10 p.m. from paralysis of respiration.

The diagnosis of the two following cases (Cases III and IV) may be disputed, but the result of the examination of the cerebro-spinal fluid is consistent with poliomyelitis; hence they are included.

Case III.

A. J., male, aged 25 (Dr. Lanyon). A perfectly healthy man up till the time of his fatal illness; no history of tubercle. On September 22nd he woke with a severe frontal headache and retched a good deal; lay in bed till 11 a.m.; got up and went a short voyage in the bay. On the way home he felt sick and vomited (not sea-sickness). Arrived at the dock at 5 p.m. Too ill to walk home, but walked up the flight of steps to a cab; walked from cab to bedroom unaided. Seen by medical man at 5.30 p.m. Pulse 42. Lying curled up in a very lethargic state; feet cold; did not speak, but put his tongue out when told; vomited a brown grumous fluid. No reflexes or other symptoms noted. Became comatose in a short time and died at 8 o'clock the same evening.

Post-mortem examination on the following day. All organs perfectly healthy except the brain. Meninges much congested. Cerebral ventricles distended with fluid—5 or 6 oz.

Preliminary Report from the Pathological Department of St. Bartholomew's Hospital.

The cerebro-spinal fluid is turbid; it smells offensively; albumen 0.25 per cent.; Fehling not reduced; centrifugalized deposit; cells; bacteria and small Gram-negative bacillus swarming in this sample of cerebro-spinal fluid. These were found to be *Bacillus coli* and staphylococci due to contamination.

Case IV.

O. N. B., male (Dr. Tonking). Taken August 28th. Temperature 100° to 101° F. Vomiting.

August 30th. Very irritable. *Tache cérébrale* well marked. Kernig present on both sides. Fundi normal. Paralysis of external recti (squint); no other paralysis.

September 2nd. Semi-comatose; gradually deepening stupor.

September 3rd. Coma; died.

Report from the Pathological Department of St. Bartholomew's Hospital.

The cerebro-spinal fluid is clear. The albumen content is ½ per cent. Fehling's solution is reduced by the cerebro-spinal fluid. The centrifugalized deposit shows very few leucocytes. All that were seen were lymphocytes. The centrifugalized deposit shows numerous clumps of mycelium of a mould, and also a large number of Gram-negative motile bacilli, and a few of staphylococcus. Numerous fibres of the deposit were stained for tubercle, but no tubercle bacilli were seen.

Comments.—Cultures are being made, and a report will be sent later. The case is clearly not one of cerebro-spinal meningitis, for the cells present are lymphocytes, and these are but few in number. The albumen content is only very slightly raised above the normal amount. It is identical with the quantity found in cerebro-spinal fluid of poliomyelitis cases recently examined from the same district. This cerebro-spinal fluid is probably from a case of poliomyelitis, but it is not possible to be sure that the case is not tuberculous meningitis in an early stage. In that case, however, I should have expected to find more lymphocytes, rather more albumen, and the tubercle bacillus. The moulds of bacteria present are almost sure to be contaminations.—M. H. Gordon.

Group II.—Gradual Ascending and Descending Type.

Case V.

E. C. C., male, aged 2½. Taken ill on June 8th and first seen on June 10th, when it was impossible to arrive at a diagnosis. The following conditions were noted: Very constipated, with coated tongue, no nasal discharge, no sore throat, herpes, convulsions, twitchings, hyperaesthesia, or delirium. Passed no urine for thirty-six hours, and then for twenty-four hours. Epistaxis on three occasions; Kernig's sign present, also *tache cérébrale* well marked. Urticarial eruption. Temperature ranged from 101° F. to 102.4° F.

On June 14th, that is, on the sixth day of the illness, paralysis appeared in both legs. Complained of a great deal of pain in the legs and in the lumbar region, and quite unable to raise himself. Plantar and patellar reflexes absent, testicular and abdominal present. No loss of sensation.

For a period of three weeks there was no recovery of any group of muscles. Then the weakness of the erector spinae passed off and the child could pull himself up in his crib and kneel on the right knee. Then the extensors of the right thigh began to regain power. Seven days later the right gastrocnemius began to recover, and each day after this fresh groups began to show returning power. In the left leg, however, no change was observed till five weeks had elapsed. Here, too, the extensors made the start, followed by the gastrocnemius, and finally the tibialis anticus.

On September 11th the peronei are still paralysed.

Case VI.

W. E. M., male, aged 1 year 4 months. Patient taken ill on July 18th and first seen on July 26th. The illness commenced by the child being fretful and irritable, with a slight attack of fetid diarrhoea. There was an urticarial rash on the abdomen for four days. No vomiting, sore throat, or glands. Slight retraction of the head and neck was noticed. On the second day of his illness the left side of the face was paralysed and drawn to the right. This disappeared in five days. On the fourth day the left arm was totally paralysed, and two days later the left leg. When first seen the temperature was normal. The child was constipated, with coated tongue. Kernig's sign and *tache cérébrale* present. Reflexes present. The left arm and leg were paralysed, and great pain was elicited on moving those limbs.

The subsequent history of the case was as follows: The flexors of the upper arm first recovered, the flexors of the fingers following. The remaining groups gradually recovered, though passive movement caused pain for five or six weeks. In the leg the thigh muscles—first the flexors, then the extensors—recovered, followed by the gastrocnemius and the tibialis anticus.

On September 5th the child could use the arm perfectly and could walk. He dragged the left leg, which was somewhat everted.

Note.—Immediately prior to the illness the mother, with the child, visited a house where there was a case of poliomyelitis. The child was handled by the person who was nursing this case.

Case VII.

G. B., male, aged 8.

August 21st. Had usual bath at 7.30, and was apparently well.

August 22nd. Felt tired before getting up. Later on got up and went short train journey. Complained of headache and wanted to lie down. Taken home and put to bed; eyes suffused. Temperature 103° F. Herpes showing on lips. No Kernig, no *tache cérébrale*, no rigidity.

August 23rd. Herpes increased. "Anxious" on feet and rigid on standing. Stiffness and pain in back of neck. Kernig's sign well marked, producing pain in hamstrings. *Tache cérébrale* got in five seconds. Right knee-jerk absent, left faint.

August 24th. Temperature 103° F., pulse 132. *Tache cérébrale*, two seconds. Pupils dilated, headache, constipation, slight epistaxis. Both knee-jerks and plantar reflexes absent. Abdominal and cremasteric reflexes sluggish; head retracted; right leg completely paralysed, left leg affected. Very restless and irritable during the night. Severe epistaxis.

August 25th. Temperature 101° F., pulse 140. Patient very restless and irritable. Bowels moved slightly, very offensive. Attacks of breathlessness, breathing becoming Cheyne-Stokes-like during the night. Speech staccato. Left leg totally paralysed.

August 26th. Temperature normal, pulse 92. Slightly delirious. Bowels moved, very offensive. Difficulty in commencing the act of micturition. A great deal of pain in head, knees, and legs.

August 27th. Intervals of severe pain. Urticarial rash on buttocks. Both arms affected, especially the right deltoid.

August 28th and 29th. Still in great pain. Huge offensive motions.

August 30th. Less restless. Pain most marked in the hamstrings.

August 31st. Pain less; distinct improvement in movement of left leg; can slightly flex the toes.

September 4th. Power returning to right arm. Left leg rigid.

September 5th. Both legs can now be straightened without pain; left foot still rigid.

September 6th, 7th, and 8th. Still having huge, constipated motions, very offensive.

September 9th. Can now flex toes of both feet. Extensors of left thigh gaining power.

September 11th. Patient now quite free from pain. Feeling of needles and pins in lower limbs.

September 22nd. Right arm almost normal. Flexors of right foot slightly active; flexors of left foot and extensors of left thigh have a certain amount of power.

CASE VIII.

S., male, aged 1 year 11 months. First taken ill in July. He was out of sorts for several weeks. During this time there were no convulsions, but there was vomiting and diarrhoea. The mother then noticed the child was weak in his back; he could not sit as usual. Then both legs became paralysed, and a little later the right arm, followed by wryneck on the right side. Recovery took place in the following order: first the neck, then the back, and lastly the legs.

On September 23rd the whole of the right arm remained paralysed, with the exception of slight movement of flexors of fingers.

CASE IX.

L. M. R., female, aged 4. (Dr. Tonking.) Already suffering from pertussis. Ten days before death vomited and next day one arm was paralysed, and on the day following the other arm was involved. The whoop disappeared a few days before her death owing to involvement of the respiratory centre. Death was due to paralysis of the respiratory muscles.

CASE X.

Male, aged 3. (Dr. Burton, St. Austell.) When first seen had history of diarrhoea off and on for two weeks. No vomiting. Said to have "gone off his legs." On examination: Temperature subnormal, pulse 140, tongue coated, slight enlargement of cervical glands, and fauces reddened. There was a distinct squint, which the mother thought he had had for some time. Pupils equal and reacting. Movement of legs in bed seemed good, but patient unable to stand; no pain. *Tache* and Kernig's sign present; knee-jerks absent; output of urine small. The patient would go for a whole day without passing water. He remained the same for two or three days, then a slight retraction of the muscles of the back of the neck was noticed with pain on movement. The boy lay curled up and kept the thighs flexed on the abdomen, and the legs on the thighs. He resented interference and complained of pain in the legs, abdomen and back. There is now (October 1st) slight wasting of deltoids, and extensors of legs and thighs, with feet-drop. The boy is gradually improving, can sit up, but cannot stand.

CASE XI.

The notes of this case have been kindly sent by Dr. Tonking, of Camborne. "About a month ago I saw a child, a male, aged 6 months, with vomiting and diarrhoea. I attended him about a week. The daily temperature was 100° F. I left the child apparently cured of the summer diarrhoea. Two weeks later the mother sent for me as the child could not move his leg. I find flaccidity of both legs and absence of reflexes. This was obviously a case of poliomyelitis of the spinal type overlooked during an epidemic of summer diarrhoea."

GROUP III.—SUDDEN TYPE.

CASE XII.

D., male, aged 6. Child was first taken ill on May 27th, when he was observed falling about in the house. He went out, when he again fell and was carried home. When seen, temperature 101° F.; no vomiting, convulsions, epistaxis, sore throat or rash. Constipated, with coated yellow tongue. Retention of urine thirty-six and twenty-four hours. Complained of headache, stiffness, and pain of muscles of back, and in the ankle and knee joints. Very irritable and constantly calling out. Hyperaesthesia over back and legs. All four limbs totally paralysed.

May 30th. Some slight flexion of fingers of right hand noted. Temperature 100° F.

May 31st. Temperature normal. Biceps and deltoid of right arm have slight movement. Great pain at night and very restless.

June 5th. Can move toes on right side; also flexors of right thigh. Can lift his right arm to his mouth.

June 13th. Can flex fingers of left hand. No pain now at night.

On June 23rd admitted to hospital, where he was treated with massage.

On September 14th the condition was: Left arm completely paralysed, with the exception of the flexors of thumb, ring and index fingers. Left leg completely paralysed. Right leg muscles of thigh normal; all muscles below knee, with the exception of the plantar muscles, gone.

CASE XIII.

F. F. M., female, aged 2 years 3 months. First taken ill on August 3rd, and seen on August 7th. Complained of headache and vomited during those three days. When seen temperature 100.2° F., constipated, very irritable, and crying constantly; no epistaxis, no throat trouble, herpes, rash, or retraction. Kernig's sign and *tache cérébrale* absent. Reflexes absent. Both legs and left arm totally paralysed and very painful. The paralysis came on very suddenly in this case. The child was at the wash-basin, and fell while crossing the floor for a towel. When picked up she was paralysed in both legs, and the left arm was found paralysed the next day. All the muscles of the legs were paralysed, and improvement was noticed in the extensor and plantar muscles, and later in the flexors. On September 12th the child could stand by the aid of a chair, the peronei still being functionless. All the muscles of the upper arm were affected and the flexors of the forearm. These latter regained function on August 10th, and on September 12th the condition was the same.

CASE XIV.

Male, aged 10 months. First taken ill about July 6th. Vomiting, one convulsion, extreme drowsiness, dilatation of both pupils. Diarrhoea followed by constipation. Head and neck retracted. Right arm paralysed. Other symptoms not obtained.

On September 14th the child had complete loss of power in the right arm, with the exception of slight flexion in the fingers, where contraction is beginning.

CASE XV.

J. C., male, aged 12 months. Taken ill on June 29th and not seen till a month later. Was ill for four days, when it was noticed that he was unable to raise his left arm. No history could be elicited of convulsions, drowsiness, delirium, epistaxis, sore throat, or retraction of head and neck. There was irritability of temper for the first ten days, constipation, and an urticarial rash.

When first seen on July 29th he had all the movements of the left arm except those connected with the deltoid, which were very much atrophied.

On September 14th this muscle had almost disappeared.

CASE XVI.

A. C. Y., male, aged 1½ years. First taken ill on June 9th, and first seen on June 16th. The child was fretful and irritable, and on June 13th had retention of urine for thirty-six hours. Paralysis of both legs was noticed. When seen on June 16th no Kernig's sign or *tache cérébrale*. Plantar and knee reflexes absent. Extreme tenderness in legs and lumbar part of spine, and both lower limbs paralysed. Sent to hospital, and returned in the first week of September.

On September 6th no improvement in any muscles of left leg. Some slight extension of right thigh.

CASE XVII.

R. L. V., male, aged 1 year 10 months. First taken ill on June 8th. Headache, very constipated, very irritable, then drowsy; tongue coated and dry. Retention of urine. On the third day total paralysis of the right leg appeared, with paresis of the erector spinae. This was complete for ten days. Then the flexors of the toes became active, followed by the extensors of the thigh and gastrocnemius, and gradually all except the peronei. Contracture of the flexors of the toes occurred, but this has been overcome.

On September 15th the child was healthy and could walk, though the peronei are still affected.

CASE XVIII.

R. I., male, aged 13 months. Taken ill on August 23rd, and first seen on August 24th. Temperature 100° F. Constipated. Urticarial spots on abdomen. He was playing with other children when it was noticed that he could not walk about as usual. On examination it was found that the peronei of the right leg were paralysed. No other group was involved.

September 12th. The child can walk, but there is distinct eversion of the right foot.

CASE XIX.

X. Y., female, aged 50. This patient suffered from epilepsy in early life and had polypi removed from the uterus. For many years she remained free. When the climacteric began, at the age of 44, she had occasional fits. On January 23rd, on getting out of bed, she fell down, cutting her forehead, and was picked up in a dazed condition. On being put to bed it was found that the right leg was totally paralysed and the left leg partially. Reflexes lost. Paralysis of rectum and bladder, which lasted for eight weeks. Limbs painful and great irritability. On September 25th can stand and walk with assistance. Knee-jerks present, plantar reflexes still absent. There is a good deal of wasting in all the muscles, especially those of the left calf. Right foot droops considerably.

CASE XX.

Female, aged 7. (Dr. Burton's case, seen at the same time as Case X and in the same house.) Had diarrhoea for several days. In afternoon complained of pain but went to school. At 7 p.m., when seen, the child was shivering and looked ill. Temperature 102° F., pulse 108. Headache; pain in back and legs; cervical glands enlarged; could hardly walk across the room; knee-jerks were doubtful; right present, perhaps slightly exaggerated; left not obtained; Kernig's sign present. Next day both legs completely paralysed. Temperature remained at 102° F. Knee-jerks absent; great pain on movement.

The following day there was retraction of head and neck, well marked; also *tache cérébrale*. The slightest movement of the head caused great pain, and the spine was somewhat bowed. Lumbar puncture was performed the same night, 2 to 3 drachms of fluid being withdrawn, clear and came away drop by drop. This proved to be sterile. The next day the child seemed somewhat relieved. For two or three days, however, the child was very irritable, diarrhœa was present, and faeces and urine were passed involuntarily. There was slight delirium at night. Lumbar puncture was again performed, 6 to 7 drachms of fluid being withdrawn, this time under marked pressure. Dr. Gordon reported on this: Albumen, 6 per cent.; sugar, *nil*; films and cultures sterile; lymphocytes but no leucocytes present.

The lumbar puncture was followed by marked improvement in the child's condition. Pain lessened and the child much more comfortable.

The child is now left with both legs paralysed, with wasting, especially of the vasti and the anterior tibial muscles. Dropped foot on both sides and no movement of either leg. The deltoids are slightly affected.

GROUP IV.—TRANSIENT TYPE.

CASE XXI.

T., female, aged 16. First taken ill on June 18th, and seen on June 20th. She complained that she had loss of power in the left arm. No temperature, rash, or headache. In short, there was no constitutional disturbance. There was complete loss of power in the left deltoid and biceps accompanied with pain.

June 26th. Power of movement returning, but still painful.

June 30th. More power and less pain.

July 6th. Good movement and some slight pain. Returned to work.

EPIDEMIC ANTERIOR POLIOMYELITIS IN HUNTINGDONSHIRE.

By C. B. MOSS-BLUNDELL, M.D., D.P.H.,

COUNTY MEDICAL OFFICER OF HEALTH, COUNTY SCHOOL MEDICAL OFFICER, HUNTINGDONSHIRE.

In view of the interest recently manifested in infantile paralysis, and of the statements which have appeared to the effect that the disease is caused by an ultramicroscopic organism and that it has been transmitted experimentally from man to the higher ape, the following series of cases is worthy of consideration.

The cases Nos. I to XII occurred in a small village, and within an area of about 200 yards square; Nos. XIII, XIV, and XV were in the adjacent village a mile away. The period between the date of onset was practically one week in all the cases in one family, with the exception of No. XIV. The interval between XIII and XV was, however, one week. Constipation was a prominent feature in all the cases except the last three, and the mothers noticed that in families where one member was attacked, some other member suffered from malaise accompanied by diarrhœa, which apparently rendered the disease abortive in its initial stages, as the child recovered without any further symptoms. This information was freely given without any leading questions. Happily there has been only one death, but the condition of Nos. V. VIII. and IX is still very serious, and shows no signs of improvement.

There does not seem to be any association between the sanitary condition of the houses and the disease. All the cases occurred in decent village cottage homes, no better and no worse than their neighbours, and the children all seemed to have good mothers and homes. Neither can school be held responsible, for at the time of the outbreak the schools were closed for the summer holidays. The weather at the commencement of the outbreak was very hot.

Dust infection has been suggested as a causal agent, but at any rate in this instance it is unlikely, for all the cases with one exception occurred in houses off the main street, where the traffic is very light and the road treated with tar.

I have received information that there are other cases in this and the surrounding districts of quite recent date to No. XII, but until something more is known about the bacteriology and etiology of the disease it is very difficult to frame a plan of campaign to combat it.

I am very much indebted to Drs. Hallett and Robinson for the valuable assistance they have rendered to me in enabling me to trace several of these cases who were under their professional care.

CASE I.—C. T., aged 1 year 6 months. Attack began August 21st. He was drowsy and febrile, and had clonic spasm and opisthotonos. Paralysis, which extended to all four limbs and back, set in on August 23rd. Dr. H. stated that the patient had intermittent coma, retention of urine, and overflow. He died on August 28th.

CASE II.—C. M., aged 4, sister of Case I. Attack commenced on August 28th. She was drowsy, febrile, had pain, headache, and clonic spasm with slight opisthotonos. Paralysis, which extended to the left leg, with pain in hip, commenced on August 31st. Observations between October 14th and 24th showed combined paralysis and wasting in left leg, chiefly extensors. Recovery was very slow.

CASE III.—S. W., aged 3. Attack started on September 4th. Was drowsy and febrile, and had clonic spasm and opisthotonos. Paralysis, which set in on September 4th, extended to both arms and legs. When seen between October 14th and 24th the patient showed recovery of all except extensors of left leg, which was wasted and cold.

CASE IV.—A. B., aged 4. Attack started on September 4th. Was drowsy for four days, was febrile, had no pain, had headache, but no clonic spasm nor opisthotonos. The paralysis, which began on September 8th, extended to back and both legs, and the patient was unable to sit up in bed. The condition on observation between October 14th and 24th showed right leg, chiefly extensors, weak, otherwise the patient had recovered.

CASE V.—R. B., aged 1 year 4 months. Attack commenced August 30th. Was drowsy for three days, was febrile, had clonic spasm and opisthotonos. Paralysis, which extended to all limbs and back, commenced on September 1st. The condition on observation between October 14th and 24th showed that the patient was no better, with the exception of slight improvement in right forearm, and is still seriously paralysed and shows no sign of improvement.

CASE VI.—W. H., aged 4 years. Illness started on September 20th. Was drowsy for two days, was febrile and had pain, headache and clonic spasm, but no opisthotonos. Paralysis, which extended to both legs, set in on September 22nd. When seen between October 14th and 24th the patient was quite recovered and about.

CASE VII.—M. F., aged 5 years, brother of Cases VIII and IX. Attack commenced on September 8th. He was not drowsy or febrile, and had no pain, headache, clonic spasm, or opisthotonos. Patient awoke on the morning of September 8th with both legs paralysed. He recovered, and is now back at school.

CASE VIII.—M. I., aged 1 year and 4 months, sister of Cases VII and IX. Attack commenced on September 15th. She was drowsy and febrile, and had clonic spasm but no opisthotonos. Paralysis, which extended to the back and all four limbs, set in on September 17th. The condition on observation between October 14th and 24th showed the arms were slowly recovering, but there was no other sign of improvement.

CASE IX.—M. S., aged 4, brother of Cases VII and VIII; onset September 22nd, the patient then being drowsy and febrile; headache and opisthotonos were present, but no clonic spasms. On September 24th there was paralysis of the back and all four limbs. When seen between October 14th and 24th there was slight improvement in the right forearm but nowhere else; there was still great pain and incontinence of urine.

CASE X.—H. J., aged 10; onset September 13th, being drowsy and febrile, and complaining of headache and pain. On September 19th both legs were paralysed, and on further observation between October 14th and 24th, the left leg was found to be still weak and wasted.

CASE XI.—B. W., aged 3; onset October 20th, being drowsy and febrile, and complaining of headache; no clonic spasm or opisthotonos was present. On October 22nd the right leg was found paralysed, and showed no improvement on October 24th.

CASE XII.—K. M., aged 5, onset September 29th, being drowsy, febrile, and complaining of pain and headache; no clonic spasm nor opisthotonos was present. On October 1st there was paralysis of the arms, back, and legs. When last seen all paralysis had passed off. The mother reported that the child had vomited.

CASE XIII.—M. H., aged 4 years 11 months, brother of Cases XIV and XV; onset September 1st, being drowsy, febrile, and complaining of pain and headache: there was no clonic spasm or opisthotonos. On September 3rd the left leg and thigh were both paralysed. On inquiry between October 14th and 24th the mother stated that there was no improvement and that the child was getting worse.

CASE XIV.—M. K., aged 3, sister of Cases XIII and XV; onset September 4th, being drowsy, febrile, and complaining of pain and headache: no clonic spasm or opisthotonos was present. On September 17th both legs were paralysed. When last seen between October 14th and 24th the left leg was found still very weak, but the patient could just walk.

CASE XV.—M. T., aged 8, brother of Cases XIII and XIV; onset September 8th, being drowsy and febrile and complaining of pain and headache, but no clonic spasm or opisthotonos being present. On September 11th both legs were paralysed. When last seen between October 14th and 24th the right leg was found to have improved, but the left leg was still very weak.

The onset in all cases was sudden except in No. VI. All the cases had severe constipation except XIII, XIV, and XV, whom the mother dosed. The information as to the onset has been taken from the parents.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF OPHTHALMOLOGY.

HENRY EALES, M.R.C.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

MR. EALES limited his introductory remarks to expression of a welcome to the members of the Section, coupled with a reference to the rules relating to discussions at the meeting, and to the contents of the agenda paper. He then called on Mr. Priestley Smith to open the first discussion.

DISCUSSION ON THE OPERATIVE TREATMENT OF GLAUCOMA.

OPENING PAPERS.

I.—PRIESTLEY SMITH, F.R.C.S.,

Professor of Ophthalmology, Birmingham University.

IN operating for glaucoma ought we at the present time to adhere to the time-honoured iridectomy of von Graefe, or to adopt one or other of the substitutes lately introduced? If the latter, which is it to be? Or ought we to employ sometimes one method, sometimes another, according to the type and stage of the glaucoma? These questions press for answer. Each one of us, whatever his own opinion, is wishing to know the experience of others.

The object of every glaucoma operation is to establish filtration of fluid from the eye. If we fail in that we fail entirely. Success may come in more ways than one. Normal filtration may be restored; abnormal filtration may be established. Probably the two may be combined. The only region in which filtration of any kind can be permanently established is the region of normal filtration. We can slacken the eye for a few days by tapping the vitreous through the sclera, and we can keep up a little leakage here for a week or more by palpation, but we cannot establish permanent filtration in this region. Even trephining the sclera will not do it. Argyll Robertson tried it many years ago. Again, we can slacken the eye temporarily by tapping the aqueous chamber through the clear cornea, but unless the filtration angle is restored thereby no permanent drainage follows. We must open the aqueous chamber near to its periphery.

What are the relations of the parts with which the operator has to deal? This picture (Fig. 1) is from the healthy eye of a woman aged 30. It was removed during life for tumour of the optic nerve. It happens to represent the type of eye which in later life is specially liable to primary glaucoma—that is, it is small in dimensions and hypermetropic in build, with a prominent ciliary body. The operator's only landmark is the margin of the clear cornea—the limbus. In this eye the limbus bears the following relation to the parts beneath. A line falling on the limbus vertically to the surface, and passing through the cornea, enters the chamber about 1 mm. from Schlemm's canal, and more than 1 mm. from the periphery of the chamber. A line parallel with this, entering 1 mm. outside the limbus, passes through Schlemm's canal, through the chamber very near to its periphery, through the root or pedicle of the iris, and through the ciliary process at some distance from its apex. But these relations vary. The cornea is often smaller vertically than horizontally, whereas the anterior chamber, like the lens, is usually circular. In such eyes the limbus overhangs the filtration angle more above and below than at the sides.

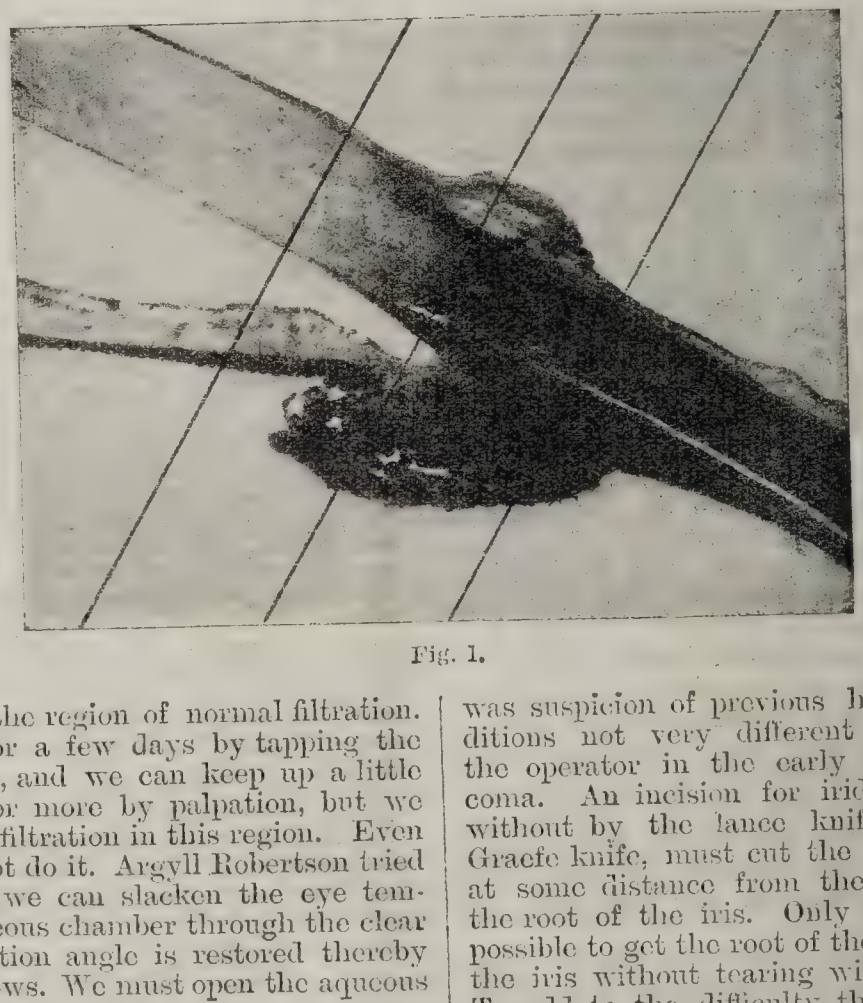

Fig. 1.

The lens also must be taken into account, for it is responsible for certain disasters. Where does its margin lie in relation to the limbus? The diameter of the lens in elderly persons is usually from 9 to 10 mm., that of the clear cornea usually from 11 to 12 mm. horizontally, so that a line passing backwards from the limbus parallel with the axis of the eye would miss the edge of the lens, at the outer or inner side, by about 1 mm. But in some glaucoma eyes the vertical diameter of the cornea is hardly greater than the diameter of the lens, so that the limbus at its upper part, where we usually operate, may lie just over the lens margin. Again, the tips of the ciliary processes reach further inwards in some eyes than in others. They may reach the lens margin, they may overlap it in front, they may be widely separated from it. In the two examples shown the lenses have exactly the same diameter, namely, 10 mm. The difference depends on the size of the globes; the first was exceptionally large, the second exceptionally small. (Figs. 2 and 3.)

Clearly, the operator who hopes to place his incision in a constant relation to the parts within will be disappointed. It cannot be done.

Moreover, in glaucoma, especially in acute congestive glaucoma, the relations are abnormal. I cannot show the filtration angle in the early stage of primary acute glaucoma. No one has ever seen it, and no one ever will. We do not excise these eyes, we usually save them, and when we fail we still spoil them for the pathologist. Even if some enthusiast, stricken with acute glaucoma, were to offer his eye in the cause of science, and we were willing to take it from him, we should still be baffled. The removal of the eye, and still more the opening of it, would alter the changes which we want to see. But I can show something nearly like it in an eye removed on the twenty-third day of an acute glaucoma (Fig. 4). The glaucoma was intense, the eye was blind, there was suspicion of previous haemorrhage. It shows conditions not very different from those which confront the operator in the early stage of typical acute glaucoma. An incision for iridectomy, whether made from without by the lance knife, or from within by the Graefe knife, must cut the inner surface of the cornea at some distance from the angle of the chamber and the root of the iris. Only by traction and tearing is it possible to get the root of the iris away; a mere cutting of the iris without tearing will leave a considerable stump. To add to the difficulty the limbus may be hidden by chemosis.

Yet, in spite of all difficulties, iridectomy in the early stage of acute glaucoma often gives an excellent result. In a typically successful case the wound, after leaking freely for some days, gradually closes. The anterior chamber re-forms. Tension, after oscillating for a time, becomes normal and remains so. Ultimately the scar becomes flat, solid, and nearly invisible. Except for the coloboma the eye looks normal. The glaucoma is cured and there are no relapses.

In such cases the filtration angle recovers its patency

Fuchs had the rare opportunity of examining two such eyes. Both were iridectomized for early acute glaucoma. Both made a permanent recovery. Seven years later the woman died of pneumonia, and Fuchs obtained the eyes. In both the scar was solid, and the filtration angle was open all the way round. The open angle explains the cure of the attack. But what about the freedom from relapse? That apparently depends on the coloboma. We know that the intact iris, by its pressure against the lens, slightly resists the movement of the aqueous from the posterior to the anterior chamber. In a shallow-chambered eye a very small accumulation in the posterior chamber, that is,

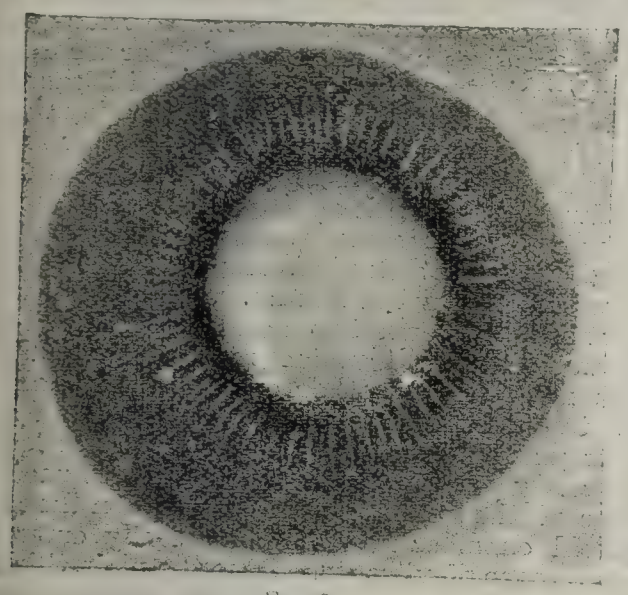

F 2.

small displacement of the iris, may endanger the filtration angle. A peripheral coloboma obviates such displacement of the iris by ensuring an unhindered access to the filtration angle.

I have spoken of a typical success. Now for the opposite, a typical failure. In trying to cure the glaucoma we make it worse. In attempting to unlock the door we double-lock it. Then we call the glaucoma "malignant"—a convenient name, for it suggests something inevitable, but it does not help the patient. What happens in these malignant cases? From the first there is no proper leakage from the wound. The pad, when we remove it, is dry instead of soaked with

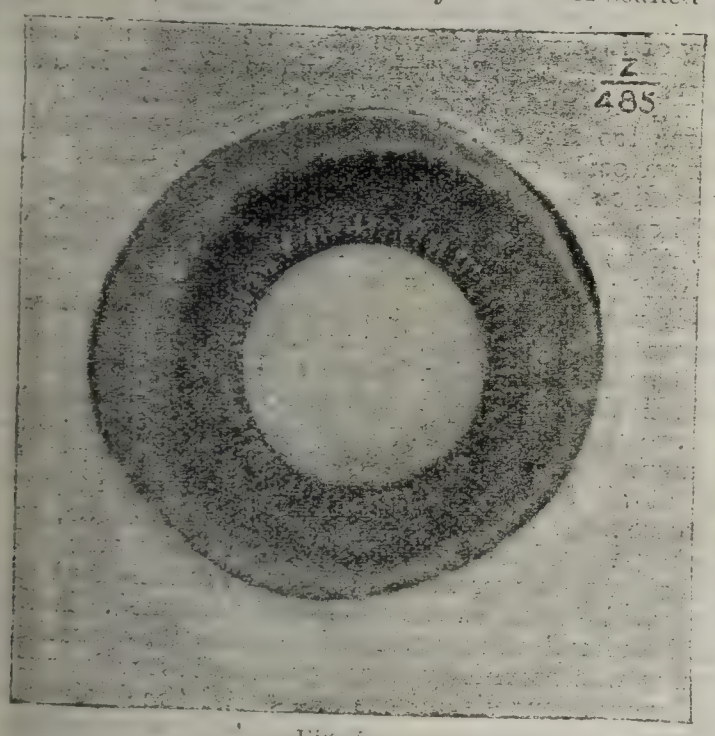

Fig. 3.

aqueous. The anterior chamber is abolished. The eye is often as hard as before, or harder. The lens, driven forward by pressure from behind, blocks the outlet, like the glass stopper in a soda-water bottle. Fortunately the disaster is rare. Is it inevitable? For many years I have habitually made a scleral puncture (Fig. 5) immediately before the iridectomy, so as to slacken the eye a little before passing the knife into the anterior chamber. This being done, the iris is not pressed forward against the knife as the aqueous escapes; it is not jammed against the cornea afterwards, and malignant glaucoma does not occur. I have seen no sepsis and no noteworthy haemorrhage arising from it. I have found no greater difficulty in making the subsequent incision. Certain details must be observed: Slide the conjunctiva to one side; use a Graefe knife straight out of boiling water; puncture near the horizontal meridian, on the outer side, at 5 or 6 mm. from the limbus—that is, about over the ora serrata—the back of the knife towards the cornea, the point directed towards the centre of globe; rotate the knife through a quarter circle before beginning to withdraw it. The harder the eye and the shallower the anterior chamber, the greater the need for a scleral puncture. It lessens the risks.

But iridectomy may fail to restore the normal outlet and yet cure the glaucoma. It may establish an artificial outlet. Probably it does so in many of the successful cases. I can show an extreme example. A subacute glaucoma was cut short by iridectomy; the eye had useful vision for eighteen years, then it was lost by inflammation without return of tension. The conjunctiva over the cicatrix was cystoid. On section the wound showed im-

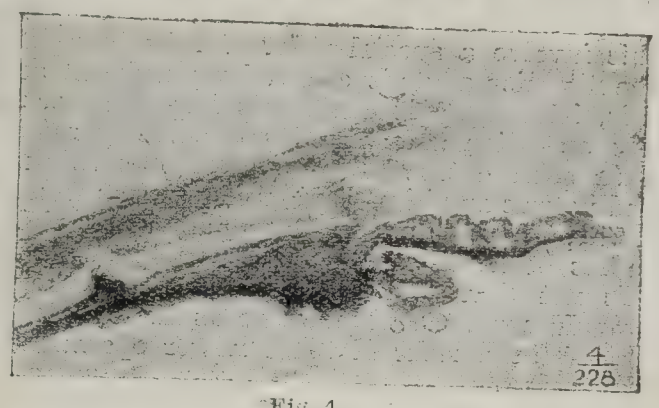

Fig. 4.

perfect union. At one end there was a wide gap lined by iris; at the other end smaller channels, also lined by iris. These openings led into the subconjunctival space. In this case the aqueous had escaped for many years through abnormal channels.

What is the condition of the filtration angle in chronic glaucoma? In the late stage, when we have to remove the eye, we find closure with adhesion. In the earlier stages there can be little if any closure, for the pupil remains active. Probably there is a gradual narrowing. Perhaps there is a primary sclerosis of the cribriform ligament, as Thomson Henderson maintains. I think we do not yet know for certain. What we do know is that iridectomy, though easier to execute, is less trustworthy than in acute glaucoma.

In some cases of chronic glaucoma iridectomy lowers the tension and arrests progress for many years, perhaps permanently. In others the tension soon returns to its previous height and the glaucoma progresses. How are these different results to be explained? The successful cases

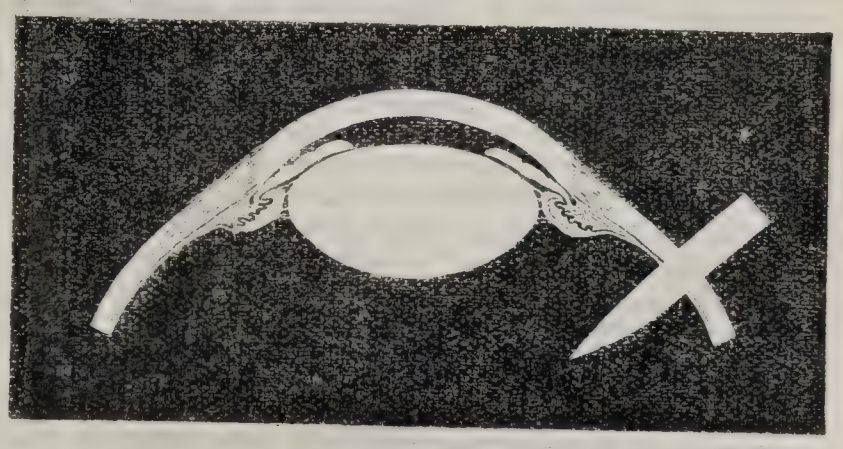

Fig. 5.

commonly show signs of filtration through the scar. The unsuccessful cases commonly do not. The two eyes of one patient sometimes demonstrate the difference. The evidence of filtration is to be found in the conjunctiva over the scar. It is raised or thickened as though oedematous. It pits on pressure with a probe or pencil. I will not try to distinguish between a fistula and a filtering cicatrix. Suffice it to say that success commonly depends on incomplete consolidation of the scar, and that the amount of non-union varies greatly. We want enough and not too much.

The principle is not new. De Wecker asserted it many years ago. He and many others have aimed at making

filtration scars. But methods which secure them with something like certainty without damage or disfigurement are new within the last few years. We have them now, and they are of immense value. Whom have we to thank? Pre-eminently Herbert and Lagrange, Elliot and Fergus. To whom we shall ultimately erect the biggest statue I do not know. My own experience relates chiefly to Herbert's wedge operation, and the cases were chiefly of chronic glaucoma. Mr. Allport was the operator. The results were decidedly better than those usually obtained by the orthodox iridectomy. I will not attempt to discuss the relative value of the several newer operations, but will conclude by asking for information on certain points.

In early acute glaucoma iridectomy is difficult, but commonly gives a good result, especially, I think, if guarded by a scleral puncture. Is any method better? Trephining, no doubt, is easier; it is located more easily and precisely. Instead of opening the chamber obliquely it goes vertically down upon the iris root. But close behind the iris root are the turgid ciliary processes. Does this involve a special risk? In absolute glaucoma, when the filtration angle is closed by peripheral adhesion of the iris, iridectomy is commonly impossible or useless. Will any operation safely and permanently reduce the tension in such cases? Here we have to think of degenerated vessels and of morbid exudations as well as of a blocked filtration angle. In my opinion the right rule hitherto has been to leave such eyes alone, or to remove them. Is not that still the best course on the whole? Lastly, would not a scleral puncture, as the first step, sometimes diminish the risks of these newer operations as it does of the older?

II.—Major R. H. Elliot, M.D.Lond., F.R.C.S.Eng., I.M.S

SIMPLE TREPHINING FOR THE RELIEF OF GLAUCOMATOUS CONDITIONS.

The operation of simple trephining for glaucoma is on its trial. The present paper sets forth the results of an analysis of a number of cases done in Madras. It has not been possible, for obvious reasons, to include the total number so performed; but a sufficient mass of figures is available to enable us to draw some very definite conclusions. It is not pretended that the paper is continuous. It is merely a series of analyses, and is to be taken as a continuation and expansion of my papers read before the Ophthalmological Society of the United Kingdom on June 8th of this year, and before the Oxford Congress of Ophthalmology a fortnight ago. On those occasions I confined myself to a description of methods, and gave the results found in 66 returned cases.

To-day I endeavour to present some statistics, so that others can judge for themselves of the value of the operation in the treatment of glaucomatous conditions. To remove any ambiguity it is stated that the term "simple trephining" is used to express a direct entry into the aqueous chamber by means of a trephine, with a minimum of interference with iris or ciliary body; the object is to establish a continuous drain from the aqueous chamber into the subconjunctival space with the least possible injury to the adjacent parts of the eyeball.

Button-holing of Flap.

The surgeon must place his trephine so that it does not cut the flap and thereby button-hole it. This accident has happened to myself sixteen times in 278 cases (or in 5.75 per cent.). It did not appear to have an evil influence on any case; the wound speedily covers with epithelium and shrinks, and apparently normal filtration is established, but we have not been able to follow the cases long; in any case, it is an undesirable complication. We have found no difficulty from this source since we have taken to splitting the cornea as a routine measure; with this technique the accident is easily avoided.

Cases in which the Trephined Disc fell into the Anterior Chamber.

On six occasions the trephined disc was lost within the anterior chamber on the completion of trephining. In 278 cases this occurred twice to myself, and I found no difficulty in washing it out by a stream from a McKeown's irrigator. In both cases, however, the precaution was taken not to drag on the iris during iridectomy before washing out the disc. This is a very important point, as any impaction of the iris in the trephine hole at this stage makes the subsequent delivery of the disc very difficult. Among the 92 cases done by other operators, the disc was four times lost in the chamber. It remained there in spite of efforts to remove it, and I thought it better to advise the operators (each of these four cases belonged to a different surgeon) to leave it rather than to persist in instrumentation. We followed the cases very closely. In 2 of the 4 the fellow eye had been operated on the same day, thus affording us a normal to judge by. In not one single case was there any evidence of inflammatory reaction. I lay stress on this because a surgeon of European reputation has quoted me a case of his own in which he attributed a post-operative irido-cyclitis to the loss of the disc; and a pathologist, for whose opinion I have the greatest respect, has suggested to me that the disc so dislocated might be liable to set up chronic inflammation. My own view is that, provided the disc is aseptic, no such danger need be feared, and our clinical results have, so far, borne out this opinion.

Two points of interest remain to be mentioned—namely, (1) that the risk of dislocating the disc is much greater when using a 1 or 1.5 mm. trephine than with one of larger size. My own two accidents occurred with a 1 mm. and 1.5 mm. trephine respectively. The four accidents met with by other operators were all with a 1.5 mm. trephine. We have not had such an accident with a larger trephine. (2) That the danger of losing the disc is greatly accentuated if much force is used at the conclusion of the trephining, not to mention the fact that the hyaloid chamber may be thus easily entered with disastrous escape of vitreous. Once the main thickness of the sclera has been cut through, the trephine should be spun rapidly between the fingers with light even strokes, and heavy pressure in the direction of the length of the trephine should be carefully avoided.

Cases in which Loss of Vitreous Occurred.

Out of 278 cases done by myself there were 16 vitreous escapes—that is, 5.7 per cent. In 4 of these cases there was no vision to start with; in 1 it was perception of light; in 5 it was perception of hand movements; in 3 it was fingers counted at 1 ft. or less, and the remaining 3 counted fingers at $\frac{1}{2}$ metre, 1 metre, and 2 metres respectively. In 10 cases the vitreous was noted to be pathologically fluid, while in 6 cases it was found to be normal. In 4 of the former and in 2 of the latter there was a history of injury, and it was known beforehand that the suspensory ligament had probably been burst. In 3 of the cases with normal vitreous it was noted that the trephine hole was too far out. This leaves one case unexplained. It was an early case, and the notes were, unfortunately, not as full as they might have been.

In 14 cases the tension was reduced to subnormal when the patient went out. In 1 it fell from 71 mm. to 36 mm. Hg (with Schiötz tonometer), and in 1—a blind case—it remained unaltered, though the pain for which the operation was undertaken was relieved.

In 8 cases the vision before and after the operation remained the same. In 1 it fell from counting fingers at 1 ft. to perception of hand movements only. In 3 there was improvement, and in 4, as above stated, there was no vision at all to start with. The case in which the vision was worse after operation was a complicated one, as the patient gave a history of injury, and there was a large scleral staphyloma present. Extensive detachment of the retina was inferred, as the eye rapidly softened. In 1 case which had hand movements before and after operation the glaucoma was secondary to cataract, and after the removal of the opaque lens vision rose to $\frac{5}{5}$. Of the 4 blind cases, the operation was performed for the relief of pain in 3, and to bring about the subsidence of a staphyloma in the fourth. In every one of these 4 cases the object aimed at was effected satisfactorily and speedily.

An interesting question arises, namely, Was the vitreous escape in any of these cases brought about by subchoroidal haemorrhage? In 8 the escape was free, in 6 it was small, and in 2 it was moderate. Of these 8, 2 were traumatic. In 2 it is considered probable that extensive detachment of the retina took place, and in 1 there was haemorrhage into the anterior chamber at the time of operation. The state of the media in all these cases precluded an ophthalmoscopic diagnosis, but the freedom with which vitreous escaped certainly suggested that a subchoroidal haemorrhage

was taking place, and that the welling up of the vitreous was merely an expression of this accident. It is of interest to note that 7 out of 8 cases showed low tension the next day.

Of the 16 cases, 4 were in an acute condition, 7 in a subacute, and 5 in a chronic. In the chronic cases the history was a very long one in all save 1, in which it was valueless. The subacute cases gave a history of from one year and upwards in 3, one to two years in 1, two years and over in 2. In 1 the history of one and a half months was associated with severe intraocular injury and irido-dialysis. The acute cases gave histories of from fourteen to thirty-eight days, but they were probably all unreliable. The glaucoma was primary in 8, secondary to injury in 6, and secondary to intumescent cataract in 2.

It will be seen that the 16 cases, with one exception, all belonged to a class comparatively rarely met with in countries where the masses of the people are well educated and resort to medical treatment at an early stage of this disease. A large percentage of our cases come to us when in a desperate condition. There was not one single instance of vitreous escape among the cases that consulted us at an early or at a comparatively early stage of the disease. It will thus be seen that in the class of case for which trephining is commonly undertaken for the relief of glaucoma, the danger of vitreous escape is practically *nil*. At a late stage of the disease when the vitreous is pathologically fluid, and when, owing to the changes in the vessels, haemorrhage is an ever-present danger, it is obvious that any operative procedure associated with the perforation of the supporting coats of the eye must in a certain number of cases be accompanied by intraocular haemorrhage, for the sudden relief of tension exposes the diseased vessels to a severe strain. If haemorrhage takes place, the tension of the eye will again rise rapidly, and the compressed vitreous will push forward the lens and its suspensory ligament against the cornea. Should the suspensory ligament give, or should the eye be subjected to unnecessary instrumental interference, an escape of vitreous will be very likely to take place, and obviously the more so if the vitreous is in a pathologically fluid condition to start with. On the other hand, I think that any one who has had a large experience of iridectomy or of sclerectomy according to La Grange's method, will admit that when the class of cases we have included in the Madras operations is taken into account, our percentage of haemorrhage or of vitreous loss is a remarkably low one. I ascribe this to the following factors:

1. When working with a sharp trephine the eye is subjected to only a very moderate degree of pressure.
2. The portion of sclera removed, and the consequent outlet for the escape of fluid is very small.
3. Once the trephining is accomplished and the chamber is opened, the amount of interference with the contents of the eye is minimal.

Granted that it is necessary to remove a piece of sclera in order to establish a filtering scar, I submit that no easier, quicker, neater, or gentler method than simple trephining can well be found.

Cases Showing the Treatment of Iris and the Results.

Iris presented in, or bulged through, the trephine hole 132 times in 278 operations (47. 5 per cent.). The iris was snipped and allowed to return in 22 cases (7.9 per cent.), and was excised in the remainder; the total number of iridectomies, however, stands at 138 (49.6 per cent.), as a portion of iris was sometimes removed even when it did not present in the hole.

Plugging of the disc hole by iris during convalescence called for a secondary operation in 7 cases (2.5 per cent.). Of the cases 2 belonged to the division in which iridectomy had been performed, and 5 to that in which it had not. The total number of eyes was distributed practically evenly between these two divisions (49.6 per cent. and 50.4 per cent.); this permits an easy comparison between the two, and makes it obvious that the performance of an iridectomy conferred some measure of protection against iris prolapse during convalescence. Consequently, we are now always disposed to perform an iridectomy, if possible. It must, at the same time, be made clear that we attach no weight to any advantages claimed for an iridectomy beyond those already stated; for the large number of cases which had been done without an iridectomy have given us excellent results so far as the lowering of the tension is concerned.

Cases in which a Secondary Trephining Proved Necessary.

In 13 out of 278 cases (or in 4.67 per cent.) one or more secondary operations were required. The vision of these 13 before operation was *nil* in 3, perception of hand movements in 7, counting fingers close to face in 1, counting fingers at 2 metres in 1, and $\frac{6}{24}$ vision in 1. The second operation was undertaken within a week in 4 cases, within a fortnight in 3 more, within a month in 1, about two months later in 2, and four to five months later in 3. Though 11 out of the 13 were apparently better when they were lost sight of, only 3 were watched long enough (respectively six weeks, six months, and six and a half months) to justify us in classing them as eventually relieved. The 3 with better vision all held their own.

A point that strikes one, in looking through an analysis of the notes, is the large percentage of complications presented at the time of operation; thus, in 3 cases the trephine hole was too far out; in 5 more the escape of aqueous was not free, and apparently in all of these 5 the iris base was adherent far forward; in 1 a semifluid lens blocked the trephine hole; in 1 the patient was noted as having given considerable trouble during operation. The operation was performed with a 3 mm. trephine, and the uveal tissue plugged the wound. This cannot be claimed as a success, and the ultimate failure of the operation was apparently due to subchoroidal haemorrhage. The vision before operation was perception of hand movements.

It is obvious that as a class these were bad cases to start with. I cannot but think, however, that many of them would have reached a happier termination had we adopted our present practice of splitting the cornea and so carrying our trephine hole further forward.

Cases in which Introduction of a Blunt Instrument Proved Necessary.

In a series of 370 cases it was considered necessary to use an instrument twenty-six times in order to empty the chamber of its contents. It was hoped at one time that with increasing skill in the performance of trephining this complication would become extremely rare.

On dividing the cases up into successive hundreds and excluding those done by other operators than myself, the percentage of cases where it was necessary to use an instrument in this way does not show a fall. This would indicate that the complication is due to a regularly recurring condition rather than to a want of skill or knowledge in the technique, for I think it is a fair deduction that if the latter were the case the percentage would have fallen in successive hundreds. A careful examination of the tabulated statement of these cases furnishes us with useful information.

The vision before operation was *nil* in 8 cases, perception of light in 2, perception of hand movements in 10, counting fingers close to face in 1, counting fingers at from 1 to 2½ metres in 4, and $\frac{6}{18}$ vision in 1. In 25 out of the 26 cases the patient went out with distinctly lowered tension. The shortest period under observation in hospital after operation of any one patient was six days and the longest sixty-eight, the average stay in hospital being sixteen. On discharge the vision was the same as before operation in 14, it was much improved in 1, it was worse in 1, and it was unfortunately not noted in 2, as the patients left hospital without presenting themselves for the usual visual test. In 8 vision was 0 before operation, the trephining being undertaken to relieve pain and tension, which it did in every case. Of these cases 4 were seen again.

One came back eight and a half months after operation, and his vision had improved from perception of hand movements to a finger count at 1½ ft.; the tension had not again risen.

In the next case tension fell after operation to 8 mm. (Maklakoff's), but had risen when he presented himself three months later to 3.5 mm. (Maklakoff's). Filtration had practically ceased, and he was in a condition of congestive glaucoma. At a second operation, the escape of aqueous not being free, a spatula was pushed into the chamber to empty it; tension was low next day, and he went out with a 6 mm. Maklakoff reading. He was seen again over seven months later; the tension was then normal, filtration was free, some posterior synechiae were noticed, the pupil was central, and the vision was still the same

as it had been eleven months earlier when he first came under treatment—namely, hand movements.

The third case was admitted for secondary glaucoma following cataract. The left eye was blind, the right had a vision of hand movements, and was in a state of active congestion. An iridectomy was performed, and the iris became wedged in the trephine hole. It was freed by the passage of a fine curette. This manœuvre permitted the free escape of aqueous which had been dammed up beforehand. The tension remained low and the congestion passed away. She returned at the end of eleven months with the tension still normal and the eye quiet. The cataract was removed, and the patient obtained a vision which enabled her to count fingers at 6 in.

The fourth case had a vision of hand movements. It was one of the first operations that was undertaken by one of my pupils, and was complicated by a vitreous escape. The patient went out with a subnormal tension, and returned two months later, as the filtration had ceased and glaucoma had re-established itself. A second operation was then performed, and it was observed that the pericorneal conjunctiva was closely adherent. The chamber did not empty freely, even though a spud was pushed far into it. Filtration was, however, soon established, and tension fell. Three months later the patient reappeared, and his eye was evidently passing into a condition of phthisis bulbi as a result of chronic irido-cyclitis.

If the 370 cases are divided into two sets—(1) those done by myself, 278 in number, and (2) those done by my pupils, 92 in number—an interesting fact comes out. It is only fair to mention, to start with, that of the fifteen operators who performed these 92 operations several of them had had comparatively little experience in eye operations. With but two exceptions each of them performed only a few trephinings (from one to six), and the cases chosen for them were blind or nearly blind eyes, which laid them open to complications during the performance of the operation.

It would neither be fair nor gracious to institute a comparison between the two sets of cases, were it not that it brings out a very important point in technique which all operators who perform trephining must be most careful to bear in mind. In 2 cases out of 278 done by myself, that is, in 0.72 per cent., the iris was dragged into the wound and became impacted there, while the same accident occurred in 4 cases out of 92—that is, in 4.35 per cent.—to these fifteen operators.

The reason of this was obvious when one watched surgeons who were new to trephining at work. When excising a piece of iris, in the course of the operation, I noticed that many of them dragged the membrane through the wound to cut it, instead of holding it lightly with the forceps and carrying the scissor points right into the wound. It is this fault in technique which gives rise to impaction of the iris and to the consequent need for a replacement by means of a blunt instrument, such as a curette or spud. Most of my pupils early learnt to avoid the drag on the iris; and those who have done much eye operating only required to be warned to avoid it altogether.

The two operators who have done comparatively large numbers of trephinings (one did 43, and the other, Captain Hime, R.A.M.C., who has done 20, and who is still operating on cases not tabulated in this series) do not find the least difficulty in handling the iris properly.

There is one point which is quite clear—namely, that it is much more difficult to deal with the iris effectively through a 1.5 mm. trephine hole than through a 2 mm. hole. It is astonishing how much facility the apparently small difference in the size of the hole confers on the operator. If we put aside the 6 cases in which the iris was dragged into and impacted in the wound, there remained 20 which still demand explanation.

These may be divided into two classes: (*a*) Those in which the spud passed into the chamber in front of the iris, and (*b*) those in which it passed behind. It is noted as having passed behind in 3 cases out of the 20. I am, however, far from sure that this point was invariably noted in the remaining 17, although there is no doubt that the percentage of cases in which the spud passed in front of the iris was very much greater than that in which it passed behind.

Another point which has been noticed, but on which I regret that I am unable to give figures, is the association of matting of the perilimbal tissues with difficulty in entering the chamber. The explanation is, I think, obvious. A chronic congestive condition predisposes to matting of the perilimbal tissues on the one hand, and to adhesion between the iris and cornea on the other. The cases in which the spud passes in front of the iris are, in my opinion, those in which a not very wide area of adhesion between the cornea and iris has taken place. The result is that, though the trephine reaches the chamber at its anterior portion, it strikes adherent iris over the majority of its area. The spud can enter the chamber, but it enters it obliquely at the very front of the trephine hole, through an aperture bounded by the cut cornea in front and by the bound-down iris at the sides and floor of the wound. In those cases in which the spud enters behind the iris we have obviously to do with a stage in which the adhesion between the cornea and iris is much wider. Here the trephine punches its way through the cornea and the subjacent layer of adherent iris to reach the posterior division of the aqueous chamber. A gush of aqueous escapes, and then it is noticed that the anterior division of the aqueous chamber cannot be emptied. I suggest that in these cases the lens and its suspensory ligament move forward the moment the posterior chamber is tapped, and that in doing so they obliterate the posterior chamber for the time being, reducing it to the state of a merely potential cavity. They at the same time put the iris on the stretch, and this membrane then acts as a valve which, while it will allow fluid to pass forward into the anterior chamber, permits none to pass back.

My grounds for this suggestion are that if the cornea be pressed upon with a curette the eye is in these cases felt to be hard, and, with no safe degree of pressure can aqueous be forced from the anterior chamber through the trephine hole, though the use of a spud clearly proves that a potential passage actually does exist. I can conceive of no other explanation for these indisputable clinical facts.

Moreover, this explanation receives an important confirmation from our observation that in such cases free filtration of aqueous under the conjunctiva takes place within twenty-four hours, and is associated with a marked lowering of the tension of the eye. It seems evident that, the moment the posterior chamber fills, the potential channel for the escape of fluid is converted into an actual one and the aqueous can thus be drained away. The question may fairly be raised whether the forward movement of the vitreous in these cases is not an expression of intraocular haemorrhage. It has been noticed several times that when the anterior chamber has been emptied with considerable difficulty by the free use of a blunt instrument the eye has still remained hard even though this chamber has been completely obliterated. I am quite sure that this was noticed in several eyes, but I am only able to find the phenomenon once clearly mentioned in our notes. It was at first a very puzzling condition, and its full significance was not appreciated until we sat down to analyse the cases systematically; hence the omission of a full note on each case. I mention the matter in the hope that others will watch this point closely in future, as we are now doing.

III.—J. GRAY CLEGG, M.D., B.S., F.R.C.S., etc.,

Honorary Surgeon, Royal Eye Hospital, Manchester; Lecturer in Clinical Ophthalmology, the University, Manchester, etc.

OBSERVATIONS ON TREPHINING THE SCLERA

BASED ON TWENTY-THREE OPERATIONS; WITH DETAILED REPORT.

UNTIL two years ago I, like most ophthalmologists, pinned my faith on the classical operations of iridectomy and sclerotomy for all cases of glaucoma, performed by means of a keratome or a thin Graefe knife. About that time I began to make the corneal section in cases of very shallow anterior chamber with a scarificator, and afterwards enlarging it by angled knives (Gayet's operation). I also attempted, on a few occasions, to do the early wedge operation of Herbert, but with moderate success only.

After seeing Lagrange operate, I adopted his methods in six cases. The reaction I considered rather violent, and there was distinct uncertainty as to the size of the portion of sclera excised. The operation of trephining the sclera as described by Major Elliot, appeared to me to gain all the objects of Lagrange, Holth, Herbert, and others—namely, by providing a markedly filtering scar, without running anything like the risks.

Between November and the end of April I performed the operation twenty-two times for glaucoma, and my house-surgeon, Dr. D. Rodger, has done it once for me

in a case of anterior staphyloma. My experience confirms me in the belief that the operation is a decided advance and that it is suitable for practically all types of primary glaucoma, although it is perhaps too soon to be absolutely dogmatic. It was not originally recommended for acute cases, but I think the results in the four eyes affected with acute symptoms—namely, 1 and 2 in the list and the patient possessing eyes Nos. 3 and 4, which were both of the haemorrhagic type and might with iridectomy have been lost—prove this. The vision was brought up from J. 16 and less to $\frac{6}{12}$, $\frac{6}{9}$, $\frac{6}{6}$; one eye, however, not being improved, owing to macular haemorrhages. The cases were prepared in the ordinary way by lavage, with solutions of hydrarg. perchlor., 1 in 5,000, the instillation of 4 per cent. cocaine solution, putting in the conjunctival sac one ophthalmic tabloid of hemisine, and a few crystals of cocaine hydrochloride placed over the site of the operation, and allowed to remain one minute. By these means the operation was rendered almost painless, but in nearly every case a slight sensation was experienced just as the trephine perforated.

A large triangular flap of conjunctiva was raised and reflected over on to its corneal attachment, care being taken not to perforate it. Scissors with blunt ends curved on the flat, used with the concavity towards the eye, were found to be the most satisfactory instrument, for the cutting ends always pointed towards the centre of the globe. For the first few cases a 2 mm. diameter trephine was used, but afterwards 1.5 mm. was always preferred.

It does not appear necessary to have any stop to the trephine instrument, as the depth of the incision can be estimated, if desired, from time to time by taking it out, and no difficulty was found in refitting it into the trough already formed. The instrument should be applied so that the proximal periphery of the trephine circle just lies about 0.5 mm. within the circle of the apparent corneal margin. This ensures the direct communication with the anterior chamber. Sclerae were found to vary much in density. If the disc of sclera was not separated all round, the removal was completed by seizing it with straight iris forceps and cutting it free with sharp-pointed scissors. The aqueous usually escaped at once, or it forced the periphery of the iris into the trephine hole. A mere snip of the prolapsed iris with the sharp-pointed scissors allowed the fluid to escape and the iris to fall back into position, otherwise a very small piece was seized and cut off. The resulting coloboma was not always visible through the cornea, but iridectomy is not essential to success if the anterior chamber is properly opened. In some cases the aqueous did not escape, and to make certain of a communication from the anterior chamber an iris repositor was passed through the trephine hole into it, the end being, of course, visible through the cornea. After the completion, the conjunctival flap was replaced and stitched in position by five fine silk sutures, which were removed about one week afterwards. Both eyes were kept bandaged for four to seven days. The anterior chamber generally remains fairly shallow for weeks, but the day of re-forming varied from twenty-four hours to six

List of Operations.

Operation No.	Patient.	Eye.	Sex.	Age.	Date.	Vision Before.	Vision in May.	Disc.
Acute Glaucoma:								
1	A. S.	R.	F.	61	January 24th	Fingers	$\frac{6}{6}$ J. 1.	Cupped.
2	A. N.	R.	M.	58	January 31st	J. 16	$\frac{6}{18}$ J. 4	Not visible.
3	E. J.	R.	F.	62	January 20th	Hand	P. L.	Flat.
4	E. J.	L.	F.	62	January 17th	Fingers	$\frac{6}{6}$ J. 1	Flat.
Subacute:								
5	R. F.	R.	M.	69	November 8th	Fingers	P. L.	Not visible.
6	M. R.	L.	F.	61	December 20th	$\frac{6}{6}$ J. 1	$\frac{6}{6}$ J. 1	Cupped.
Chronic:								
7	M. A. J.	L.	F.	42	February 14th	$\frac{6}{6}$ J. 1	$\frac{6}{6}$ J. 1	Deep cup.
8	J. W.	L. (haemorrhagic)	M.	47	November 4th	J. 20	No. P. L.	Flat.
9	H. J.	R.	F.	63	November 22nd	$\frac{6}{12}$ J. 1	$\frac{6}{6}$ J. 1	Flat.
10	H. J.	L.	F.	63	November 15th	$\frac{6}{36}$ J. 16	$\frac{6}{12}$ J. 1.	Flat.
11	R. T.	R.	M.	54	November 12th	$\frac{6}{36}$ J. 4	$\frac{6}{6}$ J. 1	Cupped.
12	M. W.	R.	F.	41	December 20th	$\frac{6}{6}$ J. 4	$\frac{6}{12}$ J. 6	Flat.
13	M. W.	L.	F.	41	November 29th	$\frac{6}{24}$ J. 10	—	—
14	M. W.	L.	F.	41	February 14th	—	$\frac{6}{18}$ J. 4	Flat.
15	A. H.	R.	M.	56	January 24th	$\frac{6}{6}$ J. 1	$\frac{6}{6}$ J. 1	Cupped.
16	J. L.	L. (had Lagrange in R.)	F.	52	January 10th	$\frac{6}{36}$ J. 16	$\frac{6}{36}$ J. 14	Cupped.
17	E. A.	R.	F.	46	April 6th	$\frac{6}{12}$ J. 1	$\frac{6}{12}$ J. 1	Flat.
18	E. A.	L.	F.	46	April 15th	$\frac{6}{12}$ J. 4	$\frac{6}{12}$ J. 1	Flat.
19	J. H.	R.	M.	79	November 26th	J. 19	J. 19	Deep cup.
20	J. H.	L.	M.	79	December 3rd	$\frac{6}{6}$ J. 1	$\frac{6}{6}$ J. 1	Deep cup.
Simple:								
21	E. O.	L.	F.	49	December 16th	$\frac{6}{6}$ J. 1	$\frac{6}{6}$ J. 1	Flat.
22	E. M.	L.	F.	15	November 1st	No P. L.	No. P. L.	Deep cup.
Anterior Staphyloma:								
23	E. C.	L.	F.	53	January 31st	P. L.	P. L.	—

days. In the majority of cases it re-formed within forty-eight hours.

The inflammatory reaction is very slight, but in most cases a quiet iritis supervenes, and, if no precautions are taken, a narrow circle of brown pigment is deposited on the anterior lens capsule. At first one was rather afraid of the use of atropin, and so homatropin was used tentatively in 8 cases, but in 7 cases atropin drops, gr. $\frac{1}{8}$ or gr. $\frac{1}{4}$ ad $\mathfrak{z}j$, were found sufficient to prevent the inflammation and partially dilate the pupil. Constant watch has to be kept on the tension, for a secondary rise may appear either with or without the use of atropin.

I consider that usually such return of tension was due to the trephine hole not communicating directly with the anterior chamber, and blocking with the root of the iris or ciliary body taking place. In five of my cases this rise took place—namely, in No. 3, but here the tension yielded permanently after the use of eserine for a few days; in No. 5 the patient, after being discharged with tension normal and a filtering scar, did not return for nearly two months, and then, although the tension was still normal, there was a fairly marked iritis, and on atropine being instilled the tension rose temporarily; the eventual result was not good, owing to much pigment deposit on the anterior capsule, and further return of tension; in No. 7 the tension rose soon after the operation, although the repositor had been passed into the anterior chamber, and irido-dialysis brought about, yet it yielded permanently to eserine used for a short time; in No. 8, the retina being full of haemorrhage, the rise of tension is not to be wondered at—it was, indeed, a desperate case; in No. 22 no irido-dialysis was done at the time of trephining; a large iridectomy performed some months before had not cured the glaucoma; in this case an irido-dialysis was done three weeks after the trephining by opening the anterior chamber and passing the repositor from it to the trephine hole; a small second iridectomy had also to be made, for the patient squeezed the iris through the new incision.

In one case—operations Nos. 12, 13, 14—the tension of the left was full after the final trephining, and, as the whole of the disc had not been taken away, and as the patient was constantly complaining of flashes and rings of light, I decided to operate a second time. The sclerae in this patient were particularly hard to penetrate. In several of the cases there was no cupping of the optic disc, the operation being performed early in the disease. The visual fields were taken by the perimeter in most of the cases, and as a rule no marked effect from the operation was noted, but in No. 3 there appeared to be slight contraction afterwards although there was no subsequent abnormal tension, whereas in No. 8 there was marked increase from an average radius of 15 degrees to an almost normal field after a lapse of five months. The Schiötz tonometer was employed in several cases, and it was found distinctly useful.

The trephine disc was removed wholly except in Nos. 2, 5, and 13.

Immediate escape of aqueous was noted in 12 cases—namely, Nos. 4, 5, 7, 11, 12, 13, 15, 17, 18, 19, 20, 21.

Prolapse of iris occurred in 4 cases, and in each it returned into position by a simple snip—Nos. 9, 10, 15, 21.

A small iridectomy was done four times—Nos. 3, 4, 16, 17.

In no case did vitreous appear at all.

The iris repositor was passed into the anterior chamber in 9 cases—Nos. 1, 2, 3, 4, 7, 10, 12, 14, 18.

Secondary bulging of the iris or ciliary body occurred twice—namely, in Nos. 7 and 22.

The anterior chamber re-formed as follows:

Second Day.—Cases 3 and 4.
Third Day.—Cases 6, 7, 9, 11, 12, 13, 15, 16, 17, 20, 22.
Fourth Day.—Cases 1, 2, 21.
Fifth Day.—Cases 5, 8, 18, 19.
Seventh Day.—Case 10.

A low form of iritis was noted in 7 cases—Nos. 2, 5, 9, 11, 15, 17, 21.

Homatropin solution, gr. iv ad $\mathfrak{z}j$, was used in 8 cases—Nos. 2, 9, 11, 16, 17, 19, 20, 21.

Atropin solution, gr. $\frac{1}{8}$ or gr. $\frac{1}{4}$ ad $\mathfrak{z}j$, was used in 7 cases—Nos. 2, 5, 9, 11, 15, 17, 21.

Secondary tension was noted in 5 cases.

A conjunctival bleb remained over the trephine hole in 9 cases—Nos. 1, 6, 9, 10, 12, 14, 19, 20, 21.

The trephine hole filled up and became almost invisible in 4 cases—Nos. 2, 3, 4, and 22.

The vision was worse after the operation in Nos. 8 (haemorrhagic) and 12. It remained the same in 11 cases—Nos. 3, 5, 6, 7, 15, 16, 17, 18, 19, 21, 22; and was improved in 8 cases—namely, Nos. 1, 2, 4, 9, 10, 11, 14, 20.

Ultimate tension remained in 2 cases: No. 5, hole not filtering, much pigment on anterior capsule—iritis set in during long absence from observation; and in No. 8, which was very haemorrhagic.

Previous iridectomy had been done in 2 cases—Nos. 10 and 22.

No. 8 is peculiar in that the patient was admitted on October 10th with plus tension and vision J. 20, and suffering from diabetes. On several occasions paracentesis was performed, and each time haemorrhages took place from the iris. For a considerable period after the trephining the tension remained normal, but after going home it rose again.

With regard to the staphyloma anterior—case No. 23—the trephining brought the tension down to normal, and no further increase in the prominence took place, the hole filtering freely.

Since writing the above I have done the operation many times, and am still satisfied with it.

DISCUSSION.

Mr. THOMSON HENDERSON (Nottingham) said that practice must be based on a rational physiology. The success of iridectomy as a means of relieving tension was established; but it was an empirical procedure, and it remained for them to put it upon a rational basis. That could only be done by an investigation of the circulatory conditions of the eye, such as he had indicated in his experiments and the deductions therefrom, and the experiments upon cerebral and ocular circulation by Dr. Leonard Hill. The key to the mystery was the fact that intravenous and intraocular pressure were always essentially the same.

Mr. H. H. HERBERT (Nottingham), discussing the appearance of scars after iridectomy for glaucoma, said that only those scars which were absolutely invisible could with safety be asserted as solidly united. It was possible in almost all other scars to show that over them there was an abnormal conjunctival oedema, and that there was filtration from the eye through the scar into the subconjunctival tissue. He showed a section, kindly lent him by Mr. Affleck Greaves, in which the scar was partly filled with loose fibro-cellular tissue, and in which serial sections had proved the absence of a fistula, yet in that eye there had been oedema over the scar. It was confessedly easy to obtain a reduction of tension in an eye by sclerotomy, but the defect of that procedure was the want of control in the degree of reduction: eyes tended to get soft. The question was, how could they best secure control over filtration, by sclerotomy or sclerectomy? He thought by sclerotomy. As yet the method was in its infancy, and its possibilities had been, as yet, imperfectly explored. For instance, numerous modifications of the small flap operation at once suggested themselves should variation prove necessary. In hard blind eyes sclerotomy at present often proved efficient only in removing pain, the tension being imperfectly reduced, at least for a time. And there were a few secondary glaucomas in which the need of freer filtration was obvious.

Mr. DEVEREUX MARSHALL (London) said he was surprised to hear Mr. Priestley Smith say that malignant glaucoma did not occur after a preliminary scleral puncture. In acute cases his inclination was distinctly in favour of iridectomy, which had stood the test of time in a way which no other operation had, while he was quite satisfied with its results. He had performed Herbert's operation many times in chronic glaucoma, and occasionally in subacute cases with excellent results, but they had yet to wait to ascertain the permanency of the result. He had not performed the operation of trephining, and so could not speak from experience as to its merits.

Mr. RICHARDSON CROSS (Bristol) said that without question physiology and pathology must be at the basis of their conception of treatment. In his view, the work of Weber

and that of Priestley Smith had established the primary facts of the importance of the filtration angle; and, whilst he congratulated Mr. Thomson Henderson on his work, and hoped he would continue it, as yet he could not say his faith in the older theories was disturbed. In acute glaucoma, there could be no question that iridectomy was the best operation, and that operation was the only treatment. Chronic glaucoma was a different condition; the most perfect iridectomy might fail to relieve the tension permanently. He had always tried to make his incision a long, shelving one, commencing, say, 2 mm. back from the limbus. In a number of cases of hypophthalmos he had had remarkably successful results by doing Herbert's small flap sclerotomy with Bishop Harman's twin scissors; and he was of opinion that for these cases it was preferable to iridectomy. As a rule, he would continue to do iridectomy in simple and chronic glaucoma, as well as in acute cases; but should tension recur, he would use the sclerotome, preferably Bishop Harman's. He had had good results in primary sclerotomy in cases of hydrophthalmos, and he much preferred it in these cases to iridectomy.

Dr. Adolph Bronner (Bradford) said he had tried various methods of operating for glaucoma. In acute and subacute conditions he performed posterior sclerotomy first, if possible, and then he did iridectomy. If tension recurred, he used the trephine. In chronic cases he still preferred iridectomy, except in cases of arterio-sclerosis and increased blood pressure in feeble and nervous patients; then he trephined. He showed a modified form of trephine, which he found convenient in use. It had an outer sheath, which steadied the trephine in boring, and prevented its wobbling.

Mr. Bishop Harman (London) wished to consider the results of these operations from the patients' point of view. Granting, for the sake of argument, equal value in iridectomy, sclerotomy, and sclerectomy, which operation was most commendable from the point of view of the patient's general condition? For acute glaucoma, he believed undoubtedly iridectomy. The condition was severe, and demanded an operation which, even though severe, was undoubtedly reliable. In chronic glaucoma, the case, though serious enough, might not present so formidable an aspect to the patient's mind. The loss of vision might be small, or only occasional, even the field might be but little affected, and with such cases the prospect of laying open the eyeball, confinement to bed for at least a week, with no certainty that considerable astigmatism would ensue, rather formed no attractive prospect. The confinement to bed alone was a serious item in old folks. These considerations had deterred not a few surgeons from advising operation in times past, and favoured the use of myotics with them. Contrast with these risks the simplicity of the procedure in Herbert's operation, the one with which he was familiar, and the advantages became manifest. There would be no pain at the operation, the risks of injury to the eye were the smallest, and he did not hesitate to permit patients to sit up in bed the day after the operation, so that the disturbance of an old person's condition was as little as possible. Lastly, very little, sometimes no, astigmatism was caused by the operation. In the rare event of failure to secure a permanent lowering of tension, it was easy to repeat the operation. Indeed, he proposed this to do a third operation upon a patient in one of whose eyes the benefit of the previous operations had not been obtained. This case was of interest, for the man's sclerotics were extraordinarily tough and gristly, so that the flap produced had very little pliability. He thought that in such cases the tip of the flap should be excised, as has been suggested by Herbert. The difference of the texture of the sclerotic and its effects upon operative procedure was worth considering.

Mr. W. H. Jessop (London) said that the discussion was of the greatest importance. There were great differences between acute and chronic glaucoma. In acute glaucoma, the large peripheral iridectomy, preceded, if necessary, by a posterior scleral puncture, was the proper procedure. In chronic glaucoma iridectomy was frequently of little use, and was even dangerous, and it was in these cases he now performed Herbert's sclerotomy in preference to that of Lagrange. He had no experience of trephining, but intended to try it.

Mr. Charles Wray (Croydon) said that, admitting all that was claimed for the new operations to be true, his early experience of operations in chronic glaucoma left him doubtful of the advantage of operation over the continued use of myotics. He had cases which had maintained their stand for fifteen to thirty years, and that apart from risks such as soft eyes and detached retina.

Mr. Harrison Butler (Coventry) had tried Elliot's operation with satisfactory results. He had had difficulty in getting trephines that would cut. So far Freeland Fergus's had proved the best. He had had difficulty by reason of the disc of tissue falling into the anterior chamber. One point he thought should be called attention to, and that was the grave risk attaching to operations upon eyes in which the periphery of the field approached the fixation spot. Operation might secure a permanent fall of tension, but it was liable to cause loss of macular vision. On the question of the circulation of the eye, it was interesting to notice that a recent German author had brought forward a series of observations upon which he based the theory that there was no intraocular circulation at all. Then there were the observations of Professor Thompson, which indicated that it might be limited to the small pump-like action of the scleral spur.

Mr. Jameson Evans (Birmingham) said he had looked up the hospital notes of the last two or three years' cases of glaucoma. He found 9 acute and 3 absolute cases, for all of which iridectomy was performed; 5 subacute and 33 chronic cases, for which filtration operations were done, half Herbert's wedge and the other half trephining. His general conclusions were in favour of iridectomy for acute glaucoma, and trephining, with or without iridectomy, for chronic cases. Trephining was, in his experience, the easiest operation and caused the least reaction. It was easy to repeat it, and no disfigurement ensued. He did not think the oedema over the scar a sure proof of the amount of drainage.

Mr. Wilfred Allport (Birmingham) had performed 40 operations after the fashion of Herbert's wedge operation, mostly in chronic cases, with excellent results in every case but one. For acute glaucoma no scleral operation was so satisfactory as scleral puncture followed by iridectomy.

Mr. John Hern (Darlington) said that were he to put himself in the position of the patient, as suggested by Mr. Harman, he would certainly prefer a peripheral wide iridectomy for acute or chronic glaucoma as against any of the newer scleral operations. With the incision placed well back in the sclera, as had been described by Mr. Cross, this was the best guarantee of success.

Dr. H. MacCallan (Cairo) said the condition of the iris should determine the choice of operation. If the iris was atrophied, then the possibilities of absorption were diminished, so that something else than iridectomy was required.

Mr. Claud Worth (London) said that, in his view, atrophy of the iris was not so important as the possibility of the existence of adhesions of the iris at the filtration angle. Where those existed iridectomy was almost certain to fail.

Mr. Secker Walker (Leeds) said that for acute glaucoma he believed in iridectomy, but he had no faith in it for chronic glaucoma. He got better results with Lagrange's operation than with iridectomy, and, better still, with Herbert's operation, which he now relied upon. The small flap operation he found comparatively easy to do. Quite painless, it gave excellent results, and it could be repeated in case of only partial success.

The President recalled the days when cocaine was unknown, and how on occasions they had to perform iridectomy in acute glaucoma without even a general

anaesthetic. Once he operated upon both eyes at a sitting under these conditions.

Replies.

Mr. Priestley Smith, in reply, said he had a great admiration for Mr. Thomson Henderson's work, but could not follow him in his conclusion that cerebral and ocular pressures were always the same. Did he mean that when ocular pressure was thrice what it ought to be the brain was subjected to a similar excess pressure, and that without any symptoms? The problem they had to consider was how to secure a filtration scar that would be best for the majority of cases. Lagrange, Elliot, and Fergus removed pieces of the sclera. Herbert displaced a piece. The apparent test was the production of oedema. The true test was not apparent oedema, nor the tension, nor the visual acuity, but the field of vision as mapped out with the perimeter.

Major Elliot, in reply, said that, if looked for, it was as easy to find pitting of the conjunctiva after trephining as pitting of the shins in oedema of the legs. He advocated trephining for acute, as well as for chronic, glaucoma. He maintained it was a safe procedure, while iridectomy was not. It was not necessary to perform scleral puncture to make it safe or enable it to be performed, as was the case with other operations. In fact, the harder the eye the easier the trephining: and there was no risk, with ordinary cases, that the aqueous would escape too rapidly. The occurrence of quiet iritis had been referred to. It certainly followed trephining, though he doubted if it was true iritis. But it could be prevented by the routine use of atropine on the third day. Iridectomy he held advisable in trephining, but merely for its mechanical effects. As to the discussion between Herbert and himself, it came to this: Herbert considered trephining did too much, whilst he (Elliot) thought sclerotomy did too little. He could confirm Mr. Bishop Harman's observations concerning the differences in the texture of the sclera of patients.

DISCUSSION ON THE ETIOLOGY, DIAGNOSIS, AND TREATMENT OF CONVERGENT SQUINT AND HETEROPHORIA.

OPENING PAPER.

By Claud Worth, F.R.C.S.,
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Etiology.

In the case of a normal sighted person the two sets of visual impressions received by the two eyes are fused in the brain into one picture. In order that fusion may take place the directions of the two visual axes must accurately correspond. The cerebral faculty of fusion being perfect, the oculo-motor apparatus will make great efforts to secure this accurate co-ordination. If one image be displaced by putting a prism before one eye, the relative positions of the eyes will be readjusted so that the two images may still fall upon corresponding points of the retinae. A want of balance of the motor apparatus will cause not a squint but a heterophoria. If, however, the control of the fusion faculty be temporarily withdrawn—for example, by covering one eye—the eyes will deviate. If the eyes are hypermetropic there will be a *tendency* to excessive convergence during accommodation, but in the interest of binocular vision this tendency will be kept in check. If the eyes are forcibly compelled to deviate—for example, by paralysis of an external rectus muscle—the patient will suffer from persistent diplopia. If the fusion faculty be absent there is no reason for a perfect accord in the directions of the two eyes, and any disturbing factor, such as hypermetropia, motor imbalance, mental disturbance, etc., will give rise to a squint. There will be no diplopia because this patient is only able to receive impressions from one eye at a time.

The exception tests the rule. Here is one. A squint which dates from birth must be essentially a motor defect, because it appears before the time at which fusion should begin to develop. If the deviation is constant and unilateral, and if the vision of the deviating eye is not forcibly exercised within the first few months of life, this eye will subsequently be found to be extremely and incurably amblyopic. By very early treatment, consisting of occlusion of the fixing eye, and perhaps operation, I have in several of these cases succeeded not only in getting good vision in each eye, but in enabling fusion to develop spontaneously.

Why is it that in the majority of cases squint does not appear until the second or third year? I believe that the potential faculty of fusion is rarely entirely absent (just as "dumb" children usually have some power of speech). This very weak fusion faculty may suffice to keep the eyes straight in the absence of adverse influences, but is powerless to counteract the strain of illness or of hypermetropia during school work.

A motor imbalance as great as 15 degrees may perhaps give rise to an esophoria, but no squint, or with a defect of, say, only 2 degrees, there may be a constant deviation. Of those who regard squint as a muscle defect one would ask, How can this be explained, except that in the first case the fusion faculty is perfect, and in the second not? Those who regard refractive error as the prime cause are confronted by the question, Why do not all hypermetropes squint?

The Amblyopia of Squint.—In at least 90 per cent. of the cases of amblyopia in a squinting eye this amblyopia is acquired from disuse. I believe that I have proved this beyond a doubt. In the rare cases of amblyopia without squint, or in recently-developed squint (and therefore presumably congenital), the amblyopic eye usually has a high degree of astigmatism while the other eye has none. The question suggests itself—May the amblyopia even in this case be due to the patient's confining his attention to the non-astigmatic eye, and would optical correction in infancy have saved the vision of the astigmatic eye?

Treatment of Convergent Squint.

The objects of treatment are—to prevent or to cure amblyopia ex anopsia, to remove the deformity, to give the patient binocular vision. The therapeutic measures at our disposal are—atropinizing the *fixing* eye *only*, occluding the fixing eye, correction of refractive error, fusion training, operation.

If the deviating eye is able to fix when the other eye is shaded, atropine ointment, 1 per cent., should be put into the *fixing* eye *only* every morning. This, by suspending the power of accommodation in the fixing eye, causes the child to use the deviating eye to look at all very near objects, and so the eye is efficiently exercised and its vision, as a rule, rapidly improves. The atropine should be continued in the fixing eye only until the originally deviating eye comes to be used, not only for near vision, but for distant vision also (showing that the sight is now normal, or nearly so), or until no further improvement can be got. The treatment is no trouble, and I have never seen any permanent weakness of the ciliary muscle as a result of it, though it is often used for many months at a time. But I have notes of several cases in which, owing to the parents going abroad and continuing the treatment too long in the absence of advice, after the sight of the originally squinting eye has become perfect, the originally fixing eye has become amblyopic from disuse.

If this deviating eye has lost the power of central fixation it will be necessary to occlude the fixing eye absolutely and continuously, preferably by a gauze pad secured by long strips of strapping plaster. As a general rule, to which, however, there are exceptions, if central fixation is not regained within four weeks, further attempts to restore the sight will be useless. Amblyopia ex anopsia is not easily acquired, or cured, after about 7 years of age. This matter of preserving or restoring the sight of the deviating eye is of more importance than all the rest of the treatment of squint put together.

We are all agreed as to the importance of correcting refractive error in cases of squint, but there is no general agreement as to the age at which glasses should first be ordered. That a very young infant uses its accommodation has been demonstrated at Moorfields in scores of babies who, having the fixing eye atropinized, use the unatropinized squinting eye in looking at very near objects. When there is convergent squint, and a very high degree of refractive

error, I am accustomed to order spectacles for very young infants, some less than three months old. With strong, well-fitting frames and moderately thick lenses this practice is quite devoid of danger, and the results have made me an earnest advocate of early treatment.

It was formerly a common practice to order atropine for *both* eyes for months at a time for hypermetropic squinters who were supposed to be too young to wear glasses. The squinting eye usually has the greater refractive error, that is why it was originally chosen as the squinting eye. To keep the accommodation of this eye paralysed by atropine is to ensure that it shall never under any circumstances be used. Some of the most hopeless cases of blindness of a squinting eye which I have seen are in children who have been thus treated.

As regards fusion training I have nothing to add to what I said at the Swansea meeting of the Association nine years ago. I will only repeat that it must be carried out by the surgeon himself, and that the patient should not be older than about 6 years. One would not, as a rule, operate for squint upon an infant, nor upon any patient, until all other means of rectifying the deformity had been exhausted. But I would endorse a recommendation made by Mr. Priestley Smith many years ago. If an eye of an infant is so strongly convergent as to render the use of this eye mechanically difficult, tenotomy should be performed at once, for the probability of subsequent divergence, which can be rectified, is a smaller evil than the certainty of an incurable amblyopia. I do not now perform tenotomy of any ocular muscle save in quite exceptional cases. formerly considered enotomy combined with dvancement of the opponent to be safe, but ave had reason to odify this view. I endeavour to see my old squint cases at intervals two or three years, ven after all need for eatment has ceased; nd it is usually not until veral years have elapsed at I have had cause regret the performance a tenotomy. Advancement of one external rectus in moderate degrees of convergence, or of both external recti in high degrees, enables me accurately and permanently to restore the eyes to their normal relative directions.

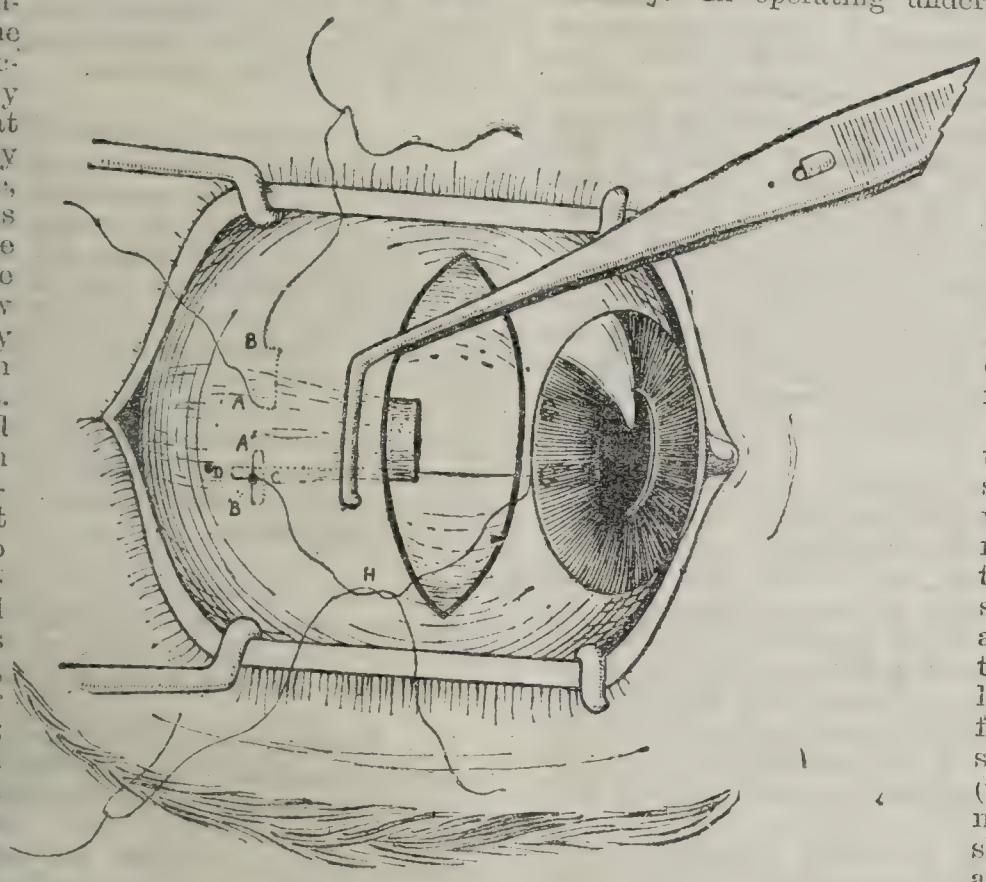

The advancement operation, which I have used exclusively for the last thirteen years, has undergone some slight improvements in technique.

The eye is anaesthetized with cocaine and adrenalin, or if necessary a general anaesthetic is used. The surgeon, standing behind the patient's head, makes a curved vertical incision through the conjunctiva and capsule of Tenon, about ½ in. in length, the convexity of the incision being close to the corneal margin. The conjunctiva and capsule are then pushed back so as to expose the insertion of the tendon. One point of the advancement forceps is now passed under the tendon, after the manner of a tenotomy hook, the other point being superficial to the conjunctiva. The forceps is now closed, so that tendon, capsule of Tenon, and conjunctiva are all firmly clamped together with their relations undisturbed, except for the retraction of the membranes. The tendon is now divided with scissors near to its insertion, leaving about 1 mm. on the sclerotic. This is to give the fixation forceps a good hold during insertion of the needle into the sclerotic. The advancement forceps holding the tendon, capsule, and conjunctiva can now easily be lifted up, so as to get a good view of the under surface of the muscle. A general idea of the technique will be gathered from the engraving above.

One of the needles is then passed inwards at A through the conjunctiva, capsule, and muscle. It is then again passed through muscle, capsule, and conjunctiva, and brought out at B. The bight of the thread thus encloses about the lower fourth of the width of the muscle, together with its tendinous expansions and capsule and conjunctiva. The other needle is similarly entered at A', passed through conjunctiva, capsule, and muscle, and brought out at the under side of the muscle. It is then entered again at the under side of the muscle and brought out through the conjunctiva at B', the bight of this suture thus enclosing the upper fourth of the width of the muscle, etc. The object of inserting both sutures, before proceeding further with either, is that they may be symmetrically placed. The ends of the thread from A' and B' are then crossed over at C. The end bearing the needle is then entered at D and passed through conjunctiva, capsule, and muscle, and carried beneath the lower blade of the advancement forceps nearly to the corneal margin. The needle is here passed through the tough circumcorneal fibrous tissues and brought out at G' just within the corneal margin. The two ends of the thread are then temporarily tied loosely with a single hitch at H. The first suture is then similarly completed. The anterior part of the muscle and capsule and conjunctiva are then removed by cutting them through with scissors behind where they are grasped by the advancement forceps. The gap is then closed by tightening and securely tying each suture at HH, so that the eyeball is rotated in its correct position, and the anterior end of the muscle is brought nearly up to the corneal margin at GG'. The fine adjustment is done by tightening or loosening the hitches at HH, the result being checked by the mirror test or by the reflection of a candle flame on the cornea. The surgeon's knots at HH are then completed.

In operating under cocaine, the immediate effect is the permanent result. No over-correction, therefore, is necessary. In operating under general anaesthesia one has to bear in mind the angle of the deviation, and produce approximately that degree of rotation.

After the operation the patient is kept in bed with both eyes bandaged for a week. On the eighth day the sutures are removed, and both eyes are allowed to remain uncovered.

The special points of this operation are—the sutures have a firm hold without strangling the muscle, the relations of the muscle to adjacent structures are disturbed as little as possible, so that its vitality is not lowered and it does not form adhesions to the stump of the tendon (there is a true advancement, not merely a shortening), the operation admits of very accurate adjustment.

When an eye is divergent as a result of tenotomy many years before, there is usually a constant feeling of discomfort and sometimes pain in the eye. But the tenotomized muscle, as a rule, does not atrophy to any great extent, so that the deformity and discomfort may be remedied. I have operated successfully upon many patients twenty years or more after the original tenotomy.

Divergent Squint.

There are two varieties of comitant divergent squint, differing entirely in their pathology—in fact, they have nothing in common except the deformity.

Myopic divergent squint commonly makes its appearance at about 10 or 12 years of age. There is usually a considerable degree of myopia and a good fusion sense. During early childhood the myopia has been increasing until it reaches perhaps seven or eight dioptres. His far point being only 5 in. or 6 in. from his eyes, this myope finds convergence in near vision increasingly difficult. So he gives up the attempt. He holds his head a little upon one side and gets a perfectly clear image of his book with one eye while the other is directed past the book into the distance. There is no diplopia, because the image in this eye is so extremely indistinct compared with that in the reading eye. At first there is no actual disturbance, only a failure to converge, and there is always binocular vision in distance. But later, as a result of the function of convergence never being used, it becomes weakened, and the other eye may be widely divergent even in distant vision.

Owing to the increased attention given to the eyes of school children, myopic divergent squint, which was common fifteen years ago, is now seldom seen.

Neuropathic divergent squint is a term which, for want of a better, I have applied to the other class of divergent squint. I do not quite understand the pathology, but these are the clinical facts: The divergence usually dates from infancy; it may be occasional or constant, unilateral or alternating. There may be a feeble degree of fusion, usually it is quite absent. The refraction is, as a rule, normal. In the constant unilateral cases there is amblyopia. In other cases the vision is usually perfect. The power of dynamic convergence is always deficient, but it varies to an extraordinary degree from day to day. The association between accommodation and convergence is slight or absent. The arcs of rotation of each eye separately may be normal. The subjects of neuropathic divergence are usually very bright and intelligent, but they are nearly always very "nervous" and highly-strung. A family history of epilepsy or insanity is very common. The affection is about three times more common in females than in males.

HETEROPHORIA.

Heterophoria is a defect in the relative motor balance of the two eyes, this defect being kept in check by the fusion faculty. It is in this respect the converse of squint. It is a binocular affection. In a case of esophoria or exophoria it can seldom be demonstrated that the nasal or the temporal rotation of either eye is deficient or excessive. One can only say that there is a tendency to abnormal convergence or divergence. In hyperphoria there is not necessarily any excess or deficiency of upward or downward movement of either eye. Usually, all that can be discovered is that one visual axis tends to lie in a higher or lower plane than the other. I have examined a considerable number of cases of heterophoria with Stevens's tropometer, and have seldom discovered any marked deficiency or excess in the separate arcs of rotation of the eyes.

I am accustomed to use the Maddox rod as part of the investigation of every refraction case, and if any important heterophoria is found other tests are applied also. Heterophoria is not at all uncommon, but, in this country at any rate, it only occasionally gives rise to trouble, and a case which causes no trouble needs no treatment. But now and then one sees a patient who suffers severely from the symptoms generally known as "eye-strain," and who has derived no benefit from optical correction of any refractive error which he may have. It will probably be found that the cause is heterophoria, and that treatment of this gives immediate relief.

As regards treatment: If a sufferer from heterophoria also has any considerable refractive error, I do not treat the heterophoria until glasses correcting his refractive error have been worn for several weeks. In esophoria one may tentatively order the constant wearing of prisms, bases out; and in exophoria, prisms, bases in. Some patients derive great benefit from them, but most are unable to wear them owing to their altering the apparent size and distance of objects. As a rule, if esophoria or exophoria requires any treatment at all, advancement of a rectus muscle should be performed.

Hyperphoria is much more liable to give trouble, but it is also easier to deal with; prisms base down before the hyperphoric eye and base up before the other, being usually all that is required. In high degrees of hyperphoria, or in a case in which the patient especially desires not to wear glasses, advancement of the inferior rectus muscle of the hyperphoric eye gives excellent results. Advancement of an inferior rectus is not more difficult than advancement of an external rectus.

DISCUSSION.

Mr. H. H. B. CUNNINGHAM (Belfast) laid stress upon the hereditary or family nature of squint. He had traced the characteristic in not a few families. Anisometropia, in a more or less marked degree, seemed a particularly effective ocular defect in determining a squint. Consequently, the fusion faculty must be at a special disadvantage in such cases. On the general lines of treatment he was in agreement with Mr. Worth. On the matter of training, whilst he held instruments such as the ophthalmoscope and diaphragm test of the greatest value in children of fair age, something was wanted for very young children. For this purpose two-colour pictures had been devised which, when looked at through a green and red screen, showed which eye was fixing. By these pictures useful practice could be obtained. He agreed in the superiority of advancement over tenotomy, and in the importance of not including the artery of the muscle within the suture. He gave instances of cases which had improved under treatment.

Mr. R. J. COULTER (Newport) drew attention to those cases in which no error of refraction was found in early life, but later, after the existence of squint for some years, astigmatism appeared. He suggested the abnormal pressure of the muscles in excessive convergence might induce this.

Mr. J. B. STORY (Dublin) put the order of procedure in treatment as (1) correction of error of refraction, (2) occlusion of the fixing eye, (3) advancement to correct deformity and permit of fusion training. As regards etiology, there were cases that he felt were not covered by current theories—cases where squint ought to have appeared, but in which there was none. He had never observed any improvement in an amblyopic eye, nor had he obtained complete fusion in any case of cured squint, except in very young children.

Mr. A. W. ORMOND (London) called attention to a record by Cheselden in the middle of the eighteenth century concerning the lack of appreciation by a patient at the restoration of his sight by cataract couching. It emphasized the fact that amblyopia did not appear unless vision was interfered with before the cure was properly established. If any amblyopia existed it was unlikely to be complete, at any rate, and vision was recoverable. If vision were interfered with before it was properly established, amblyopia tended to be marked and irremediable. He considered that every effort should be made to remove the squint by operative measures; then the development of the fusion faculty would do more than an active interference with orthoptic appliances.

Dr. INGLIS POLLOCK (Glasgow) said that in advancement it was necessary to exert particular care to obtain equal stress in the arrangement of the sutures, otherwise distressing hyperphoria might be caused.

Dr. MCREYNOLDS (Texas) had heard it said that American ophthalmologists over-emphasized the importance of muscle anomalies formerly. He thought to-day's discussion dispelled that idea. Formerly there had been a large practice of partial tenotomies in the States, but that had fallen into comparative disuse in favour of advancement. In one point their practice differed from that described by Mr. Worth—they did not sever the tendon, but tucked and folded it in.

Mr. BISHOP HARMAN (London) said the point in the paper that particularly interested him was the note concerning "neuropathic divergence." This defect he considered akin to such other cerebral defects as colour blindness and tone deafness; it was probably referable to an inherent weakness of the fusion faculty. There was great difficulty in treating it, just because the subjects of it never realized that they did squint: the wandering eye promptly returned to its duty when the patient was told of the squint, and they never could see it in the looking-glass! What they did not see they did not trouble about. It was almost always the friends who objected to the squint. In the "diaphragm test" he had found a most satisfactory means of demonstrating the existence of the squint to these patients; they saw its effect for themselves, and that was the first step in any attempt to improve their condition. Next, it was possible to exercise what little capacity they had for binocular vision, and increase it by the use of the variable patterns of this instrument. He thought he had obtained good results by these means. As regards heterophoria, he believed in the influence these defects had in producing eye-strain, but he thought that this only held good for those people who did near work. A defect that was serious to such a person did not bother one whose occu-

pation was wholly out of doors. On this account he was in the habit of correcting these errors in near vision only. He greatly preferred the practice of decentering the lenses worn by the patient to secure prismatic effects rather than superadding prisms to the lenses. This was more convenient in prescribing, in manufacture, and in wearing.

Dr. K. Pischel (San Francisco) spoke of the superior advantage of sutures obtained from the tendons of rat tails in advancement operations.

Major Elliot, I.M.S., said that heterophoria as a cause of asthenopia was much more common in India than it appeared to be in England. Patients complained of its effects in India, and remarked that these disappeared when in England. He agreed with Mr. Harman that it was only necessary to correct the defect for the purposes of near vision.

Professor R. A. Reeve (Toronto) said that asthenopia from heterophoria was common enough in Canada. He found great benefit from the use of systematic exercise with prisms. In advancement for squint there was a real danger of causing hyperphoria by unequal tension of the tissues. To avoid this risk he always stitched the shortened muscle to the old insertion of the muscle, end to end.

Mr. Priestley Smith (Birmingham) asked why Mr. Worth considered it better to advance the muscle to the edge of the cornea, rather than the manner Dr. Reeve had just mentioned. The contrast of the old-time neglect of squint with their present-day careful educative methods was great, and this revolution they owed to the initiation of Javal. Javal once told him that there was hardly any case of squint in which binocular vision and fusion could not be obtained, given time.

Mr. N. H. Pike (Cheltenham) said he had had good results in heterophoria by the use of prism exercises. It was a method not made use of nearly enough. He thought that tenotomy should be done as well as advancement, though often the former would be sufficient.

Mr. Harrison Butler (Coventry) said he wished to thank Mr. Worth for his operation; it had proved most satisfactory in his hands. The difficulty arose from getting out of sutures from the sclera. He was in the habit of combining tenotomy of the opposing muscle with advancement, but the tenotomy was done, as its effect was temporary, until the advanced muscle was secure.

Mr. Arthur Green (Norwich) asked what amount of improvement could be anticipated from atropinizing or occluding the fixing eye. Very little, he thought.

Mr. H. A. Little (Bradford) asked how it was possible. He had been advised by Mr. Worth, that the exercise of the squinting eye should be carried out by the surgeon. How many sittings did it require?

Mr. Hugh Thompson (London) said that occlusion of the fixing eye for a long period was a serious handicap in the school life of the child. He had been in the habit of occluding the eye for only half the day, and with frequently good results.

Mr. J. Gray Clegg (Manchester) asked if training was of any use in securing restoration of vision in the squinting eye after the age of 8 or 9 years. He commented on the presence of cyclophoria in patients without any indication of asthenopia. He approved of Kral's pictures for young children.

The President said that to his mind the great change that had come about in the treatment of squint was due to the recognition that the amblyopia was caused by the squint, and was therefore curable or ameliorable, and was not as formerly held to be, the cause of the squint.

Reply.

Claud Worth, in reply, said that as regards operation he did sometimes shorten and reattach a muscle to its old insertion, but in cases of considerable squint that did not give enough rotation, and it was necessary to advance the muscle to the corneal margin. It enhanced the action of the muscle considerably. He considered there was little risk of causing hyperphoria if the stitches were inserted parallel to each other, and in line with the old insertion of the muscle. Occlusion of the fixing eye, he agreed, might occasionally be advantageously prolonged beyond four weeks, and at an older age than 7 years: but the willingness of the parents to take the trouble had to be considered, and the risk of disappointment. Where vision was improved the gain was not great. The most favourable age was from 3 to 6 years: 2 was too early to attempt training, and 7 mostly too late. He did not agree with Mr. Ormond that training was most effective if begun after operation; rather he found that operative results were more secure if training of the squinting eye preceded operation. Fusion training should be done by the surgeon; when begun early, perhaps no more than half a dozen sittings were required.

A NOTE ON THE COMPARATIVE ANATOMY OF THE CILIARY REGION.

By Thomson Henderson, M.D.

In the human eye the ciliary region extends from the ora serrata to the iris root in a zone of uniform breadth of from 6 to 7 mm. This area is subdivided into a posterior and comparatively smooth portion—the *orbiculus ciliaris*—and an interior plicated region—the *corona radiata*—formed by the presence of the ciliary processes.

In the common farmyard quadrupeds—horse, cow, sheep, pig, cat, and dog—this same regular arrangement does not, however, obtain, for in them the ciliary processes are not all of an equal size, nor is the orbiculus ciliaris of the same breadth in the various quadrants of the eye.

In these animals the ciliary processes lying on the inner side are more numerous, though distinctly smaller, than elsewhere in the ciliary circumference, while at the same time the area of the orbiculus is here conspicuous by its absence.

In the superior quadrant, on the other hand, are to be found the largest ciliary processes and the greatest extent of the orbiculus ciliaris. In the outer quadrant both processes and orbiculus tend to be smaller than above, while in the inferior quadrant there is a still further tendency to diminution in the size of both.

Thus, while in man the boundary line between the retina and ciliary region forms a circle with a serrated edge—the ora serrata—in the animals named this boundary has a clear cut edge, presenting a sort of oval outline, with a marked flattening on the inner side produced by the nerve elements of the retina coming here as far forward as the bases of the ciliary processes.

The reason of this retinal prolongation is to be found, I think, in the necessity of these animals having a large and extensive field of vision on the outer side to protect their flanks.

The same extensive perimetry is, of course, unnecessary in the rest of the field of vision, and therefore the breadth of the orbiculus is proportionately increased.

This complete absence of the region of the orbiculus ciliaris on the inner side is a fact which certainly tells against Helmholtz's theory of accommodation.

The prolongation forward of the retina on the nasal side is not a mere accident, but it must exist for a definite purpose, which, if it be to extend the outer boundary of the field of vision, then it is inconceivable that this particular part of the retina should be subjected, along with the choroid, to marked differences of tension during accommodation as it must be according to Helmholtz's theory. The bearing of this single point in the comparative anatomy of the ciliary region on the question of the mechanism of accommodation must, however, be considered along with, and in the light of, the mechanical principles which I have already emphasized in a paper recently read before the Ophthalmological Society (June, 1911). My purpose is merely to bring before your notice a hitherto, as far as I am aware, unrecognized feature in the comparative anatomy of the ciliary region, and to suggest a very obvious explanation for it.

DISCUSSION.

Mr. BISHOP HARMAN asked if Dr. Henderson found any variation of this striking peculiarity in animals, the shape of whose pupils was narrowed vertically, as the cat, or horizontally, as in the horse or goat.

Dr. HENDERSON replied that there was no difference. Both were alike in the advancement of the retina towards the periphery.

THE TREATMENT OF CHRONIC DACRYOCYSTITIS.

By W. B. INGLIS POLLOCK, M.D.,

Assistant Surgeon, Glasgow Eye Infirmary; Consulting Ophthalmic Surgeon, Ayr County Hospital.

CHRONIC dacryocystitis, or inflammation of the lacrymal sac, is one of the less important diseases which the ophthalmic surgeon requires to treat. It is not very common, but its incidence appears equal in the different classes of society. Lacrymation (also called epiphora and stillicidium) is the most frequent symptom of which patients complain. It is due to an excessive secretion of the tears.

It was formerly believed that the tears were constantly being secreted, and that the epiphora was due to an overflow on account of the lacrymal passages having become obstructed. The theory has been laid aside mainly on account of the results of modern operative work. It is now well known that the lacrymation ceases in these cases after the successful excision of the lacrymal sac, although such an operation obliterates the lacrymal canal at one part of its course, and if the tears were still being secreted in excess the epiphora would persist. Should a portion of the septic sac be left the lacrymation continues. It is therefore evident that the lacrymal gland either becomes atrophied or that the amount of fluid secreted under normal circumstances is taken up by the conjunctiva without passing through the lacrymal canal. The former proposition, which would presuppose that the atrophy of the lacrymal gland follows excision of the sac, has already been suggested; but Kuinders,[1] in a careful comparison of the glands of both sides, could find neither a difference in weight nor a deviation from the normal in microscopical sections on the side of the operation. Seydewitz[2] has, on the other hand, confirmed earlier workers in finding that atrophy occurs if the excretory ducts of the gland are divided. The lacrymation is therefore secondary to the toxic focus near the conjunctiva, and disappears when it is removed. It is of interest to note that considerable proof has now been advanced to show that the nerve to the lacrymal gland runs for most of its course in the seventh cranial nerve, and joins the fifth later. It is very probable that the moisture of the conjunctiva is maintained by the secretion of the numerous goblet cells and small glands contained in it.

Pathology.

While pathologist to the Glasgow Eye Infirmary I had a number of opportunities of examining the lacrymal sac and duct obtained from the operation of excision of the sac. The following changes were noted: The epithelium, while occasionally increased to two or three layers, was frequently absent; the subepithelial adenoid layer was greatly swollen and thrown into folds by a dense cellular infiltration, consisting of large numbers of small round cells, with polymorphonuclear leucocytes, ovoid cells, and young connective tissue cells. In some cases the infiltration was frankly purulent, the polymorphs being in great excess. In other cases the changes were more characteristic of granulation tissue. There was also a thickening of the wall, with a small round-celled infiltration, which is sometimes seen passing into the new-formed tissue, giving rise ultimately to the fibrous strictures, but these are not often observed in the pathological examination. Polypus was not observed in any of the cases, although the folds into which the mucosa was thrown occasionally gave the deceptive appearance of polypus formation. Trachoma and follicles, described by many German authors, were not seen. Tuberculous disease was present in a few cases.

Bacteriology.

The pneumococcus was found in a large number of the cases of chronic dacryocystitis. The streptococcus has not been so frequent, although in the acute pericystitis it was almost always present. The close association of the pneumococcus with dacryocystitis supports the view that it is generally secondary to nasal or accessory sinus disease.

Prognosis.

A septic focus in the lacrymal sac, if left untreated, is always a source of danger to the individual. Locally it may give rise to a purulent pericystitis, with the possibility of lacrymal fistula occurring. Conjunctivitis may occur; but the much more serious ulcer of the cornea with hypopyon is closely associated with chronic dacryocystitis. Various writers have, therefore, urged that the sac should be excised when found diseased in workmen who are liable to "fires" and other injuries of the cornea.

Orbital periostitis and cellulitis with abscess formation are occasional and dangerous sequelae. In a patient whom I saw in private with Dr. R. N. Dunlop, the exophthalmos reached 8 to 10 mm. The case is interesting as it occurred on the fifth day after parturition, which was normal and ran a perfectly normal course. When the abscess came to the surface and was incised the eyeball returned to its normal position. Atrophy of the optic nerve may follow, but it did not occur in this case. Apart from these considerations patients are often very much troubled with the lacrymation, and seek advice for it without experiencing other symptoms.

Treatment.

It was under the influence of the old obstruction theory that so many attempts have been made to dilate and keep the constricted lacrymal canal permanently open, or to form a new channel for the tears. There was a certain degree of proof for these views in that a stricture may be found in a large number of cases. It is probable, however, that, apart from congenital narrowing, stricture of the lacrymal canal is always secondary.

Constriction, or obliteration of the canaliculus, is stated by Fuchs[3] to be due most frequently to injury by sounding. On the other hand, strictures of the nasal duct are mostly secondary to nasal disease. This occurs directly in ozaena, the primarily atrophic form of rhinitis, where the cicatricial process closes the lower opening of the nasal duct. Chronic dacryocystitis arises most commonly from chronic inflammation of the nasal mucosa by continuity of structure. The vascular engorgement of the vessels surrounding the duct, which accompanies the dacryocystitis, compresses it, since both are enclosed in the rigid bone canal. Fibrous strictures develop later, as was shown in the pathological summary. It is thus seen that almost all strictures of the lacrymal passages are secondary, and that the inflammatory process is the primary affection.

The early attempts to form a new channel for the tears from the eye to the nose now appear crude, if not even barbarous, to modern views. Among the processes employed at the commencement of the eighteenth century were the boring of holes through to the nasal cavity by steel instruments or by red-hot irons.

That these attempts have not been altogether given up is shown by the new operation of dacryocystorhinostomy devised by A. Toti[4] of Florence; in which after excising the lacrymal sac, an equally large opening is made in the lacrymal bone and the nasal mucosa. It is frequently necessary, so it is said, to remove the anterior extremity of the middle turbinal bone, either before or during the operation. A plug of iodoform gauze prevents union taking place.

As early as the beginning of the eighteenth century various forms of hollow tubes and styles were employed. They have been gradually modified until the forms were reached that are familiar to every one.

It is difficult to say when probes were first used, but Anel appears to have been the first to use fine probes in association with his lacrymal syringe. For a time Bowman's probes were considered large enough; but Theobald[5] uses very much larger probes, and Lewis has introduced a probe for rapid dilatation, which is said to lead to destruction of the bone in the dried skull.[6]

When it is recognized that lacrymation accompanying dacryocystitis is secondary to a septic focus, it is at once seen that the treatment must be directed to the removal of that centre of irritation. It is therefore easily understood why all attempts to dilate the lacrymal canal or form a new

channel without treating the inflammatory reaction have so often been unsuccessful. It was in 1712 that Anel first introduced the lacrymal syringe. Various silver salts and lotions have been used. I have seen a patient who had been treated with protargol suffer a severe argyrosis extending for a considerable distance from the nose and along the inferior eyelid.

My own method is to use normal saline or simply boiled water, cooled to tepid. It is well to dilate the canaliculus with Nettleship's dilator, followed by Bowman's No. 3 probe if there is any difficulty with the introduction of the syringe. It is quite unnecessary to employ larger probes, and finer are more liable to produce a false passage. When the case is seen early, I have found three or four repetitions of the lavage at intervals of a week sufficient to cure the condition. It should be repeated once or twice at longer intervals. There seems to be a great difference between hospital and private patients in this respect, or it may be that the former are rarely seen as early as the others, because it is much more difficult to obtain satisfactory results with them.

Irrigation should be persevered with for, say, three months, but if the condition is not relieved at the end of that period the lacrymal sac should be excised. The operation is rendered more difficult by the troublesome haemorrhage than the writer of the editorial which recently appeared in the BRITISH MEDICAL JOURNAL[7] would allow. The efficient specu'a introduced by Stephenson and by Harman are, however, of great assistance in controlling the bleeding, and either should be used. The cicatrix left after the operation disappears rapidly, and the cosmetic result is very much superior to the styles which are sometimes praised. Lacrymation rarely persists after the operation.

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DISCUSSION.

Mr. T. HARRISON BUTLER (Coventry) read a paper describing a new operation for the extirpation of the lacrymal sac. He said it was essentially a modification of Kellers's operation. The site of the sac was rendered anaesthetic and anaemic by the injection of cocrenine. The primary incision was through the skin only. It took the form of a half-circle, with the centre at the canthus. The flap was carefully dissected up, avoiding buttonholing or wounding of the veins underlying the nasal side of the incision. The palpebral ligament was then isolated, and the deep fascia split vertically, so as to expose the sac. The sac was freed from its bed with blunt-pointed scissors, and pushed down under the ligament. Then the canaliculi were severed, and the sac drawn down towards the duct, twisted to a cord, and cut off. The operation was bloodless and painless, and no retractors were required, only sutures to hold back the flap and secure the ligament. He had done the operation seventy or eighty times, and was more than pleased with the results.

Mr. BISHOP HARMAN (London) said that in his experience the difficulty of removing the lacrymal sac arose from attempts to see it. In this operation touch was better than sight. The bed of the sac could be perfectly defined to the sense of touch. One could establish the actual position of the sac by means of a probe passed through the lower canaliculus into the sac itself. This procedure left no room for mistake. That done, he gripped the tissue between the fascia and bone, and removed it bodily. The removed tissue contained the sac, and little else. He did not hesitate to cut the palpebral ligament, and had never had any ill-effects from that.

Mr. JOHN HERN (Darlington) agreed with Mr. Harman that removing the contents of the lacrymal groove was the best procedure. But he did not favour indiscriminate irrigation. Most cases could be cured by syringing, preferably with weak iodine solution. For some, the use of a silver style and probing was very beneficial.

Mr. CLAUD WORTH said the practical abandonment of probing was a great advance; syringing should be the main procedure. Excision was a last resort, and slitting of the canaliculus should almost never be practised.

Dr. CUNNINGHAM (Belfast) said enough attention was not directed to the primary cause of dacryocystitis, which was commonly in the nose. Recently he had seen a case where cure of ozaena relieved the lacrymal trouble.

Mr. W. ALLPORT (Birmingham) said that in his experience it was never necessary to excise the sac unless an intraocular operation were contemplated. His practice was to use silver styles, and their insertion and retention had the most beneficial effect.

Professor PRIESTLEY SMITH (Birmingham) confirmed this statement of his colleague.

Mr. F. GRAINGER (Chester) also approved the use of silver styles, and in cases where abscesses had supervened recommended the use of chloride of zinc paste to the interior of the sac; it destroyed the diseased mucous membrane, and the fistula soon closed.

Mr. A. W. ORMOND (London) said styles were elusive things; he had once found three in one patient.

Mr. JAMESON EVANS (Birmingham) doubted if styles would cure the primary condition; excision secured a permanent result, and relieved the patient of serious risks.

The PRESIDENT said he had tried both styles and excision, and each of those procedures had their uses. He did not find any benefit in hollow styles over the solid ones. He agreed that more attention should be paid to the nasal conditions. When that was done sac troubles would probably disappear.

REPLIES.

Dr. POLLOCK, in reply, said that excision was rarely necessary in private patients, but it was frequently so in working people, from the cause he had explained.

Mr. BUTLER, in reply, said that in his operation he aimed at removing the sac alone; the removal of a lump of tissue was not good surgery.

ON EXTRACTION OF THE LENS IN ITS CAPSULE, WITH SPECIAL REFERENCE TO THE "JULLUNDUR" SMITH OPERATION.

By AMY SHEPPARD, M.B.Lond.,

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My paper is intended to suggest that extraction of the lens in its capsule is the operation of election in the great majority of cases of operable cataract, excepting those of children and young people and a few very hypermature senile ones. It is indispensable in that it is the only safe and effective operation in immature cases.

The paper is mainly based on personal observation of more than 650 such extractions, over 260 of these having been done by myself, under Colonel Smith's kind supervision, at the Civil Hospital, Amritsur, Punjab, between February 18th and April 18th last.

My practical interest in this operation dates from many years ago, when I performed it accidentally on my first case, after failing to rupture the capsule. The beautiful result, with rapid healing and absence of secondary cataract, made one anxious to repeat the failure, but one did not feel justified then in going outside accepted practice.

However, in 1900 I read in the *Indian Medical Gazette* a report by Colonel Smith on 770 cases in which he had designedly removed the lens in its capsule. In 1903 he brought the subject before the British Medical Association at its Swansea meeting, and it was put down for discussion at the Sheffield meeting in 1908. It was discussed fully at the Bombay Medical Congress in 1909, with special reference to the "Jullundur" Smith operation, and the

Ophthalmic Record of February, 1910, was entirely devoted to this same operation.

Three years ago, after demonstrating his operation on one of my patients, with her consent, at the New Hospital for Women, London, Colonel Smith kindly renewed his invitation to investigate the matter for myself, but last spring was my earliest possible opportunity of going to India for this purpose.

The patients at the Amritsur Civil Hospital are usually operated on on the morning of their arrival, the preparation being—(1) Cutting of the outer eyelashes to prevent contamination of the von Graefe knife; (2) washing of the closed lids with 1 in 40 carbolic acid; (3) one instillation of 3 or 4 drops of cocaine (5 per cent.) After two minutes or more the speculum is inserted, and while this is well raised and the brow well drawn up, the eye is thoroughly flushed out—scoured out perhaps better expresses it—with 1 in 2,000 corrosive sublimate, conducted through a ½-in. rubber tube from a glass reservoir 4 ft. above the patient's head. The instruments are boiled and placed in 1 in 40 carbolic acid in a shallow copper tray, except the von Graefe knife, which is dipped for half a minute into pure carbolic acid (liquefied), and then washed in a stream of 1 in 40.

The puncture and counter puncture are sclero-corneal and the knife is entered immediately above the equator, and not parallel with the plane of the iris, but with its cutting edge tilted forwards at an angle of 30 degrees to 60 degrees. The incision is almost radial, the purely radial incision so ably advocated by Captain McKechnie in the *Archives of Ophthalmology*, 1909, though undoubtedly the best mechanically, giving a scar too near the pupil unless the pupil remain quite central. The assistant draws both brows firmly upwards, to prevent squeezing on completion of the incision.

An iridectomy is done in nearly all cases, solely to guard against prolapse. In the few I saw done without iridectomy, the proportion of prolapse was much greater. Colonel Smith obviates the necessity for passing the forceps into the anterior chamber by an ingenious device, a stroking movement of one limb of the iridectomy forceps over the cornea pressing the iris into the wound. The assistant holds the fixation forceps, the operator controls the brow.

The speculum is then removed, and the accumulated tears wiped out by means of a sweep of the finger over the closed lids. The assistant now holds the upper lid forward by means of a large blunt hook, held in the right hand, and the lower lid down with the left thumb, at the same time grasping the face firmly with the fingers of the left hand, and the operator takes a small blunt hook in the right hand, a small spatula in the left. The actual technique of the extraction of the lens has to be varied according to the particular kind, and cataractous lenses fall into two main classes, for which the technique is quite different, namely:

1. Solid, for example the immature, which must be delivered erect.

2. Mouldable, that is those having some fluid or semi-fluid contents, which should be delivered as "tumblers," with lower margin first, to avoid burst capsule or facilitate its removal, if burst.

The free end of the hook is laid on the cornea at about the junction of the middle and lower third, and, in the case of immature and hard cataracts, gentle, steady pressure is made directly backwards until the upper margin of the lens presents in the wound, when the hook follows the lens up, tucking the cornea behind it.

If the lens is a "tumbler"—that is, will, if suitably manipulated, present its lower margin first in the wound—the hook is placed in the same position, and pressed backwards sufficiently to prevent it from slipping over the resistant ciliary ridge, when traction is made downwards, the ciliary ridge being used as a *point d'appui*. As soon as the lens has half turned, traction is abandoned, and the pressure directed back and up. When the cornea is well tucked behind, the upper margin of the lens can be freed by passing the hook on the flat across the wound behind it.

The spatula is not needed in many cases, but in low-tension eyes it is useful applied to the cornea to keep up sufficient tension; if vitreous show just above the lens the spatula is used as a rigid inclined plane up which to slide the lens; and if the upper edge of the lens tend to pass up behind the cornea, it is used to prevent this.

The cut iris is replaced by means of a special instrument like a narrow blunt curette, and this manœuvre, I think, is more difficult and more important than in the capsulotomy operation, as the cut margins of the iris are folded back on themselves by the passage of the larger body, and there appears to be a greater tendency to a wide and ill-shaped coloboma.

The operation being thus completed, the blunt hook is removed and dilute yellow oxide of mercury ointment is smeared along the margins of the closed lids. The dressing is a native butter-muslin wrung out of 1 in 2,000, and covered with a thin pad of cotton-wool, preferably coloured. Both eyes are bandaged.

The patients are carried to their beds, take their usual food, and are expected to lie on their backs for one day, on either side for two more, and may then sit up.

If there be no pain beyond the usual smarting, the bandage is not supposed to be undone till the tenth day, when it is replaced by a shade made of green tarlatan once folded. The patients are told to take care of their eyes for three months, and to come back for glasses. They usually leave the hospital as soon as the bandage is removed, and tramp to their homes, often great distances. I say *supposed* not to be undone, for, as a matter of fact, some of the patients remove theirs whenever they feel inclined, and this practice appears to lead to prolapse of iris and occasionally of vitreous, also to sepsis.

As for accidents, complications, and contingencies arising during the operation:

Escape of vitreous occurs in from 5 per cent. in skilled hands, to a variable and much larger percentage in unskilled ones. But one pupil at Amritsur had 21 per cent. in the first 100 eyes, and only 4 in the last 100; whilst another had 9 in the first 100 and 12 in the last 100, so that, perhaps, it is to a certain extent a matter of luck. I myself happened to do 60 consecutively without any loss, and Colonel Smith has done over 100. With regard to prevention: A sufficiently large incision, and, during the incision, careful control of the brows by the assistant, will usually prevent the patient expelling the lens and a variable amount of vitreous on completion of the incision, the operator contributing to prevention by deliberation in cutting out. In the later stages accurate pressure during delivery of the lens is needed, with lightness of hand and watchfulness to alter procedure if vitreous presents, also watchfulness on the part of the assistant to draw the upper lid on the blunt hook forward as well as upward, and to hold the brow firmly up. If this is done well, a presenting bead will often retract; otherwise it must be cut off, and little, if any, harm results.

Burst capsules can be minimized by a sufficiently large incision and care in delivery of the lens; but some capsules are excessively friable, and the utmost care is necessary. They can be diagnosed beforehand, and the skill and experience of the operator are here shown at their highest in adapting the procedure to the kind of lens. Lenses range, as before said, from the immature one, which, being solid, is delivered erect, to the one with some fluid contents, which should, if possible, be made to rotate forwards and upwards, so that its lower edge presents first in the wound. The object of making these lenses with weak capsules tumble up from below is to prevent retraction of the capsule, if it burst. If burst, pressure must be kept up, and, if presenting, the capsule can often be caught with the lens by ordinary dissecting forceps at the wound, or, if retracted, removed by iris forceps. If both these means fail, Colonel Smith always takes away a large piece of the posterior portion of the capsule, and so avoids the necessity for later needling.

Failure to extract is preventable by careful following up of the lens and tucking the cornea behind it. In the series of cases observed, I saw it once left behind, through sudden removal of pressure after complete dislocation.

Of after-complications:

Delayed healing of the corneal incision, which has been brought against this operation, was conspicuous by its absence in Colonel Smith's cases, except, of course, where there was prolapse of iris. When present in one's own cases, one recognized that it was due in the main to irregularity of incision, and it was absent when the incision

had been ideally completed by one inward thrust or by thrust and withdrawal. Any sawing leads to incomplete apposition.

Prolapse of iris was most frequent and most extensive in the few cases done without an iridectomy; in those patients who vomited soon after the operation (usually those who had to be carried some distance on a stretcher); and in cases where the incision was not kept purely corneal.

Prolapse of vitreous was noted in four cases, with delay in healing, but no other bad effect. The prolapse was cut off on the tenth day after operation.

Expulsive haemorrhage occurred in three cases, one being a man of 85, with arterio-sclerosis, who could not be prevailed upon to remain in bed during the day and night after operation. In the two other cases both eyes had been operated on, and the left of each was lost by haemorrhage coming on a few hours later, the right eyes healing normally, and with good vision. Glaucoma is very common in the Punjab, and though in cases definitely complicated with glaucoma Colonel Smith did an iridectomy and postponed extraction for three months, cases with some tension were not put off.

Suppuration occurred in four eyes—in four patients. Of these, one patient had trachoma of old standing, with marked entropion and hazy corneae. In this patient and in two others, the remaining eyes, operated on at the same time, healed normally; in the fourth patient the other eye had been lost earlier from some cause unknown. It is noteworthy that in each case it was the left eye that suppurated, and a possible explanation suggests itself: Some of the patients who did not go so far as to remove their bandages, yet wished to see, and were accustomed to raise the bandage over one eye, naturally the left, the right hand being reserved by Indians for touching food, the left for baser purposes. Four eyes lost through suppuration out of 650 is, I am told by other observers, an unusually high percentage in Colonel Smith's clinic, the average being 1 in 300. On investigation we found that two of these patients had been operated on on the same day, and that on that day the cataract operations had been immediately preceded by one on an urgent case of liver abscess, several pints of pus being evacuated.

A comparison of the intracapsular operation with the one in general use in Great Britain shows the following real and alleged disadvantages and advantages.

1. The intracapsular is undoubtedly a more complicated operation, needing greater skill.

2. There is a greater liability to escape of vitreous. But granting this, in the hands of a novice, it has been conclusively shown by Captain Lister, I.M.S., in a paper published as an appendix in Colonel Smith's book *On the Treatment of Cataract* and elsewhere, that it is of little, if any, importance so far as ultimate visual results go, provided the eye recover from the immediate effect of the operation.

3. There is said to be a greater liability to simple prolapse of the iris. In the 246 cases of my own of which I have notes, I had a percentage of 4.4 (11 cases), all slight, and, beyond delayed healing, giving rise to no trouble while in hospital.

4. A greater degree of astigmatism is alleged, on theoretical grounds, but not proved or easily to be disproved. In the series of cases with vitreous loss investigated by Captain Lister, he records, where astigmatism was present, from 0.5 D. to 1.25 D., the great majority being 0.75 D.; but he finds in a series of his own ordinary cases—that is, where no vitreous had escaped—that the average is somewhat higher.

5. Less shapely pupil and broader coloboma. I do not consider this inherent in the operation or in any way necessary to it, many cases being aesthetically perfect. Where Colonel Smith did the iridectomy and reposition himself in all cases, I was unable to compare the results of different operators. It seems possible that some less symmetically good results may have been due to his scrupulous avoidance of more than the absolute minimum of intraocular instrumentation, owing to the specially toxic and diseased conditions prevailing. One of Colonel Smith's former pupils, Dr. Greene, of Dayton, Ohio, invented a special repositor to meet these cases.

6. A very real disadvantage is the great importance of the assistant.

The advantages are:

1. Much less liability to irido-cyclitis (including under this, of course, all degrees of supposed simple iritis, if such exist). One was specially struck with this, the immunity being, in my opinion rightly, ascribed by Colonel Smith and others to the absence of dead cortical substance and tags of capsule.

2. Less liability to sepsis, due mainly, perhaps, to the absence of dead cortical substance and tags of capsule, and to avoidance of intraocular instrumentation, also, in Colonel Smith's method, to vigorous antisepsis.

3. Less liability to post-operative glaucoma due to attachment of capsule to the wound. (Knapp recently published a series of cases of this complication.)

4. With regard to visual results it is difficult to get statistics, but Captain Lister's evidence in the supposed worst cases—namely, those with loss of vitreous—shows visual results to be much better. Dr. Greene of Ohio published in the *Journal of the American Medical Association*, 1909, a parallel series of consecutive cases, showing a higher average in the intracapsular operation, though he was at that time much more highly skilled in the capsulotomy one.

5. There is no after-cataract, involving slow decline of sight, and the loss of time, the worry and risk of a second operation, which all patients abhor.

6. Finally, the intracapsular operation is the only safe and effective treatment for immature cataract, for which it is especially suitable.

The old objection to this operation was that it violated sound surgical principles in that, as there was no hyaloid membrane behind the lens, independent of its capsule, the vitreous was left exposed. This we know to be an incorrect view of the anatomical facts.

Extraction in the capsule has been done for many years in many countries, with varying success, but I have confined myself to Colonel Smith's operation, because it seemed to me, so far, the best available, and he has done it extensively—in over 25,000 cases—and is popularizing it in America and India, where he attracts large numbers of the younger medical men and women in the Indian Medical Service, the Royal Army Medical Corps, and the various medical missions. It is now successfully competing in India with the old operation and with the traditional couching—the latter an ideal operation if the results were lasting—and I have seen Colonel Smith operate on the "Rawal" or hereditary lens-coucher himself.

Written descriptions of operations are apt to be unsatisfactory, especially when a rigorous compression has to be practised, and I am acutely conscious of having done less than justice to this subject and, incidentally, to the skill, resource, and mechanical genius of the originator of the special operation described.

DISCUSSION.

Mr. Gray Clegg (Manchester) had had a small experience in doing the operation, and from his results he felt warranted in further practising it.

Major Elliot, I.M.S. (Madras), did not favour the operation. He considered that prolapse of the iris and vitreous were more common in the intracapsular operation. He thought that four suppurations in 650 cases was enormous, and felt that the capsule and cortex remaining in the eye constituted no danger at all so long as it was not in the wound. More statistics were required, and he urged all those who could do so to bring forward their results. He did not think that a small iridectomy did any harm, and the visual results were almost the same with and without it.

Mr. A. W. Ormond (London) considered that no operation which necessitated the doing of an iridectomy could be regarded as the operation of election. He thought the advantages of an intact pupil were enormous.

Dr. R. A. Reeve (Toronto) was greatly in favour of McKeown's method of washing out the cortex, and this method greatly facilitated the operation in immature cases, and, if resorted to habitually, would greatly lessen the necessity of the intracapsular operation.

Captain A. E. J. LISTER, I.M.S., said that his series of 98 cases in which vitreous was lost and in which no harm resulted was not sufficient to warrant the statement that no subsequent bad results followed. More cases would have to be investigated. He considered that the eye which was free of all cortex and capsule was in an infinitely better position than the one in which both were present, and the after-results would be different also. An eye, however, which had its vitreous exposed was far more liable to suppuration than was one in which the posterior capsule was intact.

Dr. JOHN O. MCREYNOLDS (Texas) said that the intracapsular operation had produced a very favourable impression in America, and those who had studied the operation most carefully were the most enthusiastic in its favour. Others, such as Savage of Nashville, had modified the operation as the result of their own experience.

Colonel SMITH, I.M.S. (Amritsur) thanked Dr. Sheppard for coming to the Punjab to see for herself his methods. His own experience as to loss of vitreous fully confirmed Captain Lister's investigations. He answered a good deal of criticism of his methods by others, and said that there was no difficulty in following up cases in the Punjab, and he hoped in a few years to be able to give the after-results in several thousands of cases, but the difficulties were great. The great advantage of his operation was that it was complete and not partial, for the whole of the opaque matter was removed, and this was the cause of the absence of iritis in his cases. If the capsule were adherent, he looked upon needling as a very serious operation indeed, and complications were frequent. He strongly condemned the early needling of the capsule before the eye was quiet as a most unsurgical proceeding. A violent irido-cyclitis was liable to be the result, and in a case he had seen which was needled on the seventh day the eye was lost from this cause. He thought the capsule ought either to be dealt with at the time of the extraction or else not until a month after all signs of irritation had disappeared. The great disadvantage of the intracapsular operation was that it was the most highly technical operation in surgery, and few surgeons had sufficient material to become proficient at it.

THE BLIND AND THE CENSUS OF 1911.

BY

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THE census paper of 1911 showed an alteration in the last column provided for entries. In census papers of earlier decades provision was made for the enumeration of the blind. No qualification of this term was indicated; the description was "blind" only. In the paper of this year the description was altered; it appeared as "totally blind."

At first sight the alteration may not suggest much, but on closer examination it will be found that the addition of the adjective "totally" has destroyed one of the most useful of the census returns, both by unduly limiting the inquiry made by the census, and by presenting a conundrum of no little difficulty to those who have to fill in the census paper.

Before attempting to show what will be the probable effect of this alteration upon the enumeration of the blind, it will be well to give some account of what in all probability led to this change in the census designation.

Last year during the course of committee work connected with the blind it was found that there was ground for belief that the inquiry presented by the old census papers failed to obtain anything like a proper enumeration of persons who were blind for the practical purposes of life. Changes in modern social and industrial conditions have thrown into the category of "blind for practical purposes" many who would not ordinarily consider themselves blind. A person, for example, who can just see his way about in ordinary traffic and read printed matter at his own distance does not consider himself blind. Yet that same person for the purpose of education, or for earning a living in ordinary competition, must nowadays be considered blind. Acts of Parliament, such as those dealing with employers' liability, render these persons unemployable in all ordinary trades; the risk to the employers is too great, so special work has to be made for such partially blind persons; or, again, the Education Acts require that with such poor vision a child shall be educated in a special school at a cost far in excess of that necessary for a normally sighted child. Both special schools for the blind and employers' liability legislation were designed to ameliorate the condition of those suffering a handicap: and so they do, but at the same time they intensify that handicap in other directions—for example, the training of a blind school is a benefit and a delight to the child, but when the time to leave comes it is difficult to secure work for a youth just out of a blind school.

These modern industrial conditions have greatly increased the work of charitable societies and care committees dealing with the blind, so much so that from many quarters there have arisen demands for special privileges and provision for the blind—such, for example, as free travel upon municipal tramways, and the institution of state workshops for the blind. The justification or otherwise of such demands must be put to the test of the conditions of the situation. The first condition that must be proved before demands for special treatment can be met is that there exist a considerable number of persons lying under the disability of "blindness for practical purposes." The collection of reliable data upon such a point for the whole country is an impossibility for private individuals or societies, but the State can secure it without difficulty in the ordinary course of numbering the people.

With a view to secure such a State inquiry it was proposed by a committee that a deputation should wait upon the Registrar-General, to submit to him these points and to ask his aid. Mr. H. J. Wilson, of the Gardner Trust for the Blind, and myself were selected. We had a lengthy and most interesting interview with the Registrar-General and his staff. We asked that in the census for 1911 he should require information concerning (1) blind, (2) partially blind. If any definition were required of these terms, (1) might read "totally or stone blind," with the explanation "not able to see his way about"; (2) partially blind: (*a*) "a child who attends blind school," (*b*) "adult unable to earn living by ordinary-sighted work." The view was expressed that in all probability the terms themselves were sufficiently descriptive without added explanation. At the conclusion of the interview we were inclined to think that the object of the deputation had been attained, at least in the sympathetic consideration of our case by the Registrar-General. But, alas! when the actual census paper appeared, it was clear that we had failed, or else that, like so many Academy pictures, our two divisions were accepted but only one was hung!

A Census of London Blind Children.

Shortly after the census of this year had been taken the inspection of the children attending the London County Council blind schools was made. During that work I came into contact with parents to whom questions were put as to what entry they had made in the census paper against the name of their child. The answers were so suggestive that all the parents or guardians were asked to state what entry, if any, had been made under the column marked "Totally Blind." At the time of the census 326 children were on the rolls of the blind schools. The returns of all were accounted for save 14; these few were either away from London, in hospital, or their parents refused information.

The entries made for these children may be classified thus:

Totally blind	83
Partially blind	120
No entry made	109
Total	312

Included with the "totally blind" are a few odd cases entered as "blind," "blind from birth"; and with the "partially blind" a few marked "nearly blind," "bad

eyes," "defective sight," "cataract," "goes to blind school."

The figures of these returns are surprising. The census asked for information concerning the "totally blind" only, but parents had on their own initiative disregarded the direction of the census paper to the extent that 120 of the 312, or nearly 38 per cent., volunteered information that their children were "partially blind." Evidence of such a widespread disregard of the official prescription makes one wonder: First, what must be the entries of the rest of the blind of the country; secondly, in what manner the official enumerators will deal with such "unofficial" returns—will it be necessary for them to do as did one of the collectors who, calling upon a woman and finding she had entered her child as "partially blind," told her "*he should scratch it off*"?

Lest it be thought that this irregular action of the parents was prompted by direction, let me add that there was no direction in the matter, and the nature of the returns was a complete surprise. It may be asked, How, then, came parents, for the most part poor people, to enter their children in this particular manner? The answer to this is undoubtedly to be found in the notice board affixed to every such special school "For Blind and Partially Blind Children."

I do not think it would be possible to present any more conclusive proof than these figures of the desirability of a differentiation of the census designation of the blind, or a more complete vindication of our deputation that pressed this differentiation upon the Registrar-General. Very many parents felt that "totally blind" did not meet the case; they had children who were blind but not totally blind; they wished to indicate this, and they wrote "partially blind." Had householders been officially asked to do this, all would have done what the few have done, and the census of 1911 would have secured, perhaps for the first time, an enumeration upon which reliance might be placed: as it is, there is no difficulty in showing that the new returns will not only be valueless but gravely misleading as evidence of the state of blindness in this country.

Analysis of the London Blind Children.

At each inspection of the children in the London County Council blind schools record is made of what, if any, vision each child has. At the inspection immediately preceding the date of the census particular care was paid to this point. From these data a new and experimental return has been made out upon the lines of the differentiation asked for by our deputation: (1) Blind; (2) partially blind; and (3) those children for whom no entry should be made.

This experimental return will be compared with the return actually made by the parents, for it is particularly desirable that we should know what sort of children are those who attend blind schools to the number of 109 in 312, or nearly 35 per cent., and yet find no place in the enumeration of the blind.

	Blind.	Partially Blind.	No Entry.
Parents' returns	83	120	109
Experimental return...	153	143	16

The difference is plain. In my return there is a heavy transfer of cases from the "no entry" column to the "blind" and "partially blind" columns. This means that large numbers of parents made no entry in the census paper for children who should have been returned as blind under any reasonable classification.

The basis of the classification in my return will show the difference well. It is as follows:

Blind.—Those whose vision does not enable them to do more than distinguish fingers up to the distance of 1 m. Of the 153 so returned 59 had no perception of light, 33 had some perception of light, and 61 could detect hand movements or see fingers at distances from 10 cm. up to 1 m.

Partially Blind.—Those whose vision enabled them to read some letter on Snellen's test card at any distance and under the most favourable circumstances. It includes those whose vision varied from $\frac{1}{60}$ to $\frac{6}{60}$, but exceptions were made for a few cases that this rigid limit would exclude, such as cases of retinitis pigmentosa.

To Pass as Sighted.—Those whose vision exceeded $\frac{6}{60}$. The 16 in my return include cases of high myopia, interstitial keratitis, and keratitis, which would not be in a blind school but in a myope class, if there were places for them.

Children for whom Parents made no Return.

These number 109. According to my examination only 16 of them should have been omitted from some enumeration of the blind. The term "totally blind," if it means anything, means that there is no perception of light; acting strictly according to the official direction, only 59 of these 312 children would have appeared in the census as blind. Some parents, acting in the spirit of common sense, entered as "totally blind" children who had perception of light, or who could count fingers; others, acting according to the strict letter of the law, excluded children whose vision was no more than a bare perception of light, and in one eye only. I cannot show better the sort of cases that have no place in the number of the blind in this 1911 census than give the "no entry" children of one school. It is typical of the rest. A census of the blind that takes no cognizance of such a group of children as the following is no census at all.

Boys' blind school, 31 children. Census returns: "Blind," 3; "partially blind," 13; no entry in the census paper, 15. The 15 not entered in the census paper are the following:

Initials.	Cause of Blindness.	Vision.
B. M.	Microphthalmia, congenital cataract, coloboma of irides	Fingers 1 ft.
A. A.	Congenital cataract	Fingers 1 ft.
A. R.	Ophthalmia neonatorum	Fingers 3 ft.
F. L.	Interstitial keratitis (congenital syphilis)	$\frac{6}{60}$
P. D.	Ophthalmia neonatorum	Fingers 3 ft.
W. J.	Congenital dislocation of lenses	$\frac{3}{60}$
E. E.	Keratitis	$\frac{6}{60}$
J. E.	Interstitial keratitis (congenital syphilis)	Fingers 3 ft.
P. W.	Ophthalmia neonatorum	Fingers 1 ft.
R. G.	R., interstitial keratitis; L., excised	Perception of light.
T. J.	High myopia wearing −18 D.	$\frac{6}{6}$ with glass.
W. A.	Interstitial keratitis (congenital syphilis)	$\frac{6}{60}$
G. R.	Ophthalmia neonatorum	R., $\frac{6}{60}$; L., p.l.
H. E.	Interstitial keratitis and iritis	Fingers 1 ft.
M. E.	Ophthalmia neonatorum	Perception of light.

Conclusions.

The foregoing examination of the census returns of 1911, made on behalf of 312 scholars of London blind schools, and the comparison of these returns with the actual conditions of the children show:

1. That the census returns of 1911 will be useless as an enumeration of the blind and dangerous for any purposes of comparison or legislation.

2. That in any future census of the blind it is desirable to ask for information under two heads—(1) blind, (2) partially blind. That these terms are self-explanatory and natural, and therefore more likely to obtain a faithful record of the state of the blind of the country than any rigid or elaborate definition.

It is eminently desirable that a large body of evidence, such as I have given above, should be gathered without delay, and I would venture to suggest that all ophthalmic surgeons attached to blind schools or institutions should, either themselves or through their officials, gather the returns made for their inmates, and, if possible, for those who have left their school and of whom trace has been kept. Further, it seems desirable that the Council of our Association should appoint a subcommittee to investigate the matter and make such representations as they may deem fit to the proper authorities.

A REPORT ON THE USE OF CARBON DIOXIDE SNOW IN OPHTHALMIC WORK.

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THE following paper is intended to show the use of intense cold as a means of inducing inflammatory reaction and the consequent stimulation of healthy reparative reaction. The results of the treatment of various chronic conditions obtained from the old-established cauteries and caustics are not so consistently successful that the searching trial of a newer reagent is not deserved. Evidence will be adduced to show that the physical agent—solid carbon dioxide—is of real value as a curative weapon, in so far as it brings about inflammatory reaction easily and safely, and is therefore of practical use in everyday ophthalmic treatment.

The low temperature required is obtained by means of solid carbon dioxide. This reagent was first used in England by Morton in 1901,[1] and last year, at the Annual Meeting of the British Medical Association, Harman and Morton[2] gave a short but suggestive paper on its use in eye work. The lines laid down by these writers have been to some extent followed up, but the list of diseases treated has been extended, and the number of cases available makes it possible to form an opinion as to the ultimate place of the remedy among the already long list of physical agents used therapeutically.

As to the method of handling the reagent, it may be said that all the complicated and expensive apparatus devised by ingenious observers is quite unnecessary, and, indeed, is too cumbersome to carry about in private work.

The gas is obtained in the liquid state from any firm supplying it for aërating water; it is sent out in steel cylinders of various capacity. These cylinders have a screw tap and a nipple, from which the gas is allowed to escape.

For collecting the snow a chamois-leather bag of about 6 in. square is fitted with a draw-string, and this bag is held over the nipple of the cylinder by means of pulling the draw-string taut. The cylinder is then held vertically, so that the tap is the lowest point. The tap is then turned on cautiously at first, lest the bag should be blown off the nipple; the liquid is then allowed to escape more freely into the bag. A few seconds will suffice to obtain a quantity sufficient for one or two cases. The bag is then removed, and after pressing the sides together to force the snow into large lumps the bag is turned inside out, and the rest of the snow is scraped off the leather on to a cloth. All the snow so obtained is then pressed into a mass. The moulding of this snow into convenient shapes is done by using moulds of various shapes. In this work it has not been found necessary to use more than two moulds—one a brass one of 8 mm. diameter fitted with a heavy ramrod, and another, used especially for trachoma, of a shape similar to the area of palpebral conjunctiva exposed when the upper lid is everted. This latter mould is somewhat semi-elliptical in section. Any other shape required, such as rectangular or pointed, can be readily obtained by rubbing the compressed pencil against the side of a vessel containing boiling water. The small rectangular copper sterilizer in common use is admirably suited for this purpose.

In ramming the snow into the moulds, it is very important to always make the pencil hard, for the exposure is dependent directly on the hardness of the pencil, it is also dependent directly on the pressure exerted in holding the snow in contact with the part to be treated. The pencils can be safely handled in a piece of cotton-wool; this obviates entirely the risk of burning the fingers of the operator.

In treating lids affected with follicular conjunctivitis of whatever origin, it was found that the best way to avoid burning the bulbar conjunctiva and the skin of the lids was to evert the upper lid and direct the patient to look down strongly. Then the everted lid is pushed down over the globe till it touches the lower lid. The snow is then applied to the everted lid and is held in firm contact with the conjunctiva over the tarsal plate for from ten to fifteen seconds. When it is removed the conjunctiva is frozen hard on to the tarsal plate. This is allowed to thaw before the lid is released, and, as a rule, a little weak cocaine ointment is put on the conjunctiva before it is allowed to come into contact with the globe. Cocaine before the application of snow is unnecessary.

In rodent ulcers the method is to a certain extent obvious, but it has been found that by persistently applying snow to the raised edges of these growths the cure is much more readily effected than by applying snow all over the diseased area at each sitting. As long as there is a good scab in the centre of a healing rodent, and this can be kept clean, so long will the freezing of the edges—which are always advancing inwards—hasten the cure in the most rational manner. The freezing of the centre parts of such a growth need not be done more than two or three times in the treatment.

In trachoma the use of this reagent was widely tested in the trachoma clinic at the Royal London Ophthalmic Hospital, and the diagnosis of the disease in all cases was undoubted, some of the cases having attended that hospital, or other London hospitals, for considerable periods without being much relieved. It was found that the application of carbonic snow to the conjunctiva covering the upper tarsal plate was sufficient to bring on a violent vascular reaction in the whole conjunctiva, and the beneficial results must be attributed chiefly to this inflammatory reaction. Except in few cases—and those at the beginning of the observations—it was found more efficient as regards relief of symptoms, and more comfortable to the patient, to carry the freezing just so far as not to destroy the conjunctiva entirely. Applications were given about once in ten days, and the average exposure with a hard pencil and a pressure of about 6 oz. was from ten to fifteen seconds. Owing to the subsequent congestion of the conjunctiva, it was found advisable to treat one eye at a time. Cases which had a history of some months were found to stand a longer exposure than recent ones, owing to the thickening of the conjunctiva and the admixture of fibrous tissue.

In all 37 cases were treated and watched for six months afterwards. In 7 of these cases there has been no suspicion of the return of the disease. In every other case the relief afforded was rapidly attained and lasted for a longer or a shorter period; relapses could always be controlled by another application of snow. Pannus and ulcers cleared up in a remarkable manner in all cases. Expression with roller forceps or other drastic methods for dealing with the follicles was found unnecessary, for the nodules disappeared as a rule after the first application. It was also noted that the periods of comfort lasted for increasing intervals, and in most cases the patients themselves ask for further "snow" treatment. Concurrently with this treatment the strong antiseptic method of ocular hygiene was persevered with.

In naevi of the skin of the lids the result was excellent; also the "lymphatic naevi" of the conjunctiva, whether they were pedunculated or diffuse, disappeared more or less completely after about six applications, with exposure averaging thirty seconds. In all cases the vascular elements of such growths quickly lessened and finally disappeared, and the subsequent fibrotic changes brought about a shrinkage of the whole growth, with strangling of all or most of the lymphatic element. One case of a whorl of vessels piercing the sclera about 8 mm. behind the limbus, was successfully treated through the conjunctiva with a pointed pencil; six applications, averaging twelve seconds, were needed. It may be said that this was the only case where the snow was used in contact with the globe of the eye, and extreme caution was necessary at first, lest deep inflammation should be set up.

In spring catarrh an absolute cure was obtained in a long-standing case by three applications of fifteen seconds to the conjunctiva of each upper lid.

Rodent ulcers about the lids afford a striking example of the value of the remedy. Of the 4 cases treated, all recovered completely, with growth of apparently normal skin over the site of the long-standing chronic ulcers, and so far none have shown the least sign of recurrence. This skin seemed to have very little tendency to contract. In all these cases zinc ionization had been tried without making any impression whatever on the size or progress of the lesions. One case, shown at the Ophthalmological Society of the United Kingdom on May 4th, 1911, had a history of eight years' steady growth, and the other cases were almost as long-standing as this one. The average exposure was 60 seconds, and the applications were made once a week, and each case was completely healed in under three months. In those cases of rodent ulcer at the root of the nose, or about the lid margins, one cannot give the longer exposures quoted in the treatment by this method of rodent ulcers in other parts of the body, for in the first class of case the danger of setting up periostitis is to be reckoned with, owing to the lack of subcutaneous tissue; and in the second class of case the nicest balance must be

held between healing and remaining at a standstill, so that the formation of fibrous tissue may be at the minimum, else the results are complicated with ectropion and similar deformities.

With regard to the theory of the action of the reagent in these cases, it seems reasonable to suppose that the cells of the new growth are, for the most part, killed outright by the low temperature, and any remaining elements of new growth are easily overcome by the new healthy tissue formed as a consequence of the vascular reaction following the thawing of the part. If the temperature did not destroy the cells of the new growth, then ordinary congestive treatment should cure these cases; but, as a matter of experience it is known that congestion, whether active or passive, does not have much effect as regards cure.

To sum up, solid carbon dioxide is to be welcomed as a means of inducing inflammatory reaction and consequent repair, because of its portability, the simplicity of the apparatus required, the small cost (a 4½ lb. cylinder costing 1s. 6d. to refill, and the gas contained therein sufficient for at least forty applications), and the minimum amount of experience required in the use of the reagent. The reaction can be watched, and the treatment can be slow at first, and, as one gets more cases to go upon, the exposure time in each case is readily judged. Thus it may be fairly said of this method of treatment that:

1. It apparently cures rodent ulcers when bone is not involved.
2. It relieves all cases of trachoma, and cures about 20 per cent.
3. It cures naevi of all types, and is therefore of considerable value in ophthalmic practice.

In conclusion, I have to thank the surgeons at the Royal London Ophthalmic Hospital for giving me every opportunity of following up this line of treatment.

References.

[1] Some Results of Local Application of Solid CO_2 (E. R. Morton, British Medical Journal, January 29th, 1910). [2] The Use of CO_2 in Eye Work (N. B. Harman and E. R. Morton, British Medical Journal, October 29th, 1910).

A PHOTOMETER FOR THE USE OF SCHOOL DOCTORS.

BY

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Nowadays the school doctor is expected to do many things besides inspect the pupils of the schools he visits. One of the most important of his duties is that of examining the classrooms in which the school work is done, as regards lighting, ventilation, etc. The examination of the lighting of classrooms both for desks and blackboards illumination is one of the first importance. The character of the discussion on this subject recently convened by the Society of Illuminating Engineers[1] showed how widespread and keen is the interest taken in this branch of school equipment. At that meeting the subject of the artificial illumination of schoolrooms was introduced by myself, and in discussing photometry I made certain criticisms upon the instrument with which my investigations in London County Council schools were made. At the conclusion of the debate a firm of optical manufacturers intimated that they wished to make a photometer on the lines I suggested, and the instrument shown is the outcome of those and subsequent experiments.

This photometer is based upon Bunsen's grease-spot photometer; that method of measuring relative illumination is well known to laboratory workers, and it is the basis of most forms of photometers. It is, however, not suitable for school use, since it is not readily portable, nor adapted for measuring the illumination of horizontal surfaces. In this new instrument a standard sperm candle is mounted within a box, A. The top of the box is hinged at J, and lifts so as to form a chimney and guard, H. The front of the box is in part hinged at G, so that it can be brought out to form a platform, E. The flat top of the platform is cut with a circular hole, which in use is covered with a sheet of very thin paper, F. The interior of the platform has fitted within it a card reflector set at an angle of 45 degrees to the flame of the candle. The candle holder is fixed upon a stage which slides in grooves, and to this stage is attached a rack and pinion gearing, so that the candle can be moved forwards and backwards in relation to the screen by turning the milled wheel, D.

When it is proposed to measure the light falling upon a desk, the box is placed theron, the lid opened, and the candle lighted; then the lid is set at an angle to serve as chimney and guard. Now the front platform is turned out so as to expose the white paper screen to the light of the room. The milled wheel is turned to bring the candle forward until just sufficient light is reflected upon the under surface of the screen to cause the central area to appear slightly whiter than the rest of the paper, like the full moon behind a thin cloud; with a very little

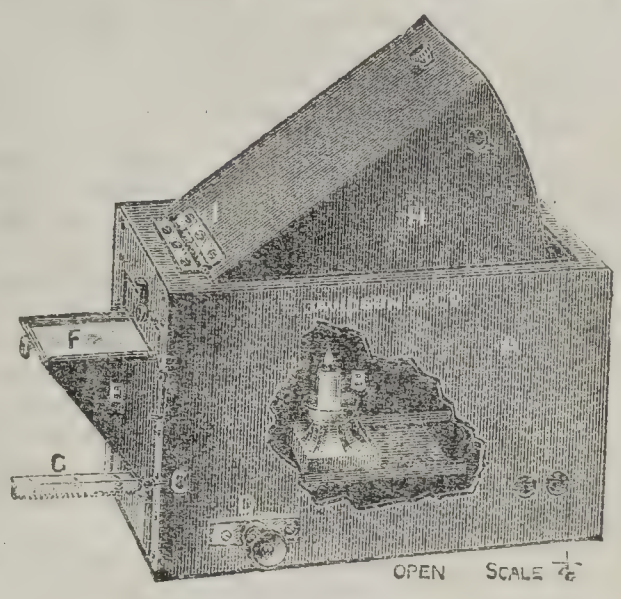

Photometer for School Doctors.

practice one gets expert in judging this point. The candle, in the particular position and conditions of reflection, just overbalances the light falling upon the screen from above. The ratchet which draws forward the candle is protruded from the front of the box, C, coincidently with the movement of the candle, its flat surface is graven with a scale marked in foot-candles from 1 to 16 candles, so that the illumination of the desk can be read off in the usual English terms (the correction for the Continental standard "metre-candles" is given). Further, the minimum illumination required for classroom purposes is marked separately on the sides of the scale; the minimum for daylight has been fixed at 9 foot-candles and for artificial light at 3 foot-candles. Between the reflector within the front platform and the candle is a blue-green filter glass, to absorb the yellow rays of the candle flame and give the reflection upon the screen a clean white tint. The reflector is made of plain white card, so as to be easily renewable. The paper used for the indicator screen is fine mat-surface parchment paper, so that is also easily renewed. The source of illumination is a London sperm standard candle (six to the lb.); a candle has an advantage in that the instrument is ready for use at any time, whether the periods of its use be frequent or separated by long intervals. The photometer when closed measures 8 by 5 by 3 in., so that it is handy. The new photometer has been found convenient in use and accurate within the requirements of the purpose for which it is designed. It is made by Messrs. F. Davidson and Co., of 29, Great Portland Street, London, W., and it is inexpensive.

Reference.

[1] February 16th, 1910. *The Illuminating Engineer*, March and April, 1910.

Mr. Carey Coombs, M.D.Lond., of Castle Cary, has been appointed Justice of the Peace for the county of Somerset.

The following are among the gentlemen whose names have been added to the roll of Justices of the Peace for the County of the City of Glasgow: Sir George Thomas Beatson, K.C.B.; Sir Hector Clare Cameron, M.D.; Thomas Kennedy Dalziel, M.B., C.M., Lecturer on Clinical Surgery, University of Glasgow; Professor Robert Kennedy, M.D.; and James Henderson Nicoll, M.B., C.M., Lecturer on Clinical Surgery, Western Infirmary, Glasgow.

SECTION OF PATHOLOGY.

R. F. C. LEITH, F.R.C.S., President.

DISCUSSION ON ANAPHYLAXIS.

OPENING PAPER.

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A FEW examples of anaphylaxis can be culled from the older literature: thus, Magendie noticed, as long ago as 1839, that a rabbit which had received an injection of albumen without obvious ill effects might die from a second given some days later. Koch had published his epoch-making researches on tuberculin, and had made us familiar with a series of phenomena which, if not absolutely identical with those met with in true anaphylaxis, are at least closely allied; and v. Behring, a few years later, found that a guinea-pig which had received a minute dose of diphtheria toxin, not large enough to make it even slightly ill, might die after a second minute dose given after an interval, the amount given being, perhaps, not one eight hundredth part of the so-called "minimal lethal dose." Similar phenomena were noticed in the case of tetanus toxin, and this question of hypersensitiveness to toxins assumed great importance in the preparation of therapeutic antitoxins on the large scale. Special methods of accomplishing the earlier steps of the immunization of the horses had to be devised, in view of the liability to loss attendant on a simple process of securing immunity with small but increasing doses, and the slowness and uncertainty of the method.

But the first to make a systematic investigation of the subject, to realize its importance, and to devise a name for the condition, was Richet, who in 1902 studied the effect of the poisons of certain actinians. He found that a dog which had received a very small dose of any of the poisons which he investigated, a dose so small that it might cause no symptoms, would become so altered that a second dose, also innocuous to normal animals, would kill it in very short time, after a series of remarkable symptoms; that a certain length of time, some ten days, was necessary for the production of this hypersensitiveness, during which time the animal behaved like a normal one when injected with toxin; that the stage of hypersensitiveness lasted some weeks; and that it was specific.

In spite of the excellent studies of Richet, the subject did not attract the attention which it deserved for some time; and this, I think, was due to the fact that the substances with which he worked, like the toxins of diphtheria and tetanus, were highly poisonous, and medical men, accustomed to the idea of accumulation of poisons in the body, and consequent apparent sensitiveness to small doses, did not appreciate the fact that they were dealing with a series of phenomena of an entirely different nature. The researches of Arthus, which appeared about the same time, it is true, deal with hypersensitiveness to normal horse serum, but these also, for some reason, escaped being appreciated at their proper importance, and it was not until the investigation, the very remarkable "Theobald Smith phenomenon," by Otto in Germany (at the request of Ehrlich, to whom the phenomenon had been described by Theobald Smith), and by Rosenau and Anderson in America, that pathologists realized that they were dealing with a new and amazing series of phenomena, of the greatest possible interest in immunity, and of importance in the light they throw on certain problems in cell nutrition and in general medicine. Arthus's results were obtained with rabbits, and deal mainly with tissue anaphylaxis; the subcutaneous injection of horse serum leads to no noticeable pathological changes in a normal rabbit, but repeated injections, not necessarily into the same spot, cause local oedema, brawny swellings, and finally aseptic sloughing and ulceration. Here repeated injections change an animal so that an innocuous fluid becomes irritating or necrotizing. Arthus also noticed that a rabbit which had been sensitized in this way would die rapidly after an intravenous injection of the serum used in the first injection. His experiments are of great interest, since man behaves, in regard to anaphylaxis, more like the rabbit than the guinea-pig, which has been more studied in this respect.

Theobald Smith's observation (which had been made by many previous workers in the preparation of antitoxin, though they had not appreciated the conditions necessary for its production) was even more striking. Diphtheria antitoxin, as you know, is standardized by injecting a mixture of the serum and of a test toxin into a guinea-pig. It is also tested for freedom from toxins, a large amount being injected intraperitoneally into guinea-pigs, which should not be injured thereby. Theobald Smith noted that occasionally this intraperitoneal injection was followed by a remarkable train of symptoms, coming on suddenly and almost immediately after the injection, and often leading to the death of the animal in a few minutes; and he found that this occurred in animals which had received a dose of serum some weeks previously. Here the previous injection of a very minute amount of a non-toxic substance had altered the animal so that it was rapidly killed by another dose of the same material, which thus appeared to have become tremendously toxic for it. His observations, and the subsequent work of Otto and of Rosenau and Anderson, laid the foundation of our knowledge of the subject. Since then an extraordinary amount of work has been done.

Before leaving this very incomplete historic introduction I ought to mention that the careful work of von Pirquet and Schick and of Currie on the serum disease had drawn attention to similar phenomena as they affected man, and the conception of "allergie" by von Pirquet, and his discovery of the cuti-reaction in tuberculosis and other diseases, had served to direct the attention of pathologists and clinicians to the subject in another aspect. What allergie exactly is, and what is the relation between anaphylaxis and hypersensitiveness to tuberculin and similar substances are questions which I hope will be more fully elucidated in this discussion; at present all we can say is that the two groups of phenomena are at least closely related.

Here I should like to say a word or two about names. One of the difficulties in following the progress of our knowledge of anaphylaxis has been the extraordinary variety of words which have been coined in connexion therewith. At times it is necessary and convenient to invent a word to denote briefly what can otherwise only be described by a circumlocution, but here the process has been carried beyond all reasonable limits. In what follows I shall avoid, as far as possible, the use of any terms which are not self-explanatory.

The first question which needs discussion is, What exactly is anaphylaxis, and what are the signs by which we can recognize it in a doubtful case? I do not think it is possible to give a categorical answer to these questions at the present time, and, in order to answer them as far as possible, I propose to give an outline of the conditions necessary for its occurrence, and a description of some of the main phenomena of the state.

The conditions essential for anaphylaxis are, first, the introduction (usually by injection, but in some cases by ingestion) of a substance *not normally occurring in the body*. Not every substance will act in this way, and, as we shall see, it is a phenomenon probably confined to proteins. Secondly, there must be an interval varying in different cases, but not usually less than a week, and it may be a fortnight or more. The animal is, or may be, then anaphylactized or sensitized, and a second injection of the same substance will bring about the reaction of anaphylaxis. We may refer to the first as the "sensitizing" and the second as the "reacting" dose.

The length of this incubation period depends on the species of animal, on the nature of the sensitizing substance, and on the dose. In general terms it is not less than a week in duration, and during this period of incubation the animal is apparently in every respect normal. In man, according to von Pirquet, local appearances of anaphylaxis may occur as early as the fifth or sixth day after an injection of serum (such as antitoxin), but the full effect is not apparent until the twelfth day. In the dog, according to Richet, anaphylaxis appears after the tenth day and attains its maximum at the fifteenth.

As regards the question of dosage, it is noteworthy that a large dose tends to delay the occurrence of the anaphylactic state. This misled Rosenau and Anderson into

thinking that large doses of serum (in the guinea-pig) did not cause anaphylaxis. Gay and Southard showed that this was not so; large doses simply delayed the appearance of the state in question. Thus, whereas guinea-pigs were fully sensitized after an injection of 0.01 c.cm. in less than twenty days, after 8 c.cm. the condition was not fully manifested until after forty-five days.

One of the most characteristic features of Theobald Smith's phenomenon is the appearance of the symptoms very shortly after the administration of the second, or reacting, dose; they sometimes occur within half a minute, or even less. The rapidity with which the symptoms are developed appears to depend mainly on the rapidity with which the serum is absorbed and gains access to the tissues on which it acts; they come on most quickly after an intracerebral, intracardiac, or intravenous injection, less quickly after an intraperitoneal, and most slowly when the reacting dose is administered subcutaneously.

In some forms of anaphylaxis this sudden development of symptoms does not occur; thus, in the local anaphylaxis seen in Arthus's phenomenon, or in the local reaction sometimes seen after a second injection of serum in man, the inflammatory swelling takes some hours to develop. But we may doubt whether we are dealing with exactly the same class of phenomenon in the two cases. An inflammatory oedema of the subcutaneous tissue takes some little time to develop, whereas an action on a more specialized tissue, such as unstriped muscle, may be apparent the moment it has taken place.

The nature of the symptoms varies markedly in different species and in different animals of the same species, but is not influenced to any great extent by the nature of the substance to which the animal is sensitized. A series of guinea-pigs rendered anaphylactic by horse serum and caused to react by the same substance will show various types of attack, in some the spasms predominating, in others the paralytic symptoms; but an exactly similar variation of symptoms will be seen if a similar number of guinea pigs are sensitized and subsequently caused to react by means of egg-albumen, milk, vitellin extracted from peas, etc. Hence it has been assumed that the symptoms are caused by the development of a new poison, "apotoxin" or "anaphylatoxin," which is the same whatever be the primary protein. This, however, is only true of what we may call the classical symptoms which come on after the rapid absorption of a large dose, the symptoms to which I have previously limited myself, for the sake of simplicity. But I have already pointed out that the phenomena of anaphylaxis do not always develop with the suddenness of the Theobald Smith phenomena, and these more slowly developing effects may be different in character from the rapidly culminating forms. For example, Krause points out that in anaphylaxis to tubercle-protein which Baldwin obtained in guinea-pigs, which is undoubtedly a true anaphylaxis, it causes quite different symptoms according to the route chosen for the reacting injection. If this is made into the lungs, the ordinary symptoms of acute anaphylaxis occur, similar to those seen in anaphylaxis to horse serum and other indifferent proteins, whereas after an intraperitoneal injection the symptoms begin more slowly and show rather spasmodic and irritative phenomena. This is a matter of some theoretical interest.

The effects of ordinary anaphylaxis indicate a profound action on most if not all parts and tissues of the body. We may classify some of the more important as follows:

Nervous Symptoms.—The animal may run round its cage or show rapid and rhythmical movements of its legs, or may have tonic or clonic spasms. Sometimes there is opisthotonos, sometimes nystagmus; later there may be general convulsions. Or the phenomena may be paralytic; the animal may drag its legs, fall on to its side, and complete paralysis may ensue. It is noteworthy that an animal may recover after any of these symptoms, even after complete paralysis.

Respiration.—The breathing is accelerated, and may be periodic and irregular; according to Auer and Lewis the immediate cause of death is usually asphyxia due to a spasm of the muscles of the bronchioles, which appears to be due to a peripheral rather than to a central nervous action. The lung is distended and fixed and the lungs emphysematous. There may also be pulmonary haemorrhages and oedema.

Circulation.—The pulse-rate is accelerated, and the heart continues to beat for long periods after respiration has ceased. There is a marked fall in blood pressure.

Blood.—A decreased coagulability of the blood has been recorded by several observers, and many experiments go to show that there is a decrease in the amount of complement present in the serum. This has a considerable amount of theoretic interest. Andrewes, working with bacterial vaccines, found leucopenia as a constant feature after injections into sensitized animals, and regards it as intimately bound up with anaphylactic shock. In the serum disease, however, there is a polynuclear leucocytosis. There is a remarkable fall of temperature, which, according to Richet, may reach the extraordinarily low figure (in the dog) of 19.3° C., or about 66° F., the normal temperature of the dog being over 100° F.

Digestive Organs.—Vomiting is common, and the contents of the intestine are usually evacuated. In some animals, dogs especially, there may be persistent diarrhoea, the stools consisting at first of the contents of the intestine mixed with blood, and later sometimes pure blood. Richet regards the characteristic fall in the blood pressure as being due to a paralytic vaso-dilatation of the intestine.

Skin.—Itching, demonstrated by the attempts the animal makes to scratch its nose or other parts of the body, is a frequent symptom. In some animals, notably in cattle, oedema is a prominent symptom. This is of interest in view of the common occurrence of this lesion in anaphylaxis in man—for example, in the serum disease and in many of the forms of food poisoning which we are probably justified in regarding as anaphylactic; notably those seen in susceptible persons after the ingestion of mussels, eggs, or other articles of food.

Such are some of the main symptoms of the anaphylactic reaction. As I remarked before, they vary greatly in different species. In the guinea-pig, perhaps the dyspnoea, the fall of blood pressure, and the dramatic nervous symptoms are the most prominent; in the dog, vomiting and diarrhoea, with tenesmus and bloody stools; in cattle, according to Alexandrescu, an enormous oedema of the udders and cyanosis of the mucous membranes; in man, in mild cases at least, the skin symptoms predominate.

As a rule the symptoms of anaphylactic shock in sensitized animals last but a short time, an hour or two, and the animal either dies during this time or recovers completely. In the latter case the animal usually gets better almost as quickly as he became ill. Sometimes, especially in dogs, there is a subsequent condition of chronic anaphylaxis, which may be fatal after a day or two. This is apparently due to the hemorrhages which have occurred in the acute state, and is not a phenomenon *sui generis*.

The duration of the anaphylactic state, that is the state of hypersensitiveness, may be extremely long. It has been found by Rosenau and Anderson to persist in guinea-pigs for more than three years; in fact, in these animals it would appear that once developed it lasts for the rest of the animal's lifetime. I need hardly remind you that a somewhat similar phenomenon is seen in man in connexion with tuberculosis with regard to the cuti-reaction. A patient who has had a tuberculous infection, though mild and transient, may give a cuti-reaction with tuberculin for years, perhaps for the rest of his life. We have no definite evidence as to the length of time for which serum anaphylaxis may persist in man. A case has been recorded of sudden death after an injection of serum a year after the first or sensitizing injection, but the duration of the condition of hypersensitiveness is certainly much longer than that, and an accelerated reaction has been described after nine years. It is much shorter in rabbits, which may return to normal in a few weeks.

I have said that the symptoms of anaphylactic shock are dependent to a large extent on the animal species. The same factor also influences to a very large extent the ease with which the condition can be produced. Apparently it cannot be produced at all in white mice; not easily in cattle; horses are somewhat susceptible, rabbits perhaps more so, whilst the guinea-pig is most susceptible of all. Man is apparently somewhat highly susceptible, but naturally it is not easy to get exact figures. It is noteworthy also, in the case of animals, that different individuals of the same species showed marked variations in susceptibility, so that of a series of guinea-pigs as similar as possible in age, weight, etc., and all treated with the same sensitizing dose, some will show marked symptoms (after the same reacting dose in all cases), and die in a few minutes; others will show less, and die after a longer interval; whilst yet others may show lighter symptoms and recover, and some may not be affected at all. Hence it is necessary that experiments on anaphylaxis should be made in series rather than in single observations. It is evident, also, that these experiments may in the future throw some light on the extremely obscure, yet important, subject of idiosyncrasy to diseases.

As regards the dose necessary to produce sensitiveness, we find that it is extremely small, and this is one of the important features of the condition. Thus Wells has shown that an almost infinitesimal amount of purified egg-albumen, one twenty-millionth part of a grain, will sensitize a guinea-pig, and Anderson and Rosenau find so little as one-millionth part of a cubic centimetre of horse serum is equally efficacious. Proteins extracted from bacteria appear not to be so active, it may be owing to their not having been obtained in such a state of purity as egg-albumen.

The mode of exhibition of the sensitizing dose, whether subcutaneous, intravenous, etc., is not of great importance, and it is of interest to note that animals can be sensitized by feeding as well as by injection, although not with such certainty. This is of importance in connexion with the production of the serum disease in man. It is well known that this may occur in patients who have never had a previous injection of horse serum, and it has been suggested that these apparently anomalous cases are due to the fact that the patients who suffer in this way have been previously sensitized by eating horseflesh. It appears clear that this is not the case in every instance, since the disease may occur in young infants; but, according to Rist and Ch. Richet, patients who have been fed on raw horseflesh *invariably* suffer from the serum disease if they receive an injection of horse serum. The question now arises, Why does not anaphylactic shock develop in persons who have been sensitized to horseflesh by feeding, who go for a length of time without taking any, and who feed on it again? The probable reason is to be found in the slowness with which absorption of protein from the alimentary canal takes place, and the great extent to which the proteins are broken down; according to some, a certain degree of anaphylaxis to peptone can be obtained, but this is doubtful, and the substance is not so powerful as are the coagulable proteins. But it is extremely probable that some of the symptoms of food poisoning, notably those of poisoning by mussels and other shellfish, are really examples of anaphylaxis, the reacting as well as the sensitizing dose being absorbed from the alimentary canal. In some of these cases of idiosyncrasy, as I need hardly point out, the amount necessary to cause violent symptoms is extremely small, and the effects come on almost immediately, both features which stamp the affection as anaphylactic. But most people who eat unusual proteins at long intervals are protected from anaphylactic symptoms by the slowness and incompleteness with which the substance is absorbed, a condition of anti-anaphylaxis which I shall describe at greater length subsequently being produced.

An important question in connexion with the subject is the nature of the substance to which the anaphylactic state can be brought about. In general terms, we may say that this can be effected by all or by nearly all proteins, and probably by similar ill-defined nitrogenous bodies not definitely protein in nature, but that it cannot be obtained to simpler chemical substances. Just as in the case of the antibodies, the production of anaphylaxis appears to be a reaction of the tissues to foreign proteins, and not to be occasioned by simpler substances. There are some apparent exceptions. Thus Bruck has studied the hypersensitiveness which some patients display towards iodoform, and has shown that the serum of such a person will convey passive anaphylaxis to guinea-pigs. Serum from a sensitive person was injected into a guinea-pig, which was then injected with small doses of iodoform, and found to be sensitive to amounts which are harmless to normal animals. Bruck has suggested—and the suggestion is a very feasible one—that the action is an indirect one, the iodoform splitting up the molecules of protein and thus forming new and foreign protein substances to which, and not to the iodoform, the animal becomes anaphylactic. It has also been thought that blackwater fever may be an example of this phenomenon, which we may call *secondary anaphylaxis*. It is supposed that a person may become sensitized to the proteins of the malarial parasite during an attack, owing to the solution of the parasites taking place in his blood. After a time he develops another attack, and is now given quinine: the parasites are killed and dissolved, and their proteins let-loose, and act as a reacting dose. Be this as it may, the idea of secondary anaphylaxis is a most important one, and shows how intricate may be the phenomena which we may have to study in connexion with disease. The question of anaphylaxis to simpler substances arises mainly in connexion with formalin, phenylhydrazin, and perhaps antipyrin. It is worthy of notice, too, that Bogomolez claims to have produced the condition with lipoid substances.

Heating destroys the sensitizing and reacting power of proteins in proportion as it coagulates or otherwise destroys them. When the proteins are quite dry they are not injured by high temperatures—for example, 130° C. for two hours (Anderson and Rosenau). Milk, which is not coagulated on heating, does not lose either its sensitizing or its reacting properties after boiling, or even after heating high above the boiling point. Further, the action is not easily destroyed by peptic digestion unless carried to an extreme point, or by the action of chemicals.

I have said that heat destroys both the sensitizing and the reacting properties. There has been much controversy as to whether these reside in the same substance or the same part of the substance, and this is one of the points on which further information is required, but it seems highly probable that only one substance is in question, the difficulty arising from the fact that a very much smaller amount is required to sensitize than to cause a reaction in a sensitive animal, so that when a proteid is heated it appears to lose its power to cause a reaction before it loses its power of inducing hypersensitiveness. The tenacity with which a protein retains this latter property is remarkable. Thus Uhlenhuth succeeded in sensitizing animals with boiled meat (a fact which may be of much medico-legal importance in connexion with the recognition of adulteration in meat foods) and even with the flesh of mummies.

It is important to notice that bacterial proteins, even if non-toxic, can bring about anaphylaxis, as this may throw much light on the pathogenic action of those bacteria which do not appear to produce toxins of any sort; they may act by producing anaphylaxis, or a closely allied condition. Again, extracts of animal organs will also produce anaphylaxis, and this fact has been invoked to solve the mystery of the nature of puerperal eclampsia. I need only allude here to the experiments of Gozony and Wiesinger, who found that the serum of eclamptic women would confer passive anaphylaxis on guinea-pigs, so that they would react after injections of amniotic fluid, which is harmless to normal animals.

The anaphylactizing substance acts specifically—that is to say, the injection of a protein sensitizes an animal to that protein, and for no others. This is probably true in its entirety for chemically pure proteins, but in dealing with serums we meet with modified specificity met with in working with precipitins. For example, a guinea-pig sensitized to horse serum will react to donkey serum, though not so strongly or certainly, and the reaction is less the further we pass away from the horse in the biological scale. This, of course, is a familiar phenomenon, and does not affect our idea of the absolute specificity of the phenomenon.

I now pass on to a description of some of the more complicated phenomena. The first is "passive anaphylaxis," the name is modelled on the term "passive immunity," and indicates that anaphylaxis can be conferred on a normal animal by the injection of serum from an animal previously rendered hypersensitive in the usual way. This was discovered by Nicolle, and has been carefully studied on quantitative lines by Doerr and Russ, and has led to a great advance in our knowledge of anaphylaxis in general. A very remarkable and important fact has come to light: an animal which has received a dose of serum from a sensitive animal does not become anaphylactic at once: a certain length of time (the fixation period) has to elapse before the condition is manifest, and this period is roughly from four to forty-eight hours. An injection of the specific protein before this period has elapsed causes no reaction. Further, it appears that the degree of sensitiveness goes on increasing for a fortnight or so after the injection of the passively sensitizing serum. The inference which is generally accepted is that this serum contains a new substance, which has to combine with, or become bound by, the tissues before the animal becomes anaphylactic. This appears to be proved by the facts (1) that if an

nimal has received a dose of the specific antigen *before* he sensitizing dose of passive serum no anaphylaxis esults: the hypothetical sensitizing substance meets and nites with its antigen before it becomes bound down to he tissues; and (2) if the serum of a sensitive animal be ixed with a minute amount of antigen and then injected will no longer sensitize, though it may cause the sudden evelopment of anaphylactic shock. Here, of course, the onditions are similar, but the combination takes place efore injection, and not in the blood stream. This sorption of the sensitizing substance is very specific. A nsitizing dose of serum from a guinea-pig which has en sensitized by horse serum will be rendered inert by a inute amount of horse serum, or by a larger amount of nkey serum, but will be unaffected by that of man, bbit, dog, cat, chicken, ox, etc. (Anderson and Frost). is reaction may prove of great medico-legal value, since sensitiveness is extreme.

The animal from which the serum which confers passive aphylaxis is taken is not necessarily hypersensitive. us, a guinea-pig which has been rendered anaphylactic horse serum, and which has been caused to react by a cond injection is no longer sensitive, and it will not act to large doses of horse serum. This condition is own as anti-anaphylaxis, or the animal is said to be cinated against anaphylaxis. The condition is also own as immunity, but I think this term ought not to used in this connexion; some writers draw a distinction ween the condition of absolute insusceptibility seen mediately after a reaction and the condition of relative usceptibility which comes on after this absolute insus- tibility or anti-anaphylaxis has passed off, and limit the of the word "immunity" to the latter state. But I nk we shall be wise if we avoid the use of the term his connexion altogether. In any case, the serum of animal in this refractory state may be able to confer sive anaphylaxis on another. Further, rabbits which e received frequent large doses of horse serum do not ibit the Theobald Smith phenomenon, but their serum sensitize a guinea-pig, which will do so after a ting dose. This also shows us that the phenomenon ot altogether specific as regards animal species, the itizing substance from one species serving to ana- lactize another from a different class.

have already referred to the phenomenon of the pro- ion of immediate anaphylactic shock brought about by injection of a mixture of serum from a sensitized al and its specific antigen. This was discovered by ct, and called by him "anaphylaxis *in vitro*," and it is me theoretical importance. It undoubtedly suggests, gh I do not think it proves, that a new toxin—a toxin h can immediately attack normal animals—is formed e combination of some substance in the serum of the hylactic animal and the antigen.

ought not to pass away from this part of the subject out a few words on the methods by which anaphylactic k can be avoided in sensitized animals, since this may e future assume the greatest possible importance in ical medicine. Two methods are available—the fic and the non-specific. The specific method was vered by Besredka, who found that an injection of n during the incubation period, or pre-anaphylactic . would prevent the development of shock when a injection was given after the expiry of the period sary for anaphylaxis to become fully developed; or, comes to the same thing, that a series of injections at short intervals was not associated with anaphy- shock, whereas a single injection, followed after a interval by another injection, was the cause of the l symptoms. This is of especial interest in connexion tuberculin therapy. Assuming for the moment hypersensitiveness to tuberculin is an example of ylaxis, we can see why minute doses of the substance g intervals, such as are given by the devotees of the ic index, should have an action entirely different large and increasing doses given at short intervals. former case the patient gets more and more sus- le to the action of minute doses, so that it is quite le that some of the incredibly small amounts— ro hundred thousandth part of a milligram of T.R.— ot be entirely devoid of action; they may gradually the patient more and more susceptible to tuber- On the other hand, if the doses are given every two or three days, patients may be quickly immunized to enormous doses without ever getting a reaction. I have seen on several occasions symptoms of grave danger resulting from attempting to increase the dose of tuberculin when the injections are given only once a week.

Besredka and others have also found that a very minute dose of antigen, not enough to cause shock, or to cause it but feebly, will vaccinate the animal against a larger dose given subsequently. If a similar relation holds true in serum disease in man, this would provide us with a simple method of preventing this very objectionable accompaniment of serum-therapy. If it were possible, by some application of the cuti-reaction, to test a patient's sensitiveness to horse serum, it might be possible to vaccinate him against anaphylaxis and the serum disease by giving him a minute dose of antitoxin or of horse serum some hours previously to the actual therapeutic or immunizing dose. The method would, of course, be of especial value in the case of prophylactic injections.

Besredka found that heat (96° C. for twenty minutes) would destroy the reacting power of serum, leaving the sensitizing power intact. This he regarded as a proof that these two properties reside in different substances, or at least in different and separable parts of the same. This appears not to be the case; a smaller dose is necessary to sensitize and the heating of the serum simply brings about a weakening of its essential properties.

The non-specific methods of preventing anaphylactic shock are less important. Besredka showed that if a guinea-pig were put under the influence of ether and then given a reacting dose of a serum to which it was sensitive it did not develop shock, and that when it came round from the anaesthetic it was vaccinated against further injections. Banzhaf and Famulener found that chloral hydrate had a similar action, and since then a large number of hypnotics and other substances have been experimented with, but the results have not been encouraging. Thus Anderson and Rosenau failed entirely to corroborate the results of Banzhaf and Famulener; they gave their animals enough chloral hydrate to bring about very deep narcosis, but in spite of that practically all died from the reacting dose of serum, and experiments with urethane, paraldehyde, and magnesium sulphate were without effect. There is a little more evidence from the clinical aspect that chloride of calcium, as suggested by Netter, is of some value in preventing the serum disease in man, or at least diminishing the violence of its symptoms.

I next pass to some theoretical considerations. Almost every worker on the subject has invented a theory to account for the phenomena, and some of these theories are even more difficult to understand and more astonishing than the facts themselves. I may classify them into two groups—those which invoke the action of antibodies and those which do not. To take the latter group first. Gay and Southard think that the sensitizing serum contains a substance—anaphylactin—which is absorbed with extreme slowness, and which irritates the body cells, but which does not cause toxic symptoms. The serum also contains other substances which are more rapidly eliminated or destroyed by the tissues, or which cause the production of precipitins. Anaphylactin causes the tissues to have an increased power of absorbing these other substances; on the second injection the two combine with great rapidity, and the functional equilibrium of the cell is disturbed. A great objection to this theory is the length of time which anaphylaxis may last; it is difficult to imagine that a part of a very minute fraction of a cubic centimetre of a protein solution may take years for its elimination, and that all the time it is in the body it may continue to irritate the cells.

Vaughan thinks that the strange protein is broken down in the body by means of a proteolytic enzyme. As a result of the sensitizing dose this enzyme is formed in increased amount, and on the second injection the antigen is broken down rapidly, the products of its degradation acting as toxins. Different proteins are supposed to give rise to similar degradation products, as seems likely, so that the effects of anaphylaxis (in the same animal species) are similar whatever the protein. This theory seems more attractive, and there is something to be said for a theory which assumes the action of an enzyme—a substance a small quantity of which can produce great effects. That the effect depends on proteolysis is quite probable, and

peptones and Vaughan's split proteins are both said to give rise to symptoms resembling those of anaphylaxis on injection into normal (non-sensitized) animals. But the subsequent researches of Arnit have failed entirely to corroborate Vaughan's results.

Let us now turn to the theories which invoke the action of antibodies. These appear to me to be inherently the more probable for many reasons, the chief being that the substances—antigens—which we know can give rise to antibodies, are also, as far as we know, the substances, and the only substances, which can cause the condition of anaphylaxis. The injection of egg-albumen into a guinea-pig causes the production of anaphylaxis, and also of antibodies, and the onus of proof rests upon those who assert that the one has nothing to do with the other. Further, the incubation period is roughly the same for the two phenomena; it takes about a week for an animal to show signs of anaphylaxis, and about the same time for antibodies to commence to make their appearance. It is true that it is not always possible to demonstrate precipitins in the blood of a sensitive animal by direct methods, but it is impossible to do so when they are present in a very dilute form (Doerr and Moldovan remind us that a specific precipitate is soluble in excess of antiserum), and some observations go to show that antibodies may be detected in these serums by the process of complement absorption. Lastly, passive immunity is known to be due to the presence of antibodies, and the general similarity of the two phenomena at least suggests that the same is true of passive anaphylaxis. I regard it, therefore, as almost certain that anaphylaxis is closely bound up with the production of antibodies. It is extremely improbable that two such parallel conditions are entirely unrelated.

Of those who hold such theories, Richet holds that the first injection gives rise to an antibody which he calls *toxogenine*. This circulates in the blood, and when a second injection is given it unites with the antigen, and produces a new substance, *apotoxin*, which is poisonous, and causes the symptoms. The apotoxins derived from all proteins are identical or closely allied.

Nicolle supposes that the antigen causes the production of *two* antibodies: (1) a lysin, which in the presence of complement splits the protein into toxic bodies, and (2) precipitin of coagulin, which combines with the antigen and renders it insoluble and inert. The former is formed more quickly and renders the animal sensitive; the latter, formed more slowly, immunizes it.

But it would take me too long to describe all the theories which have been brought forward, and to discuss the evidence for and against each. I will instead enunciate what I believe to be well ascertained facts and their necessary theoretical consequences, and so lead on to the outline of a theory which, if not complete, is yet probably correct as far as it goes. As you will see, the results at which I shall arrive are to a large extent identical with those of Friedberger and of Anderson and Frost. I will start with the assumption, for which I have just given what appears to me to be sufficient evidence, that the phenomenon is intimately related to the formation of antibodies.

In the second place, it seems clear that the symptoms of anaphylactic shock are due to a direct combination of the antigen with the cells of the sensitive animal. Three pieces of evidence are, I think, sufficient to establish this fact with some degree of certainty: (1) Schultz showed that horse serum causes excised unstriped muscle from the intestine of a normal guinea-pig to contract feebly, whereas that from a sensitized animal is made to contract much more powerfully. (2) There is a somewhat rare, though well recognized, phenomenon of serum anaphylaxis in man. After several injections of serum or antitoxin there may be a local reaction (inflammatory oedema) in the neighbourhood of the *earlier* injections. Here the sequence of events seems clear; the previous injections had sensitized the tissues to which they had gained access, and in the later injections the serum circulating in the blood had caused a reaction in these places and in no others. Here, if the blood of the reacting person plays any part at all, it is a purely non-specific one. (3) If we can argue from the cuti-reaction with substances like tuberculin, the observations of Bloch are quite conclusive. He isolated a new species of ringworm or favus from the horse, and prepared an extract analagous to tuberculin therefrom. He also infected himself with the fungus. After two years he still gave a cuti-reaction with the extract. Having occasion to skin-graft a patient, he tried a most ingenious experiment. He used grafts from himself and from the patient, and when they had firmly healed he tried the cuti-reaction with the ringworm extract; the grafts from himself reacted, whilst those from the patient did not. Here, again, there is no question of any specific action in the blood, which bathed both grafts alike. It is difficult to imagine a more beautiful or convincing experiment.

The phenomenon of passive anaphylaxis does not militate in the least against this view. We can easily imagine that the substance (antibody) in virtue of which the serum is able to confer passive anaphylaxis on the second animal has to become united with the cells of the latter; and this supposition seems reasonable when we consider the latent period which must elapse after the injection of the sensitizing serum before the animal becomes anaphylactic. This period is doubtless that which it takes for the combination to occur.

Now, if we accept the side-chain theory (and I may say in passing that in spite of the opposition which it has encountered no really valid evidence has been brought forward against it) we believe that the first step towards the production of an antibody is the budding-out of the cell of an increased number of specific receptors—receptors, that is, which serve to fix the antigen to the cell. The objection was soon raised by Ehrlich's opponents that these new receptors would make the cells more sensitive to the action of the toxin than before; they compared them to a lightning conductor, which would attract the lightning into the place it was supposed to protect. We see now that it is quite possible that their objection was well founded. We believe that these sessile receptors, precursors of the antibodies, may actually act in this way, and are indeed the basis on which hypersensitiveness depends. A cell which possesses an increased number of these sessile receptors which can combine with a foreign protein becomes hypersensitive to that serum, whether the receptors are formed by the cell itself, as in active anaphylaxis, or taken up from the blood, as in passive anaphylaxis.

On this theory the state of anti-anaphylaxis or immunity finds a ready explanation. The protein given in the reacting dose combines with these receptors, and if a second injection be given the protein cannot be anchored to the cells, and so causes no toxic symptoms. After a time fresh receptors are formed, and the animal again becomes anaphylactic.

The explanation of passive anaphylaxis is also easy. In an anaphylactic animal some of the receptors will cease to be sessile, and will diffuse into the blood, forming antibody, precipitin, or some other. If this serum is injected into a fresh animal we must suppose that these receptors, as I have stated previously, become bound to the cells, thus sensitizing them. Here, however, we have a difficulty; and I do not mean to deny that there are difficulties in the way of accepting this and all other explanations. If there are free receptors in the blood of a sensitive animal we might expect them to protect the cells from the antigen, just as a prophylactic dose of diphtheria antitoxin protects the cells against a subsequent dose of toxin. The probable explanation is that the reacting dose is large enough to combine with the free receptors, and then there is enough left over to attack those sessile in the cells and cause a reaction. Further, we must not forget that combinations of antigen and antibody are known to dissociate, and that the receptors free in the blood may only form a temporary barrier, the antigen ultimately passing on to the tissues, whence dissociation does not occur. I believe that this would occur in the case of toxin and antitoxin if it were not for the fact that the neutralized toxin is taken up by the leucocytes.

Next, I must point out that the action of antigen appears in itself incapable of occasioning anaphylactic shock, and complement is also required. For example, many observers have shown that the condition in question is accompanied by a sudden fall in the amount of complement in the serum, a fall which we can only account for by assuming that the substance has been absorbed somewhere in the body. Again, Doerr and Russ found that they prepared a specific precipitum (by the action of serum from an immunized animal on the protein for which

tained a precipitin), dissolved it in weak soda solution, d injected it into a normal animal, immediate symptoms anaphylactic shock appeared. Friedberger went further in this: he macerated the precipitum in fresh guinea-'s serum, and found that the clear supernatant fluid uld also act in the same way. Guinea-pig's serum ich had been heated and thereby deprived of complement d no such effect.

Hence we arrive at the conclusions that anaphylactic ck is dependent (1) on the presence of sessile receptors, precursors of antibodies, in the cells; (2) the com-nation therewith of antigen; and (3) the action of mplement.

This leads us to another and more difficult question: es the complement act (indirectly, *via* the receptors) on antigen, giving rise to a toxic substance, or does it act the living cell itself?

Let me remind you of Ehrlich's theory of cell nutrition. mple protein molecules may be absorbed into a molecule living protoplasm directly. They are already in a fit te for assimilation by the cells. They may, it is true, ve a toxic action, but this is assumed to be due to the ect action of their toxophore radicles on the cell. With larger and more complex molecules of coagulable tein the absorption by the cell is not possible until the tein has been acted on, digested if you please, by com-ment. Hence the formation of receptors which are boceptors or polyceptors, which have the power of ing the food protein and also one or more molecules complement to the cell at the same time, so that the plement may act on the protein and modify it in some y, probably by a process of proteolysis, so that it omes immediately available in nutrition. Now imagine t, owing to some faultiness in this linking up, one perhaps many molecules of complement attack the ng protoplasm and not the food protein, and I think it l not be difficult to imagine that the conditions for den and profound anaphylactic shock might arise; pid and widespread digestion of the living protoplasm many parts of the body would very probably cause pro-d symptoms indicative of a general disturbance of abolism in almost every part of the body that we see in phylactic shock. Further, it would be but temporary, e complement, unlike the enzymes, acts but once, and ot set free to affect another molecule. On this theory, I need hardly point out, the rôle of the antigen in ging about anaphylactic shock is exactly like that of gen in altering the combining affinity of free molecules amboceptor, so that the latter can combine with the plement. Complement and haemolytic amboceptor exist side by side in the same serum; add red cor-les, and the two immediately combine. So in the itive animal, complement and sessile receptors exist, no combination occurs, whereas if the specific protein ntigen is added the two are linked up.

is, of course, possible that the molecule of antigen, d on by the complement, may give rise to a toxic luct, which we may safely assume to be analogous peptones or albumoses, since complement probably proteolytically. There is a certain amount of ence in favour of this view. Peptone injected into a nal animal causes symptoms closely allied to those of hylaxis, and so, according to Vaughan, does his ble split protein. But this explanation seems unlikely, ly because of the fact, pointed out by Anderson and t, that the sudden and intense symptoms, followed by equally rapid recovery, do not resemble an ordinary e action, and partly because this process does not ar to differ from ordinary normal protein metabolism xplained on the side-chain theory. It would appear if the molecule of protein were in fact acted on by complement the result should be the formation of milable and not toxic bodies. However, whilst I am er inclined to the belief that in anaphylactic shock complement acts on the cell itself, I fully admit that question is a debatable one and that the alternative anation is quite feasible.

s regards the nature of the antibody which acts in this I do not think we can say anything definite. It does appear to me necessary, as Richet seems to suppose, ssume the formation of a new antibody to account for observed facts. No doubt Friedberger is correct in osing that precipitin may act as a sensitizing agent; the conditions for the development of sensitiveness and for the formation of precipitins are identical, and the incubation period is, roughly, similar in the two cases, and, according to Doerr and Moldovan, there is actually a complete parallelism between the amount of precipitin in a serum (as tested by accurate methods) and its power of conferring passive anaphylaxis. Very interesting also, if confirmed, are the researches of Doerr and Russ on white mice, which they were unable to render anaphylactic or to get to produce precipitins.

But it seems unnecessary to think that any one antibody or group of antibodies is essential. There is reason to think that deviation of complement may occur when *any* antibody combines with its antigen, and so any antibody which can attract complement may conceivably cause anaphylactic shock if the theory I have attempted to outline to you is correct. In working with an unorganized coagulable protein we should naturally look to the precipitins as the antibodies concerned; whereas, if we went further afield and studied anaphylaxis to organized cells, we should expect the lysins or other bodies—perhaps the opsonins—to play an important part. Thus Friedemann, working with red blood corpuscles, identifies the anaphylactic antibody with haemolytic amboceptor, and Doerr and Moldovan showed that the injection of haemolytic serum into the peritoneum of rabbits, followed by an injection of red blood corpuscles, gave anaphylactic shock, which was succeeded by anti-anaphylaxis.

I must now turn for a short time to the possible bearings of the phenomenon on practical medicine. It is obvious that very many of those curious cases of hypersensitiveness to various forms of foodstuffs—to mussels, eggs, plaice, tomatoes, etc.—may be regarded with some degree of certainty as being due to anaphylaxis, and in this respect it is of interest to notice that urticaria, which is so common a symptom of the serum diseases in man, and which also occurs in the lower animals in experimental anaphylaxis, is so prominent a symptom in these cases of food poisoning. This fact, together with the remarkably rapid onset (allowing for the fact that absorption has to take place through the alimentary canal) and the extraordinarily small dose which may suffice to produce them, stamp them as unmistakably anaphylactic in character. But we must not imagine that this solves all the problems in connexion with this subject. We have yet to learn why one person will become, and remain, anaphylactic to egg-albumen, whilst the vast majority of mankind escape. In other words, anaphylaxis may explain the mechanism of idiosyncrasy, but it does not explain its ultimate nature.

It is not my intention to discuss the serum disease at length, though that is perhaps the most important manifestation of anaphylaxis in man. I should like, however, to point out the interesting fact that where the manifestations occur after a first injection of serum there is often a history of asthma or hay fever, or some allied condition, and that cases have been observed in those who are especially liable to attack after being in the neighbourhood of horses. The exact relationship of these manifestations to one another, and their possible dependence on sensitization by means of horseflesh, or some other form of food, is in urgent need of elucidation.

I should also like to point out that the phenomena of serum disease in man resemble Arthus's reaction in rabbits rather than the Theobald Smith phenomenon in guinea-pigs. It is especially important to notice that a local reaction at the site of injection is extremely common after repeated injections of serum, and that it occurs without the development of the more alarming symptoms of the disease. According to Lucas and Gay there were 8.8 cases of local reaction after a second injection, 14.5 after a third, 27.75 after a fourth, 42.9 after a fifth, and 74 per cent. after a sixth. It appears a few hours after the injection as an oedematous and inflammatory swelling round the area of inoculation, and may be followed by tissue necrosis. This is exactly similar to what is seen in rabbits; and, since in these animals an intravenous injection causes sudden death (in an anaphylactic animal), it appears unwise to administer serum intravenously in man at all; in any case, its intravenous injection should be reserved for patients who have not been previously injected, and in whom the symptoms are so severe that an hour's delay in the administration of the serum may turn

the scale. In all other cases prudence would suggest that the subcutaneous route should be employed. I have already referred to local reactions at site of old injections.

Has anaphylaxis a more important rôle than this, and may it not play a part of the first importance in the development of the infective diseases in general? This is one of the subjects which I hope will be elucidated in the course of this discussion. Rosenau and Anderson have shown that anaphylaxis may develop after an injection of bacterial protein. Does this actually occur in disease of natural origin? It is at least a reasonable view that in many diseases the infective agent does not form toxins in the ordinary sense of the word at all, but acts directly by means of an anaphylactic reaction in a sensitized person. For example, staphylococci do not form anything worth calling a toxin, and the endotoxins which have been prepared from the typhoid bacillus are mild in the extreme as compared with those of diphtheria and tetanus, yet typhoid fever is pre-eminently a toxic disease. It is certain that hypersensitiveness to staphylococcus toxin may occur naturally in man; it accounts for the sudden and alarming symptoms occasionally though very rarely seen after an injection of staphylococcus vaccine. It is conceivable that the sequence of events in some of the infective diseases is as follows: A few bacteria gain access to the body and some of them disintegrate, so that their proteins, or some derivative thereof, gain access to the tissues and render them sensitive. The remainder of the invaders have a prolonged tussle with the defences of the body, but after a time they grow to such an extent that they give off enough protein to constitute a reacting dose, and symptoms develop. The period which this takes would constitute the period of incubation, which I think cannot be accounted for satisfactorily on any other theory, and it is interesting to notice that there is a rough general similarity between the duration of the incubation periods of many of the infective diseases and the latent period for the development of anaphylaxis. It is interesting, too, to notice the frequent occurrence of skin rashes in these infective diseases, in view of the fact that affections of the skin are common symptoms of anaphylaxis in man and in the lower animals. In this connexion I must quote an interesting phenomenon which I noticed in a case of tubercle which I treated with a reacting dose of old tuberculin. The patient developed a typical attack of lichen scrofulosorum, which was fully developed within twenty-four hours of the injection, and which probably began to appear very shortly after its administration. I think there can be no doubt that this was an example of anaphylaxis, and it raises the question whether these so-called paratuberculous affections are not always of this nature.

There are, however, grave objections in the way of accepting such a theory of the pathology of the infectious diseases in general. For example, anaphylaxis as we see it in the guinea-pig, where it has been mostly studied, is associated with a lowered temperature and not with fever. This is not, perhaps, an objection of much value, since the serum disease in man, undoubtedly an example of anaphylaxis, is associated with fever, though not as a rule with much. A more important objection is based on the fact that anaphylactic shock is practically the same whatever the protein which brings it about, and it is difficult to see how the state could cause the various different symptoms which we see in the infectious diseases. Again, anaphylactic shock is a transient phenomenon, the so-called "chronic anaphylaxis" being simply a slow recovery from an acute state, and not a continuance of the action.

The question of anaphylaxis is of especial importance in connexion with tuberculosis, for the analogies between the Theobald Smith reaction and the tuberculin reaction are obvious at a glance. In each case the substance, which is innocuous to normal individuals, causes, in extraordinarily minute doses, a remarkable series of phenomena and may lead to death. The questions which we have to discuss are admirably stated by Krause:

> Is the tuberculin reaction in an infected individual an expression of a hypersensitiveness that the disease has conferred on the individual? Is the tuberculin reaction a real or modified acute anaphylaxis? Are the various skin reactions of tuberculosis to be classed with those of hypersensitiveness or anaphylaxis? Are the symptoms of tuberculosis due to a hypersensitiveness acquired during the course of the disease, or are they the response of the body to an intoxication, as the latter term is generally understood? If the individual has become hypersensitive to tuberculo-protein, can we overcome this hypersensitiveness, and would it be a good thing to do so? What is the relation between hypersensitiveness to protein and susceptibility to infection? Does the former protect against infection, or does it further it?

I do not think we can hope to give a categorical answer to these questions at the present time, but in regard to the main issue I think there can be no doubt that tuberculin hypersensitiveness must be regarded as a phenomenon closely allied to, but not identical with, anaphylactic shock. Baldwin has demonstrated that animals can be sensitized with the water-soluble bacterial proteins and give ordinary anaphylactic phenomena, which I need hardly point out are quite different in character from the tuberculin reaction. According to Krause almost any preparation of tubercle bacilli, water extract, extract emulsion, T.R., old tuberculin, and boiled glycerine extract, will sensitize guinea-pigs to themselves and to one another. According to this observer, the question as to whether the injection of a tubercle product will cause an anaphylactic reaction seems to depend largely on the rapidity on which it reaches the nerve centres: an intrameningeal injection into a tuberculous animal may cause immediate anaphylactic shock, whereas if the injection is given into the peritoneum, whence absorption is slower, the result approximates more to an ordinary tuberculin reaction. It appears reasonable to suppose that the two are dependent on the same ultimate mechanism. Possibly we may regard the tuberculin reaction as an expression of the fact that the tuberculous substance has combined with the tissues of the lesion or with the sensitized tissues generally, and is thereby prevented from gaining access to the nerve centres. Another possibility is that the tuberculin reaction may be due to secondary substances given off after the combination of the tuberculin product with the hypersensitive tissues. If the tuberculin or tuberculo-protein gains access to the brain of a sensitive animal it is conceivable that it may cause shock, whereas if it only reaches the less noble tissues it may cause not obvious immediate symptoms, but products may be given off from the cells which pass into the blood and give rise to general thermic reaction. I believe I have seen some evidence of this in several patients who have suffered from various symptoms—mainly acute abdominal pain and weak or intermittent pulse—immediately after the injection of a large dose of tuberculin, the rise in temperature coming on some hours after.

But there are several difficulties in accepting sensitiveness to tuberculin as a manifestation of anaphylaxis. The symptoms of anaphylactic shock in animals are not those of the tuberculin reaction in the same species. The period at which they develop, as I have already pointed out, differs in the two cases. In anaphylaxis they come on at once, whereas after tuberculin there may be a latent period of twenty-four hours, which cannot be referred altogether to the slowness with which the substance is absorbed. Again, in the case of tuberculosis there is no phenomenon exactly like anaphylaxis. It is true that if a patient has received a minimal reacting dose he usually does not react to a similar dose if repeated within a few days; but he may do so, and in any case he will react to a dose slightly larger, whereas an animal which was anaphylactized to serum and which has survived a reacting dose is absolutely insusceptible to a further dose however large. This is true for the Theobald Smith phenomenon in guinea-pigs, but not for anaphylaxis in rabbits, which may react two or three times before becoming anaphylactic. Again, it does not seem possible to transfer sensitiveness to tuberculin passively, as is so easy in the case of serum anaphylaxis. In saying this I am aware of the researches of Yamanouchi and others but their results have not been confirmed, and there appear to have been fallacies which render them entirely erroneous. Lastly, I have been unable to demonstrate any diminution in the amount of complement in the serum during a tuberculin reaction in man, and the same has been the experience of others, whereas the fall in the amount of this substance during anaphylactic shock is apparently well ascertained.

Lastly, let us discuss for a few moments the meaning of anaphylaxis. Does the condition play any useful part, and if so what, in the life-history of the animal? According

o Richet and others it represents the first and essential tage in the developement of immunity, and is itself eneficial in that it enables the hypersensitive animal to act more quickly and vigorously to a second attack than did on the first occasion: according to him the anaphyctic shock is an indication of a rapid defensive reaction to he intoxication in question. I find it very difficult to ccept this teleological explanation. In the state of naphylaxis we have a condition in which the animal may e killed by a minute fraction of the dose of a poison hich is necessary to kill a normal animal, and in which can be killed by an infinitesimal amount of a substance hich is entirely devoid of toxicity to a normal animal. d it seems absurd to imagine that such a state of affairs n be in any way beneficial. Nor is this stage of hypersitiveness always a transient one: it may last for the hole of the animal's life. Further, such experimental idence that we have fails to bear out the assumption; cording to Krause an animal which has been sensitized tuberculo-protein is not necessarily rendered more sistant to infection with tuberculosis, though it may be , and an animal is markedly diminished in its resistance tuberculosis during the period at which it is actually ffering from anaphylactic shock.

It seems to me that we are too apt to assume that every enomenon which we find in the animal or vegetable gdom is necessarily for the benefit of the species which splays it. The researches of the evolutionists, dealing inly with morphological characters, have influenced entific thought to such an extent that we are prejudiced favour of believing that anything which we observe in iving animal is to its advantage. This I believe to be site untrue. The immutable laws of chemistry and ysics render it necessary that the acquisition of an vantageous new character shall be accompanied by er secondary characters which are not necessarily antageous and may even be harmful. For example, lower forms of life are in some cases highly resistant physical influences, not being killed at extremely low peratures, or at that of boiling water. As we ascend the scale these characters are lost; other and more antageous characters are acquired, and these are not patible with this power of resisting thermal influences. have morphological characters any necessary benefit onfer on their possessors; the beauty of the peacock's may be of advantage to its possessor in the process of al selection, but it is quite impossible to imagine that exquisite grace and charm of some desmids can be of advantage to their owners.

seems to me that we may regard anaphylaxis as a ssary step to the development of immunity to toxins—dvantageous in itself, but of advantage in that it esents a stage in the production of a more resistant lition. Fundamentally, we come down to the method which cell nutrition is affected. As animals have ne evolved, those which are immune, or which have power of becoming immune, to certain diseases have favoured in the struggle for existence, so that we see there has been an evolution of those animals which adapted their method of cell nutrition to their nce against deleterious agencies. Such a process is, he whole, an advantage to the species which can rm it, but it brings disadvantages in its train. ngst them the possibility of the animal becoming, at stage, hypersensitive to poisons which have but little n on normal animals, and, what is even more imnt, vulnerable to substances which in the ordinary are non-toxic. Just as civilization, with its increasing plexity of life, on the whole advantageous to the races ankind which possess it, brings in its train inconnces and troubles of its own—inconveniences and les which are far outweighed by the additional iness with which they are accompanied—so, it seems , is the complex mechanism for combating infection h has been evolved in the higher animals accomd by the possibility of hypersensitiveness—in itself mixed disadvantage, but one that is worth owning in of the fact that it renders possible a stronger ce against various forms of disease.

DISCUSSION.

Scott said: The poison responsible for the toms of anaphylaxis, the "anaphylatoxin" of Friedberger, is regarded by him as being derived from the various antigens which are capable of setting up the supersensitive state, the hypothesis being that the complement acts on the antigen through the intermediation of an antibody, probably the ordinary amboceptor, precipitin, or lysin. The possibility that it is not the antigen but the amboceptor, normal or "immune," which provides the poison, must be considered in the light of the experiments of Keysser and Wassermann. These observers have prepared "anaphylatoxin" by digesting inorganic suspensions, kaolin and barium sulphate, with fresh guinea-pig serum. Here no antigen is present, and the normal amboceptor is apparently the only substance capable of providing the toxin. Further arguments for this are the uniformity of the symptoms with antigen of very different origin, and the fact that the treatment of serum-protein by exposure to ultra-violet light greatly diminishes its capacity of causing symptoms in sensitive animals. Such protein is very slightly altered physically and chemically, and is still readily attacked by digestive ferments, but has lost the power of precipitating the precipitin-antibody and thus altering it, so as to make it capable of yielding anaphylatoxin. Further, this hypothesis is capable of explaining the paradoxes in the action of antibacterial serum where larger doses are attended by no corresponding increase of protection, but the contrary. Some indication of the nature of the toxic agent in anaphylaxis is furnished by the experiments of Dale and Laidlaw on ergot and peptone. The amine which they isolated and showed to act pharmacologically, like the injection of protein in a supersensitive animal, β-aminazolylethylamine, may possibly appear as the result of the digestive action of complement on protein. This supposition is supported by the experiments of Turro and Gonzalez, who have isolated a crystalloid toxin from the mixture of serum-globulin and sensitive guinea-pig's blood. The importance of these conceptions in the practical application of antibacterial serum-therapy is insisted upon.

Professor Sims Woodhead (Cambridge) felt that his own contribution was somewhat belated, as the experiments on which he based his remarks had been carried out some fourteen or fifteen years ago when he was working with Dr. Cartwright Wood at the preparation and testing of diphtheria and other antitoxic serums. The guinea-pigs that had been used for testing the activity of diphtheria antitoxic serum had been put aside, and as they were short of guinea-pigs for the testing of another serum they were again used and gave most characteristic pictures of the anaphylactic condition as now recognized. At first they thought that it must be a manifestation of von Behring's hypersensitiveness, but when animal after animal succumbed they supposed that something noxious had been developed in the serum during the special treatment to which the horse had been submitted. They now knew that they had the classical picture of the anaphylactic condition developed in these guinea-pigs. Further, whilst they were working with "serum toxin" as introduced by Cartwright Wood, they sometimes gave injections of unheated serum toxin, and these were followed by a complex of symptoms which might well be compared to Arthus's phenomena. They were really localized anaphylactic symptoms. They thought that these might be due to imperfectly sterilized needles, to too frequent injections, and the like, just as at the present day groups of cases in which severe anaphylactic symptoms—oedema, joint pains, rashes, and asthma—appeared were sometimes put down to dirty needles, etc. But, continued the speaker, I am satisfied that we in these cases often do the physician an injustice, whether we are dealing with patients who have already received an injection or with cases associated with the taking of horseflesh—a far more common occurrence than is sometimes realized. We know that this is common enough in Germany and France, but it may be far more common in this country than is now accepted. In conclusion, Professor Woodhead agreed with Dr. d'Este Emery that the changes associated with the lytic changes in the cells and solid tissues must be taken into consideration, even though they might not be so important as were those associated with the fluids of the body.

Dr. Grünbaum (Leeds) said in certain cases anaphylactic phenomena had appeared in man after the

sixteenth or later injection of fresh antituberculous serum in relatively large doses. This was not easily explicable by current theories. It was suggested that the following factors required taking into account: (*a*) The nature and state of the disease, (*b*) the age of the serum, (*c*) the possibility of presence of toxin (perhaps after dissociation) in the serum, and (*d*) the possibility of repeated injections of serum acting like repeated injections of bacterial vaccines, leading to severe negative phase.

Dr. E. W. GOODALL (London) said: My experience of the subject has been entirely derived from clinical practice, as I have never engaged in experimental work upon it. I should like to ask Dr. Emery whether we are now to consider the ordinary "serum disease" as being an anaphylactic phenomenon or evidence of the hypersensitive condition. I may remind you that after an injection of serum in the human subject most persons exhibit no symptoms whatever; others, about one-third of the cases, go through after from seven to nine days' interval, an illness of which the symptoms are a rash and fever, with occasionally pains in the joints. That is the normal reaction. In a very few cases it may occur earlier than the seventh day after injection. But there are abnormal reactions. Usually those occur a few minutes or hours after an injection. Such instances as I have seen have always been cases in which an injection or injections of serum had been given three weeks or more previously. The symptoms are rapid evolution of a rash, a high temperature, at times a rigor and even convulsions, and rapid breathing. I have also seen collapse. But it must be remembered that these same symptoms may occur in a person who has never been injected. Often such persons are the subjects of asthma or some allied condition. You may remember that von Pirquet and Schich differentiated the immediate from the accelerated reaction, and both from the normal reaction. Now I have seen a patient undergo an ordinary reaction after a first injection, and some weeks later undergo, first, an immediate, secondly, an accelerated, and thirdly, a normal reaction after a second injection for a relapse of diphtheria. Such cases as this must be explained by any hypothesis the pathologist puts forward to explain the state of anaphylaxis. I am afraid I can offer no explanation of the batches of cases mentioned by Professor Sims Woodhead. They are not due to inefficient sterilization of instruments; that gives rise to local abscess. My impression is that serum reactions are not infrequently met with in cases of faucial disease which are not diphtheria and are of a mild nature. But Dr. J. D. Rolleston, of the Grove Hospital, has brought forward evidence to show that in diphtheria a marked serum reaction is of favourable prognosis so far as the diphtheria is concerned. Of recent years I have not seen such severe normal reactions as I used to previously, and it is some time since I have seen a case of immediate or accelerated reaction at all. There seems to have been a great improvement in the serums supplied to me, and I should like to ask Dr. Emery whether he can explain this fact.

Professor JAMES RITCHIE (Edinburgh) gave a preliminary account of work primarily undertaken by himself and Dr. James Miller to test the complement deviation method as a possible means of measuring the therapeutic effect of inoculation with tuberculin in tuberculosis. The method employed was, he said, identical *mutatis mutandis* with that used by McKenzie[1] in the Wassermann syphilis reaction. The haemolytic system consisted of washed ox corpuscles, guinea-pig complement, and immune body from rabbit or ox red blood corpuscles. For antigen, all the ordinary tuberculin preparations were tested, and as Koch's Old Tuberculin was found to give the best results, this, after the preliminary experiments, was alone used. The results of every deviation were controlled by observing the deviating effect of the antigen alone and of the serum alone. This was absolutely necessary, as the amount of deviation of the combination of antigen and serum was small in comparison with that obtaining in syphilis reactions. Two sets of observations were made: (1) Experiments with the serum of rabbits. The serum of all the rabbits used, as has been noted by other observers, showed evidence of containing an antibody to tuberculin. The following results were obtained. Observations were made every few days on a series of animals infected with (*a*) human tubercle bacilli, (*b*) bovine bacilli, (*c*) Koch's Old Tuberculin. A fourth animal, kept under identical conditions, was used as a control. There was no evidence in any of the animals of any change in the amount of complement-deviating substance in the serum. The normal antibody of the rabbit showed no difference in binding capacity when bovine instead of human tuberculin was used as antigen. This is of interest in view of the difference in susceptibility existing in the rabbit towards the two strains. (2) Through the kindness of the staff of the Royal Victoria Hospital, Edinburgh, we had the opportunity of investigating the serums of 39 cases of tuberculosis undergoing treatment in that institution. In these cases there was, generally speaking, a somewhat localized pulmonary tuberculosis which was running a favourable course. Fifteen had received tuberculin treatment with either Béranek's preparation or Koch's Old Tuberculin, and the practice at the hospital was that the dosage should be so regulated that no typical tuberculin reaction, as shown by rise of temperature, etc., should be originated. In the other 24 cases no tuberculin inoculation had been practised. Of the 15 tuberculin-treated cases, 5 gave no evidence of an antibody in the serum, 8 a small but recognizable reaction, and in 2 there was marked deviation. Of the 24 untreated cases, 12 gave no reaction, 11 a small reaction, and 1 a pronounced reaction. The proportion furnishing evidence of the presence of antibodies was thus greater in the treated than in the untreated cases, the figures being 10 to 15 as against 12 to 24. An important fact was that the cases giving the most marked deviation were those in which there was clinical evidence of more than one tuberculous focus in the body. In two cases which early in their course of treatment showed no antisubstance in the serum there was evidence of the development of a complement-binding property after the tuberculin injections had gone on for some months. Their provisional conclusion was that in a certain number of cases of tuberculosis running a favourable course there was evidence of the presence in the serum of an antisubstance to tuberculin, and this was more marked where treatment by tuberculin had been applied. For the development of such substances the occurrence of manifest hypersensitiveness to tuberculin was not necessary.

DISCUSSION ON
THE PATHOGENIC EFFECT OF B. COLI.

OPENING PAPER.

By H. D. ROLLESTON, M.D., F.R.C.P

In dealing with the large subject of the pathogenic action of *Bacillus coli* it would no doubt be desirable to confine our attention to the typical *B. coli communis* or the Escherich group and to exclude the intermediate or Gaertner group comprising *B. enteritidis*, bacillus of hog cholera, *B. paracolon*, *B. paratyphoid*, *B. psittacosis*, and also the *aërogenes* groups. But this is hardly feasible at the present time, for many conditions and cases described as due to *B. coli* may really be examples of infections with coliform organisms of the intermediate group. I do not, however, propose to consider infections definitely described as due to members of the intermediate and *aërogenes* groups, such as paratyphoid fever and dysentery. A consideration of the pathogenetic action of *B. coli* is of great interest from the tendency in clinical medicine to regard the alimentary canal as primarily responsible for many diseases of obscure origin, such as rheumatoid arthritis, diabetes, pernicious anaemia; and also because, like appendicitis, *coli* infections have apparently become more frequent since the advent of influenza.

The *B. coli* is widely distributed, rapidly invades the body after death, may crowd out other and pathogenic organisms, readily contaminates swabs and tissues taken for cultivation, and may, of course, be found in pure culture in cases in which search for anaërobic organisms has been omitted. These considerations render it of primary importance that great caution should be exercised in deciding that *B. coli* is pathogenic in any given case. These qualifications are so fully recognized that there is perhaps a possibility that the pathogenetic effect of *B. coli* may sometimes be under-estimated rather than

exaggerated, and a genuine infection regarded as a contamination. It may, therefore, be advisable to refer to the criterions available for arriving at a decision on this matter. In his well-known statistical study of terminal infections Flexner found *B. coli* so frequently in the organs of patients dying of chronic affections of the heart or kidneys that, unless associated with definite lesions referable to their presence—or in large numbers and widely distributed—no pathogenetic importance can be attached to their presence.

The problem whether in a living patient in whom the *B. coli* has been isolated from a discharge, urine, or the blood, the symptoms are due to, or independent of, infection with that organism can hardly be settled satisfactorily by the agglutination test. For the blood serum of a patient who has a haemic infection with *B. coli* may not agglutinate this organism; and in a long series of patients with *coli* infections Dudgeon found that it was extremely rare to obtain a well-marked agglutination reaction. Dudgeon considered that more but not absolute reliance can be placed on the opsonic and phagocytic indices, for he found considerable variation of the opsonic and phagocytic indices in healthy persons, and more marked variations in patients with various pathological conditions. This important and difficult question is one on which discussion is desirable.

The association of *B. coli* with pyogenetic organisms stands on a different footing from the presence of *B. coli* alone; for though on the one hand the *B. coli* may be an unimportant factor, it may on the other hand exert its own pathogenetic effect on the patient, or it may by symbiosis with the accompanying micro-organisms have an influence which it is difficult to estimate. With regard to combined infections, it has been stated that *B. coli* is frequently associated with *Streptococcus longus* in the causation of puerperal infections, "thus explaining the occasional failure of antistreptococcic serum to check the course of that infection" (Bosanquet and Eyre). In typhoid fever the colon bacilli increase in numbers and in virulence in the intestines, and may, by passing through the walls of the bowel damaged by the typhoid infection, cause definite complications. The influence of one microbe on another is illustrated, though in the opposite direction, by the observation that *B. coli* will not grow in the presence of *B. pyocyaneus*, though it grows well in the toxins of that organism (Dudgeon and Sargent), and by the influence of the Bulgarian bacillus on *B. coli*.

General Symptoms Produced by B. Coli and its Toxins.

It is interesting to attempt to tabulate the clinical features which are common to the various forms of human infection with *Bacillus coli*. In the acute forms—and it is in these cases that variations in the virulence of the organism are striking—there is a high temperature, often with rapid oscillations; though it may be pointed out that in 1894 Hanot, in cases of acute icterus gravis, found *B. coli* in blood cultures made during life, and insisted that acute changes in the liver due to *B. coli* were characterized by a low temperature, in contrast to similar changes induced by streptococci and staphylococci, which are accompanied by high fever. Rigors may occur, and are almost pathognomonic, if malarial infection be excluded, in urinary infections of infants (J. Thomson, 1910); in some instances multiple haemorrhages and haemoglobinaemia have been observed. There is a considerable leucocytosis, thus differing from paratyphoid fever in which there is leucopenia (Fox).

These manifestations may be compared with experimental results obtained by injection of the endotoxin of *B. coli* into animals (V. C. Vaughan, senior and junior). It has been shown that the toxin of *B. coli* is intracellular, as is that of *B. typhosus*, and that it can be obtained by a pulverization method in some ways resembling that employed by Allan Macfadyen. Injection of this endotoxin into animals acts rapidly, as do other endotoxins, causes a fall of temperature, and may give rise to convulsions. Injection of the endotoxin into the peritoneum does not cause peritonitis or haemorrhagic inflammation. The main differences between the effects of infection with *B. coli* and experimental injection of its endotoxin—namely, as regards the effect on temperature, the presence or absence of inflammation, and of haemorrhages—may, perhaps, be partly explained by the considerations that the endotoxin is very powerful and exerts a depressing effect on the tissues, and that the culture media in which *B. coli* have grown contain a haemolytic body, a fatty acid, which is no part of the cell body of the *B. coli*, but a secretion or by-product formed in the building up of the cell molecule from the constituents of the culture media (Vaughan).

In the chronic forms of local infection with *B. coli* the long duration and liability to relapse after periods of quiescence are notable features. Anaemia is often prominent. Though improvement may result from treatment, it is often very difficult to effect a cure.

Haemic Infections with B. Coli.

In 1909 Jacob collected 26 reported cases, and by adding 13 original cases obtained a total of 39 cases, which he analysed. Draper, in 1910, brought the number up to 43, and to these may be added 6 cases by Wiens and one by Maher.

Cases of general haemic infection with *B. coli* have been classified by Jacob into three groups: (1) Those running a course somewhat resembling typhoid fever—it is natural to imagine that some at least of these are paratyphoid fever. (2) Cases with secondary abscesses, a pyaemia. As compared with other infections, haemic infection with *B. coli* appears less prone to give rise to secondary abscesses; thus, in 55 cases of haemic infection with staphylococci, metastases occurred in 92.7 per cent., in 160 streptococcic cases in 25 per cent., in 20 pneumococcic cases in 25 per cent., as compared with 49 cases of *coli* infection with 22.5 per cent. of metastases (Jacob). The rarity of cases of arthritis due to *B. coli* is compatible with the infrequency of metastatic abscess in *coli* bacillaemia. (3) Cases of terminal infection with *B. coli*, in which the organism is removed from the blood a short time only before death. It may be added that in a case of methaemoglobinaemia Gibson and Douglas isolated *B. coli* from the blood, and concluded that it gave rise to a continuous formation of nitrites in the circulation, and thus to microbic cyanosis. The points of entrance of *B. coli* are in order of frequency: the intestine, the biliary passages, the urinary tract, and the female genital organs (Jacob).

A point of some interest is the incidence of septicaemia due to *B. coli* in cases of grave abdominal infection, such as general peritonitis and appendicitis. Delbert and Schwartz say that it is of frequent occurrence, and speak of subacute septicaemia after appendicitis. Libman, in a series of blood cultures in intra-abdominal infections, obtained quite unexpected results; in 25 cases of appendicitis the results were negative, as they were also in 25 cases of peritonitis, mainly of intestinal origin, in some even shortly before death.

Subinfection by B. coli.—This conception put forward by Adami implies that the chronic passage of *B. coli* through the blood into various organs plays some causal part in a number of chronic diseases. In 1898 he described the diplococcic form of the *B. coli* in the liver in cirrhosis, and in 1899 argued that this organism plays some, though not the primary and essential, part in haemochromatosis and in pernicious anaemia. Work on this subject has been carried out in Adami's laboratory by Miss Maude Abbott, who also described the presence of the diplococcic form of the *B. coli* in the liver in cirrhosis; and by Charlton, who produced in rabbits a grave anaemia, though not of the pernicious type, by repeated injections of cultures of a colon bacillus of low virulence; in this manner he produced changes in the spinal cord analogous to those of subacute combined degeneration. He could not produce those results by the injections of killed cultures or of filtered cultures of *B. coli*, and so suggested that the endotoxin was the active agent. Further, in pernicious anaemia D. Anderson obtained *B. coli* from the stomach. Charlton quotes and approves Adami's dictum that pernicious anaemia is probably dependent on a particular combination of circumstances, the chief being a condition of latent infection and subinfection by intestinal bacteria, more especially by the colon bacillus. Nicholls also described the diplococcic form of the colon bacillus in the kidneys, and concludes that it is a factor in some cases of granular kidney. In his recent textbook Adami (1910) restates his position.

The question whether these morbid changes are due to

the presence of the *B. coli* in the tissues or to poisonous products turns on the interpretation of the appearances in the organs. If the evidence of the presence of the *B. coli* in the liver and elsewhere is not regarded as sufficient, it might be argued that the changes are due to poisons absorbed from the intestines. Metchnikoff, by administering paracresol, phenol, and indol, products of *B. coli*, has induced the lesions of early hepatic cirrhosis and aortic atheroma in animals, and Studzinski produced the same changes by the injection of living and dead cultures. Though injections of bacteria into the blood usually fail to produce hepatic cirrhosis in animals, Opie found that the administration of chloroform accompanied by intravenous injection of *B. coli* caused hepatic cirrhosis. This observation lends support to Adami's contention.

LOCAL INFECTIONS WITH B. COLI.

The list of morbid conditions which have been ascribed to the pathogenic action of this micro-organism is a very long one, as can be seen in Gilbert's article on "colibacillose," and no attempt even to enumerate them will be made here. The pathogenic effect of *B. coli* in peritonitis, appendicitis, and in cholecystitis and cholelithiasis is so well established that discussion is hardly necessary. The influence of *B. coli* in enteritis, summer diarrhoea in infants, and in colitis is a difficult question, especially the problem whether the classical form of *B. coli* becomes more virulent or whether the pathogenic effects are due to different though allied forms. Present opinion favours the second view, but there is, perhaps, something to be said for the compromise that this does not always hold good. Chronic pancreatitis has been produced experimentally by injection of *B. coli* (Körte, Flexner), and it is natural to assume that chronic pancreatitis and eventually diabetes may be due to ascending infection of the pancreatic duct. Another explanation of the etiology of diabetes has been put forward by Woolley and Newburgh, who found that injection of indol produced hypertrophy of the medulla of the suprarenals; they suggest that such hyperactivity, if lasting for a considerable time, may by causing a change in the chromaffin-pancreas equilibrium set up diabetes. Turck produced gastric ulcer in dogs by feeding them with human *B. coli*, but this does not prove that human gastric ulcer is due to a local colon infection. The toxic effects of large doses of indol have been specially investigated by Herter; and, as invasion of the upper part of the small intestine by *B. coli* favours indol production, this subject is germane to this discussion.

Infection of the Pelves of the Kidneys.—The importance of *B. coli* and coliform organisms (for there is much variation in the forms that occur) in urinary infections is shown by the prominent place that these organisms take in series of cases. In 121 cases of urinary infection at Great Ormond Street Hospital for Sick Children 67, or 55.4 per cent., were due to coliform organisms (Jeffreys); out of 56 cases of pyelitis in pregnancy 44, or 78.6 per cent., were due to *B. coli* (Ward); out of 112 examinations of the urinary tract made at the London Hospital in 1909, *B. coli* was found in 29, or 26 per cent.[37]

The mode of infection of the urinary tract with *B. coli* has been much discussed. The ways in which *B. coli* may enter the urinary tract are:

1. Ascending infection from the urethra, bladder, ureters, and pelves of the kidneys has met with support from Barnard, Thomson, Bridgeon, and Box. The evidence in favour of an ascending infection are: (*a*) That in a number of cases the disease seems clinically to start with cystitis, and that symptoms of pyelitis or pyelonephritis follow; (*b*) the greater frequency of the infection in females, especially infants, than in males. The short female urethra and the liability of the vulva to be infected by napkins and threadworms (Box) render an ascending infection easy, especially in infants. In 200 cases in children, obtained by adding the statistics of Morse, Abt, Escherich, Finkelstein, Box, Thomson, Jeffreys, and 13 of my own, 165, or 83.5 per cent., were females, and 35, or 17.5 per cent., were males. Ascending infection in boys is rare, but it has been noted after circumcision (Morse). In adult males, on the other hand, secondary colon infections in the course of the diseases of the urinary tract, such as urethral stricture, prostatic enlargement, calculi, are common, and gonorrhoea is often the starting point of colon infection, the gonococci disappearing from the urinary tract long before the *B. coli* (Pardoe). But the influence of pregnancy and of diseases of the genital organs is responsible for the large number of women who have colon infection of the urinary tract. Murray, Williams, and Wallace found *coli* bacilluria in 44.5 per cent. of gynaecological patients before operation, and in 93 per cent. after operation.

Ascending infection has been opposed on the ground that the bladder and ureters may appear healthy when the renal pelves are affected. This objection has been met by supposing that organisms may travel up the lymphatics outside the ureter, or that they may pass up mucous channels by means of ascending currents without producing any inflammation of the channels (Bond).

2. Transparietal infection or the passage of micro-organisms from the bowel to the kidney, especially from the colon to the right kidney, or from inflamed pelvic organs to the bladder or ureters, has been suggested. In order that this may occur, the mucous membrane of the bowel must be sufficiently damaged to allow *B. coli* to pass freely through its walls into the pericolic tissues and lymphatics. The occurrence of *B. coli* infections after gastro-intestinal disorders, such as constipation, diarrhoea, colitis, which produce a breach of surface of the mucosa, is thus explained; and it is also possible that the constipation of pregnancy plays a part in the frequency of colon infections of the urinary tract. In 54 cases of colon infection in children the bowels were abnormal in various ways in 32, or 59.2 per cent. (Jeffreys); and the same held good in 17 out of 25 cases analysed by Thomson (1910). In rare instances direct infection may pass from an inflamed appendix to the ureter or pelvis of the right kidney. The greater frequency with which the right kidney is implicated has been regarded as evidence of transparietal infection (Jeffreys), though in pregnant women the liability of the right ureter to be compressed by the gravid uterus at a point 1 in. from the bladder has been held to be a sufficient explanation.

3. Descending infection of the urinary tract by the passage of colon bacilli from the blood into the kidneys. Albarran (1889) and Macaigne (1896) early recognized haemic infection of the kidneys with *B. coli*, and described ordinary parenchymatous nephritis and multiple miliary abscesses.

The micro-organisms may get into the blood through a breach of surface of the alimentary canal—for example, a stercoral ulcer of the colon due to constipation. It has been thought that cracks about the anus, where infection with *B. coli* would ready occur, may be the point of entry (J. Thomson (1902), Ritchie). Haemic infection obviously accounts satisfactorily for cases in which the parenchyma of both kidneys is affected; and though at first sight it does not appear to be so compatible with unilateral disease of the kidneys, conditions such as trauma, calculus, nephroptosis, torsion, rotation, and ureteral obstruction, which reduce the resistance of one kidney, may determine lesions of haemic origin in one kidney. The greater frequency of nephroptosis on the right side may also help to explain why the right kidney is more often attacked with *coli* infection (in 65, or 95 per cent., out of 70 cases collected by Legueu). The lesions may be infarcts. Thus Brewer, in a series of cases of unilateral haematogenous infection of the kidney, records the case of a woman, aged 26, whose right kidney showed six areas of induration in the cortex; these were incised, and five were composed of necrotic tissue, and the sixth contained pus and *B. coli*.

No doubt these different paths of infection may be operative in different cases. In cases of descending or haemic infection the urine should show evidence that the substance of the kidneys is affected in the presence of casts of the urinary tubules.

A characteristic feature of colon infections of the urinary tract is their chronicity, with liability to acute relapses. In addition to the usual results of *coli* infection of the urinary tract (fever, pain, disordered micturition) the changes in the urine are important in their bearing on the production of calculi. Thus, cystinurics may pass crystals for years and only form calculi as the result of superadded inflammation, which, as Garrod points out, may be due to infection with *B. coli*.

The urine in *coli* infections of the urinary tract is acid and as this acidity inhibits the growth of other micro-organisms, *B. coli* is often present in pure culture. The

urine has a characteristically fishy odour. Clinically, if the urine be rendered alkaline, symptoms frequently disappear, although bacteriuria persists. The explanation of the beneficial effect of rendering the urine alkaline is not very obvious. As the urine, whether in health or disease, is devoid of opsonins (Dudgeon, Davis), the suggestion that an alkaline reaction is more favourable to phagocytosis of *B. coli* is improbable. It is more reasonable to believe that the administration of alkali increases the resisting powers of the body.

In children, symptoms pointing to the urinary tract are usually absent, and the fever due to the infection may be very puzzling unless the urine is carefully examined. The clinical picture may be that of cyclical vomiting (Thursfield). Infection of the urinary tract with *B. coli* may give rise to three groups of symptoms: (1) Local, pointing to infection of the pelves of the kidneys; (2) general, suggesting influenza, typhoid fever, or infective endocarditis; (3) acute abdominal symptoms, vomiting, constipation, distension.

Occasionally, in the course of colon infection of the urinary tract, the lymphatic glands enlarge and the clinical picture may suggest glandular fever, with its not uncommon complication of acute nephritis. The bacteriology of glandular fever is not settled; but, though there does not appear to be any reason for suggesting that it is due to infection with *B. coli*, it is well to bear in mind that the symptom group of glandular fever may be due to *coli* infection. The irregular fever and the glandular enlargement may, if the *coli* bacilluria be not detected, raise a suspicion of lymphadenoma. It may also be noted that glandular enlargement and pyelonephritis may occur in paratyphoid fever.

In some cases of urinary infection with *B. coli* pigmentation, usually diffuse and dirty, of the skin occurs. In two patients with *coli* bacilluria dark pigmented spots, resembling those seen in Addison's disease ("Greenhow's spots"), appeared on the skin in increasing numbers until the infection began to yield to treatment; they then ceased to appear, and their colour diminished. This is of interest, for in rare instances, of which Beddard has collected 5, chronic intoxication with carbolic acid has caused chronosis, and as the members of the colon group produce small quantities of carbolic acid it is conceivable that the etiology of the pigmentation in the two conditions may be allied. In connexion with *coli* infection of the urinary tract it seems probable that cases formerly called gouty cystitis, and possibly some other conditions commonly regarded as gouty, such as orchitis and phlebitis, are of this nature. I have seen recurrent phlebitis occur in chronic *coli* infection of the urinary tract, and I have heard of several cases in which phlebitis rapidly yielded to a colon vaccine. Pardoe points out that in adult males acute epididymitis, prostatitis, or urethritis with a discharge may accompany acute *coli* infection of the urinary tract, but he has not seen these affections in young boys. *B. coli* infection of two distinct organs such as the gall bladder and urinary tract may coexist.

Endometritis and Cervical Catarrh.—Butler Harris has found that a large proportion of these are caused by *B. coli*. After a menstrual period the opsonic index rises, owing, no doubt, to autoinoculation. Such cases become anaemic. Douching does good by producing autoinoculation. According to Poulain, sigmoiditis and constipation may lead, through the formation of inflammatory adhesions, to retraction of the uterus.

Infections of the Skin.—Chronic ulcers of the legs sometimes show *B. coli*, and good results have been obtained from vaccine treatment in cases which have resisted other methods; thus an ulcer of two years' duration healed up in ten days (McWalters). *B. coli* has also been found in compound fractures; and in a case of compound fracture, in which metastatic abscesses occurred after amputation, *B. coli* were found in the abscesses, although the blood was sterile. In this case the use of an autogenous vaccine for four weeks, twice weekly, was followed by recovery (Howland and Hoobler). Cutaneous abscesses due to *B. coli* in an infant of 3 weeks were described by Auché. Pure cultures of *B. coli* were obtained from bullae which with petechiae appeared all over the body of a child aged 10 months, who had been scalded over the buttocks and legs. The child had diarrhoea, and it was thought that the buttocks were infected from the stools, and a septicaemia thus induced (J. S. Dick).

Infective endocarditis due to *B. coli* has been recorded in a few instances (Hitschmann and Michel). In Andrewes's case the endocarditis was primary, and there was not any old valvular lesion. In Netter and Martha's case the endocarditis was secondary to cholelithiasis, in Jackson's case to a periproctal abscess, and in Sittmann and Barlow's to urethral infection.

Arthritis.—The rarity with which arthritis has been proved to be due to *B. coli* may, as already suggested, be correlated with relative infrequency of metastatic abscesses in haemic infections with *B. coli*. In 2 cases of arthritis under my care *B. coli* were isolated from the joints, in one of which the same organism was obtained by blood cultures. Suppurative arthritis has been stated to follow appendicitis (Sevestre and Thomas), and Salle found *B. coli* in 2 cases of arthritis associated with dysentery. Sir W. Osler has told me of a case of severe inflammation of the tendon sheaths resembling that of gonococcic origin in a case of colon infection of the urinary tract. Dr. H. Morley Fletcher has kindly given me the details of a case of suppurative arthritis of the right shoulder in a male infant aged 9 months appearing two weeks after an attack of diarrhoea and vomiting; the pus gave a pure culture of an organism belonging to the colon group, but more nearly allied to Gaertner's *B. faecalis alkalinus* than to the classical *B. coli communis*.

Meningitis is in rare instances, as in a case of haemic infection described by Widal and Lemierre, due to *B. coli*.

In acute diseases of the lungs Pearce found pure cultures of *B. coli* in 5 cases of acute bronchopneumonia; in 2 of these there was a general infection with *B. coli*. In rare instances colon bacilli are found in empyemas, and in mixed infections are naturally not uncommon in subphrenic abscesses.

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DISCUSSION.

DR. WARDE HUTCHINSON (New York) said: Dr. Rolleston's admirable paper will do much to clear up our thinking on these colonic infections. They are not only a most important group, but of great practical interest, for many of our patients nowadays, thanks to Metchnikoff and Fletcher, are acutely interested in their colons. The colon bacillus appears to act pathogenically, not so much through the absorption of its products found in the alimentary canal as by actual penetration of the intestinal wall. This occurs chiefly in connexion with injuries by parasites or inflammations due to other bacteria—in fact, the *B. coli* would appear to act chiefly as a sort of "wicked partner." For instance, in the now famous uncinariasis or hook-worm disease of our Southern American States much of the anaemia and toxaemia are due to the invasion of the blood by colon and other bacilli in the intestines through the punctured wounds made by the "bite" of the hook-worm. The part played by the colon bacillus in several chronic infections and autointoxications is probably not unimportant, especially gout, diabetes, and certain forms of arthritis. A slow process of subinfection, or special susceptibility to the absorption of attenuated forms of various pathogenic organisms, including the colon bacilli, would appear to play a much larger rôle in gout than red meats, wine, or, indeed, food of any sort as such. In diabetes an ascending infection up the pancreatic duct by the colon and other intestinal bacilli, such as occurs up the bile duct in cholecystitis and gall stones, is probably a most frequent cause of pancreatitis and a predisposing factor in setting up a glycosuria. At all events, next to the regulation of the diet, measures for the "toilet" of the food tube have the most potent and beneficial effect upon the progress of diabetes.

DR. J. W. SMITH (Ryton-on-Tyne) said: In speaking as a general practitioner from a clinical point of view I wish to refer to a case of chronic general dermatitis, with acute exacerbations recurring every three or four weeks for several months, and affecting practically all the cutaneous surface. Toxaemia, probably of intestinal origin, was the view of the case taken at first, and the patient—a lady—was treated with intestinal antiseptics—calomel, salol, etc.—without success. The idea of *B. coli* infection then occurred to me, and a catheter specimen of the urine, with strict antiseptic precautions, was taken and bacteriologically examined. It was found to swarm with *B. coli* organisms. A vaccine was made from the specimen, and, as soon as it could be prepared, was injected every four days, the patient being treated at the same time with alkalis and sour milk. From this time improvement was marked, there was never another relapse, and the patient got quite well and continues so.

DR. THURSFIELD (London) said: From the pathological point of view the chief feature of the discussion so far is the confusion that has arisen owing to the rapid differentiation of the organisms belonging to the group. What is now required from the scientific pathologist is a definite indication of the means by which the organisms found may be classified, in order that the clinician and clinical pathologist may be able to correlate the symptoms with the different types. Another point that arises is the insufficiency of the evidence on which many of the statements of *B. coli* intoxication is based; the only evidence which should be accepted is the isolation and identification of the organism. From the clinical point of view, in cases of infection of the urinary tract, the question of prognosis is of great interest. Prognosis, as regards relief of symptoms, is extremely good; prognosis as to freedom of the urine from the bacilli is, in my experience, bad; I have not known an adult who has become completely free bacteriologically, though in children such a result is more frequent.

DR. GEORGE DOCK (St. Louis) said that it seemed to him that in colon infection—to use a general term—they must seek the key to many of the most important problems in pathology and clinical medicine now before them. Although the speaker had not been able to get definite results from investigations in pernicious anaemia, the methods followed were crude. Within the last few years great advances had been made, and having had the opportunity of association with Dr. Duval, whose work on the Shiga and allied organisms was known to all, the speaker not only anticipated definite advances, but suggested also that in all future work on the colon group precise identification of the kind of germ be made. The hypothesis of Adami regarding so-called subinfection, was very attractive. The work of Opie in experimental cirrhosis of the liver referred to by Dr. Rolleston, producing genuine cirrhosis by a combination of intoxication and colon infection pointed to the likelihood of other and less definite but similar processes. The association of colon infection with hook-worm lesions was almost certain, but it would extend the discussion unduly to discuss it.

PROFESSOR G. SIMS WOODHEAD (Cambridge) thought that Dr. Rolleston had laid down for them lines for a most interesting discussion. There were certainly great difficulties in determining whether the *B. coli* was the real or only factor at work. Mixtures of a most complicated character were found in the alimentary canal, and it was difficult to say which was the real factor at work. Then, too, when the *B. coli* was proved to be the predominant organism in a mixture, what alterations had been made in the protecting mucous membrane? Cobbett and Graham Smith had pointed out that in grouse disease there was a certain relation between the number of animal parasites found in the caeca and the number of *B. coli* that could be found in the organs and tissues. Dr. Dock's observations on the hook-worm all bore on the same point and in the same direction and other observations made on the parasites of the alimentary canal of certain of the lower animals bore this out. Another difficulty presenting itself was that the *B. coli* seemed to vary greatly according to the position in and the conditions under which the micro-organism grew. The *B. coli* became parasitic or saprophytic according as it grew in the tissues or in the intestinal canal and outside the body. This variation rendered their difficulties greater. In connexion with Professor Adami's experiments it should be borne in mind that under ordinary conditions the small canals were protected by the epithelium in apposition, as Lister had pointed out in connexion with the meatus urinarius externus, and it was only when this protection was removed and when, consequently, the organs were probably damaged, that the *B. coli* could come into the bill. It might then, however, come to play an important part by acting with other agents, such as those mentioned. There might be added to the list—which included chloroform, opium, sulphuric ether—alcohol, the commonest poison of the group. He was satisfied that *B. coli* plus these poisons and even the intestinal poisons, was an important factor in the production of liver cirrhosis. As to the localized pigmentation found in these *coli* infections, he would like to suggest that inflammatory phagocytosis of escaped red blood corpuscles might account for this condition.

DR. W. D'ESTE EMERY (London) thought that Dr. Thursfield was unnecessarily pessimistic with regard to the prognosis of urinary infections with *B. coli*. He admitted that in many cases it was difficult to get rid of the last few organisms from the urine in these cases, but this was accomplished in a fair proportion, and in the great majority all the symptoms could be removed by means of vaccines. In children the number of cases to be cured completely was even greater, and vaccines were not always necessary. With regard to diabetes, he thought that the lesion in the pancreas was probably an ascending infection, and drew attention to McWalters's work with regard to the staphylococcus as a possible cause of the condition. Dr. Emery referred to two cases of congenital absence of the bile ducts, with the usual form of cirrhosis, which he had examined, in which the regions of the ducts and of the gall bladder were occupied by columns of granulation

tissue containing bacilli which were morphologically identical with *B. coli*. These he regarded as being certainly cases of a particular form of cirrhosis due to the action of a micro-organism.

Dr. Chalmers Watson (Edinburgh) remarked that his experience of a large number of reports furnished to him by his bacteriologic friends led him to agree with the conclusion of the previous speaker that it was difficult to speak otherwise than of organisms of the coliform group. He had found from reports furnished to him by competent bacteriologists that the morphological characters and biochemical characters of the bacillus from the same patient sometimes varied considerably at different stages of treatment. Dr. Rolleston had given a very comprehensive account of the clinical features of *B. coli* infection. The speaker desired to emphasize the occurrence of symptoms in women—in which asthenia was the most marked symptom, usually associated with slight anaemia, and sometimes a very slight enlargement of phalangeal joints that hardly warranted a clinical diagnosis of rheumatoid arthritis—which were the result of a *B. coli* infection. It was interesting to note the recent observations referred to by Dr. Rolleston as to the infective origin of some gouty conditions. The speaker had long advocated the infective origin of this disease. In his view the improvement which occurred from appropriate dietetic treatment of the disease was in all probability, in part at least, the result of the favourable influence of that diet on the intestinal bacteria.

Professor Leith, in summing up the discussion, referred in complimentary terms to Dr. Rolleston's paper. The difficulties of covering in an adequate manner such an extensive field of inquiry were great. Dr. Rolleston had met and had overcome these difficulties well. He had given them a clear, succinct, and masterly arrangement of all the salient facts, and had, while avoiding errors of too wide inclusion, still found room for all the main points, in such an order and proportion as to excite their admiration. The outstanding difficulty lay in the recognition of what was true evidence of *Bacillus coli* action; in other words, What were the criterions which had to be satisfied before it could be said that the true *Bacillus coli*, and not merely some undetermined coliform organism, was at work? Dr. Rolleston, having studied this subject from the clinical standpoint, must naturally leave the determination of the necessary bacteriological distinctions to others; but he rightly pointed out that they must be seen in conjunction with agglutination and opsonic tests, though their efficiency was limited for reasons into which we need not enter. All would agree with him that the pyogenic, the food poisoning, the paratyphoid, and the enteric groups must be excluded, and most of them would agree with Dr. Woods Hutchinson and Dr. George Dock, two distinguished representatives of American scientific medicine whom they were glad to welcome at the Section, that a failure to apply accurate criterions in the identification of the *Bacillus coli* had led in the past to a great deal of loose thinking and writing about *coli* infections and autointoxications. Most of them would be inclined to go further and agree with Dr. Thursfield in saying that many of the lesions attributed generally to the *Bacillus coli*, and some of those spoken of by Dr. Rolleston in his paper, rested upon insufficient proof. In any case he (Professor Leith) did. The identification of the germ was necessary before the observed morbid changes could be attributed to it. In routine work, particularly when the advantages of a modern laboratory were not available, strict obedience was not always given to Koch's axioms. Dr. Rolleston had rightly called attention to some of the pitfalls through which error might creep. Professor Wright Woodhead and others had spoken of the frequency of symbiotic action of the *Bacillus coli*, of its being met with in an active state in conjunction with *Bacillus anthracis*, with streptococci and other pyogenic germs. In such case the isolation of all the active or pathogenic germs was a primary duty and the part played by each as far as possible determined. To what extent had this been done in many so-called *coli* infections? For instance in the evidence which attributed over 90 cent. of cases of cholecystitis to the *Bacillus coli* of a satisfactory nature how many of these cases had this bacillus been isolated in pure culture and found to conform to all the necessary cultural, chemical, and biological tests; in how many of them had anaërobic cultures been made—in short, in how many of them had the *Bacillus coli* been conclusively shown to be the only possible responsible germ? The peculiar and offensive odour of the pus and discharges from an appendical abscess was well known. It was not restricted to such abscesses, being common in diseased conditions of the frontal sinuses and in cerebral abscesses, for example, with which the *Bacillus coli* had no connexion. There was good reason for believing that it was the product of anaërobic germs, and the part played by such germs in the causation of appendicitis had not yet received sufficient attention. In his (Professor Leith's) opinion the bacteriology of appendicitis required revision, in the hope of determining afresh how far the *Bacillus coli* and how far other germs, such as the staphylococci, pneumococci, or other pus producers, or others like the anaërobes acting alone or in conjunction, affected the causation of this disease. There were some other diseases of which the same remark may be made. And now, to go a step further, and supposing it had been shown conclusively that any given disease was due to a coliform organism, what were the criterions which had to be satisfied before a jury of experts would return a verdict of guilty against the *Bacillus coli*? He was sorry to differ from Dr. Bernstein and his old friend Dr. Chalmers Watson, who advocated, mainly on the ground of benefit through vaccine treatment, that it was sufficient to establish the responsibility of a coliform germ. This savoured too much of preferring, on the general ground of disciplinary improvement, the weak policy of the mild punishment of all the boys of a school, to the stronger policy of discovering and soundly thrashing the one guilty boy. The *Bacillus coli* was only one of a large school of coliform germs, and it was necessary in all cases to single out the true culprit in order that, among other things, effectual punishment should be administered. For this purpose cultural and chemical tests of an elaborate kind, which the clinician could not be expected to undertake without the help of the skilled bacteriologist, were absolutely necessary. Dr. Thursfield had referred to some of the fermentation tests and he (Professor Leith) would not weary the audience by going further into them. Agreement upon the necessary tests was fairly general, though there was some slight and unimportant difference of opinion between English and American bacteriologists. In his own experience the fermentation tests were valuable and reliable. It was true that some bacteriologists were inclined to doubt their reliability in the separation of bacterial varieties, particularly in the case of the streptococci; but whether reliable or not in their case, he saw no reason to doubt their reliability when applied to the great coliform group. In his experience the different members could be separated from one another with a fair amount of certainty by means of these tests. Some speakers appeared to be under the belief that the different varieties of coliform organisms did not breed true. So far as the fermentation tests went, he had never seen any warranty for this belief. In his hands they had always bred true and given constant fermentation reactions through weeks and months of growth and subculturing. Professor Woodhead, in his interesting remarks about *Bacillus coli* symbiosis in man and in the grouse and in the varieties of *Bacillus coli* found in waters, had not, as some of them seemed to think, stated that there was any transmutation of varieties, but only that there was great difference in the virulence exhibited by the same race of germs under different circumstances. This variation in virulence, coupled with variation in resistance in the individuals attacked, seemed to him (Professor Leith) to be the explanation of the difference in action of the germ, so great as at times to suggest an alteration or transmutability of the race. Virulence underwent attenuation in cultures grown *in vitro*, but could be exalted in varying degree by re-entrance into the living animal. Man was more resistant than the ordinary laboratory animals to the *Bacillus coli*, but in other respects the action in both was much the same. In most cases it was local in both, but a general action was more common in animals than in man. The local action occurred in or near the site of entrance of the germ and resulted in a simple or suppurative inflammation according to the degree of virulence. Pyaemia might follow in the higher degrees of virulence and occasionally septicaemia.

The latter condition could readily be induced in small animals by injecting a virulent culture directly into the veins. On the other hand, in man, owing chiefly to a greater resistance, pyaemia was rare, though some multiplicity of local lesions was not so rare, whilst septicaemia was hardly ever seen, as proved by the almost constant failure to cultivate the bacillus from the blood, even when sufficiently large quantities were used. The situation of these local lesions was determined by the intestine being the natural habitat of the *Bacillus coli*. The abdomen was, therefore, their common situation, and its organs and tissues, most readily exposed to invasion by the *Bacillus coli*, suffered most frequently. Enteritic, peritoneal and extraperitoneal inflammations, biliary and pancreatic inflammations, and their sequels, as well as renal and urinary inflammations, were readily understandable. They were the result of direct, transparietal, or of ascending invasion. Inflammations in extra-abdominal organs, such as endocarditis and pleurisy, whether occurring along with abdominal lesions or as primary conditions, were explainable by blood transference. The *Bacillus coli* did not enter the blood stream as readily as the *Bacillus typhosus*, and when it did enter it it speedily underwent dissolution, except in a few cases in which it succeeded in leaving the circulating blood while still alive, and in multiplying and settling in some spot, doubtless previously damaged. Some renal invasions were probably of this kind. In subterminal and terminal infections a haemic distribution of the *Bacillus coli* became more frequent, owing chiefly to the diminished resistance of the individual. The bacillus found an increasingly readier entrance into the blood, which explained the comparative success of blood cultures just before or after death. The relation of the *Bacillus coli* to such chronic lesions as arterio-sclerosis and hepatic cirrhosis, referred to by Dr. Rolleston, Dr. Woods Hutchinson, Dr. George Dock, and Professor Sims Woodhead, was a very difficult problem. In most of the established pathogenic results of *Bacillus coli* infection, in both animals and man, particularly the former, action was of the acute kind, with the prominent exception of urinary lesions, which displayed a curious and disconcerting chronicity and pertinacity. Dr. Rolleston's suggestion, that this urinary disease could be favourably influenced by rendering the reaction of the urine alkaline, had not been taken up by any other speaker, whereas there was a remarkable unanimity of experience, on the other hand, in regard to the failure of all methods of treatment hitherto tried, including the vaccine treatment, though the latter method often gave flattering prospects of success for a time. Adami's views of the influence of *Bacillus coli* in the production of cirrhosis of the liver had received more attention and support on the other than on this side of the water. The frequency with which coliform-like organisms were demonstrable in the liver in many different lesions had perhaps caused English pathologists to pay less attention to the contentions of Adami and his pupils than they merited. As Dr. George Dock had said, Opie's experimental production of cirrhosis of the liver by means of *Bacillus coli* injections lent strong support to these contentions, and Professor Woodhead's explanation of the importance of the healthy state and vitality of the bile duct epithelium in this relationship, supported as it was by the occasional presence of the *Bacillus coli* in cases of chronic arthritis, was interesting and ingenious. He (Professor Leith) was sorry that he could not add anything to the comments of the various speakers in regard to the relationship between diabetes, pernicious anaemia, and similar subinfections by the *Bacillus coli;* but he would like to state that in the investigation of a case of methaemoglobinaemia, which he had under observation for a long time, he did not succeed, as Dr. Gibson had done, in finding the *Bacillus coli* in the blood. Dr. Rolleston had summed up the leading symptoms of *coli* infections under the headings of (1) fever; (2) rigors, particularly in children; (3) haemorrhagic inflammations; and (4) a fair leucocytosis. He found the contradiction between the high fever of *coli* infection in man and the marked fall of temperature which followed upon Vaughan's experimental inoculation of the colon endotoxin to be perplexing. He (Professor Leith) would like to suggest that the two actions were probably not comparable. In *coli* infections in man the fever was the result of the action of the *coli* toxin, but in Vaughan's experiments the fall in temperature was possibly not caused by the endotoxin, but by some anaphylactic action. He would like, in conclusion, to express the pleasure he had experienced in listening to Dr. Rolleston's able opening and to the interesting discussion to which it had given rise. It was the hope of the committee, in selecting "the pathogenic action of the *Bacillus coli*" as the subject of a discussion, to direct attention to the advances which had of late been made in the laboratory methods of identification of this organism, and to suggest the necessity of revising and correcting the data, hitherto gathered together and accepted perhaps too lightly, relating to its pathogenic action, about which they really had so little reliable knowledge at the present time.

CIRRHOSIS AND PRIMARY CARCINOMA OF THE LIVER.

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PRIMARY cancer of the liver is a comparatively rare disease, and cancer associated with cirrhosis is even less common. In 2,050 *post-mortem* examinations made at the Liverpool Royal Infirmary during the last thirteen years there were 16 cases of primary hepatic cancer; of these, 5 were associated with gall stones, and apparently originated in the gall bladder or large bile ducts; in 3 of the remaining 11 there was definite cirrhosis.

The classification of primary hepatic cancer is difficult. Rolleston, omitting growths arising from the large bile ducts, describes the following:

1. Primary massive Cancer en Amande (Hanot and Gilbert), in which a large tumour occurs in one lobe sometimes with smaller deposits in the other lobes.
2. Diffuse or infiltrating cancer, the rarest form. This is nearly always a spheroidal-celled type.
3. Nodular cancer, the appearance being like that of a liver infected with secondary growths.
4. Cancer developing after cirrhosis, described by Hanot and Gilbert as carcinoma with cirrhosis.

Some writers—for example, Kauffmann—place Group 2 amongst cancer with cirrhosis.

Microscopically at least two varieties have been described:

1. An alveolar type, resembling the ordinary spheroidal-celled cancer.
2. A trabecular or tubular type in which the trabeculae or tubules are separated from one another by capillaries. The tubules may contain bile. This type is also called adenocarcinoma by Wegelin[10] and Heukelom.[9]

There is no definite relationship between macroscopical and microscopical characters.

It is necessary to recall certain facts regarding regenerative changes in the liver. Formerly it was thought that the adult liver cell, like the nerve cell, had lost the power of morphological division; but a large amount of evidence has accumulated which demonstrated that whatever may be true of the liver cell under physiological conditions, extensive proliferation occurs under pathological conditions. It has been shown experimentally that if one-half of the liver be removed repair takes place very rapidly, and the organ may regain its former size, the new tissue being very similar in appearance to the old tissue. Regenerative changes are met with in abscesses of the liver, hydatid cysts, cancer, chronic passive congestion, subacute yellow atrophy, and especially cirrhosis of the liver.

In the last disease I have frequently observed a compensatory hypertrophy affecting principally the Spigelian lobe, which may be sometimes twice its normal size. The regeneration may involve the liver parenchyma or the bile ducts.

The first regenerative change is simple hypertrophy of the liver elements owing to the demand for increased functional activity. It is a physiological condition in the same sense as hypertrophy of the left ventricle in aortic stenosis is also physiological. Microscopically the liver cells are practically normal in appearance, though, perhaps, slightly irregular in shape and size, and they may contain more than one nucleus.

The next stage is that of hyperplasia, where the cell proliferation serves no useful purpose, and is, in fact, an amphysiological hypertrophy. The cells are less typically arranged and less typical in shape.

Next the masses of liver cells, arranged more or less atypically, are separated from the rest of the liver by a fibrous tissue capsule; these are the adenomata. The hobnails of hobnail cirrhosis are largely due to this adenomatous proliferation of the liver. They are partly a regenerative attempt to counterbalance the destruction associated with the cirrhotic processes. In most of these nodules the liver cells are fairly typical in arrangement and shape, but occasionally they become cubical and form small tubules containing bile, the appearance recalling a fetal liver. These regeneration nodules or adenomata may be bright green or yellow when coloured with bile, yellow-white from fatty metamorphosis or necrosis, and red from the extravasation of blood.

Lastly, the regenerating areas may become carcinomatous.

The occurrence of the regeneration in the liver is interesting clinically, because it accounts for the partial recovery of patients with early alcoholic cirrhosis when they become abstainers. It also produces great variety in the shape and appearance of the cirrhotic liver in the *post-mortem* room.

Probably many of the cases of so-called hypertrophic cirrhosis are due to diffuse regenerative activity of the liver cells.

CASE I.

A labourer, aged 49, was admitted to the Royal Infirmary under the care of Sir James Barr on September 19th, 1908. There was a history of alcohol, both beer and spirits, including gin. Ascites and oedema of the feet were present. The liver was enlarged, hard, and hobnailed, and reached to 1 in. above the umbilicus. He left the hospital on October 14th much improved. He was readmitted on January 21st, 1909, with ascites, and was tapped twice, once on admission and again a few days later, some 250 oz. being removed on each occasion, but the fluid rapidly reaccumulated.

There was one mild attack of haematemesis, and he died with toxic symptoms on February 4th, some eight months after the onset of the disease.

At the necropsy the heart and lungs were normal. There was ascites. The peritoneum was somewhat thickened. Haemorrhage had occurred from a varicose oesophageal vein, but the compensatory circulation, as a whole, was less developed than is usual in many cases of hepatic cirrhosis. The spleen weighed 27 oz., and was firm. The other organs, except the liver, were normal.

The liver weighed 119 oz., instead of the normal 53, and presented an extraordinary appearance. It was greatly deformed, because the left lobe was actually about a quarter as big again as the right, the maximum measurement of the former being 25 by 21 by 9 cm.; of the latter, 18 by 10 by 10 cm.

There were a few scattered hobnails on the surface, and much larger irregular bosses with smaller hobnails upon them, varying in diameter from 1 to 3 cm. These bosses, which were surrounded by bands of fibrous tissue, were most numerous on the superior surface of the right lobe; large areas of the left lobe were almost quite smooth.

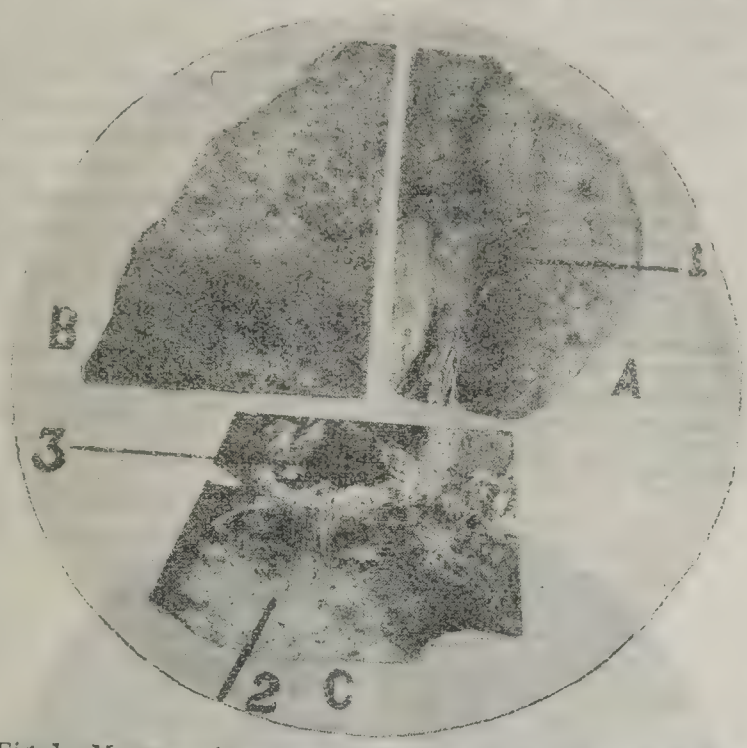

Fig. 1.—Macroscopic sections of the liver, one-third natural size. A, Hypertrophied left lobe, 1 = adenoma. B, Cirrhotic portion of right lobe. C, Carcinomatous portion of right lobe, 2 = carcinoma; 3 = carcinoma in vein.

As frequently obtains in cirrhosis, there was also considerable compensatory hypertrophy of the Spigelian lobe. It completely surrounded the inferior vena cava for 1¼ in.; its surface was practically normal.

Many of the hobnails had the usual appearance of cirrhotic nodules, but others were bronze green from bile or dark crimson from the extravasations of blood into them.

On the superior surface of the right lobe, near the falciform ligament, there was a pink-white slightly depressed area about 5 cm. in diameter, with an irregular end. A similar smaller area was present on the under surface of the same lobe near its inferior margin. These two areas resembled carcinoma in appearance, and were completely separated from one another by a large amount of intervening liver tissue.

On macroscopic section it was found that three distinct pathological conditions were affecting the liver in different parts.

1. The enormous enlargement of the left lobe was almost entirely due to compensatory hypertrophy, the liver lobules being fairly typical in arrangement and shape, and in the distribution of their vessels. Here and there appeared green and yellow adenomatous nodules, circumscribed by fibrous tissue from 1 to 2 cm. in diameter. (Fig. 1 A.)

2. The right lobe showed the usual appearance of multilobular cirrhosis, except that the hobnails, embedded in masses of the dense fibrous tissue, were often large, and they varied considerably in colour. Many were haemorrhagic or necrotic, especially in the centre. (Fig. 1 B.)

3. The pink-white areas previously alluded to had macroscopic appearances of cancer. The adjacent liver here was less cirrhotic than in many other portions of the right lobe. Several of the large and small portal and hepatic veins were completely blocked with new growth. This obtained only in the cirrhotic right lobe, not in the more normal and enlarged left lobe. A most careful search was made for primary malignant growth; the tongue and the whole of the alimentary tract, the pancreas, larynx, bladder, and prostate were specially examined; a piece of the latter, though apparently healthy, was also examined microscopically to eliminate the possibility of latent cancer, a not uncommon occurrence in this organ. There were no enlarged lymphatic glands. (Fig. 1 C.)

Tissues were fixed in a mixture of formalin, methylated spirit, and acetic acid, and stained with eosin and haematoxylin and van Gieson. The structures were rather damaged by *post-mortem* decomposition.

The main microscopical features were the following:

1. Apparently normal left lobe. A slight amount of multilobular cirrhosis, the hepatic lobules and cells being rather atypical in arrangement, shape, and size.

2. Adenomata in left lobe, composed of: (*a*) Trabeculae which when cut transversely consist of two or three small polyhedral cells. (*b*) Small round or oval tubules formed by a single layer of cubical or, less frequently, columnar epithelium. Some of the tubules contained bile. There is a gradual transition between the solid trabeculae and the tubules. These structures were embedded in a very delicate stroma consisting either of capillaries or filaments of connective tissue.

3. Cirrhotic right lobe. Dense bands of moderately vascular fibrous tissue infiltrated with small round cells containing numerous so-called bile ducts, the largest bands having a multilobular distribution (Fig. 2).

All the liver lobules are composed of tubules or trabeculae, the former predominating (Fig. 3).

In certain portions of the cirrhotic right lobe the solid trabeculae are larger and on transverse sections composed of half

Fig. 2.—Cirrhotic portion of right lobe showing hepatic cells and dense fibrous tissue with "bile ducts" (× 300).

Fig. 3.—Tubular adenoma from left lobe; the delicate stroma contains a few capillaries (× 300).

a dozen cells with here and there a trace of lumina. The cells are less typical, the cytoplasm staining more darkly and the nuclei bigger (Fig. 4).

The trabeculae are still separated by narrow channels and a single layer of endothelium can be seen lying upon some of them, evidently the endothelium of a capillary. Unfortunately most of the red corpuscles have disappeared, probably from *post-mortem* haemolysis.

4. Malignant portion of right lobe. The separate trabeculae have fused, the epithelial cells have become very atypical, occasionally multinucleated, and the capillaries or connective tissue replaced by a dense fibrous stroma, so that the growth broadly resembles a spheroidal-celled cancer. The lumina of many of the veins are completely blocked with atypical epithelial cells of this type (Fig. 5).

One unusual feature must be alluded to. Owing to the invasion of the portal vein, and possibly hepatic artery by growth, many of the adenomatous masses show large circular areas of anaemic or haemorrhagic infarction. In the latter the tubules and trabeculae are separated from one another by masses of old or recently extravasated erythrocytes. In many of the infarcted areas there are zones of leucocytes often containing blood pigment; the periphery of the lobules are usually unaffected.

The variegated appearance of the liver at the *post-mortem* examination may be explained, some nodules being green from bile, red or brown from extravasated blood, and yellow or white from anaemic necrosis or fatty metamorphosis.

It is difficult to classify the tumour on account of its varied appearance, it almost exactly resembles a case described by van Heukelom, and the trabecular portions surrounded by capillaries are identical with the cases described by Wegelin.

Perhaps adeno-carcinoma is the best name.

Comment.

The liver in this case is remarkable, not only for the great variation in the extent of the cirrhosis, but for the different types of growth affecting different portions, namely, hypertrophy, hyperplasia, adenoma, adenoma of doubtful malignancy, and finally carcinoma. There is apparently a gradual transformation through hyperplasia and adenoma to cancer, as Kauffmann,[4] van Heukelom,[9] and others believe, a possibility which is questioned by Wegelin[10] and Ribbert.[8]

The growth evidently originated in the hepatic cells, not bile ducts. At first these seem to have proliferated to form tubules, recalling the fetal liver; then large, solid trabeculae separated by capillaries or a delicate stroma; lastly, as the anaplasia increased, irregular masses of atypical cells embedded in dense, fibrous stroma, like a spheroidal-celled cancer. The growth appeared to originate independently in two different portions of the liver, separated by a considerable distance, namely, on the superior and upper, and inferior and lower portion of the right lobe. In five out of six cases of carcinoma with cirrhosis described by Muir,[5] the malignant growth also seemed to originate in "multiple foci."

Some writers, as Kauffmann,[4] distinguish between primary hepatic cancer in which tubules are separated from one another by capillaries, as obtains in the normal liver, or by fibrous stroma, as in carcinoma elsewhere. Herxheimer,[3] however, found both types of stroma in the same liver. This also occurred in the case just described, and indicates that the distinction, though useful, is not of much importance. The extraordinary shape of the liver and the irregular distribution of the multilobular cirrhosis is difficult to account for, but syphilis is probably the indirect cause. I have recently seen a greatly deformed gummatous liver with enormous irregular compensatory hypertrophy of the left lobe and typical multilobular cirrhosis in the right. Gummata were still present.

Two other examples of cirrhosis with carcinoma may be briefly alluded to.

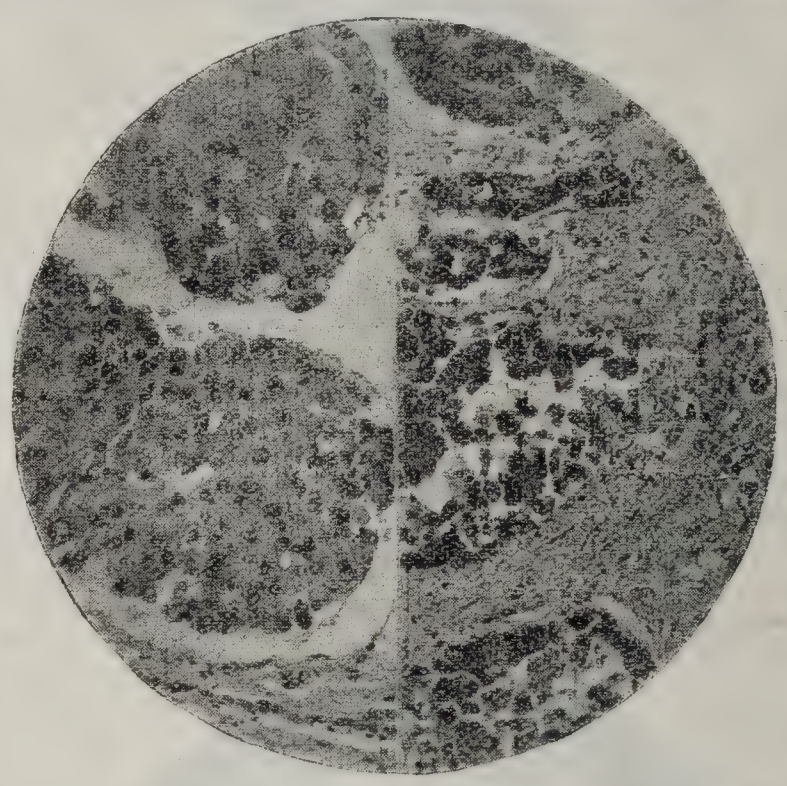

Fig. 4.—Solid trabeculae from right lobe, probably malignant: the capillary channel, lined by endothelium, are shown, but not the erythrocytes (× 300).

Fig. 5.—Right lobe showing spheroidal-celled cancer (× 300).

CASE II.

In November, 1898, a male, aged 32, with a history of alcohol, died with ascites, jaundice, emaciation, and enlarged spleen, after seven weeks' illness. At the necropsy the liver was enormously enlarged and the seat of advanced multilobular cirrhosis; the nodules were green, varying in size from a split pea to a cherry. In the right lobe there was an enormous tumour the size of a fetal head, with central haemorrhages and necrosis; the veins were blocked with growth. Secondary deposits occurred in the lungs. Microscopically there was multilobular cirrhosis with some hyperplasia, but no tubular formation. The bulk of the growth consisted of solid trabeculae, separated by capillaries, as in portions of Case I. Occasionally the distribution somewhat resembled that of a spheroidal-celled cancer.

CASE III.

J. F., aged 54, an alcoholic butcher, had ascites with enlarged liver for two years. He died in 1899.

Post mortem, the liver weighed 125 oz.; there was advanced multilobular cirrhosis and large nodules of green new growth scattered through it. A green metastasis, the size of a hen's egg, was situated behind the manubrium sterni. There are no particulars of the microscopical structure.

With regard to the question of malignancy, Renon,[6] Gerandel, and Monier-Vinard have recently described, under the name "hepatoma," a tumour occurring in hepatic cirrhosis, which originates by a proliferation of the liver cells and of the endothelium of the adjacent capillaries. This growth, though it may invade the veins, never produces metastases, and therefore is not carcinoma.

Perhaps, however, the comparative infrequence of metastases in many cases of primary cancer associated with cirrhosis is due to the fact that the patients die from cirrhosis before the metastases have had time to develop.

Examples of carcinoma with cirrhosis have been recently described by Beattie[1] and Drennan[2] respectively. Van Heukelom[9] gives a table of 30 cases.

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THE ACTION OF RADIUM ON THE TISSUES.

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MUCH has been said and written on the effect of radium on pathological tissues. Regarding its effect on normal tissues, however, the literature is scanty in the extreme. This is unfortunate, as such knowledge would be of practical as well as of scientific value, and I believe radiophysiology should precede radio-therapeutics. I therefore draw your attention to some experiments showing the effects of radium on the tissues of a living mammal.

Omitting details of technique, the general nature of the experiments was to expose the livers of mice to the effects of radium through the anterior abdominal wall, and to examine them microscopically at varying intervals. The applicator used gave off 500,000 units, and the duration of the exposures was twenty minutes.

A description of the effects of radium when applied to the liver in the way I have described falls naturally into two parts. First, the effect on the portion of liver immediately beneath the applicator; and, secondly, the effect on the general mass of liver tissue which comes

under the influence of the rays. That such a distinction would be necessary could be surmised *a priori*, since the intensity of the action varies inversely with the distance away. Consequently there is a small area of intense action and a very rapid diminution as soon as the deeper parts of the liver are reached.

I will first deal with the effects on that portion of liver immediately beneath the applicator. Here the action is such as to produce an acute coagulation necrosis of the liver cells. Immediately after irradiation the cells in this area show slight but definite changes. The structure of the cell is lost, the cytoplasm stains browner than that of the other cells, and the nucleus stains but faintly. In sections taken one hour after irradiation the cells are fused together into a homogeneous granular mass, in which the nuclei can still be seen. These nuclei, however, stain a dark brown and show none of the beautiful structure which is so well seen in the healthy cell. In three hours after irradiation the condition is similar, but many of the nuclei stain very faintly indeed, so as to be hardly visible. There is, too, at this period a considerable increase of connective tissue cells in and around the necrotic mass.

In a section taken six hours after irradiation the appearance has been modified by the occurrence of a haemorrhage into the necrotic mass. This is of interest, as from my own experience haemorrhage after the application of radium is by no means so common as has been supposed. Sections taken one and three days after irradiation show substantially the same condition.

In the sections taken five and eight days after irradiation, however, the condition appears less severe. The mass of necrotic cells is smaller, and the appearance suggests that recovery is taking place in the more superficial ones. In some places capillaries can be seen running in between the degenerate cells from the healthy liver round them. Whether this is an attempt to vascularize and absorb a necrotic mass, or merely the opening up of temporarily occluded vessels, I have been unable to determine. I have found these masses of necrotic cells in sections up to two months after irradiation, and when present, they still retain a similar appearance to the last. Repair, therefore, is incomplete.

The effect, then, of irradiation at very close quarters is to produce in three hours a coagulation necrosis of the liver cells. A considerable degree of recovery is possible however, either by the opening up of old or the development of new capillaries and the absorption or recovery of the liver cells.

It is a point worthy of notice that in none of these mice did the skin show any ulceration or macroscopic change, and in those cases in which I made a microscopic examination of the skin it was quite normal. I was using mainly the gamma rays, which are the least irritating to the superficial tissues. Still the intensity of the action on the skin must have exceeded that on the liver beneath it, so that I think we are compelled to assume a greater susceptibility of the more highly organized cell.

Turning now to the main mass of the liver which received the rays in a much less concentrated form we have a totally different picture. Here again we have to divide our subject into two parts, for we have an early and a late reaction to consider. I must confess that the late reaction came upon me as a surprise, though the recognized facts of radio-therapy should have led me to expect it.

After an early reaction in which both the liver cells and interstitial cells took part, the liver became perfectly normal again in about ten days, and it was only through my routine examination of sections from fourteen to twenty days after irradiation that the late reaction was discovered. I then realized that this brought my experience into line with that of the radio-therapist who, after an application, waits for two or three weeks for the reaction to take place.

The early reaction begins immediately after irradiation, and reaches its maximum in about three hours. It has almost disappeared in twenty-four hours, but signs of it may still be discovered up to about eight or ten days. In sections taken immediately after irradiation, the only change noticed is in the liver cells themselves. All the cells have a somewhat woolly appearance, and there are very few vacuoles present. These changes are only slight, and would have been overlooked had they not been more accentuated in the later sections.

One hour after irradiation the condition is as follows: The liver cells are swollen and their protoplasm granular, its reticular structure being almost obliterated. There is a striking absence of the large vacuolated cells so characteristic of the normal liver. The nuclei are most distinctly enlarged, but stain quite clearly. There is a marked increase of the interstitial cells generally, and these are frequently collected together in clusters near the veins. These clusters consist mainly of lymphocytes and connective tissue cells, with a few polymorphonuclears.

All these changes reach their maximum in about three hours, when the liver is seen to be profoundly altered. The veins and intercellular capillaries are much distended. The liver cells have completely lost their normal appearance, being filled with fine and coarse granules and totally destitute of vacuoles. The nuclei are increased in size and stain very clearly, while the clusters of interstitial cells round the veins are numerous and large.

In six hours the reaction is beginning to subside. The liver cells appear more normal again, but the nucleus is still unusually large. The reticular structure of the cytoplasm can again be distinguished. While this is true of the majority of the liver cells, there are some which appear to have undergone a further change and become wholly necrotic. Dotted about the section there are cells in which the cytoplasm stains a dull homogeneous brown with haematin and van Gieson, while the nucleus has lost all its structure and stains a darker shade of brown. These are totally unlike the ordinary liver cells, but resemble those which have been exposed to the radium at very close quarters, and which have been described previously.

In twenty-four hours the liver appears normal again, except for a slight increase in the number of interstitial cells and the presence of these liver cells showing an advanced stage of degeneration.

These degenerate cells have been found in all the sections examined at periods after irradiation varying from six hours to many months. They occur most frequently in the neighbourhood of the necrotic mass which has been immediately beneath the applicator, when such a mass is present. It seems probable, therefore, that they have been, for some unexplained reason, less resistant to the rays than their neighbours, and have failed to recover from the early inflammatory reaction.

Stated briefly, then, the early radium reaction is an acute inflammatory process affecting both the liver cells and the interstitial tissues. The liver cells are normal again in twenty-four hours, except those that have been permanently injured, but it is eight or ten days before the small-celled infiltration has completely subsided. The action of radium so far exactly resembles that of any acute irritant, only it possesses the property of permeation to a greater degree than most, and it appears to have a selective action on the more highly organized cells.

The secondary or late reaction which corresponds to the reaction observed clinically, begins with a slight degree of hyperaemia. It will be remembered that the primary hyperaemia subsided in about twenty-four hours, but in sections taken ten or twelve days after irradiation this condition is again found to be present. In the latter section also there is a slight return of the round-celled infiltration. It is the specimen examined fourteen days after irradiation, however, which gives the first unequivocal evidence of a late reaction. In this section there is marked hyperaemia; the liver cells, with the exception of the isolated necrotic ones referred to before, are healthy, but there is a distinct general increase of all the interstitial cells, many of which are arranged in dense clusters both near to, and away from, the veins. There is also evidence of proliferation of the endothelial cells of the veins. This section of liver unquestionably appears more pathological than any previous one examined.

To confirm these results, which came upon me as somewhat of a surprise, I killed another mouse fifteen days after irradiation, and found the liver in a similar condition. In order to determine the time relations and extent of this late reaction, a fresh series of mice was irradiated and killed at longer intervals, beginning at twenty days from the exposure.

The sections prepared from the twenty-day mouse

closely resembled the fifteen-day one just described, but some of the large clusters of interstitial cells seemed to be breaking down in the centre as though abscesses were forming. This, however, is the only section in which the condition was observed, so it cannot be regarded as a part of the normal process; and while the small-celled infiltration is not much greater than in the fifteen-day liver, there is certainly no sign of any return to the normal.

In twenty-five days the appearance of the section is again much the same, but is modified by the presence of many more necrotic liver cells than usual. These are not only dotted about here and there as in the other sections, but are also arranged in masses which in some cases are breaking down in the centre. In this section, too, there appears for the first time a cell quite foreign to the normal liver. This is a large multinucleated giant cell. I am not certain whether there are many nuclei or one large multilobulated nucleus, but, in any case, the cell is quite different in appearance from any of the ordinary constituents of the liver. Of course, giant cells may occur in any form of chronic inflammation, but I am not aware that they have as yet been described in the inflammatory processes produced by radium. I have met with two cases in the human subject in which similar giant cells were present in the stroma of an otherwise ordinary epithelioma. In each case radium had been applied unsuccessfully for many months, and as I have never seen these cells in untreated epitheliomata I think we may safely ascribe them to the radium. Their presence, then, in the liver is all the more interesting as indicating a certain similarity in the reaction of normal and malignant tissues. In this section the liver was rather less vascular than in the highly congested twenty-day specimen, and in the next section, thirty days after radium, the hyperaemia has entirely subsided. There still remains, however, the infiltration with interstitial cells, and there is a slight increase in the fibrous tissue round the large veins.

In the thirty-five-day specimen there are again present some clusters of necrotic liver cells. As in the twenty-five-day one some of them are breaking down in the centre, and in one a haemorrhage has occurred. The small-celled infiltration is again rather less than in the last two specimens. There is also present in this section, however, a distinct layer of fibrous tissue subjacent to the capillary endothelium. This, in association with the increase in interstitial cells, gives the appearance of a chronic inflammation resulting in an early capillary fibrosis. The condition is not general, however, only being visible in parts of the section, and in these only to a very slight extent.

Since there seemed to be very little change going on at this period (for the last three sections had been very much alike) a considerable interval was allowed to elapse before the next section was examined. Up to this point it was difficult to determine whether or no the reaction were subsiding. For, although the small-celled infiltration had diminished slightly during the last ten days, the increase in fibrous tissue was observed for the first time in the thirty-five-day specimen. I therefore examined the next section sixty days after irradiation, in the hope that it would present such definite distinctions from the last as would show in which direction the reaction was going.

Now, this section, sixty days after irradiation, shows still a general resemblance to the three previous ones. There are the clusters of necrotic liver cells, the masses of interstitial cells round the veins, the occasional endothelial proliferation, and, to a slighter extent, the general increase of interstitial cells. In this section also I found one distinct giant cell, but there is also present what was very slightly evident in the last section, and that is, an increase in the fibrous tissue round the veins, and also occasionally round the capillaries. The perivascular tissue is as before infiltrated with connective tissue cells, but whereas in the previous sections these lay more or less in apposition, they are now frequently separated by strands of apparently new fibrous tissue. This is also the case to a smaller extent in those clusters lying away from the veins, and here, it will be remembered, there is normally no fibrous tissue present. Consequently, in two months from irradiation we have evidence of an early stage of cirrhosis.

I had at this time a single mouse left of my series, and I determined to keep it one hundred and twenty days if possible. It died, however, one hundred and thirteen days from the irradiation.

The liver is so like the sixty-day specimen, that I will not describe it separately but point out the few distinctions. The general infiltration with interstitial cells is greater, and there is a distinct increase in the fibrosis round the veins; there are also rather more necrotic cells than in the previous section.

This is to me a very remarkable phenomenon, viewed either from the domain of physics or pathology. The abdomen of a healthy mouse is exposed for some twenty minutes to certain rays which have no apparent effect on the skin or sensory nerve terminals. Upon examination a small patch of the liver is found to be burnt. A larger area of liver undergoes a brief inflammatory reaction and then all becomes perfectly normal again. In a fortnight's time there is a return of the inflammation, as evidenced by hyperaemia and cellular infiltration. The hyperaemia slowly subsides, but the infiltration increases until, when in four months the animal dies, we find the liver in the condition I have just described.

Granted that the radium used was a large dose for so small an animal, and even granted that after four months there is yet a chance that the inflammation may subside, still it seems to me not only remarkable, but just a little uncanny that one single exposure to an irritant, however potent, should produce such lasting and far-reaching consequences.

DISCUSSION.

Professor GRÜNBAUM (Leeds) regretted that the experiments were carried out on mice, as he thought rodents such as mice and rats were particularly susceptible to the action of x rays or radium rays, and also that mice which died natural deaths in the laboratory often showed changes somewhat resembling those described by Mr. Mills. He would like to know—presuming that the radium was applied through the skin—how Mr. Mills knew which part of the liver it had been applied to, as the position of the liver varied during breathing. He also thought that some of the changes described were compatible with bacterial invasion of a tissue the vitality of which had been lowered by the application of the radium. He had found guinea-pig's skin very resistant to the passage of radium rays and the liver more so, and would like to know why the skin was not affected. He thought that in work of this kind a very large number of controls was necessary, especially when working with mice.

Professor G. SIMS WOODHEAD (Cambridge) was interested in this matter from the general etiological point of view. Here there was evidently something which, in conjunction with other toxins and micro-organisms, might help us in the study of the causes of cirrhosis. The specimens shown must be taken as a whole, and if that were done he thought there was some evidence that the primary changes in cirrhosis were those associated with the parenchymatous tissues—changes that were followed by interstitial changes. He thought that Mr. Mills had added to existing facilities for the study of cirrhosis. He would like to ask whether the giant cells shown were not lymph spaces or channels in which were embedded cells or nuclei.

Mr. MILLS, in reply, stated that he recognized the area of application to the liver by the small burn which was always evident at one place on the liver. As regards the giant cells, he certainly thought that they looked like active cells, and not nuclei in coagulum.

THE report of the Bureau of Health for the Philippine Islands for the second quarter of 1911, edited by Carroll FOX, Acting Director of Health, gives interesting details as regards the prevalence of cholera, small-pox, plague, and leprosy in these islands. Plague still surrounds them, and it is only by taking the greatest precautions that the Government can keep it out. Small-pox cases are fewer, though some still continue to be reported from Cebu and Oriental Negros. In the latter locality many of the people have not been thoroughly vaccinated, and an effort is now being made to have this done. During the quarter under review no cases of cholera were reported, though there were a few deaths of a somewhat suspicious nature. An attempt is being made to collect all lepers and suitably segregate them. In a recent trip 270 lepers were collected and taken to Culion.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ACUTE ANTERIOR POLIOMYELITIS AND LANDRY'S PARALYSIS.

I have had in my practice this summer three cases of acute anterior poliomyelitis and one of Landry's paralysis. Two of the cases of acute anterior poliomyelitis occurred in children under 12 months of age, and were characterized by very extensive paralysis in the limbs, with weakness of the back and neck. In each case marked improvement resulted, but more or less permanent paralysis of one leg has remained, the other limbs completely recovering. The third case was a girl of 18 years, commencing with a sore throat and high temperature, followed a week later by paralysis of one leg and some weakness of the back. The leg remains almost completely paralysed. The case of Landry's paralysis occurred in a man of 50, and was fatal in three weeks.

The pathology and symptomatology of Landry's paralysis presents many points of similarity to those of acute anterior poliomyelitis, and possibly they are closely related. All the cases occurred during the hot months of July, August, and September.

Halifax. F. G. Hack, M.B., Ch.B.

RECURRENT ATTACKS OF BLACKWATER FEVER.

On April 12th, 1911, I was called in to see a carpenter, A. C., aged 34, who was suffering from an attack of blackwater fever—the second since his return to England in November, 1910. He had been ill twenty-four hours before I saw him, and commenced with a rigor followed by sweating. Vomiting appeared soon after. His temperature on my arrival was 101°, the abdomen was tender, and the liver and spleen distinctly palpable. Vomiting of bile-stained material was incessant; the urine was porter-coloured. I used ½ grain morphine suppositories, and ordered one pint saline by rectum every two hours, and a mixture of bismuth, soda, and hydrocyanic acid by the mouth every four hours. This treatment seemed to relieve the vomiting somewhat, and the patient dozed for an hour or two during the night.

The next day vomiting was as bad as ever, and the patient became jaundiced. Calomel was given and saline infusion under the breast as well as by the rectum. The urine looked like pure blood.

The following day nutrient enemata were tried, but were returned each time, so that the saline injections only were continued. An occasional dose of medicine was retained, but vomiting was still extremely distressing, milk and soda water being rejected, and the patient complained of thirst. The temperature was 101.5°, and the urine deeply coloured. The patient was wasting rapidly; he was very drowsy, but would answer questions. He looked so ill that several times I thought he was dead. The vomiting continued until the seventh day; the urine became clear on the fifth day, and after this the patient had Benger's food, and occasionally retained a little. After the vomiting ceased improvement was rapid, food was taken, and the man was able to sit up. On April 26th the jaundice had disappeared; he looked anaemic, and complained of pain after food. Lactopeptine (10 grains) before each meal was ordered, and no further trouble was complained of. I saw him in the middle of June riding a bicycle and looking quite well. The history I obtained was as follows: The man had been abroad nine years; first on the West Coast of Africa, then Panama, and latterly at Portobello. Whilst at these various stations he had "dozens" of attacks of malaria and two of blackwater fever; the last of which caused him to be invalided home. On the way he was so seriously ill that he was sent into hospital at Barbados for a fortnight, and then continued his journey to West Hartlepool. Three weeks after he landed, he had an attack of blackwater fever again, which laid him up for a week. Since then he had been fairly well up to the time of this last seizure, which he said was the most severe he had ever had. I regret that no blood examination was made. The temperature was possibly high the first day, but I never found it more than 101.5°. No quinine was given.

Doncaster. E. J. Chambers, M.R.C.S., L.R.C.P.

TEMPERATURE IN CROUPOUS PNEUMONIA.

In the British Medical Journal of July 1st, 1911, Dr. Downing describes a case of acute croupous pneumonia, occurring in a night worker, during the course of which the temperature assumed an inverse type. On May 5th, 1911, I had under my care a chowkidar (night watchman) suffering from a similar attack. For some days previous to admission to hospital he apparently had been fighting the attack. All the classical symptoms and physical signs characteristic of pneumonia were present save the temperature, which was upset in a manner very similar to that in Dr. Downing's case.

The actual thermometer findings were as follows:

Date.	Morning.	Evening.
May 5th	98.2°	102°
May 6th	100°	98°
May 7th	101°	98.3°
May 8th	101.2°	97.9°
May 9th	98.2°	97.9°

This table illustrates the unusual irregularity of the fever throughout the disease and the marked inverse character of the temperature. The crisis occurred during the hours of the morning and early afternoon, rather than, as is more usual, during the night.

That an "inverse" occupation—namely, night work and day sleep—should produce an inverse type of temperature in disease is a feasible solution of the above temperature phenomenon, since it is well known that in such people during health the temperature also tends to become inverse.

So also, since the crisis in pneumonia seems usually to occur at a time when the symptoms are most trying and the temperature is highest, it might, in night workers, be expected to occur during the morning hours when the fever has reached its maximum, rather than during the evening hours when it is at a minimum. I cannot understand how night work could explain the unusual irregularity present in both this and Dr. Downing's case.

A chowkidar's occupation involves no great physical strain. It merely consists in staying awake at night to watch the sahib's bungalow and sleeping throughout the day, an occupation quite sufficient, I think, to inversely upset the temperature chart during not only health, but also disease.

Changli Gali, India. R. W. G. Hingston, M.B., Indian Medical Service.

COMPLETE INVERSION OF THE UTERUS.

On June 3rd, 1911, I was called to Mrs. L., who had just been delivered of a perfectly normal healthy male child. A midwife in attendance, finding herself in difficulties, had summoned my colleague Dr. Morrow to her aid. Upon my arrival I was informed by Dr. Morrow that the uterus was completely inverted, and that he had just succeeded in stripping an adherent placenta from it. The patient was suffering from profound shock, and had lost much blood.

I hurriedly sterilized my hands and set to work to reduce the uterus, which was a task of some magnitude. The os could be distinctly felt through the abdominal wall just below the umbilicus, and was firmly contracted. I first tried reduction by the orthodox method, beginning with one of the cornua, but, after a fair trial, was unable to succeed. Reduction was, however, effected with some difficulty by the following method: With my left hand on the abdomen I succeeded in dilating the os sufficiently to enable me with my right hand to tuck in a small portion of the uterus immediately adjacent to the cervix; having done this, the rest of the uterus easily followed. I then gave a hot douche of sterile water, elevated the foot of the

bed, and a dessertspoonful of brandy was administered by the mouth; two pints of normal saline was injected into the rectum. The patient gave some anxiety for a few days, but subsequently made a good recovery.

My only apology for the publication of this case is its rarity, and that the orthodox method of reduction is not always the easiest nor the best. My thanks are due to Dr. Morrow for his kind assistance.

Cape Colony. A. L. GURNEY, M.B., Ch.B.Edin.

INTESTINAL STASIS.

AT the present time, when the evils of what was formerly called chronic constipation are so fully realized, one may be pardoned for calling attention to a treatment which, in my experience, has been very largely successful. Allied to massage, I should rather describe it as effective *propulsive* kneading of the bowel. The benefit received may be largely due to the displacement of accumulated flatus, thus allowing a period of rest to the overtaxed muscular coat. The treatment should be carried out every morning before the patient rises or takes food. In the absence of all suspicion of former or latent appendix trouble, the kneading may be gently commenced over the caecum. Both hands must be used, one following the other, half closed, deeply and slowly, as though to prevent a back flow, and continuing without once removing both hands, or relaxing the pressure over the whole course of the ascending transverse and descending colon, a propulsive movement in this direction being maintained. It is necessary to see that whoever undertakes to carry out the treatment thoroughly understands what is required, and is able to do it; and, further, to exact a promise that the morning kneading shall be continued without intermission for one month, even though the bowels begin to act regularly before this period has expired. The kneading should occupy about ten minutes, and the course of the colon should be traversed four or five times.

The remarkable manner in which the bowel may recover its tone, even in long-standing cases, is noteworthy. A Miss B., aged 30, had obstinate constipation for nine years, the bowels acting very slightly every five or six days unless relieved by an enema. Miss B.'s sister was taught to knead the bowel. Three weeks later the bowels began to act naturally. Two years later, when I saw the patient, there had been no relapse.

Personally, I am convinced that the paresis is largely dependent upon more or less constant overstretching of the lumen of the bowel by gas, and that this is favoured by excess of fruit or green vegetables in the diet. Doubtless atonic dyspepsia may often be a starting point of the condition, and an acid mixture containing strychnine would be useful. The patient should solicit an action of the bowels daily after breakfast, and may be assured of recovery with patience and perseverance. No purgative should be allowed during the treatment.

Thaba 'Nchu, South Africa. FRANK ELVY.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

KIMBERLEY HOSPITAL.

FOREIGN BODY IN THE APPENDIX: GALL STONES: APPENDICECTOMY FOLLOWED BY CHOLECYSTECTOMY.

(By E. OLIVER ASHE, M.D.Lond., F.R.C.S.Eng., Surgeon to the Hospital.)

THE following case shows how the presence of two distinct abdominal diseases may make exact diagnosis a matter of great difficulty.

The patient, a healthy-looking, muscular man of 33, was first seen on May 23rd, 1910. He was confined to bed, and complained of a severe pain in the right iliac region, which had come on suddenly early in the morning, and of a dull pain in the right hypochondrium which he had had for some days. He felt sick, but had not vomited; the bowels had acted that morning after the pain began, and had been acting regularly and well for some time. The temperature was 99.5°, the tongue was slightly coated, and the pulse and respiration were a little quickened. There was no jaundice or discoloration of the urine.

For about two years he had had many similar attacks, at first slight and infrequent, but latterly they had become more severe and more frequent, the present one being the most severe of all. In nearly all the attacks the double pain had been present, sometimes beginning in the iliac region and radiating up to the hypochondrium, and sometimes just the reverse. Very rarely the pain confined itself to the one region only. Frequently it came on suddenly, but at times began gradually, and usually it seemed just as acute in one situation as the other. In a few of the attacks he had vomited, but he had never been jaundiced, had a rigor, or been badly constipated.

The abdomen was slightly distended, and was tender all up the right side, more so below than above. Deep pressure over the gall bladder was painful, but not severely so. There was rigidity of the muscles over the appendix region, and a suspicion of hardening beneath them, but only very light pressure could be borne here.

The diagnosis seemed to lie between hepatic colic and appendicitis, though both together were possible, but the muscular rigidity over the appendix and the special tenderness in that region decided me in favour of appendicitis.

The patient was taken to hospital, and his appendix was removed on May 24th, 1910, the Battle incision being used. The appendix was found to be acutely bent at its middle to an angle of about 20 degrees, the bend being surrounded by firm adhesions. The tip was swollen and congested, and contained a grape stone. The gall bladder was examined from the same wound, and proved to be very tense and thick, but owing to this tenseness no definite gall stones could be made out. The wound was closed without drainage, and the patient made a quick and uneventful recovery.

For about ten months he enjoyed perfect health without any return of pain, but on March 18th, 1911, he was suddenly seized with acute right hypochondriac pain, and this was accompanied by vomiting. There was great tenderness over the gall bladder, but neither pain nor tenderness in the appendix region.

Palliative measures, including morphine subcutaneously, were used, and the pain quite disappeared; but on the evening of March 20th it returned with increased severity. The gall-bladder region was therefore explored on March 21st. The gall bladder, as before, was found to be tense and thick, and was evidently full of stones, so cholecystectomy was done without opening it. This wound was also closed without drainage, and the patient made an even better recovery than before.

The gall bladder was ¼ in. thick, and contained 85 stones, some of the largest the size of a bean, not faceted but rounded and nodular.

During this convalescence an interesting incident occurred. On April 11th he had a sudden very severe attack of pain, exactly like the old gall-stone pain. The pain was so severe that a morphine hypodermic had to be given. After this he fell asleep, and when he awoke the pain had gone, and has never returned. This seemed like a typical attack of hepatic colic, so much so that I wondered whether I had overlooked a stone in one of the ducts; but as no stone could be found in the stools, and the pain did not return, I concluded that it must have been caused by the detachment and passage down the common duct of a blood clot which had formed at the time of the cholecystectomy.

THE Chelsea Clinical Society began its fifteenth session on October 17th, when its retiring president, Dr. T. W. Parkinson, presented the society with a presidential badge, and the new president, Dr. J. A. Mansell-Moullin, delivered an opening address, dealing with hysterectomy and its influence on gynaecological surgery. In future the society will hold its meetings, not in Chelsea itself, but in the club-rooms of St. George's Hospital Medical School, which have been kindly placed at its disposal. The present honorary secretaries of the society are Drs. J. F. Halls Dally and Kenneth Eckenstein.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

Section of Medicine.

Tuesday, October 24th, 1911.

Dr. Frederick Taylor, President, in the Chair.

Slight Strokes.

Dr. S. T. Pruen, of Cheltenham, in a paper on slight strokes, said that a considerable proportion of his elderly patients had slight attacks of disturbance, such as a sensation of pins and needles, followed later on by more severe visitations, and later still by definite hemiplegia, often resulting fatally. He was induced by this observation to watch his elderly patients and inquire for antecedent slight strokes. He believed that usually the first recorded stroke was really the second or third, the first having been too slight to be considered worth mentioning. The manifestations included "pins and needles" in the arms and legs simultaneously, giddiness, nausea, palpitation, faintness, sudden general weakness, confusion of ideas, alteration of character, headache, sleepiness, a feeling of "deadness" in the abdomen, paresis of one vocal cord, wasting, dysphagia. In most cases one symptom obviously predominated. Sometimes there was an asthmatic attack; in some there was loss of sensation in the lung and the bladder. These symptoms were met with in a variety of complaints, but the slowness of their departure was distinctive of their relationship to a slight stroke. There were also symptoms pointing to interference with the functions of the vagus. The urine revealed little abnormality, nor was there any appreciable vascular change beyond that referable to the age and general physical condition of the patient. Mechanical change, perhaps, had something to do with the onset of the strokes, but molecular and vibratile movement was the chief determinant; hence he advised all his patients who had had a slight stroke to have rubber heels attached to their boots. A common early indication of the trouble was stumbling without physical cause. In one or two cases there was an eruption of urticaria gigans, followed by great general debility, which only gradually improved. With the attacks of faintness there was occasionally some albumen in the urine, but some of the patients only passed 20 oz. in the twenty-four hours. The sudden weakness was said to resemble closely that of influenza by patients who had had both. The change of character in some was very marked. When attacked by sudden sleepiness the patient would sleep about twenty hours a day, and the return to the normal amount occupied some weeks. One patient suffering from stroke habitually retained the last oz. of his urine. That was not due to insufficient muscular power to expel it, for if an injection into the bladder were made too hot, not only was the residual urine ejected, but with such force as to overcome the resistance of the injected fluid.

In the discussion which followed, Dr. Walter Carr assumed that the object of the paper was to point out the significance of the slight attacks, so that precautions might be taken to check more severe developments. He discussed the range of meaning of the term "stroke," and as to whether it included cerebral thrombosis. In cases of cerebral haemorrhage there were often warning symptoms, presumably due to very small haemorrhages. He asked how the author would distinguish between cases due to cerebral thrombosis and those caused by haemorrhage. The President also discussed the meaning of the term "stroke," and asked what was the link between the preliminary symptoms and the severe attack. Dr. Parkes Weber discussed the tendency to dilatation of the bladder and to constipation in old people, regarding it as due to some dulling of sensibility. He alluded to Mr. Shattock's experimental injection of the bladders of rabbits with cocaine, which resulted in the inhibition of muscular action in that viscus. But dulling of muscular sensibility of the intestines might become a habit, as Hertz had shown. Dr. Michael Foster alluded to transient aphasia with paresis which occurred in parturient women, a case to which he quoted. In another case, in the same condition, there was a definite history of hemianopsia lasting ten minutes. Dr. Robert Hutchison remarked that the view one took of the subject must depend upon the definition of the word "stroke." The title of the paper would have led him to suppose it would deal with apoplexy. What the author described embraced several different vascular disorders. The transient hemiplegia in migraine had not been mentioned. It was probably due to vascular spasm. He also referred to what had been termed the paralysis of pregnancy; quite early in his career he encountered cases of hemiplegia and speech defect in pregnant women.

Dr. Pruen, in his reply, said that he used the word "strokes" as a general term which would take in many vascular changes, and emphasized the fact that symptoms associated with a stroke passed off slowly.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

The first meeting of the session was held on October 20th, when Mr. H. Littlewood delivered a presidential address devoted to a description of two major operations devised by him. The first was an interscapulo-thoracic amputation, which he claimed represented a much shorter and easier method than that of Berger. The second was a method of amputating the femur above the supra-trochanteric line for trauma or sarcoma. It left a useful stump, caused less shock perhaps than amputation at the hip, and when used in cases of sarcoma had never been followed by recurrence in the stump. The cases shown at the meeting included the following: Dr. A. G. Barrs: A case of *Acute infective poliomyelitis* in a boy aged 16. All four limbs were involved in a complete loss of use without sensory disturbance, but with total loss of reflexes. The faradic reaction had not disappeared at the end of a month, and would probably not now be lost. Dr. T. Wardrop Griffith showed a case of poliomyelitis with paraplegic distribution of the palsy in a man of about 24. The symptoms had been ushered in by pains, and there had been some transitory affection of the sphincters. There was complete palsy of the lower extremities without any vestige of sensory affection. The muscles were flaccid, the reaction of degeneration was present, and the deep reflexes absent. Attention was called to the alarming frequency of these cases during the last few years, to the fact that many of them had occurred in groups, and to the gravity of the prognosis. Dr. T. Churton said that the advantage of recognizing the disease in its early stage—the second or third day—would be the isolation of the patient until possible danger of infection was past; and also that the proposed treatment by urotropine might be put in force in the acute stage. In febrile cases occurring in young children the limbs should be closely observed by the nurse during washing operations, etc. Dr. T. Churton: A male aged 47, presenting *Disseminated sclerosis* of Oppenheim's sacral type, with anaesthesia in the second sacral root area. Dr. C. Oldfield: A woman aged 64, on whom a new radical cure operation for *Prolapse of the uterus* had been performed. After complete resection of uterus and vagina, followed by shortening of various ligaments of the uterus and vagina, and uniting corresponding ligaments of the two sides, the margins of the levatores ani were sutured from just behind the urethra as far back as the anus, and finally the superficial muscles and fasciae were approximated. No shock followed or trouble of any kind, and the successful immediate result with a substantial and unyielding pelvic floor suggested that the patient had obtained a true radical cure.

UNITED SERVICES MEDICAL SOCIETY.

At the opening meeting of the United Services Medical Society, on October 14th, Major E. B. Waggett, R.A.M.C.(T.), in a presidential address, said that the election of himself, an officer of the Territorial Force, emphasized the fact that the society existed not solely for the benefit of the Royal Army Medical Corps, but of all those directly and indirectly connected with the fighting services. Subsequently Major E. M. Pilcher, R.A.M.C., read a paper dealing with the effects of a new, somewhat

pointed, and lighter bullet, now being adopted by many of the great Powers. It wobbled slightly in its course, tended to turn over on meeting with an obstruction, and thus, while causing injuries in bone quite as serious as those produced by the 0.303 bullet at present in use, caused much more serious injury to soft parts and a much larger exit wound. The gunshot wounds of the future, therefore, were likely to be not those of the kind of which experience had been gained in South Africa, but comparable to the graver injuries encountered in the days of the Snider bullet.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

Morbid Growths Complicating Pregnancy.

AT a meeting at Liverpool on October 20th, the PRESIDENT (Dr. J. B. Hellier), related the history and showed the specimen of a case of carcinoma of the cervix, complicated by pregnancy, and treated by abdominal panhysterectomy. The operation necessitated the division of one ureter, which was subsequently implanted in the bladder. The patient made a good recovery. Dr. W. E. FOTHERGILL (Manchester) described the case of a patient whose first pregnancy ended in early abortion. Early in her second pregnancy abortion was threatened, and it was found that the uterus contained three fibroids, one on either side and one behind, which occupied the pelvic cavity. At the sixth month there was an attack of pain and fever which suggested that red degeneration was going on. The pregnancy continued, however, until within a week of time, when the membranes ruptured without the onset of labour. The child was delivered with forceps after manual dilatation, and after the fibroid which occupied the pelvis had been pushed up. The patient's pulse and temperature remained normal for six weeks after the confinement, when pain, fever and vomiting occurred. Supravaginal hysterectomy was done, and the fibroids were all found to contain pus. Dr. ARNOLD W. W. LEA related a case of fibromyoma, which obstructed labour at full term, in a multipara aged 36, with a history of four previous deliveries. She was admitted to hospital during labour, the membranes having ruptured. The cervix admitted two fingers, but was pressed back to the sacrum by a large myoma occupying the pelvis and reaching to the level of the umbilicus. The child lay in the upper portion of the uterus. As delivery through the vagina was impossible, Caesarean section was carried out, followed by supravaginal hysterectomy. The child was living and weighed 6¼ lb. The patient made an uneventful recovery. Dr. FOTHERGILL also showed the corpus uteri and both appendages removed from a virgin aged 42 by the abdominal route, on account of pain of long standing and haemorrhage, which remained excessive after curetting. The organs were buried in adhesions and the patient's old pelvic peritonitis doubtless dated from an attack of appendicitis with suppuration, which was relieved by operation in 1902. The uterus contained a fibroid polypus, the size of a hazel nut, which accounted for the haemorrhage. Its existence was not suspected.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

AT a meeting on October 20th Dr. BARCLAY NESS showed a boy, aged 10 years, who, during the past ten months, had suffered from an unusual series of manifestations of *Acute rheumatism*, including first a mild attack of rheumatic arthritis affecting the larger joints of arms and legs, then an outbreak of subcutaneous fibroid nodules coupled with some endocarditis, then severe chorea accompanied by another crop of nodules, and then pericarditis and left-sided pleurisy, with reappearance of the nodules, and finally a further appearance of nodules. Dr. JOHN M. COWAN showed some slides illustrating cases in which the pace-maker of the heart was situated in abnormal sites in the auricle, ventricle, and auriculo-ventricular node, and discussed the influence on the cardiac work which this entailed. Professor STOCKMAN then reported the results obtained by *Vaccine treatment of urethritis or vaginitis with arthritis* in 9 cases. The gonococcus was isolated in every case, and autogenous vaccines were mostly, but not exclusively, used. In all the treatment was at first exclusively by the vaccine, but in most cases no distinct improvement followed, and ordinary local treatment was superadded or substituted. This was always followed by immediate and distinct improvement in the local and general conditions, and was what finally led to cure. In only one case did recovery take place under vaccine treatment alone, but improvement was so rapid and marked, after only one dose of 5 million, as to be hardly attributable, in view of the results in other cases, to the vaccine. In 2 cases fresh joints became infected while the vaccine treatment was being given, which should not have happened had the vaccine been capable of conferring immunity, or even of increasing substantially the resistance to infection. Comparison of these results of vaccine treatment with the results of ordinary treatment by means of copaiba given internally, and local applications, led to the conclusion that the administration of dead gonococci exerted no curative influence on gonococcal arthritis. The reaction which followed a sufficient dose of vaccine could be used as a method of diagnosing gonococcal infection, but its variability seriously impaired its value.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

A Diploma in Psychology.

AT the autumn meeting of the Northern and Midland Division on October 19th, Dr. DAWSON in the chair, Dr. PIERCE read a paper entitled "Some Remarks on the Diploma in Psychological Medicine." Four universities—Edinburgh, Durham, Manchester, and Leeds—had already instituted a diploma in psychological medicine, and others were seriously considering the subject. It might safely be concluded, he thought, that the new diploma had come to stay, and would in time take a position corresponding to the diploma in public health. The new departure would in the long run favourably affect those engaged in the treatment and care of the insane. The position of assistant medical officers in asylums was highly unsatisfactory, many of them being obliged to lead celibate lives and having little or no recognized legal status. The association should point out the importance of the diploma to county councils and others engaged in lunacy administration. In the discussion which followed there was general agreement with the views expressed.

Acute and Early Cases.

Dr. E. H. O. SANKEY read a paper on the treatment of acute and early cases of insanity, with special reference to the number of patients in asylums, pointing out that the recovery-rate was and had been nearly stationary. Asylums were too big, and future buildings should be in the form of hospitals or receiving houses for acute or curable cases; all cases should be first admitted to these, and only the failures and incurable cases should be transferred thence to the asylum. If the proportion of patients to the number of the medical and nursing staff were smaller more recoveries might be expected.

THE SCOTTISH ASSOCIATION OF MEDICAL WOMEN.

THE annual meeting of this society was held at the Edinburgh Hospital for Women and Children on October 21st. In the course of the evening Dr. MERCER WATSON of Aberdeen delivered a presidential address dealing with the present trend of medicine, surgery, and anaesthetics, and Dr. MARION ERSKINE read a paper on electro-therapy, giving also a practical demonstration of the methods in use at the hospital. It was resolved unanimously to send a donation of 5 guineas from the association to the General Defence Insurance Fund.

THE annual dinner of the Harveian Society of London will be held at the Café Royal, Regent Street, on Thursday, November 9th, at 7 for 7.30. The chair will be taken by the President, Mr. Ernest Lane, F.R.C.S.

Reviews.

CHILD PROBLEMS AND RACE BETTERMENT.

To any one interested in eugenics or the problems of race betterment, the importance of all questions affecting the conditions of children is at once apparent. To such Dr. Mangold's volume on *Child Problems*[1] will be of interest. It forms one of the series of the "Citizen's Library," and the author is Associate Director of the Saint Louis School of Social Economy. It is subdivided into five books, each containing several chapters. The scope of the work may best be realized by enumerating the titles of the books, which are as follows: (1) Infant and Child Mortality; (2) Recent Aspects of Educational Reform; (3) Child Labour; (4) The Delinquent Child; (4) The Dependent and Neglected Child. Naturally the problems dealt with are based upon the conditions, economic and social, which obtain in the United States, and are therefore not quite identical with those which have to be considered in this country. Nevertheless, in the main, the questions are similar to those which have to be faced by social reformers in the older countries, in which the struggle for existence is possibly somewhat less strenuous. Society, the author remarks, is slowly beginning to realize that child problems are the greatest problems of our time. In dealing with infant and child mortality, attention is drawn to the enormous physiological and social losses to the community of an extravagant death-rate among children. The mother of three healthy children, all of whom live to grow up, is saved a greater amount of energy to become a good wife and mother than one who has borne six children of whom three die in infancy or childhood. That motherhood is a duty as well as a privilege is rightly insisted on, and Dr. Mangold "views with impatience the callousness of men who regard with favour a considerable wastage of child life because it accords with their theory of the improvement of the human race through the operation of the law of natural selection." While due weight must be given to this opinion, the author, like many other enthusiastic social reformers, is too apt to ignore the advantages accruing from natural selection to any race of organisms. To allow natural selection alone to operate with full force among human beings would prove that the higher and finer instincts of our moral nature had become blunted; but that is a very different thing to acting in such a manner as absolutely to negative the effects which natural selection, or some human substitute, would bring about and thus render the lot of the poorer classes more and more intolerable. If the present relative rate of increase among the undesirable portion of the population goes on undiminished the existing social evils must become accentuated. It is this which renders necessary all the complicated and expensive reforms advocated by the author. To check the increase among the undesirables and to encourage it among the desirables is but to carry out a principle for the whole community which the author advocates for individual families. If this is Dr. Mangold's idea he has by no means made it apparent in his book. Some of the most interesting sections of the book are those which deal with play. In them there is much sound common sense, but we are disposed to think that the children's play in America, as depicted by the author, is over-organized and too supervised. A certain amount is necessary with some classes of children, but surely it is the spontaneous and extempore play which brings out and cultivates individuality. The extensive adoption of roof playgrounds in New York is a matter which might well be considered more in the larger British towns.

On the subject of child labour much is written with which all must sympathize, but if everything advocated by the author were put into practice, the economic dislocation which would result is unthinkable. The reasons stated (page 180) for overtime work in certain trades—for instance, the paper-box industry, artificial flower making and toy making—would seem to be quite inadequate, and by a little businesslike foresight and adjustment the necessity for the spasmodic periods of overtime work easily avoided. There are many other points which might be discussed did space permit; most of them are of prime importance. We cannot help feeling, however, more and more convinced that the undiluted socialism running through the whole volume is, like all such ideas, too utopian, too impracticable; if more common sense were employed in the treatment of social problems, much that is advocated would be totally unnecessary. Moreover, we still adhere to the old-fashioned idea that parents have some interest in, and duties towards, their children. For the author of *Child Problems* the parents' duty seems to end with the production of the child, the State is to undertake all further responsibility. The perusal of the book calls to mind the advertisement of a certain agency for the supply of photographic materials: "You press the button; we do the rest."

Under the title, *The Problem of Race Betterment*,[2] Dr. J. E. Mears has published in book form four articles, three of which have already appeared in American medical journals. Of all social problems that of race betterment is one of the most, if not *the* most, pressing. It is of little use devising means and spending public money to ameliorate the conditions of life among the unfit and undesirable classes, while at the same time no steps are taken to place any obstacle in the way of the relatively rapid propagation of that class. It is economically unsound, and it is placing a heavy and unjust burden upon the poorer members of the desirable classes. Dr. Mears, in the first of these articles, maintains that the State has a right to frame laws for the prevention of the propagation of the degenerate and confirmed criminal, and thus "perpetuating a flow of degeneracy." This article is based upon a paper read before the Philadelphia Academy of Surgery in 1894. The paper was on the "Ligature of the Spermatic Cord in the Treatment of Hypertrophy of the Prostate Gland." The title of the article before us is "Asexualization as a Remedial Measure in the Relief of Certain Forms of Mental, Moral, and Physical Degeneration." The two titles taken in conjunction furnish the key to the line of argument adopted by Dr. Mears. The author very justly points out that "communities exercise the right to deprive citizens of their liberty in order that a focus of infection may be stamped out." Why not treat degeneracy and criminality on the same lines? Vasectomy has been advocated by other American medical men for the sterilization of confirmed criminals, idiots, imbeciles, and other utterly worthless members of the community.

The second article is devoted to the medical, legal, and social aspects of the problem of race betterment, while the third discusses the value of surgical procedures in the solution of that problem. The author, in spite of certain criticisms, advocates ligature of the cord in preference to vasectomy as the most effective substitute for castration. Asexualization of the female is advocated on similar lines. The class of subjects upon whom such procedures should, in the author's opinion, be exercised are perverts and degenerates, idiots, imbeciles, epileptics (when the epilepsy is not due to traumatism), the vicious insane, and criminals the subjects of sexual perversions and abnormal indulgences. The fourth article is entitled "The Law, the Protector of the Community, and the Benefactor of the Defective Subject." Finally, copies of laws enacted by certain States "authorizing the performance of surgical operations to prevent procreation in criminal and defective subjects" are quoted at length. Such laws appear to exist in the States of Indiana, California, and Connecticut, and have been passed within the last three or four years. The existence of such laws is a matter of common knowledge, but Dr. Mears does not definitely tell us, what many would like to know, how far these laws are actually enforced. He states incidentally that vasectomy has been performed upon a large number of criminals in State penitentiaries, and upon defective minors in private institutions with the consent of the parents or guardians.

Sufficient has been said to show the scope of the book and line of argument adopted by Dr. Mears. To many readers the author's candour and outspokenness will no doubt come as a shock, but in the present

[1] *Child Problems.* By George B. Mangold, Ph.D., Associate Director Saint Louis School of Social Economy. New York: Macmillan Co. 1910. (Post 8vo, pp. 396. 1.25 dol. net.)

[2] *The Problem of Race Betterment.* By J. Ewing Mears, M.D., LL.D. Philadelphia: William J. Dornan. 1910. (Med. 8vo pp. 45.)

social conditions plain speaking is necessary. Too long have we indulged in false sentimentality and grandmotherly legislation, and it is high time facts were brought to light and the problem tackled in a common-sense manner. The way in which matters are drifting from bad to worse has been amply demonstrated by such authorities as Mr. Whetham and Mrs. Pinsent at last year's Church Congress and elsewhere. Whether asexualization is the best method of dealing with the problem is a question; it is certainly the most effective, but it would at present doubtless raise too great a storm of indignation. Segregation might well be adopted in the first instance, and if effective it would then be unnecessary to have recourse to the more extreme measures. That something should be done, and done quickly, there can be but little doubt. Though all may not agree with Dr. Mears, the book should be widely read by medical men and all interested in the problems of race betterment, for he puts the subject plainly, perhaps at times even a little too plainly, before us.

EPIDEMIC DIARRHOEA.

IN *Observations upon the Natural History of Epidemic Diarrhoea*, Dr. O. H. PETERS[3] gives a detailed account of the disease as it occurred in the town of Mansfield during the season of 1908. While general observations were made throughout the whole town, attention was concentrated mainly on two large areas situated on opposite sides of the town, of which one is almost wholly residential, with practically no stables, and contains only new houses (w.c. system), built on clean meadow land, and the other has many stables, many privy middens, and many old houses, built on old manured soil. The existence of these two areas, differing on the whole considerably in the character of the environment, but not to any marked degree in the occupations or social standing of the inhabitants, gave an opportunity of studying some features of the disease under favourable circumstances, and the author has investigated the local conditions from many points of view—sanitary, architectural, topographical, etc.—with a minuteness and carefulness that deserve the fullest recognition. All the cases of epidemic diarrhoea that occurred within these two areas during 1908 were followed up and studied by Dr. Peters, and, during his remarks on the data thus acquired (which were confirmed, in part at least, during the season of 1909), he proceeds to a wider consideration of the epidemiological features of the disease in general, and concludes with a discussion of the lines which, in his opinion, should guide its treatment, and more particularly its prevention.

One point of special value in these Mansfield data is that every attack of epidemic diarrhoea which occurred within the selected areas during 1908 was investigated, so that a complete record of the whole incidence of the disease was recorded. This is important, for the bulk of the data available before Dr. Davies's Woolwich Report of 1909 comprised only mortality statistics, which give a somewhat erroneous impression of the facts of the disease. For example, the greatest mortality undoubtedly takes place during the first year of life, but the death-rate during this year is largely influenced by other factors which lower the resistance of the very young infant, and the actual incidence of the disease is distinctly greatest during the second year, although the mortality is very markedly less. Further, Dr. Peters found that adults are much more frequently attacked than is commonly supposed, the proportional incidence on children under 5 years and on parents being only, in round numbers, as 2 to 1. Over the whole population of about 2,000 contained in the two areas the incidence of the disease was found to be 17 per cent. This is a remarkably high figure, and if the case mortality (here 1 per cent.) in other towns were the same as in these data, the case incidence would reach incredible numbers. It is a little difficult to believe that all the cases included in his tables were true epidemic diarrhoea, and the author's description of what he accepts is perhaps not quite reassuring, but while fully recognizing the difficulty, he is convinced that "practically the whole of the cases" were "epidemic and probably also infective in character."

[3] *Observations upon the Natural History of Epidemic Diarrhoea.* By O. H. Peters, M.D., D.P.H. (Reprinted from the *Journal of Hygiene*, vol. x.) Cambridge: University Press. 1911. (Imp. 8vo, pp. 177, Tables 27, Charts 7. 7s. net.)

The more general conclusions arrived at are based on data necessarily extremely detailed and in part statistically handled, and it is not possible to summarize the latter in any concise form, especially as in the work itself they are already condensed to as small a bulk as is consistent with clearness. We can only mention some of the main results and refer to the original work, which deserves and will receive close study from all interested in this important problem of public health. We may, however, remark that a total of 322 persons attacked is not an excessive number on which to base statistical reasoning, especially when split up into various sub-groups, and in view of the possibility that more than one disease may be included under the name "epidemic diarrhoea."

The annual outbreak is, of course, largely dependent on the temperature, not, however, on the ground temperature so much as on the mean air temperature during the four to five weeks preceding the rise in the diarrhoea curve. Given the necessary climatic conditions, it appears not improbable that the phenomena of diarrhoea prevalence in any given area are almost wholly concerned with the development of various infective foci, whatever may be the original source of infection in these foci—for example, possibly children of the second or third year, who have carried the infective agent since the preceding season. From any given centre it spreads most largely by transmission from person to person (the phenomena, for instance, of aggregation or clumping of cases and the influence of yards-in-common telling strongly in support of this view), and no strong evidence was obtained pointing to ground infection as of any real importance. The transmission may be direct or indirect, and a large mass of material is collected in support not only of direct transmission, but also in support of the fly-carriage theory. While there is much in favour of the latter theory and little against, the evidence is still quite inconclusive and hardly sufficient to warrant the adoption of practical measures based on it. In the spread of the disease dirtiness of the household is of great importance, probably through carelessness in dealing with the excreta, especially of young children. The question of the value of water closet, good drainage, and so forth, is of minor significance, because faecal infection has most to do with pollution of the interior of the household by very young children. Infection within the house is probably the commonest method of contracting the disease, and it seems probable that the milk supply has no immediate relation to the incidence. While breast-fed children suffer least, the influence of cow's milk appears not to be due to any direct transference of an infective agent, and boiling of the milk was not found to give any protection whatever.

TRAUMATIC AFFECTIONS OF LUNGS AND PLEURA.

THE second part of Professor RICHARD STERN'S monograph on the traumatic origin of internal diseases[4] deals with the diseases of the lungs and pleura. The first part, which we reviewed more than four years ago (July 6th, 1907, p. 22), dealt with diseases of the heart. In view of the frequent disputes which arise out of claims under the Workmen's Compensation Act, it is of the utmost importance that medical practitioners should be able to refer to a work of this kind, in which we get not only Professor Stern's personal experience, but a collection of published cases and an excellent bibliography, so that it is invaluable as a work of reference. The relations of injuries and shock, when unattended by wounds or fractures of bones, to internal diseases are comparatively little known, and when the suggestion is made that an attack of pneumonia or phthisis has followed an accident, there is a risk that the claim may be dismissed too hastily in ignorance of the evidence that has been accumulated, and that may be adduced in its support. It by no means follows that every such claim is true, and there are many considerations which have to be taken into account in order to establish a connexion, but it is as a guide when questions of this sort arise that the book before us is invaluable. Thus, in the opinion of the author there is strong evidence that severe injuries to the lungs may occur without the soft parts and bony

[4] *Ueber traumatische Entstehung innerer Krankheiten.* Von Dr. Richard Stern. Zweite neu bearbeitete Auflage. Zweites Heft Krankheiten der Lungen und des Brustfells. Jena: Gustav Fischer. 1910. (Sup. roy. 8vo, pp. 157–244, Mk.2.)

framework of the thorax showing any trace of traumatism. This is generally due to rupture of the lung during a strenuous effort with the glottis closed, as in lifting a great weight. If at this time the thorax is struck a heavy blow, the lung may be ruptured. No doubt the presence of old disease of the lung, or of pleural adhesions, favours this occurrence. Such injuries as a rule heal rapidly when they are not so extensive as to cause sudden death, but at times the injured part may become infected, and pneumonia or even tuberculosis follow. Haemorrhage from the lung is, of course, a symptom of such an injury, but it does not always occur immediately; an interval of hours or even days may elapse. The relation of haemorrhage to slight injuries is doubtful, unless the lungs were previously diseased. Haemorrhage into the lung may cause infiltration of a larger or smaller area, with signs of consolidation, but without fever or constitutional disturbance, but this may be followed by inflammatory changes. Typical pneumonia may be caused by an injury, and does not differ from that arising under ordinary conditions; there is no means of distinguishing traumatic pneumonia from the ordinary type; the connexion between the strain or injury and the pneumonia may be often difficult to determine with certainty. Thus, a workman may be exerting himself when suddenly he is seized with a pain in his side, and may be obliged to give up his work; he goes home to bed, and develops acute pneumonia. It is possible that the disease was in an early stage when he began his work, and that the stitch in the side was brought on by his exertion as by a cough; there may be nothing to show that the exertion caused the pneumonia.

With regard to the relation of phthisis to injury, Professor Stern points out that at one time it was supposed that tuberculous joint affection followed injury, but, according to modern views, the injury merely aggravates or renders manifest a condition previously existing, either locally or in some other part of the body. He thinks that this is also true of the lungs, but where there has been rupture of the lung or haemorrhage into its substance subsequent infection of the injured tissue is possible. He points out that most of the published cases show on analysis that the connexion rests solely upon the statement of the patient that his illness commenced after the injury. With regard to emphysema, while he admits that interstitial emphysema may result from injuries and strains, he knows of no evidence that alveolar emphysema can be induced by these means. The volume is completed by a good bibliography, to which we have already referred.

A SURGEON'S HOLIDAYS IN EAST AFRICA.

It is a good many years ago since Mr. Bland-Sutton wrote a book entitled, *An Introduction to General Pathology*. It was not a very attractive name, but within the boards of the book was a mass of most attractive material, and the reader came to the last page with genuine regret. The writer had demonstrated that the *post-mortem* room at the Zoological Gardens could be made to furnish forth facts of living interest. In another book, *Evolution and Disease*, he showed that there was a natural history of disease as well as of plants and animals. Again he succeeded in drawing a large number of readers, not only in but also outside the medical profession, for many of the chapters, especially those on vestigial structures, atavism, and dichotomy, were fascinating in their conception and execution. The germs of other books were planted in this one, for the chapter on tumours and cancer has since grown into the work, *Tumours, Innocent and Malignant*, and that on zoological distribution of disease has, if we mistake not, given origin to the author's recent volume, *Man and Beast in Eastern Ethiopia*.[5]

In the interval the author has walked in the ways of the surgeons and written on *Diseases of Women* and *Surgical Diseases of the Ovaries and Fallopian Tubes*, and has carried with him into that field the facts furnished by comparative pathology, and found in the mysteries of tubal gestation the same attraction which led him to investigate the meaning of teratological states.

His new book contains a brightly written account of a journey which was taken by Mr. Bland-Sutton and Dr. Comyns Berkeley to the Victoria Nyanza. They started from Mombasa, travelled on the Uganda Railway, explored the wonderful Rift Valley with its human and animal marvels, went "on *safari*" (an adventurous hunting expedition), visited not without a spice of risk the "uncaged Zoo" of these parts, and found many things and people to "make a note on." The notes made read uncommonly well, and deal, as one might expect, knowing the personnel of the travelling party, with sleeping sickness, mosquitos, the ubiquitous jiggers or sand-fleas of Uganda, ticks and termites, as well as with the wild animals and the quaint and curious customs of the natives of British East Africa. We learn how the ear-lobe is pierced and gradually dilated among the Masai, and what the rules are for the wearing of earrings in the huge resulting apertures: the deforming lip ornaments, or labrets, are described and illustrated; the reason why wounds caused by lions and leopards do not heal kindly is discussed (the teeth and claws of these animals are septic), and details are given of the way in which the Masai treat comminuted fractures ("on a level with the best modern surgery"). Death by crocodile bite would seem to be a speedy way out of this world: "a loud and piteous scream of terror, a violent agitation of the water near the spot where the victim was standing, which only lasts for a few minutes, and the tragedy is complete"; such wounds have seldom the opportunity of becoming septic. A most interesting chapter is concerned with the Kavirondos, with the tails worn by the married women and the patterns which are scarified on their bellies, and with many other curious matters; the list of charms worn by a Kavirondo chief is somewhat untenderly placed alongside of the enumeration of the bangles, ornaments, and charms adorning a "clever, pretty lady" who came into the author's library while he "was writing these things." As will have been gathered, the book is discursive, but it is always interesting, and no one will grudge Mr. Bland-Sutton his holidays in Africa so long as he is able to make his many readers share his enjoyment in so delightful a fashion when he comes home again. It should perhaps be added that the work really is founded on two expeditions, for Mr. Bland-Sutton, whilst writing his book, came to the conclusion that some matters in it might be cleared up by a visit to the Sudd region of the Nile, and accordingly he made at a later date a boat journey up the White Nile and Bahr-el-Gebel as high as Rejaf. We get, therefore, the benefit of the knowledge acquired on both journeys.

[5] *Man and Beast in Eastern Ethiopia.* By J. Bland-Sutton, F.R.C.S.Eng. With 204 engravings on wood. London: Macmillan and Co., Limited. 1911. (Imp. 8vo, pp. 419. 12s. net.)

NOTES ON BOOKS.

The edition for 1911 of *Low's Handbook to the Charities of London*[6] is the seventy-sixth. One of the advantages of this, the first, we believe, of such reference books ever published, is that it makes its annual appearance after the middle of the year, and so contains accounts of changes which have taken place subsequent to the issue of other like books. All the charities with reference to which information is given are placed in alphabetical order, notes as to the main object, source of income, and name of the person to whom application should be made by those who desire to become beneficiaries being included in each case. There is also an index in which the charities included in the text are classified according to the work which they perform. It is a very useful book of its kind.

Old-fashioned people who come across the *Woman's Book*[7] are likely to be reminded of that old popular favourite, *Enquire Within about Everything*. The present work, however, whose editors-in-chief are Mrs. F. B. Jack and Miss R. Strauss, is a much more elaborate publication, being not a kind of encyclopaedia of useful knowledge, but a collection of some thirty-four articles, each dealing with some special aspect of the life of woman, including both those who work for themselves or others and those who chiefly play. It is stated to contain everything a woman ought to know: and while we should hardly care to vouch for this fact, we can at least state that it contains a very great deal of information, all set forth in readable form. Included among the descriptions of occupations open to

[6] *Low's Handbook to the Charities of London.* Seventy-sixth year of publication. 1911. London: Charles H. Sell. (Crown 8vo, pp. 248. Price 1s.)

[7] *The Woman's Book: Contains Everything a Woman Ought to Know.* Edited by Florence B. Jack, late Principal of the School of Domestic Arts, Edinburgh, and Rita Strauss, assisted by many Expert Contributors. London: T. C. and E. C. Jack. 1911. (Medium 8vo, pp. 724. Price 3s. 6d.)

women are good accounts of the steps which must be taken by those who desire to become doctors or nurses, or to engage in the many forms of public health work now open to women. Chapters on first aid work, domestic nursing, the management of children, and dress are naturally included. Among the things that women do not know apparently is the shape of a scrubbing brush and how to sew on an ordinary four-holed pearl button, for drawings of these and many other common objects are included amongst the illustrations.

The first edition of the *Student's Handbook of Surgical Operations*[8] was an abridgement of Sir FREDERICK TREVES'S *Manual of Operative Surgery*, and appeared as long ago as 1892. In the following twelve years it was reprinted some ten times, and the second edition, which appeared in 1904, was equally successful. A third edition has now been brought out. The name of Sir Frederick Treves is coupled with that of Mr. Jonathan Hutchinson on the title page, but the latter is now solely responsible for the contained matter. As in the earlier editions, the teaching is purely dogmatic, the sole aim being to supply perfectly clear descriptions of the orthodox fashion of performing the commoner and more important operations. These descriptions are derived from the parent work—for the latest edition of which the same authors were jointly responsible—and to this work readers are expected to refer when in search of a discussion of surgical principles, or advice on the selection of operations. The section on abdominal operations has, however, been entirely remodelled, progress in this branch of surgery having been especially rapid during the last few years. The new work is only slightly larger than its predecessors, and, being quite equal to them in point of clarity of diction and excellence of illustration, seems likely to secure the same popularity.

The small book *Sanatoria for the People*,[9] by Messrs. CARLAND and LISTER, is published at an opportune moment, and ought to be widely read by all who are interested in the subject of invalidity or sickness assurance in relation to consumption. The authors' names stand for special knowledge of sanatorium treatment the expenses of which are provided by the workers themselves on the principle of assurance, and the experience of the Benenden Sanatorium cannot well be ignored in any consideration of the financial questions which are involved in the provision of sanatorium benefits under the National Insurance Bill. The authors rightly insist that the sanatorium is only a link in the chain of measures for the control of tuberculosis, and they recognize the importance of antituberculosis dispensaries in the general scheme. The subject-matter of the book is distributed under the following headings: "What is a Sanatorium?" "The Sanatorium a Training School for Health." "The Relation of the Sanatorium to other Methods." "Consumption as an Industrial Disease," "Our Present Consumption Bill," "The After-care of Sanatorium Patients," and "What the Insurance Bill can Effect." This gives a sufficient indication of the scope of the booklet. When we add that the authors know their subject and that the work is well done, little more need be said. The book is written in plain language, and may be strongly recommended to non-medical as well as to medical readers.

The twelfth South African Medical Congress was held in October, 1910. That year being the first year of political union in South Africa, the congress was appropriately honoured by the presence of His Royal Highness the Duke of Connaught, to whom an address of welcome was tendered at the opening ceremony. The *Transactions* of the congress have now been published.[10] Dr. Charles F. K. Murray (Kenilworth) delivered an interesting presidential address, in which he contrasted medical practice of to-day in Cape Colony with the condition forty years ago. In those days there were only sixty registered practitioners in Cape Colony, and in outlying districts the Government was glad to accept the services of educated but unqualified men to act as practitioners. It was nothing unusual for a country practitioner to start from his home in the morning and not return for a week, so vast was the area to be covered. Now, said the speaker, the professional field is as crowded as it was empty then. After a visit to Europe he had returned convinced that what was known as the "general practitioner" in Cape Colony was, taking the average man, doing better work and accepting larger responsibilities than the average general practitioner in Europe. Pleading for a "Portfolio of Public Health," Dr. Murray regarded it as hardly credible that to-day in South Africa more money was spent by the State in promoting the study of the diseases of animals than for the study of diseases of the human race. The special subjects for discussion, a report of which appears in the Congress *Transactions*, were: (1) The modern treatment of tuberculosis, introduced by Dr. A. Murray Gray (Durban). (2) Urinary stone: symptoms, diagnosis, and treatment: incidence in South Africa, introduced by Dr. W. Temple-Mursell (Johannesburg). (3) Aestival diarrhoea of South Africa, by Dr. G. D. Maynard (Pretoria). (4) The diagnosis and treatment of fibroid diseases of the uterus, by Dr. W. H. Maxwell (Johannesburg). (5) The diagnosis and treatment of headache due to diseases of the eye, ear, throat, or nose: papers by Dr. A. G. Brierton (Johannesburg) and Dr. C. Jones-Phillipson (Port Alfred). (6) The incidence of cancer in South Africa, by Dr. G. A. Casalis (Mowbray). (7) Hospital administration and organization in South Africa, by Sir Kendal Franks, C.B., M.D. (Johannesburg). The *Transactions* also contain many other papers which show the very wide range of the actual problems being dealt with in South Africa. A well-executed plate of photographs of the members of the congress, reproduced by permission of the editor of the *South African Medical Record*, forms a frontispiece to the *Transactions*.

[8] *The Student's Handbook of Surgical Operations.* By Sir Frederick Treves and Jonathan Hutchinson. 1911. London: Cassell and Co. (Crown 8vo, pp. 512. Price 7s. 6d.)

[9] *Sanatoria for the People: The State Campaign against Consumption.* By G. H. Garland and Thomas D. Lister, M.D. London: The Scientific Press, Limited. 1911. (Post 8vo, pp. 71. 1s. net.)

[10] *Transactions of the South African Medical Congress* (Twelfth Meeting), Capetown, 1910. Capetown: Townshend, Taylor, and Snashall. 1911.

MEDICAL AND SURGICAL APPLIANCES.

A Simple Nasal Speculum.

MR. JAMES DONELAN, M.Ch. (Laryngologist to the Italian Hospital, London), writes: Four or five years ago I was unexpectedly asked to examine a patient's nose in a country house. I had a frontal mirror, but no nasal speculum. I managed to improvise one with a large hairpin bent so that the ends of the loops forming the blades overlapped the shanks, thus rendering the blades incompressible. It worked so well that I had some copies made in suitable wire, and I showed them at the then Laryngological Society of London. I have since had a number of these specula in an improved form made by the Holborn Surgical Instrument Company. These instruments have the advantage of being efficient, sterilizable, and cheap, costing only 6d. each. They are thus very suitable for hospital out-patient work or in other circumstances where a ready succession of unused specula is required.

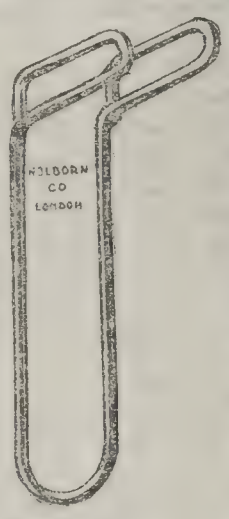

A Combined Staple Holder and Punch.

Mr. C. M. PAGE, M.S.Lond., F.R.C.S. (Surgical Registrar, St. Thomas's Hospital), writes: In performing Roux's operation for femoral hernia it is found that the staple cannot be easily controlled and fixed in position before being driven home. This is particularly noticeable in stout patients with a patulous femoral ring. The clamp punch here depicted renders the staple perfectly manageable during the process of pinning the ligament, and is then used as a punch, being removed when the staple has been driven home. The picture clearly shows the detail of the instrument, which was made for me by Messrs. Allen and Hanburys, Limited, of Wigmore Street, W.

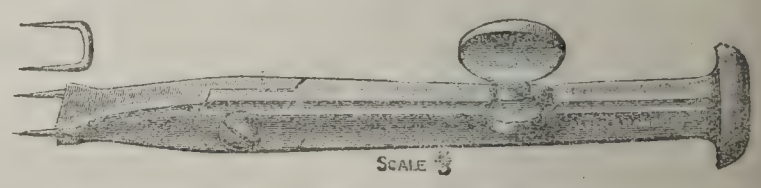

THE THIRD CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY.

(Concluded from page 1125.)

The Treatment of Acute Purulent Pleurisy.

Gaudier presented a report: he laid it down that every pleural abscess should be treated by free incision, with or without resection of ribs, followed by drainage. The only exceptions to this rule were certain particular cases—for instance, in pneumococcal pleurisy, and when the patient was very young—in which repeated exploration might be employed, but whenever the general condition failed to improve and dyspnœa continued it became necessary to immediately replace the trocar by the knife. In tuberculous pleurisy, however, it appeared advisable not to incise, in order to avoid exposing the cavity to secondary infection. In these cases repeated puncture was indicated, associated with general treatment.

Vanverts analysed the statistics published by the partisans of puncture in pneumococcic empyema, and found that even including infants recovery was only obtained in about 12 per cent., whilst early incision gave excellent results. He held that in all cases of purulent pleurisy tapping should only be held to be a means of diagnosis, not a method of treatment. After pleurotomy he favoured the application of a dressing which tended to aspirate the cavity.

Ribera y Sans considered that the only treatment of acute purulent pleurisy was pleurotomy with costal resection and drainage.

Bérard drew attention to the use of currents of oxygen and the application of solutions in the treatment of acute purulent pleurisy. If the incision were made in the ninth or tenth intercostal space in the posterior axillary line, he considered that costal resection could almost always be avoided. Continuous siphonage of the pleural cavity should then be installed by the apparatus of Bulau and Vignard. In tuberculous pleurisy he advised repeated puncture, followed by the injection of 15 to 20 c.cm. of camphorated oil, 10 per cent.

Mayer considered the apparatus which had been constructed by himself and Danis was of value not only for the prevention of pulmonary collapse in ordinary endothoracic operations, but was also useful after pleurotomy to hasten recovery by passive dilatation of the lung. He considered it unjustifiable to say that pyothorax always required pleurotomy with costal resection. Under good surgical conditions it was often better to incise and to evacuate the pus and the membranes, but it should also be known that it was possible to obtain very good results by continuous siphonage, although the result was obtained more slowly. It was, however, less dangerous than the alternative. He had published and seen numbers of cases thus treated with excellent results.

Macewen held that if drains were introduced into the pleural cavity to evacuate a purulent pleurisy it was necessary to make them as short as possible.

Pringle considered that one purpose of operation should always be to bring the lung back to its normal dilatation. If the adhesions between the pleural surfaces were already loose, decortication might be useful.

Vignard insisted on the value of continuous drainage in purulent pleurisy to avoid the frequent dressings which were necessary after simple pleurotomy, and which carried the risk of secondary infection.

Capelesco held that once the diagnosis was made pleurotomy with costal resection should be the rule. Lavage of the cavity with artificial serum was of value.

Dollinger reported his practice. If the patient were in such circumstances that aseptic treatment could not be ensured, pleurocentesis was employed. This treatment was capable of bringing about recovery in pneumococcal pleurisy. In other varieties he was in the habit of introducing a trocar through which a rubber drain was placed in the chest. This drain was shortened by degrees, and recovery was almost always obtained without resection of ribs. When exploratory puncture showed that the pleurisy was due to organisms of putrefaction simple drainage was sufficient; costal resection followed by lavage was necessary. In tuberculous pleurisy he advocated aspiration, followed by the injection of iodoform in oil 10 per cent.

Lucas-Championnière was of opinion that all purulent pleurisy should be surgically treated, and preferably by pleurotomy with costal resection. The drain should be large enough to keep the orifice well opened. Most fistulae were the result of openings too narrow, others of too prolonged drainage and too energetic lavage. In some cases he used chloride of zinc to hasten recovery.

Pleural Fistulae.

Girard presented a report of which the following is a summary: Tuberculosis, and to a lesser degree mixed infections, were of most importance in the persistence of fistulae. It was also necessary to think of the possibility of a foreign body being present. Sometimes persistence was due to a bronchopleural fistula. The prognosis of these fistulae if left to themselves was bad. Careful exploration was necessary: the ordinary methods of surgical examination might be aided by pleurotomy and digital exploration. Pneumatic treatment by continuous aspiration, compressed air, etc., was chiefly of value after operation. Injections of bismuth should be used with caution on account of the possibility of intoxication. Operations whose purpose was to mobilize the chest were particularly useful in large flat cavities. When the cavity was large and deep the methods introduced by Schede were the most certain. Pulmonary decortication and the mobilization of the adherent lung often gave excellent results. Large tuberculous pleural fistulae should not be abandoned to themselves, as sometimes an operation was capable of bringing about recovery. The dangers of extensive operation could be lessened, first, by the use of local anæsthesia either for the whole or part of the operation, and, secondly, by the performance of the operation in several stages.

Ceci described the result of extensive local resection and the implantation of large muscular cutaneous flaps on the lung surface. The costal resections were performed in several stages.

Mauclaire described the result he had obtained from a similar method.

Lambotte considered the operation of Schede, or thoracotomy, as the most advisable in old fistulae; he had employed it in 14 cases, and, although they had all been of a serious type, he had obtained twelve recoveries. His technique was similar to that of Ceci, but he had always operated at one sitting, and diminished the gravity of the operation by rapid incision and the use of large scissors.

Vanverts considered that the cure of pleural fistulae required a free exposure and open treatment. In some cases the presence of sequestra was the cause of the persistence of the fistula.

Ribera y Sans reported the statistics from his clinic.

Wounds of the Lungs and Pleura.

Lenormant was the reporter on this subject. He stated that treatment had to deal with several different risks to life—haemorrhage, less frequently pneumothorax and mediastinal emphysema, thirdly infection. The classical treatment by occlusion of the wound and placing the patient in a condition of absolute rest was the treatment of choice, and the mortality under this treatment did not exceed 10 per cent. Puncture of a pneumothorax causing serious dyspnœa, pleurotomy with drainage in cases of dangerous haemothorax, and pleurotomy in cases of pleural infection, were the methods of treatment that met most indications. Direct surgical intervention in wounds of the lung was a serious and difficult undertaking, of which the mortality was about 33 per cent. The operation was undoubtedly attended by risk of infection, and must only be used in cases of uncontrollable primary or secondary haemorrhage. Most of the serious wounds of the lung were followed almost instantaneously by death. If operation were thought wise, thoracotomy by large flap was necessary. Suture or ligature was the only method which could be relied upon to arrest haemorrhage; plugging was of secondary value. Drainage of the pleura should be avoided if possible, as it greatly increased the mortality of the operation.

Derujinsky related 3 cases which ended by recovery, and analysed 16 cases observed during the Russo-Japanese war. Infection was by far the most important of the influences which determined the prognosis.

MAUCLAIRE was not a partisan of systematic operations; among 30 cases of pulmonary wounds he had only operated three times—in one case for haemothorax, when he withdrew 300 c.cm., the patient recovering; in one of the other two cases he ligatured and resected the anterior part of the left lower lobe successfully; and in the third case a bullet had crossed the chest, the patient presenting signs of continuous haemorrhage; both anterior and posterior wounds were sutured, and the patient recovered.

BAUDET divided cases of wounds of the lungs into three groups: The first, which included those of extreme gravity, where death was manifestly imminent, and where the question was not the utility but the possibility of operation. He had operated three times under such conditions, and these three patients had recovered. The second group comprised benign wounds of the chest which should be left alone, exploratory thoracotomy being useless and dangerous. The third group comprised those serious cases which were not threatened with immediate death, but in which there was fear of recurrence of haemorrhage, already abundant. He did not think that any strict rule could be laid down in such cases from physical signs: they must be treated on the general principles of emergency surgery. Generally speaking, abstention from operation was only allowable when the signs definitely pointed to the benignity of the injury.

PSALTOFF referred to seventeen cases of wounds of the chest, in three of which he had operated by costal resection and pulmonary suture, with two recoveries and one death.

LEJARS thought that the experiences of the last years had shown that the dangers of pneumothorax had been much exaggerated, and that the employment of special apparatus was useless. The wounds caused by firearms were, as a rule, the gravest, and required more frequently direct intervention.

CAPLESCO condemned drainage in thoracic surgery and wounds, and considered pneumatic apparatus useless for intervention on the heart and lung. He recommended a large flap with an external base, and always employed catgut for pulmonary stitching.

PEUGNIEZ thought that the reporter in stating the prognosis of pulmonary wounds had failed to take into account the many cases which died within a short time of the accident. He related 14 cases which had come under his observation; 8 of these had proved fatal, 5 within a few minutes after the accident, 3 after a delay of five hours, twenty-four hours, and ten days. In haemothorax puncture had given him excellent results.

TEDENAT had observed 26 cases of wounds of the chest by revolver bullet; 18 were suicides. In 1 he had intervened for a secondary pyothorax, the others had recovered without operation. The 8 remaining also recovered under rest, except one, in whose case an external haemorrhage made it necessary to tie the intercostal artery and puncture the haemothorax.

LE CONTE had been struck by the fact that most surgeons intervened to arrest haemorrhage, and that in most of the reported observations the bleeding had stopped at the time of intervention. He thought that this spontaneous haemostasis was due to the collapse of the lung, and on this principle had operated for some fifteen years. In wounds with haemorrhage he enlarged the wound, and placed in a tube of sufficient calibre to maintain pneumothorax.

GARRÉ was in favour of systematic intervention in wounds of the chest.

LUCAS-CHAMPIONNIÈRE thought that the time had not arrived for the laying down of definite rules for intervention. He agreed that wounds by sharp instruments permitted of operations more direct and more likely to be of use than in wounds caused by firearms.

Bronchiectasis.

SAUERBRUCH reported on this subject. He distinguished three forms—congenital, compensatory, and inflammatory. The indications for surgical treatment of this condition were not yet strictly defined. Some surgeons had undertaken early operations with the idea that it would be easier, and that the general condition of the patient would be better; but, on the other hand, others impressed with difficulties of early operation advised waiting until the symptoms and general condition of the patient urgently demanded some relief. With regard to methods, local anaesthesia with novocain preceded by morphine should replace general anaesthesia as often as possible. If it were thought probable that the pleura would be found free of adhesions, some apparatus to avoid pneumothorax should be employed. The apparatus of Brauer best fulfilled the requirements. He advised operation in one stage; operation in two stages should be reserved for cases in which threatened serious shock forbade immediate opening of the abscess. In every case it was necessary to make a free opening of the chest wall, resecting two, three, or more ribs. Great difficulties might arise from the number of pulmonary abscesses present and the size of the cavity; in such cases a persistent pulmonary fistula was probable, and thoracoplasty had better replace pneumotomy under such circumstances. Resection of the affected pulmonary lobe would always remain a dangerous operation, but had been successfully practised by Krause. In bilateral bronchiectasis surgical treatment was still more difficult. The general results of surgical treatment had not been favourable—few recoveries, some ameliorations, and many deaths; 123 cases treated by pneumotomy had given 33 per cent. of recoveries, 6 per cent. of ameliorations, 27 per cent. failures, and 35 per cent. deaths. In conclusion, Sauerbruch proposed a new operation, which he had practised in 2 cases after experimenting on animals: combined thoracoplasty with ligature of branches of the pulmonary artery.

Surgical Treatment of Pulmonary Tuberculosis.

FRIEDRICH considered that in cases of unilateral cavernous phthisis with a subacute apyretic course, resection of the thoracic wall should be recommended if the disease made progress in spite of careful treatment. Cases in which there was a tendency to retraction of the affected part of the lung, where the thorax was flattened, and the intercostal space narrowed, should be treated in the same way by rib resection. The adhesions which were present between the parietal and visceral pleura prevented treatment by artificial pneumothorax. Slight or quiescent areas of tuberculosis in the other lung did not necessarily contraindicate operation, but if the disease was present in the larynx, intestine, or bones, no operations should be entertained. The operation was one which required the utmost attention to every detail, particularly the anaesthetic. In successful cases the fever and expectoration lessened immediately.

MACEWEN had operated on three cases of pulmonary cavity. One of these was particularly interesting in view of the fact that the whole of the left lung had been removed and the patient had remained well for fifteen years and was still able to do a hard day's work.

POWERS advised operation in two stages. In the first stage the ribs were removed from the second to the sixth. In the second stage the lung was dealt with.

DELAGÉNIÈRE communicated three observations. The first two concerned single large cavities. The one had recovered entirely after the long persistence of a small pleural fistula; the second had made marked improvement for several months, but subsequently died from the development of new lesions. The third presented a cavity with pleural lesions at the apex, and pneumothorax; the thoracic wall was resected, and the patient died on the same day from asphyxiation.

SCHUMACKER communicated the practice of Sauerbruch, who condemned large thoracic operations and believed that the smallest interventions possible were the best. Unhappily, in Switzerland phthisical patients were not brought to the surgeon until the condition was absolutely desperate, so that, in spite of certain successes, the mortality was very high.

FRIEDRICH, in answering on the debate, did not wish to see the indications for operation limited too narrowly, and he had had some very gratifying recoveries after extensive operations on the thoracic wall.

SIR WILLIAM RAMSAY, K.C.B., F.R.S., will take the chair at the students' annual dinner of the National Dental Hospital to be held at the Trocadero Restaurant on Friday, November 17th. Further particulars can be obtained from the Secretary at the hospital, Great Portland Street, London, W.

THE TWELFTH FRENCH MEDICAL CONGRESS.

From October 21st to 25th the twelfth French Medical Congress was held at Lyons, under the distinguished presidency of Professor J. Teissier, and the importance of the communications and the interest of the discussions made it a most successful meeting.

The first day was almost entirely occupied in a discussion on diabetic coma, introduced by Professor R. Lépine (Lyons), who was followed by Drs. Hugouenq and Morel (Lyons), Dr. Marcel Labbé (Paris), and Dr. L. Blum (Strassburg).

Dr. L. Blum expressed the opinion that indigestion, Banting cures—the injurious results of which could not be too strongly insisted upon in cases of severe diabetes—the sudden elimination of the carbohydrates, and a nourishment rich in albumens and in fat, were other and important factors in the production of coma.

Another subject discussed was the causes and consequences of the destruction of blood corpuscles and its relation to jaundice, the report in respect of its general aspects being presented by Georges Guillain (Paris) and Jean Troisier (Paris). They showed that the subject was in no way new, and that Bianchi in 1710 had foreshadowed the connexion between the two when he wrote:

Sunt duo primaria icteri genera: primae classis icterus e vitio hepatis, alterius speciei icteri a causa solutiva sanguinis.

They stated among other conclusions that "certain chemical reactions show the relationship between haemoglobin and bilirubin and urobilin." Discussion took place also on epidemic cerebro-spinal meningitis and diuresis and diuretic agents. This latter subject occupied a large part of the time on the third day, and prominent among those who spoke were Professor Henrijean (Liége), Professor Mayor (Geneva), Dr. Perrin (Bordeaux), Dr. F. Chiaïs (Evian), and Dr. Etienne (Nancy). Speaking of diuretic agents, Dr. A. Mayor said: "As a rule we reckon only with the diuretic action of the chlorides, the carbonates, the nitrates, and the acetates. The iodides and the bromides might be sometimes of use, if their powerful action on other functions did not designate them for distinctly different therapeutical uses."

The subject of syphilis and its treatment was discussed by Dr. Vedel (Montpellier), Drs. Nicolas and Moutol (Lyons), Professor Spillmann (Nancy), and furnished the theme of a suggestive communication on hereditary syphilis in the light of modern research, by Dr. Carle (Lyons).

Other subjects debated were: Tuberculosis and its treatment, in the discussion of which Drs. Paul Courmont and Piéry (Lyons), Dr. Dumarest (Hauteville), Dr. Duguaire (Lyons), and Dr. Barbier (Paris) took part; sodium salicylate in daily therapeutics, a paper by Dr. T. Meyer (Laon); and two cases of melitococcaemia, by Drs. Carrieu and Auglade.

Dr. S. Bernheim (Paris) read a paper on radium treatment for tuberculosis. He said that with a special radium salt, the dioradin discovered by Dr. de Szendeffy and Professor Béla Augustin of Budapest, it had been possible to stop the progress of the infection in tuberculized animals. Even the most virulent cultures of the Koch bacilli had been stopped in their development by the influence of dioradin. That substance, used in a great number of hospitals and sanatoriums, was said to give the best therapeutic results when it was injected into patients in the first and second, or even of the third, stage, when the resistance of the organism was still good. It never causes local or general reaction. The injections were given by series of forty punctures. For patients slightly attacked one or two series sufficed to stop the progress of the disease. In severe cases from four to five series of punctures were required. But in any case, even those of a grave character, without cachexia, the treatment required a much shorter time than that of a cure in a sanatorium. Among the 160 tuberculous patients in different stages submitted to injections of dioradin by different surgeons, there were six deaths and four patients in the third stage where the treatment was inefficacious.

The numbers of members and associates who attended were considerably over six hundred, and among those present were the veteran scientist Professor Chauveau, whose appearance at the inaugural meeting was the occasion of a great ovation; Professor Landouzy, Rector of the Faculty of Medicine of Paris, and representative of the Academy of Medicine; Professor Zubin, Rector of the University of Lyons; Professor Lépine (Lyons), brother of the Prefect of Police of Paris, and who was the recipient before the opening of the congress of a most flattering tribute from the entire body of the university; Professor Henrijean (Liége), Professor Chauffard, the President-elect of the next congress; Professor Maragliano (Genoa), Professor Patella (Siena), Dr. Louis Vintras, of the French Hospital and Dispensary in London; and Professor His (Berlin).

It must be recorded that never was a congress more felicitous than that of Lyons in the choice of its President. Professor J. Teissier did not only what is humanly possible to assure its success, but by his kindly authority, by his innate courtesy, and his personal regard for all present, endeared himself to one and all as a personal and unforgettable friend.

The social aspects of the congress were hardly eclipsed by its scientific achievements, for the Prefect of the Department and his wife, General Chatin, commanding the military division of Lyons; Monsieur Herriot, the young and eloquent mayor of the city, and his wife; and many others helped the indefatigable Professor and Madame Teissier to extend to all who attended the congress a reception as cordial as it was delicately planned. Much praise is also due to Dr. Paul Courmont, the Secretary-General of the congress, for the smooth working of every detail of an interesting and crowded programme.

Beyond this, however, of the twelve French medical congresses which have now taken place, this one will remain memorable for another reason, for at Lyons it was decided to found an association of French medical men, to be more particularly a federation of the professors of the national universities and State institutions, but whose membership is to be open to eminent medical men of all nations who are familiar with the French language; the object being to continue thus the uniformity of thought and expression in the deliberations of its congresses, while expanding their scope.

It was decided at the final meeting that the next congress shall take place in Paris next year, and Professor Chauffard was elected its president by acclamation.

BOARD OF EDUCATION.

Third Annual Report of the Medical Officer.

The report of the Medical Officer to the Board of Education for 1910* was published on October 28th, or some five weeks earlier than its predecessor, and is divided into thirteen sections and seven appendices.

An introductory chapter points out that at a time when Parliament is devoting increased attention to the health of the people as a whole, it is particularly important that education authorities should bear in mind that the health and physical condition of the six million children on the school registers lie at the foundation of the health of the adult population. The State cannot effectually ensure itself against physical disorders unless it begins with its children, since much of the disease and physical disability among adults springs directly out of the ailments of childhood. Malnutrition, debility, dental caries, adenoids, and measles in childhood are, for instance, the ancestry of tuberculosis in the adult. The primary necessity, no doubt, is to fit the child to receive the education which the State provides, but the child's future must also be considered as a unit in the future of the State, and the whole business of inspection and treatment of school children must be viewed as an undertaking of absolute necessity if the health and physical fitness of the nation is first to be secured and then maintained. Parliament having imposed on local authorities the duty of controlling this work, their responsibility cannot be ignored, but the fact that the issues are complex and no special grant in aid is made makes their task one of much difficulty. The chief problems still remain those of administration and organization, and the work of the year has, in Sir George Newman's opinion, emphasized the point that success depends on effective co-ordination between all

*Annual report for 1910 of the Medical Officer of the Board of Education. 1911. London: His Majesty's Stationery Office. (Med. 8vo, pp. 310. Price 1s. 3d.) (Cd. 5925.)

local authorities concerned with health questions in any given area, and on all the different branches of school medical work—namely, medical inspection, medical treatment, school sanitation, provision and management of special schools for the defective, physical training and the feeding of school children—being unified under the school medical officer.

MEDICAL INSPECTION.

Except in the areas of about twelve authorities, all the work imposed by the Act and Code was carried out during the year with good and substantial effect throughout the country, while about one-third of all the authorities voluntarily undertook the intermediate inspection which will eventually be made compulsory. One of the areas in which the scheme of medical inspection fell short of the requirements was London. Despite the relatively large size of its staff of school doctors, the Medical Officer (Education) of the London County Council was only able to report that 393 out of about 925 schools had been inspected. This authority's arrangements have now, however, been reorganized, and the Board of Education anticipates that the Council in the current Code year will have placed itself in a position to fulfil its duties.

Schedule of Medical Inspection.—Some authorities have made additions to the schedule issued by the Board detailing what constitutes, in its opinion, the minimum of medical inspection; but in certain areas routine inspection of the heart, lungs, and nervous system was deemed unnecessary, and in others the inspection was judged to have been perfunctory or to have been left too largely in the hands of nurses and teachers. In all such cases the Board advised the authorities that adequate examination was necessary, and that it must be conducted by medically qualified persons.

Organization.—In 305 of the 322 local authorities the co-ordination secured between the public health service and the school medical service is satisfactory, even when both services are not directly under the same officer. Of the 995 medical officers engaged in the work, 79 are women doctors. In a gratifying number of instances the reports of school medical officers contain accounts of special investigation of sundry problems arising in school medical work.

School Closure.—The local authorities lost considerable sums of money during the year because of the relatively large number of children excluded from school on medical grounds. This number will in time, however, become substantially less, and thus directly, as well as in various indirect ways, the authorities and the children will gain by a vigilant system of exclusion.

Secondary Schools.—Statutory school medical inspection concerns public elementary schools only, but in several areas the authorities treat the inspection of secondary schools as part of their ordinary duty.

Physical Condition of School Children.

The report, while admitting that it is too early to look for any evidence of any widespread improvement in the physical condition of the children, states that encouraging signs are not lacking. It must not be forgotten that some of the most serious disabilities are the most difficult to remove. The process is necessarily slow, but realization of the result aimed at—namely, healthy childhood—can be anticipated with confidence. The suggestion that inspection is a mere collection of statistics is described as idle and irrelevant. Towards the ultimate remedy of both greater and lesser disabilities there is but one sure means of approach—namely, medical inspection conducted carefully, periodically, and systematically.

Malnutrition.—Though defective nutrition is one of the most important of all physical defects, attempts to determine its extent and causes introduce questions of much difficulty. The Board divides nutrition into four classes—excellent, good, medium, and bad. One medical officer who adopted this classification (which includes a description of each type of nutrition) found that 84 per cent. of "entrants" and 74.5 per cent. of "leavers" fell within the first two classes.

Uncleanliness.—Taking the presence of head vermin as an index of uncleanliness, the prevalence of this condition is indicated by the fact that in ten rural areas taken at random 70 per cent. of the girls were clean, as opposed to 51 per cent. in ten typically urban areas. Uncleanliness, however, has been lessened since medical inspection was introduced. At a considerable number of schools shower baths have been installed, and weekly bathing forms a definite part of the training of the children.

Defective Vision.—The important question of defective vision is receiving increased attention, and a real effort is being made in many areas to remedy the defects which medical inspection has revealed. As a rule, however, there is urgent need of much more attention being paid to the advice given by the Board in Circular 582. Provision of glasses is only the first step in treatment, and arrangements for the continued supervision by an oculist of all children with defect or diseases of the eye should form an integral part of the school medical service of each area.

Defective Hearing.—Careful examination of hearing is being made in many areas, and in some treatment is being undertaken; in others, however, the subject is being altogether neglected, and in all many deaf children remain either untreated or ineffectively treated. Greater clinical interest should, it is said, be taken in these cases, the extent of the defect being more accurately estimated, its cause more carefully ascertained, and each case duly followed up.

Adenoids and Enlarged Tonsils.—The frequency with which the existence of adenoids and enlarged tonsils are found varies greatly in different areas, such variation being probably partly due to true differences in prevalence, partly to differences of opinion as to what constitutes the condition. Hypertrophy of adenoid tissue is a condition of such moment that there should be full appreciation of what is involved in its treatment. Operation is only part of such treatment, and a gradual decline in the number of cases in which operative treatment has to be undertaken will in some measure constitute a test of the efficiency of the work done by school medical inspectors.

Ringworm.—No curtailment of this disease can be reported, partly because hitherto its prevalence has probably been much underestimated. A school medical officer should take steps to ensure that he is acquainted with every case of ringworm discovered in his area during the year, in order that he may be in a position to know what is the extent of the problem with which he has to deal: otherwise he cannot hope to exercise any effective control over the disease, nor be in a position to advise his authority. As for the ordinary duration of the disease taking seven areas haphazard, the average period of absence from school on account of ringworm was five months per child. Had the cases been more effectively treated, the period might, it is thought, have been reduced by at least one-fourth. In areas in which school clinics have been established the traditions of the out patient department should not be permitted to characterize the methods adopted; the treatment should be planned on lines which allow of careful observation and comparison of the results of different forms of treatment. In eighteen areas arrangements for *x*-ray treatment had been made, and in one of them—Bradford—there is a special *x*-ray clinic. At that place the average number of days each child was under treatment was thirty-three.

Tuberculosis.—This subject, which covers many pages, is treated under the following headings—the findings of school medical officers, existing provision for treatment, and suggestions for treatment by the local education authority. From what is said under the first heading it would appear that tuberculosis of one form or another was found in 1910 in 0.67 per cent. of routine examinations—that is to say, in children examined either because they were "entrants" or "leavers." The returns from different areas vary greatly, and the factors which may have determined these differences are considered. Under the third heading it is suggested that a separate tuberculosis register should be kept by every school medical officer, and that it should include a record of such particulars as the following: (*a*) An account of the physical condition; (*b*) the results of special tests used to confirm the diagnosis—for example, bacteriological examination of the sputum or von Pirquet's test; (*c*) any family history of tuberculosis; (*d*) the home circumstances and conditions under which the child lives; (*e*) the probable source of infection; (*f*) the state of health of other members of the family; (*g*) the nature of the treatment adopted; (*h*) results of subsequent examinations.

The general conclusions on this subject are that there are two main points which require the consideration of education authorities:

(1) The establishment of a system of detecting children suffering, or likely to suffer, from tuberculosis, and the maintenance of complete records with regard to them; and (2) the practicability of introducing a system of treatment which shall be both preventive and curative in character. *The detection of cases of the disease* is already provided for to a large extent by the arrangements for medical inspection which now exist in all areas, and all that is required in most cases is a somewhat more careful and systematic method of following up and re-examining cases reported to be affected and of recording the results of these examinations. *Preventive treatment* should include an improvement of the hygienic conditions of the schools—particularly, perhaps, as regards the ventilation and cleanliness of the classrooms—and the improvement of the general physique of the child. *Curative treatment* should consist in the adoption of one or other of such methods of treatment as may have been suggested, the selection of any particular line of treatment depending, of course, on the requirements and general circumstances of the district. It is only by some such methods as these, carefully and wisely organized, thoroughly and systematically carried out, that tuberculosis will cease to be one of the most disabling diseases of child-life and, perhaps, the most far-reaching in its results.

(To be continued.)

PRIVATE CLINICAL LABORATORIES.

A CORRESPONDENT resident in a country town recently wrote asking for information as to the best way of arranging and fitting up a small bacteriological laboratory for his own private use. As we were aware that Dr. John Elliott, of Chester, had recently fitted up such a private laboratory we asked him to write an account of his experience. With this request he has been good enough to comply as follows:

At your request I give particulars of a small private laboratory built by me some three years ago. Having found the practical working satisfactory, the following details may be of use to your correspondent.

It being obviously advisable to have a laboratory apart from a dwelling-house, and under a separate roof, mine was built in the garden adjoining the garage, so that the hot-water pipes which heated the latter could be continued through into the floor of the laboratory and supply sufficient heat for ordinary occasions, supplemented by a small Devon fireplace for use in severe weather. As the appearance of the building was of importance owing to the site, it was built in the half-timbered style by Messrs. William Browne and Sons, of Chester. Its general arrangement is shown in the accompanying ground plan.

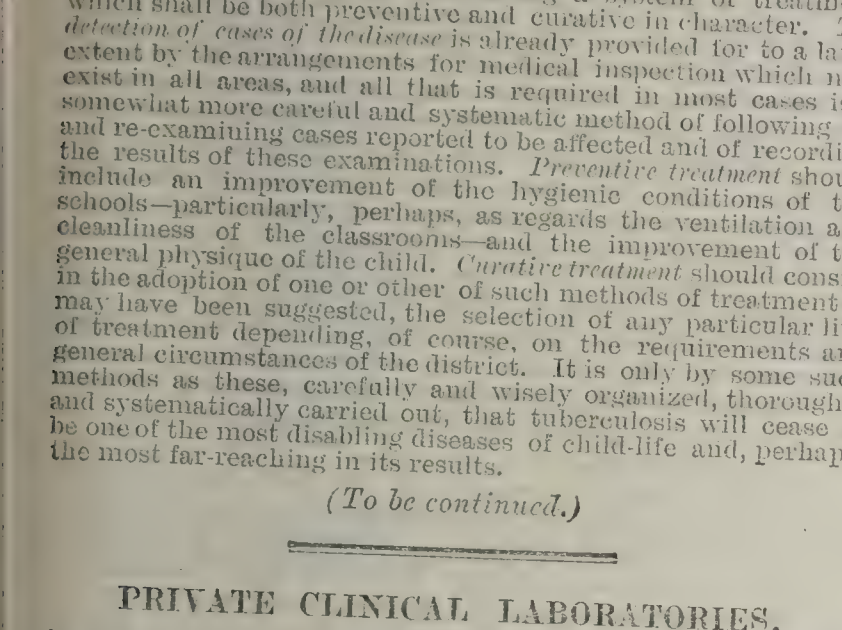

The inside dimensions are 17 ft. 3 in. by 11 ft. 7 in.; the oor is of pitch-pine wood blocks, easily polished and kept lean.

The east front is lighted by two sash windows, under hich is a teak bench 2 ft. 6 in. wide, extending the whole ngth of the wall. Inlet in this are two sinks, with ree-way water taps, and also two squares of black and hite tiles convenient for mounting microscopic specimens. hree double-way gas taps are provided on this bench. ouble tiers of shelves, with glass bases for stains and agents, occupy the intervals between the windows. Beneath the bench are drawers and cupboards. The north wall (11 ft. 7 in.) contains the door, a book cupboard with glass panels, and a plate glass casement window, under which is a drop bench of teak hinged to the main bench above described, for using the microscope with daylight illumination.

At the south end is a large sink and drainer, with cupboard underneath, and tier of shelves above for large bottles, etc., extending nearly across the wall and almost to the roof. In the angle between the south and west walls is the fireplace, with small fume cupboard above.

The west wall is occupied by a glazed earthenware bench 2 ft. wide, made by Messrs. Twyford of Hanley, with drawers and cupboards underneath. At the end of this, nearest the fireplace, is a hooded chamber with opal tiled back, resting on a pedestal of glazed earthenware for autoclave, the steam being carried away on to the roof by a pipe. Unless some such arrangement as this is provided it is impossible to get rid of the steam in a small building. Messrs. Twyford's earthenware slabs are the only satisfactory material for withstanding heat and being easily kept clean.

The balance is placed on a bracket on this wall, as also is a small bracket for holding three lotion bottles with stopcocks. At the other end of the earthenware bench is an upright rack for holding glass tubing, with compartments for various sizes, and in the angle between the west and north wall is a tall corner cupboard for coats, overalls, etc.

On the reverse slope of the roof is a large skylight, with opening panel. There is a small table, with drawer for laboratory book, stationery, etc.

The lighting is by electric light, both lighting and motor current being provided.

On the main bench stand microscope, microtome, opsonic incubator, serum inspissator, still and drying oven (combined).

Over the drainer is fixed a water centrifuge—a most satisfactory instrument. On the earthenware bench are imbedding apparatus, Hearson's electric incubator, and hot-air sterilizer.

The drawers and cupboards contain various glass apparatus, and apparatus for making media, etc.

The fittings, including gas and water fittings, were provided by Messrs. Gallenkamp, of Sun Street, Finsbury, who provided everything to scale. The whole of these have proved most satisfactory.

AUSTRALASIAN MEDICAL CONGRESS.

[FROM OUR SPECIAL CORRESPONDENT.]

THE ninth session of the Australasian Medical Congress was held in Sydney from September 16th to September 23rd, under the presidency of Dr. F. ANTILL POCKLEY. On Saturday, September 16th, the President and some of the visitors from the other States were accorded a civic welcome by the Lord Mayor, Sir Allen Taylor, at the Town Hall. In the afternoon there was a reception at the university, which was largely attended, the guests being announced by Dr. Arthur Palmer, the General Secretary, and received by Dr. and Mrs. and Miss Pockley. On Sunday there were special services in the Anglican and Roman Catholic Cathedrals, as well as special sermons in several of the churches.

FIRST BUSINESS MEETING.

On Monday there was a business meeting in the Great Hall of the university at 10 a.m. The GENERAL SECRETARY announced that the membership roll contained 816 names. Some important reports were received from committees appointed to consider special questions. At the congress at Melbourne three years ago some resolutions were passed protesting against any payments whatever being received from patients in any public hospital, and that no patient able to pay for medical treatment should be received into a public hospital. The committee appointed at that time to consider and report on hospital abuses brought up their report, and the following additional recommendations were unanimously approved.

1. That if it be found necessary by the various Governments to undertake the entire financial responsibility of the support of the hospitals, this congress affirms its strong belief that in

the interests of the sick poor as well as of the general community, patients whose circumstances enable them to obtain medical services outside the public hospitals should be excluded from the latter.

2. That this congress is strongly of opinion that it is in the best interests of the hospitals and their patients that boards of management should be retained in the event of the alteration of the present system of financial support.

It was also agreed that:

1. It is advisable that all available Australian medical data and statistics from the year 1788 be collected and summarized.

2. For this purpose a committee be appointed for each State.

3. A central committee at Sydney be established to receive the reports of the State committees, and to arrange for the publication of all matter they think of value in such way as from time to time is desirable, and to report to congress at its next session.

It was also agreed:

That this congress expresses its appreciation of the suggestion of the officer in charge of the medical branch of the Commonwealth Navy to invite discussion concerning the initiation of the naval medical service for the Commonwealth of Australia; that the letter conveyed by that officer, together with the suggestions appended, be read by the secretary of the Naval and Military Section before that section, and discussion invited; that the result of the discussion be reported to congress, and a full report and decision forwarded to the officer in charge.

CONTRACT PRACTICE.

A report was presented by the Contract Practice Committee dealing with the enforcement of a resolution passed by the congress three years ago:

That no medical man should pass for admission into any friendly society, lodge, club, or association, or private list, for professional attendance at contract rates of remuneration, any person whose income from all sources, together with that of his wife (if any), exceeds £4 per week. Further, no medical man should attend professionally at contract rates any member of any of the above-mentioned organizations whose income from all sources, together with that of his wife (if any), exceeds the sum of £6 per week.

The committee reported that in New South Wales alone had the resolutions been carried into effect, but that in Victoria recently steps had been taken with a view to the adoption of an income limit in connexion with the medical benefits obtained through friendly societies. The report was referred to a special committee to frame recommendations to be brought up for discussion at the business meeting to be held on September 23rd.

SCIENCE NOTES.

THE discovery of another skeleton dating from palaeolithic times is announced[1] by Dr. Marcel Baudoin, the General Secretary of the Société Préhistorique Française, as having been made by Dr. Henri Martin, a former President of the society, at La Quina (Charente). In that locality is a Mousterian deposit from which numerous characteristic flint implements and bones of animals have been obtained since it was first laid bare in 1872 during the cutting of a new road by the side of the river Voultron, a tributary of the Dordogne. Dr. Martin has for many years devoted all his spare time to seeking for human remains, which he was convinced must exist in this deposit, and his perseverance has been at length rewarded. They were found below the Upper Mousterian layer, and therefore are not more recent than that layer. There being no trace of a sepulture, Dr. Baudoin thinks the skeleton may have been washed there in a flood, as the river in former times was much wider than it is at present. A detailed description will be published by the discoverer, but Dr. Baudoin vouches for the position in which the bones were found, and states that the condition of the sutures and the teeth indicate that the skull belonged to an adult male of middle age, while the powerful superciliary ridges show that he was one of the race of palaeolithic men.

The latest Bulletin of the Archaeological Survey of Nubia dealing with the work from November, 1910, to February 28th, 1911, states that preliminary examinations were made of a long stretch of country to ascertain the probable position of ancient sites, and to form a rough estimate of the time to be devoted to each place. In some instances the filling of the new reservoir will flood the sites. Meanwhile excavations were pushed on in the districts of Qurta and Alaqi and in the fortress of Kubban. As the anatomical material from the sites and cemeteries excavated was not measured in the field, the whole of it was sent to Dr. Elliot Smith, F.R.S., now Professor of Anatomy in the University of Manchester, and formerly professor of the same subject in the Egyptian Government School of Medicine, Cairo. A good deal of mischief had been done in many places by clandestine searches, conducted for the most part by the smaller native boys, at the instigation of curio dealers, but many interesting finds were made which, when they have been fully examined, are expected to throw light on some of the historical and anthropological questions still in doubt. One of the most interesting objects was the gold sheathing of the wooden handle of a mace from a grave of the First Dynasty (4000 to 5000 B.C.); it is ornamented with rows of animals in very fine repoussé work; sketches reproduced in the bulletin show that the designs are very spirited and highly characteristic of each animal. It may be added that last week the University of Oxford appointed Mr. Charles L. Woolley, M.A., of New College, to be Nubian Research scholar.

In a very interesting paper by Dr. John Brownlee,[2] the relation between the mathematical theory of random migration and that of epidemic distribution is examined. It will be remembered that Professor Karl Pearson and Mr. John Blakeman in 1906[3] discussed the problems which arise in attempting to forecast the rate at which a possible habitat will be infiltrated by a species not yet established there. This problem was suggested by Sir Ronald Ross in connexion with the spread of mosquitos within cleared districts. Pearson and Blakeman, as the result of an intricate mathematical analysis, developed a "theory of random migration;" Dr. Brownlee points out the essential similarity between the problem considered by Pearson and Blakeman and that of epidemic distribution, indicates possible modifications in the algebraic form he employed in a former study,[4] and obtains expressions to represent some epidemic forms. In the concluding sections of his paper Dr. Brownlee tests his formulae upon epidemics of plague in Hong Kong and certain experimental examples of random migration, a reasonable agreement between observation and theory being obtained. Dr. Brownlee's analysis is of much interest, although its applicability to the time and space distribution of many epidemics may be somewhat doubtful. The paper is not entirely free from misprints, and at one or two points the analysis might have been given in further detail with advantage to the reader. There can be no doubt that the importance of such work as Dr. Brownlee's is becoming more apparent every day.

In another recent paper Dr. Brownlee has discussed the significance of the coefficient of correlation in the case of Mendelian distributions.[5] He shows that the value of the coefficient of correlation is materially affected by the assumptions made, and that in certain cases the discrepancy between observed and expected values can be accounted for. The subject is too technical, and its application to medical science too remote, for it to be necessary for us to examine Dr. Brownlee's paper in detail, particularly as it will no doubt be criticized and discussed by many specialists in the theory of inheritance.

A CASE of plague has occurred at the Naval Barracks, Shotley. The man was taken ill about three weeks ago, and bacteriological examination made by Dr. Heath, Deputy M.O.H. Ipswich, established the fact that his illness was due to plague. Shotley is on the south side of the Orwell near its junction with the Stour and a short distance above Harwich Harbour. The place is in the area within which plague-infected rats and other rodents were found last year. The man is isolated and is being treated in the hospital of the naval barracks, but it is thought probable that he contracted the infection when skinning a rabbit.

[1] *La Sem. méd.*, 1911, No. 41.

[2] The Mathematical Theory of Random Migration and Epidemic Distribution, by John Brownlee, M.D., D.Sc. (*Proc. Roy. Soc. Edin.*, xxxi, 1911, p. 262).

[3] A Mathematical Theory of Random Migration, by Karl Pearson, F.R.S., with the assistance of John Blakeman, M.Sc., *Drapers' Company Research Memoirs*, iii, London, 1906 (Dulau).

[4] *Proc. Roy. Soc. Edin.*, June, 1906.

[5] The Significance of the Correlation Coefficient when applied to Mendelian Distributions, by John Brownlee, M.D., D.Sc. (*Proc. Roy. Soc. Edin.*, xxx, 1910, p. 473).

GENERAL MEDICAL COUNCIL ELECTION.

As members are aware, the British Medical Association, in accordance with the scheme drawn up several years ago, took steps last July to ascertain the wishes of the Association with regard to the candidates which should be supported for election as Direct Representatives of the registered medical practitioners resident in England and Wales at the election which is about to take place for Direct Representatives on the General Medical Council. The candidates selected by voting papers at a special meeting of the Representatives of the Divisions of the British Medical Association in England and Wales held during the annual meeting at Birmingham were Dr. Langley Browne of West Bromwich, Dr. Latimer of Swansea, who have both already served a term on the Council, and Mr. T. Jenner Verrall, formerly of Brighton, now of Bath.

The following joint letter has been issued by the three candidates of the Association:

GENERAL MEDICAL COUNCIL ELECTION.

November, 1911.

Dear Sir (or Madam),

In forwarding a copy of our election address we desire to make a personal appeal for your support of our joint candidature. Two of us (Drs. Langley Browne and Latimer), in addition to our work as general practitioners and our previous experience in medical politics gained in various responsible positions in the British Medical Association, have already served for five years as Direct Representatives, and submit with confidence our record during that time. Mr. Verrall bases his claim to your support on his knowledge of the needs of the profession gained in thirty-three years of general practice, together with his long record of service in nearly every official position in the British Medical Association.

The fact that we have been chosen by the Representative Meeting of the Association from many excellent candidates to receive the organized support of the Association is to us a source of great gratification.

Though fully aware that the powers of the General Medical Council are strictly limited by Statute we feel sure that there are many occasions on which an intimate knowledge of the collective view of the profession, so far as it can be ascertained, must be of the greatest use in the work of the Council.

The Direct Representatives, whose duty it is to guard the interests of the great body of the profession, can in no better way learn the wishes of those they represent than by keeping in close touch with the policy of the Association, which is an expression of the considered opinion of the profession on all matters of medical politics.

We believe that the necessity for a solid group of representatives of the organized opinion of the profession was never so urgent as it is now. When the Insurance Bill becomes law, as it appears probable that it shortly will, problems are bound to arise on which the General Medical Council must necessarily be called upon to advise the Government or the Insurance Commissioners. It is not improbable that new questions as to professional conduct will present themselves for the consideration of the Council. In view of these possibilities, it seems to us essential that there should be on the Council representatives of the profession who may be regarded as specially accredited to support the principles underlying the programme recently formulated by the British Medical Association in connexion with the bill, and enthusiastically endorsed by the whole body of the profession.

In this, as in all matters connected with the continued improvement of the status of medical practitioners in this country, we support the most complete organization of the profession in order that its members, unhampered by unnecessary statutory restrictions, may have liberty to carry out their professional duties.

On these grounds we ask not only for your vote, but for your assistance in securing the votes of your colleagues. In the course of the next few days a voting paper will be sent you for this purpose.

We are,

Yours faithfully,

H. W. Langley Browne.
H. A. Latimer.
T. Jenner Verrall.

The following circular letter has also been issued:

BRITISH MEDICAL ASSOCIATION.

GENERAL MEDICAL COUNCIL ELECTION,

November, 1911.

Dear Sir (or Madam),

Within the next few days you will receive a voting paper for the election of Direct Representatives for England and Wales on the General Medical Council.

On behalf of the British Medical Association, we desire to place before you reasons for supporting the candidates whom the Association has decided to support—namely, Messrs. H. W. Langley Browne, H. A. Latimer, and T. Jenner Verrall. As this is the first time that the Association has selected candidates for official recommendation to the profession, it may be well to explain why it has been thought to be in the interests of the profession that the Association should take such action.

Those who have followed the history of previous elections of Direct Representatives on the General Medical Council must regret that so few have voted at these elections, and will recognize the cause of this apparent apathy. The majority of members of the profession have no opportunity of acquainting themselves with the special qualifications of the candidates who present themselves on these occasions. Until the development of the organization of the British Medical Association there were few means by which a member of the profession, especially a general practitioner, could become known to other practitioners outside his immediate neighbourhood. Through the work of the Divisions, Branches, Representative Body, and Council and Committees of the Association, these opportunities have been increased, and the organization of the Association now affords a means by which the claims of candidates can be carefully weighed, and a decision arrived at by representative members of the profession who have opportunities of forming a judgement on the subject.

It is of great importance that the Direct Representatives of the profession on the General Medical Council should demonstrably command the confidence of a majority of the profession. It has been asserted on previous occasions, and also in connexion with the present election, that the British Medical Association, or the Council of the British Medical Association, is seeking to dictate to the profession. The statement is entirely unjustified. The candidates whom the Association has decided to support were nominated, after due notice, by the Divisions, and were selected by ballot in a meeting of Representatives from all parts of England and Wales. If you should still have any hesitation as to the propriety of the action of the Association, and, therefore, as to giving your support to the candidates who have been selected by the Association, we would ask you to consider, first, whether it is desirable that there should be some organized body of members of the profession through which it can voice its opinion with some approximation to unanimity, or whether the profession must be content, as in the past, to see its opinions disregarded by the community because of the divided and discordant voices with which it appears to speak. We feel sure that your answer will be that the existence of an organization representative of the profession is desirable, and if you are of this opinion then we ask you where the profession will find such an instrument except in the British Medical Association. If you will compare the attention that has been paid by the Government, Parliament, and the public to the opinions of the medical profession as to the National Insurance Bill with the absolute disregard of professional opinion which marked the passing of the Midwives Act only ten years ago, and will remember that the difference is caused by the institution in the meantime of an organization thoroughly represen-

tative of the profession, we feel assured that you will recognize that the present appeal is addressed to you in the interest not of the British Medical Association, but of the profession as a whole.

The medical profession stands at a crisis in its fortunes, more acute and of greater importance than has ever been known in its history. It becomes evident that, apart from some event in general politics which cannot be foreseen, the Insurance Bill must shortly pass into law. Every effort has been made by the British Medical Association to secure such amendment to the bill as will, it is thought, make it possible to secure the six cardinal points laid down by the profession, and, where these cannot be absolutely secured in the bill itself, to keep the door open so that the profession shall be able to carry into effect its complete policy, including the enforcement of the £2 income limit, the principle of free choice of doctor, and freedom from friendly society control.

Although the General Medical Council will not be directly concerned in the administration of the Insurance Bill, nevertheless it is the practice of the Government to consult it as a statutory body on matters of the kind, and it is of the greatest importance that those who are elected as Direct Representatives shall be able to place before the General Medical Council the views not of any extreme section of the profession in either direction, but of the general body as elicited in a democratic and representative manner through the organization of the British Medical Association. On these grounds we ask you to secure the return of Messrs. Browne, Latimer, and Verrall by such a majority as shall justify the action of the Association in adopting these gentlemen as its candidates, and shall make clear to all those who are keenly watching events in connexion with the Insurance Bill that there is no lessening of the confidence of the profession in the organization which it has itself set up to manage its affairs.

Yours faithfully,

ROBERT SAUNDBY,
President, Birmingham.
JAMES BARR,
President-elect, Liverpool.
H. T. BUTLIN,
Past-President, London.
EWEN J. MACLEAN,
Chairman of Representative Meetings, Cardiff.
J. A. MACDONALD,
Chairman of Council, Taunton.
EDWIN RAYNER,
Treasurer, Stockport.

November, 1911.
Offices of the British Medical Association,
429, Strand, London, W.C.

THE following Officers of the Association have signed nomination papers for the three candidates supported by the Association:

Robert Saundby, M.D., LL.D., Birmingham, President.
Sir James Barr, M.D., LL.D., Liverpool, President-elect.
Sir Henry T. Butlin, Bart., P.R.C.S., Past-President.
Andrew Clark, F.R.C.S.Eng., Vice-President and Chairman Territorial Forces Committee.
Sir Victor Horsley, F.R.C.S.Eng., M.B., B.S.Lond., Vice-President.
Edmund Owen, F.R.C.S.Eng., M.B.Lond., Vice-President.
Ewen John Maclean, M.D.Edin., M.R.C.P.Lond., Cardiff, Chairman of Representative Meetings.
James Alexander Macdonald, M.D., Taunton, Chairman of Council.
Edwin Rayner, M.D.Lond., F.R.C.S.Eng., Stockport, Treasurer, Chairman Finance Committee.
Frederick Charles Larkin, F.R.C.S.Eng., L.S.A., Liverpool, Chairman Organization Committee.
Frank Montague Pope, M.D., F.R.C.P., Leicester, Chairman Science Committee.
Lauriston Elgie Shaw, M.D., F.R.C.P., Chairman Central Ethical Committee.
Edward James Domville, M.R.C.S.Eng., Exeter, Chairman Public Health Committee.
James Henry Taylor, M.B., Ch.B.Vict., Salford, Chairman Poor Law Committee.

Nomination papers have also been signed by the following:

FOR DR. LANGLEY BROWNE.

H. B. W. Plummer, M.R.C.S., M.D., West Bromwich.
J. Furneaux Jordan, M.B., B.Ch., F.R.C.S., Birmingham.
Albert Lucas, F.R.C.S., L.R.C.P., Birmingham.
James Neal, L.R.C.P., M.R.C.S., Birmingham.
Oscar B. Trumper, M.B., B.Ch., F.R.C.S., Aston Manor, Birmingham.
H. F. W. Boeddicker, M.B., M.R.C.S., L.R.C.P., Birmingham.
William McCall, M.B., C.M., Birmingham.
William Ed. Alldridge, M.R.C.S.Eng., Birmingham.
B. C. R. Aldren, M.B., Ch.B., M.R.C.S., Edgbaston.
W. Tracy Lydall, M.R.C.S., L.R.C.P., Birmingham.
E. D. Kirby, M.B., C.M., M.R.C.S., Birmingham.
A. W. Nuthall, M.B., C.M., F.R.C.S., Edinburgh.
Henry Gibbins Norris, M.R.C.S.Eng., L.R.C.P.Lond., West Bromwich.
H. Guy Dain, M.B., M.R.C.S., L.R.C.P., Selly Oak.
F. Marsh, M.B., C.M., F.R.C.S., Birmingham.
C. E. Purslow, M.D., M.R.C.P., Birmingham.
A. C. Goodwin, M.B., B.Ch., F.R.C.S., West Bromwich.
Robert Trimble, L.R.C.P., L.R.C.S., L.S.A., West Bromwich.

FOR DR. LATIMER.

Richard Nelson Jones, M.R.C.S.Eng., L.R.C.P.Lond., Swansea.
Alfred Hanson, M.R.C.S.Eng., L.R.C.P.Ed., Swansea.
Alexander William Cumming Cameron, M.B., Mast.Surg. Univ.Edin., Swansea.
Ernest Le Cronier Lancaster, M.B., Bac.Surg.Univ.Oxf., Swansea
John Saunders Hughes Roberts, L.S.A.Lond., M.R.C.S.Eng., L.R.C.P.Lond., Swansea.
William Can Humphreys, M.R.C.S., L.S.A., Swansea.
Edward Alban Evans, M.R.C.S.Eng., L.R.C.P.Lond., Swansea.
Edgar Reid, M.R.C.S.Eng., L.R.C.P.Lond., Swansea.
Richard Cogswell Elsworth, M.B., Mast.Surg., M.D.Ed., F.R.C.S.Eng., Swansea.
Daniel Edward Evans, M.B., B.S.Univ.Lond., M.R.C.S. Eng., L.R.C.P.Lond., Swansea.
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Albert Francis Blagdon Richards, M.R.C.S.Eng., L.R.C.P. Lond., M.B., Bac.Surg., M.D.Camb., Swansea.
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FOR MR. T. JENNER VERRALL.

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DR. SEIDELIN, writing in the *Bulletin* of the Yellow Fever Bureau for September, 1911, states, as regards the prevalence of yellow fever in South America, the West Indies, and adjoining areas in 1911, that no large outbreaks had occurred during the preceding few months. The general outlook, however, he considers, has not brightened, because though there has been a decrease in the total number of cases, yet others have been reported from localities that have been supposed to be free for months or years. The origin of the infection in these instances is not stated, and does not seem to have been traced. Dr. Seidelin therefore believes that the disease must be supposed to have originated on the spot, and to account for this falls back upon the continuous occurrence of overlooked cases, probably in natives, as being the only possible explanation of the facts. He thinks that there is no doubt that the prevalence of the disease continues to be much under-estimated. The bulk of this number of the *Bulletin* is taken up with a very good paper on the *post-mortem* diagnosis of yellow fever by the same author. A close perusal of this will be of great use to medical men who may have in the future to decide on the diagnosis of cases of yellow fever, especially the early ones of an epidemic.

LITERARY NOTES.

In a leading article printed in the present issue reference is made to the opinions of several writers on euthanasia. We think it possible that some may like to have the documents before them; we therefore quote two or three of what may be called the *loci classici* on the subject. Sir Thomas More, in his *Utopia*, says:

Such as be sicke of incurable diseases they comforte with sittinge by them, with talkinge with them, and to be shorte, with all maner of helpes that may be. But yf the disease be not onelye uncurable, but also full of contynuall payne and anguishe: then the priestes and the magistrates exhort the man, seinge he is not hable to doo anye dewtye of lyffe, and by overlyvine his owne deathe is noysome and irkesome to other, and grevous to himselfe: that he wyl determine with himselfe no longer to cherysche that pestilent and peineful disease. And seinge his lyfe is to him but a tormente, that he wyl not bee unwillinge to dye, but rather take a good hope to him, and either dispatche himselfe out of that payneful lyffe, as out of a prison, or a racke of torment, or elles suffer himselfe wyllinglye to be rydde out of it by other. And in so doinge they tell him he shall doo wysely, seing by his deathe he shall lise no commoditye, but ende his payne. And bycause in that acte he shall followe the counsel of the pryestes, that is to saye of the interpreters of the gooddes wyll and pleasure, they shewe him that he shall do lyke a godly and a vertuous man. They that be thus persuaded, finyshe theire lives willynglye, either with hunger, or elles dye in theire sleape without anye fealing of deathe. But they cause none suche to dye agaynste his wyll, nor they use no lesse dilygence and attendaunce aboute him, belevinge this to be an honourable deathe. Elles he that killeth himself before that the pryestes and the counsel have allowed the cause of his deathe, him as unworthy either to be buryed, or with fier to be consumed, they caste unburied into some stinkinge marrish.

Francis Bacon deals with the subject in the second book of his *Advancement of Learning*, where the following passage occurs:

Nay further, I esteem it the office of a physician not only to restore health, but to mitigate pain and dolors; and not only when sich mitigation may conduce to recovery, but when it may serve to make a fair and easy passage; for it is no small felicity which Augustus Caesar was wont to wish to himself, that same *Euthanasia*: and which was specially noted in the death of Antoninus Pius, whose death was after the fashion and semblance of a kindly and pleasant sleep. So it is written of Epicurus, that after his disease was judged desperate, he drowned his stomach and senses with a large draught and ingurgitation of wine; whereupon the epigram was made, *Hinc siggias ebrius hausit aquas*: he was not sober enouth to taste any bitterness of the Stygian water. But the physicians contrariwise do make a kind of scruple and religion to stay with the patient after the disease is deplored; whereas, in my judgement, they ought both to enquire the skill and to give the attendances for the facilitating and assuaging of the pains and agonies of death.

In his *Stones of Stumbling*, fourth edition, London, 1895, p. 4 et seq., the Hon. Lionel A. Tollemache, after referring to what we venture to think is a greatly exaggerated description of the "last agony" in a particular case, says:

"If a summary remedy could be applied to this suffering, there would be the further advantage that persons of a morbid and brooding nature might gain confidence through life, and that, knowing that death would be deprived of its sting, they would have a sort of negative stimulus, or (if I may so say) an antipreventive to exertion. Then, again, we must consider the friends who, besides the immediate suffering of nursing the sick man, often permanently impair their constitutions and nervous systems, and who, moreover, are thus exposed to a sort of moral suicide; I mean, they curtail their own powers of usefulness far more than a dose of laudanum would curtail those of their dying friend. It should also be observed that if, on these accounts, the legalizing of a modified *Hari-kari* in England be reckoned a good, the good would in each case be much increased by the force of example; each person who availed himself of the new method of giving relief to himself and his friends would be doing what in him lay to break down the old prejudice, and to make the proceedings, so to say, fashionable, and would thus be a public as well as a private benefactor. On the whole, it cannot be doubted that the benefits resulting from a change in the law would be simply enormous; so that, unless a yet more enormous advantage can be shown to follow from obliging the sufferers to die in agony, the Euthanasiasts must be admitted to have gained the day. The *onus probandi* clearly rests with the opponents of the scheme.

Mr. Tollemache seems to think that the office of executioner in cases of hopeless disease would bring a medical man more glory than the victorious fighting man now enjoys. Under the proposed scheme, he says, the case of doctors, so far as it would differ from the case of soldiers, would differ for the better.

For the doctors would be acting under legal sanction; their conduct in each case would be liable to public criticism; while on the other hand, it would be comparatively seldom that they would have to shorten life, and when they did shorten it, their motives would be the very kindest. Indeed, it may well be doubted whether less harm would not be done both to the doctors and to the public by the former being allowed to grant the incurable sufferer a willing release, than by their looking passively on, and often even using their skill to lengthen his pain.

Mr. Tollemache seems to be aware that he is proposing to invest the doctor with a formidable authority which might be liable to abuse. He therefore suggests the following precautions:

Why should not precautions be taken similar to those which are required in order to put a lunatic under restraint? It might be held requisite that the doctor should always be present at the final scene; and, if that was not a sufficient safeguard, the law might provide that a given number of respectable persons (say householders) should be witnesses, including, perhaps, some policeman or magistrate. Why should it not be part of the recognized duty of the incumbent of the parish to be present?

There is a grim humour in the proposal that the policeman should, as it were, superintend the carrying out of euthanasia by the doctor; and the whole tone of the essay gives us the impression of an ingenious paradox rather than a reasoned opinion.

In his *Recollections of Past Life* Sir Henry Holland relates that Mehemet Ali, whom he visited, brought the conversation round to poisons. It ended by Mehemet Ali asking him point blank whether he knew of any poison which, put on the mouthpiece of a pipe, or given in coffee, might slowly and silently kill, leaving no note behind. Holland instantly answered that "as a physician he had studied how to save life, not destroy it." This reply, he added, was probably faithfully translated to Mehemet Ali, for he dropped the subject abruptly, and never afterwards reverted to it. Desgenettes, when it was suggested to him by Napoleon that he should poison the plague-stricken soldiers at Jaffa, curtly answered that it was his business to prolong life, not to kill.

In connexion with the subject of death we may quote some lines from Newman's *Dream of Gerontius* which seem to us to express what may probably be the sensation of passing out of life into death. The dying man knows he is near to death—

> Not by the token of this faltering breath,
> This chill at heart, this dampness on my brow,

but by the feeling which he describes as—

> This strange innermost abandonment
> * * * * * *
> This emptying out of each constituent
> And natural force by which I come to be.
> * * * * * *
> As though my very being had given way,
> As though I was no more a substance now,
> And could fall back on nought to be my stay.
> * * * * * *
> And turn no whither but must needs decay
> And drop from out this universal frame
> Into that shapeless, scopeless, blank abyss,
> That utter nothingness of which I came.

Again—

> I can no more; for now it comes again,
> That sense of ruin, which is worse than pain,
> That masterful negation and collapse
> Of all that makes me man; as though I went
> Over the dizzy brink
> Of some sheer infinite descent;
> Or worse, as though
> Down, down for ever I was falling through
> The solid framework of created things,
> And needs must sink and sink
> Into the vast abyss. And, crueller still,
> A fearsome restless fright begins to fill
> The mansion of my soul. And, worse and worse,
> Some bodily form of ill
> Floats on the wind, with many a loathsome curse,
> Tainting the hallowed air, and laughs and flaps
> Its hideous wings,
> And makes me wild with horror and dismay.

This is death with all the accompaniments of what Maeterlinck would call superstitious fear; this is the "death agony" described with a master hand. That it sometimes occurs we all know, but its rarity is shown by the statistics elsewhere quoted from Sir William Osler.

British Medical Journal.

SATURDAY, NOVEMBER 4TH, 1911.

INSURANCE BILL: SPECIAL REPRESENTATIVE MEETING.

THE official notice summoning a Special Representative Meeting for the consideration of the position with regard to the National Insurance Bill is published in the SUPPLEMENT, and is accompanied by a note from the Chairman of Representative Meetings briefly explaining the circumstances which have made it necessary to leave the actual date indeterminate. The instruction given to the Council was to summon a meeting of the Representative Body in the interval between the end of the Committee stage of the bill in the House of Commons and the beginning of the Report stage. The arrangements made by the Government and sanctioned by the majority in the House of Commons settle the number of days to be allotted to the consideration of the remaining clauses of Part I of the bill and the new clauses, including that constituting Medical Committees, but in Parliamentary business as in other human affairs it is often the unexpected which happens, and it is not possible to make a calculation of dates which will be absolutely accurate. Our Parliamentary Correspondent points out that the Committee stage may be finished by November 21st, and that the Report stage may be begun on November 26th or 27th. As five days are to be given to this stage, the bill might on this calculation be sent to the House of Lords on December 4th. These calculations may easily be upset, and it has therefore been considered prudent to specify a series of dates in the formal notice, so that, whatever happens with regard to business in the House of Commons, the requisite meeting of the Representative Body may take place in the interval, whenever it falls, between the end of the Committee stage and the beginning of the Report stage. Many protests have been made from many sides against the haste with which the bill is being pressed forward, but they have been unavailing to shake the resolution of the Government, which in the present state of political parties is omnipotent. The Association is therefore compelled to adapt itself to the political circumstances.

In the SUPPLEMENT will be found also a special report by the Council to the Divisions on the present situation. With two matters of particular importance to the profession it cannot deal, since they have not yet been reached in the discussion of the clauses in Committee of the House of Commons. These are the constitution and powers of the local Health Committees and of the local Medical Committees. The clause constituting the latter is a new clause, and will not be taken before the fourteenth appointed day, since all new clauses will be taken only after all the clauses of the bill as originally drafted have been disposed of. A further report dealing with these clauses and summing up the general position will be prepared by the State Sickness Insurance Committee on behalf of the Council, and issued before the date of the Special Representative Meeting. But, as we ventured to say last week, the time for consideration must necessarily be short, and it would seem, therefore, to be the duty of the Divisions to make arrangements to summon meetings of the profession at short notice.

THE TREATMENT OF GLAUCOMA.

GLAUCOMA is a disease which has always loomed very large in ophthalmic surgery. Before the days of von Graefe and the introduction of the ophthalmoscope scarcely anything was known about it, people went blind from the chronic form of the disease, and there was nothing externally to show what was the cause of it; the pupil certainly was somewhat enlarged and the anterior chamber was shallow, but this was little enough to give a clue to the cause of the loss of sight which so surely accompanied the condition. Then came the ophthalmoscope, which showed the cupping of the disc, while the tension was known to be raised. It became apparent that increased tension of the eyeball was an essential part of the condition. About 1855 von Graefe made the brilliant discovery that the tension could be reduced by iridectomy, and since that time and until quite recently it has been the sole operative treatment for glaucoma, acute and chronic. In recent years, however, other operations have been introduced, and it was with a view of gaining fresh information that the operative treatment of glaucoma was chosen as one of the subjects for debate and discussion in the Section of Ophthalmology at the Annual Meeting of the British Medical Association in Birmingham this year. The meeting attracted the attention of many distinguished ophthalmic surgeons, and the discussion was full of interest for all medical practitioners. In glaucoma no one is looked upon as a greater authority in this country than Mr. Priestley Smith, and it is not surprising that in his own city he should have been selected as the most fitting person to open the discussion. His method of doing it was, as always is the case with him, clear and to the point, and he once more impressed those who listened with his unimpeachable scientific honesty and his care to state nothing as a fact that has not been proved beyond doubt. He indicated carefully and fully the lines which the discussion might most profitably take. The purpose of operation he held to be the establishment of filtration of fluid from the eye; either normal filtration should be restored or abnormal filtration established. Posterior sclerotomy, posterior trephining and tapping of the anterior chamber as means of reducing the tension, he said, had been proved to be only of a temporary effect. With the aid of a series of lantern slides, he showed the anatomical relations at the seat of operation, and said that the object of iridectomy was the restoration of the normal outlet of aqueous fluid which it secured in the greater number of acute cases. In a few cases usually termed "malignant" this happy result was not obtained. He had, however, never seen this state of affairs if, previous to the iridectomy, a posterior scleral puncture had been done which slackened the tension of the eye, lessened the risk of a sudden loss of tension when the incision was made, and made the iridectomy easier to perform. If the normal outlet could not be re-established, then an artificial outlet by means of cystoid scars could be produced, and in chronic glaucoma this was a very important point; while in acute glaucoma it was possible to reopen the filtration angle, in chronic glaucoma adhesions often rendered this impossible. The idea of securing abnormal filtration, he said, was not new, for de Wecker had recog-

nized its importance, but of late years very valuable work had been done by Herbert, Lagrange, Elliott, and Freeland Fergus. These investigators had introduced a series of well-thought-out operations among which it was possible to choose. His own experience had been confined to Herbert's wedge operation, a modified sclerectomy, and the results were all he could desire. He still thought that for early acute glaucoma iridectomy was the best and most successful operation, but for chronic cases he looked with great favour on the production of an artificial route of filtration, and thought the effect was superior to iridectomy.

Mr. Priestley Smith was followed by Major Elliot, I.M.S., who is an enthusiastic advocate of simple trephining for glaucoma. He admitted, however, that the operation was still on its trial; but he brought forward a sufficient number of cases operated on by him in Machao from which to draw some very definite conclusions.

By the term "simple trephining" he means a direct entry into the aqueous chamber with a minimum of interference with the iris or ciliary body. The object of the operation is to establish a continuous drain from the aqueous chamber into the subconjunctival space. He described in detail the method of performing the operation, the essential thing being to get far enough forward; in fact, he splits the cornea to the extent of 1 mm. in order to get the trephine well forward and clear of the iris and ciliary body. Out of 278 cases, in only 13 was it necessary to repeat the operation, and all of these were unfavourable cases, and were done before the operation had been perfected. He thoroughly approved of the operation in acute glaucoma, and considered it safe and satisfactory. It relieved many cases of absolute glaucoma, and it was always possible to obtain pitting with the end of a probe over the seat of operation if drainage was efficient. He did not consider that sepsis was possible if the wound were covered with a conjunctival flap.

Colonel Herbert's selerectomy for making a filtering scar had been tried far more extensively than trephining, and the results have been very satisfactory, but, owing to the much smaller space for filtration, it had to be repeated in some cases. The great advantage of this operation consists in the fact that, as no tissue is removed it is quite easy to repeat it, and if an iridectomy is thought desirable it is as easy to do it as if nothing had before been attempted. Mr. J. Gray Clegg, who has done many trephinings, was fully persuaded that the results were excellent. Many others took part in the discussion, which is reported elsewhere in this issue, but the general feeling of the meeting has been sufficiently indicated. It is noteworthy that not a single speaker objected to an operation designed to obtain a filtering scar, particularly in chronic cases, and in those of secondary glaucoma, for all knew by experience how unsatisfactory iridectomy is, especially in the latter class of case. It may safely be said that the majority still maintained that in acute cases iridectomy held its own, though it was easy to see that a fair number of surgeons were inclined to view with favour one or other of these new operations even in these cases.

It is as yet too early to express any confident opinion on the question of which operation is the best. All have ardent advocates, and it is pretty evident that operations which have for their object a filtering scar have become established. Doubtless there are many surgeons who hearing the experience of others will be inclined to introduce the method into their own practice.

Modern ophthalmology owes a considerable debt of gratitude to those members of the Indian Medical Service who have devoted so much time and energy to the development of new methods. Their experience is enormous, the amount of material at their disposal is unequalled anywhere, and the names of men like Elliot, Herbert, Smith, and others, will be handed down to posterity as real pioneers in the art of ophthalmic surgery. These men are able to do more operations in a single day than most English surgeons would do in a year. Smith has already done upwards of 25,000 cataract extractions, and 50 or 60 in a day is no uncommon experience for him and for others too. The meeting of the Section of Ophthalmology this year was one of the most important that has ever been held, and we look forward with confidence to the beneficial results which must ensue when such experienced men as these take the trouble to come so far, and to freely give the results of their experience to the profession at large. They are keen to tell us at home what they are doing abroad, and they issue broadcast invitations to surgeons to visit them in India; not only does the visitor have the benefit of seeing their enormous practice and the work done there, but they are always ready to superintend and to allow surgeons of repute to work in their clinics, and thus in a few weeks to gain an experience which in their own hospitals at home would take years to win.

We feel that the profession at large owe to them a debt which can scarcely be repaid, while the officers of the Section, under the presidency of Mr. Henry Eales, are sincerely to be congratulated on the excellent way in which they organized the meetings of the Ophthalmic Section.

THE RIGHT TO DIE.

During the last few years the question of euthanasia has been the subject of frequent discussions in the press. These have almost invariably borne witness, more or less eloquent, to the neurasthenic sentimentalism which is one of the characteristics of the day. We have ourselves so often dealt with the matter that we have nothing to add to what we have already said. As, however, the question has quite recently been raised anew by so distinguished a writer as M. Maurice Maeterlinck, whose little book, entitled *Death*,[1] is receiving some attention in the press, we feel compelled to return to the subject.

The question is by no means new. More, in his *Utopia*, expressed the opinion that a man suffering from disease incurable and painful should, with the sanction of the Church and the Law, be allowed to "dispatche himselfe out of that payneful lyffe as out of a prison, or a racke of tormente, or elles suffer himselfe wyllinglye to be rydde of it by other." It may be doubted how far so staunch a Catholic as More was here expressing his serious opinion. In any case he does not say how, or by whom, the happy dispatch is to be accomplished. Francis Bacon is more explicit: he puts the duty on the doctor. He says plainly that in his judgement physicians "ought both to enquire the skill and to give the attendance for the facilitating and assuaging of the pains and agonies of death." In an essay entitled The Cure of Incurables, which first appeared in the *Fortnightly Review* for February, 1873,[2] Mr. Lionel Tollemache pleaded strongly for the deliberate slitting of the thread of life in a patient who appears to be doomed to death. He contended that a modified *hari kari*

[1] Methuen and Co., Limited, London. 1911.
[2] Republished in *Stones of Stumbling*, a fourth edition of which was issued in 1895.

should be made lawful in England, adding that "On the whole it cannot be doubted that the benefits resulting from a change in the law would be simply enormous."

Five years ago, as the outcome of an agitation set on foot by Miss Anna S. Hall of Cincinnati, the Ohio Legislature passed a bill providing that when a person is afflicted with an incurable malady accompanied by great pain and suffering, he may at his own request cause to be summoned a board of physicians, not less than four in number, who shall decide whether it is right that what Lady Macbeth calls "the shortest way" should be taken to end his torture. A similar bill was submitted into the Iowa State Legislature by Dr. R. H. Gregory. We have no positive knowledge on the subject, but as nothing more seems to be heard of these bills, we are inclined to believe that they have been quietly disposed of by the process of euthanasia, which is often the fate of legislative "freaks."

M. Maeterlinck's plea for euthanasia, therefore, has not even the merit of novelty. When he says: "Whereas the sicknesses belong to Nature or to life, the agony which seems peculiar to death is wholly in the hands of men. Now what we most dread is the awful struggle at the end, and especially the hateful moment of rupture which we shall perhaps see approaching during long hours of helplessness and which suddenly hurls us disarmed, abandoned and stripped into an unknown that is the home of the only invincible terrors which the human soul has ever felt," he seems to us not to have thought out the matter on which he has undertaken to enlighten mankind. While professing to have got rid of all old superstitions, he is still under the thraldom of a word. "Agony," of course, primarily means struggle, and in a secondary sense it has come to mean pain. To the older writers the death agony was the final struggle of the soul leaving the body, and by a confusion of thought due to the acquired meaning of the word, it has come to be generally believed that the parting of the spiritual from the material part of man is painful. Those whose lot it has been to stand at many deathbeds, know that this is not generally the case. Sir William Osler in his essay, *Science and Immortality*,[8] says that he has careful records of about 500 deathbeds, studied particularly with reference to the modes of death and the sensations of the dying. Of these, 90 suffered bodily pain or distress of one sort or another; 11 showed mental apprehension, 2 positive terror; 1 expressed spiritual exaltation, 1 bitter remorse. The great majority gave no sign one way or the other. Nature mercifully lulls the senses and deadens the consciousness of the dying, so that they,

> craving nought nor fearing,
> Drift on through slumber to a dream and through a dream to death.

M. Maeterlinck seems to some extent to be aware of this, for he says that at the hour of death "The sensibility . . . is already greatly blunted and perceives no more than the distant murmur of the sufferings which he seems to be enduring." With glaring inconsistency, however, he goes on to say: "All the doctors consider it their first duty to protract as long as possible even the most excruciating convulsions of the most hopeless agony." Fortunately, the "excruciating convulsions" are, as a rule to which there are very few exceptions, mere figments of the poetic imagination, and one is therefore moved rather to a smile than to tears by the pathetic appeal which follows: "Who has not at a bedside twenty times wished and not once dared to throw himself at their feet and implore them to show mercy? They are filled with so great a certainty, and the duty which they obey leaves so little room for the least doubt, that pity and reason blinded by tears curb their revolt and shrink back before a law which all recognize and revere as the highest law of human conscience." We are somewhat confused by this torrent of words, but we take M. Maeterlinck to mean that doctors should "show mercy" and not prolong a "hopeless agony." M. Maeterlinck seems to think that the issues of life and death lie wholly in the hands of the doctor. He would have the patient left to his fate, if not actually killed, when the disease appears to be beyond the resources of medical art. Yet who can say with absolute certainty in a given case that a patient is doomed? Let us say that the case is one of cancer, certified as such by all the scientific tests available, and in a situation that makes the disease past all surgery; even then there is always the chance, though indeed a very slender one, that the disease may be cured or arrested by some process of which as yet we have not been able to wrest the secret from Nature. Cases of this kind have been recorded by trustworthy authorities. Again, there is the possibility that the diagnosis may be wrong. In a letter to the *St. Louis Medical Review* of March 3rd, 1906, Mr. Edmund Owen relates two cases which we would ask the advocates of euthanasia to ponder in their hearts. One was that of a sailor with a large and rapidly growing tumour in the right iliac fossa, whom he saw at St. Mary's Hospital. "It was evidently an osteo-sarcoma starting from the sacro-iliac synchondrosis." It could be seen bulging in the groin. It could be felt through the iliac fossa and through the rectum. It was as hard as a board. "There was pressure on the bowel, on the upper sacral nerves, on the iliac vessels, on everything." All Mr. Owen's colleagues agreed that it was as sad and hopeless a case as ever they had seen. Nothing could be done, and the man was sent home to die. It must have seemed that there, if ever, was a case for euthanasia. Several years afterwards an old student, going round the wards with Mr. Owen, asked if he remembered the case. Mr. Owen said he did, and inquired what the autopsy had revealed. "Oh," said the visitor, "the man is not dead yet. He rowed me about all the holidays, which I spent off Cornwall deep-sea fishing." It appeared that some weeks after he had been discharged from St. Mary's an abscess formed in the loin, and an inch of wire of the gauge of an ordinary steel penholder came out, and after that he steadily got quite well. The man then remembered that very many months before the lump first appeared he was making a wire fence in Australia, and that the ends of the wire were put into a water bucket, and that as he was drinking out of the bucket he swallowed a bit of the metal. But he had forgotten all about the incident until the bit came out! The other case was that of a married woman with a husband absolutely dependent on her. She was thought to have cancer of the stomach and the surgeons at the hospital considered the diagnosis to be beyond all doubt. Accordingly the abdomen was opened and when the small end of the stomach was dragged towards the wound, there was the mass as hard as ever a cancer of the pylorus could be. An anterior gastro-enterostomy was done and a gloomy prognosis given to the husband. The result, however, was that from having been a great sufferer the woman gradually became a healthy woman, and in the following year won a tennis tournament. This was also a case in which

[8] London: Archibald Constable and Co., Limited. 1904.

M. Maeterlinck would have thrown himself at the feet of the surgeons and begged them to "show mercy."

There are diseases in which a confident prophecy is still more likely to discredit the scientific oracle. We call to mind a case of advanced Bright's disease in which the patient, having exhausted the learning of the faculty in vain, was at last told that his condition was hopeless. This, too, was a case in which the doctors should, according to M. Maeterlinck's teaching, have medicined the sufferer to the sweet sleep of death. The patient, however, threw physic to the dogs, and determined to eat, drink, and be merry during the short time left him. He lived thus nearly a score of years. Another case was that of the chaplain of a hospital, who, feeling the dart of Cupid, determined to enter the holy estate of matrimony. Before taking this momentous step he thought he should take the precaution of insuring his life. More than one company to which he applied refused to take the risk on any terms, as he was found to have serious valvular disease of the heart. He thereupon applied to the governing body of the hospital for a pension, and they, thinking that he could not possibly burden their finances very long, granted him one on a liberal scale. This he enjoyed for forty years! A little trouble would enable any one to compile a long list of invalids condemned by doctors to an early death, who lived to achieve greatness in various walks of life. All these, too, if M. Maeterlinck's doctrine were accepted, would have been given a swift and easy passage behind the veil. It is precisely the man who knows most and has had the largest experience that is least ready to dogmatize as to the outcome of a given case, even though it be cancer.

As a proof of the danger of the doctrine of euthanasia we may refer to a case in which, as we read in the *Medical Record* of September 30th, a member of a Shaker colony in Florida was put to death by means of chloroform at her own request. She wished to die because she was suffering from tuberculosis. The autopsy, however, showed that the lungs were but slightly affected, and that the woman was otherwise in good condition. The coroner's jury returned a verdict of murder against the head of the colony.

M. Maeterlinck foretells that "a day will come when science will turn against its error and no longer hesitate to shorten our misfortunes." For our part we confidently predict that so long as the profession of medicine keeps its present high standard of duty doctors will absolutely decline to act the part of executioners. The very reason of their existence is the prolongation of life, and if they allowed themselves to become the instruments of murder on any pretext, however plausible, they would justly lose the confidence of the public. If it were to be made a part of the doctor's duty to hasten a man's passage into the other world, his very presence would necessarily be associated with the idea of death. He would enter the sick-room, into which he should bring life and hope, with the dark shadow of death behind him.

The suggestion that the patient himself should be allowed to take his quietus is in the highest degree antisocial. If, for the sake of argument, it be granted that it is lawful for a man to shorten his life by way of escape from suffering, it would be impossible to limit the application of the principle. If a man is to be encouraged to take his own life when he is ill, it must necessarily follow that people suffering from the pangs of despised love, the loss of fortune, or anything else that seems to make life unbearable, should be allowed to do the same. The result would be, in this age of hysteria and overstrained nerves, that suicide, which in some countries is already too common, would become a matter of everyday occurrence, and there would be suicide clubs like that imagined by Robert Louis Stevenson, and institutions such as "L'Endormeuse," described by Maupassant, in which any one tired of life could get rid of it in the easiest way amidst flowers and to the accompaniment of slow music. It is outside our province to rehearse the moral arguments against suicide; we are merely indicating a few of the consequences that would follow the legalization of self-murder.

What is absurdly called "the right to die" is a question that stands on a somewhat different footing. Mrs. Flora Annie Steele, writing in the *Daily Mail*, puts the case thus: "Let us take that crux of the question—cancer in its hydra-headed forms. A patient is unable to swallow; he is in the last stage of emaciation; twenty-four hours more would inevitably bring him death's adventure by exhaustion—a painless, quiet passage. The surgeon, intoxicated by his own skill, makes a hole in the stomach, prolongs life for a time, and gives the patient an agonizing death." Mrs. Steele holds that the surgeon has no moral right to do this. In this we fully agree with her, but had she taken the trouble to inquire into the matter she would have learnt that, apart from any question of humanity, no surgeon who values his own reputation would operate in such a case. Except in an emergency, such as strangulated hernia, where an operation offers the only chance of life, no surgeon, however "intoxicated by his own skill," would make his statistics a mere list of deaths by performing what would virtually be euthanasia. On the general question of prolonging life, when there is a probability that it may be extended for months or even weeks, we are absolutely opposed to what we understand to be Mrs. Steele's contention. Even the lengthening of a man's life by a day may make death easier by giving him the opportunity of soothing a guilty conscience, of signing a will, of redressing an injustice, of healing a breach of friendship the memory of which might embitter another life, of saying farewell to a son or daughter who had come in haste from a great distance. Any one who has seen deathbeds knows how anxieties of this sort may darken the last hours, and how their removal may reconcile the sufferer to death. It seems to us that this talk of the right to die and the wrong-doing of doctors in seeking to prolong a life that is hanging by a thread springs from the unwholesome sentimentalism and the inevitable accompaniment of selfishness which are among the unhappy notes of the present time. The sight of pain is distressing; therefore let the suffering person be got rid of. That is really what the whole thing comes to.

As for the "right to die," it is allowed by all doctors and exercised by all patients who wish to do so. Dr. Johnson, who feared death as much as any man of whom there is any record, when told that his end was near, refused the opiates to which he had been accustomed. Astley Cooper, when told that he was dying, declined to take any more medicine. No one—in this country at least—is bound to submit to operation or any other treatment. The "Peculiar People" and the "Christian Scientists" avail themselves of the "right to die" without let or hindrance as long as they confine the exercise of that right to themselves. But this does not touch the cardinal principle expressed in the Hippocratic oath—that the doctor, whatever the circumstances, must "give no deadly medicine to any one, even if asked, nor suggest any such counsel."

GENERAL MEDICAL COUNCIL ELECTION.

THE British Medical Association, in accordance with the scheme drawn up and approved by the Representative Meeting some years ago, has been able this year to take steps to place it within the power of members of the Association to select from a list of possible candidates nominated by the Divisions of the Association those three gentlemen who in the opinion of the majority of the Representatives voting were best qualified to represent the registered medical practitioners of England and Wales on the General Medical Council. The result of the vote taken at the special meeting of the Representatives of England and Wales held during the annual Representative Meeting in Birmingham last July was that Dr. Langley Browne and Dr. H. A. Latimer were selected for nomination by the Association for re-election, and Mr. T. Jenner Verrall for nomination for election as the additional representative granted to the registered medical practitioners in England and Wales by the Privy Council in compliance with the request of the General Medical Council. Drs. Langley Browne and Latimer and Mr. Jenner Verrall have been duly nominated, and we reproduce elsewhere the names of some of those who have signed their nomination forms. We are also enabled to reproduce a joint letter signed by the three candidates and a circular letter in support of their candidature which has been signed by the President, President-elect, and Past-President of the British Medical Association, by the Chairman of Representative Meetings, the Chairman of Council, and the Treasurer. All three candidates are or have recently been in general practice, and the force of the statement in their address that during the proceedings of the General Medical Council there are many occasions on which an intimate knowledge of the collective view of the profession must be of the greatest use in the work of the Council will, we believe, generally be appreciated by the profession. Their further statement that they support the most complete organization of the profession in order that its members, unhampered by unnecessary statutory restrictions, may have liberty to carry out their professional duties, will find an echo in the heart of every medical man. We would venture again to point out that at this election, more perhaps than on any previous occasion, there is an obligation on every member of the profession in England and Wales to vote. Hitherto more than one-half of those qualified to vote have not made use of their franchise, and the failure of so many to realize the responsibility to their profession placed upon them by the State has given a handle to those who are inclined to make capital out of the alleged apathy of the profession. It is to be hoped that a large poll at this election will afford fresh evidence that this apathy, the extent of which has probably always been exaggerated, no longer exists. The last day for the receipt of nominations for the election of Direct Representatives on the General Medical Council was Wednesday, November 1st. The English Branch Council met on Thursday, November 2nd, and the scheme submitted to it was that the voting papers should be issued on November 7th, that the last day for their return should be November 15th, that the counting of the votes should take place from Thursday, November 16th, to Saturday, November 18th, and that the result of the poll should be declared on Monday, November 20th. In Scotland Dr. Norman Walker has been returned unopposed.

THE ANNUAL MEETING, 1912.

THE Council of the British Medical Association at its meeting on Wednesday approved a report from the Arrangements Committee recommending that the annual meeting of the Association next year at Liverpool should extend from Friday, July 19th, till Saturday, July 27th. The Annual Representative Meeting will be held on Friday, July 19th, and Saturday, July 20th, and the following days as may be necessary. Sir James Barr, who will take office as President at this meeting, will deliver his presidential address on Tuesday, July 23rd, and the sectional meetings will take place on Wednesday, Thursday, and Friday, July 24th, 25th, and 26th. It has been arranged that there shall be twenty sections, and preliminary particulars with regard to their constitution will be published in an early issue.

PROFESSOR BERGSON'S LECTURES ON THE SOUL.

FROM the point of view of attendance the course of lectures concluded by the author of *L'Evolution créatrice* at University College on October 28th may certainly be accounted an unqualified success. It may perhaps be open to question whether pure enthusiasm for the cause of philosophy had as much to do with the size of the audience as natural curiosity to see and hear a distinguished and justly famous man. Professor Bergson has, however, the great, and among speculative thinkers rare, merit of being always intelligible; his language has force and charm, and his topic—the nature of the human soul, its essential characteristics, and the right mode of representing the action of mind on things in general—was one whose appeal must be of vital concern to all. An *entente cordiale* between positive science and speculative thought upon such high matters may well be hoped to be one of the benefits that the twentieth century has in store for us; from this point of view the widespread interest that Professor Bergson's works have aroused has a significance that should not be overlooked. Leibnitz, who combined the highest functions of the philosopher and the scientific discoverer, clearly foresaw two hundred years ago that intellectual dualism would be the inevitable outcome of the revival of learning and also the creation of two opposing systems, the one based on observation and induction, the other on abstraction and deduction: the one believing in the truth of the senses, the other in that of self-evident thought.[1] Despite his own attempt at a reconciliation, the breach continued to widen and deepen until near the end of the nineteenth century, and still appears to many of us unbridged. Professor Bergson is a frank opponent of the doctrine of psycho-physical parallelism, which he regards as in reality a metaphysical contention having no adequate experimental basis, however justifiable as a convenient working hypothesis. He ascribes to our inner life (mind or soul) an independent reality, and attributes the contradictory results of previous investigations to the misuse of such inadmissible categories as "unity," "multiplicity," etc., which have meaning only in regard to material things. Our intuitions regarding the soul cannot enter into the framework of everyday conceptions, classifications evolved for utilitarian and practical ends. The soul, he says, is not a thing but a movement, continuous, indivisible, neither one nor many. He regards positive thought as a faculty evoked by material necessities and, for speculative uses, initiated by a habit of breaking the free movement of life into a series of immobilized "states." Professor Bergson does not believe that the cerebral functions are the equivalent of the mental life. He cited cases in support of his contention that the whole of our past is present *en bloc* in the mind of each of us. The brain, as related to mind, he regards as a screen permitting to pass just those recollections which occasion enquiries. As related to the outer world it is, he says, the organ of sense, movement, and habit formation. He compares the brain or, more generally, the body to the point of a knife of which the soul or mind is the blade, or to the prow by means of which the vessel of life penetrates the billows of reality. In order to render conceivable the interaction of mind and body it is obviously necessary to conceive their natures as having something in common; the action of bare consciousness on bare matter seems quite out of the question. To meet this difficulty Professor Bergson suggests

[1] Cf. *Leibnitz*. By John Theodore Merz, page 182.

that mind may be conceived as in some sort extended, and even that matter may possess memory of a rudimentary kind. He regards life as a product of the entrance of soul or will into matter. The former, by attuning itself to the rhythm of material things, is, he believes, enabled to dominate them to a certain extent, and meanwhile to achieve for itself that definite individualism which it could not otherwise attain.

EPIDEMIC PARALYSIS (POLIOENCEPHALOMYELITIS).

We publish this week papers giving in considerable detail accounts of the outbreak of acute poliomyelitis (polioencephalomyelitis) in parts of Devonshire and Cornwall. Dr. Soltau has been able to obtain records of 73 cases in the three adjacent towns of Plymouth, Stonehouse, and Devonport having a population approximating to a quarter of a million. Though the majority of the cases occurred in children, a considerable number of adolescents and adults were attacked, as was the case also in Cornwall. Dr. Soltau records 6 fatal cases, the youngest aged 7 months, and the eldest 17 years; this is a mortality of 8 per cent.; complete recovery occurred in 7 cases, or 10 per cent. In all other cases more or less paralysis remained. Drs. Gregor and Hopper state that 42 cases are known to have occurred in Cornwall, and give particulars of 21. The disease seems to have been first recognized in a small town, the sanitary condition of which it would appear leaves much to be desired; nine of the cases recorded occurred in this town. The ages ranged from 10 months to 50 years; there were five deaths among the 21 cases, and all the 4 cases of the encephaloid type, 2 of them in adults, were fatal. Dr. Moss-Blundell records a striking outbreak in a small village in Huntingdonshire; 12 cases occurred between August 21st and October 20th. He also gives records of 3 other cases in a neighbouring village, and, as already stated, cases have occurred in Cambridgeshire, and also, we understand, in Bedfordshire. Last year, as was recorded in our columns at the time, so many cases occurred in Edinburgh between August and October that the disease was described as epidemic, and, as in the outbreaks elsewhere this year, some cases presented typical and unusual symptoms, cerebral disturbances having been comparatively common. Dr. Myer Coplans, Demonstrator of Bacteriology and Public Health in the University of Leeds, informs us that he has for some little time been engaged in investigating certain outbreaks in various parts of Yorkshire; he has had records of 11 cases, with 1 death, at Ben Rhydding and Ilkley, and of 5 doubtful cases in this district. Many cases have occurred in Leeds and suburbs, including Horsforth, Armley, and Bramley. Dr. Coplans estimates the total number at about 200. Three cases have occurred at Masham, in the North Riding, and several at Malton. The same correspondent informs us that cases have occurred at Grimsby, and that the number of cases at Carmarthen has been twelve. He also states that he has reason to believe that 5 cases stated to have occurred at Morecambe were probably infected from Ilkley. The Yorkshire outbreaks, like those in Devon and Cornwall, have not been confined to children, for Dr. Coplans states that he has seen cases in males aged 23 and 18 respectively. Speaking generally, he has been struck by the way in which the disease attacks the strong and the healthy, and other observers have noted that it does not appear to be associated with poverty, but rather to pick out well-to-do families, or such, at any rate, as are living well above the poverty line, in comfortable surroundings. The cases in Cornwall may constitute an exception, but there is no definite evidence that the disease is due to ordinary insanitary conditions. The virus can pass through a Berkefeld filter,[1] and its exact nature has not been ascertained. There is a suspicion—it cannot be said to amount at present to much more—that the virus gains entrance to the system through the nasal passages, but the theory adds strength to the suggestion very forcibly put by Dr. R. Burnet, County Medical Officer for Cornwall, in the JOURNAL three weeks ago (p. 1036) that the disease is dust-borne. A comprehensive inquiry in the course of which the conditions common to all the outbreaks this year were studied would probably throw light on this and other facts in the epidemiology of the disease at present obscure. We are glad, therefore, that the President of the Local Government Board was able to state this week, in reply to Mr. Edmund Harvey, M.P. for Leeds, that three of the inspectors of the Board have been engaged in investigations relating to the disease in various parts of the country, and that a report on the subject will be issued by the Board in due course.

[1] BRITISH MEDICAL JOURNAL, January 22nd, 1910, p. 232.

EPIDEMIC MENINGITIS.

In an annotation upon epidemic paralysis (polioencephalomyelitis), published last week, we stated, on the authority of Professor Sims Woodhead, that not only cases of acute anterior poliomyelitis had been observed in Cambridgeshire, but also a number of instances of epidemic cerebro-spinal meningitis. We are indebted to Dr. Bushell Anningson for a copy of a report on the subject which he has presented to the Ely Urban District Council. He states that he visited Littleport on October 7th, accompanied by Dr. Harris, M.O.H. for the Ely Urban District, and, by the courtesy of Dr. Mawby, who, as district medical officer, has attended the larger number of cases, they were able to see those which had most recently occurred. Dr. Anningson states that from medical information supplied and from the observations made by himself and Dr. Harris the cases would appear to present many symptoms of cerebro-spinal fever, but in none was any rash observed. The disease has been of an infectious character, and in several instances was apparently transmitted by personal communication. Altogether some eighteen cases, with four deaths, have occurred in eleven households: all the patients were children from 1½ to 8 years of age. Dr. Anningson recommends that the isolation ward of the workhouse should be prepared for the reception of any further cases that may occur. In default of the removal of the cases, he is inclined to recommend the employment of a special nurse to attend, under medical direction, to the regular ablution of the nasal and buccal passages. He also recommends disinfection of the premises in which cases occur. He advises that cerebro-spinal meningitis should be added to the list of notifiable diseases for a period of two months, as this will afford him an opportunity of visiting any further cases in the early stages in consultation with the medical men in attendance. Inquiries thus made would, he hopes, enable a final opinion as to the real nature of the malady to be formed.

A CENSUS OF THE BLIND.

THE paper on the blind and the census of 1911 contributed by Mr. Bishop Harman to the Section of Ophthalmology at the Annual Meeting of the British Medical Association this year (see page 1174) concludes with two propositions and a suggestion, all of considerable public importance. His first conclusion—that the census returns of 1911 will be useless as an enumeration of the blind—he seems to have proved up to the hilt. On previous occasions the census paper provided for the enumeration of the "blind;" in the last census paper this was altered to "totally blind." Mr. Harman has tested the effect of the form in which the inquiry was made in the census this year by investigating what actually happened in regard to the children who were on the rolls of the London County Council Blind Schools at the time. They numbered 326, and it was possible to get information about 312, so that his conclusions are based on what may reasonably be considered a fair sample of the blind child population. In the case of 109, or over one-third, no entry was made in the census paper.

The parents or guardians returned 83 of the children in the census paper as totally blind, whereas Mr. Harman puts the number down at 153, and his standard was set very low. Many parents entered children in the census paper as "partially blind," thus attempting to carry out the rough classification which the Registrar-General was invited to institute. Of the children as to whom no entry was made in the census paper Mr. Harman found that 70 were blind, that is, had no useful vision, and 23 were partially blind, that is to say, their vision was so defective that any national or municipal scheme for dealing with the blind must make provision for them. The view taken by the Registrar-General we understand to be that all census returns of infirmities are unreliable, and that this must be especially true where, as is the case in this country, they are compiled from the unchecked statements of the public. It is held that there is no reason to suppose that in 1901, when the word "blind" was used without any definition or qualification, the returns were more reliable than on this occasion, when the meaning attached to the term has been defined by the use of the qualification "totally." On previous occasions there must have been great variation in the extent of visual impairment regarded by different householders as constituting "blindness." In the census tabulation, returns stating that a person is "partially blind" will, we understand, be ignored. Mr. Harman's conclusion that the returns will be useless for comparison and dangerous as a basis for legislation is therefore inevitable, for some large proportion of totally blind children, and a still large proportion of partially blind will apparently be tabulated as normal-sighted. The objection of the Registrar-General to asking for information in the census paper under the two heads, "Totally blind" and "Partially blind," seems to be one of principle, grounded on the opinion that the returns cannot, owing to the conditions of their collection, ever be reliable. It must be admitted that there is a good deal of force in this contention, and in any case the public will hardly be willing to wait another ten or twelve years before getting a census of the blind sufficiently complete to afford valid conclusions justifying legislative or administrative action. The suggestion, therefore, that surgeons to blind schools and homes should combine with the authorities of such institutions to make a classified census seems to be sound. Mr. Harman further suggests that the British Medical Association should undertake to bring the collected returns to the notice of the authorities. This would be work of a kind which the Association has on many occasions done for the State.

THE CUMBERLAND INFIRMARY.

THE King Edward VII Memorial Wing of the Cumberland Infirmary was opened on October 28th by the Countess of Lonsdale. Dr. Barnes read the following letter from the King:

Buckingham Palace, 10th October, 1911.

Dear Sir,

I have laid before the King your letter of the 7th instant. His Majesty is pleased to hear of the decision come to by the Committee of the Cumberland Infirmary as to the manner in which they will associate King Edward's name with their Institution. His Majesty is also pleased to hear that this great addition to their buildings for the relief of the sick and suffering poor of Cumberland has been erected as a memorial to his beloved father.—Yours very faithfully,

(Signed) STAMFORDHAM.

Henry Barnes, Esq., M.D., LL.D.

After Dr. Barnes had read a number of letters of apology for unavoidable absence, the Bishop of Carlisle, president of the infirmary, thanked Lady Lonsdale for her kindness in coming to open the wing. There was no cause of benevolence and mercy which the late King showed a more deep and more vivid interest in than the extension and improvement of hospital and infirmary work, and it was most fit that this new wing, the foundation stone of which was laid by the Princess Louise, should be called after the late King. He proceeded to give an account of the alterations and extensions which had now been completed. The first sod was cut by the Mayor of Carlisle on July 20th, 1908, and the foundation stone was laid on September 24th, 1908, by the Princess Louise. The completion of the work was due to the persistence of Dr. Barnes, whose name had been inscribed by order of the committee upon the lintel above the door of the Nurses' Home. He would not like to sit down without expressing on behalf of all connected with the work their indebtedness to Mr. Burnet, the architect. The extension and alteration of the out-patient department had still to be tackled, but they were all waiting to see the effect of the Insurance Bill. Their work of extending the fabric and improving the apparatus and instruments was practically complete, except one ward, which was not quite finished, but would be before Christmas. The Countess of Lonsdale, in opening the wing, said that what they had seen that day made them assured that those who came into these wards and those who had to work in different parts of this new extension, would find everything most up to date, with every possible sanitary arrangement. Sir Robert Allison delivered an address in which he discussed the possible effects of the Insurance Bill on the infirmary. The Mayor proposed a vote of thanks to Lady Lonsdale, which was seconded by Mr. R. Heywood Thompson, and carried by acclamation. Dr. Barnes moved a vote of thanks to the Bishop of Carlisle for presiding, and to Sir Robert Allison for his address. He said he was thankful that the great work was now approaching completion. He was grateful to all the subscribers who had made such a magnificent response to the committee's appeal; to his colleagues on the Building Committee for the honour they had done him in associating his name permanently with the institution; and to the Bishop for his kind words in regard to his services; but he would be ungrateful if he did not recognize that what he had done had been for the good of an institution from which he had received so much personal benefit. It was nearly forty years since he first became connected with the infirmary; he had worked hard for it and spent many happy hours in it, and much of his success in his profession was due to the experience and knowledge he had gained in it. The scheme which they put forward four years ago owed much of its success to the fact that it was a good scheme, and that it was work that needed to be done. When they started the undertaking they resolved that they would not allow any section of the work to be begun until they had the money in hand, or promised, to pay for it. About two years ago they were anxious to start this new wing. After speaking of the difficulties of collecting the necessary funds, he said the total received or promised up to the present time, including legacies, was £26,850, and, in addition, they had £3,000 for the King Edward Memorial, making altogether £29,850. They estimated originally that the scheme would cost £30,000, so that they were not very far short of that amount, and they hoped some economies might have been effected which would make the sum adequate; but they would require a very large sum for increased cost of maintenance. How that was going to be met he did not know, but he thought the people of Cumberland, now that they had a first-rate hospital, fully up to date, which it had never been before, would come forward and support them. He had visited forty hospitals during the last few years, and he ventured to say that, when their present buildings were complete, they would compare favourably with any other hospital in the country.

A HOSPITAL FOR PAYING PATIENTS.

It has long been thought that an institution which should meet the needs of patients who do not seek the charity of the ordinary hospital, and who are unable to pay fees for adequate medical attendance and nursing when they are ill, is one of the most crying necessities of modern life. The matter has been considered by the Metropolitan Counties Branch (see British Medical Journal, November 5th, 1910). The poor are amply provided for and the rich can afford to get all they require. But the struggling clerk, the teacher who can just make both ends meet and may have a mother wholly dependent on her, the small shopkeeper, and persons who, as the phrase is, have come down in the world—to them disabling sickness comes as a ruinous calamity. The doors of the hospitals are closed against them and the cheapest nursing home is beyond their means. Many of them live in flats or lodgings, where suitable arrangements for the care of sick persons are impossible. Some years ago Mr. Sydney Holland proposed the establishment of a hospital or hostel for the reception of what may be called the poorer middle class. Somehow the scheme fell through—probably for lack of financial support. Now the proposal has taken shape, and an institution, to be known as the Imperial Hospital for paying patients, is to be erected in Vincent Square, Westminster. It is intended to be run on strictly business lines by a company which has been formed for the purpose. The Honorary Advisory Medical Committee comprises the names of Sir Victor Horsley, Dr. Arthur Latham, Dr. F. J. Allan, Medical Officer of Health for Westminster, and Dr. Harold Spitta. The Board of Directors is constituted as follows: Lieutenant-General Sir J. Bevan Edwards K.C.M.G., C.B., Chairman; The Marquess of Anglesey, The Hon. Sir Cornthwaite Rason, Mr. Ben. H. Morgan, and Mr. Harvey Hilliard, M.R.C.S., L.R.C.P.Lond. Provision is made in the first instance for forty beds, but the building will be so constructed that additional floors can be added at a minimum cost. The superficial area of the site, of which the ground lease is to be granted by the Ecclesiastical Commissioners, is 6,300 square feet, and it is proposed that the building shall be erected on thoroughly up-to-date hospital lines, but, as far as possible, with all the features of a home. It is estimated that for the construction of the building, and the provision of complete equipment and furniture, a sum of £13,000 will be required. A sufficient staff of fully-trained nurses will be maintained at all times, and it is proposed to employ both a matron in charge of the nursing department and a housekeeper in order to keep these two departments entirely distinct. The hospital will be open to any suitable patient, who will continue to be attended by his or her own private doctor. Special facilities will be given to patients from the Overseas Dominions of the British Empire when they are duly accredited by the official representative of their State. The patient will pay the usual fees for professional attendance; these are quite apart from the hospital charges for maintenance. The charges will be moderate, ranging from three guineas a week upwards, according to the size and position of the room chosen by the patient. The technical management will be chiefly in the hands of a committee of medical men elected by the board of directors. After payment of dividend on preference and ordinary shares a substantial sum out of any balance of profit will be set aside each year to form a fund to assist necessitous patients to pay their hospital fees. This fund will be administered by a committee independently of the board, and will be open to charitable contributions from outside sources. It is hoped that building operations will be begun in the first week of January. The secretary is Mr. G. S. Tice, Caxton House, Westminster, S.W. We understand that the hearty approval of a large number of medical practitioners in London has been secured for the scheme. It is not intended to interfere in any way with private practice or to cheapen medical attendance. As set forth by its promoters it seems to meet a real public need, and it starts under auspices which ought to ensure for it the confidence of the profession.

ENERGETICS.

The announcement that a course of lectures on energetics will be delivered by Dr. F. S. Locke in the Physiological Laboratory, King's College, London, may lead some of our readers to inquire the meaning of the word, for energetics, like eugenics, is a term of comparatively recent coinage. The science of energetics considers and describes the phenomena of the universe under the aspect of transformation of energy, energy being regarded as a definite entity. It formulates the laws governing these transformations. Of late years energetics have undergone considerable developments, and a consideration of these in their relation to biological phenomena is likely to be of great interest. A perusal of the brief synopsis of Dr. Locke's lectures (p. 1238) will show that it is this biological and physiological aspect of the science that he proposes to deal with. The lectures are free to all medical men and to all medical students in London; the first will be given on Monday week (November 13th).

THE NOBEL PRIZE FOR MEDICINE.

It is announced from Stockholm that the Nobel Prize for Medicine has been awarded this year to Dr. Allvar Gullstrand, Professor of Ophthalmology in the University of Upsala, in recognition of his research work in connexion with the dioptrics of the eye. Professor Gullstrand, in addition to his valuable theoretical work, has applied theory to practice. Using his formulae, the firm of Zeiss has been able to construct anastigmatic lenses for the use of patients whose lenses have been extracted. These lenses afford a much wider field of vision than the simple lens usually adopted. If the wearer of a simple lens turn his eye ever so little from the central line, the images rapidly become blurred. The anastigmatic lens allows a deviation up to 30 degrees without material distortion of the image. The expense and weight of these lenses have so far prevented them coming into general use. Professor Gullstrand has also invented modifications of the ophthalmoscope which abolish the corneal reflex. These instruments he demonstrated at the Heidelberg Congress in August, 1910. Another research was undertaken to investigate the cause of the yellow colour of the macula, with the result that Professor Gullstrand was able to confirm the views advanced by Professor Dimmer. We tender our hearty congratulations to Professor Gullstrand.

AN INTERNATIONAL EUGENIC CONFERENCE.

The Eugenics Education Society is making arrangements for holding an International Eugenic Conference in London in July next (24th to 30th). Major Leonard Darwin is the president of the organizing committee. Among those associated with the movement are Sir Thomas Barlow, Sir Henry Batlin, Sir William Church, Sir William Collins, Professor J. Déjerine of Paris, Professor A. Forel, and Professor Sergi of Rome. The aim of the conference is stated to be the formation of an International Eugenic Council which would co-ordinate the work in each country and formulate the problems of social reform upon which eugenic evidence is necessary. It is proposed to group the papers in the following sections: (1) Facts of Heredity; Physiological Aspects of Heredity; Variations, their Nature and Causation; Race Mixture. (2) Historical Evidence with Regard to Changes in Racial Characters; Birth-rate and Death-rate Statistics; Effects of Medical and Surgical Treatment in Encouraging Unfitness. (3) Marriage Laws and Customs; Taxation; Economic Conditions; Insurance; Trades Unionism. (4) Prevention

of the Propagation of the Unfit by Segregation and Sterilization; Voluntary Restriction of Propagation of the Unsound; the Encouragement of the Propagation of the Fit; Promulgation of the Eugenic Ideal; the Place of Eugenics in Educational Systems.

THE FAR EASTERN TROPICAL MEDICINE CONGRESS.

The second biennial congress of the Far Eastern Association of Tropical Medicine, which, as already announced, will be held in Hong Kong in January next, will be opened on Saturday, January 20th, by Sir Frederick J. D. Lugard, G.C.M.G., C.B., Governor of the colony, who will welcome the delegates and visitors. The papers offered will be classified so as to give as far as possible a day to each of the following groups of subjects: (1) Protozoology, helminthology; (2) cholera, plague, leprosy, tuberculosis; (3) tropical fevers, including malaria, beri-beri, dysentery; (4) surgery, obstetrics, infantile diseases; (5) climate, hygiene, sanitation. The association is an international one, and papers may be read in English, French, or German, but authors are in all cases asked to send a brief abstract in English. Among the delegates will be Major Weston P. Chamberlain, chairman of the United States Army Board for the study of tropical diseases as they exist in the Philippine Islands; Drs. Paul C. Freer, Victor G. Heiser, and Richard P. Strong, official delegates from the Government of the Philippine Islands; Captain Edward B. Vedder, M.D., U.S. Army Medical Corps, Manila; Dr. Fürth and Dr. Uthemann, official delegates from the Government of Kiautschou (Germany); Professor Cheng Hao, delegate from the Government of China, and Dr. J. A. de Moraes Palha, delegate from the Government of Macau; Major S. P. James, I.M.S., official delegate from the Government of India; Sir Allan Perry, Ceylon; Dr. G. A. Finlayson, official delegate of the Government of the Straits Settlements; Dr. H. Fraser, from the Government of the Federal Malay States; Mr. J. P. A. Wilson, F.R.C.S., delegate from the Government of Johore. The work of the congress will be opened by the president, Dr. J. Mitford Atkinson, of Hong Kong, who will deliver an address on the progress of tropical medicine during the past twenty-five years. The subscription to the association, 10s. 6d. (six dollars Hong Kong currency), is now due, but no further subscription will be required until 1913. A suitable social programme is being arranged for the entertainment of visitors. Further particulars can be obtained from the secretary of the congress, Dr. Francis Clark, Hong Kong.

SHIPS' SURGEONS.

The P. and O. Company has instituted a new departure with reference to its surgeons. Beginning on January 1st, 1912, surgeons in the service of the company will be allowed to charge a fixed fee for each consultation with first and second class passengers. The pay of the surgeons remains as before. Third class passengers, to whom the provisions of the Merchant Shipping Act apply, are not carried by this company.

We regret to have to record the death, on November 1st, from pneumonia following influenza, of Dr. J. A. Coutts, Physician to the Shadwell Children's Hospital.

Sir Henry Butlin, Bart., President of the Royal College of Surgeons of England, will deliver two Hunterian lectures on "*Unicellula cancri*, the Parasite of Cancer," in the theatre of the College on Monday and Wednesday, November 13th and 15th, at 5 p.m.

The annual meeting of the British Medical Benevolent Fund Guild will be held at St. George's Hospital on November 20th. The chair will be taken by Adeline Duchess of Bedford. We understand that the work of the Guild increases more rapidly than its resources.

The Baly medal of the Royal College of Physicians of London has been presented to Dr. W. D. Halliburton, F.R.S., Professor of Physiology, King's College, London, and the Bisset-Hawkins medal to Dr. Clement Dukes, Consulting Physician to Rugby School. The Baly medal, founded in 1866 by Dr. F. D. Dyster in memory of Dr. William Baly, is awarded every alternate year to the person who in the judgement of the President and Council of the College shall have been deemed to have most distinguished himself in the science of physiology, especially during the two years immediately preceding the award; it is not restricted to British subjects. The Bisset-Hawkins medal, founded in 1896 by Captain Edward Wilmot Williams, at the suggestion of Dr. Theodore Williams, to perpetuate the memory of the late Dr. Francis Bisset-Hawkins, is bestowed every third year on some duly qualified medical practitioner who is a British subject, and who has during the preceding ten years done such work in advancing sanitary science or in promoting public health as in the opinion of the College especially deserves recognition.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

National Insurance Bill.

Dates.

On Wednesday, October 25th, the Prime Minister, as mentioned elsewhere last week, submitted a motion allocating the time for the remainder of the Committee and for the Report stages of the National Insurance Bill.

He proposed to send the Second Part of the bill dealing with unemployment to Grand Committee, and to allow fifteen days for the further consideration of Part I—sickness insurance—in Committee, and four days for the Report stage of the whole bill. Two additional days were afterwards arranged for—one for the Committee stage of Part I and one for Report.

According to this time table, on the assumption that four days a week are devoted to the bill, the Committee stage should end on Tuesday, November 21st. The Chancellor has promised that there shall be an interval between the Committee and Report stages, and the Report stage may begin on Monday or Tuesday, the 27th or 28th. The first two and a half days of the Report stage are to be devoted to the new clauses and Part I, and the remainder of the bill and the schedules will occupy the last two and a half days. We may therefore expect the bill to reach the House of Lords during the week beginning Monday, December 4th.

The clauses of chief interest to the medical profession which are still to be taken in Committee are Clause 34, relating to married women: Clauses 41 and 42, dealing with the constitution and duties of the Insurance Commission and its Advisory Committee; Clauses 43 to 46, which define the constitution, powers, and sources of income of the local Health Committees; and Clause 47, which sets out the financial arrangements to be made in connexion with the provision of sanatoriums and other institutions for the treatment of tuberculosis and of such other diseases as the Local Government Board, with the approval of the Treasury, may appoint.

The extra day in Committee was obtained in connexion with these clauses and the time table was so rearranged as to secure that discussion should begin at the different times on the important clauses Nos. 43, 46, and 47. We may expect them to be reached on November 7th and 8th if Friday, November 3rd, is not devoted to the bill.

The new clauses are down for discussion on the fourteenth allotted day, and one of them is of special interest. This is a new clause in the name of the Chancellor of the Exchequer, appointed to follow Clause 44; it provides for

the setting up in each area of a local Medical Committee which is to be consulted by the local Health Committee in connexion with the arrangements made with medical men for the treatment of the insured and on cognate subjects. The time-table, as amended, was subsequently adopted—the Ayes 230, the Noes 163.

Conditions for the Approval of Approved Societies.

On Thursday, October 26th, Clause 18 occupied the whole sitting, and was finally agreed to without a division. It deals with the conditions under which societies may become "approved" for the purposes of the bill.

The discussions chiefly related to the conditions under which small societies may be enabled to co-operate in the working of the scheme and to the conditions of management of approved societies. The difficulty with regard to small societies is that the majority of them are insolvent if properly valued. Without, however, entering into details, it may be said that the clause as amended will enable small societies connected with particular trades and industries, with religious denominations, temperance movements, and so forth, as well as dividing and industrial societies of many kinds, to become "approved" under one of three conditions:

They can (1) associate with one of the bigger societies for the purposes of the bill or (2) associate with similar societies in different parts of the country, and form in this way branches of an approved society, or (3) as concerns the part of their business connected with the working of sickness insurance, they may become associated with other societies in the county in which they are situate. In all cases they are free to continue their special work and character in other respects.

Superannuation Funds: Management of Approved Societies.

On Friday, October 27th, Clauses 19 to 23 were added to the bill with a small number of amendments. Clause 19 relates to the conditions under which a society, club, or other superannuation or benefit association established by an employer or in a trade may become recognized. The other clauses relate to the security to be provided by societies and to questions of their management and membership.

Admission of Insured Persons to Membership in Approved Societies.

On Monday, October 30th, Clauses 24 to 30 were added to the bill. Some discussion took place on Clause 24, which deals with the admission of members to approved societies, as to whether it might not be likely that a society, by the use of a medical test on entry, might build up a society of picked lives, and therefore, as reserves increased, become entitled to exceptional benefits, to the disadvantage of those excluded, who would be forced into societies consisting of an unfair proportion of poor lives, and therefore unable to provide good benefits. The House had previously decided against making a rule to disallow a medical test, as is adopted at present in many societies, and the general sense of the discussion was that it was better to leave such a matter to the discretion of the societies, and to rely upon the competition which would arise between societies to secure a fairly even distribution of good and bad lives amongst them.

The remaining clauses dealt with the conditions of transfer from one society to another, with the method of keeping accounts, and with provisions relating to valuations and to the disposal of surpluses, and raised no points of special medical interest.

Deficits in Accounts of Approved Societies.

On Tuesday, October 31st (the fourth allotted day), Clause 31, which deals with deficits that may occur in the accounts of approved societies, was further considered, and the clause, with some amendments, was added to the bill without division.

Deposit Contributors.

An interesting discussion arose on Clause 32, which contains the provisions relating to deposit contributors. Mr. Sherwell moved that the clause should only be operative until January 1st, 1915, and in this amendment a general discussion arose as to the position of the deposit contributors in the scheme of the bill. Mr. Sherwell urged on the Government the necessity of reinforcing the preventive character of the bill by giving financial assistance to local educational authorities in the treatment of disease amongst school children, and further insisted on the importance of making the sanatorium benefit available for other than insured persons, and in this respect his representations were supported by Mr. Rowntree and Dr. Addison later in the debate. This portion of the bill was adversely criticized by various speakers, on the ground that the most needy of the population were not adequately dealt with; whilst other speakers pointed out that it would only be by the operation of the bill during a few years that that section of the people who were not able to contribute to a national scheme would be sorted out, and that only in some such way could a sufficient mass of facts be obtained as would enable Parliament to deal with this class of the population with adequate information. Mr. Lyttelton, who concluded the debate on this day, criticized this part of the bill adversely on various grounds, whilst recognizing the difficulty of the problem before the House.

On Wednesday, November 1st (the fifth allotted day), Mr. Lloyd George continued the debate on Clause 32 and replied to the various points that had been raised. He made the important announcement that the Government was considering a plan of helping local educational authorities with the treatment of school children, and hoped shortly to lay it before the House. He accepted Mr. Sherwell's amendment to limit the operation of the clause, and expressed the hope that the Government would be able to deal with the problem of the helpless poor on thorough lines before the close of the present Parliament. Mr. Foster continued the discussion on the part of the Opposition, and the detailed amendments were afterwards considered. An amendment of medical interest was to the effect that a local Health Committee should be free, if it thought fit, to continue the sanatorium benefit for a deposit contributor beyond a year after the expiry of the benefit to which his payments might entitle him.

Transfers.

A very short discussion took place on Clause 33, which relates to the conditions of transfer from an approved society to the deposit contributor class, or vice versa, and the House rose shortly after 9 o'clock.

Married Women.

An important debate is anticipated on Clause 34, which deals with the question of married women under the bill, and very important modifications affecting the continuance of the insurance of women during marriage, and with regard to the re-entry into insurance on widowhood.

Insurance Commissioners.

Mr. Norman Craig asked (1) whether any, and what, estimate had been made as to the number of Insurance Commissioners to be appointed by the Treasury in the event of the National Insurance Bill passing into law, and as to the total cost of the salaries or remuneration to be paid to them: and (2) whether any, and what, estimate had been made as to the number of officers, inspectors, referees, and servants to be appointed by the Insurance Commissioners, with the approval of the Treasury, in the event of the National Insurance Bill passing into law, and as to the total cost of the salaries or remuneration to be paid to them.

Mr. McKinnon Wood, in reply, said he did not think he could usefully add anything as yet to the replies given by him on July 4th and 5th.

Mr. Amery asked the Chancellor of the Exchequer whether he proposed to include among the Insurance Commissioners persons of special experience in the work of the great friendly societies, of the dividing societies, and Holloway Societies, and of the industrial insurance societies; and would he include any person of special experience in matters affecting the interests of women. Mr. McKinnon Wood, who replied, said it was not possible to give any undertaking at the present time as to the qualifications which might be found desirable in the Insurance Commissioners.

Advisory Committees.

Mr. Norman Craig asked whether any, and what, estimate had been made as to the number of the Advisory Committees to be appointed by the Insurance Commis-

sioners in the event of the National Insurance Bill passing into law; whether the members of such Advisory Committees will be remunerated; and, if so, what the total cost of such remuneration is estimated to be and from what source such remuneration is to be provided?

Mr. McKinnon Wood said that the number of members of the Advisory Committee could not be estimated until the Insurance Commissioners had decided the interests to be represented and the extent of the representation to be assigned severally to them. It was not intended that they should be remunerated.

Clauses Affecting the Medical Profession.

On November 1st Mr. Amery asked the Chancellor of the Exchequer whether the outstanding points of difference with the medical profession and the National Insurance Bill had been adjusted and whether the amendments dealing with these points would be put on the paper. Mr. McKinnon Wood, who replied, said that so far as he was aware the most important amendments affecting the medical profession were dealt with by the committee on Clause 14. Points of detail arising out of the decisions of the committee concerning the relations between the medical profession and the friendly societies had been under discussion, and would be dealt with on the Report stage.

Pharmaceutical Certificates.

In reply to Mr. Kellaway, Mr. McKinnon Wood said that the Council of the Pharmaceutical Society of Great Britain was engaged in negotiations with the Colonial representatives, and it was hoped that it might prove possible to formulate a by-law for the admission to the Register of Chemists of persons holding a Colonial certificate of qualification equivalent to the British qualification, so that when this had been arranged the holders of British Colonial pharmaceutical certificates in business in this country would be able to supply drugs and medicines under the bill.

Medical Attendance on Insured Person Away from Home

Mr. Godfrey Locker-Lampson asked Mr. Chancellor of the Exchequer what arrangements would be made for the provision of medical attendance upon an insured person who happened to fall ill outside the district covered by the panel of doctors who attended upon the members of the approved society to which he belonged.

Mr. McKinnon Wood, in reply, said that the panel would not be appointed for an approved society, but for the area of a local Health Committee, and added: "The administrative details necessary to provide for the temporary or permanent mitigation of insured persons from one such area to another can be dealt with by the regulations to be made by the Insurance Commissioners under Clause 14."

Provident Dispensaries.

Mr. Godfrey Locker-Lampson asked Mr. Chancellor of the Exchequer whether any steps would be taken to utilize existing provident dispensaries under the National Insurance Bill.

Mr. McKinnon Wood said he was unable to give a general answer to the question. The matter would depend to a large extent on the use made in each case by the local Health Committee and Insurance Commissioners of their powers under Clause 14 (4).

Poor Law Reform (Ireland).—Mr. Meagher asked the Chief Secretary whether the Irish Government had a bill on the question of Irish Poor Law reform prepared for introduction to Parliament; and whether, owing to the material difference in the conditions of Irish life since the operations of the Old Age Pension Act, he could see his way to have the bill introduced and passed into an Act of Parliament for Ireland, having regard to the demands of all Irish public bodies to have the Poor Laws reformed. Mr. Birrell, in reply, said that the heads of a bill had been prepared, but it was not possible to make any statement at present with regard to the prospects of legislation.

Anterior Poliomyelitis.—Mr. Edmund Harvey asked the President of the Local Government Board whether his attention had been called to the prevalence during the past year in certain districts in Yorkshire of the disease known as anterior poliomyelitis; and whether, in view of the character of the disease and its serious after-effects, he would cause investigations to be made into the nature of the disease, with a view to discovering the best means of cure and of avoiding its spread. Mr. John Burns, in reply, stated that his attention had been drawn to the prevalence of acute poliomyelitis, not only in certain districts of Yorkshire but also in several other counties, and three inspectors had for a considerable time past been engaged in investigations relating to it the results of which, along with information as to the pathology of the disease, would be published in due course.

Plague in India.—In answer to Mr. Keir Hardie, Mr. Montagu said that the mortality from plague during the last three months in British India and Native States had been as follows: In July, 8,987 deaths; August, 14,191; September, 28,618. There was very little plague in Northern India, only 13 deaths from it being recorded in the Punjab during September; but a severe epidemic had broken out in the Bombay Presidency, where 20,470 of the total number of deaths in September occurred. Madras and Mysore were also affected, though in a slighter degree.

Foot and Mouth Disease.—In reply to Mr. Charles Bathurst, Mr. Runciman stated that His Majesty's representatives in foreign countries had been instructed to send by telegraph to the Board of Agriculture any information as to the outbreak of foot and mouth disease they might obtain. On Wednesday Mr. Runciman informed Mr. Bathurst that it was proposed to appoint a Departmental Committee to inquire into the origin of the recent outbreaks of the disease and the best means of checking its spread. He added that no time was being lost in dealing with the matter.

Care of the Feeble-minded.—In reply to questions by Dr. Chapple and Mr. Hicks Beach, the Prime Minister said that he had every hope that legislation dealing with the care and control of the feeble-minded would be undertaken next session.

Medical Men and the Royal Naval Reserve.—Mr. Middlemore asked the First Lord of the Admiralty whether any steps had been taken to induce medical men to take commissions in the Royal Naval Reserve, with a view to securing their professional services in war time, or whether such a step was in contemplation. Dr. Macnamara, who replied, said that a great deal had been done in the direction suggested. Revised regulations for medical officers, Royal Navy Volunteer Reserve, embodying improved conditions of service, had recently been introduced, and had been brought prominently to the notice of medical men throughout the country. The result so far was considered satisfactory.

Milk Colouring.—Mr. Fitzroy asked the President of the Local Government Board whether he would make the colouring of milk a penal offence under the Milk and Dairy Bill which he was about to introduce. Mr. Burns replied that the point was under consideration.

Sale of Milk.—Mr. Runciman stated, in reply to a question by Mr. Barnston, that the inquiries as to the existing provisions of the law relating to the sale of milk as administered by local authorities were not yet completed.

Flour Adulteration.—Mr. Charles Bathurst asked the President of the Local Government Board, on October 25th, whether he had taken any administrative, or proposed to take any legislative, action in consequence of the reports of Dr. J. M. Hamill and Dr. Monier-Williams presented to his department in reference to the adulteration of baking-powders and self-raising flour, the bleaching of flour, the addition of so-called improvers to flour, and the respective nutritive values of breads made from the different constituents of the wheat grain in varying proportions. Mr. Burns replied that the matters referred to were still under consideration.

Opium Traffic.—Sir Edward Grey in replying to a question by Mr. Edmund Harvey said that His Majesty's Government had accepted the invitation of the Netherlands Government to take part in an international conference on the opium question to be held at The Hague on December 1st. The question of the selection of British delegates was at present under consideration.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

New Nursing Home in Edinburgh.

The fund for the establishment of the new nursing home in Edinburgh now stands at £11,130. Originally £10,000 was aimed at, but in view of the expense incurred in the purchase and alteration of the property, the committee made an appeal for £11,000. There were throughout Scotland some 250 voluntary collectors, and all their books have not yet been handed in. Three large self-contained houses, in a quiet, open, central street (Chalmers Street) have been bought, and plans prepared by Mr. T. D. Rhind, architect, to adapt them to their future use, have been approved by the committee. Visits by a few medical men and the architect were made to a number of the best nursing homes both in Scotland and London. A home is the primary intention. Rooms for patients to the number of about fifty are being arranged on three floors, served by a large bed lift. Twelve of the rooms are set aside for single patients. For children there will be a bright nursery. Service kitchens on each floor will communicate with the main kitchen in the basement. The sanitary arrangements will be thoroughly overhauled. On the top floor will be two well-lighted operating rooms, with a sterilizing room between, and an anaesthetic room and surgeons' dressing room adjoining. Sitting rooms for patients, matron, and nurses will be provided, and in the attic flat sleeping rooms for nurses and servants. There will be an *x*-ray room, an electric treatment room, and rooms for hydrotherapeutic treatment. The Medical Committee believes that the home will serve as a model for nursing homes elsewhere. Already great interest is being shown in the scheme by the public and public bodies in various parts of the kingdom, and numerous inquiries have been received by the committee regarding its internal arrangements and economy, and the way in which it is to be financed.

Edinburgh Royal Medical Society.

The following gentlemen have been elected presidents for the session 1911–12: R. G. Gordon, B.Sc., M.B., Ch.B., Senior President; T. C. Ritchie, B.Sc., M.B., Ch.B.; F. R. Luke, M.B., Ch.B.; J. T. Morrison, M.B., Ch.B.

Complimentary Dinner to Professor MacEwan, of Dundee.

On the occasion of his retirement from the acting staff of Dundee Royal Infirmary, Professor David MacEwan was entertained to dinner by his past house-surgeons and his friends of the Forfarshire Medical Association. Dr. Charles Templeman, D.Sc., M.O.H. Dundee, presided over a company of sixty, and in the course of the evening in felicitous terms proposed the chief toast; he also on behalf of the former house-surgeons gracefully conveyed to Professor MacEwan a series of gifts for himself and Mrs. MacEwan as a token of the affection with which he is regarded by his assistants. The Professor acknowledged the toast and the gifts in a characteristic and tasteful speech. The whole function was entirely successful.

Dental Treatment of School Children.

Considerable discussion arose at the recent meeting of the School Board of Glasgow regarding the provision of dental treatment for school children having defective teeth. The members felt that the provision of dental treatment was only introductory to the question of medical treatment for necessitous children, and the question at issue meantime was whether Parliament had given the board power in the matter. The question arose first on a report by the medical officer that over 90 per cent. of children in the schools examined had bad teeth, and 50 per cent. had very bad teeth. It was suggested that advice should be given to parents to prevent things getting worse, and the point at once arose as to whether mere advice was sufficient. The view of the medical inspection committee was that until some authoritative opinion was obtained as to their rights it would be unsafe to embark on the expenditure. To provide dental treatment would cost £500 the first year, and as it might entail medical treatment the cost might be £5,000 per annum; £4,000 is already spent annually on medical inspection. Some members of the board wished to open medical clinics at once. After considerable discussion the minute passed by the Medical Inspection Committee became the finding of the Board:

> That dental treatment be given to a child undoubtedly necessitous, and that steps be taken to have the competency of paying for that treatment tested forthwith by a special case in the Court of Session.

It is expected that the test case will cost from £400 to £500.

Association of School Medical Officers.

A general meeting of the Association of School Medical Officers for Scotland was held in the Royal Infirmary, Edinburgh, on October 21st. The President, Dr. Roberts, was in the chair, and a number of new members were elected. A demonstration of diseases of the skin was given by Dr. Norman Walker, who showed many cases of especial interest to the school medical inspector; at the conclusion of the demonstration Dr. Walker gave a short account of the methods at present available for the prevention and treatment of ringworm, and discussed the question of the admission of cases of ringworm to school. A very hearty vote of thanks was awarded Dr. Walker for his instructive demonstration, and it was arranged to hold the next general meeting of the Association in Glasgow on Saturday, November 18th, 1911.

Memorials of Dr. J. B. Russell.

Three memorial busts of Dr. J. B. Russell, for many years medical officer of health for the city of Glasgow, and subsequently a member of the Local Government Board for Scotland, were unveiled in the City Chambers at a recent meeting of the corporation, and handed over to the custody of the corporation. One will be placed in the City Chambers, another in the Art Galleries, and the third in the Sanitary Chambers. Two busts were provided by a public fund raised in the city, while the third was provided by the corporation. The bust for the Art Galleries is of marble, the others being bronze.

Annual Report of the Registrar-General.

Lowness of Principal Rates.

The fifty-fifth detailed annual report of the Registrar-General of Births, Deaths, and Marriages in Scotland has been issued. The report, by Dr. James Crauford Dunlop to the Registrar-General, states that among the more noteworthy features of the Scottish vital statistics of the year 1909 was the lowness of the four principal rates, the birth-rate, the marriage-rate, the death-rate, and the infantile mortality-rate. The birth-rate, death-rate, and infantile mortality-rate were each the lowest on record; the marriage-rate was lower than all previous rates, those of 1886 and 1887 excepted. This is the first year in which the Scottish death-rate has fallen below 16 per 1,000, and the second year, the other being 1907, in which the Scottish birth-rate has fallen below 28 per 1,000.

Death-Rate.

A satisfactory feature of the statistics of the year is the continued decline of the death-rate from tuberculosis of all forms, as also from phthisis, both these rates being the lowest yet recorded. A comparison of the death-rates from the principal epidemic diseases with the corresponding rates of recent years shows that the rates from enteric fever and whooping-cough were normal, those from scarlet fever and diphtheria relatively high, and those from measles and diarrhoea relatively low. No deaths from small-pox were registered in Scotland; the same record was made in 1890 and 1891. The death-rate from malignant disease showed a rise above the rates of all previous years, and for the first time exceeded 100 per 100,000. The death-rates from pneumonia and bronchitis were normal, and that from violent causes relatively low.

Birth-Rate.

The births of 128,669 living children were registered, or 2,693 fewer than those registered in the previous year, and 2,575 less than the average number registered during the previous five years, and 2,965 less than the average number during the preceding ten years. It is the smallest number of births registered in Scotland in any year since 1895.

Marriages.

Marriages registered in Scotland during the year 1909 numbered 30,108, or 1,498 fewer than in 1908, 2,209 fewer than the average number during the preceding five years 1904-8, and 2,158 fewer than the average during the preceding ten years. It is the smallest number of marriages registered in Scotland in any year since 1895.

The youngest husbands were three aged 16 and twenty aged 17; of the former, one married a girl of 15, one a girl of 16, and one a woman of between 20 and 25. The oldest bachelors marrying during the year were four of between 70 and 75 years; of these, one married a woman of over 60, two married women of between 40 and 45, and one a woman of under 25. The youngest spinsters marrying during the year were one aged 14, who married a man of between 25 and 30, six aged 15, fifty-four aged 16, and 326 aged 17, all of whom married bachelors. The oldest spinsters marrying during the year were sixteen of between 60 and 70, five of whom married bachelors, while eleven married widowers.

From contingency tables prepared to show the relation between the ages of the brides and the bridegrooms of the year it is seen that in the vast majority of instances the difference of age between the two spouses is small, but that in many instances wide differences occur. For instance, among the marriages of the year there were two bachelors of under 55 married to widows of over 70, and one of 19 to a widow of over 30; among bachelors marrying spinsters there were 101 of over 30 married to girls in their teens.

Deaths.

Deaths registered in Scotland during the year under review numbered 74,632, or 3,206 fewer than in the previous year, 2,025 fewer than the number of deaths registered annually during the preceding five years, and 3,290 fewer than the average during the preceding ten years. The deaths during the year were fewer than those registered in all years since 1896 with the exception of 1905, when the deaths numbered 74,535.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

HEALTH OF BELFAST.

SOME cases of typhus fever have been discovered in Belfast; they were promptly removed to the Union Hospital and a careful search made for others among the friends and contacts. Such a threatened epidemic in former years would have spread and have cost many lives and involved much suffering and expense. An interesting clinical possibility that came to light was one not generally recorded in textbooks: One of the patients who had come from Glasgow and took ill soon afterwards, rose from his bed, crossed to Glasgow to attend the funeral of his brother who had died from the disease, returned the same night, and went to bed again. So far no further cases have been discovered.

The death-rate for the week was 17 per 1,000; the number of cases of typhoid, which it was feared indicated a recrudescence, has lessened, but scarlatina is still very prevalent, and the City Hospital at Purdysburn is full, so that all cases have now to go to the Union Hospital.

There is still a scarcity of water, and the Belfast Commissioners have not granted any further allowance. The question of the water supply has aroused more public and general interest than it has for very many years. Very large sums have been spent, and the public think they have been somewhat deluded into a false sense of security by the former reports from the Commissioners. The quality of the water is still good, and examinations, both chemical and bacteriological, are made.

ELECTION OF MEDICAL OFFICER IN DUNGANNON.

An unpleasant scene occurred at the Dungannon Board of Guardians subsequent to the election of a medical officer for the Dungannon District Hospital. There were three applicants for the post, and eventually Dr. Mann was elected by 29 votes to 12. The defeated candidate, Dr. Marmion, entered the room on the declaration of the poll, and, addressing himself to the board, said he might tell them straight that the reason why he had not been appointed was because he was a Catholic. He had merely applied for the post to show the people in the South and West of Ireland the religious intolerance and bigotry exhibited by the people of Ulster, and especially by the Dungannon Board of Guardians. We have no personal knowledge of the circumstances of this election, but it appears unlikely that an incident such as the above will make for tolerance or help the decline of bigotry, if such exists in the district.

TYPHOID FEVER IN BANTRY.

An extensive outbreak of typhoid fever is reported in Bantry, and has given rise to serious alarm in the town. A Local Government Board inspector has been sent to the district, and is employed in co-operation with the local medical men in endeavouring to limit the spread of the epidemic.

ASYLUM ACCOMMODATION IN MONAGHAN AND CAVAN.

The lunatic asylum for these two counties is situate in Monaghan; it was enlarged some years ago and the county of Cavan had to pay its share of the expense. Owing to the increase in lunacy further accommodation, long demanded, has now to be provided. One project is the erection of additional buildings at Monaghan; this is opposed by the Cavan Rural Council on the ground that, with the present rate of increase of lunacy, still further buildings may be required later on, and that none of the money is retained in Cavan. It was proposed that one of the four workhouses in Cavan should be taken over and turned into an auxiliary asylum. An inquiry is to be held on November 7th at Cavan into the question of the erection of an auxiliary asylum at Cavan. Much public interest is aroused in both counties; the problem is one which not only involves much expenditure, no matter how it be solved, but throws into strong light the unhappy increase of insanity in a stationary population.

INEBRIATE REFORMATORIES.

The Inspector for Ireland under the Inebriates Acts, in his report for 1910, states that 22 cases were admitted during the year to the new certified reformatory at Wexford for Roman Catholic females (opened in March, 1910), and that 2 were committed to prison for insubordinate conduct. The institution affords excellent accomodation, and is well managed. The accommodation in St. Patrick's Certified Reformatory, Waterford, continues far from satisfactory, owing to the want of sufficient ground for the employment and recreation of the inmates. At the beginning of the year there were 56 patients on the register of this institution. During the year 20 were admitted, 24 were discharged, and 6 were transferred, leaving 49 on the register, of whom 17 were out on licence. The Lodge Inebriate Retreat, Belfast, continues to be conducted in a highly satisfactory manner, but is unfortunately very limited in its operations, as even the small number of 12 inmates for which it is licensed is seldom reached.

AN EPIDEMIC IN NEW ROSS.

It is stated that a serious epidemic of scarlatina and diphtheria has broken out at New Ross, over 50 cases being under treatment in the infirmary, while in addition the Houghton Hospital is full. At a meeting of the urban council it was decided to prosecute a man who, it was alleged, went amongst the public for three days while suffering from diphtheria, and refused to go to the fever hospital. It was also decided to prosecute a woman who was stated to have kept a child in her house for three weeks suffering from scarlatina without notifying.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER AND DISTRICT.

THE MANCHESTER CORPORATION AND SUBSCRIPTIONS TO HOSPITALS.

SOME account was given in this column last week of the report of the Finance Committee of the Manchester Corporation on the question of municipal subsidies to the hospitals of the city. The report came up before the City Council on October 25th, and in moving its adoption the Chairman of the Committee said the corporation had in its employ 20,000 persons, many of whom and their

children made considerable use of the hospital service of the city. At present the departments of the corporation contributed separately, but the total sum of £550 was very inadequate, and the Finance Committee now recommended that £1,500 should be devoted each year and distributed *pro rata* among the medical institutions. It was stated that the Waterworks Committee gave in concessions in the charges for water what amounted to £700 a year. Several members of the council thought the sum proposed was too small, and an amendment was proposed that the annual contribution should be £2,000, and that the attention of neighbouring civic authorities should be drawn to the matter, as so many people from outside made use of the hospitals. One member of the council looked forward to an annual contribution of £5,000, and hoped that eventually the full responsibility for the management of the hospitals would be taken over by the municipality. The Lord Mayor suggested that the proposal to make the amount £2,000 should be accepted, and as to municipalization, he said it could not be done in Manchester without an added rate of 9d. in the £. The amendment that the contribution should be £2,000 was carried unanimously. It was not stated definitely whether this covers all the work that the hospitals do in the medical treatment of school children, but presumably it covers this as well as being on behalf of the 20,000 employees of the corporation. Leaving out of account the school children, it means less than ½d. a week for each person employed; and for their own protection the hospitals ought to let it be better known than it is at present that the contribution must not be regarded as entitling any of the employees to whatever treatment they like to demand. It is not at all improbable that the employees will now say that they have a right to treatment at the hospitals and no longer need to contribute to the Hospital Saturday or Sunday Funds. The precedent is distinctly dangerous: the local Health Committees and approved societies under the Insurance Bill may not be slow to imitate it by offering, not to defray the actual cost of treatment, but merely to give a small contribution out of all proportion to the expense incurred. In fact, it would seem that every objection urged by the Hospitals Conference against the provision of Clause 17 of the Insurance Bill equally applies to the action of the Manchester Corporation.

Medical Aid in Street Accidents.

At the last meeting of the Manchester City Council Councillor Dr. Fletcher proposed:

> That in cases of accident or sudden illness occurring in any street or public building of this city, any member of the police force who shall be present shall be at liberty to call in the services of the most available duly qualified medical man, and that the corporation shall pay a fee of five shillings for such attendance.

Dr. Fletcher said that as the matter now stood there was no provision for the treatment of street accident cases until the patient reached the infirmary, with the exception of such first aid as could be given by the police who had received training in ambulance work; as the corporation had granted the use of the ambulance free for injured persons, he thought it should do the thing thoroughly. On the suggestion of a member of the council, it was agreed to add words to the effect that any member of the police force present "who should consider the case called for medical aid" should be at liberty to call in such aid. It was also resolved to add at the end of the resolution the words, "such fee to be claimed in suitable cases from the party injured."

Up to the present the medical profession has always understood that there was a rule providing that a fee of 5s. 6d. should be paid for these cases during the day and 10s. during the night, but this rule has been almost a dead letter, as practically all cases have been hurried off to some hospital without local medical aid being called in. No protests from the profession seemed to have the slightest effect until the incident of a few weeks ago, when much public indignation was aroused because the police waited a considerable time for the arrival of the ambulance without calling in local medical aid to a man who had been knocked down by a motor car and afterwards died. It would appear to be quite clear from the wording of Dr. Fletcher's resolution, as it was finally passed, that the corporation now takes on itself the responsibility in every case of paying the medical practitioner summoned; it is obviously the duty of the corporation, not of the medical man, to recover payment from the injured person in suitable cases.

SHEFFIELD.

Municipal Tuberculin Dispensary.

A meeting was held in the City Hall on October 27th for the purpose of formally noting the inauguration of the municipal tuberculin dispensary and of presenting a resolution of thanks, embossed on vellum, to Mr. Douglas Vickers, who made the realization of this scheme possible by a donation of £1,000. Before making the presentation the Lord Mayor, Mr. Alderman H. K. Stephenson, said that at present Sheffield numbered among its population probably 2,000 sufferers from tuberculosis, and that either to lessen their number or eliminate tuberculosis altogether from the city the close cooperation between the sanitary authority, the education committee, the medical profession, nurses, women inspectors, boards of guardians, all social workers, and the community in general was essential. The City Council desired to avoid encouraging any exaggerated ideas as to the value of tuberculin treatment or raising false hopes in sufferers in an advanced stage of consumption. All that could be said with regard to it was that in the opinion of those qualified to judge it was, when combined with sanatorium treatment, the best known. It was still believed that the disease was easier to prevent than to cure. The meeting was also addressed by Dr. J. E. Chapman, who has been placed in charge of the new undertaking, as mentioned in our issue for September 16th. He explained the theory underlying tuberculin treatment, and emphasized the fact that a tuberculin dispensary was not a dispensary in the ordinary sense of the word, but a part of a general scheme for combating phthisis.

LONDON.

Dental Treatment of London School Children.

The Education Committee of the London County Council on November 1st considered a report on the working of the experimental schemes for the dental treatment of school children instituted at four centres during the last twelve months—namely, at the Deptford Health Centre, the Poplar Hospital for Accidents, the St. George's Dispensary, and the Wandsworth Medical Treatment Centre.

The Children's Care Subcommittee stated that in the Deptford and Poplar experiments, while it was realized that the most appropriate age-group from a purely dental point of view was from 6 to 8 years of age; the period of 8 to 9 was selected because the ordinary medical inspection included the examination of children of this age, and because it was known that a considerable amount of dental caries existed among those children, for which it would be necessary to provide facilities for treatment. In both places it was found at an early stage to be necessary to supplement the work of the school doctors by special dental inspections, and the Council sanctioned the reduction of the time allotted to treatment from ten to nine sessions a week, and authorized the employment of the dentist on the remaining session for the dental inspection of children attending schools in the area served by the respective centres. The Council on March 7th, 1911, and on July 4th, 1911, approved two further experiments—namely, at St. George's Dispensary, Blackfriars, and at the Wandsworth Medical Treatment Centre. As special dental inspections had become necessary, the reason for the selection of the older age-group was removed, and the Council in these two experiments provided for the treatment of children between 6 and 8 years of age, and for the treatment, in special cases, of children of other ages. Arrangements were made for the dentist, in each case, to be employed on one session a week to conduct dental inspection in the schools and to select cases for treatment. From the outset it was recognized that difficulty would be experienced in obtaining the consent of the parents, owing to the fact that, in the absence of actual suffering, the need for treatment was not generally appreciated. With a

view, therefore, to educating parents in dental hygiene the Council sanctioned lectures by Dr. C. E. Wallis, in the vicinity of the centres, and leaflets and cards on the care of the teeth had been circulated. The report continued as follows:

The experimental period at Deptford and at St. George's Dispensary would expire on December 31st, 1911, and it was necessary to decide whether the arrangements should be continued. The consent of the Board of Education in both cases was given on the understanding that, in the event of any application for renewal, the Board would be supplied with reports upon the working of the schemes in sufficient time for consideration before the end of the experimental period. At the Deptford centre the agreement provided for the treatment of 3,960 cases per annum. During the twenty-nine working weeks ended September 30th, 1911, 1,594 children were treated, or at the rate of 2,420 a year. In addition to 2,563 extractions and 2,690 fillings, some 300 minor operations, such as medical dressings in teeth, scaling and cleansing had been performed. Of fillings performed, 2,481 were permanent teeth and 209 temporary; and of extractions, 364 were permanent teeth and 2,199 temporary. With regard to the discrepancy between the number treated and the number provided for, it should be pointed out that the deficiency was much more serious at the beginning of the scheme than at the present time—for example, out of a possible 180 appointments during the fortnight ended January 21st, 1911, 49 appointments were kept, while during the fortnight ended October 21st, 1911, 138 children attended the centre. The dentist reported that considerable advantage had resulted from the inspections conducted by him in the schools, inasmuch as they had afforded him an opportunity of arousing the interest of the teachers and children in the work. The experiment at St. George's Dispensary was put into operation in May, 1911. The agreement provided for the treatment of 6 cases a session (approximately 1,300 a year), but, whenever possible, endeavour had been made to secure the attendance of 8 new cases a session (approximately 1,760 cases a year). During the sixteen working weeks ended September 30th, 1911, 457 children attended the centre, or at the rate of 1,250 a year.

There could be no doubt that dental caries was sufficiently prevalent to justify all the provision of treatment made in the districts served by these two centres, which, notwithstanding the difficulties incidental to the inauguration of new schemes of this nature, had done good work. In view of the impending reorganization of the Council's medical work, the committee did not propose to deal with the general question of the dental treatment of children, but the two centres were quite suitable for retention as part of a permanent scheme and the local committees were prepared to continue the work. All the dentists concerned were in agreement that an anaesthetic was essential in difficult cases of extraction, but no provision had been made for dealing with these cases, and it had been necessary at all the centres to withhold treatment. The Council, however, on August 1st, 1911, sanctioned the employment of an anaesthetist in connexion with the treatment at the Poplar Hospital, and it was proposed that this provision should be extended to all the schemes. On the question of age it was proposed to provide for the treatment of children from 6 to 8 years of age, selected as the result of special dental inspections, and also, for the present, for the treatment of children of 8 to 9 years of age selected by the school doctors, and of any specially urgent cases which might arise. The basis of payment by the Council was £50 a year for each half-day's service a week of the dentist or anaesthetist, and 2s. per case treated. The cost involved in the two schemes was therefore as follows:

Deptford Centre.—Salary of dentist (seven half-days a week), £350; salary of inspecting dentist (one half-day a week), £50; anaesthetist (one half-day a week), £50; capitation grant on 3,080 cases, £308; total, £758.

St. George's Dispensary.—Salary of dentist (five half-days a week), £250; salary of inspection dentist (one half-day a fortnight), £25; anaesthetist (one half-day a fortnight), £25; capitation grant on 1,760 cases, £176; total, £476.

The subcommittee recommended that, subject to the approval of the Board of Education, the agreements with the Deptford Health Centre and the St. George's Dispensary, Blackfriars, be renewed as yearly agreements as from January, 1912.

The recommendation was agreed to.

St. Bartholomew's Hospital Women's Guild.

A well-attended meeting was held in the Great Hall of St. Bartholomew's Hospital on Monday, October 23rd, at the invitation of Lord and Lady Sandhurst, to inaugurate a women's guild for the hospital. An account of the work of a similar guild at Guy's Hospital was given by Mrs. Lauriston Shaw, and, after speeches by Lord Sandhurst and Dr. Norman Moore, resolutions were passed forming the guild and electing the first committee and officers. The objects of the guild are to provide clothes for the use of necessitous patients in the wards and on their discharge from the hospital, and to take up any other work in connexion with the hospital which may from time to time, with the sanction of the treasurer and almoners, commend itself to the general meeting. Further particulars of the guild may be obtained from the Honorary Secretary, Miss R. Tweed, 45A, Addison Gardens, W.

WALES.

The National Memorial and the Insurance Bill.

A deputation representing the Welsh National Memorial to King Edward VII, which, as our readers know, proposes to organize a system of combating tuberculosis in the Principality, had an interview with the Chancellor of the Exchequer, who was accompanied by the President of the Local Government Board, on October 31st. The deputation, which consisted of, among others, Mr. David Davies, M.P., Lord Kenyon, Alderman T. Parry (Chairman of the Monmouth County Council), Dr. Robinson (Chairman, Cardiff Public Health Committee), Dr. McGinn (Chairman, Newport Public Health Committee), Alderman Morgan Tutton (Swansea), Mr. E. Radford (Manchester Unity of Oddfellows), Lady St. Davids, Mr. J. Lynn Thomas, C.B. (Cardiff), and Professor T. Jones (Secretary), was introduced by Mr. Ellis Griffith, M.P., and a statement summarizing the scheme of the Welsh National Memorial Committee was made by Mr. David Davies, M.P., who has so liberally contributed to the funds at the disposal of the committee. Mr. Davies submitted the following scheme prepared by the Welsh Committee:

1. That Wales should be recognized as a single unity for administrative purposes in fighting tuberculosis.
2. That a central authority should be formed for that purpose, and that such an authority should be thoroughly representative of the county and local authority in Wales, and of the subscribers to the fund—in fact, of the whole Wesh people.
3. That this central authority should be entrusted with the grants for erecting sanatoria, and for providing sanatorium benefit.
4. That any grant made on account of uninsured persons by the Treasury should be made to such central authority.

Lord Kenyon said that the executive committee was not rigidly tied to the scheme, which was subject to adjustment.

Mr. Davies also stated that the sum which the committee desired to raise was £300,000.

Mr. Lloyd George, in the course of his reply, said that the Insurance Bill, as it stood, involved not merely an undertaking to deal with consumption by means of sanatoriums, but by any and every other form of treatment that had been discovered or might be discovered. It would include not only the insured persons, but also their wives and children. The Government would find £1,500,000; a rough estimate of the capital expenditure required was between £3,000,000 and £4,000,000, and he thought it possible that the scheme could be carried out without further contributions, as sanatoriums existed all over the country, and any deficit would have to be made up by local authorities or voluntary subscriptions. For maintenance the bill provided something like £1,000,000 a year out of the insurance funds; of this amount the State found about a quarter, the remainder being derived from the contributions of the insured persons. The inclusion of wives and children would probably eventually double the amount, and the Government's suggestion was that half the balance should be found out of the rates and the other half by the Treasury. The control of expenditure must be given to those who contributed the bulk of the funds, and he had an amendment to enable local Health Committees to come to terms with any body, person, or authority prepared to provide and maintain sanatoriums. He thought that the body suggested under the scheme was too composite, and he was glad to know that the Welsh Committee was not wedded to details. He understood that all that was really wanted was to establish the principle of unification so that the whole of Wales should act together. It would be necessary to allow a large representation to the local authorities. There would be no difficulty with the Treasury, but the local authorities might raise difficulties in the matter of levies and additional rates. He concluded by suggesting that the Welsh Committee should nominate a small subcommittee to discuss the matter with Mr. Burns and himself and with the officials of the two departments.

This suggestion was accepted, and Lord Kenyon, Mr. David Davies, M.P., Mr. C. W. Evans (Cardiff), and the secretary, Professor T. Jones, were appointed.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

Malaria in Bombay.

Dr. Bentley's report on malaria in Bombay will be read with great interest by all who are concerned in the prevention of malaria. The subject is treated in a masterly manner, and the results arrived at are definite. In Bombay it will be possible to eliminate malaria at a cost which represents a small fraction of the pecuniary loss that is now being sustained in consequence of the presence of the disease.

The attitude of the medical members of the Bombay Corporation to Dr. Bentley's report is remarkable. There are several Parsi doctors on the board, and almost with one accord these made a vigorous onslaught on Dr. Bentley, accusing him of prejudice. It seems that the Parsis regard it as a personal insult that Dr. Bentley should point out that they suffer much more from malaria than the other communities in Bombay, and they consider it a sacrilege that their private wells, which are used in certain religious ceremonies, should be shown to be the cause of the extreme prevalence of the infection.

It seems likely that the work of freeing Bombay of malaria will be seriously hampered by the prejudices of the Parsis, unless Government should decide to exercise its powers by compelling them to close or protect the wells which have been shown to be so dangerous to the entire community.

The Pasteur Institute at Kasauli.

The report for the year 1910 has been prepared by Major W. F. Harvey, M.A., M.B., I.M.S., Director of the Institute. The number of persons treated was 2,073, an advance of 136 over the previous year. Of this number 136 came from the British Army, 157 from the Indian Army, and 165 were Europeans and 1,615 Indian civilians. Among those treated 26 deaths took place, but only 4 of these (occurring later than fifteen days after completion of treatment) are counted as failures, giving a percentage of 0.19—the best which has been obtained since the institute was opened in 1900. Several new buildings have been added, and more are in process of construction. A sum of Rs.34,132 was collected during the year on behalf of the extension scheme. The income of the year was Rs.102,738, and expenditure Rs.82,589. A balance of Rs.20.148 thus remained, and investments amount to Rs.10.000. Dr. Harvey gives some interesting statistics in his report, and supplies useful hints as regards prevention. The laboratory attached to the institute is utilized not only for its special purposes, but also for general pathological and diagnostic examinations.

Grant Medical College, Bombay.

The report for the year 1910–11, submitted by the Principal, Lieutenant-Colonel L. F. Childe, M.B., I.M.S., shows that the following new buildings were opened and brought into use, namely: (1) Lecture theatre, (2) pathological and police surgeons' laboratories and the coroners' court, (3) refrigerating rooms for the anatomy department and the morgue, (4) the students' hostel. A new physiological laboratory is in course of construction. The changes in the staff were, as usual, numerous. Four new lectureships on diseases of the nose, ear, and throat, skin diseases, anaesthetics, and electro-therapeutics have been established, and four local medical practitioners appointed to them on a salary of Rs.200 a month. The Minor Chair of Botany has been abolished in consequence of the abolition of the L.M. and S. course: 519 students (including 29 girls) remained on the rolls at the close of the year, of whom 59 were Christians, 291 Hindus, 148 Parsis, 14 Mohammedans, and 7 Jews: 45 military medical pupils were also under instruction; 89 students left the college on completion of their five years' course of study. The final control over the college by the Director of Public Instruction and the Surgeon-General with the Government of Bombay has been abolished, and the college has been placed under the sole control of the latter. The list of scholarships, prizes, and medals is a long one, indicating general interest in the institution and generosity on the part of the Bombay public.

Special Correspondence.

PARIS.

Possibilities of Post-Graduate Work in Paris.

Probably there are few medical schools in which there is such a wealth of material as in Paris, and none in which the same facilities for post-graduate work can be obtained, but in spite of this the Paris school does not attract as many post-graduates as it did long ago. Yet a man who has visited a foreign medical school after qualifying at home finds his ideas of treatment widened and his mind in general more open to receive outside advice without prejudice. Even a few weeks in Paris, paying daily visits to the hospitals, will give one a good idea that there are good methods not much used in the British schools. Another thing which will strike a visitor at once is the variety of cases, and that in France some diseases are much more frequently met with than at home, and in different forms. Take, for example, lobar pneumonia; here it is frequently not so virulent a disease as in Britain, and the patient does not seem to be under the influence of so strong a toxin. Possibly the pneumococcus here is less virulent, or perhaps the race as a whole is not so susceptible to this organism.

Again, cirrhosis of the liver is frequently seen in the medical wards here, and is possibly due to the consumption of cheap wine in large quantities. Chronic nephritis, on the other hand, is not so frequently seen as in Scotland, and this would almost lead one to suppose that whisky and wine have entirely different effects as poisonous agents, the former acting almost entirely on the kidneys, the latter on the liver. Points such as these are worth noticing in the hospital practice, as, after these differences have been seen, they do not readily escape the memory.

Foreign medical schools have faults as well as merits; but it is best when visiting to look for and make a note of the advantages first, while at the same time to keep an eye open for the faults as things to be avoided.

As has been said, one of the chief advantages in Paris is the wealth of clinical material and the facilities for seeing everything there is to be seen. Any medical man who visits the hospitals here will always be received with courtesy, and if he can speak a little French so much the better; but probably some one in the service which he visits will speak, or at least understand, English; and, in any case, the visitor will be made welcome and get the full advantage of seeing as much as possible. In entering a hospital as a visitor one is treated as friend, and be the visitor old or young, it makes little difference to the French physician, as he takes the visitor to be a scientist and treats him as such. Should one desire to see special work, the same thing applies. Skin clinics, eye clinics, genito-urinary diseases, and, in fact, every speciality has its clinic, and not only one clinic for each special subject, but each hospital has its special wards, so that an eye specialist can easily put in a good month or more merely seeing eye work and nothing else, and the same for each special subject. What strikes one forcibly is the small number of men who come to Paris to spend time here, and it is probably only because they do not know what they could see if they came. Once having seen the work here, they would certainly carry home with them at least some new ideas as to the possibility of treatment, and probably feel anxious to try one or more methods they had seen practised.

VIENNA.

Historic Building. — The Spread of Cholera. — Warning against the Choice of Medicine as a Career. — Division of Lectures between the Old and the New Hospital.

The city of Vienna has recently suffered the loss of an interesting historical monument whose history is closely connected with that of the medical profession in this country. The building in question, which was pulled down a short time ago, was originally the head quarters of the ancient medical faculty of Vienna; and it was beneath its roof that the first regular necropsy ever held on a human body in German-speaking countries took place in

the year 1404. In those days dissections were still few and far between, and the difficulties surrounding them, and arising from the popular prejudice against the supposed sacrilege were almost insurmountable. Thanks to a law passed by the Emperor Frederic II, the medical profession was allowed to dissect one body in every five years, but even then they were obliged to do it in secret. The first lecture on necropsy, *lege artis*, was delivered on February 12th, 1404, in the hall of the medical faculty, by an Italian, Galeare, a native of Padua, and the dissection lasted for seven days, ending on February 19th. When all was over, Mass was said for the repose of the soul of the person whose body had been dissected in the presence of all those who had taken part in or assisted at its dissection. Five more bodies were dissected in Vienna during the fifteenth century, in the years 1418, 1444, 1452, 1455, and 1459, the first female body ever opened on a Viennese dissecting table being that of a woman who, together with five others, was hanged as a witch in 1452. By special permission of the Emperor her body was dissected on May 31st in the old hall of the faculty, Master Jacobus, the "chirurgien," being prosector, and Decanus John Zeller the lecturer. In 1530 the head quarters of the faculty passed into the hands of a religious order, and amidst great pomp was solemnly purified from all the sins committed within its walls. It was afterwards used by the Jesuits as a lecture-room and library, and finally ended its days as a private residence.

An outbreak of cholera has been notified from the Austrian seaboard, the shores of Istria and Dalmatia, and the city of Trieste. About 29 cases have occurred in the latter place, the source of infection having been discoverable in each case; and sporadic cases are reported along the principal commercial routes between Trieste and Vienna. In Vienna itself, a short time ago, a woman died of cholera without the cause of her infection being traced. Along the seaboard and in the Turkish and Montenegran inland provinces (Hinterland) of Austria the growth of the epidemic has led the doctors to appeal to their Austrian *confrères* for volunteers to assist them in their work. Happily the population is quite quiet, and the only inconvenience which up to now has arisen from the outbreak is the delay of the autumn manœuvres.

A circular has been issued by the Medical Council of Bohemia, and sent to the director of every college and gymnasium, which contains an official warning against the expected influx of medical students during the coming session. This circular seems to be an answer to the action of the German National Council (*deutscher Nationalrath*) of this province, which some time ago drew public attention to the advisability of strengthening the German portion of the population as opposed to the Slavonic (as a means of self-preservation against the increase of the Slavonic element) by encouraging a large number of German youths to become doctors. The advice seems to have been given for purely political reasons, and quite regardless of its possible results. In the above-mentioned circular, however, these results are set forth very clearly. Parents are warned that the average income of a doctor in Bohemia is less than 5,000 kronen (or £200 a year), whilst the earnings of 20 per cent. do not amount to £150. Only sixteen doctors out of a total of 2,000 odd earn more than £1,500 a year; the majority have to content themselves with an income of £250 or £300. At the same time the cost of living, even in country districts, has increased to such an extent that it is hardly possible to keep up appearances on such an income. In view of these drawbacks the Council has decided to put the question fairly before the public, and allow parents to judge whether the expenditure necessary for five years' medical study and two years' clinical work would not be sufficient to educate their sons in other and more profitable professions.

The winter term of 1911–12 has just opened, and the lectures on medicine, gynaecology, obstetrics, and rhinology are, for the most part, to be delivered at the New Hospital, into which the clinics for rhino-laryngology and diseases of children have lately been removed. The surgical, otological, dermatological, ophthalmological, and nerve clinics are the only ones to remain in their usual places. The lack of funds for carrying on the building of the new clinics caused considerable anxiety some time ago, but most fortunately the money was forthcoming, for it would have been a serious blow to the prestige of the University of Vienna if the bureaucratic party had been stronger than the Scientific Committee. For the students of the lower standards, however, this division of clinics entails a loss of time which will be unhappily unavoidable for the next two years; after that the whole of the new hospital will be completed.

BUDAPEST.

Prohibition of Proprietary Remedies containing Excess of Alcohol.—Inspection of School Children.—The State Manufacture of Antitoxin.—The Cure of Phthisis in Hungary.—Some Observations on Life Insurance.

THE Hungarian Council of the Royal Templars is at present devoting all its energies to bring about the legal prohibition of the sale of such patent medicines as contain more alcohol than is sufficient or absolutely necessary for their preservation. At a recent meeting of the Templars in Budapest the question was once more fully discussed in all its bearings, and an analysis of several well-known specialities served to open the eyes of many worthy members of that society. It was proved beyond all doubt that many of these preparations contained from 14 to 70 per cent. of alcohol—a fact to which they owed their popularity with a large number of their patrons, with whom they took the place of the usual "morning bitters." For years past the medical press has been calling attention to the fact that the virtues, if one may call them so, of these patent remedies are entirely due to their stimulating qualities, and that the latter are, in every instance, the result of alcohol. It is gratifying, therefore, to find that persistent and consistent agitation has had the desired effect upon the apostles of temperance, who are now uniting in one body to crush this growing evil.

The following list of points to be observed and examined has been issued by the Budapest Board of Education for the guidance of medical inspectors at the biennial medical inspection of school children:—(1) With regard to the eyes: Diseases of the conjunctiva and lacrymal apparatus, muscles of the eyeball, visual acuity, hypermetropia, myopia, astigmatism. (2) With regard to the ears: External ear, auditory meatus, drum membrane, hearing, acute or chronic disease of the middle ear. (3) With regard to the mouth and pharynx: Defects of tongue, lips, palate (condition?), condition of teeth, hypertrophy of tonsils, pharyngitis, adenoids, granulations, etc. (4) With regard to the nose: Acute or chronic rhinitis, nasal hypertrophies, polypus, deflection of septum, etc. (5) With regard to the chest: Abnormal development, round shoulders, spinal deflection, diseases of the heart and lungs. (6) With regard to the skin: Acute or chronic affections, scabies, pediculosis, favus, etc. (7) With regard to the general nutritional and structural disorders: Anaemia, chronic headaches, granular enlargements, tuberculosis, deficiency of muscular development, nervousness, chorea, or any pathological condition which may retard the pupil's growth or influence his progress in school work.

A bill has recently been introduced into Parliament by Dr. Boskovicz, a practising physician, recommending the installation of machinery for the wholesale manufacture of diphtheria antitoxin. The bill provides: (1) For the provision by the State Board of Health of such laboratory or laboratories, apparatus, materials, and other requirements as are necessary for the manufacture or preparation and distribution of diphtheria antitoxin to the inhabitants of the State through the local boards of health or any other medium determined by the rules of the said State Board of Health. (2) For the Act taking effect within a year. The bill has been endorsed by the State Board of Health (which has ample facilities for the manufacture of antitoxin) and referred to the Judiciary Committee, and it will be therefore, in all probability, reported and rushed through very shortly.

Some interesting statistics concerning the results of the open-air treatment of consumptives have been published by the Hungarian Central Committee for Tuberculosis. From these we learn that during the year 1910, 2,187 tuberculous men and 1,302 women were treated in open-air hospitals at the expense of the Workmen's Insurance Office (which is assisted by the State); and out of this number 71 per cent. of the cases were so far cured

as to preclude the possibility of the disease rendering the patient unfit for work. If a deduction is made of those cases which, after a fortnight's treatment, were pronounced incurable, the number of cures amounts to 73 per cent. The figures published by the Royal Statistical Office show that the death-rate from tuberculosis is steadily decreasing in Hungarian towns with a population of 15,000 and upwards. During a period of five years which ended in the year 1889, the number of deaths from consumption amounted to 376.5 in every 10,000; in 1894 they had dropped to 361.4, in 1899 to 343.6, and in 1904 to 312.5, whilst during the half decade which followed they only numbered 288.5.

Some interesting observations and investigations have been made by Dr. Bernat Munk, of Budapest, concerning the liability to early death displayed by candidates rejected by insurance companies as compared with that shown by the candidates accepted. Out of 1,415 persons who had applied to a certain life insurance company, and of whom 125 were rejected as bad lives, he managed to trace the subsequent career of 96; of these only 11 died in the course of fifteen years, whilst, according to insurance statistics, had they been sound lives the mortality amongst them would have amounted to as many as 9. Dr. Munk has come to the conclusion, therefore, that the men rejected by insurance companies usually live as long as their more successful neighbours, one reason being, perhaps, that the fact of being pronounced a bad life makes an ordinarily steady man take especial care of his health.

Correspondence.

CARDIAC ASTHMA.

Sir,—The severe pressure of numerous engagements would not allow me time last week to answer the letter of my friend, Dr. James Mackenzie. This delay is the less to be regretted as the distinguished Regius Professor of Physic at Cambridge, whom we both value as a mutual friend, has replied in a manner equally luminous and eloquent. With his remarks my personal wishes would render me fain to rest content were it not that my silence might be misunderstood—nay, even misrepresented.

It is not easy for me to understand why Dr. Mackenzie wishes Sir Clifford Allbutt and myself to define clearly and succinctly what we mean by the term "asthma." If he will turn to my remarks, he will observe it stated that, "to my way of thinking, there is one form of true asthma—of which there are a number of counterfeits." Further on in my introductory remarks, "asthma" is in its nature defined as consisting in "a spasm of the smaller and smallest bronchial tubes, brought about, primarily, as the result of a neurosis." It is there frankly admitted that, along with such a condition, there may be a wide extension of the spasmodic state, as well as the presence of other accompaniments. The determining causes inducing a paroxysm are fully stated in my remarks. To those acting *directly* through the central or peripheral nervous system, our attention need not at present be given, it is to the influences acting *reflexly* that our consideration must now be turned. Irritation of the respiratory, digestive, urinary, pelvic, and cutaneous tissues is mentioned in my remarks. Never in my life, however, has any term such as "brain asthma," or any of Dr. Mackenzie's other parodies, been employed by me. Such phraseology is odious; each of these terms, coined by the fertile mind of Dr. Mackenzie, is as much anathema as "cardiac asthma."

Turning now to the more particular consideration of the phrase "cardiac asthma," it must be mentioned that various circulatory disturbances occur in asthma; while, conversely, it is possible that asthma may develop in a patient with heart disease. Cases of heart disease in which paroxysmal dyspnoea occurs, naturally fall into two great classes. To the first belong patients with a tendency to cyanosis, who, from the increased cardiac weakness attendant upon sleep, or in consequence of some peripheral disturbance, for example, a distended stomach, suffer from paroxysms of breathlessness. In the second are patients manifesting the complex of symptoms comprised under the term "angina pectoris," in which vascular spasm, instead of causing pain, produces dyspnoea. It may be granted freely that there are other circulatory disturbances in which paroxysmal dyspnoea does take place, but these certainly are the most common. Why the term "cardiac asthma" should be applied to such attacks of dyspnoea is not clear. In protesting against the employment of such a phrase it seems to me even more necessary to raise an objection against the glib use of this loose phrase as descriptive of persistent, instead of paroxysmal, cardiac dyspnoea.

To mention a matter which is entirely analogous, it may be said that, while in attacks of bronchitis paroxysms of dyspnoea may occur—even nocturnal, as in the case of circulatory breathlessness—we do not speak of these paroxysms as "pulmonary asthma."

The greatest objection to the phrase "cardiac asthma" lies in the fact that to use it distorts nosological terminology. "Asthma" is correctly employed to denote a certain definite group of symptoms, which present, as Sir Clifford Allbutt remarks, a fair uniformity. It may be induced by many exciting causes; the esoteric conception, nevertheless, is that of a primary affection, not dependent upon any previous disease.

We have thus, to sum the matter up, two groups of diseases. The first group comprises the cases, independent of definite lesions, in which paroxysms of characteristic dyspnoea occur, sometimes apparently in a spontaneous manner, at other times precipitated by different local irritations—these cases constitute the recognized nosological conception which we term "asthma." The second group includes the instances in which, from obvious disturbances, cardiac, pulmonary, excretory, metabolic, or otherwise, we can, with absolute certainty, conclude that the symptom of dyspnoea is secondary. To confuse the first group with the second does not conduce to clearness of argument.—I am, etc.,

Edinburgh, Oct. 31st. G. A. Gibson.

Sir,—I had hoped that Sir Clifford Allbutt would have explained what he meant by the term "asthma," and would have shown how the condition I had described under the term "cardiac asthma" failed to come within the limits of his definition. I have tried to comprehend his meaning, and I gather that he assumes that the form of dyspnoea which I had called "cardiac asthma" differs from that "assemblage and procession of signs and symptoms, positive and negative, recurring with fair uniformity," which he looks on as characteristic of asthma.

I have had opportunities of studying the condition during attacks in ordinary asthma and in cardiac asthma, and I could detect no dissimilarity. Thus, the patients' sensations, their aspect and attitude, the manner of breathing, the onset and offset of the attack, the response to remedies, were identical.

There are a number of forms of respiratory distress provoked in different ways by affections of the heart. Very little real study has been done on this subject, and I have been able to recognize a few forms, whose nature has puzzled me.

The mechanism by which they are produced is varying, as, for instance, the dyspnoea from exertion and the dyspnoea in Cheyne-Stokes respiration. In certain rare forms of heart affection, particularly where there is extensive degenerative change in the heart muscle, several peculiar forms of dyspnoea occur. One of these peculiar forms is this condition called "cardiac asthma," which, I may remark, is a sign of very grave significance.

I have seen only a few cases during an attack, and those I saw when I was engaged in general practice, and was summoned in the middle of the night because of the patient's distress. The information derived from seeing these cases has enabled me to appreciate the condition in patients suffering from these attacks whom I have not actually seen during an attack.

Sir Clifford Allbutt puts forward the suggestion that it is possible he may never have seen such a case, and I am disposed to think that this is probably the reason why he disagrees with the term "cardiac asthma." I have been talking to several physicians who support Sir Clifford Allbutt in his rejection of the term, and I have asked them if they have seen the attacks to which I refer, and they all admit that they had not seen them, and had assumed that as they had not seen them they did not exist.

When one reflects on the rarity of these cases, and that the attacks usually occur in the night, and the fact that the teaching physician is not likely to be called out at night to see a breathless man, it is not surprising that many physicians have no experience of this and other forms of cardiac dyspnœa.

A very important principle underlies this question, which, if properly appreciated, explains much that is obscure in clinical medicine. I have elsewhere shown that the most instructive clinical phenomena are reflex in their origin, due to the fact that there is a nervous relationship between different organs and tissues, so that the affections of one organ can be manifested by phenomena in another organ or tissues, remote from the offending organ. It is usually admitted that asthma can be provoked by remote organs stimulating a region in the central nervous system. This region can be played upon by any organ that is capable of giving rise to an adequate stimulus, and there is no reason for assuming that what many organs can do in this respect the heart cannot also do.—I am, etc.,

London, W., Oct. 30th. J. MACKENZIE.

VARIETIES AND TREATMENT OF ASTHMA.

SIR,—The most obvious fact in the treatment of asthma is its contradictory nature. Nearly every drug in the *Pharmacopœia*, most forms of physical treatment, and certainly every climate on the face of the globe have been both vaunted and decried as remedies for asthma. In the discussion itself it was admitted as a startling and disconcerting fact that some cases improved with vaso-dilators such as the nitrites, while others improved under suprarenal extract or other vaso-constrictors. Dr. Gibson himself said, in reference to climate, that "each case must be treated empirically." Now if we obtain contradictory results in the treatment of a certain disease it is because we have ignored some radical difference in etiology. No one is likely to deny the importance of neuropathic tendencies as a predisposing cause.

I submit, then, that all our discussions and writings about asthma and its treatment are defective and inconclusive in that we talk of its causation (if not also of the disease itself) as a unity, whereas it is a "symptom complex" in almost every case. (I exclude the debatable "cardiac asthma.")

Take a typical case of a woman in comfortable circumstances who is a martyr to asthma. She goes to some foreign health resort which has cured her friend, and she is worse; she falls into the hands of a rhinologist who cauterizes her turbinates, and she is cured for a couple of years; she relapses and tries electrical treatment, and it does her good for a time; she is treated by a physical culturist, and gets no good because she does not enjoy the treatment and stops half-way through the course; she tries the latest American "professor" who treats her by correspondence, and she is cured again, and so on. We smile and say she is "neurotic," but how about the theories of the climatologist and the rhinologist, and the rest? Was each one wrong? When the rhinologist includes her case in his record of hundreds cured, is he romancing? I think not. He has been treating a contributing causative factor and has done so not altogether in vain, but he has ignored the main factor—the asthmatic predisposition: the psychic factor. Till we acknowledge and face this ever-present factor and realize that all other factors are contributory, we shall get no further in our discussions and arguments. Let all these factors be treated by all means, but let us treat them with a full realization of the fact that in an individual psychically predisposed to asthma, nasal polypi or hyperchlorhydria, or any one of a dozen other causes will determine the disease, and that the removal of one of these causes cannot be looked on as the cure of the disease. Nasal polypi do not produce asthma in a person who is not mentally predisposed any more than hyperchlorhydria does. They will do so in an individual who habitually has the threshold of his consciousness low in respect to such peripheral stimulation and in whose subconsciousness there has been formed a path of least resistance leading to the respiratory or vascular centres.

We may remove one exciting cause, but as long as the patient is psychically predisposed he is open to recurrence from a new cause. Self-suggestion acts more forcibly and more insidiously in asthma than in any other known condition, and if proof of that statement is required, I refer the reader to the advertising literature of hundreds of successful quack remedies of the most doubtful pharmacological worth.

Let us be logical, and admit that we have neglected the treatment of the underlying and ever-present psychical factor, and let us also recognize frankly that the treatment of one or more contributory causes may be needful and may be successful but is not therefore the treatment indicated in all cases, nor yet the only treatment needed by an individual sufferer. I maintain that all successful treatment of asthma depends on suggestion, allowing at the same time that suggestion is often successfully applied, intentionally or otherwise, by the doctor who is treating a contributory cause.

Asthma is not an incurable disease, nor is it even the inscrutable enigma some would have us believe, but it is in most cases amenable to rational treatment by eliminating the exciting causes, and treating by suggestion the psychic predisposition.—I am, etc.,

London, W., Oct. 26th. H. CRICHTON MILLER, M.D.

TREATMENT OF ANTE-PARTUM HAEMORRHAGE.

SIR,—I accept entirely Sir W. J. Smyly's account of his experience. But the recent reports of the Rotunda show that plugging was used so often for accidental haemorrhage that most of the cases must have been, like Dr. Stapfer's, such as would have recovered under any non-operative treatment. There was not enough blood to make the plug into a slippery ball.

But I should not have repeated this, were it not that Sir William Smyly attributes to me a statement which I did not make, and the meaning of which is exactly the opposite of what I said.

I did not say that "the uterus yields to sudden effusions and not to gradual"; and I agree with Sir William Smyly that "there are no known facts to support such a hypothesis." What I said was that "the uterus was tolerant of gradual distension, but intolerant of sudden distension."* —I am, etc.,

London, W., Oct. 23th. G. E. HERMAN.

SIR,—I have just had an opportunity of reading Dr. Hewat's letter in the JOURNAL of October 21st on treatment of *ante-partum* haemorrhage, and would like to suggest a simple method of treatment which I have adopted for more than twenty years. My procedure has been the insertion of an alum plug against the os; bleeding ceases almost immediately. At first I used to use a piece of alum as large as a pigeon's egg, and then insert an inflating ball pessary. For about twelve years, however, I have used coarsely powdered alum tied up in aseptic muslin as a tampon. This is removed the following day and the vagina well douched to remove the black hardened blood clot. I have found this invariably successful in abortions and placenta praevia, and I can always leave a case at once without any anxiety.

The following instructive case occurred in my practice in the Isle of Wight about sixteen years ago. I was sent for to a case of severe flooding, about four miles away, in a primipara about six months gone. I found the os partially opened, and inserted my alum egg and ball pessary, thinking the pains would come on later. Next day no pain had occurred, so I douched the patient and she went on to full term. She had an ordinary confinement without undue loss, but the interesting point was that almost in the centre of the placenta was a glazed pale portion as large as a five-shilling piece, where the blood vessels had apparently seared and healed up like mucous membrane.

I would like to add that this method was not originated by me, but the result of reading a letter in one of the medical papers written by a medical man whose name I have forgotten. I find this method is equally efficacious in the menorrhagias of women approaching their climacteric.—I am, etc.,

Ross-on-Wye, Oct. 24th. W. E. GREEN, M.R.C.S.Eng.

* BRITISH MEDICAL JOURNAL, September 30th, 1911, p. 717, column 2, line 6 from top.

PREGNANCY AFTER OPERATION FOR HAEMATOCOLPOS.

Sir,—In my paper on malformations, in your issue of September 30th, I asked if any of your readers had come across a case of pregnancy following an operation for haematocolpos. Dr. Balfour Marshall kindly wrote to me and I have his permission to ask you to publish his letter. As I expressed in my paper great doubt as to the possibility of such an occurrence, I think it right to report Dr. Marshall's case.

Dr. Marshall's letter is as follows:

"The patient, aged 23½, and married three months, with occlusion of the lower third of the vagina, had a haematocolpos reaching to above the level of the umbilicus (size of a six and a half months pregnancy, my report states). At the time of operation a haematometra was found as well as this enormous haematocolpos. I quote the following from my short paper:

"*After-History.*—The patient has proved unusually fertile, as I examined her in April, 1899, little more than two years after operation and found her between two and three months pregnant for the *third* time. During the last two years she has been delivered of two full-term children.

"This case is, I think, exceedingly interesting. It was one of the largest examples of haematocolpos I have ever seen, which you can believe considering her age. She became pregnant shortly after going home, and, if I remember rightly, there was not quite eleven months between the first and the second child, and she was pregnant between two and three months about five months after the birth of the second child. I have not been able to trace any other cases as the operations were done on girls and unmarried."

Dr. Marshall tells me that the report of this case appeared and is to be found in the *Transactions of the Glasgow Medico-Chirurgical Society*, vol. ii, page 352, May 12th, 1899.—I am, etc.,

London, W., Oct. 27th. Arthur E. Giles.

TUBAL GESTATION.

Sir,—In a leading article in the Journal of October 21st, p. 1023, you discuss the probable cause of tubal gestation, and state that Dr. Rabinowitz has come to the conclusion that the most frequent cause is a previous salpingitis of gonorrhoeal origin. It seems to me that not only gonorrhoea but anything which will cause a salpingitis may bring about ectopic gestation, in short, that a previously pathological change, not only in the mucosa but in the whole tube, is a necessary condition.

We must, however, know something beforehand of the phenomena associated with the passage of the ovum. I endeavoured to show in a previous issue of the Journal (1908, vol. ii, p. 1671) how, during the physiological excitement of menstruation, a saline water bath is prepared in the Fallopian tube, and how, when the ovum has entered, peristaltic contraction begins in the muscular coat, and this, with the ciliary movements of the mucosa, propels the fluid, with the floating ovum, towards the uterus. It is impossible to imagine that the ovum at any time during its passage comes into direct contact with the mucosa. Ciliary motion propels fluids, not bodies, which, if they happen to be present, are washed along with the fluid.

In the course of some work on hydrosalpinx at the Liverpool University I found that a perimetritic hydrosalpinx, that is to say, a hydrosalpinx caused not by salpingitis, but by a closure of the fimbriated end of the tube by a perimetritis—contained a clear, watery saline fluid, like the parotid saliva, with an alkaline reaction and a total absence of protein. Evaporated to dryness, it simply showed crystals of sodium chloride. This fluid, then, was the bottled-up secretion of the Fallopian tube. On the other hand, in a salpingitic hydrosalpinx, where the tube always showed evidences of previous inflammation, protein was invariably present in the fluid—large in amount in small cysts, not so rich in large cysts, owing to dilution, from constantly added natural secretion.

Now, after an acute salpingitis, if the inflammation has been too severe, it gradually subsides, leaving trails in the shape of small-celled proliferation and sclerosis of the blood vessels, and it is easy to see how, when such an ovum is called upon, it is heavily handicapped from a poleness of its blood supply, and fails to supply the necessary quantity of secretion, the result being that the ovum is easily caught by one of the numerous folds of the mucous membrane, remains there and becomes implanted.

Exactly the same phenomenon may be observed by throwing, say, a wooden ball into a tortuous stream with overhanging branches at each side dipping into the water. Should the stream be in flood, the ball is carried swiftly along, and, if caught by a branch, is easily swirled away by the force of the current. With a low, and therefore slowly moving stream, it is more readily entrapped, and more likely to remain.

Anything, therefore, which causes salpingitis may indirectly cause tubal gestation, provided the ostium abdominale remains open, and the inflammation is not so severe as to cause a shrivelling of the tube—provided, also, the inflammatory exudate does not become purulent, and thus destroy the mucous membrane. We have thus among these causes not only gonorrhoea, which is "a dog with a bad name," but also mild puerperal infections, and endometritis from pathological growths of the uterus and laceration of the cervix. How many times have I been called to women, three to seven days after delivery, with a burning pain in one or other groin and a temperature of 101° or 102°! I always look upon the future child-bearing period of these patients with a certain amount of anxiety. —I am, etc.,

Upholland, near Wigan, Oct. 25th. J. Thomson Shirlaw.

THE TEACHING OF AURAL SURGERY.

Sir,—Your commentary on my remarks upon the above subject made at the meeting of the Otological Section of the Royal Society of Medicine (October 20th, 1911) makes it clear that I have inadequately conveyed the exact meaning it was my intention to convey. To put the matter briefly, my contention is that the time has now arrived when otology should be made a compulsory subject in the medical curriculum, and that attendance at an aural clinic for from three to six months should be insisted upon.

I did not for a moment mean to convey the idea that the student's whole time for from three to six months should be devoted to otological work, but merely that a portion of his day, say one hour three times a week for from three to six months should be given up to the study—practical and theoretical—of this important subject.

By devoting even such a short time to the study of otology the student would at least learn the rudiments of the subject—the essentials of diagnosis and the methods of manipulation—knowledge which would subsequently be of great service to him in practice.

My experience as a teacher of many years has convinced me, however, that for the average student to acquire even this minimum of knowledge, the subject will have to be made *compulsory*, otherwise the tendency will in the future be as it has been in the past to leave it alone until all *compulsory* subjects have been passed, after which time its study will become even more problematical than before graduation.—I am, etc.,

Manchester, Oct. 30th. William Milligan.

THE GENERAL MEDICAL COUNCIL ELECTION.

Sir,—It is possible that many of the members of the Association will not understand why I am standing as a Direct Representative on the General Medical Council after the vote of the majority of Representatives present at the Representative Meeting was taken, and resulted in the selection of the present Association candidates. The reasons are:

First, the large number of votes I secured on the two last occasions when I was a candidate—namely, in 1906, 3,985 votes; and in 1911, 4,049 votes.

Secondly, when I was asked a question in the Representative Meeting as to my connexion with a society called the Imperial Medical Union, I fear I did not properly explain the position. This no doubt prejudiced me in the eyes of many of the Representatives. I should like to explain that when I consented to be connected with the Imperial Medical Union I was distinctly informed that it was in no way to be antagonistic to the British Medical Association. No resolution has been passed or action taken in any way reflecting on the British Medical Association that I am in the least cognizant of. The views expressed

in the *Medical Times* are purely those of the editor, for which it is not quite fair to hold me in any sense liable.—I am, etc.,

GEO. JACKSON.

Plymouth, Oct. 30th.

LEPROSY AND THE BED-BUG.

SIR,—I have read with much interest the recent articles by Dr. Lindsay Sandes and Dr. Loug[1] on the question of the communicability of the lepra bacillus by bed-bugs. The letter by Sir Jonathan Hutchinson[2] added much to these gentlemen's observations. Fish was part of the leper's diet some three years ago on Robben Island. Of course, it was good fresh fish. A number of lepers on the island had the privilege of living on "raw rations," that is, they drew a daily supply from the stores, and cooked for themselves. Very often on inspecting the food lockers I have found fish in different stages of decomposition. Some years ago, when I acted as district surgeon and S.J.P. in Reddersburg, in the Orange River Colony, I was struck by the great love for fish diet by the Basuto boys coming home from the mines. The storekeepers always had a large stock of dried ling, and the natives always procured a good supply for their journey to Basutoland.

On the Lower Zambesi, in Portuguese East Africa, leprosy is very prevalent; here again the natives, especially the "Senas," live to a great extent on fish. When the river is in flood natives can be seen every hundred yards or so busy fishing. The catch is dried in the sun and stored without salting for future use. Away in the bush, where the river has left lagoons varying in size, the native amuses himself fishing during the dry season. I have seen fish in all stages of decomposition consumed by the natives in this country. Again, the chief sport of the native on Robben Island during my residence was fishing, and I suppose it continues to be so. I have for months observed this when resident on the island. I have often watched the lepers and admired their skill in catching fish. These they dry in the sun. On one occasion I came upon a picnic held by three lepers on a remote part of the island; the meal was of fish, not in a very fresh condition. I record these facts to show what a love the native has for fish, nearly always in the decomposed state. During my two years' residence on Robben Island unfortunately no special medical officer was detailed for research work. Any observations I did make were done in spare moments. After studying Sir Jonathan Hutchinson's numerous papers and comparing them with the other theories put forward as the probable causes of leprosy, I think anybody who has studied the mode of life of the leper must be struck with his love of a fish diet, preferably fish in a decomposed state.—I am, etc.,

C. R. MAITLAND PATTISON, L.M., L.R.C.S.E.,

Sept. 12th. Late Assistant Medical Officer, Robben Island.

THE DOMESTIC FLIES.

SIR,—The leading article in your issue of August 26th on the domestic flies prompts me to write to you, to indicate the steps taken here in Canada to deal with the nuisance.

Nearly all houses are fitted with a light swing door, containing panels of wire gauze. These are procurable at about 5s. each, are fastened on outside the ordinary doors, and are fitted with a spring to keep them always closed, thus admitting air during the hot weather, but not the flies. Similarly wire gauze is used to fill the open space of a window, the gauze frames being 12 to 15 in. high, and telescoping so as to be adjustable to windows of varying width. The window is opened, gauze frame put in place, and widened to fill up the interval in the window frame, and the sash closed down or up as the case may be as far as it will go.

There is also to be bought here a device called "Wilson's fly pads." These are discs of blotting paper which will fit into the bottom of an ordinary dinner plate. They are impregnated with some sort of poison. (I have not analysed them, but should think it might be arsenic). They are moistened, and put about the room, on a white table cloth, or near a window. In the afternoon, when flies especially feed, they are much visited by the insects, which in from ten to twenty minutes are killed, and, as you mention in connexion with the bowl of formaldehyde, can literally be swept up with a carpet sweeper. By evening not a living fly is left in the room, and the bald-headed paterfamilias can sit and smoke in peace. These pads are very cheap, and can be moistened again and again, and, indeed, appear to be good for a whole summer. I can vouch for what I describe from actual experience in my own house, and can assure you that these poison pads are far superior to the sticky sheets and ribbons so much used, and decidedly less obnoxious in appearance.—I am, etc.,

E. ARCHIBALD SMITH, Ch.M., F.R.C.S.

Vancouver, B.C., Sept. 22nd.

[1] BRITISH MEDICAL JOURNAL, September 2nd, p. 469, et seq.
[2] BRITISH MEDICAL JOURNAL, August 26th, p. 463.

TREATMENT OF FRACTURE OF THE PATELLA.

SIR,—The old saying that there is nothing new under the sun may be applied to the contribution by Dr. John T. MacLachlan, of Glasgow, in the JOURNAL of July 29th, p. 213, entitled, A Simple Method of Treating Fracture of the Patella. The method described by Dr. MacLachlan is almost identical with the treatment which I adopted many years ago, and with similar results to those obtained by Dr. MacLachlan in his cases.

In the year 1873, when I held the position of assistant surgeon at the Bendigo Hospital, in this State, a young Cornish miner was admitted with a transverse fracture of the patella which I treated in the way described by Dr. MacLachlan, the only difference being that I cut a round hole in the thick pasteboard which I used, just large enough to encircle his sound patella, bevelled off its inner edge to prevent unequal pressure, applied a back splint of the same material, and a starch bandage instead of Paris plaster. The result was bony union and a perfect limb.

My second case was that of a stout middle-aged woman who had come from the country to Melbourne during the Exhibition time in 1889: whilst going round in a high wind she stumbled, and in her efforts to recover her position sustained a transverse fracture of her patella. I applied the same treatment in her case that had been so successful in my first case, and with equally good results. I may state that my chief reasons for departing from the custom of that time, namely, Fergusson's long splint and Malgaigne's hooks, were that with the former the patient had to be kept in bed so long that the conditions which favoured bony union were seriously interfered with, and with the latter, that the risk of knee-joint infection was too great to be thought of. It must be remembered that our knowledge of aseptic appliances in those days was not quite what it is now, hence my objection to the use of Malgaigne's hooks. In my first case the patient was about in the hospital grounds on crutches within a week, and my second case left for her home in the country about ten days after her accident.

I congratulate Dr. MacLachlan on his results, and trust that he may have more results of a similar kind to report later, and that this system of treatment may be found sufficient for most cases of patellar fractures, and thus avoid the sometimes doubtful procedure of suturing.—I am, etc.,

Ballarat. THOMAS ROWAN, M.D., F.R.C.S.Edin.

TREATMENT OF DELIRIUM TREMENS.

SIR,—Having had a large and varied experience in the management and treatment of delirium tremens under varied climates and conditions, I venture to comment on the paper by Drs. Ranson and Scott in the *American Journal of Medical Science*, May, 1911, and abstracted in the EPITOME of the BRITISH MEDICAL JOURNAL of September 30th (para. 180).

In the *Lancet* of 1874 I published a short paper, "The Restorative Treatment of Delirium Tremens," and I hold very strongly that the two principles of treatment in that affection—for disease it is not—are elimination of the poisonous alcoholic products, and nutrition, mechanical restraint being injudicious and opposed to recovery.

Whilst advocating elimination on admission, and the free use of water and liquid foods, the authors say that usually more than one drug was used in each case, and speak strongly of the various hypnotics, to which they seem to attach great importance.

As to alcohol, they say evidence goes to show that while the question of its administration in the second

stage is one still open to discussion and by no means as yet settled against its use, it should never be withdrawn from incipient cases, as such withdrawal greatly increases the chances of an incipient case becoming delirious.

Holding very strongly that the first principle of treatment is the elimination of the poison, I am opposed to its use in any stage of the affection: and as all hypnotics tend to check that process, I think the less any of them are used the better for the sufferer.—I am, etc.,

Chandlersford, Oct. 11th. ARTHUR E. T. LONGHURST, M.D.

SWEETS IN CHILDHOOD.

SIR,—There are a few points in Mr. F. C. Haworth's letter on "Sweets in Childhood" which seem to call for some comment. That the eating of sweets generally leads to dental caries is not merely a suggestion of "some ignorant person"—it is the studied opinion of some of the most distinguished members of the dental profession. The late Dr. W. D. Miller, who was probably one of the most illustrious and reliable investigators in this field of dentistry, says: "Most authors give sugar the chief place among those foods which exert an injurious action," and although he himself rather attributes the chief rôle to starchy foods, he says:

> Naturally, we cannot think of making the attempt to banish the carbohydrates from the list of foods and luxuries of civilized races, but we may accomplish a great deal for the teeth if we prevent the constant and unnecessary consumption of sweets, etc., indulged in by many young and not a few adult persons.

Since this was written the tendency has been to attribute the chief part to sugar. Thus, Mr. J. F. Colyer, in the last edition of his textbook on *Dental Surgery and Pathology*, says: "There is little doubt that of the carbohydrate foods the sugars are the most harmful, especially when taken between meals," and following this, in bold type, he says: "*Sweets, as popularly understood, should be forbidden.*"

The next point to which I would refer is the fact that although sugar in moderation is a desirable article of diet when taken as part of a meal and followed by food of a detergent nature, yet, eaten as it usually is, at the end of or between meals, it may be most unhygienic and objectionable.

The principle that the food should be of such a nature that the mouth is left in a hygienic state at the end of a meal was no doubt overlooked in the past, but considering the state of the teeth at the present day it is high time that this principle became generally recognized by the medical, as it now is by the dental, profession. It is hardly necessary now to say that if the mouth is constantly left in an unhygienic state at the end of a meal, the stomach, alimentary canal, and system generally are liable to be seriously injured.

The last point to which I would refer is that the dissemination of the knowledge of how to prevent disease is well within the province of a medical officer of health, and in this generalization the pathology, the etiology, and the prevention of dental caries must be included. It is the most common disease with which we have to deal, and in its ultimate consequences possibly the most serious. It seems particularly important that all medical men, and medical officers of health more especially, should become acquainted with the means which have already proved so successful in preventing this disease. They are simple, efficacious, and concomitantly important in the prevention of several other diseases. Indeed, as has already been observed, the application of the principles which we have advocated for prevention of dental caries will yet be found to give rise to a greater triumph over disease than has been recorded in the annals of medicine.—I am, etc.,

London, W., Oct. 21st. J. SIM WALLACE.

TEN YEARS AFTER SANATORIUM TREATMENT.

SIR,—I asked for proof of a case of tuberculosis alive and well ten years after sanatorium treatment.

Dr. Stanley Steavenson has come forward with it. He tells us that for three months he had a temperature of from 102 to 103°, and for another six weeks from 100 to 102°; that various experts declared his sputum very purulent and teeming with tubercle bacilli; that his disease was uncountable, his right side immobile, his lung consolidated from the root, with extensive cavities, breaking down, and haemorrhages, to say nothing of frequent and persistent attacks of pleurisy at both apices; and that now he is not only absolutely sound after ten years, but he is willing to undergo a week's manual labour test with any man.

I thank him for his courtesy and for the record of a case which must give hope to every sufferer, but he reminds me of the Irish soldier who played spoil-five with the prophet Mahomet. Mulvaney, the soldier in question, and Mahomet sat down for a game of cards. Mahomet produced the ace, knave, and five—and scooped in the stakes. The cards were shuffled, but the Prophet had the trumps, and again he won. The third time, when Mahomet laid down his five, ace, and Jack, Mulvaney looked at him. "None of your miracles, Mahomet," said he, "or I will play no more."

I want to hear about common ordinary cases of tuberculosis—such as one sees every day being cured—but "none of your miracles."

Dr. Isabella Mears does furnish such cases in your issue of October 28th. She shows that 31 cases are now alive out of 113 admitted from 1899. She says nothing about bacteriological examination. Now, I think we are all agreed that, with the sanatoriums always calling out for cases in the pretuberculous stage, at least a quarter of the cases which were sent in were not bacteriologically tuberculous. We also know that the test for the bacillus is merely one for an acid-fast bacillus, and that not only the bacilli of leprosy, but those of smegma, of timothy grass, of cow dung, of butter, as well as some streptothrichear give the acid-fast reaction. In fact Monro states (p. 99) that if the bacillus does not come from the interior of the body the test is inconclusive, and that if it does come from the interior it is not absolutely reliable.

I still suggest that practically all the cases of ten years' standing are ones in which the diagnosis was not proved.—I am, etc.,

Dublin, Oct. 16th. J. C. MCWALTER.

ADMINISTRATION OF SERUM BY THE MOUTH.

SIR,—Having had extensive experience in the matter of administration of antidiphtheritic serum, I should like to set forth some results of my treatment since they have been somewhat different from those obtained by Dr. G. I. Cumberlege and published in the BRITISH MEDICAL JOURNAL of July 15th, 1911.

For eight years I had given antitoxin both by the mouth and hypodermically, and in my opinion surer results are obtained when the latter method is used. Several cases in which I gave antidiphtheritic serum by the mouth showed no improvement whatever; in fact they became rapidly worse. I injected the serum, with the result that the symptoms disappeared rapidly. One case I have treated within the last month illustrates, to my mind, the comparison of treatment.

A boy, aged 7, ill four days before I was called in. On examination, his throat proved to contain small patches of membrane, the nose and larynx being clear, the pulse normal and no toxaemic symptoms whatever. He received 4,000 units of antidiphtheritic serum by the mouth in divided doses. Next day the patches of membrane had spread and the larynx showed signs of becoming infected. Within a few hours breathing became very difficult, the face blue, and I expected to have to perform tracheotomy. I injected 4,000 units, ordered hot fomentations and constant steam inhalations. In about two hours' time breathing became much easier and the patient improved steadily. Next morning, except for a hoarse cough, he seemed almost well and made an excellent recovery.

As regards complications, I have seen very troublesome urticaria following a treatment of serum given by the mouth as well as severe gastro-enteric symptoms with fever when the dose was given as a preventive.—I am, etc.,

Sydney, N.S.W. J. M. STERLING LEVIS, F.R.C.S.I.

THE SUPPRESSION OF QUACKERY.

SIR,—In view of the interest now being taken in the suppression of quackery, would it not be well if the Association were to advertise in the lay press notices similar to those of the stock exchanges, to the effect that

genuine medical practitioners are not allowed to advertise, and that those who do advertise are not on the *Register*, nor doctors in the eyes of the law; also that no remedy or curative system publicly flaunted as a cure-all can possibly have anything to do with legitimate medicine? Presumably the stock exchanges do not incur any legal liability for so advertising, so that I do not see any reason why the British Medical Association should not do the same, particularly as it has now undertaken to warn men against "sweated" appointments. An advertisement of the book *Secret Remedies* might appropriately accompany the notices.—I am, etc.,

"G. P."

Obituary.

ALFRED PETER HILLIER, B.A.CAPE UNIV., M.D.ED.,

M.P. FOR THE HITCHIN DIVISION OF HERTS.

BY the death of Dr. Hillier the medical profession has lost a member who had played a considerable part in public life. He was a man of large knowledge in various fields and of wide experience not only in his profession but in general affairs; this gave him a position in Parliament which it will not be easy to fill.

Alfred Peter Hillier was the son of Mr. P. Playne Hillier, of Shortwood, Gloucestershire, and was born in 1858. He was educated at King William's College, and went out to South Africa at an early age to learn ostrich farming. Studious and ambitious, he graduated B.A. at the Cape University in 1877. In 1878 and 1879 he served as a trooper with the Colonial forces during the Gaika-Galeka war and obtained the medal and clasp. He then studied medicine in the University of Edinburgh, where he graduated as M.B., C.M. in 1882, becoming M.D. in 1884. After holding the posts of House-Surgeon to the Royal Maternity Hospital, Edinburgh, and the Weston-super-Mare Hospital, he returned to South Africa, and became Resident Surgeon at East London, and afterwards Resident Surgeon and Honorary Visiting Surgeon to the Kimberley Hospital, and was associated in practice with Dr. (now Sir Leander Starr) Jameson. In 1893 he was President of the South African Medical Congress, and in the same year settled in Johannesburg, and turned his attention to Transvaal politics. He was a prominent member of the Reform Committee, and was among those politicians who were committed by President Kruger to Pretoria Gaol, from which he was released in 1896 on payment of a fine of £2,000. In the previous year he had been Vice-President of the Transvaal Medical Society, and among other appointments he held in South Africa was Surgeon to the Frere and Kaffrarian Rifles. His experiences in South Africa were set out in several works, including *The Antiquity of Man in South Africa and Evolution, Raid and Reform* (1897), and *South African Studies* (1900). He also before returning to England published a volume of short stories entitled, *In the Veldt*. In 1897 he settled in London, and while retaining his interest in South African affairs, as is evidenced by the fact that he contributed a number of articles on the subject to the *Encyclopaedia Britannica*, he gave particular attention to the study of tuberculosis. He was for some time Secretary of the National Association for the Prevention of Consumption, and was one of the delegates appointed by the then Prince of Wales to the Berlin Tuberculosis Congress of 1899, and was afterwards Consulting Physician to the London Open-air Sanatorium. He was Honorary Secretary of the Reception Committee of the British Congress on Tuberculosis in 1901, in which capacity he did much to make the congress a success. It was largely due to Dr. Hillier's energy that the friendly societies became interested in the prevention of consumption. He took several of the societies' officials to Germany to see sanatoriums, and as a result the Benenden Sanatorium was founded. In 1900 Dr. Hillier published a useful book on *Tuberculosis, its Nature, Prevention, and Treatment, with Special Reference to Open-Air Treatment of Phthisis*, and in 1903 another book on the *Prevention of Consumption*. His last work was a study of the fiscal question entitled, *The Commonweal, or the Federal System of Political Economy*. In 1900 he contested Stockport in the Conservative interest, and in 1906 he stood for South Bedfordshire, but on both occasions was unsuccessful. He retired from practice at about this time, and settled in Hertfordshire. He was selected as the Conservative candidate for the Hitchin Division. He was effective as a public speaker, and his genial manner helped to win him wide popularity. At the election of 1910 he won a remarkable victory, being returned by a large majority, and retained his seat at the ensuing General Election. He was always listened to in the House of Commons, where he spoke fairly frequently; and during the debates on the National Insurance Bill, of which he had made a careful study, mainly with the view of securing favourable terms for the profession, he was able to speak with special authority. Not long ago he drew the attention of the House and the country to the falling-off in the amount of vaccination by raising a debate on the subject in an excellent speech, upon which we commented in a leading article published in the JOURNAL of April 29th, 1911. He made many friends during his short career in the House, and his death is sincerely regretted by them as well as by his friends in the medical profession, of whose interests he was a vigorous supporter, and in his own constituency.

Dr. Hillier married in 1885 the daughter of Mr. F. B. Brown, of Queenstown, Cape Colony, and leaves a son and two daughters.

JAMES NAIRN McDOUGAL, M.D.EDIN.,

COLDINGHAM, BERWICKSHIRE.

DR. JAMES NAIRN MCDOUGAL, of Coldingham, died on October 12th. He had been ailing for some time, and for the last three months had been entirely confined to his bedroom.

Dr. McDougal took the degree of M.D.Edin. in 1860, and the diploma of L.R.C.S.Edin. in the following year. He was a physician of long experience and more than ordinary skill; a man beloved and revered by the folk of Berwickshire, and held in the highest respect by those of the medical profession privileged to know him. For over forty years Dr. McDougal laboured among the Coldingham people and knew them as did no other person. He was more than a physician to them; his help extended beyond professional aid and skill, and his secret deeds of charity brought comfort and help to many sufferers.

Dr. McDougal was a man of many parts—education, Church matters, volunteering, and all things for public good claimed his attention. Dr. McDougal was a voracious reader and his library was remarkably well stored, and the most recent works on medical and other subjects were to be found in it. Dr. McDougal's friends included such men as the late Professor Annandale, the late Dr. Joseph Bell, Professor Caird, Dr. Berry Hart, Dr. Sim (all of Edinburgh), Dr. Fairbairn (St. Thomas's Hospital, London), Rev. Principal Fairbairn (Mansfield College, Oxford), and many others. Dr. McDougal retired from practice five years ago, and was on that occasion presented by his many friends with his portrait in oils and with a brougham. He was J.P. for Berwickshire, and had held the appointment of M.O.H. for Coldingham.

Dr. McDougal's death is lamented by the people of the Berwickshire village in which he laboured so willingly and assiduously. Coldingham cannot remember being without Dr. McDougal, and in every scheme for its welfare he took a foremost part. He was ever ready to support every good cause, and he will be missed when good causes are seeking support and he is no more.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. Emil Emmert, Lecturer on Eye Diseases in the University of Berne, aged 66; Dr. Nicolas, Surgeon to the Hospitals at Marseilles; Professor Julius Caspary, Director of the Dermatological Clinic of the University of Königsberg since 1905; Geheim Medizinalrat Dr. Aschenborn, Assistant in the Medical Department of the Prussian Minister of the Interior, aged 60; and Dr. Getto, of Deidesheim, believed to be the oldest medical practitioner in Germany, aged 98.

The Services.

NAVAL MEDICAL SERVICE.

IN connexion with the recent revised regulations for the Royal Navy Medical Service, directions have been issued by which surgeons under eight years' seniority, who have passed the required examination for staff surgeon, may accept the new regulations without prejudice to any chance of special promotion which they may possess under the old regulations on account of appointments held in civil hospitals prior to their entry into the navy. Those surgeons under eight years' seniority, who have already passed the examination for staff surgeon under the old conditions, cannot be permitted to be re-examined under the new ones.

ROYAL ARMY MEDICAL CORPS.

FIRST LONDON DIVISION, TERRITORIAL FORCE.

THE competition for the challenge cup for divisional field work presented by Major E. B. Waggett, M.B., took place on October 28th at Hendon. Three units competed—the 1st City of London Field Ambulance (Lieutenant-Colonel R. R. Sleman), 2nd City of London Field Ambulance (Lieutenant-Colonel J. Norwood Brown), 3rd City of London Field Ambulance (Lieutenant-Colonel J. Harper).

The competition consisted of a tactical scheme drawn up by Colonel P. B. Giles, C.B. (A.M.O. of the Division), on lines suggested by the donor, and included the entire operation of a complete section of a field ambulance under service conditions. The judges were Brevet Lieutenant-Colonel A. P. Blenkinsop and Major G. B. Stannistreet, R.A.M.C.

The order was that each section should be formed up ready for work with transport at 4.30 p.m. The difficulties of getting men together owing to their civil employment and the condition of London street traffic, however, prevented two of the units being on parade to time. At 4.30 to the minute the judges ordered the 1st Field Ambulance to commence: later on the 2nd and 3rd Field Ambulances arrived, and, no objection being raised, also competed. As soon as it was dark the acetylene lamps and search lanterns were used, and gave a very realistic representation of what happens in clearing the field of wounded at night.

When the "cease fire" sounded the judges gave their decision that the 1st Field Ambulance were the winners of the cup, No. 3 Field Ambulance being second, and No 2 Field Ambulance third.

The "officers' call" was then sounded, and Colonel Giles gave the judges' decision and criticisms. He complimented Captain Elliott, who was in command of the winning section, upon so successfully surmounting the difficulties of getting his transport through London at the appointed time. Captain Elliott had as his subalterns Lieutenants D. C. L. Fitzwilliams and Arthur D. Williams.

It is understood that in future the competition will take place during the second week of annual training.

INDIAN MEDICAL SERVICE.

HONORARY PHYSICIANS OR SURGEONS TO THE KING.

A ROYAL Warrant, dated August 8th, 1911, is published in India, amending the warrant of March 13th, 1908, in accordance with the following provisions: (1) The following shall be omitted from paragraph 10: An officer below the rank of Colonel who may be appointed as Our Honorary Physician or Surgeon after retirement from the Service, shall be granted the Honorary rank of Colonel. (2) The following shall be substituted for paragraph 14: Six of the most meritorious medical officers of the Service on the active list shall be named Our Honorary Physicians, and six Our Honorary Surgeons. An officer shall relinquish the appointment of Honorary Physician or Honorary Surgeon on retirement.

NEW HEAD QUARTERS FOR GLASGOW UNITS, R.A.M.C.(T.)

UNDER much delay a start will shortly be made with the new headquarters for the Glasgow units of the Royal Army Medical Corps, Territorial Force. The War Office has formally sanctioned the Yorkhill building scheme, and the details have now been satisfactorily adjusted. The building to be erected at a cost of over £28,000 will provide accommodation for the R.A.M.C. units, the Glasgow Yeomanry, and a Riding School for the training of mounted men of all units under the Glasgow County Association. It is hardly likely that sufficient progress will be made during the winter to enable the various units to occupy the new premises during the forthcoming drill season, as was originally anticipated. All the medical units are practically at full strength both in officers and men.

ARE THE RULES AND REGULATIONS OF THE R.A.M.C. (TERRITORIAL) COMPATIBLE WITH THE BEST INTERESTS OF THE MEDICAL PROFESSION?

COLONEL P. B. GILES, A.M.O., 1st London Division, Territorial Force, writes: Whatever may be against the best interests of the medical profession under the Territorial Force Regulations, one thing is quite certain: It is impossible in the confidential reports for, as your correspondent states, "an opponent to score over a fellow practitioner."

If Dr. G. Arbour Stevens will only refer to Territorial Regulations, paragraph 395, he will find that any report of any adverse nature against an officer must, if practicable, be read to, and a copy in writing handed to, the officer concerned. Should this be impracticable the adverse report must be communicated by letter. All adverse confidential reports come in turn before the Brigade Commander, the G.O.C. of the Division, and the G.O.C. of the district, and no one of these authorities would permit any adverse charge, capricious, frivolous, or real, to be made without full opportunity being given the accused of knowing what the charge was, and afforded every chance of clearing himself from any adverse report.

It is therefore impossible for the private hostility of a professional opponent to be successful.

The Territorial Medical Service is a corps diametrically opposed to the old regimental system, and permits of change of duty. If your correspondent has a grievance against his immediate commander, or thinks—rightly or wrongly—that officer's treatment of him is arbitrary, hostile, or oppressive, he can submit through this superior to the A.M.O. of the Division a letter asking for (1) an inquiry, (2) to be posted elsewhere for duty.

Public Health AND POOR LAW MEDICAL SERVICES.

THE SHOREDITCH GUARDIANS.

THE Shoreditch Board of Guardians at its meeting on October 25th decided to appoint Dr. P. J. O'Sullivan, of Queen's Road, Dalston, to be medical officer for the No. 3 District at a salary of £150 a year.

MEDICAL ATTENDANCE ON WORKHOUSE NON-PAUPER PATIENTS.

J. S. C. asks how the medical officer is to obtain payment for his services in the case of persons other than paupers admitted to the workhouse hospital on emergency?

*** The guardians can recover from the patient the cost of his maintenance, together with something additional for medical attendance, and then hand over as remuneration for such services the amount they may have been able to recover for that purpose.

POOR LAW SUPERANNUATION.

DR. MAJOR GREENWOOD, Honorary Secretary of the Poor Law Medical Officers' Association, writes: I trust you will permit me to correct a grave inaccuracy in the answer to "X. Y. Z." in your issue of October 28th (p. 1142). Your correspondent, if the facts are as stated, is clearly entitled to a superannuation equal to seventeen-sixtieths of his average annual salary during the last five years of his office. His case is governed by S. 2 of the Superannuation Act of 1896:

> Every officer and servant in the service or employment of the guardians of a union or parish *who shall become incapable of discharging the duties of his office with efficiency, by reason of permanent infirmity of mind or body*, etc., etc. . . . shall be entitled on resigning or otherwise ceasing to hold his office or employment, to receive during life out of the common fund of the union a superannuation allowance according to the scale laid down in this Act.

S. 3 gives the scale, which is for an officer who has served ten but less than eleven, an annual allowance equal to ten-sixtieths of the average amount of his salary or wages, or emoluments, during the five years ending on the quarter-day which immediately precedes the day on which he ceases to hold his office or appointment.

There are many Poor Law officers throughout the country receiving superannuations, who have *not* attained the age of 60, and have *not* completed an aggregate service of forty years.

*** The fact is as Dr. Greenwood states. The error in the note published last week was due to a failure to attach their proper importance to the words "permanent infirmity." It may be added that Clause 5 provides that the guardians in computing the amount of superannuation "in consideration of peculiar professional qualifications or of special circumstances" may, subject to the consent of the Local Government Board, add a number of years to the number actually served.

A DISCUSSION on sewage farms will be opened at the house of the Royal Sanitary Institute, Buckingham Palace Road, on Tuesday, November 14th, at 8 p.m., by Mr. H. A. Roechling, M.Inst.C.E., F.G.S.

Medical News.

THE Royal Institute of Public Health has accepted the invitation from the Ober-Burgomeister of Berlin to hold its annual congress in 1912 in that city. The congress will meet under the presidency of Earl Beauchamp, the First Commissioner of Works, from July 25th to 28th inclusive. A committee to make the necessary local arrangements has been formed consisting of representatives of the Ministry of the Interior, the Imperial Board of Health, the City of Berlin, the Medical Department of the Head Quarters Staff of the Army and Navy, the University of Berlin, and the medical and hygienic societies in Berlin. Members will be afforded opportunities for visiting the various public health and educational institutes in Berlin, and the occasion will offer an opportunity to representatives of county councils, municipalities, and other sanitary authorities in the United Kingdom of making themselves practically acquainted with German sanitary institutions. The business of the congress will be conducted in five sections:—*State Medicine*: President, Sir T. Clifford Allbutt; *Bacteriology and Comparative Pathology*: President, Professor G. Sims Woodhead; *Child Study and School Hygiene*: President, Sir James Crichton-Browne; *Military, Colonial, and Naval*: President, Major Sir Ronald Ross; *Municipal Engineering, Architecture, and Town Planning*: President, P. C. Cowan, M.Inst.C.E., Chief Engineer of the Local Government Board of Ireland. The officers of the congress and its sections will include German representatives holding distinguished scientific and municipal positions.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on October 20th, Dr. de Havilland-Hall in the chair. The records of the business of the society during the current year show that the sum disbursed in claims is well under the amount anticipated and provided for in the table of contributions. A margin of this kind has been produced by the business in almost every year of its working since it started operations in 1884, but there is a distinct tendency shown for this margin to decrease relatively to the growth of the business. As the experience of all sickness societies would lead to this result being anticipated, the Committee has not treated the whole of this margin as divisible surplus, but has set aside a substantial portion of it to meet future increases of the sickness claims. From other sources of profit, however, the society has obtained a considerable surplus, and has thus been enabled to grant liberal bonuses to the members. A profit is made every year on the interest earned by the funds—now amounting to about a quarter of a million sterling—and the economical manner in which the operations of the society have been always conducted leaves a considerable margin on the 10 per cent. allowed by the rules for management expenses. Although, therefore, the amount paid away in claims, and especially in the claims paid to those who are permanently incapacitated is still growing, the financial resources of the society are ample to meet every claim that can be reasonably anticipated. Prospectuses and all further particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following degrees have been conferred:

D.M.—E. L. Kennaway.
B.M., B.Ch.—J. F. Penson and E. L. Pearce-Gould.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.B., B.C.—A. G. Atkinson.
M.B.—H. G. Greaves, A. E. M. Woolf.

UNIVERSITY OF LONDON.

KING'S COLLEGE.

Special Advanced Lectures in Physiology.

A COURSE of four lectures will be delivered in the Physiological Laboratory, King's College, London, by Dr. F. S. Locke, on Energetics, at 4.30 p.m., on the following Mondays: November 13th, 20th, 27th, and December 4th, 1911.

The syllabus of the lectures is as follows: Modern Energetics: The work of Helm, Ostwald, and others. The factors of energy, intensity, and capacity. The laws of energetics in relation to living matter. The energetic characteristic of living matter. Energetic model of living matter and its various functional modifications. The energetics of the metabolism of the entire organism. The work of Rubner, Atwater, and others. The law of equal surface. The law of isodynamy. The energetics of growth and age. The energetics of the metabolism of isolated organs, voluntary muscle, heart, kidney.

The lectures are free to all members of King's College, London, to all internal students of the University of London, to all medical students in London, and to all medical men on presentation of their cards.

UNIVERSITY OF SHEFFIELD.

THE Council at its meeting on October 27th made the following appointments: (1) Mr. Percival E. Barber, B.A., M.R.C.S., L.R.C.P., to the Professorship of Midwifery. (2) Mr. Miles H. Phillips, M.B., F.R.C.S., to the post of Lecturer in Gynaecology. (3) Mr. Mackenzie Douglas, M.A., M.D., to the post of Junior Demonstrator in Pathology. (4) Mr. P. F. Kendall, B.Sc., to the post of Assistant Curator of the Zoological Museum.

At the same meeting Emeritus Professor R. J. Pye-Smith was appointed to represent the university on the General Medical Council.

UNIVERSITY OF EDINBURGH.

GENERAL COUNCIL.

THE statutory half-yearly general meeting of the General Council of the University of Edinburgh was held on October 27th.

Assessors.

The first business was the election of two Assessors to the University Court, in place of Dr. R. McKenzie Johnston, whose period of office expired on October 27th, and Dr. Joseph Bell, deceased. Dr. McKenzie Johnston was eligible for re-election. It was unanimously agreed to appoint Dr. McKenzie Johnston and George Andreas Berry, M.B., C.M., LL.D., President of the Royal College of Surgeons.

The late Dr. Joseph Bell.

The report of the Business Committee contained a tribute to the late Dr. Joseph Bell, as follows: A great surgeon, who graduated in this university fifty-two years ago, Dr. Bell was latterly better known within the walls of his *Alma Mater* as one of the General Council's representatives on the Court of the University—a position which he occupied at the time of his death, and for sixteen years previously. In February Dr. Bell was taken seriously ill, and though he improved sufficiently to be moved to the country and to enjoy life in a quiet and very restricted manner, he was obliged to give up his work and most of his appointments. It is, however, characteristic of his devotion to what he considered his most important duty that he refused to absent himself from his university duties, and in defiance of his advisers and against the wishes of his family, he motored from the country during the summer months to attend the meetings of the Court, and was present at the last meeting in July. During the long period of years in which he served his university so faithfully, and the interests of the General Council with so much ability and devotion, it is well known that he never allowed personal convenience or professional engagements to interfere with the onerous duties associated with the Court and its committees. His death is so recent that it is difficult as yet to estimate at its true worth the influence which Dr. Bell exercised in university matters, or to realize the full extent of our loss. A scholar himself, he was deeply interested in educational matters, and more especially in medical questions affecting the university was his ripe experience and wide knowledge of special value. Amongst other services which he rendered to the university was that of acting as a Curator of Patronage. The undergraduates also owe him much for his useful assistance on the Athletic Club and other student societies. Dr. Bell was a many-sided man of conspicuous ability. He had great business capacity, a sound judgement, a natural quickness of thought and perception, combined with a clear crisp mode of expression, which rendered him invaluable in forwarding the masses of business which come before the Court at every meeting. His kind, genial face will be sadly missed by his colleagues in the University Court, while his eminent and highly-appreciated services on behalf of the General Council will cause his name ever to be remembered with gratitude and affection.

Diploma in Psychiatry.

The university has recently decided to grant a Diploma in Mental Diseases or Psychiatry, and regulations have been drawn up which came into force at the beginning of the present session. The diploma was intended to meet the requirements of those who proposed to devote themselves to this special branch of medicine. Under the powers conferred by the recent medical ordinance, this diploma will be open to any registered medical practitioner who completes the necessary course of study. Under the previous ordinance such diplomas could only be conferred on graduates in medicine of this university. The course of study will extend over one academic year. During a period of three years from this date candidates for the diploma who have held responsible positions in asylums for not less than two years may be exempted from the course of study in one or more subjects of the curriculum.

New Lectureships.

The following new lectureships have recently been instituted in the university, and lecturers appointed thereto:

1. *Genetics:* A. D. Darbishire, M.A. (in the department of Zoology). 2. *Mycology and Bacteriology:* Malcolm Wilson, B.Sc. (in the department of Botany). 3. *Comparative Anatomy:* Professor O. C. Bradley, M.D., D.Sc.

Gifts.

The following additions to the equipment of the university were announced:

Bequest by the late Professor Daniel J. Cunningham of his medical and scientific books for the use of the department of anatomy.

Gift by Emeritus Professor Alexander Crum Brown, for the use of the department of chemistry as a class library, the books lent by him for the same purpose on his retiral from office.

Gift by Emeritus Professor John Chiene, C.B., of his private surgical museum, diagrams, and laboratory apparatus.

Gift by Dr. Henry Barnes, Carlisle, of a marble bust of William Harvey.

Statistics.

The number of members of the General Council on December 31st, 1909, was 10,886; on December 31st, 1910, it was 11,241.

The total number of matriculated students of medicine in six selected sessions was as follows:

1889–90	2,003
1897–98	1,405
1900–1	1,364
1907–8	1,487
1908–9	1,440
1909–10	1,377

RECTORIAL ELECTION.

After a rather violent election contest, the Earl of Minto was on Saturday, October 28th, chosen, by a majority of 222, Lord Rector of the University of Edinburgh.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Thursday, October 26th, Sir Thomas Barlow, Bart., K.C.V.O., President, being in the chair.

Admission of Members.

The following gentlemen, having passed the necessary examination, were admitted Members of the College:

Francis Graham Crookshank, M.D.Lond., L.R.C.P.; George Harold Cross, M.B.Oxon.; Elkin Percy Cumberbatch, M.B.Oxon.; Robert Skeoch Frew, M.D.Edin.; Horace Bryden Hill, M.B. Lond., L.R.C.P.; Edwin Walter Routley, M.D.Brux., L.R.C.P.; Percy Edward Walton Smith, M.B.Sydney; John Aldren Wright, M.D.Camb.

Licences.

Licences to practise physic were granted to 83 gentlemen who had passed the requisite examinations.

Communications.

The following communications were received:

1. From the Royal College of Surgeons of England, dated July 27th and October 13th, reporting proceedings of the Council of that College upon July 27th and October 12th last.

2. From the Dean of the Faculty of Medicine, Edinburgh University, dated July 27th, reporting that the Murchison Memorial Scholarship had been awarded to Mr. Walter Quarry Wood.

3. From the Librarian of the University of St. Andrews, dated September 28th, thanking the college for a gift of books.

Announcements.

The President announced: (1) That the nineteenth Jenks scholarship had been awarded to Mr. Arthur Lloyd Davies. (2) That Sir David Bruce, being unable to undertake to deliver the Croonian Lecture in 1913, Dr. Dixon Mann had been appointed to take his place.

Reports.

The President reported on the celebration of the 500th anniversary of the foundation of the University of St. Andrews, on which occasion he was the delegate of the college. The Registrar (Dr. J. A. Ormerod) read the excellent Latin address which he had written for presentation on the same occasion.

A report was received from Dr. J. StClair Thomson concerning the Third International Congress of Laryngology and Rhinology.

A report was received and adopted from the Committee of Management dated October 3rd. The report recommended that the County School, Carnarvon, and Repton School should be added to the list of institutions recognized by the Examining Board in England for instruction in chemistry and physics.

The audited accounts of the college for the year ending September 29th, 1911, and the quarterly report of the College Finance Committee were received and adopted.

Committee of Management.

Dr. J. A. Ormerod was re-elected a member of the Committee of Management.

The Library.

The Harveian Librarian (Dr. Norman Moore) presented a list of books and other publications which had been presented to the Library during the past quarter, and the thanks of the College were ordered to be returned to the donors.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—

2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

E. J. D. asks for the best treatment, internal or external, for slight persistent psoriasis in a young lady; parents perfectly healthy.

DR. J. D. WILLIS (Nottingham), referring to the portraits of "Quacks" in the issue of May 27th, asks if any reader of the JOURNAL could put him in the way of obtaining portraits of other such celebrities.

RECURRING URTICARIA.

COUNTRY PRACTITIONER would be glad to hear of any treatment for the following case: A boy aged 5 years suffers from recurring attacks of urticaria. For five days of the week he is quite free; on the evening of the fifth day his temperature begins to rise; on the sixth and seventh day his body is covered with an urticarial rash, with itching, etc.; temperature remains at about 102° F. during these two days, then after profuse perspiration the rash disappears and temperature becomes normal and remains so for the next five days, when the above symptoms are again repeated.

NEURITIS.

AXIS CYLINDER asks: What is usually understood by the term "neuritis"? It seems to me to be somewhat loosely applied. Most people who have an ache or a pain in arm, leg, or elsewhere are told they are suffering from "neuritis," whereas, according to my lights, "neuritis" is a serious organic lesion associated with atrophy and paralysis of muscles, altered electrical reactions, etc.

*** The following definition is given by Dr. Judson S. Bury of Manchester in his article in Allbutt and Rolleston's *System of Medicine*, vol. vii, p. 415:

> The name neuritis is usually understood to mean inflammation of a nerve; but, as pointed out by Dr. T. Buzzard, this is not its original interpretation. The adjective neuritis, the substantive νόσος being understood, signifies etymologically no more than disease affecting the nerve. It has indeed become customary, and even necessary, to include under the name neuritis not only what is ordinarily called inflammation, but also degeneration, atrophy, and other lesions of a nerve.

INCOME TAX.

J. L. T. has been assessed to income tax for the year 1911–12 on £200, less £120 abatement. He took over his present practice in October, 1910, and his first year's receipts were £230, a few pounds being due to him on account of book debts. He sends an account of his expenses, which amount to £215, and wishes to know whether he can successfully appeal, as the surveyor of taxes has informed him that the assessment is on the average of the three years 1906, 1907, and 1908.

*** The surveyor's statement must be due to a clerical error. In any case our correspondent should give notice of appeal and claim to be dealt with under Rule IV of Nos. 1 and 2, Schedule D, a rule which applies to persons succeeding to taxable concerns but not making so large a profit as their predecessors. The expenses claimed are quite reasonable, but the £40 "deterioration of motor car" will probably not

be allowed. The surveyor ought to be able to reduce the assessment to about £60, on which there will be no duty to pay. If "J. L. T." is successful in his application he ought in April next to be able to get repayment of part of the tax that he has paid on his other income, since he will be entitled to £160 abatement, of which only £60 or so will have been allowed.

W. D. S. asks for the name of a publication enabling practitioners to find out what deductions from their gross receipts may be made for income tax assessment.

*** This matter was exhaustively dealt with in the BRITISH MEDICAL JOURNAL of 1910, vol. i, p. 1001. The deductions may be summarized as follows: Rent and local rates paid for professional premises (up to two-thirds of the annual value where the premises are used also for residential purposes), repairs, gas, water, firing (in so far as incurred for professional purposes), drugs, salary and board of assistants, wages and keep of domestic servant, if employed for professional as apart from private purposes, expenses of maintaining motor car or carriage, including chauffeur's or coachman's wages, repairs, petrol, fodder, stabling, licence, etc., any other travelling expenses, and any other expenses incurred solely in the carrying on of the profession, such as cost of stationery, replacing instruments, telephone subscription, etc.

Depreciation of Motor Cars.

CHARTERED ACCOUNTANT writes that a surveyor of taxes has not only objected to allowance for wear and tear of a medical man's motor car, but has also refused to allow the cost of replacing a worn-out car, giving as his reason the direct and explicit instructions of the Board of Inland Revenue.

*** We have recently had before us several cases in which surveyors of taxes have, as a matter of fact, allowed as an expense the cost of replacing a worn-out car. This being so, and in view of the express provisions of the income-tax laws, we are driven to the conclusion that the surveyor in question must have taken a view of his instructions other than that taken by surveyors elsewhere. Our correspondent might ascertain the views of the Board of Inland Revenue by communicating direct with the Secretary at Somerset House, a course to which the surveyor will no doubt not raise any objection.

ANSWERS.

FIRST AID.—The *First Aid Manual*, published by the St. John Ambulance Association, Clerkenwell, E.C., price 1s., would probably best answer our correspondent's purpose. The usual fee is £1 1s. a lecture. A syllabus for a first aid course can be obtained on application to the Secretary, St. John's Gate. We do not think samples of questions given are supplied, but when applying for the syllabus the question might be asked.

VOMITING WITHOUT CAUSE.

DR. JOS. S. BOLTON (Nottingham) writes: "M. B." will probably find some source of septic poisoning either in the gums or nose. This would explain the gastric symptoms.

DR. H. J. THORP (Ipswich) writes: In reply to "M. B.," in the case of vomiting I would suggest the following treatment: Cocaine, gr. ⅛; aq. chloroformi, ʒj; 4 tis horis; and a good pad of wool continuously applied over the region of the stomach.

WINTER HEALTH RESORTS.

ENQUIRER.—Accommodation can be found at a multiplicity of places lying at elevations of between 2,000 and 3,000 ft. in the Tyrol and Switzerland, but life in them in winter is commonly very lonely, and climatically, at least, as trying as at any place at sea level in Central Europe. They cannot, therefore, be recommended except for a passing stay *en route* to much higher-lying resorts. At the latter, thanks to the transparency of the air, its freedom from moisture, and habitual stillness, people enjoy sitting in the open air comparatively lightly clothed, even with the temperature below zero. Though they advertise themselves primarily as winter sport places, there are commonly to be found at the larger of them a considerable proportion of visitors who, owing either to infirmity or age, can neither skate, ski, curl, nor luge, but nevertheless find plenty of occupation. If it is proposed to stay abroad after the middle of February it would be better to choose one of the really high places, such as Montana (5,000 ft.) or Samaden (5,500 ft.). On the way to the former a preliminary stay can be made at Sion (1,700 ft.), and to the latter at Thusis (2,450 ft.). Montana consists practically of a single isolated hotel, so society is somewhat limited, but in point of climate and scenery it is exceedingly attractive. At Samaden the visitor has a choice between confining himself to the life and the sport grounds of the place itself or paying frequent visits to those of St. Moritz, which is within easy distance. On this account, and because the accommodation is good and relatively much cheaper than elsewhere, it is growing rapidly in favour. The exception among comparatively low-lying places is Innsbruck (1,900 ft.), which, thanks to its situation, enjoys considerable protection from wind. It is also a capital city, though by no means a large town, and thus offers the ordinary attractions of such places in addition to more or less winter sport. It has a constant *clientèle* during the winter, being specially favoured by Anglo-Indians.

LETTERS, NOTES, ETC.

A WARNING.

DR. WILFRED KINGDON, of Goldhawk Road, W., informs us that a person giving the name of Fitzgerald, and answering to the description published by Dr. Chapman in the JOURNAL of October 21st, called upon him on October 15th, and told a similar story.

TREATMENT OF SEPTIC PERITONITIS.

MR. F. MILNES BLUMER, of Stafford, informs us that his remarks during the discussion on the treatment of general septic peritonitis at Birmingham were incorrectly reported in our issue for October 28th. A previous speaker had stated that provided the cause of the peritonitis had been removed, there was no need to resort to drainage, and Mr. Blumer narrated a case of intestinal obstruction with perforation, which seemed to him to support that view in a remarkable degree. He did not record, nor has he ever heard of, any case in which abdominal section had been performed with success seven times for various conditions originating from appendicular abscess.

EPILEPSY AND CONSTIPATION.

DR. F. P. ATKINSON (Bexhill-on-Sea) writes: Some years ago I was called to a child who had been suddenly taken with a fit of epilepsy. Hearing that the boy had been suffering from constipation, I administered a dose of calomel, with the result that a big round ball was passed, which was perfectly white and free from all trace of bile. Whether the fit was due to direct irritation set up by this hard mass or resulted from excess of bile in the blood, or to both causes, it is difficult to say. The boy never had a fit before and was perfectly free afterwards.

VARIETIES AND TREATMENT OF ASTHMA.

DR. J. BARKER SMITH (London) writes: May I ask "Sufferer" to test solution of sodium nitrite for his next attack of asthma? Last year, when making some experiments with the nitrites—amyl nitrite, ethyl nitrite, and sodium nitrite—I found that the last produced a profound change in the oxidizable bodies of samples of urine, the urates completely disappearing, and a deep yellow colour coming into the urine. Perhaps we have here the key to the action of sodium nitrite in asthma. The amyl nitrite produced no such change, the ethyl nitrite only a slight change.

THE SPHERE.

THE proprietors of the *Sphere* (Great New Street, Fetter Lane, E.C.), deeming their newspaper specially fitted to enable patients to while away their time pleasantly while waiting for admission to the consulting room, are making a special offer to the medical profession. Being unable to reduce the ordinary price of a year's subscription (£1 8s. 2d.), they offer to the first 5,000 medical men who take out a subscription a set-off against its amount in the shape of a hypodermic syringe, suggested by Mr. George King, and manufactured by Messrs. Down Brothers. It is an all-metal syringe enclosed in a nickle case of special design. In shape it resembles a long cartridge, and, being intended to be carried upright in the watch pocket, has a clip to prevent it jumping out. At one end is a cavity in which to keep a supply of hypodermic tablets, and at the other a small chamber intended to be filled with formalin powder. The vapour of this has access to the interior of the case through a perforated plate; thanks to this fact, the appliance is regarded as self-sterilizing; of course, it can also be sterilized by ordinary methods. The barrel of the syringe contains a spare needle. The *Sphere* certainly ranks high among illustrated papers, and the hypodermic syringe does credit to the well-known firm which produces it.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable t the British Medical Association at the General Post Office, Londo No responsibility will be accepted for any such remittance not s safeguarded.

Advertisements should be delivered, addressed to the Manage 429, Strand, London, not later than the first post on Wednesday mornin preceding publication, and, if not paid for at the time, should b accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
THE USE OF OUR AUTHORITY.

Delivered at the Opening Meeting of the Medical Society of King's College Hospital, on October 13th, 1911.

By STEPHEN PAGET, F.R.C.S.

It is an honour to me to speak here this evening, and, as I thank you, so let me wish you in your practice health and strength, assured and sufficient incomes, the gratitude of many patients, the affection of many friends, and the blessing of good homes of your own. May you be to the very end glad of your calling, content with your work, and able to look back with thankfulness over your record. It is easy thus to offer you my best wishes; but I am no less bound to submit a discourse to you, and I have taken as my theme—the Use of Our Authority.

It is our right and our imperative duty on certain occasions to speak with authority and to act with authority. Consider, first, the occasions and the limits of our acting with authority. Here in hospital life house-physicians and house-surgeons have behind them the authority of their chiefs and the authority of a great hospital, but in practice a man must act on his own authority. But how far may he go? The Chancellor of the Exchequer, speaking lately in the House of Commons on the National Insurance Bill, declared that no workman should be deprived of his benefits for refusal to undergo an operation. "I feel so strongly," he said, "the necessity of not compelling workmen to submit themselves to be cut up." He conceded this much, that minor operations should perhaps be put on a different footing from those operations which he called "cutting up"; but he was quite sure that no workman should be compelled, by fear of losing his benefits, to be cut up. In the course of the debate, some instances were given of minor operations; they were the extraction of septic teeth, the administration of diphtheria antitoxin, the opening of whitlows, and the making of incisions in cases of cellulitis. These measures, it seems, may come well within the range of our authority; we may be authorized to cut, but not to cut up. But, as things are, what will you do in your practice, in a case of grave emergency, if the patient refuses point-blank to be cut up? Imagine a man with strangulated hernia, or empyema, or perforated gastric ulcer, or appendix abscess. What would you do if a man with strangulated hernia absolutely refused operation? What would you do if the parents of a child with bad laryngeal diphtheria absolutely refused to let you give antitoxin? It is a difficult question. I hope that I should have the courage to give the antitoxin by stealth, taking that view of the consequences which has been so well expressed by Lord Milner. But one could not operate by stealth on a hernia. Shall one therefore go right away, refusing to stop in the dreadful house—go right away and give information to the nearest magistrate? That would be, I think, our natural impulse. Indeed, the question was asked in the House of Commons, during the debate on the National Insurance Bill, "Is it lawful to save a man's life against his will?" and certain hon. members called out, "No." It seems a pity to spend on each of them £400 a year, for there are few cases more sad than those where an operation, urgently needed, is refused. I still remember, though it is more than thirty years ago, the misery of seeing a child with bad laryngeal diphtheria taken out of hospital by its mother without the relief of tracheotomy.

In these grave and ugly emergencies we must use our authority very boldly, even at the risk of public or official censure. But on occasions of no very serious importance nothing is more tiresome than a doctor who is always asserting himself and getting his own way. It is bad enough to be ill, without being worried by fussy little rules. I have been many times under the care of good doctors, good surgeons, good nurses, and I thank God for their skill and their kindness: but I specially admired in them this thing, that they left me free to see my friends, to be alone when I liked, and mostly to eat and drink what I liked. Hold your authority in reserve; keep it for the great occasions of action; and, when such an occasion does arise, unmask your heavy artillery, and let nothing stand between you and a life to be saved.

Consider, next, that we are bound in our calling, now and again, to speak with authority. But I am not thinking here of questions of diagnosis and of prognosis and so forth: I am thinking of what are called subjects of general interest. It is our duty to give and uphold, on certain subjects of general interest, a clear, downright, positive opinion, such as people expect to have, and ought to have, when they ask us what we think. For it is an honour to be asked, seriously, what we think: and we must pay back the honour, not with vague phrases or mere chaff, but with a careful definite answer, worth having. If a man is wanting our help and our advice, and we put him off with platitudes, or with childish affectation of indifference, or with a "fool-born jest," we not only disappoint him, we insult him.

For we are bound, by our education, by our experience, to be teachers; it is our business, on our way through life, to give instruction. People do look to us for that; they do like to know what the doctor thinks. Of course, there are many subjects of general interest which lie so far from our work that we cannot speak of them with any remarkable authority. For instance, nobody cares what our profession, as a profession, thinks of politics, or music, or books. One may have to talk about them at a dinner party, and happy is he who can do it well; but they ought not to be in the line of our most habitual thoughts; they do not exactly correspond with the familiar well-worn furniture of our minds; we are not intimately concerned with any politics but medical politics, nor with any art but our own. I would even dare to warn you that the young doctor who is mighty serious over politics and music and books, and loves to be talking of them, is a delightful person, but is not likely to attain a very large practice. If I had to prophesy between a student who was fond of talking Shakespeare and a student who was fond of talking shop, my prophetic judgement would be in favour of the latter student.

But, between these two extremes of conversation, there are certain great intermediate subjects of general interest which lie near to our work, hang on to our special knowledge, and fall into line with our professional experience. They are measured by our standards, illustrated by our facts, examined by our methods of inquiry. Therefore, we ought to have something to say about them worth hearing, something to be said with authority and received with attention. Of course, we must yield a point here and there; we must admit exceptions to rules; we must remember that our profession is too difficult to be infallible or indivisible. None the less we ought to give, on subjects fairly close to us, a full, deliberate opinion, such as may deserve to be remembered, and even to be quoted.

For example, people expect us to speak with authority on all that concerns eating and drinking. They have a right to expect that from us, who know so much physiology. What do we think about vegetarianism? What do we think about stimulants? Why is it that the doctors do not prescribe alcohol now as they did thirty years ago? We ought to give an authoritative answer to these very proper questions. For it is not open to doubt that the old national ideas of meat and drink are changing. Think, among those of our own station in life, how little wine is drunk nowadays, how little reverence is paid to beef and mutton. This change has not yet gone far among the very poor; but it will, and a good thing too. Surely we doctors ought to speak with authority of the waste of hard-earned money among the poor on scraps of third-rate meat, and the worse than waste of money on so many quarts of beer. But we must mind what we say, for I think that we have followed the fashion here, not led the fashion. We have been not only reformers, but reformed. I think, also, that we must not rest our authority in this matter on science alone. Beware of all vegetarian arguments deduced from the structure of our teeth or of our intestines, or from the fact that nuts are rich in albuminoid substances; beware of water-drinking arguments deduced from the fact that small organisms perish in a dilute solution of alcohol; for it is probable that they would fare just as badly in a bottle of lemonade.

Take a wide view of the subject; give your opinion, and give it with authority, that our national butcher's bill is too high, and our national drink bill much too high; that most of us eat more meat than we need, and that many of us want none or next to none; and that we mostly take wine or beer for this reason alone, that we like the taste and the pleasure of them. I had a good lesson, not long ago, in the new ideas about food. I observed at a dinner party that my neighbour was eating nothing, and I asked why. "No," she said, "I've eaten nothing for fourteen days—nothing but a little water." She was trying the Upton Sinclair plan of total starvation, to see what would happen. She had a theory. Never mind her theory; consider her performance. There she was, and had been for a fortnight, on nothing but a little water, to see what would happen; and nothing had happened. Think what a large quantity of solid food in that fortnight had gone into each of us. For six days more she fasted absolutely. All these twenty days she went about her usual affairs in a quiet way, not living as an invalid. Toward the end of the time she began to feel weak, so at last she left off. Surely we may well commend to most people a Spartan diet, for here is somebody who went for twenty days on no diet at all.

Another subject on which we must speak with authority is vaccination. Let alone the sound ethical argument, that a man must not leave undone what is good for the general safety of the community; our authority rests not on ethics but on facts. Concede to the antivaccinationist that in times happily past it is unhappily true that a few cases of syphilis did occur from arm-to-arm vaccination; they were not one in fifty thousand—still, they did occur. Assure him that neither syphilis nor tubercle can be transmitted in glycerinated calf-lymph. Then arm yourselves with half a dozen authoritative facts. Get these facts in a handy form from Dr. Bond, of Gloucester, who is the Honorary Secretary of the Jenner Society; get them now, before you forget; and keep them by you, till you want them. Have in your minds the history of the Gloucester epidemic of 1895–96; how, in the Gloucester Cemetery, are the bodies of 279 unvaccinated children who died in that epidemic, and only one vaccinated child. Have in your minds, also, the complete immunity of well-vaccinated doctors and nurses attending cases of the disease. But do not take your facts from this country alone; for here in England we have strict sanitary laws, and vigilant medical officers of health; besides, in England there is not enough small-pox left for an appeal to overwhelming statistics. Therefore, take your facts from virgin soil; take them rather from the East than from the West. Here, for instance, is a good weapon, lately forged against the enemies of vaccination. In May of this year the doctors in Philadelphia gave a banquet to the President of the United States; and after dinner he made them a speech, saying what great things they had accomplished in Havana, in Panama, and elsewhere, against yellow fever, malaria, dysentery, typhoid, and other scourging diseases; and he went on to speak of America's latest possession, the Philippine Islands. And these are his words: "By a wholesale vaccination of all the inhabitants of the Philippines, carried out carefully and rigorously, we have practically stamped out small-pox of all kinds in the islands, in which the black small-pox of the most virulent type flourished before our coming." Surely, these words of the President of the United States are more worth having than a whole shelf of antivaccination tracts. Or look at the vast accumulated experience of India: there is no more overwhelming proof to be desired of the innumerable hosts of men, women, and children safeguarded by vaccination from the horrors of small-pox.

Another subject on which we must speak with authority is experiments on animals. I do not use the word "vivisection," for two reasons. First, because it raises in the minds of many people a false image; next, because 95 per cent. of all experiments on animals in this country are inoculations, or experiments of the nature of inoculations, involving no sort or kind of cutting operation. Let me therefore advise you to use the phrase, "experiments on animals," not the word "vivisection." And let me urge you to speak with authority on this very important subject. I shall always be happy, as Honorary Secretary of the Research Defence Society, to arm you with handy facts; and I greatly hope that some of you may be willing to become members or associates of this society, and to advance its useful educational work. It puts before the public, and it keeps before the public, that national debt of gratitude which we owe to experimental physiology and pathology; and not we alone, but also the animal world. Anthrax, rinderpest, pleuro-pneumonia of cattle, swine erysipelas, Texas cattle fever, African coast cattle fever, horse sickness, nagana, glanders, tubercle in cattle, tetanus in horses—think how these great ravaging diseases of the animal world are to-day understood, recognized, or, best of all, prevented, by knowledge gained from the inoculation of test animals. It is not only men, women, and children, it is also sheep and cattle, horses and swine, cats and dogs, that are the better for experiments on animals.

It is here, to my thinking, just here, that you find your answer to the ethics of the antivivisection societies. They say that experiments on animals are cruel. But imagine that they had been able, thirty years ago, to stop all experiments on animals. They would be guilty by this time of all the pain, all the death, which have been averted these thirty years by methods learnt through experiments on animals. The whole earth would be piled with their dead; they would have inflicted pain, misery, death on millions—literally millions—of human beings and animal beings. They would have robbed the very animals of their right to be protected by man against their own diseases. It would be hard, even in a nightmare, to imagine more gross and shameless cruelty.

But you may be thinking that the sixteen antivivisection societies ought to be treated with what people call "silent contempt." Let me submit to you that the matter goes too deep for this kind of treatment. First, because many honourable, kindly, well-meaning Englishmen and Englishwomen have been induced to give their names and their money to one or another of these many societies, and we are not in a position to treat our equals in life with "silent contempt." Next, because antivivisection, these last few years, has taken a turn for the worse. As it is losing its hold on thoughtful people, so it is appealing frantically to the forces of ignorance and of hatred. Let me remind you what was said two years ago at the London Antivivisection Congress by Sir George Kekewich: "Our chief hope," he said, "is not in the idle rich, but in the workers." You know what that means. You can see him trying, as they call it, to "touch the great heart of the democracy." He went on to speak of the Research Defence Society. It was supported, he said, by members of the medical profession and by the wealthy. The former saw their profits in danger; the latter swallowed with avidity the fairy tales of the medical pseudo-scientists, who told them that the holocaust of tens of thousands of unfortunate animals bled to death and cut to pieces would result in discoveries which would enable them to enjoy their lives and their wealth a little longer. You know what that means—it means class hatred, fanned by the "Brown Dog" monument, and meetings in Trafalgar Square, and orators in Hyde Park of a Sunday afternoon, and shop windows with stuffed animals tied to real boards, without one word said about the anaesthetic. It means the distribution among the poor of leaflets warning them that diphtheria antitoxin is "animal filth," and tuberculin worse than useless. In brief, antivivisection is gone down into the hard lives of the very poor, to bid them beware of us and of the hospitals. Therefore, you must not treat it with "silent contempt," for its false prophets may do a lot of mischief. They will not convert many of "the workers"; they will not really "touch the heart of the democracy"; you will not find, when you open your glorious new hospital in South London, that the Battersea Hospital will be a dangerous rival; the great heart of the democracy is in its right place; but, in every big city, there are minds easily captured by such orators as Sir George Kekewich; and there are minds glad to believe charges of iniquity and brutality. "Something or other," says Newman—"something or other men must fear, men must loathe, men must suspect, even if it be to turn away their minds from their own inward miseries." It is here, not among thoughtful and fair-minded people, but among these less fortunate people, that we have to stand up for the honour of our profession, and to speak with authority of the necessity for experiments on animals. Especially I ask you to speak your minds clearly about those two or three antivivisection

doctors who assail the leaders of their own profession with all sorts of abuse. They have long ago forfeited every shred of claim on your courtesy. Here, for example, is what one of them lately said, at a public meeting, of the death of His Majesty the late King: "They could not say directly that the death of King Edward was due to vivisection nostrums, but they knew that his case presented mysterious symptoms; that he was doctored with bacteria of the most nauseous kind, which utterly failed in its effect; and that the officials in charge of his precious health had to put forward three accounts of his illness, all contradicting each other, and had finally to get Queen Alexandra to say that they had nothing to do with his death." And here is what another of them has said: "Haffkine's serum is an insane process of blood poisoning and plague dissemination. Bruce produced symptoms of blood poisoning and called it Malta fever. Flexner's statistics are simply fraudulent. Pasteur's statistics are a complete fraud. Lord Lister floated into the House of Lords on a sea of carbolic spray. Pasteur was a complete charlatan." These men who talk like that are going all over the country on the antivivisection platform: and, when you are asked your opinion of them, I advise you to give it with authority.

There is another subject of general interest on which I want you, in practice, to speak with authority, and that is Christian Science. It is one of the hardest of all subjects, for it is half a dozen subjects in one. It invades all the kingdoms of the mind; it calls itself a system of philosophy, a system of religion, and a system of healing. You will find yourselves, in practice, brought up suddenly against Christian Science as against a wall in the dark. This wall mostly will be stronger than you. Do not reckon that you will succeed where the family and the friends and the cleric have not succeeded. You are up against that state of mind which is content with the phrase, "God is All"; and that state of mind is not likely to tumble down, like the walls of Jericho in the Bible story, just because we doctors march round it blowing our trumpets.

Yet we surely must be able, to some extent, along some lines, to speak with authority of Christian Science. It is impossible that we should have nothing to say worth saying. What are we for, and what is the world for, unless pain be as real as pleasure, disease as real as health, and death as real as life?

It is all very well to protest in this way; but I had a shrewd thing said to me not long ago by a well-known American cleric, Dr. McComb of Boston, who has founded in Boston and elsewhere what are called "spiritual clinics." It sounds to me an ill-chosen name, and I prefer the other name, which is "the Emmanuel Movement." These spiritual clinics are friendly meetings or consultations for the giving of sound common-sense medical and religious advice and encouragement in cases of alcoholism, drug taking, neurasthenia, hysteria, sexual perversion, fixed ideas, and other miseries of this kind. The work is kept always under medical supervision, and the results are very good. In brief, the purpose of the Emmanuel Movement is to beat Christian Science with the united forces of Christianity and Science. "We gained nothing," Dr. McComb said to me—"we gained nothing in America by attacking Christian Science, because we had nothing better to give to people instead of Christian Science." Neither Mark Twain's ridicule, nor Mr. Peabody's bludgeon, nor Mr. Lyman Powell's quiet argument, nor Miss Milmine's elaborate study of Mrs. Eddy's career, had beaten Christian Science; for to all of them the Christian Scientist answers that God is All. We show him pain, disease, and death; he denies their reality. He believes in miracles, and we cannot show him miracles. What have we to give him better than his comfortable creed? Cases of cancer, consumption, diabetes, Bright's disease, valvular disease, have to be told, many of them, that we cannot cure them. Cases which we call "functional" drift, many of them, from one doctor to another, and then to quacks, and then back to us. Cases of chronic catarrh, chronic rheumatism, chronic this, that, and the other—what have we to give them, who already have a whole bundle of old prescriptions and a whole cupboardful of empty medicine bottles?

Christian Science brings to a vast number of such cases a quiet body and a quiet mind. We do not pretend to work miracles, nor do we deny the reality of pain, disease, and death. It is no wonder that Christian Science scores, for we can only give to people, instead of comfortable falsehood, uncomfortable truth.

Well, then, let us exercise our authority to give that truth. Against the sham metaphysics of Christian Science let us oppose true metaphysics: against the religion which denies the reality of pain and of death, yet calls itself the Church of Christ, let us oppose this question, Were not the pain and the death of Christ real? And against the alleged miracles of Christian Science let us oppose the plain fact that they do not happen. Again and again they have been investigated. They rest on religious fervour, on imagination, on mere gossip, or on downright bluff; they do not rest on facts. Neither is it a light matter that Christian Science, meddling with organic diseases, has killed vast numbers of poor folk whom any skilful surgeon would have saved. Two years ago, in a book which I wrote on the subject, I published a long list of such cases, and have added to it since: and I said in this book: "They bully dying women, and let babies die in pain; let cases of paralysis tumble about and hurt themselves; rob the epileptic of their bromide, the syphilitic of their iodide, the angina cases of their amyl nitrite, the heart cases of their digitalis; let appendicitis go on to septic peritonitis, gastric ulcer to perforation of the stomach, nephritis to uræmic convulsions, and strangulated hernia to the *miserere mei* of gangrene; watch, day after day, while a man or a woman slowly bleeds to death; compel them who should be kept still to take exercise; and withhold from all cases of cancer all hope of cure. To these works of the devil they bring their one gift, wilful and complete ignorance; and their 'nursing' would be a farce, if it were not a tragedy. Such is the way of Christian Science, face to face, as she loves to be, with bad cases of organic disease." I wrote that, with notes of the cases before me; and, though I would soften just one or two words, yet the facts remain.

Now let me make an end of this long discourse. It is our duty, now and again, to act with authority and speak with authority. Some of us are afraid of this behaviour, lest people should call them domineering in action, and priggish or self-advertising in speech; especially, they are afraid of the charge of self-advertisement. But we are bound, on our way through life, to be teachers. We learn so many sciences, we gain such wide experience, we see so closely the good and the bad in people. What right have we, after all that, to shut ourselves up in ourselves? Learn how to speak with authority, without cheapening of science, without self-advertisement; telling people not only what you think, but why you think it; giving them vivid memorable facts and arguments which cannot be disregarded. I even advise you to be willing to give them lectures. For he who goes through life, in our profession, fumbling between two opinions, neither of them his own, misses innumerable opportunities of being useful; and he fails to adorn that station of life in which it has pleased God to place him. And, of course, as this is true of members of the medical profession, so it is true of members of the nursing profession. Nurses, like doctors, are bound, now and again, by their education, by their experience, by their insight into things as they are, to speak with authority; and I venture to commend this duty to the sisters and nurses who honour us with their presence at this meeting.

THE ninth annual report of the Medical and Dental Defence Union of Scotland, just issued, states that the business of the Union has been attended with a large measure of success. The income for the year amounted to £726 9s. 6d. and the expenditure to £396 15s. 8d., leaving a balance to the credit for the year of £329 13s. 10d. The assets of the Union now amount to £2,229 19s. 11d. During the year eighty-three applications for membership have been received, the total membership being now 1,215. As mentioned in a previous report, the Council is now accepting as members of the Union Scottish practitioners who are already members of any of the English societies. No entrance fee is charged, and claims made against such practitioner, which originated while in active membership of the English society, will be treated in the same way as if he had been a member of this Union at the time when the incident occurred out of which the claim arose.

THE FACTOR OF COMMONNESS IN THE DIAGNOSIS OF CANCER.*

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IT is a common mistake to speak of medicine as an "inexact science," and, like most mistakes, it entails a loss. Medicine is not a science. Medicine is an art and all the sciences are its helpers. One of these helpers is the science of probability. By dwelling too much on the uncertainties of our material and studying too little the laws that govern them we lose a source of help with which we are not in a position to dispense. Let me give three illustrations of the sort of help I mean.

A man of about 60 had a movable intra-abdominal tumour to the right of the umbilicus, and was thought to be suffering from a growth in the omentum. But between 55 and 65 cancer of the pylorus is immensely commoner than any growth in the omentum, and cancer of the pylorus was what the tumour turned out to be.

A man over 70 had a firm nodular lump midway between the umbilicus and the ensiform cartilage. It could be shown to be pyloric by flicking the abdominal wall in the left hypochondrium, when a swelling rose up, corresponding in shape and position to the stomach, with waves of peristalsis travelling over it from left to right and ending in the lump. When the stomach was inflated this swelling and its relations to the lump became even more conspicuous. Yet it was afterwards supposed that this was a cancer of the colon, and an operation was recommended. Under chloroform, however, it was found to be a cancer of the pylorus, and the operation was abandoned. At 70 the utmost care should have been taken before setting aside the former diagnosis, since, in men between 65 and 75, cancer of the pylorus is probably about thirty times commoner than cancer of the transverse colon.

An old lady of about 75 had a firm nodular mass in the left renal region, and the general features of the case suggested that it was malignant. Cancer of the kidney was diagnosed. But it was cancer of the colon. Here less help could have been derived from a consideration of probability, since, in women, at and over 75, cancer of the splenic flexure seems to be only about twice as common as cancer of either kidney.

I am using the word "cancer" as it is used by the public, instead of the term "malignant disease," which is generally used by the profession. "Malignant disease" is a clumsy expression which has no claim to precision; for the adjective "malignant" is by no means restricted to tumours, and is, in fact, very loosely used in medicine. "Cancer," on the other hand, formerly embraced all forms of malignant tumours, and is still made to do so by the laity; if restored to its former use by the profession it need cause no confusion.

I would guard myself against possible misconstruction by saying that probability cannot, of course, be a safe chief guide in diagnosis. It is only when certainty is not attainable that its consideration is permissible; it is only in such internal cancers as we cannot see or freely handle that we may turn to it with advantage. But where it is permissible to use it, it is, I suggest, too valuable to neglect.

I will first consider the relative commonness of cancers in different organs, and afterwards deal a little more fully with that of those growths in whose diagnosis probability is important.

In a comparison of the relative commonness of cancers in different organs hospital statistics cannot be a satisfactory guide. They deal, not with the population generally, but with the persons who go to hospital—a vastly different matter, since people generally go to hospital with a more or less definite object. Hospital patients form, in fact, in this respect a group of selected cases.

The fallacy of hospital statistics as regards the relative commonness of cancers of different organs becomes evident on perusal of Table I, taken from Mr. Roger Williams's valuable work on the *Natural History of Cancer* (pp. 372 and 379).

TABLE I.—*Localization of Malignant Epithelial Tumours, as shown by Statistics of four London Hospitals during Sixteen to Twenty-one Years—namely, Middlesex, University College, St. Bartholomew's, and St. Thomas's.*

Males (2,669 Cases).	Per cent.	Females (1,628 Cases).	Per cent.
Tongue and mouth ...	26.3	Breast	40.3
Lip	12.2	Uterus	34.0
Stomach	8.3	Rectum	4.3
Rectum	7.5	Stomach	2.8
External genitals ...	6.8	Liver	2.5
Oesophagus	5.3	Tongue and mouth ...	2.18
Liver	4.4	Intestines	1.06
Intestines	1.9	Oesophagus	0.7
Breast	0.6	Lip	0.06
Prostate	0.3		

Here the operable cancers are obviously excessively represented, whilst gastric cancer appears far below its true frequency. It needs no exceptionally wide experience of disease in general to be sure that, as an expression of the true relative commonness of these cancers, this table would be grotesque.

The reports of the Registrar-General remain as a possible source from which to derive our information, and the question arises, How far are these reliable? No one will pretend that the figures presented in them are free from error, and they do not distinguish between primary and secondary growths. Yet, in spite of these drawbacks, I would submit that they present information of real value. If we consider the immense number of cases dealt with in them, the high average standard of medical knowledge now possessed by medical men in this country, the great frequency of consultation in doubtful cases, the fact that the diagnosis registered is made at the last possible moment of life, and, as regards the distinction between primary and secondary growths, that, in the majority of the most important organs, cancer is either almost always primary (as in the stomach), or almost always secondary (as in the liver), it will be, I think, apparent that the objections I have mentioned lose most of their force, and that, broadly speaking, these figures may be regarded as giving us a very fair idea of the relative frequency of cancers in different parts of the body.

The following table (Table II) is derived from Dr.

TABLE II.—*Relative Commonness of Cancer of Various Organs in England and Wales during the Seven Years 1901–1907, in Terms of Cancer of the Stomach in Males taken as 100. Calculated from the Registrar-General's Seventieth Annual Report.*

	Males.	Females.		Males	Females.
Uterus	—	141	Ovary	—	12
Breast	1	105	Arm and leg ...	6	6
Stomach... ...	100	88	Lung	6	4
Liver and gall bladder	59	85	Kidney and suparenal	5	5
Rectum	47	37	Prostate ...	5	—
Intestines ...	37	45	Mediastinum ...	5	3
Oesophagus ...	29	9	Peritoneum ...	4.5	9
Tongue	25	3	Brain	4	3
Bladder and urethra	14	6	Pelvic bones ...	2.5	4
Jaw	13	4	Nose and ear ...	2	2
Lymph glands of neck	13	4	Thyroid... ...	1.5	2
Pharynx and throat	10	3	Parotid	1	0.7
Larynx and trachea	9	3	Eye and orbit...	1	1
Skin of face ...	9	5	Spinal column	1	0.9
Pancreas ...	8	7	Mesentery ...	1	1
Mouth	8	1	Pleura	0.3	0.3
Lip	7	0.5	Spinal cord ...	0.2	0.2
Testis and penis	7	—	Heart and pericardium	0.05	0.005

* A paper read before the Devon and Exeter Medico-Chirurgical Society.

Stevenson's valuable tables in the Registrar-General's seventieth annual report (pp. cx–cxiii). To simplify the comparisons afforded by it I have expressed the frequency of each cancer in terms of gastric cancer in males taken as 100. From this table we may safely draw the following conclusions:

(*a*) That by far the commonest of all cancers are cancer of the stomach in both sexes and cancer of the uterus and breast in women.
(*b*) That next commonest come cancer of the liver, rectum, and intestines in men and women.
(*c*) That next come cancer of the oesophagus and tongue in men.
(*d*) That all the rest are much less common.
(*e*) That the rarest of all is cancer of the heart and pericardium.
(*f*) That most organs are more often cancerous in men than in women.

When we ask ourselves, however, in which of these cancers we may legitimately consider the question of relative commonness, as a factor in diagnosis, we find ourselves limited to a minority. The most important cancers, in which relative commonness may be fairly considered a factor in the diagnosis, are those of the stomach, intestines, "liver and gall bladder," pancreas, lung, "kidney and suprarenal," prostate, "bladder and urethra," mediastinum, and peritoneum.

The sex incidence of these is worth bearing in mind. Cancer of the stomach, pancreas, and "kidney and suprarenal" are practically as common in men as in women; cancer of "liver and gall bladder," intestines and peritoneum are considerably commoner in women: whilst cancer of lung, mediastinum, and "bladder and urethra" are considerably commoner in men.

At different ages the relative commonness of the cancer of different organs also varies remarkably. Thus, under 5 years of age incomparably the most common cancer is cancer of the kidney, whilst between 5 and 15 the commonest is that of the brain; between 15 and 25 arm and leg (taken together), brain and rectum furnish the greatest number, whilst over 25 cancer of the stomach in both sexes and of breast and uterus in women become the most frequent.

At 35 the ages begin at which cancer is most commonly encountered, and here something may be gained from an examination of the relative frequency in each decade. Tables III and IV give for two small groups of growths in each sex the relative commonness in each decade.

TABLE III.—*Relative Commonness of certain Cancers at Varying Ages. Calculated from the Registrar-General's Seventieth Annual Report.*

Stomach Cancer taken as 100.

	Organ.	Ages.				
		35–	45–	55–	65–	75–
Males ...	Stomach	100	100	100	100	100
	Intestines	35	31	32	36	42
	Pancreas	12	9	8	7	5
Females...	Stomach	100	100	100	100	100
	Intestines	47	47	48	51	59
	Pancreas	9	8	9	7	6

TABLE IV.—*Relative Commonness of certain Cancers at Various Ages. Calculated from the Registrar-General's Seventieth Annual Report.*

Cancer of Bladder and Urethra taken as 100.

	Organ.	Ages.				
		35–	45–	55–	65–	75–
ales ...	Bladder and urethra ...	100	100	100	100	100
	Kidney and suprarenal ...	76	44	32	18	14
	Prostate	10	18	37	45	46
emales...	Bladder and urethra ...	100	100	100	100	100
	Kidney and suprarenal ...	105	110	74	48	35

From Table III we may conclude that where an abdominal tumour exists which may be gastric, pancreatic, or intestinal, and seems malignant:

(*a*) The older the patient from 45 onwards the greater the relative chance of its being intestinal.
(*b*) The older the patient from 35 onwards the less the relative chance of its being pancreatic.

From Table IV we may conclude that, where symptoms are present (such as haematuria) suggesting a malignant growth in some part of the urinary tract:

(*a*) The older the patient the less the relative chance of this being renal as compared with the chance of its being vesical (primary cancer of the urethra is extremely rare).
(*b*) That in women the chances of renal and vesical cancers are more nearly balanced than in men.
(*c*) That in men the older the patient the greater the relative frequency of prostatic cancer.

But hospital statistics are far from being without value to us when we leave the question of the relative commonness in different organs and come to deal with the different proclivities of different parts of the same organ to cancer, or with the relative frequency in each organ of carcinoma and sarcoma or of primary and secondary growths. For it is difficult to see why differences should exist in the desire for hospital treatment amongst patients suffering, for example, from growths in different parts of the stomach, or in different parts of the colon, or in one or other kidney; or, again, in a case of a primary or secondary growth of an organ causing symptoms—such, for instance, as of the liver (where nothing short of a most careful search *post mortem* for a primary cancer justifies the diagnosis of primary cancer), or where in the same organ a cancer may be carcinomatous or sarcomatous (a distinction sometimes only possible to draw with the microscope)—one cannot see why one or other should be more likely to go to hospital. In such considerations of relative commonness hospital statistics are probably reasonably safe guides—and fortunately so, for they are our only available guides.

Taking, therefore, such statistics as seem thoroughly reliable, Fenwick gives about 60 per cent. as the proportion of gastric cancers which occur close to the pylorus, 10 per cent. close to the cardiac orifice, and altogether about 80 per cent. in the "comparatively small slip of tissue which extends from one orifice to the other along the upper margin of the stomach."

In the intestines, excluding the rectum (where in men more than half and where in women nearly half the growths of the intestines occur), according to Barnard nearly half the cancers are found in the sigmoid, about 20 per cent. in the caecal and ileo-caecal region, about 8.5 per cent. in the transverse colon, 6 per cent. in the splenic flexure, 1.5 per cent. in the hepatic flexure, and 3 per cent. each in the ascending and descending colon. (These figures, however, must not be taken too absolutely, for only about 203 cases were available.) Only 7.5 per cent. were found in the small intestine, and Rolleston states that about half the growths there occur in the duodenum.

According to the late Sir William Roberts the two kidneys are equally liable to cancer.

Lastly, turning to relative frequency of primary and secondary growths and to numerical distinction between carcinoma and sarcoma amongst the group of cancers we are considering, clinically evident growths in stomach, intestines, kidney, and prostate are almost always primary. A discoverable tumour of the pancreas is primary, says Newton Pitt, in six cases out of seven, whilst, on the other hand, cancers in liver and peritoneum are seldom primary, and cancers of suprarenal, lung, and mediastinum may easily be either.

As to the relative frequency of sarcomata—kidney, lung, and mediastinum suffer more often from sarcoma than from carcinoma; in the other organs sarcomata are rare.

This is a very fragmentary sketch of a considerable subject which I have placed before you. I have only brought it forward to call attention to its common neglect. We must hope that the day is approaching when the diagnosis of internal cancers will be so much more precise that probabilities will cease to serve us. But until that happy moment arrives we make, I would submit, a serious error in overlooking the help which a study of these probabilities holds out.

TORSION OF THE GREAT OMENTUM.

A CASE CLINICALLY RESEMBLING OVARIAN CYST WITH TWISTED PEDICLE.

BY

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TORSION of the great omentum is a rare condition, and the reported cases are still less than one hundred in number. I am recording this case partly on account of its rarity and partly because the signs and symptoms very closely resembled those produced by the twisting of the pedicle of an ovarian cyst.

I never suspected that I was dealing with anything but an ordinary ovarian cyst with a twisted pedicle until I examined the patient under the anaesthetic before operating. Then it was clear that there was no large cyst, but an irregular elastic mass. I thought it possible that these signs could be accounted for by the rupture of the main cyst of an adenoma of the ovary.

History.

The patient was a woman, aged 36, who had been married for nineteen years, and had had five children. Her general health had been good. She had had a right inguinal hernia for six years, and had worn a truss, which had controlled it properly. If ever the patient got up without first putting on the truss the hernia always appeared. The mass was as large as her doubled fist. During the six years it had not altered in consistency or size; it could always be replaced easily and quickly, and was never tender or painful. The only discomfort associated with the hernia was a dragging pain in the epigastric region if the contents of the sac were allowed to remain down for any length of time. In August, 1909, the patient was operated upon for right hydronephrosis. The loin incision was used, and consequently the peritoneal cavity was not opened.

The Present Illness.

The patient dated her present illness from July 23rd, 1910, one week before admission to St. Thomas's Hospital. That day she was doing her washing, and as she turned to go out of the door, which was on her left hand, she trod on the copper stick, tried to save herself from falling with her right hand against the open door, but fell heavily on to the stone floor full length on her left side. At the time she felt shaken but did not notice anything definitely wrong. On the following two days she felt "out of sorts and shaky."

On July 26th, between 1 and 2 p.m., she had an attack of abdominal pain. It was not localized, and was of a colicky nature. During that day she had about a dozen attacks of the same kind.

On July 27th, at 1 a.m., she had an attack of most excruciating pain in the abdomen, accompanied by shivering and sweating. This was followed by other exactly similar attacks at intervals of about ten minutes. A doctor was called, who treated her for colic.

The attacks of pain continued through that and the two following days (July 28th and 29th) at gradually increasing intervals until admission. There had been no diarrhoea or vomiting, and the bowels had acted regularly.

The patient was admitted to St. Thomas's Hospital on July 30th, under the care of Dr. Tate, who kindly transferred her to my charge.

On Examination.

The abdominal wall was held tense and was very tender, especially in its lower part. Above the symphysis pubis there was an area dull on percussion which extended half-way up to the umbilicus. On vaginal examination the uterus was retroverted, and in front of it a hard mass could be felt extending into the left fornix; the abdomen was too tender to permit of a thorough bimanual examination. The temperature was 101° and the pulse-rate 98. The diagnosis of ovarian cyst with twisted pedicle was made.

The next day (July 31st) the temperature had fallen to 100° and the pulse-rate to 92, but as the pain still continued, operation was thought advisable.

Examination under the Anaesthetic.

An abdominal tumour was felt rising from the pelvis to a point half-way up to the umbilicus. On vaginal examination there could be felt lying in front and to the left of the retroverted uterus a solid elastic tumour of irregular shape, which extended into the abdomen, and could be easily grasped between the two hands.

Operation.

The left rectus muscle was displaced outwards and the peritoneum divided. There was blood-stained fluid in the peritoneal cavity and a hard granular mass was seen immediately beneath the lower part of the incision. The tumour was attached to the anterior abdominal wall by recent adhesions, over an area which extended upwards for 3 in. from the symphysis pubis. The adhesions were easily broken down, and then the mass was seen to be the twisted and matted omentum; the lower part was attached by the same type of adhesions to the uterus, left broad ligament, and the iliac and pelvic colons. There was no connexion whatever with the hernial sac, which was on the right side. After separating the adhesions, the tumour was brought out of the wound.

The omentum had twisted about a vertical axis, its right edge having travelled to the left anteriorly and its left edge to the right posteriorly; there were three complete turns. The mass was engorged and oedematous for the most part, but the amount of swelling varied in different parts, according to their relations to the axis of torsion. An attempt was made to untwist the omentum, but it was found to be impossible, partly on account of the turns being adherent to one another, but chiefly, I think, from the amount and unevenness of the swelling. Removal was therefore undertaken. At the top of the twist the omentum was cord-like and about the thickness of one's little finger, but passing out to the left from this was a sheet of normal omentum about 2 in. in width; the twisted part and the latter were ligatured and the mass removed. After removal the uncovered transverse colon was seen crossing the abdomen. The abdominal cavity was closed in the usual way.

The Parts Removed.

The specimen was preserved by the Kaiserline method and drawn afterwards (Fig. 1), and now weighs 9 oz., and measures 10 in. in length. Its upper and the lower parts differ widely in character from one another.

The upper part is a hard fibrous mass, 5½ in. long, 4 in. wide, and 1½ in. thick; it is twisted on a vertical axis through five half-turns, and is so matted and thickened that it cannot be untwisted.

In some places the surface is dark grey, and in others the colour of normal omentum. On looking between the turns of the twist and into the folds on the surface it is seen to be dark red from engorgement with blood. The grey areas on the surface were dark red when the tumour was removed.

The appearance of this part of the mass and the increase of fibrous tissue suggest that there had been chronic thickening in the omentum before the twist occurred.

Microscopical examination shows the presence of a large amount of fibrous tissue and thrombosis of the vessels.

The drawing, which is a view from the front, shows the direction of the twist. The cut pedicle is circular, and measures half an inch in diameter. The lower part where it is continuous with the upper is twisted and thickened, but elsewhere has the appearance of normal omentum, and can be separated into its layers.

After-History.

The patient made an uninterrupted recovery, the temperature remained normal after the operation, and there was remarkably little pain. The wound healed by first intention, and the patient was able to get up on the twelfth day, and leave the hospital on the twentieth after operation.

I saw her about three months after discharge. The hernia had not come down since the operation, and her general condition was excellent.

The recorded cases of torsion of the great omentum are still comparatively few, and I can find references to only 93 cases, although the condition was first observed and described nearly thirty years ago.

I have been able to obtain details of 73 cases from the papers published by Cornu and Pinches,[1] Lejars,[2] Picquet,[3] and others.

Amongst these 73 there either was or had been a hernia in 60, and in almost all of them the hernia was present at the time of the operation.

In the remaining 13 there was no history or evidence of a hernia having existed.

Picquet says that in nearly all the cases collected by Cernezzi rotation had occurred between two fixed points, the upper being where the twisted mass became continuous with the omentum, and the lower where the omentum had become attached by old adhesions.

The lower attachment was usually near the hernial sac. In the 60 cases associated with hernia of which I have details, the twisted mass of omentum was fixed below in 52—in 48 it was actually in the hernial sac or attached to its neck, in 3 the adhesion was to bowel, and in 1 to the Fallopian tube.

Old adhesions were absent in only 8 of the cases. In my case the mass was not connected in any way with the hernia, nor were there any old adhesions.

It appeared from the examination of the specimen removed that an omental tumour had been produced by the matting and chronic thickening of that part which had from time to time descended into the sac.

The normal omentum above such a tumour would constitute a long and thin pedicle, and thus the conditions favourable to rotation of the tumour would be produced. In only a small proportion of the cases has the rotation been attributed to any particular exciting cause; repeated attempts to reduce the hernia have been considered responsible in a few cases, and violent efforts in some others.

In my case the patient's fall, three days before the onset of abdominal pain, appears to have been the immediate cause of the rotation of the tumour.

The diagnosis in cases of torsion of the omentum is extremely difficult, and has, I believe, been made correctly on one occasion only. The reasons for the difficulty are that the condition is extremely rare, and the signs and symptoms very closely resemble those produced by other conditions.

The only treatment is by operation: it may be possible in certain cases to spread out the twisted omentum, but in the great majority this cannot be done, and consequently it is necessary to remove the part below the point of rotation.

REFERENCES.

[1] *St. Thomas's Hospital Reports*, vol. xxxiii. [2] *La semaine médicale*, February 13th, 1907. [3] *Bull. et mém. de la Soc. Anat. de Paris*, July, 1910.

A CASE OF ANTENATAL PNEUMONIA.

BY

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The following case, which by the courtesy of Dr. J. M. Munro Kerr I am allowed to report, presents several features of unusual interest from the point of view of the effect of the disease in the product of conception.

Mrs. S., aged 29, pregnant for the fifth time and apparently at term, was admitted to hospital on the evening of September 17th, 1910, suffering from acute lobar pneumonia in its early stages.

The pregnancy had run a normal course until three days before admission, when the patient felt feverish and complained of sore throat and of general malaise. Her husband noticed at the time that her voice was husky. Early next morning she shivered and had severe stabbing pain below the left breast and over the left base, her breathing becoming rapid, and painful on deep inspiration. There was some sickness during the day. She was seen in the evening by her medical attendant, who diagnosed lobar pneumonia. As she was at term and could not be nursed satisfactorily at home he ordered her removal to hospital.

On admission the face was flushed, the respirations rapid and painful (44 per minute), pulse 124. The tongue was red and dry on the dorsum, and covered at the edges with a thick yellowish-white fur. The bowels were constipated. She had a short, painful cough, accompanied by scanty, tenacious sputum, rusty at first, later more bloody. On microscopic examination Fraenkel's *Diplococcus pneumoniae* was found in large numbers, in clusters and in fairly long chains. Some were intracellular in the polymorphonuclear leucocytes. The physical signs were those of an early pneumonia, involving the lower lobe of the left lung. Movement of that side was restricted. Vocal resonance and fremitus were slightly increased. The percussion note had a tympanitic quality over the left lung, in front and behind, and fine crepitations were heard over the lower lobe. The right lung was the seat of some bronchitis. The second sound of the heart was softer and less sharply defined than normally. The urine was of a deep amber colour, specific gravity 1025, and was acid in reaction. It contained a trace of albumen, and chlorides were diminished.

Later tubular breathing was heard over the lower axillary region, and finally the whole of the lower lobe of the left lung became consolidated, tubularity being extremely well marked. Four days after admission there was lancinating pain over the right lung at its base, and a consolidated patch was found to be present at the extreme base, but there was no further extension.

The degree of pyrexia was moderate throughout, the temperature reaching 103° on the fifth day of the disease, and falling to 98.6° by the following morning. Coincidently with the extension at the right base it rose to 100.6°, and remained approximately at that level until the twelfth day, when it again reached normal. The patient was free from pain on the ninth day, and the sputum by this time was muco-purulent in character. Subsequent progress was satisfactory.

Labour came on spontaneously on September 19th, that is, two days after admission, and, after a short second stage, the patient was delivered naturally at 10.30 p.m. of a living female child, whose length was 19 inches and weight 6 lb. There was considerable physical embarrassment during the labour, and the patient was freely stimulated and oxygen was administered at intervals.

The child was feeble, but cried soon after birth. It was slightly cyanosed during the night, but this improved in the course of the following morning. Later the breathing became laboured, and increasing cyanosis was noticeable. There were only one or two attempts at coughing. Respiration quickly became sighing, and mucus accumulated in the larynx; death occurred twenty-eight hours after delivery.

A *post-mortem* examination was performed by Dr. A. M. Kennedy, pathologist to the hospital. The right lung generally was more bulky than the left, and the upper and lower lobes and the posterior half of the middle lobe was consolidated from pneumonia in the stage of red hepatization; the anterior portion of the middle lobe merely showed engorgement. In the left lung marked congestion of the lower lobe was present, while the upper lobe showed numerous minute beads of interstitial emphysema, and one larger bulla at the anterior margin under the pleura. The heart was of normal appearance. The pericardium contained an excess of blood-tinged fluid and a small quantity was also present in the abdominal cavity. The liver and kidneys showed marked venous congestion. The spleen was slightly enlarged, and somewhat soft and diffluent. Films from the lung were stained, and in them large numbers of pneumococci were present, similar in morphological characters to those in the mother's sputum.

From the advanced inflammatory changes present in the fetal lungs so soon after birth it is probable that the pneumonic condition originated *in utero*.

Had the pneumonia arisen from insufflation of liquor amnii or vaginal discharge during delivery, it would have had a lobular rather than a lobar distribution. Here there was certainly no insufflation of morbid material, rupture of the membranes preceding the birth of the child by twenty minutes only.

As is well known, pneumonia is sometimes associated with lesions in other parts of the body, pointing to the existence of a blood infection at some stage of the disease. In this case the diplococcus, present in the maternal blood, was apparently transmitted to the fetus through the placenta. The presence of the organism has been demonstrated in such cases in the uterine sinuses, as well as in the fetal portion of the placenta, and passage has been observed in animals (Foa and Bordoni-Uffreduzzi). To allow of transmission of the organism it is probable that some lesion of the placenta must be present, or that the placenta must be damaged by the toxic action of the maternal blood.

Ballantyne[1] says that the fetal lungs are not frequently affected in pneumococcic infections. When they are, lesions of other parts are commonly found—for example, of the pleura, pericardium, or peritoneum. The organism has been demonstrated in the exudates found in these cavities, as well as in the blood, and in the liver and spleen (Carbonelli, Netter, and others). Indeed, the powers of resistance in the fetus seem comparable to those of certain moderately susceptible animals, in which a septicaemic condition is the chief result of experimental inoculation, localized lesions being less common sequelae.[2]

When the organism does settle down in the fetal lung, however, it is likely to find a suitable nidus, bearing in mind the defective blood supply before the establishment of respiration. The lung then receives but a scanty supply of blood from the pulmonary artery, most of the blood passing into the aorta by the ductus arteriosus without entering the lungs. The blood which does reach the lungs is somewhat impure, consisting mostly of the return flow from the head. Moreover, the function of the lungs is in abeyance, and in common with other tissues

whose function is not being exercised we might expect them to succumb readily to the attacks of micro-organisms. Phagocytosis under such conditions is likely to be at a minimum.

In some cases of pneumococcic infection of the fetus the mother has apparently suffered from no infectious disease. Don[3] recently reported a case of antenatal lobar pneumonia in which there was no apparent antecedent infective condition in the mother. Except for feelings of chilliness four days or so before delivery, she felt perfectly well. Cases such as this show clearly that the placenta does not always act as a filter in preventing pathogenic organisms from reaching the fetus.

REFERENCES.
[1] Ballantyne's *Antenatal Pathology and Hygiene*, vol. i, p. 221.
[2] Muir and Ritchie's *Manual of Bacteriology*, 3rd edition, p. 197.
[3] Don, *Journal of Obstetrics and Gynaecology of the British Empire*, vol. xvii, No. 5, p. 429.

A CASE OF HAEMOCHROMATOSIS, OR PIGMENTARY CIRRHOSIS OF THE LIVER WITH GLYCOSURIA.

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HAEMOCHROMATOSIS, or bronzed diabetes, is a rare and interesting disease which was first described by Hanot in the year 1882. According to Futcher, the three cardinal symptoms are:

1. Pigmentation of the viscera and of the skin.
2. Cirrhosis of the liver, almost invariably hypertrophic in type, and accompanied by striking pigmentation of that organ.
3. Diabetes mellitus, which develops at the final stage of the disease, and is due to a late pigmentary cirrhosis of the pancreas hindering the glycolytic function of that organ.

The pigmentation resembles that of Addison's disease, and two kinds of pigment have been described—haemosiderin, which contains iron and is found in the liver, glands, and skin; and haemofuscin, which does not contain iron, and is present in some of the other organs.

The cause of the haemochromatosis is a disputed point. According to some observers the diabetes is primary, the destruction of red blood corpuscles leading to the formation of pigment in the skin and viscera. The majority, however, consider the cirrhosis to be primary, and that the diabetes arises at a very late stage of the disease from extension of the cirrhosis to the pancreas, causing destruction of the islands of Langerhans.

The following case is a good example of the disease:

A widow, E. P., aged 69, was admitted to St. Pancras South Infirmary on November 28th, 1910, complaining of increasing weakness.

History of Present Illness.—Four years ago she began to suffer from thirst, and for the last three years had had incontinence of urine. Previous to the onset of this illness she had been a stout, well built woman weighing about 14 st.; but during the past year she had steadily lost flesh, and for the last three months had wasted rapidly. Always a good eater, she was now noticed to eat ravenously whatever food was put before her, and for the three months previous to admission she had lost control over the sphincter ani. She became increasingly feeble, and two weeks ago was forced to go to bed.

Previous History.—She was born and had always lived in London. Her circumstances were good, and she was always partial to rich food. She habitually took beer and spirits, and was more than a moderate drinker, but her relatives had never known her get intoxicated. There was no history of a shock or of worry. Two or three years ago she fell on to the back of her head whilst alighting from a tram, but beyond a localized swelling over the occiput nothing further developed.

Previous Illnesses.—When a child she had scarlet fever and measles, twenty years ago she had an attack of erysipelas, and three years ago she was laid up with influenza.

Family History.—There was no history of diabetes or consumption in the family. Her mother died of cancer of the uterus, her father of old age.

Condition on Admission.—The patient was emaciated and feeble, and appeared to be seriously ill. What struck me most was the curious pigmentation of her face, which was of a leaden hue, except for a flush over the malar prominences and in the centre of the forehead; the pigmentation was deeper over the temples. The skin as a whole was more dusky than normal, and the front of her neck, her forearms and the dorsal aspects of her hands were bronzed in colour, whilst the upper half of the anterior aspects of both thighs were a dull grey hue. The skin was very dry and scaly. Above the left nipple two irregular-shaped hard tumours were present, each the size of a small plum, freely movable and not adherent to the skin or underlying structures, but connected with each other by a strand of tissue, so that traction upon the one produced movement of the other. The axillary glands were not enlarged. The cardiac dullness was not increased, the heart sounds were clear, and no bruits were present. The lungs were resonant and the air entry good. The liver dullness began at the level of the fourth rib and extended downwards in the nipple line as far as four fingerbreadths below the costal margin, where the sharp edge of the liver could be distinctly felt. On palpation the surface of the liver appeared to be smooth, firm, and not painful. The spleen could not be felt. There was no evidence of any ascites. The feet and legs were markedly oedematous. Superficial ulcerative vulvitis was present and the glands in the left groin were enlarged. The urine was clear, amber coloured; specific gravity 1030, acid in reaction; sugar was present.

Further History of the Case.

Throughout the patient's temperature remained subnormal and incontinence of urine and faeces persisted. She slept well, took her food with relish, and complained of nothing but of feeling weak.

The amount of sugar per diem averaged 26 to 30 grains to the ounce. She daily grew weaker, and on December 19th vomited a small quantity of thick fluid. The following day she suddenly became comatose, was infused with 3 pints of sodium bicarbonate (1 drachm to the pint of 0.7 saline), but never regained consciousness, and died a few hours later. On the day of her death the urine contained 30 grains of sugar to the ounce.

Post-mortem Examination.—The body showed marked wasting. There was practically no fat in the subcutaneous tissue covering the chest. The naked-eye appearance of the cut section of the breast tumour was that of a fibro-adenoma with calcareous degeneration in places. The *heart* weighed 8 oz.; the pericardium and epicardium were adherent near the apex; the myocardium was pale and soft; the valves appeared normal. The *lungs*: The surface was everywhere smooth and shining, and no adhesions were present. The right lower lobe was congested posteriorly. The *peritoneal cavity* contained 2½ pints of turbid greenish fluid with no flakes of lymph; the peritoneum was congested, showing dilatation of the vessels; its surface was smooth and glistening. The *liver* weighed 109 oz. There was no perihepatitis; the surface was nodular, becoming finely granular towards the lower margin. In colour the liver was a rich chocolate brown, shading into a deep slate blue on the anterior and posterior surfaces of the left lobe near the lower edge. Situated on the anterior aspect of the left lobe was a small superficial abscess the size of a cherry, containing caseous matter. The hepatic tissue was much harder and tougher than normal. The *gall bladder* was dilated, and contained clear, straw-coloured fluid with six minute black stones, each roughly the size of a pin's head. The mucous membrane was dark red, roughened, and granular in appearance. The *spleen* weighed 10 oz.; the capsule was thickened and slate coloured. The *kidneys* weighed 5½ oz. and 4½ oz. respectively; the capsule stripped easily, leaving a smooth surface; the parenchyma was tougher than normal. The *pancreas* was very adherent to surrounding structures, and showed nothing abnormal to the naked eye.

I am indebted to Miss Chambers, M.D., Pathologist to the Royal Free Hospital, for the following histological report:

The liver is in a condition of finely granular cirrhosis. The capsule is thickened, and sends prolongations down into the deeper tissue. There is an extensive deposition of pigment in all the liver cells, most markedly in the cells of the outer zones of the lobules. The bile ducts are not increased in number, or dilated or inflamed. The pancreas shows chronic interstitial pancreatitis, the lobules are separated by thick strands of fibrous tissue. The cells of the pancreas appear to have proliferated, many are degenerate, and contain fat and pigment granules. The smaller pancreatic ducts show no inflammatory changes. The spleen is in a condition of chronic fibrosis. The trabeculae are thickened, and pigment can be found in a few places.

Apart from the rarity of the disease, the chief interest of the case lies in the fact that the patient was a woman, for, in an article by Professor Osler on Haemochromatosis in the BRITISH MEDICAL JOURNAL for December, 1899, it is stated that no case had been reported to have occurred in a female. The weight of the liver is also remarkable.

In conclusion, I would here wish to thank Dr. Thackray, the Medical Superintendent, for his courteous permission to record this case.

THE order of the London County Council adding acute poliomyelitis or polioencephalitis to the list of notifiable diseases in the administrative county of London, which came into operation on September 1st, will continue in force until March 12th, 1912, and may be renewed.

THE *Medical Directory of New York, New Jersey, and Connecticut*, for 1911, just issued by the Medical Society of the State of New York, contains the names of 17,621 registered physicians, as against 17,416 in 1910.

REMOVAL OF THE EYEBALL: A QUICK AND EASY METHOD.

By WILLIAM ROBINSON, M.S., F.R.C.S.Eng.,
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It has been suggested to me several times that I should publish a description of the simple way in which I remove an eye. It is as follows:

The only instruments required are: An eye speculum, a pair of toothed fixation forceps, a small pair of blunt-pointed scissors (straight or curved on the flat), and a curved needle threaded with fine iodized catgut.

The patient is anaesthetized. Unless the surgeon be ambidextrous, to remove the right eyeball he stands at the head of the table, and to remove the left at the patient's left side. The speculum is inserted. The eyeball is grasped from above downwards with the fixation forceps rather more than one-third of an inch behind the outer margin of the cornea, a firm hold being taken of all the structures down to the sclerotic and including the tendon of insertion of the external rectus. This tendon is inserted into the globe $\frac{1}{4}$ in. from the cornea. The hold with the forceps is to be retained until the eyeball is removed. A firm snip with the scissors, pressing their nose well against the globe, divides the conjunctiva, Tenon's capsule, and generally most of the tendinous fibres of the muscle. With additional snips the tendon is completely divided. One blade of the scissors is now pushed well home under the conjunctiva, first above and then below the cornea, and that membrane is divided around and as close up to the cornea as possible. No more conjunctiva than is necessary should be removed in order that a plentiful lining may be left to the socket. By rotating the eyeball as far inwards as possible the optic nerve is brought close up to the outer canthus, and is easily divided either near to or far back from the eyeball as circumstances may require. The eyeball can now be lifted well out between the lids, held apart by the speculum, with the forceps, which are still retaining their original hold, and the various muscles easily divided by the aid of sight at their insertions into the globe. The whole of this process frequently does not occupy more than one minute. The bleeding is staunched. The cut edges of the conjunctiva and subjacent structures are now sutured, beginning at the inner side. After pulling the cut edges well out between the lids with the forceps, the first stitch is inserted and tied. By keeping the thread sufficiently taut with the left hand the cut edges of the conjunctiva are kept outside the lids and the subsequent passages of the needle are greatly facilitated. By passing the needle twice through the last loop before pulling it tight the end of the suture is secured. The speculum is now removed. Careful suturing prevents the formation of the troublesome button of granulation tissue which otherwise forms.

Modifications.

1. The order of procedure may be reversed by dividing the internal rectus tendon first.

2. If it be desired to sew the cut tendons of the lateral straight muscles together and those of the superior and inferior straight muscles, to facilitate the process, each of the tendons should be caught by a fine pair of catch forceps before division.

The fourteenth International Antialcoholic Congress will be held at Milan in 1913.

The twenty-second congress of French-speaking alienists and neurologists will be held at Tunis in April, 1912 (1st to 7th). The following questions are proposed for discussion: (1) Instinctive perversions; (2) nervous and mental disorders associated with malaria; (3) assistance for lunatics in the colonies.

The total number of students of medicine in the several universities of Switzerland during the winter session of 1910–11 was 1,849. Of these 656 were Swiss, of whom 45 were women. Of the foreign students 488 were men and 705 women. They were distributed as follows: Geneva, 584, of whom 92 were Swiss, including 4 women; 492 were foreigners, of whom 291 were women; Zürich, 432, of whom 160 were women; Bern, 551, of whom 156 were women: Lausanne, 299, of whom 126 were women; Basel, 183, of whom 8 were women.

SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, and 28th.

PROCEEDINGS OF SECTIONS.

SECTION OF TROPICAL MEDICINE.

Sir Francis Lovell, F.R.C.S., K.C.M.G., President.

PRESIDENT'S INTRODUCTORY REMARKS.

Sir Francis Lovell made special reference to the sad death of Sir Rubert Boyce, late Dean of the Incorporated Liverpool School of Tropical Medicine, who was to have opened the discussion on Yellow Fever on the West Coast of Africa at this meeting. On behalf of the Section of Tropical Medicine he proposed that a sincere vote of sympathy and condolence be conveyed to the Liverpool School of Tropical Medicine in regard to the loss they had sustained through the death of Sir Rubert Boyce, who was for many years closely connected with that institution, and who did so much valuable research work in tropical medicine and hygiene. He also took the opportunity of saying how cordial the relations existing between the Liverpool and London Schools of Tropical Medicine had always been. He then called upon Dr. C. J. Martin to open the discussion on plague in its endemiological and epidemiological aspects.

DISCUSSION ON THE SPREAD OF PLAGUE.

OPENING PAPER.

By C. J. Martin, M.B., D.Sc., F.R.S.,
Director of the Lister Institute of Preventive Medicine, Member of the Advisory Committee for the Investigation of Plague in India.

In opening the discussion on this subject I propose to confine my remarks to the knowledge gained from the study of the present pandemic, that is, since plague escaped from Southern China and infected Hong Kong in 1894. I must perforce be concise. Time will not permit me to marshal all the evidence for the support of my statements; I shall, however, append sufficient references to enable any one to ascertain their foundations.*

In the study of this most recent pandemic, epidemiologists have had an advantage over their predecessors, owing to the discovery of the plague bacillus by Kitasato (1894) and Yersin (1894), shortly after the appearance of the disease at Hong Kong. How far knowledge of the disease as manifested in recent years may be capable of explaining the epidemics in Europe during the Middle Ages is a question I shall return to later.

Immediately before 1894[1] plague was known to exist, and to be more or less endemic, in Assyria, in Arabia bordering on the Red Sea opposite Suakin; Mesopotamia, in the basin of the Tigris and Euphrates; North-East Persia, around the southern coasts of the Caspian; Uganda, on the south-west shores of the Nyanza; Gharwal and Kumaon, on the lower slopes of the Himalayas, bordering on Thibet; on the eastern side of Lake Baikal in Siberia, near the Mongolian and Manchurian frontiers; at Solenko in Manchuria; Yunnan, a hilly district in South China just north of Tonkin; Pakhoi, a Chinese port in the Gulf of Tonkin, and various towns between this last and Yunnan.

The map attached shows roughly the situation of these

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* The dates in brackets after authors' names in the text refer to the year the observations were published. The full titles and references to the journals, etc., will be found on consulting the bibliography at the end, where this date appears against the author's name.

[1] J. Netten Radcliffe, *The Progress of Levantine Plague*, ninth Ann. Rep. L.G.B. Supplement. 1881; F. G. Clemow, The Endemic Centres of Plague, *Journ. Trop. Med.*, vol. 2, 1899-1900, p. 200.

foci, but before leaving them I will point out that in five out of the eight the disease was *known* to be associated with an epizootic of plague-like disease amongst rats or tarbagans (*Arctomys bobac*). The three areas where no such association has been recorded are in Arabia, Mesopotamia, and Persia, districts whence accurate information is with difficulty forthcoming.

The spread of plague throughout the world during the last fifteen years I can only indicate in the briefest manner.[2] Early in 1894 it was raging at Canton, and shortly after appeared in Hong Kong. These ports, especially the latter, have extensive shipping connexions with the rest of the civilized world. During 1895 plague appeared in a number of neighbouring Chinese ports, and next year (1896) extended to Bombay and the island of Formosa. In India it has in the last fifteen years spread over the country and been responsible for upwards of 7,000,000 deaths. In 1893 an extension to Jeddah, Madagascar, and Mauritius occurred, and in the following year the disease became disseminated over a wide area of the globe, appearing in Japan, Straits Settlements, Persian Gulf, further Red Sea ports, Alexandria, Mozambique, French Ivory Coast, Lourenco Marquez, Honolulu and New Caledonia, Oporto, and South America. In 1900 plague was present in every quarter of the world—Europe, Asia, Africa, North and South America, and Australia—and the further history of the pandemic is largely a chronicle of intracontinental expansion. The situations where epidemics have occurred and the dates of the more important extensions may be gleaned from a glance at the accompanying maps, the first of which shows the endemic foci in 1893, and the second the positions where plague has existed up to 1909. The dates of its first presence in epidemic form are placed against the more important expansions. Plague has followed the trade routes, and long stretches of ocean have been no effective bar to its progress.

From a number of the towns marked as having experienced an epidemic no human cases have been recorded for the last year or two. Many of them, however, still have more or less rat plague every season. Indeed, I imagine that there are now few large ports in which plague does not smoulder amongst the rat inhabitants.

The Infectivity of Plague.

The universal experience in India has been that bubonic plague, whether it has become septicaemic or not, is for practical purposes not infective unless it develops a secondary pneumonia.[3]

The same conclusion was reached by Ashburton Thompson (1900–7, 1906) in Sydney, by Blackmore (1902) in Port Elizabeth, by Hill (1904) in Natal, Arola (1903) in Callao, and Rabinowitsch and Kempner (1903) in Odessa. The relative frequency of single and multiple cases in individual houses was studied by Thompson in Sydney in 1900, by Pearse (1905) in Calcutta 1904, and by the Commission for the Investigation of Plague in India in 1905–7. The results showed that multiple cases were the exception and not much more frequent than could be accounted for statistically by the operation of chance.[4]

Pneumonic plague, on the other hand, is eminently infectious, and gives rise to further pneumonic cases. All persons infected through the lungs may not, however, exhibit pneumonic symptoms in a striking degree. In some the bacilli rapidly reach the blood stream and are from the first primarily septicaemic. Although numerous small outbreaks of purely pneumonic plague have arisen in China, India, Australia, Egypt, and elsewhere, the present pandemic has been characterized by its general restriction to the bubonic type, and the only large outbreak of pneumonic plague has been the one last winter in Manchuria.

The Origin and Spread of Pneumonic Plague.

Pneumonic plague may arise by the inhalation of bacilli into the lungs, where they rapidly multiply and early gain access to the blood stream, or bacilli which have gained entrance through any other channel and have become generalized may subsequently establish themselves in the lungs and occasion a secondary pneumonia. Some degree of secondary pneumonia is not uncommon in man and animals suffering from bubonic plague. A case of bubonic plague may therefore become a potential source of a pneumonic outbreak. The spread of the pneumonic form of the disease offers no difficulties, since it was shown by Childe (1897) that the sputum of these cases contains innumerable bacilli, and by Martini (1901) that plague pneumonia is readily produced in animals exposed to an atmosphere containing droplets of an emulsion of plague culture. Pneumonic plague is obviously spread by man-to-man infection, and is easily controlled by early isolation of patient and contacts. Moreover, the recent extension of plague throughout the world has not been due to this variety, so that it need detain us no further.

The Spread of Bubonic Plague.

The problem of the spread of the comparatively non-infective bubonic variety of plague has been much more difficult to solve. As the patient is not usually a source of danger to the community, the mechanism by which the disease spreads must be looked for elsewhere.

Rats and the Spread of Plague.

The association of rat plague and human plague forced itself upon the attention of epidemiologists and medical men in China from the outset—Rocher (1874), Lowry (1883). I have already referred to the fact that this association had for long been observed by the inhabitants of Gharwal, of Uganda, and of Yunnan, and that evacuation of villages on the first occurrence of rat mortality was a hygienic measure recommended by these primitive people.

The inhabitants of the province of Kwansi, in South-West China, had had experience of plague for twenty years before 1894, and the causal relationship of rat plague to the human disease was firmly believed in by them. They called the plague the "rat disease," and regarded the sick rats as the "messengers of the devil."

Simpson (1903) in 1902 addressed a series of categorical questions regarding their experience of the epidemiology of plague to forty practitioners in South-West China, and elicited much interesting information. Eight recognized its essential concomitancy, but had no evidence of its precedence; twenty-nine had observed the fact that rat mortality occurred prior to human cases, and three failed to answer this question. Still better opportunities for the careful observation of the part played by rats occurred in Hong Kong, and the same close association was observed by Lowson (1895), Yersin (1894), Clarke (1900), Pearse (1903), Simpson (1903), Hunter (1904).

In India the importance of the epizootic was recognized by Snow and Weir (1897), Hankin (1898), Simond (1898), and the German Commission (1899). As plague became scattered over India the same fact impressed the numerous sanitary officers engaged in combating the epidemic.

From experience of the outbreak in Formosa in 1897 Ogata (1897) came to the conclusion that plague was primarily a rat disease, as he noticed that these animals sickened and died before men were attacked. The same conclusion was drawn by Kitasato, Takaki, Shiga, and Moriya (1900), from their experience of plague in Japan (1899–1900).

The relationship between the epizootic and epidemic was particularly accurately brought out by Ashburton Thompson, and Tidswell in Australia in 1900. On account of the comparatively small size of the outbreak, and the fact that it involved an entirely European population, a detailed investigation of each case was accomplished. From these observations Thompson concluded:

(1) That plague in rats preceded the first case which occurred in man.

(2) The epizootic area was coextensive with the epidemic area.

(3) The epidemic was due to communication of infection from rat to man.

Further evidence of the dependence of the epidemic upon the epizootic has been derived with each successive outbreak, and with each outbreak in a new locality: South Africa—Blackmore (1902), Hill (1904), Pakes (1905), Mitchell (1906); Mauritius—Vassal (1906); Egypt—Gotschlich (1900); Odessa—Rabinowitch and Kempner,

[2] Bruce Low, The Progress and Diffusion of Bubonic Plague from 1879 to 1898, Supp. Twenty-eighth Ann. Rep. L.G.B., 1899; Reports and Papers on Bubonic Plague, 1898 1901. L.G.B. Report, 1902; Progress and Diffusion of Bubonic Plague, Supplement to Annual Report L.G.B. for each year. Surgeon-General Eager, The Present Pandemic of Plague, Pub. Health and Marine Hosp. Service, U.S.A., 1908.

[3] Report of Indian Plague Commission, 1898-99 (1901), vol. v, pp. 88-90.

[4] Reports, *Journal of Hygiene*, vol. vii, 1907, p. 877 et seq.

Skschivan, Wernitz (1903); South American—Agote and Medina (1901); Uriarte (1900); Artola, Arce, and Lavoreria (1903), and many others.

The evidence is so universal that it may be stated that during the last fifteen years no epidemic of bubonic plague has occurred in which preceding or concomitant rat plague has not been discovered on adequate investigation. Further, as human cases of bubonic plague are not infectious, it follows that under present conditions, as regards the virulence of the bacillus, rat plague is essential to the existence of epidemic bubonic plague.

The Time Relation between the Epizootic and the Epidemic.

The consensus of opinion amongst practitioners in Southern China that the epizootic preceded the epidemic has already been mentioned.

Ashburton Thompson clearly demonstrated this for the Sydney outbreak in 1900, and a considerable amount of evidence pointing in the same direction was obtained by Hunter (1904) from observations in Hong Kong. The question was examined in a very thorough way by the Commission for Investigation of Plague in India in Bombay, and also two villages in the Punjab, during 1905-6.[5]

In Bombay an average of 1,500 rats were examined weekly over a period of fifteen months, and the proportion plague-infected determined. For the purpose of instituting a comparison the percentage above or below the mean proportion for the year of plague-infected rats, and also the percentage above or below the mean for the year of plague cases are together plotted for each week in the diagram below (Fig. 3). From the figure it is seen that rat plague rises and falls a few weeks prior to the human epidemic. The same result was obtained from the data collected in the Punjab, and from villages in the neighbourhood of Bombay. The fact that the epizootic precedes the epidemic does not prove that man derives the disease from the rat. Both might be infected from the same source, but, owing to some unknown condition, the rats more readily acquire the disease. It is, however, consonant with the conclusion which has been arrived at on other grounds, namely, that although rat plague exists in epidemic form without the participation of man, the converse proposition does not hold.

How is Infection Conveyed from Rat to Man?

Two ways in which the plague bacillus may be transferred from a sick rat to a human being have suggested themselves:

1. Through the excretions of the animal, which often contain the bacillus, being distributed broadcast and infecting the soil and foodstuffs.
2. Through the agency of some blood-sucking insect capable of transferring its attention from rat to man.

The adequacy of the first proposition depends firstly upon whether the excretions of rats contain plague bacilli in sufficient numbers to produce material infection of soil or foodstuffs, and secondly, whether, having been deposited on such material, the conditions are such as afford a reasonable chance of their being able to maintain their vitality and to multiply.

The Amount of Plague Bacilli in the Urine and Faeces of Rats Suffering from Plague, and their Adequacy to Occasion Infection.

Simpson (1903) records that of 554 infected rats which he examined, 91 (16 per cent.) had plague bacilli in the urine contained in their bladders. The Commission for Investigation of Plague in India[6] quantitatively determined the number of plague bacilli in the urine of 21 plague-infected rats. In 6 cases the urine contained plague bacilli, but in small numbers compared with the quantity contained in the blood of the same animal, which often amounted to 100,000,000 per c.cm.; 11 out of 15 samples of the urine of patients dying of plague were found by the Commission[7] to contain *Bacillus pestis*. With two exceptions, the smallest amount of such urine which would infect a guinea-pig by subcutaneous injection was 1 c.cm., and in no single instance did it occasion the death of an animal by rubbing it into the recently scarified skin.

[5] Reports, *Journal of Hygiene*, vol. vii, pp. 724 to 798.
[6] Report I., *Journal of Hygiene*, vol. vi, p. 519.
[7] Reports, *Journal of Hygiene*, vol. viii, p. 221.

The precise number of plague bacilli in faeces cannot be ascertained, as this material swarms with micro-organisms. If present in considerable numbers they may be discovered by rubbing the material on to a slightly scarified surface of a susceptible animal. Klein (1906) found that he could infect animals in this way with the sanguineous mucus obtained from the intestine of rats dying of plague. One is not justified in inferring from this that the faeces of plague rats are an important means of spread of the disease, either amongst rats or mankind. The Commission for Investigation of Plague in India made 139 experiments to ascertain whether infection could be readily produced by rubbing in the faeces of rats dead from plague. They produced infection with plague only three times.[8]

Further important evidence bearing on this question was obtained by the Commission,[9] who kept hundreds of animals—rats and guinea-pigs—some inoculated with plague, the remainder healthy, living together, without cleaning them out. Fresh relays of inoculated animals were supplied to take the place of those dying of plague. Notwithstanding the fact that they took their food off the floors contaminated with the excreta of the sick animals, and in the case of the rats usually ate the carcasses of their dead companions, in no instance was an epidemic produced.

The facts at our disposal do not lend any support to the view that direct contact with the excreta of plague-infected rats is an important means by which the disease is spread.

The Chance of Survival of the Plague Bacillus if Deposited upon Soil and Floors under Natural Conditions.

Although, for the reasons advanced above, the excreta themselves might not constitute a serious danger, if the contained plague bacilli were to find themselves in circumstances favourable to their growth, they might multiply to such an extent as to render materials contaminated by them a source of infection. It must not be imagined, however, that because the plague bacillus can be readily grown on sterile media, the same is likely to occur in Nature. This organism is by no means hardy, and, although in a sheltered existence protected from all competitors it may endure even for years, it readily succumbs under the influence of drying, sunlight, and the unsuitable conditions occasioned by the presence of hardy saprophytes.

Viability of Bacillus pestis in Soils, etc.

Although frequently searched for, the plague bacillus has never been recovered from the floors of the huts in which several cases have occurred by any trustworthy observer. It will, however, survive for months in moist earth, if this is previously sterilized (Gladin, 1898; Marsh, 1901). If allowed to dry it succumbs rapidly, and can no longer be discovered after a few days (Rosenau, 1901, and Klein, 1904).

Unsterilized material from the floors of huts was grossly contaminated (soaked) with a broth culture of the bacillus by Mackie and Winter (Plague Reports[10]), but even then the organism could not be recovered after four days.

The Commission for Investigation of Plague in India made a number of experiments in which they sprinkled 100 c.cm. of broth culture of *Bacillus pestis* over three square feet of floor of cowdung or of cement. At intervals scrapings were taken and rubbed into the scarified skin of guinea-pigs. The cowdung floor retained its infectivity for forty-eight hours and the cement floor for twenty-four hours only. Needless to say, this was a very gross contamination, and the means taken to ascertain the continued presence of plague bacilli afforded much greater opportunities for infection than would likely occur in Nature.[11]

Chance of Survival of the Plague Bacillus if Deposited upon Foodstuffs.

The commonest stored food in India, and one to which rats have access, is grain. Hankin (1900) carried out a large number of experiments with different sorts of grain artificially and grossly infected with plague microbes. After five days he was unable even by subcutaneous injection to infect mice with the same. In rotten grain the

[8] Reports, *Journal of Hygiene*, vol. vi, p. 522.
[9] Ibid., vol. vi, p. 450, and vol. x, p. 515.
[10] Ibid., vol. vi, p. 510.
[11] Ibid., vol. viii, 1906, p. 500.

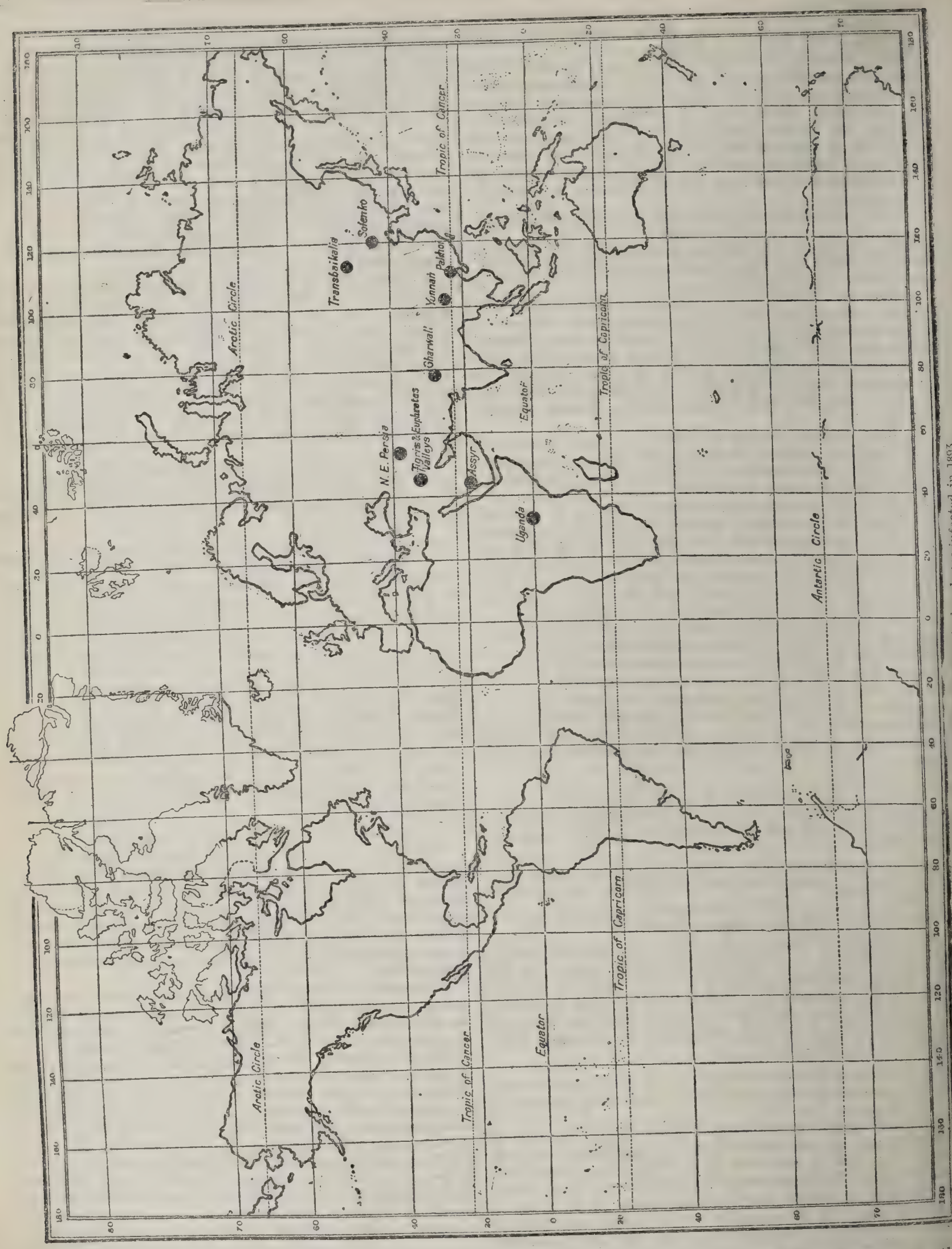

Fig. 1.—Localities known to be plague-infected in 1893.

bacillus died out in two to twenty-four hours. In the early days of plague in India grain came under suspicion, but there is no evidence that the grain and not the granary harboured the infection.

Hunter (1904) states that he discovered the plague bacillus in three samples of rice in Hong Kong. The account of his experiments is, however, not such as to enforce belief in this statement.

All evidence shows that small amounts of plague bacilli deposited on the surface of grain rapidly succumb to desiccation and have little chance of multiplying. Further, grains are not ingested raw, and as the *Bacillus pestis* is rapidly destroyed at 50° C., cooking annihilates them, so that one cannot imagine that the infection of grain by rats plays any material part in the spread of the disease.

That plague bacilli may multiply sufficiently to be a source of danger if accidentally sown upon some food material which is not destined to be subsequently cooked is undoubted, but the chance of a favourable culture medium and absence of competing organisms coinciding

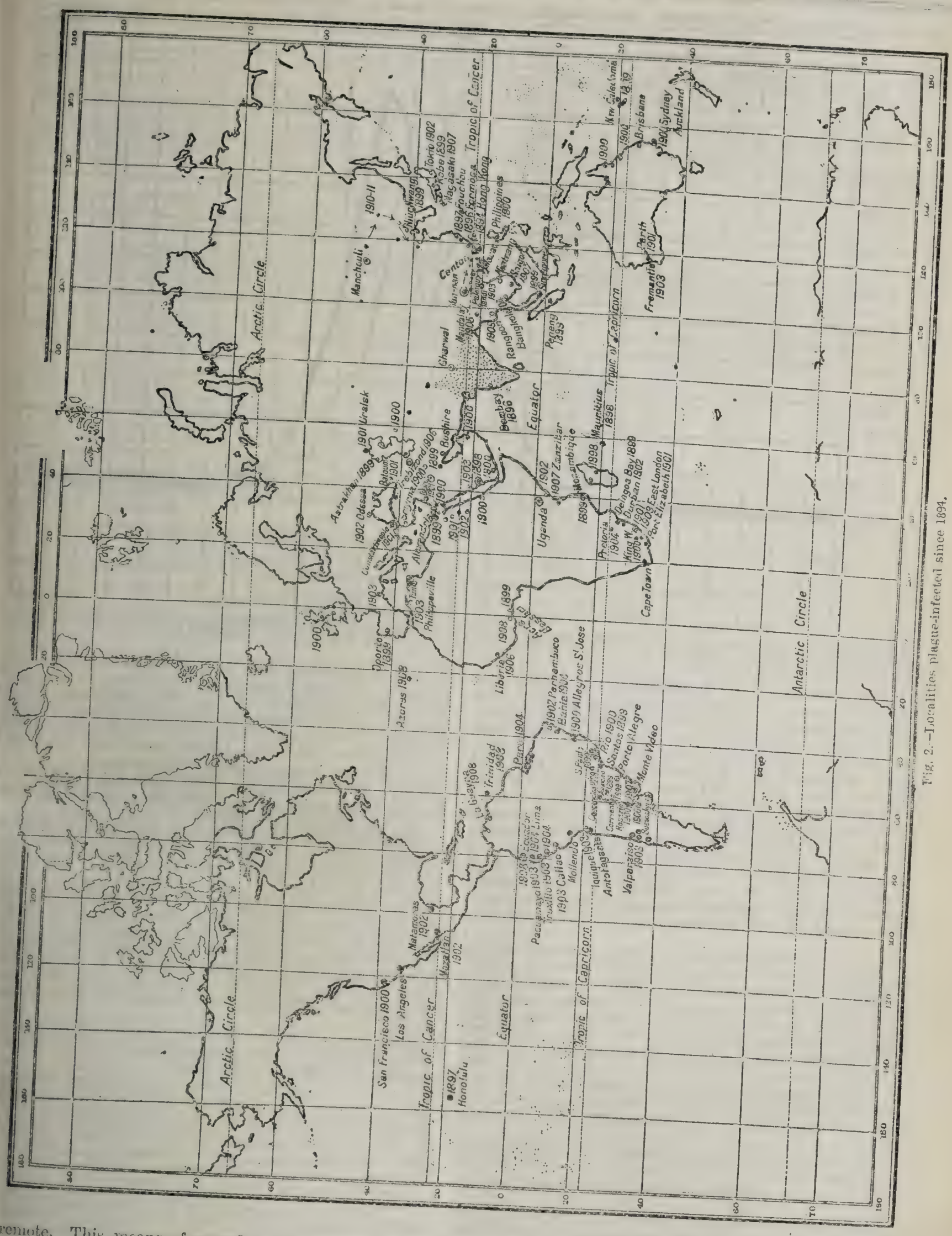

Fig. 2.—Localities plague-infected since 1894.

remote. This means of spread could, however, hardly assume importance in India, where food already prepared for consumption is rarely stored.

Alimentary Infection.

The importance to be attached to the accidental contamination of foodstuffs by the excreta of rats depends upon the readiness with which infection by the alimentary canal occurs.

Feeding Experiments with Plague-infected Materials.

Wilm (1896) infected a monkey by allowing him to eat a piece of sugar-cane soaked in a culture of *Bacillus pestis*.

With rats negative results were obtained by Gibson (1898) and Simond (1898). Gibson prepared the ten rats which he used for the experiments by keeping them without food for twenty-four hours. He then fed them on small bundles of corn wrapped in pieces of gunny bags

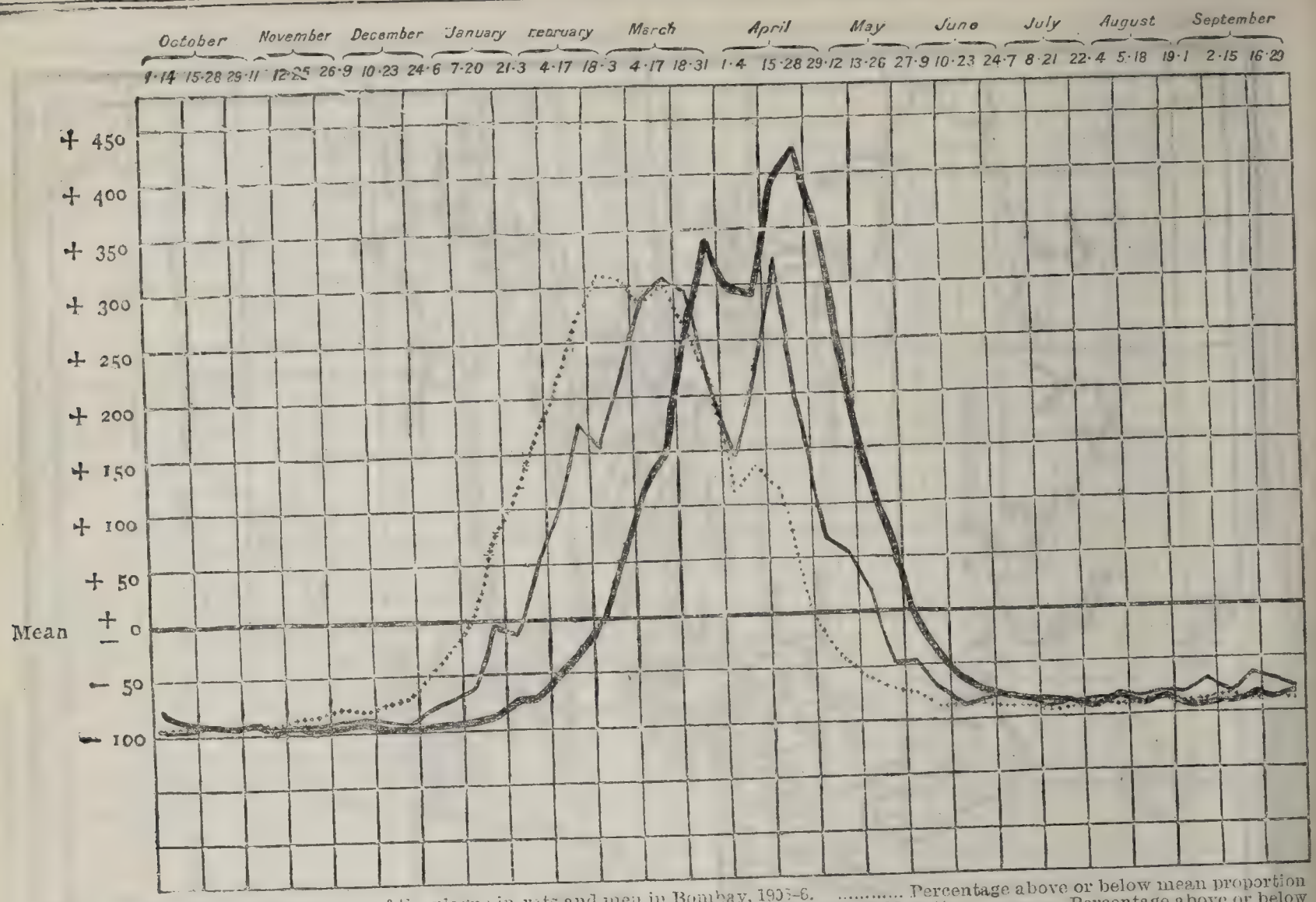

Fig. 3.—Chart showing the progress of the plague in rats and men in Bombay, 1905–6. ..... Percentage above or below mean proportion of infected *M. decumanus*. ——— Percentage above or below mean proportion of infected *M. rattus*. ▬▬▬ Percentage above or below mean of human deaths from plague.

and then soaked in a broth cultivation of plague. The bundles of corn which were supplied to the rats that formed the subject of the feeding experiments were given to them in a moist condition. The supply of infected food was renewed as occasion required for about a fortnight. At the end of that time the rats, though each had consumed from 100 to 150 c.cm. of the original plague culture, all remained well. Subsequently, with a view to testing their resistance, they each received hypodermically 1 c.cm. of the plague culture in question, with the result that they all succumbed to plague in thirty-six hours.

Hankin (1898–9) made similar experiments, usually with negative results. He is of opinion that rats contract plague from the intestinal canal only when large quantities of very virulent cultures are introduced into their food.

Simond's experiments go even further in this direction. In one experiment he caused a rat to drink a watery suspension of plague bacteria, which he made from a virulent agar culture of plague. In another experiment he fed a rat for three consecutive days on virulent agar cultures, one of these being administered daily. In certain further experiments he fed rats upon the organs and dead bodies of animals which had died of plague. In other experiments, again, rats were fed with pneumonic sputum and with food that was soiled with infected blood. In each and all of these experiments the rats remained healthy.

The Austrian and German Plague Commissions (1899) found that plague could be conveyed to rats by feeding them on plague cultures or the bodies of rats dead of plague.

The pathological changes found in the body after death pointed in most cases to the penetration of the bacillus through the mouth, and only in rare cases to the penetration through the intestinal wall. Out of 7 rats which were repeatedly fed in Bombay on plague-infected material 3 remained alive.

Kolle (1901) fed 60 white rats partly with bread soaked in cultures and partly with the organs of plague-infected rats, with 48 successful infections.

Simpson (1903) infected monkeys and rats by feeding on the blood or tissues of animals dying of the disease. He also is of opinion that he produced plague in calves pigs, hens, turkeys, geese, ducks, and pigeons in the same way. The importance of this latter conclusion led to the repetition of similar experiments in Natal (Watkins-Pitchford, 1904), India (Bannerman and Kapadia, 1904), and the Azores (de Souza, Antonia, and others, 1910), but they failed to confirm Simpson's observations.

Kister and Schumacher (1905) did a large number of feeding experiments. They found that only 50 per cent. of rats fed developed the disease.

Berestneff (1906) fed white rats on the livers and spleens of septicaemic plague-infected guinea-pigs. There were twelve successful infections, nine rats dying between the third and sixth days.

Klein (1906), who had previously failed (with rare exceptions) to infect animals by feeding with fresh plague material, has recently succeeded in giving the disease to rats, mice, and guinea-pigs, by feeding them with gelatine cultures and organs of plague-infected animals (either alone or mixed with rice and wheat) which had been dried, but not sufficiently to completely kill the contained bacilli.

The Commission for the Investigation of Plague in India (1905–6)[12] devoted particular attention to this question, with the following result:

It was found possible to infect rats with plague by feeding them with grossly contaminated material of a soft nature, 21.4 per cent. of wild Bombay rats being susceptible to this method of infection. In a series of similar experiments made with *M. rattus* in the Punjab 67.8 per cent. of the rats were susceptible, but in this series a much larger dose of infected material was given. Further, a large number of wild Bombay rats were infected by feeding them on the carcasses of their plague-infected comrades. No difference as regards the *post-mortem* appearances or the distribution of the primary bubo was found between rats infected in this latter way and rats infected by feeding on soft contaminated material. But, while the general pathological lesions found in all rats infected by feeding were in the main the same as those found in rats naturally infected, there were observed two most important differences. First, in naturally infected rats, while the primary bubo was as a rule in the neck (74 per cent.), the axillary and inguinal glands being also often affected (25 per cent.), in not one single instance, out of 6,000 *post-mortem* examinations, was a bubo found in connexion with the mesenteric glands in the abdomen. On the

[12] Reports, *Journal of Hygiene*, 1907, vol. vii, p. 373.

other hand, in the rats infected by feeding, the neck glands were involved in only 29 per cent. of the cases, the inguinal and axillary glands were practically never affected, while the mesenteric glands were the site of the primary bubo in no less than 72 per cent. of the infected animals. Secondly, in the case of naturally infected rats the stomach and intestines showed, as a rule, no marked pathological change, while in the case of rats infected by feeding, well-marked lesions were found in the intestines. It would appear justifiable to conclude, then, that in nature, infection of rats by feeding rarely or never takes place, and that rats do not become infected by eating the carcasses of their comrades. At least this method of infection can play no part in the epizootic spread of plague.

The conclusion to be drawn from these experiments is that animals susceptible to plague by inoculation may be infected by feeding, but that compared with introduction under the skin, an immense dose of highly virulent material is usually necessary to occasion infection. The few experiments which have been made with monkeys suggest that these animals are relatively more susceptible to take the disease by ingestion than rats or guinea-pigs.

The position of knowledge on the question of the importance of alimentary infection in the spread of plague may be summarized as follows:

1. Contamination of aliments may conceivably lead to the infection of human beings on occasion, but the chance of bacilli reaching foodstuffs destined for consumption uncooked, and in which they would multiply greatly, are slight.
2. The alimentary canal is not an easy method of infecting animals, large quantities of virulent bacilli being usually necessary.
3. There is absolutely no epidemiological evidence pointing to alimentary infection being anything but uncommon, and in about 75 per cent. of human cases, the situation of buboes indicates skin infection.

The Transmission of Plague by Fleas.

We have now to consider the alternative proposition referred to on p. 1251 above—namely, that the infection is conveyed from rat to man by the agency of some blood-sucking insect. The possibility of insects playing this rôle has occurred to many investigators. Yersin (1894), Haukin (1898), and Nuttall (1897) showed that the dejecta of flies and ants fed on infected organs contained virulent plague bacilli. Ogata (1897) crushed fleas from rats which had died of plague and injected them into two mice, one of which died of plague after three days. He suggested, from epidemiological considerations, that plague was mostly conveyed by suctorial insects such as mosquitos and fleas.

Simond (1898) found organisms indistinguishable morphologically from the plague bacillus in the stomachs of fleas fed upon rats and mice dying of plague, and succeeded in infecting a mouse by injecting an extract of crushed fleas taken from a plague rat. From his observations on plague in India during the previous year Simond arrived at the idea that plague was transferred from rat to man by means of fleas, and he made some experiments to try to convey the disease from one animal to another by the agency of fleas. Having found that he was unable to transmit the disease by mere contact, when the animals were previously freed from any fleas they might have, he placed a rat dying from plague in a wide-mouthed bottle, and, *as it had only a few fleas upon it*, he added twenty fleas from a cat (species not identified). A young rat, enclosed in an iron box with a grating on one side, was lowered into the bottle. The rat which was affected with plague died after twenty-four hours, and its carcass was left in the bottle for thirty-six hours and then withdrawn. The other rat died of plague on the fifth day.

Tidswell (1900) found virulent plague bacilli in the stomachs of fleas taken from plague-infected rats, but failed successfully to repeat Simond's experiments on transmission from rat to rat by means of fleas. Zirolia (1902) found that *B. pestis* multiplied in the stomachs of fleas, and retained its original virulence for seven to eight days, during which time it was passed in the faeces.

Gauthier and Raybaud (1902, 1903) repeated Simond's experiments in Marseilles. In their experiments they employed a cage divided in the middle by two wire grills 3 cm. apart. The cage was placed in a glass jar. In one compartment was placed an inoculated white rat on which had been placed a dozen fleas captured upon rats from ships in the harbour. When the inoculated rat died, a healthy rat was placed in the second compartment, and after some hours had elapsed, during which the fleas had transferred themselves from the dead to the living animal, the cadaver was removed. In this way Gauthier and Raybaud succeeded five times in conveying the infection from one rat to another; the number of negative experiments is not stated. An examination of the fleas found upon the septicaemic animals showed the presence of *B. pestis*. They found, as was stated by Simond, that rats did not contract plague from one another by mere contact in the absence of fleas. The fleas used in their early experiments were not identified.

Tidswell (1903) made further attempts to convey plague from rat to rat by the agency of fleas, but was unable to do this.

Verjbitski (1904) carried out an extensive series of experiments on the flea transmission of plague in St. Petersburg. He showed that plague bacilli could be recovered from the stomach contents of fleas six days after they had fed on plague rats, and that the faeces of such fleas contained *Bacillus pestis* for about the same time. He succeeded in infecting rats with fleas from diseased rats fifteen times in seventy-six experiments. In each experiment ten possibly infected fleas were allowed to feed on the rat.

Verjbitski also made experiments similar to those of Gauthier and Raybaud described above, and out of forty experiments, using ten fleas apiece, infection was conveyed in four.

Liston (1905) pointed out that the common flea infesting rats in India was not *Ceratophylus fasciatus* or *Typhlopsylla musculi*, as in Europe, but a non-pectinated flea possessing considerable resemblance to *Pulex irritans*. This was first identified by Rothschild as *X. cheopis*, and is identical with the flea (*P. pallidus*) found by Tidswell to comprise 80 per cent. of the flea population of rats in Sydney and Brisbane. Liston observed multiplication of the plague bacillus in the stomach of this flea. Although his experiments on transmission, which were made by allowing fleas to bite first an animal suffering from plague and subsequently a healthy animal, were not successful, he brought forward much interesting and valuable circumstantial evidence in favour of the view that plague is so epidemically spread. He found that *X. cheopis* takes readily to another host when rats are not available, as is shown by the following observation. In March, 1903, an outbreak of plague occurred in the guinea-pig cages at the Zoological Gardens, Bombay. On visiting the gardens Liston was surprised to find the guinea-pigs, especially those which were sick, infested with rat-fleas (*X. cheopis*). Guinea-pigs do not usually harbour fleas, but dead rats had been found in the neighbourhood of the guinea-pig cages, and Liston imagined that the fleas on the guinea-pigs were derived from this source. Acting on this idea, he subsequently made use of guinea-pigs as traps for rat-fleas, and in this way was able to discover their presence in plague-infected huts on several occasions. That *X. cheopis* will attack man was also demonstrated by Liston.

Kister and Schumacher (1905) repeated in Hamburg the experiments of Gauthier and Raybaud. Their method was similar to that of the Marseilles observers. They take no note of the species of fleas upon the rats used, and the amount of infestation of their experimental animals was apparently slight. All their experiments were negative, and they concluded that flea-transmission is neither usual nor important.

When the Commission for the Investigation of Plague in India was appointed in 1905, a prominent item in the programme drawn up by the advisory committee was the investigation of the part, if any, played by fleas in the spread of plague from rat to rat and rat to man.

Experiments in Cages.

After several failures a command of the conditions necessary was attained, and it soon became a simple matter to transmit plague from animal to animal by means of rat-fleas.

In the first series of successful experiments a glass case containing two wire cages side by side, each standing in a tin tray which collected the urine, was used. Both trays were filled with sand, in order to provide dryness and shelter for the fleas. Each cage was furnished with a lid through which the rats were introduced, and food and water given to them. The whole apparatus was covered in with fine muslin to prevent the escape of the fleas.

A rat placed in one of these wire cages could not come in contact with a rat in the other cage nor with its urine or faeces.

The method of experiment was as follows: A plague-infected rat and a number of rat-fleas were placed in one of the wire cages. After the rat died, a fresh healthy rat was put into the other cage, the corpse of the infected rat being left in for twenty-four hours longer.

Sixty-six experiments with English white rats and with Bombay wild rats were done in this way, with the result that thirty healthy rats contracted plague; that is to say, there were 45 per cent. of successful transmissions. In all cases a fairly abundant supply of fleas was present; these could pass freely between the cages and, except for the air, formed the only apparent means of transmission of the bacilli from rat to rat.

In order to exclude aërial infection a second series of experiments was carried out, in which fleas were taken from a rat which had died of plague and were placed on a fresh rat in a clean flea-proof cage of similar construction to that already described, but containing only one wire cage. Twenty-one (55 per cent.) successful transmissions out of thirty-eight experiments were obtained in this way, both English white rats and Bombay wild rats being again used. The possibility of the rat-flea carrying plague from one rat to another was therefore demonstrated directly.[13]

Experiments in Specially Constructed Brick Animal Houses from which Fleas could be Practically Excluded.

The following experiments, which had as their object the determination of the relative importance of the Indian rat-flea, *X. cheopis*, and of actual close contact in the absence of fleas, in the dissemination of plague from animal to animal, were carried out in a series of small cabins, which were built especially for this purpose.

In these animal houses plague-infected animals, rats or guinea-pigs, were kept in close contact with healthy animals. The animals ran about together in a confined space, and ate out of the same dishes.

The plague-infected animals were allowed to die, and the corpses were not removed until some time after death. In some instances the concentration of infection was very great, in one case 21 infected animals being at one time in contact with 25 healthy ones. Further, the infection was often kept up for a long period by the daily addition of freshly infected animals. It is also to be noted that as the godowns were never cleaned out, close contact includes contact with urine and faeces of infected animals and contact with, and eating of, food contaminated with faeces and urine of infected animals.

In the case of the experiments with rats,[14] the healthy frequently ate the carcasses of the infected ones introduced. Sixty-six series of experiments were carried out. Each experiment involved about 40 to 70 animals; 31 were control experiments in which no fleas were introduced.

In all these control experiments not one of the healthy animals contracted plague, whereas in those cases where fleas were present, an epizootic occurred, varying in extent and rate of spread according to the number of fleas present.[15]

Infectivity of the Animal Houses after an Epizootic had occurred, due to Infected Rat-fleas.

Some interesting experiments[16] were carried out in the animal houses that had been used for some of the previous experiments.

Guinea-pigs and monkeys were introduced into them for one night. Some of the animals were in cages placed on the floor, others suspended 1 ft. from the floor, or in cages covered by fine gauze muslin, or surrounded by a layer of sticky fly-paper, 6 in. wide—that is, the simplest precautions to exclude fleas.

Of 13 unprotected monkeys 6 died; of protected none. Of 24 unprotected guinea-pigs 18 died; of protected none.

The important fact that the animal houses were infective three weeks after the last animal had died of plague in it was also brought out. This corresponds with the maximum time plague bacilli persist in fleas.

Experiments in Plague Houses.

The Commission subsequently repeated similar experiments in plague houses in Bombay.[17] The infectivity of 142 houses where cases had occurred or rats had died was tested by placing a guinea-pig in it overnight. The guinea-pig was subsequently segregated, and in 31 cases it died of plague.

Ninety-two experiments were made by placing two animals—monkeys, guinea-pigs, or rats—one protected by gauze or sticky paper, the other not, in suspected houses. Fifteen unprotected animals died; none of the protected. On 12 occasions fleas were removed from a rat which was found under suspicious circumstances and had presumably died of plague, carried to the laboratory and placed upon a healthy guinea-pig. In 9 cases the guinea-pig contracted the disease.

On 96 occasions fleas were taken off guinea-pigs, which had spent the night in a suspected house and transferred to a healthy animal. In 26 of these the animal died of plague, although not infrequently the guinea-pig from which they were removed escaped.

From the brief and quite inadequate account I have given, you must realize that a fine attempt to solve this problem has been made. I am not aware that such exhaustive experiments have ever been made before in the history of epidemiology, and the conclusion that in a plague-infected house the infection is due to infected rat-fleas, and not to an infection of the soil or the air, seems to me abundantly justified.

The Fate of the Plague Bacillus in the Body of the Rat-flea and the Mechanism by means of which the Flea Infects a Healthy Animal.

The blood is sucked up from the wound made by the pricker. This structure is composed of three parts, the epipharynx and the two mandibles. The apposition of the three forms a fine tube, up which the blood is drawn and passed down the gullet into the stomach by successive waves of contraction from before backwards of the muscles actuating the chitinous pharynx.

The stomach is a pear-shaped organ occupying a considerable part of the abdomen of the insect. The general anatomy of a flea and the arrangement of the mouth parts may be gleaned from the diagrams Figs. 4 and 5.

In order to arrive at the number of plague bacilli likely to be imbibed by a flea from the blood of a rat dying of plague, the Commission for Investigation of Plague in India made measurements of the capacity of the flea's stomach[18] and of the number of live bacilli contained in the blood of rats dying or recently dead of plague.[19]

The average capacity of a rat-flea's stomach was found to be 0.5 cubic millimetre, and the number of bacilli in the blood of a plague-infected rat before death anything up to 100,000,000 bacilli per cubic centimetre.

If, therefore, a rat-flea imbibed the blood of such a rat it would receive into its stomach 5,000 germs, and from the blood of a rat containing 10,000 germs per cubic centimetre 5 bacilli. It was found that the blood of about two-thirds of plague-infected rats contained more than this number of germs, so that rat-fleas in sucking the blood of plague rats in Nature have ample opportunity of taking at least a few bacilli into their stomachs.

Evidence of Multiplication of Bacilli in the Stomach of the Flea.

Evidence of multiplication was found by Ogata and Liston. In the experiments of the Commission fleas were fed on plague-infected rats until the death of the latter animals. They were afterwards fed on healthy animals, a fresh animal being supplied each day, so that it was impossible for them to imbibe any more bacilli. Each day a number of the fleas was dissected and the stomach contents examined as to the presence or absence of plague

[13] Reports, *Journal of Hygiene*, 1906, vol. vi, pp. 435–450.
[14] *Journal of Hygiene*, vol. x, pp. 315–335.
[15] Reports, *Journal of Hygiene*, vol. vi, pp. 450–467; vol. vii, pp. 421–436; and vol. x, pp. 315–335.
[16] Reports, *Journal of Hygiene*, vol. vi, p. 461.
[17] *Journal of Hygiene*, vol. vi, pp. 467–482; and vol. vii. pp. 436–446.
[18] Reports, *Journal of Hygiene*, vol. vii, p. 395.
[19] Ibid., vol. vi, p. 519.

bacilli. In 5 to 30 per cent., according to the time of year, abundant germs were found up to the sixth day, and in one instance on the twentieth day.[20] The bacilli were often present in immense number, far more numerous than ever seen in blood, and massed together as in a culture. We have good evidence in this observation that multiplication of plague bacilli may take place in the flea's stomach. If there had been no multiplication, the bacilli in the blood originally imbibed would soon have been diluted and washed out by the new blood taken in at each feed on the healthy animals.

The Approximate Proportion of Fleas in the Stomachs of which Multiplication of Bacilli takes place.

A number of fleas removed from plague-infected rats were dissected, and the contents of the stomach examined by the Commission. The proportion containing organisms indistinguishable from plague bacilli was found to vary with the season of the year, being six times greater in the epidemic season than in the non-epidemic season. During the season of the year when the epidemic occurs the proportion of infected fleas for the first four days after removal from the plague rat was 43 per cent., on the sixth day there were 15 per cent., on the eighth day 16 per cent., and on the twelfth day 9 per cent. On one occasion the stomach contents of a twentieth day flea were found full of plague bacilli. In the non-epidemic season only 5.2 per cent. were infected during the first six days.

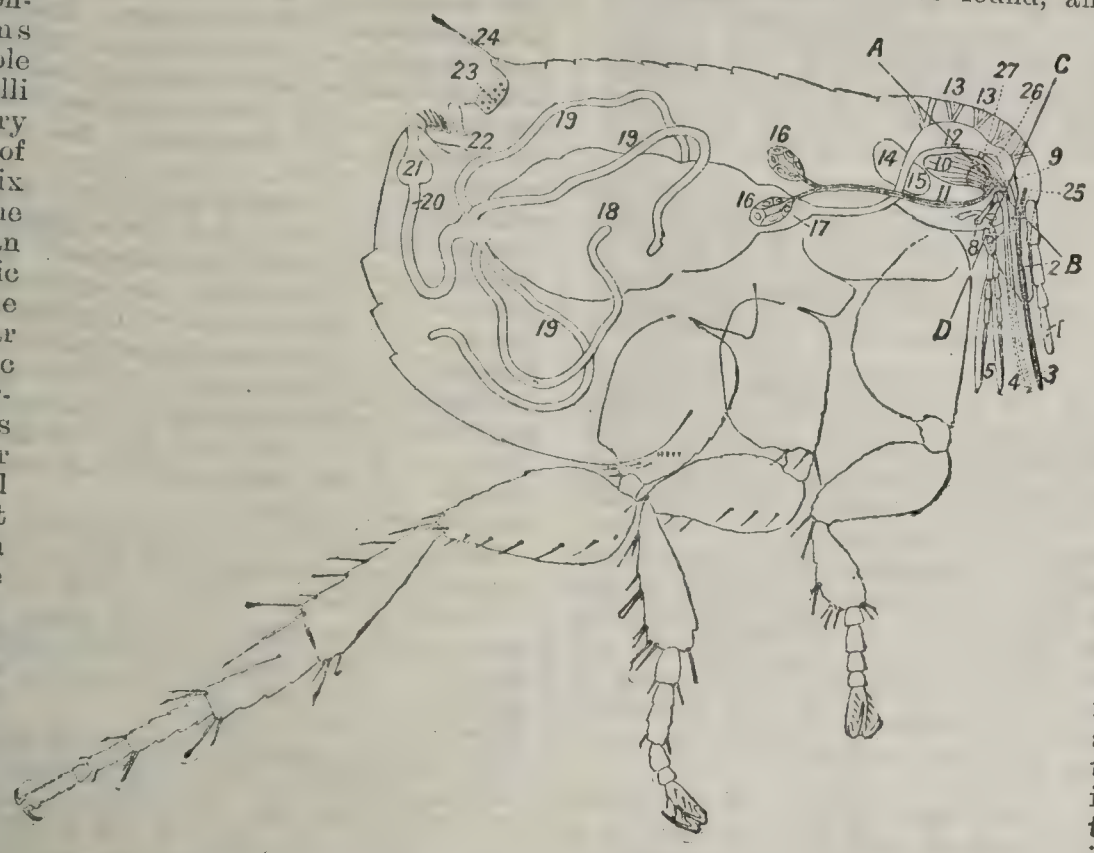

Fig. 4.—Diagrammatic mesial sectional view of *Xenopsylla cheopis*. 1, Maxillary palp; 2, maxilla; 3, epipharynx; 4, mandibles; 5, labium; 6, undivided portion of labium; 7, basal portion of labium; 8, basal portion of mandibles; 9, salivary pump; 10, hypopharynx; 11, salivary duct; 12, aspiratory pharynx; 13, muscles operating the aspiratory pharynx; 14, supraoesophageal ganglion; 15, suboesophageal ganglion; 16, salivary glands; 17, gizzard; 18, stomach; 19, Malpighian tubules; 20, rectum; 21, rectal glands; 22, claspers; 23, pygidium; 24, antepygidial bristle; 25, termination of dorsal contour of epipharynx; 26, mouth; 27, ligament.

The Duration of Infectivity of Rat Fleas taken from Plague Rats.

Fleas which had imbibed blood containing plague bacilli were fed on healthy guinea-pigs, a fresh animal being supplied each day until all the fleas had died. After being in contact with the fleas for twenty-four hours each guinea-pig was carefully cleared of fleas and segregated. By this means it was ascertained that fleas might remain infective for fifteen days.

The Distribution of Plague Bacilli in the Body of the Flea.

The blood at the end of the digestive process in the stomach passes into the rectum of the flea as a thick, slimy, dark-red mass, and appears at the anus as minute, dark-red or black, tarry droplets. It is easy to demonstrate by dissection and examination that the rectal contents are often crowded with plague bacilli, and it has been repeatedly shown, both by microscopical examination and by cultural and animal tests, that the faeces may contain abundant and virulent plague bacilli.

On the other hand, a very large number of fleas, which had come off plague rats at intervals varying from a few hours to several days, have been dissected, and the various parts of the body examined for the presence of bacilli. On rare occasions a few bacilli have been seen in the gullet, but only in cases in which the flea has been killed immediately after feeding. As regards the other regions in the body, in not a single instance have any plague bacilli been observed outside the organs already mentioned. No infection of the body cavity has been seen, and, although particular attention was paid to the salivary glands, nothing at all resembling a plague bacillus has ever been detected in them. It would appear, then, that nowhere outside the stomach and the alimentary canal posterior to the stomach are plague bacilli to be found, and that they leave the body chiefly, if not entirely, along with the faeces.

How the Flea Transmits its Infection to the Healthy Animal.

It is evident that several methods of transmission are possible, such as (*a*) the animal eating the infected fleas; (*b*) the mechanical conveyance of the bacilli by the pricker; (*c*) the injection of the bacilli along with the saliva as the result of an infection of the salivary glands; (*d*) the regurgitation of the stomach contents or the retention of the infected blood about the mouth parts or in the pharynx, the bacilli being then injected with the saliva or carried down on the pricker or rubbed into the wounds made by the pricker; (*e*) the deposition of the infected faeces on the skin, the bacilli being subsequently rubbed in by scratching.

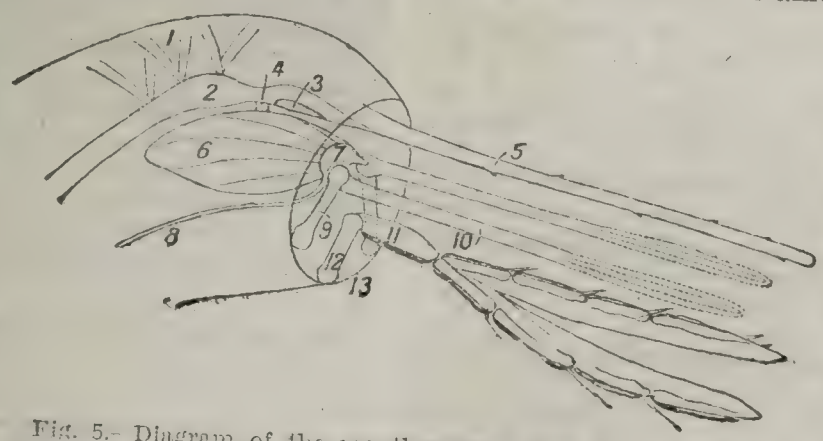

Fig. 5.—Diagram of the mouth-parts of the flea. 1, Muscles operating aspiratory pharynx; 2, aspiratory pharynx; 3, mouth; 4, ligament; 5, epipharynx; 6, hypopharynx and muscles operating salivary pump; 7, salivary pump; 8, salivary duct; 9, basal element of mandible; 10, mandible; 11, labium; 12, basal element of labium; 13, perioral ring.

This last method is the only one which has been proved capable of bringing about infection. A well-fed flea deposits a considerable amount of faeces in a surprisingly short time. It has the habit of doing this either at the time of sucking or immediately afterwards, and it has been proved by both the Commission for the Investigation of Plague in India[21] and Verjbitski (1904) that wounds made by the pricker afford a sufficient avenue for the entrance of bacilli when liquid containing them is gently applied to recent bites.

Whilst, however, experiments have shown that infection may be brought about in this way, the possibility of infection by contaminated mouth parts or by a regurgitation from the stomach as a preliminary to sucking blood cannot be excluded, though no evidence has yet been obtained in favour of either of these methods.

[20] *Journal of Hygiene*, vol. vii, pp. 398-405.

[21] Reports of Plague Investigations, *Journal of Hygiene*, 1907, vol. vii, p. 418.

Fleas as the Agents of Transmission from Rat to Man.

In considering how far the results just detailed can be applied to man we enter at once upon less secure territory, because it is impossible to put conclusions to the test of experiment. The only measure of the correctness of such an interpretation is its adequacy to interpret all the known epidemiological facts concerning the spread of plague.

The justice of applying the results of animal experiments has been severely criticized in certain quarters, and particularly by Galli-Valerio (1907), on the ground that rat fleas do not bite man. It is true that, speaking generally, different animals harbour specific parasites; but the more we are learning on this subject the clearer it is becoming that such specificity is not so sharply defined as was imagined, and that a particular species of fleas, although commonly confined to a few hosts of allied species, may frequently be taken in considerable numbers off quite different animals. Moreover, it has become abundantly clear that a particular flea, although exhibiting a decided preference for one animal, will if hungry betake himself to animals of widely different species in the absence of its proper host.

Criticisms based on the supposition that rat-fleas do not bite man have arisen (1) from innocence of the variety and distribution of rat fleas, and that they differ in different parts of the world;[22] and (2) conclusions drawn from too meagre experimentation under an insufficient range of conditions.

The common, and in fact almost exclusive, flea found on rats in India is *X. cheopis*. This flea is a non-combed species, and not unlike the human flea in appearance. It appears to be the commonest flea inhabiting rats throughout the tropical and semitropical parts of the world, and to become less prevalent north and south of these regions, where it is supplanted by *Ceratophyllus fasciatus* or some other member of this genus. It is not uncommon on the rats in the ports of the warmer temperate regions having shipping connexion with the tropics, especially during summer and autumn. *X. cheopis* was recently found by Dr. Boycott (1911) to be abundant upon a particular colony of rats living in some warm cellars at Guy's Hospital.

Numerous other fleas have been captured off rats, sometimes in considerable numbers, but these appear to be either occasional visitors or their presence in numbers is due to the particular mode of life of individual colonies of rats, leading to the sharing of parasites generally inhabiting some other animals, such as mice, fowls, cats, or field voles.

That *X. cheopis* readily feeds on man was observed by Tidswell (1903), Gauthier and Raybaud (1903), and Liston (1905). That under natural conditions they are attracted to man, the following extracts from the reports of the Commission for the Investigation of Plague in India show.[23] The extract also furnishes an idea of the degree of flea infestation in some of the habitations of the poorer natives.

April 18th.—113 fleas were caught on a man who entered one of the rooms. The species were as follows: *P. irritans*, 55; *X. cheopis*, 51; *P. felis*, 7.

April 19th.—76 fleas were caught on a man who entered one of the rooms for a short time. The species were as follows: *P. irritans*, 40; *X. cheopis*, 34; *P. felis*, 2.

April 20th.—80 fleas were caught on a man who entered one of the rooms. The species were as follows: *P. irritans*, 18; *X. cheopis*, 60; *P. felis*, 2.

The Commission for the Investigation of Plague in India kept *X. cheopis* alive for four weeks upon an exclusively human diet.

With regard to the readiness with which *Ceratophyllus fasciatus* attacks man considerable divergence of opinion has hitherto existed. According to Wagner (quoted by Tiraboschi 1904, p. 180), Tiraboschi (1904, p. 266), and Galli-Valerio (1907) this flea does not bite man. On the other hand, Gauthier and Raybaud (1903 and 1909) and McCoy and Mitzmain (1909) found that when hungry it fed on man with readiness.

Miss Chick and I (1911) have made some hundreds of experiments on this question, and are at a loss to understand the negative conclusion arrived at by Tiraboschi and Galli-Valerio. The fleas were starved for periods varying from twenty-four hours to fourteen days before testing their inclination to feed on man. The tubes were inverted upon the naked skin of the arm of the subject and the flea carefully watched for a period of two minutes. If it did not bite during this time it was regarded as negative for our experiments. Frequently the flea attached itself instantly or within a few seconds, and began to feed without delay; sometimes it took a little longer to get started, but usually, if it were going to bite at all, it did so before one minute had elapsed. As soon as the flea attached itself the tube was removed, and the behaviour of the insect was watched with a hand lens. The position assumed was generally characteristic. After a preliminary investigation of the surface with the tip of the labium and the maxillary palps, the insect was seen to press its head firmly on to the skin and raise its abdomen steeply into the air. Shortly afterwards blood was seen passing into the stomach in jets.

The results of 517 experiments with 364 fleas and 8 persons are given below in tabular form.

The proportion of fleas which bit varied from 36 per cent. to 77 per cent., giving a mean value for man of 59.6 per cent. The variation between different people is large enough to warrant the conclusion that the suggested idiosyncrasy is a reality.

In order to obtain a satisfactory control for these experiments, a similar set were undertaken, using the rabbit and the rat as subjects; the results are also given in the table. The experiments were in all details similar to the above, except for the expedients adopted for keeping the animal quiet during the observations.

The rabbit was rolled up in a cloth, and remained motionless on a table in a sleepy condition.

The rat was secured by a similar method. Two bandages were used, one for the neck and shoulders, and one for the thighs and legs, leaving a portion of the abdominal wall free. The area of skin upon which the fleas were tried was shaved. The rat was laid on its back, the head comfortably supported with a pillow of cotton-wool, and kept from rolling away by fastening the ends of the bandages to a board with drawing pins. The rat remained perfectly quiet, and there was no difficulty in carrying out the observations.

Under the conditions of these experiments *Ceratophyllus fasciatus* fed upon man as readily as upon a rat.

Although feeding readily enough, it is doubtful whether *Ceratophyllus fasciatus* can attack man as easily as *X. cheopis*. Compared with *X. cheopis* it is a poor jumper.

One hundred and seven experiments with *Ctenopthalmus agyrtes*, a flea common on *Mus decumanus* in this country, when living in fields, ricks, or barns, and 122 experiments

[22] The distribution of rat-fleas has recently been dealt with by Miss Chick and myself in the *Journal of Hygiene*, vol. ii, p. 129.

[23] Reports, *Journal of Hygiene*, 1907, vol. vii, p. 475.

Table showing Results of Feeding Experiments with Ceratophyllus fasciatus.

	Subject.								Summary.	Rat.	Rabbit.
	C. J. M.	H. C.	A. M.	J. H. S.	H. Y.	G. F. P.	H. W. A.	S. R.			
Total number of experiments ...	161	118	39	33	52	51	40	23	517	101	32
Positive	106	65	30	12	36	25	19	15	308	59	23
Negative	55	53	9	21	16	26	21	8	209	42	9
Per cent. positive	65.8	55.1	76.9	36.4	69.2	49.0	47.5	65.2	59.6	58.4	71.9

with the mouse-flea *Ctenopsylla musculi* showed that under the conditions of the experiment the former would not bite man at all, and the latter only very occasionally.

This latter experiment is interesting because mice, although dying of plague, have not been found to be associated in the same way as rats with the origin of plague epidemics.

The Ability of Flea Transmission to Interpret the Epidemiological Facts and Conclusions Regarding Bubonic Plague.

The most prominent epidemiological fact concerning bubonic plague, namely, its essential dependence upon rat plague, has already been sufficiently emphasized. Many of the factors conducive to the incidence and spread of the disease, such as poverty, dirt, storage of grain in the bedroom, accumulation of refuse, and insanitary conditions generally, have been shown to be effective in so far as they lead to the support of a large rat population in close association with human beings. All these conditions also increase the population of rat fleas, and man's accessibility to them, but for the present I content myself with the statement that they are not inconsistent with the view of transmission by these insects.

I have also pointed out that the principal mechanism by means of which plague infection is conveyed from rat to man, must be such an one as will lead to the inoculation of the bacillus upon some superficial area of the body. This is also consistent with infection by fleas.

There remain one important epidemiological conclusion and one striking epidemiological fact concerning plague by which the validity of any hypothesis must be tested. These we will consider seriatim.

1. *Infection may be Conveyed to a Distance upon the Person, Clothing, or Effects of an Individual, even when the said Individual does not himself Contract the Disease.*

A number of instances have occurred during the last ten years in India in which the introduction into a distant village of the effects of a person dead of plague, or the visit of an individual who had worked or resided in a house where some of the inmates had suffered from the disease, has been followed after an interval of about a week by mortality amongst the rats and an epidemic. In many cases the movements of the inhabitants have been known, and the information has been of such a definite character as to leave no doubt in the minds of the sanitary officials concerned that the outbreak was causally connected with the introduction of the clothes or of the individual, *although the latter did not suffer from the disease.*

These observations are explicable on the assumption that the infection was transported in the bodies of fleas contained in the clothing or upon the persons of the individual, for at the earliest opportunity rat-fleas would betake themselves to the rats, and could thereby start an epizootic. That such transmission of rat-fleas does actually happen has been proved by the Commission for the Investigation of Plague in India, members of which frequently carried away rat-fleas upon their persons and clothing when visiting native quarters in the course of their scientific duties.

An experimental test of the adequacy of this method of transporting the infection was carried out by the Commission by introducing bundles of clothing from native houses where plague had occurred, and confining guinea-pigs with them in a special flea-proof cage. By the time they reached the laboratory the majority of the bundles of clothing contained no fleas, but a few fleas were so transported, and once in twenty trials the guinea-pig died of plague. A flea (this time a human flea) taken off another guinea-pig which remained healthy was found to contain numerous plague bacilli in its stomach.

The Seasonal Prevalence of Bubonic Plague.

Perhaps the most striking feature of epidemics of bubonic plague is the marked seasonal prevalence of the disease amongst rats, and therefore amongst men. In places where it is endemic, the epizootic and epidemic start at or about the same time each year, grow, decline, and more or less disappear. As one passes away from the equator the plague season becomes later. In Bombay the height of the epidemic is in March, in Lahore April, in Jhelum May, in Rawal Pindi June, and further north July, August, and September. The epidemics of London in 1665, and of Marseilles in 1720, reached their maximum in September.

The effect of latitude in determining the season when plague flourishes is analogous to that upon the flowering and seeding of a plant, and indicates dependence on some biological factor. Within the tropics, where temperature variation is less, and the seasons are determined by the prevailing winds and rainfall, the epidemic season is also well defined, but varies in different localities.

It will be admitted that any interpretation of the spread of plague which affords an adequate explanation of the seasonal prevalence of the disease will receive thereby substantial support. The cause of this seasonal periodicity was sought for by Gotschlich (1903) in the seasonal breeding of rats. Gotschlich found that the greatest accession of young rats in Alexandria coincided with the epidemic.

The Commission for the Investigation of Plague in India made most extensive observations on the breeding season of rats in different parts of India.[24] In Bombay the proportion of females pregnant varied about 50 per cent. throughout the year, but the onset of the plague epidemic occurred in the season when breeding was at a minimum. In the Punjab breeding occurs more particularly in March and April, and again in September and October. These periods coincide with the onset of plague epidemics in this province. In Belgaum the rats breed all the year round, but more particularly during the early months of the year, which is a time when the plague epidemic is disappearing. In Poona the rate of breeding during the epidemic period was about half that of the non-epidemic period.

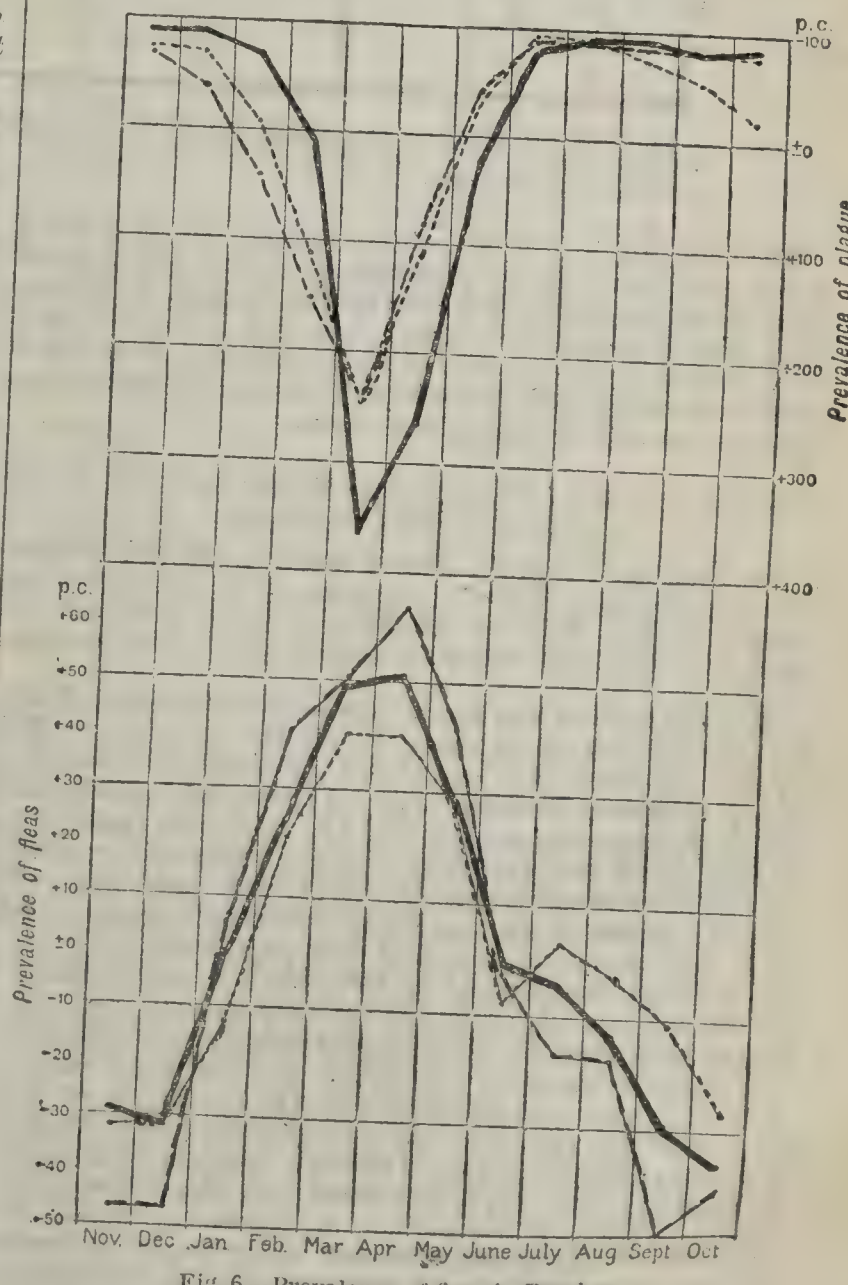

Fig. 6.—Prevalence of fleas in Bombay.

Human plague. — Fleas on all rats.
Plague in *M. decumanus*. — — — Fleas on *M. decumanus*.
Plague in *M. rattus*. ------- Fleas on *M. rattus*.

[24] Reports, *Journal of Hygiene*, vol. vii, No. 6, Special Plague Number; vol. x, pp. 446 536.

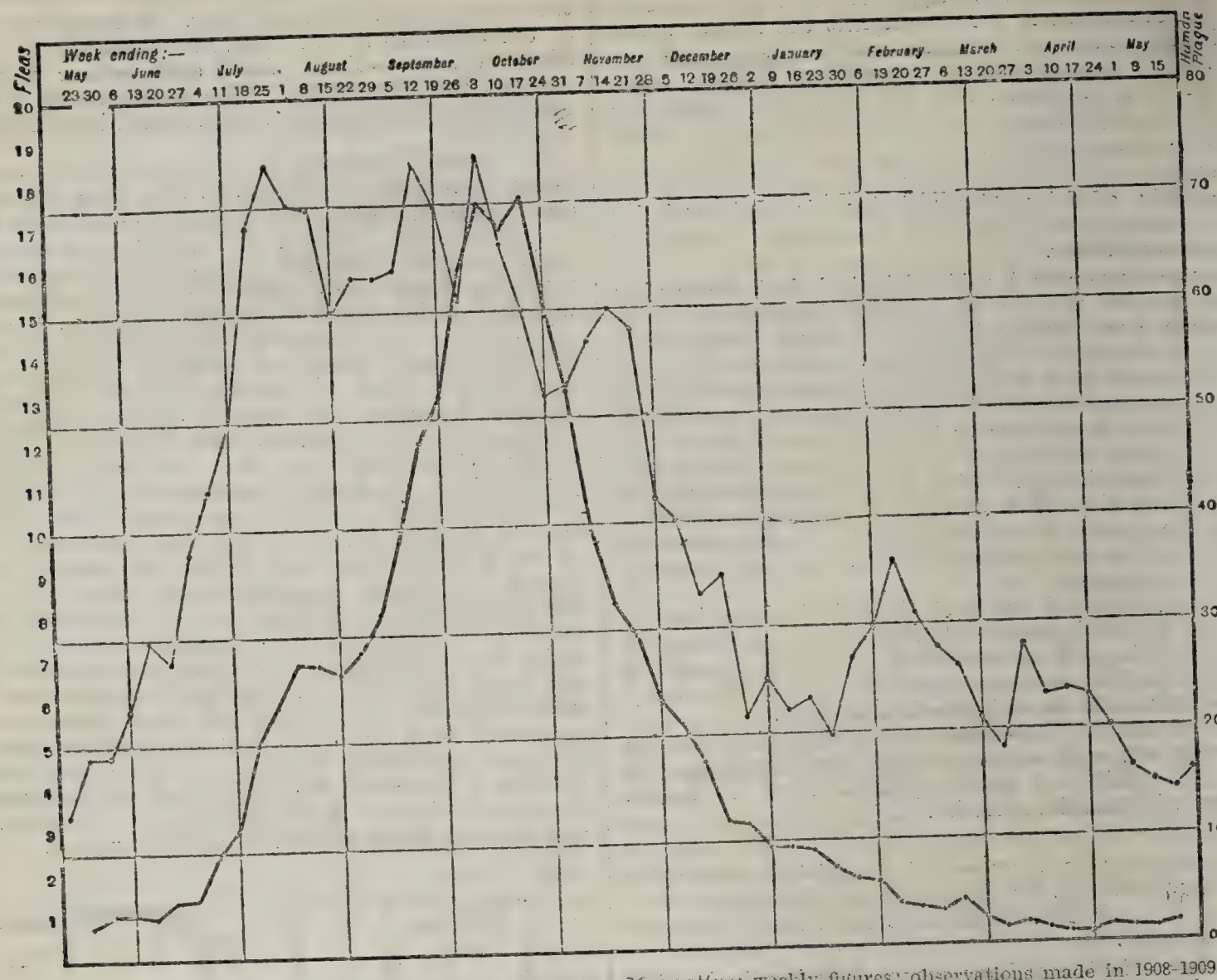

Fig. 7.—BELGAUM. ——— Average number of fleas per *Mus rattus*: weekly figures: observations made in 1908-1909. ——— Average number of deaths from plague, calculated for each week of the year, from May, 1897 to May, 1909 (twelve years), in Belgaum city.

The only part of India where the season of greatest breeding of rats and the epidemic season for plague at all coincide is the North, but even in the Punjab there is no very definite breeding season. Although in the Punjab it may contribute to a small extent, a periodic accession of young susceptible rats cannot be the factor in determining seasonal prevalence throughout India.

The Coincidence of the Epidemic Season with the Period of Greatest Flea Prevalence.

In Bombay, Belgaum, Poona, and two Punjab villages the Commission undertook a census of rat fleas upon rats caught.[25] The fleas on 150,000 rats were recorded. In each case the observations extended over more than one year.

The analysis of the figures showed a seasonal variation in the number of rat-fleas in all the localities. The average number per rat varied in Bombay between 3 and 7, in Poona between 2 and 11, in the Punjab 2 to 12, and in Belgaum between 1 and 17. The interesting point is that in all the localities examined plague is epidemic when the average number of fleas is well above the mean, and the height of the epidemic corresponds fairly closely with the season of maximal flea prevalence. This coincidence is brought out in the attached charts (Figs. 6 and 7) showing the variations in fleas per rat and plague deaths each week for Bombay and Belgaum respectively.

A similar seasonal variation in the prevalence of *X. cheopis* and correspondence of the maximum of these fleas and the epidemic period has been observed by Kitasato (1909) in Japan, Tidswell (1910) in Sydney, and by Gauthier and Raybaud (1910-11) at Marseilles, and by Andrew (1911) in Tongschau in Northern China. The incidence of the epidemic period in the season of greatest flea prevalence under such different climatic conditions as obtain in Bombay, Poona, the Punjab, Belgaum, Sydney, Kobe, Tongshang, and Marseilles is in itself suggestive, and, in view of the results of animal experiments already referred to, one is justified in believing that the most favourable time for the epidemic is largely determined by the seasonal prevalence of rat-fleas.

[25] Reports, *Journal of Hygiene*, vol. viii, p. 265; vol. x, pp. 446 and 483.

2. *The Rat-flea Hypothesis Affords an Interpretation of the Fact that Epidemics Decline when the Mean Daily Temperature passes 85° F.*

From the comparison of the course of epidemics with the mean temperature for a number of localities in India and elsewhere the fact has emerged that plague does not maintain itself in epidemic form after the mean temperature has risen above 80° to 85° F.

It was not until the Commission for the Investigation of Plague in India found that in Bombay the proportion of successful experiments on flea transmission was greatest during the winter months that any light was thrown upon this rather curious fact. An analysis of their results gave 67 per cent. successful transmissions when the temperature was 73° to 78° F., against 14 per cent. successes when the temperature was 82° to 85° F. Transmission experiments were therefore carried out simultaneously at 70° and 85° F., both upon rats and guinea-pigs. The results were consistent with previous experience, the successful transmissions being two to three times as frequent at the lower temperature. The possibility that the virulence of the bacillus might undergo some variation in virulence if grown at one or other temperature was examined by the Commission and excluded. An explanation was subsequently found in the much greater rapidity with which plague bacilli disappear from the alimentary canal of the flea at the higher temperature.

The claims of flea-transmission to be the predominating mechanism of spread from rat to man may be briefly summarized as follows:

1. The experimental evidence that plague is easily transmitted from animal to animal by rat fleas.

2. That in presence of fleas, the epizootic, if started, varies as regards severity and rate of progress with the number of fleas present and the season of the year, whereas

all attempts to induce epizootics in the absence of fleas have failed.

3. That under natural conditions (experiments in plague houses, etc.) an animal can be protected from infection by any simple procedure which will exclude the visits of fleas.

4. The only discovered infection in plague houses resides in plague-infected fleas.

5. Rat fleas *X. cheopis* and *Ceratophyllus fasciatus* readily bite man.

6. The conclusions drawn from animal experiments, when applied to the problem of the spread of plague amongst human beings, afford a reasonable interpretation of every cardinal epidemiological fact.

The Part Taken by the Human Flea.

It is possible to transmit plague by means of *P. irritans*. Nevertheless, the direct transmission of the disease from man to man cannot, at the present time, be of frequent occurrence, or we should have evidence of direct infection instead of dependence upon the epizootic.

The reason why the human flea is ineffective is because in human cases the average degree of septicaemia before death is so much less than in rats that the chance of a flea imbibing even a single bacillus is small.

A variation of the plague bacillus in the direction of greater infectivity, with perhaps diminished toxicity leading to a higher degree of septicaemia in man, would permit of direct transmission by human fleas. Bubonic plague would then be independent of the rat, and spread directly from man to man. For several reasons it seems to me not improbable that this may have happened in the plagues of the Middle Ages.

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DISCUSSION.

Professor W. J. R. SIMPSON, C.M.G. (King's College), congratulated Dr. Martin on the very able manner in which he had opened the discussion and in which he had summed up the facts which had been established by the careful researches of the Indian Plague Commission, of which he is a member. Three important facts had been established: the first was that rats were infested with fleas, and that the infestation varied according to the season; the second was that epizootics of rat plague could be produced and maintained by putting infected fleas among healthy rats; and the third was that the height of the rat epizootic corresponded with the highest prevalence of fleas. These were sufficient to show that in endemic areas rat plague endemicity and the varying rat mortality in different seasons were largely dependent on the prevalence of fleas. The influence of infected food could, however, not be excluded, for although only 23 per cent. of the Bombay rats were infected by feeding, yet 67 per cent. of the Punjab rats were in this way infected. Taking the flea as the principal agent in causing plague epizootics among rats, the important question was, Can the same reasoning be applied to human plague epidemics? There were certain facts in favour of this view, but it was doubtful whether they were sufficient to justify the conclusion come to by the Indian Plague Commission—namely, that the majority of cases in a human epidemic were caused by the rat-flea. Apart from the evidence obtained among rats and guinea-pigs and which referred to epizootics, the evidence was very small. The speaker infected two monkeys in 1902 with rat-fleas and by similar experiments the Indian Plague Commission infected five monkeys. There were also the instances of rat-catchers being proved to have been infected by fleas, and a few observations in different epidemics, but to his mind this was not sufficient. This was an insect-carrier age, and ideas were apt to be tinged with it. But one had to be careful not to forget that plague was a bacillary disease, and that although in bacillary disease insects had been shown to have an influence in an epidemic, they had never been shown to be the only agent. There was the instance of flies in typhoid. It must also be remembered that the insect-carrier diseases were protozoal in their nature, and owing to the life-history of the organism in the insect were absolutely connected with that particular insect, but this was not the case in bacillary diseases. Fleas were not needed for the infection of rats when a plague patient was brought into a healthy locality. It was a matter of infection then from man to the rat. The decline of a plague epidemic could happen without decline in fleas. They had an instance of this in regard to pneumonic plague, which came to an end and was unconnected with fleas. In concluding, he hoped that more attention would be paid to the application of what was known to combat plague. He considered that this was being neglected, and yet 600,000 deaths occurred from plague during the first six months of this year in India.

Dr. A. J. CHALMERS drew attention to the fact that the plague epidemic had not spread from India to Ceylon, though large numbers of coolies and other persons passed regularly from India to Ceylon. While acknowledging the elaborate precautions taken by the Government of Ceylon and the anchoring of ships at a distance from the shore, he was doubtful whether these alone would explain the absence of the epidemic, the temperature and humidity of the air in Ceylon being noted.

Dr. ANDREW BALFOUR (Khartoum) stated that he had probably even less practical experience of plague than the last speaker, but had somewhat similar facts to record. The Anglo-Egyptian Sudan was liable to invasion both from Egypt and from the Arabian littoral. *Xenopsylla cheopis* occurred in the Sudan, and yet that country had never been visited, so far as was known, by plague in an epidemic form. In the last ten years there had, he thought, only been one imported case in the quarantine camp at Suakin. Doubtless stringent precautions were taken both on the Red Sea coast and at the frontier at Wady Halfa, while it was true that the Sudan was to some extent isolated by the absence of a railway from Shellal to Halfa. Still, it was at least likely that, with plague epidemic at Assouan and with pilgrims returning from the Hedjaz, cases of mild disease or infected rats might have passed the cordons. Might it, then, be the case that the high temperature which prevails in the Sudan throughout the year—the daily maximum rarely falling below the 85° F. mentioned by Dr. Martin—was operative in preventing plague becoming epidemic? It was impossible to be certain, but the point was worthy of consideration. It was, however, only fair to add that in the Assouan province plague was of the pneumonic type, and the daily mean of temperature in the summer months at least was as high, or nearly as high, as that obtaining in the northern Sudan. A German observer had found that iodoform was an excellent repellent for fleas, and stated that no flea would attack a person who made liberal use of this drug. He suggested its use where plague was prevalent.

Dr. F. M. SANDWITH (London) believed that if pneumonic plague were excluded from the discussion, attention would be focussed on the various varieties of flea which were parasitic to rats. The rat-flea theory, as the cause of human bubonic plague, had now been so well established that it would be difficult to displace it. Experience in Egypt during the last fifteen years confirmed this theory, and also the fact that great heat was inimical to the spread of plague. It explained why the original cases in Alexandria occurred among Greek dock labourers who handled and unpacked bales of cargo from infected ports, some of which bales contained dead rats; also why bubonic plague was present in Lower Egypt until the end of June, when it ceased to be rampant. Again plague, when present in the southern part of Upper Egypt, was usually pneumonic, and the Egyptian Sudan, both now and in historic times, was free from plague. Heat above 85° F. was inimical not to the bacillus but to the flea which communicated the bacillus. Thus all the old views about the seasonal variation of plague, which were founded on accurate observation, might be concentrated into the narrower question of the season or seasons when fleas were able to communicate plague. They now wanted to learn more. Why did not fleas like summer heat above 85° F.? How did the flea communicate plague bacilli to man or rat? Was it by bites becoming infected with bacilli voided from the faeces of the flea? The observation of Dr. Gotschlich in Alexandria that the plague season there corresponded somewhat with the breeding season of rats had always been of the highest interest, but if a similar parallelism could be found in other countries, too much importance need not be attached to it.

Dr. H. S. STANNUS (Nyasaland) asked for information concerning the so-called "congregation of fleas." It was well known that fleas were numerous in young animals, and probably in the rat's nest of young, as in the case of other domestic animals, the increase in plague when the young rats leave the nest must be due not to the appearance of the rats so much as that the fleas which had swarmed in the nests were distributed at these seasons.

Dr. LOUIS SAMBON (London) said that the association of the rat with plague was an old belief ever since plague appeared on the earth. The recrudescence of plague from year to year might be due to rat-flea infection, and it was known that the flea could live through long periods without food. It was to be regretted that although bacteriological studies had reached a high state of perfection in the investigation and etiology of plague, the epidemiological work had been and was still neglected.

Mr. CANTLIE (London) said that no satisfactory explanation of seasonal onsets of plague had been given. In one place it began in April, in another in September, although they were in the same latitude, and recurrences year after year occurred on almost the same day. In South China and Hong Kong, for instance, plague appeared in April and reached a maximum intensity of prevalence in May and June, disappearing in August. In Bombay, on the other hand, which in all probability was originally infected from Hong Kong, plague appeared year after year to increase in prevalence in the end of September, and after reaching its maximum in early spring subsided in May. Yet Bombay and Hong Kong were almost in the same latitude and possessed very similar climates. The recent outbreak of pneumonic plague in Manchuria seemed a climax to the

seventeen-year infection of China. At first, in 1892–4, widespread pestis minor, under the name of climatic buboes, prevailed from Singapore to Southern China, including the French provinces of Indo-China; then came the outbreak of bubonic plague in Southern China, and the most recent development was pneumonic plague in Manchuria. From pestis minor no deaths occurred; from bubonic plague the majority of those attacked died, and from pneumonic plague practically all died. The fact that pestis minor was a warning of the probable advance of true plague, was no new observation. In Egypt, in the first part of the last century, pestis minor was held to be an *aura pestilentia*. In Baghdad in 1867 buboes prevailed before the epidemic developed, and in Mesopotamia in 1873–7, and on the Volga in 1877–8, a similar account was given of an epidemic of buboes, from which no one died. The men of the British regiment stationed in Hong Hong suffered from pestis minor at the time plague first appeared there in 1894. The regiment went to Calcutta, and whilst there pestis minor (or climatic buboes) continued, and Dr. J. W. R. Simpson found a bacillus in the glands which corresponded in appearance, and partly in its characteristics, to that obtained from cases of bubonic plague then raging in Bombay. In the speaker's opinion there were three stages in a plague epidemic—(*a*) pestis minor, (*b*) bubonic plague, and finally (*c*) pneumonic plague; that the nature of the outbreak corresponded to stages of development in the life-history of the bacillus during which an increased virulence was generated. There was the probability that pestis minor appeared first in man; that from man the rat was infected, and by its passage through the rat a more virulent form of the bacillus was generated, which was in turn conveyed to man by the rat-flea. By the passage of this bacillus through man a still further development in virulence took place, setting up pneumonic plague, the bacillus of which might pass from man to man directly, or by some insect more in touch with man than the rat-flea.

Dr. G. F. Petrie (Lister Institute) gave an interesting account of the outbreak of pneumonic plague in Manchuria. Rats were not attacked by the disease, but the tarbagan or marmot was held to be responsible for the presence of endemic plague in Mongolia and in the Russian provinces adjacent. The connexion between the tarbagan and plague had not been satisfactorily worked out, but all the evidence available seemed to show that there might be truth in the belief of the infective power of the marmot in this connexion. The origin, however, of the pneumonic plague in Manchuria had yet to be discovered.

COMMUNICATION RELATING TO SOME RECENT EXPERIMENTS ON THE TRANSMISSION OF SLEEPING SICKNESS.

By A. G. Bagshawe, M.B.,
Director of the Sleeping Sickness Bureau, Royal Society, London.

Soon after the discovery in 1903 that *Trypanosoma gambiense* is transmitted in nature by the bite of *Glossina palpalis* the question was asked, Can other species of tsetse-fly play the same part? This question could not be answered satisfactorily at the time, because (1) in the areas where sleeping sickness was found other species of tsetse existed side by side with *palpalis*, and (2) because it was not till 1908–9 that Dr. Kleine, working with flies bred in his laboratory, made clear the conditions of transmission, showing that transmission was not "direct," but occurred only after a development had taken place in the insect's body. At the end of 1909, Kleine, working on the same lines, described an experiment carried out by himself and Dr. Taute, on the shore of the Victoria Nyanza, which seemed to show that *Trypanosoma gambiense*, though it might begin, could not complete its development in the body of *Glossina morsitans*, and that, therefore, it could not normally be transmitted by this species. This experiment was on a large scale, and by some it was considered to prove that *Glossina morsitans* is unable to spread sleeping sickness.

Since the publication of that paper human trypanosomiasis, which appeared on Lake Nyasa at the end of 1908, has been on the increase in Nyasaland and Rhodesia south of 12° S.—that is, in areas where *Glossina palpalis* does not occur but *Glossina morsitans* is common. The question, therefore, became urgent whether *Glossina morsitans* was or was not responsible for this spread. Recently an expedition in charge of Dr. Kinghorn left for Northern Rhodesia, its main object being to answer this question.

The matter was at this stage when the writer received a letter, dated July 18th, from Dr. Kleine—now in Germany—informing him of the receipt of a telegram from Taute to the effect that on Tanganyika he has succeeded experimentally in effecting this transmission. He fed 670 *Glossina morsitans*, divided into sixteen groups, on sixteen monkeys, each group on one monkey. Six monkeys became infected. That is the whole extent of our information at present.

DISCUSSION ON YELLOW FEVER ON THE WEST COAST OF AFRICA.

OPENING PAPER.

By J. W. W. Stephens, M.D.Cantab.,
Walter Myers Lecturer on Tropical Medicine, University of Liverpool.

In opening this discussion I am at a great disadvantage in at least two respects: (1) I cannot hope to treat this subject with the vigour and conviction of Sir Rubert Boyce, whose premature death I feel sure not only this Section, but tropical medicine throughout the world, deeply deplores; and (2) I have, so far as I am aware, no experience of yellow fever. I approach the subject, therefore, merely as a critic, or rather I propose merely to set before you some of the points which seem to me of importance in the controversy, because I have frequently seen, and every one here must also have seen on many occasions, the great danger of one not versed in a subject meddling with that subject.

First, then, I think it will be denied by no one, and has been denied by no one, that yellow fever has occurred in West Africa in the past and recently. Secondly, has yellow fever always been introduced by ship from South America or the West Indies?

In this connexion we require, I think, more rigid proof than is generally given of importation. A ship entering from South America is perhaps too lightly held as sufficient explanation of cases which may occur soon after its entry without definite proof of cases on board or of *Stegomyia*. If yellow fever is imported, then it has to be explained why only comparatively few cases—if they are few—on the whole occur. This could be explained on two hypotheses:

1. That the numbers of *Stegomyia fasciata* present are insufficient to maintain the epidemic. I would note here in passing that we have absolutely no evidence that *S. fasciata* transmits yellow fever in West Africa. It may be so. Nor must we exclude the possibility of the parasite—if parasite there be—in West Africa being different from that elsewhere. From personal experience of Freetown, Accra, and Lagos I am of opinion that *S. fasciata* abounds in these places, and this was the experience of Sir Rubert Boyce for those places on the coast visited by him; and I am told by those quite able to recognize *S. fasciata* that in the coast towns known to them *S. fasciata* abounds.

But even if *Stegomyia* are scanty, must we conclude that an epidemic could not be maintained? Although scanty is a relative term, yet I do not think this conclusion is necessary, for I would call your attention to the following facts: In a certain fishing village—Ennur, in Madras—malaria was intense (spleens 95 per cent., endemic index 54). On entering the native huts to catch Anophelines, Christophers and myself found the thatch, etc., swarming with *M. rossi*; they could be caught literally in hundreds; we proved, and all recent evidence has confirmed our observation, that this species does not carry malaria. We also found the carrier *M. culicifacies*; but after nearly a week's search, and I venture to state that we understand how to search, we succeeded in capturing only sixty-nine. (I must apologize for speaking of malaria, but I only wish to point out that a fact of this kind would make me hesitate in drawing conclusions from the abundance or otherwise of *Stegomyia fasciata*.)

2. The limitation of the epidemic could be explained if we suppose that the African native is either naturally insusceptible or has an acquired immunity, and that the African native, being insusceptible, the number of susceptible Europeans is insufficiently large. That *Stegomyia* does not bite natives is a quite untenable view.

As an example of alleged natural resistance I quote the following passage:

1. "A body of 500 Nubians and Sudanese which accompanied the French expedition to Mexico in 1862 remained absolutely immune while the French and Mexican troops were being decimated by yellow fever" (Davidson in Allbutt and Rolleston's *System of Medicine*). This is supposed to prove natural insusceptibility, as it is said that the Nubians and Sudanese could not have had yellow fever. But is this assumption true? It is not stated exactly where the soldiers came from, and we have records of at least fifteen outbreaks of yellow fever in the Sudan; and, further, we do not know whether the conditions under which the troops lived were identical in each case—a most important omission.

2. Again, as proof that the native is not insusceptible, we have the statement that in the American war in Cuba the negro troops suffered equally "with the American," which seems to prove that the negro has no natural insusceptibility, so that, having two antagonistic statements of this kind, it is pretty clear that more facts are required. To the point whether the native has an acquired immunity I shall return later.

3. Does yellow fever always exist on the West Coast—that is, is it "endemic"? If one case of yellow fever occurs on the West Coast of Africa every year, or for the matter of that every century, which can be shown not to be introduced, I consider that the disease is endemic. There are degrees of endemicity. Small-pox is, I take it, still endemic in this country, but the degree of endemicity is insignificant to what it was in Jenner's time. The word "endemicity" should not, therefore, frighten us, and it should not necessarily imply quarantine and its sequelae; but to return to the question, Is yellow fever *endemic* in West Africa? To those who believe that yellow fever is imported, exogenous, as we may term it, this question will have no significance. From recent discussions at the Society of Tropical Medicine, it would appear as if Sir Rubert Boyce had dropped a bombshell into the meeting, or rather two bombshells, by expressing—

(1) The view that yellow fever is endemic in West Africa, and (2) that the native is the reservoir suffering from mild attacks mainly in youth and thus becoming immune.

With regard to the first point, it seems extraordinary that such a commotion should have been caused by a view that is almost a commonplace of the textbooks. Thus I find in one textbook, date 1903, under a heading: "Endemic Centres and Epidemic Extensions in Africa—At the present day yellow fever appears to be truly endemic on the Gold Coast and at Sierra Leone, whence it has spread to Senegal and some of the West African islands." In a textbook dated 1905: "Yellow fever has managed to establish itself in West Africa." In another, dated 1907: "Certain places or localities have long been regarded as permanent endemic foci of yellow fever. Among these may be mentioned Vera Cruz, Havana, Rio de Janeiro, and the West Coast of Africa." And I could quote many others.

I range myself, then, on the side of the eminent writers of these textbooks in believing that yellow fever is endemic in West Africa, bearing in mind the above definition of endemicity, and that it is practically impossible to suppose that every outbreak has been due to fresh introduction. One autochthonous case in a century will constitute endemicity. I do not for a moment suggest that this is the endemic index. What the endemic index is is another matter; that is a matter that it will be difficult to express in figures, as we have at present no objective sign as in malaria of spleen or parasites.

Is it, then, Sir Rubert Boyce's fault if, after pronouncing that yellow fever was endemic in Africa, people quite unjustifiably interpreted that as meaning that yellow fever was raging along the whole coast? Endemicity does not necessarily imply that. Epidemicity may, to a certain extent, do so. What, then, does it imply?

1. It must imply that infection among the natives, to some extent at least, spreads; and

2. That the infected, if they do not all die, as they cannot if the disease is endemic, acquire immunity, for I think it is agreed that the native, even if there be natural immunity, also has an acquired one—probably through mild and frequent attacks sustained in childhood. That is the experience in South America, and I think we may infer that the same occurs in West Africa.

3. But if our endemic foci are small, then the area of immune natives is also small—in fact, endemicity and immunity proceed *pari passu*, and in these foci from time to time there will be slight epidemic explosions.

4. We are thus confronted with the same difficulty as we were if we accept the position that yellow fever is always introduced—Why does it not spread?

5. (*a*) The answer may be there are not enough *Stegomyia* over areas taken as a whole, though as regards individual towns—for example, Freetown and Lagos—I do not think this is tenable, and I have already said that caution is necessary in drawing conclusions, even should it prove that *Stegomyia* is scanty.

(*b*) It may not spread because the endemicity and the consequent immunity are much larger than one has suspected. I think it may possibly be larger than we suspect. This is a matter for investigation; the matter cannot be advanced by mere assertion or denial. Sir Rubert Boyce, as we know, believed that this immunity was widespread throughout West Africa. It should be noted that even this was not a new view, as Sir William Pym in 1848 put forward the view that yellow fever is a disease of the interior of Africa, where he believed it to exist in a modified form among the native races. Sir Rubert also held the view that bilious remittent fever was frequently confused with yellow fever. Let me remind you that Burton held the view that bilious remittent conferred an immunity against yellow fever, and in the *Bulletin of the Marine Hospital Service, U.S.*, 1898, it is stated that bilious remittent has practically disappeared from the Southern Sea Border since yellow fever ceased to be endemic there. I again point out, however, as I have done above, the danger of supporting an argument by mere authority; what we require are unimpeachable facts.

The difficulty that will confront us here is the difficulty of diagnosing yellow fever. There is no objective sign as in malaria—unless the bodies described by my colleague, Dr. Seidelin are the long-sought-for parasite. I think, however, we should be cautious, and certainly not say that no cases of bilious remittent are yellow fever. The whole question needs careful investigation, and I would urge for the question to be approached in an unbiassed state of mind. It will be strange if scientific investigation does not provide us with many surprises.

I hesitate to put forward a view of my own, but I would venture to draw again an analogy from malaria.

While working in India, Christophers and myself showed by a series of investigations that the malarial endemic index was proportional to the proximity of Anopheline breeding grounds; but we found also this peculiar condition—innumerable larvae in numerous river pools, and the adjacent village teeming with Anophelines that we knew to be carriers, and yet not a sign of malaria, enlarged spleen, or parasites among the children, and this in a region where less than fifty miles away malaria was abundant. I suggest, then, that we may have abundance of *Stegomyia* in certain towns and villages of West Africa, and that yellow fever is really endemic, but that for some unknown reason it does not spread—that there is, in fact, an unknown "regional" factor which controls yellow fever, as it does in certain cases of malaria. That there really is such a thing as the "regional" factor a consideration of sleeping sickness in West Africa as compared with Uganda shows—for in the former region sleeping sickness is endemic in a smouldering form—in the Gambia about 1 per cent. of the population is affected. Why it is thus limited it is very difficult to explain, for, as far as we know, there is no such thing as immunity in sleeping sickness.

6. Finally, I would mention one point which Sir Rubert Boyce urged besides *Stegomyia* destruction which will need no advocacy in this Section—namely, segregation of Europeans from the native. It is now some ten years since Christophers and myself first advocated, on quite

different grounds, this policy, and it is with the greatest pleasure that, through the able advocacy of Sir Rubert, though based on different reasons, I see this excellent policy officially recognized by the Home Government, though, indeed, already carried out in many places unofficially.

I would, then, ask in the discussion for *new* evidence on the following questions:

1. Is yellow fever exogenous? or, Is yellow fever endemic (endogenous)? To what extent is it so?
2. Has the native a natural or an acquired immunity, and is this the reason why yellow fever does not spread, or is there some other reason?
3. Is bilious remittent in part mistaken for yellow fever?

DISCUSSION.

Dr. W. T. Prout, C.M.G. (Liverpool) said that the question of yellow fever in West Africa depended on the definition of endemicity, and if by that was meant the existence of yellow fever on the West Coast at some part or other, it was a fact which was recognized by those who like himself had practised for many years on the coast, and he had no doubt that it was endemic in that sense. But if, as the late Sir Rubert Boyce maintained, it was constantly present in every locality among the natives in a mild and unrecognized form, there were many difficulties in accepting the theory, and much more proof was required. He drew attention to the nature of the European and native population, and to the constant presence of large numbers of non-immunes, and was unable to understand how, if it were constantly present among the natives, its existence could have been overlooked. He rather thought it spread from place to place, assumed epidemic form, and died out. The analogy between endemic existence of malaria and yellow fever was not a very good one. Malaria was essentially chronic, with acute attacks, and a period of prolonged infectivity. Yellow fever was a disease with an extremely short period of infectivity and no chronicity. To ensure the spread of yellow fever under these conditions either a large number of cases of yellow fever was required or a very large number of *Stegomyia*. Otherwise it was bound to die out. He drew attention to Professor Ross's suggestion, that the number of *Stegomyia* was not sufficient in the whole world to ensure the spread of yellow fever, and suggested that it was the persistence of yellow fever in the *Stegomyia* that was responsible for the persistence of yellow fever, and not the persistence of the parasite in the human being, as in malaria. He considered that there were factors in the spread of yellow fever in West Africa which were not understood, and more information was required.

Dr. Harald Seidelin (Liverpool) said: It is, as Dr. Stephens has said, strange that the statement of Sir Rubert Boyce, that yellow fever is endemic in West Africa, has created a certain amount of surprise. The endemicity has been considered by many authorities as an established fact, and those who deny it are those who bring forward new theories, not those who affirm it. It is a curious incidence that statements concerning yellow fever endemicity sometimes seem to depend upon the nationality of the author. For instance, some Brazilian authors readily admit that Sierra Leone is an endemic centre, but emphatically deny that the disease is endemic in Brazil; the latter part of this statement will find but few supporters.

The theory by means of which Sir Rubert explained the endemicity is not new either, nor did he himself ever consider it to be so. The theory that yellow fever is continually kept alive by the occurrence of mild cases in natives, and especially in native children, has been expressed by many authors, especially by the members of the English, French, and German Commissions. What is to be admired in Sir Rubert is that he had the courage of his opinion, and that he brought forward with all his authority a theory which he knew would be highly unpopular, and which until then had been confined to the narrow circle of special observers.

I cannot speak of West Africa from personal experience, but the conditions obtaining there do probably not differ materially from those which we know to exist in other yellow fever regions and which seem to be typical. Everywhere the natives are considered immune, but it is admitted that the immunity is not an absolute one. I remember a prominent physician in Mérida once telling me of two fatal cases in native boys of 5 and 6 years respectively, sons of well-known native parents; the boys were born in Mérida, and had never been outside Yucatán. The same applies to acquired immunity, as demonstrated by the case of a bishop, a foreigner, who died in his second attack of yellow fever. But such cases are exceptional, and the natives of Mérida always believe themselves to enjoy a perfect immunity, though they feel somewhat nervous when returning from a prolonged stay abroad, since the universal opinion is that they may lose their immunity if they do not remain in a country where yellow fever is endemic. If these suppositions are correct, as I think they are, how can they be explained without admitting that all natives must have acquired their immunity during childhood, through more or less atypical attacks of the disease, and that in all likelihood the immunity had been strengthened in more advanced age through repeated and now *quite* atypical attacks? It must also be remembered that one of the most eminent observers of yellow fever (Guiteras) has described cases in children, stated it to be frequent, and directly said that the name of "*fiebre de torras*" had been invented, because the belief prevailed that children could not be attacked by yellow fever. In the same paper he also said that "all adult natives and all foreigners who have lived for several years in Habana are immune—that is to say, they have already had the disease." This view has also been adopted in Habana with regard to quarantine measures against infected parts of Mexico; adult natives proceeding from these parts are allowed to go on shore at once in Habana, because they are considered immune, but native children are kept isolated at the quarantine station, just as non-immune foreigners.

It may be asked, Why do not large epidemics of yellow fever break out in West Africa, if the disease is present there? This seems to me the strongest proof of the endemicity. Large epidemics can only occur when numbers of non-immunes are exposed at one and the same time to the infection, that is to say, either when the disease is imported into a new locality, or on the occasion of a large influx of foreigners into an infected locality. It may also be asked how I explain the non-occurrence of outbreaks amongst the *whites* in West Africa. I cannot say anything definite about West Africa, but judging from my own experience in Yucatán, and from what others have reported from different places, I believe that the only possible reason is that practically all new comers contract the disease, but only the very severe or fatal cases are officially reported. At the time I arrived in Yucatán my two children had some slight febrile disorder; afterwards my wife was ill for a few days, and finally I was taken ill. Only in my own case the disease was so severe that the diagnosis of yellow fever was considered, though finally it was not officially confirmed. But there we were, four foreigners who officially had never had yellow fever, but I feel absolutely convinced that we all had had the disease in the course of less than a month after our arrival. Until then I had had no experience with yellow fever, but afterwards I saw many cases, and when I now consider the notes of my own case, it appears to me that there is not the least doubt about the diagnosis. It may also be considered a proof of our immunity that no one in my house suffered from the disease some years later, when an English lady was taken ill with yellow fever whilst staying with us. *Stegomyiae* were abundant, although I may add, in my own defence, that no breeding places existed in my own house. When I left Mérida a certificate of immunity was offered to me and the sanitary officer told me that he considered my case to have been one of yellow fever.

I have given a somewhat lengthy account of this experience because I consider it to be very characteristic of the conditions existing in yellow fever countries. And if I consider what I have been told lately by medical officers from British colonies I must believe that an identical state of affairs prevails there. Medical men are aware that a great reluctance exists against accepting this "alarming diagnosis," and therefore they hesitate in pronouncing it, unless they can prove absolutely their case; and everybody

admits that it may be very difficult to prove a diagnosis of yellow fever so that it cannot be disputed. As Sir Ronald Ross points out in his recent paper, "numbers of the cases may be returned even to-day under almost any heading which happens to be the fashion of the moment." There may be also the danger of diagnosing too many cases as yellow fever, but I do not believe that this diagnosis has in any community so far reached the point of being considered fashionable.

I might record other experiences similar to the above of my own family, but I do not believe it to be necessary. I must add, however, that foreign residents in yellow fever places are quite aware of the state of things which I have described; they might not so express it, if you ask them, but practically they consider themselves immune when they have lived for five or six years in such a place. How could their immunity be otherwise explained than through an attack of the disease?

I would also like to mention a few other facts which have a direct bearing on the question of endemicity. I have recently collected four instances from reports of the last eight months in which yellow fever is said to have been contracted in places from which we have had no records of yellow fever cases for some years past. Does that not prove that yellow fever is much more widespread than it is admitted? And how should it be possible to conceal the existence of the disease if it were not for the fact that most cases are mild and what is called "atypical"? Moreover, cases occur, without importation being proved, in some places with intervals of months, or even years. Would that be possible if mild and unnotified cases did not occur continually?

As far as I may venture to express an opinion without even having seen West Africa, I believe that the conditions are the same as elsewhere, where yellow fever exists endemically, and that in all places (in 1910–11, so far twelve in number) in which sporadic cases of yellow fever occur, the disease must be supposed to exist in an endemic form—that is to say, that practically all inhabitants suffer at one time or another, from one or several attacks. Probably the disease is not limited to these twelve places, but will, I believe, be found to be much more widespread than it is imagined at the present moment.

The endemicity of yellow fever must, I believe, be the foundation of any explanation of the facts, and, more important still, for all prophylactic measures. It may not account for all details; as Dr. Stephens has pointed out, there are many peculiarities in the distribution of this as of other infectious diseases which so far have been but little understood. To understand some of these the suggestions put forward recently by Sir Ronald Ross may, perhaps, give us some assistance. The suggestion that the number of *Stegomyiae fasciatae* may be too small in Africa to allow the disease to spread, must certainly be taken into consideration in future work on the subject, but I may be allowed to point out a few of the difficulties which the theory will meet with before it can be accepted as an explanation.

First, there is no evidence to show that *Stegomyia fasciata* is not quite common in West Africa. On the one hand, we have the impression of Theobald, which he had communicated to Sir Ronald Ross, that it is common only in a few districts of Africa, and on the other hand the statements of Otto that it *is* common, of Sir Rubert Boyce that it is *the* common mosquito in many places, and now of Dr. Prout that it is very frequent. Now, Theobald is an eminent entomologist, but Otto, Sir Rubert Boyce, and Dr. Prout spoke from personal experience. The question deserves further investigation.

Next, we cannot assert that *Stegomyia fasciata* is the only species capable of transmitting yellow fever. Negative experiments have been made with different mosquitos, but, as far as I am aware, not with species of *Stegomyiae*. This question also remains open.

Then the relation between the number of cases and the number of mosquitos is not evident. Dr. Stephens has given striking examples from his studies on malaria, and I have seen cases of yellow fever in winter, at a time when it was difficult to find *Stegomyia* at all; in fact, it happened that all the mosquitos which had been swept up in a house fumigated because of the occurrence of a case of yellow fever were *Culices*.

I must also refer to another point on which Sir Ronald Ross lays stress. I mentioned in detail during the discussion on Sir Rubert Boyce's paper in London that it cannot be laid down as a dogma that the period during which the blood of yellow fever patients is infective is limited to three days. The evidence in favour of this dogma is by no means conclusive, and I have demonstrated the presence of characteristic bodies in the blood of such patients at a much later stage of the disease. The bodies have been seen in my preparations by many other observers also, and experienced protozoologists have told me that they had not met with similar elements before; some have definitely stated that the bodies gave them the impression of being parasites. This is also my own view. Here we have a positive statement, which may at least be of the same value as the one negative experiment of Marchoux and Simond.

Sir Ronald Ross does not mention the hereditary transmission of yellow fever from mosquitos to their offspring, nor the infection of mosquitos by feeding on sugar water, in which infected *Stegomyia* had been triturated. I therefore presume that he considers the two experiments which the already-mentioned French observers have made in order to demonstrate these modes of transmission as valueless; to this I quite agree, especially with regard to the first named, in the description of which it is definitely stated that the individual experimented upon went about his work in Rio de Janeiro—that is to say, in a place then endemically infected.

If I may be allowed to sum up these brief considerations, I would say that we know enough to conclude that there must be a good deal of endemic yellow fever in West Africa. How much nobody can tell, but it is certainly sufficient to justify that action be taken at once. The difficult and disputed questions cannot be resolved by discussion, before extensive and exact observations have been made on the spot.

The observations should especially consist of blood examinations in typical and suspected cases of yellow fever and in native children in endemic areas; the presence of the bodies, which I have described, should be investigated and the leucocyte formula determined; a contribution to this question, containing my own observations, will appear in a few days in the forthcoming number of the *Yellow Fever Bureau Bulletin*. The clinical diagnosis should be worked out in detail, so that atypical cases may be recognized. The biology of *Stegomyia* should be investigated, and the possibility of transmission by means of different species, though I very much doubt if further experiments on human beings would be justifiable.

Major JACKSON, R.A.M.C.(Ret.), said: The report of the Ashanti war (1873) by Sir Anthony Dixon Home, V.C., K.C.B., contains numerous references to the presence of yellow fever on the West Coast during that campaign; its presence was then fully recognized by military medical officers. The following experience which I had while in Jamaica will illustrate some of the difficulties of the diagnosis of yellow fever. A ship entered the harbour at Kingston flying signals of distress. This was owing to an outbreak of sickness on board which had incapacitated all the crew of the vessel excepting two—the captain and third engineer. I was ordered to inspect the vessel and report to the General Officer Commanding. The cases were very similar in many respects and showed characteristic symptoms of yellow fever. However, as others who were more familiar than I with that disease refrained from diagnosing it, I did not feel justified in opposing them. The vessel had come from Para and had dropped a case of diagnosed yellow fever at Trinidad; three dead having suffered from similar symptoms had been dropped over the side on the voyage. There was no medical officer on board, but the captain, who had had much experience in the tropics, told me that the corpses were as yellow as guineas, but he did not like to disagree with medical gentlemen. As regards acclimatization fevers—five-day or nine-day fevers—I think they would seem to be in some way allied to the graver disease; albumen is found in the urine, the skin assumes often an icteric tinge, no malarial parasites can be found in the blood. *Stegomyia fasciata* is the common mosquito of the British West Indies. Quarantine regulations defeat their object to some extent by their extreme severity. "Small-pox" becomes "eruptive fever." "Yellow fever"

becomes "pernicious malaria." "Plague" becomes "climatic bubo."

Dr. A. J. CHALMERS (Ceylon) said that, with regard to Dr. Stephens's third question, certain cases of bilious fever did not show malarial parasites, and had a break in the fever which generally ended fatally. These were looked upon by himself as possible yellow fever, but the milder cases or cases with malarial parasites must be regarded as requiring further investigation, and might probably be malarial. With regard to Dr. Stephens's second question, the speaker drew attention to the prevalence of peculiar types of fever in natives, including mild forms of bilious remittent fever, which, though generally looked upon as malarial, still included cases of a mild form of yellow fever.

Dr. J. W. MARTIN said that his experience on the Gold Coast went back to the premosquito days. He had seen certain cases that appeared to be different from typical malaria. They were more severe and presented symptoms pointing more to the stomach and liver being affected, coupled with high temperature. In some cases quinine did not always seem to have the desired effect; antipyrin, bringing down the temperature, gave more relief. The disease was either severe bilious remittent fever or a modified form of yellow fever. He agreed with the remarks of Drs. Prout and Chalmers that it was not an imported disease, but that it had probably existed in a modified form amongst the natives, and the presence of *Stegomyia* might account for the infection of whites. There were cycles of severity of outbreaks, and the peculiar history of the Gold Coast with Europeans constantly coming and going might explain the difference between yellow fever in West Africa and in the West Indies and South America, though there seemed to have been more typical cases of the disease in recent years since men's minds had been more drawn to a study of the disease and its incidence.

Professor J. W. RITCHIE SIMPSON, C.M.G., (London), regretted that the death of Sir Rubert Boyce had deprived them of his stimulating influence, and of his exceptional experience in yellow fever. It was a mistake of Dr. Stephens to suppose that importation in regard to yellow fever in West Africa referred to importation from South America. It was well known that certain places in the Senegambia and Sierra Leone had been endemic centres in the past, and that even at the present time cases now and again occurred in these localities. The history of the different outbreaks along the coast during the past twenty years showed that the coast towns had successively become infected, and had each of them suffered at times from severe outbreaks. But there was no indication that each of these coastal towns was an endemic centre, or that the inhabitants had yellow fever constantly among them. Since 1910, when yellow fever appeared at Sierra Leone, the disease had spread to Lehoudi, Accra, Bathurst, and there had been some 46 cases. Of these, 27 were Europeans, 23 of whom had died and 4 recovered; 13 were natives, of whom 7 died and 6 recovered; 6 were Syrians, all of whom died. The fact that natives were attacked, and that more than half of the cases ended fatally, showed that they were not immune. There was one difficulty in determining the number of natives affected, and that was the absence of registration of the cause of death. The speaker believed that the matter was of such importance to West Africa that further investigation should be made on the subject, and in the meantime everything ought to be done to prevent the disease from spreading possibly to the mines.

Dr. H. P. COLE (Mobile, Ala., U.S.A.) said: Three years ago, before the Southern Medical Association at Atlanta, Georgia, I suggested a possible value in a serum-therapy in yellow fever. It would be comparatively simple after careful experiments for haemolysis and agglutination to inject defibrinated blood taken from cases recently recovered from yellow fever into cases dying from this disease. In the event of negative haemolytic and agglutinative experiments, the direct transfusion of blood from recently recovered cases would serve not alone to combat the severe anaemia in terminal cases, but would serve as an admirable experiment in the matter of transferring an acquired immune principle. I trust that these experiments may be undertaken by you who have the material that I have not at my disposal.

Dr. M. CAMERON BLAIR (Northern Nigeria) said: Apropos of Dr. Chalmers's remarks touching bilious remittent fever, I should like to mention my experience in Northern Nigeria. I have never seen a diagnosed case of yellow fever, but have seen a fair number of cases of bilious remittent fever during the last ten years. Since the question of yellow fever being apt to be mistaken for bilious remittent fever has cropped up I have thought much about these cases. So far as I can remember, the cases have, as a rule, been isolated ones and have not spread. So far from conferring immunity, I have generally looked out for further attacks in the same individual, and, in a good number of cases, have not been disappointed; and I can recall one case where the same individual suffered from three different attacks, with some months between them, in the course of our tour. In the last case malarial parasites were found in the blood in one of the attacks. I think it well to mention this now that it is so often being said that yellow fever is being mistaken for bilious remittent.

Dr. G. ROME HALL said: I landed in Lagos in 1893, in the old days of no previous tropical training, for my first spell of service. Leaving out sun fever, we were told there were four varieties of malarial pyrexia—intermittent, remittent, bilious remittent, and haemoglobinuric. The dry Harmattan wind came early that Christmas, but there were heavy dews at night. Just about the New Year an epidemic occurred; ten Europeans died in a month, nearly all Syrians, deserters from the French Foreign Legion, and missionaries—just the people who could not, or would not, afford curtains. Several of them had haematuria and black vomit towards the last; they usually died from apparently atrophy of the heart about the fourth to sixth day, having run a sthenic course, jaundice not being marked at first. We considered them then as a form of bilious remittent, finishing in some cases with "blackwater" fever. I left soon after for the Gold Coast, but a year after I had landed in Lagos I was informed that thirty-one Europeans had died in twelve months out of 150 resident during the year. Three missionaries left by steamer for the Niger as the outbreak started, two were dead in a week. Some years after I came across the ship's doctor; he had previously seen yellow fever in the West Indies, and he said this was the disease they had. In May, 1895, a very fatal outbreak of some fever swept the Fanti Coast: Elmina lost three officials out of four, Cape Coast and Saltpond had bad times; as far as the case-books were available, they pointed to the type seen at Lagos. (I was on leave then.) But at Accra at the end of the year there was again a bad spell; we had the opportunity of making three *post-mortem* examinations. The points that remain in my mind as regards the autopsies are: Gastro-enteritis in all three cases, two had blood-stained vomit, the third haematuria; all three had acute parenchymatous nephritis; where there was splenic enlargement there was recent history of malaria. The nephritis so struck me that I remarked to the Principal Medical Officer that it almost looked like a metastatic process, and I asked if he would send specimens home for further report. Clinically the cases resembled the Lagos group. I saw nothing resembling these until at Cape Coast in 1902, but Dr. Barker, who had been there in the previous year, had reported yellow fever in 1901, in May or June; May being the beginning of the rainy season. There were in 1901 eight cases, he said, clinically the same, of whom seven died—of course all whites. To his wire reporting yellow fever he received an official answer: "If you have any more cases of bilious remittent to report, please do so." Unofficially he was informed that it would never do to allow it to be known that this disease existed on the Gold Coast, it would interfere with the mining boom. The first case I had in 1902 I maintained to Dr. Barker was not yellow fever, but there came the break in temperature after five days, the return of fever, the primrose hue under the skin, with albuminuria. We made a *post-mortem* examination. To prevent my

report being shelved I sent one in also to the District Commissioner for information of his superior; this in strict accordance with departmental regulations which the medical head quarters had forgotten about. But, when I asked that my report be sent home, I was told it was too diffuse; if it had been condensed, it would have been insufficient. I think the late conflict of opinion about the Sekundi outbreak (1910) arose out of one party paying too much attention to autopsy signs, the other to the clinical aspect, both wishing from the first to prove their views. At the moment my report was suppressed in 1902, I held an official order as health officer to warn all ships calling at Cape Coast on their way to Assinie that yellow fever was there, only two days' steam away. The old writers state that yellow fever was brought to the West Indies from the Guinea Gulf. One of my Fanti dispensers told me that the natives recognize three forms of fever. One of these was sthenic, "konruku-fufu" (fufu=white). "Konruku" has yellow conjunctivae, "konruku-fufu" not so; they remain white. But this latter disease is dreaded as the most fatal; they usually die about the fourth day. This apparently is yellow fever, the patient dying before the second stage arrives, when the haematogenous jaundice becomes intensified. Most natives' sclerotics are tinged in health; they would call them white.

THE RÔLE OF THE INFECTIVE GRANULE IN CERTAIN PROTOZOAL DISEASES.

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THE following communication is intended to be more in the nature of a short demonstration than a paper; but before directing attention to the microscopic specimens it is necessary to say a little about the subject which they illustrate. Following the directions laid down for short papers, one makes first of all a definite statement of what it is intended to suggest and to prove. Put very briefly, it is the same proposition as one advanced at the London Meeting last year—namely, that in certain protozoal infections, and more especially in spirochaetosis and trypanosomiasis, what may be called the infective granule probably plays an important rôle. It constitutes a stage in the life-cycle of the parasites—a stage hitherto in large measure overlooked or unrecognized; it explains in some measure latent infections, and possibly clears up the somewhat obscure mechanism of relapses. Furthermore, the recognition of such a granule or spore stage may well modify our views in respect to prophylaxis and treatment, and may also lead to new discoveries as regards the histopathology of some of these protozoal diseases. These remarks apply alike to human and animal infections. My own work has been confined to fowl spirochaetosis and to syphilis, but Captain W. B. Fry, R.A.M.C., of our laboratory staff, has made important observations on trypanosomiasis, and indeed witnessed what I have termed "granule shedding" in the case of trypanosomes before I saw it occurring in spirochaetosis.

A minor statement I wish to make is that there can be no doubt of the great value of the dark-field method of illumination in studying these conditions. This alone has rendered possible the discoveries I desire to record, an account of which, indeed, has already appeared in print.

At the outset one does not make any claim to have been the first to realize the possible importance of such granule infections. It is evident that of late years the trend of protozoological thought has been marked in this direction, and the recent observations of Bosanquet and Dobell on the morphology of the large spirochaetes of mussels throws fresh light on the subject. As long ago as 1907 Breinl observed encysted forms of *Spirochaeta duttoni* in the internal organs, and noted that these encysted parasites became indistinct, till finally, as seen in stained specimens, only a few small red granules persisted. He stated then that these may be the forms which can pass through a Berkefeld filter and give rise to a fresh infection. Out of these very small bodies, he says, the new generation of spirochaetes is evolved. He did not, however, show how such evolution occurred. Again, consider for a moment hydrophobia. You will doubtless remember that Babes and Stefanesco have satisfied themselves that certain fine grains or granules found by the former in the protoplasm of nerve cells in the bulb and medulla represent in reality the active virus of rabies, whatever the Negri bodies may portend.

McFadyean's filtration experiments tend to confirm this supposition. Turn now to Bordet's recent work on bovine pleuropneumonia. Here is a significant quotation:

> M. Bordet shows that certain organisms classed as ultra-microscopic, and in particular the causal organisms of pleuropneumonia, are in reality abnormal involution forms which result from the cultivation of the microbes in an inappropriate medium. There is multiplication of the organisms, it is true, but while retaining their specific virulence they undergo great morphological alteration. The same is equally true for certain organisms, such as the cholera vibrio, which are normally elongated and well-defined, but which under adverse conditions appear in the form of granules. For example, the majority of organisms in old cholera cultures appear as simple points.
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> With material derived from a bovine pleuropneumonia culture from the laboratory of M. Dujardin-Beaumetz, in which only amorphous granules were visible, M. Bordet made subcultures on a medium containing defibrinated blood. No growth was visible to the naked eye in these cultures, but the medium became black along the needle track. Cover-glass preparations, stained with hot Giemsa, the most powerful stain known, showed not the simple granules seen in previous cultures, but perfect spirochaetes, which were very slender and fairly long, the turns being sometimes rather close together, but less so than in the syphilis organism. The spirochaete of pleuropneumonia varies considerably in length, but is generally shorter than the *Treponema* of syphilis, and sometimes simply comma-shaped.

I take it that the majority of those present are familiar with Leishman's remarkable work on the breaking up of *Sp. duttoni* in *O. moubata* to form granules which he has shown are infective and from which young developmental forms of spirochaetes arise. I have obtained similar results with the fowl spirochaete of the Sudan in *Argas persicus*, the fowl tick. There is not time to go more fully into the historical aspect of the subject, and hence I would merely mention Carini's intracorpuscular and granule-like stage of a frog trypanosome, the observations of Chagas and Buchanan on red-cell trypanosome inclusions, Theiler's *Anaplasma marginale*, the remarkable life-cycle of *Theileria parva* worked out by Gonder and Meyer, Markham Carter's new and suggestive work on the parasite of Oriental sore, and the recently described *Microsoma mustelae*, a blood parasite of the Russian polecat, which begins its endoglobular career as a chromatin granule, exceedingly like a Howell-Jolly body or *Anaplasma marginale*. Lastly, there are the numerous discoveries of what may be termed cryptic trypanosomiasis in apparently healthy cattle. This has been found to exist in England, America, France, Germany, Algiers, Tunis, and Brazil, and it was when pondering on the significance of these revelations that I came to the conclusion that in trypanosomiasis there must be a missing link. That link has, I think, been now discovered by Captain Fry, and has been demonstrated by him before the Royal Society.

Our observations, then, do not consist in the recognition of the infective granule, but in finding out that the infective granule is shed by the living parasite, both naturally and when the parasite is under the influence of some toxic drug such as salvarsan, which intensifies the phenomenon and which, indeed, led me to observe it in the case of the fowl spirochaete.

Our general conclusions are as follows:

I. FOWL SPIROCHAETOSIS.

Spirochaetes in the Fowl or Chick.

1. At the crisis spirochaetes are found shedding granules.
2. The phenomenon is greatly intensified if salvarsan be given, and occurs in the peripheral blood, the heart's blood, the liver, spleen, lung, and bone marrow, but especially in the liver juice.
3. The granules are spherical and motile.
4. They are resistant and are not easily killed by salvarsan.
5. A certain number under certain conditions appear to enter the red cells. I say "appear," for their actual entry has not been witnessed, but this hypothesis will alone

explain the so-called "after-phase" of fowl spirochaetosis, wherein curious endoglobular bodies are found.

6. These granule inclusions undergo development, pass, indeed, through a stage analogous to that of schizogony, and finally the schizont breaks up into tiny merozoites, which are discharged into the blood stream. Presumably some invade the red cells, some are engulfed by phagocytes, and some develop into spirochaetes, but this is as yet hypothesis. Their further history remains unknown.

Spirochaetes in the Tick.

1. In the contents of the intestinal sac and in the coelomic fluid the spirochaetes undergo granule shedding so that eventually nothing but granules and empty periplasts remain. These latter form great clumps which, viewed by the dark field, often present an appearance like the Milky Way.

2. The granules pass to the alimentary diverticula, Malpighian tubes, ovary, eggs, and salivary glands of the tick. The Malpighian tubes are the seat of election. The salivary glands are rarely infected.

3. Under certain conditions these granules develop into thick vibrio forms and also into what seem to be young spirochaetes.

4. If these granules are injected into a chick, the bird develops spirochaetosis. Further, if a chick be fed on a sufficient number of ticks, containing, so far as can be told, only granules, the bird also develops spirochaetosis just as it does if fed on ticks containing living and active spirochaetes.

5. It is probable that fowls are often infected naturally per os and possibly also by the entry of granules or young spirochaetes into the wound made by the tick when feeding, such infective agents being present in the fluid discharged from the coxal glands and in the secretion of the Malpighian tubes. Such secretions are, however, not much in evidence in the case of *Argas persicus*. It may be that there is also direct infection through the venenosalivary glands.

II. Syphilis.

1. *Treponema pallidum* is a granule shedder.
2. Salvarsan greatly stimulates this action.
3. The granules are resistant.
4. The spirochaetes, such as *Sp. refringens*, often associated with the spirochaete of syphilis, are also granule shedders.

5. It is probable that these granules cause tissue irritation, are responsible for latent infections, for failures in therapeusis, and possibly, to some extent, for the tertiary lesions of syphilis.

6. A method will have to be devised whereby they can be destroyed either in the parent spirochaete or in the tissues.

III. Trypanosomiasis.

1. Captain Fry has shown that both *T. brucei* and *T. evansi* shed living granules. These become what are known as plasmodial masses out of which eventually trypanosomes are developed. His communications on the subject are so recent that I need not say more about them here.

I would conclude a very imperfect review of a very interesting problem by mentioning that in all cases these granules are probably of a spore nature. They are resistant. It is not easy to stain them, save when in red cells or in tick tissues, by ordinary methods such as the Romanowsky process, though I have found that in blood films they can be faintly coloured by prolonged staining. They are best demonstrated in the blood and tissues by one of the silver impregnation methods, notably Yamanato's modification of Levaditi's tissue stain.

Apart from other considerations, these observations would appear to me to justify Dobell's views that the spirochaetes are best placed in a group by themselves, which he has named *Spirochaetoidea*. Closely allied, however, are the trypanosomes, and whether we call them protozoa or not, I believe that granule-shedding will be found to be a phenomenon presented by many of the pathogenic, and possibly also by some of the non-pathogenic, protista, to use a term which is not-committal and yet sufficiently descriptive.

DEMONSTRATION OF SPECIMENS RELATING TO THE CULTURE OF THE LEPROSY BACILLUS.

By H. Bayon, M.D.,

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So many claims have already been advanced in relation to the culture of the leprosy bacillus that I certainly should not have added my observations to the list had I not felt that I was in the position to demonstrate a connecting link between the conflicting evidence of several observers. I hope also to exhibit specimens and refer to certain biological tests not as yet carried out in this connexion.

Hansen's *Bacillus leprae* is commonly considered the causative agent of leprosy in the human being, though we must admit that so far we have no definite and absolutely conclusive proof as to its primary etiological rôle. Profeta's inoculation of himself and others have been negative; Arning's infection of a criminal appears to be open to criticism; the same applies to Coffin's case; and thus we might for a moment consider whether the primary lesion is not caused by a germ so far totally unrecognized, whilst the acid-fast rods seen in such enormous quantities in leprous affections are but harmless superadded saphrophytes.

The recent experience with swine fever (hog cholera) shows us that the constant or apparently constant presence of a germ in a definite disease does not conclusively prove its etiological rôle. However, I believe we are quite safe in taking the *Bacillus leprae* of Hansen to be the causative agent of leprosy in the human being.

It is not so very long ago that every acid-fast rod was considered to be *B. tuberculosis*, and, if not that, either the lepra or the smegma bacillus. The discovery of Lustgarten's so-called syphilis bacillus and the work of Lydia Rabinowitsch soon showed that acid-fast rods are ubiquitous, and can only be distinguished by careful and extensive cultural, experimental, and serological tests.

Without taking into consideration the many acid-fast germs found in earth, on grass, in milk and dung, in birds, reptiles and fishes, we may call to our mind that atypical acid-fast rods—that is, not tubercle or lepra—have been found in the sputum by Zahn, Pappenheim, Fraenkel, Moeller, Marzinowsky, Rabinowitsch, Lichtenstein, Lubarsch. Dr. Newham, of the London School of Tropical Medicine, has shown me specimens of acid-fast rods from the sputum of an Indian, which morphologically are certainly not tubercle bacilli.

Acid-fast rods were found in an ovarian cyst by Dietrich; in a pleural exudate by Kedrowsky; on the tonsils by Marzinowsky, Beck, Moeller; in the slime of the pharynx, in the coating of the tongue and teeth by Moeller; in sebaceous glands by Gottstein, Matterstock; in the faeces by Craemer, Ferran, Strasburger, Mironescu, Weber; in gangrenous tissues by Folli; in a phlegmon of the foot by Karlinski. This author, and also Moeller, found acid-fasts in the nasal mucus; in fact, Karlinski examined 215 patients and 20 healthy persons, and in 21 he found acid-fasts in the nose, namely, in 5 cases of syphilis, 4 cases of malaria, 2 of common cold, and then in 10 healthy subjects. He cultured the germ and infected his own nose with it. The infection lasted five days, and then passed away without leaving any further traces.

These observations have a certain practical importance. Leprosy bacilli have been cultured from the nasal mucus, the diagnosis of leprosy has often to be made from the presence of acid-fast rods from the nasal discharge, and in fact the frequency of the bacilli in the nose of leprous patients led Sticker to formulate the hypothesis that the primary lesion was always to be found in the nose.

It must, however, not be forgotten that Uhlenhuth and Westphal found *post mortem* in a case of maculo-anaesthetic leprosy, acid-fast bacilli in enormous quantities underlying the mucous membrane of the nose, and even though it cannot be said to be proven so as not to admit the least possible doubt, still we may safely take it that they were all lepra bacilli.

Having now mentioned the pitfalls that beset the path of anybody attempting to culture Hansen's bacillus, I shall report on my results and experiences.

Some years ago, whilst I was Pathologist to the Seamen's Hospital at Greenwich, Sir Malcolm Morris kindly allowed

me to make some culture attempts from a case of leprosy under his care. A nodule was excised, half of it was used for histological specimens; the other half was put into a glycerine-agar tube with a little glycerine broth at the bottom of the slope. After four weeks a diphtheroid rod grew from the nodule. I stained it according to Ziehl-Nielsen, the germs took readily the blue stain. I was much disappointed, and not having a Certificate A. for the purposes of animal experimentation allowed the culture to die out, whilst I awaited the appearance of acid-fast colonies, which, however, were not forthcoming.

On my return from Africa my attention was again brought to bear on the question of the culture of the germ of leprosy. Of all communications on the subject the papers of Kedrowsky seemed to me to be the most complete and his work appeared to me to give a most satisfactory explanation of the conflicting results of various workers in the same field. I must add that though his first communication was published so long ago as 1901 it has not been much taken into consideration by subsequent workers, however similar their results may have been to his.

I went to Russia, and whilst carrying out some researches on spirillum fever, worked in Professor Kedrowsky's laboratory. He very kindly showed me all his sections and gave me one of his leprosy cultures, the one you now see in the rack on the table.

On my return to England, bearing in mind that, according to the observations of Herrman and Abraham, the leprosy bacillus need not always be acid-fast, I made another attempt to culture the germ from another case of leprosy, which Sir Malcolm Morris put at my disposal at the London School of Tropical Medicine.

The media I used this time were: Placental extract-agar, horse serum-nutrose-agar, to which I added 2 per cent. ground-up smegma bacilli, according to Twort's method. From an excised nodule I cultured again on several of these tubes the diphtheroid I have already mentioned, or at least one very similar to it. This I found to be acid-resisting, though not acid-fast. On staining for ten minutes with warm carbol-fuchsine, it resisted bleaching for five seconds with 1 per cent. H_2SO_4, and, what is more important, the subsequent treatment with dilute Loeffler without turning blue. Any other germ, acid-fasts, of course, excepted, is decolorized by this treatment.

I have placed specimens of this bacterium under microscopes Nos. 1 and 2. As soon as I had a sufficient amount of this culture I injected $\frac{1}{4}$ of a c.cm. of emulsion into the peritoneum of a mouse. The mouse died in three weeks' time, I believe of a diplococcal infection. No marked macroscopic lesions could be detected, but smears from the liver and spleen showed along with the diplococcus a small quantity of acid-fast rods, which could not be bleached by 10 per cent. HNO_3, after three minutes of warm carbol-fuchsine. A small whitish lump in the peritoneum about the size of a pin's head consisted of markedly acid-fast bacteria, which had retained their diphtheroid appearance, and also of a few cells. This I consider to be simply an organized clump of germs. I have placed the corresponding slide under microscope No. 3. I collected also all the enlarged glands I could find in the abdomen, and, having imbedded them, cut sections. The result you can see under microscope No. 4. The resemblance to human leprous glands seems to me to be most striking, but still more striking is their semblance, amounting to identity, to the lesions found in genuine spontaneous leprosy of the rat. Compare microscopes Nos. 5 and 6, no difference can be made out between the appearance of both sections. One has been produced experimentally, the other is a slide kindly lent me by Dr. H. R. Dean, of the Lister Institute, and originates from a rat found to be suffering from rat leprosy at Ispwich.

From another nodule from the same patient I grew a non-acid-resisting streptothrix. Notwithstanding the deceptive appearances it presented under the microscope, I fear it was a simple contamination. I have, however, injected it into a rat, and am awaiting results.

In this connexion I may mention that quite lately Beauchamp Williams has cultured from the lepromata of 17 cases in India a non-acid-fast diphtheroid which turned acid-fast on being cultured in amoebae according to Musgrave and Clegg's method. His animal experiments do not appear to have given results comparable with those I am demonstrating, but anyhow he advances the view that "leprosy may be caused, perhaps, by several strains of an extremely pleomorphic streptothrix, which under certain circumstances may be:

1. A non-acid-fast streptothrix with interlacing filaments.
2. A non-acid-fast diphtheroid bacillus, which is in reality a streptothrix and capable of becoming acid-fast under certain defined conditions.
3. A definite acid-fast filamentous streptothrix; and
4. An acid-fast bacillus which is the broken-down stage of the streptothrix.

It will be seen that this extremely latitudinarian point of view covers a very extensive ground. I am ready to admit that the germ of leprosy as seen in rats appears to be a connecting link between the corynebacteria and mycobacteria according to Lehmann and Neumann's definition. To suit Williams's point of view it would have to be an actinomyces also. We need further observations to settle the point. I may add that Williams got quite a marked rise of temperature by injecting into lepers vaccines made from his cultures.

Returning to the results of my attempts to culture Hansen's bacillus, I should like to mention that on a tube of horse-serum-nutrose-agar with 2 per cent. ground up smegma bacilli there grew a small brown colony; this I transferred to another tube, and then to potato. Unluckily the potato got contaminated and a fungus ruined my success. This colony consisted of acid-fast rods, absolutely identical in appearance to the bacillus seen in lepromata. The corresponding slide is under microscope No. 7. I still hope to be able to save this culture or to renew the result in course.

So far my researches are only the confirmation of the observations made by several others working on similar lines, the most extensive experiments having been first published by Kedrowsky.

A point I cannot explain so far is why the cultures I make from inoculated animals are always acid-fast, whilst the cultures taken from man only very exceptionally give the acid-fast variety, but much more frequently the diphtheroid, simply acid-resisting form. I suppose this is due to the fact that human cases are of much longer standing, chronic forms in fact, whilst the animals experimented upon are killed at short intervals. A point in favour of this view is that in genuine, spontaneous rat leprosy, which is also a very chronic disease, a diphtheroid can easily be cultured from the lesions. This has been done by George Dean and also H. R. Dean.

The sections under the remaining microscopes show the lesions resulting from the injection of the acid-resisting diphtheroid after it has passed through a mouse. You will note the enormous deposits in the various organs attacked. The morphology of the acid-fast germs, their position in the cells, the slight, minimal reaction they cause in the surrounding tissues, the scarcity—extreme scarcity—of giant cells of the Langhans type, the absence of caseation and vascular sclerosis, seem to me to definitely prove that we are not dealing with a tubercle bacillus of any known strain. Many features of the germ bring it very near to the smegma bacillus, which also grows like a diphtheroid, is varying in its acid-fast properties, is not markedly pathogenic to animals, and under certain circumstances also grows in the same peculiar wrinkled fashion on horse-serum-nutrose-agar. The most marked difference is, however, present in the rate of growth. Smegma takes two days to grow on most media, even simple agar will do, while this acid-fast germ, after passage through rats, took two months to reach this stage, and does not grow hardly at all, except on the media I have mentioned. As an example I can show a tube of egg-medium-tubercle-bacilli, which Dr. Twort kindly put at my disposal. You will see that after three months in the incubator a growth, it is true, has taken place, but it is exceedingly thin.

In view of the similarity of the *B. leprae* to the *B. smegmae*, several experiments were carried on with the latter. Two c.cm. of a thick emulsion injected intravenously into a rabbit caused very striking alterations within three weeks. The glandular tissue of the breast got diffusely infiltrated (this also happens in males in cases of human leprosy), nodules appeared on the skin in several spots, and the left hind leg was completely paralysed. The kidney was honeycombed with caseous nodules. If you will examine the sections under the last

microscope you will, however, notice that no possible resemblance whatever can be made out to the lesions caused by the germs cultured from lepers under the preceding instruments.

In the rack on the table opposite you I am demonstrating a series of cultures of various acid-fast organisms, which I have put up for the sake of comparison. You will agree that the difference in appearance is marked; the rate of growth is still more so. Passing now to the various serological tests employed to determine the relationship to each other, and the degree of immunity conferred by these various germs.

Again the first experiments were made with the smegma bacillus, because it is a definite well-known bacterium, is easily grown, and can easily be procured; its properties and life-history are fairly well known and have been fairly well studied. I found that by intra-abdominal injections of killed cultures into rabbits a serum could be produced which agglutinated the smegma bacillus in the dilution of 1 in 20 to 1 in 30.

I then passed a bacillary emulsion through a Berkefeld filter, got a clear filtrate, mixed it in varying proportions of the anti-serum, and after twenty-four hours in the incubator found a precipitate at the bottom of the tubes in all dilutions up to 1 in 64. I then tried the complement-deviation test; 1 in 1 and 1 in 2 were negative, but all other dilutions down to 1 in 32 were positive—that is, no haemolysis took place. Once I had these results I proceeded to immunize a rabbit against the germ cultured from the case of human leprosy. After three injections at five days' interval, the serum being taken the twenty-fifth day, I got an antibody capable of agglutinating its antigen 1 in 20 to 1 in 30, precipitating 1 in 30 to 1 in 40, and giving the complement-deviation test within these limits.

I also had several negative results, and in two cases steaming for one hour at 60° C. was not sufficient to kill the cultures. All the same, the reaction came off to a slighter degree (1 in 8) in the infected rabbits.

In one case I tested antismegma bacillus serum against the germ cultured from the case of leprosy in a precipitation test. Slight cloudiness appeared in all dilutions down to 1 in 32, but no definite precipitation took place.

I am still repeating these experiments, and intend to obtain serums with higher values, and, if possible, absolutely specific for their relative antigen.

I also produced a bacterial extract by passing the condensation water of a nutrose-agar-horse-serum slope which contained a great number of bacilli through a Doulton filter. The extract was rubbed into the skin of a case of leprosy under the care of Sir Malcolm Morris. The same and following day the man's temperature rose to 100° and 99 F. No local reaction appeared. The patient had already undergone a course of Nastin treatment. An extract made in the identical fashion of Koch's Alt-tuberculin has also been prepared, and I intend carrying out therapeutic experiments with it.

All these serological tests have so far been carried out in a tentative fashion, as the technique must always be adapted to each individual case. The results obtained so far, I believe, can be said to be full of promise.

The paramount difficulty in connexion with the culture of germs from cases of leprosy lies not in the culture itself, but in clearly proving the relationship of the bacteria cultured to the disease they are alleged to cause. If, as I believe to have shown, these acid-fast germs can be made to give definite reactions, it is only a question of time and patience to perfect the technique to the point of getting an individual specific result.

Now a few words regarding the connexion of human and rat leprosy. This rat disease was first studied by Stephansky at Odessa and George Dean in London, later by Lydia Rabinowitsch in Berlin, Tidswell in New South Wales, Jitoyo and Sakaki at Kobe (Japan), Wherry in the United States. It has again been found in rats at Ipswich by Petrie and Macalister.

It is quite possible that the human and rat disease are to each other in the same relation as bovine and human tuberculosis, but, on the other hand, we cannot exclude that they are caused by the identical germ. Have we not a striking analogue in plague? Cannot plague smoulder among rats for years and years and then suddenly appear as an epidemic? May not this chronic disease in rats be a survival of the endemic leprosy of the Middle Ages? George Dean, in his paper on rat leprosy, seems to take this point of view into consideration, but concludes that, so far, we have not sufficient evidence to decide the question. I believe I can bring some further proof in favour of the identity of human and rat leprosy. If you will examine the tissues under the microscopes you will be unable to distinguish the genuine, spontaneous leprosy of the rat from the experimental variety in the mouse and rat which was produced by a germ cultured from man.

I was very much struck on reading G. Dean's paper, and finding that the diphtheroid he cultured from the leprous rats was agglutinated by rat and also by human leprosy serum in the dilution of 1 in 20 to 1 in 30. Should all these peculiar similarities be regarded as fortuitous?

Regarding the transmission of leprosy, I am trying to collect evidence to show that, according to the manner in which the infection takes place, the disease is apt, at least in the beginning, to show different features. The nodular type appears to me to be transmitted by an arthropod capable of burrowing into the skin, possibly the *Demodex folliculorum*, as suggested by Borrel. The maculo-anaesthetic type may possibly be due to direct contact infection.

I may mention that Wherry found acid-fast bacilli in the lice of leprous rats. However, this is by itself not sufficient evidence to incriminate Syphonaptera as disease carriers in this connexion. Lepra bacilli can be found in the blood of lepers during the rises of temperature that occur frequently during the course of the disease. At other times, if the blood is taken from a spot free from nodules, none are to be found. This fact may possibly explain why Donald Currie did not find any acid-fast bacilli in the 493 specimens of *Culex cubensis* he examined thirty minutes to three hours after they had fed upon leprous patients.

Turning now to the cases which have contracted leprosy without ever having left England or a country where leprosy is unknown, may we not suggest that by some extremely fortuitous circumstance they may have been stung by some arthropod ectoparasite off a leprous rat? The sarcoptes common to rodents will attack man, according to Brumpt.

These suggestions are simply put forward with the intention of collecting independent observations which may prove or disprove my views. If the germs I have demonstrated to-day are the causal agents of leprosy in man and rats, we may hope in time to have experimental proof of many of the points which up till now it was impossible to clear up in connexion with leprosy.

I am quite aware of having given but scanty details regarding several of my experiments; in fact, I have had to pass over several observations because the time for reading a paper is strictly limited. I am, however, preparing a report for the London School of Tropical Medicine, which I hope to be able to publish, and which contains a full consideration of the literature on the subject.

My conclusions are:

1. It is not sufficient to culture an acid-fast or other organism from one or several cases of leprosy to enable a statement to be made as to its relationship to the disease. This must be the result of complete animal experiments and extensive serological tests.

2. It is possible to culture from cases of human leprosy an acid-resisting diphtheroid which acquires acid-fast properties on being injected into mice or rats. It is possible to regain the germ by culture from the organs of the animals infected as an acid-fast rod. Reinjected into mice or rats, it causes the identical changes of genuine spontaneous rat leprosy, and very striking analoga of the glands and organs of human cases.

3. No special medium can guarantee a culture from a case of leprosy. The growth depends upon circumstances which we do not so far know and cannot control. This applies to the *B. leprae* in its acid-fast shape, as seen in lepromata. The most favourable media appear to be either placental-extract-agar or horse-serum-nutrose-agar with the addition of 2 per cent. ground-up smegma bacilli.

4. Kedrowsky's work on the variable morphology and staining properties of the lepra bacillus appears to be confirmed.

5. Agglutination, precipitation, complement-deviation, and percutaneous tests can be used to prove the relationship of acid-fast or other germs cultured from cases of leprosy.

6. Rat and human leprosy appear to be identical dis-

cases; it is therefore possible that the germ of both can be transmitted from one to the other, given an appropriate intermediary. As rat leprosy appears to be endemic in England, this may be an explanation of the sporadic cases in people who have never been abroad.

These investigations were carried out in the Lister Institute of Preventive Medicine and at the London School of Tropical Medicine.

THE MECHANISM OF PRODUCTION OF SUPPRESSION OF URINE IN BLACKWATER FEVER.

By WARRINGTON YORKE, M.D.Liverpool,
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SUPPRESSION of urine is a by no means infrequent sequel to an attack of blackwater fever, and owing to the extreme gravity of the symptom the mechanism of its production is a problem of considerable practical importance. The work of Werner[1] and of Barratt and Yorke[2] upon the condition obtaining in the kidneys of blackwater fever patients who have succumbed from suppression of urine has demonstrated the existence of granular material in the lumen of the renal tubules, and these authors infer that suppression of urine is of mechanical origin, dependent upon the occlusion of the tubules by granular plugs. On the other hand, a nervous inhibition of glomerular secretion is regarded by A. Plehn[3] as the essential factor in the causation of this condition, and, again, nephritis has been mentioned by some authors as playing an important rôle in the production of suppression of urine.

Whether the occurrence of haemoglobin free in the blood plasma and its subsequent elimination by the kidneys is sufficient to produce suppression of urine through mechanical blocking of the renal tubules, or whether a nephritis, or nervous inhibition of glomerular secretion, is to be regarded as the essential factor in the development of this condition in blackwater fever is a question, therefore, which has not, as yet, been definitely decided. It was with the object of throwing further light upon this subject that these investigations were undertaken.

The first point to be determined was whether the presence of haemoglobin free in the blood plasma would under certain circumstances lead to suppression of urine in a normal animal.

With a view to investigating this question, an isotonic solution of haemoglobin was made as follows: Red blood cells obtained from rabbits were washed several times in normal salt solution and then laked by the addition of distilled water, and the solution subsequently made isotonic with sodium chloride. A considerable precipitate of stromata appeared on the addition of the salt, and was thrown down by the aid of the centrifuge.

The clear solution of haemoglobin, warmed to 37° C., was slowly injected into one of the veins of the ear of a normal rabbit. In order to facilitate examination of the urine a cannula was tied into the bladder. The urine in the cannula was observed to be tinged with haemoglobin a few minutes after the injection.

Our earlier attempts to produce anuria by this means were invariably unsuccessful. Injection of the haemoglobin solution was followed by an increased flow of urine. This was probably to be explained by the diuretic action of the sodium chloride solution in which the haemoglobin was dissolved. After a time the diuresis subsided, but, as a rule, it lasted until the haemoglobinuria was distinctly decreasing in amount.

In later experiments we endeavoured to reproduce more closely the conditions obtaining in blackwater fever in man. In this disease the blood is anaemic, and the patient is more or less collapsed. It appears probable that a decreased filtering force in the glomeruli, resulting from a low blood pressure, may play a not unimportant part in the production of anuria in these cases.

With this consideration in view, it was decided to reduce the blood pressure of our experimental rabbits, partly by keeping the animals on as dry a diet as possible for twelve hours previous to the injection of haemoglobin, and also during the experiment, and partly by bleeding the animal to a moderate degree from the external jugular vein.

In order to obviate as far as possible the diuretic action of the sodium chloride, the strongest obtainable solution of haemoglobin was employed. Such solutions were prepared by dissolving the washed erythrocytes in the minimum quantity of distilled water necessary to produce complete laking. As a result of adopting these precautions we succeeded in producing suppression of urine in a number of animals.

Condition of the Urine after Injection of Haemoglobin Solution.

Although the first few specimens of urine passed after the intravenous injection of haemoglobin were clear, later samples were found to contain a quantity of solid material in suspension. In the earlier stages this consisted mostly of finely granular casts and débris. Later, however, the character of the deposit changed considerably. In addition to the granular material, large numbers of renal epithelial cells—isolated and also in the form of epithelial casts—were found. Both the free cells and also those of the casts were frequently loaded with fine brown granules. Occasionally, a complete cast of the epithelium lining a portion of a renal tubule was seen in the form of an epithelial cylinder filled with granular material. On a few occasions red blood cells were found, and, rarely, well marked red cell casts.

If no marked degree of suppression supervened, the urine cleared up after a certain time, depending upon the amount of haemoglobin injected, and the deposit of granular material and epithelium gradually diminished, until finally the urine became normal. In several cases the flow of urine was greatly diminished, or ceased altogether for a period. In one experiment the animal developed complete anuria lasting over sixty hours; subsequently, the secretion of urine gradually became re-established. In such cases the urine was greatly altered. It was loaded with albumen, and on centrifugalization a heavy deposit was thrown down, consisting of granular casts, some of which were built up of granules of very large size (3–4 μ) and enormous numbers of more or less degenerated renal epithelial cells and casts. This condition persisted until the animal's death.

Condition of the Kidneys.

In the course of our experiments we had an opportunity of examining kidneys removed in all stages of the experiment, from shortly after injection of haemoglobin until complete suppression of urine had occurred. The kidneys removed a couple of hours after a single injection of haemoglobin were only slightly altered in appearance. They were of dark red or chocolate colour. Microscopically, a number of the convoluted tubules were seen to contain brownish-coloured plugs.

A much more striking feature was afforded, however, by those kidneys which were removed after several injections of haemoglobin. Here these organs were distinctly enlarged and heavier than those of normal rabbits. As before, they were of a dark chocolate colour. On section the cortex was found to be thicker than normal, and the whole kidney was seen to be traversed by dark lines, giving it a markedly striated appearance. Frequently these dark coloured streaks were grouped in fan-shaped areas, whilst the aspect of the intervening spaces was normal. The microscopical appearances presented by the kidneys were very characteristic.

A large number of the convoluted tubules and tubes of Henle were filled with plugs of granular material, and here and there epithelial cells were found intermingled with the granular casts. The casts extended down into the large collecting tubules of the papilla. No deposit was found in the meniscus of Bowman's capsules. Many of the convoluted tubules and tubes of Henle were distended and the epithelium in places had broken away from the basement membrane.

In the case of those animals in which suppression of urine has occurred the kidneys were profoundly changed. They were greatly increased in size and weight, sometimes weighing more than twice that of a normal rabbit.

Microscopical examination showed that the whole structure of the kidney was radically altered. The tubules of the cortex and subcortical region were enormously dilated, and many of them contained casts of granular material and epithelium in various stages of degeneration. The epithelium lining the tubules was in many places exceedingly thin, and in others had completely disappeared.

Scattered here and there between these large dilated tubules were small islands of tubules tightly packed together, so that their lumina were completely obliterated. Some of the glomeruli were enormously distended, and others, like certain of the tubules, so crushed as to be scarcely recognizable. The large collecting tubules were also much involved. In many places the epithelial cells had broken away from the basement membrane and were either lying loose within the tubule or had entirely disappeared. In other tubules the epithelium was intact, but the lumina were filled with masses of epithelial cells and granular débris. Occasionally a collecting tubule was found in which the lining epithelium was normal and the lumen entirely filled by a mass of granular material and isolated epithelial cells surrounded by a ring of epithelium, evidently derived from a higher portion of the same collecting tubule.

If the information obtained from examination of the urine be considered in conjunction with that derived from a study of the pathological condition obtaining in the kidneys, one is able to form a fairly definite conception as to the effect which intravenous injection of haemoglobin has upon the renal secretion of an otherwise normal animal. The immediate result of such injections is a diuresis, dependent upon the action of the sodium chloride solution used for dissolving the haemoglobin. At the same time the renal epithelium commences to excrete haemoglobin into the tubules. At first this is quickly carried away by the rapid secretion of watery urine from the glomeruli. The result is a considerable flow of clear urine containing haemoglobin in solution. As the diuresis subsides the haemoglobin, or a closely related derivative, becomes deposited to a certain extent in the tubules. At this stage the urine is less in amount, and contains a quantity of solid material, consisting chiefly of granular casts and débris. Still later, especially when the degree of haemoglobinaemia is high, epithelial cells are shed from the lining membrane of the renal tubules. This is probably dependent upon one or both of the following factors. In the first place it is possible that the excretion of large quantities of a foreign substance like haemoglobin may be attended by injurious effects upon the renal epithelium. In the second place the presence of casts of lumen of the tubules would tend to damage the lining epithelium mechanically, either by friction as the plug was forced down the tubules owing to the *vis a tergo* of the glomerular secretion or by causing a complete or partial block of the tubule, and, as a result, dilatation of that portion above the plug, and, consequently, separation of the epithelium from the basement membrane.

This stage represents the commencement of the development of suppression of urine. Gradually, as haemoglobin continues to be excreted by the renal epithelium more and more tubules become occluded. The situation in which complete blocking of the lumen first occurs appears to be, as a rule, the narrow tubules of Henle. Coincidently with the plugging of the tubules there is a marked diminution in the amount of urine voided, and also of the haemoglobin it contains. The condition steadily progresses, until, finally, complete anuria results. After cessation of the flow of urine has lasted for a certain time a gradual re-establishment of urinary secretion occurs. The urine is loaded with albumen, and is exceedingly turbid. On centrifugalization a large deposit, sometimes equalling as much as one-fourth of the volume of urine, is thrown down. This deposit consists of granular casts, epithelial casts, granular débris, and degenerated epithelial cells. Urine of this nature continues to be passed until the animal's death. During the period of total or partial anuria marked changes occur in the kidney. Owing to the continued secretion of the glomeruli those portions of the tubules above the plugs become enormously distended with fluid. As a result, the epithelium lining these portions becomes extremely thin, and in places entirely disappears. The dilated tubules press upon adjacent tubules, so that on microscopic examination the latter appear of small size, and their lumina are completely obliterated.

After a time, owing to gradual disintegration of the casts plugging the tubes, the urine commences to escape into the ureter once more.

The serum proteins and red blood cells pass through the damaged epithelium and those portions of the tubules devoid of epithelial cells, with the result that the urine is loaded with albumen. Although the casts may be to a great extent washed away in the course of the next few days, yet the renal tubules remain dilated and the serum proteins continue to escape into the urine until the animal's death, which in these cases is probably due to uraemia.

Conclusions.

It is evident from these experiments that, under certain conditions, the mere passage of haemoglobin through the kidneys of a healthy animal is sufficient to cause suppression of urine owing to occlusion of the lumen of the renal tubules by plugs of granular material derived from the haemoglobin. The process is considerably facilitated by any factor which tends to lower the blood pressure of the animal and, as a result, the secretion of water by the Malpighian capsules. On the contrary, when the blood volume is sustained by the injection of saline solution and by feeding the animal on moist food, a large amount of haemoglobin (41 grams) may be injected without any tendency to suppression of urine. It appears that these observations have an important bearing upon the treatment of suppression of urine in blackwater fever in man. On the earliest sign of any diminution in the volume of urine voided radical measures must be adopted. The patient should be given large quantities of fluid, by the mouth, if possible, or rectum, and cardiac stimulants, such as digitalis and caffeine administered. Should these not produce a copious flow of urine, recourse ought at once to be had to large intravenous injections of normal saline solution. Our experiments indicate that it is useless delaying the adoption of these measures until suppression of urine has actually commenced. At this stage it is highly improbable that any procedure will be adequate to displace the casts. This is in agreement with the clinical observation that late intravenous saline injections usually fail to relieve suppression. When suppression has once developed and continued even for a short period the injury done to the kidneys is such that the result must of necessity be almost invariably fatal.

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DISCUSSION ON SANITATION OF VILLAGES AND SMALL TOWNS, WITH SPECIAL REFERENCE TO EFFICIENCY AND CHEAPNESS.

OPENING PAPER.

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In accepting the invitation to open a discussion on sanitation of villages and small towns, with special reference to efficacy or efficiency and cheapness, I was influenced in my decision by the opportunity it offered of emphasizing the importance of combining economy with efficiency in all sanitation and of advocating principles which have a direct bearing on efficiency and cheapness.

Different Aspects of the Question.

There is no surer way of having a scheme rejected than the submission of very high estimates. These are not prepared by the medical officer, and for these reasons the sanitary officer, in order that he may be able to protect himself, should possess a fair knowledge of the cost of sanitary appliances and of labour if he wishes to be successful in his proposals.

The sanitation of small towns and villages does not require elaborate schemes. As a rule their sanitation is simple and inexpensive and efficacious if properly carried out, but there are no hard and fast methods, cheap and efficient, applicable to all villages and towns alike. In some localities biting and non-biting flies, bugs, fleas, and mosquitos have to be contended against; in others there are none or but few. The conditions may be such in one place as to involve more labour and expense to maintain health than in another. It is not, however, in the practice of any special methods of sanitation which are known to those who have studied the subject or in the choice

between special appliances that the greater cost to attain efficiency is to be mainly attributed.

There are other factors more influential in adding to the cost, and which, if not removed, render, with few exceptions, efficacy or efficiency and cheapness impossible. They are of a general nature, and I think I shall best open this discussion by confining my remarks to them rather than by dwelling on details. These I shall leave to the medical officers in the Section, who will no doubt be able to furnish us with some valuable information in regard to methods useful and cheap which they have practised under certain circumstances in the tropics.

Efficiency and cheapness are dependent primarily on the sanitary policy adopted; secondly, on a thorough grasp of sanitary matters in their general, microbial, and entomological bearings, and a due perception of their respective values; and, thirdly, on their systematic and regular application to local circumstances.

The Costliness of a Policy of Drift.

If the policy is one of *laisser faire*, or drift, or postponement of action until disease breaks out, then neither efficiency nor cheapness will be the result. This, unfortunately, is a very common policy, though in some parts of the tropics it is gradually changing to a more active one, owing to the teachings of the tropical schools and to the influence of the Colonial Office. There is still, however, much slowness, unwillingness, and even failure to apply at the right time the necessary measures for the maintenance of the health of a locality. Sanitary administration seldom keeps pace with our sanitary knowledge acquired by experience and research. And this applies not only to entomological sanitation, much of which is comparatively recent in its inception, but also to general and bacteriological sanitation, which is much older. The field of preventive medicine is rich in its triumphs and discoveries, but the discovery of a truth or law relating to the causation of disease loses its value when it is not applied or only indifferently applied to improve or preserve the health of the community.

One of the most obvious things to be observed in the tropical world is the repetition of the same insanitary conditions in different localities. This occurs in towns and villages, whether new or old, large or small.

As regards small towns and villages, it is seldom thought worth while to pay any special attention to their sanitation; accordingly officials and non-officials residing in or passing through these, only staying for a few days or the night, contract malarial fever as readily as children used to take small-pox in Lady Wortley Montague's time or measles in England to-day.

The incapacitating effects on mental and physical labour, the invalidings, and the necessity for a supply of substitutes which the recurrences of fevers and dysentery bring about involves a heavy financial loss, the extent of which is not realized because in the official world it is distributed over every department, and in the non-official world it does not directly affect the public purse. There would be some interesting results if the amount of loss were calculated and set up for the purpose of comparison with the estimates required to be expended in sanitation. There is also the native loss, which only becomes apparent in times of epidemics. The obstacle to the full development of the resources of the country have also always to be taken into consideration.

The Inefficiency and Expense of a Removal Policy after Insanitary Conditions have arisen.

A removal policy after insanitary conditions have arisen is the preventive policy of the day, and is responsible for inefficiency and ultimately great expenditure. This is to be seen in the condition of new trading centres, which begin on the insanitary lines of the old, and grow rapidly into unhealthy areas. The lessons to be learnt from the past are forgotten, or, if they are remembered, they are nevertheless not put into practice. One sees new towns not more than a few years old in such an insanitary condition that large sums of money are required to rectify mistakes and put them in a wholesome condition. Houses and huts are crowded together, European dwellings are in close proximity to native huts, pools and excavations are in evidence, rank vegetation is abundant, refuse is dumped where it becomes a nuisance and a danger, drainage is not attended to, the water supply from the roofs is collected in barrels without protection, and *Anophiline* and *Stegomyia* mosquitos abound with other flies and insects. Every one admits in a vague fashion that these insanitary conditions should not exist in a new town, even if they seem to be normal in an older one.

The same remarks apply to new centres established for the purpose of special constructional work. The housing of the officials and European workmen does not always engage sufficient attention, and the accommodation for the large number of coolies brought into the place is often permitted to be of the most insanitary description.

Again, in old towns, perhaps, much money has been spent in removing some of the most insanitary conditions that have arisen, but no special precautions are taken to prevent similar defects springing up afresh in other parts of the town. Excellent regulations often exist, but are seldom put in force.

The usual policy is to permit conditions inimical to health to arise, and then, under the stimulus of an epidemic or rising death-rate, to remove them in haste, whatever the cost. There may be great activity when disease manifests itself above the average, or when an epidemic breaks out or threatens; then drains are hastily cleaned and levelled, new drains may be constructed, pools are attended to, long grass and rank vegetation cut down and conservancy improved; but as soon as there is a mitigation in the disease, or the funds voted expended, there is generally a relapse into the former state, to be succeeded by renewed activity when a fresh alarm occurs. It is because of this attitude that unhealthy conditions exist which a few coolies employed regularly and worked systematically throughout the year, at no great expense, could readily remove and prevent from arising.

The Risks of an Active Policy without Adequate Guidance and Advice.

On the other hand, a sanitary policy may be active and yet, owing to inadequate knowledge, it is not well directed—a combination which will invariably lead to unnecessary expense, and also to a reaction which hinders progress.

When a sanitary policy has become active in this sense in a given locality, the large expenditure incurred in removing what should never have been permitted to have been created, and the embarking on schemes of water supply, drainage, and other constructional work without careful consideration of their sanitary aspects, and without due regard to the size, wants, and finances of the town has given to sanitation the reputation of being always costly, which has reflected itself in other places in a reluctance to undertake measures of the simplest kind. This hesitancy has not infrequently been increased by the ill success which has sometimes attended what appeared to be very promising schemes in the tropics.

For large towns great schemes of water supply and drainage must necessarily be costly. There are instances, however, of water supplies being introduced at great cost, and found later to be unpotable, and extra sums of no small amount have had to be spent to render them fit for drinking.

There are instances also of drains being laid with results in no measure commensurate with the cost. There used to be, though this is happily no longer the case, examples of sites of towns selected which later had to be abandoned after money had been spent on them; also of houses and other buildings erected on ground that later became a marsh, involving further expenditure in rendering them habitable. The expense has been rendered excessive, not on account of the projects themselves, but because of the extra money required to rectify the mistakes committed in connexion with them. The extra expenditure of this kind can hardly be credited to sanitation, although sanitation usually gets blamed for it. It is a case of placing the blame on the wrong shoulders. It belongs to the initial mistake of supposing that once a water supply or drainage scheme or any other measure is recommended for a town the sanitary expert has nothing more to do with it until the works are completed and something is found to be wrong.

The system of asking for sanitary advice after things have been done instead of before they are begun, and during the progress of the work, is not only responsible for most of the mistakes, but also of most of the unneces-

sary costliness of sanitary measures. This seeking of advice at the wrong time runs through the whole range of constructional work. Its origin is probably due to the fact that the medical officer in a case of sickness is called in to advise when the patient is ill and it has not been realized that his functions in preventive medicine are of a different kind, and that his advice is needed at a different time. The sanitary officer is often called in to bless and finds he is compelled to condemn, but he has to condemn, not at a stage when the scheme, project or building is only on paper, and when accordingly alterations cost nothing, but at a stage when the work is completed or nearly so and alterations are costly. The sanitary officer is thus placed by a wrong system in an apparently antagonistic position to other executive officers, which in its turn causes a hesitancy on the part of executive officers to consult him, whereas his relations should be of the most cordial nature and his advice appreciated. The situation is admirably expressed by a sanitary officer in the statement: "It is not fault-finding but fault-prevention that should be aimed at."

The Need of a Preventive Policy.

Both for efficiency and cheapness it is necessary to adopt a policy which is preventive in a wider and larger sense than that which usually governs the application of sanitary measures and the control and suppression of disease at the present time. If the sanitary policy is one of foresight and prevention, and not merely one of removal after unwholesome conditions have arisen, efficiency will be secured in an economical way. This policy must apply to European and native quarters alike. With a growing appreciation of the importance of the European quarter being segregated from the native, there is risk of most attention being paid to the isolated European quarters, and the native being neglected. This will not make a locality healthy. Both quarters must partake of the benefits. We want sanitation to be practised more from its preventive side than at present, and with this we shall have prevention of unnecessary expense. In new towns and villages it should be wholly preventive. Wherever unhealthy conditions already exist in the tropics, where swamp and vegetation add important factors to their causation and the production of disease, the curative side of sanitation must necessarily at first be employed for their removal, but even here the adoption of the preventive side should always be kept in view, and once healthy conditions are obtained they should be maintained.

Some Things which a Preventive Policy Covers.

It is unnecessary to enter into the numerous details which a preventive policy covers. It is here that a thorough grasp of sanitary administration in all its bearings comes in. It is necessary to recognize that the general, microbial and entomological aspects of sanitation should fit into one another, each being interdependent on the other. If the general aspects of sanitation are not attended to, it will be difficult to deal with the entomological, and the latter will not cover the former. The laying out of new villages and towns on sanitary lines, the controlling of the growth of old ones, the prevention as well as the destruction of the breeding and hiding places of mosquitos and flies, and the securing of a pure water supply are only a few out of the many details.

It happens occasionally, in selecting a site for a trading centre or town, that insufficient attention is paid to the possibility of securing a good water supply at a moderate cost, and later difficulties arise from scarcity of water, although there was no special reason for that site being used. Akbar Khan's mistake in his choice of Futtehpore Sikri is still made to-day in our tropical possessions. It is usually a serious matter for a small town to have to bring its water from a river many miles away. If it has cost great expenditure to obtain water there is little left for other purposes, and though it must be conceded that a good water supply is essential for the prevention of many diseases in the tropics, it is in very few localities that preventive measures against malarial fever and water-borne diseases are not also essential.

Protected wells are usually the best and cheapest for villages, but for small towns they are seldom sufficient and is obtained by borings from deep underground water. This is a source of supply which deserves greater attention to be paid to it in the tropics. Geological surveys should enter more into sanitary schemes of water supply than they do at present in the tropics, for a geological survey, and some borings in the locality of a township, may often solve problems connected with water supply in small towns, which otherwise involve great expenditure, to bring in a supply from a distance and to provide drainage to remove the water brought in.

The advantages of an underground supply are that it is pure, needs no filtration, and is generally close at hand. Efficiency and cheapness are thus secured more easily than by a river supply, which requires deposition reservoirs and filters, and much more easily than most lake reservoirs in the tropics, which, on account of the algae and water plants that grow in the water, render them difficult and expensive to filter.

Continuity of Effort Essential both for Efficiency and Cheapness.

In the application of sanitary measures continuity of effort is essential, for if there is a break there is an immediate falling back and production of insanitary conditions requiring considerable expenditure to remove them. This continuity of administration will not be obtained locally, nor will the regulations be enforced where the medical and other officers are changing unless the conditions are periodically inspected by a higher sanitary authority, and that higher authority has an influential position in the counsels of the Government.

Conclusion.

In conclusion, I hope that the tendency to rest content with the brilliant discoveries of medical science without giving practical application to them will disappear. For the purposes of prevention of disease in the tropics administration must go hand in hand with the established discoveries of research. Administration has hitherto lagged behind at an enormous distance, and if efficiency and cheapness are to be secured there must be much more than the mere awakening that has taken place during the past decade. We need a forward policy in sanitary administration of a more active and organized nature, based on the lines indicated, if the tropics are to be made healthy, and plague, malaria, yellow fever, dysentery, cholera, tuberculosis, and other diseases whose causes are well known are to be successfully combated.

DISCUSSION.

Dr. W. T. Prout, C.M.G. (Liverpool), emphasized the necessity of economy in the early sanitation of small villages and the necessity of cordial co-operation with the Public Works Department. He mentioned the difficulty of influencing the adult native, in whom such a mass of ignorance and superstition existed that it was hopeless to contend with it, and urged the necessity of the education of the young in elementary hygiene. He also advocated the utilizing of native tribal customs and habits, which were often based on elementary sanitary principles.

Dr. A. J. Chalmers (Ceylon) dwelt upon the importance of strict attention to the camps, villages, or barracks in which coolies in plantations were housed. Not only should the dwelling be sanitary, but equal attention should be paid to the surroundings of the abode, to the water supply, the drainage, the disposal of excreta, and the distance between houses before coolies were allowed to settle on plantations.

Dr. Andrew Balfour (Khartoum) said the importance of having properly trained and certificated British sanitary inspectors to do the sanitary work in Crown Colonies and Protectorates was a paramount item in tropical hygiene. He would like to see a school of instruction for such men instituted and a thorough training in special work in the tropics established. In dry climates, more especially, it was essential to good sanitation that incinerators for the destruction of refuse and excreta for villages be instituted.

Dr. M. Cameron Blair (Northern Nigeria) considered that the religion of most natives helped to pave the way towards better sanitation. It would be well for Europeans in charge of tropical towns and villages in the tropics to

utilize the religious tendencies of the people, whatever they might be, in fighting disease. The Mohammedan religion, whatever its faults, did, by insisting upon frequent washing, by the care in the preparation of food, and the elimination of disease from amongst the domestic animals, encourage sanitation markedly.

Lieutenant-Colonel A. H. NOTT, I.M.S., said that, owing to the difficulties of inducing the adult natives to regard modern principles of sanitation favourably, immediate reform was wellnigh impossible. The only way to bring about hygienic improvement was to educate the young in elementary hygiene.

Dr. D. J. GALLOWAY (Singapore) said: I also have to congratulate Professor Simpson on the excellence of his paper, full of suggestive generalities as it was. The wisdom of the course adopted is shown by the manner in which each successive speaker is reducing one or more of the points raised to practice. It is curious how the question of religion has crept in; yet, if we remember that a religion is more or less a sanitary code, it is not so curious after all. In this relation I find myself, unfortunately, in disagreement with one of the previous speakers (Dr. Cameron Blair) in relation to the Mohammedan religion. I can recollect nothing in that religion which tends towards sanitation as we interpret the word, but I know of much which militates against it. I have in mind the strict injunctions regarding the disposal of faeces and urine, the frequent ablutions (both tending to contaminate the water supply), the absence of the scavenging efforts of the domestic pig and dog, and, lastly, and most conspicuously, the ritual of the washing of the bodies of the dead, whether they have died of a contagious disease or not. I know of more than one local recrudescence of an epidemic of cholera from the washing of a cholera corpse. Dr. Prout in his remarks emphasized the value of insisting on a series of "don'ts"—we in the Straits Settlements content ourselves with the value of "do's." Following on the rapid rise in the planting industry, legislation dealing with the sanitary conditions on plantations was passed some eight months ago. This really deals with aggregations of natives, of anything from two or three hundreds to as many thousands, and goes far to fulfil the suggestions made by Dr. Chalmers regarding new villages. In the bill as passed the site is selected by the health officer of the district, and stereotyped series of plans are provided. The distance from house to house, the width of roads, the system of drainage, the area clear of jungle which must surround each village, the water supply, the collection and disposal by burning of all sweepings, and the disposal of all excreta, are dealt with fully. I might except the latter measure on which experiments are still in progress. The initial cost is not prohibitive and the cost of carrying on the good work is merely that of directing and continuing to direct that energy which, undirected, would be futile.

Major R. W. H. JACKSON, R.A.M.C. (ret.), said: Like Colonel Nott, I can thoroughly appreciate the great difficulties of applying appropriate sanitary measures such as those which have been advocated by Professor Simpson in his able paper introducing this discussion—namely, those difficulties which arise in dealing with a population the customs and caste prejudices of which are in many respects opposed to all sanitation in the modern sense. India must be looked on as almost a land apart as regards public hygiene. In spite of the great improvements which have been effected by its enlightened Government it is still the home of many tropical diseases and epidemics, such as cholera, dysentery, and, of recent years, plague. While employed on special plague duty in Karachi in 1899 I received an order transferring me to cholera duty in the Translyaric district of Scinde among a large population of half-starved Mekranis, a Beloochi, Mohammedan tribe, driven by famine from their native country, near the shores of the Persian Gulf, southwards to British territory. The district of which I was placed in medical charge comprised several villages and was already thickly populated. With the influx of the Mekranis, who brought (1) measles, (2) small-pox, (3) cholera, and, lastly, plague, with them, the difficulties of enforcing any sanitary precautions for the prevention of the spread of these diseases became very great. I found that by utilizing as far as possible customs and caste prejudices to effect and further the improvement and safeguarding of the water, milk, and food supplies, and by gentle remonstrance more could be done than by any other means.

Dr. R. F. KENNAN (West African Medical Staff) insisted upon the sanitation of villages as a most important point in dealing with the sanitation in Crown Colonies and Protectorates.

PELLAGRA: TREATMENT BY DIRECT TRANSFUSION OF BLOOD.

A REVIEW OF THIRTY-ONE CASES.

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PELLAGRA, a subtropical disease with marked trophoneurotic and gastro-enteric manifestations, has been of increasing prevalence throughout the Southern United States of America in recent years. A large percentage of the cases in America are of the grave type, and have resisted all accepted medical and hygienic treatment, the patients succumbing to myocardial and renal lesions associated with a chronic and occasionally an acute anaemia.

On August 4th, 1908, I employed the first transfusion in the terminal stages of pellagra. Encouraged by the immediate improvement and rapid recovery in this patient, in collaboration with Dr. Gilman J. Winthrop, I have since transfused thirty additional patients in the terminal stages of the disease.

Whereas we are unable to draw positive conclusions from this number of cases, we believe that certain valuable deductions may be derived from the statistics which they present.

We have endeavoured to preserve a spirit of scepticism and unbiassed judgement throughout our investigations, and to draw accurate conclusions from the data presented.

Transfusion has been resorted to only in cases in the last stages of pellagra, or steadily retrograding under prolonged and careful treatment by approved therapeutic measures. To illustrate the type of cases in which transfusion has been employed, it is sufficient to state that two patients were moribund at the time of operation, and one patient died on the railway train twenty minutes before arriving at Mobile for transfusion.

	Cases.
Transfused	31
Females, aged 22–64	22
Males, aged 3–48	9
Recoveries (58 per cent.)	18
Deaths (42 per cent.)	13
Relapse (3.2 per cent.)	1

This relapse occurred two years after recovery in an institutional patient exposed to reinfection.

	Cases.
Temporary improvement followed by death	4
No improvement following transfusion ...	9
Complications incompatible with recovery...	3

Patient 1, a male, aged 42, whose case was complicated with tuberculous peritonitis, showed temporary improvement for several days, but died one month after the operation.

Patient 2, a male, aged 3, showed distinct improvment following transfusion, but died eight days later from intestinal perforation.

Patient 3, a male, aged 16, had bilateral pneumonia at the time of transfusion; no improvement; died one week later.

	Cases.
Complications presenting insufficient flow of blood, followed by death	2

In Case 1 the only available donor permitted insufficient transfusion through a severe degree of arterio-sclerosis. In Case 2 inadequate operative surroundings and a neurotic 15 year old boy as the only available donor permitted insufficient transfusion.

	Cases.
Patients moribund at operation, followed by death	3

It will be noted that 5 out of the 13 cases in which death resulted might well be excluded, for the following reasons: Two patients received an inadequate amount of blood at transfusion, and 3 were moribund at the time of operation. Excluding these 5 cases, the mortality-rate would

be 25 per cent., as compared with 42 per cent., in the entire series. Considering the grave mortality-rate in the type of patients on whom transfusion was performed, we can but feel that our mortality-rate of 42 per cent. in the entire number of cases compares most favourably with the mortality (80 or 90 per cent.) in this type of cases treated by other therapeutic procedures. We have been unable to observe that transfusion was a direct factor of death in any of the cases; the deaths followed in periods of from three hours to one month after operation. One patient manifested symptoms of cocainism, necessitating a termination of transfusion at the end of fifteen minutes. This patient, however, made an excellent recovery from pellagra. Neither haemolysis nor agglutination, thrombosis nor embolism, have been observed in any of the cases.

All the recovered patients presented distinct and severe lesions of pellagra; there were marked emaciation, asthenia, anaemia, reflex excitability, and in many cases grave mental changes. Severe pellagra erythema, stomatitis, and diarrhoea were present in a majority of the cases. Within a few days after the transfusion there was either alleviation or disappearance of all the symptoms of pellagra; there was a rapid disappearance of the pellagra erythema, stomatitis, and diarrhoea, and also a gradual alleviation of the mental and nervous symptoms. In several cases there was an astonishing improvement in the patient's mental condition shortly following operation. In all cases there was rapid increase in the patient's hemoglobin index, a rapid return of body strength, a return of digestive faculties, and an increase of body weight. All the recovered patients gained from 3 to 8½ lb. in the first week following transfusion, one patient gaining 34 lb. within eleven weeks. All the recovered patients have returned to a normal condition within from one to four months after operation; several are in better physical condition than they have presented for years.

The patient relapsing two years after transfusion was living in an institution and was constantly exposed to pellagra, and it is fair to assume that this case may be considered a reinfection rather than a relapse.

It is but just to state that all approved therapeutic procedures were employed in the recovered cases, both previous to and following the operation. As these procedures were employed without beneficial effect previous to the operation, it is fair to assume that they were important factors in the recoveries after transfusion.

We have been unable to ascertain a constant clinical sign that would indicate a certainty of recovery following transfusion. A moribund state of the patient and cases of pellagra with grave pathologic conditions, cardiac, renal or pulmonary, contraindicate the employment of transfusion. The necessity of resorting to transfusion can be ascertained only on the appearance of positive signs of retrogression under approved institutional and constitutional therapeutic agents.

The majority of the patients referred for transfusion have recovered through hygienic, supportive treatment, not necessitating the employment of transfusion.

Transfusion, itself a delicate procedure, should be attempted only by those experienced in the technique, with full knowledge of the dangers of the operation, and in adequate surroundings for its performance, and with the proper post-operation treatment.

In these transfusions we have endeavoured to employ donors who have lived in the same environment as the patients, assuming that such donors who have not contracted pellagra possess a certain degree of immunity.

Transfusion was resorted to from donors who have recovered from pellagra in 3 cases; recovery occurred in these (33⅓ per cent.). This case relapsed two years following transfusion.

Transfusion was made from donors who had never had pellagra in 29 cases; recovery ensued in 17 cases (58 per cent.).

We assume that there is at least no preference of a donor who has had pellagra over a donor who has never had pellagra.

Transfusion was resorted to from donors who were relatives of the patient, but who had never had pellagra, in 11 cases; recovery occurred in 11 cases (68 per cent.). Transfusion was made from donors who were not relatives and who had never had pellagra in 12 cases; recovery occurred in these cases (75 per cent.). Here we may assume, at least, that there is no ground for preference of the use of a relative over the use of a non-relative.

We are unable to state from the statistics available that there is any immune principle transferred by transfusion. It is probable that any beneficial results obtained may be attributed to the relief of the existing anaemia, permitting the patient's organism to approach its normal functional activities, and thus to combat the progress of the disease.

Conclusions.

In transfusion in 31 cases of pellagra we have found no ill effect resulting to the patients directly from the operation. We may safely resort to transfusion in the severe type of case, steadily retrogressing under approved therapeutic procedures. We have noted no advantage in the employment of a donor who has recovered from pellagra as compared with the donor who has never had pellagra.

There is apparently no advantage in the use of a relative for a donor as compared to the use of a non-relative.

The recoveries (58 per cent.) following transfusion in the grave type of cases compares most favourably with the recoveries (10 to 20 per cent.) in the same type of cases in which other therapeutic measures are employed.

The employment of transfusion in the terminal stages of pellagra must be undertaken with a full knowledge of the difficulties and dangers of the operation. Without careful selection of the cases and unprejudiced conclusions this procedure will fall into an undeserved ill repute.

DISCUSSION.

Dr. F. M. Sandwith (London) said that the modern technique of direct transfusion had brought transfusion back as a potential form of treatment. Anaemia had been mentioned as a symptom which could be improved by transfusion. As anaemia was not usually considered to be an important symptom of pellagra, he wondered whether the anaemia referred to was not due to the ankylostomiasis which so often complicated the disease. No one could pretend that Dr. Cole had chosen favourable cases for his treatment; in fact, it might be doubted whether the question had not been made extra difficult by his choosing so far only such unfavourable cases as he had to-day reported. It was to be hoped that Dr. Cole would some day supply a more complete report of his cases, including any complications present. It would be useful to contrast the treatment of some fifty cases by transfusion, and another fifty cases by salvarsan injection. Of course, similar cases should be selected, and not be of the moribund type. It would be interesting to know more about the relapsing patient, who was thought to have been reinfected, because this might throw a side-light upon the vexed question of the cause of pellagra. Though not yet converted to the interesting theory of Dr. Sambon, the speaker confessed that the cure of pellagra by transfusion seemed to be an additional argument in favour of the view that pellagra was perhaps a protozoal disease. Dr. Cole had said that his method was still in the experimental stage, and it was noteworthy that he had not yet found any perceptible difference between using the blood of a donor who had presumably *acquired* immunity by a previous attack of pellagra and that of a donor who had never had the disease, although the latter might have some *natural* immunity to pellagra.

Dr. Louis Sambon (London) quoted passages from the letters and other writings of a number of students of pellagra who had given up the damaged maize theory of causation, and more or less definitely accepted that put forward by Dr. Sambon himself.

Dr. James Cantlie (London) said that the work done by Dr. Sambon during the spring of 1910 as the head of the Field Commission on Pellagra had resulted in the accumulation of most important epidemiological information. The commission was sent out by the Pellagra Investigation Committee, and so encouraging were the results obtained that a second commission was to be sent out to visit the pellagra-stricken districts of Hungary and the Austrian Tyrol, and the Esturia in Northern Spain. Its chief would again be Dr. Sambon, Parasitologist to the Wellcome Physiological Research Laboratories, the other members being Dr. A. Chalmers, Lecturer on Pathology

and Animal Parasitology at the Ceylon Medical College; Professor Haase, of Memphis, U.S.A.; Dr. Cole, of Mobile, U.S.A.; and Dr. Martinez, of Yucatán, Mexico. The expenses were being defrayed by Mr. H. S. Wellcome.

SECTION OF PATHOLOGY.

R. F. C. LEITH, F.R.C.S., President.

THE ORIGIN OF PULMONARY ANTHRACOSIS: *AN EXPERIMENTAL STUDY.*

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As is well known, it is generally taught that tuberculosis in childhood is primarily abdominal, the bacillus gaining entrance by the intestinal tract, though Koch always maintained that it was by the air passages, in the adult and child alike, that the tubercle bacillus entered. Calmette and his pupils at the Pasteur Institute, Lille, have been, perhaps, the most severe critics of Koch's view, and have within recent years carried out extensive researches on the subject. Calmette holds that it is by the intestine that the tubercle bacillus gains entrance to the body, and that this is the course of events even in pulmonary tuberculosis of the adult. This teaching, founded on the experimental results obtained by himself and his pupils, has gone far to influence the opinions held at the present day.

Calmette has supported his conclusions by a comparison with pulmonary anthracosis, and it is to this subject that I wish in this paper specially to direct attention. Some five years ago he suggested to his pupils—Vansteenberghe and Grysez[1]—to investigate this condition (pulmonary anthracosis), in order to discover if it also arose from intestinal absorption. These workers in consequence carried out some experiments and came to the startling conclusion that the carbonaceous pigment in the lung did not gain entrance by the air passages, but that it was absorbed from the intestinal tract. They found that the ultimate seat of the absorbed pigment varied according to the age of the animal. In the adult the pigment was only detected in the lungs, where it had been filtered out, having apparently passed directly through the lymph tracts to the thoracic duct and venous system. Young animals, on the other hand, showed pigmentation not of the lungs but of the mesenteric, mediastinal and cervical lymph glands. The distribution of the pigment was thus found to be somewhat similar to that of the tubercle bacillus in man. These observers stated that in animals in which the oesophagus was ligatured no pigmentation of the lungs resulted, although they had been forced to breathe air heavily laden with soot, and that pigmentation did occur to the same extent in both lungs, even though the bronchus to one of them was occluded, so long as the oesophagus remained patent. Further, they remarked on the ease with which pulmonary anthracosis could be induced by feeding with an emulsion of Chinese ink, the deposit being detected in the lungs as soon afterwards as four hours, especially if the animal had been starved beforehand.

It is a point worthy of note that in Vansteenberghe's and Grysez's original communication no protocols of experiments are given, the authors limiting themselves to the statement of general conclusions. Nevertheless, these results have given great support to the idea of the intestinal route of infection by the tubercle bacillus, and it is as a consequence of this fact that I have thought the question worthy of further consideration.

These findings of Vansteenberghe and Grysez are directly opposed to the earlier and usually accepted work of Arnold,[2] who considered that it was always by inhalation that pigmentation of the lung resulted, though Villaret[18] in 1862 had said that it might arise from intestinal absorption.

Over these results there arose, as is well known, a great deal of controversy, and the Société de Biologie* referred Calmette's and Vansteenberghe's work to a committee for investigation. This committee reported that they were unable to verify the passage of pigment to the mesenteric glands after a single feeding, but that after repeated daily feedings of Chinese ink, extending over a period of nine days or longer, the passage of pigment through the intestinal wall could be demonstrated, and deposition of the same in the mesenteric glands was visible to the naked eye. They reserved their judgement on the question of pulmonary anthracosis, and, so far as I can ascertain, no further statements on the matter have been made by them.

Since then many workers have investigated this subject, and various opinions and findings have been recorded. In France Kuss and Lobstein,[4] in Germany Arbeiter,[5] and in England Whitla and Symmers[6] uphold Calmette's views, that not only pigmentation of the mesenteric glands but also of the lungs may arise from intestinal absorption. With the exception of Whitla all these observers consider the pulmonary anthracosis that so results exceedingly slight in degree, and though a possible, yet not the usual route by which carbonaceous pigment finds its way to the lung. Whitla, however, not only supports Vansteenberghe (who does not deny that in certain pathological conditions pneumoconiosis can be produced by inhalation), but goes further, and emphatically denies the possibility of entrance of the pigment by the air passages. In his Bradshaw Lecture he describes experiments where ligation of the oesophagus absolutely hindered pigmentation of the lung, no matter how long the animal was kept in the soot-laden atmosphere, and where blocking of a bronchus, when the oesophagus was patent, did not prevent the carbonaceous material reaching the corresponding lung.

All these observers (Calmette, Vansteenberghe, Grysez, Arbeiter, and Whitla) support their contention by the results of intraperitoneal injection of Chinese ink. That a certain, though slight, degree of pulmonary anthracosis may be so caused I have been able to demonstrate. The peritoneal cavity, however, is merely a part of the lymphatic system, and consequently one would be rather astonished if implication of the associated glands and organs did not ensue when an emulsion of Chinese ink or soot is injected intraperitoneally.

Vansteenberghe,[1] in discussing this question, speaks of the nose and upper air passages constituting an efficient filter, so that no extraneous matter can reach the air cells. That the nose and pharynx do filter the air we breathe can be demonstrated by anybody during a foggy day, and is well shown in some of my experiments. In those animals which had been tracheotomized for the purpose of blocking a bronchus, and in which the air entered directly into the trachea, a degree of pigmentation resulted which could only be equalled in normal animals by a period of confinement in the inhalation chamber of at least three times the duration.

Vincent,[8] Basset and Cane,[9] Remlinger,[10] Cobbett,[11 12] and Beitzke[7] are workers who have come to an opposite conclusion, having never been successful in causing pigmentation of the lungs or mesenteric glands by feeding with soot or other pigments. Montgomery,[19] though unsuccessful in causing pulmonary anthracosis by feeding animals with lampblack, vermilion, and Prussian blue, states that after prolonged feeding with very large amounts of the pigments a slight degree of pigmentation of the mesenteric glands results. Shattock, Seligmann, Dudgeon, and Panton[20] say that they have also been successful in causing pigmentation of the mesenteric glands in the rabbit by feeding with charcoal for a period of forty-six weeks.

Calmette,[13] in a recent criticism of Remlinger's and Basset's work, writes that neither he nor his pupils deny that pulmonary anthracosis may arise by inhalation, but that it will not occur if the séance is of shorter duration than one hour. He immediately follows up this half-hearted admission with the remark that not one of his opponents has demonstrated the passage of the soot from the alveoli into the pulmonary tissue. He doubts if the epithelial cells are phagocytic, and, as soot is an inert substance (in contrast to food and bacilli), holds that it will be devoid of any chemiotactic power, and will consequently not lead to any emigration of leucocytes. I fail to see that there is any justification for limiting the duration of the inhalation experiments. Calmette says that they must be

*In aid of the above research a grant was obtained from the Carnegie Trust.

of longer duration than one hour, yet in the feeding experiments there is absolutely no mention made of time limit. People who suffer from anthracosis have not been subjected to a sooty atmosphere for a matter of minutes, but for weeks, months, or perhaps years. In my own experiments I found that after a séance of only thirty to forty-five minutes the lungs were distinctly grey in colour. In this same communication Calmette concludes that until it is demonstrated that the alveolar epithelial cells possess the same amœboid properties as leucocytes, and are shown capable of penetrating actively into the tissues, we must admit that anthracosis arises by intestinal absorption, at least in all cases where there is not already a lesion of the lung. In this connexion it is well to bear in mind that catgut is inert, and yet it undoubtedly attracts leucocytes for its destruction. Besides, Briscoe [11] has conclusively shown that the alveolar epithelial cells do possess some phagocytic power.

My experiments were for the most part carried out on rabbits, and chiefly adult animals, since Calmette and Whitla had said that it was only in such animals that anthracosis could be produced. The pigment was administered by inhalation, by the stomach, and by injection intraperitoneally.

In the great majority of the experiments Chinese ink or lampblack was used, but, owing to the fact that naturally a certain degree of anthracosis is present in adult animals, iron carbonate, which is in the form of a fine powder and difficult of solution, was used in a few instances, and its presence in the tissues tested for by the Prussian-blue reaction.

In the inhalation experiments the lampblack was obtained by burning a lamp fed with turpentine under a bell-jar, and, by means of a suction-pump, the soot-laden air was caused to pass through a closed cage in which the animal was confined. The iron carbonate was simply sprayed into the cage by means of an insufflator.

In the feeding experiments the lampblack and iron carbonate (in a state of very fine division) were made into emulsions with water and olive oil, and administered by the stomach tube. In order to avoid insufflation the animal was anaesthetized, but even then difficulty in passing the tube was occasionally experienced, and coughing sometimes resulted. It is highly probable that in some of the experiments insufflation did occur. The intraperitoneal injections were only performed in a few instances, as this did not seem, for reasons above given, to be a profitable line of research.

The following is a synopsis of all the experiments performed, classified according to the various procedures adopted:

A. *Animals Fed by the Stomach Tube with Chinese Ink.*

No. 1.—Adult rabbit, received 2 oz. of an emulsion of Chinese ink on three successive days. To the naked eye no pigmentation of either lungs or mesenteric glands was observed. Microscopically the lungs showed a normal amount of pigment, while the mesenteric glands showed none.

No. 3.—Adult rabbit, weight 1,580 grams, received 2 oz. of emulsion on seven successive days. To the naked eye the lungs and mesenteric glands presented an absolutely normal appearance. Microscopically the lungs exhibited the usual and normal degrees of pigmentation.

No. 4.—Adult rabbit, weight 943 grams, received 2 oz. of emulsion on six successive days. Very little pigment, less than usual, was observed on microscopic examination of the lungs, and absolutely none in the mesenteric glands.

No. 7.—Large adult rabbit, after starvation for twenty-four hours, received 2 oz. of the emulsion, and was killed five and a half hours later. Absolutely no pigment was detected in the lungs or mesenteric glands by naked eye or microscope.

B. *Animals Fed by the Stomach Tube with an Emulsion of Lampblack.*

No. 14.—Adult rabbit, weight 1,795 grams, received 1 oz. of emulsion on seven successive days. With the exception of a few patches in the upper lobe of the left lung, absolutely no pigmentation of any organ was visible to the naked eye. Minute examination revealed these patches to be areas of bronchopneumonia, with much pigment in the exudate. In this animal occasionally some difficulty was experienced in the passage of the tube. There was observed the usual amount of generalized pigmentation on microscopic examination; this was due solely to the presence of fine granules of soot in the epithelial cells, attached to the alveolar wall or lying free in the alveolar spaces. There was no trace of pigment in the mesenteric glands.

No. 16.—Adult rabbit, weight 1,450 grams, received on each of fourteen occasions during a period of eighteen days 2 oz. of the emulsion. In this case, also, were a few patches in the upper lobe of the left lung, which were likewise found to be bronchopneumonic in nature. The mesenteric lymph glands were entirely devoid of pigment.

No. 32.—Young rabbit, weight 500 grams, received 1½ oz. of the emulsion on twelve occasions during a period of twenty-three days. Both lungs were of a rosy pink colour, though on microscopic examination a certain amount of soot, but less than is often seen in untreated animals, was visible. The mesenteric glands were unduly dark in colour, but on microscopic examination no pigmentation was observed.

No. 15.—Adult rabbit, weight 2,100 grams, received 2 oz. of the emulsion on seventeen occasions during a period of twenty-three days. To the naked eye absolutely no trace of pigment in either lungs or mesenteric glands (no microscopic examination made) seen.

No. 29.—Adult rabbit, weight 1,800 grams, received 2 oz. of the emulsion on fifteen occasions during a period of thirty days. To the naked eye there was no appearance of pigment in either lungs or mesenteric glands, and, microscopically, with the exception of the usual and infinitesimal amount of soot in the alveolar cells, no pigmentation of the lungs or mesenteric glands was detected.

C. *Animals Fed by the Stomach Tube with an Emulsion of Iron Carbonate, which, as previously stated, was in a state of very fine division.*

No. 33.—Young rabbit, weight 500 grams, received 1½ to 2 oz. of the emulsion on fourteen occasions during a period of twenty-seven days. Minute examination of the mesenteric glands revealed an enormous amount of iron carbonate; in the lymph sinuses many of the cells, after treatment with potassium ferrocyanide and hydrochloric acid, presented a bluish protoplasm from the presence of fine granules of the iron salt, and in the germinal follicles were large masses of the iron carbonate. In the lungs, on the other hand, unless in a small bronchopneumonic patch, no iron was present, though there was a fair amount of soot present in the epithelial cells of the alveoli and bronchioles.

No. 34.—Adult rabbit, weight 1,420 grams, received 2 oz. of the emulsion on nine occasions during a period of fifteen days. Here also a considerable amount of iron, though less than in the preceding case, was found in the mesenteric glands. There was absolutely no evidence of iron carbonate in the lungs, though there was, as is usual in adult animals, a fair amount of soot in the alveoli.

D. *Animals Allowed to Inhale Soot-laden Air: Œsophagus and Bronchi Patent.*

No. 39.—Adult rabbit, weight 1,700 grams, kept in the inhalation chamber for thirty minutes and killed immediately afterwards. In this case a tracheotomy had been performed, but an attempt to close one bronchus was unsuccessful. Both lungs presented a dull grey colour.

No. 10.—Adult rabbit confined in the inhalation chamber for six hours. To the naked eye the lungs had a dull greyish colour, and on microscopic examination an excess of pigment was detected in the alveoli.

No. 11.—Adult guinea-pig, kept in the inhalation chamber for eight hours. To the naked eye the lungs were of a dull grey colour, and microscopic examination revealed an excess of pigment in the alveoli.

No. 8.—Adult rabbit, kept in the inhalation chamber on three occasions—in all, seven and a quarter hours. The lungs were markedly pigmented to the naked eye, and, on microscopic examination, much pigment was lying loose in the alveoli, as well as in the alveolar cells, and to a slight extent in cells in the alveolar walls.

No. 12.—Adult guinea-pig, weight 500 grams, placed in the inhalation chamber on eight successive days for periods varying between one and four hours—in all, twenty-one hours. Both lungs were of a uniform black colour, as was also a small lymphatic gland at bifurcation of trachea. Microscopic examination showed the presence of much pigment in alveoli, in alveolar walls, and in the adenoid tissue surrounding the bronchioles. No pigment was observed in any other organ.

No. 13.—Adult rabbit, weight 1,600 grams, confined in the inhalation chamber on eight successive days for periods ranging between one and four hours, in all twenty-seven hours. Lungs were deeply pigmented with implication of the bronchial glands. Microscopic examination revealed the same picture as in No. 12. There was no trace of pigment in mesenteric glands, spleen, or bone marrow.

No. 22.—Adult rabbit, weight 1,200 grams, placed in the inhalation chamber on five occasions, varying between one and a half and three hours, during a period of seven days, in all thirteen and a half hours. The animal was kept alive for six weeks afterwards. The lungs and bronchial glands were deeply pigmented, but the mesenteric glands, spleen, and liver were devoid of pigment. The anthracosis in the lungs was patchy in distribution. Microscopic examination revealed the pigment, not only generally distributed throughout the lung, but also aggregated in considerable masses often situated in the vicinity of the larger vessels and bronchioles. In these patches there was some fibrosis. The adenoid follicles in the neighbourhood of the bronchioles showed much pigment.

No. 26.—Adult rabbit, weight 1,450 grams, kept as control alongside of preceding animal for six weeks, but never placed in the inhalation chamber. No evidence of pigmentation anywhere. Microscopic examination, however, revealed the presence of the usual pigmented catarrhal cells.

E. *Animals Allowed to Inhale Soot-laden Atmosphere: Oesophagus Ligatured.*

No. 18.—Adult rabbit, weight 1,000 grams, after ligation of œsophagus placed in inhalation chamber for seven hours. Lungs were greyish in colour with darker areas arranged in bronchopneumonic fashion. Microscopically there was great excess of pigment, many bronchioles and alveoli being filled with mucus and soot. There was no pigment in the mesenteric glands.

No. 19.—Adult rabbit, weight 1,250 grams, after ligation of œsophagus placed in inhalation chamber for three hours. Both lungs were grey in colour with here and there darker patches. Microscopically excess of pigment was detected in bronchioles and alveoli.

No. 23.—Adult rabbit, weight 1,400 grams, after ligation of œsophagus confined in inhalation chamber for half an hour. Both lower lobes were grey in colour, and on section showed patches of pigment chiefly situated towards root. Microscopically an excess of pigment was detected.

F. *Animals Allowed to Inhale Soot-laden Atmosphere: One Bronchus Occluded after Tracheotomy.*

No. 37.—Adult rabbit, weight 1,000 grams, after a low tracheotomy the left bronchus was plugged with a small ball of cotton-wool, and the animal placed in the inhalation chamber for two hours. The right lung was smaller than the left, which was emphysematous; it was jet black while the left lung had the normal rosy pink colour. Microscopic examination of the right lung revealed much pigment in the lung, especially in the bronchioles and infundibula, whereas in the left lung, which was definitely emphysematous, no more than a normal amount of soot was present.

No. 38.—Adult rabbit, weight 1,000 grams, in inhalation chamber for half an hour. Both lungs were uniformly pigmented, except the inferior lobe of left lung, the bronchus to which had been occluded after a low tracheotomy. On microscopic examination of the left lung in the upper part the alveoli and bronchioles were found to contain much soot, while in the lower portion, that supplied by the occluded bronchus, practically none was observed.

G. *Animals Allowed to Inhale Iron Carbonate: Oesophagus and Bronchi Patent.*

No. 31.—Adult rabbit, weight 1,500 grams, allowed to inhale iron-carbonate-laden air for three-quarters of an hour, and killed twenty-four hours later. No pigment was evident to the naked eye. Minute examination revealed much of the iron salt in the alveoli and bronchioles, and, in addition, a certain amount of soot.

No. 35.—Adult rabbit, weight 1,600 grams, allowed to inhale iron-carbonate-laden air for twenty minutes, and killed twenty-four hours later. Minute examination of the lungs revealed much pigment in the alveoli, giving the Prussian-blue reaction.

No. 36.—Adult rabbit, weight 1,500 grams, allowed to inhale iron-carbonate-laden air for three-quarters of an hour, and kept for six weeks. Microscopic examination showed much of the iron salt in the lung; it was situated in the alveoli, in the alveolar walls, and, to a certain extent, in the adenoid tissue of the lung.

H. *Results of Intraperitoneal Injections of Soot and Chinese Ink.*

No. 9.—Adult guinea-pig; received an intraperitoneal injection of a solution of Chinese ink, and was killed nineteen days later. There was accumulation of material in the peritoneal cavity; the inguinal glands in the neighbourhood of the puncture were pigmented, as were also the glands on the posterior aspect of the sternum, but the axillary, cervical, and mesenteric glands were free from pigment.

No. 17.—Adult rabbit, weight 1,500 grams; received an intraperitoneal injection of 2½ oz. of an aqueous emulsion of soot, and was killed two days later. Much free pigment was present in the peritoneal cavity; the diaphragmatic lymphatics were pigmented, and glands in the anterior and posterior mediastinum were also pigmented. There was no appearance of pigment in the lung to the naked eye, but microscopic examination revealed many of the lymphatics filled with soot. The arrangement of the pigment was most striking. It was chiefly deposited in circular or oval spaces situated in the alveolar walls, and these spaces were occasionally lined by endothelium. The soot was also seen in some of the small adenoid follicles surrounding the bronchi and blood vessels. No pigment was observed in the spleen, kidneys, liver, or mesenteric glands.

No. 24.—Adult rabbit, weight 1,350 grams, received intraperitoneal injection of a solution of Chinese ink, and was killed six days later. Much free pigment was present in the peritoneal cavity, and the mesenteric and anterior mediastinal glands were pigmented, but the lungs and bronchial glands were unaffected.

No. 25.—Adult rabbit, weight 1,530 grams, received intraperitoneal injection of an aqueous emulsion of soot, and was killed six days later. There was much pigment lying free in the peritoneal cavity. The lungs showed here and there little patches of pigment, as did also the bronchial glands.

No. 27.—Adult guinea-pig, received intraperitoneally aqueous solution of soot; found dead next day. With the exception of free pigment in the peritoneal cavity, and pigmentation of the anterior mediastinal glands as high as the jugular notch, nothing abnormal was detected. Microscopically there was excess of soot in the lungs, situated in alveoli, alveolar walls, and in the adenoid follicles. (This animal had been resident in the laboratory for many months.)

From a survey of these experiments it is seen that my results are directly opposed to those of Calmette and Whitla. In no instance by feeding was I successful in producing pulmonary anthracosis, but in every case by inhalation this was accomplished so long as the bronchi remained patent. In two of the feeding experiments some pigmentation of one lobe was present, but microscopic examination showed that the coloration was situated in areas of insufflation pneumonia, which had been most probably caused during the passage of the stomach tube.

The degree of pigmentation was proportionate to the duration of the experiment, and was, of course, relatively more easily produced when the nose and pharynx were put out of action. This was seen in the experiments where a bronchus was occluded. As in these cases a primary tracheotomy had been performed the soot entered directly into the trachea, and a degree of anthracosis could be produced in at least one third the time that was necessary in the case of untreated animals.

The experiments, in addition to showing the mode of entrance of the pigment, demonstrate the manner of its spread. In the animals allowed to inhale the material (soot and iron carbonate) for a short time and killed immediately afterwards, the pigment was found chiefly in the alveoli and bronchioles. Those animals which had been subjected to the inhalation experiment on repeated occasions showed proportionately more pigment in the alveoli, and, in addition, its presence in the pulmonary tissue and in the bronchial glands was observed. In two cases which had been kept alive for a matter of six weeks after the inhalation séance, the great bulk of the pigment was detected in the pulmonary tissue, aggregated in masses in the vicinity of the larger vessels. It had apparently travelled along the lymph tracts, and had accumulated in the adenoid tissue in the lung, and to a great extent in the bronchial glands.

In all the inhalation experiments, with the exception of those with iron carbonate, the pulmonary changes were visible to the naked eye. In every lung, however, examined microscopically, control and experimental alike, some anthracosis was detected. In the control cases it was limited in amount, situated in the alveolar cells, either adherent or lying loose in the lumen, and to a very slight extent in the interstitial tissue; it was proportionate to the age of the animal, and, therefore, must be considered natural, at least non-experimental. Cobbett and Beitzke have also drawn attention to this point; the former says that it is present in all adult animals, or those which have lived in a town for any length of time. Quite recently Shingu,[15] in an investigation carried out in Berlin, has shown that dust is present in the alveoli of every child's lung after the age of 2½ months, and that the amount is directly proportionate to the age of the child.

It is just possible, therefore, that some of the previous workers have considered this degree of natural anthracosis as experimentally produced; and this supposition is strengthened when we remember that it is specifically stated by Calmette and Whitla that experimental anthracosis only occurs in adult animals. In Arbeiter's intestinal absorption experiments anthracosis was not visible to the naked eye in one single instance, and yet he concluded, from the presence of small amounts of soot detected microscopically in the alveoli, that it had been absorbed from the intestine and was being excreted by the lung.

One striking and interesting fact in the digestion experiments was the different behaviour of the iron to that of the soot and Chinese ink. In both the feeding experiments with iron carbonate much of this substance was deposited in the mesenteric glands, whereas in not one single case of feeding with Chinese ink or soot were the mesenteric glands pigmented. That iron is absorbed, though only to a slight extent, has already been shown by Professor Stockman.[16] He has demonstrated to me, by means of specimens (microscopic and naked eye), the passage of inorganic salts of iron by the lymphatics in the villi, through the intestinal wall, and their deposition in the spleen and liver. In all probability the iron reaches the liver and spleen by the blood stream, after passing through the lymph glands, but is never detected in the lungs, though, undoubtedly, some iron-containing leucocytes must pass through the

pulmonary circulation. Ultimately the iron is excreted and disappears to a great extent from these organs. Hofmann[16] has also demonstrated the same facts.

In what way are we to explain this variable behaviour? At first sight we might supppose that it depended on the solubility of the iron salt, but the facts that it is practically insoluble in the strength of acid present in the gastric juice, and that, even were it dissolved in the stomach, it would again be precipitated by the alkaline succus entericus are rather against this idea. Stockman has observed the iron salt passing through the villi in the form of granules.

There is, however, one great difference between these two substances. One (iron) is a normal constituent of the tissues, and is thus more or less of the nature of a food, while the other (soot) is a foreign body and of absolutely no use to the economy. To my mind this is the determining factor. The mucous membrane of the intestine exerts a selective action. As a well-known example of the difficulty with which an insoluble and foreign substance is absorbed from the intestine, manganese may be mentioned, and, in my opinion, the tubercle bacillus is in exactly the same category. The mucous membrane will rather combat than aid the passage of the tubercle bacillus.

Between the tubercle bacillus and these inert substances, as soot and manganese, there is, however, one great differentiating feature. The tubercle bacillus is a living organism, and, should only one bacillus make its way through the intestinal mucosa, it possesses, in virtue of its vitality, the ability to multiply, and has thus a potentiality for the production of lesions of any magnitude.

Conclusions.

1. "Pulmonary anthracosis" can be easily produced by the inhalation of soot-laden air.

2. "Pulmonary anthracosis" cannot be caused by feeding with an emulsion of soot or Chinese ink.

3. Pigmentation of the mesenteric glands cannot be produced by feeding with an emulsion of soot or Chinese ink.

4. So far as the origin of "pulmonary anthracosis" is concerned, it lends no support to the view that the tubercle bacillus gains entrance by the intestine.

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DISCUSSION.

Professor SAUNDBY (Birmingham) stated that pulmonary anthracosis was rare in the district of Birmingham. Dr. Cameron rarely saw the condition in Yorkshire.

Professor SIMS WOODHEAD (Cambridge) said he had no doubt as to the channel by which the pigment reached the lung; still, it was hardly safe, perhaps, to conclude that because pigment got through in a certain direction, the epithelium must pass in the same direction. Briscoe's experiments on the hyaline cells of the alveoli were very important in connexion with what Dr. Findlay had said, but were also those of Dr. Wm. Hunter, who demonstrated the ready passage of such large bodies as the red blood corpuscles from the peritoneal cavity to the lymph spaces in the lungs. This was quite a different matter from passage from the alimentary canal.

Professor LEITH said Dr. Findlay's experiments, so far as they went, lent strong support to the inhalation method of origin of pulmonary anthracosis, an origin which had been generally accepted and had indeed remained unquestioned till 1905, when Vansteenberghe and Grysez published the results of their experiments performed in Calmette's laboratory, from which they concluded that the previously prevailing opinion was wrong, and that pulmonary anthracosis arose through ingestion and not by inhalation. Discussion on the paths of entrance of the tubercle bacillus, to which such experiments bear a close relationship, was much in the air at the time, and they attracted much attention. Fresh results by other workers, along the same lines and by the same kind of experiments, appeared in 1907 and 1908, which in the main supported the inhalation method and opposed the conclusions of Calmette and his pupils. The most noticeable exception in this country was provided by Whitla and Symmers, who, writing in the BRITISH MEDICAL JOURNAL in July, 1908, upheld the findings of the Calmette school. But Cobbett, from a study of the portals of entry of the tubercle bacillus, opposed them strongly in papers published in the BRITISH MEDICAL JOURNAL in 1909 and in the *Journal of Pathology and Bacteriology* last year. It was to be hoped that Dr. Findlay's experiments, which seemed to have been carefully carried out, would give the *coup de grâce* to the ingestion hypothesis. They certainly did a good deal to re-establish the inhalation method of origin upon its old firm foundation. Shingu had found dust in the lungs of every child older than 2½ months which he had examined, and was led to believe that the amount of the pigment present in any lung was directly proportional to the age of individuals living under similar circumstances. Bacteriologists found some degree of pigmentation in the lungs of all animals which had lived for some time in the laboratory. It thus became probable, as Cobbett and Findlay both contend, that the supporters of the ingestion theory had been misled by the pigment existent within the lungs of their experimental animals before the date of their pigmentation experiments. Dr. Findlay, though denying an alimentary path of entrance to inert pigment particles, did not deny it to the tubercle bacillus. He held only that his experiments lent no support to such a path of entrance, rightly arguing, however, that the tubercle bacillus, as a living organism, might behave in a somewhat different fashion from the lifeless pigment particles with which he had experimented.

ON POST-OPERATIVE DROWNING.

By ALBERT S. GRÜNBAUM and HELEN G. GRÜNBAUM.
(From the Department of Pathology, University of Leeds.)

WHEN a therapeutic measure is followed by good immediate results, later unfavourable consequences, especially those revealed in the *post-mortem* room, are apt, in practice, to remain unnoticed or to be ignored. For instance, the choice of chloroform or ether as an anaesthetic depends, in the main, on the fancy of the anaesthetist or the surgeon rather than on the condition of the patient. Yet the number of cases of post-operative chloroform poisoning and of ether bronchitis seen in the deadhouse is large enough to raise the question, Are all these deaths unavoidable?

So, too, with saline infusion. Nowadays almost all surgical cases of collapse are infused, irrespective of whether such collapse be due to loss of blood or to fall of blood pressure from some other cause. The immediate effects are usually sufficiently gratifying and dramatic to obscure from the surgeon's vision the resulting tragic ending. Yet post-infusional death from pulmonary oedema is common enough to raise again the question, Was it inevitable?

For some years now we have paid attention to the circumstances, both pathological and clinical so far as ascertainable, accompanying these cases of post-operative drowning, and as a result we believe the following to be the main contributory factors, in addition to the saline

infusion itself: (*a*) Anaesthetic, (*b*) condition of kidneys, (*c*) technique, and (*d*) condition of the lungs. We will consider each of these a little more in detail.

Anaesthetic.—With scarcely an exception, the anaesthetic used in these fatal cases has been ether, sometimes in combination, but most often by itself. The irritative effect of ether on the pulmonary tissues is well known; its action helps to produce pulmonary oedema. The clinical evidence of non-fatal cases points in the same direction. In their experimental work on oedema, Loeb, Fleisher and Hoyt met with pulmonary oedema several times, and we have learnt from them directly that ether was the respirable anaesthetic used; they never employed chloroform.

Condition of the Kidneys.—In some of our cases the kidneys have been grossly diseased: in the majority there has been some macroscopic evidence of disease, such as slightly adherent capsule or excess of fat. Since a relationship subsists between excretion of salt, renal disease and oedema, it seems not unreasonable to suppose that the rapid introduction of 8 to 10 grams or more of salt into the circulation of a diseased organism may have bad effects. It is true that in the experimental investigation mentioned above we have it from the authors that no definite relationship between nephrectomy, saline infusion and pulmonary oedema could be established, but the effects of the two conditions are not necessarily the same.

Technique.—Under this heading are included not merely the introduction of the cannula into the vein, but also the composition and temperature of the saline fluid and the rate of flow. Those points seem to be of importance, for Loeb and his co-workers noted that as their technique improved the occurrence of pulmonary oedema diminished. In hospitals the operation is very often delegated to a resident officer, often very junior, who, together with his seniors, is frequently ignorant of the exact composition of the nurse-compounded fluid that he is infusing. He allows it to flow in without either knowing or being able to control the temperature. It should be realized that if the condition of the patient be grave enough to necessitate infusion, the details of administration require special care and attention. The danger has to some extent been recognized by surgeons. The following reference to the matter is to be found in Moynihan's *Abdominal Operations*: "It has become a general custom, more especially among the resident officers, to give intravenous saline injections to all patients who are suffering in any serious degree from shock. The custom has much to recommend it, but I am strongly disposed to think that it is not seldom provocative of harm, for, in some cases, when large quantities of fluid are injected, an acute oedema of the lung, with copious frothy expectoration, occurs. On *post-mortem* examination of such cases it can be seen that there is an acute oedema of both lungs; the lungs, in fact, are water-logged. Saline infusions are remedies we cannot afford to do without, but a little more discretion than seems to be generally customary should be exercised in their administration." But we doubt whether the extent and gravity of the danger has been generally appreciated or the reasons for the catastrophe recognized.

Lungs.—In many cases it has been obvious that pre-operative disease of the lungs has existed. Judging from the results, the combination of ether and saline infusion is decidedly contraindicated, if pulmonary oedema is to be avoided; and even more if, in addition, there be any indication of renal insufficiency. Since the oedema is quite as marked, and sometimes more marked, at the apex as at the base of the lung, it is just possible that the sitting instead of the prone position might avoid the general water-logging and by limiting it to the base prevent a fatal issue.

Our conclusions, then, are:

1. Saline infusion, especially intravenous infusion, should properly be used only to replace fluid lost from the body. Fall in blood pressure due to other causes should be treated by other therapeutic means.

2. The procedure of infusion should be carried out with the same care and skill as the main operation.

3. If it is anticipated that saline infusion will be necessary an anaesthetic other than ether should be chosen.

4. When coexisting renal insufficiency is suspected, intravenous infusion, especially in conjunction with ether as an anaesthetic, is better avoided altogether. Rectal infusion appears to be less dangerous, and subcutaneous infusion seems to stand between the two.

DISCUSSION.

Professor SIMS WOODHEAD (Cambridge) felt uncertain as to whether the author's remarks covered washing out, say, the peritoneal cavity or passing isotonic saline into the veins. The subject was one of extreme interest and importance, especially in relation to the question as to whether the expert should superintend the infusion himself or should allow his assistant to do the work without his direct superintendence. It had to be borne in mind that in animals the tissues and organs were healthy, and that they would be able to withstand much more than would the tissues and organs usually damaged of patients.

COMPARATIVE VALUE OF CERTAIN MICROSCOPICAL METHODS OF DEMONSTRATING SPIROCHAETA PALLIDA.

BY

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THESE observations were undertaken to ascertain the quickest and most reliable method of discovering the *Spirochaeta pallida* by the use of the microscope. In all, some fifty cases of syphilis were examined. It is not necessary to describe in detail the structure of the *Spirochaeta pallida*, but we wish to make a few remarks regarding certain other spirochaetes.

Excluding the spirochaete of yaws, the *Spirochaeta dentium* is the only common organism which resembles at all closely the *Spirochaeta pallida*. The *Spirochaeta dentium*, as recently described by Gerber,[1] is a slender, thin organism, averaging from 4 to 10 μ, but thick in proportion to its length, with uniform narrow windings. Gerber concludes that slight variations may occur in the morphology of both *pallida* and *dentium*, that a distinction between them is sometimes very difficult. "One must have an ideal specimen or employ the very highest magnification in order to recognize the characteristics of *pallida* as the higher windings and the pointed ends with certainty. For this purpose the dark ground illumination is the most satisfactory."

The Spirochaeta Refringens.

This organism is very much wider in proportion to its length than the *Spirochaeta pallida*, it possesses a fairly regular but much more open spiral and its ends are very much blunter. It varies considerably in length. It has a bluish tint when stained by Giemsa, and when examined by the Indian ink method it appears as a colourless spiral, thick, and with extremely open and shallow curves. In dark ground illumination it shows up as a very actively motile spirochaete, rapidly rotating about its long axis, sometimes so quickly that it appears as a thick, rather ill-defined rod. It shoots rapidly backwards and forwards in a straight line, and when not rotating so actively is often seen to squirm its way by corkscrew movements, pushing blood corpuscles, bacilli, and particles aside.

Spirochaeta balanitis of Hofmann[2] is described by him as a band-shaped spirochaete with six to ten curls, $\frac{1}{2}$ to $\frac{3}{4}$ μ broad, and furnished with periplastic appendages and an undulating membrane. It exhibits wave-like and rotatory movements. It is stained red by Giemsa's reagent. Eiter[3] (1907) describes this spirochaete in the dark ground illumination "as pale yellow to deep orange-red, compared with the delicate white of the *pallida*. The body is broader, the windings are longer and flatter, and it is much more energetic than the *pallida*. It moves rapidly in jerks backwards and forwards, frequently crossing the

whole field with one impetus, at times travelling with a wave-like progression like a snake or caterpillar. A wave-like movement, which does not cause the spirochaete to move in its entirety, is seen in this form, as in the *pallida*. Besides, one sees screw-like movements, by which the body progresses by means of a rotation on its long axis. The *pallida*, on the other hand, moves in three ways: (1) By rotation around the long axis, (2) by bending its body, and (3) by jerks backwards and forwards."

We have been unable to find any other reference to the spirochaete of balanitis in any English, American, German, or French literature, except in a discussion in the Royal Society of Medicine, where it is just mentioned by H. W. Bayly.[4]

We have occasionally seen in material collected from a sore, particularly when phimosis is present, a spirochaete unlike *refringens* and *pallida*, but somewhat resembling the *Spirochaeta balanitis;* it may have a caterpillar movement. On the other hand, a spirochaete resembling, if not identical with, *Spirochaeta refringens* is certainly present in enormous numbers in some cases of balanitis (Fig. 2).

Technique of Collecting Material for Examination.

The material was obtained from the following lesions:

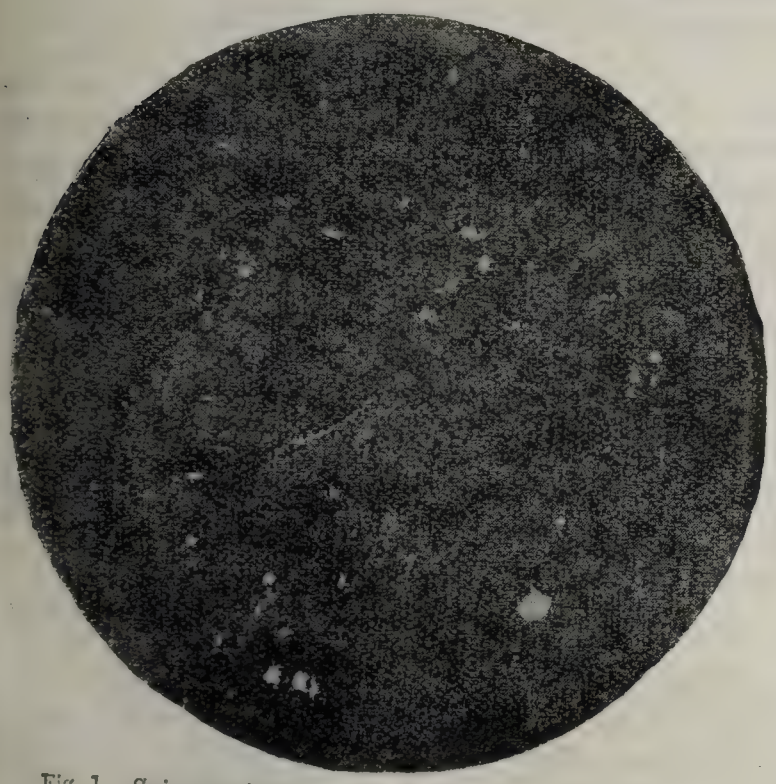

Fig. 1.—*Spirochaeta pallida.* Indian ink method. (× 800.)

Primary sores, primary sore with oedema of the prepuce and phimosis, mucous patches, moist papules, papular eruption.

The primary sore, if accessible, was first cleaned with absorbent wool, rubbed with the wool, and then swabbed two or three times with wool soaked in methylated spirit. In a minute or two the spirit was wiped off, an important point, and soon clear serum began to exude, which was collected in a capillary tube. (The spirit was removed before collecting the serum, because of the possibility of its damaging the spirochaetes and coagulating the serum.)

The same method was adopted for obtaining the serum from the mucous patches and moist papules. The mucous patches examined were situated on the lips, and we were careful to exclude the saliva by placing a piece of wool between the teeth and the lip and pulling the lip well out.

In the cases of primary sores complicated with oedema of the prepuce and phimosis it was impossible to clean the sore, and all that could be done, without an operation, was to insert a capillary tube so that the end was as near as possible to where the sore was felt through the skin to be situated.

We obtained the serum from the secondary papules of the skin by first scraping with a sharp scalpel, and then applying methylated spirit. We never used scrapings. The flow of serum may be considerably increased by use of a Bier's suction apparatus, but this is usually quite unnecessary.

The advantages of using serum for examination instead of scrapings are:

1. There is very little or no blood.
2. The serum washes the spirochaetes from the deeper parts where they are more constantly present; other spirochaetes and bacteria are usually absent.
3. That plenty of material is obtained, more than by any other way, the average quantity being 10 c.mm.

The disadvantages, namely, the longer time occupied and the slight smarting from the spirit, are not worth considering.

Methods of Examination.

1. *Dark Ground Illumination.*—Leitz condenser bull's-eye lens, and a Nernst lamp.

2. *Staining by Giemsa.*—A drop of serum was spread on a slide as thin as possible, its limits being marked by a blue pencil. After drying and fixing in absolute alcohol, it was stained face downwards with Giemsa's stain diluted 1 in 8 for at least twelve hours. This *long* method of staining is employed because we believe it is the most reliable staining method known, and therefore most suitable for comparative purposes, though it is not necessarily the most practical method on account of the time occupied.

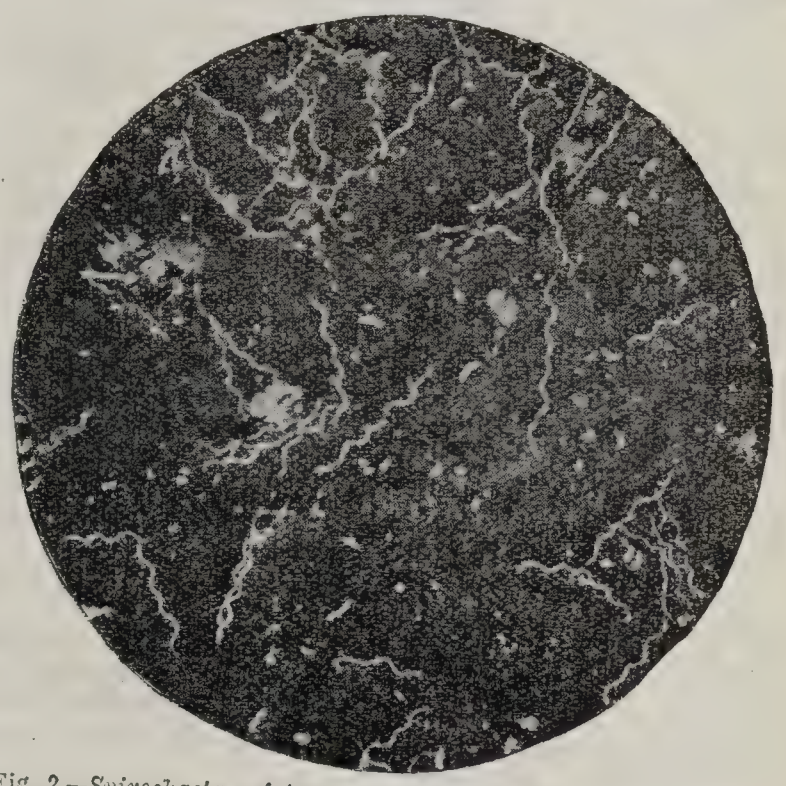

Fig. 2.—*Spirochaeta refringens*, from a case of balanitis. Indian ink method. (× 800.)

3. *Indian Ink Method of Burri.*—Burri[5] first used this method in order to isolate from a number of bacteria a single individual for purposes of cultivation, and he mentioned the possibility of the simple demonstration of the *Spirochaeta pallida*. At the suggestion of Hellers[6] in his paper read at the Vienna Congress of Microbiologists in 1909, Hecht and Wilenko[7] undertook to try its usefulness in the demonstration of this organism. In all the cases examined they were able to demonstrate the *Spirochaeta pallida* very quickly and in the simplest manner. The principle of the method depends on the fact that the particles of ink are smaller than the spirochaetes. Hence, when fluid containing spirochaetes is mixed with Indian ink spread on a slide in a thin layer and allowed to dry, the spirochaete remains as a transparent space on a dark background.

Technique.

Commercial Indian ink—Gunther and Wagner's Pelican brand—was used, a drop of serum being mixed with at least *twice* the volume of Indian ink at one end of the slide, and quickly spread with another slide held at an angle after the manner of making blood films.

As regards the dilution, it was found by a series of experiments that when *equal* parts of serum and ink were mixed together, the films, no matter how evenly spread, were so granular that it was almost impossible to see the

spirochaetes. Portions of any film will be too thick and the spirochaetes are completely immersed in Indian ink, so that it cannot be seen.

We will first consider the value of the three microscopical methods in the diagnosis of syphilis taken collectively, without distinguishing which of the three is the best. The 50 cases examined have been divided into four clinical groups, and the results of each group given separately; some patients appear in both groups.

Group 1. *Suspected Primary Sores, Exposed and Uncomplicated.*—Twenty-eight cases were examined. Of these, 4 were clinically and microscopically negative, and 3 clinically doubtful and microscopically negative. The statistics therefore are based upon 21 cases.

Group 2. Primary sores with oedema of the prepuce and phimosis (15 cases).

Group 3. Mucous patches (6 cases) and moist papules (3 cases).

Group 4. Secondary papular eruptions on skin (7 cases).

The clinical diagnosis was confirmed in each instance by Dr. Bernard, Surgeon of the Lock Hospital, Liverpool Royal Infirmary.

Presence of Spirochaetes in Lesions of Primary and Secondary Syphilis.

	Primary Lesions.		Secondary Lesions.	
	Group 1. Primary Sores Uncomplicated.	Group 2. Primary Sores with Phimosis.	Group 3. Mucous Patches of Condylomata.	Group 4. Secondary Papules.
Cases Examined ...	21	15	9	7
Microscope negative...	1=5%	3=20%	0	4=57%
Microscope positive ...	20=95%	12=80%	9=100%	3=43%

Comments.

1. The lower percentage of positive cases in primary sores with phimosis is instructive. In these the fluid examined was not serum, but semipurulent discharge collected by placing the capillary tube as near the sore as possible. The presence of bacteria, and especially of other spirochaetes, sometimes in enormous numbers, may have masked the *Spirochaeta pallida*.

2. In 5 cases, or 25 per cent., the diagnosis was in doubt till the spirochaetes were discovered.

3. Our results of examining primary lesions (32 positive out of 36) are similar to those of Kraus and Prantschoff, who were successful on thirty-two out of thirty-seven occasions. Arning and Klein, however, only had 4 failures in 112 cases.[8]

4. No observers have invariably found spirochaetes in primary sores, and their occurrence must partly depend upon the presence or absence of treatment, or whether the lesion is healing, as obtained in one of our cases which was negative after prolonged examination. But still, in our experience and that of others, there are cases of undoubted primary sores, recent, untreated, and showing no tendency to heal, in which spirochaetes cannot be found after repeated examination. The explanation may be that the spirochaete exists in another form.

5. It is noteworthy that all the condylomata and mucous patches examined yielded positive results: this one would expect, on account of their extreme infectivity. In the six mucous patches on the lips great care was taken to exclude the possibility of contamination of the serum with saliva.

Comparison of the Relative Value of the Three Microscopical Methods.

Time occupied in making diagnosis.

This question may be considered from the point of view of the time expended:

(*a*) In preparing the film. This is about equal with the Burri and dark ground, provided the latter apparatus is ready for use, and much less than with even the most accelerated of the staining methods; and rapid staining is not, as a rule, very satisfactory.

(*b*) In examining the film.

Duration of Actual Microscopical Examination before the First Spirochaete detected.

No.	Initials.	Group and Number.	Dark Ground.	Giemsa.	Burri.
1	C. J.	Group 3; No. 5	At once	At once	At once
2	M. J.	Group 3; No. 2	At once	10 minutes	At once
3	R. C.	Group 1; No. 20	At once	3 minutes	7½ minutes
4	G. C.	Group 1; No. 22	At once	At once	½ minute
5	H. E.	Group 3; No. 6	At once	2½ minutes	¾ minute
6	L. J.	Group 1; No. 24	At once	1 minute	¼ hour
7	E. E.	Group 3; No. 3	At once	½ minute	½ minute
8	R. A.	Group 1; No. 26	At once	1 minute	At once
9	D. J.	Group 2; No. 13	At once	At once	At once
10	B. A.	Group 1; No. 27	At once	10 minutes	At once
11	B. J. E.	Group 2; No. 14	At once	16 minutes	At once
12	R. E.	Group 1; No. 28	At once	3 minutes	At once
13	J. R.	Group 2; No. 16	At once	2 minutes	½ minute

SUMMARY.—*Duration of Actual Microscopical Examination before the First Spirochaete detected; 13 Samples of Serum Examined from 13 Positive Cases.*

	Maximum.	Minimum.	Average.
Dark ground	At once	At once	At once
Giemsa	16 minutes	At once	3.8 minutes
Burri	7.5 minutes	At once	1.8 minutes

Conclusion: The superiority of the dark ground illumination is clearly shown. Burri's method is also somewhat better than Giemsa's.

The number of spirochaetes seen in an ordinary microscopical field, in dark ground, and in Giemsa films were next considered.

The serum was divided into two equal parts and treated in the usual way; fifteen microscopical fields were examined in each of the 13 cases.

Total Number of Spirochaetes in Fifteen Fields as seen by Dark Ground and Giemsa Method.

No.	Initials	Group and Number of Case.	Total Number in the Fields Examined.		Number of Fields Examined.
			Dark Ground.	Giemsa.	
1	C. J.	Group 3; No. 5	30	10	10
2	M. J.	Group 3; No. 2	18	0	15
3	R. C.	Group 1; No. 20	15	7	15
4	G. C.	Group 1; No. 22	21	1	15
5	H. E.	Group 3; No. 6	19	0	15
6	L. J.	Group 1; No. 24	19	4	15
7	E. E.	Group 3; No. 3	84	10	15
8	R. A.	Group 1; No. 26	82	1	15
9	D. J.	Group 3; No. 13	76	14	15
10	B. A.	Group 1; No. 27	19	5	15
11	B. J. E.	Group 2; No. 14	151	0	15
12	R. E.	Group 1; No. 28	79	59	15
13	J. R.	Group 2; No. 16	110	0	15

SUMMARY.—*Number of Spirochaetes seen in Fifteen Fields from each of 13 Cases Examined.*

	Maximum.	Minimum.	Average.
Dark ground	22	0	3.9
Giemsa	17	0	0.5

Conclusion: More spirochaetes can therefore be seen by the dark ground illumination. It is obvious that a method which shows on the average a larger number of spirochaetes in a field is, other things being equal, more likely to yield positive results when the spirochaetes are scanty. This is probably due entirely to the fact that the drop as examined by the dark ground is concentrated and not spread out in a thin film, as in Giemsa.

We next tested which of the three methods yielded the largest number of positive results from the same samples of serum, as shown in the following tables:

Comparison of Positive Results in 22 Samples of Serum Examined by Three Methods.

No.	Initials.	Group and Number of Cases.	Dark Ground.	Giemsa.	Burri.
1	B. T.	Group 1; No. 18	+	−	−
2	R. C.	Group 1; No. 20	+	+	+
3	W. T.	Group 1; No. 21	+	−	−
4	C. C.	Group 1; No. 22	+	+	+
5	L. J.	Group 1; No. 24	+	+	+
6	R. A.	Group 1; No. 26	+	+	+
7	R. A.	Group 1; No. 27	+	+	+
8	R. E.	Group 1; No. 28	+	+	+
9	S.	Group 1; No. 29	+	+	+
10	B. W.	Group 2; No. 7	+	+	+
11	C. T.	Group 2; No. 8	+	+	+
12	V. W.	Group 2; No. 10	+	−	+
13	D. J.	Group 2; No. 13	+	+	+
14	B. J. E.	Group 2; No. 14	+	+	+
15	B. J. (*b*)	Group 2; No. 15	+	+	+
16	J. R.	Group 2; No. 16	+	+	+
17	W. J.	Group 3; No. 4	+	−	+
18	C. J.	Group 3; No. 5	+	+	+
19	H. E.	Group 3; No. 6	+	+	+
20	S. L.	Group 4; No. 1	+	+	+
21	M. J.	Group 4; No. 2	+	+	+
22	E. E.	Group 4; No. 3	+	+	+
		Positive results...	22	18	20

omparison of Positive Results in 9 Samples of Serum Examined by Two Methods.

No.	Initials.	Group and Number of Case.	Dark Ground.	Giemsa.
1	B. R. (*b*)	Group 1; No. 10	+	−
2	B. J. (*a*)	Group 1; No. 13	+	+
3	C. W.	Group 1; No. 17	+	+
4	P.	Group 1; No. 25	+	−
5	D. W.	Group 3; No. 2	+	+
6	Mc. D. G.	Group 2; No. 5	+	−
7	J. L.	Group 3; No. 1	+	+
8	C. E.	Group 4; No. 2	+	−
9	B. R. (*b*)	Group 4; No. 5	+	+
		Positive results...	9	5

UMMARY.—*Comparison of Positive Results of 31 Different Samples of Serum Examined by Two or Three Methods.*

	Dark Ground.	Giemsa.	Burri.
ases	9	5	Not examined.
ases	22	18	20
Total	31=100%	23=90%	20=74%

General Considerations.

In practice it is certainly easier to distinguish the different kinds of spirochaetes by the dark ground than by any other method, for being in a fluid and unfixed there is no distortion, and the characteristic movements are usually present. There are also fewer pitfalls in the preparation of the films than in the ordinary staining method.

Gland Punctures.

A number of gland punctures were made in order to test the statements of Preis,[9] who claimed to have demonstrated *Spirochaeta pallida* in nearly 100 per cent. of cases of syphilis in the secondary latent stage, and who never failed to find it during the period between the typical hardening of the gland and the first eruption.

Technique.

The skin was shaved and cleaned with lysol and two or three drops of serum drawn out with a 5 c.cm. syringe, the gland being massaged the while. Occasionally it was found impossible to be certain, without microscopical examination, whether small glands had been punctured.

No.	Initials.	Group and Number.	Whether + or − Clinically and Microscopically.	Number of Times Gland Punctured and Results.	Remarks.
1	B. R. (*b*)	Group 1, No. 10	C.+ M.+	One −	Gland punctured again 5 weeks later, but −, no lymphocytes present.
2	B. J. (*a*)	Group 1, No. 13	C.+ M.+	One −	Treatment for some time.
3	Mc. D. G.	Group 2, No. 5	C.+ M.+	Four, all −	Treatment from beginning.
4	B. W.	Group 2, No. 7	C.+ M.+	One +	No treatment.
5	C. T.	Group 2, No. 8	C.+ M.+	Three, all −	Second puncture no lymphocytes. Third puncture glands became small and hard.
6	C. W.	Group 1, No. 16	C. D. M.+	Two: first −, second +	Second puncture two days after first. Treatment none before first.
7	R. T.	Group 1, No. 18	C. D. M.+	One −	Glands had been enlarged for 3 months and painful and painted with iodine.
8	G. G.	Group 4, No. 7	C.+ M.+	Three, all −	History of 6½ months glands old, hard, and sclerosed.
9	R. C.	Group 1, No. 20	C. D. M.+	One −	
10	R.	Special case	C.+	One −	Primary sore 3 months ago, followed by rash treatment for 3 weeks.
11	L. J.	Group 1, No. 24	C.+ M.+	One +	Primary sore for 6 months; glands size of filbert nut.
12	R. E.	Special case	C.+	Two, both −	Glands only slightly enlarged and hard.
13	R.	Special case		One +	Particulars not elicited, except that no treatment.
14	R. A.	Group 1, No. 26	C.+ M.+	One −	Glands half size of a walnut.
15	D. J.	Group 2, No. 13	C.+ M.+	One +	Glands size of walnut; treatment none.
16	B. J. E.	Group 2, No. 14	C.+ M.+	One +	Glands size of small almonds; treatment none.
17	R. E.	Group 1, No. 28	C.+ M.+	One −	Glands size of peas, hard; treatment mercury.
18	S.	Group 1, No. 29	C.+ M.+	One −	
19	B. J.b	Group 2, No. 15	C.+ M.+	One +	The gland punctured was the size of a large marble, and quite round; treatment none, only local.

The fact that gland puncture had been successfully performed was demonstrated by the presence of lymphocytes in the material obtained, these can easily be seen with the dark ground apparatus. We give the table in full (p. 1285), noting also points of special importance —namely, whether the gland was clinically large or diminishing and whether there had been treatment.

The dark ground method was employed because we were convinced of its superiority to all other methods.

Comment.

All the cases were punctured once, except one which was negative four times, two which were negative three times, one which was negative twice, and one which was negative on the first and positive on the second puncture. In no instance in which gland puncture was positive was the examination of the primary focus negative, though Preis states this may occur.

Our results were 7 out of 19, or 37 per cent. These are are not nearly so good as those of Preiss, although perhaps the glands were not all examined within the periods laid down by him, but it is interesting to note that his films were prepared by staining and using Giemsa and heating the slide until the steam rose.

The fact that we employed the dark ground illumination, a far more accurate method, and obtained much fewer positive results, although we were certain that the gland was punctured by the presence of lymphocytes, is most significant.

General Summary of Conclusions.

1. Microscopical examination is a great aid in the diagnosis of primary and secondary syphilis, but is not infallible.

2. Failure to find spirochaetes is more frequent when the sore cannot be reached owing to phimosis.

3. Spirochaetes are more constantly present in condylomata and mucous patches, and far less constantly present in papular secondary skin eruptions than in primary sores.

4. Gland puncture is not of much diagnostic value; typical enlarged indurated syphilitic glands gave negative results in more than half the cases in which spirochaetes were easily demonstrated in the primary sore.

5. Dark ground illumination is undoubtedly the best method of examination; it is the simplest and least open to pitfalls; it is the quickest not only in the preparation of the film, but also in the detection of spirochaetes after the actual microscopical examination has begun. It is the most reliable, frequently giving positive results when other methods are negative, and the different varieties of spirochaetes can be more easily distinguished.

6. The Indian ink method properly performed appears to be more reliable than Giemsa's, though enough observations have not been made to ascertain if this is always so.

7. The collection of serum from the syphilitic lesions by the application of spirit is free from certain objections which occur in other methods.

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THE Board of Trade has made a grant of a registration of standardization mark to the Worshipful Company of Plumbers. The charter of James I authorized the company "to mark, note, or impress with the image, impression, or sign of St. Michael the Archangel." The new mark shows St. Michael armed cap-a-pie and bearing the white cross on a red field killing a dragon. A space above the figure is provided to receive the number of the registered plumber and an alphabetical letter signifying entry in the register kept by the company under the regulations of the Board.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF FOREIGN BODY IN THE PAROTID DUCT.

A MAN, about 40 years of age, got a grain of raw barley with the beard intact into his left parotid duct in August, 1910. He consulted a medical man, who did not succeed in removing it. He suffered a good deal of pain in the region, a large abscess gradually forming which involved the parotid gland and extended down into the cellular tissue at the side of the neck. In January, 1911, he consulted me regarding his condition; at that time he had pain and difficulty in the movements of the jaw. On examination of the interior of the mouth pus could be seen oozing from the aperture of the duct when pressure was made over the external swelling. I passed a probe along the duct which I then incised, and removed the grain with the beard still intact. The grain was in a shrivelled condition, but still bore traces of chlorophyll. The grain and beard together measured 1⅜ in. The pus from the parotid abscess and the abscess in the neck was allowed to escape by skin incisions. The patient got rapidly well and had no further trouble.

W. A. MILLER, M.B., Ch.B.

Edinburgh.

HYPOSPADIAS OF THE THIRD DEGREE.

THE patient in the following case was brought to me for examination on May 20th, 1911. He was a Brahmin, aged 12, but was dressed as a girl; his general appearance was graceful and delicate, and the tone of the voice feminine. The patient was brought to me with a view to the performance of an operation suggested by a lady apothecary who had examined the child about a month previously. At that time the patient had an attack of pain in the right groin and in the right half of the scrotum.

State on Examination.—There was an imperforate and stunted penis three-quarters of an inch long, with a groove on its under surface where the urethra should have been. The two halves of the scrotum were ununited, and in the middle line had between them a shallow groove suggestive of the opening of a vagina, and presenting in its posterior aspect an oblique aperture running backwards and downwards. Through this urine flowed, and a probe, when curved in a particular manner, passed into the bladder. Excepting the scrotal groove which has been mentioned there was nothing to suggest the existence of a vagina, and on rectal examination nothing resembling a uterus or ovaries could be felt. The inguinal canals, on the other hand, were those of a male, and the spermatic cords were normal. As for the testicles, there was one on each side in the scrotal sacs. Their size was about one-eighth of a normal testicle. There was a distinct testicular feeling in each testicle when pressed between two fingers. In the right groin there was a tumour a little larger than a tamarind seed. It was slightly tender at the time of examination, but this tenderness was quite different to that felt when the testicles were pressed between the fingers.

Diagnosis.—The case was diagnosed as one of hypospadias of the third degree, and the tumour in the right groin regarded as probably an enlarged lymphatic gland.

Treatment.—The patient's friends were informed that no operative treatment was necessary in respect of the small tumour, nor considered likely to improve the other conditions, that the child was a boy, and not a girl, and that they should take steps to redeclare the sex, and educate and dress the child in future as a boy.

Remarks.—A female relation who accompanied the child informed me that at the time of its birth they noticed what appeared to be testicles in the scrotal sacs, but that from the manner in which the child passed urine they considered it to be a girl. They therefore brought it up as a girl, educating and dressing it as one, and having it married at the age of 11 in accordance with the custom of the country.

A. LAKSHMI-PATHI.

Chintadripet, Madras.

Reports of Societies.

THE ROYAL SOCIETY.

Thursday, November 2nd, 1911.

Sir Archibald Geikie, K.C.B., President, in the Chair.

Colour Blindness.

The third part of a paper on colour blindness and the trichromatic theory of colour vision, by Sir W. de W. Abney, K.C.B., F.R.S., dealt with incomplete colour blindness. It was stated that if an equation were formed by rays in known position in the spectrum to match a white, by normal vision and by the colour blind, the two could be compared together without special reference to the luminosity of the matched white. The luminosities of all the rays were known in the one case, and only two in the second, and from the two matches the unknown deficiency of colour sensation could be calculated. Owing to the fact that large quantities of their white could be mixed with the colours without being detected by those incompletely colour blind who had a small factor for one of their sensations, a very false interpretation of their colour blindness might be arrived at by the method. If, however, the luminosity of the composite white and the matched white were carefully equalized, a full determination of the colour deficiency could be arrived at by treating the equation somewhat in the manner described in the second part of the paper, when a true result was obtained. The latter part of the paper dealt with colour equations made from the rotation of discs, and it was concluded that reliable results could be obtained from their use, so long as the sensations stimulated by the pigments in the light in which they were viewed were known in amount. The method of ascertaining the sensation composition of the pigments, and of the light used for their illumination, was described. When once these were known no further appeal to the spectrum was required. The author recommended the use of a white light passing through a yellow substance, such as chromate of potash solution, as a viewing light, in which only the red and green pigments were required in the inner disc, the blue not being wanted. The "grey" match became thus much brighter, and was easier to read.

Effect of a Bacterial Emulsion on the Opsonic Index.

Mr. A. F. Hayden, M.B., and W. P. Morgan, M.A., contributed a note on an inquiry into the influence of the constituents of a bacterial emulsion on the opsonic index. The experiments, so far as they had gone, showed that in the technique of the estimation of the tubercle opsonic index the quantity and character of the contents of the bacterial emulsion must be taken into account, and that the chief factor influencing the estimation was the finely-ground bacterial detritus resulting from the process of triturating the dried culture of the bacillus. A simple pestle and mortar, designed to lessen the labour of triturating the dried culture, was described.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, November 1st, 1911.

Dr. Byrom Bramwell, President, in the Chair.

Valedictory Address.

Dr. Byrom Bramwell delivered a short valedictory address as President, noting that in addition to Dr. Hughlings Jackson and Dr. F. W. Pavy, who were respectively honorary and corresponding members, the Society had lost fourteen ordinary members in the past year. He then inducted into the chair his successor, Mr. J. M. Caterill.

Cases and Specimens.

The following were among the cases shown:—Sir Thomas Fraser: A case of *Syringomyelia* in a man aged 22. There was spastic paralysis of the lower limbs, especially on the left; and over fairly symmetrical areas of skin defective or absent sensibility to heat and pain, while tactile, light, and localizing sensibilities were unimpaired. There was also excessive unilateral sweating on the right side of the scalp, face, and neck. This hyperidrosis had existed for many years and was readily induced by mental excitement. Pilocarpine caused sweating in those parts many minutes before it appeared elsewhere on the body. Mr. Alexis Thomson: (1) A case of *Chronic tropical dysentery*. The condition had lasted over two years, with severe loss of weight, when appendicostomy was performed. This was followed by improvement, but six months later short-circuiting of the large bowel was effected by an ileo-sigmoidostomy, with marked improvement. (2) A case of severe ulcerative colitis of four years' duration, in which *Appendicostomy* had been performed twenty-two months ago. Since then, irrigation of the colon through the appendix had been performed, with great benefit, but still required to be continued. Dr. Byrom Bramwell and Mr. A. Thomson showed a case of *Tabes dorsalis* in a patient who had a typical hard chancre when aged 23. Ten months later recurrent attacks of vomiting and gastric pain began. Later, optic atrophy commenced, ending in total blindness in five years from onset. In other respects the case was a fairly complete picture of the disease, showing marked ataxia, lightning pains, the Argyll Robertson pupil, a Charcot joint in the right knee, affection of the bladder, and various analgesic areas. Mr. Thomson, in March, 1911, divided the seventh to tenth posterior nerve roots. Since this operation the gastric crises and lightning pains had disappeared. In a short discussion, in which Drs. Gibson, Kenneth Douglas, and Church took part, Dr. E. Bramwell maintained that such an operation should only be done in extremity when the patient had failed to respond to every form of medical treatment. Dr. Byrom Bramwell, in replying, drew attention to the short period (ten months) between the appearance of the hard chancre and the onset of tabetic symptoms. In his experience, the occurrence of optic atrophy had no effect upon the disease.

LIVERPOOL MEDICAL INSTITUTION.

Prognosis in Cardiac Disease.

At the inaugural meeting of the session on October 12th Dr. T. R. Bradshaw, in his presidential address, dealt with prognosis in valvular disease of the heart. The paper included an analysis of the results of a large number of cases, and tables showing the number of years the patients, after the onset of the endocarditis, had remained free from evidence of heart disease.

Frontal Sinusitis.

At the second meeting, on October 26th, Mr. Nimmo Walker showed a patient who had had an *Abscess in the left frontal lobe* of the brain following empyema of the frontal sinus. Good recovery, unaccompanied by any evidence of mental damage, had occurred. The diagnosis had been difficult, as the only signs in favour of cerebral abscess had been drowsiness, and a pulse of 50 to 60, whilst against abscess there had been rapid cerebration, temperature above normal, absence of vomiting and of optic neuritis, and presence of marked pulsation of the dura mater; the abscess contained about ½ oz. of pus. Dr. McDougall, on the question of the diagnosis of pus retained in the frontal sinus, laid stress on the tenderness to pressure when applied to the floor of the sinus, and on the pain being much more marked at night. Mr. Malcolm Stockdale said chronic suppurative disease of the frontal sinuses, although it might give rise to serious and fatal complications, was commonly overlooked unless an acute attack supervened. Dr. Warrington said that the inferences from the state of the dura mater might be misleading; pulsation was not apparent in cases in which exploration failed to reveal any cause of increase of pressure. Mr. Walker had followed the best method of treatment and diagnosis because he had not been content until each new symptom had received an adequate explanation. Mr. R. C. Dun showed a patient, aged 11, with *Cervical ribs*, demonstrated by radiography. No symptoms referable to the ribs were complained of. Dr. Frederick Wilson, in a paper on the *Wassermann test* for syphilis, expressed the opinion that salvarsan affected the test more rapidly than mercury, but that several injections might be necessary. It was not yet possible to say that a patient who, after thorough treatment, presented no symptoms other than a persistent Wassermann reaction was not cured; but the evidence was strongly in favour of such a conclusion. The test was not absolutely specific, but must rather be

regarded as an adjuvant to the clinical examination. Dr. R. W. Mackenna said that there was no doubt that salvarsan was the most potent remedy for converting a positive into a negative reaction. After a preliminary course of mercury the conversion of a positive into a negative reaction followed more certainly. Where the patient received two injections of salvarsan, separated by a vigorous course of mercury, the reaction usually became negative after three or four weeks. Dr. Frank Barendt considered that in doubtful cases the view of the clinician should prevail.

ROYAL SOCIETY OF MEDICINE.

Section of Diseases of Children.

Friday, October 27th, 1911.

Dr. Sutherland, President, in the Chair.

Night Blindness.

Mr. Sydney Stephenson, in a paper on cases of night blindness with peculiar conjunctival changes in children, said such cases were not uncommon during the summer months in institutional children. The white frothy patches noted on the ocular conjunctiva were not, however, always associated with night blindness. They were sometimes combined with slight changes in the field of vision, diminution of the light minimum, the fundus changes, and lowering of the colour index of the blood. The immediate cause of both affections was probably the dazzling by sunlight, and their remote cause some slight defect of nutrition such as was evidenced by the changes found in the blood.

Cases and Specimens.

The following were among the exhibits:—Dr. Porter Parkinson: A case resembling *General paralysis of the insane* in a girl 9 years of age. The evidence of syphilis was in the maternal history, and the remains of an iritis from which she suffered three months previously. It was considered impossible to state definitely whether the case was one of general paralysis of the insane or one of diffuse cerebral syphilis. Dr. O. L. Addison: Two brothers, aged 9 and 6 years, with *Genu valgum and hyperextension of the knees;* both cases exhibited the voluntary production of a noise during flexion and extension of the knee-joints. The President: *Infantilism* in a girl 16 years of age, who had the intelligence of a child of 6, at which age growth ceased, rickets appeared, and constipation became very marked. The abdomen was very distended, and at times peristaltic waves were visible over the colon; the bowels never acted without aperients or enemata. Dr. Langmead: A case of *Sclerodermia with myositis fibrosa*, previously shown twelve months ago. Mr. Maynard Heath: A case of *Gigantism of the forepart of the foot*, in a girl 6 years of age. The deformity was noticed at birth, and at the age of 3 months an enlarged toe was amputated; since then the forepart of the foot had grown more than the rest of the body, and between the first and third toes was a very pronounced swelling. Mr. Payan Dawnay: A case of double third nerve palsy due to *Acute poliomyelitis*. Dr. T. R. Whipham: A case of recurrent unilateral *Oedema* in a boy 14 years of age. Dr. J. D. Rolleston: A specimen of *Diphtheria* of the fauces and the lower end of the oesophagus. Dr. Salusbury Trevor: A specimen of *Aneurysm* of the right coronary artery, situated in the wall of the right ventricle, and opening into the cavity of the ventricle, associated with non-valvular infective endocarditis.

Section of Anaesthetics.

Anaesthesia Difficulties.

At a meeting on November 3rd, Dr. McCardie, President, in the chair, Dr. Silk reported a case of acute *Post-anaesthetic bronchitis*—and pleurisy (?)—in a man aged 34, to whom he had administered about 15 oz. of ether by the open method during an operation for radical cure of double inguinal hernia lasting an hour and three-quarters. No preliminary injection of atropine or other drug was given. The patient ultimately recovered, the true condition being probably one of pulmonary collapse. The case supported the view that the open method might give rise to troubles practically identical with those arising with the closed methods. In the subsequent discussion the frequency of trouble after operations for hernia and abdominal cases was noted, and the prior use of atropine advocated. Mr. Collum reported a case of *Persistent vomiting* in a girl during the induction of anaesthesia for the extraction of teeth. On the first occasion the patient had had breakfast, and gas and oxygen and subsequently gas alone were tried. The next day the patient had no breakfast. Gas alone and two subsequent doses of ethyl chloride were tried. On the third day ethyl chloride was employed and the last of the teeth extracted. On every occasion and with each drug vomiting occurred. In the subsequent discussion, increasing the pressure of the gas in the bag, previous gargling with dilute carbolic acid, or a small dose of cocaine by the mouth, were all suggested as means of preventing retching. Mr. Bellamy Gardner read a paper insisting on the routine use in every administration of an anaesthetic of establishing an oral airway by means of a mouth-prop and tongue-clip. He dwelt on the insufficiency of nasal breathing in cases of anaesthesia, and suggested that the words "asphyxial death space" be employed in teaching students in order to impress them with the necessity of maintaining a free airway in an unconscious patient.

Deaths during Administration.

The following cases, in which death occurred during administration of anaesthetics, were reported:

(*a*) Fat, flabby, very nervous woman, aged 50; died from respiratory failure during the induction for a proposed abdominal operation for uterine fibroids. Total quantity of anaesthetic used—about 1 drachm of ether during the first few minutes and 30 minims of chloroform. Cessation of respiration occurred about seven and a half minutes after the commencement of administration, and no spontaneous respiration occurred in spite of all usual remedies and artificial respiration for three hours. During life the patient complained of dyspnoea and palpitation on exertion. *Post mortem:* Abdomen distended with uterine fibroids, omentum, and an enlarged and fatty liver. Heart infiltrated with fat; lungs emphysematous and markedly fibrosed. At no time during the administration or at death was there any pallor, dilatation of pupils, rigidity, or spasm, or accumulation of mucus in the airway.

(*b*) Pale, thin, markedly anaemic woman, aged 49; died from heart failure during induction for a proposed abdominal operation for uterine fibroids. Total quantity of anaesthetic—2 drachms of chloroform and a little ether towards the end of induction. Respiration normal till five minutes after commencement of administration, when seven or eight sighing breaths were taken, and there was wide dilatation of pupils and disappearance of pulse. *Post mortem:* Old pyonephrosis of kidney, collapse of base of left lung. Heart flabby and thin, but nothing definite. No excess of lymphoid tissue.

(*c*) Well-nourished, well-developed girl, aged 15 years 6 months. Total anaesthetic—4 drachms of A.C.E. administered in a single dose in a celluloid inhaler. Operation for tonsils and adenoids successfully completed and throat sponged out. A little later patient coughed strongly, breathing ceased, colour became bad, no pulse palpable at wrist. Artificial respiration started and patient made two or three spontaneous attempts at breathing. Pupils were dilated. *Post mortem:* Marked signs of status lymphaticus.

Balneological and Climatological Section.

At a meeting of this section on October 27th, Dr. George H. Thompson (Buxton), in the course of his presidential address, sketched the development of modern spas, and pointed out that the first duty of their authorities was to study the peculiar properties of their waters, and their applicability in the treatment of particular diseases; and subsequently to provide various accessory methods of treatment which were often essential to success. The recent discovery of radium had opened up a new field of research in connexion with the physiological action of mineral waters, and the investigations of Professor His gave promise of a real scientific basis being established to explain their activity. Spa authorities in the future would be compelled to provide equipment for treatment by radium emanations, and should be prepared to meet the competition of commercial institutes. On the conclusion of the President's address, Dr. Monod of Vichy explained to the section the purport of his mission to this country. He had been sent by the French Government to study the health resorts of Great Britain and to report thereon. A paper by Dr. Neville Wood on British Health Resorts for Foreign Invalids, read before the section last session, was in large measure responsible for the action of his Government. He had been much impressed by the completeness of the therapeutic equip-

ment of such spas as he had at present visited, and he thought that many of his countrymen, for whom an entire change of surroundings would prove of the greatest advantage, would find in England resources not available at home. In conclusion, he pleaded that the whole question of spa treatment should be placed on an international basis. After the meeting the annual dinner of the section was held at the Imperial Restaurant, the PRESIDENT, Dr. G. H. Thompson, being in the chair.

HUNTERIAN SOCIETY.

Neglected Remedies.

AT a meeting on October 25th, Dr. R. HINGSTON FOX, in a presidential address, spoke of present-day reliance on ready-made medicines, and pointed out that the old plan of selecting and combining the appropriate remedies for each patient was becoming less and less a rule. Some well-tried and useful remedies were in danger of being forgotten. Amongst them were emulsions, once commonly employed in catarrhal conditions, in which almond or tragacanth furnished a soothing and healing menstruum for the drugs. In diarrhoea, again, the warm and stimulating antiseptic properties of the aromatic chalk powder now seldom found a place, whilst sulphuric acid, so useful in severe forms of intestinal flux, was seldom supplied. Gentian, calumba, and quassia were still used freely, but camomile, a warm stimulant of much value, had fallen out of use. Aromatic bitters, like cascarilla and cusparia, had also lost favour, though helpful as cordial tonics in bowel conditions. The antispasmodic, an old-fashioned term, connoted a class of aromatics with a peculiar and unpleasant taste. Of these valerian was still much used, and musk was still called for when a patient was dying of pneumonia; but asafoetida, galbanum, sumbul, and cajuput were very seldom prescribed; the bromides had ousted them. Yet the reflex effect of a good dose of asafoetida in a case of hysteria with muscular spasm had often been signal.

Venesection.

Dr. FORTESCUE FOX, in a paper on the use of venesection, said that his experience, based upon 18 cases, dated from 1884, in the wards of Sir Andrew Clark. On no occasion had he regretted its use or observed any ill result. The morbid conditions in which blood-letting was indicated might be grouped as follows:

(A) *Acute Cases:* (1) Certain violent pyrexial diseases, with dangerous nervous or circulatory excitement. The pain of very acute pleurisy, as of gall stones, was often relieved by a small venesection, as well as the violent reaction in pneumonia. The researches of Schröeder and others suggested that the good effects resulted from an augmentation of immunity and resistance to specific invasion. The favourable course of some cases of phthisis in which small haemorrhages occurred at an early stage might be explained in this way. (2) Toxaemias (uraemic, etc.) with sudden dyspnoea, coma or convulsions. (3) Dangerous circulatory embarrassment with threatening asphyxia and cyanosis, in heart disease, thoracic aneurysm, bronchitis, carbonic acid poisoning, etc. The opening of a vein appeared in some reflex manner to relax the arteries and lower arterial pressure. (4) Cerebral haemorrhage, actual or threatened. An apoplectic seizure in a case of chronic arterial hyperpiesis should always be treated by venesection. Cases illustrating all the above emergencies, in which venesection had brought temporary or permanent benefit, were related. Experience often led him to regret that it was not earlier resorted to. (B) *Chronic disorders* with habitual high arterial tension. Periodical venesection was often an effectual preventive of dangerous hypertension. The same operation might be witnessed in the epistaxis of nephritis, and in the haemorrhage that took place in cirrhosis. A marked improvement in general health often followed an accidental loss of blood, analogous to that occurring when the menses were re-established in amenorrhoea. An occasional small venesection would sometimes be helpful in the chronic ailments of young subjects. It was still more applicable in the condition of increased blood pressure that occurred at or after the climacteric epoch in women and sometimes in men. The headache, vertigo, depression, restlessness, flushing, palpitation, and sense of fullness were often wonderfully relieved by either a single venesection or by a series, once or twice annually for several years.

After relating cases illustrating the several conditions referred to, Dr. Fox claimed that there was now ample evidence as to the advantage of this treatment, both in acute and chronic conditions. No mere mechanical relief to the heart could explain the observed effects. In specific diseases, both acute and chronic, it probably acted in part by heightening the natural resistance of the tissues. It also helped to restore the balance of the circulation and the normal distribution of the blood by a dilator effect on the arterial system. Its tranquillizing effect, both upon the circulation and the nerve centres, was seen in the crises and pain of dyspnoea in aneurysm. The fact that excessive blood pressures had been more or less permanently reduced by small venesections suggested that the effect was produced through the vasomotor centre, which in certain morbid states appeared to be peculiarly sensitive to a reduction in the amount of the circulating blood.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on October 26th at the Edgar Allen Medico-Mechanical Institute, Dr. ERNEST KNIGHT (President) in the chair, a demonstration of the methods of mechanical treatment was given by Dr. R. G. ABERCROMBIE, the medical superintendent. The cases shown included instances of (1) *Osteo-arthritis*, in reference to which it was stated that the object was to increase the mobility of the joints, improve the muscular strength, and correct deformities. The range of movement which can be performed without pain is ascertained, and this is gradually increased day by day. The results were improved if the treatment is combined with ionic medication. (2) *Rigidity of fingers* after lacerated wound, involving the tendons. Attention was drawn to the use of Martin's bandage in such cases. The bandage is applied round the wrist and over the fingers so as to flex them forcibly. Passive congestion is caused in the parts not pressed on by the bandage. (3) A case of severe *Neurasthenia* in a man aged 52. This patient had derived great benefit from regular and properly ordinated exercise. Special attention was paid to improving the respiratory powers, and remedying constipation by strengthening the abdominal muscles. Vibrations were useful in alleviating the distressing cranial subjective symptoms. Three cases of *Injury to the back*. One was a partial fracture of the spine, another of traumatic lordosis, and the third a case of "ricked back" with severe symptoms but no physical signs. All the cases showed great improvement after treatment, which consisted of mechanical and gymnastic treatment and massage. Attention was drawn to the treatment of hyperaesthesia by light stroking in the direction of the venous flow. Some cases of injury to the back with severe symptoms but no physical signs had proved intractable to mechanical treatment.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

AT a joint meeting of this society and the Nottingham Division of the British Medical Association on October 25th, Dr. ALDREN TURNER, of King's College Hospital, delivered an address dealing with recent views on *Neurasthenia, hysteria, and allied neuroses*. In the course of his remarks he considered Freud's views on the etiology of hysteria, the obsessions, and morbid fears, and their treatment by "psycho-analysis." Many methods, he said, were now in the hands of physicians for the cure of hysteria and allied affections. Hypnotic suggestion was, no doubt, of value in a certain type of case, such as drug habits and sexual perversions. Therapeutic conversation, as practised by Dubois, was also useful in mild or early cases of psycho-neuroses, and Freud's organized system of psycho-analysis would, no doubt, in the future prove of value in certain types of case. But as the method was slow and often wearisome, inapplicable to patients below a certain level of intelligence, and liable to place sexual matters in the causation of functional nervous disease upon a pinnacle which further investigation might not entirely endorse, it was unlikely to be as commonly used as its advocates anticipated.

MR. T. J. JEHU, M.A., M.D., Lecturer in Geology St. Andrews University, delivered on November 4th the first of the Swiney lectures on geology: they are delivered in connexion with the British Museum (Natural History) in the lecture theatre of the Victoria and Albert Museum, South Kensington, on Mondays and Tuesdays at 5 p.m. and Saturdays at 3 p.m. during November.

Reviews.

TUBERCULOUS DISEASE.

AN exhaustive inquiry, undertaken at the instance of the authorities of the Grand Duchy of Baden by Dr. K. DÖRNER, and published in the twentieth volume of Brauer's *Beiträge zur Klinik der Tuberculose*, has recently been issued in separate form,[1] and deserves more than passing attention. The district of Liedolsheim in Baden, twenty miles from Karlsruhe, would appear to be particularly oppressed by tuberculous disease, and as its population has not varied to any great extent during the last two decades, and the round of life of its inhabitants is but little disturbed by outside influences, the conditions under which the tuberculosis flourishes can be studied more closely than in the more changeable communities in larger towns. Taking certain streets where the disease had been known to occur, Dr. Dörner followed out with the greatest care and precision the family history, as far as it was ascertainable, of every family in these affected streets, and one half of the volume is taken up by a statistical and tabular account of the results so obtained, details of every family being given. In the earlier chapters he explains and discusses the results arrived at, and although some of them are well known to every one, there are other points on which public opinion is not so well informed as it might be. The influence of heredity has been studied over and over again, and the general averages do not differ greatly from one another. Dr. Dörner, however, is by no means inclined to accept heredity as the real explanation of prevalence in families, and his cases go to prove that infection is a much more likely explanation. The extreme frequency of infant mortality in cases of maternal tuberculosis suggests that the close association of mother and baby must be the true explanation, since there is no such marked mortality where the father alone is tuberculous. The death-rate amongst members of families who do not leave the infected home is much higher than amongst those who leave it early in life, although cases no doubt occur where the tuberculous tendency is so strong that it asserts itself under all conditions. Another interesting point may be noted which has a direct bearing upon prognosis in the relative duration of the illness up to twenty-five years. The figures obtained in the district examined go to prove that of the children of a tuberculous father only about 50 per cent. ever reach their twenty-fifth year, while only 33 per cent. of the children of the tuberculous mother have survived for so long. Of the influence of overcrowding, insanitary housing, improper food, etc., the evidence is overwhelming, and it is made clear that the only remedy is the removal of large industrial works employing many hands into country places where sufficient land can be had to enable the workers to live a healthy life. The unsuitability of dietaries which are so seldom adapted to the work that has to be done, the tendency to send the best of the milk and other produce to the large towns instead of using it in the country, the absurd quantities of light beer that are consumed (in Germany), and the widespread neglect of the teeth, are each in turn subjected to close analysis founded on ascertained facts. Dr. Dörner is by no means enthusiastic as to the results of the tuberculosis crusade thus far. He regards family and communal overcrowding as the true cause of the persistence of the disease, and he evidently has but little faith in any schemes for improvement which do not involve the breaking up of the crowded areas, and the substitution for them of adequate accommodation in the country.

In times like the present, when a new remedy is boomed before it is properly understood and its efficiency acclaimed before it is proved, it is satisfactory to meet with a book which on such an extensive subject as tuberculosis utters a note of warning against over-credulity as regards new methods of treatment and over-confidence in many which are on their trial. In Dr. PETTIDI's recently issued book, *Réflexions sur la tuberculose*,[2] we have a shrewd and practical survey laid before us of many of the tuberculous problems we are called upon to encounter daily. He fully approves that, within proper limitations, every new drug or curative process should be tried, but he protests against being carried away by enthusiasm of the latest mode of cure simply because it is "in the air" and has become the fashion of the day. The wisdom of Dr. Pettidi's reflections is eloquently commented upon in a preface to his volume supplied by Dr. Faisans, and after careful perusal of Dr. Pettidi's volume we are able to express the belief that the steadying influence of common sense and experienced views such as are expressed in his pages is much required to counteract the tendency to a blind obedience to theory and to theoretic therapeutics if only they are backed by loudly-proclaimed, and of course favourable, opinions, and supported by authority, often more apparent than real. In the review which Dr. Pettidi presents to us he carefully abstains from belittling what has been proved from long experience to be useful. On the contrary, the refrain of his reflections might be paraphrased thus: "Hold fast to the things you know, but accept with a bountiful reserve those that are new and extolled." Dr. Pettidi considers his subject under four headings—dietetics, sanatorium treatment, contagion, and therapeutics—and on each of these important subjects he enunciates clear and well-considered opinions. He exclaims against the system of super-alimentation which was at one time, and in some instances still is, regarded as a fundamental dietetic rule for the phthisical, though he admits that the tuberculous patient, up to the limit of his digestive capacity, should be well nourished; while he believes in the value of meat as a properly apportioned part of the daily diet, and admits that in its raw form it may have special advantages, he does not agree that the ancient dogma of an antagonism between arthritis (which raw meat encourages) and tuberculosis is by any means proved. He concedes that in France arthritis is a malady of growing frequency. This he attributes to the increasing use of horseflesh as an article of daily dietary, but he is unable to say that there is an accompanying diminution in phthisis. He does not approve of unlimited quantities of milk, and thinks cocoa prepared with bouillon or with barley water, or reasonable quantities of light beer, preferable as an addition to the ordinary meals of the day. He regards sanatoriums as necessary institutions for the segregation of tuberculous patients, but he thinks their chief value lies in their educative methods, and in the fact that they offer better opportunities for satisfactory treatment than are to be found in the wards of hospitals or in the homes of the poor. As at present constituted, however, he thinks them capable of considerable improvement. He believes that the contagiousness of consumption is closely associated with consanguineous marriages, and cites some striking histories in support of this contention. A suitable soil for the growth of the bacillus is produced by such intermarriages continued, as they so frequently are in the rural population of France, through successive generations, and this, when added to insanitary dwellings and unhygienic surroundings, gives the tubercle bacillus the requisite conditions for becoming active. The particular seat of its fertility is dependent upon the age of the patient, which in great measure determines physiological activity in this, that, or the other organ. Such an organ is in a condition of temporary though perfectly normal congestion, which connotes a consequent state of fatigue from overwork. The increased blood supply brings to it a superabundance of microbes when these are present in the circulatory stream. They mobilize, as it were, in a territory incapable of satisfactorily resisting their invasion and then eventually succeed in establishing an infective centre. The incidence of tuberculosis at from 8 to 12 years of age in the meninges; at from 10 to 18 years in the growing ends of bones; at from 17 to 22 years in the lungs; and at from 20 to 30 years in the genital organs, are mentioned as examples of the relationship between physiological activity and tuberculous selection. In dealing with the therapeutics of tuberculosis, Dr. Pettidi points out that every new remedy cures in its time and generation, and contends that there is no evidence to prove that the tentative and complex methods of treatment in favour to-day are either more effectual or more likely to be permanent than the bleedings, purgings, emetics, cauteries, and

[1] *Ein Beitrage zur Pathogenese der Tuberculose.* By Dr. K. Dörner. Würzburg: Curt Kabitzsch. 1911. (Sup. roy. 8vo, pp. 214; two lith. tables. M.7.)

[2] *Réflexions sur la tuberculose.* Préface du Dr. L. Faisans, Médecin de l'Hôtel Dieu. By Dr. E. Pettidi. Paris: A. Malloine. 1910. (Post 8vo, pp. 155. Fr.3.)

setons which found favour in bygone times. One method, he says, is not abandoned because it no longer gives good results, but because another and more novel treatment supplants it. His experience with vaccines and serums is disappointing, and though he deprecates a pessimistic attitude in regard to them, he is not very hopeful that they will prove more reliable than the numerous other systems of cure which have preceded them, and which, in compliance with the fashion of the day, they have superseded. He pleads that future generations should be taught how to combat the tuberculous fiend by hygienic and eugenic rectitude. Such education will in no wise hinder the curative activity of inoculation if, in the future, a true and reliable vaccine is discovered. In spite of opinions strongly expressed to the contrary, Dr. Pettidi does not admit that tuberculosis is "the most curable of all chronic disorders," but he is firmly convinced that it is one which may be effectually prevented. As a summation of his views he says: "La famille qui aura évité les mariages consanguins, la famille dont les membres ne feront point usage de l'alcool et du tabac, verra sans doute peu de tuberculeux parmi ses descendents, si ceux-ci se gardent encore de tous excès et surveillent leurs alliances." Dr. Pettidi has made a thoughtful and philosophic contribution to a subject the universal interest in which has made it, more than most other medical questions, a happy hunting ground for the display of inventive genius, for the exploitation of new remedies, and alas! also for the unblushing energy of charlatanism.

The title, *Talks with Sanatorium Patients*,[3] of Dr. Heathcote's small work is misleading. It does not consist, as might well be supposed, of conversations with consumptive patients after sanatorium treatment as to their experiences, but merely of the usual catalogue of good advice with which many such works have made us familiar. Most persons desirous of trying the effect of sanatorium life take the precaution to study the books on the subject beforehand, and to such persons we can commend the little book before us, but the professional reader will only discover a few controversial points to interest him apart from the familiar ground upon which most of the authorities find agreement. The extent to which infection may be conveyed by the hands is not yet determined. The writer believes in the danger, more especially in the case of women, who are more careful to cover the mouth with the hand during the act of coughing, but he, like many others before him, does not venture on the difficult subject of bread, which by universal custom passes direct from hand to mouth after contact with many hands besides those of the consumer. The experiences of sanatorium doctors have been made widely known, and they are for the most part in agreement. An account of sanatorium life, described from the patients' point of view, might add considerably to the value of the purely professional literature on the subject. It is impossible that the hard-and-fast rules and "time-tables" for consumptives can be equally advantageous for all temperaments, especially amongst the educated classes. The opinions of a level-headed patient upon this and other points might be of considerable practical value, whether in the form of "talks" or tales.

PUBLIC HEALTH.

In former years there was a much closer connexion between the subjects dealt with in Professor Glaister's *Textbook of Medical Jurisprudence, Toxicology, and Public Health* than is the case at the present time. Students of public health will thus approve of the author's resolve to issue the new edition in two volumes, of which the second[4] is devoted entirely to public health. The general arrangement is the same as in the earlier work, but opportunity has been taken to introduce full references to sanitary law in the various sections dealt with. This arrangement is to be commended in a textbook, for it will impress upon students the powers given by legal enactments much more thoroughly than if the various public health enactments were studied separately. Where the provisions of the Public Health Acts in force in England, Scotland, Ireland, and in London vary one from another a comparative account is given, so that the differences are easily realized. In one important particular, however, we failed to find the information we sought, even after a prolonged search through the very full index. We allude to the definition of a common lodging-house, which has been defined by statute in Scotland and in Ireland, but which in England depends upon the opinion of the law officers of the Crown. The section dealing with air and ventilation is a most readable exposition of a subject most difficult to attack, but which the author has treated in a masterly manner. He expresses the opinion that the ventilation of large buildings of complex design cannot be accomplished without recourse to some form of mechanical ventilation, and that in the employment of any such scheme warming of the air to be supplied must form an essential and integral part. The two methods of mechanical ventilation—by extraction and by propulsion—are discussed at some length, and the author states that from careful observations of both systems he believes efficiency to be on the side of the propulsion or plenum system, because of the reliability and steadiness of its action. The advantages and disadvantages of different forms of artificial lighting are discussed in a judicial manner, the conclusion being that the advantages of electric lighting far outweigh any possible disadvantage, and that it is vastly superior to any other form of illuminant. There is a brief reference to acetylene gas, but no mention is made of lighting by petrol, which has recently come into favour for small isolated buildings and for villages. The section dealing with diseases of occupations treats of a subject which is too frequently neglected in public health textbooks, and Professor Glaister has brought to bear the same thoroughness with respect to this question that characterizes the rest of his volume. There can be little doubt that the work will secure and maintain a prominent place in the literature on public health.

Dr. H. R. Kenwood's *Public Health Laboratory Work*,[5] a fifth edition of which is now published, is an admirable guide to the chemical and bacteriological work with which a medical officer of health requires to be familiar, and which is carried out in his laboratory or in connexion with his department. The separation of the positions and functions of medical officer of health and public analyst which has already taken place to a large extent, and which will doubtless become complete in the near future, may perhaps lead to a corresponding differentiation in future editions of this or similar works, but for the present the scope of the book remains much as in previous editions, while examination of the text shows that it has been carefully revised and brought up to date. The introductory notes with which the book opens consist of elementary directions for such laboratory operations as weighing, collecting precipitates, and determination of specific gravities, and appear superfluous and out of keeping with the character of the greater part of the book, which rightly assumes the operator to possess adequate familiarity with laboratory work; certainly anyone lacking such general practical knowledge would not obtain it from these notes, which only occupy 17 pages. The principal part of the book is divided into seven parts, the first six of which deal respectively with the examination of water, sewage and sewage effluents, soil, air, foods, and disinfectants; while the seventh, contributed by Dr. W. G. Savage, is devoted to the bacteriological examination of the same six kinds of substances. Water supply, sewage purification, and the examination of soil and air, lie very largely or principally within the sphere of the medical officer of health; and the sections of Dr. Kenwood's book dealing with these are all that could be wished. Practical directions for carrying out the necessary operations are given, and the more difficult matter of interpreting results is illuminated by the experience of the author. In the section on food adulterations and contaminations it is not possible within the limits of such a volume to deal with

[3] *Talks with Sanatorium Patients.* By G. Heathcote, Medical Officer, Crossley Sanatorium. Manchester: J. E. Cornish, Limited. 1911. (Roy. 12mo. pp. 47. 1s. 6d.)

[4] *A Textbook of Public Health.* By John Glaister, M.D., D.P.H., F.R.S.E. Second edition. Edinburgh: E. and S. Livingstone. (Med. 8vo, pp. 642, with 133 illustrations; 12s.)

[5] *Public Health Laboratory Work.* By Henry R. Kenwood, M.B., F.R.S.Edin., D.P.H., F.C.S. The part dealing with public health bacteriological work contributed by W. G. Savage, M.D.Lond., B.Sc., D.P.H. Fifth edition. London: H. K. Lewis, 136, Gower Street, W.C. 1911. (Demy 8vo, pp. 446; 4 plates and 96 illustrations. 10s.)

more than the principal classes of food materials, and the most frequently occurring contaminations. It may safely be said that a medical officer who is equipped with the knowledge here imparted will be competent to discharge his functions in regard to this matter; but in view of the ingenuity shown by adulterators, and the continual devising of new tests or improving of old ones, as well as the ever-increasing variety of prepared foods put upon the market, the public analyst who devotes his whole time to this kind of work will not find the subject treated here in a sufficiently exhaustive manner. It is no disparagement of Dr. Kenwood's work to say that this part well exemplifies the necessity of differentiating the work of the public analyst from that of the medical officer of health. Dr. Savage's part of the book consists of an excellent and concise account of the bacteriological work necessary in examining the various substances dealt with. In the final chapter, on the determination of antiseptic and germicidal power, the "drop method" of testing and the referring of results to a standard by a "carbolic acid coefficient" are approved as the best available way, but with sound warnings as to the limitations of the information which is thus obtained.

Notwithstanding the improvements of recent years, the dairying industry in this country is carried on under conditions which ought not to be permitted. Accumulations of manure are permitted right up to the doors of the cowsheds in which cows are milked, the cowsheds themselves are dirty, and little attention is paid either to the cleanliness of the cow's udder or of the milker's hands. One of the reasons for this unsatisfactory condition is tersely put by Dr. HUGH MACEWEN in his work on the *Public Milk Supply*,[6] when he says that the employees in most dairies have not received any adequate training to fit them for the work they have to perform. They are generally grossly ignorant of the most ordinary facts concerning the product which they handle, and they do not realize the danger which may accrue to the consumers of milk as a result of carelessness on their part. He suggests that the agricultural colleges might formulate some scheme for training milkmaids and dairymen, so that they might be enabled to perform their work in an intelligent manner. The subject matter of that training is very ably expounded by Dr. Macewen. He deals, first of all, with milk as an article of commerce, and suggests that it should be sold at a price fixed not only according to its quantity, but also with reference to its quality. The farmer whose cows produce a milk containing 5 per cent. of milk fat should be able to obtain a higher price than one who sells milk containing only 3 per cent. The various sources of contamination of milk and the best means of preventing such are put in a thoroughly practical manner, without any suggestions for costly or elaborate appliances. Milking machines have not come into favour among even the most advanced dairymen, principally for the reason that there has been found great difficulty in cleansing the long tubes which have to be employed. Dr. Macewen describes in some detail the Lawrence-Kennedy machine, the tubes of which are cleansed by drawing hot water through them by means of the vacuum. He agrees with other observers that milking machines, though theoretically excellent, in actual practice are disappointing. To all who are concerned in the improvement of our milk supply, Dr. Macewen's treatise should be of the utmost value.

THE NATIONAL INSURANCE BILL.

THE Charity Organization Society has published as a pamphlet a valuable criticism of the Insurance Bill by Mr. C. S. LOCH. In it he discusses in turn the views of the Royal Commission of 1870 on friendly societies in regard to State insurance of medical relief, the suggestions of the majority of the Royal Commission on the Poor Laws on medical relief and insurance, the German experience as to insurance, and national insurance in relation to the growth of pauperism, and lays, perhaps, somewhat extreme stress on the characteristic contentions of the society. The Commission of 1870 adopted the view that the Government "could undertake life business, but could not undertake sick business" because of the practical difficulties, and Mr. Loch holds that this question of practicability still remains unsolved in the proposals of the National Insurance Bill. Dealing with the suggestions of the majority of the Poor Law Commission, he infers that while the conclusion that "medical relief should be more readily accessible to all in need of it" was amply supported, there was no such evidence as would justify such a scheme as that of the Insurance Bill as necessary for the health of the nation.

The German experience of insurance is discussed as showing still further the extreme difficulty of the task and as affording, in the opinion of Mr. Loch, additional reasons for avoiding a State system of medical insurance. A full description of the three forms of the German insurance—sickness, accident, and invalidity—was given in the BRITISH MEDICAL JOURNAL of April 2nd, 1910, p. 819, but Mr. Loch quotes some interesting particulars and statistics of the German insurances. In an appendix statistics of pauperism in Germany are given, in order to bring into strong relief three points: "(1) The extraordinary growth of membership and expenditure in the insurances; (2) the large concurrent growth of pauperism and of expenditure on poor relief; and (3) the weakening effect of these measures on the character of the people." Mr. Loch shows that while the German population between 1900 and 1909 only increased 15.14 per cent., the increase in membership of the sickness insurance was 31.49 per cent., the increase in cases of sickness 37.14 per cent., in days of sickness 59.23 per cent., and the increase in expenditure 94.98 per cent. In other words, "sickness with sick pay increased at a greater ratio than membership, the length of sickness at a much greater ratio, and the cost at a much greater ratio still." This is partly accounted for by the inclusion of classes possibly more exposed to sickness changes in the period for which maternity benefit is given, extension of the period for which sick pay may be given from thirteen to twenty-six weeks, extension of benefits to wives and children, the fact that there are more women members, and the fact that many insured are joining higher classes. It is said, too, that the control of the insurance is becoming less effectual. But, after allowing for all these causes, the figures are still remarkable, and Mr. Loch says:

> It would seem to follow that the provision for sickness creates sickness, or that the German people are becoming more sickly, or that their sick people are always being more indulgently treated, or that Germans are becoming more dependent.

But surely there is another factor, which Mr. Loch has almost entirely overlooked. It cannot be doubtful that before the insurance scheme made provision for sickness a vast amount of sickness was neglected and entirely untreated. Especially is this the case with phthisis in England to-day. Men go on working when, not only in their own interest, but in the interest of the community, they ought to be off work and under treatment, and it is surely not a matter with which the insurance scheme should be reproached that it brings to the light thousands of cases which would otherwise be unknown and left to a miserable life of semi-starvation and deprivation of medical treatment. It is inevitable that, as the provision for sickness is increased, the apparent amount of sickness is increased, simply because what has hitherto been hidden is more and more exposed in all its ghastly reality. There cannot be the least doubt that this accounts, to a far greater extent than Mr. Loch seems to realize, for the fact that the days of sickness, the sickness cases, and the expenditure have increased at a greater ratio than the membership.

Mr. Loch finally gives figures to show that, concurrently with the increase of the insurance there has been some increase of pauperism in Germany, and he infers from this (to quote from his letter on the same subject in the *Times* of November 2nd) that subsidized insurance "not only fails to be preventive, but tends to cause dependence." The idea that runs through the paper is that insurance in Germany has tended to create pauperism, and that in England "it will bring in its wake an ever-increasing burden of pauperization," and that we shall have to face an added difficulty, which is "the prevention of the dependence caused by the insurance itself." As a matter of fact, what he has succeeded in showing is that the German insurance

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[6] *The Public Milk Supply.* By Hugh A. Macewen, M.B., Ch.B., D.P.H. London: Blackie and Son, Limited. (Demy 8vo, pp. 190, illustrated. 2s. 6d.)

scheme has not accomplished as much in the reduction of pauperism as was expected from it. But it must be a matter of common experience that in thousands of deserving cases the offer of sick pay and medical attendance through the insurance has prevented an otherwise inevitable recourse to the Poor Law.

With the work of the Charity Organization Society in exposing the abuses of charity, and in attempting to replace a spirit of enervating and grandmotherly *wohlwollen* by a spirit of manly self-reliance and self-providence everyone will sympathize, but Mr. Loch has hardly succeeded in proving that sickness insurance and pauperism in Germany are related to one another as cause and effect, and he would have been on far safer ground had he been content to say that the active causes of pauperism have been more potent than the preventive power of insurance.

THE LATE PROFESSOR HOWARD RICKETTS.

Recently, in an annotation on "Tabardillo," the typhus of Mexico City (October 7th, p. 851), the circumstances attending the death of Dr. Howard Taylor Ricketts, the young professor of pathology in the University of Chicago, were related, as well as the grateful compliment paid to his memory by ex-President Diaz. His colleagues, as a further tribute to his memory, have now collected in a handsome volume[7] most of his contributions to medicine and pathology, together with several papers illustrative of the researches of his collaborators, and more or less inspired by the deceased professor. His early work was in connexion with blastomycetic disease of the skin, and here he was successful in finding a new mould fungus as the causative agent of oïdiomycosis, which he says is identical with the protozoic diseases of Posadas and Wernicke, the saccharomycosis hominis of Busse and Curtis, and the blastomycetic dermatitis of Gilchrist, all of which, he asserts, are various manifestations of the same disease. The organism causing the condition is of three morphological types, namely: (1) Blastomycetoid or yeast-like; (2) oïdium-like; (3) hyphomycetoid. He adds that it is probable that oïdium-like organisms may cause other severe pathological conditions in man.

Of the Rocky Mountain spotted fever Ricketts was able to say (1) that it is transmissible from animal to man by means of the bite of the wood-tick (*Dermacentor occidentalis*); that (2) one attack establishes a high degree of immunity; (3) that the virus does not pass through the Berkefeld filter; (4) that the parasites are not necessarily confined to either erythrocytes or leucocytes, but are present in the body fluids generally, and (5) that the disease may be acquired and transmitted by the larva, nymph, and adult male and female of the tick. He failed to cultivate or even to identify with positiveness the micro-organism, although he describes tentatively a pleomorphic bacillus strikingly like the bacilli of the haemorrhagic septicaemias, which may be the causative agent of the disease. Ricketts's work on "Tabardillo," which takes up the later portion of the book, has been noticed in the annotation already mentioned. There are several papers dealing with the subject of immunity, notably one on "the immunological reactions of oïdiomycosis," as well as on the therapeutic action of various serums and other fluids. The book is well printed on excellent paper, the photomicrographic illustrations being particularly clear, and is altogether a fitting memento of not the least distinguished of the ever-lengthening medical martyrology.

NOTES ON BOOKS.

In the preface to *Queer Patients*[8] the author, who calls himself Dr. Oston, remarks that "nothing interests doctors more than patients, and the queerer the patients the more interesting the case." If that is so, then he has certainly had some extremely interesting cases to deal with in his time. The list of his queer patients is a long one, and includes a host of strange beings, such as eccentric millionaires, romantic gipsies, mysterious Russian refugees, and even a delightful orang-outang "Nice Boy," whose name appears to have been a true index to his character, was a charming patient, far more so, indeed, than many others who came under Dr. Oston's care, and whose oddities proved a sore trial to the patience of their unfortunate physician. Though the greater part of his experiences are distinctly comic, Dr. Oston, like other medical men, has come into close contact with many a tragedy in the pursuit of his professional duties. Perhaps the most gruesome of these is told in the story entitled "Two Lunatics at Home," though even here there is plenty of fun to relieve the gloom. Poor Mrs. Weekes, with her unusual theories on the "immorality of inanimate objects" is a wonderful figure; and many sane persons will feel tempted to echo her sentiments on the subject of keys, which, in her opinion, "are the worst of all, I think; they have absolutely no principles at all. They are very seldom to be found where you leave them, and if they are, they won't move. Altogether, I think keys are wicked things." Dr. Oston gives, also, some curious instances of the amazing ingratitude which, too often, is all that the doctor receives in return for days and nights of unremitting care and attention. This, however, is an aspect of the doctor's life which is very lightly touched upon by the author of *Queer Patients*, whose vigorous optimism and breezy genial humour make his book refreshing reading. The book reflects the sane outlook on life and broad-minded tolerance which are typical of the best type of medical man, and endow these stories with a charm quite apart from that derived from their very real literary merit. It is safe to foretell that *Queer Patients* will have a large circle of readers, and almost equally safe to predict that it will disappoint none of them. Moreover, it may possibly serve to show a small portion of the lay public what the life of a hard-working conscientious general practitioner really is, and cause them to think more leniently of the man who in times of sickness and suffering is their best and truest friend. The book is profusely illustrated.

The conviction that the present system of bringing up children is unsatisfactory, and moreover is resulting in a rising generation sadly lacking in self-control and moral fibre, seems to be steadily gaining ground. To many the want of early training and discipline, which is so frequent at the present day, is to a certain extent responsible for the problem of the submerged tenth (at least that part of it which is composed of habitual loafers and wastrels) and for the outbreaks of hooliganism which threaten to become a serious menace to the safety of law-abiding citizens in our large cities. These dangers arising from mental and moral degeneration are clearly pointed out by the Rev. J. B. S. Watson in his excellent little book on *Formation of Character*,[9] of which a second edition has recently appeared. In a series of short but pithy lectures on industry, courage, temperance, and the like, Mr. Watson shows how important is the part played by the cultivation of these qualities in the making of an upright moral man or woman, and how largely a man's character depends upon his own actions rather than—indeed, in spite of—heredity and surroundings. The author's experience as Chaplain to H.M. Prison at Brixton entitles him to speak with authority upon such a subject, and the manner in which he has handled it deserves the highest praise. In a simple direct style, he treats of the temptations which arise in the daily affairs of this life, and the need for strength of mind and will to overcome them, and to keep men from becoming the slaves of their passions. His advice to boys at the commencement of their career is full of sound common sense, and should make *Formation of Character* a valuable guide not only to the boys themselves, but to those under whose care they have been placed. The interest of the book is enhanced by a preface contributed by the Rev. G. P. Merrick, at one time Chaplain-Inspector to His Majesty's Prisons, and by a short article on industry by Mr. Andrew Whitlie, which is also included in the present volume.

The first part of the fifth volume of the monumental *Handbuch der Biochemischen Arbeitsmethoden*,[10] edited by

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[7] *Contributions to Medical Science by Howard Taylor Ricketts, 1904–1910.* Chicago: The University of Chicago Press. London and Edinburgh: Cambridge University Press. (Imp. 8vo, gilt top, pp. 506; with portrait and many illustrations, some coloured. Price 25s. net.)

[8] *Queer Patients.* By M. Oston, M.D. Edinburgh: John Currie. 1911. (Cr. 8vo, pp. 336. Price 3s. 6d.)

[9] *Formation of Character.* By Rev. J. B. S. Watson, M.A., Chaplain of H.M. Prison, Brixton, London. With preface by Rev. G. P. Merrick, M.A., M.B., formerly Chaplain-Inspector of H.M. Prisons; and a *Foreword on Industry*, by Andrew Whitlie, Esq., of the Commercial Bank of Scotland, London. Second edition. 1908. London: H. R. Allenson, Limited, Racquet Court, 114, Fleet Street, E.C. (Post 8vo, pp. 115. 1s. 6d. net.)

[10] *Handbuch der Biochemischen Arbeitsmethoden.* Herausgegeben von Professor Dr. Emil Abderhalden. Band v, Teil 1. Berlin and Wien: Urban and Schwarzenberg. 1911. (Imp, 8vo, pp. 672; 168 figures. M.28.)

Professor EMIL ABDERHALDEN, Director of the Veterinary Physiological Institute in Berlin, has appeared. The first four volumes dealt with analytical methods for the recognition of various bodies. The fifth volume deals with the examination of various biological fluids—the blood, urine, faeces, milk, etc.—and has special articles on the estimation of fat, the study of anaphylaxis, on optical methods of examination, and on the chemical examination of fungi and bacteria. This first part of the volume contains 672 pages, a fact which will give some idea of the scale upon which the work is being carried out. It is adequately illustrated by drawings, diagrams, and charts in the text showing the apparatus and methods in use.

MEDICAL AND SURGICAL APPLIANCES.

Improvements in Apparatus for Intravenous Administration of Salvarsan.

MAJOR T. W. GIBBARD, R.A.M.C., in charge Military Hospital, Rochester Row, S.W., Lecturer on Syphilology, Royal Army Medical College, writes: Some improvements which we have introduced into the apparatus for administering salvarsan at the Military Hospital, Rochester Row (*Lancet*, March 18th, 1911), may interest those who prefer the infusion to the injection method. In order to control the temperature of the solution entering the vein, we have introduced a glass T-piece (window C) into the tubing about a foot from the needle end; the leg of the T-piece is fitted with a perforated rubber bung, through which the bulb of a thermometer is thrust, so that it lies in the solution flowing along the tube. When commencing operations, Clips 1 and 3 are opened, and salt solution allowed to flow from the funnel R till the mercury in the thermometer stands steadily at 100° F. After this the temperature of the solution entering the vein can easily be regulated; if it rises above 100° F. some of the tubing is removed from the hot water in which it is coiled, while if it falls below this point and all the slack tubing is already coiled in the bowl of hot water, the latter is replaced by water at a higher temperature. As a rule, the water in the bowl should be about 120° F. We have also placed the glass Y-piece, at which the tubes conveying salvarsan and salt solutions respectively meet, about 12 in. from the two funnels, and have found the change a great improvement on the former arrangement. Now, instead of having to pour salt solution into funnel L (which contains the salvarsan) just before the remedy disappears down the tube, we allow it to flow till it reaches the arm of the glass Y-piece just beyond Clip 2. The latter is then closed, and Clip 1 opened to allow salt solution to flow from funnel R and clear the salvarsan out of the tube and needle. We are indebted to the Holborn Surgical Instrument Company for the careful manner in which they have carried out our suggestions.

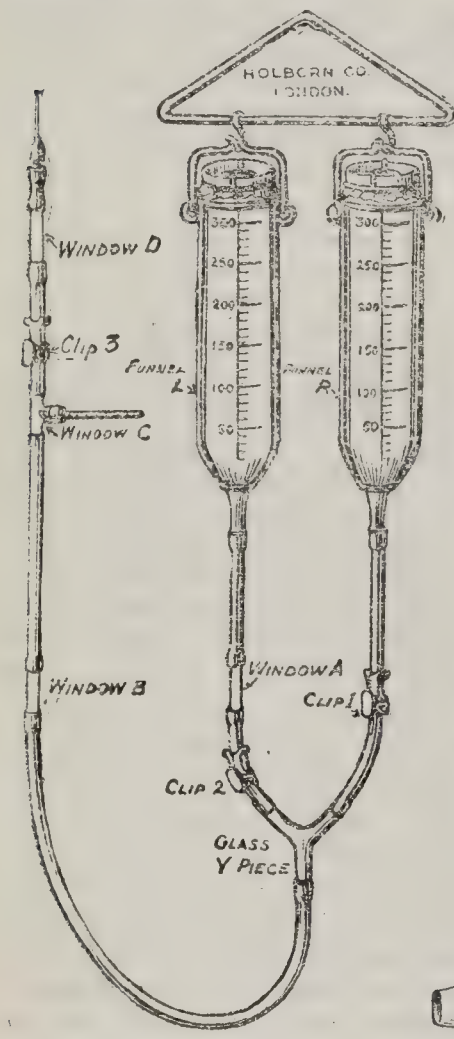

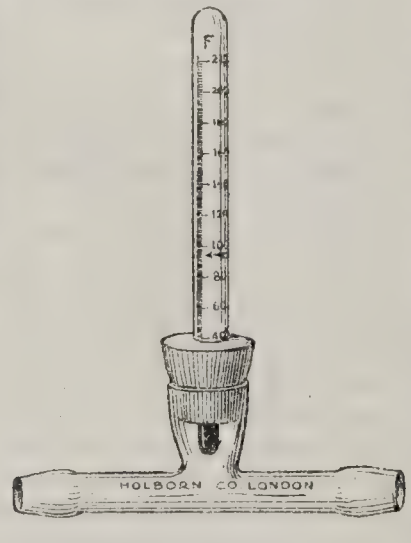

THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA.

SIR FLEETWOOD WILSON, the Financial Member of the Governor-General's Council, some time ago warned the Legislative Council of India that, in view of the approaching diminution of income due to the loss of the opium revenue consequent upon the agreement with China, it was absolutely essential, if increased taxation were to be avoided, to ensure "greater sobriety" in expenditure. The Government proposed to make a beginning by suppressing certain central appointments created in order that the Governor-General in Council might have expert advice, and might, through the officials holding these posts, exercise a certain amount of authority over the local governments by way of co-ordination and general supervision. The Financial Member had marked down for abolition at the earliest convenient moment seven or eight appointments, and among them were those of the Director-General of Archaeology, of the Inspectors-General of Forests, of Agriculture, and of the Civil Veterinary Department, that of the Sanitary Commissioner with the Government of India, and those of Inspectors-General of Cantonments and of Excise in Salt.

The Secretary of State for India, in the course of his reply to Lord Curzon in the House of Lords on November 2nd, said that, in consultation with the India Council, he had agreed to the abolition of the offices of Director of Agriculture, Inspector-General of the Civil Veterinary Department, and Inspecting Officer of Cantonments, but that it had been decided that it was necessary to retain the Director-General of Archaeology. With regard to certain other offices a final decision was reserved, but in agreement with the India Council he had formed the opinion that it was desirable to retain the office of Sanitary Commissioner, while asking the Government of India to consider what the actual relations of the Sanitary Commissioner to the Director-General of the Indian Medical Service should be.

The post of Sanitary Commissioner with the Government of India became vacant by the premature death early this year of Lieutenant-Colonel Leslie, I.M.S., who had held the appointment since its revival in 1904. When it became known that the Government of India proposed to discontinue the office and to combine its duties again with the post of Director-General of the Indian Medical Service, Dr. Addison and other members of Parliament took the opportunity during the summer months of pointing out to the India Office the urgent need for the development of the sanitary service in India, and that the proposal to abolish the office could only be regarded as a retrograde step.

The history of this appointment is rather singular, and seems to show a certain amount of instability of mind in the Government of India as to the necessity of a separate or whole-time Principal Sanitary Commissioner. Previous to March, 1830, the Surgeon-Generalship and the Sanitary Commissionership with the Government of India were distinct appointments, but on the retirement of Surgeon-General J. F. Beatson, Surgeon-Major J. M. Cunningham, the Sanitary Commissioner with the Government of India, was selected for the promotion and doubled up the two appointments. This arrangement continued for twenty-four years, till the two posts were again separated in 1904, when Lieutenant-Colonel Leslie was appointed whole-time Sanitary Commissioner.

Previous to 1880 the work of the Sanitary Commissioner with the Government of India was almost purely advisory; he had, however, two special assistants for research work in Surgeon Timothy Lewis (Army Medical Service) and Surgeon D. D. Cunningham (Bengal Medical Service), both of whom distinguished themselves as scientists. Lewis became (about 1883) Professor of Pathology at Netley, and Cunningham Professor of Physiology at the Calcutta Medical College (late in 1879). Their appointments as assistants to the Sanitary Commissioner were not filled up.

It is not necessary to go back further than 1880, but at that time all the different presidencies, provinces, and local administrations already had their own Sanitary Commissioners working under these local governments, and independent of the control of the Sanitary Commissioner with the Government of India, though of course in harmony with

him. This arrangement continues in force at the present moment under, as might be supposed, largely improved conditions. Early in the present century a scheme was proposed, though we are not aware that any details have ever been published, for the formation of an Imperial Sanitary Service for the whole of India, absorbing and bringing under one central control all the different presidential, provincial, and local sanitary departments. It seemed that a beginning had been made in 1904, when, as already stated, the post of Sanitary Commissioner with the Government of India was revived and Lieutenant-Colonel Leslie appointed to it. That the matter stopped here was probably due to the difficulty of solving the problem of how to provide funds for the scheme. This was the difficulty anticipated by the two Indian civilians who served upon the Plague Commission appointed in 1898. The Commissioners, however, presented a scheme, the first recommendation of which was that all the members of the Sanitary Department should be borne on one list, and a second, that all appointments to that department should be made by its head, subject to the approval of the local board; the third recommendation was that the head of the sanitary service in India should occupy the position of Sanitary Commissioner to the Government of India, and his status and duties were defined in the following paragraph:

In view of the new administrative duties which we would propose to commit to this officer, the majority of us think that the office of Sanitary Commissioner to the Government of India should be erected into a separate office, and that it should not, as at present, be held in conjunction with the Director-Generalship of the Indian Medical Service. We consider that, besides controlling the sanitary service and advising the supreme Government on all matters relating to public health, the Sanitary Commissioner should inform himself, as far as necessary by personal visitation, regarding the insanitary conditions, sanitary action, and prevailing diseases in all parts of India; that he should review the work of the scientific sanitary establishments; and that he should prepare an annual report dealing with these subjects. In order that his duties may be efficiently performed, we also consider that he should be provided with an adequate medical and clerical staff, and be supplied with reports bearing on the above-mentioned subjects, especially including reports on sanitation and on vital statistics, from each of the presidencies and provinces.

The fourth recommendation was:

In view of the importance of the functions of the Sanitary Department and of the Imperial interests which are involved, and in view of securing that absolutely independent advice on sanitary matters should be placed directly before Government in a country where, owing to the absence of independent medical public opinion, too much weight is likely to be given to the possibility of administrative difficulties arising in the carrying out of sanitary measures, and finally, with a view to avoiding the delays incidental to the submission of proposals to Government through an intermediary, we recommend that the head of the Sanitary Department should be made a secretary to Government.

The scheme of the Plague Commission was not accepted, the chief reasons for its rejection being apparently the fear of increased expenditure and the dread of over-centralization.

It was argued by the Government of India that sanitary progress would not suffer, as in every part of India there are active energetic sanitary officers doing what they can; but, unfortunately, the funds at their command are very scanty to combat the inertia and opposition in sanitary matters of the hundreds of millions of Orientals with whom they have to deal. There is a Sanitary Commissioner in Bombay with five deputies, in Madras with one deputy, in Bengal with two deputies, in the United Provinces with two deputies, in the Punjab with one deputy, and in Burma with one deputy. The Sanitary Commissioner of East Bengal has no deputy; in the Central Provinces the Inspector of Civil Hospitals is also Sanitary Commissioner.

We are quite ready to believe that the Government of India and the local governments are very far from being indifferent to questions of sanitation. Since the appearance of plague as an epidemic in India in 1896 many millions sterling have been spent in preventive measures. These measures have often been on wrong lines, but much has been learnt from failure, and a great deal of exact knowledge of how to deal with this most ancient and subtle foe has been acquired. Improved water supplies, drainage and other sanitary reforms are being carried out by sanitary engineers, and civil surgeons and other civil officers preach sanitation in season and out of season to the municipal authorities. But progress naturally is slow; India is on the whole a poor country; funds are scarce, and the average Oriental does not take the same view as the Westerner as to what is cleanliness and what is harmful dirt in his surroundings.

Granting all this, granting that the local governments are all sincerely anxious to carry out the recommendations of zealous Sanitary Commissioners and Deputy Commissioners, and granting also for the sake of argument that the time was not come for the organization of a unified Imperial Sanitary Service for the whole of India, a matter too large to be discussed here, does the conclusion apparently drawn by the Government of India necessarily follow? There is a good deal to be said on the other side. In the first place, an imperial sanitary officer having relations with all local governments will be able to do useful work by collecting and classifying information, so that not only the central Government but also the several provinces should be kept continuously acquainted with what was being done in each province. The comparison of results would be of value by showing what should be avoided as well as what should be imitated, and scientific investigations of epidemiological, pathological, and bacteriological questions which affect all or many of the provinces of India could with much advantage, and with considerable economy of labour and money, be conducted under the general superintendence of the Sanitary Commissioner with the central Government.

Further, the international aspect should not be overlooked. The frontiers of India march with those of France and Russia, and also with China, which appears to be discovering a sanitary conscience; the trade relations of India with the Persian Gulf are intimate, and there is a large commerce with most Far Eastern countries. But the international responsibilities of India are, of course, much wider, and involve matters in which the European Powers are directly concerned, as has been officially recognized by the presence of representatives of the Indian Government at international sanitary conferences. In dealing with these international questions it is just such information as is in the hands of a special sanitary adviser that the Government of India needs to have before it in determining its attitude on international sanitary questions, and concerting measures with foreign Governments for preventing the dissemination of cholera, plague, and other epidemic diseases.

THE BOARD OF EDUCATION.

THIRD ANNUAL REPORT.

(Concluded from page 1209.)

"FOLLOWING UP."

THE report points out that only by an effective system of "following up" can a local education authority control its medical inspection, make it complete and valuable, and thus determine its full measure of responsibility; in short, the establishment of such a system where not already in operation is the problem that must next engage the attention of local educational authorities as a whole, since arrangements for medical inspection are now practically everywhere complete. This term "following up" is used to cover all measures necessary to secure for medicial inspection a practical remedial outcome; for instance, taking care that parents are made aware of any disease or physical defect in their children, removing difficulties in the way of their obtaining treatment, and testing the result of the latter after due lapse of time by re-examination of the child. The general work of following up, it is pointed out, must be shared by the school medical officer, the parent, the teacher, school nurse, school attendance officer, and the Care Committee. The part which each may play is duly considered, and it is shown that in certain areas, such as the West Riding of Yorkshire, Northumberland, Derbyshire, and Wolverhampton, excellent work is already being done by certain school teachers. As for care committees, if they do not consist entirely of voluntary workers the services of the latter should be largely engaged, since the work is commonly best done by them. Among other things it includes administration of any arrangements

existing for the provision of meals, the employment of children during or after school hours, the after-care of the feeble-minded, and efforts connected with the recreation, vacation schools, and country holidays. Some attempt is made to estimate what has been the effect of such following up as has yet been carried out, but it is indicated that it cannot be statistically represented until the reports of results are based on the actual re-examination of each child by the school medical officer himself.

ACTION TAKEN IN RESPECT OF MEDICAL TREATMENT.

The principles underlying the machinery by which the diseases and defects discovered in school children can be removed are considered at some length, it being generally indicated that unless the closest attention is paid to details, nothing permanently effective will be accomplished, and resentment by the ratepayers at the expenditure involved will be excited. The first step is to ascertain precisely how much work has to be done in each area and how far already existing agencies can be made to do it.

The Kind of Treatment Approved.

The term "treatment" should not be, and in a large number of areas is not being, interpreted as merely meaning the administration of a drug or the performance of an operation, but must include attention to the whole life and environment of the child both at school and at home. In this sense effective treatment will be the result of concentrating upon such child all the various health forces available. In other words, remedial and preventive agencies must be co-ordinated. In any case, any curative treatment provided in virtue of the powers conferred by Section 13 of the Education (Administrative Provisions) Act of 1907 should be confined to children who are in actual attendance at public elementary schools, or only temporarily absent therefrom, and as a rule cannot usefully cover other conditions than minor ailments, uncleanliness, ringworm, and certain other common skin diseases of children, defective eyesight and hearing, and various temporary disorders of the mouth, nose, and throat.

Schemes of Treatment Approved.

A good deal of work has already been done with the Board's sanction under Section 13, such work taking the form either of the employment of nurses, the provision of spectacles, contributions to hospitals, or establishment of school clinics. Thus, in the code year 1910–11 some sixty authorities were employing nurses on duties in the nature of treatment apart from employing them as assistants at medical inspection, while seventy authorities were supplying spectacles at an aggregate cost of about £1,000.

Contributions to Hospitals.

Subsidies to hospitals were approved during the year in thirty-four educational areas, and it is argued that it is no subversion of the principle of charitable institutions for public authorities to make contributions to them in return for work to be done, since the children benefited belong to classes for which voluntary hospitals are intended, and the contributions sanctioned are merely designed to enable the hospital authorities to extend their arrangements to meet the strain of the extra work. It is admitted, however, that many reports to the effect that, besides other disadvantages, arrangements with hospitals do not meet the needs of the situation have been received from many medical officers in different parts of the country. The subject is discussed in detail in connexion with the London County Council's scheme of treatment, the general conclusion as to the hospital part of the scheme being to the effect that the hospitals fill, and must continue to fill, an important place in any comprehensive scheme for the medical and surgical treatment of school children, but that their place should be in the main a subsidiary one. No permanent scheme, it is stated, should be based primarily on the utilization of general hospitals, whether voluntary or otherwise, and when they are used, the arrangements made with their authorities should ensure the reproduction as far as possible of all the advantages of conducting remedial work at a school clinic. This means, it is indicated, that a portion of the building should be set aside for the exclusive use of the children during the hours agreed upon for their treatment; that the school medical officer, the school attendance officer, school nurse, member of Care Committee, etc., should be intimately associated with the work; that the convenience of the children and their parents should be considered; and the member of the hospital staff who treats the children should consider himself for the time being as in organic relationship with the school medical service generally.

EMPLOYMENT OF PRIVATE PRACTITIONERS.

This subject is treated under two sections, the first statement made being as follows:

> Treatment by the medical practitioner possesses many advantages. In many cases he is specially experienced in dealing with the complaints of children; his treatment is mainly of a domiciliary nature; he may be selected by the parent of the child, who thus enjoys freedom of choice, and, living in the locality, he is readily available. On the other hand, it must not be forgotten (*a*) that apart from some arrangement by the authority, the fees of some medical practitioners for the continuous treatment of some minor ailments are prohibitive to this class of patient; (*b*) that other practitioners are not able from one reason or another to carry out the effective forms of treatment of certain complaints of school children; and (*c*) that the effective and continuous treatment of some of these children can only be secured by a medical man dealing with the case in intimate and daily co-operation with the officers of the public health and school medical services.

In conclusion, it is suggested that if treatment by private practitioners is undertaken with the approval and assistance of the local education authority, steps should be taken to secure intimate co-ordination between the work of such practitioners and that of the school officers.

The same question is also dealt with, but at much greater length, in speaking of the scheme of Medical Treatment Centres arranged between the London County Council and groups of private practitioners at Hampstead, Norwood, and Wandsworth respectively. Sir George Newman sums up his views as to Norwood and Wandsworth in the following terms:

> However valuable these two centres have proved themselves to be, as experiments, there can be little doubt that if the authority determine under the Act to extend the principle, such modifications should be introduced as will secure (1) that the centre shall be wholly under the supervision and control of the authority, (2) that it shall be intimately connected with the authority's system of medical inspection, and (3) that it shall take the form of a school clinic for the further examination and treatment of school children. These centres, as at present established, are not sufficiently of the nature of school clinics, since (*a*) the ground they cover is unnecessarily narrow, and (*b*) their relationship to the general school medical service is not sufficiently intimate and organic. These defects, however, are such as lend themselves readily to amendment.
>
> *First.*—The treatment arranged for at these centres is too limited. There are certain defects and diseases common among school children for which no adequate provision is made, at present, in London. Such conditions include all the minor ailments of the skin (which often cause prolonged absence from school), external diseases of the eye, such as blepharitis and conjunctivitis, "discharging ears," etc., for which daily treatment is often required.
>
> *Secondly.*—These centres should be established on the lines of a school clinic, and in close relation to the work both of medical inspection and after-care. They should be "clearing houses" and centres from which the school medical work can be conducted. In large areas, and pre-eminently in such an area as London, many such centres would probably prove necessary, all linked up at the head quarters of the authority. At each of these centres would be focussed the work of the school medical officer and his assistants, the school nurse, the attendance officer, and the member of the Care Committee. At such centres also, speaking generally, in order to avoid unnecessary duplication of building and staff, would be carried on the treatment at present conducted at the "Treatment Centres." The question as to the employment of a whole-time or part-time medical staff would be decided purely on grounds of expediency and efficiency, and for much of the work the services of general practitioners in the area concerned would be enlisted as at present. With a groundwork of this nature the hospital would fulfil its special and peculiar function as a place for dealing with disease of such a character as to necessitate the treatment of patients as in-patients, and there should then prove but little difficulty in arranging that the school clinic and the hospital should be mutually complementary to each other.

"INSPECTION CLINICS."

A long section is devoted to a consideration of the function, organization, and equipment of school clinics, which are described as the most complete expression of the principle of associating all methods of treatment with methods of prevention. It is to be noted, however, that the primary function of the school clinic in question is not treatment, but the special inspection of children deemed to require it, either by the school medical officer, the school

nurse, the attendance officer, the teacher, the Care Committee, or the parent. Its purposes are to provide for:

(1) The further and fuller examination of children referred as a result of medical inspection in the school. (2) The examination of children referred in regard to fitness to attend school, or to undertake physical exercises—swimming, school journeys, etc. (3) The examination of candidates for admission to special schools—schools for the deaf, blind, mentally and physically defective, open-air schools, etc. (4) The supervision of children suffering from such conditions as uncleanliness and ringworm. (5) The periodical supervision of all cases of phthisis. (6) The inspection of children who have suffered from infectious and contagious diseases, and of "contacts" prior to their return to school.

Such an Inspection Clinic, it is stated, should form an integral part of the organization of medical inspection in every populous area and should focus all the activities connected with the work of following up; and out of it will develop the Treatment Clinic, if and when the need for such a place is proved. A good many Inspection Clinics as well as Treatment Clinics are already at work in the country, more especially at Luton, Wakefield, Merthyr Tydfil, Great Yarmouth, Salford, Beckenham, Torquay, Ilkeston, Leamington, Oldham, Wallsall, St. Helens, Newcastle, and Bradford. When a Treatment Clinic is deemed necessary, there is no reason, it is said, why suitable local medical practitioners should not carry out the work of treatment; but in such cases the name of the practitioners whom it is proposed to employ should be submitted for approval to the Board of Education. Details are given of such Treatment Clinics as have already been established, that of Bradford being described as being the most complete of its kind and as having achieved a valuable amount of pioneer work. The members of its staff are all whole-time officers in the employ of the local education authority.

Dental Disease.

Some figures secured by the Board suggest that from 52 to 99 per cent. of all school children require dental treatment. The underlying causes are considered and the various practical points which any authority must consider if it contemplates providing dental treatment are pointed out. As some guide in the matter experience derived from Germany is quoted, this showing that the cost of dental treatment in that country averages 1s. 4d. a head. In the code year under consideration arrangements for dental treatment on a more or less extensive scale, at the cost of the ratepayers, were approved at some sixteen centres in England and Wales.

Conclusion.

The report also includes sections on special schools for various classes of defective children, on open-air education, and the provision of meals. The latter section points out the considerations which should guide school medical officers in recommending children for free meals, while one of the seven appendices to the volume deals with the same subject statistically. From the figures given it may be gathered that the number of children in England and Wales who received free meals during 1910 was 113,084, the average number of meals each child received being 93.3, and the total cost to ratepayers £153,568. In his brief concluding chapter Sir George Newman points out that the time has not yet come when statistical returns as to the work done can be supplied, but that, speaking generally,

It may be said that out of the 6 million children registered in the books of the public elementary schools in England and Wales, about 10 per cent. suffer from a serious defect in vision, from 3 to 5 per cent. suffer from defective hearing, 1 to 3 per cent. have suppurating ears, 6 to 8 per cent. have adenoids or enlarged tonsils of sufficient degree to obstruct the nose or throat, and thus to require surgical treatment, about 40 per cent. suffer from extensive and injurious decay of the teeth, about 30 to 40 per cent. have unclean heads or bodies, about 1 per cent. suffer from ringworm, 1 per cent. from tuberculosis in readily recognizable form, from 1 to 2 per cent. are afflicted with heart disease, and a considerable percentage of children are suffering from a greater or less degree of malnutrition.

Malnutrition, he adds, is one of the greatest physical handicaps from which school children as a class suffer, and he is convinced that any efforts that a local education authority makes to deal with it must be undertaken as a branch of its medical work. Of two other points that stand out as conclusions to be drawn from the year's work, one is that the provision of treatment by one means or another is now a real and pressing need, which the local education authorities cannot afford to regard as alien to their functions. The other is that the problem of the education of the abnormal child is becoming much more concrete and urgent. Every education authority now possesses some knowledge of the number and kind of such children in its area, and from the point of view of the State there is much to be said in favour of first concentrating municipal or national resources upon the child exhibiting educational disabilities of a kind that are remediable.

AUSTRALASIAN MEDICAL CONGRESS.

[From our Special Correspondent.]

(Concluded from page 1210.)

Inaugural Meeting.

President's Address.

On Monday evening the inaugural meeting was held in the Town Hall, when the new Governor-General of Australia, Lord Denman, presided, and made his first public speech in Sydney. The hall was crowded. Upon the platform were the Lieutenant-Governor of New South Wales, Vice-Admiral King-Hall, the Chancellor of the University, Professor Allen of Melbourne, Sir Philip Sidney Jones, Professor Anderson Stuart, the Lord Mayor, the President of the Legislative Council, the Archbishops, the Premier, and others. Lord Denman, in a brief speech, declared the congress inaugurated, and called upon the president of the congress to deliver his address. This address, which occupied rather more than an hour in its delivery, ranged over a variety of interesting subjects. In his introductory remarks he welcomed the distinguished visitors upon the platform, referred to the fact that Sir Philip Sydney Jones, who was the president of the congress which was held in Sydney in 1892, was still hale and hearty. He referred in feeling terms to the death of Dr. John Thomson, of Brisbane, since the last meeting of congress in Melbourne, in 1908. Dr. Thomson was the president of the congress at its session in Brisbane in 1899, and was always a conspicuous figure at every meeting of congress. The President then proceeded to review some of the advances in every branch of medicine since the congress had last met in Sydney. The development of micro-biology and bio-chemistry, radiology, and parasitology was touched upon. Referring to the great advances made in clinical pathology, he uttered a word of warning against the tendency to neglect clinical study of disease, and to lay too much stress upon such tests as Widal's reaction, etc. The references to the proposed nationalization of the medical services echoed very clearly the opinion of the profession. "We hear a great deal nowadays about the nationalization of the medical services. The matter is one of great moment, in which both the public and the doctors are concerned, and it is desirable that the motives and reasons determining our attitude should not be misunderstood. The tendency here, as elsewhere, is in the direction of State socialism, and in many matters the State is assuming functions and engaging in operations that have in the past been carried on efficiently and well by individual or corporate effort. Yet while we have special Ministers for various departments of the public service, the far more important matter of public health is relegated to a subdepartment under a Minister who has many other matters to attend to. Has the time not arrived when the Department of Public Health should be under the sole care of a responsible Minister who should, whenever possible, be a medical man? As State socialism and State philanthropy advance, the scope of their operations tends to widen and to embrace the whole care and healing of the sick. To the principle of the propriety of care and medical treatment of the sick poor by the State we readily assent. As humanitarians, we ungrudgingly give this care now, without any thought of remuneration; but if the State charged itself with this work, and organized it on a proper basis, it would be more satisfactory and acceptable to the poor, as well as to the benefit of the doctor. . . . From our experience of the abuse of public hospitals by well-to-do people, and of the way in which persons for whom such service was never intended endeavour to obtain cheap medical attendance through membership of friendly societies, we fear that the evil

would be extended by a scheme of State domiciliary attendance, unless the strictest measures were taken to ensure that it applied only to the needy and deserving poor, and perhaps to th se of the class suitable for inclusion in friendly societies, but precluded from membership by reason of chronic ill health or infirmity. If the State undertook to provide attendance for these, leaving the friendly societies free to continue their good work, and encourage the spirit of self-reliance with the industrial and poorer middle classes, as at present, then the scheme would be a desirable one, and would relieve the doctors of a good deal of gratuitous work. . . . The difficulty the profession in this State had with the friendly societies has been, generally speaking, settled in an amicable manner, common sense having shown the advantage of having mutually satisfied parties to the agreements; but it was not till the profession took a united stand and refused to be exploited that this was brought about. . . . If, however, nationalization of medicine means that the State shall provide medical attendance on all, rich and poor, by salaried State doctors, then we emphatically dissent, and we do so, not only in our own personal interests, but in the interests of medicine and of the public, and of the race. . . . The welfare of the community depends largely on the existence of a strong, competent, independent, and sufficiently remunerated medical profession, and without presumption we may claim that the value of our services in the past entitles our views to consideration in any scheme put forth. And yet we find that both in England and here, on big social questions, the views of the profession are ignored, their opinions not even asked, though we could materially help in their solution, and prevent the adoption of ill-advised schemes of well-meaning legislators and philanthropists. Indeed, on all social questions, the advice of the doctor might be sought with advantage. If we do not get this consideration, especially if we can show that the public will be best served by our being consulted, then we shall have only ourselves to blame. The course is to perfect the organization in the profession, so that we can voice our views, not by way of unreasonable demand, but by insistence on our rights and privileges, and thus save ourselves from effacement, the science and art of medicine from stagnation, and the public from what we believe would not be to their interest or benefit. If the State is to provide attendance for the poor and for the poor only, the doctor's remuneration should be by fee for work done, and not by salary, and the patient should be allowed free choice of attendant from amongst those willing to act." The President then passed on to consider some other important questions, such as the declining birth-rate, heredity and evolution, the use and abuse of alcohol, and the problem of selection for parenthood. At the conclusion of this address, words of welcome to the congress were spoken by the Premier and the Lord Mayor, and the meeting closed.

Proceedings of Sections.

On Tuesday, September 19th, Dr. G. A. Syme (Melbourne) delivered the presidential address in the Section of Surgery. He discussed the progress of surgery during the past twenty years, the remarkable increase in the number of operations, and the safety with which they were performed. He mentioned, in passing, that operations which twenty years ago were done infrequently and by no means successfully, and almost solely by acknowledged surgical masters, were now everyday occurrences performed by practitioners, not only at the world's centres but at its very outposts, and with almost uniform success. He referred to the advances in cerebral surgery, and to operations in diseases of the spinal cord and in disease of the thyroid gland. The surgical treatment of indigestion and the question of "appendical dyspepsia" were discussed, and in conclusion he "looked hopefully to the future, confident that surgery, broad based on physiology and science, would yet win many conquests in the cause of suffering humanity." In the Section of Psychological Medicine and Insanity, Dr. Beattie-Smith (Melbourne) delivered the presidential address. He discussed the question whether insanity was increasing, the relation of alcoholic excess to the causation of insanity, and, in conclusion, after pointing out the comparative failure to treat successfully a large percentage of cases of confirmed insanity, he urged the necessity of preventive measures and the early treatment of incipient cases in suitable institutions. In the Public Health Section, Dr. Purdy (Tasmania) selected as his subject for the presidential address some questions of industrial hygiene. In the Section of Diseases of Children, Dr. A. Jeffreys Wood (Melbourne), in his presidential address, urged the importance of the study of diseases of children as a part of the medical curriculum, and justified the inclusion of this subject for consideration in a special section of this congress. In the Naval and Military Section, Dr. J. R. Purdy, the Director of Medical Services in New Zealand, and President of the Section, discussed the question of compulsory military training in Australasia, and the improvement in national physique which in his opinion would result from compulsory training. In the Section of Pathology, Bacteriology, and Tropical Medicine, Dr. B. Ham (Melbourne) discussed the question of the prevention of venereal disease.

On Wednesday, the 20th, the presidential address in Medicine was delivered before full congress by Dr. Hayward, of Adelaide. He dealt with the evolution in our methods of treatment, and urged reform in the education of the medical student in the direction of limitation in the amount of preliminary science and in the number of systematic lectures to be attended by the student. His address was full of the matured opinions of the well-balanced mind of an experienced practitioner. This was followed by a discussion on serum and vaccine therapy, opened by Professor Allen, of Melbourne, which was largely attended.

On Thursday, the 21st, in the Section of Medicine, an important discussion on arterio-sclerosis was opened by Dr. R. Stawell, of Melbourne, and the treatment of tuberculosis by tuberculin was discussed in several papers. In a combined meeting of the Sections of Surgery, Anatomy, Physiology and Pharmacology, Dr. Embley (Melbourne) delivered an address on surgical shock and its treatment. On the same morning there was a discussion on infantile paralysis at a combined meeting of the Sections of Diseases of Children, Pathology, and Public Health and Neurology.

On Friday all the sections were hard at work on papers and discussions in various subjects. A large number of demonstrations were arranged at the different hospitals, and the time of members was fully occupied all day.

Concluding Business Meeting.

On Saturday, 23rd, the concluding business meeting was held in the hall of the New South Wales Branch of the British Medical Association. It was agreed that the next session of congress should be held at Auckland, N.Z., in the year 1914, and Dr. A. C. Purchas (Auckland) was unanimously elected President.

Congress approved of the following resolutions:

Contract Practice.

1. That a copy of the income limit clause passed at the last session of congress held in Melbourne in 1908 be sent to the Secretary of the British Medical Association Branch in New Zealand and every Australian State, with an urgent request that steps be taken to enforce the same as soon as possible. This clause reads as follows:

> That no medical practitioner should pass for admission into any friendly society, lodge, club, or association for professional attendance at contract rates of remuneration any person whose income from all sources, together with that of his wife (if any) exceeds £4 per week—that is, £208 per annum. Further, no medical practitioner should attend professionally at contract rates any member of the above-mentioned organizations whose income from all sources, including that of his wife (if any) exceeds the sum of £6 per week—that is, £312 per annum.

2. That, in order to facilitate this, the first steps to be taken should be: (*a*) The strengthening of every Australasian Branch of the British Medical Association; (*b*) the formation of the nucleus of a fund for the assistance of members who suffer financially through the enforcement of the resolutions of congress.

3. That the enforcement of the above-mentioned resolution be carried out (*a*) through the Secretary of the Branch of the British Medical Association in each State and New Zealand, (*b*) simultaneously throughout each State, and (*c*) that the provisions of the resolution should not be made retrospective.

4. That the attention of congress be directed to the inadequate remuneration received by medical officers under contract practice in some parts of Australasia, and that where such inadequate remuneration exist, the various branches of the British

Medical Association should take steps to remedy this state of affairs.

5. That no medical practitioner should act as medical officer to any proprietary medical aid or proprietary benefit society unless authorized by the standing committee of congress or by any local branch of the British Medical Association.

6. That the remuneration accepted by medical officers of friendly societies should be upon a *per capita* basis and not by fixed salary.

The recommendations of the special committee appointed at the first business meeting on September 18th, to consider proposals for the appointment of a standing committee of congress were agreed to.

The following resolutions were also agreed to:

Practising Opticians.

1. That the congress sympathizes with the movement for the better education of those who wish to become spectacle makers, and is of opinion that a proper course of technical instruction should be provided for those entering the trade. It is suggested that such instruction be provided by arrangement with the technical colleges, and that members of congress assist in effecting such arrangements in their respective States.

2. Congress is of opinion that, in the interest of the public, no legislation should be introduced which suggests that opticians should be legally authorized to test the vision; the relationship of the optician to the oculist should be that of the pharmaceutical chemist to the physician.

3. The term "oculist" should not be assumed by any person who is not a legally qualified medical practitioner.

4. That a copy of these resolutions be forwarded to the State and Federal Governments, and to the Government of New Zealand.

Venereal Disease.

1. That it be a recommendation to each State Government that prisoners found to be suffering from venereal disease should be detained for treatment.

2. That in the opinion of congress the time will come when the compulsory notification of venereal disease will be necessary, and the earnest attention of the health departments of the Australian States should be drawn to the matter, with the object of introducing such notification when the time is ripe.

3. That it should be a legal offence for any person who is not a legally qualified medical practitioner to treat a case of venereal disease.

4. That each State Government be invited to provide increased facilities for the treatment of cases of this disease.

5. That general hospitals and dispensaries, rather than special or lock hospitals, should provide the necessary accommodation for the treatment of these cases.

6. That it be an offence for any person cognizant of the fact that he or she is suffering from a venereal disease to communicate such disease.

International Hospitals.

1. That congress is of opinion active and immediate steps should be taken to establish intermediate hospitals, with the object of relieving the public hospitals of those patients who are able to make some contribution.

2. That in the opinion of congress it is necessary such intermediate hospitals should be absolutely controlled by the medical profession.

3. That the resolutions be forwarded to the councils of the various branches of the British Medical Association in Australasia and New Zealand, and the councils be requested to give the matter their immediate and earnest consideration.

Australian Institute of Tropical Medicine.

It was agreed "(1) That congress strongly recommends to the committee of the Australian Institute of Tropical Medicine that a comprehensive study of the subject of granuloma pudendi should be undertaken; that a report be made to the Federal Government with a view to securing for the Australian Institute of Tropical Medicine such increase of funds and staff as will enable an organized inquiry to be undertaken without delay into the various matters likely to affect the establishment of a working white race in tropical Australia. (2) That the permanent settlement of a working white race in tropical Australia be adopted as the principal subject for discussion at the Brisbane meeting when held, and that Professor Allen be requested to personally present these recommendations to the Prime Minister."

Infantile Paralysis.

It was also agreed "That the notification of cases of infantile paralysis should be made compulsory, and that a recommendation to this effect should be made to each State Government." "That congress endorses the proposal of the Anthropometrical Committee of the Australasian Association for the Advancement of Science that an anthropometric survey of Australian children should be undertaken."

The following resolutions were forwarded from the Public Health Section, and were agreed to:

1. That congress is alive to the urgent need for the further investigation of the relationship of mosquitos to disease in Australia, and for the classification of mosquitos round the coast.

2. That congress invites the State Governments to inquire as to the number of feeble-minded children needing special education, and to take steps for the provision of such education,

3. That it is desirable that certificates of death should be given under cover to the responsible person in the household of the deceased, to be delivered sealed to the registrar of deaths; and that a letter be addressed to the Prime Minister of the Commonwealth asking that the Premier of each State be urged to bring this about by such steps as are necessary.

4. That with relation to the resolutions dealing with the collection of available Australian data and statistics already carried by congress, a central committee be formed, consisting of Dr. Ashburton Thompson, Mr. G. H. Knibbs, Dr. W. G. Armstrong, and Dr. F. Watson, for the purposes of the resolution, and that in each of the other States the chief medical officer of the Government be asked to nominate a local committee.

5. That it be a recommendation of congress that elementary hygiene be made a compulsory subject of instruction in State schools, and that the feeding and rearing of children be also made a compulsory subject for the elder girls.

Votes of thanks were accorded to all who had assisted to make the congress a success from a social point of view, as well as to the New South Wales Government, the University Senate, etc.

The congress accomplished a large amount of valuable scientific work, and it is interesting to note that several papers of great interest have been contributed to the proceedings by distinguished practitioners in the Old World. Sir Clifford Allbutt wrote on neurasthenia, Jung (Zurich) on the doctrine of the complexes, and Freud on psycho-analysis. The treatment of acne by vaccines was the subject of a paper by Sir Malcolm Morris and Dr. E. Dore (London). Other papers were contributed by Dr. George Pernet (London), Professor Oppenheim (Berlin), Dr. Nonne (Hamburg), and Dr. Montgomery Mosher (U.S.A.).

VITALISM.

Discussion at the Manchester Pathological Society.

At a meeting of the Pathological Society of Manchester on October 11th, over which Dr. Craven Moore presided, a discussion on vitalism was introduced by Dr. Haldane, of Oxford.

Dr. Haldane began by pointing out that since the middle of the seventeenth century two distinct theories had been applied to the interpretation of the phenomena of life. One of these was represented in the writings of Descartes and depended on the assumption that biology is simply a branch of physics and chemistry, while the other, which may be traced to Stahl, embodied the belief that life involved phenomena entirely different from those of physics and chemistry. These two opposing theories (he continued) are respectively the *mechanistic* and *vitalistic*. The mechanistic theory holds the following as a working hypothesis. Consciousness is a mysterious and so far inexplicable accompaniment of vital activity, and apart from it life is nothing but a physical and chemical process; and, further, the aim of biology can be no other than to give the explanation of this process. This hypothesis has the merit of simplicity, it unifies the natural sciences, and, if it be admitted that the Darwinian theory explains the apparent "design" in the structure of living organisms, there is left no part of the phenomena of life to which the mechanistic explanation does not apply. In the next place, since the methods of physiology are derived from chemistry and physics, its progress and advance in investigation are dependent on them, and, therefore, from the very nature of the case, if there is to be any explanation of the phenomena of living organisms, it must be chemical or physical.

Let us now consider the application of mechanistic theories. They can be directly applied to simple facts, such as the bodily movement caused by contraction of a muscle, the carrying of oxygen by the blood, the action of any digestive juice, etc.; and even certain intracellular processes are gradually finding explanation in this way. Further, nothing that is inconsistent with the fundamental laws of matter and energy has been discovered in vital phenomena. From these facts the conclusion is drawn that we are progressing towards a mechanistic explanation of life.

On the other hand, it is becoming clear, as biology extends its observations, that it is only isolated fragments of physiological facts that we can explain in this way, and that the manner in which the various processes are determined as a whole finds no explanation in physics and

chemistry. This aspect of physiological progress is not generally realized, but it becomes clear by examples. Schwann regarded the growth of cells as similar to crystallization. Liebig regarded respiration and heat production as a relatively simple process of oxidation: Ludwig and others regarded secretion and absorption as a process of filtration and diffusion. Physiology generally took on this aspect about the middle of last century; but since such work as that of Virchow on growth, Pflüger on respiration, Rubner on heat production, and Heidenheim on absorption and secretion, it has become clear that these processes are dominated by cells. It has become clear that the mechanisms, if they exist, must be of very great complexity, and since we cannot so far understand their nature the mechanistic theory has passed into the background.

Further, the recent developments of physiology have shown that the regulation of the living process is much more delicate than was suspected formerly. For instance, the composition of the blood is exactly regulated by the kidneys, lungs, bone marrow, etc. Mechanisms, if they exist, which do this must be of extraordinary delicacy and exactitude, as well as of great complexity, but not one of them can be understood. The general result of the last fifty years' study of physiology has been to put great difficulties in the way of the acceptance of a mechanistic theory of life. The culminating difficulty is that all these mechanisms must be supposed to be capable of reproducing themselves indefinitely in each case from a single minute cell, itself the product of the union of two cells. The germ cell, therefore, contains in itself a mechanism capable of reproducing countless millions of complex cell mechanisms in their proper spatial and other relations to one another, and also in new individuals in an indefinite number of future generations. This is surely the *reductio ad absurdum* of the mechanistic theory.

What is the basis of "Vitalism"? The answer is that the living being maintains itself as a whole in all its details of structure and function throughout the vicissitudes of its life-history and is naturally perceived by us as a whole. The adult organism is a whole, but includes subordinate wholes, and is itself subordinate to the stock, and ultimately to the whole of organic existence. It is a whole because of its maintenance of characteristic structure and activity, and the whole cannot be analysed into constituent elements. Vitalism which depends on a "vital force" which acts among mechanical forces cannot be defended. There is no evidence of such a separate force; and its existence would involve a definite breach with the law of the conservation of energy. This conception has consequently been unpopular, but nevertheless the demand for a true conception of vitalism is being made more and more urgently by physiology and pathology.

We must, at the same time as we reject the principle of a "vital force," also refuse to agree to the assumption common among scientific men that the world as it appears to physics and chemistry is the only world which we can perceive. If such conceptions as those of mechanism do not enable us to understand the facts of life we must replace them by others which are adequate to the facts observed. There can be no *a priori* or philosophical objection to this modification of conceptions.

In perceiving an organism as a whole we perceive the continuity and connexion which are present in the form, properties, and activities of the living being, and not simply the matter and energy which pass through it or exist in it. Similarly, also, we look at the surrounding environment as part of the whole, and it is in a sense true to say that an organism by its selective and other influence makes its own environment. The environment in the physical sense is simply irrelevant or non-existent from the standpoint of life. The difference between vital and physical is the difference between two ways of looking at the observed phenomena. It is possible to treat the phenomena of life from either standpoint, but the result of restricting our view to the physical is that we leave out, or abstract from, and are unable to describe, all that is really characteristic of life.

Let us take examples. Black, Priestly, and Lavoisier showed that oxygen disappears and carbonic acid appears in the process of breathing. Here, we may say, is a simple chemical process, and from that, as a beginning, we may proceed to give a complete explanation of all the chemical processes in the living body. On the other hand, what has actually been done is to accumulate more and more definite information regarding the determination of the process of respiration in relation to the whole organism. To progress in the physiology of respiration is to demonstrate this determination in greater detail. To explain any physiological activity is to demonstrate its determination in relation to the whole organism. Respiratory exchange is determined, not by the abundance or deficiency of oxygen, but within wide limits independently of this and with extraordinary exactness. Physical and chemical conceptions cannot express this determination which we perceive in the living organism, and the physical and chemical data and observations apart from their relation to organic determination are of no physiological interest.

It is, further, insufficient to look at the organism as an individual merely. This is incomplete without reference to the stock. The individual dies and disappears, while the stock remains. We can also trace life back to earlier forms, and logically we are led to believe that if we could go back far enough we would find life under the guise of inorganic matter. As conscious individuals men and animals are, it is true, much more than mere organisms, but the simple conception of the organism enables us to deal with all the facts belonging properly to biology.

In conclusion, Dr. Haldane considered an example of the application of vitalistic theory to physiological investigation. From his own work he took the example of an investigation carried out this summer, in which he was working in conjunction with three other physiologists at the effects of low atmospheric pressure at the top of Pike's Peak, Colorado. Here they confirmed the idea that mountain sickness is due to lack of oxygen, and the investigation became a detailed study of the effects of this condition. Now it would be expected, on the vitalistic theory, that the body would return to normal as far as possible in spite of these conditions, and this, in fact, was what they found. The blueness of face, vomiting, nausea, etc., experienced at first, disappeared completely in a few days. The lungs had begun to secrete oxygen actively into the blood and raised its saturation with oxygen. At the same time the lung ventilation was increased and the partial pressure of oxygen in the alveoli was raised correspondingly; and, thirdly, the oxygen carrying power of the blood was raised by an increase in the number of red blood corpuscles. By these means the oxygen supply to the tissues was restored to about the normal. According to the vitalistic hypothesis all these changes were to be grouped together as determined by the maintenance of the normal condition, and it was only from such a conception that we had the means of unifying or explaining the separate facts. The conception of the living organism as such was the foundation on which alone biology as a science could be based. This conception was not reducible to anything simpler, and apart from it the facts of biology were a mere chaos.

Dr. WEIZMANN said that the vitalistic hypothesis contained an element of vagueness. Where it began to pass away from the limits of physics and chemistry this vagueness began to appear. If we grant (he continued) that certain problems in biology cannot be solved by the aid of our chemical and physical conceptions, can we expect that the difficulty will be solved by introducing an element which we cannot clearly define? The nucleus of the vitalistic view is that it is useless to conceive of a living organism otherwise than as an organization, and we hear much of continuity and connexion among the phenomena of the organism. Now this organization must be concerned with matter and energy, and there must therefore be something which we do not understand about matter which is the secret of life. The living organism consists of units; the cell is a unit, and the germ cell from which all organisms develop is a unit, and from this arise a multitude of units, but this group of units cannot be reduced to a simple unity. Mere organization is not a sufficient characteristic. There are many organized things which are not living but dead. A crystal solid or liquid is an organized thing, so is a drop of colloidal matter; it is organized by the laws of its structure. Again, every atom is organized and a carrier of energy. The atom may even be said to maintain its species. Though it enters into a compound it still retains its chemical nature, and we may ask why an atom should be more alive or dead than any other organi-

zation? The vitalists should give a definition of what is living and what is dead. The vitalists further claim that the process of reproduction cannot be explained chemically, and in illustration of the difficulty the complexity of the process in the higher organisms is pointed out. It is, however, erroneous to begin the study of the subject in this way. Chemists would ask that the way of the physical sciences should be applied here also. The study of nitrogen does not naturally begin in the study of albumen; the first thing to study is the behaviour of nitrogen itself, and then of its simplest compounds, and by the increase of knowledge in this way we may hope to reach the complexity of substances like albumen. Biology should begin with the study of unicellular organisms, because in them the processes of life are more easily observed, and no one can fail to admit that in a complex organism there is the added difficulty of the interaction of one cell on another. This difficulty may be explained when the problem of the single cell has been solved. As regards the process of reproduction, in bacteria which divide by fission the process is comparatively simple. The new organism is almost identical with the old; the mother bacillus has transmitted her own substance to form the daughter bacillus. The case is similar to the division of a drop of water into two. The new masses which are formed are composed of molecules submitting to the same laws as those of the original mass. This is what happens in the cell. The mechanism of reproduction of the cell differs in no essential point from the division of a drop of water into two parts, and therefore it is impossible to find in the mere fact of reproduction a criterion of life. In the next place, let us consider how we are to describe the self-maintenance of living matter. It takes up matter and energy constantly, and gives it off by an automatic process which we may compare, to take a crude example, with the manufacture of sulphuric acid by means of nitrous fumes, which give up their oxygen to oxidize the sulphur and acquire new oxygen again to give it up to form new sulphuric oxide, and so on indefinitely. Here is a process of taking up and giving off energy and matter by the nitrous fumes. In this we have an illustration in dead nature of the automatic circle of energy which is found in living matter. Another feature of organisms is that from the simple formless germ cell is produced a new organism like the parent in the complexity of its structure. This process also we see in dead nature. If we take crystallized sulphur and melt it, and pour the melted mass into water, we obtain an amorphous form of sulphur, but if we leave this amorphous form of sulphur for three or four days it will again develop the crystalline form. The form was destroyed but it was there all the time. This is a spontaneous change from a formless into an organized condition. In consideration of the identity of all these processes in dead and living nature, we may again ask why is an atom not considered to be alive? An atom carries a constant amount of energy, it has certain valencies which it retains, and even the most violent treatment will not destroy it. There is no difference in principle between a living and a dead molecule, or aggregation of molecules, and to introduce new principles for the explanation of life means to deal with an element of scientific mythology. There are many fictions in this world which are very beautiful but too good to be true, and among these are the conceptions of vitalism. They are like that political fiction, the concert of Europe, which for practical purposes has always been a failure. There has not been discovered any difference in principle between the dead and the living world except in their chemical structure. If we compare organisms with the inorganic world we find one sign of living substance—it always contains albumen, and therefore we may say that life centres in albumen, while the other substances—the fats, sugars, salts, etc.—are satellites; and though we may not be able to produce living substance, we are already able to investigate the chemical relations of these highly complex molecules. Since it is natural that physiologists should gladly accept the help which chemists have been able to give in defining the nature of these substances and determining their composition. Life, we are told, is determined by "physiological environment." It is a complex of physical and chemical conditions and nothing else. The study of the relation of organisms to their environment, many attempts have been made to construct bridges between the dead world of physics and chemistry and the living world of the organism. These bridges are supported at one end only, the other end lies in a world of mysticism. Biologists admit that their methods are chemical, and when chemistry advances biology advances. Indeed, we may say in general that hitherto no other satisfactory methods of attacking the problems of life have been found. Vitalism introduces no new methods, but using the physico-chemical methods it introduces something new which merely confuses the issue. It may be said that chemistry has been able to synthetize only a few of the substances found in the organism, but there is no reason to place a limit to investigation, and already the boundaries which had formerly been set have been overpassed by chemical discoveries. There is no doubt that with the progress of investigation even the questions of adaptation in immunity will be explained and put on the solid ground of a physico-chemical reaction. Such adaptations as that described by Dr. Haldane, in which the organism adapts itself to its environment in regard to oxygen, cannot be quoted as a special characteristic of a living organism. You can render bacteria immune against arsenic or against acids and alkalis. Why should we look for a new force to explain this faculty of the organism? The arsenic produces a chemical change in the protoplasm of the animal organism, and thereby changes its constitution and properties. The change in properties is due to a change in chemical constitution. In immunity, as in other instances in the life of an organism, we see the finely balanced state of equilibrium of the animal organism, and the existence of it is generally used as an argument against the chemical and physical explanation of life. We know of very finely balanced processes in the study of enzymatic action. The enzyme is dead matter, though it is produced by living cells, and the enzymatic action is found to be sensitive to very slight variations in experimental conditions. An extremely slight change in temperature may lead to a completely different type of action on the part of the ferment. Molecules become optically active through a special arrangement of the atoms in the molecule, and a new series of physiological properties is so imparted to the molecule. Each cell is a function of its chemical constitution, environment, and position in space, and there will yet be discovered a mathematical expression which defines the nature of the physical system of which the cell is an example. In this attempt to define a cell system we must take into account gravitation, the influence of light and of electrical conditions, as well as the more obvious physical and chemical properties of protoplasm.

Dr. C. Powell White said: The essential difference between living things and non-living is to be found in the fact that all living things grow by intussusception and multiply by division, whereas these properties are not found in any non-living thing. Non-living things such as crystals enlarge by the apposition of molecules derived from the surrounding medium, whereas living things grow by the interposing of new formed molecules between the pre-existing molecules. When a cell divides by mitosis the smaller living units of which it is composed—chromosomes, chromomeres, centrosomes, microsomes, plastids, etc.—also divide, and this division of the smaller units takes place in anticipation of the division of the whole cell. During the division of the cell there is a rearrangement of the parts into which the smaller units have divided, so that each of the two new cells contains one-half of each of the smaller units. There is evidence to show that those smaller units are themselves composed of living units of a lower order still, which also grow by intussusception and increase by division, although such units are beyond the range of microscopic vision. Seeing that all known living things grow by intussusception and multiply by division, we can infer that the ultimate living unit also has the same properties. Such an ultimate unit below which we no longer have life is called a biophore. Since, then, the biophore multiplies by division and grows by intussusception it cannot be a chemical molecule, since a chemical molecule can neither grow nor divide without losing its characters. The biophore must be an aggregate of molecules. These molecules are of different characters, as proteins, fats and lipoids, salts, etc.; and since the biophore can divide into two similar units, it follows that the

different molecules must have a definite localization in the biophore, new molecules added being so arranged that the biophore can divide into two similar parts. The biophore is thus a morphological and not a chemical unit, and there is no such thing as "living substance." The biophore grows by the formation within it of new molecules, and not by the addition to it of preformed molecules. Life, therefore, implies not only certain chemical substances, but also a definite localization (organization) of the molecules of these substances in the biophore, and the biophore bears to biology exactly the same relation as the molecule bears to chemistry. There is thus a definite distinction between living and non-living things.

Professor DELÉPINE said he had not come prepared to take part in the discussion, but had paid some attention several years ago to the question so ably treated by Dr. Haldane and to some of the arguments so skilfully arrayed by Dr. Weizmann. He could not help feeling that very little progress had been made by the vitalistic and mechanistic theories since the early days of Greek philosophy. The chemical theory had been clearly outlined by Anaxagoras when he maintained that living and dead bodies were composed of the same elements and differed only owing to a difference in the proportions and grouping of these elements. Descartes, whose mechanistic theory received so much attention, fell into a trap when he compared living bodies to automata animated by non-luminous heat such as is produced during the fermention of grape juice. The comparison of life to a fermentation was a shrewd guess, but was a dangerous weapon to use in support of the mechanistic theory, for the purely chemical theory of life obtained its strongest support in the doctrine of spontaneous generation, and received a serious blow when it was shown that fermentation is dependent on growth and multiplication of living organisms. The vitalistic theories had from a purely scientific point of view the disadvantage of being almost always associated with religious dogmas. The animism of Stahl united together an unconscious vital force with the conscious rational self or soul, a view which was opposed on account of its materialistic or pantheistic tendencies. To this theory the Montpellier school opposed a vitalistic theory recognizing two forces or principles or man, the one conscious and rational, the other other instinctive. This theory was strongly opposed by several eminent theologians and a pope. It must be admitted that none of the theories of life had up to the present time been capable of experimental scientific proof. On this ground Professor Delépine admitted himself an agnostic, following in this respect Claude Bernard, who believed that the vital force so called was of the nature of the primary causes which must remain outside the range of scientific investigation, notwithstanding the fact that phenomena occurring in living bodies could be accurately studied by the application of physico-chemical experimental methods. But, while preserving an agnostic position as regards the nature of life, it was possible to admit certain essential differences between living and dead matter. Living matter was characterized by phenomena of growth and reproduction which had never been observed in dead matter. The division of one drop of water into two drops was not comparable to the fission of the simplest protozoon. The subdivision of the drop of water was not spontaneous, and could not go on indefinitely, and, if pushed to the extreme, would only end in dissociation of its elements: even after this, the total weight of the elements would be the same as that of the original drop. The elementary living organism, when it divided by fission, gave rise ultimately to an infinitely larger mass of living matter composed of units retaining the characters of the ancestors. This living matter was composed of the same elements as dead matter, but these elements were constantly entering and leaving the living organism, which, nevertheless, retained its individuality and activities.

Professor LOVEDAY, of Sheffield, suggested that in Dr. Haldane's, as in other vitalistic arguments, there was some confusion between a metaphysical criticism of concepts and a question simply of scientific method, and that if physico-chemical notions were to be ejected from physiology on the ground that they were abstract, the vitalist's own notions would have to be ejected on the same ground, so long as he abstracted from consciousness.

Dr. HALDANE, in reply, said his contention was an attempt to find the true way of looking at the facts, so that they could interpret what they observed. To introduce vital force and ask them to measure it was to confuse the whole question, and much of his paper had been directed to showing that the conception of a special vital force introduced among other forces was an impossible one. The conception of vitalism defined a way of looking at the facts which did not introduce a new force, and which in no way contradicted the principles of physical science; but, on the other hand, the principles of physics and chemistry were unable to throw light on the special features of life as compared with a simply mechanical process. Dr. Weizmann had made, he considered, a most able defence of the mechanistic theory. He had, indeed, said all that could be said for it, but the fact remained that it failed to provide the means of solving physiological problems when they looked at them with a view to interpreting all they were able to observe. Life also, he contended, should be studied in higher organisms, where they could observe what was taking place, and not in minute specks of protoplasm, as Dr. Weizmann had suggested.

THE MOTOR SHOW:

FROM THE MEDICAL MAN'S POINT OF VIEW.

By H. MASSAC BUIST.

THE International Motor Carriage Show, which closes at Olympia, Kensington, on Saturday night, and which is the tenth of the series promoted by the Society of Motor Manufacturers and Traders, under the patronage of the King, surpasses all previous ones, whether we review the products of the home or of the foreign industries, in the directness of its appeal to the medical man. When we reflect that four-cylinder cars like the three-seater 20-h.p. Ford from America can be retailed complete to-day for £150—otherwise for the price of a brougham and horse, each of not too good a quality—and that the range of service of such mechanical vehicles and their power to economize time is infinitely superior to anything that a single or several quadrupeds can do, it becomes a matter of mere self-interest for the medical man, and especially for the country practitioner, to pay a little attention to what is being achieved by this wonderful new industry.

If one's investigations are conducted merely on the lines of seeing how much can be got for how little money, one must begin a study of the show by examining the heralds of a coming cross-bred type of engineering constructional practice between motor cycle and motor car. Quite frankly, however, one will not pretend that makers in general have yet had sufficient experience in this class of machine to enable it to be confidently recommended to any members of the medical profession, since they naturally require vehicles that have been tested to such an all-round extent that they can be depended on as absolutely as railway trains. Of this newest development of the motor industry it must be recorded that no such thing can be said about it conscientiously at its present stage.

LONG-STROKE ENGINES.

On the other hand, a very notable feature of the show is the class of article available for an inclusive sum of from £185 to £285. If we confine our investigations to four-cylinder cars, we find that practically only a couple of makes under this head come from the Continent, one of the most distinctive of these, from the constructional point of view, being the four-cylinder block-engined Sizaire type; this is notable as being the first coming from France that follows the current British practice of using a chain-drive for mushroom valve gear. As, however, in the case of the 200-guinea four-cylinder, two-seater, Manchester-built, worm-driven Belsize car, the class of roller chain used for driving these valves is not of the heavy sort employed by most makers who are taking to this practice, such as notably the Benz, Wolseley, Sunbeam, Crossley, and kindred concerns. The Sizaire is further conspicuous (even in a year when the motor with a long piston travel in relation to the cylinder bore is more in evidence than ever) in that, with a bore measurement of only 70 mm., the piston displacement is 170 mm.; whereas if one regards English practice all round it is discovered that the most daring exponents of the long-stroke motor

are the Sunbeam Company, and that in their four-guinea or 12 to 16-h.p. model, the piston travel is not more than 150 mm. though the bore is 80 mm. Practically everybody who has had anything to do with a car appreciates, of course, the great gain of a long stroke when it comes to the hills, but what they rightly object to is the comparative coarseness that has hitherto gone with it; but now, notably by the lightening of such reciprocating parts as connecting-rods and pistons, and by the building of very stout crank-shafts, as well as supplying them with two bearings to every crank throw, makers of the better classes of cars have discovered how to produce long-stroke motors that shall, nevertheless, not be coarse in service, no matter at what speeds or loads.

The New Four-cylinder Class.

If the products of the European industry be considered, one arrives at the conclusion that it is scarcely possible to get a four-seater car capable of work on give-and-take roads and of good wearing life for less than £285 complete, though one can get two-seaters cheaper. For the sum stated, however, there are now brought forward the 11.9-h.p. four-cylinder Arrol-Johnston car with unit bed-plate construction for the motor, crank chamber, fly-wheel pit and gear-box, slipper type of bonnet that renders the motor accessible from three of its four sides, and dash-board cooler, but not with front wheel brakes, which are no longer fitted by the firm unless specially ordered. A standard vehicle of this type, with two-seater body, has travelled at over fifty miles an hour for six consecutive hours on the track at Brooklands by way of demonstrating the worth of the maker's guarantee that machines of this size with four-seater bodies shall be capable of speeds of forty miles an hour. 1912, of course, will be the year during which a great many manfacturers will bring out, for competition purposes at any rate, machines of from 60 to 69 mm. cylinder bore, such as come under the three-guinea tax. Such is the efficiency of European construction that in some of these we are getting as good results as the Americans achieve with very much larger engines. In this smaller class of car, too, there is the 20-h.p. Austin by a first-class British firm, notable as being about the only English maker that adopts the practice most generally followed in America of having the four cylinders cast separately. This particular little vehicle is a new type, inasmuch as, though staged at a former show, it was sold practically only for service in the colonies that it might have a twelvemonth's test in the hands of private users under the very much more severe conditions of use that obtain overseas; hence the firm is now quite sure of itself in introducing this machine to the home public. In this class also is the four-seater Humber, retailed complete with accessories at £285. But perhaps a more notable feature of this firm's 1912 policy is that for about £40 more it supplies a 14-h.p. vehicle with a worm drive. All its models this year have detachable wire wheels of the suspension type, the Rudge-Whitworth variety being standardized by the Wolseley, Daimler and Crossley among many other firms, while the Dunlop sort are being standardized, among others, by the Minerva Company, which also introduces from Belgium a worm drive of the overhead sort.

An Original Combination.

Quite one of the most striking British novelties in this low-priced class, however, is the vehicle with which the Birmingham Small Arms Company signalizes its re-entry in the motor industry in a manner which really represents its first proper start. It is of normal 14-h.p., with cylinder-bore measurement of 75 mm. and a piston travel of 114 mm., the casting being done in pairs and the motor being of the sleeve-valve Daimler-Knight sort, while the power transmission is fresh, in that it combines a three forward speed gear-box controlled on the gate change principle with an overhead worm drive in the rear live axle casting. The suspension at the back is new to European practice, but is practically a copy of the Ford principle, though the front springing is of the conventional British sort. But for the fact of a worm drive of the overhead type being employed, of course the transmission mechanism would be on the principles employed by quite 90 per cent. of the popular as well as of the costly American types of cars, among which may be placed the Flanders, the E.M.F., and the Packard sort, that are not represented within the building at Olympia, and the Overland type that is staged within the main building. Theorists, of course, have always said that this is a bad way of constructing, because there is so much unsprung weight, and that in the guise, too, of vital functional parts. But theorists have long since proven themselves very worthless guides when motor matters are concerned, for if we had ever listened to them we should never have had the light, portable, liquid fuel, internal-combustion engine of to-day. The point it is necessary to emphasize at the moment is that this principle of light, compact, rigid, and wellnigh silent, three-speed gear-box, in conjunction with the rear live axle, has not only been exploited successfully for several years past in this country by the Sheffield Simplex firm, but is used alike on the dearest and on the cheapest forms of cars, and to a wholesale extent, in America, a big majority of such machines being employed in daily service in districts where real roads are not, and where often there are no tracks whatever. Thus it is quite idle to look askance at the development on mere theoretical grounds. Theory has been upset once more in a fresh phase of European motor-car development. The Birmingham Small Arms enterprise is, therefore, notable in introducing an exceptional combination of features calculated to achieve the most refined running, for the Ford car has already proved how efficient is the form of suspension used for the rear by the firm, yet the whole English car is retailed complete as a chassis for only £250, or with four-seated body, hood, screen, lamps, and all accessories for £325.

Special features and exceptional cases apart, of course, it is quite obvious that the American motor industry has got the small car trade in its hands, because we have to remember that the majority of machines made in the United States have really good stuff in them. The manner in which this can be done at the price at which the vehicles are retailed is to be accounted for in a number of ways, including the fact that the biggest makers pool their orders for raw materials so that they buy sometimes a million, sometimes two million pounds' worth of steel at a single commission; in consequence of this the manufacturers can, of course, give them the best possible terms, and the motor manufacturer gets the precise quality of steel most suitable to each particular part of car mechanism. In addition, the American buying public is educated to the point of accepting standardized productions to a vastly greater extent than the British, and in consequence of this the output of the individual manufacturer in America can be much bigger than is possible in Europe.

The Better-class Vehicles.

Altogether the show leads one to the conclusion that the most creditable productions of the world's motor industry at the moment are the cars that range in cost between £300 and £450 each complete. This category contains practically the cream of the products of all the firms of longest established repute, from Adler, Benz, and Mercédès in Germany, Panhard, Peugeot, Clément, Gladiator, Vinot, Darracq, Chenard-Walker, Lorraine-Dietrich, and De Dion in France, to Daimler, Wolseley, Napier, Siddeley-Deasy, Straker-Squire, Austin, Sunbeam, Argyll, Clement-Talbot, and the rest in England, as well as the Minerva from Belgium and the F.I.A.T., S.C.A.T., and Lancia from Italy. Many of those firms make cheaper as well as dearer cars, but in none of the categories do they surpass the achievement embodied in the middle-priced machines, among which will be found some of the most notable fresh mechanical features—as, for instance, the introduction of the single-sleeve valve Argyll motor, that combines the patented principles of Mr. Peter Burt of Glasgow and Mr. J. H. K. McCollum of Toronto; this type is being manufactured in Switzerland under licence, too, by the Piccard-Pictet firm. The principle is that the one sleeve does not merely slide straight up and down; it also partly turns in the process, so that if a pencil were kept stationary at one point and the sleeve made to perform a complete cycle of its operation there would be pencilled on the sleeve the mark of an ellipse. This twisting motion, of course, greatly facilitates oiling. I have tried this machine on the road, and would therefore mention incidentally that, alike in silence and in performance, it utterly eclipses the best that has yet

come from the Scottish firm that is responsible for its production.

A Simple New-style Engine.

The new 20-h.p. four-cylinder Darracq car likewise shows that the policy of this firm (whose enterprise gave the motor world the pressed-steel frame) is not only changed in that the engine is put under a shoe-shaped bonnet hinged to the dash, and thus made accessible from three sides (the cooler and the gravity-fed petrol tank being in the dash-board), but there is now employed for the power transmission an overhead worm drive—the first to come to us from the Continent—while the rear suspension is by three-quarter elliptic springs, the under members of which are hung below the axle, in place of being seated upon it. This principle is likewise adopted this year by the Wolseley Company for two of its models, in that it has certain advantages; nor must we forget that several years ago in some six-cylinder Napier cars the semi-elliptic springs employed at the back were also underhung. But the great novelty of this 20-h.p. Darracq chassis is the motor, which has neither sliding sleeve, mushroom form, nor piston valves, but a single cylindrical horizontal shaft cut in D-section opposite each cylinder port and rotated by skew gear, thus greatly reducing the total number of parts embodied in the motor and providing a working operation as silent as in any new-style engines of the day. When, in the process of rotating this shaft, the flat or front portion of the D-section comes opposite its corresponding valve port, there is formed a free passage between that port and, as the case may be, either the mixture intake pipe from the carburettor or the exhaust gas pipe. A somewhat allied form of rotary valve engine, but one scarcely so simple in character, is likewise introduced by the Itala firm.

Emancipation from Prejudice.

General emancipation from the prejudice that there was only one possible way of furnishing satisfactory valves to internal combustion liquid fuel engines is manifest, moreover, in the introduction by Panhard of another and still more popular type of double-sliding sleeve Knight system motor on the 15-h.p. vehicle, which is the chief novelty of that firm's programme. Its clutch details are particularly worthy of study, as are those on the new Vauxhall chassis, in which the discs work in dry graphite, need no attention, and are so gentle in their engagement that it is scarcely possible, even for a clumsy beginner, to damage the gears in changing them. In regard to fresh engine practice, too, the Siddeley-Deasy Company fits its two largest models with Daimler-built, double-sleeve valve engines respectively of 18–24 and 24–30 nominal horse power, the larger being the first six-cylinder vehicle put on the market by the Siddeley-Deasy firm, while both these new-style machines have the new Daimler crank-shaft vibration damper which takes the simple form of a light, many having disc clutch always in engagement, half of the plates on the front end of the crank-shaft, and the other half on the fan-belt pulley. Practically all crank shafts have what are styled critical speeds, and this has presented one of the most complicated problems to automobile engineers, for at these critical speeds crank-shafts, particularly of the long, high-speed six-cylinder sort, thrash or vibrate pronouncedly. The Daimler type of clutch vibration damper is not so rigidly self-engaged but that the momentum of the outer rim creates a tendency for the plates to slip if the crank-shaft of the engine suddenly changes its angular velocity, the consequent drag damping out the growth of excessive rim amplitude whenever the explosion impulses on the crank-shaft happen, as at the so-called critical speed, to synchronize with the natural period of the shaft.

New Ways of Transmitting Power.

One comes next to a consideration of power transmission, wherein the changes have not been numerous, though a growing tendency is to be observed in ordinary types of gear-boxes to place the lay shaft below the primary one. Apart from such amazing compactness of construction as is possible to achieve without sacrificing strength by combining change-speed box with the bevel or worm housing in the rear live axle (as in the practice of the Birmingham Small Arms, the Sheffield Simplex, the Overland, the Flanders, and the E.M.F.), remarkably compact, rigid, and therefore correspondingly quieter gear construction has been found possible (by the Vauxhall firm, for example), thanks to use of air-hardened German steels, with which the spur wheels can be made of approximately half the former width. There is, besides, the new 15 h.-p. Lancia car from Italy, which is a light medium-powered machine that can be driven on a gearless drive for over 95 per cent. of its work without calling for the motor to be unduly flexible or straining it in any way, the reason being that, of four forward speeds, two give a through drive. Another notable attempt to get a silent gear-box is represented by the Maudslay practice, which does not furnish a single direct drive, but which goes on the lines of the latest motor omnibus practice in employing silent chains in the gear-box, the different series being connected, according to which gear is wanted, by means of dogs on the shafts. The Davies chain-driven gear-box, on the other hand, gives on chainless, otherwise gearless, drive, the top forward speed.

A Positive Self-starter.

There is a growing tendency to employ electric lighting for motor vehicles, though most of such apparatus is yet too expensive and heavy to become really generally used. Several firms, such as the Adams and the S.C.A.T. Company, fit as a standard different types of starting apparatus for the engines on the compressed air principle. But the greatest novelty in this connexion is that of the Cadillac firm, which employs an electric starter; it differs from all others in its big reserve capacity, for if the motor is giving trouble, instead of soon exhausting your stored energy in turning over the crank, there is sufficient electricity available to rotate the crank shaft under full compression for quite twenty consecutive minutes. This apparatus also supplants the magneto and coil and accumulator ignition machines, because it fires the mixture in the cylinders, and it also lights the vehicle entirely. The whole device is fitted as a standard practice, and starting handles are not provided on these cars. It is certain that in a year or two practically the last bane of motoring, the starting handle, will disappear from all cars. When we consider the increasing employment of detachable wire wheels which are being made by a number of specialists nowadays, and which can be fashioned also of the wooden variety for those who prefer it, and also the use, though perhaps to a lesser degree, of detachable rims, it must be regarded as possible nowadays for men to economize the services of a man-servant when motoring, for practically no physical effort is needed either to start the engine or to change tyres. When, however, this practice becomes quite common, as it is bound to do presently, there will have to be provided by makers locks to keep the bonnets down, since the practice of stealing magneto machines and spare wheels from cars left standing by the roadside is becoming quite a specialized form of robbery.

In a subsequent retrospective article one may review certain special cars that are staged at the moment at Olympia. In the meantime the exigencies of space allow only of a review of general tendencies and outstanding developments.

BRITISH MEDICAL BENEVOLENT FUND.

At the October meeting of the committee 34 cases were considered and grants amounting to £253 made to 26 of the applicants. As the treasurer had reported that the account at the bank was already overdrawn to the extent of £95, the total deficit is now £348.

Additional help is urgently needed, for applications at this time of the year are not only very numerous, but of a most distressing nature. Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

1. Daughter, aged 66, of late M.D.St. Andrews. Only income a small annuity purchased by friends, and is in such poor health that work is impossible. Relieved four times, £42. Voted £12.

2. Daughter, aged 60, of late F.R.C.S. Has maintained herself as companion, housekeeper, etc., for several years, but for the last eighteen months has been unable to obtain any post. Relieved twice, £10. Voted £5.

3. Widow, aged 56, of L.R.C.P.Edin. No income; health very indifferent, and dependent on two children who can ill afford to help. Relieved four times, £40. Voted £10.

4. Daughter, aged 68, of late L.S.A. No income, and quite unable to earn a living. Relieved four times, £40. Voted £10.

5. Daughter, aged 50, of late M.R.C.S. Has had some very good posts as daily governess, but for the last nine months has been unable to obtain any work in spite of every effort. Small savings exhausted. Voted £10.

6. Daughter, aged 37, of late L.R.C.P.Edin. Used to maintain herself by teaching languages, but broke down in health two years ago, and is still unfit for regular work. Voted £2 and given the offer of being taken in at a hospital for a rest cure before the reconsideration of her case.

7. Daughter, aged 48, of late L.F.P.S.Glasg. Has supported herself for some years by letting lodgings at a small seaside place, but earnings during the recent season have been insufficient to provide for the winter. Voted £10.

8. Widow, aged 44, of L.S.A. Unprovided for at recent death of husband, but has been promised a post in New Zealand and had the passage money found by relations. Asks for a little help towards immediate needs before leaving this country. Voted £5.

9. Daughter, aged 76, of a late surgeon in the Scots Guards. Lost her income through a defaulting trustee several years ago, and is now dependent on an old age pension and slight occasional help from relations. Relieved twice, £33. Voted £15.

10. Widow, aged 79, of F.R.C.S. Has a small income, but being a chronic invalid, is compelled to incur expenses for which it is insufficient. Voted £10.

11. Daughter, aged 64, of late M.R.C.S. Only income £10 per annum from another charity, and is nearly blind. Relieved six times, £54. Voted £12.

12. Widow, aged 63, of L.R.C.P., L.R.C.S.Edin. Endeavours to support herself by letting rooms and teaching, but has lost most of her pupils, and the rooms have been vacant for some weeks. Relieved twelve times, £92. Voted £5.

13. Widow, aged 64, of L.F.P.S.Glas. Only income a pension of £24 per annum; children unable to help, and health feeble. Relieved three times, £20. Voted £10.

14. Widow, aged 71, of M.R.C.S. Dependent on an old age pension and slight assistance from children. Relieved six times, £74. Voted £12.

15. Widow, aged 73, of L.R.C.S.Edin. Kept a school for some years after husband's death, but has recently been practically dependent on a boarder, who left a few months ago after a stay of ten years. Relieved five times. £39. Voted £5.

16. Daughter, aged 60, of late M.R.C.S. No income and dependent on a sister who only has two small annuities from charitable societies. Relieved twice, £20. Voted £12.

17. Widow, aged 71, of M.D.St. Andrews. Supported herself for several years after husband's death, but is now quite without means; children only give slight irregular help. Relieved hard times. £54. Voted £12, and recommended to apply for an old age pension.

18. Widow, aged 50, of L.R.C.P.I. Quite unprovided for at husband's death a few years ago, and being in feeble health is dependent on a daughter who teaches music. Relieved four times. £48. Voted £12.

19. Daughter, aged 52, of late L.R.C.P.Edin. No income and quite unable to support herself owing to continuous ill-health. Relieved twice, £20. Voted £12.

20. Daughter, aged 59, of late M.D.Lond. Only income £7 a year, and totally incapacitated by a nervous disease. Relieved twice, £24. Voted £2, and recommended to apply for admission to an infirmary.

21. Widow, aged 73, of L.R.C.P.Edin. Supplements an income of a few shillings a week by letting rooms, but finds increasing difficulty in obtaining lodgers. Relieved once, £12. Voted £12.

22. Widow, aged 44, of M.R.C.S. No income: supports herself by letting lodgings, but wants help to tide over the winter and to give a daughter lessons in shorthand. Relieved twice, £5. Voted £10.

23. Widow, aged 63, of M.R.C.S. No income, and has just been obliged to give up a post as companion on account of a nervous complaint. Relieved twice, £24. Voted £12.

24. Daughter, aged 39, of late F.R.C.S. Has been practically incapacitated for some years by tuberculous disease of a large joint, but hopes shortly to resume work. Only means of subsistence meanwhile 2s. 6d. per week from another charity. Relieved five times, £60. Voted £12.

25. Daughter, aged 62, of late M.R.C.S. Receives a few things a week from friends, but is unable to earn anything. Relieved seven times, £78. Voted £12.

26. Daughter, aged 69, of late M.R.C.S. No income, and dependent on a brother whose means are very small. Has recently undergone a severe operation. Relieved once, £12. Voted £12.

THE Medico-Chirurgical Society of Glasgow University held its opening meeting on October 31st, when an address was delivered by its honorary president, Professor T. H. Bryce. He chose as his subject "Embryological Data in Medicine and Surgery," and advocated the view that embryology should be regarded as part of the institutes of medicine, and not merely as an ornamental item in the medical student's career.

Nova et Vetera.

GOETHE AND MEDICINE.

EVERY one acquainted with German literature knows of the extraordinary interest which Goethe took in science; how, for a time at least, the poet became a man of science, and how he believed that he had originated a new theory of colour which was to supersede entirely that of Newton and bring to its discoverer a greater fame than the authorship of *Faust*.

We are not, however, in this article proposing to consider Goethe as a man of science, but rather to see what light, if any, the most powerful mind of the eighteenth century had to throw upon medicine. Like Shakespeare, Goethe was myriad-minded, and there is hardly a subject which plays any large part in human life on which he did not bestow some attention and offer some reflections, both illuminating and suggestive.

The mind of Goethe was incapable of seeing things in isolation. Was he not the great apostle of the doctrine of "living in the whole," to which he is for ever recurring, finely expressed as it is in the well-known lines from his *General Confession*:

> Sich von halben zu entwöhnen
> Und im ganzen, wahren, schönen
> Resolut zu leben.
>
> (To free oneself from all that is partial and to live resolutely in the Whole, the True, and the Beautiful.)

Difficult as it was in Goethe's time "to live in the whole," it is surely a thousand times harder to do so at the present day, and perhaps as hard for the doctor as for any one else, for the doctor is continually occupied with individuals and the particulars of sense. How, then, is he "to live in the whole"? and can any help be obtained from Goethe, who seems to have had advice for artists, architects, playwrights, literary men, landowners, housekeepers, mystics, and what not?

In early youth Goethe had come in close contact with medicine, for while studying law at the University of Strassburg the house at which he boarded contained a number of medical students, and they seem to have had a great attraction for him. As an old man he speaks thus of his fellow-boarders of those days in his autobiography:

> Most of my companions at table were medical students. These, as is well known, are the only students who discuss with energy out of school hours their science and profession. This lies in the nature of things. For the objects of their study are at once the most obvious to the senses and the highest, the simplest, and the most lofty. Medicine occupies the whole man because it is itself occupied with the whole man. Everything which the young man learns has reference to an important and even dangerous, yet at the same time lucrative, practice. He therefore devotes himself passionately to whatever is to be known and to be done, partly because it is interesting in itself, partly because it opens to him the joyous prospect of independence and wealth.

Into the conversation of the medical students Goethe entered with all the bright vivacity of his sympathetic nature. During their walks and parties of pleasure little else but medical topics were discussed. At that time the medical faculty in Strassburg was superior to all others, both owing to the celebrity of the professors and the number of the students. Goethe tells us how he was the more easily borne along this stream of learning, as "I had just so much knowledge of these things that my desire for science could soon be increased and inflamed." During his second term he began a course of chemistry under Spielmann, and studied anatomy with Lobstein. But his interest in medicine was not confined to theory, for he was present at an operation on the eyes of his friend, the celebrated Herder, which was performed by his anatomy lecturer Lobstein. Goethe tells us how he was glad to find himself in the position of being serviceable and helpful in many ways to so worthy a man, and how he admired the great firmness and endurance of his friend: "for neither during the numerous surgical operations nor at the often repeated surgical dressings did he show himself in any degree irritable, but of all of us he seemed to be the one who suffered least." In the intervals, however, of this heroic self-control Herder could be extremely disagreeable, which Goethe considered was due to sufferings caused by

his disease, adding, "One does not sufficiently take into consideration the moral effect of sickness, and one therefore judges many characters very unjustly, because it is assumed that all men are healthy, and we require that they shall conduct themselves accordingly."

It is curious to find the poet describing the affection from which Herder suffered thus minutely:

This complaint is one of the most inconvenient and unpleasant and the more troublesome since it can only be cured by a painful, highly irritating, and uncertain procedure. The lacrymal sac is closed below so that the moisture contained in it cannot flow off to the nose, and so much the less as the adjacent bone is deficient in the aperture by which the secretions should naturally pass. The bottom of the lacrymal sac must therefore be cut open and the bone bored through, when a horse-hair is drawn through the punctum lacrymale, then down through the opened sac and the new canal thus put into connexion with it, this hair is moved backwards and forwards every day in order to restore the communication between the two parts, all of which cannot be done or attained if an incision is not first made externally in that place.

Jurisprudence was the subject in which Goethe's father wished that his son should take his degree and in which he actually took it; but the study of law never had much interest for the young Goethe—he tells us how much more powerful was the attraction of medicine.

I was charmed by medicine because it showed Nature, even if it did not explain her on every side, and to this I was attached by intercourse and habit.

Prompted by a physical ailment which he speaks of as making him feel after dinner as if his throat were closed up, and which he attributed to a certain red wine which he drank in the boarding house at Strassburg, he began to attend some lectures on clinical medicine, and thus describes the method of the professor:

The great care and cheerfulness with which our respected instructor led us from bed to bed, the minute observation of important symptoms, the judgement of the cause of complaint in general, the fine Hippocratic mode of proceeding, by which, without theory, and out of an individual experience, the forms of knowledge revealed themselves—the perorations with which he usually crowned his lectures—all this attracted me towards him and rendered a strange department, into which I only looked as through a crevice, so much the more agreeable and fascinating. My disgust at the Patients gradually decreased as I learned to change their various states into distinct conceptions, by which the recovery and restoration of the human form and nature appeared possible.

On one occasion the professor closed his lecture thus:

Gentlemen, there are some holidays before us, make use of them to enliven your spirits; studies must not only be pursued with seriousness and diligence but also with cheerfulness and freedom of mind. Give movement to your bodies and traverse this beautiful country on horseback or on foot. He who is at home will take delight in that to which he has been accustomed, while for the stranger there will be new impressions and pleasant reminiscences for the future.

Goethe seems to have regarded these words as applying specially to himself, and certainly they appear to have been the immediate cause of his going to Sesenheim, which led to his romantic affection for Frederika, so delicately described in *Wahrheit und Dichtung*.

Apart from attending systematic lectures on medicine and anatomy, Goethe numbered among his intimate friends many physicians and surgeons. Of these was the celebrated Zimmermann, whose book on solitude still obtains readers. For some time this remarkable man was a guest in the house of Goethe's father, and the poet, who was much influenced by him, gives us several details of his character.

His conversation was varied and highly instructive, and, for one who could pardon his active sense of his own personality and deserts, no more desirable companion could be found. He was a man of great merits yet had no inward satisfaction. The man who cannot enjoy his own natural gifts in silence and find his reward in their exercise, but waits and hopes for the recognition and appreciation of others, is in an unfortunate condition, because it is but too well known that men are very sparing of applause, that they mingle alloy with praise, and, where it can in any degree be done, turn it into blame. Whoever appears before the public without being prepared for this can expect nothing but vexation.

The period during which Goethe saw a good deal of Zimmermann has been described by the former as

the epoch of demands, for every one required of himself and of others what no mortal had hitherto accomplished. On chosen spirits who could think and feel a light had arisen in which they saw that an immediate, original understanding of Nature and an activity based upon it was the best thing a man could desire, and a thing not difficult to attain. Experience thus once more became the universal watchword, and every one opened his eyes as well as he could. Physicians especially had the most pressing cause to labour to this end and opportunities to seek for it. Upon them a star shone out of antiquity which could serve as an example of all that was to be desired. The writings which had come down to us under the name of Hippocrates furnished a model of the way in which a man should observe the world, and relate what he has seen without mingling himself with it. But no one considered that we could not see like the Greeks, and that we shall never become such poets, sculptors, and physicians as they. Because the achievements of some extraordinary men, such as Boerhaave and Haller, were actually incredible, people seemed justified in demanding even more from their pupils and successors. It was maintained that the path was opened, although in earthly things a path can very rarely be spoken of, for, as the water that is dislodged by a ship instantly flows in again behind it, so error, when eminent spirits have driven it aside and made a place for themselves, very quickly closes up again after them according to its nature. But of this the excellent Zimmermann could form no idea whatever; he would not confess that absurdity in fact fills up the world. The impatience with which he rushed upon everything that he recognized and held to be wrong amounted to a mania. It was all the same to him whether he was fighting a nurse or Paracelsus, a charlatan or a chemist, his blows fell alike in either case.

Zimmermann was duly appreciative of Goethe's sympathy, and says of him somewhere, "Those who have had the happiness to converse with that extraordinary man must have perceived the anxiety with which he endeavours to temper the strength of his genius by the mildness and amenity of his conversation." Another medical friend of Goethe's was Jung Stilling, who had devoted himself to ophthalmic surgery, and had become particularly expert in the operation for cataract. This operation Goethe had several times witnessed while in Strassburg, and he thus describes it:

After piercing the insensitive cornea which gave no pain, the dull lens sprang forward of itself at the slightest pressure; the patient immediately saw objects, and had only to wait with bandaged eyes until the completed cure allowed him to use the precious organ at his own will and convenience.

Jung Stilling had come specially to Strassburg to operate upon a certain Herr von Lersner for cataract, but in this case the operation did not go off successfully: the lens had not sprung forward; he had been obliged to draw it out, and indeed, since it had grown to the socket, to loosen it, which could not be done without some violence. He now reproached himself for having operated also on the other eye. Suffice it to say that the second lens did not come out of itself, but had also to be loosened and drawn out the best way he could think of. This highly unsatisfactory ending to the operation caused Jung Stilling the greatest pain, which is thus described by Goethe:

What was there which he had not lost in this case! In the first place, the warm thanks of one restored to light—the noblest reward which a doctor can enjoy; then the confidence of so many others needing help, then his worldly credit, while the interruption of his special practice left his family in a helpless situation. He would regard the calamity as a punishment of his former faults; it seemed as if he had blasphemed in regarding his accidental discovery of an eye cure as a divine call to that business; he blamed himself for not having studied this highly important department more thoroughly instead of trusting superficially to luck.

Many passages in that remarkable book, *Wilhelm Meister*, show how much Goethe had reflected on matters connected with the medical profession. Thus, in speaking of the usefulness of the surgeon, he says:

No one wants the surgeon more than the man in health, for the former is as useful in remote country places as after the tumult of a battle, at the sweetest as well as at the most bitter moments of life. What nonsense is your general culture and all the apparatus connected with it. The important thing is for a man to understand quite definitely and to carry out with thoroughness that which no one else in the vicinity can do.

Then he leads his hero, who has passed through so many phases of existence, to the study of anatomy so that he may devote himself to the most divine of all occupations—namely, healing without miracles, and performing miracles without words. Then the difficulty attending the study of anatomy is set forth owing to the want of subjects, and a disquisition about body-snatching ensues, which at that time was in great vogue in England. Wilhelm Meister enters the dissecting room and is there set down with his case of instruments to dissect the arm of a most beautiful girl, who had just

drowned herself through an unhappy love affair. The anatomical school had become possessed of the body, in spite of the protests of the parents, relations, and even the lover himself. The repugnance felt by Wilhelm Meister at the idea of disfiguring still further this glorious product of Nature is wonderfully described. and the way in which it is combated by the demand which the desire for knowledge makes upon him. While in this state of doubt and irresolution Wilhelm makes the acquaintance of a sculptor, who shows him a great collection of wax preparations of anatomical models and suggests that these models might take the place of dissection and really be more profitable, for "building up teaches more than pulling in pieces, putting together is better than separating, vivifying what is dead is better far than killing over again what is already killed." Then the sculptor, who becomes the instructor of Wilhelm, explains how he had made use of a wood carver, whose trade in carving saints and martyrs was a dwindling one, and employed him in modelling bones.

Admit, he said, that the greater number of physicians and surgeons retain in their memory only a general impression of the dissected human form and so hope to get on, then these models will assuredly avail to freshen up in their minds the images which are gradually fading away and to keep alive for them just what is necessary.

For every doctor, whether a physician or surgeon, is nothing without the most exact knowledge of the outer and inner members of man, and it is in no way enough to have gained a fleeting, superficial knowledge of these things in the schools, to have acquired a superficial comprehension of the form, position, and connexion of the most manifold parts of the inscrutable organism. The doctor who takes his work seriously must daily practise himself in the repetition of this knowledge, and must ever seek every opportunity of renewing the contemplation of the living miracle before his mind and eye. Hence there will be a new activity for the plastic artist when it is recognized as practical that imitation may assist imagination and memory in those cases where the human mind loses a certain freshness. The sculptor goes on to say how beautiful it is to observe art and handicraft always, as it were, in equilibrium, and always so closely related to each other that art cannot sink without passing into praiseworthy handicraft, nor handicraft elevate itself without becoming artistic. He adds, somewhat cynically, that the universities were thoroughly opposed to this scheme because the masters of anatomy were able to educate proficients in dissection well enough, but not teachers of the constructive method.

Goethe was much impressed by the usefulness of plastic anatomy" for medical instruction, and quite in the evening of his days wrote to Geheimrath Beuth in Berlin suggesting that some one should be sent to Florence to learn the art of making anatomical models and then to teach it in Germany.

In one of the conversations with Eckermann, Goethe speaks of creative power as showing itself not merely in writing plays and poetry but in deeds, and instances Napoleon as a great creative genius. But he goes on to say further: "Even the physician must be creative if he is really going to heal; if he is not creative then he will only get with occasional successes, as it were by chance, but on the whole he will be a mere bungler at his work."

Goethe's whole method of approaching science was pathetic. To the continual analysis which was setting in during the eighteenth century and continued during the nineteenth with redoubled energy he was persistently opposed. For he was convinced that Nature would only hold up her secrets to a loving contemplative gaze, and would not consent to have them snatched from her by levers and screws—that is, the whole apparatus of modern science.

Lasst sich Natur des Schleiers nicht berauben
Und was sie deinum Geist nicht offenbaren mag
Dass swingst Du ihr nicht ab mit Hebeln und mit Schrauben.

(To be unveiled by force she doth refuse,
What she reveals not to thy mental sight,
Thou wilt not wrest from her with levers and with screws.)

Doubtless Goethe was considering the position and self-development of the doctor or man of science no less than the actual truths which he might be able to bring to light. The slow methods of modern science and medicine—"creeping on from point to point"—the endless collection of statistics in the fond hope that something will emerge from them, is not favourable to the all-round culture and self-development which Goethe advocated.

Much depends on whether we are thinking most of the individual or of society; if the latter, then we shall agree with Renan that dull, drudging work must be undertaken "pour que l'avenir sache"; others might maintain that it was not so much knowledge which is required as power—we want the will-power to carry out the knowledge we already possess. How is the gulf between our will and our knowledge to be bridged? Perhaps eventually by some higher development of the aesthetic sense.

It cannot be denied that the methods of modern science have accomplished more for medicine than probably any one would have imagined a century ago, and we can hardly believe that Goethe's method would have been more successful. It must, however, be acknowledged that in the excessive devotion to particular facts something has been lost, something of that breadth of standpoint which characterized the old physicians. The example of Goethe would perhaps have given to the medical profession a wider outlook and therefore a wider influence, but we should hardly have obtained so much positive knowledge.

London, W. R. O. Moon.

CANCER RESEARCH.

The Fourth Scientific Report of the Imperial Cancer Research Fund has just been issued. It contains three elaborate papers, one by Dr. Haaland on Spontaneous Tumours in Mice; one by Dr. J. A. Murray on Cancerous Ancestry and the Incidence of Cancer in Mice; and one by Dr. Bashford, on the Behaviour of Tumour Cells during Propagation.

Summary of Researches.

The outstanding result of Dr. Haaland's investigation is the production of evidence of possible local causes of origin, and the absence of general constitutional changes favourable to growth. The ultimate effect of the action of local factors is said to be the creation of new cell strains with power of continuous growth.

Dr. Murray's inquiries—which refer to females only—show that the percentage of cancerous offspring among the progeny of cancerous ancestry is greater than that among the offspring of non-cancerous ancestry in every age-group. The actual percentages among all the offspring are:

Ancestry cancerous	...	18.2 per cent.
Ancestry non-cancerous	...	8.6 ,,

These percentages are based on 340 and 222 cases respectively. From Dr. Murray's observations, the conclusion is drawn that female mice in the ancestry of which cancer of the mamma has occurred not farther back than the grandmother are distinctly more liable to develop the disease spontaneously in that organ than those in whose ancestry cancer is more remote. The increased liability is probably of the nature of a predisposition of one particular tissue or organ system to undergo cancerous transformation under the wear and tear of life. The differences between the two groups are apparent at all ages, and the age of maximum incidence does not appear to have been lowered in the predisposed group. The magnitude of the difference is such that it cannot be accounted for by the chances of random sampling. In his paper on the behaviour of tumour cells during propagation, Dr. Bashford shows that cancer cells can undergo variations. From this the inference can be drawn that variations could also occur under natural conditions. It is concluded that the cancer cell is a variant of the normal cell endowed with many inherent properties of the latter. Every fresh transplantation effects a disturbance of the cancer cells. They are thrown into a condition analogous to that reactive proliferation to which their normal ancestors were subjected where chronic irritation has preceded the onset of cancerous change. Of the variations that occur, some are in the direction of acquirement of powers of continuous growth.

Dr. Bashford says the respective parts played by the connective tissue and epithelium requires renewed study.

In the human subject the matter has been considered too exclusively from the side of the connective tissue or from that of the epithelium. In the experiments considered above

reference has only been possible to the epithelium because the connective tissue component, being supplied afresh at each transplantation, has not been maintained in the repeated state of regeneration possible for the epithelium. The result shows that it is certainly wrong to regard the development of cancer in man solely from the standpoint of a primary change in the connective tissue, but it may also be wrong to go too far in the other direction, and consider it solely from the standpoint of a primary change in the epithelium. The cancer cell, when retained in propagation, receives a new stroma at each transplantation, and the contiguity of such proliferating connective tissue may well supply conditions analogous to those obtaining where epithelium and connective tissue are together reacting to chronic irritation. From a review of the whole evidence it appears necessary to admit that while hypertrophy, adenoma, and carcinoma, represent different stages of variation, there are two possible combinations in which they may occur. They may represent primary variations, each arising as a single stage of departure from the normal, or be separate stages in a sequence of events passing by accumulating variation into one another in the course of time. If propagation permits of any conclusion, it is that, although they may, yet they do not necessarily represent stages in an advancing sequence of events from mere hypertrophy through adenoma to the least differentiated carcinoma, but that they indicate different degrees of cellular variations, of which some may be relatively permanent and constitute constant features of a propagable malignant new growth.

BEARING OF THE WORK ON THE CANCER PROBLEM.

In an admirably clear introduction, Dr. Bashford indicates the gist of the several papers and co-ordinates the results of the researches. He points out that new facts are brought forward in support of the view that a malignant new growth arises from local causes in a circumscribed area, and that the relation of each malignant new growth to the affected animal is an individual one, parallel to that between the organs of the body and the organism as a whole. Precise evidence is advanced of the existence of hereditary predisposition to the development of spontaneous cancer. The demonstration that cancer occurred in practically all races of mankind and throughout the vertebrates even when living in a state of nature, together with the demonstration of the only manner in which cancer can be transferred from one individual to another of the same species, namely, by implanting living cells, proves, says Dr. Bashford, that it was not due to a common causal parasite.

The wide zoological distribution of the disease down to marine fishes showed that it was not a recent acquirement such as might be referred to influences dependent on man's particular forms of civilization. The fact that transplantable tumours grow in normal animals as well as they do in spontaneously affected animals, is evidence that the latter do not present a soil for the growth of cancer substantially different from that presented by normal animals. When this fact is contrasted with the almost invariable success of re-implanting into the animal a portion of its own spontaneous tumour, and the almost invariable failure of implantation of any spontaneous tumour into other spontaneously affected animals, the conclusion is arrived at that each tumour is peculiarly and genetically related to the individual in which it arises. The individuality of cancer, both as regards the organism attacked and the tumour, would thus appear to have been placed at last beyond all further doubt.

A long step has thus been taken in defining the direction in which the future investigation of cancer is alone likely to be profitable. The conclusions as to the individuality of cancer are supported also by most important new statistical information given in the last Report of the Registrar-General.

The Increase of Cancer.

The new tabulation of the data for the years 1901–9 for England and Wales has permitted of an analysis being made of the figures recording the increase of deaths attributed to cancer, which brings out the fact that the increase during this period is referable to certain anatomical regions, and not to others. Thus, for males the main increase falls on the alimentary tract, especially the stomach. The liver and gall bladder and the skin show no, or only a slight, increase. For females, the increase, although it falls mainly on the alimentary tract (stomach and intestines) affects also the mamma, while the uterus, ovary, liver, and gall bladder, rectum, and skin show little or no increase.

Dr. Bashford points out that it is also of importance that the recorded mortality from cancer of the generative organs has not increased at the same rate as that for other organs, and that most of the increases affect the higher age-periods predominantly. For the first time, he says, it is fully demonstrated that it is erroneous to make statements of a disquieting nature about the increase of cancer in general. While it is evident that several of the differences brought out by the figures can be explained by more accurate diagnosis and by allocation of the seat of the disease from the secondary to the primary situations, as illustrated, for example, by the relation revealed between cancer of the liver and gall bladder and the alimentary tract, this may not account fully for certain other features. In particular, the increased incidence of cancer recorded for the mamma in women and the tongue in men, requires further study and elucidation. A progressive increase up to the highest age-periods is characteristic of the face, lip, mouth, bladder, urethra, and breast only. The other organs show a distinct diminution in the highest age-periods; but it is not yet possible to determine whether this curve indicates a liability rising to a maximum and followed by a fall, or is merely the result of ascribing deaths to other causes in the case of cancer of internal organs in aged people.

Irritation as a Cause of Cancer.

On this subject Dr. Bashford says:

That irritation is really an important causative factor of cancer is an assumption which at present is justifiable only for certain forms of cancer occurring in particular parts of the body. The knowledge of the irritants to which different species of animals and the individual tissues of the same animal may be susceptible is of very considerable importance. In view of these considerations, and also because of the results of experiment as recorded in this report, it appeared desirable to have data of the incidence of cancer in persons pursuing various occupations, and having different habits of life. This matter was discussed with Dr. Tatham in 1903-4, and again with Dr. Stevenson of the General Register Office, who has explained to the Statistical Subcommittee that the new arrangements made by the Registrar-General for tabulating deaths would permit of this information being abstracted. For the purposes of comparison it will be necessary to learn not only the incidence of cancer on particular sites liable to irritation, but also its incidence on all other sides, as well as the frequency of the other causes of death in the occupations considered. This information will be embodied in the next Decennial Supplement to the Reports of the Registrar-General.

Heredity of Cancer.

Breeding experiments with mice of known ancestry have been in progress for many years, and have been alluded to on several previous occasions, but only now have the data become sufficiently numerous to permit of conclusions being drawn. The data show that heredity plays a part in affecting the liability of the mouse mamma to develop cancer. At all age-periods the disease is more frequent when the mother, or either grandmother, or all three, have died from cancer of this organ than in the group in which these ancestors were free from the disease. While admitting that it is at present impossible to explain how the liability is transmitted, Dr. Bashford says it can be affirmed with certainty that it does not consist in the inheritance of a soil more suitable for the growth of cancer in general. It can only be inferred with some probability that it is a local or circumscribed tissue predisposition, in virtue of which the mammary tissue is prone to pass from mere proliferative reaction into continuous or cancerous proliferation. Further, hereditary predisposition is only one of the factors concerned, for it has been found that chronic inflammatory changes are remarkably frequent in the mammae of female mice of the laboratory, and other factors still unrecognized may exist.

There is a considerable body of evidence to show that the predisposition is not a general one affecting the whole body equally, but that the tendency transmitted affects mainly one organ system, so that groups of animals may ultimately be obtained in which different organ systems will present a definite predisposition, the other organs of the body not being unduly liable to the development of the disease. To guard against pessimistic conclusions it is well to point out that the influence of heredity has only been demonstrated by studying stocks in which this factor has been concentrated by careful mating, and that the influence is mainly exerted in the immediate descendants. Such a concentration as can be attained in experimental animals can only occur in the human subject by hazard, as a coincidence of considerable rarity, and it is probable that the influence of heredity in the general population is manifested as an average predisposition of low general intensity.

Induction of Resistance to Inoculation.

In the hope that the experiments may ultimately have herapeutical bearings, reference is again made in the eport to the induction of resistance to the inoculation f cancer and the means which modify the growth of ransplanted tumours. In 1906–7 it was pointed out that high degree of resistance to the transplantation of ancer did not exempt an animal from the spontaneous levelopment of the disease. The importance of the bservation was great; had immunity to the natural equirement of cancer been also obtained, the control f the scourge would have been in sight. In the hird Scientific Report the previous warning was eiterated, and it was pointed out that none of he methods which had been found to influence ransplanted cancer should be applied to man till hey had been tested and found efficacious in the case of nimals naturally affected. These warnings are borne out y further experiences. Instead of revealing analogies ith infective diseases, and placing similar remedial and reventive measures in the hands of the physician and urgeon, the study of resistance to cancer has, up till now, ut brought investigators to the verge of a region filled ith problems previously undreamt of. In the solution of ese problems, or of more crucial ones not yet reached, ays Dr. Bashford, lies the best hope of preventive nd remedial measures.

Dr. Bashford concludes with a graceful acknowledge- ent of the collaboration of Dr. Cramer, Dr. Haaland, r. Murray, Dr. Russell, and Dr. Woglom, and others who ve worked at the problems of cancer with him. The port is a monument of patient industry in the investiga- n of the darkest corner of pathology. Although no finite result directly bearing on treatment or prevention s been reached, the ground has been cleared of a great al of baseless hypothesis and positive error. In nothing the scientific value of the work more conspicuously own than in the cautious progress from one stepping- ne of proved fact to another. In the laboratories of Imperial Cancer Research Fund, what John Tyndall led the scientific use of the imagination is kept under ere restraint. That way only lies safety in an inquiry difficult and so beset with pitfalls.

EPSOM COLLEGE.

extraordinary general meeting of the Governors of son College will be held at the office, 37, Soho uare, W., on Wednesday, November 15th, at 4 p.m., en it will be proposed that certain alterations in the laws shall be made. The proposed alterations were lished in the advertisement columns of the JOURNAL of ober 28th. The alterations refer to Section 1 of By- 16, and Section 2 of By-law 24. At present these tions read as follows:

y-law 16 (1). Every vacancy among the Pensioners which l occur, or shall for the first time come to the knowledge of Council after any meeting which shall have determined the ber of vacancies to be filled up by election at the next ual General Meeting, and before the expiration of three ths after such election shall, subject to the provisions of By-law, be filled up by the appointment thereto of the ccessful candidate who had the largest number of votes uch election, and who shall not have been previously inted to a Pension under this Section, and every Candidate pointed to any such vacancy shall be deemed to have been ed thereto at the then last preceding election, but his sion shall not commence until the date of his appointment. ided that the number of vacancies filled up under this ion after any one Election shall not exceed three.

-law 24 (2). Every vacancy among Foundation Scholars h shall occur or shall for the first time come to the know- e of the Council after any Meeting which shall have deter- d the number of vacancies to be filled up by election at the Annual General Meeting, and before the expiration of four ths after such election, shall be filled up by the appoint- thereto of the unsuccessful candidate who had the largest ber of votes at such election, and who shall not have been ously appointed to a Foundation Scholarship under this n, and every candidate so appointed to any such vacancy be deemed to have been elected thereto at the then last ding election. Provided that the number of vacancies up under this Section after any one election shall not d three.

e proposal is that in each case the last sentence ming with the word "Provided" shall be deleted.

LITERARY NOTES.

REFERENCE was made in a recent issue of the JOURNAL to Abernethy's "dramatization" of his lectures. It may interest some of our readers to have a description of his method of lecturing by one who heard him. In the *Collected Works of Dr. P. M. Latham*, edited for the Sydenham Society by Robert Martin, and published in 1878, there is the following passage:

> You, who never knew Mr. Abernethy, have no conception of his powers as a lecturer. He so eloquently expounded some of the highest truths; he so nicely disentangled the perplexities of many abstruse subjects; he made that so easy which was before so difficult, that every man who heard him feels perhaps to this day, that, for some important portion of his knowledge, he is indebted to Mr. Abernethy. But he reserved all his enthusiasm for his peculiar doctrine [the constitutional origin of local diseases]; he so reasoned it, so acted it, and so dramatized it (those who have heard him will know what I mean); and then in his own droll way he so disparaged the more laborious searchers after truth, calling them contemptuously "the Doctors," and so disported himself with ridicule of every system but his own, that we accepted the doctrine in all its fullness. We should have been ashamed to do otherwise. We accepted it with acclamation, and voted ourselves by acclamation the profoundest of medical philosophers, at the easy rate of one half hour's instruction.
>
> The great Lord Chatham, it is said, had such power of inspiring self-complacency into the minds of other men, that no one was ever a quarter of an hour in his company without believing that Lord Chatham was the first man in the world and himself the second; and so it was with us poor pupils and Mr. Abernethy. We never left his lecture room without thinking him the prince of pathologists, and ourselves only just one degree below him.

This is an example of what systematic lectures may be. But unfortunately it is what they very seldom are.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, of the value of about £36, will be made on July 14th, 1912. Essays intended for competition may be upon any subject in medicine, but must not have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the Secretary of the College on or before May 1st, 1912. Each essay must be sent without signature, but must be plainly marked with a motto, and be accompanied by a sealed envelope having on its outside the motto of the paper, and within the name and address of the author. The successful essay or a copy of it will remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1911 has been awarded to Dr. Francis D. Patterson, of Philadelphia, for an essay entitled "The Parathyroid Glandules."

The University of London Press will shortly publish *Infectious Diseases and their Preventive Treatment*, by Dr. Edward Seaton, Consulting Medical Officer, Surrey County Council. The book deals with the value of preventive measures in regard to the principal infectious diseases, hospital and antitoxin treatment of diphtheria, compulsory vaccination and small-pox, hospitals and the modern campaign against phthisis. The author's long experience as a teacher and as a medical officer is a guarantee that the work will be one of practical usefulness to medical officers and public health authorities.

Dr. James Devon, medical officer, H.M. Prison, Glasgow, author of *A Study of the Criminal*, has written a new work entitled, *The Criminal and the Community*, which is described as "a departure from anything that has hitherto been contributed to the controversy." The book will be published by Mr. John Lane.

There is a story, for the truth of which we do not vouch, that an action was brought against an American newspaper by an advertiser of a patent medicine for damages alleged to have been caused by a slight error which looks like a practical joke of the printer's devil. Among the testimonials to the marvellous efficacy of the remedy, one grateful sufferer was made to testify to the following effect: "I am now completely cured, after having been at the gates of death merely through taking half a dozen bottles of your medicine." The omission of a comma after the word "death" converted this declaration of simple faith into a statement not likely to increase the sale of the nostrum. The case is a warning to those persons—too numerous among doctors as among other people—who have a soul above punctuation.

British Medical Journal.

SATURDAY, NOVEMBER 11TH, 1911.

THE GUILLOTINE AT WORK.

ON the sixth, seventh, and eighth allotted days (November 2nd, 7th, and 8th) the House of Commons got through Clauses 34 to 45 of the National Insurance Bill, and the guillotine has been busily at work, with the twofold result that many Government amendments have been passed without any semblance of discussion, others after most inadequate discussion; and that amendments standing in the name of private members have been ruled out of order and altogether withdrawn from the consideration of the House.

On Thursday, November 2nd, the sixth allotted day, the House considered in Committee Clause 34, containing the special provision with respect to married women, and important alterations were made improving their position; Clause 35 containing provision as to aliens was also disposed of. On Tuesday, the seventh allotted day, the time of the House was mainly occupied in considering the application of the bill to the naval and military services and other servants of the Crown. By the operation of the closure Clauses 41 and 42 were passed without discussion, but with certain Government amendments. That to Clause 41 provided that one at least of the Insurance Commissioners should be a duly qualified medical practitioner who had had personal experience of general practice. The Government amendment to Clause 42 provided that the central Advisory Committee shall contain representatives of duly qualified medical practitioners who have had personal experience of general practice as well as of associations of employers and of approved societies. The clause does not contain any provision limiting the number of members of this committee.

On Wednesday the House reached Clause 43, relating to the appointment of local Health Committees and defining their constitution. The discussion began at 4 o'clock, and the House was mainly occupied with a proposal to give the duties of these committees to existing health and sanitary committees of counties or county boroughs; this was negatived, and incidentally the name of these local committees, hitherto called local Health Committees, was changed to local Insurance Committees. Further discussion took place on proposals to allow urban and rural districts to appoint such committees of their own, but the Chancellor of the Exchequer opposed, and the proposals were withdrawn. Sir Philip Magnus made an attempt to limit the size of these local Health or Insurance Committees, moving that they should consist of not less than fifteen or more than thirty members. This was resisted by the Government and rejected on a division by a majority of 151 (193 to 42).

The Chancellor of the Exchequer then carried amendments providing that the minimum number of the representatives of insured persons on the Health Committee should be raised from 9 to 24, and the maximum from 18 to 48, and it was only at 9.30 p.m., with the closure in sight at 10.30 p.m., that the very important subject of the constitution of this committee was reached. He brought up amendments which altered the constitution of the committee, as well as its number, raising the minimum to 40 and the maximum to 80, the number of medical men being not necessarily more than three in any case, only two of whom will be appointed by the profession. Both Sir Robert Finlay and Dr. Addison made vigorous protests against the assumption that the medical profession would accept this constitution of these committees. The latter pointed out that while the profession recognized that the representatives of the insured persons should be in the majority of this committee, which would have the whole of the control of medical benefit, there was no denying the fact that the agreement originally arrived at was that there should be three medical members of a committee the maximum number of which was 22. As the minimum was now increased to 40 and the maximum to 80, it was impossible to say whether the medical profession would be of opinion that their representation was adequate and proper. He could not accept any responsibility for agreeing to the amended form of the clause, and appealed to the Chancellor of the Exchequer to leave the matter open, so that representations might be made to him before the Report stage. To this appeal the Chancellor of the Exchequer made no direct response.

Dr. Addison, we believe, correctly expressed the feeling of all those who are in any way responsible, whether in the House of Commons or outside, for expressing the opinion of the medical profession to the public. The profession, alike in the interests of the public and its own, is solicitous that the local committees now called Insurance Committees shall be so constituted as to ensure that the medical aspects of all the multitudinous and important matters which will come before them shall at their meetings be adequately stated and discussed in the light of medical expert knowledge. As the Attorney-General pointed out, the bill as it now stands throws a much greater amount of responsibility and work upon the Insurance (formerly Health) Committees than in its original form, and he instanced in particular the administration of medical benefits, drawing the conclusion that it was necessary to have a larger number of members but avoiding what would seem to be the only corollary —that this increase should include an increase in the number of medical members.

The fall of the guillotine before the discussion on Clause 43 had reached its natural conclusion involved also the insertion in the bill, without any discussion at all, of an important new clause constituting Auxiliary Committees. This clause is so curious a specimen of the King's English as it is written by parliamentary draftsmen that it is not easy to know exactly what it means, but it would appear to require local Insurance Committees to prepare, subject to the approval of the Insurance Commissioners, a scheme for the appointment of an auxiliary committee for each borough within the county having a population of not less than 10,000 and for each urban district having a population of 20,000, subject to the power of the county committee to group adjoining areas. The clause specifically provides that such an auxiliary committee shall be appointed for the City of London and for each metropolitan borough. The clause does not contain any provision as to the constitution of these committees, which may apparently contain no medical element.

We must remind not only the Government and the House of Commons, but also the medical profession

itself, that the British Medical Association has not agreed to accept the bill. It has undertaken to point out defects in the bill and to suggest amendments by which they may be removed or minimized. When the House of Commons has finished the Committee stage of the bill, the profession will consider whether the amendments actually introduced meet its views, and what further alterations should be sought on the Report stage. A special meeting of the Council of the Association will be held at the earliest possible date immediately after the conclusion of the Committee stage in the House of Commons, when a report to the Divisions on the position then existing will be settled and at once issued. The exact date of the meeting is subject to the progress of parliamentary business, but it will probably be summoned for November 22nd, in which case the report would be issued to the Divisions on November 23rd, and it will then be for the Divisions to arrange to hold special meetings at short notice, in all probability before November 28th.

When, and if, the bill becomes law—and apparently there is no doubt that it will be passed before Christmas—the profession will have again to consider it in its final form.

MEDICAL INSPECTION OF SCHOOLS.

ELSEWHERE in this issue is concluded a summary of ich parts of the third annual report of the chief edical officer of the Board of Education as lend emselves to such treatment. They are comparaely few, since many of its 300 pages are occupied carefully balanced considerations of various oblems, by quotations from the reports of sundry edical officers showing how they are being dealt th in various parts of the country, and by many bles indicating the crude results obtained from spection in various selected areas, but not specifily correlating the figures with one another or applyg them to the whole country. The whole volume full of matter of much interest to all se actively engaged in school medical work, l is written as a rule in such a style as to give ders among the general public a very fair inkling the problems which have to be considered; but the dent of school medicine may occasionally wish t the teaching were more dogmatic, and ordinary ders of Blue Books may regret the absence of any pter setting forth such conclusions as the medical artment of the Board of Education has at present nitely reached and such estimates of results as it siders can be based on the work so far performed. While the absence of such clear summary or statet of conclusions is to be regretted, it is easily prehensible, for in drawing up each of his reports George Newman has been faced by very exional difficulties. Though nominally addressing self to the President of the Board of Educa, he is, really and perforce, addressing at least a dozen different classes of persons—school ical officers and the medical profession as a le, lay members of county councils and education mittees, ratepayers, parents, and the general ic—and the different point of view of each of must of course receive consideration in an al report. It must be admitted, also, that he is ing with a subject on which no one at present is led in every respect to lay down the law, and is rting on work which so far has never been fully ed out in any other country, and whose importance and extent have hitherto been thoroughly grasped probably by comparatively few people. This, indeed, is perhaps the deepest impression likely to be left on the mind of those who study carefully this report and its two predecessors. Nominally, the work imposed by the Education Act of 1907 is medical inspection, and medical inspection is truly its cardinal feature, the axis on which everything else depends. Nevertheless, so far as concern the actual amount of work entailed and the expense involved, medical inspection is a comparatively small item, since if any practical outcome whatever is to be obtained from it medical inspection connotes the concentration on the public elementary school child of all health forces and all health machinary now or hereafter available. The references made by Sir George Newman to this aspect of matters are frequent, eloquent, and convincing, and he is attractively clear in his demonstration of the necessity of co-ordinating the various forces and determining the part which each should play.

The report leaves room for little doubt that the introduction of medical inspection has already worked for good in respect of the hygienic morality of the rising generation, and that except in a very limited number of areas it is being or has been well organized, and is working well throughout the country. He is also not unconvincing in what he has to say as to the benefits that will accrue to the nation if the further organization practically entailed by the Education Act is duly evolved, and he makes it clear that among other developments a large proportion of education authorities will shortly find themselves forced to establish systems of treatment. As to what will be the effect of all this on the ratepayer and the medical profession Sir George Newman is silent. Any reader of his report, however, is likely to conclude that the expenditure directly and indirectly entailed will eventually be enormous, and that though Sir George Newman appears anxious to be fair to the general body of the medical profession, the policy adumbrated by him must inevitably prove more or less seriously detrimental to general practitioners. Even if it does not eventually lead to the employment of none but whole-time officers, it will force every one who takes any part in the treatment of public elementary school children into accepting the position of being practically a subordinate of the education authority in his area, and in either case must materially modify family practice as at present conducted. At the same time the reader will hardly be convinced that this policy is the only one possible, or even the best in the circumstances.

THE CLINICAL VALUE OF VON PIRQUET'S REACTION.

THE local reaction that follows in many tuberculous patients when their skin is vaccinated with Koch's Old Tuberculin was described by von Pirquet in 1907, and was at first acclaimed as an easy and trustworthy means whereby tuberculosis could be diagnosed. Since that day, however, much work has been done on the subject, and the diagnostic value of von Pirquet's cutaneous reaction has tended to fall steadily in the clinical market. Thus it was soon found that a positive reaction could rarely be obtained in patients with advanced or extensive tuberculous lesions, on the one hand; while, on the other, the great majority of healthy or apparently healthy adults were found to give a positive reaction. Before long it became the fashion to say that the presence

or absence of the reaction was of little diagnostic value in an adult, and that the test was of clinical value only in the case of infants and children. Even with this limitation to its applicability, the test still gave results that could only be regarded as astounding by the clinician. For example, von Pirquet obtained a positive reaction in a quarter of all children aged 1 to 2, a third of all children aged 3 to 4, half the children aged 5 to 6, and in two-thirds of all children aged from 11 to 14. To the clinician, as we have said, such figures are astounding, and, if a positive reaction is to be taken as evidence that the patient is actually suffering from tuberculosis, incredible. But to the pathologist they seem to err by understating the facts; for Hamburger, stimulated by the clinical results furnished by von Pirquet's reaction, made most careful *post-mortem* examinations of children dying between the ages of 11 and 14, and found evidences of tuberculous infection in no less than 77 per cent. of them. Going further, and employing a more delicate form of the cutaneous reaction than von Pirquet's—namely, Escherich's modification of it, whereby the tuberculin is introduced subcutaneously—Hamburger obtained a positive reaction in 94 per cent. of all children aged between 11 and 14 years. Naegeli found evidences of tuberculous infection in 97 per cent. of the bodies of adults coming to the *post-mortem* table, and so the conclusion seems to be that the vast majority of humankind, at any rate in Europe, become infected with tuberculosis years before they grow up.

If, then, practically every healthy adult gives a positive cutaneous reaction to tuberculin, the question naturally arises, Has von Pirquet's reaction any clinical value at all? and the answer to this is, By itself, none whatever excepting in infants. In infants, as Blümel[1] points out, latent or stationary tuberculosis is rare, and up to the age of 2 years a positive reaction is strong presumptive evidence in favour of an active tuberculous lesion. At this age, therefore, it is of great utility in differentiating tuberculosis from other chronic wasting conditions, such as marasmus, bronchitis, posterior basic meningitis, and so forth. In older children there is a great danger, however, lest a positive von Pirquet's reaction, taken in conjunction with slight dullness to percussion or slight abnormalities in the breath sounds at the apices of the lungs, should be held to be conclusive evidence of pulmonary tuberculosis. Such signs, definite enough in themselves though uncertain in their interpretation, are common in school children with ill-developed chests, deficient muscular development, or obstructions in their upper air passages. Now that the school doctor is abroad in the land, the temptation to label as tuberculous children with these signs of pulmonary collapse has often been found irresistible, particularly when a positive von Pirquet's reaction has appeared to confirm the diagnosis of "active mischief in the lungs." But how far it is from confirming any diagnosis excepting this, that the patient has at some time been infected with tubercle bacilli, will be at once obvious when it is remembered that two-thirds of all school children aged from 11 to 14 years give a positive reaction, though only a small fraction of these are actually suffering from tuberculosis. In other words, von Pirquet's reaction alone does not enable us to distinguish between active and latent tuberculous lesions; but taken in conjunction with the physical signs and the course of any given case, it may be of great service in diagnosis, and particularly so when it gives a negative result. It is true that there are certain conditions in which a tuberculous patient often fails to give a positive reaction, excluding for a moment advanced or cachectic cases: during an attack of measles, scarlet fever, enteric, or erysipelas, for example, particularly during the period of the rash; during pregnancy, especially after the sixth month; during a course of tuberculin treatment; and finally in a certain percentage of patients with latent or inactive tuberculosis the reaction is, for some cause or another, negative, even when the more delicate modifications of von Pirquet's reaction are employed. In most of these conditions the practitioner would hardly be likely to apply the test, and it is only in a few of them, particularly in patients with latent tuberculosis in their lungs or lymphatic glands, that a negative result could mislead him. And even here his error would not be great, if he remembered that the negative reaction only proves that tuberculosis is either absent or latent, and that in the vast majority of his patients there does exist a tuberculous focus that may be called latent, inactive, quiescent, healed, or obsolete, according as his fancy dictates.

[1] Blümel, *Berliner Klinik*, 1911, Heft 279.

GENERAL MEDICAL COUNCIL ELECTION.

WE may call attention to the letter published at page 1331 from the Acting Registrar of the General Medical Council, pointing out that a voting paper was posted on November 7th to every registered medical practitioner with a registered address in England or Wales, and inviting any practitioner who had not received a voting paper, whether he wishes to take part in the election or not, at once to communicate with the office of the Council at 299, Oxford Street, London, W. We again venture to express the hope that there will be on this occasion very few practitioners who abstain from taking part in the election. It is clearly most important that on this occasion at least the profession should not give any ground for an accusation of apathy. The voting papers must be returned on or before November 15th.

OUT-PATIENT DEPARTMENTS AND PROVIDENT DISPENSARIES.[1]

THE Charity Organization Society prints in pamphlet form a valuable report of inquiries made by District Committees in the year 1910. Dealing only with out-patient treatment, the committees express the opinion that existing facilities in London are quite adequate, and indeed in some parts more than adequate, as it is usual for the poor to go the round of hospitals, dispensaries, medical missions, Poor Law guardians, and often to receive medicine from several sources at once. Only in one respect are the facilities inadequate—that is, for the treatment of consumption. There is said to be very little hospital abuse in Poplar and West Ham, but numerous cases are brought to light by the almoners in Stepney, Greenwich, Newington, Chelsea, and St. James's, Soho. In the last-named districts there are no provident dispensaries, but there are nine general hospitals, twelve special hospitals, three free dispensaries, and the London Medical Mission. One boy was found to be getting medicine from seven places at once. The District Committees are unanimous in saying that the growth of provident dispensaries is prevented by the free treatment at hospitals, free dispensaries, medical missions, and slate clubs. The Poplar Committee says that the contribution of 3d. made by out-patients in the London Hospital is regarded as equivalent to a subscription to a provident dispensary or a payment to a doctor, and the payment made at the out-patient department at Guy's has a similar mischievous effect. The tendency, it is stated, is for the

[1] Outdoor Medical Treatment of the Poor: Some Points from the Evidence of District Committees. April, 1911. Printed for the Charity Organization Society.

rovident dispensaries to flourish where there are no hos-itals within easy reach. Overlapping between hospitals nd Poor Law infirmaries is not common, though many atients alternate between one and the other. The reenwich Committee draws attention to the anomaly iat a hospital patient is not asked to contribute towards ie cost of his treatment, whereas an infirmary patient is ways liable to be charged. For instance, a patient who ad been in the Seamen's Hospital for a long time, on ing removed to the infirmary was found to have a bank count of over £100, and though the hospital could take othing, the guardians made sure of their payment. Men ceiving payment under the Workmen's Compensation ct are taken into hospital free of charge if their outward spectability is sufficient, but otherwise are received in e infirmary and, though probably poorer, are compelled pay. The "letter" system is unanimously condemned d many cases of abuse are quoted. At most of the neral hospitals "letters" are not required, but at the nsumption hespitals and other special hospitals the stem still obtains. Much evidence was found of abuse connexion with out-patients' "letters" for the lying-in spitals. Two of the committees notice that the "letter" l has reached such a pitch that a traffic has been ablished in the letters, which are collected and sold for each. All the committees are unanimous as to the ue of the almoners' work, not only in preventing abuses, in the advice as to the hygiene they are able to give l the assistance in the provision of surgical appli-es and in obtaining sanatorium and convalescent atment. Some useful suggestions for reform are de; for example, to prevent overcrowding and the long rs that patients have to wait, which is especially hard he decent poor and on mothers who really care for ir homes, it is suggested that there should be a more plete classification of patients on arrival, and a rangement of the hours. In many hospitals the sualty department" has lost its meaning, and is now a e where all out-patients who do not care to go to the patient department are seen. It is therefore recom-ded that all almoners should see the casualty patients. revent patients wandering about from one hospital to ther, a complete system of registration is recommended, ch would involve a central clearing-house, to which of patients might be sent. The most important gestion is that the out-patient department should be e only a place for consultation, and that patients who d be treated by their own doctors or at provident ensaries should not be encouraged at the hospitals. s, it is said, would involve the establishment of a large ber of provident dispensaries, and it is recommended in the meantime the attendance at the out-patient rtments should be limited, the abuse of the casualty rtment dealt with, and preference given to patients bring notes or cards from their own doctors.

THE ELLIOTSON LEGEND.

an old story in the evolution of medicine that pioneers been neglected and even persecuted. We ourselves frankly recorded many instances of this. But the that a man's claims to have discovered something are not immediately accepted by the profession does f itself prove that he is either a true prophet or that persecuted. Most of the neglected pioneers have, Disraeli, felt that the time would come when the profes-would hear them, and it has done so. Many legends rsecution fade into nothingness on critical examina-Among these must be classed that of Elliotson, as om a champion of bonesetting made in the *English w* for November, 1910, the absurd statement that his of the stethoscope called forth the rage of the pro-l Society as a body [the medical profession]"! Dr. s Winslow, who recently was good enough to give us iews on the subject in a letter, is somewhat better informed, but even he seems to believe in the legend, for he says that "Dr. Elliotson was professionally ruined for his endeavours to get a recognition of psycho-therapeutics in England." It may be well, therefore, to state the facts of the case in the light of contemporary evidence. The story is told in detail by Fernandez Clarke in his *Autobiographical Recollections of the Medical Profession*. Clarke was for many years on the staff of the *Lancet*, and a personal friend of Elliotson. He remained firmly convinced of the physician's good faith, though he admits that he allowed himself to be made the victim of imposture. Elliotson was a man in whom the "will to believe" was strong. A Frenchman named Dupotet, who professed to cure epilepsy and other nervous disorders by mesmerism, was allowed to try his treatment in University College Hospital. Elliotson was carried away by enthusiasm, and hysterical patients flocked to the hospital. Among them were two sisters named O'Key, one of whom had taken a leading part in the business—to use the actor's phrase—of the "unknown tongues" which shortly before had caused a sensation in Edward Irving's chapel. She had all the qualifications of an exceptionally gifted medium and exhibited the phenomena of hypnotic suggestion, transferred vision, clairvoyance, telepathy—in short, *tout le tremblement*—described not long ago by a public performer in the same style as the "showman's privilege." Elliotson used these supposed gifts as aids in the treatment and prognosis of disease. The girls professed to know when a death was impending by the presence of "Great Jacky" on the patient's bed. This naturally caused an unwholesome excitement among the patients and also among some of the students. We have heard, though we have failed to find any mention of the fact either in Clarke's book or the *Life of Wakley* by Dr. Squire Sprigge, that this particular imposture was exposed by a house-physician, who, after one of the girls had seen "Jacky," substituted a healthy nurse, fully clothed, for the patient in what may be called the condemned bed. Wakley tested the honesty of the girls by experiments made in the presence of Elliotson. One of them was said to fall into convulsions on being touched by a piece of nickel, no effect being produced by lead. Discs of the two metals "charged with magnetism" were given by Elliotson to Wakley. Wakley gave the nickel, unperceived by Elliotson, to Clarke, who put it in his pocket and walked to the other end of the room, where he remained during the experiment. Wakley, now having nothing but the lead in his possession, bent forward and touched the girl's right hand. As he did so a bystander by arrangement whispered audibly, "Take care that you do not apply the nickel too strongly." Immediately the medium fell into strong convulsions, much to the gratification of Elliotson, who said that "No metal but nickel had ever produced these effects." Wakley replied that no nickel had been used, and upon Dr. Elliotson's indignant protest Clarke came forward and explained the trick that had been played, producing the nickel from his pocket. Notwithstanding this decisive test, Elliotson insisted that in some unexplained way "the power of nickel had been present." The experiments were consequently continued, but only served to make the imposture more palpable. Wakley denounced the whole thing as a pitiable delusion. The authorities of University College intervened, and a resolution was passed that the practice of "animal magnetism" in the hospital should be stopped. Elliotson therefore resigned his position on the staff. He gradually lost his practice, though, according to Clarke, he retained for some years a respectable position as a consultant. This is the true story. Elliotson, who was the original of Dr. Goodenough in Thackeray's *Philip*, was an honest man who had done good scientific work, and was recognized as a first-rate teacher. But in kindness to his memory his "endeavours to get a recognition of psycho-therapeutics in England" should be forgotten. It is a

pity that having been led astray into such a morass of imposture he did not, as Charcot did long afterwards, determine to have nothing more to do with the unclean thing.

GUARDIANS AND POOR LAW REFORM.

A MEMORIAL, signed by over 120 guardians and ex-guardians of the poor, has just been presented to the President of the Local Government Board, dealing with the reforms required in Poor Law administration. The memorial admits that reforms are urgent, but denies that the change in areas and the destruction of existing authorities advocated in the reports of the Poor Law Commission are necessary. It is claimed that the real mischief is due not to any defect in the constitution of boards of guardians, but to the confusion in the public mind as to the scope and object and fundamental principles of the Poor Law. For instance, there are wide differences of opinion as to the nature of the control to be exercised by a central authority, as to the co-ordination of the Poor Law with charity or with the public health service, and as to the lines of settlement between the advocates of outdoor and indoor relief. In view of these disputes, it is urged that questions of principle should take precedence of questions of machinery, and that to overthrow the guardians would be a grave error until the principles are settled, as the public might be committed to revolutionary changes of policy under the cover of a mere change of machinery. It is further urged that attention should first of all be given to three points of primary importance—the question of out-relief, the question of mixed workhouses, and the codification of the vast mass of statutes and orders by which guardians are bewildered rather than controlled. If these matters were first successfully dealt with, and other questions of principle settled, the memorialists claim that the guardians are as competent to apply them as any alternative authority that could be proposed, while the advantages that are claimed for larger areas could be secured by the co-operation or combination of existing unions, without incurring the grave risks which would attend the break up of existing machinery. It cannot be said that the memorial meets the objections raised by the Poor Law Commission against boards of guardians, and the statement that if the principles were settled the present boards could carry them out as well as any other authority, begs the whole question. A good point is made when it is urged that the correct order of procedure would be first to establish the scope and principles of the Poor Law before abolishing the guardians. At the same time, even if it were merely a question of consolidating and regulating the present principles of the Poor Law, it might still be urged that the present boards stand in need of radical reform. But the question at issue is far wider than that. The memorialists seem hardly to have realized that the changes in the scope, objects, methods, and principles of public assistance recommended by the Majority and Minority Reports are so far-reaching and so fundamental that the whole character of any body that is to administer the new public assistance must be very different from that of existing boards of guardians; and the statement that the present boards could administer the new public assistance as well as any other authority is no more than an *obiter dictum*; the presumption is distinctly to the contrary.

NAPRAPATHY.

MALEBRANCHE saw everything in God—except, as some unkindly critic is recorded to have said—the fact that his system of philosophy was a vain thing. In medicine, as we all know, there are practitioners who are under the tyranny of dominant ideas. Thus some see the root of all disease in the nerves, others in the stomach, others in the nose, others again in the generative organs. The osteopaths see it in displacements of bones. Now there has arisen—need it be said in America?—a system which lays the blame for every disorder of the human body on the ligaments. The founder has given his system the name "Naprapathy," a word which he is good enough to tell us how to pronounce. "Think of Napoleon, then say na-prap'a-thy and you have the pronunciation." Hamlet says:

> Imperious Caesar, dead, and turn'd to clay
> Might stop a hole to keep the wind away.

In this at least he would be serving a useful purpose. But to link the name of Napoleon with a system so particularly foolish is a worse degradation. The founder of the system is said to be one Oakley Smith, who calls himself Doctor of Naprapathy. We presume the degree, like the system, is of his own invention. Of course he professes to have discovered how "to heal any sickness which has known no cure by other methods." Being philanthropically anxious to propagate his new gospel, he has founded a College of Naprapathy, which has its local habitation in that city of light, Chicago, and called it by his own name. For the wider dissemination of his teaching he has started a journal. If one should ask how it is that mankind has been so long sitting in darkness and the shadow of death for lack of knowledge of the true system of healing, the Doctor of Naprapathy has his answer ready: "Why it was that the geographers of Europe held that the earth was flat; why it was that the astronomers held that the sun moved about the earth; why it was that scientists ridiculed the idea of wireless telegraphy. I do not know. Neither can I explain why it is that the medical profession still teaches that disease is in the organ when in reality it is in the ligament." The Doctor of Naprapathy may, however, find comfort in the knowledge that it has been left for him to reveal this precious truth to man. He boasts that "there is nothing abroad to compare with our Naprapathy." But now that a star has risen in the West it is to be hoped that it will send its rays—shining like a good deed in a naughty world—far enough to enable us to see the whole secret of disease, which has been sought in so many parts of our structure in vain, lying before our unobservant eyes in the humble necessary ligament.

SUPERNUMERARY OVARIES.

THE presence and signification of ovarian tissue separate from the anatomical ovary involve questions of clinical and surgical importance. Pregnancy has occurred in patients after the removal of both ovaries, but ovarian tissue was in such cases most probably included in the stumps of the pedicles, and the remnants of the Fallopian tubes managed to free themselves from the ligatures, as has happened after "sterilizing ligation" of the tubes in Caesarean section. But patients who have been subjected to supravaginal hysterectomy with simultaneous removal of the ovaries and tubes have continued to menstruate although not a trace of the ovaries, as anatomically understood, could have been left behind. This phenomenon is easily explained when we remember that supernumerary ovaries have repeatedly been detected by anatomists. Rieffel makes out that they exist in 4 per cent. of all female subjects, but that only signifies that a certain number have been discovered, and makes no allowance for what may have been overlooked. Authorities who specially study the female organs admit that the supernumerary ovary has been found in unexpected situations, and anatomists do not always subject to the test of the microscope abnormal solid bodies observed in the neighbourhood of the genital tract. As in the case of hermaphroditism, the microscope alone can assure us that such bodies are made up of the histological elements of the genital gland. Mauclaire and Madame Eisenberg-Paperin,[1] and, more recently still, Méric of Toulouse,[2] have published important communications on the subject during the past summer. The former writers add to their paper abstracts of cases already

[1] *Archives gén. de chirurgie*, July, 1911.
[2] *Paris médical*, October 14th, p. 419.

published. Mériel puts aside the double ovary, a type of anomaly which includes the variety where a piece of ovary lies in the ovarian ligament, and is therefore left behind in the pedicle after ovariotomy. Hence the probable explanation of pregnancy after removal of both ovaries. M. Mériel devotes his attention to the supernumerary ovary, properly so called. It has been detected in subjects of every age, but most frequently in the bodies of children. It may lie in the folds of the broad ligament, in the ureter, under the peritoneum, and in the pelvic peritoneal pouches. It may form connexions with the great omentum, bladder, cæcum, colon, or anterior abdominal wall, being in that case seated on the outer surface of the parietal peritoneum. These latter situations imply secondary displacements, the more usual positions corresponding to the line of descent of the ovary in the course of its embryological development. It is seldom much larger than a millet seed, but may be as big as a cherry. Its origin is apparently pathological. Later, in fetal life, bisection of the well developed ovary by peritoneal bands or by torsion has been repeatedly observed, and thus the "double" ovary is evolved. The pedicle, however, shows cicatricial tissue never seen in the supernumerary ovary lying away from the ovary proper. Yet it would appear that the supernumerary ovary was also merely a part of the main ovary, and was severed from it before the latter had reached its permanent site, leaving the fragment behind it. As in the later bisections of the ovary, it is fetal peritonitis that brings about this separation of a fragment of ovarian tissue to form a supernumerary ovary. Thumin traced these pathological changes in a single subject very precisely. There can be little doubt, then, now we can take for granted that supernumerary ovaries are not so very rare, that they account for menstruation persisting after the complete removal of both anatomical ovaries. They also account for the abnormal attachments and connexions of many pelvic tumours. About thirty cases of cysts, dermoids, and solid growths developed in supernumerary ovaries have been reported. The great liability of detached tissue, accessory ovoids, and adrenals, for instance, to become the seat of malignant growths has been noted by more than one pathologist, and supernumerary ovaries are subject to this rule.

SICK POLICEMEN.

It is to the credit of the police force that its domestic affairs usually escape public notice. The public is well aware that constables are often injured in street fights and other accidents, but sickness of an ordinary kind is certainly foreign to the public's conception of the stalwart men in blue. Such dissociation of ideas is natural and possibly has some foundation in actual fact, since policemen as a class, thanks to the comparative youth of a large proportion of them, their careful selection, and the abstemious habits they necessarily lead, are probably less prone to minor ailments than most men. Still, constables at times fall victims not only to injuries, but to minor ills of the flesh, and in such circumstances require precisely the same kind of treatment as other men. This fact is the origin apparently of a letter on the subject which has recently appeared in the *Police Review and Parade Gossip*; its writer is a lady who has devoted her spare time for many years to visiting sick policemen, and is, we believe, the wife of a medical man at Hampstead. She rightly points out that a comparatively trifling disorder may easily become serious if circumstances prevent its receiving adequate attention. Such attention, she suggests, is at present impossible, because when a policeman is put upon the sick list he remains—unless already so ill as to be sent forthwith to a public hospital—in his ordinary quarters at the police station house, or at his own home if he has one. Hence, if he happens to be a married man, or to have sisters or other relatives to look after him, he is not only very uncomfortable when unwell, but is in a bad position to shake off what might otherwise be a trifling malady. The writer, therefore, urges the provision of a special hospital to which all constables could go forthwith, whatever the degree of their illness, as soon as put on the sick list by their divisional surgeon. There is no doubt a good deal of merit in the suggestion, but at the same time there are clearly many difficulties in the way of its realization. Apart from other objection, it might often be neither desirable nor easy to allow all men more or less unfit for immediate duty owing to some probably passing cause to repair at will to such an institution. Still there must be a good many men who, though not sufficiently ill to obtain admission to an ordinary public hospital, are known to be likely to benefit by a certain degree of nursing and dieting, and a middle course would be to provide two or three special section houses in London where what the men require could be more easily provided than in ordinary section houses. It is to be noted that some of the newer section houses are already provided not exactly with sick bays, but with rooms for the use of men who have been put temporarily off duty under medical advice. A farther suggestion of the writer is that at the hospital whose establishment she advocates there should be provided one or more special wards to serve as a permanent home for men discharged from the service owing to physical incapacity acquired in and through the public service. In this connexion she quotes several instances of such men having to end their days in workhouse infirmaries.

Sir Henry Butlin, finding the strain of his duties as President of the Royal College of Surgeons of England too great, has resigned that office, and the Council, on November 9th, elected Mr. Rickman J. Godlee, Surgeon to University College Hospital, in his place.

We regret to announce the death of Sir Samuel Wilks, F.R.S., Past President of the Royal College of Physicians of London and Consulting Physician to Guy's Hospital, which occurred on the evening of Tuesday, November 7th. Sir Samuel Wilks, who was in his 87th year, has for many years lived in retirement at Hampstead. We hope to publish a full obituary in a later issue.

The first of the lectures to be delivered under the provisions of the Sir John Struthers Lectureship, before the Royal College of Surgeons of Edinburgh, will be given on Friday next, at 4.30 p.m., by Dr. Arthur Keith, Conservator of the Museum of the Royal College of Surgeons of England. The subject of the lecture will be anatomy in Scotland during the life and times of Sir John Struthers. Medical practitioners and students are cordially invited to attend.

Dr. F. W. Mott will introduce a discussion on The Differential Diagnosis of Syphilis and Parasyphilis of the Nervous System at a meeting of the Medical Society of London on Monday next, at 8.30 p.m. The following have expressed an intention to take part in the discussion: Sir David Ferrier, F.R.S., Sir Victor Horsley, F.R.S., Dr. G. H. Savage, Dr. Risien Russell, Dr. T. B. Hyslop, Major French, R.A.M.C., Dr. Wilfred Harris, Dr. Farquhar Buzzard, and Mr. Alexander Fleming. The discussion will be continued on Monday, November 20th, at 8.30 p.m.

At the anniversary meeting of the Royal Society, to be held on November 30th, Sir Archibald Geikie, K.C.B., will be proposed for re-election as President, and Sir Joseph Larmor, D.Sc., and Sir John Rose Bradford, M.D., as secretaries. Among those to be then proposed as members of the council is Sir Ronald Ross. It is announced that the King has signified his approval of the proposed awards of the two Royal medals, one of which is to be given to Dr. W. M. Bayliss, F.R.S., of University College, London, for his researches in physiology.

Medical Notes in Parliament.

National Insurance Bill.

THE debates in Committee and questions in the House of Commons are reported in the SUPPLEMENT (pp. 441-444, et seq.).

The Sanitary Commissionership with the Government of India.

In the House of Lords on Thursday, November 2nd, Earl Curzon raised a debate on the question of the abolition of the offices of Directors-General and Inspectors-General in several departments of the Indian administration and to the reduction of the army in India, and asked the Secretary of State for India to explain the policy of His Majesty's Government in these respects.

After referring to the proposed abolition of the office of Director-General of Archaeology and the Inspector-General of Forests and the Director of General Agriculture, Lord Curzon said that with regard to the proposed abolition of the office of Sanitary Commissioner with the Government of India he was content to rest his case on the report of Lord Morley's Commission, which stated that within certain limitations such an officer would prove a very useful adviser to the local governments as well as to the Government of India. In conversation recently with a responsible officer of a local government, that gentleman had said that a central Sanitary Commissioner was very much wanted, and that the Government of India could afford to pay a man of greater knowledge and wider experience than the local governments could. He instanced the prevention of malaria, which he said was not a local or provincial, but an imperial problem which could not be dealt with by local bodies. The official from whom he was quoting concluded by saying that the abolition of the office was not only inexpedient, "but positively wicked."

The Secretary of State for India (the Marquess of Crewe), in the course of his reply, said that the case of the Sanitary Commissionership was on a somewhat different footing from the other central appointments, since it did not involve the question of centralization or provincialism. The proposal of the Government of India was that, instead of having a Director of the Indian Medical Service and a Commissioner of Sanitation, the duties of these two offices should be once more placed under one head, the Director-General of the Indian Medical Service being given full charge of sanitation. Upon this point he had, in agreement with the India Council, formed the opinion that it was desirable to retain the Sanitary Commissioner. It had been pointed out to the Government of India that the separation of sanitation and medical research from the practical and clinical sides had caused difficulty, and had tended to make the research side unpopular with young men who wished to keep in touch with the advance of knowledge. It was necessary that they should have a chance of watching the application of applied science to treatment, and they were unable to obtain that chance as long as research was carried out far away from large hospitals; the Government of India had come to the conclusion that the medical and sanitary sides should be brought closer together. He thought that was an argument that demanded consideration, and had therefore asked the Government of India to consider carefully what the relations of the Sanitary Commissioner ought to be with the Director-General of the Indian Medical Service. With regard to the office of Inspector-General of the Civil Veterinary Department, Lord Crewe said that he agreed with the Government of India that it should be abolished; the provincial departments had gained experience, of which they made full use, and there was a central board of veterinary science which dealt with the problems in which veterinary surgeons were interested. It was believed that this board would be able to exercise all the functions hitherto performed by the Inspector-General.

The Earl of Cromer, in the course of a short speech, said that it was satisfactory to know that though the sword was suspended over the sanitary department its doom had not yet been sealed.

In the House of Commons on the same day the Under Secretary of State for India said in reply to a question that the Secretary of State had decided not to sanction the abolition of the "Inspector-General of Sanitation."

Vaccination and Small-pox.—Mr. Burns, in replying to Mr. Snowden, said that he had learnt that one boy of 5 had died of small-pox during the recent outbreak in London. The information recorded as furnished on his admission to the hospital was that he had been twice unsuccessfully vaccinated. No marks of vaccination were found on him.

Asylum Officers Bill.—In reply to an enquiry by Mr. Nield, who asked the Prime Minister whether it was the intention of the Government to press forward with a view to passing this session the Asylum Officers (Employment, Pensions, and Superannuation) Bill, the Prime Minister said that he was afraid there was no reasonable prospect of the bill being passed into law during the present session.

Condensed Machine-Skimmed Milk.—Mr. Charles Bathurst asked whether, in view of the reports made by Professor F. J. Lloyd in 1907 and 1909 to the British Dairy Farmers' Association to the effect that condensed machine-skimmed milk was unfit for consumption by infants, and ought to be described on the tin containing it, and of the report made by Dr. Coutts on September 8th last to the like effect, he proposed at an early date to issue regulations prescribing the conditions under which such milk should be sold, and requiring the tins containing it to be conspicuously labelled in the manner suggested? Mr. Burns, in reply, said that various suggestions which had been received from different quarters consequent on the issue of Dr. Coutts's report were now under the consideration of the Local Government Board.

Vaccination in the British Army.—Mr. J. Ward asked the Under Secretary of State for War whether he could give the number of men, recruits or otherwise, in the British army, at home or abroad, who went into hospital on account of vaccination or revaccination, or sickness consequent on vaccination or revaccination, in the years 1900 to 1910. Colonel Seely, in reply, said that no statistics prior to 1907 were readily available. The figures for subsequent years were as follows; 1907, 379; 1908, 316; 1909, 284; 1910, 379.

European Troops in India (Vaccination of Women).—Mr. Pointer asked the Under Secretary of State for War whether he could explain the statement on page 41 of the Annual Report of the Sanitary Commissioner with the Government of India for 1909 that none of the women with the European troops in India who were attacked by small-pox during the year 1909 had been revaccinated, in view of the statement on page 203 of the Army Medical Department Report for 1906 that in October of each year all men, as well as women and children, are inspected, and those revaccinated who do not show either satisfactory marks or records of vaccination; and whether, if the women in question were, in fact, not revaccinated, he would state how it was that they escaped the operation at the last annual inspection of their vaccinal condition. Colonel Seely, who replied, said that it might be presumed that at the inspection in question no renewal of vaccination was considered necessary, either because the women bore marks which were considered satisfactory marks of vaccination or because there was a record of revaccination in their cases.

Compulsory Revaccination in Bombay.—Mr. Montagu, in reply to a question by Mr. O'Grady, said that the Secretary of State was aware that the Bombay Municipal Corporation had resolved to recommend to the Bombay Government that it should undertake legislation for the introduction of compulsory revaccination into Bombay city. He had no information as to whether the recommendation had been made or as to the views of the Bombay Government. If legislation should be proposed, the constitution of the enlarged Bombay Legislative Council secured that full consideration was given to local opinion. There were no dissentients from the resolution passed by the Bombay Municipal Corporation. Two Parsi members who were against compulsory revaccination in 1908, this year reported in favour of, and voted for, its adoption.

Patent Medicines (Stamp Duty).—Mr. C. Bathurst asked whether the Customs and Excise Returns for the year ended March 31st, 1911, disclosed payment of Stamp Duties in respect of patent medicines of upwards of £325,000; if so, whether this represented an increase, and to what extent, on the amount of the duties paid under the same head during the previous financial year; what number of packages of patent medicines the above duties represented, and whether, in view of the amount of such medicines widely advertised and of no curative value consumed by poor persons, the Government contemplated introducing any legislation dealing with this question. In reply, Mr. McKinnon Wood said that the yield of the duty on patent medicines in the year ended March 31st last was £325,646, which was an increase of £12,532 on the receipt for the previous year, but was little more than £2,000 over the average receipts for the past ten years. No figures were available as to the number of packets of medicines represented by the figures for the year. The last part of the question appeared to be one for the Home Office.

Vivisection.—In reply to Mr. George Greenwood, the Secretary of State for the Colonies said that the Sections of the Animals Protection Acts of Victoria and Queensland which dealt with vivisection were Nos. 12 and 13 in the former case, and No. 12 in the latter. He regretted that he was unable to give any information as to the Regulations which might be in force on the subject.

Vaccination of Children (Scotland).—In reply to Mr. Barnes' the Lord Advocate said that he was informed that the Scottish Local Government Board did not specify the number of marks required for the efficient vaccination of children. It was aware that children were vaccinated gratuitously at the Sanitary Chambers in Glasgow, and that all primary infantile vaccinations were performed there by duly qualified medical practitioners. The Board was further informed that it was the case that twelve separate punctures were made in primary vaccination of infants, such punctures being very close together. A general description of the method of vaccination in the Sanitary Chambers, Glasgow, would be found at page 19 of Appendix VIII of Final Report of Royal Commission on Vaccination, 1897 (Cd. 8614).

Superintending Sisters, Royal Navy.—In reply to Lord Beresford, Dr. Macnamara said that the total number of sisters in Queen Alexandra's Royal Naval Nursing Service was seventy, inclusive of three head sisters and seven newly appointed superintending sisters. The superintending sisters had seniority in the rank of sister as from February 1st, 1905, June 1st, 1905, May 1st, 1906, December 2nd, 1908, January 2nd, 1909, January 11th, 1909, and January 18th, 1909, respectively; four of them had not yet served abroad, and the other three had not completed a normal term of foreign service at the date of their promotion. As a result of the most careful consideration the Board found it necessary, in making these promotions, to pass over a number of sisters who, although qualified to perform their present duties satisfactorily, were not fitted for the discharge of the more important administrative duties devolving on a superintending sister.

Naval Sick Berth Staff.—Lord Charles Beresford asked the First Lord of the Admiralty whether he was aware of the discontent amongst all ratings of the naval sick berth staff; and why an attendant looking after a mild case of measles received an allowance of 6d. a day, yet an attendant carrying out the risky work of looking after a typhoid case only received an allowance of 4d. a day, a dispenser was only awarded an allowance of 2d. a day, despite the fact that his duties during the influenza epidemic in the North Sea or in the fever months in the Mediterranean were very heavy, and why the allowance to a masseur qualified in massage had been reduced from 1s. to 6d. a day. Dr. Macnamara replied that these various allowances were adopted on the recommendation of the recent Committee on the Naval Medical Service, and were graded with due regard to the value, difficulty, danger, etc., of the particular work for which allowance was given.

Vaccination Prosecutions, Eastbourne.—Mr. Rupert Gwynne asked the President of the Local Government Board whether, after the lapse of ten years, summonses against defaulters under the Vaccination Acts have been obtained at Eastbourne by the vaccination officer through the pressure of the Local Government Board inspector; whether there has been any case of small-pox in the town during that period; what is the total number of children in the town legally exempted from vaccination under the Vaccination Acts, 1898 and 1907; and what special circumstances, if any, prompted the action of the Board. Mr. Burns: It is the duty of the vaccination officer to take proceedings to secure compliance with the Vaccination Acts, and the Board's inspector, at his last inspection of vaccination in this union, reminded him of this duty. The Board understands that the vaccination officer has recently obtained summonses against certain persons who have not complied with the Acts. During the last ten years there have been two cases of small-pox in Eastbourne. The total number of children in the Eastbourne Union who have been legally exempted from vaccination from the time of the passing of the Vaccination Act, 1898, to July 31st, 1911, is, according to the Board's records, 5,640. Some five-sixths of these have been children residing in the town of Eastbourne.

Public Vaccinators.—Mr. Crawshay-Williams asked the President of the Local Government Board whether his attention had been called to the opinion of Dr. Killick Millard, medical officer of health for Leicester, that the future control of small-pox lay with the medical officer of health rather than with the public vaccinator; and whether the Board was prepared to allow the position of public vaccinator to lapse as vacancies arose. Mr. Burns said his attention had been drawn to the opinion attributed to the particular medical officer of health. He was not at present proposing any alteration in the position of the office of public vaccinator.

Troops and Cholera in India.—In reply to a question by Mr. Mitchell-Thomson, the Under Secretary for India said that the following telegram had been received from the Governor-General on November 4th: "Outbreak of cholera in 1st Battalion, Royal Scots. Total cases up to date, 25: deaths, 10. It was explosive outbreak, occurring suddenly on November 1st, due to infection acquired in Benares City, where it was prevalent, and aggravated by inrush of pilgrims on account of recent eclipse. Troops moved to camp. Outbreak at once checked; now well in hand and probably over."

Vaccination and Conscientious Objections.—Mr. Burns, in reply to a question by Mr. Crawshay-Williams, said that the total number of declarations of conscientious objection to vaccination made, or exemption certificates obtained, in years 1907, 1908, 1909, and 1910, and the percentage of the certificates to births were as follows:

	Total Number of Declarations, etc.	Percentage to Births.
1907	57,675	6.3
1908	162,799	17.3
1909	190,689	20.9
1910	230,947	25.7

Midwives.—Sir John Rolleston asked the President of the Local Government Board whether his attention had been called to a resolution recently passed by the Enfield Medico-Ethical Society, making it compulsory for a midwife who calls in a doctor in any stage of a confinement to guarantee the doctor a fee of not less than 1½ guineas, and that the case be taken over entirely by the doctor; whether he was aware that this was harmful both to the patient and the midwife; and whether steps would be taken, by legislation or otherwise, to settle this matter by arranging that the doctor's fee should be paid by the State in those cases where the patient was too poor to pay a fair fee. Mr. Burns said he had seen in the press a copy of some correspondence relating to the matter. The society in question had not, so far as he was aware, any control over the midwife. He did not consider that the State should be called upon to make a payment in the cases referred to.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

STAFFORDSHIRE.

PRESENTATION TO MR. W. D. SPANTON.

ON October 26th Mr. W. D. Spanton, Consulting Surgeon to the North Staffordshire Infirmary, who has retired from active practice, was entertained at dinner by a large number of his professional friends.

Dr. King Alcock, who was in the chair, presented Mr. Spanton, in the name of a large number of subscribers, with a large silver salver, and in doing so said that the spontaneity of the response to the suggestion to pay a tribute to their distinguished guest was due to their admiration of the inimitable personal characteristics of Mr. Spanton, which, summed up, might be called "Spantoneity." These characteristics were confidence in himself, associated with the power of instilling the same confidence into others; a readiness to say and do what he thought best; foresight in medical science and medical politics, one evidence of which was the improved equipment of the North Staffordshire Infirmary: a ripened knowledge of humanity and sympathy with its failings, which had allowed him to combine kindliness with decision; and an ineradicable love of a fight, as witnessed in his homeric contests with committees, municipalities, etc., and always with deceit, dirt, disease, and death. The profession in Staffordshire owed an enormous debt to Mr. Spanton. How Mr. Spanton would find scope for his ebullient energy and marvellous vitality in the profound peace of Hastings it was difficult to see, but in any case he carried with him the best wishes of his Staffordshire colleagues for his continued happiness, prosperity, and good health.

Dr. Phillips, speaking on behalf of the profession in Hanley, said that Mr. Spanton had rendered invaluable help, both professionally and socially, for many years, and that his loss would be correspondingly felt.

Dr. Ridley Bailey, who spoke as a representative of South Staffordshire, said that Mr. Spanton was known to all (1) as an active member at their meetings and a frequent contributor to their debates, ready to criticize or commend, and with his great knowledge and unique experience, prepared to advise a colleague or assist a junior; (2) as their ablest after-dinner speaker, always eloquent and interesting, full of vivacity and humour, with a felicity of phrase and perfection of diction at once the envy and despair of his audience; (3) in private life as a trusted friend and colleague, of wide outlook and great practical skill—always ready to give counsel and guidance, or to defend and protect his less fortunate medical brethren. It was such a three-fold personality which justified the demonstration of goodwill and affection for their guest, with its accompaniment of a more tangible and permanent testimony.

Mr. Spanton, in replying, expressed his most cordial and sincere thanks to the Chairman and the other speakers for the abundantly kind expressions they had used towards him, and the profound gratification it afforded him to receive such a very beautiful gift from his numerous medical friends. It had been a source of inexpressible pleasure to him during his long and active life to be able to render some slight service to so many of them—and he desired to say how much he felt indebted to them for their kind assistance and support on many and often trying occasions when they had sought his help. It was now nearly forty-nine years ago since he first met his old friend Dr. Orton, who preceded him as house-surgeon at the old North Stafford Infirmary at Etruria, and more than forty-seven years since he himself was appointed to that post. At that time the infirmary was surrounded chiefly by fields, and the farm in the adjoining vale supplied the milk for the institution. There were then about 130 beds, and only one house-surgeon with some resident pupils. He went on to compare the very different conditions under which residents work in the present day, and showed how their work was hampered in some respects by certain humanitarians on the one hand, and by the universal desire for shorter hours and less hard work on the other. He remembered when the late Daniel Ball declined to allow an anaesthetic to be given until a preliminary consultation had been held, when it was a common thing to perform major operations without any anaesthetic, and, in spite of grave drawbacks, the results were far better than they were at that time in any of the London hospitals. How that work had been developed and improved upon since the new infirmary was built the reports would show. That it would continue to progress under the present active staff he had no doubt, and he sincerely hoped that the surgical reputation of North Staffordshire would be maintained at a high standard.

HULL.

TUBERCULOSIS EXHIBITION.

A TUBERCULOSIS exhibition, promoted by the Hull branch of the National Union of Women Workers, was opened in the City Hall, Hull, on November 4th by Professor Saundby, President of the British Medical Association, and has been visited by a large number of persons during the week. The object of the exhibition is to show by demonstration the nature, extent, causes, spread, prevention, and cure of consumption. Most of the exhibits were lent by the National Association for the Prevention of Consumption and the Women's National Health Association of Ireland. Special sections were devoted to home and school hygiene, and the department of the Medical Officer of Health for Hull has, under the direction of Dr. J. Wright Mason, provided a large number of exhibits including a series of photographs of slum dwellings, courts, and yards which have been swept away by the Hull Corporation, and an infant's cot made out of a banana crate, with the motto "Baby should sleep alone": three pennyworth of calico, three pennyworth of white paint, and a threepenny crate in this way provide a light, clean and healthy cot.

The Mayor of Hull presided at the meeting, and before declaring the exhibition open Professor Saundby made the following observations:

I am glad to see that the municipality and inhabitants of this ancient city have fully realized the importance of taking measures to prevent the spread of tuberculosis, and are directing public attention to the nature of the disease, to its dangers and dire results, and are anxious to organize rational means by which to check its spread amongst the people, to render those individuals already attacked less harmful to others, and further, to provide institutions in which the malady may be arrested or cured. A disease which causes a tenth part of your death-rate and kills mainly persons in the prime of life is no light evil: it is the cause not only of consumption of the lungs, but in children especially of tuberculous affections of glands and joints, which not only prove fatal in many instances, but cripple or disfigure those who survive with diminished usefulness or impaired chances of happiness. Tuberculosis is an infective disease—that is, it is caused by a microbe which attacks men, cattle, and other animals, and, although there is a slight difference between the microbe that is called human and that called bovine it is unhappily certain that the bovine bacillus which causes tubercle in cattle is as dangerous to us as that called human. It is especially liable to be conveyed in the milk of tuberculous cattle, and statistics show that tuberculosis in children is prone to attack structures which suggest that the microbe has been introduced into the body through the digestive organs. It is therefore in the first place incumbent upon us to endeavour to provide a pure tubercle-free supply of milk. In Birmingham it has been found that about one in seven of the samples of milk examined have contained living germs of tubercle, and if we may regard this as not exceptional we see how great and prevalent is the danger. Yet even milk that contains the germs of tubercle may be rendered harmless if it is boiled or sterilized, to do which involves little expense and trouble, while to neglect it is a manifest breach of duty. Yet it is not the ideal at which we should aim. Efforts must be made to encourage farmers to weed out their tuberculous cattle and to provide tubercle-free milk, and this can be done if the well-to-do will insist

on being supplied with such milk, and will pay the dhanced price which may under present circumstances ite justly be asked for it. If the farmers who are illing to do their best to eradicate tubercle from their wsheds are supported by the well-to-do and by those stitutions which use large quantities of milk, I do not ubt that a marked result will be produced in the course a few years, and that the price of the tubercle-free milk ll sink to that of the contaminated milk at present on e market. It is the duty of the municipality to arrange the proper testing of milk and for the issuing of cer- icates periodically to dairymen who desire to obtain this arantee of the purity of the milk they supply. It is to desired that municipal authorities could go further and ohibit the sale of contaminated milk, but as it is feared t this would lead to such a rise in price as to place s article of food beyond the reach of the poorer sses, and as it may be rendered safe by boiling, it is ser to move forward slowly and reach the desired result one step at a time. Much has been done indirectly in gland to reduce the mortality from tuberculosis by the provements that have taken place in the food and ellings of the working classes, so that, although until ently there has been no organized effort, we compare ourably with our highly civilized neighbours in France Germany, where the death-rate from tuberculosis is her than it is with us. But while this is encouraging, should be in no mood to be content with the work that been done or to neglect any of those measures, either ventive or curative, which recent advances in know- e have placed within our reach. When tubercle takes form of consumption of the lungs it is a greater danger when it attacks glands or joints, because so soon as sufficiently advanced to give rise to cough, the sufferer mes a fruitful agent for the spread of infection. It is ssary, therefore, that cases of consumption should be cted and placed under medical supervision, so that they be taught to avoid becoming dangers to those with m they live or work, or otherwise come in contact. This been done to some extent by voluntary notification, h I am glad to see has been adopted in Hull, and has with a great deal of support and sympathy from medical profession. But while it is a valuable the success of voluntary notification shows that is no insuperable difficulty in making it com- ory, by which many cases that now may escape d be brought to the notice of the sanitary ority, while notification is the means of supplying nformation upon which further action may be taken; next link in the chain is the health visitor, whose ness it is to visit these cases, and to report how ey are sources of danger to others. Health visitors, may tactfully educate the public by spreading a know- of the simple means by which these dangers may be nized. It is encouraging to observe how rapidly the rejudices against open windows are disappearing; for person who slept in a well-ventilated bedroom ten ago, it is not too much to say that there are hundreds so to-day. The danger of spitting seems also to be y appreciated, and the knowledge of the value of fire most economical and efficient means of destroying us material is being spread amongst the people, and d in time be a great relief to the scavenging depart- s of our great cities. Finally, it is the duty of the com- y to provide for the treatment of those sufferers who t in a position to pay for it for themselves. For this se dispensaries are needed for the early detection of and hospitals and sanatoriums to which they can be ed for isolation and for cure. These measures should ordinated and be placed under one common authority re will be overlapping and waste of work and funds; reatly to be hoped that the proposals of the National ance Bill, which would place sanatorium treatment the direction of the local Health Committees, be so modified as to bring all these agencies one common department. I am glad to know that ll you have made such a good beginning, and that ortality from tuberculosis compares favourably with t the other great cities in this country. You have ary notification and you have health visitors. By nificence of Sir James Reckitt twenty beds have et apart at Withernsea for necessitous cases of con- ion, while I hear it is proposed to build a sanatorium with thirty-five beds on the large site purchased for the provision of accommodation for infectious diseases. This is a good beginning, but as you must have from 3,000 to 4,000 cases of tuberculosis in Hull, of which probably three-fourths are in circumstances needing public assistance, still greater efforts will be needed to deal adequately with this mass of human suffering. To this end nothing can conduce more than the exhibition which I have the honour to open to-day, in which may be found illustrations of all that is being done to elucidate the problems concerned with this disease, while these will be explained and brought home to you by the popular lectures of which such an excellent programme has been prepared—lectures, I may say, which some of the most competent authorities in this country have been good enough to undertake for your benefit. I have no doubt the result of this exhibition will be to inspire you with a determination to fulfil the work to which you have put your hands, and I am sure that the energy and enterprise of which you have shown so much by organizing this undertaking will not be wanting to bring the work to a successful completion. Mr. Mayor, I am greatly honoured by being asked to be present on this occasion. I declare this exhibition open; may it be the means of diffusing useful knowledge and of gaining widespread sympathy with the efforts of those good citizens who are carrying on this gallant struggle with the forces of this dire disease.

Mrs. Edwin Grey (Vice-President of the National Union of Women Workers) said that the exhibition would give mothers ocular demonstration of the fact that there were solids in milk, and the public would be taught to understand the dangers of closed windows in houses, railway carriages, and restaurants.

A vote of thanks to the speakers was moved by the Sheriff, and seconded by Sir James Reckitt, the founder of the convalescent home at Withernsea, who said that fifty years ago he suffered from consumption. For two or three years he had to look carefully after his health, but was rewarded by living a tolerably long life. It was, however, better to work for prevention, and to plead for better housing, more living in the open-air, greater cleanliness, and freedom from intoxicating drink. He referred also to the garden city which he and others had built in Hull. It had two thousand inhabitants, and, according to the general experience, there ought to be four cases of tuberculosis, but there were none, an immunity which he attributed to fresh air and healthy surroundings.

A vote of thanks to the Mayor was moved by Lord Nunburnholme and seconded by the Bishop of Hull.

During the week a series of lectures was delivered, one each afternoon and evening in the Lecture Hall of the Royal Institution, and, in addition, demonstrations were given daily in the exhibition.

WEST YORKSHIRE.

Medical Referees and Insurance Companies.

In the Journal of October 28th, p. 1121, some comments were made on the remarks of Mr. Walter Barber, a trade union secretary in Bradford, who said that "he was quite satisfied in his own mind that a large number of the medical fraternity in Bradford have sold themselves body and soul to the insurance companies, and it is with the utmost difficulty that compensation can be got for a workman suffering from an industrial disease." Dr. Bateman, Secretary of the Medical Defence Union, has recently addressed letters to Mr. Barber, asking him to give the names of any medical men belonging to the class he mentioned. Mr. Barber replied by stating that he is not prepared to do so, but at his own time and place will take what action he pleases to substantiate his statements. There can really be no doubt that Mr. Barber has been led into making statements which are not only ungenerous but absolutely incorrect, and he would have been better advised had he unreservedly withdrawn them.

Antivivisectionists and Anthrax Prevention.

An illuminating demonstration of the value of the statements of antivivisection agitators is shown in a correspondence recently carried on in the Bradford press. Dr.

Walter R. Hadwen, in a letter dated September 30th and published in the *Bradford Daily Telegraph*, made the following statements in regard to the preventive inoculation of animals for anthrax: (1) That the Board of Agriculture has declined to sanction the use of the anthrax preventive. (2) That the special Hungarian Commission recommended its Government to prohibit its use as being both useless and dangerous. (3) That Dr. Klein (in 1883) declared inoculation against anthrax to be "perfectly ineffective." (4) That Professor Müller of Berlin declared "preventive inoculation of anthrax has no friends in Germany." (5) In short, that preventive inoculation for anthrax is an affair of the laboratory and not one of practical agriculture.

Dr. Eurich of Bradford, in a letter to the same paper, dated October 28th, gives further information on these five heads, and the public should be able to form its own opinion of the value of Dr. Hadwen's statements. Dr. Eurich shows that the leaflet issued by the Board of Agriculture in 1893, and revised in 1909, contains the statement that "the Pasteur method of preventive inoculation has rendered great service in preserving stock in badly infected farms in various parts of the world," and also suggestions as to when a stockowner may find it profitable to have recourse to preventive inoculation. The special Hungarian Commission report was not obtainable, but in a summary of a report presented by Dr. Hutyra of Budapest in 1894, he stated that prior to inoculation the mortality amongst sheep and cattle ranged from 5 to 10 per cent.; after inoculation the following rates of mortality were found: Among 6,665 inoculated horses, 0.22 per cent.; 87,430 head of cattle, 0.14 per cent., and among 398,743 sheep, 1.28 per cent. Dr. Eurich suggests that it is not likely such wholesale inoculations would have been carried out without the active support of the Hungarian Government.

Dr. Klein has written to Dr. Eurich to say that he never expressed the opinion attributed to him by Dr. Hadwen. In 1883, at the request of the Local Government Board, he tested certain samples of vaccine prepared in Paris, which he found did not do what they professed to do, and which he therefore condemned. Professor Neisser of Frankfort has informed Dr. Eurich that preventive inoculation against anthrax is "considerably used" in Germany, and reports are to hand as to its extensive use in France, Russia, Australia, and the Argentine. Yet Dr. Hadwen in his letter asserted "that preventive inoculation for anthrax was simply an affair of the laboratory, and not one of practical agriculture." Further, Dr. Hadwen declared that statistics of the use of Sclavo's serum in the treatment of anthrax in human beings, quoted by Dr. Eurich, were "unscientific and misleading." "It is always advised," Dr. Hadwen continued, "and the advice is almost invariably followed, that the use of the serum should be combined with 'excision' of the infected area and 'cauterization' of the wound by the application of perchloride of mercury. And, as the latter methods of procedure alone have always given the best of results when promptly adopted, what authority is there for giving credit to a serum the nature and action of which neither Dr. Eurich nor any one else knows anything about?" Dr. Eurich states in reply that the 67 cases quoted by him were a series treated by Sclavo's serum only and with nothing else (see Dr. Legge's Milroy Lectures on anthrax, 1905).

BIRMINGHAM AND DISTRICT.

THE SUMMER INFANT MORTALITY.

THE report of the Medical Officer of Health for Birmingham shows that during the third quarter of this year the death-rate was 18.2 per 1,000, as compared with 12.1 in the third quarter of 1910. This great increase in the mortality was due to the prevalence of infantile epidemic diarrhœa. The infant mortality-rate was 269 in 1,000 births, as compared with the mean rate of 187 in the preceding ten years. Of the total number of deaths of infants, numbering 980, no less than 608 were due to this one cause. The infant mortality-rate was highest in the municipal wards of St. Mary's, 465; Ladywood, 449; St. Pauls, 419; and St. Bartholomew's 388; while it was lowest in Edgbaston and Harborne, 133; Balsall Heath, 183; Bordesley, 192; and Saltley, 202. The Medical Officer of Health considers that this year's mortality is from one-half to two-thirds greater than it would have been had the weather conditions been similar to those of bygone years. He thinks that 400 to 600 lives have been spared as a result of the work which has been going on for the prevention of this mortality in recent years.

THE HOSPITAL SATURDAY COMMITTEE OF COVENTRY.

The Hospital Saturday Committee of Coventry has handed over to the Coventry and Warwickshire Hospital General Committee £3,500 as the year's contribution of the workpeople. This is more than in 1910, when the sum received was £3,300. The amount given to this institution since the formation of the Saturday Fund in 1874 has now reached the grand total of £46,982. In addition to the £3,500, £350 was presented by the Saturday Committee for the extension scheme of this hospital.

MANCHESTER AND DISTRICT.

MIDWIVES AND THE INSURANCE BILL.

A WELL-ATTENDED meeting of midwives was held on Thursday, November 2nd, at the Memorial Hall, Manchester, to consider the Insurance Bill as it affects midwives. Mrs. Margaret Lawson, President of the Association of Midwives, described the failure of that association to secure an interview with the Chancellor of the Exchequer, though, after many efforts, they were received by the Attorney-General in his place. There was fear that the 30s. allowed by the bill for maternity benefit would be taken by the medical men, and they would go back to the conditions when some "handy woman" would be called in to help the doctor, possibly coming direct from a scarlet fever case to the lying-in room. Councillor Margaret Ashton, who has been a member of the Manchester Midwives Supervising Committee, said that midwives had had no peace since the Act of 1902, and the Insurance Bill while it was unfair to women generally, was especially unfair to midwives. The midwife had no security at all for payment of her services under the bill, and it would be quite easy for the doctors, who were to be represented on the local Health Committees, to prevent midwives practising in any town. Already, she said, doctors were preparing to take maternity cases and to supply handy women to assist them. If the mothers were robbed of the services of good midwives by this bill, and were compelled to have a doctor and a handy woman, more mothers would be lost than were being lost now. A resolution was carried unanimously calling on the Government to provide for the appointment of working midwives on the local committee dealing with the administration of maternity benefits under the bill.

It is difficult to imagine the state of mind that can have driven Councillor M. Ashton to make such unworthy insinuations against medical men. If she had desired to break up the amicable relations that now exist between medical men and midwives in Manchester she could hardly have taken a more certain method, and some explanation and apology is due from her.

Apart altogether from her reflections on the medical profession, it is clear that Miss Ashton, and Mrs. Lawson also, are imperfectly acquainted with the provisions of the Insurance Bill, either in its original or amended form. We may refer both ladies to Clauses 13 and 15, and in particular to Clause 16, which as amended is as follows:

16.—(1) Where the mother of the child is herself an insured person, and is not the wife of an insured person, maternity benefit shall be treated as a benefit for her, and shall be administered in cash or otherwise by the approved society of which she is a member, or, if she is not a member of any society, by the local Health Committee; in any other case the benefit shall be treated as a benefit for her husband, and shall be administered in cash or otherwise by the approved society of which he is a member, or, if he is not a member of any such society, by the local Health Committee, and shall be payable in respect of a posthumous child.

(2) Provided always that the mother shall decide whether she shall be attended by a registered medical practitioner or by a duly certified midwife, and shall have free choice in the selection of such practitioner or midwife.

THE NEW BOTANICAL LABORATORIES AT THE UNIVERSITY.

The new botanical laboratories at the Manchester Uni-rsity were formally opened on November 3rd by Dr. H. Scott, F.R.S., President of the Linnean Society. ceremonial key representing in coloured enamel on ver a flowering plant, designed by Mr. Paul Waterhouse, e architect of the new buildings, was presented to Dr. ott.

n the course of his introductory remarks the Vice-ancellor, Sir Alfred Hopkinson, said the department of any in the Owens College dated very far back. None those who were connected with the old college would get the name of Dr. Williamson, the first Professor of tany, and it was fortunate that they had been able to Dr. Scott to form the open- ceremony, as was not only of the most stinguished anists but an friend of Dr. lliamson, and who had de- ted attention the same nches of study. had been found irable to place new building and belonging he university, he thought it ld be agreed the efforts of architect had most suc- ful in provid- a building ad- bly adapted its purpose, a pleasing hitectural vement as The uni- ty was much pted to the factions of ssor Barker Mrs. Spence, would wel- e contribu towards the f the money was needed. a meeting l in the mistry tre after the ing had been ected, Dr. t said the r of open- he building llen on him count of his iation with to Professor liamson.

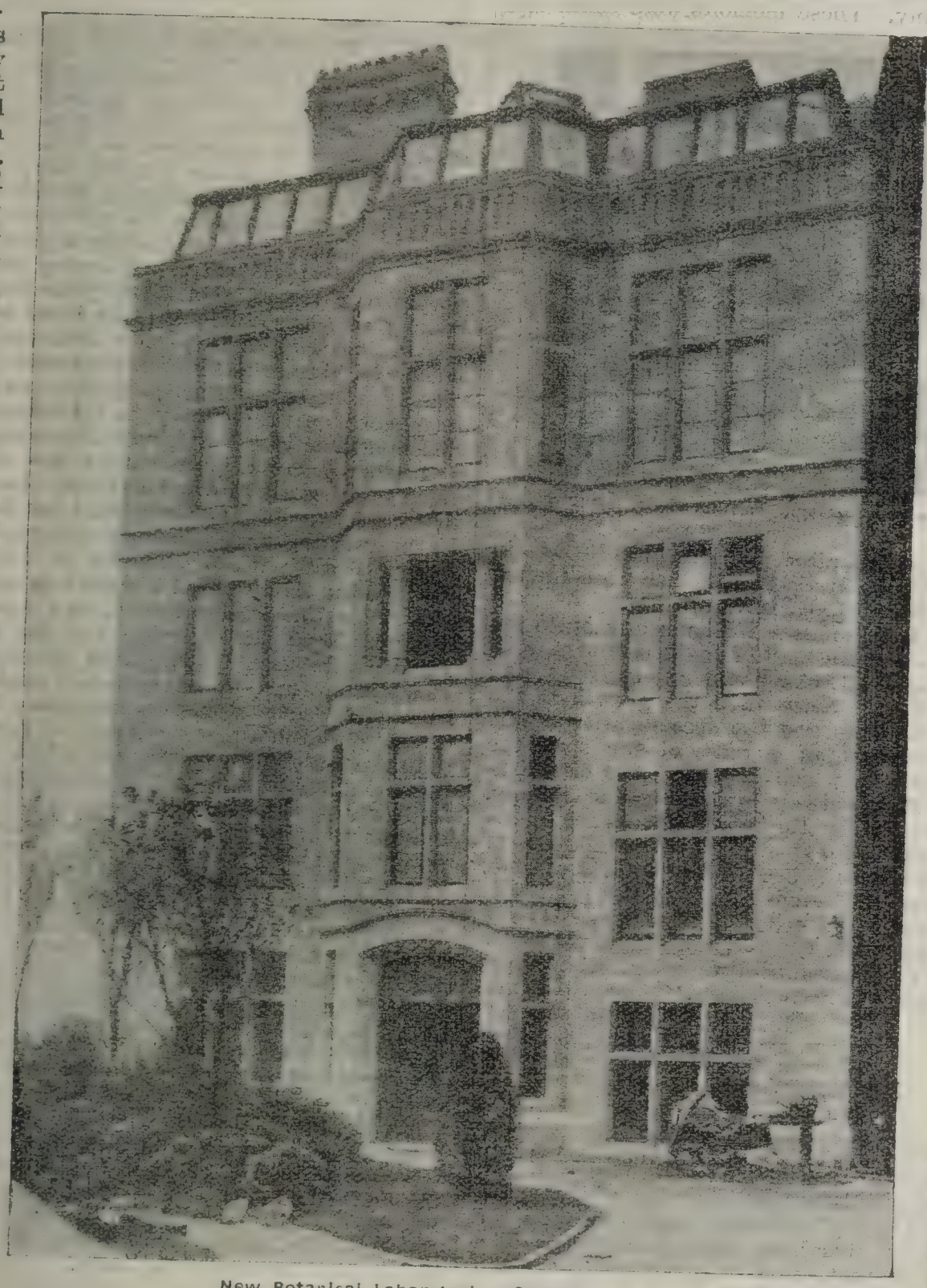

New Botanical Laboratories: South Elevation.

g the sixty years since the foundation of Owens e there had only been two Professors of Botany, Dr. nson and the present occupier of the chair, Professor . Professor Williamson had taken a leading part in ng home to scientific people the importance of those remains of plants that show some structure, and he lad to say that Professor Weiss, who had now been f the department for nearly twenty years, had fol- in Dr. Williamson's footsteps as a student of fossil . Manchester had now become one of the chief s of botanical teaching in the kingdom, and students n agricultural college took part of their training in niversity. What was wanted was to help those who een trained on the land, for all the resources of science would be needed to make agriculture remunerative not to the big farmer only, but to those who had the actual work to do. He had no doubt that the Department of Botany would do its best to throw light on agricultural problems and to give real aid in building up the prosperity of the English people so closely bound up with the cultivation of the land.

A vote of thanks to Dr. Scott was proposed by Sir Edward Donner, seconded by Professor Weiss, and very cordially passed.

The new botanical block, designed by Mr. Paul Waterhouse, is built in continuity with the north-west wing of the main building, and faces southward into the back quadrangle. It is a square block, 40 ft. by 40, consisting of four main floors with two mezzanines.

For palaeobotany, the study of which is so closely associated with the name of the late Professor Williamson, the first Professor of Botany of the Owens College, a room is set apart on the ground floor, while on the north is a well-lighted laboratory for thirty junior students; this is connected directly with the larger Elementary Laboratory in the main building, which is capable of seating forty more students.

On the first floor, opening into the Senior Laboratory, is a large Research Laboratory, which has 40 ft. of north light for microscope work and working places for eight or ten students. Adjoining the Research Laboratory is a room for the necessary books of reference, and particularly for the valuable collection of pamphlets used both by the staff and the students.

The second floor is devoted to the Cryptogamic Department, and is under the direction of the Barker Professor of Cryptogamic Botany (Dr. W. H. Lang). There is a large research laboratory with preparation-room, and a room for the incubators and sterilizers necessary for mycological investigations in connexion with plant diseases. The Barker Laboratory will be available for inquiries connected with agriculture, such as investigations into diseases of plants caused by fungi and bacteria.

On the third floor is the laboratory for plant physiology, designed so as to possess both north light for microscope work and south and west light for experiments requiring direct sunlight. A row of greenhouses occupies the whole extent of the south front of the top floor. The green-

houses are divided up so as to have a hot and moist and a cooler and drier portion. There is also a small shade greenhouse for plants requiring protection from direct sunlight, often for experimental purposes.

The new botanical block is entirely devoted to laboratory accommodation, and does not contain any lecture rooms or museum galleries.

During the forty years of his tenure of office in the Owens College Professor Williamson found time, in spite of the claims imposed on him by his multifarious academic duties, to publish a series of memoirs on the organization of fossil plants of the coal measures. These gained for him the highest reputation both at home and abroad, and still remain the standard work for all investigators in this branch of botany. These memoirs were continued

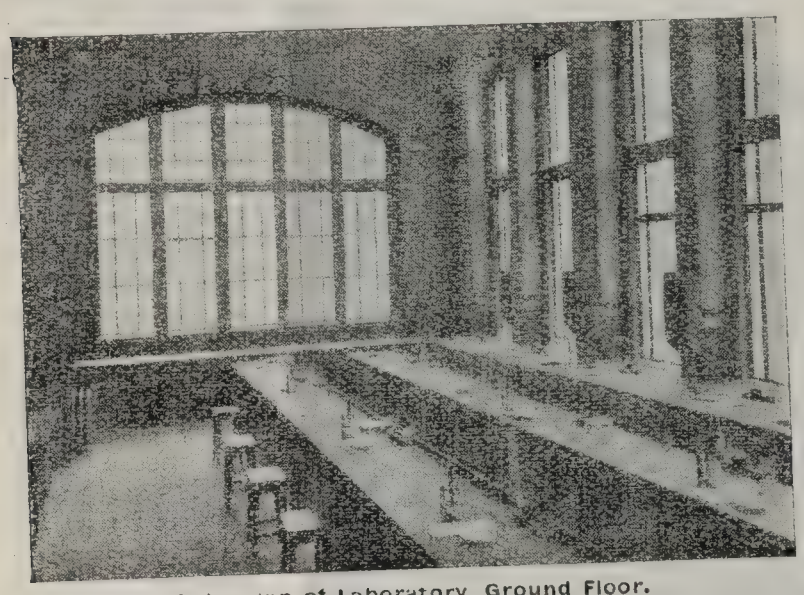

Extension of Laboratory, Ground Floor.

by Professor Williamson, after he left Manchester, in collaboration with Dr. D. H. Scott, who has been invited to open the new Botanical Laboratories.

When in 1892 the late Professor Williamson resigned the Professorship of Botany, the staff of his department consisted of the Professor of Botany and one assistant, the late Mr. Thomas Hick. Since then the growth in the number of degree students and the specialization of the subject have necessitated an increase of the staff, the most notable addition to which has been the establishment of a special Professorship in Cryptogamic Botany. This was made possible by the munificent legacy of the late Professor Barker, for many years Professor of Mathematics in the Owens College, but in his leisure time, and particularly after his resignation from the professorship, an ardent student and collector of mosses. On his death in 1908 he left a very considerable sum, partly for the founding of a Professorship of Cryptogamic Botany, and partly for bursaries in Mathematics.

LIVERPOOL.

Epidemic Diarrhoea in Children.

A report has recently been issued by Professor E. W. Hope, Medical Officer of Health for the City of Liverpool, on the recent rise in the Liverpool death-rate, and the prevalence of epidemic diarrhoea amongst children. The report states that in past years of exceptional heat and dryness epidemic diarrhoea had been prevalent in Liverpool, and extensive measures had been adopted to check it. These special measures comprised house to house visiting by a large staff of female inspectors to impart knowledge to parents relating to the proper feeding and care of infants; the distribution of leaflets of instruction; special attention paid to the scavenging of the poorer districts and the surroundings of the insanitary places where animals are slaughtered; the treatment with lime of stable middens to destroy flies, and the opening of special wards in the city hospitals for the treatment of cases. During recent years these methods had proved effective and successful, and so proved this year down to the beginning of August, when the anticipation of continued immunity was upset by labour troubles and the strike, which interfered with the efforts to combat the disease, by causing lack of supplies of wholesome food, especially milk; the neglect of infants by those who were directly responsible for their well-being; and difficulty in carrying out sanitary measures, especially in the poorer districts, where they had to be entirely suspended. Between 6,000 and 7,000 tons of trade refuse, garbage from slaughterhouses, and house refuse, etc., had accumulated towards the close of the strike. The work of the sterilized milk dépôts was disorganized, and many parents were unable to obtain this food for infants. All these conditions during a period of tropical heat had the effect of increasing the infant mortality in the disturbed areas, while in other parts of the city the death-rate remained almost normal. The increase of mortality continued after the causes which had favoured it were removed.

Dinner to Dr. Thomas Clarke, J.P.

Dr. Thomas Clarke, J.P., who for over thirty years has been Honorary Physician to the Liverpool Consumption Hospital, has just retired from that position. At a dinner at which he was entertained on October 28th by present and past members of the hospital staff, Dr. Clarke related some very interesting personal reminiscences, and contrasted the differences in the methods of treating tuberculosis now and in his early days of practice. Dr. Clarke had a most varied experience during the first part of his professional career. For three years subsequent to his coming to Liverpool in 1872 he acted as ship surgeon to the Pacific Company; he then held the post of medical officer for three years at the Workhouse, working hard in the fever department when typhus was prevalent. He commenced private practice in Liverpool in 1879, and was appointed Honorary Physician to the Consumption Hospital, and later Visiting Physician to the East Dispensary. He was accorded Provincial Grand Honours in masonry by the father of the late Earl of Lathom. In 1893 he entered the City Council, being returned for West Derby Ward with a majority of 1,628. During his ten years in the council he served on committees associated with the public health, and was instrumental in obtaining from the council a vote for £130,000 to build Fazakerly Hospital for infectious diseases, a large part of which is now used for isolation and treatment of tuberculosis. Dr. Clarke expressed the opinion that by the action of sanitary authorities, the supply of pure water, a perfect drainage system, adequate space to breathe and pure air, the demolition of insanitary property, the guarantee of pure food, and the training of people to live so as to build themselves up to resist tuberculosis, this disease in fifty years would be as rare as typhus is now. Cordial tributes to his work and worth were paid by Professor E. W. Hope (Medical Officer of Health), Dr. R. J. M. Buchanan, Dr. C. Hill, C.C., Mr. H. H. Clarke, C.C. (Chairman of the Medical Board), Messrs. Hugh Clarke, Bushby, I. Hay Rundle, Charles Cope (Chairman of the Hospital), and Mr. W. Paul (Treasurer). The association of the Consumption Hospital and Delamere Sanatorium with the city health authorities in the crusade against tuberculosis is proving a success, but Dr. Hope considered that the work of the hospital and its staff was most important and useful in Liverpool, and that there was a great future before it. He desired to see branch institutions in different parts of the city, for he believed that the diminution of consumption in the city was largely due to this institution, which was one of the pioneer institutions of its kind in the country. Dr. Clarke will retain his interest in the hospital as Consulting Physician.

Opticians and State Recognition.

Mr. W. A. Wynne, President of the newly formed Liverpool and District Optical Society, affiliated to the National Federation of Ophthalmic Opticians, in his address to the members at the first meeting of the session, held on Thursday afternoon of last week in the Board Room of the Common Hall, Hackins Hey, Liverpool, declared that the greatest problem they had to face was State recognition, but it would be secured only when the opticians approached Parliament with a united front—in other words, after present dissensions had been healed. Mr. Wynne said also that the time was not far distant when opticians would have to consider their attitude towards those school medical officers who

bolstered up the fallacy that the general medical practitioner was more competent to correct the defective sight of children than the well-trained sight-testing optician. A discussion followed, and Mr. L. Moreton Parry (Liverpool), the Honorary Secretary, said that members could be insured against prosecution, a scheme having been drawn up by the National Federation of Ophthalmic Opticians, which was applicable to affiliated members, whether certificated or not. On the payment of a premium of 12s. 6d. a member was insured in any one case up to £1,000, and there was a total backing up to £10,000 in any one year by the society which had undertaken the risk. The meeting passed a resolution protesting against the way certain diploma holders in the Spectaclemakers' Company and the British Optical Association advertised in the newspapers, or allowed their names to be used in connexion with advertisements appearing in the papers, such methods being held to be unfair and unjust to the general body of diploma holders. It was ordered that a copy of the resolution be sent to the Spectaclemakers' Company and the British Optical Association.

LONDON.

THE MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

THE reply of the Board of Education to the application of the London County Council for sanction to considerable extensions of the present scheme of medical treatment of school children (BRITISH MEDICAL JOURNAL, July 22nd, p. 187) was reported to the Education Committee of the Council on November 8th. The Council asked that the arrangements with ten hospitals should be continued, and that in addition to the three existing centres for treatment through the agency of local practitioners ten others might be opened, providing for 22,440 additional children.

The reply of the Board of Education was to the following effect:

The proposed establishment of these centres constituted a very large extension of the Council's scheme of treatment, and while the Board fully appreciated the desire of the Council to make further and continuous progress towards the provision of a complete scheme of treatment for the children in the public elementary schools of the metropolis, it appeared doubtful whether the Council would be wise in committing itself at this juncture to such an extensive development of this single type of medial agency. The reorganization of the Council's arrangements for the administration of medical inspection and treatment was a matter of the first importance to the school medical service of London. Though the Board did not suggest that all extension of schemes of treatment should be postponed pending the reorganization, it appeared desirable that until the new organization had been established and the responsible officer (who it was understood would combine the offices of county medical officer of health and school medical officer) had had time to consider and advise the Council on the matter, any extensions of the work should be confined to rather narrow limits, and so far as they were immediately necessary, should be undertaken only on a provisional basis.

The Board was not satisfied that the establishment of a large number of treatment centres, conducted under conditions similar to those existing at the Norwood and Wandsworth centres, was in all respects desirable. The Board recognized that much valuable work had been done there, but it had regarded the existing organization of those centres as tentative and experimental, and doubted whether at the present time it was wise to occupy so much ground in all parts of London by one particular form of agency, the establishment of which might prejudice the development of other agencies more appropriate to the circumstances, and better fitted to serve as the basis of a complete and permanent system. Indeed, the Board thought that the constitution of these centres must be modified in several important respects if they were to form an integral part of a co-ordinated system of inspection and treatment; and it was almost essential that in introducing the modifications required, the Council should have the advice and assistance of a chief medical officer who would be appointed shortly.

The Board would be very reluctant to refuse or even to delay provisional sanction to any well-considered extension of the Council's scheme of treatment which would be put into operation at once, and be used for the immediate relief of children whose defects had been ascertained, but who could not now obtain treatment because the existing means at the disposal of the Council were inadequate. But, from the information before it, and after considerable inquiry, the Board was not satisfied that the existing conditions in respect of medical inspection and medical treatment in London were such as to justify the particular form of development on such an extensive scale as the Council proposed for immediate adoption, and therefore some postponement was preferable. It appeared hardly possible for such establishment to be effected within the next three months, as the Council suggested. Not one of the new centres, except that at Deptford, was, in fact, as yet in existence; nor had any definite arrangements yet been formulated in regard to the acquisition of premises, the appointment of the medical staff, or the precise control and management of the new medical treatment centres. It would appear, therefore, that the postponement of the adoption of these extensions for a few months, pending the intended reorganization of the Council's administrative arrangements, which was to take effect in less than three months from the end of October (the date of the Board's letter), would not involve the loss of any immediate benefits to the children, but would be more likely to result in the ultimate adoption of a scheme more closely co-ordinated with the Council's system of medical inspection, more definitely under the supervision of the authority, and more directly fitted to the needs of the area as a whole. The ultimate gain to the children resulting from the establishment of such a scheme would far outweigh any disadvantages which might arise from temporary postponement. In these circumstances it appeared very desirable that the matter should be further considered by the Council, and the Board had decided, therefore, that it would not be justified at this stage in sanctioning the proposed large extension of the scheme.

The Board intimated that it would be prepared to sanction the proposed arrangements with the committee of the Deptford Children's Health Centre, and the continuance until December 31st, 1912, of the arrangements for the medical treatment of children at the nine hospitals and three treatment centres (Norwood, Wandsworth, and Woolwich), in respect of which sanction had already been given for the year ending December 31st, 1911. This sanction covered the proposed modifications and extensions of the arrangements with certain of these institutions, and was subject to the Council furnishing the Board before the end of this calendar year with a statement to the effect that the committees of each of the hospitals and treatment centres concerned had consented to the continuance and extension or modification of the existing agreements. The Board would also require to receive from the Council not later than October 31st, 1912, a full report by the Council's school medical officer on the working of the arrangements now sanctioned.

The Children's Care Subcommittee in commenting on the Board's letter stated that the proposals under discussion were submitted in fulfilment of a pledge by the Council that at an early date substantial progress would have been made towards a complete scheme. The subcommittee gathered from the letter that while the Board was unwilling to sanction the present proposal as a permanent settlement of the question, it would be prepared to consider individual schemes of an urgent nature on their merits.

The Education Committee decided to write to the Board of Education inquiring whether individual proposals for providing treatment would be acceptable pending the reorganization of the medical work of the Council.

SOUTH WALES AND MONMOUTHSHIRE.

THE NEWPORT MOTHERS' SCHOOL.

THE annual report of the Newport Infantile Health Central Committee for 1910 shows that good work is being done in the encouragement of natural feeding of infants, and the teaching of hygiene to the mothers. The former object is achieved by giving supplies of fresh milk to the mother for her own consumption during lactation. That the teaching at the school for mothers has borne fruit is well brought out in the statistics of the Crindau Ward. Here the infant mortality-rate was only 39 per 1,000 amongst the children of mothers attending the Crindau centre, as against 93 per 1,000 among the other infants in the ward. The average infant death-rate for the whole ward has also been materially lowered, and this seems to point to the fact that the good habits of the "instructed" mothers are being copied by their neighbours. The infantile death-rate in this ward was formerly notoriously high. A second centre is now in existence in the Central Ward, and it is to be hoped that similar benefits to the community will result from its establishment.

MADAME PATTI.

The Swansea Town Council has unanimously approved of the suggestion to confer on Madame Patti (Baroness Cederstrom) the honour of being the first freewoman of the borough. This is but a fitting return for the many acts of charity performed by the illustrious "Queen of Song" throughout South Wales. In addition to many concerts given in Swansea on behalf of the hospital and other charities, Madame Patti a few years ago completely equipped the out-patient department at Cardiff Infirmary by the proceeds of a concert at the Park Hall.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

HEATING AND CLEANING OF PRIMARY SCHOOLS.

THE Commissioners of National Education have been notified from the Treasury that they are authorized to make provision in their estimates of expenditure for the next financial year for a grant from the State not exceeding £21,000 towards the cost of the heating of the schoolrooms and the emptying and cleansing of the pits of the out-offices. The first payments will be made in April, 1912, to schools certified as having adequate heating and properly kept premises.

DISPENSARY DOCTORS' SALARIES.

At a recent meeting of the Carrick-on-Suir Guardians a letter was received from Dr. M. J. Moran, Medical Officer to the No. 2 Dispensary District, requesting an increase of salary. Dr. Moran pointed out that his salary was only £80 a year, and that out of this he was compelled to pay 21s. weekly for a man and horse; and that during winter weather, when a second horse was required owing to red tickets being numerous, his weekly expenditure for locomotion was 31s. His whole salary was, in fact, absorbed in this way, leaving him no remuneration for his professional services. He also pointed out that in the surrounding dispensary districts salaries varied from £150 to £180 a year. His letter was marked "Read."

DUBLIN HOSPITALS TUBERCULOSIS COMMITTEE.

At a meeting of the Dublin Hospitals Tuberculosis Committee, held on October 27th, a report from the Advisory Committee of the P. F. Collier Memorial Dispensary for the Prevention of Tuberculosis was received, and arrangements were made for opening the dispensary on November 1st. It was decided, in order to meet the convenience of those patients who find it difficult to leave their work during the day, to attend to patients on two days of the week at 7 p.m. At the same meeting the report of the tuberculosis district nurses in Dublin was received, showing that during the past eight months 3,880 visits had been paid to 308 persons. The report was considered most satisfactory.

EPIDEMIC IN CO. ROSCOMMON.

In the issue for October 14th, p. 945, the existence of an epidemic in the Stokestown district of Roscommon was referred to. This epidemic was at first regarded as being one of cerebro-spinal meningitis, and was reported as such. The presence of Kernig's sign, the discovery of a non-Gram-staining diplococcus in the nasal mucosa of one case, and the fatal character of the disease supporting this view. There seems to have been delay on the part of the local authorities to take steps to prevent a spread of the epidemic, and Dr. Brendan McCarthy, Inspector to the Local Government Board, was sent to the district: after an investigation of the cases he suggested that the disease was not cerebro-spinal meningitis, but acute anterior poliomyelitis, though on the evidence at his disposal it was difficult to decide. In his report he recommended thorough cleansing and whitewashing of dwellings and the use of an antiseptic spray.

THE LATE PROFESSOR FRASER.

Two years ago, when Dr. Fraser, Professor of Anatomy in the school of the Royal College of Surgeons of Ireland, died, an appeal was made on behalf of his widow. Dr. William Taylor, honorary treasurer of the fund, 47, Fitzwilliam Square, Dublin, has sent the following list of subscribers and official statement:

List of Subscribers.

Dr. H. P. Bewley; Professor A. F. Dixon; Sir Charles Ball, Bart.; Sir Henry Swanzy; Sir Thornley Stoker, Bart.; Sir Thomas Myles; R. H. Woods (Pres. R.C.S.I.); Dr. T. E. Gordon; Dr. E. H. Taylor; Dr. J. B. Story; *Sir John Lentaigne; Dr. R. C. B. Maunsell; Dr. H. Gregg Sherlock, and Dr. William Taylor—£10 10s. each.

*Sir Arthur Chance—£9 9s.

Sir Lambert Ormsby; Dr. S. Horace Law; Dr. Denis Kennedy; Professor E. P. McLaughlin; Dr. B. C. A. Windle, F.R.S.; Professor D. J. Coffey; Professor J. Symington, F.R.S.; the late Dr. Lombe Atthill and Dr. R. L. Joynt—£5 5s. each.

*Professor A. H. White and *Dr. Henry Stokes—£4 4s. each.

Dr. L. G. Gunn; Dr. Alfred R. Parsons; Dr. M. McHugh; Dr. C. A. K. Ball; Dr. Alex. Blayney; Captain F. T. Palmer; Dr. G. J. Johnston; Dr. R. F. Tobin; Dr. W. I. de C. Wheeler; Dr. Patrick Maxwell; and Dr. Edgar Flynn—£3 3s. each.

Dr. R. Bolton McCausland and Dr. L. Carlos—£3 each.

Dr. R. H. Dickson; Dr. James Little; Sir Joseph Redmond; Dr. J. J. Bell; Dr. Henry W. Oulton; Dr. A. W. W. Baker; Dr. Seton Pringle; the late Dr. W. J. Hepburn; Dr. A. H. Benson; Dr. Alfred Smith; Dr. George Sheppard; Professor C. J. Patten; Dr. Kathleen F. Lynn; Sir Francis Cruise; Dr. John M. Falkiner; Captain Percy Falkner; Dr. D. B. Jacob; Dr. F. Spicer; Dr. J. H. Glenn; Dr. M. G. Dobbyn; Dr. Janet G. Horwood; Dr. H. H. B. Cunningham; Professor A. F. Keith; Professor A. M. Paterson; Professor Howden; and Dr. Richard Leeper—£2 2s. each.

Dr. Alice Vowe Johnson; the late Dr. David Hadden; Dr. F. Carre; Dr. R. M. Hugo; Dr. W. R. Dawson; Captain D. L. Harding; Dr. C. Cooper; Dr. Granville Chapman; Dr. W. Salisbury Sharpe; Dr. J. McGinn; Dr. W. H. Hornibrook; Dr. G. C. Sneyd; Dr. C. M. Benson; Dr. Charles Greer; Dr. J. M. Reddington; Dr. H. R. C. Rutherford; Dr. D. N. Morgan; Dr. W. M. Courtney; Dr. Bruce H. Peters; Captain W. R. Blackwell; Captain T. B. Moriarty; Major F. C. Heffernan; Dr. W. L. Murphy; Captain E. F. Frazer; Dr. J. M. Crawford; and Dr. J. W. Rutherford—£1 1s. each.

Captain F. S. Walker; Colonel Rainsford; Dr. C. B. Pasley; and Dr. May Thorne—£1 each.

Mrs. and Miss Gleeson—£1 10s.

Dr. John Myles, 10s. 6d., and Dr. J. G. Shera, 10s.

The Masonic Order per Sir Charles A. Cameron, C.B., The Deputy Grand Master, including his own subscription, £45.

From the presentation fund which was being raised for the late Professor Fraser at the time of his death per Sir Arthur Chance, by resolution of the Presentation Fund Committee, £90 5s. 6d.

From the fund collected by the students of the College School for presentation to the late Professor Fraser per T. M. Thomson, £14 6s.

*Those marked with an asterisk had, prior to the late Professor Fraser's death, subscribed £1 1s. each to the presentation fund, transferred as above to this fund.

THE HON. TREASURER'S ACCOUNT.

Receipts.

To gross receipts as per receipt book	£490	15	0
To interest allowed by Ulster Bank, Ltd.	5	11	6
Total	£496	6	6
Deduct expenses as per contra	8	4	9
Balance	£488	1	9

Expenditure.

Ponsonby and Gills for printing	£2	6	0
Stationery, stamps, and scrivening	5	13	3
Total...	£8	4	9

Cheques sent to Mrs. Fraser for £488 1s. 9d.

Accounts examined and found correct,

ROBERT H. WOODS, President, R.C.S.I.

JOHN LENTAIGNE, Ex-President, R.C.S.I.

October 17th, 1911.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

EDINBURGH AND LEITH MEDICAL PRACTITIONERS' ASSOCIATION.

AT the annual general meeting of this association, held in the Royal Medical Society's Hall, the annual report was read and approved and the new office-bearers elected. At the suggestion of the retiring President, Dr. T. R. Ronaldson, it was agreed that the annual report should be printed and circulated among the members. On October 25th the fourth annual dinner was held, and there was a large gathering of members present—ninety in all—under the chairmanship of Dr. Alexander James, the President for the year. Lieutenant-Colonel Sir Joseph Fayrer, R.A.M.C.(ret.), Superintendent of the Royal Infirmary, was the guest of the evening, and proposed the toast of "The Association." Dr. James replied in a characteristic speech, and a most enjoyable evening was spent.

THE FUTURE OF THE RACE.

At the opening meeting of the Royal Philosophical Society of Glasgow on November 1st, Professor John Glaister, M.D., the President, delivered an address on "The Future of the Race: a Study of Some Present Day Aspects of Social Bionomics." He reviewed the present state of pauperism in the United Kingdom and the gradual rise in the rates during the last fifteen years. Despite the

ıge sums spent on education, on sanitation, and like easures, despite increase of wages, the poor-rate had en more than doubled. Having by Acts of Parliament eated a right whereby a destitute person—no matter the nse of his destitution—could demand relief, the laws of ture had been steadfastly traversed and the laws of ciety had gone wrong. From statistics of Glasgow he owed that the districts with the greatest number of poor d the highest rate of infectious disease, the greatest mber of consumptives, the highest infantile mortality, t a birth-rate above the average for the city. He showed at the true test of prosperity was in the fewness of pendent classes in any community, but that at present e race was being propagated by the least fit part of the tion, and that the increasing burdens on the fit to pport these unfit were unjust and grievous. People re suffering from the thraldom of the law of "the erty of the subject," and disciplinary treatment th restraints on the marriage of the unfit were now ential.

Scottish Queen Victoria Nurses.

The quarterly report of the Scottish Branch of Queen toria's Jubilee Institute for Nurses states that there are w 354 Queen's nurses, working under 224 associations, liated to the Scottish branch of the institute. Ten v nurses had been appointed on October 1st, after ining in Edinburgh, Glasgow, or Paisley.

Special Correspondence.

BERLIN.

bling in Memory of Senator.—The Waldeyer Kommers. -Jubilee of the Dermatological Society.—Wireless Tele- raphy and Maritime Hygiene.—Endowment of Research.

o imposing ceremonies have to be recorded, the great lents' "Kommers" in honour of Waldeyer, and the ial meeting of the Berliner medicinische Gesellschaft nemory of Senator. The hall of the Langenbeck se, in which the Senator memorial meeting took place, the crowded appearance of "great" evenings, but one d not but remark the total absence of military and l surgeons. Senator's bust had been placed before a ground of fine laurel trees, and close to it sat his ow and family. Orth, as president, spoke first, his ne being Senator's fifty years' connexion with the ety. Many of his most important researches were first ished to the scientific world at their meetings. For ards of forty years he was a member of the Presiding mittee, until finally the society bestowed on him the est honour at its disposal, by electing him Honorary ident. After Orth, Goldscheider, Senator's successor is University Policlinic, rose to deliver the memorial ess. He surveyed the long list of Senator's scientific urs, giving an exact, though necessarily extremely ensed, account of each research of importance. He drew a picture of the man, as his friends, colleagues, pupils knew him, dwelling on the kind and modest sition, the unwearying industry, the inexorable sty of purpose, and extreme conscientiousness that ed his character.

to the Waldeyer "Kommers," more need not be han that above a thousand students, and many invited s, took part in it, that their homage to the great nist had a ring of spontaneity and genuineness, and a vein of humour—almost of jocularity—not unsuit- o the occasion, ran through many of the speeches.

e Berlin Dermatological Society (founded by Lassar) ated its first "jubilee," the twenty-fifth year of its nce, by a special *Festsitzung* and a banquet, in both of guests from different parts of the empire took

Norddeich, a coast station on the North Sea, a special e of wireless telegraphy has been established, which enable steamers returning to North German ports cholera-infected (or suspected) countries to telegraph ort of the state of health of their passengers and and the methods of disinfection used on board reaching land. The information thus communi- will be transmitted without delay to the police of the harbour into which the ship intends to put. As most of the great ocean liners are now furnished with wireless apparatus, it is expected that the new arrangement will in many cases save both passengers and cargoes from prolonged quarantine delays.

The Society of German Naturalists and Medical Men has come in for a legacy of M.100,000 (£5,000), left by Frau A. Bleichroeder for the subvention of scientific research on subjects connected with medicine, physiology, anthropology, etc. Men or women of exceptional ability and of restricted means who are engaged on expensive investigations are to be eligible, and preference is to be given to such as are unconnected with any official or other well-endowed institutes. The society has accepted the legacy, and has decided that M.6,000 (£300) a year is to be paid out, which means that the fund will be used up in about thirty years.

Correspondence.

CARDIAC ASTHMA.

Sir,—I gather from Dr. Gibson that he objects to the term "cardiac asthma" on two grounds—namely, first, that there is no such thing, and, secondly, that the employment of such a term is objectionable and "odious."

For my part, I maintain that an asthmatic attack can be provoked by a stimulus arising in the heart, and the attack will be indistinguishable in all its clinical features from the ordinary form of asthma.

The term "cardiac asthma" for such a condition is, in my opinion, exceedingly apt and appropriate, for it indicates, not only the nature of the complaint, but the source from which the stimulus which produces the attack of asthma has arisen.—I am, etc.,

London, W., Nov. 6th. J. Mackenzie.

Sir,—To speak of "cardiac asthma" as a disease because it is associated with dyspnoea due to cardiac weakness is a mistake. Many years ago I saw a case of asthma the attacks of which were characterized by sudden onset, very great difficulty in breathing, the expression one of agony, the face quickly becoming darker until almost black. The patient was a passenger from Boston to Liverpool, and in his younger days had been a gold miner; during the intervals he was in perfect health; he must have had premonitory symptoms, because when I was sent for he was in his berth, and far gone in a paroxysm.

I administered chloroform, by which he was quickly relieved. In a short time he was back on deck as lively as any of us. I mention this case because it is one of few I have seen; his purpose for the trip to Europe was to consult every specialist on this side of the globe. To speak of "cardiac asthma" because a man suffers from dyspnoea on walking up an incline seems to me more than a laxity of expression. In the true form it is probable there is spasmodic contraction of the muscle fibres of the bronchi, the lessened lumen not being sufficient to accommodate the normal secretion of mucus, hence the râles of varying degree, the *perles* of Laënnec formed of Curschmann's spirals being rolled up in pellets by the violence of expiratory and inspiratory efforts.—I am, etc.,

Darwen, Oct. 28th. F. G. Haworth.

Sir,—In the letters on the subject of "Cardiac Asthma" appearing in your correspondence column I notice a sentence written by Dr. G. A. Gibson which runs as follows:

> Never in my life has any term such as "brain asthma" or any of Dr. Mackenzie's other parodies been employed by me. Such phraseology is odious; each of these terms coined by the fertile mind of Dr. Mackenzie is as much anathema as "cardiac asthma."

A few sentences lower down in the column Dr. Gibson makes use of the following words:

> In the second [of the two great classes of heart disease] are patients manifesting the complex of symptoms comprised under the term "angina pectoris," in which vascular spasm, instead of causing pain, produces dyspnoea.

Here in a single sentence Dr. Gibson puts forward three assumptions, none of which can be substantiated by

statistical or other evidence having a place in medical literature—namely, that

(*a*) The paroxysm of angina is excited by cardiac disease.
(*b*) The pain of the anginal seizure results from vascular spasm.
(*c*) The dyspnoea of the angina attack is caused by vascular spasm.

(*a*) In a paper appearing in the BRITISH MEDICAL JOURNAL of March 18th, 1911, p. 613, I adduced evidence of a statistical character showing that cardiac lesion is not the determining nor exciting cause of the anginal attack.

(*b*) It is almost universally recognized that referred pain of visceral origin arises from spasmodic contraction of visceral muscle, and that the impression exciting it is transmitted to a segmentary centre by the afferent nerve of the muscle in which the impression is generated. But pain most often experienced in the anginal seizure is referred to the area of distribution of the second to the eighth intercostal nerves: moreover, during the seizure, intercostal muscle and rectus muscle innervated by one or more of these nerves is thrown into a state of spasmodic contraction, and the integuments over these structures is the seat of algesic patches. Can Dr. Gibson show that afferent nerves of myocardium proper, or afferent nerve of aortic muscle, is in any direct connexion with the thoracic segments of the cord from which the intercostal nerves involved in the phenomena associated with the anginal seizure spring? On the other hand, impressions generated in the myocardium and in aortic muscle have an expression in sensory nerves of medullary origin associated with the glosso-vagus accessory nuclei, which constitutes the destination of myocardial afferent nerves.

(*c*) A considerable amount of evidence tends to show that the dyspnoea of angina pectoris results from spasm of diaphragmatic laryngeal and intercostal muscle resulting from a gastric reflex. Since the pulmonary artery and the coronaries have no vasomotor mechanism, it is hard to understand how vascular spasm could cause dyspnoea in angina pectoris.

Thus, while Dr. Gibson accuses Dr. Mackenzie of employing expressions which are "odious" and "anathema," he is assuming facts to be true in regard to angina pectoris which are unproven and for the most part erroneous.—I am, etc.,

London, S.W., Nov. 3rd. H. WALTER VERDON.

SIR,—As one who has frequently used the term "cardiac asthma" in referring to the symptom of breathlessness occurring in cases of heart disease, I have been greatly interested in the letters of Sir Clifford Allbutt, Dr. G. A. Gibson, and Dr. J. Mackenzie. I can recall the case of a patient I treated some time ago for a couple of years, and who in the end died suddenly, who, in my opinion, suffered from periodic attacks, which, so far as my observation went, could be designated by no other term than "cardiac asthma." The patient I refer to was a prosperous London professional man, about 62 years of age. When I first saw him he was suffering from well-marked mitral regurgitation, with an enlarged and dilated heart. There was some enlargement of the liver and spleen, slight dropsy of the legs, and slight oedema at the bases of the lungs, and orthopnoea, all pointing to failing compensation. There was evidence of arterio-sclerosis, and insomnia was a marked symptom. Under Guy's pill, small doses of morphine hypodermically at night, and complete rest in bed, and appropriate dieting, he improved materially, and in a month's time the secondary symptoms subsided, so that for a year's time he was able to move about quite comfortably, and take fairly active exercise, even to the extent of covert shooting. While staying with this patient for weeks at a time at his Scottish residence I had ample opportunity of observing his symptoms. On several occasions, at intervals of days or weeks, he would be suddenly seized without any warning with acute and distressing attacks of breathlessness lasting from a few minutes to a few hours and then passing off quite suddenly. One of these attacks specially impressed me. One evening in the middle of dinner, and when he was in his ordinary condition, he was suddenly seized with an acute attack of breathlessness, which lasted for fully a quarter of an hour and then passed off as quickly as it came on. During these attacks, I always noticed that there was marked tension in the pulse, and slight irregularity of the heart's action, and cyanosis, but nothing beyond that; marked relief was always obtained by the administration of a small hypodermic injection of morphine. At the same time I may mention that I saw him in these attacks when he had no medicament whatever, and they passed off spontaneously in time.

Now these attacks I should have no hesitation whatever in calling "cardiac asthma," and my explanation of the, rightly or wrongly, is that, although accompanied by pain, they are caused by a vasomotor constriction of the coronary arteries, which cuts off a certain supply of nourishment from the heart muscle, giving rise to some embarrassment of the right side of the heart, as evidenced by the cardiac irregularity and cyanosis. There is, consequently, an increased amount of carbonic acid in the blood, which, when it accumulates to a certain quantity acts as a vaso-dilator overcoming the spasm in the coronary arteries, principally with amelioration of the symptoms. In my opinion, it is on this theory that liquor trinitrin gives such marked relief in these cases. The medicine that afforded this patient the most permanent relief was a mixture containing nitro-glycerine, strophanthus, some volatile, and nux vomica in a bitter infusion, and when the attacks of "cardiac asthma" came on an increase in the nitro-glycerine constituent of his medicine always afforded him marked relief. These attacks of "cardiac asthma" were quite evanescent, and distinct in character from the first severe attack of threatened heart failure described. In there was at no time any of the signs of secondary circulatory disturbances accompanying them. They appeared also generally when the patient was at rest, and not after any undue fatigue.

I have many times observed similar attacks in other forms of heart disease, and have been so much impressed with the great relief afforded by nitro-glycerine that were I restricted to the use of one single drug in the treatment of heart disease I would choose nitro-glycerine, but to get the greatest benefit from it, it must be prescribed in solution. I have never found it act so well in any of the solid preparations in which it is so often prescribed. In one case of aortic regurgitation, where there was an undoubted history of traumatic injury to the semilunar valves, and where the patient suffered from recurring attacks of "cardiac asthma," this drug, when given alone, always gave relief; when combined with either digitalis or strophanthus the relief was not at all marked, and I take it that the relief was due to its vaso-dilating properties acting principally on the coronary arteries, allowing more efficient blood supply to nourish the heart muscle which as a result was enabled to do its work more effectively. In cases of marked arterio-sclerosis one has to be careful in its administration, and to guard against a too sudden lowering of the blood pressure, and in these cases it is wiser to combine it with strophanthus or digitalis.

My excuse in writing this letter is that the general practitioner frequently sees phases of disease that do not necessarily come under the notice of the consultant.—I am, etc.,

Oban, Nov. 4th. DUNCAN MACDONALD

THE VARIETIES AND TREATMENT OF ASTHMA

SIR,—Dr. Gibson, in the paper with which he opened the discussion on the varieties and treatment of asthma at the Section of Medicine at the Annual Meeting in July, was hampered by the time-honoured tradition that "the central fact lies in the bronchial spasm." If we could get away from this hereditary belief in muscular spasm, and allow the emotions and peripheral reflexes, which Dr. Gibson mentions as the exciting causes of asthmatic attacks, to produce their natural effect upon the vasomotor system, how much more simple and satisfactory would the investigation of asthma become.

Professor Saundby stated that all the evidence pointed to a reflex spasm of the inspiratory muscles, chiefly the diaphragm. He drew attention to the brilliant results which frequently followed the removal of polypi from the nose. But such results do not in any way show a connexion between nasal irritations and muscular spasm. He did not refer to the effect of the removal of polypi upon the blood pressure, which I have found is marked, nor did he mention the large number of cases in which asthma makes its first appearance immediately after an opera-

r the removal of polypi, nor those in which asthma has
en relieved, more or less permanently, by cauterizing
e nose without touching the polypi. It seems to me
ore reasonable to suppose that the polypoidal condition
the nose and asthma are dependent upon some common
somotor condition, than that they have any causal
lationship. The fact that the more normal the nasal
ucous membrane appears the better is the prognosis as
gards asthma, shows that nasal lésions are not necessarily
e cause of asthma.

Dr. Gibson surprises me when he states that in only
e case of asthma in his wards during the last five years
il the blood pressure reach what we might call a
derate degree, and in no other case did the blood
ssure exceed 120 systolic. (I note in passing that he
ognizes that the arterial pressure rises during a
roxysm, which can hardly be considered a further sign
muscular spasm of the bronchioles.)

find that in the last 100 cases of asthma which I have
n, 74 had a blood pressure of 125 systolic or higher,
of which had 145 or higher, while in only 18 cases was
blood pressure below 120 systolic, and in 9 of these
patients were under 20 years of age. In this connexion
s interesting to note that when a patient has a blood
sure above the ordinary and a normal nose the
gnosis as regards the asthmatic condition is distinctly
d. In such cases improvement almost invariably
ows the reduction of the blood pressure, which can be
mce obtained by proper nasal cauterization. As the
e result can be obtained in cases of Raynaud's disease,
ina pectoris, and migraine, one is forced to the con-
ion that all these conditions are due to the disturbance
he vasomotor system, and that the cautery acts by
ving the peripheral vaso-constriction, thereby re-
ng the blood pressure, and, in the case of asthma
migraine, relieving the compensating vaso-dilation of
ronchial and cerebral vessels.

nust acknowledge that I, like many others, was con-
d in my belief that asthma was produced by muscular
n of the bronchioles, by the researches of Brodie and
n. It was only when Dr. Francis Hare published his
on *The Mechanism of the Paroxysmal Neuroses*
tralian Medical Gazette, August 20th, 1903) and the
Factor in Disease, that I was reluctantly compelled
alize that the pathology of all the paroxysmal neuroses
identical in principle, and that all were dependent
vasomotor disturbance. The only explanation I can
of Brodie and Dixon's conclusions is that these
vers have not sufficiently demonstrated that the dimi-
n of the amount of air entering and leaving the lungs
ir artificially produced asthma was due to the action
e bronchial muscles, and not to a diminution of the
n of the bronchioles resulting from vaso-dilatation of
ronchial vessels. If asthma is the result of muscular
n I ask for an explanation of the following facts:

hat in most cases, the reduction of blood pressure is
ed by relief of asthma.
hat after the relief of asthma a patient usually no longer
from cold hands and feet.
hat sudden change of temperature is the most frequent
of an asthmatic attack.
hat a hypodermic injection of adrenalin usually gives
instantaneous relief in an asthmatic paroxysm.

he term "asthma" is to be confined to cases where
odic dyspnoea is the one and only morbid manifesta-
t is a question whether there is such a thing as
a at all, because it only means that in such cases we
not sufficient knowledge to discover the exciting
If this restriction is maintained, then Dr. Samuel
statements may be correct. In this discussion he

ma, like ordinary epilepsy, develops in childhood, and if
t were not asthmatic when young, he was unlikely to
so in after-life. In other words, if an adult developed
rm of paroxysmal dyspnoea, it was probably not true

t the Oxford meeting in 1904 (BRITISH MEDICAL
L, November 5th, 1904) he said:

are 5,000,000 of people in London, and yet I doubt if
uld be gathered together at the present time from all
0 separate cases of spasmodic or true asthma.

apt to forget that, after all, asthma is only a
m, and if "asthma" is to be used in Dr. West's

restricted sense, a new name is needed to denote the condition of paroxysmal dyspnoea, irrespective of supposed pathological associations—that is, dyspnoea which comes on in definite attacks, is due to an evanescent diminution of the lumen of the bronchioles, has a marked tendency to arise or be exaggerated during the small hours of the morning, and can be more or less modified by the so-called antispasmodic remedies, as distinguished from difficulty in breathing which results from organic obstruction to the air passages, cardiac insufficiency, or other definite disease. —I am, etc.,

London, W., Nov. 4th. ALEXANDER FRANCIS.

GASTROSCOPY.

SIR,—It is scarcely possible to forecast the ultimate value of any device which renders direct per-oral inspection of the interior of the stomach a safe procedure, and at the same time is sufficiently easy to become a routine method in the differential diagnosis under circumstances which otherwise render an exploratory gastrotomy desirable. Thus physicians and surgeons alike will welcome the latest contribution from Dr. William Hill, at the annual meeting of the Association at Birmingham.

To any one who has not seen the long tube attached to the Brüning's handle lamp passed into the stomach, Dr. William Hill's excellent illustrations (p. 1076) may convey the impression that, while its introduction is possible, the technique must necessarily be too difficult for practical use as a diagnostic method. Nothing, perhaps, could be more convincing to the contrary than my own experience when, at that demonstration, Dr. Hill invited me to pass the tube. Now, though I had previous acquaintance with oesophagoscopy, that was my first attempt at gastroscopy, yet the passage of the tube was accomplished in about one minute without difficulty. The fact is, any one who has had experience in oesophagoscopy can use the instrument devised and advocated by Dr. Hill.

For the determination of the size and position of a gastric ulcer, the existence and nature of a pyloric obstruction, and to inspect the gastric mucosa in a case of early malignant growth, etc., the value of gastroscopy appears to be real and full of promise. As Mr. Souttar and Dr. Theodore Thompson were, I believe, the first to utilize gastroscopy systematically, it would be very useful to hear from them again as to whether their more extended experience has confirmed their previously expressed opinion that accurate and helpful observations are obtained with sufficient frequency to lead to a wider application of oesophago-gastroscopy.

The fact that hitherto the instruments, such as that of Mikulicz, and Souttar and Thompson's modification of Mikulicz's original instrument, are not straight, and cannot be passed onwards through the oesophagus into the stomach, *under direct inspection the whole way*, must obviously have added to the danger as compared with Dr. Hill's straight instrument, the introduction of which is guided by the eye from start to finish. One therefore cannot help feeling that this later instrument not only conforms to the best endoscopic principles, but also eliminates many of the dangers inherent to those instruments on which we have had to rely for any assistance gastroscopy could afford.—I am, etc.,

P. WATSON-WILLIAMS, M.D.Lond., etc.,
Clifton, Bristol, Nov. 5th.

SIR,—I notice in Mr. Hill's most interesting and instructive article on the gastroscope that he does me the honour of mentioning my name, and I should therefore like to say a few words as to my experience with his instrument.

I am surprised that this method has not been at once adopted, for, provided the operator is an expert oesophagoscopist, the method is devoid of danger, and does away with the blind insertion which has been responsible for accidents in so many of the different forms of gastroscope previously used. It also proves that the interior of the stomach is capable of being examined with a straight rigid tube beyond all possibility of doubt.

Not only can one carry out an examination with these instruments, but, what is more important still, one can actually probe suspected spots, or, if necessary, remove pieces of growth for examination, as Mr. Hill has pointed out in his paper.

I use the same instruments as Mr. Hill, but in addition I have had the following outer tubes made—53, 65, and 75 cm. long and 11 mm. diameter, and one for children, 50 cm. long and 7 mm. diameter, as from my own experience I have found these outer tubes with the attachment for making them airtight and inflating the stomach of equal, or even greater, value in some cases than the periscope. It is quite possible with the outer tube to examine the whole of the stomach either inflated or uninflated by simply sweeping the end of the tube from one side of the stomach to the other, then withdrawing it a little way and then sweeping it back again in the opposite direction, and so on, until the whole organ has been examined.

Another point that has been very forcibly impressed on me by this method of examination is the fact that the point where the oesophagus passes through the diaphragm is not a fixed point, but is capable of at least 2 in. or 3 in. lateral movement in each direction, and it can also be moved forwards to a certain extent.

For emptying the stomach I use a long Brüning's bronchoscopic suction tube, as I have found that after gastric lavage, which I had carried out in my first cases some hours before examination, there was always about 5 or 6 oz. of fluid retained, which had to be pumped out before an examination could be carried out satisfactorily. I have therefore given this method up, and do the washing out at the time of examination, should it prove to be necessary. Although my experience has not been so large as that of Mr. Hill, my first cases were those of foreign bodies, and occurred, unfortunately, at a time when my outfit was incomplete; and in the first case, that of a child of 8 months, with an open safety pin lying point upwards, although it was quite possible to demonstrate it, yet, owing to absence of inflation apparatus and forceps, it was impossible to turn it round and remove it via the oesophagus; and in the next case, that of a child where repeated radiograms showed the presence of a halfpenny apparently in the stomach, one was able on examination to prove that it was not in that organ. I have only had the opportunity of examining one case in which gastro-enterostomy had been performed, and in this I found that on inflation the air escaped into the intestine, and the periscope therefore could not be used. These cases can, however, be quite easily examined by means of the outer tubes, as I have stated above.

Amongst other cases, I have been able to demonstrate the presence of a gastric ulcer, and in another case, where the symptoms pointed to a growth of the phreno-cardiac portion of the gullet, was able on examination to prove quite easily the absence of any pathological lesion, and to advise against operation.

I have not, so far, attempted any cases under cocaine, and I think, probably in the majority, a general anaesthetic allows one to carry out the necessary manipulations and alterations of the patient's position much more easily, although I have seen Mr. Hill carry out a complete examination under cocaine with the greatest ease. In other respects I agree with all that Mr. Hill has stated, and I hope that his paper will lead to a much more routine use of the gastroscope, which, thanks to him, has now been made a safe and possible procedure.

I should like to add to the contraindications mentioned by Mr. Hill, Pott's disease of the spine, as in a recent case, where it involved the upper dorsal region, the resulting curvature rendered the passage of the instrument impossible. Again, I should like to emphasize the fact that, before undertaking gastroscopic work, the operator must first of all be an expert oesophagoscopist.

My thanks are due to my collegues at the Seamen's Hospital for kindly allowing me to examine some of the above cases.—I am, etc.,

London, W., Oct. 31st. GEORGE N. BIGGS.

THE EPIDEMIOLOGY OF ACUTE POLIO-ENCEPHALOMYELITIS.

SIR,—Further to my note of September 2nd with regard to dust and poliomyelitis, I would like to add the following points which suggest a dust infection:

1. Inhaled dust sets up a naso-pharyngitis.

2. A catarrh of the naso-pharynx is observed in the early stages of the acute disease.

3. Mucus from the naso-pharynx inoculated int monkeys produces the disease.

4. Cases occur for the most part along the main road and in country villages, large towns being comparativel free (better cleansing and use of water-cart).

5. Epidemics occur in hot and dry summers, and mostl in the month of August.

6. The disease, in its epidemic form, in several countrie appears to have advanced *pari passu* with the increase i the use of the motor.

7. Again, some observers have associated cases wit railways near which they have occurred.

8. The epidemic subsides in the rainy season.

9. It is clear that cases occur sporadically and no associated with each other, distances of many mile separating them in innumerable instances, no possib contact having taken place. It is difficult to accept th "healthy carrier" when children in hospital wards wit affected children escape, and monkeys in cages wit affected monkeys fail to develop the disease.

10. Children in the same bed frequently escape infectio Two cases rarely occur in the same house, and, if they d a common source of infection would appear to exist rathe than transmission from the one case to the other. Again these cases are frequently in the *same stage* of the diseas which tends to show that there can be no case-to-cas infection, but rather an infection through another mediu

11. A "school infection" may possibly be explained i the same way, scholars being exposed to one source infection, such as the neighbouring dusty road infected b certain organisms, which may possibly have their orig in decomposing organic matter (badly cleansed villag affected) in excessively hot and dry summers. Hence th the school is probably *not* the source, *a case-to-case infecti rarely if ever occurring.*

12. The disease has obviously changed its incidence. th average age of 50 consecutive cases being 6 years, whic appears to be high for "infantile paralysis," and may b consistent with the fact that younger children are kept o the roads to a greater extent than heretofore, on accou of the increased traffic. Moreover, out of these cases th number of boys affected is double that of girls—a rathe significant fact. Even adults now frequently succumb the disease.—I am, etc.,

ROBERT BURNET, M.Sc., M.B., D.P.H.
County Sanitary Office, Truro, Cornwall, Nov. 4th.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY INDUCING AN ARTIFICIA PNEUMOTHORAX.

SIR,—It is to be hoped that Dr. Rhodes's interesti paper on the above subject, published in the JOURNAL October 28th, will shorten the prolonged "latent perio which has existed between the origin of the brilli Continental and American work on the surgery of the lun and the introduction of the same in England.

Considering that the mortality from the induction of artificial pneumothorax is about 1 per cent., that permane arrest of phthisis is obtained in over 50 per cent. of suital cases thus treated, that the mortality of such cases treat by any other method is about 90 per cent., why is t treatment by artificial pneumothorax not more popular England? Probably the correct answer is partly to found in the almost general belief that an artificial pneum thorax and an accidental pneumothorax are similar. T similarity is about as great as that which exists betwe anaesthesia induced by a skilled anaesthetist and anae thesia induced by a blow on the head. An acciden pneumothorax occurring in phthisis is usually accompan by great shock and collapse, the patient often dying in few hours. The physician is powerless in such cases, though he can withdraw air from the pleural cavity puncture of the chest wall, he cannot prevent its furth passage through the lung into the pleural cavity. With artificial pneumothorax, on the other hand, the dosage air or nitrogen can be exactly controlled, and if an overd of gas has been given some can be withdrawn. Pleu reflex is usually avoided by the use of local anaesthet during the first injections, and by scrupulous attention every detail of technique. In the course of over fifty inj tions I have only once seen slight shock, lasting for a cou of minutes, when I had to raise the intrapleural press

nsiderably in order to break down adhesions. That the peration is not a severe one when the technique has been astered is further shown by the fact that I have fre-ently injected nitrogen into my own pleural cavity ithout using any anaesthetics and with no one to help me t my wife, who is not even a trained nurse. Perhaps r Clifford Allbutt, who has made medical nomenclature a he art, would find a more suitable and seductive title for operation the present title of which is its worst enemy? I am, etc.,

Torleston-on-Sea, Oct. 31st. CLAUDE LILLINGSTON.

TEN YEARS AFTER SANATORIUM TREATMENT.

SIR,—I read with interest Dr. Mears's letter with regard the percentage of patients treated at Woodburn Sanarium from 1899 to 1902, as I assisted Dr. Mears to mpile the statistics from which her results are drawn. here were no pretuberculous cases admitted during the riod under review; in fact, so far as I can remember, the rm had not been invented. I, for one, cannot agree th Dr. McWalter's somewhat sweeping statement that quarter of sanatorium cases are pretuberculous. My perience then and since is that the percentage is very all. All the cases quoted were frequently examined teriologically, and all were bacteriologically tuberculous the sense that tubercle bacilli were at one time or other found in the sputa.

The examination of sputum is not, or ought not to be, merely for an acid-fast bacillus, but for a bacillus with tain characteristics of size and shape sufficient to distinguish it from, say, the smegma bacillus. The chances other acid-fast bacilli occurring in sputum of patients h physical signs, when precautions have been taken to lude the presence of smegma, timothy grass and dung from the specimen, is not likely seriously to affect atorium statistics. It is also a fact worth remembering it while the presence of tubercle bacilli in sputum is icient to establish a positive diagnosis, a negative result, ven a series of negative results, proves nothing. Every atorium physician is familiar with the history of the which is kept at home and treated for various other ients until breaking down causes the extrusion in the tle of material containing tubercle bacilli, which may en to be examined. All tuberculous tissue does not ain visible bacilli on microscopical examination, and n the sputum is copious and diluted with mucus it ld be one of "Mahomet's miracles" if it were not sionally missed, considering the minute size of the ions examined.

is a matter of common experience that the tubercle lus disappears during treatment, though the patient not then become non-tuberculous, and also that it may pear and disappear frequently. Hence the necessity repeated routine examination and not merely a single mination, however careful.

ere are also many other tests which may be applied ubtful cases, and which nowadays are made use of in berculous cases.—I am, etc.,

J. J. GALBRAITH,
Late Resident Physician, Woodburn Sanatorium, and one of the 31.

Jwall, N.B., Nov. 6th.

SUBMUCOUS RESECTION OF THE NASAL SEPTUM.

,—In the discussion upon Dr. Dan McKenzie's esting paper "An Analysis of 130 Cases of Submucous tion of the Nasal Septum," reported in the JOURNAL tober 21st, several speakers raised the point as to her buttonholing the flaps or perforating the septum disadvantage or not. To my mind there can be ne answer to that question.

ile not going so far as to agree with Dr. McKenzie t perforation is a "disaster," it should at least be d upon as a *misfortune*. Although it is true that a ation may happen even in the hands of experienced ors, I fail to see how it can possibly be looked upon eneficial" or as "enhancing the benefits of the ion."

e this so, why should any operator take the trouble rform a submucous operation? Would not the ate making of a large perforation attain the l result and obviate the one great drawback to the submucous operation, namely, the length of time it takes to perform?

I hold strongly that buttonholing the flaps or perforating the septum is a surgical blunder, and may be obviated if (1) the operation is performed under good illumination; (2) if the muco-perichondrial flaps are carefully separated from the underlying cartilage upon both sides, and held widely apart by a suitable thin-bladed speculum while cartilage and bone are being removed; and (3) if no twisting or wrenching of the portions to be removed be attempted.

A perforation is, in my opinion, a distinct disadvantage, because upon its free edges crusts are prone to form, which become a source of constant annoyance to the patient, and because, if small and situated far forward, respiration is apt to be accompanied by a peculiar high-pitched hissing sound.

The results obtained by the performance of the submucous operation, as devised by Killian, are so eminently satisfactory that every possible attention should be given to details if the final result is to be as desired by both patient and operator.—I am, etc.,

Manchester, Oct. 24th. WILLIAM MILLIGAN.

SOME FUNCTIONS AND SURGICAL USES OF THE OMENTUM.

SIR,—As one probably of a considerable number of morbid anatomists familiar with the tendency of the great omentum to migrate, and of the practical value of this faculty for the migration, some years before it appears to have attracted the attention of many surgeons, perhaps it may not be out of place to say that the reason for this movement always seemed to me to be simple.

Mr. Wilkie (BRITISH MEDICAL JOURNAL, October 28th, p. 1103) speaks of the movement being due to peristalsis, but does not explain how peristalsis acts. The explanation is probably as follows: Normally the peristaltic movements of the small intestine keep the great omentum spread uniformly over their surface. When local inflammation of the peritoneum occurs, and the peritoneum covering a few coils of small intestine becomes involved, the movements of the affected coils are restrained. What may be described as a quiescent area is established, and towards the quiescent area the great omentum is pushed by actively moving coils. Eventually in contact with the inflamed area, and itself as a consequence becoming inflamed, the adhesive qualities of the omentum lead to localization of the inflammation.

How rapidly this localizing of inflammation by adhesions must sometimes take place is seen in the formation of a subphrenic abscess following perforation of a gastric ulcer. An ulcer perforates upon the anterior surface of the stomach. The escaped contents set up inflammation over the surface of the stomach, which inflammation wanders on until it meets with the great omentum. Here a band of adhesive inflammation occurs which, by establishing a connexion with the abdominal wall and the under border of the falciform ligament, prevents the spread of inflammation—suppurative over the stomach—to the general peritoneal cavity.—I am, etc.,

October 27th. THEODORE FISHER.

PLAGUE INFECTION OF RATS.

SIR,—The description given by your correspondent, Dr. A. John Gregory of Capetown, in the BRITISH MEDICAL JOURNAL of August 19th, 1911, p. 409, of the variation in virulence of plague, both in rats and men in various districts of South Africa, so exactly corresponds with what has been observed here in Paraguay, South America, that a further note on the same subject may be of interest.

It is quite probable, from descriptions given to me by the natives, that outbreaks of plague had occurred in this country in the past, but it was not until the year 1899 that bubonic plague was definitely recognized. In that year there was a rather serious outbreak in Asunción. For the first time also there was noticed then the coincident mortality among rats. From time to time, in later years, there have been alarms of outbreaks of plague in the cities. Four years ago there had occurred in a neighbouring town various deaths certified as from enteric fever. Then suddenly there occurred four deaths in one week from what was undoubtedly fulminant pneumonic

plague. The cases that followed seemed to be of a milder infection, and lingered for weeks before dying.

Two months ago virulent pneumonic cases again appeared in Asunción, and among the victims were two young Paraguayan doctors and a priest who had been attending the cases. The purser of a Buenos Aires-Asunción river steamer went to his home in Monte Video, four days from Asunción. His own brother, a doctor, attended him as he complained of a swollen gland. The doctor died of "pneumonic plague."

In Villa Concepcion, during August and September of this year, there were many deaths certified as from "gastric" fever, "typhoid," "typhus," until the virulent pneumonic form led to investigations of buboes, etc., in surviving "enteric cases." Various of these latter cases came under my notice. They had swellings in the axilla, with extensive swelling of chest and back, and symptoms of a resolving pneumonia. (I did not see them till late.) From descriptions given me, I could gather that in the neighbourhood from which they came there had died two persons from the virulent pneumonic form.

From one of the milder cases six persons here became infected—the woman who attended the patient, and myself had quinsies that began and ended simultaneously. I lanced them both. A little girl visiting in the same house had a swollen cervical gland with high fever for over a week. A woman and a man had swelling of tonsils and pharynx with high fever for about five days. A young man had a similar throat trouble, left this district, and was attended by an Argentine doctor, who certified his death a few days later as from "pneumonic plague."

In Villa Concepcion the cases are nearly all among the well-to-do people, from the fact that in their stores, warehouses, etc., the rats find a more congenial home. There are no wharves, as in big ports, where the rats can multiply.

I have had no opportunity of observing the variation in the virulence of plague in rats, although I believe it is a matter of common knowledge among the townspeople; but the fluctuations in virulency among human beings are so similar to what was described by your correspondent that we must believe that these slight cases of plague in men and in rats constitute a veritable danger to any community, as being plague carriers.—I am, etc.,

Villa Concepcion, Paraguay. J. W. LINDSAY, M.B.

THE NUTRITIVE VALUE OF FLOURS.

SIR,—We should like to point out again that wheat germ alone added to white flour makes this an adequate food upon which animals can live healthily and reproduce their own kind. This proves that the lack of cellulose has nothing to do with the insufficiency of white flour, and that, whatever the active principle may be, it is present no less in germ than in bran and sharps. In fact, our rats did much better on white flour *plus* germ than on white flour *plus* sharps, bran and a trace of germ. Dr. H. Fraser, in his admirable paper on the causation of beriberi, includes an account of the milling processes used in the preparation of polished rice, but we have not been able to ascertain whether the rice germ is removed in the process of polishing. Can Dr. Fraser and Professor Benjamin Moore tell us whether their active alcoholic extracts are made from the polishings of rice from which the germ is excluded?—We are, etc.,

London Hospital Medical College, E., October 31st. LEONARD HILL, MARTIN FLACK.

STERILIZATION OF THE SKIN BY IODINE.

SIR,—In Mr. Leedham-Green's paper, published in your issue of October 28th, he states that he has examined the literature on the subject. It is therefore difficult to understand how he came to describe Grossich's solution as tincture of iodine. Tincture of iodine as known in this country is a 2½ per cent. solution, while that used by Grossich is 10 per cent.—a very wide difference.

So far as I am aware, I was the first surgeon to use tincture of iodine, and it was not until after my paper appeared in the BRITISH MEDICAL JOURNAL on August 14th, 1909, that the method was generally adopted.—I am, etc.,

J. LIONEL STRETTON,
Senior Surgeon, Kidderminster Infirmary and Children's Hospital.

November 1st.

THE RESEARCH DEFENCE SOCIETY AND ANTIVIVISECTION SHOPS.

SIR,—We desire to make a special appeal for the purpose of undoing the harm which is done by antivivisection shops and processions. The exhibits in these shops are of a most misleading nature, and the truth as to anaesthetics is carefully concealed. No operation, more than the lancing of a vein just under the skin, is allowed to be done on any animal in this country, unless the animal is under an anaesthetic throughout the whole of the operation.

It will be remembered that one of these shops, on the death of H.M. King Edward VII, distributed a leaflet suggesting that His Majesty's death was due to medical treatment.

We have, of course, received many complaints against these shops. We find that the police have no power to close them, and we can only place men outside them to give our leaflets to passers-by.

But this constant giving of literature is a heavy expense to our society. We therefore appeal for special contributions toward this purpose. We make this appeal with confidence, for we are sure that the public recognizes the grave harm which is done by these shops, especially to children. All contributions should be sent to the Honorary Treasurer, Research Defence Society, 21, Ladbroke Square, London, W.

We may, perhaps, take this opportunity of mentioning that a letter has just been received from Sir Apolo Kagwa, K.C.M.G., the Prime Minister of Uganda. It is dated from Mengo, Uganda, September 26th. "I really think," he says, "that in a few years' time sleeping sickness will be extinct in Uganda, and people will become immune from the disease." If this happy result is obtained it will, without doubt, be due to the work done by the Royal Society Commission, who gained their knowledge on the subject by experimentation on animals.—We are, etc.,

CROMER, President.
SYDNEY HOLLAND, Chairman of Committee.
F. M. SANDWITH, Honorary Treasurer.
STEPHEN PAGET, Honorary Secretary.

London, W., Nov. 1st.

THE LONDON UNIVERSITY AND COLLEGE REFORM.

SIR,—To counteract the present muddle of the Council and the altered conditions, I shall have to move my former resolution, which was then carried, in the modified form below, at the meeting of Fellows and Members of the Royal College of Surgeons to be held on Thursday, November 16th, and it is open to some seconder to take his due part, and to others to speak for it, as in the past.

> This meeting of Fellows and Members desires the Council to obtain an Act of Parliament to authorize the change of the present and obsolete graduate titles of the College to the current and usual ones of M.D., or M.B., B.S.: and of F. and F.M. for the respective Fellowships. And for those purposes to seek corresponding power to regulate the university courses within the schools of the University of London or elsewhere.

The second part of the proposal is a necessary corollary to the first, and will open the only way to any required subsequent incorporation with the University of London, and on the following grounds:[1]

One may appreciate the free work of the Councils of the Royal Colleges of Surgeons and Physicians up to their desire to claim entrance with, and to approach, the University of London; but nobody could have been prepared for the Council's sudden surrender—their immediate exhaustion. They have jettisoned the combined rights of the Fellows and Members.

Probably for a quarter of a century there has been a constant and almost annual reference to the chafing absence of Members on the governing Council of the Royal College of Surgeons, but, as I said in the meeting in 1909, every charter and Act

[1] We have been compelled by considerations of space to omit some passages which appear to state opinions rather than arguments.

Parliament forbids the Council to grant that particular demand. So they have always rejected it. The new university government, as here proposed, would eventually give their graduates the desired representation, and at least the vote. Besides leading to representation, the reform will correct the absurd medical teaching the colleges have imposed.

If true, and accepted, that the Royal Colleges have suddenly found the Senate obdurate and resisting against the combined scheme of the delegates of both the Royal Colleges, it prescribes for the future a single alternative. The whole body of the college have been unavoidably forced to trust their cause to the Council.

This abandonment, with too lightheartedness, of their own delegates by the Council puts back the matured medical reform of our generation to the appeals of a hundred years ago, and when not even a university existed in the metropolis. Nothing in the wide world can have a crowning effect or be a success on selfishness alone. Whilst every side has admitted that the want of the university system blocks the best expectations not only of the standing of teachers in London, but of the average London medical student.

After all these years, we must be prepared:

1. To tear up the vestigial collegiate constitution, and rear in its place a university side of our own.

2. To throw all preliminary entrances open to the London (Royal Colleges) University. But gradually to improve them, and possibly provide a short intermediate arts course, then a preliminary science course, and to be followed by the medical examinations.

3. To go to Parliament, and to show how the incorporation clauses, as represented in the University Act, 1898, have been frustrated against their wishes.

4. To petition Parliament so as to be able to regulate their own university courses, to be governed by the New (Royal Colleges) Board, and entitling their graduates to the ordinary degrees. (It may open the way to a combined university afterwards, when the decay of the present incomplete university has taught them more sense, and, *quien sabe?* they shall have been overshadowed by the larger "Royal Colleges'" section in the University Faculty.

5. It is not a case of their graduates objecting (any fool can criticize), but the body of Fellows and Members can insist upon the statutes that entitle them to this course.

All official inquiries, inside and outside, have long unanimously agreed that the courses and examinations of the Royal Colleges occupy a position unsurpassed anywhere. And represent a level equal to many degrees, and very closely founded upon a sound, complete, and university medical curriculum. Let it be well borne in mind that, under the University Act, then, we belong worthily to the University; and, although we have no right, as they say, to interfere with *their* courses, equally with them we have an indefeasible right to manage *our own* terms.—I am, etc.,

Ingnor, Nov. 7th. H. Elliot-Blake.

A ONE OR THREE PORTAL SYSTEM.

Sir,—Since the beginnings of medical history the variety of legal qualifications in these islands has always been a puzzle and mystery to the public and a long series of aggravations to the profession. There are English, Scottish, Irish, and Welsh universities. There are English, Scottish, and Irish colleges and halls, all subject to the supervision of the General Medical Council, but conveying a medley of bewilderment to the public and a meaningless jumble of different things to the profession. The entrance examinations are different, the professional examinations are variable, and the prestige of the qualifications is not always due to real value. Is it not time some radical change were effected? Ignoring entrance examinations for the present, I wish to invite discussion of the one or three portal systems. These seems to me the most simple and logically tenable solutions of the admitted difficulty. As there is a tendency nowadays towards devolution or home rule in the three kingdoms, I would suggest:

That in each country, for the granting of legal qualifications to practise, the universities, colleges, and halls should be linked up with, or made colleges of, the universities.

That afterwards these different—as now—universities should grant the M.B., B.Ch., but no higher degree, in medicine and surgery.

That in each country the universities should unite to hold a final examination for the highest (M.D., M.Ch.) degrees after, say, five years in the profession.

All the students in each country would thus acquire a degree of highest common value at last, if they chose.

That would be the three-portal system. It might be better to make an examining board from all the universities of the kingdoms and grant instead M.D., M.Ch. (U.K.). That is the one-portal idea.

A scheme like this would be a great encouragement to graduates of the younger universities. The final examination five years afterwards would place before all these graduates of the young schools the opportunity of achieving as great distinction at last as examinations can ever be expected to show.—I am, etc.,

Ramsgate, Oct. 25th. W. M. Storar.

GENERAL MEDICAL COUNCIL ELECTION—SCOTLAND.

Sir,—I shall be greatly obliged if you will grant me the courtesy of your columns to express my thanks to the registered medical practitioners of Scotland for the great honour they have done me in re-electing me without a contest their Representative on the General Medical Council.—I am, etc.,

Edinburgh, Nov. 7th. Norman Walker.

GENERAL MEDICAL COUNCIL ELECTION.

Sir,—On Tuesday, November 7th, a voting paper was posted to every registered medical practitioner with a registered address in England or Wales. Any practitioner who has not received a voting paper, *whether he wishes to take part in the election or not*, should immediately communicate with this office, in order to make sure that his address is correctly registered, and to prevent any risk of his name being taken off the *Register* under the following section of the Medical Act:

XIV. It shall be the duty of the Registrars to keep their respective Registers correct in accordance with the Provisions of this Act, and the Orders and Regulations of the General Council, and to erase the Names of all registered Persons who shall have died, and shall from Time to Time make the necessary Alterations in the Addresses or Qualifications of the Persons registered under this Act; and to enable the respective Registrars duly to fulfil the Duties imposed upon them it shall be lawful for the Registrar to write a Letter to any registered Person, addressed to him according to his Address on the Register, to inquire whether he has ceased to practise, or has changed his Residence, and if no Answer shall be returned to such Letter within the Period of Six Months from the sending of the Letter it shall be lawful to erase the Name of such Person from the Register; provided always, that the same may be restored by Direction of the General Council should they think fit to make an Order to that Effect.

The importance of keeping open a channel of communication with this office cannot be too strongly insisted upon.

All communications should be addressed to the Acting Registrar, and not to any individual by name.—I am, etc.,

299, Oxford Street, London, W., Nov. 4th. Norman C. King, Acting Registrar.

THE *MEDICAL REGISTER*.

Sir,—The letter of Mr. King on page 1139 is worth calling special attention to, being of considerable interest to the profession, inasmuch as it indicates a material change in the attitude of the General Medical Council in regard to inquiries. I well remember an occasion, some years ago, when it was of importance to me to ascertain without delay whether a certain person was on the *Register*. His name was not in the latest printed volume, but, as nearly a year had elapsed since that was issued, it was obviously possible that he had been registered in the interval. I therefore addressed an inquiry to the then Registrar, and in reply received an elaborate form containing a series of questions (including one as to detailed reasons for wanting the information) and a notification that on my returning the form properly filled up, together with a fee of 5s. or 2s. 6d. (I forget which), my inquiry would receive attention. Needless to say, something like a week passed before I could obtain an answer to my simple, though urgently important, question.

It is as satisfactory as it is surprising to learn that the Council have so far considered the interests of the profession as to simplify their procedure in regard to such inquiries.—I am, etc.,

Ticehurst, Oct. 29th. E. H. Cartwright.

THE MEDICAL DEFENCE SOCIETIES.

Sir,—Owing to certain misunderstandings which have arisen from time to time as to the scope of the work of the London and Counties Medical Protection Society and of

the Medical Defence Union in respect of members in actions brought, or sought to be brought, for alleged negligence, we are directed by our respective councils to state officially that membership being purely personal no action arising solely out of any act of a partner, assistant, or locumtenent can be taken up unless the partner, assistant, or locumtenent is also a member of either the Medical Defence Union or the London and Counties Medical Protection Society. It is hoped that a time will soon come when all registered practitioners, whether principals or assistants, will secure the advantages pertaining to membership of one or other of these societies as a matter of course as soon as they become qualified.—We are, etc.,

HUGH WOODS, M.D.,
General Secretary, London and Counties Medical Protection Society, Limited,

A. GEORGE BATEMAN, M.B.,
General Secretary, Medical Defence Union, Limited.

Obituary.

JOHN ALFRED COUTTS, M.B.CANTAB., F.R.C.P.LOND.,

PHYSICIAN TO THE EAST LONDON HOSPITAL FOR CHILDREN; CONSULTING PHYSICIAN TO ST. MARY'S HOME FOR CHILDREN.

THE friends and patients of Dr. Coutts—and there were few of his patients who did not become his friends—will be painfully shocked by the news of his untimely and almost sudden death, at the age of 60 years.

His father was a Scot, who had settled on Tyneside, and was a man of considerable note in his day, particularly as a pioneer in iron shipbuilding. In his boyhood young Coutts was thought to have a weak heart and to be unfitted for the rough-and-tumble life of a public school. He was therefore educated privately until the time came for him to enter a university. He then matriculated at Emmanuel College, Cambridge, where, despite his supposed weakness he distinguished himself as a sprinter, running the 100 yards in under eleven seconds. His small stature and rather delicate frame unfitted him for rowing, but he was a good coxswain and an enthusiastic looker-on at boatraces from his college days until his death. There was no more constant attendant than he at the practice of the university crews year after year at Putney and Hammersmith, and he became a discriminating critic of oarmanship, better qualified than many a sporting correspondent. His memory of events in university rowing and cricket and public school cricket and football was prodigious and accurate, and he took pride in it, and used often to repeat the remark of a friend, that no other man had such a store of useless knowlege as he. The useless knowledge, however, left plenty of room for useful knowledge. At Emmanuel he was a prizeman and senior exhibitioner, and did well in mathematics. His teachers and friends confidently expected him to win a wranglership, but an attack of ill-health occurred at a critical time, and he had to be content with a place among the senior optimes of his year.

After taking his Arts degree, Coutts began his medical studies at St. George's Hospital in 1875, but he rather stood aside from the competitions of the school. Had he chosen to enter for any of the prizes there is no doubt that his accurate memory and keen judgement would have enabled him to distinguish himself. When at length he did choose to exert his powers, he passed all his examinations with ease and rapidity. He became M.R.C.S.Eng. in 1881, M.B.Cantab. in 1882, and M.R.C.P.Lond. in 1884. In 1897 he was elected a Fellow of the Royal College of Physicians of London, at the comitia meetings of which he was thenceforth a most regular attendant.

In 1885 he was elected Assistant Physician to the East London Hospital for Children at Shadwell, and thus began a connexion which was to cease only with his life. As time went on he became more and more identified with the institution, and for the last eleven years, during which he was full physician, Shadwell had his best energies and his wholehearted devotion. There he found many opportunities for the exercise of his remarkable diagnostic powers, and many a time, after he had been in a minority of one in a consultation at the bedside, a subsequent necropsy would prove his diagnosis to have been correct. Indeed, one of his colleagues used whimsically to complain of his unpleasant habit of being in the right. He became so much a part of the hospital, and was so much beloved and respected by all his fellow-workers at Shadwell, that it will be long before he ceases to be lamented and fondly remembered by sisters, nurses, and colleagues.

His contributions to medical literature were numerous, and all were of solid value, particularly those on "Infantile Convulsions and Later Neurotic Tendencies" at the International Medical Congress of 1887, and on "Subcutaneous Rheumatoid Nodules" in the *Illustrated Medical Journal* in 1891, and many articles upon pediatric subjects in Allchin's *Manual of Medicine* and the *Encyclopaedia Medica*. To our pages he was a frequent and valued contributor. He was Hunterian Lecturer at the Royal College of Surgeons in 1896, when he chose for his subject. "Some Aspects of Infantile Syphilis"; these lectures aroused a good deal of interest among syphilographers, and were afterwards published in book form.

Fluent as was his pen, he was a most reluctant speaker and we believe that it was positively painful to him to take part in a public discussion or to read a paper, and he rarely did either.

When he was prevailed upon to open a discussion, as at the meetings of the Association at Belfast in 1909 (on the Functional Neuroses of Children) and in London in 1910 (on the Diagnosis and Treatment of Non-Tuberculous Joint Diseases in Children) his papers were full of suggestive facts and acute and cogent reasoning. He had marked literary ability, and his logical mind and cool judgement expressed themselves in a clear and readable style. He was quick to detect the weak points in an opponent's argument and to expose them, not without a gentle humour, but he never wilfully wounded another's feelings. His knowledge of the works of Charles Dickens was "extensive and peculiar," and he often used it to provide apt illustrations to his arguments.

Coutts was loyal—loyal to his colleagues, his hospital and his friends—and his almost passionate loyalty to the University of Cambridge made him rather grudging in his appreciation of rival seats of learning. The man who had him for a supporter was sure of a staunch and zealous backer, who was almost a partisan, but a partisan without malice or rancour. A lover of truth, he had little patience with humbug and a noble scorn for shams and quackery of all kinds. Though born in England, he was proud of his Scottish descent, and was quick to claim all credit due to his countrymen and to resent any attempt to depreciate them. He was easily "drawn" on this point, and never showed to more advantage than when he was withstanding Scotland and the Scots from the jesting attacks of his English friends.

He suffered five years ago from an attack of influenza and although a voyage to the West Indies seemed to have restored him to health, those who knew him best noticed that he was distinctly aged and weakened by it. A similar attack, which was complicated by extensive pneumonia, ended fatally, after a few days' illness, on November 1st.

DR. H. SELFE BENNETT (London) writes: Once again *me miserum*—it falls to my lot to speak words of praise and affection concerning a departed medical brother. John Alfred Coutts, my neighbour and friend, was one who did valuable work for his profession both as physician and writer; it is good to know that this work was appreciated during his lifetime by all who had the opportunity of judging thereof. Unassuming, unaffected, unconventional, weak in body but strong in mind, he nevertheless succeeded in accomplishing duties and labours which would have taxed a much stronger physique. Although devoted to the study of pediatrics his interests were widely distributed and his friendships numerous. It is but three short weeks ago since his appreciative notice of Louis Stromeyer Litt appeared in these columns, when all those who knew the subject recognized the pious ability with which it was written and knew that it was a labour of love which impelled him to speak so truly about his late patient and personal friend. This, like many products of his pen, was unsigned, and there can be but few who knew how much unacknowledged work he did. When necessary, however, he came out into the open and defended the faith that was in him without fear or favour. He was one who knew

wn mind, who thought clearly, who spoke and wrote ankly and always honestly. It was a source of pride to m that he had been scholar of Emmanuel College (with. e late Master of which he had friendly correspondence. uring a recent controversy) where the great Thomas oung (1773–1829), physician, physicist, and Egyptologist, d also been educated. Beyond this, and the fact that had twice been chosen to officiate in sections of his ecciality, it seems almost sacrilege to use the word ride" in relation to him. He was, in truth, modest in e best sense, and would probably have been genuinely rprised if he could have seen the number of friends who, short notice, attended the church service at Barnes and e cemetery at East Sheen to bear their testimony to the steem and affection in which he was held by those who ew him and feel their loss by his death.

We regret to record the sudden death on October 14th Dr. John James Goodlatte Murray, a man of wide pularity both among professional colleagues and the neral public in the neighbourhood of Egremont and of eard. Dr. Murray pursued his medical education both London and Edinburgh, as well as in Ireland, becoming R.C.S.Edin. in 1878, L.A.H.Dublin in 1883, D.P.H. of the val Colleges of Physicians and Surgeons of Ireland in 5, and F.R.C.S.Edin. in 1896. It was about the latter e that he first settled in Cheshire, where he acquired rge practice and won a wide circle of friends, thanks his possession of the geniality and other attractive lities of Irishmen of the very best type. The earlier t of his career he spent abroad, having been in practice in New Zealand and in New South Wales, where he a Government medical officer in the Parkes district on the staff of the local hospital. He had also travelled nsively in India and the United States. He early me a member of the British Medical Association, and ettling down in Cheshire was elected to the Liverpool lical Institution, and frequently attended its meetings. was, indeed, shortly after his arrival home from the ting of that institution on October 12th that the first ning note was sounded. Returning with some medical agues by a steamer from Liverpool, he had a slight while stooping to pick something from the deck, and occurrence was followed an hour or two later by sibility and vomiting. In the morning he was rently quite well again, and he continued his ordi- life during the next two days; but at the end of that d he died suddenly from apoplexy.

Public Health AND POOR LAW MEDICAL SERVICES.

RETURN CASES OF SCARLET FEVER.

T. H. Phillips, Medical Superintendent of the Joint Hos- Board of Hanley, Stoke, Fenton, and Longton, writes to attention to two points in the case reported under this ng in the Journal of October 28th, p. 1142, which he con- of great interest and importance to all who hold the on of medical superintendent of isolation hospitals. He

1. The Court of Appeal has held that the medical superintendent is the one who is to be attacked in all such cases, and not the authority or board under whom he serves. Hence it behoves all medical superintendents to belong to some medical protection society which also insures him against costs. If this case had gone adversely, then every return case in the above hospital might have been brought against me.

2. In the case in question, the verdict given by the judge *was with costs*. The solicitor for the plaintiff asked the judge to remit the costs. *This he would not do*, but stated if such cases were brought and the plaintiff lost he must be prepared to pay the costs, but "it would be a graceful act if the society defending could see their way to forego the costs." These suggestions I sincerely hope and trust the protection societies will not act upon, otherwise there is nothing to deter other people from bringing actions of a similar character, whereas, if they know they have to pay costs if they lose the case, then they will hesitate to take up other cases.

In the interests of other medical superintendents it is well to know in what position they are placed by law.

ISOLATION AFTER DIPHTHERIA.

R.—A medical officer of health is quite justified in requiring that a child should not return to school after diphtheria if Klebs-Loeffler bacilli are found in its throat, but he is hardly justified in suggesting to the medical attendant the removal of the child's tonsils with a view to getting rid of the bacilli. It is for the medical attendant to decide as to the treatment of his patient.

CESSPOOLS AND DWELLING HOUSES.

Civis.—The Public Health Acts do not prescribe the distance which a cesspool shall be situated from a dwelling house. The distance is regulated by by-laws which vary in different districts. We are surprised to learn that in the important urban district mentioned there are scores of new buildings with the cesspool at the bottom of the front garden not more than 50 ft. from the house, with a ventilating shaft projecting not more than 18 in. above the heads of the public using a footpath. May it not be that what is thought to be a cesspool is really a disconnecting chamber, and that the ventilating shaft is the inlet to the chamber, with a mica valve?

POOR LAW MEDICAL OFFICERS AND STATISTICAL RETURNS.

Basford raises the question whether there is any obligation on Poor Law medical officers to fill in a return for the Local Government Board as to sex, age, disease, etc., of paupers who were under treatment on November 4th. He points out that such an obligation is not contained in the contract, and considers that if the Local Government Board requires these returns it should pay a fee for the same; their preparation involves time and labour and he holds that medical men should not work for Government offices without reasonable recompense. He considers that the clerks to the guardians should be the persons to fill in these returns from the fortnightly list sent in by the medical officers.

*** This question has been raised before, and we think that our correspondent is right in contending that he is not bound to do this statistical work by his contract with the guardians. Article 205 of the General Order July 24th, 1847, contains the following:

> No. 1. To give to the Guardians, when required, any reasonable information respecting the case of any pauper who is or has been under his care; to make any such written report relative to any sickness prevailing among the paupers under his care, as the guardians or the commissioners may require of him. . . .

At first sight this might seem to place a medical officer under the obligation of giving the information applied for by the Local Government Board, the successor of the commissioners in the regulation. It seems to us that to require such returns as the Local Government Board asks is stretching very far the provision in the article quoted above: the information is required for statistical or parliamentary purposes only, and could, as our correspondent says, be worked out by a non-medical official from the reports made to the guardians.

The Services.

ARE THE RULES AND REGULATIONS OF THE R.A.M.C. (TERRITORIAL) COMPATIBLE WITH THE BEST INTERESTS OF THE MEDICAL PROFESSION?

Dr. G. Arbour Stephens (Swansea) writes: Dr. Broome Giles's letter confirms my contention that a medical man who is a member of the Territorial Branch of the R.A.M.C. is condemned first of all by confidential reports without a trial, but, if he wishes it, he may have an inquiry into the verdict! Such russification of the methods meted out to the civilian branch is hardly compatible with the ethics of the medical profession.

Colonel J. Raglan Thomas, M.D., V.D., K.H.P., A.M.O. Wessex Division T.F. (Exeter), writes: I was unable to finish a letter to you last week in time. Meanwhile Colonel Giles has replied to one part of your correspondent's letter.

The latter asks further: "Does one find the leading men of the profession giving up their time to help the movement, except as *à la suite* colonels?" I am glad to be able to tell Dr. Stephens that, so far as my experience goes, it is so. Most of the medical units in Wessex are commanded by leading men, and include among their officers many of the ablest junior men. Most of the leading men in Exeter, Plymouth, Portsmouth, and Southampton are helping in one way or another. Only a small proportion of these can be lieutenant-colonels, and none colonels. In London, too, I know several leading surgeons who are content with the rank of captain. I believe it is the same in other parts of the kingdom. It is another illustration of what I have generally observed: "If you want a thing done, go to a busy man." It is the busy doctor and lawyer and business man who finds time to run the Territorial Force.

I wish I could answer the first part of Dr. Stephens's letter also in the affirmative. If we judge, however, by the tardiness with which the authorities supply our units with drill halls and other requirements, I am afraid we must admit that our efforts are not appreciated as they deserve.

Medical News.

AT the meeting of the Medico-Legal Society on Tuesday, November 21st, Dr. C. Graham Grant will read a paper on the Sidney Street affair in its medico-legal aspect.

AT the meeting of the Illuminating Engineering Society at the house of the Royal Society of Arts on Friday next, at 8 p.m., Dr. H. R. B. Hickman will read some notes on the design of motor car head-lights.

GOOD progress is being made in the erection of the new house of the Royal Society of Medicine at the corner of Henrietta and Wimpole Streets, and it is hoped that it will be ready for occupation in May next.

PROFESSOR W. E. DIXON will give an address on the relation of the pharmacist to therapeutics at the seventh annual public meeting of the Association of Women Pharmacists, to be held in the lecture theatre of the Pharmaceutical Society of London, Bloomsbury Square, London, W.C., on Monday, November 20th, at 8 p.m.

SIR JAMES CRICHTON-BROWNE, F.R.S., will give an address on Nerves and Nervousness, at 4.30 p.m. on Thursday, November 16th, in the Lecture Hall of the North-East London Post-Graduate College, Prince of Wales's General Hospital, Tottenham, N., to which all qualified medical practitioners are invited.

A JOINT meeting of the Obstetrical and Gynaecological Section of the Royal Society of Medicine and the Medico-Psychological Association will be held on Tuesday, November 21st, at 4 p.m., at 11, Chandos Street, London, W., for the discussion of a paper by Dr. C. T. Ewart on amenorrhoeal insanity.

Medico-Legal.

WORKMEN'S COMPENSATION.

Alleged Anthrax.

IN Jessop *v.* McLean, McIntyre and Co., heard at Hull on August 4th, it appeared that a ship's cook claimed compensation for illness caused by his leg having been bespattered by the blood of a diseased sheep which had been slaughtered at sea. For the owners, it was contended that the man's illness had nothing to do with the killing of the sheep, the American doctors having diagnosed his disease as being constitutional. On behalf of the claimant, it was submitted that the facts proved were that the man was fit and well before the voyage, that a sheep was killed on board the vessel, and that his illness followed.

His Honour, in giving judgement, said that neither he nor Dr. Holder, his medical assessor, had any doubt that the man's disorder was caused by the poisonous blood of the sheep, and they both thought the disease was of the nature of anthrax. He awarded compensation at the rate of 18s. a week from July 12th, 1910, to May 12th last, and after that time 10s. a week during incapacity.

CLAIM AGAINST A SURGEON.

THE relevancy of a curious action against a surgeon was decided in the Court of Session on November 1st. The action was raised in Glasgow Sheriff Court by a woman named Watson against the Blythswood Nursing Institution, Glasgow, and Dr. Renton, the sole partner of the institution, for £500 damages. She alleged that while under chloroform for an operation an uncovered hot-water bottle burnt her leg, and that, though the wound of her operation healed in ten days, the burning injuries kept her under medical care for four and a half months.

The Sheriff allowed a proof, and the defenders appealed against the relevancy of the action. The pursuers asked for a jury trial. The Court has sustained the relevancy and sent the case to the Lord Ordinary for proof.

In giving judgement the Lord President said the considerations in the case were exceedingly nice. The averments on which liability was said to attach to the defender, Dr. Renton, were based upon what happened to be the double position he occupied in this matter. He was not only the surgeon who performed the operation, but he also was the proprietor of the nursing home which supplied the nurse, he himself undertaking the duty of getting the nurse. So far as the liability was based upon his position as surgeon, his lordship thought the ave ments were of very doubtful relevancy, and if there was nothi else in the case his lordship thought it would be for consider tion whether the case should be allowed to go on. But the was more in the case than that. There was the liability bas upon the negligence of the nurse, and also based upon t averment that the nurse was incompetent in the knowledge the defender. There was no question, therefore, but that the must be inquiry, but that inquiry would raise difficult a delicate questions. He had come to the conclusion, therefor that it would be a most unsuitable case for a jury, and one which it was hopeless to expect that a judge by any directio would succeed in keeping the jury right.

Lords Kinnear, Johnston, and Mackenzie concurred.

Medico-Ethical.

The advice given in this column for the assistance of members based on medico-ethical principles generally recognized by t profession, but must not be taken as representing direct findin of the Central Ethical Committee, except when so stated.

A QUESTION OF DOOR-PLATES.

A. F. C.—We know of no rule that a man may not have mo than one plate in one town. The only rule is that he shou not have a plate on premises where he has no bona-fi tenancy.

Universities and Colleges.

CONGRESS OF THE UNIVERSITIES OF THE EMPIRE (1912).

AT a meeting of the Home Universities Committee of t Congress, consisting of the Vice Chancellors of the Univ sities of the United Kingdom and other representativ held on November 4th, the programme of subjects for d cussion at the Congress in July, 1912, was settled. T meetings of the Congress will be held on July 2nd, 3rd, 4 and 5th, on four mornings and two afternoons. There w be in addition a business meeting. The subjects for d cussion fall under two heads, and are as follows:

I. *Universities in their Relation to One Another.*

1. Conditions of entrance to universities and the possibility equivalence and mutual recognition of entrance tests to deg courses.
2. Interchange of university teachers; conditions of int change.
3 Inter-university arrangements for post-graduate a research students.
4. Question of division of work and specialization amo universities.
5. The establishment of a central university bureau; its c stitution and functions.

II. *Universities in their Constitutional Aspects and in their Relation to Teachers, Graduates, and Students.*

1. The relation of universities to technical and professio education and to education for the public services.
2. Provision of courses of study and examinations for ot than degree students, including university extension tutorial class work, and specialized courses both of a gen and technical character for students engaged in professio commercial, and industrial pursuits.
3. The representation of teachers and graduates on governing body of a university.
4. Action of universities in relation to the after-career their students.
5. The position of women in universities.
6. The problem of universities in the East in regard to th influence on character and moral ideals.
7. Residential facilities, including colleges and hostels.

Upon some of these subjects it is hoped that by operation between the universities some action may possible—for example, such subjects as the extent which universities may recognize each other's entra examinations; facilities for post-graduate students f other universities; interchange of professors, etc. Th are other questions upon which most, if not all, of universities will have taken some action and obtai some experience, such as the relationship of universi to colleges associated or federated with them; the posi of women in universities; provision for students o than degree students, etc. Upon these questions wha wanted is a summary of the experience of each univers presented in a way that will be useful for comparison will furnish a body of information of permanent va

Accordingly, in addition to the subjects for discussion, ther subjects have been selected upon which each of the fty-one universities is asked to prepare a memorandum. These memoranda will be printed beforehand and issued o members of the congress.

It has been decided that, in addition to the delegates, of hich each university is entitled to appoint not more than ur, invitations to be present with the right to speak at ie meetings of the congress shall be issued to a certain umber of selected persons. It has been decided that no esolutions will be submitted at the ordinary meetings of ie congress, but a special business meeting, confined to elegates of the universities, will be held to deal with xecutive business. In addition, Associate Membership of ie Congress will be open to all who may desire to join on ayment of a fee of 10s. 6d.

UNIVERSITY OF LONDON.

Meeting of the Senate.

MEETING of the Senate was held on October 18th.

Recognition of Teachers.

Miss Janet Elizabeth Lane-Claypon, D.Sc., M.D., was recog-ed as a teacher of physiology at the Battersea Polytechnic the session 1911–1912.

Advanced Lectures in Physiology.

t was resolved that the following scheme of advanced lectures the Session 1911–1912 be approved, and that the Courses mbered 2, 3, 4, 5, 10, 11, 13, and 14 therein be recognized as anced lectures which a candidate at the B.Sc. Honours amination in Physiology may name for part of his examina-n (Red Book, September, 1911, p. 235—see also Blue Book, 98).

niversity of London (Physiological Laboratory):

1.

2. J. J. R. Macleod, M.B., Ch.B., D.P.H. Carbohydrate metabolism. January to March, 1912. Eight lectures.

3. A. D. Waller, M.D., LL.D., F.R.S. The nervous system. April to June, 1912. Eight lectures.

niversity College:

4. Henry Head, M.D., F.R.S. The afferent nervous system. October to December, 1911. Fridays at 4.30 p.m. (Page May Memorial Lectures.) Eight lectures.

5. W. M. Bayliss, D.Sc., F.R.S. The part played by surface action in the physiology of the cell. January to March, 1912. Fridays at 4.30 p.m. Eight lectures.

6. F. F. Blackman, D.Sc., F.R.S. Vegetable assimilation and respiration. May to July, 1912. Fridays at 4.30 p.m. Four lectures.

ng's College:

7. F. S. Locke, M.A., M.D. The energetics of metabolism, with special reference to muscle. Mondays at 4.30 p.m. November and December, 1911, commencing Monday, November 13th. Four lectures.

8. Otto Rosenheim, Ph.D. Some questions of chemical pathology related to physiological processes (for instance, diabetes, fatty degeneration, cancer). Mondays at 4.30 p.m., in January and February, 1912. Four lectures.

9. F. W. Mott, M.D., F.R.S. Heredity considered from the point of view of physiology and pathology. Mondays at 4.30 p.m., in May and June, 1912. Four lectures.

y's Hospital:

10. J. H. Ryffel, M.A., B.C., and E. L. Kennaway, M.B., B.Ch. Blood. Thursdays at 4 p.m., October to December, 1911. Eight lectures.

11. M. S. Pembrey, M.D. Milk. Thursdays at 4 p.m. January to March, 1912. Eight lectures.

12. F. G. Hopkins, D.Sc., F.R.S. Influence of the progress of organic chemistry upon physiology. Thursdays at 4 p.m. June and July, 1912. Four lectures.

Bartholomew's Hospital:

13. C. M. Hinds Howell, M.D. The afferent parts in the central nervous system. Wednesdays, 4.30 p.m. January to March, 1912. Eight lectures.

Thomas's Hospital:

14. E. Mellanby, M.A., M.B. Some biochemical problems in health and disease. Wednesdays, 4.30 p.m. October to December, 1911. Eight lectures.

E.—Students requiring further information regarding the s should address their inquiries to the heads of the tory at which they will be delivered.

Personnel of the Senate.

as announced that Dr. Seymour John Sharkey, M.D., F.R.C.P., had been elected the representative of the College of Physicians of London in the place of Sir n Allchin, resigned. Dr. Leonard Hill, F.R.S., having d his membership of the Senate as one of the repre-ves of the Faculty of Medicine, Dr. H. L. Eason has ppointed in his place.

Election of Chairmen of Committees.

William Church, Bart., K.C.B., has been appointed ian of the Brown Animal Sanatory Institution Com-and Dr. Frederick Taylor Chairman of the Committee ical Members of the Senate.

Appointment of Representatives.

Dr. S. L. Box has been nominated for reappointment to represent the university on the Ealing Education Committee.

UNIVERSITY OF EDINBURGH.

THE following awards of scholarships and bursaries have been made:—The *Crichton Research Scholarship in Anatomy*: Mr. O. H. Blacklay. The *Vans-Dunlop Scholarship in Physiology*: Messrs. R. G. Bannerman and P. MacCallum (equal). The *Vans-Dunlop Scholarship in Forensic Medicine, Public Health, and Midwifery*: Mr. S. A. Smith. The *Grierson Bursary in Anatomy and Physiology*: Mr. R. C. L. Batchelor. The *Grierson Bursary in Pathology*: Mr. D. Martin.

UNIVERSITY OF GLASGOW.

University Council.

Inclusive Fees.

AT the half-yearly general meeting of Glasgow University Council the question of inclusive fees for graduation courses was raised by a report of the Business Committee. At the conference of Scottish University Council representatives, held at Perth, the proposal had been disapproved, and the Business Committee was also divided upon it. Among the resolutions it approved, however, was one stating that "it should be possible for graduating students in all faculties to have the option of the present system of individual class fees." A conference of the four University Courts, also held at Perth, had agreed to the principle of the inclusive fee. Dr. Muirhead, during the discussion, drew attention to the recommendation made at the Councils' conference, that whatever system was adopted in the Faculties of Medicine and Science, the interests of the extra-mural schools should be safeguarded. A motion was made "That the Council do not approve of the principle of inclusive fees."

Principal Sir Donald MacAlister explained the genesis of the proposal, which had emanated from the Treasury, which was in favour of having the teaching staff supplemented in order that the teaching might be improved, but held that if State money was provided for additional teaching, the university must not increase the fees. The student was to get the benefit of the State grant. In order to arrange this the four universities had agreed upon a uniform fee, because uniformity was essential, or undercutting would be the result. The amount agreed upon was the average fee paid by graduating students at Glasgow University. This figure would involve a small loss to Glasgow, but the loss would be less than to any of the others. But the arrangement would secure for students in Scotland an increase in instruction without extra charge, which actually meant a reduction in the class fees to £3 3s. in place of £4 4s., as at present. Though the present proposal was applicable meantime to the Arts course only, the principle would be applied doubtless to all faculties.

After a full discussion, the report of the Business Committee was adopted, the amendment disapproving of the inclusive fee principle being lost by one vote. It was agreed that in the event of the proposals being made to apply to medicine another conference of the four University Councils shall be held.

UNIVERSITY OF SHEFFIELD.

As the result of the competition for entrance scholarships in the Faculty of Medicine, held in October, the Ordinary Medical Scholarship, value £122, has been awarded to Mr. R. H. Rae, and the Special Medical Scholarship, value £157 10s., divided equally between Annie Clark and Florence E. Millard.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

WE are informed that at the annual general meeting of the Fellows and Members of the College, to be held on Thursday next, at 3 p.m., Dr. Joseph Smith, President of the Society of Members of the Royal College of Surgeons of England, will move the following resolution:

> That this twenty-seventh annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the Council, which, as now constituted, does not represent the whole Corporation; and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeipng with modern ideas of true representation.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—G. H. M. Crofts, M. Dockrell, F. McKinney, R. A. Ryan.
SECOND COLLEGE.—O. Farrelly, A. B. Foott, F. M. Taylor.
THIRD COLLEGE.—R. J. Aherne, P. Ashe, A. Tandy Cannon, J. Kearney, J. D. MacCormack, S. D. G. McEntire, F. T. McKenna, J. F. S. Magner, P. Rowan, C. L. Sproule, T. S. Sullivan, J. Walsh.
FINAL.—I. A. Dowling, J. Fitzgerald, F. V. Hanratty, D. Harrington, P. B. Kelly, B. Martin, J. M. J. Rhatigan, R. H. Weir.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

MR. ALFRED MILLER has been elected Registrar of the Royal College of Surgeons in Ireland, in the room of Mr. G. F. Blake, retired.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

SYDNEY would be glad of information as to the prospects and opportunities of dental practice in Australia.

P. asks for suggestions as to the treatment of a case of psoriasis of the nails in a woman aged 67. She cannot tolerate arsenic. Salicin has been tried internally, and the nails have been soaked in solution of liq. carbonis detergens, and painted with tinc. rhei co., but no benefit can be observed after some months of treatment.

TYPHOID FEVER INFECTION.

R. W. asks: (1) Is a convalescent typhoid fever patient (six weeks) free from infection? (2) Could a convalescent typhoid fever patient be sent to the seaside to recoup without fear of communicating typhoid to others?

TREATMENT OF CHILBLAINS.

X. Y. Z. would be very greatly obliged if some reader could suggest treatment in a case of chilblains (ears, fingers, and toes) which has resisted all the usually described local and general remedies. Calcium salts, on which faith was pinned, are, like everything else tried, useless. Every winter his patient, a big, robust (certainly not anaemic) rustic has actually to lie up from time to time, and already this winter is beginning to suffer.

EDIBLE FATS.

DR. JOHN F. J. SYKES, Medical Officer of Health, St. Pancras, writes: In the BRITISH MEDICAL JOURNAL of October 14th, p. 959, under "Answers" there is a paragraph giving the comparative nutritive values of "butter, dripping, and margarine." Surely it depends upon what the margarine mixture is composed of, and the composition varies very widely. I enclose a copy of some analyst's figures showing this. I have for a long time past been trying to get the comparative nutritive values of animal, vegetable, and mineral fats, as well as their comparative digestibility. I should be glad if you can refer me to any source where this information can be obtained.

[The analyses which Dr. Sykes encloses show that fifteen samples of butter substitutes were examined by the public analyst for the borough of St. Pancras, and that in all of them vegetable oils were present, the proportions varying from 40 to 90 per cent. of the fat present. In the majority of cases the vegetable oil was cocoanut oil, either alone or in combination with cottonseed oil. In one case the vegetable oil present was found to consist of cottonseed and sesamé oils, and in another of all three—cocoanut, cottonseed, and sesamé oils. The percentage of water in the samples varied from 9.11 to 14.75, and of curd from 2.64 to 0.88.]

*** In reply to our correspondent's question, it may be pointed out that the exact composition of the margarine mixture does not affect its nutritive value, provided the percentage of water be constant, for the food value of all animal and vegetable fats is the same. Both yield 9.1 calories of energy per gram, and vegetable fats are so completely assimilated that it is possible even to affect the composition of the subcutaneous fat of animals by their administration. Experiments showing this are quoted in the textbooks of physiology. Mineral fats have, and can have, no nutritive value whatever. Even such a strict critic of foodstuffs as Wiley, after describing the composition and methods of preparing margarine, concludes that "no valid objection can be made against the use of oleo-margarine from a physiological or hygienic standpoint" (*Foods and their Adulteration*, London: Churchill, p. 190). For experiments on the relative utilization of animal and vegetable fats by the human subject a paper by v. Gerlach (*Zeit. f. phys. und diät. Therapie*, Bd. 12, p. 139) may be consulted.

ANSWERS.

IPSWICH recommends "Aghagalla," who inquired in the JOURNAL of October 28th as to the treatment of pigmentation of the face persisting after pregnancy, to paint on the following several times a day: Corrosive sublimate gr.ij; almond emulsion ʒj. Misc. Or to use salicyl. acid made into a paste with glycerine.

D.P.H.—The preparation and standardization of solutions for volumetric analysis is fully described in the *Systematic Handbook of Volumetric Analysis*, by F. Sutton, F.I.C., M.P.S. Tenth edition (London: J. and A. Churchill. 1911. 21s.), which also contains a good deal of other matter of use in work of the kind indicated. In regard to solutions for bacteriological work the *Manual of Bacteriology*, by R. T. Hewlett, M.D., F.R.C.P., D.P.H.Lond., 4th edition (London: J. and A. Churchill, 1911, 10s. 6d.) may be recommended.

WITH reference to the answer to "First Aid" published last week, we find that the St. John Ambulance Association issues a pamphlet containing specimen examination papers in first aid, home nursing, and home hygiene classes; it can be obtained from the Association at St. John's Gate, Clerkenwell, London, E.C., price 3d., by post 4d. The editor of the *Red Cross and Ambulance News*, published monthly by the St. Andrews Ambulance Association, 176, West Regent Street, Glasgow, informs us that the questions set at various ambulance competitions are published regularly in that periodical, the price of which is 1d.

VOMITING WITHOUT A CAUSE.

DR. C. B. RICHARDSON (Hove) writes: In answer to "M.B.," I strongly recommend a course of Weir Mitchell treatment. It was the only thing that cured a very similar case under my care when all the *Pharmacopoeia* remedies to arrest vomiting had been tried! It was a nerve case.

RECURRING URTICARIA.

DR. H. J. THORP (Ipswich) writes in reply to "Country Practitioner": Failing an external cause of irritation attention should be directed to the alimentary canal. Worms in children are a common cause of urticaria, and injudicious feeding; therefore in treating urticaria a well regulated diet is in all cases indicated. With regard to medicine the following: Sodae bicarb. gr. v, magnesiae carb. gr. vii, inf. gentian ʒss; t.d.s.; before meals.

INCOME TAX.

D. F. has paid a single premium of £273 representing the only payment due under a life insurance policy and inquires whether he is entitled to an allowance of this sum from his income-tax assessment.

*** The provisions of the Income Tax Acts for the allowance of life premiums limit the allowance to *annual* payments and the Inland Revenue adopt a strict reading of the law in this respect. We fear, therefore, that our correspondent will be unable to obtain any deduction on account of this lump sum payment.

LETTERS, NOTES, ETC.

ARTIFICIAL RESPIRATION.

AN appliance devised by a Swedish medical man, Dr. K. A. Fries, to facilitate the performance of artificial respiration, is being placed upon the market in this country by the Holmquist Electric Company. It consists of an inclined plane just long enough to reach from the head to the hips of most adults, a broad chest band, and two movable uprights, all working in connexion with one another. In using it the patient is placed on his back on the inclined plane, the band is passed across his lower ribs, and his hands fastened to the two uprights. When these uprights are turned downwards and backwards they relax the chest band, extend the patient's arms forcibly above his head, and draw out the chest walls; on the position of the uprights being reversed they tighten the chest band and squeeze the ribs. In effect the appliance imitates the movements involved in Sylvester's method of artificial respiration, but brings them about without strain on the muscular force of the operator.

"THE RIGHT TO DIE."

DR. ALEXANDER DUKE (London, W.) writes: Your interesting leader on above subject reminds me of the saying of Bacon "Quite as natural to die as to be born." Perhaps you may do me the honour to print the following original lines on the subject:

When the time comes that we must leave this earth,
We'll know no more about it than our birth;
The senses dulled, Oblivion reigns supreme,
And Death puts the *finale* to the scene.

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THE DIFFERENTIAL DIAGNOSIS OF SYPHILIS AND PARASYPHILIS OF THE NERVOUS SYSTEM.

Introduction to a Discussion on Syphilis and Parasyphilis of the Nervous System at the Medical Society of London on November 13th, 1911.

BY

F. W. MOTT, M.D., F.R.S., F.R.C.P.,

Director of the Pathological Laboratory of the London County Asylums; Physician to Charing Cross Hospital.

Fournier was the first to express the opinion that tabes dorsalis is a post-syphilitic disease, and Erb in Germany and Gowers in this country have done more than any other neurologists to support this doctrine of Fournier. Esmarch and Jessen, and later Kjelberg, were the first to call attention to the fact that general paralysis occurred especially in persons who had suffered with syphilis; but it was Fournier who really put forward the doctrine that general paralysis was, like tabes, a consequence of syphilis, and that the two diseases were so similar in their etiology that they might probably be regarded as one disease affecting different parts of the nervous system. The inoculation of a number of general paralytics with no history or signs of syphilis with the virus of a hard chancre without any signs of infection resulting led Krafft-Ebing to postulate the dictum, "general paralysis is the product of syphilization and civilization."

When I was appointed Pathologist to the London County Asylums I found no mention of syphilis as a cause of this disease and comparatively little of other mental conditions in the annual reports. This struck me forcibly, for as a neurologist I had been greatly impressed in my hospital experience with the fact that of all the causes of organic disease of the nervous system syphilis easily occupied the first place. I found that careful inquiry in cases of general paralysis revealed the fact of antecedent syphilis much more than had been suspected; still the obvious syphilitic residua of scars of gummata and other tertiary manifestations in the body were relatively infrequent. I found that cases of syphilitic brain disease with dementia were called general paralysis, also cases of Korsakoff alcoholic psychosis; but etiologically and pathologically, especially in the light of recent research, these are quite different diseases and can usually be differentiated clinically. A number of causes were asserted to be the agencies capable of inducing general paralysis, and while not denying that alcoholism, sexual excesses, inherited neuropathic and psychopathic predisposition, sorry, and excessive mental strain—in fact all those causes which may lead to neurasthenia—are important exciting factors, yet it is my conviction that syphilis is the essential cause.

It seemed to me that the proof would be afforded if I could collect a sufficient number of cases of juvenile general paralysis in which most of these exciting factors were absent and show that they were the subjects of congenital syphilis. From the numerous inmates in the London County Asylums I was soon able to collect a large number of cases of general paralysis occurring at puberty or early adolescence, and to demonstrate that clinically and pathologically they in no essential respect differed from cases occurring in adults the subjects of acquired syphilis.

Again, later I was able to collect 70 cases of tabo-paralysis and compare the same with 70 cases of tabes dorsalis, and I found among these that the parasyphilitic affection may begin with spinal symptoms or optic atrophy and terminate in general paralysis, or general paralytics may, simultaneously with or successively to the onset of the cerebral symptoms, develop tabes dorsalis; and I came to the conclusion, from a research extending over three years, that there is one tabes or wasting disease of the central nervous system from an etiological and pathological standpoint. One of the strongest arguments clinically in favour of this view is the fact that the Argyll Robertson pupil is for all practical purposes only met with in these post-syphilitic diseases of the nervous system. Researches in connexion with the examination of the blood and cerebro-spinal fluid which will be referred to further confirm this view.

According to some authorities—Bosc, Lesser, Hirschl, Nageotte, and others—general paralysis and tabes are quaternary syphilis; the former authority asserts, and with some degree of correctness, that there is a general similarity even in the lesions of general paralysis and tabes to other syphilitic lesions—namely, there is an endothelial and connective tissue hyperplasia with a tendency to fibrous and sclerous formation. But there is more than this—there is a primary neuronic decay which cannot be accounted for solely by the changes in the supporting, enclosing, and nutrifying tissues, the same as can be done in syphilitic lesions.

The view I take of the pathology of parasyphilitic affections is that in certain acquired or congenital syphilitic individuals the durability of the neurones is greatly curtailed, so that they decay and die prematurely, thereby giving rise to a series of symptoms which may be associated either with irritation of definite nerve structures—for example, lightning pains, visceral crises, mania, and epileptiform convulsions; or with neural destruction—for example, ataxy, paraesthesia, anaesthesia, paresis, and dementia. The irritative phenomena may be the sign of increased neural irritability, due to degeneration of neurones prior to their death and loss of function. I do not, however, affirm that the lymphatic and vascular changes play an insignificant part in the process of decay and death of the neurones, especially in general paralysis. Now, it may be asked, What is the evidence to show how this neural irritation and destruction is brought about?

It is a fact that the cases of syphilitic disease of the nervous system diminish in number and gravity with each succeeding year following infection, although it must be admitted there is no essential difference in the histological changes met with in early and late syphilis of the nervous system. It is, however, comparatively very rare for parasyphilitic affections to occur within four or five years of the primary infection, and the average time is at least ten years after the appearance of the primary sore. Seeing that the great bulk of persons are affected in youth or early manhood, so the curve of incidence of onset of syphilitic affections of the nervous system reaches its maximum somewhere between 25 and 30, whereas the curve of the incidence of onset of general paralysis and tabes reaches its maximum between 35 and 40. Whereas, on the one hand, syphilis of the nervous system produces more or less sudden obtrusive symptoms indicative of gross lesions due to meningeal irritation and vascular occlusion of a random kaleidoscopic character, with remissions and exacerbations causing new and variable paralytic and irritative phenomena; on the other hand, parasyphilitic affections are usually so insidious in origin that it may be difficult to fix the date of the onset. Again, as a rule there is a continuous progress of the disease in which remissions and exacerbations are not nearly so manifest.

Whereas on the one hand syphilis of the nervous system, especially in the early stage, yields to all forms of treatment which would cause the destruction of the specific organism, on the other hand, parasyphilitic affections are seldom arrested; and, though sometimes benefited by anti-syphilitic treatment, the degree of benefit is inconsiderable when compared with the effects obtained in syphilis of the nervous system. I have myself seen no disappearance of symptoms once established in tabes or general paralysis which could be associated with the treatment. Neither could we expect that mercury or arsenic in any form could restore neurones which have undergone degeneration, although, when it is the syphilitic virus which is producing symptoms due to arterial and meningeal inflammation, the administration of these remedies gives relief by destroying the specific cause, and thus arresting and clearing up the inflammatory process before neuronic destruction to any considerable degree has taken place. If the spirochaete be the cause of these neuronic degenerations in parasyphilis, how does it come to pass that it has never been demonstrated in general paralysis or tabes? whereas it has been demonstrated by many authorities in syphilitic meningitis and arteritis. It might be said that there is an intracellular granule form, but this has to be proved. So far the existence of an intracellular granule form rests only on the slender basis of analogy of the spirochaete to the tick fever spirillum, which has been shown by Leishman to have an intracellular granule

form. If we admit this premise, then it must be assumed that the *Spirochaeta pallida* has passed into a resting stage, and after a lapse of years, on an average ten, it has become active and caused inflammatory changes in the membranes, vessels, and connective tissues, with secondary irritation and destruction of the neural elements. The primary meningo-encephalitic theory was the old view of the parasyphilitic affections, but most authorities now consider that the diseases termed "parasyphilitic" are due to a primary neuronic decay with secondary changes in the membranes, vascular and neuroglial structures. This view was taken by Sir David Ferrier in his Lumleian Lectures on Tabes Dorsalis. The positive Wassermann reaction, given almost in all cases of general paralysis both by the blood and cerebro-spinal fluid, would suggest that the disease was the result of active syphilis; but whereas a case of active syphilis giving the Wassermann reaction in the blood after treatment may no longer give it, this is not the case with general paralysis according to my experience. I shall therefore assume that until further evidence of a more definite nature is forthcoming to show that these late manifestations of a previous syphilitic infection are to be regarded as quaternary syphilis of a nature similar to glossitis, it will be better to accept the term "parasyphilis" or "metasyphilis," and to explain the symptoms by a premature and progressive decay of neural systems, localized in some cases to afferent systems, as in tabes, or generalized in others, as in general paralysis.*

I have not time to discuss the possibility of there being a specific spirochaete for these parasyphilitic diseases, nor the question whether parasyphilis is a result of racial immunity by widespread syphilization; nor another view, that of Neisser, that the late manifestation of syphilis in the form of tabes and general paralysis may be the result of a modification of the action of the specific organism by the widespread use of mercury. Nor will I discuss the question of anaphylaxis as an explanation, but come to the more practical side of the question of the differential diagnosis of parasyphilis and syphilis of the nervous system.

The Differential Diagnosis of Syphilis and Parasyphilis of the Nervous System from other Diseases affecting the Brain, the Spinal Cord, and the Peripheral Nerves.

The neuroses and psychoses will first occupy my attention, for in my opinion they form a most important group of cases; important because of the difficulties arising in determining whether the symptoms are purely functional or whether they are the prodromal symptoms of grave organic disease. An individual may have had syphilis, or he may think he has had syphilis; in the former case he may deny the possibility. It is in all such dubious cases that the serum diagnosis is of the greatest value: if it is positive, there is a clear indication for treatment; if the result is negative, it is often extremely useful, inasmuch as I have observed that the assurance given to the patient, that there is no active syphilis, goes a long way to improve his general condition, and, the apprehension and mental distress being removed, the patient recovers from his neurasthenic condition.

The neurasthenia occurring in the secondary or active stage of syphilis is in no way specific in its symptoms, although it may be favoured and intensified by the action of the poison, but the effect on the mind of a sensitive person in whom the moral sense has received a profound shock by the acquirement of a loathsome and what he believes to be an incurable disease, is a most important factor. He becomes morbidly apprehensive, and he suffers in consequence with sleeplessness, loss of appetite, dyspepsia and malnutrition—a combination of factors which terminate in neurasthenia. It is of importance to diagnose between the headache and other symptoms of such an induced neurasthenia and true syphilitic headache of the secondary period, or that more serious condition premonitory of the syphilitic affection of the membranes and vessels of the central nervous system. In neurasthenia there is little real pain; there are unpleasant sensations of tightness, heaviness, emptiness, muzziness of the head, but not true pain. In syphilitic disease, on the other hand, the pain is intense, lancinating, boring, tearing—pain which is so severe as to interfere with occupation. It is often worse at night, sometimes waking the patient at a particular time. Neurasthenic headache is generally diurnal, and worse in the morning on arising and better at night on going to bed. Antisyphilitic remedies give relief in syphilitic disease, but have no influence in neurasthenia unless the condition is due in the main to a grave anaemia of the secondary period. It is very rare for a syphilitic headache to last for any length of time without serious manifestations of organic disease occurring; in fact, syphilitic brain disease seldom strikes without warning; it may be ptosis, a squint, a transitory condition of aphasia, or paralysis, a girdle sensation, etc. In neurasthenia and hysteria there are many and varied subjective symptoms and very few, if any, objective signs of the disease.

It is important to distinguish the neurasthenic state, spinal and cerebral respectively, from tabes dorsalis in the early preataxic stage when the knee-jerks may be present, and from general paralysis in the preparetic stage. As regards spinal neurasthenia, the knee-jerks are increased, there are no bladder troubles, there may be impotence, also attacks of giddiness, analgesia, and paraesthesia may suggest to the patient, especially if he have medical knowledge, tabes dorsalis, yet no physician would diagnose this disease in the absence of any of the characteristic pupil phenomena—namely, inequality, irregularity and rigidity or sluggish reaction to light. Seeing the causes which lead to cerebral neurasthenia are in the subject of syphilis the very causes which predispose to paralytic dementia, it is often difficult to decide whether a neurasthenic displaying periods of depression or excitation, especially if he be the subject of chronic alcoholism, is or is not in the earliest prodromal stage of general paralysis; for the pupil phenomena may be absent in the earliest stages of the disease, or, if not altogether absent, are certainly not nearly so definite as in tabes.

These parasyphilitic affections may be definitely differentiated from neurasthenic conditions by an examination of the cerebro-spinal fluid. The existence of lymphocytes points definitely to a chronic inflammatory condition of the central nervous system, and I have found that in practically every case of general paralysis, even in the earliest stages, a lymphocytosis occurs. Moreover, it always occurs in tabes dorsalis, therefore this fact is of great importance in the differential diagnosis. Many conditions of organic disease, however, give a lymphocyte reaction. In about half the cases of tabes dorsalis the fluid also gives a positive Wassermann reaction. In practically every case of general paralysis we have found a positive Wassermann reaction, so that a neurasthenic with slight mental symptoms whose fluid gave this reaction may be said to be suffering with general paralysis in the early stage. Comparatively speaking, only about 25 per cent. of the cases of syphilitic disease of the central nervous system give a positive reaction though most of them give a well-marked lymphocytosis. Some nervous persons may object to have lumbar puncture. In the case of a differential diagnosis of early general paralysis from neurasthenia, an examination of the blood may suffice, for if the serum does not fix the complement and give the reaction neither will the cerebro-spinal fluid. That is to say, a negative serum reaction puts out of court general paralysis. If, however, a positive reaction of the blood is obtainable, then it is necessary, in order to decide the diagnosis, to perform lumbar puncture and examine the cerebro-spinal fluid; for it is obvious that every individual who gives a positive serum reaction is not suffering from general paralysis, as it only means antecedent syphilis. It would be interesting to know whether those individuals who gave a Wassermann reaction after a systematic course of energetic treatment are more liable to these late manifestations of the effect of the virus than those who, when treated efficiently, failed afterwards to give it. I should not be in the least surprised if this were so.

Hysteria and Hystero-Epilepsy.

Hysterical paralysis and hystero-epilepsy, according to Fournier and Lang, sometimes occur in the secondary stage

* I have recently had a case in which the fluid and blood taken *post mortem* gave a negative reaction. Clinically the case was one of rapid general paralysis of the insane. Microscopic examination showed a very marked active and widespread destruction of the cortical neurones, marked proliferation, and swelling of the capillary endothelial cells and perivascular plasma cell infiltration, though not very marked. Histologically it was an early case of general paralysis.

of syphilis, and the symptoms disappear under anti syphilitic treatment. The subjects of antecedent syphilis with a neuropathic predisposition are very liable to develop hysteria and hypochondriasis, and not very infrequently syphilophobia. A negative reaction of the blood will serve to allay their ungrounded fears and desire to be injected with 606. I have seen several such cases recently. If there is a positive reaction it denotes the necessity for treatment, and such a case as I shall describe illustrates the value of this serum reaction and the examination of the cerebro-spinal fluid.

Some years ago I treated a man with cerebral gummatous meningitis, and all the symptoms cleared up; a year later he came to me complaining of a slight pain in the left side. I told him that I hoped that it was nothing more than muscular pains, but he was to come and see me again if he were not better, as I could discover no anaesthesia or objective signs. A week later I was asked to see him by a practitioner who regarded his case as *functional*. He was paralysed in the lower extremities; it had come on somewhat suddenly. Knowing the history of this patient I took him into the hospital, and for the first few days he became rapidly worse, and lost complete control over the bladder and rectum, as well as complete loss of sensibility below the level of the seventh rib. Under antisyphilitic treatment he made a complete recovery. No doubt the case was one of gummatous syphilitic spinal meningitis. I am not so sure as I was once of the hopelessness of curability of syphilitic meningitis. I have seen necropsies in many cases that had apparently recovered under treatment, but which have relapsed, and I should advise all people who have once suffered with syphilitic disease of the central nervous system to have the Wassermann reaction of the blood made periodically with a view to renewal of treatment if the reaction is positive. Not that I would say, if the patient showed any clinical signs pointing to syphilitic brain or cord disease and yet gave a negative reaction, he should not be treated, for we do not quite know all the conditions that may prevent the reaction occurring in some individuals. In illustration of this I may mention the following case.

A man of 35, who denied infection and showed no positive signs on his body, was admitted under my care to Charing Cross Hospital suffering with ophthalmoplegia interna and externa of the left eye; he was in a condition of drowsy stupor, and there was bilaterial facial paresis; his blood gave a negative reaction by three independent and very competent observers. Nevertheless, I said this is clinically syphilis. Energetic mercurial inunction treatment and iodide in large doses resulted in complete disappearance of all the symptoms in a month.

Arterio-sclerosis.

Seeing that syphilis is one of the most important factors in the production of sclerosis of the arteries, especially the cerebral arteries and general arterial sclerosis causing Bright's disease, it follows that, combined with nervous diseases, may be uraemic symptoms, headaches, pyrexia, twitching, and epileptiform seizures. If uraemic symptoms occur in a case with antecedent syphilis, the blood may give a positive reaction. Now the patient suffering with arteriosclerosis is usually over 50 years of age, and if he has an inborn neuropathic tendency may suffer with an involutional melancholia; he becomes irritable, suspicious, and even dangerous to himself and others; there may be exaggerated emotivity and a partial dementia, so that not infrequently such cases are regarded as general paralysis; however, unlike general paralysis, the patient retains his notions of personality and his autocritical faculty and he is more or less conscious of his failure of memory and mental feeblement. If he is the subject of various forms of pseudo paralysis, the diagnosis is easy. It is extremely easy to obtain ankle clonus and Babinski's sign in general paralysis. Lumbar puncture would settle the diagnosis in a doubtful case; lymphocytosis and a positive Wassermann reaction would decide in favour of general paralysis. Arterio-sclerosis may especially involve the perforating arteries and cause lesions about the basal ganglia, giving rise to mimic disturbances, increased emotivity, accompanied by dysarthria and pseudo-bulbar symptoms; such cases, to my knowledge, have been mistaken for general paralysis.

Chronic Alcoholism.

Chronic alcoholism and syphilis are so often associated that cases frequently present themselves of considerable difficulty of diagnosis. Absence of the serum reaction enables one, in the absence of definite signs of syphilitic affection of the nervous system and when all the symptoms accord with alcoholic poisoning, to exclude syphilis or parasyphilis—for example, in polyneuritic psychosis; but suppose the reaction is positive and symptoms and signs exist which may possibly indicate general paralysis or syphilitic disease of the central nervous system combined with alcoholism, and possibly masked by it. It is then that lumbar puncture and examination of the cerebro-spinal fluid will be of great use, as a lymphocytosis will show that there is, in addition to the alcoholism, a syphilitic affection; if in addition there is a positive reaction, it points to general paralysis. The following is a good case in illustration of this:

A man, aged about 28, was said to be suffering from general paralysis, and I was asked to see him. I found that he had been drinking heavily for some time past; there was a great deal of mental confusion, loss of knowledge of time and place, personal illusions, and loss of memory of recent events. He had contracted syphilis five years previously, for which he had been treated. He had had a left-sided hemiplegic condition, from which he had recovered; there was ankle clonus and Babinski's sign on this side. The pupils were equal, reacted sluggishly to light. I was told that his blood gave a negative reaction. I gave it as my opinion that it was not general paralysis, and that he would recover with mercurial treatment and compulsory total abstinence from alcohol. I saw him again nine months later; he had two large gummata on his head, headache, and tenderness on percussion over the forehead. Although he had been under the care of a medical man owing to his not complaining these had not been observed. A Wassermann gave a marked positive reaction. With mercury and large doses of iodide all the symptoms disappeared, and he is practically well. A differential diagnosis of *mania a potu* from mania of incipient general paralysis associated with drink can be decided by lumbar puncture at once, although sometimes, when objection is raised, the true nature of the disease must be allowed to declare itself, after the effects of the alcohol have had time to wear off, before a decision can be arrived at.

Dementia Praecox.

The age, mode of onset, and evolution of this disease are unlike any syphilitic or parasyphilitic affection due to acquired syphilis, but occasionally there is a difficulty in the diagnosis of a juvenile paralytic or an imbecile the subject of congenital syphilis. There is usually in dementia praecox a strong hereditary history of insanity. Nearly 80 per cent. commence before 25. If there is any doubt, examination of the blood and cerebro-spinal fluid will settle the question.

Epilepsy with dementia, tuberculous and other forms of meningitis, disseminated sclerosis, cerebral tumours (non-syphilitic), are diseases which may sometimes be mistaken for syphilitic and parasyphilitic affections. Here, again, the examination of the blood and cerebro-spinal fluid will in most cases allow of a differential diagnosis.

The Differential Diagnosis of Syphilitic and Parasyphilitic Affections.

The average time between syphilitic infection and onset of symptoms is ten years in parasyphilitic affections; very seldom is it under five years, whereas the converse is the case with syphilitic affections. In the severe forms of syphilitic disease of the central nervous system the greatest number of cases occur in the first few years after infection and diminish with each succeeding year. Whereas the syphilitic history is well defined and the scars of lesions are common in syphilitic disease, they are comparatively rare in the parasyphilitic affections. The onset of symptoms and course of syphilitic disease are usually rapid and subject to regressions and remissions; the onset of symptoms and the course of parasyphilitic affections are usually insidious and slowly progressive. except in some cases of general paralysis, especially those in which there are numerous seizures, causing, may be, *transitory* aphasias, monoplegias, and hemiplegias. The pupil and squint phenomena are common in syphilis, but Argyll Robertson pupil extremely rare. In parasyphilis pupil phenomena and strabismus are common,

Argyll Robertson pupil is rarely absent, especially in tabes and tabo-paralysis. Optic neuritis and post-neuritic atrophy are not uncommon in syphilis. A unilateral central scotoma, the other eye remaining healthy (an indication of a retrobulbar neuritis) affecting the papillo-macular bundle, is indicative of a gummatous meningitis. In parasyphilis primary optic atrophy occurs in about 10 per cent. of the cases. Bladder disturbances are common in syphilis and parasyphilis. Severe headache, worse at night, stiffness of the neck, coarse paralysis of cranial nerves, paralysis of limb and face with clonus and plantar extensor response, are common as a result of syphilitic brain disease, but rarely if ever met with in general paralysis. Aphasias, anarthria, and dysarthria are common in brain syphilis, but not in general paralysis, in which the speech affection is characteristic. In fact, the term "general paresis" is much more correct for the parasyphilitic brain affection. The knee-jerks in a gummatous meningitis may be present one day, absent the next; in tabes they are in the great majority of cases absent throughout. The knee-jerks are exaggerated in the great majority of cases of general paralysis, but there is no ankle clonus or Babinski—in fact, these signs in a case of dementia, to my mind, indicate strongly syphilitic brain disease rather than general paralysis.

The Diagnosis of Tabo-Paralysis.

It is of very great importance to the patient and friends to be able to diagnose tabo-paralysis. Tabetic patients are apt to suffer with neurasthenia and mental depression and to resort to alcohol; moreover, to relieve the pains, the morphine habit may be acquired. Again, a potentially insane person may suffer with tabes and be the subject of delusions of persecution, putting an insane interpretation upon the lightning pains and visceral crises. Seeing that neither the Wassermann reaction of the blood and cerebro-spinal fluid nor the lymphocyte reaction will help in such cases, for both tabes and tabo-paralysis give these reactions, it may be difficult to decide whether the patient is the subject of oncoming tabo-paralysis. Still, in my experience an abundant lymphocytosis and a marked positive Wassermann reaction of the cerebro-spinal fluid points to a widespread disease, and therefore to involvement of the brain; if, in addition, in such a case apoplectiform, migrainous, or epileptiform seizures not causing gross paralysis have occurred, and especially if the knee-jerk is noted to be absent on one side, and present on the other, tabo-paralysis is indicated. I may mention that about 10 per cent. of the cases of tabes dorsalis end in extension of the disease to the brain. The cerebral lesions in no way differ from those of general paralysis in the early stages.

The importance of a differential diagnosis of syphilis from parasyphilis of the nervous system cannot be over-estimated from the point of view of prognosis and treatment; whereas the former yields to energetic treatment sometimes in a marvellous manner, the latter does not. At one time I found no distinction was made in many asylums between gross syphilitic brain disease with dementia occurring in young people, and general paralysis; and the cases being regarded as incurable, treatment was either inadequate or not adopted. I show lantern slides of such cases.

I do not think in the light of pathology a place should be found in modern textbooks for *syphilitic general paralysis*, and I speak in great deference to our leading authority, Dr. Savage, who was the first authority in this country to recognize the association of syphilis with general paralysis and especially tabetic paralysis.

There are cases of syphilitic brain disease in which there is general syphilitic endarteritis without thrombosis; cases in which there may be at first no permanent coarse paralysis, only transitory seizures like those of general paralysis; the symptoms may be mainly psychical, although there may be headache, giddiness, and insomnia. The patient exhibits defective recollection of what has recently happened, mental fatigue, and incapacity for work; his actions are automatic, and disturbances of consciousness are frequent; he may become semi-conscious or semi-comatose, then recover in almost a complete manner, only to relapse again. The transitory character of the phenomena before the occurrence of occlusion of the arteries by thrombosis, resulting in permanent paralysis and dementing conditions, is especially suggestive of this form of syphilitic disease of the brain. The recogniton of this form of syphilis in its early stages is especially important. It is generally accompanied by a gummatous periarteritis and some meningitis more or less extensive, so that the cerebro-spinal fluid would give a lymphocyte reaction, and possibly a Wassermann; the serum would almost certainly give the reaction, and should be tested in all doubtful cases. I have seen numerous cases of multiple gummatous tumours of the brain with generalized arteritis and meningitis, and the principal symptoms have been a drowsy stupor with progressive dementia, but without coarse paralysis for some time. I have noticed that such cases generally show well-marked syphilitic residua on the skin or mucous membranes, and I should always hesitate to diagnose general paresis in such cases.

Pseudo-Tabes.

Cases occasionally occur of syphilitic cerebro-spinal meningitis which simulate the parasyphilitic affection very closely. I will narrate a typical case that came under my notice. A woman was sent into the wards under my care said to be suffering with tabes. She had lightning pains, girdle sensation, absence of knee-jerks, paraesthesia and anaesthesia of the lower extremities, and bladder troubles. The pupils were unequal, irregular in outline, and sluggish to light and accommodation. There was a history of her having had a severe headache some time previously, and squint and double vision. I found that she had had a healthy child four years prior to the onset of the cord symptoms; since then she had had several miscarriages. I found that the knee-jerk had come back, and I came to the conclusion that very probably, in view of the comparatively short time elapsing between possible infection and the onset of the severe headache, together with the variable character of the knee-jerk, this was a case of cerebro-spinal gummatous meningitis. Lumbar puncture was performed—370 lymphocytes per cubic millimetre were found; the Wassermann reaction was negative, and the short interval, four years at most, between infection and onset, made me sure that the case was one of gummatous meningitis or pseudo-tabes. One month of mercurial inunction treatment and all the symptoms had disappeared and the fluid was free from lymphocytes. She still remains well, though it is now three years since I saw her first. This might have been thought to be a case of cured tabes. Hitherto I have dealt mostly with the diagnosis of cerebral affections; I must now briefly refer to the diagnosis of spinal cord diseases.

The Diagnosis of Spinal Cord Diseases.

Syphilitic affections of the membranes may be more or less localized so as to cause practically only spinal symptoms, but many cases regarded as syphilitic disease of the spinal cord, when the history of the illness and the symptoms are carefully inquired into will be found to have presented symptoms indicative of affection of the base of the brain—for example, they have suffered with headache, a little stiffness of the neck, transitory double vision, ptosis, etc. Indeed, it is probable that cases of meningitis syphilitica, owing to invasion of the membranes by the spirochaete, may occur when the roseolar rash appears, and there have been a few cases which indicate such an affection of the membranes while the primary sore is yet unhealed. A patient presenting himself with symptoms pointing to affections of the spinal cord may give a history of antecedent syphilis and yet not necessarily be suffering from syphilitic disease of the spinal cord. Still, as Dr. Buzzard long ago pointed out, it is astonishing how many cases of spinal cord affection in young men are due to comparatively recently acquired syphilis. I say comparatively recent, meaning thereby in comparison with tabes. The first thing to do, therefore, is to exclude syphilitic infection as a cause of spinal symptoms; the next thing is to show whether the symptoms have a causal relationship or are only coincidence. There is no clinical symptom or group of symptoms characteristic of syphilitic disease of the spinal cord, but there are certain symptoms which, if they occur in young adults particularly of the male sex, should lead one to suspect their specific origin. The early symptoms are spinal irritation, severe intercostal pains worse at night, cramps and contracture

of limb, with pains radiating down them, bladder disturbances, disappearance and reappearance of the knee-jerks, the Brown-Séquard phenomenon; in fact, symptoms pointing to a local or more generalized *meningitis* or *meningo-myelitis*, but usually without pyrexia unless there be some complication.

As in cerebral syphilis so in the spinal disease the symptoms are particularly liable to remissions and regressions. One group of symptoms may improve, or even disappear, and another group appear, or symptoms may improve in one part of the body while progressing in another. These symptoms are due to a gummatous inflammation of the membranes associated generally with vascularitis involving veins and arteries. Consequently lumbar puncture and examination of the cerebro-spinal fluid reveal a marked lymphocytosis usually without a positive Wassermann reaction of the fluid, although the blood will almost certainly give it. Myelitis as a result of meningitis often follows the symptoms of meningitis, and may either be focal or diffuse; the former is the more common; the latter is indistinguishable from an acute myelitis due to other causes—for example, specific fevers, micro-organisms, and microbial toxins. The position and extent of the cord lesion may be inferred from the extent of the paralysis and loss of sensory function; the electrical reactions of the muscles will enable a judgement to be formed as to whether the anterior horns are affected. This leads me to say that cases have been described of poliomyelitis as a result of syphilis. I have had one such case under my care; the symptoms might resemble the acute spinal paralysis of the adult, especially if it were comparatively sudden in its onset, owing to the thrombosis of a vessel affected by endarteritis. Landry's paralysis might be mistaken for acute ascending myelitis of syphilitic origin, but in the latter sensation is affected, and if the patient survives there is a great tendency to the formation of bed-sores, and many muscles may waste, showing loss of faradic irritability. Such symptoms are not met with in Landry's paralysis. If the signs and symptoms point to a local transverse myelitis, we should seek to find whether it is primary or secondary.

Myelitis in the acute form may arise from pressure due either to a growth or diseased bone. The root pains which precede usually by some days or weeks the paraplegia, and the absence of signs pointing to disease of the spinal column or malignant growth help in a differential diagnosis. Lymphocytes of the cerebro-spinal fluid and a positive Wassermann reaction of the blood, even though the fluid be negative, would almost certainly indicate a syphilitic meningo-myelitis. As I have already pointed out, in most of these cases there is present or past evidence of some basic meningitis.

Disseminated sclerosis may result from multiple syphilitic foci due to obliterative arteritis; a positive Wassermann reaction of the blood, together with the age and history of the patient's illness, will suffice. A certain degree of lymphocytosis may occur in true disseminated sclerosis.

Hysteria and spinal neurasthenia in a syphilitic subject I have already referred to. The most important subject of differential diagnosis is between (1) tabes, (2) pseudo-tabes—a case of which I have already referred to—and (3) ataxic-toxic peripheral neuritis; and the chief points in making a diagnosis I have summarized in a tabular form, which I will throw on the screen. (See tabular synopsis at foot of page.)

Finally, it is necessary for me to refer briefly to Erb's spastic spinal paralysis; according to my experience, I am inclined to the belief of Oppenheim and Marie that these cases are really due to a syphilitic meningo-myelitis. The symptoms are a gradually developing spastic paresis of the leg, with increase of the deep reflexes; although the gait is extremely spastic, the muscular contraction is but slight; the bladder is early and almost constantly affected; slight sensory disturbances are usually present. The course is chronic in most cases, and there is a tendency to improvement, and even to complete arrest. Erb regarded the anatomical basis of this disease to be a primary degeneration.

The Histological Diagnosis.

Medico-legal cases may arise where a histological diagnosis is required. There have been in the London County Asylums since the Workmen's Compensation Act a good few cases of patients dying in the asylums of general paralysis following injury. In some cases the injury has been slight and quite insufficient to cause the onset of the disease; in others it has been severe, and the question has arisen whether the patient was not already the subject of the disease when he met with the accident, or, indeed, whether it was not, owing to a sudden lapse of unconsciousness, the result of the disease, which occasioned, directly or indirectly, the accident or the injury. The naked-eye appearances of a well-marked case are characteristic, and I need not refer to them. The blood and cerebro-spinal fluid both give a positive reaction after death. For a considerable time past at Claybury the blood and cerebro-spinal fluid of every case that dies has been examined by the Wassermann method and the reaction is compared with the result obtained during life; all cases in which the brains are not undoubtedly to the naked eye general paralytic brains are microscoped, and we have come to the conclusion that practically almost every case of general paralysis gives a positive lymphocyte and a positive Wassermann reaction. A man was admitted to Claybury and died ten days after admission. He was said to have been run over by a motor bus three months previously and to have sustained a fracture of the thigh. He was in an acute

I.

Tabes Dorsalis.

1. Average time between syphilitic infection and onset of symptoms, ten years. Very rarely under four years. Usually early slight signs of syphilitic residua. Onset and course usually slow, insidious, and progressive.

2. Pupils frequently unequal and irregular. Argyll Robertson pupil rarely absent. Strabismus, transitory or permanent, frequent.

3. Primary optic atrophy in about 10 per cent. of the cases.

4. Bladder disturbances very frequent, visceral crises common.

5. Knee-jerks absent as a rule, even in the early stages.

6. Lightning pains in limbs. No stiffness in neck and spine. Girdle sensation and anaesthesia to light; touch in the thoracic region may be an early symptom.

7. Lymphocyte reaction of the cerebro-spinal fluid as a rule not marked in the early stages. Wassermann reaction in about half the cases. Blood serum always positive.

II.

Pseudo-tabes Syphilitica.

1. Average time between syphilitic infection and onset of symptoms eighteen months to two years, rarely after five years. Generally signs on the body of old syphilitic residua. Onset and course usually rapid and subject to regressions and remissions.

2. Various oculo-motor paralyses common; Argyll Robertson pupil absent.

3. Optic neuritis and post-neuritic atrophy not uncommon. Unilateral central scotoma, due to affection of the papillo-macular bundle by the gummatous meningitis, may occur. Headache.

4. Bladder disturbances common.

5. Knee-jerks variable, one day absent, and then returning.

6. Spinal pains and tenderness, stiffness of the neck; the pains lancinating and radiating from the spine down the limbs. Girdle sensation and thoracic anaesthesia very frequently present.

7. Marked lymphocytosis of cerebro-spinal fluid. Wassermann reaction less frequent. Blood reaction always present.

III.

Ataxic-toxic Peripheral Neuritis.

1. A history of some toxic conditions, for example, diphtheria, typhoid, lead, arsenic, diabetes, and especially alcohol.

2. There is pain and tenderness of the limb, and ataxic paraplegia or simply ataxia; there may be paraesthesia; the muscles are often wasted, and a reaction of degeneration may be given. Usually there is foot-drop or wrist-drop. There is no oculo-motor paralysis as a rule, and the pupils are not affected. There are no changes in the fundus. In diphtheria there is frequently paralysis of the muscle of accommodation. As a rule, there is no bladder trouble unless there is dementia. The knee-jerks may be present or absent. A serum reaction may be positive in a subject of antecedent syphilis, but the absence of lymphocytosis of the cerebro-spinal fluid and a negative Wassermann reaction would decide against the symptoms being due to syphilis or parasyphilis of the spinal cord.

maniacal condition, and he was certified as dying of acute delirious mania, which accorded with his symptoms. I found that his blood and fluid both gave a positive reaction, and there was an abundant lymphocytosis of the fluid. There were scarcely any naked-eye signs of general paralysis; in fact, there was nothing which could be asserted positively as evidence of the disease—a circumstance which accorded well with the history, that just prior to the accident he had been discharged from the navy and had passed as a taxi driver. I found a definite scar of a chancre on the penis. Examination of several regions of the brain were made, but only in one region examined were there the histological appearances characteristic of the disease—namely, increased vascularity, well-marked infiltration of the small vessels of the cortex with plasma cells and lymphocytes, also the membranes, proliferation of the glia cells, absence of the tangential fibres, distortion of Meynert's columns, and atrophy of the constituent ganglion cells; lastly, the existence of the "rod cells of Alzheimer." All these conditions showed that this man was suffering with acute mania of general paralysis in its earliest stage; it is, therefore, highly probable that the severe injury had been the exciting factor in the production of the disease. We are able to decide two points by this examination—namely, that the man had general paralysis, a disease that is invariably fatal; that he had syphilis, which is an essential cause. That the evidence *post mortem* was to the effect that it was in its earliest stage, and might therefore never have occurred if he had not had the severe accident. The fact of the existence of the scar of the chancre and antecedent syphilis should not weigh in the minds of the jury if they were satisfied that the man in all probability was not suffering with general paralysis prior to the accident, for only a very few syphilitic subjects die of general paralysis.

Another case has recently occurred which, from a medico-legal point of view, is of interest in showing how necessary it is to examine *various* parts of the brain histologically to confirm the diagnosis of general paralysis. Dr. Bond, of Long Grove Asylum, recently gave evidence in a trial in which the wife of one of his patients alleged that traumatism was the cause of her husband's mental breakdown. Dr. Bond considered that the case was clinically one of general paralysis of the tabetic variety, although he said there were certain anomalous bodily symptoms. He sent me the central nervous system of this patient when he died. I found a typical tabetic lesion of the posterior columns of the spinal cord. Examination of the prefrontal and central convolutions did not show the typical lesion of general paralysis. The tip of the first temporal convolution, especially on one side, showed all the characteristic lesions which I have just described. I will show photographs illustrating these points.

In conclusion, I beg to thank you for so kindly listening to me so long, and yet I feel there are many things left unsaid which I might have said; however, many eminent authorities are about to follow who will be able to fill up the gaps, and very probably also from their wide experience modify and correct some of the statements I have made. Finally, I wish to acknowledge my indebtedness to my assistants, Dr. Candler and Mr. Sydney Mann, who have carried out the researches on the blood and cerebro-spinal fluid to which I have referred, and upon which I have based my opinion as to the value of the reaction. These were published in the *Lancet* recently by Dr. Candler.

THE Council of the Central and Associated Chambers of Agriculture at its meeting on October 31st decided to ask the President of the Board of Agriculture to issue regulations for the sale of condensed machine-skimmed milk, and requiring that every tin should have printed upon the label "Unfit for infants and invalids."

A MEETING of the Medico-Psychological Association of Great Britain and Ireland will be held at the house of the Medical Society of London (Chandos Street), under the presidency of Dr. W. R. Dawson, on Tuesday next, at 3 p.m. After the transaction of formal business, papers will be read by Dr. Geoffrey Clarke on sterilization from the eugenic standpoint, and by Dr. C. T. Ewart on amenorrhoeal insanity.

CHOLERA AT PALERMO:

FURTHER EXPERIENCE IN THE TREATMENT OF CHOLERA BY INJECTIONS OF HYPERTONIC SALINES AND PERMANGANATES INTERNALLY AMONG EUROPEANS AT PALERMO.*

BY LEONARD ROGERS, M.D., MAJOR I.M.S.

IT is impossible, as it is unnecessary, in such a paper as this, to give a complete account of all the details of the system of treating cholera which I have worked out during the last few years in Calcutta, as they are fully recorded in my recently published work on the disease,[1] while a summary appeared in a paper in the BRITISH MEDICAL JOURNAL.[2]

PATHOLOGICAL PRINCIPLES.

It will, however, be advisable briefly to recapitulate the principles on which it is based, so as to allow of what I have to say regarding my recent very instructive experience of cholera among Europeans at Palermo being more readily followed.

The Blood Changes in Cholera as a Scientific Basis for its Treatment.

In the first place my researches[3] have shown that in the collapse stage of cholera, from one-half to two-thirds, or even more, of the fluid of the serum has been lost to the system, while in the most severe cases a still greater proportion of the chlorides may be lost, and the serum may even be haemolyzed. These observations indicate the necessity of rapidly replacing the lost salts as well as the lost fluid, and of raising the salts in the blood somewhat above the normal point, so that the osmotic currents will tend to cause fluid to run into the blood rather than out of it, and thus the diarrhoea will be checked, instead of increased, as it is by the use of normal salines. For this purpose I use the following hypertonic saline solution:

Sodium chloride	120 grains.
Potassium chloride	6 ,,
Calcium chloride	4 ,,
Aqua	ad 1 pint

As this formula contains 1.35 per cent. of sodium chloride it is twice as strong as formerly used as normal saline, and half as strong again as the amount of salts now given as the normal amount by physiologists. The last two chlorides are added to make the proportion of the three approximate to Ringer's solution, which, when perfused through an animal's heart, will keep it beating very much longer than sodium chloride alone. Messrs. Parke Davis make hypertonic tablets of the above composition such that four to one pint make my hypertonic solution, while three in the same amount make an approximately normal saline. I used them with marked success at Palermo. I have, however, used 2 drachms to the pint of sodium chloride alone in very many cases, with successful results. I may take this opportunity of pointing out that the solution advised for intravenous injection in the article on cholera in the last edition of Allbutt's *System of Medicine*, consisting of 0.4 per cent. sodium chloride and 0.2 per cent. sodium carbonate, is dangerously hypotonic; in fact, I found it haemolyzed a little of my own blood nearly completely in about two hours, so that its use in large quantities would probably have most disastrous consequences.

Blood Pressure and Specific Gravity Estimations as a Guide to Transfusions in Cholera.

The degree of collapse may be accurately measured by taking the blood pressure with one of the numerous modifications of the Riva-Rocci mercury manometer. Observations on several hundred cases of cholera have shown that if the blood pressure has fallen to 70 mm. or less in natives of India, or to 80 mm. or less in Europeans—which means a serious degree of collapse—it is necessary to give intravenous injections, but if above these points, saline injections are readily absorbed when given subcutaneously as hypertonic solutions, or by the rectum as isotonic ones. Of even greater value is the estimation of the specific gravity of the blood by means of a series

* Read before the Clinical Section of the Royal Society of Medicine.

of twelve small bottles of glycerine and water of each two degrees from 1048, 1050, etc., up to 1070. A small drop of blood from the finger is blown gently from a capillary tube into the middle of a bottle, and if it sinks it is heavier than the solution, and a higher bottle is tried until it just floats for a few seconds, which is the point required. If it sinks in one and rises in the next, the point is between the two. This estimation can be easily made by the bedside in two minutes, and it furnishes invaluable information as to the degree of concentration of the blood, and the necessity for an intravenous injection, as well as an indication of the quantity required. The normal specific gravity being about 1056, if it is raised to 1063 or over it is safe to inject intravenously 4 pints in an adult male, and 3½ pints in a female. If the blood is very greatly concentrated, as shown by a specific gravity of from 1066 to 1070 or over, as much as 5 or 6 pints may be used, the last one or two being given slowly. The rate of injection can be readily controlled by means of the graduated glass bulb and stopcock cannula made for me by Messrs. Down Brothers. The fluid may be run in at the rate of 4 oz. per minute until a full pulse has returned, and then more slowly, especially if there is headache or oppression of the chest. It is advisable to dilute the blood to several points below the normal specific gravity, so as to allow a reserve of fluid for any further diarrhoea and for excretion through the kidneys, whereby toxins will be removed from the blood. The latter effect will be greatly facilitated by the fully normal blood pressure which will usually be obtained by the injection of the large quantities advised above. In addition to the intravenous injections, whenever the blood pressure falls to 80 mm. or less in a European, half to one pint of normal saline is also injected high up into the rectum every two to four hours in all cases to keep the blood fully diluted, and this measure is continued until at least 3 pints of urine are passed in the twenty-four hours.

Control of the Temperature Reaction.

There is always a rise of temperature in the reaction stage of cholera, even when no salines have been used, and older Anglo-Indian writers regard this as the most dangerous stage of the disease. After an intravenous injection a similar marked febrile reaction occurs, often accompanied by a rigor, and it may sometimes run on to a dangerous hyperpyrexia, if not detected in time, and controlled by cold sponging and iced water rectal injections. A temperature of from 101° F. to 103° F. is a good sign, and if it rises to 104° F. or over, it should at once be reduced by the above measures. I have observed that dangerously high reactions occur most during hot weather, and especially in patients whose rectal temperatures were above normal at the time of the injection, although the surface heat may have been much below normal. In such cases the salt solution should be injected at below blood heat. Instances in which 4 pints of hypertonic solution were successfully given intravenously at a temperature of only 86° F. in patients whose rectal temperatures were 105° F. and 106° F. are given in my book.

The Prevention of Uraemia.

The greatest danger after recovery from the collapse stage of cholera is the continued deficiency of the renal secretion, terminating in fatal uraemia and toxaemia. I have shown experimentally that this is due to renal stasis from continued subnormal blood pressure and concentration of the blood, which can be readily detected by blood pressure and specific gravity estimations two or three days before the onset of grave symptoms. Further, provided the kidneys were previously healthy, and the patient is not very old, the onset of uraemia may nearly always be prevented by diluting the blood to at least the normal point by isotonic salines, either subcutaneously or intravenously at a slow rate; and by the use of blood pressure raising drugs, such as digitalin, strophanthin, caffeine, and the vaso-constrictors, adrenalin and pituitrin. A number of illustrative cases are given in my book, so I need only mention here that in Calcutta the deaths from uraemia have been reduced by these methods to half their former numbers, and that too in spite of many grave cases of cholera being tided over the collapse stage by hypertonic injections intravenously to face the dangers of later failure of the renal secretion.

Permanganates Internally to Destroy the Cholera Toxins in the Bowel.

Although a great reduction in the mortality of cholera resulted from the use of hypertonic salines, yet some of the more severe cases died of toxaemia after being rescued from the dangers of collapse. It thus became clear to me that any further progress must depend on the destruction of the toxins in the body. In the absence of any specific serum of proved potency, I experimented to see if the toxins are readily destroyed by any substance which could be safely introduced into the gastro-intestinal tract in sufficient quantity to be likely to be of service, for as the cholera organisms are practically limited to the interior of the bowel, the toxins must be elaborated there, and absorbed into the blood. As bacterial poisons are mostly albumoses and closely allied unstable albuminous compounds, I tested the action of oxidizing agents, such as I had previously shown readily destroy all kinds of snake venoms, which are also albumoses. I found that cholera toxins are rapidly rendered completely inert by the action of permanganates, so I commenced giving these drugs in the following ways. A solution of calcium permanganate (which is somewhat less astringent than the potassium salt and at the same time stronger, as it is divalent) is given to drink *ad lib.* in a solution of 6 grains or more to the pint. It is usually advisable to dilute it further at first until the patient gets accustomed to the taste, and then gradually increase it as much as possible. In addition, the potassium salt is given in pills, being more convenient for this purpose, as it is much less hygroscopic than the calcium one:

Potassium permanganate	2 grains
Kaolin	q.s.

Make a pill and coat with salol or keratin, so that it will pass through the stomach and dissolve in the small intestine, where the action is desired. Two pills are given every quarter of an hour for the first three hours, and then two every half-hour until the stools become green and less copious, which usually occurs within about twelve hours. The pills are then discontinued, but a course of eight pills is given at the beginning of the second and third days under treatment, to prevent relapses. In children smaller amounts must be given. Any pills which are vomited are replaced by others.

Results Obtained in India.

Such is a brief outline of my methods, and I venture to claim that they amount to a complete system of treatment, based on scientific investigations, and affording means of accurately estimating the exact condition of the patient at any stage of the disease and for correctly meeting the indications furnished by the blood pressure and specific gravity estimations. The results obtained during the last four years in India may be summarized by saying that by the use of the hypertonic saline solution intravenously the death-rate in almost 300 cases, during two years, was reduced to 32.6 per cent. from the previous rate in the same hospital during eleven years of 59.6 per cent. Further, during a complete year, with the addition of the permanganates internally, the death-rate was further reduced to 23 per cent. Moreover, I have been infomed by Major Megaw, I.M.S., that this last result has been well maintained during the present year; while Capain Rutherford, I.M.S.,[4] in an epidemic in the Central Provinces in 1910, also obtained 77 per cent. of recoveries, his death-rate being little more than one-third of that of cases in the same outbreak treated by other methods.

THE TREATMENT OF CHOLERA AT PALERMO AMONG EUROPEANS AND ITS LESSONS.

The above-mentioned results were obtained in natives of India, but in Europeans in Calcutta the disease is more severe, the mortality among them during thirteen years having been no less than 81.6 per cent. With the new treatment the recovery-rate in Europeans in Calcutta has risen from 18.4 to between 50 and 60 per cent., which still leaves room for further improvement. The number of cases of cholera among Europeans in Calcutta are fortunately few, so I was anxious to take advantage of the

prevalence of the disease in Europe this year to obtain a larger experience of the disease among them. Thanks to the very kind help of Professors Marchiafava and Bastianelli in Rome, and of Professor Romano, the Director of the Lazaretto at Palermo, I obtained permission to live at the Palermo Cholera Hospital for three weeks during August, and to demonstrate and practise my methods, with the cordial assistance of the able staff of doctors residing there, who showed me the greatest kindness and did all in their power to make my efforts a success. The difficulties were great, owing to my ignorance of the language, while, until the staff had learnt the details of my methods, the cases were too numerous to allow of the intravenous injections being used as frequently as was desirable, while it was only towards the end of my visit that it was possible to arrange for their being given at night. Moreover, as much of the nursing was done by relatives admitted to look after the patients, it was not possible to ensure for those who had been rescued from very serious collapse the degree of skilled attention which is supplied by the English system of nursing, and which is essential to obtaining the best results in such an exhausting disease as cholera. For these various reasons a number of patients were eventually lost who might have been saved under more completely favourable conditions of work. Nevertheless, the Palermo medical authorities were rapidly convinced of the great advance in the treatment of cholera afforded by my system, while as the results were even better than had previously been obtained among Europeans in Calcutta, I have good reason to be satisfied with them. Moreover, thanks to the great advantage of living at the hospital, and the large number of serious cases I was able to closely watch, I have been fortunate enough to very greatly add to my previously extensive knowledge of cholera in all its rapidly changing phases; with the important result that I am not only fully confirmed as to the great value of the new system of treatment but I am convinced that even still better results will be obtained in the near future by yet earlier and more frequent hypertonic injections. I will therefore first briefly record the results obtained at Palermo, and then detail the lessons I have learnt from my experience there, and point out their bearing on further improvements in the treatment of this justly dreaded disease.

Some idea of the extent of the work at Palermo may be formed from the statement that eighty-four intravenous injections were carried out in 67 patients in twenty-two days, almost all of which I was present at, having on several days spent at least twelve hours in the wards, the temperature throughout having been at a point which would have ensured the use of punkahs in India. In estimating the results I have divided my stay into two portions, as during the first ten days the difficulties already mentioned were particularly great, while during the last twelve days the Italian doctors had learnt my methods and carried them out enthusiastically as far as was possible, and I was able to make daily observations on the blood pressure and specific gravity of the blood in all the more serious cases, and generally carry out my system in a more satisfactory manner than at first. It is also necessary to say a few words on the condition of the cases treated, for it is well known that towards the end of an epidemic the disease is less severe than at first, while there may be much difference of opinion as to what should be clinically classed as cholera. In the first place, as many as twenty patients were admitted on some days; while there was no lack of nearly moribund cases, so there was no evidence of any decline in the virulence of the disease. On the other hand, a number of cases of diarrhoea were admitted as suspected cases, some of which did not present the typical symptoms of cholera during their detention. Professor Romano informed me that during my stay the death-rate to total admissions was under 20 per cent. This is striking testimony, but I would not lay undue stress on it, for the reason just mentioned, that a few non-choleraic diarrhoeas were probably included in the numbers.

Fortunately the difficulty in accurately estimating the results is easily overcome by only considering the markedly collapsed or otherwise very serious cases requiring intravenous saline injections. As I have estimations of the blood pressure and specific gravity in this series, the necessary data are available for comparing them with the results I obained in India in exactly similar cases. I found, however, that a blood pressure of about 70 mm. in a native of India represents a similar degree of collapse to one of about 80 mm. in a European, whose normal point is about 20 mm. higher than that of an Indian. I therefore took the blood pressure of 80 mm. or less as an indication of a degree of collapse necessitating an intravenous injection at Palermo, and my experience showed that even this is too low a point for complete safety. Moreover, Calcutta experience shows that such a degree of collapse in a European suffering from cholera was formerly very rarely recovered from, not more than 10 per cent. of such cases being cured under former modes of treatment. Yet among 27 cases treated by intravenous injections during my first ten days at Palermo, there were 14 recoveries, or 51.8 per cent., representing a probable fivefold reduction in the mortality in these very grave cases. This result was all the more satisfactory because four very old patients were included who were hopeless from the first—a much larger proportion than I have met with in India. Moreover, during this time it was usually only possible to transfuse the worst patients.

During the second period of twelve days no less than 40 patients were given intravenous injections, a number of whom had more than one. There were 24 complete recoveries, or 60 per cent., thus amounting to a probable sixfold reduction in the mortality of these serious cases. Figures, however, convey but a feeble impression of the remarkable nature of the cures resulting from this treatment, while words can do little more. It is necessary to see patients brought in a moribund condition, and rescued from certain death by the intravenous injections and restored to health within a very few days. It will therefore be well to quote from a generous letter Professor Romano gave the day I left, with permission to publish it. The following is a literal translation by a friend who has long lived in Italy:

Palermo, Lazaretto Guadagna,
August 25th, 1911.

I, the undersigned Director of this Lazaretto, do declare tha Professor Leonard Rogers lived in this hospital from August 4th of this present month until to-day, in order to practise an demonstrate his method of treatment of cholera. The result obtained have been more than satisfactory, they have bee surprising, seeing that many of the patients who wer admitted at the point of death regained their health an were discharged cured.

It will be well here to refer to the treatment in vogue on my arrival. I am very glad to be able to say that short of the use of the methods recently introduced by me, the treatment at Palermo was excellent. Steril normal saline solutions in sealed glass vessels of hal a litre capacity were used for repeated subcutaneou injections, with good results in many patients comin under observation before serious collapse had ensue The injections were given every few hours until th patient had not only passed the stage of acute diarrhoe but were also continued until a free secretion of urin was obtained. The results were particularly good in ver young children, in whom intravenous injections are ver difficult, a point I shall return to presently. Careful a tention was also paid to dieting and disinfection, an the whole institution was excellently administered. made full use of the subcutaneous injections to supple ment the intravenous ones, only adding some further sa to raise the strength to the hypertonic point during th acute evacuation stage, and I am of the opinion that son part of the improved results over those obtained in Eur peans in Calcutta was due to these subcutaneous injection They were used in all patients admitted with a blood pre sure of over 80 mm. in the earlier stages, and prov efficient in preventing collapse in a number of the Nevertheless, no less than 15 of my intravenous cas had been admitted with a blood pressure of over 80 m and treated by subcutaneous injections of as much as o litre at first and half a litre every four hours subsequent but became much worse and passed into severe collap requiring an intravenous injection, 10 of whom ultimat recovered. It is thus clear that the intravenous meth will save a large proportion of the cases in which the s cutaneous one has signally failed to avert the progress the disease. The fact that the former method of tre ment at Palermo was very good as far as it went, certai better than I have seen in India antecedent to rec

improvements, makes the further marked decrease in the mortality due to my methods, to which the Italian doctors have borne such generous testimony, all the more satisfactory.

Lessons Learnt from my Palermo Experience.

Striking as are the successes with the new methods of treatment, yet it is the failures which teach us most, so a study of the cases in which we did not succeed in rescuing the patients from the deadly grip of severe cholera will be most helpful in the quest for still better results. The following table shows the causes of death in the cases treated by intravenous injections. The figures in parentheses indicate the number of cases which I think might probably have been saved under completely favourable conditions and with my present knowledge and experience.

Cause of Death.	First Series.	Second Series.	Total.
Collapse	10 (4)	5 (2)	15 (6)
Hyperpyrexia	0	2 (1)	2 (1)
Uraemia	1	6 (2)	7 (2)
Lung complications ...	2	0	2
Asthenia	0	1 (1)	1 (1)
Total	13 (4)	14 (6)	27 (10)

The largest number come under the head of collapse, ut it will be observed that they were much more numerous n the first series, when time did not permit of the intra- enous injections being given as early and as often as was dvisable. Six fatal collapse cases are placed in paren- heses as possibly preventable deaths. Of these, two were atients who collapsed fatally during the night, when was not possible to give a second injection, while one hould have had a second injection late at night, but it uld not be given owing to another more urgent, and timately successful, case requiring one at the same ne. Of still greater interest and importance are the maining three cases, as these patients were admitted th a very fair pulse and a blood pressure between and 100 mm., so that an intravenous injection was t considered necessary on their arrival. One later on e same day and the other two on the following morning re found to be collapsed in spite of having been treated th repeated hypertonic saline solutions subcutaneously. intravenous injection was now given in each, but ved to be too late to save the patients. It is the not requent occurrence of such cases which makes one often ret having withheld an intravenous injection at the e of the admission of a patient, and necessitates careful reconsideration of the rules I have adopted arding the use of this life-saving measure.

The next largest class is the deaths from uraemia, and e again the two patients who are entered as possibly ventable deaths were admitted with a fairly good pulse a blood pressure between 80 mm. and 100 mm., but sequently had to be given intravenous injections, owing he supervention of serious collapse, in spite of repeated cutaneous injections. I feel convinced that both of e patients would also have been saved had an intra- ous injection been given at the time of their admission. other two preventable deaths were from hyperpyrexia asthenia respectively. Had all the probably prevent- deaths been averted, no less than 70 per cent. of the serious intravenous transfusion cases would have been d.

The Treatment of Cholera in Children.

nother aspect of the successful treatment of cholera regard to which I learnt much from my experience alermo relates to the disease in children, who formed uch larger proportion of the cases than in Calcutta. successful treatment of cholera in young children ires much watchfulness, yet there is no class in which tant care is more fully rewarded by the saving of able lives. I have already mentioned that hypertonic es subcutaneously were often efficient in the pre- pse stage of cholera in children, while they occasion- were successful even after collapse had occurred. The striking example of this was in a child, aged 3, admitted with scarcely any pulse at the wrist, cold and restless, while the specific gravity had reached the very high point of 1067. I considered that the only chance was an intravenous injection, which is a difficult procedure at such a low age. As the transfusion apparatus would not be ready for an hour, I first gave half a litre of the hypertonic solution subcutaneously, and at the end of an hour the pulse had distinctly improved, so the injections were ordered to be continued every four hours, with complete success. In several other less grave cases, in children of from 2 to 7 years of age, the occurrence of serious collapse and the consequent necessity of an intravenous injection was averted by the use of subcutaneous injections. On the other hand, in three boys of from 7 to 11 years, subcutaneous hypertonic salines failed, and the occurrence of grave collapse necessitated the intravenous injection of from three-fourths to one litre of the hypertonic solution, with success in two of them. Altogether, intravenous injections were given in ten children from 6 to 11 years old, with recovery in seven of them, while one was lost of preventable hyperpyrexia when apparently doing well, and one died of collapse, namely a boy, who was moribund on admission. It is thus clear that the intravenous method is eminently satisfactory in children, in whom the use of a small glass cannula (which is readily made from glass tubing with a blowpipe or the flame of a spirit lamp) is often necessary for this purpose. If the elbow veins are too small the large vein which crosses over the internal malleolus usually suffices, or the internal saphenous vein in the thigh may be used, as has been done in Calcutta. From dissections I have made I am convinced that in this way intravenous injections could even be given in an infant, with the aid of one of the small glass cannulas used by physiologists.

The Advisability of Still Earlier and More Frequent Intravenous Injections.

This is the most important lesson I have learnt at Palermo, and is based on the following considerations. I have never seen any harm result from an intravenous injection of hypertonic solution in the acute stages of cholera, with the sole exception of excessive temperature reaction, which is preventable if the precautions I have advised are strictly carried out. On the other hand, I have often had to regret the decision not to give an intravenous injection in a cholera patient coming under observation with a fairly good pulse and a blood pressure of over 80 mm., but who subsequently required one owing to the supervention of collapse, and was ultimately lost. Several such cases at Palermo have already been referred to. This shows that I have not hitherto used the intravenous method as often as is advisable, and the rules I have laid down regarding them require to be reconsidered in the light of my further recent experience. It has been shown above that the patients in whom a reliance on subcutaneous injections proved disastrous all had blood pressures petween 80 mm. and 100 mm. on admission, so that it is clear that withholding intravenous injections when the blood pressure is over 80 mm. is not an altogether satisfactory rule. Fortunately we have an additional guide in the specific gravity of the blood, and it is of great interest and importance to note that in all the patients admitted with a fairly good pulse, but who collapsed fatally later, the specific gravity of the blood was 1063 or over on their arrival, which means that they had already lost three or four pints of fluid from their blood. Now with such high specific gravities, continued copious diarrhoea is almost certain to produce collapse within a few hours, while the blood is already concentrated to such a degree as to make the intravenous injection of three to four pints at a not very rapid rate a perfectly safe and highly beneficial procedure in cholera. Again, we have seen that once serious collapse has taken place, although death in this stage can in the great majority be averted by one or more intravenous injections, yet a considerable proportion of such grave cases will ultimately be lost from one or other of the later complications, such as severe reaction, uraemic or lung complications or asthenia. The further diminution of these still not infrequent causes of death can only be accomplished by anticipating and preventing the occurrence of serious collapse by replacing the great loss of fluid as early as possible; or in other words by intravenous injections as soon as the blood has become markedly

concentrated, as shown by a specific gravity of 1063 or over, even though the strength of the pulse may only have fallen a little below normal, as indicated by a blood pressure of not much below 100 mm. I have previously advised that intravenous injections should always be given if the specific gravity is extremely high, such as over 1065, but I would now go further and recommend this treatment to be adopted as soon as the specific gravity has risen to 1063 or over in the stage of acute copious diarrhoea, in order to avert the nearly inevitable collapse if they are withheld. If, however, the acute diarrhoea stage is passed, and the reaction stage with a rise of temperature has commenced, the blood pressure being over 80 mm., an intravenous injection is not necessary, while it is more likely to produce an excessive febrile reaction at this stage.

THE PREVENTION OF URAEMIA.

I have little to add under this heading, except to repeat that the further reduction in the death-rate from this complication must mainly depend on the earlier use of intravenous injections to prevent the onset of collapse with the accompanying stasis of the renal circulation, which is the essential cause of the subsequent deficient renal secretion. It has long been known that the frequency of uraemia is in proportion to the duration of the collapse stage. This point is further illustrated by the fact that all the fatal uraemic cases at Palermo were admitted on the second and third days of the disease, while all also showed a specific gravity of 1063 or over. Several patients admitted after two or more days' complete suppression of urine, and with a high specific gravity and threatened uraemia, were treated by slow intravenous injections (isotonic solutions being used if the blood pressure was nearly normal and the diarrhoea stage past), with the result that the urinary secretion was rapidly re-established and recovery from a very grave condition followed. If in this stage the specific gravity is not above normal, intravenous injections might produce oedema of the lungs, so in that case only subcutaneous and rectal salines should be given. If the respirations continue to be frequent and laboured after urine is being freely passed, oedema of the lungs should be sought for, and if present all saline injections should be stopped.

Such are the lessons I learnt at Palermo, and I venture to hope that their application in the future will do something to still further lessen the death-rate of cholera. That cases will still be met with of too virulent a nature, or coming too late under observation to be saved from a fatal termination, it is useless to deny. Nevertheless, these should be quite exceptional in previously healthy subjects, who are neither old nor extremely young, and who come under treatment at a faily early period of the disease. In such I think the recovery-rate should be fully 80 per cent. However that may be, the results already obtained furnish a remarkable example of the successful application of modern methods of research, in discovering a life-saving method of treatment of one of the worst scourges which humanity is heir to, and one which should go far towards robbing the disease of much of its terrors in countries adequately provided with skilled medical men.

ADDENDUM.

Since the above sanguine estimate of the probable further reduction of the death-rate in cholera by the still earlier and more frequent use of the hypertonic saline treatment, as advised in the foregoing paper, was written, a report has reached me from Palermo which has more than fulfilled it. Professor Romano has sent me notes with blood pressure and specific gravity estimations of 54 severe cholera cases, all with specific gravities on admission of 1063 and over, which were treated by hypertonic intravenous injections during the month after I left Palermo, with only 8 deaths, or 15 per cent., two of the fatalities having been due to late pulmonary complications. After making every allowance for any possible decrease of the virulence of the disease, these are most remarkably successful results. The impression made by them on Professor Romano and his assistants may be gathered from the opening sentence of his letter, a translation of which reads as follows:

"I have the honour to inform you of the marvellous progress made by the patients whom you left under treatment here at the time of your departure. I have delayed writing in order that I might further communicate, by means of the accompanying letter and forms, the results obtained from a large number of patients who were brought here since then in a hopeless condition, and who have been almost all saved through your valuable and miraculous method of treatment." The Professor goes on to say that he and his assistants hope to be permitted to go to Tripoli to spread the use of my methods there. This generous testimony can leave no possible doubt as to the value of the treatment advocated in this paper.

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THE PHYSIOLOGICAL ACTION OF AMORPHOUS DIGITOXIN (DIGALEN).

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IN 1904 Cloetta[1] described a product obtained from digitalis leaves which he regards as amorphous digitoxin, and which is now in the market under the name "digalen." I am indebted to the manufacturers of this substance for samples for the purpose of physiological experiment.

Cloetta's own physiological work on digalen dealt chiefly with the question of cumulation. He confirmed Fraenkel's statement[2] that crystalline digitoxin may give rise to cumulative effects in cats, and added that animals which had exhibited cumulation with this drug showed none even with larger doses of digalen.[3] Cloetta also found that digalen appears unchanged in the urine.[4] Sasaki, testing digalen on the frog's heart, by subcutaneous injection and by directly douching the ventricle, observed characteristic digitalis effects.

Neave[6] tested digalen, by perfusion, on the heart and blood vessels of the frog, and by intravenous injection on the rabbit. He also observed characteristic digitalis effects, adding that digalen is less active and also less irritant than either crystalline digitoxin or the *B.P.* tincture of digitalis. Worth Hale[7] examined digalen toxicologically and physiologically. He found it less poisonous and (on the circulatory system) less active than crystalline digitoxin. The lack of uniformity in his results emphasizes the desirability of obtaining digitalis preparations from manufacturing chemists rather than from drug stores. Both Neave and Hale employed doses which, judged by the following observations, were of toxic rather than of therapeutic order.

The present paper deals with two main sets of observations: (*a*) By intravenous injection, on fully anaesthetized cats; and (*b*) by perfusion, on the surviving heart of the frog.

Observations on the Cat.

In these anaesthesia was induced and maintained throughout the experiment by ether.

The solution supplied in "ampoules," which contain 0.3 mg. of digalen and 70 mg. of alcohol per c.cm., was (unless otherwise stated) diluted ten times with normal saline and injected slowly into the saphenous vein, while blood pressure was recorded either by a mercurial or by membrane manometer. Urine was collected and measured both before and after the injections, at intervals of a few minutes, by means of a catheter left continuously in the bladder.

Intravenous injections, containing 0.1 to 0.4 mg. digalen, produce characteristic digitalis effects—namely slowing of the pulse, augmentation and prolongation of the systolic wave, increase of arterial pressure, and increased secretion of urine. Such effects usually commence to subside about half an hour after the injection.

The slowing of the pulse by such doses is rarely great, occasionally zero. The normal pulse of etherized cats (200 to 250 a minute) is generally slowed by 10 to 30 be-

a minute. The change in the systolic wave is shown in the following figures :

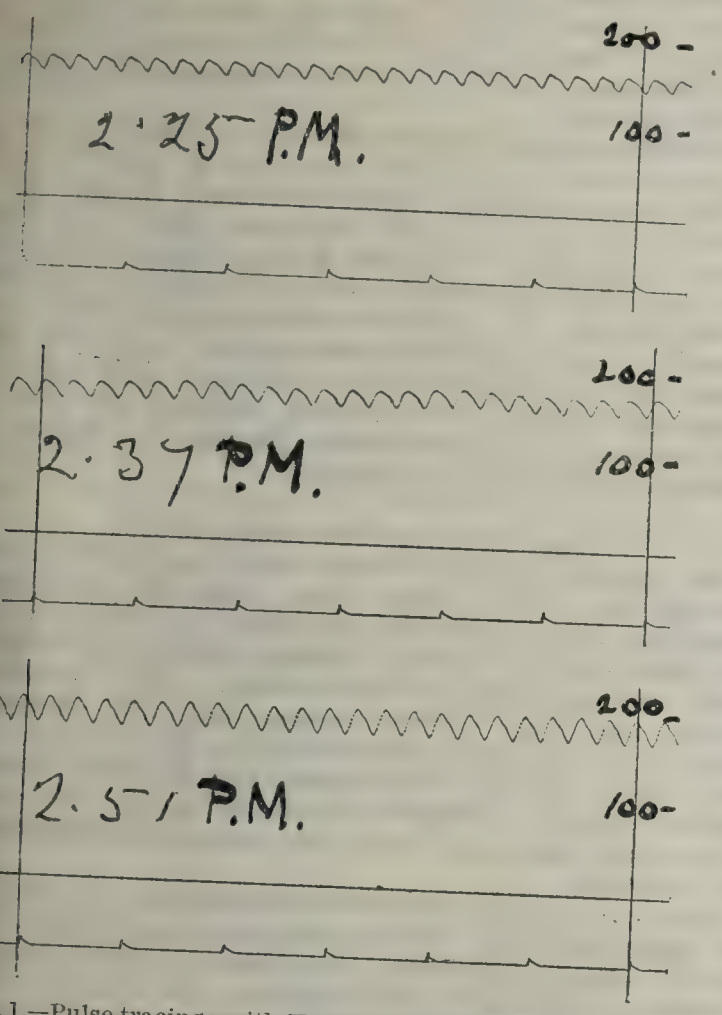

Fig. 1.—Pulse tracings with Hürthle manometer. Weight of cat = 2.4 kg.; 0.15 mg. digalen (in 12.5 c.cm.) injected into the saphenous ein at 2.36 p.m. The figures on the right of each tracing show the cale of the manometer in mm. Hg. The time tracing indicates econds. Pulse-wave increased in amplitude, diminished in requency. Arterial pressure raised.

The next figure shows the effect of a larger and more ncentrated dose. The amplitude of the systolic wave is luced and the mean arterial pressure only slightly reased.

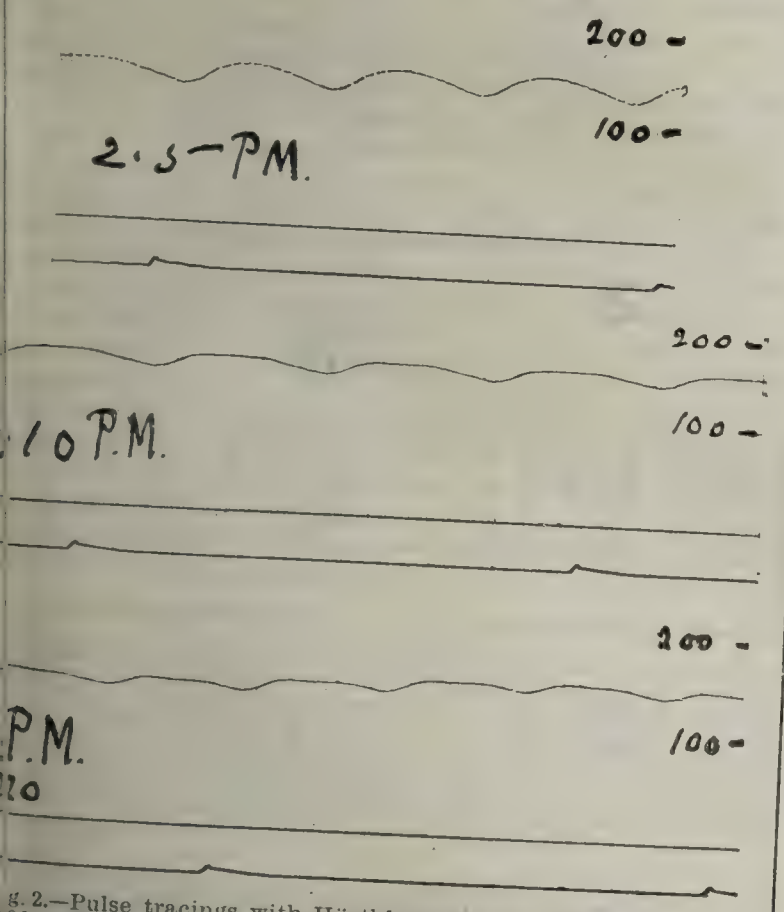

g. 2.—Pulse tracings with Hürthle manometer. Weight of cat 0 kg.; 0.3 mg. digalen (1 c.cm.) injected into saphenous vein at .m. The figures on the right of each tracing show the scale of nanometer in mm. Hg. The time tracing contains one interval ne second in each case.

e effect on arterial pressure is variable, excessive as as minute doses producing less increase than do doses ermediate magnitude. Doses of 0.4 mg. and upwards lead at times, as noticed by Hale, to some disturbance of the respiration. This is never great, and is absent even with doses which, kilo for kilo, are far in excess of those administered to the human subject.

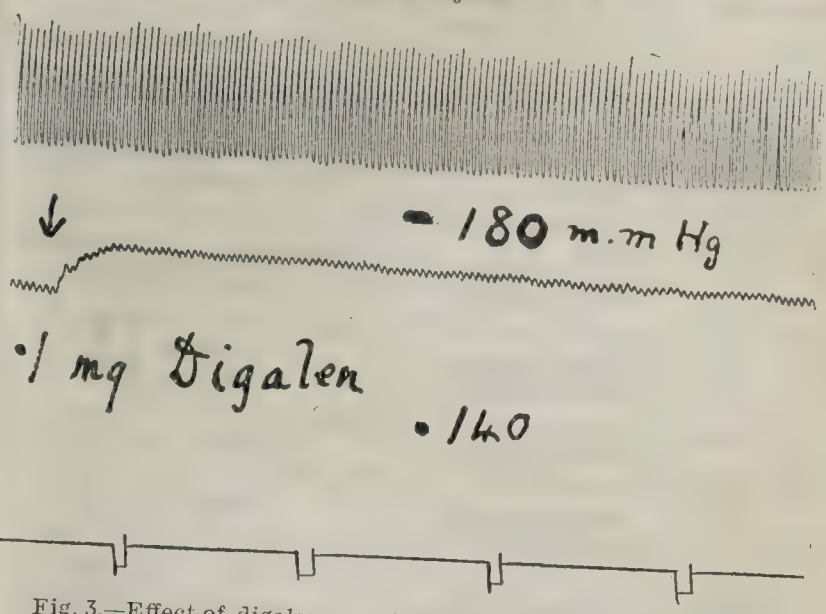

Fig. 3.—Effect of digalen on arterial pressure and on respiratory movements : 0,1 mg. of digalen (⅓ ampoule) in 3 c.cm., injected into saphenous vein at arrow. Blood pressure recorded by mercurial manometer connected to left carotid artery. The respiratory movements (abdominal) are not affected by the dose. Weight of cat = 2.5 kg. Time tracing shows minutes.

TABLE I.—*Effect of Digalen on Arterial Pressure of Etherized Cats.*

	Weight of Cat in Kilos.	Time.	Dose.	Dose per Kilo.	Mean Carotid Pressure in mm. Hg.	
					Before Dose.	After Dose.
1	2.5	3.22 p.m. 4.6 ,,	0.1 mg. 0.3 ,,	0.04 mg.	163 134	170 158
2	2.8	3.10 p.m. 3.30 ,, 3.55 ,,	0.1 mg. 0.2 ,, 0.3 ,,	0.036 mg.	124 64 56	140 88 96
3	2.3	2.56 p.m. 4.2 ,,	0.4 mg. 0.5 ,,	0.17 mg.	140 94	176 108

In the second cat the brain and spinal cord were completely pithed between the first and second doses. In the third cat the greater dose produced the smaller increment in blood pressure (cf. Figs. 1 and 2). The normal mean carotid pressure of an etherized cat is 150 to 170 mm. Hg.

Additional instances of blood-pressure effects are given in the above table. These increments exceed those described by Neave (etherized rabbits) and by Hale (cats under urethane and chloral). Neave found that doses of 1 c.cm.* and of 2 c.cm. (= 0.3 mg. and 0.6 mg. of dry digalen respectively) produced scarcely any effect, whilst 4 c.cm. raised blood pressure from 84 mm. Hg to 96 mm. Possibly some of the difference may be attributable to the difference in animals, but in the light of the above table the doses are excessive. Hale used 2 c.cm.* (0.6 mg. of dry digalen) as the routine dose, repeated it after half an hour, and apart from this excessive dosage employed an obviously undesirable anaesthetic—namely, chloral.

Both Neave and Hale found that digalen has, weight for weight, less effect on the circulatory system than has crystalline digitoxin, and the former observer regards its solution, volume for volume, as less active than the officinal tincture of digitalis. As far as can be judged from the few trials of the latter preparations, made in the course of the present work, digalen is less active than both of them. But the difference is largely counterbalanced by the smaller irritation produced by injections of digalen (Neave). Further reference is made to this point below.

The diuresis produced by intravenous injection of digalen is comparable with that produced by crystalline digitoxin and by tincture of digitalis. This effect of digitalis preparations intravenously injected is of comparatively brief duration,[8] subsiding, as stated by Brunton and Power,[9] less rapidly than the increment in arterial

* Whether from bottle or from ampoule is not stated.

pressure. Table II presents instances of such diuresis. In each case where a second dose was administered the effect of the first had largely passed off.

TABLE II.—*Effect of Digalen and of other Digitalis Preparations on the Secretion of Urine.*

	Weight of Cat in Kilos.	Dose.	Average Volume of Urine per Hour. Before Dose.	Average Volume of Urine per Hour. After Dose.	Duration of Observation.
A	2.4		10.5 c.cm.		20 min.
		0.3 mg. digalen*		16.7 c.cm.	40 ,,
		0.3 mg. digalen		16.5 ,,	40 ,,
B	2.1		7.5 ,,		20 ,,
		0.1 mg. digalen		15.7 ,,	40 ,,
		0.2 mg. digalen		16.5 ,,	20 ,,
C	2.0		3.0 ,,		20 ,,
		0.3 mg. digalen		13.8 ,,	50 ,,
D	2.4		5.0 ,,		30 ,,
		0.3 mg. digalen		15.0 ,,	60 ,,
		0.1 mg. digitoxin†		15.0 ,,	60 ,,
E	Not noted		4.0 ,,		30 ,,
		0.15 mg. digalen		9.6 ,,	160 ,,
		0.1 mg. digitoxin†		6.5 ,,	70 ,,
F	2.6		4.5 ,,		40 ,,
		0.1 mg. digalen		16.9 ,,	80 ,,
G	2.6		18.0 ,,		30 ,,
		⅛ c.cm. tinct. digitalis‡		25.2 ,,	100 ,,
		Ditto		28.7 ,,	90 ,,

* Hoffmann La Roche Co. † Merck. ‡ Willows, Francis, and Butler.

Each 0.1 mg. digalen implies 23 mg. of alcohol.
Each 0.1 mg. digitoxin implies 175 mg. of alcohol.
Each ⅛ c.cm. tinct. digitalis implies 75 mg. of alcohol.

The effect of the two latter preparations was possibly increased by the greater quantity of alcohol involved. In Cat C (pulse tracing in Fig. 2) the injection was 1 c.cm. (1 ampoule) of digalen, undiluted. In the other cases the volume of each injection was 10 c.cm. According to Tereg,[10] the normal secretion of urine in the cat is 200–300 c.cm. per diem, that is, 8 to 12 c.cm. per hour.

In all the above instances sodium sulphate was present in the arterial cannula, and may have accelerated the secretion of urine. But, as its influence would be felt before the injections, as well as after them, it does not affect comparison of the results. A more important consideration is the possible diuretic effect of the normal saline, and of the small quantities of alcohol involved. The influence of these, as well as that of sodium sulphate, is separated from the effect of digalen in the next table.

TABLE III.—*Diuretic Effect of Digalen in Comparison with that of its Vehicle.*

	Weight of Cat.	Intravenous Dose.	Average Volume of Urine per Hour after Dose.	Duration of Observation.
H	2.2 kg.	20 c.cm. saline	10.2 c.cm.	50 min.
		20 c.cm. saline + 0.09 mg. digalen	17.4 c.cm.	50 min.
		20 c.cm. saline + 0.18 mg. digalen	27.0 c.cm.	20 min.
K	2.5 kg.	8 c.cm. saline + 56 mg. alcohol	7.1 c.cm.	60 min.
		8 c.cm. saline + 56 mg. alcohol + 0.24 mg. digalen	19.8 c.cm.	70 min.

In these two cases no arterial cannula was employed. Sodium sulphate was therefore absent, and the effect of digalen is shown to be considerably in excess of that of its solvent.

None of the above animals was allowed to recover from the anaesthetic. Hence the ultimate effect of the drug on them is not in evidence.

In two cases death followed injection of 0.3 mg. of digalen. In the first, 0.1 mg. (in 3.3 c.cm.) was followed by 0.2 mg. (in 6.6 c.cm.) after an interval of forty minutes, the animal dying half an hour after the second dose. In the second case death took place an hour after injection of 1 c.cm. (1 ampoule). In each case the ventricles were firmly contracted. This dose is, kilo for kilo, about thirty times the therapeutic dose for the human subject.

In no case was haemolysis traceable to digalen injection. This point was further tested *in vitro*, with absolutely negative results, 0.08 mg. of dry digalen dissolved in 3 c.cm. of normal saline, containing cat's corpuscles, producing no trace of haemolysis, whilst one-hundredth as much digitonin liberated an easily recognizable quantity of haemoglobin.

A few observations were made, in the absence of anaesthesia, on rabbits, to test the possibility of local irritation or thrombosis resulting from injections. In one case a rabbit (2 kg.) received, in the course of eight days, hypodermic injections of 1 ampoule (0.3 mg.), ½ ampoule (twice), and ⅓ ampoule without losing weight or showing any sign of local trouble. In a second case a rabbit (1.6 kg.) was given in a fortnight two intramuscular and two subcutaneous injections of 1 c.cm. (0.3 mg.) each and four intravenous injections of 0.5 c.cm. without any trace of pain, tenderness, or thrombosis. During this period the rabbit gained 25 grams in weight.

Observations on the Frog's Heart.

The hearts of pithed frogs were perfused *in situ*, through the inferior vena cava, from Marriotte flasks containing respectively Ringer's fluid and Ringer's fluid *plus* pure digalen—that is, without alcohol—in solution, with a perfusion pressure of 2 to 4 cm. After circulating through the frog the fluid escaped from the abdominal veins, which were tied and divided for the purpose. No large artery was cut. The heart was therefore working against vascular resistance, as well as against the weight of the recording lever, which was attached to the apex of the ventricle.

Neave, in the experiments already referred to, perfused the frog's ventricle with digalen solution, diluted 1,000 and 100 times respectively, the latter of which implies 3 parts of dry digalen per million. The first of these solutions had no effect in half an hour, whilst the latter was effective within three minutes.

In the following cases the whole of the heart was exposed to the action of the drug.

Solutions of digalen containing 1 part in 200,000 at first augment the ventricular beat with little or no slowing. Further perfusion with the drug leads to diminution in frequency without immediate reduction in amplitude.

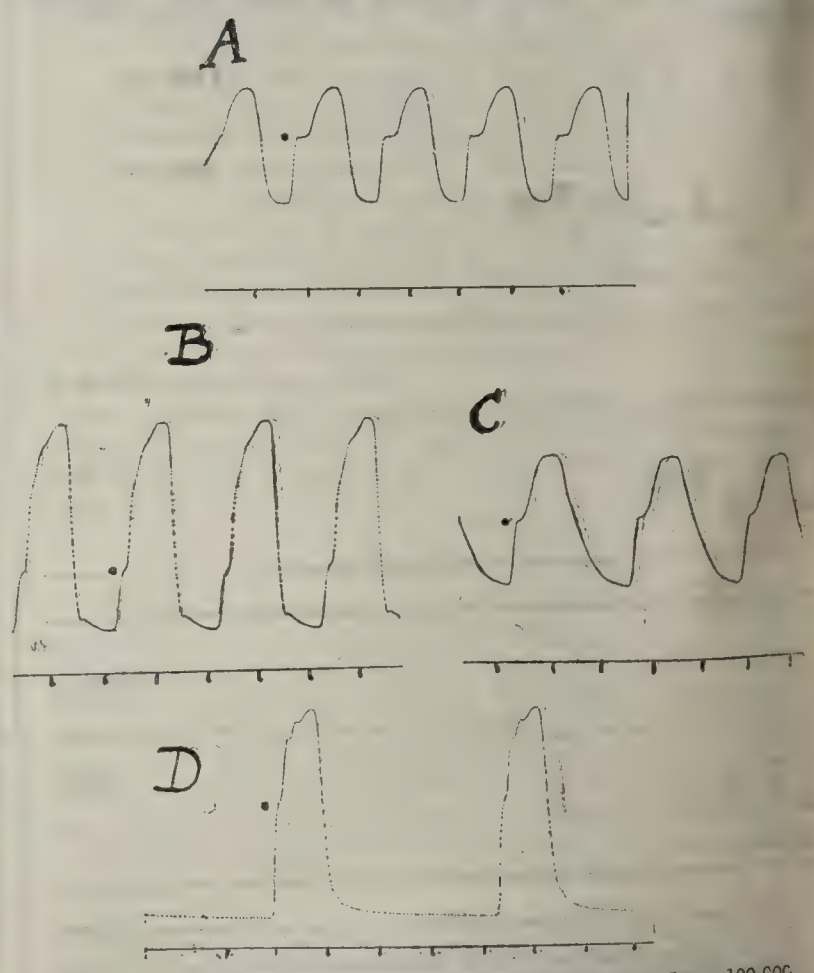

Fig. 4.—Frog heart. Effect of perfusion with digalen, 1 per 100,000. A.—During perfusion with Ringer's fluid, 1 min. before digalen—frequency 34 per min. B.—During fifth minute of perfusion with digalen—frequency 29 per min. C.—During perfusion with Ringer's fluid, 2 min. after digalen, and 2½ min. after B.—frequency 25 per min. D.—During perfusion with Ringer's fluid, 81 min. after a second perfusion with digalen (lasting 6 min.), and 90 min. after C.—frequency 15 per min. The black dot on each tracing shows the level at which ventricular systole starts. The marks below the abscissae indicate seconds. The systolic movement is upward.

Later on the amplitude of the beat may be reduced and the tonus of the ventricle increased.

As with crystalline digitoxin, so also with digalen, the effects of the drug may continue for a time to increase after substituting Ringer's fluid for the drug solution—a phenomenon not noticeable with the less active constituents of the digitalis plant, digitalein and digitonin. With more concentrated solutions of digalen the above sequence of events is more rapid and the effect less readily washed out.

Fig. 4 shows the effect of perfusion with a 1 in 100,000 solution. In this case the frenum cordis was divided; hence the tracings show both the auricular and the ventricular contractions, the former undiminished, the latter reduced by concomitant relaxation of the auricle.

The difference between the records in A and in B was of gradual growth, and the approximation of the heart tracing to the abscissa in the latter appeared, from inspection of the beating heart, to result from increased relaxation during diastole. Towards the end of this perfusion diastolic tonus commenced to increase, but at C was less than at A. Three minutes after C, digalen was again perfused for six to seven minutes, and reduced the frequency of the heart to nineteen per minute. On removal of the digalen the amplitude and the frequency of the beats continued for a while to diminish (the latter to thirteen a minute) and the diastolic tonus to increase, after which amplitude increased and tonus diminished, whilst frequency remained substantially constant (*vide* tracing D). Owing to movement of the apparatus between C and D the tonus in the latter cannot be compared with that in the former tracing.

Summary and Conclusions.

In considering the bearing of the above results on the therapeutic applications of digalen to the human subject, it is important to keep in mind the differences between the animals under experiment and the human organism under treatment.

In the former case the drug is producing, for the most part, pressor deviations from the normal state—that is, is working against the resistance of the organism. In the latter case its pressor effects are aided by the natural tendency of the organism towards recovery from depression. Moreover, in the former case the pressor effects are diminished by the anaesthetic. This is exemplified in Table I, where, *cæteris paribus*, the larger effects are seen on the smaller pressures, and the largest of all in Cat 2 after pithing—that is, on the lowest pressures and in the absence of anaesthetic. Hence it may be anticipated that the human subject* in immediate need of digitalis will react to intravenous injections of relatively smaller dose.

The non-production of thrombosis in the small veins of the rabbit seems good evidence that thrombosis would not, with equal care, follow injection into the larger veins of man. It is not, however, fair to conclude that absence of recognizable pain and tenderness from subcutaneous and intramuscular injections in the rabbit implies complete absence of discomfort in man under the same circumstances.

As far as can be judged from the foregoing observations, digalen is an active preparation of digitalis producing characteristic digitalis effects on the circulatory system and on the secretion of urine.

Intravenous, subcutaneous, and intramuscular injections have produced no local trouble.

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* I understand from Dr. Golla that he has, under such circumstances, obtained good results from intravenous injections of 1 c.cm. (= 0.3 mg.) of the preparation.

Under the will of the late Mr. Charles Bowles Hare, of Clifton Park, the General Hospital, the Royal Infirmary, and the Eye Hospital, all in Bristol, receive respectively sums of £1,000, £300, and £100.

THE PROTEIN REQUIREMENT; OR, "DO WE EAT TOO MUCH MEAT?"

BY

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Voit established the rule that the amount of protein required daily was from 1.4 to 1.7 grams per kilo of body weight; or that 119 grams of protein and 2,800 to 3,000 calories of energy were required to meet the demands of the body of a man of average weight when doing light work. Atwater, after many years of work in metabolism, considered that a man—

Without work required 90 grams of protein and 2,700 calories.
With light work required 112 grams of protein and 3,000 calories.
With moderate work required 125 grams of protein and 3,500 calories.
With severe work required 150 grams of protein and 4,500 calories.

Maurel also considers that an adult in health and vigour requires 1.5 grams of protein and 35 to 38 calories of energy per kilo; or 105 grams of protein and 2,450 to 2,660 calories for a man of 154 lb., and 90 grams of protein and 2,100 to 2,280 calories for a woman of 132 lb.

Chittenden, as the result of experiments, believes that 0.1 to 0.12 gram of metabolizable nitrogen, or 0.625 to 0.75 gram of protein, represents the requirements of the body in the ordinary circumstances of life, and that an allowance of 50 to 60 grams of protein daily, or half the amount usually stated in textbooks, is an ample provision for a man of 60 to 70 kilos.

Numerous investigations undertaken by Voit, Moleschott, Ranke, Foster, Munk, Reider, Paton, Zuntz, Lehmann, Pechsel, Klemperer, Hirschfield, and others, show that when no food is taken for twenty-four hours the amount of nitrogen excreted varies from 7.5 to 12 grams, the variation probably being due to a difference in the amount of stored and circulating protein and glycogen in the organism. But if the starvation is continued the stored protein and glycogen is all consumed in a few days, and after a period of about five days all the nitrogen in the excretions will be derived from the disintegration of tissue proteins. In fasting people the amount of nitrogen excreted by the kidneys from the fifth day of starvation averages about 4.5 grams per day. If we allow a margin of 1 gram for other modes of excretion, for example, the skin and mucous surfaces, we arrive at the conclusion that the amount of protein absolutely essential to prevent the destruction of tissue proteins is $N\ 5.5 \times 6.25 = 34$ grams daily, or about 0.5 gram of protein per kilo of body weight. *The physiological minimum for an adult is therefore 34 grams of protein daily.* But other points have to be considered. The observations of Chittenden, Hirschfield, Klemperer, Siven, Pechsel, and others, have clearly demonstrated that it is possible to maintain life and keep the body in nitrogen equilibrium, and even do a certain amount of work, with a diet having the standard energy value, but containing a very much smaller amount of protein than is usually considered necessary. It remains to be seen how far the protein requirement is influenced by work. It is possible for protein to supply all the energy required by the body, as well as to maintain the body in nutritive and nitrogenous equilibrium. But whether it is necessary or even advantageous for the body to derive part of its energy from protein is another matter. There are people who perforce live almost exclusively on animal food for six or nine months of each year. In such cases the energy of the body is derived from the fatty moiety of the protein molecule or from the carbohydrate complex which exists in many proteins. But what we want to know is whether work increases the demand for protein food. Pflüger advanced the theory that protein is the source of all muscular energy. Against this theory, no longer held, is the fact that no evidence has been adduced which clearly shows there is any change in the condition of the muscle proteins when muscle contracts. Hermann's theory of muscular contraction assumes that there is a change in the muscular proteins similar to what occurs in rigor mortis. But nobody has actually observed the formation

of myosin during the contraction of muscle. We have, however, the evidence afforded by the excretion of nitrogen, for it may safely be asserted that if protein be the source of muscular energy, the exercise of the muscles will materially increase the excretion of nitrogenous waste products. Without quoting the experiments of investigators, it may be stated at once that this is far from being the case. The cleavage of protein is increased by muscular work; but the cleavage is small in proportion to the consumption of non-protein material, and it is not directly connected with the work performed. The total nitrogen of the urine is increased after severe exertion, and is chiefly in the form of urea, creatinin, and preformed ammonia; but there is also an increase in the sulphates and phosphates. Indeed, the conclusion is arrived at that when the body contains no stored proteins muscular exertion increases the output of nitrogen 15 per cent.; but if the body is in good "condition," that is, containing a store of circulating proteins, the output of nitrogen is larger, because such proteins are consumed as a source of heat and energy; but the muscle fibres are not broken down in a greater proportion by the work they perform. In Paton's investigation the excretion of nitrogen was increased both during and after the performance of work, and the metabolism of protein indicated by the increased nitrogen excretion accounted for 35 per cent. of the work done. It was evident, therefore, that one-third of the energy expended in work was derived from the metabolism of nitrogen and two-thirds from non-nitrogenous matter.

One principle in dietetics, which has not received adequate recognition, may be expressed by saying that the requirement for food varies not only with the condition of activity but with the nutritive plane at which it is desirable to maintain the organism. Out of this arises the question: "What level of nutrition is most advantageous?" The answer to this question is not easy to obtain. It must be sought in metabolism experiments and dietary studies; but it must also be sought in broader observations regarding bodily and mental efficiency, general health, strength, and welfare. Is it possible to answer the question with regard to protein? *The physiological minimum* requirement of protein is 34 grams per diem; it has been shown that, with an ordinary diet on Voit's standard, muscular exertion increases the metabolism from 1.10 to 18.0 per cent., with an average of 15 per cent. From this point of view an allowance of 10 or 15 grams of protein daily would suffice for the performance of muscular work, thereby raising the minimum to 44 or 50 grams of protein daily, providing the energy value of the food is up to normal. I think that, however, is only a partial reply to the question. But we are bound to admit that Professor Chittenden has proved his contention that it is *possible* to maintain life, to prevent destruction of the tissues, and do a certain amount of work with an allowance of 50 to 57 grams protein daily.

Is such a small allowance of protein desirable? It has not only been shown that half the standard allowance of protein will meet the demands of the body for nitrogen, but it has been shown that anything over that amount is added to the amount of circulating proteins in the body and is very soon disintegrated, the urea moiety being quickly excreted. It is claimed also that the additional amount consumed is harmful to the organism by throwing extra work on the kidneys, that it may cause disease of those organs, gout, migraine, and kindred ailments. It may at once be acknowledged that an *excessive* consumption of protein is deleterious to the organism. What we cannot acknowledge without further proof is that people as a rule consume an excess of protein. As a matter of fact, do average individuals regularly consume as much protein as the standard diets of Voit, Atwater, and others prescribe for us? It is exceedingly doubtful whether they do, at any rate in Europe. It is usually considered that we consume one-half of our proteins in the form of animal food and the other half in vegetables. It has, I believe, never been suggested that we should reduce the consumption of vegetable foods, because they are the chief source of carbohydrates or of muscular energy and heat. The matter therefore resolves itself into the question, "Do we eat too much meat?" How can we get an answer to this question? Metabolism experiments are conducted on individuals and not on races of people; even the enormous work of Atwater and his band of co-workers had reference to individual experiences. There is, however, another method of arriving at the average consumption of animal food by entire races of people—that is, by statistics of the food supply of nations. Thus, for instance, Mulhall states that the amount of animal food consumed *per annum per head of the population* in America is 120 pounds, Great Britain 105, France 74, Germany, Belgium, and Holland 69, Scandinavia 67, Austria 64, Spain 49, Russia 48, and Italy 43 pounds. I do not know from what sources these figures have been derived; but if they approach to anything near the truth it is obvious that in Europe at least the consumption of animal food is not excessive. It means that the average consumption of animal food in Europe does not exceed $1\frac{1}{4}$ pounds per week, which is just half the amount consumed in America. It is presumed that the amount per head means for people of all ages—men, women, and children. Taking 15 as representing the average amount of protein in all animal foods, then the supply of animal protein for Europe is 85 grams per week; and for Great Britain 136 grams per week, or not quite 20 grams per day.

There is another source from which information may be obtained, and that is the returns of the Board of Agriculture. The chief source of animal protein in Great Britain is derived from the beef and mutton consumed. In 1907–1908 the total annual supply of beef amounted to 22.8 million hundredweights, and the total supply of mutton was 10 million hundredweights. The population is in round numbers 45 millions, and therefore the supply of beef and mutton averages 80.75 lb. per head per annum. Assuming the average amount of protein in beef and mutton to be 16.5 per cent., it shows that the supply of protein from these sources was not quite 17 grams per diem. The total number of "home" and imported eggs was 450 millions, and provided 0.19 gram or protein per diem for every person. The imported bacon was $5\frac{1}{2}$ million hundredweights, and assuming the home supply to be the same, it provided 3.4 grams of protein per person daily. Ham also provided 1.09 grams per day. Home and foreign rabbits provided 1.00 gram. The supply of home and foreign cheese provides 7.06 grams daily. So far we have a provision of 29.74 grams of protein daily, and making an allowance for milk, fish, and birds, for which statistics are not at hand, *the total provision of protein from animal sources may be about 35 grams per day.* Surely it cannot be said that the consumption of meat in Great Britain is excessive. And, supposing the supply of protein from animal sources represents one-half the amount consumed, there must be a misconception in the minds of physiologists as to the amount of protein which is consumed by large bodies of people.

It is usually considered advisable to allow children under 1 year of age about 2 grams of protein per kilo of body weight. In the discussion which has waged around the protein requirement nobody, so far as I am aware, has attempted to show that 2 grams per kilo is too much for a growing child. The amount of protein required diminishes gradually to the adult period, when it reaches a point where it remains steady for several decades. Voit's standard for adults is 1.4 to 1.7 grams of protein and 40 calories of energy per kilo of body weight. This is the standard which has been seriously impugned. It is a standard which Folin described as the *optimum*, whereas Chittenden shows how *little* we can do with. Until we have much greater experience of the effects of a low protein dietary we should still accept Voit's standard as the optimum. For generations past it has been considered that protein starvation is the cause of much ill health and misery, and this point ought not to be lightly given up by the physician. Protein starvation is not uncommon among poor but respectable people, who for long periods have perforce to live upon a diet in which "tea and bread-and-butter" figure prominently, with an occasional "bloater" or chop as an appetizer. Such a diet, although it may yield enough protein to maintain the nitrogen balance in equilibrium, does not give the consumer strength or endurance or confer immunity to disease.

When middle life is attained the body is less active; the power of the muscular system begins to decline, the involuntary muscles of the heart and other organs gradually diminish in vigour. The metabolism becomes

feebler and slower, and everywhere there are indications of the diminished ability to metabolize the amount of protein according to Voit's standard; and in old age the amount consumed ought to approach somewhat nearer to the physiological minimum. Many persons in old age actually do reduce the amount consumed to the physiological requirements. I could give instances of old people who actually consume no more than 30 grams of protein daily, and, nevertheless, enjoy moderate health, or do not suffer from any appreciable disease.

But as regards children, growing persons, and young adults, the general principles laid down should guide us; and when the cost of animal food is prohibitive a freer use of vegetable proteins—legumes and nuts—should be recommended.

RHEUMATOID ARTHRITIS:

A PERSONAL EXPERIENCE OF THE DISEASE.

BY

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LLANDRINDOD WELLS.

THE writer of this article has suffered from arthritis—a rather doubtful privilege, but one which carries with it opportunities for insight and investigation which are denied to his more normal brethren. Such is my apology for the infliction of this somewhat personal treatise upon those who are interested in the subject.

I propose to describe my own variety of arthritis, and particularly to attempt the elucidation of certain points in the pathology. I do not imagine that all cases of this disease will admit of the same explanation, but I do think that there is a large group which would come under the same heading.

Although a history of joint disease is usual in these cases, it is not the rule to find a family history of arthritis. The case under consideration is an exception to this rule, since one grandmother was crippled for years with "rheumatic gout," and one member of the present generation in my own family has a joint disorder as nearly as possible identical with my own. The parents had no serious joint trouble of any kind, but one of them had a constitution which I consider to be of some importance in considering the pathology of the disease. Some features of this constitution were as follows: A skin which blanched abnormally easily, cold hands and feet, nails which were very much ribbed, a tendency to severe sick headaches, and a digestion which was only kept in order by careful and abstemious living. These were inherited from the old lady with rheumatic gout, but throughout a long life of 80 years no joint symptoms of any importance supervened, and it was not until the present generation that this constitution again provided a suitable nidus for a germ infection which was to lead to arthritis.

In the present generation there have been since childhood the same peculiarities—a skin rather dry and white, fingers which go dead rather easily, and a tendency to typical attacks of migraine. The frequency of the latter has always depended upon the proportion of starchy foods in the diet; at school, where we fed mostly on bread-and-butter and porridge, the sick headaches were frequent; during the holidays they never occurred. It was suggested that this might be due to the fact that the optic axes are almost imperceptibly out of the parallel. Appropriate glasses, however, have been tried with no good result. The indisposition lasts only about four or five hours, and usually ends with vomiting. Since the advent of the arthritis this sickness has always had an astonishing effect; the joint symptoms are much diminished for about twenty-four hours, and the more severe the attack of migraine the more complete is the relief from stiffness. The intimate way in which the migraine depended upon the diet, and the dramatic rapidity with which the joint symptoms diminished after one of these attacks, at first led me to suppose that the stiffness was directly due to a species of food poisoning. Subsequent investigations, I think, now clearly show that the effect of the diet is indirect. Both cases of arthritis in the present generation have a chronic congestion and catarrh of the nasal mucous membrane, and one is troubled at times with hay fever. I believe that this vasomotor imperfection is due to the same cause which induces the other constitutional peculiarities. The latter have for the most part existed since childhood, whereas the joint symptoms are a comparatively recent addition. I regard the alimentary deficiency, therefore, as a predisposing cause only; the actual determining cause appears to be a staphylococcal infection of the nasal mucous membrane. This will be dealt with more fully later.

The following brief account of the symptoms will serve to convey a notion of the general course of the illness. The onset was extremely slow and gradual: the first symptom was rheumatism in the right shoulder, which lasted for twenty-four hours and then disappeared; after a month the same thing occurred again; at the end of another two months a curious stiff feeling was noticed in the soles of the feet on first getting out of bed in the morning; this at first disappeared after standing for a minute or two, but it gradually lasted a longer and longer period every morning until, at the end of eighteen months, it continued throughout the day. In the same insidious way the hands were attacked. On awaking one morning there was an unaccountable stiffness in all the proximal interphalangeal joints of both hands; after flexing and extending once or twice they recovered their usual suppleness: like the feet, they were affected for a longer and longer period each morning, until, when two years had elapsed, all the joints were typically spindled. Similarly the wrists, ankles, knees, elbows, shoulders, hips, jaw, back, and neck were gradually attacked. As a rule, there appeared to be merely a pulpy thickening of the synovial membrane, but in some cases they contained fluid. Certain tendon sheaths were affected in the same way, and especially those beneath the internal and external malleoli and round the wrists. Another prominent feature has been tenderness in the fibrous origin of muscles from certain bony points, such as the tuber ischii, anterior superior iliac spine, os calcis, and clavicle; also there have been tender fibrous nodules in various tedinous structures. In addition to this slow advance of the disease, from time to time attacks of acute pain and swelling have arisen and as suddenly disappeared, after lasting only forty-eight or seventy-two hours; the carpal and tarsal joints have been the ones usually attacked in this way.

Of those collateral symptoms which are usually looked upon as being part of the disease, the following were constantly present: General lassitude, increased pulse-rate, cramps and fibrillary twitching of muscles, ridging and brittleness of nails, enlargement of the axillary glands, unnatural whiteness of the skin over the affected joints, glossiness of the skin at the root of the nails, and pigmented patches about the skin. The following common symptoms were absent: sweating, neuralgia, and sensations of pins and needles. A few rather unusual symptoms were present: a very dry and itchy skin, occasional urticaria, and a very decided increase of the joint pains in warm weather.

It is usual to find a warm sunny climate recommended in the treatment of arthritis. Acting on this advice, I spent a year in South Africa, and was sadly disappointed to find that the joint pains rapidly got worse in the delightfully sunny though temperate climate of the Cape peninsula; the same results awaited me in the Karroo, where the rainfall is next to nothing, and bright sunny days are almost perpetual. A holiday in Switzerland and a year as ship's surgeon travelling backwards and forwards to South Africa, resulted in the same experience; hot weather invariably caused an increase of joint pains, and cold weather always came as a relief. The ideal climate is a constant temperature of about 55° F., with a little dampness in the air such as one gets towards the end of October in England. Failing this, decidedly cold weather is infinitely preferable to great heat.

Answers which I have received from many arthritis patients make me rather sceptical as to the advantages of warm weather on account of the loss of vigour which heat entails.

In some cases I believe there is a reason why a hot climate actually increases the joint swellings: if the nasal mucous membrane is the site of a chronic germ infection the engorgement of that part which a hot atmosphere induces both causes a more vigorous inflammatory reaction and also carries more toxins into the general circulation. This is borne out by the way in which the heat produces its bad effect; after a spell of cool weather

the first hot day feels rather beneficial than otherwise, but a couple of days at 80° F. or so has frequently sufficed to bring on acute pain and swelling of carpal and tarsal joints; this sequence of events happened on eight successive journeys through the tropics.

The very striking symmetry of the joint symptoms in arthritis led in the first instance to the idea that it was a nervous disease. Later observers have noticed the frequency with which the disease is accompanied by a chronic germ infection of some kind, and it has been attributed to the prolonged absorption of toxins; there is much evidence to show that a mouth of decayed teeth or a septic condition of one of the mucous membranes are potent accessories in the production of the disease.

When such a septic source exists and can be removed by some surgical procedure the recovery of the joints may be truly dramatic; unfortunately, however, it is the rule rather than the exception to find no obvious septic focus, and it has become the fashion to regard these cases as originating directly from the toxins of abnormal bacteria in the alimentary canal.

It is true that such cases frequently show a gradual improvement with attention to diet, and that results are better now than they were before the days of intestinal antiseptics; but there is still no proof that in the majority of cases of arthritis the disease arises directly from toxins produced by intestinal bacteria.

It was suggested earlier in this article that there may be a constitution peculiarly suited to a chronic germ infection which may give rise to arthritis; the peculiarities indicated were a faulty digestion, a liability to attacks of migraine, and a tendency to vasomotor disturbances. The migraine occurs more frequently with an increase of starch in the diet and is absent when starch is for the most part withheld; the state of the nasal mucous membrane improves considerably under the same conditions, and, furthermore, the arthritis gradually becomes less troublesome.

It does not seem unreasonable to suppose that imperfectly digested materials carried into the general blood stream may cause vasomotor disturbances and may be excreted through the nasal mucous membrane sufficiently to keep up a continual nasal catarrh; this would provide an admirable nursery for micro-organisms. Once such a chronic muco-purulent catarrh is set up and purulent material is continually swallowed, the alimentary canal is likely to become toxic, just as it does where the mouth is full of carious teeth.

A case of arthritis due to carious teeth is comparatively easy to treat, since the offending cause of the disease is not difficult to remove; similarly pus which is being continually swallowed from a suppurating antrum can be dealt with surgically. It is far more difficult to cure a chronic septic state of the whole nasal mucous membrane; such a state of affairs perhaps is not rare and only becomes a serious matter when the gastric juice fails to sterilize such organisms as are swallowed; it is, nevertheless, a most serious matter to an individual who has arthritis. It does not receive very minute attention in literature, and therefore I will endeavour to give an accurate account of it.

Both the cases to which this article refers have frequently been examined by experts on nasal diseases, and the report has always been that the mucous membrane is somewhat hypertrophic and congested but that otherwise to the naked eye there appears to be no disease.

At one time in one of the cases a little pus was seen in the right superior meatus of the nose, and it was thought possible that this came either from the sphenoidal sinus or a posterior ethmoid cell. A cultivation of *Staphylococcus pyogenes aureus* was obtained from this. More recently at one sitting six cultivations were taken from the middle turbinate, inferior turbinate, and septum on both sides of the nose; all of these gave a culture of *Staphylococcus pyogenes albus*. On many occasions pus from the nose has been examined both on a slide and by cultivations, and I have always found staphylococci and pus cells. Cultivations of *Staphylococcus pyogenes aureus* have also been obtained from the other case.

The discharge of pus is extremely variable. In the early stages of the arthritis, when the anaemia was pronounced, intervals of weeks might elapse without any sign of pus. The only abnormal signs were a slight turbidity of the mucus cleared from the naso-pharynx and the possibility of obtaining cultivations of *S. aureus*. A spell of hot weather has always tended to produce a vigorous flow of thin yellow pus, while during the colder periods the inflammatory process subsides.

As a rule the muco-pus only runs down into the naso-pharynx, but when it becomes increased for any reason it comes away freely also from the anterior nares. The ability to avoid swallowing pus from the naso-pharynx is a knack which I find few people possess. As a rule the pus is swallowed, and neither the arthritic patient nor his medical adviser have their attention drawn to this fuel which is being continually added to the fire.

The pains in the joints depend very much on the state of the nose. When the discharge becomes active, at first there is an increase in the joint pains. This auto-inoculation, however, is followed by a positive phase and subsequently stiffness and discomfort are for a time much diminished. This fact was made more abundantly clear by a staphylococcal vaccine which I have used for long periods; each inoculation is followed first by an increase of pus and joint pains, but subsequently there has always resulted a great diminution in articular discomfort.

The following is a further testimony to the intimate connexion between the joint pains and the nasal mucous membrane. Two years ago both inferior turbinates were cauterized, an interval of about a month being allowed to elapse between the operations. On each occasion, so soon as the cauterized surface became raw, there followed a sharp attack of rheumatism. I have noticed the same thing to occur after the extraction of teeth from a septic mouth, and I attribute it to the absorption of toxin through the wounded surface.

I think the fact which has impressed me most in this disease has been the very elusive nature of what I consider to be the septic origin, and since a profitable diagnosis must include the discovery of such a focus if possible, any new light in this direction will be of value. The point which I would emphasize is that in the early stages of the disease, when the individual is saturated with toxin and there is much anaemia, pus visible to the naked eye is only an occasional occurrence, and that the cultivation tube and microscope must be mainly relied upon in searching for offending bacteria. The constant presence of a certain organism in a situation which is normally sterile is a suspicious circumstance, and if a vaccine made from this organism will reproduce the arthritic symptoms and cause a flow of pus, we have some evidence that this organism is in part responsible for the disease.

The treatment of arthritis presents a very much more hopeful aspect now than it did even a few years ago. Emphasis has already been laid on the fact that a warm climate is not desirable for all forms of arthritis, and certainly in one variety it aggravates the symptoms very considerably; for that variety a temperature of 55° to 60° F. is the most suitable, but it is better that it should be persistently below 55° than continually above 60°; the essential is that the climate should be bracing.

After taking 15 to 30 grains of guaiacol carbonate daily for a year there were no striking results; but things might have gone much worse without it, and it seems a reasonable course to pursue if pus is being swallowed from time to time; every effort should be made to prevent any pus passing down into the stomach; it is very difficult, however, to do this completely, and many people seem to be unable to attain any success in this direction.

Nasal douching must be carried out regularly, but it only cleanses the inferior turbinate and lower parts of the nasal fossae. Vaccine treatment has proved more effective for this purpose, and it is well worth a trial; it is likely to improve the patient's general health sufficiently to enable him to cut off certain harmful articles of diet and to take regular exercise.

With vaccine treatment alone there is a temporary but decided improvement; the soil, however, is still as suitable as ever for a fresh supply of seed unless the alimentary canal is made more healthy by diet, water drinking, and exercise. I believe that a vicious circle is set up in the following way: The arthritis is directly due to the germ infection; the germ infection is kept flourishing owing to an unhealthy alimentary canal; the alimentary canal is likely to remain unhealthy as long as arthritis prevents

the patient from taking exercise and the bad general health precludes any attempt at dieting. It is waste of breath to tell a patient with arthritis affecting the feet to take efficient exercise. It cannot be done unless he is first assisted in some other way. Such a patient can, by means of vaccine treatment, be got into a far more active state. The same remark applies in a less degree to massage, faradic baths, and cataphoresis; vaccine treatment, however, goes more to the root of the disease, and in my experience has proved the more powerful ally.

I have inoculated myself between forty-five and fifty times, always using a vaccine from my own organism. The ordinary doses of staphylococcus vaccine proved far too large. A dose of 300 millions would cause an increase of joint pains during the day and continual cramps at night which might last for three weeks; small doses, on the other hand, produced a great improvement, and at one time led to the increase of a stone in weight in the course of three months. In order to bring about a cure of any permanency, I regard attention to the alimentary canal as essential.

While the patient is in an obviously low state of health, nothing much can be done in the way of cutting off any articles of diet. As he gets stronger, however, the starchy materials can with advantage be cut down and replaced by milk and hydrocarbons. Much can be done by long courses of water drinking. In theory it would appear a most reasonable procedure to wash out an unhealthy alimentary tract in this way, and in practice one certainly is not disappointed. The only possible objection which could be raised is the danger of exhausting the patient by over-vigorous purging. As a matter of fact, the Llandrindod Wells saline waters do not have a powerfully purging effect. As a rule, two or three glasses before breakfast act as a mild laxative. Individuals differ much in this respect, and it is a matter which must be suited to each one.

I trust that these remarks may help others in elucidating the mysteries of this troublesome complaint. I have attempted during the time that I have been closely associated with it to be a careful but impartial observer, and have neglected those symptoms which have not been constantly repeated. The explanation which I have given is the one which seems to fit most easily into the history of the case, and the treatment suggested has led to a more favourable result than falls to the lot of many arthritic individuals.

A SERIES OF CASES OF CATARRHAL JAUNDICE OCCURRING IN EPIDEMIC FORM.

BY

W. J. H. PINNIGER, M.D., B.S.Lond., M.R.C.S., L.R.C.P.,

SURGICAL REGISTRAR, BRISTOL GENERAL HOSPITAL.

THESE cases, eight in number, occurred in an institution where some 2,000 children, of ages varying from a few months up to 16 years, are cared for. These children all live under identically similar conditions as regards food, clothing, habits of life, and so on, but they are divided amongst five houses, which are practically independent of one another. All the cases occurred in one only of these houses. Moreover, the house in which the outbreak took place contains two departments, a girls' and an infants' department, the latter consisting of girls under 9. These two departments, though not absolutely separate, mix very little. These cases were confined to this infants' department, the only patient of more than 9 years of age being a girl of 16, who helps in looking after the smaller children.

There was nothing remarkable about the disease. It consisted of an attack of obstructive jaundice (that is, staining of the skin, conjunctiva, and urine, and absence of bile from the stools), a variable degree of fever, some feeling of malaise, and in three cases enlargement of the liver, without, however, any tenderness. In two of the cases jaundice was not present to the full extent—that is, there was no change in the colour of the urine and stools. There was no history of antecedent gastro-intestinal trouble.

Appended is an analysis of the cases, with the dates of admission to and discharge from the infirmary. The cases as soon as they occurred were removed from the department to the infirmary, where, with the usual treatment, they soon recovered. They were discharged when all trace of jaundice had disappeared and they were quite well in themselves. The interesting point about the series is that the fact of its being limited to one department only—no other cases occurred in the rest of the institution all through the summer—suggests that the disease was probably infectious. Moreover, it will be noted in the table that the cases occurred in five groups. Between the first case and the next two an interval of thirteen days elapsed. Between the discharge of numbers 1 and 2 and the occurrence of numbers 4 and 5, nineteen and sixteen days respectively passed, number 3 still being in the infirmary. Between the discharge of numbers 4 and 5 and the appearance of numbers 6 and 7, eighteen and fourteen days respectively elapsed. Between the discharge of the last of these and the occurrence of the last case there was an interval of fifty days.

Analysis of Cases, with Dates of Occurrence and of Discharge from the Infirmary.

No. of Case.	Date of Admission.	Date of Discharge.	No. of Days Isolated.	Highest Temperature.	Extent of Jaundice.	Symptoms.	Enlargement of Liver.
1	May 5	May 23	18	Normal	Full	Malaise	Nil
2	May 18	May 26	8	Normal	Skin and conj. only	Malaise	Nil
3	May 19	June 17	29	100°	Full	Malaise	Nil
4	June 11	June 23	12	99°	Full	None	½ in. below costal margin
5	June 13	June 27	14	100°	Full except urine	None	Nil
6	July 11	July 25	14	101°	Full	Malaise, vomiting	Nil
7	July 11	July 28	17	99°	Full	Malaise	1 in. below costal margin
8	Sept. 16	Oct. 7	21	100°	Full	Malaise	2 in. below costal margin

From a consideration of this series it would seem that some of the cases were still infectious when discharged from the infirmary, and that they went down and infected other children in the department; and the length of the intervals suggests that the incubation period of the disease is between fourteen and twenty-one days, probably nearer the former. This suggestion is not supported by the last case, however; but this long interval might be explained on the hypothesis that a very mild case was missed, which, considering the mildness of some of the attacks, might well have happened.

Numerous epidemics of jaundice have been recorded. Hennig[1] reviews some 86, and others have been reported since. The majority of cases have been benign, like those in this epidemic, but some have been of the more severe type described by Weil and associated with his name. In cases where an incubation period has been mentioned it has been given as varying from a few days to several months.

Most writers have thought there was no evidence of case-to-case infection in their epidemics, and have been able to trace the origin of the disease to bad food or such things as exposure to cold and wet. None of these causes can be assigned here, however, and the history of the little outbreak is strikingly analogous to that of an epidemic of low virulence of one of the ordinary infectious diseases as they occur in this institution.

REFERENCE.

[1] V. Quincke and Hoppe-Seyler, *Nothnagel's Practice*, "Diseases of the Liver," p. 501.

THE thirty-third Congress of Balneology will be held at Berlin in March, 1912, under the presidency of Professor Brieger. All communications relative to the congress should be addressed to the General Secretary of the Balneological Society, Geh. San.-Rat Dr. Brock, Thomiasiusstrasse 24, Berlin.

THE De Dion Bouton, Limited, 10, Great Marlborough Street, London, W., has arranged that any one interested in their 6-, 7-, and 26-h.p. one, two, and eight cylinder De Dion Bouton new models shall be able to take a trial run by appointment.

VOMITING IN GRAVES'S DISEASE AND ITS TREATMENT.

BY J. A. NIXON, M.B., F.R.C.P.,
PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY.

THE symptom of obstinate vomiting in Graves's disease is fortunately not of very common occurrence. Sometimes, however, it becomes a complication of grave import. Recently three cases have come under my notice in which the patients' lives appeared to be threatened by the persistence and frequency of the vomiting. In each case the patient had contributed to her own undoing by over-exertion at a time when the general symptoms of exophthalmos, goitre, tremor, and tachycardia were very severe; each of the patients was up and about, doing active housework, at a time when rest in bed had long since been imperatively indicated; each of them volunteered the statement that the slightest movement in walking, going upstairs, and lifting weights, produced the vomiting.

The vomiting had become an alarming complication, dieting and drugs seemed useless.

In my first two cases absolute confinement to bed with the use of the bed-pan, and strict supervision to ensure that the patient did not move hand or foot to supply her own wants, was combined with the administration of a substantial diet by mouth; milk, bread-and-butter, eggs, fish, chicken, broth, were freely given. At first the patients vomited at rare intervals, but within two days tolerance was established and the food retained. The patients soon discovered for themselves that the vomiting was produced by exertion or movement, rather than by a true inability to digest solid food; and having found this out they took their food with increasing confidence, and improved rapidly.

The third case was admitted to the Bristol Royal Infirmary with similar symptoms. The orthodox method of rectal feeding was adopted, and small quantities of milk given by the mouth; the patient continued to vomit, and her general condition became worse. A marked acidosis developed. Finally, on the fifth day after admission, the plan of dieting was changed, and the patient was given moderate meals of solid food; she vomited on three occasions more, and was after each promptly fed again. After two days of this treatment tolerance was established, the acidosis disappeared, the patient improved in every respect, and her danger from this symptom was at an end.

It seems worth while to direct attention to this mode of dealing with obstinate vomiting in Graves's disease; the more so since the advice usually given and the plan commonly adopted is to withhold food by mouth and resort to rectal feeding, a plan which I believe to be as useless in Graves's disease as it is in the vomiting of whooping-cough.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TWO TESTICLES ON ONE SIDE.

IN the JOURNAL of September 2nd, pp. 513–14, is a short article on this condition, based on a probable case reported by Dr. Caroline V. Lowe, in which it is stated that, according to Ahlfeld, only one instance is reported in a properly dissected dead body. Ahlfeld's report was made in 1880. As the condition is so extremely rare and so extraordinary, the following brief account of a case recorded by me in the *Journal of Anatomy and Physiology*, January, 1898, p. 216, will doubtless interest both the writer of the article and many of your readers, and throw some light on the case in question.

A boy aged 3 was operated upon by me in the Queen's Hospital, Birmingham, on August 21st, 1896, for a large congenital inguinal hernia on the left side. On exposure of the external ring two cords were seen emerging and passing down to the two testes, enclosed in one tunica vaginalis. The child died of shock some thirty-six hours later, and at the autopsy a careful dissection of the parts was made by my then house-surgeon, Dr. R. A. Bennett.

There was only one vesicula seminalis, situated on the left side, and considerably larger than normal, and in connexion with it was a very large vas, as thick as an ordinary drawing pencil, which took the normal course as far as half an inch from the internal ring, where it divided into two of equal size, which passed down the inguinal canal into the scrotum to the two testes. The right spermatic artery crossed over the middle line about 3 in. below the umbilicus, and meeting its fellow of the opposite side just inside the internal ring, joined with it to form a single trunk, which divided again before reaching the external ring, the two vessels being distributed to the testes in the ordinary manner.

With this case in view, that of Dr. Lowe—a left-side hernia also—may well be another instance of this curious and remarkable developmental anomaly.

F. MARSH, F.R.C.S.,
Consulting Surgeon, Queen's Hospital, Birmingham, etc.

A CASE OF TUBERCULOUS DISEASE OF THE EYEBALL?

E. N., 21, dressmaker, first came to consult me about five years ago concerning the right eye. She had a large phlyctenule on the outer half of the right cornea, and a moderate-sized pustule on the conjunctiva, about one-sixth of an inch from the corneal margin. There was a good deal of pain, redness, and photophobia. She was pale and thin, and her general condition poor. She had been under another medical man, but had not improved. By the use of atropine and tonics she improved for a time; then I lost sight of her. She came to see me again two years ago; her condition was as bad as ever, and no treatment seemed to benefit her permanently. This unsatisfactory result was no doubt due to her having to keep on with her occupation as a dressmaker, and thus not getting sufficient rest and fresh air. Last year, at the end of July, she again came to see me, and I found matters much worse. The eye was intensely inflamed, and the anterior chamber full of pus. She was suffering great pain, and was looking very ill. After careful consideration I advised her to have the eye removed. To this she agreed, and was admitted into Stockton Hospital on August 4th. After removal of the eye, an examination of it revealed the following conditions: The anterior chamber full of pus. The sclerotic from the outer side of the cornea to beyond the insertion of the external rectus was greatly thickened, and there was an abscess cavity between its layers. A caseous nodule on the sclerotic just outside the cornea led down to the abscess cavity. The vitreous was fluid, and full of cholesterine crystals, which settled down as a golden-brown residue. For some time after the removal of the eye she continued to look very ill, and suffered so much from severe headaches that I began to suspect she might have some meningeal trouble; but after a long change at the seaside she improved greatly in health and gained in weight. I might add that she had no strumous glands, nor was there any phthisical history in the family.

G. VICTOR MILLER, M.D.,
Ophthalmic Surgeon, Stockton and Middlesbrough Hospital.

ACUTE INVERSION OF THE UTERUS.

ON August 9th I received a call to a Kaffir woman. It was stated that immediately after the birth of a child, her womb, with the afterbirth attached, had appeared outside the body. Owing to the long distance from town, I did not arrive on the scene until eleven hours after the accident. I found a young woman lying on the floor of a hut. Her pulse was 75, and she related her history quite clearly. This was her second child, born easily during the night while she was lying on her back. Soon after the afterbirth appeared, and when they went to remove it they were surprised to find it still attached to the body. The attendants denied having pulled upon the cord or in any way assisted delivery of the afterbirth. This I can believe as native midwives here exhibit a masterly inactivity and I have never known one to meddle.

The uterus, with the placenta attached, was turned almost completely inside out, and was lying outside the body, supported by some dirty sacking. About 30 inches of cord was still attached to the placenta, so that shortness of the cord had not caused the inversion, unless perhaps it had been wrapped round the child's neck. On

his point, however, I received no evidence. Anticipating haemorrhage from the placental site, I proceeded to clean the surface of the uterus before detaching the placenta. Bits of straw and other débris were removed, and the whole surface swabbed with 20 per cent. iodine solution. The placenta was then removed, easily and without haemorrhage. The whole surface of the uterus presented a livid and blotchy appearance, and was oedematous as if it were strangulated. Reduction was easy, but so friable did the organ appear to be that rupture seemed imminent, and it was with great relief that I saw the fluid returning freely during the subsequent bunching. No anaesthetic was used, and the manipulations caused little pain. The puerperium was normal. Inversion of the uterus is said to occur only once in 100,000 births, and about 70 per cent. of cases die from shock, haemorrhage, or sepsis. In this case none of these things occurred, and the serious nature of the condition has certainly not been brought home to me by my solitary experience thereof.

Bedford, Cape Colony. H. F. B. WALKER.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

CHURCH MISSIONARY SOCIETY'S HOSPITAL, NINGPO, CHINA.

UNUSUAL SYMPTOMS IN BERI-BERI.

(By ARTHUR F. COLE, L.R.C.P., M.R.C.S.)

The subject of beri-beri is always of interest to a section of our readers, an unusual symptom which occurred in a recent fatal case in my practice should be reported; one reason leading me to do so is that neither in Manson's *Tropical Diseases*, nor in Allbutt's *System of Medicine*, nor in the recently published *Diseases of China*, by Jeffreys Maxwell, is there mention of glycosuria in association with beri-beri.

I was asked to see a Chinese boy of 16, who was reported to be "swelling visibly." On arrival at the school, I found him in a crowded dormitory, not built for its purpose. He was generally oedematous, had a feeling of oppression in the chest, and threw himself from side to side.

The knee-jerks were present. He was said to have been playing tennis a week before, and without doubt had been able to sit for his terminal examinations twenty-four hours before I saw him. Beyond a certain feeling of debility for some weeks, he chiefly complained of feeling "stuffed up" in chest and abdomen for the last six days. When he was unable to sit up in a Chinese sedan chair, he was brought to the hospital on a stretcher as a possible case of beri-beri.

On admission his temperature was 100° F., respiration-rate 40, pulse 118. The knee-jerks were both present, though he could not stand. Calf tenderness was present on the left side; he was generally oedematous, very dyspnoeic, profusely perspiring, and throwing himself from one side of the bed to the other in great distress, especially complaining of tightness across the chest. Except for some dullness at the bases behind, the lungs seemed normal. The heart was galloping rhythm, and there was a doubtful murmur in the pulmonary area; the deep cardiac dullness was in the vertical nipple line. The liver and spleen seemed normal on palpation and percussion. The urine was examined on two occasions: it was acid, specific gravity 1040; it contained no albumen, but a quantity of sugar. He was given some aperient, and pulv. opii ½ gr. Tinct. digitalis m 10 was ordered every two hours the next morning. Amyl nitrite capsules were at hand in case of necessity. Less than twenty-four hours after admission he had two attacks of acute cardiac distress with dyspnoea and dusky lips, which through inhalation of amyl nitrite greatly relieved him after the first, the second, half an hour later, proved fatal. The diagnosis made of acute beri-beri with glycosuria.

It was practically certain that death was due to beri-beri toxins acting upon the heart muscle (possibly through the vagi), for the next day 3 more cases were admitted, in varying degrees of severity, one from the bed adjacent. In each of these cases the urine was found to be normal, though the specific gravity of one was 1040.

His past history included a stay of over a month in hospital some eight months previously, with one of the undiagnosed fevers of the tropics, lasting thirty-five days, terminating by lysis, and unaffected by treatment. At this time his urine contained albumen in quantity, disappearing with convalescence, but no sugar. In this part of China this clinical type of disease is called "seven-day fever," because in nearly all cases some multiple of seven days again sees the temperature on the normal line; as a matter of fact, one is not anxious as to the prognosis of such cases. His temperature then varied from 103° to 105° F. more or less continuously. The blood agglutination reaction was negative on the twelfth day of fever both to *B. typhosus* (1 in 20) and *M. melitensis* (1 in 100). His blood was never found to contain malarial parasites, and on three occasions when counts were made—

The red cells were 3,750,000, 3,784,000, and 3,515,000.
The white cells were 4,000, 4,000, and 4,667.
The haemoglobin percentage 75, 75, and 60.

These notes on the subject of beri-beri, possibly pointing to specific action of the toxins on the medulla, possibly to an infective pancreatitis, are sent in the hope that every additional fact may help towards its elucidation.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH:

PATHOLOGICAL AND CLINICAL SECTION.

Friday, October 27th, 1911.

Dr. KAUFFMANN, President, in the Chair.

Tuberculous Disease of the Caecum.

MR. GEORGE HEATON showed a man aged 52 whose caecum and lower end of ileum he had removed for tuberculous ulceration, and also showed the portion of intestine removed, with microscopic sections. The patient had complained of obscure abdominal pains for several months, with increasing difficulty in getting an action of the bowels. An ill-defined tumour could be felt in the right iliac region. Abdominal section was performed, and the caecum was found distended into a hard irregular tumour with numbers of miliary tubercles on its peritoneal aspect. The rest of the intestines and the peritoneum were healthy. The caecum with 3 in. of the ileum and a portion of the ascending colon were resected and the ileum joined to the ascending colon. The man was now in good health, except for a small faecal fistula. The specimens showed extensive thickening of the caecum, with irregular ulceration of its mucous membrane. The ileo-caecal valve would only just admit a glass rod. The microscopic section showed a few definite tubercles in the deeper parts of the intestinal wall.

Transposition of Viscera.

Dr. ROSE JORDAN showed a boy just over 13 years of age, who came under her notice in the course of the routine medical inspection of children about to leave school. The schoolmaster, in presenting him for examination, mentioned that he had several times fainted in school and that he was said to have a displaced heart. Both on this occasion and on a subsequent occasion when examined he gave ocular demonstration of his liability to faint. Nothing unusual was noticed about him until he was 3 months old, when he swooned away one evening and had to fight for his breath. He was seen by two doctors who did not expect him to live through the night, and who told the mother it was best for him to die as he could never be strong. He, however, recovered from this attack. From that time until the age of 7 he frequently fainted and sometimes fell into trances during which he was occasionally unconscious for twenty-four hours. He was always very nervous and often almost jumped out of bed during sleep. Before the age of 7 he contracted measles, chicken-pox, and whooping-cough, the latter very badly. Since the age of 7, though still nervous and prone to faint, his general condition had steadily improved. As regards the circulatory system, the pulse was 72, slightly irregular. The heart's apex beat was visible in the fifth space on the right side, ½ in. internal to the mid-clavicular line. The

area of dullness reached from the third right space above to the apex beat on the right and to the mid-sternum on the left. The first sound at the apex was rough and was followed by a short systolic murmur; in the third right space, in this case presumably the area of the pulmonary valve, a rough short systolic murmur was also heard. At the left base the heart sounds were apparently normal. There was liver dullness on the left side, reaching from the sixth space in the mid-clavicular line above to the costal margin below. As far as could be ascertained the spleen and stomach were situated on the right side, opposite to the positions they would normally occupy. The boy was right-handed, and there was one brother, aged 12, who was quite normal.

Chorion-epithelioma of Uterus, Vaginal Wall, and Lung.

Dr. PURSLOW showed these specimens. The patient was admitted to the Queen's Hospital in January, 1911. She was the mother of seven children, the last having been born two years previously, and there had been two abortions. She gave a history of repeated "floodings" during the preceding eleven months. The uterus was enlarged to the size of a ten to twelve weeks' gestation. Abdominal hysterectomy was performed, and she made a good recovery. She returned to the hospital in June, looking extremely ill. She stated that she remained well after the operation until the beginning of May, when the floodings returned, and, shortly after that, she commenced to spit blood. She was admitted and died two days later. The specimens showed (1) the uterus containing a very vascular red mass growing by a broad base from the posterior wall; (2) the vagina removed *post mortem* showing two distinct masses of growth in its wall; (3) the lungs containing several growths. Microscopical sections were also shown.

Fibroid of Uterus with a Twisted Pedicle.

Mr. J. FURNEAUX JORDAN showed a specimen. The patient, a single woman, aged 38, was seen in consultation with Dr. Henton White. Three weeks previously there had been an attack of acute abdominal pain, lasting more or less severely for a week. After a week's quiescence the pain recurred, and she felt bigger and tighter in the abdomen. Her menstrual periods were regular, with no excessive loss. A hard, tense tumour was felt in the middle line above the pubes, and the pelvis was filled by a hard mass, movable with the uterus, but doubtful if connected with the tumour above. The diagnosis was fibroids and (?) ovarian cyst. At the operation there was found a large, rounded, subperitoneal fibroid, attached to the fundus of the uterus by a thin pedicle, tightly twisted so as to resemble a piece of whipcord. The tumour was beginning to necrose, and the whole of its surface was densely adherent to coils of intestine. The separation of bowel from tumour was very difficult, and necessitated subsequent suture of the bowel wall in three places. The body of the uterus was enlarged by the presence of three other fibroids, two of which were considerable in size and filled up the pelvis. A subtotal hysterectomy was performed, from which she made a good recovery. There could be little doubt that the twisting of the pedicle was the cause of her first attack of abdominal pain, and from the density of the bowel adhesion it was even then only the last tight twist. There must have been some before this. A feature in the case was that the patient had not the least idea that anything was wrong with her until three weeks before the operation.

Successful Removal of a Large Ovarian Cyst.

Mr. FURNEAUX JORDAN reported this case. The patient, who was aged 88, was seen in consultation with Dr. Vince. For some months she had been getting bigger in the abdomen and suffering increasingly from indigestion, chiefly in the form of flatulence and shortness of breath. She was a big, stout lady, subject to bronchitis in the winter for some years, but with a good heart and a soft pulse. A large multilocular ovarian cyst was removed. There was a gallon and a half of fluid in the largest locule alone. She took the anaesthetic—a mixture of C_1E_2 with continuous administration of oxygen — very well from Dr. McCardie. The operation was over in less than ten minutes, and from it she made an excellent recovery. At the date of the report she was very well in health, and expressed herself as feeling better than she had done for three or four years.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, November 13th, 1911.

J. MITCHELL BRUCE, M.D., F.R.C.P., President, in the Chair.

Syphilis and Parasyphilis of the Nervous System.

DR. F. W. MOTT opened a discussion on syphilis and parasyphilis of the nervous system, with a paper on the differential diagnosis of the condition which is published in full in this issue of the JOURNAL, p. 1337.

Sir DAVID FERRIER said that there was scarcely a symptom of lesion of the nervous system, whether peripheral or central, that might not be caused by syphilis. Apart, however, from the morbid anatomy of the lesion there was perhaps nothing specially characteristic of its symptomatology. It was either irritative or destructive, or might partake of both characters. But the clinical history, the symptom-complexes of the various diffuse or localized lesions commonly met with in cerebro-spinal syphilis, and the remarkable tendency to be influenced beneficially by energetic antispecific treatment were all important factors in their recognition by the clinical observer. Those points had been so admirably treated by Dr. Mott that it was not necessary to dwell on them. But parasyphilitic affections of the nervous system—by which term he understood tabetic affections, whether spinal (locomotor ataxy), cerebral (general paralysis), or cerebro-spinal—formed a separate class, and, when all or most of the cardinal symptoms were present, were readily distinguishable from syphilitic affections proper. This was not the time to discuss the relations between syphilis and parasyphilis. The term "parasyphilis" had a recognized significance, and every day strengthened the evidence that all tabetic affections were primarily of syphilitic origin, and that, whatever else might be co-operative, syphilis—heredity or acquired—was a *sine qua non* in their causation. But while parasyphilitic affections, when fully developed, were easily distinguishable from cerebro-spinal syphilis, doubts might be entertained by even the most experienced observers when the affections were in their incipient stage, or when the manifestations were imperfect, irregular, or complicated by other symptoms due to syphilis or not, as the case might be. And yet it was just in such circumstances that an accurate diagnosis was all-important, as so much depended on it, both as regards prognosis and treatment. Hence, every method which tended to render clinical diagnosis absolutely certain and free from doubt was gladly welcomed. If he were to specify one symptom or sign above all others characteristic or pathognomonic of parasyphilis, he would without hesitation say the Argyll Robertson pupil or condition termed reflex iridoplegia in one or both eyes. That was practically always a sign of parasyphilis. For, though it must be admitted that an absolute iridoplegia, itself almost invariably syphilitic, might sometimes give place to reflex iridoplegia, that was so rare as to be practically negligible in the circumstances with which they had to deal. But neither the Argyll Robertson pupil, nor its congeners or forerunners—namely, the irregularities in outline or eccentric position—were always present in parasyphilis, nor was the reflex iridoplegia always complete. The reaction might be only sluggish, or differ slightly only in the two eyes. When the reflex iridoplegia was not present, or doubtful, the other indications of tabes must be well marked before a definite diagnosis could be ventured on clinical grounds alone. Frequently, however, the absence of the knee-jerk, bladder troubles, characteristic pains, or the mental symptoms, tremors, etc., might make a clinical picture sufficiently definite that no reasonable doubts could be entertained as to the nature of the case. But occasionally all symptoms might be so equivocal that they gladly availed themselves of the valuable aids to diagnosis which had been in recent times added to their resources by biochemical and cytological examination of the blood and cerebro-spinal fluid. Whatever might be the correct interpretation of the Wassermann reaction—and he thought the balance of evidence was against it being a specific immune reaction

—there was, he thought, little doubt that, in its clinical setting, it was absolutely pathognomonic of antecedent syphilitic infection. It was, however, as Much termed it, a constitutional and not a symptomatic reaction. In cerebro-spinal syphilis it was obtained only in the serum, whereas in general paralysis it occurred with equal frequency in the cerebro-spinal fluid and with almost equal frequency in that of spinal tabes. Those facts were of inestimable importance, and a positive Wassermann reaction of the cerebro-spinal fluid in a doubtful case would be quite sufficient to dispel all doubts as to the true nature of the case. Of scarcely less importance, though not peculiar to parasyphilis, was the occurrence of an excess of lymphocytes in the cerebro-spinal fluid of tabetics. That was also met with in cerebro-spinal syphilis, but was rarely so well marked as in parasyphilis, and, unlike parasyphilitic lymphocytosis, could be made to disappear by energetic antisyphilitic treatment. Cerebro-spinal lymphocytosis was a valuable confirmatory sign of tabes, and might be met with in the earliest stages of the disease. He had found excess of lymphocytes in the cerebro-spinal fluid in doubtful cases in tabes in which the Wassermann reaction was negative, both in the serum and cerebro-spinal fluid. In illustration he might quote the essential particulars of two cases that were still under his care. The first was the case of a man of middle age, in whom there was no history of syphilis. About a year ago he exhibited some ataxic symptoms. He had absolute iridoplegia in the left eye, and reflex iridoplegia in the right. The knee-jerks were present. The Wassermann reaction of his blood was negative. In the course of a year his knee-jerks had disappeared, and he had iridoplegia in both eyes. Neither in his blood nor in his cerebro-spinal fluid was there the slightest trace of a positive Wassermann reaction, as tested by his colleague, Dr. Emery. Yet there was a decided though relatively slight increase of lymphocytes. In another case, a man of 42, there was also no history of syphilis. For the last four or five years he had suffered much from shooting pains, to allay which in the night he had been in the habit of getting up and plunging his limbs into cold water. His pupils were contractile to light and the knee-jerks present, more brisk left than right. Though the pupils were contractile to light, it could be observed on very careful observation that the left was slightly less active than the right. The Wassermann reaction was entirely negative, both in the blood and the cerebro-spinal fluid, but there was a slight, though definite, lymphocytosis. In both those cases, and especially in the second, he considered that the lymphocytosis was an all-important factor in the diagnosis of tabes. Of globulin and albumen tests of the cerebro-spinal fluid he had had little experience, and therefore preferred not to express an opinion as to their value. Sir David did not think it necessary to occupy time further in discussing the individual manifestations and points of differential diagnosis of the various syphilitic and parasyphilitic affections of the brain and cord, seeing that they had been treated so amply by Dr. Mott. But he would allude to one point of difference between general paralysis and cortical syphilis, which he had been in the habit of demonstrating at his hospital classes for a great many years. It was that he had never found a general paralytic, at whatever stage of his disease, complain of or evince signs of pain on deep pressure or percussion on any part of his head; whereas in cortical syphilis, even when the patient had made no complaint of spontaneous headache, it was practically the invariable rule that pain, often obviously severe, could be provoked by deep pressure over the seat of lesion. He had, by the way, always regarded that as an argument in favour of the tabetic or abiotrophic, rather than inflammatory nature of the degeneration characteristic of general paralysis.

Dr. G. H. Savage said he did not feel quite at home in the present discussion as his knowledge of the Wassermann reaction and biochemical investigations was so limited and recent, that he came more to learn about those matters than to communicate anything. But from the clinical side his experience had been very large, and, as Dr. Mott had said, many years ago he noticed a marked distinction between ordinary tabes and tabetic insanity, and had insisted on the vast importance of recognizing the difference. In the one case it was a rapidly fatal disease, whereas in the other it might last for ten, twenty, or even thirty years. He could not help feeling that there was some very definite and specific action of the neurons themselves. One might take for granted that in all those cases of general paralysis of the insane there was marked arterial degeneration and a more or less complete starvation of the higher centres, and that the neurons were suffering from some form of malnutrition, that is, they were insufficiently supplied, because the arteries themselves were affected. But there were other conditions, such as the degeneration in chronic alcoholism and in arterial fibrotic conditions, in which the symptoms of general paralysis or of tabes were not met with. Certain of their symptoms were found, but not the specific form of degeneration such as was met with in tabes and general paralysis of the insane. Therefore he could not help from that point of view feeling certain that there was a specific affection. There were certain other forms, which had not been referred to, which had always struck him as marking differences between the true general paralytic and those other paralytic cases. He was glad Sir David Ferrier had mentioned the subject of head tenderness. Years ago Sir Batty Tuke thought fit to tell him (Dr. Savage) that he was teaching wrongly when he said that general paralytics rarely complained of tenderness about the head or of headaches. But he could only answer that it was very exceptional for him to meet with such a case; but it was very common to meet people who were suffering from parasyphilitic trouble and other similar troubles, and who had headaches. Cases of parasyphilis and cerebral syphilis almost invariably slept badly; but the general paralytic, except in the stage of maniacal excitement, often slept very well indeed; at any rate, he did not complain of sleeplessness. Another point which had frequently impressed him, but which he did not think had been sufficiently recognized, was that the memory of the general paralytic was often maintained far into the disease, whereas in the cases of parasyphilis and alcohol the recent memory rapidly vanished. He had known general paralytics in the demented stage who still preserved memory of what happened yesterday, and whether they had had their meal or not; that was not so with the alcoholic and syphilitic cases. Therefore he was convinced that there was a definite specific disease, a syphilitic degeneration associated with general paralysis. It had been said that in the other cases, not parasyphilitic ones, there was rarely exaltation, and that the labio-lingual affections were not met with there to the same extent as in general paralysis. But Dr. Savage did not feel sure about that. He had been pleased to hear Dr. Mott refer to some of the difficulties which arose in the diagnosis between early paralysis and simple neurasthenia. Within the last fortnight he had seen two cases in which there was no history of syphilis; he hoped the Wassermann reaction would be tried in them both. They were cases in which definite neurasthenic symptoms were present. Recently he saw a patient who was apparently a typical neurasthenic, and reacted as such, but in five or six weeks developed all the symptoms of general paralysis. He felt that at present there were extreme difficulties, and if by the Wassermann reaction or by the use of a more careful investigation of the cerebro-spinal fluid they were able to make matters clearer it would be of immense importance, not only in reference to treatment, but also in regard to prognosis. Dr. Mott had mentioned one or two cases which struck him (Dr. Savage) many years ago as typical cases of brain syphilis, which were mistaken for general paralysis. One case was that of a doctor who had had syphilis fifteen or twenty years before. He had had some experience in an asylum, and Dr. Savage went into the country to see him. The patient told him it was very kind of him to come to see him, and that he was a general paralytic, as his pupils and reflexes pointed to that disease. He had some of the symptoms of that disease. Dr. Savage then went out of the room and came back, and the patient said, "When did I see you last? You have not been down to see me for a long time." Acute memory loss for recent events did not show general paralysis of the insane, and he told the patient he was not suffering from that disease. The differentiation was founded on the complete loss of recent memory. The patient had no convulsions, and simply

died out quietly. Another important point in the matter of diagnosis was that cases in which acute general paralytic symptoms appeared within four or five years of the syphilis were very rarely cases of general paralysis. He had seen many such cases which were brought confidently by the practitioner as cases of typical general paralysis, but on inquiry the man's syphilis dated from only four or five years earlier. In life it was necessary to think of the "Comedy of Errors"—one's own and other people's—and he could refer to the frequency with which the diagnosis of general paralysis had been made in cases which had yet lived on for ten, fifteen, twenty, twenty-five years. They were parasyphilitic cases, not general paralysis. He concluded by expressing his great admiration for Dr. Mott's paper.

The discussion was postponed to Monday next, November 20th.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Friday, November 10th, 1911.

Sir WILLIAM OSLER, President, in the Chair.

Treatment of Cholera.

DR. LEONARD ROGERS having read a paper on the treatment of cholera by injections of hypertonic salines and permanganates internally, which appears at page 1342, Dr. F. M. SANDWITH said that to bring down the mortality from its usual 60 per cent. to 23 per cent. and even 20 per cent. was a great achievement. In the last epidemic in Egypt with which the speaker had had to deal, 67 per cent. of the cases had complete suppression of urine. The prognosis was very bad if there was kidney disease or kidney delicacy, and especially if the subjects of the disease were opium eaters or alcoholics. He was glad to hear of the ready means of getting the specific gravity of the blood, because the majority of cases of cholera had to be treated in cholera camps and villages without any of the resources of the laboratory. Surgeon-Major WILLIAM DUNCAN, I.M.S. (ret.), said that when in India his mortality from cholera was 60 per cent. of the cases, so it seemed to him almost incredible that it could have been brought so low as 15 per cent. But in many epidemics there was a low percentage of recovery following on a higher percentage. He had learnt his first lessons in regard to cholera from the late Sir George Johnson, whose theory of collapse was the one which best explained the symptoms of the disease. Sir George treated all his cases with castor oil. In 1879, at the end of the Afghan war, the troops were marched away from the cholera zone and encountered the pilgrims returning from their shrine; the result was that there were so many deaths that it was known as the march of death. Major Harold used 10 minims of eucalyptus oil and had success with it. Dr. E. C. HORT said that with his colleague, Dr. Penfold, he had been investigating for some time, at the Lister Institute, the effects on rabbits of intravenous injections of saline solutions and other liquids. They found them not innocuous as was often supposed. To avoid unpleasant results it was necessary to establish a definite limit to the concentration of the salt. It was equally important to observe the ratio between the volume of liquid injected and the weight of the animal receiving the injection. The unpleasant results encountered included fever, rigors, subnormal temperatures, diarrhoea, haemorrhage from the bowel, and even Cheyne-Stokes breathing, convulsions, and sometimes sudden death. It would, in his opinion, greatly increase the value of the treatment Professor Rogers had so ably elaborated if the limits of safety could be worked out for man by careful attention to injection ratio, to degree of concentration and to velocity of injection, as well as the specific gravity. As many of the cholera patients were in a serious condition before injection, any symptoms caused by the saline injection might very well be masked and overshadowed. In their own experiments the animals were injected when in a healthy condition, and therefore mild symptoms due to injection were more easily observed.

Professor ROGERS, in reply, said he was anxious to receive suggestions which would enable him to improve his treatment still further. With regard to the spread of cholera from India, it was his own opinion that, owing to the recent increased facilities of travel and intercommunication, cholera would spread very much more quickly into Europe than was formerly the case. The epidemic of 1826–31 took five years to spread from India to Russia, whereas that of 1893 spread the same way in five months. Such spread gave reason for a feeling of disquiet, for Russia was no more sanitary than it was formerly. Most of the villages were still without a proper water supply, and there was every facility for the spread of the disease. Opium certainly had a very bad effect on the prognosis in those attacked, and, therefore, as opium eaters nearly always died from the disease, opium should not be given in any form. He did not use astringents, because they made uraemia more likely. In Italy several patients were lost owing to their being alcoholics. In his book on the subject would be found instructions on how to transfuse without the aid of instruments. Indications for transfusion were cramps, restlessness, and cyanosis.

LARYNGOLOGICAL SECTION.

AT a meeting on November 3rd, Dr. STCLAIR THOMSON (President) in the chair, the following were among the exhibits:—The PRESIDENT: A case of *Epithelioma of the larynx*, in a man aged 23, which had been exhibited at a previous meeting of the section; the appearances at that time suggested a simple rather than a malignant growth, but the subsequent course of the case, together with the microscopic examination, had rendered the diagnosis certain. Mr. HERBERT TILLEY: Two cases illustrating unusual complications of *Chronic empyema of the nasal accessory sinuses*. In one a fluctuating swelling at the inner margin of the orbit had induced displacement of the eyeball downwards and outwards; operation revealed destruction of the roof of the orbit and of the posterior wall of the frontal sinus. The second case presented proptosis of the right eye, with oedema of the upper eyelid and cheek. A fistula discharging pus led to carious bone in the inner and posterior region of the orbit. The parts having been opened up from the orbit, the ethmoidal wall was found to be diseased, and a sequestrum was removed from the region of the posterior cells. Operation on the antrum showed this cavity to be full of thick caseous pus. Discussing the second case, several members remarked that the presence of thick pus in the antrum was probably induced by the sequestrum, since the condition known as "rhinitis caseosa" was often found in conjunction with a foreign body in the nose. Mr. G. WILKINSON: (1) A case of *Melanotic sarcoma* of the nose in a man aged 51 years. The sarcoma consisted of a rounded projection growing from the vestibule and lateral nasal wall, and a polypus of sooty-black colour attached to the middle turbinal. The soft tissues of the side of the nose, cheek, and upper lip were infiltrated by the growth, and the septum showed melanotic infection at the spot where the growth came into contact with it. This extensive involvement had necessitated complete removal of the left upper jaw, together with the soft parts covering the left side of the nose externally, as well as the skin of the ala and a portion of the upper lip and cheek. The gap thus left was subsequently closed by a plastic operation. The operation, performed a year ago, had not so far been followed by any recurrence. (2) A *Fibro-angioma* growing from the inferior turbinal, of the same type as what was commonly termed "bleeding polypus of the septum." Several members agreed that this and other cases, however, should lead to the adoption of the expression, "bleeding polypus of the nose," as a more accurate title of this variety of neoplasm. Mr. LAMBERT LACK: A case of *Papilloma of the palate* in an old man, with microscopical section of the tumour; its clinical aspect had aroused suspicion of malignancy, but microscopical examination showed it to be an innocent growth. Dr. W. H. KELSON: A case in which the appearance of the tonsils and fauces bore some resemblance to the appearances seen in *Secondary syphilis* affecting those parts. Several members had seen similar cases, and the suggestion was made that the habit of drinking strong alcoholic liquors might be responsible for the inflammatory exudation present. Dr. DAN MCKENZIE and Mr. HENNING JAMES: A case undergoing rapid expansion of the jaw, by means of dental plates and screws, as a treatment of *Nasal obstruction* due to narrowed nasal passage. The

method had been used in America with considerable success, according to the reports. Doubts were expressed by several speakers as to the likelihood of its doing good. Dr. James Donelan: (1) A case of *Laryngeal tuberculosis* (shown also in May, 1909, and June, 1910), in which repeated applications of the galvano-cautery had been of considerable service. (2) A woman suffering from *Multiple sinusitis*, in whom the frontal sinus had been opened three times. On the third occasion the sinus was found to have become filled with bone. Mr. George Badgerow: A girl with a *Lingual thyroid*, and a patient with a *Cyst of the aryepiglottic fold*. In neither case was operation advised. Dr. Jobson Horne: A case of *Ulceration of one ala and vestibule* of the nose. It reminded the President of a class of pernicious ulcers in this situation described by McBride, and not amenable to treatment. Mr. Harmer showed a patient, aged 46, with *Superficial ulceration of the fauces*, including palate, tonsils, pharynx, cheeks, and lips, suggestive of pemphigus or streptococcal infection. The skin was not affected, but one eye had been destroyed.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, November 9th, 1911.

Mr. J. B. Lawford, President, in the Chair.

Opacities in the Vitreous.

Professor Straub, in a paper on the pathology of dust-like opacities in the vitreous body and of Descemet dots, said that among the diseases of the eye there should be recognized an inflammation of the vitreous body, which he proposed to name "hyalitis." He injected into the vitreous body of the rabbit some pathogenic microbes. Those microbes made the culture there, and only there, and attracted to the vitreous body serum and leucocytes. The serum and leucocytes were produced by the vessels of the ciliary body, but that was not a reason to talk of cyclitis in cases of inflammation of the vitreous body. He likewise injected into the ciliary body pathogenic microbes, and to those went serum and leucocytes, and there was produced a real cyclitis, quite different from the hyalitis which he had in the first experiment. In the laboratory hyalitis could be distinguished from cyclitis, and the same distinction should be made in practical work. But that had not yet been done. The two diseases were mixed up in the textbooks. The books said the ciliary body poured out its exudate into the vitreous body, but that was a mistake, as leucocytes did not allow themselves to be poured out. Metchnikoff said that leucocytes only went where they were attracted by chemotactic substances. Then there were microbes in the vitreous body, those substances went towards the vitreous body; when microbes were in the ciliary body the leucocytes went to the ciliary body. He had, in order to test the latter, tried to produce inflammation of the ciliary body by infecting the ciliary body with tubercle bacilli, causing in that way granuloma. He then made sections to see whether the vitreous was clear. He thought it was clear, with the exception of a few leucocytes here and there. But, when making sections through the eye, he found that the optic nerve was somewhat swollen, and that in its cup there were many leucocytes, and those were projected on the immediately adjacent retina. So he concluded that tuberculous granuloma in the ciliary body had the power to cause a very slight inflammation of the optic nerve on the other side of the eye. The lymph stream in the eye went from the ciliary body to the optic nerve, and took with it some toxins which were produced by the granuloma. Those experiments were made twenty years ago. He did not feel satisfied with his method of infecting the ciliary body, therefore eight years ago he recommenced, with a colleague, a new series of experiments, in which a thread charged with tubercle bacilli was passed through the sclerotic and the ciliary body, and brought out into the sclerotic again. The thread was cut at the points of entrance and exit, so that there remained in the ciliary body a piece of thread 3 mm. long, and after ten to four-teen days a granuloma commenced. Some weeks later the eye was extirpated and sections made, and he found the same things as in his experiments twenty years ago. He showed colour photographs exhibiting the points he had mentioned. The dots were caused by groups or heaps of leucocytes. Among 14 cases of dust-like opacities only 1 was syphilitic, 9 were tuberculous, and the remainder he did not know the nature of. It was quite clear that Descemet's dots were groups of leucocytes. The vitreous body, he felt sure, obtained no leucocytes from the cornea; in inflammation of the vitreous body the leucocytes came from the vitreous body.

Mongolian Idiots.

Mr. A. W. Ormond, in a paper on ocular conditions found in Mongolian idiots, reported on an examination of a number of these cases at Earlswood and Darenth Asylums, at the Evelina Hospital, and elsewhere—in all 43. There was almost constantly some ocular trouble present—blepharitis, ectropion, squint, nystagmus, or lens opacity. Blepharitis and conjunctivitis might primarily be due to dirty habits and might be kept up by uncorrected errors of refraction. A more certain cause of the inflammatory condition of the lids was a dry, glazed condition of the skin of the lower lids, which, by its contraction, caused a slight degree of ectropion. In more than 50 per cent. of his cases some form of lens opacity was present, and with such a high proportion it might be regarded as an aid to diagnosis. The cataracts were of the incomplete form, and most of them of the "dot" variety, in the position common for lamellar cataract. These dots, when slight, were often translucent, and so could not be seen by transmitted light. The opacities did not reach to the periphery of the lens in any direction, and consisted of numerous small discrete dots. The posterior pole of the cataract was often marked by a star-shaped opacity. Though the teeth of these people were defective, they did not show the honeycombed condition so frequent in cases of lamellar cataract. The observer had been unable to record accurately the visual acuity, as the children were not sufficiently controllable to be trusted with glasses. The youngest of the patients showing cataract was aged 6½ years and the oldest 43. Mongolian imbeciles were, in many cases, the children of old parents or the last child in a large family. Of his 42 cases, 32 were males and 10 females. The average was 14¾ years; 23 had the inter-palpebral fissure directed upwards and outwards, 5 had nystagmus, 9 had squint, 18 had either blepharitis or ectropion, or both, 11 had epicanthus, and 25 had some lens opacity.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Friday, November 10th, 1911.

Dr. A. Bostock Hill, President, in the Chair.

National Insurance and Public Health.

Dr. H. Meredith Richards said that the purposes of the National Insurance Bill were twofold—to provide material aid in time of sickness and to prevent and cure disease. The latter he considered in the main the more important. Probably the immediate effect of the scheme on preventive medicine would be proportional to the initial bias of the Insurance Committees and to the extent to which their work was harmoniously co-ordinated with existing public health organizations. Hence the constitution and duties of those committees would require careful consideration. They should include the chairmen of such bodies as the public health, hospital, or education committees of the county or borough councils. The important duty which the bill cast upon the Insurance Committees of making reports as to the health of insured persons within the area of their administration would require expert knowledge and administrative skill. Could this be effected unless the committee had at its disposal a medical expert? The sickness returns should be furnished to the medical officer of health at weekly or monthly intervals, and it should be obligatory on him to report on the returns to the Insurance Commissioners, the Local Government Board, and to the local authority concerned. It was probable that one of the most important results of the insurance scheme would be the classification of the insured. Most of the difficulties of public health and social problems were due to their complexity, and those difficulties would be considerably lightened if a classification were made of the population according to the healthiness or otherwise

of occupations, the part played by economic pressure in producing physical inefficiency, and the results of intemperance and idleness. Such classification would be invaluable, not only for the purposes of the Insurance Bill, but for laying the foundation whereon a reformed Poor Law could be built. Referring to the penalizing clause (46), the speaker said that, except in the comparatively simple cases of unhealthy occupations and water-borne diseases, it was not likely that claims for excessive sickness would be made. The knowledge, however, that neglect of sanitary provisions might lead to financial liabilities might stimulate the hygienic conscience even if claims for excessive sickness were not often made. By the extension of the sanatorium benefits to the wives, children, and dependents of insured persons an immense impetus would be given to the provision of sanatoriums and to other specialized methods both for detecting and treating cases of phthisis. The provision made in the bill and the sum allocated in the Budget would enable local sanitary authorities to provide not only resident institutions for the cure, education, and supervision of the phthisical, but to equip municipal clinics for selecting suitable patients for the sanatoriums, for diagnosing the disease, for undertaking a certain proportion of home treatment, and for the general supervision of notified cases. Dr. E. W. HOPE was certain that the bill would stimulate local sanitation, and spoke approvingly of a sanatorium being defined in the bill as any institution which would prevent disease. This would include an open-air school. Mr. F. E. FREMANTLE was of opinion that it would be extremely difficult to enforce the penal clause (46) for the reason that excessive sickness which was preventable occurred far more among those who were not insured than it did among the insured. Mr. I. G. GIBBON spoke at some length as to the German invalidity schemes, and hoped that one result of the operation of the bill would be that there would be a proper analysis of sickness returns, so that a better knowledge of the incidence of disease could be obtained. Dr. R. DUDFIELD pointed out as one difficulty in enforcing the penalty under Clause 46 the fact that there was no standard sickness-rate or death-rate. Dr. W. BUTLER criticized the bill because it brought about a supersession of existing public health authorities. Surgeon-General EVATT was convinced that if medical men had to report on sickness they would have to be better trained than they were at present. Those in practice would be compelled to go through a post-graduate course. Dr. HERBERT JONES and the PRESIDENT agreed that Clause 46 would have a salutary effect in rural districts.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

Friday, November 3rd, 1911.

Dr. JOHN BROWNLEE, Vice-President, in the Chair.

Primary Vesical Tuberculosis.

DR. DAVID NEWMAN, in reporting a small series of cured cases of primary vesical tuberculosis, said the disease might be divided into: (1) The stage when tubercle bacilli were present in the urine prior to obvious infection of the bladder; (2) stage of isolated submucous nodules; (3) stage of tuberculous infiltration prior to ulceration and erosion; (4) stage of superficial ulceration; (5) stage of widespread infiltration of the surrounding structures and deep ulceration of the bladder. Two cases of early vesical tuberculosis, one operated on lately, another treated five years ago by curetting the bladder, were described. The latter had been in perfect health and the urine free from tubercle bacilli since the operation. Other two cases—one man operated on in February, 1911, the other operated on in February, 1904—were cited as complete cures, all the symptoms having disappeared, and tubercle bacilli being absent from the urine. The treatment employed was suprapubic drainage and curetting the tuberculous area, together with the employment of Tuberculin R. and general constitutional treatment.

Tuberculin Treatment.

Dr. JOHN GUY, in a paper on the use of tuberculin at the sanatorium at Bridge-of-Weir, said he had treated recently a series of 75 cases, of which 41 had been under treatment for periods varying from four to eleven months. The tuberculin was given by subcutaneous injection in doses beginning with 0.001 mg., and gradually increasing to the equivalent of 10 mg. of tubercle bacilli. In many cases doses much smaller than 10 mg. produced a febrile reaction, and could not be exceeded. Estimation of the opsonic index had been found of no practical use. The conclusion reached was that tuberculin could be administered with comparative safety if the dosage were carefully regulated and the temperature watched; that from a clinical standpoint one variety of tuberculin appeared as good as another; but that the bacillary emulsion sometimes caused unexpected reactions. A comparison between the results obtained by the tuberculin treatment of these 41 patients and those obtained in the treatment—without tuberculin—of an equal number of patients in similar stages of the disease seemed to show a balance in favour of tuberculin, though the number of cases was too small to warrant a definite conclusion.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, November 8th, 1911.

Dr. HAULTAIN, President, in the Chair.

Simpson's Teaching.

THE PRESIDENT, in his valedictory address, said that the outstanding event of his term of office was the centenary of Sir J. Y. Simpson, the greatest Fellow of the society, and its President for sixteen years. Elected in 1840, he immediately began to show specimens, and in the following year read eighteen communications. In 1843 appeared his first classic, on the diagnosis of diseases of the womb by the use of uterine bougies, as the result of which pelvic diagnosis was placed on a scientific basis. Though the uterine sound was nowadays decried in some schools, he (Dr. Haultain) believed it was the instrument he could least do without. In 1847 Simpson read a communication on a case of turning under the use of sulphurous ether with a living child. The date proved that this was the first instance of the use of ether during labour, and it was of interest to-day that the woman walked dressed into another room on the fourth day after delivery. The case formed the text of a series of valuable papers on turning *versus* craniotomy. The first mention of chloroform was made in an aside as having been administered in puerperal convulsions, and on November 10th, 1847, he described it as a new respirable anaesthetic to the Medico-Chirurgical Society. During the same year he had read a long and inspired series of papers on fibroids, in which he forestalled Apostoli in advocating the galvanic current. He also showed that puerperal fever might be communicated by nurses. Simpson himself disinfected his hands by washing in potassium cyanide. With regard to forceps, his view remains one of the principles of Edinburgh teaching, that the danger lay in the delayed use, not in the ready use. He was a strong advocate of ovariotomy, and he stimulated the pioneer work of Thomas Keith. He suggested pulling the stump through the posterior fornix of the vagina. Simpson was a man of extraordinary fertility of brain, and he permanently left his impress on every leading subject. His discovery of chloroform was engendered by his sympathetic feeling for the woman in labour. His heart was larger even than his brain, and his generosity knew no bounds. He had the eccentricities of genius, and his influence on the Edinburgh Medical School was remarkable. His genius was never spoilt by success, and his courtliness was never-failing, his courtesy never forgotten by those who met him. In conclusion, the President made sympathetic references to two ex-secretaries, lately deceased—George Keith, who was associated with Simpson in the discovery of chloroform, and James Andrew.

Specimens were shown by Drs. BALLANTYNE, FORDYCE SCOTT CARMICHAEL, HAULTAIN, and HAIG FERGUSON. The last-named, who is now President of the society, showed an ovary removed because of dangerous haemorrhage from a corpus luteum.

MANCHESTER MEDICAL SOCIETY.

At a meeting on November 1st, Dr. A. M. Edge in the chair, Dr. C. E. Lea, in a paper on auricular fibrillation, said that the practical importance of the arrhythmia associated with the fibrillary tremor of the auricle was proportionate to the amount of strain thrown upon the cardiac musculature by its incidence. Most lesions, and not only those associated with gross muscular change, might lead to fibrillation. The exciting causes were variable and its onset and offset were sudden. The degree of cardiac dilatation was greatest where there was a rapid frequency. No method of treatment had so far been found to check the fibrillation. Digitalis acted beneficially because it probably induced lessened conductivity, and so diminished the number of supra-ventricular or auricular impulses. Dr. Hugh T. Ashby, in a paper on *Headache in children*, said it was not easily recognizable till about the age of 4 or 5 years, but it was quite certain that infants and young children suffered from headache by the way they would hang and beat their heads—for example, in ear disease. Headache was an almost constant and certainly the most frequent symptom of cerebral tumour and meningitis, and in 16 cases of cerebral tumour in children it had severe headache. The one case without headache was a tumour of the pons where there was also no optic neuritis. The neurotic headache was a very distinct type, occurring frequently in girls over 10 years of age. It was very difficult to treat. Decayed teeth predisposed to ill health, and in this way made a headache more liable to be noticed, but they did not in themselves often cause a headache in children. Anaemia was nearly always accompanied by headache, and was due to a lowering of the blood pressure together with the poor quality of the blood. Dr. G. H. Lancashire, in a paper on *Salvarsan*, gave the result of intramuscular injections in a series of 28 selected cases, including primary, secondary, and tertiary stages of syphilis. The results had been good except in the last case tried, a severe tertiary case which showed no improvement. He had observed no untoward symptoms, either general or local. He regarded salvarsan as a valuable aid, used in conjunction with mercury, in certain cases of syphilis.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 2nd, Mr. T. H. Ionides in the chair, the following were among the exhibits:—Dr. F. Cross: A mass of lymphadenomatous glands removed from the right side of the neck of a girl of 23. The glands were extremely adherent to the surrounding parts, and the sterno-mastoid was thinned out over its surface and partly involved with it. On section the mass was very firm and fibrous, and in the centre were patches of broken-down suppurating material. The enlargement of the glands had existed for more than four years, and was on both sides of the neck and in the axillae. The spleen within the last few weeks had become palpable though only to a small extent. She had no anaemia or other symptoms of ill health. The growth was removed on account of the deformity which it produced, being as large as a cocoa-nut, and also because the skin over it was getting red and inflammatous. A blood examination showed some excess of white corpuscles and eosinophiles. There was no pyrexia. Recovery from the operation was uneventful. Microscopic examinations showed the structure of lymphadenoma. The degenerated and caseating condition was very unusual, and gave to the specimen the appearance of tubercle. Dr. R. J. Harrison: A boy and his two sisters, all suffering from bilateral congenital cataract. He was treating them by needling, and hoped to give them useful vision. Mr. H. H. Taylor (for Mr. Steinhauser): A case of sarcoma of the choroid in a man of about 50. The ophthalmoscope revealed a detachment of the retina at the lower and outer part of the fundus, which Mr. Taylor thought was caused by a growth behind it. The President delivered the annual address, taking "Uterine Fibroids" as his subject. He considered that hysterectomy was in the majority of instances a proper operation, and that its mortality should not be more than 3 per cent. in all cases. As regards after-treatment, he advocated Fowler's position, early movement of the patient, hot saline injections, and avoidance of starvation. The period of convalescence was much longer than was usually stated.

BATH CLINICAL SOCIETY.

At a meeting on November 3rd, Mr. F. Lace in the chair, the following were among the exhibits:—Dr. Rupert Waterhouse: A woman, aged 37, suffering from *Splenic anaemia*. She was a mother of five children; each of her pregnancies had been complicated by "dropsy." After the last confinement, three years ago, her abdomen again swelled, and, when seven gallons of fluid had been removed by tapping, the enlarged spleen was detected. The edge of the liver was just palpable, and the blood showed erythrocytes 3,000,000 per c.mm., haemoglobin 30 per cent., leucocytes 1,500 per c.mm.; a few normoblasts were present, but the differential count of leucocytes was normal. Dr. James Lindsay: A man, aged 55, suffering from *Multiple neuro-fibromata;* the original appearance of the disease dated back thirty years. Dr. W. Wiley: A specimen of a large *Innominate aneurysm* removed from a woman aged 59, the ascending aorta showing another dilatation, and the thoracic aorta a fusiform aneurysm. Mr. A. L. Fuller read notes of two cases of *Carcinoma of the small intestine*. In the first case, the patient—a woman, aged 55—had suffered from mucous colitis for three years. Symptoms of obstruction developed, and an annular carcinomatous stricture of the upper part of the ileum, together with 3 ft. of the small intestine and mesentery, was removed, and end-to-end anastomosis performed. Rapid improvement in health and weight took place. She remained free from colitis, but died four and a half years later from recurrence. The second patient was a woman, aged 38, who had a carcinomatous stricture of the middle of the transverse colon. Owing to the mesentery being full of growth, removal was impossible, so lateral anastomosis was performed. A year later, when operating to relieve further obstruction, multiple carcinomatous strictures of the small intestine were found, and lateral anastomosis to relieve urgent symptoms was again performed. The patient died six months later.

HARVEIAN SOCIETY OF LONDON.

Tuberculosis of the Urinary Tract.

At a meeting on October 26th, Mr. Ernest Lane, President, in the chair, Dr. Samuel West, in introducing a discussion on tuberculosis of the urinary organs, said the condition was generally local, and often bilateral. Infection of the bladder was secondary. Diagnosis was difficult. The symptoms were those of cystitis, pyelitis, or renal tumour. If obvious other causes were excluded, tubercle was most likely. The identification of the bacilli might be difficult. Treatment must be general, catheterization being attended with some risk. Tuberculin could be used, but the results were poor. In pyelitis the kidney could be drained, but the sinus would not heal. Nephrectomy was justifiable if the disease were limited to one kidney—a difficult matter to be sure of. The operation was a severe one, and would be contra-indicated if the bladder or opposite kidney were involved, unless required as a palliative measure. Mr. Hurry Fenwick said the disease was haemic in origin, descending, and progressive. It began in one kidney. Diagnosis was made by the finding of tubercle bacilli or by cystoscopy. The separator and ureteric catheter were rarely necessary. He spoke well of tuberculin, and thought that it should often precede nephrectomy. The latter was indicated when the ureter was much thickened, in advanced unilateral disease, and in incurable cystitis, together with ureterostomy on the opposite side. Captain S. R. Douglas, I.M.S., objected to old tuberculin for diagnosis and emphasized the value and limitations of the opsonic index. He advocated tuberculin in treatment, with a plea for small doses, and the treatment of added infection by special vaccines. Mr. Clayton-Greene said that tuberculous disease began in one kidney only which might be removed. The tuberculous bladder should be left alone. He approved of tuberculin, but advocated large doses. Mr. J. W. Thomson Walker said that diagnosis of the affected kidney was required, and explained that a large and tender kidney might be hypertrophied and active, the other being destroyed. He advocated the use of the cystoscope and ureteric catheter. He urged immediate

nephrectomy in unilateral tuberculosis, and advocated tuberculin in early cases when nephrectomy was refused, in bilateral and vesical tuberculosis after nephrectomy, and when extra-urinary lesions were also present. Dr. West and Mr. Hurry Fenwick replied.

Reviews.

DISEASES OF THE SKIN.

There is a story of a Scottish laird of the old breed who, after dining out at a house where the principles of pure teetotalism were not strictly adhered to, had to ride home over a wild tract of land called Munrimmon Moor. In crossing the moor his wig and hat fell off. His servant retrieved them for him, but the laird insisted that the wig was not his. His henchman lost patience, and, anxious to get home, said, "Ye'd better tak it, Sir, for there's nae waile [choice] o' wigs on Munrimmon Moor." The time was, and that not so very long ago, when it might have been said that there was "nae waile" of textbooks on skin diseases in the English language. Now there is an abundant range of choice. We need only mention among English authors Radcliffe Crocker, Malcolm Morris, and Norman Walker, and among American writers the comprehensive works of Stelwagon and Nevins Hyde. To this goodly list there has lately been added a new book which can by no means be regarded as superfluous, for it embodies the ripe experience of one of the most deservedly respected authorities on skin diseases in this country. The author is Dr. J. H. Sequeira,[1] and the book has grown out of the experience of nine years' teaching from materials gathered in that vast clinical field the London Hospital, where probably a larger variety of cutaneous affections is to be seen than anywhere else in the kingdom. It would be difficult to name any recognized skin disease that is not described by Dr. Sequeira, but the accounts he gives, while admirably clear and sufficient for all the needs of the student and practitioner, are so concise that the book is not unmanageable in size. As befits a book primarily intended for students, his tone is dogmatic; there are no long-winded discussions of theories. Dr. Sequeira has not loaded his pages with references. In textbooks the reader is in a literal sense "encumbered with help" by copious bibliographies which as a rule he will not take the trouble to read, and which in any case consist largely of references to sources which to him are inaccessible. A special value is given to the book by the fact that the clinical descriptions are obviously, for the most part, taken from the direct observation of the disease; every page reflects the author's own experience. Hence the reader is not overwhelmed with a mass of more or less irrelevant detail. The picture is drawn, if we might hazard the conjecture, after the manner of Phil May, who, it is said, made a most careful and complete drawing of his subject and then rubbed out everything but the essential lines. The book is arranged in accordance with the etiology, as far as that is possible in the present state of knowledge. There are three useful appendices—one on mineral waters, one on internal treatment by drugs with a note on intravenous injection of salvarsan, and one on external applications to the skin. The reader will naturally look with particular interest for the experience of one who has had such large opportunities of observing the effects of different kinds of treatment with the newer remedies. Dr. Sequeira states that the treatment of rodent ulcer by the *x* rays is often very satisfactory. Naturally it is most effectual in the superficial forms. When the ulcer is small radium is useful.

> The radium of strength 5,000 units is applied for four hours on a suitable plate covered with a varnish, and again covered with a single sheet of gutta-percha tissue.

The most troublesome cases are those in which the orbit is involved. The disease usually starts about the inner canthus and spreads to the bony margin of the orbit, and as a rule necessitates the complete clearance of the cavity. A very destructive form of the disease begins at the angle of the nose and rapidly involves the cartilage, and eventually the bone. Here operative procedures may be combined with *x* ray or radium treatment. Dr. Sequeira has several times seen a deep recurrence after apparent cure by radium and *x* rays in the malar and maxillary region. The growth rapidly invades the bone and may open the antrum and other accessory cavities of the nose. Epithelioma of the lip should not, he says, be treated by *x* rays or radium. Operation gives the best results, and the subsequent use of the *x* rays sometimes appears to prevent recurrence. The slowly growing epitheliomas of the crateriform and button type usually do well with preliminary removal of the tumour, and the subsequent application of the *x* rays or radium. Occasionally, in Dr. Sequeira's experience, such tumours can be got rid of in elderly people by radium alone. His treatment of malignant growths is summarized as (1) surgical; (2) *x* rays; (3) radium. Turning to salvarsan, he says clinicians everywhere are unanimous in the opinion that it is a remedy of enormous value. There have, he admits, been some fatalities, but he says that in several of these the technique has been at fault, whilst in others moribund patients have been treated as a last resource. He lays stress on the need of extreme care in using the remedy. Speaking from an experience of sixty cases at the London Hospital, Dr. Sequeira says the immediate effects of the injection were remarkable, and he confirms what other observers have stated as to the rapid disappearance of extensive ulcerations. It is, he says, too early to speak of the permanence of the cure wrought by the new remedy, but the complete disappearance of the Wassermann reaction in acquired syphilis and the clearing up of all clinical evidence of the disease, are, to his mind, strong evidence that the remedy has a specific action on the spirochaetes. He utters a word of warning, however, to the effect that it must be used with the greatest care and only in subjects free from grave visceral and nervous disease. With regard to vaccines, Dr. Sequeira says that they are the best treatment in troublesome furunculosis. He has not seen much benefit in true lupus from the "opsonic treatment." His results are supported by the experience of Reyn in the Finsen Institute at Copenhagen. The book is copiously illustrated, and as a rule the coloured plates give a vivid idea of the appearance of the disease. In some, however, the colour is exaggerated and unnatural. The only point on which we are disposed to offer a small criticism is the index, which is very meagre. With this slight reservation Dr. Sequeira's book may be heartily commended, not only to students but to practitioners, as giving a lucid summary of the best dermatological teaching of the present day.

Of Sir Malcolm Morris's well-known textbook,[2] the fact that, besides having been reprinted several times, it has now reached a fifth edition speaks for itself. The fourth edition was published only three years ago, and so rapid has been the progress of dermatology in that period that it has been found necessary to increase the size of the volume by seventy pages. Among these advances the principal are the introduction of salvarsan, and the sphere of applicability of such new methods of treatment as congelation, radium-therapy, serum-therapy, and vaccine-therapy. The section on ringworm and other fungus diseases has been rewritten in the light of recent research. Some other alterations of minor importance have been made, all tending to make the book thoroughly representative of modern dermatology. Some of the older illustrations have been discarded, and have been replaced by a number of new plates. The account of the newer therapy is fuller than that given in Dr. Sequeira's book, and the excellent index, which has always been a valuable feature of the manual—although in respect of the new matter the pagination is here and there somewhat careless—makes reference to these very easy. For the busy practitioner, therefore, Sir Malcolm Morris's manual will probably be found more convenient than Dr. Sequeira's more bulky volume. The treatment is given much more fully in Morris, another point which makes it more con-

[1] *Diseases of the Skin.* By James H. Sequeira, M.D.Lond., F.R.C.P. Lond., F.R.C.S.Eng. With 44 plates in colour and 179 other illustrations. London: J. and A. Churchill. 1911. (Roy. 8vo. pp. 539. 25s. net.)

[2] *Diseases of the Skin: An Outline of the Principles and Practice of Dermatology.* By Sir Malcolm Morris, K.C.V.O. Fifth edition. Revised by the Author, with the assistance of S. Ernest Dore, M.D. With 10 coloured and 67 black-and-white plates. London, New York, Toronto, and Melbourne: Cassell and Company, Limited. 19[illegible]. (Post 8vo. pp. 762. 10s. 6d.)

venient for the practitioner. It may be interesting to compare the experience of these two dermatologists in regard to the newer forms of treatment. That of Sequeira has already been mentioned. In rodent ulcer Morris advises free excision in parts where the question of disfigurement need not be considered. In other places, such as between the nose and eye, radium applied with proper precautions is said to be the best remedy. Morris has found it useful, too, in deep ulcerative cases with invasion of bone, periosteum or mucous membrane, in which, though there was healing of the ulceration under the *x* rays, small burrowing foci remained and continued to spread. In cases of superficial epithelioma in which operation is undesirable, or is refused by the patient, radium may be applied. In such cases the author has seen the tumour disappear under its influence, though he cautiously adds that it is too soon to say there will be no recurrence. Morris has used radium successfully in cases of cancer of the breast where removal with the knife had been refused. In the treatment of warts, rhinophyma, acne vulgaris, and cheloid he has found it effectual. It causes the disappearance of the lesions in psoriasis, but does not prevent recurrence. In cheloid it is said to be one of the most effective methods of treatment. Radium is recommended as an alternative to excision in leucoplakia of the tongue, and of the penis, vulva, and vagina. In regard to vaccines, Wright's method of treating boils is described, but the author does not mention any personal experience. He says that many cases of acne show a marked improvement under vaccine treatment, but he adds that it should not be regarded as more than an auxiliary of other measures. He recommends it for coccogenic sycosis. In impetigo contagiosa vaccine has yielded good results, and he recommends that mode of treatment in impetigo herpetiformis. An autogenous vaccine is recommended in lupus erythematosus and in pemphigus vulgaris if micro-organisms are found in the bullae or excreta. It may also be useful in cases of urticaria which from examination of the blood, urine or faeces, appear to be due to *B. coli*. A very full account of the salvarsan treatment in syphilis is given, and the opinion is expressed that it should be given in combination with mercury rather than as a substitute. It is said there is no evidence that the compound, if administered skilfully, is dangerous in any but utterly unsuitable cases, but cautious reserve marks Morris's judgement as to whether the beneficial effects are permanent. The author is to be congratulated on having secured the co-operation of Dr. Bore, in the labour of revision. This has been so efficiently performed that the deservedly high reputation of the book will be fully maintained by the new edition.

THE CHEMISTRY OF SYNTHETIC DRUGS.

In *The Chemistry of Synthetic Drugs*[3] Mr. May attempts to interest the pure chemist in a practical side of his subject by describing the chemistry of the different groups of drugs which have recently been introduced into medicine, at the same time indicating their actions and often the pharmacological reasons which have led to their synthesis. Up to the present time the manufacture of new synthetic drugs has been confined almost entirely to the great Continental drug firms. Great Britain has taken little part in the endeavour to popularize new synthetic remedies. This little book attempts to alter this, and it may well be the means of stimulating chemists to work at a branch of their subject pregnant with interest and not without commercial reward.

The author being a chemist is naturally enough imbued with the view that the chemical constitution of a drug determines, directly, its pharmacological action. Nevertheless, in Chapter iv, dealing with narcotics and anaesthetics, the physical characteristics of the drugs, their solubilities in brain lipoid or alteration of surface tension, are recognized as the important factors determining the pharmacological action. Something, though very little, will be found on the difficult question as to how drugs which exert a selective action on one tissue and which are excreted unchanged, produce their effect. The views of Ehrlich and Loew are cited, but these, after all, are little more than speculations, since they are not based on a series of assured facts; nor does the use of the word "catalytic" applied to an alkaloid having a specific affinity for a certain tissue, assist to an understanding.

Most of the chapters form easy reading even for those not trained in chemical methods. Thus the story of the antipyretics and analgesics can be read and understood by any medical man without difficulty. One object of the teacher of materia medica and therapeutics should be to advise his students of the lines along which new synthetic remedies will probably be produced, and to warn him not to prescribe a drug the precise action of which is not materially different from one with which he is quite familiar, in spite of the circulars of the wholesale druggist. The present book cannot fail to assist the teacher in such matters; it shows the relationship between the older and well-tried and the newer synthetical remedies proposed as substitutes. The analgesics which owe their action to the liberation in the body of p. amino-phenol, and the derivatives of morphine afford examples. The chapter on cocaine and the newer local anaesthetics is somewhat more difficult to follow, since the various new local anaesthetics are for the most part not chemically related to one another. The section on the group of adrenalin-like bodies is an interesting and well-written portion of the book. It includes a clear account of the relationship of adrenalin to some of the active constituents of ergot and to certain ptomaines produced during the putrefaction of proteins. Our knowledge of no group of drugs has been advancing more rapidly during the last few years than this; even whilst writing this, yet another body, possibly the parent substance of adrenalin in the animal body, has been described, a substance which, though physiologically inactive, by losing carbon dioxide is converted into adrenalin. The book is remarkably free from gross errors, but some doubtful matter is included: as examples, we may refer to page 12, where it is stated for a fact that the toxicity of arsenious acid and phosphorus is due to their reducing power; and on page 13, that caffeine administered to rabbits is completely demethylated to xanthine. We can confidently recommend this book to all who wish to obtain a knowledge of the trend of pharmacology in the introduction of new synthetic drugs.

[3] *The Chemistry of Synthetic Drugs*. By Percy May, B.Sc.Lond. London: Longmans, Green and Co. 1911. (Med. 8vo, pp. 243. 7s. 6d.)

PERICARDITIS AND ITS TREATMENT.

The difficulties attending the diagnosis, and the disappointments experienced in the treatment, of pericarditis have not until recently been attacked with the same vigour as in the case of inflammation of other serous membranes. A monograph dealing with the whole subject of diseases of the pericardium and their treatment is by no means out of place at the present time, and in the work of Dr. Franz Sinnhuber, of Königsberg,[4] will be found a good account of modern knowledge and speculation upon the pathological anatomy and treatment, both medical and surgical, of pericarditis and its local complications. The earlier chapters are descriptive of the various forms and degrees of pericardial inflammation, and the account is thorough and well arranged, without presenting anything that has not been already made known, while the instructions for medical treatment are on orthodox lines. The author does not share the view sometimes expressed as to the harmfulness of salicylates in such cases, but he is by no means enamoured of the more modern treatment by Menzer's (antistreptococcic) serum. Much attention has of late been directed to the surgical means of relieving pericardial effusion and adhesion, and the results thus far obtained have been decidedly encouraging. The uncertainty in making exact diagnosis and the obvious danger of rash puncture have stood in the way of operative interference in many cases where it is possible that relief might have been given, but on the other hand the power of reabsorption of its fluid possessed by the membrane has often proved sufficient to remove even a very large serous effusion by slow degrees. With purulent fluid, surgery alone can effect a cure, and experience has shown that the cure is most complete with removal of ribs, although simple incision may suffice. With modern precautions the operation is not formidable, and further incursions are now being made into this hitherto unattractive field of surgery for the actual release of adhesions and for the removal of the bony

[4] *Die Erkrankungen des Herzbeutels und ihre Behandlung*. Von Dr. Franz Sinnhuber, of Königsberg. Berlin: August Hirschwald. 1911. (Sup. roy. 8vo, pp. 114, illustrated. M. 3.)

chest wall over the heart in cases where its action is being impaired by physical resistance. A list of 17 cases is given in the monograph before us, details of each operation and its results being tabulated; it appears that substantial relief has been afforded, sometimes lasting for long periods, which could hardly be obtained by other means. These cases are all quoted from German sources, and do not include those which have already been published in this country by Dr. Alexander Morison and others. Dr. Sinnhuber's monograph will doubtless call increased attention to a subject which has not of late years received its share of advancement.

STATISTICAL PSYCHOLOGY.

DR. WILLIAM BROWN'S work on *Mental Measurement*[5] is the enlargement of a thesis for which he was awarded the degree of doctor of science. In the first two chapters the fundamental ideas of the psychophysicists are examined, and a few notes are incorporated dealing with frequency curves and their application. The second part of the book deals with correlation from the statistical side, nearly all the processes likely to aid the psychologist in the reduction of his material being mentioned. The historical part of this section mainly consists of a critical examination of Spearman's work. In the third chapter Dr. Brown discusses some interesting results of his own which have already appeared in the *British Journal of Psychology*. Spearman had concluded, from a statistical study of the correlations between ability in various directions, that such associations as were to be found might be referable to the existence of some common fundamental function or group of functions. Dr. Brown has been unable to find in his series any positive evidence in favour of this hypothesis. In the last chapter of the work some properties of the normal correlation surface are briefly considered, while the appendices contain useful arithmetical illustrations of processes mentioned in the text. The value of the book is enhanced by a short but well-selected bibliography. This book contains abundant evidence that Dr. Brown possesses a thorough knowledge both of statistical methods and of the special difficulties which attend their application to psychological problems. We should like to be able to think that his work will be of use both to the professed psychologist and the educationist. We fear, however, that he has to some extent underrated the difficulties which will be encountered by the class of readers likely to be interested in a treatise of this kind. While the trained statistician will find Dr. Brown's summaries of Professor Pearson's methods useful, he will probably consider the psychological discussions too technical; on the other hand, the mathematical treatment is much too condensed for the ordinary student of psychology. Dr. Brown has paid his readers the compliment of assuming their level of culture to be considerably higher than what most writers take for granted. The book is not, perhaps, very likely to be popular, but it represents a great deal of careful and conscientious work.

NOTES ON BOOKS.

THE editor of a *Quinquennium of Medicine and Surgery*,[6] Dr. J. W. BALLANTYNE, is certainly to be congratulated on the conception of the volume and the fashion in which it has been carried out. As the title somewhat suggests, the book in a measure is of the same class as year books, the period covered being the five years 1906 to 1910 inclusive. In effect, it is a cross between an encyclopaedia and a dictionary, the whole contents being placed in alphabetical order, and some subjects being treated at considerable length, while for information as to others the reader, after being supplied with a brief explanation of the meaning of the term under consideration, is referred elsewhere for fuller information. Whatever is stated is stated clearly and succinctly, and from a rough test which we have applied to the work we are disposed to believe that there are very few points in medicine and surgery that have come up during the last half dozen years of which some account at least could not be found in the volume. Literary skill, industry, and care have all been exercised in its compilation, and the book as a whole should prove a very valuable addition to the library of any medical man in active practice.

[5] *The Essentials of Mental Measurement*. By William Brown, M.A., D.Sc. Cambridge: University Press. 1911. (Demy 8vo, pp. 154. 3s. 6d. net.)

[6] *Quinquennium of Medicine and Surgery*. By J. W. Ballantyne. M.D., F.R.C.P.E. Edinburgh: William Green and Sons. (Sup. roy. 8vo, pp. 411. 10s. 6d.)

THE MOTOR SHOW IN RETROSPECT.

CARS FOR MEDICAL MEN.

By H. MASSAC BUIST.

HAVING dealt last week with general tendencies and outstanding developments as illustrated at the Motor Carriage Show that closed at Olympia last Saturday, one may now draw attention to a few constructional developments in individual cars belonging to classes which are designed more particularly for the service of medical men. One could not begin better than by observing the policy of the De Dion firm (whose V-set eight-cylinder larger models were referred to last week) in returning to the production of the types of small car which first practically made motoring possible to the country doctor with strict limits as to the money he was prepared to spend. Thus there is now reintroduced the 6-h.p. single-cylinder model of 84-mm. engine diameter, by 130-mm. piston travel, and there has been a mighty change in the price of these machines, in that they now retail at £159 the chassis, with tyres. Still better there is introduced a new 7-h.p. two-cylinder type, that is listed at £174 (chassis with tyres); it is by far the cheapest vehicle for its power that has yet been put on the market by this firm, the cylinder diameter being 66 mm. and the piston travel 120 mm., while the very latest British practice is followed in driving the valves by silent chains.

BIG CARS IN LITTLE.

Another new model that comes from France is the 10-h.p. four-cylinder Vinot car that is practically a reproduction in little of the famous 15-h.p. model with its distinctive barrel type gear-box with bolted-on ends. It is of peculiar interest to the medical man by reason of the fact that the vehicle sells, complete with tools, lamps, horns, and two-seated torpedo body, for £260. The block style of engine, of 70 mm. bore by 110 mm. piston travel, is neat and accessible, the valves being encased, whilst a Bosch magneto is furnished, and the three foward ratios of speed are controlled on the gate system. The well-known Vinot adjustable, spring-padded, leather-faced, cone clutch is employed. Another French car that, as a two-seater, sells at the same price, is the 10–12-h.p. Gladiator of the same motor dimensions, and wherein alike the gear box and the steering gear rest on an underframe. This is quite a new model for the firm, the firing being done by a high tension magneto machine, while the power is transmitted to a leather-faced cone clutch, in which the entering member is a spoked disc. A semispherical metal case encloses the front cardan joint which is surrounded by the foot-brake. The details of the chassis throughout will bear the most careful inspection.

NEW SILENT MUSHROOM VALVE MECHANISM.

The new Chenard-Walcker models also include a 10–12-h.p. vehicle, while the largest power is a 16–20-h.p. type; their outstanding feature is an ingenious way of rendering silent the working of mushroom valves by means which are not exclusively mechanical. Three factors contribute to the result: the particularly careful balancing of the motor, the machining to gauge of the combustion valve area, and the introduction of steel flat springs for cushioning the valve, tappet, and cam contacts. The tappet motion is by end-fulcrum lifters having a special curvature and being interposed between the cams and the tappets. The cams themselves are given an unusual amount of lift by comparison with average practice, while correspondingly the valves have a smaller diameter of head. The internal parts of these motors are particularly light, and the exterior appearance of the cars has been greatly improved.

MOTORS WITH VERY LONG STROKE.

In an age when the Treasury formula for reckoning horse power favours the long-stroke motor, and when constructional skill has enabled the long-stroke engine to score on the hills, it is not a little interesting to note the boldest example of this system of construction in the Sizaire cars, the new model of which is a nominal 15-h.p. four-cylinder block-engined vehicle; with a small bore measurement of 70 mm., it has a piston travel of 170 mm. Constructionally the car was quite one of the sensations of the recent show, while, with the De Dion it is one of the two coming from France with the late

practice of driving the valve shafts by silent chains. A notable feature of this chassis, which was shown on the stand of Messrs. Jarrott and Letts, is that both carburetter and magneto are encased, the former lying ensconced within the engine base. The control of the clutch pedal and the foot-brake are independent, and the cooling water is circulated on the thermo-siphon principle.

A Railway Train Car.

In the Lorraine-Dietrich machines there is something more than the fact that this big French company has built railway rolling stock for generations past to suggest that the cars it makes run like railway trains. One of them has just come through a Royal Automobile Club test of running 150 miles a day for a total of 7,000 miles, always to schedule, and it has a clean record for that performance. These cars were formerly of the very powerful sort; but they are now brought within the range of the motorist of moderate means, the popular type for 1912 being the 12–16-h.p. chassis; this has a new style of gear-box giving four speeds forward and sundry refinements over former Lorraine-Dietrich practice, as in the encasing of the valve gear for enhanced silence and cleanliness in a detachable aluminium cover plate, in the fashioning of the cardan shaft brake on the rib-expanding principle, and in the improvement of the leather cone clutch. The cylinder diameter is 105 mm., and the piston travel 120 mm. Seemingly there has been no call to make any change in the 18–20 h.p. Lorraine-Dietrich car.

The Smaller Darracq Types.

Lastly—for the exigencies of space are imperative—in respect of French-built cars of the popular sort, reference was made last week to a notable Darracq departure in introducing for its largest model a very simple rotary valve motor that has fewer parts that any other Otto-cycle engine yet put on the market. It is a 20-h.p. chassis retailed, with tyres, at £360, and has an overhead worm-drive, dash-board cooler, and shoe-shaped bonnet. At the other extreme the firm puts on a little 12-h.p. model. This is also a four-cylinder vehicle, but of the mushroom-valve engine sort; still it is out of the ordinary in that the inlet valves for the block engine are set overhead. This machine, which has 75 mm. cylinder bore by 120 mm. piston travel, sells as a chassis, complete with tyres, for £197. Off the price of the 14-h.p. mushroom-valve Darracq model £30 has also been taken.

Some British Cars.

I turn next to a consideration of some British cars, one of the most interesting of which is the 15-h.p. Napier: it is now available in what is styled a *de luxe* model, having a transverse rear spring and many other refinements, including a beautifully easy engagement of clutch and very light steering, as I know from experience in having handled the vehicle. The brakes are excellently smooth in action. This vehicle follows the typical Napier practice if not embodying any features with strikingly out of the ordinary constructional details, but is instead a gradually and logically perfected design along the well-known lines of the firm's constructional practice. Not less interesting is the 30-h.p. six-cylinder model; it is by way of being the latest edition of the original Napier model that heralded the commercial production of the six-cylinder car years ago. Fitted to it is a new two-jet carburetter with an independently controlled air-valve shutter for varying the temperature of the atmosphere supplied to the carburetter. In this model the springs are long, and lie flat in their normal, unloaded condition.

The Six-cylinder Armstrong-Whitworth.

Quite contrary to the general tendency of the industry the new Armstrong-Whitworth model is a bigger one than any it staged last year, and the fact is particularly interesting since it spells the entry of this famous Newcastle firm to the ranks of the manufacturers of six-cylinder cars. The new vehicle is rated at 30–50-h.p., the cylinders being cast in two blocks of three each, after the most generally approved six-cylinder principle; the bore measurement is 90 mm., and the piston travels 105 mm. The valves are ranged Indian-file fashion, and the shaft is used besides to drive the magneto, the oil and water circulating pumps, and the air pressure pump for the petrol feed. On this vehicle there are used the spiral toothed bevel wheels of the type that were employed years ago on the Wilson-Pilcher cars manufactured by this firm, and which were among the first to be remarkable for their silence of working. The new six-cylinder Armstrong-Whitworth is likewise fitted with an air pump for the tyres, while a feature of the change speed box is that it has sliding gears mounted on both shafts.

Fresh Wolseley Suspension.

The Wolseley Company introduced a number of refinements and improvements in its 1912 models, which have been produced in the now vastly enlarged works in Birmingham. Only the two smallest models—the 12–16 and the 16–20-h.p. ones—have the worm drive, all the more powerful vehicles having the bevel sort, which is known to be the more efficient method. The problem, of course, is how to make it silent, and the Wolseley Company has solved it. The feature of the 16–20-h.p. worm-driven model and of the 20–28-h.p. bevel-driven one is the improved rear suspension by three-quarter elliptic springing. The under members are long and flat, and are slung below the axle in place of being seated upon it. The forward hinges of these springs, moreover, are on a level with the hubs of the wheels, the principle being to give a vertical rise to the axle and to avoid checking the momentum of the wheel mass by the backward throw of the springs caused by their radius rod action. The whole of the details of the springs are refined beyond the ordinary. Rudge-Whitworth detachable wire wheels are fitted as a standard on all models, while improvements on the smallest of all—the 12-h.p. sort—include the raising of the magneto, water and oil pumps well above the frame, the combined bronze bushing and flanging of both ends of the spring eyes, and the provision against lateral and oblique twist at the forward ends of the back springs. This company, of course, is owned by Messrs. Vickers, whose steels are used throughout its products.

The Sunbeam.

Another British firm whose cars are fashioned of Vickers steels is the Sunbeam Company whose engines, like the new Wolseley ones, have the valves moved by silent chains. Than the Sunbeam Company no motor manufacturing concern has made more rapid progress during the last two years; hence at the show it was not surprising to find engineers of all sorts carefully examining these chassis, because, as they said, there was no doubt about it that this firm has got on to the top rung of the ladder. From the designers' point of view simplicity is the keynote of the 1912 Sunbeam models, which are a distinct departure from the 1911 sort, in that the engines have all the valves on the one side and enclosed in detachable cover-plates, while the block form of casting is used for the four-cylinder 12–16 and 16–20-h.p. motors, the 30-h.p. six-cylinder one being cast in blocks of three each after the most approved manner. This is a standard type that holds the world's record for a twelve hours' run, which it performed at over seventy-five miles an hour, including stops for replenishing petrol, lubricant and water supplies, and changing wheels and tyres. You cannot, of course, judge these cars by their mere nominal ratings, for the 12-h.p., 80 mm. four-guinea tax model, for example, gives quite 40 maximum h.p., cars of this class having won the last fifty miles 15.9 standard car race at Brooklands at approximately a mile a minute, and that practically without effort. The value of all this power, which is got in part by the employment of comparatively a long-stroke engine, is for service on hills. It should be noted that an ingenious feature of the construction is that the motors are not coarse in developing their power, there being no vibration, thanks to lightness of the working parts and stoutness of the crank-shaft, as well as the numerous bearings supplied to it.

Clément-Talbot Improvements.

The Clément-Talbot mark has long been a synonym for efficiency, hence there has been practically no call for changing the design. Improvements in detail have, however, been effected in such matters as the furnishing of sprags that automatically lift out of engagement if the reverse gear is employed. This is a very important detail in the design of ratchet sprags, which, if neglected in this respect, are liable to cause damage in the event of the car being driven on the reverse after the sprag has been in use

Another hint in Talbot practice that might advantageously be copied by a great number of other makers is the designing of the radius rods to the back axle in such a fashion that not only the rise and fall of the back axle is allowed for in the freest fashion but also the twisting tendencies arising from one wheel moving up while the other is down when rough road surfaces are being traversed. It is astonishing how few motor manufacturing firms make any provision at all in this latter connexion.

The Argyll Innovation.

I wrote last week of the new single sliding sleeve valve 25-h.p. Argyll engine; it is furnished with a thin cast-iron sleeve between each piston and its cylinder wall, which, rising and falling in spiral or corkscrew-like fashion, controls by slots or ports the inlet and exhaust gases. It remains merely to add in this connexion that this chassis has interconnected front and rear wheel brakes, and that radius rods are furnished to the front axle, while the back axle is geared considerably lower than in conventional practice; hence it is possible, without running the engine at high speed or straining it, to use the through, gearless drive for practically all work. Of no less interest to the medical man are the smaller Argyll models—namely, the little 12-h.p. mushroom valve engine four-cylinder car with overhead worm drive and four forward speeds, and the 15 and the 20-h.p. four-cylinder models. In these, however, there has been practically no call to make any change, so satisfactory have the types proved since their introduction twelve months ago.

A 10-h.p. Adler Car.

Turning next to a consideration of German cars, it should be noted that the Adler firm introduces a smaller four-cylinder model than any that was in existence before. The policy is to produce a big car in little, the design throughout following Adler practice, including the method of mounting the engine and gear-box on a tray-like underframe, and the oiling system employed. As shown, mounted with Morgan coachwork, there were many points about it worthy of note, as for instance the manner in which, with the hood up, it is possible to enter the car without having to dodge a number of hood stays; also the sweep continuance of the curve of the bonnet, which is narrower at the radiator than at the dashboard end, whereby width sufficient to accommodate three persons is achieved, while a spectacle glass plate is comprised in the scuttle dash, thereby illuminating the oil gauge. The familiar 12-h.p Adler doctor's model has now a longer stroke, the cylinder bore remaining at 75 mm. with the piston travel of 103 mm.

Built in Italy for England.

Cars with shoe-shaped bonnets and dashboard coolers are novel as far as the Italian industry is concerned, and on that account alone the S.C.A.T. machines, which are built in Turin specially for the British market, would be notable. But there is more to it than that, for on the one hand such machines have been successful all about the country, and at Brooklands during the last summer, and, on the other, they are fitted with the Newton and Bennett ingeniously simple compressed air starting device. These chassis are produced in two models, the lesser-powered being a nominal 15-h.p. vehicle of 85 mm. bore by 180 mm. piston travel, while the larger is also a four-cylinder car of nominal 22 h.p., and engine dimensions of 102 by 140 mm., the motors being mechanically oiled, and the gear-boxes giving four speeds forward. All the chassis are fitted with Newton and Bennett detachable wire wheels, or, at option, with the same firm's detachable artillery wooden spoke wheels. The manner in which the frame is exceptionally deeply channelled is particularly worthy of attention.

Sundry American Contributions.

American cars in the show were not many, but the Ford stand of course attracted a great deal of attention, not by any reason of mechanical change in the design, but chiefly on account of the price having been brought down so that this four-cylinder vehicle complete with body and accessories is retailed at £150 and yields the agent a very handsome commission into the bargain. Minor improvements have been embodied in the cars, as, for example, the mode of affixing the wheels, certain details of the engine piping connexions, and so forth, so that these cars are better vehicles than any of the type yet produced. They have, of course, the Sun and Planet type of gear, which is pedal worked. Those who do not like that form of power transmission may find in other cheap American cars that were not staged within the building, though they were seen on the platform at Olympia Station—I mean the Flanders and E.M.F. machines, represented in this country by the Studebaker Corporation—a very clever combination of a three forward speed gear-box, with the differential gear in the rear axle, which makes for silence and compactness, and is controlled in the conventional fashion. Despite the theoretical argument that it is a bad form of construction because it adds to the amount of vital unsprung parts, practice once more upsets theory in motor engineering, in that this unit system form of construction is found to work exceedingly well in a wide variety of other American cars besides those in question. As a four-seated car complete the Flanders is a very strong competitor in the field against Ford practice, and the suspension details follow European practice, whereas the Ford is wholly original.

Coachwork, Tyres, and Accessories.

I have left myself scant space in which to speak of coachwork and accessories. In the former connexion, however, I would like to refer to the recent exhibit in the coachmakers' section at Olympia of the "all-weather" body shown by the makers, Messrs. Salmons and Sons, of Newport Pagnall, on a 15-h.p. F.I.A.T. chassis. In wet weather the whole of this light body, including the driving seats, is enclosed, yet in fine weather it can be turned into a wholly open car, while the driver's seat is adjustable to suit the physique of any person, and the seat behind him can be pushed forward under the dash when not needed, or it can be wholly removed. The curtains, screens, and so forth are most ingeniously contrived. The next most important section to the coachwork was that devoted to tyres, in which connexion there was introduced by the Dunlop Company, after very exhaustive experiments, a novelty in a steel-studded pneumatic with leathern tread; this, in the hands of some of the firm's customers has given a fifth more wearing life than the data obtained with any other make. Dunlops also introduced a detachable wire-wheel of very fine design, this being the class that is standardized, for example, by the Minerva Company. The chief novelty on the stand of the Continental Tyre Company was the improved rim, which is detachable by removing five nuts. There are no wedges, and the flanges form an integral part of the rim, so that there are no loose parts to cause wear. Other features of the exhibit were improved specimens of the red-black, steel-studded, non-skid Continental tyres. Aluminium, rubber, and linoleum matting for motor cars, as well as a diagonal solid tyre, chiefly for use on heavier classes of vehicles, such as fire engines, and a complete range of the well-known Connolly band tyres were staged; whilst the latest forms of the Challenge reinforced inner tubes make greatly for the reduction of the chances of trouble by puncture, and a complete exhibit of Atlas puncture-proof covers were other items of interest to the medical man. The Atlas treads consist of three superposed, but staggered, layers of steel discs bedded in rubber, so that without interfering with the resiliency of the tyre one is nevertheless furnished with a completely armour-plated article, and you could not plunge a nail or a stone into it without coming on one or more of the metal discs. The Harvey Frost firm showed, besides its well-known vulcanizer, which is now made in a "baby" size, a new compound, called H. F. Plastine; this is noteworthy as reducing alike the time and the heat needed to effect a vulcanized repair. Another firm, Messrs. W. J. Harvey, showed the S. U. carburetter and a variety of other accessories, including the R. V. electric specialities that comprise head lights, side lights, tail lamps, dash lamps, accumulators, switches, signal horns, and the like, the R. V. projector being all-British and possessing an untarnishable reflector and great range. The fact of its being hermetically sealed does away with all necessity for internal cleaning. The newest of these projectors is made to give three effects, one called "Diamondlyte" for brilliancy, the other "Moonlyte" for antidazzle, and the third "Sunlyte" for fog penetration.

LITERARY NOTES.

Of Pierre Chirac, Councillor of State, First Physician to King Louis XV of France, etc., almost as many stories are told as of Sydney Smith. In the correspondence of the Duchess of Orleans, under the date October 20th, 1719, it is stated that the physician was summoned to the bedside of a lady who was ill. Whilst he was in the antechamber news came that the shares in Law's Bank had gone down. The doctor, who held a number of these shares, was much perturbed by the news, and when he sat down by the patient to feel her pulse he muttered, "My God! It is going down, down, down!" Hearing this the patient screamed, and when the members of her household ran to her she cried out, "I am about to die; M. Chirac has said three times, while feeling my pulse, 'It is going down.'" Recovering his presence of mind the doctor said, "You are dreaming; your pulse beats all right, and you are quite well. I was thinking of my shares in the Mississippi on which I must lose, as they are going down." The lady followed Dame Quickly's advice to Falstaff, and troubled herself no more with thoughts of death. In the *Journal of Elizabeth Lady Holland (1791–1811)*, edited by the Earl of Ilchester (Longmans, Green, and Co., London, 1908), it is said that Dumont mentioned a curious anecdote of Chirac which he had from Condorcet. At the age of 84 he was attacked by an illness, which proved to be his last. For two days he lay in a state of insensibility; then he suddenly jumped up, and sat upright in his bed, felt the pulse of his left hand with his right, shook his head, and in a loud voice cried. "They have called me too late; the patient is dying." He immediately fell back and expired, thus verifying his own prediction. He died at Marly in 1732. Lady Holland goes on to say that Chirac was once aroused in the night to attend a dying Cardinal, a person of very profligate life and infamous character. To hasten the physician, the messenger said, "Venez donc, il souffre comme un damné." He replied, "Comment, déjà?" In the Memoirs of Bachaumont, under the date July 21st, 1777, a similar story is told of Bouvart. Being called to the Grand Almoner, he found him suffering from the gout, which, he said, made him feel as if he were in Hell. "What, already?" said the comforting physician. The same story is sometimes told of Talleyrand.

The knowledge of an antidote that can be relied upon to work rapidly and without fail in cases of poisoning from any and every kind of toxin should prove an inestimable boon to the whole human race. This pearl of great price is now presented to the readers of *L'Hygiène* by M. Emile Gautier, whose article on charcoal as a universal counter-poison appeared in the October number of that journal. M. Gautier reminds his readers that in Japan charcoal has long been recognized as an infallible remedy in cases of ptomaine poisoning; and the immunity from dysentery enjoyed by the Japanese troops during the Russo-Japanese war has been ascribed by some authorities to the national habit of eating small pieces of charcoal after partaking of tainted or suspicious food. Charcoal, moreover, was used by the Egyptians over forty centuries ago in the process of embalming their dead; but its properties as an antitoxin seem to have been unknown in Europe until a French chemist, M. Thouéry, of Solomiac, in the department of Gers, brought it before the attention of the Académie de Médecine between sixty and seventy years ago. Needless to say, his words made little or no impression upon his colleagues, whilst even the fact of his publicly consuming, unharmed, a large dose of strychnine mingled with charcoal seems to have excited a very small amount of interest, and M. Thouéry and his theories were completely forgotten by his countrymen until reintroduced by his grandson, Dr. Secheyron of Toulouse. According to the latter, charcoal is most efficacious when taken in the form of powder, after having been washed and pounded in a mortar until it is of the same consistency as flour. In this form it will destroy any animal, vegetable, or even mineral poisons in the human stomach, and acts like magic even in cases of severe alcoholic poisoning, or before, during, and after an attack of *cholérine*. A remedy at once so simple and so inexpensive should not be long in recommending itself to the public favour, and the time may not be far distant when a supply of charcoal will occupy the place of honour among the contents of almost every family medicine chest. The October number of *L'Hygiène* contains several other interesting articles in addition to that contributed by M. Gautier. Dr. Maurice de Fleury is the author of an excellent account of the causes, symptoms, and treatment of floating kidney, whilst Dr. Lucien Jacquet has displayed his customary grace of style in his advice on that important subject, the care of the hair; and Madame Augusta Moll-Weiss contributes some useful hints for the guidance of the household in domestic crises. The illustrations of *L'Hygiène* are, as usual, both numerous and excellent.

Some one said unkindly about a poor poem by a French poet, which was admirably illustrated, *Il se sauve de planche en planche*. Much the same thing was set less wittily in the following lines about an English poet:

> Rogers's Italy, Luttrell relates,
> Had been utterly dished were it not for the plates.

We know of one or two medical works to which the same epigram might be applied.

SCIENCE NOTES.

A NUMBER of skeletons of prehistoric men, found in the course of excavations made by the Broadstairs Archaeological Society, have been examined by Mr. F. G. Parsons, F.R.C.S., Lecturer on Anatomy at St. Thomas's Hospital, and will be placed in the museum of the Royal College of Surgeons of England. From a brief description which has been published in the *Times* it appears that the skeletons were found buried, some on the outer and some on the inner side of a circular trench some 20 or 30 feet in diameter. The legs and arms were flexed, and, with one exception, the skeletons lay upon the right side. Only one piece of black pottery and some doubtful flint flakes were found with them, and this absence of furniture makes it difficult to determine the age of the skeletons; but, as several Saxon skeletons were found buried more superficially over the circle, the others must belong to some earlier race, and Mr. Parsons believes that they probably belong to the Bronze Age. A preliminary examination makes it probable that all the skeletons belong to males, and the characteristic facets on the bones in front of the ankle shows that they were a squatting race, like many present-day Asiatics.

From a study of the red blood corpuscles of several species of birds Dr. Venzlaff, of Berlin, has come to the conclusion that their form is not elliptical, as is generally supposed, but that they have pointed ends. The demonstration of this fact, however, requires a most careful and rapid technique, for the ends of the corpuscles become rounded off in the space of a few minutes. In making an observation it is essential to use normal saline solution (0.66 per cent.), which has been cooled as much as possible. Saline at body temperature causes immediate rounding of the ends of the corpuscles. The same form has been observed in the corpuscles of certain fish, such as the pike and roach, but it is certainly not a form of universal occurrence, either in fishes or birds.

Some leeches of the family Clepsinidae are known to have the peculiar habit of carrying their young about with them, and it has been found by Moltschanov[1] that this habit occurs amongst a considerable number of Russian forms. In these leeches the eggs become attached to the surface of the body, and when the young leech hatches it fixes itself to the parent by means of its sucker, and remains there until it has attained half its adult size. The epithelium at the point of attachment undergoes modification, the cells becoming drawn out and cylindrical. Usually less than a dozen young leeches are carried, but in *Hemiclepsis marginata* as many as thirty-five have been found. If the young ones are shaken off the parent they creep about until they reach some other leech, not necessarily of the same species, to which they attach themselves, but it is doubtful if their development proceeds to maturity in these changed situations.

[1] *Zoolog. Anzeiger*, xxxviii, p. 155.

British Medical Journal.

SATURDAY, NOVEMBER 18TH, 1911.

HELTER-SKELTER.

THE hurry-scurry of the National Insurance Bill through the House of Commons has continued, and has even grown worse. Long and important Government amendments are drafted at midnight, put down in the afternoon, brought up next day, and, after some imperfect discussion of one or two points chosen fortuitously, or after none at all, the guillotine descends and the head falls into the basket. In the case of one Government amendment, at least, the Chairman turned, and ruled it out of order on the ground that it was really a new clause; and to the onlooker it seems that other so-called amendments might justly have been subjected to the same disciplinary measure.

In consequence of representations made to him in connexion with the enlargement of the local Insurance (Health) Committees, the Chancellor of the Exchequer has offered to receive a deputation from the British Medical Association with a view to arriving at a satisfactory understanding on the question.

A new scheme for Scotland was dispatched on Monday in a single short sitting, and from it have been omitted certain of the safeguards which the medical profession consider essential in the interests of the insured and the profession. A new scheme for Ireland was run through on Tuesday and part of Wednesday, and from it medical benefit was omitted.

On many very important points nobody even yet knows where we are. The Government has not made up its mind whether it will not accept for the thinly-populated parts of Scotland a scheme for the payment of reduced contributions on the understanding that the benefits shall also be reduced; and as to Ireland, it is still open to acquiesce in the reintroduction of medical benefits if it is shown, during the next week or so, that Ireland desires this. The Chancellor of the Exchequer met the protests against the omission of medical benefits by asserting that the demand put forward on behalf of the medical profession in Ireland—8s. 6d. for each individual—was impossible, but said that if a more reasonable spirit prevailed on the financial aspect of the question, and if there were now a desire to include medical benefits for Ireland and the medical profession acquiesced, he would not resist the recommittal of the bill for the purpose. It appears, therefore, that the Government leaves the next move to the medical profession in Ireland.

Part III of the Bill, which gives unusual powers of inspection of work-places and work-people, was galloped through in about an hour, and then the Chancellor of the Exchequer said that he had not made up his mind whether the bill should come into force in July or in October next year. The appointments of the Insurance Commissioners for England, Wales, Scotland, and Ireland, of the Advisory Committee, and apparently also of the other administrative bodies, will, however, be made as soon as possible after the bill has passed.

So much remains uncertain, and the impossibility of solving all the uncertainties is so insuperable, that very unusual powers have been given (Clause 57) to the Insurance Commissioners until January 1st, 1914, to vary and modify the provisions of the Act, as it will then be, "as far as may appear necessary or expedient."

All this will be remembered if in the future the medical profession is taunted, as it has already been taunted, with being "unreasonable."

The bill in its present form, so far as that can be ascertained, is printed in the SUPPLEMENT. Down to the end of Clause 42 the text is official; so is that of the clause dealing with Scotland. As to the rest, we have done our best with such lights as have been vouchsafed by official publications.

THE MEDICAL PART OF THE NATIONAL INSURANCE SCHEME.

IN this article an attempt is made to give in general terms a brief account of the main outstanding features of the scheme of national insurance embodied in the National Insurance Bill, the discussion of which in Committee of the House of Commons is now so nearly ended that such a general view is more or less possible. The sketch is not complete, many details are omitted, and it is not to be taken as a criticism, or as in any sense an official statement of the views of the British Medical Association or of the recommendations which the Council of the Association will make to the meeting of the Representative Body to be held on Thursday next. An official statement and recommendations will be embodied in a report to be settled by the Council at its meeting this day (Friday, November 17th), and copies will be posted to every member at the earliest possible date, probably on Saturday.

The scheme in the broad plan of its administrative provisions follows the principle of taking the county as the primary unit, as in the institution of county councils for general purposes of local administration over twenty years ago—that is to say, there will be for each county and county borough an Insurance Committee which will have wide powers of independent action within the scope of the regulations to be made by the Board of Insurance Commissioners. The County and County Borough Insurance Committees in their work, including, in England, Wales, and Scotland, the administration of medical benefit, will be subject to the general controlling influence of the Board of Insurance Commissioners in much the same way as the Public Health Acts are administered by local health authorities under the general control of the Local Government Boards. In respect of institutional benefit, the County Insurance Committees will be in part subject to the control of the Local Government Board also.

The Insurance Board will apparently—for the point has not been made quite clear either in the bill or during the discussion in the House of Commons—be a department of the Treasury, and responsible to Parliament, therefore, through the Chancellor of the Exchequer for the time being. It will consist of an unspecified number of Commissioners appointed by the Treasury. It is understood that the number of Commissioners will be small, and that they will be salaried officers; the bill provides that one at least shall be a duly qualified—that is to say a registered—medical practitioner having special experience in general practice; the Government has stated that it is its intention that one Commissioner shall be a woman. The Insurance Commissioners will appoint a Central Advisory Committee to assist them in making and altering their Regulations; this Committee is to be composed of representatives of associations of

employers and approved societies, of duly qualified medical practitioners who have personal experience of general practice, and of other persons, including at least two women, one of whom the Chancellor of the Exchequer has promised shall be a registered midwife. There are to be separate Boards of Commissioners for Scotland and Ireland; the Government has given a pledge to the Welsh members that there shall be a separate Board of Commissioners for Wales, and the text of the clause of which the Chancellor of the Exchequer has given notice will be found among the new Government clauses printed at the end of the copy of the amended bill published in the SUPPLEMENT. The Scottish, Irish, and Welsh Boards will be appointed by the Treasury and will have powers similar to those of the Central Board of Insurance Commissioners in respect of England, but the constitution of the Scottish and Welsh boards is not specified, and in particular there is no statutory provision for a medical commissioner. In Ireland the scheme does not provide for medical benefit. The Chancellor of the Exchequer has given notice of another new clause, also printed in the SUPPLEMENT, instructing the Treasury to appoint a joint Committee out of the several national Boards of Commissioners consisting of members of each body selected under regulations to be made by the Treasury and of a chairman appointed by the Treasury. The specific duty of this joint Committee will be to make such financial adjustments as may be necessary between the various national funds, but it may also be empowered "to exercise and perform such powers and duties of the several Commissioners" as may be allotted to it by the Treasury regulations.

The County (or County Borough) Insurance Committees are designed to be representative of the various interests concerned—the insured persons, the county or county borough councils, the medical profession, and the Treasury (Insurance Commissioners). The number of members of the Committee may vary from a minimum of 40 to a maximum of 80, and the insured will have a majority over the other bodies represented, taken collectively, in the proportion normally of three to two—that is to say, with the minimum number of 40 the insured will have 24 members; and with the maximum number of 80 they will have 48 members—that is to say, three-fifths in either case. Apparently it is intended, but it is not specified, that this ratio shall be observed in the case of a Committee containing any intermediate number of members. Of the members representing interests other than the insured person, one half—that is to say, one-fifth of the whole Committee—will be representative of the County (or County Borough) Council; two of them must be women, and of the rest, some or all must be members of local sanitary authorities. The remaining fifth of the Committee will be in part elected by the qualified medical practitioners resident in the county or county borough, and in part appointed by the Central Board of Insurance Commissioners. The medical practitioners in each county or county borough will have the right to elect two representatives only, whether the total number of the Committee be 40 or 80. This will leave in the case of the minimum 6, or in the case of the maximum 14, members to be appointed by the Insurance Commissioners. Of these 6 or 14, one at least must be a medical practitioner and two at least women.

For the purpose of representation on the Committee the insured are grouped into two classes—first those who are members of friendly societies, trade unions, collecting and dividing societies, and insurance companies, and secondly the deposit contributors, the number of representatives of each class being in proportion to the number of persons insured in each way in the county or county borough. Where any part of the cost of medical or sanatorium benefit is defrayed by the County or County Borough Council the Board of Insurance Commissioners will have power to increase the representation of the Council and correspondingly diminish that of the insured. There remains the case of the smaller boroughs (those which are not county boroughs) and of the populous districts which have not yet been granted the status of boroughs. By a new clause introduced at the last moment, and inserted in the bill without discussion, the County Insurance Committee will have power to appoint a committee, to be called an Auxiliary Committee, for each borough of 10,000 and each urban district of 20,000 inhabitants, and it will have power to group adjoining areas with a borough or urban district. In London there is to be an Auxiliary Committee for each borough. Schemes for the constitution of the Auxiliary Committees are to be drawn up by the County Insurance Committees and submitted to the Board of Insurance for its approval.

By a new clause, of which the Chancellor of the Exchequer has given notice, the medical practitioners resident in a county or county borough will have the right to form a local Medical Committee, and this Committee must be recognised by the Insurance Commissioners if they are satisfied that it is properly representative of the local practitioners. This local Medical Committee must be consulted by the local Insurance Committee on all general questions affecting the administration of medical benefit, including the arrangements made with medical practitioners for giving attendance and treatment to insured persons, and may be endowed with other powers by the Insurance Commissioners. In all that follows it is assumed that the clause constituting this Committee will be carried.

The payments to the general fund at the disposal of the County Insurance Committees, whether by the insured, the employer, or the State, will be on the capitation system—that is to say, so much in respect of each insured person. It would pass the wit of man to devise any other system. But it does not follow that the payments made by the County Insurance Committees shall be made on a capitation system. For sickness benefit and maternity benefit obviously they must be, but it is equally obvious that for sanatorium benefit they cannot be wholly based on this system, and it is not necessary that they should be so based in respect of the payment for medical benefit.

Of the various kinds of benefit conferred on insured persons the medical profession is directly concerned with maternity, sanatorium, and medical benefits. Maternity benefit will be administered for their members or their members' wives by approved societies, and for Post Office contributors by the local Insurance Committee. If a woman enters a hospital or maternity home for her confinement, part of the 30s. which is allowed for maternity benefit may, under certain circumstances, be paid to the hospital or home; in other cases part or the whole of the 30s. must be used for the benefit of her dependents while she is in the hospital or home, and payment to the institution is not obligatory. A woman confined in her own home will have free choice of doctor or midwife, and maternity benefit will cover a period of four weeks after confinement, during which she will not be entitled to medical benefit in addition to the maternity

benefit. It would appear that medical men will have to deal directly with the mother or her husband as far as payment of fees for confinement is concerned, and the provision of Clause 13, which gives the approved society or local Insurance Committee the power to make rules "as to the manner and time of paying or distributing and mode of calculating benefits," appears to leave room for difficulties.

Sanatorium benefit will be administered in every case through the local Insurance Committee. In the original form of the bill this benefit meant "treatment in sanatoria or other institutions when suffering from tuberculosis or such other diseases as the Local Government Board, with the approval of the Treasury, may appoint," but the addition in Committee of the words "or otherwise" after "institutions" greatly extends the scope. A new subclause in Clause 15 empowers the local Insurance Committee to co-operate with any persons or authorities, except Poor Law authorities, who undertake any methods, approved by the Local Government Board, for the treatment of tuberculosis or "any other disease as aforesaid." It is impossible therefore to forecast what sanatorium benefit may ultimately come to mean. It will be competent for a local Insurance Committee, either itself or in co-operation with County or Borough Councils, to establish tuberculosis dispensaries; in that case the local Medical Committee will rightly claim to have a voice in organizing them. If a County or County Borough Council defrays any part of the cost of medical or sanatorium benefit, the representation of the Council on the local Insurance Committee may be increased, and this will encourage any Council that so desires to carry out a forward policy: in this case a Council might gain considerable influence over not only sanatorium treatment as ordinarily understood, but over medical treatment whether domiciliary or at dispensaries.

The arrangements for medical attendance will be primarily in the hands of the local Insurance Committee, but it must act in accordance with the Regulations which will be made by the Insurance Commissioners. The insured will fall into several groups: first, those whose treatment is obtained under agreements made directly between the local Insurance Committee and medical men; secondly, those who are excluded from these agreements by the income limit on which the profession will insist; thirdly, those who, though their income is below the income limit, are "allowed" to make their own arrangements for medical treatment (under Clause 14, Subclause 3); and fourthly, those who obtain their treatment through some "organization" existing at the time of the passing of the Act (under Clause 14, Subclause 4—the Harmsworth amendment). In any case it will be the duty of the local Insurance Committee to see that the insured does in fact obtain proper medical treatment, since the sick pay depends on this, but the direct control of the Committee will vary according to the group in which the patient falls.

In respect of those insured persons for whom the local Insurance Committee makes arrangements, it will be necessary for each Committee to draw up a list of medical men who are willing to act, every practitioner having a right to be on this list, and being removable only if it be proved after due inquiry that the continuance of his name on the list is prejudicial to the efficiency of the service. The removal of a doctor's name from the list would be such a serious matter that the profession will have to take care that the "due inquiry" which is ordered to be carried out by the Commissioners is properly conducted. The first business of the profession after the bill becomes law will be to elect a local Medical Committee for each area, and the suggestion is that this Medical Committee should make an inquiry in the first place, and, if its verdict be not accepted, that the question shall be referred to a special medical court of appeal. Every insured person will be entitled to select his own doctor from the panel, subject to the willingness of the doctor to attend him, and those persons who fail to obtain a doctor are to be distributed among the doctors of the panel as far as practicable by an arrangement made by the panel itself, it being a necessary part of the scheme that every insured person shall be provided with medical attendance. The local Insurance Committee and the local Medical Committee must come to some agreement as to the income limit to be enforced in their area, the amount of medical fees, the scope of the attendance to be covered by such fees, the method of payment—that is, whether it is to be a contract arrangement or payment for attendance in that particular area—fees for mileage, operations, and other special services. The great majority of members of the profession have pledged themselves in writing to enter into agreements only through the local Medical Committees and not to enter into any individual or private arrangements. It is suggested that the combined action of the profession should go further, and that through the central office of the British Medical Association all local Medical Committees throughout the country should be kept in touch with one another and with the centre, so that no agreements shall be concluded anywhere until they are satisfactory everywhere.

The income limit may exclude a considerable number of the insured from getting treatment by arrangements directly between the local Insurance Committee and the medical men on the panel, and the excluded persons will have to make their own arrangements as though they were not insured. It is to be anticipated that most of them will remain private patients to whom ordinary medical fees will be charged, but the profession has fully recognized that one result of any income limit may be that the persons excluded will in some cases attempt to form clubs in undesirable ways. A certain safeguard against this is afforded by the fact that for the protection of the insurance funds the local Insurance Committee and the Commissioners will require that proper attendance shall be obtained. The local Medical Committee will have a statutory right of intervention, and it is on this and on the preservation of professional union that the profession will have mainly to rely to prevent undesirable forms of attendance on persons excluded by the income limit. The same remarks apply in the case of persons who may be "allowed" to contract out (under Clause 14, Section 3). The case of insured persons who belong to medical institutes or other "organizations" existing at the time of the passing of the Act (those referred to in the Harmsworth Amendment, Clause 14, Subclause 4) will be dealt with fully in the report of the Council of the British Medical Association which is to be issued immediately. As the whole of the contribution that will be allowed must be spent on medical attendance and treatment, the inducement to employ medical men at a lower rate of remuneration than that adopted by the local Insurance Committee in its agreement with the local Medical Committee will be diminished. But the Council will probably advise the Association to seek an amendment to this subclause by the addition of words to the effect that the regulations

under this subclause shall secure that no person shall be deprived of his right of selecting the practitioner by whom he wishes to be attended and treated. It will probably also advise the Association to express its opinion that the amount of 6s. a head per annum, on which the calculations of the Government actuaries have been based, will prove inadequate to meet the cost of provision of medical attendance for the insured, and to seek amendments providing that a larger proportion of each local Insurance Committee shall be elected by the medical profession, and, to protect the right of medical practitioners to provide drugs and medical appliances for their own patients, subject to the condition that provision for this and for medical attendance shall not be by an inclusive fee.

FREE CHOICE OF DOCTOR IN GERMANY.

Professor F. v. Müller of Munich, who recently gave before the Royal Commission on University Education in London very interesting evidence as to the relation of medical education to the universities in Germany, of the universities to the hospitals, and of the hospitals to the insurance corporations and municipalities, has been good enough to send us a copy of an address on social legislation in Germany and its relation to the practice of medicine, which he delivered in Boston some three years ago. There is one part of this address of particular interest to us at the present moment, because Professor v. Müller told his audience that the insurance scheme in Germany got into great difficulties, and nearly came to grief, owing to the want of a provision giving to patients a right to the free choice of doctors. The insurance corporations (*Krankenkassen*), which are governed by representatives of workmen and employers, at the outset appointed a small number of doctors of their own to take charge of all cases at a fixed salary. The doctors had too many cases to attend to, and consequently treatment suffered, but the corporations sought to maintain the system because they had a greater interest in a cheap than in a good medical service, and because under this system the doctors depended upon the corporations and, more or less, upon the officials of the corporations. The system gave rise to great dissatisfaction among the medical profession and also in time among the patients, who, finding that they received insufficient attendance, often preferred in serious cases to call in another physician. The corporations also were very liable to suffer from malingering, over which they could exercise no adequate control. "The respect," Professor Müller continued, which the patients had for the corporation physician (the *Kassenarzt*) grew visibly less, and it became evident that this state of conditions could only improve if the insured patients were allowed to choose those physicians in whom they had confidence." It should be noted that in the United States the word "physician" is used when we would say "medical man," and Professor Müller used it no doubt as the equivalent for *Arzt*, which is perhaps best translated as medical practitioner. "The directors of the corporations," he said, "resisted this change in their affairs to the utmost, because it was more expensive and lessened their power over the physicians. The physicians saw that improvement was only possible if the people were given a free choice of their own physician, and were not obliged to confine themselves to one physician or to a number of physicians, but could apply to any physician to take charge of their treatment. The physicians realized that in this struggle against the influential corporations the single physician was powerless, and therefore the physicians formed associations, which at first included the majority of physicians in one town, but later extended throughout the whole country. A bitter struggle resulted between the insurance corporations and the associations of the physicians, and in a considerable number of cases this terminated in a strike on the part of the physicians, they refusing to treat the patients of the corporation at the expense of the corporation and to give them certificates. By unanimous action on the part of the physicians the insurance corporations were forced to raise the fees of the doctors, and the majority of the insurance companies were forced to grant free choice of the physician to the patient. The system worked very satisfactorily to the patients, as well as to the physicians." Certain abuses, however, arose, and the medical associations found it necessary to establish supervisory boards from among their own members to put a stop, among other abuses, to unnecessary attendance.

A PIONEER OF THE OPEN-AIR TREATMENT.

In the *Practitioner* for November, 1899, there appeared a very interesting communication by the late Sir Samuel Wilks on Dr. Henry MacCormac, of Belfast, father of Sir William MacCormac, one of the pioneers in the open-air treatment of consumption; it contains a useful warning for the superior person who is often too ready to oppose new ideas. We know how Bodington's teaching was virtually killed by ignorant ridicule. Henry MacCormac came later, for the first edition of his book on consumption was published in 1855. In it he taught that tubercle had for its basis unconsumed carbon which was deposited in the tissues of those persons who were deprived of fresh air by dwelling and sleeping in crowded rooms. It could, therefore, he said, be prevented, and if, unfortunately, the deposit had taken place in the lungs, it could be removed in its early condition by the constant breathing of fresh air both during the night and day. As Wilks says, MacCormac spent his life in seeking to propagate the doctrine that fresh air was the only preventive and cure of consumption. At the very beginning of his book MacCormac made the following unequivocal statement: "It is the state of the indoor air, and very particularly the bedroom air, and not the condition of the outdoor atmosphere at all, that is to account for the production of the malady. A sufficiently renewed indoor atmosphere, and particularly a sufficiently renewed bedroom atmosphere, together with active outdoor habits, will render life wholesomer in general and freer from consumption, even in towns, than it will prove in the most admirably circumstanced country residence with ill-aired rooms and passive, inactive habits. For action, coupled with a pure atmosphere, tends to life and health, whereas inaction and unrenewed rebreathed atmosphere but insure irreversible decay and death." Elsewhere he says: "I assert and declare with all the emphasis in my power that in the immense majority of instances of tubercular deposits the sleeping chamber windows have been habitually closed. I shall not say that consumption concurrently with perfect bedroom ventilation is quite impossible, for the day supplies of air may be so very bad as perhaps to entail tuberculosis unavoidably. Yet, if not impossible, it is next to impossible. In the immense majority of instances, then, the morbific factor is the again respired sleeping-room air. Tubercle, indeed, is simply impossible in the case of persons who respire habitually air not pre-respired, and who keep in an atmosphere incessantly renewed." MacCormac then tells of vain attempts which he made to induce schoolmasters and others to keep the windows of their establishments open at night. How his teaching was received by the profession is shown by the fact that when a paper setting forth his views was read before the Medical and Chirurgical Society in 1862, it was received with undisguised contempt. One learned physician characterized it as a waste of time; another sapient person demanded that the society should be protected against the reading of such productions. The manner in which the paper was received, says Wilks, can easily be understood when it is remembered that the most

eminent physician of that day, and the leading authority on consumption, could send poor Keats to die in Rome. The society refused to pass the customary vote of thanks to Dr. MacCormac. One would like to know whether the members of the august society—all of whom, like the object of their contumely, have long since passed away—met in the Elysian fields, and what they said to each other when the news of the open-air era was brought to them from the upper world.

ANTITYPHOID INOCULATION IN THE AMERICAN ARMY.

IT was announced not long ago in the JOURNAL that by order of Major-General Leonard Wood, antityphoid inoculation was about to be made compulsory in the United States army. In the *Medical Record* of October 14th there is a detailed account of the manner in which the order is to be carried out. All officers and men under 45 years of age are to be subjected to the protective procedure. The total number to be inoculated is 76,000. The Secretary of War has set the example. Heretofore it has been optional for an officer or private whether he would thus be protected, and, on that basis, 17,000 were inoculated. Major Russell, of the Army Medical School in Washington, has prepared the "typhoid prophylactic," which is being distributed to the various forts, posts, and other military communities throughout the United States and its possessions. Very little, if any, inconvenience has been felt. The vaccination is done, as against small-pox, in the left forearm, for all the soldiers. The experience has been that the soldier loses not a single day's duty, and does not go to bed. He is watched carefully for twenty days and is then declared immune. Of course, those who have unmistakably had the disease are not vaccinated. Whatever discomfort there is never lasts beyond forty-eight hours, and it is in general less than that occasioned by vaccinations against small-pox. Lieutenant-Colonel J. R. Kean, of the Army Medical Corps, observed, with reference to the recent application of the typhoid prophylaxis to the 16,000 troops of the United States in Texas, that, although this force had been for more than three months exposed to heat, dust, mud, flies, and all the other vicissitudes of camp life, only one case of typhoid fever developed up to June last. "The medical authorities of the army," he said, "are much elated at this great feat of preventive medicine, which they hope will bring into common use a procedure of as great sanitary importance to the American people as was the discovery of the method of preventing yellow fever."

DR. FARQUHARSON ON THE MEDICAL PROFESSION.

ON November 10th the Right Hon. Robert Farquharson delivered a most interesting address to the Aberdeen Medical Society on improvements in medicine during the past fifty years. He began by saying that he felt himself to be behind the age in regard to medical nomenclature, and he confessed that he had not even a nodding acquaintance with the most recent and most fashionable arrival—the microbe. When he occasionally glanced over the medical papers, he was often staggered by the modern nomenclature with words nearly as long as that room (the Materia Medica Class-room), derived from a Greek or Hebrew source, which conveyed scarcely a glimmer of meaning to his Philistine mind. We hope it was an accidental association of ideas arising from the mention of Hebrew that made Dr. Farquharson describe himself, even in jest, as a Philistine. But we venture to reassure him on one point. Although monstrous liberties are taken with Greek by scientific innovators, we are not aware that Hebrew has been used as a quarry for the formation of new words—doubtless for good reasons. After speaking of what had to be done in the future in regard to cancer, consumption, enteric and other fevers, and diphtheria, Dr. Farquharson pronounced a sentence of excommunication on the cat, which, so far from being "harmless" or "necessary," he declared to be the most dangerous of all creatures. He went on to speak of the services rendered by the general practitioner, who saw the earliest signs of disease, as to which many consultants were ill-informed. He would not go so far as to argue for a return to the old system of apprenticeship, but he was strongly of opinion that a few years of general practice were of enormous advantage to any one who proposed to specialize or to join the already overcrowded consultant ranks. In this every one will agree with Dr. Farquharson. After referring to his student days at Edinburgh, when he worked under Gairdner, Begbie, and Matthews Duncan, he went on to say that the life of a country doctor who was a gentleman—a word which he was careful to explain did not necessarily imply "gentle" birth—who lived in a good neighbourhood and attended influential people, was an extremely pleasant one. If the doctor had sporting tastes he might occasionally get a day's shooting or a gallop across country. If he had an active mind he could join parish or county councils, or school boards. If he succeeded in accumulating a "little pile," he could retire, obtain a seat on the green benches, and roll along the swift stream of political life. Without stopping to dissect the mixed metaphor, we may point out that Dr. Farquharson's professional lines have evidently been cast in pleasant places. The struggle for existence in poor quarters, the degradation of the cheap dispensary, the drudgery of club practice, and the unpleasant possibilities of national insurance, apparently do not fall within his range of vision. We are entirely at one with him when he goes on to urge that doctors are urgently needed in the House of Commons, but while admitting the personal sacrifice that would have to be made by most who would take upon themselves the burden of a modern parliamentary life, he gives no hint how a sufficient number of medical M.P.'s is to be secured. He plainly warns intending candidates that the salary which the Government, in the name of a not particularly grateful country, now gives members will barely cover what we may call the expenses of production. It does not seem to have occurred to the Laird of Finzean that at this moment, when the National Insurance Bill is looming ever larger and ever darker on our horizon, there may be doctors who would be glad enough to make the sacrifice of accepting £400 a year. The *Répertoire de Médecine et de Chirurgie* not long ago contained the advertisement of an appointment in the South of France "with a great political future for a Radical-Socialist doctor." The French Legislators not long ago voted themselves £600 a year, and it is by no means impossible that Mr. Lloyd George may be moved to try to buy off the doctors by the offer of a great political future—with a fitting salary. After a passing allusion to cranks and quacks, Dr. Farquharson told his hearers to keep their heads high, remembering that they belonged to "the highest and noblest and most scientific of professions," and not to allow themselves to be "bossed by anyone, certainly not by supercilious young men or smart ladies." He told a good story of "one of the latter class who, unhappily for herself, tried conclusions with Sir William Jenner. . . . She began sneering at the medical profession, and when she had finished Sir William screwed up his little eyes and looked sternly at her. 'Your Grace,' he said, 'we could get on very well without duchesses, but we could not get on very well without doctors.'" This reminds us of an instance of Jenner's bluntness which we heard from his own lips. Called in to see a youthful scion of nobility who had a remarkable discoloration on the face that had puzzled several doctors, Jenner, after careful examination while the noble mother was reciting the many kinds of treatment that had failed, said brusquely that he thought soap and water might be applied with advantage. Under this the mysterious patch

disappeared, but, added Jenner, with a significant grin, "I was never called to that family again." Finally, Dr. Farquharson impressed on his audience the importance of acquiring clearness of expression in writing and the habit of thinking on their legs when speaking in public. The cultivation of a hobby was recommended, a moral which he pointed with the remark that it was not a bad thing to cultivate good manners.

WAS SAVONAROLA MAD?

It has often been said that it requires a fanatic to bring about any great moral or political reform; and fanaticism being, like genius, closely akin to insanity, it follows that from time to time the human race has been stirred to its depths by men who, if not actually mad, were still far from being quite sane, in the ordinary meaning of the word. One of the most remarkable reformers of his own, or indeed of any, time was undoubtedly Girolamo Savonarola, the Florentine Dominican friar, who during the closing years of the fifteenth century brought about one of the most stupendous religious revivals ever known in the history of the world. This extraordinary man—the grandson, by the way, of a well-known physician, and himself originally intended for the medical profession—has been variously described as a martyred patriot or a dangerous monomaniac, according to the religious and political convictions of his numerous biographers and critics; but one and all agree in regarding him as decidedly abnormal. Some light has been thrown upon his peculiar mental condition by M. Jules Giovanetti in an article in the September and October numbers of the *Archives de Neurologie*, which is interesting, though possibly many of his readers may hesitate to accept his somewhat sweeping conclusions. According to M. Giovanetti, this zealous reformer, this courageous advocate of the ancient rights of Florence, was simply a typical instance of mystical reforming megalomania, fostered, in his case, both by his heredity and his surroundings. Born of a spendthrift father, and brought up in the shadow of one of the most refined and luxurious courts in Italy, Savonarola seems to have derived his tastes and his religious fervour from his grandfather, an ardent mystic. Even in early youth he showed the bent of his mind by devoting himself to the study of the prophets and St. Thomas Aquinas. These he endeavoured to interpret in such a fashion as to apply them to contemporary events, a pious exercise which M. Giovanetti considers the first definite sign of a want of mental equilibrium, intensified at a later period by an exalted mysticism and an extremely ascetic life. The climax was reached when the young friar, weakened by long hours of fasting and meditation, began to see visions and heard heavenly voices which bade him lead his erring fellow citizens back into the paths of righteousness. Henceforth Savonarola, firmly persuaded of the divine nature of his mission, and becoming by degrees more and more obsessed by his hallucinations, presented, according to Dr. Giovanetti, all the signs of reforming megalomania combined with mysticism. His symptoms included not only the seeing of visions which, at first occasional, ended by becoming periodic, but also the profound distrust of others, which is the first stage of the mania of persecution, and the exaggerated vanity which lies at the root of megalomania. It is the last symptom, says M. Giovanetti, that was most markedly displayed by Savonarola, whose arrogance arose from the belief that he was the chosen instrument of God; but that the former also existed is proved by the well-known fact that he lived in constant fear of assassination, and even when the virtual master of Florence never left the city without an escort of armed men. With all due regard to the opinion of so eminent an authority as M. Giovanetti, however, it may be questioned whether in this instance Savonarola was not inspired by common sense rather than by insanity. His life had been attempted several times, and the habit of removing an inconvenient enemy by the simple means of a hired bravo was far too common in the Italy of his day to be lightly disregarded by anyone who had come into conflict with the higher powers. Nor can his rooted conviction that he was predestined to a violent death be considered merely as another manifestation of a disordered brain. His mission had brought him into open and avowed opposition to every one of his spiritual and temporal superiors; and their repeated warnings were explicit enough to leave him under no illusion as to the treatment he was likely to receive if he fell into their hands. That he was not sane according to our standards is beyond dispute; but the strain of madness in him was not shown by an only too well founded fear of his enemies, but by the intense and narrow fanaticism which was at once his weakness and his strength, his chief claim to glory as well as the cause of his disgrace. Though M. Giovanetti's suggestive article opens up endless possibilities with regard to the mental state of those men whose burning words and example have at different periods roused mankind out of its usual state of torpor and indifference, the last word has not been said on the subject of Savonarola; and whether the great Dominican was inspired by heaven or deluded by disease still remains an open question. It is interesting to note, however, that his example, combined with his preaching, was potent enough to be the direct cause of a veritable epidemic of mysticism which ran riot in every class of Florentine society, and which is magnificently described by George Eliot in *Romola*. Florence under the rule of the Piagnoni (the "weepers," as Savonarola's converts and disciples were nicknamed) resembled a convent rather than one of the gayest and most pleasure-loving of Italian cities; and the friar's terrible warnings and denunciations drove hundreds of men and women to expiate their sins in the cloister, and worked the awestruck populace into a frenzy of hysterical fervour. Human nature being what it is, it is not surprising that this overwrought state of religious tension did not survive the removal of the fountain head of its inspiration. With the death of Fra Girolamo at the stake Florence returned to a more normal way of life, and the greatest religious upheaval of the Middle Ages subsided, leaving hardly a trace behind.

EPIDEMIC PARALYSIS IN GERMANY.

In 1909 the district round Marburg, in Hesse-Nassau, was visited by an epidemic of at least 130 cases of infantile paralysis, and over 1,000 cases of the disease must have occurred in Germany during that year. In this way it was brought to the notice and study of Professor P. H. Römer of Marburg, who has written a monograph[1] upon the disease, based mainly on his own experiences and experiments, but to some extent on the extensive literature of the subject. Beginning with the history and the symptoms of infantile paralysis, he goes very thoroughly into its etiology, pathology and pathogenesis; this section deals with his own experiments on apes and other animals, and it may be noted that Professor Römer does not agree with Krause and Meinicke when they state that the rabbit is liable to acute poliomyelitis, and is a suitable animal for experiments with its virus. This is really the best part of Professor's Römer's essay, and it is admirably illustrated with photographs of infected monkeys and with photomicrographs of the lymphocytic infiltration of the pia mater and whole central nervous system that occurs in acute poliomyelitis. Summing up its epidemiology, Professor Römer concludes that we can only say of acute poliomyelitis that it is an infectious disease; what the infection is exactly, and how it is carried about and caught, we do not yet know; nor do we know of any drug

[1] *Die epidemische Kinderlähmung (Heine-Medinsche Krankheit).* By Professor Dr. P. H. Römer. 1911. Berlin: J. Springer. (Roy. 8vo, pp. 264, with 56 figures in the text. M. 10.)

that is of certain utility when the infection has been caught; urotropin has been recommended in America, but was of no service to Römer's infected apes. He thinks, however, that lumbar puncture is worth doing. Professor Römer's volume naturally challenges comparison with others on the same subject that have appeared during the present year—Wickman's and Müller's, for example—and with the report of the American Committee published in 1909. All have been reviewed in this JOURNAL.[2] The best and most authoritative, and also the shortest, is Wickman's. Müller's deals with the 130 cases of the Hesse-Nassau epidemic, and is strongest on the clinical side. The report of the American Committee deals almost solely with the New York epidemic, and is unequal. Professor Römer's book gives the best account of the pathology of the diease; it is longer than the other works, and as he is able to devote more space to side-lights and historical references than the others, it is more interesting to read.

NOISE AND NERVES.

A CASE which was heard last week in the Chancery Division sets one thinking anew upon the question, "How much noise am I compelled by law to put up with?" It appears that an artist, who lived with his family close to Earl's Court, was troubled with many weird sounds emanating from that place of amusement—the thud or stroke of the engine in the "Cake Walk"; the passage of the cars through the "Dragon's Gorge"; the raucous cries of the attendants and the shrill shrieks of the passengers; and last (but not least) the blare of the organ on the "merry-go-round." None of these sounds were calculated to invite repose, but the judge gave the palm to the Cake Walk. The artist alleged that he and his wife and child all suffered in health. Eventually an injunction was granted, and the reasons given are of interest to the medical profession. A brief passage from the judgement brings out the point. His lordship said: "I find three persons suffering from nervous disorders. Were those disorders caused by the noises in question? The proper deduction to make from the evidence is, I think, that the plaintiff's health was affected by the noise. The result is that I attribute the plaintiff's nerve disorder to the noise and to the worry caused by the noise. Now comes the difficult question whether the plaintiff's illness was due to the misuse of the defendants' property, or whether it was due to the temperament of the plaintiff and his family. Were they supersensitive? So far as the plaintiff is concerned I am bound to hold that he has not established his case. I am not going to consider whether the artistic temperament is more sensitive than other temperaments. But it was shown that the plaintiff was in a run-down condition, that the noise got on his nerves and caused a kind of mental paralysis." The judge went on, however, to say that as the noise undoubtedly affected the child's health, the defendants were responsible, must pay damages, and submit to an injunction. It seems to follow from this that people who are unduly sensitive to noise must not hope for additional protection on that account. "Let health my nerves and fibres brace," is a prayer which must have been fulfilled before any one commences an action to restrain this form of nuisance. The ear which will tolerate the roar of traffic or a noise which occurs at regular intervals cannot stand the steam barrel organ. In some cases the necessary sound of industry is something "whose murmur invites one to sleep." We recall the case of a colliery doctor whose quarters were pitched near to a great blowing engine. Year in year out great puffs of steam were emitted at regular intervals of a few seconds, close to his bedroom window. One night he suddenly started up from a deep sleep to find that the cause of his awakening was the stopping of the engine; and many other similar stories are told. Yet the intermittent stopping of the noises at Earl's Court had no beneficial effect upon the artist. He only waited for them to recommence, as Thomas Carlyle waited for his neighbour's cock to crow.

[2] See BRITISH MEDICAL JOURNAL, April 29th, 1911, p. 1001, and October 21st, p. 1030.

MEMORIAL TO FLORENCE NIGHTINGALE.

A COMMITTEE was formed some time ago for the collection of funds to be applied to the erection of a memorial to Miss Florence Nightingale. In the *Times* of November 6th there appeared a letter from Lord Pembroke in which he states that at a meeting held at the Mansion House it was settled that the memorial should take the form of a statue, any balance being applied towards the provision of an annuity for nurses who are past work or disabled through illness. A site for the statue has been granted by the Office of Works. It is immediately opposite the Guards' Crimean Memorial. It is thus, as Lord Pembroke says, the most appropriate site in all London for a statue of the "Lady with the Lamp." It is estimated that a statue will cost about £6,000, towards which so far only a sum of £2,800 has been raised; £900 comes from soldiers, while £500 has been given by nurses. He appeals to the general public to help to raise the money required for the statue with the additional fund for nurses. Lord Pembroke says: "It is unthinkable that the memory of Florence Nightingale's name and work should not be perpetuated to all time," and he urges that "there is no better way of doing this than to have a statue of her in a prominent position in the capital of the country for which she did so much." We honour the memory of Miss Nightingale—on this side idolatry—as much as any, but we do not think that the addition of a statue to the many grotesque and begrimed specimens of sculptors' handiwork that disfigure London is the best way of honouring her memory. We should much prefer to see the whole of the money collected applied to the support of nurses who have fallen on evil days. We feel sure that Miss Nightingale herself would have preferred this form of memorial. But we suppose the statue, which is one of the penalties of great achievement, is inevitable. We may, therefore, mention that subscriptions, however small, should be sent to the honorary secretary of the Nightingale Memorial Fund, St. Thomas's Hospital, S.E. We may add that the *Nursing Times* has taken the opportunity of issuing a fine portrait, reproduced from an unpublished photograph taken in the grounds at Claydon House by her relative the late Colonel Lloyd-Verney. The price of the portrait, which in its way is a real work of art, is 5s., post free from the offices of the *Nursing Times*, Macmillan and Co., Limited, St. Martin's Street, W.C.

THE INDIAN SANITARY CONFERENCE.

A REUTER'S telegram from Bombay, published in the *Times*, states that the meeting of the Indian Sanitary Conference was opened in Bombay on November 13th, when Mr. Butler, Minister of Education and Member of the Viceroy's Council, delivered an introductory address emphasizing the importance of conferences, which gave opportunities for comparing experience, exchanging ideas, and stimulating solitary workers. The Indian Government had spent years in creating a bacteriological department which was second to none in Europe. A skilled body was investigating plague, malaria, and tuberculosis. A pressing problem also was the danger of sleeping sickness and yellow fever. Officers had been dispatched to the endemic area to study these questions, and great hopes were entertained of the Indian Research Fund, towards the nucleus of which the Government would grant Rs. 500,000 (£33,300). He appealed to the wealthy of India to contribute towards the extensive campaign of sanitary research. A determined effort was being made to combat the origin of disease, and general sanitation was steadily progressing. He hoped that the sanitary services would soon be reorganized, and asked if it was an impracticable dream

to construct a model town in each province, with an efficient water supply, drainage, and rat-proof and mosquito-proof houses, and an adequate sanitary staff as a measure of demonstration and education.

Mrs. Kayler, daughter of the late Dr. Sydney Ringer, F.R.S., Consulting Physician to University College Hospital, has established a Sydney Ringer Trust Fund in memory of her father. The accumulated income of the fund is to be applied, not oftener than once every two years, to the remuneration of a lecturer selected from among persons engaged in carrying out original research work in the physiological or pharmacological laboratories of University College, London, or in the research laboratories of University College Hospital Medical School, or in University College Hospital, in physiology, pharmacology, pathology, medicine, or clinical medicine.

A Commission was appointed by the French Academy of Medicine on May 30th to discuss the expediency of classifying poliomyelitis or infantile paralysis among the diseases in which notification is obligatory. The members of the Commission were Drs. Arnold Netter, Roux, Chantemesse, Chauffard, and Roger. In their report the Commissioners pointed out that the disease was first made notifiable in Sweden and Norway in 1905. Later it was made notifiable in many of the North American States, in certain parts of the Austrian Empire, and throughout the German Empire. The Commission, therefore, recommended the compulsory notification of poliomyelitis in France, quarantine of suspects, patients, and convalescents, and subsequent disinfection of premises. These recommendations were adopted by the academy.

Medical Notes in Parliament.

University of London Commission. — In reply to Mr Ainsworth, the Under Secretary of the Treasury said that the Royal Commission on University Education in London was appointed to make recommendations, among other things, as to the relations which subsist between the University of London and the Imperial College of Science and Technology, and increased Treasury grants had been promised under certain conditions to the Imperial College; applications to the Treasury on behalf of the University of London for an increased grant had been refused pending the report of the Royal Commission, but an increase had been promised in the grants available for University College and King's College, for which the University of London was financially responsible. In reply to a question addressed to the Prime Minister on November 13th by Sir Hildred Carlile, Mr. McKenna said that he was informed by the Chairman that the Commission was making good progress with the evidence, which was necessarily of very great range, and that its conclusions were almost within sight, but he was not prepared to fix a date for the issue of the report.

Vaccination.—Mr. Sutton asked the Prime Minister whether he would arrange for a committee to inquire as to the working of the vaccination laws during the last forty years in the United Kingdom and other countries and the small-pox outbreaks in those countries; and whether such a committee, if appointed, could investigate the returns as to vaccination of every district in the United Kingdom and compare this with the amount of small-pox and the vaccinal conditions of the patients, and also ascertain the sanitary and social condition of the districts in which such outbreaks occurred. The Prime Minister replied that he did not consider that an inquiry on the lines indicated would be justified at the present time. Mr. Lansbury asked the President of the Local Government Board whether his attention had been called to the fact that Dr. Hall, Poor Law medical officer at Leigh Workhouse, was reported to have stated at an inquest held on two children who died about thirteen days after vaccination with Government lymph, that the recommendations of the Local Government Board were that Poor Law children should be vaccinated within seven days from birth; whether these recommendations were made by the Local Government Board; and, if not, whether he would consider the desirability of informing all Poor Law medical officers of the present views of the Board in the matter of vaccinating workhouse children at such an early age. Mr. Burns said that the Local Government Board had made no recommendation to the effect suggested. They had always held the view expressed by the Royal Commission on Vaccination, that, although under favourable conditions vaccination might be carried out within a few days of birth, the practice was to be deprecated unless there was at the time obvious danger of small-pox contagion, or unless the parent specially requested that the operation might be performed. The medical inspectors of the Board had been instructed to communicate this view to boards of guardians and their officers when needful, and he did not think it necessary to make any general communication to Poor Law medical officers on the subject.

Insanity in Scotland.—Mr. Ure, in reply to a question by Mr. MacVeagh, said that the proportion of insane under care in Scotland per 100,000 of the population was 257 in 1880 and 378 in 1910. The latter calculation was based on the census of 1911.

Osborne College.—In reply to Lord Charles Beresford, Mr. Lambert, the Civil Lord of the Admiralty, said that there had been only two cases among cadets at Osborne College which could be described as "blood poisoning" since the college was opened in 1903. There was no evidence to connect either with the condition of the River Medina.

Opium Conference.—Sir Edward Grey, in reply to a question from Mr. Mitchell-Thomson, said that the British delegates already appointed to the forthcoming opium conference, to be held at the Hague, were Sir Cecil Clementi Smith, Sir William Meyer, and Mr. W. Max-Müller. The appointment of a fourth delegate was under consideration. In reply to a further question, Sir Edward Grey said he would give the information with regard to the head of the delegates as soon as it was available. Several departments were concerned in the question. and he could not give an absolute pledge without consulting them.

Royal Naval Medical Corps.—Mr. Bennett-Goldney asked the First Lord of the Admiralty whether he would state if the shortage of medical officers in the Royal Navy at the present time was less than it was twelve months ago; and what was the shortage according to the latest available figures in all grades, from inspector-general down to the junior surgeons. The Parliamentary Secretary to the Admiralty, who replied, said that the shortage was practically the same as it was twelve months ago—twenty had entered and twenty-two had gone, owing to retirements or deaths. The shortage was sixty of all ranks. Mr. Bennett-Goldney asked what were the names of the service and other members of the Consultative Board of the Navy Medical Service; whether this committee had hitherto been habitually called together to carry out the work entrusted to it during the customary working hours of the Admiralty staff, or had it been called together on an officially appointed early closing day, and after normal closing hours; at what hour did this committee meet now, and on what day. Dr. Macnamara answered that the names of the members of the Medical Consultative Board were as follows: *President*, The Medical Director-General of the Navy; *Civilian Members*, Sir W. Watson Cheyne, Sir Dyce Duckworth, Professor W. J. R. Simpson; *Naval Member*, Surgeon-General Howard Todd; *Secretary*, Fleet Surgeon James L. Smith. The Admiralty had no officially appointed early closing day. The Medical Consultative Board was called together when occasion arose, and usually met about 5 p.m., as that hour had been ascertained to be most convenient for the civilian members, irrespective of Admiralty working hours. There were no routine meetings; they took place as and when found necessary; the board met on the day most convenient to the members.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

LONDON COUNTY COUNCIL.

The New Medical Officer of Health.

ON November 14th the London County Council considered a recommendation by the General Purposes Committee with reference to the appointment of a successor to Sir Shirley Murphy, who will shortly retire from the position of county medical officer of health. In accordance with the decision of the Council to place the general public health work and the school medical work of London under the control of one officer (BRITISH MEDICAL JOURNAL, July 29th, p. 243), applications were invited for the position of medical officer of health and school medical officer, at a commencing salary of £1,250 a year, members of the staff not being precluded from making application. Thirty-three applications were received, and a subcommittee made a preliminary selection of, and interviewed, fourteen candidates. As a result, six gentlemen attended before the General Purposes Committee. The committee mentioned that it had also seen Dr. James Kerr, the medical officer (Education). After careful consideration of the merits of each candidate the committee recommended the promotion to the position of William Heaton Hamer, M.A., M.D., D.P.H.Cantab., B.Sc.Lond., M.R.C.S.Eng., F.R.C.P.Lond., at present Medical Officer (general purposes) in the London County Council Public Health Department. To comply with a standing order which requires more than one name to be before the Council when voting, however, the committee also submitted the names of William James Howarth, M.D., Ch.B., D.P.H., Kent County Medical Officer of Health, and Harold Scurfield, M.D., C.M., D.P.H., Medical Officer of Health of the City of Sheffield.

Mr. H. J. Greenwood, Chairman of the General Purposes Committee, in moving that the appointment be made, said that the committee and a special subcommittee had given to the question of this appointment the careful consideration its importance warranted. It was generally felt that among the thirty-three applications received there was certainly not a small number of gentlemen who were quite worthy by reason of their experience and attainments to be considered for the position. He was very glad heartily to commend to the Council the recommendation of the committee. Dr. Hamer's services were so well known that it would be almost an impertinence to go into them in detail. He had been in the service of the Council for almost twenty years, and the position he had held under Sir Shirley Murphy had afforded him experience in all the wide and intricate branches of the work that came within the scope of the Public Health Department. At the same time, under standing orders, the committee submitted the names of two other gentlemen, both candidates of the greatest ability and well known for their services, in one case to the city of Sheffield, and in the other to the county of Kent. Although it was true that both these gentlemen had had active experience in the new duties which it was proposed to cast in future upon the London County Council Public Health Department—namely, the superintendence of the medical inspection and treatment of school children—yet the General Purposes Committee felt that that experience, though valuable, was limited as compared with the natural needs of London, and had been gained under circumstances which, to a large extent, would not obtain in the metropolis. Naturally, Dr. Hamer had not had the opportunity of showing his ability in the particular direction of school medical work, but his many other attainments and superior position in almost every other detail of his work left no doubt in the mind of the committee that of the three candidates he was the one the Council should appoint. Mr. Greenwood expressed the conviction that in appointing Dr. Hamer the Council would be selecting a gentleman who would not only fill the position to the very utmost of his ability, but to the greatest credit of the Council and of the County of London.

The motion was approved with cordial expressions of approbation from all parties on the Council.

REGULATION OF THE MANUFACTURE OF SWEETMEATS.

The Public Health Committe reported to the London County Council on November 14th with regard to investigations by the medical officer of health for Islington into a complaint that caramel wrapping was carried on in certain houses where the conditions were very unsatisfactory, and that young children were employed upon the work. The wrapping and packing of caramels was done in small crowded rooms, in small sleeping rooms with dirty beds, and sometimes by persons suffering from infectious disease. The inspector of workshops suggested that the making of sweets and confectionery, with its allied branches, should be placed among the trades scheduled under the Homework Order of December 11th, 1901. This order made applicable to certain industries the provisions of the Factory and Workshop Act, 1901, imposing penalties for the employment of persons in unwholesome premises, and prohibiting homework in places where there was infectious disease. The making of sweets and allied industries were not among the classes of work scheduled, and having regard to the conditions to which the reports drew attention the Committee considered that the Council should express to the Home Secretary an opinion in favour of the application of the Homework Order to the trades mentioned.

The Council agreed to take this course.

LIVERPOOL.

MITCHELL BANKS MEMORIAL LECTURE.

THE Council of the Liverpool University has appointed Professor F. M. Caird, Professor of Clinical Surgery in the University of Edinburgh, to deliver the Banks lecture in the session of 1912–13. This lecture is now delivered every two years, and was founded as a memorial to Sir William Mitchell Banks. The medical profession in Liverpool will look forward to Professor Caird's lecture with great interest, and will heartily welcome one who is held in such high esteem in the medical world.

THE ROYAL INFIRMARY.

At a meeting of the Royal Infirmary Election Committee held on November 8th Mr. F. P. Wilson, M.B., Ch.B.Vict., M.D.Liverpool, was unanimously elected to the office of honorary medical officer to the Lock department. Dr. Wilson has been for a considerable time assisting in the dermatological department. He has held important research appointments in the pathological laboratories of the Liverpool University, including the Stopford Taylor Fellowship in Dermatology. His researches have been largely in the domain of immunity, especially in relation to lues, and his work is well known. His appointment to the Royal Infirmary staff is very popular, not only with its present members but with the medical profession in the city generally.

EUGENICS EDUCATION SOCIETY.

The first annual meeting of the Liverpool Branch of the Eugenics Education Society was held at the Liverpool Medical Institution on Wednesday, November 8th, at 4.30 p.m. The annual report showed that the position of this branch was very satisfactory, and promised well for the future. The present membership numbered forty-two. Sir James Barr, M.D., president of the branch, occupied the chair, and was unanimously re-elected president for the ensuing year. As vice-president the members unanimously elected the Rev. T. W. M. Lund, while to the position of secretary they re-elected Mrs. L. Johnson Houghton.

Heredity and Education.

An address on this subject was delivered by Mr. R. T. Bodey, M.A., Inspector for Elementary Schools. The education system, he said, existed not primarily for the child but for large adult and national ends. The nation had, in fact, brought up such a claim. Education rates all over England averaged one shilling in the pound. Local education debts exceed £40,000,000, and annual Treasury grants, drawn from the pockets of the same people, amounted to £20,000,000. Education should be adapted to the working needs of the nation. What a child might become depended upon two factors—Nature and nurture.

Higher and lower grades of talent should be isolated one from the other, and the higher encouraged to develop. The lower grades also should be isolated in order to facilitate their control and final disappearance. The rise of the nation depended conjointly on these two processes. The highest type of child came from parents of the highest type. Comparing family with family, the chance of such a child was 140 times as great as that of a child from parents of average ability. Efforts towards high mental development should not be thrust upon the unfit. He did not consider that the national worth of every child could be raised by more comfortable conditions. The quality of family stock could not be altered much by extraneous influences such as State help, for such a forced advance was spurious, and left the offspring liable to regression. Education, he said, was only one form of nurture, and the voice of science was clear as to its limitations. Realizing these limitations, education facilities, he thought, should be carefully distributed with regard to the scientific likelihood of their utilization to the maximum of national advantage, and this not for economic reasons only, but because it was not only cruel to drag children from their own to a different sphere of life, but cruel to the class they deserted. Since the activities of the nation and the powers of the children were alike varied in kind and degree, the most natural plan would be to sort them both out and then design a school system expressly in order to fit one to the other. At present there was no fixed purpose, but a perpetual riot of changes, destructive to all real progress, resulting in distraction of mind, discontinuity of purpose, and increase of cost, while happiness decayed because desires grew faster than possessions or the sense of achievement. The only really scientific basis for a national system of education would be a full knowledge of the family history of each child. An occupational survey of the school parentage throughout an area would be invaluable in fixing the aim of each school, and interlocking all into a harmonious whole, and would help towards recruiting all grades of the nation's workers from the most suitable sources. The current government policy of reserving an increasing proportion of secondary school places for elementary children was opposed to the vital laws, and harmful to each kind of school. He would have the secondary schools train the officers and the elementary schools the rank and file of the nation; then for the higher elementary schools remained the task of educating those quite invaluable people—the non-coms. Out of the hearty co-operation of these three would come national success. With more perfect classification of family talent the need of scholarships of transmutation would become less, for each of them was the confession of an initial error in placing the child. Then there would be more money to be spared for industrial research, travelling and art studentships, and other aids to those who had the rare gift of original thought.

The third great problem was that of the mentally defective. These cost four times as much a head as the ordinary elementary scholar, and many of the worst cases would only go to increase the host of pauper lunatics and other Poor Law burdens. Such types were often abnormally prolific. To isolate them for life on farm colonies worked on a self-supporting basis would be kinder to them and more advantageous to the nation than were our present methods. In short, Mr. Bodey concluded, the national aspect of all our work in education needed far more attention and should dominate our system. To design and work this satisfactorily far greater stress should be laid upon the value of the parental stock.

Sir James Barr, in proposing a vote of thanks to Mr. Bodey, confessed that he had a poor opinion of the educational policy of the country, which was conducted on one dull level of uniformity. There was no such thing in nature. Trying to draw out intelligence where there was none was a sheer waste of money. Charity and sentimentality were responsible for much harm. Let the unfit live by all means, but let society take care that they could not do any damage. He proceeded to quote from a letter he had received from Sir Hiram Maxim, who wrote:

"We have in England a great many weaklings. There are more people weak in the mind than in the body. These human animals have not been developed by natural selection and the survival of the fittest to form a part of a great and powerful nation, but they are in many cases the fittest for the environment in which they find themselves, to extract a living out of the charitable without working for it. The laws and customs of the country are that we breed from the unfit. Our laws do two things, they discourage breeding from the fit by heavy taxation and penalties, and encourage breeding from the unfit.

The Rev. T. W. M. Lund seconded the vote of thanks.

Mr. A. K. Bulley, in criticizing Mr. Bodey's paper, pointed out that the pressure of economics and undesirable environment made it impossible for the children of the artisan classes to secure work for which they were best fitted. He asked were the people who wanted to adapt the children of the working classes to work best fitted for them, prepared to pay them a decent wage? He considered the Eugenics Society's ideals very fine, but they would be worthless unless they tackled the economic problem, and gave all the children equality of opportunity.

The Rev. H. D. Roberts also spoke, and upheld the scholarship transplantation system.

MANCHESTER AND DISTRICT.

Sanatorium for the Poor.

The Local Government Board has just sanctioned the purchase by the South Manchester Board of Guardians of the Plas Ucha estate, near Abergele, North Wales, for the purpose of a sanatorium. The estate is on rising ground, comprises about 200 acres, and is beautifully wooded. The first cost is £12,000, but considerable further expenditure will be necessary in order to fit the existing buildings for the treatment of phthisical cases. About a year ago the guardians attempted to get the neighbouring boards and the municipal authorities to co-operate with them so as to secure one great sanatorium for the working classes of Manchester, but the negotiations failed, and the South Manchester Board resolved that the need for sanatorium provision was so pressing that they would be bound to act for themselves. Various places were offered in Cheshire, Yorkshire, North Wales, and other parts of the country, and most of them were visited before the final decision was made. Following the application by the guardians for permission to purchase the estate, an inquiry was held by Mr. Walsh, Local Government Board inspector, and in order to meet the strong opposition that was raised by residents in the neighbourhood of the estate the Local Government Board has laid down several conditions. It is stipulated that no patient suffering from advanced phthisis or from any other infectious disease shall be admitted, that the total number of patients shall at no time exceed 50, and that as far as is practicable the patients, while at liberty to use all the grounds of the estate for walking exercise, shall be required to keep to the private paths, while the approach to the institution shall be by the main Llanfair Road by way of the Penycoed public road which skirts the estate. As the grounds measure about five miles in extent, and are sufficiently sheltered to be available at almost any season of the year, it is not thought that there will be any difficulty in carrying out these conditions. The clerk to the guardians suggested that the Board should borrow the money required for the undertaking from the Manchester Corporation, as he thought there was little doubt that in the near future the sanatorium would become the property of the City of Manchester, and a resolution to this effect was passed. It appears that the conditions imposed by the Local Government Board by no means satisfy the ratepayers and the Urban District Council of Abergele, and they are supported by the medical officer of health for the County of Denbigh in their contention that the establishment of a sanatorium would inflict serious injury on Abergele as a residential neighbourhood and a summer resort. Sir H. Roberts has given notice that he will ask the President of the Local Government Board to postpone his decision until consideration has been given to the proposals of the Insurance Bill for conferring upon local authorities special powers of joint action in respect to the erection of sanatoriums.

Smoke Abatement Exhibition.

Last week the Lord Mayor of Manchester opened a Smoke Abatement Exhibition, the chief object of which is to show the need for a cleaner atmosphere

in Manchester and Salford and to exhibit appliances by which the amount of smoke emitted from chimneys can be reduced. It is stated that smoke costs Greater Manchester £1,000,000 a year, and that apart from its effect on health it is the direct cause of enormous damage to fabrics of every description and to buildings and works of art. It is further stated that household fires are the cause of quite 60 per cent. of the total smoke poured out into the atmosphere of the city. Mr. R. H. Clayton, in an address to the Society of Chemical Industry, said that in the three days of fog about Christmas, 1904, Messrs. Affleck and Brown, of Oldham Street, Manchester, lost £600 in spoiled drapery goods, apart from the extra cost of lighting and cleaning. The Lord Mayor said that the Manchester Corporation had taken an enlightened view in respect to the supply of electricity for motive purposes by selling it at a specially low price, and the Mayor of Salford thought that if gas and electricity were sold even at a slight loss so as to induce people to use them instead of coal fires the gain in health and in other ways would be ample compensation. In addition to various kinds of mechanical stokers, a large portion of the exhibition is devoted to electrical and gas plant, designed to take the place of coal fires, and the exhibition is well worth a visit.

NEWCASTLE-UPON-TYNE.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

UNDER the auspices of the Northumberland and Durham Medical Society, Mr. Robert Jones, of Liverpool, delivered a lecture on orthopaedic surgery and the use of appliances in the College of Medicine on November 7th. The address was listened to by a large and appreciative audience. As the lecture will subsequently appear in print, it is not desirable to comment upon it further at present. In the evening Mr. Jones was the guest of the society at its annual banquet, presided over by Dr. Angus Martin, of North Shields. To Mr. H. B. Angus was entrusted the toast of "Our Guest." In the course of a felicitous speech, the high character of the work done by Mr. Jones as an orthopaedic surgeon was appropriately alluded to; also mentioned were the part he had played in establishing hospitals in London, Cheshire, and Shropshire for the open-air treatment of children suffering from tuberculous joint affections, and the good results which were being obtained. In acknowledging the compliment, Mr. Jones referred to the pleasing and satisfactory visit he had paid to the Royal Victoria Infirmary, an institution which he spoke of as beautifully situated and one of the finest he had seen either at home or abroad. It was to him, however, a matter of regret and disappointment to find that there was just the possibility of the orthopaedic wards being closed. This he would regard as a fatal mistake. It would be a tremendous loss to the city of Newcastle and neighbourhood.

DR. H. E. ARMSTRONG.

On the occasion of his retirement from the Chair of Public Health, Dr. Henry E. Armstrong is to be entertained to dinner by his colleagues in the College of Medicine at Tilley's Rooms on December 7th. It is felt by one and all that the compliment is well deserved, few men being held in higher esteem than the late occupant of the Chair of Public Health.

THE INSURANCE BILL.

Under the auspices of the Economic Society, Mr. Smith Whitaker is announced to give an address, "The Doctor, Country, and the State," on November 29th, in the Connaught Hall. Although coming to Newcastle specially to lecture to the members of the Economic Society, it has been felt that members of the medical profession interested in the subject should be given the opportunity of listening to one whose knowledge of the subject and of the National Insurance Bill enables him to speak with authority upon points which concern the medical profession. It is to be hoped that in order to mark their appreciation of the opportunity thus offered, medical practitioners will attend in large numbers. A small charge for the admission of such will be made to cover the expenses of hiring of the hall and of printing. It is expected that the chair will be taken by Sir Thomas Oliver.

THE CLINICAL SOCIETY.

On December 5th an address will be given to the members of the Clinical Society by Mr. G. F. Still, who will deal with questions concerning the surgery of childhood. In the evening Mr. Still will be the guest of the society at its annual banquet, at which a large gathering is anticipated.

THE NORTH OF ENGLAND BRANCH

An interesting and varied programme of medical and surgical demonstrations has been drawn out by the honorary local secretaries for the members of the North of England Branch of the British Medical Association. They will be held monthly throughout the winter, and should to some extent take the place of a course of post-graduate instruction. The demonstrations will be given both at the Royal Victoria Infirmary and in the College of Medicine. The first is to take place on Friday, November 17th, at the College of Medicine, when Professor Rutherford Morison is to give a demonstration with the epidiascope, Dr. J. Dunlop Lickley a demonstration of the surgical anatomy of the neck with dissections, and Professor Bainbridge is to speak upon the action of suprarenal extract, illustrated by lantern slides.

SOUTH WALES AND MONMOUTHSHIRE.

THE CARDIFF INFIRMARY (KING EDWARD VII HOSPITAL).

AT the monthly meeting last week of the board of King Edward VII Hospital, Cardiff, the name now borne by the great institution formerly known as the Cardiff Infirmary, Colonel Bruce-Vaughan announced a donation of £500 from Lord Merthyr towards the King Edward Memorial Fund in connexion with the hospital. There are further donations and promises amounting to £670, bringing up the total to £21,000. This leaves less than £1,000 to be collected, and the extra outlay on new buildings and increased cost of maintenance will then be almost wiped out for the present.

HONORARY DEGREES.

Among the recipients of honorary degrees at the annual collegiate meeting of the Court of the University of Wales, held in the new building of University College, Bangor, were Sir Isambard Owen, M.D., D.C.L., and W. T. Edwards, M.D., F.R.C.S. The former received the LL.D., and the latter the D.Sc. degree. Dr. Edwards, who is in his ninetieth year, has done much for the University of Wales. He is probably the oldest medical graduate of London University, having taken the degree of M.B. in 1844. He was physician to Cardiff Infirmary from 1849 until 1894, when he joined the consulting staff. In 1891 he was the prime mover in the formation of the Medical School at Cardiff, and he is at present vice-president of Cardiff University College.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

DR. H. C. MANLEY, WHITEHOUSE, COUNTY ANTRIM.

THE many friends and patients of Dr. Manley learnt with great regret of his intention to retire from practice and to leave Belfast. Dr. Manley deserves a well-earned rest; he qualified in 1865, and shortly afterwards he settled in Whitehouse and became medical officer of the Whitehouse Dispensary District, and also of the Throne Children's Hospital. He resigned these two posts only a few years ago, and the board of the latter institution appointed him Consulting Surgeon, with many regrets and high praise for his long and valuable services; the Board of Guardians likewise expressed its high appreciation of his services and its regret at his retirement after so many years without a complaint. This, if not a record, nearly approached one. On November 4th, many of his friends and patients met at the house of Mr. Torrens, D.L., Whiteabbey, and bore testimony to the unfailing care and skill displayed by Dr. Manley both to rich and poor and to his work on behalf of the nursing of the sick poor. They presented him with a beautiful single diamond ring, an artistically wrought silver epergne, and a silver ink

stand, accompanied by a beautifully illustrated list of subscribers. Dr. Manley intends for the present to travel on the Continent; and carries with him the best wishes of his professional brethren as well as by his lay friends for many years of cultured rest and enjoyment.

The Milk Supply.

A committee has been appointed by the Lord Lieutenant of Ireland to inquire into the alleged scarcity in the supply of milk in some parts of Ireland, and to report upon the causes of the deficiency, where it exists, its effects upon the public health, and the means whereby the deficiency can be remedied; and also to inquire into and report upon the dangers of contamination and infection in the present milk supply, and the methods best adapted to guard against these dangers. The committee consists of Mr. Patrick J. O'Neill, J.P., Chairman of the County Council of Dublin (Chairman); Sir John Lentaigne, F.R.C.S.I.; Mr. George A. Moorhead, F.R.C.S.I.; Mr. Alec Wilson, of Belvoir Park, Belfast; Mr. Dermod O'Brien, President of the Royal Hibernian Academy; Mr. John R. Campbell, B.Sc., Assistant Secretary in respect of agriculture of the Department of Agriculture and Technical Instruction for Ireland; Mr. Albert E. Mettam, B.Sc., M.R.C.V.S., Principal of the Royal Veterinary College of Ireland; Lady Everard of Randelstown, Navan; and Miss Margaret McNeill, Assistant Inspector of Reformatory and Industrial Schools, Ireland.

Medical Inspection of School Children.

An introductory address to the winter session, 1911–12, was delivered at the Meath Hospital last week by Dr. Oliver Gogarty, Surgeon to the hospital. He chose for his subject, "The Need of Medical Inspection of School Children in Ireland," and pointed out that Ireland was the only civilized country which, while providing money for schools, received in return no guarantee that the schools would not be a menace to the health of the children that attended them. He then proceeded to deal with the subject from a statistical point of view, and insisted especially on the large number of throat and nose diseases met with amongst school children which could be readily remedied by treatment. Adenoids especially he regarded as being responsible for many infectious diseases by lowering the resistance of those who suffered from them. At the conclusion of the lecture a cordial vote of thanks was passed, and, after Dr. Gogarty had replied, the proceedings terminated.

Women's National Health Association.

Under the auspices of this association a lecture was delivered last week in Dublin by Dr. S. G. Moore, medical officer of health, Huddersfield, on "Infant Mortality and its Reduction." The lecturer expressed the opinion that the best way of effecting a reduction in the mortality lay in education of the mother. The lecture was singularly appropriate, inasmuch as it was delivered during the same week that an important report on the same subject was considered by the Women's National Health Association. The report in question bore evidence to the extreme importance of the work now being carried out by voluntary lady workers in Dublin in endeavouring to come in contact with and to convey information and help to poor mothers from the day of their confinement onwards. During the same week the association received the statement of accounts in connexion with the Health Exhibition, Ui Feasnil, held in Dublin last summer. The accounts showed a net profit balance of £2,518 12s. 4d.

Ulster Medical Society.

The first meeting of the society for the session was held in the Medical Institute, Belfast, when there was a large attendance. The retiring President (Sir Peter O'Connell) introduced the new President (Dr. McKisack), who delivered an address on non-valvular diseases of the heart, which it is proposed to publish in full. A hearty vote of thanks was proposed by Mr. John Campbell, seconded by Dr. J. R. Davson, and passed with acclamation, to Sir Peter O'Connell for his services as President and his conduct in the chair. A similar vote of thanks to the President for his valuable opening address was proposed by Professor Sinclair, seconded by Dr. W. L. Storey, and passed with acclamation. Tea was kindly provided by the President.

Report of the President of University College, Cork.

The report of the President of University College, Cork, for the session 1910–11 states that the number of students showed an increase over previous years—415, as against 368 for the session 1909–10. Of these 415 students, 377 were matriculated, 17 non-matriculated, and 21 were post-graduate. The number of new students was 178.

The President alludes to the amount of time occupied by travelling and attendance upon the meetings of the National University by members of the governing body and staff, which continues to be exceedingly heavy. This is one, but only one, of the disadvantages of forming a portion of a Federal University. Another disadvantage of this particular Federal University is that the representation of Munster, instead of being made more equal with Dublin, has already been reduced from 8 to 6, as compared with 21 from Dublin. Two of the original representatives from Munster have died, and the place of one of them has not been filled, while the other has been filled by a gentleman who lives near Dublin. Thus the Cork College is placed in a very unsatisfactory and invidious position by the exceedingly disproportionate representation which it has on the governing body of the university. The President once more urges that great advantages would accrue to the college if it were converted into an independent university. After a careful consideration of the work done in Cork College he can see no reason, either with regard to the number of students, buildings, curriculum, or equipment why their college should not occupy a similar position of dignity and independence. This, he says, is a matter for the people of Cork. If they care to show themselves determined to have a university they can have one.

As regards the foundation of scholarships the college has much to congratulate itself on. Miss Honan gave £10,000 for the foundation of scholarships open to all denominations, and intended solely for needy but brilliant students. The Kerry and Waterford County Council has established scholarships, and, most important of all, the Cork County Council has established ten scholarships of £24 each for three years; also a bursary fund and six post-graduate studentships, two per annum of £150 a year, and tenable for three years.

During the year the new chemical and physical laboratories have been completed, and, having regard to the number of students for which they are intended, will compare for space, equipment, lighting, and general excellence with those of any institution of the kind in the three kingdoms. The completion of the ferro-concrete bridge makes a very handsome approach to the College, and the new wall built by Mr. T. Donovan, which circumscribes the new grounds, adds completeness to one of the finest buildings in Cork.

Boarded-out Children.

On November 3rd the Local Government Board for Ireland received a deputation from the Irish Workhouse Association in reference to the extension of the system of boarding-out children in Ireland. The deputation was introduced by Lord Mayo, who said it wished to speak on behalf of those children now in the workhouses of Ireland who were brought up in these institutions, and started life with the taint of the workhouse upon them. He asked the board to bring pressure to bear on the guardians to adopt the boarding-out system. At present only 2,593 children were boarded out, while 7,279 children remained in the workhouses. In thirty-two Unions the system of boarding-out was not in vogue at all. A most sympathetic hearing was given by the Local Government Board to the views of the deputation, and the Vice-President stated in reply that in his opinion the only way to influence the guardians was by educating public feeling upon the matter.

Relations between Medical Men and Chemists.

An important report has been issued by the Local Government Board, which defines the duty of a chemist towards medical men under certain circumstances. Some weeks ago an inquiry was held in Dublin relative to a charge preferred against Dr. Knox Denham, medical officer to the No. 2 Donnybrook Dispensary District. The charge was made by the compounder for that district, and was to the effect that Dr. Denham had prescribed

overdoses of opium for two dispensary patients. The report of the Local Government Board states that it was the duty of the compounder, if he considered the amount of opium prescribed to be too large, to communicate with the medical officer who had prescribed the dose. In the present case the compounder made no effort to communicate with the medical officer, but himself altered the prescription, and never subsequently mentioned the matter to the medical officer. This the Local Government Board regarded as a grave breach of duty, and, inasmuch as the compounder had been guilty of a similar line of conduct in 1905, the Board suggests that the guardians shall either call for his resignation or arrange for his transfer to another dispensary.

OUTBREAK OF TYPHOID FEVER IN OMAGH ASYLUM.

At the monthly meeting of the Committee of Management of the Tyrone and Fermanagh Asylum, held on November 9th, Dr. Carre, the Resident Medical Superintendent, reported that there had been a very serious outbreak of typhoid in the asylum at Omagh. The first case occurred on September 26th; on October 13th another patient developed the disease, and before October 30th 21 male and 9 female patients, 6 male attendants and 7 nurses were down with the disease. At the date of the report 36 male and 10 female patients, 7 male attendants and the engine man, and 11 nurses were affected. The milk and the water had been examined, and no cause had been found; the sanitary arrangements and the tanks had also been tested. There was considerable overcrowding in the male side. A former chairman of the committee wrote strongly condemning the fact that the sewage was carried in a crude state to the river and there discharged. Further additional help and renewed examination of all possible sources were ordered.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE INSURANCE BILL.

Hospitals Conference in Glasgow.

A LARGE and representative meeting of hospital managers and administrators was held in the Merchants' House, Glasgow, on November 10th, to consider the position of voluntary hospitals under the new Insurance Bill, and the steps to be taken to secure adequate provision for institutional treatment under the scheme. Mr. J. D. Hedderwich, Chairman of Glasgow Royal Infirmary, presided, and representatives were present from the Board of Management of the Royal Infirmary, Edinburgh; the Royal Infirmary, Glasgow; the Western Infirmary, Glasgow; the Victoria Infirmary, Glasgow; the Maternity and Women's Hospital, Glasgow; the Eye Infirmary, Glasgow; the Lock Hospital, Glasgow; Royal Hospital for Sick Children, Glasgow; Royal Infirmary, Dundee; Greenock Infirmary; Broadstone Jubilee Hospital, Port Glasgow; Royal Alexandra Infirmary, Paisley; Aberdeen Royal Infimary; and Royal Infirmary, Perth.

The following resolution was moved by Professor Harvey Littlejohn, Edinburgh, seconded by Colonel Roxburgh, Glasgow, and supported by Mr. T. H. Smith, Chairman, Dundee Royal Infirmary, and Sir William Arrol, Glasgow:

> That the British Hospitals Association again affirms its unanimous opinion that the National Insurance Bill is incomplete unless it provides for the hospital treatment which insured persons must have if their medical needs are to be covered by the bill.

The resolution was carried unanimously.

A further resolution was proposed by Mr. W. G. Black, Glasgow Royal and Eye Infirmaries, seconded by Mr. James Macfarlane, and carried unanimously:

> That this meeting records its conviction that hospital treatment as at present provided cannot be adequately maintained by the Scottish hospitals if the existing sources of income from the subscriptions of workmen and employers are seriously diminished, as in the opinion of this meeting they are likely to be in consequence of the provisions of the bill.

It was further resolved that copies of the resolutions should be sent to members of Parliament and to the local press.

Correspondence.

SPINAL ANALGESIA.

SIR,—I notice in your issue of October 21st, under the heading of "Severe Collapse after Stovaine Injection" (EPITOME OF CURRENT MEDICAL LITERATURE), an abstract of an article by Dr. Ostali, in which he gives details of a case in which spinal analgesia by the use of stovaine (Billon) resulted in severe collapse, the patient apparently narrowly escaping with his life. The dose given was *7.5 cg., and the age of the patient 16* (the italics are mine).

As I am keenly interested in spinal analgesia, especially when induced by the drug used in this case, and in the light of an experience of nearly 1,000 cases, I crave your indulgence to enter an energetic protest against the adoption of so reckless a use of this valuable method. In a boy of the age stated *the full dose for any operation is 4 cg.;* for an anal fistula or for any perineal operation 3 cg. is ample, and should not be exceeded without some very sufficient reason. It is not surprising that in a case such as that reported, where more than double the full dose has been given to a child, the results should be alarming if not actually fatal, for it must be remembered that children are particularly susceptible to stovaine.

I make this protest with a view to preventing the erroneous impression as to dosage which Dr. Ostali's report is bound to convey to those who are, like myself, interested in the method of spinal analgesia, as well as with the idea of combating a certain prejudice against it which is the outcome of conservatism and ignorance of facts, and which I am aware exists in certain quarters. Such an article as that of Dr. Ostali can only serve to undermine confidence in a method which is no less great an advance in modern surgery than was the discovery of chloroform.—I am, etc.,

London, W., Nov. 10th. LAWRIE MCGAVIN.

POLIOENCEPHALOMYELITIS AND PUBLIC BATHING.

SIR,—In concluding a paper[1] read before the Metropolitan Branch of the Society of Medical Officers of Health, October 27th, 1911, upon Acute Epidemic Poliomyelitis, Dr. Batten stated:

> There is but one effective method of dealing with poliomyelitis, and that is by preventive medicine. Physicians and surgeons can do but little to relieve the disease, and it is for the practitioner of preventive medicine, of which this society is representative, to take the matter in hand, and one cannot but hope that Dr. Thomas Buzzard will live to see his wish realized—namely, the introduction of an effective method of combating this disease.

Dr. Thomas Buzzard, in a lecture on the Infective Origin of Infantile Paralysis, in 1898, concluded with these words:

> Infantile paralysis is a peculiarly cruel disease. It rarely has the mercy to kill the patient, but usually condemns the victim to a prolonged existence, embittered by more or less helplessness and deformity. One cannot help indulging in the hope that, should its infective nature be established, the day may not be very far distant when science will be able to introduce some effective method of combating the toxic agent which leads to such appalling results.

Now, Sir, as one who realizes the great economic waste to the civilized world, and the cruel personal nature of the disease accompanied by the very real and lasting grief of sufferers and their kith and kin, and in my anxiety to benefit the human race, I venture to offer a suggestion to bacteriologists, that may or may not be considered by them as of some moment. I am the more especially prompted in my decision after reading Dr. Batten's able paper that

> in the Massachusetts epidemic careful inquiry was made into 150 of the 923 cases which occurred in the year 1909,

and that

> the result of these investigations do not bring into prominence any common factor. It is, however, noteworthy that of the 150 cases 62 were swimming or wading in water more or less contaminated by sewage before the attack.

These remarks particularly appeal to me in view of the remedial methods of bathing-water purification I have for some considerable time interested myself in at Poplar.

[1] *Public Health*, November, 1911.

where I have endeavoured to give every bather a clean and sterile bath. In September, 1909, in two somewhat lengthy reports, and in my annual report for the year 1909 I pointed out to the Baths and Washhouses Committee of the Poplar Borough Council the horrible dangers of the public swimming baths, *inter alia* mentioning how quickly swimming-bath water changes its pristine sweetness even after being used only by a few bathers, particularly so in warm weather, and becomes after use by a number of bathers nothing more nor less than diluted sewage, and this condition exists often before the first day's use is finished. The formation of slime in the bath water was also mentioned and commented upon at length. Mr. Pearce,[2] Medical Officer of Health for Batley, showed that there is manifest danger of infection through the use of polluted bath water.

Dr. Batten in his paper stated "that during the last decade the disease (acute epidemic poliomyelitis) has become widespread in acute epidemic form throughout Northern Europe and America." He also states: "In the Northern Hemisphere the disease always has the greatest prevalence during the months of July, August, and September" . . . "poliomyelitis is prevalent during the summer months in London and especially during August and September" . . . "that poliomyelitis is communicated from person to person probably by means of secretion from the nose and mouth," and that "it may be said that the virus of poliomyelitis has not yet been seen under the microscope and has not yet been cultivated." He also states the disease "has an incubation period of probably less than six days in man, although experimentally the incubation period is between eight to twelve days," and "there are some striking instances where the school has been shown to be the centre for the spread of infection."

As it is during the months of July, August, and September that swimming baths are mostly used, it has occurred to me that it would be of considerable interest to bacteriologists to take into consideration the possible connexion of polluted swimming-bath water, more especially the slime which forms at the bottom of the baths, and the disease and possible determination of one of the causes of poliomyelitis, and to find out if such slime plays any part in the cause of poliomyelitis, and at the risk of telling plain truths to see also if lice (which have been found in the towels after use and in the dressing boxes) take any part. I am sorry I cannot oblige with any of the slime from the Poplar Swimming Baths, as they are kept free of it by the addition of electrolytic fluid manufactured by the Borough Council and added in the proportion of one part of chlorine to two million parts of the bath water.

Dr. Batten states "It was further shown that the virus would pass the finest porcelain filter (Berkefeld and Chamberland)," and he also states that "Shortly, it may be said that the virus of poliomyelitis is a living organism." In my annual report for the year 1909 it is stated:

> Where filtration and aëration are carried out in public baths it is noticed the filters become covered with distinctly offensive slime (aforementioned), occasioning much and continued cleansing of the filters; and then again, unless the bath is entirely emptied and cleansed, slime still remains at the bottom.

In any inquiry into the possible cause of an outbreak of poliomyelitis or polioencephalitis it would be of public interest to find out if patients had frequented a swimming bath within a specified period of the first appearance of the disease, as there must be many swimming baths and outdoor public bathing lakes and ponds, etc., where no precautions for keeping the water pure are adopted.

That these remarks may lead investigators to direct their attention to the composition of the low forms of organisms found in our waters used for bathing, with a view to determining if possible what, if any, part they may play in the production of poliomyelitis, etc., in human beings or animals, is the excuse for my lengthy trespass on your valuable columns, as I entertain a very strong conviction there may be found a possible solution to the present difficulties of the scientific investigator.—I am,

Fredk. Wm. Alexander,
Medical Officer of Health.

London, E., Nov. 11th.

Lancet, September, 1910. In the *Sanitary Record* of April 6th, 1911, there is an article upon the Pollution of Swimming Baths (Bradford Sanitary Association Twenty-ninth Annual Report).

CARDIAC ASTHMA.

Sir,—The challenge of my friend Dr. Mackenzie has been like the planting of the teeth of the dragon by Cadmus, since so many interesting criticisms have sprung up as the result of his letter. The one regret which many of us must feel, above all others, is that the different writers were not present at the meeting in Birmingham, as they would have added very greatly to the value of the discussion.

Nothing that has been written has removed my objection to the term "cardiac asthma," and it is satisfactory to have Dr. Haworth on the side of Sir Clifford Allbutt and myself in this matter. Before leaving the question of terminology, let me point out to Dr. Verdon that the expression "anathema" was employed by Dr. Mackenzie, and not by me, in the first instance.

The case so lucidly narrated by Dr. MacDonald was evidently one of failing heart, since he himself describes it as an instance of enlarged and dilated heart, with well-marked mitral regurgitation, as well as enlargement of liver and spleen, with anasarca, pulmonary oedema, and orthopnoea. The attacks of paroxysmal dyspnoea which Dr. MacDonald describes furnish excellent examples of the condition so often termed "cardiac asthma"—a phrase which Dr. Mackenzie and Dr. MacDonald desire to perpetuate. In such attacks, as mentioned in my previous letter, we have forms of breathlessness in which vascular spasm, directly or indirectly, produces the symptom.

Dr. H. Walter Verdon accuses me of putting forward three assumptions. Does he wish us to understand that angina pectoris is *not* the result of heart disease? His interesting, but unconvincing, paper in the Journal[1] has been kept beside me for future reference and probable criticism. Since the days of Heberden every one who has worked at the subject has acknowledged the dependence of the gravest forms of angina pectoris upon cardiac disease. No further words are necessary on this head. Since the brilliant researches of Dr. Mackenzie on referred pain of visceral origin, it is, as Dr. Verdon remarks, almost universally recognized that the subjective sensation "arises from spasmodic contraction of visceral muscle, and that the impression exciting it is transmitted to a segmentary centre by the afferent nerve of the muscle in which the impression is generated." Certain channels which furnish the course of afferent impulses, as suggested by undoubted clinical facts, have not yet been proved by experimental evidence; yet it is none the less true, as has been pointed out by Dr. Mackenzie and myself, that such tracts exist. It is probable that some of the discrepancies between clinical and physiological beliefs are due to the difficulties inseparable from experimentation on sensory tracts.

There are two different groups of afferent nerves from the heart to the centres. In my Morison Lectures an attempt was made to trace out the different connexions.[2] The afferent impulses passing upwards, in connexion with the inhibiting and dilating mechanism, appear to run in the vagus nerve, and to reach the centre in the medulla oblongata; while the efferent impulses of this system almost certainly arise in the accessory nucleus, whence they pass onwards to join the vagus, by means of which they reach the heart. The afferent impulses of the accelerating and constricting mechanism travel by the inferior cardiac nerve to the inferior cervical ganglion, whence they pass to the seventh and eighth segments of the cervical spinal cord. It is highly probable that they also travel round the annulus of Vieussens, to reach the upper thoracic segments; but nothing certain is known of this. That the sympathetic system is involved is absolutely proved by the occurrence of protrusion of the eyeball and dilatation of the pupil on the same side as is implicated by the pain in some cases of angina pectoris. The efferent impulses belonging to this system flow downwards from the chief vasomotor centre in the medulla, and outwards from the first, second, third, and fourth thoracic segments of the spinal cord. Proceeding upwards in the gangliated cord, they travel round the annulus of Vieussens, and, by means of the inferior cardiac nerve, reach the heart.

If Dr. Verdon will do me the honour of reading what has been written by me upon this subject, as well as some observations by Dr. Gaskell which are embodied in the work

[1] British Medical Journal, 1911, i, p. 613.
[2] *The Nervous Affections of the Heart*, second edition, 1905, p. 32.

mentioned, he will find a full description of the questions involved. It seems clear that, in certain cases of angina pectoris, afferent impulses pass upwards by the vagus, but they much more commonly travel by the inferior cardiac nerve; in some cases, however, it is certain that both channels are involved.

It is possible, as Dr. Verdon suggests, that part of the dyspnœa of angina pectoris results from spasm of intercostal, diaphragmatic, and even laryngeal muscles. This we all freely admit. When he comes, however, to say that the pulmonary artery and the coronary arteries have no vasomotor mechanism, he lays himself open to the charge of unwarranted assumption. It is quite true that very little experimental evidence has, until lately, been obtained in favour of such a vasomotor mechanism: but the recent investigations of Dr. Argyll Campbell* show that in the case both of pulmonary and coronary arteries the administration of pituitary extract, by perfusion, always causes marked and prolonged constriction. Professor Schäfer informs me that he regards this contraction as a fact in favour of vasomotor innervation of these arteries.

Turning to the remarks of Dr. Francis, many facts may be pointed out which render his speculation, for example, that bronchial asthma is due to vascular engorgement, invalid. The well-known turgescence of the nasal mucous membrane is constantly quoted as an argument; but it must be remembered that the nasal mucous membrane contains a form of cavernous erectile tissue, while the bronchial mucous membrane is extremely thin, and has an insignificant blood supply. It may be pointed out, further, that the vascular volume of the lungs does not increase during an artificially produced asthmatic attack. It has also to be borne in mind that no increase in the vascularity of the lungs, such as may be produced experimentally by increasing the blood pressure, has any effect upon the free passage of air into and out of the lungs. Another consideration presents itself in connexion with the innervation of the pulmonary vessels, to which reference has previously been made in this communication. Although it is probable that the pulmonary vessels have a vasomotor supply, it is admittedly insignificant, as compared with that of the peripheral arterioles. When we candidly reflect upon the known effects regarding the bronchial musculature, and the bronchial vessels, we are at once led to the conclusion that all the evidence is in favour of bronchial spasm. Let me point out to Dr. Francis that rings of bronchial tubes, suspended in Ringer's solution, can be caused to contract by the addition of vagal stimulants. Obviously the function of the bronchial muscle is to contract. Can Dr. Francis or Dr. Hare give us one single fact in favour of sudden engorgement of the bronchial mucous membrane? The onus of proof lies with those who adopt this speculation.

It does not seem to me very difficult to explain why the reduction of arterial pressure causes the relief of asthma in such cases as present high pressure. The mere reduction of the pressure is sufficient to lessen the irritation of the medullary centre. After the relief of asthma the periphery is no longer cold, in consequence of the dilatation of the arterioles. Although during the intervals of attacks almost all the patients seen by me during recent years have presented moderate, and even low, arterial pressure, there can be no doubt of the fact that during the paroxysm the pressure rises. Dr. Francis considers that this cannot be looked upon as a sign of muscular spasm. No one is likely to claim it as direct evidence in favour of bronchial spasm, but it proves a general condition of medullary irritation. The fact that sudden change of temperature is a common cause of a paroxysm is not to be regarded as evidence in favour of any theory. No conclusion can be deduced from this undoubted fact.

The last point in the letter of Dr. Francis to which reference need be made is that a hypodermic injection of adrenalin usually gives almost instantaneous relief in a paroxysm of asthma. Now this is a very strong point in favour of the theory of bronchial spasm, since adrenalin has been recently shown to have a marked effect in dilating the smallest bronchial tubes. Access to the original paper has not yet been possible for me: but Professor Dixon has very kindly brought this fact before me.

Before concluding this already lengthy communication let me, in the last place, recognize the value of Dr. Crichton Miller's communication on the varieties and treatment of asthma. He, like myself, regards the underlying factor as a neurosis, and wisely points out how important the treatment of the neurotic tendency is.—I am, etc.,

Edinburgh, Nov. 13th. G. A. GIBSON.

SIR,—No one can fail to be interested in this question which has been brought before the profession in your pages. But I find myself unable to accept either Dr. Gibson's conclusions upon this matter, or to follow the strictures of Sir Clifford Allbutt. The former defines asthma as "a spasm of the smaller and smallest bronchial tubes, brought about, primarily, as a result of a *neurosis*." The latter appears to rest content with the logical deduction that asthma is at best "a good name," and can only be safely used "as a label." It appears to an onlooker that these two well-known masters in medicine are only able to state that asthma is a disease whose origin is enveloped still in impenetrable fog. If we grant for the time being that this label is only attachable to a disease which in its gross manifestation attacks a young subject in early life, and persists with cruel iteration throughout life, its paroxysms being determined by causes which differ in character as much as the physiognomies of its victims differ from one another, then asthma had better be strictly railed off as this and nothing else.

Unfortunately for the conclusiveness of such a view of asthma, "there are no lines of demarcation" which thus fence it off from other forms of disorder in which there is ground for the strongest presumption that there the spasm of the smaller and the smallest bronchial tubes has to be treated if we would relieve our suffering patient. In this, then, there is another example of what Sir Clifford Allbutt so well describes as "the walking dryshod from any one disease in one nosology to any other." If we are to agree with Sir Clifford that "the best names are indeed those which signify the least: which have neither denotation nor connotation, but are mere labels," then it appears to me some of us must perforce begin that most difficult of all lessons—namely, to unlearn what we have thought the result of years of experience had surely taught us as worthy of our acceptation.

Is there any canon of either physiology or pathology which renders unthinkable the conclusion that cardiac troubles produce the very neurosis which Dr. Gibson thinks is the primary cause of asthma? I for one confess to ignorance of the existence of any such canon. Dr. James Mackenzie has certainly focussed current thought upon the nature of the initiatory processes concerned in the cardiac cycle of movements, in a way that few can claim to equal. If these movements owe their initiation to the rhythmic activities of that most sensitive portion of the cardiac muscle—the auriculo-ventricular bundle—is it any cause for surprise that perturbations which disturb the harmony which normally persists in this essential portion of the circulatory apparatus should give origin to, and be accompanied by sensations which, though not consciously appreciated by our cerebral nerve centres, are nevertheless potent in their reflex effects upon those bulbar centres which so largely control respiratory movements? If this is so, then the paths by which sensory impulses originating in the myocardium pass through the lower spinal and bulbar portions of the central nervous system, and excite the action of the muscles of the smaller and smallest bronchioles to spasmodic and anarchic action, is at least intelligently explained. And herein I agree with the view propounded by Mackenzie that cardiac asthma is a veritable entity, and one that we not infrequently meet in the course of our experience at the bedside.—I am, etc.,

London, Nov. 8th. CHARLES GAIRDNER, M.D.

INFECTIOUS DISEASES AMONGST NEGROES.

SIR,—Having perused in the BRITISH MEDICAL JOURNAL of July 22nd your correspondent's account of the observations of Dr. Silverman of Budapest concerning infectious diseases amongst negroes, I desire to say that I disagree with him in certain respects. I have made 820 bacteriological examinations of scrapings from ulcers, and found *Spirochæta pallida* in 797 cases, and, therefore, how can his belief in the absence of syphilis among the negroes be

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* *Quarterly Journal of Experimental Physiology*. 1911. Vol. iv. p. 6 and p. 9.

unnamed? I found tubercle bacilli in 5 per cent. of cases examined by me on the Gold Coast, Sierra Leone, and Ashanti as I have examined about 2,000 cases, tuberculosis therefore exists among the negroes and alcoholism is rife.

Malignant tumours, tuberculous growths, and syphilitic gummata are very common in West Africa, Central Africa, and East Africa. Rheumatism is not so uncommon among the natives as Dr. Silverman states, and cases of relapsing pneumonia can be seen among the natives in the rainy season. Dysentery is very severe in certain parts of Southern Nigeria, Gold Coast, Portuguese East Africa, and Central Africa. From my twelve years of medical research work on malaria and its sequelæ and general native diseases, I strongly recommend examination of the blood for malaria and blackwater fever, as I do. I recommend the microscope as the one and only instrument of value to reach a correct diagnosis in the tropics. Those that only rely on clinical phenomena will be almost always wrong. Allow me also to point out that blackwater fever is a disease sui generis, and stands by itself. Out of 127 cases I always found a special micro-organism in the blood, which I shall term for convenience sake Proteosoma perniciosum hæmatobium, measuring 3 to 5 μ, and not easily stained. The staining I use is carbol-melasine, and I have also been able, after injection of the culture, to produce hæmoglobinuria in animals in from three to ten days. I am now in England and at the disposal of the medical profession to prove my statements.—I am, etc.,

C. ANTHONY,
late Chief Bacteriologist, Medical Research Laboratory, Royal University, Naples.

London, W., Oct. 19th.

DEMONSTRATION OF SPIROCHÆTA PALLIDA.

SIR,—I have read with great interest the convincing article on "The Comparative Value of Certain Microscopical Methods of Demonstrating Spirochæta pallida," by Dr. M. Phillips and Dr. E. E. Glynn, that appears in the issue of the BRITISH MEDICAL JOURNAL of November 9th.

I am entirely in accord with them in their conclusion that dark-ground illumination is by far the best method of demonstrating the organism in question in superficial, primary, and secondary lesions. The authors, after quoting Hoffmann and Ritter, state (paragraph 2, page 1285) that they "have been unable to find any other reference to the employment of balsamic in any English, American, German, or French literature," except in the report of a demonstration that I gave before the Royal Society of Medicine in 1909.

May I point out that F. Gaston[1] and L. Comandon[2] both mention and give illustrations of this spirochæte in their respective works on dark ground illumination; and that they were kind enough to permit me to make use of several of their illustrations for an article that I wrote on the aspect of the diagnostic value of this method of microscopic investigation.[3]—I am, etc.,

HUGH WASSEY EAGLE,
Pathologist to the London Lock Hospital, etc.

London, W., Nov. 11th.

STERILIZATION OF THE SKIN BY IODINE.

SIR,—I note in the BRITISH MEDICAL JOURNAL of November 16th a letter from Dr. L. Sexton, in which it claims he was the first surgeon to use Tincture of Iodine for the sterilization of the skin in surgical operations; and would like to point out that I wrote a short note in the BRITISH MEDICAL JOURNAL shortly before his paper appeared, referring to the use of this drug in Vienna in the hands of Professor von Eiselsberg in his clinic at the Allgemeine Krankenhaus, giving details of his results and stating the strength he used; also I would refer you to Dr. Sexton's paper of the date quoted in which he mentions my paper. It is therefore obvious that he was not the first surgeon to use this method, as I had been using it for two years, and I think I am right in stating that it was entirely as a result of my paper that the method was tried at the Middlesex Hospital under Sir A. Pearce Gould and other surgeons on the staff. (Grossich's paper was the first published in this country, and his solution was 10 per cent. This is the strength used in Vienna, and, if my memory serves me, Dr. Sexton stated that he thought this solution too strong. I have always used this strength, and have never found it produce any skin irritation, and skin abscess and sepsis subsequent has been entirely absent. Apologizing for the length of my letter—I am, etc.,

H. GRESSWELL, F.R.C.S.Edin.

Bovey Tracey, Devon, Nov. 11th.

[1] Ultra-Microscope. Paris, Baillière, 1908.
[2] Lessons on Examen de l'Ultra Microscope. Paris, Steinheil.
[3] The Use of the Ultra Microscope for the Early Diagnosis of Syphilis. February, 1910.

Medical News.

DR. J. C. BOOTHBY, of St. Talmage, has recently died at the age of 122.

SIR DAVID EVAN JAMES, M.D., Lord Mayor of London, will distribute the prizes and address the boys at Epsom College on Founder's Day, July 27th, 1912.

We learn from the King's Clinical Society that a discussion on housesetting is to take place under the auspices of the Physical Society on December 13th. The debate will be opened by Mr. Arbuthnot Lane, and Dr. Shaw, Mr. Stewart, Dr. Sedbrand, and Mr. Bowlands are expected to take part in the discussion.

The annual dinner in connexion with the Royal Free Hospital and School of Medicine for Women is to be held on Wednesday, December 11th, at the Trocadero Restaurant. The chair will be taken by Mr. Stanley Boyd. Application for dinner tickets price 7s. 6d. will be received by the honorary secretaries, Dr. A. G. Phear, 7, Weymouth Street, and Mr. T. P. Legg, 139, Harley Street, up to Friday, December 1st.

The Parish Institute of Social Service and the National League for Physical Education and Improvement will hold a joint conference on "Some Preventive Measures against Consumption" in the library of the institute, 4, Tavistock Square, on Wednesday next, when the chair will be taken by Dr. Arthur Newsholme at 3 p.m. Free tickets of admission must be obtained on application to the secretary at that address.

In view of their departure for India, the Duke of Teck and Viscount Dough, two of the three governors of King Edward's Hospital Fund for London, have, with the approval of His Majesty the King, Patron of the Fund, and the concurrence of the Speaker of the House of Commons, appointed the Earl of Donoughmore, Chairman of Committees of the House of Lords, and the Right Hon. Sir T. Vesey Strong, Bart., K.C.V.O., to act with the Speaker as a Committee to exercise the powers of the governors until their return.

In the list of names elected on November 5th are the following members of the medical profession: Dr. S. H. Alexander (re-elected), Faversham; Dr. J. F. Atkinson re-elected, Saffron Walden; Dr. Fenn, Cowlersen; Dr. W. S. Ellis re-elected, Hartlepool; Dr. W. Gullick, Penistone; Dr. J. E. Harper, Barnstaple; Dr. H. S. McCutcheon Hill, Bournemouth; Dr. G. W. Joseph re-elected, Wrexham; Alderman Surgeon-Major F. L. McSheehy, Wimbledon; Dr. H. Mason re-elected, Leamington; Alderman Dr. Oldershaw, Wallasey; Dr. J. Mercer, Newport, Mon.; Dr. J. Burness Smith, Hereford; Dr. C. J. Vickers, Exeter; Alderman Dr. Young, Bolton.

Additions to Pharm. and Robert Bendix & Brindle du beurre dans le lait de la femme par la centrifugation. [illegible] August, p. 382, the best method for estimating or controlling the proportion of butter in woman's milk is centrifugalization. These observers analysed the milk of forty-six wet nurses, and made out distinct curves in the amount of butter. The more milk yielded the less butter was that milk contain. The milk secreted in the morning holds the largest proportion of butter, that which issues first at each act of sucking yields less than the last drops. If the mammæ are asymmetrical, the milk from the smaller gland contains the larger proportion of butter. The average amount of butter, according to Pfaundler and Bendix's analyses of 3,450 samples, is 3·4 grams to the litre of milk, the maximum 15·4 grams and the minimum 0·5 grams. The influence of multiparity, age, and length of the period of lactation is variable, and in all cases not very marked. A further conclusion is that diet, galactagogics, and menstruation seem to have no effect on the proportion of butter in woman's milk.

Obituary.

SIR SAMUEL WILKS, BART., M.D., F.R.S.,

PAST PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; SOMETIME PHYSICIAN EXTRAORDINARY TO H.M. QUEEN VICTORIA; CONSULTING PHYSICIAN TO GUY'S HOSPITAL.

By the death of Sir Samuel Wilks, which occurred last week, the profession has lost a man who was for more than half a century one of its most conspicuous members in this country. To the present generation he was little more than the shadow of a great name, for he had outlived most of his contemporaries and many of those who might have sat at his feet. In the mid-Victorian era he was one of the greatest of the physicians of London, and his name was known throughout the medical world as a pioneer of scientific pathology.

Sir Samuel Wilks was born at Camberwell on June 2nd, 1824, and was therefore in his 88th year at the time of his death. He was the second son of Joseph Barber Wilks, cashier at the East India House, where many of his ancestors had been before him. Some of these must have been contemporary there with Charles Lamb. Sir Samuel Wilks was one of a large family. Several of them showed an aptitude for art in various forms. A brother, who was an artist, died in early life of consumption. His brother William, who still, we believe, lives in Hampstead, was formerly in the Indian Service, and on his retirement took up painting, in which he achieved considerable success. The eldest sister, Mrs. Briton, was a woman of great ability, and another sister was married to Sir Joshua Fitch, the well-known authority on education. Another sister survives him.

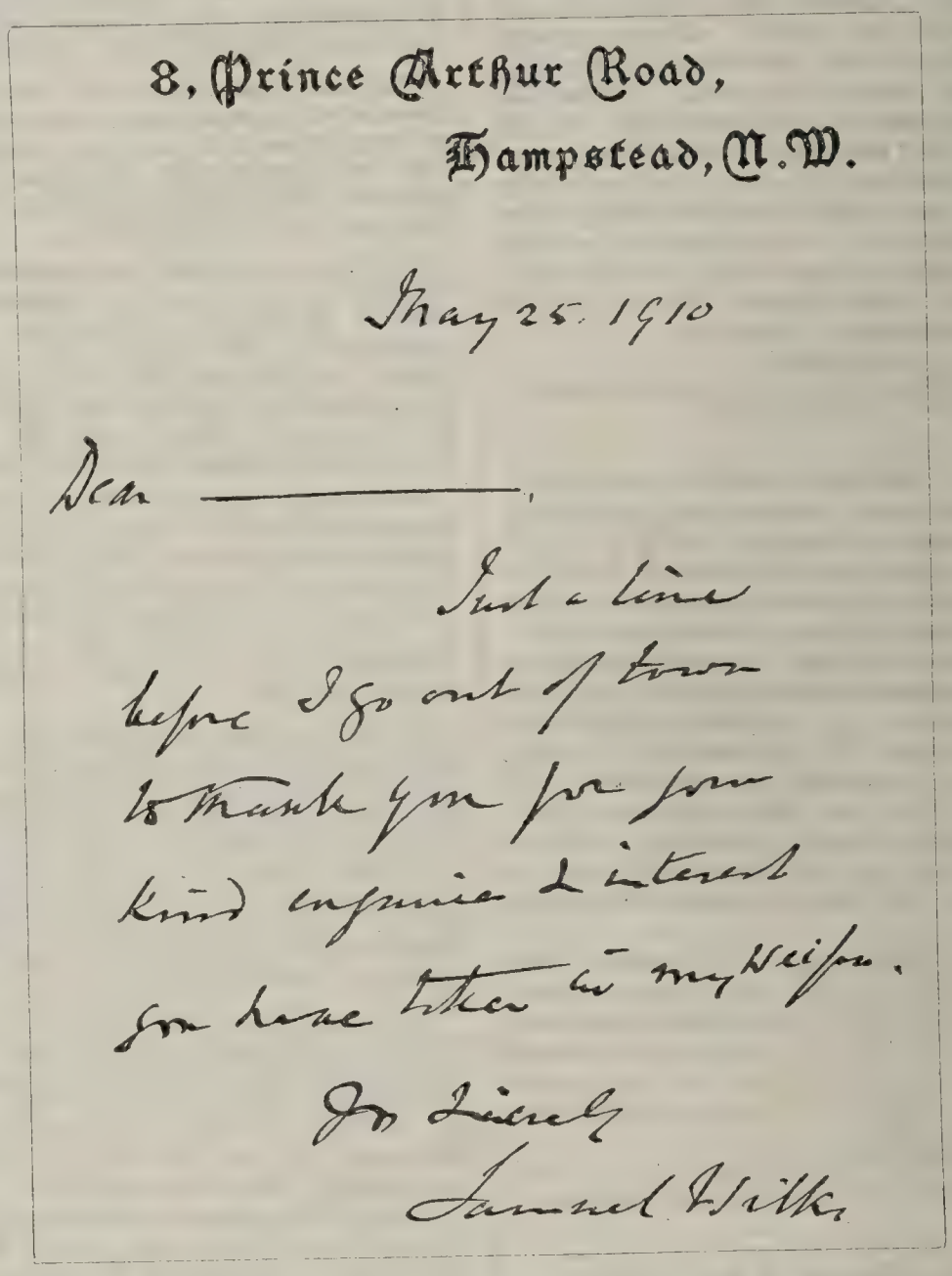

8, Prince Arthur Road,
Hampstead, N.W.

May 25. 1910

Dear ———,

Just a line before I go out of town to thank you for your kind enquiries & interest for those letters in my Preface.

Yr Truly
Samuel Wilks

Samuel Wilks received his early education at a dame's school, and afterwards at a boy's school at Camberwell Green. In 1835, when 11 years of age, he was placed under the charge of the Reverend Dr. Spyers at Wallop, between Andover and Salisbury. In 1836 Dr. Spyers was appointed to the head mastership of Aldenham Grammar School in Herts, and thither young Wilks went with him, remaining for three years. There he received so solid a grounding in classics that, when later he made up his mind to be a physician, he had little difficulty in preparing for matriculation at the London University. At the time of his death he was probably the oldest living old Aldenhamian. In 1839 he went for a year to University College School. In 1840 he was apprenticed to Mr. Richard Prior, the family doctor in Newington. In the second year he attended a course of anatomy given by Bransby Cooper at Guy's Hospital, which was only about a mile distant. In the following year he entered there as a medical student.

Here we may be allowed a short digression on the condition of Guy's at that time. The treasurer, Benjamin Harrison, or "King Harrison," as he was nicknamed, reigned supreme. He had held the office for fifty years. Sir Samuel Wilks gives a thumbnail sketch of this benevolent despot, which we may quote:

> Mr. Harrison was dressed in black, with white cravat and long coat and gaiters, so that his air was decidedly clerical; his walk was slow and stately as became a king, and as he passed along the colonnade all stepped aside with hats off to allow his majesty to pass. Occasionally he would go into the wards, when this obsequiousness was surpassed by the female officials. One sister, whose name I forget, and whose ward cognomen I do not care to tell, bowed so low to the ground and with such an elegant turn of her skirts that she would have adorned any court. All this homage was natural and really deserved, for Harrison's genius had created our school and placed Guy's Hospital among the most prominent institutions of the country. Being absolutely despotic all the appointments were in his hands, and therefore all the officials and servants were indebted to him for their positions.

Notwithstanding the improvements made by Harrison, Sir Samuel Wilks admits that "nothing is more striking than the comparative squalor of the wards" at the time he speaks of when judged by the present standard. There were then no comfortable seats, no pictures, decorations or flowers to make the sick rooms cheerful, and when Christmas festivities were introduced it was said by the old apothecary, Mr. Stocker, that it was enough to bring the old treasurer from his grave. The dietary was of a Spartan character. There were no separate medical and surgical wards, the patients being all mixed together. It was not a very pleasant thing, he says, for the few attentive men around a physician examining a chest case to be suddenly jostled by the larger class of students who accompanied the surgeon crowding around the next bed. At that time nearly all the local applications consisted of linseed poultices made with tow, and consequently the wards had a faint sickly smell. Sir Samuel Wilks says that when he thought of his first entrance there was revived in his memory an odour of mutton broth and sour poultices. Sanitary matters were almost wholly neglected. Lavatories and other offices were then within the wards and in the hospital grounds might be seen the refuse of these rooms. He tells the following story:

> At that time a deer disported itself on some patches of grass in the hospital grounds, and when after some years it died and a *post mortem* revealed cirrhosis of the liver, our pathologist, Mr. Wilkinson King, who, not admitting that this disease had any other origin than alcohol, accounted for the poor animal's death by its feeding on fermenting poultices.

Surely never was the tyranny of a fixed idea more curiously illustrated. Wilks goes on to speak of the vast change in teaching, and we get a glimpse of the studies of the medical student in the early Forties. There were no microscopes, histology did not exist, and physiology was poor. It was included in the anatomical reports, so that when, for example, the liver had been described, it was further stated that its office was to secrete bile. Kiernan had just then published his observations on the anatomy of the liver, and the Guy's lecturer had some diagrams made after his illustration, and attempted to explain the

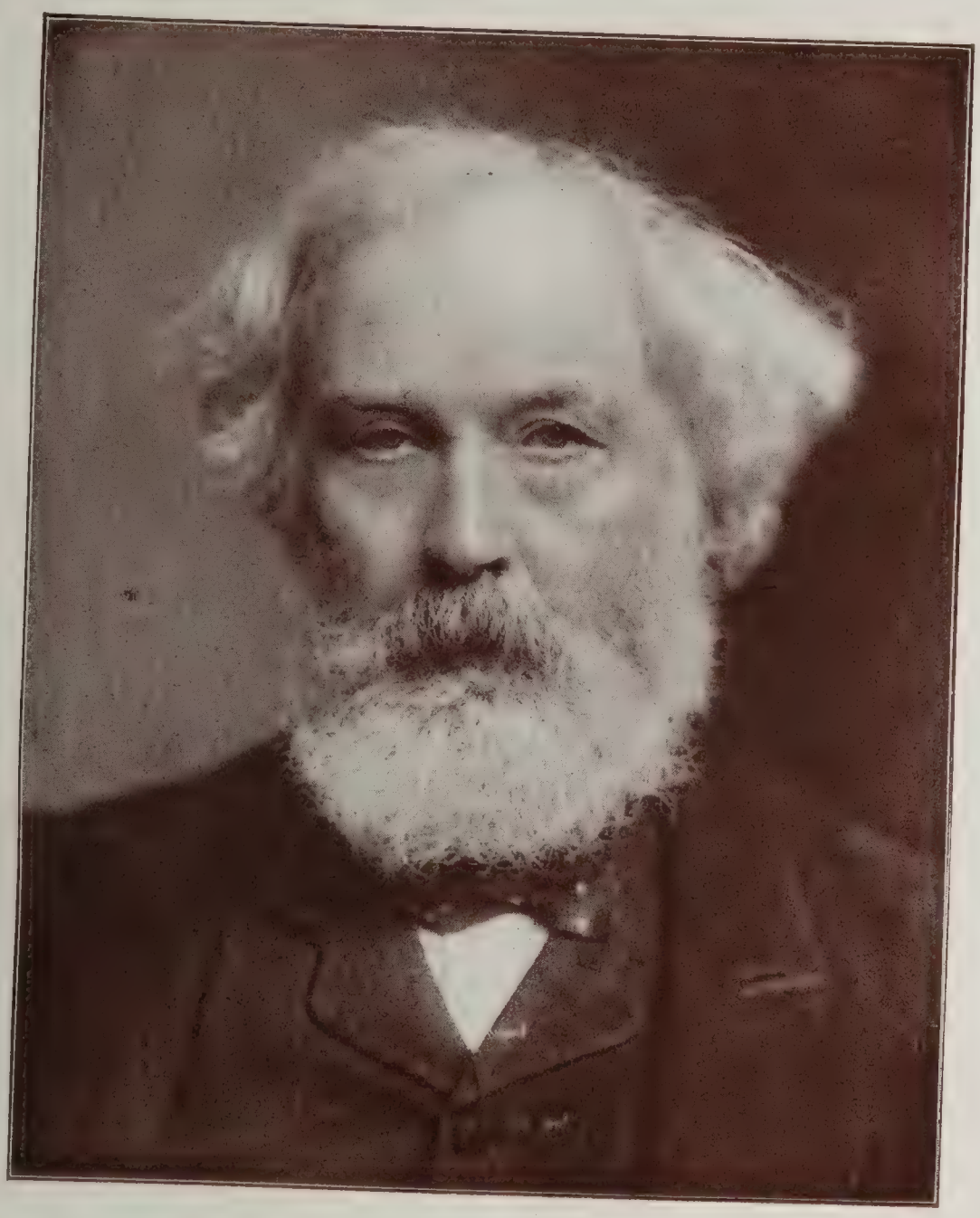

SIR SAMUEL WILKS, BART., M.D., F.R.S.

structure of the hepatic tissue. But, adds Sir Samuel, he got into such inextricable confusion with it, that, after floundering about in the midst of interlobular and intralobular veins, he gave up the task. This picture may be supplemented by a retrospect of the previous fifty years, which was published in the *Practitioner* for June, 1897. He there says that he entered Guy's in 1842. At that time the treasurer was said to have erected habitable wards out of squalid and dirty barracks, by continually cleansing and scouring, but, above all, by his introduction of iron bedsteads, to have made an indirect onslaught on vermin, which enabled him to get rid of his bug-catcher and his salary of £40 a year, his occupation being gone.

It may here be mentioned parenthetically that complaint as to the beds of Guy's being infested by bugs had been made long before Harrison's day by Samuel Sharp, one of the surgeons to the hospital. In a letter dated Florence, April 28th, 1766, Sharp writes:

> I am much pleased with the contrivance used in the great hospital here to avoid bugs; it is no other than a plain bedstead of iron, made so simple that there is not a crevice where a bug can conceal itself. I remember that there have been attempts of this kind made in England, but they have proved ineffectual because they fasten ticking to the frame, with eyelet holes and cording, which afforded some harbour to these animals.
> In this hospital they only lay across the frame about four or five boards a little longer than the width of the frame and about a foot broad, upon which they lay the bedding. These are movable, and, if necessary, may be brushed when the bed is made as easily and in as short a time as a man brushes his hat. In the hospitals at London bugs are frequently a greater evil to the patient than the malady for which he seeks an hospital; and could I have interest enough with the governors to bring about an imitation of this frame, I should be exceedingly rejoiced in the comfort it will afford to so many thousands of miserable wretches that are tormented sometimes even to death by these nauseous vermin.

If the state of the wards in 1842 was so different from what it is now, the behaviour of the staff and the students towards the patients has also greatly changed. Some notion—though no doubt the account is a gross caricature—of the students of that day may be got from Albert Smith's pictures of Messrs. Joseph Muff, Manhug, Rapp, and their companions in the "Physiology of the London Medical Student," which appeared in the first volume of *Punch* (1841). The teachers as well as the students were rougher then than they are now. The surgeon, Wilks tells us,

> with his class went stamping along the wards with their hats on, making a great noise, whilst the former [the physician] and his smaller class proceeded more slowly and quietly, having left their hats on a table near the door. Very strong language, also, sometimes escaped from the lips of the surgeons.

The physicians were more polite, and he did not remember ever having heard one of them swear, except Dr. Owen Rees on one occasion when a patient touched his new hat; but a surgeon in the performance of his duties in using his catheter had been heard to exclaim, 'Damn you, lie still!" Sir Samuel Wilks adds, "This could scarcely be credited at the present day."

In 1847 Samuel Wilks became a Member of the Royal College of Surgeons. Determining to be a physician, he graduated at the London University as M.B. in 1848, proceeding to the M.D. degree in 1850. In December, 1847, Mr. Prior died of pneumonia during the epidemic of influenza which was then prevalent. Young Wilks tried to keep the practice together and then to get as much as he could for it. In 1851 he was admitted a Member of the College of Physicians, of which he was elected a Fellow in 1856. In 1853 he was Physician to the Surrey Dispensary, and in 1856 he was appointed Assistant Physician to Guy's Hospital, becoming full Physician in 1867. On his retirement in 1885 he was appointed Consulting Physician. In 1864 he was appointed Physician to the Hospital for Children in the Waterloo Road; this office he held only for a year.

When Wilks entered as a student at Guy's morbid anatomy had not reached the dignity of a subject for teaching. The *post-mortem* examinations were made for the purpose of diagnosis and to ascertain the nature of the disease from which the patient died. A printed form had to be filled in by the surgeon or physicians stating that the cause of death was one of interest and an examination after death would be valuable. This was delivered to the Steward of the hospital and permission was generally obtained. This method had just been cancelled when Wilks first began his studentship, and the simpler plan of asking the medical attendant if he would like an examination was adopted. As he says himself, his inclination led him to the study of morbid anatomy "because it offered something positive, or, at any rate, more positive than the symptoms of disease in the patient's life-time." His first teaching appointment at Guy's was that of demonstrator of morbid anatomy, and he was for a considerable time curator of its museum. He thus found the opportunity of studying the effects of disease at first hand.

At that time morbid anatomy was a field unexplored by the modern scientific methods. As an illustration of this Wilks says that when he first examined the body of a man who had died of syphilis he could find no account of any such examination having previously been made. He says this necropsy was a revelation to him, as it showed that the internal organs could be affected in the same way as the exterior of the body. So novel was this that some years elapsed before this great fact was accepted by the profession at large. As marking how little pathological anatomy was studied in this country as late as 1850, Wilks quotes a paper by Bransby Cooper, in which he says:

> It is but a few years since the microscope was employed for no other purpose than mere amusement, and a man of science, more especially if he were engaged in the study of medicine, scarcely dared to admit that he sought its aid, for fear of having it said that he was engaged in investigations quite foreign to his legitimate pursuits and that he was trifling away his time.

Cooper then goes on to show the advantages of the microscope with the enthusiasm of a

> Watcher in the skies
> When some new planet swims into his ken.

To the study of morbid anatomy Wilks brought a power of singularly fresh and independent observation; the fruits of this were afterwards given to the world in his famous book entitled *Pathological Anatomy*. This book, which laid the foundation of scientific pathology in this country, was first published in the year 1869. It may be said with literal truth that he followed the Horation precept, *Nonum prematur in annum*, for the work embodied the substance of lectures which he had given in the years 1857–8. In a second edition, which appeared in 1875, he had Dr. Moxon as collaborator. A third edition, largely rewritten by the original author, appeared after Moxon's death. To this book Wilks owed his election to the Fellowship of the Royal Society in 1870. It was, he tells us, adversely criticized in a medical journal, the reviewer taking particular exception to his teaching that the interior of the body could be affected by syphilis just as the exterior. This criticism, says Wilks, with his peculiar dry humour, proved to be his best friend, as it showed his originality.

This was not his first appearance as an author. While he was still a student, a book on homoeopathy by a well-known financial man of the day, made some stir in city circles. Wilks's father asked him to give his opinion of the book. He therefore wrote a criticism which was shown by his father to his colleague at the East India House, John Stuart Mill. Mill read it, but declined to give any opinion on the subject, adding that the most complex and difficult subjects to investigate were those connected with life and the animal functions, which, he added, were the most difficult in the whole range of natural science. The paper appeared in the *Medical Times* of December 7th, 1850, this being the first time that Wilks's name appeared in a medical journal. In 1854 Mr. Poland and Dr. Wilks were appointed joint editors of the *Guy's Hospital Reports*.

Wilks as a clinician gave special attention to nervous affections, and a book on the subject (*Diseases of the Nervous System*), which consisted of lectures first published in the *Medical Times and Gazette* of 1868, appeared in 1878; a second edition was issued in 1883. A series of lectures on the specific fevers and diseases of the chest were published in the *Guy's Hospital Gazette*. The *Biographical History of Guy's Hospital*, which is to some extent an account of the evolution of medical education in London, written by Wilks in collaboration with G. T. Bettany, appeared in 1892. Within the last few weeks appeared his last work. It is entitled *A Memoir on the New Discoveries or New Observations made during the Time he was a Teacher at Guy's Hospital*. It was reviewed in the Journal of October 21st, 1911, p. 1019.

It need only be said here that in the preface, dated July 7th, he says that the object was not to give a personal

account of himself, but his medical history—that is, how far he had a personal knowledge of many diseases first observed. For this purpose he went all through the *Guy's Hospital Reports* and other journals. All this, he says had been put away, having been written two years ago, when, owing to the intervention of Sir Bryan Donkin, it was decided to publish them. Sir Bryan Donkin superintended the work and saw it through the press.

Sir Samuel Wilks delivered the Harveian Oration before the College of Physicians in 1879 and an address to the Pathological Section of the International Medical Congress held in London in 1881. He delivered the Address in Medicine at the Annual Meeting of the British Medical Association held in Birmingham in 1872. He was President of the Section of Medicine at the Annual Meeting held in Cardiff in 1885, and of the Section of Pathology and Bacteriology held in London in 1895. We may be allowed to say that in his later years Sir Samuel Wilks took a keen interest in the BRITISH MEDICAL JOURNAL, to which he not infrequently contributed characteristic letters. Privately, too, he gave us the benefit of many racy comments on matters mainly literary, which had been dealt with in our columns.

The following is a list of his other publications contained in the volume of *Reminiscences* to which reference has been made; they serve to show the breadth and variety of his intellectual interests. We give them just as they are there without regard to chronological order:

A paper on "The Study of the Human Mind" appeared in the *Journal of Mental Science*, and another called "The History of My Parrot," in 1879. To *Brain* Sir Samuel Wilks contributed the following: "On the Pupil of the Eye in Emotional States"; "Sleep-walking and Hypnotism"; "How the Blind Dream"; "Hunter and Shelley." To the *Medical Magazine:* "The Functions and Powers of the Medical Council" (1892); "The Science and Art of Medicine" (January, 1901); "The Relations of Medicine and Surgery" (June, 1903); "The Importance of Studying the History of Disease" (November, 1901); "The Origin of Music" (January, 1904); "The Nature of Dreams" (1904). The *Practitioner* published the following: "Fifty Years Ago" (1897); "Treatment of Consumption: Review of Dr. McCormac's Book" (June, 1898); "Treatment of Pneumonia" (February, 1900); "Alcohol as a Beverage and Medicine" (November, 1902). To the *Lancet* he contributed "Effects of Alcohol," reprinted in a separate form; lecture at Oxford called "Stray Thoughts" (November 24th, 1894); "Scientific Therapeutics" (February 18th, 1871); "Indiscriminate Use of Alcohol" (April 27th, 1867); "Short Memoir of Oliver Wendell Holmes" (July 3rd, 1886); "Homoeopathy and College of Physicians" (January 7th, 1882); "Psychic Force" (November 4th, 1871); "Memoirs of James Hinton" (January 8th, 1876); "Arsenic in Anaemia" (April 11th, 1885); "Hypnotism" (May, 1890); "Influenza and its Effect on the Heart" (April 28th, 1890); "On the Value of Guarana" (September 27th, 1872; see *Aberdeen Medical Student* for November, 1872); "On the Development of the Stethoscope"; "Addison's Disease" (July 28th, 1900); "Congestion of Lungs" (June 18th, 1890); "Blood-letting" (May 23rd, 1891); "On Syphilis" (reprinted 1867). In the *Medical Times and Gazette* there appeared: "Tubercular Meningitis in Adults" (September 12th, 1863); "Rational Treatment of Disease" (March 29th, 1862); "Virchow's Theories" (July 12th, 1862); "On Hunter" (April 25th, 1865); "Perforation of Stomach" (with Dr. Barlow), *Medical Gazette*, March 20th, 1845; "Furrows on Nails," *Pathological Transactions*, March 20th, 1888; "Perils of the Sea Shore," an account of an adventure at Scarborough.

Sir Samuel Wilks was also active in the propagation of scientific ideas. He contributed papers on "Alcoholism" and "Vivisection" to the *Contemporary Review* and the *Nineteenth Century*. *Chambers's Journal* published his lectures on "Overwork," delivered before the National Health Society in 1880; and also another on "Temperaments" in 1876. He also dealt with the subject of vivisection in an address delivered before the Church Congress in 1892. He made this thesis the basis of a little book entitled "The Relation of Man to Animals."

In 1864 Wilks was on the Venereal Commission which was held at the Admiralty under the chairmanship of Mr. Skey. He was appointed examiner in Medicine at the University of London in 1867, and he was also examiner in Medicine at the Royal College of Surgeons of England. In 1884 the University of Edinburgh conferred upon him the honorary degree of LL.D.

He held many offices of dignity in the profession. He was President of the Pathological Society from 1881 to 1883, he then became a trustee of the society. He was elected a member of the Senate of the University of London in 1885 and a member of the General Medical Council in 1887. In 1896 he was elected President of the Royal College of Physicians in succession to Sir John Russell Reynolds; that office he held till 1899. He was created a Baronet in 1897, and in the same year was appointed Physician-extraordinary to Queen Victoria. From the year 1879 he had been Physician to T.R.H. the Duke and Duchess of Connaught. In 1901 he retired from practice and passed the remaining days of his life at Hampstead where he died.

Sir Samuel Wilks married the widow of Mr. Prior, to whom he had been apprenticed. She predeceased him by many years, and he leaves no heir to the title. After his retirement he interested himself in many of the local activities of Hampstead, in the Home Cottage Hospital, and chiefly in the Hampstead Scientific Society, of which he was President for seven years. He attended the meetings regularly, and did a large amount of work for the furtherance of its objects. It was characteristic of the man that he always declared his position to be that of a learner. While following with the keenest interest the progress of medical science, his intellectual curiosity ranged over nearly the whole field of human knowledge. Like the Athenians of old, he was always eager to hear some new thing, and there was no trace in him of the fossilization of mind so common in old age. In his retirement he continued to contribute to the dissemination of scientific truth. Before the Hampstead Scientific Society he delivered addresses on the relation of science to art, in reference to taste and beauty; one on spirals, and a third on ambidexterity. To the *Hampstead Express* he contributed notes on the proverbial unluckiness of May for marriages, and other subjects.

On February 5th, 1904, Sir Samuel Wilks was taken somewhat seriously ill with acute appendicitis. Dr. Pye-Smith saw him with Mr. Boulting, and on the sixth day Mr. Charters Symonds was asked to operate, as there was an increasing swelling and signs of general infection. A very foul abscess was opened and a gangrenous appendix containing a concretion was removed. For the first two days his condition was very critical. After a short period of improvement symptoms of septic poisoning showed themselves, and for some time his life was despaired of. We take these particulars from the *Guy's Hospital Gazette* of February 27th, 1904, which mentions as a coincidence that when last in the Treasurer's office Sir Samuel Wilks was himself commenting on the fashionableness of appendicular abscess. In the number of the *Gazette* of May 7th of the same year there is a letter from him expressing his thanks to the friends to whose ministrations he attributed his recovery. At the opening meeting of the Physical Society on October 8th, 1904, of which he was President, he gave an interesting account of his illness. He said:

> I was, as you know, an example of the disease which of late has been known by that dreadful name "appendicitis." You are aware that Addison published a very perfect account of it in his lectures for 1836, and herein, although he stated that disease of the appendix was the most frequent cause of abscess in the region of the caecum, it was by no means the only cause, and therefore he gave the name of typhlitis or perityphlitis to the inflammation and suppuration which so frequently occurred in the right iliac region. These were by far the better terms, for they are clinical, the only ones which should ever be used in the nomenclature of disease. Pathological terms are bad, as they imply finality, and truths which have not yet been reached. Typhlitis was therefore the correct term to use, as was done in the case of His Majesty the King.

He then went on to relate the condition of septic poisoning which followed in his own case. It will doubtless interest our readers to have an account of it by himself; the closeness of the observation may be said to show the ruling passion strong in death. The whole of the mucous membrane of the alimentary canal, he says, was acutely inflamed. The tongue and throat were intensely red, and the epithelium being gone everything which was not of the blandest description made it smart, so that the very finest champagne and Bordeaux scalded him. All swallowing

was painful, and when the food reached the stomach the direst gastralgia or heartburn came on, most of the fluids which he took returned, and this, with the diarrhoea and paralysis of the bowel, completed his trouble. He pointed out that, although he was often delirious and unconscious, the patient knows how he suffers and must be better aware of the seat of his pain and troubles than those about him. He wasted, and the end seemed to be rapidly approaching. He was given by Mr. Symonds a large quantity of sodium bicarbonate in a tumbler of water; after drinking this he brought it up again, and after that repeated the dose and again rejected it. Judging from his own feelings, he says this was the only drug that relieved him.

Towards the end of 1907 he had another severe illness. In reply to a friend who inquired about this, he wrote:

> In polite language most definite in women—I have had an *internal* complaint. As regards myself this means that as you grow old you have all the grievances described by Shakespeare and Solomon, two very wise and experienced men. For some time I have had derangements of the —— in common parlance—waterworks and marked enlarged prostate. Things got worse until a full stop took place, and I had to call in my neighbour Mr. Jessop, who consulted with my old surgeon and colleague Mr. Symonds. They managed to relieve me, and now to-day, December 24th, 1907, I have left my room and am writing my letters downstairs. The attack was very painful, severe, and doubtless alarming. This is now passing, and I am resuming my old state. According to an old friend of mine who wrote a little book on the chapter beginning "Remember thy Creator in the days of thy youth," the prostate and weak bladder were clearly indicated by the "pitcher broken at the fountain or the wheel broken at the cistern." An old lady whom I had long known and very pious wished to know what was the matter with me, and I referred to the verse and chapter of Ecclesiastes.

Though Sir Samuel Wilks for the rest of his life was more or less an invalid, in a letter dated April 20th, 1910, a friend says: "He reads the newspaper and has eggs and bacon for breakfast." A letter written by him a few weeks after that date, which is reproduced on p. 1384, shows that he was fairly well at that time.

For months before his death he had been almost completely paralysed in his lower limbs, and since May of the present year he was confined to his bed. He died on Wednesday, November 8th. His remains were cremated at Golder's Green on November 11th and a service was held in Hampstead Parish Church. Among those present were Sir Thomas Barlow, president, Dr. J. Mitchell Bruce and Dr. D. Bridge Lees, censors, Sir Dyce Duckworth, treasurer, Dr. J. A. Ormerod, registrar, and Mr. W. Fleming, secretary of the Royal College of Physicians; Sir Henry Morris and Mr. J. Y. W. MacAlister, representing the Royal Society of Medicine; Mr. Rickman J. Godlee, president, and Dr. Clinton T. Dent, vice-president of the Royal College of Surgeons; Mr. H. Williams, representing the Governers, and Dr. Frederick Taylor, Sir James Goodhart, Dr. G. H. Savage, Dr. Hale White, and Dr. Newton Pitt, representing the medical staff of Guy's Hospital; Mr. Gordon W. Goodhart, representing Guy's Hospital Pupils' Physical Society; Dr. Bashford, representing the Imperial Cancer Research Fund; Sir Shirley Murphy, Sir William Bennett, Sir Bryan Donkin, Sir William Osler, Sir John Bradford, and many other members of the medical profession. There were also present the Mayor of Hampstead (Mr. G. W. Holtzapffel), and representatives of the Wells and Campden Society and the Hampstead Scientific Society.

Sir Samuel Wilks was a man of great individuality of character, independence of judgement, and originality of thought. He impressed those who came into direct contact with him with his personality as much as he did the more progressive section of the profession whom he only reached by his writings. He was a teacher of the first order, and not only in pathology but in nervous diseases he was a pioneer. He was a man of the highest intellectual honesty, and was always open to new ideas. He cared little for the credit of priority but was jealous of the fame of Guy's Hospital. Though never a fashionable physician, he was loved and respected by the whole profession. He loathed shams with the intensity of Carlyle, and he was a stern foe to quackery in any form. He had in a very marked degree the courage of his opinions. He would not stoop to humour wealthy patients, and was comparatively little known to the public. He despised popularity, and it may truly be said of him that such honours as he received came to him unsought. He had in him a vein of whimsical humour which made his conversation (though in his later years rather discursive) delightful to those who had the privilege of an intimate acquaintance with him. In the words of a physician of the highest eminence who knew him well, but had not seen him since he was President of the College of Physicians, "He was singularly unselfish, and had the nobility of forgetting himself for truth and honour. Beyond industry and ability, there were some rays in him from the lamp of genius, rays not only of insight but of a certain innocence—a certain perennial childlikeness almost inseparable from genius and a criterion of it." His outlook on life was one of large tolerance, slightly tinged with a not unkindly cynicism. His personal charm attracted every one who came near him. One instinctively felt that he was as incapable of a mean thought as of a dishonourable act.

The feelings with which he was regarded at his own school may be gathered from the *Guy's Hospital Gazette*, which said some years ago:

> To those who are still students he is perhaps best known not as a teacher but as the kindly mentor whose voice first pointed out the right path at the outset of their career at Guy's. There are few of us who have not benefited in some measure from the wise words with which Dr. Wilks has been accustomed, for some years past, to welcome newcomers at the opening meeting of the Physical Society. While urging upon us the things that should be done, and warning us against those which should be left undone, he is never wholly didactic on these occasions. He touches the lighter vein, and makes the tyro feel that his chosen profession has its pleasures as well as its responsibilities.

Dr. Frederick Taylor writes:

When I entered at Guy's Hospital in the middle Sixties the medical staff consisted of Barlow, Owen Rees, and Gull as Physicians, and Habershon, Wilks, and Pavy as Assistant Physicians. Barlow, of whom I saw but little, as he died soon after, was one of the old school, attracting a good class by his careful and scientific consideration of all cases, cautious in diagnosis, and therefore rarely wrong; Rees, impulsive, acute, and shrewd, with a keen knowledge of men; Gull, the great clinical physician and clever practitioner, whose opinions and epigrams were quoted all over the school. Habershon had made his name as a student of abdominal complaints, and Pavy was recognized as an authority, and almost a pioneer, on the subject of diabetes. Wilks was not only Assistant Physician but Demonstrator of Morbid Anatomy, and was already recognized as an authority on pathology, and had written in the *Guy's Hospital Reports* and *Pathological Transactions* most of those articles on Addison's disease, lardaceous disease, Hodgkin's disease, and syphilitic disease of the viscera, which will cause his name ever to be associated with the history of those complaints.

On the retirement of Dr. Gull in 1867 Wilks became full physician, and from that time till his own retirement in 1885 was one of the most attractive clinical teachers.

What, perhaps, struck one most of all in Wilks as a physician was his extraordinarily rapid insight into the nature of a patient's illness. One glance was generally sufficient for him to name the disease correctly; and he would confirm his opinion by a rapid demonstration, going at once to the essential points of the diagnosis, and spending little or no time over details which might, indeed, make the report complete but which were not necessary for the comprehension of the case in its main features. In his clinical remarks he took a broad view of the subject before him, and was not very anxious to hear a long account of the patient's history or of the clinical examination from the clerk, nor to dictate to the clerk for the benefit of the clerk, the class, or himself minute details of the physical signs and symptoms. He was willing to leave that branch of teaching to the registrars and tutors, and deal in a more general way with the wider aspects of the case, its etiology, the difficulties of diagnosis, or the treatment, as might seem to be most desirable.

He drew his illustrations from an immense fund of experience both in private and hospital practice, and overflowed with suggestive remarks as to the natural associations of different diseases and their pathological connexions. And one never failed to leave him with the impression of having learnt a great deal of valuable matter. He was thus a teacher rather for the senior student and practitioner than for the junior men, who could not always readily see how Wilks had come to such rapid and correct conclusions in his diagnosis, especially

as an explanation of the phenomenon was not always forthcoming. For Wilks was not given to much questioning of students to see how much they knew, or to help himself with material for further discussions; and if a rather forward student put a question to him with the object of clearing his mind on the subject, or possibly to show how clever he himself was, Wilks did not indeed resent it, but quietly continued the even tenor of his arguments, as if no such question had been asked. This was not, I am convinced, from any intentional discourtesy, but from his entire absorption in the subject dealt with, and possibly from being wedded to the professorial method, which was, perhaps, more common in that day than this. Incidentally it may be remarked that it is one of the advantages of the system of clinical teaching in England that of the six or eight teachers (in medicine or surgery) with whom any student has to do, there is sure to be sufficient variety of method and style to give every opportunity for a thorough education. As a lecturer Dr. Wilks was highly appreciated for his plain common sense and constant endeavour to put the facts in a clear, intelligible light. A course of lectures which he delivered on "Diseases of the Nervous System" was published, and was much read by Guy's men.

For the specially clinical lectures he did not usually make elaborate preparations, at least at the time when I was his clinical clerk. The reports of interesting cases were sent to him in the evening, and the lecture was delivered at 1.30 on the following day. One evening, by some mistake, the reports were not sent to him; but, with the large experience at his command, he had no difficulty in giving us a most interesting lecture. But while valued for what he could impart in them, the lectures did not represent the highest form of oratory, and did not live in the mind, as did those of Henry Oldham, Hilton, and Gull.

As a consulting physician, Dr. Wilks had a very large practice, especially in the south of London, where, in St. Thomas's Street, he lived until about his 45th year. The practitioners whom he met have no doubt a better knowledge of him as a consultant than I have. That he was much sought after by doctors for his shrewd insight into cases, and for the straightforward expression of his opinions, and that he was very freely consulted by doctors for their own ailments and that of their families there is no doubt; but it is certain that by the very directness of his methods, or by neglect of the *finesse* sometimes necessary in the physician, he occasionally gave offence both to patient and practitioner.

But this was probably confined to the earlier days of his practice, and it is certain that throughout his career, "Sammy," as he was affectionately called, endeared himself not only to all old Guy's men, but to other practitioners, and to his numerous patients.

It was for long a grievance with Dr. Wilks that he was considered to be a sceptic in regard to treatment by drugs. He maintained that he was misunderstood. He had, he said, no great belief in the value of long prescriptions containing salts, essences, and vegetable infusions, none of which had any particular efficacy, and of which one half would perhaps neutralize the other half; but he believed in the value for good of a drug which could also do harm; and he prescribed with confidence drugs like mercury, digitalis, potassium iodide, arsenic, and others. He was no sceptic with regard to them; and he retorted upon his critics that they were the real sceptics, since they were always willing to give up the drugs in which they had professed so much faith directly a new drug came into the market.

When the time came for Dr. Wilks, as he then was, to retire from the active staff at Guy's, he was asked to stay on another year, and happily did so; but even after he became Consulting Physician he remained in close touch with the hospital and school. He was elected on the Board of Governors of the hospital—a rare honour for a member of the staff—and after Mr. Cock's resignation from advancing years Wilks was asked to become President of the Pupils' Physical Society; and he has thus been almost continuously, since leaving the active staff, brought into contact with Guy's students of all ages. Even till quite recently at these annual meetings he was wont to charm the members of the society by his shrewd and humorous remarks and interesting reminiscences, and even as late as October of last year he was present to receive the members and guests of the society at the annual inaugural *soirée*. Nowhere, perhaps, was this faculty of fluent oratory more happily exhibited than at the Guy's biennial dinner of 1896, when he had recently been elected President of the Royal College of Physicians, and when, in response to the toast of his health, he delivered a speech which was listened to with rapt attention, interrupted only by frequent applause and sallies of laughter.

Dr. G. H. Savage writes:

It is difficult with the present deep sense of personal loss to do justice to this great master who, at a ripe age, has passed from us. It is now close on fifty years since I first saw him when I entered Guy's Hospital as a student. Then he appeared to be a man of mature years, yet he has aged very slowly, and, till quite recently, was bright and almost active.

Throughout his long connexion with Guy's he was the beloved physician—all men worshipped him in a special and peculiar way. They saw in him the great physician, but more—the representative of the best in the old hospital. He kept in touch with both present and past students, and his presence, even as late as October, 1910, at the Students' Physical Society, was always warmly welcomed.

Lovable but strong, sympathetic but with little feeling for mere sentiment, he always lived and worked regardless of what others might say about his work. No one having to do with him could fail at once to see his whole-hearted affection for Guy's and its interests. The *Guy's Hospital Reports* contained, he believed, the history of recent medicine and its advances better than any other publication. It is sadly interesting to remember that his death-bed work has been the revising of his *Memoirs*, which have just been published. In these he points out the work of men like Bright, Addison, Hodgkin, and others, and gives very interesting evidence of the personal work done by him in association with these masters in medicine. There was no doubt about his belief in the hospital and his sympathy with every development in pathology. He hated shams and pretences hidden under big names.

When President of the Royal College of Physicians his annual notices on the Fellows who had died during the preceding year were often terribly direct and trenchant.

With all his devotion to his profession he had very wide interests, extending over Nature, art, and literature, and even quite recently he was associated with antiquarian and local matters near his home at Hampstead. One will never forget the old days when, on Sunday evenings, men of all professions and of many types met in Grosvenor Street. There, after supper, in the small smoking-room, discussions on every subject of interest took place, and Wilks was ever ready to add to the interest by quaint remarks. Some of these were not at first recognized as pertinent, but they had always some strange connexion with the subject. Wilks was the old Guy's man's doctor—in fact, he once said but for Guy's men he would have been doing a large, lucrative practice. Yet he never grudged his help to any in distress. He had a rather trying habit at times of talking aloud, and many tales are told of the effect, not always what was desired, of his talking aloud in the presence of his patients. He had strong belief in his own powers, but he knew how to limit their use. He told me once he thought he could do anything he really wanted to, and gave as an example his success in hitting an Aunt Sally in a local fair. It seems almost a sacrilege to speak thus of our dear old friend, but he would prefer to be known as he was. He said to me once, "Many friends say 'If you will do this and that, and not do this or that, you will be a greater success in private practice.'" His reply was simply, "Then I should not be myself—Wilks."

As a teacher he was more suggestive than simply informing. One recalls how he spoke of the ordinary but unimaginative student who, notebook in hand, went round the wards, writing down the name of a disease and the bed-card treatment, and opposite these the doctor's name, taking it for granted, as Wilks said, that the doctor treated the disease, not the patient. His great power was clear and unprejudiced observation, and he was, of course, seen at his best in the *post-mortem* room; there he saw with his own eyes and did not allow any outside suggestion to

modify his judgement. Thus it was that so many things recorded by him were new to medical science. The linking of the clinical with the pathological was his aim, and one remembers well how in the earlier days, when he lived in St. Thomas's Street, he was free of all surgical and medical wards and wandered from case to case, knowing what was coming later for his investigation. And after his long life he suffered from severe and dangerous illnesses, which he looked back on with amused interest, and, though he has been bedridden for some months he has been clear as possible in his mind to the end. As one mutual friend said to me, the last thing that will die in Wilks will be his sense of fun. Now he is but a memory; but such a memory will last more than one life.

Sir Bryan Donkin writes:

I gladly respond to your request for a few words in memory of Sir Samuel Wilks, whom I knew first as a most suggestive and stimulating teacher in 1871, and, not many years later, as a friend. While a student I used to accompany the late Dr. Charlewood Turner round the wards of Guy's during Dr. Wilks's Sunday visits, when he was in the habit of having Socratic talks on clinical cases with a small number of men, including a few, like myself, from other hospitals. The very high value of his teaching, especially at a time when many physicians of London hospitals made no efforts at all in this direction, impressed me deeply; and this impression was strengthened throughout the many years during which I had the privilege and pleasure of his intimate acquaintance. It is, however, more especially the province of Guy's men, past and present, to celebrate his great work as physician, pathologist, and teacher. Many of them will endorse these words of a letter just received by me from one of his old pupils at Guy's:

I have always felt his influence in my own medical work. The sound common sense, the utter contempt of shams, and the desire to do the best possible for the patient that he always showed, are qualities which make for the highest respect.

Sir Samuel had the scientific mind in the highest degree, and followed the scientific method in its widest sense. His irrepressible desire to search out the causes of things, which was the secret of his success both in pathology and clinical medicine, gave him exceptionally wide interests, and rendered talk with him most attractive, not only to scientific men of all kinds, but also to artists, men of letters, and men of affairs. Though his study of Latin and Greek was mainly confined to his boyhood, his strikingly retentive memory enabled him to use these languages both for the practical purpose of the London University examination, and for his frequent pleasure and advantage in later life. While confined to his bed during his last illness he sent me a Greek quotation which he desired me to insert in the book of *Reminiscences* that I was assisting him to prepare for the press. The quotation, which he had not seen for some years, was correctly written in Greek characters, with but one accentual error.

His great power of rapid and comprehensive observation, even of small details, was extraordinary. Invaluable, of course, at the bedside, this faculty, combined with a lively sense of humour, contributed largely to the interest of his conversation. He illustrated the truth of Charlotte Brontë's remark: "I never met an individual devoid of observation whose conversation was interesting, nor with one possessed of that power in whose society I could not pass a pleasant hour."

He read extensively, and had good knowledge of very many of the best English and French writers, including those of poetry and fiction, as well as of scientific and general literature. Few professionally literary men knew Shakespeare or Balzac so thoroughly as he did. How much he must have delighted the members of the "Scientific Society" of Hampstead, where he lived during the last ten years, may be inferred to some extent from the last few pages of the little book of *Biographical Reminiscences* which he published a few months before his death. These pages, and some other passages in this book, are also illustrative of the vein of humour so well known to all his friends.

In this context I may be pardoned by men of Guy's for giving one example—a "chestnut" to them—of that ready humour of Sir Samuel's, which made applicable to him, with the change of one very important word, the line of Byron:

Expert in science *and* expert at puns.

On the occasion of a *post-mortem* examination of a case of cord disease, in which Dr. Wilks was greatly interested, the pathologist had the misfortune to let the cord slip down the sink. "What can be done?" cried he in distress to the expectant physician. "Let us all sit down and sing the 'Lost Chord,'" said Wilks.

His sense of honour in conduct was as keen as his intellectual pursuit of truth, and assisted his wide knowledge and experience in gaining for him a worthy meed of practical success. Modest and unpushful in the extreme, and starting life with no pecuniary advantages, he attained to a large consulting practice which was founded upon the basis of the confidence and respect of those whom he had taught. A perusal of the book of reminiscences already alluded to will exemplify his prevailing lack of self-assertion. Many readers will thus be reminded, or perhaps learn for the first time, of several important observations and discoveries which originated from him, but have been long enough merged in the "corpus" of medical knowledge to obscure their true source. Unless in correction of error he never called attention to his own work. His lovable and sympathetic character was very manifest during his last illness, as, indeed, during the many ailments from which he suffered after retiring from work. Stricken, some months before his death, with a sudden attack of paraplegia, he never complained, and was always thoughtful of those who attended and nursed him. To his friends who came to see him he would not speak of his illness, doubtless knowing that this would distress them, but always endeavoured to converse as if there were nothing the matter. Almost until the last he took a lively inerest in all that was happening in the political as well as in the scientific world. Not many men live so long and full a life, and live it so well and so fruitfully as Sir Samuel Wilks.

Dr. Jessop (Hampstead) writes:

Only a very short time ago I found Sir Samuel reading the British Medical Journal—a habit he continued to within a week of his death. He pointed to the obituary notices, saying:

I wonder if any medical man ever died who was not possessed of all the virtues.

I feel, in writing of his last illness with these words in my mind, one must do so in an entirely unemotional manner, though it is difficult to review a personality that with the growth of intimacy called forth increasing affection and respect, entirely without sentiment. The first thought that occurs to me with my knowledge of Sir Samuel is what a deep sense of gratification he would have felt could he have had a vision of the many eminent colleagues and friends who journeyed to Hampstead to show their respect at his burial service.

For Sir Samuel retirement from active life was not to mean a peaceful old age; for him the last ten years of life were to mean increasing bodily infirmities, leading to acute disease requiring heroic remedies; but to compensate for this his mind was such that, under whatever circumstances he was placed, even in extreme discomfort, it would find something of interest to engage itself with.

It is eight years ago since Sir Samuel had an attack of appendicitis which called for a severe operation, performed by his old friend, Mr. Charters Symonds, and, though entirely successful, his condition was very grave for some time. He may be said to have completely recovered after this operation, and for the next four years his life was a very happy one; he became immersed in the local life of Hampstead. He loved the beautiful heath; he was never at a loss for a companion in his rambles who would appreciate his intellectual acumen and interest in any object, animate or inanimate, he came across. He had the faculty of making the trivial interesting; he would bring home from his walks little treasures; he would then turn up his references and show there was something to be learnt from the most insignificant objects. On one occasion he captured a very large specimen in the trunk of a grand old elm with a curious excrescence, which had to be removed from the Heath; it was too large for the gateway at his house, so he put it in his neighbour's garden (Dr. Bashford's)—a not inappropriate home, as

there was a peculiarly malignant appearance about the outgrowth. At another time two people were sheltering from a storm on the Heath near a hut; this was struck by lightning, and one, at any rate, killed. Sir Samuel was soon on the spot, and spent several days taking observations, and obtained the damaged clothes; and the outcome was a communication to the JOURNAL on Lightning Strokes. Another time something called his attention to finger prints, and he obtained admission to Scotland Yard and investigated the process. These instances, amongst many, will serve to show the activity of his mind and the variety of interests he had at eighty years of age.

Early in 1908 there was a period of intense suffering from cystitis; it was felt there was no other course than to remove the prostate, which Mr. Symonds did by the perineal operation. The operation was entirely successful in relieving his bladder symptoms. Sir Samuel never recovered his physical strength and activity after this; the wasting of his muscles was very marked. He used to quote: "The sixth age shifts into the lean and slippered pantaloon," etc., but his mental activity compelled his weak frame to obedience. His mind, always focussed on the medical world, directed once again his now faltering footsteps to the College of Physicians, to the College of Surgeons, to his old house, and he wished once more to preside at Guy's Physical Society, but this was not allowed. He struggled through a bad attack of influenza, also an attack of bronchitis and an attack of obstruction of the bowels, and twice at this time I was summoned to him in a state of collapse, followed by several hours of unconsciousness.

His physical strength now no longer allowed him to get about, so in the summer of 1910 he began actively to write his last book, his *Reminiscences*. This was done under great disadvantages and growing infirmities, for it was practically compiled only on the volumes of *Guy's Hospital Reports;* he had no modern library to refer to, and it was evident his mental and physical powers were declining. His lumbar muscles were getting so weak that he had to be carried up and down stairs and he was unable to raise himself in his chair. The latter part of the book was written in bed, in a state of paraplegia, the rectum and bladder were paralysed, and practically the only parts of his body he could move were the head and arms. It was truly heroic. Not that it appeared so to him; it was a labour of love; it was as if the cells which had inspired his medical acumen would be the last to be exhausted. The book may not show Sir Samuel at his best, but it is a wonderful production considering the disabilities under which it was written. He could hardly have arranged to get the book through the press except through the kindness of Sir Bryan Donkin. His book finished, he could only get and manipulate one book of reference, and that was an atlas. For some weeks he locked at the *Times*, and any place he came across was duly looked up in an ancient atlas. It was a laborious process. This having palled, for a time everything was looked up in *Whitaker's Almanack*, and the last reference he made was two days before he became unconscious. I told him of a patient who had some liver trouble and of the latest book on the subject to which I had referred. With his then imperfect articulation he said, "I wonder if it mentions Bright's case of acute yellow atrophy," and he was very pleased to find it did. I must mention one more trivial instance to exemplify his inherent desire to know all about a subject which remained with him to the end, and which gift made him a foremost and original pathologist. A few days before he died, late one night I found him with an encyclopaedia propped up struggling to copy a drawing; it was of a nutmeg plant. This arose from his having some nutmeg grated over a pudding he had just eaten.

On Sunday, November 5th, I saw him in his usual position; we had half an hour's conversation. On leaving he pointed to some grapes and insisted, with shaking fingers, on dividing them himself, and by sending a bunch to my wife, but at 2 a.m. I was hurriedly sent for as he was unconscious. He lingered on unconscious till 5 a.m. on the 8th with complete suppression of urine, though no doubt the ultimate cause of death was a cerebral haemorrhage.

Sir Samuel's intense affection for Guy's was one of his predominant characteristics; he loved his old school in a manner I have never seen equalled. Next to this came his affection for the medical friends whose friendship he had had for so many years. The select Fifteen Club, of which he was president, was a source of great pleasure to him. Others more competent than I am will write of his position in contemporary medicine, but I can speak of the value his opinion must have been to the practitioner with whom he consulted, his natural gift of insight, his originality, the thoroughness of his knowledge, and his determination to get to the heart of the subject he was dealing with. These and his hatred of all shams and mannerisms must have made him an ideal consultant.

Dr. J. F. BRISCOE (Alton, Hants) writes:

The death of Sir Samuel Wilks, Bart., may be said to be the close of a chapter in the life-history of a great teaching school of medicine. As a noble follower of scientific truth, from the beginning of his career to the end, it would be difficult to find his equal in any hospital of the United Kingdom. To pen a long account of the career of this great physician would mean diving into the delicate intricacies of a human life. And to compare this human life with that of his fellows in the same calling is a task beyond the skill of any reviewer. But that Dr. Wilks was a great offshoot of the stem of Guy's Hospital none will dispute. Dr. Addison, Dr. Bright, Dr. Hodgkin, Dr. Babington, Dr. Gull, Dr. Moxon, Dr. Hilton-Fagge were all of the same stem, but they differed only in their mental pattern. A few of these physicians suffered from worldly success, and of the rest at least Guy's men can always say that Sir Samuel Wilks never coined money, because he spoke the truth, the whole truth, and nothing but the truth to his patients. As a consultant Guy's men always feared that Dr. Wilks might come out with the truth too bluntly; thus he was not a fashionable physician of his day. It was the Psalms of Solomon that appealed to Dr. Wilks when he removed them from the bed of Dr. Hilton-Fagge, who was in the last breaths of aortic aneurysm, and who died this very month in the year 1883. And to witness the fortitude of Dr. Hilton-Fagge in his dying months is the same as witnessing the fortitude of the greatest scientific follower of truth that the hospital of Guy's can chronicle.

J. MURRAY LINDSAY, M.D.,

FORMERLY MEDICAL SUPERINTENDENT DERBY COUNTY ASYLUM.

DR. JAMES MURRAY LINDSAY, whose death was briefly announced in the JOURNAL of last week, received his medical education at Edinburgh, taking the diploma of L.R.C.S.Edin. and the degree of M.D.St.And. in 1859. He became L.S.A. in 1862, F.R.C.S.Edin. in 1874, and F.R.C.P.Edin. in 1877. After holding the post of House-Physician to Edinburgh Royal Infirmary, he devoted his attention to lunacy, becoming successively Assistant Medical Officer to the County Asylum, Wells, Somerset; Resident Medical Officer to the Camberwell House Lunatic Asylum, and Assistant Medical Officer to the Cambridge County Asylum. He was appointed Medical Superintendent of the Female Division of the Hanwell Asylum at the time when that institution was unfortunately governed by what was termed the departmental system, each principal official—the two doctors (Dr. Sankey being on the male side), the matron, the storekeeper, the engineer, and the clerk—being practically independent and often opposed to one another. The influence of the matron was very considerable. In the contest against this defective form of government Dr. Murray Lindsay, with honest and sturdy integrity, made a very strenuous resistance. The result was that he found it advisable to resign his appointment to take the post of Superintendent of the Derby County Asylum, which he held with great success, and where his ability as an administrator had more scope. From this post he retired on a pension and in ill health some years ago. Dr. Lindsay's thorough and uncompromising directness of view and action made him probably less acceptable to the authorities with whom he had to deal than with his professional colleagues, by whom he was held in high esteem. He worked assiduously with the Medico-Psychological Association, and was its President in 1893.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Scholarships in Natural Science are offered for competition at the following colleges on the undermentioned dates: December 5th: Balliol, Christ Church, Trinity, and Queen's Colleges. January 16th, 1912: Jesus College. March 25th, 1912: University, Lincoln, Magdalen, and St. John's Colleges. March 12th, 1912: Keble College. March 19th, 1912: Merton, Exeter, New College, and Corpus Christi Colleges. July 12th, 1912: Brasenose College.

UNIVERSITY OF CAMBRIDGE.

Dr. William Arthur Brailey, Consulting Opthalmic Surgeon to Guy's Hospital, formerly scholar and Fellow of Downing, has been elected to an honorary fellowship in that college.

The following degrees have been conferred:

M.D.—J. M. Woolley.
M.B.—H. E. Humphrys.

UNIVERSITY OF LONDON.

London (Royal Free Hospital) School of Medicine for Women.

Appointments.

The Council has appointed Dr. Walter d'Este Emery to be Lecturer in General Pathology, and Dr. W. H. B. Stoddart to be Lecturer in Mental Pathology.

Exhibitions and Scholarships.

The St. Dunstan's Trustees have awarded an exhibition, tenable at the Medical School, to Miss N. Gibson, and a special grant to Miss Joyce B. Reed. The School Scholarship has been awarded also to the same student. The Mabel Webb Research Scholarship has been awarded to Miss C. Leetham, who will carry out research in physiology in the Physiological Department.

UNIVERSITY COLLEGE, CARDIFF.

Professor Emrys Roberts has been appointed Instructor in Vaccination to the Medical School.

The Royal Commissioners for the Exhibition of 1851 have invited the College to recommend a candidate for a science research scholarship of the annual value of £150.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary council was held on November 9th, Mr. C. Mansell Moullin, Vice-President, in the chair.

Diplomas of Membership.

Diplomas were granted to eighty candidates found qualified at the recent examination.

Diploma in Tropical Medicine.

This diploma was granted, jointly with the Royal College of Physicians, to one candidate found qualified.

The American Medical Association.

The Chairman reported that Mr. Hallett had been invited by the Council on Medical Education of the above association to address a conference to be held at Chicago on February 26th, 1912, on the subject of the methods of conducting examinations for licences to practise medicine adopted by the Conjoint Examining Board in England; and that, after consultation with the Chairman of the Committee of Management, he (the Chairman) had agreed with the President of the Royal College of Physicians to give Mr. Hallett leave to accept the invitation.

Bradshaw Lecture.

This lecture will be delivered by Mr. R. Clement Lucas on Wednesday, December 6th, at 5 p.m., on Some Points of Heredity.

Resignation of Sir Henry Butlin.

After the ordinary meeting a special meeting of the Council was held to receive the resignation of the President, Sir Henry Butlin, which was occasioned by ill health. The resignation was accepted with regret, and the following motion was adopted:

"In accepting the resignation of the President of the College, as they do very regretfully and reluctantly have just done, the Council desire to convey to Sir Henry Butlin the expression of their deep sympathy with him in that he has been compelled on account of illness to curtail the period during which he otherwise would have held the position of President of the Royal College of Surgeons of England.

"The Council fully recognize and appreciate the intrepid and unflinching manner in which Sir Henry Butlin, in spite of imperfect health and impaired strength has, throughout, performed the varied and important duties of President, and they share with him the disappointment, which they are sure he himself keenly feels, that he is not physically able to continue in office any longer.

The Council, moreover, desire to express their admiration for the ability, dignity, and courtesy with which Sir Henry Butlin has represented the College, and to assure him that the high standard of his example will always be remembered and cherished by his colleagues."

Election of President.

Mr. Rickman John Godlee, M.S., F.R.C.S., was elected President for the remainder of the current collegiate year.

CONJOINT BOARD IN ENGLAND.

At a meeting of Comitia of the Royal College of Physicians on October 26th, and of the Council of the Royal College of Surgeons on November 9th, diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon the undermentioned candidates:

J. W. Adams, T. E. Ashley, C. N. Atlee, C. H. Attenborough, C. C. Austen, *J. B. Baird, J. B. Ball, J. H. Barclay, H. W. Barnes, R. C. Begg, T. M. Bellew, B. Blackwood, G. A. Blake, R. F. Bolt, H. Bullock, M. Burnett, L. C. W. Cane, H. E. Cockcroft, H. A. Cooper, J. L. Davies, H. Daw, L. M. Dawson, E. R. Evans, G. D. D. Fergusson, F. T. Fisher, P. S. Foster, F. Garratt, L. Gibbons, A. S. Gillett, E. F. W. Grellier, J. B. Hance, *R. C. Harkness, W. P. Harrison, J. R. Heath, A. E. Herman, J. W. W. Hogan, G. A. Hooton, A. E. A. Ismail, A. C. Jap, *V. S. Kaufman, R. Kennon, G. E. W. Lacey, W. M. Langdon, †E. M. Livesey, D. C. Lloyd, G. C. Lowe, N. Mahrus, C. E. H. Milner, P. J. Monaghan, R. S. Morshed, S. eMozumder, M. M. Mundon, W. M. Oakden, B. R. Parmiter, H. Pierce, R. E. Porter, T. C. Reeves, *H. G. Rice, J. F. Richardson, H. B. G. Russell. W. A. Russell, L. L. Satow, H. W. Scott, H. W. Scott-Wilson, A. Shafeek, G. W. Shore, T. H. G. Shore, A. B. P. Smith, A. R. Snowdon, H. Stobie, W. A. Stokes, D. M. Stone, E. J. Storer, J. L. M. Symns, C. J. G. Taylor, J. Taylor, J. W. Tonks, P. D. Warburton, J. W. Whiteman, J. H. Wilkinson, T. D. Williams, J. E. S. Wilson, C. C. Worster-Drought, F. C. Wright.

† L.R.C.P. diploma not yet conferred.
* M.R.C.S. diploma granted on October 12th.

Public Health and Poor Law Medical Services.

METROPOLITAN CASUAL PAUPERS ORDER, 1911.

The Local Government Board has issued an Order with the above title which is to come into operation on March 31st, 1912. Under this Order a district conterminous with the Metropolitan Asylum District has been formed and placed under the management of the Managers of the Metropolitan Asylum District. This will place the administration of the casual wards of London under one body, as was contemplated by the Act of 1871. It is believed that the consolidation of the casual wards under one authority will give an opportunity for classification not hitherto practicable. It is intended to enlist the co-operation of the many voluntary agencies concerned with the houseless poor.

ADMISSION OF INFECTIOUS CASES TO WORKHOUSES.

Enteric.—As regards the admisssion to a workhouse of destitute persons suffering from dangerous infectious diseases, the Local Government Board has stated that it is a matter for the discretion of the board of guardians, but observed that it is very undesirable that persons suffering from such diseases should be admitted to the workhouse, the infectious wards provided in workhouses being generally intended only for the temporary isolation of cases arising amongst the inmates. The Board at the same time expressed the opinion that the hospital accommodation required in any locality for the treatment of dangerous infectious disease should be provided by the sanitary authority, who should arrange with the guardians to receive their pauper infectious cases upon terms of payment to be mutually agreed upon.

The Services.

R.A.M.C. LOWLAND DIVISION (T.)

At the regular meeting of the Glasgow Territorial Force Association, held on November 7th, it was reported that Lieutenant-Colonel Somerville, R.A.M.C.(T.), whose term of command in the First Lowland Field Ambulance had expired, had tendered his resignation as a military member of the Association. It was agreed to recommend that Lieutenant-Colonel A. Dryden Moffat, commanding the Second Lowland Field Ambulance, who was next in seniority, be appointed to fill the vacancy.

Captain R. B. Hole, R.A.M.C., from Cosham, has joined the Scottish Command for duty as adjutant of the R.A.M.C. School of Instruction, Lowland Division, Territorial Force.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. N. S. TWIST (Normanton) asks whether readers can give him any particulars of cases of double empyema which have come under their notice.

ANSWERS.

TREATMENT OF CHILBLAINS.

DR. H. PRIEST SHANKS (Southall) writes: In reply to "X. Y. Z.," I have had some very good results from the application of acid. sulph. dil. c. glycerini āā night and morning, or more frequently. To be made more dilute for children, and not to be used on "broken" chilblains.

DR. M. W. BROWDY (Glasgow) writes: I would recommend "X. Y. Z." to put his patient upon a course of strophanthus and strychnine, and apply locally ung. iodi as suggested by Ringer. I remember two cases, both farmers, where this treatment was most efficacious. The extremities should be kept warm, and as a prophylactic friction should be applied.

PSORIASIS.

DR. H. J. THORP (Ipswich) writes to advise "E. J. D." to search carefully for any departure from the highest standard of health and endeavour to correct it. Conditions depressing vitality are common, and require appropriate treatment. He recommends the following treatment: ℞ Salicin gr. xv, in water, three times a day, and the following lotion: ℞ Liq. carb. deterg. ℥ss to ℥ j, aquam ℥ viij; ft. lotio; to be sponged freely over three times a day.

PRACTICE IN SOUTH AMERICA.

A. R.—(1) The rule, both in Rio Janeiro (Brazil) and in Buenos Aires (Argentina), is that foreign medical graduates shall be admitted to practice only after passing a qualifying examination before the medical authority of either place; this rule, however, may be waived in Brazil in favour of the author of a medical or surgical work deemed of importance. (2) In either city a knowledge of Spanish is practically essential. (3) Brazil and Argentina are both rapidly developing countries, but otherwise there would seem to be no special opening in them for either specialists or general practitioners from abroad. (4) Both cities are much warmer in point of climate than Great Britain, and Rio Janeiro is quite close to the tropical zone. Buenos Aires, lying some ten degrees further away from the equator, is in the subtropic zone; the climate is esteemed pleasant. Further information regarding Rio Janeiro can probably be obtained either from the Brazilian Minister, 44, Grosvenor Place, or the Brazilian Consul for London, Coventry House, South Place, Finsbury, E.C.; and respecting Buenos Aires from the Argentine Minister, 2, Palace Gate, W., or the Argentine Consul-General, 3, Budge Row, Cannon Street, E.C. In either instance it is to the Consular officer that application should first be made.

LETTERS, NOTES, ETC.

AN EVACUATOR FOR ABDOMINAL FLUIDS.

DR. C. HAMILTON WHITEFORD (Plymouth) writes: In the JOURNAL of October 28th, p. 1070, Professor Koch of Groningen describes his evacuator for abdominal fluids. A similar instrument, made for me nine years ago by Messrs. Reynolds and Branson of Leeds, was described in the *Medical Annual* for 1902.

THE USE OF OUR AUTHORITY.

DR. JAMES C. HOYLE (Upham) writes: In his address Mr. Stephen Paget sets himself and others this problem: "What would you do if the parents of a child with bad laryngeal diphtheria *absolutely* refused to let you give antitoxin? It is a difficult question. I hope I should have the courage to give the antitoxin by stealth, taking that view of the consequences which has been so well expressed by Lord Milner." In my humble opinion, the question is not difficult. Under such circumstances I should promptly retire once and for all from the case. Further, while taking the same view of the consequences as Lord Milner, I should include the parents as being etiologically connected therewith.

GAS WARMING.

THE principle of the "Syphon stoves" (Clark's patent) seems to be very effective in action and quite simple. The gas burns within an enclosed chamber, drawing its air supply from below. The heated air and combustion products then pass directly upwards through a tube until they meet a baffle plate; this turns them through two descending arms to a chamber underneath the gas flame, where the combustion products condense into liquid, which is daily removed. The heat-producing capacity of the stoves is due partly to the convection from the walls of the tubes through which the combustion products pass, and partly to what remains of the original heat when the air finally escapes after the passage through the condensation chamber. Provision is made for adding moisture to the air if this is desirable, as, for example, when the stoves are used for the warming of conservatories.

A NEW VACCINE APPLIANCE.

OUR attention has been invited by the Association for the Supply of Pure Vaccine Lymph to a device which it is now issuing for the purpose of facilitating the performance of vaccination with success from the point of view both of the production of good pustules and freedom from abnormal inflammation. It consists of a somewhat wide calibred, but otherwise ordinary, vaccine tube containing both the necessary lymph and the instrument by which it is to be inoculated. The latter is a small steel bar occupying about half the length of the tube, its pointed end lying in contact with the lymph. In use, after the arm has been washed, the sealed ends of the tube are broken off and beadlets of lymph distributed on as many spots as desired, such distribution being assisted if necessary by slight pressure on the upper end of the steel bar. The distribution completed, the steel bar or scarifier is pushed sufficiently far through the remaining portion of the tube for its sharp extremity to project. It is then lightly drawn across the skin under the beads, care being taken not to use so much pressure as to cause bleeding. The arm is then allowed to dry in the ordinary way. The device seems worthy of attention, because the existence of the bar in the tube certainly makes accurate distribution of the lymph easier than usual, and the scarifier is ready for immediate use; it has been sterilized before being sealed into the tube, and as only its upper end is touched by the finger in using it to distribute the lymph its point remains sterile until completion of the operation. Should, however, the same tube be used for more than one arm, as might often be the case, it would be necessary to flame the sharp end of the bar in the ordinary way before scratching the second arm. The price of these tubes, which are sold under the name of the "Ejector," is 1s. They hold sufficient lymph for two vaccinations. Other information desired can be obtained from the Secretary of the Association, Mr. Edward Darke, 167, King's Road, Kingston Hill, Surrey.

ERRATUM.

IN the note on Professor Bergson's lectures on the soul, in the JOURNAL for November 4th, p. 1218, col. 2, the word "initiated" (line 19 from foot) was unfortunately printed for "vitiated," the sense of the sentence being thus practically reversed.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

Two Lectures
ON
UNICELLULA CANCRI:
THE PARASITE OF CANCER.

DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

BY

SIR HENRY BUTLIN, BART., F.R.C.S.,

PAST PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS; HUNTERIAN PROFESSOR.

I.—THE PROTOZOA.

In the Bradshaw Lecture of November, 1905, I put forward the proposition that "the carcinoma cell is an independent organism like many a protozoon; that it lives a life which is wholly independent and proper to itself; and that it lives as a parasite in the body of the animal which is affected with carcinoma, deriving its nourishment from this host, and doing nothing to repay the host for the sustenance of which it robs him."[1]

Until shortly before I delivered the lecture I thought that I was the first person to suggest that the cancer cell is itself the parasite of cancer, but I found that Hauser had done so in 1903.[2] And a couple of years ago Dr. Powell White showed me that he had done so in the Erasmus Wilson Lectures at the Royal College of Surgeons as long ago as 1902.[3]

But I think that neither White nor Hauser had carried the matter to its logical conclusion, so far as to insist that the cancer cell is a new organism—a new creation of animal being—not a mere changed cell.*

So far as I know, then, I stood alone in the belief that the cell of carcinoma is a new creation of living beings, consisting of a single cell, and governed by natural laws just as clear and just as defined as those which govern single-cell organisms which are recognized by naturalists. In 1905 I maintained this view only for the cells of carcinoma. For the last five years and more the matter has been constantly before my mind. A great deal of new information and material has been provided during that period, and I am able now to maintain the view, not only for carcinoma, but for every variety of malignant disease.

I am quite aware that my ignorance of biology and of the lowest forms of animal life may render my attempt ridiculous in the eyes of naturalists. And I should never have ventured to undertake the task had there been any person particularly fitted for it, and willing to accept it. A wide grasp of three kinds of knowledge is required—

A knowledge of the protozoa.
Experience of experimental investigation of cancer.
And experience of the clinical pathology of cancer in the human subject.

I do not know any one person who combines these three kinds of knowledge in himself.

There is only one distinguished protozoologist, so far as I know, who is engaged in the investigation of cancer—Professor Calkins, of the Columbia University of New York—and he is not a medical man. And it is, I am sorry to say, notorious that the masters of experimental investigation are, for the most part, very ignorant of the clinical pathology of cancer, while it is equally true that the physicians and surgeons who have studied cancer from the clinical and microscopical aspects, are not acquainted with protozoology or with experimental investigation.

The class to which I have the honour to belong—the clinical pathologists—is looked down upon by the other two classes, and I have been told that its day is past. But I claim a right to present my theory on the ground that I have spent a great deal of time in the course of many years in the study of the clinical pathology of cancer, and that I have been closely observant of the actual work of the Imperial Cancer Research since its foundation, have constantly associated with the staff, and have been a member of the Publication Committee of all the scientific reports which have been published by the Research. On the other hand, I am wholly dependent for my statements on the life-history of the protozoa on the works of Calkins and Doflein, and the references which I have found in them, and to some pretty sharp criticism of my views in a letter which Professor Calkins was kind enough to write me.

I shall divide the subject into two parts. In the first part I shall endeavour to show that there is no essential difference between cancer cells and certain other parasites in the relation to their host. In the second part I shall show that almost all the phenomena of cancer with which I am acquainted can be readily explained on this theory.

The parasites of which I am going to speak are the protozoa; I am not going to speak of such micro-organisms as bacilli and bacteria. I use the protozoa not because I intend to insist that the cancer cells must be included amongst the protozoa, but because they most closely resemble the protozoa in their relation to the body of the host, and perhaps in their mutual relations.

Certain of the protozoa appear only to live as parasites, whilst others of them are never parasitic, and others, again, are able to exist either as parasites, or external to the body of any host. The powers of the parasites are strangely and strictly defined. Doflein[4] (of whose work I am going to make very free use) says:

> When a protozoon gets into another organism there begins at once a fight between the two, which ends in an easy victory of the larger, many-celled beast if the protozoon is not a parasite, and if the many-celled beast enjoys its normal natural resistance. But if the protozoon is fitted for parasitism then the fight is in earnest. And in this fight that organism conquers which is able to overcome the other with its fighting weapons.[5]

But it is quite certain that every parasitic protozoon which finds its suitable host does not succeed in holding its own against the resistance of the host.

Many groups of parasites are limited to certain groups of hosts—the Sarcosporidiidae, for instance, to air-breathing vertebrates—whilst the Gregarinidae have not been found in vertebrate hosts.[6] But the limitations are much more strict than this. For, of the same species of parasite, different varieties are found in different varieties of a species of host. Thus the Sarcosporidiidae, which are believed to be exclusively found in mammals,[7] and which have been found in horses, cows, buffaloes, mice, rats, man, etc., do not all occur equally and at random in all these animals, but certain varieties of the Sarcosporidiidae occur only in certain varieties of mammal. *Sarcocystis miescheriana* inhabits the body of the pig; *Sarcocystis tenella* loves the sheep; while *Sarcocystis muris* is a parasite of the house-mouse and the rat. And those varieties of parasite which are particular to certain varieties of mammal, as the *Babesia bigemina* is to cattle, cannot be implanted in other mammals. Experiments which have been made on rats, guinea-pigs, sheep, and pigeons, have always failed.[8] On the other hand, there are parasites which can exist in several or many varieties of host, yet even these exhibit strange powers of selection. Thus, *Trypanosoma brucei* and *Trypanosoma lewisi* can breed in dogs, in the blood of the same animal, but if they are injected from this blood into rats, *Trypanosoma brucei* disappears, and only *Trypanosoma lewisi* lives and thrives.[9]

Just as particular varieties of protozoa are limited to particular varieties of host, so they are often limited in like manner to particular parts of the bodies of their hosts. Thus, the Sarcosporidiidae are parasites of muscles; Trypanosoma is a blood parasite; the Coccidiidae are parasites of cells, particularly of epithelial cells.[10] But they exhibit powers of selection much more marked than this. *Myxobolus cyprini* is a parasite of the kidney epithelium of the carp. The Sarcosporidiidae not only affect the muscles, but most of the varieties affect particular muscles or groups of muscles. Thus, *Sarcocystis miescheriana* takes to the muscles of the larynx, to the diaphragm, and intercostal muscles; *Sarcocystis muris* affects the muscles of the trunk. And although several varieties of Sarcosporidiidae are chiefly found in the muscles in the neighbourhood of the alimentary canal, which they may have easily reached from the mouth or oesophagus, others of them are found in muscles far distant from the alimentary canal, such as the intercostal muscles, or the muscles of the trunk.

* "All the phenomena of malignant and other tumours can be explained on other grounds—viz., on the view that the cells take on an independent mode of growth, and behave as parasites themselves." "Once the cells have acquired this habit (Adami's Habit of Growth) they behave as independent parasites." (White, loc. cit.)

Other parasites appear to be equally at home in several or many tissues of the host. *Nosema bombycis* (which produces the pébrine disease of the silkworm) occurs in the intestine, the fat bodies, the sexual organs—in short, in all the organs of the *Bombyx mori*.

And, far more remarkable and interesting than this, is the generalization which may take place of parasites which are usually limited to a single structure of the host. Thus, *Myxobolus pfeifferi*, which is usually a harmless parasite in the kidney of the barbel, makes terrible havoc of the same fish in the water of certain rivers (the Seine, the Marne, the Maas, the Rhine and Mosel), where it attacks almost all the organs of the body of the fish—the connective tissue of the intestine, the kidney, the spleen, the liver, but, above all, the muscular system, in which it forms great lumps and tumours, which stand out on the surface of the animal, and are quite characteristic of the barbel-sickness (*Barbenseuche*).[11] (Figs. 1 and 2.)*

It is possible that the protozoa, which are parasitic (some of them, at least), take an active part in their migration. But they are also carried in the blood and lymph to the organs and tissues in which they are generalized. Thus, *Isospora lieberkühni* (a parasite of the frog) first attacks the epithelium of the intestine, then penetrates into the vessels of the mucous membrane, and is carried by the blood to the lungs, liver, spleen, and other parts. *Entamoeba histolyca*, the parasite of dysentery, makes its way through the walls of the rectum, and is supposed to be conveyed through the ductus choledochus into the liver. *Lymphosporidium calkins* (which produces severe epidemics in fish) appears in the form of small amoeboid bodies in the lymph, attacks the muscles of the intestines and other organs, passes again into the lymph in its developed form, and produces numerous spores, which are conveyed to all parts of the body.

It is interesting to observe the changes which take place in many of the protozoa, either to adapt them to parasitism or to altered conditions of life in the bodies of different hosts. Thus, the Trypanosoma will vary in size, in the situation of its nucleus, etc., according to the medium in which it lives. *Trypanosoma lewisi* loses its undulating membrane in certain artificial cultures, and the Sarcosporidiidae are not constant in form, for the cells, closely packed together during their development, mutually deform one another.[12]

Of liability of animals of the same species to a particular parasite, the evidence goes to prove that some individuals of a species are immune to the attack of a parasite, other individuals recover from the attack of a parasite, while other individuals again suffer badly from it, or die. Take, as an example, the haemoglobinuria of cattle (Texas fever), which is attributed to *Babesia bigemina*, a parasite which is not directly transferred from cow to cow, but is introduced into the cattle by a beetle (*Boophilus annulatus*).[13] Whole herds are attacked in the plains of Texas. But all the animals do not show symptoms of the disease, and some of those which are attacked recover. Pigniéres gives an account of a herd of a thousand adult cattle and 450 calves. Of the adults 630 died—an enormous mortality—but only 10 of the 450 calves perished of the disease. Calves, if they suffer at all, suffer mildly. There is generally no haemoglobinuria, and at the end of a fortnight they are often quite recovered. Nevertheless, the *Babesia* may still be found in the blood of these recovered calves, so that they appear to have acquired immunity against the poison of the parasite. Whether they can be artificially immunized by the injection of the blood of beasts which have been cured of the disease has not yet been clearly ascertained.

Although some of the parasites are able to take formed nourishment, most of them, and all the cell parasites, live by osmosis.[14] The Sporozoa, for instance, live exclusively by the osmotic taking of fluid nourishment.[15] Many of them perish with their host, for even if they escape from the dead body of the host, they may be unable to exist outside the body of a host. But they often exhibit a marked tenacity of life; for they may live for days after the death of the host, and of every tissue and cell of the host.

With regard to the liability of parasitic protozoa to death, it is held by Weismann and his school that the protozoa are immortal, in the sense that the young animals are in part composed of the substance of the parent. As a matter of fact, they undergo degeneration, are liable to disease, fade, waste, and die, like other living creatures; and they are often killed by the invasion of their bodies by micro-organisms—the bacteria—which are then parasites of parasites. I must ask you to bear this in mind when we come to consider the cells of cancer presently.[16] It appears probable that the body of the host contains, or may produce on demand, a subtance dangerous to the life of the parasite which is in it. Of this the parasite may die. But if it can withstand the dangerous substance it seems to gain greater strength. It has acquired immunity by its successful resistance to the dangerous substance, and may flourish more actively than before.

But the activity of a parasite is probably not always the same. For, as they show alternate periods of activity and depression in cultures, eating more, growing faster, multiplying abundantly at one time, and displaying sluggard qualities at another (Actinosphaeria, Infusoria, etc.), so it is probable they are subject to similar periods of activity and depression in the body of the host.[17] Whether, during these periods of depression, they are devoured alive by phagocytes I do not know, but their dead bodies appear to be eaten by phagocytes.[18]

The effect of parasites on their hosts depends largely on whether they produce toxins dangerous to the host or not. Many of them (such as the parasite of malaria) are toxic. And these are naturally much more dangerous to the host than the non-toxic parasites. But their virulence varies, like their vital activity; they are seldom or never so actively virulent as the bacteria and bacilli, and take much longer to produce serious or fatal illness in the host.

The non-toxic parasites are much less dangerous to life. They are often unperceived—are mere "commensales." But they may destroy the cells and tissues which they attack to such an extent as to produce serious effects upon the health of the host. They may destroy the host by enormous increase in numbers, and particularly by interfering with the working of vital organs. I have already mentioned the barbel-sickness, which is so fatal to the fish in France and Germany. The tumours sometimes ulcerate. The Coccidiidae appear to produce their effects by destruction of the tissues they invade. *Eimeria stiedae*—a common coccidium of the rabbit—causes the formation of tumours which may grow as large as a hazel-nut, and contain fluid, in which are found quantities of epithelial cells and coccidia.[19] *Lymphosporidium calkins* (a parasite of fish to which I have already referred) is apt to fill the lymph vessels so full that serious disturbance, the formation of ulcers, and death result from the stoppage of the flow of lymph.[20] *Sarcocystis tenella* sometimes chokes sheep by producing great sarcosporidian tumours in the neighbourhood of the air passages.[21]

It seems probable that some parasites are capable of existing during long periods of time, even when they are not living their usual life, in the sense that a parasite which is, under ordinary circumstances, toxic to the host, may cease to be toxic, yet still exist. Thus, *Babesia bigemina* is often found in the blood of calves which have long recovered from the disease which it produces. It is well known that human beings who have contracted malaria may recover from it and may live for years without an attack, and then may be suddenly and unexpectedly attacked, even when they have been living meanwhile in non-malarial regions. It is evident the parasite is living in the body of the host during this long period, but it is almost equally evident that it just maintains its existence, and has lost its activity in the face of the increased resistance of the host.

It will be noticed that I have used the term "power of selection" in speaking of the predilection of particular parasites for particular species of animals, for particular varieties of those species, and for particular organs and tissues of their hosts. The only reasonable explanation of these predilections is that the parasite finds the nourishment suitable to it in the particular host and parts of the host which it infests, or encounters less resistance there. *Eimeria stiedae*, for instance, which is contained in the grass on which many animals are feeding, must have an opportunity of entering the alimentary canal of cows, of horses, of sheep, and other animals. And undoubtedly it does enter it. But the only one of the animals which feed on the grass in which

*The figures illustrating these lectures will be published next week with the second lecture.

they are so abundant which harbours and nourishes the parasite is the rabbit. The waters which contain *Myxobolus pfeifferi* also contain *Myxobolus cyprini* and *Myxobolus neurobius*, and all kinds of fish which inhabit these waters must swallow myriads of all three varieties of parasite. But only the one particular parasite thrives in the one particular variety of fish which it affects. I would keep constantly before your minds this explanation of the power of selection of parasitic protozoa.

Before leaving the parasitic protozoa, two characters which they have in common should be referred to. First, whatever office the parasite may serve—whatever effect it may produce on the host—it, for its own part, has only two objects in view, if such an expression is permitted in speaking of so lowly a creature. It strives to live, and to reproduce—to maintain the individual and to continue the species. If, in a suitable host, it does not succeed in reaching a suitable part of the body within a reasonable period, it will die, and the species will cease to exist in that host. The rapidity and completeness of its destruction will depend on many circumstances, but the general statement is correct.

Second, it breeds true. The young animals are always of the same species as the animals from which they were derived. I believe some doubt has been expressed whether Haemosporidiidae may not be derived from Flagellidia.[22] I am not competent to speak on this, but it may be stated quite certainly that Sporozoa are not bred from Rhizopoda or Rhizopoda from Ciliata—that *Sarcocystis miescheriana* does not become *Sarcocystis muris*, and that *Nosema bombycis* never produce *Nosema destruens*, or the reverse.*

I now come to the comparison between the cancer cell and the parasitic protozoa in their life-history and their relation to the host. And I propose to treat it in the reverse order, taking the individual cells first, and dealing with the characters which they have in common afterwards.

First, I must premise that there is no one cell for every kind of malignant disease, nor is there one cell for the carcinomata and another cell for the sarcomata. Every variety of malignant tumour has its own typical cell, and the characters, the selection of locality, and relations of each variety of cancer cell to the host are sharply defined, and differ as widely as, though not more widely than, those of the varieties of protozoa which belong to the same species.

Take first the cells which resemble the cells of the deeper layers of the epidermis, or of the appendages of the skin. They are very regular in size and shape, and are collected in masses in spaces of the connective tissue, usually of the skin or subcutaneous tissue. The external cells of the group are often modified in shape, and tend to become cubical or even columnar. They seem to have no power of establishing themselves in distant tissues and organs. On the other hand, their tenacity of life in and around the part in which they first appeared is little less than marvellous.

Next, take the squamous cells. They resemble the cells of the epithelium of the skin, but are not so regular in size and shape, and the nuclei are large—out of proportion to the size of the cell. They form masses, which sometimes recall the natural dipping of the epithelium between the papilla, but often seem to be massed together, with no further design than to find sitting, or even standing, room. And in this attempt they are often squeezed in such a manner that they may be elongated, and look more like spindle cells than squamous cells. (Fig. 3.) They extend into the spaces between the muscular fibres as they grow beneath the surface, forming columns of cells which are easily distinguishable. Whenever they are in close and easy relation with the lymphatic glands, it may be accepted as a rule to which there are few exceptions, that they will find their way into those glands, and will grow and multiply there.

Now, consider the cells of spheroidal type. They collect in spaces of the connective tissue, sometimes in such a manner as to recall the structure of the gland whose epithelium they pattern. They spread along the lymphatic channels, and are conveyed into the lymphatic glands, where they are well received and flourish. They are conveyed by the blood into other organs. They can live and multiply in many organs; but they select, by preference, the liver and lungs, and the medullary tissue of the bones, particularly of the femur and vertebrae of the lumbar region, just as certain Sarcosporidiidae have a liking not merely for muscles, but for certain muscles or groups of muscles. They exhibit a wonderful tenacity of life, for, after lying dormant for many years (as many as nine or ten or more), they may suddenly thrive and multiply and produce large masses of their like in the space of a few weeks or months. (Fig. 4.) Although they are probably chiefly conveyed to different regions of the body in the form of single young cells, it is also well known that masses of them grow into the interior of blood and lymphatic vessels,[23] and that the emboli of them may be carried into parts which are favourable to their reception. It is also known that many of them perish in their journeying. They may be found in blood vessels and in the thoracic duct in a condition of degeneration and decay. (Fig. 5.)

One of the most interesting and favourable objects of study is the columnar or cylindrical cell. It resembles the cells of the columnar glands of the alimentary tract. Its tendency is to arrange itself in the same fashion as the columnar cells are arranged in the glands of the stomach and intestine, sometimes so precisely that it is difficult to believe that the section of the carcinoma is not a section of normal glands. (Fig. 6.) But the imitation is usually much coarser, and there is evidence of slovenly work in the characters and disposition of the cells.

As in the previous case, the cell makes its way into the surrounding and subjacent tissues, into the lymphatics and lymphatic glands, and is there speedily at home. It also has a great fancy for the liver, and, in a less degree, for the lung, and it now and then grows in the medullary tissue of one of the long bones—the humerus, for example—or such a flat bone as the ilium.

Now consider the group of spindle cells. They are elongated, tapering at each end. They vary much in size, and their form is often modified by pressure. But the general form is maintained wherever the cells occur. They spread widely in the surrounding tissues. It must be a very wide removal which is to get rid of them. They travel in the blood and in the lymph, so far as we can judge, but although they may thrive in the interior of lymphatic glands, the glands are often free from them. On the other hand, they have a great liking for the lungs, perhaps more than for any other part. They multiply in the lungs so rapidly as to produce large and numerous masses in them, and that is a frequent cause of the death of the host. These spindle cells are for the most part very strong and vigorous, grow quickly and multiply abundantly, and find subsistence in many organs.

There is another variety of spindle cell, which multiplies to form tumours. The cells are often of small size, and the outline of the cell may be so faint and the nucleus so distinct that some of them have been called "fibro-nucleated."[24] These cells are endowed with very limited powers. They spread into the surrounding parts; in these parts they will live and thrive. But they appear quite unable to effect a successful attack upon any distant part, for they are not met with in the neighbouring glands, or in the liver, or lungs, or bones, or elsewhere. It is no excuse to say that their form and size are not favourable to transference by the blood and lymph. They are small and of convenient shape for transfer, much more so than many large spindle cells which are readily conveyed both by the blood and lymph.

Of the round cells, it may generally be said that it is very difficult to distinguish them from the cells of the masses which make up the infective tumours. (Fig. 7.) Indeed, it is often impossible to do so by their anatomical characters. For the most part, it may be affirmed that they possess a remarkable vitality, not exceeded (seldom equalled) by any other cancer cell. They multiply rapidly, so rapidly that in some cases they produce immense masses in a few weeks, and the growth of the mass may be associated with symptoms of general fever. They seem much less influenced by the resistance of the host, or much more capable of finding nourishment, or less dependent on a very special diet, than most other cancer cells. For they seem very little limited to particular organs and tissues compared with most other varieties of cell. They flourish in the lymphatic glands, if they reach them, in the bones,

* There are other properties on which I must not touch, such as the periodicity which some of the protozoa exhibit in relation to their vitality. Time will not permit me to do so. (Calkins, *Protozoology*, 1909, p. 106.)

skin and subcutaneous tissue, kidneys, liver, lungs—indeed, like *Nosema bombycis*, almost everywhere. I believe they would spread all over the body, if the host were not destroyed by them before they have had the opportunity to do so.

There is one variety of cell which I must not pass over without notice—the Giant Cell. These cells only form a certain proportion of the masses in which they occur—less than one-half—and the remainder of the mass is composed usually of spindle cells. Having regard to their size alone, it is not surprising that giant cells travel with difficulty in the blood and lymph.

It would be expected that the spindle cells of which the mass is chiefly formed might travel and establish themselves in other places. But it is notorious that they seldom do so.

These examples will suffice to illustrate the life-history of some of the resemblances of the cancer cells to the parasitic protozoa. It will be seen that they are as careful in the selection of locality as are the varieties of parasitic protozoa. They spread in the interstices of the tissues in which they first appear, as do certain of the protozoa. They are conveyed in the blood and lymph, as the parasitic protozoa are. They are deposited in distant tissues and organs, like the parasitic protozoa, and they show just the same predilection for certain tissues and organs as do the protozoa. They are like many of the parasitic protozoa in the fact that they live almost entirely by osmosis. Like the protozoa, they sometimes live for long periods of time in the body of the host without any sign of their presence, and perhaps in a state of lethargy, until their vigour and activity are restored to them by some lowering of the resistance of the host, or by some change in the part in which they have been lying, which renders it more suitable to their necessities. They do not appear to furnish toxins which are dangerous to the health of the host, so that their effects are produced (like the effects of such parasites as *Myxobolus pfeifferi*) by mechanical causes—destruction of the tissues in which they live and multiply, the stoppage of blood and lymphatic vessels, and the changes consequent on this stoppage. These conditions are naturally more dangerous when they affect the vital parts. On the other hand, when, like the protozoa, the cancer cells are attacked by pathogenic organisms, bacteria and bacilli (as is almost invariably the case when they become exposed), they are rapidly destroyed, sometimes in great masses, and the effect upon the host is disastrous.

Some cancer cells can live for a long time outside the body of the host, although they do not, so far as we know, belong to the class of organisms which are sometimes parasitic, sometimes not parasitic. I am not aware of any investigations to discover the longest period during which cancer cells can exist outside the body of the host. We want further information on this point. But it is certain that they can live for weeks in glass tubes and then be implanted, as if they were but just taken from the mass in which they lived. At present the cancer cells can only be implanted with success in animals of the same species as the animal from which they were taken. In this respect, again, they resemble certain of the protozoa. It may be that, with greater practice and experience, they will be induced to grow and multiply in animals of a different species, but I very much doubt it, just as I doubt whether *Babesia bigemina*—a parasite of cattle—will be successfully implanted in a sheep.

Cancer cells, like the parasitic protozoa, are never transformed into tissues of the host, and the structures which they cause to be built up are for their own service, not for the service of the host. They are not themselves transformed into any other kind of tissue, nor do they transform the cells of the body into cancer cells. From the moment they are first unmistakably cancer cells, they remain cancer cells, and, from that moment, they pursue only those two objects which are pursued by the protozoa—to live and to reproduce. And if they fail in these objects, both the individual and the species perish. Of this ample evidence has been furnished in these last years, particularly by the Imperial Cancer Research for animals, and by Sir Alfred Pearce Gould for man.[25] In reproduction they breed as true as any protozoon. Not only do carcinoma cells reproduce carcinoma cells, and not sarcoma cells, but it is invariably the same variety of cell which is reproduced, with the same properties and powers and characteristics.

It has been said that the cancer cells differ from the protozoa in the circumstance that they are not constant in their method of reproduction, that they multiply by budding or by mitosis, as pleases them, and that the protozoa never do so.

If all the protozoa were thrown into a common receptacle for study, they would also be found to vary in their method of reproduction. I believe it is only because the cancer cells have been treated in this fashion that they seem to be subject to no method. But, separate them, and study them in families, and I think it will be found that they are just as bound in this respect as the families of protozoa. I suspect that the old rule which was laid down—I do not remember by whom or exactly when—is as correct now as it was—that the cells of carcinoma multiply by endogenous multiplication, and that the cells of sarcoma multiply by fission or by budding. The terms used may be different, but I suspect the facts will be the same.

I will not describe the physiological characters of the cancer cell in my own terms, for fear it should be thought that I exaggerate. I will quote Professor Calkins:[26]

> Functionally the carcinoma cell is a more perfect type than its orderly colleagues of the epithelium. It takes in and assimilates abundance of food, grows rapidly (especially when near the immediate source of food—that is, at the growing edge), and reproduces its kind through the same complicated processes that characterize free living cells. In short, it is a complete animal organism in itself, simulating in many ways the parasitic protozoon, but differing in some of the most important respects connected with the continued life of the latter.

I understand that the important respects in which the cancer cell differs from the parasitic protozoa are:

1. "That the cancer cell, so far as we know, undergoes no processes analogous to fertilization."[27]
2. "That it cannot live apart from the organism in which it grows; it cannot be cultivated on artificial media, as we cultivate amœbæ and flagellates."[28]

To the second of these objections it is already claimed by two workers in the Rockefeller Institute that they have cultivated cancer cells in artificial media.

To the first, one can only say that if, in the future, no process analogous to fertilization is discovered in the life-history of the cancer cells, it is evident that the import of the process of fertilization will have to be reconsidered.

If the cancer cell does not conform, in all respects, to the laws which are believed to govern the protozoa, it will still remain "a complete animal organism in itself." A new phylum will have to be founded for it, and laws drawn up appropriate to its life.

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THE million dollar fund for McGill University, Montreal, reached, the *Times* correspondent states, 333,000 dollars (£66,000) on the first day. This included 100,000 dollars telegraphed from London by Dr. James Douglas, Vice-President of the American Institute of Mining Engineers and formerly Professor of Chemistry in Morrin College, Quebec.

THE second International Congress of Entomology will be held at Oxford from August 5th to 10th, 1912, under the presidency of Professor E. B. Poulton, D.Sc., F.R.S. The Executive Committee proposes to find for members of the Congress lodgings in the town, or rooms in one or more of the colleges at a moderate charge, and invites an early provisional notice of intention to join the Congress, in order that the necessary arrangements may be made. The *Proceedings* of the first Congress held last year in Brussels are in the press, and will be published shortly. All communications and inquiries should be addressed to the General Secretary of the Executive Committee, Malcolm Burr, c.o. the Entomological Society of London, 11, Chandos Street, Cavendish Square, London, W.

An Address
ON
NON-VALVULAR HEART DISEASE.

DELIVERED AT THE INAUGURAL MEETING OF THE ULSTER MEDICAL SOCIETY,

BY

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THE subject which I wish to bring before you is one of interest to us all, and one which daily gives rise to problems not always easily solved. I refer to the well-worn subject of disease of the heart, and I wish especially to draw attention to the large group of heart affections which, as to their origin, are, so far as one can judge, independent of valvular disease.

It is, of course, familiar to every student of medicine that disease of the heart may exist without disease of the valves, but I think too much attention is usually devoted in textbooks, and at the bedside, to the condition of the valves, and not enough to the condition of the muscle of the heart.

It may be asked if it is worth while conjecturing as to the part played by the various portions of the circulatory apparatus in the production of heart defects. There can, I think, be no doubt as to the answer. It certainly is worth the trouble to investigate the cause, since upon our accurate knowledge of the origin of the defect must depend our appreciation of the nature and effects of the diseased process; thereby we obtain a reasonable guide to treatment and prognosis. For example, we know that a case in which cicatricial changes in the valve structures have been the cause of heart failure cannot hope to get rid of the valvular defect, and we know that the lesion may be progressive; treatment must be directed to assisting the crippled heart to perform its duties unhindered by accidental or removable conditions; while an ineffectual heart, weakened and dilated by some temporary or removable blood state or strain, offers good hope of more or less perfect recovery when the cause of disturbance is removed and the individual is placed under favourable conditions which may assist him to effect his own cure. Again, certain muscular defects, such as fibrous, fatty or atheromatous degenerations, may tend to progress unfavourably, and prognosis and treatment of such cases must receive appropriate modification.

In addition to the practical utility of this classification, one has the satisfaction of gaining a clearer conception of the conditions which co-operate to produce the enfeebled heart, and a more rational explanation of the various phases of inefficiency which the heart presents in the course of the complaint.

There is a certain confusion in the use of the term "heart failure" or "heart inefficiency." By some it is taken to indicate syncope and complete prostration; by others the any degree of impairment of the action of the heart which may be observed by the physician. The normal heart is provided with a generous store of "reserve force," over and above the "working force," which suffices for the needs of the circulation while the body is at rest. Should the heart be damaged by any means the reserve force may be enough to enable the individual to perform comfortably the usual activities to which his habits and life are suitable; under these circumstances there is no heart failure. If, on the other hand, he finds that he is unable to call up such ordinary muscular energy without showing the well-known signs of heart inefficiency, he may be regarded as a subject of heart failure. Therefore, I would define heart failure as a condition in which the heart's function is obviously disturbed by an amount of bodily exertion which should cause no inconvenience to a normal individual of the same age and habits.

There are two main groups of conditions in which heart failure occurs—namely, those originating in disease of the cardiac structures, and those arising from lesion of the cardiac muscle.

Regarding the first group it is to be remembered that endocarditis which produces such a severe crippling of the organ as to render it ineffectual in spite of its large reserve power, must be very destructive. It has not been shown by *post-mortem* examination that recent simple endocarditis due to rheumatism or other blood poison can produce such extensive valvular lesions as to upset the efficiency of the heart; such destructive effect could only be exercised on the valves by the more active necrotic processes of infective or ulcerative endocarditis. Should, however, the inflammation of the valve structures have commenced or taken place some time previously, the cicatricial contraction which usually follows the deposition of inflammatory products in the tissues may result in such deformity of the valve structures as to render the valve mechanism seriously defective. We may therefore assume that heart failure occurring in the course of a recent endocarditis (rheumatic or otherwise) cannot be the result of disease of the valves alone; but when an interval of time has elapsed since the onset of endocarditis, the probability of valvular origin of the heart failure is considerable. It must also be borne in mind that definite changes of an inflammatory character have been found in the muscle of the heart in cases of rheumatism, and also of many other fevers, such as influenza, the exanthemata, tuberculosis, etc. Owing to these changes, the heart muscle is unfit to stand the strain of any considerable exertion, and the condition of muscular tone which maintains the normal size and capacity of the heart chambers is interfered with. This is the chief factor in the cases of heart failure occurring early in first attacks of acute rheumatism.

The bulk of the cases of heart inefficiency due to valvular disease are, then, the result of long-continued and progressive cicatricial changes, rather than active destructive inflammation of the valves, chiefly affecting the left side of the heart, and resulting not only in incompetence of the orifice affected, but very frequently, as a result of cicatricial contraction, in narrowing of the orifice. This specially applies to the mitral orifice, but in many cases it applies also to the aortic.

The remaining groups of valvular heart affections, namely, those due to disease spreading from the aorta, and those resulting from traumatism or tumour formation, need not detain us now, as it is of those instances of heart failure not the result of valve disease that I wish specially to speak. The chief causes which thus damage the heart muscle are either inflammatory changes as above mentioned or degeneration of the muscle fibres. The inflammatory injury is commonly the result of the toxaemia of fevers, the chief of which is rheumatism, but familiar examples are seen in pneumonia, measles, scarlet fever, typhoid, and other exanthemata. A cloudy swelling of the muscle fibres occurs in almost all pyrexial states, and more definite inflammatory infiltration is common under these circumstances.

The degenerations are even more numerous and striking in their effects. Among the commonest is the fatty change caused by an imperfect blood supply to the muscle. This is found to occur in all cases of severe anaemia—for example, pernicious anaemia, chlorosis, haemorrhage, inanition from improper or insufficient food—and it is one of the factors in the heart muscle weakness of acute rheumatism and other fevers, in which the blood examination usually reveals a marked anaemia. Mechanical interference with the proper blood supply to the heart walls is a not infrequent cause of fatty and fibrous degeneration, and occurs in atheroma, thrombosis, or embolism of the coronary arteries. Fibrous changes may occur in the heart muscle analogous to those occurring in the systemic arteries, and probably owing their presence to similar causes—namely, strain, toxaemias, especially gout, high tension in the circulation generally, and especially as found in the contracted kidney. This condition of cardio-sclerosis is also likely to result from long-continued efforts of a heart, damaged by valve defects, to maintain an efficient circulation, and is the usual form of degeneration which attacks a heart hypertrophied by this or similar causes, and hastens the dilatation and breaking down of compensation under unfavourable circumstances.

A brief reference will suffice for a third group of heart failures—those due to nervous lesions. The syncope and cardiac failure occurring after influenza and diphtheria are often of this nature, though the pyrexial changes in the muscle fibres may also be responsible.

It is generally admitted that the decision as to whether a heart lesion is of valvular or of muscular origin is in many cases difficult and at times impossible. Before going further into the question, I should like to quote briefly the opinions of a few writers. Most of the quotations have reference to that valvular lesion which is so common and in which it is so difficult accurately to allocate the due proportions of each factor, muscular and valvular, in the production of heart failure—namely, mitral regurgitation. (Quotations were then given from the writings of Allbutt, Balfour, Bramwell, Broadbent, Lindsay, Mackenzie, Osler, Sansom, Steell, and Whitla.)

There is in the main a unanimity of view among these observers. All are of the opinion that mitral regurgitation is commonly produced by dilatation of the walls of the heart as well as by damage to the valve structures. Some lay more stress on this muscular factor than others. Balfour, Graham Steell, and Mackenzie may be mentioned as apparently regarding the valve element as less important than the muscular. It will, I think, be unnecessary to occupy time with arguments to prove the importance of properly contracting heart muscle to ensure the efficient closure of the mitral valve; you are all aware of the part played not only by the musculi papillares, but also, as was shown as long ago as 1882 by McAllister, by the sphincter-like ring guarding the orifice. What, I think, is not sufficiently realized by us all is that mitral regurgitation is a not very rare result of pure muscle lesion in rheumatic cases, and is a very common outcome of muscular debility in numerous other morbid states.

On examining a case of heart failure we generally find some evidence of enlargement of the heart, usually one or more murmurs indicating possible valvular lesions, and then a series of secondary results of defective circulation, shown by the familiar disturbances of liver, lungs, etc., with oedema, dyspnoea, and other indications of the inefficient heart. To the observer the most striking abnormality is usually the murmurs, which perhaps unduly occupy one's attention in such circumstances. I will refrain from the inquiry whether these murmurs are in all cases indications of actual lesion, or are only functional or accidental sounds which have no pathological significance, and I shall restrict my remarks to the question whether the various murmurs to be heard in cases of heart failure are the result of lesions of the actual valve structures, or arise from damage to the walls of the heart chambers. The solution of this problem lies at the root of the whole subject of the origin of heart failure, and I propose to take up as briefly as possible the various murmurs and the lesions which our experience leads us to believe they indicate.

In illustration I shall briefly refer to a series of cases of heart failure of which I have examined the records. They are 200 consecutive cases admitted to the wards of the Royal Victoria Hospital as heart disease, and the diagnoses placed the lesions in the following proportions:

	No. of Cases.	
Mitral stenosis alone, or with mitral regurgitation	37	60
Mitral stenosis, with aortic disease ...	23	
Mitral regurgitation alone, or with tricuspid regurgitation	82	126
Mitral regurgitation, with aortic disease	44	
Aortic disease alone		8
Tricuspid regurgitation alone ...		2
No murmur		4
Total		200

The milder degrees of heart failure may not come under the notice of the physician, and are, at any rate, not likely to be commonly found in the wards of a hospital. In recording experience of hospital cases of this description one must therefore miss a very large proportion of such cases existing among the class of patients who make use of the hospital; hence, the figures to be obtained by analysing the records are not very convincing; such as they are, however, they are worth looking into.

There is one lesion which leaves no doubt in one's mind as to its origin, and it may be at once dismissed—and that is mitral stenosis, with which two murmurs, the presystolic, and the earlier diastolic murmur heard best at the apex, are associated. This lesion, which, for obvious reasons, is almost always associated with regurgitation, occurred sixty times among the 200 cases. It is invariably the result of cicatricial or adhesive changes in the valve segments or of the orifice itself; indeed some authorities, from the time of G. W. Balfour till the present, assert that endocarditis, if it affect the efficiency of the heart, does so by producing an obstruction at the mitral orifice, without, however, restricting itself to this lesion. The corollary to this assertion is that, unless mitral stenosis can be diagnosed, the case is not one of endocarditic or valvular origin. That is an extreme view, which is not in agreement with the experience of most observers.

It is with mitral regurgitation that the chief difficulty rests. This lesion was diagnosed in 126 of the 200 cases, either alone or in combination with other valve lesions (excluding mitral stenosis).

First let us consider a case of heart failure in which there is mitral incompetence without evidence of other valve lesion, the lesion being, so far as we can find out, of recent appearance. Such cases are not very commonly met with in the Royal Victoria Hospital, but are, I expect, more frequent in the children's hospitals. It would be easy to furnish from the 200 cases examples of this as of most of the other varieties of heart failure to be considered, but I do not think I am justified in occupying your time with a mere recital of appropriate cases.

As stated above, simple endocarditis which has been of short duration cannot sufficiently damage a valve to produce a reflux which would be extensive or copious enough to prevent the heart accommodating itself promptly to the unfavourable circumstances. It is only in the event of the heart being unable to overcome the defect by means of its liberal supply of reserve force that symptoms of heart failure appear. In this event either the valve lesion is more serious than could be expected from simple endocarditis, or the reserve force is not available—the former condition is found in ulcerative endocarditis, and the latter is fairly common as a result of inflammatory or toxic invasion of the heart muscle as a result of the same morbid state which had caused the accompanying endocarditis. In such a case the heart failure is entirely due to muscular causes, though there may be a valve lesion as well. The latter, however, cannot be looked on as the cause of the heart failure; unless such a valve lesion progress further by cicatricial change or by successive attacks of endocarditis, it may be practically disregarded. It is the lapse of time, bringing with it cicatricial contraction in the inflamed tissues, that works havoc with the valve curtains. In some cases the inflammation has been so slight that the cicatricial changes are trifling, and soon come to an end; the heart muscle recovers its power, the heart failure disappears; the murmur remains, but the case remains stationary. The question, then, as to whether the valve changes are progressive or stationary has to be decided, and it can only be decided by time.

An even more favourable issue of this class of case less frequently occurs. The toxic influence was mainly exerted on the myocardium, and the endocardium suffered but little or not at all. Here recovery of the muscle's tone results not only in restoration of an efficient circulation, but also in disappearance of the mitral murmur.

Next take the more common instance of heart failure in a case of rheumatic mitral regurgitation known to have existed for some time, in which there is no definite sign of any other valvular lesion, but in which the heart is enlarged. Is the heart failure in this case due to valvular disease alone, to muscular defect, or to both combined?

If one could feel certain that the mitral valve was only incompetent and not contracted, the failure would be the direct result, in my opinion, of the muscular change alone. I do not assert that the valve is without blame, but I believe that the permanent damage to the valve is insufficient to cause inefficiency of the heart, and for this reason—the case is one of mitral regurgitation of some standing, therefore if there had been any considerable inflammatory change in the valves, time would have produced cicatricial changes, and such changes are practically certain to narrow the orifice in time. Further, in such a case, where rheumatic poison caused endocarditis it is probable that myocarditis also occurred; for the heart muscle is more frequently affected by the poison than is generally supposed, and in all probability those instances of moderate valvular lesion with failure of com

pensation are also cases of myocarditis. Here the muscle fibres yielded not only because of the strain imposed on them by mitral reflux, but also because of the toxic injury to their fibres, whereby the muscle tone was impaired. Granting, then, that there is no obstruction, the inefficiency of the heart must be due chiefly to muscular defect, which not only weakens the contractile power of the heart, but also by dilatation increases the incompetence of the valves. But it may be said that it is the damaged valve which has injured the muscle of the heart—that is, the compensatory hypertrophy has broken down and the muscle fibres have undergone degeneration. That is possibly but not certainly the case, but the point is that the valve structure is not sufficiently injured by endocarditis to disturb the efficiency of the heart, and many cases of the kind, in which there is mitral regurgitation with moderate hypertrophy, remain perfectly efficient during a long lifetime; hence degeneration with dilatation is no necessary consequence of a leaking mitral orifice. In these stationary cases the muscle has probably escaped injury from rheumatic poison. When, under treatment, a case of heart failure of the kind we are considering makes improvement, the dilatation grows less, and the "relative insufficiency" of the mitral valve diminishes. Such a favourable course differs only in degree from the more perfect recovery in those cases of mitral regurgitation which are known to be due to muscular relaxation alone (Balfour's "curable regurgitation").

The relation of the remaining valvular inefficiencies to muscular defect need not occupy much time.

Tricuspid regurgitation is almost invariably the result of dilatation, while tricuspid stenosis, which, like the similar mitral lesion, is a purely valvular affection, is very rare. Pulmonary incompetence is uncommon, and is usually the effect of dilatation, though endocarditis may exert its evil influences on both orifices of the right ventricle perhaps more frequently than is generally believed. The rare pulmonary stenosis is the result of this unusual occurrence of right-sided endocarditis.

Aortic disease in young subjects is usually the result of endocarditis, in which case it is almost always combined with mitral disease; but incompetence of the aortic valve not uncommonly results from dilatation. In middle and old age aortic disease is, as a rule, part of an arterial change, in which the aorta takes a prominent part, and the valves suffer in consequence. At the same time the ventricle under these circumstances usually becomes dilated, partly as a result of fatty and fibrous degeneration and partly the effect of mechanical causes set up by the defective aortic valve, so that a vicious circle is established.

In the series of 200 cases above referred to there were 4 cases of aortic disease associated with mitral regurgitation, as well as 23 cases with mitral stenosis; there were also 8 cases of aortic disease without obvious lesion of other orifices.

Excluding the cases of mitral stenosis, then, there were 2 cases of aortic disease, due to either valvular or muscular disease, and the table gives details as to ages and as to the presence or absence of a history of rheumatism.

Fifty-two Aortic Cases (excluding Mitral Stenosis).

Mitral Regurgitation and Aortic Disease... ... ... 44 cases
Aortic Disease alone ... ... 8 ,,

Age.	Mitral and Aortic.		Aortic Alone.		Totals.
	Rheumatic.	Non-Rheumatic.	Rheumatic.	Non-Rheumatic.	
-19...	4	0	0	0	4
29...	5	1	0	0	6
39...	10	4	2	0	16
49...	3	6	1	2	12
and over	2	9	0	3	14
	24	20	3	5	52

It will be observed that the non-rheumatic cases were nearly all middle-aged or elderly, pointing to degenerative arterial and muscular changes as the probable cause of the heart failure, while the rheumatic cases were doubtless in larger proportion due to valvular disease, and hence were found in younger individuals. We cannot, of course, rely too implicitly on the history.

Pericarditis is commonly regarded as a cause of heart failure when it causes universal pericardial adhesion. No doubt the difficulty thus imposed on the heart causes it to be subjected to undue strain and renders it unequal to its task, but here also some myocarditis may, I think, be assumed to have occurred, so producing an impaired contractility. A case of this description came under my care some years ago in the Royal Hospital, and was published by Dr. Lorrain Smith. The patient was a growing boy, whose pericardial sac was obliterated, and the adherent layers of pericardium formed a dense, tough, fibrous membrane, totally preventing the growth and development of the heart. The need for an increased blood supply as the boy grew could not be met, and debility and inefficiency of the heart was the result; some developments of haematological interest also occurred.

Considerable help in distinguishing valvular from muscular cases of heart failure may be obtained from the history, and the general condition of the patient. Previous illnesses may be first considered.

It has been stated that young persons suffering from heart failure, who have a history of rheumatism, always owe their ill-health to endocarditis, but having regard to what I have already stated on this subject there is, I think, good ground for doubting the accuracy of this statement. They may owe their valvular defect to endocarditis, but in a certain proportion of cases, especially of mitral regurgitation, their heart failure is due to myocardial changes.

Chronic bronchitis, especially when it results in emphysema, is a common cause of heart failure. Here the defect is muscular, the right ventricle becoming dilated, owing to strain and imperfect oxygenation of the blood, whereby the nutrition of the heart muscle is impaired.

Syphilis, by its damaging action on the arteries, on the aorta and coronary arteries in particular, produces both valvular and muscular defects, as described below in speaking of atheroma.

Asthma.—The connexion between asthma and heart failure is interesting, but more so from the point of view of classification than of pathology. As a cause of heart failure asthma has but little importance, for the somewhat rare cases of pure spasmodic asthma in which deterioration of the heart muscle with heart failure supervene, are dependent upon the development of bronchitis or emphysema. The use of the expression "cardiac asthma" must be restricted to those somewhat rare cases where true asthmatic attacks occur in the course of a heart case; the term is neither applicable to true asthma in which heart failure has supervened, nor to the ordinary dyspnoea of cardiac cases. It is the latter condition that is often misnamed "cardiac asthma."

In this connexion may be mentioned congenital heart defects leading to heart failure. Here the heart may for a time be able to carry on a moderately efficient circulation, but in time, as the individual develops, the needs of the organism are too great for the capability of the heart, and it fails under the strain.

A very large number of instances of heart failure occur in the course of a variety of affections. The diseases so causing heart failure may be collected into three groups. Some of the affections causing heart failure might perhaps be placed in more than one of these groups.

(*a*) Anaemia.
(*b*) Toxaemia.
(*c*) Mechanical strain (the overworked heart).

(*a*) *Anaemia.*

A very large number of diseases cause a defective blood supply, and this condition readily brings about a degeneration of the heart muscle, as well as of the skeletal muscles. A familiar example of this class is chlorosis. Fatty degeneration results from the anaemia; a feeble and dilated heart is the consequence. It is true that the dilatation in this complaint is usually moderate, but the dyspnoea, palpitation, oedema, and syncope are mainly the results of heart weakness, though the defective quality of the blood no doubt contributes to the production of these symptoms.

A more marked instance of anaemic heart failure is found in progressive pernicious anaemia, where similar

but more marked, signs of heart inefficiency are to be found. Other rarer forms of anaemia may be mentioned—for example, splenic anaemia, leukaemia, Hodgkin's disease, malaria, bilharziosis.

The various forms of secondary anaemia may give rise to heart failure. (1) Haemorrhage from any source, either sudden or gradual. (2) Long-continued loss of albumen from the blood, as in chronic suppuration, prolonged lactation, Bright's disease, cancer, phthisis. (3) Defective nutrition from any cause, as in starvation, improper feeding, obstruction of the oesophagus, imperfect digestion. (4) A number of blood poisons may be mentioned as causing anaemia; thus gout, syphilis, rheumatism, lead poisoning, arterio-sclerosis, Bright's disease, and many fevers produce anaemia, and may thus be the origin of degeneration of the heart muscle, though their toxic effect on the heart is in some instances even greater than that of the anaemia which they originate.

(*b*) *Toxaemia.*

As just stated, a variety of blood poisons have to be reckoned with, and in addition to those just enumerated, the infectious and other fevers furnish frequent instances of toxic heart failure. In pneumonia, for example, the failure of the right heart occurs not only because the right ventricle is overwhelmed by its work in driving the blood through the inflamed lung, but also because the muscle fibres are impaired in contractility by the poison circulating in the blood; in a lesser degree the stronger but less burdened left ventricle also suffers in the attack. In scarlet fever, rheumatism, diphtheria, typhoid, measles, etc., there is less danger of heart failure during the height of the fever, but decided risk of subsequent dilatation of the softened muscle if the heart is permitted too forcible action during convalescence.

Poisonous substances may be swallowed or inhaled, causing heart failure, usually by their action on the nervous system—for example, opium, chloroform, nicotine, etc. Also the toxins of disease sometimes exert their effect on the nervous control of the heart—for example, diphtheria, influenza.

Of the 126 cases in which a mitral systolic murmur was heard, there was no history of rheumatism or chorea in 69. One might be disposed to conjecture that the remaining 57 cases of the 126 mitral regurgitation were probably of valvular origin, seeing that there was a history of rheumatism in each case. No doubt a large proportion of them were the result of valvular disease, but not necessarily all; 33 of them were mitral regurgitation only, and of these a large proportion were middle-aged or elderly; more than half of the number were over 40 years old.

One Hundred and Twenty-six Cases of Mitral Regurgitation, Alone or in Combination with other Valve Lesions.

Mitral Regurgitation with Aortic Disease ... ... 44 cases.
Mitral Regurgitation alone ... ... 82 ,,

Age.	Mitral Regurgitation with Aortic.		Mitral Regurgitation Alone.		Totals.
	Rheumatic.	Non-Rheumatic.	Rheumatic.	Non-Rheumatic.	
10-19 ...	4	0	4	5	13
20-29 ...	5	1	5	8	19
30-39 ...	10	4	6	9	29
40-49 ...	3	6	5	11	25
50 and over	2	9	13	16	40
	24	20	33	49	126

This is in accordance with the experience of most practitioners who are not surprised to meet with mitral regurgitation in elderly people, but very many of them were obviously cases of arterial disease or degeneration of the heart muscle from a variety of causes, of which rheumatism may in some cases have been an unimportant factor or accidental accompaniment.

Of the 69 cases in which there was no rheumatic history, it would be impossible to give an accurate summary of the causes, especially as in many of them, no doubt, there had been mild rheumatism in childhood which had passed unnoticed. There was, however, in nearly all the cases sufficient in their condition or history to cause degeneration of the heart muscle.

Summary of Morbid Conditions Affecting 69 Cases of Mitral Regurgitation without History of Rheumatism.

Bronchitis	... 9
Arterio-sclerosis, Strain, Alcoholism	... 27
Chlorosis	... 6
Bright's disease	... 4
Stomach affections	... 7
Cancer, Phthisis, Fevers, Influenza, Starvation	... 13
Uncertain	... 3

As you see by the list of conditions of which the patients had symptoms or history, the condition of the heart muscle could not have been healthy, but it cannot be confidently affirmed that it was sufficiently affected to produce the symptoms of heart failure for which the patient was admitted to hospital. One can realize how small a proportion of the cases of heart failure the above 200 cases represent when we consider that the exanthemata and phthisis are not admitted into the hospital, and that the bulk of diseases causing debility and anaemia were quite outside the group of cases inquired into. Thus the case sheets of cases of cancer, Bright's disease, severe anaemias of the primary group, and many other affections commonly producing heart failure, were not included in the inquiry, which was limited to those grouped together indiscriminately as heart disease.

(*c*) *Mechanical Strain.*

Mechanical strain is to some extent responsible for heart failure. In most of the cases, however, there is at least one other factor in the production of muscular debility. Thus Bright's disease in its final stages may present heart failure the result of overwork in opposition to high arterial tension, but the heart defect is also due to anaemia and to the poisonous condition of the blood. Similarly, arterio-sclerosis and atheroma may cause fatty or fibrous degeneration of the cardiac walls by obstruction of the coronary arteries, and at the same time a general rise in the arterial tension is common in this complaint, thus causing the heart to be hypertrophied and in the end dilated. Gout and chronic lead poisoning damage the heart by anaemia, by strain, and by the poisons carried by blood.

The habits of the patient deserve a passing notice, as in some cases they favour the production of heart defects. The press and hurry of modern life tend to the production of hardened arteries, and if this condition is combined with an excess of physical exertion, the heart may get too much to do and become dilated. Alcoholism, starvation, and exposure may all be causes of heart failure.

The family history is not of much importance, except that gout, rheumatism, and syphilis may be inherited, and thus lay the foundation of heart inefficiency.

There can be no doubt that we must direct our attention chiefly to the condition of the muscle of the heart, for by a proper understanding of the morbid processes affecting its activity we may hope to increase efficacy of treatment and the accuracy of diagnosis. Of late a great deal has been done by workers in these lines; graphic records in the hands of Wenckebach, Mackenzie, Lewis, and others, have certainly helped materially to explain some of the defects of the heart's action due to defects in the function of the heart's muscle. These defects consist in most cases in disturbances of one or more of the three chief functions of the heart muscle—namely, excitability, or in the susceptibility of the muscle to the action of a suitable stimulus; conductivity, or the power to transmit impulses causing contraction through the muscle fibres; and contractility, or the power to contract. I do not intend now to go further into this interesting subject, though I should have liked to refer more particularly to the recent results of investigations by means of the ink polygraph and the electrocardiograph. The subject is being worked at vigorously by many observers, and our views on the physiology and pathology of the heart's action have been much influenced by these investigations. The recen

researches into this question merely emphasize what has been perhaps insufficiently realized—that the chief object of our inquiries in cases of heart inefficiency must be the condition of the heart muscle.

A CASE OF CARDIAC FAILURE TREATED BY CANE SUGAR.

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The British Medical Journal of March 18th, 1911, contained a paper by Dr. Goulston, of Heavitree, Exeter, on the beneficial effect of the ingestion of cane sugar in certain forms of heart disease, and several very interesting cases were reported.

I had under my care at the time a case of cardiac muscle failure, which seemed to have reached its high-water mark of improvement. The result of the cane-sugar treatment was so satisfactory that I think the case, although isolated, worth recording. In Sir Lauder Brunton's book on *Therapeutics of the Circulation* (p. 141) is the following:

> Amongst the most powerful cardiac nutrients appears to be glucose; for Locke found in his experiments that the addition of glucose, even in very small quantity, to a saline fluid greatly increased its nutritive effect upon the isolated mammalian heart. Other sugars have less action. Their nutritive effect apparently runs parallel with the susceptibility to fermentation, glucose standing far ahead of the others.

Dr. Goulston appears to have been the first to make practical application of this theory, at least, on any considerable scale. I wrote to him asking for fuller particulars of his method of administering the cane sugar, and he most kindly gave me full details.

I first saw my patient, a lady aged 62, in July, 1910. She had been trying to lead her usual life until the day on which I saw her, but for two years she had noticed that she was increasingly unable to do what she had been in the habit of doing. In the spring of 1910 she had had influenza, and after recovery she had fallen, when out walking, and sprained her ankle; for this she had rested for a month or six weeks. For the fortnight which preceded my seeing her she had had an evening temperature of 100° to 101°, but this subsided with rest in bed, and did not recur. This temperature suggested that the cardiac trouble had originated in the attack of influenza in the spring. This was not my opinion, and I think her case was one of cardiac muscle degeneration and failure, possibly aggravated by the influenza, but of longer duration, as shown by the gradual failure of energy during the preceding two years.

The cardiac impulse was displaced considerably outwards, and was very feeble; the pulse was about 120, and feeble, though regular. There was an aortic systolic, but no mitral, murmur; the sounds were "tic-tac" in character and faint. The heart was obviously hypertrophied and dilated. Her symptoms were marked; she had no energy, though naturally a most energetic person. She was now incapable of the slightest exertion, either mental or physical. Her blood pressure was 175 mm. Hg, but rapidly came down to normal under treatment, and was not at any time markedly abnormal. The urine was in all respects normal. There was no oedema.

For the next eight months she was treated with the usual cardiac tonics, such as strychnine, strontium iodide, digenic, and strophanthus, and great stress was laid upon fresh air. She went to Scarborough in the late summer and Hastings in the winter, and spent in both places as much time as possible out of doors, sitting out of doors well wrapped up or driving.

In March, 1911, improvement was marked, but she could, even then, only walk about half a mile at a stretch, and was very easily tired, both mentally and physically. Her pulse was now about 90 and her heart sounds fuller and less "tic-tac" in character.

Towards the end of March I took her to see Sir Lauder Brunton with a view to asking his opinion as to whether Nauheim would do her good. His opinion was that Nauheim might possibly improve her, and was at least worth trying; but on the whole he was of the opinion that she had reached her limit of improvement. His diagnosis agreed with that stated above, and in addition to the aortic systolic he found a slight mitral systolic bruit.

Shortly after this I saw Dr. Goulston's paper, and it occurred to me that my case was just one for a trial of his treatment.

My patient being inclined to stoutness had always particularly avoided sugar, taking none in tea or coffee and having all puddings, fruit tarts, and milk puddings made without any sugar. The Glebe Granulated Sugar, as suggested by Dr. Goulston, was used. She had some time previously given up alcohol in any form, and whilst taking the sugar she had no medicinal treatment of any kind except a blue pill once a week with a dose of Apenta water to follow it in the morning. She had for some weeks previous to starting the sugar only been taking potassium iodide in 3 grain doses twice a day. She was very averse to trying the treatment, being, as she expressed it, "gouty," and feeling sure that it would make her worse.

From April 22nd to 29th she took 1 oz. of the sugar at breakfast and one at afternoon tea: total, 2 oz. daily.

From April 30th to May 6th she took 1 oz. at breakfast, ½ oz. at lunch, 1 oz. at tea, and ½ oz. at dinner; total, 3 oz. daily.

From May 7th to May 21st she took 1 oz. at breakfast, 1 oz. at lunch, 1 oz. at tea, and 1 oz. at dinner; total, 4 oz.

From May 22nd to May 28th she took 3 oz. daily, and from May 29th to June 2nd 2 oz. daily. On June 2nd she started for Nauheim, and had gradually lessened the amount of sugar in case her doctor (Prfoessor Groedel) at Nauheim should not wish her to take it.

The patient gained 5 oz. in weight between April 22nd and May 19th, and then lost 8 oz. between May 19th and 26th. Her diet was as follows:

Breakfast.—Coffee, lean tongue kedjeree or boiled egg and two pieces of thin toast. No butter, bacon, or fat of any sort.

Lunch.—One piece of dry toast, spring cabbage, broccoli, or asparagus, with boiled fish or boiled mutton or boiled chicken. No fats and no sauces, and always rice boiled in a little milk or water, the sugar being taken in this rice. No fruits or acids were taken.

A tumbler of hot water was taken one hour before lunch and one hour before dinner; nothing to drink at either meal.

Afternoon Tea.—Two slices of dry bread with sugar on it and a little in a cup of tea. No cakes, jams, or butter.

Dinner.—Much the same as lunch, only "force" instead of rice with which to eat the sugar. No fruits, sauces, or fats.

Taking the sugar in this way, she experienced no inconvenience, no flatulence, and no indigestion, but any departure from this strict diet quickly caused indigestion. She completely lost what she called her "goutiness," and no sugar was at any time found in her urine.

Her improvement began to be obvious after the middle of the second week, and by the end of the fifth week it was remarkable. The pulse was steady and stronger, and normally 72 to 78; it was not abnormally altered by exertion, and quickly resumed its normal rate after rest. The first mitral sound was stronger, and altogether of better quality. She could walk nearly three miles without a rest or undue fatigue, and a very short rest completely restored her. Her mental vigour was quite re-established, and her feeling of well-being and "fitness" after the months of weariness and lassitude was really extraordinary.

After the fifth week she went to Nauheim, as it had been all arranged some weeks beforehand. Though, if I had anticipated such improvement, she would certainly never have troubled to go at all. At Nauheim she saw Sir Lauder Brunton—he had seen her a few weeks before she started the sugar treatment—and in a letter to me from Nauheim, from which I have his permission to quote, he wrote: "She has improved enormously on the diet you gave her"; and a few days later he wrote again:

> Her improvement is simply miraculous. I can find to-day no murmur at all at the apex; there is a slight systolic one over the aorta, with a slightly accentuated second sound. Her pulse is 90, quite regular (it was a little accelerated by coming to see me). Her tension is 125 mm., and the urine, according to an analysis she showed me, is specific gravity 1019, and absolutely normal.

She is still taking 2 oz. of sugar daily, and maintaining her great improvement. Her diet is not now nearly so strict, but she still drinks nothing at lunch or dinner. Her weight remains about stationary.

ON THE ENUCLEATION OF TONSILS WITH THE GUILLOTINE.

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IN a recent paper[1] we called attention to certain important facts regarding the anatomy and pathology of the faucial tonsil. We also showed that by means of the guillotine, combined with finger pressure on the anterior pillar of the fauces, the tonsil could in many cases be driven through the ring and so completely removed.

In a series of 200 cases we were able to enucleate 42 per cent. of tonsils complete in their capsule in one piece. In a more recent series of 100 cases 74 per cent. were enucleated complete in one piece, while only six tonsils were incompletely removed. In answer to repeated inquiries concerning the method, we give a more complete description of the technique, together with some modifications which we have adopted, and also some causes of failure.

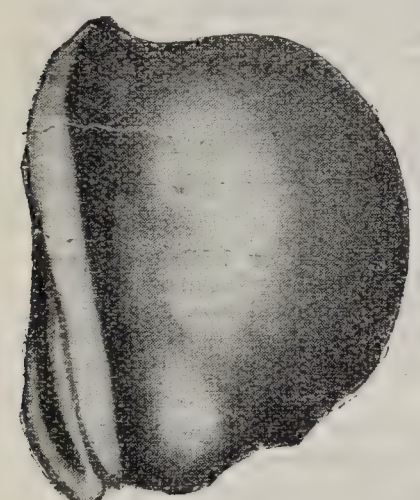

Fig. 1.—Embedded tonsil enucleated with the guillotine. Almost the entire surface is covered by capsule. A narrow band of mucous membrane is seen where the tonsil joins the faucial pillar. In front of this the lower part of the tonsillar cleft is visible.

That the tonsil can be readily removed entire in its capsule depends on the fact that it is largely covered by this dense membrane, which surrounds the major portion of it. This capsule blends near the inner surface of the tonsil with the mucous membrane, passing on to the pillars of the fauces on the one hand, and the mucous membrane covering its inner or faucial surface on the other. The capsule is loosely attached by areolar tissue to the pharyngeal aponeurosis, on which it can be moved or readily drawn away by means of the volsellum. This same laxity of attachment allows the tonsil to be pushed right through the ring of the guillotine, and its connexions to the faucial pillars cut through behind it. In cases where there have been attacks of peritonsillitis the capsule becomes adherent to the pharynx, rendering enucleation more difficult.

The diseased tonsil gives rise to inconvenience of two different kinds: (1) Obstruction to swallowing and disturbances of articulation; (2) to septic infection. As regards the latter, locally, there may be repeated attacks of sore throat. If lymphatic infection occurs there may be peritonsillar abscess or enlargement of the cervical lymphatic glands. Infection of the alimentary and respiratory tracts may occur; finally general ill-health may be caused, or even a systemic infection. It seems probable that a primary infection is responsible for the hypertrophy, and a tonsil once infected generally remains so. It has been repeatedly pointed out that the size of a tonsil is no criterion of its septicity.

After removal, the tonsil may show little evidence of gross infection to the naked eye; in about 50 per cent. of cases, however, on pressing the tonsil into the guillotine ring some of the lacunae are emptied of their contents, made up of decomposing foodstuffs and caseous débris, which has often a disagreeable odour. More important than this, careful examination of the deepest part of the tonsil, namely, the bases of the lacunae, lying immediately under the capsule, shows them to be infected, the material appearing as yellow spots which can be seen through the capsule. When the capsule is incised over one of these yellow masses the caseous material can be squeezed out, like ointment from a collapsible tube. No amount of pressure can force this débris through the natural orifices of the lacunae. It is the existence of this deep infection which makes enucleation the operation of choice. It is frequently asked, Does total removal of the tonsil lead to any ill effects in the bodily economy? An examination of cases some years after total removal of the tonsils shows no abnormality or defect that can be discovered. A further important question is, Should every tonsil be enucleated? We believe that if the tonsil requires removal, it should be completely removed.

Although 50 per cent. of enlarged tonsils show no evidence of gross lacunar infection on removal, it is impossible by ordinary clinical examination to tell which tonsils will exhibit deep lacunar infection, and, seeing that the most infected portion is often left after tonsillotomy, it is necessary that the whole structure should be removed. This is essential in order to get rid of the whole infected portion, and leave no lacunae which may subsequently become infected. This necessity is repeatedly brought to the notice of surgeons and practitioners in the number of cases which present themselves in early adult life for the removal of diseased tonsillar tissue after previous operation, especially when that was performed in early life.

The instruments required for the operation are two, some form of suitable gag, and a guillotine.* The gag we use is of large size, and is a modification of Doyen's. It is

Fig. 2.—Tonsil enucleated in two pieces. The major part is removed, but on examination is found to be incomplete. The remainder, which consists of a small piece of capsule with some adherent lymphoid tissue, can then be stripped from the pharyngeal wall by the guillotine. On placing these parts together the tonsil is found to be complete.

introduced on the left side of the mouth, the shaft fits against the cheek while the handles lie near the ear, and are sufficiently large to be readily grasped and opened. When a short anaesthesia is used, such as that given by ethyl chloride, the gag is introduced before the mask is applied to the face. The guillotine is a modification of the Mackenzie pattern. Its important points are that the shaft should be long and specially strengthened, while the handle is set at an obtuse angle. The ring should be sufficiently large to allow the tonsil to be completely pushed through it. We use size No. 1; it is too small to allow the largest tonsils to be completely pushed through, and in such cases the tonsil must be removed in two or more pieces, a proceeding readily carried out. The blade is blunted before use, for if too sharp the tonsil is apt to be cut instead of being stripped from the pharyngeal wall. In order to removed every tonsil in one piece a series of guillotines would be required, or one with a movable shield, so that the ring aperture might be increased or diminished at will. A small tonsil is readily pushed through the ring, but, even where there is an apparent disparity in size, a little extra pressure or coaxing will often force the tonsil through.

The technique of the operation is as follows: The patient lies in the supine position on a table of convenient height and close to the right side of it. The head, neck, and

* Messrs. Mayer and Meltzer make the instruments we use.

shoulders are supported on a low pillow, with the head slightly extended and the shoulders on the lower margin of the pillow. The neck must not be unduly stretched. The gag having been introduced on the left side of the mouth, the mask is placed on the face, and the anaesthetic administered. In the practice of this hospital ethyl chloride is used; it gives a sufficiently long anaesthesia to allow the enucleation of the tonsils and the removal of the adenoids. In private practice ether is more generally the anaesthetic administered, as this can be prolonged if necessary, in case of haemorrhage or other accident. With good anaesthesia the tonsils may be enucleated almost to a certainty. The gag should not be opened to its fullest extent, as this hinders respiration and tends to stretch the faucial pillars unduly. Insufficient anaesthesia is an important cause of partial removal; any retching or tongue movement puts the faucial pillars on the stretch and prevents the tonsil being pressed through the guillotine ring. The average time taken for each case is under five minutes.

When the breathing becomes stertorous, the mask is removed and the gag opened by the anaesthetist, who stands at the head of the table. The patient's head is now turned over towards its right side, so that the mouth looks toward the operator, who stands on the right side of

Fig. 3.—Tonsil enucleated in two pieces. The lower portion consists of most of the projecting part. The upper part, composed of the embedded portion, presents an unbroken capsule, and is removed by a second application of the guillotine.

Fig. 4.—Appearance of a tonsil enucleated in one piece by the guillotine. Common form of enlargement. (1) Projecting portion; (2) embedded part, covered by capsule; (3) band of mucous membrane which passes from the surface of the tonsil to the anterior pillar of the fauces.

the patient, and faces the patient's head. The guillotine is held in the right hand, and the shaft is passed into the mouth, being first used as a tongue depressor, in order to expose the lower pole of the tonsil. The lower part of the cheek is also drawn aside, if necessary, by the index finger or thumb of the left hand. The ring of the guillotine is now hooked under the lower pole of the projecting tonsil, the blade surface lying nearest the tonsil (not away from it, as in the usual method). The hand is then depressed, so that the tonsil lying partly in the ring is elevated towards the anterior part of the mouth, the handle of the instrument by this time lying over the patient's left cheek between the bars of the gag. The forefinger or thumb of the left hand, already inside the right cheek, now presses on the outer part of the anterior pillar of the fauces, and drives the tonsil through the ring. When the tonsil is felt to slip through the ring of the guillotine, the blade is driven home with the right thumb. It is sometimes necessary to use both thumbs to press home the blade. When the connexions have been cut through in this way the hand holding the guillotine is pronated. The tonsil is now lifted out of the mouth on the under surface of the guillotine, which has now become uppermost, and can be released by drawing back the blade. If the tonsil projects, and especially if it should have a process hanging towards the tongue, it is important that the guillotine be hooked under this process, otherwise, though the major portion of the tonsil may be removed, this lower portion will be discovered later as a definite mass lying between the lowest parts of the faucial pillars. When the tonsil is too large to be pressed through the ring the projecting portion may be removed; then the guillotine is reinserted, and the

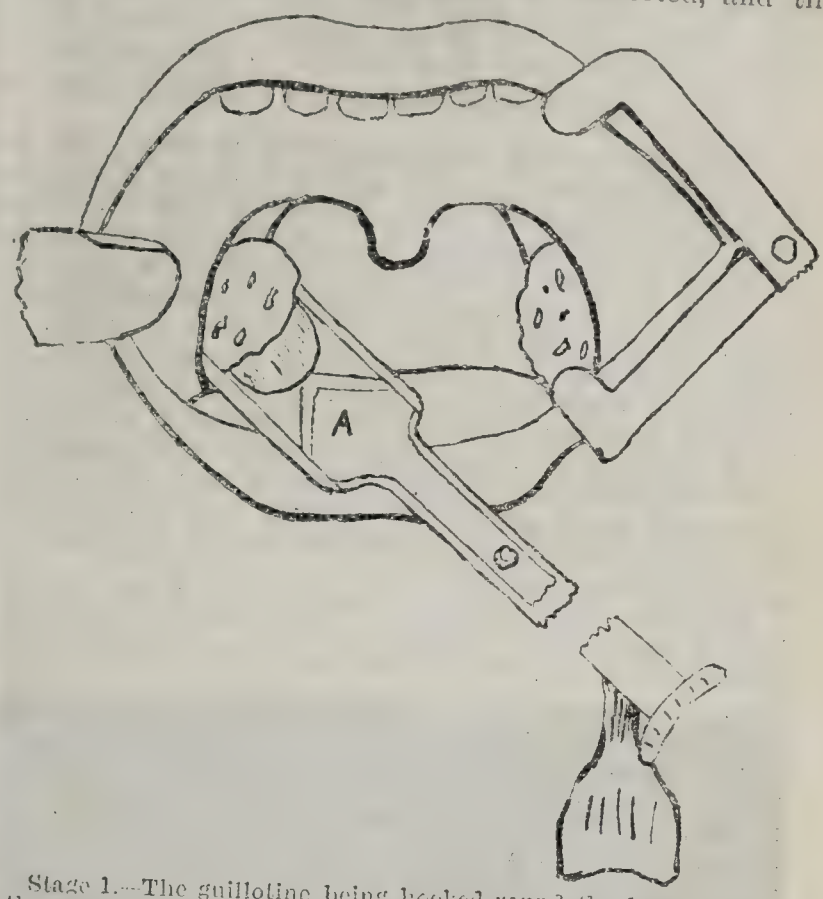

Stage 1.—The guillotine being hooked round the lower pole of the tonsil. The finger draws aside the cheek. Note.—The blade surface of the guillotine (A) lies nearest the tonsil.

remainder can be readily pressed through the ring and stripped from the pharyngeal wall.

Small projecting tonsils, and especially those with a narrow base, readily pass into the ring, and are just as

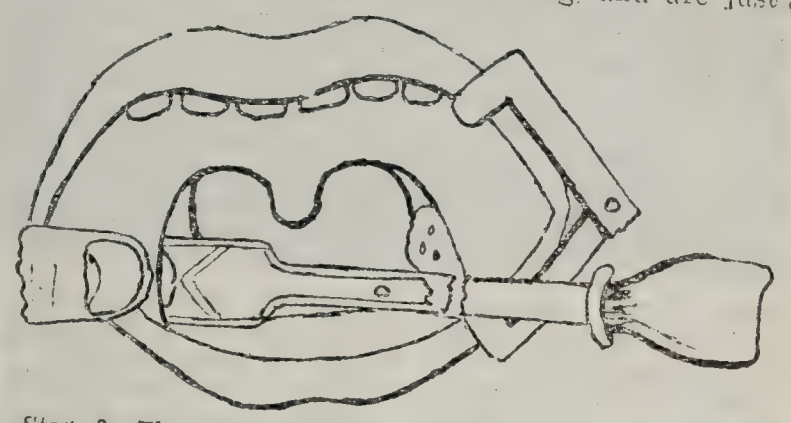

Stage 2.—The guillotine lies across the mouth. The tonsil has been pushed through the ring by the index finger on the anterior faucial pillar. The blade is now driven home.

easily removed. In larger tonsils the amount of pressure exerted may cause the tonsil to become everted, and at first sight it appears cut; the plica semilunaris can, however, be turned forwards again and the tonsil resumes its

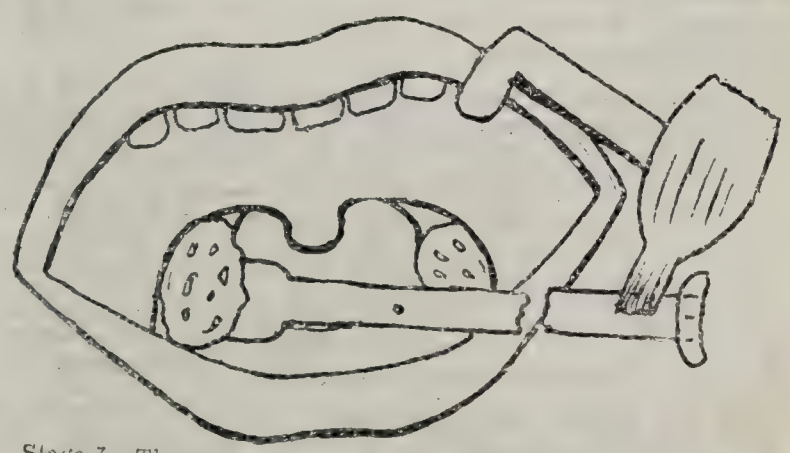

Stage 3.—The connexions of the tonsil to the pharynx have been cut through. The hand is pronated, lifting the tonsil out of the mouth on the under surface of the guillotine.

characteristic shape. The plica semilunaris is, as a rule, removed with the tonsil, together with the supratonsillar fossa, an additional factor in favour of enucleation. This fossa, wrongly called supratonsillar, is really the upper

portion of the original and natural tonsillar cleft, and only becomes relegated to the upper pole of the tonsil when the remainder of the cleft is obliterated by hypertrophy of the anterior or posterior masses of lymphoid tissue. Flat tonsils, by which we mean those which have a considerable surface area but do not project beyond the faucial pillars, would appear more difficult to enucleate, but in our practice we find no difficulty in enucleating this type of tonsil.

When there have been attacks of peritonsillitis the capsule of the tonsil becomes adherent to the pharyngeal aponeurosis and makes enucleation more difficult. These adhesions can, in some cases, be seen as definite strands of tissue adherent to the capsule; in others, a small hole is left in the capsule, and though not anatomically complete, clinically the removal of the tonsil is entire. In very large tonsils, if a small-sized guillotine be used, the tonsil may require to be removed in two or more pieces. In other cases the greater portion of the tonsil is removed, but a small piece of capsule, about the area of a sixpence, with some adherent lymphoid tissue, is left; such a small amount of tonsil as this can then be readily removed by the method described. Embedded tonsils are treated in just the same manner.

After the right tonsil has been removed the patient's head is returned to its supine position. The surgeon, still on the right side of the patient, now faces towards the left side. The gag remains in position while the guillotine is introduced from the right side; the ring is hooked under the left tonsil, which is then raised towards the orifice of the mouth. The shaft of the guillotine lies across the mouth, the handle being parallel to the right cheek. The operator's left arm passes over the patient's head, while the left index finger or thumb draws aside the cheek and, later, presses the tonsil into the ring of the guillotine. When the tonsil has been pressed through the ring the blade is driven home; after this the hand is pronated and the tonsil lifted out on the under surface of the guillotine. Should adenoids require removal this part of the operation can then be proceeded with.

The certainty of the operation is such that incomplete removal is rare, and is usually due to incomplete anaesthesia or other technical defect. Recurrent growth after previous incomplete removal can also be readily dealt with. Such growths appear either as a further enlargement or a basal portion of the tonsil with septic lacunae which often give rise to recurrent attacks of tonsillitis.

The advantages of this method are as follows: It is rapid—five minutes for each case from the time the patient is brought into the theatre, transferred to the operating table, towels arranged, anaesthetic administered, the operation performed, cleaning carried out, and the patient finally transferred to an ambulance and removed. The tonsils can be completely removed, whatever variety of size or shape they may be. There is a minimum amount of trauma; the pharynx looks quite healed by the end of ten days. In 3 cases a small perforation made by the finger through the anterior faucial pillar was observed, but this rapidly healed and no bad effect resulted. In the hospital cases no serious haemorrhage occurred, the bleeding ceasing spontaneously in a very short time; in fact it appears to be no more severe than after partial removal. A recent case illustrates the result of gross infection of the tonsils.

A child had all the subjective symptoms and signs of adenoids, and had suffered general ill health for a year. The tonsils were found to be considerably enlarged, though they were embedded and only visible on retching. On one side there was considerable proliferation of lymphoid tissue (with large open lacunae), which was beginning to project beyond the faucial pillars. The tonsils were enucleated. On the left side the tonsil, though large, exhibited no caseous débris in the lacunae; that on the right side, which was larger than its fellow, exhibited some recent growth, leading to commencing projection; it contained a number of yellow foci under the capsule which were situated in those lacunae which showed the surface proliferation.

In the above 100 consecutive cases the large tonsils formed the majority, there being 49 per cent. The medium sized formed 31 per cent., while the tonsils were small in the remaining 24 per cent.

In the accompanying analysis it is seen that 74 per cent. of the tonsils were removed completely with an unbroken capsule. In a further 13 per cent. there was some slight defect in the capsule, so that the tonsils, while not anatomically complete, were so clinically. Thus, 87 per cent. were removed completely in one piece. Of the remainder, 9.5 per cent. were completely removed but in two or more pieces, while in only 3 per cent. was the tonsillar tissue incomplete.

Analysis.

Number of cases	100
Number of tonsils	200
Operating days	13
Average number per day	7.6
Size of tonsils—	
Large	89=49.5%
Medium	63=31.5%
Small	48=24%
Tonsil removed complete in its capsule in one piece	148=74%
Tonsil removed completely, not quite all capsule, clinically but not quite anatomically complete	27=13.5%
Tonsil removed complete in two pieces with complete capsule	18=9%
Tonsil removed in three pieces with complete capsule	1=0.5%
Incompletely removed	6=3%

Specimens illustrative of this paper were exhibited at the annual meeting of the Association in Birmingham in July, 1911.

REFERENCE.

1 *Lancet*, September 17th, 1910.

THE USE OF HYPERTONIC SALINES CONTROLLED BY ESTIMATIONS OF THE SPECIFIC GRAVITY OF THE BLOOD IN INFANTILE DIARRHOEA.

BY LEONARD ROGERS, M.D., F.R.C.P., I.M.S.

THE remarkable success of injections of hypertonic salines in cholera has long made me wish for an opportunity of trying them in so-called infantile cholera or summer diarrhoea. Curiously enough, this disease is not very commonly seen in the Calcutta hospitals, in spite of the high temperatures prevailing there. Possibly this is due to the practically invariable custom of boiling all milk used for home consumption in the tropics. On my return from cholera work at Palermo at the end of August last infantile diarrhoea was very prevalent in London. The late Dr. Coutts—whose recent death is so widely deplored—most generously allowed me to try the treatment in his wards at the East London Children's Hospital at Shadwell.

Estimation of the Specific Gravity of the Blood as a Guide to the Frequency and Amount of the Injections.

The principle I have introduced in the treatment of cholera, of basing the frequency and amount of saline to be injected on the degree of loss of fluid from the blood as indicated by its specific gravity, was adapted to the treatment of infantile diarrhoea. For this purpose it must be borne in mind that the specific gravity of the blood in infants from 2 weeks to 2 years old was found by Lloyd-Jones to be only from 1048 to 1049, or some eight points below the normal for adults. During a week's work at the Shadwell Hospital, I found that in typical fairly severe cases of infantile diarrhoea the specific gravity was commonly raised to 1056, to 1058, or even more.

The method of taking the specific gravity of the blood by means of a series of bottles of glycerine and water of each two degrees over the required range, into which a small drop of blood is gently blown from a capillary pipette until the one is found in which it just floats in the centre of the bottle for a second or two, is described in my book on cholera and in a paper on Cholera at Palermo in the BRITISH MEDICAL JOURNAL of November 18th, 1911. Messrs. Down Brothers will shortly be able to supply small boxes containing the necessary glycerine solutions, with a range covering both infantile diarrhoea and cholera, and directions for their use.

Method.

As this disease is usually much less acute than Asiatic cholera, the saline solution was given subcutaneously by means of the ingenious thermos flask arrangement which has recently been described in this JOURNAL. The solution contained 120 grains of sodium chloride and 4 grains of calcium chloride to a pint of sterile water. The sub-

cutaneous injection of 7 oz. in an infant always reduced the specific gravity several points, and the injections were repeated two or three times in the twenty-four hours until the specific gravity had fallen to a little below the normal point, to allow some margin for further loss of fluid. Dr. Coutts informed me that when he had formerly pushed the injections of normal salines to this extent the diarrhoea increased, just as it does in cholera. With the hypertonic solution, however, this is not the case in either disease, which seems to show that the stronger solution is as correct in principle in infantile diarrhoea as it is in cholera. Further, from ½ to 1 grain of calcium permanganate was added to each pint of the fluid, with which the stomach and large bowel were washed out on the admission of the patient, in order to destroy and remove as much as possible of the toxic products in the gastro-intestinal tract.

Results.

Unfortunately the new treatment was only commenced at the Shadwell Hospital about two weeks before the termination of the hot weather and the consequent rapid decline in the admissions. All that can be now said is that the above-described methods furnished sufficiently promising results to make their further trial next summer a matter of great interest and importance. Mr. J. Keogh Murphy also kindly got the method taken up in the medical wards of the Paddington Green Children's Hospital, and he informs me that the results in the few available cases were distinctly favourable. On the other hand, a trial at St. Bartholomew's Hospital during the last week or two of the hot weather did not furnish any clear indications of curative effects. Still the favourable impressions formed at the two children's hospitals appear to make it worth while to give these methods a fuller trial when opportunities occur.

Lastly, in the cholera paper referred to above I mentioned that I had been able to demonstrate *post mortem* that intravenous injections could be given in small infants with the help of fine cannulas made by drawing out a small glass tube, such as the physiologists use for registering the arterial blood pressure in small animals. The best vein to use in an infant is the commencement of the internal saphenous as it crosses over the internal malleolus. By these means a hypertonic saline injection was recently given intravenously at the Shadwell Hospital in a puny infant of 4 months old, with the result of rescuing it from extreme collapse, although death occurred three days later from asthenia. This case shows that the intravenous method can be carried out in even very small infants, so that there is good reason to hope that the use of hypertonic salines in this way may in the future allow of some desperate and nearly moribund admissions for infantile diarrhoea being revived and possibly ultimately saved.

As I am about to return to India, this note has been written in the hope that the methods which have proved so successful in cholera Asiatica may be given a full trial in infantile diarrhoea during the next summer outbreak of this devastating disease.

A NOTE ON THE SPHINCTERIC CONTROL OF THE BLADDER AFTER PROSTATECTOMY.

BY

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SURGEON TO ST. THOMAS'S HOSPITAL IN CHARGE OF OUT-PATIENTS;

AND

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The mechanism of normal micturition is still imperfectly understood.

Recent experiments and the skiagrams published by Leedham-Green show that in the normal state the internal sphincter remains closed up to the time of the commencement of micturition; in other words, the prostatic urethra is not taken up into the bladder in states of moderate vesical distension.

These facts do not show that the perineal muscles have no function in micturition, they only indicate that the striped muscles are not called into play in ordinary circumstances.

When a prostate enlarges the adenomatous mass sometimes works its way through and distends the sphincter to such a degree as to render it probably useless. After removal of such a tumour the internal sphincter remains as a patent ring.

Examinations of the bladder conducted through a suprapubic wound some time subsequently to a prostatectomy have shown a small cavity (from which the adenomatous mass has been removed) still patent at the bottom of the bladder. It is argued from the presence of this cavity that the internal sphincter has not resumed its normal shape and that it cannot therefore close the bladder.

One of us has pointed out that this argument is not sound in every case, as it cannot always be ascertained that the junction between the bladder cavity and the remaining operation cavity corresponds with the situation of the internal sphincter. In addition other observers have stated that cystoscopic examination after prostatectomy shows a normal internal meatus.

We have also in our possession a skiagram of a bismuth-filled bladder, taken some months after prostatectomy, which shows a contour as round as that shown in the skiagrams published by Leedham-Green, so it must be admitted that the question of whether the bladder is controlled by the internal or external sphincter remains unsolved.

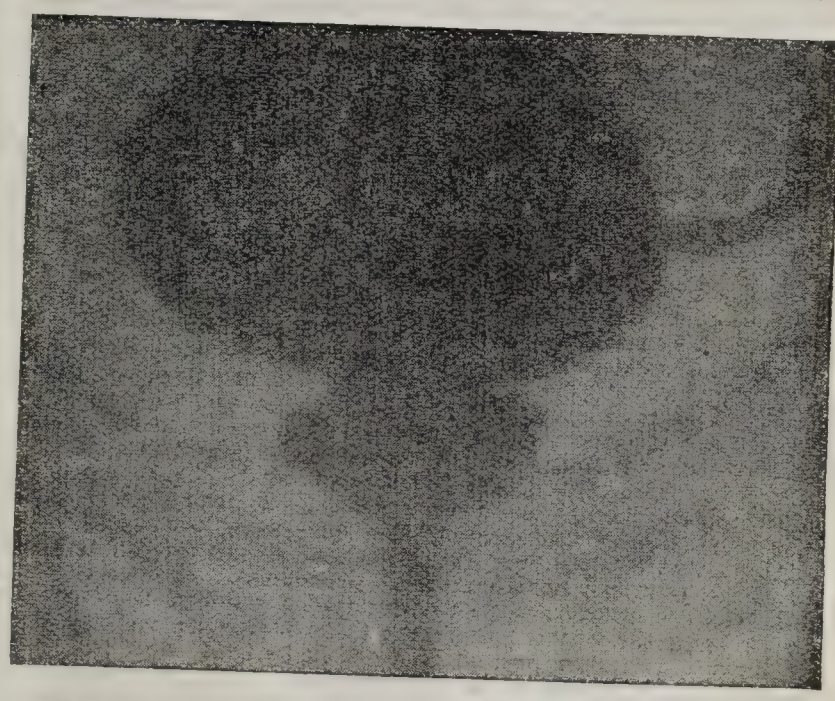

The skiagram was taken after the bladder had been distended with 10 oz. of bismuth emulsion under a pressure of 1 ft. of the fluid. The bladder cavity and the cavity from which the tumour was removed are easily recognized. One ureter is seen to be patent to the bladder.

The following case, though not conclusive, seems to indicate that a man can have perfect control of micturition with a patent or patulous internal vesical sphincter.

G. A., aged 55, was admitted to St. Thomas's Hospital July 1st, 1911.

History.—For some years the patient had suffered from nocturnal frequency of micturition. There had been some difficulty in commencing the act, but no previous attack of retention. No blood was noticed in the urine. On June 23rd he was unable to void his water; a catheter was employed, and was continuously necessary till his admission on July 1st. There had been much blood in the urine for the last few days.

Operation, July 1st.—Suprapubic drainage was established under local anaesthesia, a large prostate was felt projecting well into the bladder, a considerable amount of blood was present in the urine during the following week.

Operation, July 12th.—The prostatic adenoma was enucleated in one mass, including the prostatic urethra; the growth was lobulated, and about 2 in. in diameter.

Subsequently the bladder was washed out daily. The drainage tube was removed on July 17th. On July 21st the patient got up. On July 25th, the suprapubic wound being still open, a catheter was tied in to the urethra; this was removed on July 31st. On August 4th the patient voided his urine naturally. The suprapubic fistula was completely healed on August 12th. The patient left hospital on August 18th. The skiagram was taken on August 4th.

The skiagram shows the bladder cavity continuous with the cavity from which the prostatic adenomata were removed. As the prostate had a distinct intravesical pro-

jection, the internal sphincter must have been stretched considerably. Its situation is presumably at or just distal to the ledge or shelf forming the separation between the two cavities. If this presumption is right, the internal sphincter could not have had any effect in controlling the urine, and it must be supposed that a man can have normal micturition without an efficient internal vesical sphincter.

A DANGER IN ELEVATING THE LOWER THIRD MOLAR.

BY F. ST. J. STEADMAN, D.P.H., M.R.C.S., L.R.C.P., L.D.S.ENG.

DENTAL SURGEON, METROPOLITAN HOSPITAL, ETC.

THOUGH cases of the nature here reported may not occur frequently in the experience of any one medical practitioner, they are attended by considerable risk of serious consequences, and I have therefore deemed it my duty to place these notes on record.

About two years ago a young woman, aged 24, came to me complaining of pain round the angle of the mandible on the right side. She was found to have a badly impacted third molar. This to th was lying with its long axis practically at right angles to and close up against the adjacent second molar, only a small portion of the posterior cusps being visible. The tissues round about were slightly inflamed. Externally there was slight, but nevertheless distinct, swelling. Most fortunately, in the light of subsequent events, there was no trismus. Immediate removal of the offending tooth was decided upon. The patient was placed under gas. Not much difficulty was experienced in displacing the tooth from its bony socket with the straight elevator, but the gum behind the tooth not only failed to stretch to allow the tooth to be completely removed, but it was very loosely attached to the bone; consequently the tooth became lodged on the bone but underneath the gum. Just at this critical moment, while I was disengaging the elevator to make an incision through this piece of gum, the patient commenced to struggle as she was beginning to recover from the anaesthetic, and my elevator accidentally gave the tooth an inward push, causing it, to my great surprise, to disappear. Knowing that the tooth was too much entangled in the gum for it to have become suddenly free and so swallowed, I realized at once that it must be somewhere in the tissues of the neck. I found it about one inch below the angle of the jaw. It could be distinctly and easily felt beneath the skin, and, indeed, picked up with it. I immediately asked the anaesthetist to reapply the face-piece, and while the patient was again being anaesthetized I had an opportunity to think over my next course of procedure. It was obvious I had three courses open to me: (1) To attempt to bring the tooth back the way it had gone; (2) to make an incision over it through the skin and so remove it by that route; or (3) to leave it where it was for the time being. Seeing that the tooth had passed along the inner side of the bone, and that as the deep cervical fascia is attached along its lower border it must be lying deep to this, and that therefore the danger of setting up Ludwig's angina must be great if I left the tooth where it lay, I decided that I must at all costs remove it. I determined to attempt the first course, and failing this to proceed at once with the second. Upon the removal of the face-piece I made an incision about an inch long through the piece of gum which had caused the trouble, with a pair of blunt-pointed scissors. I then passed the first and middle fingers of my left hand into the mouth and placed my right hand over the tooth, on the outside. By pressing fairly forcibly down with my left hand I managed after a little trouble to get the fingers of both hands below the tooth. It was then found to be easy to work the tooth upwards along the path it had travelled until it lay on the inner plate of the angle of the bone. Then, by pressing it against the bone, I managed to work it through my incision into the mouth. These manipulations had to be carried out quickly, because during them my left hand was pressing the tongue forcibly backwards, causing the patient to become cyanosed. Beyond prescribing a mouthwash, no special after-treatment was adopted, and the wound healed well.

Looking back, it is clear that the incision which I subsequently had to make should have been made at first. In this case it could easily have been done because there was no trismus, but where this condition is present in a marked degree it might be extremely difficult.

H.M.S. *Medina* has been fitted with Berkefeld pressure filters for the purification of the drinking water during their Majesties' voyage to India.

ON November 16th the Princess Louise, Duchess of Argyll, opened the new Out-patient Department of the Paddington Green Children's Hospital. The extension has cost £11,000, towards which the Committee of King Edward's Hospital Fund for London had contributed £2,250.

A NOTE ON SPRENGEL'S DEFORMITY.*

BY ALEX. MITCHELL, M.A., M.CH.,

ASSISTANT SURGEON, ABERDEEN ROYAL HOSPITAL FOR SICK CHILDREN.

THE condition of congenital elevation of the scapula, known as Sprengel's deformity, and defined as "a congenital deformity consisting in an upward elevation of the scapula in its relation to the thorax and to the scapula of the other side," seems to be rare enough to justify the publication of the following case.

M. B., female, aged 6 years, was sent to hospital by Dr. Milne, of Torry, on November 11th, 1910.

History.

No point bearing on the case was made out from the family history. The birth was said to have been difficult, necessitating the presence of two medical men and the use of forceps. Soon after birth it was noted that the child would not use its left arm freely, and that the shoulder on that side seemed to be high as compared with the other one.

Condition on Admission.

The patient is a well nourished, healthy child, and is very intelligent. The left shoulder is distinctly higher than the right one. The clavicle is shorter, and the arm is in every measurement smaller. Flexion at the elbow is almost complete, but extension is limited—about 135 degrees. At the shoulder she cannot raise the affected arm above the horizontal position.

Measurements show that on the affected side shortening is present to the extent of ¾ in. in the clavicle, ½ in. in the upper arm, ¼ in. in the forearm (radial side), ½ in. in the glove measurement of the hand.

The angle of the scapula is 1½ in. higher from the iliac crest, and ¾ in. further from the mid line. The scapula itself is distinctly smaller, the measurement from spine to angle being ½ in. less than on the right side. The spine is unduly prominent, but no actual bony exostosis is present. There is a slight degree of scoliosis, convex towards the affected side.

Skiagrams confirm the abnormal size and position of the scapula, and show that there is no evidence of dislocation or any sign of old injury about the humerus or the scapula.

The second and third left toes are "webbed," but skiagrams do not show any bony abnormality here.

While it is important to remember that primary high scapula must be distinguished from the high shoulder got along with torticollis and advanced scoliosis, it would appear that other congenital defects are frequently found along with this deformity. No electrical responses were obtained over the lower part of the left trapezius muscle. Otherwise the electrical reactions were normal.

That this condition is a rare one is shown by the fact that up till 1906 only 99 cases had been put on record: 47 of these showed a right-sided, 36 a left-sided deformity: in 11 cases both sides were elevated. Particulars as to the other 5 cases seem to be wanting.

Since our case was shown, 4 cases have been put on record by Mr. Greig of Dundee[1]—2 left and 2 right-sided. Three definite varieties of the deformity are described:

1. In which there is a bridge of bone connecting the scapula with the vertebral column.
2. A long piece of bone projects from the upper border of the scapula, but does not articulate with the spine.
3. The scapula shows no bony outgrowth.

The last type is by far the most common, and, as pointed out by Greig, it is questionable if those cases in which the scapula is connected with the spinal column by a bony outgrowth should be classed as "primary congenital elevation of the scapula."

With regard to the etiology of the condition various views have been put forward. That it is due to a constrained position of the fetus, as in two of Sprengel's cases in which the arm appeared to have been fixed *in utero* behind the back of the child. Such a condition as this may be associated with deficiency of liquor amnii.

Trauma during labour has been regarded by some as a likely cause.

According to Chievitz the condition is explained as being caused by interference by pressure with the descent of the upper extremity, which is, in its origin, a cervical appendage. It must also be remembered that in several cases muscular reactions have been found wanting or defective in certain parts, especially over the lower part of the trapezius, which would suggest a primary muscular defect as the cause of the deformity.

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* Read before the Aberdeen Medico-Chirurgical Society.

While it must be admitted that the cause of this condition is uncertain, it seems not unlikely that undue force used during delivery in the rectification of abnormal arm positions may be an important factor in the production of Sprengel's deformity. When we come to consider the question of treatment, very little is to be found in the literature of the subject. Whitman states that, if the contraction of the vertebro-scapular muscles is extreme in a young patient, the shortened tissues should be divided by open incision, and if the scapula is joined to the spine, the bony process should be removed.

In the present case an incision was made between the spine and the scapula and any resistant tissue present was freely divided. On examining the case six months after, one could not honestly say that any improvement had resulted from the operation.

In conclusion, I wish to express my sincere thanks to Mr. H. M. W. Gray, surgeon to the hospital, for his courtesy in permitting me to put this case on record.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF SPRENGEL'S DEFORMITY.

The condition shown in the accompanying photographs is, I presume, what is known as congenital elevation of the shoulder, or Sprengel's shoulder.

The previous history is unknown, the boy (aged 12 years) being in an orphan home. The left scapula is drawn upwards and towards the spine; with the arms at rest hanging by the side, the angle of the left is 1½ in. higher than that of the right scapula, and is 2 in. from the middle line, the angle of the right being 2½ in. On elevation of the arms above the head the angle of the right moves through 2½ in., being 5 in. away from the mid line; the left moves through 1½ in., thus being only 3½ in. from the

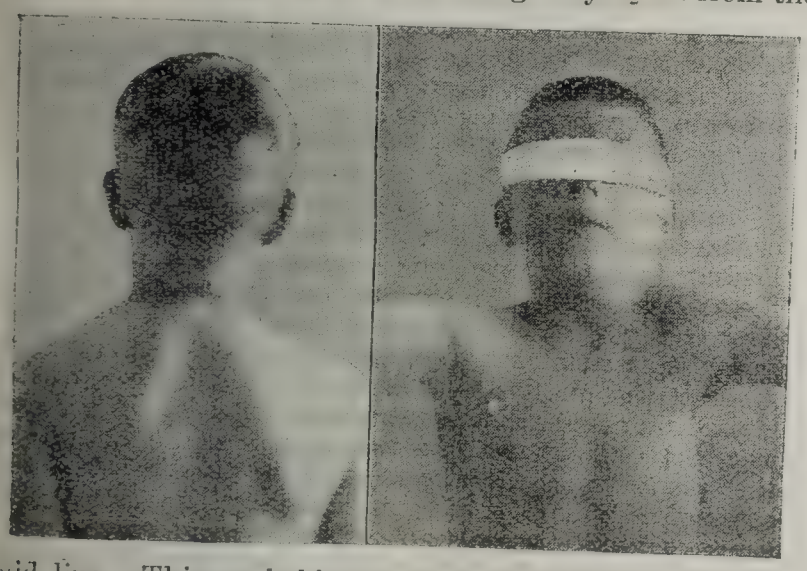

mid line. This probably accounts for the fact that the boy cannot abduct the left arm through more than about 135 degrees.

With the arms hanging down there is practically no difference in the height of the point of the two shoulders; but as soon as abduction takes place this is altered, and, with the full limit of abduction, the outer end of the clavicle is almost vertical. From angle to coracoid process the left scapula measures ½ in. less than the right. There are no irregularities of the bone to be felt, and it is not winged.

The condition can be explained by a shortening of the fibres of the trapezius; the levator anguli scapulae is probably also involved, at any rate, secondarily.

Would the lessened function of the left arm account for the smaller size of the scapula?

Great Yarmouth. H.W. Harding, M.D.Lond., D.P.H.

A PELVIC SEPTIC CONDITION DUE TO BACILLUS COLI.

The following notes of the case of a lady who came under my care at Easter of this year are, I think, worth recording. So many anxieties and difficulties were experienced, and the ultimate results so very encouraging, that I trust that some other country practitioners, like myself living in out-of-the-way corners, may find a use in their perusal.

I was called at 4 a.m. one day to see a visitor to this town. I found her suffering from severe abdominal pain of an intermittent character. So great was her pain that she could not help screaming. The symptoms resembled those due to uterine contractions. Pregnancy by the patient was not considered to be possible, as for the last two weeks or more she had been menstruating. Temperature 100° F., pulse-rate 110. Relief by means of morphine was obtained for a few hours. The pains kept recurring. A vaginal examination showed a fetid grumous bloody discharge coming from the uterus. The os was soft, but would not admit the forefinger. The temperature twelve hours after first seeing the case was 103° F., pulse 120, respirations 30. Inquiry revealed an immediate past history of dysentery and colitis contracted in India. The bowels were acting very frequently, and there was much mucus, and occasionally blood, in the stools. After about forty-eight hours a mass was discharged from the uterus. The examination of this left no doubt that a miscarriage of a very early pregnancy had taken place. The general condition of the patient did not improve in the next twelve hours. The pain continued in the abdomen. The pulse-rate was increasing, and the temperature, although erratic, touched 102° F. Under an anaesthetic the uterus, after dilatation of the cervix, was curetted and thoroughly washed out. A very foul uterine débris was removed. The general condition after this improved a good deal; the temperature and pulse-rate came down, but the abdominal pain remained, and was at times very severe. Diarrhoea, the evacuations being very offensive with some blood and much mucus present, was frequent. The third day after the curetting the symptoms became worse. Temperature, pulse-rate, and condition of tongue were all on the downward grade. The uterine discharge was becoming markedly offensive. Under an anaesthetic the uterus was again thoroughly cleansed; 30 c.cm. of Burroughs and Wellcome's antistreptococcic serum was injected into the buttock. This was repeated in twenty-four hours in 10 c.cm doses. An intrauterine douche was given twice daily. The temperature, taken four-hourly, fluctuated between 100° and 101° F. Matters went on in much the same way for ten days, when again the temperature at times registered 103° F. The streptococci injections were now repeated daily for ten days in 10 c.cm. doses without any marked result. A cultivation was now made from the bacilli found in the mucous discharge and stools, by the Clinical Research Association, and 500 million of this special vaccine was administered for two days in succession, and then 100 million on alternate days for four injections, with good results, all symptoms improving, and especially those of the colitis. Just as we had reason to hope that all danger was past, and about fourteen days from the last vaccine injection, the temperature began to be very irregular, and much continual pain and some tenderness was complained of in the lower part of the abdomen. With alarming rapidity a rounded swelling appeared above the pubes, which was evidently uterine. The uterus became fixed, and Douglas's pouch became full. It was evident that acute cellulitis around the uterus had set in. As days went by the cervix uteri was pushed away from the middle line to the left, and the fundus was correspondingly displaced to the left of the middle abdominal line. The swelling became more tense in the posterior vaginal fornix. A pair of long forceps was pushed through into this swelling, and a very fetid pus was evacuated. From this discharge, through the medium of the Clinical Research Association, a vaccine was obtained of "a Gram-negative motile bacillus, which has been frequently isolated in cases of colitis." Injections were given daily of 10 million of this vaccine for four days, and then every other day for four days. Careful vaginal irrigation was carried out twice daily, and the opening into Douglas's pouch was kept open by passing blunt forceps through the site of the discharge. Under this treatment a very gradual improvement was seen. The temperature for some weeks never rose above 100° F., and was frequently subnormal. A very marked change for the better as to the colour of the skin of the face was soon seen. The

symptoms of the colitis entirely disappeared. At the end of fifteen weeks from the commencement of my charge of her, my patient was able to go on her way nearer to her home in the East Country. A report of her a few days ago after two months' absence reads: "A healthier and rosier young woman it would be hard to find. She suffers no pain, and feels perfectly well."

Looe, Cornwall. J. EUSTACE WEBB.

A PRELIMINARY NOTE ON THE USE OF SAND BATHS.

FOR some time I have been conducting experiments with the object of ascertaining the value of sand baths as remedial agents. Unfortunately, there appears to be no available literature on the subject, which is strange considering how extensively they are employed by native races, at least in Egypt, Nubia and the Sudan. The various Arab tribes appear to have great confidence in their efficacy in all such painful conditions as are generally supposed to be of a rheumatic character, although they are employed by them as well in certain acute affections. They are very careful in selecting the site and only the yellow sand, the real desert sand, is used, as it is held that the grey sand is not only useless, but may prove positively injurious and originate disease of various kinds. There is no doubt whatever about the truth of these observations. The yellow sand has remained where it is for thousands of years with but little change, whereas the grey is entirely different, as it shifts about, and is largely made up of dust and débris of various kinds, with which is incorporated probably a plentiful supply of micro-organisms. The conditions where sand baths have been employed by me up to the present have been entirely rheumatic in nature, and there is no doubt that in such conditions their use is attended by very excellent results. The temperature of the sand varies, of course, according to the season, and in summer it is so high, even two feet from the surface, that in the late afternoon it can only be borne at the commencement with a certain amount of discomfort. Briefly, the results obtained, or observed, were:

1. Marked diminution in pain and swelling.
2. Profuse diaphoresis, which was in proportion to the degree of immersion and the temperature of the sand.
3. A marked sedative effect; drowsiness at the time, and for an hour or two afterwards. Sleep was also better during the night.
4. Increase in pulse-rate, as well as a slight temporary rise in the temperature.

The marked alterative and sedative effects may be due to the continuous heat, uniformly applied to all parts of the body, but unquestionably another very important factor has also to be taken into consideration, namely, the development of a tangible and measurable electrical current. When a sensitive milliampèremeter was introduced into the circuit there was a distinct oscillation of the needle, which deflected after some minutes an appreciable current, due possibly to the increasing moisture of the skin. This is a matter, however, for further investigation.

I think it extremely probable that a prolonged course of sand baths in the desert would be of great value in chronic rheumatic and neuralgic conditions, as well as in possibly, cases of insomnia and neurasthenia.

Cairo. T. GERALD GARRY, M.D., M.A.O.

THREE meetings have recently been held on behalf of the After-Care Association, whose objects are to assist poor persons discharged recovered from asylums for the insane: At Bath, through the kind invitation of Mrs. Blackburne, when the Archdeacon of Bath presided, and addresses were given by Dr. Maurice Craig and Mr. H. Thornhill Roxby. At Hampstead, at the kind invitation of Mr. and Mrs. Adair Roberts, Mr. Roberts presiding. Short speeches explaining the work were made by the same gentlemen. At Bethlem Royal Hospital (by permission of the governors), Dr. Stoddart in the chair, the audience was addressed by Alderman Sir William Dunn, Dr. G. H. Savage, Dr. Chambers, Dr. Robert Jones, the Rev. H. Stephens, and Mr. H. Thornhill Roxby. During the past year applications on behalf of 379 cases were received from various parts of the country.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BOMBAY BRANCH.

Thursday, August 24th, 1911.

SORAB K. NARIMAN, M.D., in the Chair.

Tropical Liver Abscess.

MAJOR T. S. NOVIS, I.M.S., F.R.C.S., read a paper on tropical liver abscess. He had chosen the subject as there was still considerable difference of opinion regarding the treatment of the disease. There was usually a definite history of dysentery, and in some cases the patients were actually suffering from this disease when they came under observation. Many had been in the habit of drinking in moderation, and some admitted taking alcohol in excess. The onset was often marked by a rigor or rigors. In the latter case malaria might be a complication, followed by malaise and irregular fever, which was not really hectic in type, the temperature rarely going above 101° F., and was, perhaps, best described as "wandering." Pain, as a rule, followed fever, though it was sometimes the first symptom and varied greatly in intensity (some patients experienced little more than discomfort), and might or might not be referred to the right scapular region or above the clavicle. In one of his cases the patient was quite well until, whilst lifting a heavy weight, he was suddenly seized with severe pain in the right side, which he attributed to a strain. Discomfort or pain was often felt when lying on the right side. Jaundice was occasionally present in a slight degree, but, if marked, was suggestive of portal pyaemia. Profuse sweating, especially at night, was a prominent symptom and resembled the sweats of advanced phthisis. Leucocytosis was generally, but not always, present. Irregularity of the lower margin or the upper limit of dullness of the liver and fullness of the intercostal spaces were useful diagnostic and localizing symptoms. If untreated, an abscess might occasionally become encysted and remain latent for years, but usually continued to enlarge until it reached the surface of the liver, when the latter became adherent to one of the surrounding structures and pus was discharged: (*a*) Into the pleura; (*b*) through the lung, the pleura having become adherent; (*c*) on the surface of the body; (*d*) into one of the hollow viscera, usually the colon; (*e*) into the pericardium; (*f*) into the superior vena cava; or the rupture might take place into the peritoneal cavity, leading to general peritonitis or the formation of one of the varieties of subphrenic abscess. It was rare to find a liver abscess which had burst through the skin, as patients sought advice when a swelling appeared; but he had seen several pointing liver abscesses which had been opened as superficial abscesses without special antiseptic precautions, as a correct diagnosis had not been made. Rupture into the pleura through the lung was probably the most common complication if subphrenic abscess were excluded. Rupture into the colon was not very uncommon, and cases of rupture into the pericardium had been found in the *post-mortem* room of the Jamsetjee Jijibhoy Hospital, but he had never had the opportunity of treating this complication. Death was caused by rupture into the inferior vena cava in a case under his care in St. George's Hospital, Bombay. The history briefly was as follows:

W. D., European, male, aged 55, had suffered from irregular fever with rigors and sweating for three or four weeks, but complained of no pain; no hepatic enlargement could be made out, as the patient was very stout. The irregular fever and sweating led me to advise exploration after a course of quinine had been tried without benefit. Whilst being moved from his bed to the theatre he suddenly became cyanosed, his respiration was laboured and sighing, and death supervened in a few minutes. At the autopsy a medium-sized abscess was found situated at the back of the liver in front of the spine communicating through a ragged hole with the inferior vena cava.

Prognosis was good in uncomplicated cases, but many were far advanced or suffering from complications when they came into the hands of the surgeon. The usual causes of death after operation were: (1) Diarrhoea which could not be checked; (2) sepsis; (3) progressive emaciation, due probably to extensive destruction of liver

tissue, the patient steadily going downhill in spite of the wound remaining healthy; (4) one or more abscesses which had not been opened.

Treatment.—It was probable that many cases of acute hepatitis might be prevented from going on to liver abscess by the administration of large doses of ipecacuanha, but when an abscess had once formed the sooner an operation was undertaken the better. If there were no urgency the skin was cleaned with soap and water, then turpentine was applied, followed again by soap and water and biniodide of mercury (1 in 500). A dry sterile dressing was then applied for twenty-four hours; this was removed on the table and the operation area painted with 1 per cent. solution of iodine in alcohol or chloroform. Barker's solution was then injected and the part again painted with iodine solution after an interval of ten to fifteen minutes. In urgent cases reliance was placed in iodine solution alone. Local anaesthesia was always used, unless there were nothing to indicate the position of the abscess, thereby avoiding dangers of a general anaesthetic. An exploring needle of medium size with syringe attached was used for exploring the liver; the needle was left in as a guide and the abscess opened in the most convenient position. It was scarcely ever necessary to excise a rib to get efficient drainage. A long rubber tube ¾ in. in diameter was introduced into the cavity and the skin closed round it, one suture being passed through the tube to retain it in position; the wound was dressed with antiseptic gauze and wool and the free end of the tube placed in a bottle containing 1 in 20 carbolic acid, into which it drained, leaving the dressings clean. The pleural cavity might be opened, in which case it should be closed with sutures; if this were done it was very rare for a pyothorax to follow, even if the sutures were passed after the abscess had been opened. The peritoneum must necessarily be opened when the abscess was approached through the chest wall and the liver was not adherent to the diaphragm, which in the majority of cases was not the case. The liver, however, remained in close contact with the diaphragm and the small quantity of pus which escaped into the peritoneum did no harm; it was therefore unnecessary to attempt to suture up the liver. If the abscess were approached through the abdominal wall it was the author's practice to pack round lightly with gauze, open the abscess and then fix up the liver, with four sutures passed through a considerable thickness of liver substance, to the abdominal wall, the gauze being usually included in the sutures. That was necessary, as in this position there might otherwise be a considerable escape of pus into the peritoneal cavity. Though he had never seen general peritonitis follow operation for liver abscess, they were not in a position to state the amount of pus the peritoneum could be relied on to deal with satisfactorily.

After-Treatment.—The patient should be kept in a bed and on ordinary light diet, meat, spices, and alcohol being avoided. The administration of large doses of ipecacuanha after operation was contraindicated on account of its depressing effect. The wound would not require dressing until the eighth day unless the dressings had become soiled or the abscess was not draining, when the tube was removed and a smaller one substituted, after which daily dressing was required. Irrigation was unnecessary and might be the means of introducing sepsis. He had entirely given up its use except in cases where the pus was very foul and the walls of the cavity sloughy, when irrigation with weak iodine solution followed by packing with iodoform gauze had proved beneficial. His registrar, Mr. Maneckshaw, had kindly looked up the records of 63 of his cases, of which 28 recovered and 25 died, giving a mortality of 39.68 per cent. The earlier records and those of cases which were under his treatment at St. George's Hospital were unfortunately not at his disposal. The 25 fatal cases included 3 cases of secondary cerebral abscess and 3 cases of rupture into the peritoneal cavity. Of the 3 cases of cerebral abscess, one died three or four days after an unsuccessful exploration, and at the autopsy four abscesses were found in the brain. A second died two or three weeks after operation, and *post mortem* an abscess which was suspected but had not been localized was found. The third died three weeks after a successful operation for abscess in the Rolandic area. As this patient was a Mohammedan no autopsy could be obtained. He had the notes of two cases of cerebral abscess secondary to liver abscess which occurred in St. George's Hospital, and were placed at his disposal by the courtesy of Lieutenant-Colonel Collie, I.M.S., and Major Tuke, I.M.S. These five cases occurring in Bombay within six months suggested that cerebral abscess was a much more common complication than was usually supposed. Of the three cases of rupture into the general peritoneal cavity, one on admission was suffering from severe shock and peritonism, and was not in a condition to allow operation to be attempted. The second case was suffering from a large abscess (bulging in the hypochondriac region) which suddenly disappeared during the patient's struggles under the administration of chloroform; collapse resulted, followed by death. Autopsy was refused, but pus was withdrawn from the abdomen with an exploring needle. The third case was operated on about eight hours after rupture had taken place; an incision was made in the middle line between the umbilicus and the pubes and in either flank; the peritoneum, which was full of pus, was flushed out with normal saline, and three large drainage tubes introduced, one going down into the pelvis. The patient was placed in Fowler's position, and rectoclysis employed for two days. On the second day the patient had recovered sufficiently to enable the author to find and drain the abscess in the liver under local anaesthesia. The drainage tubes were removed from the peritoneum on the fifth day, but diarrhoea, which was present from the start, persisted, and death resulted eighteen days after operation. In three cases pyothorax was present as a complication. In one the pleura and the abscess were opened and drained at the same time, recovery resulting. In the second the heart was greatly displaced, and the patient's condition was bad, so the pleura was aspirated and the abscess in the liver opened and drained; a drainage tube was inserted into the pleura three days later; the patient gradually sank and died six days after the second operation. In the third case the pleura was opened and drained, but the author failed to find the abscess in the liver after three punctures, and on the advice of Lieutenant-Colonel Meyer, I.M.S., and Dr. Surveyor, who were the patient's medical attendants, further exploration was postponed. The patient rapidly improved, but did not consent to another operation for ten days, when the abscess was opened and recovery eventually resulted. Several cases were discharging through the lung and one by the bowel, but in each of these the abscess was localized and opened, as it was rare for healing to take place in these cases without surgical aid. In conclusion the author urged early exploration when an abscess was suspected, but care should be exercised not to explore a liver where the enlargement was due to malaria, as free haemorrhage might result from piercing the congested hepatic tissue, and death had followed exploration under a mistaken diagnosis. Operation under local anaesthesia should be performed when possible, without excision of a piece of rib and without introducing the finger into the wound. Irrigation should be avoided and the dressings changed when necessary under antiseptic precautions. The bowels should be carefully regulated, and any tendency to constipation or diarrhoea promptly checked.

In the discussion which followed, Dr. Date asked (1) as to what should be done in cases where air was sucked in, and (2) whether there was any advantage in certain cases to aspirate first and leave the aspirating needle for some days and then cut on the abscess. The reason why he asked this question was that he had two desperate cases of liver abscess. In one of them the liver was aspirated, 40 oz. of pus being removed, and the aspirating needle was left in with a long drainage tube, and two days later when the patient improved the liver was opened. This man recovered. In the second case the abscess was opened directly, and the patient died.

Major A. Tuke, I.M.S., asked how many small punctures (exploratory) were justifiable, and whether laparotomy was justifiable as a diagnostic measure in hepatic abscess.

Dr. K. R. Dalal asked whether any bacteriological examination of the pus was made as to amoeba, *Bacillus coli*, etc., and as to where lay the danger, in puncturing the veins of the liver substance or of the vena cava, in case of exploratory punctures.

Dr. N. F. Surveyor referred to the bacteriological examinations he had made of the pus sent to him by Colonel Street, I.M.S., and said that of thirty samples he

had examined all were found to be sterile except one, which was possibly contaminated after being removed. He did not find amoebae or *coli*, or any other organisms.

Dr. R. Row asked whether, in cases of congested malarial liver, there was any definite criterion or sign by which one could say that the congestion was on the borderland towards suppuration, and thus, even in the presence of fever, enlarged spleen and liver, one could safely do an exploratory puncture without danger.

Major NOVIS, in replying to Dr. Date, said, as to the first question, when the pleura was opened, in cases where the abscess was high up, the finger should be put down in the liver, which should be drawn up, including the diaphragm, to the skin by two or three sutures; no suppuration resulted. Collapse of the lung was not common if this were done promptly. As to Dr. Date's case which he had quoted, Major Novis said he had no personal knowledge of the procedure adopted by Dr. Date in his first case, but in his opinion the abscess could not drain well through the aspirating needle, and the shock of opening an abscess was slight. He did not think the results in Dr. Date's cases depended on the treatment adopted. There was no advantage in aspirating first and cutting after an interval except in cases where the pleura was full, when the pleura should be aspirated, but the abscess should, if possible, be opened. As to Major Fuke's questions, Major Novis had made twenty punctures in one case himself, and had seen over thirty made on one occasion. As to abdominal section, it might be justifiable in some cases where needling was likely to cause bleeding—for example, in malarial enlargements of the liver and in cases where it was almost certain an abscess was present, but which could not be proved otherwise. In reply to Dr. Dalal, Major Novis said that liver pus was examined in many cases, but not in all. It was nearly always found to be sterile. In a large majority there was a history of dysentery. As to *Bacillus coli*, it was extremely rare, and probably only in cases where the colon was adherent they might occur, as they were present in a case he had where there was such a communication between the bowel and the abscess cavity. As to Dr. Row's question, Major Novis did not know of any definite sign as to the best time for puncture, but exploration was justifiable if there were reasonable grounds for suspecting an abscess, if performed with care. Malarial enlargements should, as far as possible, be excluded. He knew of haemorrhage from congested livers, and Colonel Hatch informed him that he had once an occasion to do an abdominal section to check haemorrhage after exploration of the liver. Haemorrhage, he said, was from the hepatic tissue and the veins in the liver, not from the vena cava or portal vein, which would not be punctured by an operator of experience.

Major T. S. NOVIS read notes of a case in which the thoracic duct had been ligatured. A. F. M., a Goanese male, aged 28 years, was admitted to the Jamsetjee Jijibhoy Hospital for tuberculous glands in the neck, which had suppurated and presented an open sore just above the middle of the left clavicle.

On July 7th, 1911, he was operated on, under chloroform, which he took well. Some glands from the posterior triangle were dissected out and a mass of tuberculous glands removed from beneath the left sterno-mastoid muscle, during which the thoracic duct, which was embedded in the mass, was injured, and chyle was seen escaping from the two small wounds in the side of the duct, which were picked up and lateral catgut ligatures applied. Four or five hours after the operation the patient had a rigor, and the temperature went up to 104° F. The following day the temperature came down to 101.8° F., but the dressings and the patient's bed were flooded with chyle. The patient was again chloroformed, stitches were removed, and the thoracic duct was ligatured as low down as possible behind the left sterno-clavicular articulation. The wound was packed with gauze. The temperature came down to 97.6° after this operation. There was some oozing of lymph, which gradually decreased, and ceased on the sixth day.

During the first fortnight the patient gradually got thinner; his appetite, however, was good, no chyle could be detected in his urine, and his motions appeared normal. One or two small lymphatic glands became enlarged under the axillary border of the right pectoralis major muscle.

The wound gradually granulated up, and the patient left the hospital one month after the operation, the wound having almost healed, and the patient was steadily gaining weight.

Cases.—Dr. C. FERNANDES showed some skin cases, and Dr. VAZIFDAR showed a case of supposed bilateral herpes, which was really a case of herpetiform eczema, though many of the clinical signs resembled herpes.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, November 20th, 1911.

J. MITCHELL BRUCE, M.D., F.R.C.P., President, in the Chair.

Syphilis and Parasyphilis of the Nervous System.

(Adjourned Discussion.)

DR. RISIEN RUSSELL opened the adjourned discussion on syphilis and parasyphilis of the nervous system.[1] He said that he wished to be allowed to join in congratulating Dr. Mott on his able and instructive paper, and he felt that the council were also to be congratulated on their happy choice of the subject for discussion. Dr. Mott had referred to those to whom they were chiefly indebted for their knowledge of the influence of syphilis causing certain affections of the nervous system, but without Dr. Mott's that list of names was incomplete, for in their country no man had done so much as he had in that connexion, notably in establishing the syphilitic origin of general paralysis of the insane. Dr. Mott had invited those who were to take part in the discussion to fill up gaps that he had left, but in reality the paper was so exhaustive that he could find no such gaps, and, moreover, he was so entirely at one with Dr. Mott in his main argument that there was little room for discussion of the paper. He wished, however, to avail himself of the invitation to supplement or suggest any modifications that seemed called for, although those were so trifling that they might appear almost as unnecessary pin-pricks. In suggesting what he was about to say he hoped that the value of Dr. Mott's paper would be enhanced, and nothing could be further from his desire than to attempt to depreciate it. He was in complete accord with Dr. Mott in regard to the failure of antisyphilitic treatment in general paralysis, but he was fully convinced of its efficacy in tabes, and considered that no patient in the early stages of that disease should be allowed to go untreated by mercury administered by inunction or injection. Dr. Russell was glad that emphasis had been laid on the importance of differentiating neurasthenia from the affections that were under discussion. While failure of the pupil to react to light was all-important as proving the organic nature of the disease, the same could not be said of mere inequality of the pupils, for it was no uncommon thing to meet with unequal pupils in neurasthenia without its meaning that an organic basis existed to account for the neurasthenic symptoms. That the headache of brain syphilis was usually more severe than that ordinarily met with in neurasthenia there could be no doubt, but it could not be said that although other cephalic sensations occurred in neurasthenia those did not include headache, for the reason that true headache was a common symptom in the affection, and it might even be characterized as severe in some cases. He recalled a case of the kind in which his diagnosis of neurasthenia was not believed, and in which the diagnosis of pachymeningitis was made by a surgeon. As the diagnosis carried with it the recommendation that the patient should be trephined he was again consulted. Examination of the cerebro-spinal fluid proved negative, so that he saw no reason to alter his diagnosis, and the patient made a good recovery under treatment for neurasthenia in a sanatorium without the assistance of an operation and without any form of antisyphilitic treatment. He could most cordially endorse all that had been said in regard to the value of the Wassermann test and the examination of the cerebro-spinal fluid. Contrary to what he understood Dr. Mott to say, however, he had met with cases in which the Wassermann reaction from the cerebro-spinal fluid had been said to be positive when the blood had given a negative reaction. An instance of the kind occurred recently in a case of what appeared to be neurasthenia, but in which he saw reason to suspect general paralysis of the insane, although there were no physical signs on which to base the diagnosis. In that man the blood gave a negative reaction, while the cerebro-spinal fluid was definitely positive. As proving the value of the test in support of the view that without syphilis there would be no general paralysis and no tabes, he might be allowed to refer to the following case in which a man past the middle period of life, who had never had syphilis, developed tabes. His father was

[1] See BRITISH MEDICAL JOURNAL, November 18th, p. 1356.

known to have suffered from tabes, and the patient's blood gave a positive reaction to the Wassermann test. Dr. Russell said he was surprised to hear what Dr. Mott had said in regard to the value of ankle clonus and Babinski's sign as supporting the diagnosis of syphilitic disease of the brain as contrasted with the parasyphilitic affection. general paralysis, in which those signs were supposed to practically never occur. This was so contrary to his own experience that he could not help supposing that the discrepancy was due to the fact that the type of general paralysis that was most commonly met with at the Queen Square Hospital differed somewhat from that which most commonly found its way into asylums. That that should be so was scarcely a matter for surprise, as the cases with marked mental symptoms were less likely to find their way to the hospital than were those in whom the physical symptoms and signs dominated the picture. He had seen both ankle clonus and the extensor type of plantar reflex sufficiently often in general paralysis to rob those signs of the value with which they had been credited in the diagnosis of brain syphilis as opposed to general paralysis. Excepting in cases of tabes-paralysis he was not in the habit of associating oculo-motor paralysis or gross paralysis of any cranial nerve with general paralysis, but had always regarded any such palsies as in favour of brain syphilis in contradistinction to general paralysis. He was interested to hear what Dr. Savage said about the preservation of memory in general paralysis, for he had also met with some notable instances of the kind, in which it was surprising to find the patient's memory so good, in spite of the other features of the disease being pronounced. He was glad that Dr. Mott had found room in his paper to refer to the importance of the diagnosis of the affections under consideration from disseminated sclerosis; but he would suggest that as at present worded a sentence in the paper was apt to give a wrong impression. The sentence ran: "Disseminated sclerosis may result from multiple syphilitic foci due to obliterative arteritis." The truth of that was, of course, beyond question; but the use of the term "disseminated sclerosis" was apt to lead to the belief that the disease known by that name might be due to syphilis, which would be an error. That disseminated sclerotic areas occurred in the central nervous system as a result of syphilis there was, of course, no doubt, but the state of things must not be confounded with the symptom-complex that arose from a totally distinct disease, of whose true etiology they were at present ignorant. It was gratifying to hear such a definite pronouncement in regard to the value of the Argyll Robertson pupil in support of the parasyphilitic affections, for it accorded with his own experience. Dr. Mott's reference to the influence of tremor in inducing in the subjects of syphilis the affections that were under discussion afforded Dr. Risien Russell the opportunity of correcting a statement that had appeared under his name in the British Medical Journal to the effect that trauma was a cause of tabes. What he was really responsible for saying in the discussion on Dr. Mott's paper at the British Medical Association meeting at Birmingham was that he had only once met with a case of tabes in which there was the least reason to believe that trauma might have played some part in generating the affection. He further stated that the case occurred in the days when they were without the present tests for syphilis, but that the man's calling in life made it not improbable that he had had syphilis, although there was no proof of that.

Dr. Farquhar Buzzard said that the subject so ably and exhaustively introduced by Dr. Mott embraced many points about which there was general agreement, and a few only which gave rise to some difference of opinion. Among the latter might be placed the question of the exact nature of parasyphilis, a question upon which Dr. Mott gave them his views before going into the subject of differential diagnosis. The two subjects could not be completely divorced, and Dr. Buzzard hoped he would not be out of order if he followed the opener by saying a few words about the much-debated nature of parasyphilis. He believed he was correct in saying that Dr. Mott regarded parasyphilis as an abiotrophic process which, although it followed syphilis, was not in itself syphilitic, and did not depend for its progress upon the activity of the syphilitic virus. He was bound to confess that that view—to use the phrase of a musical critic—left him cold. To say that a man in the agony of a gastric crisis or sweating with the torture of lightning pains was suffering from abiotrophy seemed to him a proceeding which was lacking in sympathy and which did not carry conviction. He entirely agreed with Dr. Mott that the pathological process underlying tabes was not a gross structural change comparable with that which was seen in the inflammatory lesions of syphilis, but he could not help looking upon it as one which was due to an active intoxication rather than as the expression of a primary neuronic decay. They were told—and he agreed with the statement—that the majority of tabetics gave a positive serum reaction. At the same time Dr. Mott stated that the latter was an indication that the syphilitic virus was still active. If both those observations were reliable, they were certainly reconcilable with the view that tabes was the result of an active toxic process. Dr. Mott had stated that mercury in cerebro-spinal syphilis might effect a cure, whereas in parasyphilis it did more harm than good. He was not alone in believing that not only did mercury rarely, if ever, do harm when administered to tabetics, but that it was far the most potent agent for improving their lot and for arresting their disease. With regard to general paralytics he could not speak so positively, but mercury had appeared to him to produce distinct, if only temporary, benefits in many cases. If mercury failed to arrest the progress of parasyphilis; if the serum reaction remained positive in spite of mercurial treatment; and if the serum reaction was really an indication of the activity of the syphilitic virus, then the argument that failure of mercurial treatment was evidence of the non-syphilitic character of the process fell to the ground, and they must conclude that it was their method of treatment which was inadequate, and that they could not yet effectually combat the active toxic agent. They were familiar with the after-effects of other infective processes on the nervous system—for instance, post-diphtheritic paralysis. They would hardly call that an abiotrophy, and they could not contend that remedies which would successfully combat the diphtheritic process were capable of restoring to health the poisonous neurons. Some cases of post-diphtherial and alcoholic ataxy had the strongest possible clinical resemblance to tabetic ataxy. But the diphtherial lesion did not persist, and alcohol could be removed, with the result that recovery might take place in either instance. Some of the alcoholic cases—both those in which the lower neurons were affected and those presenting Korsakow's syndrome—were incurable; the process had gone too far and the neurons were dead. On the other hand, in tabes and general paralysis the positive Wassermann reaction indicated the continued activity of the syphilitic virus in the majority of cases, and, while that was so, they could hardly expect to do more than modify its influence. Moreover, it was evident that in tabes, unlike alcoholic neuritis, the chief incidence of the poison was on the central prolongations of the posterior root ganglion cells and intramedullary axons were notoriously deficient in regenerative power. On the whole he found it difficult to regard the irritative phenomena of tabes as due to the degeneration of neurons prior to their death and loss of function. Many of them could be modified or averted by energetic antisyphilitic treatment, and, in his opinion, were the direct result of an active toxic agent. After all, the so-called parasyphilitic diseases were really the only syphilitic diseases of the nervous system; cerebro-spinal syphilis was not syphilis of the nervous system, but syphilis of its supporting and nutrient tissues. With regard to the subject of differential diagnosis, he agreed with all that Dr. Mott had said with regard to the value of the Wassermann reaction of the blood and of the cerebro-spinal fluid, but he had learnt to be careful not to attach too much importance to a negative result. He would give one instance. A man consulted him about intense headache associated with insomnia, but unaccompanied by vomiting, optic neuritis, or any physical signs of disease. He was typically neurasthenic. He denied syphilis. His blood gave a negative Wassermann reaction on two occasions, but he had some typical scars of old gummatous ulceration of his scalp. He was completely and rapidly cured by the exhibition of mercury and iodide. His neurasthenia was

the result, not the cause, of his headache. They had heard much of the value of the Wassermann reaction in tabes, but the ordinary physician had to give an opinion without constant resort to laboratory tests, and he could not shrink from diagnosing tabes sometimes even when Argyll Robertson pupils were absent or knee-jerks were present. Too little attention was paid habitually to the sensory phenomena of tabes, which on the whole were as reliable a guide as any other to a correct conclusion if their characteristics were appreciated. He would not say that every case presented the same sensory phenomena, but he maintained, and he was in the habit of teaching, that their peculiarity lay in the fact that they could not be produced by coarse structural change, and must be the result of some agent which could pick out as it were the different afferent systems with a partiality which was impossible in the case of a clumsy process like syphilitic meningitis. The sensory changes in tabes were really unlike what obtained in any other condition except in some of the less common examples of toxic neuritis such as alcoholic pseudo-tabes. It was necessary to be careful in obtaining a correct description of the pains. The pains of tabes were generally described as rheumatic, but further inquiry generally showed that they were quite unlike the pains of rheumatism. In fact, characteristic lightning pains were unlike anything else. With regard to the objective changes their distribution was of importance. They roughly followed root areas but had not well-defined borders. In an area which was mainly insensitive to superficial painful stimuli, every now and again the point of a pin was keenly appreciated. Prolonged delay was often present. The loss to cotton-wool might be insignificant compared to the loss to pin-pricks. Perhaps more important still was the almost invariable diminution or absence of deep sensibility to painful pressure. Finally, they had the interference with the sense of position which in some cases was obvious in the ataxic, and in almost every case could be detected by delicate tests. If a medical man wanted to be able to recognize tabes in its early stage before the diagnosis shouted at him, Dr. Buzzard was convinced that he must first of all recognize the nature of the sensory phenomena, and, what was still more important, he must know how to look for them. In view of the test-tube tendencies of the present time, the importance of teaching medical students all there was to know about ordinary bedside methods of examination could not be exaggerated, for it was important to get them to realize the value of the information obtained by those methods, and to avoid constant reliance on laboratory tests for purposes of diagnosis.

Mr. A. FLEMING said his contribution to the discussion would deal entirely with the diagnosis of syphilis and parasyphilis so far as it concerned the clinical laboratory. Dr. Mott had already had much to say with regard to the recently introduced biochemical reactions in the diagnosis of those conditions, and one found it difficult to say anything about the Wassermann reaction or the lymphocytosis of the spinal fluid which was not merely a repetition in different words of what Dr. Mott had already told them. The complement-fixation test for syphilis had been in use for some years, and there had been many collections of results published in all countries. The table taken from Noguchi's book showed some of the results which had been obtained with syphilis in the different stages by various observers. It would be seen that in primary cases the reaction was only present in 70 per cent. of cases, whereas in secondary cases nearly 90 per cent. were positive. There were, however, very marked differences between the results of different observers, as in the case of primary syphilis. Hoehne had only 38 per cent. of positive results for 44 cases; whereas Detre had 98 per cent. for 43 cases. Such results might be explained by the fact that one observer had very early cases and the other cases in which the sore had been present for some weeks, but he thought it was just as likely that the difference lay in the materials with which the tests were done. It was very easy for the same man using exactly the same technique in every test to get discrepancies as wide as those if he used in two series different antigens, one of which was good and the other indifferent, for the antigen, on which the test wholly depended, varied enormously in different samples. Much had been written on the subject of the advantages of one or the other method of doing the test, but in his opinion there was not very much to choose, except in matters of convenience and ease of performance which concerned only the bacteriologist who performed the test, between the different methods, provided the observer used a method with which he was perfectly familiar, controlled it properly, and used an antigen of known merit. His own results in general syphilis were 80 per cent. for primary cases, 98 per cent. for manifest secondary syphilis, and 95 per cent. for manifest tertiary cases. In latent cases the percentage of positive results gradually diminished the longer time had elapsed since injection, provided treatment had been continued, as, of course, sufficient mercury treatment abolished the reaction eventually—in some cases temporarily and in others apparently permanently. The result of treatment, therefore, might mask the reaction in

Wassermann Reaction in Syphilis. Percentage Results Positive.

Authority.	Primary.	Secondary.	Tertiary.
Wassermann	91	73	74
Citron	90	98	91
Bruck	48	79	57
Brahne	88	98	100
Ledermann	52	100	92
Ledermann	61	98	96
Lesser	69	91	90
Noguchi	66	86	72
Hoehne	38	79	63
Boas	60	190	97
Detre	98	81	73
	416	1,605	581
	70 %	89 %	78 %

Cerebral Syphilis.

Observer.	Number of Cases.	Positive Serum.	Number of Cases.	Positive Cerebro-spinal Fluid.
Marie and Levaditi	2	2	2	0
Nonne	10	10	10	0
Frenkel Heiden	—	—	7	2
Stertz	—	—	8	0
Forster	—	—	5	2
Plaut	18	17	18	3
Noguchi and Moore	—	—	6	3
Fleming	12	10	4	1

Tabes.

Observer.	Number of Cases.	Positive in Serum.	Number of Cases.	Positive in Special Fluid.
Citron	15	12	9	2
Nonne and Holtzmann	49	34	49	2
Eichelberg	—	—	49	27
Lesser	61	34	—	—
Marinesco	15	12	15	8
Hoehne	45	27	—	—
Leswick and Meirowsky ...	19	10	—	—
Schütze	79	51	29	23
Plaut	14	11	11	7
Noguchi			11	6
Fleming	54	43	6	5

General Paralysis.

Observer.	No. of Cases.	Serum Positive.	Cerebro-spinal Fluid Positive.
Boas and Neve	131	131	
Nonne and Holtzmann	85 23	23	44 22
Eichelberg	61		57
Lesser...	62	62	
Plaut	150	150	144
Heud-Smith and Candler ...	64 10	9	59
Marinesco	35	35	32
Hoehne	30	24	
Leswick and Meirowsky ...	7	6	
		440	358
		(98 %)	(85 %)

Comparison of Serum and Cerebro-spinal Fluid in Syphilitic Conditions. (Plaut.)

Stage of Disease.	No. of Cases.	Serum. Wassermann.			Cerebro-spinal Fluid. Wassermann.			Cytology.		
		+	−	?	+	−	?	+	−	?
Secondary (manifest)	9	9				9		3	3	3
Secondary (latent) ...	4	4				4		1	1	2
Tertiary (manifest)..	1	1				1			1	
Tertiary (latent) ...	11	9	2			11		2	9	
General paralysis ...	138				138			138		
	8					6	2	8		
	1	1				1			1	
	8				8				8	
Tabes	10	9	—	1	7	1	1	6	2	2
Cerebral syphilis ...	21	20	1	—	4	17	0	17	1	3

Cerebro-spinal Fluid (Cases in which the Diagnosis is Reasonably Certain). (Noguchi.)

	No. of Cases.	Butyric Acid Reaction.			Wassermann Reaction.			Cell Count.		
		+	−	?	+	−	?	+	−	?
Secondary syphilis	3	3				3			3	
Tertiary "	1	1				1			1	
Cerebral "	3	3			1	1	1	3		
Spinal "	3	3			2	1		3		
Congenital "	10	9		1	8	2				
Parasyphilis:										
G. P. I. cerebral...	43	37	4	2	32	6	5	39	2	2
G. P. I. tabetic ...	17	17			12	3	2	16	1	
Tabes	11	11			6	4	1	11		

ate secondary, and especially in the tertiary stage in ases where there were no lesions, but it was very un- ommon to find a case showing an active syphilitic lesion which did not give a positive reaction. In the part of the ubject immediately under discussion, namely, cerebral yphilis and parasyphilis, they had marked differences. As egards the Wassermann reaction of the serum in cerebral yphilis it was the same as it was in syphilis elsewhere— amely, a positive result in almost all cases. In many of he cases there seemed to be considerable doubt as to the iagnosis, so that accurate statistics were difficult to rocure. Plaut gave a series of 21 cases in which the agnosis seemed certain, only one of whom was negative. Mr. Fleming had not been so fortunate, as he had had 2 cases negative in 12. In both of the cases he had been unable to find out the subsequent history of the patient, and in both cases the diagnosis was made by a physician who had not made neurology a special study, so he (Mr. Fleming) did not wish to say too much about the accuracy of his own figures. In testing the serum one found a very remarkable difference between the reaction in general paralysis and in tabes. In the former one almost invariably obtained a very strong reaction (as strong as in the early secondary stage), whereas in tabes the reaction, although sometimes it was strong, was as a rule weak, and one found quite a large percentage of cases which gave doubtful or negative reaction. His own figures were: General paralysis 104 cases, 101 positive; tabes 54 cases, 43 positive, 6 negative, 5 doubtful. One of the negative cases of general paralysis of the insane gave a negative Wassermann reaction in the cerebro-spinal fluid, and there was no lymphocytosis. In practically all cases of syphilitic or parasyphilitic affections of the central nervous system there was a definite lymphocytosis in the spinal fluid, but that had also been found in cases of secondary and tertiary syphilis in which there were no nervous lesions (Plaut, see table). Almost all cases of cerebral syphilis showed a negative Wassermann reaction in the spinal fluid, but a few cases, where the diagnosis was apparently accurate, had given positive reactions, and he had found a well-defined positive reaction in one case recently, a man who had only contracted syphilis one year ago. General paralysis almost invariably gave a strong positive Wassermann reaction, whereas tabes, as a rule, gave a weaker or a negative reaction, although sometimes quite a strong fixation took place when the fluid from a tabetic was used. In the differential diagnosis of cerebro-spinal syphilis from parasyphilis a strong positive reaction indicated general paralysis, a weak reaction tabes, and a negative reaction cerebral syphilis, although there were exceptions to all of those. Noguchi's butyric acid test had been largely used by Mr. Fleming for the diagnosis of syphilis, and he had found it positive where the Wassermann reaction of the spinal fluid was negative. In a small number of fluids he had tested from parasyphilitic cases it had always been positive, but from Noguchi's figures it came off in cases where the central nervous system was apparently not affected, and so it was much less valuable than the Wassermann reaction. The uses of the Wassermann reaction in nervous diseases were therefore: (1) By examination of the serum to see if the patient had syphilis; (2) by examination of the spinal fluid to detect parasyphilitic affections, and especially general paralysis; and (3) to reassure the patient who had been cured, and so remove the dread of future trouble.

Major H. C. French, R.A.M.C., sent a paper on early diagnosis and adequate early treatment in preventing cerebral and spinal syphilis. It was, he said, now almost certain that in the earliest phases of syphilis they were dependent for accurate diagnosis on the demonstration of the *Spirochaeta pallida* and on clinical evidence. The Wassermann reaction in the primary stage, so far from being a help, frequently confused the issue. The *Spirochaeta pallida*, under the best auspices, could not be detected in 25 per cent. of primary syphilitic chancres. They were thus mainly dependent on clinical facts. It appeared to be necessary to standardize the Wassermann reaction before accepting it as evidence of syphilis, either for or against. Owing to the very large number of other non-syphilitic conditions in which a positive result was stated to occur, were they fully justified in believing that from a positive Wassermann reaction "there was no appeal"? In regard to the therapeutic aspect of the question, the number of brain and syphilis cases in the army was very small in comparison with the large number of cases of syphilis. In his experience it was well under 3 per cent. as regards mixed methods, and not more than 1 per cent. or 2 per cent. in cases thoroughly treated by mercurial inunction and baths in the primary and early secondary stages. Two facts contributed to the relative infrequency in the army. First, the judicious early use of mercury. Secondly, the fact that soldiers left the service as a rule under 40 years of age. In cases of cerebral or spinal syphilis which he had met with in the army, it was the rule for them to have either been overlooked

and entirely untreated in the initial stages of the disease, or they had frequently received such scanty treatment as to be scarcely worth the name. Professor Fournier's statistics on tabes, published in 1891, were interesting in that connexion. Major French had seen a case two years ago where a man had a labial chancre and intense adenitis. He had had no treatment before the rash appeared about fourteen weeks from contagion. Well-marked spinal paralysis, rectal and bladder trouble developed within six months from contagion. The man suffered from extremely carious teeth, and being an athlete had taken very active exercise with early syphilis untreated. Dr. Levy Bing informed him (Major French) a month ago in Paris that he had given over 500 intravenous and intramuscular injections of salvarsan. He had never succeeded in aborting syphilis even after four weekly doses in the primary stage. He found that the Wassermann reaction became negative in many cases, but it was the rule for it to become positive within two months. After six or seven months he frequently saw nervous manifestations develop, and he mentioned two recent cases of meningitis, facial paralysis, and extensive skin eruptions. The general consensus of opinion was that intravenous injections of salvarsan were therapeutically better than intramuscular, but that mercury should be administered for three years was the opinion commonly held by those who had extensively tried both drugs.

Mr. HUGH W. BAYLY stated the results he had obtained with the Wassermann reaction during the last year at the National Hospital, Queen Square. He had examined only eleven cerebro-spinal fluids, and of those only four were positive. He saw, however, from Dr. Candler's interesting paper in the *Lancet* of November 11th, that he had been using too little cerebro-spinal fluid, which might account for his low proportion of positives with cerebro-spinal fluid. With regard to the blood serum, of 33 cases diagnosed as tabes 13 were strongly positive, 9 positive, 1 doubtful, and 10 negative. That gave 70 per cent. of positive reactions. Of 5 cases of doubtful diagnosis in which tabes was queried 4 were negative and only 1 positive. Of 17 cases diagnosed as general paralysis of the insane, 12 were strongly positive, 3 positive, and 2 negative=88 per cent. positive. Of 8 cases in which general paralysis of the insane was queried but not actually diagnosed, 3 were positive and 5 negative. Of 21 cases in which cerebral tumour was suspected only 3 (14 per cent.) gave a positive reaction. Of 18 cases of paraplegia examined only 4 (22 per cent.) were positive. Of 11 cases of hemiplegia only 3 (27 per cent.) were positive. Of 13 cases of pachymeningitis only 4 were positive. Of 10 cases of disseminated sclerosis 2 were positive and 8 negative; 8 cases of epilepsy and 4 cases diagnosed as cerebral thrombosis were all negative. Of 3 cases of primary optic atrophy examined, all were positive.

		Percentage Tabes +.	Percentage G.P.I. +.
Serum	Plaut	79	100
	Schütze	65	
	Noguchi	60	
	Mott	100	100
	Bayly	70	88

Purves Stewart had stated that the lymphocytosis of tabes and general paralysis of the insane was more marked than in any other form of organic nervous disease. Syphilis by itself, unless there were an active syphilitic lesion of the central nervous system, produced little or no excess of lymphocytes in the cerebro-spinal fluid. F. Plaut said that cellular increase might be found in secondary or tertiary stages (even though only latent) without any syphilitic manifestation in the central nervous system. The number of lymphocytes might reach a great height, up to 400, without producing a positive Wassermann reaction in the cerebro-spinal fluid, and vice versa the intensity of the Wassermann reaction of cerebro-spinal fluid was in no relation to the cell contents, one case with a very strong Wassermann reaction showing seventeen cells and another with a very weak Wassermann reaction showing 245 per cubic millimetre. There was also no relation between the strength of the Wassermann blood reaction and the cellular content of cerebro-spinal fluid. Dr. Mott had obtained a positive Wassermann reaction in every case of tabes and general paralysis of the insane in the blood, and considered that the amount of lymphocytosis in the cerebro-spinal fluid was an index of the activity of the disease, but Dr. Mott found that in tabes and general paralysis of the insane antisyphilitic treatment had no effect on the lymphocytosis, so he (Mr. Bayly) imagined that it would only be in syphilitic meningitis that that effect was produced. Candler considered that in all cases an excess of lymphocytes in cerebro-spinal fluid indicated organic disease, but not necessarily either syphilis or parasyphilis. It was difficult to bring the observations of those four authorities into line. He (Mr. Bayly) would ask Dr. Mott whether he would consider a diminishing Wassermann reaction in the blood, or a diminishing lymphocyte content in the cerebro-spinal fluid, the more valuable indication of improvement and reaction to treatment.

Dr. WILFRED HARRIS remarked that Dr. Mott promised in his first sentences to adduce some arguments as to the inclusion of other diseases such as Erb's paralysis among the diseases treated and as to whether Erb's paralysis was truly parasyphilitic or whether it was due to actual syphilitic lesions of the arteries or meninges. But he appeared to have left that matter unsettled. The fact that tabes might develop within a very few years seemed to point to it being truly syphilitic disease of the roots. Nonne described a case which occurred within two years of the syphilis. Dr. Risien Russell's remark as to the benefit in numerous cases of tabes of antisyphilitic treatment was very important. He had had the same experience. But he could not say the same for general paralysis of the insane. He had hoped Dr. Mott would have said something about a special neurotoxin in connexion with the development of general paralysis and tabes; there were so many instances of numerous individuals being infected from the same source and having general paralysis or tabes. There was one instance of as many as seven people being infected by one blowpipe for blowing gas, and five developing general paralysis of the insane or tabes. The facts concerning conjugal tabes and conjugal general paralysis pointed in the same direction. With regard to injury, he had twice seen general paralysis follow so closely upon injury of the head that he was inclined to regard it as a determining factor in the disease. He narrated a striking case in support of that, the case being cytologically verified and leaving no doubt as to its nature. He had seen a case in which the cause of the occurrence of the Argyll Robertson pupil was an injection for trigeminal neuralgia; following on the injection—not by himself—the patient had paralysed pupil and said it had never got right. Her pupil could not be distinguished from that due directly to tabes.

Lieutenant-Colonel A. DE C. SCANLAN took a strongly opposite view, and expressed his entire disagreement with the view of Sir David Ferrier that syphilis was a *sine qua non* in tabes, and therefore he differed also from Dr. Mott, who said that syphilis was practically the only cause of that disease. He had seen a considerable amount of syphilis in the army, but he had seen only one case of tabes in the army, though several cases had come under his notice outside the army, and in those he had found no signs of syphilis whatever. In an asylum he had seen people who had even lost their limbs from syphilis, but none of them suffered from tabes. The same was the experience of a doctor on the East Coast of Africa, though he saw a good deal of syphilis. When something was said to be the cause of a disease it must be a direct cause, not coupled with something else. An Egyptian doctor who saw much syphilis said he and his friends very rarely saw a case of locomotor ataxy or general paralysis. He expressed a good deal of scepticism about statistics as usually published, for figures could be made to prove almost anything. His opinion was that tabes was due to a toxaemia, and that syphilis was only one of the causative factors. In the case of alcoholic or lead poisoning the effects of the poisoning diminished immediately on leaving off the poison, therefore why should syphilitic effects persist for twenty years and eventuate in general paralysis or in tabes?

Dr. H. Corner remarked that when he was at Bethlem Hospital many years ago he took a good deal of interest in the question of general paralysis of the insane in its connexion with syphilis, and he would like to know whether Dr. Mott looked upon syphilis as the only cause of general paralysis. His opinion was that something beyond syphilis was required in order to produce general paralysis, and that syphilis was a predisposing cause; it produced a low form of inflammation throughout the body, and there was a tendency to proliferation of cells and a tendency to a cirrhotic condition later on. The progressive character of general paralysis and the non-progressive character of other syphilitic lesions was a fact which needed explanation. His opinion when working at the subject was that neurons when overactive gave off certain poisonous products, the same as did every living cell, and that was the result of catabolism. The products were poisonous and irritating, causing inflammation of the blood vessels and lymphatics and perilymph spaces, and there was a tendency to blocking of the lymph stream, causing in that way a vicious circle. He would also like to hear some explanation of the remissions which were seen in general paralysis. He attributed considerable importance in the production of these late manifestations to sexual excess, worry, and overwork; all those meant excessive catabolism. It seemed clear from *post-mortem* examination that the parts most affected by tabes were the parts most used. He likened general paralysis to influenza in regard to the toxic results, and said there were a number of admissions to Bethlem while he was there in which influenza proved to be the last straw. If general paralysis was due to congenital syphilis, he would be glad to hear how late in life general paralysis might arise from that cause. Might some of the cases of general paralysis of 20 to 30 years of age be due to congenital syphilis?

Dr. Mott, in reply, thanked all those who had taken part n the discussion, and especially those who had said such ind things about his paper. Some of those speakers—such s Dr. Savage, Sir David Ferrier, Dr. Risien Russell—had ad a far wider experience than he had in certain irections. Between himself and Dr. Risien Russell he did ot think there was very much difference, for if anybody ould diagnose tabes, it was Dr. Russell. Many of these ases had, under his own care, benefited a good deal by ercurial treatment. One of them, an actor, could not alk at all when he went into hospital, but on coming out e could not only walk, but he took the part of an old man a play. But even Dr. Russell would not consider that ercury could bring back the pupils to the normal, or store nerve roots which had gone. He was doubtful hether mercury did much good for general paralysis of e insane. Many blood examinations of the cerebro-spinal uid and of the blood had been done at Claybury, and variably in general paralysis there was a reaction ith the blood serum when it was present in the rebro-spinal fluid. But he had heard of cases in hich the cerebro-spinal fluid gave the reaction and the ood did not, and therefore he would not be too dogatic on the point. He did not consider that the assermann reaction should be looked upon as absolutely fallible, and in support of that view he reminded his arers of the case he quoted in his paper. As a rule, e cases which one saw in asylums were not general ralytics when they gave the Babinski sign and ankle nus; they were much more likely to be instances of philitic brain disease. But it was possible to find those o signs in general paralysis, and he had seen such ses. With regard to trauma, the case which he quoted his paper had the scar of a chancre, but a man would t be allowed to drive a taxi-cab if he had any signs of ntal derangement, and the man said he was quite ll before the accident, which was a severe one. en he examined the brain of that man afterwards would not have known it was general paralysis the Wassermann reaction had not been done. en he carefully examined the brain he found one two places where there was a typical lesion which one could doubt, with slightly granular follicles. erefore he thought it possible that that man might not e had general paralysis if he had not been in that ere accident. Cases which he had seen with gross ial lesions had been rather cases of tabo-paralysis; he had published cases himself of this kind in which there was ophthalmoplegia interna and externa. There was not time to go into the question of neurotoxins, as raised by Dr. Wilfred Harris, but he had discussed the matter elsewhere: he had always thought it possible that there might be a specific form of spirochaete which produced that particular late form of syphilis. In countries where syphilis had long been rife he believed the people acquired a certain degree of immunity, and when the disease attacked them it was of a mild form, and in this connexion he referred to Ehrlich's theory of side-chains. He reminded his hearers that Krafft-Ebing inoculated a number of general paralytics who were said never to have had syphilis with the spirochaete, and none of them took the disease. He personally preferred the term "metasyphilis," but Fournier, to whom they owed so much, used the word "parasyphilis," and therefore it was likely to remain in the nomenclature. He did not say one could not get a positive Wassermann reaction in cerebral syphilis, but if the cerebro-spinal fluid gave a positive reaction, it was 5 to 1 that it was parasyphilitic, and not syphilitic. He insisted that one could not judge a case by one fact alone; all the facts must be taken together and a judgement formed on those in combination. He expressed great sympathy with the remarks of Dr. Buzzard as to the need for more clinical work and less resort to the laboratory, especially in the case of the younger men. Tabetic and general paralysis cases nearly always showed the Argyll Robertson pupil.

At the conclusion the cordial thanks of the society were tendered to Dr. Mott in a formal manner.

ROYAL SOCIETY OF MEDICINE.

Section of Surgery.

Tuesday, November 14th, 1911.

Mr. Clinton T. Dent, President, in the Chair.

The Future of Surgery.

In a presidential address Mr. Clinton T. Dent expressed a desire that surgery should extend to a wider sphere, and surgeons not limit themselves by too much attention to mechanical detail.

Suppuration due to B. Typhosus.

Dr. Ringrose Gore described a case of caries of the frontal bone and intracranial abscess occurring eleven years after an attack of typhoid, and due to *B. typhosus*. The first indication of bone disease was the development of an abscess of the lower end of the femur; this was opened twice, and on the second occasion the pus was examined, but the *B. typhosus* was not found. During the winter, 1910, the patient had three attacks of illness, evidenced by headache, tenderness of the scalp, rigors, and a temperature of 105°, each lasting about a week, and suggesting an attack of malarial origin. The urine contained albumen, but no *B. coli* or *B. typhosus*. Fourteen days after the last attack pain, tenderness, swelling, and oedema of the scalp occurred in the region of the frontal sinus; there was no leucocytosis. On operation an abscess was found between the dura mater and the bone; the pus contained typhoid bacilli. The peculiarities of the case were the length of time that had elapsed since the attack of typhoid fever and the absence of leucocytosis. Mr. Ballance said he had never had a case in which the latent period extended over eleven years; the cranial cases that he had met with had been cases of brain abscess. At the present time he was attending a patient who had typhoid fever over a year ago, and had now just developed some indefinite symptoms accompanied by tenderness over the left occipital bone; this he attributed to some latent typhoid lesion. Was tenderness of the scalp a marked feature in Dr. Ringrose Gore's case? Dr. Ringrose Gore, in reply, said that the tenderness of the scalp was intermittent in character, and lasted roughly an hour a day. He had seen with Mr. Lynn Thomas another case of typhoid periostitis which started as an acute lesion of the lower end of the radius.

Extraperitoneal Rupture of the Bladder.

Mr. H. Betham Robinson described a case in which a workman aged 43 fell 55 ft. at a time when his bladder was distended. On admission to St. Thomas's Hospital he complained of inability to pass water and of pain on

trying to do so; the pain was in the urethra and in the left lower part of the abdomen. There was no bleeding from the urethra nor any lump or free fluid in the abdomen. A catheter was passed and blood-stained urine was drawn off. The temperature was 100° and pulse 88. On performance of suprapubic cystotomy, twelve hours after the accident, a metal catheter passed up behind the pubes to the left, appeared in an extraperitoneal rupture extending from the peritoneal reflection to the neck of the bladder. The bladder was closed and a drain inserted. A skiagram taken before the operation showed that there was no fracture of the pelvis. The points of importance were the position of the wound and the line taken by the catheter, which suggested an intrapelvic laceration of the urethra. Mr. DUNN mentioned a case in which a second radiogram had to be taken before a fracture of the pelvis was made apparent, although per rectum irregularity of the pubes could be felt. There was possibly an undetected fracture in Mr. Robinson's case. Mr. CAHILL spoke of a case in which extravasation of urine due to sloughing of the bladder wall occurred between two and three weeks after a fracture of the pelvis.

Retrograde Intussusception.

Mr. L. A. DUNN recorded a case in which all the usual signs and history of intussusception existed except that blood-stained mucus was not passed. The intussuscepted mass was resected owing to the gangrenous state of the gut, the ends being united with a Murphy's button. The large intestine was not involved, and there was plenty of free gut below, but a certain amount of difficulty was experienced owing to the caecum being adherent to the posterior abdominal wall. The child died after a few days; *post mortem* the button was found at the ileo-caecal valve; there was no leakage. The intussusception consisted of a Meckel's diverticulum which had passed into the small intestine.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Melancholia.

AT a meeting on November 9th, Dr. E. KNIGHT, President, in the chair, Dr. G. E. MOULD, in opening a discussion on simple melancholia, said that melancholia without delusions was in essence the same disease as delusional melancholia. Whether the one passed into the other depended on the degree of instability of the nervous system and the strength of the deleterious influences brought to bear upon it. The simple melancholiac was insane from the medical point of view, but whether he was from the legal point of view depended upon whether he was suicidal. The condition presented definite physical signs and a characteristic mental state, but the physical signs might be absent in the earlier stage. Such a condition was very different to physiological melancholia, better referred to by the English name "melancholy." The simple melancholiac, with his intellect practically unimpaired, would constantly cast about for a fresh cause for his misery, attributing it to errors of conduct or of living; but an inherited unstable nervous system was the prime cause, while adverse influences came into play at critical periods such as adolescence, the climacteric, and senility. In the later stage the sense of misery was less acute. A stationary character in the attack would show that the delusional form was not likely to develop and that recovery was merely a matter of time if successful precautions against suicide could be taken. In treatment the most important thing was to place the patient under the right man. The patient must be taught to see life through the eyes of another, until such time as he was capable of seeing them sanely through his own. In respect to differential diagnosis, fatigue was not a symptom of melancholia as it was of neurasthenia, and psychasthenics were only intermittently anxious and fearful. In hysteria the manifestations were apt to be public, but the sufferer from simple melancholia endeavoured to pull himself together when in company. Dr. ARTHUR HALL said it was difficult to distinguish delusions from various types of "phobia," particularly when they were associated with consideration of personal health. It was important to listen carefully and with interest to everything such patients had to say, however trivial and often repeated, and to make an exhaustive physical examination in order to make quite sure there was no organic basis for the condition. Dr. A. L. HUSBAND said it was of the greatest consequence to gain the patient's confidence, and much depended on the individuality of the doctor. It was important if possible to supply new interests in life. Many of the peculiar "phobias" were attributable to refractive errors. Dr. A. C. TURNER defined melancholia as a saturated solution of grief with decreased objective consciousness and increased subjective consciousness. In delusional melancholia, if one delusion were wiped out another would most likely take its place. In making the physical examination one should be especially careful to look out for anything that might give rise to the delusions, such as bad teeth in cases of poisoning delusions. There should be no initial attempt to prove to the patient that his delusions had no foundation.

GLASGOW OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT the opening meeting on October 25th, Dr. H. W. RUSSELL, in a presidential address, expressed a belief that malignant disease was on the increase. In respect of uterine cancer, operations such as simple vaginal or abdominal hysterectomy, or even curettage of a necrosed cervix followed by application of the cautery or acetone and formalin, seemed to him to secure greater comfort than some of the extensive procedures now in vogue. Dr. W. D MACFARLANE, jun., read notes of three cases of *Malignant disease of the uterus* treated by vaginal hysterectomy. In two the disease was epithelioma of the cervix of several months' duration, and in the third a malignant disease of body and cervix internally. All three patients were alive and free from recurrence, four, three and a half, and two and a half years after operation. Operability depended entirely upon the point of view of the operator. He himself selected his cases, and when inoperable used curette and cautery and regular applications of pure acetone through a Ferguson's speculum. In early cases he advocated Wertheim's operation; in more advanced cases, with marked involvement of parametrium and glands, he usually contented himself with a simple abdominal hysterectomy. Professor MUNRO KERR said that his practice was to perform Wertheim's operation. He found that about 70 per cent. of cases were operable, and the results were satisfactory. Mr. DUFF maintained that the problem to be faced was that of extirpating not only the tumour, but the lymphatic area into which the disease might have disseminated. Dr. LOUISE MCILROY was of opinion that the success of incomplete operations was due to the fact that some cancers were of a slow spreading type. Dr. SHANNON advocated Wertheim's operation as the one which held out most hope of cure.

THE NEW LONDON DERMATOLOGICAL SOCIETY.

AT a meeting on November 9th, Dr. DAVID WALSH in the chair, the following were among the exhibits:—Dr. TOM ROBINSON: (1) A man with an infiltrated lesion upon the back of the hand, for which *x* rays had been tried without much success; (2) a case of lumpy *Sycosis*, resembling tinea, in which no fungus had been found. Dr. W. KNOWSLEY SIBLEY: (1) Two little boys with *Multiple lupus* after measles; the lesions had been treated with solid carbon dioxide, followed by the application of the *x* rays, and some of them had completely healed; (2) a young man, aged 23, with recent *Lupus erythematosus*. Dr. G. NORMAN MEACHEN: (1) A case of *Ulerythema* of the face in a girl of 7; (2) a young man with *Multiple lupus* after measles and varicella; (3) a woman with a *Tertiary eruption* upon the face resembling a seborrhoeid; there was a strong family history of phthisis. Dr. DAVID WALSH read an abstract of a paper upon the influence of cardiac disease upon cutaneous disorders.

Reviews.

EVOLUTION AND PATHOLOGY.

Dr. D. von Hansemann is already known to English biologists, and his latest work, *Deszendenz und Pathologie*,[1] affords much interesting and suggestive reading. The *Vorwort* is dated on the centenary of the birth of Charles Darwin, and, as the title of the book would naturally lead one to infer, the views enunciated by that foremost of all naturalists enter largely into Dr. von Hansemann's considerations. The greater part of the book is largely speculative, but to do the author justice, he seems quite alive to the danger of allowing fantastic speculation to run riot, and brings forward a not inconsiderable number of facts in support of his views. Chapters are devoted to preformation, variation, orthogenesis, Lamarckism, physiological death, and other kindred subjects. This partial enumeration will give some idea of the scope of the book, which is set forth in the subsidiary title, *Vergleichend-biologische Studien und Gedanken*. The author is a firm believer in the efficiency and sufficiency of natural selection; Lamarckism appears to have no place in his philosophy. To the instincts of sex and of self-preservation Dr. von Hansemann adds a third, to which he appears to attach the greatest importance; it is the principle of altruism—a word used by him with a much more extended meaning than that usually attaching to it. It is for the author a principle or function attached to all living matter. The origin of life is discussed at considerable length, but no solution of this at present inscrutable problem is reached. He is strongly of opinion that comparative pathology, more particularly of the lower animals, ought to receive more attention than heretofore. As a correlative of comparative physiology, it might throw considerable light on general biological principles. These principles have hitherto remained almost exclusively subjects of zoological and botanical discussion, and we are at one with the author in believing that comparative physiology and pathology can materially aid in the discussion of such problems. It is not quite clear whether he believes in the inheritance of acquired characters or not, but from his remarks on cretinism it would appear that he supports the idea. It would seem that pathology might throw light on this vexed question. Dr. Mott has, we are aware, dealt with one aspect of the subject, but there is room for many more extended researches. Could not some evidence be adduced as to the influence of the somatic upon the germ cells, by a careful investigation into the real nature of metastasis in mumps and similar conditions?

In discussing the origin and transformation of species the author raises some interesting questions. Transformations naturally tend to occur more rapidly in those organisms in which the generations follow quickly upon one another. When a differentiation of the sexes has taken place and the two sexes propagate at different ages, he considers that the sex which commences to propagate at an earlier age (in the case of human beings it is the female) would transmit its qualities more often, and therefore the possibility of variation is greater through that line. Assuming that as many males as females are produced in the female line, the changes originating through the variability would be transmitted equally to both sexes, and thus the intensified influence on the sex cells of the female would be distributed equally to both sexes. Therefore, the male individual would have a greater influence on the variations in the species than the male. Not only are purely biological speculations amply discussed, but Dr. von Hansemann draws attention to the value of a comparative study of myths, customs, religions and traditions, which, in his opinion, proves that the "memory of nations" reaches back to the ice age. The evidence furnished from such sources as to the antiquity of man goes farther back into the remote past than any geological evidence yet forthcoming. The result of the author's speculations culminates in a series of somewhat novel views. Though we are apt to look on man as the *magnum opus* of evolution, the head of life on the earth, further progress will probably come, in his opinion, from quite another line. Man lacks the "sense of electricity"; he can only perceive light, heat, sound, pain, and taste. A being having an "electrical sense," in the same way as some animals have electric organs, added to all the mental capacities of man, could enter into competition and even perhaps degrade man into his service as a domestic animal. We cannot help feeling that such speculations are too fantastic. Two assumptions are here implied, neither of which can be regarded as warranted—the one that man has no electrical sense; the other that some other animal, starting late in the race of life, may develop and ultimately outstrip man in mental capacity. We have endeavoured to state Dr. von Hansemann's views without misrepresentation, for the book is worth reading and there is much of value in it, though we are far from thinking that the author has in all cases produced anything like sufficient evidence to justify his implied conclusions. That he is alive to such a danger has already been stated, but that he has avoided it we cannot admit.

Of the making of books on heredity and evolution there appears to be no end, and Dr. Berry Hart has added yet another to the list. Some of these books are really good, a few are bad, the majority are indifferent. It is a little difficult to feel sure as to the class of readers Dr. Hart has had it in his mind to cater for in composing the volume to which he has given the title *Phases of Evolution and Heredity*.[2] It is too light for the really serious student of biology, while in places it appears to be unsuitable for the uninitiated, as a certain amount of previous knowledge is taken for granted, and, in our opinion, certain statements are made in a too dogmatic fashion as though they were now placed beyond doubt. The author pays a well-deserved tribute to the magnificent work of Weissmann, but is it beyond question that acquired characters are not hereditary? The early differention of the somatic and reproductive cells no doubt takes place, and when represented in the usual diagrammatic fashion makes one inclined to use the words of a well-known pictorial advertisement—"It's so simple." Unfortunately it is not. The problem suffers from having been approached too much from the purely morphological point of view. The discovery of the existence of internal secretions, hormones, etc., by the physiologists makes it no longer possible to affirm dogmatically that characters acquired by the *soma* cannot react on the reproductive cells. Moreover, it appears to be very evident that all writers have not the same ideas in their minds as to what is meant by an "acquired character." Dr. Berry Hart, like everyone else, is fully entitled to draw his own conclusions from the evidence available, the value of which he is fully able to appreciate, but it is undesirable to be dogmatic upon a point which is, after all, *sub judice*. It is an important problem, not simply as affording a battle-ground for rival biologists, but because it has important bearings upon the much more serious question of the transmission of disease. On this subject there is a disappointing chapter, headed "Heredity in Disease." One naturally anticipated some instruction on this all-important question when written by a medical man of such wide experience and high reputation, but instead of that nearly the whole chapter is taken up with a long extract from Robert Louis Stevenson's *In the South Seas*, and another long and amusing anecdote quoted from Prince Kropotkin's *Memoirs*: the author's sole contribution to the subject simply amounts to this: "Legislation as to marriage on scientific lines would be a misfortune," for Cupid still holds sway. No doubt a conclusion which has much common-sense to commend it, but not very illuminating. What Chapter xiv, "Men who have revealed themselves," has to do with evolution and heredity is very difficult to discern. It is a light literary essay dealing principally with the character and works of Shakespeare and Pepys. The book as a whole is amusingly written, the style being quite easy, almost colloquial, and we lay it down still wondering why and for whom it was written? We can only surmise that it is to be regarded as a collection of short and light little essays rather than as a serious contribution to biology.

[1] *Deszendenz und Pathologie*. Vergleichend-biologische Studien und Gedanken. By Dr. von Hansemann. Berlin: August Hirschwald. 1909. (Roy. 8vo, pp. 500. M. 11.)

[2] *Phases of Evolution and Heredity*. By David Berry Hart, M.D., F.R.C.P.E. London: Rebman Limited. 1910. (Cr. 8vo, pp. 270. 5s.)

Professor BOWER's little book, *Plant Life on Land*,[3] forms one of that admirable series of Cambridge Manuals of Science and Literature now being issued by the University Press. These manuals are intended to be more or less popular expositions of the present scientific or literary position of the various subjects with which they deal. Each is written by a well-known authority, so that the material dealt with and the views expressed are in all respects thoroughly reliable. Professor Bower has succeeded in producing a most excellent little work, quite up to the high standard of its predecessors of the same series. The evolution of the flowering plants from simple aquatic forms, especially in relation to the methods of reproduction, is sketched in a lucid and interesting way and with that absence of technicalities which the author so justly admires in Darwin's writings. The current views as to the analogy between the foliage-shoot and the flower-shoot and the idea of the "sterilization" of the former are mostly clearly stated, and will come as a revelation to those who have not kept abreast of recent advances in botanical knowledge and who have been brought up under the now discarded theory of "transformation" or "metamorphosis" as enunciated by Goethe. The existence of motile spermatozoa in the Cycads and in the Gingko, though their discovery is not quite new, will no doubt come as a surprise to many. The account given of the vegetation on sand dunes and of golf links, accompanied as it is by some good photographs, forms very interesting reading, and to those golfers who are not complete golfomaniacs the links will have an added charm after reading this little volume. Though the book is, we presume, primarily intended for the more intelligent lay public and does not cater for examinations, no student will find it waste of time to read it, as the keynote of the why and the wherefore of plant evolution is set forth in such a manner as to give a clear grasp of the general principles involved. We can, therefore, conscientiously recommend it to all classes of readers.

Professor H. E. CRAMPTON's *Doctrine of Evolution*[4] presents in practically unaltered form the substance of the series of Hewitt Lectures delivered by the author in New York in 1907. The lectures were designed for the instruction of cultured persons without technical knowledge of the subject, but will certainly repay perusal by medical readers desirous of refreshing their memories. The several aspects of the problem are lucidly discussed from the points of view of morphology, embryology, palaeontology, and geographical distribution, the author maintaining that while each line of research yields adequate proof of the mutation of species, the combined effect of the whole mass of evidence is irresistible. Skilful use is made of a wide knowledge of zoology, the illustrative examples adduced varying from the most familiar to the most recondite. The tendency alike of advocates and opponents to lay undue stress on the palaeontological factor is rightly deprecated on account of the inevitable incompleteness of the available records. Yet it is insisted that what definite evidence there is of this kind, as of all others, tells uniformly in favour of evolution. In speaking of the tendency of living creatures to excessive multiplication, the author attributes to bacteria measuring, perhaps, less than $\frac{1}{50,000}$ in. in length a rate of increase which, starting from a single individual, would, if unchecked, within five days cause its descendants to fill all the oceans to the depth of one mile! The last three chapters deal with the mental and social evolution of man, and discuss the application of the evolutionary hypothesis to the higher or ideal interests of mankind. While the author's conception of evolution is, perhaps, too mechanical, his instructive and interesting book deserves to be widely read.

DISEASES OF THE LUNGS AND PLEURAE.

SEVEN years elapsed between the appearance of the third and fourth editions of Sir DOUGLAS POWELL's work on *Diseases of the Lungs*,[5] and there has been an interval of eighteen years since the publication of the fourth edition. During those eighteen years the science of medicine, using the term in its widest sense, has brought many views and changes of opinion in relation to diseases of the lungs, and especially consumption. The British Congress on Tuberculosis for the Prevention of Consumption was held in 1901; the immediate outcome of this congress was the appointment of a second Royal Commission upon Tuberculosis. This has been continuously at work during the past ten years. Its final report was summarized in our issue of July 15th and noticed in our issue of July 22nd. The present time is, therefore, most opportune for the appearance of an authoritative work containing a thorough reconsideration of diseases of the lungs. Investigations have determined, as finally as possible, the exact nature and tendencies of tuberculosis, and the debatable questions relating to the sanatorium treatment of the disease have settled down in due perspective with climatic and other methods. In view of the attention paid to tuberculosis within recent years it is only natural that a very large part of this work in its new edition should be devoted to the causation, treatment, and prevention of consumption. In its production Sir Douglas Powell has been assisted by Dr. P. Horton Smith Hartley. It appears in quite a new dress as regards externals, and it will be found to have undergone considerable alterations and additions within. The authors in their preface tell us that well-nigh ten years have been spent in its production, and although many additions have been made, much has been eliminated or altered in the light of eighteen years' experience. The number of chapters has been increased and thereby the work has been rendered more compact. The fourth edition was illustrated with 4 plates and 34 figures in the text; in the new edition the number of plates has been increased to 29 and the figures in the text to 53; the plates and figures, as far as possible, are from cases or specimens with which the authors have been personally concerned, and the descriptive text names the museums in which the specimens themselves may be examined. At the end of each chapter the references to literature has been amplified, and to some chapters of more than common detail and intricacy a summary of conclusions has been appended which will be found to be of great practical value. A large amount of space is given to the treatment of the various diseases dealt with. The authors, whilst impartially stating the various remedies that have been brought under the notice of the profession, have not hesitated to express as definitely as possible their own conclusion drawn from practical experience. With regard to the use of tuberculin, dispensing has been complicated and confusion has arisen through the remedy being prescribed in milligrams. To overcome these difficulties the authors have decided, after careful consideration, to follow the modern German system and to prescribe the remedy by measure only, in cubic centimetres and fractions of the same. Details of the methods of administration of tuberculin and the limitations of its use will be found concisely stated in a chapter entitled "Specific Treatment of Pulmonary Tuberculosis." The volume concludes with an appendix giving detailed meteorological data relating to certain climatic stations referred to in the text. This authoritative work, which has been before the profession for so many years, undoubtedly has had bestowed upon it an enormous amount of time and thought which has brought it thoroughly up to date. The value of the work for reference purposes has been enhanced by the excellent index compiled by Mr. Archibald L. Clarke; with its aid the volume can be readily consulted and will not be found wanting.

If ignorance of any subject stands in direct relation to the amount of writing expended upon it, then must our knowledge of therapeutics be very limited. From almost all schools of medicine there has been issued of late years some great system or compendium of treatment, and the most voluminous of all is now appearing under the title of *Bibliothèque de thérapeutique*,[6] under the joint editorship

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[3] *Plant Life on Land, Considered in Some of Its Biological Aspects.* By F. O. Bower, Sc.D., F.R.S., Regius Professor of Botany in the University of Glasgow. Cambridge University Press. 1911. (Fcap. 8vo, pp. 172. Price, 1s.)

[4] *The Doctrine of Evolution: its Basis and its Scope.* By Henry Edward Crampton, Ph.D. New York: The Columbia Press. 1911. (Demy 8vo, pp. 318. 6s. 6d. net.)

[5] *On Diseases of the Lungs and Pleurae, including Tuberculosis and Mediastinal Growths.* By Sir R. Douglas Powell, Bart., K.C.V.O., and P. Horton Smith Hartley, M.V.O., M.D. Fifth edition. London: H. K. Lewis. 1911. (Demy 8vo, pp. 740. 21s. net.)

[6] *Bibliothèque de thérapeutique.* Edited by Drs. Gilbert and Carnot. Vol. xxi. *Thérapeutique des maladies respiratoires et de la tuberculose pulmonaire.* By many contributors. Paris: Baillière et Fils. 1911. (Post 8vo, pp. 713; figs. 85. Fr. 14.)

of Drs. Gilbert and Carnot, in Paris. No less than twenty-eight volumes have already been issued, of which the twenty-first deals with the treatment of respiratory diseases and pulmonary tuberculosis. These subjects are discussed by very competent authorities of the French school, and are arranged in the order common to most textbooks. The main interest to English readers will be comparative, as in so many instances the same lines of treatment and the same therapeutic ideas are followed out with many points of difference in detail. Much has been written and spoken in France on the subject of pulmonary congestion, and several different forms are recognized and described, but for the most part they are all open to the same general system of treatment, and at best the relief of symptoms as they arise in each individual case is all that can be attempted with success. Wise discrimination may be noticed in this section, as in others dealing with pneumonia, asthma, etc., to modify the course of treatment in accordance with the age and personal habits of the patient. Venesection, or even the withdrawal of blood by less rapid methods, is recognized as a valuable therapeutic agent in suitable cases, but popular prejudice is against it abroad as it is at home. Pleuritic effusions and their treatment have been better understood since their various means of causation have been definitely recognized, but there is still room for diagnostic and operative improvement to determine the state of the compressed lung and to avoid shock in the removal of the fluid. The surgery of the chest walls has been undertaken more boldly of late and many successful cases of operation are on record where somewhat heroic measures have been employed for the relief of emphysema or for the release of adhesions. Descriptions and illustrations of these operations will be found in the first part of the book. The second, and larger, part is devoted to the subject of tuberculosis, and the teaching is for the most part in accordance with the views that have been so generally and widely diffused by medical literature on the subject. The chief interest of this section centres round the question of tuberculin injections and their therapeutic value, and here the writer, Dr. Kuss, maintains a very guarded attitude. While recognizing the good results that it has yielded in the hands of experts, he is by no means an advocate for its general adoption in practice. His experience goes to prove that success depends upon very careful selection of cases and close watchfulness on the part of the doctor as to the duration of the cure. Only the expert and specialist who can give all his time to it should, he thinks, attempt the treatment of patients living their ordinary lives. The whole book, although compact in form, is very full of matter, but some of it is only a recapitulation of the time-honoured lines of treatment that have been followed in the past with but moderate success. New knowledge of pathological processes and more common sense in the application of it should rather tend to simplify than to complicate the treatment of respiratory diseases, but even the newest knowledge has not yet been able to indicate the royal road to recovery, and records such as this are welcome, if only to point the way to further research.

Every post-graduate student of medicine, old or young, likes a real pleasure in "going round" his wards with an experienced clinical teacher. If we may imagine these wards to be filled with cases of pleurisy, illustrating every variety, form, or modification of the disease, and our clinical guide to be Dr. Alexander James of the Royal Infirmary in Edinburgh, we may anticipate the same satisfaction in the perusal of his book on *Pleurisy, Empyema, and Bronchiectatic Conditions*.[7] Like many another physician who has lived and practised during the last thirty years, Dr. James has been forced to look into the subject from many different points of view, and to test new theories and new methods for himself. The personal experience thus gained, supplemented or modified by the recorded observations of other leading clinicians, naturally leads to the formation of definite ideas as to etiology, symptomatology, and treatment, and these ideas will be found in the volume before us to be expressed in simple, interesting, and readable terms, the various subjects being conveniently arranged to admit of easy reference. The first part of the work deals with sero-fibrinous pleurisy, its etiology and its relation to other morbid conditions, the latter part being devoted to empyema. Many interesting cases of abnormal types are related, and the author takes his reader through all the many and varied diagnostic points that have arisen in the course of his long experience, and it would be a difficult task to find any aspect of the subject which is not brought under consideration. Difference of opinion might arise as to the treatment recommended in certain cases, but the charm of Dr. James's teaching lies in the soundness of argument and clearness of statement upon which his advice is based. Puzzling cases of fetid empyemata are sometimes met with in which it becomes most difficult to localize or to find the pus, while in some other instances the occurrence of pulsation over the dull area requires special care in diagnosis. The use of the *x*-ray screen has greatly facilitated the explanation of these, but for the most part the author has used the older methods of investigation with success, and records the details of his cases and traces the chain of evidence by which he has been guided. Not as a text-book, therefore, but as an interesting and complete dissertation on the whole subject, we can cordially commend the work to the notice of all post-graduate students who may desire to refresh their own recollections or to add to their present experience of diseases of the pleura.

[7] *Pleurisy, including Empyema and Bronchiectatic Conditions.* By Alexander James, M.D., F.R.C.P.E., Consulting Physician to the Edinburgh Royal Infirmary. London and Edinburgh: Oliver and Boyd. (Medium 8vo, pp. 252, illustrated. 6s. 6d. net.)

DISEASES OF THE NERVES.

One of the latest parts of Le Dentu and Delbet's great French treatise on surgery to appear deals with the surgery of the diseases of the nerves,[8] by Professor B. Cunéo of Paris. The first section, of ninety-three pages, is given to the traumatic lesions of nerves; then follow twenty-five pages on the surgery of neuritis; the last fifty are devoted to nervous new growths. Professor Cunéo writes lucidly, and from the nature of his subject finds himself forced to include a good deal more pathology and clinical medicine than surgery in his book; the surgical treatment of trigeminal neuralgia finds no place in it. He takes broad views, and for the most part confines himself to generalities or generalizations, the opportunities for giving particulars or definite instructions being few. He quotes abundantly from the literature, particularly from that of France; but we have failed to find any reference in his volume to the work of Head and Sherren on the regeneration of injured nerves, although the older works of British neurologists receive due mention. His book should find a place in every medical library.

The signs and symptoms observed after the section of a mixed peripheral nerve have often been described and studied, but hitherto without either skill or success, if we may believe Professor Claude and Dr. Chauvet[9] of Paris. Their book is a lengthy preliminary note, and is to be followed by a work in which the subject and its bibliography will be treated *in extenso*. Careful directions are given as to the best methods of investigating the four forms of superficial, or cutaneous, sensibility—namely, sensibility to touch, to pain, to heat, and to cold; the importance of using only the lightest pressure in testing tactile sensibility is pointed out, if confusion between superficial tactile and baraesthetic (deep pressure) sensibility is to be avoided. In examining sensibility to heat and cold, the authors say that metal test-tubes at least 1 cm. in diameter must be used, and that in one should be placed water at 48° to 52° C., in the other water and pounded ice; temperatures above 55° and below 0° C. both produce a sensation of burning, painful rather than thermic in character. In the division of sensibilities into protopathic and epicritic, advocated by Head and others, they do not believe. Coming next to the varieties of deep sensibility, the authors discuss three—sensibility to pressure, the sense of position or of passive movements, and sensibility of the bones to vibrations (pallaesthesia). They give a detailed account, with photographs and figures, of the phenomena observed in an alcoholic man of 47 who severed his right

[8] *Maladies des nerfs.* Par B. Cunéo. *Nouveau Traité de Chirurgie*, publié sous la direction de A. le Dentu et P. Delbet. Part X. Paris: J. B. Baillière et Fils. 1911. (Sup. roy. 8vo, pp. 174, with 50 illustrations in the text. Price Fr. 4.)

[9] *Sémiologie réelle des sections totales des nerfs mixtes périphériques.* By Professor H. Claude and Dr. S. Chauvet. Paris: A. Maloine. 1911. (Roy. 8vo, pp. 96, with 14 figures and plates in the text. Fr. 4.)

median nerve. So far as their present booklet goes, the authors do not seem to have as much that is new to tell us as they are, perhaps, inclined to believe, and have not permitted themselves space enough to give the destructive criticism of the views they attack. This is to appear in their forthcoming volume.

The use of massage in the treatment of neuritic and neuralgic pains is very warmly advocated by Dr. F. WETTERWALD,[10] the General Secretary of a French Kinesitherapeutic Society. Many of the pains this flesh of ours is heir to are, Dr. Stapfer believes, due to "cellulitis" or "panniculitis," a variety of painful subcutaneous or deep oedema. He also calls this oedema a state of "presclerosis," and for its clinical description commends the term "organic rust." Dr. Wetterwald goes further, and states that most pains described as neuritis, neurosis, neuralgia, rheumatism, or hyperaesthesia, are the result of some of this "generalized cellulitis" of the subcutaneous or submucous tissues; thus, dysuria may be due to "peri-urethro-vesical cellulitis," and the pelvic, sacral, or abdominal pains so unfortunately common in women are similarly due to this "cellulitis" occurring in the pelvic region. He is not much interested in the pathology of these localized "oedemas" and areas of "cellulitis," attributing them to peripheral neuritis, dilatation of the veins and contraction of the arteries, and obstruction of the lymphatics; the same causes, he says, may also produce subcutaneous rheumatic nodules, lipomas, pseudo-lipomas, obesity, premature senility, sclroderma, Dupuytren's disease, or trophoneurosis. He also says that such "cellulitis" occurs clinically in a number of forms—such as neuralgia, lumbago, rheumatism, periphlebitis, angina pectoris, pseudo-appendicitis, Dercum's disease, neurasthenia, and professional cramps. Bacterial infection would seem to count for little in the production of this "cellulitis"; its presence is diagnosed by the touch alone—it forms tender subcutaneous nodes of greater or less size wherever it occurs. It should be treated by a special form of gentle digital massage of the subcutaneous tissues, particularly at about the most tender spots. Finally, Dr. Wetterwald advises that physicians should not stop short at the treatment of the active neuralgias of which the patient complains, but should also pursue her "latent neuralgias" over the whole cutaneous surface! One is not surprised to read that about sixty sittings may be necessary in this mode of treatment. The book affords an admirable illustration of the disordered imagination from which the specialist is so prone to suffer.

NOTES ON BOOKS.

A NEW edition of the *British Pharmaceutical Codex*[11] has been published under the direction of the Council of the Pharmaceutical Society of Great Britain. The scope is indicated by its subtitle "An Imperial Dispensatory for the Use of Medical Practitioners and Pharmacists." The last edition was published in 1907 and the work has been subjected to extensive criticism and discussion; numerous suggestions or recommendations submitted to the Pharmaceutical Society have been taken into consideration in the preparation of the new edition. Certain alterations have been made in the arrangement of the book, the most important being the addition at the end of the respective monographs of brief descriptive notes on the preparation of each drug and chemical, the relegation of the working formula to a separate section, and the inclusion of a pharmacological and therapeutic index. The quantities are given in centesimal proportions as formerly and are in addition indicated in imperial weights and measures.

DIARIES AND VISITING LISTS.

It must be as difficult to devise anything novel in the way of diaries as to invent a new story, but Messrs. Cassell annually attain a considerable degree of success in this direction. Their autumn output of diaries for the coming year includes, as usual, one or two new combinations of information and several fresh variations in the way of attractive binding, while forms which have achieved an established repute are very rightly published entirely unchanged in the matter of contents, style, and size. In view of the style in which these diaries are turned out, they must be regarded as being priced at very reasonable figures. The choice is large, desk diaries and others designed for business purposes including some sixteen or seventeen different forms, while those intended to be carried about in the pocket or a bag are even more numerous. Among those we have examined this year are two intended for doctors and nurses respectively; both are of convenient size, and contain a good deal of appropriate information in addition to diary space. The latter, in the case of the doctor's diary, is chiefly devoted to a visiting list, while in the nurse's volume half the pages form a diary of ordinary kind, and the rest are taken up by schedules for the recording of various details concerning the progress of patients. Messrs. Cassell, it may be noted, have been for the past twenty-five years the sole publishers of the original Letts's diaries, under which title all those now in question are sold.

The issue for 1912 of the diary and almanac for physicians and surgeons, published under the name of Smith's Visiting List by Messrs. Hazell, Watson, and Viney of Long Acre, is the sixty-sixth. The visiting list part of it contains space for as many as 81 patients each week, so is large enough probably to meet the demands of the largest practices in which visits are booked. In addition there is at the end of each week a journal page, on which can be summarized the work done on each day. Other pages provide for the recording of obstetric engagements, including notes as to the agreed fee, the date of expectation of attendance, the sex of the child, and other details: general memoranda; records of bills sent out and payments made; of patients' and nurses' addresses; and notes as to instruments and drugs required. This visiting list, in short, is very comprehensive, and its popularity is well founded. The early pages, in addition to other useful information, contain tables for calculating gestation periods, physiological data, and addresses of institutions which cater for certain classes of patient. The list is published in four forms and several different bindings, some containing space for more and some for fewer patients than mentioned herein; in some the journal pages are omitted. The prices vary from 2s. 6d. to 6s. 6d.

MEDICAL AND SURGICAL APPLIANCES.

A Saline Drop Regulator.

MR. E. CANNY RYALL, F.R.C.S.I. (London, W.), writes: With all the existing forms of apparatus for continuous infusion and proctoclysis there is a certain amount of difficulty in regulating the flow of the saline fluid. To overcome this Messrs. Allen and Hanburys, Limited, have made to my instructions a simple drop regulator, as shown in the woodcut. The barrel is made from toughened annealed glass, and the nickel-plated metal mounts at either end for attaching the india-rubber tubing are securely cemented with metallic solder, thus allowing the regulator to be efficiently sterilized either by boiling or steam. The stopcock can be adjusted by the surgeon before leaving the patient, so that any required number of drops may be administered during a given period. The glass barrel then readily allows the dropping rate of the solution to be kept under observation, and the nurse in charge of the case can easily check the rate of flow by counting the number of drops passing through the extremity of the inner indicating tube, altering the rate of flow, if necessary, by the use of the stopcock. This simple device obviates the need for spring clips, stopcocks and glass unions, and in practice will be found extremely efficient for proctoclysis when used in conjunction with a simple apparatus consisting of a thermos flask, fitted with a length of rubber tubing and a rectal pipe or catheter. It will be noticed from the illustration that the inner metal indicating tube is fitted with a bulbous extremity, thus enabling the drop regulator to be employed in an emergency as an intravenous cannula.

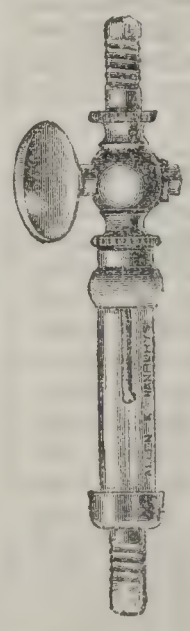

[10] *Traitement manuel des maladies de la nutrition. Les névralgies.* Par le Dr. F. Wetterwald; preface du Dr. Stapfer. Paris: Vigot Frères. 1910. (Med. 8vo, pp. 152. Fr. 3.)

[11] *The Pharmaceutical Codex, 1911. An Imperial Dispensatory for the Use of Medical Practitioners and Pharmacists.* London: The Pharmaceutical Press. 1911. (8vo, pp. 1568; 10s. 6d. and 11s. 6d. according to binding.)

MEDICAL EDUCATION AND THE UNIVERSITIES.

A Memorandum on Medical Education submitted to the Royal Commission on University Education in London.

By FRIEDRICH VON MÜLLER, M.D., LL.D.,

Professor of Clinical Medicine at the University of Munich.

It is impossible for me to attempt to give you advice with regard to the reform of medical education in London. I really know too little about the English medical schools of to-day, because it is many years since I visited the London hospitals, and during the last twenty years not only the science of medicine but also the English medical schools have made important progress.

The difference between English and German medical education is founded on their historical development, and we understand it only by the study of their history.

Historical development is one of the most important factors in culture, and we never realize its importance so clearly as in the case of those younger countries where no historical development exists. But the burden of a noble past may sometimes become a hindrance to salutary reform, which appears indeed like sacrilege.

In England the instruction of the apprentices of medicine was always entrusted to the profession and the hospitals. The training was truly professional and practical, as in the case of the trades. This system gave to English medicine its strength, because it developed in the young beginner the faculty of strict observation, which is one of the great prerogatives of English medicine.

In Germany since the Middle Ages medicine has always formed part of the university curriculum. Instruction in medicine was in former times almost entirely theoretical and historical, founded on the Latin classical literature, and in closest connexion with philosophy and even with theology. The darkest periods of decay in German medicine were those in which philosophical speculation and theological mysticism obtained a preponderant influence over medical problems.

But, on the other hand, this connexion between medical education and the university has proved beneficial, because it admitted of a broader basis, a closer community with other sciences, and because it gave, and still gives, to the physician his social and intellectual position among the learned men of the nation. This is the reason why we shall never give up university education for the medical practitioner.

The student who wishes to enter the medical faculty must have come through the same schools, and passed the same examinations in Latin and Greek, or in English, French, and mathematics, as the students who intend to become lawyers, philologists, clergymen, or natural scientists. The preliminary conditions of admission to the university are the same for all students.

The German medical student lives during his whole university career among the other students of the university. He has his friends, his sports, his duels among them, and therefore he is for the rest of his life connected with the representatives of the other scientific vocations.

University education in Germany is founded upon the principle of absolute freedom of learning, and this is just as true of the medical faculty as of any other. The student is not bound to follow a prescribed course of study. He is allowed to go his own way and to select his teachers and lectures himself, and nobody cares whether he is present at every lecture or whether he is idle. Only a few lectures, laboratory work and clinics are obligatory. Too much tutelage and prescription are of no good in the education of the adult.

This system of absolute liberty is of great importance for the teacher, because he is always sure that his pupils come spontaneously to his lectures and not by compulsion. The student is not bound to one university alone, he is free to wander to others, and the majority pursue the course of their studies in more than one university like the wandering students of past centuries. We approve of this because it widens the intellectual horizon and induces the mental attitude of educated criticism.

This system of absolute liberty has its dangers. Many weak and unprincipled characters are ruined by the total absence of control, and neglect their studies. But the strong are allowed to develop their faculties in accordance with their own ideals.

During his first and second year the medical student attends lectures and does laboratory work in physics, chemistry, botany, and zoology in the philosophical faculty, and he has the opportunity of widening his views by listening to lectures on philosophical or historical subjects. His teachers and laboratories are the same as for the students of the natural sciences, and this is right, because there is no such thing as special medical physics or chemistry, but the physician requires a broad knowledge of the general sciences of physics and chemistry.

Another difference between the English and German institutions arises from the very different conceptions which obtain of the obligations of the State Government.

In England and America social progress is to a great extent dependent on private initiative, and the creative impulse of independent and devoted individuals has always led to the greatest benefits for the community.

In Germany and France the citizen is more accustomed to be guided by the Government, and he commits the important questions of the general welfare to the care of the State.

Our view is that it is the interest of the community to obtain an adequate supply of the best medical attendance. We believe that neither the profession nor the hospitals have as great an interest as the community in the education of the young physician. Therefore it is the duty of the State Government, as the representative of the community, to care for the best possible education of the young medical generation and to provide the money for this purpose. We think this conclusion is logical. If so, the State Government has also the duty of selecting the best teachers and of paying them adequately, so that they may be able to devote their whole time, or at least the greater part of it, to fulfilling their obligations as teachers. This principle applies to the clinical teacher as well as to others, for he is one of the most important in the medical faculty. It is not proper that the clinical professor should be burdened with great obligations as a teacher and at the same time compelled to support himself by private practice.

The salary of university professors in Germany is not bad. It amounts for an ordinary professorship to £200 to £500 a year, and permits him to maintain a good social position.

Besides the ordinary professors, who hold the principal chairs, there are extraordinary professors and junior teachers, who instruct in the auxiliary or less important subjects of medicine. They receive a salary of £100 to £250 a year. The number of ordinary professors in every medical faculty is from 10 to 17. The number of the adjunct professors varies from 6 to 32.

But this salary paid by the State does not form the whole income of the university professor. The student pays for every lecture or clinic a certain small sum, on the average 10s. to £2 for the half-year. A portion of this money is taken by the university: but the greater part goes to the professor, and this *Collegiengeld* forms a more or less considerable part of his income. This system is of some importance, because the teacher's income depends to a great extent on the number of his students. He has, therefore, an interest in making his lectures as attractive as possible, and in spending his time and energy for this purpose.

Moreover, the State provides and maintains the buildings necessary for medical instruction and the equipment of the laboratories. Every university has its large buildings for anatomy, physiology, and biological chemistry, for pathology, pharmacology, and hygiene. To keep pace with the extension of science the number and size of these institutions are constantly growing, and demand enormous expenditure.

I take for example Bavaria. It has 7,000,000 inhabitants, approximately the same as Greater London. Bavaria has three universities, and therefore three fully equipped medical faculties.

The sum paid by the State for the salaries of the teachers of medicine in these three universities amounts to £19,700, or from £5,000 to £8,000 a year for each university. This does not include the salaries of the large number of assistants or the pensions of retired professors and the widows of deceased professors.

Within the last ten years the University of Munich has got a new building for anatomy at a cost of £125,000, a new psychiatric clinic costing £100,000, a great ophthalmological clinic costing £125,000, and a new building for out-patients costing £125,000. The maintenance of these university institutions and laboratories of course involves a large annual expenditure. The sum paid for the maintenance of the different institutions for medical education, including the clinics in the three Bavarian universities, amounts to £80,000. The State Government of Bavaria was kind enough to give me these statistics and to give me permission to bring them before this Royal Commission.

The other confederate States of Germany have similar expenses for their medical faculties: Baden has two universities; Würtemberg, Saxony, Mecklenburg, Thuringia, Alsace have each one. Prussia with its ten universities is subjected, of course, to much greater expense than the States of Germany.

At my request the State Government of Prussia has given me particulars of its expenditure on medical education. I feel greatly obliged indeed to the Prussian Ministry for Public Instruction for this information. We learn from this evidence that Prussia spends on its ten universities for salaries for the medical teachers £116,000, for the maintenance of the medical institutes and clinics £413,200—a total of £530,000 a year. The number of students of medicine at the ten universities is 5,365. Therefore the Prussian State contributes towards the education of every student of medicine £95 a year.

For the building and fitting-out of new medical institutes and clinics Prussia has expended within the last twenty-five years £2,573,400, or £102,936 a year.

Every medical faculty of the twenty German universities has a medical, surgical and obstetrical, psychiatric, and ophthalmological clinic. Most of them have a clinic for dermatology and venereal diseases, for pediatry and otology. Some of the greater ones have also clinics for orthopaedics and throat diseases. Berlin and Munich have two parallel clinics, because one alone would not be sufficient for the great number of students of medicine, which in Munich exceeds 2,000.

In addition to the clinics, there are large out-patient departments in special buildings, and with their own staff of physicians and teachers. The new building for out-patients in Munich erected in recent years contains out-patient departments for internal medicine, surgery, pediatrics, gynaecology, otiatrics, throat diseases, dermatology, and orthopaedics. The capital cost of the buildings and equipment exceeded £125,000, and its yearly maintenance costs £10,000.

You see that Germany not only spends great sums for the army and navy, I say for the prevention of war, but also much money for medical purposes, and therefore for the prevention of disease.

The connexion between the clinical hospitals and the medical faculties is not of the same type in all universities.

In some universities, such as Leipzig and Munich, the hospitals belong to the city, they are municipal, and by agreement the municipality opens its hospital entirely or partly to medical instruction. The clinical teachers are the physicians-in-chief of the city hospital, and are appointed by the city government and the university together. In Berlin the War Office of the kingdom is in possession of the Charité Hospital. The Charité was built by King Frederic Wilhelm I for the instruction of the surgeons of the army. In 1810 the University of Berlin was founded, and the general clinical teaching was transferred to the Charité. In some older universities the country hospitals came into connexion with the university.

But with the expansion of clinical teaching it became evident that some of the older hospitals were not sufficient for the new requirements, and some municipal governments and other hospital administrations were at one time unwilling to offer increasing facilities to the medical faculties. Some of the municipalities were shortsighted enough to refuse altogether to admit students to their wards, because they feared that the patients would suffer at their inexperienced hands (and this not entirely without reason, because the patients really do suffer from too much examination).

For this reason the university, that is the State, found itself more and more obliged to build its own university hospitals. Most of them have been built in the last twenty years, and are constructed on modern principles.

It is necessary that the clinical hospitals should contain a sufficient number of beds, that they may be able to admit a sufficient selection of interesting and instructive cases, and also to cover the whole field of medicine. I think a medical clinic should have at least 120 to 150 beds. The Munich clinical hospitals have more than 1,200 beds, the Leipzig clinical hospitals 1,360 beds, the Charité at Berlin more than 1,800 beds.

But who shall pay for all these patients? The university again? No.

The State pays only a comparatively small part for the admission of some specially interesting cases. The great majority of the cases are paid for by the insurance fund and by the Poor Law administration.

It will be well known to the Royal Commission that in Germany every workman and workwoman and all domestic servants are compulsorily insured against disease. In case of illness or accident they have the right to free treatment and admission to a hospital, and the insurance fund is obliged to pay to the hospital for every patient admitted a certain sum, averaging 3s. a day. This sum is almost sufficient to cover the expenses of the hospital, so that they are able to maintain their budget by the contributions from the insurance fund.

[In reply to our inquiry, Professor Müller has been good enough to send us the following additional information: The clinical physicians and surgeons who treat in the hospitals patients sent in by the insurance fund or by the Poor Law authority do not receive any payment from the fund or from the Poor Law. The hospital physicians are paid by the municipality or by the State Government. And it is the duty of the hospital physicians and surgeons to treat all patients of the hospital, whether they be sent in by insurance or Poor Law or come in of their own will. The difference between the English and German system is that hospital physicians in Germany receive salaries and the English do their work for charity. The money paid by the insurance or Poor Law for every patient and every day forms the greatest part of the total income of the hospital budget. From this budget all expenses of the hospital are paid, including the salaries of the head physicians and assistants, but these salaries of the medical staff are fixed, and not dependent on the number of patients.]

The duty of caring for the destitute poor falls on the Poor Law commission of the parish, or on the municipality, and so they, too, are paid for. The hospital patients therefore are not admitted by charity, and our hospital work is therefore not so much charity work as in England. Most of our patients have a *right* to be admitted, and they cannot be discharged till they are cured or till their time is over. This is the reason why our patients are not all willing to be examined by the students or to be made the subjects of demonstration in the theatre. The sum paid for insurance of the working classes amounts in Germany to nearly £18,000,000 a year. Should we not characterize it as expenses paid for the prevention of social war?

England has now initiated new social laws for the insurance of the working classes. I am sure it will soon be compelled to erect great new hospitals for those insured patients who cannot afford proper treatment at home. And it may be useful to bring those hospitals into connexion with the university teaching of medicine.

I now wish to draw your attention to some points of the existing medical education in Germany.

The student enters the university at the age of 18 or 19 years. He first begins, as I told you, with physics, chemistry, biology, and other natural sciences in the class-rooms and laboratories of the philosophical faculty. At the same time he receives instruction in anatomy, and dissects in the anatomical institute of the medical faculty.

In the second year and the first half of the third year he attends lectures in normal histology and embryology. The history of ontogenetic and phylogenetic development is proving year by year more important for the conception of pathological processes, for the anatomy of the brain, and other problems. It is therefore absolutely necessary to teach this science to the medical students.

Lectures in physiology and laboratory work in experimental biology and biological chemistry complete the course of the preliminary studies.

After he has passed his first examination in these subjects the student, in the second half of his third year, enters upon his professional studies through the door of general pathology and pathological anatomy in the dissecting room and microscopic laboratories of the pathological institute. At the same time he attends lectures on pharmacology, which is developing more and more into experimental pathology. In the hospital wards he takes practical instruction in the physical examination of patients, in propaedeutics of surgery and midwifery, and in clinical chemistry and microscopy.

He is then prepared to enter the clinic. Our method of clinical teaching differs in one important point from that in England. In English medical schools the young student is immediately brought in contact with the patient. Under strict control of the house-physician he has to write the record of his patient and to follow the course of his case every day. From practical experience of a relatively small number of patients he learns how to examine and to treat them.

In Germany, and especially in the larger universities, the clinical teacher shows to all his students in the theatre every day one or two selected cases which are specially adapted to illustrate the conception of the disease. The patient is examined before the whole class, the teacher explains the symptoms and discusses the general pathological questions which are connected with the case. So the student sees a great variety of diseases, and we try to give him a complete picture of the single case. Only when he has first acquired some general knowledge do we bring him into closer contact with the patient under control of the assistants. For every single patient shows such complicated possibilities that the beginner cannot understand the whole significance of the case until he has acquired a certain fund of knowledge.

When the student in his fourth year has finished his hospital work in internal medicine, surgery, and midwifery, he goes to the out-patient department. Here he learns to deal with all the difficulties of his future professional life. The out-patient department should be for the advanced student the direct introduction to his practical work.

In England the student begins with the out-patient department and then enters the clinical wards. In Germany we go the reverse way. We believe it is more difficult and requires greater experience to deal with out patients and find out quickly the essential points than to work under direction in the wards of a hospital, where the cases are far better prepared and more thoroughly examined by the assistant and the head physician. During his last year the student has to attend the ophthalmological, psychiatrical, pediatrical, and dermatological clinics, otiatrics, throat diseases, and other specialities. Lectures and laboratory work in bacteriology and hygiene and dissections of pathological cases form the conclusion.

After the end of his fifth year the student is allowed to go up for his final examination. But many of the students spend another half-year before they do so. This examination gives the licence to practise.

While the universities are under the management of the particular States, the examination is conducted under the control of the Empire, and the passing of it confers the rights to practise in all parts of the Empire.

The State Government controls the examination and appoints the examiners. It can appoint medical practitioners to be examiners, but as a rule the teachers—that is, the university professors—examine, and this rule has proved satisfactory. We do not find any disadvantages in this system. For the teacher it has the great advantage that he is able to find out whether his instruction has been successful, and whether his lectures were well understood by his pupils. For the student it is agreeable that he is sure not to find great discrepancies between his studies and his examinations. It is not at all obligatory that the student should pass this examination at the same university at which he has studied.

After the State examination the successful candidate is not immediately permitted to enter upon his practice. He is compelled to devote a year entirely to practical hospital work under control of the hospital physicians. For this purpose not only the university hospitals, but all the hospitals of Germany, are open, and an average of 1,200 young physicians are distributed among a large number of hospitals.

In this way the more theoretical introduction of our German medical instruction is compensated by the practical work of the final year. Some of the larger city hospitals in Frankfort, Cologne, Düsseldorf, and Hamburg have established schools for post-graduates, which have been successful.

Within the last ten years the curriculum of the medical student has been extended by one half-year of university instruction and by the practical year, so that the student comes to earn his living one a half years later than before. One could believe that this extension would keep back a great number of young men from the medical career and would have diminished the number of medical students. Just the reverse took place. The number of medical students increased considerably. A study of so great interest, like medicine, which shows such splendid scientific progress, will always attract the spirits of enthusiastic youth.

Examination is a very important thing, because it is a necessary control not only for the students but also for the teachers. But we should not forget that the examinations are not the principal object. They may be so in China. The range and scope of study is far more important, and it is not the province of the university to prepare for examinations but for the future life and vocation. Reform must begin with the instruction and not with the examinations.

It is easy to conceive that reform often meets with more resistance from the teachers than from the students, and that it takes a much longer time and is more difficult to reform a corporation of teachers than to accustom the young generation to a reformed system.

We must distinguish sharply between the State examination, which gives the licence to practise, and the academical degree. The degree of M.D. can be conferred by the medical faculty in all German universities upon nearly the same conditions. While the State examination is especially practical and has to furnish evidence that the candidate is mature for practice, the degree of M.D. ought to indicate that the man has contributed his part to scientific work. The degree should be a scientific qualification. It is not a more rigorous second examination superimposed on the State examination which gives the degree, but the candidate must present a piece of scientific work: some experimental investigations or some clinical observations with consideration of the pertinent literature. This paper or dissertation must be approved by the faculty and must be printed.

We have now got some idea of the course of medical study. Finally, I wish to say a few words about the teachers. Since the teachers of anatomy, biological chemistry, pathology, pharmacology, hygiene, and so on are university professors, it is clear that their selection follows the same lines as in the case of the university professors in general. This means that in the case of a vacancy the best man available should be chosen. Only those who are actively engaged in scientific research and play their part in the promotion of science are capable of being university teachers.

Since the clinical hospitals are well-established institutions of the university, and because the clinical teachers are fully acknowledged university professors, they must be selected from the scientists and not from among the successful practitioners. Clinical medicine is as truly scientific as physiology, but it is not so much a science in itself, it is more an *application* of all available sciences to the relief of suffering humanity and the prevention of disease. The clinical professors, therefore, should have a wide scientific foundation apart from practical medicine, it may be in pathology (anatomical or experimental) or in physiology (physical or chemical); the clinical teacher must be fit not only to conduct the work of his wards but also the work of his laboratories.

But, above all, he must be a *good physician*, because he has to instruct the young generation in practical medicine. If he should not be thoroughly acquainted with the practice of medicine there would soon arise a discrepancy between the university teachers and professional medicine—such a disagreement as we find between

scientific jurisprudence and the practice of law, and which we all deplore. For such discrepancies the student has a keen sense.

The professor of clinical medicine has to consider his professorial work as his principal duty, as every other university professor does. He has to devote the main portion of his day to his hospital wards, to his teaching, and to his laboratory.

It is not a recommendation for a clinical professor if he has a large private practice. On the contrary, it is a pity, and it is not fair if he wastes too much of his time in consultations instead of devoting it to his university work. The limit of his private consulting practice must be left to his own conscientiousness.

Should he not be permitted to have private practice at all? I think this goes too far. The clinical teacher should be in constant touch not only with the progress of science, but also with general professional life, and the practitioners, too. If he should be confined entirely to his laboratory and hospital he would be liable to make mistakes and come to wrong conclusions.

The clinical professor must have his staff of well-educated assistants. The conduct of a modern medical clinic needs, to-day, at least one assistant thoroughly experienced in biological chemistry, one in the experimental physical methods of biology, including the investigation of the heart and the *x*-ray work, and one in bacteriology and serology, so that he may be able to work out the Wassermann test and difficult serological diagnoses. It is an excellent plan for one assistant to have charge of all questions of the blood and pathological histological examinations, and one of the diseases of the nervous system. The assistants should not be changed every year, because it takes a long time to train and develop an assistant thoroughly, and because it is obvious that an older and highly accomplished assistant is of much greater value to the clinic than a junior man.

The future clinical directors will be selected from the number of the old and thoroughly trained clinical assistants. The clinical assistant knows that his future career as a professor of medicine depends mainly on his scientific work, and this gives him a great compulsion to devote himself to scientific investigation. But a school of assistants of a high degree of excellence can only flourish under the conduct of a thoroughly scientific clinical director.

If the conception of the position of the clinical teacher I have placed before you is accepted, it is obvious that he must be in charge of his wards and laboratories throughout the whole year. Under this condition alone can he conduct the work of his wards and control his assistants and his nurses with a strong hand. If the chief physician changes place every three months, or if there are too many of them in one hospital, so that every one has only a small number of beds, then not the clinical professor but the house-physician or the head nurse will be the real governor, to the detriment of the hospital.

The selection of a university professor for a vacant chair should not be restricted to the junior members of the same school. And this rule applies not only to the selection of the theoretical professors, but also and especially to the clinical positions. The selection must be made from a wide field, from all universities, not only of the same country, but of the same language.

Inbreeding is the worst thing in the development of the race, and a law which is so general in Nature, and whose bad effects are so carefully avoided in all realms of Nature, cannot be without importance for the regeneration of a university. Fresh blood and competition with the other best centres is the chief consideration for the welfare of the universities and hospitals.

Is it really necessary to incur such great expenses as we have spoken of in every medical school? Would it not be possible to conduct the school for the common practitioner in the old well-established manner? No. The general medical practitioner has always and everywhere to deal with the highest good, with the health of his fellow creatures, and he must become more and more, even in the remotest village, the promoter of public health, and therefore he must be an educated man. In his responsible vocation he must have some ideal which elevates him above the daily sorrows and disappointments of life. And he will find his refuge in his science. Only a good scientific education will enable him to follow the progress of medicine with critical understanding. Without a good scientific training he would sink into mere routine.

In all questions which are connected with educational problems we must be aware that we have to care for the future, for the next generation. A plan of reform which is only intended to meet the wants of the present day is wrong from the beginning. All our plans for reform must be broad enough to allow further expansion and accommodation to the necessities of advancement in science.

SCIENCE NOTES.

IN the course of his presidential address from the chair of the Roentgen Society at the November meeting, Mr. A. A. Campbell Swinton, M.I.E.E., said that while the results of modern discovery had failed to weaken belief in the great principle of the conservation of energy, as defined in the first law of thermo-dynamics, the second law stood upon a different footing. As stated by Lord Kelvin, this second law implied that it was impossible by means of inanimate material agency to derive mechanical effect from any portion of matter by cooling it below the temperature of the coldest of the surrounding objects. Lately, in London, as a result of Bergson's teaching, there had been an outbreak of metaphysical discussion, in the course of which the question had been raised whether living organisms were subject to the laws of thermo-dynamics or not. The general answer, as to the first law, was in the affirmative, but as to the second there was a wide difference of opinion, and many now accepted the probability that certain animate bodies, acting very much like Maxwell's celebrated theoretical "demons," were able by manipulating the molecules of matter to extract the energy they required from the general stock of heat. Thus they evaded the provision of the second law, which stated that by the use of no machine could we get mechanical effect from the general stock. The interest of the question would be especially evident to those who had studied the so-called Brownian movements, which could be perceived by ultra-microscopic methods in finely-divided solid matter, such as particles of colloidal gold suspended in a liquid, or of tobacco smoke in a gas. These movements were now believed to be due to the actual jostling of the minute particles by the moving molecules themselves, and gave the most wonderful notion of the state of ceaseless agitation that existed among the molecules of all substances at any temperature above that of absolute zero, and the vast amount of energy that was stored in these perpetual movements. Without pronouncing one way or the other, Mr. Swinton drew attention to the stupendous consequences that would follow if such a view could be established. It would give the world the equivalent of the burning lamp of the story-books, which consumed no oil, or the perpetual fire of the burning bush which required no fuel. It would only be necessary to cultivate the right kind of organisms in sufficient masses to produce the perpetual motion dreamed of by the mediaeval philosophers. Professor Silvanus Thompson, in moving a vote of thanks, said that Lord Kelvin was well aware that it was not possible to account for the operations that went on in the human machine on the supposition that man was a thermo-dynamic engine. Man's "boiler temperature" was not a boiling point, his "condenser temperature" was not a freezing point, and these two temperatures were so close together that the ratio of the difference between them to the absolute temperature of the supply, which would give the available energy in the case of the steam engine, did not represent in the case of the man one-thousandth part of the "fuel" stoked in, and was thus quite out of the question. It was therefore necessary to suppose that there was some other and unknown law of thermo-dynamics pertaining to the vital operations of physiology, enabling the animal to obtain light and heat by concentrating it from the diffused energy of the universe. This possibility was not absent from Lord Kelvin's mind, as was shown by his opposition to the theory of Rutherford and Soddy which accounted for radio-activity by the disintegration of the atom, and his insistence upon the view that the reason why a radio-active body remained hotter than its surroundings was because it was able to concentrate the diffuse energies of the general stock.

GENERAL MEDICAL COUNCIL ELECTION.

The result of the voting at the recent election of Direct Representatives for England and Wales is as follows:

Browne, Dr. Henry William Langley ...	7,906
Verrall, Mr. Thomas Jenner	7,502
Latimer, Dr. Henry Arthur	7,173
Brown, Mr. George...	3,424
Hawkyard, Dr. Arthur	2,727
Lawrence, Mr. Sidney Cameron... ...	2,448
Jackson, Mr. George	2,182
Haydon, Mr. Arthur George	909

Dr. Langley Browne, Mr. T. Jenner Verrall, and Dr. H. A. Latimer were therefore declared duly elected at the meeting of the English Branch Council held on November 20th.

The following report was presented to the same meeting by the Acting Registrar (Mr. Norman C. King), and entered on the minutes:

Report.

The present election is the second which has been held this year by the English Branch Council, and the recent experience, being fresh in the memory, was helpful. On this occasion it was possible to construct the Electoral Roll from the proof of the *Medical Register* for 1912, and there was no need to carry out the work of preparing the papers under such high pressure as in the spring. It was therefore possible to effect some economy in the labour bill. The only change of real importance which was made was that, instead of the printing of the stationery being given to the Council's printers without question, tenders were invited from some of the leading houses in London, with the result that a very substantial economy was effected in the cost of printing.

The number of voting papers issued was 25,245, as against 25,215 in May, so that there was practically no change in the numbers of the constituency. The voting papers were issued on November 7th; the last day for return was November 15th, and between these days and as letters were received, the outer coverings were opened and the identification envelopes were sorted in numerical order. The object of this is to prevent two votes being received from any one practitioner, because, on application, a duplicate voting paper is issued and is given the original number which appears opposite the practitioner's name in the Electoral Roll. Consequently it is easy, when going through the identification envelopes at the last moment, to see whether there are any duplicate numbers. In this election, for the first time on record, it was found that one practitioner had sent in two voting papers, in spite of the fact that on each identification envelope he had signed a statement that he had not marked any other paper in this election. Both votes, of course, were disallowed.

On Thursday, November 16th, the identification envelopes were opened and the voting papers placed in the ballot boxes, and on November 17th the counting was begun and finished.

The statistics of the election are as follows:

25,245 voting papers were issued and 12,879 (or 51.02 per cent.) were returned. Of these 11,876 (or 92.21 per cent.) were valid votes, and 1.003, including dead letters (or 7.79 per cent.), were invalid. This compares with 2,152 (or 8.56 per cent.) invalid votes received in May, and therefore the leaflet of instructions approved at the last meeting of the Branch Council, which was so placed in the envelope as to be the first paper which would catch the eye on opening it, served a very useful purpose.

The following are the statistics of the invalid votes, the number in brackets being the corresponding number in May last:

46 (649) voters did not sign the declaration on the identification envelope.
5 (639) identification envelopes were not fastened down.
(276) voting papers were not placed inside the identification envelopes.
7) voting papers were not folded inwards.
(20) voting papers were returned without the identification envelopes.
4 (8) voting papers were improperly marked.
9 (21) voting papers were returned blank.
3 voting papers were returned in the wrong identification envelope.
1 voting paper was returned in duplicate.
10 voting papers were returned of voters who had left the constituency.
148 (215) voting papers did not arrive in time.
Total 707 invalid papers.

In addition, 296 were returned through the Dead Letter Office. This last item shows the impossibility of keeping in touch with all the members of the profession, even when they are nominally resident in England and Wales. At the May election 365 letters were returned through the Dead Letter Office. The whole of these were most exhaustively examined, with the result that there were only about 75 practitioners with whom we failed to get into communication, and to these voting papers were not sent; yet the number of returned letters on this occasion was not very much smaller than before. It may be remarked, however, as showing the greatly improved accuracy of the addresses in the *Register*, that the number of dead letters returned in May, namely, 365, and the number of dead letters returned now, namely, 296, compares very favourably with the number returned in 1906, namely, 911.

To sum up the result of the voting, the 25,245 voting papers sent out this year are accounted for in the following way:

12,368 (or 49.00 per cent.) were returned by voters within the proper time according to the *Regulations*.
215 (or 0.85 per cent.) were returned too late.
296 (or 1.17 per cent.) were returned through the Dead Letter Office.
12,366 (or 48.98 per cent.) did not come back in any way.
Total, 25,245.

The following table is added:

	Voting Papers Returned.	Percentage of Constituents Taking Part in the Election.
In 1836	13,395	... 74.1
,, 1891	12,002	... 61.3
,, 1896	12,227	... 54.2
,, 1897	13,466	... 59.6
,, 1901	9,179	... 39.4
,, 1902	11,176	... 47.6
,, 1906	11,917	... 48.3
,, 1911 (May) ...	12,258	... 48.61
,, 1911 (November)...	12,879	... 51.02

In conclusion, I should like to add that, although the pressure of work in the office at the moment is very great, the office staff not only entirely undertook the important work of preparing the Electoral Roll and checking the identification envelopes to see that all were valid, but also as soon as they could be spared from the office, assisted in all the other routine work which had to be performed.

BRITISH MEDICAL BENEVOLENT FUND GUILD.

Annual General Meeting.

The annual general meeting of the British Medical Benevolent Fund Guild was held at St. George's Hospital, on November 20th. The chair was taken by Adeline Duchess of Bedford, who was supported, amongst others, by the Dowager Lady Broadbent (President of the Guild), Sir John and Lady Tweedy, Lady Bradford, Sir William Church, and Sir Thomas Barlow.

Lady Tweedy, in presenting the report, spoke in encouraging terms of a second year of increased activity. The number of subscribers to the Guild was now 625. Volunteers had come forward, donations had multiplied, and the provinces were setting the pace, doubtless owing to the better opportunity of getting into touch with the local profession in smaller centres than in London.

A number of reports were received, including a very touching one by Mrs. Liveing on the work of the visitors. Children had been educated and trained, coal tickets, blankets, boots, and other articles had been distributed, help had been rendered in sickness and emergency, and in

a few very exceptional cases debts had been paid. Even when no material help was given, the work of visiting had a great sympathetic value, for one of the hardest parts of poverty to those who had been accustomed to comfortable circumstances was the narrowing of the mental horizon and the turning in of the lonely mind upon itself. Similar activity was reported by the "Father Christmas Branch" and by the ladies charged with the special duty of clothes distribution.

Mrs. SCHARLIEB, M.D., the treasurer, stated that by balance brought forward and by donations and subscriptions the income side of the account totalled £1,069, and it was a further testimony to the activity of the provinces that the amount raised by subscriptions to the branches almost equalled that received in subscriptions by the central fund in London. The balance at the bank was £102, and a further sum of £69 had been placed in an education reserve for the purpose of assisting children in the matter of special or technical training when this seemed desirable. Mrs. Scharlieb suggested that, with the object of covering London more efficiently, the metropolitan boroughs should each be regarded as a separate sphere of action, with, if possible, a local secretary.

HER GRACE THE CHAIRMAN, in a very sympathetic speech, said that there was a mingled note of wisdom and tact and practical helpfulness in this work which distinguished it from some other forms of charity. In the freshness of convalescence and travel the indebtedness of the patient to his doctor was often overlooked. Every medical man would say, or at least his wife would say it for him, that a struggle with a severe case had taken with it some bit of his own life. Medical treatment was, among many other things, a gift of vital force, yet the patient only realized partially the conflict which had gone on around his sick bed. And she supposed that the proportion of people who really considered their obligation to the doctor after they had paid his bill was about the same as the proportion of the grateful in the case of the ten lepers who were cleansed by the Great Physician.

Sir WILLIAM CHURCH suggested, in connexion with the education reserve fund, that it would be well not to attempt to give beneficiary children an elementary education different from that of the general population, and only afterwards, if they gave evidence of special ability, should the Guild step in.

Sir THOMAS BARLOW, in a few words, laid stress upon the advantage of the close co-operation between the Guild and the Fund. It was a case of one and one making more than two.

Some slight alterations in the phrasing of two of the rules were agreed to, and two *ex officio* members were added to the General Purposes Committee. The officers of the Guild were re-elected, with one or two changes in the personnel of the executive.

Votes of thanks were accorded to the committee of St. George's Hospital for their hospitality, on the motion of the Dowager Lady Broadbent, seconded by Mrs. Charters Symonds; to the Medical Insurance Committee, for a further grant of twenty guineas, on the motion of Mrs. Scharlieb, seconded by Lady Tweedy; to the Press, medical and lay, for their notices of the work of the Guild, on the motion of Lady Bradford, seconded by Mr. E. Parker Smith. The last-named gentleman said that he had formed his good opinion of the work of the Guild not from personal knowledge, but from his experience of two ladies on the committee of the British Medical Benevolent Fund, *ex duo disce omnes*.

Subscriptions and donations may be sent to the treasurer, Mrs. Scharlieb, M.D., M.S., 149, Harley Street, W. Offers of personal service may be sent to Mrs. Liveing, 52, Queen Anne Street, W. Offers of gifts in kind should be sent to Lady Tweedy, 100, Harley Street, W.

MESSRS. SIEMENS BROTHERS AND CO., LTD., whose offices have hitherto been at Caxton House, Westminster, request us to state that their postal address in future will be Woolwich, Kent.

THE White Star steamship *Laurentic* will make two short cruises from New York to the West Indies and Spanish Main commencing on January 20th and February 24th, 1912. British passengers wishing to join the *Laurentic* can leave Southampton on January 10th by the *Olympic*, and New York on the return to this country on February 21st.

COMPULSORY NOTIFICATION OF PULMONARY TUBERCULOSIS.

THE Local Government Board has issued a new General Order, applicable to England and Wales, making pulmonary tuberculosis a compulsorily notifiable disease. The Order is accompanied by a Memorandum, which, together with the Order itself, is here reproduced. The Order is to be cited as the "Public Health (Tuberculosis) Regulations, 1911," and the Regulations will be enforced and executed by the sanitary authorities; but, having regard to the provisions of Article IV (2) and VII (2) of the Regulations, and to the action which may be taken by county councils in co-operation with sanitary authorities, the Board has addressed the Regulations and Memorandum to the county councils also.

MEMORANDUM.

COMPULSORY NOTIFICATION OF PULMONARY TUBERCULOSIS.

Policy of the Board.

Pulmonary tuberculosis is now generally recognized as a communicable disease. It has, however, certain special characteristics which raise new administrative problems, and some of the measures which were appropriate to diseases notifiable under the Infectious Disease (Notification) Act, 1889, and the Public Health (London) Act, 1891, are hardly applicable to pulmonary tuberculosis. It was necessary, therefore, that special methods should be applied to this disease, and the Board felt, as they explained in their circular letter of March 22nd last, that the objects in view could be best attained if the procedure were by stages and by a gradual development of administrative machinery.

Accordingly in 1908 they issued regulations limited to cases of pulmonary tuberculosis occurring amongst the inmates of Poor Law institutions or amongst persons under the care of district medical officers. In March of this year further regulations were made extending the system of notification to cases occurring amongst the in-patients or out-patients at hospitals, or other similar institutions for the treatment of the sick, which are supported wholly or partially otherwise than by the contributions of the patients (or of their relatives or guardians) and otherwise than from rates and taxes.

Much progress has been made by local authorities in the organization of preventive measures against tuberculosis. In certain towns compulsory notification of pulmonary tuberculosis has already been established under local Acts, and it is now felt that compulsory notification is an almost indispensable preliminary to its effective administrative control. Having regard to these facts, and to the numerous representations which have been made by local authorities and others, the Board have arrived at the conclusion that it is now desirable to require the general notification of pulmonary tuberculosis.

The Regulations now issued will complete the system of notification which was inaugurated in 1908, and hereafter it will be the duty of every medical practitioner (with certain exceptions specified in Articles X, XI, and XII of the present Regulations) to notify every case of pulmonary tuberculosis occurring in the course either of his public or of his private practice.

Object of Notification.

The primary object in requiring notification is to enable the local authority to assist in the eradication of the disease, and the Board desire to take this opportunity of offering certain observations as to the ways in which local authorities can render such assistance.

It is worthy of note that the death-rate from pulmonary tuberculosis, though still far higher than that resulting from any other disease to which the principle of notification has hitherto been applied, has, nevertheless, shown a marked decline in the last thirty years. In 1881 the death-rate per 10,000 of the population was 18.25, in 1891 it was 15.99, in 1901 it was 12.64, and in 1909 it was 10.93. This decrease has coincided with a marked increase in the activities of local authorities, including greatly improved sanitary administration and the treatment of the sick under more satisfactory conditions. It is impossible to estimate precisely the influence of these causes on the diminution of the death-rate, but there can be no

doubt that they have been powerful factors in bringing about the reduction.

With the information obtained by means of general notification local authorities will be able to take action in individual cases with a view to preventing the spread of infection or removing conditions favourable to infection.

Powers and Duties of Councils.

In a disease such as tuberculosis the prevention of infection and the treatment of the patient frequently cannot be separated.

In certain cases it is no doubt desirable that the local authority should be able to offer sanatorium treatment, and for this the powers of the Public Health Act, 1875, and the Public Health (London) Act, 1891, are available. Under these powers local authorities may either themselves provide sanatoria or may contract for the use of such institutions.

The Board have been advised that these powers also enable a local authority to provide or contract for the use of dispensaries or out-patient hospitals.

Treatment in an institution is not, however, always necessary or desirable, and there are many cases which, under suitable instruction and supervision, may properly be treated in the patients' own homes.

Accordingly the Board have, by the Order, given a general power to the local authority, on the advice of their medical officer of health, to supply such medical assistance, facilities, and articles as may be necessary for detecting pulmonary tuberculosis, for preventing the spread of infection and for removing conditions favourable to infection. The local authority are also empowered to appoint any necessary additional officers.

In considering in what ways they can best aid in the control, treatment, and prevention of pulmonary tuberculosis, local authorities should carefully take account of existing agencies.

Apart from the actual treatment of cases, the Board would again urge on local authorities the great importance of their making full use of their powers of preventing overcrowding, and of securing the removal of any conditions tending to injure the health of persons residing in their districts.

Finance.

The financial aspect of the problem has been considerably altered by proposals which have recently been laid before Parliament. Under the Finance and National Insurance Bills it is proposed that a capital sum of one and half million pounds shall be made available for grants for the provision of sanatoria and other institutions. The National Insurance Bill also makes provision for defraying expenses of sanatorium treatment of insured persons, and it is proposed in certain circumstances to enable this treatment to be given to the dependants of the insured.

The Position of Persons Notified.

The term "notification" has been associated in many minds with certain disabilities and discomforts which would involve no hardship to an adult suffering from an attack of an acute infectious disease, such as typhoid fever, but which would be intolerable, in many instances, to phthisical patients. Tuberculosis of the lung is usually a chronic disease which may permit the patient during many months, or even years, to pursue his ordinary work. The ability to convey infection is limited and intermittent, and infection can be prevented by the patient himself, when he has learnt, and is not too ill to practise, elementary precautions. In these two respects the disease is essentially different from the infectious diseases which are made notifiable under the Infectious Disease (Notification) Act, 1889, and the Public Health (London) Act, 1891. This difference is affirmed by Article XIII of the new Regulations, and is the basis of the administrative policy of the Board in relation to pulmonary tuberculosis, and the reason for the issue of a special code of Regulations under Section 130 of the Act of 1875. The fact that the patient may be trained and may as a result cease to be a source of infection, in which case he need be subjected to no disability, should be made clear both to the patient in the interests of society and to society in the interests of the patient. It is for this reason that education must occupy an important place in the campaign against this disease.

It is, of course, unnecessary and undesirable that notification should involve publicity. The Board have no doubt that local authorities and their officers will avoid doing anything which could cause pain or annoyance to patients or their friends. It cannot be too strongly emphasized that any records which may be kept by a medical officer of health in relation to persons notified should be regarded as strictly confidential documents, for whose custody the medical officer of health is personally responsible. The register to be kept by a medical officer of health under Article VII (2) of the new Regulations is to be open to inspection only by a person duly authorized by resolution of the Council, by the medical officer of health for the county, by any school medical inspector acting within the area of the Sanitary Authority, and by officers of the Local Government Board and of the Board of Education.

THE NEW REGULATIONS.

Relation to Previous Orders.

The Order is not a consolidating Order, but supplements and in some respects extends the Poor Law and Hospital Regulations already issued. In this connexion special attention may be drawn to the provisions of Article VII (2), which requires the medical officer of health to keep a register of cases notified to him, Article VIII, which deals with the duties of the medical officer of health in relation to the treatment of the disease, and Article IX (1), which relates to the special powers of councils, and is wider than the corresponding articles in the previous Regulations in so far as it includes a power to provide medical assistance. It will be observed that these articles are to apply also in the case of notifications received under the Poor Law and Hospital Regulations. Article XI contains a saving which applies to the Hospital Regulations also.

Notifications by Medical Practitioners.

Articles IV to VI relate to notifications by medical practitioners (including school medical inspectors) on the forms which are to be supplied to them, free of charge, by councils under Article III.

In many districts medical practitioners have undertaken the notification of pulmonary tuberculosis by voluntary arrangement with the local authority, but representations have reached the Board that the practitioner notifying a case of phthisis is placed in a somewhat invidious position with his patient when the notification is not a statutory duty. The Board feel sure that the duty which is imposed by Article IV will be loyally undertaken by a profession which has already contributed so greatly to the furtherance of social efficiency, and which has responded so readily to the demands which have been made from time to time upon its special knowledge and experience.

By the proviso to Article IV (1) a medical practitioner is relieved of the duty of notifying a case of pulmonary tuberculosis which has to his knowledge already been notified to the proper authority. A physician who has been called in for consultation would not, in general, be responsible for notification, and a notification would seldom be required from the medical officer of a sanatorium or convalescent home for consumptives. Articles X, XI and XII contain certain further exceptions to the general obligation to notify. The fee of 2s. 6d. for each notification is that fixed by the Infectious Disease (Notification) Act, 1889.

Co-operation between Sanitary and Local Education Authorities.

Under Article IV (2) of the Regulations, a school medical inspector is required to notify all cases of pulmonary tuberculosis of which he becomes aware in the course of an inspection held by him at a public elementary school or elsewhere, and valuable results may be anticipated from the co-operation of sanitary and local education authorities. In many instances it will be practicable for the medical officer of health to acquaint the school medical inspector with the names of children coming from houses in which cases of pulmonary tuberculosis have been notified. The latter will then be able to pay special attention to such children at his periodical inspections, and to call them up for inspection more frequently than would otherwise be the case, thus supplementing any action taken by the sanitary authority under Articles VIII and

IX of the Order. In this connexion it will be observed that under Article VII (2) the medical officer of health for the county or any school medical inspector acting within the area of the sanitary authority is entitled to examine the register to be kept by the medical officer of health of the sanitary authority of all cases notified to him.

Duties of Medical Officers of Health.

Article VII sets out the duties of a medical officer of health in relation to the machinery of notification. By subdivision (1) he is required to transmit to the proper authorities all notifications addressed to him in error, and to inform the notifying practitioner that he has done so.

By subdivision (2) he is required to keep a register of all cases of pulmonary tuberculosis notified to him under the regulations in force, and relating to patients whose residences are situate within the area for which he is medical officer of health. In this register he must enter the name, address, age, and sex of the person notified, the date of the notification, and the name of the notifying practitioner. It will be convenient for the register to contain also a statement of any action taken by the medical officer of health in regard to the patient. It is suggested that he will also find it desirable to keep a separate record of all particulars bearing on the probable factors concerned in producing the disease, on the existence of the disease in persons in contact with the patient, and on action taken to obviate infection, to remove insanitary conditions, and to aid the patient himself or any additional patients who may be discovered.

Under subdivision (3) the medical officer of health for an area within the Administrative County of London is required to send to the medical officer of health for the county a weekly statement of the notifications received by him under this Order.

Article VIII provides that, upon receipt of a notification under the regulations in force, the medical officer of health, either personally or through an officer acting under his instructions, shall make such inquiries and take such steps as may appear to him to be necessary or desirable for preventing the spread of infection, and for removing conditions favourable to infection. It is contemplated that for the purpose of carrying out the requirements of this Article a visit to the home of the patient will generally be necessary, but the matter may be left to the discretion of the medical officer of health, who will doubtless avail himself of the co-operation of the notifying practitioner.

The Article does not enable the medical officer of health to intervene in the arrangements made by the authorities of a Poor Law institution or hospital for the treatment of inmates or in-patients.

Pulmonary Tuberculosis Notified under Local Acts.

Article XIV deals with those districts in which powers have been obtained with respect to pulmonary tuberculosis by a local Act. Nothing in these Regulations will have effect in derogation of any power or obligation under any such Act, but, subject to this and to the proviso to this Article, the Regulations will apply to any area in which a local Act containing provisions with respect to pulmonary tuberculosis is in force.

Date of Operation.

The Order will come into operation on January 1st next, and it is desirable that the arrangements which are necessary to facilitate the execution of the Order should be made as soon as practicable.

ORDER.

Whereas We, the Local Government Board, are empowered by Section 130 of the Public Health Act, 1875, as amended by the Public Health Act, 1896, from time to time, to make, alter, and revoke Regulations with a view to the treatment of persons affected with any endemic or infectious disease and for preventing the spread of the disease; and to provide for the enforcement and execution of the Regulations;

And whereas Tuberculosis is an endemic disease and that form of the disease which is known as Pulmonary Tuberculosis is an infectious disease;

And whereas by the Public Health (Tuberculosis) Regulations, 1908, and by the Public Health (Tuberculosis in Hospitals) Regulations, 1911, We made certain Regulations for preventing the spread of Pulmonary Tuberculosis;

And whereas it appears to Us to be expedient that such further Regulations as are hereinafter set forth should be made in relation to Pulmonary Tuberculosis:

Now therefore, We, by this Our Order and in the exercise of the powers conferred upon Us by the Public Health Act, 1875, the Public Health (London) Act, 1891, and the Public Health Act, 1896, and of every other power enabling Us in that behalf, do make the following Regulations, that is to say:

Definitions.

ARTICLE I.—In these Regulations, unless the contrary intention appears:

(*a*) Words importing the masculine gender include females;
(*b*) Words in the singular include the plural, and words in the plural include the singular;
(*c*) Expressions referring to writing include references to printing, and to other modes of representing or reproducing words in a visible form, and references to printing include references to other mechanical modes of so representing or reproducing words;
(*d*) The expression "Council" means, as the case may be, the Mayor, Aldermen, and Commons of the City of London in Common Council assembled, the Council of a Metropolitan Borough, the Council of a Municipal Borough or other Urban District, or the Council of a Rural District;
(*e*) The expression "area" means the area subject to the jurisdiction of the Council for the purposes of the Public Health (London) Act, 1891, or of the Public Health Act, 1875, as the case may be;
(*f*) The expression "Medical Practitioner" means registered Medical Practitioner;
(*g*) The expression "Medical Officer of Health" means Medical Officer of Health of a Council;
(*h*) The expression "School Medical Inspector" means any medical practitioner appointed under Section 13 of the Education (Administrative Provisions) Act, 1907, to undertake the medical inspection of children attending a Public Elementary School;
(*i*) The expression "the Poor Law Regulations" means the Public Health (Tuberculosis) Regulations, 1908, and the expression "the Hospital Regulations" means the Public Health (Tuberculosis in Hospitals) Regulations, 1911;
(*j*) The expressions "Poor Law Institution" and "Hospital" have the same meaning respectively as in the Poor Law Regulations and the Hospital Regulations; and
(*k*) The expression "place of residence," where used in relation to a person notified, means the place of residence as described in the notification unless and until it has been proved to have been incorrectly described.

Commencement of Regulations.

ARTICLE II.—These Regulations shall come into operation on the First day of January, One thousand nine hundred and twelve, and, subject to the provisions of Article XIV. shall then and thereafter apply and have effect throughout England and Wales, and shall be enforced and executed by every Council and their officers.

Supply of Forms of Notification.

ARTICLE III.—For the purposes of these Regulations—

(i) Every Council shall provide and maintain a sufficient supply of printed copies of the forms set forth in the Schedules A and B to these Regulations;
(ii) Every Council shall as soon as practicable after these Regulations come into operation, and afterwards from time to time when application is made to them, supply printed copies of the form set forth in the Schedule A to these Regulations to every Medical Practitioner resident within the area of the Council, and printed copies of the form set forth in the Schedule B to these Regulations to the School Medical Inspector or Inspectors of every Public Elementary School situate within the area of the Council.

Notification by Medical Practitioners (including School Medical Inspectors).

ARTICLE IV.—(1) Subject as provided in Articles X, XI, and XII of these Regulations every Medical Practitioner attending on or called in to visit any person shall, within forty-eight hours after first becoming aware that such person is suffering from Pulmonary Tuberculosis, complete, sign, and transmit a notification of the case in the form shown in the Schedule A. to these Regulations to the Medical Officer of Health for the area within which the place of residence of the person is situate:

Provided that a Medical Practitioner shall not be required under these Regulations to notify any case of Pulmonary Tuberculosis which has already, to his knowledge, under

these Regulations or under the Poor Law Regulations or under the Hospital Regulations, been notified to the Medical Officer of Health for the area within which the place of residence of the patient is situate.

(2) Every Medical Practitioner who is a School Medical Inspector shall, within the period of forty-eight hours after he has inspected any children attending a Public Elementary School, complete and sign a notification in the form shown in the Schedule B. to these Regulations of all cases of Pulmonary Tuberculosis of which he became aware during the course of the inspection, and shall transmit the notification to the Medical Officer of Health for the area within which the Public Elementary School is situate.

Article V.—A notification to be transmitted to a Medical Officer of Health in pursuance of these Regulations may be transmitted by being delivered to that Officer or by being delivered at his office or residence, or may be sent by prepaid letter post addressed to him at his office or at his residence.

Remuneration of Medical Practitioners.

Article VI.—The Council of the area within which the place of residence of the patient is situate shall pay to the Medical Practitioner the sum of two shillings and sixpence in respect of each notification sent by him in pursuance of these Regulations, and the said sum shall in every case be deemed to cover all expenses, including the cost of transmission:

Provided that no fee shall be payable under this Article to a School Medical Inspector.

Duties of Medical Officers of Health.

Article VII.—(1) A Medical Officer of Health who receives from a Medical Practitioner a notification relating to a patient whose place of residence is not within the area for which he is Medical Officer of Health, shall forthwith transmit the notification to the Medical Officer of Health for the area in which the place of residence of the patient is situate, and shall at the same time inform the Medical Practitioner that he has done so and shall give to him the name and address of the Medical Officer of Health to whom the notification has been sent. Any expenses incurred by a Medical Officer or Health in carrying out the duties imposed upon him by this subdivision shall be defrayed by the Council of the area for which he is Medical Officer of Health.

(2) Every Medical Officer of Health shall enter in a Register to be kept by him for that purpose the full particulars contained in every notification received by him under these Regulations or under the Poor Law Regulations or under the Hospital Regulations and relating to a patient whose place of residence is situate within the area for which he is Medical Officer of Health. The said Register shall be kept in the custody of the Medical Officer of Health and shall not be open to inspection by any person other than a person specially authorized by resolution of the Council, the Medical Officer of Health for the Administrative County within which the area is situate, any School Medical Inspector acting within the area, or an officer of the Local Government Board or of the Board of Education.

(3) The Medical Officer of Health for every area within the Administrative County of London shall, as soon as practicable after the end of each week, send to the Medical Officer of Health for the Administrative County of London a statement of every notification received by him during the week in pursuance of these regulations and relating to a patient whose place of residence is situate within the area for which he is Medical Officer of Health. Such statement shall contain the address, age, and sex of the patient and the date of the notification.

Article VIII.—Upon the receipt of a notification under these Regulations or under the Poor Law Regulations or under the Hospital Regulations the Medical Officer of Health, or an Officer acting under the instructions of the Medical Officer of Health, shall make such inquiries and take such steps as may appear to him to be necessary or desirable for preventing the spread of infection and for removing conditions favourable to infection:

Provided that nothing in this Article shall be deemed to authorize a Medical Officer of Health or other Officer to take any of the steps herein mentioned at any Poor Law Institution or any Hospital.

Special Powers of Councils.

Article IX.—(1) For the purposes of these Regulations and of the Poor Law Regulations and of the Hospital Regulations a Council, on the advice of their Medical Officer of Health, may supply all such medical or other assistance, and all such facilities and articles as may reasonably be required for the detection of Pulmonary Tuberculosis, and for preventing the spread of infection and for removing conditions favourable to infection, and for that purpose may appoint such officers, do such acts and make such arrangements as may be necessary:

Provided that nothing in this subdivision shall be deemed to authorize a Council to take any of the measures herein mentioned at any Poor Law Institution or any Hospital.

(2) A Council, on the advice of their Medical Officer of Health, may provide and publish or distribute in the form of placards, handbills, or leaflets, suitable summaries of information and instruction respecting Pulmonary Tuberculosis, and the precautions to be taken against the spread of infection from that disease.

Limitation of Scope of Regulations.

Article X.—Nothing in these Regulations shall apply to or impose any duty or obligation upon any Medical Practitioner acting in his capacity as—

(*a*) Medical Officer of a Poor Law Institution or District Medical Officer;
(*b*) Medical Officer of a Hospital;
(*c*) Medical Officer of one of His Majesty's Prisons or of a Certified Reformatory School;
(*d*) Medical Officer of an Institution for Lunatics;
(*e*) Medical Examiner of candidates for some office or appointment;
(*f*) Medical Examiner on behalf of an Insurance Company of a person proposing to insure his life at the risk of that Company; or
(*g*) Medical Examiner of the passengers and crew of an emigrant ship.

Article XI.—Nothing in these Regulations or in the Hospital Regulations shall have effect so as to require a notification to be transmitted to a Medical Officer of Health in respect of any person whose place of residence is not situated in England or Wales.

Article XII.—Nothing in these Regulations shall have effect so as to require a notification to be transmitted to a Medical Officer of Health in respect of any inmate of any building, ship, vessel, boat, tent, van, shed or similar structure belonging to His Majesty the King.

Exception and Application of Enactments.

Article XIII.—Nothing in these Regulations shall have effect so as to apply, or so as to authorize or require a Medical Officer of Health or a Council, or any other person or authority, directly or indirectly, to put in force with respect to any patient in relation to whom a notification in pursuance of these Regulations has been transmitted to a Medical Officer of Health, any enactment which renders the patient, or a person in charge of the patient, or any other person, liable to a penalty, or subjects the patient to any restriction, prohibition, or disability affecting himself, or his employment, occupation or means of livelihood, on the ground of his suffering from Pulmonary Tuberculosis.

Modifications consequent upon Local Acts.

Article XIV.—Nothing in these Regulations shall have effect in derogation of any power conferred, or of any obligation imposed with respect to Pulmonary Tuberculosis by a Local Act.

Subject as aforesaid and subject to the conditions set forth in Article XIII, these Regulations shall apply and have effect in relation to every area in which a Local Act containing provisions with respect to Pulmonary Tuberculosis is in force:

Provided that, on the application of the Council for the area We may, by Order, direct that, after the date fixed by the Order, these Regulations, or so much thereof as is specified in the Order, shall cease to apply to the area, or shall apply to the area with such modifications as are specified in the Order.

Short Title.

Article XV.—These Regulations may be cited as "the Public Health (Tuberculosis) Regulations, 1911."

LITERARY NOTES.

THERE is a profound truth in the saying "Plus ça change, plus c'est la même chose." The most cursory study of the life of the past suffices to prove that history is constantly repeating itself, and in nothing is this similarity of ways more strikingly shown than in the efforts of man to ameliorate the lot of his fellow mortals. It is hardly surprising, therefore, to find that many of our modern philanthropic movements have been anticipated by the charity of bygone generations, and that even the palatial convalescent homes of the present day had their counterpart amongst the charitable institutions of mediaeval cities. Dr. Durodié, in an article on the hospitals of old Bordeaux, which appeared in the *Gazette hebdomadaire des sciences médicales* for October 1st, mentions that of the fourteen hospitals which existed in that city before the Revolution, two at least were set apart for such patients as were well enough to leave the general hospitals, but were not yet fit to return to their own homes. It should be added, however, that in both instances these buildings were reserved for patients recovering from plague, who were kept there in quarantine until they were considered free from all taint of infection. One of these houses, variously known as the Hospital of Limes, or of the Inquisitor, was founded in 1587 as an annexe of the big pest house of Arnaud Guiraud, and doubtless proved a welcome change after a sojourn in the latter establishment, which in those days consisted of a collection of detached huts, each containing a bed and a wooden stool. The hospital of the Inquisitor derived its somewhat unusual name from the title of its director, who apparently had entire charge of the convalescents under his care. A similar establishment, the hospital of La Tour du Merle, was attached to the pest house of Ste. Croix, and used as a convalescent home by the latter. Mediaeval Bordeaux seems to have been amply provided with accommodation for the sick. Apart from the pest and leper houses (one of which was exempted by Edward I of England from all import duties on wine and provisions), there existed a hospital, dating from the fourteenth century, for patients suffering from *mal des ardents*; the hospital of St. James, which, built at the beginning of the twelfth century as a refuge for pilgrims on their way to and from the shrine of St. James of Compostello, was also used as a lying-in hospital for poor women; and a general hospital, founded in 1245 by the canons of St. Andrew. This last, which at first contained only 26 beds, was gradually enlarged by the simple process of absorbing the revenues of two other hospitals; and in 1538 the income of the hospital of St. Andrew was further increased by a substantial legacy from a wealthy patron. Its staff consisted of two physicians, two visiting and six resident surgeons, twenty-four sisters of charity, and twenty nurses of either sex; and it is interesting to note that both the physicians and surgeons attached to this hospital were exempt from every form of taxation. It is a curious thing that though help was to be found for almost every form of human misery in these old hospitals, one form of suffering seems to have been entirely overlooked. Except for the Hospital of St. Charles, founded in 1605 for the relief of infirm old men, little or nothing appears to have been done for incurable diseases until the middle of the eighteenth century, when M. de Bigod, a parliamentary councillor, purchased a large house outside the walls of the city for the purpose of providing a permanent home for a certain number of chronic and incurable cases. This hospital, the first to be founded in Bordeaux for incurables only, was opened in 1741, and received the royal charter two years later. The recognition of this noble work of charity was, perhaps, one of the few wise acts on the part of a King who, as he himself acknowledged, failed so signally in his duty towards his people, partly through want of ability, but still more through the advice and influence of unworthy counsellors.

Marcel Prévost says, justly enough, that a man of science, if he has a fad, may become a danger to those within his sphere of influence. We are told that every one about him is exposed to become a victim of "that very modern mania, medicalism" (*médicalité*). That there are fanatical doctors no one will deny, but our own experience would lead us to believe that "medicalism" is immensely more common among the large number of lay folk whose minds are obsessed by the subject of health. Marcel Prévost's account of Dr. Tasqué's treatment of his own family is amusing enough to be quoted. He describes the physician as a man of remarkable ability, but one whose devotion to his art has become a veritable possession, which he has communicated to his wife. Their boy, Henri, becomes the victim of their mania. His sleep is measured by a chronometer; his meals are weighed to a centigram; his excretions and secretions are examined microscopically; he is carefully weighed and measured; his temperature is taken at regular intervals in the rectum; he goes through a severe course of hydrotherapy, aggravated by Dano-Swedish-Anglo-Norwegian gymnastics. Between all this and his studies the poor child has not a moment's rest. The consequence is that he becomes more like a guinea-pig in a laboratory than a human boy. When he was laid up with a cold a kindly visitor offered him a piece of candy, wrapped in silver foil. The victim of scientific upbringing took it for a new kind of thermometer, and put himself in position for its introduction! The picture is of course overdrawn, but it has a sufficient basis of truth to make the subject worth the attention of parents who in their conscientious wish to rear their offspring in accordance with what they take to be the light of science, are apt to leave Nature out of their reckoning.

There are some problems which, like the poor, are always with us, and which, again like the poor, are sometimes extremely difficult to deal with. At present one of the most pressing relates to the disposal of those crippled children who, under favourable conditions, stand a fair chance of either a permanent cure, or of a partial recovery, which will at least enable them to support themselves in later life. Much has been done by the excellent day schools for cripples which have sprung up all over the country, but these are necessarily inadequate since they cannot remove the pupils entirely from the unsatisfactory and frequently pernicious surroundings of their own homes. It is, therefore, only from residential schools that we may confidently look for really satisfactory results, and their success is proved by the statistics given by Mr. E. D. Telford in a short account of the Manchester Residential School for Crippled Children, which has appeared in the November number of *The Child*. "The cripple," says Mr. Telford, "if he is to succeed, must be trained in such a way that he can replace by alertness of brain or skill of hand that physical power of which he has been deprived. . . . The training of these cripples will demand two conditions—their education and their surgical treatment." Both require years of careful supervision, which it is obvious cannot be obtained either in a big general hospital or a Poor Law infirmary, but which is provided by the residential school, where the bodily needs of the little patients are tended by a large staff of doctors and nurses at the same time that their mental requirements are supplied by a picked number of elementary school teachers. In the case of the Manchester school the success of this system is shown by the fact that out of the 115 patients who have been discharged during the six years which have elapsed since its foundation, 57, as late as June, 1911, were reported to be completely cured, and either following a trade or attending an ordinary day school. Many of the rest were greatly improved in health, though the nature of their disease forbade all hope of a lasting cure; whilst those who had derived no benefit from their stay in the school were in almost every instance cases who had been admitted in a very advanced state of ill health. It should be added that the school authorities exercise great care in admitting only such patients as are likely to profit by the treatment, and that the majority of cases consist of deformities arising from paralysis, rickets, or tuberculosis. An account of the Manchester Children's Hospital, by Mr. Henry J. Eason, is also included in the current number of *The Child*, which likewise contains an article by Dr. James Alexander Lindsay calling attention to the deplorable state of many of the Irish primary schools, and another by Dr. R. J. Ewart entitled "The Aristocracy of Birth." Short papers on infantile paralysis and the dangers arising from badly-shaped school desks have also been contributed by Dr. Frederick E. Batten and Mr. W. D. Carruthers.

British Medical Journal.

SATURDAY, NOVEMBER 25TH. 1911.

THE MEDICAL PART OF THE NATIONAL INSURANCE BILL.

THE Government time-table has been strictly observed, and the Committee stage of the National Insurance Bill came to an end on Tuesday evening, when the guillotine cut short the discussion on the schedules. The effect of the changes made in the schedules is given in our Parliamentary Notes (SUPPLEMENT). The Prime Minister stated on Monday that he hoped to begin the Report stage on Tuesday next, November 28th, so that as five days are to be given to this stage, it is possible that the bill may go to the House of Lords in the following week—possibly on December 6th or 7th—for a first formal reading; the second reading debate in that House might then begin on December 11th. This would leave nine, or at most ten, parliamentary days before Christmas.

The special meeting of the Representative Body for the consideration of the position of the profession in relation to the bill as it now stands, summoned to meet on Thursday, November 23rd, will probably have come to an end before this issue of the JOURNAL can be in the hands of members. The report of the Council of the British Medical Association, issued by post to members at the end of last week, is the chief subject matter for discussion, and it is proposed to publish the result of the deliberations of the meeting in the SUPPLEMENT for this week. Any discussion of the general questions, therefore, would here be inopportune and out of place. We propose in the following paragraphs to refer only to some matters of detail which could not be dealt with last week.

As indicated last week the amendment of Clause 58, carried by the Chancellor of the Exchequer, was practically a new clause, and completely altered the scheme of the administration of the bill so far as Scotland is concerned. Previously the Insurance Commissioners, as set up in Clause 41, had jurisdiction in Great Britain and Ireland. As a result of representations made by the Welsh, Scottish, and Irish members the Government decided to set up separate Insurance Commissioners for Wales, Scotland, and Ireland, and the Chancellor of the Exchequer has, we understand, given an undertaking that at least one Insurance Commissioner in each country shall be a medical practitioner. We believe that, from the point of view of administration, the general consensus of opinion is that the setting up of separate Commissioners for Scotland, Wales, and Ireland will conduce to the smooth working of the scheme, but the constitution of these three separate boards of Insurance Commissioners made it necessary to provide some connecting link between the administration in the four countries. Consequently a new clause was introduced directing the Treasury to appoint a joint committee consisting of members of each national board. This joint committee may make necessary financial adjustments between the four funds, and will exercise and perform such powers and duties of the several national Boards of Commissioners as the Treasury may direct.

Clause 58, by which the bill was applied to Scotland, consisted, as originally drafted, mainly of definitions of authorities, so that the provisions set out in reference to England should be applicable to Scottish administrative methods and conditions. The new clause, in addition, creates Commissioners for Scotland, to be called Scottish Insurance Commissioners, with a central office in Edinburgh, with power to incur expense necessary for the working of the Commission and for the payment of inspectors, referees, and others. It also provides that sums received in respect of contributions in Scotland shall be paid into a separate fund, to be called the Scottish National Health Insurance Fund, and joint regulations by the Insurance Commissioners and the Scottish Insurance Commissioners will provide for the preparation of the necessary tables on a uniform basis, for the purposes of the accounts of insurance. The general provisions of the bill apply to Scotland as to England and Wales except as specially qualified in the new clause. It is provided, for example, that where, owing to sparseness of population, difficulties of communication, or other special circumstances, difficulty in the administration seems likely to arise, a local Insurance Committee, with the consent of the Scottish Insurance Commissioners, may modify or suspend any benefits for which it is responsible, provided that the insured person shall receive in some other form, as additional benefits, an amount equivalent to the value of the modification or suspension so prescribed. It is also provided that where, for similar causes, the insured persons in any area are not able to join an approved society, the County Council may arrange for their incorporation in a County Society for the purposes of the Act. The purpose of these alterations is to make it possible that special arrangements may be made, for example, for medical benefit, where distances and the character of the district would make it impossible for them to be arranged on such terms as might be applicable to the country generally. Insured persons might, for example, receive the value of their medical benefit, and make their own arrangements for medical attendance as provided in Dr. Addison's amendment to Clause 14. During the course of debate it appeared that considerable misgivings were entertained by some Scottish members as to the wisdom of making Scotland in this way a separate financial unit, but as against this it was stated that the separation would only apply for administrative purposes, and that members of approved societies in Scotland would have the same financial relation to their society as members of the same society resident in any other part. A special case was made out on behalf of agricultural labourers who receive their wages for six weeks or more during illness as a part of their contract of service; the Chancellor of the Exchequer promised that he would have the figures supplied to him examined, and that if the cases were not met by the special arrangements set up in the new clause relating to similar cases he would endeavour to make an equitable arrangement.

The new clause setting up a Board of Insurance Commissioners for Wales was passed, with many others, without discussion, under the operation of the closure, on November 16th. Its terms are *mutatis mutandis* identical with those constituting the Scottish Board of Commissioners.

We publish in the SUPPLEMENT this week the new clause for Ireland. The provisions for setting up an

Irish Board of Insurance are similar to those for Scotland and Wales, but medical benefit is entirely omitted. Two principal causes are alleged as being responsible for this omission: first, that many of those who will be insured persons are now attended by dispensary doctors who are paid under the Poor Law, and that it might amount to the same man being paid twice over for attendance on the same patient; and that therefore it was desirable to postpone this addition to the dispensary doctors' duties until the reform of the Poor Law could be undertaken. The other reason alleged was, we understand, that it was not found possible for a scheme to be suggested which could form the basis of an agreement between the Irish medical men and the Nationalist party. We confess that both these reasons seem entirely unconvincing, and it is possible that electioneering considerations not unconnected with the fact that the premium to be paid by the worker in Ireland, in consequence of the omission of medical benefit, will be in the case of male workers 1d. a week less than in the case of Great Britain, and ½d. per week less in the case of the employer, may have something to do with the omission. Indeed, in the case of workers whose wages do not exceed 2s. a day, the reduction as set out in the new second part of the second schedule is 1½d. a week as compared with Great Britain. However this may be, the difficulties alleged are wholly of an administrative kind, and such as with friendly disposition on both sides should be capable of solution. The effect upon the solvency of the scheme of the omission of medical benefit may possibly be disastrous; for as it stands at present, whilst the worker in order to entitle him to receive sick pay must present a medical certificate for which payment is made to the doctor, there is no machinery set up which requires the worker to call in, or to provide that he should receive, adequate medical attendance. It is impossible to overlook the fact that, without these provisions, the drain on the sick fund may, and probably will, be greatly increased. We understand that an effort is being made to come to an arrangement, but at this late date we are not sanguine of a successful issue being reached.

THE TUBERCULOSIS NOTIFICATION ORDER.

THE General Order of the Local Government Board making compulsory in England and Wales the notification of all cases of pulmonary tuberculosis, which together with the explanatory memorandum issued by the Board is published this week, will not have come as a surprise to medical practitioners who have observed the development of the policy of the Board in this matter during recent years.

The notification of pulmonary tuberculosis had been put in force in certain districts under local Acts of Parliament before the Board in 1908 issued its Order requiring notification of cases occurring in Poor Law institutions or among patients under the care of Poor Law district medical officers. Last March further regulations were made extending notification to the patients, out-patients as well as in-patients, of voluntary hospitals and other institutions for the treatment of the sick. Now the system is extended to all cases, but a practitioner who sees a case in consultation, or becomes aware that it has already been notified is not required to notify to the medical officer of the area within which the patient is residing. A special obligation is laid on school medical inspectors to notify the existence of any case of pulmonary tuberculosis found in the course of inspection of school children, and the Board contemplates that the medical officer of health will co-operate with the school medical inspector by giving him the names of children in whose homes cases of pulmonary tuberculosis have been notified.

Notification is, of course, only a means to an end, and its value in diminishing the prevalence of phthisis depends entirely on the use which the local authority makes of the information universal compulsory notification will supply. The Board points out in its memorandum that local authorities already have powers under the Public Health Acts to provide sanatoriums, or to contract for the treatment of patients in such institutions, and states that it is advised that under these Acts a local authority has the power also of providing dispensaries or of contracting to use such places as well as of co-operating generally with existing agencies.

Article IX of the Order is drawn so as to give very wide powers to a local authority, on the advice of its medical officer of health, to supply medical or other assistance, and facilities and articles required for the detection of pulmonary tuberculosis, for preventing the spread of infection, and for removing conditions favourable to infection, and to appoint additional officers to carry out these measures. If there was any doubt, therefore, as to whether local authorities could set up special dispensaries it is now removed.

The necessity for formulating a definite scheme adapted to the needs and conditions of each locality, but embodying certain fundamental principles, will be forced upon the attention of local authorities by the new Order. The advocates of various methods of dealing with cases of pulmonary tuberculosis will no doubt take care that their views are adequately explained to the authorities, but attention may be directed to the Edinburgh antituberculosis scheme, which is well conceived, tested by experience, thorough and comprehensive, and capable of being adapted so as to embrace any improved and more effective methods of treatment. A short popular account was given at the annual meeting, held last week in Edinburgh, of the several institutions associated under the name of the Royal Victoria Hospital for Consumption, by Sir Alexander Christison, Bart., M.D. He said that the annual report then submitted was not that of a single institution, but a collective report, embracing the work of a group of institutions, closely linked together. The strength of the Edinburgh Antituberculosis Scheme lay, he pointed out, in the recognition of the extremely varying manifestations and far-reaching ramifications of tuberculosis throughout the community, and in the corresponding adaptation of preventive and curative measures. This recognition led to the foundation of the Victoria Dispensary in 1887, and this in turn had been chiefly responsible for the now finely adjusted and co-ordinated plan of operations, including the Dispensary, the Sanatorium (Royal Victoria Hospital), the Hospital for Advanced Cases, and the Farm Colony. The grand purpose of the Edinburgh scheme was, that not a single case of tuberculosis should remain undetected and uncared for, and that not a single dwelling in which tuberculosis had occurred, should escape attention. The Edinburgh methods were well known, and had been freely adopted in many parts of this country, the Continent, the Colonies, and the United States. The staff was almost daily consulted by communities proposing to

elaborate antituberculosis measures, and were most glad to assist such inquirers, and to welcome the numerous visitors who came on such errands. Communities and local authorities were beginning to appreciate the dispensary's teaching that cases of tuberculosis must be sought for, and not merely be treated when they presented themselves. The "march past" of the members of infected households introduced many years ago by the Victoria Dispensary had proved a measure of vast importance. As many as six, nine, and even fourteen cases had been determined in the same family connexion as the result of the initial visit of one patient, followed by domiciliary investigation. For the varying types of those discovered the dispensary served as a "clearing house," directing the patients towards appropriate treatment and direction. The specialized knowledge and clinical experience of the dispensary officers ensured that this was done on sound lines. Sir Alexander Christison added that the relationship which existed between these voluntary institutions and the public health department of the city was of the pleasantest kind. The results of the work were abundantly evident; a visit to the poor parts of the city with one of the doctors or nurses revealed strikingly the remarkable reformation which had been achieved. Light, air, and cleanliness abounded, where not so long ago darkness, unwholesomeness, and disease reigned. More than half the notifications made to the medical officer of health for Edinburgh under the compulsory order came through the dispensary, and a large number of notifications were annually made to the medical officer of the neighbouring town of Leith. The arrangement recently entered into between the Town Council of Edinburgh and the Hospital Committee of Management, whereby ten patients, selected by the medical officer of health and approved by the physicians of the hospital, were received for treatment at the cost of the municipality, had worked excellently. The scheme of treatment—the gradual advance from perfect rest on open-air lines to the highest degree of muscular activity—continued to yield the best results. With few exceptions the patients did well, and, in a large majority, the disease was happily arrested. One of the most gratifying experiences was the frequency with which patients turned up to report themselves, as well as could be, many years after their discharge from the hospital.

Sir Alexander Christison also stated that the farm colony had proved a great success. The aims are already completed or almost attained at the hospital has been confirmed in numerous patients. Each of the colonists had had his interest awakened in the varying occupations of farm life. The practical results of their work had been satisfactory; the produce—vegetables, flowers, and live stock—had yielded good returns; the colony itself and the hospital had been supplied, and excellent additional markets had been found within the city. Several colonists had completed their year of probation and training, and had as healthy, educated men obtained suitable posts elsewhere. Finally, he quoted the remarkable statement of the Registrar-General the other day, that the mortality from tuberculosis in Edinburgh during the last ten years (1901-10) had fallen over 46 per cent.

The highly satisfactory results already achieved should stimulate both the Government and the profession to further efforts to stamp out a scourge which claims so large a tribute of valuable lives from the people of this country. Notification will doubtless do much towards the attainment of this end.

THE PROCEEDINGS OF THE SPECIAL REPRESENTATIVE MEETING.

THE Special Meeting of the Representative Body of the British Medical Association to consider the present position of the National Insurance Bill, and the Recommendations thereon appended to the report of the Council, forwarded by post to all members of the Association at the end of last week, began on Thursday at 10 a.m. in the Connaught Rooms, London. A summary of the proceedings and of their result will be inserted in the SUPPLEMENT to this number. The printing arrangements which this necessitates may possibly cause some delay in the issue of the JOURNAL for this week, and any member who may receive this number later than usual will, it is hoped, excuse any inconvenience thus caused, in view of the special circumstances created by the haste with which the bill has been pushed through the Committee stage in the House of Commons, and the momentous importance of the issues involved to members of the British Medical Association, and to all medical practitioners in Great Britain and Ireland.

CLUB PRACTICE IN GERMANY.

WE have from time to time referred to the conditions of contract practice and compulsory insurance in Germany, and have ventured to indicate that many valuable lessons might be derived from an accurate study of these conditions. We have before us a report drawn up for the information of the annual meeting this year of the Central German Association of Assurance Corporations, which contains some information that may be interesting though not quite novel to our readers. It gives an account of the working of the Union of Clubs in Leipzig and neighbourhood. This union, it is claimed, has framed excellent conditions both for the insured and for the medical profession. It is true that the enemies of the "free choice of doctor" hotly object to this claim, and attempt to show that the scheme is not a success, but their arguments do not seem to be sound. The union is certainly not ideal, since the actual management lies in the hands of a committee of laymen, with a lay chairman and vice-chairman. On the other hand, the rights and interests of the medical profession are guarded by three bodies. The first is called the *Vertrauenskommission*, and consists of twelve members of the medical profession who have taken up club work. The second is called the *Einigungsausschuss*, and consists of the chairmen and vice-chairmen of the Medical Society of Leipzig and of the Medical Society of the Leipzig country district, and one representative of the club committee and one of the *Vertrauenskommission*. The third body is called the *Schiedsgericht*, or Arbitration Court, and consists of the chairman, the vice-chairman, and one other representative of the clubs committee, the chairmen of the Medical Societies of the town of Leipzig and of the country district of Leipzig, and of the medical *Vertrauenskommission*, and lastly two members of the Governing Council of the District and its medical officer. The whole scheme is regulated by agreements signed by the Union of Clubs of Leipzig and neighbourhood and the Medical Societies of the town of Leipzig and of the country district of Leipzig. Added to this, there is an agreement which each medical practitioner who is willing to take up the work must sign, as between himself and the Union of Clubs: and, lastly, a similar agreement between the Union of Clubs and the specialists, who undertake special medical work for the district. The scheme depends on the whole-hearted co-operation of the medical men of the district. It terminates spontaneously if the number of medical practitioners undertaking to attend to club patients falls below 250. Arrangements are made for the protection of the patients, and certain disciplinary rules exist for dealing with cases in which the practitioner pays too many visits or signs a patient's certificate as unfit for work when the circumstances are held not to justify this.

The management of the club appears to rely on the strict enforcement of the ethical code, which governs the professional behaviour of each Saxon medical practitioner. The rate of remuneration, according to the agreement, is 7 marks 25 pfennings for each member if his family also receives medical attendance per annum, and 5 marks when the member alone receives attendance. The rate will be raised to 7 marks 75 pfennings in 1914 (7 marks 25 pfennings is approximately equal to 7s. 3½d.). The number of members for each practitioner is calculated on the basis of the monthly averages for the previous year. If, however, the amount of money available for the payments is not sufficient, each practitioner receives a payment *pro rata*. Confinements, apparatus, special treatment, and so on, are specially remunerated. The rate has gradually risen since 1887, when it was 3 marks a member *per annum*. The contributions which the insured has to make varies between 10 pfennings and 80 pfennings; the employer pays half this sum—namely, between 5 pfennings and 40 pfennings per week. An idea of the work which doctors have to do is gained by the following figures. In 1910 there were an average of 182,898 members, and 75,215 required medical attendance. The attendances made corresponded to 1,860,546 days of illness. For this work (not including midwifery and other specially paid duties) the doctors received 1,122,010 marks 50 pfennings. It would seem, therefore, that the doctor received about 15s. a patient per annum, and as there were 533,746 individual cases, with an average attendance of 3.38 per case, the fee per attendance works out at something like 61 pfennings, or 7½d. The financial position of the Union of Clubs appears to be good. The balance of income over expenditure for 1910 was over 250,000 marks, and as there has always been a balance on the right side, since the inception in 1884, the total invested capital now amounts to some 4,330,758 marks. We are not sure that such a large margin is expedient. A part of this sum might well have been devoted to the improvements of the benefits, while another part might have been added to the medical fund, in order to raise the fees. Be this is it may, the conditions of practice compare favourably with the average contract practice conditions in this country, and the scheme is therefore worth while keeping in mind. It may be mentioned that for three months in 1904 the system of employing a definite number of salaried medical officers was tried, but, owing to the unanimous action of the profession in the neighbourhood, a "strike" took place and the club authorities were compelled to give way and introduce a "free choice of doctors." About four-fifths of the population take advantage of the clubs, and at present 397 medical practitioners (including specialists) act for the Union of Clubs. History shows that the medical profession, by forming a solid front, has mastered the situation, and has been able to make its own terms in the district of Leipzig

NERVES AND NERVOUSNESS.

AN address on "Nerves and Nervousness" was given by Sir James Crichton-Browne at a meeting of the North-East London Post-Graduate College on November 16th, over which Sir James Reid, Consulting Physician to the Prince of Wales's General Hospital, presided. About one hundred members of the college, their friends, and visitors were present. The main thesis which the lecturer propounded was that while the case incidence of mental upset was increasing, the ordinarily recognized causes were decreasing, and that some other cause must therefore be responsible for the increase; that cause he believed to be the increasingly prevalent neurasthenia due to the increasing strain of modern life. He referred to the recently expressed opinions of Professor Hugo Münsterberg, that the fear of "nerves" exhibited by the American people was not founded on fact; that it was an illusion to hold that the modern conditions of life were responsible for the occurrence of nervous disease, and that its apparently greater prevalence depended on its more frequent recognition. The rush and hurry of American people, their jerky movements, their gum-chewing, their liking for the rocking chair, and other traits supposed to be characteristic of American life were not, Münsterberg held, signs of instability of the nervous system, but mere tricks, which were to be overcome. The great defect, he held, was a weakness of concentration of attention. But this, Sir James Crichton-Browne maintained, was the fundamental element in that nerve weakness the existence of which he had denied. Our own country, too, showed very clearly an increasing defect of the power of maintaining concentrated attention. It was slipshod in much of its work, it fluttered from theme to theme, it had no stomach for books and no appetite for a square meal of literature. We were all more vivid than we used to be, we had to be more on the alert; thus greater demands were made on our nerve energy, and we were consequently more prone to nervousness, and that, he believed, was in part at least responsible for the increase in insanity. The tendency of modern civilization was to transfer the onus of bread-earning, as regards large numbers of people, from its muscles to its nerves. In several of our industries a policy of "speeding up" had been adopted in which workmen were expected to do their work in less time than formerly, with fewer intervals of rest. It might be that the resulting nerve-strain was accountable for the asserted increase in the number of accidents to workmen. By the employment of women in factories, and by giving them an unrestricted sphere of activity, that family life in which the young nervous system best grew and throve had been disastrously curtailed. Education, too, had been forced on multitudes of children while half-starved and incapable of mental assimilation. It was to stress and strain that one must look for the explanation of the maintenance or increase of insanity while its recognized causes were on the wane. Suicide, he considered, was a clear index of the prevalence among a community of nervousness and mental strain. In 1890 there were 2,205 suicides in England and Wales, in 1909 there were 3,577. The suicide returns were a thermometric scale indicating the rise and fall of the emotional temperature of the different peoples. It had been said that intellectual exertion, however severe, could not of itself be held accountable for the causation of mental breakdown, that emotional stress was of necessity in co-operation. But he would point to the frequency of suicide among leading chess players after tournaments. Chess was surely as unemotional an occupation as could be found, yet it had been the obvious cause of many instances of acute mental disturbance and suicide. Throughout Europe and America there had everywhere been an increase of suicide in proportion to the spread of education, and it, he thought, might certainly be taken as an index of the activity of excessive stress and strain in producing nervousness and neurasthenia.

AN UNFINISHED CHAPTER IN THE HISTORY OF ANAESTHESIA.

SIMPSON, in his *History of Anaesthesia*,[1] after referring to Humphry Davy's suggestion, made in 1800, that nitrous oxide might be used as an anaesthetic for surgical purposes, goes on to say: "Dr. Hickman also, in 1828, suggested the inhalation of carbonic acid as a means of producing insensibility in surgical operations." He mentions Hickman again[2] as having used carbonic acid "in imitation of the experiments performed for ages on the poor dogs at the Grotto del Cane." A further reference to Hickman is made by Simpson

[1] Works of Sir James Y. Simpson, vol. ii. *Anaesthesia, Hospitalism*, etc., 1871, p. 2.
[2] Op. cit., p. 13.

later.[1] In a pamphlet entitled *Memoranda Relating to the Discovery of Surgical Anaesthesia, and Dr. William T. G. Morton's Relation to this Event*, by Dr. W. J. Morton, reprinted from the New York *Postgraduate* for April, 1905, there is the following passage: "Among actual operators who produced anaesthesia for surgical operations was Dauriol, who specifies five cases of painless operations under the effects of anodyne vapours, and, more remarkable, Hickman, a surgeon of London, who in 1828, in a letter to the French Academy of Medicine, published his results and described a method of 'suspending sensibility by the methodical introduction of certain gases into the lungs' during which 'the most delicate and most dangerous operations are performed without producing pain in the individuals submitted to them.'" It is added: "Here we have a precise statement of modern anaesthesia as practised daily. But what the gases were we do not know." From Simpson it may be gathered that the agent was carbonic acid gas. We are indebted to the courtesy of Mr. C. J. S. Thompson for some additional information as to Hickman. In the course of researches made on behalf of Mr. Henry S. Wellcome for the Historical Medical Exhibition which he is organizing, and which it is proposed to hold at the time of the International Medical Congress in 1913, an authentic record of Mr. Hickman's method has recently been found in France. He called the anaesthetic agent which he employed carbonic ether; it was intended for use during major operations. It appears that Mr. Hickman was originally in practice at Ludlow, and as early as 1824 he made experiments on animals with a view to anaesthesia. In 1828 he went to live in Paris, and towards the end of that year, in reply to a petition presented by him to Charles X, he obtained permission to demonstrate his method before a committee appointed by the Académie de Médecine. The committee consisted of MM. Dubois, Richerand, Merat, Segalles and Ribes. Mr. Thompson says that in a report made to the Académie by M. Geraldin—which is still extant—it is stated that Mr. Hickman "has discovered a means of producing unconsciousness in individuals who have to submit to major surgical operations. The method consists in methodically introducing certain vapours into the lungs. Mr. Hickman has already tried the method on animals, and he wishes to carry out the experiment before the celebrated surgeons of the capital." Whether he had the opportunity of doing so, and with what result, we have yet to learn. Mr. Thompson is continuing the research, and further details will be published when the collection of evidence is completed. But it is probable that Hickman's claims were ignored, as Humphry Davy's suggestion as to the use of nitrous oxide passed unheeded. We know that Velpeau, in his day the leading surgeon of France, declared that the abolition of pain in surgery was a chimera which it was no longer permissible to pursue. We know, too, that when one of the first communications on ether anaesthesia was made to the Académie des Sciences, Magendie said he believed that pain was useful, and expressed doubt whether there was any real advantage in suppressing it by making patients insensible during an operation. He added that it was as a trivial matter to suffer, and that a discovery the object of which was to prevent pain was of little interest. We need not, however, blame the French men of science for their blindness to the importance of the discovery of anaesthesia when we remember that in 1847 Gull doubted the desirability of removing pain. Gull may, perhaps, be excused on the ground that he was a young man when he made this remarkable statement. But what is to be said for Bransby Cooper, who expressed the opinion that "pain is a premonitory condition, no doubt fitting parts the subject of lesion to reparatory action"; and that he, therefore, was opposed to its prevention? Nunn, Surgeon to the Colchester and Essex Hospital, spoke to the same effect. He said: "Pain is doubtless our great safeguard under ordinary circumstances; but for it we should be hourly falling into danger." He was inclined to believe that pain should be considered a healthy indication, and as a wholesome accompaniment of surgical operations, which was amply compensated for by the effects it produced on the system as the natural incentive to reparative action.[2] In an article on chloroform, contributed anonymously by the late Sir William Priestley to *Household Words* (February 12th, 1859), it is said that many doctors objected to the use of that agent—one, because it made a patient "drunk and insensible"; another, because pain was desirable and salutary. Practitioners, he says, were found who did not hesitate to affirm that much which was said about suffering and agony was sentimental nonsense, and that doctors who pandered to the morbid tastes of dilettanti were committing a moral wrong. He adds "Even the Chief of the Army Medical Service recommended the surgeons during the Crimean war not to use chloroform, as the pain inflicted by the knife was a wholesome stimulus, and its abolition likely to be pernicious!"

[1] Op. cit., p. 37.

[2] The opinions of Gull, Bransby Cooper, and Nunn are given, with the references, by Simpson, op. cit.

ALCOHOL AND BODY TEMPERATURE.

The fourth lecture in memory of Dr. Norman Kerr was delivered at Cambridge by Professor Sims Woodhead on November 14th under the auspices of the Society for the Study of Inebriety. By way of prelude the president, Dr. T. B. Hyslop, said that there had been a certain amount of misconception regarding it. It had no doctrine to propagate, and merely undertook to study the effects of alcohol. If, after hearing what it had to report, people preferred to abstain from drinking alcohol, that was their business and not that of the society. The society was founded by Dr. Norman Kerr in 1884, and he remained its president until the day of his death. The work which he did was described by Professor Sims Woodhead as that of a pioneer; all of it was honest, and much of it had stood the test of time and experience. Moreover it had suggested the lines which further research might usefully follow. Each of those who in their turn had delivered the lecture established as a memorial to him had endeavoured to eliminate from consideration phenomena dependent on the psychical conditions, and with the same object in view would be devoted to the consideration of the action of alcohol on the heart as recorded by the electrocardiographic method. The object was to discover whether tracings obtained in that way exhibited, when compared with like tracings from hearts under the influence of drugs with a definite and well-recognized physiological action, any characteristic differences. In common with his fellow worker, Mr. F. Shillington Scales, he was disposed to believe that differences were revealed, but he was not at present prepared to lay stress upon them or to attempt to interpret their significance. Since, however, it had been maintained by those of wide experience in the matter that the cardiogram of each individual was almost as characteristic as his finger prints, any deviation from the normal might possibly be indicative of really marked alteration in the action of the heart. Another series of experiments was performed with apparatus of the late Dr. Arthur Gamgee for obtaining continuous records of the surface and internal temperature of the body; in this connexion were shown a number of pairs of curves obtained from individuals whose surface and rectal temperatures had been taken before, during, and after a dose of 15 c.cm. of absolute alcohol. In each case there was a distinct rise in the surface temperature in the axilla, and a simultaneous and distinct fall in the visceral temperature. This fact was interesting, because a corresponding series of records taken for periods of twenty-four hours showed that when food was taken there followed a fall of surface temperature and a simultaneous rise of visceral temperature. When, on the other hand, hot fluids were taken, there was a sudden

rise of short duration both of surface and visceral temperature. We entirely agree with Professor Sims Woodhead as to the interest of these results, and are glad to understand that both series of experiments are to be repeated on an extended scale.

MOTOR-CAR HEADLIGHTS.

THE subject of motor-car headlights, particularly in its relation to glare or dazzle, has been greatly neglected, in spite of its serious importance from the point of view both of the driver of the car, and of the cyclist or pedestrian on the road. Dr. H. R. B. Hickman, who introduced the subject in a paper read before the Illuminating Engineering Society on November 17th, laid down a number of conditions to be complied with by the ideal headlight. The most important of these were that the headlight should illuminate the road over such a distance as to give sufficient time to stop the car before reaching an obstacle; that the illumination should extend to the sides of the road near the car as well as far ahead, and that the light should indicate not only the position of the car but also its width. He thought that a certain side-lighting might be arranged by giving the tail-light a window on the off-side. This would have the important result for any one meeting the car of graduating the change, at present so dangerously abrupt, from the brilliant light in front to the intenser darkness behind. Another condition insisted upon by Dr. Hickman was that the headlights should turn with the steering wheels, or, until the curious regulation forbidding swivelling headlights was abolished, that a sufficiently divergent beam should be used to enable corners to be taken with safety. In the subsequent discussion, the view was expressed that the regulation forbidding swivelling headlights was a dead letter. One speaker said that no test case had been taken, but the Legal Committee of the Royal Automobile Club a few months ago pronounced swivelling lamps to be legal, and he believed that the club agreed to indemnify its members who were prosecuted for using them. Another speaker, a member of the Royal Automobile Club, said that the regulation was never intended to apply to the swivelling headlight properly used. It was introduced to enable the authorities to deal with a motorist who played with searchlights up and down the country, and he anticipated no trouble with lights that turned with the steering wheels. With regard to special devices for preventing glare and dazzle, Dr. Hickman said that the form of dazzle which was most objectionable was that in which the main beam at a certain distance from the car blazed into the eyes of any one standing in front. Among the several methods of obviating this difficulty he favoured the use of a cylindrical front lens with its axis horizontal, in combination with a hyperbolic mirror, the virtual focus of which was the principal focus of the lens. The result was to render the upper diverging rays approximately parallel with the road and below the line of sight, while allowing the beam to spread laterally. The prism, used base down in place of the plane front glass, served a similar purpose. The prism was used in combination with a lens mirror giving parallel rays, and its action was merely to bend down the upper beam. In the case of fog Dr. Hickman recommended the slight convergence of the beams of the lamps, so that they were reflected back again from the fog bank in front towards the sides of the car, instead of into the eyes of the driver.

SIR SAMUEL WILKS AND THE TREATMENT OF HYSTERIA.

THE late Sir Samuel Wilks, as was stated in the obituary notice published in the JOURNAL of November 18th, was particularly interested in nervous diseases. He had a method of his own of dealing with cases of hysteria of which Mr. Henry H. Sturge, of London, who studied under him at Guy's Hospital, has been good enough to send us the following description. Young women, he writes, would be carried into the ward with the history that for weeks or months they had been paralysed. Dr. Wilks's method in dealing with such cases was as simple as it was effective. On his round, accompanied by the sister, house-physician, and students, he would go from bed to bed; but when he came to the case of functional paralysis he would pass by that bed without any remark, stop by the next patient, and begin to speak again. But after two weeks or so the chief would pause by the neurasthenic and say quietly, yet kindly, that he thought she was better and an effort might be made to-morrow to walk again. The will returned, and day by day more progress was made, and soon the patient was sent home cured. Dr. Wilks remarked that when such patients saw cases of real suffering round them, and the busy, active life of the workers in the ward, they improved—the environment helped the cure. It is to be wished that this wise method were more generally adopted. But it must not be deemed infallible. The very essence of the disease is often that the patient's mind cannot be diverted from her (or his) own more or less imaginary ailments. In such cases only faith—it does not matter in what or in whom—raised, so to speak, to boiling point, or a strong mental shock, can expel the devil.

THE next session of the General Medical Council will begin on Tuesday, the 28th inst., when the President, Sir Donald MacAlister, K.C.B., will take the chair at 2 p.m.

ON November 22nd, on the recommendation of the Council and Senate, the Court of the University of Manchester resolved to confer the distinction of Emeritus Professor on Dr. Graham Steell, formerly Professor of Clinical Medicine, and Mr. G. A. Wright, formerly Professor of Systematic Surgery.

THE annual Richard Middlemore Post-graduate Lecture at the Birmingham and Midland Eye Hospital will be delivered on Thursday, December 7th, at 5 p.m., by Mr. J. Jameson Evans, F.R.C.S., the subject being Toxic Diseases of the Eye. Clinical cases will be shown and lantern demonstrations given. Members of the medical profession are invited to attend.

A MEETING of the British Hospitals Association will be held at the Westminster Palace Hotel, London, on Friday next at 4.30 p.m. to consider the position of voluntary hospitals under the National Insurance Bill, and the resolutions adopted at the conference in Glasgow on November 10th.[1] We understand that nearly 200 representatives of hospital managers and administrators all over the country have intimated their intention to be present.

[1] BRITISH MEDICAL JOURNAL, November 18th, p. 1380.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Civil Servants (Medical Examination).—Colonel Kyffin Taylor asked the Secretary to the Treasury whether, in the event of a difference of opinion between medical men as to the fitness or otherwise of a civil servant for acceptance, under the provisions of the Superannuation Act of 1909, it was usual for the Treasury to appoint a medical referee, but the expense to be borne by the officer concerned; and, if so, should not both parties involved, namely, the Treasury and the civil servant directly concerned, be supplied with a copy of the award of the medical arbitrator. Mr. McKinnon Wood replied that in certain cases where there had been such a difference of opinion the Treasury had allowed a further examination at the expense of the candidate; but they could not agree to supply candidates with copies of the reports made to the department by the examiners.

Flannelette.—Dr. Addison asked whether, in view of the Report of the Departmental Committee (Coroners) published in 1910, and the evidence afforded by coroners' inquests held on infants and children that great dangers arose from the use of inflammable kinds of flannelette, the Government was prepared to take steps to prevent the sale of flannelette which did not conform to a standard test, to be prescribed by Government, as to non-inflammability. Mr. McKenna, who replied, stated that no steps to prevent or regulate the sale of inflammable flannelette could be taken without legislation for the purpose, and he could not hold out any immediate hope of the Government undertaking legislation on this subject. The Committee considered the question of establishing a standard test, but regarded the suggestion as impracticable.

Sanatorium Fund.—The clause in the Finance Bill, 1911, which makes provision for the million and a half sterling to be provided for sanatorium and other institutions for the purposes of the National Insurance scheme, is as follows:

"(1) The old sinking fund for the financial year ending the thirty-first day of March nineteen hundred and eleven as calculated under section nineteen of the Revenue Act, 1911, shall, notwithstanding anything in the Sinking Fund, Act, 1875 . . .

(b) to the extent of one million five hundred thousand pounds, to be issued by the Treasury at such times as they direct, and carried by the Treasury to a separate account, and made available in such manner as Parliament may determine for the purposes of the provision of sanatoria and other institutions for the treatment of tuberculosis or such other diseases as the Local Government Board, with the approval of the Treasury, may appoint.

Royal Naval Medical Corps.—Mr. Bennett-Goldney asked he First Lord of the Admiralty whether the Admiralty ad received any report from the Consultative Committee f the Royal Navy Medical Corps and when did they eceive it: would he give instructions that the report in s original form should be laid upon the table of the ouse; had the Admiralty been advised by the Consulta- ve Committee that the only practical means of obtaining e additional number of medical officers of the high andard necessitated by modern requirements to make up e shortage in the Royal Naval Medical Corps was by ering a substantial increase of pay; was this opinion dorsed by the Admiralty; had the Admiralty received y communication from the Army Council upon the sub- t to the effect that the Army Council would view any cision of the Admiralty to make the career in the Royal val Medical Corps more attractive by offering a higher ie of pay as antagonistic to the desired flow of candidates the Royal Army Medical Corps; and, if so, did the miralty intend to allow the Royal Naval Medical Corps continue to suffer both in efficiency and numbers in er to enable the Army Council to keep down the pay of mbers of the Royal Army Medical Corps to its present e? Dr. Macnamara, who replied, stated that the Com- tee on Naval Medical Service forwarded a report tting to naval medical officers on July 2nd, 1909. The st Lord of the Admiralty was not at all convinced that public interest would be served by laying the report, ch dealt fully with medical organization in time of war he table, and he hoped the House would not press for In reply to the third and fourth parts of the question, Committee advised that the question of pay was a t important factor to be considered when endeavouring btain the requisite number of medical officers of the dard necessary, and framed proposals which would tantially increase the emoluments of naval medical ers. The Admiralty endorsed that view, and obtained ority for increasing their emoluments. The revised s of pay and allowances were published in circular of August 11th last. (See SUPPLEMENT, September 2nd, 29.) The Army Council agreed that a margin of riority in rates of pay should be given to the Naval ical Service, and the scales of pay promulgated in the lar letter quoted provided for that margin in future.

leptic Children.—Mr. J. A. Pease, in reply to Mr. Gold- , said that 142 local authorities had put the Ele- ury Education (Defective and Epileptic Children) 1899, into operation. The number of children on the registers of special schools under the Act in England and Wales on July 31st last was 17,333, of whom 12,253 were mentally defective, 4,703 physically defective, and 377 epileptic. He had no information with regard to the estimated number of children not treated through the inaction of those authorities which had not adopted the Act.

Vaccination Fees (Workhouse Infirmaries).—Mr. Snowden asked why the practice of paying separate fees for individual cases of vaccination in workhouse infirmaries was adopted instead of including payment in the salary of the medical officers. Mr. Burns said that the practice was introduced by the Vaccination Act of 1867 as part of the general system of payment for vaccination.

Care of the Feeble-minded.—Sir H. Carlile asked whether, in view of the fact that three years had elapsed since the report of the Royal Commission on the Care and Control of the Feeble-minded was issued, and that the evils attendant on the present system, owing to the want of powers of control and segregation, were, if anything, increasing, and that race deterioration was consequently threatened and expense incurred which might be avoided, the Government proposed to introduce the necessary remedial legislation; and, if so, whether it was intended to do so during the next session. The Prime Minister replied that he had nothing to add to the answer he gave to a similar question on November 1st. In reply to a further question, the Prime Minister said the matter was receiving serious attention, and he earnestly hoped it would be possible at an early date to deal with it.

[The answer given on November 1st by the Prime Minister was to the effect that he had every hope that legislation dealing with the care and control of the feeble-minded would be undertaken next session.]

Remuneration of Vaccination Officers.—The President of the Local Government Board, in reply to a question by Mr. Peto, who asked whether, in view of the great increase in the number of exemption certificates obtained and the loss thereby entailed by the vaccination officers, the Local Government Board could amend the existing vaccination orders so as to provide that the officers should receive such a scale of remuneration as would bring it up to the average remuneration received during 1903 and 1907, said that he did not think that the matter was one that should be dealt with by a general order. He was doing what he could to meet individual cases. Mr. Peto further asked if the President of the Board could arrange that vaccination officers should be remunerated by a fee dependent upon exemptions from vaccination as well as on actual cases of vaccination. Mr. Burns replied that he was unable to add anything to the answer already given.

Hospitals and Sanatoriums in India.—Dr. Addison asked the Under Secretary of State for India whether it was the intention of the Government, in connexion with the hospitals and sanatoriums that might be erected in India by public money in connexion with the memorial to King Edward VII, to appoint Indian medical men to serve on the staff of these institutions so far as their experience and training might qualify them for holding such posts. Mr. Montagu said he was unable to make a definite statement of the intentions of the Government of India.

Teaching Hospitals and Medical Colleges in India.—Dr. Addison asked the Under Secretary of State for India if he would say how many Indian medical men held appointments as professors or chief teachers in the teaching hospitals and medical colleges of India; and whether it was the intention of the Government to appoint suitable Indian medical men to such posts so far as opportunity might provide. Mr. Montagu said that none of the highest posts were at present actually held by an Indian, but the question of appointing Indians to two such posts was now under consideration. The answer to the second part of the question was in the affirmative. The decision of the Secretary of State in 1909 to allow no further increase in the civil side of the Indian Medical Service was intended to have among its results the appointment of Indian medical men to some professorial appointments of the first rank.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

SHEFFIELD.

ORGANIZED TREATMENT OF TUBERCULOSIS.

As was briefly mentioned a few weeks ago, a tuberculosis dispensary, which will also perform the functions of a tuberculin dispensary, has recently been established. Mr. Douglas Vickers, the head of one of the largest manufacturing companies in Sheffield, has generously presented the city with £1,000 to cover the expenses for the first two years. At the end of this period it will be open to the city to drop the scheme if unsuccessful, or to continue it at the expense of the rates.

The conditions for this experiment are, if not quite ideal, yet very favourable—more so, perhaps, than is the case with some other tuberculin dispensaries. The Sheffield municipal organization for the tuberculosis campaign was in a very advanced state before this notable addition was made. Voluntary notification has existed since 1899, and compulsory notification since 1903. Along with notification there has developed a scheme for the systematic inspection of the infected homes, the provision of sputum flasks, and free disinfection. Since 1899 there has also been free bacteriological examination of sputum. A sanatorium scheme, without any wasteful expenditure in bricks and mortar, has been in existence for several years. It comprises two small hospitals into which patients are taken for a period of four weeks. Cases that seem promising for prolonged sanatorium treatment are sent (at the ratepayers' expense) to some recognized sanatorium. Unsuitable cases are discharged and advised as to further conduct. All have had the benefit of a thorough drilling in the prevention of infection by sputum destruction carried out by simple methods. There is no expensive apparatus for the washing of spittoons, but merely a common saucepan and a fire upon which each man boils his own flask in exactly the same manner that he is expected to do when at home.

The new dispensary has been organized so that it fits in with the existing scheme to the mutual advantage of both. Dr. Chapman, who until recently has been actively engaged in sanatorium work and has always retained his interest in experimental work, has been appointed assistant medical officer of health for tuberculosis. He has recently paid a visit to some of the German stations to study Continental methods. He is to abstain from private practice, but is given one day a week for his own experimental work on metabolism. His duties will consist in the general organization of the antituberculosis campaign, the tuberculin treatment of suitable cases (50 cases are already under treatment), and the examination of contacts. The tuberculin treatment will be carried out in Sheffield under particularly favourable conditions. The four-weeks' treatment in the city hospitals mentioned above will be utilized for the commencement of the treatment. Thus the first injections—and these are the most critical—will be given under ideal conditions. The patient will be at rest, he will be well fed, he will be under control, and the result of any single injection can be so carefully watched that "missed reactions" can be eliminated. In addition to this, the ambulant treatment in the succeeding period will be facilitated, for he will have learnt to take his temperature with proper precautions, and will, if at all intelligent, have learnt much about the special hygienic measures which are essential for his recovery. During the ambulant treatment the patient will visit the assistant medical officer of health twice weekly by appointment. The appointments will be made in the evening in the case of men who are at work during the day. Patients will not be kept waiting. We are authorized to state that no cases under the care of a private practitioner will be treated without his consent.

As regards the examination of contacts, the most interesting question is undoubtedly, What reliance will be placed upon the tuberculin reaction? We are informed that it will not be used as a sole criterion in diagnosis, but that, when physical signs are suspicious but not definite, recourse will be had to the reaction, and that special attention will be paid to the occurrence of a local reaction in the lungs. It is expected that arrangements will be possible whereby all diagnostic injections will be made in hospital. We are also promised that when the time comes to survey the results the suspected cases which have been diagnosed by the tuberculin reaction will be classified separately.

One important feature will be the co-operation with other institutions. The assistance of the health inspectors has been offered to any other physicians who are treating tuberculosis. The boards of guardians are sympathetic, and they are helping by giving out-relief to suitable cases so far as possible, whilst cases which should be in the Union Hospital, for the benefit both of themselves and relatives, will be urged to go there. Private practitioners who wish to see the methods of treatment will be welcome.

Another important feature is the preventive work, which will be centralized in the dispensary. It has been noted that many of the patients who have been educated in sputum-prophylaxis in the city hospitals relapse into their former negligent habits after discharge. Many of these will in future be seeing the dispensary physician twice weekly, and so will be continually stimulated. In cases of habitual carelessness treatment will be refused.

From the above it will be seen that the Sheffield Tuberculosis Dispensary has been instituted along sound lines. Whether tuberculin treatment of ambulant cases proves to be valuable or the reverse, much good will have accrued.

MANCHESTER AND DISTRICT.

SANATORIUM FOR SALFORD.

THE Salford Board of Guardians has not been slow in imitating the example of the South Manchester Board in deciding to provide a new sanatorium for phthisical cases belonging to their area. The scheme is to erect new buildings in the grounds attached to the Union Infirmary at Hope. The general accommodation at Hope Hospital for ordinary cases is by no means excessive, and some difficulty is found in providing isolation for the large number of advanced cases of phthisis for whom the guardians have to make provision. The presence of these cases in the hospital also prevents the proper distribution of medical and surgical cases and children, and there can be little doubt that some additional accommodation for phthisis is needed. Deputations are to visit other unions where such provision has been made, and such professional assistance as is necessary is to be obtained. Provision is to be made for about 140 cases, and probably the whole of the farm land attached to the hospital will have to be used for the purpose of the new buildings and for suitable air courts. It is very doubtful whether the guardians are well advised in erecting a sanatorium for phthisis adjoining their ordinary infirmary. The South Manchester Board has chosen a situation for its sanatorium quite remote from its Poor Law infirmary, and has some expectation that eventually the Manchester Corporation may take it over from the guardians, and it could then be used under agreement with the local Insurance Committee for the benefit of persons insured under the State scheme. The Salford guardians, however, could hardly expect that the Salford Corporation would have anything to do with a sanatorium attached to a Poor Law infirmary. Thus it may easily happen that the Salford guardians may erect at great cost to the ratepayers extensive buildings which will be found to be unnecessary for the guardians' use and not acceptable either to the corporation or the Insurance Committee, should either of them ever undertake to provide a sanatorium for non-paupers or for the insured. From figures supplied by the guardians, at the request of the Local Government Board, it appears that on November 4th the guardians were supplying medical treatment to 1,391 men, women, and children. Of these, 347 were being treated as outdoor patients, and of the remainder a large proportion were at Hope Hospital, though some were at the children's homes or in the workhouse.

DINNER OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

On November 17th, at the Midland Hotel, Manchester, was held the annual dinner of the Society of Medical Officers

of Health, North-West Branch, the President (Dr. R. Sydney Marsden, of Birkenhead) in the chair. After the usual toasts had been duly honoured, Dr. E. W. Hope, of Liverpool, proposed "The Sanitary Authorities," to which Alderman Mason replied. Sir William Japp Sinclair proposed "The Society of Medical Officers of Health," to which the President replied. Dr. W. N. Barlow, of Wallasey, proposed "The Universities of Lancashire," which was acknowledged in a most humorous speech by Vice-Chancellor Sir Alfred Hopkinson, K.C., of Manchester. Dr. Edward Sergeant, County Medical Officer of Health for Lancashire, proposed "The Guests," to which Sir Ronald Ross, K.C.B., Sir James Barr, and Dr. Hicks replied. Dr. Dearden proposed "The President," and Dr. Marsden replied. The speeches, many of which were very amusing, were interspersed with music, and a thoroughly enjoyable evening was spent. There was a very large attendance of members.

BIRMINGHAM.

Midland Ophthalmological Society.

On November 14th a dinner was held at the Imperial Hotel, Birmingham, presided over by Mr. Lloyd Owen. At the close of the dinner the Chairman proposed that a Midland Ophthalmological Society be formed. This was carried unanimously. Mr. Priestley Smith then proposed Mr. Lloyd Owen as the first President of the new society. Mr. Eales was elected Vice-President, having been proposed by Mr. Wood White. Mr. Jameson Evans and Mr. Harrison Butler were elected Secretaries. It was decided that for the first year the membership be limited to ophthalmic surgeons, and that bi-monthly meetings be held throughout the year. At each meeting one paper will be read and cases shown. About twenty original members were enrolled.

SOUTH WALES AND MONMOUTHSHIRE.

Welsh National Memorial and the Insurance Bill.

A special meeting of the Glamorgan Public Health and Housing Committee last week discussed the proposals of the Welsh National Memorial Committee for the centralizing of sanatoriums under the National Insurance Bill. It was originally intended to suggest an amendment which would remove the administration of benefits from the county Insurance Committees to the proposed Central Association and make the latter body the judges of what persons should benefit.

Mr. David Davies, M.P., pointed out that this intention had now been dropped by the Memorial Fund Committee, which now proposed to establish sanatoriums and manage them, and make contracts with Insurance Committees and county councils for the admission of insured and uninsured persons respectively.

Dr. Morgan, the county medical officer, expressed doubts as to the wisdom of removing the control of the county council, for he believed that local authorities would be far more likely to be in intimate touch with the needs of various parts of their own county.

The committee resolved to recommend the county council to support amendments which would result in the establishment by Royal Charter of national sanatoriums, to be controlled by officers of the National Association, and representatives of the County and Borough Councils, and local Insurance Committees. To ensure adequate representation for the densely-populated counties each 100,000 of population would be entitled to one member on the controlling body.

The Chancellor of the Exchequer has put down a clause amending that dealing with sanatoriums in Wales and Monmouthshire. The amendment provides that if, within twelve months of the commencement of the Act, an association for providing sanatoriums has been established by Royal Charter, and in cases where an agreement exists between the association and some local authority within the county, one-half of the sum to be paid by such local authority, so far as it is applicable to the treatment of tuberculosis, shall be repaid to the said local authority out of moneys provided by Parliament. The Local Government Board shall have due regard in making grants for the provision of sanatoriums to institutions already established, or about to be established, by the Association.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Ayr and Prestwick Medical Society.

At the monthly meeting in the Ayr County Hospital, on Tuesday night, November 7th, Dr. A. Robertson, President, in the chair, this society was addressed by its Honorary President, Sir David Caldwell McVail, of Glasgow, whose subject was "Some Account of the Changes I have known in Medical Treatment," but before dealing with this subject he said:

The Insurance Bill.

I have been asked to speak on the Insurance Bill, and I may just say that, so far, we have got most of what we asked and that we could expect to get. It is settled we are to work under local Health Committees; but the composition of these is not yet settled. If not satisfactorily settled we shall take the strongest action we can. There should be an impartial element in the local Health Committees. The General Medical Council has more influence than any other body of medical men. This bill, like all bills dealing with medical matters, was sent to us by the Privy Council for our advice. Some things in it are doubtful. The maintenance of hospitals is the most doubtful of all. Scottish hospitals are not supported by endowed funds. They are kept up mainly by subscriptions from employers and workmen. These subscribers certainly will not go on supporting the hospitals as at present. The bill originally made no provision for this. The General Medical Council got these things altered, to the extent that local Health Committees can devote funds to the sanatoriums and hospitals. (In Glasgow it takes £150,000 to £200,000 a year to run the hospitals.) The General Medical Council Committee (of which I am a member) will see to it that that part is implemented. The composition of the local Health Committees is the important question now.

Changes in Treatment.

Turning to this subject, Sir David said: In Kilmarnock my father lived on the same stairhead as the famous surgeon, John Borland, who did the most successful surgical operations of that time. My brother compiled Borland's surgical statistics, which were quite extraordinary. Borland had a boy of about my age, and we were often in Borland's consulting-room. The thing I most remember was the plates of blood, set to clot. There was hardly a day he did not bleed people in his consulting-room. Bleeding went on continually by every medical man. Every doctor carried his lancet about with him. Borland came in and bled my father's arm. I saw that done as a child. A walking-stick was rolled about in the hand to force the blood into the arm-muscles. At that time the textbook in every medical man's hands was that of Sir Thomas Watson (then Dr. Watson). Watson's position in England was supreme. This universal textbook laid down bleeding and antimony as the treatment for inflammatory conditions. The third edition (in 1848) of this *Practice of Physic* quotes Gregory as bleeding to convulsion. There was a case of general dropsy, in which 72 oz. of blood were taken. The result was held to be good. The treatment was so common at that time that if any doctor in Ayr had not bled he would have been ostracized and forced to leave the town. How could this go on for hundreds of years without protest? John Brown (1735–1788) had a theory of animal body excitability relative to the strength or weakness of forces outside the body. If the forces outside the body were weak, the excitability of the body was greater—that is, the body was sthenic. If the forces outside the body were strong, the excitability of the body was less—that is, the body was asthenic. The treatment was by two drugs, and two drugs only: For the sthenic, opium; for the asthenic, alcohol. This was called the Brownonian system. It was believed in by many in Germany for a large part of a century. No bleeding, no antimony. The order was, opium or alcohol, or leave them alone.

John Hughes Bennett of Edinburgh turned round the whole profession. His was a sort of expectant treatment, no bleeding. He opposed the humoral pathology. Graves of Dublin, the greatest Irish physician, fed fevers, and in so doing showed great courage, as such a thing was

unknown. The feeding, certainly, was not excessive—such as chicken soup, toast and water. Bennett went further than Graves. He believed in spontaneous generation. He saw molecules arrange themselves into cells. From his observations he concluded that the tissues wanted blood, and more blood, and *not* bleeding. This, when published, caused a tremendous blaze.[1] Bennett stood alone. Alison, Christison, W. T. Gairdner were opponents. Alison especially fought with great skill, and in a gentlemanly way, as always, but though his argument was very brilliant it was wrong and had to fail. Alison hit hard, but with gloves on. Bennett struck out straight and hard with his naked fist. Gairdner supported Alison—in a way. But he must have been greatly influenced by Bennett, because he leaves himself fairly free. For example, I only knew Gairdner to bleed a pneumonia once; so practically he had dropped bleeding (1857). Gairdner was then, of course, very young. That was in Edinburgh, about five years before he came to Glasgow. Dr. Alexander Wood, of Edinburgh, who introduced the method of subcutaneous injection, opposed Bennett very strongly. But in spite of all, Bennett's theory and practice gained ground. Patients got well without bleeding. Gradually, very gradually, his opponents changed their ways, but argued as follows: Alison tried to soften the theory of the bleeders by advancing the theory that we were passing through a change of type, were becoming asthenic, and bleeding was no longer so greatly required. The first I heard of this theory was in a lecture by Professor Gairdner, though he allowed Alison to speak very much for himself. This was one of the most brilliant lectures I ever heard on a case of pneumonia. Bennett also brought in what was practically sanatorium treatment for phthisis more than forty years ago. He said tubercle was a small growth which was due to want of fatty molecules in the body (no bacillus was talked about then). It was a specific growth; pneumonia does not cause it, but it may cause pneumonia. Outdoor treatment was advised. When I was in Alnwick I carried this out among the poor people of the town. These tubercle patients were seen to cut off the fat from beef, etc. To make up for that, cod-liver oil was introduced by Bennett, and was found to be absorbed when no other fat was. Everybody was being converted to this treatment of phthisis by Bennett, when one of the most charming of books came out, by Neumeyer, a professor of Tubingen. It turned back the whole view of tubercle for a time in this country. Patients were not allowed into the open air. The book was translated by the Sydenham Society, and was in every hand. It turned right round about the treatment of phthisis as instituted by Bennett. To-day, Bennett's ideas have resumed their sway. Truly, Bennett deserves a monument, if any one does. As for the changes that may result from the newer treatments, such as serums and opsonins, we must, in the words of a leading politician, "wait and see."

MEDICAL INSPECTION OF SCHOOLS.

The annual report of the medical officers on the inspection of school children in the counties of Peebles and Midlothian states that the number of children examined during the year was 5,053. Of these, 1,836 were in the first year at school, 1,220 were in their last year, and 839 were specially presented by the teachers. Of children found defective at a previous examinations, 1,168 were re-examined. The re-examination showed that medical inspection was of undoubted benefit, and that it was an incentive to the parents to keep their children clean and tidy and to take other measures to maintain them in good health. In regard to the matter of personal cleanliness, it is stated that medical inspection has already shown that the use of baths by the children is the exception rather than the rule. The condition of the teeth was generally very bad, and it is reported that it is difficult to get parents to realize that the use of the toothbrush is necessary. In regard to defective vision, the reporters express the opinion that the sewing which is taught in the schools is often too fine, and the result is considerable eyestrain, which, besides having an injurious effect on the visual apparatus, lowers the vitality of the child generally. Dr. Jardine states that:

Of all the deformities which may be said to be attributable to school life, probably one of the most important is spinal curvature. One great factor in the causation of spinal curvature is the fact that children are kept sitting too long at one time and the muscles of the back become unable to keep the body erect. Desks are often very unsatisfactory, and not only permit, but encourage, and in some cases even necessitate, bad attitudes.

A great deal of the malnutrition of school children is undoubtedly due, it is reported, to unsuitable food, either unsuitable in itself or because of unsatisfactory preparation or cooking.

[1] *Edinburgh Medical Journal*, 1857, vol. ii, part 2.

SIR JOHN STRUTHERS LECTURESHIP.

The first of these lectures was given in the hall of the Royal College of Surgeons of Edinburgh on November 17th by Dr. Arthur Keith, Conservator of the Museum of the Royal College of Surgeons of England, on "Anatomy in Scotland during the Life and Times of Sir John Struthers." The President of the College, Mr. George A. Berry, was in the chair, and there was a considerable attendance of professors, medical practitioners, and students.

The lifetime of Sir John Struthers, said the lecturer, covered one of the most progressive periods in the history of human anatomy. When Sir John Struthers began the study of medicine in 1841, the majority of anatomists were followers of Paley, the theologian; the development of the human embryo was almost unknown; the body was supposed to consist of "textures" and "humours"; the deeper and more vital parts were supposed to lie beyond the surgeon's endeavour; fossil remains of man were unknown. He lived to see all these things changed. One by one the anatomists became followers of Darwin; little by little the history of the human embryo became known, and its stages modelled. Under the microscope the "textures" were slowly resolved into vital units or cells; the discovery of anaesthetics and of antiseptic methods made even the deepest parts of the body accessible to investigation and operation; from time to time discoveries were made of fossil remains which extended the origin of man further and further into the past. In the world of anatomy revolution had taken place, and in that revolution Scotland played her part, and had nowhere within her borders a more courageous rebel than Sir John Struthers. In surveying those in Scotland who were making a special study of the human body when John Struthers, a Dunfermline youth of 19, began the study of medicine in Edinburgh, there was no need to go beyond the bounds of Edinburgh. The Scottish anatomists were centred in Edinburgh; only Berlin and Paris could show a group of workers that could stand comparison with those then working in the Scottish capital. Having surveyed the work of Sir Charles Bell, Robert Knox, and Alexander Monro (tertius), the lecturer spoke of the younger anatomists—one of the most wonderful groups of young investigators ever produced by Edinburgh or any other capital or town in Europe. Only three of them came directly into the history of the present lecture—Allen Thomson, Hughes Bennett, and John Goodsir. The other members of the group were John Reid, James Y. Simpson, William Sharpey, T. Wharton Jones, Harry Goodsir, Hugh Falconer, Edward Forbes, Martin Barry, and W. B. Carpenter. Each played a part, directly or indirectly, in forwarding current knowledge of the human body. Through Edinburgh they took not a local but a cosmopolitan position among the pioneers of their time. From 1860 onwards the anatomists of Scotland came more and more under the influence of the evolutionary movement. Variations in the form and arrangement of parts, so frequently found in man's body, were studied and recorded, with a view to throwing light on man's origin. It must not be supposed that the practical anatomy of the human body was neglected in Scotland during the last forty years of the nineteenth century. In the main the improvement in knowledge made then related to observations concerning the exact shape and relationship of parts. From the day he began to teach anatomy under the aegis of that college in 1845 until the day of his death in 1899, Sir John Struthers fought continuously and courageously for freedom to teach and to research, for the progress of research, of true knowledge and of medicine and of medical education, for liberty of thought, and for the rights of institutions and of women. A knife and forceps, with close observation and hard thinking, would accomplish much, but to face the modern problems of anatomy with such an outfit was to use a muzzle-loader

where a repeating rifle was available. In recent times we had seen that the problems of human anatomy were yielding most readily to those who used the experimental method. The modern anatomist, if he was to help in solving the problems of the human body, must avail himself of the methods of the professed physiologist. He must study the living as well as the dead body. He had to seek assistance in embryology, in comparative anatomy, and in those experiments of which, unfortunately, disease makes man so often the subject. We had come to the time when anatomists must reconsider their methods and their aim. At least that was the inference he drew from a study of the history of their subject in Scotland during the last century. In short, they had to study function, which was the key to form.

At the close of the lecture Sir William Turner expressed the thanks of the meeting to Dr. Keith.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Belfast Branch of the Eugenics Society.

The first public meeting of the Belfast Natural History and Philosophical Society was held in the large public hall of the City Technical Institute on the evening of November 14th. The retiring President, Sir John Byers, having thanked the members for the honour of electing him three times president, introduced his successor, Professor Lindsay, M.D. Dr. Lindsay gave a brief review of the subject of Darwinism and its connexion with the lecture on eugenics which Major Leonard Darwin was about to give, pointing out the many inconsistencies of modern philanthropy, and urging that it was time the subject be studied by a larger and larger portion of the community, with a view of ultimate action. Major Darwin said that there were two sides to this enormous question—the heredity and the environment; most social reformers devoted themselves to the latter alone, as evidenced in the Poor Law system, and in hospitals and many other institutions. He did not ask or believe for a second that these efforts should be lessened, but he held strongly that more attention should be devoted to the former. He dealt with the birth-rate of the rich and the poor; with the increase of insanity; with the habitual criminal, the consumptive, and then urged the reasonableness of the study of the subject, and of a sane policy of future activity, which he outlined in some of its phases.

A hearty vote of thanks was proposed to Major Darwin for his lecture, which was passed by acclamation by an audience which filled the large hall.

The next day a meeting was held, with Professor Lindsay in the chair, to consider the advisability of founding a branch of the Eugenics Society Major Darwin attended and explained the several points as they arose. It was resolved to found such a branch; the Bishop of Down, Connor, and Dromore accepted the office of President; Dr. Lindsay was appointed Chairman of Committee; Professor Gregg Wilson and Dr. Marion Andrews were appointed Honorary Secretaries, and Dr. Calwell Honorary Treasurer. The meeting was adjourned, probably to November 29th.

Dublin University Biological Association.

The opening meeting of this association was held in the Graduates' Memorial Buildings, Trinity College, on November 18th, the President, Dr. W. I. Wheeler, occupying the chair. After the presentation of the association medal and the transaction of routine business the President-elect, Dr. Arthur Ball, delivered his inaugural address on The Progress of Renal Surgery. Amongst the numerous interesting facts that he recalled, he referred at length to the early attempts made by Sir Francis Cruise of Dublin in 1865 to perfect an instrument for the inspection of the interior of the bladder. An illustration of this early and ingenious instrument was shown, and later in the evening Sir Francis Cruise related the history of several cases in which invaluable aid had been obtained in diagnosis by the use of his endoscope. Mr. Thomson Walker of London was amongst the speakers, and illustrated his remarks by a beautiful series of lantern slides. The Professor of Surgery in Trinity College and Dr. W. G. Harvey also made some remarks, and the proceedings then terminated.

The Ulster Medical Society.

The annual dinner of this Society was held in the Medical Institute, Belfast, on November 16th. The President, Dr. McKisack, occupied the chair, and nearly eighty Fellows and guests were present. After dinner the usual loyal toasts of "The King," "The Lord Lieutenant and Prosperity to Ireland," were proposed by the President and duly honoured. Professor Symmers then gave "The Guests" in a humorous and witty speech which was much appreciated; this was responded to by the Recorder of Belfast (His Honour Judge Craig), and by Mr. G. S. Clark. Dr. Storey proposed the toast of "The President," which was received with acclamation, and Dr. McKisack, in replying, proposed that of the two honorary secretaries, Drs. Stevenson and Rankin. Several Fellows and guests added to the enjoyment of the evening by songs and recitations.

Extension of the Abbey Sanatorium, Belfast.

At a meeting, on November 9th, of the special committee of the Belfast Board of Guardians appointed to consider the question of sanatorial treatment of consumption, Dr. Bryars, former chairman of the Board, occupied the chair; Dr. Hall, visiting medical officer of the present institution, and Dr. E. C. Bigger, Local Government Board Inspector, were also present. A discussion took place as to the effect of the Insurance Bill if passed into law, and as to the powers of the Board to institute a consumptive dispensary, and to the possibility of joining with the City authorities. The Chairman of the Board, Dr. Hall, and Dr. Bigger having stated their views, it was finally agreed to recommend to the Board that an additional block or pavilion be erected at the lower side of the administrative house to accommodate from 65 to 70 patients, and that an additional visiting medical officer, and an additional resident medical officer be appointed. Dr. Hall will remain senior medical officer, and will allocate the work of the medical staff. This report of the Committee was adopted by the Board of Guardians at their meeting on November 21st.

Proposed Pavilion for Consumptives in Dublin.

As reported in this column some months ago, the managing committee of the Royal Hospital for Incurables, Dublin, has determined to erect within the hospital grounds a pavilion capable of receiving from 80 to 100 consumptive patients. Plans have already been approved, but much opposition to the scheme has been aroused, as it is felt by many that the establishment of such a pavilion in the midst of a populous neighbourhood would not only result in a great depreciation in the value of house property, but would also prove a menace to the health of the inhabitants. Protests against the scheme have been made by the Royal College of Physicians and by the Dublin Sanitary Association, and on November 6th a public meeting of residents in the Pembroke Township was held to protest against the proposal, and was very largely attended. The opponents to the scheme as at present framed are for the most part willing to aid in the establishment of such a pavilion in a more suitable district if the committee would agree. On the part of the hospital committee it is argued that, inasmuch as the hospital has always contained a certain number of consumptives, no objection should be raised to a continuance of the present order of things, and that the proposed pavilion will merely provide better accommodation for the patients already in the hospital, and make a small addition of beds to the number already existing.

Tribute to Dublin Hospitals.

Judges are so often reported as making adverse criticisms with regard to the medical profession that it is with pleasure that we reproduce the following remarks recently made by the Recorder of Dublin when hearing a claim under the Workmen's Compensation Act at the City Sessions. He said:

> It is marvellous the number of men who get delicate and tedious operations performed in the hospitals for nothing by the very best doctors, so that really the insurance companies have very little to complain of. If it were not for this amount of work done for nothing the duties of compensation would be a very serious and a very terrible business.

Special Correspondence.

FRANCE.

Kentomania.—Isolation and Freedom Cures in Psycho-therapy.—Quarrels amongst Specialists.

I WONDER if any reader knows what Kentomania is? Long ago the philosopher Heraclitus propounded the theory of the identity of contraries; it is therefore not surprising that with time, progress, and the steadily increasing complication of our perceptions and their psychic elaboration, it is becoming more and more difficult to distinguish between things so different at first sight as pain and pleasure. Hence that strange sentiment known as algophilia. Hence, too, the trivial perversions which are found not only in persons wholly or partly mad, but in ordinary human beings, and which cause them to acquire a taste for forms of intoxication in reality as disagreeable in themselves at first as smoking tobacco and drinking alcohol. Hence, also, the little eccentricities acquired by people who are perfectly well balanced in all other respects, such as, for example, the habit, common amongst certain authors, of biting the lips or constantly plucking hairs from the moustache. Health is unconscious, and is enjoyed only by force of contrast and by reaction; and pain is the sole medium by which we become conscious of its blessings. Indirectly, therefore, and by means of an intellectual (I do not say intelligent) transposition, pain may become a pleasure in the same way that a discord may please an ear satiated with perfect harmonies. This truth affords an explanation of Dr. Morel-Lavallée's division of morphinomania into two distinct kinds, much in the same way as certain astronomers have come to subdivide stars. Besides morphinomania properly so called, therefore, we have Kentomania. This has nothing to do with the philosopher of Koenigsberg, though Kant in his time was also considered rather eccentric, and although here we have, in a manner, to do with a kind of resolution of an antinomy. It is merely a mania of puncture for its own sake, a craving for it as for a vice. This might be suspected when one reflects that a hypodermic injection of plain water can give a fleeting satisfaction to the unsuspecting morphinomaniac. All this leads to the practical and therapeutical conclusion that the treatment of morphinomania should vary according to the case; we thus find ourselves face to face with another problem, which may, however, be solved through our knowledge of the cause, which we can attack with the aid of knowledge of its cause, and the solution of which will help us to solve the other.

Modern therapeutics may be fitly described as a series of oscillations. Its methods, at first received with exaggerated enthusiasm when they are new, are after a time subjected to an equally exaggerated criticism culminating, in the vast majority of cases, in the absolute refusal to see any virtue in the treatment. It is time alone that decides their real and reasonable value. At present isolation and psycho-therapy seems to have reached the second stage. So far all the phobias and neuroses have undergone the same kind of treatment. By withdrawing the patient from his surroundings, his habits, and his customary impressions it was argued logically enough that his mentality, which results from his environment, would be modified. It was the strict application of the old maxim dear to Locke, whose medical studies had not been made in vain, *Nihil in intellectu quod non prius in sensu*. But the patient once cured should be made to return to the natural conditions of his existence—that is to say, to the actual causes of his neurosis, and finally to the neurosis itself. This being the case isolation is obviously inadequate as a means of cure, and must be supplemented by hypnotism, particularly in the case of manias or phobias. Now Dr. Lévy has just demonstrated to the Société de Thérapeutique that both these methods are equally defective. Isolation is only transitory in its effects; it dodges, if one may say so, with the disease, but does not cure it. Hypnotism goes contrary to all rational treatment by annihilating the will power, which ought rather to be trained and fortified. It is true that it lessens the morbid reactions of the individual, but only by destroying the individuality itself. Such a method is unworthy of psycho-therapy, and is analogous to the procedure of a surgeon who should amputate a leg to cure a corn on the foot. We can do better than this. These too easy methods must give way to others, which doubtless are more difficult and require more delicate handling, but which are also more scientific and more efficacious. Neurotics, says Dr. Lévy, must be treated by a system of freedom and activity, and persuasion should take the place of suggestion, and effect what the author calls a training in liberty, the practitioner insisting "upon this idea of activity, resistance, and progressive training of the will, which, above all, must be developed in the nervous patient."

This theory of real psycho-therapy comes in the nick of time. Every one knows that war had been declared between neuro-pathology and the medicine of the digestive tract. In these days of conquests and spheres of influence it is difficult to keep specialists within their own territory. Some time ago I remarked that tuberculosis had just been pronounced to be an affection of the nervous system, and annexed by a rhinologist. But, according to some authorities, neuroses have long been considered the result of alimentary poisoning, "*gaster sentina et officina malorum*." As a matter of fact, it is unquestionable that some forms of hysteria are of toxic origin. But the neuro-pathologists, whilst tolerating this as a legitimate encroachment on their domain, recognize its danger, and their leader, Professor Déjerine, has just hoisted the signal of battle, calling on neurologists to take the offensive vigorously, dealing blow for blow. In his recent book he claims as his own a whole domain of digestive affections which so far, he maintains, have been treated in vain by the gastrologists, to the great detriment of their patients. Enteritis, appendicitis, typhlitis, constipation—how many of these diseases are in reality only simple phobias, aggravated by the preoccupation of local treatment and the details of regimens? There is nothing, not even a floating kidney, which in a neurasthenic person does not appear as an effect rather than a cause. In these cases abdominal treatment should be suppressed, and by substituting a psychic régime, the worry and anxiety of a special diet should be removed. You will then see your patient put on flesh and the kidney quietly return to its normal position and remain there, disgusted for ever with adventures and distant expeditions. It is in such cases that function created the organ, and the treatment creates the disease. Of course, this must be understood to mean by a mistaken and misapplied treatment imposed by an incompetent specialist. Is not anorexia, for instance, a cerebral symptom? Why does the empty stomach not protest more? Dr. Déjerine assures us that it does, but the door is closed against its protests. It is for neurology to remove this obstacle, for gastro-therapeutists cannot enter there. Alas! I fear they will turn the position, and discover a good reason for so doing in their eternal autointoxication, a term of convenient elasticity. In a word, medicine is becoming a kind of diplomacy which more and more needs the aid of compromises, negotiations, and congresses.

MR. HARRY SPEAKMAN WEBB, M.R.C.S., formerly of Welwyn, Herts, who died at Winchester on July 2nd, in his 84th year, has bequeathed a legacy of £500 to the Essex and Hertfordshire Benevolent Medical Society.

MR. HENRY CURWEN, M.B., has been granted the King's permission to accept the Third Class of the Order of El Alryeh, conferred upon him by the Sultan of Zanzibar, in recognition of valuable services rendered by him.

AT its recent annual meeting the Association of Veterinary Officers of Health, after hearing a paper by Professor Delépine on tuberculosis and the milk supply, and one by Mr. John Lindsay, Town Clerk-depute of Glasgow, on existing and prospective legislation *re* milk supply, unanimously passed resolutions calling on the Government to take immediate steps to control tuberculosis by certain measures which include the scheduling of tuberculosis as a contagious disease under the Diseases of Animals Act, partial compensation for animals and carcasses condemned as tuberculous, financial assistance to those willing to endeavour to breed tubercle-free herds, compulsory provision by owners of sanitary buildings for healthy animals, and loans if necessary for that purpose, and the placing under adequate control of sea-borne supplies of meat and milk.

Correspondence.

THE VARIETIES AND TREATMENT OF ASTHMA.

Sir,—To my regret I was unable to be present when Dr. G. A. Gibson introduced the discussion on asthma at Birmingham, as I was engaged in introducing another topic in the Laryngological Section. I therefore hope that I may be allowed to add a few lines to the very instructive after-discussion in your columns.

It is evident that we are divided even on such a fundamental point as to whether the paroxysm of asthma is essentially due to bronchial constriction or to vasomotor phenomena; and, if the latter, whether vascular constriction or vascular engorgement is accountable for the dyspnœa. I venture to suggest that none of these divergent views are tenable. Dr. Gibson evidently still clings to the bronchial constriction view, and cites the fact "that rings of bronchial tubes suspended in Ringer's solution can be caused to contract by the addition of vagal stimulants. Obviously the function of the bronchial muscle is to contract." May I point out that we are now certain of the existence of broncho-dilator fibres as well as constrictor, and that the function of the bronchial muscle is to dilate as well as to contract? Numerous experiments have been held to prove that stimulation of the pulmonary vagus causes bronchial spasm, but that is no proof that physiological stimulation of the vagus causes bronchial spasm during life. Similar erroneous deductions were made from the fact that stimulation of the "recurrent" caused *ad*ductor spasm of the vocal cords, until Risien Russell showed that if the *ad*ductor fibres were first divided, the same stimulation caused *ab*ductor spasm. There is good reason to suppose that the effect of vagal stimulants in Dr. Gibson's experiment is to cause spasm of the bronchial constrictors and dilators, only that as the constrictors are the more powerful they mask the effect on the dilators. And I would ask Dr. Gibson how can a persistent constriction of the bronchi (or may I say bronchioles?) result in the over-distension of the alveoli and emphysema, which is usually present in a marked and characteristic attack of asthma? Such constriction must make it as difficult for the air to get in as it is to get it out.

The weight of evidence in favour of a rhythmical contraction and dilation of the bronchioles, synchronous with expiration and inspiration, appears to me to be almost conclusive, but to attempt to set forth the arguments *in extenso* would occupy too much space, though I should be glad to send a reprint of my original article[1] on this topic to any reader who will honour me by caring to read it. Briefly, it would appear that, just as the alæ nasi above and lower down the vocal cords contract and dilate with expiration and inspiration, so still lower do the bronchioles. Thus, air inspired through the open nostrils, glottis, and bronchioles is to some extent locked in the alveoli; hence inspiration is prolonged as compared with expiration.

Now, in asthma this physiological rhythmical contraction and dilatation of the bronchioles is exaggerated by the increased stimulation of the corresponding bulbar nuclei; hence expiration is more prolonged, and more and more air is locked in the alveoli, because the expiration is so prolonged that the patient has to take in a fresh breath before the last inspired air has been expired. That is why so many asthmatics groan during expiration; the expiratory impulse is so exaggerated that the vocal cords are, like the bronchioles, so contracted that a vocal sound is produced.

But the vasomotor, cardio-inhibitory bulbar centres are so intimately correlated to the respiratory centres that all work in unison, so that, as Michael Foster pointed out years ago, the influence on the arterial tension and on the heart respectively waxes and wanes with each respiratory movement. Hence one never sees an asthmatic attack, due essentially to irritation of the respiratory centres, without corresponding cardio-vascular phenomena, the arterial tension being raised during the attack, the general cyanæmia causing the cold extremities, increased micturition, etc. I know of no direct proof that vascular constriction and not vascular engorgement of the bronchial mucosa accompanies the attack, but the facts cited by Dr. Gibson afford very strong reasons for the constriction view. Yet I should like to hear further evidence for the statements that the instances cited under the term "cardiac asthma" by Dr. J. Mackenzie as being indistinguishable clinically from true asthma, are not associated with some measure of bronchiolar disturbance, namely, increased contraction and dilatation. Was there a concomitant over-distension of the lungs? If so the cases, however labelled, are instances of what we term "asthma." If, however, they are associated with vasomotor constriction only they must be classed with the clinical group of angina sine dolore.

Finally, it would be interesting to know how cauterizing the nasal septum, even a few times, is to result in anything but a transient lowering of arterial tension. As long ago as 1896 I wrote as follows:

> There is undoubtedly a close connexion between the nose and asthma. One thing I can positively assert from practical experience—namely, that stimulation of the nasal mucous membrane by a superficial cauterization or other means will altogether keep off or greatly modify attacks of asthma in a large percentage of cases.[2]

I have since shown that operative treatment of the septum lowers arterial pressure, but it is only a transient effect, and the effect of cauterization is also only transient.—I am, etc.,

P. Watson-Williams, M.D.Lond.

Clifton, Bristol, Nov. 20th.

[1] On the Probable Rhythmical Contraction of the Bronchial Muscular Coat, etc., *Bristol Med.-Chir. Journal*, xx, 1903, p. 6.

Sir,—Dr. G. A. Gibson, writing under the head "Cardiac Asthma,"[3] refers to the vasomotor theory of asthma and challenges Dr. Francis or myself to bring forward a single fact in favour of sudden engorgement of the bronchial mucous membrane. With your permission, I will endeavour to do a little more.

Dr. Gibson points out: (1) That the mucosa of the bronchioles, unlike that of the nose, is thin and poorly supplied with blood; (2) that the vascular volume of the lungs does not increase in *artificial* asthma; (3) that no increase in the vascularity of the lungs, such as might be produced by increasing the blood pressure, has any effect in obstructing the passage of air in and out of the lungs; (4) that if the pulmonary vessels have a vasomotor supply, it is insignificant compared with that of the peripheral arterioles; (5) that the muscular rings of the bronchial tubes can be made to contract by vagal stimulation; and (6) that the obvious function of the bronchial muscles is to contract.

All six points may be at once admitted. But does any one of them bear on the question at issue? Taking them in order:

1. That the mucosa of the bronchioles is thin and relatively non-vascular is no argument against the possibility, or even the probability, of its engorgement. It is, of course, a strong argument against the occurrence of *much* engorgement and *much* swelling. But such is quite unnecessary; a very slight increase in the thickness of the mucous membrane would be ample to cause serious obstruction in tubes so minute. Indeed, the special characteristics of the bronchial mucosa may be regarded as a wise provision—at any rate, as a fortunate circumstance. Were the tubes affected in asthma lined with cavernous tissue like the nose, it seems certain that the first paroxysm would always prove immediately fatal.

2. Points 2, 3, and 4 may be taken together. With all due humility, I venture to suggest that Dr. Gibson has not made himself fully conversant with the theory he is criticizing—at least with the theory Dr. Francis and myself are endeavouring to uphold. This theory may be briefly restated. There is a widespread peripheral vaso-constriction, just as occurs in the disorder known as vaso-motor angina pectoris, and in migraine. Simultaneously, or practically so, there is vaso-dilation in the bronchial, *not the pulmonary*, arterial area. This vaso-dilation must limit the rise in general or aortic blood pressure, which tends to follow the peripheral vaso-constriction; hence it may be regarded, and spoken of, as compensatory. As a combined result of the two opposite vascular changes, there may be a rise of general blood pressure, but there is *necessarily* a sharp localized rise of blood pressure in the

[2] Asthma, *The Hospital*, xx, 1896, p. 206.

[3] British Medical Journal, November 18th, p. 1382.

bronchiolar mucosa, leading to engorgement and swelling. This swelling constitutes the obstruction characteristic of *clinical* asthma. In addition to the force exerted by the left ventricle, there are thus two equally important vascular factors in the obstruction to respiration—the peripheral vaso-constriction and the localized vaso-dilatation; but both are included within the *systemic* circulation. The pulmonary arterial system may, or may not, be affected; but it is not affected primarily—does not enter into the causation of the obstruction, and therefore may be neglected in this connexion.[1]

5 and 6. Admittedly the function of all muscles, including those in the bronchial tubes, is to contract; and contraction in their case could have no effect other than to diminish their lumen and thereby set up obstruction to respiration. Moreover, it is not surprising that stimulation of the vagus—if, as seems probable, the vagus is the motor nerve of the bronchial muscles—should cause obstruction to respiration. And it may even be admitted that the effect on respiration of the obstruction so caused would be indistinguishable symptomatically from the effect of obstruction due to vascular engorgement. Thus we are no nearer a solution of the real question, which is, the nature of the obstruction which occurs in clinical asthma in the human being. The fact is, that, in so far as concerns the respiratory symptoms of asthma, the obstruction might be caused either by bronchial constriction or by vascular engorgement. It is quite otherwise, however, when we turn to and consider the circulatory symptoms of asthma.

In response to Dr. Gibson's expressed wish, I select the following facts, all of which seem to me to support somewhat strongly the vasomotor theory above stated. None of them helps, though some may be not entirely inconsistent with, the bronchial constriction theory.

1. The constriction of the radial artery commencing with, if not preceding, the onset of the dyspnoea—a constriction directly proportionate to the intensity of the dyspnoea.[2]

2. The sudden relaxation of this artery synchronous with the cessation of the dyspnoea.[3]

3. The sudden relief afforded (*a*) by heat (air, vapour, water, etc.) when applied to the surface of the body, such relief being proportionate to the extent of the surface heated, and, within certain limits, to the intensity of the heat applied; and (*b*) by the inhalation *through the mouth* of cold air, the relief here being proportionate to the lowness of the temperature of the air inhaled.[4]

4. The sudden increase in the dyspnoea caused (*a*) by cold of any kind applied to the *surface* of the body, and (*b*) by the inhalation of hot air, dry or moist.[4]

5. The marked intensification of the effects observed when the above thermal measures are combined: (*a*) Complete temporary relief from almost any asthmatic paroxysm may be obtained by placing the patient in a "portable Turkish bath" from which the face is excluded, and causing him to inhale through the mouth air passed through an inhaler containing broken ice; (*b*) on the other hand, warm inhalation, while the surface of the body is exposed to cold, greatly exaggerates the dyspnoea.[5]

The above thermal experiments have been frequently performed, with the exception of 4 (*a*) and (*b*) and 5 (*b*). As regards 5 (*b*), I would not suggest its repetition; the results are too distressing, if not dangerous.

6. The relief afforded by both vasodilative and vaso-constrictive drugs—for example, amyl nitrite and adrenalin respectively—not only in different cases, as stated during the recent discussion on asthma at Birmingham, but in the same case on different occasions. The explanation of these seemingly contradictory results is simple under the vasomotor theory; amyl nitrite relaxes the peripheral spasm, the first of the two vascular factors of the bronchial spasm, just as do heat to the surface and continued fevers; adrenalin constricts the dilated bronchial vessels, the second factor. An identical explanation applies to many cases of haemorrhage (uterine, etc.) from the systemic vessels, in which both the nitrites and adrenalin are found to be efficacious haemostatics. Dr. Gibson claims that the action of adrenalin in asthma is "a very strong point in favour of the theory of bronchial spasm," in that adrenalin has been recently shown to have a marked effect in dilating the smallest bronchial tubes. But such a claim could be allowed only if Dr. Gibson is prepared to show that adrenalin is powerless to constrict the bronchial arterioles.

7. The marked twofold influence on the habitual asthmatic of intercurrent attacks of any kind of continued fever—for example, influenza, dengue, typhoid, even acute bronchitis and pneumonia: (*a*) the precipitation or intensification of a paroxysm during the invasion or cold stage, when the superficial arteries are constricted;[6] and (*b*) the practically complete cessation of asthma during the succeeding hot stages when the superficial arteries are dilated.[7]

8. The phenomena of malarial asthma, well known in India and some of the Southern States of America. In some asthmatics who contract ague, asthmatic paroxysms associated with pyrexia concur with—not infrequently entirely replace—the regularly recurring rigors of the latter disease.[8] It is unnecessary to refer to the peripheral vascular spasm which characterizes the malarial rigor—malarial asthma is readily controlled by quinine.

9. The occasional occurrence during the asthmatic paroxysm of haemoptysis "in quantity proportionate to the intensity of the dyspnoea" (Hyde Salter[9]) and the immediate cessation of dyspnoea which follows.

10. The association and alternation of asthma with many other paroxysmal affections, all of which are susceptible of a vasomotor explanation—for example, migraine,[10] functional angina pectoris,[10] periodic gastralgia,[10] urticaria,[11] ordinary and giant, Raynaud's disease.[12]

11. The fact that the vascular distension, arterial hyperaemia, or engorgement, put forward by the upholders of the vasomotor theory as the immediate factor of the bronchiolar obstruction, has often been seen, whether by the naked eye or the laryngoscope, in all those parts of the respiratory tract which are exposed to view.[13]

Admittedly there is no *direct* evidence in support of either theory. In default thereof we can but rely on circumstantial evidence. A hypothesis is likely to be true in proportion to the number of circumstances it explains. Here, I submit, there is little doubt as to which of the two hypotheses has the advantage. The vasomotor hypothesis explains a very long array of clinical facts—a much longer list than space allows me to assemble here; it has yet to be shown that it is inconsistent with one.—I am, etc.,

Beckenham, Nov. 20th. FRANCIS HARE.

Dr. ALEXANDER FRANCIS has also addressed to us a letter in reply to Dr. Gibson, but as Dr. Hare has stated his views so fully above it seems necessary to print only the following passages with which Dr. Francis's letter concludes:

Armed as I was with the bronchial muscular fibres, the thin bronchial mucous membrane, and Brodie and Dixon's experiments, I considered myself proof against any arguments in favour of the vasomotor theory. It was only when Dr. Francis Hare's works appeared, and he persuaded me to treat a case of angina pectoris and one of Raynaud's disease as I would an asthmatic, and I saw what surprising results were obtained, that I began to realize that asthma and the undoubted vasomotor neuroses had almost everything in common. I then began systematically to take blood pressures before and after treatment, and I found that I could affect the pressure in the most extraordinary manner by touching different spots of the mucous membrane with the electric cautery. I do not consider that it is necessarily the reduction or the raising of the blood pressure which produces the good result, for a

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[1] The fact that there is some slight anastomosis between the bronchial and pulmonary terminal arterioles does not materially affect this conclusion.

[2] *On Asthma*, 1863. Hyde Salter, p. 72. Also William Russell, *Lancet*, 1901, June 1st, p. 1522.

[3] *On Asthma*, 1868. Hyde Salter, p. 73.

[4] *The Food Factor in Disease*, Francis Hare, 1905, vol. i, p. 304, et seq.

[5] Ibid., p. 308 et seq.

[6] Ibid., p. 247.

[7] Trousseau in *Clin. Medicine*, New Syd. Soc., vol. i, p. 625; also *Prin. and Practice Med.*, Watson, fourth edition, p 360.

[8] *Clinical Researches on Disease in India*, Norman Chevers, 1860, p. 55.

[9] *On Asthma*. Hyde Salter, 1868, p. 371.

[10] *Megrim and Sick Headache*, Liveing, 1873, pp. 212, 200, 201, 485.

[11] Sir Andrew Clark.

[12] *Raynaud's Disease*. T. K. Monro, 1899, p. 129.

[13] Goodhart in *Allbutt's System of Medicine*, vol. v, p. 300.

more profound effect can be temporarily obtained by various drugs. The cautery seems to act through the sympathetic upon the vasomotor centre in such a way as to prevent various influences, whether toxic or due to emotional or reflex irritations, from adversely affecting the vasomotor system. When one sees how profoundly the blood pressure can be affected, it is not surprising that disastrous results sometimes follow indiscriminate cauterization. If Dr. Gibson could be induced to look at asthma from this point of view, I venture to say he would find it a more interesting study. He would then no longer need to be puzzled over the mode of action of the iodides and arsenic in relieving asthma, and it would not be necessary for him to prevent the action of most of the remedial drugs he mentions in his original paper, from their natural function on the vasomotor, and make them act, for this occasion only, on the muscular system.

SIR,—Dr. Gibson's reply, although a model of excellence from a polemic standpoint, in no way disposes of the three points raised by my letter, which are summarized under the question: Does any statistical or other form of valid evidence exist in support of the hypothesis of a cardiac reflex as the causal factor of angina pectoris? Dr. Gibson answers this question in the following words:

Since the days of Heberden, every one who has worked at the subject has acknowledged the dependence of the gravest form of angina pectoris upon cardiac disease; no further words are necessary on this head.

Dr. Gibson forgets that the observers he refers to had worked under the disadvantage of not knowing the source of visceral pain nor the significance of referred pain. It is now recognized that pain, if from the heart, arises from hypertension of cardiac muscle, and from this source alone, and that the impressions exciting it are transmitted to segmentary centres by afferent nerves of the myocardium. Since experimental researches show that the afferent nerves of the myocardium are directed to the medulla, the hypothesis of a cardiac reflex can no longer be regarded as accounting for intercostal pain occurring during the anginal seizure. To meet this difficulty, Dr. Gibson infers that a strand of afferent fibres lying between the heart and the first, second, third, and fourth segments of the thoracic cord are the carriers of pain impressions. But Dr. Gibson offers no evidence that this strand of fibres contains afferent nerves from the myocardium proper: and this is the essential point. Moreover, the existence of this strand, even if pain impressions are conducted by it, only accounts for impressions of pain in connexion with the four upper intercostal nerves. Whereas pain in the anginal seizure often begins as low down as the sensory distribution of the ninth intercostal nerve, and may be limited during the seizure to the lower intercostal spaces.

Moreover, opposed to this hypothesis is the fact that no instance, as far as I am aware, is on record showing that afferent and efferent innervation of involuntary muscle is conducted from one and the same autonomic group, and, since it is certain that cardiac muscle receives its motor energy from sympathetic centres, it is exceedingly improbable that it also obtains afferent energy from the same source.

Intercostal pain felt in the anginal seizure corresponds with the distribution of sensory nerves arising from the second to the ninth segment of the thoracic cord, and to these segments afferent nerves from gastro-oesophageal muscle are directed.

Consequently, the new views on pain encourage us in regarding the paroxysm of angina pectoris as the expression of a gastro-oesophageal reflex, and these views are supported by the resemblance between simple oesophagismus and angina both in the matter of distribution of thoracic pain, and also in the nature of the cardiac disturbances attending these complaints.—I am, etc.,

London, S.W., Nov. 21st. H. WALTER VERDON.

SIR,—In this discussion certain of your correspondents have been wandering away from the point raised by Sir Clifford Allbutt, and replied to by Dr. Mackenzie. The latter observer states that he has seen cases of heart disease in which symptoms were suddenly developed indistinguishable (to him) from those of a typical attack of asthma. These, be it noted, did not come under the category of cases of cardiac dyspnoea as usually understood and observed, but were very rarely seen, and likely only to be encountered by general practitioners who are called up to them in the night. Parenthetically, it may be observed in this connexion that it becomes interesting to inquire what is actually going on in the wards of our great hospitals in the night!

Dr. Mackenzie believes that these very rare cases are due to reflex cardiac action, and that therefore he has as much right to employ the term "cardiac asthma" as others have to use the terms "gastric asthma," or "cutaneous asthma," etc. Now, if it be conceded that such cases as Dr. Mackenzie refers to actually exist, no one can deny that he has made good his claim. But are the asthmatic attacks in these and similar instances intrinsically due to the reflex action, or are they merely provoked by it?

So long as the cause of asthma is unknown, so long will uncertainty and confusion prevail. History, symptoms, etc., are not sufficient. After the tubercle bacillus was discovered we heard no more of "scrofula" as a separate disease. When the function of the thyroid was discovered, Graves's disease was no longer called a "neurosis." So in the case of asthma, when its pathology (or bacteriology) has been definitely ascertained the question raised by Sir Clifford Allbutt will receive its final answer.—I am, etc.,

London, W., Nov. 20th. A. G. AULD.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY INDUCING AN ARTIFICIAL PNEUMOTHORAX.

SIR,—I was much interested in reading Dr. Rhodes's paper published in the JOURNAL of October 28th, and Dr. Lillingston's letter of November 11th, about the somewhat neglected treatment of certain cases of phthisis pulmonalis.

I was assistant physician at the Clavadel Sanatorium, Davos, for a little over three months, and during that time saw several cases on whom artificial pneumothorax had been performed. I helped with many "fillings up" with nitrogen. The filling up operation is quite simple. Sometimes it is difficult and painful to get the needle into the pleural space. It is in certain cases advisable to give a hypodermic of morphine some time before. With this exception there is no pain or discomfort felt by the patient. Before filling up we always looked at the chest through an *x*-rays screen; we looked at it afterwards as well, and it was most interesting to see the two different pictures. The medical use of *x* rays is somewhat limited, but in artificial pneumothorax it is extremely useful. The patients, after one or two fillings up, get quite used to the process, and often are very useful in indicating the amount of pressure, knowing quite well when they are "blown up" enough. For some hours afterwards many patients suffer from slight dyspnoea; in spite of this they almost invariably feel much better.

Sufficient years have not yet elapsed to offer an opinion as to any permanent benefit, but there can be no doubt it has prolonged many lives. One case we had at the Clavadel Sanatorium was dying of haemoptyses; an artificial pneumothorax was performed as a *dernier ressort*; he got over the operation well and lived for eight months. Two other very bad cases after the lapse of two years are alive now. These cases show that treatment by artificial pneumothorax has its place. It is high time our chest hospitals and sanatoriums tried the operation. I helped in a *post-mortem* examination on a patient on whom an artificial pneumothorax had been performed. There was a cavity about the size of two oranges at one apex, plenty of pleural adhesions, and the lung was compressed to about a quarter of its natural size; it looked exactly like liver tissue. The heart and large vessels were abnormally small; there was some clear serous fluid in the pericardium and pleura, and the liver was in a markedly fatty condition. I quite agree with Dr. Lillingston when he advises coining a new name. Would such a new name as the "nitrogen compression method of treatment" suit the case?—I am, etc.,

JAMES D. MACFIE,
Medical Superintendent, National Sanatorium.
November 11th. Benenden, Kent.

THE NUTRITIVE VALUE OF FLOURS.

SIR,—With reference to the letter of Drs. Hill and Flack in the JOURNAL of November 11th, if these gentlemen will refer to pages 20, 21, and 67 of *The Etiology of Beri-Beri*,[1] they will find the information asked for.

Dr. Stanton and I introduced the term "polished rice"; it comprises those rices which in the process of polishing or milling have been deprived of the pericarp, subpericarpal layers, and embryo or germ. The removal of the yellowish subpericarpal layers leaves a grain composed of cells packed with starch grains, so that a polished rice is also a white rice. (See the illustrations in above report.) The rices in use in England are polished or white rices; a considerable number of these are faced or glazed with substances such as talc, and the term "white" or "polished" as applied by us to rice may not have been readily intelligible to workers in England, the term "overmilled" would perhaps have been preferable.

At one end of every grain of polished rice there is a depression which in the unpolished grain contained the embryo, a minute, shrivelled, yellowish structure. After the padi or rice-fruit has been hulled and most of the husks removed by winnowing, the grain is passed into the polishing apparatus; it is there deprived of its pericarp, subpericarpal layers, and embryo. The structures detached are driven by centrifugal force through the meshes of the steel wire cloth, and to the mixed product thus obtained Dr. Stanton and I applied the term "polishings"; it consists of a fine, yellowish-brown powder mixed with husks and broken rice grains. On receipt of polishings at the Institute for Medical Research they were sifted to remove the husks and broken rice grains; from the sifted polishings our extracts were prepared.—I am, etc.,

H. FRASER,
Director Institute for Medical Research.

Kuala Lumpur, F.M.S., Nov. 13th.

CHINESE REMEDIES FOR PLAGUE.

SIR,—The following remedies for preventing or curing plague, recently placarded in public places by the Chinese officials at Taichoufu, in the Shantung Province, may interest some of your readers. They were kindly sent me by Mr. R. F. Walter, Secretary to the Government at Wei-Hai-Wei.

1. After the "Opening of Spring," on a certain day (King-tz-7th in a recurring series of tens) boil turnip juice and any sort of creeping bean vines, no matter how much. It is recommended that all the family, both large and small, drink it when it is warm. Thus the plague will be avoided.

2. On the sixth day of the sixth moon[2] gather "Horse Tooth Vegetables,"[3] dry them in the sun, and lay away until New Year's morning, boil until done, and pickle in brine and vinegar for one year. Partaking of this will also prevent the current malady.

3. Take one piece of horse bone, wrap in red cloth, and place in a small bag and wear on the side of the body, men on the left, women on the right side.

4. In the fifth[4] watch of the night throw black beans—a large handful—into the well, unseen of men. The members of the household drinking this water will be powerless to spread the infection. In places where river water is used let each household each day at daybreak throw a pinch of black beans into the water jar. This will enable the whole family to avoid the sickness.

5. During the reign of K'ien Lung[5] the plague devil was driven out by "Thunder Pill" into hiding in Kiangsu, Ch'angchowfu, Chupu Magistracy. All who adopted this prescription were able to avoid this plague. Those who lived by it were beyond numbering. To make the "Thunder Pill"

Ingredients:—Take rhubarb 4 oz., gold leaf flakes 30 pieces, cinnabar ½ oz., alum 1 oz., all ground fine. Make into pills and take with water. Dose ½ oz.

6. Take "Hwantsung"[6] and one lump of white alum and place in the water jar. This is effective.

7. Red sulphur ground fine and mixed with water, and profusely spread in the nostrils of the patient and in the bed will also prevent the spread of the infection. This is a wonderful remedy.—I am, etc.,

C. MARSH BEADNELL,
Fleet Surgeon, R.N.

Portsmouth, Nov. 2nd.

[1] Studies from the Institute for Medical Research, No. 12, 1911.
[2] July 1st.
[3] Spinach.
[4] That is, just before daybreak.
[5] 1876.
[6] A popular disinfectant.

THE DERMATITIS PRODUCED BY EAST INDIAN SATINWOOD.

SIR,—The observations made by Professor Cash of Aberdeen (BRITISH MEDICAL JOURNAL, October 7th, 1911) exactly harmonize with those set forth in my original paper, to which reference has been made by him. In the last paragraph of his paper Professor Cash says:

> No case has presented itself in the course of these observations which would illustrate the statement made by Jones and Wechselmann, to the effect that some satinwood workers, after a first attack of dermatitis, may acquire resistance towards the irritant, and so remain immune, although still exposed to the contact of the dust.

Although Professor Cash seems to think otherwise, my experience was exactly the same as his. In my original article I say:

> In each case improvement followed cessation from work, and in each case the illness reappeared when work was resumed.

Further on in the same article I state

> That one or two went to work elsewhere and got along without further trouble.

What I meant, and what actually took place, was that one or two went to work elsewhere, where satinwood was not used, and got along without further trouble.—I am, etc.,

H. E. JONES.

Ibrox, Nov. 13th.

ACUTE POLIOENCEPHALOMYELITIS IN CORNWALL.

SIR,—In your issue of November 4th I have just seen a communication on an epidemic of acute poliomyelitis in Cornwall, in which grave strictures upon the sanitary condition of Penryn are made, the inference being that the alleged neglected and dirty state of the town, and the cases of poliomyelitis which are stated to have occurred there, stand to one another in the relation of cause and effect. No attempt is made to establish the same relation for the remainder of the cases reported, and which occurred elsewhere. It is only with regard to the Penryn cases that such an inference is suggested.

In my own practice, out of seven or eight cases of this disease, two occurred in Penryn, the remainder occurring almost entirely in houses of the greatest cleanliness, and isolated from filth and dust as completely as is possible.

Seeing that this is so, and that the record of Penryn for diseases which are well known and well proved to be dependent in their origin on insanitary conditions has for a large number of years been exceptionally good and one which will bear comparison with most towns, I think it is unfair that, in the hunt for a cause, this town should be accused of a condition of things the existence of which I deny.

As to the statement that crude sewage flows into the tidal estuary at the head of which Penryn is, that is quite true; but Penryn is no more guilty in this respect, of discharging crude sewage upon foreshores, than other places I could mention, or than most places similarly situated. The joint authors of the paper referred to speak of what is left by the ebbing tide upon the exposed mud, but nothing is said of what is brought by the flowing tide from elsewhere; nor of the intolerable nuisance caused to us by this during the past summer.

I must apologize for having gone to this length, but I feel it to be my duty to clear my native town from what, in my opinion, are false charges, and my council also from the same.—I am, etc.,

JAMES BLAMEY,
Medical Officer of Health, Penryn Urban Council.

Nov. 19th.

THE SYMPHYSIAL LIGAMENTS OF THE PARTURIENT GUINEA-PIG.

SIR,—With reference to the communication of Mr. Bland-Sutton and Sir Francis H. Champneys on this subject, I should like to add that this stretching of the

symphysial ligaments and separation of the pubic bones is a very gradual process.

The animal is born in a very mature state, and runs about within a few minutes after separation from the mother; within less than twenty-four hours it eats solid food. At birth the head is as large as the body. My own observations go to show that the period of gestation is from twelve to thirteen weeks. It is to be noted that this "natural dilatation" is seen for quite a month before delivery, and for fully three weeks locomotion is rendered exceedingly laborious. The separation of the pubic bones allows the whole weight of the abdominal contents to fall forward, and the iliac bones, sacrum, and coccyx are flattened out; thus the leverage power of the femora is considerably weakened, and the animal drags her hind quarters with considerable effort, the hind legs being scarcely used.—I am, etc.,

W. F. J. Whitley, M.B., B.Ch., D.P.H.

Hest Bank, Lancaster, Nov. 1st.

LEPROSY IN CHINA.

Sir,—In his letter on "Leprosy and the Cimex," Sir Jonathan Hutchinson reiterates the old fable of leprosy being almost unknown in the north of China. It is a great pity, as, coming from the pen of such an authority on leprosy, the statement will get even wider circulation than before. It is one of those statements which, originally made, no one seems to have taken the trouble to deny, but which is really very far removed from the actual truth. The facts of the case, as so far verified, are as follows, giving the details of the northern provinces of China separately:

Shantung Province.—Leprosy abundant; even estimated at 1 per 1,000 of the population.

Manchuria.—Leprosy common.

Kansu Province.—Leprosy plentiful.

Chi-li Province.—Leprosy found but rarely.

Shansi and Shensi Provinces.—No reliable reports.

So that what we actually do know is this—that through a great part of the north of China leprosy is very far from being an "almost unknown" disease, while of the greater part of the country not included in this statement we are still lacking reliable reports. I am sure Sir Jonathan Hutchinson will agree that it is high time that the statement of the absence of leprosy from north China was amended.—I am, etc.,

Tainan, Formosa, Oct. 23rd. James L. Maxwell.

STERILIZATION OF THE SKIN BY IODINE.

Sir,—Mr. Goodwyn is evidently under a misapprehension as to the composition of tincture of iodine. If he will refer to the *British Pharmacopœia* he will find that it consists of 2½ per cent. iodine and 2½ per cent. potassium iodide dissolved in rectified spirit. When he describes the 10 per cent. solution which he uses as tincture of iodine, it "is obvious"—I use his own expression—that his description is inaccurate.

I have never claimed to be the originator of the strong solution, and I have acknowledged this in all my communications on the subject. I do claim to have originated the method of tincture of iodine, and this is the method which is now so generally used.—I am, etc.,

J. Lionel Stretton,
Senior Surgeon, Kidderminster Infirmary and Children's Hospital.

Kidderminster, Nov. 18th.

SWEETS IN CHILDHOOD.

Sir,—I should like to take the opportunity of pointing out that the observations of your two correspondents, Dr. H. Letheby Tidy and Dr. F. G. Haworth, on the above subject are not by any means original. I refer chiefly to the suggestion that the general desire for sweets in childhood rests on a physiological basis, and that the instinct should not be ignored.

The credit of pointing this out is undoubtedly due to that eminent philosopher and astute thinker, the late Herbert Spencer. In his essay on *Physical Education*, a cheap edition of which was issued so far back as 1878, Mr. Spencer most strongly decries the over-legislation in the nursery in the matter of food, both in point of quantity and quality, and gives us very good reasons for believing that the appetite, which is a good guide to all the lower creation, as it is in the infant, the invalid, and the differently placed races of men, is also a good guide for childhood. It would indeed be strange, he contends, were it here alone untrustworthy. I cannot do better than quote his own words:

> Consider the ordinary tastes and the ordinary treatment of children. The love of sweets is conspicuous and almost universal among them. Probably ninety-nine people in a hundred presume that there is nothing more in this than gratification of the palate; and that, in common with other sensual desires, it should be discouraged. The physiologist, however . . . suspects something more in this love of sweets than is currently supposed; and inquiry confirms the suspicion. He finds that sugar plays an important part in the vital processes.
>
> Both saccharine and fatty matters are eventually oxidized in the body, and there is an accompanying evolution of heat. Sugar is the form to which sundry other compounds have to be reduced before they are available as heat-making food; and this formation of sugar is carried on in the body. Not only is starch changed into sugar in the course of digestion, but it has been proved by M. Claude Bernard that the liver is a factory in which other constituents of food are transformed into sugar, the need for sugar being so imperative that it is even thus produced from nitrogenous substances when no others are given. Now when to the fact that children have a marked desire for this valuable heat food we join the fact that they have usually a marked dislike to that food which gives out the greatest amount of heat during oxidation (namely, fat), we have reason for thinking that excess of the one compensates for defect of the other—that the organism demands more sugar because it cannot deal with much fat. See, then, the discord between the instinctive wants of children and their habitual treatment. Here, then, is a prominent desire, which in all probability expresses certain needs of the child's constitution, and not only is it ignored in the nursery regimen, but there is a general tendency to forbid the gratification of it.

I think it will be seen from the above that Herbert Spencer was well ahead of his time, if, in fact, he is not the originator of these ideas. His essays on education might be studied with advantage by educationalists and school doctors as well.

In conclusion, I may add that as a medical inspector of school children I have been surprising mothers for the past three years by assuring them that sweet stuffs are not so harmful as is generally supposed—but with this proviso, that the children must clean their teeth.

Sir George Newman, Chief Medical Officer to the Board of Education, in his latest report sums up very tersely the prevailing opinions of the *élite* of the dental profession as to the cause of dental caries:

> There can be little doubt [he says] that the primary factor in the immediate production of caries is the undisturbed accumulation of food around the teeth. In particular, food of a non-detergent carbohydrate nature, in the fermentation of which acids are produced, is injurious, for the enamel of the tooth is thereby decalcified, in a greater or less degree, and the invading bacteria are thus able to attack, directly, the less resisting dentine.

—I am, etc.,

London, E., Nov. 18th. F. B. Skerrett.

Sir,—The time seems ripe for some plain speaking on this subject. Dr. Sim Wallace makes three points in his letter (British Medical Journal, November 4th):

1. The eating of sweets leads generally to dental caries.
2. Sugar . . . eaten as it generally is . . . may be most unhygienic and objectionable
3. Medical men ought to know "the means which have already proved so successful in preventing" dental caries.

About the third point we are, no doubt, all agreed. The second point seems, so to speak, to lose its point by the inclusion of the words "may be" and the absence of any evidence in its support.

The first point, "that the eating of sweets generally leads to dental caries . . . is the studied opinion of some of the most distinguished members of the dental profession," is not merely a pious opinion; it is a studied opinion, which means, presumably, that it has been arrived at as the result of the study of certain phenomena, clinical or experimental, or both. What are these phenomena? Is there one tittle of evidence in favour of the opinion? That is what the humble medical man asks the distinguished member of the dental profession.

Sugar is a very rapidly absorbed, simple, and cheap form of nourishment. When one remembers its solubility and the flow of saliva which its ingestion excites, one can

scarcely imagine that there is any food less likely to cling about the mouth. The flow of saliva, although it may be prejudicial in other ways, cannot surely itself cause dental caries.

There is an ancient prejudice among the laity to the effect that sugar is bad for the teeth, which is based, I believe, on the fact that anything very sweet, like treacle, produces toothache, if the pulp of any of the teeth is thinly covered. But it is absurd to suppose that a popular fallacy of that sort has had any weight in the cogitations of a learned profession.

We general practitioners spend much time and energy in painting lurid pictures to our patients of what will happen to them if they do not visit their dentist; I am sure that I am only one of a crowd when I say that I am very anxious to hear from Dr. Sim Wallace on what facts he grounds his belief that the eating of sweets leads to dental caries.—I am, etc.,

Northwood, Middlesex, Nov. 5th. O. HILDESHEIM.

P.S.—Dr. Sim Wallace, writing of the protective coating which exists over the enamel, has stated:

I have found that in the morning, even after having eaten sweets on the previous evening, this coating is neutral in reaction.

GENERAL MEDICAL COUNCIL ELECTION.

SIR,—We wish to take the earliest opportunity of thanking most sincerely every one who has supported us at the recent election in which we have been returned by so handsome a majority, and we feel particularly grateful to those busy workers who, having little leisure, yet have found time to attend committees and meetings, and to do all in their power to further our candidature.—We are, etc.,

HENRY W. LANGLEY BROWNE.
H. A. LATIMER.
T. JENNER VERRALL.

November 20th.

RESUSCITATION OF THE STILLBORN.

SIR,—In desiring to open a correspondence on the subject matter of this letter I should like to state that I wanted to ventilate my views at the recent gathering of the British Medical Association, but could not be present. Now with the full account of the Sectional meeting in the JOURNAL of October 21st I reason the occasion is appropriate.

I have employed for the past year the following adaptation of Schäfer's prone pressure method for resuscitation in cases of asphyxia neonatorum.

Having cleared the mouth and upper air passages of foreign bodies, the child is laid in a prone position on the palm of the left hand. The body slopes downwards, with the forehead just resting on a fold of blanket; the anterior aspect of the neck is stretched and the upper part of the chest supported on the fingers. The child's arms hang down, and its legs are thrown on either side of the operator's wrist. The right hand is placed palm downwards on the back of the child, the wrist being placed just above the pelvis.

The movements carried out are gently and firmly to approximate and withdraw the right wrist in relation to the left wrist, at the same time to keep the fingers of the left hand well curved, to avoid the chest wall impinging on them.

The position of the wrists is best exemplified as the initial one in catching a cricket ball. The movements are done at the rate of twenty to the minute.

I consider that the four objects required for artificial respiration in Sir Francis Champneys's opening paper are complied with. There is the advantage of immediate attention to the child, for as the cord may be allowed to run between the index and middle fingers valuable time may be saved in not ligaturing and dividing it. Friction of the precordia with the thumb of the left hand may be carried on, and is the means of feeling the welcome, though feeble, heart impulse. The right hand may be used to vary the stimulation to the spine. The method is unobtrusive. And should the condition of the mother demand undivided attention the movements are easily attained and can be carried on by the midwife or nurse in attendance.—I am, etc.,

Leeds, Oct. 22nd. H. STOKES.

SEA-WATER INJECTIONS.

THE *Daily Mail* having taken exception to certain passages contained in the letter of the late Dr. Coutts, published under this heading in the JOURNAL of October 14th, p. 946, we desire to disclaim any intention of reflecting upon the good faith either of the *Daily Mail* or its medical correspondent, and to express our regret that the words used could have been deemed capable of such interpretation. As to the scientific point at issue, we may add in justice to ourselves that the members of the medical staff of the Poland Street Polyclinic, equally with other correspondents, have been afforded full opportunity of stating their views on this subject and the results of their observations.

Public Health

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Wolverhampton.—The report for 1910 of the medical officer of health states that there were 1,289 deaths, which is the lowest number since 1881, and corresponds to a death-rate of 12.2, which is the lowest recorded in the borough. The prevalence of scarlet fever was very low; there were 169 cases and only 4 deaths. The comparative absence of diphtheria was remarkable, there being only 31 cases with four deaths. There have been very few cases of enteric fever for some years, but last year's record return is almost incredible, for there were only 4 cases with death. There were a large number of cases of whooping-cough, and this disease accounted for 28 deaths. The births numbered 2,384, which is the lowest figure recorded since 1881.

Medico-Legal.

THE WAYS OF PLATFORM HEALERS.

IN the King's Bench Division on November 20th, G. J. Macaura, who for some time has advertised by meetings and in other ways an instrument called the "Pulsocon" as a means of curing rheumatism and other disorders, was defendant in an action for wrongful dismissal. The plaintiff alleged that he had been brought from South Africa to act as London manager to "Dr. Macaura" at a weekly wage of £15, to commence from the date of his departure for England. An advance payment of £100 was made, but shortly after his arrival in England he was, he alleged, asked to accept £10 a week in cash and to wait for the balance. Finally after four months he was dismissed on the ground that he was not competent either to write advertisements or to lecture. The jury found that the plaintiff was entitled to £67 balance of wages and to three months wages at £15 a week in lieu of notice. Judgement was entered for plaintiff for £262 with costs.

The Pulsocon mentioned in this case is a vibratory massage machine which acts on turning a handle. In its action and mechanism it bears a general resemblance to the Vedee Vibrator to be seen in the windows of many chemists' shops, but the working parts are more completely closed in, and it is somewhat more compact.

MEMBERSHIP OF LEARNED SOCIETIES.

THE Court of Appeal on November 18th ruled in favour of the respondents, the Royal Society of Medicine, in an action which was brought against it by a medical man and decided in its favour by Mr. Justice Darling last January. In that action the appellant, who was then the plaintiff, asked for a declaration by the court that he was a Member and Fellow of the Royal Society of Medicine, and also claimed damages against that society for alleged libel. The ground of the action was as follows: The plaintiff was the author of a book, and in an advertisement of it he was described as a Fellow of the Royal Society of Medicine; thereon the defendant society wrote to the publishers of the book informing them that there was no Fellow bearing the name of the plaintiff on its rolls, and requesting them to give an assurance that the description should be withdrawn in any further announcement of the book in question. The plaintiff claimed that this letter constituted a libel, because he was a Member of the former Gynaecological Society, and in virtue of that fact and of the combined effects of the provisions of the Charter of the Royal Society of Medicine and of the by-laws drawn up in accordance with it, and of his having sent a post card to the defendant society before its Charter came into operation, he was entitled to be, and *ipso facto* was, one of its Members and Fellows.

Mr. Justice Darling on the conclusion of the original trial said that he was not satisfied on the plaintiff's evidence that he had ever communicated to the defendant society his desire to become a Member and Fellow thereof, and on that ground refused the declaration asked for. He also ruled that his decision on this point disposed of any claim that plaintiff might have in respect of the alleged libel.

The result of the appeal was as already stated.

WORKMEN'S COMPENSATION.

Claim against a Hospital.

JUDGEMENT was given in favour of the infirmary on November 4th in a Court of Session action brought against Greenock Infirmary Board of Directors for £1,000 as damages. The pursuer alleged that as a result of a fall she sustained a fractured thigh on February 19th, 1910, and on the following day entered Greenock Infirmary as a paying patient at 2 guineas a week. She was treated for synovitis of the knee-joint and was discharged on March 21st. Returning to London she consulted a doctor, who discovered the fracture. She averred that the diagnosis and treatment of the defenders' doctors were wrong, that they failed to make an adequate examination, and did not act with reasonable skill.

The defenders said it was arranged that the pursuer should occupy a private ward and pay 2 guineas a week for the privacy and comfort thereby secured, no part of that sum being in respect of medical treatment. They explained that she insisted on leaving on the date mentioned, and they did not know and did not admit her other averments. They denied that she was unskilfully treated.

In the Outer House Lord Skerrington dismissed the action as irrelevant, and found defenders entitled to expenses. The pursuer reclaimed, and the Second Division have adhered to the previous judgement.

Lord Dundas said it was clear enough that the medical men on the staff of the establishment were not servants of the governing body. The pursuer must rest her claim on contract expressed or implied. Where no such terms were expressed the limits of the legal responsibility of the contractors were confined to the due and careful selection of a competent staff, and did not extend to the supervision by them of the professional actings of the members of the staff. The Governors had no control over the professional treatment of their patients, and they could not be held responsible for the degree of skill or care exercised by the medical staff in the treatment of any patients. They undertook to furnish the services of a competent staff; they did not undertake to indemnify patients against errors of treatment. Dealing with the pursuer's case, his Lordship said he read the averments of the pursuer as meaning that she was to pay 2 guineas a week during her stay in the infirmary, and was to receive board on the scale usually supplied to paying patients, and medical and surgical treatment available to patients in the infirmary—that was the service of a competent staff of medical men. His Lordship could not take it off the pursuer's hands that her payment of 2 guineas a week was to ensure her a special degree of care and attention, or a guaranteed skill, on the part of the house-surgeons. An amendment of the record to the effect that the contract was arranged on the defenders' behalf by Dr. Grieve, house-surgeon, did not make any difference as regarded the relevancy. It was not said that the house-surgeon had power to bind the defenders on entering into any unusual contract with patients.

The Lord Justice Clerk and Lord Salvesen concurred.

Accident and Angina Pectoris.

In the case of Stratford *v.* West Ham Corporation, which was heard by Judge Smyly, sitting with Dr. Bate as medical referee, at Bow, on August 3rd, the main issue was what was the proper medical and legal inference to be drawn. The facts stated were that Stratford had let down a "ship" or bucket into a sewer from a winch, which was carried by the water and the sewage along to the next manhole, about 80 yards away. The bucket was then pulled back by Stratford with assistance at the first manhole by means of the winch, against the full force of the sewage and the water. Before beginning work, and while commencing to raise the lid of the manhole, Stratford had complained of pains in his chest. After he had been at work for some time he suddenly stopped and complained of the pains. His comrades saw that he was exceedingly ill. They set him down on some sacks and began to rub his chest, but he died in their arms. The doctor who made the *post-mortem* examination found that Stratford had been a healthy man, except in regard to the heart, which showed signs of fatty degeneration. He came to the conclusion that the immediate cause of death was angina pectoris, and that there was no reasonable doubt that there was a connexion between the act of labour and death itself. Evidence was called as to the severe nature of the work, and two medical witnesses stated that they had no doubt the strain of the work accelerated the man's death.

It was admitted that Stratford had had two attacks previous to starting work, when apparently there was no exertion to account for them. Dr. Buzzard stated that it was impossible to say whether the strain did or did not excite the attack. But in view of the fact that the man had had two previous attacks within a short time, but quite independent of any exertion, and that many attacks of angina pectoris had proved fatal apart from exertion, he thought the fatal attack in this case was independent of the strain.

The opinion of the medical referee was against the applicant; and in giving judgement for the defendants Judge Smyly laid stress on the fact that before starting work Stratford had had two other attacks without exertion to account for them—one in bed and one while riding to work.

The Use of Gelignite.

In Jolly *v.* Darngavil Coal Company (Dalserf, August 4th) the question was whether the applicant, who had been injured by the explosion of gelignite, was the victim of an accident arising out of his employment. It appeared that he suffered from carbonic oxide poisoning on February 10th, 1911. In giving judgement the Sheriff said: "The history of an accident on that date sufficient to produce this effect seemed perfectly clear. The only difficulty in the case was a legal one. The defenders contended that in using and firing gelignite the pursuer was without the scope of his employment. The accident occurred through the presence of carbonic oxide in Jolly's working place, from the effects of a charge of gelignite which he had fired. The ventilation had not been sufficient to clear the fumes before he went back. There was no rule against the use of gelignite in this mine, but gelignite could only be fired by the use of a detonator, and the Explosives Order of February 21st, 1910, provided that detonators should not be used in any mine unless under the condition that they should be issued only to shot-firers or other persons authorized in writing. The evidence of the officials was that there was no authorized shot-firer in this mine; that the fireman was authorized to give detonators, but men fired them themselves. It was not clear that the fireman was careful to give detonators only to persons duly authorized. The miners deposed that the use of gelignite was general in the section, that the men bought it and the detonators for themselves, and used them without written permission, and that this was known to the officials. The Sheriff was satisfied that the officials must have known of this practice, and that they took no steps to stop it. Perhaps, however, the most satisfactory ground of decision was that, assuming a breach of rule, the breach did not cause the accident. Holding as I do that the use of gelignite was permitted by the officials, it seems plain that whether this gelignite had been fired by a person duly qualified and authorized or not the same result would have followed. That the accident arose out of the employment there is no doubt. It was Jolly's method of winning the coal which led to the accident, and it was a method known to his superiors."

Obituary.

WILLIAM MILLINGTON, M.D.,

CONSULTING PHYSICIAN TO THE WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.

ANOTHER link with the past has been severed by the death, on November 5th, of Dr. William Millington, of The Clevelands, Wolverhampton, at the advanced age of 90 years.

He was born at Oldbury in 1821, and began his professional studies at Guy's Hospital, London, where he came under the teaching of Aston Key, Bransby Cooper, Cock, Hilton, and Poland. He afterwards went to Dublin and subsequently to Edinburgh, where he was Clinical Assistant to Dr. Robert Christison and Dr. Allison. He tied with the late Sir John Burdon-Sanderson for one of the university distinctions. In 1851 he obtained the Graduation Gold Medal for his thesis on "The Pathology of Pus in the Blood." Many of the observations upon which this essay was based were the outcome of his studies under Sir James Y. Simpson, who wrote of his pupil, "He is sure to acquire the very first rank in his profession in whatever part of the world he may settle, for I have seldom seen professional zeal and earnestness more thoroughly combined with extensive professional abilities and information." Until the last year of his life he continued to take the same keen interest in pathological and clinical details which had characterized him as a younger man.

Not content with the already extensive opportunities he had enjoyed, he spent the summer of 1843 in Paris, where he attended the hospital practice and teaching of Roux, Lisfranc, and Velpeau. He became a member of the Royal College of Physicians in 1859. In 1852 he was elected Honorary Physician to the Wolverhampton and Staffordshire Hospital, with which institution he was thus connected for sixty years. For many years he was indefatigable in his work there; an enormous number of patients attended under him, and his reputation added greatly to that of the hospital. At the same time he had a large practice, both chamber and consulting. He will chiefly be remembered by many of his patients as a pioneer in the open-air treatment of consumption, of which he was always a strenuous advocate. On his retirement from the staff of the hospital in 1885 he was elected Consulting Physician. He was largely instrumental in founding the Wolverhampton Eye Infirmary and was a member of the Managing Committee.

Dr. Millington was one of the original members of the Staffordshire County Council, and did valuable work, especially on the Health Committee of that body. He was

a liberal supporter of many charitable and religious institutions.

Dr. Millington leaves a widow, who is a sister of Sir Robert Ball, the Professor of Astronomy at Cambridge, and of Sir Charles Ball, the Regius Professor of Surgery at the Dublin University, both of whom attended his funeral.

SAMUEL McBEAN, M.A., M.D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE.

AFTER a protracted illness, which had laid him aside from active work for the last two years, Dr. McBean quietly passed away at his home in Newcastle-upon-Tyne on November 6th, at the age of 72.

By his death Newcastle has lost a much respected and highly esteemed medical practitioner. He commenced his college career as a student in arts in Edinburgh University in 1856, and two years later transferred his attention to medicine; he subsequently completed his professional training at the College of Medicine, Newcastle-upon-Tyne. Shortly after taking the diplomas of L.R.C.P. and S.Edin. Dr. McBean was appointed to the Royal Naval Hospital, Plymouth. Here he received his commission as Assistant Surgeon to H.M.S. *Royal Adelaide*. A year later he was transferred to the *Argus*, and sailed to the Far East, where he saw active service; he was present at the bombardment of Kagosyma in Japan, and at Yokohama he acted as Surgeon to the Royal Naval Hospital. In 1864 Dr. McBean was present at the bombardment of Simmosoki, Japan, and was with the Naval Brigade on shore when the town and forts were taken. For the part he played on this occasion he was mentioned in dispatches by the admiral. Later on he was surgeon on board H.M.S. *Lee* on an expedition up the Niger. By this time young McBean had seen enough of foreign service, so that on his return home, and after a short residence in the Royal Naval Hospital, Chatham, he left the navy in 1868 and settled down in Newcastle-upon-Tyne, where by degrees he built up a large and influential practice, being held in high esteem as a good all-round and reliable family doctor.

In 1873 he was appointed Joint Lecturer on Botany in the College of Medicine with Dr. H. E. Armstrong; five years later he was transferred to the chair of Materia Medica. In 1882 he added to the duties of his chair those of Lecturer on Therapeutics. The University of Durham conferred upon him the honorary degree of Master of Arts in 1888, and from the University of St. Andrews in 1889 he obtained the degree of Doctor of Medicine.

Of a gentle and retiring disposition, making his presence rather felt than asserted, Dr. McBean was a favourite alike with his colleagues of the College of Medicine, the students, and the general public. His influence with the students lay more in his power of quiet exposition than as a class-room lecturer. He was a favourite especially at examinations. There was no table in the examination hall less dreaded than that presided over by the late Dr. McBean, with Dr. James Murphy as colleague and assessor. Many men now in active practice must still retain pleasant memories of the kindly treatment they received at the Materia Medica table.

It was a special delight to Dr. McBean to talk of his early years as a naval surgeon, and of his experience in foreign waters. Almost to the last he kept up his acquaintance with old naval associates and friends by an annual visit to Portsmouth and to the naval ports of the South Coast.

Dr. McBean contributed little to the medical journals. His papers were marked by literary ability and good judgement. A widow, three sons, and three daughters survive him. Two of his sons are in the medical profession. One was in partnership with the father; the other is in the Royal Navy. The funeral was attended by several of the professors of the College of Medicine, and by students as well as by members of the medical profession and a large circle of friends.

K. P. GUPTA, M.A., M.B.Cal., F.R.C.S.Edin.,

LIEUTENANT-COLONEL I.M.S.(RET.).

WE regret to have to record the death of Lieutenant-Colonel K. P. Gupta of Calcutta. It took place on August 28th, in the 69th year of his age, and brought to an end a career reflecting throughout its course much credit on Dr. Gupta himself, on the community to which he belonged, and on the socio-political conditions which made it possible. A member of a family which possessed no means, and having lost his father while still a small child, Dr. Gupta owed his early education to a mission school in his village, and at the hands of its authorities was baptized when he reached the age of 16. Subsequently he pursued his general education in Calcutta under the same auspices, and at length, in 1863, entered Calcutta Medical College. From this institution he emerged as M.B. five years later, having passed in the first division. He had also pursued the Arts course at the university, and besides heading the list of candidates for the M.A. degree had obtained first class honours at a special examination in natural and physical science. From the beginning he had proved an admirable student, and, thanks to his success in winning scholarships and money awards throughout his student career, he was enabled not only to pay his own expenses in this way, but to contribute towards those of his family. His education in India completed he proceeded to Scotland, where after taking the diploma of L.R.C.P.Edin. he became a candidate for the Indian Medical Service. Here, again, he was successful, and took a high place on the list. At a later date he paid a further visit to Edinburgh and was admitted to the Fellowship of the Royal College of Surgeons. In the Indian Medical Service he was employed for a few years on military duty on the North-West Frontier, but spent the greater part of his life on the civil side. At one time and another he held several civil surgeoncies, but his most important work was done as Deputy Sanitary Inspector for Bengal. For such work he had specially qualified himself by paying a further visit to England and taking the diploma in Public Health at Cambridge almost as soon as it was established. In the last few years of his active career he frequently acted as Principal Sanitary Commissioner for Bengal, and in that capacity rendered very valuable service. On his retirement from the service some twelve years ago with the rank of Lieutenant-Colonel he took up his residence in Calcutta, where his death is the cause of very deep regret. This is easily comprehensible, for, apart from his intellectual capacities, Lieutenant-Colonel Gupta was a man of exceptionally amiable disposition, and possessed many other attractive personal qualities. In particular he exhibited a capacity for loyal friendship and markedly benevolent instincts. Throughout his life, indeed, he had proved a very generous friend to his native village. Not only did he show constant interest in its progress and assist in the promotion of the education of the younger members of the community, but among several things that it specifically owed to him personally were the establishment of a dispensary, the construction of a much-needed road, and the building of a public tank and bathing ghat.

THE death at Saltash is announced of Surgeon-General ROBERT WYATT MEADOWS, M.D., in his 78th year. His commissions were as follows: Assistant Surgeon, May 26th, 1854; Surgeon, August 22nd, 1865; Surgeon-Major, March 1st, 1873; Brigade Surgeon, November 27th, 1878; Deputy Surgeon-General, February 6th, 1883; and Surgeon-General, October 16th, 1889. He served with the 9th Regiment in the Crimea from October, 1854, and was present at the battle of Inkermann and at the siege, assault, and fall of Sebastopol, receiving a medal with clasp and the Turkish medal. He was also in the Afghan war in 1879-80, including the actions at Ahmed Khel and Urzoo, near Ghuznee; he was mentioned in dispatches and granted the medal with clasp.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Professor Philipp Stöhr, who succeeded Kölliker in his chair in the University of Würzburg, aged 62, and who made valuable contributions to the literature of descriptive anatomy and the history of development; Professor Steinert, one of the chief physicians of the medical clinic of the University of Leipzig, aged 37; and Professor A. Binet, of Paris, the well-known psychologist, aged 54.

The Services.

HEALTH OF THE NAVY.

THE *Statistical Report of the Health of the Navy for the Year 1910*[1] was issued on October 14th, 1911.

Summary of Returns for Total Force.

The returns for the total force for the year 1910 show a continuous improvement in the general health of the Fleet as compared with the preceding five years. The case, invaliding, and death ratios all show a decrease, and the average loss of service for each person, although slightly higher than in 1909, compares favourably with the average ratio for the last five years. In comparison with 1909 the case ratio is slightly higher, but both invalidings and deaths show a decrease. The total force, corrected for time, in the year 1910, was 113,530, and the total number of cases of disease and injury entered on the sick list was 74,233, which gives a ratio of 653.86 per 1,000, a decrease of 42.51, as compared with the average ratio for the preceding five years. The number of entries per man for disease and injury was: Home Station, .77; Home Fleet, .57; Atlantic Fleet, .65; Mediterranean, .62; North America and West Indies with Fourth Cruiser Squadron, .64; China, .69; East Indies, 1.06; Australia, .66; Cape of Good Hope, .57; and the Irregular List, .74. For the total force the average was .65, as compared with .64 in 1909. The average number of men sick daily was 3,124.84, giving a ratio of 27.52 per 1,000, a decrease of 1.11 in comparison with the previous five years. The total number of days' sickness on board and in hospital was 1,140,568, which represents an average loss of service of 10.04 days for each person—a decrease of .4 as compared with the average for the preceding five years. The ratio per 1,000 of men sick daily on the various stations was: Home Station, 36.58; Home Fleet, 24.11; Atlantic Fleet, 23.2; Mediterranean, 24.9; North America and West Indies with Fourth Cruiser Squadron, 22.7; China, 26.14; East Indies, 26.39; Australia, 25.29; Cape of Good Hope, 22.82; and the Irregular List, 41.8. For the total force the ratio was 27.52. North America and the West Indies show the lowest sick rate, and, as usual, the Irregular List the highest, but this is due to the inclusion of sickness of invalids on passage from foreign stations.

Invalidings.

The total number invalided was 2,004,[2] which gives a ratio per 1,000 of 17.65, a decrease of 3.45 in comparison with the average ratio for the preceding five years. The total number of persons finally invalided was 1,747, of whom 66 were invalided after refusing operative treatment. The ratio per 1,000 of final invalidings was 15.38, a decrease of 1.08 as compared with the average for the previous five years. Of the 2,004 invalidings 1,860, or 16.38 per 1,000, were for disease, and 144, or 1.26 per 1,000, for injury.

Deaths.

The total number of deaths was 358, giving a ratio of 3.15 per 1,000, a decrease of .35 in comparison with the average ratio for the last five years. Of this number, 241, or 2.12 per 1,000, were from disease, and 117, or 1.03 per 1,000, from injury.

General Diseases.

The following is a summary of the returns under the head of general diseases:

Small-pox.—One case from the East Indies Station. The patient was a native, and the attack was mild.

Cow-pox.—688 cases, 491 of which were from the Home Station.

Chicken-pox.—17 cases, all contracted in Home waters.

Measles.—110 cases, with 2 invalidings from abroad.

Rubella.—157 cases; 115 from the Home Station.

Scarlet Fever.—131 cases, with 1 invaliding and 1 death.

Mumps.—344 cases. The remarks made in the Report for 1909 with regard to the difficulty of preventing the spread of this disease in ships have been borne out by the experience of the year 1910.

Dengue.—7 cases—2 from China and 5 from Australia.

Influenza.—2,049 cases, with 1 final invaliding and 4 deaths, giving a case ratio of 18.04 per 1,000, a decrease of 7.6 as compared with the average for five years. The disease was, on the whole, of a very mild type.

Diphtheria.—21 cases, with 1 death.

Cerebro-spinal Fever.—A fatal case is reported from the West Indies.

Enteric Fever.—162 cases, with 2 final invalidings and 22 deaths. The case and death ratios per 1,000 were 1.42 and .19 respectively, as compared with an average of 1.53 and .23.

Mediterranean Fever.—8 cases, with 1 final invaliding, but in this case the patient remained from 1909. The case ratio is .07 per 1,000, as compared with an average of 1.16; and as four of these cases suffered from the sequelae of an attack which occurred years ago, it is in reality still lower. The only fresh infections are 3 returned from the Mediterannean Station (the smallest number on record since the disease has been differentiated) and 1 from China, evidently contracted at Malta while on passage by drinking goat's milk. One of the three patients in the Mediterranean was a Maltese, and another was a Maltese on the mother's side and lived ashore. The number of days lost to the service was reduced to 590, as compared with 30,541 in 1903.

Pyrexia.—296 cases, with 2 invalidings from the East Indies, showing a considerable reduction in the case ratio. It is stated that most of the cases in the East Indies appear to have been *Phlebotomus* fever.

Cholera.—No cases are recorded, although there was a highly suspicious attack, returned as ptomaine poisoning, in the *Thistle* at Shanghai. Pathological investigation proved negative as regards cholera.

Dysentery.—77 cases, with 3 final invalidings and 6 deaths, showing an increase in the case ratio.

Pneumonia.—519 cases, with 9 invalidings and 39 deaths.

Malaria.—597 cases, with 1 final invaliding and 1 death, while 25 other patients were invalided from foreign stations. The case ratio per 1,000 was 5.25, as compared with an average of 4.92. The East Indies again contributes by far the largest number of cases, 321, of which a considerable proportion were due to a landing party at Lingah, in the Persian Gulf, and the remainder were mainly contracted at Bombay. The highest case ratios were furnished by this station, 160.5; Cape of Good Hope, 20; Irregular List, 12.33; China, 7.87, and North America, 7.08. The total, as usual, includes a large number of relapses, and does not imply that 597 individuals were affected.

Septic Diseases.—40 cases of erysipelas were returned under this heading.

Tuberculosis.—261 cases, with 205 final invalidings and 26 deaths. The case, invaliding, and death ratios per 1,000 were 2.29, 1.8, and .22, as compared with an average for the previous five years of 2.98, 2.2, and .3. Of the whole number, pulmonary tuberculosis contributed 208 cases, of which 16 proved fatal; joints, 12, with one death from cerebral haemorrhage; glands, 7; genito-urinary system, 5; and skin, 2. The disease was generalized in 9 with 7 deaths, and the remaining cases were 2 of tuberculous pleurisy, 2 fistula, and 2 abscess, 1 bursitis, 1 tumour of brain, and 1 meningitis. The last two cases also proved fatal. The East Indies contributed the highest case ratio, and the Irregular List the lowest.

Venereal Diseases.—The total number of cases recorded is 13,402—namely, chancroid, 2,338; syphilis (primary), 621; syphilis (secondary), 3,271; gonorrhœa and its sequelae, 7,172. There were 148 final invalidings, namely, 80 for secondary syphilis, and 68 for gonorrhœa and its sequelae. Six cases of constitutional syphilis ended fatally. The case, invaliding, and death ratios per 1,000 were 118.03, 1.29, and .05 respectively, as compared with an average for the previous 5 years of 121.93, 1.39, and .04. The total number of days' loss of service was 321,323, while the average daily number of men ineffective from these diseases was 880.33, as compared with 892.84 in 1909, and 889.15 in 1908. The China Station shows the highest case ratio per 1,000 with 154.37, and the Home Station 143.57; while North America and the Fourth Cruiser Squadron with 81.56 show the lowest. Australia shows 103.27, a still further reduction as compared with 1909, and it suggests, says the report, that the legislative action referred to in 1909 has played a part in this improvement.

Rheumatic Fever.—969 cases, with 23 invalidings. The case and invaliding ratios per 1,000 were 8.53 and .2, as compared with 4.5 and .62, the average for the preceding 5 years. The increase in the case ratio is probably to a

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[2] This number includes men temporarily invalided from foreign stations, many of whom are again able to join the active force. The number finally invalided represents the waste of the service from this cause during the year.

great extent the result of more accurate classification, as there is a marked fall under the heading "Organs of locomotion." Of the total number of cases finally invalided for organic heart disease, 78 either developed in the course of rheumatic fever, or, in a few, gave a history of that disease, and were considered to be probably the result of it. Of the total number of cases (969) 349 were contributed by the Home Fleet, 344 by the Home Station, 78 by the Atlantic Fleet, and 52 by the North American Station and Fourth Cruiser Squadron, but principally by the latter. There is accordingly considerable justification for the statement that concentration in home waters accounts to some extent for the recent increase under this head.

Other Infective Diseases.—13 cases, with 1 final invaliding and 11 deaths. The total includes 5 cases of septicaemia, 4 of ulcerative endocarditis, and solitary cases of acute osteomyelitis, acute infective periostitis, pyaemia, and whooping-cough.

Parasitic Diseases.—3,241 cases, of which 3,135 were scabies. The ratio shows a decrease, as compared with the average, of 7.31 per 1,000.

Alcoholism.—96 cases, with 1 final invaliding, an improvement upon 1909, and also as compared with the average for five years.

Poisons.—98 cases, with 4 final invalidings and 3 deaths. Lead poisoning was responsible for 16 cases, and ptomaine poisoning for 40, with 2 of the deaths, both of which occurred on the China Station. Of the remainder, carbon monoxide was the cause in 7, with 1 fatal case, carbonic acid in 1, and the fumes of a stove in 1, various kinds of fish in 14, mercury in 8, the cocaine habit in 1, morphine habit in 3, with 2 invalidings, and overdose of sulphonal in 2, with 1 invaliding. There were solitary instances of poisoning by phosphorus, turpentine, lead and opium lotion, tobacco, and insect bite. The fourth invaliding was for the results of the fumes of petrol, an officer who had several months previously been overcome in a submarine.

Other General Diseases.—181 cases of gout: 143 of non-malignant and 24 of malignant new growth; 12 of diabetes; and 132 of other diseases. The latter heading includes 54 cases of anaemia, 32 of beri-beri, 21 of debility, 4 of osteo-arthritis, 3 of purpura, 2 of lymphadenoma, 2 of pernicious anaemia, 2 effects of climate, and solitary instances of haemophilia, myxoedema, and suspected yaws. The remaining cases were 2 persons under observation as suspected typhoid carriers and 7 of the effects of antityphoid vaccination. There were 9 deaths from malignant disease, 3 from diabetes, 2 from beri-beri, and 1 each from haemophilia, pernicious anaemia, and lymphadenoma.

Local Diseases.

Diseases of the Nervous System.—840 cases, with 309 final invalidings and 16 deaths. The case, invaliding, and death ratios are 7.38, 2.71, and .14 per 1,000 respectively, as compared with 7.83, 2.23, and .12, the average for the preceding five years. "Nervous diseases" accounted for 772 cases, with 258 invalidings and all the deaths, and "mental diseases" for 68 cases and 51 invalidings.

Diseases of the Eye.—897 cases, with 164 final invalidings, mostly errors of refraction.

Other Organs of Special Sense.—689 cases, with 116 final invalidings and 1 death. Diseases of the ear accounted for 618 cases, 110 invalidings, and the death.

Diseases of the Circulatory System.—676 cases, with 302 final invalidings and 42 deaths, giving case, invaliding, and death ratios of 5.95, 2.66, and .36 per 1,000 respectively, in comparison with an average of 5.75, 1.86, and .32. As has already been indicated, the increase in the invaliding rate corresponds to the diminution under the heading "rheumatic fever." Organic heart disease accounted for 260 cases, with 262 final invalidings and 28 deaths; functional heart disease 151, with 18 final invalidings; aneurysm for 25, of whom 11 died; diseases of veins, 215; and 25 other diseases, of whom 3 died.

Diseases of the Respiratory System.—7,683 cases, with 50 final invalidings and 6 deaths. The case ratio shows a decrease of 2.92 per 1,000, as compared with the average for five years. Catarrh furnished 6,298 of the cases, and the ships in home waters provide five-sixths of the entries.

Diseases of the Digestive System.—12,104 cases, with 124 final invalidings and 23 deaths, giving case, invaliding, and death ratios of 106.61, 1.09, and .2 per 1,000 respectively, as compared with an average for the previous five years of 104.55, 2.22, and .22. It is interesting to note that the decrease in the invaliding rate is ascribed mainly to the small number of cases invalided for defective teeth, which in 1910 was only 7, as compared with 122 in 1909; 82 cases of hernia were invalided, 31 after refusing operative treatment. "Mouth and teeth" diseases accounted for 768 cases; sore throat and tonsillitis for 5,662; gastric and intestinal diseases for 1,193 and 3,207 respectively; hernia for 660; haemorrhoids for 402; hepatitis for 51; and other diseases of the liver, 161. The majority of the deaths were due to gastric (3) or intestinal disease (17). Among the cases under the latter heading there are notes of 280 cases of appendicitis. The highest case ratios were furnished by the East Indies, the Home Station, and the Mediterranean; the lowest by the Home Fleet and Australia.

Diseases of the Lymphatic and Glandular System.—449 cases, of which 327 were due to non-venereal bubo. China and the Cape Station show by far the highest ratios.

Diseases of the Urinary and Generative System.—939 cases, with 65 final invalidings and 14 deaths. Renal diseases, mainly various forms of nephritis, accounted for all the deaths and a majority of the invalidings, but a considerable number of persons were also invalided for incontinence of urine.

Diseases of the Organs of Locomotion.—1,526, with 44 final invalidings and 1 death from suppurative tenosynovitis and cellulitis. The case ratio is only 13.44 per 1,000, as compared with an average for five years of 19.58, a fact that must be taken into account in connexion with the apparent increase under the heading "Rheumatic Fever." Diseases of joints accounted for 10 invalidings, but the majority were classed as "Other Diseases," the commonest cause being flat-foot.

Diseases of the Connective Tissue and Skin.—8,656 cases, with 11 final invalidings. The case ratio varied from 199.5 in the East Indies to 36.19 on the Cape Station.

Injuries.

(*a*) *General.*—293 cases, with 8 final invalidings and 81 deaths, the ratios being almost identical with the average for the previous five years. The deaths were due to: Drowning, 64; burns and scalds, 7; heat-stroke, 2; multiple injury, 8. Three cases of caisson disease are recorded, and 138 of heat-stroke.

(*b*) *Local.*—15,657 cases, with 127 final invalidings and 19 deaths, giving case, invaliding, and death ratios of 137.91, 1.11, and 0.16 per 1,000 respectively, as compared with 144.64, 1.2, and 0.16, the average ratios for the preceding five years. Under the heading "Burns and Scalds" 1,240 cases are classed, and 14,417 under "Injuries."

(*c*) *In Action.*—Sixteen wounds in action are recorded, with 6 deaths. All occurred in the Persian Gulf during the operations against gun-runners. Fourteen, with all the deaths, were the result of an engagement at Dibai, and 2 of another at Ras Bris.

Suicide.

Eleven deaths are returned under this heading: 3 each by poison and hanging, 2 each by cut throat and shooting, and 1 by drowning.

Papers.

An appendix to the report contains an interesting account of illness occurring during diving, by Fleet Surgeon R. S Bernard. The man was recompressed, and then gradually decompressed. Recovery was complete the next day. Staff Surgeon E. C. Sawdy also reports a case of illness occurring while diving. A paper on *Phlebotomus* Fever in Crete is contributed by Fleet Surgeon L. Kilroy and Surgeon G. Adshead. Deputy Surgeon-General W. M. Craig, of Haslar, reports a case of successful ligature of the common carotid artery for aneurysm; a successful case of operation for perforated gastric ulcer; and a successful case of laparotomy for acute complete intestinal obstruction due to a post-operative band. Fleet Surgeon R. C. Munday contributes valuable papers on Beri-beri in the Persian Gulf, and Surgeon A. V. J. Richardson records a complicated case of ulcerative urethritis treated urethroscopically.

The Royal Navy is to be congratulated on the continuous improvement in the health of the force shown by the report; and the papers are a proof of the professional efficiency of the medical officers.

MEDICAL OFFICERS OF TERRITORIAL FORCE.

IN reply to a correspondent who inquires as to the rates of pay, allowances, duties, and expenses of a medical officer of the Territorial Force, the following brief statement may be made:

Territorial medical officers join the R.A.M.C. (T.F.), and are then either posted to a medical unit, such as a field ambulance, or attached as medical officer to a regiment. A candidate for a commission must apply to the Secretary of the Territorial Force Association for the county in which he desires to serve, and the application should be accompanied by a copy of the candidate's birth certificate. The application may be sent

direct, or through the Administrative Medical Officer of the Division, or through the commanding officer of the medical unit or regiment in which he desires to serve.

The duties of a medical officer will depend on the particular unit and on the number of its medical officers. Regimental medical officers examine all recruits for the unit, for which 1s. a head is allowed by most associations. They also train the regimental bearers in first aid and ambulance, and the sanitary squad in sanitary duties. Lectures are delivered on first aid, sanitation, etc., to officers and men. There is no pay except at camp, and only one M.O. per regiment can receive pay at camp. The camp pay and allowances (mess, field, and half lodging allowance) for medical officers ranges from £1 2s. 1d. per diem for a lieutenant to £2 2s. 3d. for a lieutenant-colonel, but regimental M.O.'s do not reach higher rank than major (pay and allowances 34s. 6d. per diem). During camp the officer finds everything for himself except the share of an unfurnished tent. The camp duties comprise attention to the sanitation and conservancy of the camp and the health of the men, attention to sick, lecturing on the preservation of health, etc., training the stretcher bearers and sanitary squad, and going out with the regiment on field work. A sum of five pounds is provided for a horse for the fifteen days.

The provision of service dress is compulsory for each officer, and the initial grant on passing the first examination will cover this. Full dress and mess kit are now optional, but are almost invariably obtained by officers. The latter is essential for social functions. The cost will depend a good deal on the tailor. Mess expenses, exclusive of camp, vary according to the unit and the rank of the officer—say from three to ten guineas; and here also much depends on social functions. As our correspondent resides in Scotland, he might obtain any further details from the honorary secretary of the Scottish Volunteer Medical Officers' Association, Lieutenant-Colonel Halliday, 14, St. Andrew's Drive, Glasgow.

Medical News.

DR. L. F. COGAN of Northampton was elected Mayor of that town on November 9th.

THE Local Government Board for England has issued a memorandum dated November 11th, 1911, relative to the operation of the Housing, Town Planning, etc., Act of 1909, and the earlier Housing Acts as amended by that Act. (Cd. 5953, price 1½d.)

THE annual dinner of the Association of Certifying Factory Surgeons will take place on Friday, December 8th, n the Trocadero Restaurant, London. Further information can be obtained from the Secretary at 16, John Dalton Street, Manchester.

THE Royal Dental Hospital, Leicester Square, has eceived a donation of £100 and a new yearly subscription f £50 from Mr. James Buchanan, a donation of £52 10s. rom N. M. D., and £10 10s. each from the Skinners' ompany and Messrs. Drummond.

THE Glasgow University Club, London, will dine at the rocadero Restaurant on Friday, December 1st. Dr. . Yule Mackay, M.D., LL.D., Principal of University ollege, Dundee, will take the chair at 7.15 p.m. Further articulars may be obtained from Mr. W. Craig Henderson, Paper Buildings, Temple, E.C.

THE autumn dinner of the Irish Medical Schools' and raduates' Association will be held at the Hotel Cecil, ondon, on November 30th, at 7.15 p.m. The President ir Charles Cameron, C.B.) will be in the chair, and the ght Hon. Lord Ashbourne, P.C., and Mr. R. F. McCall, C., will be the guests of the association. Tickets may obtained from Mr. W. J. Corbett, F.R.C.S.I., Honorary ecretary, 18, Weymouth Street, Portland Place, W.

THE committee which has undertaken the task of proing one or more homes for nurses as a memorial to s late Majesty has appointed Sir Everard Hambro, C.V.O., as chairman, and Miss Cave, matron of the stminster Hospital, as deputy chairman. Towards project some £12,300 have at present been received, ut £5,300 having been provided by nurses. Sir John lfe Barry, K.C.B., has placed at the disposal of the mmittee a house at Clapham, in which the first home l be started as soon as the necessary alterations have n made. The donors include Her Majesty Queen xandra, who sent £100. Further assistance from those o have benefited from the services of nurses is ind. All letters on the matter should be addressed to Everard Hambro, at 15, Buckingham Street, Strand.

R. CLAUDE DOUGLAS, F.R.C.S., who has recently comed twenty-five years' service as honorary surgeon to Leicester Infirmary, and who is about to surrender his ointment, was entertained at luncheon by the board of ernors and the medical staff on November 15th. On conclusion, his health was drunk, and a presentation le to him in the form of an illuminated address and a gold watch. In acknowledging the gift, Mr. Douglas laid emphasis on the importance to a surgeon of skilled nursing, and expressed his gratitude to those who had thus assisted him in his work. The best hours of his professional life had been passed within the walls of the infirmary. On the same occasion a portrait of her husband was presented to Mrs. Douglas. A copy of this picture is to be hung in the infirmary.

THE past and present students of the National Dental Hospital met together at the Trocadero Restaurant on November 17th for the annual dinner held in connexion with the dental college of this institution. The proceedings included a prize distribution, an excellent programme of music, and a certain number of speeches. The considerable number of guests present included Mr. Rickman Godlee, now president of the Royal College of Surgeons of England, the deans of kindred institutions, the presidents of dental associations, and the examiners for the diploma in dentistry of the Royal College of Surgeons. Sir William Ramsay, who was in the chair, proposed the toast to "The Hospital and its College," and in the course of his remarks mentioned, on the authority of Professor Gardner, that though both in Greece and ancient Rome the law strictly forbade the burial of treasure of any kind—even of silver coin—yet the dead were allowed to be buried with gold stoppings in their teeth. Speaking of the present, he urged that neither dental students nor dental practitioners should allow themselves totally to be absorbed by their professional work; some part of their thoughts and energies should be devoted to their duties as citizens in helping to preserve for themselves and their fellows political and national freedom. In acknowledging the toast, Mr. Sidney Spokes, the dean of the school, said that though the alterations found necessary had been very large, they would practically be out of debt when the work was complete. Among other items a sum of £150 was being expended in providing for *x*-ray work. The toast to "The Guests," proposed by Mr. Kenneth Goadby, vice-dean of the school, was acknowledged by Mr. Rickman Godlee, who, speaking of the diploma in dentistry introduced by the Royal College of Surgeons in 1859, said that those who held it included about 39 per cent. of all dental practitioners. The winner of the Ash prize was Mr. W. V. T. Styles, of the Cottrell prize Mr. G. L. Venning, and of the Rymer medal Mr. S. S. Beare. The latter was also awarded the medals in dental anatomy and physiology and in dental histology, while Mr. Venning was likewise the winner of the medal in dental surgery and pathology.

ON November 15th an extraordinary general meeting of the governors of Epsom College was held at 37, Soho Square for the purpose of considering a proposal to amend By-law 16. Section 1, and By-law 24, Section 2, in order to enable the full number of 50 pensioners and 50 foundation scholars to be on the books of the college at the beginning of every school year. The treasurer, Sir Henry Morris, who was in the chair, observed that prior to the alteration of the by-laws sixteen years ago, any vacancies for pensioners and foundation scholars occurring within three months after the annual election could be filled by the appointment of the unsuccessful candidates who had obtained the largest number of votes. But under the existing by-laws only three vacancies in each class could be so filled, the limit of time after the election being three months in the case of pensioners and four months in the case of foundation scholars. As many of the pensioners were advanced in years, it was probable that a number of vacancies might occur between the date of the council meeting in April when the voting papers had to be printed and three months after the annual general meeting of the governors, held about the end of June. In the case of foundation scholars, it was exceedingly difficult for the head master and the bursar to estimate in April the number of boys who would be leaving the college within four months after the election. In issuing appeals for subscriptions and donations, the council had for many years drawn attention to the fact that 50 pensioners and 50 foundation scholars were being maintained by the foundation; hence, if more than three vacancies occurred amongst either the pensioners or the foundation scholars the council were not, strictly speaking, keeping the promise held out to persons as an inducement to subscribe. If the suggested amendments in the by-laws were adopted the council would be able to ensure that there were on the books of the college at the beginning of every school year the full numbers of 50 pensioners and 50 foundation scholars. A formal resolution was then unanimously carried making the proposed alteration in By-laws 16 and 24, namely, the deletion of the proviso. (The by-laws were printed in the JOURNAL of November 11th, page 1309.)

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

THE annual meeting of Fellows and Members of the Royal College of Surgeons of England was held at the College in Lincoln's Inn Fields on November 16th, with the President, Mr. R. J. Godlee, in the chair, who in the course of presenting the annual report pointed out that the result of the action taken by the Council in respect of the National Insurance Bill had not been satisfactory.

Mr. H. Nelson Hardy moved the following resolution:

> That this meeting of Fellows and Members thanks the Council for its letter of June 1st to the Chancellor of the Exchequer, stating definitely the five points on which, in the opinion of the Council and in that of the great majority of the Fellows and Members of this College, amendments were required in the bill; regrets the unsatisfactory nature of the official reply, which subsequent events have shown to be entirely misleading; and trusts that until all those five points have been satisfactorily arranged no Fellow or Member of this College will take part in carrying out the scheme of national insurance proposed in the bill.

He said that the admirable letter of the Council* summarized under five headings the objections of the profession to the bill as originally drawn. The views therein expressed were in accordance with those of the great majority of the Fellows and Members of the College. They were also in harmony with the representations made to Mr. Lloyd George by the General Medical Council and by the British Medical Association. They believed with the Council that "the members of the medical profession have never been more united in feeling" than they were in opposition to some of the provisions of that bill, and they thanked the Council for having put on record a definite expression of their views. The official reply must be regarded as altogether unsatisfactory and misleading. Mr. Lloyd George, it was stated, would be glad to receive the co-operation of the medical profession in carrying out his scheme of national insurance, "and he is happy to note that in the most important respects his own proposals are in accord with those in the statement set forth in your letter." Could anything be more nearly the reverse of the truth than that allegation? Resolution No. 1 stated that the administration of the medical service should not be in the hands of friendly societies, etc. Mr. Lloyd George's bill provided that it should be in the hands of those societies, and when the common sense of the House of Commons had in Committee transferred it to the local Health Committees, Mr. Lloyd George, if the daily papers were to be believed, promised to restore, on the Report of the bill, the administration of medical benefits to the friendly societies, and had in fact given notice of a new clause with that intent. Resolution No. 4 stated that persons whose incomes averaged more than £100 per annum should not be permitted to receive medical benefit under the scheme. The bill provided that all earning up to £160 must, and those earning more might, insure and receive medical benefits. Resolution No. 5 urged that no attempt should be made to force upon medical men a service which was not sufficiently well paid to yield a proper remuneration for the labour entailed. Mr. Lloyd George's reply was, "This is all a wrangle about fees in a sick room: you can make your own terms with the local Health Committees," which meant they might fight the battle of the clubs over again, and he absolutely refused to put anything in the bill that would ensure proper remuneration. Those three points were amply sufficient to show how little truth there was in the official reply to the Council's letter that Mr. Lloyd George's proposals were in accord with the demands made on behalf of their Fellows and Members by the Council of this College. What the rank and file of the profession should do, in face of the dangers which threatened their means of livelihood, if the bill, as seemed probable, should pass in its present state, had next to be considered. They knew already that the representations of the General Medical Council, of the Council of their own College, and of the British Medical Association had been unavailing to procure the changes which they desired. No one, not even Mr. Lloyd George or his expert advisers, knew or could know what would be the practical result of the great experiment about to be tried of admitting some 15,000,000 lives, good, bad, and indifferent, to a so-called health assurance on the contract system at ordinary rates. What they did know was that no insurance company in the world would dare to take the risk of doing so, and that the effect of taking bad and doubtful lives would certainly be largely to increase, probably to double, the medical work involved as compared with that involved in the treatment of carefully selected lives under the old club system. Mr. Lloyd George, in his tabernacle and town hall speeches, had been fond of boasting that he was going to give the working classes 9d. for every 4d. they contributed. If they reversed the shield they would see how he expected to do that. He asked the medical profession to do 9d. worth of work for 4d., leaving the rest of the 9d. for sanatoriums, etc. If they refused to take the risk he sneered at their "wrangle about fees in a sick room." If those present agreed with him (Mr. Hardy) that they should refuse to take the risk, then they had simply to determine that under no circumstances would they take office under the insurance scheme proposed to be established under the bill until the objections raised on their behalf by the Council of their College had been met and removed. He thought they might also confidently express their hope, as the resolution did, that no Fellow or Member of the College would be so forgetful of what was due to his profession and to their own dignity as to assist in carrying out a scheme condemned by the general voice of the profession.

Mr. Arthur Maude (Westerham), in seconding the motion, emphasized the importance of the crisis and the necessity of obtaining a pronouncement by a poll of the College, in order to influence those in charge of the bill, while it was still possible. The feeling of the House of Commons was reasonable and sympathetic to the profession, but the Chancellor of the Exchequer, if he granted a concession one week revoked it by a fresh amendment the next. Out of the points demanded by the Council of the College in June the only point clearly conceded was the free choice of doctor; the corollary—the right of the doctor to refuse an insured patient—was conceded in principle, but in Mr. Maude's opinion was nullified by the slovenly drafting of Clause 14 (2) d. The "Addison amendment" was passed to meet the profession to some extent in the important question of the wages limit, but the bottom was knocked out of the amendment by the constitution of the committees. Since those committees were now to consist of insured persons, labourers and artisans, in the proportion of over half of each committee, and the profession was only to have two, or at most three, representatives in committees varying from 40 to 80 in number, it was impossible to expect any fair regulations to be laid down by such committees. On those grounds Mr. Maude considered that the College would be taking up a perfectly dignified position if it advised all Fellows and Members to refuse service under the Act, and that now was the time to make the refusal.

Mr. Collingwood said that it must be recognized that, however small a fee was given to the individual practitioner, it must be given for services rendered. The medical profession would be undertaking an unknown amount of work unless payment was by "the piece."

Mr. H. Elliot-Blake said that the Council could call a meeting of the Fellows and Members to consider the bill, and resolutions from such a meeting would impress Mr. Lloyd George more than the resolutions which had come from an oligarchical council.

Mr. J. Milward said that if the members of the profession stood together firmly, solidly, and shoulder to shoulder Mr. Lloyd George would not be able to coerce them.

Mr. Horace Rose said that they had listened to much talk about the iniquity of contract practice. If contract practice was so iniquitous, why should nearly every member present have submitted to it? The principle was right. He urged those present not to think of their pockets only, but to think a little of the nation and remember that the question concerned fifteen million of their fellow subjects.

Mr. A. S. Morton pointed out that the fifteen million fellow subjects were already provided for by the Poor Law boards of guardians in regard to receiving relief and medicine.

On Mr. Hardy's resolution being put to the meeting it was carried with two dissentients.

The following was moved by Mr. H. Elliot-Blake and duly seconded, but was lost on being put to the vote:

> That this meeting of the Fellows and Members desires the Council to obtain an Act of Parliament to authorize the change of the present and obsolete graduate titles of the College to the current and usual ones of M.D. or M.B., B.S., and of F.S. and F.M. for the respective Fellowships. And for those purposes to seek corresponding power to regulate their University courses within the schools of the University of London or elsewhere.

The following was moved by Mr. Joseph Smith, J.P., duly seconded, and carried:

> That this twenty-seventh annual meeting of Fellows and Members again affirms the desirability of admitting

* BRITISH MEDICAL JOURNAL, SUPPLEMENT, June 10th, 1911, p. 411.

Members to direct representation on the Council, which, as now constituted, does not represent the whole corporation, and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.

The following was moved by Mr. Sidney C. Lawrence, duly seconded, and carried:

That this meeting of Fellows and Members requests the Council to include in their next annual report a balance sheet showing fully and without reserve the assets and liabilities of the College on Midsummer Day, 1912.

UNIVERSITY OF OXFORD.

Pharmacology.

THE Trustees of the Oxford University Endowment Fund having offered the sum of £1,100 for the provision and equipment of a Department of Pharmacology in the University Museum, the Delegates of the Common University Fund will shortly proceed to the election of a University Reader in that subject. Information as to the conditions attaching to the Readership may be obtained from the Registrar of the University.

Appointments.

The following have been appointed to Examinerships: Dr. David Hepburn (*Human Anatomy*), Dr. W. H. Thompson (*Physiology*), Professor Georges Dreyer (*Pathology*), Dr. F. E. Fremantle (*Forensic Medicine and Hygiene*), Dr. H. D. Rolleston (*Medicine*), Mr. Charters J. Symonds (*Surgery*), and Dr. F. W. N. Haultain (*Obstetrics*).

UNIVERSITY OF LONDON.

THE following candidates have been approved at the October examinations indicated:

FINAL M.B., B.S. (*Both Groups of Subjects*).—*G. Gushue-Taylor (London Hospital), *J. C. Jefferson (Victoria University of Manchester), *O. R. Kelly (Westminster Hospital), *†H. L. Martyn (King's College Hospital), *S. B. Radley (Victoria University of Manchester), *E. G. Schlesinger (Guy's Hospital), *T. H. Whittington (King's College Hospital), G. A. Blake, Gertrude Brooks, M. A. C. Buckell, R. H. Candy. A. B. Clark, F. Cook, T. P. Edwards, R. F. Eminson, C. G. Galpin, G. Hadfield, H. L. Hopkins, A. W. Jones, D. W. Jones, E. H. Jones, T. L. Jones, E. C. Lindsay, G. W. Lloyd, J. H. Lloyd, Mary F. Lucas, J. T. M. McDougall, M. D. Mackenzie, G. Marshall, J. Menzies, D. A. Mitchell, C. T. Neve, A. W. Owen, A. A. W. Petrie, R. E. Porter, W. W. Pratt, N. R. Rawson, Maude M. Richards, C. F. Schuler, D. Scurlock, E. B. Smith, A. J. Tonkinson, Edith E. Tucker, G. E. S. Ward, H. H. V. Welch, J. C. Woods, R. M. Wright, J. M. Wyatt.

FINAL M.B., B.S. (*Group I only*).—G. C. Chubb, Irene N. Clough, V. Glendining, T. H. Holroyd, E. L. Hunt, C. D. Killpack, H. A. Moody, H. B. Parker, B. R. Parmiter, Mary M. Patterson, N. A. D. Sharp. (*Group II only*).—J. W. Adams, M. M. Adams, E. A. Attenborough, J. H. Campain, W. C. Dale, J. L. Davies, J. B. Dunning, M. C. F. Easmon, A. Ferguson, J. M. Foord, N. F. Graham, A. S. Hahn, G. F. Haycraft, R. H. Hodges, W. H. Kauntze, A. B. Lindsay, M. W. Littlewood, R. Pearse, C. J. H. Pearson, E. P. Scott, R. G. Sparkes, A. H. Thomas, F. S. Williams.

* Honours. † University medal.

UNIVERSITY OF EDINBURGH.

UNIVERSITY COURT.

The late Dr. Joseph Bell.

Edinburgh University Court has adopted the following ıte with reference to the late Dr. Joseph Bell:

By the death of Dr. Joseph Bell the University Court have been eprived of one of their oldest members. Elected by the General ouncil in 1895 as one of their assessors, he has continuously disharged the duties of the appointment since that period. He was nctilious in attendance, and brought to bear on the transaction business a keen intelligence and a knowledge of affairs which .ve weight to his opinions, and which materially assisted the ourt in their deliberations. As a graduate of the University, he as loyal to his Alma Mater, and jealous of her reputation. His lleagues found him invariably most ready to undertake the ties which he was called upon to discharge; and his genial ture and habitual courtesy both in manner and in speech made a pleasure to be associated with him.

he University Court desire to record in their minutes an appretion of the services rendered by their late colleague to the iversity, and they resolve that a copy be sent to the members his family.

Congress of Universities.

Court appointed the Vice-Chancellor, Sir William r, as a representative of the University on the Congress Universities of the Empire, to meet in London during ek beginning July 1st, 1912, and resolved to invite the ors to appoint from their number three additional entatives.

Appointments.

owe was appointed a Curator of Patronage, in room of e Dr. Joseph Bell.

following applications for recognition were granted: G. F. Barbour Simpson, Edinburgh (Midwifery and ology); (2) Dr. John Orr, Edinburgh (Materia Medica, atic); (3) Dr. James Miller, Edinburgh, as a Teacher of al Bacteriology to women students, for the diploma in l Medicine and Hygiene, and the certificate in Diseases ical Climates; (4) Dr. W. Ford Robertson, Edinburgh ogy of the Brain and Nervous System, and Bacteriology lation to Mental Diseases), for the diploma in Psychistry; s Winifred Muirhead, L.R.C.P. and S., Edinburgh (Bacteriology in its relation to Mental Diseases), for the diploma in Psychiatry.

It was intimated that the General Council had re-elected Dr. R. McKenzie Johnston as one of its assessors on the University Court, and had elected Dr. George A. Berry as an assessor in room of the late Dr. Bell.

UNIVERSITY OF GLASGOW.

GRADUATION CEREMONY.

THE winter graduation ceremony at Glasgow University took place in the Bute Hall on November 16th. In the absence of the principal through indisposition the capping of the graduates was performed by Professor Ferguson. The proceedings were conducted in dumb show amid considerable disturbance on the part of a large body of students, whose rowdyism took the form at times of a veritable *mêlee* in the middle of the hall. A good deal of actual damage was done, and after the ceremony, which was hurried through and only occupied thirty-five minutes, the students lined up on each side of the central passage, and, with upraised arms, formed an arch through which the new graduates passed. The graduates, including 50 ladies, were 170 in number. The following were the graduates in the medical faculty:

M.D.—*H. Morton, *P. D. Strachan, †D. S. Harvey, ‡D. L. Carmichael, ‡W. Gibson, ‡T. M'Cririck, ‡D. MacDonald, ‡N. S. MacNaughtan, ‡A. C. Munro, ‡J. Reid, ‡A. Robertson, ‡C. S. Thomson, W. Campbell, W. Clements, H. O. Cowen, R. Donald, R. S. Fullarton, J. D. Gray, W. M'Creadie, A. R. Mitchell, T. Speirs.

B.SC. IN PUBLIC HEALTH.—A. Allison, M.B., Ch.B., J. K. Patrick, M.B., Ch.B., and E. J. Primrose, M.A., M.D., C.M.

* Passed with honours.
† Passed with high commendation.
‡ Passed with commendation.

UNIVERSITY OF WALES.

A BILL has been issued for the extension of the Medical Acts to the University of Wales and its medical and surgical graduates. It empowers the University to hold qualifying examinations in medicine, surgery, and midwifery, and to grant diplomas, which may be registered under the Medical Acts.

NATIONAL UNIVERSITY OF IRELAND.

THE following candidates have been approved at the examinations indicated:

SECOND M.B., B.CH., B.A.O.—From University College, Dublin: *J. F. Herbert. *J. Doyle, *A. H. Flannery, †M. T. MacMahon, †P. McDonnell, J. D. Carroll, T. J. Farrell, T. Fennessy, E. T. Freeman, J. Garry, J. S. Johnson, Mary C. McKenna, F. I. MacMahon, E. A. M. Magennis, J. Moonan, G. P. O'Donnell, E. J. O'Kelly, J. J. Reynolds, J. P. Robinson, J. Stokes, E. Tempany, Catherine J. Timony. From University College, Cork: †J. Kennedy, †T. F. Kennedy, †V. O'Hea-Cussen, T. J. Buckley, P. Cagney, A. T. Crowley, T. Kennedy, W. Lehane, J. J. Magner, J. G. Mann, W. A. Murphy, Mary J. O'Connor, J. P. O'Flynn, J. E. Power. From University College, Galway: W. Bergin, T. J. Flannery, W. F. Hare, T. J. Lydon, †J. I. Murnane, Mary M. A. O'Leary, †M. Shanahan, H. Smith.

THIRD M.B., B.CH., B.A.O.—From University College, Dublin: T. F. Colfer, A. J. Dempsey, B. Doyle, B.A., E. H. Fennessy, C. J. Halpin, R. Hennessy, J. O'B. Hodnett, J. J. Keirans, ‡C. J. MacAuley, H. T. S. McClintock, M. J. McCormack, D. A. MacErlean. *K. McGrath, M. McGuire, B.A., W. J. Moloney, ‡H. F. Moore, J. O'Connor, W. M. J. O'Connor, P. J. O'Grady, J. Prendiville, J. M. Rishworth, M. Sweeney, F. C. Yorke. From University College, Cork: *P. J. Walsh, *M. J. Roche, †Sarah C. Wolfe, †H. V. O'Shea, †J. F. Rahilly, †S. P. Stoker, †E. C. Fawcett, D. E. J. Burke, M. J. Cogan, H. J. Cotter, D. J. Enright, G. H. Hayes, J. C. Johnson, J. S. Levis, D. Lynch, J. P. O'Brien, T. J. O'Riordan, A. Verling, J. F. Walsh.

FINAL.—From University College, Dublin: *O. J. O'B. O'Hanlon, †M. McGuire, C. Barragry, P. E. Carroll, T. A. Daly, G. Fitzgerald, J. L. Kilbride, A. D. MacMahon, D. McSparron, P. F. Murphy, H. O'Neill, J. M. Rishworth, W. N. Rishworth, P. J. Ryan. From University College, Cork: *R. H. Barter, †R. C. Cummins, M. J. Cogan, F. H. Duke, T. F. Hegarty, H. J. V. Mullane, D. O'Brien, J. A. O'Flynn, F. J. D. Twigg. From University College, Galway: †J. Lyons, S. E. Watson.

M.D.—§M. Dowling, W. Crofton, J. Flynn.

D.P.H.—J. J. Dennehy.

The Special Prize of £50 has been awarded to S. A. McSwiney, of University College, Dublin.

* First-class honours in all subjects.
† Second-class honours.
‡ First-class honours in certain subjects.
§ Gold medal for thesis.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following candidates have been approved at the examination indicated:

FIRST COLLEGE.—G. . Alderson, A. B. Appleton, Elizabeth L. Ashby, G. W. Beresford, E. Boyd, G. N. Brandon, R. M. Carter (Captain I.M.S.), J. Clark, R. J. Clausen, A. R. C. Doorly, P. G. Doyne, W. Gilliatt, J. R. Griffith, T. S. S. Holmes, H. J. Hoyte, J. Kennedy, H. R. Knowles, A. C. Magarey, Nanalal M. Mehta, H. L. C. Noel, V. C. Pennell, J. L. Perceval, M. N. Perrin, J. L. Priston, M. O. Raven, H. G. Rice, W. Salisbury, W. Smith. A. H. Southam, H. F. Strickland, G. Viner, I. S. Wilson

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

D.P.H. (FINAL).—C. Barry, D. R. J. Davidson, Wm. Elder, H. T. Galbraith, *E. Lewis-Lloyd, D. J. F. O'Donoghue (Captain R.A.M.C.). R. W. Orpen, H. B. Sherlock, M. Walters.

* Passed with honours.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

PUZZLED wishes to know whether vaccine treatment would be likely to be of use in a case of acne in a patient 17 years of age in good general health. All the usual remedies have been tried without good result.

INQUIRER, who wishes to send his wife and two daughters to a warmer climate during the winter, asks for information as to a suitable climate where the prices would be reasonable. He believes that those of the fashionable resorts in many places in the South of France and Italy are almost prohibitive.

CHLOROFORM asks for suggestions for procuring dreamless nights. Whether he goes to bed supperless, or after a very light, a moderate or a heavy supper, he dreams, and awakes unrefreshed.

INFANTS AND ANTITOXIN.

ANTIDIP asks: (1) At what age can antitoxin be given with safety for diphtheria? (2) Could a babe of two months be treated with it? Or (3) Could it be protected through the mother's milk. (4) If the babe can be directly treated, what should be the dosage?

*** (1) Any age, no matter how young. (2) Yes. (3) No. (4) 2,000 to 8,000 units, to be repeated if necessary.

INCOME TAX.

T. M. R. W. has substituted a motor car for a horse and trap for professional use, and desires to know whether the cost can be deducted as an expense of carrying on the business.

*** If the condition of the horse and trap was such that a replacement was necessary, so much of the cost of the motor car as represents the original cost of the horse and trap (less the sum that was realized by the sale) is a proper deduction from the profits of the year in which the expense of replacement was incurred.

COMPENSATION, who holds an appointment in a county adjoining that in which he resides, inquires whether the expense of travelling to the district in which his duties are performed is allowable as a deduction. The surveyor of taxes has objected to the allowance.

*** If the income from the appointment is assessed under Schedule E, the surveyor is correct in his contention. It has been held in the courts that the expense of travelling to the place of employment is distinct in nature from the expense of travelling in the course of exercising the duties of the employment. It will be well for our correspondent next year to apply to have the profit of the appointment included in his general profession assessment under Schedule D, a course now permitted by the Board of Inland Revenue.

ANSWERS.

REGULAR READER.—The preparation referred to was included in the remedies reported upon in the BRITISH MEDICAL JOURNAL of January 7th, 1911, p. 26.

A. W.—It is not an uncommon practice for a specially trained nurse to be engaged to attend upon a surgeon in a private home at an operation (as a theatre nurse may be appointed in a hospital) and for another nurse to nurse the patient.

M. J. B.—The case is possibly dependent on some physical cause or habit. It will probably develop into a definite form of cyclical insanity, if it cannot be checked by treatment. It would be desirable to have the advice of a mental specialist. Treatment by suggestion would not be likely to succeed.

A CORRESPONDENT has sent us a circular addressed to his (non-existing) wife by a beauty culturist; it contains the usual now-or-never appeal and the usual promises of secrecy. We do not know that the matter is one that particularly concerns medical men. Since the days of the Mycenian civilization, recently brought to light, there have always been ladies who believed that there were dodges for making the clock stand still.

HENDEE.—Our correspondent will find a discussion of the degree to which cousins tend to resemble one another in *On the Measure of the Resemblance of First Cousins*, by Ethel M. Elderton, assisted by Karl Pearson (Dulau and Co., price 3s. 6d.). A pamphlet specifically dealing with the question of marriage between cousins, by E. M. Elderton, is announced for early publication. It is, we believe, impossible to lay down any hard and fast rules for the guidance of a medical man asked to express an opinion upon the advisability of any particular marriage between cousins.

P.—There is some relation between the mammary and ovarian functions, some "internal secretion" or "hormone," which, according to physiologists, stimulates the opposite organ. It seems clear that mammary extract, prepared from the udder of lactating cows and sheep, is of service in cases of metrorhagia, menorrhagia, atrophic conditions developing in the ovary in young subjects, and (some writers add) uterine fibroids. Possibly ovarian extract might prove of benefit in ill development of the mammary glands. As the ovaries, however, may in the case mentioned be ill developed, mammary opotherapy, above referred to, may be indicated. Such cases, however, are never very amenable to therapeutics.

IMMERSION OBJECTIVES.

XINGU.—Immersion objectives are computed to work with immersion fluids of certain refractive and dispersive powers. An objective that is computed to work with cedar oil cannot be used with any other fluid without serious loss of optical performance. Objectives have been made to work with glycerine water and naphthaline monobromide as immersion fluids. These have been made for special purposes, and can be obtained from opticians. The selection of the particular immersion fluid is determined by considerations of numerical aperture. It has been stated that the optical properties of paraffinum liquidum (*B.P.*) are identical with those of cedar oil, and that this fluid can be used with oil immersion objectives of the homogeneous type. This may be so with objectives of the second class, but with the most perfect glasses there is a serious falling-off in performance.

LETTERS, NOTES, ETC.

POISONING BY ACETYL SALICYLIC ACID.

DR. ALBERT H. B. KIRKMAN, F.R.C.S.Ed. (Queenstown, Cape Colony) writes: In the BRITISH MEDICAL JOURNAL of February 11th, 1911, Dr. Conway Morgan narrates a case of poisoning with aspirin. Toxic symptoms due to this drug must be rare, since enormous quantities are now taken by the laity without doctors' prescriptions, apart from the frequency with which it is ordered by the profession.

During the hot weather I am a constant sufferer from severe headaches, and have on many occasions taken doses of 10 grains of aspirin, and on one or two occasions 15 grains without ill effects. On a very hot day last summer I was to play in a tennis match during the afternoon, and, having a headache, I took two of Burroughs and Wellcome's 5-grain Xaxa tabloids at 3 p.m. At 3.45 p.m. I started playing in the hot sun. After playing two or three games I felt my hands, arms, and feet tingling, my head felt "full," and I had a slight tendency to retch. I finished the "set," which only lasted fifteen minutes, and which ended disastrously to my partner and myself; and without waiting to explain a hasty retreat I jumped on a bicycle and rode home, which was only a few hundred yards distant. On reaching the house I had a burning sensation over the entire body. On looking in the glass I saw my face was very swollen, with lips double the normal size, conjunctivae suffused, and eyelids puffy. My whole body was covered with a profuse urticarial rash, my fingers, toes, and other parts being very swollen. My pulse was rapid, and out of curiosity I kept my finger on it for some time. After lying on the bed some few minutes, it had become so rapid and running that I could not count it, and, feeling anxious about myself (there being only a coloured domestic in the house at the time), staggered down to the surgery, poured out a dose of liq. strych. mx, and drank it. Whilst the glass was at my lips I fell unconscious on the dispensing counter, scattering bottles etc., in all directions, but must have almost immediately recovered consciousness. I managed to drag myself slowly back to the bedroom, where I remained until my wife, who had been out, returned at 6 p.m. My whole body was now swollen and covered with the rash, the face and lips being enormously puffy. The pulse had fallen to 130. Next morning the rash had gone, but my face was still slightly swollen, and the pulse was quicker than normal. During the day I felt ill, and was unable to do my work until the evening.

On many occasions since this experience I have taken aspirin, but am careful only to take it when it is possible to rest for an hour or two afterwards. This experience should make certain of our colleagues who are in the habit of promiscuously prescribing 15-grain doses of aspirin cautious in selecting their cases and in advising their patients to remain quiet after dosage.

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Two Lectures
ON
UNICELLULA CANCRI:
THE PARASITE OF CANCER.

DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

BY

SIR HENRY BUTLIN, BART., F.R.C.S.,
PAST PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS; HUNTERIAN PROFESSOR.

(With Special Plate.)

II.—THE PARASITE OF CANCER.

T will now be convenient to consider how far this theory will account for the phenomena of malignant disease, as we know them in man and animals. Dr. Charles Powell White, in his *Lectures on the Pathology of Cancer*,[1] says:

We can say, then, that cancer is not due to a specific parasite or parasites, but, on the other hand, we can say that cancer cells themselves act as parasites. This view will explain all the phenomena of cancer.

And Dr. James Ewing, in his *Cancer Problems*,[2] says:

The whole basis, objective and theoretical, of the cancer parasite has been traversed again and again, with the uniform conclusion of those who finish the journey that the cancer parasite is the cancer cell.

Dr. White's statement is general and sweeping, but I believe it to be in the main correct, although I am not aware of any detailed analysis on which it rests. So far as time will permit, I propose to supply the deficiency.

There are two great phenomena of malignant disease (cancer) which overshadow all the others, and to which most of the other phenomena are subordinate, and on which they are more or less dependent:

1. The tumour.
2. The metastases.

The tumour may exist without metastases, and there are reasons for believing that metastases may exist without the presence of a tumour.

1. THE TUMOUR.

The tumour is the primary disease, so far as we know. Until a very few years ago the presence of a mass was regarded as an essential to the diagnosis of malignant disease. Now we know that the primary—the initial—lesion of cancer (I use the word as synonymous with malignant disease) may exhibit nothing more than a really trivial thickening of a small area of the skin or mucous membrane. From this trivial beginning arise all the various phenomena which go to make up the history of a case of cancer, and from it originate all the misfortunes and sufferings of the individual—the host. For, if this tiny area be examined with the microscope, it will be found to be composed of cancer cells, which are either massed together, as if without law or order, or which may, on the other hand, be arranged with singular and wondrous skill, so that the appearance of the disease may closely simulate that of a natural tissue or organ of the body. (Fig. 6.) There is also provision for the maintenance of the cells, in the form of vessels, and often of scaffolding or framework, in which the cells are arranged. And there are usually numbers of other cells—leucocytes, lymphocytes, granular cells for the most part—in the outskirts of the tumour. So that the mass is made up of several elements, of which the essential element is the cancer cell. All the conditions connected with the tumour depend, directly or indirectly, on the behaviour of the cancer cells.

The cells may fail to maintain themselves, in which case the tumour comes to an untimely end. They degenerate, shrink, waste, die, and are devoured by phagocytes. How often this happens no one can conjecture, but probably much more frequently than is supposed.*

On the other hand, the cells may thrive, may grow and multiply, in which case the tumour extends its area. When it occurs in the substance of an organ, such as the breast, it may become quite a large lump, or if it occur in a limb around the bone, it may attain an enormous size. Examine the structure of such a mass, and you will find that the cancer cells and framework have taken the place of the tissues which ought to be there. Fat, fibrous tissue, muscle, have disappeared, or are broken up and separated by groups and masses of cancer cells with their framework. Examine the tissues beyond the apparent limit of the tumour, and you will often find isolated cells or groups of cells between the muscular fibres or in the minute or larger lymphatics.[3] (Fig. 8.) And you may find little masses of cancer cells projecting into the lumen of a blood vessel the wall of which may be destroyed or still unbroken.[4] (Fig. 9.)

These conditions are not discovered in all cases of malignant disease, even in all cases of the same variety of cancer of the same part of the body. In some cases not a single isolated cell or group of cancer cells will be discovered in the tissues beyond the apparent limit of the tumour. I do not say they are not there, but they are not recognized, so that they cannot be either large or characteristic. Where they are found, however, they may directly produce new phenomena, for a single cell or group of cells may grow to form a mass in the midst of the muscle or tissue where it lies.

The advance of the tumour is characterized by one great phenomenon—destruction. Every tissue which it attacks is destroyed, and replaced by the cancer cells and their suite. Hard tissues, soft tissues, vascular tissues, and tissues without vessels, are all destroyed—not all at the same pace or all precisely in the same manner. For, such tissues as cartilage and elastic tissue resist the attack much longer than soft tissues, and even than bone. There is also indirect destruction of tissues whose nutrition is interfered with by the growth of the tumour. If the tumour makes its way towards the surface, the epidermis is raised and stripped off, and the mass of cancer cells is exposed. With the exposure of the cells a new series of events may be expected. Micro-organisms, bacteria and bacilli, gain access to the cancer cells. Sepsis, suppuration, ulceration, and sloughing take place, and the condition of the host is seriously prejudiced by these occurrences, which may even compass his death.

Sometimes the tumour may shrink, and, even when it is adherent to the skin, may not break through. It undergoes atrophy from the wasting and death of the cells in its central parts. But it is not cured; for, while the centre dies or withers, the margin often flourishes and widens.

In all these circumstances which attend the growth and development of the tumour there is nothing which does not equally occur in the attacks of certain parasitic protozoa on their hosts—for instance, *Myxobolus cyprini* invades, destroys, and takes the place of the kidney epithelium of the carp; *Myxobolus pfeifferi* destroys and takes the place of the muscles of the barbel. It is the same story, common to both the cancer cells and to the protozoa which are not toxic—destruction of the natural tissues, and their replacement by the cancer cells or parasite. And just as the masses formed by cancer cells are attacked by bacteria, and break down and ulcerate when they are exposed, so do the masses formed by *Myxobolus pfeifferi* break down from similar causes when they reach the surface of the body and are exposed. (Fig. 2.)

All these phenomena of the tumour are perfectly intelligible if the cancer cell is accepted as an independent organism, pursuing the two great objects which are pursued by the parasitic protozoa—maintenance of itself and continuation of its species.

2. METASTASIS.

And now for the second great phenomenon—metastasis—the occurrence of masses in various parts of the body resembling in their elements, and nearly always in their arrangement, the tumour.†

Collections of cancer cells are found, sometimes in one part of the body, sometimes in another, composed, not of

*Dr. Clowes spoke to me of this on the journey up from the meeting of the British Medical Association at Exeter in 1908, and suggested to me that recovery from an attack of cancer is probably not so very infrequent.

†Almost all the knowledge we possess of metastasis—in any case, the useful knowledge—is the result of clinical pathology, not of experimental observation or of laboratory investigation. This is, in itself, so good an excuse for the continued pursuit of clinical pathology, and so admirable an illustration of its use, that it alone would suffice to encourage clinical pathologists, and to furnish proof that the day of clinical pathology is far from set.

cancer cells of different varieties, but of cells of the same variety as those which compose the tumour. (Figs. 10, 11, 12, 13.) Wherever they occur they are associated with the same conditions as are observed in the tumour—the formation of vessels and a framework, and a satellite collection of other cells (leucocytes, lymphocytes, and the like). The grouping of the cancer cells is the same, the substances which they secrete, the degenerations which they undergo, the mode of reproduction—all are those of the cells of the tumour. Every metastasis is, as the Director of our Cancer Research has truly said, a reproduction of the tumour, and corresponds with the results of implantation. It is due to the presence of cells from the tumour in those parts of the body in which the metastases occur. On this matter there is practically no difference of opinion, nor is there any serious difference of opinion on the coarse mechanism of metastasis. The cells may be deposited on a surface which is constantly or frequently in contact with the tumour, may become fixed there, and may grow and multiply (autoinoculation). They may be conveyed in the air or in the food, from the larynx to the lung, or from the stomach to the intestine, and may form metastases in either place. But these are exceptions to the general rule, and are of rare occurrence. The metastases which we see daily are due to the penetration of the cancer cells into the interstices of the tissues or into the lymphatic vessels, along which they spread, and to conveyance by the lymph and blood. They can often be easily demonstrated in the tissues, between the fibres of voluntary muscle for example, and in the lymphatics. But it is wellnigh impossible to detect them in the moving blood and lymph, probably because it is the young and least characteristic cells which are conveyed, and there is so little to distinguish them by, especially when they are on the move. In spite of the absence of direct evidence, the circumstantial evidence in favour of conveyance in the blood and lymph is so strong that it is not questioned, and I need not occupy time by repeating it.*

Seeing the variety of the mechanism of metastasis, it is only reasonable to expect that there should be some variation in the number and seat of metastases. And so, indeed, there is. Sometimes the metastasis is limited to a single tiny nodule in a distant organ, sometimes to a few tiny nodules within a limited area; sometimes it is greater in bulk than the tumour, and sometimes it seems as if it had been scattered broadcast, without order or method. Nor is there greater uniformity with regard to time than in regard to seat and size. Metastasis may be present at the moment the tumour is discovered, or it may be deferred for years, or it may never occur in cases in which it ought to. (Fig. 14.) No wonder such variations have been a puzzle to those who study cancer, particularly to the experimental investigators. It seems so inconsequent, so void of method, that it has led one of the most able investigators of the present day to aver that the study of cancer in man and animals is rendered peculiarly difficult by the extraordinary variety in the histology and clinical behaviour of the malignant new growths which attack them.[5]

I do not agree with this statement. It rests on a misapprehension, on a false conception of cancer, on imperfect observation, and on the manner in which the life-history of cancer has been studied. If all varieties of cancer in all kinds of animals are studied higgledy-piggledy—squamous carcinomas, spindle sarcomas, spheroidal carcinomas, myeloid sarcomas—in man and mice and dogs and rats, it is perfectly correct. It would be equally true of the parasitic protozoa if they were studied in similar fashion. If Sarcosporidiidae, Myxosporidiidae, Coccidiidae were all jumbled together, and an attempt were made to describe the histology and clinical behaviour of the jumbled mass, the result would be confusion and profound perplexity. But no naturalist thinks of studying them in such a fashion. Each family is studied separately—not only each family, but each variety—and the characters and life-history of each is gradually deduced with clearness. Precisely the same method must be directed to the study of the organisms of cancer. Each must be studied separately.

For more than thirty years I have insisted on the necessity of the separate study of each variety of cancer in the part in which it occurs.[6] And Mr. Stephen Paget more than twenty years ago, in an excellent paper in the *Lancet*,[7] showed the necessity for this same separate study, particularly in relation to metastasis. To some extent this has been done by the clinical pathologists, and here are some of the results:

Take, first, a round-celled sarcoma. Let it be of the femur and subperiosteal. It grows very rapidly, and is one of the most surely fatal of diseases. Amputate the limb above it—far above it—and take the bone out at the socket. It is, nevertheless, likely to return in the muscles of the stump. And even if it does not do so, the patient will almost inevitably die of metastasis, even if the tumour was removed as soon as it was discovered.

Of all places the lungs are most likely to be the seat of the metastases. The femoral and inguinal glands are not usually affected. But metastases may occur in distant lymphatic glands, in the skin and subcutaneous tissue, in the liver—indeed, almost everywhere. Most of the patients are dead within a year or fifteen months. And the instances in which a patient can be claimed to have been cured of this most terrible variety of cancer are so few that they can be counted in units.†

Now, take a spindle-celled sarcoma of the testis—also a very deadly disease, but not to be compared in this respect to subperiosteal sarcoma of the femur. It forms a tumour, often large, in the cavity of the scrotum. It is easy to remove it, and there are many instances in which there is no recurrence in the stump, and the patient is cured by the operation. But there are many more cases in which, at the end of an indefinite period—perhaps a year, two years, or more—a mass is discovered in the abdomen, which grows until it kills the patient. It is formed by metastasis in the glands, in the liver, and other viscera of the abdomen.

Take a spheroidal-celled carcinoma of the breast. The metastases will occur first and chiefly in the glands of the axilla, then in the liver and lungs, but particularly in the liver.[8] They may attack the bones—the sternum, the humerus, the femur, and the vertebrae—particularly the vertebrae of the lumbar region. And if the disease recurs *in situ*, it frequently forms numerous little flat nodules or plaques in the skin and subcutaneous tissue.‡

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Barbel suffering from *Barbenseuche;* tumours formed by *Myxobolus pfeifferi* (after Doflein). *Protozoenkunde.* II Aufl., Jena, 1909, Fig. 730.

Fig. 2.—Section of a barbel, showing symmetrical tumours, that on the right side ulcerated (Doflein, Fig. 731).

Fig. 3.—Squamous carcinoma of tongue, the cells of which are elongated like spindle-cells.

Fig. 4.—Axillary glands removed twenty years after successful removal of the breast.*

Fig. 5.—Degenerated cancer cells in an organized thrombus in a blood vessel (after Martin B. Schmidt). *Die Verbreitungswege der Karzinome*, Jena, 1903, Plate, Fig. 3.

Fig. 6.—Columnar-celled cancer of the rectum (after Cripps). *Diseases of the Rectum and Anus*, 1884, Pl. VI.

Fig. 7.—Large round-celled sarcoma of testis.

* The history of this case is very interesting. In 1895 Sir James Paget sent me a lady whose left breast he had amputated for carcinoma about 1875. The glands had not been removed. About 1885 Mr. Stephen Paget destroyed with the cautery "some carcinomatous tubercles in the right breast." When I saw her in 1895 there was no recurrence in either breast, but a mass of glands in the left axilla, which were easily removed. She came to see me in 1898. There was no recurrence either in the breast or in the axilla on the left side, but there was recurrence in the right breast, for which I amputated the breast (XI, 201).

* There is really only one point on which there is grave doubt—whether the cancer cells are mere passive bodies in their migration or whether they are active agents (Bland-Sutton, *Clinical Journal*, 1910). As this does not affect the argument, it is not necessary to discuss it now.

† Dr. Coley claims to have cured some cases of subperiosteal sarcoma of the femur by his injections. We have not been very successful in this country, and I only hear of a very occasional success from the use of Coley's fluid. But it is probable Dr. Coley and his pupils are more skilled in the management of the fluid than the English and Continental surgeons.

‡ The mechanism of these metastases has been very well described by Mr. Sampson Handley in his book on *Cancer of the Breast*.

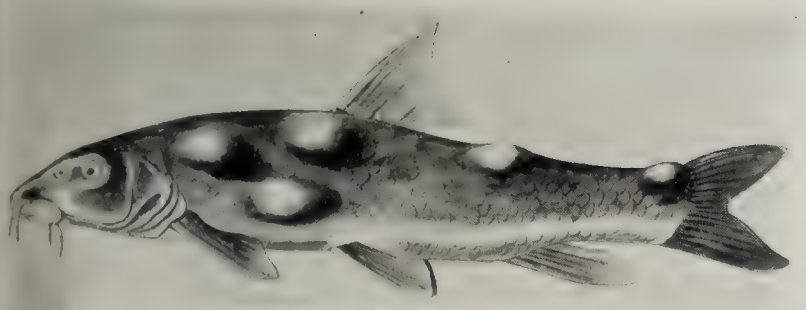

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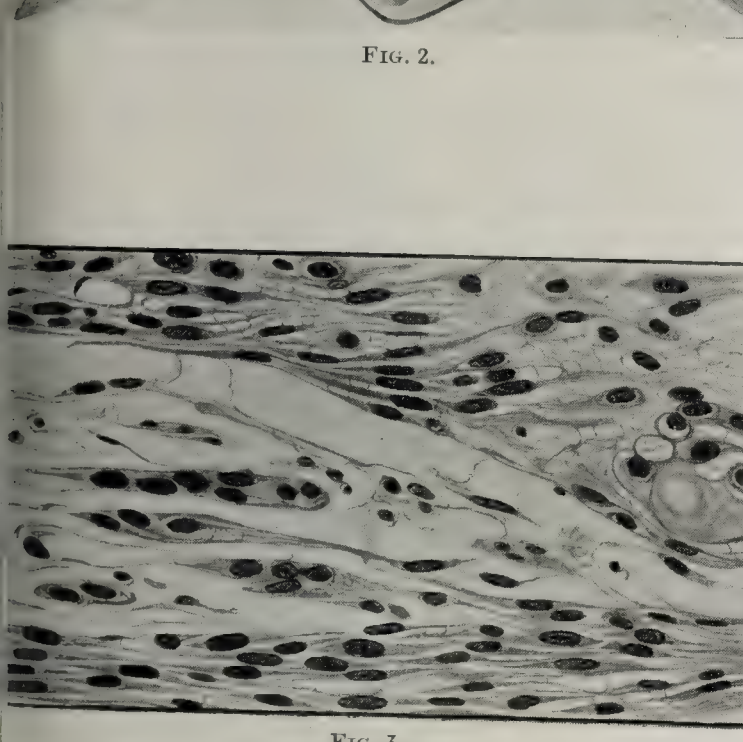

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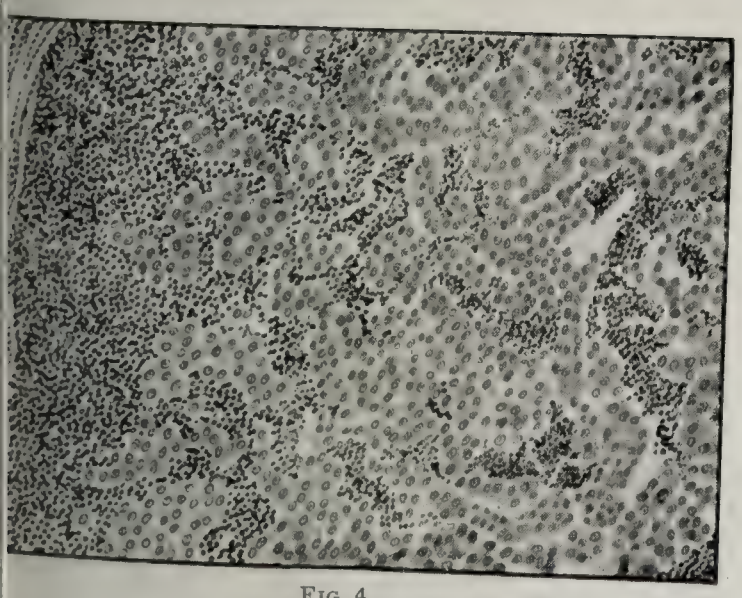

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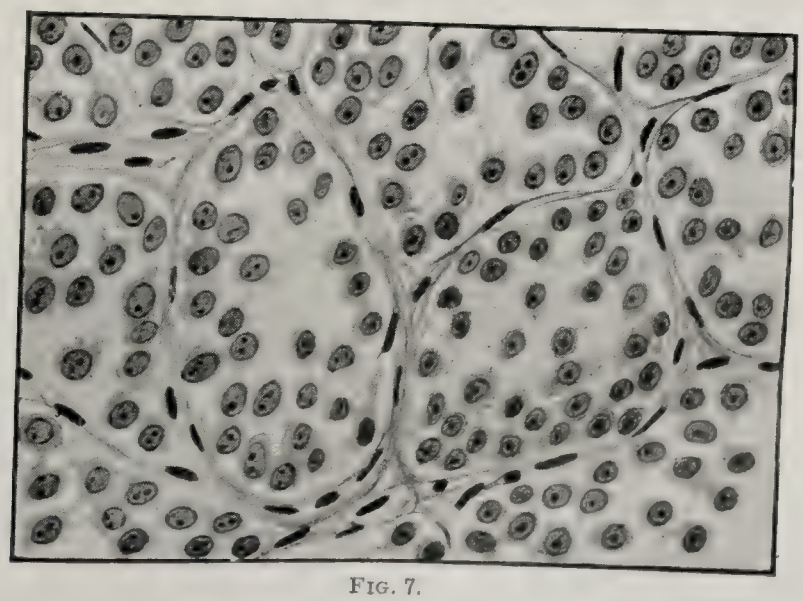

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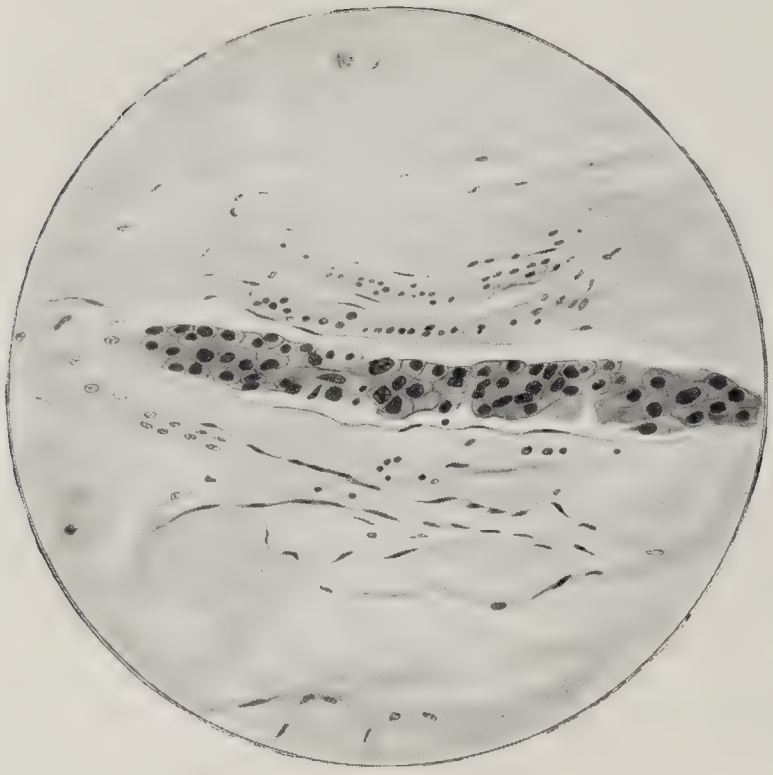

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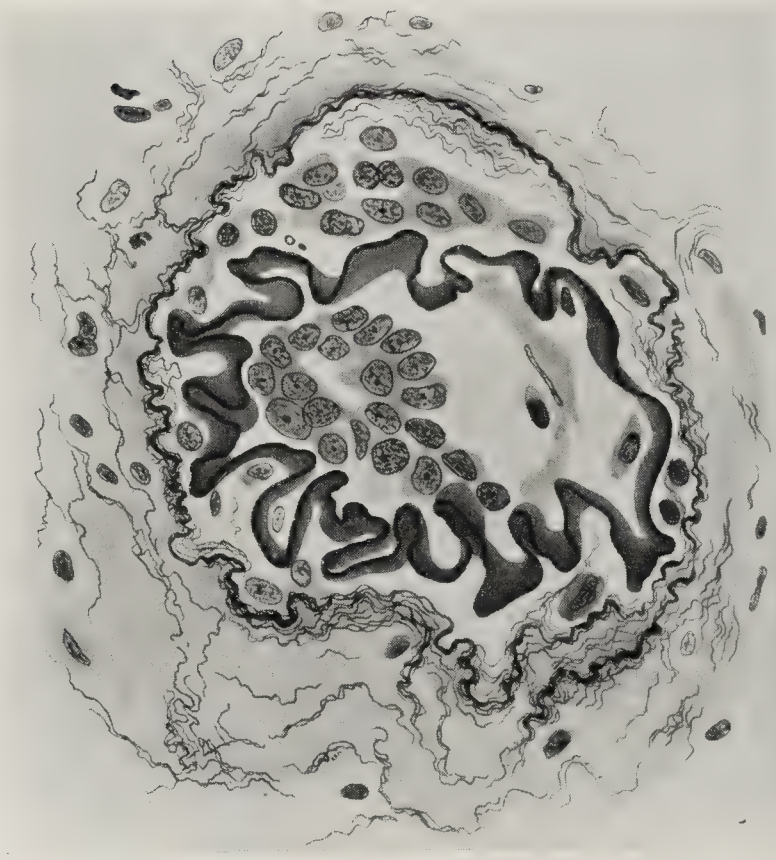

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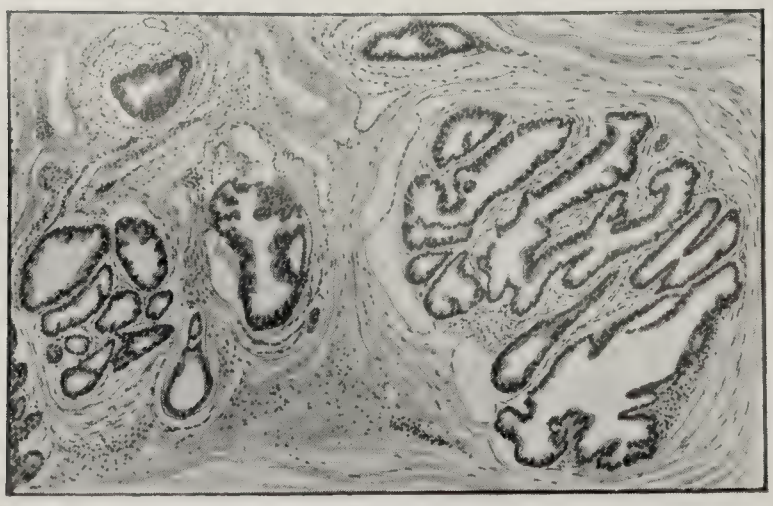

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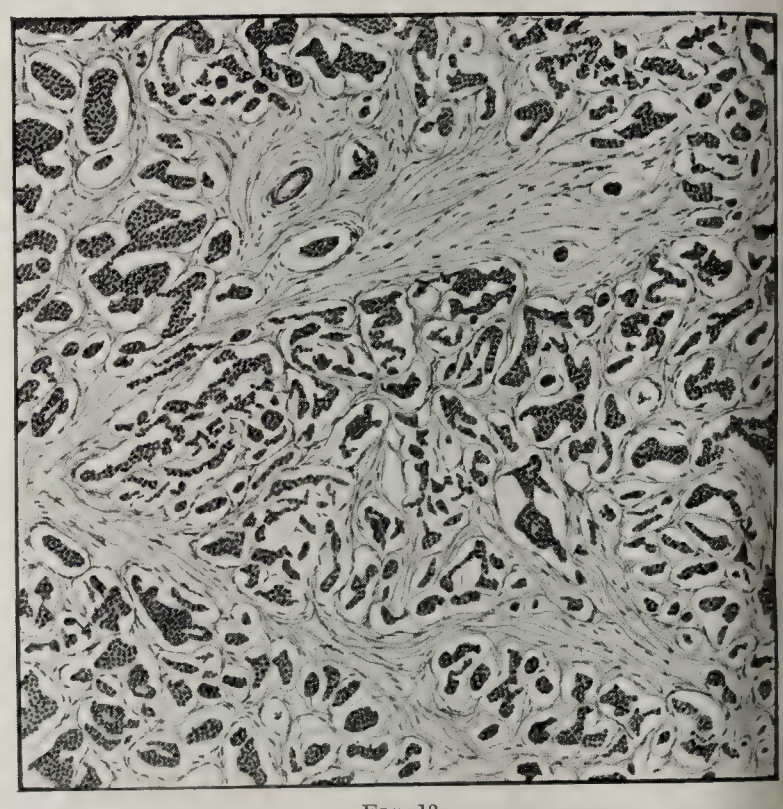

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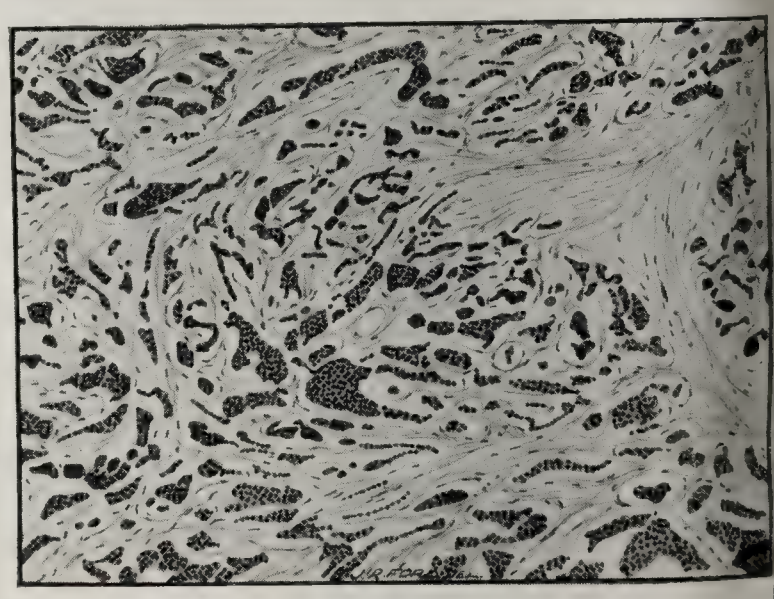

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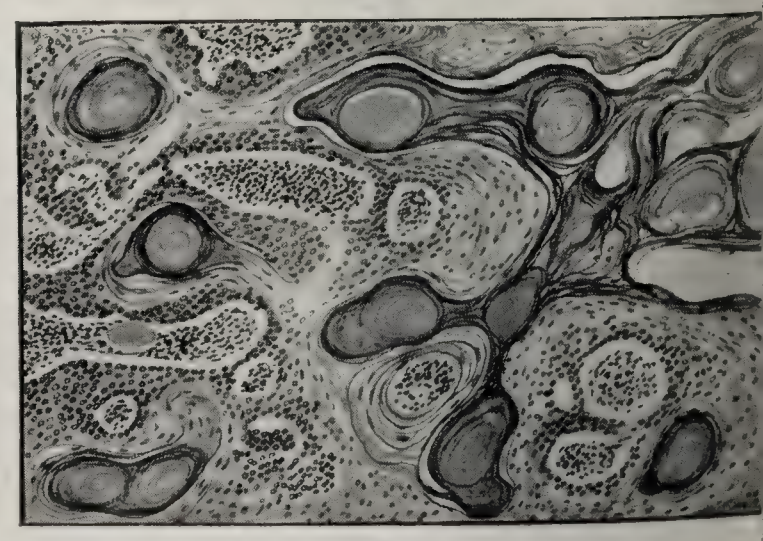

FIG. 14.

If the breast and glands are removed there may be no distant metastases. But the pathologist would be a bold or ignorant man who would assure the patient that the disease would certainly be cured by the operation.

Again, take a columnar-celled carcinoma of the rectum. The metastases will be in the abdominal lymphatic glands and in the liver, in preference to any other part.

Take squamous carcinoma of the tongue, where the limitation of metastasis becomes much more restricted. It takes place in the neighbouring lymphatic glands, and sometimes in the glands on the opposite side of the neck. If the primary disease and the glands are successfully removed, so that there is no recurrence in tongue or glands, there is so little likelihood of distant metastases that they are practically left out of the account. The possibility is admitted, but the event is so far infrequent that we do not fear it.

Finally, take rodent ulcer of the face. The extension of the disease beyond its apparent limit—the destruction effected by the cells—their tenacity of life and power of multiplication—have long assured for rodent ulcer a place among the malignant tumours. But the cells of which it is composed seem to be quite incapable of flourishing in any other parts than the immediate neighbourhood of the tumour, and there are no metastases. I do not say that metastasis never takes place, but it is so rare that its occurrence is not provided for in the pathology of the disease.

Every case of a particular variety of cancer of a particular part of the body does not run precisely the same course as every other case of the same variety of cancer of the same part. Nor does every case of parasitic protozoon of a particular animal run precisely the same course as every other case of the same protozoon in the same animal. But compare a hundred cases of squamous carcinoma of the tongue with another hundred cases of the same disease of the same part, and let the conditions be similar for each hundred cases as regards operation, etc., and I ven ture to say that the resemblance of the second hundred to the first hundred cases would be marvellous. I am sure that no greater differences would be discovered than would be discovered if one hundred cases of *Sarcocystis miescheriana* were compared with another hundred cases of the same parasite in the same animal, and not so much difference as would be found if one hundred cases of *Myxobolus pfeifferi* were compared with another hundred cases, but the barbel were taken from two quite different streams. In the same way, compare a hundred cases of carcinoma of the breast with another hundred cases of the same variety of carcinoma of the same part, and see how little difference there will be between them.

When studied in this fashion the results are so constant that we, the surgeons, presume upon them. We trade on them. We do not remove the lymphatic glands in cases of rodent ulcer because we are confident, however long the disease has existed, the glands will not become diseased. And we are equally confident that there will not be metastasis in any other part of the body.

We remove the primary tumour and the associated glands for squamous carcinoma of the tongue, with the full assurance that if the operation is successful in preventing occurrence or recurrence in those structures, we shall save the lives of many of our patients.

We amputate the breast, remove the muscle and the contents of the axilla, and dissect away wide areas of the fascia for spheroidal carcinoma. When the disease is not extensive or rapid in its course we expect to save the lives of more than half our patients. But we have not the same hope of the result of a successful operation as we have if the operation is successful in rodent ulcer or in squamous cancer of the lip.* For the spheroidal cell may thrive and multiply in the liver, the lungs, and bones. And this may happen five or six or more years after the successful removal of the breast and the associated structures.*

So with regard to other varieties of cancer in various parts of the body. In all cases our treatment is adapted to what we know, or believe we know, of the course of that particular variety of cancer in that particular part of the body. And if it be charged against us that we are often wofully at fault in our estimate of the effect of an operation, or in our prognosis of an individual case, it must be remembered that the observations on which our present methods of treatment and prognosis are founded have all, practically, been collected during the last forty years, or little more.

The explanation of metastasis is migration of the cancer cells, and the explanation of the seat of metastatic tumours is precisely that which explains the occurrence and seat of the metastases of the parasitic protozoa—the penetration of the cells into those places which are suitable to their existence—those places in which they can live and thrive and multiply.

Time will not permit me to deal with all the phenomena of cancer as they have risen before my mind in the course of the last few months, during which these lectures have been in preparation. I shall have to reserve some of them for future publication, and I shall also have to reserve the consideration of this theory as a working theory of cancer. But there are two or three phenomena to which I should like to refer. The first has puzzled many pathologists for many years. I tried to explain it more than twenty years ago, with indifferent success.[9]

It is the occurrence of metastases without the evidence of primary disease. The best examples of it have been observed in the occurrence of squamous carcinoma of the groin glands in sweeps, in whom no primary growth or sore has been discovered by competent observers. I suggested that the primary disease had "aborted"—in other words, got well—but not before some of the cells containing the material of cancer had been conveyed to the lymphatic glands. My explanation was very near the truth. That cancer should "abort"—get well—was not much in the minds of pathologists twenty years ago. To-day, everybody knows that it does get well, both in animals and human beings,[10] and many of us are prepared to believe that it gets well much more commonly than we know of at present. But, in these cases, before it does so, some of the cancer cells have already migrated to the groin glands, and have made good their footing there.

The occurrence of ossification, calcification, and chondrification in many of the sarcomata is a phenomenon which has never puzzled me when the tumour is connected with a bone, or when the metastasis is of a tumour growing from a bone. It seems natural—only what might be expected—that the framework of such tumours should contain bone or cartilage. But I confess it has puzzled me when the tumour is of a part which has no connexion with bone or periosteum. For instance, such a tumour is sometimes—though very rarely—found in the female breast. Why should cells derived from the glandular or connective tissue of the breast command a framework or scaffolding in which bone or cartilage are prominent constituents? Bashford explains it on the grounds that

DESCRIPTION OF SPECIAL PLATE.

Fig. 8.—Lymph vessel filled with cancer cells (lymphatic permeation; from Sampson Handley). *Cancer of the Breast*, Pl. III, London, 1906.

Fig. 9.—Cancerous infiltration of vessel wall (E. E. Goldmann). *Studien zur Biologie der bösartigen Neubildungen.* Taf. IV, Tübingen, 1911.

Fig. 10.—Duct cancer of breast.

Fig. 11.—Glands removed from same case (10)—duct cancer—at same time.

Fig. 12.—Spheroidal carcinoma of breast, removed December, 1896.

Fig. 13.—Recurrent nodule removed from muscle of same case (12). Removed October, 1900; patient well in 1906.

Fig. 14.—Squamous-celled carcinoma of the groin glands of a chimney-sweep, in whom no primary disease was discovered.*

[The drawings reproduced to illustrate the lectures have been very carefully made by Mr. J. R. Ford.]

* This case is published in the BRITISH MEDICAL JOURNAL, 1892, ii, p. 578, by Dr. John Stacy, of Norwich. After the death of the patient Dr. Stacy sent me slides cut from the glands. I do not know whether any similar case has been drawn.

* In speaking of "successful operations" in the preceding paragraphs, I hope it will be understood that I am only referring to the success of the operation in preventing recurrence in the parts which were diseased.

such conditions occur in association with inflammatory processes. He shows how frequently it occurs in mammary tumours in the dog, and says:

> It seems to demonstrate that the connective tissue of the dog is very liable to such metaplastic changes, just as the connective tissue of the rat or of the mouse is liable to the changes characteristic for these animals.[11]

There is one phenomenon of cancer which no theory explains—the constancy with which spontaneous cancer begins at one point instead of many. It can scarcely be made to fit in with the theory of "removal of restraint," but it does not threaten the stability of this, or many other theories. At present I have no explanation to offer of it.

Reviewing, in a few sentences, the application of this theory to the phenomena of cancer, I will not undertake to affirm that all the known phenomena of cancer can at once be explained by it, but it *does* offer a ready explanation of the first great phenomenon of cancer—the tumour—and of all the changes which may occur in it. It offers an explanation of metastasis, the other great phenomenon of cancer; of the reasons why it occurs; why it occurs in one place rather than in another; of deferred metastasis; of metastasis without primary tumour. In fact, it explains so simply so many of the phenomena of cancer that it is necessary to make diligent search to discover the two or three phenomena which are not explained by it. And of these it may be said that there is not one of them which endangers the acceptance of the theory, and that they are equally inexplicable by any other theory which has yet been advanced.

It fulfils also the conditions laid down by a writer in the BRITISH MEDICAL JOURNAL,[12] who pointed out that, to make my case good, my parasite must be tried by the laws laid down by Koch—to wit: "A specific micro-organism must be constantly associated with a given disease; it must be isolable and studiable apart from the disease, and when introduced into a healthy animal it must be able to reproduce the disease in that animal; and in the animal in which the disease has thus been experimentally reproduced the organism must be found under the original conditions."

It fulfils these conditions with a fidelity which is remarkable. The only one of them on which any dispute could arise would be whether the cell is "isolable and studiable apart from the disease" in the sense in which Professor Koch used the expression. If that is all that is lacking, we are not likely to have to wait long for it. Indeed, Carrel and Burrows maintain that they have already solved that problem in the Rockefeller Institute of Medical Research.*

I now come to the last part of my task: Where does the cancer cell come from?

Six years ago[13] I summed up the evidence in favour of the only two views which could reasonably be put forward: *Entrance from without* or *formation within* the body; and came reluctantly to the conclusion that the evidence of "*formation within*" was stronger than the evidence in favour of "*entrance from without.*" I say "reluctantly," because it led to the logical conclusion that new species of living creatures are created from a source and in a manner which has never hitherto been imagined. Nevertheless, during the last six years the evidence in favour of "*formation within*" the body has grown steadily stronger, while nothing has been added to the evidence in favour of "*entrance from without.*" I cannot stop to dwell on the points of each piece of evidence, but must content myself with enumerating them:

1. The resemblance of the cancer cells to those of the natural tissues in which the cancer appears to start.
2. The resemblance of the secretion of the cancer cells to the secretion of the natural cells.
3. The resemblance of the degenerations of the cells to those of the normal cells (fatty, caseous, calcareous, etc.).
4. The resemblance of the grouping of the cells to the grouping of the natural cells.
5. The resemblance of the phenomena of reproduction in the cancer cells to those of the natural cells which they resemble.

All these may be regarded as traits of atavism, and it is upon these that the explanation of some of the phenomena of cancer rests. Students of cancer, research workers, biologists who have studied cancer, are all practically agreed that the cancer cell is derived from the cells of the part in which it takes its origin, or appears to take its origin, and they are bent on finding an explanation of the reasons which lead the cancer cell to behave so differently from the cells from which it is derived. Escape from natural restraints—the acquirement of the habit of growth—the theory of embryonic rests—chemical stimulation—a self-contained and ordinarily invisible micro-organism living in symbiosis with the cell—these are some of the theories by which learned men have sought to explain the strange conduct of the cancer cell.

Empty phrases! They might account for variations in colour, size, shape, secretion, degeneration, physical activity—for a multitude of the variations from the normal cell exhibited by the cancer cell—but how can any of them account for the vital difference which I will express in two short sentences? Implant the normal cell, and you cannot make it live. Implant the cancer cell, and you cannot kill it.

There is one, and only one, explanation of the conduct of the cancer cell—that it has been endowed with that wondrous gift which no man has seen, and which no man can understand—the gift of life; and that, owing to that gift, it has become an independent creature, a new creation of living thing.

The host in which it dwells has fashioned it out of his own tissues, and in the likeness of his tissues, and, to borrow the figurative language of Scripture, the Creator has breathed into it the breath of life—and it becomes a veritable Frankenstein, bent on the destruction of its host. After ages of past and present civilization, during which searchers and philosophers have sought to explain the origin and nature of life, we have come no further than this, and he who discovers the true origin of cancer will have solved the enigma which has hitherto baffled the searchers and philosophers in all ages and of all countries.†

If the cancer cell be in truth a new creature, to what class of creature does it belong?

It is nearest to the protozoa—so near, indeed, that it is difficult to keep it out of the protozoa. Every new observation of the last six years—every new discovery—has brought it nearer to the protozoa. But the biologists will have none of it. I must therefore make a special place for it and provide it with a name.

It shall be *Unicellula cancri*. And, for the different varieties, the shape of the cell can be expressed in simple terms which will be familiar to us all. On the one hand, *Unicellula* (*cancri*) *squamosa*, *Unicellula spheroidalis*, etc.; on the other hand, *Unicellula* (*cancri*) *fusiformis*, *Unicellula rotunda*—and so on. These names will serve still, even if the cells eventually join the great phylum of the protozoa.

I am perfectly conscious of the far-reaching consequences of admitting that unicellular bodies, derived from such a source, are a new species of created beings, but there is no alternative. The facts are plain, and cannot, I believe, be otherwise interpreted. If the theory is false, I can only say it is very remarkable that it should explain, in so satisfactory a manner, the chief and nearly all the subordinate phenomena of cancer.‡

In conclusion, I should like to tell you a parable. A learned professor, walking in the desert, observed a curious little object on the ground. It had a rounded snout and flattened head, large eyes, a flattened body, short fore-legs and very long hind-legs. It sometimes walked and sometimes jumped. The professor asked whence it came, and it replied: "I am a child of the desert, born of the grains of sand." This astonished the learned man. He took it home with him, and called together many of his friends and set the little beast in their midst.

* Alexis Carrel and Montrose Burrows, *Journal of the Amer. Med. Assoc.*, 1910, vol. lv, pp. 1379, 1554, 1732. Mr. Arbuthnot Lane told me he had seen the specimens of growing sarcoma cells in the Rockefeller Institute.

† "No power of genius has ever yet had the smallest success in explaining existence."—Emerson, *Representative Men.* London: Macmillan, 1893, p. 314.

‡ Mr. Darwin, in the last chapter of the *Origin of Species*, says: "I can hardly be supposed that a false theory would explain, in so satisfactory a manner as does the theory of natural selection, the several large classes of facts above specified. It has recently been objected that this is an unsafe method of arguing, but it is a method used in judging of the common events of life, and has often been used by the greatest philosophers."—*Origin of Species*, sixth edition. London, 1888, p. 421.

They all looked at it, and said it must be a frog, for it looked like a frog, and behaved like a frog, particularly in its ability to jump. But when they heard its origin they were all amazed, and each one gave his explanation of the occurrence. One said, "It is a changeling; it is not what it looks to be." Another said, "It was surely made to swim, for its feet are webbed, and, having no water to swim in, it has acquired the habit of jumping." A third said, "It has been gingered." A fourth said, "Some restraint must have been taken off it to enable it to jump." And the professor himself said, "No, it has a flea inside which lives within it as its familiar spirit, and that gives it the power of jumping."

Then the professor said to the little object: "We are very sorry for you. You are neither animal nor vegetable, for neither animal nor vegetable can be created from the sands of the desert. There is, therefore, no place for you among living creatures."

The little creature jumped and crawled away. But as it did so it looked back at the group of learned men, and said: "There is no place in the living world for me owing to the misfortune of my birth. Thank you, gentlemen, but I have already found a place for myself, and you will find it very difficult to oust me from it."

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SOME MANIFESTATIONS OF PITUITARY GROWTHS.*

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BEFORE proceeding to discuss the signs and symptoms of pituitary growths, it may be well to refer very briefly to some points in the anatomy and physiology of this ductless gland.

The pituitary body, or hypophysis cerebri, is a small rounded organ situated at the base of the brain in the depression of the sphenoid bone known as the sella turcica.

It is made up of two parts—a larger anterior lobe developed from an ectodermal upgrowth from the stomodeum (Rathke's pouch), and a smaller posterior lobe derived from a downgrowth from the floor of the third ventricle with which the gland is connected by a stalk called the infundibulum.

A third subdivision is also described under the name of the pars intermedia, which seems to be formed by the fusion of the anterior or ventral wall of the posterior lobe and the invaginated posterior or dorsal wall of the anterior lobe. Histologically the anterior lobe consists of vascular glandular epithelium; the pars intermedia is formed of less vascular epithelium secreting a colloid substance, and the posterior lobe or pars nervosa consists mainly of neuroglia with a few colloid-producing cells.

The physiological functions of these parts have not been definitely worked out. The anterior lobe appears to be related to calcium metabolism, and the growth of skeletal tissues—bone, cartilage, and connective tissues generally—to the deposit of fat and the development of the sexual organs. Physiologists have not been able to define these functions, and the chief evidence in support of these statements has been derived from observations made in pathological conditions of the organ.

The pars intermedia produces a colloid which affects blood pressure and urinary secretion. As a general rule, this colloid material raises blood pressure by causing constriction of the blood vessels, and increases secretion of urine, but it may, on the other hand, have precisely the opposite effect in each case. Extracts of the infundibulum also cause contraction of non-striped muscle, such as that of the uterus, intestine, and dilator pupillae. The pituitary body appears to be a vital organ, and its complete removal results in death.

These anatomical and physiological data enable us to classify and correlate many of the varied signs and symptoms of pituitary growths, but it must be admitted that the pathogenesis of the manifestations is as yet by no means established, and it has even been said that the most striking condition ascribed to pituitary growths—namely, acromegaly—may occur without any apparent disease of the hypophysis cerebri.

For the purposes of this paper I propose to classify the manifestations of pituitary neoplasms into:

1. Those which may be ascribed to excessive action of the glandular epithelium of the anterior lobe—*Hyperpituitarism.*
2. Those which may be ascribed to a diminished functional activity of the anterior lobe—*Hypopituitarism.*

In view of our incomplete knowledge of the physiology and pathology of the pituitary and other ductless glands, it is possible that these two classes of symptoms may be due to perverted action of the hypophysis—*Dyshypophysia*—or to perverted action and interaction of several ductless organs—*Polyglandular syndrome.*

3. The mechanical effects of an intracranial tumour showing definite localizing symptoms, which can be explained by the anatomical relationships of the enlarged organ. These symptoms are common to Class 1 and 2 as long as the pathological condition of the gland is associated with its enlargement. In cases of atrophy these symptoms will be absent.
4. Confirmatory evidence of enlargement or atrophy of the hypophysis is supplied by radiographs of the sella turcica, though naturally the size of the gland and its bony recess is no guide as to the functional activity of the gland. Hypopituitarism, at any rate, may apparently be the result of either enlargement or atrophy of the gland.

I. HYPERPITUITARISM.

Under this heading we place *Acromegaly* and *Gigantism.* The pathological processes seem to be the same in these two morbid conditions, and the difference in their clinical characters is dependent on the period of incidence of the disease. "Gigantism is the acromegaly of the growing period; acromegaly is the gigantism of the period of completed development; acromegalo-gigantism is the result of a process common to gigantism and to acromegaly, overlapping from the period of adolescence into that of maturity." [1]

The essential feature in each case is exaggerated growth of the skeletal tissues, hard and soft, especially of the extremities, associated with alteration in the physiognomy and in the contour of the skull. These symptoms have been so fully described by Marie and others that it is almost superfluous to repeat them. I would point out, however, that, according to Launois and Casbron, the changes in the skull demonstrable by radiography constitute the only positive signs of acromegaly. These changes consist in very irregular thickening of the cranial parietes, which gives rise to a polygonal appearance of the skull. The external and internal tables are separated by an abnormal and irregular space owing to an alternate separation and approximation of the tables. The frontal and maxillary sinuses are increased in height and depth. The post-lambdoidal prominence is exaggerated, and there is more or less marked increase in the antero-posterior dimensions of the pituitary fossa. The sexual organs also show hypertrophy, though this is often associated with impotence, and may later be followed by atrophy of the organs and loss of pubic hair.

The symptoms which may be ascribed to the mechanical effects of the intracranial tumour (3) may include headache, vomiting, vertigo, tinnitus, polyuria or glycosuria, convulsive or apoplectic attacks, certain psychoses,

* A paper read before the Midland Medical Society.

including delirium, delusions, perverted or excessive appetite, and melancholia. Mental and physical torpor are often complained of, and whereas the pulse may be accelerated the temperature of the body is lowered.

The localizing symptoms of the intracranial growth are mainly exhibited in connexion with the eyes and the ocular muscles.

Impairment of vision in one or both eyes is often complained of, and in cystic or vascular tumours, which may vary in size or burst, the vision may be definitely variable. The impairment of sight may be associated with the appearance of a blue haze over everything. As a general rule the impairment of sight slowly but surely progresses to almost complete blindness.

Alterations in the *visual fields* are a striking feature of pituitary enlargements, and bitemporal hemianopia is the most common and most characteristic of these alterations. In the advanced stages of these conditions the patient feels as if he were walking between two high walls. In many cases the temporal hemianopia is unilateral, owing to complete loss of sight in one eye; this is as might be expected when we remember that the growth is often irregular and is liable to press on one nerve more than the other. For the same reason the boundary line between the blind and the seeing parts is hardly ever regular or vertical. When the boundary line is vertical, or approximately so, it generally passes through the point of fixation—a fact which helps to distinguish chiasmal lesions from lesions of the optic tract and cortical centres, in which the macular field is spared.

The other more common variations in the visual field are concentric contraction and central scotoma, but homonymous hemianopia and the loss of the whole field, with the exception of one quadrant, have been described. The contraction progresses from above downwards and inwards as a rule, but a surer guide as to the probable type the contraction will eventually assume is to be found in the character of the *colour fields*. It will often be found that the colour fields are definitely hemianopic, while the fields for white are almost full (see Fig. 1). Accentuation of the defect in the field can also be shown by Bjerrum's method.

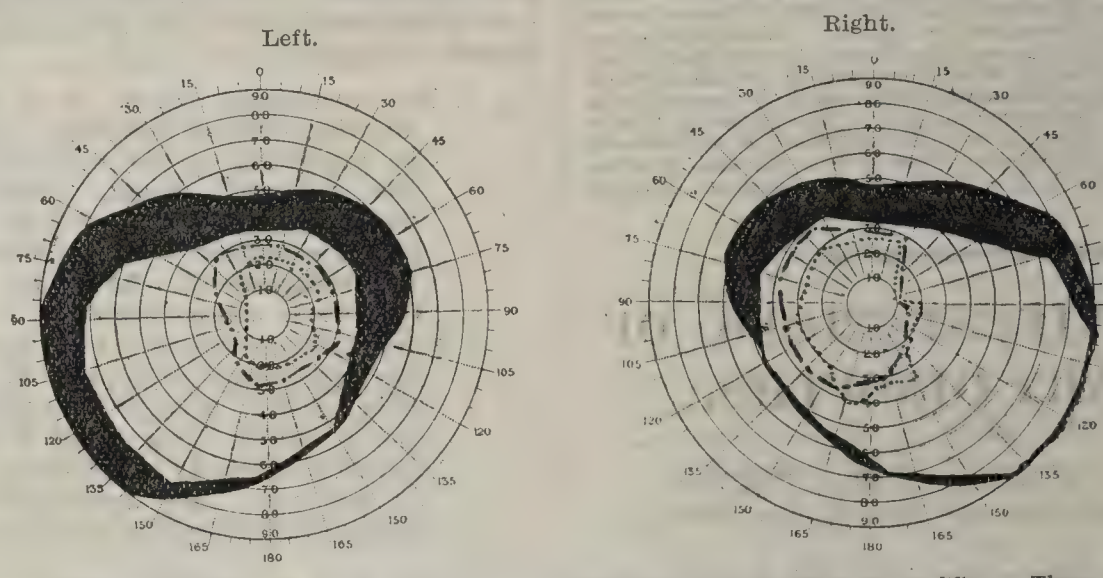

Fig. 1.—Case I. D. H. E. Fields in acromegaly. ..... red. ——— blue. The blackened area shows the contraction of the field for white (10 mm.).

The usual condition of the optic nerve is one of partial or complete primary atrophy (50 per cent.), but papillary oedema and post-neuritic atrophy have also been recorded (15 per cent. each). Large growths involve other structures than the optic nerve, and give rise to such symptoms as oculomotor paralysis, including paralysis of the third nerve, paralysis of the sixth nerve, total ophthalmoplegia, nystagmus. Trigeminal lesions are exceptional, but when present may lead to neuro-paralytic keratitis. Exophthalmos, prominence of the eyebrows, with pigmentation and thickening of the eyelids and hypertrophy of the palpebral glands, have been noted.

Pupil reactions are of little diagnostic value. The hemiopic pupil phenomenon of Wernicke can seldom be elicited, and in any case it is of somewhat uncertain import. Anosmia is not an infrequent symptom in advanced cases.

The following case of acromegaly is a fairly typical illustration of hyperpituitarism:

CASE I.

D. H. E., aged 29 years, a policeman, was first seen in 1905, when he complained of a heavy feeling in the head, of three or four years' duration. There was no definite headache. He found work a burden, and was very depressed. During this time he also noticed that he was increasing in size, and in those four years he had grown 1½ in. in height, and his hands and feet had become so large that he had to get special sizes in gloves and boots. When he came to see me his height was 6 ft. 1 in., and his weight was 18 st. 11 lb. His large face, heavy jaws, thick, broad nose, prominent overhanging eyebrows, broad shoulders, with slight stoop, attracted attention and suggested the disease at once. The hands and feet were of remarkable size, and both soft and hard tissues were involved.

There was no enlargement of the thyroid or lymphatic glands. The patient suffered from sexual delusions, and was impotent.

Ophthalmoscopically: The fundi were normal, except for a slight haze of the nasal side of the disc in each eye. R.V.=$\frac{6}{6}$, L.V.=$\frac{6}{12}$. Both visual fields were contracted above, the left decidedly so. The colour fields showed a relatively greater degree of contraction, and were almost hemianopic on the temporal side (see Fig. 1).

Under treatment with pituitary extract his weight diminished a stone in a month, and on combined pituitary and thyroid extracts his weight fell another stone in six months.

This patient was examined again in 1911, and there was no change in his condition. He had been able to follow his occupation all the time, and had been married for two years.

II. HYPOPITUITARISM.

Under this heading I would include those weird cases of retarded skeletal development or infantilism designated ateliosis by Hastings Gilford, and also certain cases in which there is excessive development of fat with mental and physical torpor, and disturbance of sexual functions—dystrophia adiposo-genitalis of Fröhlich.

It is also possible that adiposis dolorosa, the excessive adiposity of the menopause, diabetes in fat people, and, after fracture of the skull, cretinism and achondroplasia, may be more or less closely related to a condition of hypopituitarism.

Ateliosis.

The characteristic symptoms of this condition, which have been so fully described by Hastings Gilford, form a striking contrast to those of acromegaly, and may thus be tabulated:

Ateliosis.	*Acromegaly.*
Childish facial appearance.	Heavy, repulsive face.
Diminutive stature, with short, small extremities.	Gigantic stature, with lengthened and enlarged extremities.
Delicate, soft skin.	Coarse, thick, darkened skin.
Thin, piping voice.	Deep, hoarse voice.
Small bones and muscular prominences ill-developed.	Large bones and hypertrophied muscular ridges.
Diminutive jaw bones with incompletely erupted teeth.	Enlarged jaw, often prognathous.
Diminished urinary secretion.	Polyuria or glycosuria.
Impaired appetite.	Voracious appetite.
Insomnia (?)	Somnolence.
Low arterial tension and slow pulse.	Increased arterial tension.

It must, however, be remembered that symptoms of hypopituitarism may be associated with those of hyperpituitarism and vice versa, and in both conditions symptoms may be modified by the interaction of impaired or overacting associated ductless glands, such as the thyroid and adrenal bodies.

According to Hastings Gilford, ateliosis may begin (1) During fetal life; (2) during infancy or early childhood; (3) between the ages of infancy or early childhood and puberty. The ateliotic patient shows throughout life the physical characteristics of his age at the time when he first developed his symptoms. At any rate, his development shows a remarkably retarded rate of progress—that is, he might grow in ten years to the same extent that an ordinary child would grow in one year. It will thus b

found that the epiphyses are not united to the diaphyses (Fig. 6), and the teeth are not completely erupted at 50 years of age. The facial type of the child is retained, though the skin shows evidence of age. The fontanelles remain open for years when the disease begins in early infancy; the testicles are undescended, the sexual functions are undeveloped, and the sexual organs rudimentary when the disease begins during intra-uterine life of the patient.

The mental development is better than the physical, but is hardly up to the standard of a normal person of the ateliotic's age.

There is lack or absence of hair on the face and covered parts of the body, but there is generally a fair amount of hair on the head.

Although the general symptoms in hypopituitarism are in the main the exact opposite of those of hyperpituitarism, the mechanical effects (symptom-group 3) are much the same in each case, because they depend on the enlargement of the gland, which is the usual state both in diminished and increased functional activity. In cases of atrophy of the gland these symptoms would be absent (Case III).

Judging by published records, it would appear that in hypopituitarism (as compared with hyperpituitarism) bitemporal hemianopia is somewhat less frequent, and papillary stasis and atrophy and oculomotor symptoms more frequent. It has also been noted that nystagmus is very exceptional in these cases.

The ocular conditions of the cases reported by Gilford and others do not seem to have been very carefully investigated, so it is difficult to estimate their comparative frequency in cases of pure ateliosis, and the above-mentioned comparisons refer to pituitary enlargements without acromegaly and those with acromegaly.

Dystrophia Adiposo-genitalis.

This symptom-complex described by Fröhlich does not differ to any great extent from ateliosis, except that it may affect adults, and that excessive deposit of subcutaneous fat and somnolence are pronounced symptoms. If the disease appears before puberty, the sexual organs remain in an infantile condition, and probably also the epiphyses remain as in ateliosis; whereas, if the onset is delayed till adolescence, amenorrhœa and impotence, and probably atrophy of the genitalis and loss of hair result. In these cases the skin is not to become coarse, whereas in ateliosis it remains smooth, and in older cases shiny and parchment-like. In some cases mild symptoms of myxœdema or acromegaly may be associated with symptoms of pituitary insufficiency.

The following cases illustrate the main features of hypopituitarism:

Fig. 2.—Case II. Patient (on right), aged 51 years; and his young brother, aged 32 years.

CASE II.—*Ateliosis.* (See Fig. 2.)

C. H., aged 51 years, single, formerly a lapidary, now of no occupation. Family history of no particular interest. Had a severe fall on the forehead when he was 5 years of age; there is a scar at the root of the nose which he ascribes to that fall. Until the age of 12 years he was like other boys, except that he had attacks of headaches and drowsiness since his fall, or at any rate since he was 10 years of age. At the age of 12 to 14 years he stopped growing altogether. He seems to have lived comfortably and followed the occupation of a lapidary without difficulty or discomfort until about the year 1903, when he began to notice failure of sight and to complain of headache and giddiness. In 1906 he was seen at the Birmingham Eye Hospital, and optic atrophy and bitemporal hemianopia diagnosed. Dr. Lowry of Toronto, who was then one of our resident surgeons, took notes of the case at that time, and I am indebted to him for a record of the visual fields (Fig. 4).

In 1908 he came under my care. By this time there had been further depreciation of sight—the vision in the right eye having been entirely lost—his headache and giddiness were somewhat worse, and he had developed visual hallucinations, which were evidently causing him a good deal of mental distress, and apparently keeping him awake at nights. The "visions," as he called them, were generally in the form of flames and clouds of varying brightness, red in the right (homonymous) field and green in the left; he also saw figures such as men walking about, horses, dogs, and landscapes. These were sometimes pleasant, sometimes disagreeable—for example, ugly grinning faces, snakes, etc. They were generally worse in artificial light, and he often sought dark corners because "the visions became worse when they were allowed to see him." The hallucinations involved the field of the blind (right) eye, as well as that of the blind temporal half of the left. The right side of faces, etc., seen also appear red and the left green. Since that date he has been under my care more or less regularly, and his condition has not materially changed. The following are the main points of interest in he case at the present time:

Fig. 3.—Case II. C. H. Showing enlargement of the sella turcica.

His general appearance, build, and voice suggest those of a boy of about 14 years of age, but his pale, sallow, shiny skin shows slight scaliness and the wrinkles in it suggest advancing age. The thyroid gland is not palpable. Abdomen somewhat protuberant. Breasts rather prominent. Slight scoliosis. The penis is small and infantile-looking; the testicles are small and soft and have no testicular feeling; sexual feeling in abeyance. He has no hair on any part of his body except his head, and this is somewhat fine and scanty, especially over the vertex. His height is 4 ft. 7½ in., his weight

5 st. 7 lb. to 6 st. Muscular development is slight and corresponds to his puerile appearance. The right leg is decidedly less developed than the left, the right calf being ½ in. less in circumference.

Hg; pulse 74; temperature 97.4°; blood count showed nothing abnormal.

Cerebration is slow and his intelligence is distinctly below that of a man of his age. He is apt to be irritable, bad-tempered, and lethargic, and, though he is awake a good deal at nights, he is often drowsy during the day. It is interesting to note that efforts made to relieve his symptoms by *x* rays increased the hallucinations and sleeplessness at night. Knee-jerks are normal, and there is an extensor toe reflex on each side.

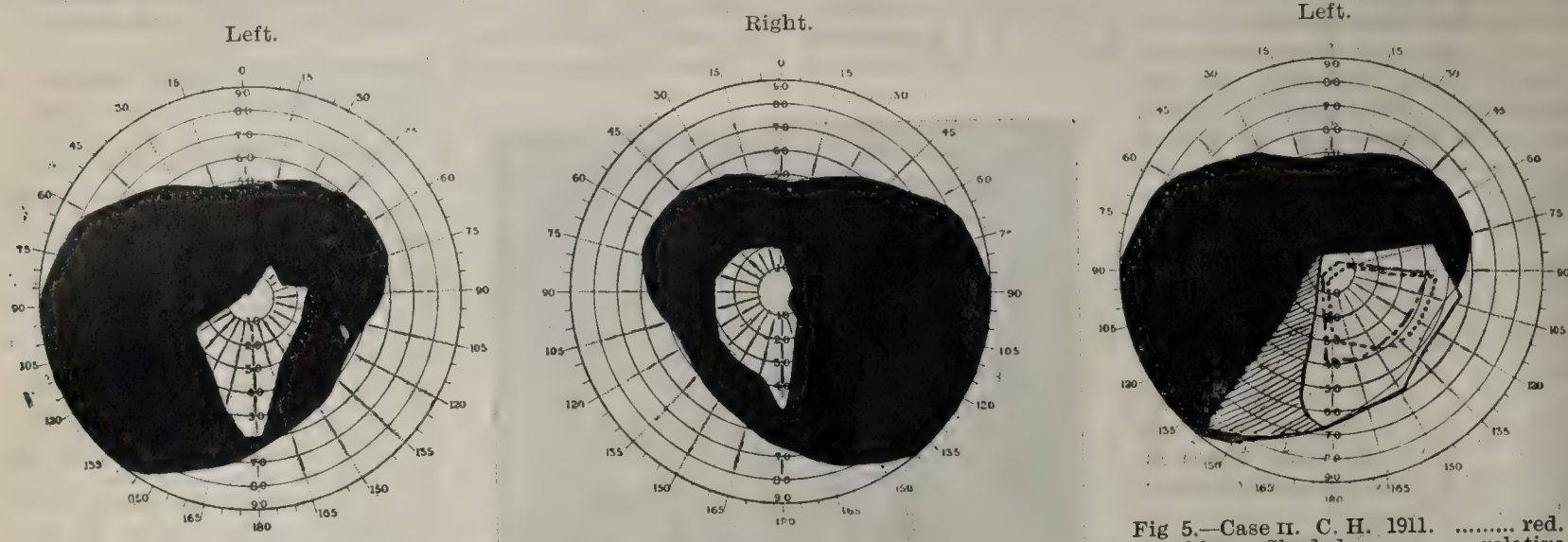

Fig. 4.—Case II. C. H. 1906. Fields for white.

Fig 5.—Case II. C. H. 1911. ..... red. —·—· blue. Shaded area = relative scotoma.

The head is small but long and the post-lambdoidal protuberance is very marked; jaw small; teeth good.

Fronto-occipital measurement	14¼ in.
Mento-occipital ,, ...	18½ ,,
Arm	12 ,,
Forearm	9½ ,,
Chest	26 ,,
Chest expansion	¾ ,,
Pelvis circumference (ant. sup. spines) ...	28 ,,
Thigh (ant. sup. spine to int condyle) ...	18 ,,
Symphysis pubis to ground	28 ,,

Fig. 6.—Case II. C. H. May 12th, 1911. No fusion of epiphyses and diaphyses.

Urine: The amount of urine passed daily has been very difficult to measure as the patient resents having it collected, but the average was apparently considerably under 20 oz. a day; specific gravity 1019, acid; no albumen, sugar, or casts. Digestion and appetite are good, but he suffers much from constipation. Cardio-vascular system: No heart lesion; blood pressure 95 mm.

Ophthalmic Examination.—The right eye is divergent and amaurotic, the nasal field having been lost between 1906 and 1908. The media are clear, and the optic disc shows advanced primary atrophy. R.V. = no P.L. The left eye shows a similar state of primary atrophy of the optic nerve. L.V. = $\frac{6}{60}$; temporal hemianopia (Fig. 5). Colour fields are of the same type but smaller, and there is a central scotoma for colours of $\frac{20}{300}$ for red and green and $\frac{5}{300}$ for blue. Convergence is lost, and there is no contraction of the pupils when an attempt at convergence is made. The right pupil does not react directly to light, but responds when light is thrown into the other eye. The left pupil reacts directly to light but not consensually.

Fig. 7.—Case III, aged 15 years, compared with boy aged 7 years (standing on the left). This patient has no optic atrophy and no hemianopia.

Radiographic Examination is highly instructive. An extensive excavation of the sella turcica is noticeable (Fig. 3); all the epiphyses of the long bones (upper and lower extremities are still unossified (Fig. 6). During the last two years he has been on a variety of medicaments, including pot. bromid., iron

quinine, and arsenic, didymin, thyroid, thymus, pituitary extract and *x* rays. Nothing seems to have had much effect upon him, and *x* rays seemed to aggravate the hallucinations. Thyroid gland only reduced his weight and so was soon discontinued. Pituitary extract seemed to quieten him for a time, and increased the quantity of urine, and apparently also the systolic blood pressure which sometimes went up to over 100 mm. Hg a day or two after injections of pituitary extract, but even these results were by no means consistent and might have been ascribed to normal variations. The one satisfactory feature of the case is that the vision and extent of the field in the left eye have not materially diminished during the last five years. The vision is decidedly variable and on some occasions it gets as low as counting fingers at 3 metres—this in fact was the record of the vision in the left eye in 1906 when that of the right eye was given as $\frac{6}{6}$. It is seldom less than $\frac{6}{6}$ at the present time.

CASE III.—*Ateliosis (?)* (Fig. 7).

Frank L., aged 15 years. Family history unexceptional. Patient was like other children until he was 6 years of age. From that time on he has been physically at a standstill and has retrogressed mentally. Latterly he has been under treatment for tabes mesenterica. At the present time he is 3 ft. 7 in. in height, and weighs 3 st. 2½ lb.

His general appearance suggests feeble mental and physical development. The skull is dolichocephalic, with marked frontal eminences; bridge of the nose undeveloped; mouth large, tongue pale and flabby; teeth good; heart and lungs normal. He has scoliosis, lumbar lordosis, and genu valgum. The abdomen is very prominent—23 inches in circumference at umbilicus. There is a fine growth of hair in the lumbar hollow, but there is no deformity of the neural arches.

There is complete testicular descent, and external genitals are normal. The skin over the abdomen and front of the thighs is markedly mottled (see photograph, Fig. 7), and the fingers and toes are of slight purplish tinge, but are quite warm to the touch. Intellectually he is very backward. He speaks, but will not answer questions. Eyes: Beyond having had phlyctenular keratitis, which has now healed up, there is nothing to note with regard to the eyes. There is no optic atrophy, and, as far as we can judge, no defect of the visual fields.

Radiographic examination shows that the sella turcica is smaller than usual, and is apparently encroached on by a bony spicule (Fig. 8).

There seems to be delayed ossification of epiphyses also, as there is no union between the ischial and pubic rami. It will be easier to judge of the state of his bony development when he reaches the age when the epiphyses of the long bones are due to join the diaphyses.

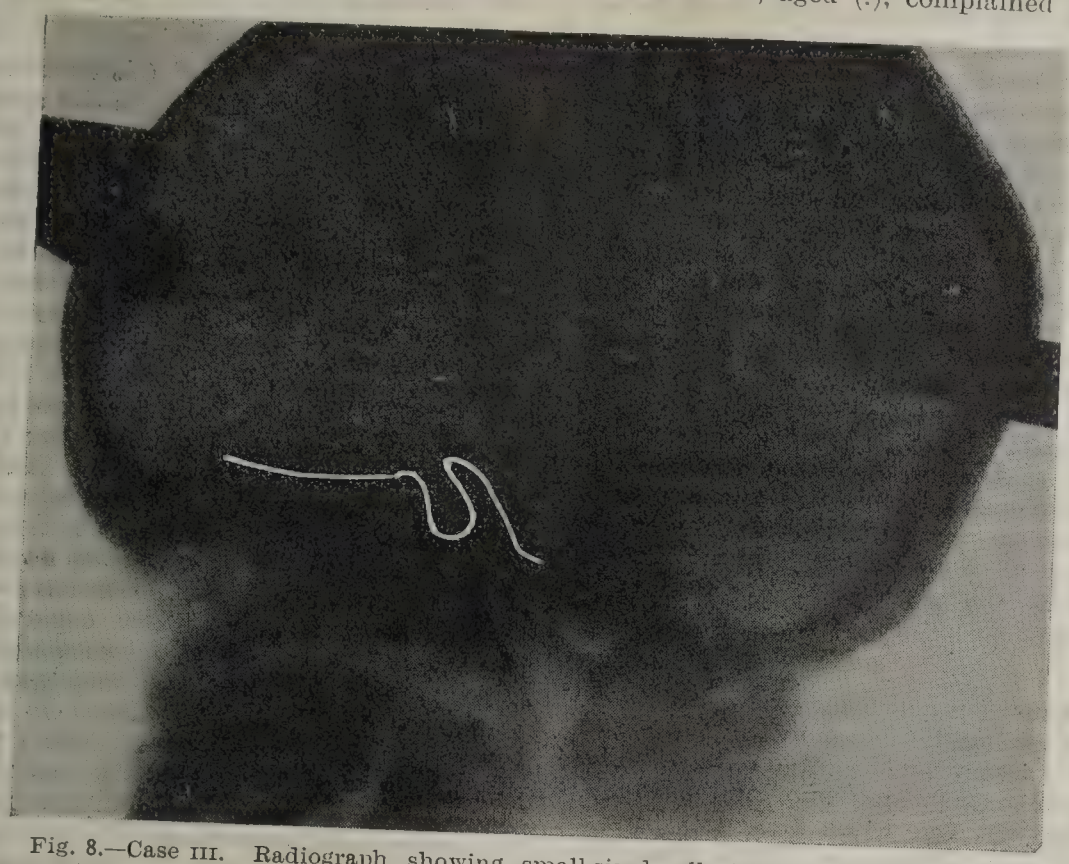

Fig. 8.—Case III. Radiograph showing small-sized sella turcica encroached upon by a bony process.

The foregoing cases indicate the type of nutritional and other disturbances which result from pituitary insufficiency during the growing period.

The following cases kindly reported to me by Dr. Duncan Lawrie, of Oldham, show the results of hypopituitarism in the adult.

CASE IV.

Miss A. B., aged (?), complained of failure of sight, with frequent headaches and amenorrhoea of three years' duration.

In appearance she was a tall, broad-shouldered woman, and her hands and feet were large, but only in proportion to her size. She was bigger than her mother and sister.

Mentally she was normal or above the average of her class. The thyroid was markedly enlarged.

Pupils dilated, react sluggishly to light, active to accommodation and convergence. Left eye divergent. Nystagmus on fixation. Primary optic atrophy each eye.

R.V. = $\frac{6}{36}$, L.V. = $\frac{6}{60}$.
Reads J. 4.

Charts of visual fields show bitemporal hemianopia. Colour vision for red, green and blue good in parts of fields retained. Thyroid administration rapidly gave rise to tachycardia and tremors and did not improve other symptoms. She diedw ith symptoms of cerebral growth. No autopsy.

CASE V.

Mrs. B., aged 35 years. Had noticed failure of sight for three years; menses, which were regular previously, became arrested four years ago.

Physically and mentally she shows nothing abnormal, and beyond the complaints mentioned feels perfectly well. The right pupil is larger than the left. Neither pupil reacts to light. The right eye is divergent. There is primary atrophy of the optic nerves, the right being more markedly atrophic.

R.V. = Fingers at 6 in.
L.V. = $\frac{6}{36}$.

Bitemporal hemianopia. The case has been lost sight of since.

REFERENCES.

[1] Brissaud and Meige. [2] *Trans. Med.-Chir. Soc.*, vol. lxxxv, 1902.

THE VACCINE TREATMENT OF GONOCOCCAL ARTHRITIS.

BY RALPH STOCKMAN, M.D.,

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HE occurrence of gonococcal arthritis signifies an infection rough the blood stream, usually from the urethra or agina, very exceptionally from the conjunctiva. The itality of the gonococcus on these mucous membranes d the obstinacy of the local infection are well recognized, t from the comparative infrequency of visceral infections is evident that the micro-organism has great difficulty maintaining its existence in the blood serum. The ssues which it attacks from the blood, though very idely spread, are few in number, chiefly the fibrous ructures of the joints, muscles, and fasciae, and the novial membranes of joints and tendon sheaths, although e valves of the heart and the pleura are not exempt. l these structures, in fact, consist chiefly of white fibrous ssue.

Fibrous Tissue.

Once established in fibrous tissue the gonococcus may maintain itself very obstinately, but as a rule local reaction occurs, characterized by formation of new fibrous tissue, and after some weeks the organism dies out, leaving behind it a local fibrosis which is pathological in structure and gives rise to chronic muscular stiffness, pain or aching, contracture of joints, flat-foot, and other effects. Sometimes, but rarely, an abscess forms, and yields pure cultures of the gonococcus.[1]

Joints.

In joints the fact that increased secretion takes place from the synovial membrane determines to a great extent the local symptoms. The gonococcal inflammation is often transient, although it can be very prolonged. Thus we find that many patients give a history of one or more attacks of polyarthritis which have cleared off in a few days, and frequently, when several joints have been affected, these cure spontaneously with the exception of one or two, which remain more or less obstinately inflamed. The exudation into the cavity of the joints contains many polymorphous leucocytes, and is rather

thick and turbid, but it very rarely becomes purulent. Immunity does not seem to be conferred, as joints which have once suffered are more liable to subsequent attacks, but some degree of resistance must be developed, as at first the pain and fever are at their worst, and later, even without treatment, the temperature tends to fall and the swelling of the joint to diminish. The incidence of the joint infection can often be traced to exposure to cold or wet, and to injury or strain.

Mucous Membranes.

On mucous membranes the formation of pus is a constant and marked feature. After a time a certain amount of local immunity is established, the organisms remaining virulent and infective to others, but ceasing to cause much appreciable local reaction or discomfort to their host. In the male urethra the discharge becomes "gleety" or is entirely in abeyance, but is liable to become purulent again under various forms of irritation. The infection of the mucous membranes may endure almost indefinitely or may finally die out. The amount of local immunity conferred by it must be very small, as reinfection can take place at once; nor is much, if any, general immunity induced, as the joints, conjunctiva, bladder, testicle, and other parts are often infected in persons who have suffered for months from urethritis.

The mechanism of the spontaneous cure of gonococcal infections is not yet clear. Possibly phagocytosis plays the chief part. In fibrous tissue no local leucocytosis has been observed, but in the case of joints the leucocytes in the exudation sometimes can be seen to contain gonococci, and it is generally assumed that the cocci lying in the leucocytes of a purulent discharge are in process of disintegration, even although they remain infective.

Toxin.

A urethritis seldom causes much fever or constitutional disturbance. On the other hand, a blood or joint infection causes both, and often to a very considerable extent. This is due to the action of a toxin, which is of the nature of an endotoxin, and is only set free when the cocci die and become disintegrated. De Christmas found that the injection of this toxin into the human urethra caused a purulent discharge, and that this recurred with succeeding injections, no local immunity being established. In the natural disease in man it is a matter of common knowledge that the body does not rapidly or efficiently immunize itself.

VACCINE TREATMENT.

During the last four years various papers have appeared describing the treatment of gonococcal infections by the subcutaneous administration of dead gonococci, the object being to stimulate the tissues generally to produce opsonins or antibodies. Allen,[2] Emery,[3] Bosanquet and Eyre,[4] and others speak very positively and enthusiastically of the curative results of vaccine treatment in all forms of gonococcal infection. Irons[5] says, however, that it is of no use in acute gonorrhoea, and Pollock,[6] Hartwell,[7] and others that it is valueless in urethritis—results which accord with my own experience. In vulvo-vaginitis of children its use has been said to be satisfactory and the reverse, but a perusal of the published papers[8] does not carry conviction as to its efficacy.

It is more difficult to sum up and analyse the results of vaccine treatment in gonococcal arthritis as reported by different observers. For instance, Hale White[9] records 4 cases, 2 of which were rapidly (three to five weeks) cured by three doses of 5 to 10 million gonococci, the third by four doses of 5 to 25 million, and the fourth by three doses of 100 to 200 million. W. R. Jack,[10] in 4 cases, got somewhat similar results (cure in seventeen days to seven weeks with four to nine doses) with inoculations of 4 to 10 million gonococci; and Stewart and Eyre[11] state that 5 to 10 millions should only rarely be exceeded, and advise even 1 to 2 millions every three to five days as safe and satisfactory. On the other hand, Allen states that an initial dose of 500 millions is required, and that it should be raised to 1,000 millions. Irons speaks favourably but guardedly: "In certain cases at least of gonococcic arthritis recovery can be hastened by the injection of dead gonococci" (dosage 20 to 1,000 millions). He used other treatment freely along with it, as did Hartwell (dosage 10 to 600 millions). Cole and Meakins[12] gave 300 to 1,000 millions, and found the negative phase always ill-marked or absent. In most of their cases only three or four doses were administered, mostly at intervals of eight to twelve days. They say: "It is difficult not to feel that the treatment has been of value. We recognize, however, how difficult such conclusions are, and we prefer therefore to publish the cases as they are and allow others to decide whether they will carry out this treatment or not." Murrell[13] gives short summaries of 3 cases which recovered, but not rapidly, under vaccine administration. There is also marked difference of opinion regarding the relative value of autogenous and heterogenous vaccines. Certain of the above writers hold that the former are much more efficient, while others maintain that the latter are equally powerful.

Personal Observations.

I wish to put on record here the results obtained by the vaccine treatment of 9 cases of gonococcal arthritis. The number is not large, but they were carefully selected as uncomplicated cases, all of which suffered only from urethritis or vaginitis, and arthritis, so that treatment was not made more difficult or prolonged by such complications as cystitis, conjunctivitis, prostatitis, etc. In all, the gonococcus was isolated from the urethra, vagina, or a joint, and cultures made. Autogenous vaccines were mostly used, but not exclusively. Three of them were treated at first with salicylates to make sure that they were not cases of true rheumatism; in the others vaccine treatment was begun at once. They were all cases of moderate ordinary severity, and otherwise in good health.

In all, the treatment was at first exclusively by the vaccine, but in most of the cases no distinct improvement followed, and after waiting a reasonable time ordinary local treatment was usually superadded or substituted. This was always followed by an immediate and distinct improvement in the local and general conditions, and was what finally led to cure. Only in one case (IX) did recovery take place under vaccine treatment alone, but improvement was so rapid and so marked after only one dose of 5 millions that, on comparing it with the results in the other cases, one cannot help feeling that the vaccine had nothing to do with it. The doses are marked on the charts, and a reference to these will show that varying quantities were used, this being done purposely owing to the different opinions prevailing as to the most suitable dose. I was unable to give the large amounts recommended by Allen, on account of the violent reaction which sometimes followed on much smaller quantities.

Before a correct judgement can be formed of the value of vaccine treatment in gonococcal arthritis considerable experience is necessary of the clinical progress of the disease under other forms of treatment. My experience has been that the great majority of uncomplicated cases of ordinary severity which require hospital treatment can usually be cured in from five to eight weeks.* For years past I have kept accurate records of such cases, and charts 10 and 11 indicate briefly the progress of two of average severity. They compare very favourably with the similar cases treated by vaccines. The ordinary plan of treatment which I now adopt is to administer full doses of copaiba, to apply to the affected joints or fibrous tissues a dressing of oil of copaiba (three parts to one part olive oil) after it has also been gently rubbed in, and to use bougies containing 2 or 3 per cent. silver nitrate for the urethra. In women the vagina is douched twice daily with solutions of mercuric chloride (1 in 1,000 and 1 in 2,000) or calx chlorinata (1 in 100) or potassium permanganate. These are frequently changed, and, after the douching, solution of hydrogen peroxide or silver nitrate is freely used and a certain amount left in. If the cervix is deeply infected it is a practical impossibility to free it from gonococci. If there is much fluid in a joint it should be tapped, and to avoid the formation of adhesions the joints should be gently moved several times daily. The pain of movement is often so severe, however, that patients will not allow this to be done. The results here detailed, along with those got in other cases, have forced me to the conclusion that the administration of dead gonococci exerts no curative

* By "cured" I mean that the gonococcus cannot be found in mucus expressed from the urethra or got by passing a platinum-wire loop along it, and that all active inflammatory symptoms have disappeared from the joints. Stiffness or contracture is, of course, a *result* of the infection, and can only gradually be removed by massage and movement.

influence in gonococcal arthritis, that it is, in short, valueless as a practical clinical treatment. Theoretical considerations also seem to bear this out. It is accepted that healthy animals can be highly immunized against certain diseases by inoculating them repeatedly with the corresponding dead bacteria—as for example in the case of the common pyogenic staphylococci and streptococci. There is, however, no general law with regard to this, for with many diseases it has been found impossible to confer any appreciable immunity on healthy animals by inoculating them with cultures killed by heat (tuberculosis, for instance). But even in those diseases where insusceptibility to infection can be induced by the injection of dead bacteria, it has still to be shown definitely that, with the disease already established, cure can be brought about by the subcutaneous injection of dead bacteria. Increased insusceptibility to an infective disease is one thing, the power of recovery from it is another, and it is far from certain that the latter can be conferred in all or even many diseases by injecting the corresponding dead bacteria under the skin. It has been carefully tried in bovine tuberculosis and has proved a failure. On the other hand, in the case of staphylococcic infections in human medicine, much evidence has been adduced to show the curative value of the proceeding, but it is certainly not a general law and probably is not even of wide application. In the special case of the gonococcus it is acknowledged that even the living germs can produce little or no general immunity, and no antibodies are so far known in man, hence cure by dead organisms is still more unlikely. I found that fresh joints sometimes became affected while the vaccine treatment was being given (Cases II and V), and this should not have happened if the vaccine was capable of conferring immunity or even of increasing substantially the resistance to infection.

It is a matter of great clinical interest to determine whether the reaction after the administration of dead gonococci can be used as a method of diagnosing gonococcal infection. Irons has already done some work in this direction, and he states that eight adults who had no gonococcal infection showed no reaction after hypodermic injection of 500 million dead gonococci, while infected cases invariably reacted. When fully developed the reaction consists in increased pains in the joints, a rise of temperature, malaise with sickness and vomiting, and looseness of the bowels. There is sometimes redness at the site of the injection. These symptoms may last for a few hours up to a day and a half, and are apparently due to anaphylaxis. They vary much in intensity with the same dose and with different cases (see Charts 2, 4, 5, etc.), and may soon cease or may continue to recur after each injection. In most cases, however, the reaction ultimately ceases.

In testing the reaction of healthy adults to polyvalent gonococcic vaccines I found that an injection of 20 to 50 millions caused a very slight rise of temperature—1° or 2° F.—with no other symptoms, while 150 millions caused a more distinct rise but no malaise. If the reaction symptoms develop unmistakably after a sufficient dose of vaccine, it may be concluded that a gonococcic infection is present. But the reaction varies so much with the patient, and probably also with the vaccine used, that it is impossible to define more accurately what is "a sufficient dose" for diagnostic purposes, and this irregularity seriously impairs the value of the method.

CASE I.

Woman, aged 23. Three days before admission she got a wetting, after which she had a rigor followed by swelling, redness, and pain in the left foot, left wrist, and back of right hand. The temperature rose to 103° F. There was a profuse vaginal discharge containing gonococci. Treatment with salicylates had no effect. After the first five administrations of an autogenous vaccine (sixteen days) there was no improvement, and douching of the vagina was started. There was soon improvement in the joints, and in six days the temperature fell to normal practically. Oil of copaiba dressing was then applied to the affected joints. The vaccine always caused some extra pain in the joints, and sometimes a rise in temperature, but the last dose (300 millions) had little effect in these ways. She was fifteen weeks in hospital, and gradually improved from the time the vaginal douching was begun. On dismissal no gonococci were present, both wrists and hands were very stiff from adhesions; five months later gonococci were still absent, and the joints were much more supple.

CASE II.

Man, aged 26. On admission the right knee and the right metatarso-phalangeal joints were very red, swollen, and painful. These improved at first with merely rest in bed. Urethritis present for twelve weeks and the arthritis for six weeks. Gonococci in the discharge. The first two doses of vaccine (10 and 25 millions) were followed by no reaction, the next dose (100 millions) caused a sharp rise of temperature and severe malaise, nausea, sickness, and headache, and this was repeated with subsequent doses (up to 180 millions). During the treatment the left ankle became inflamed. The urethral discharge was not affected in any way. The pain and swelling varied a good deal, but after forty-two days' vaccine treatment there was no substantial change either in the objective or subjective symptoms. Treatment was then begun with copaiba internally, oil of copaiba dressings to joints, and 3 per cent. silver nitrate bougies. Improvement was gradual, but after 4½ weeks there were no gonococci in the urethra, and no pain in the joints, which were still stiff.

CASE III.

Man, aged 28. Five days before admission both knee-joints became swollen and painful. Gonococci found in urethral discharge and in joint fluid. The left knee recovered before treatment was begun. Four doses of vaccine (5 to 10 millions) caused no improvement, but after each there was some increased pain and swelling in the right knee-joint. After this, doses of 2½ million gonococci were given every second day. Twenty-five

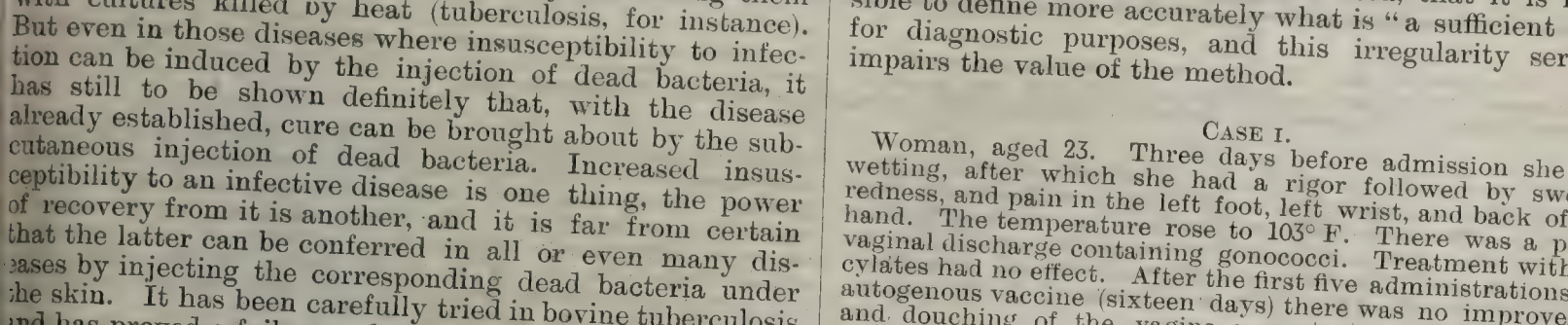

Chart I.—Case I. Woman, 23. Salicyl. treatment no effect. Gonococci in vaginal discharge. Severe pain, redness, and swelling in left foot, left wrist, and back of right hand of three days' duration. 1, Vaginal douching. 2, Great improvement since douching begun. 3, Copaiba passing to joints. 4, Sharp rise in temperature and pain after vaccine. 5, Joints well, except wrists. 6, Wrists very stiff, otherwise well. 7, No gonococci. Five months later no gonococci and wrists are not nearly so stiff.

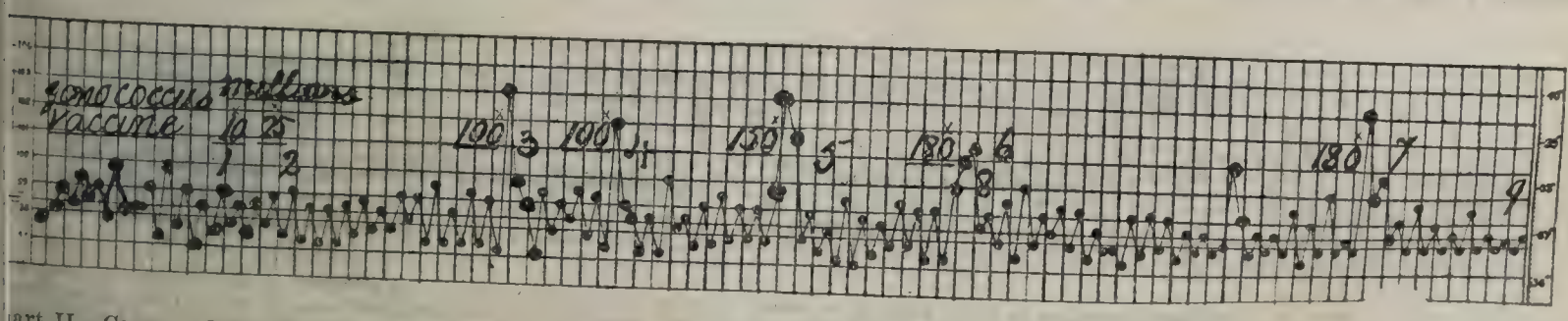

Chart II.—Case II. Man, 26. Urethritis for twelve weeks. Pain and swelling in right knee and in ball of right foot of six weeks' duration. No gonococci in urethral discharge. Polyvalent vaccine. 1, 2, No reaction to vaccine. 3, 4, 5, 6, 7, Severe general malaise with nausea, sickness, and headache, lasting for twelve to twenty-four hours after each injection. Shivering on two occasions. No improvement in joints. Treatment with copaiba and silver nitrate begun. 9, No gonococci present. Pain in joints gone.

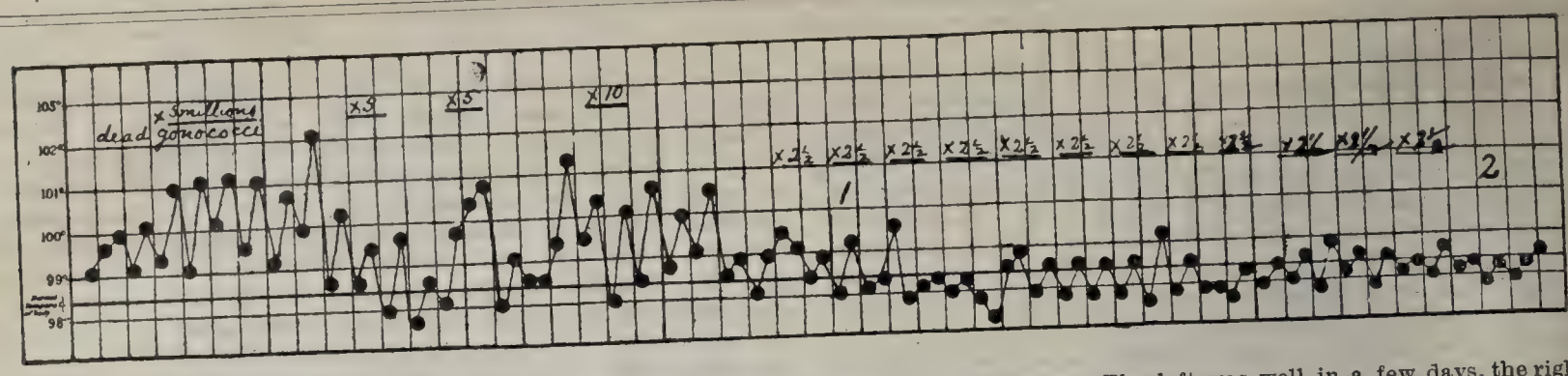

Chart III.—Case III. Man, 28. Both knees swollen and painful five days before admission. The left was well in a few days, the right became worse. Discharge from urethra and fluid from knee contained gonococci. Autogenous vaccine. 1, Irrigation of urethra with zinc sulphocarbolate. 2, No gonococci in discharge, right knee stiff and painful on movement, otherwise well.

days after the vaccine treatment was begun the urethritis had not improved and irrigation with zinc sulpho-carbolate solution was started. The joint condition improved more rapidly after this. The patient was seven and a half weeks in hospital, and on dismissal the urethritis and arthritis were cured. The knee was still rather stiff and painful on movement, but all active inflammation had gone.

CASE IV.

Man aged 31. Pain, swelling, and stiffness in right shoulder with atrophy of muscles. Profuse urethral discharge containing gonococci. A polyvalent vaccine was used for the first two doses. The first (60 millions) caused a sharp reaction. Four hours after there was sickness, malaise, and pain in shoulder, and the temperature rose to 102°. These symptoms subsided in about thirty hours. The next injection (80 millions) caused no reaction of any kind. An autogenous vaccine was used after this. Each dose caused slight malaise, some increase in the joint pain, and a temporary increase in the urethral discharge. After five weeks' vaccine treatment he left hospital. Gonococci were still present and the shoulder was still painful.

CASE V.

Man, aged 37. On admission pain and swelling in right knee of one week's duration. Gonorrhoea for five years; gonococci found in discharge, which was very scanty. The left knee became severely swollen two days after admission. Temperature rose to 102° F. After a fortnight of vaccine treatment (six injections) there was practically no improvement, but improvement then began in the knees, and temperature fell. Twenty-nine days after beginning vaccine treatment the swelling in the knees had nearly subsided, but a severe arthritis then started in the left ankle. The urethral discharge was not affected by the vaccine treatment, and on the twenty-sixth day after it was begun 2 per cent. silver nitrate bougies were used regularly. He was eleven weeks in hospital, and on dismissal no gonococci could be found in the urethra; both knees and the left ankle were stiff and painful on movement. The vaccine caused little constitutional disturbance and no pain.

CASE VI.

Woman, aged 48. On April 18th the left knee became affected and five days later the left ankle, right knee, right ankle, left wrist, and right shoulder had successively become very swollen and painful. There was a purulent vaginal discharge containing many gonococci. The first three injections were made with polyvalent vaccine, the remainder with autogenous. There was much pain and fever, which were quite unaffected by salicylates. The first five injections of vaccine caused a slight febrile reaction and increase of pain, but subsequent ones did not. After seven weeks' vaccine treatment the joints were still swollen and painful, and vaginal douching was begun (1 in 2,000 mercuric chloride).

Improvement was very slow. She was ten weeks in hospital and left with the right shoulder and left hand very stiff. I have no note as to the presence or absence of gonococci on dismissal.

CASE VII.

Man, aged 24. On admission much pain and swelling in left ankle and foot and left knee, less in right ankle, pain in left hip and back. Profuse urethral discharge containing gonococci. In four weeks he got six doses (50 to 150 million) of an autogenous vaccine. After each there was a sharp rise of temperature, and after the second an increase of fluid and of pain in the joints. There was never sickness or malaise. After the first and second injections the urethral discharge lessened for a day. No other treatment was used, and no improvement took place. He was dismissed prematurely for breaking the rules of the hospital.

CASE VIII.

Man, aged 33. On admission pain and swelling in right knee and ankle, pain in left hip, and in upper arms. Gonococci in urethral discharge. Five months ago he had gonorrhoea, a month later he had sciatica in both legs and pain in feet, two months later the right ankle and knee swelled, and later stil pain in deltoids. This was his third attack. He was treated with salicylates but got no benefit. The first two doses of an autogenous vaccine (50 to 100 million) caused no pain and no rise of temperature; the third (100 million) was followed by great pain. As no improvement took place after subsequen doses of 200 and 300 million, which caused no pain and no ris of temperature, he was put on ordinary treatment, and began at once to improve slowly. Five weeks later he was discharged well, except for a good deal of stiffness. The urethral discharg had quite ceased, and no material could be got for microscopi examination.

CASE IX.

Man, aged 34. Three weeks before admission pain and swel ing began in right foot, and later in the knees, ankles, and gre

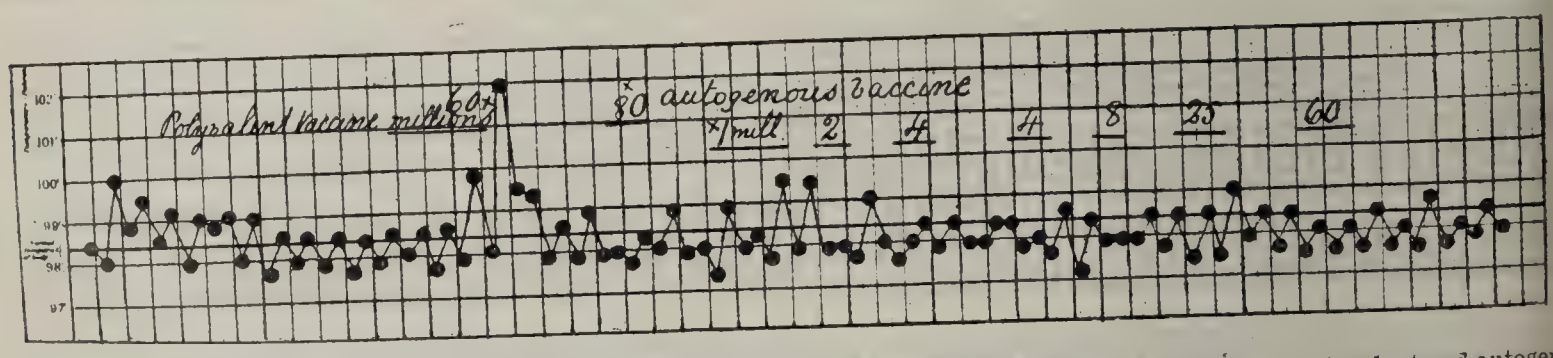

Chart IV.—Case IV. Man, 31. Pain, swelling, and stiffness in right shoulder. Gonococci in urethral discharge. Polyvalent and autogenous vaccines. The shoulder joint remained very much in same condition, and the urethritis persisted.

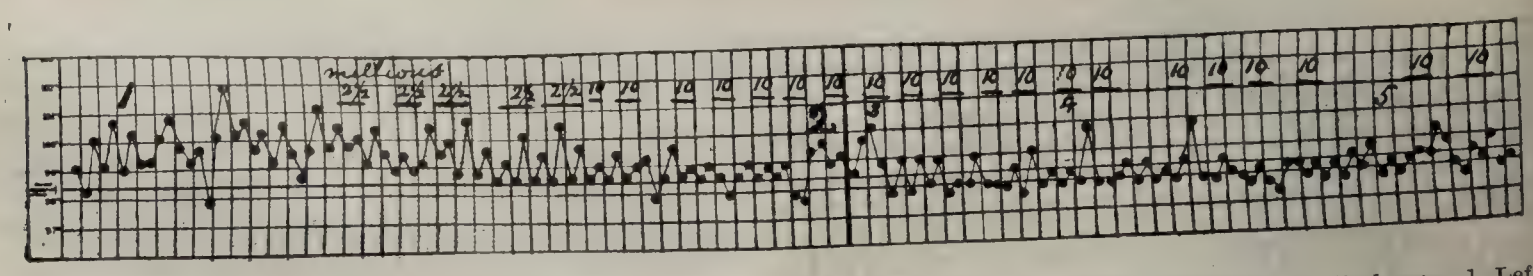

Chart V.—Case V. Man, 37. Pain and swelling in right knee for a week. Urethritis for five years. Gonococci in discharge. 1, Left kn also became swollen and painful. 2, Pain and swelling in knees had varied much, but now distinctly less, gonococci still abundant discharge. Silver nitrate treatment begun. 3. Sharp attack of arthritis in left ankle. 4, Polyvalent vaccine begun. 5, Left ankle wor after temporary improvement. On leaving hospital knees slightly stiff. Left ankle a little swollen and painful. Autogenous and polyvale vaccines.

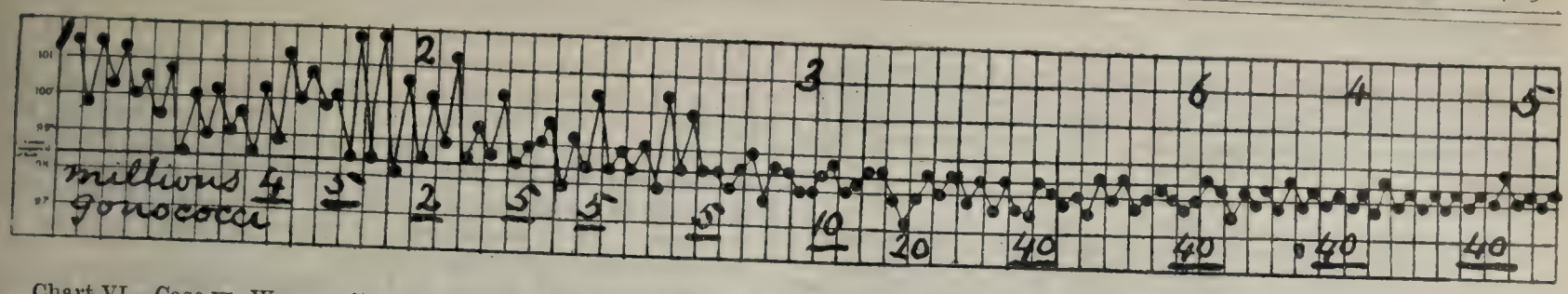

Chart VI.—Case VI. Woman, 48. On admission both knees and both ankles painful and slightly swollen, left wrist and hand much swollen, right shoulder painful and swollen. Duration, eight days. Gonococci in vaginal discharge. 1, Salicylate treatment, no benefit. 2, Pain in joints very severe. 3, Pain less, wrist and shoulder stiff from adhesions. 6, Vaginal douching with 1 in 2,000 mercuric chloride. 4, Pain gone. 5, Shoulder-joint and wrist very stiff and muscles much atrophied.

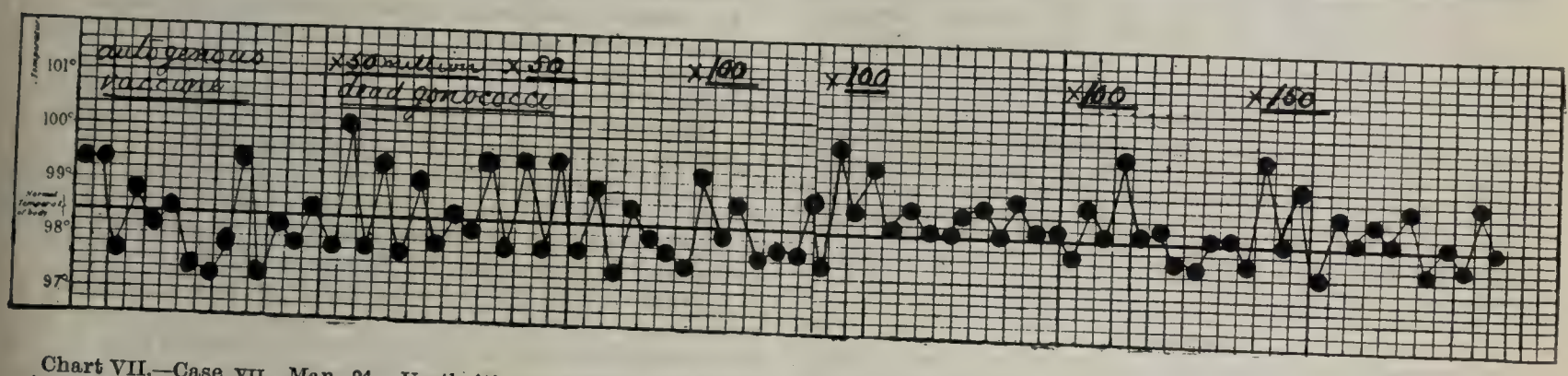

Chart VII.—Case VII. Man, 24. Urethritis ten weeks. Left knee and both ankles swollen and painful. Left hip and back painful. Began six weeks ago. Gonococci in discharge. After each dose of vaccine there was a rise of temperature. Autogenous vaccine. Dismissed for breaking rules of hospital.

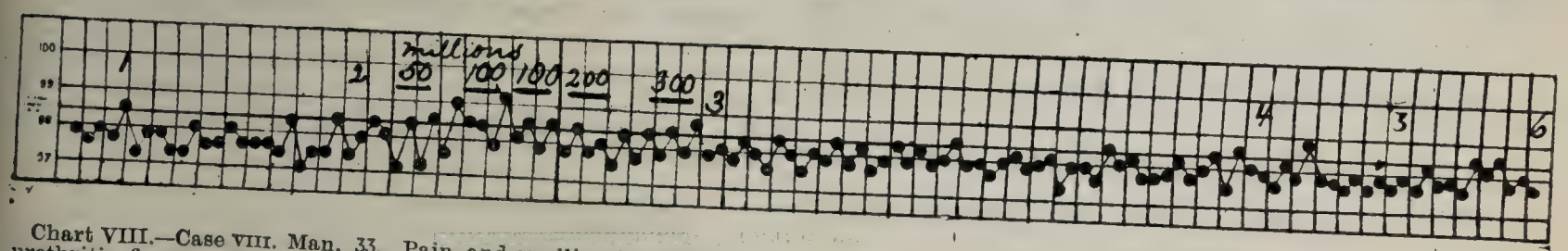

Chart VIII.—Case VIII. Man, 33. Pain and swelling in right knee and ankle, pain in left hip and upper arms. Arthritis four months, urethritis five months. Gonococci in discharge. Nine years ago and five years ago had gonorrhoeal rheumatism. 1, Sodium salicylate 20 grains four-hourly. 2, Salicylate stopped, no improvement. The first two doses of vaccine caused no subjective symptoms; after the third, pain in heel and left shoulder. After dose of 300 million no subjective or objective symptoms. No improvement in joints. 3, Copaiba by mouth and oil of copaiba to joints. 4, Steady improvement since. 6, Discharged well except for stiffness.

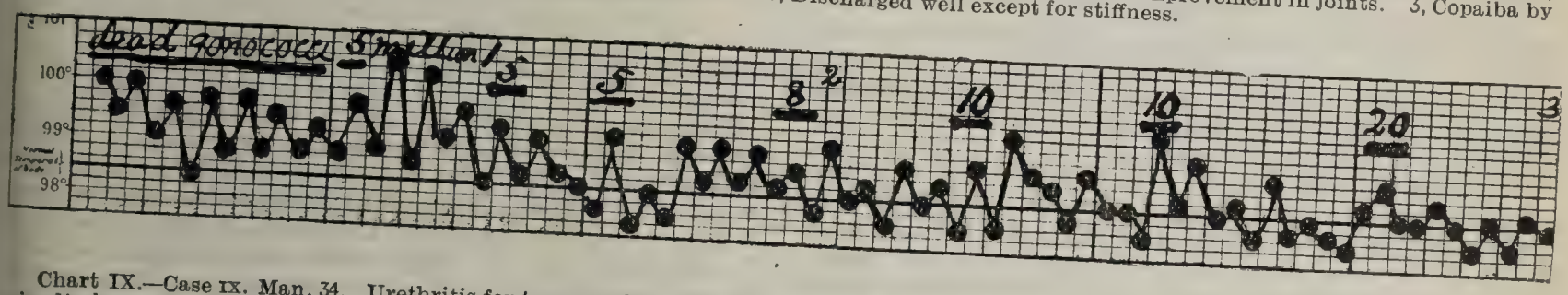

Chart IX.—Case IX. Man, 34. Urethritis for two months. Three weeks ago pain and swelling in knees, ankles, and great toes. Gonococci in discharge. 1, Pain and swelling almost gone from left knee. 2, Effusion almost gone from both knees, but still painful on movement. 3, Pain gone except on extreme flexion of joints. Autogenous vaccine.

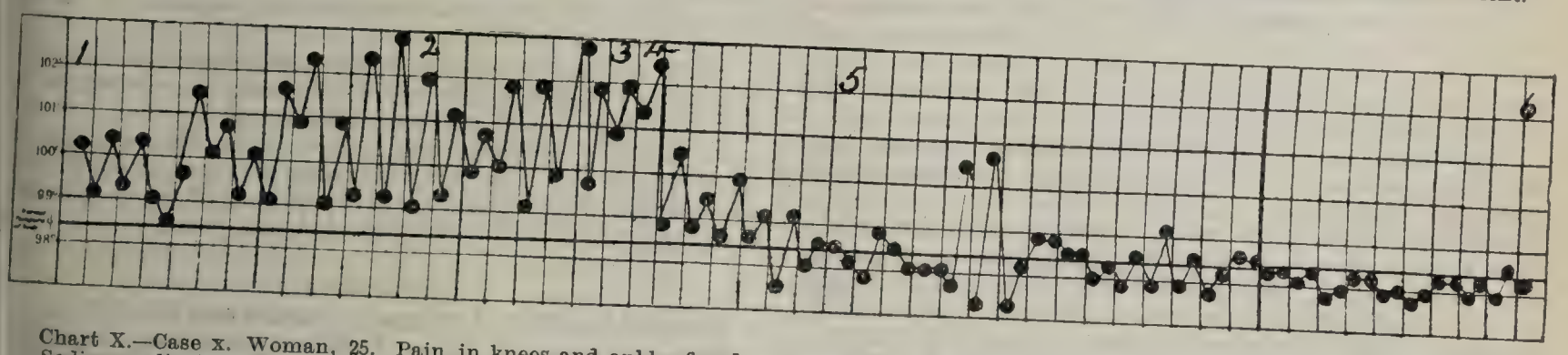

Chart X.—Case X. Woman, 25. Pain in knees and ankles five days before admission. On admission left knee-joint swollen and painful. Sodium salicylate 20 grains four-hourly, methyl salicylate dressing on knee. 2, Knee-joint tapped and gonococci found. 3, Salicylates stopped, no improvement. 4, Vaginal douching 1 in 1,000 mercuric chloride, and oil of copaiba dressing to knee. 5, Pain gone, can walk. 6, Left hospital cured.

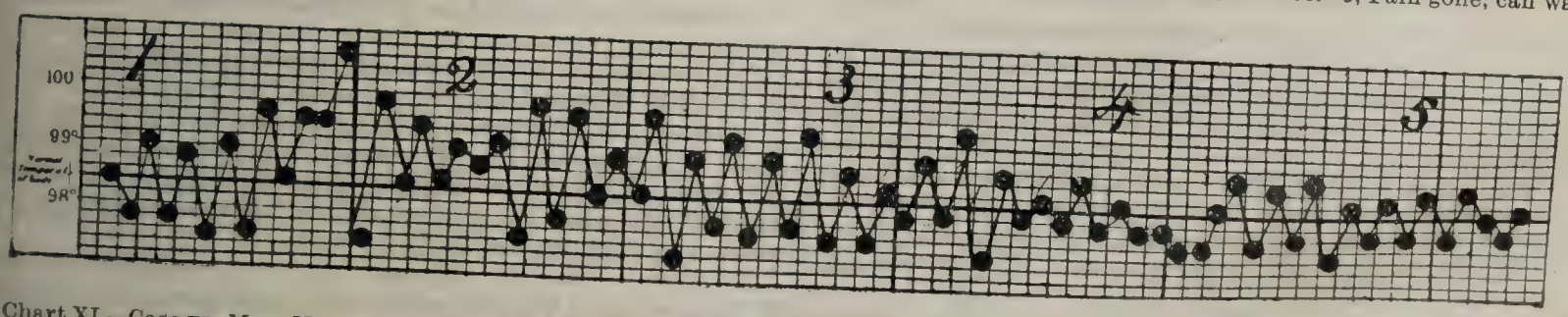

Chart XI.—Case XI. Man, 33. Pain, swelling and redness in right wrist, dorsum of hand and second and third metacarpo-phalangeal joints, pain in left knee. Urethritis. Gonococci in discharge. 1, Copaiba 30 minims thrice daily. Oil of copaiba dressing to joints. 2, Pain gone from knee. 3, Wrist nearly well. 4, No gonococci in urethra. 5, Recovered except for some stiffness in wrist and hand, due to adhesions.

toes. Urethritis for two months; gonococci present. There was marked improvement from the first, and after two injections of 5 million the pain and swelling in all the joints had greatly subsided. Each dose caused a slight rise of temperature, and 20 million was the largest given. No other treatment was employed.

CASE X.

Woman, aged 25. Five days before admission pain and swelling in knees and ankles, pain and stiffness in both shoulders. This cleared away except in the left knee-joint, which was tapped and gonococci found in the fluid. There was vaginitis with gonococci. There was fever, rising to 103° F. Salicylate treatment did no good. She then had vaginal douching (1 to 1,000 mercury chloride) and oil of copaiba dressing to the knee. The temperature fell at once, the pain and swelling disappeared more slowly, and after four and a half weeks she left hospital well.

CASE XI.

Man, aged 33. Urethritis with gonococci. Swelling with pain and redness had come on acutely in right wrist, tendon sheaths, and dorsum of hand, and in the second and third metacarpo-phalangeal joints. He was treated at once with copaiba internally and locally to the wrist and hand. Recovery took place in five weeks, but stiffness remained, due to adhesions.

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[1] Chauffard and Fiesinger, *Arch. de méd. expér.*, xxi, 1909. [2] Allen, *Vaccine Therapy*, third edition, 1910. [3] Emery, *Immunity and Specific Therapy*, 1909. [4] Bosanquet and Eyre, *Serums, Vaccines, and Toxines*, Second edition, 1909. [5] Irons, *Journal of Infectious Diseases*, v, 1908. [6] Pollock, *Journal of the Royal Army Medical Corps*, 1909. [7] Hartwell, *Annals of Surgery*. 1909. [8] Hamilton and Cooke, *Journal of Infectious Diséases*, v, 1908; Hamilton, *Journ. Amer. Med. Assoc.*, 1910. [9] Hale White, *Proc. Roy. Soc. Med.*, 1909. [10] W. R. Jack, *Glasgow Med. Journ.*, 1910. [11] Stewart and Eyre, *Lancet*, 1909, ii, 76. [12] Cole and Meakins, *Johns Hopkins Hosp. Rep.*, xviii, 1907. [13] Murrell, *Edinburgh Med. Journ.*, 1910, ii.

THE ALBUMEN REACTION IN TUBERCULOUS SPUTUM.

BY NATHAN RAW, M.D., M.R.C.P.LOND.,
PHYSICIAN, MILL ROAD INFIRMARY, LIVERPOOL.

THE difficulties in arriving at a correct diagnosis in early tuberculosis of the lungs are known to all of us, and in those cases which do not present physical signs it is almost impossible to form a correct opinion, much as we may suspect the presence of tubercle.

It is on this account that we welcome any new test which may assist us in a diagnosis, and to the patient it is of supreme importance that treatment should be commenced before the development of physical signs in the chest. The test which I propose to describe was introduced by MM. Lesieur and Prirey.[1] It is simple and can easily be applied at the bedside.

The technique is as follows: Five cubic centimetres of the sputum are mixed with 20 c.cm. of physiological salt solution in a test tube; 5 or 6 drops of acetic acid are added, and the whole well shaken up and then filtered. The filtrate is then tested for albumen by heat or nitric acid.

If the reaction is obtained it is claimed by the writers to be strong evidence in favour of pulmonary tuberculosis, although they admit that the reaction occurs in other diseases, to which I will refer. Lesieur and Prirey claim that the reaction is present invariably in cases of pulmonary tuberculosis, even in its early stages, when it may be difficult or imposible to discover tubercle bacilli in the sputum. They find this reaction present before the appearance of any physical signs in the lungs in 75 per cent. of cases, and declare it to be a more useful test than the microscopic examination of the sputum. In miliary tuberculosis or in pleurisy it is not constantly given.

They also find the reaction present during an attack of acute lobar pneumonia due to pneumococci, and its persistence in this disease during convalescence points to the probability of a new focus of infection or a complication. The reaction is found also in acute pulmonary oedema, acute congestion, and acute bronchopneumonia. As a rule it is negative in acute bronchitis, and it is always negative in chronic bronchitis and emphysema. In cardio-renal cases it is often positive.

They give a total of 840 observations from various authors in which the reaction was positive in 100 per cent. of cases, confirmed by microscopic examination of the sputum for tubercle bacilli in 83 per cent. of cases of probable pulmonary tuberculosis, and in 37 per cent. of cases of non-tuberculous sputum. They find that the intensity of the reaction is in direct proportion to the importance and gravity of the lesions and the abundance of tubercle bacilli, and so consider the reaction to be valuable in prognosis as well as diagnosis. A negative reaction would, according to their opinion, appear to exclude pulmonary tuberculosis.

My junior colleagues at the hospital have very kindly undertaken to make a thorough test of this reaction, and the results of their work in the wards, and my own in private, are here given.

In cases of suspected tuberculosis we can obtain very valuable information by using tuberculin; and although this is not the time to mention the various tests that are employed by that method, it is my practice to perform the cuti-reaction (von Pirquet's test), which consists of scratching a few drops of concentrated human or bovine tuberculin into the skin and watching the effect. If the patient is tuberculous a pinkish areola surrounds the scratch, occurring in about twelve to twenty-four hours and persisting, as a rule, for five or six days.

A positive von Pirquet test, however, is no evidence of pulmonary tuberculosis, but is simply an evidence that there is or has been a focus of tubercle somewhere in the body; of course, if there are physical signs in the lungs, then the presumption is strong that the case is one of pulmonary tuberculosis. I attach great weight to a negative von Pirquet reaction, as we can almost certainly exclude tuberculosis excepting in those cases in which the disease is too acute or too advanced to give a reaction. In the 110 cases in which the reaction was sought for in the wards of Mill Road Infirmary the diseases were as follows:

Pulmonary tuberculosis	90
Pneumonia	9
Bronchopneumonia	4
Bronchitis	2
Asthma	2
Tuberculous joints	2
Neurasthenia	1

As far as was possible the von Pirquet reaction was obtained, and in addition the sputum was stained for tubercle bacilli.

There can be no doubt that in the large majority of cases of pulmonary tuberculosis the reaction is easily obtained, and out of the 90 cases which were diagnosed as pulmonary tuberculosis, 75 gave a positive reaction and 15 gave a negative reaction. The latter 15 cases presented the physical signs of tuberculosis with a positive von Pirquet reaction, but in 9 of the cases no tubercle bacilli could be obtained, so that it is possible that our diagnosis was at fault. In 6 cases, however, tubercle bacilli were found, and this test was found to be negative in these 6 undoubted cases of pulmonary tuberculosis.

In the cases of pneumonia in the acute stage the reaction is generally positive, although in one case the reaction was not present until the sputum became rusty.

In chronic bronchitis and emphysema the reaction is usually negative. In the two cases of tuberculous joints the reaction was negative, and in one case of neurasthenia without lung symptoms the reaction was positive.

CONCLUSIONS.

From this list of 110 cases I would not like to dogmatize on the certain value of the test to make a diagnosis of tubercle of the lungs before the onset of physical signs, and before tubercle bacilli appear in the sputum, and I propose to continue the investigation in a few hundred more cases before coming to a conclusion. In the meantime, however, I am of opinion that the test is valuable in certain doubtful cases, and, taken in conjunction with a positive von Pirquet reaction, we would be justified in making a diagnosis of pulmonary tuberculosis; moreover, the test has the advantage of being very simple and easily applied, whereas it is often difficult in private practice to apply the von Pirquet test.

I would like to express my indebtedness to Dr. Williamson and Dr. Joseph for the work they have done in the wards.

REFERENCE.

[1] *Paris Médical*, this year.

EPIDEMIC PARALYSIS (POLIOENCEPHALO-MYELITIS).

BY S. C. HOUNSFIELD, M.R.C.S.ENG., L.R.C.P.LOND.,
STOWMARKET, SUFFOLK.

WE have recently had a somewhat severe epidemic of this disease in Stowmarket and district. My partner, Dr. H. C. Harper, and I have attended over thirty cases.

I was away on my holiday in September, when the majority of the cases occurred, but I am endeavouring with the assistance of colleagues in the district to get all the cases tabulated, especially with regard to possible means of infection.

My excuse for publishing this preliminary note is: First, because the disease being so serious, apparently becoming more prevalent in this country, and the treatment thereof being at present so unsatisfactory, any points which might possibly throw light on the means of infection are important with a view to prevention of the disease in future summers; and secondly, because there seems a little danger of accepting the dust-borne theory of infection through the naso-pharynx, instead of keeping an open mind for the investigation of other theories. According to a summary on the subject in the BRITISH MEDICAL JOURNAL of November 4th, "at present it cannot be said to amount to much more than a suspicion that the virus gains entrance through the nasal passages." Some of Dr. R. Burnet's twelve points in the BRITISH MEDICAL JOURNAL of November 11th do not hold good for all the recent epidemics published, while others fit in very well with other theories of infection.

Some points noted in a general survey of the Stowmarket epidemic are as follows:

I. The disease, as in other epidemics, generally attacked the clean, well-to-do, and well-nourished class; very often an "only" child or one in a family of two or three.

Possible Inferences.—(1) Windows more generally open, admitting (*a*) dust, which might infect directly through the naso-pharynx or indirectly through the alimentary canal by means of food, such as milk, butter, sugar, etc. (uncooked); or (*b*) insects such as flies, gnats, wasps, etc., especially allowing free passage of flies from dirt, refuse, horse-droppings, etc., out-of-doors to food, or even human beings indoors, and so possibly infecting the alimentary canal. (2) This class probably eat more sugar (uncooked) and sweets (possibly infected by flies in grocers' or confectioners' shop); also drink more milk (often not boiled), which milk is very likely to contain dust from road.

II. Naso-pharyngeal catarrh was not found in any of the cases; a few cases had a little redness of fauces.

III. Nearly all the cases started somewhat like typhoid fever, with headache, high temperature, dry tongue, diarrhœa followed by constipation, and even tenderness and gurgling on pressure over intestines, the paralysis coming on several days later.

Possible Inference.—The alimentary canal may be the tunnel of infection.

V. Flies were noticed as a perfect pest in nearly all the houses (in the town) in which cases occurred, and also in most of the provision shops. In the house where my first case occurred at the end of July, six fly-bands hung up in one room were completely filled on both sides with flies in less than one hour. It may be noted in connexion with this, that cases in the country surrounding Stowmarket at present sight appeared to have no communication with the town or with a previous case, but on closer investigation, one at any rate had visited shops in the town, whilst others had only had sweets taken home to them from the town; but these cases are not all investigated yet.

. The majority of cases occurred in September, a few October, after the rain came, but only one since flies appear to have gone.

I. The majority of cases were not on the main roads; ed, one case, a child two years old, occurred in a e in a grass lane a considerable distance from a small try road, the child never having been on the road; rovisions were obtained from a town where there are ases, except occasionally a piece of meat from Stowket, when sweets were taken home to the child from a in Stowmarket.

I. Very little evidence of patients having bathed or led in streams or ponds.

VIII. The local veterinary surgeon reports having had several cases of paralysis among horses in this district, which horses had to be shot. Drs. Gregor and Hopper, in the BRITISH MEDICAL JOURNAL of November 4th, mention one case of "poke-neck" in a horse belonging to a patient's father in their district. Is it possible that horse-droppings contain the virus? In this connexion, as mentioned in some of the other epidemics, some of our cases have occurred in streets recently tarred, where the water-cart has consequently been conspicuous by its absence. A tarred road would conceivably preserve horse-droppings more than a porous road.

It would be interesting to know if the faeces and urine of patients contain the virus. If this were the only source of infection one could understand the disease not being any more contagious than typhoid fever; one could also understand flies (or possibly wind) carrying virus from excretions of a patient either before or after they reached the sewage farm in a very dry summer.

If the nasal secretion contained the virus one would expect the disease to be very contagious directly from one patient to another person in the same house, like the common cold, measles, etc.

The experiments of Flexner and Lewis mentioned by Dr. Soltau in the BRITISH MEDICAL JOURNAL of November 4th, show that the mucous membrane scraped from the naso-pharynx of monkeys contained the virus, and not the mucus itself; also the virus painted on the naso-pharynx had a negative result—it had to be rubbed in after scarification to produce the disease.

Until our cases have been properly tabulated it is not fair to draw any conclusions, though I cannot help thinking it is possible for flies to carry infection from sewage, refuse, or other dirt to food and thence to the alimentary canal, or, at any rate, for dust (however it becomes infected) to enter through the same channel—that is, food. However, I do not wish to be biassed, and at this stage only intended to suggest points for investigation in other epidemics.

THE OPHTHALMO-REACTION IN THE DIAGNOSIS OF CHRONIC PULMONARY TUBERCULOSIS.

BY A. SALUSBURY MACNALTY, M.A., M.D.,
B.CH.OXON., M.R.C.S.,
MEDICAL REGISTRAR TO THE LONDON HOSPITAL.

WHILE resident medical officer at the Brompton Hospital I made some observations on the ophthalmo-reaction. A note on the results obtained may be of interest in view of the article on the subject recently contributed to the JOURNAL by Mr. A. Stroud Hosford.[1]

The routine and method employed were as follows: An ophthalmic examination was first made to ensure that the eye selected was perfectly free from disease, and then one drop of tuberculin (Calmette's preparation) was instilled into the eye. The reaction usually occurred within twenty-four hours; it consisted in a marked injection of the vessels of the conjunctiva, and in two instances in which the reaction was highly positive it was accompanied by conjunctivitis. In the negative cases the test was applied on three different occasions.

A trial was made of the reaction in 52 cases (tuberculous and non-tuberculous); of these 24 gave a positive and 28 a negative result.

CASES OF PULMONARY TUBERCULOSIS.

The 35 cases of chronic pulmonary tuberculosis selected for the reaction may be classified as follows:

1. *With No Physical Signs.*

This class comprises cases which gave a history of haemoptysis or of other symptoms suggestive of early pulmonary tuberculosis. Out of 11 such cases 6 gave a positive, 5 a negative reaction; of the positive cases 4 gave the tuberculo-cutaneous reaction (von Pirquet), and were subsequently found to have tubercle bacilli in the sputum; and 2 up to the present time have never displayed any other pathological or physical sign of pulmonary tuberculosis; of the negative cases 3 had tubercle bacilli in the sputum, while the 2 remaining cases reacted to a subcutaneous injection of Koch's Old Tuberculin.

2. *With Physical Signs.*

(*a*) Cases of infiltration and consolidation:

(1) With one lobe affected, 11 cases; 8 gave a positive and 3 a negative result.

(2) With two lobes affected, 7 cases; 5 gave a positive and 2 a negative result.

(3) With three lobes affected, 2 cases; 1 gave a positive and 1 a negative result.

(*b*) Cases of excavation.—Two cases; one case had one lobe affected, the other four lobes. In both instances the reaction was positive.

(*c*) Cases of pleurisy, with effusion.—Two cases, in both of which the fluid, when aspirated, showed a lymphocytosis; one gave a positive and one a negative reaction.

CASES OTHER THAN PULMONARY TUBERCULOSIS.

The ophthalmo-reaction was applied in 17 non-tuberculous cases with the following results:

Three cases of mitral regurgitation; 2 positive, 1 negative.
One case of double mitral disease; positive.

The reaction was negative in—

One case of lymphadenoma,
Two cases of bronchitis,
Five cases of bronchitis with emphysema,
One case of bronchiectasis,
One case of gastric ulcer, and
Three cases in which no pulmonary or other disease was found.

CONCLUSIONS.

1. A negative result by no means excludes pulmonary tuberculosis; here I am in close agreement with Mr. Hosford.

2. A positive result cannot be held to be diagnostic of tuberculosis, for although the majority of the non-tuberculous cases did not give the reaction, yet it was given by 3 cases of morbus cordis, in which no other evidence suggestive of tuberculosis was obtained. Further, the 2 positive cases, classified under the clinical diagnosis of chronic pulmonary tuberculosis without physical signs, which have been under observation for a period of two years, support this conclusion. It may be urged that the investigation should have been carried out on a larger number of cases than are recorded here, but one non-tuberculous case that gave the reaction would be sufficient to vitiate the accuracy of the test. That the cardiac cases, giving the reaction, were the subjects of tuberculous endocarditis is a view more hypothetical than probable.

3. The ophthalmo-reaction appears to be an adjunct to the diagnosis of pulmonary tuberculosis.

I am indebted to Dr. Hector Mackenzie for permission to carry out these investigations on cases under his care.

REFERENCE.

BRITISH MEDICAL JOURNAL, September 2nd, 1911, p. 471.

ON THE USE OF THE SPHYGMO-OSCILLOMETER OF PACHON.

BY

H. L. WATSON-WEMYSS, M.D., M.R.C.P.EDIN.,

TUTOR IN CLINICAL MEDICINE ROYAL INFIRMARY, EDINBURGH.

(From the Clinical Laboratory of the Royal Infirmary, Edinburgh.)

THE employment of the Pachon's sphygmo-oscillometer is still in its infancy. Although it has been in the hands of French observers for a couple of years, it has only recently been used in this country. Three notes upon its use have been published in this country by Eckenstein [1] and Halls Dally.[2] Before any further observations are made with it, it must be pointed out that the results obtained are vitiated by the fact that the armlet adopted by Pachon is too narrow to furnish readings which can be accurately compared with those of other sphygmomanometers.

It has been abundantly proved that readings of arterial pressure are markedly higher with a narrow than with a wide armlet. The question has been fully considered by Janeway,[3] who has most carefully analysed all previous work upon the subject. The usual forms of Riva-Rocc apparatus are furnished with an armlet measuring 14 cm. in breadth, while the oscillometer of Pachon is provided with one which only measures 7.8 cm. The possibility of discrepancies is enormously increased by this difference in the mode of applying the counter-pressure. Even with low arterial pressure the variation in the readings is quite perceptible, while with high arterial pressure it may be very high indeed.

The following case in Dr. Gibson's ward may be taken as an example. It is that of an elderly woman suffering from aortic obstruction and incompetence. With the Riva-Rocci apparatus the diastolic pressure in the left arm was 80 mm. Hg and the systolic pressure was 145, while in the left leg the diastolic pressure was 90 and the systolic pressure 225; but with the instrument of Pachon the diastolic pressure was 85 and the systolic 160 in the left arm, while in the left leg the figures were 100 diastolic and 290 systolic. When the oscillometer was in this case employed with an armlet of the same breadth as that which we always use with our mercurial sphygmomanometers, it gave a diastolic pressure in the arm of 85 and a systolic pressure of 150; in the leg it gave a diastolic pressure of 95, while the systolic was 230.

Many other cases have been tested in the same clinic, and in every instance the readings obtained with the oscillometer are considerably higher than those obtained with the Riva-Rocci apparatus.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, 1910, vol. ii. [2] *Medical Magazine*, February, 1911, and BRITISH MEDICAL JOURNAL, 1911, vol. ii, p. 813. [3] *The Clinical Study of Blood Pressure*, 1907, p. 57.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

BLOOD PRESSURE AT THE CLIMACTERIC.

THE use of the sphygmomanometer, though more common than formerly, is not as general as it should be, and when the blood pressure is taken, it is interpreted more in the light of a *symptom* than as a *cause* of disease.

The object of this communication is to show that increased blood pressure may be the immediate cause of disease, and that active treatment directed to its reduction may have the happiest result.

It is generally known that in menstruating women the blood pressure increases before the flow, and diminishes after. Consequently, at the climacteric, when the monthly loss ceases, the many subjective symptoms of that condition appear, and there is a tendency to permanent increase of blood pressure. Should a violent attack of menorrhagia occur, and flushings of the skin supervene they should be looked upon as desirable safety-valves. It is well known that various forms of mental disease may appear at the climacteric, and women who have safely passed through puerperal periods may mentally break down at the menopause. Melancholia is most common, but cyclic conditions are not unknown. In any books I have read, and among the neurologists I have consulted for this condition, I have never seen much stress laid upon increased blood pressure as being a *cause* of the mental condition, though it may be recognized as a symptom. Consequently no active measures are taken to control it; in fact the treatment generally advised (bloodtonics, and feeding to keep up nutrition) have the opposite effect. The following case shows the necessity of directing attention to the blood pressure:

A lady, aged 47, was suddenly attacked with considerable mental excitement; in a few weeks this changed to a condition of melancholia alternating with stupor and illusions. Six months later the menses stopped, to reappear irregularly. The mental state continued for two years. The blood pressure went up to 170 and 180 mm. Hg, and was always higher when the mental state was worse. Then an attack of hemiplegia supervened, evidently haemorrhagic; active measures were taken to reduce the blood pressure, namely purging daily, nitro-glycerine, and suitable feeding. The blood pressure fell to and remained at 110 to 120 mm. Hg and all mental symptoms disappeared.

Porlock, Taunton. J. HOPE POTTER.

Reports of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Friday, November 3rd, 1911.

Mr. R. H. WOODS, President, in the Chair.

Risks in Salvarsan Treatment.

MR. H. MOORE read notes of a case of early general paralysis of the insane, treated by "606," with a fatal result:

The patient, aged twenty-five, was given 0.5 gram intravenously. A severe reaction followed, his temperature rising to 103°. It was normal the following morning, and he left the hospital on the fifth day. Wassermann's reaction, which was negative before injection, was positive four days after. Six weeks later, his general condition being much improved, but Wassermann's reaction being still positive, he was again given 0.5 gram. On this occasion the reaction was very severe, his temperature rising to 105°, with much diarrhoea, vomiting, and general pain. The reflexes, which were all exaggerated before injection, disappeared. He was much better the following morning, but that afternoon he had a second rigor, with rise of temperature to 102°. His general condition became rapidly worse—he got ptosis of the left eyelid, bilateral paresis of the limbs, and difficulty of articulation, and died that night.

The PRESIDENT said that he often gave the drug in an ambulatory way, instructing the patients as to the after-effects. Perhaps it should not be given outside hospital; still it was better for a patient to get it in an ambulatory way than not to get it at all. It was, seemingly, in paralytic cases that the drug was dangerous. Dr. MOORHEAD said he could hardly agree that the administration of salvarsan in an ambulatory manner was safe, the last injection given by him being followed by severe symptoms. The dose given was 0.5 gram in the ordinary way, but the temperature rose to 105.4°, and the symptoms were almost identical with those in Mr. Moore's case. Sir JOHN LENTAIGNE thought the administration of this drug should not be undertaken unless the patient was under control in hospital for at least three days. If the patient was thoroughly cleared out before injection it would be better. He had tried this and found a very great difference in the violence of the reaction, and the patients were free from constitutional disturbances afterwards. Taken all round, the treatment was of the utmost value, but it was a very serious business. He would on no account treat a patient and allow him to walk home afterwards. Mr. MELDON asked what was the exact cause of the patient's death. If death had been directly due to the salvarsan it was probable the patient would have died within the first few hours, but apparently he got over the early reaction and succumbed to a second or later reaction. Mr. W. I. DE C. WHEELER thought Mr. Moore's case was by no means the only Dublin patient who died after salvarsan. He had now given up the intramuscular injection in favour of the intravenous method, and he found it a good plan to plunge the arm into hot water first, to assist in getting at the vein. He had not found any bad results with the intravenous, but he had with the intramuscular method. Mr. GUNN said he had a very small experience of this drug, but one of his cases had caused him much anxiety. The patient was a youngish man with very bad syphilis, with whom the ordinary treatment had failed. After injection he was fairly bad for some hours, but in about twenty hours afterwards he was found to be in a very serious state, and, although he recovered, he was very near death. He thought that the administration of the drug was attended with very considerable danger, and that every one who used it could, he was sure, recount some case which had caused anxiety. Mr. BLANEY asked if Mr. Moore was justified in giving salvarsan in the case brought before them. Bearing Ehrlich's warning in mind, he would have hesitated to administer the drug to such a patient. Mr. PEARSON said that in his experience of ten cases it was the rule to get no reaction. All patients were prepared as if they were to go through a surgical operation. In some of them the injection was followed by diarrhoea, but in no case was there a great rise in temperature. In two nervous cases in which he had used the drug both patients had greatly improved. One of them had a slight reaction, but the other had no reaction, nor did either show any signs of vomiting. The PRESIDENT spoke of an experience of over forty cases; in the first the injection was subcutaneous, in all others intravenous. All the injections were made by gravitation, using a boiled cotton-wool filter. Whether this had anything to do with their immunity he could not say, but in none of the cases was there anything like a severe reaction. He, however, always took the precaution of having the patient thoroughly cleared out before injecting him. Mr. MOORE, replying to the comments, said Ehrlich was strongly opposed to allowing the patient out after injection. It was found that in two or three cases where the patient had a very slight reaction at first there was a severe reaction in about thirty-six hours afterwards. He knew of a case where a man, apparently about 70, had only a very slight reaction at first, but in about fifteen hours afterwards he had a serious attack of heart failure. It was recorded that alcoholic patients demanded special care. It was his practice always to prepare the patient as if he were about to undergo a major operation. The preparation of the drug was also of importance. It should always be made fresh, and the saline solution should be made at the same time with boiling water, and then allowed to cool. He would not give any patient an intravenous injection and then allow him to walk away. In one fatal case which had been reported the patient was allowed to go away, and he got a severe reaction the same night, and died two days afterwards. He, however, found that in a large number of cases there was no reaction at all. With regard to the question as to the cause of death in the case which he had brought before the Academy, he could not say what really was the cause. However, in earlier cases, where it was administered to infants, Ehrlich's idea was that they died of arsenic poisoning. He did not remember any case on record where the patient got blind. Patients had complained of visual trouble after injection, but in most of them the trouble was present before. He knew of a patient who had been under treatment for syphilis for some years, and who had evidently had an attack of cerebral thrombosis, but was not improved by the use of any of the various remedies. At the patient's own request a doctor gave him three intramuscular injections of 0.5 gram each at intervals of four weeks. This, he thought, was a very dangerous procedure, although the patient was still alive and well. Referring to the fatal case, he said he thought he would, in similar circumstances, adopt the same procedure again; but he would, perhaps, give a smaller dose in the second injection.

SECTION OF MEDICINE.

Friday, November 10th, 1911.

Dr. LITTLE in the Chair.

A Pseudo-Hobnail Liver.

THE PRESIDENT (Sir John Moore) submitted clinical notes of the case of a married woman, aged 34 years, who suffered from chronic perihepatitis and interstitial hepatitis, with the prominent symptoms of ascites, jaundice, and haematemesis. She first came under Sir John's care in April, 1909, with the signs and symptoms of purpura haemorrhagica. Even at that time she complained of a feeling of fullness in the abdomen, which was distended, and of constant drowsiness. In the winter and spring of 1911 she was again invalided, and on February 14th 440 oz. of bile-stained fluid was evacuated by paracentesis abdominis. In October, 1911, she came into the Meath Hospital for the third and last time. On October 10th paracentesis abdominis was again performed, and 580 oz. of serous effusion were drawn off. This enabled the liver to be examined next day. It was enlarged, and its surface was apparently nodular, like a hobnail liver. After death, on October 18th, the capsules of the liver and spleen were remarkably thickened, and their free surfaces were deeply pitted and indented. These irregularities did not extend into the underlying liver substance, the surface of which was comparatively smooth. The feel of a hobnail liver was simulated by the pits in the perihepatic fibrous thickening.

A Growth Simulating Aneurysm.

Sir JOHN MOORE also described a rapidly growing mediastinal lympho-sarcoma in a man, aged 71, which

closely simulated thoracic aneurysm because of the symptoms and signs which it produced. It involved the œsophagus, stomach, and liver, and spread into the neck, compressing the trachea and pushing the larynx towards the left side of the neck. The prominent symptoms were hoarseness and then aphonia, spasmodic cough, dysphagia, vomiting, or rather regurgitation of food, and haemoptysis. There was an almost complete absence of pain. Mr. WOODS, who had seen the case in consultation, said the patient had a peculiar stridor, which the trained ear could detect as being due to stenosis or to compression of the trachea. The pitch of such stridor varied with the situation of the narrowing. Dr. W. G. SMITH expressed his surprise at Sir John Moore attaching any importance to "cancerous cachexia." The speaker entirely refused to believe that cancer produced cachexia *per se*, and instanced many uterine and breast cancers of enormous size where no cachexia existed. Cachexia in cancer was due solely to the growth preventing nutrition. Dr. LITTLE mentioned that weight might be attached to the effects of leeching in intrathoracic tumour. Leeches always afforded at least temporary relief in cases of aneurysm.

Gangrenous Dermatitis.

Dr. F. C. PURSER described a series of 15 cases, mostly patients suffering from enteric fever, which had presented a condition fairly to be described as epidemic gangrenous dermatitis. In every case but two, where they were low on the back, the gangrenous areas were confined to the buttocks. One of the patients, a girl aged 6, died of diphtheria, but not of the dermatitis.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

Tuesday, November 21st, 1911.

Dr. R. T. HEWLETT, President, in the Chair.

The Bundle of His in a Case of Heart-block.

DR. W. LANGDON BROWN recounted a typical case of heart-block, in which complete cessation of ventricular contraction occurred in paroxysms; or, reduction of the radial pulse (15 per minute) associated with an acceleration of venous pulse (120 per minute). Death occurred in one of the paroxysms. The bundle of His was examined by means of serial sections; its component fibres were swollen and granular, and at its point of bifurcation it was involved in a new formation of fibrous tissue. Whether the endocarditis was syphilitic was not determined; the case occurred before the introduction of the Wassermann reaction. In the cases hitherto recorded, the destruction of the bundle was mostly due to syphilitic sclerosis or to the formation of a gumma.

Sahli's Haemoglobinometer.

Dr. A. E. BOYCOTT stated that as a result of careful experiment he had come to the conclusion that Sahli's haemoglobinometer was an unreliable instrument; the Gowers-Haldane was at present the best. The reason was that the standard used—acid haematin—was not stable; the material did not form a proper solution, but in process of time deposited, the colour becoming paler though delusively retaining its proper tint.

Differentiation of the Diphtheroid Group of Bacteria.

Dr. H. PRIESTLEY from his investigations had come to the conclusion that the Klebs-Loeffler bacillus was not to be differentiated with certainty by its acid-forming property, or by its morphology, or even by its serological tests. He had examined forty-nine strains of diphtheroid bacilli from various sources. Some occurred apart from any disease. One form was present in the normal ear, and that found in scarlatinal otitis was of the same kind. The most reliable test was the virulence, as tested upon the guinea-pig or other domestic animal.

Experiments on Lysis.

Dr. J. HENDERSON-SMITH recounted some observations on lysis, and Dr. H. R. DEAN a lengthy series upon precipitin reaction. Dr. Dean regarded precipitins as complement-fixing bodies, and offered explanations of the results of other workers which had been conversely interpreted.

Arteriomyomatosis.

Mr. S. G. SHATTOCK recorded under the above name a hitherto undescribed arterial lesion which he had observed in the vessels of a soft fibroma removed from the connective tissue by the side of the vagina. The vessels, above the size of the smallest arterioles, presented a remarkable overgrowth of the muscular tissue. This was not disposed anatomically as in a simple hypertrophy (as in the hypermyotrophy unassociated with renal disease described by Savill, or in chronic Bright's disease), but the bundles of muscle cells, in the most marked enlargements, intersected without relation to the axis of the vessel, and after the manner of a proper myoma. The muscular overgrowth was in some cases markedly asymmetrical, and might even take the form (microscopically) of a lobulated eminence. The adventitia was quite unaffected. There was no renal disease. The condition was wholly different from the periarteritis nodosa of Kussmaul and Maier, where the thickenings, which occurred in discrete nodules on the smaller arteries, were due to inflammatory changes in the adventitia, accompanied with endothelial proliferation, the muscular tissue being displaced and thinned. In the lesion described by the speaker the thickening was diffuse, the vessel being enlarged somewhat as the nerves in the diffuse form of neurofibromatosis.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

Friday, November 17th, 1911.

Dr. J. B. HELLIER, President, in the Chair.

MEETING AT SHEFFIELD.

DR. DONALD (Manchester) read notes of a case in which *Wertheim's operation* for cancer was followed by sloughing of the abdominal wall, possibly owing to the pressure of the retractor used at the operation.

Treatment of Acute Inversion.

Mr. MILES PHILLIPS (Sheffield) reported 3 cases of acute inversion of the uterus, seen by him in consultation shortly after their occurrence. In each case, as the patient was profoundly collapsed, no attempt was made at immediate reposition. There had been little or no *post-partum* haemorrhage. The shock was treated by saline infusion, to which pituitary extract and morphine were added. After intervals of two, five, and twenty hours respectively the patient had sufficiently rallied to warrant operation. Under anaesthesia the uterus was in each case replaced without any great difficulty. All three patients recovered. He also furnished an analysis of 184 cases of acute inversion, collected chiefly from English records. The total mortality was 43 (23.4 per cent.). Of 79 cases in which the uterus was immediately replaced, in the presence of marked shock, 24 (over 30 per cent.) died. In 23 cases, in which it was definitely stated that there was no shock, immediate replacement was followed by recovery in each instance. In 10 cases there was no note as to the presence or absence of shock (probably, therefore, it was not present in any marked degree); immediate replacement was successful in each of these cases. In 17 cases death occurred with the uterus unreduced, generally from shock, before the arrival of the doctor, who recorded the case. In 45 cases the uterus was allowed to pass into the state of chronic inversion, which was treated later, with success in every instance. In 2 corresponding cases death occurred from septic infection. Of the 43 deaths, 41 took place within a few hours. These figures, he suggested, supported his belief that in the presence of shock attempts to replace the uterus forthwith were inadvisable.

Early Rising after Coeliotomy.

Dr. A. J. WALLACE (Liverpool) read a note on the results of early rising from bed of patients who had undergone abdominal and vaginal coeliotomies. After mention of the reasons for the adoption of the practice, the guiding rules were stated as follows: Recovery from operation must be good; pulse-rate and temperature must be normal; all nausea and vomiting must have ceased; the abdominal wound must be healed or be healing by first intention—the incision having been so made that the resulting cicatrix

was supported by muscular tissue (the Lennander or Pfannenstiel incision); patients were merely encouraged to leave their beds, compulsion being never employed. Of 400 patients who underwent major operations in hospital, 233 left their beds as soon as they felt disposed to do so, the majority on the seventh and eighth days. The discharge from hospital was generally on the fifteenth or sixteenth day after operation. The cases included every variety of operation for gynaecological ailments. In the great majority of cases the general condition of the patients was distinctly better than had been the case with patients confined to bed for two or three weeks. A few unfavourable results had to be recorded—slight pyrexia without definite cause (2 cases); redness and swelling around the wound (2 cases); secondary haemorrhage from perineal wound (1 case); 1 patient of 64, who got up on the sixth day, developed bronchitis; 3 others post-operative thrombosis in mild degree.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 10th, Mr. H. LITTLEWOOD President, in the chair, Dr. A. MANTLE (Harrogate) in a aper on *High blood pressure*, said that it was the condition f the abdominal vessels that excited the chief influence in ising or lowering blood pressure, and disturbances in is area were readily brought about by absorption of oxins and other causes. In treatment of super-pressure ttention had been too much confined to drugs of the aso-dilator type, and to iodides. If there were a loss of alance between the peripheral and splanchnic circulations was necessary to restore it and not allow too much ood in the organs of the splanchnic area with too little the skin reservoir, for this must mean congestion of the scera involved. This could be relieved by judicious purtion, and best probably by mercury in the form of lomel or blue pill, and saline purgatives. The skin must o be kept active by attracting blood to the systemic riphery, and no doubt the régime and balneological atment of a good spa was very helpful in cases of superrmal pressure. It being proved that purin bodies and ohol kept up the pressure, a very regulated intake must insisted upon, with a diminution of red meats and salt. was important to remember that high blood pressure not in all cases mean arterio-sclerosis and nephritis, was a condition not infrequently amenable to treatnt. Dr. T. WARDROP GRIFFITH referred to some cases ich had recently been under his care, which presented physical sign known as the "third sound" of the rt. The association of this with the presence of an a wave in the jugular pulse was discussed, and tracings e shown from the cases in which this wave was well n. The extra wave in question followed on the fall of so-called ventricular wave of Mackenzie. It was ortant to recognize the sound when present, and to inguish it from the early and short diastolic bruit of al stenosis. Mr. H. LITTLEWOOD showed a patient on m he had successfully operated for ruptured liver. patient, a boy aged 12 years, fell down a hole 4 ft. and injured his abdomen by striking it against a . He was operated on about six hours after the lent on July 28th, 1911. On opening the abdomen it found full of blood, and a rupture on the upper surface e right lobe of the liver, about 3 inches in length, h was freely bleeding. As the rupture was far back ould not be brought to the surface, the round ligament part of the falciform ligaments were divided; this it possible to bring the liver easily forward into the d. The rupture was closed by six deep No. 5 catgut es. The patient was very collapsed, and was infused three pints of saline. He made a good recovery.

LIVERPOOL MEDICAL INSTITUTION.

meeting on November 9th, Dr. T. R. BRADSHAW, lent, in the chair, Dr. NATHAN RAW, in a note on the *nen reaction in tuberculous sputum* said that Lesieur rirey had found this reaction present in 75 per cent. es before the appearance of physical signs; his own ence was, on the whole, favourable to the test. Dr. ISTER described a new *Cell proliferant*, the investigation of which had originated from the study of the symphytum or common comfrey. In the old literature of medicine the root of this plant was invariably referred to as being a valuable vulnerary, and although long abandoned by the profession, it was still much used by country people as a dress[illegible]g for sores. Having been much impressed with the importance which was attached to comfrey in the past, and with the recorded cases which seemed to benefit from it, he proceeded to investigate it. On being analysed by Dr. Titherly and Mr. Coppin (of the Chemical Department of the University) it was found to be rich in allantoin, which was afterwards prepared synthetically, and on experimenting with solutions of this substance it was found to act as a potent cell proliferant. Dr. Macalister quoted the observations which he had made himself and which others had made for him with ulcers of various types dressed with allantoin solutions, with a view to testing its efficacy, and there was no doubt that it had accelerated epithelial growth, and that it would prove useful in the future for the treatment of ulcerative conditions. Several members gave evidence as to the value of the drug as applied by Dr. Macalister. Mr. RUSHTON PARKER thought that surgeons too seldom thoroughly acquired the principles underlying the accurate management of ulcers.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 15th Dr. F. H. JACOB, President, in the chair, in a paper on *Vaccine treatment of bacterial diseases*, Dr. LYN DIMOND expressed an opinion that the production of passive immunity by serums was disappointing. Of the two classes of serums, antitoxic or neutralizing and antibacterial or curative, the antitoxic serum of diphtheria and the antistreptococcic serum had alone fulfilled to any extent the hopes of their investigators. Though vaccines could be administered without control, in many cases the opsonic index or other methods of investigating the immunity reaction was absolutely necessary in order to obtain best and quickest results. Probably one of the quantitative modifications of the Bordet-Gengou reaction would ultimately replace the opsonic index. White's "pus-film" method was an extremely quick and reliable way of controlling inoculations in pyogenic diseases. Arneth's method of counting the number of lobules in the polymorphonuclear leucocytes gave useful information.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 8th, Mr. C. A. MORTON, F.R.C.S., in the chair, the following were among the exhibits:—Dr. J. R. CHARLES: A boy aged 6, the subject of *Myotonia congenita*. Dr. CAREY COOMBS referred to a case he had described five years ago—the first reported in the United Kingdom. In that case the trunk muscles had suffered more than the limbs, whereas in Dr. Charles's case the peripheral muscles were chiefly affected. In his own case the face muscles were affected in the late stages of the disease. He was not sure whether amyotonia congenita was a true myopathy, myopathies were always progressive, whereas arrest of the wasting, and even improvement, might occur in this disease. Dr. A. L. FLEMMING: (1) A woman from whose subconjunctival tissue *Filaria loa* had been removed. The disease had previously been diagnosed from the presence of an abscess in the back, which proved to be a "Calabar swelling," a marked eosinophilia, and the discovery of a diurnal filaria in the blood. (2) A case of a rapidly growing endothelioma of the cheek, which recurred after erasion in both the scars and preauricular gland; *Treatment by radium* was followed by apparently complete disappearance of the growth. (3) A young woman in whom an *Adrenal adenoma of the liver* had been removed by laparotomy. Her symptoms had been sudden amenorrhoea, headache, lassitude, increasing bronzing, growth of hair on the face and loss of scalp hair, and marked unsociability. Deep jaundice suddenly developed with colic. At the operation two nodules were found on the liver, one of which was compressing the common duct. Microscopically they had the structure of adrenal adenoma. A similar case had been reported in the BRITISH MEDICAL JOURNAL, September 2nd, 1911, Epitome,

p. 35. Dr. Newman Neild, in a paper on *Tea poisoning*, described a series of clinical signs and symptoms which in his opinion were characteristic of and peculiar to chronic excessive tea drinking.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

At a clinical meeting on November 8th the following were the exhibits:—Dr. Hobhouse: A case of *Tumour of the optic thalamus*, in a male, aged 19, who had double optic neuritis, with marked tremor of the intention type and some weakness and ataxy of the right arm. There was no astereognosis, anaesthesia, or other symptoms. He was improving without any treatment. Dr. Broadbent: (1) A woman who, several years ago, had a *Pneumothorax* on the right side with the heart displaced to the left. The air had become absorbed, but the lung remained collapsed, consequently the heart had been drawn over to the right until the apex was in the right vertical nipple line. (2) A man, aged 65, with *Stokes-Adams disease*. His heart-rate was 28, with an auricular-rate of 80. He had syncopal attacks at intervals. He had been under treatment for two years, and was able to work in his garden. Dr. Winkelreid Williams: A case of *Linear morphoea* of twelve years' duration, in a young woman in which the lesions occupied the area supplied by the two branches of the frontal nerve —the supratrochlear and supraorbital—the defect being probably in the Gasserian ganglion; also a *Verrucose naevus* in a child of 7, which mapped out exactly the area of the third cervical nerve as depicted in Head and Campbell's monograph on the pathology of herpes zoster. Mr. A. Buck: *Excision of a tuberculouss knee-joint* in a girl aged 19. The knee was first treated for seven months in a Mackintyre splint, which reduced the swelling and straightened the limb. It was then put into a Thomas's splint for six months, but it still remained painful on any weight being put on it owing to stretching of adhesions. The knee was therefore excised, the patella being saved by division, shaving off the posterior aspect, and uniting by wire at the end of the operation. The result after twelve months' walking was a perfect position and as good utility as could be expected after excision. Mr. G. Bate (for Mr. T. H. Ionides): A patient with *Symmetrical painless swellings in the hands*. Skiagrams showed that the process involved the bones also with the same symmetry; the terminal phalanges were rarefied, especially in the little finger; the other phalanges showed at their distal ends absorption, which gave to them the appearance of having been drilled with a gimlet. The degree of swelling seemed to correspond in each finger with the severity of the underlying bone condition. There was no history of syphilis, and Wassermann's and von Pirquet's tests were negative. There was no sign of any nervous lesion, peripheral, spinal, or cerebral. The general health of the patient was excellent, and the disease had developed without any demonstrable cause. It was suggested that the condition was a neuropathy, of a nature allied to that seen occasionally in syringomyelia.

GLASGOW OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

At a meeting on November 8th Dr. Ralph Vincent, of the Vincent Square Infants' Hospital, London, after reading a paper on the development of acidity in milk, and its relation to time and temperature, based upon a series of recent observations and experiments in the research laboratory of the institution, delivered an address on the *Substitute feeding of infants*. In its course he contrasted the state of matters a hundred years ago and now as to maternal nursing, and blamed modern education and the increasing stress and rush and mental strain imposed on women for the gradual failure of lactation. A study of the work of Dr. Rotch in America had helped him in the development of the methods of milk modification which had now been elaborated in the present Infants' Hospital and at the associated hospital farm. Lantern slides illustrating these places, and the methods of cooling and keeping cool the milk, and of separating its elements for fresh combinations according to the special prescription of the physician, were shown. In concluding his address, Dr. Vincent recommended the study of biological chemistry as likely to yield the best results in the future.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

Psycho-therapy.

At a meeting held on November 7th, Dr. Sarah Gray, Vice-president, in the chair, Dr. Constance Long read a paper on the use of suggestion and hypnotism in medical practice, in which she pointed out that not only must "psychic diseases be treated on psychic principles," but that the psychic side to the symptoms of organic disease must also be so treated. All doctors made use of suggestion, whether consciously or unconsciously. A common instance of its beneficial effects was seen in the disappearance of symptoms in a patient on being assured that she was not suffering from cancer as she had feared. A case was quoted from the speaker's own practice of a woman who, following real or supposed neglect in the puerperium, had by auto-suggestion gradually lost almost all muscular power. Curative suggestion had been very successful, and a feature of the treatment had been not to allow the patient to dwell on symptoms that remained, but to emphasize only in what respects she had improved. Dr. Long then gave an account of 10 cases she had treated by hypnotism. Complete success had been obtained in a case of nail-biting in a boy aged 13, and in that of a girl with a fear of becoming insane. Much improvement had occurred in a case of hysterical aphonia, in the symptoms of a patient with Ménière's disease, in a girl who suffered from panics, in a case of masturbation, and one of nervous dyspepsia. A dying patient with a terrifying delusion had no return of the latter after one hypnotic treatment. One patient had been unhypnotizable, and a boy who stammered had only shown improvement while in the hypnotic state. The importance of a hopeful attitude of the patient's mind was emphasized. A brief account was given of Freud's views on the etiology and treatment of hysteria, and the opinion expressed that his method of psycho-analysis, since, on his hypothesis, it always led to a sexual experience (often forgotten by the patient), should preferably be applied to women patients by women practitioners. In conclusion it was remarked that it was a disgrace to the medical profession that so many of its cases drifted to the Christian Scientists and other "healers." This would not be so if the psychic aspect of a case were better understood and treated. Dr. Sarah Gray recorded a successful case of treatment by hypnotism in a woman who suffered from painful uterine contractions in the sixth month of pregnancy. Dr. Agnes Savill instanced a case treated successfully for cold hands and feet by hypnotic suggestions of warmth, and another of an irritable, worrying woman greatly improved by suggestions of calmness and self-control. Dr. Jane Walker related the facts of a case of a primipara, who, having had previous hypnotic treatment for some other condition, was hypnotized by her when in labour, which she completed absolutely without pain. Dr. Agatha Porter drew attention to the possible danger of disintegrated personality following treatment by hypnotism. Dr. Helen Webb also considered that hypnotism had its dangers. She reported a case of masturbation that had been cured by suggestion, and referred to the value of healthy auto-suggestion, for example, in the treatment of constipation. Dr. Helen Boyle, speaking of mental patients, considered that those who were not influenced by ordinary suggestion derived no benefit from hypnotism.

According to the return of duties, taxes and imposts collected by imperial officers in the year ending March 31st, 1911, the sum of £325,646 4s. 7½d. was received for patent medicine labels, showing an increase of £12,532 3s. 3½d., as compared with the year ending March 31st, 1910. During the quinquennium 1907–1911 the average amount received for patent medicine stamps was £323,099 9s. 7d. The quinquennial average for 1899 1903 was £298,483 18s. 3d.

Reviews.

KOCHER'S "OPERATIVE SURGERY."

WHEN a foreign work is first translated by the admiring pupil of a well-known master, it is usually undertaken in compliment and is a personal matter. But when the master becomes world-famous and his work and personality universally acknowledged, then the admiration is no longer a personal affair, only it becomes a duty to continue to give the widest possible range to the work which has passed through so many editions in its original tongue. Some feeling of this sort, we venture to think, may be in the minds of Mr. HAROLD STILES and Mr. BALFOUR PAUL when they present to the English-speaking surgical world a translation of the fifth edition of Kocher's *Operative Surgery*.[1] It is a portly volume, 300 pages longer than its predecessor, published eight years ago. Its increase in size is only commensurate with the growth of operative surgery, and the book is still permeated by the spirit and striking individuality of its author, who, while citing workers innumerable for every point of argument in the text, forces on the mind of the reader the fact that he has methods of his own, and original lines of action in every operative procedure. The book is exceedingly well balanced.

The first section, 80 pages long, deals with general considerations—preparation for operation, the beginning of the operation, operative technique, anaesthesia, treatment of wounds. The second section, 90 pages long, is on the surgery of the vascular system—heart and pericardium, arteries and veins. The nervous system (brain, spinal cord, and peripheral nerves), extremities (including osteotomies, excisions, and amputations, tendon operations), the head and neck, are all treated in the same well-balanced fashion, averaging 100 pages each. It is not unnatural that the abdomen should demand in the last section a very considerable slice of the book, over 200 pages. In the chapter on anaesthetics Kocher's practice is clearly set forth. Printed instructions to nurses and doctors as to preliminary treatment of the patient and preparation for operation are published in his clinic. The patient's stomach being empty and alimentary canal cleared (not less than twelve hours before operation), about three-quarters of an hour before operation half a cupful of tea with an ounce of red wine or brandy is administered by mouth or rectum as a stimulant. Morphine, $\frac{1}{6}$ gr., is given only in the case of powerful adults. Then anaesthesia is induced by ethyl bromide, which is given by being dropped on a special mask, 5 c.cm. for women and 20 to 30 c.cm. for robust men. Narcosis is obtained in sixty to ninety seconds, and maintained by ether or by a combination of ether and chloroform given by means of some such apparatus as Braun's. Insensibility to pain is the author's test of sufficient anaesthesia, and not the condition of the pupil or the relaxation of muscles. The whole question of general, local and spinal anaesthesia is fully and impartially discussed, with quotation from authors on all sides. It is interesting to note that Kocher's private record during thirty-five years is one death. This freedom from disaster he attributes to the fact that for the greater part of that time, twenty years at least, his anaesthetist has been one individual. The chapter on technique of wound treatment is notable for the author's dictum on the use of gloves that they are chiefly valuable to protect the surgeon's hands from contamination in operating on infected cases. He holds that the true secret of the freedom of the hands from germs lies in the use of gloves whenever there is possibility of a large number of germs being pressed or rubbed into the skin. He quotes authorities to show that the hands become spontaneously germ-free in a short time if not reinfected, and that the dread that the deeper parts of the skin are always crowded with germs is exaggerated. There are no germs in the sweat glands, and in the hair follicles they are found only close to the surface, being forced out of the follicles by the current of the secretion. Infection of the skin (sterilization is impossible) is accomplished by scrubbing with soap and hot running water and then with alcohol 85 per cent. The nails are kept so short that nail-cleaners are abolished. There is no mention in the text of the iodine method of disinfection. Ligature material is antiseptic silk prepared by immersion in ether, then alcohol, then boiled, stored, and reboiled in 1 in 100 sublimate. "Antiseptic" silk is used because each ligature is tied with a certain amount of force round a bleeding vessel, and a certain degree of tissue necrosis is therefore inevitable. Necrosed tissues act as foreign bodies and the antiseptic in the ligature is called upon to prevent growth of organisms.

As was to be expected, the chapter on thyroid gland operations is full and the descriptions of the various operations elaborate. We have to confess that reading it leaves a certain amount of confusion as to the precise meaning of some of the operative procedures. The description of the normal procedure for the excision of a movable goitre is understandable, but confusion arises when the author describes excision, enucleation, resection, enucleation-resection, enucleation-excision, evacuation, fragmentation, and exenteration of a goitre. It is only by careful definition of gland capsule and connective tissue capsule that these various methods can be comprehended. The author glosses over none of the many difficulties that lie in the operator's path, and from the wealth of his own vast experience gives many practical hints and suggestions and warnings. He advocates very early interference in exophthalmic goitre, the first stage being ligature of one or two thyroid arteries, and the second performed some time later when the risks of toxic myocarditis are lessened.

Professor Kocher's work in the department of bone and joint surgery is so well known that only passing reference to that subject in the book will be made. The principles underlying all the operations included in arthrotomy, osteotomy, and resection are to employ an incision as simple as possible, placing it so that the least possible damage will be done to muscles, tendons, ligaments, even the smallest vessels and nerves, and also to detach capsule, periosteum, and other structures subcortically—that is to say, by using a sharp raspatory to separate the cortical layer of bone. He points out, further, that the day of typical excisions for tuberculosis is past, and that arthrotomy or osteotomy, with removal of nothing but the diseased soft parts and bone, are now the rule.

The surgery of the thorax has undergone so great changes that the chapter has been almost entirely rewritten. The questions attending the production of a pneumothorax, whether intentionally or not, the dangers resulting, and the best methods of combating them, are fully described. Incomplete or partial pneumothorax is not by any means such a dangerous condition as complete pneumothorax. Where the pleura has to be opened the primary incision should be small, and warm gauze compresses should be applied rapidly if the incision must be enlarged to prevent dyspnoea from reflex stimulation produced by the action of cool air on the large exposed pleural surface. If palpation of the lung be required through a large incision, then the lung should be seized temporarily with forceps and pulled into the wound and fixed there, so that what might have been a complete pneumothorax is converted into a partial, and therefore much less dangerous, one. The whole chapter is well worthy of careful reading, full as it is of scientific discussion and practical detail.

The section dealing with the surgery of the abdomen is the longest in the book. But we have to admit that it is the section which pleases us least. The introductory chapters dealing with general considerations of laparotomy and the chapters on hernia are good, if we except the severe strictures passed on surgeons and gynaecologists who use catgut rather than silk. The author cites Madelung's statistics of 101 cases where catgut sutures in the abdominal wall gave way, and thereupon condemns the absorbable material wholesale. The majority of surgeons who now use iodized catgut will not, we believe, agree with these strictures. The numerous operations on stomach and intestines are very fully described, though in many instances the description is wanting in clearness. It is difficult to understand why the titles of the gastric operations have been Latinized, as they are not shortened. Sufficient emphasis is wanting to show the superiority of the no-loop posterior gastro-jejunostomy over the other methods, and we think, further, that the debt which

[1] *Textbook of Operative Surgery.* By Theodor Kocher, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Authorized English edition. Authorized translation from the fifth German edition. By Harold J. Stiles, M.B., F.R.C.S.Edin., and C. Balfour Paul, M.B., F.R.C.S.Edin. London: Adam and Charles Black. 1911. (Dbl. 8vo, pp. 723. 415 illustrations. Price 30s.)

surgery owes to the Mayos in this branch of work is not sufficiently recognized.

There are some notable omissions in the work. The translators have inserted on their own account the omitted description of excision of the wrists. We find no mention of ovariotomy, hysterectomy, and many other operations on the female organs of generation, which may quite well find a place in works on general operative surgery. The transperitoneal route for attacking the bladder may be too recent for mention. But there seems no excuse for omitting the Macewen method of controlling the aorta in disarticulation of the hip. Some of the illustrations are inferior to what should appear in a book of such high standard. But the general appearance of the work (binding, printing, etc.) is beyond praise, and we have found few misprints; some of these last are on pages 449, 452, 468, where reference is made to page 103 instead of page 108. The characteristic feature of Kocher's forceps (the rat-toothed point) is lost to the reader by showing the instrument closed.

Professor Kocher's name is a sufficient warrant that his work is of the highest order. In our judgement it is a classic. No surgeon can afford not to be familiar with the many original features of this book, which is informed throughout by the striking individuality of its distinguished author, who, while not slow to recognize the many surgical workers in all lands, does not hesitate to claim for himself, in the sure knowledge of his own experience and attainments, the right to express his own opinions with no uncertain voice.

TAYLOR'S "MEDICINE."

WE welcome with pleasure the ninth edition of Dr. FREDERICK TAYLOR'S handbook on *The Practice of Medicine*.[2] Three years only have passed since the publication of the previous edition, but many substantial additions have been made to medical knowledge within that time. Dr. Taylor has fully realized this, and has devoted much care and time to a thorough revision and extension of the present volume, notably in his chapters on phthisis, appendicitis, and diphtheria. Several new chapters are added so as to bring this edition up to date, and such recently differentiated clinical conditions as pellagra, pneumococcal meningitis, Hirschsprung's disease, and bacilluria, will be found discussed and described.

The general level of excellence achieved in previous editions is maintained. We still think, and again regret, that in a volume such as this, devoted to a synoptical review of general medicine, more room is not given for detailed instructions on the important subject of treatment. It must be a matter of the greatest difficulty for the author, in dealing with such a mass of material, to decide upon what can be, with least loss to the general conception of his work, left out, but in manuals that are, like Dr. Taylor's, specially prepared to be "useful both to students and practitioners," it seems to us that the summation and practical application of all the information otherwise afforded ought to find its expression in such details of treatment as will enable the practitioner to follow in his own practice what the author, presumably from personal experience, has found useful and is therefore justified in recommending. It is well known that drugs are, in many instances, capable of producing varying effects in accordance with their dosage, pharmaceutical preparation, frequency of administration, etc., so that merely to mention such and such a remedy as useful in this, that, or the other affection does not always convey to the reader adequate information as to how it is best applied. Similarly, the important question of dietary is, as a rule, no more than casually referred to, and yet the value of a working knowledge of dietetics in the treatment of disease is no less necessary than a practical acquaintance with the effects to be expected from the internal administration of medicines, or the external application of local remedies. Considerations of space are, doubtless, the only reasons which have compelled Dr. Taylor to curtail all he would wish to put before his readers on an important section of practical medicine, with which he is so well qualified to deal exhaustively. This criticism must not be regarded as, in any sense, a disparagement of Dr. Taylor's ninth edition, which we recommend with the utmost confidence to all busy men who, in the bustle of work, desire to acquaint themselves with the main facts of up-to-date investigation in regard to any disease which at the moment may be specially engaging their attention. When circumstances demand wider information, whether in regard to treatment or any other collateral question, the remedy is to have recourse to larger works, or to special treatises. Like its predecessors, this new *Practice of Medicine* is well arranged and printed in clear and readable type. There is a comprehensive index, and the plates, though not very numerous, are well executed and illustrative of the text.

[2] *The Practice of Medicine.* By Frederick Taylor, M.D., F.R.C.P., Consulting Physician to Guy's Hospital, etc. Ninth edition. London: J. and A. Churchill. 1911. (Med. 8vo, pp. 1137, figs. 67, plates 8. Price 18s. net.)

PHYSIOLOGY IN PRACTICE.

THE medical curriculum is so long, that there is a great chance that the medical student in the final stages of his qualifying studies has forgotten not only the facts, but the principles which underlay the sciences connected with his earlier studies. This is very apparent, for example, in the case of the use of salts in medicine, and unless the reader is conversant with the modern "ion" theory the *rationale* of the action of such well-known agents as magnesium sulphate, potassium bromide, etc., would not be grasped. The same remarks apply to the study of renal disease, and the due appreciation of the laws which govern the point at which the urine freezes. Dr. KINDBORG, the author of a new German textbook of medicine,[3] in his preface tells us that he has been much impressed by the importance of the difficulty thus created for the student, and it is thus with pleasurable anticipation that we proceed with the substance of the book to see how he has managed, whilst imparting the details of systematic medicine, to put before the reader that knowledge of principles—chemical, physiological, and biological—which are essential for a due understanding of the problems of clinical medicine. The same plan has been adopted in recent years with signal success in the case of a well-known textbook of medicine in this country. The first volume, which alone has so far been published, deals with two very important subjects, both of which touch so closely various physiological principles and biological facts, that the success or failure of the author to carry out his plan will not be credited to the failure or success of the subjects in hand to lend themselves to proper treatment, but rather to the writer's fault or merit. The answer to the question is entirely in favour of Dr. Kindborg. It does not matter whether we scrutinize the clinical sections or those reminders of the applicability of this or that biological, physical, or chemical fact—all seem well adapted to the purpose in view, and we think that few readers would be ungrateful for the paragraphs in small type which with great clearness and brevity remind him of facts which by mere lapse of time have slipped his memory. As a fair sample of the author's success we would quote the treatment given on page 102 of want of compensation in cardiac disease. The reader will find here a good account of pharmacological researches connected with digitalis and strophanthus interwoven with sound advice as to the use of these drugs based on the physiological knowledge of their action. So, too, in the section dealing with respiratory disorders, the chemistry, dosage, and indications for the use of the various tuberculins; of creosote; the *rationale* of the use of Kuhn's mask in conformity with the principles so ably advanced by Bier, and also of the induction of artificial pneumothorax for the treatment of pulmonary tuberculosis, are well described. The book as foreshadowed by this first volume will never be a work of reference, but as a ready revision of the subject of modern medicine will serve a very useful purpose. As for the illustrations, the less said the better—as shown by the illustration, say, on page 353, of Bülau's siphon drainage for the cure of an empyema; it is worthy neither of the author nor of the well-known publishers who are responsible for the production of the book.

Dr. RENDLE SHORT of Bristol has clearly felt the force of the difficulty which has impressed Dr. Kindborg, and

[3] *Theorie und Praxis der Inneren Medizin: Ein Lehrbuch für Studierende und Aerzte.* Erster Band: *Die Krankheiten der Zirkulations und Respirationsorgane.* By Dr. Erich Kindborg. Berlin: S. Karger. 1911. (Med. 8vo, pp. 416; 47 illustrations. M.7.)

it is probably because he is himself a surgeon that he has entitled his volume *The New Physiology in Surgical and General Practice*,[4] and that he tells his readers in the first sentence of his preface that the book is "intended for the general practitioner, the consulting surgeon, and candidates for the higher examinations in physiology." He points out that excellent physiological manuals are published which principally concern the consulting physician; but surely he, as well as the consulting surgeon and the general practitioner, may be glad to welcome an epitomized and small book which deals with the main facts of physiological discoveries of recent years and their value to the clinician. A great portion of Mr. Short's book is devoted to the consideration of conditions with which the physician is in special degree closely concerned. The titles of many of the chapters—studies of digestion and absorption; the applied physiology of blood pressure; the physiology of uric acid and other urinary deposits: acidosis, acetonaemia, and diabetes—suggest a medical rather than a surgical interest. This impression is fully confirmed when the book comes to be perused. It is carefully written, and contains much useful information based upon recent physiology which the reader, be he physician or surgeon, will find of value in the diagnosis of disease and in the treatment of the sick. The chapters, though all interesting and up-to-date, are uneven, but the author is at his best in the account he gives of diabetes and of cerebral localization. In an appendix the important question of the value of nutrient enemata is dealt with, and from a detailed urinary analysis of two cases the conclusion is reached that the body derives from nutrient enemata a small but quite inadequate quantity both of protein and carbohydrate. The number of cases on which to found so wide a generalization seems small. The book will repay perusal, and will prove specially useful to those who are preparing for the higher degrees, and who desire to be reminded of some of the facts of modern physiology and their application to clinical work. There is a full and well-arranged index.

CEREBRO-SPINAL MENINGITIS.

CEREBRO-SPINAL meningitis in both its epidemic and its sporadic forms has come before the public with increasing insistence during the last few years, and a thoroughly sound and comprehensive manual[5] on the disease, by Drs. NETTER and DEBRÉ, of Paris, appears opportunely. The authors take a broad view of the subject, while at the same time their lists of references to its literature show that they are acquainted with it in detail. They remark that meningitis due to Weichselbaum's (1887) diplococcus cannot be identified in the history of disease until 1805, when it appeared in Geneva. To its epidemiology they give thirty-six pages, and to its bacteriology the same amount of space. The meningococcus is a perishable microbe, found in the naso-pharynx of many healthy persons, and it seems certain that one case of cerebro-spinal meningitis may give rise to another by means of an infection transmitted through not only one, but a number of healthy individuals. Half the volume is devoted to the clinical study of the disease, and this is very thoroughly developed: it is recorded that herpetic eruptions, usually about the end of the first week, have been more often noted in this country and America than in Germany, and in Germany more often than in France. It is interesting to read that the authors have never seen ill effects produced by lumbar puncture in cerebro-spinal meningitis, and that they recommend its performance and repetition; at the beginning of the disease the fluid is highly albuminous, clear (in 75 per cent. of the cases), rich in meningococci, and contains many more small lymphocytes than polymorphonuclear cells; later on, of course, the fluid is habitually turbid, and smears of its sediment show a preponderance of polymorphonuclear leucocytes. But during the stage of recovery the fluid becomes clear again, and again contains an excess of lymphocytes. The fourth section of the book, thirty-four pages in length, describes the pathological anatomy and physiology of the disease, and the last forty pages are given to its therapy and prophylaxis. The authors believe that any attempt to isolate as "cerebro-spinal meningitis carriers" the numerous healthy persons who will be found to have the meningococcus in their naso-pharynges during an epidemic of the disease, though theoretically desirable, is quite impracticable. Their volume gives a very complete and sensible account of cerebro-spinal meningitis, well arranged and clearly written, and may be warmly recommended to medical officers of health, as well as to all practitioners who may have to treat the disease. The illustrations and get-up of the book are excellent.

In a smaller volume[6] Dr. DEBRÉ gives details of his own inquiries and observations, and discusses at considerable length the conditions under which the meningococcus may be found in the naso-pharynx. In the acute stage of the disease, he maintains, it is almost constantly present in this situation. As he has only examined 15 such cases, with 11 positive results, his evidence is hardly sufficient to justify a general statement of this nature. Several other observers, he admits, have found the percentage of positive results to be much smaller. His explanation is that they were working with material sent from a distance and that the delicate meningococcus perished in transit before it could be transferred to culture media and placed in the incubator, whereas he was working with material from a hospital close to his laboratory and could incubate it immediately after removal. There may be some truth in this argument, but it would have been stronger if confirmed by comparative tests on samples of the same material cultured at different intervals after removal from the pharynx. In convalescence it is the general rule for the meningococcus to disappear rapidly from the naso-pharynx; the author found it only 4 times in 21 cases. After complete recovery, survival of the meningococcus seems to be exceptional. Dr. Debré made repeated examinations of 13 cases more than three weeks after recovery from properly authenticated cerebro-spinal meningitis, but only recovered the meningococcus from two of them. One of these, a girl 8 years old, yielded the organism in abundance in her pharynx on the forty-second and the forty-third day after the onset of the disease, though her recovery had been regarded as complete three weeks previous to the examination. After subsequent treatment with antiseptics the organisms disappeared, and the child was allowed to leave the hospital on the sixty-fifth day after admission. In the second case, a child aged 4 years, the author found the meningococci on the eightieth day after the onset of the disease, but failed to find them on the one hundred and twentieth day. It is very rare, he thinks, for a case of recovery to develop into a "chronic carrier." Dr. Debré has written an interesting chapter on the diffusion of the meningococcus amongst contacts who do not develop the disease. In an investigation of 20 families, in each of which a case had developed, he examined 66 contacts, comprising parents, brothers and sisters, and other associates; 15 of these persons were found to contain the meningococcus in their naso-pharynx. He compares these results with those of several other investigators, some of whom have obtained a higher, and others a lower, proportion of positive cases. These differences, he remarks, are to be accounted for by a variety of conditions. One is the period after the onset of meningitis which elapsed before the examination of the contacts was made. In his own series, for example, the 15 positive results were with persons examined during the first three weeks, the 18 persons examined subsequently all being negative. Lingelsheim, who, like the author, allowed a more or less considerable time to elapse after contact, found only 28 carriers amongst 514 contacts. On the other hand, Ostermann, who examined his contacts immediately after the case was diagnosed, found 17 carriers out of 24 persons examined. Social environment is also important. Under conditions of poverty, malnutrition, and overcrowding, diffusion to contacts is twice as

[4] *The New Physiology in Surgical and General Practice.* By Rendle Short, M.D., B.S., B.Sc., F.R.C.S., Honorary Surgical Registrar, Bristol Royal Infirmary, and Senior Demonstrator of Physiology, University of Bristol. 1911. Bristol: John Wright & Sons, Limited; London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. (Post 8vo, pp. 201. 4s. 6d. net.)

[5] *La méningite cérébro-spinale.* Par MM. A. Netter et R. Debré. Paris: Masson et Cie. 1911. Med. 8vo, pp. 296, with 54 figures and plates, 2 coloured. Fr. 8.)

[6] *Recherches épidémiologiques, cliniques, et thérapeutiques sur la méningite cérébro-spinale.* Par Robert Debré. Paris: Félix Alcan. 1911. (Roy. 8vo, pp. 120.)

abundant as amongst persons living in comfortable circumstances. An outbreak of the disease in March, 1909, at a school in Paris attended by about 800 pupils, afforded further opportunity for the investigation of contacts; 231 children were examined, and 49 of these (21.21 per cent.) were found to be carriers. The author's clinical study of the disease is interesting and fairly complete, but does not appear to us to contain any new facts of importance. There is an instructive discussion in the chapters devoted to therapeutics, on the difficulties and dangers of treatment by antimeningococcus serum injected intraspinously.

NOTES ON BOOKS.

IN its new form *A Manual of Clinical Diagnosis*,[1] by Dr. CHARLES E. SIMON, represents practically two works. In its original form it provided a very clear description of laboratory methods of diagnosis, coupled with a good deal of information introduced mainly for the assistance of those who, as students, had gained little or no knowledge of the facts of physiology on which all laboratory diagnosis depends. In view of the improvements in the medical curriculum of to-day, this latter information is now deemed superfluous, and the space saved is devoted to a kind of appendix to the description of tests and their application. This appendix, or second part, consists of an alphabetical list of disorders in the diagnosis of which laboratory tests are commonly used, and a consideration in the case in each of them of the bearings of the laboratory findings on diagnosis and prognosis. This part occupies about half of what is by no means a small volume, and is a very useful and informing addition. On the value of the earlier or original part of the work it is unnecessary to dwell, as the book has already gone through six editions in fifteen years, and its author is still in active service as Professor of Clinical Pathology and Experimental Medicine at the College of Physicians and Surgeons at Baltimore. It need merely be pointed out, therefore, that besides being clearly worded and well printed, this seventh edition contains 168 engravings and 25 coloured plates, all of which are very much to the point, and that in the text the needs alike of students, hospital physicians, and general practitioners, are duly borne in mind.

A second edition of Lieutenant-Colonel DE ZOUCHE MARSHALL'S pamphlet, entitled *Fairplay for Territorials*,[2] has recently been published. It is assumed that the weak spot in the Territorial Force is the insufficiency of money grants, and Colonel Marshall is convinced that if the personal pecuniary grievances of officers and men are met in a liberal spirit, based on justice, equity, and common sense, the future success of the Territorial Force will be assured. He proposes a scheme by which officers and men should receive proportional pay based strictly on the pay and allowances in the army. For instance, as a regular infantry private gets 3s. for a working day of twelve hours, the Territorial should receive one-twelfth, namely, 3d. per hour, and other ranks a similar proportion; the equivalent of the higher pay in the Cavalry, Artillery, Engineers, Army Service Corps, and Royal Army Medical Corps to be added for those arms of the service. It is contended that this army pay would be looked upon by all ranks as a recognition that the force was being taken seriously as part of the army, and that the additional half-month's army pay and allowances, in return for eleven months' steady progressive training, would so encourage attendance at drills that with the fifteen days' training in camp at full pay, as at present, the Territorial Force would become the useful adjunct to the regular army that it should be.

In a volume entitled *Essays and Clinical Studies*,[3] Dr. F. G. CROOKSHANK has brought together some eighteen papers read by him before sundry societies during the last ten years. Nominally the field over which they range is not very wide, since five of them are devoted to various forms of mental disorder, four to tuberculosis, four to scarlet fever and diphtheria, and the remaining five to miscellaneous subjects, including Ramazzini's late seventeenth century treatise *De Mortis Artificum*, some clinical notes and criticisms of medical matters in general, the examination of bodies found in rivers, and the public in relation to public health and the medical profession. In effect, however, their scope is much wider, since Dr. Crookshank is a discursive writer, and often touches on matters which do not come precisely within the field of his subject as limited by its title. In an article read solely for the purpose of obtaining such information as it may contain on a given subject such lack of compactness would be annoying, but in a volume read, as this will be, at odd moments of leisure, the position is otherwise. It is, indeed, thanks largely to their discursiveness that these essays remain worth reading despite the considerable number of years that have elapsed since some of them were penned; for in his very frequent *obiter dicta* their author, being an independent thinker, rarely fails either to make a suggestive statement or to place an old idea in a new light. In respect of actual statement of fact, it is, perhaps, the essay on bodies found in rivers that is of most permanent interest, for it deals with a comparatively obscure subject, and records a good deal of personal experience. The preceding essay, on the other hand, presents interesting evidence of how fast things are moving, for it shows that in 1907 Dr. Crookshank, himself a medical officer of health, felt some doubt as to whether the Public Health Service would continue to attract suitable recruits, mainly, it would appear, because its exponents were not accorded sufficient authority.

The haematological charts prepared by Dr. GORDON WARD[4] will no doubt be appreciated in clinical laboratories and especially in those associated with hospitals, for they could readily be bound up in an ordinary hospital case-book; even for private work they would be found of service. We are inclined to be critical of the value of twenty-five "squares" which represent the squares on the slide of a blood-counting apparatus; no observer is required to plot out on paper the distribution of the various types of cell in any one group of twenty-five squares, and the mere repeating on paper the plan of the microscopic field seems burdensome and unnecessary.

[1] *A Manual of Clinical Diagnosis by Means of Laboratory Methods*, By Charles E. Simon, B.A., M.D. Seventh Edition. Enlarged and thoroughly revised. London: Henry Kimpton. 1911. (Medium 8vo, pp. 778. 21s. net.)

[2] *Fairplay for Territorials*. By Lieutenant-Colonel J. J. de Zouche Marshall, V.D. London and Aldershot: Gale and Polden. 1911. Second edition. (Crown 8vo, pp. 19; 10 tables. 1s.)

[3] *Essays and Clinical Studies*. By F. G. Crookshank, M.D. London: H. K. Lewis. 1911. (Demy 8vo, pp. 252. 7s. 6d. net.)

[4] *Haematological Charts*. By Gordon Ward, M.R.C.S., L.R.C.P. Pathologist to the General Hospital, Tunbridge Wells. London: Baillière, Tindall, and Cox. 1910. (D. sup. roy. 8vo, and containing 50 charts. 2s. 6d.)

MEDICAL AND SURGICAL APPLIANCES.

Improved Twin Scissors for Sclerectomy.

MR. N. BISHOP HARMAN, M.B., F.R.C.S.Eng., writes: The twin scissors devised for the purpose of making the essential part of Herbert's small flap sclerectomy operation for chronic glaucoma and described by me in the BRITISH MEDICAL JOURNAL of January 21st, 1911, were found capable of useful work, but they had certain defects in their working, the lateral hinge of the first pattern necessarily allowed sufficient play for the male blade to engage one or other of the female blades unequally so that the cutting action was checked. The male or female blades were not always engaged—or, to use a term applied to motor gears, not always in mesh—so that the cutting was jerky. Also there was no means of limiting the opening of the scissors. In the improved pattern now figured it is believed that these defects are completely remedied. At the suggestion of Mr. Laws, of Nottingham, the lateral hinge has been changed to a central hinge which gives perfect stability. The male blade is now always in gear betwixt the female blades, and the female blades have been given a lateral spring, so that in cutting the sharp edges cling to and shear along the cutting edge of the male blade, just as the slight twist of the fingers causes the blades of an ordinary scissors to grip and shear along each other. A stop screw has been attached so that the play of the jaws can be adjusted to a nicety and undue recoil of the spring checked. The new twin scissors have been used already in several operations and the improvement is manifest. The new pattern is made by Messrs. John Weiss, of Oxford Street, W.

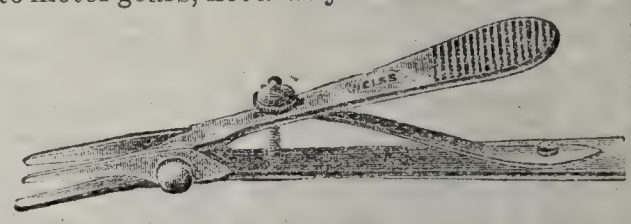

Nova et Vetera.

PROVERBIAL MEDICINE IN DISPRAISE OF THE DOCTOR.

It has been said[1] that "every word is but a condensed fragment of history, on whose abraded surface is still legible the handwriting of countless generations of minds"; if this be so (and indeed it is), then surely every proverb is nothing less than a precious stone of experience which has been laboriously cut and polished until every facet of it flashes forth the bright light of wisdom. To take the less fanciful definition of the dictionary, "a proverb is a short, pithy saying in common and recognized use; a concise sentence, often metaphorical or alliterative in form, which is held to express some truth ascertained by experience or observation and familiar to all; an adage, a wise saw."

South[2] said, about two centuries ago, "What is a proverb but the experience and observation of several ages gathered and summed up into one expression?" And Howell[3] gave it as his opinion that "proverbs may not improperly be called the philosophy of the common people"; whilst a literary man nearer our own time[4] has called them the "ready money of human experience"; and the epigraph of J. K. Arthur's *Banquet of Brevities*[5] reads, "What flowers are to gardens, spices to food, gems to a garment, and stars to heaven, such are proverbs interwoven in speech." With these notions of the nature and origin of proverbs in mind, let us turn, not without some profit, to the consideration of proverbial medicine; and let us look first, although it may fret our professional pride, at the popular sayings which are more or less derogatory to the doctor.

Why there are so many proverbs which reflect not in the kindest way upon the medical man is not at first sight apparent. Perhaps it was the number of these derogatory sayings that led Sir Thomas Browne,[6] the physician, to warn his readers that "although proverbs bee popular principles, it is not all true that is proverbiall"; and there is even a proverb which may be invoked for the doctor's comfort, which says "Solomon made a Book of Proverbs, but a book of proverbs never made a Solomon." But they are certainly numerous whatever we may believe regarding their truth.

The suggestion may be hazarded that the patient is during his illness in a position as regards the doctor which is somewhat humiliating; he feels he is not appearing at his best, or even at his second best; his medical attendant is seeing him as he really is, and to him he is as the hero to his valet, in no way heroic; he is very grateful at the time for the relief his physician or his surgeon brings him, and during convalescence his thankfulness continues in a pronounced form; but when he is again strong, almost, and going about his business, he looks back with distaste upon the days of his indisposition, and is very ready to forget all about it and about the people who had been with him then; he may even cherish the thought that he might have been well sooner had it not been for the lengthening medicines he received or the fussy interference of the over-anxious doctor. Or he may have other thoughts of a similar kind which put him in a position of mild antagonism to the medical man, and make him very willing to hear sarcastic and humorous or sarcastic and non-humorous sayings about the profession in general, and his own attendant in particular. On the other hand, the doctors may have done something by their airs and conceit, by their gaucherie and bullying, to build up for themselves the character which is reflected in certain of the proverbial expressions in common use. But these are at best indecisive surmises which may be passed from in favour that the proverbs themselves may be considered.

There is, to begin with, that very old saying *ubi tres medici duo atheï*, to which Sir Thomas Browne[7] has given the name of "the general scandal of my profession." This proverb (where there are three doctors there are two atheists) is classed as a mediaeval saying;[8] and no doubt it is very old, although who first used it may be difficult of discovery. Chaucer[9] had the same idea in his mind perhaps when he reported of his "Doctour of Phisik" that "his studie was but litel on the bible." It is probable that it was first levelled at the physicians, not so much because they were medical men as because they belonged to one of the learned professions; it reflects rather upon the way in which the possession of knowledge, especially of natural philosophy, was looked on in the Middle Ages, and even in much later times. Napier, of Merchiston, the inventor of logarithms, was suspected of sorcery; and "in the tenth age Pope Silvester the Second passed for a magician, because he understood geometry and natural philosophy."[10] Lord Bacon,[11] in his *Essayes* (Of Atheism) admitted the danger: "It is true that a little philosophy inclineth man's mind to atheism; but depth in philosophy bringeth men's minds about to religion; for while the mind of man looketh upon second causes scattered it may sometimes rest in them, and go no farther; but when it beholdeth the chain of them confederate and linked together it must needs fly to Providence and Deity." Sir Thomas Browne[12] also allowed that the "bad construction and perverse comment on these second causes, or visible hands of God, have perverted the devotion of many unto atheism; who, forgetting the honest advises of faith, have listened unto the conspiracy of passion and reason," but he was not hopeless, for was there not that "mystical philosophy, from whence no true scholar becomes an atheist, but from the visible effects of nature grows up a real divine,"[13] and in one of his commonplace books[14] he is discovered stating that "though in point of devotion and piety, physicians do meet with common obloquy, yet in the Roman calendar we find no less than twenty-nine saints and martyrs of that profession." Two hundred and fifty years have gone by since Sir Thomas Browne was writing his *Religio Medici*, and, curiously enough, was earning from some the reputation (as Dr. Johnson tells us) of being either an atheist or a deist; yet it may be hazarded that "the unification of the highest religion and philosophy with the progressive science of the day" has not come to pass. Many medical men probably will still be ready to say, with Sir Thomas Browne, that "there are, as in philosophy, so in divinity, sturdy doubts and boisterous objections, wherewith the unhappiness of our knowledge too nearly acquainteth us," doubts and objections, which, continued the Knight-Physician of Norwich, "I confess I conquered, not in a martial posture but on my knees."

There is a group of proverbs whose general meaning is that even when the disease is overcome and the patient recovers the doctor has had very little to do with the happy result and deserves no credit for it. Thus, it is said *medicus curat, natura sanat* (the physician cures, Nature makes well), and it cannot be denied that at any rate the doctor's most valuable ally is the *vis medicatrix Naturae*, which so often works wonders in apparently hopeless cases. But there is a tincture of bitterness in the proverb which appears in several languages to the effect that *God heals, and the physician hath the thanks*: in German it is *Gott macht gesund und der Doktor kriegt das Geld*; in Spanish it is *El medico lleva la plata, pero Dios es que sana* (the physician takes the fee, but God sends the cure), and in Italian, *Dio guarisce, e il medico è ringraziato*. Howell[15] gives this adage as "Though God heals, yet the physician carries away the fees"; and there is another which appears in two forms and is similar to it—namely, "The physician owes all to the patient, but the patient owes nothing to him but a little money"; or, "The physician owes all to the disease, and the disease nothing to the physician."[16] Now physicians must admit that there is a grain of truth in these proverbs in so far as the fact of recovery from sickness is concerned, and they ought therefore to make it their constant aim to minimize the financial side of their relationship to their patients. By

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[1] E. Conder, *Basis of Faith*, iv, 138. 1877.
[2] South, *Sermons*, i. 437, c. 1716.
[3] Howell, *Lexicon, Proverbs, a* iv. 1659.
[4] Lowell, Russell, *My Study Windows*, 162. 1870.
[5] Arthur, J. K., *Banquet of Brevities*. 1896.
[6] Browne, Sir Thomas, *Pseudodoxia Epidemica*, 98. 1646.
[7] Browne, Sir Thomas, *Religio Medici*, Sect. I.
[8] Benham, W. G., *Cassell's Book of Quotations* p. 697
[9] Chaucer, G., *Canterbury Tales*, Prologue lin 45
[10] Browne, Sir Thomas, ibid.
[11] Bacon, Francis, *Essayes*, XVI.
[12] Browne, Sir Thomas, *Religio Medici*, Sec XIX
[13] Ibid., Sect. XLVIII.
[14] Ibid., Extracts from Commonplace Books, *Works*, vol. iii, p. 364.
[15] Howell, J., *Parley of Beasts*, lxxvii. 1660.
[16] Dyer, T. F. F., *English Folklore*. 1878.

so doing they will deserve what Ruskin[17] said of them as a profession: "They [doctors] like fees, no doubt—ought to like them; yet if they are brave and well-educated, the entire object of their lives is not fees. They, on the whole, desire to cure the sick; and—if they are good doctors and the choice were fairly put to them—would rather cure their patient and lose their fee than kill him and get it. And so with all other brave and rightly trained men: their work is first, their fee second—very important always, but still second."

Then there is a group of proverbs which crystallizes the floating truth that other things than medicine and surgery are efficacious in warding off disease and curing illness. "Diet cures more than the lancet" is one of these sayings, and "Better pay the butcher than the doctor" is another; the former has its Spanish representative—*Mas cura la dieta que la lanceta.* Another proverb[18] asserts with boisterous assurance that "Joy, temperance, and repose slam the door on the doctor's nose"; or, as it is in German, *Frohsinn, Mässigkeit, und Ruh Schliessen dem Arzt die Thüre zu.* Yet another gives the advice to "Use three physicians' skill—first Dr. Quiet, then Dr. Merriman, and Dr. Diet." The last-named rhyme was not perhaps directed primarily against the doctors, for it is said to be a translation of a maxim of the great medical school of the Middle Ages, Salerno. In the original Latin, too, it is not so derogatory to the physician, reading, as it does, "*Si tibi deficiant medici, medici tibi fiant Haec tria, mens hilaris, requies, moderata diaeta*" (If doctors fail you, let these three be your doctors: a cheerful mind, rest, and moderate diet). Whether or not these proverbs be aimed at the doctor, he may well keep them in mind and sharpen his memory with the Scots adage,[19] "Eat and drink measurely and defy the mediciners," which appears in English dress as "Feed sparingly and defy the physician."

There are, however, pieces of proverbial wisdom which go further in depreciation of the medical man than any that have yet been looked at. There is one[20] which announces that there is "more danger from the physician than from the disease" (*plus a medico quam a morbo periculi*); and there is another, strikingly reminiscent of the well-known lines regarding Scylla and Charybdis, which says, "Si morbum fugiens incidis in medicos" (in fleeing from the disease you fall into the doctors' hands). From these dangers one is easily led on to deplorable consequences: a French proverb[21] has it, "Les médecins et maréchaux occient maints hommes et chevaux" (doctors and farriers kill many men and horses); Ned Ward,[22] in the *World Bewitched*, wrote, "Physicians kill more than ever they can cure"; an outspoken epitaph says bitterly, "the visits of many physicians have killed me" (*πολλῶν ἰατρῶν εἰσυδός μ' ἀπώλεσεν*); and Montaigne,[24] in one of his best essays, deals some heavy blows at the medical profession, telling of a Lacedaemonian, who, when asked what had made him live so long, made answer, "the ignorance of physic," and of the Emperor Adrian,[23] who continually exclaimed, as he was dying, that "the crowd of physicians had killed him." Montaigne,[24] being in the vein, goes on to mention others. A bad wrestler turned physician: "Courage," says Diogenes to him; "thou hast done well, for now thou wilt throw those who have formerly thrown thee." A physician, boasting to Nicocles that his art was of great authority: "It is so, indeed," said Nicocles, "that can with impunity kill so many people." Nicocles's remark brings to mind the proverb,[25] "Leeches (that is, physicians) kill with licence," and that other, in Latin,[26] "Pessimus morbus est medicus." As one reads over and meditates upon these old sayings one can hardly help thinking of the language used regarding the Jewish physicians of the first century and their modes of treatment in St. Mark's Gospel (chap. v, verses 25-34), where it is written of the woman with the issue of blood that she had suffered many things of many physicians, and had spent all that she had, and was nothing bettered, but rather grew worse; the story is told also in the other two synoptic gospels, and although the language there used is not so derogatory to the medical art of the day, even Luke, himself a physician, admitted that she had spent all her living upon physicians, neither could be healed of any (Luke, chap. viii, verse 43). There can be no doubt that Mark's phrase is now often used with almost proverbic force.

There is an aspect of medical practice which has specially appealed to the proverb-makers; it is the picture of the physician suffering himself from one of the diseases he professes to cure or prevent. There is a Greek saying, a fragment of Euripides, which refers with unpleasant realism to "the physician of others who himself abounds in ulcers" (*Ἄλλων ἰατρος αὐτὸς ἕλκεσι βρύων*); in its Latin form the phrase reads, *Aliorum medicus ipse ulceribus scates.* Truly there is something grotesque in the idea of a bald-headed dermatologist attempting to cure a patient of premature alopecia; and the story of the lady doctor who was unable to go to the help of one who was having a baby because she was having one herself, always brings a smile. It is this paradoxical element in medicine which gave origin to the proverb, well known in many languages, and uttered by the lips of Jesus Christ, as reported by Luke the physician (chap. iv, verse 23)—*Ἰατρὲ, θεράπευσον σεαυτόν*, "Physician, heal thyself." The Vulgate renders it *Medice, cura teipsum;* in French it is *Médecin, guéris-toi toi-même;* in Italian, *Medico, cura te stesso;* in Spanish, *Médico, cúrate á ti mismo;* and in German it appears as *Arzt, hilf dir selber.* Dean Plumptre states that this proverb was originally Jewish, but it may have been Arabic; there is said to be no trace of it in the classic Greek writings. It is, perhaps, the shortest of all the proverbs which concern themselves with medical men, and the most unanswerable. All men are mortal, and the physician is but a man; disease strikes down all sorts of people and does not spare the doctor. Shakespeare[27] has the idea: When Cornelius, a physician, tells Cymbeline that the queen is dead, the latter says, "Who worse than a physician would this report become? But I consider, by medicine life may be prolong'd, yet death will seize the doctor too." Indeed, the very fact that the doctor knows so much about disease handicaps him in his effort to form a correct diagnosis of his own malady, and his prognosis is generally very far out. A medical student, in his fourth year, was attacked with small-pox; he informed his physician that he was certain he had spinal meningitis, and regarded himself as doomed, but he added that he was rather puzzled to account for the curious rash which had come out on his face; he had allowed his mind to be filled with one symptom (the pain in the back), and had neglected all the others. Facts such as this underly the proverbs, "Doctors make the very worst patients," and "Doctors never dose themselves or themselves or their families"; although it may be maintained that it is not distrust of their own powers so much as disbelief in drugs that deters them. Howell,[28] however, puts it quite clearly in the following form: "Though physicians know themselves never so well, and the constitution of their bodies, yet when they are sick they commonly take their receipts by prescriptions of others, being distrustful of themselves."

In addition to theoretical and practical knowledge of disease in others, the medical man requires experience in his own person, and that, of course, he cannot always have, in order to equip him fully for dealing with others and himself. A proverb expresses this truth in the words, "No man is a good physician who has never been sick." This is hardly to be included in the list of derogatory sayings, but it emphasizes the fact that personal experience of suffering gives a greater power of sympathy and makes a man readier to anticipate and better qualified to mitigate the sufferings of others. There may, perhaps, be a modern proverb in the making that no surgeon is a good operator until he has been operated upon.

Voltaire's witty saying has often been quoted, "A physician is a man who pours drugs of which he knows little into a body of which he knows less." Mr. Justice Stephen brought it forth at the trial of Florence Maybrick in 1889

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17 Ruskin, J., *The Crown of Wild Olive*, par. 32.
18 Longfellow, *Poems*, "Poetic Aphorisms from the '*Sinngedichte*' of Friedrich von Logau."
19 Ferguson, David, *Scottish Proverbs*. 1641
20 *Cassell's Book of Quotations*, p. 638.
21 Lean's *Collectanea*, vol. i, p. 504; iv, 342.
22 Ward, *World Bewitched*, p. 27, 1699 (vide Lean's *Collectanea*, i, p. 504; iv, 366).
23 *Cassell's Book of Quotations*, p. 477.
24 Montaigne, *Essays* (Cotton's Transl.), Bk. ii, c. 37.
25 Kelly, James, *Scottish Proverbs*. 1721.
26 Adams, T., Soul's Sickness, *Works*, p. 190.
27 Shakespeare, W.: *Cymbeline*, Act V, Scene v, lines 27–30.
28 Howell: *Parley of Beasts*, p. 74, 1660 (vide Lean's *Collectanea*, p. 506).

adding to it another derogatory adage, "All doctors are fools," with the complementary (not complimentary) phrase, "and all lawyers rogues." The latter proverb is not the only one in which law and medicine are pilloried together, for there is the saying, "An old physician and a young lawyer," and there is that other, "The clergy live by our sins, the medical faculty by our diseases, and the law gentry by our misfortunes." The adage,[29] "Few physicians live well, few lawyers die well," is somewhat ambiguous, but seems more merciful to the former than to the latter.

The well-known fact that age brings to each one a knowledge of his or her constitution and proneness to disease is presented in the proverb that "Every man at forty is a fool or a physician." This is a very interesting saying, and it has been traced back to the Roman Emperor Tiberius, who died at the age of 77, after having enjoyed the best of health. Suetonius[30] writes of him, "He enjoyed a good state of health, without interruption during almost the whole period of his rule; though, from the thirtieth year of his age he treated it himself according to his own discretion, without any medical assistance;" and Plutarch in his *De Sanitate tuenda* reported that Tiberius used to say that "That man was ridiculous who, after sixty years, appealed to a physician." There is a difference of thirty years in the two statements referred to above, but that of Suetonius would seem to be nearer the truth, for Tacitus in his *Annals* affirms that Tiberius[31] "was wont to ridicule the physician's art, and those who, after the age of 30, needed to be informed by any one else what benefited or injured their constitutions." It is probable, therefore, that the correct version of the proverb is that "Every man is either a fool or a physician after 30," although the Scots form of it (as given by Ray) has the advantage of alliteration—namely, "A fool or a physician at 40." There is truth in the saying, for advance in years certainly brings with it knowledge of the weaknesses of one's constitution and an amount of acquaintance with ordinary remedies and precautions; but in Tiberius's case, at any rate, his self-acquired medical skill was not conspicuous, for Suetonius says "he had a handsome face, but it was often full of pimples." Whether he had been more successful in acquiring the proverb's alternative qualification must be left to the judgement of the historian. It is interesting that a a contemporary of Tiberius, the poet Ovid,[32] expressed almost the same opinion about age as a teacher of medicine; in his third *Epistle* from Tomi in Pontus, the place of his exile, he wrote to his friend Rufinus in terms that were markedly medical in their phraseology, and added the reflection, "I am better known to myself than to my physician" (*Sed sim quam medico notior ipse tibi*). Whether he borrowed from the Emperor or the Emperor from the poet may be left to classical scholars to decide. It is, however, of some interest to note that a modern writer[33] (Matthew Arnold), in his short poem *Wish*, shared with Tiberius the desire to see his death-bed unencumbered by physicians:

> Nor bring to see me cease to live,
> Some doctor full of phrase and fame,
> To shake his sapient head, and give
> The ill he cannot cure a name.

There are yet other aspects of the physician's work which give themselves into the power of the spiteful proverb; amongst these may be named the saying that "One doctor makes work for another." This, perhaps, reflects an opinion which is not uncommon among the laity, that consultations with specialists are not always necessary, and one must not forget that careless and forced midwifery prepares the way for reparative gynaecology. There is truth likewise in the adage[34] that "physicians are costly visitors": but the doctors may retort that the fees they pay must be paid for.

The programme of the Book of Proverbs (*Prov.* I, vv. 1–6) states that one among the many purposes for which it was written is to enable a man "to understand a proverb and the interpretation, the words of the wise and their dark sayings." Now, of dark sayings about medical men, surely the following Talmudic one[35] is a good example: "Choose no town for thy residence where no horse neighs, and no dog barks, and where a physician is the head man." This is indeed a riddle or hard question (Chidah, *Heb.*), but a little thought shows that, of course, such a town must be full of disease else a physician could hardly be its head man; it cannot, therefore, be a desirable place to live in. Another dark saying[36] from the Talmud is this: "Seven have no portion in the world to come; a notary; a schoolmaster; the best of physicians; a judge in his native town; a wizard; a congregational reader; and a butcher." An explanatory note gives the reason that they are either heartless, careless, partial, or unscrupulous; but it would seem that the physician is added to the list because he is needless, there being no disease in the next life. A very commonsense and penetrating proverb[37] from the same source is the statement that "a physician who professes to cure for nothing is often worth nothing." Gleanings from this field of literature give yet one more proverb, for there is a verse in the apocryphal book of *Ecclesiasticus* (c. xxxviii, v. 1), which reads "Honour a physician with the honour due unto him for the uses which ye may have of him, for the Lord hath created him." This seems at first sight to depreciate the medical profession, and to counsel in a worldly-wise way the future sick man early to make a friend of the doctor to whom he must later have recourse; but it may simply mean to honour the physician because God has made him what he is, and given him his knowledge and skill. In fact, verse 12 reads: "Then give place to the physician, for the Lord hath created him; let him not go from thee for thou hast need of him."

This first survey of medical proverbs and dark sayings must now be brought to an end. The list of adages which are more or less derogatory to the medical man is a fairly long one, and it might have been added to by the inclusion of such fragments of experience as "Fear kills more than the physician," "Time cures more than the doctor," and "Better wait on the cook than the doctor"; but the aspects of proverbial medicine revealed by them have been already seen in others which have been named.

On the whole the medical man comes out of it all fairly well; his value to the State and the individual is recognised, although the undeniable fact that in his lifelong fight with death, disease, and distress he is often worsted is not concealed; some of his foibles are hit off, and his own frailty as one with no immunity from the very ills he seeks to deal with in others is loudly proclaimed; but at the same time most of the sayings about him can be repeated without malice, and are indeed free from venom. His patients fully realize their readiness to send for him when they need him, and they do not disguise their gladness when they can dispense with his services. Byron,[38] after giving his readers a prescription in verse, has the following stanza:

> This is the way physicians mend or end us,
> *Secundum artem:* but although we sneer
> In health—when ill, we call them to attend us,
> Without the least propensity to jeer.

The physician is justified in turning the tables upon his patient and making some such proverb for him as "When I'm sick, please come quick: when I'm well, don't ring my bell;" or he may parody the lines of Sir Walter Scott and put the situation thus:

> O, doctor, in our hours of ease,
> We scorn your aid, refuse your fees;
> When pains assail, when throbs the brow,
> You cannot come too quickly now.

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[29] Camden, W., *Remains Concerning Britain*, 1636 (vide Lean's *Collectanea*, iii, p. 464).
[30] Suetonius, *Lives of the Twelve Caesars*. Forester's Translation, Tiberius, c. 68, p. 234.
[31] Tacitus, *Annals*, Book VI, c. 46 (Oxford translation).
[32] Ovid, *Pontic Epistles*, Book I, ep. 3 (Riley's translation).
[33] Arnold, Matthew, *Poems:* A Wish.
[34] Clarke, J., *Paroemiologia Anglo-Latina*, 1639 (vide Lean's *Collectanea*, iv, p. 181)
[35] Hershon, *Genesis with a Talmudical Commentary*, p. 477, 1883.
[36] Ibid, p. 336.
[37] Ibid, p. 335.
[38] Byron, *Don Juan*, canto x, st. 42.

A WARNING as to the danger of using electric bed warmers has been issued by the British Fire Prevention Committee. It is stated that they may easily lead to ignition when kept under cover in such a manner as not freely to radiate heat, as, for instance, when kept tightly covered under bedclothes.

ANNUAL REPORT OF THE MEDICAL OFFICER TO THE LOCAL GOVERNMENT BOARD.

THE fortieth annual Report of the Medical Officer to the Local Government Board consists, as usual, of the actual report of the medical officer and two appendices; the first containing the special reports on work done by the officers of the Board, and the second reports on the special scientific researches subsidized by the Board.

The report proper, consisting of seventy-one pages, is a general survey of the public health and of the more special work of the Board. The review of the public health during 1910 is based to a great extent on a comparison mortality figures of the last ten years. It is, therefore, largely a summary of the results done. The general death-rate has fallen. The infantile death-rate has also fallen, and after considering the various factors at work Dr. Newsholme concludes that, even after full allowance for good climatic conditions, much of the reduction is due to the "concentration" on the mother and child which has been a feature of the last few years. An analysis of the infantile mortality in the large towns is in course of preparation. The mortality from *enteric fever* has fallen 68 per cent., and this reduction is distinctly traceable to improved sanitation. An estimate is made of the economical saving implied by this fall, and it is stated that

> the total saving in one year cannot well be less than three million sterling—a substantial sum in respect of one disease only, to be set against the sum of about sixty millions sterling now expended out of local rates, including poor rates, in a single year.

The direct causes of the decline have been clearly shown to be: (1) Better water supplies, although water-borne epidemics still occur; (2) provision of sewerage; (3) better regulation for the laying of shellfish, although there is now evidence that fried fish and ice-cream are factors which require more attention; and, finally, (4) isolation hospital treatment, combined with early bacteriological diagnosis.

Scarlet fever has shown a similar fall of over 50 per cent., but whilst it is tempting to ascribe this to better sanitation, it must be admitted that there has been a decline in the severity of the disease, and it is not impossible that the present mild type may revert, in part, to the older type. The probability that the severity of the old type was due largely to coexistence with diphtheria and other secondary infections, which are now under greater control, is, however, more reassuring. The fact that notification, disinfection, and isolation hospital treatment have not succeeded so well with scarlet fever as with enteric fever and small-pox is ascribable to the facts that infectivity is not limited to the alvine discharges as in enteric, and that there is no vaccination to protect contacts. A report on the utility of isolation hospital treatment is to be prepared.

In *diphtheria* there has been a similar fall of over 50 per cent.; but here the relations are very complicated, owing to the cyclical characters of the epidemics and the discovery of antitoxin. It is noted that many sanitary authorities now avail themselves of the power to supply antitoxin for the poorer cases.

In *puerperal sepsis and accidents due to childbirth* there has been a fall, greater in the former than in the latter, but definite information is lacking owing to the laxity in the notification of puerperal fever.

With regard to *measles* and *whooping-cough*, the position is decidedly unsatisfactory, for although the crude mortality returns show a diminution, yet when the figures are taken per 1,000 births there has been an increase in the measles rate and a very small diminution in the case of whooping-cough. The difficulties of control are very great, for notification is expensive and unreliable, owing to the doctor being called in too late or not at all, and the epidemics are so explosive that a special emergency staff would be required to deal with the cases. It is hoped that by engaging temporary help and endeavouring to gain the co operation of the parents, with hospital treatment for the poorer classes, it may be possible to produce a diminution in the mortality if not also in the prevalence.

After a short review of the epidemics of *small-pox*, which had been controlled, the medical officer draws attention to the great difficulty of following up contacts; for example, in 1 case the contacts numbered over 200 and lived in forty-three different administrative districts.

> The illustration serves to show that the security of the public against the spread of small-pox depends on a somewhat slender thread. The success hitherto achieved is remarkable; but the slowly diminishing protection of the population by vaccination is a necessary cause for disquietude for the future.

For *cerebro-spinal fever and poliomyelitis* the official figures, owing to difficulties of diagnosis, are very unreliable and almost certainly understate the frequency.

Active measures against *ophthalmia neonatorum* are being taken by many sanitary authorities, and notification, followed by visiting or hospital treatment, have shown indications of gratifying success in some districts. There will be a fuller report on this subject next year.

Tuberculosis as a cause of death continues to decline; this is ascribed to better housing, cleaner habits, and institutional treatment. The greatest possibilities of fruitful action by sanitary authorities lies in the first instance in preventing protracted exposure to infection and dust. For, assuming that that severity of the infection depends largely on the size of the infecting dose, the greatest danger of infection must come from the advanced case nursed at home in bad surroundings. The better care of advanced cases is not incompatible with sanatoriums and a campaign against early cases. The attack must be a combined one.

Plague receives much attention. The chief facts which have come to light have already been noted in the JOURNAL of August 26th, 1911, p. 448; they may be summed up as follows: Rat plague is present in Suffolk, and has probably existed there for some years. There have been three small outbreaks of what was probably human plague. The small prevalence of human plague is probably due to coexistence of several factors. The brown rat has ousted the black rat. The brown rat is not a domestic animal as is the black rat in India. It is not infested with fleas to such a great extent, and of the fleas obtained only about half were of a species which feeds on man. The chief precautions advocated are a campaign against the rat both direct by slaughter and indirect by destruction of its habitations and starvation by keeping food within rat-proof walls. Protection of man by rendering houses rat-proof, and, finally, by isolation of all obscure cases of blood poisoning, influenza, and pneumonia. The spread of pneumonic plague is not through fleas, but from man to man under circumstances of overcrowding.

Vaccination is the subject of some timely remarks by the medical officer. The return for England and Wales for 1909, when compared with the return for 1908, shows a reduction from 63.2 to 59.8 in the proportion of children born who are vaccinated. The analysis which has been prepared shows the course of vaccination in each union in recent years. The Vaccination Act of 1907 has been followed by a considerable increase in the number of children exempted by statutory declaration, obtained mainly at the expense of children who in the past would have been vaccinated. It is to be remembered that the figures refer to births, and not to the total population. If vaccination were suddenly to cease, many years would elapse before the majority of the population of England and Wales consisted of unvaccinated persons. The children are not so well protected for

> in unions in which a high proportion of the children are becoming unprotected by vaccination, the possibility of explosive outbreaks needs to be borne in mind, especially in the event of a patient with unrecognized mild small-pox attending school.

By comparing the figures for the years 1907 and 1909 the effect of the Vaccination Law of 1907 can be seen. Such comparison shows that the effect in diminishing the proportion of vaccinated has been spread over the whole country. The few unions which show an increase of vaccinated children are mostly small unions with very few births. A notable exception is Liverpool, which shows a slight increase, and Birmingham, where the figures are practically stationary. A striking feature of the tables is the efficiency of vaccination in the country districts of Wales.

THE SPECIAL REPORTS.

Dr. Wheaton reports on a small epidemic of enteric fever at Swanage in September, 1910. After exclusion of a

other probable sources of infection, the water supply was examined, and it was found to show evidence of dangerous contamination with organic material. The well from which this part of the supply was taken had been condemned by the Board's inspector in 1897. Dr. Monckton Copeman's report on enteric fever in Eccles is very interesting, as there can be little doubt that the source of infection was ice-cream. The chief features of the epidemic were: (1) Its explosive nature—40 cases notified within four days; (2) the peculiar age incidence, four-fifths of the cases being under 20 years of age; (3) the fact that all the cases were in the poorer parts of the town. The ice-cream was traced to its source in Manchester, and examination of samples taken on the premises showed that there must have been gross contamination. The same manufactory had also been responsible for an outbreak in Manchester itself.

(To be continued.)

THE WORKING OF THE COMPENSATION ACT.

THE statistics of the seven great industries to which the Workmen's Compensation Act and Employers' Liability Act apply during the year 1910 have just been published, and are of great interest.

Taking the shipping industry first, we find that 8,593 owners are included in the returns, and that the total number of seamen within the Compensation Act is 250,583. There were 456 fatal cases in which compensation was paid. The average amount was £155. The cases of disablement numbered 7,544, and the average compensation was £11 6s. Of the 236 cases in which persons were left wholly dependent, the average compensation paid was £240. In respect of the 202 cases in which persons were left partially dependent, the average payment was £67 14s. The cases of disablement continued from the previous year were 1,134, involving an average payment of £29 14s. The total compensation paid during the year worked out at £12s. 5d. a head, as compared with 10s. 8d. in 1909.

With regard to factories, the total number on the register of the factory department was 112,370, and the total number of employed persons covered by the returns mounted to nearly 5 millions. The figures for accident returns show that the total number of fatal cases in which compensation was paid was 883, being an average of £146. The total number of disablement cases was 152,483, with an average compensation of £5 18s. The number of fatal cases was 139 more than in 1909, while the number of disablement cases was greater by 30,000, an increase which is due to the metal, engineering, and shipbuilding trades. In the fatal cases the average compensation paid in respect of 543 cases where persons were left wholly dependent was £206, and in the 246 cases where persons were left partially dependent the average amount was £8 15s. The number of disablement cases continued from the previous year was 12,843, involving an average charge of about £25.

With regard to the returns of compensation for industrial diseases, in 35 fatal cases the average amount of compensation was £141, and in 614 disablement cases the average was £18. The average compensation in respect of 22 fatal cases for persons who were left wholly dependent was £199. The disablement cases continued from the previous year numbered 167, involving an average charge of £34. The total charge for compensation on the returns of persons employed works out at 4s. 3d. a head, as compared with 3s. 5d. in 1909.

With regard to docks, 4,387 employers were included in the returns, and the total number of employees returned at 128,878. The number of cases of death from accident was 174, and the compensation averaged £147. In 115 cases in which persons were left wholly dependent the average compensation was £196, while in 40 cases where persons were left partially dependent it was £72 14s. The number of disablement cases was 13,346, the average payment being nearly £8. The number of cases continued from the previous year was 1,396, involving an average charge of £29 10s. Compensation for industrial disease to the amount of £181 was paid. The compensation works out at about £1 0s. 6d. per head, as compared with 16s. 8d. in 1909.

The total number of mines on the list for 1910 was 3,916. The approximate number of persons employed to whom the Act applies was returned as 1,066,239 males and 6,332 females. The number of cases of death through accident in which compensation was paid during the year was 1,347, and the compensation averaged £164. In respect of 166,709 non-fatal cases there was an average payment of £4 18s. In the 798 cases where persons were left wholly dependent the average amount of compensation was £240; in the 437 cases where persons were left partially dependent the average payment was £65. The disablement cases continued from the previous year numbered 15,377, involving an average charge of £17 5s. The total amount of compensation paid in respect of cases of disablement was £42,507, working out at £1 0s. 2d. per head. The great bulk of this fell on the coal industry. During the year nearly 264½ million tons of coal were raised from coal-producing mines, besides three and a half million tons of other minerals. The charge placed by the Act on coal-producing mines, calculated per ton of mineral raised, is about 9d., as compared with 8d. in 1909.

The total number of quarries on the list for 1910 was 6,890, while the total number of employees was 85,655 males and 43 females. The number of cases of death from accident was 96, and there was an average payment of £123. In the 5,823 disablement cases the average payment was £6. In the 50 fatal cases where persons were left wholly dependent the average amount was £187, and in the 24 fatal cases where persons were left partially dependent it was £71. The disablement cases continued from the previous year numbered 603, involving an average charge of £23 11s.

In constructional work the returns made show 3,525 employers and 97,719 employees. The number of cases of death from accident in which compensation was paid were 110, and the average compensation about £100. The number of disablement cases was 6,566, the average payment being £7 17s. In the 49 cases in which persons were left wholly dependent the payment was about £199, and in the 23 cases in which persons were left partially dependent it was £45 18s. The disablement cases continued from the previous year numbered 776, involving an average charge of £28 5s. £163 was paid in respect of industrial disease. The total charge for compensation works out at 12s. 10d. a head.

In respect of railways, the returns with regard to the clerical staff, involving 67,233 employees, show few cases of compensation; only 3 fatal cases, and 65 disablement cases, including one of telegraphist's cramp, were returned, the total compensation being £1,272. The 374,240 other railway workers show 410 fatal cases, the average compensation paid being £154; the average was £5 4s. in the 21,369 disablement cases. Of the fatal cases, in respect of the 275 in which persons were left wholly dependent, the compensation amounted to £205, and of the 98 cases in which persons were left partially dependent the amount was £68. The disablement cases continued from the previous year were 2,077, involving an average charge of £22 8s. The amount paid in respect of industrial disease was only £437. The total compensation paid during the year for railway servants other than the clerical staff works out at 9s. 4d., and including the clerical staff 8s. a head.

With regard to the industrial diseases in the seven groups of industries, there were 36 cases of death and 4,438 cases of disablement. The bulk of the cases occurred in the mining industry. There were 956 new cases of nystagmus, 70 of ankylostomiasis, 766 of "beat hand," 11,350 of "beat knee," 80 of "beat elbow," 930 of inflammation of the synovial lining of the wrist-joint and tendon sheaths. These figures for nystagmus, beat hand, and beat knee show a large increase over those for 1909. There were 367 cases of lead poisoning, 350 of anthrax, 10 of arsenic poisoning, 20 of chrome poisoning, and 2 cases of compressed-air illness. There were no cases of phosphorus poisoning or poisoning by carbon bisulphide or nickel carbonyl.

As to duration of compensation, the number of cases not terminated at the end of 1910 which had by that date lasted more than one year was 7,691, as compared with 5,085 at the end of 1909. Of the 7,691 cases, 4,215 had lasted more than one year and less than two, 3,874 being cases of accidents and 3,410 industrial disease: 2,474 cases

had lasted two years and less than three, of which 2,341 were cases of accidents and 133 of industrial disease; 1,002 cases had lasted three years and less than four, of which 979 were cases of accidents and 230 industrial diseases.

A comparison with the figures of 1909 shows that the number of cases of duration of more than one year and less than two has gone up from 3,635 to 4,215, an increase of 16 per cent.; of the cases which at the end of 1909 had lasted over one year and less than two, 68 per cent. were still undetermined at the end of 1910; and of the cases which at the end of 1909 had lasted two years and less than three, 69 per cent. were still undetermined.

With regard to lump sum payments, in 7,133 cases which were settled at once without any previous weekly payments the average sum paid was £8 7s., and in the 6,952 cases which were settled after weekly payments had been made for a period less than twenty-six weeks the average sum was £8 10s. In the cases where weekly payments had continued for more than twenty-six weeks the average payment was nearly £93.

In respect of administration, the number of cases under the Workmen's Compensation Act, 1906, actually dealt with in England and Wales by the county court judges and arbitrators amounted to 4,848; 210 of these were settled by acceptance of money paid into court. In addition to the cases actually dealt with by the county courts there were 1,818 cases either withdrawn or settled out of court.

In 135 of the cases under the Act of 1906 the compensation was claimed for incapacity due to industrial disease. Of the claims under the Act, the proportion of cases in which the applicant was successful was 82 per cent., as compared with 79 per cent. in 1909, 82 per cent. in 1908, and 84 per cent. in 1907. In the cases under the Act, 1906, in which a weekly payment was awarded, the average compensation for cases of total incapacity was 11s. 11d.; and for partial incapacity, 9s. 2d.

Under the Employers' Liability Act (48 cases), judgement was given for plaintiff in one fatal case in which the amount awarded was £250; 36 were returned as cases of total incapacity, the average judgement being £61; 11 were cases of partial incapacity, with an average compensation of £75.

The average amount of solicitors' costs under the Employers' Liability Act was £26 17s. 11d., as against £11 7s. 6d. under the Workmen's Compensation Acts. As in 1909, the courts in which there were the greatest number of arbitrations were Liverpool 363, Bow 235, and Manchester 212. There were nine courts in which there was no case under either the Employers' Liability or Workmen's Compensation Acts. The number of cases carried to the Court of Appeal was just under 2 per cent. of the cases that came before the county courts; 59 were appeals by workmen, 76 by employers. Of the appeals by workmen 7, and of the appeals by employers 20, were successful, and 36 were abandoned or withdrawn. Four appeals were under the Act of 1907. Out of 110 cases in which the point on which the appeal is known, 25 turned on the meaning of the words, "accident arising out of and in the course of the employment." There were 9 appeals from the Court of Appeal to the House of Lords, the workman being the appellant in 7 cases, 5 of which were successful.

There were 343 references to medical referees under Schedule II (15), as against 297 in 1909. The references made under Schedule I (15) numbered 496, as against 300 in 1909. Medical referees acted as assessors 659 times, as against 376 in 1909; the appeals made against the certifying surgeons numbered 152, as against 98 in 1909. There is a noticeable increase in the number of references by agreement between the employer and workman to settle disputed points as to the condition of the workman or the cause of the incapacity.

THE Council of the Institute of Ophthalmic Opticians has referred to a committee a proposal to establish classes of instruction for opticians with a view to enable them to acquire sufficient knowledge of diseases of the eye to be able to know when disease exists; any intention to encroach on the work of the medical profession was disclaimed. Nevertheless, the proposal seems to be one which will require to be carefully watched; we regard it as an inversion of the proper order of things, and as likely to have an injurious effect on the public health.

EPIDEMIC POLIOENCEPHALOMYELITIS AND THE PROBLEM OF ITS TRANSMISSION.

DURING the last nine years Europe and America have been visited by extensive epidemics of two distinct diseases of the central nervous system.

Epidemiology.

At the beginning of this period poliomyelitis became epidemic in Scandinavia. In Germany the epidemic of cerebro-spinal fever which occurred during the years 1905 to 1907 was followed by an outbreak of acute poliomyelitis during 1908 and 1909. In New York cerebro-spinal fever attacked large numbers in 1905, and in 1907 2,000 cases of poliomyelitis occurred. In the United States the latter epidemic appears still to be spreading, over 5,000 cases having been reported during 1910.

The British Isles have not suffered to the same extent as some other countries, though epidemics of cerebro-spinal fever occurred in Glasgow, Edinburgh, and Belfast in 1906 and 1907, and during 1910 Bristol and Carlisle, and in 1911 Devon and Cornwall and Huntingdon, have been the seats of epidemics of acute poliomyelitis, not to mention some lesser outbreaks.

The short interval of time which elapsed between the two epidemics has aroused a suspicion in some quarters that an intimate connexion existed between the two diseases. On closer examination, however, no clear relation between the two diseases emerges, and the fact that their etiology and pathology are distinct renders any relationship between them extremely improbable. The occurrence of the two epidemics in the same country has not always been separated by similar intervals of time, and the localities attacked by the two diseases have not often been really identical. Moreover, in Scandinavia, where the present widespread epidemic of poliomyelitis appears to have originated in 1903, an epidemic of cerebro-spinal fever has not occurred since 1861.

Diagnosis.

The two diseases certainly present clinically some superficial resemblances, and in their earlier stages may occasion difficulty in diagnosis. The initial symptoms are often similar, and in both diseases appear to be due to an inflammatory condition of the meninges. In both diseases abortive cases occur in which fever, headache, stiff neck, vomiting, and pain in the limbs, with sometimes diarrhoea and pharyngitis, are the chief symptoms.

The difficulties of diagnosis are increased when, as at Nottingham and in Leicestershire in 1910, and perhaps in Cambridgeshire this year, in addition to the presence of grouped cases of undoubted acute poliomyelitis, cerebro-spinal meningitis in the adult and doutful abortive cases have also occurred.

The age of incidence of the two diseases is similar. Though sporadic cases are almost confined to the earliest years of life, during epidemics many older children and also adults are attacked, as, for example, the case of a woman 50 years of age recorded by Drs. Gregor and Hopper in the issue of this JOURNAL of November 4th.

The narratives of recent epidemics in the south-west of England by Drs. Soltau and Gregor and Hopper, and in Huntingdon by Dr. Moss Blundell, while showing that in the majority of cases a diagnosis can be arrived at on purely clinical grounds, emphasize the difficulties which are sometimes met with. The course of the disease usually suffices to clear up any doubts as to the diagnosis that there may have been in the earliest stages. The development of flaccid paralysis of the type so well known to be associated with "infantile paralysis" is diagnostic and at any stage the examination of the cerebro-spinal fluid seldom fails to enable a correct diagnosis to be made even supposing that meningococci are not observed, if attention be paid to the kind and relative proportion of the leucocytes present in the fluid.

The degree of infectivity of the two diseases varies in different localities, but it appears to have been about the same in the two New York epidemics, if this be estimated by the frequency with which more than one case occurred in the same house. Such multiple occurrences have not been very common, but in both diseases striking exceptions are recorded—for example, Dr. Moss Blundell

account in this JOURNAL of 15 cases of acute poliomyelitis, out of which 8 were distributed amongst three families. Probably these differences largely depend on whether abortive cases are included in the records. The seasonal prevalence of cerebro-spinal fever in the northern hemisphere is in the first half of the year, the epidemic lasting from January to July, with a maximum in April, whereas acute poliomyelitis occurs mainly in July, August, and September, with a maximum in August.

Etiology and Pathology.

The most striking and essential differences between the two diseases are, however, found in the facts of their etiology and pathology. In cerebro-spinal fever the pathological changes are confined to the meninges and the most superficial layers of the brain and cord, whereas in poliomyelitis the vascular changes pass into the grey matter of the cord, and the large motor ganglion cells are affected. According to Flexner, Landsteiner, and Levaditi, this follows as the result of the vascular changes, but Romer is of opinion that it is also due to a selective toxic action of the virus.

Whilst the infective agent of cerebro-spinal fever is a diplococcus which is very sensitive to external conditions and soon dies outside the body, unless especial care is taken to keep it at the body temperature and to cultivate it upon special nutrient media, the virus of poliomyelitis consists of particles so small that they will pass through porcelain filters which keep back bacteria, and will live for weeks dried or suspended in glycerine at a temperature only slightly above freezing point.

Infectivity.

Some facts of importance regarding the transmission of poliomyelitis have been ascertained by experimental infection of monkeys. The virus is most readily obtained by emulsifying the brain and spinal cord of a diseased human being or monkey when death has occurred during the first days of the disease. The naso-pharyngeal mucous membrane of monkeys has repeatedly been shown to be infective. Landsteiner, Levaditi, and Pastia found that both the pharyngeal mucosa and the tonsils from a human case were capable of communicating the disease. Flexner and Clark have recently[1] confirmed this, using as virus the tonsils and pharyngeal mucous membrane from four separate fatal human cases of poliomyelitis. In the monkey the naso-pharynx may continue to contain the virus for as long as six months, although usually the infectivity has ceased by the end of the first or third week. Occasionally the salivary glands, the cervical, mesenteric, or prevertebral lymph glands have been found to be infective. Attempts to communicate the disease by injecting large quantities of blood taken at the height of the disease from monkeys or human patients have hardly ever been successful, the only exception being when as large an amount as 25 c.cm. from a diseased monkey was injected intravenously into a healthy monkey. Attempts to produce the disease by the injection of saliva or nasal mucus from man have so far been unsuccessful. The virus is at present only known to exist within the bodies of human beings and of inoculated animals, and the naso-pharynx is the only situation in which the virus is known to be in relation with the outside world. Successful inoculation of the virus may be made into the brain, intraperitoneally, intravenously, or by applying the virus to the injured nasal mucous membrane. Subcutaneous injection may also be successful, and feeding with massive doses of the virus has occasionally reproduced the disease. Natural transference of the disease from an infected to a healthy monkey in the same cage has not been observed in spite of many opportunities for its occurrence.

Theories of Transmission.

The theory of transference which accords best with the above facts is that infection takes place from the naso-pharynx of one person to that of another, although at present experimental evidence of the infectivity of nasal discharges is lacking.

In order to explain the apparently aberrant transmission of poliomyelitis it has been suggested that the virus is conveyed by road dust or flies. No plausible hypothesis has been put forward, however, by which large quantities of virus could be available for transmission by either of these means. The channel by which the virus would be introduced into the body of man, if ordinary house-flies acted as carriers, is not obvious, since infection by feeding has only been obtained with great difficulty. The fact that the occurrence of acute poliomyelitis is almost confined to the summer months, and the special waterside incidence of the disease in some epidemics, are quoted to support the theory of its transmission by insects. The possibility of transmission by a biting insect has been suggested, but the great difficulty in demonstrating infective material in the blood is much against this view.

The supposed infectivity of unrecognized abortive cases and of healthy carriers has been brought forward in order to overcome the difficulty in tracing the connexion between successive cases of the disease. Abortive cases no doubt occur in the human disease as well as in the experimental disease in monkeys, and the existence of subsequent immunity in the latter has been proved by Flexner. Serological evidence is also forthcoming that in abortive cases (both in man and monkeys), the blood contains immune substances which neutralize the virus *in vitro*. Thus additional evidence is afforded that abortive cases have been genuinely attacked by the disease, and are therefore probably potential sources of infection.

Epidemiological facts suggesting the occurrence of healthy carriers have been brought forward by Wickmann and others.

A prolonged incubation may also help to bridge over some of the gaps in the line of direct transmission, for though in human cases, as in the experimental disease in monkeys, the incubation period appears to be usually about six to ten days, it was noted by Flexner that occasionally the disease does not appear in monkeys until after the lapse of a much longer period. Forty-six days is the maximum period of incubation that has been observed.

Transference to Rabbits.

The attempts by most workers to reproduce the disease in animals other than monkeys have been unsuccessful, though Krause and Meinicke in 1909, and later Lentz and Huntemüller, claimed to have transmitted poliomyelitis through a series of young rabbits. Their observations, however, were not at that time confirmed, and their conclusions were criticized on the ground that the disease produced in rabbits did not resemble poliomyelitis in man. But these earlier experiments appear to find confirmation in some recent researches by Marks. This observer by inoculating rabbits with virus obtained from the monkey produced a fatal disease in them, which he was able to transmit through a series of these animals. Material obtained from a rabbit after a number of such passages was inoculated into a monkey and reproduced poliomyelitis in a typical form. It now appears, therefore, to be in accordance with experimental facts to conclude that domestic animals may share in the epidemic without presenting the symptoms of poliomyelitis.

Prophylaxis and Treatment.

Attempts to prevent or cure poliomyelitis in monkeys by means of serums or vaccines have not been very encouraging, but Flexner and Clark have experimented with urotropin and its derivatives administered by the mouth, and state that they have had a considerable measure of success.

The experimental study of poliomyelitis begun in 1909 by Landsteiner and Popper, who first succeeded in transmitting the disease to monkeys, is still far from complete, but the progress made is most encouraging. Most of the recent experimental advances have been recorded by Flexner and his colleagues in the *Journal of the American Association* and the *Journal of Experimental Medicine*, or by Landsteiner and Levaditi in the *Comptes rendus de la Société de Biologie*, and have been reported in our columns from time to time, and the reader is also referred to an article by Dr. Batten in the current number of *Brain* to which we called attention in a recent issue.

[1] *Journal of the American Medical Association*, November 18th, 1911.

THE Apollinaris Water has received the Grand Prix at the Dresden exhibition.

MEDICAL REPORTS ON GERMAN COLONIES.

THE latest German colonial medical report[1] (for the year 1909–10) contains as usual a minute account of the public health of the European and native populations, the incidence and treatment of the different diseases, and the various sanitary measures which have been introduced for the prevention of disease.

The report on German East Africa comes first and deals in great detail with the various medical and sanitary questions affecting the welfare of the colony. The reports on the other German African colonies are on the same lines, but not quite so full. The following notes on some of the more important diseases present certain features of interest.

Small-pox.

There was a recrudescence in epidemic form in several parts of German East Africa, but especially in the neighbourhood of the railway. Vaccination was extensively carried out, some half million persons having been vaccinated during the year under report. Lymph imported from Germany was found to be too expensive for general use, and, moreover, speedily lost its virulence during transit to the inland stations of the colony. The practice has therefore been introduced of inoculating a number of calves with the lymph received from Germany immediately on its arrival. The lymph thus obtained is sent to the various lymph stations throughout the colony, and at each of these it is reinoculated into calves, which yield an ample supply of virulent lymph for vaccinating the native population.

The provision and storage of lymph for transit is very fully discussed in the report on the Cameroons, where a number of lymphs from different sources were obtained and inoculated into calves, different methods of storage being then experimented with. Glycerinated and lanolin lymphs received from Germany and inoculated into calves produced the most satisfactory results. The process of inoculating calves and collecting the lymph had to be carried out by the most primitive methods, as it was found impossible to keep the animals in any kind of confinement. The lymph so obtained was at once mixed with fresh glycerine and stored in sealed tubes, which were packed in vegetable roots or boxes filled with damp sand for carriage to other stations. A novel plan adopted in one district of the Cameroons was to vaccinate a man with a known virulent lymph and immediately send him to another station further inland; on arrival the contents of his vesicles were inoculated into calves, and from these a supply of lymph was obtained sufficient for the district. Vaccination is not popular among the natives of the Cameroons, and great difficulty was experienced in carrying out the operation on even a limited number of them.

In German East Africa three distinct clinical varieties of small-pox were noted, and this, together with the fact that vaccination with European lymph did not always protect from small-pox and that men who had suffered from small-pox could in some cases be successfully vaccinated with European lymph, gave rise to the theory that the African small-pox was different to the European. After a careful investigation of the evidence the pathologist at Daressalam pronounced this theory to be untenable.

Plague.

In Daressalam the epidemic of plague which had occurred in the previous year was stamped out. The preventive measures adopted were the medical inspection of new arrivals, especially those from Zanzibar, and the extermination of rats. This was conducted in several ways—by the payment of a premium for dead rats, by the services of professional rat catchers, by spreading rat poison, and by the introduction of cats which natives were induced to keep in their houses. The latter plan proved very disappointing. Over 27,000 rats were destroyed in the coast towns, but in no case were plague bacilli found in any of the corpses.

Two small epidemics occurred in the interior of the colony. The rats (*Mus rattus*) were found in many cases to be infected. The rat-fleas were identified as *Pulex cheopis*, *Sarcopsylla gallinacea*, and *Pulex* (*Locmopsylla*) *scopulifer*.

Malaria.

Malaria is the most important of all the endemic diseases in the African colonies, and still accounts for one-third of all sickness and deaths. The established preventive measures are being steadily persevered with, but want of funds and trained personnel, as also native ignorance, are hindrances to success. Owing to the greatly increased rainfall during the year covered by this report, the percentage of persons found to be infected with malarial parasites considerably increased. In Tanga a large number of mosquitos were caught in traps; the proportion of *Anopheles* to all other kinds was as 1 to 6.7. In blood smears the parasites of malignant malaria were found about twice as often as those of other varieties.

In some places formerly free from malaria the settlers have introduced irrigation for their farms, and these places are now heavily infected. Instructions have been issued to these farmers requiring them to regulate the amount of water used for irrigation, so that no pools shall be formed to act as mosquito breeding places.

Ankylostomiasis.

This disease still causes much inefficiency among the labourers on the coast plantations. At those stations where the preventive measures have been regularly carried out there has been a marked improvement. A district surgeon visits each locality, examines the men, treats those who are suffering from the disease, and leaves instructions with the planter for the continuance of the treatment. The natives now appreciate its value. The greatest efforts are directed to making the natives construct proper latrines, and use them instead of defaecating in the immediate neighbourhood of their water supplies.

Leprosy.

The segregation of lepers in special villages is being steadily persevered with, and is being gradually acquiesced in by the natives. A few cases were treated with nastin and chaulmugra oil with apparently good results.

Sleeping Sickness.

The attempt to collect all infected persons in special camps is being given up owing to the natives' dislike to this practice. One medical officer states his opinion that if only a few cures could be shown there would be no further opposition on the part of the natives. Very early cases treated with atoxyl seemed to improve considerably, and almost held out hopes for an eventual cure. The principal preventive measures adopted were to control the migration of natives into infected areas, medical examination of new arrivals along the trade routes, and the extermination of the *Glossinae* by clearing the lake and river banks of all bush and undergrowth. Where this has not been possible the natives have been removed to other localities.

The report for the Togo gives an excellent description of the symptoms of sleeping sickness, as also of the methods of examining suspected cases. A list of biting insects found in the colony should prove useful to those interested in the subject.

Tuberculosis and Dysentery.

The report for the West Caroline Islands notes that in some of the islands the population is being rapidly exterminated by tuberculosis and dysentery.

The reports contain a vast amount of useful information. Space has only permitted us to indicate a few of the more important matters dealt with. To colonial surgeons the volume should be most welcome and of great assistance, giving as it does an account of painstaking and persevering work performed by a few devoted medical officers for the benefit of a rarely grateful native population.

[1] *Medizinal-berichte ueber die Deutschen Schutzgebiete, 1909–10.* Published by the Reichs-Kolonialamt. Berlin: Mittler and Sohn. 1911. (Double royal 16mo, pp. 649, 13 illustrations, 45 diagrams, numerous charts and tables. Price M. 10; bound, M. 11.)

THE late Dr. Louis Stromeyer Little left estate of the gross value of £16,434.

THE ORIGIN OF FEEBLE-MINDEDNESS.

A CONFERENCE on the after-care of the feeble-minded was held at Brighton on October 27th under the auspices of the Association for the Feeble-minded, and was well attended by representatives of education committees and boards of guardians from all parts of England, as well as by members of the Brighton Division of the British Medical Association and other medical men. The proceedings included the reading of a statistical review of the Association's work by Sir William Chance, and papers by Dr. Helen Boyle on methods of dealing with feeble-minded cases bordering on lunacy; on Scottish methods of dealing with feeble-mindedness, by Dr. R. D. Clarkson; on American methods, by Dr. Isabelle Thompson Smart; on Egyptian work, by Dr. G. E. Shuttleworth; on the Ursberg Colony in Bavaria; and the Gheel system in Belgium, by Dr. Alice V. Johnson; and on the origin of feeble-mindedness, by Dr. R. J. Ryle.

From Sir William Chance's review it appeared that of the 3,283 pupils discharged from the sixteen special schools for the feeble-minded in England and Wales only 798 were known to be in remunerative employment. and that at most only 27 per cent. could be described as useful members of society. In view of these poor results it was urged that, in the interests of the community, it was high time that the Government undertook legislation on the lines of the recommendations of the Royal Commission for the Control of the Feeble-minded. Dr. Boyle's paper was a record of her experience of girls of unstable nervous temperament who had been under her care, and showed how much they needed protection such as could only be permanently secured for them in an industrial colony. In the paper on American methods it was shown that seven of the States had passed laws against marriage of persons of feeble mentality, while a few had provided for the sterilization of all feeble-minded persons.

The Origin of Feeble-mindedness.

Dr. Ryle's paper took as its starting point the following passage in the report of the Royal Commission on the Care and Control of the Feeble-minded:

> We found it practically impossible, and deemed it undesirable, to exclude from consideration the great mass of evidence which was tendered to us in reference to the conditions and antecedents of mental defect.

Upon one point, Dr. Ryle said, there is at the present time pretty general agreement. No one disputes the principle that the problem as to the origin of feeble-mindedness is the problem as to the origin of certain defective conditions in the brain system of the feeble-minded. In other words we may take it for granted that the brain is a complex organ a group of organs the functional competence of which is necessary to maintain the normal action and reaction which goes on between the organism which has the brain and the world in which it lives. Merely to preserve life there is required much, and to "live" in the higher sense of the word there is required very much of that which is the proper work of the cerebro-spinal system. In respect of anatomical considerations it is sufficient to regard the cortex of the brain as containing centres of projection and centres of association respectively. It is evident that mere destruction of a sense organ, or of a tract of nerve coming in from such an organ, will leave a gap of more or less importance in the receipt of sensations, and that congenital absence or maldevelopment will be the same. On the other hand, it is clear that injury, maldevelopment, or congenital absence of an essential part of an association area will be followed by absence of bridges or irregular and defective correlations of them. In other words, there will be absent, to use an expressive phrase of Lugaro, some elements of the "psychic patrimony" of normal humanity, some degree of feeble-mindedness.

From this standpoint let us consider the feeble-minded. They may be divided into two classes, which are, in general, fairly distinct. We have: (1) Those whose mental condition has been normal, but who have become feeble-minded; (2) those who have never attained the normal standard. Under the first of these classes will come that large population which is cared for in the mental wards of workhouse infirmaries, in the "chronic" wards of asylums, and, in cases where circumstances admit, in the homes of relatives or persons who are deputed to take care of such patients. The class with which we are here concerned is that which includes the feeble-minded in the earlier years of life. They are generally divided into the idiots who cannot take any care of themselves, the imbeciles who can take some care of themselves, but cannot earn a living, and the feeble-minded, who, with help and supervision, may become, at any rate, partly self-supporting. To these, perhaps, a fourth class should be added in whom, together with some intellectual deficiency, there is found pronounced moral defects as the predominant characteristic.

The first question to suggest itself about the feeble-minded, who display, not capacities which have shrunk from more to less, but capacities which have never reached the general level at which their fellows have arrived, is whether they are to be regarded as a class by themselves or not. Is it merely a matter of degree with which we have to do, or is it a difference of kind? Is there one continuous series from the speechless, helpless idiot up to the Shakespeares and Newtons of the race, or are the feeble-minded a really distinct group? There will, no doubt, be cases of difficult classification as there are in other domains of natural history. There will be instances, for example, as to which an experienced teacher or school doctor may hesitate whether to use the word "feeble-minded" or the word "backward," but probably those who know most of the work will subscribe to the view of Dr. Tredgold, who says:

> Amentia is not merely a subtraction in various degrees from the normal. The two conditions do not merge into one another.

The next question is addressed to the pathologist. He tells us of various peculiarities found in the brains of the feeble-minded. He records insufficiency or lack of symmetry in development, absence, or rarity of certain nerve elements, and, what is very remarkable, he notes in many instances evidence of changes of a retrogressive character, showing that, in some cases at any rate, we have to do not merely with a cerebral structure of which the normal development has stopped short, but rather with one in which actual degeneration has occurred, a kind of local premature senility, showing itself in tissues which at that period of life should normally display the appearance of active growth. These remarks as to the peculiarities which are found in the brain system of the feeble-minded apply, of course, most of all to those whose deficiency is most pronounced, and their applicability would no doubt be much less to the cases in which there is found but a slight degree of mental defect. Probably, however, the remark of Dr. Herfort holds good that

> at least as regards the congenital cases, a congenital weak-mindedness with an anatomically intact cerebral cortex does not exist.

Moreover, in this connexion we must remember that the nature of the cerebral abnormality may sometimes lie in the territory of physiological chemistry rather than in that of anatomy. The wonderful results, for example, which follow the administration of thyroid gland in cretinism show that, in some cases at any rate, this is actually so.

When nothing was known of biological heredity or of the part played by the germ cell in biology it was natural to look for an explanation of all peculiarities to the environment. Accordingly we were told that the child must have had a fall. But nothing is more remarkable than the small amount of injury done to the wits of mankind by the falls upon its head which it experiences in early life. Dr. Pott, in his evidence before the Royal Commission, found that if a comparatively small number of cases of gross cerebral injury were put on one side, the origin of feeble-mindedness by falls was practically non-existent, and his conclusion is amply confirmed by that of other observers. Speaking generally, all investigation goes to show that post-natal incidents, whether in the form of traumatism or in the form of shocks, frights, or depressing illness, have little or nothing to do with the origination of feeble-mindedness, provided there be no pre-existing condition of cerebral instability or debility.

So we are forced to go further back. Every human being arises from an ovum, and this ovum in its turn is the resultant of the union of two germ cells, or gametes (to use the convenient modern term) which are male and female respectively. Feeble-mindedness, it is now asserted, if not due to falls on the head is due to the operation of some deleterious agent or poison which has either acted on one of the separate germ cells or else upon the ovum formed by their union.

The poisonous agent to which this effect is most commonly attributed is alcohol, and we find it not infrequently declared that the chief cause of feeble-mindedness is parental inebriety. Now, it is easy to find plenty of instances of feeble-minded children who have drunken parents, and plenty of statistics may be found showing the percentage of such children who have such parents. Such statistics do not prove the truth of the assertion. We require to know how the proportion of sound to feeble-minded children in the families of the drunken parents compare with the proportion of the same in sober families. In Norway, although legislation has enormously reduced the intemperance of the people, the proportion of the feeble-minded is said to remain at the same figure. Inebriety is in many cases itself a symptom, or rather a phase of mental instability, so that if a drunken parent has a feeble-minded child this feeble-mindedness may be owing not to the poison derived from the parental potations, but to the fact that parent and child are of the same stock, and the neuropathic quality of the parent might have shown itself quite as truly in some other way if he had been debarred from drink. The observed feeble-mindedness may be a case of biological heredity, and not a case of toxic action at all. Thus, for example, we find that Dr. Tredgold, after finding a pronounced history of family alcoholism in 46.5 per cent. of some well-studied cases of his own, goes on to say that in five-sixths of these definite neuropathic heredity was present as well. Dr. Shuttleworth comes to a similar conclusion.

The like observations may be made in reference to the alleged harmful result of a supposed toxin upon the germ cell or ovum in the case of tuberculous parents. So many tuberculous parents are known to have perfectly sane children that until we have accurate figures before us we may suspend judgement. We may be more disposed to do so when we remember that there is some reason for the suspicion that constitutional feebleness, or defective resistance or disposition to irregularity of development in various ways, is a rather common feature in the families to which the feeble-minded belong.

There are found in other parts of the organism defects of a similar order, the mode of origin of which may perhaps give us hints to aid us in our present inquiry. Of these abnormalities, some are obvious at the time of birth. Such, for example, are hare-lip and polydactyly, just as some of the grossest cerebral malformations or defects may reveal themselves at once in the newborn. Some are due to an arrest of the normal developmental process, which has stopped before structural completeness was reached. Some are marked by an absence of elements normally present. Albinism is an example of this. Similarly in the cerebral cortex of some of the feeble-minded an absence of certain systems of cells is the key to the defect. In some cases an organ or tissue system is normal at birth, but fails to preserve itself as time goes on. Myopia at the time of birth is not common, and the eye becomes myopic with advancing years.

More remarkable still are the cases of abiotrophy, under which title are grouped together a number of morbid conditions which show themselves for the most part in young life, the essential feature of all of them being a process of spontaneous or apparently causeless degeneration affecting particular cells or colonies of cells in the bulb or spinal cord or muscular system. These cases may be compared with a peculiar form of idiocy which goes by the name of amaurotic family idiocy, in which the child is born sound, and passes rapidly, after a few months of healthy life, into a condition of idiocy and blindness with general wasting and nerve atrophy.

But the cerebral deficiencies of feeble-mindedness are not only comparable with other instances of organic defect in the fact that they are structurally similar in several respects, and that they exist at birth or appear soon after. Certain wider characteristics are common to all these cases. A very striking fact, noteworthy in the feeble-minded as in the cataractous, or the albino, or the subject of the disease called "progressive muscular atrophy," is the occurrence of the defect in more than one member of a family. Another fact which can be asserted of nearly all these cases is that the abnormality is capable of being transmitted by way of biological inheritance—at any rate when the subject of the defect does not die at too early an age, as happens with some of the abiotrophic subjects. And in all alike the abnormality, whether it be one of the grosser deformities such as hare-lip, or whether it be only discoverable by the lapse of time, as in the abiotrophics, or by the test of circumstances, as in rheumatism or tuberculosis, is ineradicable.

Lastly, one other feature is common to all. If transmission by heredity occurs, the character transmitted is very commonly not so much transmitted as represented. In other words, it does not repeat itself exactly. The feeble-minded child may have a father only epileptic and eccentric, and the parent with an extra finger and toe may have a child with only a rudiment of the same deformity.

Now surely a single and all-embracing explanation is wanted for a group of organic peculiarities having so much in common.

If a farmer finds a hornless calf among his cattle or a dog-fancier a peculiarity of coat or ears among his puppies he will perhaps say they are "sports." The biologist will be more likely to call them "variations." Is there any reason why we should not say, with Dr. Bevan Lewis, in his evidence before the Royal Commission, "I regard feeble-mindedness as a germinal variation just as all variations are"?

The Commissioners expressly refrained from committing themselves to anything approaching a theoretical doctrine, though the facts which they found almost put the words into their mouths, and the conclusion to which they came was that feeble-mindedness is usually spontaneous in origin, that it is not due to influences acting on the parent, and that it tends strongly to be inherited. No more and no less could be said of polydactyly, congenital cataract, deaf-mutism, susceptibility to tuberculous infection, and the rest. All alike have arisen exactly as other variations or mutations have arisen in animals and plants. They are germinal variations. If now the question be asked whether anything is gained by including feeble-mindedness in a group which contains these other variations the answer must be that much is gained. It is a gain for the understanding of any biological problem to lift facts which have been unique out of their isolation, and to place them in series with others already more familiar. And at the present time it is particularly important that the well-known facts of feeble-mindedness should be felt to belong to a series which has already received much fruitful study, and will assuredly receive more.

Two important schools of biological study associated respectively with the names of Galton and of Mendel are engaged on problems the solutions of which bear directly upon the questions you are met to consider, and the teaching of the students of each of these schools is to the same effect. Nature as the producer is indifferent to quality in her productions. Whether the germinal variation be expressed by cleft palate, cataract, or cerebral deficiency of the pyramidal cells in the brain cortex, they may be produced, and, when once produced, they are reproduced as readily as the perfected structure of the face or eye or brain, if the gametes which contains these potentialities unite to form the ovum. But Nature is not only the producer. Given a fair field and no favour, natural selection would leave no problem of the unfit to perplex the mind of man who looks before and after. This we know cannot be, and we know, too, that we have no longer the excuse of ignorance to cover the neglect of the new duties which belong to the present epoch of civilization. We know now that we have to deal with a growing group in our community who demand permanent care and control as well for their own sakes as for the welfare of the community. All are now agreed on the general principle of segregation, but it is true that something more than this should be forthcoming. The difficulties of theory are clearing up as our wider view obtains a firmer grasp of our material, but the difficulties of practice are still before us.

Here comes in the need for such an Association as yours. You will compare the experience of those who have already had to deal with the difficulties of selection and of segregation in other countries, and the discussion of their methods will contribute to the production of humane and wise measures for the near future.

The conference ended in the adoption, after considerable discussion and the moving of sundry amendments, of the following resolution:

> This conference emphatically expresses its belief that the time has arrived when the Government should pass a bill making permanent segregation of the feeble-minded compulsory, and urges the immediate preparation and passage of such a measure.

LITERARY NOTES.

DR. HENRY BARNES (Carlisle) writes: The perusal of your interesting annotation on "A Pioneer of the Open-Air Treatment" reminds me that I bought a second edition of Dr. Henry MacCormac's work soon after its publication in 1865. It is dedicated to his son, afterwards Sir William MacCormac, and its title is, *Consumption as Engendered by Rebreathed Air and Consequent Arrest of the Unconsumed Carbonaceous Waste, its Prevention and Possible Cure*. In the preface he states that the volume has been revised, "while eight several memorials addressed to as many societies are subjoined." He adds:

> If I had a stentor's voice, an angel's pen, I should employ them to enlarge on views which, with my firmest convictions, I believe to embody the safety and material healing of our kind.

His first paper on this subject before an English medical society I find was read before the Edinburgh Medico-Chirurgical Society on May 20th, 1856, but before that he had contributed "A Letter to the Members of the Imperial Academy of Medicine," which was published in *L'Union Médicale*, 15 Mai, and *Gazette des Hôpitaux*, 20 Mai, 1855. The paper to the London Medico-Chirurgical Society was read on April 23rd, 1861, and he read another paper on the same subject to the Medical Society of London on October 27th, 1862. The other papers included in the volume are as follows: "Address to the Medical and Pathological Society of Ulster," July 5th, 1861; "On Tubercle and its Genesis," read before the Dublin College of Physicians, May 21st, 1862; "On Certain Vital and Hitherto Undetected Relations Between the Living Organism and the Outer Atmosphere," read before the Surgical Society of Ireland, April 13th, 1864; and "Fifty Aphorisms in Respect to Tissue Metamorphosis, as Illustrating the Production of Tubercle," read before the Glasgow Medical Society, March 1st, 1864. His views were thus brought before the notice of his profession in the principal cities of the empire, as also in France, but even in his own household they did not meet with ready acceptance, as the following anecdote will show. Shortly after purchasing my copy of Dr. MacCormac's book I met a friend who had studied in the Belfast Hospital under this distinguished physician, and I inquired what was thought of him in his own country. My friend replied in the following terms, which I copied on the flyleaf of the book which I had just read:

> He is quite a character—an old moping philosopher dreaming constantly of German brethren, and preaching to all young ladies about keeping open their bedroom windows. A night or two since at one time, knowing the doctor's hobby about open windows, rapped loudly at the door. The old doctor popped out his head, and got quite alarmed at seeing the "Bobby." Supposing there was a fire in the house, or a burglar, "What is it?" says the doctor, in an awful funk. "Yer honour," quoth the Bobby, "Miss Jane's bedroom windy is shut!" The doctor thanked him, and praised the Bobby's sound notions of fresh air.

Mr. William R. Reinick, chief of the department of public documents, Free Library of Philadelphia, is preparing a paper upon books as a source of disease, to be read before the next International Congress of Hygiene. He is anxious to get authentic accounts of any cases of disease the source of which has been traced to books or papers, or where there seems to be clear evidence that they have been the means of transmission. He would also be grateful for information as to cases in which illness or death has been caused by the paper used in book-making. His object is to collect the scattered evidence in order to show that there is real danger in books, and, consequently, that greater care in a hygienic sense should be taken of libraries and books.

J. F. Lehmann, of Munich, announces the publication of two important works on the development and structure of the brain. One, entitled *From the Animal to the Human Brain*, by Drs. Ch. Jakob and Cl. Onelly, embodies the results of comparative studies—morphological, histological, and biological—on the development of the hemispheres of the brain and cortex; the other by Dr. Jakob, entitled *The Human Brain*, describes the structure of the human brain and the significance of the grey matter and cortex. Both works are magnificently illustrated.

We have received a copy of the first part of the first volume of the *Proceedings of the Prehistoric Society of East Anglia* for 1908–9 and 1909–10 (published by H. K. Lewis), which besides a presidential address by Dr. Allen Sturge, who was President of the Society during the two years under review, contains an elaborate illustrated paper by him on the Chronology of the Stone Age. He holds that since neolithic man came to Britain there has been an Ice Age, not continuous, but divided up into subperiods of glaciation separated from one another by periods during which ice was absent. This alternation, he says, recurred at least five, probably six times. The proof of such alternation, he says, lies in the presence on the same areas of humanly-worked flints with their humanly-made surfaces presenting sharply defined types of scratches. Each type of scratching is associated with its special type of patination, its special types of injury to the *arêtes*, its special degrees of iron-moulding, and, to a certain extent, its special type of implement. Dr. Sturge claims to have proved on irrefragable evidence that the neolithic period lasted well over 200,000 years, and he thinks it probable that its duration was nearer 300,000 years. Yet, says he, in the last few score thousand years the changes and improvements in the types and makes of the implements were surprisingly small. He goes on to say:

> And the further back we go in point of time and of degree of civilization the slower will have been the rate of progress. When a pointed or ovate implement of Drift type marked the highest plane that had been attained in the history of the race, improvements must perforce have come very slowly—so slowly that the human brain of the present day can scarcely form a conception of the rate of change. The highest anthropoid apes are doubtless doing to-day what their ancestors of the hundredth thousandth generation were doing. And with man at the early stage of culture indicated by "Drift" implements the case would be but slightly different. . . . I even go so far as to say that one great difficulty in my estimation of the "Drift" Age is to reconcile the vast periods involved with the comparatively short period of 300,000 years between the beginning of the penultimate Ice Age a million years ago and its ending 700,000 years ago. I have little doubt that further investigation will show that the Drift Age really goes back almost indefinitely before that time.

Mr. J. Reid Moir looks backward still further. He describes definitely well-worked flints, which he says are far in advance of the Kentian eoliths, and which, from the stratigraphical position below crag in which they were found, prove that since their makers lived the following beds have been laid down—namely, the Newbournian Crag, the Butleyan Crag, the Norwich Crag, the Chillesford Crag and Sand, and Weybournian Crag, the Cromer Beds, and the Glacial Series. This, he says, gives man an antiquity in these islands never before recognized, and if further investigations prove the occurrence of these pre-palaeoliths at the basement bed of all the crags, this antiquity is infinitely greater still, and even then we have not got back to the dawn of human intention, as the eoliths still remain to be accounted for. One feels stupefied at the thought of the period of human existence on this planet opened up by these researches, as Pascal was frightened by the silence of the infinite space of the heavens. And if we push the inquiry back to the ancestry of man, we have to stretch into countless aeons the "centuries" of the lines of Mortimer Collins:

> There was an ape in the days that were earlier,
> Centuries passed and his hair it grew curlier;
> Centuries more gave a thumb to his fist;
> Then he was man and a Positivist.

British Medical Journal.

SATURDAY, DECEMBER 2ND, 1911.

THE REPRESENTATIVE MEETING AND THE INSURANCE BILL.

THE newspapers of Thursday, November 30th, were again filled with the familiar announcement, "the doctors satisfied." In case any readers of the BRITISH MEDICAL JOURNAL should have been unduly elated by this announcement, or unduly depressed by perusal of the details which followed as to the Government amendments which were supposed to have satisfied the profession, it is perhaps well to say at once that, of course, the profession is not "satisfied" by such amendments, and that no "settlement" has been arrived at.

The question, then, arises, Where do we stand, and what are the prospects at the present time? The Special Representative Meeting held in London at the end of last week had before it the Insurance Bill as amended in Committee of the House of Commons, and a report by the Council of the Association in which was indicated, first, the extent to which, in the judgement of the Council, the bill as amended could be regarded as satisfying the demands of the profession; secondly, what amendments ought to be pressed for at the Report stage; and, thirdly, what should be the future attitude of the profession towards the bill as a whole. The conclusions of the Representative Meeting upon these subjects were published in the SUPPLEMENT of the JOURNAL of Saturday last. The resolutions fall naturally into three groups—first, instructions to the Council to press for further amendments of the bill; secondly, a declaration as to the attitude which, in the opinion of the Association, the profession should adopt with regard to the bill as a whole; and, thirdly, decisions as to the action which the Association should take to enable the profession to maintain the position thus taken up.

Although in the Report of Council previously circulated to the Divisions and discussed by the Representative Meeting the question of amendments was placed first, the meeting preferred to begin by considering the position as a whole. The question here before the meeting was essentially one of tactics. There was no sign of wavering or hesitation in adhering to the fixed policy laid down by the Special Representative Meeting which was held immediately after the introduction of the bill—the policy summarized by that meeting in the well-known six principles. The marked divergencies of opinion which were manifested at the commencement of the meeting of last week related solely to the question of what action the profession could most effectively take at the present juncture in furtherance of its fixed determination to enforce all the six points. Some were of opinion—regard being had to the inadequacy, in their judgement, of the results obtained by negotiations with the Chancellor of the Exchequer before and during the Committee stage—that further negotiations would be futile, that all attempt at negotiation should at once be broken off, and that the Representative Meeting should, on behalf of the Association, declare at once the intention of the Association and the profession to refuse to work under the bill upon any terms. Others were of opinion that the Association should demand that all the six principles should be specifically provided for and secured in the terms of the bill itself, and that the Association and profession should declare their determination not to work under the bill unless this were secured.

The third course proposed was that the Association should continue its efforts to obtain such amendments in the bill as would improve the position of the profession under the bill, and that, in the meantime, it should reaffirm its determination to adhere to the six cardinal principles of its policy as already declared, and advise the profession not to accept any terms of employment under the bill which were not entirely in accordance with those principles. After long and anxious debate, in the course of which every aspect of the matter was brought forward, the meeting rejected in succession the first and second of the courses above mentioned, and decided definitely in favour of the third. The argument which prevailed as regards the first course was that it could serve no useful purpose. No one suggested that there was any prospect of the bill being withdrawn, and it was pointed out that if it were carried into law the profession would still continue to hold in its hands the power to declare its refusal to work under the bill. That being so, no useful purpose could be served by making such a pronouncement now, and it would be unwise to do it prematurely.

Concerning the proposal to insist that the six points should be specifically provided in the bill, it was pointed out that to include two of them, namely, the method and the amount of remuneration, would involve a reversal of the policy the Association had followed throughout with regard to these matters. In view of the division of opinion in the profession it had not been thought right to have either the payment per attendance method or the capitation payment method imposed by statute uniformly upon every district in the country; and, as regards the amount of remuneration, to seek to have it fixed in the bill was to ask the House of Commons to decide what the remuneration of the profession should be, and to deprive the profession itself of its power of free collective bargaining. The meeting therefore adopted the following resolution: "That the Representative Body declare the determination of the Association to insist upon the arrangements made with medical practitioners for giving attendance and treatment to insured persons being consistent with the six cardinal principles formulated and approved by the Representative Meeting of June 1st, 1911, and confirmed by the Representative Meeting, Birmingham, in July, 1911." Instructions were given that a copy of this resolution should be sent forthwith to the Chancellor of the Exchequer and the Press, and to each member of Parliament through both the Head Office and the Honorary Secretaries of Divisions.

The meeting next considered the action necessary to make the above resolutions effective, and for this purpose announced in the following terms its determination to strike if necessary: "That in the event of the Insurance Bill becoming law, the British Medical Association use every possible means to ensure that no medical practitioner undertake the medical attendance and treatment of insured persons under arrangements that are not absolutely in accordance with the six cardinal

principles of the policy of the Association." This resolution is to be read in the light of a subsequent resolution adopted on the motion of the Croydon Division: "That in order to prevent sectional defeats of the profession through terms having to be arranged locally between local Insurance Committees and the profession, the Council be instructed to take such steps as are necessary with a view to securing: (*a*) That the local Medical Committees throughout the country be kept in touch with one another through the central office of the Association; and (*b*) that no arrangements for attendance on insured persons be completed anywhere until the Association is assured by reports from the local Medical Committees that terms in conformity with the policy of the Association in detail have been agreed upon everywhere."

It may be observed in passing that these two resolutions when read together serve to dispose of the fear expressed by many members of the Association that if certain matters were not fixed finally in the bill, and the profession had to fight for terms after it became law, their union might be broken up in local and sectional struggles. The Representative Body has decided that the profession shall, so far as the influence of the Association can bring about this result, stand together as one throughout the country until such terms are conceded everywhere as satisfy the cardinal principles of the policy already laid down, and if these be not secured shall refuse to work under the bill.

Concerning the use of the strike weapon, a question arose as to whether it should apply to administrative positions under the bill. A motion was made by the Representative of the Cardiff Division (Dr. Crawford Treasure) and seconded by the Chairman of the State Sickness Insurance Committee (Dr. E. J. Maclean) to the effect that no member of the British Medical Association should accept office, paid or otherwise, as a Commissioner, or as a member of the Advisory or local Insurance Committees, or as a medical officer under the Act, without the permission of the Association. The proposal was received at first with a good deal of favour; but, after discussion, it became plain that such a general resolution was a two-edged weapon, which might be turned against the profession. An amendment to substitute the words "member of the medical profession" for the words "member of the British Medical Association" was withdrawn, in view of the fact that in such a matter the Association could at the most only control its own members, and any member who desired to act disloyally had merely to resign before accepting an appointment. Further, it became apparent that as an instrument for enforcing the demand of the profession the motion before the meeting was not comparable with the decision to refuse to undertake the treatment of patients, the numbers required for the purpose being so small that the authorities would probably have little difficulty in finding all the persons they wanted if necessary from the ranks of those who were out of sympathy with the general policy of the profession. It was also pointed out that if the resolution were carried it would follow that the drafting of the regulations might be thrown into the hands of "blacklegs," or, at all events, of non-members of the Association, a result which would be a serious reflection on the business capacity of the Representative Body, since it could not be satisfactory to the profession that the medical members of the administrative bodies to be constituted under the bill should be antagonistic to the profession. After the mover of the motion had stated that he was satisfied to have ventilated the proposal, he withdrew it with the consent of the meeting, which was given *nemine contradicente*.

Careful consideration was given to the further amendments which the Association should seek to obtain in the bill. These will all be found set forth in the Memorandum published on page 546 of the SUPPLEMENT, sent to the Chancellor for the purpose of conveying to him the decisions of the meeting. This Memorandum will be seen to contain also a declaration of the determination of the profession to adhere to its six cardinal principles, and a definite warning that in the opinion of the Representative Body the amount of 6s. per head assumed in the actuarial calculations must prove inadequate to meet the cost of provision of medical benefit.

The medical profession is left by the bill to make its own arrangements for electing a local Medical Committee, but where such a committee has been elected it must be consulted by the local Insurance Committee on all general questions affecting the administration of medical benefit, and in particular with regard to arrangements made with medical practitioners for giving attendance and treatment to insured persons. The wishes of the profession will be expressed by this committee, which will be elected by representatives of the profession in the area, and the medical members of the Local Insurance Committee will form a connecting link, and will no doubt speak in the county or county borough committee as the direct mouthpiece of the county Medical Committee.

The Government has at once accepted the recommendations of the meeting with regard to the necessity for appointing medical members of the Welsh, Scottish, and Irish Boards of Commissioners, and has done something to meet the objection that the recent increase in the minimum number of the local Insurance Committees has unduly lowered the proportion of medical members by providing that the county or county borough council shall appoint one medical member of the total membership of the committee if the minimum be forty, two medical members if the committee numbers sixty, and three medical members if it numbers eighty. Thus there will be at least four medical members in a committee of forty, at least five in a committee of sixty, and at least six in a committee of eighty.

We publish in the SUPPLEMENT, page 547, a letter addressed to the Chairman of the Irish Nationalist Party, who are the only stumbling-block in the way of the extension to Ireland of medical benefits on the same terms as in England, as desired almost unanimously by the Irish medical profession. The Chancellor, however, has accepted the alternative proposal put forward by the Representative Meeting—namely, that if medical benefit be given in Ireland by the friendly societies as an additional benefit, it must be given in accordance with the provisions that apply to England, unless otherwise directed by the Irish Insurance Commissioners. An explanation of other amendments, which, since they stand in the name of the Chancellor of the Exchequer, will doubtless be embodied in the bill, will be found in the summary of the alterations in the bill published at page 549 of the SUPPLEMENT.

Perhaps the most striking feature to a spectator of the meeting was the way its proceedings gradually but certainly led up to the final declaration expressing the intention of the Association, should the bill become law, to ensure that no medical practitioner undertook medical treatment and attendance under arrangements not absolutely in accordance with the six cardinal

principles of the policy of the Association. The meeting obviously became convinced that this course was not only more politic, but in fact denoted an even greater determination to obtain the six principles than would have been shown by the adoption of the policy, advocated at many meetings in various parts of the country immediately before the Representative Meeting, of giving up the fight at once if everything could not be immediately obtained in the bill. On this resolution there was enthusiastic unanimity, and the most cordial appreciation was expressed from almost every quarter of the work done by the State Sickness Insurance Committee and its executive sub-committee. On the motion to accord a vote of thanks to Dr. Maclean, as Chairman of the State Sickness Insurance Committee, the meeting rose to its feet and gave him a most enthusiastic reception.

A BIOLOGICAL VIEW OF THE CANCER CELL.

AT the present time, when the nature and cause of so many diseases have been thoroughly elucidated, the etiology of cancer continues to baffle investigation, and remains enveloped in a veil of mystery. Many efforts have been made to trace the disease to extrinsic causes—that is to say, to the action of an invading organism or parasite of some kind—and a vast amount of energy has been expended by a great number of earnest investigators in laborious efforts to discover the supposed cancer parasite, to determine its affinities and position in the system of Nature, and to trace its life-history in detail. In recent times, however, the parasitic theory of cancer, though far from extinct, has fallen into general disrepute. In two lectures recently delivered before the Royal College of Surgeons, Sir Henry Butlin has put forward and elaborated a theory of a totally different kind, based on the view now more generally prevalent, that the origin of cancer is to be referred to intrinsic causes, to vital processes taking place within the body itself, and not to an intrusion of extraneous organisms of any kind.

The standpoint from which Sir Henry Butlin approaches the problem rests on a conception of the animal body which, though not accepted universally, is certainly the prevailing view among zoologists. According to this conception, the body of a higher animal or of man is built up of a vast number of cells, and each cell is to be regarded as a vital unit—that is to say, as an individuality primitively independent and complete in itself—equivalent to an entire individual amongst the protozoa and other unicellular organisms. Throughout the animal kingdom the cell may be regarded as the unit of vital and physiological individuality. A protozoon is a single such unit living freely. A metazoon is a system of such units combined together to constitute as it were a cell-commonwealth, a corporate unity in which the interests of the community as a whole impose a certain restraint upon the individuality of the constituent cells.

In protozoa and metazoa alike, the life-cycle begins with a single cell, the zygote or fertilized ovum, which multiplies by repeated cell-division. In protozoa generally the cells thus produced separate from one another and live as complete and independent organisms; in the metazoa, on the other hand, the descendants of the zygote remain in union and build up a complex organism. At first the cells of the metazoan embryo are similar in nature and potentialities to the zygote itself; a certain number of them remain so, and become the future germ-cells, but the greater number become differentiated in various ways in relation to the performance of special functions. Thus the metazoan body becomes built up of two principal types of cells: first, the tissue-cells, which do the work of the organism, and which, as the result of the specialization they have undergone, can reproduce only their like again; secondly, the germ-cells, which are not specialized and do not work for the organism itself, but draw their nourishment from it and are set apart for the purposes of reproducing the organism as a whole. What the bond of union between the tissue cells may be which causes each cell to work for the whole organism instead of for itself alone, like a protozoon, we do not know, any more than we can understand why a worker bee should make honey for the hive instead of for itself.

In such a system it is quite conceivable that one or more cells of any class might cease to work harmoniously with their fellows of the cell-community, reverting, so to speak, to the primitive, non-social instincts of their protozoan ancestors. Were this to happen, a serious state of things would result for the organism—an anarchical condition in which a number of cells cease to co-operate with others of the body, but feed and live for themselves alone, like drones destroying the honey in the hive, but with the important difference that, whereas drones by themselves are sterile, the cells in question would be capable of indefinite multiplication by the ordinary process of cell-division. Then one of two things might happen: The revolted cells might be killed off and extirpated by their fellows and the anarchy might be subdued at the start; or, on the other hand, the mutineers might hold their own, absorb nourishment, grow, multiply to an enormous extent, and finally spread into other parts of the body by way of the blood or lymph channels, establishing themselves and multiplying wherever conditions were favourable.

Such is, in its general outlines, the theory advocated by Sir Henry Butlin in his lectures. The anarchists in the cell-community are the cancer cells; the primary tumour represents the spot where the revolt first broke out and held its own; and the metastases are the places where the mutineers have established colonies. The cancer parasite is, in short, the cancer cell, which represents primarily a normal cell of the body, specialized for some particular function, and consequently reproducing its like, "breeding true." It is a cell which has reverted more or less to the nature and condition of the protozoa, and has become in its relations to the body the equivalent of an intruding protozoan parasite. It would, therefore, be studied in the same way and by the same methods as any other protozoan parasite, and must be judged by the same standards, as if it were an entirely independent organism, which, however, has not intruded from without, but has been generated within the body.

Whether it is necessary or useful to push this analogy further, as Sir Henry Butlin has done, and to apply the Linnean system of binomial nomenclature to the varieties of the cancer cell, as if they constituted a natural genus with several species newly "created," is open to question. But every one will admit that he has done a great service both to science and medicine in drawing attention to an important conception of the cancer problem and the consequences that follow from it. How far such an interpretation is the true one must be left to the future to determine; the tree that has been planted must be judged by the fruit it bears.

THE NIGHTINGALE MEMORIAL.

IN the JOURNAL of November 18th (p. 1374) we gave an account of the proposed memorial to Florence Nightingale. We took occasion to express regret that a large sum of money should be applied to the erection of a statue which would probably be unsightly, and would certainly be useless, and it was suggested that it would be better if the whole of the money collected were applied to the provision of a fund for nurses disabled by illness or old age. Dr. Ogier Ward has written to remind us that a Trained Nurses' Annuity Fund, of which he is the Honorary Secretary, has been in existence for several years. Of this fund H.R.H. the Princess Christian is President, and among the Patronesses are H.R.H. the Duchess of Albany, H.R.H. the Grand Duchess of Mecklenburg-Strelitz, the Duchess of Westminster, and many other leaders of society. Among the patrons are the Archbishop of York, the Bishop of London, Sir Thomas Barlow, Sir Frederick Treves, Sir Victor Horsley, and other eminent members of the medical profession. The society grants annuities to disabled trained nurses. The salient features of the fund, as set forth in the Report of the Council for 1910, are as follows: No money is spent for advertisements, salaries, or offices. No preference is given to any candidate, election being by the Council, who are guided solely by the merits of the cases, without regard to priority of application. All money received is invested, and only so many annuities are granted as can be paid out of the interest. The chief qualification for a grant is urgent need and trustworthy evidence that no other help is available. The fund was founded in 1874, and is the only attempt to provide for needy and disabled nurses. The National Pension Fund offers a means of insurance to nurses, but it is of a contributory character; to those who are unable to subscribe there is not, as far as we are aware, any other provision against old age or disablement than the Trained Nurses' Annuity Fund. The object of this fund is to give broken-down trained nurses who have reached the age of 50, and who have served three years in a hospital or nursing institution and fifteen years in general nursing, a pension of £17 a year which those who administer the fund would gladly increase. But, according to the latest report the invested money amounts to rather less than £8,000 and the income to something less than £284. There is no class of the community which renders greater and more devoted service than the trained nurses and no class which, taking into account the training, the special skill, and the personal qualities required, works for a scantier wage. At present most of them have no future prospect before them in their declining years but the old age pension, but the mortality among nurses is exceptionally high and comparatively few can hope to attain the age when they can receive the Government dole. The case of the prematurely disabled nurse is a hard one. We can only repeat with great emphasis our conviction that the memory of Florence Nightingale would be more fitly honoured by the application of the funds now being collected for a statue to the Trained Nurses' Annuity Fund. We therefore suggest that Lord Pembroke and his committee should, before proceeding further with their scheme, communicate with the Honorary Secretary of that Fund at 73, Cheapside, E.C.

POST OFFICE MEDICAL CHARGES.

A RETURN has been presented to the House of Commons by the Postmaster-General showing the remuneration paid during the year 1910 to the medical officers in certain districts for attendance on certain classes of Post Office officials and for official examinations. It is noted that the Post Office staff in the Eastern Central district of London and those of the clerical staff in the head quarters offices and of the savings bank who are entitled to free medical attendance are under the care of the Chief Medical Officer and his professional staff, who are salaried officers on the permanent staff; their salaries amount to £3,849, while the amount expended during 1910 for drugs and surgical appliances was £928. As it would be difficult to estimate what proportion of these two sums is chargeable to the several classes of officers in the various departments, the head quarters medical staff have not been included in the return. "Except as regards the medical staff at head quarters, payment is made to medical officers for attendance on Post Office servants by means of a capitation allowance of 8s. 6d. per annum, which includes provision of drugs by the medical officer. The fee paid for the examination of new entrants is 10s. per head, and in the case of other examinations the fee, when payable, varies according to the nature of the examination." In each district for which a return is given the payments for attendance and examinations are given separately for postmen, permanent and auxiliary, sorting and counter clerks and telegraphists (male and female), boy messengers, clerical staff, telephone employees, etc. In the London postal area, excluding, as above stated, the head quarters staff, the total amount paid was £7,458, of which £301 was "additional fees to district medical officers in London for attendance on persons not on their capitation lists," £589 for official examinations, and the remainder for ordinary medical attendance. Figures are given for fifteen large towns and four county areas. In Glasgow the total payments were £1,220, of which £1,157 was for attendance and £63 for examinations. In Bristol, out of a total of £458, £440 was for attendance and £18 for examinations. In Liverpool the total was £1,196, of which £1,148 was for attendance and £48 for examinations. In Manchester the total was £1,291, of which £1,249 was for attendance and £42 for examinations. Leeds had a total of £474, of which £453 was for attendance and £21 for examinations. In most instances the examination fees were principally for assistant and auxiliary postmen and boy messengers. For example, out of the total examination fees of £589 in the London area, £360 was for examinations of boy messengers, and £206 for examination of assistant and auxiliary postmen. These sums paid for entrance examinations show that the persons who have to be attended at a capitation rate of 8s. 6d. are carefully selected lives, and they are, of course, all comparatively young lives on admission. Comparing the Post Office servants with persons who will receive medical benefit under the National Insurance Bill, it is to be noted that age alone up to 65 is to be no bar to admission to an approved society. Moreover, persons between 65 and 70 at the commencement of the Act, provided that they are employed persons, will be admissible, and at the option of their society may become eligible for medical benefit. Again, existing members of friendly societies will continue to be members under the bill and have a right to medical benefit, even though they may have only precarious health, provided that they are employed persons at the commencement of the Act. Thus, taking no account at present of deposit contributors, but only of members of approved societies, it would seem that the average age will be higher and the average health standard lower than in the case of the servants of the Post Office, for whom a capitation fee of 8s. 6d., covering both medical attendance and medicines, is now paid. The inference from this ought to be obvious.

MEDICAL EXAMINATION FOR COMPENSATION.

THE decision of the House of Lords in the appeal of a workman from the Scottish courts, reported elsewhere in this issue, is a matter of interest to medical men, though its importance is not so great as might at first sight appear. The applicant was a workman who refused to be examined by the employers' medical man unless his own medical man was present. The respondents (the employers) declined

to accept this condition, and the Sheriff-Substitute, who first heard the case, upheld the employers, but stated two questions for the consideration of the higher court. These were whether apart from special circumstances in a particular case a workman was entitled to have his own doctor present, and whether his refusal, failing the acceptance of this condition by the employers, amounts to a refusal or obstruction within the meaning of the Act. The Court of Sessions upheld the Sheriff-Substitute and the result of the appeal to the House of Lords is similar. The Lord Chancellor's decision, in which Lords Atkinson and Gorell concurred, seems to have been wholly determined by the opinion that the matter was not one of law but of fact. Both sides were bound to act reasonably in obeying the statute; the question the Sheriff-Substitute ought to have asked himself was whether the demand was or was not a reasonable condition in the circumstances; the question he actually asked himself was whether there was a right in law independent of circumstances. The appeal was dismissed because the majority of the law lords could not find that the Act gave such a right. The decision should not be extended to mean more than it actually says, which is that it is for the arbiter, county court judge, or sheriff as the case may be, to decide as a matter of fact whether an application from a workman that his own medical attendant should be present when he is medically examined by the employer's medical man is reasonable or unreasonable. Lord Shaw, who dissented, considered that there was nothing unreasonable in the workman's request, and the Lord Chancellor was clearly of the same opinion, for he said that "in most cases, perhaps in nearly every case, it is quite reasonable to desire the presence of his own doctor. . . . I can see that he might be very useful." Lord Shaw thought that as the Sheriff-Substitute had not found that the request was unreasonable in the circumstances of the case, there was a sort of inherent or common right in the workman to have his own doctor present. The majority seemed to have held the converse of this: that there was no statutory or inherent common right, and that it was for the arbiter to decide as a matter of fact whether the claim was reasonable in any particular case. The decision is clearly one for the medical profession to bear in mind, because it is usually desirable that the workman's own doctor and the medical man selected by the employers to make the examination on their behalf should meet, at any rate when the workman so desires, and we had supposed that this was the rule. We are informed that in Scotland, at any rate, this plan is almost universally followed.

THE TEN GREATEST MEN LIVING.

THE *Strand Magazine*, in its Christmas number, has propounded an interesting riddle to its readers. Who, it asks, are the ten greatest men now alive? To answer this question one would require to have a definition of greatness. When an actor in ancient Greece, in delivering a passage about a great man, emphasized it by a gesture, the whole audience called out, "You are making him a big, not a great, man." If this actor's standard were adopted teachers of physical culture, whose goodly proportions are shown in all the newspapers, would be among the greatest of men. The *Strand* does, indeed, give a definition that might include them when it says: "The term 'greatness' implies a certain rare quality which lifts a man on a pedestal and sets him above and apart from the rest of mankind." In the light of this rather comprehensive definition, our contemporary has induced no less a person than the Speaker of the House of Commons to compile a list of eighteen names which other men of note have changed by reduction and substitution as their judgement has led them. We are pleased—though, we must admit, somewhat surprised—that Mr. Lowther heads his list with two men whose names are renowned in medical science—Lord Lister and Professor Metchnikoff. Professor Haeckel has also a place therein. Sir Frederick Milner also includes Lord Lister. Among the ten men whom he thinks the greatest now living, M. Paul Deschanel, President of the French Senate, has Ehrlich, but neither Lister nor Metchnikoff—a fact which tempts one to quote Swift's lines, with an application to "606":

> He left the little wealth he had
> To build a house for fools and man;
> *Thus showed by one satiric touch*
> *No nation wanted it so much.*

Sir Charles Cameron, while admitting Lister and Metchnikoff, adds Ehrlich, "the discoverer of antidiphtheritic serum." Thus is even contemporary history written! In Mr. Harold Begbie's list we find Lord Lister, but then there is also Mr. Lloyd George, which might make many doubt the value to be attached to his judgement. Mr. Will Crooks, M.P., finds places both for Lister and Metchnikoff. Sir Harry Johnston excludes both from his Valhalla; on the other hand, he has a niche for "Sir *Donald* Ross." We would fain hope that this is a misprint, but it is twice repeated. Sir Harry, taking it for granted that the editor of the *Strand* does not know who this particular Olympian is, kindly explains that he is "the real tracker-down of the malarial germ and its transmitting agency." He adds, by way of contrast, that the name of Joseph Chamberlain is writ in water. Sir William Bull, M.P., and Mr. Clement Shorter include Lister and Metchnikoff. Summing up the results of the inquiry, the *Strand* gives the following as the final list of the ten greatest men of the day in the order of the number of votes; Edison, Kipling, Roosevelt, Marconi, Lister, Chamberlain, Roberts, William II, Metchnikoff. "For the last place," it is said, "it is an open question, as certain of the replies are a little vague, whether it would be held by Rosebery, Togo, or Kitchener." The list on the whole is not so foolish as might have been expected in a country where, on the occasion of the conferment of a peerage on Lord Lister, people who in the catalogue would pass for "educated" asked who he was. When Napoleon was told of any one, his question always was, "*Qu'est ce qu'il a fait?*" In the case of Lister the answer would have satisfied the man who held Edward Jenner in such high esteem. He would have honoured the man who transformed surgery, which before him was little better than a rude art, into an exact science, and thereby saved innumerable lives and spared men and women an incalculable amount of suffering. Of several of those who are placed by his side among the elect, it might be said with truth that their greatness was more in the noise they have made than in any good they have done.

MEAT POISONING.

A REPORT on the recent extensive outbreak of meat poisoning at Chesterfield, comprising a thoroughly careful investigation of all the circumstances by Dr. Peck, together with a detailed bacteriological report by Dr. Thomson, Assistant County Medical Officer for Derbyshire, has recently been issued. The epidemic was a more than usually extensive one. It affected 168 persons, but happily there was only one fatal case, that of a boy. The prompt investigation instituted by Dr. Peck soon traced the outbreak to some pork pies, prepared and sold in a local shop with numerous branches. This particular batch of pies had been distributed amongst the various branches and part had also been consigned to private dealers, so that the cases were scattered over a considerable area. The symptoms, which were gradual in onset, were mainly gastro-intestinal, accompanied by nausea, tremors and rise of temperature. In an interesting chart it is shown that the rapidity of onset increased with the time elapsing since the pies were baked. Apparently no illness occurred amongst those individuals who partook of the pies on the day on which they were baked. The nature of the symptoms and the character of their onset afforded strong presumpti

evidence that the causal agent of the outbreak was some micro-organism of enteric origin; and this supposition was fully borne out by the result of Dr. Thomson's examination. A bacillus of the Gaertner type was isolated from a portion of pie, and was shown to be virulent by experiments on mice and guinea-pigs. A similar organism was recovered from the spleen of the fatal case, and was found to be identical with the first in its cultural and agglutinative properties. The organism was eventually diagnosed as *B. suipestifer*, and its connexion with the epidemic could not be doubted. After weighing all the facts Dr. Peck comes to the conclusion that the immediate cause of the outbreak is to be found in the method of cooling the gravy. Prepared some time before the pies were made, it was set out to cool in a through passage, where it was readily open to contamination. This outbreak, by reason of its extent and severity, must serve to redirect attention to the subject of food poisoning and to methods for preventing its occurrence. In this connexion reference should be made to an interesting series of three articles by Professor McWeeney on the subject which appeared in the *Journal of Meat and Milk Hygiene*. In his usual lucid and illustrative fashion he has put together the chief facts of the matter, and has added from his personal experience many suggestions which will be found of use. He divides the cases into the three generally accepted groups, namely: (1) Those associated with bacteria of the *B. enteritidis* type; (2) those due to the products of putrefaction; and (3) those caused by anaërobic bacilli, such as *B. botulinus*. He gives emphatic expression to the opinion that we should not rest content with the rough and ready methods of meat inspection generally practised in this country, but that we should endeavour to employ the most delicate tests and reactions wherever available. To this end he strongly advocates the establishment of a central Government institute for the preparation of standard agglutinating serums, and other reagents employed in the detection and differentiation of organisms concerned with meat poisoning. He adds a plea for the abolition of private slaughter-houses with which an unduly high proportion of poisoning outbreaks are associated. These cases generally have their origin in some diseased meat, which would have been condemned under a more stringent system. He quotes statistics, from Schneidemühl, of 31 large outbreaks of meat poisoning between 1868 and 1903, showing that the meat of cows was incriminated in 11 cases, of calves in 15, of oxen in 3, and of pigs and horses in 2 each, and he adds that instances of pork poisoning have been more frequent of late. He concludes by giving a very useful list, with references, of the most important recent cases due to organisms of the enteritis group.

LEGISLATION FOR THE FEEBLE-MINDED.

The National Association for the Feeble-Minded, in connexion with the Eugenics Education Society, have issued a draft of a bill prepared by them to provide for the control of the feeble-minded. Though the Prime Minister has more than once promised that attention shall be given to such legislation during the next Session of Parliament, the societies named think it desirable to be prepared with a bill of a modest character embodying the more urgent recommendations of the Royal Commission. They do not propose to include in its provisions the whole mass of the feeble-minded reviewed in the Royal Commissioners' report, but, as a first step, they wish to provide for those members of this group whose mental defect renders them likely, if not properly supervised, to act unsocially, or be in any way mischievous to themselves. In such cases it is proposed that the evidence of mental defect and of the need for detention is to be certified by two medical practitioners, and the necessary order is to be made by a magistrate, when satisfied by the evidence before him that it is in the interest of the individual and of the community that special powers of control should be granted. It is pointed out that "for the successful working of such a system and for security against abuse it is necessary that the home colony, institution, school, or private house in which such powers of control are to be exercised should be duly recognized and inspected." The supervision and regulation of the powers of detention of such cases, it is suggested, should be entrusted to the Lunacy Commission, as the only body at present existing with experience in cognate conditions, and special authorization will be required for the continuance of the powers of control for more than one year when the individual is over 21. It is also proposed to give public authorities power to spend money on these cases as in the case of pauper lunatics. It is pointed out that "the great majority of the feeble-minded will not be affected by the bill, because they can be managed without special powers, and the existence of legal powers in extreme cases will have a strong moral effect." The main aim seems to be the inclusion under the purview of the Lunacy Commissioners of those of the feeble-minded class who are likely to prove dangerous to themselves or hurtful to society at large, but whose certification under the Lunacy Acts has hitherto been attended with doubt and difficulty. So far as it goes, the proposed measure seems to be useful, but much more will remain to be done in the way of systematizing legislation for the whole class of feeble-minded, youthful and adult, not only in their own interests but in that of future generations.

POOR LAW APPOINTMENTS.

At a recent meeting of the Guardians of the City of London Union, there was considerable discussion as to the medical arrangements to be adopted at a Poor Law institution under the administration of the City of London Guardians. The Bow institution is intended to accommodate 500 inmates, none of whom are able-bodied, and a committee to whom the matter was referred had recommended that the medical superintendent of the City of London Infirmary at Homerton should have the medical superintendentship also of the Bow institution, in addition to his office at Homerton. It was likewise proposed that there should be under him an assistant medical officer, who should devote his whole time to that institution. The recommendation was only carried at a large meeting by two votes. Objections were raised that such an institution as that at Bow ought not to have a medical superintendent resident some three miles away; that it was unfair to the medical profession to accumulate offices in the hands of one man in order to increase his salary, and that a special medical superintendent should be appointed at Bow. It cannot be denied that there is much force in these objections. The medical superintendent at Homerton is under a contract to give his whole time to the duties of his office. He is receiving £500 a year and a house. It is not unreasonable to think that it would be better to appoint a medical superintendent at Bow rather than an assistant medical officer. It is quite possible that the medical superintendent of the City of London Infirmary at Homerton deserves a rise in his salary on his own account, and a practice is not unknown among boards of guardians of increasing an officer's remuneration by bestowing upon him another office with its accompanying duties and salary. This is not really increasing his remuneration, but adding to his work; and if inadequately paid at the time, he still continues so, although he may be receiving more money. Such a practice is bad for the public interests. It is bad also for the profession, as it must tend to lower the standard of payment for professional work generally. It appears to us that the objections of the minority of the City of London Guardians

are sound, and it is to be regretted that further consideration was not given to the proposal, in spite of the fact that it had been sanctioned by the Local Government Board.

BICENTENARY OF THE SCHOOL OF PHYSIC IN IRELAND.

IT is proposed to celebrate next June the bicentenary of the School of Physic in Ireland. This school, better known now as the Medical School of Trinity College, Dublin University, was founded early in the eighteenth century under the joint control of the University and the King and Queen's College of Physicians. The management of the school has been for some time past practically in the hands of the university authorities, but the school still retains its old name and some of its most important professors are appointed by the College of Physicians. A Provisional Committee has been appointed to make arrangements for the celebration, and this committee is most anxious to receive suggestions from graduates who are willing to co-operate. A Graduates Committee will shortly be formed, and those who are willing to become members are invited to send in their names. The Provisional Committee asks for the loan of documents or other objects of interest which may illustrate the history of the school, and will be glad to hear from any one who may possess such objects. Those willing to assist are requested to communicate with any of the following members of the Provisional Committee: Dr. James Little, Regius Professor of Physic; Sir Charles Ball, Bart., Regius Professor of Surgery; Dr. A. C. O'Sullivan, F.T.C.D., University Lecturer in Pathology; Dr. W. H. Thompson, King's Professor of the Institutes of Medicine; Dr. James Craig, King's Professor of the Practice of Medicine; Dr. Percy C. Kirkpatrick; or Dr. A. Francis Dixon, University Professor of Anatomy.

INTERNATIONAL OBSTETRICAL AND GYNAECOLOGICAL CONGRESS.

A NATIONAL Organization Committee for Great Britain and Ireland has been formed for the purposes of the International Obstetrical and Gynaecological Congress, to be held in Berlin in September next (10th to 12th) by representatives from the Royal Society of Medicine (Obstetric and Gynaecological Section), North of England Obstetrical and Gynaecological Society, Edinburgh Obstetrical Society, Glasgow Obstetrical and Gynaecological Society, and the Royal Academy of Medicine in Ireland. There will be a formal discussion at the first session of the congress on September 10th on "The Surgical Treatment of the Peritoneum." The duties of the National Organization Committee of Great Britain and Ireland are: (1) To nominate delegates to the congress for the United Kingdom, the number of official delegates being expressly limited by the Central Organization Committee to three; (2) to select a *rapporteur* (not necessarily one of the three delegates), who will personally open the discussion on "The Surgical Treatment of the Peritoneum" as this country's representative, and give the views held here on the subject. At a meeting of the National Committee, held in London on November 20th, it was resolved to ask any fellows or members of any of the above-named societies who propose to attend the congress at Berlin on September 10th to 12th, 1912, and who would be willing to serve as delegates, if nominated by the National Committee, to send in their names to one of the secretaries of the National Organization Committee, J. H. Targett, M.S., 19, Upper Wimpole Street, W., or Walter Tate, M.D., 32, Queen Anne Street, W., on or before December 11th, 1911.

THE BALANCE OF BIRTHS, DEATHS, AND EMIGRATION.

THE significance of a statement made the other day by the President of the Local Government Board in reply to Mr. Chiozza Money should not be lost sight of among the other many important matters which are engaging public attention. Mr. Burns said that the excess of births over deaths in the United Kingdom for the first nine months of this year was 329,710, and that the Board of Trade Return of Passengers to and from places out of Europe for the same period showed a balance of outward movement of 237,067. The emigration from this country, therefore, during the first nine months of the present year was some 92,000 short of the excess of births over deaths; this number, then, is the increase of the population during those nine months. The return of the Registrar-General for the quarter July to September, 1911, shows that the births registered in England and Wales numbered 222,601, and were in the proportion of 24.4 annually per 1,000 of the population, and 2.9 per 1,000 below the mean birth-rate in the ten preceding third quarters; this is the lowest rate recorded in any third quarter since the establishment of civil registration. The number of deaths registered during the same period was 140,956, being in the proportion of 15.5 annually per 1,000 persons living, and was 1.7 per 1,000 above the mean rate in the ten preceding quarters. A Reuter's telegram from Paris states that the returns for the first half of 1911 show that the deaths in France during that period exceeded the number of births by 18,279; the returns for the corresponding period of last year showed that the births exceeded the deaths by 21,189. This country appears to be approaching the condition of a balance of population, which France has now overpassed.

APPENDIX IN LEFT INGUINAL SAC.

THE surgeon should always bear in mind that the appendix may find its way into a left inguinal or femoral hernial sac. At least one instance is recorded where it had formed its own sac and lay alone therein. In this case the hernia was inguinal. There appears to be no example of a similar condition in a left femoral hernia, nor in an umbilical or ventral rupture (McAdam Eccles). On the other hand, Savariaud and Cassard[1] remind us that the presence of the appendix with the caecum in a left inguinal pouch is by no means rare. Cruveilhier thought that this occurred as frequently on the left as on the right side, but Hildebrandt and Gibson made out the proportion to be 128 right to 24 left. Forster collected 54 cases in which the caecum and appendix were in a left inguinal sac, and there was no evidence of transposition of the viscera. Savariaud and Cassard relate a case in their own experience. A boy, aged 5 years, had a large double inguinal hernia filling the scrotum. It had developed very quickly. The right hernia was an entero-epiplocele; the neck admitted two fingers; the sac was resected. The left had an enormous sac, holding nearly 5 in. of ileum as well as the caecum and appendix. All these structures were adherent to each other. The appendix was swollen at its extremity, and adhered to the sac. The lymphatic glands associated with the caecum were enlarged. These viscera were entirely free in front, but adhered posteriorly to the subjacent structures, the sac being absent. The authors of the report believe that the implicated viscera had in their descent dragged themselves away from their mesenteries so as to lie in the rupture with their peritoneal investment entirely in front. The adhesion to posterior extraperitoneal structures proved very hard to separate, for the appendix and adjacent parts had become inflamed. The appendix was amputated and its stump treated in the usual manner. The funicular adhesions were then dissected up, yet on reduction the parts only slipped into the subperitoneal iliac connective tissue, and it was not until some few adhesions between the herniated intestine and the tissues behind them in the

[1] Double hernie inguinale: Entéro-épiplocèle à droite, caecum et appendice à gauche. *Bulletins et mém de la Soc. Anat. de Paris*, July 1911.

liac region had been divided that the bowel could be educed into the peritoneal cavity. Savariaud performed Bassini's operation. The parts healed well.

SIR HENRY BUTLIN asks us to inform the Fellows and lembers of the Royal College of Surgeons that he is very rateful to them for their kind message of sympathy.

PROFESSOR WALDEYER, of Berlin, has been elected Presi- nt of the International Committee of the forthcoming ternational Congress of Medicine, in the room of the late . Pavy.

THE Lord Mayor of London (Sir Thomas Crosby, M.D.) s consented to preside at the annual general meeting of British Medical Benevolent Fund, to be held at the nsion House on March 13th, at 4 p.m.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Coal Mines Bill.

greater part of the discussion on this bill presented features of professional interest. The standard of ilation is defined under Clause 29. The third sub- se of this, as amended, lays down that a place shall be deemed in a fit state for working and passing ein if the air contains less than 19 per cent. of oxygen more than 1.25 per cent. of carbon dioxide, and that irway shall not be deemed to be normally kept free inflammable gas if the average percentage of inflam- e gas found in six samples of air taken by an ctor in that airway at intervals of not less than a ight exceeds 1 per cent. Mines are classified accord- o the amount of inflammable and noxious gases e return airway in Clause 30, and the require- s as to the uses and methods of ventilation are up in Clause 31. Clause 32 deals with the f safety lamps, and lays down that no lamp or other than a safety lamp should be used in any seam the air current in the return airway from a ventilat- strict normally contains more than 0.5 per cent. of mable gas, or in any seam except within 200 yards he shaft in which an explosion had occurred causing al injury during the previous twelve months, unless ly exempted. A safety lamp is to be used in any place in the mine in which there is likely to be an- ulation of inflammable gases or in workings approach- y such places. Clause 59, which regulates the use tricity in mines, is likely to be of considerable t; its first two sections are as follows:

ectricity shall not be used in any part of a mine where, unt of the risk of explosion of gas or coal dust, the use icity would be dangerous to life, and if the owner of a n being required by an inspector of the division not to to desist from using electricity in the mine or any part on such ground as aforesaid, refuses to do so, the as to the application of this Section to the mine or reof shall be settled in manner provided by this Act for isputes.

n any place of a mine, or part of a ventilating district re, the amount of inflammable gas in the air current 1¼ per cent., the use of electricity shall at once be ued in such a place or part of such ventilating district e inflammable gas exists till the air current is clear of , or shall not exceed ½ per cent.

66 provides that any part of a mine wherein the ge of inflammable gas in the general body of the eds 1.25 per cent. should be deemed dangerous ork is carried on with naked lights. An amend- made to the provisions of Clause 32 dealing with f lights in mines to the effect that electricity and amps if enclosed in airtight fittings, and having globes hermetically sealed, may be used in main roads or elsewhere, within such limits as may be he regulations. Great progress was made with t stage of this complex bill, and at the end of the November 24th Clause 87 had been added.

Pulmonary Phthisis in Scotland.—In reply to a question by Mr. Eugene Wason, asking if the Local Government Board for Scotland proposed to issue regulations making consumption a notifiable disease in Scotland in the same way as had been done in England, Mr. Ure said the Local Government Board had for years urged upon local authorities the desirability of making pulmonary phthisis a notifiable disease, with the result that compulsory notification had already been applied, and was in force over areas containing 57 per cent. of the population of Scotland. The Board had now under consideration the question whether the time had come for the issue of a general order on the lines suggested.

Opium Commission.—The Secretary of State for Foreign Affairs stated, in reply to a question by Mr. Mitchell-Thomson, that the Government had not received from the Netherlands Government a definite programme of the subjects to be discussed at the conference, and was therefore not in a position to draw up the necessary instructions for the guidance of the British delegates. In reply to a further question by Mr. Mitchell-Thomson, Sir Edward Grey stated that, in addition to the gentlemen whose names had already been given, His Majesty's Government would be represented at the conference by Sir William Collins. On November 27th Mr. Acland Hood, in answer to a question by Mr. King, said that it was not thought that any useful purpose would be served by increasing the number of British delegates at the Opium Conference to five, although they had the power to do so. Mr. Acland Hood further stated that the reason why the British delegation on the Shanghai Opium Commission consisted of five members was that one of the delegates, Mr. Mackenzie King, specially represented the Dominion of Canada, whereas on the present occasion none of the self-governing colonies had, in reply to an inquiry addressed to them, expressed a desire to be represented.

Wrapping of Sweets.—Mr. Edmund Harvey asked the Secretary of State for the Home Department whether his attention had been drawn to a report by the M.O.H. for Islington that caramel wrapping was carried on as a home industry by women and children; whether he was aware of the condition in certain homes where the work was carried on and by persons suffering from infectious disease, and therefore calculated to convey infection to consumers; and whether any steps were being taken to deal with the matter. Mr. McKenna said he had received a copy of the report, and inquiries had been made into the conditions prevailing both in London and elsewhere. The work referred to was the wrapping of some cheap kinds of sweets, and not caramels, which, owing to their soft nature, could not be given out to out-workers. One maker had been found who employed thirty or forty out-workers under conditions which in many cases were extremely unsatisfactory. Mr. McKenna said he proposed to issue a draft order extending the provisions of Sections 107, 108, and 110 of the Factory Act to this class of work.

Revaccination in the Army.—In reply to a question by Mr. Lynch, who asked for the proportion of successful inoculations in the case of revaccination of soldiers as compared with primary cases of the same class, and also the number per 1,000 of successful inoculations of revaccinated children according to the latest statistics available in the War Office, Colonel Seely said that the figures of successful results for the year 1910 for the forces at home and abroad were:

	Soldiers.	Children.
Revaccination ...	... 87.4	..... 73.4
Primary vaccination ...	... 90.2	..... 86.6

The figures, he said, showed an improvement of 12 per cent. in revaccination over the previous year in the case of soldiers, and of 1 per cent. in the case of children.

Malaria and Mosquitos.—Sir Edward Grey, in reply to a question by Mr. Ramsay Macdonald, said he had been informed that mosquitos had reappeared at Port Said, but he could not say whether they were of a malaria-bearing species. He was inquiring of Lord Kitchener as to the facts.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

ASSOCIATION OF SCHOOL MEDICAL OFFICERS FOR SCOTLAND.

A GENERAL meeting of this association was held in the Ophthalmic Institute, West Regent Street, Glasgow, on November 18th. The President (Dr. Roberts) occupied the chair, and forty-one members were present. Seven new members were duly elected. Dr. H. Wright Thomson gave a demonstration of eye diseases in relation to school medical inspection. Cases of blepharitis marginalis, catarrhal and strumous ophthalmia, interstitial keratitis, trachoma, ophthalmia neonatorum, and myopia were shown. Dr. Thomson concluded his most instructive demonstration with a review of the methods at present employed in the education of the blind and partially blind. Dr. Walter F. Brown read a paper on special classes for cases of high myopia, in which he detailed the methods of teaching carried on in these classes in London and elsewhere, and urged that such classes would be of great benefit in rural districts where access to institutions was difficult.

On the call of Dr. Roberts, votes of thanks were awarded to Drs. Thomson and Brown. It was arranged to hold the next meeting of the Association in Perth on Saturday, January 20th, 1912.

PROCEEDINGS UNDER THE PUBLIC HEALTH ACT.

The Local Government Board in Scotland has issued to local authorities copies of forms of procedure under the Public Health (Scotland) Act, 1897. The forms issued by the Board in 1898 have been to a large extent superseded by the provisions of the Sheriff Courts (Scotland) Act, 1907, and the Summary Jurisdiction (Scotland) Act, 1908, and new forms have thus been rendered necessary.

Under the former statutes there was not infrequently difficulty in deciding what applications fell to be disposed of in accordance with the ordinary forms of civil process, and what came within the scope of the Summary Jurisdiction (Scotland) Acts, 1864 and 1881. This has now been removed by the terms of the Act of 1907 and the Act of 1908.

A point which is not free from difficulty is the appropriate procedure to be adopted in applications of a civil nature to magistrates and justices. The Public Health Act evidently contemplates the competency of such applications, but it is understood that in practice such applications are seldom made, and when made are limited to cases in which the subject matter is so trivial as to make the cost of application to the sheriff prohibitive, and to cases of urgency when the circumstances do not permit of a sheriff's warrant being obtained. It is only in such exceptional cases that an application to magistrates or justices is expedient, as it is obvious that the Sheriff Court is the more suitable tribunal for disposing of questions which may involve civil rights of considerable importance. There is the further difficulty of enforcing civil decrees of a pecuniary nature pronounced by a magistrate or justice owing to the absence of the appropriate machinery for this purpose. Applications under the Public Health Act may be at the instance either of the local authority or of a committee appointed by them (Section 14), or of some person authorized in writing in terms of Section 152 of the Act, to represent the local authority. In practice, applications in the Sheriff Court for the removal of nuisances, etc., are generally at the instance of the local authority in its corporate capacity. Accompanying the circular of the Local Government Board no less than seventy forms in civil process in the Sheriff Court are given, so that local authorities will be able to find out what is the proper procedure to be adopted under any section of the Public Health (Scotland) Act.

THE WORKS AT ROSYTH.

Acting on instructions received from the Local Government Board of Scotland, Dr. Dewar, Medical Inspector, and Mr. John Wilson, Architectural Inspector, have issued a report on the accommodation available for the residence of the workmen engaged upon the construction of the naval base at Rosyth. The number of workmen engaged on this work at May, 1911, exclusive of the contractor's staff, was 1,800, and as the work progresses this number will be considerably augmented.

These workmen are accommodated in the different villages in the neighbourhood of Rosyth. The reporters state that with few exceptions the lodging-houses are well constructed, and their conditions as to cleanliness good. There are one or two common lodging-houses in Inverkeithing and Jamestown, while there are four in Dunfermline; all are regularly inspected by the district sanitary inspector, and any defects which come under his notice receive immediate attention from those in authority. The reporters distinguish what they call "domestic" overcrowding, where convenience, decorum, or propriety are threatened, and such grosser degree which is likely to prove injurious to the health of those concerned. Except, perhaps, in a few cases, they did not find much overcrowding to such an extent as to justify prosecution under Section 16 of the Public Health (Scotland) Act, 1897, as occurring, or has habitually occurred within the area over which their inquiry has extended. But of overcrowding in a minor degree they had ample and abundant evidence. About one-third of the workmen are married; many of them have encountered considerable difficulty in securing houses adapted to their needs.

The provision for cases of sickness occurring among the workmen and their families is met by a levy of 2d. a week on all employees. This is deducted from wages before payment, and men who do not assent to the arrangement are not engaged. The arrangements for medical attendance are supervised by a committee, which consists of two members of the staff and three members nominated by the workmen. The doctor is appointed by this committee. For this weekly sum of 2d. a workman the doctor attends the men and their wives and families, and supplies drugs. Well-considered, elaborate, and adequate arrangements have been made for dealing with accidents. The doctor and his assistants are in telephonic communication with the works. There is an ambulance shed in the yard containing a stretcher and all necessary appliances, dressings, splints, etc. There is a second and similar hut at the quarry, and a third on the monolith staging.

An ambulance class is held in connexion with the works each winter. Accidents seem to be relatively few. When they occur the patients are conveyed to the hospital at Dunfermline. The medical arrangements show that every care has been taken by the contractors for providing against sickness and accidents.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

PUBLIC HEALTH CONGRESS.

AT the offices of the Public Health Committee, Dublin, presentations were made last week to Miss O'Shaughnessy, Miss Magennis, Dr. E. Magennis, and Mr. James Collins in recognition of the part they took in securing the success of the Public Health Congress held last summer in Dublin. Sir Charles Cameron said that the success of the congress was without doubt largely due to Dr. Magennis, and that amongst the ladies Miss O'Shaughnessy and Miss Magennis had taken an important part in arranging for the reception and entertainment of visitors, while a great deal of laborious work had fallen to the share of Mr. Collins. The Chairman, Sir William Thompson, then presented Miss O'Shaughnessy with a diamond pendant, Miss Magennis with an opal ring, Dr. Magennis with a silver tea and coffee service, and Mr. Collins with a silver bowl. Each of the recipients returned thanks, and the proceedings terminated.

ANTIVACCINATION LEAGUE IN DUBLIN.

We understand that a Dublin branch of the Anti-vaccination League has been formed, and that the inaugural meeting was held at a local vegetarian restaurant last week. It is stated that a vigorous antivaccination campaign is to be expected in the near future.

ASYLUM ATTENDANTS' VOTES.

An important decision was given last week in the Court of Appeal with reference to the claim of asylum attendants to exercise the franchise. The Lord Chief Justice, in an elaborate judgement, stated his opinion that asylum attendants were not entitled to have their name on the register, and in his judgement Lord Justice Holmes concurred. Lord Justice Cherry dissented, but the appeal was upheld by the majority of the Court, and the names of thirty-three attendants were accordingly struck off.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

NEWCASTLE-UPON-TYNE.

NEWCASTLE-UPON-TYNE DIVISION.

OUR attention has been called to a paragraph which appeared in the BRITISH MEDICAL JOURNAL of November 18th, p. 1378, under the heading "North of England Branch," in which it was stated that "an interesting and varied programme of medical and surgical demonstrations has been drawn out by the Honorary Local Secretaries for the members of the North of England Branch of the British Medical Association." We are informed by the Honorary Secretary of the Newcastle-upon-Tyne Division that the Branch has nothing to do with these winter monthly scientific meetings, which are organized by the Division. The following syllabus will serve to give an idea of the scope and nature of the work of these meetings:

AT THE COLLEGE OF MEDICINE.

Friday, November 17th.

Professor Rutherford Morison: Demonstration with the Epidiascope.
Dr. J. Dunlop Lickley: Demonstration of Surgical Anatomy of Neck, with dissections.
Professor Bainbridge: The Action of Suprarenal Extract, with a lantern demonstration.

AT THE ROYAL VICTORIA INFIRMARY.

riday, December 15th.

Dr. Napier Burnett: Complications of Labour.
Professor Sir Thomas Oliver: Phthisis in Miners.
Dr. T. Beattie: Practical Points in the Sanatorium Treatment of Tubercle.
Mr. G. Grey Turner: Gall-stone Disease with Jaundice.
Mr. J. W. Heslop: Surgery of the Veins.

iday, January 19th.

Mr. W. F. Wilson: Tumours of the Larynx.
Dr. D. Drummond: Cerebral Tumours.
Mr. H. J. Gauvain (Resident Medical Officer, Lord Mayor Treloar's Cripples' Hospital, Alton, Hants): Conservative Methods in the Treatment of Tuberculous Bone and Joint Disease.

iday, February 16th.

Dr. R. A. Bolam: Arsenic in Syphilis.
Mr. J. W. Leech: Ruptured Stomach and Duodenal Ulcers.
Dr. J. W. McCracken and Dr. J. W. Ruxton: The Dyspepsias of Children.
Mr. T. Gowans: Eye Injuries and Compensation.
Mr. J. Collingwood Stewart: Ruptured Cartilage of the Knee-joint.

day, March 15th.

Pathological Museum.
Dr. William E. Hume: Treatment of Heart Disease.
Mr. John Clay: Practical Points in the Surgery of the Urinary Tract.
Professor Ranken Lyle: Ectopic Gestation.
Mr. Sydney Dunstan, F.C.S., M.P.S.: Ancient and Modern Prescriptions.

THE CITY ASYLUM, COXLODGE, NEWCASTLE-UPON-TYNE.

not yet fixed.

Dr. J. T. Callcott: Incipient Insanity.

he members of the *Executive Committee* are as follows: *edical Section:* Dr. A. Parkin. *Surgical Department:* J. Collingwood Stewart. *Special Departments:* Mr. T. ans. *Pathological Section:* Dr. H. J. Slade. The *orary Secretary* is Dr. R. J. Willan, 25, Ellison Place, castle-upon-Tyne.

LIVERPOOL.

BOOTLE BOROUGH HOSPITAL AND THE NATIONAL INSURANCE BILL.

AT the last monthly meeting of the Bootle Borough Hospital the following resolution was passed unanimously:

"That the General Committee of the Bootle Borough Hospital is unanimously of the opinion that the National Insurance Bill is incomplete unless it provides for the hospital treatment which insured persons must have if their medical needs are to be covered by the bill."

In passing the resolution the Committee are of the opinion that under the operation of the bill in its present form the hospital will suffer loss of annual income to the extent of about £1,000, and will still be called upon to provide for the same number of in-patients, with a very slightly reduced aggregate of out-patients, out of its considerably reduced income. The Committee desire the recognition of voluntary hospitals, which are largely dependent for their incomes on workmen's contributions, and who obtain treatment for themselves and families in time of need.

THE TROPICAL SCHOOL.

Professor Newstead has returned from his expedition to Central Africa. At the request of His Majesty's Government the Liverpool School of Tropical Medicine sent Professor Newstead to Nyasaland in connexion with the Commission on sleeping sickness, which the Government is sending out under Colonel Sir David Bruce. During the last five months Professor Newstead has been the leader of the Royal Society's Commission on sleeping sickness. The investigations he has made, along with Dr. T. B. Davey, his assistant and medical officer in Nyasaland, have resulted in important discoveries which promise well for the future in the direction of lessening or eradicating the disease. The breeding places of the tsetse fly have been discovered. The expedition has proved of great value and has been most successful. The report of the Commission will be eagerly awaited by all interested in this work. Professor Newstead was recently appointed to the Dutton Memorial Chair in Entomology at the Liverpool University.

THE UNIVERSITY.

Sir William P. Hartley has given another example of his usual generosity in undertaking to defray the expense of a complete installation at the university for receiving messages by wireless telegraphy. The installation will be under the control of Professor Marchant, head of the department of electrical engineering. It will prove a most valuable asset for teaching and research. Communication will be possible with the Eiffel Tower, with North Germany, and messages from all over Europe will be received. Liverpool University is the second in the country holding the privilege of receiving messages under license from the Postmaster-General. This development is one of great interest, and the university and Professor Marchant are to be congratulated on the enterprise, and Sir W. P. Hartley on the wisdom of his choice and his splendid generosity.

MANCHESTER AND DISTRICT.

FRIENDLY SOCIETIES AND MEDICAL MEN.

AT a conference of the Salford Sons of Temperance, held last week, an address was given on the National Insurance Bill by Mr. W. Davis, and seeing that Mr. Davis is the President of the National Conference of Friendly Societies, his remarks about friendly society medical clubs are important and suggestive. After alluding to the clauses of the bill that are intended to prevent sickness, Mr. Davis said:

The purpose of the scheme was not only to prevent sickness, but to cure sickness. That would be secured by having a better system of medical attendance. The effect of the bill in this respect had been very much discussed, and they were often told that they would lose the right to control the doctors. The fact was that they had never had the right to control the doctors. They had the right to make contracts with the doctors, but it was for the doctors to say how the contracts were going to be kept. The result was that considerable doubt existed as to whether the doctors were doing their best for the friendly societies. Doctors had admitted that the price paid could not possibly cover the cost of attendance and the expense of drugs. He held a strong opinion that the contract system with the doctors as it at present existed would have to go

before confidence could be restored in the minds of friendly society members. Under the system now proposed doctors would have every inducement to do their best for their patients and cure them as quickly as possible. The effect of the bill would be greatly to improve the standard of health, and he would be very much surprised if their sickness rate was not much less than it was at the present time.

It is quite clear from the above that Mr. Davis is convinced that the existing medical service of the friendly societies is far from satisfactory, and for the President of the National Conference of Friendly Societies to admit that is an advance. Owing, however, to the use of some qualifying words it is not equally clear, whether Mr. Davis had in mind a system of payment per attendance, or simply what he would regard as an improved contract system. It is hardly too much to say that the great majority of medical men in Lancashire are thoroughly convinced that the contract system cannot be made satisfactory, either under friendly societies or local insurance committees, as it has inherent defects that are inseparable from it. There is little doubt that Lancashire is resolved to get rid of the contract system altogether, and though the local option which the British Medical Association has decided to support, the whole material and moral power of the Association as a body will be available to assist on this.

LORD MORLEY ON THE UNIVERSITY.

Lord Morley, Chancellor of the Manchester University, was the guest of Convocation at a dinner held at the university on Wednesday, November 22nd. Mr. C. T. Needham, M.P., Chairman of Convocation, presided, and in the course of his remarks in proposing the health of the Chancellor, said that Lord Morley had associated his name in an enduring manner with the progress of the university. Alike in literature, politics and public life Lord Morley was one of the most distinguished men of the time, and in him the scholar and the statesman were combined. After glancing briefly at Lord Morley's work as a writer and statesman, Mr. Needham said their guest was esteemed for his high qualities throughout the land, and nowhere more than in Manchester.

Lord Morley, on rising to respond to the toast, was received with loud and prolonged applause, and after referring to the Duke of Devonshire and Lord Spencer, his predecessors in the office of Chancellor, said that when he was a lad his father had intended to send him to Owens College, but afterwards found he was able to send him to Oxford. When John Owens had decided to found Owens College, he laid it down in his will as an immutable condition that no religious tests of any sort should be imposed on any student, professor, teacher, or officer. Another condition was that the benefits should be limited to the male sex, but since that time the claims of women had become more fully recognized. Lord Morley then briefly alluded to the development of the university, and comparing it with other universities, specially spoke of its democratic character. One of the chief objects of the universities, he said, was not merely to spread the reading of books or to give knowledge, but to bring students to form habits of mind, to judge correctly, and to form sound opinions. It had been said that the universities made idealists and sentimentalists, but it was astonishing to find how often idealism turned out to be common sense.

Lord Morley's address was listened to with the greatest attention, and the common sense turn which he gave to his philosophic remarks was highly appreciated. Professor Thorburn then proposed the toast of "The University," and in responding to this, Sir Alfred Hopkinson, the Vice-Chancellor, spoke of the influence of the university on the educational life not only of Manchester but of the whole of the county of Lancaster. Lord Morley then proposed the health of the Chairman, Mr. Needham, which was most cordially received.

BIRMINGHAM.

THE CITY OF BIRMINGHAM AID SOCIETY.

IN the annual report of this society for the year ending September 30th, 1911, the work of the almoners who have been attached to the General and Queen's Hospitals is described. The almoners commenced their duties on October 31st, 1910, and in each case attended the out-patient department of the hospital every morning to deal with cases referred to them by the assistant physicians and surgeons. The number of cases so referred between that date and September 30th was at the General Hospital 700, and at the Queen's Hospital 199. These cases are comparatively few when it is realized that at the General Hospital alone the out-patients in 1910 numbered 67,552. A special arrangement was made whereby two or more voluntary visitors were especially appointed from each of the district committees of the society to assist in the work. These visitors report direct to the committee and the almoners, and they have during the year made nearly 2,000 visits. The General Hospital has decided to appoint its own almoner at the end of the present year, so that, as regards that hospital, the financial responsibility of the society will cease. The following are examples of cases in which the services of an almoner have been found useful: (1) To direct and assist patients to other institutions, such as the city hospitals and infirmaries; (2) to take steps when the patients' circumstances make it difficult for them to carry out the doctor's orders to enable them to do so; (3) to obtain the services of district nurses for home attendance; (4) to report when necessary to medical officers of health and to health visitors; (5) to obtain notes for convalescent homes and the like; (6) to help patients to obtain belts and instruments; (7) generally to raise the patients' standard of thrift and forethought, and to advise and help them, with a view to preventing them becoming regular attendants at the out-patient department.

THE ROYAL ORTHOPAEDIC AND SPINAL HOSPITAL.

The ninety-fourth annual report of this hospital shows that there have been during the past year 12,294 attendances, 1,392 new cases, and 564 operations; the number of in-patients were 326. The committee emphasizes the hygienic deficiencies of the present in-patient building, and hopes that the time is fast approaching when its reconstruction can be undertaken. The hospital devotes a large proportion of its income to the supply of instruments and apparatus for the relief of lameness and general deformities. The balance sheet shows a deficit of £962 on the year's working.

New Zealand.

CONFERENCE OF HOSPITAL AND CHARITABLE AID BOARDS.

THE *New Zealand Medical Journal*, which is published for the New Zealand Branch of the British Medical Association, gives in its August number an account of a conference of Hospital and Charitable Aid Boards, which makes it evident that the need for a proper organization of the medical profession for the protection of its rights is no less in New Zealand than in the Mother Country. The conference was presided over by the Governor, Lord Islington, who in his opening remarks referred to the report of the Poor Law Commission, and said that a start had already been made in the Dominion in the direction of bringing the administration of hospitals, public health, and Poor Law relief under a single controlling authority. He hoped that at no distant date New Zealand would be able to establish a complete system of medical inspection of school children, and that active measures would be taken to attack the scourge of consumption.

From the discussion that took place on the public treatment of consumption it appears that there is a movement for the establishment of public dispensaries, sanatoriums, farm colonies, and homes for incurable cases, and it was suggested by several of the hospital boards that the treatment should be free and at the public cost. As that could hardly be carried out at once, the conference had a motion before it that the Government should establish two sanatoriums and farm colonies, one for each island. It was stated that there were 791 deaths from tuberculosis last year in the Dominion. There was considerable difference of opinion as to whether the Government or the hospital boards should undertake the management of the suggested dispensaries and sanatoriums, and in the end the conference was content to call for legislation to give the hospital and charitable aid boards powers of detention over inmates of hospitals and sanatoriums, where

the Health Department considers it necessary in the interests of the community.

In a discussion on the health of the native races, Dr. Valintine, Inspector-General of Hospitals and Chief Health Officer, said that medical subsidies had been tried, "but in many cases the services were very perfunctorily performed. It had consequently been decided to appoint nurses who would be paid wholly by the department, but who would be under the control of the hospital boards." It is, perhaps, not wonderful that a lay member of the conference should say that if the Government and the board were genuine in their desire to improve the health of the natives they would gladly accept the services of nurses, who would not only treat cases of sickness, but would instruct natives as to healthy living and the feeding of infants, and report on the sanitation of the settlements. But for the Chief Health Officer to endorse this is very surprising. It seems to be a direct encouragement of unqualified practice which ought never to be tolerated. It certainly suggests that cheapness, not efficiency, is the chief thing in the eyes of the Health Department, and the editor of the *New Zealand Medical Journal* rightly says that the whole profession will reprobate the scheme. Just as bad was the proposal hat nurses, not medical men, should be provided for the ettlers in the outlying districts for maternity cases. There may be a shortage of trained midwives for these istricts, but there is a still greater need for proper medical ttendance. But nurses cost less.

A discussion as to the class of people who ought to eceive treatment at hospitals only emphasized the fact hat the whole hospital system of New Zealand is in gent need of reform. The Inspector-General of Hostals said that "no hospital has now the right to refuse lmission to any patient." A delegate from Wellington id it was the custom there that those who could pay for tside medical treatment should not be eligible for adission to hospitals, but more than one other delegate ongly condemned such "class distinctions" and claimed at as the hospitals were supported by the rates every mber of the community should have the right to be ated in them. Cases were quoted in which patients o had banking accounts had been treated freely. A olution was carried that the hospital boards ought to e power to recover the cost of hospital maintenance n money due to patients under the Workers' Compensa- Act, but the Inspector-General said there was not the t chance of Parliament passing such a proposal.

he Inspector-General, in opening a discussion on the lical inspection and treatment of school children, said there were about 54,000 school children in the inion needing some form of medical treatment, and a me of medical inspection was necessary in the interest e community. Under the scheme which he submitted, school teachers, trained by lectures at the training ges, would carry out the anthropometric survey and l diagnosis of disease and defects, and report to the ation Board. He suggested that advantage should be n of the out-patient departments of the hospitals, and as the hospital boards are responsible for the sick of district who are not able to pay ordinary fees, the f the scheme should be borne by the boards which ow subsidized from the Consolidated Funds according e expenditure incurred. Parents who could pay ary fees should be referred to their own doctors, by , if possible, a uniform charge should be made, and spital boards should also be entitled to charge fees ildren whose parents could pay. Two medical tors should be appointed, one of whom should be a n, "to assist the teachers to carry out the duties ed to them." The Inspector-General calculated ut of the 54,000 children, about 4,000 would be ed by private practitioners, so that some 50,000 need treatment at the expense of the State. The e cost for examination and treatment would be hild. This would involve a total outlay of £13,500, which would be paid by the hospital boards and y the Government. It was believed that a certain t of this would be recovered from the parents, but no e seems to have been given of the cost of extending -patient departments of the hospitals.

editor of the *New Zealand Medical Journal* exthe opinion that this scheme is ill advised, and urprising that the Inspector-General should not have taken warning from the fact that the system of using the hospitals for the treatment of school children has been a complete failure in London and elsewhere in England. The editor points out that if special facilities are given for treatment in the out-patient departments it is not at all likely that parents will bother much with family doctors, and continues as follows:

> Our hospitals are practically State institutions, and the conference holds that these hospitals should be open to all classes without distinction. Patients are charged £1 10s. a week unless they are without funds. Under the Inspector-General's scheme for medical inspection of school children, 90 per cent. of the children will be medically treated by the State.

He adds that the whole tendency is for the State to encroach upon the functions of private practitioners. It is to be hoped that the New Zealand Branch of the British Medical Association will be able to obtain some radical alterations of the scheme set forth by the Inspector-General.

Jamaica.

HEALTH OF THE ISLAND.

THE annual report of the Superintending Medical Officer for 1910, recently issued, states that during the year under review the sum spent in the medical department was £57,843.

Vaccination.

The number of vaccinations performed in 1909–10 was 22,786, an increase of over 1,000 on the previous year. The number of vaccinations during the previous four or five years has been about the average.

Yaws.

A considerable number of cases of yaws were reported during the year—4,555. For years past the money spent on the treatment of yaws has been partially wasted owing to the want of some compulsion to ensure, first, the attendance of those suffering from yaws at the district medical officer's office or out-stations, and, secondly, the continuous treatment of those affected. A new law passed by the Legislative Council requires the attendance of any person suffering from yaws at such time and place as may be ordered by the district medical officer, and makes non-attendance an offence.

"Vomiting Sickness."

There was an unusual outbreak of this so-called disease during part of the year under review. The Registrar-General gives the number of deaths which may be put down to this combination of diseases during the year ending February, 1910, as 620. The Superintending Medical Officer considers that many of these cases may be, and undoubtedly are, due to ackee poisoning (a species of fruit used in cooking fish), cassava poisoning, worms, meningitis, bronchitis, gastritis, and other diseases, but beyond these there remains an unexplained residue which needs investigation. He suggests a thorough bacteriological and pathological inquiry.

Public Hospitals.

The total number of patients treated in public general hospitals during the year was 18,510, with 413 deaths, being a death-rate of 2.23 per cent. The number of out-patients treated by the district medical officers during the year was large—28,770. Malarial fever accounted for by far the largest number of admissions—in all 7,144. Such admissions were largest in the months having a heavy rainfall (October, November, and December). There were also a considerable number of cases of enteric fever in the different parishes of the island, while phthisis and syphilis were also very prevalent.

Victoria Jubilee Lying-in Hospital.

This hospital continued to do good work, and is a great boon to the community. During the year ending March 31st, 1910, the number of patients admitted was 650, an increase of 54 on that of the previous year; 40 cases had to be refused admission, the institution being full at

the time. The number of infants born was 649, including 10 cases of twins; 53 infants were stillborn, 9 died. Eight pupil-nurses were admitted for training; seven passed and received certificates.

Lunatic Asylum.

Appended to the report is that on the Jamaica Lunatic Asylum for the year ending March 31st, 1910. There were on the register at the end of the year 1,081 patients—525 men and 559 women. The death-rate seems high—12.2 per cent. We note that phthisis accounted for 29 deaths.

Lepers' Home.

On March 31st, 1910, there were 103 cases in the lepers' home. The admissions averaged one a month, just half the number of the previous year. There were 16 deaths. During the year treatment with "nastin" was continued, but, the Medical Superintendent reports, without any success. The average duration of life among the lepers in this home is about thirty years for anaesthetic and ten years for tubercular cases.

Wei-Hai-Wei.

OPIUM SMOKING.

IN his report to the Secretary of State for the Colonies on the territory of Wei-Hai-Wei for 1910, Mr. J. M. Stewart Lockhart states that during that year the importation, sale, and smoking of opium were discouraged in every possible way. In 1909 the number of licensed smokers was reduced from 220 to 110, and during 1910 the number has been still further reduced to 50. During 1909 the admissions to the refuge established by the Government for those desirous of abandoning the opium habit amounted to 31, whilst during last year they rose to 70, the ages of those admitted ranging from 24 to 74. The police were very active in discovering the illicit smoking and sale of opium, there having been during the year 135 convictions for breaches of the Opium Ordinance. This activity on the part of the police was naturally unpopular among those who have been accustomed to smoke opium, and led to the publication in certain Chinese newspapers printed in Manchuria, Chefoo, and Shanghai of serious libellous charges against this Government and its police, who were accused of extortion and maltreatment of the Chinese, especially the female population. Steps were taken to bring to justice those responsible for the publication of the libels, with the result that in some cases a fine was imposed, in others the publication of the paper was suspended for a certain period, whilst all the papers published an apology, retracting the libellous and unfounded statements to which they had given currency.

No opium was imported under licence during the year, and only one shop was licensed to sell opium. It may be impossible to prevent entirely the smuggling of opium into this territory across the border or along the coast, but as every step possible is being taken to discourage the use of opium, and as public opinion among the Chinese of Wei-Hai-Wei is, if anything, more than ever firmly set against the opium habit, there seems every reason to hope that opium smoking will become even a rarer habit than it is at present. But the diminution in the use of opium seems to be leading to an excessive use of alcohol, and though drunkenness cannot yet be said to be a prevalent vice, cases of intoxication are undoubtedly more numerous than in previous years.

Egypt.

THE annual report of His Majesty's Agent and Consul-General (the late Sir E. Gorst) on the Finances, Administration, and Condition of Egypt and the Soudan for 1910 has recently been issued by the Foreign Office.

Public Health.

The report states that 38,000 in-patients were treated in the Government hospitals during 1910, while in the out-patient department there were 312,000 attendances, including 153,300 new patients. A native doctor has been appointed at Kasr-el-Aini Hospital, while another has been appointed Surgeon at Alexandria Hospital. No new general hospital buildings were undertaken during the year, but a committee was appointed to study the question of rebuilding Kasr-el-Aini, and this important work will be commenced as soon as the necessary financial provision can be made.

The two travelling ophthalmic hospitals visited Luxor, Ziftu, Beni-Souef, Sohag, and Assouan, and about 10,000 patients were treated. A permanent ophthalmic hospital at Assioub was opened during the year, and is a well-designed building containing 28 beds, and equipped with all the latest appliances. It is satisfactory to notice that the inhabitants of the province contributed £E.5,000 towards the cost. Work has also begun on the hospital at Mansourah. At Beni-Souef the sum of £E.4,000 has been subscribed, while at Sharkieh a similar sum has been voted by the Provincial Council for the erection of ophthalmic hospitals. This is a striking proof of the good work these institutions are doing throughout the country, and that the inhabitants acknowledge this in a practical manner.

Lunatic Asylums.

The accommodation of the Abbassieh asylum was increased by the completion of an additional section from 947 beds to 1,007. The number of inmates, however, has risen from 1,150 to 1,304, being 297 in excess of the establishment. It is expected that the first instalment of the new asylum at Khanka will be completed during 1911, and will provide accommodation for 240, and that by some structural alterations at Abbassieh it will be possible to provide there for some 40 more. There were 772 new patients in 1910; the number of patients discharged was 492; the deaths numbered 126, and 154 remained under treatment. As in former years, pellagra, hashish, and alcohol are the principal causes of insanity in Egypt.

Plague.

The diminution in plague in recent years was not continued in 1910. This fact is particularly illustrated by the incidence of pneumonic plague—the most infectious and uniformly fatal form of the disease—which is almost entirely confined to and characteristic of the Upper Egyptian provinces. In 1907 the number of cases of pneumonic plague reported was 250. In 1908 it was 168, and in 1909 it dropped to 9. In 1910, however, it rose again to 159, and it was expected that this number would be exceeded considerably in 1911. This increase is due, in all probability, to the failure of the heads of the villages to report the existence of the disease, and the authorities concerned have taken steps to ensure due vigilance in this respect. As regards bubonic plague, it is stated that it is now practically endemic in certain districts of Lower Egypt. The number of cases in 1910 was 1,238, as against 513 in 1909, while the number of localities affected was 142, as compared with 76 in 1909. It is of interest to note that the results of the prophylactic use of serum reported by medical officers (both British and French) in the Far East to have been disappointing.

Infant Mortality.

The heavy infant mortality which occurred in the spring and early summer of 1909 were not repeated in 1910, and investigation tends to show that whatever the proximate cause of the fatal gastro-enteritis may be, its varying incidence is closely connected with climatic conditions. It is clear also that much depends on the care and intelligence with which infants are nursed and fed, and that wherever these conditions are of a higher order the mortality is low and vice versa.

In reviewing the Report for 1909 reference was made to the Lady Cromer Dispensaries, and at the two institutions now open no less than 18,366 new cases and 130,000 attendances were registered during 1910. Another institution which is doing good work is the "Société pour la Protection d'Enfance," which is under the presidency of Hussem Roushdy Pasha. The attendances at this dispensary numbered 29,000 in 1910. The main feature of the work of both of these societies is the reception and treatment of mothers and children, and the teaching by example and practice of habits of care and cleanliness.

Water Supply.

In commenting on the report of Sir Eldon Gorst for 1909, we dwelt at some length on the condition of the Cairo water supply, especially as to the reasons which induced the Government to take water from the Nile below the city. It is stated in the report for 1910 that the new works were progressing, and the filters were due in May last. It is expected that the whole installation will be in full working order by the end of this year.

Malaria and Mosquitos.

The antimosquito campaign in Cairo has continued throughout the year, but is not antimalarial, for malaria cannot be said to exist in Cairo. The measures taken are directed to the reduction of the *Culex* and *Stegomyia* species, which do not carry malaria. The practical solution of the question lies—as far as Cairo is concerned—in the completion of the main drainage system (involving the suppression of all the fosses, which are the breeding places of these insects) and the raising of the low level of the basements and other areas liable to infiltration from the Nile. The antimosquito compaign in Suez is a regular antimalarial undertaking. The Irrigation Department has provided means for draining one of the worst areas, and the propagation of the *Anopheles* is vigorously fought, and with marked success.

Sanitary Defence.

Owing to the danger of cholera being introduced into Egypt from Russia, Italy, Tripoli, Asia Minor, and the Red Sea, all within a comparatively short distance of the Egyptian coast, the Government, in addition to the measures prescribed by the Quarantine Board, and in co-operation with that body, reintroduced in the middle of 1910 the Passenger and Immigrant Control Service. Its regulations are similar to those which have been put into force by the countries of Central and Western Europe as a protection against infection from Russia.

Research Work.

It is satisfactory to note that progress has been made during the year with the work of scientific research.

The investigation of the properties of the serum of animals used for the preparation of anti-cattle-plague serum at the Serum Institute has been continued, and has given very interesting results. Some cases of elephantiasis were investigated in a village near the Pyramids, and after the blood of a number of inhabitants had been examined it was found that 46 per cent. of apparently healthy individuals were affected. A large amount of time has been devoted to the study of a practical method of freeing river water from pathogenic bacteria previous to filtration, by means associated with the process of sedimentation. These investigations have so far given very favourable results, which seem to be of great importance for the future of river water supplies in Egypt.

School of Medicine.

During 1910 the number of students who joined the School of Medicine was 50, and 3 attended the School of Pharmacy; 22 obtained their diplomas in medicine and 4 in pharmacy. The total number of students on December 31st was 220, as compared with 207 in 1909.

Soudan.

The year 1910 was a more than usually healthy one in the Soudan. With the exception of a small epidemic of diphtheria south of Dulim, there was no outbreak of infectious disease of importance.

Colonel Mathias, the Principal Medical Officer, again draws attention in his report to the lack of subsidiary hospital buildings, and also of properly-qualified attendants. Much good work has been done in the hospitals at the smaller dying stations, but these also suffer from lack of adequate accommodation. The number of in-patients treated in civil hospitals during 1910 shows a slight decrease, while the out-patients have increased markedly. Vaccination tours were carried out in Berber, Dongola, and Halfa provinces, in addition to routine vaccinations throughout the year.

During 1910 sleeping sickness made its first appearance in the Soudan, two cases being discovered at Raga and one doubtful case at Wau, among natives who had recently arrived from the French Congo. These were promptly recognized and isolated, and no further case of infection from them has been discovered. Kala-azar does not appear to be on the increase, but its fatality is evidenced by the fact that of the 21 cases investigated by the Commission 19 are already dead.

Special Correspondence.

PARIS.

Operative Treatment of Fractures.—Vital Statistics of Paris.

AMONG the most interesting of the subjects dealt with at the Surgical Congress, which was held here in the early part of October (2nd to 7th), was operation in cases of fractures, on which papers were read by M. Alglave of Paris and M. Bèrard of Lyons. M. Alglave pointed out that in some cases it was more advantageous to cut down over the seat of fracture and remove the clots and small splinters of bone before wiring or plating. In other cases mere exposure of the fractured bone with careful readjustment of the two ends, and then, without wiring or plating, suturing the incision and applying a strong plaster bandage gave good union and a firm limb. The method of putting nails into the os calcis or tibia in fractures of the leg and thigh was also gone into. M. Bérard of Lyons warned surgeons against putting too much faith in statistics, as these depended so much upon the skill with which operations were performed, so much so that a few cases with faulty technique might entirely alter the statistics. In his opinion, the union of the bone and the healing of the skin wound depended very greatly on the size of the plate introduced—the larger the plate the greater the delay in healing. The fractures in which interference was indicated as a rule, in Bérard's opinion, were: Intracapsular fractures of the hip-joint, upper third of the femur, condyles of the femur, tibia near the knee-joint, long spiral fractures of the tibia, and fractures of the ankle-joint. The fractures of the upper limb included those of the surgical neck of the humerus, T-shaped fracture at the elbow, and fracture of the head of the radius when badly displaced. His experience was that operation on fractures of the lower limb was more serious than on the upper limb as regarded risk of bad after-results. Screws alone were frequently all that was required, but in long spiral fractures he preferred to employ wire rings for stability and holding the bone in correct position. Bérard said that he preferred periosteal catgut suturing to drilling bone and wire suturing, as by the former method he had obtained better union. In discussing what were suitable cases, Bérard laid great stress upon the inadvisability of operating on cases of Bright's disease, diabetes, and arterio-sclerosis. It was always advisable to control the position of the bones after operation by the x rays, and after recovery another x-ray examination should be made so as to estimate the solidity of the new bone formed. In the discussion which followed Kocher stated that he was only in favour of operating in exceptional cases, as the results from operative interference as yet did not justify its general use. Lucas-Championnière placed most faith in absolute stability of the limb without operation. Willems, Tuffier, Ceci, and others were more in favour of non-operative treatment. Lambert demonstrated his new method and apparatus for overcoming rotation of the leg in fractures of the thigh. Hermann, Delbet, and Kocher also spoke about their results of operative treatment. Lardennois laid stress upon avoiding general anaesthesia where possible, on account of the stage of excitement which spoiled the result of the operation, displacing the bones in many cases. Judet, who also spoke in favour of operating, said he employed magnesium wire instead of silver wire in fracture of the olecranon especially.

The *Gazette des Hôpitaux* publishes the vital statistics for the forty-first week of the present year. The interesting point to be noted is the number of cases of typhoid. During the week there were 15 deaths from that disease and 106 new cases, whereas in the previous week there were 9 deaths and 118 new cases. Typhoid

though not in an actual epidemic form, is always present in Paris as in every other great town. Here each typhoid case has a cold bath, standing beside the bed, and the patient is immersed two or three times daily, and certainly feels much better after each bath. The reaction noted is often marked, and the patient frequently feels chilly and has a shivering. Still, after a short time he usually feels less furred, as the temperature always falls two or three degrees, and temporarily the patient's condition is ameliorated. The dieting of typhoid patients is similar to that in British hospitals, except that they get a much larger quantity of strong soups, in which many French physicians have great faith, and they are usually allowed solid diet soon after the temperature has fallen to normal, or even when there is still some fever present. Typhoid is more prevalent in Paris than in London, and the water supply here is rather questionable in many cases as regards its absolute safety. Although the better classes usually avoid the water, the poorer class drink it, and, in spite of this, typhoid is not much more prevalent amongst the poorer class. In some parts of Paris phthisis is also prevalent, and in the statistics above mentioned 180 people died of phthisis in one week. Again, phthisis is treated in the general hospitals, and in many cases the patients are merely put in beds at one end of the ward but not isolated in any other way, and those who are able to be up and about mix freely with the other patients. All stages of phthisis can be seen here in the wards, from small râles at the apex to pneumothorax and fatal haemoptysis. Open-air treatment is not in such general vogue here as in Great Britain, and inhalation of vapours is more generally employed here as treatment by some physicians.

BUDAPEST.

Dental Surgeons and Dental Mechanics.—New Ideas on the Therapeutics of Skin Diseases.

THERE has always been a certain amount of friction between dental surgeons and dental mechanics in Hungary. Up to the present there have been about 1,500 of the latter in this country, where they were allowed to practise dentistry without a medical diploma. Their qualification consisted of a three years' apprenticeship in a mechanic's workshop, followed by registration by the Industrial Chamber; and their activity was confined to the making of false teeth and stoppings, and extractions, and all other purely medical work being strictly forbidden. These rules, however, were more or less a dead letter to the mechanics, who managed to absorb a great part of the practice, and consequently the income of the dental surgeons, a state of things which led to constant litigation, invariably ending in the mechanic being found guilty and fined. It has been decided, therefore, by the Minister of Public Health to reorganize the entire profession in such a fashion as to prevent anybody practising dentistry without a medical diploma. In order that the mechanics may not be deprived of their means of livelihood, however, he has decreed that any one of them may practise on condition of passing an examination to prove his technical skill and theoretical knowledge; but this permission only applies to the present, and the Hungarian mechanic will in consequence die a natural death in the course of the next generation. The history of the origin and rise of the mechanics is not without a certain interest. Fifty or sixty years ago no Hungarian doctor ever dreamed of doing his own dental work, which was consequently left entirely in the hands of monks, barbers, and even locksmiths. About the year 1860, however, a law was passed forbidding all save qualified doctors to extract teeth or do any other purely medical work in the mouth. The mechanical work, however, was still left to the mechanics, and owing to the fact that in small towns and villages the doctors disregarded the law and refused even to draw teeth, much of this work naturally passed into the hands of unqualified persons, the doctors conniving at it and even supplying them with patients. Thus it happened that in course of time the mechanics became indispensable in the provinces, and their numbers steadily increased. Several unsuccessful attempts were made to suppress them by refusing to grant licences; but the deputations sent by them to the Minister of Public Health have hitherto always resulted in the granting of another five or six years' concession. This time, however, the decision of the Minister is irrevocable, and he has expressed in writing his fixed determination to eliminate the mechanic from the ranks of the dental profession in Hungary.

Dr. Jakob Justus, chief dermatologist to the Jewish Hospital at Budapest, has just published a book in which he strongly advocates keeping patients suffering from skin affections in bed. Most dermatologists, he says, do not realize that bed is part of the proper treatment of skin diseases, they being *par excellence* "ambulatory" diseases; but he holds that, as a general rule, in the case of inflammatory diseases such as eczema, erythema, and other dermatoses connected with circulatory disturbances, excellent results may be obtained by keeping the patient in bed for a week or a fortnight. Local treatment, formerly useless, often proves highly successful under these conditions, whilst in some instances the trouble disappears without any treatment save that supplied by the enforced rest. This may be attributed either to the soothing influence exercised by rest upon a disordered nervous system, or to its effect upon the blood vessels, as in acute circulatory disturbances. Diet also plays a very important part in the treatment of skin diseases, a fact which is now universally recognized by modern dermatologists. Opinions are unanimous regarding the efficacy of an exclusively milk and vegetarian diet for such a disease as dermatosis herpetiformis and the benefits to be derived from a purely vegetarian diet by patients suffering from psoriasis. In diseases where there is much irritation the suppression of smoking has often led to the happiest results. Dr. Justus has observed in several instances that nothing increases itching so much as tobacco, particularly when consumed in the form of cigarettes. Many obstinate cases of eczema and pruritus, he says, can be completely cured by complete abstinence from smoking.

Correspondence.

A HOSPITAL FOR PAYING PATIENTS.

SIR,—The enclosed is a copy of a letter I have forwarded to the Secretary of the proposed Imperial Hospital for Paying Patients, in reply to the letter enclosing the prospectus, which has presumably been sent to all the members of the medical profession in London. I should feel greatly obliged if you could find space for it in your forthcoming issue.—I am, etc.,

London, W., Nov. 26th. LAWRIE MCGAVIN.

November 25th, 1911.

To the Secretary of the Imperial Hospital.

Dear Sir,

Although I am sure that some such scheme as that of which you have issued a prospectus is a very desirable move, I cannot help feeling that in its present form it will not find favour with the medical profession; I might almost say I trust it will not. I have always been very strongly of the opinion that the personal, pecuniary, and commercial interest which I am aware is held by some members of the medical profession in certain nursing homes at the present time is most derogatory to the profession, and is by no means in the best interests of the general public. In the second place, there is, as a matter of fact, very little difficulty in getting such patients as this hospital proposes to deal with into nursing homes, some of which exhibit quite as high a standard of efficiency as many of our smaller hospitals, at the sum mentioned as the minimum charge in your prospectus. Thirdly, why, if the hospital is to meet the requirements of those "who must decide between ordinary charity hospitals and nursing homes," should provision be made for the "letting of the larger rooms at a higher rate"? If the demand at the three guinea rate is going to be so great, there ought to be no difficulty in filling the beds at this rate. If, on the other hand, the larger rooms are to be constructed for the purpose of obtaining larger returns, an injustice will at once be done to the class of patient for whom the hospital is presumably intended, as well as to the already existing and all too numerous nursing homes of the better class, and an element of commercialism will be introduced which will be neither conducive to success nor compatible with dignity. Lastly, the proposed site appears to me to be most inconveniently placed for the bulk of the profession who are likely to use the hospital. Brook Street and Grosvenor Street are at a considerable distance; Harley Street and Wimpole Street are, to say the least of it, a long way off; and time is a consideration when small fees only are in question, as I take it they would be in such a hospital. Personally, I am very much in favour of some scheme which will meet the requirements of the class of patient under consideration, and which will enable

the medical profession to accept a moderate fee for services rendered, seeing that at present such fees are entirely lost to its members; but I would suggest as a basis the following conditions at least:

1. No medical man to have any pecuniary interest in the hospital other than his own fees.
2. No patient to be admitted who is able to pay more than three guineas per week.
3. No patient to have a prior claim to admission by reason of any extra payment offered, personal influence, or professional interest.
4. The Committee of Medical Men to be elected by their fellows in the profession in London, and not by the Board of Directors.

I have the honour to be, Sir,
Yours faithfully,
LAWRIE MCGAVIN, F.R.C.S.

THE VARIETIES AND TREATMENT OF ASTHMA.

SIR,—All are agreed that the breathlessness in spasmodic (non-cardiac) asthma results from a generalized narrowing of the smaller tubes.

What is the cause of this narrowing? While I am not prepared entirely to eliminate the muscular factor from all cases, I can have no doubt that in a large number, at all events, the asthmatic paroxysm is due to a swelling of the mucous lining of the small tubes. Let me briefly give one reason for this conclusion.

Take such a case as the following: A patient is suddenly seized with smarting and tingling of the conjunctivae and nasal mucous membrane, accompanied, perhaps, with coryza and sneezing; he has a sort of hay asthma, in fact. This peculiar affection of the mucous membrane gradually travels down to the lungs. He becomes aware of a rawness in the throat; he next notices a peculiar sensation at the upper part of the sternum, indicating that the trachea and larger bronchi are being affected; this sensation gradually spreads downwards, and by the time it has reached the lower part of the sternum he begins to feel breathless, and he knows that the asthmatic paroxysm has begun. By this time it will probably be found that the nasal symptoms have entirely disappeared.

Who can doubt that in such a case the paroxysm of breathlessness is due to turgescence of the mucous membrane of the smaller tubes? All the evidence points to the conclusion that the same turgescence which affects first the mucous membrane of the eyes, nose, and throat, subsequently involves the mucous membrane of the bronchial tubes.

That in the class of case I am considering the condition of the bronchial mucous membrane is precisely the same as that of the nasal and conjunctival mucous membrane at the onset of the attack is shown by the similarity of the secretion in each case. Thus I have observed that the conjunctivae in these cases may secrete pellets of mucus of precisely the same character as those which are coughed from the tubes after the dyspnoea has reached its acme.

I wish now to draw attention to a very interesting feature of the paroxysm—I mean the expanded condition of the chest. One of the indications of the oncoming paroxysm is the gradual enlargement of the chest. A woman, for example, is able to tell that an attack is impending by the increasing tightness of her corset and the increasing epigastric distension. This latter, which is largely due to the descent of the diaphragm, is often attributed by the patient to flatulence, and this, again, to some article of food which has disagreed and is thus falsely held responsible for the attack.

At the height of the attack the chest is, in point of fact, in a position of complete inspiration. It is expanded to its utmost limit by the vigorous—I had almost said furious—contractions of the inspiratory muscles; the shoulders are raised and the diaphragm is depressed as far as possible. The expiratory muscles, on the other hand, contract but feebly—a fact which Salter, curiously enough, failed to recognize; indeed, in his classical description of the paroxysm he appears to infer that the expiratory muscles act as vigorously as the inspiratory.

What is the meaning of this thoracic enlargement? I could see no object in it. I have no doubt that it is an effort at compensation. It comes under a law I have always insisted on—the law that in all cases of dyspnoea the chest tends to increase in size. It is surprising that this law has not long since been recognized by physicians. The enlargement is brought about by the preponderating action of the inspiratory muscles, the expiratory muscles in most cases acting but little, if at all. It is only in certain forms, as in whooping-cough, and in the dyspnoea resulting from gross mechanical obstruction (as in membranous laryngitis and in throttling), that vigorous expiratory contractions occur.

This dyspnoeic expansion is, I say, compensatory; its object is to minimize the evils attendant on dyspnoea. Not only is the inspiratory position the one most favourable to the circulation of the blood through the lungs, but it is also the position which allows the maximum amount of air to reach the vesicles. For this twofold reason it is far easier when out of breath to expand the chest and to breathe about this expanded position than to keep the chest at the mean position of ordinary breathing and to breathe about that mean. Again, it will be found that the breath can be held much longer with the chest in deep inspiration than in deep expiration.

The position of inspiration allows the maximum amount of air to reach the vesicles, because the inspiratory position causes not only full expansion of the vesicles but likewise a widening of the smaller tubes, the patency of which is favoured by the tautness (elastic tension) of the pulmonary tissue. Now, when the mucous lining of these tubes is swollen, as in asthma and bronchitis, it is of obvious advantage that the tubes should be held open as wide as possible, and hence it is not surprising that in both these conditions the chest is expanded. If you ask a bronchitically disposed person to wheeze he will expire deeply, and the wheeze will be heard loudest towards the end of expiration. The wheezing sound is obviously brought about by the narrowing of the smaller tubes, already in large degree narrowed by disease.

Now we have seen that during the asthmatic paroxysm the smaller tubes undergo considerable narrowing, and, on the assumption that this is due to a swelling of their mucous lining, one can readily understand the urgent need there is to expand them to their utmost, and why, with this end in view, the patient should make violent inspiratory efforts; also how it comes about that he *dare not even attempt to expire deeply*.

I say attempt, but in truth he could not take a deep expiration if he would, for the simple reason that any but a very moderate expiration would effectually obliterate the already dangerously narrowed tubes, and render impossible any further escape of air from the vesicles.

We have here probably an explanation of the fact that while normally inspiration and expiration are about equal in duration, in the asthmatic paroxysm the latter is three or four times longer than the former. The patient in his agony of dyspnoea takes sudden short inspirations followed by extremely cautious long-drawn-out expirations, during which the vigorously contracted inspiratory muscles are gradually permitted to undergo slight relaxation, while the glottis is partially closed to prevent the too rapid egress of air, thus causing the well-known expiratory wheeze.

But while the need to maintain the smaller tubes in a maximum degree of dilatation is one reason why the chest is expanded during the asthmatic paroxysm, it is certainly not the sole reason. This is shown by the fact that, no matter how induced, dyspnoea always tends to cause thoracic expansion. Any one can prove the truth of this for himself by a self-induced dyspnoea, in which there can be no question of any narrowing of the tubes. All that is necessary is to close the mouth and to compress the alae nasi so that only a meagre current of air can pass into and out of the lungs. The chest will then, as regards the ingress and egress of air, be in a condition very similar to that of the asthmatic during his paroxysm. It will be found that under these circumstances the impulse to inspire becomes increasingly urgent, while expiration appears to remain passive, and that the chest steadily gets bigger and bigger, until by the time dyspnoea has become acute it will have assumed the position of full inspiration. We have, so it seems to me, in this simple experiment proof positive that the expanded position of the chest in dyspnoea is instinctively adopted as a means of compensation.—I am, etc.,

London, W., Nov. 27th. HARRY CAMPBELL.

SIR,—I should be much obliged if you would kindly allow me, as a sufferer from bronchial asthma and also from the point of view of a general practitioner, to add a

few lines to the not very instructive after-discussion in your columns.

In my opinion no one knows what the pathology of true bronchial asthma is. Nothing but what has been known for many years has been written in your columns during the discussion. We sufferers do not care whether bronchial asthma is due to this or that—what we want to know is how to cure this dreadful malady. I will ask the various writers on this subject if they have ever cured a case.

I have been a sufferer for some twenty years, and it is only during the last two years it has interfered to any large extent with my practice. I now cannot go for a longer period than three weeks without on attack, and this is always followed by bad bronchitis. I have tried every treatment I have read of, to obtain a cure, or even to keep the attacks further apart. I have had nasal polypi removed and a deflected septum put straight, and since this operation have been considerably worse. I should be very grateful if any of your readers would give me advice as to keeping the attacks further apart and limiting the amount of bronchitis that follows.

In conclusion I should like to say I am dictating this letter from my bed while recovering from an attack.—I am, etc.,

November 25th. A General Practitioner.

Sir,—I do not feel competent to enter on a discussion beside which that on the Arian dogma and the Socinian schism appears simple and comprehensible; but I thought notes of the following case might be interesting to the contestants.

M. D., aged 51, of typical West Saxon appearance, was formerly a sailor, but twenty-five years ago his arm was amputated for bone disease, and he became an oil hawker and subsequently a bath-chair man. Eighteen months ago he had to give up work on account of asthma and shortness of breath. Some six months ago he had gradually sunk to the submerged tenth, and came under my care. He complained of cough, spitting, nocturnal paroxysms, and general shortness of breath. I gave him a mixture containing ammonia, ammoniacum, and stramonium, but after a week or two of this he was no better. I then added asthma powders to burn; they relieved the paroxysm temporarily. As he complained of indigestion and depression, I next put him on ammonium chloride and acids. There was no improvement.

About this time I noticed how very short of breath he was on moving, and came to the conclusion that it was a case of "cardiac asthma," by which I meant that he had asthma which was not dependent on a pure neurosis, nor on any ascertainable respiratory condition, but on some defect of the circulatory apparatus. There was nothing much to be heard amiss with the heart, but there was high tension. There was no dropsy, no very obvious sclerosis, and the urine was normal. I put him on potassium iodide. The dyspnoea may have been a little relieved, but the paroxysms were no better, and he still spat and coughed during the daytime. As it was now rery hot I suggested a change to his native air near Salisbury. He was away four weeks, but returned not perceptibly better. I then put him on nitro-glycerine. He thought he could move about better with this medicine. It made his head ache, and he thought the asthma was less severe. About three weeks ago I gave him some pills of "guipsine." This is a French preparation. Each pill contains 5 cg. of the useful principles (two saponines and an alkaloid) of mistletoe. He took three a day; the directions are to begin with nine and reduce to four. After a week or two he said he was improving. He could walk better. Last week he was much better. He could walk a mile; for a twelvemonth he had been unable to get beyond the gate of his cottage. He has no cough during the day now, and only a fit of coughing at night. He does not make a roaring noise and struggle for breath any longer. His pulse soon after a two-mile walk was 80, and not much tension. There is an occasional rhonchus on listening to the chest. No expiratory murmur. I shall not keep him very long on guipsine, for I should not be surprised if there was auricular fibrillation. The heart is not enlarged, there is a presystolic bruit, not very marked, and the rhythm is regular. But, as in phthisis, if you hear very little, but the objective symptoms are considerable, expect the worst.—I am, etc.,

Bournemouth. Nov. 5th. George Mahomed.

In Dr. Francis Hare's letter under this heading in the Journal for November 25th, p. 1444, column 1, line 4 from foot, the word "obstruction" should be substituted for "spasm"; the latter term is likely to lead to misconception.

UNIVERSITY AND COLLEGE REFORM.

Sir,—The object of my motion before the meeting of Fellows and Members of the Royal College of Surgeons on November 16th, was to draw the attention of the Council to the danger of relying solely upon the present Royal Commission on University Education in London and the urgent importance of obtaining the degree position by the only positive way open to them. What is it? And to present a determined front, and within their own college, would be a firmer inducement for the Royal Commission to the colleges properly. That would be better than haphazardly looking for some slight measure (used in the hackneyed sense) of success from the general jumble of the many management details abont the University of London, and that, so far, the Royal Commission has been almost entirely engrossed upon.

Under the Act of Participation, 1898, the Royal Colleges have the right to give degrees, as the Royal Colleges are included with and belong to the University of London. But their representatives have utterly failed either in duty or business capacity to force the Senate to make their College degrees available under mutual regulations; and which latter the Act curiously and contradictorily also declares must be made. No right law can mean that it gives and takes away in the same direction. The correction being that the Colleges should definitely insist upon a separate and autonomous Royal College Board, but to be represented also, as now, upon the Senate.

Another temporary doubt has been the rather fickle and unreliable attitude of the Royal College of Physicians. But they cannot really forget they constitute a partnership, and this vital common ground of the degrees must be settled conjointly and honestly maintained.

It was not necessary to press my motion to a division for it had already been carried, and also approved by the Council. As the Left Hand Party, that represents their part section of the members, put it, "it was no use whipping—that is, goading—a willing horse. The Council need not ratify any resolution, but when the matter introduces an important debate, and with far acquiescence, as in this case, it does not need the motion to be pressed; but, as it leaves it in the hands of the Council, it may be hoped that, as a guide to a difficult question, it will be dealt with at a subsequent meeting of the Council, and any definite action announced in the report. If this debate, and in which every side is interested, has thus put the Council on their guard, and has been of some assistance to them, it will have served its purpose and that of the majority of the Fellows and Members.—1 am, etc.,

H. Elliot-Blake.

P.S.—The triple or one portal system (*sic*) that was mentioned below my letter (November 11th) is another of the many false scents. It refers, of course, to the General Medical Council reform. The General Medical Council are quite capable of looking after themselves, and their supervision of the examinations is already quite perfect, and enough. It seems doubtful if they have any desire or necessity to embark upon the extraneous function of granting degrees to and without any university course (unlike Germany, our Government owns no universities) and so granting a portal to nowhere. But to add another stock pattern M.D. to the present proprietor's titles, and other M.D.'s too, can hardly be a simplification or practice. A dull level would be unworkable in Scotland or Ireland especially when their views might very well not coincide with those of England. Besides, the Universities have autonomous government from their charters, and which rightly means individual distinction; and they certainly would not submit to it so long as their members held off and controlled the General Medical Council.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY INDUCING AN ARTIFICIAL PNEUMOTHORAX.

SIR,—Referring to Dr. Claude Lilingston's interesting letter under the above heading, which appeared in your issue of November 11th, I think due credit should be given to Professor Forlanini, at one time of the Turin University. In 1882 he published in the *Gazetta Medica di Torino* "Una Contribuzione della Terapia Chirurgica della Tisi Pneumotorace Artificiale." In 1894 and 1895 he published further articles on the same subject in the same journal, reporting early attempts to induce artificial pneumothorax and his first successful case.

I met Professor Forlanini at the Italian Congress of Medicine held at Turin in 1895, and he informed me that in suitable cases the treatment was most successful, but that where adhesions were present it was not unassociated with considerable danger.

It has always appeared to me that there is one mechanical disadvantage associated with the treatment under consideration—namely, the residual interval which in most cases must remain between the lung and the chest wall, even assuming complete healing of the pulmonary lesion. The healed lung must be smaller than the original intact lung. The healed lung cannot therefore fill the thoracic cavity, and consequently the mechanical conditions of respiration must remain defective.

The plan which I have adopted in certain cases, extending over a period of twenty years, fulfils in a modified way some of the advantages obtained in their full extent by artificial pneumothorax—namely, it partially rests the lung, and it takes the pull off adhesions, in the latter manner diminishing a source of serious irritation. The method of which I am writing, moreover, determines a greater flow of blood to the apex of the lung—a result which occasionally leads to haemorrhage, but which, I believe, also causes an increased rate of healing, presumably by the determination of antitoxins to the diseased area.

The method of which I speak is the systematic strapping of the lower part of the chest wall so as to reduce the capacity of the thoracic cavity. Results are best in unilateral disease of the apex in young patients.

It is, I think, generally accepted now that no one method of treatment is adapted to all cases. And on this principle I am personally more inclined to adapt all methods of treatment to one case—strapping, antiseptics, especially guaiacol and iodine externally applied, exposure to direct sunlight, tuberculins, autovaccines, fresh air, and good but infrequent meals, but no stuffing.—I am, etc.,

Montreux, Nov. 13th. STUART TIDEY.

THE TREATMENT OF OBESITY.

SIR,—The BRITISH MEDICAL JOURNAL has rendered excellent service to the community in analysing and exposing the worthlessness of the numerous quack remedies so freely advertised in the press. To account for the large expenditure of money in puffing certain preparations guaranteed to reduce obesity, there must be a large number of people in this country who are, or believe they are, too rotund. It is time the public were aware that the employment of drugs for the purpose of getting rid of adipose tissue is not free from danger.

The following brief notes of a case under my care are, I think, worth recording: The patient, a man a little over 40 years of age, was in his time a well-known athlete. On leaving become a *bon vivant*, and not taking much exercise he became corpulent—not excessively so, but sufficiently to give him what he called a "bow window" of considerable prominence. He had recourse to the belauded patent medicines whose names caught his eye daily, and commenced to take them *all* in large quantities, with no other result than a serious impairment of his digestive functions necessitating medical treatment. On being relieved of his gastric trouble the question of reducing his superfluous fat was discussed. He had some gouty symptoms, but no cardiac or renal mischief and no glycosuria. The treatment was commenced with von Noorden's dietary as given in Nothnagel's *Handbuch*, but after a fortnight he rebelled against this regimen as being too exacting. I then carried out for him the following simple dietetic formula:

For breakfast weak tea sweetened with saccharin, two boiled eggs, starchless and sugarless bread (palatable loaves and biscuits of this quality were obtained from Callard and Co., Regent Street, W.) with butter.

For lunch 6 oz. of minced lean beef, green vegetables, no potatoes or sweets, a little fruit, with a tumblerful of hot water and the prescribed bread.

Afternoon tea to be taken with a starchless biscuit.

Dinner to be the same as lunch, with a tablespoonful of whisky to a tumblerful of Apollinaris water.

At bedtime a tumblerful of hot water.

He was also told to take walking exercise daily to the point of fatigue. A moderate amount of tobacco was consumed. A full dose of sodium sulphate was given twice a week as an aperient. This course of treatment was continued for a little over three months, by which time the patient had got rid of his redundant adipose tissue, was in good health and condition, and weighed 11 st. (This he called his fighting weight.) Although carbohydrates are not now considered inadmissible in obesity, as they are believed to be converted into carbon dioxide and water, I was sufficiently conservative to eliminate them largely from my patient's food.

There is very little doubt that most men eat more than is requisite for the bodily sustenance, or that this overeating, together with want of sufficient muscular exercise, are responsible for a vast amount of disorders of the system. An aphorism of a once famous surgeon—George Cheyne—may here be recalled:

> Every wise man after 50 ought to lessen at least the quantity of his aliment, and if he would continue free of great and dangerous distempers and preserve his senses and faculties clear to the last he ought every seven years to go on abating gradually and sensibly, and at last descend out of life as he ascended into it; even into the child's diet.

—I am, etc.,

London, S.W., Nov. 24th. WATKIN W. JONES.

SWEETS IN CHILDHOOD.

SIR,—This discussion appears to be wandering from the practical point, which may be briefly stated thus: Are sugars eaten without cleansing (or detergent) foods a common cause of caries of the teeth? Appeals to Nature, although valuable, must be interpreted with caution, and in this instance it is particularly important to remember that sugar, with the single exception of honey, exists in Nature only as a part of detergent foods.

There is, I think, convincing evidence that caries, in its initial stages, is due solely to the acid fermentation of carbohydrate food in contact with the teeth. As the fermentability of the different forms of carbohydrate food is practically the same, the quality of importance is the liability of the food to stick in the crevices of the teeth. Dr. Sim Wallace has produced much evidence showing that sugar, notwithstanding its solubility, does actually stick in the crevices of the teeth to a very considerable extent, and I would refer those interested in this matter to his published works. The relative degrees in which various foods (starchy and sugary) stick to the teeth is no doubt a matter that could be further investigated with great profit.

It is probably not so much the quantity of sugar, as the way in which it is eaten, that is of importance. In some concise directions for the prevention of dental caries, which I have drawn up with Dr. Wallace's help for use in our schools, the only reference to sugar is

> Sweets should never be taken between meals, nor the last food in a meal; but only along with food requiring mastication.

The amount of sugar to be eaten is not dealt with, but the object aimed at is that no sugar or starch shall be left in the crevices of the teeth after meals. Probably even those who think that large quantities of "refined" sugar are desirable in a child's diet will allow that it is undesirable that this should be eaten at all times of the day irrespective of meals, and that particles should be left sticking in recesses and crevices.

Children have undoubtedly a very pronounced liking for sugar, and until sugar had been abstracted by elaborate processes from its vegetable sources, no doubt this liking could be taken as a fairly safe guide. Is it so certain that instinct can be relied upon now that sugar can be obtained so easily in unlimited quantities, and completely divorced from its natural accompaniments? Is it not more scientific to attempt to regulate the eating of this refined article, so

as to approximate to natural conditions by limiting the amount, and by prescribing that it shall only be taken along with food requiring mastication? Moreover, as Dr. Wallace has pointed out, the craving for sugar may be to some extent pathological, owing to the fact that starchy foods are now usually swallowed rapidly, without the partial transformation into sugar that should take place in the mouth.

The condition of the teeth of the inhabitants of this country is a disgrace to our civilization and a grave menace to the public health, and it is imperative that the medical profession should take up the question of the prevention of dental caries seriously, and apply to the greatest advantage the knowledge that has been laboriously accumulated by the dental profession during the last twenty years. So far this knowledge has remained almost unutilized by us.—I am, etc.,

JAMES WHEATLEY,
Medical Officer of Health and School Medical Officer for Shropshire.

Shrewsbury, Nov. 27th.

THE CAUSE OF CANCER.

SIR,—Having regard to the views and claims advanced by Sir Henry Butlin in his recent lectures, I am induced to invite his and his readers' attention to the thesis I put forward on this question so long ago as 1888 (*Lancet*, August 25th, p. 395, "In what does Cancer Consist?"), and more recently in the BRITISH MEDICAL JOURNAL of December 26th, 1903. These views have received corroboration by the work of Messrs. Farmer, Moore, and Walker, published in the *Proceedings of the Royal Society*, 1903, wherein reference is made to my suggestion of twenty-three years ago.—I am, etc.,

WILLIAM J. COLLINS.

University of London, Nov. 26th.

ACUTE POLIOENCEPHALOMYELITIS IN CORNWALL.

SIR,—In the paper upon poliomyelitis in Cornwall, by Dr. Gregor and myself, I supplied the facts connected with Penryn. I am therefore prepared to substantiate them without calling upon Dr. Gregor.

Dr. Blamey in his letter[1] states that inferences were made in regard to the disease being due to insanitary conditions. If Dr. Blamey had understood the paper aright he would have clearly seen that no conclusion as to the cause of the disease was come to. What was stated were observations coming under my notice in the hope that some definite conclusion might be arrived at in the elucidation of this terrible disease.

In the investigation of a disease of the origin of which we know very little, I think that Dr. Blamey must admit that one is perfectly justified in bringing forward every fact bearing upon the subject. Furthermore, in the Massachusetts epidemic bathing in sewage-contaminated water was an alleged cause, and we pointed out that though the conditions were the same in Penryn no cases had apparently arisen from this factor.

In the Local Government Board inquiry on the subject papers were issued asking for information, and Dr. Blamey must have filled up seven or eight of these. May I point out to him that some of the questions asked in these papers referred to the cleanliness and sanitary conditions of the patients?

I had no information regarding the sanitary conditions of places where other cases occurred, and had to confine myself to Penryn. Some of my cases occurred in the cleanest houses, others in the dirtiest.

In regard to diseases which are "well known and well proved to be dependent upon their origin on insanitary conditions," I hardly know what Dr. Blamey means. But, looking at his own reports for the last two and a half years, I find that we have had measles, scarlet fever, whooping-cough, mumps, diphtheria, epidemic pneumonia and diarrhoea, and typhoid; and as there have also been chicken-pox and poliomyelitis which have not been reported upon, I think Penryn has had its fair share of zymotic diseases.

That many of the houses are in a filthy and insanitary condition and that the streets were badly scavenged is freely admitted here, and I may say that a large majority of the town council have taken up a very strong position in the matter, and the streets have already been placed beyond reproach, a scheme for the better housing of the poor is being discussed, and other insanitary conditions are being rectified. In due time one of the naturally most beautiful spots in Cornwall will be placed in a irreproachably sanitary condition.—I am, etc.,

LEONARD B. HOPPER.

Penryn, Nov. 27th.

[1] BRITISH MEDICAL JOURNAL, November 25th, p. 1446.

Obituary.

JOHN WISE MARTIN, M.D.,

CONSULTING SURGEON TO THE JESSOP HOSPITAL FOR WOMEN, SHEFFIELD.

BY the death of Dr. John W. Martin, on November 23rd the medical profession and the public of Sheffield have suffered a great loss. Dr. Martin had been unable to follow his practice for many months, but the end, which was due to cerebral apoplexy, came very suddenly. Sprung from an old Irish family, the son of James Martin, F.R.C.S.I., prominent practitioner in his day in the South of Ireland, he was born at Portlaw, co. Waterford, in 1846. He was educated at the Queen's College, Galway, and at Dublin, Edinburgh, and Paris. Dr. Martin settled in Sheffield in 1879, and for over thirty years carried on a high-class general practice with great success. His assiduous professional attentions were greatly valued, and he was regarded both as a friend and a trusted medical adviser. For many years he was Secretary of the Sheffield branch of the St. John Ambulance Association, and his visits to the surrounding district as class examiner were much appreciated by his colleagues in and near Sheffield. His social qualities were of a high order, and he was popular alike with laymen and his professional brethren. His services as Secretary for many years of the Sheffield Medical Club were acknowledged by a suitable present. He was a Past-President of the Yorkshire Branch of the British Medical Association, the Sheffield Medico-Chirurgical Society, and the North of England Obstetrical Society.

Dr. Martin served over twenty years with the Hallamshire Rifles, joining the battalion in 1883 as Actin Surgeon; six years later he attained the rank of Surgeon Captain; that of Surgeon-Major in 1893, and Senior Surgeon-Colonel in 1903, and he retired with this rank, the V.D., and permission to wear uniform. He was interested in the Boys' Working Home, to which he was honorary medical officer.

Dr. Martin was twice married, and leaves a widow and five children—a daughter and four sons, of whom three are members of the medical profession and one a medical student.

The funeral was private, in accordance with his own expressed desire, and the body was cremated at the Sheffield Crematorium on November 25th.

A medical friend writes: For twenty-two years Dr. Martin was Honorary Surgeon to the Jessop Hospital for Women, and he fulfilled the exacting duties of that post with credit to himself and to the satisfaction of his colleagues and patients. Without in any way disparaging the surgical side of his speciality, it may perhaps be just to say that he shone more as an obstetrician than as an operator. He was Lecturer on Midwifery to the University and examiner under the Midwives Board. His cheery smile and genial presence made him a general favourite. He could tell an Irish story well, and many a witty tale he told. By precept and example he strove to allay petty professional jealousies, and did much to help to make his brethren dwell together in unity. Straightforward and uncompromising in denouncing what was wrong, he entertained the most kindly feelings to all, and never imputed a mean motive to any one. Truly, it may be said of John Martin, "He tried to do his duty."

Another friend, after reading the above, added the following lines: All of us in Sheffield will endorse the references to his qualities. He was genial, optimistic, full of self-confidence, a warm friend and honourable foe, rarely, if ever, imputing mean motives, hospitable to a high degree, a connoisseur of dinners. He wrote a small book

on ambulance work, and also a book on *Phonetic Spelling as an Aid to National Education*. He was a keen fisherman and an excellent teller of stories.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. H. Gibbons, Professor of Gynaecology in the Cooper Medical College, San Francisco; Dr. Vinzenz Fukara, a well-known ophthalmologist of Vienna, aged 64; and Dr. Eyvin Dang, Editor-in-Chief of the *Norsk Magazin for Laegevidenskaben*.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Proposed Demonstratorship in Medicine.

THE General Board of Studies has recommended that, in place of the Lectureship in Medicine, a Demonstrator in Medicine should be appointed by the Regius Professor of Physic to give elementary instruction in medical diagnosis, and, in addition, to give assistance to the Regius Professor.

Degrees.

The following degrees have been conferred:

M.B., B.C.—R. D. D. D. Brownson, A. F. Morcom, W. Shipton.
M.B.—P. S. Wilson.

UNIVERSITY OF GLASGOW.

Appointments.

THE Glasgow University Court has appointed Dr. William B. M. Martin as Lecturer in Bacteriology, to succeed Dr. Carl H. Browning, who has been placed in charge of the new clinical laboratory at the Glasgow Western Infirmary. Dr. Martin graduated M.B., Ch.B., with honours, in 1905, at Glasgow. In 1906 he was appointed to a Carnegie Scholarship in Pathology, and in April, 1908, to a Carnegie Fellowship in Experimental Pathology, which he held till April of the present year. He graduated M.D., with honours, in 1910.

The following University assistants have also been appointed: *Muirhead Chair of Obstetrics and Gynaecology*, A. Louise M'Ilroy, M.D., D.Sc.; *St. Mungo Chair of Surgery*, W. C. Mackie, M.B., Ch.B.; *Notman Chair of Pathology*, A. M. Kennedy, M.B., Ch.B.; *Muirhead Chair of Medicine*, J. Henderson, M.D.; *Chair of Pathology*, G. H. Wilson, M.B., Ch.B.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

COUNCIL Meeting of this Association was held at 34, Copthall Avenue, on November 21st. Surgeon-General Evatt, in the absence of Dr. Balding, Chairman of Council, presided. A letter was read from Dr. Balding regretting his inability to be present on account of illness. On the motion of Dr. Holder (Hull), a letter of sympathy was directed to be sent him.

Conditions of Poor Law Appointments.

It was reported that the dispute between the Islington Guardians and the local profession had been settled, and the "Warning Notice" withdrawn. There had been several applications for the appointme nt, but Dr. Cox, Deputy Medical Secretary of the British Medical Association, had interviewed these candidates, who had all agreed to refuse to undertake, in event of appointment, difficult midwifery cases or any other terms than those laid down by the Poor Law Orders. The "Warning Notice" was accordingly withdrawn, as the candidate finally chosen was not required to accept the conditions complained of.

It was reported that in the dispute between the Shoreditch Guardians and the local profession, Dr. O'Sullivan had been elected to the medical officership of the No. 3 District, but the Honorary Secretary pointed out that the effect of local professional action had been to raise the salary of the No. 3 district from £115 to £150 a year, and this was a distinct gain.

Medical Fees in Case of Paupers Leaving Money.

The correspondence between the honorary secretary and Dr. Pineo of Axbridge and the clerk to the Axbridge Guardians was laid before the Council. Dr. Pineo had attended under a parochial order a pauper who had died leaving a considerable estate. The doctor claimed to be paid extra out of this estate for medical attendance on the deceased. The next-of-kin, who inherited the money, did not dispute Dr. Pineo's claim, and so the matter ended satisfactorily as far as he was concerned; but correspondence had passed between the clerk to the Axbridge Guardians and the honorary secretary as to the legal position of the Guardians in the matter. In a report of a board meeting published in a local paper the clerk was said to have advised his board that it could not recover medical expenses out of the estate of a deceased pauper. The honorary secretary had written disputing the accuracy of this ruling. He had contended that under the Poor Law Amendment Act of 1834 the guardians were entitled to recover the cost of "maintenance" of a pauper under such circumstances, and that "maintenance" included medical charges. The clerk to the Axbridge Guardians, however, had not been converted to his view. The Council expressed its satisfaction that Dr. Pineo had recovered his charges, and thought that the legal opinion of the honorary secretary was probably correct.

National Insurance Bill.

The Honorary Secretary reported the action taken with regard to the effect of the National Insurance Bill on the interests of Poor Law medical officers, if it became law. The Council had seen in the last issue of the *Poor Law Medical Officer* the memorial sent to the Chancellor of the Exchequer in answer to his request to have in writing a statement of the grievances likely to arise to Poor Law medical officers through the working of the Act. No further communication had as yet been received. It was resolved to postpone further consideration of the matter till an answer was received from Mr. Lloyd George, and in the meanwhile to leave it in the hands of the honorary secretary.

Statistical Returns.

The Council considered the recent circular of the Local Government Board respecting statistical information with respect to all paupers under treatment on November 4th last. A letter was read from Dr. Milward of Cardiff, enclosing another from the clerk to the Cardiff Guardians, which very clearly denoted the amount of extra work thereby thrown on the medical officers if the requirements of the Local Government Board were to be properly carried out. He wished to know if any action was to be taken by the association.

The Honorary Secretary said that he had written to the Local Government Board on the subject, but had as yet received no answer. He thought, personally, that such duties did not come under Art. 205, and that some extra payment ought to be made, but it was difficult to say what action could be taken at the present time. The Council was strongly of opinion that extra payment should be made for this work, but did not think the time opportune to press the matter. It was resolved to wait till an answer was received from the Local Government Board to the honorary secretary's letter. A reply was subsequently received, and the correspondence is printed below:

34, Copthall Avenue, E.C.,
November 11th.

Sir,

Secretary, Local Government Board.

Special Return of Paupers under Medical Treatment.

On October 27th last a circular was issued by the Local Government Board to boards of guardians in England and Wales, asking for a special return of paupers under medical treatment. In consequence, a request has been made by the clerks of the various unions to the district medical officers throughout the country to furnish a considerable number of details at the cost of much time and labour. It is generally thought throughout the Poor Law Medical Service that some payment should be specially made for this work as not appertaining to their official duties. This matter is to be considered at a council meeting shortly to be held, and I should be greatly obliged if you could give me the following information:

(1) In the opinion of the Local Government Board, is the return referred to above comprised in the duties of Poor Law medical officers under Art. 205, Cons. Ord., July, 1847?

(2) Would the Local Government Board be prepared to sanction a payment made by the guardians for this work?

Yours very obediently,
MAJOR GREENWOOD, M.D., LL.B.,
Honorary Secretary.

Local Government Board, Whitehall, S.W.
November 23rd, 1911.

Sir,

I am directed by the Local Government Board to advert to your letter of the 11th instant, with reference to the special return required by them in regard to paupers under treatment on November 4th, 1911.

In reply, I am directed to state that it appears to the Board that, under Article 205 (1) of the General Consolidated Order of July 24th, 1847, it is the duty of a medical officer to furnish for the purposes of the return the requisite information respecting the case of any pauper who was under his care on the date in question.

I am to add that if in any particular case the guardians should be of opinion that an exceptional amount of work has been entailed upon the medical officer in connection with the return, the Board would be prepared to consider an application from the guardians for their sanction to the payment of a reasonable gratuity.

I am, Sir,
Your obedient Servant,
J. S. DAVY,
Assistant Secretary.

Major Greenwood, Esq.,
Honorary Secretary,
Poor Law Medical Officers' Association,
34, Copthall Avenue, E.C.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Manchester.

IN the annual report of the health of Manchester for 1910, the population in the middle of the year, including the newly-incorporated districts of Gorton and Levenshulme, was estimated at 716,137. The death-rate is given at 15.88, which is considerably lower than in any previous year. In the five years 1871–1880 the death-rate was 28.3, so that there has been a decrease of about 44 per cent. Coincident with the fall of the death-rate there is a decrease in the birth-rate from 28.5 in 1909 to 26.83 in 1910, the decrease in the birth-rate being not quite half of the decrease in the death-rate. The total number of deaths was 11,374 and the births 19,212. The deaths from phthisis and other forms of respiratory disease were considerably the lowest yet recorded, but there was an increased rate from cancer, whooping-cough, and diseases of the urinary organs. The death-rate from cancer was the highest recorded, being 30 per cent. above the average of the last thirty years. The increase is partly due to the increased expectation of life, but at the same time there was a great increase at the years specially affected with cancer. The number of cases of scarlet fever was below the average for recent years. In 1909 the exceptionally large number of 3,700 cases occurred, but in 1910 only 2,324 were notified, compared with 2,593, the average of the previous ten years. The attack rate per 1,000 living was thus 3.36, with a case fatality of 3.46 per cent. The death-rate from scarlatina has steadily declined since 1880, being now only about one-tenth of the rate for that period. This is mostly due to a change in type, as the reduction in the number of cases by no means corresponds to the reduction in the mortality. The greatest number of cases occur in the sixth year of life, but the comparative severity of the attacks in infancy is shown by a case fatality of 11.5 per cent. in the first year and 14 per cent. in the second year compared with the average fatality of 3.4 per cent. The ages of 25 to 30 also show a high fatality of 7.1 per cent., the lowest rate being 0.6 per cent. in the tenth year. Nearly 75 per cent. of the cases were removed to hospital, and the returns from Monsall Hospital, which admitted 1,566 cases, show that 14.3 per cent. had otorrhoea as a complication. In connexion with Monsall there were 68 alleged "return" cases from 65 alleged originating cases, the "return" case percentage being thus 4.47. Two of the originating cases had rhinorrhoea when discharged, but the remaining cases showed nothing abnormal. Some time, however, after discharge, 15 developed rhinorrhoea, 2 otorrhoea, and 4 began to desquamate. The interval between the discharge of the alleged originating cases and the secondary cases was in 7 instances over five weeks, which makes it very doubtful whether these were true "return" cases. There were 498 cases of diphtheria notified, which gives an attack-rate of 0.74 per 1,000 living, and the case fatality was 19.9 per cent. This case fatality was below the rate of the previous ten years, which was 22 per cent., but above the rate for 1909, which was only 17.9 per cent. Manchester has an unenviable position compared with the rest of the country, both as to the prevalence and the death-rate from enteric fever, and though it has been diminishing for some years, the death-rate has not diminished as rapidly as in the rest of the country. The number of cases notified was 358, with 62 deaths, which is an attack-rate of 0.53 per 1,000 living and a death-rate of 0.09. This is more than double the death-rate for London, which is 0.04, and nearly double that for England and Wales, which is 0.05. The case fatality was 17.3 per cent. It is noted that the number of cases is nearly always greatest about October in each year, and it is almost entirely a disease of the artisan and poorer classes. The report says that neither the water nor the milk supply have played any conspicuous part in the spread, but it is confidently assumed that the retention of faecal matter near dwelling-houses is one of the factors which sustain the infection. It has become an article of belief that shell-fish play a decided part, but it is not easy to produce sufficient evidence of this theory. It was formerly possible to ascertain the layings of mussels, and special attention was directed to Conway and certain of the Irish mussels, but we are told that "the dealers now refuse to give information, and we are no longer able to trace the suspected mussels to their source." The fact that the mussel season comes with a rush in September and the greatest number of cases of enteric fever occur about October at any rate agrees with the theory. Dr. Niven thinks that "an appreciable, though perhaps not a large, accession of enteric fever is due to conveyance of infection by flies." Last year an extensive outbreak was traced to ice-cream made at one place, the brunt of which fell on Eccles, though about 50 cases were probably due to this cause in Manchester. On the whole, the suggestion is "rather that there are unknown media of conveyance than that there is some unknown general and continuous force in action." The death-rate from measles was 0.41 per 1,000, and it is noted that there has been a diminution during the last ten years, due in part, no doubt, to the measures taken to deal with cases in the elementary schools. But, though comparatively low in 1910, the death-rate is high when compared with the average rate in the seventy-seven large towns, which have a rate of 0.31. Whooping-cough has been exceptionally fatal, having caused 397 deaths, compared with 238, the average of the last ten years. This is a death-rate of 0.53 per 1,000, compared with 0.29 in the seventy-seven large towns. There was a comparatively low death-rate from summer diarrhoea in 1910, but from a table of temperatures and rainfall for all the years from 1890 there is room for doubt whether we can attribute the low rate to anything but the low temperature of the summer. Tables are given of observations at twenty-four house stations of the number of flies, and it is seen that the fatal cases diminished after about September 10th, in spite of the increase of flies. The interpretation given to the similar behaviour of diarrhoea in other years is that these are fresh flies, which are soon rendered inert at this season by the prevalence of the fly fungus. Ophthalmia neonatorum was made a notifiable disease locally in 1910, and 246 cases were notified by medical practitioners, of which 173 were taken to the Eye Hospital. Midwives notified 204 cases, and the Eye Hospital altogether treated 282 cases of purulent conjunctivitis in infants. In 1908 the physicians of the Eye Hospital advocated the instillation by midwives of 1 drop of a 10 grain per ounce solution of silver nitrate immediately after birth, but the Midwives Supervising Committee did not feel that it could entrust midwives with such a measure of precaution, and simply recommended the use of a boracic solution. In December, 1910, the South Manchester Division of the British Medical Association recommended that competent nursing should be provided free of charge to all cases of ophthalmia neonatorum needing such care, and a special nurse has now been appointed. Every case is visited by the nurse on the same day as the notification is received, and a written description is taken. Instructions are given that the child shall be taken either to a private doctor or to the Eye Hospital, and the nurse afterwards attends to see that the instructions are carried out properly. From the report of the Lady Superintendent of the Health Visitors it is seen that there are now sixteen health visitors, who have paid 4,300 primary and 37,012 subsequent visits to infants. Delicate children threatened with phthisis or children of consumptive parents are visited monthly to see that they get medical advice and treatment, and that they are sufficiently clothed and fed. School children who through sickness are absent from school and whose names are sent by the school medical officer are visited, and the visiting and supervision of neglected children takes up considerable time.

Phthisis.—Since the regulations came into force under which district medical officers and medical officers of Poor Law institutions and later of charitable hospitals have to notify cases of phthisis to the medical officer of health, the administration in Manchester has included a visit to the home of each case notified and an inquiry into the personal and family history, advice and assistance in providing appliances, and directions as to medical aid required by every member of the family, disinfection of the house and as far as possible of the clothing, monthly or fortnightly visits, and cleansing every three months. The number of new cases notified in 1910 was 1,659 and the death-rate 1.49, compared with an average rate of 1.81 for the years 1901–9. The investigations proved that in a very large proportion the phthisical individual had been in intimate and prolonged contact with previous cases, casual exposure not being sufficient to cause phthisis, and also that the person attacked must in some way have been weakened by inherited or acquired feebleness, though there may be doubt whether there is any such thing as a phthisical diathesis. The many histories of recovery seem to show that there may be an acquired immunity. In addition to family infection, the inquiries show a great number of cases where the most probable source of infection was from work-fellows or work-places. There has been reason for suspecting that public-houses were centres of infection, and though most of them are reported to be cleaned daily, the floors are often in a disgusting condition from spitting, in spite of the general provision of spittoons. By an arrangement with the Delamere Sanatorium there are 20 beds reserved for the Manchester Corporation, the conditions for admission being that tubercle bacilli shall have been found in the sputum, that the disease must be in an early stage, that patients must be of the working classes and belong to a household in which there are not less than three persons at risk. Since 1905 there have been 237 patients admitted under this arrangement, of whom 104 have died. Of 30 who were admitted in 1905, 9 are known to be still living, 17 have died, and 4 have been lost sight of. In the homes of consumptives over 260 delicate children have been kept under observation during the year, of whom 62 were almost certainly tuberculous. Dr. Niven gives it as his conviction that the great majority of phthisical persons, especially among the poorer classes, contract the disease after childhood, and that where the history points to the disease having been present in childhood and having recovered, it is a true history, and that reinfection, not resuscitation, is the cause of the attack in adult life. With regard to the influence of poverty, though the most effective precaution is a well-nourished frame, healthy habits, good food and clothes, and a clean dry habitation, the statistics show that after all phthisis is even more a producer than a product of poverty. The fall in the death-rate from phthisis in 1910 has suggested the question, Is there a real advance, or are many cases transferred to pneumonia or chronic bronchitis? That the advance is a real one is shown by the fact that the improvements in the death-rates from pneumonia, bronchitis, and other pulmonary diseases are even greater than those recorded under phthisis, and it may even be surmised that part of the improvement under bronchitis is in reality to be claimed as an improvement in the phthisis death-rate. The inspection of the milk supply has been carried out in a very energetic way. Samples are obtained at the railway stations or elsewhere and submitted for bacteriological examination, and, if any sample is found to be infected, all the cows on the farm from which the sample came are examined. Of the farmers residing in Cheshire, 6.2 per cent. were found to be sending tuberculous milk; of those in

Derbyshire, 8.6 per cent.; and of those in Staffordshire, 5.5 per cent.; while no tuberculous samples came from Lancashire, Yorkshire, Shropshire, or Leicestershire. Taking an average, 6.4 per cent. of the farmers sent tuberculous samples, which is a slight increase over the figure for 1909, but decidedly less than in any other year. For the first time no single cow having disease of the udder escaped, every one being slaughtered in the presence of the inspector. All the carcasses were then inspected, and 19 condemned as unfit for human food, while 5 were passed.

IMPERIALIST.—A good description of a septic tank will be found in Reid and Manley's *Practical Sanitation*, published by Charles Griffin and Co. (Fifteenth edition. 1910. 6s.)

DEPUTY PUBLIC VACCINATOR.—Our correspondent should call the attention of the holder of the appointment to the irregularities, and get an undertaking that they shall not be repeated. Such irregularities are serious, and if not remedied by the action suggested it might become necessary to report the matter to the Vaccination Committee of the Board of Guardians.

PALINURUS.—There is no fixed time in the Poor Law Orders for giving notice of intention to resign an appointment of district medical officer. As medical officers are paid monthly, probably a notice of one month would be valid. The notice, however, should be "reasonable," and probably a notice of "three months" would best meet the necessities of the case. Immediately on the expiry of the notice the retiring medical officer should send in his claim for superannuation. It would probably come automatically, but it is advisable for the officer to claim his rights.

DISPENSING OF MEDICINES BY PAROCHIAL MEDICAL OFFICERS IN SCOTLAND.

SEPTIC states that for several years he has supplied drugs to his parish patients, but that the parish council now proposes to put a stop to this arrangement and to place all dispensing in the hands of a chemist who is resident seven miles from the doctor's house.

*** We may point out that the Local Government Board in Scotland, while not encouraging the dispensing of medicines by parochial medical officers, would not, we think, raise any objection to our correspondent continuing to do so, seeing that the chemist resides at a considerable distance from the doctor's house—a circumstance which is sure to cause no little inconvenience, owing to delay in getting his prescriptions made np. We would advise our correspondent to get some member of the parish council to raise the question and communicate with the Local Government Board, pointing out the distance the chemist is from the doctor's house. If he cannot get a councillor to do this, then he should communicate with the Local Government Board himself, laying all the facts before it.

OVERCROWDING IN HOUSES NOT UNFIT FOR HABITATION.

L.—If a sanitary authority, on the report of the medical officer of health or inspector of nuisances, is of opinion that a house is so overcrowded as to be a nuisance or injurious to health, a notice may be served upon the person responsible for the overcrowding calling upon him to abate the nuisance. If the person so called upon does not abate the nuisance he can be summoned before a court of summary jurisdiction. The court may make an order, with a daily penalty for disobedience, requiring the abatement of the nuisance within a specified time. The justices, before making an order, might take into account alleged inability to take a larger house, but there is no obligation upon the sanitary authority to find a house. There is an appeal from the decision of the court of summary jurisdiction to quarter sessions. The power to close a house unfit for habitation is not now in the hands of the magistrates. Under the Housing and Town Planning, etc., Act, 1909, a closing order can be made by a sanitary authority. An appeal against such an order may be made to the Local Government Board within a fortnight of the making of the order. In considering that appeal the Local Government Board would no doubt take into consideration the ability of the tenant to obtain another house.

H.R.H. PRINCESS LOUISE, Duchess of Argyll, has promised visit the exhibition and sale to be held at 19, Grosvenor mare, by permission of Mrs. Cazalet, on Monday, ecember 4th, from 3 to 6 p.m. The sale will include fine edlework, and woodwork from the Heritage Craft Schools Sussex, and copper, silver, and basket work made by ild members at the various branches. The Guild of ıy Children will give a recital of dance carols and court nces at 6 p.m. The Yuletide festival of the Guild of ıy will be held on Saturday, December 9th, at the rmondsey Town Hall. The programme will include carols, nces, and distribution of Christmas fare and gifts proed by Mrs. Emile Mond, who will preside at the tival.

Medical News.

THE German Balneological Congress will hold its thirty-third annual meeting at Berlin in 1912 (March 7th to 11th).

CAPTAIN THE HON. EDWARD STANLEY DAWSON, R.N., has been appointed Chairman of University College Hospital in succession to the late Earl Cathcart.

THE Bradshaw Lecture before the Royal College of Surgeons of England will be delivered by Mr. R. Clement Lucas on Wednesday next at 5 p.m. The subject of the lecture is "Some Points in Heredity."

MR. ARTHUR HOOD, who has been a member of the Committee of Management for many years, has succeeded the late Mr. John Hampton Hale as Chairman of the Royal Dental Hospital, Leicester Square, London.

THE Lord Mayor of London (Sir Thomas Crosby, M.D.) will preside over a meeting of the staff, teachers, and supporters of the London School of Tropical Medicine at the Mansion House on February 28th.

WE are asked to state that the Naval Medical Dinner, deferred on account of the movements of the various divisions of the Home Fleet, has now been fixed for December 19th. Officers concerned will receive a detailed notice.

MESSRS. SIEMENS BROTHERS AND CO. inform us that their electro-medical business will still be conducted at Caxton House, Westminster, and that all communications with regard to that department of their business should be forwarded to that address, which remains the registered offices of the company.

THE inaugural meeting of the newly-constituted Hospital Almoners' Council was held at Caxton Hall on November 24th, the Bishop of Stepney, Vice-President, in the chair. The council has considerably increased its membership, and now includes sixteen representatives of the governing bodies and medical staffs of twelve London hospitals. The heads of women's colleges in Oxford, London, and Dublin have also joined the council, together with hospital almoners working in London and others interested in the movement. The council will continue to select and train women for almoners' posts, and to recommend them to hospitals. At the meeting a constitution was adopted, and an executive committee chosen. The speakers were Mr. C. S. Loch, the founder of the movement, Sir Edward Brabrook (Vice-President), Dr. R. Hutchison, Dr. T. W. Eden, and Dr. A. Charles E. Gray, former Chairman of the Couneil.

DR. FREMONT SMITH was called to attend a woman, aged 23, in the eighth month of pregnancy. A child in her home had suffered from parotitis, epidemic at the time, without complications. The patient herself was attacked; the malady at first ran the usual course, but on the ninth day, when the ordinary symptoms were subsiding, inflammation developed in the thyroid gland; it became greatly swollen, and both lobes were involved. It did not return to its normal size and condition until the end of three weeks. The temperature rose, when the complication appeared, to 101°, but there was no abnormal change in the urine throughout its course. Fremont Smith observes (*American Journal of Obstetrics*, October, 1911) that a few cases of so-called metastatic thyroiditis have been recorded, chiefly by French writers, but he failed to find any note of its occurrence in a pregnant woman. This appears to him the more surprising as it is so well known that the thyroid is in an unusually susceptible condition. He quotes several reports of thyroiditis associated with mumps in men; Jourdan's case (1878) seems to be the first ever published. The complication—thyroid swelling—appeared on the fifth day in the left lobe; three days later the entire gland enlarged. The patient was a man aged 22; the submaxillary had been attacked simultaneously with the parotid gland, but the inflammation was moderate. Fremont Smith refers to cases of pancreatitis and orchitis following parotitis; the latter, on the other hand, has succeeded inflammation of the testis; nephritis, ocular and auditory complications, and endocarditis with pericarditis (1 case only—Zinn) have been recorded as sequels. In the discussion which followed the reading of the paper, much was said about these complications, but no speaker seemed to have had any experience of thyroiditis following mumps in pregnancy. King of Washington turned attention to the relation between the thyroid and parotid and the reproductive organs. He referred to a case where a woman had the thyroid so hypertrophied that solids could not be swallowed, but after the menopause the gland diminished steadily till the dysphagia disappeared.

The Services.

REPORT ON THE HEALTH OF THE ARMY FOR 1910.

THE fifty-second annual report on the health of the army deals with the year 1910, and again shows a diminution—with one (invaliding) fractional exception—under all the heads in which the sickness and mortality of our soldiers are recorded.

Such steady decrease has been a marked feature, especially in the past decade; and, if it now shows some inevitable signs of slackening, nevertheless it still continues. It may be broadly stated that, in ten years, the health of the army at home and abroad has improved by about 50 per cent.—an enormous gain in efficiency; but, as pointed out in our review for 1909, this gain cannot go on indefinitely; a limit will ultimately be reached, and we can then only hope to maintain rates at the lowest average level.

The following table from the report broadly shows the decreasing figures under each head, except in discharged invalids:

Troops at Home and Abroad.

Ratios per 1,000 of Strength.

Year.	Admissions.	Deaths.	Invalids Sent Home.	Invalids Finally Discharged.	Constantly Sick.
1889–98	997.3	9.03	26.56	15.36	59.85
1909	504.8	4.10	10.34	8.65	28.80
1910	443.1	3.44	8.53	9.11	25.38

The fall in admissions in the decade is, of course, largely due to the treatment of light cases in barracks (a system copied from the French), but not wholly so, for last year there was a diminution per 1,000 of strength, in admissions of 61.7, and in the number of men treated in barracks of 12.2.

There has been a saving of life in 1910 of 159, a decrease in average sick time of 1.24 days, and in constantly sick of 3.48. Only in the final discharge of invalids has there been a fractional increase of 0.46.

The report shows that, whether at home, in the colonies, or in India, the three great divisions in which our troops are statistically grouped, the health and well-being of the British soldier has immensely improved within the memory of many officers and even men still in active service; and this corresponding increase in efficiency may be ascribed to three factors—a thoroughly efficient medical service, a much greater interest taken by regimental officers in the welfare of their men, and an increase of knowledge and self-respect among the men themselves.

Recruiting.

It is a curious fact, and one hard to explain, that the proportion of rejections of recruits examined is much the same year by year—namely, 30 to 33 per cent.

The number inspected fell from 50,298 in 1909 to 45,671 in 1910; several reasons are assigned for the decrease—emigration, revived trade, labour exchanges, etc.—but perhaps the most potent is emigration. The recent census, for instance, reveals that many thousands of agricultural labourers have gone from the eastern counties of Scotland alone to Canada.

The quality of the recruit is declared to be on the whole satisfactory, and gives promise of development into a useful stamp of soldier.

Loss and decay of teeth is still the chief cause of rejection, and many practical recruiters think it unnecessarily high; it is a disability difficult to limit in regulations, and is, therefore, largely left to the discretion of examiners, who, however, vary much in their estimate of its importance.

Rejections for heart affections are also high, and many observers ascribe them in youths to excessive use of tobacco.

Invaliding.

Setting aside the fractional increase in invalids finally discharged as of small interest, when compared with the great and steady decrease of invalids sent home, especially from India, we find that the hitherto serious leakage in our garrisons abroad has been largely stopped. In India alone it has fallen from 25.31 in 1904–8 to 7.75 in 1910, the result chiefly of the sensible plan of sending debilitated convalescents in the plains to the hills instead of embarking them right away.

Troops in the United Kingdom.

Improvement is shown under every head, except in invaliding as explained. As usual the health of the troops quartered in the London Command is much below that of those in other districts, chiefly from the greater prevalence of venereal diseases and "sore throat," by which we presume is meant tonsillitis and pharyngeal affections.

Enteric fever fell one-half in 1910 as compared with 1909; and if it was impossible in the great majority of cases to trace the direct source of infection, in no case could it be ascribed to defective sanitation in the barracks occupied.

Pneumonia is the chief cause of mortality in diseases of the respiratory system, and it is remarked "further information is required as to what are the predisposing and exciting causes of pneumonia in military life."

Military Inefficiency from Sickness.

This is a very comprehensive heading; but in a general sense the figures show continued decrease during the past five years, from a ratio of 21.7 in 1909, to 20.4 in 1910; of the total inefficiency venereal diseases account for no less than 31.8 per cent.

Sanitation.

The report gives a lengthened survey of sanitary work, and the chief points only can be mentioned. In all commands at home, and many abroad, systematic lectures and instructions, in both the theory and practice of administration and conservancy in sanitation, are given by officers of the Royal Army Medical Corps, and by regimental officers, and also by the sanitary officer of territorial divisions.

An officer of the Medical Corps has lately been appointed to the Staff College as instructor in medical services: trained sanitary bodies exist in each regiment. It would be difficult to exaggerate the importance of these beneficent agencies throughout the army. Experiments go on in pumping, filtration, and precipitation, to secure safe water supplies, while similar investigations are conducted concerning the purity, preservation, and cooking of food, in camp and quarters.

Disinfection by steam promises good results. The question of "carriers," whether human or other, in the dissemination of infectious diseases, is receiving much attention at home and abroad.

Sanitary improvements of all kinds are being carried out both in old and new barracks, and in women's quarters. An electric installation has been introduced at the Curragh. Dining rooms are being provided to do away with the unwholesome system of serving food in dormitories. Urinals are treated with oil instead of water flushing, and the offensive odour is thus prevented.

On every side, therefore, the public may be assured that our soldiers and their families either have been, or are being, provided with the latest sanitary appliances of all kinds.

Mediterranean Area.

In this area (which includes Gibraltar, Malta, Cyprus, and Egypt) the health of the troops continued satisfactory at all stations. The intractable Mediterranean fever having been abolished, attention is now directed to the milder so-called "sand-fly febricula," to be also abolished by the destruction of the insects and their larvae.

South Africa and Colonies.

The ten or twelve thousand troops quartered in South Africa have had somewhat better health than in 1909; enteric fever declined under energetic sanitary improvements. There is little to remark as to the smaller colonial garrisons.

India.

The wonderful progress in the general health of the troops in recent years was fully maintained, thanks to advances in etiology and preventive medicine.

Enteric fever.—All cases have hitherto been included in the generic term; but now an attempt is made to distinguish and classify cases known as "paratyphoid" by themselves; it is believed this will have important bearing on prevention and treatment. From whatever cause enteric fever, so-called, has been greatly less prevalent among European troops in recent years, and the admissions have fallen from 15.6 per 1,000 of strength in 1906, to 4.1 in 1910, while the death-rate has also fallen from 3.19 to 0.6. Inoculation is showing gratifying extension and popular favour.

Cholera no longer dominates Indian mortality; there were 9 cases and 5 deaths in 1910, all traceable to outside and chiefly bazaar infection.

Malaria, although it caused fewer admissions, is still the greatest problem of European life in India.

Of *plague*, there were 2 cases and 1 death; it is very remarkable how few Europeans are infected.

Venereal diseases, if steadily decreasing, still account for 10 per cent. of the total admissions.

The abstract tables and the charts at the end of the volume are very elaborate and interesting.

SCOTTISH COMMAND R.A.M.C. TRAINING.

A SERIES of lectures for officers of the Royal Army Medical Corps in the Scottish Command has been arranged by the head quarters at Edinburgh. Four lectures will be delivered at the Carlton Hotel, Edinburgh, as under: On December 12th, by Colonel F. C. Shaw, General Staff: "The Organization of an Army in the Field, and the Working of the Various Departments, etc., especially as regards the Services of Maintenance." December 18th, by Major R. J. Ross, General Staff: "A General Outline of Strategical and Tactical Operations to enable a Medical Officer to Formulate the most suitable Medical Arrangements in connexion with such Operations." January 5th, 1912, Captain A. B. Robertson, attached General Staff: "The Working of the Lines of Communication, with Special Reference to the Evacuation of the Wounded, Provision of Hospitals, etc." February 1st, 1912, Lieutenant-Colonel A. L. Lynden-Bell, C.M.G., General Staff: "The System of Intercommunication in the Field, and of Writing Field Messages, Reports, etc."

The lectures will take place at 11.30 a.m., and at 3 o'clock on the same dates another special series will be delivered as follows: December 12th, 1911, Lieutenant-Colonel M. T. Yarr, R.A.M.C.: "The Duties of the R.A.M.C. on the Lines of Communication and at the Base." December 18th, Lieutenant-Colonel J. C. Morgan, R.A.M.C.: "The Mobilization and Formation of Medical Units and all Matters connected therewith." January 5th, 1912, Major J. M. Cuthbert, R.A.M.C.: "The Duties of the R.A.M.C. in the Field." February 1st, Major A. M. MacLaughlin, R.A.M.C.: "The Sanitary and Medical Problems of an Army in War."

Medico-Legal.

WORKMEN'S COMPENSATION.

Medical Examination of Injured Workman.

IN the House of Lords, before the Lord Chancellor, Lords Atkinson, Gorell, and Shaw, an interesting appeal case has recently been decided. The appellant, Daniel Morgan, driver, Blantyre, sued the respondents, Wm. Dixon, Limited, Blantyre Colliery, for compensation under the Workmen's Compensation Act. The parties in the action wished the question decided whether or not under Section 4 of the First Schedule of the Compensation Act a workman is entitled as a matter of right to refuse to submit himself for examination by a medical practitioner provided and paid for by the employer unless his own medical man is present, and whether such action amounts to "refusal" or "obstruction" in terms of the section. The appellant received an injury to his left foot in the underground working of the respondents' Blantyre Colliery. He presented an application to the Sheriff-Substitute for payment of compensation. After the claim was presented the respondents required him to submit himself for examination by a duly qualified medical practitioner, provided and paid for by them. The appellant was quite willing to do this, but he stipulated that his own medical attendant should be present at the examination. The respondents refused to accede to this, and contended to the Sheriff-Substitute at Hamilton that, in accordance with the provisions of Section 4 of the Act, the application for compensation should be sisted. The Sheriff-Substitute held in favour of the employers, but agreed to submit the following question for the opinion of the Court of Session: Whether apart from any special circumstances in a particular case a workman is entitled to have his own doctor present throughout the examination by the medical practitioner on behalf of the employers in terms of Section 4 of the First Schedule to the Workmen's Compensation Act, 1906; and whether the workman's refusal to submit himself for examination unless his doctor be present amounts to refusal or obstruction in terms of the said section. The Court of Session decided that the workman had no absolute right such as was claimed, and that the condition sought to be imposed by the workman (in such an abstract case as that put forward) must be held to be unreasonable in the absence of any special circumstances. On this the workman appealed to the House of Lords, which by a majority held that while a mere request by a workman that his own medical man should be present was not a refusal to be examined, the burden of proving that such request was in the circumstances not unreasonable rested on the workman. Hence each such case must be decided by the arbitrator on its own merits.

The case for the appellant was argued by the Lord Advocate, and for the respondents by the Dean of Faculty and Mr. Cunningham.

The Lord Chancellor, in delivering judgement, said: The questions raised in this case may be, I think, a little embarrassing, but we must deal with them as they are stated. The fourth subsection of the first schedule of the Workmen's Compensation Act confers on the employer a right to have the workman examined, but the statute is silent as to the time, place, and condition of this examination. In these circumstances the natural and common rule of law implies and imposes on both parties the duty of acting reasonably in obeying the statute. If I were an arbiter I should say as a question of fact that in most cases, perhaps in nearly every case, it is quite reasonable on the part of a workman to desire the presence of his own doctor. Why should not the doctor of the workman be present? I see no harm that he can do, and I can see that he might be very useful, but it is not the function of a court of law or of this House as a court of law to take upon itself decisions of questions of fact which by statute are left to the arbiter or sheriff or county court judge as the case may be. It is a matter to be decided by the arbiter who has been entrusted with the duty by law, and not for me to decide who have not been entrusted with the duty of finding facts. That being so, what are the questions of law which we are asked to determine? The first is whether, apart from special circumstances in a particular case, a workman is entitled to have his own doctor present throughout the examination by the medical practitioner on behalf of the employer. In my opinion the proper answer is that we cannot say as a matter of law that the workman is so entitled. There is no absolute right of the kind claimed. It is a question for the sheriff or the arbiter in each case to determine whether the condition imposed upon the workman is a reasonable condition. The second question seems to me practically to amount to the same as the first, and to be dependent on the appellant's contention before the Sheriff. It merely is the same question, and it is also a matter of fact that must be decided in each case, the principle of law being that both sides should act reasonably. In short, if these are to be treated as questions of law, I cannot answer the first in the affirmative, and the other question seems to me to be the same as the first. Accordingly, in my opinion, the appeal must be dismissed, and I desire to observe that the question raised and decided by the Sheriff was not whether the conditions were reasonable—which, I think, was the right question—but whether there exists a right in law in the absence of special circumstances, as was contended by the workman before the arbiter.

Lord Atkinson and Lord Gorell concurred.

Lord Shaw differed, his chief difference being that there was nothing unreasonable in the appellant wishing his own medical man to be present during the examination by the respondents' medical man. It was of the utmost advantage to both parties that medical men representing adverse sides should at the same time be parties to the one examination. I think, he said, that it is the right of the British workman who has to submit his person for examination to have his doctor present, apart from any special circumstances in a particular case which would nullify such a right. I cannot conceive, in an ordinary case such as we are dealing with, any harm done to the workman or to the medical officer of the employer by having a second doctor on the spot. All the demand the workman has made here is that his grievance should be facilitated by the presence of his medical man. There are no facts proved in this case to suggest that this course is unreasonable. My whole view may be summed up in this proposition, that on the general case it cannot be reckoned as a refusal if a workman makes the presence of his own medical man a condition of his willingness to any examination by the medical adviser of his employer. I cannot agree with any of the courts that have decided this—that the rejection of such a condition is obstruction. I hold that it is nothing less than a reasonable thing, not displaced from its reasonableness by any of the facts proved.

FEES RECEIVED BY ASSISTANT.

CLEO inquires to whom the fee belongs, when an indoor assistant, engaged at a salary of £150, gives an anaesthetic for another practitioner.

*** Under the usual contract between a medical principal and his indoor assistant the latter is required to give the whole of his time to the principal, and any professional remuneration he is paid belongs, we are advised, to the principal. His contract does not oblige him to work for another practitioner, but if he does, he may not receive for himself a fee without the consent of his principal, and it is his duty to proffer him the fee.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on November 17th, Dr. de Havilland Hall in the chair. The accounts presented showed that the business of the society was still growing. The year now closing has been marked by a very satisfactory increase in the number of new entrants, the number of new members being nearly 50 per cent. greater than in the previous year. As the society employs no agents, pays no commission for the introduction of new business, and spends little or nothing on advertisement, this increase of membership is gratifying evidence that the advantages offered by the society are becoming more fully known to the members of the profession. In its twenty-seven years' working the society has paid away over £180,000 in sickness claims, and in this way has been of great service to many members of the profession. Prospectuses and all further particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DUPLEX asks for information as to the best method for managing a permanent opening into the bladder above the pubes.

M. J. M. wishes to hear of suggestions to cure a healthy and active boy, aged 15 years, of the habit of biting his nails; he appears to be worse when annoyed or excited.

TRAIN SICKNESS.

JOURNEY asks for preventive and curative treatment for a case of "marked train sickness" in a young married lady.

A SECOND YOUTH.

ALTER EGO writes: I am 70; my hair and beard, originally reddish-brown, early became grey, and for ten or fifteen years has been quite white. Now its colour is rapidly returning in a yellowish-brown shade. Can anyone tell me why? Is childhood coming back? I have never at any time used anything but soap and water to it.

ANSWERS.

B. C. A.—There is evidence that certain forms of cancer may be communicated from one animal to another of the same species. There are therefore *a priori* reasons for holding that a certain risk exists. Moreover, cases have been recorded which are held to afford evidence that cancer has been conveyed to the husband from cancer of the cervix uteri.

E. S. R.—If the feeble-minded man subject to attacks of violence is not certifiable, we know of no institution in which he could be secured at 5s. a week. If certifiable and of the educated class, he might possibly be received at St. Luke's Hospital, Old Street, London, E.C., Holloway's Sanatorium, St. Anne's Heath, Virginia Water, Surrey, or the Northampton Hospital for the Insane. If not of the educated class, he could be received in any county or borough asylum.

NATURAL SLEEP writes: Why is "Chloroform" so anxious for dreamless nights? Are they not altogether abnormal? I am 63 years of age, and I believe I have never slept without dreaming, and can still remember dreams I had in early childhood. I believe it to be entirely a question of memory. All people dream; some remember their dreams, some do not.

LETTERS, NOTES, ETC.

BOTTLE CARRYING.

PROBABLY every one has had experience of the catastrophes that sometimes follow the carrying of bottles in portmanteaus and handbags, so a device intended to render this procedure less risky is worth noting. It consists of a folding wrapper made of reinforced rubber material, and resembling in general construction a miniature hold-all. It is made in different sizes for bottles ranging from 4 in. to in. 10 in height, and in each case the long diameter of the wrapper is sufficient to envelop the bottle several times. In addition the flaps that cover in the top and bottom, and all parts of the wrapper that come into contact with the bottle, are corrugated, so as to absorb shocks. An indiarubber cap is also provided to tie round the stopper. It might be possible to break a bottle encased in one of these wraps, but such bottle would certainly emerge unscathed from all shocks of an ordinary kind, and even if broken most of the liquid would remain probably within the envelope. This wrap, which is certainly worth noting, is known as the "Handopak," and is on sale, we understand, at the Army and Navy Stores. The prices range from 1s. 11d. to 3s. 11d. The makers are Messrs. Newton, Thompson and Co., of 4, Arne Street, Long Acre.

PROPORTIONAL REPRESENTATION.

DR. G. C. CRICHTON (Kensington, W.) writes: Of those—nearly 12,000—who voted, nearly 8,000 voted for the candidates nominated by the Association, but about 4,000, or fully one-third, are unrepresented. Had the election been under proportional representation, the result would have been different. Making use of the method with which Lord Courtney's name is associated—an easy and simple method—then the quota is 2,965, and Dr. George Brown entitled to be elected. The three who head the list are obviously voted for by the same electors. Dr. Langley Browne we all, I suppose, expected to be first, and his election is certain; but there is just a doubt which of the next two would have succeeded. As the value of having Direct Representatives on the Council consists, not in their number, but in their representative character, of every kind of general practitioner, it is unfortunate if the election is to be thus limited, and no voice given to a minority, however important. The advantage of the fourth member is almost nullified. The National Insurance Bill will be administered through elected committees. I beg to submit that these should be duly elected so as completely to represent those who are interested in the working thereof. Perhaps in time the General Medical Council will wake up a little as to its want of harmony with the profession, and will make the small but important modification in the mode of election that I, not for the first time, suggest. Just let us notice the voting as it is. Votes are invalid, for "envelopes were not fastened down," "voting papers were not folded inwards." The utterly absurd objections numbered 468.

REPRESENTATIVE VERSICLES.

A MEMBER of the Representative Body, required on his return home to give an account of its proceedings, tells us that he replied as follows:

Papa, what's this Insurance Bill
The papers rave about?
I've seen such screeds and screeds and still
Its meaning can't make out.

My dear, it is a simple game
That emanates from Wales,
To teach the doctors and the clubs
To play at "heads and tails."

Now every lady that I meet
Is like a furious Gamp;
Must every mistress, every maid,
Each Monday lick a stamp?

By gum! it is a 'cute device
To manage pretty Jane,
And when her health has broken down
To set her up again.

The married women say that they
Are very badly hit:
It calls their value a "reserve"
And maternity "benefit."

By Gemini! 'tis surely clear:
When widows, they will be
Again employed contributors
Without maternity.

'Tis surely queer society
That needs to be "approved,"
To have its finance audited,
Its membership improved.

Societies to be within
The meaning of the clause
Need only to be big enough
And honour all their laws.

The Post Office will need a lot
Of boxes too, because it
Must give each person sent to it
A separate deposit.

By Jupiter! I'm getting tired
Of such a lot of stuff;
If it doesn't fill your aching void
You've asked me quite enough.

But, darling, if it is so good
Why do they change it still?
Always as shorter seems the time
The longer seems the Bill.

My dear, it's just a healthy babe
That like a mushroom grows;
What measure it will reach the Lords
The good Lord only knows.

VETERANI CONTRIBUTORIS UMBRA.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Clinical Lecture
ON
THE SURGERY OF THE ABDOMINAL WALL.

DELIVERED AT THE MIDDLESEX HOSPITAL,
BY
SIR ALFRED PEARCE GOULD, K.C.V.O., M.S., F.R.C.S.,
SENIOR SURGEON TO THE HOSPITAL.

GENTLEMEN,—My subject is "The Surgery of the Abdominal Wall." This branch of our art is undoubtedly less important than the surgery of the abdominal contents, by which it has been to a large extent overshadowed, and in which it is a mere incident. There are, however, surgical conditions of the abdominal wall itself which are of great importance, quite apart from their bearing upon the surgery of the contents of the abdomen. Such a condition is hernia, which is a deformity or abnormality of the abdominal wall, and has to be dealt with by surgical procedures on the abdominal wall quite independent of any special treatment of the abdominal contents. Then there are growths of the abdominal wall, which have to be specially dealt with surgically. And there are wounds, ulcers, and abscesses of the abdominal wall which we have to treat. I do not propose this afternoon to say anything about these conditions, but to speak of certain points in connexion with the operations upon the abdominal wall which are merely a step to interferences with the abdominal contents. And I do it for this reason: the interest in all these operations is chiefly centred in what is done within the abdominal cavity, not upon what is done as a means of getting into the abdominal cavity, and therefore we are apt to pass over with insufficient attention what is nevertheless an important part of the operation.

The first points to be determined in any operation upon the abdominal contents are the position and the extent of the incision. About the position I need only say this: that the incision should be, whenever possible and as much as possible, directly over the organ or lesion which has to be dealt with internally. In the earlier days of abdominal surgery surgeons limited themselves to incisions in one or two regions only; they did not think that the whole abdominal wall was a fair field for their activities. As a matter of fact there is no area of the abdominal wall through which the surgeon may not operate when the circumstances demand it. It is a rule which we should apply fairly rigidly, that incisions should be as directly as possible over the organ or lesion to be dealt with. The second observation one should make about the incision is that it should be of sufficient size, but not too large. If the incision is too small, it embarrasses the surgeon in all the deeper and further steps of the operation, and it thereby renders the operation more dangerous, for anything which renders an operation more difficult renders it also more dangerous. Especially is that the case in operations on the deeper viscera of the abdomen and on the vessels and other structures in the posterior part of the abdominal cavity. But, on the other hand, while an incision should be large enough, it should not be too large. Too great a length of incision adds to the danger of the operation by adding to the exposure and manipulation of viscera, and oftentimes it causes prolapse or protrusion of viscera, and adds to the possibilities of infection. It also prolongs the operation, because it takes longer to close than a shorter incision, and it undoubtedly tends to weaken the abdominal wall afterwards. I cannot give you any rule or statement in inches to tell you how long these incisions should be. But one may say the length of the incision should be in proportion to the manipulations required in the interior of the abdomen and to the depth of the organ operated upon. It should also bear some relation to the experience of the surgeon. When you are beginning abdominal surgery do not try to do difficult operations through a keyhole; wait for that until you have learnt to do them through an open door. When you have acquired manipulative dexterity and a working knowledge of the geography of the abdominal contents, then undoubtedly you can shorten your initial incisions. I remember a time when surgeons took great pride in the shortness of their incisions, and they published lists of cases classified according to the length of the abdominal incision and the mortality met with, as if these facts were closely connected. Happily we have outgrown that, as we have outgrown many other follies in connexion with abdominal surgery.

A great principle to follow in abdominal incisions is so to place them as to interfere as little as possible with the subsequent firmness and function of the abdominal wall.

I wonder what ideas you have of the function and importance of the abdominal wall. Surgically, or rather, anatomically and physiologically, we ought to regard the abdominal wall as a muscular apparatus. True, it is covered on the outer surface by skin and a layer of fat, which varies in thickness very much indeed. And it is lined internally with peritoneum and a little fat between that and the muscle. But the essential part of the abdominal wall is its muscular apparatus. The muscles, of course, have their necessary supply of blood vessels and nerves. The abdominal wall fulfils many functions. It is a protection and a support to the abdominal viscera; it supplements in a very important degree the muscular contraction of the alimentary canal and of the urinary and generative systems; it plays a primary part in the movements of respiration, and aids the circulation; it is the most powerful agent in the movements of flexion and rotation of the trunk, and in addition, by fixing the ribs, sternum, and pelvis, it co-operates in all the more vigorous movements of the limbs. The freedom with which surgeons now invade the sanctity of this great muscular apparatus, and do this as only a step towards the real goal of their operations, might blind you to the extreme importance in our economy of this great muscular apparatus. Always think of the abdominal wall as one of the most important muscles of the body, and remember that the aim of the surgeon in operating through the abdominal wall should be to make such a wound as will not injuriously interfere with this muscular apparatus or will interfere with it as little as possible. That was not at all the first idea of surgeons. The first idea surgeons had was that they must choose for their incisions the least vascular parts of the abdominal wall, and they chose, therefore the middle line in front—the linea alba, or that other less well-marked white line on the outer side of the rectus, the linea semilunaris. And they chose to make their incisions there rather than anywhere else because they were sure of not meeting with blood vessels. That is not a strictly accurate statement at best. Of the linea alba it is fairly true, but in the linea semilunaris there are branches of intercostal arteries anastomosing with the superior epigastric and deep epigastric arteries. Still, it is true that incisions can be made in those two situations with very little haemorrhage indeed. It is amusing to recall that in the early days of ovariotomy surgeons were at great pains to make their incisions precisely in the middle line and to go exactly between the two recti muscles. I have known in our theatre valuable time consumed—first of all in dissecting a little bit on one side and then dissecting a little bit on the other side, because the surgeon had not come down exactly in the middle line between the two recti muscles. It was so important, he thought, to be exactly in that middle line! Now, I want you to think of the linea alba not as the least vascular part of the abdominal wall, but as the great tendon of insertion of the six flat abdominal muscles, the blending of their aponeuroses, an unyielding fibrous band upon the integrity of which much of their successful action depends. Nor is this all, for many of the innermost bundles of the recti muscles are also inserted into the linea alba. You will remember how the aponeurosis of the internal oblique splits to enclose the rectus muscle, the anterior layer uniting with the external oblique and the posterior with the transversalis aponeurosis, and how the two sheaths of each side blend together in the middle line in the linea alba, which can be traced from the xiphoid cartilage above to the symphysis pubis below. The splitting of this aponeurosis is at the outer border of the rectus muscle. Of course it is interesting to remember that that splitting is not

continuous through the whole length of the aponeurosis, but midway between the umbilicus and the pubis all the aponeurosis passes in front of the rectus, and there is an edge left of the posterior sheath of the rectus—the fold of Douglas — over which the deep epigastric artery passes. I wonder why the sheath does not envelop the back of the lower part of the rectus as well as the rest of the rectus! I think it is that the contraction of the lower part of the rectus may act very directly and definitely on the viscera behind it. There is no part of the function of the abdominal viscera that the contraction of the rectus has so much influence upon as on the emptying of the bladder and rectum, and, in certain states, on the emptying of the uterus. And I think it is to give the rectus, as it were, an unfettered power to compress these viscera that we have no sheath behind its lower end. For when the lateral muscles of the abdominal wall contract and pull upon the sheath of the rectus they tend to compress it to a certain extent and a little bit impair the direct pressure of the rectus on the viscera beneath them. But the point I want particularly to draw your attention to is this: The linea alba must be thought of as a continuous fibrous band, with the six lateral muscles and parts of the two recti attached to it. And every part of the aponeurosis which comes into the linea alba makes a pull and strain upon the whole length of the linea alba. We cannot divide the linea alba up into its various constituent fibres or segments and say that one portion of a muscle pulls upon a particular portion of linea alba. Every part of the flat muscles which pass to the aponeuroses or which enter into the linea alba pulls upon the whole of the linea alba. Therefore any weakness of the linea alba is sure to be found out; the great muscular strain which is brought to bear upon it will cause it to yield and become inefficient, and the muscular apparatus of the abdominal wall be made correspondingly ineffective. This is not the case with the sheath of the rectus. Each fibre of that sheath has its own corresponding muscular band attached to it, and no others. And therefore if we weaken a portion of the sheath of the rectus, we undoubtedly weaken the abdominal wall, but we only weaken the attachment of a portion of the muscular fibres of the abdominal wall and not of the whole. The whole muscular abdominal wall pulls upon the linea alba, and upon the integrity of the linea alba, therefore, depends the perfect function of the whole of the abdominal wall. And so anything which weakens the linea alba is liable to cause much more apparent and more serious mischief than that which weakens other parts of the abdominal wall.

When we come to study the linea semilunaris we notice that it is nothing like so thick as the linea alba. It is sometimes said to be composed of the aponeurosis of three muscles blended together; but the external oblique does not really enter into the formation of the linea semilunaris—it is rather a blending of the aponeuroses of the internal oblique and the transversalis, the transversalis being much thinner than the internal oblique. It is purely fibrous tissue, very few blood vessels are distributed through it, and the vitality of it is certainly less than the vitality of the muscular portion of the abdominal wall or of the linea alba. And we find, accordingly, that incisions in the linea semilunaris are apt to form unreliable scars. The scars of incisions there are particularly prone to give way, and some of the worst hernias following operations have been through scars in the linea semilunaris.

But there is something to be said for operating through the linea alba, and it is this: That it is an incision in the middle line of the abdomen. It admits the surgeon to the central region of the abdomen, and it enables him to deal equally well with conditions on the right and left of the middle line. In such an operation as ovariotomy, if the surgeon finds disease of both ovaries he can deal with equal facility with each broad ligament through the central incision, and in hysterectomy he can deal with the uterine artery on either side with equal facility. There is a dictum favoured by some, that the conditions for which surgery is called upon in connexion with abdominal viscera are so varying and oftentimes so misleading, that when operating upon the abdomen the wisest man is he who opens it in the middle line, so that he will be able to reach equally well any of the viscera which may be found to require his interference.

In making abdominal incisions I advise you to observe two great rules—first, do not cut muscles; and, secondly, do not divide motor nerves. The way to preserve a muscle is not to cut it across. If you separate muscular fibres they will lie side by side afterwards, and you will have done the muscle next to no injury. But when you cut a muscle across, its contraction tends to pull asunder the ends of the cut fibres, and if contraction takes place before union is firm it will lengthen and weaken the muscle, and very likely lead to the formation of a ventral hernia—a serious complication. The muscular tissue of the side of the abdomen is soft and easily separated, the rectus muscle has its vertical fibres passing up the front of the belly, and they can be separated easily. There is no question that the safest and best rule to follow in making incisions through the muscular part of the belly wall is to split muscles and never to cut them. Maylard's incision is an apparent exception to this good rule. The rectus muscle is intercepted by tendinous lines, and it has been pointed out that if you plan your incision across the rectus so that it does not divide muscular tissue, but cuts across one of the tendinous intersections, you can subsequently sew it up and get firm union without serious risk of weakening the abdominal wall or of the formation of a ventral hernia. I have not had a large personal experience of the method. A case was in the Queen Ward of the hospital a few months ago in which this particular method of operating was successfully used. The patient was a woman who had been operated upon for gall stones at another hospital. There was the usual vertical scar through the right rectus muscle. I wanted to make a further exploration of the biliary passages, and I used a transverse incision carried carefully through one of the tendinous intersections of the rectus, which I subsequently sutured. The patient was a very fat woman. She recovered with apparently a very strong abdominal wall. After all, this is not a real exception to the statement I made just now. That statement was as to muscular tissue, and not about aponeuroses; surgeons are very unwise to cut across the muscular fibres of the rectus, although they may cut across the tendinous intersections of the rectus muscle. When you want to open the abdomen near the middle line you adopt another plan: make the skin incision 1 in. to right or left of the mid line, divide the front of the sheath of the rectus, draw the inner edge of the rectus outwards, and then divide a part of the posterior sheath of the rectus and enter the peritoneal cavity by dividing fascia, fat, and peritoneum. You get ready access to the cavity of the abdomen if you go an inch to the right or left of the middle line, and you have the advantage of not having interfered with that fundamentally important structure, the linea alba, nor have you materially injured the rectus muscle. The same principle is observed in what is known as Battle's incision for appendicectomy; a vertical incision is made an inch internal to the semilunar line, over the rectus muscle, the front of the sheath of the rectus is divided, and the rectus is drawn inwards, and then the abdominal cavity is opened behind the rectus. When the operation is completed and the wound sutured the rectus is replaced and separates the superficial and deep parts of the wound. Where only a limited incision is required, it is an improvement to divide the sheath of the rectus transversely instead of vertically—the integrity of the aponeurosis is thus thoroughly preserved.

That, again, is making an opening into the abdomen without cutting the muscles and without cutting either the linea alba or the linea semilunaris. Battle's incision is excellent where more room is wanted than can be obtained through McBurney's incision, or where, for any reason, the surgeon wants to get nearer to the centre of the abdomen than the iliac fossa.

An excellent example of the muscle-splitting method is McBurney's "gridiron" incision for appendicectomy. The incision is through the skin and superficial fascia parallel with the fibres of the external oblique; the fibres of that muscle are split and the two parts of it drawn aside; this exposes the internal oblique. That and the transversalis are split too; the fibres of these deeper muscles are separated and held aside by retractors and the peritoneum and subserous fat are divided. The peritoneum is usually opened by an incision parallel to that through the skin. I find it is often better to make it

transversely—there is less tension upon the cut edges of the peritoneum and the wound is sutured more readily. At the close of the operation on the appendix sutures are put in, the previously separated muscular fibres are juxtaposed again, and when they contract the contraction does not tend to separate them, but to approximate them—to close the incision, and you get no interference whatever with the firm muscular structure of the abdominal wall. The same form of incision should be used in the operation of inguinal colotomy—the muscles should be split, not cut—to protect the patient against prolapse and to secure, perhaps, a slight degree of control over the artificial anus.

Similarly in renal surgery, it is well in exposing the kidney not to make a transverse cut regardless of the direction of the fibres of the muscles in the loin. The incision should be oblique, and made parallel with the fibres of the external oblique muscle, and the surgeon should separate the fibres of this muscle, and should be careful not to cut the twelfth dorsal nerve. The internal oblique and transversalis can be similarly treated, and the transversalis fascia divided transversely, and the fatty capsule of the kidney exposed. By this means a much firmer and stronger scar is obtained than if the muscles are cut. I have seen several cases of lumbar hernia after renal operations, and one of the worst and most crippling hernias I have ever seen was in a lady who had had the left kidney removed through an incision in which the muscles had evidently been very freely divided. The operations of exploration of the kidney, lumbar nephrorrhaphy, nephrolithotomy, decapsulation, and some cases of nephrectomy can be carried out without division of muscles; where more room is required, as in the removal of large kidneys, a limited division of the deeper muscles is necessary, but there is never any reason or excuse for division of the fibres of the strong external oblique muscle.

For gastrostomy a vertical incision through the skin should expose the sheath of the rectus: this should be divided transversely, the fibres of the muscle split, and the posterior layer of the sheath, the fascia and peritoneum divided transversely. Through this limited incision the stomach can be found and drawn out, the valvular opening in it made, and the abdominal wound closed very rapidly.

The usual incision for exposing the gall bladder is a vertical one over the right rectus, dividing the anterior part of the sheath, splitting the muscular fibres, dividing the posterior layer of the sheath, and opening the peritoneal cavity in the same vertical line. If more room is wanted, the incision is carried obliquely upwards towards the lower end of the sternum, across the front of the sheath, and the rectus muscle is split still further up, and drawn inwards, the lower end can be prolonged downwards and onwards. This incision has serious drawbacks. One of these is that the peritoneum and transversalis fascia, as well as the posterior layer of the rectus sheath, are in a condition of transverse tension, in the upper region of the abdomen particularly, and therefore there is a great tendency for these structures to withdraw laterally, and there is difficulty in getting them to come accurately and closely together along the whole of the incision. In some cases the peritoneum is neither tough nor elastic, and the needle cuts out, or the suture when drawn upon cuts through. In other cases the deepest sutures are passed through the peritoneum, but fail to include the deep layer of the muscular aponeurosis, and a weak scar results. In fact, the incision transgresses our first rule in that it cuts across the nerves and aponeurosis of the abdominal wall, and it interferes very seriously with their integrity. Recently I have used an incision for the exploration of the gall bladder which conforms to the rules I have given you as to not cutting muscular tissue or motor nerves. I have made an oblique incision, starting over the right ribs and going towards the umbilicus, parallel with the fibres of the external oblique muscle, splitting the fibres of that muscle and having them held aside. I have then separated the bundles of the internal oblique and transversalis muscles, and have carefully preserved the intercostal nerves, and have opened the peritoneal cavity by dividing transversely the transversalis fascia, subserous fat and peritoneum. This incision gives ready access to the gall bladder, and enables one to deal with it quite easily. And it has these advantages, that when one comes to close the wound the peritoneum is easily approximated, and the separated muscles, of course, are readily closed. The resulting scar is firm, and without any tendency to ventral hernia. This form of incision is not adapted for operations upon the common duct when more room than it gives is required. A similar incision can be used for exposing and operating upon the spleen and the colon, and for any operation in the right or left hypochondriac regions. These incisions seem to me to be quite distinctly preferable to the older incisions in the abdominal wall through the linea alba and linea semilunaris, or directly through the muscular tissue, regardless altogether of the direction of the muscular bundles.

And now a word as to the suture or closure of a surgical wound in the abdominal wall. You must have noticed that there is a great difference in the practice of surgeons in the way in which the abdominal wall is closed. Some pass sutures through all the layers of the abdominal wall in one thread, others close the wound by suturing up the important layers of the abdominal wall one by one. Both measures are successful, and I would not absolutely condemn either of them, but they have their differences, and one must not be blind to them. The method of taking all the structures of the abdominal wall in one loop of suture is the quicker plan, and when, at the end of an operation, the patient is collapsed, and it is important to shorten the operation as much as possible, this method is to be preferred. But we must be very careful in doing it that the sutures do really enclose the peritoneum, because it is all-important that the two peritoneal surfaces should be brought together. It is important because the peritoneum is an exceedingly highly-vitalized structure, and repair takes place in it with remarkable rapidity. The deep portion of the abdominal wall gets shut across and closed in, and the abdominal cavity protected from any leakage through the abdominal wound in a very few hours after the two peritoneal surfaces are brought together. And there is this other, perhaps more important, consideration—that only by so doing can we guard the patient against adhesions between the abdominal contents and the abdominal wall. Whenever the parietal peritoneum is not sutured accurately, and is not fully restored behind the scar, you may be certain that adhesions will form, and it may be that these abdominal adhesions will cause serious trouble in the future. This, therefore, is a matter which should be carefully attended to. The drawbacks to this method of closing the abdominal wound are, that it does not restore the structures of the abdominal wall so completely or so thoroughly as you can restore them by suturing the different layers of the abdominal wall separately. It brings together all the structures—skin, fat, aponeurosis, muscle, peritoneum, in one mass, and they are all welded together in one scar. A second drawback to it is that the suture is liable to be infected from the surface, and as the stitch goes from the skin quite through to the peritoneum, if it gets infected from the surface, the infection is carried by the suture directly down through all the tissues into the peritoneum, and so peritoneal invasion may occur. Such infection has often happened. The other way of suturing the abdomen is by suturing layer by layer and trying to restore the structures as perfectly as you can to their original arrangement. For instance, you put one suture through peritoneum, subserous tissue and the deep layer of the rectus sheath, then a suture through the superficial layer of the sheath, a third through the skin and superficial fat, and a fourth, if you like, through the skin only. A suture like that obviously takes more time. It involves the use of buried sutures, which have their own particular perils; but it secures a far more exact adjustment of the divided structures than can be otherwise effected. Having used both methods, I can say that my preference is decidedly in favour of the more complicated and more troublesome way of closing the abdominal wall. I think that you get better and sounder scars by that means than by the other. That you can get good scars by either method I do not doubt. If you split the abdominal muscles instead of cutting them, it is foolish to enclose the muscles which you have taken care to split and not to divide, in a tight suture, a procedure which will certainly lead to fatty degeneration and wasting of the muscular tissue, and the disappearance of the very structures which your operation has been designed to preserve!

There are two cautions I would give you about these sutures: Do not use catgut; it is dangerous. Catgut may

soften too soon; I have known it do so. I have known it happen that a few hours after an operation the catgut sutures have disappeared and the abdominal viscera have come out through the wound. But what has happened more often is that they have come out underneath the skin, having escaped from the abdominal cavity itself. And that often leads to disaster, always necessitates another operation to close the wound again, and very probably the administration of an anaesthetic a second time and under unfavourable conditions.. As a matter of fact the procedure has been attended with many accidents—that is to say, with loss of life. I also advise you not to use a continuous suture. Use interrupted sutures for each of the five layers. It takes longer, I admit, but the advantage is that each suture is self-contained; it does not depend for its efficiency upon what happens to any other part of the thread, whereas in the other case the whole line of suture is dependent upon every individual portion of it. Use interrupted sutures, and then, if by any chance one should happen to get untied or softened or if one should get infected, it is merely a localized failure, a localized injury which has been done, and not one which affects the whole suture. When a continuous suture goes wrong, failure of one spot affects for evil the whole of that suture.

In conclusion, a word about the after-treatment of these cases. The one thing I want you to remember about the surgery of the abdominal wall is that this structure is essentially a great and important muscle. Now an injured muscle should not be subjected to early strain. The tendency, in the rush and hurry of surgical hospital practice, is to get patients up too soon, to hurry them out and to think that when the skin edges are tolerably firm the whole wound is repaired. That is a grave mistake. A very important muscle is involved in every incision through the abdominal wall, and the full and complete repair of it is an extremely important incident in the patient's life, and you must guard this injured muscle against undue strain by keeping the patient in bed a sufficient time, that time being dependent upon the length and character of the incision, the size of the belly, and the general nutritive activity of the patient. You must also take into consideration any special circumstances of the case, such as the strain involved in coughing and in the patient's occupation. Let me repeat, then, that the abdominal wall is one of the most important muscles in the whole body. All surgical interference with it should be thoughtfully and skilfully planned to preserve the integrity of this muscle and its nerves. The closure of the wound should be so conducted as to restore it to its original form with the utmost accuracy, and the after-treatment should aim at protecting the weakened muscle from all undue strain.

THE report of the Surgeon-General of the United States Army issued on September 1st, 1911, shows that the mean strength of officers for 1910 was 4,216. There were 2,515 admissions, 15 deaths, and 119.54 constantly non-effective from all causes, equal to ratios 596.54, 3.40, and 28.35, as compared with ratios of 628.90, 4.20, and 30.27 per 1,000 for 1909. The admission and constantly non-effective, and death rates were lower than for 1909. The principal causes of admission in the order of their respective importance were: Influenza, 51; diarrhoea and enteritis, 40.09; bronchitis, 37; tonsillitis, 28.46; dyspepsia, 26.33; coryza, 24.67; and malarial fevers, 19.21 per 1,000. Thirty-seven officers were retired on account of disability during the year—a rate of 8.38 per 1,000, compared with 11.91 for 1909. The mean strength of enlisted men, white and coloured, for 1910, was 71,534. The total number of "admissions to sick report" was 67,940, equal to an admission-rate of 949.76, as compared with 1,062.99 for the previous year. The deaths from all causes numbered 320, of which 175 were from disease. The death-rate from all causes was 4.46, and 2.44 for disease, as compared with 4.91 and 3.02 respectively for the preceding year. The death-rate from disease is said to be the lowest on record in the office of the Surgeon-General. The discharges for disability numbered 1,007, the rate being 14.02, as compared with 16.84 for 1909. The admission-rate for disease in 1910 was 766.06 per 1,000 of mean strength, for the previous year 865.92, and for the decade 1,248.77. A chart shows that the health of the United States Army has constantly improved since 1899, when the admission-rate for disease alone was 2,125.74.

An Address

ON

CERTAIN OPERATIVE PROCEDURES IN THE PARALYSIS OF CHILDREN,

WITH SPECIAL REFERENCE TO POLIOMYELITIS.

DELIVERED BEFORE THE
NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY,

BY

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MR. PRESIDENT AND GENTLEMEN,—Before dealing with the operative side in the treatment of poliomyelitis it is necessary that we should understand certain fundamental principles the neglect of which renders either operative or mechanical work ineffective, and ignorance of which leaves us quite unfit to judge as to whether an operation be necessary or not.

SOME PATHOLOGICAL CONSIDERATIONS.

In the first place we must learn to distinguish between a paralysis due to destruction of a motor cell in the anterior cornu, and that due to the mechanical disability of a muscle which remains inactive after the recovery of its governing cell.

We have been taught that a muscle which exhibits the reaction of degeneration is in such a state that it cannot recover voluntary power of response. Many years ago I drew attention to several recoveries in muscles which displayed this reaction, and this has been borne out by many observers, including Hoffa, Konig, Lange, and others, and has been proved both clinically and histologically by Koch.

We may look upon it as a certain and valuable fact that if a muscle reacts to faradism it will recover, but the contrary proposition does not follow. Sherren has certainly shown that, very carefully taken, galvanic reaction will show whether a muscle has been *completely* severed from its motor nerve cell or not, but in practice it is next to impossible to make this observation quite thorough.

Acute poliomyelitis of course often permanently destroys motor cells in the anterior horns of grey matter, and the muscles dependent upon them are for ever useless unless nerve transplantation in the future may come to their rescue. This complete destruction, however, is fortunately the rarer condition, and from the clinical evidence we have of rapid and complete recoveries from complete paralysis, and the very many partial recoveries, it would appear that the cells have generally suffered from temporary injury rather than from destruction.

With the irrecoverable muscle the surgeon has no direct interest; his attention is directed to the cells not actually destroyed, although the muscles governed by these cells may apparently be partially or hopelessly paralysed. It would be highly speculative to discuss the reasons why the recovered cells fail to secure control of their dependent muscles. Something has happened to make the muscle incapable of responding to a motor stimulus. Whether no afferent muscle sense stimulus is sent back to the nerve cell in consequence of this, or whatever be the reason, it is clinically certain that the nerve cells become inactive, though not extinct, and with appropriate treatment of the muscle or group of muscles, functional activity can be reinstated.

Overstretching of Muscles.

When a muscle governed by a live cell fails to act, we may call it a case of functional disability. Now, what is the cause of functional disability in a muscle? The great outstanding cause is overstretching. The surgeon has to find out the difference between a truly paralysed muscle and a muscle overstretched, and herein lies the fundamental principle which should guide us in the treatment of infantile paralysis. If the practitioner from the first disappearance of acute symptoms could prevent the weak muscular groups from being stretched, paralytic disabilities and deformities would be comparatively rare. As it is, too little attention is paid to the posture of the child during

is convalescence from the acute onset. For instance, the hild lies with the wrist flexed, and the flexor muscles consequently undergo some adaptive shortening, while the xtensors are overstretched and placed at a mechanical isadvantage. As the poliomyelitis in the corresponding art of the cervical enlargement begins to pass off, the exor tendons, from their position of advantage, are in a ondition to respond to the first stimuli which come from heir recovering motor cells, while the extensors, placed at isadvantage, cannot. Dropped wrist is a convenient type f paralysis to illustrate this doctrine of the functionally isabled muscle, of which H. O. Thomas wrote a quarter f a century ago.

I have on other occasions afforded instances, experiental and clinical, in proof that drunkard's palsy is not ways due to direct pressure upon the musculo-spiral erve, and that it frequently occurs when a patient lies ith his hand twisted under him in acute flexion, is due, fact, to continued tension of muscle fibre. Numerous ases of different types could be adduced in proof of the aralysing influence of muscle tension. For instance, a an cut his wrist, dividing all his flexor tendons. His octor stitched up all the tendons, and, in order to prevent rain, very naturally fixed the wrist in extreme flexion. ome weeks later he was sent to me because he had o power in the extensor muscles. Take, again, as an stance, dropped wrist from lead poisoning. The lesion ay be either in the cord or in the nerve trunks; in either se the muscles cease to be controlled by their nerve ntres, and the patient goes about with his wrist flexed gravity, while the extensor muscles become disabled continuous overstretching. This condition is usually ateral, and if the case be of some weeks' standing, an teresting experiment may be made by placing on one of e paralysed arms a splint to keep the hand dorsiflexed. ecovery will be much more rapid on the side on which e extensors are thus relieved from strain than on the ner side. The treatment in all such cases is to keep the ist and fingers in extreme dorsi-flexion. Relieved of rain they undergo adaptive shortening and soon begin to spond to the constant stream of tonic stimuli sent to m by afferent and subcortical centres, and they then ne under the higher control of the voluntary centres.

We will further consider some of the factors which ist in determining the persistence of functional disility in certain groups of muscles. Take, for example, paralysis of the muscles supplied by the external popeal nerve. This is a common type of residual paralysis oducing paralytic talipes equino-varus. This state is en determined by pressure of the bedclothes, that is, it a deformity due to decubitus. Again, if a patient be lying with the knees and hips flexed, and thighs ated inwards, the flexors contract, and the extensors rain weak or functionally disabled. And I could go on efinitely giving illustrations to prove that most of the ognized types of residual paralysis may arise from orrect posture in bed, easily preventable by a little ught and trouble. If this were given, muscles might saved from becoming atonic. The normal efferent tor and afferent tonic impulses between the muscles l the nerve centres would be re-established sooner, with bably a favourable reaction on the recovery of the nerve s.

nother cause of persistence of functional disability may found in unequal degree of recovery in opposing musar groups. The stronger group is apt to overpower the ker, which, giving way in the unequal struggle, omes functionally powerless. Or the same result may e from the fact that certain nerve cells governing one up of muscles may recover earlier than those governing econd group, and thus a start is given to the one at the ense of the other.

erhaps the most potent factor for evil is what I have ed the erroneous deflection of body weight. It operates fly in the lower limbs. One instance will illustrate it. here be weakness in the tibial group and the patient llowed to walk, the valgoid deformity will constantly ease, the tibial muscles be more and more stretched, ptative contraction will affect the peronei and structural ration in the tarsal bones, all of which might be ded by perhaps a little alteration in the heel of the to deviate pressure from the inner to the outer side he tarsus. I wish you carefully to bear in mind this question of strain upon a weak tendon, as it so closely affects us when we deal with tendon transplantation.

In the milder type of case where we are called to deal with a group of muscles where the power is but slightly impaired, the muscular balance may be restored by overdeveloping the weaker group. This can only be done by massage and exercises if there are no fixed deformities. For instance, suppose the peronei are weak, but the foot can quite easily be placed everted, then massage and exercises may be expected to succeed. But if the foot cannot be everted because of adaptive shortening of the tendons, then massage and exercise of the peronei are useless until the deformity is first corrected. This is a principle I would apply to other departments of orthopaedics, such as scoliosis, flat-foot, and congenital talipes, where inequality in muscular power is present—from whatever cause. From a mild case we may go on to cases of every degree of severity—from such mild cases as I have just discussed onwards to cases of flail ankles, of complete paralysis, and finally to cases with bony deformities requiring osteotomies, exsection of bony wedges, arthrodesis, or tendon transplantations.

Late Recovery of Muscle Power.

But before any operations are performed affecting the mobility of a joint every use should be made of available muscle power. No surgeon should operate on these cases until he has fully satisfied himself whether it be possible or not to restore the apparently paralysed muscle. Neglect of this precaution produces the distressing phenomenon of the unexpected recovery of muscles which were ignored as paralysed. For example, a few weeks ago a patient was brought to me with a partially ankylosed knee. The operation of arthrodesis had been performed, with a view of bringing about a bony ankylosis. As an arthrodesis the operation had failed, for the knee had a short range of movement. As an experiment illustrating the principle we are discussing it was very successful, because the quadriceps was acting with considerable strength. Prolonged fixation had relieved the quadriceps from all strain, and restoration of function resulted. This case exemplifies the mistake of taking for granted that a muscle is paralysed without first finding out if it be really paralysed.

The first stage of treatment is the correction of existing deformity, and when deformity is corrected the limb should be kept immovable until the ligaments, muscles, and even bone have become of normal length and shape. To break the continuity of treatment is to bring about a relapse. For instance, suppose a drop wrist is placed in a splint designed to dorsiflex the hand and wrist. The hand must not be allowed to flex until recovery has occurred. While the patient washes the hand must be held dorsiflexed. This point is fundamental, and neglect to observe it means failure. The slightest stretching of a muscle on the point of recovery disables it again, and all the good work of weeks and months may be thwarted by a single act. I cannot emphasize this point too strongly.

The clinical test of the recoverability of a muscle therefore depends on an experiment. Let it be kept for a prolonged period, perhaps six, sometimes twelve months, in a position of relaxation. This test should be made before condemning any muscle, no matter for how many months or years it may apparently have been paralysed. When, therefore, one sees in textbooks that we are to despair of the return of power after this length of time, we can quite well afford to ignore the advice unless added to the time test there has been uninterrupted muscular relaxation.

Dr. Wittek (of Graz), in an article of which he sent me a reprint some time ago, offers very convincing evidence of the truth of the correctness of the principles I advocate. His paper dealt with the great epidemic of poliomyelitis in Styria in 1907, and he relates the case of a boy who during it suffered from poliomyelitis. Twelve months later his parents brought him to the neurological department, from which he was transferred to the surgical department, with a note that all the muscles of the left leg supplied by the external popliteal nerve were paralysed, did not respond to faradic stimulation, and showed the reaction of degeneration. As this condition was found a full year after the onset of the disease, as the foot was in the equino-varus position, and only the muscles of the calf were acting, it

was decided to perform tendon transplantation, after correcting the deformity. The position of the foot was first overcorrected, and it was put up in plaster-of-Paris for a fortnight. Then the tendo Achillis was lengthened, and the flexor longus hallucis was converted into a pronator, and the flexor longus digitorum into a supinator by Lange's method. The patient was then kept in bed for six weeks in plaster-of-Paris, and afterwards allowed to walk in a plaster-of-Paris splint for another six weeks. He was then provided with boots with lateral support, and an elastic band to dorsiflex the foot. He was next seen in July, 1909, a year after the operation, when he was brought because the foot was in extreme valgus position, with the internal malleolus touching the floor. On testing for function, the astonishing result appeared that now all the muscles supplied by the external popliteal nerve could be actively contracted, and had recovered full function. The muscles reacted promptly to faradic stimuli, and the galvanic reaction was normal. The deformity could only be attributed to the power added to the pronators and subtracted from the supinators by the operation. If neuroplasty had been performed in July, 1908, the surgeon would have had a brilliant result to show. There was nothing for it but to attack the existing deformity. The position was first corrected, and then the tibialis anticus as well as the flexor longus digitorum, which had been converted into a pronator, were both shortened. As before, the foot was put in plaster in a supinated position for twelve weeks. After this time the plaster was removed. The foot remained in supination; no voluntary movement of pronation could be performed. Faradic stimulation produced no contraction in the peronei muscles.

The conclusion (says Dr. Wittek) to be drawn from this observation was inevitable. The paralysed muscles were functionally disabled by overstretching. The second part of our case has the great advantage of being an unintentional experiment.

I have not only to thank Dr. Wittek for giving a striking illustration of principles which I have been advancing for years, but also for the generous reference he makes to my work. He announces his intention of waiting in future for recovery of muscles under appropriate treatment before proceeding to tendon transplantation.

Before performing transplantation of tendons or arthrodesis preliminary osteotomies are sometimes required. For example, knock-knee is frequently associated with paralytic conditions of the lower limb, and it is necessary to correct this by osteotomy to adjust the line of traction of the muscles before transplanting some of the hamstrings into the patella. Again, as a knock-knee means erroneous deflection of body weight, it should be corrected before proceeding to arthrodesis of the ankle in a case where the ankle is a hopelessly flail-like joint. In both instances the object is to adjust the alignment of the limb and to get the transmission of body weight true before proceeding to the more delicate operation.

The age of the patient should guide us in our mode of attack upon these preliminary deformities. In very small children, in whom the structures are soft and yielding, gradual correction of deformity is to be preferred to the more rapid methods which may be employed in older children. In young children there is no object in hasty transplantation of tendons. We should correct the deformity, provide the simplest instrument to keep the limb in good position, prevent erroneous deflection of body weight during walking, and let the child grow and develop until it is about 5 before transplanting its tendons, and 10 before doing an arthrodesis.

TREATMENT.

I will now briefly indicate the order in which we should attack paralytic deformities.

I. *Reposition, Manipulation, Supports.*

I would first endeavour to correct the deformity by reposition, manipulation, and mechanical supports. For instance, in cases of valgus deformity at the ankle, the inner side of the ankle should be made higher than the outer, an iron should be placed between knee and ankle on the outside, ending in the heel of the boot, and should not have a joint opposite ankle. This supports and inverts the ankle, allowing overstretched ligaments to shorten and overstretched muscles to recover power if they can. Similarly, in cases of talipes equinus, the iron is let into the back of the heel and extends forwards into the waist of the boot to keep the foot at right angles and relax the weak extensor group.

II. *Division of Contractions.*

Bands of fascia and contracted tendons which prevent correction of deformity may have to be divided. In paralytic club-foot, the Achilles tendon, the plantar fascia, the peronei, or any obstructive band may require subcutaneous division. In the thigh the tensor fascia may require division. This is best done by open incision. In the knee both the popliteal fascia and the hamstrings may require open division, but if the hamstrings are needed for transplantation later an effort should be made to spare them from division.

III. *Removal of Skin Areas.*

Parents are often careless in carrying out instructions loyally and in detail. They do not see the importance of keeping a foot constantly and for a prolonged period in one position when we require uninterrupted relaxation of muscle. They allow the child to remove boot and iron to have a run barefooted. Under such conditions results are variable and disappointing. To put a stop to this in paralytic equinus I began about ten years ago to remove an area of redundant skin sufficient to keep the foot at right angles when the wound was sewn. In equino-varus the skin is removed over the outside and front of the ankle. In equino-valgus from the front and inside. In ten days the stitches may be removed, and the foot will retain a correct position for some months, even if parents do carelessly remove splints. So satisfactory has this operation been that it forms part of my routine treatment of small children, for protecting weak or functionless muscles from strain. Though I planned this particular operation for the prevention of muscular strain, I had several years previously started to remove large skin areas in those cases of paralysis of the upper arm where the elbow and shoulder were paralysed and the hand acting. By fixing the forearm to the upper arm, the hand could be utilized for feeding purposes. I have already published several instances in which recovery has taken place in the biceps and brachialis anticus some months after this operation has been performed—a further testimony of the pleasing results of muscle relaxation.

IV. *Tendon Transplantation.*

We will now turn our attention to tendon transplantation, and we must first answer the question as to when we are justified in transplanting a tendon. My answer is, not before twelve months have been spent in endeavouring to promote the regeneration of the paralysed muscle, and only rarely in children under 5 years of age. It may be performed for many different purposes.

(*a*) To reinforce a weak muscle—for example, a hamstring may be transplanted into the patella to reinforce a weak quadriceps which ineffectually struggles against strong flexors, and is in danger of relapsing into inactivity. Or, again, where weak inverters of the foot may be reinforced by a transplanted extensor proprius hallucis. These are both instances where a partially acting muscle derives help from a healthy one.

(*b*) Again, transplantation may be performed to replace a muscle which is quite inactive and does not show any signs of recovery under conservative treatment. For instance, the peroneus longus may be implanted into the scaphoid or first metatarsal, to act as an inverter of the foot. In this way an extreme valgus deformity may be converted into a well-balanced foot requiring no support.

(*c*) Another interesting type of transplantation is illustrated where the foot becomes inverted especially at the heel. To overcome this I split the tendo Achillis in two, separate the inner half from the os calcis, pass it under the outer half and insert it to the outer side of the heel. This amounts to a change of insertion and involves no psychological problem. Experience of the operation of transplantation of tendons has shown me that success depends upon the recognition of the principles we have already discussed and in attention to many details. The details are generally details of technique and deserve some consideration. The transplantation, wherever possible, should be tendon to bone. A tendon inserted into soft parts seldom holds firmly; the periosteum is often so thin and

difficult to separate that a satisfactory union is out of the question. Where it can be brought about the bone should be tunnelled and the tendon passed through the tunnel and securely fixed. This can be usually satisfactorily performed when the ball of the toe requires lifting, as in pes cavus, where the proprius hallucis is passed through the metatarsal head, or in the fixation of the peroneus longus to the inner side of the tarsus.

If the tendon is too short to pierce the bone, as in the case of the tibialis anticus, a piece of silk is tied very tightly round the tendon, about half an inch from its cut end, so tight that the tendon will neither fray nor slip; a cleft or groove is made into the bone, and a strong periosteum needle, threaded with chromicized gut is passed through the soft bone and through the tendon just above the ring of silk, so placed that when the chromic suture is tied the tendon will be embedded in bone. To make it still more secure a short nail is hammered through the tendon into the bone.

When bringing a tendon from one part of the limb to another, it should pass in as straight a line as possible, avoiding any bend or angle, which might obstruct its action. Where possible the sheath should be taken with the tendon, but frequently this cannot be done. Fat is the best medium for the transplanted tendon to traverse.

My most generally successful transplantations are in this order:

Tibialis anticus to the outer tarsus in paralysis of the peronei.

Peroneus longus into scaphoid for paralysis of the tibial group.

The extensor proprius hallucis into any part of the foot where it may be wanted.

Hamstrings to patella, to reinforce the quadriceps, provided the strictest after-treatment can be secured.

Deflection of part of the tendo Achillis to one or other side of the foot.

In transplanting the hamstrings into the patella I usually confine myself either to the use of the biceps or to the semitendinosus and semimembranosus. When I use the inner hamstrings I stitch the semimembranosus to the semitendinosus in order to have a good long tendon and dissect the muscles well up the thigh in order not unduly to deflect them. An oblique incision about 2 in. long is made from the upper part of the patella in the line the transplanted muscle is to travel. A blunt dissector is in this case passed beneath the fascia into the popliteal incision and a wide tunnel secured for the passage of the tendon. At this stage care must be taken lest the transplanted tendon is twisted on itself during transit. A small opening is then made just above the patella, and another, three-quarters of an inch behind. A forceps is introduced from below upwards through both openings, and the tendon is led through them to be fixed to the upper surface of the patella. The sartorius has too fleshy an insertion to be of much use to us.

Again let me reiterate the necessity of first correcting all deformity before transferring the tendon; to give the tendon plenty of lateral play during its transit and to prevent it from being unduly strained during the stage of recovery.

V. *Arthrodesis.*

Arthrodesis may now be considered as one of our operative procedures. It consists in removing the cartilage covering the joint surfaces of bones and producing a firm ankylosis. The joints which best lend themselves to this operation are the ankle and mid-tarsal joints. At the ankle and mid-tarsal the object of the operation is to obtain a secure and firm base of support in walking. The operation of arthrodesis, therefore, should not be considered until it is ascertained that muscular power is not available to produce a well-balanced ankle by any other means. The surgeon, therefore, is never in a hurry to perform arthrodesis, for it is his duty first to correct deformity; to take measures already indicated to conserve and develop any power remaining in the muscles controlling the foot and ankle. After this he must decide whether the patient will be better off with a stiff foot or with a weak and movable ankle supported by apparatus. This is often a matter of social station. In the rich, an inefficient and mobile ankle may be made useful by mechanical aid, while in the poor a firm, immobile joint is of more use and of less expense. Much also will depend upon the surgeon.

Recent developments in general surgery have so simplified and perfected the art that once an operation is completed the trouble ends. In orthopaedics, however, the surgeon's task often only begins when the operation ends, and, despite the many fascinations of this special work, very patient industry and ingenuity are always in demand.

At what age should arthrodesis be done? I cannot remember a single case of good bony union in a case operated upon under the age of 4. Of children operated upon under 7, not one-fourth have satisfactory stability in ankle or foot. In cases over 10 years of age the fixations are almost universally good.

From every point of view, early operation is a mistake in these paralytic cases. Interference with very young bone results in weak fibrous union, and impaired or irregular growth, with consequent new deformities, which require treatment at a later stage. Under no circumstances should an arthrodesis be performed until the child has passed his eighth year. There is plenty to be done during the waiting, and if this be done well, perhaps no operation will be needed. Before he is 8, his existing deformities will have been corrected, skin areas will have been removed, to relieve functionless muscles of strain his body weight will have been appropriately deflected, and he will have been to walk in splints, swinging his limb about, and using it effectively in a correct position, so that exercise becomes a powerful agent in encouraging growth, physiological and functional development.

To illustrate the mode of operative procedure, let us assume that we are dealing with a case of paralytic equinus, in which the paralysis is so extensive that there is no possibility of dealing with the case by any form of tendon transplantation, and that a stiff ankle has been definitely selected. By an incision over the front and outer side of the ankle the joint is reached. The incision should extend from just above the ankle-joint to a little beyond the head of the astragalus. The ankle-joint is opened and well exposed, and with a chisel the cartilage is removed from the astragalus, the tibia and the inner aspects of the malleoli. At this stage we must make allowance for any associated valgus or varus deformity, at the ankle. To provide for the correction of such lateral deformity, a wedge-shaped slice of bone is taken from the top of the astragalus with the base to the inner or outer side according as we wish to invert or evert the foot. When the cartilage has been removed from the sides of the astragalus, and the inner aspects of the malleoli, it is sometimes found that the astragalus will not comfortably fit the gap between the malleoli. It is well in these cases to introduce a fine chisel through the wound and divide each malleolus at its base and squeeze them both against the astragalus.

The mid-tarsal joint between the astragalus and scaphoid is attacked in the same way at the same operation. The foot is then brought up to a right angle, the cut surfaces of bone being well pressed together. The foot is then fixed in correct position in a club-foot shoe and ten days later in plaster-of-Paris.

In operations upon the tarsus it is well to know beforehand the growth deformity which sometimes occurs. It is nearly always a pure varus, and it is therefore advisable to aim at leaving the foot very slightly in a valgus position. When the union is complete, in six or seven weeks' time, the child is allowed to walk, but the union must be carefully guarded from strain. He must be seen at intervals for fear incorrect deviation of body weight be spoiling the result.

In another type of case it is better to leave the mid-tarsal joint free and arthrodese the ankle only. This is indicated when there is but the slightest power in the extensors of the toes, which would never recover sufficiently to oppose the weight of the dropped foot. Such weak muscles might, however, be quite able to retain their function when required to act only through the more limited range of movement at the mid-tarsal joint.

The ankle and mid-tarsal joints are those best suited for arthrodesis, and next to these the shoulder. The object of arthrodesis of the shoulder is to make the humerus move with the scapula as one bone. It is, therefore, only of service when there is good muscular control of the scapula. It is only indicated when all the muscles controlling the shoulder-joint are paralysed. If the muscles

of the hand are inactive, there is no object in an arthrodesis of the shoulder.

I perform the operation by the anterior incision commonly used for excision of the shoulder-joint. The humerus should be fixed in abduction and internal rotation so that the hand can be brought to the mouth.

It is very rare for me to perform arthrodesis of the knee. It is an operation which, if not performed early, gives an admirably firm limb, and I have patients who go about their work contentedly, with a stiff knee and ankle; others, however, regret the day on which they consented to this operation. This regret is merely due to inconvenience. The limb, they say, is always in the way and in evidence. Where money permits, a lock calliper fills every indication, and can be used for walking in extension or sitting in flexion.

Arthrodesis, in my opinion, is quite unsuitable for hip, wrist, or elbow. At the elbow because the removal of skin and fixation of forearm at an acute angle does what is desired. At the wrist the usefulness of the fingers depends on the presence of some degree of co-ordination of movement, which means that both extensors and flexors must be acting and controlling each other. If there be power in the muscles the hand can always be made useful by means other than arthrodesis, and, of course, if the hand is useless the wrist should be left alone.

VI. *Transplantation of Nerves.*

No discussion of the surgery of paralysis would be complete at the present day without some reference to the transplantation of nerves. Our present knowledge of regeneration of nerves is such that it seems entirely reasonable to expect that if the distal end of a paralysed motor nerve be connected by grafting with the proximal end of an active motor nerve, it should result in restoration of conductivity in the paralysed nerve, and of function in the muscles supplied by them. This operation is not new, for Hackenbruch reported a successful case of grafting of the external and internal popliteal nerves for paralysis of all muscles supplied by the former so long ago as 1905.

My friend Spitzy of Graz has published a most interesting series of papers, running from 1904 to the present day, in which he has dealt with the subject carefully, both from the experimental and clinical point of view. Nevertheless, I come before you with very slight personal experience of the operation, not sufficient to speak with any authority.

I would put forward with all diffidence a general criticism of reported cases. Many surgeons have performed the operation in a few cases, and have reported a few successes and many failures. Of the failures I shall speak later, but shall first say a word of the successes.

So far as I have seen reports of successful cases, the procedure has been to perform the operation of nerve transplantation, and then fix the limb in a position which would keep the grafted nerve relaxed. At the same time the muscles have been assiduously massaged, and every means taken to get them into good condition. In this lurks the fallacy that the success, in some instances at any rate, may be due to the muscles having been in a state of functional disability, and not really paralysed at all.

The authors of these reports do not prove to my satisfaction that every means has previously been taken to exclude this possibility. I must remind you of Wittek's case, which I have quoted, and of my own many experiences of instances where recovery of power has taken place unexpectedly, but in absolute accord with the principles we have discussed.

I by no means intend this criticism to mean that none of these successes are credible, but that they are lacking in scientific value, because sufficient care has not been taken to exclude the fallacy which I have indicated.

I may be charged with lack of enterprise for not having performed the operation, on a series of cases in which I have been contented with arthrodesis, after satisfying myself that no recovery is likely to occur in the paralysed group. My answer to this charge is a very simple one—I do not know how to perform the operation with any degree of accuracy or certainty. Consider a case of paralysis of the muscles supplied by the anterior tibial nerve. A successful neuroplasty demands that the bundle of motor nerves intended for this group of muscles be isolated from the trunk of the external popliteal nerve and grafted into an active motor bundle in the internal popliteal. I speak of bundles in this way, for six years ago Spitzy pointed out that in operating on the anterior crural nerve where it enters the thigh it must be remembered that all the motor fibres lie in the outer half of the nerve, and all the sensory fibres in the inner half. Stoeffel has recently published a most valuable anatomical research on this subject, in which he has shown that both in the upper and lower limb nerves to groups of muscles—for example, the anterior tibial nerve—can be traced back well up the main trunk as a distinct bundle wrapped in their own sheath. He has shown, too, that in the case of the musculo-cutaneous nerve in the leg, the motor fibres to the peroneal and the sensory branches can be treated as separate bundles, not only in the trunk of the musculo-cutaneous nerve, but also up into the trunk of the external popliteal nerve.

In the face of such anatomical difficulties, it is not surprising that the results of nerve transplantation for the treatment of paralysis have been uncertain and disappointing. If Stoeffel, and others working on the same lines, can give us a clear account of the internal topography of nerve trunks, and show us how we can identify with certainty bundles of nerves destined to supply particular groups of muscles, the first step will have been taken towards putting neuroplasty on a sound scientific footing.

The subject of the treatment of poliomyelitis is so far-reaching that, in spite of this long address, I have only been able to touch lightly and inadequately upon a few of its many points of interest. It offers a most fascinating field, full of variety to a surgeon who has patience and enthusiasm. To approach the subject in a spirit of doubt and pessimism is fatal to success.

A Post-Graduate Lecture
ON
NEUROTIC DYSPEPSIA.

DELIVERED AT THE LONDON SCHOOL OF CLINICAL MEDICINE.

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You may remember that a week or two ago we investigated a case of gastric disturbance in a man, about whom we came to the conclusion that he was probably suffering from a local functional condition grafted on to a general state of neurasthenia, simulating at first sight, in many of the subjective symptoms and the objective signs, an ulcer either of the duodenum or of the pyloric end of the stomach. Though cases of this description are not often seen in this hospital, they are common in private practice, and the more I see of them the more I become convinced of the need for caution in arriving at a firm diagnosis until full opportunity has been afforded of watching the progress of events under the influence of rest, dietary, and drugs. This occasion is opportune for bringing to your notice some recent cases coming within my own experience which testify to the need for such an attitude of expectant observation. The classification of functional disorders of the digestive organs is so confused that the difficulties of diagnosis are often very considerable. But, when we come to think of it, the function of any organ can be disturbed only in one of three ways—by excess, by default, or by perversion—and, in accordance with this proposition, Professor Robin's suggestion that all dyspepsias should be grouped under three primary headings, according as they are caused by hyperfunction, hypofunction, or abnormal fermentations, has much to recommend it. While the great bulk of dyspepsias may, in a broad way, be parcelled out into these three varieties, it is obvious that there must be much overlapping of one class of case with another; that a patient may present such a succession of symptoms as would bring him into one category of the disease at one time and into another at another; and that there must be certain secondary groups of the disorder so well marked as

to justify their allocation to subdivisions of their own. Such a subdivision is, I think, to be found in one class of dyspepsia which we meet with so frequently in persons at or beyond the middle period of life, who belong to the neurasthenic type of humanity. Patients who may be thus classified present a train of symptoms characteristic enough for easy recognition, the one pitfall of importance being the possibility of mistaking the condition for duodenal ulcer. This mistake probably happens, in the aggregate of cases, more frequently than is suspected. The growing conviction of clinical experience, amounting almost to a certainty, that those symptoms which have been held forth as certain evidence of ulceration on one side or other of the pylorus can be reproduced almost exactly by functional conditions, should make us hesitate before arriving at over-hasty conclusions.

The outline of the symptomatology of this type of dyspepsia is somewhat as follows: The patient is most frequently a man, generally at or past the meridian of life. He usually comes with a story of impaired digestion continuing over some months or even years, but latterly becoming more intense and definite in its manifestations, and giving rise to such recurrent discomfort that his life is rendered wretched. He is mentally depressed, complains of inertia, insomnia, occipital headache, and latterly of loss of flesh, together with some of the other multifarious evidences of neurasthenia. He attributes his decreasing weight to the care he takes to limit his food, because, though his appetite is vigorous, he fears to satisfy it. The pains in his stomach from which he suffers came at first irregularly, but they now recur in periodic attacks. They subside immediately after a meal, but reassert themselves unfailingly three or four hours later. They are accompanied by heartburn, and often also by waterbrash; subsequently vague impressions of fullness, weight, gurglings, and colicky spasms in the region of the epigastrium give rise to uncomfortable and distressful feelings of misery. Eructations are frequent, and seem to give such relief that the patient unconsciously swallows air in order to afford himself the comfort of regurgitating it. Repeated and almost uncontrollable yawning is often experienced. He becomes extremely introspective and nervous about himself, is subject to palpitation, sensations of faintness, spasmodic tightness of the chest muscles, and sometimes shortness of breath, for which no adequate reason can be found. When the discomfort has reached its acme, mouthfuls of acrid fluid containing part of the residue of his last meal are not infrequently regurgitated. Vomiting is not common, but, when it occurs, immediate relief ensues; so much so that some patients induce sickness that their comfort may be restored. There is always obstinate constipation. Under treatment the discomforts lessen, and may finally disappear for several months or longer, but are liable to become re-established under the provocation of mental or physical strain. On examination it will be found that there is tenderness in the epigastric region, often specially marked and limited to the right of the middle line, and that the stomach is frequently more or less dilated, splashing sounds being easily elicited in many instances. In doubtful cases part of the stomach contents may be siphoned off and examined chemically, when they will usually present an excess of total acidity, and especially an increase in the free hydrochloric acid. Whenever it is ascertained that the gastric symptoms follow a course parallel to the mental or moral state—being initiated under the influence of anxiety and worry, aggravated by the increase of these conditions, and relieved by their removal—it may be reasonably inferred that the dyspepsia is of nervous origin.

The following illustrative cases are selected from recent records, and are related with as much brevity as possible, in order to confirm by clinical data the characteristics of this variety of dyspepsia.

CASE I.

Mrs. F. D., aged 42, who had been healthy throughout her life but for two attacks of rheumatism, came complaining of illness and dragging in the stomach; heartburn coming on three hours after a meal and relieved by food; and a dry and disagreable mouth with waterbrash from time to time as an unpleasant addition. Her sleep was restless and dreamful, and she was often waked in the early morning by an attack of heartburn and pain in the stomach region. These symptoms had lasted off and on for more than a year, but there were intervals when the discomfort quite disappeared for weeks at a time. She has never suffered from haemorrhage nor vomiting. Her appetite is fairly good. She is of the neurotic type, with a long tale of woe, and a catalogue of written questions, for each of which she requires an answer.

Her tongue is flabby but clean; the teeth are in good order; the urine is normal; and there are no physical signs in the heart or lungs. The knee-jerks are exaggerated, and the plantar reflexes are absent. The stomach is of normal size, but there is marked tenderness to pressure and rectal resistance over the upper area of the epigastrium, particularly on the right side.

This patient was seen again a month later with a record that the heartburn and other symptoms had rapidly disappeared, and that, except for some continued disturbance of sleep at night, she was practically well. The epigastric tenderness was gone. She has not been heard of since.

CASE II.

B. M., aged 72, a retired medical man, with a gouty family history, who had spent an active and uninterrupted professional life for over forty years, came complaining of intermittent attacks of pain in the epigastrium lasting for two or three days, and always accompanied by heartburn, eructations, pyrosis, and disturbed sleep. The discomfort was relieved by food, and was in most instances induced by extra work or worry. Polyuria was a preceding symptom which always warned him that an attack was imminent. His appetite continued good, but he compelled himself to do with a minimum of food in the hope of lessening the severity of his uneasiness. He had suffered in this way since he was between 40 and 50. He never had haemorrhage.

On examination, his vessels are thickened and his heart slightly hypertrophied, with a loud second aortic sound. The density of the urine is only 1004, and it contains a faint haze of albumen. The lungs are normal. The stomach is dilated, and over the upper end of the epigastrium there is acute pain on deep pressure and such muscular resistance as to make it impossible to determine whether or not there is any perceptible thickening of underlying tissues. The liver is of normal size, and there is nothing else noteworthy in the abdomen. This patient has not been seen again, but from time to time he has reported progress by letter. He rapidly got his attack over, and has only had two very slight returns, which were speedily subdued by recourse to suitable treatment.

According to his last report, he is now bright and active, is sleeping fairly well, has not lost weight, and is free from dyspeptic symptoms.

CASE III.

S. B., aged 56, an Indian merchant, who had suffered from dysentery and malaria, and who had a gastro-enterostomy performed ten years ago because of a duodenal ulcer. At the operation "a mass the size of a walnut" was found at the pylorus, but it was regarded as inflammatory.

He has been travelling recently in the East, and for three months past has suffered from weight and fullness at the pit of the stomach, with acid eructations and much flatulence, coming on about one hour after meals, and reaching its maximum two hours later. There is uncertainty about the effect of more food, which he is always afraid to take until the discomfort has subsided, but relief is immediately obtained by a dose of sodium bicarbonate. Appetite variable, but seldom gone. This patient is not markedly neurotic, but his knee-jerks are overactive. He smokes excessively, and there is evidence of vasomotor instability. The teeth are in good order and the tongue is clean. The thoracic organs are normal but for a slightly accentuated second aortic sound. Over the pyloric region of the stomach there is tenderness on deep pressure, accompanied by muscular rigidity. No "lump" can be felt, and there is no glandular enlargement anywhere. The patient is a spare man, but he has not lost flesh recently.

One month later the discomfort and local tenderness had diminished, and after another month had disappeared. He was sleeping well, vigorously hungry, and taking a carefully arranged mixed diet, without discomfort from either heartburn or flatulence.

CASE IV.

K. C., aged 62, a hard-working, highly strung, ambitious man, who had never been seriously ill, but had suffered much in later years from disturbed digestion. Recently his digestive troubles have assumed more definite form, and occur in attacks of some days' duration, which invariably set in after a period of unusual stress, and which are characterized by intense mental depression and restlessness; epigastric fullness and pain some hours after food, accompanied by rumbling noises in the stomach and intestines, with constipation, and colourless, offensive stools. Polyuria always precedes these attacks, and although he is hungry he fears to eat on account of the subsequent consequences. He is unable to sleep for any consecutive length of time, and is sure to be awakened between 2 and 3 o'clock in the morning by discomfort in his stomach, which he longs to relieve by an emetic. He has constant heartburn, accompanied by a disagreeable acrid taste in his mouth. He is distinctly of the neurasthenic type. If examined during an attack, there is tenderness and rigidity in his epigastric region, most marked on the right side; his stomach is dilated, and splashing succussion sounds are easily elicited. There is some distension of his colon. The urine contains indican, but

neither sugar nor albumen. The heart, though normal in diameter and without valvular murmur, is often irregular in rhythm and always excitable. The vasomotor system is specially unstable.

These attacks, though less frequent, still continue, but are amenable to treatment. The patient retains his average weight, and he has never had haematemesis nor melaena.

Case v.

J. K., aged 50, a merchant, active and of spare habit. He had suffered from indigestion for years, but for many months past his dyspeptic attacks had assumed a paroxysmal character which they did not possess previously. His business had been of late very worrying, and the disturbed state of his digestion had become a nightmare to him, especially as he had been told by a doctor in the country that the most likely explanation of his symptoms was "an ulcer at the outlet of his stomach," for the cure of which he would require to undergo an operation.

His principal complaint was of pain in the stomach, coming on invariably about 4 o'clock in the morning. During the day, except for a sense of fullness some time after meals and unpleasant heartburn, he was comparatively comfortable, but he dreaded the night. Sodium bicarbonate always gave him comfort. He had never vomited, and there was no history of haemorrhage. His bowels were very constipated, and the urine contained an excess of phosphates.

On examination there is tenderness over the pylorus with muscular rigidity, but no definite thickening. The stomach is dilated to the level of the umbilicus, and splashing sounds are at once obtained on succussion. His teeth are in good order, but his throat is granular and his tongue is coated and dry. His organs otherwise are normal.

This patient was not seen again, but several months after his visit a friend reported that, though still troubled by his digestion, he was much better and able to sleep the night through.

Case vi.

Miss F. J., aged 57, a spare, active woman, who comes from a neuropathic family but had never been seriously ill herself. She has suffered for years from recurrent attacks of "hunger pain," heartburn, flatulence, mental depression, and borborygmi. The stomach discomfort commences about three hours after meals, and is relieved by taking food. Blood has been seen in the stools repeatedly, but she has a certain amount of colitis which may account for it. There is tenderness in the epigastrium and dilatation of her stomach exactly as described in the previous cases. She exhibits a certain amount of arterial degeneration, but otherwise there is no evidence of organic disease.

She was under observation in a nursing home for some weeks, and before leaving she had been quite comfortable in her digestive organs for a fortnight. I have since heard that she has kept well, and has now resumed the ordinary duties of her life. She is still careful to choose her food and to limit exertion.

Case vii.

R. D., aged 53, a doctor in active practice who had his appendix removed three years ago, and at a subsequent date had a stone taken from his gall bladder. All his life he had been subject to migraine After his second operation he remained well for several months, then developed attacks of "hunger pain," heartburn, tenderness in the stomach region, constant eructations, and insomnia.

His stomach is not dilated, but in the upper region of the epigastrium there is definite tenderness and muscular resistance to pressure. His urine contains indican, but no albumen or sugar. He has not experienced any haemorrhage and has never vomited. He believes himself to be suffering from duodenal ulcer.

His subsequent history, so far as ascertainable, has been one of increased comfort so long as he lives "according to rule."

Case viii.

A. B., aged 42, a soldier who had served sixteen years abroad, was sent home "supposed to be suffering from duodenal ulcer." He is a spare, sallow, neurotic man, who went through a severe attack of enteric fever in 1901. Until 1906 he was quite well, but then, after a period of overwork, he began to develop intermittent attacks of pain in the stomach coming on four hours after a meal and relieved by more food. Heartburn is not so much in evidence as in most cases, but off and on it is present, and associated with flatulence and nausea. Occasional blood and mucus are seen in the stools, but there has never been distinctive haemorrhage. The physical signs are precisely those of the other cases in this series, the dilatation of the stomach being of moderate dimensions. He suffers from a blind fistula, the result of an ischio-rectal abscess some years ago. His teeth also are very much decayed. His mouth was put right by his dentist, and his sinus cured by a surgeon as the first step in his treatment.

Thereafter his progress, though occasionally interrupted by a slight return of "hunger pain" and stomach discomfort, was satisfactory, and now, after a little more than a year at home, he has been free from symptoms for some months and has put on weight. He has rejoined his regiment.

Case ix.

C. H., aged 33, a clergyman, hard-worked and active. Had his appendix removed a little more than a year ago; ever since, disturbed digestion: acute heartburn and pain three or four hours after food, relieved by the next meal; flatulence; distension; nightmares; constipation. Neither haemorrhage nor vomiting. The physical signs are a repetition of those already given, but with no stomach dilatation.

When seen four months later he was much better than at any time since his operation, and nothing abnormal could be detected on local examination.

Case x.

Mrs. A. L., aged 34. A healthy woman, who had suffered when abroad five years previously from obstinate dysentery. During her first pregnancy she had considerable trouble from heartburn and nausea, and on three or four occasions had attacks of acute pain which she was told were gastralgic. After the birth of her child she experienced repeated attacks of the old gastric pain before meals, with heartburn and flatulence lasting for two or three days. In addition she had several intermittent attacks of more acute pain, accompanied by vomiting, and followed by an icteric discoloration of the skin and colourless stools, strongly suggestive of gall colic. Three months after her confinement her gall bladder was opened, and ten small stones were removed. She made an excellent recovery, but after two months she developed "hunger pain," heartburn, and distension. Her discomfort came so frequently during the night that she always had at her bedside a supply of dry biscuits, munching one or two of which afforded her relief.

A year later she was very well and had no digestive troubles. The following year a second pregnancy occurred, and now, two months after her last confinement, the gastric troubles have again asserted themselves as before, and are associated with tenderness over the pyloric region and gastric dilatation. Under treatment she has regained complete comfort.

Case xi.

C. G., aged 51; a man of active habits who, until four years previously, had never been ill. He then began to suffer from attacks of pain which were thought to be due either to cholecystitis or duodenal ulcer. He was sent to Carlsbad and other health resorts, but he got no better. Eventually his abdomen was opened; no gall stones were found, and there was no ulcer, but there were many adhesions round the pylorus and duodenum, also "a mass of glands at the head of the pancreas and at the root of the mesentery," the densest adhesions being round it. The adhesions were divided, but no gastro-enterostomy was done, and the patient made an uneventful recovery. Subsequently to his operation, though he had no return of the acute pain, which simulated gall colic, his digestion became again troublesome, and has now assumed the type of the others of this series of cases—heartburn and pain some hours after meals, at once relieved by a bismuth and soda mixture which he always keeps by him; epigastric tenderness; dilatation of the stomach; broken sleep; intervals of comparative comfort: vigorous appetite; no sickness. His urine contains an excess of phosphate, and gives a positive pancreatic reaction.

Under treatment he improved considerably, his attacks being both less frequent and less severe, but in a minor degree they were liable to return upon slight provocation. The neurotic element in his case was very pronounced and interfered with any permanent stability of health.

Case xii.

E. D., aged 43, a gouty man, who had always lived well and taken too little exercise. For about three years he had suffered from acidity and pain in the stomach an hour or more after meals, with fullness, flatulence, and waterbrash. The pain is temporarily relieved by one or two soda-mint lozenges, but recurs until it is more permanently overcome by the following meal. On examination the same local signs are present as in the other cases, the tenderness being very acute at the right angle of the epigastrium.

After some months of treatment the symptoms disappeared, and when he was last seen there was no epigastric tenderness, the stomach was of normal size, and he appeared to be in fairly good health.

Case xiii.

F. B., aged 41, a spare man of sallow complexion, who had lived much abroad and who had had repeated attacks of malaria in East Africa, the last being in 1905. Since then his digestion had been troublesome and he had developed the precise train of symptoms which these cases illustrate. The heartburn has been, in this case, specially severe, and he has been afraid to eat, despite an urgent appetite, because of the misery the acidity causes him. He has had no haemorrhage and only very

occasional vomiting. The epigastric tenderness is pronounced. The stomach is dilated to the level of the umbilicus, and four hours after food there is still a loud and perceptible succussion splash. He has been told that he is suffering from a "peptic ulcer." A year or more ago he underwent three months' treatment by massage, vegetarian diet, rest, etc., but there was no manifest improvement.

At the end of six months he was much better and the dilatation of his stomach had disappeared. He was sleeping perfectly at night, had put on weight, and was much happier about himself.

CASE XIV.

Miss P., aged 42, for many years had suffered from palpitation, flushings after food, with pain, heartburn, waterbrash, and flatulence coming on between meals. Occasional vomiting and sometimes lienteric diarrhoea. She is never without sodium bicarbonate, which she depends upon to relieve her gastric symptoms. She is a highly-strung woman whose life has been full of anxieties. She sleeps badly at night and suffers much from vertical headaches. Her family history is tainted with neuroses and mental affections through several generations. The physical signs correspond to those already related, but in addition she has intermittent polyuria, a very loose right kidney, and extraordinarily accentuated knee-jerks with complete absence of plantar reflexes. There is a haemic murmur over the base of the heart, but otherwise the organs are normal.

Improvement in this case was slow, and relapses were frequent, but gradually she regained some degree of nerve stability and coincidently with this her gastric discomforts diminished. She got sufficiently well to marry some months ago and to go to California where she now lives.

CASE XV.

R. H., aged 50, a robust, active man of the gouty type, who had never been ill except for an attack of enteric fever when he was 20 years of age. Ten months ago he first suffered from indigestion, and it had recurred from time to time ever since. His doctor believed him to be the victim of duodenal ulcer, and his symptoms and physical signs were distinctive enough to warrant such a provisional diagnosis. The question of operation was considered and deferred, and improvement ensued to such an extent that for some months he remained well and gained over a stone in weight. Under the stress of a litigation in which he has been recently engaged he has again experienced a recurrence of heartburn, flatulence, waterbrash, and constipation, exactly as before, but in milder degree. The discomfort comes on between meals, and he longs for his next meal because of the temporary comfort it gives him. On examination the stomach is definitely dilated, and there is considerable localized tenderness in the epigastrium.

From this attack he again in time recovered, and since May of 1910, when he was reported to be "very well if only he is careful," I have not heard of him.

CASE XVI.

H. M., aged 49, a pale, spare man of scientific pursuits, who leads an almost entirely sedentary life. He has had three mild attacks of pleurisy, but otherwise has escaped serious illness. For some years he has been subject to mild attacks of indigestion, but in the past five months these have assumed more formidable and defined outlines.

His story is now a repetition of the others—"hunger pain" relieved by food, acute heartburn, epigastric discomfort, and constipation. Between the attacks he is quite comfortable, but has come to realize that they are readily induced by overstrenuous work or worry. During an attack the usual physical signs of tenderness to right of the epigastrium and distended stomach are present; in the quiescent intervals they completely disappear. Beneath an elaborate mechanism of gold crowns and bridges there is an active pyorrhoea of which he is completely unaware. A surgeon who was consulted diagnosed his condition as one of undoubted duodenal ulcer, for which no permanent relief was likely to be obtained except by operation.

Since the mouth has been attended to by his dentist and his habits of life have been altered, this patient, under a suitable dietetic and medicinal régime, has manifestly improved, and now only occasionally experiences mild reminders of his gastric troubles.

CASE XVII.

J. B., aged 44, a soldier, had always enjoyed good health until he contracted enteric fever in Ladysmith. Subsequently he suffered from dysentery for close upon two years. Early in 1909, while stationed in India, he began to experience trouble with his digestion, which gradually assumed a neurotic type, and he was sent home, with a provisional diagnosis of duodenal ulcer, for rest and treatment. His attacks are paroxysmal and are characterized by "hunger pain," heartburn, pyrosis, distension and constipation, with occasional vomiting, from which he obtains immediate relief. There is no history of haemorrhage. During an attack it is easy to demonstrate the usual tenderness and muscular resistance in the epigastrium with moderate dilatation of the stomach. His nervous system is feeble, and he suffers from a bewildering variety of neurasthenic miseries which are troublesome to treat. He saw a surgeon, who consented to his giving medicine a chance, but warned him that an operation was an ultimate possibility.

Over many months he battled with his infirmities, but eventually he began to mend, to put on weight, and to feel himself energetic enough for a fair day's exercise. After having been, so far as subjective sensations and objective signs are concerned, for between three and four months quite well, he returned to his regimental duties in India, since which time he has not been heard of.

CASE XVIII.

A. C., aged 67, a retired officer, who had been healthy all his life but for an occasional attack of gout, and, in recent years, one or two mild seizures which he had been told were aginal. For about a year he had suffered from gastric symptoms, which conformed in all respects to the other cases of this series, but in addition he was steadily losing weight. This fact, combined with the patient's age, suggested very naturally to his home doctor the possibility of early malignant disease at his pylorus, and this suggestion was supported by the extreme rigidity of his right rectus muscle and the acute localized tenderness over the pyloric region. In addition, his family record was not free from a malignant taint. On examination the stomach was considerably dilated, and splashing sounds were easily produced. He continued to suffer from these gastric attacks for over three years after he was first seen, but with increasingly long intervals between them. During part of that time he was living under the strain of severe domestic anxiety, which was followed by a great sorrow. When this had passed his gastric attacks became less severe, as well as less frequent. He went for two seasons to Wiesbaden, and seemed to derive benefit from "the cure."

A few weeks ago he reported that he had not experienced any gastric attack for more than eighteen months, and had put on 17½ lb. in weight.

CASE XIX.

H. S., aged 53, a gouty man, of very active habits, who had all his life "done himself well." He had never been seriously ill, and had always had an excellent appetite. His attacks of indigestion dated back for two or three years, but of late they had become much worse, and had troubled him seriously by waking him from sleep in the early morning. Each attack is characterized by "hunger pain" and heartburn, and is so speedily relieved by "something to eat" that he resorts at once to toast or biscuits on the first symptom of discomfort. He presents the usual physical signs during a seizure, but between whiles there is no tenderness even on the deepest pressure, and his stomach is of normal size. His liver dullness is diminished and the urine is persistently of low specific gravity with an occasional haze of albumen. He is extremely neurotic, and the pain is always accompanied by serious mental depression and irritability. His most ominous attack seized him at 3 o'clock one morning, and was accompanied by copious haematemesis and subsequent melaena. But as a possible explanation it must be added that during the previous day he had overtired himself by continuous and extreme exertion, in the evening had indulged in an aldermanic dinner, and before going to bed had subjected himself to a variety of abdominal kneadings and contortions which a Swedish professor had taught him to believe would prevent stomach troubles during the night. He recovered completely, and had no recurrence of bleeding.

When last seen, in 1910, he had been living a much less active life, and his attacks of pain had recurred very seldom. At that date he had been quite free for upwards of three months.

CASE XX.

Mrs. L., aged 54, for about a year had experienced discomfort, coming on some hours after each meal—flatulence, constipation, pain at pit of stomach, and heartburn, immediately, though only temporarily, relieved by sal volatile and sodium bicarbonate. She had steadily lost weight. There had never been haemorrhage.

The physical signs are those of the preceding cases, and, in addition, she has her right kidney loose. There is a record of malignant disease through two generations.

As improvement under medical measures had been disappointing, she was advised to have an exploratory operation, in the belief that an early malignant growth might be the explanation. This was performed, but nothing was found to explain the symptoms, which recurred, though in minor degree, after her convalescence.

Ultimately she responded to treatment, and has now been, for several years, quite well.

From a consideration of these cases there is abundant confirmation of the statement that this type of dyspepsia is frequently mistaken for duodenal ulcer. And there are many similarities in the symptomatology of the two conditions to excuse confusion. Indeed, it may be asserted, with a fair degree of certainty, that differentiation is not always possible. If this be admitted, there is good reason for

a plea against operative interference until medical measures have had a sufficient chance of proving that they are of no avail in clearing up the symptoms. It is possible that this form of dyspepsia is often the forerunner of duodenal ulceration, but, in that event, may its early recognition and suitable treatment not be the means of arresting the functional disease and of thereby saving a certain number of sufferers from the anxiety and risk of a surgical operation? The contention that immediately a chronic duodenal ulcer is diagnosed it must, without loss of time, be treated surgically cannot, in the face of cases such as the foregoing, be maintained. Because they indicate that the diagnosis of chronic ulcer of the duodenum is not so easy and certain as some authorities would have us believe, and, further, they go a long way towards proving that if, in some instances, the symptoms are really due to ulceration, they are capable of relief or cure by medical methods. It may be held that this type of dyspepsia is in no respect, except in regard to the greater intensity of its symptoms, different from the "acid dyspepsia" which we are accustomed to differentiate from the simple atonic variety of the disorder. But even if it be admitted that it may be nothing more than an aggravated form of what Robin has called hyperfunctional activity, it yet remains true that it possesses characteristics which mark it off as having attained an individuality with such close analogies to the symptoms produced by ulceration in the neighbourhood of the pylorus as to justify its delimitation as a clinical entity.

In neurasthenic patients there is a hypersensitiveness of all the tissues. This is participated in by the gastro-intestinal mucous membrane, and probably permits gastric juice of normal acidity to produce symptoms similar to those described as due to hyperchlorhydria. Some authorities are of opinion that no such condition as hyperchlorhydria really exists, and that an ordinary "acid dyspepsia" due to an excessive secretion of normal gastric juice is capable of causing most of the symptoms ascribed somewhat indiscriminately to hyperchlorhydria and duodenal ulcer. This opinion is strengthened by the fact that estimates of free hydrochloric acid have proved inconsistent, not only as between case and case, but also in the course of repeated investigations of the same patient. The combination of a supersensitive mucous membrane with an excess of gastric juice must tend to aggravate the subjective phenomena, and make them, by their intensity, the more readily mistaken for an organic lesion.

It should be observed also that in most of the cases here recorded there is a history of ill-defined digestive disturbance lasting over a longer or shorter time before the definitive picture of neurotic dyspepsia has become established. Is it not conceivable that a toxaemic condition evolving from this disturbed state of the gastro-intestinal secretions and acting upon an unstable nervous system may, in the case of neuropathic individuals, have the power of elaborating this particular type of digestive disturbance? And may the primary departure from health not be inferentially predicated, if it be admitted that in a person of neurasthenic type the intestinal mucous membrane, on account of its hypersensitiveness, is more liable to the incursion of precocious micro-organisms than in an individual of stable nerve equilibrium? The true history may, in some instances, be a gradual progression from a simple acid dyspepsia, onwards through this type of nervous dyspepsia to the ultimate development of an established ulceration. There is, in this event, ample reason to minimize the risk of error by establishing the intermediate condition on a basis to admit of its recognition and justify its treatment by medical measures which may prove to be curative. Its occurrence in persons of neuropathic type, who are at or past middle life; the intensity of the heartburn by which it is accompanied; the relief which is afforded by alkalis or by fresh supplies of food; the late period after the ingestion of a meal at which the symptoms first declare themselves; the preservation of an active appetite; the localized epigastric pain; the dilatation of the stomach; and the absence of haemorrhage, are leading differential points of which the foregoing cases are illustrative. They also go to show that treatment by diet and medicine is capable of effecting marked amelioration and, so far as the histories lead us, permanent cures in some instances where the diagnosis of duodenal ulcer had been arrived at and operation advised as the only method of treatment likely to be successful. The following symptoms have been recorded as pathognomonic of duodenal ulcer: "Hunger pain" coming on some hours after a meal and relieved by more food; localized tenderness to the right of the epigastrium; early dilatation of the stomach; disturbed sleep, and melaena. On the strength of this evidence alone some surgical authorities have contended that operation is not only justifiable but imperative. But in this series of cases all these symptoms have presented themselves in each instance, with the one notable exception of melaena. And that even this occurrence is liable to misinterpretation may be assumed from the record of Case XIX, where it is at least a warrantable hypothesis that the bleeding was the result of hepatic cirrhosis, and was excited by indiscreet manipulation of the abdomen after a full meal taken when the physical energies were much exhausted by a long day of hard exercise. Excessive acidity, though undoubtedly a concomitant of duodenal ulcer, is also admittedly a manifestation to which patients of a certain type are peculiarly liable; and this form of neurotic dyspepsia, more than likely, may be a mere manifestation of an acid dyscrasia of which ulceration on one or other side of the pylorus is nothing more than a late symptom. *Post-mortem* evidence is not wanting to prove that duodenal ulcers are capable of healing without the aid of a surgical operation, and it is well known that many operations undertaken for the cure of apparent ulceration of the duodenum have proved the diagnosis to be erroneous. It is also a point of importance as bearing upon the dyscrasic theory, that "once having had a duodenal ulcer does not secure the patient from having a second," so that, even in cases of proved ulceration, operation may be only temporarily ameliorative. The symptom of "hunger pain" has been too strongly insisted upon as being pathognomonic of ulceration, and hyperchlorhydria, with which it is associated, has been stated to be the direct cause upon which it depends. It has even been asserted that "recurrent severe hyperchlorhydria *is* duodenal ulcer," and in one well-known surgical textbook the authors state that, "in our experience, hyperchlorhydria has never existed without ulcer in the stomach, or duodenum, or both." If this is true, then these cases go to prove that it must be no less true that improvement or recovery can take place by medical measures, and that a gastro-enterostomy is not the one and only means of salvation. Another eminent surgeon says: "I continually operate upon the strength of the history alone, and as often do I demonstrate the existence of a chronic ulcer as the cause of the symptoms," but on clinical evidence it may be doubted whether such wholesale operative interference is to be commended. There is ample evidence for believing that all the symptoms described as characteristic of duodenal ulcer may be reproduced by a simple functional disorder of the stomach, whether it be called neurotic dyspepsia, hyperchlorhydria, or what not.

The treatment of this variety of dyspepsia demands care as to diet, exercise, and habits of life generally. It is essential to the attainment of a satisfactory result that the patient should be somewhat self-denying and willing to co-operate with the physician in carrying out over a sufficient length of time all the details of a well-considered course of management. If his illness has lasted over any prolonged period, the misery it has caused is worth a serious effort to get rid of; and if, as is not unlikely, this form of dyspepsia is a stage on the road to ulceration, no preventive means that can be adopted are too elaborate to effect an escape from the risks of such a culmination. Moreover, it is only by a process of careful observation and supervised treatment that the question of the need for surgical intervention can be wisely settled.

The plan of treatment which I have found to answer well in many, though not in all, cases, may commend itself to you as worthy of trial before you are driven to the conclusion that your patient has no hope of improvement or recovery except through the medium of the surgeon's knife. It goes without saying that, however we treat his disorder, we must never lose sight of the patient nor be oblivious to his idiosyncrasies.

All treatment should aim in the first place at being sedative not only to the stomach but to the whole nervous system. In cases of moderate severity the daily routine of life need not be seriously interfered with. A suitable regu-

lation of the diet and restriction of mental and physical effort must, however, in every instance, be insisted upon. If the symptoms are urgent and the patient wishes to get the most speedy and permanent benefit, he should consent to spend a week entirely in bed, and preferably in a nursing home away from the usual domestic environment. During this resting period his routine ought to be somewhat as follows: In the early morning a tumblerful of water as hot as can be borne, to which a small teaspoonful of citrate of potash has been added, should be sipped slowly. This should be followed by a hot bath at from 98° to 102° F., in which immersion may continue for from eight to ten minutes. After vigorous friction with a rough towel, he must return to bed and to breakfast, which should consist of café au lait or milk tea, sweetened with saxin; ordinary toast and caseoid or other starchless bread in equal proportions, with abundance of butter; bacon, tongue, cold ham, eggs, cold game, or white fish. About ten o'clock he should be massaged for an hour, and thereafter remain for another hour quietly at rest. Luncheon, about 1 o'clock, should consist of a grilled chop or steak, or a cut from a joint, cooked green vegetables, a compôte of fruit *au naturel* or sweetened with saccharine, a biscuit or oatcake with butter and a morsel of cheese, an alkaline table water, to which may be added, if desired, an ounce of whisky or brandy. In cases where indican in the urine and offensive stools point to putrefactive changes in the intestine, the cheese should be of the "soured-milk" variety. A short sleep after luncheon is advisable. At 4.30 a cup of China tea or of cocoa infused from the nibs, sweetened with saxin and enriched with cream, will prove grateful, and may be accompanied by crisp dry toast and butter. A visit from one or two intimate friends should be arranged for the interval between tea and dinner. The patient should dine about 7, and the meal should consist of a small cupful of clear consommé, white fish, chicken or game, purée of vegetables, a simple omelette, and one or two glasses of a light Moselle or hock if desired. "Akoll" or de Voebt's biscuits should be taken with luncheon and dinner rather than ordinary bread. Before retiring for the night at 10 o'clock, the abdomen should be gently massaged for a quarter of an hour, and the morning tumblerful of hot alkaline water ought to be repeated. For another week this plan should be continued, but with the difference that during the afternoon of each day a drive in an open carriage, followed by a short walk, is desirable. Thereafter a resumption of the ordinary duties of life may be permitted, but the engagements of every day should be limited, and the same diet plan continued until for at least a fortnight there has been no recurrence of stomach symptoms.

Medicinally attempts should be made: (*a*) To control the glandular secretions of the stomach and lessen the hypersensitiveness of its mucous membrane; (*b*) to counteract hyperacidity when it arises; (*c*) to overcome constipation. These indications may be met by a variety of drugs. The following combinations are the outcome of many experimental efforts in this direction, and I have found them to effect the desired result in a large proportion of cases:

(*a*) Solution of atropia, solution of hydrochlorate of morphine, solution of adrenalin chloride, and spirits of peppermint in suitable doses to make up 1 drachm. To be diluted with one tablespoonful of water and taken a quarter of an hour before breakfast, luncheon, and dinner.

(*b*) Magnesium carbonate, sodium bicarbonate, bismuth salicylate, and ginger. To be dispensed in a cachet and taken whenever heartburn declares itself. A second cachet may be taken after an hour if the first does not succeed in overcoming the acidity.

(*c*) Acetic extract of colchicum, aloïn, capsicin, and extract of rhubarb. To be made into a pill and taken every alternate evening before dinner.

Carlsbad salts or Kutnow's powder in a suitable dose is useful before the morning tumblerful of hot water if the above pill proves inefficient.

After the gastric symptoms have disappeared and the digestion has again become normal, the diet may be modified, especially in the direction of including a larger amount of farinaceous food with a limited quantity of sugar, and some advantage will accrue from suitable tonics. These must vary according to circumstances, but in many instances the indications will be met by such a combination as this: Carbolic acid, valerian, sodium arseniate, and cannabis indica. To be dispensed in a capsule, and taken three times a day after meals.

The morning tumblerful of hot alkalinized water ought to be continued as a matter of daily routine. Sugar and starches should always be taken in moderate quantity. A Turkish or electric-light bath once in eight or ten days, followed by general massage for twenty minutes, is a desirable practice in many cases.

It is important to secure, as far as possible, a clean condition of the mouth. To this end, all stumps and carious teeth ought to be removed, and the buccal cavity rinsed out twice or three times a day with a solution of suitable strength of glycothymoline, listerine, carbolic acid, or other reliable antiseptic.

RADIUM IN MALIGNANT DISEASE AND VARICOSE ULCERATION.

[With Special Plate.]

By T. ROSS MACDONALD, M.B., C.M.

The exact value and position of radium as a therapeutic agent will, of course, only be defined when all the conditions which influence its activity have been carefully studied. Prominent among these conditions must necessarily be the amount or dose to be employed and the length of its application. Similar questions, no doubt, arise in connexion with every substance advanced as a remedy for disease, but in the case of radium they are complicated by a severely practical relation—namely, that of expense. The market value of radium is so enormous and the supply is so limited that in the very nature of the case there is a pressing temptation to be content with a minimum amount. But it is at least possible that when small quantities fail larger doses would be successful; and it is only by testing this question that an assurance of the real value of radium can be obtained. Having had considerable opportunities of observing the effects of different doses, I have satisfied myself that in many cases the maximum benefit is only to be obtained by the use of relatively large amounts and by the application of these over relatively prolonged periods of time. Under these conditions I have certainly witnessed many very striking results, and some of these I propose briefly here to put on record. The selection is limited for the most part to cases which, owing to the courtesy of Sir W. Watson Cheyne, I have been able to observe and to treat in King's College Hospital. The circumstances therefore guarantee certainty in diagnosis, while the illustrations of the facts before and after treatment carry their own convincing message, and this message I could abundantly confirm from my own private note-books.

At present, at all events, the use of radium in malignant disease is almost or altogether confined to inoperable cases, and whether there will or will not be any advance from this position it is impossible to say. But there is one aspect of the subject which I believe to be worthy of careful study, and that is the use of radium in conjunction with operation and for the purpose of preventing recurrences. The amount of clinical material at my disposal on this point is too limited and the length of time since the observations were instituted is too short to justify any unqualified statement, but I am sure the question is one worthy of attention, and I have reason to believe it is also of great practical importance.

In reference to the amount of radium employed, I may say that I generally use tubes containing 250 to 300 mg. of pure radium bromide, and I am satisfied that in great measure it is on such relatively large amounts that the best results depend. Of course the initial expense is enormous, the above-named quantity of pure radium bromide being worth nearly £5,000, but, if inoperable malignant disease can be cured or even greatly relieved, the gain manifestly counterbalances the outlay. The question is not one of market value, but of therapeutic value, and if this latter is established we must hope that by some means or other the use of the remedy will be brought within the range of all sufferers. Of the therapeutic value, the following

records and accompanying photographs afford evidence which cannot be gainsaid.

For permission to publish the first three cases I am indebted to the courtesy of Sir W. Watson Cheyne.

With regard to filtration and dose, I generally use tubes containing 250 mg. of pure radium bromide, which, for deep-seated cancers, I screen with 2½ mm. of platinum, leaving them in position from twenty-four to forty-eight hours. When possible, and with the assistance of a surgeon, I insert the tubes with the same filtration into the tumours for forty-eight hours. I also try to get cross rays by applying tubes above and beneath the growths, which methods have so far given me the best results. These doses I do not repeat for at least five or six weeks.

For superficial lesions I have used the radium unscreened for half an hour, repeated every other day for a week. Generally speaking, I seek to get my results from large doses screened to the exclusion of all rays, excepting the hard beta and gamma rays applied for a considerable length of time.

I have also used radio-active waters for gout, rheumatism, and diabetes, as advocated by Professor His, of Berlin, with good results, but I am not yet in a position to give a definite opinion upon a treatment of which I have had so short an experience; still, the results already obtained encourage me to believe that the emanations of radium and radio-active waters will receive much attention in the near future.

CASE I.—*Carcinoma* (Figs. 1, 2, and 3).

M. C., aged 51, was admitted into King's College Hospital, under the care of Sir W. Watson Cheyne, in the beginning of January, 1911.

Eighteen months previously she was operated upon by Sir W. Watson Cheyne for a growth under the jaw which had ulcerated, and to cover which a flap of skin had to be taken from the side of the neck. Three months after this operation she noticed under the chin a small growth which rapidly got larger, and which was followed by a small growth in the floor of the mouth. The latter caused her considerable pain, and as it increased in size she had several teeth removed, hoping the pain might be alleviated. She consulted several doctors and had various treatments, including *x* rays, but without avail. She was readmitted into King's College Hospital, where, sections of the growth proving it to be a squamous-celled carcinoma, Sir W. Watson Cheyne suggested radium treatment.

I saw the patient on January 24th, 1911, and on examination found a tumour involving the floor of the mouth, tender to the touch, and about the size of a large hazel nut. Externally there was a fairly large ulcerating growth involving most of the chin and exposing the bone. This ulcerating mass extended up the left cheek to within a few inches of the ear, the surrounding tissues being much inflamed and angry-looking. The patient complained of great pain.

I applied tubes containing 250 mg. of pure radium bromide. One tube containing 100 mg., sufficiently screened with 2½ mm. of platinum, I placed internally on the tumour in the floor of the mouth for twenty-four hours; the others, similarly screened, I placed externally on the growth on the chin, also for twenty-four hours, thereby getting cross-rays from the radium. The following day I gave two further applications higher up on the cheek for twenty-four hours, covering all parts affected almost up to the left ear.

During and after these applications the pain in the mouth and ear gradually disappeared, and almost immediately the ulcerated parts assumed a healthy appearance. At the end of five weeks, without any further applications of radium, the growth in the floor of the mouth had disappeared, and externally the wounds had all healed up, leaving a slight scab, which came away and left a healthy, clean cicatrix. Since her discharge from the hospital she has kept well and has gained a stone in weight. The accompanying photographs show the condition before, six weeks after, and ten weeks after treatment.

The quick response to treatment was a striking feature of this case, and it will be observed that after the original application of the radium no further treatment was considered necessary.

CASE II.—*Epithelioma of Lip* (Figs. 4 and 5).

G. J., aged 34, a boatman, was admitted on April 29th, 1911, into King's College Hospital, suffering from an epithelioma of the lower lip.

The patient, who lives in Shropshire, had some six months before admission pricked his lip with some wire netting. Afterwards the lip swelled and the wound did not heal. He then placed himself under the local doctor, who, finding no improvement under various kinds of treatment, sent him to the Wolverhampton Hospital. There, on examination, the growth was found to be an epithelioma, and an immediate operation for its removal was suggested. The patient, however, on the advice of his master, came to London for radium treatment, and was admitted into King's College Hospital, where he was seen by Sir W. Watson Cheyne, who agreed with the diagnosis made at Wolverhampton.

Condition on Admittance.—There was a growth occupying the middle part of the lower lip, about an inch in length. The margin was well defined and indurated, extending into the mucous membrane and covering the whole thickness of the lip on the outer side. Part of the growth was ulcerated, with a dirty-looking base, the rest being covered with a hard scab quite painless to the touch. Some tiny glands could be felt under the chin.

May 3rd, 1911. Two tubes, each containing 100 mg. of pure radium bromide screened with 2½ mm. of platinum, were applied inside and outside the growth for twenty-four hours; and another tube, containing 50 mg., was applied to the glands under the chin for a similar time. On the following day the patient was photographed and sent back to Shropshire with instructions to his medical attendant as to the mode of treatment to be followed, and was asked to come back in six weeks' time for further treatment if necessary.

On June 23rd, 1911, he was readmitted into King's College Hospital, and was seen by myself, Sir W. Watson Cheyne, and others. The growth had entirely disappeared, leaving a beautiful healthy cicatrix, as can be seen in the photograph taken the following day. The glands under the chin had also disappeared, and up to the present date there are no signs of recurrence. One of the interesting features of this case, in addition to the rapid disappearance of the growth, is the loss of hair on the upper lip.

I find that radium, when properly screened and applied for a considerable length of time over hairy parts, seems to destroy the hair without causing the slightest pain or visible inflammation of any kind. The hair simply falls out, leaving a bald patch.

CASE III.—*Extensive Varicose Ulceration of Leg* (Figs. 6 and 7).

E. W., aged 34, was admitted into the King's College Hospital under Sir W. Watson Cheyne, March 17th, 1911. The patient, who is married and has two children, resided in India for many years. Six years ago she had an operation for the removal of varicose veins of the left leg, after which she had a severe attack of phlebitis, since which time her leg has never been well.

Sixteen months before the date of admission a small hard place formed above her left ankle, which gradually got larger and eventually broke down into an ulcer. She had treatment from various doctors in India, but without avail, indeed the ulceration seemed to get worse. For more than a year she has not been able to walk owing to pain. She has therefore been obliged to rest constantly in bed or on a couch. She was advised to come to England, and was at once admitted into the hospital on her arrival.

The patient, who is a strong, healthy looking woman, had a large unhealthy looking ulcer extending from the ankle to the middle of the leg and covering the whole of the outer and part of the inner surface of the leg. This extensive ulceration looked most unhealthy, and was very painful, the patient being scarcely able to endure the pain of having it dressed.

March 19th. I applied 200 mg. of pure radium bromide unscreened excepting for thin rubber over the whole surface of the ulcer, each place getting half an hour's application. The following day the ulcer freely discharged and was free from pain. From this date the wound assumed a healthy, granulating condition, and rapidly healed up, until, seven weeks later, the whole surface—without the aid of skin grafts—was covered with a healthy pink pliant skin. The patient was discharged, and has since been able to do a good deal of walking and standing, and entirely without pain. I have treated many cases of varicose ulcers in my private practice, some of them being of considerable duration, and all have, so far, yielded to treatment after six weeks.

CASE IV.—*Rodent Ulcers of Nose and Cheek* (Figs. 8, 9, and 10).

G. C., aged 83. Fifteen years ago a small ulcer appeared under the right eye, followed by another on the left side of the nose. During those fifteen years the patient consulted various doctors, and has had treatment of different kinds, but without improvement. The ulcers got gradually worse, causing him considerable pain, even to affecting his eyes, which were inflamed. Towards the end of July, 1911, I was called to see him with the view to radium treatment. I found him suffering

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Case I, Carcinoma. Showing size of growth before treatment.

Fig. 2.—Case I. Showing condition six weeks after treatment.

Fig. 3.—Case I. Condition six months after treatment.

Fig. 4.—Case II, Epithelioma of Lip. Showing condition before treatment.

Fig. 5.—Case II. Condition six weeks after one treatment.

Fig. 6.—Case III. Varicose Ulceration of Leg. Condition before treatment.

Fig. 7.—Case III. Showing condition eight weeks after treatment

Fig. 8.—Case IV, Rodent Ulcers of Nose and Cheek. Condition before treatment.

Figs. 9 and 10.—Case IV. Showing condition of the patient ten weeks after one treatment.

FIG. 1.

FIG. 2.

FIG. 3.

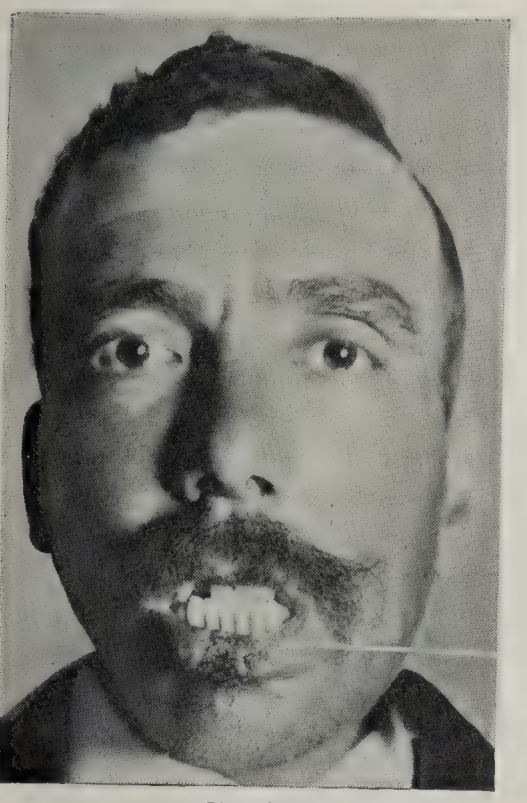

FIG. 4.

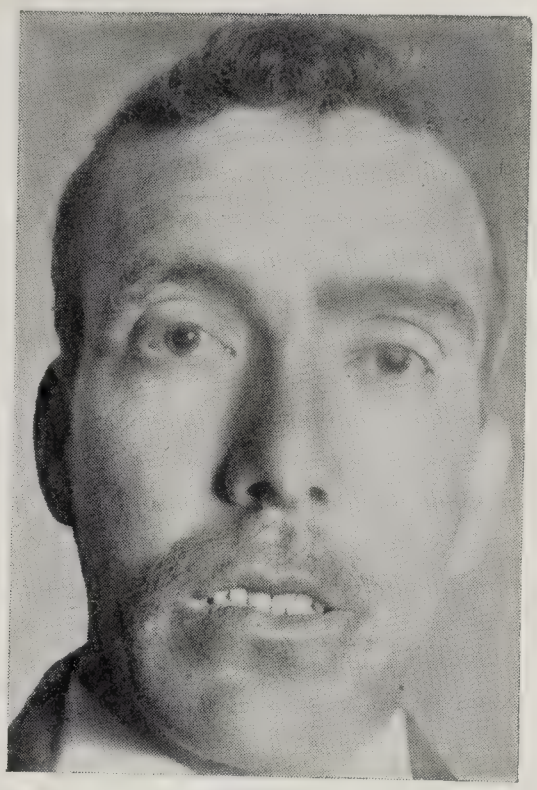

FIG. 5.

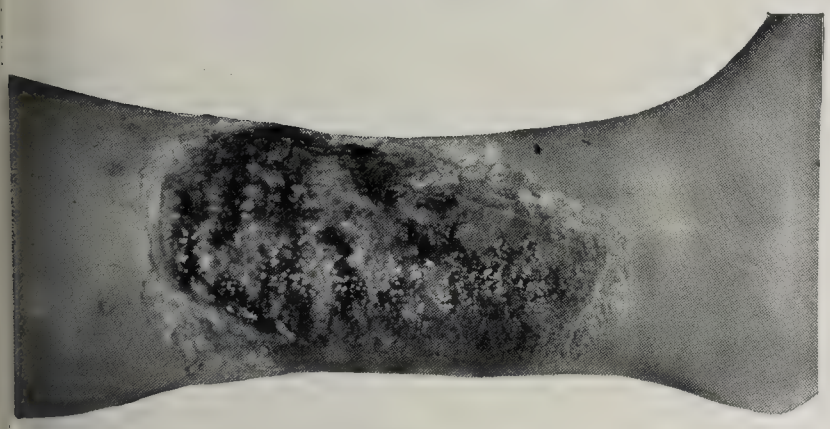

FIG. 6.

FIG. 7.

FIG. 8.

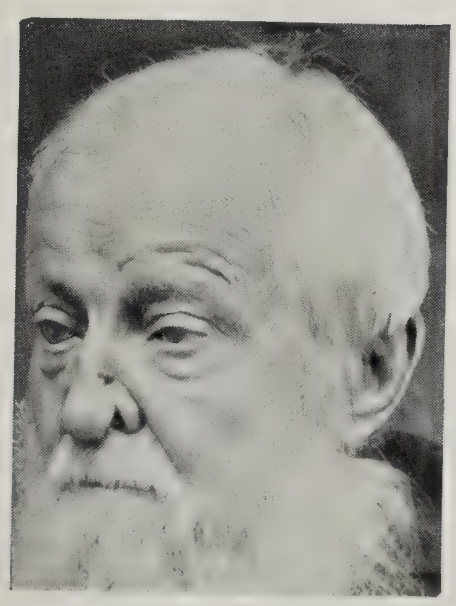

FIG. 9.

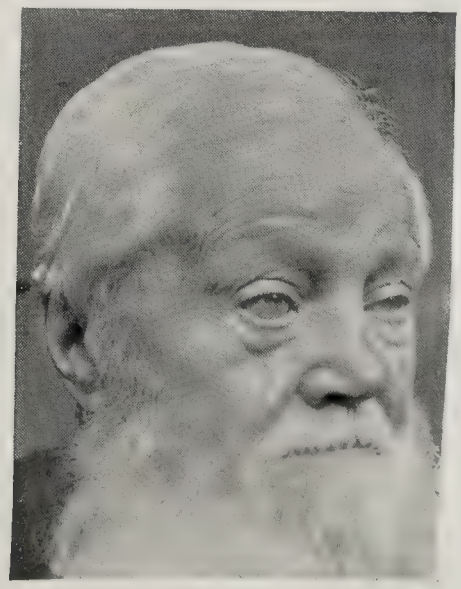

FIG. 10.

from two large ulcers, one under the right eye, the other on the nose. The one on the nose had eaten its way through the cartilage, left nasal fossa, and tissues, exposing the bone. It was about an inch in length and in breadth, extended right across the bridge, leaving the tip of the nose almost detached. The ulcer on the cheek, under the right eye, which unfortunately does not show up in the photograph, was about an inch in length and about one and a half inches in breadth. Both ulcers looked unhealthy, and were discharging freely. I applied three tubes of radium, containing 250 mg., each tube being screened with 2½ mm. of platinum, one on each side of the nose, and the other on the ulcer under the eye, having previously protected the eyes with screens of lead. I left them in position for twenty-four hours. Directly after the application the ulcers assumed a healthy appearance and the pain disappeared, and at the end of eight weeks they had healed. A small scab about the size of half a pea still remains on the nose—a common experience in radium treatment, but after some weeks the scab drops off, leaving a healthy surface underneath.

It is remarkable how quickly those ulcers healed in a man so advanced in years, but I have seen results almost as striking in cases of inoperable cancer of the rectum, uterus, and the breast. It is such experiences which have convinced me of the importance of using radium in relatively large amounts and of prolonging the application over several hours.

A CASE OF RODENT ULCER PRESENTING SOME UNUSUAL FEATURES.

By RUPERT FARRANT, F.R.C.S.Eng.,

SURGICAL REGISTRAR TO THE WESTMINSTER HOSPITAL; LATE HONORARY SURGEON TO THE WELBECK STREET DISPENSARY.

A CABDRIVER, aged 62, was admitted to the Westminster Hospital in February, 1911.

History.

Fifteen years ago an ulceration broke out on his face midway between his ear and eye on the right side; this ulceration extended slowly on the surface for a few months and then became stationary, and has remained in much the same condition up to time of admission. A little less than fifteen years ago an ulcer developed on the left side of his upper lip; it grew slowly for some months both in depth and breadth, alternately scabbed over and discharged, and then began to slowly heal up; no treatment was used beyond the occasional application of a little cold cream. In January, 1910, a boil started in the left groin, on the exact spot where he had had a bubo forty years before; for six weeks it slowly grew until it reached the size of a hazel nut, when it burst; rapid extension then took place along the left groin towards the middle line, across the middle line to the right groin, and around the scrotum towards the

uns. About two months after its first appearance the left leg egan to swell, and a little later the foreskin and penis; the welling had steadily increased up to the time of his admission. eyond some slight pain in his left leg and the annoyance of ie discharge he had been but little inconvenienced by it. His eneral health had been good. No history of cancer could be btained on either side of his family.

Condition on Admission.

There was an ulcer over the right zygoma about the size a farthing, quite superficial, covered with a thin black ab; the discharge was practically *nil*; the edges were not ickened or everted. On the left side of the upper lip there as an elliptical depression ½ inch by ⅜ inch, and ⅛ inch in pth; the whole area was covered with epithelium, and presented a healed ulcer. In the inguinal region there was large area of ulceration, with thick, rolled-over edges and herent base; the surface was covered to a great extent by anulations exuding a foul discharge, the character, situation, d extent of which are seen in the photograph; the patient uld not permit a photograph to be taken of his face. The left lower limb, penis, foreskin, and scrotum were much oedematous. A portion of the margin was removed for microscopic examination. The following report was given:

"A cancer belonging to the rodent ulcer class. Section shows cylinders and irregularly shaped areas of cells, the outermost of which are of the spindle-celled columnar type; those placed centrally are frequently almost spheroidal and small; there are no squamous cells present."

During the time the patient was in hospital ten doses of *x* rays were applied to the inguinal ulcer, each lasting ten minutes, the Pastile dose was used. After the sixth dose the depression on the face became ulcerated; this and the ulceration on the zygoma were treated by a forty seconds application of carbon dioxide snow, which completely cured them. The patient was discharged, and came up as an out-patient for *x*-ray treatment; the ulceration was much improved by it, but he ceased to attend before it was anywhere near being completely healed.

I think that the following points are of interest in this case: The fact that there were three ulcers, their different rates of extension, one had healed without treatment, one had remained stationary for fifteen years, there was a recrudescence in the healed one directly the inguinal one began to improve under treatment. The inguinal condition started as a boil which existed for six weeks before it ulcerated. Sir A. Bowlby[1] pointed out in 1894 that rodent ulcer started as a growth in the dermis. The ulcer on the zygoma never extended as deeply as the dermis.

The inguinal region is an unusual site for rodent ulcer, but by no means unknown. J. Hutchinson, jun.,[2] and T. S. Pigg[3] have reported cases occurring in the groin, and there is one in the museum of the College of Surgeons. There was no cancerous history in this case. W. G. Spencer[4] pointed out the comparative absence of cancer in the blood relations of those afflicted with rodent ulcer and the converse in epithelioma, and thought that rodent ulcer only occurred in people with a high resistance to cancer. Rodent ulcers are rarely in such a situation or of such a size as to produce marked oedema by cutting off the lymphatic supply of a part.

The pathological report corresponds to Class 2 in the classification given by Sir A. Bowlby,[5] and this class is one of the commonest.

As to the treatment, it is to be noted what an excellent effect the carbonic acid snow had on the superficial ulcerations and the *x*-ray treatment on the inguinal, though it was not given a fair chance to effect a cure.

I am indebted to Mr. Stonham and to Dr. Worrall for their courtesy in allowing me to publish this case.

REFERENCES.

[1] *Transactions of the Pathological Society*, vol. xlv., p. 161. [2] Ibid., vol. xlviii, p. 224. [3] Ibid., vol. xl, p. 300. [4] Ibid., vol. xlv, p. 181. [5] Ibid., vol. xlv, p. 160.

THE BACTERIOLOGY OF THE COCKROACH.

BY

C. CONYERS MORRELL, L.R.C.S.Edin.

In view of the importance of a correct understanding of the part which insects play in the distribution of micro-organisms, I venture to contribute the results of a series of observations and experiments which I have recently carried out upon the common and widely-distributed cockroach *Blatta* or *Phyllodromia germanica*.

LIFE-HISTORY AND HABITS OF COCKROACHES.

The Blattidae or cockroaches belong to one of the least specialized of insect orders, the Orthoptera. There are about 800 species recognized, a few of which are domestic, the remainder rustic. Of the domestic species the three most common are, *Blatta germanica*, *Periplaneta orientalis*, and *Periplaneta americana*. These have, during the last three centuries, become very widely distributed throughout both hemispheres. *Germanica* has the greatest economic importance. The domestic species very closely resemble one another in their life-history and mode of life.

The cockroaches undergo an incomplete metamorphosis. The female lays her eggs, sixteen or more in number, in a horny capsule, each egg reposing in a minute sack. As the eggs are formed this capsule is extruded, and is trailed about by the female for several days before being deposited in some warm crevice.

The larvae when hatched are minute creatures closely resembling the adults in appearance, but of an ivory white

colour, with very dark eyes, and not possessed of wings. They are exceedingly active and feed with avidity. Very frequently they are found in numbers around an adult, and the parent appears to brood over and care for them.

At intervals moulting takes place (in the case of *germanica* four moults), and after each moult the insect increases in size and the wings and sexual organs are gradually developed, until finally the nymph attains maturity.

The period occupied in this transition from egg to adult is stated to be from four and a half to six months in the case of *germanica* (Hummel) and twelve months or more in the case of other domestic species; environment, however, appears to influence this period to a small extent.

The food of the cockroach is extremely variable, and almost any edible material is devoured; foodstuffs such as flour, bread, cheese, bacon, and sugar are especially sought after, though such materials as sputum, pus, decaying refuse, books, and even blacking, are also consumed. Undigested particles of their own cast skins are also demonstrable in slides which I prepared from the faeces.

The insects live in crevices, such as those which occur between matchboarding, and also under tiles and flagstones, wherever there is sufficient warmth. Their depredations take place almost entirely at night.

The insect passes a great part of its existence assiduously cleansing itself by removing with its mouth foreign particles from the legs, antennae, and cerci; the feet, also, are used to scrape and comb the body and wing cases, the insect often assuming the most curious attitudes in its endeavours to reach a part not easily accessible. Moreover, I have observed that directly after defaecating, the third or posterior pair of legs are frequently used for cleaning the anal outlet, and are then themselves cleansed by the mouth.

The cockroach possesses a number of natural enemies, among the more important of which are cats, rats, frogs, and birds, and a parasitic beetle *Symbius blattarum*, the apterous female of which attaches itself to the insect's body. A nematoid worm, *Filaria rhytipleurites*, the sexual state of which is passed in the rat, occurs occasionally in the fat body of the cockroach (Galeb); also Blanchard has suggested that the cystic stage of the cestode worm *Davainea madagascariensis*, a tropical parasite of animals and occasionally of man, may occur in the cockroach. The eggs are attacked by a parasite, *Evania appendigaster*, but a secondary parasite, *Entedon hagenour*, impairs the usefulness of the first by preying upon it (U.S.A. Department of Agriculture).

Bacteriological Observation.

The objects of my investigation were, first, to ascertain what bacilli belonging to the colon group are likely to be conveyed to food and milk by this insect; and, secondly, to find whether known bacteria and moulds can be transmitted by the faeces. The majority of the experiments were conducted on board one of the Union-Castle Line steamships sailing to Cape Colony, and all the insects employed were collected from the larder or galleys of this ship. In no case was any insect taken from the vicinity of lavatories or latrines or sleeping apartments. Owing to the fact that the vessel was built within the last two years, and that a strict daily inspection is conducted throughout every voyage by the commander and his staff, the general cleanliness of the vessel was exceptionally good, and afforded almost ideal conditions for the experiments, there being practically no putrescent material upon which the insects could feed.

For the following reasons I decided that it would be best to make cultures from the deposited faeces rather than from the opened intestine, as is usually done in the case of house-flies and other insects. Cockroaches, unless their numbers be very great, rarely fall into milk or other liquid food, so that the chance of food becoming contaminated from the gut otherwise than by the expelled faeces is extremely small; moreover, the chitinous integument of the insect is so thick and insoluble that infection of liquids by absorption could not within reasonable time take place from the gut, as may be the case with softer bodied insects.

Should cockroaches chance to get into flour supplies, the high temperature to which the dough is subjected during the process of baking entirely destroys all organisms which may be present in the gut; this I have proved by experimental cultures made from the ruptured intestines of insects purposely introduced into dough.

The investigation for bacilli of the colon group was carried out in the following manner:

Each specimen was kept under aseptic conditions until defaecation took place. The freshly deposited faeces were emulsified in a drop of sterile water; from this emulsion slides were prepared, and cultures were made on bile-salt neutral red lactose agar and in litmus milk.

When colonies of bacilli formed on the bile-salt medium they were picked off and subcultures were made in litmus milk, gelatine, and peptone solution and in fermentation tubes containing 1 per cent. solutions of glucose, lactose, and saccharose in peptone water. Incubation was conducted in all cases at 37° C.

Cultures were made from seventeen specimens; of these, five produced colonies of bacilli upon the bile-salt medium with subculture results as follows: Four produced acidity and clotting of milk, acid and gas in glucose, lactose, and saccharose, and production of indol; the bacilli were Gram-negative, and did not liquefy gelatine, thus corresponding in their reactions with *Bacillus lactis aerogenes*. One specimen produced gas in glucose and lactose, liquefied gelatine, and coagulated milk with subsequent peptonization, thus corresponding with *Bacillus cloacae*.

In five cases after acidification had been brought about by faecal emulsion inoculated into litmus milk, the development of greenish moulds of the aspergillus variety occurred, and in one case the spores of the fungus were present in sufficient numbers to be easily identified by the microscope in the freshly made faecal emulsion.

In order to prove the transmission of known organisms, I fed several specimens upon the sputum from a tuberculous patient, upon pus containing staphylococci, and upon spores from cultures of an aspergillus fungus. In the first case the insects were preserved until defaecation took place, and after the faeces had been examined and proved free from acid-fast bacilli, the cockroaches were fed upon the tuberculous sputum, which they all devoured voraciously.

The *Bacillus tuberculosis* was present in faeces passed within twenty-four hours of feeding and was readily identified by the Ziehl-Neelsen staining reaction. In one case an insect vomited salivary fluid within a few minutes of feeding and died within a few hours, but whether or not death was brought about by ingestion of the morbid material I am quite unable to say.

Two specimens which fed upon staphylococcic pus showed staphylococci in their faeces, and cultures upon agar were obtained from these.

Four specimens fed upon morsels of bread dusted with the spores of aspergillus fungus showed the spores in great numbers in the faeces some few hours later, and cultures of the fungus grew luxuriantly upon milk which was inoculated with these faeces.

Conclusions.

The foregoing experiments, though insufficient in number to afford a basis for working out percentage results, are, I think, of some value in that they prove the following facts:

The common cockroach is able by contamination with its faeces (1) to bring about the souring of milk, (2) to infect food and milk with intestinal bacilli, (3) to transmit the tubercle bacillus, (4) to disseminate pathogenic staphylococci, (5) to transmit from place to place destructive moulds.

These facts, taken in conjunction with the life-habits of the insect, lead to the conclusion that the cockroach is able to, and may possibly, play a small part in the dissemination of tuberculosis and in the transmission of pyogenic organisms; that the insect is in all probability an active agent in the souring of milk kept in kitchens and larders; and that it is undoubtedly a very important factor in the distribution of moulds to food and to numerous other articles, epecially when they are kept in dark cupboards and cellars where cockroaches abound.

The distribution and numbers of the cockroach are rapidly increasing, and, unless preventive measures are adopted, the insect is likely in the course of time to become a very troublesome and possibly a very dangerous domestic pest.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

HERPES ON THE LEG.

THE comparative infrequency of herpes on the lower part of the leg has been noted by Dr. Laslett in his comments on a case which he recorded in the JOURNAL of October 28th. A case of similar character I saw last year in a man aged 40, a boilermaker. In Dr. Laslett's case the skin areas supplied by the third and fourth lumbar nerves were the seats of the eruption. It will be seen from the diagram that, in my case, the skin areas supplied by the fifth lumbar and first sacral were involved. The larger eruption occurred over the first sacral area, in the form of two crops, situated on the outer and

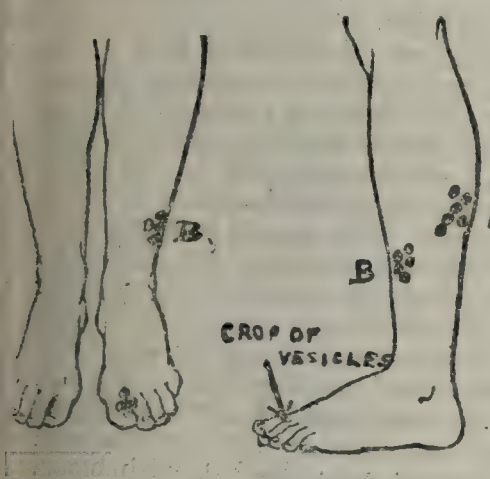

interior aspects of the lower part of the calf. The only uption in the skin area of the fifth lumbar was a small op of vesicles between the first and second toes. he distribution therefore suggests a still lower segent of the cord as being concerned in its production than at noted by Dr. Laslett.

C. E. LEA, M.D.,
Assistant Director, Clinical Laboratory,
Manchester Royal Infirmary.

ELIRIUM IN AN ADULT DURING PNEUMONIA.

ADING Dr. Tyson's article in the JOURNAL for October 7th minded me of a case which I had seen twenty-six years ago. hough I have seen a great deal of croupous pneumonia young and old, this is the only case of mental disturbe in the adult met with in thirty-nine years' practice. e salient points of my case are as follows:

. L., an active, spare, temperate man aged 35, had a ll on the afternoon of April 2nd, 1885, and remained oors next day. I saw him at 8 a.m. on April 4th, when pulse was 104, small but soft; respirations 44 and the perature 103.6° F. He complained of pain during ination and also on palpation over the spleen, which was enlarged. The expectoration was glairy, yellowish, coloured, or streaked with blood in turn. I found lowest and middle lobes of the right lung, and the er lobe of the left lung consolidated, with pure tubular thing.

n April 5th the expectoration was very distinctly ed with arterial blood in the morning; in the evening as bright red but scant. On April 6th it was more dant and rust-coloured. He was delirious during the t of April 6th. On the morning of April 7th the ctoration was quite dark; the right lung was clearing; perature 101.3° F. He was delirious most of the day, the expectoration again became bright red. I began ive him brandy, ½ fluid ounce, with quinine, gr. iij y six hours, and also bromides. On April 8th, after a night, the pulse was 74, full and quiet; the respira- 24 and the temperature 98.6° F. The right lung was st clear, and the left clearing. I directed the brandy quinine to be continued every four hours. On the ing of April 9th he had hallucinations and delusions, acting on them he got up and dressed at 5 a.m. On 10th he was rational. On April 12th both lungs normal, and he was allowed to get up. His recovery omplete.

rgan.

P. O'CONNELL, M.D.

RIES OF CASES OF CATARRHAL JAUNDICE OCCURRING IN EPIDEMIC FORM.

pplement the report of Dr. Pinniger's series of cases arrhal jaundice occurring in epidemic form, which red in the JOURNAL of November 18th, I beg to send llowing.

October 21st last I was called to see a pupil in a ladies' school (of 50 boarders), who had been very sick during the previous night. She did not disturb any one, and the vomit was described to me as being a yellowish-coloured fluid, about a pint in quantity; it remained in the hand-basin all night.

She was not isolated. Two other pupils slept in the same room, and three days afterwards they became ill—one with similar vomiting, the other with nausea and malaise. On the following day, in an adjoining room, another girl fell ill; and on the fifth day, in another part of the house, two more became ill, and on another floor one more fell ill—all within the week. The youngest girl attacked was 11, the oldest 15 years of age.

Dr. Finniger, having courteously allowed me to continue on the lines of his analysis, mine reads as follows:

No. of Case.	Date of Attack.	Date of Convalescence	No. of Days Ill.	Highest Temperature.	Extent of Jaundice.	Symptoms.	Enlargement of Liver.
1	Oct. 20	Nov. 7	18	105°	Full	Vomiting	2 in. below costal margin
2	Oct. 23	Nov. 3	11	101°	Full	Malaise and nausea	Nil
3	Oct. 23	Nov. 1	9	100°	Full	Malaise	Nil
4	Oct. 24	Nov. 4	11	100°	Slight	Vomiting	Nil, abdominal pains
5	Oct. 25	Nov. 7	13	100°	Full	Malaise and vomiting	Nil
6	Oct. 25	Nov. 4	11	99°	Slight	Malaise	Nil
7	Oct. 27	Nov. 10	14	101°	Full	Malaise	Nil, abdominal pains

The staining of the conjunctivae, dark urine and clay-coloured stools occurred about the third to fifth days.

All the pupils live under the same conditions as regards food and habits of life; the sanitary arrangements of the school are in excellent order and are supervised by an inspector every holiday. I am at a loss to trace the cause of the outbreak. The pupils had all been out for a walk on the 20th, which was a cold and wet day. There had been no previous illness in the school this year. Between October 10th and 17th I revaccinated 31 of the pupils, all successfully; these seven were among the number.

Windsor. WM. BROWN HOLDERNESS.

CONGENITAL ELEVATION OF THE SCAPULA.

MIGHT not the title of "Sprengel's deformity" be dropped for good in favour of the above, which is already extensively used? Much may be said against attaching a man's name to a deformity when a descriptive name of moderate length is forthcoming, but with regard to this deformity the objection can be raised that Sprengel was not the first to give a detailed description of the affection. While the first case, I believe I am right in stating, was described by Eulenberg in 1863, a minute description of a dissected specimen, together with the associated deformities of the muscles, ribs and vertebrae, was reported in the Medico-Chirurgical Society's *Transactions* in 1880 by Willet and Walsham.

In reporting a case in the BRITISH MEDICAL JOURNAL of November 25th, Mr. A. Mitchell refers to some of the various theories which have been advanced to explain this deformity, but he does not mention the only one which seems to me to account for all the cases. I have notes of some 15 cases which I have had the opportunity of examining, thanks to the kindness of colleagues and friends, and in this series are cases which differ very markedly in the complexity and number of the abnormalities which they present. On the one hand is a case of simple displacement of the scapula, which is only slightly misshapen, and with only a minimal amount of abnormality of the muscles attached to the bone, while on the other hand there is a case of bilateral elevation of the scapulae, both of which are anchored to the spine, one by a cartilaginous bar, the other by fibrous bands, and associated with gross maldevelopment of the ribs and spinal column, to say nothing of suppression of one radius and the corresponding thumb. Between these two extremes are a graduated series of cases, forming a complete chain. A very much larger but precisely similar series of cases may be collected from the literature of the subject. I think we can fairly

place all these cases under one heading with a common cause. For we may see two cases which appear on clinical examination to be precisely similar in every way, both being of a mild type, yet skiagrams may show fusion or imperfect ossification of ribs in one, while in the other nothing abnormal can be made out except the elevation of one scapula. To explain these gross errors in development in muscles and bones we must look to the earliest embryonic days, when the differentiation of the mesoblast is taking place. Errors in the segmentation of the mesoblastic tissues would account for fusion or suppression of ribs, suppression of half a vertebra, or the whole of one or more vertebrae, the muscular abnormalities, and the occasional presence of an abnormal bridge of bone between the scapula and spine, as well as the faulty position and shape of the scapula itself.

Though this theory still leaves us in ignorance of the cause of this mesoblastic error, it does place the cases on a common foundation, and it has the support of several writers upon this subject. Though traumatism and deficiency of the liquor amnii might explain the malposition of the scapula in some cases, it cannot explain the associated skeletal deformities. Dr. H. W. Harding ends his report of another case in the same issue of the Journal with the following: "Would the lessened function of the left arm account for the smaller size of the scapula?" Assuredly we must admit that this might be true, but I venture to suggest that it is more probable that the scapula in his case had always been deficient in size. The deformity does not always lead to deficient use of the arm, though the scapula is almost invariably smaller than its fellow, and abnormal in shape, and moreover this alteration in size and shape may be found soon after birth. I have had the opportunity of examining a case after death at the age of six weeks, in which both scapulae were anchored to the spine as mentioned above. The right scapula was of very fair shape and size, while the left was much smaller and deformed.

London, W. H. A. T. Fairbank, M.B., F.R.C.S.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

STATION HOSPITAL, BARRACKPORE, BENGAL.

A CASE OF DIFFUSE TRAUMATIC ANEURYSM AND LIGATURE OF THE FIRST PART OF THE SUBCLAVIAN.

(By Captain C. G. Browne, R.A.M.C.)

Ligature of the first part of the left subclavian artery is an operation attended by many difficulties and dangers. I have only been able to find two successful cases recorded of ligature on the right side and none on the left. My references are, however, limited. Erichsen condemns the operation as "bad in principle" and "most unfortunate in practice," and considers that it should be "banished from surgical practice." Hence a few notes on a recent successful case may be of interest.

Private C. was brought to the hospital on the evening of August 25th, 1911. He was faint and his clothes were blood-stained. He had been on guard, had fainted, and fallen forwards on to his bayonet, the point of which had entered through the left anterior axillary fold for an uncertain distance. There was no bleeding from the wound, but there was evidence of a collection of blood in the subclavicular region and inner part of the axilla. He complained of an aching distended feeling in the arm. The wound was dressed and pressure applied. The temperature in the evening was 100.6°.

The patient had a restless night, but no external haemorrhage; there was marked pulsation and a bruit over the subclavian swelling, which had not increased in size. The left radial pulse, which was at first feeble, was now equal to the right. The venous return from the arm was apparently slightly obstructed. The temperature was 99.8° in the morning and 100.4° in the evening. He had another restless night, and on the morning of August 27th he complained of severe pain down the arm, which was slightly swollen; the pulsation, bruit, and size of the swelling were unaltered. The temperature was 99.6° in the morning and 100.4° in the evening. He had a very restless night, being almost delirious with pain, and had attempted to tear off his bandage. On August 28th the arm was more swollen, and the obstruction to the venous return was more obvious. I saw him for the first time on this day in consultation with Lieutenant-Colonel F. J. Morgan, R.A.M.C., and decided to operate at once. The temperature was 99.4°.

Operation.

The usual incision for ligature of the third part of the subclavian was made, the omo-hyoid was pulled up, and the outer border of the scalenus anticus exposed. Owing to the clavicle being very much pushed upwards and forwards, the wound was of considerable depth. No trace of either subclavian artery or vein could be found external to the scalenus anticus muscle. The wound was extended inwards and the sterno-mastoid partially divided; the depth of the wound increased, and presently a large artery, partially overlapped on its inner side by a vein, was exposed, descending vertically along the inner border of the scalenus anticus. The wound was now very deep, and the greatest care had to be exercised. Unfortunately at this point a small vein was torn close to its junction with the large vein and the wound was flooded with blood. A ligature was placed on this after much trouble and waste of valuable time. The artery was now compressed by the finger and the radial pulse was at once obliterated; pulsation below the clavicle also ceased. The vessel was taken to be the first part of the subclavian and was ligatured. The passing of the ligature took some time, as I had to proceed with the utmost caution, and the depth of the wound and condition of the patient did not warrant me in tracing the artery any further. The wound was sewn up, leaving a gauze drain. The axilla was then opened, clot and serum evacuated, and a large drainage tube inserted. The temperature in the evening was 102.8°.

On August 29th the part was dressed, a light plug inserted in the upper wound, and a tube left in the lower. The temperature was 99.4°. He stated that he was absolutely free from pain in the arm but there was slight tingling of the fingers. There was no pulsation below the clavicle and no radial pulse. The arm was kept swathed in cotton-wool.

On September 4th he was doing very well; there was a little serous exudation from the upper wound.

On September 18th both wounds were completely healed; there was some stiffness about the muscles of the shoulder, which was being massaged. No pulse could be felt in the radial artery.

On September 27th he was discharged from hospital, complaining of some numbness of the first and second fingers.

On October 11th he was marked "light duty" for one week [before resuming his full military duty on October 18th]. No pulsation was felt in the radial artery.

The chief point of interest about the case was the abnormal course of the artery. When first exposed I thought it must be the common carotid from its vertical course. The result of the ligature, however, leaves no doubt that it was the subclavian. The vessel must have either (1) made a very high arch in the neck on the inner side of the scalenus anticus, or (2) taken origin from the common carotid in the neck instead of from the arch of the aorta, though this is an abnormality I have never read of. The almost immediate relief of the pain, presumably due to nerve pressure, was a gratifying feature.

I am indebted to Lieutenant-Colonel F. J. Morgan, R.A.M.C., for his invaluable assistance during the operation and permission to publish this case.

A Ladies' Guild with Lady Violet Brassey as President, and Miss Broadhurst as Honorary Secretary, has been formed to assist the West End Hospital for Diseases of the Nervous System, Welbeck Street, W., to obtain gifts of vegetables, flowers, poultry, and clothing.

The Wolseley Company has issued its catalogue for 1912. It is noteworthy on account not only of the number of chassis and bodies illustrated, but also of the succinctness with which the very comprehensive information about each of them is given. To facilitate reference, margins are step indexed.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

Tuesday, November 28th, 1911.

DR. FREDERICK TAYLOR, President, in the Chair.

Influence of Foodstuffs on Gastric Secretion.

MESSRS. CRAVEN MOORE and H. E. ALLANSON recorded an endeavour to determine the effects of certain foodstuffs on human gastric secretion, namely, water, tea, coffee, cocoa, milk, albumen water, meat extracts, and alcohol. Observations had also been made on the effects of tobacco smoking. At 8 a.m. a test breakfast was given on an empty stomach, and consisted of four "breakfast biscuits" and 10 oz. of fluid, either water or freshly-infused tea, coffee, or cocoa, without milk or sugar, or milk, or albumen water containing the white of one egg in 10 oz. of water, or two teaspoonfuls of meat extract in 10 oz. of water, or 2 oz. whisky with 8 oz. of water. The fluid was heated to an agreeable temperature. The stomach contents, removed one hour later, were filtered, and in the filtrate the free hydrochloric acid and the total acidity were estimated by titration with decinormal soda solution, dimenthylamidoazobenzol and phenolphthalein respectively, being used as indicators. The peptic activity was estimated according to the Edestin method of Fuld and Levison. The fifteen persons on whom the observations were made included normal healthy subjects and persons with and without gastric disorder. Tea was found to induce a greater secretion of gastric juice than did water. Solutions of caffeine proved more potent than tea, and the individual susceptibility to the former was the greater. Cocoa was found less stimulating to gastric juice than tea or coffee, and more so than water. In view of the great use of milk by invalids, it was of great interest to observe that in five cases out of six cases it had a stimulating effect on the gastric juice less than that of water. The authors thought that this was due to the inhibitory effect of the fat content of the milk. After a milk meal there was a great increase of total acidity in the stomach, probably owing to the presence of fatty acids resulting from the splitting up of the milk fats. A watery infusion of a meat extract was a strong stimulant of gastric secretion, and albumen water to a slightly less extent. Alcohol and tobacco had either a stimulating or a depressant effect, according to the susceptibility of the person.

Hysteria.

DR. F. PARKES WEBER contributed a paper entitled "The Association of Hysteria with Malingering, and the Phylogenetic Aspect of Hysteria as Pathological Exaggeration (or Disorder) of Tertiary (Nervous) Sex Characters." He reminded the meeting that hysteria was not confined to the female, and said that sex characters were divisible into: (1) Primary, those concerned with the sexual organs; (2) secondary, those concerned with the breasts, the facial hair, the features, the voice, the form of the skeleton, the development of the skeletal muscles, and the development generally; and (3) there were the tertiary characters—that is, those dependent on the nervous system, including, therefore, instinct and emotion. He regarded hysteria as a pathological exaggeration of certain tertiary female sex characters. On this view the exaggeration of so-called tertiary female sex characters in the male would account for "male hysteria." He discussed the frequent association of hysteria with kleptomania and mythomimia, or the mimicry of diseased conditions, and drew attention to the suggestibility of hysterical persons. With regard to "hysterical malingering" or all deceptions and simulations without adequate cause, he looked back to prehistoric times, when the female had recourse to all kinds of devices to escape the punishment of the male and to ingratiate herself with him, and considered that the manifestations under consideration were a perpetuation of the same tendency. Women had not lost the capacity to deceive, and in some it was too easily to be amenable to suppression. Some of the normal hysterical sex characters were psychical, and had gradually developed as a result of sexual selection. The therapeutic suggestive indications he regarded as largely educational, as these conditions could be largely controlled by memory and reason. The paper was discussed at some length by DR. ORMEROD, who dissented from the view expressed as to hysterical women inflicting skin lesions, etc., upon themselves in order to excite compassion and attention; many such patients did not receive sympathetic treatment for their hysteria. Neither did he consider that mimicry of disease was often intentional; it was a mere accidental manifestation of the disorder. DR. S. A. K. WILSON agreed largely with the view of Dr. Ormerod. DR. HARRY CAMPBELL referred to Janet's view that in hysteria there was a disintegration of the personality, and reminded the meeting that this was true also of other states, such as insanity. The paper was also discussed by DR. HUTCHISON and the PRESIDENT, and DR. WEBER replied in detail.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

At a meeting on November 24th, DR. SUTHERLAND, President, in the chair, DRS. H. D. ROLLESTON and MOLONY, in a paper on *Purpura in acute infective diarrhoea*, analysed 100 cases of acute diarrhoea in infants sufficiently severe to be admitted into the Victoria Hospital for Children. Purpura occurred in 11 of them and proved fatal; the prognosis of these cases was therefore extremely grave. In 8 of the 11 cases the purpura was on the abdomen; possibly the extremely low blood pressure and the horizontal position of the patients explained why it occurred on the trunk rather than on the limbs. The average day on which it occurred was the thirty-fourth of the diarrhoeal disease and seven days before death; purpura was therefore a late and cachectic manifestation of diarrhoea in infants. The purpura was not caused by transfusion or by the use of serums. MR. DUNCAN FITZWILLIAMS, in a paper on the subject, suggested "*Hook-finger*" as a convenient term for cases of *Congenital flexion of the proximal interphalangeal joints of the fingers*. The chief characteristics of the condition were that the first interphalangeal joints were flexed to a right angle, while the metacarpo-phalangeal and the interphalangeal joints were always hyperextended and never flexed, as was sometimes stated in the books. The little finger was the one most often affected; but if the condition was present in the others as well, it was less marked in those that were furthest from the little finger. The thumb was never involved. The deformity, which was congenital and never acquired, was probably due to maldevelopment of the anterior ligament of the joint: the hyperextension of the metacarpal joint showed that the fasciae had nothing to do with it, though shortness of these structures was the cause usually assigned in the books. In nearly all cases the condition was bilateral, and was frequently associated with laxity of the ligaments of the other joints of the body. In one of the four cases he exhibited both knees could be dislocated with great ease. Other congenital abnormalities were not uncommon. If this condition was allowed to persist and more than one finger was affected the use of the hand might be seriously interfered with. The treatment in early cases was manipulation and massage, but in old-standing cases the ligament should be released from the front of the base of the middle phalanx by a fine-bladed tenotome passed into the joint from the side; in this way the tendons were not injured. Among the general exhibits, DR. FIRTH showed instances of *Congenital absence of the patellae* and deformity of the nails in a mother and three children.

HARVEIAN SOCIETY OF LONDON.

Thursday, November 23rd, 1911.

J. ERNEST LANE, F.R.C.S., President, in the Chair.

Early Signs and Symptoms of Nervous Disease.

DR. JAMES TAYLOR read a paper on the early signs and symptoms of nervous disease. He began by referring to the frequent difficulty of deciding between organic and functional affections, and pointed out that many conditions formerly regarded as functional were now, in virtue of increased knowledge and of the significance of certain signs, definitively recognized as organic. He referred to the case of a patient brought on account of a certain difficulty in walking. The patient had recently had a love affair, and

was supposed to be hysterical, but an examination revealed the presence of ankle clonus on one side, and extensor response from the sole, and the case in a few months' time had all the characteristic signs of disseminated sclerosis. He referred also to spinal caries, especially in the cervical region, and the danger of making the mistake of regarding symptoms resulting from this as hysterical, and he also pointed out the occasional presence of hysterical symptoms in patients the subject of subacute combined sclerosis. He next related in detail three cases of tabes dorsalis with gastric crises. In one of those the attacks of sickness were first regarded as migraine. In the two others abdominal operations had been carried out, apparently under the impression that the patients were the victims of gastric or intestinal ulceration. Dr. Taylor further referred to certain cases in which onset of sudden blindness is the first sign of disseminated sclerosis, and the danger of regarding such cases as merely suffering from functional amblyopia, and he pointed out the importance of recognizing the true nature of certain cases of Graves's disease, in which the clinical picture was complete. The paper was discussed by the President, Dr. Carmalt Jones, Mr. Campbell Williams, and Dr. G. A. Sutherland.

Syphilitic Bone Affections in Childhood.

Mr. Duncan C. L. Fitzwilliams read a paper on syphilitic affections of bones met with in childhood, illustrated with lantern slides of the various conditions. He first laid stress on the fact that all syphilis was really acquired either before, during, or after birth, and that the only difference between young and old syphilitics was the difference in the want of resistance in the young, so that all the manifestations might be found jumbled up together. The different bone lesions detailed were epiphysitis (perichondritis), dactylitis, periostitis, and osteo-myelitis. The appearances and differential diagnosis of each were entered into, with the appropriate treatment. Mr. Fitzwilliams had not found many indications for salvarsan in children, as they were very tolerant of mercury and reacted with marvellous rapidity in the great majority of cases. He mentioned certain cases, however, in which salvarsan was beneficial. The paper was discussed by the President, Mr. Campbell Williams and Dr. G. A. Sutherland.

MEDICAL SOCIETY OF LONDON.

A clinical meeting, with the President, Dr. J. Mitchell Bruce, in the chair, was held on November 27th. Dr. C. W. Chapman showed two cases of aneurysm which were interesting from the point of view of prognosis, the improvement in both patients being noteworthy. In one of the cases, with an aneurysm of the first part of the aorta, the pain was much relieved under rest and the free exhibition of iodides, but the improvement was most marked when Plummer's pill was added to the prescription, both as regards pain and force of pulsation. Amongst the other exhibitors were Dr. de Havilland Hall: A case of polycythaemia; Mr. E. M. Corner and Mr. Maybury: Cases illustrating same results of cellulitis of the hand; Mr. Stebbing, introduced by Mr. Charters Symonds: A case of Sprengel's shoulder in a boy; Mr. Duncan Fitzwilliams: (1) A case of persistent forward dislocation of the head of the radius, (2) a case of compound ganglion of the palm of the hand; Dr. Walter Carr: A case of infective endocarditis—recovery; Dr. Poynton: A case of loss of power in the hand of four years' duration; Mr. W. H. Battle and Mr. Bazett: A case of tumour of the femur.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 24th, Mr. H. Littlewood, President, in the chair, Dr. C. Oldfield, in a paper on the *Treatment of uterine displacements*, maintained that not one of the uterine displacements of itself produced symptoms, and so treatment should not be directed to rectify the position of the uterus, but to cure the accompanying condition which produced the symptoms. He included in this view backward displacements, on the ground that it was a common clinical experience to find them witho symptoms; that when symptoms did accompany th position some pathological lesion could usually be found explain them; and that in some cases where no pathologic lesion could be found the patient could be cured witho disturbing the position of the uterus—for example, dy menorrhoea and sterility. Mr. Leo. A. Rowden show 5 cases of *Rodent ulcer* treated in the following way (1) Entirely by radium; (2) entirely by "secondary" radi tions; (3) chiefly by "secondary" radiations and partly radium; (4) and (5) by "primary" radiations and radiu combined. Complete recovery occurred in all cases exce in (5) in which only a very small area still remain unhealed. Mr. H. Secker Walker showed 2 cases *Chronic glaucoma* treated by Herbert's operation, which quoted as probably the most reliable of any of the glauco operations at present before the profession. Mr. J. Dobson showed a specimen of *Tuberculosis of the kidn* By chromocystoscopy and ureter catheterization a corre diagnosis was readily reached, and nephrectomy perform with success. Mr. H. Littlewood showed a woma aged 47, on whom he had successfully operated f *Gangrenous pancreatitis*. The symptoms were very seve pain in the right hypochondrium, with vomiting. At t operation multiple fat necroses were seen, and a sloughi condition of the head of the pancreas. Some small sloug were removed, and a drainage tube inserted into the sloug ing area; 130 gall stones were removed from the g bladder, which was drained. The urine gave the pancreat reaction. Dr. C. Oldfield showed a case of pubo-sac hernia in which the uterus and bladder were in norm position. The patient had complete "procidentia" f twenty years or more. A year ago carcinoma of the cerv developed, the broad ligaments became infiltrated, a owing to their contraction the uterus and bladder we drawn up into their normal position. A large projecti mass remained, which was enclosed in the everted p terior vaginal wall, gave an impulse on coughing, a contained small intestine and omentum, most probab It is argued that the essential lesion remained the same when the uterus and bladder were enclosed in the proje ing vaginal walls, and therefore that the condition "genital prolapse" was a pubo-sacral hernia.

LIVERPOOL MEDICAL INSTITUTION.

At a meeting on November 23rd, Dr. T. R. Bradsha President, in the chair, Mr. F. T. Paul described a case *Wound of the thoracic duct* due to deep dissection of t neck for malignant glands. Compression having fail the duct was successfully ligatured on the fifth d Having reviewed other methods of treatment, the auth concluded that ligature was the best, and should be e ployed as soon as injury to the duct was recogniz Dr. Phillips Hunt, under whose care the patient h been, said that during the period that chyle was flowi the patient's condition was one of extreme lassitude a drowsiness. The temperature ranged from 100° to 10 and fell to normal forty-eight hours after the flow chyle had ceased. She required an unusual amount anaesthetic. Dr. E. W. Lewis having described a case *Sacrococcygeal meningocele* in an adult associated w imperforate anus, Mr. R. C. Dun said that the pati showed the common variety of imperforate anus met w in females. He had notes of 45 cases on which he h operated—31 males, 14 females. The deformity in 13 the female cases was similar to that in the case under d cussion. The mortality in his series was 22 per ce Mr. R. W. Murray read a note on 5 cases of infant paralysis in which he had performed *Nerve anastomo* In every case it was judged that sufficient time h elapsed to permit of natural recovery. Electrical reactio were always taken under anaesthesia. The operati were performed four or five years ago, and the resu were most disappointing, for in no instance was there a improvement as the direct result of the anastomo Dr. Warrington said that Stoffel claimed that the dividual fibres to the muscles kept a definite topographi position throughout the nerve trunk, and that this posit could be recognized from experience, and hence a m scientific operation attempted. Mr. R. C. Dun mention 4 cases of infantile paralysis in which he had perform nerve anastomosis without improvement.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 24th, Mr. FREELAND FERGUS, President, in the chair, Dr. J. GOODWIN TOMKINSON, after showing several cases in point, said that he considered *Epilation by x rays* a perfectly safe method in the hands of a careful operator, and that it was the only dependable one in the treatment of tinea tonsurans. Dr. JOHN BROWNLEE, as an example of a *Spinal affection following enteric fever*, recorded the case of a man who had developed, when aged 15, a lateral curve of the spine, but had been practically well and able for hard machine work until, at the age of 32, he contracted enteric fever. This attack was very severe, the temperature not reaching normal till the thirty-fifth day. A month later he developed thrombosis of the left leg. During convalescence from this, symptoms suggesting syringomyelia developed; the sensation of pain was practically absent from the middle of the thighs downwards; heat and cold could not be distinguished, plantar reflexes were much exaggerated, and ankle clonus and Babiński's sign were present. These symptoms became worse until the disturbances of heat sensation and loss of pain sense were present up to the lower costal margin; the sensation of touch, however, was nowhere lost. From this point he made a very slow but uninterrupted recovery, and at the end of twenty-one months was able for a hard day's work, and had heat and pain sensation present all over the body, though these sensations were delayed over the dorsa of the feet and the lower third of the legs. Dr. ARCHIBALD YOUNG described 3 cases of *Dislocation of the metatarsus* at the Lisfranc joint. In two the whole metatarsus was displaced outwards, and in one of these there was also moderate dorsal displacement. Both showed some comminution of bone at the joint between the cuneiforms and base of second metatarsal. In both an accident had caused violent adduction of the tarsus, while the anterior part of the foot was fixed. In the third case the first metatarsal was displaced inwards, while the second, third, and fourth metatarsals were displaced outwards and on to the dorsum, and showed some comminution of their bases. The patient had fallen from a height and the injury resulting suggested that the tarsus had acted as a wedge, the apex of which was formed by the external cuneiform. Dr. ALEX. MACLENNAN described an anatomical method of enlarging the "gridiron" incision, with special reference to removal of the appendix. After splitting the external oblique, the rectus sheath was to be opened transversely at a level corresponding to the insertion of the fibres of the internal oblique, which arise from the crest of the ilium, a fingerbreadth above the anterior superior spine. The split was continued outwards to the outer crest. Further enlargement was obtained by cutting the origin of the internal oblique and transversalis muscles from the crest. In this way the upper part retained the hypogastric for its innervation, and the lower retained the ilio-inguinal. The fascia and peritoneum were cut on the same line. Thus an extensive view could be obtained of the ascending colon and the appendix hidden in its mesentery.

CLINICAL SOCIETY OF MANCHESTER.

A meeting of this society held at the Children's Hospital, Pendleside Street, on Tuesday, November 21st, the following cases were shown: Dr. H. T. ASHBY showed a case of *Migraine* in a child of 4, and an infant with *Splenic anaemia*. Mr. BISHOP and Dr. C. H. MELLAND showed a man of 23 on whom partial gastrectomy had been performed in September for *Cancer of the pyloric end of the stomach*, and exhibited the specimen. The patient had made an excellent recovery and gained several pounds in weight since the operation. Dr. J. G. CLEGG showed a series of cases illustrating the value of *Trephining for glaucomatous conditions of the eye*. Dr. N. C. HARING showed several cases illustrating the *Paraffin treatment of atrophic rhinitis*. In one case the paraffin had wandered on to the surface of the face and had to be surgically removed. Dr. C. C. HEYWOOD showed a case of *Congenital ataxia* in a girl of 6. The condition had markedly improved with massage and general treatment. Dr. H. R. HUTTON showed a girl with *Unusually distributed paralysis*. Dr. R. W. MARSDEN showed a case of phthisis pulmonalis with a *Cyst on the true vocal cord*, and a case of congenital syphilis with complete *Occlusion of the nasal pharynx and rhinitis cascosa*. Mr. H. H. RAYNER showed a boy of 13 with a *Dental cyst* arising in connexion with the left upper molars. He also showed the skiagrams of the hip joints of a child who had been treated for six months by fixation for *Congenital dislocation*. One joint was in correct position and was quite useful, while the other, not having been satisfactorily reduced, had again been put up in plaster. Dr. J. WHARTON showed a case (man) of removal of the left eye for *Sarcoma of the choroid* and showed the specimen. He also showed a case after *Capsulectomy* for closed pupil, a case after the trephine operation for glaucoma, and one with dislocated lens.

HUNTERIAN SOCIETY.

At a meeting on November 22nd at the London Institution, Dr. HINGSTON FOX, President, in the chair, Dr. W. M. ETTLES, in a paper on *Recent developments in ophthalmic therapeutics*, described a method of treating chronic and subacute glaucoma which he said he had used with gratifying results. It consisted of massage of the globe combined with constitutional treatment. The massage was carried out by means of a small air-pump attached to an electric motor, a rubber cup connected with the pump being placed over the eyeball, which was thus exposed to a rapid series of soft compressions. After a few minutes a hard eye became soft and even of subnormal tension. Measurements with a Schiotz tonometer showed that a pressure of 50 mm. of mercury was reduced to one of 20 mm. in about eight minutes. Short of opening the globe, the method provided by far the most rapid means of lessening tension. It rose again in a day or so, and therefore a course of treatment was needed—usually about a dozen or twenty sittings. The hypertonic state gradually disappeared, and the speaker claimed that after an experience of several years he was confident that the cases were cured. He had had no failures, possibly because all were carefully selected cases. At any rate, those he had treated all had excellent sight and a normal tension. He also spoke of many cases of patients who were unable to work for any length of time even with careful correction of errors of refraction. They were really cases of defective convergence. He measured their convergence power, and, if it was defective, he prescribed a course of fusion training, commencing with the prism verger designed by Maddox of Bournemouth. In a very short time the neuromuscular reflex was established, and thereafter improvement was very rapid. Dr. H. R. ANDREWS, in a paper on the *Pyelonephritis of pregnancy*, said the symptoms usually began in the later months of pregnancy, and were not necessarily preceded by any evidence of the presence of cystitis. The symptoms varied from a mere aching in the loin to most acute pain, with rigors, high fever, and other signs of grave constitutional disturbance. The organism most commonly found in the urine in such cases was the *Bacillus coli communis*. Pyelonephritis occurring during the puerperium was likely to be mistaken for puerperal fever, although the fact that the onset of pyelonephritis was usually at the end of the first week of the puerperium, or even later, at a time when the onset of uterine sepsis was improbable, ought to lead to a suspicion of the true origin of the trouble. The treatment consisted in complete rest in bed, milk diet, and administration of diuretics, urotropin, and drugs which render the urine alkaline.

A CHRISTMAS sale in aid of the National Hospital for the Paralysed and Epileptic (Albany Memorial) was opened by the Duchess of Teck on December 2nd. Sir Frederick Macmillan said that the sale owed its existence to the suggestion of the Duchess of Albany, under whose direction it had been arranged. It was intended to help to pay off the debt of £7,000 with which the hospital was still hampered. The Duchess of Teck, having expressed her good wishes for the success of the bazaar and a vote of thanks to her having been passed on the motion of Dr. Ormerod, the Senior Physician, took charge of a stall upon which Christmas cards and confectionery made by the Duchess of Albany were displayed for sale. Tea was provided for visitors, and some charming Morris dancing took place later in the afternoon.

Reviews.

THE MECHANISM OF THE HEART BEAT.

THE study of the heart's action in health and disease has occupied the attention of the clinical and pathological observers in all schools of medicine during the last decade, and a vast amount of work has been recorded. A journal devoted exclusively to the subject has been the medium in this country for the discussion of the relative value and importance of each new step as it has been taken, but the vastness of the subject renders it extremely difficult for any but the expert to follow the details of controversy. Hence the appearance of a book containing a clear statement of the present position of expert knowledge on the subject, set forth by one of the most skilled of our English students of cardiac pathology, will be welcomed not only by laboratory workers but also by clinical physicians who seek to deal with the multiple problems of heart disease on other than traditional lines. In his work, admirably printed and illustrated, on *The Mechanism of the Heart Beat*,[1] Dr. T. LEWIS has presented the whole subject in well-arranged order, and has wisely omitted any reference to experimental work that has not been sufficiently demonstrated to warrant acceptance; at the same time he makes it quite clear that no sort of finality has been reached, and that the observations of to-day may be modified by closer research to-morrow. It may be well to state that the book is not elementary, and that a certain degree of acquaintance with modern methods of investigation is essential to full appreciation.

A living moving organ of highly complex construction can only be studied by observation of its movements; the sounds which it produces in the course of those movements cannot be relied upon to the same extent as can the mechanical record of the movements themselves. The early work of Marey, Galabin, and others on the instrumental record of the pulse in the arteries led the way to similar means of demonstrating the cardiac and venous movements, but it is only within recent times that the services of electricity have been utilized, and the invention of the electro-cardiograph may well be reckoned amongst the marvels of modern science.

In an early chapter Dr. Lewis gives an admirably clear account of the steps by which the path of cardiac impulses has been demonstrated, and photographic illustrations of dissections display the whole course of the auriculo-ventricular bundles down to their ultimate arborization in the ventricle.

Much controversy has ranged round the question of heart-block, and it will be found to form the text of many sections of Dr. Lewis's work. He makes it clear that many variations are present in the size, form, and appearance of the fibres composing the auriculo-ventricular bundle in health, and this fact of itself suggests that such fibres may be unequally affected by a common cause, such as a restricted blood supply, in disease. Of the various methods employed for investigation it must suffice to say that they are described as simply and clearly as is possible, and that the tracings obtained are easily understood with the help of short notes appended to the foot of each illustration.

A chapter devoted to the "pace-maker of the mammalian heart," by which term is indicated the point where the cardiac impulse arises, contains some interesting electro-cardiographic observations, by which the conclusion is reached that this point is situated at the superior vena caval junction in the immediate neighbourhood of the sino-auricular node. A detailed account of such complex and comprehensive investigations cannot here be attempted, and it must suffice to mention a few of those subjects examined by the author which have a direct practical interest for the clinical physician. First among these comes the question of heart-block already referred to, and here the results of experimental observation are of the highest importance. The pathological evidence of the condition is almost always complicated by other changes in the heart, and hence the production of the clinical phenomena of disease in the normal heart, by artificial means, has thrown clear light upon the various morbid conditions that have been observed, proving that other factors besides the mechanical interference with the path of impulse may give rise to the block. Incidentally this question has led to the study of impulses arising within the ventricular wall, but the bewildering variety of the results hitherto obtained as yet prevent any definite conclusions.

Tachycardia, continual or paroxysmal, has long been a clinical puzzle, and research has made it clear that the condition is closely associated with intimate changes of the musculature of the auricle, whereby the impulses which should normally be passed down to the ventricle are broken up into irregular contractions, which succeed each other with extreme rapidity, so that they become merely fibrillar, and that in the end the ventricular muscles also may pass into a state of inco-ordination amounting to delirium. This question of auricular fibrillation is very closely examined, and a good account is given of the previous work that has been done to elucidate it. Dr. Lewis insists upon its occurrence in the human subject, and his investigations on the mammalian heart prove the existence of scattered fibrosis in the auricular muscle, most marked about the region of the pace-maker, whereby the even course of impulses may be broken up.

The influence of the vagus is discussed, and the observations upon it are fully illustrated. The whole work may be described as a compendium of modern knowledge on the movements of the heart in health and disease, forming a trustworthy platform on which to found a still more enlightening structure. So complex a subject, involving experiments of the most delicate description, must of necessity give rise to differences of opinion, even as to the interpretation of recognized phenomena, but such a work as Dr. Lewis has put forth cannot fail to stimulate the ardour of all labourers in the same field, and will serve as a permanent record of sound observation, clear exposition and convincing argument worthy of the best traditions of British science.

[1] *The Mechanism of the Heart Beat, with especial reference to its Clinical Pathology.* By Thomas Lewis, M.D., D.Sc., Lecturer in Cardiac Pathology University College Hospital Medical School; Physician to Out-patients, City of London Hospital for Diseases of the Chest, Victoria Park. London: Shaw and Sons. 1911. (Sup. roy. 8vo, pp. 311; 214 figures, 5 plates. 16s. 6d. net.)

HERBERT SPENCER AND DARWIN.

THE two last "Herbert Spencer" lectures delivered before the University of Oxford deal with the attitude of that great man towards the Theory of Evolution. The terms upon which the lectureship was founded make this theme more or less obligatory. The two lecturers, however, approach the same end by very different routes. In the earlier lecture Professor G. C. BOURNE treats of *Herbert Spencer and Animal Evolution*,[2] while Professor MELDOLA takes as the title of his address *Evolution, Darwinian and Spencerian*,[3] and deals with the subject more from the chemico-physical standpoint.

Professor Bourne commences by drawing attention to the fact that the idea of evolution dates as far back as the early Greek philosophers, and did not originate with Darwin, as is so often supposed. The great contribution made simultaneously by Darwin and Alfred Russel Wallace to scientific advance lies in the fact that they gave to the world a rational explanation of how evolution has been brought about—namely, by the great factor, Natural Selection. Among the pre-Darwinian exponents of organic evolution the name of Herbert Spencer stands out prominently, but the idea of Natural Selection did not occur to him in concrete form. It is as a philosopher that he is most widely known, but his theory of "physiological units"—to some extent anticipating Darwin's theory of pangenesis—would alone stamp him as a profound biological thinker thoroughly imbued with a true biological spirit.

Like Darwin, Spencer was a firm believer in the action of external forces in producing variations, and this led him into an animated controversy with Weismann on the question of the inheritance of acquired characters, a controversy which may now be rightly termed historical. A brief account of the positions taken up by the two disputants is given by Professor Bourne. Interesting as the earlier part of this lecture, there is little in it which

[2] *Herbert Spencer and Animal Evolution.* The Herbert Spencer Lecture. By Gilbert Charles Bourne. Oxford: Clarendon Press. 1910. (Med. 8vo, pp. 36. 1s. 6d. net.)

[3] *Evolution, Darwinian and Spencerian.* Herbert Spencer Lecture. By Raphael Meldola. Oxford: Clarendon Press. 1910. (Med. 8vo, pp. 44. 1s. 6d. net.)

not already familiar to most persons. The same cannot be said of the latter part, in which the lecturer gives a summary of some of the more recent and important results of the modern school of experimental morphology and embryology so actively developed within recent years in America and on the European Continent, and with which the School of Zoology in Oxford is gradually becoming identified. The results obtained by the experimentalists are as yet too restricted, and, in certain cases, too contradictory, to warrant any very definite generalizations.

As an example of contradictory results reference is made to the experiments of Boveri and of Kupelweiser and Loeb. The first-named succeeded in rearing an echinoderm larva exhibiting only paternal characters from the enucleated fragment of an egg of one species fertilized by the sperm of another species, whereas Kupelweiser and Loeb obtained a larva showing no paternal characters whatever from the ovum of a sea-urchin fertilized by the spermatozoon of a mollusc. The outcome of these and many other experiments tends to the belief that some of the organ-forming materials must be contained in the cytoplasm of the germ cell and are not restricted to the nucleus. These results have led Weismann to somewhat modify his former views as set forth in his recent volume on the evolution theory.

After recounting in some detail the ontogenetic history of the various blastomeres in the development of *Dentalium*, Professor Bourne concludes that there is "ample evidence of the pre-existence of 'primary constituents' or 'factors' in the germ." Though, like many other biologists, he is not altogether satisfied with Weismann's explanations, he is of opinion that Herbert Spencer's "conception of germ cells" no longer holds good.

In conclusion, we may quote one or two passages with reference to the application of the conclusions of zoology to "the affairs of State."

"It is to be feared that much that still passes for progress is really regress, for it is founded on mistaken conceptions of the operations of nature. Hygiene, education, social institutions, may improve the lot of the individual, but they cannot produce any permanent effect on the race, and many of our apparently most promising reforms may actually do injury to the race, if the result in the multiplication of the unfit at the expense of the fit—fitness and unfitness being innate and not acquired characters.

"Without fully endorsing these sentiments expressed by Professor Bourne, there is, undoubtedly very much truth in them, and they ought to be well considered by all those having control of the affairs of State.

"The second lecture—that by Professor Meldola—is a most thoughtful and suggestive contribution, the type of lecture that gives rise to many reflections as to the genesis and evolution of the universe. Professor Meldola, like Professor Bourne, commences by laying stress upon the independent position which Herbert Spencer held as an evolutionist, as shown in all his earlier writings, previously to the publication of the *Origin of Species*, Spencer was a thorough-going Lamarckian. The influence of Darwin's great work upon the evolutionist-philosopher is traced, and it is shown that, while not entirely condoning his former tenets, he accepted natural selection as an accessory factor in evolution. The term 'survival of the fittest,' as an alternative for natural selection, was introduced by Spencer himself and sanctioned by both Darwin and Wallace.

"The lecturer discusses in an extremely interesting manner the possible genesis of living matter. 'From the evolutionary standpoint, may not a chemical compound be regarded as the analogue of a biological species?' is a question which he asks. Of the many carbon compounds found under primaeval conditions, certain possessed definite configurations adapted to a particular environment. Some tautomeric or dynamical isomeric compounds are capable of existing in one or another of certain distinct modifications according to the chemical or physical environment, such being the chemical analogue of a dimorphic or polymorphic species. To follow the line of argument of the application of the Darwinian principle of selection to the possible evolution of inorganic carbon compounds would exceed the limits at our disposal; suffice it to say that it is most suggestive and well worth reading.

"The latter part of the lecture is devoted to a comparison of the influence of Darwin and of Spencer upon science generally and of the influence of each upon the other. In estimating the influence of these two great evolutionists upon scientific thought, the differences in their "method of attack" has always to be borne in mind, but within the limits of each branch of science there is a constant attempt to produce a minor philosophical system. "The generalizations of science pass by imperceptible steps into philosophical generalizations," hence "the Spencerian treatment was wanted as a co-factor with the Darwinian treatment."

This sketch of the contents of the lecture must necessarily be very inadequate. It must be read to be appreciated, and we feel sure it will be appreciated when read.

SENILITY AND PERVERTED DEVELOPMENT.

Fourteen years ago Mr. Hastings Gilford surprised and interested the Royal Medical and Chirurgical Society by reading a paper on two cases of "premature old age engrafted upon, or running side by side with a condition of immaturity or infantilism." In *The Disorders of Post-Natal Growth and Development*,[1] he discusses these and allied conditions, and seeks to elucidate the processes of normal senile decay. In so doing he has swept his net widely, and in its meshes have been entangled such subjects as acromegaly, gigantism, longevity, and many others which affect the progress or duration of individual existence. Clearly, then, we may expect in these seven hundred pages to find much food for reflection. To the condition of spontaneous and premature senile decay, the name "progeria" ($\pi\rho\omega$ = early, and $\gamma\eta\rho\alpha\varsigma$ = old age) has been given, and spontaneous, persistent immaturity has been called "ateleiosis" (a = privative, and $\tau\epsilon\lambda\epsilon\iota\omega\sigma\iota\varsigma$ = a becoming perfect). On considering questions of growth and development, Mr. Gilford was struck by the fact that the highest exponents of textbook medicine say nothing whatever in their "contents" about post-natal development, and that the classification of such books is in general unsatisfactory. This work, then, represents an attempt to remedy these alleged defects. To quote the author:

> The method adopted is to devote the first part to an explanation of the terms "growth" and "development" and to a definition of their diseases. In so doing it will be seen that these disorders are essentially natural processes dislocated from their proper setting, and either falling short of their proper degree or carried to an unhealthy excess. The rest of the book consists in the application of the axioms, rules or generalizations gained, first to the disorders of growths and development of cells in their individual capacity, then to organs, and lastly to the whole complex organism.

Mr. Gilford complains that diseases are not reckoned among natural phenomena and that medicine is the abode of mystery, whereas all diseases

> must of necessity be no more than the expression of the common laws of life. . . . If we put on one side bacteria-produced diseases, and group together all those maladies which are independent or only partly dependent upon external sources, we find that by far the majority are merely the extremes of normal biological processes. Most of them seem to be affairs of development or of growth. Growth is defective or excessive; development is too tardy or terminates too soon. Such extremes have received the names of "variations." . . . We have seen that the cancer, the cirrhotic liver, and the man with acromegaly, though seeming to have nothing in common, are in reality all examples of the same morbid variation of a biological process. Though there is as much difference between these forms of premature old age as of the old age which attacks the amoeba, the sponge, and the man, they are all fundamentally alike.

We have quoted Mr. Hastings Gilford at some length because we wish to avoid any unconscious misrepresentation of his views. The human body, he says, is "tribasic," that is to say, it consists of cells, of collections of cells or organs, which again are collected to form the whole man, which is a unit of the body politic. Most intrinsic diseases are degenerations of one or other of these units, and take the form of reversions to bygone ancestors, such as the amoeba, the sponge, and prehistoric man. The changes of old age are also degenerations, and reproduce the conditions not only of first childhood, but also of more primitive developmental ancestors. We cannot but admire the industry and earnestness which the author has displayed in preparing this work, but we are afraid that he has

[1] *The Disorders of Post-Natal Growth and Development.* By Hastings Gilford, F.R.C.S. London: Adlard and Son. 1911. (Sup. roy. 8vo. pp. 749, with 65 illustrations. 15s. net.)

taken many assumptions for facts, and pushed his analogies further than is justifiable. No doubt the symptoms of senile imbecility do present some resemblance to the conditions of normal infancy, but this second childishness and mere oblivion is only superficially like true infancy, and many men live beyond the psalmist's limit, and die without becoming childish. More convincing evidence than he offers is needed to show that in pernicious anaemia "the blight of senility" causes the production of embryonic nucleated red blood cells, or that old age is a reversion to an anthropoid ancestor.

PARALYSIS AGITANS.

THOUGH described by Sauvage over a century ago, and accurately depicted in 1817 by Parkinson in his historical *Essay on the Shaking Palsy*, the etiology and pathology of this striking and disabling disorder are still veiled in obscurity. This veil, Dr. KURT MENDEL, in a most excellent and informing monograph,[5] does nothing to lift. Dr. Mendel has made an exhaustive study of the literature of the subject, and quotes no less than 284 published works in the course of a pamphlet of only 106 pages, and examines the recorded investigations in the light of his own observations of fifty cases. Although Dr. Mendel sheds no fresh light on either etiology or pathogeny, he touches upon many points worthy of passing, though necessarily disjointed, mention.

From his own observations he agrees with Gowers that the generally mentioned predisposing factor of heredity is of only subordinate importance. Also, with many other authorities, he lays great weight as a causal factor on the influence of painful emotions, and in this relation the striking analogy of the tremor of fear to that of this disease—long ago pointed out by Gowers—springs to mind.

A remarkable fact mentioned by Dr. Mendel is that this disease, whose symptoms are mainly those of disordered motility, has for prodromes symptoms of an exclusively sensory order, namely, pains, paraesthesias, gastric crises, colics, headache, giddiness, etc.

Concerning symptomatology, Dr. Mendel agrees with most others that of all symptoms the stiffness or muscular rigidity is the most characteristic and important; so much so, he says, that the rigidity of the frontal and superciliary muscles makes Stellwag's sign more pathognomic of paralysis agitans than of exophthalmic goitre. Also the "frontalis symptom" (persistence of voluntarily induced wrinkling of the forehead for forty to sixty seconds after the patients' forced attempts to smooth their ruffled brows), first described by Moczutkowsky, was found almost constantly by the author. Other particular symptoms of this same characteristic rigidity which occasions the well-known "mask face," are furnished by the external ocular muscles, notably by the difficulty in changing the direction of the gaze of the eyeballs, a phenomenon designated by Debove as *lateropulsion oculaire*, and, of course, by delayed reaction of almost any of the voluntary muscles of the body to auto-stimulation. In the facial symptoms, however, Dr. Mendel sees merely the result of muscular rigidity and delayed transmission of nervous impulses, and in contrasting these with the common propulsive or lateropulsive or retropulsive gait of the victims of this disorder, is in agreement with those who consider that these phenomena are due in large part to disordered cortical co-ordination.

A small point worth noting is that, unlike most observers, Dr. Mendel found the Achilles tendon reflex absent in a comparatively large proportion of cases where no sign of tabes or organic nervous disease was elicited.

After giving in considerable detail the published and quite inconclusive results of investigations made by numerous observers into pathological anatomy and pathogeny, he states that as to the nature of this disease we must still plead an ignoramus, though most probably it is "a degenerative process affecting preponderatingly the motor sphere, and possibly beginning in the vessels." In consequence no causal therapy exists, but as to symptomatic treatment he mentions that in certain cases he has found duboisin (made from the Australian plant *Duboisia myoporoides*) of distinct use, lessening both the tremor and the rigidity and improving the sleep.

[5] *Die Paralysis Agitans.* Eine monographie von Dr. Kurt Mendel. Berlin: S. Karger. 1911. (Roy. 8vo, pp. 106. M.4.)

NOTES ON BOOKS.

ONE of the heaviest burdens of kingship must be the constantly recurring necessity for making speeches, an arduous duty which has been faithfully discharged by King George during the whole of his public life, both as heir apparent and as reigning monarch. His speeches have now for the first time been gathered together and published in a book entitled *The King to His People*.[6] In it we have an almost complete collection of Royal addresses delivered at home and abroad before and after his accession to the throne. "The King's name is a tower of strength," but apart from its august authorship the intrinsic merits of the contents are sufficient to ensure the success of the volume. Well bound and printed, and provided with a fine portrait of George V as frontispiece, its pages abound in excellent advice, and will doubtless be perused with interest and edification by a large number of His Majesty's loyal subjects.

It is a regrettable fact that the majority of mankind regard instructive reading as an unmitigated bore, and the literature whose sole aim is to impart information as something to be avoided at all costs. This innate levity of the human mind may, perhaps, be the reason of the astonishing ignorance displayed by "the world as a whole of the great industries which maintain our oft-boasted civilization," of which Miss EDITH A. BROWN complains in the preface to her interesting book on *Sugar*.[7] Thanks to Miss Brown, however, the rising generation has every opportunity of learning in the pleasantest manner all that it is necessary to know about one great industry at least, namely, the cultivation and manufacture of different kinds of sugar in every quarter of the globe. The author has succeeded admirably in a somewhat difficult task. She has cleverly contrived to communicate her exhaustive knowledge of the subject without appearing either didactic or technical, whilst her easy, colloquial style and the studied simplicity of her explanations arouse the interest and hold the attention of her readers. Moreover, the numerous and carefully selected photographs with which this prettily-bound volume is illustrated do much towards promoting an intelligent understanding of the whole process of sugar making. Miss Brown's book is the first of a series whose object is to dissipate the "more than Gothic ignorance" of educated people on the subject of industries and manufactures, and will be followed in due course by others which also will be written from first-hand knowledge.

The choice of a book which will be read with equal pleasure by boys and girls is not an easy task for the average parent, but it is one that has been greatly simplified since the appearance of Mrs. E. NESBIT'S admirable tales for children. Her new book, *The Wonderful Garden*,[8] though to all intents and purposes a fairy tale, provides enough adventures to satisfy the most exigent of boy critics, whilst their sisters will succumb to the charm of two most attractive little heroines. The story, which is told in the quaintly humorous style one has learnt to associate with Mrs. Nesbit, is prettily bound and profusely illustrated by Mr. H. R. Millar.

The well deserved popularity of Mrs. MOLESWORTH as a writer of children's books shows no signs of diminishing. Her stories have a charm all their own, and she is one of the few modern authors who can write a genuine fairy tale—a far more difficult task than might be imagined. Her delicate fancy is shown at its best in her latest book, *Fairies Afield*,[9] a collection of short stories in which the "Good People" play a prominent part, and which have something of the haunting fragrance of the ancient

> Stories told of many a feat,
> How faery Mab the junkets eat.

The beauty of these charming tales is further enhanced by the pretty old-world pictures contributed by Miss Gertrude Demain Hammond.

In these days of elaborate mechanical toys and miniature replicas of the latest inventions, it is refreshing to find

[6] *The King to His People.* Being the Speeches and Messages of His Majesty George V as Prince and Sovereign. London: Published (by permission) by Williams and Norgate. 1911. (Imp. 16mo, pp. 470. Price 5s.)

[7] *Peeps at Industries: Sugar.* By Edith A. Brown. Containing 24 illustrations from photographs. London: Adam and Charles Black. 1911. (Post 8vo, pp. 88. Price 1s. 6d.)

[8] *The Wonderful Garden; or the Three C.'s.* By E. Nesbit, with illustrations by H. R. Millar. London: Macmillan and Co. 1911. (Crown 8vo, pp. 416. Price 6s.)

[9] *Fairies Afield.* By Mrs. Molesworth, with illustrations by Gertrude Demain Hammond. London: Macmillan and Co. 1911. (Cr. 8vo, pp. 262. Price 3s. 6d. net.)

that there are still a few children who rejoice in the old-fashioned doll. In OTTO ERNST'S charming little sketch, *Dolls, Dead and Alive*,[10] which has recently been translated by A. C. Caton, we have a delightful picture of the great German writer's own little daughters and their wonderful games of "make-believe" with an immense family of dolls. Herr Ernst writes with exquisite tenderness of that mysterious and complex being, a little child, and incidentally he touches upon a problem which must be faced sooner or later by all those who have children under their care. His little book forms the second volume of a series entitled *The Mother Books*, and English readers owe a debt of gratitude to the translator for this clever rendering of a pretty idyll of home life.

When the Canadian or Australian born, having outgrown the stage of disdain for all things English through which so many of them seem to pass, begins to wish to understand the country of his ancestors, and to know the reason of the love of the native born for rural England, he could not do better than purchase the illustrated edition of White's *Natural History and Antiquities of Selborne in the County of Southampton*,[11] newly published by Macmillan. In praise of the text nothing can be written that has not been written a thousand times. Of the coloured pictures it may be said that the artist, Mr. George Edwards Collins, R.B.A., has showed skill in execution only second to judgement in selection. With one or two exceptions, the garish colouring of the young swallows may be the fault of the process, but the artist must be responsible for the taxidermic stock doves, all are good, and several breathe the very spirit of southern England, where man and Nature have lived so long in close commune that the hedgerows and plantations, even the very houses and churches, seem to be a part of the eternal order of things. The old hollow lane to Alton, Wolmer Forest, the Hanger, Selborne Stream, and the young sandmartins are reflections of moods of Nature worthy to illuminate White's famous letters.

The "Ingoldsby Legends"[12] have been a household word in English-speaking countries for well over seventy years; and therefore Messrs. Macmillan and Co. may rest assured that a very hearty welcome will be given to their new edition of this old favourite. It is beautifully bound and printed, contains a complete collection of the ballads and stories which have delighted close on three generations of readers; whilst no higher praise can be paid to Mr. H. G. Theaker's charming illustrations than to say that they are worthy of the text they adorn.

DIARIES AND CALENDARS.

The diaries issued this winter by Messrs. John Walker and Co. cover a very wide range, yet lend themselves to a few lines of classification. They may be divided, for instance, into those which provide a whole page for each whole day, a page for every two days, or a page for each week; or, again, into loose-leaf diaries, business diaries, and pocket books arranged in diary form. All these diaries can be obtained in a variety of sizes and a great multiplicity of bindings, those of the pocket series in particular being specially admirable from the point of view alike of durability and elegance. All, too, are excellently printed on thoroughly suitable paper, and each provides an accident insurance coupon. The loose-leaf diaries, since they were first brought out, have materially developed. They can now be arranged not only to suit the capacity of the owner's pocket, but also his special requirements in the way of a diary proper, a mere notebook, or cash payment and receipt record. Towards the end of the year they prove especially useful, as all used pages relating to the current year can be removed and replaced by others for the coming year, the necessity for carrying two diaries at once thus avoided. Apart from these loose-leaf diaries, diaries in all sizes can be obtained at nominal prices for the use of the other forms and the old covers reused year after year. In the large business diary, which supplies a page for each day, the pages for each successive month are preceded by one on which can be entered the daily engagements for the whole month, these thus being seen at a glance. The same idea is further developed in what is called the Society Diary, a discrimination being effected between the different recognized periods of the day. This particular diary has other attractive points. Despite its small title, it would fulfil the needs of many professional men, and while not too large to carry about in a bag or a pocket, is yet sufficiently portly to maintain its own place on the writing table. The calendars of the firm are also well devised: indeed, taking the diary and calendar issue of this firm as a whole, the claim made for the various items by their publishers, to the effect that they represent the perfection of British manufacture in this direction, seems not unjustified.

[10] *Mother Books*. No. 2. *Dolls, Dead and Alive*. By Otto Ernst. Author of *Asmus Semper*. Translated by A. C. Caton. London: A. C. 1911. (Post 8vo, pp. 42. Price 1s. 6d. net.)

[11] *Natural History and Antiquities of Selborne in the County of Southampton*, by Gilbert White. London: Macmillan and Co. 1911. Roy. 8vo, pp. 486; illustrations 24, some coloured; 10s. 6d. net.

[12] *Ingoldsby Legends; or Mirth and Marvels*. With illustrations in colour by H. G. Theaker. London: Macmillan and Co. 1911. (Post 8vo, pp. 562. 5s.)

BRITISH MEDICAL BENEVOLENT FUND.

AT the November meeting of the Committee thirty-three cases were considered and grants amounting to £318 made to thirty of the applicants. The current account is consequently overdrawn to the extent of no less than £457, and the Committee urgently appeals for the help which is absolutely necessary unless next month's applications are to be passed over. Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, W. The following is an abstract of the cases relieved:

1. Daughter, aged 31, of late M.R.C.S. Is a black and white artist, but has been unable to obtain work for several months, and is consequently in great distress. Health feeble. Mother a candidate for an Epsom pension. Voted £10.

2. Widow, aged 74, of L.R.C.P.Edin. Has supported herself since her husband's death, twenty-five years ago, by letting lodgings, but finds increasing difficulty in doing so. Only income 5s. a week—an old age pension. Voted £12.

3. Daughter, aged 37, of late L.R.C.P.Edin, Used to live with her mother in Paris and maintain herself by giving English lessons, but has been in bad health for the last two years, and is now quite penniless. Hopes to shortly obtain pupils or a situation. Voted £5.

4. Widow, aged 44, of M.R.C.S. No income, and dependent on the help given by a stepson and what can be earned by letting a room. Relieved three times, £36. Voted £12.

5. Widow, aged 81, of M.R.C.S. Has a small income, but is obliged to support her grown-up children, of whom three are deaf and dumb and the fourth only able to do a little needlework. Relieved nine times, £60. Voted £5.

6. M.R.C.S., aged 70. Is quite incapacitated and dependent on his wife, whose income is very small. Relieved once, £10. Voted £5.

7. Widow, aged 69, of M.R.C.S. Has maintained herself for thirty years by letting lodgings at a watering place, but is now becoming crippled by rheumatoid arthritis. Voted £12.

8. Daughter, aged 63, of L.R.C.P.Edin. Is matron at a small orphanage, but has been obliged for many years to devote most of her salary to assist an invalid mother recently deceased, and now asks for a little help towards the funeral expenses. Voted £5.

9. Daughter, aged 37, of late M.R.C.S. Has held good engagements as governess and companion, but for the last few months has been unable to obtain a post, and has exhausted her small savings. Voted £5.

10. L.S.A., aged 66. Used to have a fair practice in a London suburb, but had a long illness, with consequent pecuniary difficulties, and is now endeavouring to make a fresh connexion. Relieved once, £10. Voted £10.

11. L.R.C.P.Ireland, aged 65. Practised for many years in London, but was obliged to give up two years ago on account of ill health, and is now quite incapacitated. No income; wife supplements slight help from friends by letting lodgings. Relieved twice, £36. Voted £18.

12. Widow, aged 60, of L.R.C.P.Edin. Endeavours to support herself by nursing, but for the last few years has found it most difficult to get engagements, and is now practically dependent on a small temporary grant from a charitable society; health indifferent. Relieved once, £12. Voted £12.

13. Widow, aged 66, of M.R.C.S. Since husband's death has supported herself by acting as housekeeper, etc., but is now unable to obtain any post and quite dependent on this fund and the uncertain help of friends. Relieved three times, £36. Voted £12.

14. L.R.C.P.Edin., aged 54. Has been incapacitated for several years by spastic paraplegia, and is dependent on relations who can ill afford to help. Relieved seven times, £84. Voted £12.

15. Daughter, aged 64, of late M.R.C.S. Assisted her mother in keeping a boarding house to maintain her father during a many years' illness, and now helps two sisters who have a school, but can give applicant no salary; health feeble. Relieved three times, £36. Voted £12.

16. Daughters, aged 61 and 52, of late M.R.C.S. Endeavour to support themselves by taking boarders, and ask for help to tide over the winter. Relieved twice, £28. Voted £18.

17. Daughter, aged 63, of late M.R.C.S. Dependent on two brothers, whose help is uncertain, and is in very feeble health. Relieved five times, £60. Voted £12.

18. Widow, aged 70, of L.R.C.P.Edin. Only income an old age pension of 5s. a week, and is crippled by chronic rheumatism. Relieved four times, £48. Voted £12.

19. Daughter, aged 41, of late L.R.C.P.Edin. Endeavours to earn a living by nursing, but has had no case for some weeks, and sees no prospect of one. Relieved seven times, £56. Voted £5.

20. Daughter, aged 56, of late M.R.C.S. Is subject to attacks of insanity and obliged to live very quietly in the country at the expense of three half-sisters, who all earn their living. Relieved seven times, £66. Voted £5.

21. Widow, aged 75, of M.D.Lond., who was physician to a special hospital. Only income two small annuities, which are insufficient for the little comforts necessitated by applicant's age and infirmities. Relieved six times, £36. Voted £5.

22. Daughter, aged 58, of late M.D.Lond. Has earned as much as possible since father's death many years ago by giving lessons in painting, etc., but is now in ill health and quite dependent on a half-sister. Relieved twenty-eight times, £208. Voted £10.

23. Daughter, aged 49, of late L.S.A. Is mentally deficient and entirely dependent on a sister, who is a nurse Relieved six times, £68. Voted £12.

24. Daughters, aged 59 and 54, of late M.R.C.S. No income, small earnings from needlework, and slight help from friends. Relieved seven times, £94. Voted £20.

25. Daughter, aged 54, of late M.R.C.S. No income and incapable of earning a living. Relieved four times, £37. Voted £15.

26. Daughter, aged 57, of late L.S.A. Is in feeble health and dependent on a sister-in-law, who is a widow. Relieved eleven times. £105. Voted £15.

27. Widow, aged 51, of L.S.A. Quite unprovided for at husband's death from cancer a few years ago, and dependent on a son earning £1 a week: is very deaf and in feeble health. Relieved five times, £68. Voted £18.

28. Widow, aged 63, of M.R.C.S. Unprovided for at husband's death several years ago, and entirely dependent on her children. Relieved thirteen times, £166. Voted £2.

29. Widow, aged 56, of M.B.Glasg. Has maintained herself for several years by letting lodgings and by needlework, but is now frequently incapacitated by illness. Slight help from two daughters earning small weekly wages. Relieved three times, £42. Voted £12.

30. Widow, aged 54, of L.R.C.P.Edin. Practically no provision at husband's death a few years ago, and endeavours to support herself by taking boarders. Relieved once, £10. Voted £10.

REPORT OF THE MEDICAL OFFICER TO THE LOCAL GOVERNMENT BOARD.

(*Continued from page 1455.*)

SCARLET FEVER.

DR. M. H. GORDON reports on the fermentative characters of the streptococci found on the fauces during scarlatina. After reviewing his former work on the *Streptococcus conglomeratus* he outlines the general principles of the fermentation tests and reports the results of the application of these tests to the streptococci found in 50 cases of scarlet fever. From the series of cases, 155 strains of streptococci were isolated and tested. Nineteen different types were found, but of the five most common types, four were variants of the *Streptococcus pyogenes*, as shown by the tests. Other organisms were searched for, but by far the most common was the streptococcus, which was in some cases found in pure culture.

INFANTILE DIARRHOEA.

There are four reports on infantile diarrhoea by different observers (Drs. C. J. Lewis, Sheila M. Ross, R. A. O'Brien, and T. Orr). The inquiries were directed along the same lines, and the reports form a record of most careful and well-recorded "spade work" in a very tedious field of research. All were restricted to the non-lactose fermenting bacilli which did not liquefy gelatine.

Normal Children.—The faeces of normal children were first examined. In 123 (19.1 per cent.) out of 644 normal children non-lactose fermenters were found. The percentage found by the four different observers were 14, 23, 21, 19. The characters of these organisms have been very carefully studied, especially by Lewis. He found that by means of the fermentation tests the bacilli found in the normal children could, in the majority of cases, be distinguished from those found in the diarrhoea cases. Nineteen of the strains were tested by feeding experiments on rats and mice, and only four of them were pathogenic. In two normal cases in which Morgan's Bacillus No. 1 was found, fatal diarrhoea subsequently developed. In a third case the cultural characteristics were the same, but the organism was not pathogenic to rats and mice. The child is still under observation, but at the time of reporting had not yet reached its first summer. Dr. Sheila Ross found the organisms to be diverse in type, but obtained Morgan's Bacillus No. 1 from 6 cases. Gaertner's bacillus was found in 1 case. She also notes differences between the non-lactose fermenters of normal and of diarrhoeal stools. O Brien also found Morgan's bacillus in 6 healthy children. Orr found Morgan's Bacillus No. 1 in 3 healthy children and Shiga's dysentery bacillus in 1 case.

Cases of Infantile Diarrhoea.—Cases of infantile diarrhoea were then submitted to the same examination, and all observers agree that non-lactose fermenters were more common than in healthy children. The percentages for the different observers were more at variance than in the case of normal children. The figures were 77, 48, 33, and 42 per cent. in the case of the different observers. The notes upon the organisms are interesting. Lewis found Flexner's dysentery bacillus eleven times and Morgan's No. 1 twenty times. Forty-nine strains from diarrhoea cases were tested on rats and mice, and 27 were found to be pathogenic. Dr. Ross found Morgan's No. 1 in 5 cases and Gaertner's bacillus in 3 cases. O'Brien found no dysentery bacilli and no Gaertner bacilli, but Morgan's No. 1 in 12 cases. Morgan's bacillus was not found by this observer to be a constant for the same child, whether a normal child or a case of diarrhoea. Orr had only 19 cases of diarrhoea and they were not of the epidemic type. He found Shiga's dysentery bacillus and Morgan's No. 2 once each, but did not find Morgan's No. 1. Some food samples were examined for non-lactose fermenters; Lewis found them once in eight samples, Orr once in five samples. Lewis draws attention to the necessity for better methods of examination of milk. Agglutination experiments were performed by some of the observers with disappointing results. Much difficulty was encountered in obtaining specimens. Another explanation of the lack of success is the fact that specimens were examined only during the attack and not after recovery.

Flies.—Orr found non-lactose fermenters in 21 per cent of 74 flies examined.

BACTERIA OF SEWER AIR.

Dr. F. W. Andrewes presents a third report on the bacteria of sewer air, with special reference to the conveyance of sewage bacteria by air currents. A departmental committee of the Local Government Board has been considering the question of intercepting traps in house drainage, and experiments were undertaken to gain information on the subject. In five experiments the sewer of a thoroughfare was found to contain enormous numbers of *Bacillus prodigiosus*. The intercepting traps were rendered useless by removing the cap of the raking arm. The air inlets and ventilating shafts of the sewer were stopped up. Everything, in fact, was done to secure a flow of sewer air through the house drain and up the ventilating shaft of the soil pipes. Agar culture plates were suspended in the inspection chambers of the house drain and in some cases in the ventilating shafts of the soil pipes. Three out of the five experiments were negative. Considering that the infection of the sewer was nothing less than colossal, Dr. Andrewes's conclusion that organisms conveyed from a sewer are so small in number that they cannot be prejudicial to health is amply justified. Experiments on contamination of drains, as opposed to sewers, showed that sewage organisms may be carried by the convection currents for a long distance—in one case to the top of a soil pipe 73 ft. above the point of effective splashing.

PULMONARY TUBERCULOSIS.

Dr. A. C. Inman reports on the study of secondary infections in pulmonary infection. The mere fact that other organisms besides the tubercle bacillus may be found in the expectoration of pulmonary tuberculosis does that prove that these organisms play any definite part in the production of symptoms. Dr. Inman has studied the opsonic index of different classes of phthisical patients in relation to the tubercle bacillus and also to the other organisms which were isolated from the sputum. The evidence for assuming an infection by an organism was obtained by a comparison of the index before and after exercise. There are no details published in the report, but Dr. Inman's conclusion is that in nearly every case the tubercle bacillus is the predominant infecting agent. Secondary infections do, however, occur, but the temperature chart alone cannot

determine the absence or presence of a secondary infection.

GOVERNMENT LYMPH ESTABLISHMENT.

There is a short description of the Government Lymph Establishment from the pen of the director, Dr. F. R. Blaxall.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

MEDICINES FOR COUGH, CATARRH, ETC.

REPORTS on the analysis of several of the nostrums most widely advertised for the cure of coughs, colds, and catarrh were published in the JOURNAL of August 22nd, 1908, p. 505, and December 5th, 1908, p. 1697. We now give a further report on some much-advertised preparations which were not then dealt with.

FENNINGS' LUNG-HEALERS.

The article advertised under this name is in the form of small pills, and is supplied by Alfred Fennings, Cowes, I.W. at 1s. 1½d. a box, containing thirty pills.

The pills are advertised as "The Best Remedy to Cure all Coughs, Colds, Asthmas, etc." The following quotations are from a circular enclosed in the package:

Directions for taking Fennings' Lung-Healers. The Certain Remedy to cure all Colds, Coughs, Bronchitis, Influenza, Incipient Consumption, The Coughs of Measles and Scarlet Fever, Asthmas, and other complaints of the Lungs.

The Dose is the same for all ages.

These Lung-Healers, although so beneficial in curing Inflammation, quelling Fevers, and eradicating the *virus* of disease, are perfectly harmless and innocent, and can with equal safety be given to the most tender infant as well as to the fullgrown person.

To Cure Colds, Coughs, or Asthma.—One of these Lung-Healers should be given to the infant, or person, in jam, or by itself, every morning or evening.

For Bronchitis, Influenza, Incipent Consumption, the Cough of Measles, of Scarlatina, or Scarlet Fever, give one of the Lung-Healers, in jam, or by itself, three times a day. . . . If, when freely taking of these Lung-Healers, the child or person should perchance become sick, it need not be heeded, or reckoned as a bad symptom, for sickness often proves of great benefit in a complaint, and advantageously assists in lessening all Fevers and Inflammations.

The average weight of one pill was 0.22 grain. Chemical analysis and microscopical examination showed that practically the whole of the material consisted of ipecacuanha; the amount of alkaloid present was 1.8 per cent., which is little below the average for ipecacuanha, and the alkaloid extracted possessed the characters of ipecacuanha alkaloid. Careful search for other ingredients, and comparison with powdered ipecacuanha, showed nothing else to be present but the trace of excipient used to bind the powder into pills. Estimated cost of ingredients for thirty pills is ¼d.

PEPS.

These much-advertised lozenges are supplied by the Peps Pastille Co., Leeds, in boxes at 1s. 1½d. and 2s. 9d. box. A 2s. 9d. box was found to contain ninety-eight lozenges. The name of the article appears to be derived from the initial letters of "Pine extract pastilles." The nature of the claims made is shown by the following extracts from a booklet issued by the makers:

In the course of scientific research singular freedom from Bronchial disease was noticed among the dwellers amidst the rich pine forests of Europe. The great healing power of the essences and balsams of the pine tree was also observed; and at last a striking connection between the two facts made itself apparent. . . .

The study of the peculiar property of pine balsams led to their great medicinal value becoming more fully recognised, and the idea was evolved of capturing and storing up these rich essences in some form convenient for the great masses who are not able to spend winter in the far-famed forest resorts. It was practically a matter of finding how to transfer to our crowded homes all the real benefits of the pine woods, so that those victims of Bronchitis, consumption, asthma, colds and other throat and chest affections, who could not go to pine woods, should have the pine woods and the rich pine air brought to them—into the very rooms in which they dwell.

A novel tablet, containing the richest pine extracts—that is, with all the best pine essences and odours held captive in them—was eventually perfected; and these tablets, or Peps, as they are called, undoubtedly supply a long-felt want in the family medicine cupboard. The need is one that has never yet been properly met by any of the cough mixtures, lozenges, jujubes, and gums, which no medical attendant can conscientiously recommend, chiefly through the pernicious drug habits they encourage and their sheer inability to grant real, lasting relief. "A Pine Forest in every Home" aptly and pithily describes this new remedy. . . .

As a Household Medicine they are of unequalled service in cases of Colds, Coughs, Bronchitis, Sore or Relaxed Throat, Huskiness, Loss of Voice, Asthma, Influenza, Pneumonia, Pleurisy, the Hacking Cough of Consumption, Lung Weakness, Children's Colds, Whooping Cough, Croup, Chill or Tightness of the Chest, that old Breathing Difficulty, as well as for many cases of Headache, Flatulence and Indigestion. For Clergymen, Lawyers, Teachers, and all Public Speakers, they are an invaluable boon.

The lozenges had an average weight of 21 grains. The taste and odour did not suggest pine oil, but peppermint with a trace of anise, and on distilling out the oils it was evident that the principal one present was oil of peppermint, but the quantity was far too small to be determined quantitatively. Resinous matter was only present to the extent of 0.7 per cent., and this did not show the characters of pine resin. No alkaloid was found, showing the absence of preparations of both opium and ipecacuanha. Extract of liquorice was present in rather considerable quantity, as was proved by extraction of the glycyrrhizin. Sugars constituted about 75 per cent. of the tablet, but a little of this would be derived from the extract of liquorice; probably 70 per cent. would about represent the sugar added as such. Talc was present to the extent of about 4 per cent., and was doubtless added as a lubricant to aid in making the lozenges by compression. No other ingredient was found beyond those named; some sort of pine extract might have been present if it were free from resin or oil, but in that case it could not be expected to possess much medicinal value.

The results of the analysis may be thus summarized:

Sugar	...	about 70 per cent.
Extract of liquorice	...	about 25 ,,
Resinous matter ...	...	... 0.7 ,,
Oil of peppermint ...	...	... trace
Oil of anise ...	...	... ,,
Talc	...	about 4 ,,

BROWN'S BRONCHIAL TROCHES.

These are supplied by John I. Brown and Son, Boston, Mass., U.S.A. A 1s. 1½d. box was found to contain forty-eight lozenges.

In a circular enclosed in the package it is stated that:

"*Brown's Bronchial Troches,*" or Cough Lozenges, allay irritation which induces coughing, giving instant relief in Consumptive, Bronchial, and Asthmatic complaints.

"BROWN'S BRONCHIAL TROCHES" were first introduced in the year 1850. *It has been proved that they are the best article before the public* for Coughs, Colds, Bronchitis, Asthma, Catarrh, the *Hacking Cough* in Consumption, and numerous affections of the Throat, giving *immediate relief.* . . .

The Troches are efficacious for children with Whooping Cough, or other affections of the chest, having a soothing influence, assisting expectoration, and preventing the accumulation of phlegm, which causes the sense of suffocation so common with this disorder.

There are no particular directions to be observed in the use of the Bronchial Troches. One or two should be allowed to dissolve slowly in the mouth, repeating when necessary. We have seen instances of their good effects in cases of inflammation of the Bronchial Tubes and the hoarseness of children.

The lozenges had an average weight of 11.3 grains. Chemical analysis and microscopical examination showed the presence of powdered cubeb (about 6 per cent.), extract of liquorice in small quantity, gum, and sugar (about 70 per cent.). No other substance was found; if a little extract of cubeb were present as well as the powdered drug, it could not have been detected with certainty.

DR. WHITE'S KOMPO.

This is supplied by J. F. White and Co., Leeds, in bottles at 1s. 1½d. and 2s. 9d. A 2s. 9d. bottle was found to contain 11½ fluid ounces.

It is stated in an advertisement that:

Dr. White's "Kompo" is the best-known remedy for Colds, Influenza, Sore Throat, etc.,

*Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530; 1908, vol. i, pp. 833, 942, 1375; vol. ii, pp. 86, 505, 1022, 1110, 1195, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1123; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 982, 1350, 1928; 1911, vol. i, pp. 26, 91, 823, 1324; vol. ii, pp. 32, 77, 456, 767, 854. Analyses are also to be found in *Secret Remedies* (chapters i and ii). London: British Medical Association, 429, Strand. Price 1s., post free 1s. 3d.

with other similar statements. But a wider application is claimed on the label, in the following words:

A Valuable Remedy for Colds, Influenza, Diarrhoea, Pains in the Stomach and Bowels, Disordered Stomach, Headache, Cold Feet, Cold Sweats, Bad Circulation of the Blood, Sore Throat, Quinsy, &c.
As a Pure Stimulant it is far better than Brandy, or any other Intoxicating Drink.

The dose is given as

One or two teaspoonfuls in a cupful of warm water, well sweetened, several times a day.

The bottle contained a brown, somewhat turbid liquid, smelling of cloves and cinnamon. Analysis showed it to contain 6.42 per cent. by volume of alcohol, and only 2.4 per cent. of solid matter; this consisted largely of a tannic acid resembling that of red gum. No alkaloid was present, but constituents of capsicum, cinnamon, and cloves were recognized, and a small proportion (0.07 per cent.) of salicylic acid was found. The following formula gave a mixture scarcely distinguishable from the original by either physical or chemical means:

Eucalyptus gum (red gum)	1.5 part
Caustic soda	0.08 ,,
Oil of cinnamon (or cassia)	0.25 ,,
Oil of cloves	0.25 ,,
Tincture of capsicum	7.5 parts
Salicylic acid	0.07 part
Rectified spirit	1 5 ,,

Decoction of cinnamon and cloves to 100 parts by measure.

The decoction was made by boiling 5 parts each of cloves and cinnamon with 200 of water until the volume was reduced by half, straining and adjusting the volume to 100 by measure.

The caustic soda in the above formula was used to darken the colour of the red gum. A similar result may be obtained by adding a very little burnt sugar, and there were some indications of the presence of this in the original.

The estimated cost of the ingredients for 11½ fluid ounces is about 6d.

GLYKALINE.

This is a liquid supplied by Leath and Ross, Homoeopathic Chemists, London. A 1s. 1½d. bottle was found to contain about 1½ fluid drachms. It is described in an advertisement as:

A Sure Cure for all Coughs, Colds, Catarrhs, Hay Fever, Influenza, Asthma, Bronchitis, etc. Rapid and reliable in its effects. Checks a slight cold with one dose. Cures a severe cold in 24 hours.

And in a circular enclosed in the package it is stated that:

There is no medicine to equal it for promptly relieving those distressing colds where there is a constant flow of a thin watery discharge from the nose, accompanied by continual sneezing, throbbing of the head, and smarting pains in the eyes, etc.—a few hours sufficing to overcome all these unpleasant systems.

The dose is given on the label as

Three drops every hour in a tablespoonful of water until relieved, then every two or three hours until quite well. Children under five years, a third of the above quantity.

Analysis showed the liquid to contain 35 per cent. by volume of alcohol, but only 0.15 per cent. of solid matter. This consisted partly of potassium iodide and partly of organic matter. Not the slightest trace of any alkaloid could be found.

Each dose would contain approximately $\frac{1}{350}$ grain of potassium iodide, with a trace of organic matter, which *may* be derived from some drug.

The cost of the preparation is practically that of the alcohol which it contains, or about ⅛d. for the contents of the bottle.

HYOMEI.

The preparation sold under the name Hyomei is supplied by the R. T. Booth Company, London. The price of an "outfit" is 2s. 6d., and this consists of an inhaler (consisting of a vulcanite tube), ½ fluid ounce of inhalant, with pieces of gauze and a dropper; a 3s. 9d. "refill" of the inhalant alone was found to contain 2 fluid ounces.

Hyomei has been widely advertised in the press for some time past, advertisements in the daily newspapers usually occupying a column or so. The following is the first paragraph of one of these:

Mr. R. T. Booth, who issues the following announcement, is the world-famous temperance orator who some years ago, in co-operation with such friends and co-workers as the late Rev. C. H. Spurgeon, Rev. F. B. Meyer, and the late Rev. Newman Hall, Archdeacon Wilberforce, Lord Mount Temple, and others, founded the Blue Ribbon Army, which ultimately led a million to temperance. This glorious work was cut short by acute catarrh and threatened consumption, which sent him, by the order of the late Sir Andrew Clark, health-seeking to Australia. There he made his great discovery of Hyomei (pronounced Hi-o-me), which not only cured him, but has since cured multitudes of other sufferers. Hyomei is an inhalant which, being a powerful germicide, cures by just breathing it.

In a booklet enclosed in the package it is thus described:

Hyomei, the new Australian Dry-Air Treatment for the Cure of Asthma, Bronchitis, Catarrh, Catarrhal Deafness, Coughs, Rose Colds, Whooping Cough, Colds, Croup, and Consumption.
The only Natural Method of Cure.
The First and only Treatment for all Diseases of the Air Passages and Lungs ever Endorsed by the Medical Profession. . . .

What "Hyomei" Is.

Hyomei is a vegetable compound, the result of recent scientific research. It is a powerful germicide and absolute destroyer of the germs which cause diseases of the respiratory organs.
Hyomei is a cure given by a new method—the only treatment through which the diseased parts of the head, throat, and lungs can be reached.

What "Hyomei" Does.

Hyomei cures all diseases of the air passages. Cures them by just breathing; cures them through the air you breathe, impregnated with nature's own antiseptic. No douches, sprays, atomizers, or stomach medicines are used. It at once kills the bacilli of catarrh, bronchitis, consumption, asthma, and hay fever, bringing a complete cure that can be obtained in no other way.

Another circular enclosed in the package is in the form of a letter, beginning "Dear Friend." From the heading of the paper it appears that the company are the proprietors of "Hyomei," "Hyomei Balm, the wonderful ointment," "Hyomei Skin Soap, a medicated toilet soap," and "Hyomei Catarmel, for catarrh and catarrhal deafness." The letter invites correspondence, as follows:

. . . if you are a sufferer from any breathing trouble or from any form of skin trouble I can help you. That is why I here invite you to write me personally a letter telling me of your ailment, how long you have had it, and what you have done so far to cure it. Then I will consider your case from the particulars you give me, and if suitable for my treatment, will, without charging you any fee, send you a letter telling you what you must do to get your cure, and at the same time will send you sufficient of what I recommend to give you a trial treatment, free.

"Hyomei" is a liquid smelling strongly of eucalyptus oil. Analysis showed the presence of eucalyptol, which is the chief constituent of this oil, together with alcohol and liquid paraffin. Since many essential oils possess common constituents, and for the separation of the constituents of one oil, and still more of a mixture, it is necessary to work on a large quantity of the material, a full and precise analysis of the mixture in question was not practicable. It was submitted to fractional distillation *in vacuo*, and the various fractions were tested and compared with the corresponding fractions of various mixtures made up to imitate the original. It was concluded that the alcohol and liquid paraffin formed each about 10 per cent. of the whole, and a determination of the amount of eucalyptol showed nearly all the remaining 80 per cent. to be oil of eucalyptus. A small quantity (under 0.2 per cent.) of solid matter, not resinous, was obtained on distilling the Hyomei, and this could not be identified, but agreed in some respects with the solid obtained in a corresponding way from a mixture containing a little wood tar. A small proportion of creosote was also indicated.

THE RHYCOL TREATMENT.

This is supplied by the Rhycol Company (Principal, John Rhycol Lindsay), London. The price of an "outfit" is 17s. 6d. The advertisements of the preparations sold under this name are mostly very lengthy, and application to the address given led to the receipt of several circular letters and a good deal of printed matter. A few extracts will sufficiently indicate the nature of the statements made:

Free Information how to cure Catarrh and Nose-Breathing Difficulty. Patient and Physician tell of how they found a cure. It is the hearty desire of the discoverers of the new cure that all who suffer from the above complaints should write for a gratis copy of the book they have just published, under the title

"Rhycol Respiratory Re-Education: The Physiological Cure
Catarrh, Adenoids, Polypi and other Nose-Breathing Diffi-
ties, Catarrhal Deafness and Head Noises, Loss of Sense
Smell or Taste, Coated Tongue, Bad Breath, Asthma,
nchitis, and Weak Chest and Lungs."
he cure is remarkable inasmuch as it calls for no sprays or
ections, no powders to be snuffed—no lozenges or tablets to
k—no operations, and no painful cauterising (burning) of
inflamed mucous membrane. . . .
he joint authors of the discovery—as the result of a fruitless
st for relief and cure—were led to experiment along the line
he "First Cause"—the nose and its respiratory functions.
he layman it was who made the first enlightening discovery.
nger, he discovered How *the nose could be* freed. . . .
pon this first-step discovery has been built the new
hycol" cure, the details of which are given fully (and illus-
ed in the book. . . .
the book is explained how to stop

(y Dropping in the Throat,
d Stuffiness,
e Stuffiness,
oat Dryness,
s of Smell,
ting of Thick Phlegm,
harge from the Nose,
of Taste, or Offensive
ste in Mouth,
rrhal (Coated) Tongue,
Catarrhal Deafness,
Gurgling in Ears,
Bad Breath,
Snapping Noise in Ears,
Voice Troubles,
Hay-Fever,
Physical and Mental Dullness arising from Respiratory Inefficiency.

all who wish to quickly cure Catarrh, Asthma, Adenoids,
pi, or other Nose-Breathing, Chest or Lung, and Voice or
ing, or Throat Bronchial Trouble should send for a copy.

he "outfit" consisted of two "inspirators," 56 tampons,
llapsible tube of lubricant, and a bottle of "Rhycol
septic Solution."

he "inspirators" were small celluloid shells, open at
ends and along one side, to be placed in the nostrils
rm a lining. They were marked "R" and "L"
ctively, and the sides intended to lie against the
m and the outer wall respectively were shaped
r differently; it was not easy, however, to feel quite
enthusiasm about their beauty as is shown in the
iption which accompanied the outfit:

Inspirators . . . are hand-modelled and made by one of
st skilful Anatomical Instrument Makers in the world.
are constructed on perfect anatomical principles, and
material that is not only completely Aseptic in itself,
hich cannot be in any way contaminated or infected by
s or morbific matters, and is entirely unaffected by
ion. The inner side—that part inclined to the middle
of the nose—is exquisitely modelled, so as to adapt
erfectly to all the sinuosities and flexuations of the
cartilages; and, by a most skilful conformation, the
t of air on each inspiration is most favourably directed
the spongy nasal passages to the air-openings (nares)
pper and back of the pharynx.

e the "inspirators" are supplied to fit (or otherwise),
ge pair of nostrils, the "equisite hand-modelling"
of the most skilful anatomical instrument makers
world appears to be rather wasted. Possibly it is
d to as some justification of the price of 7s. 6d.,
is charged for these without the remainder of the
but to a disinterested eye they appear likely to have
most a few pence per pair. It may be remarked
ch of the articles constituting the outfit, even
g the box, is elaborately described in a similar
ry strain.

ampons were small cylinders of cotton-wool, medi-
with a substance having a fragrant and rather
hinate odour. The instructions are to place an
tor" in each nostril and a tampon in each
tor," so that air is drawn into the nose through
pons. They are to be kept in position for about
r of an hour the first time, gradually increasing
until they can be worn all night. On extraction
suitable solvent the tampons yielded a small
of a volatile oil, the average quantity being
. This had the odour of a mixture of oil of
us and essential oil of camphor with a little
and a trace of oil of wintergreen, but the total
was far too small for analysis. The price of the
alone is 8s.

be of Rhycol lubricant, which is priced 1s., con-
ne-third of an ounce of soft paraffin with the
of a very small quantity of carbolic acid. It is
o be applied to the inspirators to facilitate their
ion into the nostrils.

ycol Antiseptic is to be added in small quantity
to make a liquid in which the inspirators are to be laid, after washing, when not in use. The bottle contained 1½ fluid drachms of the antiseptic, which was a solution of formaldehyde.

The Colman Method.

Under the name "The Colman Method" various medicaments and apparatus are supplied by Erasmus Colman, London.

The following are extracts from an advertisement headed:

Dangerous Catarrh! or, Chronic Cold in the Head.

It is a fearful mistake to neglect catarrh. It is quite certain to develop into something worse. It will not cure itself.

I, Erasmus Colman, declare that I have a perfect and speedy cure for nasal and throat catarrh. It is a system of vapourised medication, complemented by other highly effective therapeutic aids. It is a home treatment, occupying but a moment or two of one's time daily. The benefit becomes obvious from the first hour. The healing of the diseased condition is gradual, yet speedy and certain. There is nothing complex about it. Anybody can easily understand it. It is a pleasant form of cure. It is permanent.

I offer a perfectly genuine system of treatment. You cannot obtain it anywhere else, because it is the result of years of study and active experience, coupled with extraordinary ability in this particular line of ailment.

Any sufferer, regardless of his or her position, can obtain my treatment upon simple and easy terms by confiding in me. I know that I have the complete cure for catarrh and its consequent ills, including asthma, deafness, etc. I want to cure every man, woman, and child that suffers.

In a booklet which is sent to inquirers, entitled *Book of Information concerning My System*, etc., many statements are made in which the modesty of the above claims of "extraordinary ability" and "the complete cure" are quite equalled:

I assert, without fear of contradiction, that mine is the only apparatus which sends the medicated vapour over every membrane that air can reach, and I also assert with equal firmness that there are no preparations for similar object, which can compare in effectiveness with those supplied by me. . . . It is seldom that a sufferer who applies to me for treatment does not mention that he has paid out a considerable sum to doctors, and has never succeeded in getting more than temporary relief. After treating a sufferer until a patient's patience (excuse pun) is exhausted, he, the medical man, usually advises a change of climate or method of living. This is sometimes practically impossible, and can only be adopted at serious and, perhaps, total sacrifice of one's opportunity for supporting his family. He is, therefore, a true martyr—remains where he is, and bears the distress of his asthmatic attacks. I want all such persons to come or write to me. I assert, upon my word of honour, that I have the true cure, and being the genuine—it is the most inexpensive that money can buy.

Such statements about the medical profession are, of course, commonly met with in the utterances of nostrum vendors. It is not always, however, that contempt for "ethics" is so plainly expressed as in the following:

Because of a narrow-minded custom, which, like other relics of barbarism, will ultimately be swept away by modern ideas, the practitioners of medicine are bound together by a sort of mysterious girdle, outside of which they dare not step. If they do—they are boycotted by their fellows. One of the rules of the medical fraternity is that they may not advertise in the newspapers. They must keep their light hidden under a bushel, and, no matter how skilful they are, they are almost hopelessly smothered by that large, heavy blanket called "ethics." . . . It is a cruel and erstwhile stupid form of "protection"—medical ethics. If a registered medical man dares to advertise, his name is soon struck from the register. My nature is independent—I am frank, straightforward, outspoken, and honest. I may be considered as outclassed by medical men, who choose to remain fettered by the barbaric bonds of so-called etiquette; but I know that I am near to the hearts of my patients, whose shower of letters by every post represents an unparalleled outpouring of sincere gratitude. This is the reason why I stand aloof from medical societies and their old-fashioned rules of etiquette. I advertise—I cure—and the world is the better for it.

"Patient's Report Forms," with a long list of questions to be answered, were sent to be filled up and returned. One of these has a space headed:

Particulars of Previous Treatment.
(Patient should here state what doctors have said about case, and give particulars of treatment previously followed.)

However, on applying for a "treatment" and sending the money, without any particulars of any case, the articles described below were supplied. The price charged was 14s. 6d., but it appears that a larger amount is usually asked at first.

The "outfit" sent comprised:

An atomizer, for producing a spray, with indiarubber ball.

A "nasal irrigator," consisting of a bent glass cylinder for pouring liquid into the nostrils.

Two boxes of "Nebular Tablets," together containing 41.

A box of "Gargle Tablets," containing 21.

A bottle of "Atomizing Fluid," containing 1 fluid ounce.

A box of pearl-coated pills, containing 21.

Lengthy directions were enclosed, which may be summarized as follows:—Every morning: One Nebular Tablet is to be dissolved in two tablespoonfuls of warm water and the liquid passed into the nose through one nostril by means of the nasal irrigator until the nasal cavity is full, retained for two minutes, and run out; this is then repeated through the other nostril; then, after gently blowing the nose, the atomizing fluid is applied through each nostril by means of the atomizer. Every evening: Repeat the above treatment, then dissolve one Gargle Tablet in two tablespoonfuls of cold water and gargle the throat with the solution. Take one of the pills daily, after the midday meal.

The nebular tablets had an average weight of 20 grains. Analysis showed them to consist of

	Per Cent.
Sodium chloride	28.3
Borax, slightly dehydrated, equivalent to crystalline borax	28.7
Sodium bicarbonate...	29.5
Sugar	12.3
Talc	3.1
Oil of wintergreen—sufficient to impart a fairly strong smell.	

The atomizing liquid was shown by analysis to consist of liquid paraffin, with small quantities of menthol and oil of cinnamon (far too small to be determined quantitatively). Traces of other essential oils may have been present.

The gargle tablets had an average weight of 20 grains. Analysis showed them to contain

	Per Cent.
Borax, equivalent to crystalline borax ...	4.6
Sodium bicarbonate	87.0
Sugar	4.0
Talc	2.1
Powdered vegetable drug ... ... about	1.5

They had a faint terebinthinate odour, such as might be given by a trace of turpentine. The histological characters of the powdered drug, and the properties and behaviour of the trace of alkaloid extracted from it, agreed with those of powdered hydrastis rhizome.

The pills, being only subsidiary to the other articles, were not fully analysed. They had an average weight of about $\frac{2}{3}$ grain, and contained aloin; indications of the presence of jalap resin and podophyllin were also obtained.

A NOVEL method of obtaining funds for charitable purposes has been devised by Sir William Treloar, the founder of the Cripples' Hospital and College at Alton, in Hampshire. Realizing the difficulty of arousing the interest of the people in an enterprise of which it cannot see the results, Sir William has arranged a series of cinematograph pictures showing the work of the hospital. These were exhibited at Pyke's Picture Palace in Charing Cross Road last week, and are to be on view at several other cinematograph theatres. The excellent work accomplished by the Alton Hospital and College was displayed to great advantage on the film, which enabled the audience to examine the beautfully appointed wards, schoolrooms, and workshops, and to watch the daily life of the little patients from the moment of their arrival until their departure. Some interesting statistics were also given which proved that out of 451 children admitted to the hospital since its foundation in 1908, 175 have been discharged as "practically cured," whilst those who still remain there under treatment give promise of equally good results. At the close of the performance a short speech was made by Sir William Treloar, who read letters from Queen Alexandra and Princess Henry of Battenberg (in which both the royal ladies expressed their good wishes for his undertaking), and concluded with an earnest appeal for contributions towards the £15,000 needed for the yearly expenses of so large and complicated an establishment. Luncheon was provided for a large audience, which included the Lady Mayoress, Countess Hollander, Lord Erroll, Lord Kinnaird, General R. Baden-Powell, and several other well-known people.

SCIENCE NOTES.

FOLLOWING an address by Professor Becquerel in the earl part of this year M. Matout has published an excell short article in *La Nature* (October 28th) on the cycle evolution of matter, in which he gives an interesti summary of the most recent facts and hypotheses. The deal principally with the phenomena of radio-activity their relation to the conservation of matter and ener Radio-activity, as we know it, forms one phase of t cycle of evolution; it is a distinctive phase where elements of high atomic weight are reduced to elemen such as helium, of the lowest atomic weight. The mainder of the cycle, the constructive phase, is infinitely slower process, and to appreciate its exister recourse must be had to a study of astro-physics. T changes which presumably are taking place on t earth are quite inappreciable. The radio-active pha may be regarded as the culmination of the long c structive phase during which atomic complexity l increased to such an extent that it eventually leads instability. The helium which is evolved is not present the terrestrial atmosphere to the extent which may expected from the amount of radiation taking place; a the explanation of this is that, being extremely light rises into the upper strata, where it is found along w hydrogen in an excessively rarefied state. Now it known that the molecules of a gas in such a sta if suitably oriented and possessed of a sufficiently hi thermo-dynamic velocity, may escape the action gravity. Helium tends, therefore, to leave the terr trial atmosphere and to pass into interplanetary spa M. Matout remarks on two of the most striking physi peculiarities of helium—namely, the fact that it forms compounds, being always in a free state, and that its te perature of condensation is practically at absolute ze These two properties suggest the possibility that heli may remain the only constituent of the atmosphere o long dead planet on which the temperature is so low t even hydrogen is solidified. The manner in which heli is reorganized and increased in complexity has alre been admirably indicated in Lockyer's *Inorganic Evo tion*. By spectroscopy it is possible to determine t many of the hottest stars are composed almost entirely helium, and that a decrease in temperature is accompan by an increase in atomic complexity. This regradation reorganization of matter may be traced throughout stellar system, and in the sun, which is comparativ cold, we find practically the same elements as are with on earth. This, then, is the constructive ph which takes place at temperatures and under conditi altogether unknown on earth. These facts introduce r conceptions into physics, and they invalidate to so extent the principles of Carnot and Clausius. Accord to Carnot's principle, energy cannot pass from a cold t hot body, but the behaviour of helium demonstrates exception to this.

Frandsen has reported (*Ugeskrift for Lacger*, Aug 24th, 1911) a case which clearly shows that an ovum escape from the ovary on one side and pass through Fallopian tube on the opposite side, with normal ute pregnancy as the sequel. His patient, who was 24 y old, and a nullipara, was operated on for extrauter pregnancy, which had led to haemorrhage into abdominal cavity. This was found to be full of coagul and fluid blood, and blood was oozing from the abdom ostium of the Fallopian tube, but the tube was ruptured. There was thickening and hyperaemia the tube, the middle of which presented a club- swelling. The tube was extirpated and the swelling dissection, was found to contain placenta-like tis There was also a small cavity in the swelling, no fetus. The stump of the tube was covered peritoneum, and the left ovary, which appeared t normal, was left *in situ*. The right ovary was foun form a thin-walled unilocular cyst. It was, there removed and its pedicle covered by peritoneum. right Fallopian tube was left intact. Although acces ovaries were sought for, none were found. A year the patient was found to be four months pregnant, an had a normal confinement at full term.

British Medical Association Annual Meeting, Liverpool, 1912.

The University.

LIVERPOOL, PAST AND PRESENT.

By THOMAS H. BICKERTON,
Ophthalmic Surgeon to the Royal Infirmary.

I.

On July 19th of next year the British Medical Association will meet in Liverpool for the fourth time. Eighty years ago, on July 19th, 1832, fifty medical men met at Worcester for the purpose of forming the Association; and if the interest which the Liverpool medical men of to-day take in the Association may be gauged by the interest of the Liverpool medical men of that day, the success of the forthcoming meeting is already assured.

The President-elect is Sir James Barr, M.D., LL.D., F.R.C.P., F.R.S.E., Consulting Physician to the Liverpool Royal Infirmary. He was the Bradshaw Lecturer to the Royal College of Physicians, London, in 1907, and is an ex-President of the Lancashire and Cheshire Branch of the British Medical Association and of the Liverpool Medical Institution, and author of numerous contributions to medical literature.

LIVERPOOL AND THE BRITISH MEDICAL ASSOCIATION.

Liverpool has been from the very beginning prominently identified with the Association. On the first elected Council of the Association appeared the names of no less than four distinguished Liverpool men. These were John Rutter, M.D., first President of the Liverpool Medical Society (1833), founder of the Medical Institution building (opened 1837) and of the Athenaeum Reading Room (opened 1799); James Dawson, surgeon to the Liverpool Infirmary, and later President for twenty-six years of the combined medical societies meeting in the Medical Institution; Thomas Jefferies, M.D.; and Thomas Stewart Traill, M.D., F.R.S.E., Physician to the Liverpool Ophthalmic Infirmary, and later Professor of Medical Jurisprudence in the University of Edinburgh. More striking evidence of the interest of Liverpool medical men in the Association and how largely they contributed towards its success may be gathered from the fact that of the sixteen essays and "cases" comprising its first volume, five were contributed by the Liverpool medical men: Drs. Thomas Jefferies, Stewart Traill, James Dawson, David Williams, M.D. (Physician to the Liverpool North Dispensary), and Roger Wakefield Scott, M.D. (Physician to the Liverpool South Dispensary). The first meeting to take place in Liverpool was held on the seventh anniversary of the formation of the Association, under the presidency of the above-mentioned Dr. Thomas Jefferies. We are told in the *Transactions* that "the meeting at Liverpool . . . excited much interest amongst the faculty of that great town." Further, that the business of the meeting which took place on Wednesday and Thursday, July 24th and 25th, 1839, was very heavy. At this time vaccination was in the experimental stage, and its practice was a subject which was considerably exercising the minds of medical men. Consequently it is not surprising to find that 278 pages of the *Transactions*, embodying the proceedings of the Association, or more than half the book, were devoted to papers on vaccination, and the report of a Section appointed to inquire into the subject. At this meeting also the "Vaccination Petition" was passed for presentation to Parliament, the petitioners numbering nearly twelve hundred, urging the State to forbid "ignorant and illiterate persons to take up the practice" of small-pox inoculation, and asking that "a mild and efficient substitute for inoculation might be brought within the reach of every member of the community." The second visit of the Association to Liverpool took place in 1859, when the President was Dr. James R. W. Vose, who, in his address from the chair, struck a note of sadness by referring to the loss which the Association had sustained in the deaths of many of those who had helped in its formation twenty years before. Dr. Waters was President of the third meeting to be held in Liverpool. This was in 1883, and the presidential address was devoted to "The Present Aspects and Future Prospects of Medicine." In view of the projected drastic reforms in the treatment of consumption it is interesting to note that in his address Dr. Waters expressed the hope "that the discussions which would take place at the meeting would help them to decide whether the so-called *Bacillus tuberculosis* is the cause or the consequence of the disease."

Now, twenty-nine years later, the Association is to visit Liverpool for the fourth time, and there is every sign that

St. George's Hall.

the forthcoming meeting will be one of the most successful yet held under the auspices of the Association.

EARLY DAYS OF LIVERPOOL.

A few general remarks on the history of the city may not be without interest to intending visitors, though, perhaps, no town in England has so small pretensions to historic distinction. It has been said of the early histories of Liverpool that they have evidently been written with a view to please the inhabitants, "and are therefore replete with eulogy and partial panegyric, which is not astonishing when we know that they are written by 'natives.'"

The site of Liverpool was originally a vast forest, and, in spite of profound research by earnest inquirers, the origin of Liverpool is shrouded in obscurity. The river Mersey, on which the city is built, is not mentioned by the Roman writers. This river is said to have been so named because it divided the kingdoms of Mercia and Northumbria.

There is no proof that Liverpool existed in Anglo-Saxon times, and as it is not mentioned in Domesday Book—whereas such places as Wavertree, Bootle, and Walton are—it is reasonable to assume its origin after the Conquest. As the value of Walton is given at 8s., it cannot be claimed that the Commissioners neglected even mean places. It is possible the site of Liverpool was included in Walton, for when the town of Liverpool did arise, Walton was its parish church, and it remained a part of Walton until separated by Act of Parliament in the reign of William III (1699).

The discovery of ancient canoes, ancient British coins, ornaments, arrow-heads, and other implements in the vicinity of Liverpool, affords ample evidence of early occupation, though strangely enough none of these have been found on the actual site of the town. The origin of the name of Liverpool—spelt variously "Litherpool," "Lyrpul," "Leverpool," etc.—like that of "Jeames," is "wropt in mystery."

There are legends respecting charters granted to the town in the reigns of Henry I and Henry II, but the first authentic charter was granted by King John in 1207. Liverpool Castle was completed in 1237, and in 1251 large grants of land were made to William Ferrers, Earl of Derby.

Liverpool's importance in early days appears to have been as a port of embarkation for Ireland, the Isle of Man, to ports on the west coast of England, and many parts of Wales; but so unimportant was it that at the commencement of Queen Elizabeth's reign there were in Liverpool only 138 householders and cottagers, while the number of sailing barks was 12, and of sailors but 75. From the by-laws of the period we learn that "bachelors, apprentices, and servants were not to walk out after nine o'clock at night without lawful business," and that "no sales be made in church." Another order was "that if any person speak evil of the Mayor he shall lose his freedom." The member for Liverpool at this time was Francis—later the celebrated Lord—Bacon.

Probably as the result of the illegal exaction of "ship money" by King Charles in 1636, Liverpool sided with the Parliamentarians, and was besieged and taken by Prince Rupert in June, 1644. The town was, however, recaptured by the Parliamentarians after a siege of three months. At this period the town was protected by mud walls. In 1647 Liverpool was made a free and independent port, and not subject to Chester officers; and two years later beggars were ordered to be shipped off to Barbados.

The progress of the town had been slow, the population in 1700 being variously estimated at 4,240 and 5,700.

Early in the eighteenth century the export of Manchester manufactured goods to the West Indies commenced, and increased to "so great a degree as to have annually for many years paved the streets of both towns with silver."

In 1709 the first vessel sailed to Africa—there were then 84 vessels belonging to the port—while in 1730 the number sailing to Africa was 15 out of 166. The prosperity of the town, due in great measure to the West Indian trade, received additional impetus from the slave traffic and privateering. In the eleven years 1783 to 1793, the aggregate number of Liverpool ships employed in the Guinea trade was 921, of which 878 were "slavers." The number of slaves carried was 303,737; the sterling value was £15,185,850; and Liverpool's share was estimated at £1,117,647 per annum.

The population in 1801 was 77,000. The slave trade ceased in 1807, and the ruin of Liverpool was predicted. In place of decay, in the ensuing thirty years the population more than doubled, being 165,000 in 1831—the year before Dr. Hastings established the Provincial Medical and Surgical Association at Worcester.

LIVERPOOL HOSPITALS.

Prior to the year 1745 there is no record of any provision for the treatment of the sick in Liverpool. In that year a site for a hospital or infirmary was granted by the Council to trustees for a term of 999 years, and in July, 1745, the foundations of the infirmary were laid on Shaw's Brow, where St. George's Hall now stands.

A century before, this identical situation was the scene of Prince Rupert's advance works, from which he had assailed the rebellious little town which that eminence commanded, and evidences of his encampment were discovered in digging the foundations of the infirmary. The building was opened on March 25th, 1749, by the Right Hon. Edward Earl of Derby. It was designed for the accommodation of 200 patients, but at the time of opening contained only thirty beds. The cost of the building was £2,618.

The Royal Infirmary.

In 1820, the site of the infirmary being required for the St. George's Hall, a new infirmary was erected in

Brownlow Street. This building was designed for the accommodation of about 220 patients, cost £20,424, and was opened in 1824. Her late Majesty, Queen Victoria, gave assent to the prefix "Royal" being used in 1851.

On the same site, greatly extended, the foundation stone of the present infirmary was laid by the Earl of Derby in October, 1887. The building, which cost £181,000, was opened in 1890 by H.R.H. the late Duke of Clarence, and afforded accommodation for 292 surgical, medical, and gynaecological cases. It speaks well for the committee of management of the Royal Infirmary that Sir Henry Burdett, K.C.B., K.C.V.O., writing in 1910, was able to say that, "although the present buildings are twenty years old, they contain practically every facility and accommodation afforded by the most recent hospital buildings in this district of England." This, of course, refers to surgical, medical, and gynaecological cases alone. A very perfect out-patient department has recently been added. Funds are now required for a block for the indoor treatment of "special" diseases—eye, ear, nose throat, and skin.

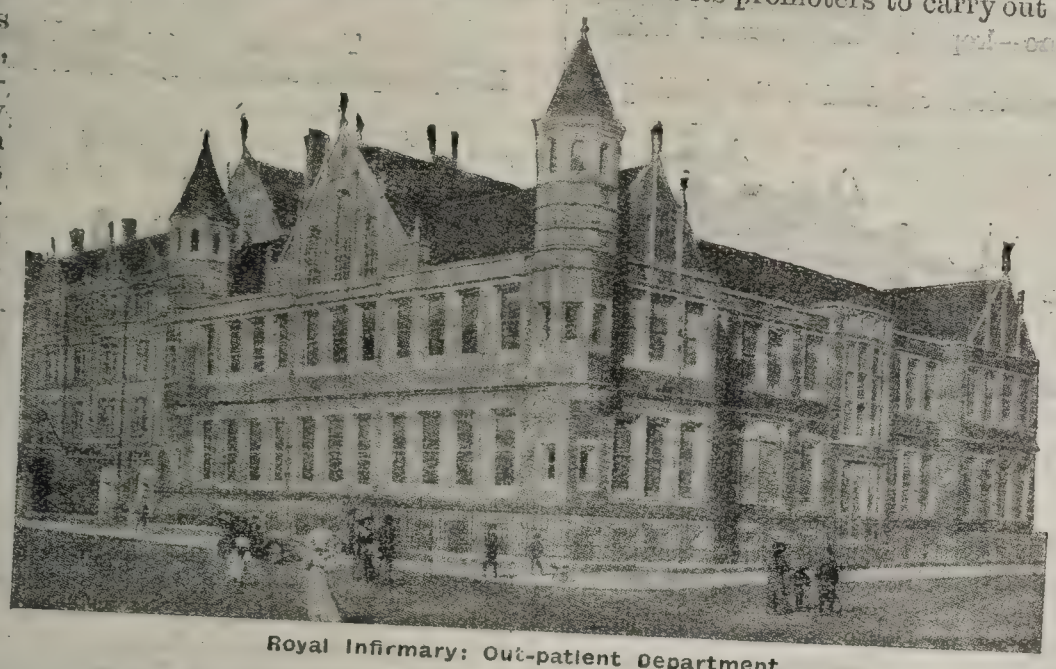

Royal Infirmary: Out-patient Department.

The earliest dispensary in Liverpool was established in 1778, at No. 25, Prince's Street, its objects being to supply medical and surgical assistance, and to dispense medicines gratuitously to the poor. The first premises occupied was a small rented house, but in 1781 it was evident that a much larger building was necessary. The governors therefore purchased the most central site available with respect to the town, and erected thereon a suitable building. The parish allowed a grant of 100 guineas annually towards its support, and the rest was defrayed by voluntary subscriptions.

This new dispensary, opened in 1782, was built on the south side of Church Street, and the medical officers attached to it were expected to attend the sick poor at their own homes or in the workhouse. "The Blue-coat Hospital (really a school), the borough gaol, the house of correction, the lock hospital for venereal patients, and the workhouse — a spacious building, which at present contains upwards of 1,000 poor — are all attended by the physicians and surgeons of the dispensary." Verily the office was no sinecure! This was considered an excellent form of charity to be adopted, especially in places where there was no infirmary.

Bird's-eye View of the Royal Infirmary.

In 1829 the dispensary in Church Street was sold for £3,000, and the establishment was removed to the new dispensary in Vauxhall Road, called the North Dispensary. In later years two other dispensaries have been opened in the town, and named respectively the South and East Dispensaries—the former at 1, Upper Parliament Street, and the latter at 160, Richmond Row.

The time came when a scheme was proposed for associating the Dispensary with the Infirmary. The idea was that the Dispensary should constitute an external department of the Infirmary. It is greatly to be regretted that this scheme did not go through.

The Liverpool Northern Hospital (now "The David Lewis Northern Hospital").

This hospital dates from the year 1834, and is therefore the second hospital established in Liverpool. It is a matter of wonder that an attempt had not been made earlier to establish "an auxiliary infirmary in a neighbourhood where dangerous accidents are so constantly occurring."

Donations and subscriptions to the amount of £2,580 enabled its promoters to carry out their plans, and "a large house belonging to R. B. Hollinshead, Esq. (who liberally contributed the first half-year's rent as a donation) was taken, at the end of Leeds Street, and opened on the 10th of March, 1834." The money subscribed only permitted the provision of 33 beds at first, but in less than three years the adjoining house was taken, and room for 50 beds was thus obtained. In 1843 a piece of land in Great Howard Street was granted for the erection of a more commodious building; and on May 14th, 1844, the first stone of the Northern Hospital was laid, and in September of the following year it was opened for the reception of patients. The total cost of the building was £10,500, and it was capable of accommodating 170 patients.

The old Northern Hospital buildings were vacated on July 30th, 1900, and through the munificence of a well-known Liverpool philanthropist, Mr. Benn Wolfe Levy, a fine new pile of buildings was erected in its place. The new hospital was opened by Princess Louise on March 13th, 1902, and is now known as "The David Lewis Northern Hospital."

The Royal Southern Hospital.

This institution began its existence under the name of the "Southern and Toxteth Hospital." The foundation stone was laid in 1841, and the building opened in 1842.

This hospital had the distinction of being the first in the United Kingdom to allocate a special ward for the treatment of children. This ward—the George Henry Horsfall ward—has at the present time its twenty-two beds always filled.

The original building was enlarged in 1849, but in 1865 it was considered desirable to erect an entirely new building. The foundation stone of the present hospital was laid by the Earl of Derby in 1867, and the building was completed in 1872, free of debt, and contained 202 beds. It is one of the finest hospitals in the kingdom. The opening ceremony, on May 21st, 1872, was performed by H.R.H. Prince Arthur, Duke of Connaught, and by permission of Her late Majesty Queen Victoria, gave it the name of "Royal," so that henceforth it should be known as "The Royal Southern Hospital."

In 1899 a ward and laboratory attached were set apart for the treatment of patients suffering from tropical diseases, and have since been used for that purpose in connexion with the Liverpool School of Tropical Medicine.

THE MEDICAL SCHOOL.

On an October afternoon, in the year 1826, three casks, labelled "Bitter Salts," were delivered at the Liverpool Quays for shipment to Edinburgh. The "salts" having apparently lost their savour, the casks were opened, and eleven dead bodies, salted and pickled, were found therein. Inquiry elicited the fact that they came from the cellar of a highly respectable academy for young gentlemen in Hope Street—a suggestive name—kept by the reverend divine, Dr. McGowan.

Investigation of the premises resulted in the finding of "four casks all containing human bodies, and three sacks each containing a dead body." In all, twenty-two bodies, pickled and fresh, were found in the cellar, which, with the eleven found at the quay, made a total of thirty-three. Dr. McGowan's explanation of the circumstance was found satisfactory, in that he had some time previously sublet the cellar to a person who, he understood, carried on the oil trade.

David Lewis Northern Hospital.

Instruction in the study of anatomy in those days was prosecuted under difficulties. "Subjects" had to be obtained for the private dissecting rooms which existed in Seel Street and Pomona Street, and while the most prolific source was the parish cemetery, many "subjects" were also imported from Ireland.

Interference with the export of "Bitter Salts" to Edinburgh, for use in private dissecting rooms, may have led indirectly to the Burke and Hare murders, 1827–28. Hare admitted to thirty-three murders.

In 1831 occurred the Williams and Bishop murder in London, and the Legislature recognized that if bodies for dissection were not forthcoming by legal methods, murder would ensue. In August, 1832, the Anatomy Act passed, and the autumn of 1834 saw the Liverpool Royal Institution School of Medicine and Surgery—so named from the fact that the lectures were given in the Liverpool Royal Institution rooms—formed.

For ten years the Medical School remained in these quarters, but in 1844 it was transferred to a building specially erected for it in close proximity to the Royal Infirmary, and its name became "The Liverpool Royal Infirmary School of Medicine." When the time came to develop the educational facilities of the town, no body of men took a more active part in pressing the claims of scientific education than the medical men who guided the destinies of the School of Medicine.

For many years after the charter founding University College was granted, the Royal Infirmary School of Medicine, though acting as the Medical Faculty of the college, with representation on the Senate of the college, had maintained an independent existence with full powers of self-government. In time it fell into line with the other faculties of the university, and its financial administration was transferred to the central authority.

Within the last few years the scope of the Medical Faculty has been greatly increased. Originally, the Medical School of the Royal Infirmary was the Medical School of the College, medical students receiving clinical teaching in the wards of the Royal Infirmary alone. An additional "Clinical Medical School," comprising the Royal Southern Hospital, the David Lewis Northern Hospital, the Stanley Hospital, the Infirmary for Children, the Eye and Ear Infirmary, the St. Paul's Eye Hospital, and the St. George's Hospital for Diseases of the Skin, was formed, and the clinical course could be taken in either school. Later, union between the Royal Infirmary Medical School and the United Medical School was accomplished, and the Clinical School of the University now comprises all the most important hospitals in the city.

THE ORIGIN OF THE UNIVERSITY.

In a pamphlet entitled *The First Page of the History of University College, told by one of the Honorary Secretaries*, is to be found a record (so it is claimed) of the main details of the story of the foundation of University College, Liverpool.

The story opens with an account of an "address," prepared by a committee, issued to the Liverpool public on May 2nd, 1814, advocating the claims of Science and Art; and running through in the following order the Royal Institution, Queen's College, the Medical School, the School of Science, and Cambridge Extension Lectures, culminates in University College.

If this is the first page of the history, there was a long preface of about fifty years—as recorded in the achievements of individual medical men. But even if the origin of University College is to be traced only so far back as the Royal Institution, why not give the credit to its founder, Dr. Thomas Stewart Traill? for in 1813 the plan of the Liverpool Royal Institution originated with and was drawn up by him.

Correctly to appreciate the work of these medical men, it is necessary to have a conception of the condition of affairs existing in Liverpool at the period now under review. An "impartial historian" of the time writes:

Royal Southern Hospital.

> The quondam village of Liverpool is now become a capital corporate town, and the second port in Great Britain. . . . The only pursuit of the inhabitants is Commerce. . . . Liverpool is the only town in England of any pre-eminency that has not one single erection or endowment for the advancement of Science, the cultivation of the Arts, or promotion of useful knowledge . . . the liberal Arts are a species of merchandise in which few of the inhabitants are desirous to deal unless for exportation.

During the preceding half-century more or less successful attempts had been made to encourage literature and art—always associated with, if not originated by, medical men. In 1768 the Royal Academy was established by charter. In the following year "appeared the first symptoms of a regular design by the combined efforts of individuals to establish a society for the protection and encouragement of the art of design in Liverpool." Amongst its promoters were Drs. Matthew Dobson, Matthew Turner, and Michael Renwick—eminent men of their day. Regular meetings were held in John Street. The society lasted one year only, but was revived in 1773. Courses of lectures were given by Mr. Everard on architecture, Dr. Turner on anatomy, Mr. Burdett on perspective and on the art of design, Dr. Renwick on chemistry. The

society held its first exhibition—the first provincial exhibition held in the kingdom—in August, 1774. One of the objects is stated to be "that of assisting youth in their studies to the best of their power, without any expectation of pecuniary advantage." The following year the society dissolved. "The rich germ of taste and science seems to have been cast into the soil, by the zeal of the enlightened few, before it was prepared to receive it. Political events, war, and privateering so wholly engrossed attention, that every other object was cast into the shade."

Eight years later, 1783, several former friends of the arts reformed the society with the object of "the promotion of the arts and the cultivation of taste, and to provide an academy, easy of access, and at a moderate expense." An annual subscription of 1 guinea gave free access to weekly lectures during the winter session. Exhibitions took place in 1786 and 1787, but in 1794 the society was again dormant. In 1810 another attempt was made to revive it, and exhibitions were held every year for the next five years up to 1814, when the Royal Institution was established.

The first medical society in England established for the sole purpose of forming a medical library originated privately about 1771, with Henry Park, John Lyon, and Edward Alanson, the surgeons to the Liverpool Infirmary, for the benefit of the medical officers attached to the infirmary and the dispensary. On October 7th, 1779, they called a meeting of the medical men at the Union Coffee House, Mount Pleasant, where the University Club now stands, and resolved:

> That a medical library be instituted by subscription, under the name of the Liverpool Medical Library, to the advantages of which gentlemen of this town and neighbourhood, who choose to subscribe, shall be admitted, but no person of a different profession.

Dr. Matthew Dobson was elected President.

In the year 1797, Dr. John Rutter, who was present at the public inauguration of the Liverpool Medical Library, realizing the want of a library of well-selected books—other than medical—which would facilitate study in any particular department of knowledge, drew up a prospectus for the establishment of such an institution. The Athenæum was the direct outcome of his scheme, and it included the additional advantage of a news room.

In 1800 Dr John Rutter, Dr. Bostock, and Mr. William Roscoe established the Botanic Gardens.

In 1810 Dr. Thomas Stewart Traill founded the Literary and Philosophical Society, and as its first secretary was the able and energetic pilot in its earliest days. He was, moreover, one of the founders of the Mechanics' Institute, and delivered the first course of lectures connected therewith on chemistry.

The University Buildings.

The University is situated immediately to the south of the Royal Infirmary, and is a striking memorial to the enterprise and public spirit of the citizens who have contributed to its erection and endowment. Incorporated in 1881, and federated with the colleges of Manchester and Leeds, the University College was a constituent member of the Victoria University until 1903, when it received a Royal Charter, and took its place as the University of Liverpool.

The Victoria building was designed by Alfred Waterhouse, a Liverpool man, and the handsome Jubilee Tower was built by public subscription in 1887. The fine chiming clock was presented by Sir William P. Hartley, whose generosity to the city of Liverpool has been unstinted. The library, which contains 60,000 volumes, was the gift of Sir Henry Tate.

At the rear of the Victoria buildings are the Thompson-Yates Laboratories for the departments of Physiology, Pathology, and Veterinary Medicine and Surgery, and also the Medical School. In convenient proximity to the Royal Infirmary are a School of Hygiene, a Botanical Laboratory, the gift of Sir W. P. Hartley—the George Holt Physics Laboratories, the Johnston Laboratories for the School of Bio-Chemistry, the Liverpool School of Tropical Medicine, and the Institute of Comparative Pathology, these laboratories being the gift of Mr. William Johnston, of Bowner, who also endowed the Chair of Bio-Chemistry and three Fellowships. The Walker Engineering Laboratories, erected and equipped by Sir Andrew Barclay Walker, adjoin the Victoria building. Through the generosity of Dr. E. K. Muspratt, LL.D., a new block has been erected and equipped for the department of Physical and Electro-Chemistry, and extensive buildings have been opened in Brownlow Street, on the west side of the University, for the departments of Natural History and Applied Electricity.

Large extensions of the Engineering buildings are in progress, and a Students' Union building has been erected on a site in Bedford Street.

By the courtesy of the Vice-Chancellor and Council, the Association meetings will be held in the University—a circumstance which will afford great pleasure to the organizers of the meeting and to their guests.

Another gratifying circumstance in connexion with the forthcoming meeting is that the Earl of Derby, who is Chancellor of the University, is also the Lord Mayor of Liverpool. He holds an honoured name, and is a worthy representative of a noble family, which has always shown a warm interest in the welfare of Liverpool. He is a man of great ability and enterprise, with high Imperial and civic ideals, and ever ready to associate himself with every project which has for its object the promotion of the intellectual and social well-being of the community.

Such a combination of circumstances may be taken as a happy augury of a successful meeting.

[The continuation of this article will be published in an early issue, when it is hoped to deal with other hospitals in Liverpool and with the institutions of Birkenhead.]

THE LATE DR. HUGHLINGS JACKSON:

RECOLLECTIONS OF A LIFELONG FRIENDSHIP.

By SIR JONATHAN HUTCHINSON.

IT may, perhaps, not be unsuitable that I should append to what I wrote in the BRITISH MEDICAL JOURNAL of October 14th some brief statement as to my friend Hughlings Jackson's association with myself. Our lives were in many features remarkably parallel. We were both of us born in country districts in Yorkshire, and were both educated, so to speak, on the spot. This applies not only to school teaching but to professional matters, for in each case all that sufficed for our examinations for diplomas was obtained at the medical school which then existed in the city of York. In this city each of us served his apprenticeship, and in each case, after a very brief stay in London for the purpose of obtaining the diploma, we went back to our native city, the one as resident medical officer of the hospital, the other to the city dispensary. During this stage, however, we had never met, and did not know each other, my friend being seven years my junior. I made his acquaintance at a time when he had determined to leave York, and, as I have said in my former notice, intended to renounce the profession. He came to me in London with an introduction from a friend very highly esteemed by us both, the late Mr. Samuel North. Although I claim the credit of having retained Hughlings Jackson for medicine, I did not specialize him. At one period it was proposed that we should work together in general professional pursuits, and publish our results conjointly. My friend, however, fell, soon after he joined me in London life, under the influence of Dr. Brown-Séquard, who told him strongly that it was foolish to waste his effort in wide observation of disease in general, and that if he wished to attain anything he must keep to the nervous system. This advice was opposed to that which I offered to him, but as Dr. Brown-Séquard, who had a practice in New York and one in Paris as well as in London, was able to offer many attractions, it was clearly Dr. Jackson's interest to avail himself of his help. From that time our professional intercourse became less close, but our friendship was not in the least diminished. Nor, indeed, although he was working almost exclusively at nervous diseases, was our combined work thenceforth by any means broken across.

Very soon after his arrival in London I was able to procure him an appointment as Physician to the Metropolitan Free Hospital, and there we were for some years colleagues. He also joined me in journalistic work. We were engaged together in the employ of the late Mr. John Churchill as

reporters to the *Medical Times and Gazette* of cases from the hospital practice and of the proceedings of societies. He never wrote shorthand, but he was skilful in the preparation of abstracts from memory. In connexion with this kind of work he became well known to the members of the staff of most of the large London institutions. Although being thus made familiar with the practice of many institutions and those connected with them, attached as a student at St. Bartholomew's, and elected Assistant Physician to the London Hospital, I know that he developed and retained a special attachment to Guy's. Here he had known Gull and his fellow-worker, Dr. Sutton, and with them Wilkes, a veteran who survived him. He was also intimate with Dr. Moxon, to whom in reference to the recently passed illustrious careers of Drs. Bright and Addison he used in joke to remark that they believed that "disease was made for Guy's Hospital."

The writer of the obituary in the *Times* suggested that I was probably concerned in his election on to the medical staff of the London. It curiously happened that I was concerned in a manner not exactly that which was intended to be referred to. His election as Assistant Physician was a foregone conclusion, for his competitor had retired. Jackson, who had a strong contempt for everything of the nature of red tape and formality, knowing that it was settled, forgot to attend on the day of election, and I had to persuade an obliging secretary to keep the quorum whilst I took a hansom cab and hunted him up.

At the period of which I write Dr. Jackson and I used not infrequently to take Sunday walks, leaving town on Saturday noon and returning never later than Sunday evening. He did not, I believe, care much where he went provided we reached a quiet inn for the night. It was in this way that we discovered Haslemere, at that time an unknown district. We had several years previously made acquaintance with Frensham and its ponds, a place which he much enjoyed. On one occasion we made a pilgrimage to Selborne, and here, of course, we read portions of Gilbert White's history and visited his haunts.

Here Jackson remarked to me, speaking of White and the charm of his book: "He Boswellized the birds. He took down the familiar conversation of Nature," an expression which I have since often quoted. In the parlour of the little inn at which we stayed there was a half-length portrait of the landlord. He was clad in a figured waistcoat and coat with gilt buttons, and had an expression on his face which Jackson summarized by saying: "Ah, he is satisfied with himself *as he is*." The portrait probably hangs there still.

Our Saturday afternoon excursions were not always unproductive in a professional sense. At the Frensham Ponds Inn on one occasion we found the family in great distress, and having been told that the son of the house was very ill, and our offer to see him having been gratefully accepted, we went upstairs, but found him dying. It was a case of Addison's disease, and we spent our Monday morning in calling upon his medical attendant, who resided at Headley, some miles distant, and endeavouring to obtain from him the particulars of the case and to procure his assistance towards getting permission to make an autopsy. Although we were kindly helped by the doctor in every respect, neither he nor we could overcome the objections of the relatives to an examination. On another somewhat similar occasion, however, we were more fortunate. There was a case of ophthalmoplegia in which for several years I had taken a very great interest. I had consulted Jackson about it, and there were features of peculiarity the elucidation of which both of us regarded as of great importance. This man, a policeman, had left London to reside at Farnham. Jackson and I had often planned that as the man could no longer come to us, we would go together to Farnham and look him up. I knew the address of his medical attendant and had corresponded with him, so one fine Saturday afternoon we decided that we should go to Farnham, make inquiries, and add to our notes. We called on Dr. Sloman, and learnt at once that the man lay dead, and that he had died only the previous day. Dr. Sloman gave us the name of an influential friend of the deceased man, who he thought could help us as regards a *post-mortem* examination, and I think went with us to call upon him. We obtained permission, and with Dr. Sloman's assistance made an autopsy the same afternoon. Having secured what we desired, we left Farnham by the next train, and the brain was deposited within an hour or two for further examination in the hands of Dr. (now Sir William) Gowers. [The particulars of this case, which are of great interest, are recorded in the *Medico-Chirurgical Transactions*.]

Dr. Jackson was a great reader, and as he never smoked and was not addicted to any kind of sport the reading of light literature took its place as a kind of resource for otherwise idle moments. He could throw a novel or *Tit-Bits* aside and proceed at once to record any recondite speculations which had flashed into his mind. The moment his brain felt tired he betook himself to his novel again. In this way he was tolerant of almost all kinds of fiction, and devoured novels merely to absorb his attention, without allowing them to excite emotion, and without any wish to retain them in memory. He had, however, his favourites, and of these Jane Austen and Anthony Trollope were, I believe, if not the first in esteem, at any rate the ones most frequently re-read. Dickens and Thackeray came possibly next.

His favourite name for the Evil One was Mr. Harris, and when he heard of any conduct of which he disapproved his usual expression was, "I am sure Mr. Harris is in this; you know who I mean." What he referred to was the supposed husband of the supposed Mrs. Harris, of whom Mrs. Gamp declared that she believed there was no such person.

His reading in poetry was not large, and I think did not include any of more recent date than Keats. The Ode to the Nightingale was, I think, almost the only one from which he could quote passages, and it he passionately admired.

It would be wrong to call Jackson a lover of books. He was a lover of knowledge, but for the book itself he cared absolutely nothing. He collected no curios, and his interest in the arts was but slight. It might, indeed, be said that he was no collector of anything. His method of treating books was characteristic, and to many it might seem almost sacrilegious, and certainly wasteful. If on reaching home he remembered that he and I had discussed some subject to which one of his books had reference, he would without hesitation tear out three or four of the pages, and I would receive them by post the next morning. This was not by any means solely done in the attempt to support opinions which he had expressed, but was often designed merely to give information on a subject in which I had expressed interest. He bought books liberally, and when a new edition of any work of reference which he was in the habit of using appeared, he always procured it, and threw aside the old one. The latter had, indeed, often become unsaleable, and not improbably quite useless from the depredations it had experienced. "I did not want the book," he would say, "I wanted only the information that was in it." Thus his library in its ultimate condition must have been of very little value.

Although by no means careless or negligent in money matters, Dr. Jackson was very liberal. Not only did he give large sums, together with kind and cordial expressions, but he was very particular in ascertaining that all to whom he was in any way indebted were well paid. The cabdrivers on his rank knew him well, also some of the railway porters recognized him with pleasurable hopes. Some of his methods might at times have been counted as profusion. Thus, when taking a train journey he would frequently leave the train ten or twenty miles short of his destination. In somewhat peremptory tones, orders would be given to the porter for the immediate supply of a carriage to drive to the place desired. I was his companion in one of these escapades, and the porter's commiserating exclamation: "Why, gentlemen"—as he pointed to the disappearing train—"that train were just going there! ye'd nothing to do but to sit still," amused him, as I have no doubt the like had often done before. On one occasion, I am told that he gave his orders for a carriage before the train from which he had alighted had left the platform, and the porter, thinking that he had made a mistake and that there was just time, made a movement to push him in again.

A few words must be said as to his distaste for general society. This had increased on him much of late years as a

result of his deafness. I suspect that there are but few who have ever seen him at a public dinner or on a platform. He disliked such occasions intensely, and it was always very difficult to convince him that it was necessary for him to do that which was distasteful. About eating and drinking he did not care in the least, and he always hurried through his meals and turned to his easy chair and his book as quickly as possible. Even in company with others it was very frequent for him to rise and exclaim, "Excuse me," and, without further ceremony, to turn aside. This was done with a special emphasis and at an earlier stage if there was a fire in the room. As I have said, he never smoked, but he was a lover of his armchair, and the slightest pretext sufficed for ordering a fire.

His dislike for sitting at table after meals was due in part to constitutional restlessness. His friends used in joke to tell him that he could not sit through a whole play, and I believe it was almost literally true: at any rate, it was said that in the instance of a then popular dramatic performance he had been known to take it in halves, with a few days' interval. It was almost impossible to induce him to incur the risk of having to sit through a lecture or long speech. This was perhaps a family peculiarity, for he once told me that he had been taken by an uncle with whom he was out on a tour to church one morning, and that his relative in the middle of the service had turned to him and said in a whisper, "John, I think we've had enough," and had led him out of the building.

Although in the main a grave man, and although it has, I know, been said by our late colleague, Sir Andrew Clark, of both myself and him, that we had no sense of humour, yet Dr. Jackson was certainly not without it. He loved a joke, and had no objection to one which was in some degree personal to himself. On one occasion in the wards, after he had been labouring to convince one of his house-physicians that there was no degree of symptomatic clonus to be demonstrated, his pupil had in forgetfulness exclaimed, with emphasis, "But, sir, you don't do it right!" Jackson, who delighted to relate this story, always found it difficult to conclude it owing to the rising sense of amusement which it produced. That some of his pet theories had, he was told, been likened to the Love of God in that they passed all understanding, did not cause in him the slightest annoyance.

Dr. Jackson was, on his mother's side, of Welsh descent; he mentioned it with pleasure, which was, I believe, increased when I reminded him that the same was the case with Milton, who ought to have been named John Jeffreys Milton.

I never heard in connexion with Jackson's name any kind of nickname or abbreviation, nor did I ever hear him use any of the passing nicknames for any of our numerous colleagues. His sense of personal dignity probably forbade his habit, which also the impression which he made on others in like manner excluded from himself.

It is perhaps worthy of remark that I believe Chemistry was Dr. Jackson's first love. This was perhaps first awakened at the York School of Medicine, where, in the person of the late Dr. William Proctor, both he and I in succession came under the influence of a most able and attractive teacher. It was one of the advantages of these small schools of medicine that the students became personally known to their teachers. The York School in our time numbered only ten or twelve students at most, and some of us were brought into personal friendship with some of the lecturers. Both Dr. Jackson and myself owed very much to our close intercourse with Dr. Proctor, who taught us chemistry and natural philosophy with enthusiasm, but in almost conversational methods.

It would be absurd to speak of him as a self-educated man, but very appropriate to say that he was self-cultured, in that he chose his associates and subjected himself to the influence chiefly of those to whom he was attached. First amongst these was, of course, the lady whom he ultimately married. Mrs. Hughlings Jackson, a most accomplished woman, was his first cousin, and had been his associate in childhood. Jackson was always keenly conscious of the debt which he owed to her in the development of his character, and her loss was to him unspeakably great. It was natural, Jackson and I often discussed together the question as to whether we had regretted in later life not having received any university training. Neither of us had been even to any high-class school, and both had, I believe, ended our educational curriculum at the age of 17, when we were apprenticed and became medical students. We thoroughly recognized the advantages offered at the larger colleges; but, in attempting to strike a balance of loss and gain, Dr. Jackson was always unflinching in his avowal that he was glad he had not been sent to a university. He held that by exemption from over-teaching his mind had retained more of freedom and energy than might otherwise have been the case.

I have never seen Jackson on horseback or with a fishing rod or cricket bat in his hand. In boyhood he had been accustomed to shoot, and on one occasion I persuaded him to carry a gun and shoot at rabbits, but he laid it aside in an hour or two. In middle life he was a good walker, but it was, I believe, chiefly in search of fresh air and exercise. He never travelled abroad if he could help it, but on one occasion he and I, both under appointment by the societies which as president we respectively represented, attended at Utrecht the Donders Festival. It was with great reluctance on his part, however, and he insisted on leaving the place as soon as the chief ceremonial was over. His dread of being bored was extreme, and he hated anything which foretold dullness. I do not think that he liked the seaside or the sea itself. The places which interested him were those which had some flavour of humanity about them, although it could hardly be said that he was fond of making pilgrimages. One of the features in which he sympathized with Dr Johnson was his love of London.

I have ventured to insist that Dr. Jackson's intellect was in some of its features comparable to that of Dr. Johnson. In politics they were equally Conservative, and in many social questions they held firmly to very similar views. The expression, "Thank Heaven, we yet have a House of Lords," was of late years often on his lips, and he did not live long enough to be compelled to lay it aside.

Jackson's love of truthfulness was very strong, and did not permit him in intercourse with patients to make any departures from candour. In this way he often sacrificed his own interests by giving opinions to patients which were not sufficiently hopeful or confident.

I could relate many instances of his love of plain and direct speaking. Many of his repartees illustrating this were quite Johnsonian. He loved to call a spade a spade, and pushed aside all sorts of evasion or pretence. Our colleague H—— had reviewed a certain work with so much (not undeserved) severity that its author threatened him with personal violence. H—— remonstrated to Jackson and myself that he had done nothing to justify the author's anger, for he had reviewed the book only and not the man. "That is very true," replied Jackson. "You did not shoot at the man; you shot only at his coat, but you must remember that it was on his back."

I do not believe that Jackson had ever made any change in his religious faith. It was one of the simplest kind of agnosticism, and into it he appeared to have been born. Although always dealing in the gentlest possible manner with the opinions or scruples of others, he appeared to have little conception that any one could have really adopted opinions more definite than his own. He never spoke with the slightest harshness of the views of others, nor would he willingly engage in any controversy about them. If urged to attempt a confutation of what he thought erroneous, he would simply reply, "You know how hogs treat rattlesnakes." He sometimes expressed the wish that the word "swine" in the Bible should always be translated "pigs," and "asses" "donkeys." These, he said, were little matters, but he was sure that they deserved attention. It made a great difference whether Balaam's ass was spoken of as Balaam's donkey. He would never accede to any suggestion of an attempt to formulate a faith.

To any one who had asked his belief as to the possibility of miracles he would have replied with a smile, and he was an absolute disbeliever in personal immortality after death. Of his creed in this matter he mentioned to me not many months before his death the most emphatic illustration which he could devise.

In early life he had been much influenced by Carlyle's writings, but subsequently he had found those of Emerson more to his taste.

Although he never, I believe, performed any experiment on animals in his life, and in very few instances had

suggested such experiments to others, he was glad to accept any items of evidence supplied from this source.

He used the microscope, but not, I believe, for any minute research. I should guess that no session passed without his quoting to his class the well-known and instructive story of The Camel. When he did so, however, it was, I have no doubt, with a distinct feeling that the last of the three who sought to construct a camel out of his own inner consciousness was not the one least worthy of applause. His mind was essentially deductive, and did not require a very large amount of material for its conclusions. He regarded quality more than quantity. In the investigation of the minute phenomena of an epileptic attack he was unwearied and precise, and, having so studied them, he could rely upon his own deductive conclusions for the result. I shall never forget the amusement with which he quoted from the reply of one who had answered an interrogatory for detail as to the seizure that it was "just ordinary epilepsy."

The Queen Square Hospital for the Paralysed and Epileptic was, I believe, founded mainly by the late Dr. Ramskill, who had been our colleague both at the Metropolitan Free and at the London Hospitals. There was no special intimacy between Jackson and him, but he induced Dr. Jackson to join him in the scheme, which, with one or two other names, began and prospered under their auspices. I am sure that Jackson had little or nothing to do with its early management, though he was exultant at the opportunities which it afforded him for his pursuits.

Herbert has told us that

> A grain of glory mixed with humbleness
> Cures both a fever and lethargicness.

Jackson, although a very retiring man who never allowed himself to make the slightest effort in search of applause, was not without the grain of glory. He had a healthy esteem for the good opinion of his fellow men. That he had gained his F.R.S. in early life always gave him very great pleasure. So did the fact that he had a diploma from a place so renowned and so distant as the University of Bologna, which I think he prized more than any other amongst the many which he held. The fact that he was remembered by the University of Leeds in his later life was one of which he frequently reminded me, and which added, I am sure, much to his happiness in old age.

LITERARY NOTES.

IT is somewhat curious that some of the strongest things said in dispraise of doctors have come from the lips of members of the profession. Voltaire's famous description of medicine as consisting in the introduction of drugs the properties of which are little known into bodies of which we know still less, is only a paraphrase of Senac's statement made in 1749 that those who are lavish in the administration of remedies know neither the causes they wish to combat nor the weapons they use. It is related of Lieutaud, Chief Physician to Louis XVI, that when he was on his deathbed in 1780, his confessor, who was anxious about the state of the patient's soul, worried him with questions. At last he asked, "Do you believe all the mysteries of our holy religion?" "I believe in everything," said the dying man impatiently, "except in medicine."

The printer's devil is made answerable for much that should be laid to the blame of the author. But occasionally he does make mistakes. One of the most curious we have seen occurs in a French work on mental disease which concludes with a long quotation from Pinel. In passing the proofs for press the author noticed that the inverted commas which indicate quotations had been omitted. Instead of marking them in he wrote in the margin, "Il faut guillemeter tout les aliénas" (all the paragraphs must be placed within "quotes"). What was his horror when, glancing at the first copy printed off, he saw his harmless injunction to the printer translated into the sanguinary order, "Il faut guillotiner tous les aliénés" (all insane persons must be guillotined). The worst of it is that this drastic measure might be accepted in all seriousness as a sign of enlightenment by some enthusiastic eugenists. Had it only been the paragraphs that were to be "guillotined" we should have thought the idea had been borrowed from the Chancellor of the Exchequer. The only parallel we can call to mind is the famous announcement that "Sir Robert Peel with a select party of fiends has gone to Ireland to shoot peasants."

We learn from the *Boston Medical and Surgical Journal* that on October 21st a thrilling drama was enacted at the City Budget Exhibit. The play was written by a girl of 12, who is one of the "little mothers" whom the Department of Health has recently been organizing into leagues and instructing in the care of babies, and the actors were chosen among her companions. It represents a tenement house where an infant has been taken suddenly ill. The well meaning but ignorant neighbours rush in and recommend all sorts of remedies of varying degrees of absurdity. Then the distracted mother's niece, who is one of the Health Department's League of Little Mothers, looks in by chance and immediately assumes direction of affairs. She makes one neighbour give the baby a dose of castor oil, and another telephone to the Board of Health for a doctor, while a third is dispatched to the nearest milk station for some modified milk. Thus order is evolved from confusion and despair, and when the curtain falls it is on a scene of triumph for modern hygienic and therapeutic methods. We know nothing of the literary merits of the play, which it may be presumed are not very great. But if the modern playgoer has, as we are told, outgrown the drama of romance, adventure, and even of plot, he might learn something from plays showing, for instance, how an Insurance Bill, with the part of the doctor left out, would work out in practice: the real hospital where sentimental persons like Mr. Lloyd George appear to believe that working men are "cut up"; the real laboratory where animals are, according to Mr. Stephen Coleridge, subjected to "torture," and so forth. Such object lessons would at any rate be more interesting and instructive to most people than the drama of discussion advocated by Mr. Bernard Shaw.

To the November number of the *Bulletin of the Johns Hopkins Hospital* Dr. John W. Churchman contributes an interesting essay on the medical paintings of Velasquez. Unlike Leonardo da Vinci, the great Spanish painter took no particular interest in medicine, but the Dwarf and Jester group of his pictures proves that he was fascinated by oddity and deformity of mind and body. With three exceptions, these were painted in the last ten years of his life. That he had ample opportunities of observing such freaks of nature at close quarters is shown by the fact that in the court registers his name appears among those of the dwarfs, jesters, and barbers of the palace. Of course, it must be borne in mind that the buffoons, who were often dwarfs, held a considerable place at court, and were allowed great freedom of speech. It may be that it was at the command of his royal master that Velasquez painted his dwarfs, but the special care bestowed by him on their portraiture seems to show that he found the task congenial to him. He is reported to have said to some one who suggested Rubens as a model: "I would rather be the first of vulgar than the second of refined painters." Dr. Churchman gives a list of no fewer than nineteen pictures by Velasquez in which he represented jesters, dwarfs, and idiots. Excellent reproductions of some of these are given. Dr. Churchman appends a note on Spanish medicine in the sixteenth century. As early as 1545, Juan Gutierrez published a treatise on the operation for stone in the bladder, and there appeared a number of works on the treatment of wounds and trephining by professors of Salamanca, Seville, and elsewhere. The Spanish Galen (Andreas à Laguna) was an interesting figure of the times. Most of his life was spent at the Court of Charles V. He was a physician, philosopher, and statesman, who lost his life in the plague at Merz. He wrote one of the earliest treatises on the treatment of urethral stricture with bougies. His book, entitled, *Methodus cognoscendi exstirpandique excrescentes in vesicae collo caruncolas*, must have been one of the very early works on the subject. One of the most important contributions of Spain to mediaeval medicine was the establishment of the *Hospital dels folls* at Valencia. It was there probably that the first effort was made to treat sufferers from mental disease in a reasonable and a humane manner. The hospital was founded in 1409 by Bernardo Andreu, following a mission conducted by the brothers Gilaberto Jafré in the cathedral. According to Lope (*Los Locos de Valencia*), this hospital was a show place and much frequented by visitors.

Nova et Vetera.

MODERN FAITH HEALING.

F. ANTON MESMER.

AMONG those who have applied to the healing of disease the latent and ill-defined force which, for want of a better term is known as suggestion, a conspicuous place is occupied by Anton Mesmer. Unlike Valentine Greatrakes and Gassner, who came like shadows and so departed, Mesmer's stamp has left a lasting impression on the history of medicine. This is partly no doubt because he had been duly admitted in *nostro docto corpore*, but it is mainly to be attributed to the fact that he made his appearance in Paris at a time when the reaction of credulity against the rationalist doctrines of the encyclopaedists had reached its highest pitch, when religion had been destroyed, and its place had been taken by superstition. Moreover, Mesmer was an Austrian, and as such was regarded with interest, if not with sympathy, by Marie Antoinette. To her influence it may be conjectured were due his vogue in the French capital, and the offers made to him at one time by the Government.

Though Mesmer did not discover the force which he called "animal magnetism," and which has been variously called "Mesmerism," "Braidism," and "Hypnotism," he certainly succeeded in directing to it closer and more general attention than it had ever received before. Since there can be no doubt that the application of "animal magnetism" as practised by him required as a condition of its operation full belief, or at any rate a state of animated expectancy, in the patient, he deserves a place in the series of modern faith healers.

There appears to be some doubt both as to the date and the place of Mesmer's birth. According to some he made his first appearance on what Lear calls "this great stage of fools"—Lear's description of the world has a peculiar appropriateness in connexion with faith-healing —on May 23rd, 1733, at Meersburg; according to others at Weil, near Lake Constance; others, again, say that he first saw the light in Suabia, in 1734; whilst another authority states that he was born at Vienna in 1740. He studied medicine at the University of Vienna, among his teachers being Van Swieten and de Haen. He had been interested in astrology, and when he took his doctor's degree in 1766, the title of his thesis was *De Planetarum Influxu*. In he contended that, in accordance with the known principles of attraction between the heavenly bodies, these spheres also exercise a direct action on all the constituent living bodies, particularly on the nervous system, through the medium of a fluid which penetrates everything.[1] He says that he determined this action by the *intension* and *remission* of the properties of matter and organized bodies such as gravity, cohesion, elasticity, irritability, electricity. He maintained that just as the tides are produced by the alternating effects of gravitation, so the intension and remission of the properties above enumerated produce alternation in living bodies alternating effects analogous to those seen in the sea. By these considerations he claimed to have proved that the animal body, being subjected to the same action, was also subject to a kind of flux and reflux. He called the property of the animal body which makes it susceptible to the action of the heavenly bodies and of the earth "animal magnetism." By this magnetism he explains the monthly periods in women, and generally the remissions and intermissions seen in disease. It should be said here that Mesmer's medical equipment was regarded by those who knew him as slender, while

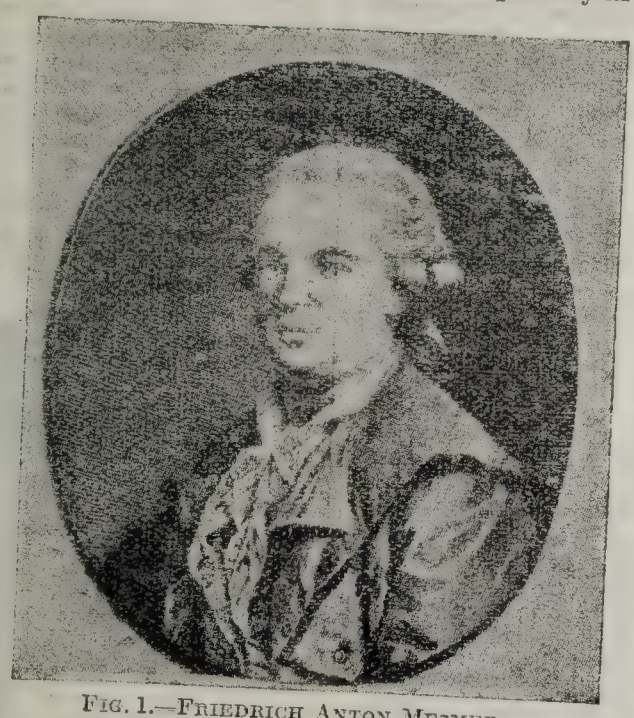

FIG. 1.—FRIEDRICH ANTON MESMER.

experts thought him ignorant of science. In a word, Mesmer knew little of physic and still less of physics. It is not surprising, therefore, that his efforts to secure recognition of his "discoveries" from the leaders of the medical profession in Vienna were in vain; nor was he more successful with the scientific societies either of Vienna, Paris, London, and Berlin. The Académie des Sciences of Paris and the Royal Society of London more or less politely indicated that they considered him a visionary. Notwithstanding this cold reception, Mesmer proceeded to treat diseases by his methods and to claim cures by magnetism. He seems to have got the idea from Father Hell, Astronomer to the Emperor. It is certain that Hell furnished him with specially prepared magnets which he himself had used in the treatment of diseases, and when Mesmer began to use the same method he was naturally accused by Hell of stealing his thunder. An unedifying controversy followed, the end of which was that Mesmer professed to cure not by magnets but by "animal magnetism."

We think the best way to enable the reader to judge for himself how much credit is to be attached to Mesmer's account of his "cures" will be to quote some examples of them as reported by himself. The following is his account of one of the cases on which he strove to base his doctrine:[2]

Case of Miss Oesterline.

It was especially in the years 1773 and 1774 that I undertook at my house the treatment of an unmarried lady, aged 29, named Oesterline. Attacked several years before by a convulsive disease, the most troublesome symptoms of which were that the blood rushed with impetuosity to the head, and excited in that part agonizing pain in the teeth and ears, which were followed by delirium, maniacal elatement, vomiting, and syncope. This was for me a most favourable opportunity of observing exactly the kind of flux and reflux which animal magnetism causes in the human body. The patient often had salutary crises and a remarkable relief was the result; but this was but momentary and always imperfect. The wish to discover the cause of this imperfection and my uninterrupted observations led me gradually to the point of recognizing the operation of Nature and of attaining to a sufficient understanding of it to foresee and predict without uncertainty the different revolutions of the disease. Encouraged by this first success, I was no longer doubtful as to the possibility of bringing it to perfection; if I could succeed in discovering that there existed between the bodies that make up our globe a reciprocal action like to that of the Heavenly bodies by means of which I should be able to imitate artificially the periodical revolutions of flux and reflux of which I have spoken.

I had the usual knowledge about the magnet—its action on iron, and the readiness of our humours to combine with that mineral, and the various attempts made with it in France, Germany, and England in the treatment of diseases of the stomach and toothache were known to me. These reasons, together with the analogy of the properties of that substance with the general system, made me regard it as the most suitable for this kind of experiment. To assure myself of the success of the experiment I prepared the patient in an interval between the attacks by a continuous administration of iron preparations. The patient having felt, on July 28th, 1774, a renewal of her usual attacks, I applied to the stomach and the two legs three magnets. There resulted shortly afterwards extraordinary sensations; she felt internally painful currents of a subtile substance, which after different attempts to find their way, directed themselves towards the lower part and caused a cessation of all the symptoms during six hours.[3] The condition of the patient

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[1] *Mémoire sur la découverte du magnétisme animal*. Par M. Mesmer, docteur en Médecine de la Faculté de Vienne. A Genève, et se trouve à Paris, chez P. Fr. Didot le jeune, Libraire. Imprimeur de Monsieur rue des Augustins. 1779.

[2] Op. cit., p. 12.

[3] In a letter to Dr. Ungen he gives a more detailed description of the effects of the magnets. "She at once felt a burning tearing pain which rose from the feet to the iliac crests where it joined a similar pain which came down on one side from the place where the magnet was attached to the breast and went up on the other to the head, ending at the crown. This pain, as it ceased, left in all the joints a burning heat like fire. This magnetic 'vapour' seems sometimes to break in different places, sometimes to join itself with impetuosity. The patient and those about her were frightened by this phenomenon and expressed the opinion that the experiment should cease. I insisted, however, and I applied still other magnets to the lower parts. Then she felt come down with impetuosity the pains which had affected the upper part. This transference of pain lasted the whole night, and was accompanied by an abundant sweat of the paralysed side at the time of the previous fit. Finally, all the symptoms ceased little by little, and the patient having become insensible to the action

on the next day having placed me in a position to renew the same experiment I was equally successful. My observation of these effects . . . threw a new light on the matter; in confirming my previous ideas as to the influence of the general agent it taught me that another principle caused the magnet, incapable by itself of doing so, to act on the nerves, and made me see that I had only some steps to take to arrive at the *imitative theory* which was the object of my research.

Further on he says:

Miss Oesterline had a fright and a chill, which caused a sudden suppression; she fell back into her former convulsions. I invited Dr. Ingenhoulze[4] to come to my house. He came, accompanied by a young doctor: the patient was then in a state of syncope with convulsions. I made him go near the patient whilst I went apart, telling him to touch her. She made no movement. I called him to me and communicated to him animal magnetism by holding his hands. I then made him go back to the patient, myself still keeping apart, and told him to touch her a second time. Thereupon convulsive movements came on. I made him repeat several times this touching, which he did with the end of his finger, of which he each time varied the direction, and always, to his great surprise, he caused a convulsive effect in the part which he touched. This operation over, he told me that he was convinced. I proposed a second experiment. We went away from the patient, so that we could not be seen by her even had she been conscious. I offered M. Ingenhoulze six porcelain cups and asked him to indicate the one to which he wished I should communicate the magnetic virtue. I touched the one chosen by him; I then had the six cups successively applied to the patient's hand; when we came to that one which I had touched the hand made a movement and showed signs of feeling pain. M. Ingenhoulze, having applied the six cups, got the same effect. I then had the cups taken back to the place from which they had been taken, and after a certain time, holding him by the hand, I told him to touch with the other whichever of the cups he wished. This he did. On these cups being brought near the patient . . . the same effect followed.

FIG. 2.—THE MAGNETISER.

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I proposed to him a third experiment to make him see its action [that of magnetism] at a distance, and its penetrating virtue. I directed my finger towards the patient at a distance of eight paces: a moment later her body was in convulsions to such a degree as to raise her upon her bed with manifestations of pain; I continued in the same position to direct my finger towards the patient, placing M. Ingenhoulze between her and myself. She had the same sensations. These experiments having been repeated at the desire of M. Ingenhoulze, I asked him if he was satisfied, offering, if he were not, to repeat our procedures. His answer was that he wished for nothing more, and that he was convinced. . . . We separated. I went near the patient to continue my treatment; it had the happiest result. I succeeded the same day in re establishing the ordinary course of nature, and in stopping by that means all the symptoms caused by the suppression. Two days later I learnt with amazement that M. Ingenhoulze said things in public altogether the opposite of what he had said to me; that he denied the success of the various experiments which he had witnessed.

Mesmer adds that he was about to make a complaint about this when the lady, learning of the conduct of M. Ingenhoulze, was so hurt at being compromised in such a way that she fell back into her former state, aggravated by a nervous fever. Her condition required all his attention during fifteen days. He goes on: "It was in these circumstances that, continuing my researches, I was fortunate enough to overcome the difficulties which stood in my way, and to give to my theory the perfection I wished. The cure of this lady was its first fruit, and I have had the satisfaction of seeing her since that time enjoy good health, get married, and bear children."

Further on he speaks of striking cures wrought in Suabia and in hospitals under the eyes of the physicians of Berne and Zurich. These, he says, left them convinced of the existence of animal magnetism and the usefulness of his theory.

Mesmer and Gassner.

Here comes a reference to Johann Joseph Gassner, a faith-healer of whom an account appeared in the BRITISH MEDICAL JOURNAL of January 15th, 1910, which we think it well to quote, as Mesmer's cures were compared to those of Gassner by several of his contemporaries, and it is stated by some that it was the observation of Gassner's "cures" that convinced him that the use of magnets was unnecessary:

It was from the year 1774 to that of 1775 that an ecclesiastic, a man of good faith, but of excessive zeal, wrought in the diocese of Ratisbon, on different patients of the nervous class, effects which appeared to be supernatural. . . . His reputation spread to Vienna. . . . My experience had already taught me that this man was in this matter only the instrument of Nature. It was only because his profession, with the help of chance, determined in him certain natural combinations that he renewed the periodical symptoms of the diseases without knowing the cause of them. The termination of these paroxysms was regarded as being real cures; time alone could disabuse the public.

The Case of Miss Paradis.

Returning to Vienna, Mesmer undertook, among other patients, the case of Miss Paradis, aged 18 years, who had been absolutely blind since the age of 4.

FIG. 3.

It was a perfect *gutta serena* with convulsive movements of the eyes. She was, moreover, the subject of melancholia, accompanied by obstructions of the spleen and liver, which often threw her into fits of delirium and mania sufficient to produce the impression that she was absolutely mad. I next undertook the case of a girl named Zwelferine, aged 19 years, who had been blind since the age of 2 owing to a *gutta serena* accompanied by a wrinkled and very thick opacity of the cornea with atrophy of the globe. She was, moreover, subject to periodical spitting of blood. I had this girl from the Orphanage at Vienna. Her blindness was attested by the directors. . . The father and mother of Miss Paradis, witnesses of her cure . . . busily spread the news abroad and their satisfaction at the result. . . . The two presidents of the Faculty at the head of a deputation of that body . . . came to my house, and having examined the young lady loudly added their testimony to that of the public. Dr. von Störck, one of these gentlemen, who was particularly acquainted with the young person, having treated her for ten years without any success, expressed to me his satisfaction at so interesting a cure.

Among the doctors who came to satisfy their curiosity, says Mesmer, was Dr. Barth, Professor of Ophthalmology, and an operator for cataract. He had even recognized twice that Miss Paradis enjoyed the power of vision. But

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of the magnet was cured of that attack. She has since had several relapses which were cured easily and promptly. I attribute these relapses to her extreme weakness and to the duration of the disease. I advise her to carry constantly some magnets, and since that time she has regained her health and is well."

[4] This physician is described by Mesmer as an inoculator at Vienna. In Baron's *Life of Jenner* will be found a correspondence between Jenner and Ingenhoulze on the subject of vaccination. He was prominent as a man of science, and was a Fellow of our Royal Society.

adds Mesmer. Barth, carried away by envy, boldly spread about among the public that the young lady did not see, and that he had assured himself of the fact. Mesmer continues:

It was in vain that the public repeated to him that a thousand witnesses deposed in favour of the cure; he alone maintaining to the contrary, associated himself in this with M. Ingenhoulze, the inoculator of whom I have spoken. These two persons . . . conspired to remove Miss Paradis from my care, in the state of imperfection in which her eyes still were. . . . With this object endeavours were made to excite M. Paradis by the fear that pension of his daughter would be withdrawn, together with many other advantages which were set forth to him. In consequence he claimed his daughter. She, together with her mother, expressed her unwillingness and the fear that her cure would be imperfect. Her withdrawal was insisted upon, and this disappointment, by renewing her convulsions, occasioned a troublesome relapse. This, however, had no consequence as regards her eyes: she continued to improve in the use of them. The father, seeing that she was better . . . again demanded his daughter and forced his wife to insist upon it. . . . The girl resisted: . . . the mother, who up to that time . . . had begged me to excuse the extravagances of her husband, came on April 29th to intimate to me that she intended to remove her daughter at once. . . . This announcement was heard by her daughter; it excited her, and she was seized with convulsions. She was assisted by Count Pellegrini, one of my patients. The mother, who heard her cries, left me suddenly, tore her daughter violently from the hands of the person who was assisting her, saying: "Unhappy girl, thou also art in the plot with the people of this house!" and in her fury threw her with her head against the wall. All the symptoms of the unfortunate patient again showed themselves. I hastened to her assistance; the mother, still furious, threw herself upon me to prevent my doing so, loading me with abuse. I got her away with the help of certain members of my family and went back to her daughter to render assistance. Whilst I was busy with her I heard fresh screams of rage and repeated efforts to open and shut alternatively the door of the room in which I was. It was M. Paradis, who, on the information of a servant of his wife, had forced his way into my house sword in hand. . . . The madman was disarmed, and left my house after showering imprecations on me and my family. His wife . . . had fainted. I ordered that the help of which she had need should be given to her, and she went away some hours later. But their unhappy daughter was attacked by vomiting, convulsions, and maniacal attacks which the slightest sound, especially that of bells, brought on in aggravated degree. She had even relapsed into her original blindness owing to the violence of the blow caused by her mother, which led me to fear for the state of her brain. . . . It would have been easy for me to prove these excesses in a law court by the testimony of Count Pellegrini, and that of eight persons who were in my house, to say nothing of as many neighbours who were in a position to depose to the truth. But solely occupied with saving Miss Paradis, if it were possible, I neglected all the means to this end which the law offered me. . . . I received, indeed, by M. Ost, physician to the Court, a written order of Dr. von Störck, in his capacity of chief physician, dated Schoenbrunn, May 2nd, 1779, enjoining me to "bring this humbug to an end," and to restore Miss Paradis to her family if I thought this could be done without danger. . . . I replied . . . to this ill-advised order that the patient was not in a condition to be removed without danger to her life. The risk of death to which Miss Paradis was exposed doubtless made an impression on her father. . . .

He made use of the mediation of two persons of repute to induce me to continue to treat his daughter. I sent word to him that this should be on condition that neither he nor his wife should again set foot in my house.

In fact my treatment surpassed my expectations, and nine days were sufficient entirely to calm the convulsions and to cause the disappearance of the other symptoms. But the blindness remained as before. A fortnight's treatment removed it and restored the organ to the state in which it was before the injury. I added a fortnight more of instruction in order to improve and consolidate her health . . . M. Paradis, assured as to the good condition of his daughter by M. Ost, who at his request and with my consent, followed the progress of the treatment, wrote a letter to my wife in which he thanked her for her motherly care. He also thanked me in a similar way, begging me to accept his excuses in regard to the past, and assuring me of his gratitude in the future. He ended by asking me to send him his daughter that she might breathe the air of the country to which he was betaking himself; that from there he would send her back to me every time I thought it necessary for the continuance of her instruction . . .

I believed him to be in good faith, and sent him back his daughter on June 8th. The next day I learnt that his family spread about that she was still blind and had convulsions, and presented her as such, forcing her to imitate convulsions and blindness. This statement was at first contradicted by persons who had assured themselves of the contrary, but it was supported by the obscure cabal of which M. Paradis was the tool without its being possible for me to stop its spread by the most trustworthy testimonies.

Mesmer says his opponents took advantage of the precautions which he thought it necessary to prevent her being excited by visitors, as well as of the clumsiness and incapacity of the girl herself, to impugn the reality of the cure. He insisted that vision was restored, and that it only required to be perfected by practice and perseverance. A significant comment on this may be found in the testimony of an impartial witness. In a passage of Grimm's correspondence it is stated that the girl came to Paris in 1784, and astonished the public by her fine execution on the spinet, notwithstanding the fact that she was absolutely blind!

Mesmer further says that he undertook the treatment of various diseases, among others a case of hemiplegia—the consequence of apoplexy, suppressions, vomiting of blood, frequent colics, a convulsive sleep since childhood, with spitting of blood and chronic ophthalmia, and so forth.

We have thought it well to let Mesmer tell his story in his own way. It will be noted that he is vague, confused, and often self-contradictory in his statements of facts. In all his writings which we have read there is the same apparent inability to discriminate between fact and theory. His style is intolerably prolix and wearisome, and his manner of dealing with the subjects he treats, even when it does not arouse suspicion of his good faith, does not create confidence in his judgement. It would serve no profitable purpose to analyse the cases in detail. It need only be pointed out that they present the characteristic signs of hysteria. Miss Oesterline was evidently a highly neurotic young woman who suffered from menstrual disturbance. Apart from the "animal magnetism" she was treated by a course of iron, and the cure was completed by marriage. There is nothing here that needs to be explained by the operation of any unknown force. It should be added that she had previously refused to have anything more to do with Mesmer. The case of the girl Paradis is an incoherent tale in which it is impossible now to disentangle any stray element of truth from the mass of obvious misrepresentation. Whether this was due to self-delusion or deliberate falsehood need not be discussed.

Propositions.

In the tract from which we have been quoting, Mesmer summed up his doctrine of "animal magnetism" in the following propositions:

1. There is a mutual influence between the heavenly bodies, the earth, and living things.
2. A fluid universally diffused and continuous so as to leave no vacuum, the subtility of which allows no comparison, and which by its nature is susceptible of receiving propagating and communicating all the impressions of movement, is the medium by which this influence is exercised.
3. This reciprocal action is subject to mechanical laws hitherto unknown.
4. There result from this action alternate effects which may be considered as "flux and reflux."
5. This flux and reflux is more or less general, more or less particular, more or less compound, according to the nature of the causes that determine it.
6. It is by this operation (the most universal of those which nature offers us) that the relations of activity between the heavenly bodies, the earth, and its constituent parts are brought into play.
7. The properties of matter and of the organized body depend on this operation.
8. The animal body feels the alternative effect of this agent, and it is by insinuating itself into the substance of the nerves that it directly affects them.
9. It manifests itself particularly in the human body by properties analogous to those of the magnet. Here can be distinguished two poles equally diverse and opposed which may be communicated, changed, destroyed, and reinforced. Even the phenomenon of declination is observed.
10. The property of the animal body which makes it susceptible of the influence of heavenly bodies, and of the reciprocal action of those that surround it, manifested by its analogy with the magnet, has decided me to call it animal magnetism.
11. The action and the virtue of animal magnetism thus defined may be communicated to other bodies animate and inanimate. Both one and the other are nevertheless more or less susceptible.
12. This action and this virtue may be reinforced and propagated by the same bodies.
13. By experiment one may note the flow of a matter the subtility of which penetrates all bodies without any notable loss of activity.
14. Its action takes place at a long distance without the aid of any intermediate body.
15. It is augmented and reflected by glasses as light is.
16. It is communicated, propagated, and augmented by sound.

FIG. 4.—MESMER'S "BAQUET."

17. This magnetic virtue may be accumulated, concentrated, and transported.

18. I have said that animated bodies were not equally susceptible; there are even some, though very few, which have a property so antagonistic that their mere presence destroys all the effects of this magnetism in the other bodies.

19. This opposite force also penetrates all bodies. It may equally be communicated, propagated, accumulated, concentrated, and transported, reflected by glasses and propagated by sound, which constitutes not only a privation, but a positively antagonistic activity.

20. The magnet, whether natural or artificial, is, like other bodies, susceptible in regard to animal magnetism, and even in regard to the opposite activity, without in either case its action on iron and the needle suffering any alteration, which proves that the principle of animal magnetism differs essentially from that of the mineral magnetism.

21. This system will throw new light on the nature of fire and light as well as on the theory of attraction, of the flux or reflux, the magnet and electricity.

22. It will show that the artificial magnet and electricity have, with regard to diseases, only properties that are common to several other agents which Nature provides; and that, if it has happened that some useful effects have resulted from these, they are due to animal magnetism.

23. It will be recognized by facts, in accordance with the practical rules which I will establish, that this principle can immediately cure diseases of the nerves and mediately others.

24. That with its help the physician is enlightened as to the use of remedies; that it perfects their action, and provokes and directs salutary crises so as to make it itself master of them.

25. In publishing my method I will show by a new theory of diseases the universal utility of the principle I oppose to them.

26. With this knowledge the physician will be able to form a certain judgement as to the origin, nature, and progress of diseases, even the most complicated; he will check their development and effect a cure without ever exposing the patient to dangerous effects or troublesome sequels, whatever be the age, temperament, or sex. Women even in the state of pregnancy and during confinement will enjoy the same advantage.

27. Finally, this doctrine will place the physician in a position to judge accurately of the degree of health of each individual and to preserve him from the diseases to which he might be exposed. The art of healing will thus reach its supreme perfection.

This is the doctrine of mesmerism formulated by its inventor. The reader will note the ingenuity by which every therapeutic effect of whatever kind is claimed as the effect of "animal magnetism." Mesmer includes even a "maternity benefit" (Proposition 26). The prophecy contained in the last proposition has not yet been fulfilled. Undismayed by animal magnetism and its numerous and varied progeny, the demon of disease still walks up and down the world seeking whom he may devour. It must be confessed also that the art of healing is far from having reached its supreme perfection.

Mesmer failed, as has been said, to induce the scientific men of Vienna to take him seriously, and the results of his cases, even as told by himself, fully justify their attitude. In 1778 he shook the dust of the Austrian capital off his feet and sought a new sphere of action in Paris. There he first tried to get a hearing from the Academy of Science and the Academy of Medicine; but both these learned bodies required him to treat cases in which the nature of the disease had first been certified by doctors, so that they might be able to judge of the results. Instead of patients Mesmer, like other faith healers, offered testimonials. He therefore turned in disgust from the men of science to the public. Being a man of fine presence with the confidence in himself which engenders confidence in others, he succeeded, probably through the intervention of Marie Antoinette, in entering into negotiations with the Minister, M. de Maurepas. He demanded not that his method should be tested, but that it should be accepted blindly as if it were a kind of revelation. He asked for his reward that a grant should be made him of an estate and a château chosen by himself. The Government seems not to have seen through him, and an income of 20,000 livres with an annual subvention of 10,000 francs for the establishment of a magnetic clinic was actually offered to him in the name of the King, on condition that he should train three persons chosen by the Government in his methods. It was added that if these persons considered his discovery useful greater rewards would be bestowed on him by the Government. Mesmer declined these offers, and went off with some of his patients to Spa. Deslon, a physician who had been initiated into the mysteries of mesmerism by the prophet himself, and who, owing to his association with him, had got into bad odour with the Faculty of Medicine, then sent a memorial to the *Parlement* and started a public clinic of his own. Mesmer forthwith denounced his former ally as an impostor, but was induced by the offer of a large sum subscribed by believers to return. He is said to have received altogether more than 340,000 livres.

Mesmer used all the arts of the showman. His performances were given with every accompaniment that could help in raising the enthusiasm of the devotees to the highest pitch. They stood in rows with hands joined, around a kind of tub (*baquet*) supposed to be charged with animal magnetism; through holes in the lid of the tub projected iron rods, which could be applied to any part of the body. The influence of the imagination, the dim religious light, music, and perfumes, all combined with the personal magnetism of Mesmer himself to spread the contagion of nervous excitement among those present. At the right moment the prophet himself would appear, clad in lilac-coloured silk with a magic wand in his hands. To make his influence more assured, he had disciples whom he could trust and whose faith he liberally rewarded. In this way he is said to have spent 100,000 francs. He stilled any excess of excitement with a wave of his wand; or if the paroxysms were beyond his control, he had them removed to a padded room (*salle des crises*). The whole object of the treatment was to produce a "crisis" which manifested itself in convulsions resembling those seen among the believers at the tomb of the Deacon Paris.[1] The mode of producing these "crises" was, besides the ritual of the magnetic tub already alluded to, the use of magnetized iron rods, touching with the fingers, and magnetic passes. Mesmer magnetized trees, around which believers remained seated in a kind of trance. The whole thing became a show. Mesmerism originally appealed to exalted temperaments. Hence, enthusiastic politicians, such as Lafayette and d'Eprémeuil, were found among the devotees of Mesmer. His influence was, however, chiefly manifested in women; the "idle rich" of Paris at a time of upheaval were easily led away by a new sensation. But he did not succeed with all great ladies. Some[2] has unearthed from a book, privately printed, and entitled *Choix des mémoires secrets, pour servir à l'histoire de la république des lettres* (August 27th, 1784), a curious anecdote. The Princess de Lamballe went to see Mesmer to gratify curiosity. He could not refuse a person of such high rank and influence at Court, and accordingly she saw the patients and the mysterious tub, going through all the phases of the treatment. It may be gathered that she was looked upon as a hostile witness, and that her presence was resented especially by the women who probably took it ill that an intelligent woman should be present at the Eleusisian mysteries in which they played a prominent part. The Princess asked Mesmer to magnetize her, but he failed. It was, therefore, spread about among the people that the blood royal resisted magnetism. Alas! her royal blood did not save Madame de Lamballe from the tragic fate which overtook her during the Revolution. One wretch boasted that he had torn her heart out. Fragments of her savagely mangled body were carried about the streets, and were thrust before the eyes of her friend Marie Antoinette in her prison.

FIG. 5.—MAGNETIC SYMPATHY.
(Reproduced from Dr. Eugen Hollander's *Die Karikatur und die Satire in der Medizin.*)

In many cases the operator sat in front of the patient fixing his gaze steadily upon her, whilst he gently pressed the abdomen with his hands. If that did not bring about the desired effect, Mesmer sat close to the patient holding her legs and knees between his; he applied his hands to the abdomen, as nearly as possible in the region of the ovary, touching the most sensitive parts, and bringing his eyes closer and closer to her face till their mouths almost touched each other. Mesmer took care to choose as his assistants handsome young men. Naturally abuses arose; many of the women who went to Mesmer did not go to be magnetized. Among many songs of the same purport we need only quote the following:

Que le charlatan
Mesmer,
Avec un au autre frater,
Guérisse mainte
femelle;
Qu'il en tourne la
cervelle,
En les tâtant ne sait où,
C'est fou,
Très fou,
Et je n'y crois pas
du tout;
Mais je pense qu'il
magnétise
Par la sottise.

The scandal became so great that the Government felt it necessary that a scientifically conducted inquiry should be made into the whole subject of "animal magnetism."

The King therefore on March 12th, 1784, appointed a commission of four physicians of the Paris Faculty of Medicine. With them were associated, at their own request, five members of the Académie Royale des Sciences. Their report, which was presented on August 11th, 1784, is a document of the highest importance in the history of medicine, and as its purport has been misrepresented by some writers, and apparently read at second hand by others, we propose to publish the full text in our next issue. Perhaps some of the misunderstanding has arisen from the fact that there were three reports—namely, the one just referred to, a private one presented directly to the King, and a third by the Academy of Medicine.

(To be continued.)

[1] BRITISH MEDICAL JOURNAL, November 27th, 1909, p. 1549, and December 4th, 1909, p. 1625.
[2] *Revue Scientifique*, August 26th, 1893.

British Medical Journal.

SATURDAY, DECEMBER 9TH, 1911.

THE INSURANCE BILL TO-DAY.

THE Insurance Bill was read a third time in the House of Commons on December 6th, and in the course of the debate Dr. Addison stated that the British Medical Association had recently reaffirmed its opinion that the six cardinal requirements were as essential as ever, and that if a good service was to be worked it was absolutely necessary that they should be substantially obtained. He said also that he had been requested to explain that to speak of a doctor's strike involved a misunderstanding, and stated clearly that whatever might be the conditions arising under the bill in connexion with any Health Committee, the medical profession was solidly determined that no sick person should go without attendance. He also said that he was in agreement with the opinion of the Association that the amount estimated for the cost of medical benefit was insufficient, and instanced the failure in the bill to deal with such matters as minor operations and hospital treatment. He added, however, that machinery had been provided under the bill as amended which made it possible, with an alteration only of the Treasury grants, to graft on to the bill the machinery necessary for dealing with institutional treatment in every form.

The bill has now gone to the House of Lords, and the opinion of those usually well informed on parliamentary matters is that that House will pass it without amendment, or at least without any material amendment. It seems desirable, therefore, to make an attempt to obtain some general view of the provisions affecting medical interests as they now stand in the bill. Anything like a detailed review is out of the question.

It may be profitable to go back a little and recall the report on the organization of medical attendance on the provident or insurance principle, drawn up in accordance with the instructions of the Annual Representative Meeting of 1909, and issued in February last.[1] In that report it was pointed out that the Government had made it known that they had under consideration a scheme of State sickness insurance analogous to those in force in Germany and some other countries, and that the public mind, as shown by the reception of the report of the Royal Commission on Poor Laws, was increasingly impressed with the necessity for placing adequate medical attendance within the reach of all members of the community, in the interests not only of the individual but of the nation. It was realized at that time that the change which appeared to be at hand might take the form either of an insurance scheme in which the persons benefited would contribute, or of a State or municipal medical service under which free medical attendance would be given; it was argued that whereas under the latter plan the tendency must be towards the development of a whole-time medical service, under the insurance plan the interests and status of the private medical practitioner might be maintained. Among the advantages which it was expected would flow from a well organized system of medical attendance on an insurance basis were—improvement in the public health resulting from efficient medical attendance on persons who do not at present obtain it; the inducement to contribute towards the cost; and the application of contributions from public funds or employers to provide medical assistance in a better and more systematic manner than at present afforded by medical charities and the Poor Law. It was recognized that there must be disturbances of existing arrangements, and increased public interferences in the relations between doctor and patient. The reception of the report seemed to show that there was a general opinion in the profession that existing conditions of medical practice among the poorer sections of the community were unsatisfactory both to the profession and to the public.

The Chancellor of the Exchequer launched his bill at the beginning of May, and after the matter had been considered by the Association during the remainder of that month a special meeting of the Representative Body was held on May 31st and June 1st. That meeting had before it the report to which we have already referred on the organization of medical attendance, and an analysis of the replies of the Divisions to the questions raised therein, as well as the text of the bill as it then existed. The Representative Body, towards the conclusion of the second day of its deliberations, adopted a motion made by Dr. Helme to the effect that the meeting, whilst approving of the main objects of the bill, and being desirous of co-operating for their attainment, expressed the opinion that the proposals of the Government were unsatisfactory, and asked that those affecting medical benefits should be postponed until satisfactory terms had been arranged with the medical profession. It also adopted resolutions expressing the opinion that it was desirable that there should be facilities for enabling persons who cannot otherwise meet the cost of medical attendance to insure; that while the inclusion of medical benefits among those available under the State Sickness Insurance scheme was desirable, the Association would oppose the establishment of any service of selected medical officers, the benefits of which would be open to the community without previous inquiry into their means, and that the administration of medical benefits should not be placed in the hands of friendly societies. The main heads of the policy recommended by the meeting as regards the National Insurance Bill were summarized in the now famous six cardinal principles, which may be shortly stated as follows: An income limit of £2 a week; free choice of doctor by the patient subject to the consent of the doctor to act; transfer of the administration of medical benefit to local Insurance [Health] Committees; the settling of the method of remuneration of medical practitioners by the local Insurance Committee in accordance with the preference of the majority of the medical profession in the district; the settling of medical remuneration at a rate the profession considered adequate; and adequate medical representation on the administrative bodies constituted under the bill. The meeting also resolved to invite members of the profession to sign an undertaking that when the bill was enacted they would not individually enter into arrangements for attendance on the insured, and would act through the local Medical Committees only if the conditions were satisfactory and in accordance with the declared policy of the Association. It will be observed that the policy of the Association as thus defined did not involve a decision to oppose the enactment of the bill provided that such amendments as it considered necessary were obtained. The Repre-

[1] SUPPLEMENT, March 4th, 1911

sentative Meeting did not decide to insist upon all of its recommendations being directly embodied in the text of the bill itself, but it did resolve to insist that the provisions of the bill should be such as to enable the profession to realize every one of its six cardinal principles.

Steps were at once taken by the Council, or under its direction, to press upon the Government and upon the House of Commons the necessity for making amendments in the bill which would carry out the policy of the Association as settled by the Representative Meeting. The discussion of amendments with regard to the income limit, the free choice of doctor, the transfer of the administration of medical benefit to local Insurance Committees, and the representation of the profession in the administrative bodies to be set up under the bill, was secured in the House of Commons, and the result was that important alterations in the scope of the bill in these respects were carried. Upon two other points—the method of remuneration, and the amount of remuneration—it was advisedly decided that it would not be to the interest of the profession to have them fixed in the bill itself.

Turning now to the bill as it stands at present, we may take the six cardinal principles in order. First, with regard to the income limit, the principle is so far embodied in the bill in respect of medical benefit that a local Insurance Committee is authorized to require persons whose income exceeds a limit to be fixed by the committee to make their own arrangement for receiving medical attendance and treatment, including medicines and appliances, the committee making a contribution from its funds to the cost. On this head it appears that though the limit of £2 is not fixed in the bill, the profession can by the maintenance of its unity secure that this shall be the maximum limit anywhere fixed, and that in districts in which the profession considers that local conditions render it appropriate a lower limit may be fixed. Speaking broadly, another of the cardinal principles—namely, that medical benefit shall be administered by the local Insurance Committees and not by friendly societies—has been secured, although the provision commonly known as the Harmsworth amendment, now subclause 4 of Clause 16, allows any system or institution existing at the time of the passing of the Act to continue to provide medical attendance and treatment. The free choice of doctor by patients, subject to the consent of the doctor to act, has been secured without, so far as we can observe, any qualification, except in the case of the medical practitioners in any district declining to serve on the panel which the local Insurance Committee is to form, and to which any practitioner may claim to be admitted. It has been argued that since the local Insurance Committees will contain a majority of insured persons, the medical benefit will still be under friendly society control. Putting aside the fact that the representatives of the friendly societies, as such, will be in a minority on these committees, it may be pointed out that friendly society control, as it has been exercised in the past and as it would have been perpetuated in the bill in its original form, depended on the power of the societies to appoint and dismiss their medical officers. Under the bill as amended the local Insurance Committees can do neither the one nor the other. Further, the local Insurance Committee is required to consult on all general questions affecting the administration of medical benefit, including the arrangements made with medical practitioners for providing attendance and treatment to insured persons, a statutory local Medical Committee elected by the profession in the district. Through this Medical Committee the medical profession in each locality will, if it acts in unison as one body, but only so, be able to settle the terms upon which it will give attendance and treatment to insured persons, and will be able to prevent underselling or other conduct by members of the profession to which the general body objects.

In considering how far the demand of the profession for adequate representation on administrative bodies set up under the bill has been met opinions will, of course, differ, for the word "adequate" is open to various interpretations. The bill, as originally introduced, contained no provision for the appointment of a medical man to be an Insurance Commissioner or a member of the Advisory Committee. The bill in its present form requires that one of the Insurance Commissioners shall be a duly qualified medical man who has had personal experience of general practice, and that the Advisory Committee shall contain duly qualified medical practitioners possessing the same experience. In the bill as introduced the number of members of the local Health Committee might have been anything from eleven to twenty-two. In a committee of twenty-two there would have been twelve representatives of the insured, six representatives of the County or County Borough Council, and four other persons appointed by the Insurance Commissioners, of whom at least two were to be duly qualified medical practitioners. Of the twelve representatives of the insured, six were to be elected by the approved societies, and six by an association of deposit contributors in the county or county borough, or, failing the formation of such an association, were to be co-opted by the committee or appointed by the Insurance Commissioners from amongst, so far as practicable, the deposit contributors. The number of members in a local Insurance Committee has been increased to a minimum of forty and a maximum of eighty, and by a recent amendment it is provided that in a committee of forty there must be at least four medical practitioners, in a committee of sixty at least five, and in a committee of eighty at least six. In any one of these three cases two of the medical practitioners will be directly elected by their fellows resident in the county or county borough. As already stated, the Medical Committee elected by the medical practitioners in a county or county borough will have a statutory right to be consulted by the local Insurance Committee, and by an amendment effected on the report stage it is provided that if the county insurance committee appoints a district committee for any borough or urban district, recognition is to be accorded to a corresponding local medical committee formed by the profession resident in that borough or district. With regard to the question of the amount of remuneration the position is unsatisfactory: the amount is not fixed in the bill, and in the actuarial estimates put forward by the Government the estimated cost of medical benefit is in the opinion of the profession inadequate. The Government and the House of Commons have been warned that this is the case, and the profession will be fully justified in refusing to accept appointments unless fuller provision is made. Such provision, we are advised, can, as Dr. Addison took occasion to state in the House of Commons during the third reading debate on December 6th, be made under the financial clauses of the bill as it is. As to the method of remuneration, whether by capitation payment, to which many members of the profession object, or by payment for attendance, the matter remains to be adjusted between

the authorities constituted under the bill and the medical profession.

On this point, as on others, it will be for the Association and the profession to decide whether the regulations which the Insurance Commissioners are to make under the bill after it has become law render it possible for the various authorities to arrange terms which will completely satisfy the demands of the profession as expressed in the six cardinal principles. The Association has already, through the Representative Meeting, repeatedly declared its determination, whatever form the bill might take, to insist that the arrangement made for attendance on insured persons shall be in accordance with the six cardinal principles. Many of those who have most closely studied the bill in its present form believe that the six cardinal principles can be carried out under it, but this will only be possible if the profession maintains the splendid spirit of union it has shown since the bill was introduced in its first disastrous form. It will be necessary for each individual member in his own person to insist upon the observance of the six cardinal principles, and it will be for the members of the profession in every locality to act in unison with the medical profession in all other localities, so that no arrangement shall be entered into in any district until the profession as a whole is satisfied that the terms proposed in all fulfil the conditions it has laid down.

LIFE FROM A LABORATORY WINDOW.

THE modern growth of knowledge, notwithstanding its incalculable benefits to humanity in general, has operated in one respect, at any rate, to the detriment of the individual. It has long since outgrown the receptive capacity of the human mind. While an Elizabethan gentleman, for example, could range at pleasure over the whole of sixteenth century learning, his twentieth century descendant cannot hope to accomplish this intellectual treat. As a rule, the utmost he can attempt is to become familiar with one little corner of the land, leaving the rest to others. For this reason he must be, to a large extent, satisfied with second-hand information, or even with mere rumour. In the medical profession this drawback is becoming more and more apparent. Nowadays a specialist, with his attention restricted to this or that organ, must needs be a man of uncommon character if he is to preserve well-balanced views on general medicine. A similar risk, however, though on a larger scale, confronts every one whose interests are limited to the field of science, broad as its acres may be. Perhaps this danger is nowhere more real than among those who devote themselves exclusively to research. They often find that the extraordinarily absorbing nature of their work engages and monopolizes the highest qualities of the mind. To be brought into close touch with Nature, to live among her mysteries, to be privileged to discern, however dimly, the attractions she keeps veiled from the vulgar sight, to know her waywardness, when, one moment half promising to yield, the next she slips away as elusive as ever. To experience all this is to feel her fascination and to know the allurement of original research. Small wonder if many succumb and, withdrawing more and more from the outside world, surrender themselves to the engrossing pursuit. Their path, maybe, is narrow, but it is one that has never been unthronged since the revival of learning first opened the gates to scientific inquiry.

And yet it is beset with danger of a peculiarly insidious kind. In the first place a laboratory is only a little corner of a big world, and no man can envisage the whole field of life from its windows. The experimenter, self-imprisoned within its walls, may, likely enough, confer great benefits on his fellows, but, for himself, the result may be less happy. Given a man of talent and industry devoting himself without reserve to this business of research, how will his mental outlook, even his personality, be affected? The problem seems eminently one for psychologists, and, as a matter of fact, it has recently in France attracted their notice. A few weeks ago M. André Beaunier published a book with the rather curious title *L'Homme qui a perdu son Moi*. In this he puts forward a psychological analysis of a man of science who, engrossed in research, gradually allows every other interest in life to fall from him. With such a man, however, the day of reckoning is bound to come, when he is impelled to take stock, not only of his experimental discoveries, but of those human potentialities with which Nature had endowed him. Too late he discovers that he has purchased the scientific habit of mind at the cost of his individuality. He finds himself a cold, unimpassioned reasoner of cause and effect, a machine for making and recording experiments; and in this fact lies the unsuspected danger of a laboratory career.

Though this book may not be of serious importance, its moral is, perhaps, better appreciated in connexion with various criticisms of the purely scientific outlook on life which, here and there, are making themselves heard. No one who follows the intellectual drift of the present day can have failed to notice a spirit of restlessness agitating even the deep waters of science. From many directions a current of opinion is setting in—not strong, perhaps, but significant—against the nineteenth century belief in the all-sufficiency of the message of science. There are those, for example, who, having applied the exact laws of physics and chemistry to the phenomena of life, find them wanting. Only the other day our own columns recorded how Dr. J. S. Haldane, himself a physiologist of distinction, has again brought forward his belief in the inadequacy of materialism to explain even the ordinary observations of science. A few weeks previously, Professor Arthur Thomson, writing from the biological standpoint in one of the quarterly journals, revealed a similar scepticism. He instanced the remarkable story of the eels of Northern Europe, which, beginning life in the silent depths of the mid-ocean, migrate as little three-inch larvae to the rivers of the eastern Baltic, 3,000 miles from their birthplace. Several years later these eels, now full-grown, set out on an exciting journey to the far-away spawning grounds, never to return. Can the physiology which is only applied physics and chemistry explain all this? asks Professor Thomson. Does it even help to make the biological fact of migration more intelligible?

No doubt, as Mr. Arthur J. Balfour rightly emphasized at the quincentenary celebrations of St. Andrews University, the progress of the last ninety years has been, in the main, the result of an eager desire for exact knowledge; and little that could not be reduced to plain demonstrable fact has been allowed much weight in the scales. But now, it would seem, a feeling is abroad that the limitations of science may be narrower than many have believed. Whether this view is merely a temporary reaction from the materialism of last century, time alone will show; yet it is one that cannot be ignored. More than ever does it seem desirable for investigators to

avoid too restricted an interpretation of the purview of science. If its existing explanations should, indeed, prove incomplete, its boundaries must be widened to admit new conceptions. An adequate breadth of view is possible only if, in the first instance, the specialized and therefore narrowing tendencies of research work are understood and counteracted by an interest spread over the whole range of science. Yet even then the scientific outlook on life cannot afford to exclude other spheres of human thought, or to shut its eyes to their bearing on its own creed.

PROPRIETARY MEDICINES AND THE PUBLIC.

THE report on the analysis of proprietary medicines which we publish this week deals with some of those advertised for the cure of coughs and colds. They escaped inclusion in the previous reports on such articles, and it will be seen that in their nature they vary much; they range from pills in which nothing but ipecacuanha could be found, and lozenges of cubeb and extract of liquorice, to "treatments," one of which comprised tablets of two kinds (for making a gargle and a nasal lotion respectively), a spray to be applied with an atomizer, and pills. Sprays and inhalations for the nose and throat appear to be popular at present, judging by the number of nostrums that are being advertised, and those which were analysed represent merely a selection.

Two or three of the articles described are advertised with more modesty than is usual, and a closer connexion can be traced between fact and statement; but in others the exaggerated pretensions are of the usual type. One individual in particular is by no means distinguished by modesty; he professes to treat catarrhal affections with unvarying success, and is also at pains to explain why he does not attend medical meetings and generally behave as qualified practitioners do. The reason given is that medical ethics do not permit medical men to advertise, or, as he puts it, make them hide their light under a bushel. This no doubt would have a deterrent effect upon him, but he omits to refer to another trifling reason which might possibly have some weight—this is that our modest advertiser appears to possess no medical qualification, and therefore medical meetings might not be open to him.

In some previous reports very glaring instances have been given of the way in which the gullible public is induced to pay many shillings for articles whose cost is to be reckoned in farthings or less, while at the same time they not only lack the power of producing the effects which are promised, but may directly or indirectly do harm and not good. We have referred more than once to the necessity for legislation to put a stop to such evils. One of the most obvious and reasonable ways of protecting the public would be to require all proprietary medicines to have the ingredients declared on the label, and it is of some interest to consider what would be the effect of such procedure in particular cases. An estimate of the probable consequences to such articles as we deal with this week leads to the conclusion that those which are sold on false pretences would suffer heavily, but that the two or three which are referred to above as being advertised without preposterous claims being made for them would not be likely to be much affected by the absence of secrecy.

Such an estimate is of interest since, if Ministerial promises are to be fulfilled, there seems some probability of either a departmental or Royal Commission on the subject of "patent medicines," as they are sometimes called, being appointed, and in that case the white sheep, not less than the black and the whity-brown, will have to determine what attitude they will adopt towards it.

It is, of course, true that commissions often prove singularly infertile bodies, but some definite outcome in the way of more or less effective legislation appears in this case almost certain to follow for at least two reasons. There are, for instance, certain features in the trade in proprietary medicines which could not possibly be defended effectively, while the appointment of the commission itself will have been due less to the voluntary action of the Government of the day than to the gradually accumulating force of public opinion. Moreover, the dynamic effect of such opinion is likely to be unusually great, since in the main it has been the outcome not of hot advocacy either by individuals or by public bodies, but of the simple if authoritative disclosure of some of the related facts and the domestic experience of the public itself.

A rapid development in the patent medicine trade began some fifteen years ago, and even at that time there were plenty of people who saw how detrimental to the public interest it was likely to prove, and had some notion of the smallness of the claims of such remedies to unrestricted use. The first definite step towards the creation of public opinion on the subject stands, however, to the credit of the British Medical Association, since it provided the first strictly scientific foundation for the condemnation of these remedies.

As far back as 1904 the BRITISH MEDICAL JOURNAL began to analyse some of the so-called remedies which were at that time being thrust upon the notice of the public, and published the results obtained in its own columns; and when, later, a book containing a collection of the analyses—together with notes as to the light they threw on the claims made by the vendors of the medicines considered—was published by direction of the Council of the Association, it excited widespread interest among the general public and obtained an enormous sale.[1]

Nor was this the only step taken by the Association, for about a year after the publication of the analyses of patent medicines commenced, study of the subject from other points of view was undertaken at head quarters, and as a result of these two factors the Representative Meeting of the Association in 1906 passed a resolution in favour of the promotion of legislation and suggested the form that it should take. Since then the Association in each successive year has given further attention to the subject, and though, for certain good reasons, no formal public action on its part has been taken, due note of its deliberations on the subject has been made by various public bodies—the Association of County Councils in Scotland, for instance, after communications with the Central Council of the British Medical Association, has taken action which shows that the public mind is become aroused, and is beginning to realize that the nostrum trade is inimical to the public health and contrary to public policy. Similarly the Government, through the Local Government Board, directed inquiries a year or two ago to all medical officers of health throughout the country as

[1] *Secret Remedies.* London: British Medical Association, 429, Strand. (Price 1s., post free 1s. 3d.)

to the extent and general effect of the trade in question within their areas, and though the resulting report was a disappointing production it has to some extent advanced the movement. The latter has also been reinforced by the efforts of one or two private individuals who are devoting a considerable amount of energy to keeping the matter under public notice. Mr. Henry Sewill in particular has strongly advocated[1] the appointment of a Royal Commission to inquire into the whole question of medical law, the practice of medicine by unqualified pretenders, and the traffic in quack medicines and apparatus.

How soon the outcome indicated will actually come to pass still remains to be seen, but meanwhile a special subcommittee of the Medico-Political Committee of the British Medical Association is devoting attention to the subject, and collecting such evidence as it thinks may prove useful whenever a commission, either departmental or royal, is held.

THE ANNUAL MEETING IN LIVERPOOL.

In another part of the Journal will be found the first part of an article which Mr. T. H. Bickerton, Ophthalmic Surgeon to the Royal Infirmary, Liverpool, who, as is well known, has given a great deal of attention to the history of the institutions of Liverpool, has been good enough to write in anticipation of the Annual Meeting of the British Medical Association to be held in that city next summer. The meeting will extend from Friday, July 19th, to Saturday, July 27th. The Annual Representative Meeting will be held on July 19th and the following days as may be necessary. Sir James Barr, who will take office as President at this meeting, will deliver his presidential address on Tuesday, July 23rd, and it has been arranged that there shall be twenty Sections, which will meet on Wednesday, Thursday, and Friday, July 24th, 25th, and 26th. It will then be twenty-nine years since the Association last held its Annual Meeting in Liverpool, the interval having doubtless grown so long because the Annual Meeting was held in Manchester so recently as 1902. In 1883 the President of the Association was Dr. A. T. H. Waters, Physician to the Royal Infirmary, and the Address in Surgery was delivered by Mr. Reginald Harrison, surgeon to that great institution. Liverpool is one of the most interesting cities in England, and though it cannot boast of any buildings of great antiquity, it presents in St. George's Hall a fine specimen of the classical style of architecture, and in the new cathedral it is rearing what promises to be one of the finest modern buildings in the Gothic style. The University of Liverpool, one of the most vigorous among those of the newer creation, is housed in buildings finely proportioned and spacious enough to provide accommodation for all the many departments of university education and research. Its situation near the mouth of the estuary of the Mersey has enabled Liverpool to become one of the greatest ports in the world, and in its harbour may be seen, as common as fishing boats at Yarmouth, the ocean liners which, with ever-increasing speed and ever-growing luxury, keep us in communication with the continents of America. Liverpool, moreover, is within easy distance of the most beautiful parts of North Wales, and has an unrivalled series of seaside golf courses to seduce the devotees of that game to prolong their sojourn within its hospitable borders. There is, from all points of view, every reason to expect a most successful meeting next July.

[1] *Quackery and Medical Law Reform.* By Henry Sewill. London: P. S. King and Son. (Cr. 8vo, pp. 32; 6d. net.)

MEDICINE IN FICTION.

Medicine and its professors have always figured prominently in works of fiction. All who read literature at all know Lesage's famous portrait of Hecquet in his Doctor Sangrado, who in his two prescriptions of hot water and bleeding taught Gil Blas the whole art at once. Smollett, himself a doctor, has left us in *Roderick Random* an immortal picture of the conditions of the medical service of the navy in the eighteenth century; his account of Akenside and his feast after the manner of the ancients in *Peregrine Pickle* is, perhaps, scarcely a caricature of the pedantry then rampant among physicians, while in *Ferdinand Count Fathom* he shows himself familiar with all the wiles of the quack. Fielding lost no opportunity of holding doctors up to ridicule for their pomposity and ignorance. Scott, on the other hand, showed the sympathetic insight of genius in his sketch of the country doctor in Gideon Gray. Dickens held the mirror up to the medical student of his day and thereby helped to soften his manners. His doctors are mostly caricatures. Thackeray, though he dedicated *Pendennis* to Elliotson, could not help showing his deep-lying snobbishness in his picture of the apothecary and Sam Huxter. But these great writers dealt with doctors rather than their art. In modern novels, especially French works of the so-called realistic school, pathology plays a considerable part. Flaubert, who was the son of a distinguished surgeon, carefully studied disease, while Zola "crammed" it from books, passages of which he transcribed into his own text, often without understanding the meaning. This is not strange, considering that even medical novel writers are by no means free from mistakes which would bring about disaster at the examination table. Others have commented with more or less insight on medical science as it is represented in fiction. We are all familiar with the doctor of the ordinary novel who is able to state to a minute the time at which death has taken place, and his preternatural insight into the most obscure diseases. His knowledge of poisons particularly is fearful and wonderful. Anthony Trollope avoids the pitfalls into which so many of his brethren have fallen by endowing Dr. Thorne with a professional vocabulary which is frankly artificial. Dr. Squire Sprigge has called attention in the December number of the *Cornhill Magazine* to the fact that the novelist seems neither to know nor to care anything about the professional medical life. John Masefield, it is true, in his *Multitude and Solitude*, gives proof that he has made himself acquainted with the aims and methods of modern medical science in its battle with tropical disease, though his colours are laid on somewhat thick, and the picture of sleeping sickness is too lurid. But, as Dr. Squire Sprigge truly says, the ordinary novelist, while ready enough to credit the members of the medical profession with many shining virtues, is equally ready to blacken their character, "the unfortunate result being to leave upon the public mind the impression that the medical man is not an average member of society." In modern fiction the doctors are roughly divided into heroes and knaves. Dr. Squire Sprigge urges that the time has arrived when it may be expected that the novelist who aims at recording contemporary manners will take the trouble to ascertain what are the professional standards in medicine, what is the usual course of the successful man, and what the machinery, legal and ethical, which confines the medical career within certain bounds. But the public cares for none of these things; it laughs at medical etiquette, and is distrustful of explanations of its true meaning and import, failing for lack of knowledge to understand that a high standard of professional honour is a protection to themselves. It should not be difficult to devise a plot that would be interesting in itself and be the means of conveying this moral to the reader. There is a terrible picture of the subtle manner in which

one doctor can ruin another in Hector Malot's *Le Docteur Claude*; it is unfortunately true to life. But a straightforward man resisting the temptations of one sort or another which beset his path would in a proper setting be, we think, an effective hero for a novel. The ideal of Balzac's *Médecin de campagne* is too ethereal for poor human nature's daily food. The life of a modern doctor, however, embodying an intelligent account of the aims of medical science and the growing efficiency of the healing art with the hindrances against which he has to contend, if skilfully handled, could not fail to be interesting. We hate the novel with a purpose as much as any, but we cannot help thinking that a story of the kind we have in mind, told with sufficient literary art to grip the heart of the reader, would do a vast amount of good.

A THEORY OF PARASITOTROPIC SUBSTANCES.

FOR twenty-five years Professor Ehrlich has been working to prove the truth of his view that a medicament can only act upon the tissues by which it is taken up or to which it is chemically united. The truth of this dictum has been brilliantly confirmed by his elaborate work on the treatment of spirillum infections—the spirilloses so-called—with organic preparations of arsenic; the mode in which he and his fellow-workers attained their object is fully set out in his book on the experimental chemio-therapy of the spirilloses.[1] The first half of it, by Hata, describes a number of the experiments made with various organic arsenical preparations and dyes that failed to obtain the therapeutic end in view. The figures given in the case of methylene blue are highly instructive, as showing the radical differences between the results of experiments *in vitro* and experiments *in vivo*. Using the spirilla of relapsing fever grown in mice, he found they were immobilized almost entirely by methylene blue in a dilution of 1 in 20 million parts of normal saliva *in vitro*; but the spirilla in the living mouse were unharmed by the injection of an amount of methylene blue sufficient to produce in it a solution about 500 times stronger. In other words, methylene blue is much more strongly organotropic in the mouse than parasitotropic, and so is valueless for the cure of relapsing fever in mice. Some 200 dyes were tested in this way. The number of organic arsenical preparations examined is not directly stated, but it is now common knowledge that the most successful of all was the "606." After Hata's article come short contributions by Nichols, Iversen, Bitter and Dreyer. The last forty-seven pages contain the conclusions drawn by Professor Ehrlich. Here he enunciates his chemiotherapeutical dictum "*corpora non agunt nisi fixata*"; in other words, parasites can only be destroyed by substances to which they have a certain relationship, parasitotropic substances. Professor Ehrlich has always had a passion for the use of coarse structural or mechanical analogies in his explanations of the finest chemical processes of metabolism. He accordingly accounts for the sensitiveness of spirilla and trypanosomes to certain arsenical compounds by assuming that they contain "chemioceptors," or groups of atoms with certain chemical affinities unsatisfied, among which are "arsenoceptors," or groups with an affinity for trivalent arsenic. His conclusions are most interesting and suggestive reading, written clearly and with the pen of a master. His arsenic-containing drug salvarsan ("606") attained world-wide notoriety even before the publication of this book, and since then has met with increasing application. The book gives a very satisfying account of the long labours that led to its discovery, and may be cordially recommended to all who are interested in the progress of science.

[1] *Die experimentelle Chemotherapie der Spirillosen (Syphilis, Rückfieber, Hühnerspirillose, Framboesie).* Von P. Ehrlich und S. Hata. Mit Beiträgen von H. J. Nichols, J. Iversen, Bitter und Dreyer. 1910. Berlin: J. Springer. (Roy. 8vo, pp. viii + 164; with 27 figures in the text and 5 plates. M.6.)

THE WHOLE ART OF DIAGNOSIS.

MR. J. P. SANDLANDS, a gentleman who often favours the public with his views on medical matters, has been turning his attention to diagnosis. He tells the readers of the *Leicester Daily Post* (November 15th) that "the medical journals, English and American, have been lately severely discussing this subject." And, indeed, severity would seem to be not altogether out of place if it be true that "they have bewailed the fact, loud and long, that the art is but little known." We had not been aware that the medical journals had been uttering lamentations on this particular subject, but one learns much from outside critics who take the trouble to enlighten our darkness. Let us, therefore, hear Mr. Sandlands further: "One American, Dr. Vos, of Cincinnatti, has gone so far as to say that nobody cares for anything now but operations." Has he really? We ask, with Mr. Sandlands, "Is this so? Then why?" and we take the liberty to add, "Who is Dr. Vos?" As for the little known art of diagnosis, some comfort may be found in the fact that Mr. Sandlands can teach us all that is required. Forty years' experience with throats has, he says, put him in the way of it. As Hamlet says, "'Tis as easy as lying." Says our oracle: "This do—Go into any one of our schools, take any boy, open his mouth, look in, and seven distinct troubles present themselves. These are (1) decayed teeth, (2) a dirty tongue, (3) discoloration, (4) an elongated uvula, (5) enlarged tonsils, (6) blisters, and (7) a nasty post-nasal slimy issue. These things are all more or less pronounced and are all present." The irreverent question rises in our minds, How could they be pronounced if they were not present? But we suppress it, and bend our attention once more to the instructions of our Gamaliel. He goes on to explain what they mean. "They indicate other troubles. They are secondary diseases, the primary ones are in the vital functions. These are the causes; the others are the effects. Mr. Sandlands adds, "The question is a long one." We presume he means the question of diagnosis with which he set out to deal. But we had gathered from himself that this is quite simple. You look into any boy's mouth and you see a number of unpleasant things. But when we expect further guidance our teacher leaves us in the lurch. We have to be content with knowing that the primary troubles are in "the vital functions." On the nature of these troubles we get no enlightenment; still less are we told how to deal with them. So we are left looking into "any boy's" mouth and speculating hazily as to his vital functions. Like other oracles, Mr. Sandlands fails us just when we most need his aid. As Sir Thomas Browne said of the song the sirens sung, the question why Mr. Sandlands should put forth his wonderful revelation is not beyond all conjecture; but it is a mystery why newspapers should think it worth while to print such stuff.

THE ROYAL SOCIETY.

AT the annual meeting of the Royal Society, held according to custom on St. Andrew's Day (November 30th), the President announced that it had been decided to celebrate the two hundred and fiftieth anniversary of the society's foundation on July 15th next. The King, as patron of the society, had signified his appreciation of the importance of the celebration, and it had been decided to invite the chief universities, academies, and scientific societies in this country, in the dominions, and in foreign countries to send delegates. It was proposed that the guests should be welcomed in the society's rooms on July 15th, 1912, and that a banquet should be held on a later day in a larger hall; it was expected that, considering the early association of the society with Gresham College and the City, an opportunity would be afforded of allowing delegates to partake of the well-known hospitality of the City of London. As a permanent memento of the occasion it had been decided to reproduce in facsimile the

pages of the charter book containing the signatures of the Fellows from that of Charles II, the founder, to the present day. At the anniversary dinner which took place on the evening of the same day, the President, in speaking of the medallists, said that the Copley Medal, the highest honour in the gift of the Society, had been awarded to Sir George Darwin, whose illustrious father had been presented with the same medal almost half a century earlier. Sir George Darwin, in acknowledging the toast of "The Medallists," said that one of his investigations—that as to the pressure of loose earth—which had been honoured by the medal of the Institution of Civil Engineers, was carried out in his rooms at Cambridge with a wooden box, a piece of tarpaulin, a heap of sand, and a biscuit tin. One day as he was engaged in ladling the sand from the wooden box to the biscuit tin, he said to his bed-maker, "This is a funny sort of job," and she replied, "Oh, yes, sir; but it amuses you." Sir George Darwin was, perhaps, a little hard on the British public when he said that his story illustrated its attitude towards science. It seems rather to illustrate the old doctrine, as true in science as in other departments of human activity, that the man counts for more than the apparatus. The President said that of the two Royal medals, one, that on the physical side, had been adjudged to Professor Chrystal of Edinburgh, but the intimation of the award did not reach him before his death. The Royal medal on the biological side had been assigned to Dr. William M. Bayliss in recognition of the great excellence of his work in physiology, which had advanced the science in a degree hardly perhaps equalled by any other work in physiology in this country. Ranging over a wide field, partly in conjunction with his friend, Professor Starling, he had thrown important light on the electrical phenomena in glands, contractile tissue, and in the mammalian heart. He had effected a revolution in our conception of nerve conduction. His investigation, with Professor Starling, of the innervation of the intestines, and of the mechanism of the pancreatic secretion, had marked an important epoch in the progress of physiology. The President stated that the Society, in accordance with the recommendations of the Government Grant Committee, had made grants amounting to £3,610, an amount which exceeded the sum available for the year by £33. The deficit was met by drawing on the reserve fund.

GUY'S AND THE SOUTHWARK GUARDIANS.

THERE is nothing the newspaper of the baser sort seems to think a more attractive headline than "Another Hospital Scandal." No allowance is made for the complex and innumerable difficulties of managing a large hospital to which sufferers, serious or trivial, real or imaginary, flock in crowds which tax the resources of the hospital and the energies of the staff to the uttermost degree. The wonder is not that "scandals" should sometimes arise, but that they are not more frequent. It seems to be forgotten by the public that even a house-surgeon is human and may make mistakes, and that sweet angel of mercy, the nurse, may occasionally be overwrought and lose her temper. Moreover, the idea seems to prevail that there are always beds in readiness for any number of patients who may claim the benefits of the charity. We have known an able-bodied man demand shelter for the night because there was nowhere for him to go; another, who said a woman had emptied a jug of water over him, and who professed to be in fear of catching cold in consequence, became abusive when admission was refused. Even cases urgently in need of help have often to be sent away because there is no room for them. This kind of thing must too often happen at every hospital; but in South London the state of things appears to be worse than elsewhere. Hence Guy's has become a favourite target for the irresponsible scribbler to whom a "scandal" at a hospital represents so many pounds, shillings, or pence. It is right that the public should learn—before the passage of a far-reaching measure which will place a still greater strain on them—that hospitals are not workhouse infirmaries or night refuges. A case which happened recently has furnished a text for an excellent letter addressed to an inquiring subscriber by Sir Cooper Perry, the superintendent of Guy's. It is too long to reproduce in full, but, as the case referred to is a typical one, we give the main points. The patient was a woman suffering from erysipelas, and the house-surgeon referred her to the Poor Law authorities, who, Sir Cooper Perry points out, are under a legal obligation to afford medical relief to those whose circumstances render them eligible for such assistance. The latter states that when the patient applied, the ward for cases of blood poisoning was absolutely full, and the authorities of the hospital felt they were in some risk as regards the surgical cases in the other wards for women, since had any patient after operation there been unlucky enough to contract erysipelas—"and even in these days of most careful surgery such things will occasionally happen"—they would have had to keep the woman where she was until a patient had gone out to leave an empty bed in the septic ward. "Under these circumstances," Sir Cooper Perry goes on, "having reached the utmost limit of our accommodation, what were we to do? Obviously it remained to call upon the guardians to perform their duty to the sick poor to provide them with effective medical attendance, and this is where they fail to realize their own shortcomings." Sir Cooper Perry says that, in fairness to the guardians, it should be added that it is only since the passing of the London Government Act in 1899 that Guy's Hospital has been in the Southwark Union. Up to that time the people of Southwark had all the benefits and none of the inconveniences of a large London hospital in their midst. "Hence a certain natural reluctance to modify their old arrangements though they no longer suit the changed conditions, and though Guy's, in addition to saving the Union large sums in outdoor medical relief, is now paying the poor rate" upon a heavy assessment of many thousand pounds. The arrangements with the Poor Law officers of Southwark are very complicated. The doctors at Guy's, Sir Cooper Perry explains, have no authority to send a patient direct to the infirmary, however ill he may be. He has to go to the relief offices in the Borough Road, and these offices are closed between 12 noon and 3 p.m. After 5 p.m. patients have to go to one or other workhouse — men to Mint Street and women to Westmoreland Road. "It sounds incredible," he adds, "but it is true, that the guardians have no complete arrangements at either place for cases, whether from Guy's or elsewhere, so ill as to require the comforts of a sick ward, or so much injured that they cannot safely be taken three miles by ambulance to Dulwich. Their argument is that such cases ought never to be sent to them; our reply is that we never do send them until the limit of our available accommodation is reached, and that it is then their part to do what is obviously demanded, namely, to provide emergency beds and proper medical and nursing attendance centrally in their own area for cases that cannot be moved to Dulwich, and, for such cases as can, to have an efficient ambulance service at all hours of day and night." Sir Cooper Perry concludes his exposition of the difficulties with which Guy's has to contend by saying that a larger number of female beds for surgical and accident cases is greatly to be desired. The beds in the hospital are constantly worked to their full capacity, and when the hospital can do no more the Southwark guardians should certainly take their share of the burden. As a first step we would suggest that they should make better provision for emergency cases,

and cut the Gordian knot of red tape which hampers them in the discharge of an obvious duty.

REGIMENTAL HOSPITALS IN INDIA.

The Government of India has had under consideration a scheme to abolish regimental hospitals in the Indian army and to replace them by station hospitals, a change which was made in the European army some forty years ago. The arguments in favour of carrying out a similar change in India have frequently been stated in our pages, as well as those which can be advanced in support of the contrary opinion. The Indian Government, we understand, has rejected the scheme, mainly on the ground that while it would not cause any increase of expenditure at first it would probably involve an increase in recurring charges.

We regret to have to record the death on December 5th, from apoplexy, in his 78th year, of Dr. Bond of Gloucester, the founder of the Jenner Society, and for many years one of the most outspoken exponents of the benefits of vaccination.

His Excellency the Viceroy and Governor-General of India has been pleased to appoint Brevet Colonel R. H. Firth, F.R.C.S., Royal Army Medical Corps, to his personal staff as Honorary Surgeon, from November 3rd, 1911, vice Colonel R. H. Forman, retired.

Mr. W. Bateson, F.R.S., has been appointed Fullerian Professor of Physiology at the Royal Institution, London, for a term of three years, and will give six lectures on the study of genetics, after Christmas.

At a meeting of the Otological Section of the Royal Society of Medicine, to be held at 5 p.m. on Friday, January 19th, a discussion on the factors which conduce to success in the treatment of otogenic brain abscess will be introduced by Sir Victor Horsley, F.R.S., and Mr. C. E. West, F.R.C.S. Members of other sections of the society are invited to take part in the discussion.

General Medical Council.

NOTES.

The National Insurance Bill.—From the report of this Committee and the elucidatory remarks of the President, upon whom has lain the onus of urging the recommendations of the Council on the Government, it will be seen that the Chancellor of the Exchequer has acceded to some points completely, and has expressed his appreciation of the assistance which the Council has given to him in improving the bill. In brief, the subjects dealt with by the Council were: (1) The inclusion of medical members in the Insurance Commission, in the Advisory Committee, and in the local Health Committees; (2) the administration of medical benefit by the local Health Committees and not by approved societies; (3) free choice by the insured of the medical practitioner; (4) the placing of hospitals on the same or similar footing as sanatoriums; (5) provision of drugs, dressings, and appliances; (6) provision for consultations and operations; (7) making sickness benefit additional to maternity benefit. It was not known how far the Chancellor might at that date have met the unsatisfied recommendations in any of the huge mass of amendments rushed through the House of Commons in one night, but it was resolved that the Committee should continue to press for certain points as to which it felt by no means assured. One of these was that in view of the increase in the number of members of the local Health Committees, statutory provision should be made for an adequate increase in the number of medical members. A second was, that the administration of medical benefits by other bodies than the local Health Committees would not be conducive to the efficiency of the medical service, and should be expunged from the bill, or at the very least, that no other bodies than those in existence and operation when the bill was introduced should be recognized. The claims of the hospitals were again urged, and it is proposed to ask the Government to institute inquiries, and if necessary to introduce legislative measures to protect the vital interests involved.

Medical Pass Examination.—The Examination Committee presented an interesting table in which the results of the examinations held during 1910 by the various licensing bodies were analysed. The percentages of those rejected were arranged under the separate headings of medicine, surgery, and midwifery. This method, in the case of the bodies which permit these subjects to be passed separately, gives correct percentages for comparison, but where all these subjects must be passed at one time (Universities of Oxford, Liverpool, Leeds, London, Birmingham, Queen's University Belfast, National University of Ireland), the percentage figures of rejections in each subject are raised by the inclusion of candidates who may have passed in that subject but have failed in some other. It would be advantageous if in future it should be found possible to induce these bodies to furnish information as to the marks obtained in each subject so as to render their figures more exactly comparable with those of the bodies which do not allow the subjects to be passed separately. Making allowance for this source of error and for the possibility, where the numbers are small, that a particular batch of candidates may have been better or worse than usual, the results seem to point to differences in the standard. Placing the percentages of rejection in the order of medicine, surgery, and midwifery, we find that the Conjoint Board in Scotland rejected 52, 59.3, and 34 per cent.; the Conjoint Board in England 41.8, 48.4, and 32.4 per cent., and that the University of Birmingham rejected (on the whole three subjects) 53.8, the Queen's University Belfast 47.7, and the University of London 41.9 per cent. At the other end of the scale the University of Durham only rejected 0, 16.0, and 16.6 per cent., the University of Edinburgh 24.4, 27.4, and 17.6 per cent., the University of Glasgow 22.5, 15, and 10.7 per cent., the University of St. Andrews 23, 33.3, and 11.1, the University of Dublin 6.6, 22.9, and 23.7, and the Apothecaries' Hall, Dublin, 11.1, 50, and 8.33 per cent. It is obvious that to be required to pass all of the subjects at one time is a more severe test of endurance, and this is perhaps illustrated by the fact that the highest percentage of rejections found in the tables is in the case of the University of Birmingham, one of the bodies which enforce this requirement. It is, however, to be noted that amongst the bodies showing an exceedingly low percentage of rejections are to be found several universities. Even if it be assumed, for the sake of argument, that, on the average, university candidates have passed a higher standard of examination in general education, and so are better prepared for the reception of medical teaching, yet it will be noted that some of the universities show a high percentage of rejections, and the bodies whose percentage of rejections is notably low might be well advised to direct their attention to the matter lest their examinations should really prove to be of lower standard than those of their neighbours.

Students' Registration Committee.—The administrative questions dealt with by this committee, though important, are not usually of general interest, but on this occasion the report contained several items which gave rise to discussion. The names of a dozen secondary schools, all of them already recognized by the English Conjoint Board, were submitted for inclusion amongst the places where the study of chemistry and physics may be commenced, and it was resolved to draw up a form setting out the particulars required when an application was made for approval. It was pointed out by the President that the recommendation extended only to registration as a medical student—that is, as a person who has commenced medical studies, and in no way involved the question of the period of time which might be allowed to be deducted from the five

years' curriculum on account of such school study. As this question had been mooted, Sir Henry Morris expressed the opinion that these studies, if undertaken after passing the preliminary examination, should count for six months of the curriculum, and contended that they should never be allowed to count for more, unless taken at universities or at medical schools; he added that, as a matter of fact, it seldom happened that the recognition of this six months led to any reduction in the five-year period—that is, almost all such students took the full five years on the top of this six months before obtaining their qualifications, as, indeed, might have been suspected to be the case when the statistics of the average length of the actual curriculum published recently by the Council are remembered. Some suggestions thrown out by Sir Henry Morris with regard to these subjects will probably be heard of again and need not now be discussed; but he appeared to recognize that during the first two and a half years of the medical curriculum the student might with advantage go on with some study of applied chemistry and physics, and thus to some extent be met by anticipation the objection of Sir Clifford Allbutt, who would like to describe this early study as of the elements of physics and chemistry. Dr. Caton held that it was premature, in face of certain known objections on the part of some bodies, to act at present on the Council's recognition of secondary schools as places for the study of physics and chemistry. Closely connected with this subject was the substitution of the word "should" for the word "shall" in certain of the Council's regulations for the registration of medical students—a change recommended by the Education Committee and adopted by the Council. It will be remembered that complaint was made that the Council's regulations might mislead, since their wording might produce the impression that certain things were obligatory on all, whereas they were not imperative in the case of some of the licensing bodies. The Education Committee was instructed to review all the resolutions of the Council regarding professional education, so as to bring them into accord with these alterations.

Public Health.—A report of the Public Health Committee, adopted by the Council, introduces several changes into the regulations for the Diploma in Public Health. The report in its final form is the outcome of discussions which have extended over several sessions of the Council, and of consultations with the Local Government Board and with the bodies granting the diplomas, so that the changes advocated have been thoroughly considered. In the earlier stages of the inquiry some exception was taken to any reduction in the time then required for special study, but it was pointed out that the reduction was more apparent than real, and that the main effect of the changes now introduced is to define in more detail how the nine months required shall be spent. For example, laboratory instruction must cover at least 240 hours, of which not more than one-half shall be devoted to chemistry; this is tantamount to saying that at least 120 hours shall be devoted to practical bacteriology. As there was believed to be good reason to suppose that the signing of certificates of instruction in the practical duties had been somewhat loosely conducted, the regulations now require that attendance under the supervision of the instructors must not be on less than sixty working days. This period may, however, be halved if certain specified courses have been attended or certain appointments held. In general terms, the changes are intended to secure that in every section of the curriculum the instruction received shall be real and not nominal.

Dental Examinations.—A cycle of inspections has recently been completed, and the report of the inspector appointed by the Council, Mr. A. S. Underwood, disclosed a very satisfactory state of things. All the examinations were found to be of a satisfactory standard and of singular uniformity. Certain suggestions as to improvements in detail have been accepted and acted upon by many of the licensing bodies, and the Committee on Dental Education and Examination confined its remarks to comments on some divergencies in the system of marking and of deciding whether candidates should or should not pass, and to emphasizing the importance, in certain parts of the subject, of oral examinations, which are not held by all of the licensing bodies.

Warning as to the Giving of Certificates.—A disciplinary case heard during this session, and certain other cases which have from time to time been heard in which certificates have been improperly given, led the Council to think it advisable to pass a warning resolution stating that this may be held to be conduct infamous in a professional respect. A schedule of purposes for which certificates may be required, which, however, is expressly stated not to be exhaustive, is appended to the resolution for the information of the profession.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

The Course of Business.—In reply to Mr. Bonar Law on Thursday, November 30th, the Prime Minister made a statement as to the course of business. He said that in addition to the Insurance Bill, it was proposed to pass the Finance Bill, the Coal Mines Bill, the Naval Prize Bill, the Merchant Shipping Bill, the Burgh Police (Scotland) Amendment Bill, the Resident Magistrates (Belfast) Bill, and, he hoped, the Second Peace Conference (Conventions) Bill. It was also hoped that time would be found for the following bills which had already passed the House of Lords: The Lunacy Bill, Maritime Conventions Bill, Small Holdings and Allotments Bill, and, he trusted, the Appellate Jurisdiction Bill, which was promised at the Imperial Conference to the representatives of the Dominions, and, in addition, the Military Manœuvres Bill, which is at present under discussion in the Lords, and would be sent up shortly. The only portion of the Shops Bill likely to be passed are those giving the compulsory weekly half holiday and making compulsory the provision of meal hours. We notice with regret that the Health Visitors Bill was among those which disappeared in the sacrifice which occurs at the end of every session.

Additional Commissioners in Lunacy.—The Lunacy Bill has come down to the House of Commons from the Lords quite a different measure in substance and machinery to the bill that was passed through that Chamber last year. The former bill provided for the amalgamation of the Masters in Lunacy with the Commissioners in Lunacy, and in order to provide an equivalent number of Commissioners required in accordance with the strong recommendations of the Royal Commission added two Medical Commissioners. The bill as it has now passed the House of Lords consists of one operative clause only which provides for the creation of two new Commissioners in Lunacy. The amalgamation of the Masters in Lunacy with the Lunacy Commissioners has, we understand, been dropped in consequence of the opposition of the Bar, and although this is not stated in the bill, only one of the two new Commissioners which the bill authorizes to be appointed will, we understand, be a member of the medical profession. The success of the apparently interested opposition which has led to the abandonment of the former bill embodying the strong recommendations of the Commission is much to be deplored.

Care of the Feeble-minded.—The Home Secretary, in reply to a question by Mr. Morton, said that he intended next session to introduce legislation dealing with the care of the feeble-minded.

Blind and Deaf.—In reply to Mr. Lynch, Mr. Burns said that the latest figures relating to the number of blind and deaf persons were those for the census of 1901. The total number of persons who were stated to be both blind and deaf, whether from birth or otherwise, was 470 in England and Wales and 63 in Scotland; these numbers included a few persons who were afflicted with some other infirmity also. The numbers who had been both blind and deaf from birth could not be stated. The figures relating to Ireland were not shown in the report on the census of that part of the kingdom.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

MEDICAL INSPECTION OF SCHOOLS IN GLASGOW.

DR. ERNEST T. ROBERTS, who was appointed chief medical officer under the Glasgow School Board in October, 1909, has issued his report on the work for the year ending June 30th, 1910. The delay in its issue has been due to the mass of statistics it was necessary to obtain and prepare, and it is expected that the report of the following year—namely, that ending June 30th, 1911—will be issued shortly. The organization for inspection comprises twenty part-time medical officers and seven nurses, whose duties are to attend at the schools during the hours arranged for medical inspection. The nurses also visit the homes of children found to be diseased, defective, underfed, ill-clad, dirty, or verminous, in order to bring about an improvement in the conditions discovered and to see that the advice of the doctor is not disregarded. These visits are specially necessary if the parents fail to attend at school inspection. In February, 1910, an additional nurse was appointed, making eight in all, so that one nurse could attend solely to underfed and ill-clad children. The number of such cases was 1,078. Routine medical inspection commenced on November 8th, 1909, with twenty of the poorer schools. Eventually all schools were included. Then re-examination was undertaken to see the results. The number of notifications of disease or defect made to parents was 9,511, and on re-examination it was found that 23.7 per cent. were cured and 30.2 per cent. improved. The report deals in detail with the measures adopted to secure cleanliness, the notification of infectious disease, the ventilation of schools, the condition of children's teeth, and the desirability of open-air schools. The chief objection to the establishment of open-air schools in the district is the climate; but with proper precautions overhead against rainfall, Dr. Roberts considers that the health of suitable cases would improve in open-air schools. If an appropriate site were obtainable it might be anticipated that in cases of tuberculous disease, rickets, anaemia, and malnutrition, a few months' attendance in such a school would give beneficial results. Dr. Robert Bruce, an assistant medical officer, reports on physically defective children. In addition to 1,606 enrolled, no less than 740 additional applicants were examined, of whom 235 were rejected as either too ill, or fit for ordinary schools. Re-examination is carried out every three months in cases showing improvement. There are in the area eleven centres or schools with special facilities for receiving, feeding, and educating physically defective children. Parents who are able pay 1d. a week for the dinners. Rickets is very prevalent among the children, and much benefit is derived. Dr. Carswell, who reports on 825 mentally defective children, states that there is a marked preponderance of males over females in this class. He concludes that there are two periods in school life when mental defect shows itself—first, during early school life, about 5 years of age; and secondly, during the later period, when the third or fourth standard is reached. Attention, he thinks, must be drawn to this second period, because it is from among boys and girls who have got on passably well till the third or fourth standard is reached, but get no further, that criminal and this and other troublesome persons are largely recruited. J. H. Wright Thomson, dealing with the condition of children's eyes, says that while medical inspection of eyesight during the past five years has been well justified by practical results, it is manifest that much better results are desirable in certain schools. These schools are mostly those of the poorest classes of children, and he is of opinion that the best way to deal with them is an arrangement whereby each school would be visited after the annual visit of the inspecting oculist by an oculist or oculists, who should carry out the necessary treatment and prescribe the required glasses.

THE MEDICAL AND DENTAL DEFENCE UNION.

We have received the following letter from the Secretary and Treasurer of the Medical and Dental Defence Union of Scotland, Limited:

Sir,—Enquiries have been received by this Union from time to time as to whether members would be defended in respect of claims for alleged negligence by an assistant or *locum tenens* in their employment.

I am instructed to state officially that any act of an assistant working within the scope of his authority, which is made the ground of a claim of damages for alleged negligence against a member, is treated by this Union in the same way as if the alleged negligence had been imputed to the member himself.

Under the insurance scheme which this Union has formulated and put into operation to indemnify members against claims for negligence, the policies issued protect members insured against the acts of assistants as well as their own acts.

I am, yours faithfully,

155, Saint Vincent Street, Glasgow, November 30th. W. FINDLAY, Secretary.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE MILK COMMISSION.

THE Viceregal Committee recently appointed to enquire into the methods of the production and distribution of Irish milk supplies is at present engaged in hearing evidence in Dublin. The most interesting expressions of opinion on the subject, so far, were made by Professor McWeeney, who, in the course of evidence, stated the definite opinion that no person should be allowed to handle milk in a dairy, or to milk cows in a field, without having first passed the Widal test. Later in his evidence, he committed himself to the opinion that every clinically tuberculous cow that was discovered should be destroyed.

TOWN PLANNING ASSOCIATION.

There was a large attendance of the general public at the inaugural meeting of the Town Planning Association of Ireland, which was held last week in the Leinster House, Dublin. Lady Aberdeen, who has been elected first president of the association, occupied the chair, and in an excellent speech laid down the lines along which the association would proceed, and pointed out the urgent necessity for action in almost every urban community in Ireland. In Dublin especially, where statistics showed that there were 21,700 persons belonging to families living in a single room, and 13,700 more in occupation of two-room dwellings, continued and enthusiastic efforts were required to deal with conditions which affected so seriously the health of the entire community. Several other speakers took part in the proceedings, including the Lord Mayor of Dublin, the High Sheriff of Belfast, Bishop Donnelly, and the President of the College of Physicians.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

RECURRENT INSANITY AND THE CARE OF THE FEEBLE-MINDED.

AT the meeting of the London County Council on December 5th reports by the Asylums Committee on a case of recurrent insanity and by the General Purposes Committee on the care and control of the feeble-minded led to a long debate, remarkable for the unanimity with which strong measures were urged for dealing with the problem of the propagation of the unfit.

The General Purposes Committee reported that, in accordance with the decision of the Council (BRITISH MEDICAL JOURNAL, December 10th, 1910, p. 1881), a deputation had waited upon the Home Secretary to urge that legislation should be promoted to deal with the whole question of the care and control of the feeble-minded, and particularly to confer on the Council authority to make provision for persons lacking in moral sense. The Home Secretary, in his reply, said that both he and the President of the Board of Education were deeply interested in the subject and in securing a remedy very much on the lines asked for by the Council. He had in draft an Inebriates Bill, and also

the heads of a bill for dealing with the feeble-minded, both of which he trusted would become law next session. Mr. McKenna added that the last-named bill would be compulsory and not adoptive, and provision would be made for the care, after the age of 16, of feeble-minded children, and for the care of imbeciles. Further, the Home Office was in entire agreement with the Council's contention for the establishment of a central authority. As regards the question of the treatment of inebriates, he foreshadowed legislation whereby magistrates would be enabled in every case to commit an habitual inebriate to receive reformatory treatment, and indicated that assistance from the Treasury might be expected towards the establishment and maintenance of reformatories. As regards the question of the care and treatment of lunatics in their relation to the feeble-minded, the Home Secretary pointed out that the establishment of a central authority would trench upon, and he hoped relieve, the burden of dealing with lunatics. The President of the Board of Education addressed the deputation on the question so far as it related to the education service, and referred to the necessity of making compulsory the operation of Elementary Education (Defective and Epileptic Children) Act 1899, and of educating the feeble-minded children in every district, thus reducing the number of adult cases to be dealt with.

The report of the Asylums Committee as to a female patient who had been admitted to Banstead and other asylums on twenty-six occasions and had had 13 children, of whom 2 showed signs of insanity (BRITISH MEDICAL JOURNAL, October 28th, p. 1131) also came up for consideration. The Committee made no recommendation, but merely reported the case as a "striking illustration of the need for legislation to prevent the increase of the unfit."

Mr. A. O. Goodrich, chairman of the Asylums Committee, said this was one of the cases of recurrent insanity, in regard to which the Committee was anxious to do something practical. The problem of constant readmissions was causing those responsible for the London County asylums a great deal of anxiety. At present, although the Committee very well knew that in many cases there was every probability of a patient returning, no power existed by which they could detain a patient who had recovered. The Home Secretary had received the deputation on the general question with the utmost sympathy, and had stated that it was well known feeble-minded persons reproduced themselves more quickly than did healthy and strong citizens. Mr. Goodrich said he had been on several deputations, but never on one which seemed more likely to have fruitful results. The Home Secretary expressed the opinion that the establishment of a central authority to deal with the feeble-minded would lessen the cost to a considerable extent. Members of the Council might be astonished to know that between 1885 and 1910 no less than 29 per cent. of the patients discharged were readmitted into the London county asylums. He would be asked what practical suggestion he had to make. This was, however, a very difficult matter, and therefore the committee had not made a definite recommendation. There were various ways of dealing with the problem. One suggestion was "segregation." In this direction the Eugenics Society was doing noble and good work, and was promoting a bill in Parliament to deal with the question, and he hoped the Council would support them. Another method was by colonization. A number of the insane of one sex would be put on an island and kept there practically for life. A third method was by means of a surgical operation—of course, under proper safeguards. They knew on the excellent authority of Dr. Mott the hereditary character of mental deficiency. Nearly all the patients of this class had relatives who were or had been insane. He believed the whole of the committee was united in thinking that some form of State control should be exercised in cases of recurrent insanity.

Mr. Edward Smith thought the Asylums Committee should have presented a more exhaustive report, and have made some definite suggestion. Mr. Goodrich had touched on very dangerous ground when he suggested that because a young woman became insane, and entered and left an asylum three or four times, she should be taken from her family and all her associations, and placed on a remote island. He had known cases which had become permanently cured after three or four entries into an asylum.

Sir John McDougall: What about the next generation?

Mr. Edward Smith said he was content to deal with the present generation. This subject ought not to be discussed by the County Council, but by another body with power to take definite action.

Sir John McDougall welcomed the report as calling public attention to a serious peril to the nation. It required very careful consideration before any practical suggestion could be made. He mentioned a case of a woman who had been in an asylum before she was married. She had had five children, and one daughter, a girl of 17, was in the same asylum. The problem urgently required attention. Dr. Mott was making very strenuous inquiries and obtaining the most exhaustive statistics. At present there was no power to prevent the propagation of the unfit.

Mr. H. H. Gordon said that no one reading the report of the Royal Commission on the Feeble-minded could fail to be struck by the number of cases of women coming year after year to give birth to children who were incapable and degenerate. It was not kindness to allow women to go out into the world and be subject to temptation, which, owing to their feeble-mindedness, they were unable to resist. It was not fair to them and the rest of the community to allow them to give birth to children who invariably proved to be feeble-minded. They deplored a falling birth-rate among the physically fit, but they took no steps to try and prevent the propagation of the unfit. As to segregation and sterilization, he was told that the religious conscience of the community would be against such a course. If this was considered the effective method of dealing with the problem, then the religious community must be asked to say how else it was to be solved. The present state of things could not go on indefinitely, and he trusted the Asylums Committee would bring forward case after case of the kind presented in this report, and that they would be published widely all over the kingdom in order that public opinion might be educated.

Mr. E. G. Easton said that Dr. Mott had such cases by the score. After referring to the growing cost of asylums, Mr. Easton declared that the Asylums Committee could not have taken more definite action because the medical profession hesitated to express itself as strongly as many laymen desired.

Mr. H. C. Thomas quoted a medical authority as saying that of the inmates of asylums 32 per cent. were there through worry alone, and 26 per cent. through excessive alcoholism, largely due to the conditions under which they lived. It was encouraging to think that such a considerable proportion of the insanity they had to deplore was due to removable causes, and it was to be hoped that the next few years would show a great fall in the number of asylum inmates.

Mr. E. W. Hobson said that, although the Asylums Committee had amassed more information on this subject than any other dozen authorities, yet it only gave the Council a mere recital of facts. He hoped the committee would make definite use of its invaluable reports by medical experts, which might be of use to the people of England in dealing with this most serious question.

Mr. C. Jesson mentioned a case at Bexley of a young man being anxious to marry a girl just leaving the asylum who was a moral imbecile. In spite of all endeavours to dissuade him the man married the girl, and the committee, as the girl was not at that moment insane, was powerless to interfere in the matter. Every member of the committee knew of the painful scenes that often occurred, and how impossible it seemed to advance public opinion in this matter. The greatest difficulty was to deal with parents; the more demented and feeble-minded their offspring the more the parents seemed to love them. It was necessary to educate parents to understand that action had to be taken in the interest of the children and of the country as a whole.

Mr. H. W. Rowe (a former chairman of the Asylums Committee) declared that the only practical solution was the sterilization of the insane. The difficulty was to get anybody to take up the matter. No one was willing to be saddled with the onus of the unpopularity of such a proposal. The question must be dealt with; though the minds of the insane had gone their bodies were left, and they propagated their species to an alarming extent.

Mr. J. W. Gilbert, who spoke last, was the only member

of the Council to declare opposition to the method of dealing with recurrent insanity by sterilization of the insane.

Packing of Caramels under Insanitary Conditions.

A number of questions were addressed to the Chairman of the Public Health Committee with reference to the report mentioned in the British Medical Journal, November 18th, p. 1376, as to alleged wrapping and packing of caramels under unwholesome conditions by workers in their own homes. From the tenor of the questions it appeared that this report had been taken as reflecting on the conditions observed in the confectionery industry as a whole, and there were indignant comments as to "ill-considered and erroneous" and "loose" statements being issued under the authority of the Public Health Committee. Mr. Freeman Barrett, Chairman of the Committee, in his reply, emphasized the point, made clear in the summary of the report given in the Journal, that the committee only criticized the conditions obtaining at the premises of home-workers, and not at those of large manufacturers. It was unfortunate, he added, that some newspapers should have published an incomplete version of the report and so caused misapprehension.

WEST YORKSHIRE.

Preventive Inoculation for Anthrax.

In a recent issue attention was drawn to a correspondence in the *Bradford Daily Telegraph* between Dr. Hadwen and Dr. Eurich on the subject of preventive inoculation for anthrax. It appeared as if Dr. Eurich had very fully and adequately demonstrated that Dr. Hadwen's strictures on this practice and his historical survey of the subject had been inappropriate. In another letter to the same newspaper Dr. Hadwen returns to the charge; but in a manner no more convincing to the educated scientific reader than in his former one. Statements such as he makes may appeal to the ordinary reader of a halfpenny paper, and are the stock-in-trade of societies such as that of which he is evidently proud to be the president—the British Union for the Abolition of Vivisection. But their influence goes no further.

Dr. Hadwen acknowledges that the Board of Agriculture has recently modified its former attitude of dissatisfaction with preventive inoculation in cattle for anthrax to a qualified approval. But by some strange process of reasoning he seems to think that this change of opinion bears out his previous statements. He tries to show that if a method is not perfect, or if it has the slightest element of danger in it, it should not be used. What would become of surgery or who would dare to administer an anaesthetic if this opinion was the usual one? Preventive inoculation is not perfect; but when the percentage of mortality on an infected farm can be reduced from, say, 5 per cent. to under 1 per cent., then the method has proved itself worthy of adoption.

It is well known that on badly infected grazing land belonging to the West Ham authorities preventive inoculation has been adopted with great success. No deaths have occurred since its adoption eighteen months ago, whereas previously the land was useless, owing to its deadly nature.

In regard to the Hungarian statistics recorded by Dr. Eurich, Dr. Hadwen tells about a "lot of silly people" who chose to have the work carried out in spite of the report of the Hungarian Commission. Does Dr. Hadwen think these "silly" people went to the trouble and expense of preventive inoculation just by way of amusement? The statistics quoted were those for a period of eight years, and the results were found to be efficient.

Dr. Hadwen tries to prove that Dr. Klein contradicts himself in his views on preventive inoculation. The real gist of the case is that Dr. Klein has seen with increased experience that his earlier conclusions required to be reconsidered. The latter were expressed in 1883, but during the twenty-eight years great improvements have taken place in the preparation of the vaccine. Does not Dr. Hadwen appreciate how frequently in the history of medicine methods at first imperfect have finally proved efficient?

Dr. Hadwen is indignant that Professor Müller's statement, even although "ancient history," is not accepted. It simply cannot be, in the light of the opinion in modern Germany. Professor Neisser's statement is supported in a letter received as recently as November 1st from Professor Ostertag, of the Imperial Health Office in Berlin. Professor Ostertag states that the change of opinion is due, as was to be expected, to improvements in technique. This consideration, of course, also destroys the applicability of Koch's criticisms to present-day inoculations.

Dr. Hadwen goes into an ecstasy of delight at what he calls Dr. Eurich's ancient statistics of 1895 on the treatment by Sclavo's serum. But Dr. Eurich never mentioned 1895; his date was much more recent—1905—and perhaps Dr. Hadwen may be surprised to hear that most Continental surgeons of note do not excise the anthrax pustule. Dr. Hadwen, in pitting himself against an antagonist with Dr. Eurich's comprehensive knowledge of the subject of anthrax, has made a mistake. His arguments, though specious, are unreliable, and his deductions are fallacious.

SOUTH WALES AND MONMOUTHSHIRE.

Appointment of Woman Medical Inspector.

In spite of a warning notice, the Glamorgan Education Committee was successful in obtaining an application for the above post. Dr. Thomas drew attention to the fact that instead of raising the salary of the woman inspector, that of the male inspector had been lowered from £300 to £250 so as to make both of equal value. The Chairman (Dr. T. H. Morris) explained that this lowering of salary was accounted for by the work of the male inspector having been lightened through the addition of another inspector. He added that the suggestion of a member of the committee that the British Medical Association had acted as it had with the object of boycotting women doctors was entirely wrong. It was the women doctors themselves who objected to being paid less than men.

Correspondence.

THE INSURANCE COMMISSIONERSHIP.

Sir,—I am at present receiving numerous letters on the above subject, the general import of which is that the Council of the Association has been remiss in the execution of its duties, and has betrayed its trust. The gravamen of much of the correspondence is that the Council and the Representative Body have been led and misled by a few strong leaders. The obvious reply to all this is that the Divisions should not send men who can be misled, or who will not carry out the behests of the general body of the profession. As a member of the Council who knows, but who cannot take credit for any part of, the enormous amount of work which the Council has undertaken and executed on behalf of the Association in connexion with the Insurance Bill, I must say that the Council has faithfully executed the commands of the Association as directed by the Representative Body. There can be no doubt that the great bulk of the members of the Association and, for that matter, of the profession generally, were in favour of the general principle of the bill; it was with them largely a question of adequate remuneration. If the concessions were obtained the members of our profession were quite ready to work the bill. Now the Council of the Association has carefully striven to obtain the best terms possible for the profession. To some extent it has succeeded, but as there are always two parties to a bargain it is not its fault that it has not obtained all that is desirable. It is now the duty of the general body of the profession to say that in a free country they will not work without adequate remuneration and under their own conditions.

Personally, I have always been against the principle of the bill, because I believe it will have a deteriorating effect on the race, and will lower the prestige and independence of the medical profession. When, at the Representative Meeting at Birmingham, I boldly stated that I hoped the

Insurance Bill would be cast into the lumber room and have disappeared long before the Annual Meeting in Liverpool; I was only applauded by some Lancashire Representatives, and I was afterwards severely taken to task by some of the leaders of the profession for running counter to the behests of the Association. At Blackburn, after the bill was introduced into the House of Commons, I stated that it was not the work of a statesman; it is the duty of a statesman to develop the assets of the Empire, and the health of the nation is its most valuable asset; whereas a diseased individual, *quâ* disease, is of no value to any one except to his doctor and himself, and they should be allowed to settle the matter between them. Therefore any legislative measures on behalf of the State should be on preventive lines. Lord Beaconsfield said: "The public health is the foundation on which repose the happiness of the people and the power of a country. The care of the public health is the first duty of a statesman."

I am one of those who approve of the acceptance of the post of Insurance Commissioner by Mr. Smith Whitaker, because in the interests of the Association I do not think we could get a better man, and it is highly probable that if he had not accepted the post it would have been given to some medical member of the Local Government Board or some medical officer of health who would not be in touch with or cognizant of the general wishes of the profession. I understand that Mr. Lloyd George had numerous applications from members of our profession for the post, so there can be no doubt that he could readily have filled it up. While fully recognizing Mr. Smith Whitaker's industry, ability, and loyalty to our Association, I am one of those who think that the Association can get on very well without him, and his appointment can in no way alter the general attitude of the profession to the bill. I therefore hope that the members of our Association will possess their souls in peace and quietly prepare for the fight which will take place after the bill has become law.—I am, etc.,

JAMES BARR.

Liverpool, Dec. 6th.

SIR,—I enclose a letter which has recently been addressed to the *Times*, and should be glad if you would print it in the next issue of the BRITISH MEDICAL JOURNAL.—I am, etc.,

LAURISTON E. SHAW.

London, W., Dec. 6th.

Letter published in the "Times" on December 6th.

Sir,—In common, I suppose, with every member of the British Medical Association, I yesterday received the circular signed by the President, Chairman, Secretary, and Treasurer, stating that the Council had sanctioned the acceptance by Mr. Smith Whitaker of the Deputy Chairmanship of the Insurance Commissioners.

Since then I have had an opportunity of talking it over with several general practitioners, and I can only find one opinion—namely, that no more shameless (on the part of the Council) and shameful (to us) betrayal of the British Medical Association and the profession has ever been engineered by politicians (ordinary or medical). What is so astounding in the circular is that it contains not a word on the six points the medical profession is fighting for; points which we consider vital. Judging from what I can hear, the profession will have nothing to do with the bill or with the Council of the British Medical Association, but will concentrate unanimously now on its six points, and as a last resource strike against the bill.

It is doubtful how far I shall personally be affected, but when such apparent traitorous proposals come from head quarters, it is surely time for every man, affected or not by the bill, to raise his voice against such underhand tricks.

Possibly the circular is being misunderstood, but, if so, the fault lies with those who have omitted our six cardinal points from it.

I am, Sir, yours truly,

FRED. J. SMITH, M.D., F.R.C.P.,

London Hospital Medical College (University of London), Turner Street, Mile End, E., Dec. 5th.

Letter published in the "Times" on December 7th.

Sir,—The letter which appears in your issue to-day from Dr. F. J. Smith, although only the expression of his personal opinion, calls for notice from the members of the Council of the British Medical Association. We, therefore, as Representatives of the Metropolitan Counties Branch of the Association on the Council, take this duty upon ourselves.

Dr. Smith's letter contains a very grave statement which he does not attempt to justify to your readers. He speaks of the "shameless betrayal of the profession" involved in the Council's recommending Mr. Whitaker to accept the appointment offered to him by the Government. In what does the betrayal consist? What interest of the profession does Dr. Smith imagine the Council has surrendered? He alludes to the six principles adopted by the Association. Which of these has been abandoned? Is he under the impression that the British Medical Association at any time demanded that all the six principles should be specifically embodied in the Bill? On the contrary. The Association has always recognized that to obtain the demands summarized in its six principles it must look not merely to the text of the bill but equally to the regulations made under the bill after it has become law, and even more to the terms offered to the profession by the Insurance Authorities. It is these in fact which constitute the crux of the situation from the standpoint of the medical profession.

The Association is absolutely unaffected in its attitude towards the bill by Mr. Whitaker's acceptance of appointment. This is made quite clear by the statements on behalf of the Association which have appeared in the press since the appointment was announced, including, by a coincidence, that in your issue of to-day. The Government, in offering the appointment to Mr. Whitaker, asked nothing from the Association but the opportunity of obtaining his services. The "negotiations," as they have been called, or, as it would be more correct to call them, the representations of the Association to the Government as to the further amendments which they desired, had already been made, and all question of further amendment of the bill in the House of Commons was at an end.

We have only to say, in conclusion, that the matter was debated in a full meeting of the Council representative of the profession in all parts of the country, and the decision to recommend Mr. Whitaker to accept the appointment was arrived at by a vote of 38 to 3. Members of the profession will find in the BRITISH MEDICAL JOURNAL for this week a full report of the discussion in the Special Meeting of the Council which resulted in this decision.

E. W. GOODALL.
VICTOR HORSLEY.
J. H. KEAY.
A. J. RICE-OXLEY.
LAURISTON E. SHAW.

Dec. 6th.

"IDIOPARASITES" AND "XENOPARASITES."

SIR,—The theory of the cancer cell advocated by Sir Henry Butlin, in his lectures recently reported in this JOURNAL, seems to me to call urgently for a slight revision in the terminology of the subject of parasitism. From conversations, I have found that most of my friends, many of them medical men, were under the impression that Sir Henry Butlin was advocating the old theory that cancer is due to the invasion of the body by an extraneous parasite, and the report of his lectures in the *Times* was headed "The Parasite of Cancer"; but in reality, as pointed out in your editorial article of last week, he was arguing in favour of the view that the cancer parasite was the cancer cell itself, and that it does not enter the body from without but is generated within it.

I have heard it objected that the term "parasite" should not be applied to a cell of the body which is supposed to have acquired malignant qualities and powers, but it would be impossible to define the word "parasite" in a way that would exclude such an organism as the cancer cell on Sir Henry Butlin's theory of its origin and nature. We have, therefore, to distinguish two kinds of parasites similar in their properties and effects on the host, but quite different in their mode of origin. In the first place there is the parasite of intrinsic origin, generated within the host; to this type the term "idioparasite" might be applied. An example of a benign idioparasite is a fetus; of a malignant idioparasite, a cancer cell, on the theory under consideration. On the other hand, for an invading parasite of extraneous origin, of the more usual and familiar type, the term "parasite" might be retained simply, or, for greater precision, it might be termed a "xenoparasite," when occasion arises for contrasting it with an idioparasite. Then a theory such as that supported by Sir Henry Butlin would be termed

"the idioparasitic theory of cancer," a phrase which would, I think, remove all ambiguity and would clear up the confusion which has been created in many minds by calling the cancer cell a parasite simply.

Every one is unwilling to add new terms unnecessarily to the phraseology of science, already so cumbrous; but in the progress of knowledge and of scientific ideas occasions must arise continually when new conceptions demand new terms for their expression, if confusion is to be avoided, and I venture to think that the case dealt with here is one which warrants the creation of a new term.—I am, etc.,

London, S.W., Dec. 2nd. E. A. Minchin.

THE ORIGIN OF CANCER AND THE ORIGIN OF LIFE.

Sir,—In his very interesting lectures on "Unicellula Cancri" Sir Henry Butlin has shown in a striking manner the parallelism that exists between the life and development of different varieties of cancer cells and that of many of the protozoa. He seeks to show, in fact, that "the carcinoma cell is an independent organism like many a protozoon," that it is "a complete animal organism in itself"; and he is now prepared to maintain this view "not only for carcinoma, but for every variety of malignant disease."

Looking to the generally admitted facts that, as Dr. Bashford says, "cancer arises *de novo* in each individual attacked," and that it occurs "by a transmutation of functional somatic into cancerous cells," as was originally pointed out by Farmer. Walker, and Moore in a paper communicated to the Royal Society on December 7th, 1905; together with the many analogies dwelt upon by Sir Henry Butlin, there seems very much to be said in favour of his view.

To some essential points in his statement, however, we must demur.

While all students of cancer are now practically agreed that cancer cells are derived from the tissue cells of the part in which they take their origin, this cannot correctly be spoken as a kind of process "which has never hitherto been imagined." It is exactly the kind of process known as "heterogenesis," many examples of which I have described and illustrated in my *Studies in Heterogenesis* (1903), and it is a process which has been defined as "the production from the substance of organisms or their germs of alien forms of life."[1] It is true that transmutation here does not lead to the production from the altered tissue cells of what would be generally admitted to be independent living organisms, and certainly the process cannot possibly be cited as an illustration of "the origin of life." Life was already existent in the tissue cell, its mode of life has only been changed, a process allied to heterogenesis has occurred. I cannot, therefore, agree with Sir Henry Butlin when he goes on to say:

"The host in which it dwells has fashioned it out of its own cells, and, to borrow the figurative language of Scripture, the Creator has breathed into it the breath of life . . . . After ages of past and present civilization, during which searchers and philosophers have sought to explain the origin and nature of life, we have come no further than this.

"The true origin of cancer, as I maintain, is related to heterogenesis, and not, as he thinks, to the still more mysterious problem to which he refers. Nor can it fairly be said that in regard to the solution of this problem we have come no further than the establishment of this particular instance of heterogenesis.

Probably Sir Henry Butlin has never studied my little book, entitled, *The Origin of Life* (1911), where experiments are described in which multitudes of independent living organisms have been taken from tubes, previously hermetically sealed, containing certain saline fluids which had some months before been heated for periods varying from five to twenty minutes to temperatures ranging from 100° to 145° C., while most of the organisms that had been introduced within the tubes were such (torulae and micrococci) as are known to be killed by exposure in fluids to 60° to 70° C. for a few minutes. Such experiments surely bring us much further towards the solution of "the great problem" than does any mere proof of the heterogenetic origin of cancer cells, however much they may be shown to be related to many of the protozoa.—I am, etc.,

London, S.W., Dec. 2nd. H. Charlton Bastian.

[1] An illustrated description of one of the most notable examples referred to by me may be seen in *The Proceedings of the Royal Society*, vol. 76 (1905), pp. 385–392.

THE VARIETIES AND TREATMENT OF ASTHMA.

Sir,—Though at first sight the series of phenomena cited by Dr. Francis Hare may seem to lend strong support to the hypothesis of vasomotor engorgement of the bronchial mucosa, which he maintains is the essential cause of the dyspnoea of asthma, there are a few clinical facts which I suggest are incompatible with his thesis.

For instance, we *know* that in acute bronchitis the bronchial mucosa is intensely hyperaemic and is swollen, yet asthma does not occur in the great majority of such cases. It is true that in a small percentage of cases of acute bronchitis the inflammatory irritation of the mucosa, definite asthma does appear, particularly in the early stages, only to subside as the secondary engorgement develops, though in a still smaller percentage the asthma persists. Why, then, should we *suppose* that vascular engorgement or vasomotor dilatation is the essential cause of bronchial asthma? And even if Dr. Hare had succeeded in proving that hyperaemia of the bronchial mucosa is constantly present at the commencement of an asthmatic paroxysm, and subsided with the relief of the dyspnoea, one cannot get away from the fact that, apart from a rhythmical dilatation and contraction of the bronchi, such swelling of the bronchial mucosa must cause as much obstruction to the entrance as to the exit of air through the narrowed lumina.

How does Dr. Hare propose to explain the effects on an asthmatic paroxysm of morphine and of chloroform inhalations? Does morphine cause rapid vascular constriction in the swollen bronchial mucosa? If so, what a useful remedy morphine must be in, say, the capillary bronchitis of young children! I do not think chloroform inhalations can be held to constrict the bronchial vessels, but very few attacks of asthma fail to yield to chloroform.

All the points advanced by Dr. Hare in support of his view seem to me comparable to the argument that because removal of a small nasal spur will sometimes inhibit asthmatic attacks for a time the spur must have been the essential cause of the trouble, whereas the real explanation is that the irritation of the fifth nerve on the septum, whether by operative interference or by galvano-cauterization, influences the bulbar respiratory centres.

I hope that Dr. Hare will do me the favour of explaining the difficulties I suggest in according his views, and perhaps offer some arguments which militate against my suggestion that the expiratory dyspnoea of asthma is due to bronchiolar contraction during expiration with relative dilatation during inspiration.

I note that Dr. Hare states that vascular engorgement has often been seen, whether by the naked eye or the laryngoscope, in all those parts of the respiratory tract which are exposed to view. Now, I happen to have had fairly good experience in laryngoscopy, but I am bound to admit that laryngoscopic examination during an asthmatic paroxysm is by no means an easy procedure, and though I have succeeded in obtaining a view of the larynx in a few cases, my experience is opposed to those to whom Dr. Hare refers. But I have only seen the vocal cords and supra-glottic portions of the larynx at all well; the view of the trachea has been too fleeting for me to contradict those who have been more skilful. May I ask who are Dr. Hare's authorities?

If Dr. Hare will offer us adequate explanation of the facts I have alluded to, he will increase our indebtedness to him for so much that is valuable in the clinical management of asthma, about which we have all a great deal to learn before we are on safe and altogether satisfactory ground.—I am, etc.,

Clifton, Bristol, Dec. 3rd. P. Watson-Williams, M.D.Lond.

PAYING HOSPITALS FOR PRIVATE PATIENTS.

Sir,—The interesting letter on this subject by Mr. Lawrie McGavin (British Medical Journal, December 2nd, p. 1506) prompts me to bring before your readers a brief outline of a scheme for the establishment of a large new nursing home for patients of limited means which is

now in course of formation in Edinburgh. This scheme has been exhaustively considered by the medical profession here through the local Branch of the British Medical Association and the Edinburgh and Leith Medical Practitioners' Association, and has been practically unanimously approved of by all branches of the profession.

Stated shortly, the scheme consists in the establishment of a self-supporting nursing home for patients of limited means, the institution not being run for profit. It will be open to all registered medical practitioners. It will contain about 50 beds, of which 18 will pay at the rate of one guinea weekly, 16 at the rate of two guineas, and 14 patients at the rate of three guineas weekly, the last mentioned having a private room. No medical man will have any pecuniary interest in the home other than his own fees. The equipment will include two operating theatres, an *x*-ray department, and ample facilities for the treatment of medical cases by massage and simple hydrotherapeutic measures. The home will be managed by an executive committee of nine members, six of whom must be medical men, who will be appointed equally by the Edinburgh Branch of the British Medical Association and the Edinburgh and Leith Medical Practitioners' Association. As the sum of 1 guinea weekly is below the minimum rate at which the beds can be self-supporting, the constitution of the home provides that all patients admitted at this rate must be specially recommended by their medical attendant as being suitable for admission at this rate. The initial cost of establishing the home will be from £10,000 to £12,000. Of this sum over £11,000 was recently obtained by public subscription in the course of a few months, over £900 being subscribed by members of the medical profession. As an indication of the extent to which the scheme appealed to the public, I may say that there were approximately 10,000 donors, the donations ranging from 3d. to £250, much assistance having been obtained from the hearty co-operation of over 200 voluntary lady collectors.

The success of such a scheme as is outlined above may be taken as assured. Under efficient management it cannot fail to be self-supporting. The data furnished by the Rutland Nursing Home, a small home established some years ago on similar lines, supply evidence at once of the soundness and practicability of the scheme. This home of 13 beds was originally founded on somewhat primitive lines at an initial capital expenditure of £400, and has taken in patients at from 30s. to 3 guineas weekly. As in the course of the past few years this home, paying a rental of £120, has been enabled out of revenue to repay the original capital, it may be taken for granted that a larger, more modern, and more efficient institution will be financially successful, more especially as there will be no rent to pay.

I believe that institutions of this nature will, ere long, be widely established. They cannot fail to be advantageous to the public, and in assisting to establish them the medical profession is, I think, merely fulfilling a duty which has been long overlooked. It is not one of the least advantages of such a scheme that it would, in all probability, be of value in mitigating the present hospital abuse: it is, in fact, a practical step towards the solution of that problem.—I am, etc.,

Edinburgh, Dec. 2nd. CHALMERS WATSON, M.D.

THE MEDICAL DEFENCE SOCIETIES.

SIR,—Practitioners are liable to actions at law for acts of their assistants or locumtenents. Neither of the defence societies protects its members against such actions, unless the assistant or locumtenent be also a member of the society. Since the letter to this effect appeared in the JOURNAL three weeks ago I have had some correspondence with the secretary of my own society, in which he says that they "have been advised that a doctor is not liable for the errors of his locumtenents, *if he has used proper care in selecting a competent man.* We might, therefore, very likely defend a member in such a case on the ground that he is not liable." With the present dearth of suitable locumtenents, it is often impossible, in sudden illness or other emergencies, to be absolutely certain of a locumtenent's competence. Therefore, all employers of assistants, and many (or, perhaps, all) employers of locumtenents, are subject to a danger of vexatious actions at law, against which their protection societies are unwilling to protect them.

It would be unreasonable to expect this risk to be covered by a single ordinary subscription: but it is difficult to see any reason why the societies should refuse to cover this risk to their members for a fee proportionate to the extra risk.

The difficulty cannot be overcome by employers seeing that their locumtenents and assistants are already members of defence societies. In the hurry of engaging an emergency locumtenent this would be impossible. With assistants it might be possible, providing the principal paid the subscription, but every time one changed assistants it would mean a fresh subscription; and thus a principal might have two or three subscriptions to pay in a year, though he never had more than one assistant at a time. The payment would thus be out of all proportion to the protection required, particularly as in these cases it covers only malpraxis, and not libels, etc.

The whole difficulty could be easily met if the societies would cover this extra risk at an extra charge. I hope that any members of the defence societies who desire to be protected against this risk will express this desire in letters either to the secretaries of their societies or to this JOURNAL.—I am, etc.,

Newcastle-on-Tyne, Dec. 2nd. T. L. BUNTING.

ACUTE POLIOENCEPHALOMYELITIS IN CORNWALL.

SIR,—Dr. Hopper says (BRITISH MEDICAL JOURNAL, p. 1510) that he supplied the facts connected with Penryn, and that he is prepared to substantiate them. Such facts, of course, relate not only to the sanitary condition of Penryn, but also to such cases of poliomyelitis as he alleges to have occurred there, and which have been included in the list of 21 cases cited by Drs. Gregor and Hopper in their paper published in the JOURNAL of November 4th. I therefore ask him if he is prepared to specify which cases in that list are Penryn cases, and also if he will furnish the name of the medical attendant for each case other than those attended by him, as he has had the courtesy to do for 6 cases in the list which occurred in other parts of the country. At present I will ask no more.

Dr. Hopper says that I stated that inferences were made by the authors of the paper, but that if I had understood what they had written I would have seen that no conclusion had been arrived at, etc. I would like to point out to Dr. Hopper that there is a certain amount of difference between an inference and a conclusion. I am afraid that not even their investigations have settled all doubtful points in regard to this disease.

As to the possibility of bathing in the sewage-polluted water of Penryn harbour having been a cause, this could not even be considered, for nearly all the cases were merely babes-in-arms, and so had not arrived at the time of life to enjoy a swim. On this point I am also glad that, with Penryn, other places I know of, which contribute to what pollution occurs in our harbour as much as Penryn does, are exculpated.

Of my two Penryn cases neither occurred in dirty houses, though in poor ones. I made careful investigation on this before filling up the Local Government Board forms.

I regret that Dr. Hopper does not understand which diseases are generally considered to be "filth diseases," or, as I said in my letter, those diseases which are "well known and well proved to be dependent *upon their origin* on insanitary conditions." I certainly do not consider that measles, scarlet fever even, whooping-cough, mumps, chicken-pox, etc., have been proved to be originated by insanitary conditions, though the influence of the same upon the dissemination of such diseases is, of course, well known. What town, what big public school, however good its sanitary condition may be, escapes from epidemics of these complaints? What I consider to be "filth diseases" are such as typhoid fever, diphtheria, etc., and of genuine cases of these I again state that Penryn for many years has been particularly free.

Dr. Hopper says that it is freely admitted in Penryn that many of the houses are filthy and insanitary, and that the streets are badly scavenged, etc. I should like him to take a ballot of the town on this point. That there are defects I do not deny. Show me the town where there

are none, and especially an ancient one such as ours. But that Penryn is in such a state that it should be held up in the general and local press as being exceptionally bad, and a place to be avoided, I strongly object to and deny. Whenever defects arise they are attended to and remedied as soon as, and as far as, possible, and I have no doubt the same attention to the welfare of the place will be continued in the future.—I am, etc.,

Penryn, Dec. 5th. JAMES BLAMEY, Medical Officer of Health.

GENERAL MEDICAL COUNCIL ELECTION.

SIR,—I wish to thank most sincerely those who voted for me at the last election as Direct Representative on the General Medical Council.

I think I may almost call them my personal friends, as owing to circumstances which are not necessary to detail now, those who voted for me were directly or indirectly influenced by old associations, and the fact that I have been connected with medical reform of the General Medical Council and elsewhere for a long period of years.

I also take the liberty of thinking that the principle of the judge not being the accuser, however indirectly, is a right one. All the direct Representatives are now the nominees of the British Medical Association, and, as such, will doubtless either have to act in the dual capacity or have to retire from the Council when cases of great interest to the profession are brought before it.—I am, etc.,

Plymouth, Dec. 4th. GEORGE JACKSON.

Medical News.

THE annual meeting of the Surgical Aid Society will be held at the Mansion House on Monday, December 11th, at 3 p.m., under the presidency of the Lord Mayor.

A DISCUSSION on the treatment of tuberculous disease of the joints is to be held at a meeting of the pediatric section of the Royal Society of Medicine next Friday, and those desiring to take part in it are requested to communicate with its Honorary Secretary, Dr. T. R. Whipham, 58, Wimpole Street, W. The three opening speakers are Mr. A. H. Tubby, Sir Anthony Bowlby, and Dr. Butler Harris, who will deal respectively with the relative advantages of operative measures, the results obtainable without operation, and the value of vaccine therapy.

THE excellent practical training in handicrafts which is a distinguishing feature of the Heritage Craft Schools for Crippled Children at Chailey, Sussex, was once more evidenced by the charming exhibition and sale of work held by permission of Mrs. Cazalet at 19, Grosvenor Square, on December 4th. The schools are an offshoot of the Guild of the Brave Poor Things, whose object is to provide afflicted persons of all ages with fitting occupations; therefore, besides the exquisite needlework contributed by the girls of the Heritage Schools, the stalls were furnished with a large assortment of knitted goods, toys, rugs, wood, metal, bead and basket work, made by the members of the various branches of the guild and of the establishment at Chailey. Another branch of this many-sided charity was represented by children belonging to the Bermondsey Guild of Play, who gave a most enjoyable entertainment in the form of the songs and dances for which they are famous. The sale was opened by H.R.H. Princess Louise, Duchess of Argyll, who made the gratifying announcement that the appeal which was issued last summer for funds towards the boys' Heritage craft school had been so successful that the building was almost completed, and the boys would shortly be moving in.

THE International Opium Conference was opened at the Hague on December 1st by Dr. van Swinderen, the Dutch Foreign Minister, who, as *ex officio* honorary president, welcomed the delegates of China, France, Germany, Great Britain, Holland, Italy, Japan, Persia, Portugal, Russia, Siam, and the United States. All the Powers represented at the Shanghai Commission of 1909, excepting Austria, sent delegates. It was announced that the Turkish Government, though invited to take part, had declined. The first day's proceedings were confined to formalities and a speech by Bishop Brent, after which the meeting adjourned till December 4th, when committees were appointed (1) to frame a programme for the conference, (2) to sift the reports and records, and (3) to deal with matters. In deference to the views of the Portuguese delegates, it was decided to treat boiled opium as distinct from raw opium. Separate programmes of resolutions as to morphine, cocaine, and hashish remain to be determined.

AT the annual dinner of the staff and past and present students of the Royal Dental Hospital, on November 24th, Mr. Walter Harrison of Brighton, who was in the chair, suggested that a formal oration should be included in the proceedings at the annual "at home" at the school. Speaking of the work of the institution, he said that the number of ordinary cases treated in 1910 was 99,258, or more than three times as many as in the year that he himself had taken his first qualification some thirty years ago. The lines on which its work was conducted were of a most scientific kind, and great responsibility in helping to maintain the reputation which it had attained rested on the shoulders of its old students. For this reason he wished that a larger proportion of them would engage in original research. All should join the British Dental Association and the Odontological Section of the Royal Society of Medicine. These remarks were made in proposing the toast of the hospital and its school and past and present students, which was acknowledged by, among others, the Dean of the school, Mr. Dolamore. The popular lectures which had been introduced at the hospital had met with much success, and were proving, he believed, really useful. An event of interest during the year was the publication of the first volume of the reports of the hospital. It had met with warm reception from past students, and the school was much indebted to Mr. Colyer for his work in connexion with it. With regard to research work, he called attention to that recently performed by Mr. Hopewell Smith in connexion with the teeth of school children, and mentioned that Mr. Maggs, to whose generosity the school was already indebted, proposed to do something in the way of endowing research work within its walls. The school had now undertaken the teaching of chemistry and physics to its own students. The toast to the guests was acknowledged by Dr. William Hunter, who made allusion to the presence among them once more of the very popular secretary of the hospital, Mr. Pink, whom he congratulated on his restoration to health. Other speakers during the evening were Mr. G. Northcroft, Mr. E. B. Armitage, Mr. R. McKay, and Mr. C. Robbins. The latter proposed the toast to the chairman, which was greeted with musical honours. The evening then ended in the singing of "Auld Lang Syne."

Universities and Colleges.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on November 15th.

Recognition of Teachers.

Dr. Herbert Elden Roaf has been recognized as a teacher of Physiology at St. Mary's Hospital Medical School.

Advanced Lectures in Physiology.

The Academic Council having reported that Dr. F. F. Blackham, F.R.S., would deliver eight lectures on vegetable assimilation and respiration instead of four as previously announced, it was resolved:

That the course numbered 6 in the list of advanced lectures in physiology be recognized as a course of advanced lectures which a candidate at the B.Sc. Honours Examination may name for part of his practical examination (Red Book, September, 1911, p. 235; see also Blue Book, p. 298).

Panel of Lecturers in Physiology.

Professor W. A. Osborne, M.B., B.Sc., and Mr. E. Mellanby, M.A., M.B., were added to the panel of lecturers in physiology.

Congress of Universities of the Empire.

Sir William Collins, Sir Edward Busk, Dr. H. A. Miers, F.R.S., and Professor M. J. M. Hill, F.R.S., have been appointed to represent the university at the Congress of the Universities of the Empire to be held in July, 1912.

Officers' Training Corps.

The new head quarters of the University Contingent of the Officers' Training Corps in the University Building, South Kensington, will be opened by Colonel J. E. B. Seely, Under Secretary of State for War, on December 12th, at 6.30 p.m., when the prizes will be distributed to the cadets of the contingent.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST FELLOWSHIP.—W. H. W. C. Carden, H. de L. Crawford, M.A., Dobbin, E. A. M. Magennis, A. Merrin.

FINAL FELLOWSHIP.—J. T. Duncan, W. A. Fernando, W. P. Kelly, A. Stokes, H. R. Tighe.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

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TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

X. Y. asks for advice as to the administration of vaccine of *Bacillus catarrhalis*, dose, frequency, etc.

P. asks for information as to general healthiness of Southern Rhodesia, particularly in respect of malaria.

ELECTRICITY understands there are various small electric lighting sets now on the market of moderate price and suitable for lighting small house in country. He would be very glad to have any information from any medical man who has installed one or who has gone into the question.

PATER asks for suggestions for the treatment of an erythema of the face, the remnants of a polymorphous dermatitis present on the scalp and face of a full-term female infant at birth, due apparently to the exhibition internally of liq. arsenicalis in 3-minim doses to the mother during the eighth month of gestation, for the treatment of severe neuralgia of the right arm, which yielded to it after one week. At the present time—three months after birth—there remains a faint erythema of the cheeks, nose, and chin, which becomes more marked when the child cries; it is sharply bounded inferiorly by the lower jaw; there is also slight pitting of the skin of the scalp and skin, on the site of pustules at birth. The infant is absolutely healthy in every other respect, and there is no question of a syphilitic taint in either parent. The condition at birth was almost a replica of the description of arsenical dermatitis given in Morris's *Diseases of the Skin*, p. 205 (second edition).

THE TONOMETER AND SCLEROTOMY.

D. W. asks if the Stephenson-Wolinski tonometer is an absolutely accurate instrument for estimating the ocular tension, and also desires to be informed of a work or monograph in English which gives fully the technique of Lagrange's operation of sclerectomy.

*** The tonometer cannot be regarded as an accurate scientific instrument, the intraocular tension can only be measured by manometric methods, which are, of course, inapplicable to the human eye. The tonometer probably gives a reasonable approximation. The best instrument is the Schiötz. It is, however, expensive, and has to be applied directly to the cornea after cocaine has been instilled. The Stephenson-Wolinski instrument is on its trial, and we do not know of any independent investigation of its accuracy. It is much cheaper than Schiötz's tonometer, and can be used through the lids. The use of the instrument demands much less technical skill than that of Schiötz, but it is questionable whether it is so accurate. Professor Lagrange's operation for producing a filtering cicatrix is fully described in the *Ophthalmoscope* for September, 1907, where there is an illustrated report of the paper he read at Oxford in July, 1907. The operation is one which demands exceptional technical skill, and, except in the hands of the most experienced, is liable to be complicated by loss of vitreous. An equally satisfactory cicatrix can be produced by the much simpler and perfectly safe trephining operation of Freeland Fergus and Elliott (*Ophthalmoscope*, December, 1909, July, 1910, and November, 1910). An operation which is safer than Lagrange's is Herbert's small flap operation, which is described in the *Ophthalmoscope* for November, 1911. In any case it will probably be advisable to add a small iridectomy if possible. Some ophthalmic surgeons, finding that all scars after operations on the globe are oedematous if tested with a probe, doubt whether these recent operations do much more than provide filtration for rather longer than after iridectomy or sclerotomy. The treatment of chronic glaucoma is unsatisfactory, because atrophy of the nerve commonly goes on steadily in spite of relief of the tension, which, indeed, is always slight and may be absent.

ANSWERS.

VACCINE TREATMENT OF ACNE.

DR. A. HAWKYARD (Leeds) writes: In answer to "Puzzled," I have treated about thirty cases of acne by the vaccine treatment, and have not yet had a failure. Of course, some cases do better than others. Ordinary stock vaccine will do, but I prefer a vaccine prepared from the patient's own cocci. The Yorkshire Pathological Laboratory, Leeds, prepare vaccines for a fee of 2 guineas. Begin treatment with small doses, gradually increasing at each injection, and allowing ten days or a fortnight between, the guide being the amount of reaction in the acne pustules. May I add I have had excellent results also in the vaccine treatment of gonorrhoeal rheumatism, chronic nasal catarrh, "tracheal" cough, puerperal septicaemia, septic wounds of hands, furunculosis, some chronic skin disorders, erysipelas, etc.? It is better, as a rule, to have the coccus or bacillus identified, and a vaccine prepared from it, because apparently the same condition may be caused by various cocci or bacilli. "Puzzled" will find ample information in *Vaccine Therapy and the Opsonic Method of Treatment*, by R. W. Allen, M.D., B.S.Lond. (2nd edition. London: H. K. Lewis. 1908. 7s. 6d.); or *An Introduction to Therapeutic Inoculation*, by D. W. Carmalt Jones, M.D.Oxon. (London: Macmillan and Co. 1911. 3s. 6d. net).

LETTERS, NOTES, ETC.

CHARLES II ON DRUGS.

DR. W. SCOTT TEBB (London, E.C.) writes: In the valuable article in dispraise of the doctor in the BRITISH MEDICAL JOURNAL (December 2nd, p. 1481) I did not notice the celebrated letter of Charles II when a boy to his tutor, the Duke of Newcastle, advising him not to take too much physic, "for it doth allwaies make me worse, and I think it will do the like with you." The MS. (undated) lies in one of the show cases of the British Museum, and is stated to have been written about the year 1638.

AUTOGENOUS VACCINES.

DR. GEORGE WILLETT (Keynsham, Somerset) writes: With reference to a note in the EPITOME of November 11th on a paper by Dr. Ch. Duncan (*Medical Record*), in which he mentions the possible treatment of sepsis by the oral administration of the patient's own discharges, for example, from wounds, I have always understood that the great objection to the oral administration of a vaccine or a serum was the destructive action of the gastric juice on their bacterial contents; but be this as it may, I am more anxious to hear how without any bacteriological examination and subsequent counting of the organisms present any accurate dosage can be arrived at, and, to carry the question on (*reductio ad absurdum*), I would ask what quantity of, say, a pneumonic sputum is needed to favourably influence any pneumococcic infection, or how much urine has to be ingested to treat a case of cystitis or nephritis due to *B. coli*, and also what reaction is to be looked for.

LABOUR UNREST.

DR. W. H. POLLARD (Edgbaston) writes: Last Sunday evening Mr. Percy Alden, M.P., was announced to speak on "The Church and the Labour Unrest." I was just about to start from my house to hear him when I was called to a confinement! So that in this case the "labour unrest" put "the Church" into the background.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Inaugural Address
ON
BIER'S HYPERAEMIC TREATMENT.

DELIVERED TO THE WILLESDEN AND DISTRICT MEDICAL SOCIETY, OCTOBER 20TH, 1911.

BY
HERBERT F. WATERHOUSE, M.D., C.M.EDIN., F.R.C.S.ENG.,
SURGEON AND LECTURER ON SURGERY, CHARING CROSS HOSPITAL; SENIOR SURGEON, VICTORIA HOSPITAL FOR CHILDREN; MEMBER OF THE COURT OF EXAMINERS, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

[AFTER a reference to the address he gave three years ago o the South Midland Branch of the British Medical Association, published in the BRITISH MEDICAL JOURNAL of uly 18th, 1908, under the title of "Professor Bier's reatment by Means of Induced Hyperaemia," Mr. Waterouse said that before giving the results of his three years' urther experience of the method, it seemed desirable to ive a brief epitome of the discussion of the theory of ier's treatment previously published.]

THEORY.

Professor Bier's treatment by means of artificially oduced hyperaemia was introduced nearly twenty years go. Its object is to produce a hyperaemic state of the orbid area, or to increase the hyperaemia in the inflamed rt, in the expectation that the increased blood supply ill assist the tissues in their contest with the invading icrobes, owing to the well-known antimicrobic action of e blood. I will avoid any attempt to reconcile this th the generally accepted teaching of the physiology d pathology of inflammation, for such an attempt would profitless, since most of the so-called explanations pear to me quite unsatisfactory. Professor Bier's suggesns were iconoclastic. They were diametrically opposed the teachings of physiology and pathology, and were erefore received at first with scorn and derision. The ginator of the treatment is now Professor of Surgery in great University of Berlin, and is one of the most honoured surgeons on the Continent. In homely language, proof of the pudding is in the eating of it. Bier's atment has only to be tried in suitable cases to conce even the sceptic of its efficacy. I confess that I not properly understand its *modus operandi*, though n convinced that it is one of the greatest surgical disveries of the latter part of the nineteenth century. Bier certainly taught us that we have greatly undermated the antimicrobic potency of the *circulating* d. It is of prime importance that the blood in the ased area continue to circulate. Stasis of the blood am is the thing to avoid with especial care, as it is ain to be harmful. Any arrest of the circulation ugh the diseased part must diminish the power of stance of the tissues, and this, in a chronic inflamory condition, would be the exact opposite to the effect lesire to produce, whilst in an inflammation which is e and virulent it might easily cause gangrene. I beg therefore, to bear constantly in mind, in carrying out yperaemic treatment, the essential axiom that *during hole duration of the application of the method it is preme importance that the blood continue to circulate through the diseased area, and that any tendency to s of the blood current must be carefully avoided.*

sis must mean lowering of the resisting power of the ged tissues, and may readily result in their necrosis. s hyperaemic treatment may do harm, and, owing to entific application, has often been productive of serious ge. This danger, however, is no argument against ployment by those who have studied its principles arry them out in practice. It is, however, a warning se who, without even a superficial knowledge of the ent, apply it in acute cases. Necessary as it is in all it is especially so in acute inflammations involving ore distal parts of the body that the surgeon must himself that during the whole course of the treatthe blood continue to circulate freely in the ed area. If the surgeon cannot make arrangements to satisfy himself on this vital point, he had better, certainly in acute inflammatory conditions, give up any attempt to carry out the hyperaemic treatment. I speak strongly on this matter, as I have seen numerous examples of serious damage caused by improper application of the treatment. Let me give one instance only. A medical friend, only a few weeks ago, wrote me that, in spite of my advocacy of the method, he was convinced that Bier's treatment was "an utterly unscientific one"! On making inquiry I learned that a patient, a shorthand reporter, suffering from a thecal whitlow, had consulted his medical attendant one evening. An elastic bandage was applied firmly above the elbow, and the next morning the greater part of the index finger was gangrenous. I had a bad half-hour with the patient, who appeared to think that his index finger was lost entirely owing to my having recommended a faulty and unscientific treatment. It would be difficult to conceive a case treated in more direct opposition to Professor Bier's instructions, and I think I may fairly claim to mine in the article before mentioned. Two very grave errors were made in this case: (1) The bandage was applied too firmly, with the result that the circulation in the damaged part was arrested; and (2) the pus present in the thecal sheath was not evacuated prior to the induction of the hyperaemia. I could only draw my friend's attention to the fact that he had entirely failed to appreciate the teaching of the article, in that (1) he had made no attempt to assure himself that the blood continued to circulate in the damaged finger; and (2) that he had disregarded the point, repeatedly insisted upon, that in suppurative lesions it was essential that, prior to the application of the treatment, vent must be given to the pus by timely incision. I beg you, therefore, in justice to a method of treatment which is still on its trial in England, to grasp its elementary principles before you put it into practice, as otherwise disaster, rather than benefit, will result. Let it be your first duty, especially in cases of acute inflammation in which the rubber bandage is employed, to satisfy yourself that the circulation of blood continue in the part distal to the constricting bandage. This can, at the commencement of the treatment, be readily assured by feeling the pulse in the part thus rendered hyperaemic. Soon, however, especially in acute inflammatory conditions, this becomes difficult or impossible owing to oedema of the hyperaemic part, but, fortunately, we have a reliable guide in the sensations of the patient. If the treatment be painless, or if, after a short trial, the pain which was present prior to its employment is sensibly mitigated, I am confident that all is well. If, however, the treatment excite pain which was previously absent or increase an already existing pain, then I know that I have wrongly applied it, and I immediately take steps to correct my mistake. Thus, in the different methods, I (1) loosen a too tight bandage; (2) diminish the suction of the cupping glass; or (3) lower the temperature of the hot air.

Be guided, therefore, in your employment of Bier's hyperaemic treatment by two rules which must never be broken:

1. Be careful that throughout the whole course of the treatment the blood continue to circulate freely throughout the part subject to treatment.
2. Assure yourself that the treatment be painless, or at least that it mitigate any already existing pain.

Provided that you keep the two above principles continually in mind, you need have no fear of doing harm by the employment of the hyperaemic treatment. Properly carried out, the treatment is not only painless, but its repetition is anticipated with satisfaction by an intelligent patient.

As students we were taught that there were five cardinal signs of inflammation—heat, redness, swelling, pain, and impaired function. Let us pause for a moment to consider how these are affected by Bier's treatment. Shortly stated, it may be said that it causes an increase in the heat, redness, and swelling, and a diminution in the pain and impaired function.

Were I to be asked what are the chief aims of Bier's treatment my answer would be:

1. The arrest of an infective process, or at least its mitigation.
2. Prevention of suppuration in many cases in which this is threatened.
3. Relief from, or at least mitigation of, pain.

4. Avoidance of operative treatment in many cases, or, where this is not possible, the employment of a less severe and less mutilating operation than would otherwise be necessary—thus the required incisions may be few and small instead of many and extensive.

5. Saving of time owing to hastening the eliminating processes in cases in which suppuration and necrosis are unavoidable, as in carbuncle.

6. Increase in the antimicrobic power of the circulating blood, due in large degree to the greater quantity of blood circulating in the diseased part.

7. Stimulation of the process of repair, as in cases of delayed union of fractures.

METHODS EMPLOYED IN PRACTICE.

In carrying out Bier's hyperaemic treatment three different agents are made use of:

1. Elastic constriction.
2. Suction by means of a cupping glass.
3. Hot air.

While I have no intention of attempting to discuss the physiology of each of these three methods I may state briefly, and I trust with sufficient accuracy, that:

1. Elastic constriction gives rise to a purely venous, that is a passive, hyperaemia.
2. Suction by means of cupping glasses produces a hyperaemia which is at first arterial or active, but soon becomes venous or passive.
3. Hot air occasions a hyperaemia which is purely arterial, that is, an active hyperaemia.

Were I to ask you which form of treatment would be likely to render the greatest service in the treatment of disease, you would, I think, answer without hesitation the third method, namely, that by means of hot air. In this case, however, as in many others, theory and practice do not run hand in hand. Of the three methods of treatment I have found hot air, which occasions the purely arterial hyperaemia, the least satisfactory, as judged by the results obtained, and elastic constriction, which causes a purely venous hyperaemia, the most valuable and efficient. I make no attempt to give any explanation of this; I simply give the results of my experience of the hyperaemic treatment.

I have had far greater experience of the effects of Bier's hyperaemic treatment by the employment of elastic constriction than of the two other methods, and my chief object is to recommend this application of the treatment. Elastic constriction is the method which deserves special attention at the commencement of your employment of the hyperaemic treatment, for the reason that it yields the best results, is the simplest to apply, and demands merely the purchase of an elastic bandage at a trivial cost.

The second method, in which suction by cupping glasses is employed to produce hyperaemia, necessitates the purchase of several cupping glasses of different sizes, and of rubber balls or air-exhausting syringes of varying degrees of force. It is obvious that a tiny furuncle and a large carbuncle require glasses and suction force very different in size and amount. The method, in spite of this disadvantage, will always remain one of real value, as it can be applied to the trunk, where elastic constriction is inapplicable.

Hot air I have employed infrequently in comparison to the two former methods. The reason for this is obvious. Except in the case of the hot-air douche, a separate apparatus is required for each patient—thus one for the ankle cannot be used for the knee-joint. Expense, therefore, has to be considered, and more than this, owing to the risk of damage that it entails, the method demands the personal supervision of the practitioner far more urgently than do the two former means of producing hyperaemia. It will therefore, in my opinion, have the smallest sphere of usefulness of the three.

1. *Elastic Constriction.*

This is the oldest of Bier's methods, and it is, in my experience, by far the most valuable.

I commonly employ a Martin's bandage, 1½ in. in breadth for application to the upper limb, and 2 in. for the lower limb. I invariably apply the constricting bandage to the upper arm in affections of or below the elbow, and to the lower part of the thigh for those of or below the knee-joint. In affections of the head, neck, penis, testicle, and scrotum ordinary garter elastic is amply sufficient. The constricting bandage is made to encircle the root of the part proximal to the seat of the affection. It is a matter of regret that to the above-mentioned parts alone can elastic constriction be satisfactorily applied. I have never succeeded in the case of the hip-joint, and have obtained only a limited amount of satisfaction in the treatment of affections of the shoulder-joint, where I have made use of a bandage applied over the mid-point of the clavicle and under a firm pad placed in the axilla.

The employment of the elastic constricting bandage may appear a very simple matter. Times without number I have explained the method to my medical friends, and have noticed that my somewhat minute instructions have wearied them. Some have appeared to take them as a reflection on their ability to apply a bandage. My experience has frequently been that the man who is cocksure at the consultation in the afternoon is far from confident when in the evening he comes, bandage in hand, to apply the constricting agent to the part above the affection, particularly in cases of acute inflammation. He then begins to ask himself if the application of the constricting bandage is as simple a matter as he had considered it to be, and I have frequently known the practitioner who rather resented instruction regarding the application of the bandage, request, on the telephone, more detailed information. Unfortunately it is impossible to give exact directions as to the amount of constricting force to apply. Each case seems to be a law unto itself. An amount of constriction which in Case A. may be readily borne and produce the desired effect, may, in Case B., cause intolerable pain, and, unless relaxed in good time, work irreparable damage. Yet the two cases may appear similar, and to demand equal treatment. In every case it is the bounden duty of the practitioner to wait a considerable time after the application of the constricting bandage to assure himself that it has not been too tightly applied. In acute cases half an hour is the minimum.

I would urge the importance of the practitioner, prior to leaving the patient, satisfying himself upon these three points:

1. That pain is abolished or at any rate diminished in the affected area.
2. That the pulse can be felt distal to the bandage.
3. That the hyperaemic part is of a dark congested bluish colour, with a slightly reddish tinge. Whilst in subacute or chronic cases this is the normal, in acute cases redness and oedema frequently rapidly extend up to the lower limit of the bandage. Such an occurrence is very alarming to the patient, but need occasion no anxiety, and may be regarded as satisfactory rather than the reverse. Provided that indications 1 and 2 are fulfilled the medical attendant may leave the patient with a quiet conscience.

You will next desire to know for what period should the bandage be applied and what interval should be allowed between the removal of the bandage and its reapplication.

Here, again, I regret that even after an experience of many hundreds of cases I can give no dogmatic rule. I can only state that in chronic cases I usually aim at nine hours "on" and three hours "off." Even in chronic cases in young children, at the commencement of the treatment, the period of the application of the bandage should be less than that given above, four to five hours being regarded as the limit. In all cases when the constricting bandage is removed it is a wise precaution to elevate the congested, oedematous part, and to sponge the skin compressed by the bandage with rectified or methylated spirit. In acute inflammatory conditions no rule can be stated as to the period of constriction permissible. In such, whilst the practitioner will, by the exercise of due care and supervision, obtain results of extraordinary value, he must ever keep before him the danger of doing harm instead of good. In cases of acute inflammation the faulty application of Bier's method may induce gangrene, and in cases of doubt we must underdo rather than overdo the treatment, but, if we are guided by the patient's sensations, we shall not fall into error. The rule that guides me in acute cases is to continue the treatment, in spite of rapid spread of the redness and oedema, provided that the patient assure me that the treatment is painless or that a previously existing pain is mitigated. Under the guidance of this rule I have experienced no mishap. I therefore

ommend it to you with all confidence. I have found it eneficial to diffuse the constriction over a relatively large rea, and generally cover with the elastic bandage at least ur inches of the arm and five of the thigh. It may at rst sight appear absurd in inflammatory conditions of the p of a finger or of a toe to apply the bandage to the pper arm and thigh respectively. The anatomical reason r this is that, were the bandage applied to the forearm leg, the interosseous veins might easily escape the nstriction and thus nullify our efforts.

Bier's treatment is also able to afford marked assistance wards recovery, even though, when the case first come der treatment, suppuration is already established. A ge number of cases also first come under observation which it is doubtful whether or no suppuration has curred in the affected part. Such cases bring to notice other phase of Bier's treatment, and furnish us with vast majority of instances in which Bier's treatnt. because of faulty employment, has done harm. ither Bier nor any of his followers has ever claimed t the treatment can cause the absorption of pus. hat we maintain is that Bier's treatment, judiciously plied, will, in a large number of cases, prevent the currence of suppuration in instances in which it would, ler any other treatment, almost inevitably have occred; but we freely admit that when pus formation has en place Bier's treatment is powerless to effect its rption, and if persisted in, without giving vent to the , is more likely to prove harmful than beneficial. Firm erent as I am of Bier's treatment, I know its limitas, and I beg to emphasize the rule that *in every case in ch pus is present it is absolutely necessary that, prior he commencement of Bier's treatment, the pus be nated.*

l abscesses, acute and chronic, demand similar treatt, namely, incision. No exception to this obligatory can for a moment be allowed. I need hardly state the necessity for its due observance is far more gent in the case of acute abscess; but even in chronic ss it holds good. It may be asked, What, in a case cute abscess—for example, a thecal whitlow—is the ntage of Bier's treatment? I need only mention two merits: (1) That in no case is a free incision requisite—y incision, hardly more than a mere puncture, just ient to give exit to the pus, is all that is necessary; 2) so soon as the puncture has been made the applicaof the constricting bandage rapidly, and far more inly than any other method, gives rise to a ready arge of pus and an improvement, painless and satisy, of the inflammatory process. I have chosen the ple of thecal whitlow as it is one of prime impor-

Consider the possible effects of a thecal whitlow te right index finger to you or me, to the or the musician. Even if we limit them e finger itself they assume a position of grave t. I have no hesitation in saying that since I d to treat such cases after preliminary puncturen by means of Bier's hyperaemic treatment, I have ed results far surpassing those yielded by the usual l procedures. In this connexion I wish to draw on to the diagnostic value of Bier's constricting e. A patient with a whitlow consults you. The is tender and painful. Surgical instinct says even be not pus present there is tension, and it is your make a free incision. The patient says: "Don't finger unless you are certain that pus is present." re you to do in this difficulty? Apply the cong bandage round the upper arm. One of two will happen: (1) The patient will, after five or ten s—even if the redness and oedema rapidly extend s—complain of no additional pain, and will even at the finger is less painful than prior to the appliof the bandage. Under these circumstances, you t assured that pus formation has not taken place, advise the continuance of the treatment by means aemia. Or (2) within a minute or two the patient us that the pain in his finger has become an ble agony, and he insists that the constricting be at once removed. In this case you may in that pus formation has already taken place. A ision is made into the centre of the painful area, a s of pus are evacuated, the hyperaemic treatment ed, and now the patient bears the constricting bandage with entire satisfaction. I have had very numerous examples of the two conditions above described, and I can safely assert that I know no more certain test in the whole realm of surgery of the absence or presence of pus.

I will not attempt to enumerate every case in which I have employed, usually with satisfaction both to the patient and myself, Bier's constricting bandage for the production of hyperaemia. I have made use of it with very excellent results in the treatment of tuberculous disease of or below the elbow and knee, particularly in children. In all such cases the hyperaemic treatment has been used in combination with the injection into the tuberculous area of a sterilized 10 per cent. emulsion of iodoform in glycerine. The results have been such as to convince me that this method of treatment is infinitely superior to any other, and that it offers by far the best chance of cure in surgical tuberculosis. I need hardly emphasize the fact that the earlier the case comes under treatment the better the chance of recovery. Bier's treatment can do wonders in the initial stages of tuberculous infection. It is far less potent for good in the later stages, in which necrosis and caseation with, perhaps, suppuration have occurred. In many such instances it may only be able to act beneficially after the dead tissue has been removed by the surgeon. Nowadays, fortunately, we have the means of diagnosing the tuberculous nature of the case in the earlier stages by several methods, of which I greatly prefer the injection of old tuberculin. This enables us to commence Bier's treatment in the early, that is curable, stages of tuberculosis.

I have for many years past made use of the constricting bandage in almost every case of microbic infection situated in a part amenable to the application of the treatment that has come under my care. My reason for so doing has been the knowledge that in the diseased part there is in progress a contest between the invading microbes and the blood and tissues of the patient, and that Bier's treatment is the best method known to science of aiding the tissues in their fight with the invading microbes. The more equal the strife the more urgent is the call for the hyperaemic treatment, and it is in those cases in which, in a fairly balanced contest, victory is inclining to the side of the microbes that the hyperaemic treatment achieves its greatest triumphs by turning the tide of battle and giving the tissues the upper hand. In a small proportion of cases of extreme potency of the microbes even Bier's treatment is of no avail. In others it may appear to be unnecessary as the tissues are able rapidly to overwhelm the invading organisms. In the great majority, however, there is a more or less equal struggle in which it is of supreme importance to render all possible aid to the tissues, and in which, therefore, the hyperaemic treatment must be employed.

The most frequent indications for the employment of Bier's constricting bandage will be:

1. Whitlows; but in the majority, that is, where pus is present, a tiny incision is required, prior to the application of the bandage, to give vent to pus.
2. Suppurative arthritis of the joints of both upper and lower limbs after incision into the articulation.
3. All varieties of pyogenic infections of the limbs, including cellulitis, osteomyelitis, and lymphangitis.
4. Teno-synovitis of tuberculous, pyogenic, or gonorrhoeal origin.
5. Gonorrhoeal arthritis, so frequent in the knee-joint in the male and the wrist-joint in the female.
6. Ununited fractures, or rather delayed union of fractures, in order to expedite the process of repair.
7. Crushing injuries of hand and foot, where the hyperaemic treatment has a marked influence in preventing suppuration in cases in which this is anticipated.
8. Chilblains, in which the hyperaemic treatment often acts as a charm.

The above is by no means an exhaustive list. It merely indicates what I have found the most frequent indications for the employment of the hyperaemic treatment in my practice, but in the majority of affections of the limbs the hyperaemic treatment will prove of real assistance and benefit.

In comparison with the limbs, the hyperaemic treatment in the other parts to which it may be applied has been

comparatively disappointing. I have, however, found distinct benefit result from the employment of a collar of garter elastic applied round the root of the neck in many cases of erysipelas of the scalp, face and neck, of boils and carbuncles, and of suppurative cellulitis. In tuberculous disease of the cervical glands, I regret that my results have been more or less disappointing. The constricting elastic garter has, in general, proved satisfactory in affections of the skin and subcutaneous tissues, but has failed to influence beneficially structures situated beneath the deep cervical fascia. In testicular and scrotal affections the value of the treatment has in certain cases been good, in others disappointing. Many instances of tuberculous and gonorrhoeal epididymitis have been benefited, but in general the results have not been striking. Superficial infections of the scrotum have invariably responded satisfactorily.

Before I leave the subject of the hyperaemia-producing bandage I desire, at the risk of repetition, to give a list of "don'ts."

1. Don't be alarmed at the rapid increase of redness and swelling, even up to the bandage, in cases of acute inflammation, as such a condition is usually the forerunner of a good result.

2. Don't hesitate to make an incision, which need never be more than a small puncture, in any case in which the bandage, properly applied, causes a marked increase in the pain, as this always indicates the presence of pus which urgently demands evacuation.

3. Don't hurry away from a patient suffering from an acute inflammatory affection, especially a whitlow, until you are convinced that all is well. Remember that the treatment, great as is its power of doing good, is capable of causing gangrene in such a case.

4. Don't, should gangrene of the finger unfortunately result, blame the treatment, but rather blame yourself for having misapplied it.

5. Don't forget that the measurement of the degree of constriction is a difficult matter to estimate, and that your muscular sense may mislead you. Remember that the object is to achieve venous congestion without arrest of the arterial blood flow; and therefore

6. Don't forget to feel the pulse distal to the constricting bandage.

7. Don't, finally, forget that you have in the patient's sensations the only safe measurement of the constricting force applied. If the patient inform you that the pain is mitigated or abolished, you may rest assured thall all is well, even though increase in the redness and oedema appear ominous. If, on the contrary, the patient declare that the pain is rapidly increasing in intensity, you must conclude either that your bandage is too tightly applied or that pus is present and demands instant evacuation.

2. *Cupping Glasses.*

My experience of the second of Professor Bier's methods of treatment, namely, suction by means of cupping glasses, or the partial vacuum method, has been large, but nothing comparable to that of the first method. One reason for this is, I think, that the cases suitable for this partial vacuum treatment are not such as are, as a rule, sent to the surgeon. The method is employed chiefly for affections situated on the trunk in which the constricting bandage cannot be applied. Whilst I freely grant that for certain, and particularly for cutaneous and subcutaneous pyogenic affections, this method of treatment is of extreme value, I must admit that the results obtained from its employment are far less striking and convincing than those afforded by the hyperaemia-producing bandage. As indicated above, the more superficial the affection the greater, as a rule, will be the benefit derived from the partial vacuum-producing suction glass. The more deeply placed the affection the less will it be influenced by the treatment. Herein lies the measure of the efficiency of the suction treatment.

A further reason for the inferiority of the method is that its employment can only be of short duration. It is to be measured in minutes rather than hours, as in the case of the constricting bandage. Its effects can therefore not be expected to be so far-reaching. For example, in the case of tuberculous disease of the wrist-joint the bandage may be applied for sixteen to eighteen hours daily. In that of a carbuncle situated on the back, the suction glass will rarely be applied for more than one hour daily, and even in this case with frequent intervals, during which the suction is removed. There exists an infinite variety of suction glasses, varying from one suitable for a small boil and provided with a small rubber ball, to one that can be applied to encircle a huge carbuncle, or to receive in its interior the entire breast and provided with a suction pump to produce the partial vacuum. Doubtless this question of the necessity of providing a suction glass suitable for all sorts and conditions of affections has militated against the more general employment of the method. This difficulty, however, is far less than appears on first consideration. If the practitioner obtain a small suction glass suitable for a furuncle and a medium sized one which can be employed in the treatment of an ordinary carbuncle, a special apparatus can be obtained from any instrument maker suitable for a large carbuncle, or the entire breast in case of need. With the two smaller glasses he can deal satisfactorily with a large majority of the cases demanding the suction treatment. In certain instances it is difficult to make the suction glass adhere to the skin; but this difficulty may be readily obviated by smearing the margin of the glass with eucalyptus vaseline.

In this as in the former method, the patient's sensations furnish our best guide to the amount of suction force to employ. Again I repeat, *No pain must be caused by the partial vacuum treatment.* As in the case of the constricting bandage, the tendency is towards doing too much rather than too little. Judgement is required, otherwise the treatment will do harm rather than good. Two other "don'ts" are in this place applicable: (1) Don't overdo the suction; (2) don't cause pain. Should the skin in the interior of the suction glass assume a white appearance, it is clear that it is anaemic, and that therefore the suction is too powerful. The skin should be of a congested bluish appearance, with in it a more distinct suggestion of red than in the case of the constricting bandage. This is as accurate a description as I can give you, though I admit that in cases subjected to suitable treatment either the blue or the red colour may predominate.

In this as in the former method, emphasis must be laid on the statement that Bier's treatment makes no pretence to be able to effect the absorption of pus. The universal rule of surgery holds true here as elsewhere: When there is pus it must be evacuated. The incision in this case again need only be a tiny puncture except when a large slough has to be expelled before healing can occur. In every case this puncture incision must be made before the suction is applied, otherwise the suction will cause increase of pain, and will be harmful rather than beneficial. I rarely employ the suction treatment for more than one hour daily. The application of the suction glass for five minutes at a time is usually sufficient, especially in cases of acute inflammation. At the expiration of this period the suction glass is removed for at least five minutes, in order to allow the oedema to subside. Should the practitioner apply the treatment twice daily, as in the case of a carbuncle after incision, he will find it convenient to apply suction for five minutes, remove it for five minutes, and then reapply it for five minutes, and so on for one hour at each visit. This, however, makes an inordinate demand upon his time, and requires his attendance upon the patient for two hours daily. If a nurse be available, or the patient be intelligent, I consider the better plan is to apply the suction for five minutes and to remove it for fifty-five minutes of every hour during the whole time the patient is awake. In many instances it will appear to the practitioner that he has to treat a case in which suppuration has not as yet occurred, and in which, therefore, it may be aborted. He applies the suction glass, and even though he decrease the suction force two or three times the patient complains that the pain in the part is considerably increased by the treatment. Here once again we have an example of what I may term the diagnostic value of Bier's treatment. Pus is assuredly present; on incision is made, pus—it may be only in minute quantity—is evacuated, the suction is reapplied, and the patient, who strenuously objected to the treatment prior to the puncture incision, is now a converted believer in Bier's treatment. After the puncture incision the suction treatment causes, as would be anticipated, a very free escape of blood and bloody serum. This discharge, however, soon ceases, and

healing is rapid and satisfactory, though frequently delayed until a slough has been expelled.

In addition to the suction glasses above mentioned, the partial vacuum treatment has been otherwise employed by Bier for the treatment of affections of the limbs, particularly of the joints. Large suction glass vessels furnished with a rubber cuff to grasp the limb proximal to the segment contained in the glass vessel and provided with strong suction pumps to produce the partial vacuum are employed. Such forms of apparatus I cannot recommend. A separate one is required for each joint, and one suitable for a big man will not do for a small child. Expense here becomes important. My chief reason, however, for not recommending this form of apparatus is that, in my experience, even an apparatus made specially for an individual patient has yielded results rather inferior to those attainable by the employment of the constricting bandage.

I have made use of the ordinary suction glass treatment, with great satisfaction, chiefly in the following cases:

1. Furuncles and carbuncles, usually after a puncture incisi n, but occasionally, as in blind boils, without this preliminary. In such instances the treatment has afforded results that have been uniformly excellent.
2. In acute and chronic abscess after incision.
3. In sinuses persisting after evacuation of a chronic abscess.
4. In mastitis, whether acute or chronic; in the former occasionally after an incision has been made.

In every case in the above list I think I may claim that the suction treatment has been beneficial. Boils and carbuncles have extruded their sloughs and healed readily; incipient boils have aborted; abscesses have run a rapid course towards recovery; sinuses of long duration have closed within days or weeks, and many cases of mastitis, both acute and chronic, have quickly improved. In all the above—and I think I may state in every case—recovery has occurred considerably sooner than would have been anticipated under any other method of treatment.

The method has also been frequently employed in otitis media suppurativa, after incision or rupture of the membrana tympani, with a fair measure of success. In lupus of the face, and in the treatment of post-operative keloid cicatrices, I think I have noticed benefit, but the results have been by no means striking. Quite recently I have employed the suction treatment after evacuation of the pus in cases of empyaema, with, I think, encouraging results.

3. *Heated Air.*

On theoretical grounds it would appear probable that the third method of Bier, should yield the best results, as it causes a purely arterial, as opposed to a venous, hyperaemia. It has, however, in my hands proved definitely inferior as a therapeutic agent to the two former methods.

Heated air is employed by Bier in two ways: (1) the heated air chamber, and (2) the heated air douche. It is absolutely essential that the heated air be dry, as otherwise results may cause harm.

The heated air chamber, in its most modest form, is a wooden box with certain orifices. The first opening provides a cuff to encircle the entering limb. The cuff may be made of felt rendered non-inflammable, and should be furnished with a cord or elastic band to ensure its fitting accurately the limb segment.

The other openings in the box provide for the entrance of the hot air, and for the thermometer, which should have its stem outside the box. It matters little from what source the heat is derived. A spirit, gas, or oil lamp will do, but an electric heater is preferable when obtainable. The latter is placed inside the box: in the case of the three former the lamp must be outside the box, and the opening for the latter for the entrance of the heated air must be provided with an inverted metal funnel, the narrow end of which enters the chamber while the wide end is placed over the source of heat. I have found such an apparatus, which can be made for a few shillings by a village carpenter, fulfil all desiderata. This removes one objection to the hot air chamber, but it is by no means entirely safe in unskilled hands. It demands constant attention and frequent observation of the thermometer. Burns have proved not infrequent; they may be due to the wood not being sufficiently seasoned, and thus allowing resin to sweat out and drop on the patient's skin, or to too high a temperature being employed. Both these causes are easily avoidable. In many cases the patient's sensations furnish a guide to the degree of heat employable, but I have learned by painful experience that, in some instances, the intensity of the heat annuls the patient's sensibility, and would therefore insist on the invariable employment of a thermometer and the avoidance of a temperature exceeding 250° F. I always impress upon the patient the statement that not only must the treatment be painless, but that the part subject to treatment must not feel uncomfortably hot.

I am well aware that higher degrees of heat have been employed, but I urge the path of caution. We should be satisfied in general with 230° F., and never exceed 250°. Gangrene of fingers, toes, and the skin of the dorsum of the hand and foot has occurred in certain cases. The more peripheral the part and the higher the temperature employed, the greater the danger. I generally employ a temperature of 230° F., and leave the part subject to this temperature for half an hour once a day.

It is in every case desirable that the temperature should be gradually raised and gradually reduced. This form of treatment is applicable only to the extremities, and is chiefly of value in chronic arthritic and osteitic affections in hastening the absorption of adhesions and exudations and in the alleviation of neuralgic pains. Here again the simple elastic bandage will in general prove equally efficient.

2. The hot air douche has but a limited field of usefulness. In its simplest form it consists of a lamp which is placed under an inverted metal funnel, to the narrow upper end of which a copper tube is attached by means of a universal joint. The tube is encased with asbestos or grasped by the hand provided with an asbestos glove. The temperature is regulated by measuring the distance between the lamp and the wide end of the funnel. The hot air douche is applied for a quarter of an hour twice daily. In certain cases—for example, sciatica and occipital neuralgia—it acts like a charm, and the same can be stated regarding cases of chronic osteitis, whether of syphilitic or of pyogenic origin, involving superficially-placed bones—for example, the tibia and mastoid process.

I have no time to refer to cases illustrative of the value of Professor Bier's treatment. In the BRITISH MEDICAL JOURNAL of July 18th, 1908, will be found 20 cases recorded by me illustrating Bier's treatment. Should, as I hope may be the case, some of you desire to further study this fascinating subject, I would recommend the excellent textbook, *Bier's Hyperaemic Treatment*, by Meyer and Schmieden.

UNDER the will of the late Mr. Charles Wardlow of Sheffield the Royal Hospital in that town receives a bequest of £500, and the Royal Infirmary and the Jessop Hospital for Women each £300.

DR. HALLIDAY SUTHERLAND, Medical Officer, St. Marylebone Tuberculosis Dispensary, London, on December 9th gave a lecture on the prevention and cure of consumption in the Synod Hall, one of the largest halls in Edinburgh, which was quite filled. Dr. R. W. Philip presided. The lecturer said that, of all preventable diseases, tuberculosis was the most deadly, and yet in some ways it was the most easily prevented, because there was a very long period of latency between the date of infection and the objective manifestation of the disease. The disease could be aborted by rendering the environment of the individual healthy. The open-air treatment had now spread all over the world, and in this connexion he emphasized the great value of the very effective pioneer work which had been done in Edinburgh by Dr. Philip and his co-workers. There, thanks to the enlightened policy of the local public health authority, provision had been made for advanced and hopeless cases, but in practically no English town had any such provision been made. In the last stages of this appalling disease there was no salvation but that offered by the Poor Law and the workhouse. No one could defend that. It was absolutely unjust. People who were taking an interest in this whole question were looking to Edinburgh as the place where the fullest and most complete scheme for dealing with tuberculosis was in operation. Edinburgh had led the world. Looking forward, he saw a time when tuberculosis would have ceased to be. At the close of the lecture an exhibition of cinematograph films, illustrating the work done by the Royal Victoria Hospital and its allied agencies, was given.

A Lecture ON LEPROSY:

A NEW VIEW OF ITS BACTERIOLOGY AND TREATMENT.

DELIVERED AT THE LONDON SCHOOL OF TROPICAL MEDICINE.

BY T. S. B. WILLIAMS,
CAPTAIN I.M.S.

I AM greatly indebted to Sir Patrick Manson for this opportunity of laying before you the results of investigations which I have been carrying out for some years into the bacteriology and treatment of leprosy.

Before proceeding to a description of my own results I should like to draw attention to the work of Major Rost, I.M.S., who is the pioneer of this work in India. Although doubt was thrown on his original work, published in 1904, I think that careful consideration of those results, especially in the light of Major Rost's more recent researches, and of that of other investigators, will give the impression that his early work was most important, and entitled to serious consideration. Personally, I am greatly indebted to Major Rost for the help which he has given me in connexion with my own research work.

The view which I wish to advance is that the lepra parasite is not an acid-fast bacillus belonging to the fission fungi, but that it is a very pleomorphic streptothrix, which, in addition to changes in form, exhibits marked changes in its staining reactions in regard to the quality known as "acid-fastness." This being the main point of my lecture, it will conduce to a clearer exposition of the subject if I may be allowed to refer very briefly to some of the principal features of the Streptotricheae. I would especially refer those interested in this group of organisms to the Milroy Lectures of 1910 by Mr. Foulerton of the Middlesex Hospital, which give a most interesting and clear account of this group of organisms, based on original researches extending over many years. The following description of the Streptotricheae is taken from those lectures:

The typical life-history of a streptothrix may be said to consist of:

1. Branching mycelium.
2. Isolated rod segments.
3. Spherical spores.

Development may be studied in one of the quickly growing saprophytic species. One starts with the spore; from this two or three threads sprout and elongate, so that at an early stage of development one has a typical ray fungus consisting of three mycelial threads, usually of unequal length, and radiating out from the position occupied by the central spore. From these primary threads lateral branches in turn sprout out, and soon there is developed a densely tangled mass of mycelium representing the fully developed stage of the organism.

The next stage is transverse segmentation. The branching mycelium, which hitherto has been apparently homogeneous in structure throughout its length, now presents transverse segments produced by an obvious process of degeneration extending across the mycelium.

Following this is a stage of fragmentation. The degenerated portions of mycelium disappear, and a conglomeration of separate rod segments represents the original system of branching mycelium. Generally speaking, these rods are morphologically identical with bacilli, except that here and there a rod with the remains of a lateral branch attached to it may be seen.

With, or soon after, the occurrence of segmentation a special kind of spore formation may be observed. In a typical instance special spore-bearing organs are developed; fine aërial hyphae, which, erecting themselves from the growth of mycelium, often cause a powdery appearance on the surface. Spores are produced in these aërial hyphae. It seems probable, also, that under certain conditions these spores may be produced along the length of the mycelium, as well as in the special hyphae. From these spores fresh filaments grow out.

The bacteria or fission fungi are defined as unicellular organisms, which reproduce themselves by a process of transverse fission or spore formation. In the one case the parent cell produces two new cells by clean transverse fission; in the other case a single endogenous spore is produced, so that a single cell succeeds a single cell.

In the hyphomycetes, or mould fungi, we have a more complex kind of organism, in which sporulation is a function of specialized spore-bearing organs of various types, the simplest, perhaps, of which is represented by the aërial hyphae of the Streptotricheae.

The stage of full development of the streptothrix is represented by a system of branching homogeneous mycelium. . . . As to the nature of what have been described as the spherical spores, there can be no doubt, and it is probable that the rod segments also have to be considered as being in a sense spore bodies; that is to say, it is probable that these rod segments represent a more resistant form which is capable of producing a new mycelium directly, and by means of which, in case of disease, the infection commonly is transported from one part of the body of the host to another. The fully-developed mycelium obviously, because of its bulk, would not pass easily from one part to another, except by steady invasion along continuous tissues; and there are reasons for believing that, when living as a parasite, under many of the conditions applying in case of disease, a streptothrix does not readily undergo complete sporulation, with the development of spherical spores. But, under parasitic conditions segmentation and fragmentation of the mycelium occur freely; isolated rod segments will be carried from part to part readily enough, and by the examination of sections through recently established secondary foci of infection, it has been found possible to obtain evidence microscopically of the early sprouting of branching mycelium directly from rod segments, and not from spherical spores.

The history of the Streptotricheae is further complicated by the fact that there is strong evidence that, under parasitic conditions of existence, the rod segments may be capable of reproducing themselves directly as rod segments, and thus simulating true bacilli.

It will be realized, then, how very complicated is the life-history of this group of organisms, and one may be led into many errors unless one keeps these facts constantly in mind.

I. BACTERIOLOGICAL WORK.

I have been engaged on a study of this question for several years. Prior to 1908 I had accepted the ordinary teaching that leprosy was due to an acid-fast bacillus belonging to the fission fungi. I had been getting results which, although considered useless at the moment, were producing an effect on my mind, and about the end of 1908 I became imbued with strong impressions regarding the morphology of the lepra organism. From a survey of my own results, together with a consideration of the work of Rost and Deycke, I became of opinion that leprosy was most probably caused by some species of streptothrix, and that the acid-fast bacillary masses, which were so well known, were merely phases of such a streptothrix, and that, moreover, they represented a resting and resistant stage of the organism. Since the beginning of 1909 I have grown from lepers in Persia and India apparently different organisms which, in my own opinion, and in that also of others who have seen my work, I have been able to connect up into one organism—namely, the *Streptothrix leproides*. I have grown the following phases of the organism:

(*a*) A non-acid-fast streptothrix in the mycelial stage and producing acid-fast rods.
(*b*) A non-acid-fast diphtheroid bacillus, producing also acid-fast rods. This is really a streptothrix.
(*c*) An acid-fast bacillus, which is but the broken down stage of a streptothrix, and
(*d*) An acid-fast mycelium.

Illustrations in colours of these micro-organisms may be seen in the number of the *Indian Medical Gazette* for May, 1911.

A. *The Non-acid-fast Streptothrix in the Mycelial Stage.*

This has been grown by me several times in ordinary broth media and in potato broth. From two cases I have grown (*a*) in ordinary media this mycelial form, and (*b*) in my imitation of Rost's medium and thence on to solid media the non-acid-fast diphtheroid form. Further, by subculturing the latter into ordinary media, I have changed it into the non-acid-fast mycelial form. Incubated at room temperature this non-acid-fast mycelial form appeared in eight weeks. Incubated at 37° C. growth was visible in ten days. In the first cultures, nests of acid-fast bacilli were present lying in the meshes of the mycelium. These diminished in number on subculture, and after the third subculture they were not found.

If grown on the surface of milk at 37° C. it appears in ten to fourteen days as a definite membrane which varies in colour according to the medium from which subculture was made.

If subcultured from potato broth the colour of the membrane was orange yellow, as compared with the orange

red of Deycke's organism. After about four weeks' growth some portions of it become very strongly acid-fast, and after six to eight weeks it breaks down into rods, which may be acid-fast or non-acid-fast. If injected into lepers in its non-acid-fast phase it produced no effect, whereas when a considerable amount of it had become acid-fast, then injection caused considerable reaction in lepers, producing both general effects and local manifestations in the leprous lesions. Control injections on apparently healthy individuals pointed to the specific nature of the reaction.

B. *The Non-acid-fast Diphtheroid Bacillus Phase.*

For this series of experiments I used either Major Rost's original medium, or an imitation prepared for me at Parel. The medium prepared at Parel was as follows:

(*a*) Lemco broth without addition of salt or peptone	...	...	250 c.cm.
(*b*) Distilled water ...	...	...	250 c.cm.
(*c*) Milk ...	...	...	50 c.cm.

In Major Rost's original medium, instead of 250 c.cm. distilled water, he added 250 c.cm. of a distillate obtained by blowing steam over rotten fish. This fluid contains amine bodies, and, in view of other results tending to show that end-products of digestion such as the amino acids may have some influence on one phase of the organism, I am inclined to lay much more stress than formerly on this distillate as an important constituent of the medium.

Using this medium, then, more especially my imitation, I have now on numerous occasions succeeded in growing a non-acid-fast diphtheroid organism from cases of leprosy.

All inoculations were made from non-ulcerated lepromata, and were controlled by ordinary media. The tubes were incubated at 37° C. After seven days, roughly, a very small flocculent membrane could be made out at the bottom of the tubes. This was seen to consist of masses of lepra bacilli lying in a zoogloea substance. Extended observation showed that the basis of the membrane was a streptothrix varying as to its acid-fastness. Morphologically, then, we had at this period a mycelium producing acid-fast nests, and it is quite comparable to the similar mycelium which I have already described as having been grown in ordinary media. This membrane never became large, and, as the medium is very opaque, it could only be seen with difficulty and in certain lights. From this stage matters seemed to remain dormant for a long period. At last, after two and a half to three months' incubation, it was noticed that in some tubes non-acid-fast organisms commenced to appear among the acid-fasts. These were identical with the lepra bacilli morphologically, but differed in being non-acid-fast. This form appeared too frequently to be considered as an accidental contamination, and when growth was obtained on solid media we were confirmed in this view. It was only with great difficulty that I obtained a growth of this phase on solid media. I used for this purpose tubes of lemco-glucose-agar, without salt or peptone, and inoculated them from tubes of Rost's medium, showing a good growth. They were incubated at 37° C. After eight to ten days' incubation, it was thought that there was a suspicion of growth. This was subcultured, and eventually a very delicate growth was obtained. The single colony is small, dense in the centre, and has a wavy irregular margin. Microscopically, these growths consisted at first of acid- and non-acid-fast bacilli, similar to those in the Rost's medium tubes from which subculture was made. As subculture succeeded subculture the acid-fasts gradually died out, and eventually a typical growth consisted of non-acid-fast bacilli. I found it difficult to convince people that this was the lepra organism in a non-acid-fast phase. Eventually, through the kindness of Major Glen Liston, I.M.S., who supplied me with amoebae, I was able to produce a strong argument to back my statements. It was found that if this non-acid-fast diphtheroid organism were cultivated with amoebae, then, at the end of about forty-eight hours the amoebae were full of acid-fast organisms. The amoebae further had a distinct influence on the organisms when they had not been ingested. Some were entirely acid-fast, and in others the dots had become acid-fast. Also, in two to three months' old pure cultures of this non-acid-fast organism, the dotted bacilli tended to die out, while the elongated involation forms became more numerous and in many cases distictly acid-fast. There is no difficulty in making out forms which show that this non-acid-fast bacillus is in reality a streptothrix.

C. *An Acid-fast Bacillus Phase, which is the Broken-down Stage of a Streptothrix.*

This I have grown from the non-acid-fast diphtheroid bacillus phase just referred to. This growth was obtained on several occasions by taking tubes of Rost's medium, in which there was a good growth of the acid-fast and non-acid-fast bacilli, and continuing to subculture them into Rost's medium instead of on to solid media. A time was reached when the balance between the acid-fasts and non-acid-fasts seemed to be settling in favour of the acid-fasts. The proportion of acid-fasts was for some time noted to be increasing in relation to the non-acid-fasts, and eventually I obtained a strong yellow coherent growth in the bottom of the tubes. This growth was strongly acid-fast, but by careful study the stages from the non-acid-fast diphtheroid to the acid-fast stage could be made out. At first one saw microscopically acid-fast cocci and cocco-bacilli. Extended observation has shown that these are merely broken-down phases of an acid-fast streptothrix. This phase now grows well on solid media, and it is very similar to one of Rost's varieties in its acid-fastness, its pleomorphism, its yellow colour on solid media, and in its power of producing severe reaction in leper patients. Generally it grows as a yellow sticky growth. It may, however, grow also as a yellow wrinkled membrane. This variation is also shown by Rost's organism.

D. *The Acid-fast Mycelial Stage.*

This phase I have produced from the non-acid-fast mycelium, and in conjunction with Major Liston I have grown it directly from a leper. This latter case was particularly interesting, as we found a streptothrix in the leper's spleen, from which spleen we made our inoculations. The streptothrix was lying in a blood space, and it could be seen penetrating into the pulp and ramifying amongst the masses of lepra-bacilli lying in the pulp. The whole spleen was sectioned, but the streptothrix form was certainly confined to one small piece of splenic tissue. In this case growth was obtained on Dorset's egg medium. This streptothrix was extremely interesting, as it passed through respectively all the phases which I am describing. In original culture it was an acid-fast mycelium, rapidly losing its acid-fastness and breaking up into acid-fast and non-acid fast bacilli. In subculture on ordinary agar it became a purely non-acid-fast bacillus. By putting it back into Rost's original medium it again became a beautiful acid-fast filamentous streptothrix.

Such, then, are the various organisms which I have cultivated, and at first sight it may seem difficult to believe that they are really but phases of the same organism, namely, the streptothrix of leprosy. If, however, the varied structure possible in a streptothrix be recalled, it will be admitted that it is quite possible for all these apparently different organisms to be but different phases of the same organism. The manner in which I have cultivated the different forms from the same cases of leprosy, and then again have changed the forms in subcultures, leaves no doubt in my mind that they are but phases of one organism, whatever may be the opinion as to the relationship of that organism to leprosy.

Regarding pigment formation in these growths I should like to say that pigment formation varies so much, even in the same streptothrix, when the conditions are slightly altered, as to make colour of the growth of practically no value in differentiating between these organisms.

Animal Experiments.

My animal experiments have been made with the organism in its acid-fast bacillary form. In this form, when injected subcutaneously into guinea-pigs in large doses, I have produced lesions somewhat resembling leprosy, with large numbers of cocco-bacilli appearing in the connective tissue cells. Moreover, Major Rost, with his organism, has produced all the clinical features of tubercular leprosy in a monkey, and in the nodules acid-fast bacilli were found, situated as in leprosy. I made a few experiments with the organism in its non-acid-fast mycelial form, but in view of the results obtained by Kedrowsky, I see that I did not allow anything like sufficient time for these experiments.

II. COMPARISON OF MY BACTERIOLOGICAL RESULTS WITH THOSE OBTAINED BY OTHER WORKERS.

I think we may take it that, with the exception of this school, the general teaching as to the causation of leprosy is still the textbook view—that is, that it is due to an acid-fast bacillus belonging to the fission fungi. Because we find the lepra organism parasitically as an acid fast bacillus, it is not necessarily a fission fungus. A study of the Streptotricheae will show that while a disease may be caused by a streptothrix, yet the obvious parasitic form found may be a bacillus or some other broken down form. The following extract from a paper by Unna, read at the Bombay Medical Congress, 1909, is extremely interesting in connexion with the foregoing. He says:

> As a matter of fact the leprosy organism includes a large and varied series of forms, which not only include the known bacilli and globi, but also others, different in morphology and staining reactions and transitional forms, which are inseparable from the growth of the leprosy bacilli in the skin. I will not enter further into the peculiar morphological shapes, coccus-like granules and granular threads (coccothrix), which were found in my laboratory by Lutz and studied more closely by me and my pupil Spengel.

Also it is important to note that there is definite evidence by Herrman and Unna to the effect that the lepra bacilli themselves are not always acid-fast. In the article on Leprosy in Allbutt and Rolleston's *System of Medicine* Dr. Abraham says:

> Herrman has also shown that in young or recent nodules similar masses of bacilli exist, which do not retain the red stain after immersion in weak acid, but are easily subsequently coloured with methylene blue. If, as he supposes, it is only the older (fuchsin-stained) bacilli that are resistant to the acid treatment, we may have some explanation of the general failure to recognize leprosy bacilli in the attempted cultivations.

I will now take the organism in its varying phases, and see how the work of others fits in:

1. *Non-acid-fast Streptothrix in Mycelial Formation, capable of being Converted into an Acid-fast Streptothrix.*

I have grown this several times under conditions which, in my opinion, point to its being merely a phase of the *Streptothrix leproides*. It varies between being non-acid-fast and acid-fast. Similar organisms have been grown by Kedrowsky, Deycke, and Bayon. Kedrowski's results are extremely interesting. He describes the growth of cultures showing long branching filaments, like those of a streptothrix, with also short bacillary forms. They varied between being non-acid-fast and acid-fast. He notes that the non-acid-fast become acid-fast on inoculation into animals. By inoculating his streptothrix into rabbits he produced very suggestive lesions. Lesions were produced containing acid-fast bacilli very like those of leprosy. From these lesions he cultivated organisms which were similar in morphology to the bacillary forms found in the tissues, but which differed in their reaction to Ziehl-Neelsen staining. All variations were seen, from acid-fastness to non-acid-fastness. In subcultures of these organisms definite branching was observed. He concludes by saying that he thinks the lepra parasite belongs to the Streptotricheae rather than to the bacilli.

2. *Non-acid-fast Diphtheroid Bacillus.*

As stated previously, I have grown this many times. I have demonstrated definitely that it is capable of becoming acid-fast. I have grown it into a non-acid-fast mycelial form and into an acid-fast bacillary form. In my opinion this is at present the most interesting phase of the organism, and the one through which the largest amount of connexion can be shown between my work and that of other investigators.

If we turn to the literature of the subject we find that many workers, whose technique is beyond question, although they have failed to grow an acid-fast bacillus, have all described the growth of a non-acid-fast diphtheroid organism. Amongst those describing the growth of such an organism are Babes, Levy, Czaplewsky, Spronk, Kedrowsky, Shiga, Rost, Bannerman, and Bayon. The last named has done some most important work on this subject, and his animal experiments with his diphtheroid organism should go far to convince the most sceptical as to the fact of there being more phases of the lepra organism than the acid-fast bacillus of the textbooks. Furthermore, Shiga describes also the presence of acid-fast bacilli among the non-acid-fast bacilli, and he proved it to be a pure culture. Agglutination tests by Shiga and Babes agree with my own, that is, that the organism is distinctly agglutinated by leprous and healthy serums, but in about the same degree.

Babes has grown this diphtheroid many times, and according to the last reference to his work with which I am acquainted, he considered that although it was probably the lepra bacillus, yet it could not be considered seriously unless—

1. It could be grown into the acid-fast state;
2. It could produce a tuberculin-like reaction in lepers; and
3. It could produce leprosy in animals.

These conditions have now been realized. It is true that it only produces a "tuberculin-like" reaction in its acid-fast state; but that is immaterial to the argument. The animal experiments of Kedrowsky, Rost, and Bayon are very definite, and leave very little room for doubt as to the connexion of these various phases to the disease.

3. *The Acid-fast Streptothrix.*

As already pointed out, this may occur as a mycelium, or in broken down form as a bacillus.

In its *mycelial* form it has been grown by Deycke, by myself separately, and in conjunction with Major Glen Liston, I.M.S.

In its *bacillary* form it has been grown by Rost, Clegg, Duval, Bayon, and myself.

A typical tuberculin-like reaction has been described for this acid-fast phase by Rost, Deycke, Clegg, and myself.

A further point of interest is the fact that Rost and Deycke published their original papers about the same time, that is, Rost in 1904, and Deycke in 1905. If their papers are read carefully, and their clinical results compared, the similarity is striking.

I think, then, that Rost and Deycke both grew the organism in 1904 and 1905 respectively. Rost produced it in bacillary form, and Deycke in mycelial form. While Rost definitely claimed his organism as the leprosy bacillus, Deycke, in later papers, expressed the opinion that his streptothrix had no relationship to the leprosy bacillus.

In my opinion Major Rost is entitled to the credit of being the first to introduce a successful specific treatment for this disease, and that as far back as 1904.

So much for the organism in its individual phases. The accompanying chart illustrates the various phases of the leprosy streptothrix as they have been grown by me, and it will be seen that the work of many investigators fits into that chart. The arrows indicate that the organism towards which the arrowhead points has been grown from the leper or organism at the opposite end of the arrow. It will be noticed that in some cases the arrows are pointed at each end, indicating that the phases at each end of the arrow have been converted one into the other.

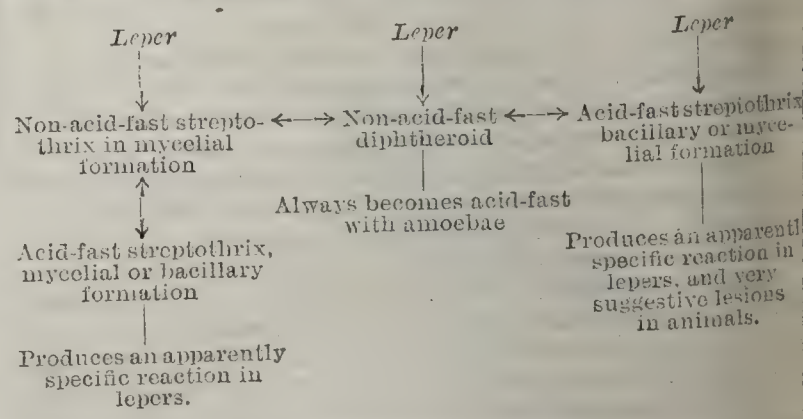

Shortly, it will be seen that the three phases—

1. Non-acid-fast mycelium,
2. Non-acid-fast diphtheroid organism,
3. Acid-fast streptothrix (bacillary or mycelial)—

have been grown separately from lepers. Then it will be seen that the non-acid-fast diphtheroid has been grown into an acid-fast phase and into a non-acid-fast mycelium

which latter itself was further changed into an acid-fast mycelium.

I think that with this short explanation, in view of what I have already said, the chart will be understood.

III. The Application of the Bacteriological Results to the Treatment of Leper Patients.

The first thing I set out to determine was whether the streptothrix, used as a vaccine, could produce any reaction, of the nature of a tuberculin reaction, and, if so, to control it by similar doses of vaccine given to apparently healthy people.

It was found that the streptothrix, in its non-acid-fast form, whether mycelial or bacillary, did not produce any reaction; when, however, the organism was used in its acid-fast state, a very definite reaction was produced. The reaction in typical cases was manifested by general symptoms such as fever, malaise, etc., and by distinct reaction in the leprous lesions. In the *Indian Medical Gazette* for May, 1911, temperature charts showing typical leprolin reactions are given, and also twelve charts of apparently healthy individuals, who received large and frequent doses of the vaccine. It will be seen that, whereas in lepers a definite temperature reaction was produced, the injections in the apparently healthy persons produced no appreciable effect.

The reaction in lepers varies within wide limits. It may be very slight or it may be so severe as to endanger life. With the general symptoms of reaction, the local manifestations in the leprous lesions also vary, from a slight feeling of itching and heat in the nodules, to acute inflammation, with suppuration. Similar reactions are described by Rost, Deycke, and Clegg for their organisms.

Having obtained such results, which seemed to point to the specific nature of the organism, I proceeded to examine its therapeutic possibilities. At this point I may mention that, quite apart from the work forming the subject of this lecture, I have had considerable experience in the treatment of this disease, both with the older remedies and with the nastin treatment of Professor Deycke. During the last three years I have treated over sixty cases, for lengthy periods, by means of the nastin method, and I should like you to know that our latest results have been contrasted with those obtainable by other methods of treatment.

Prolonged investigation has shown that it is possible, with a vaccine made from the acid-fast phase of the organism, to influence the disease materially, and to cause, in many cases, marked retrogression, and even complete disappearance of the outward signs of the disease. These results confirm those obtained by Major Rost, with a vaccine made from his organism.

It is not possible here to give you much detailed information regarding the clinical results already obtained, but improvement has been observed in both nodular and anaesthetic cases.

These beneficial results have been obtained so definitely in relation to treatment, and in so many cases, that there is no question of their being accidental or due to spontaneous cure. There is no doubt that the vaccine can exercise beneficial effects on the disease, even up to complete disappearance of the clinical signs, and I have now in a few cases sufficiently long under observation to justify me in venturing the opinion that by means of vaccine methods we can prevent further exacerbations of the disease.

At present I recommend (except in very early cases) that vaccine treatment should be adopted mainly with the aim of preventing further progress of the disease.

It is obvious that where massive lesions have been formed during several years we cannot expect very rapid improvement. In early cases, however, I think that, by a combination of vaccine therapy with surgical methods, we may cause a total disappearance of the symptoms, and, if my hopes as to the immunizing power of the vaccine are verified, we shall be able in such cases, by judicious use of the vaccine, to prevent fresh exacerbations of the disease.

I do not think it is wise at present to lay much stress on the possibility of "cure." The moment we introduce the word "cure" we are liable to be led on to various side-issues, discussion of which would tend to obscure the value of the actual results at present attainable.

However good may be the clinical results achieved in any individual case by vaccine treatment, I think it is probable that there must remain for a very long time a number of lepra bacilli capable of producing a recrudescence of the symptoms if the state of immunity be not kept up by the use of the vaccine. I draw attention to this now in order to ask medical men using the vaccine method of treatment to be satisfied so long as they are getting clinical improvement, and not to despair if they cannot get rid entirely of the "acid-fast bacillus."

Those who may use the vaccine will find that its effects seem to vary a good deal. The vaccine must not be used in any "rule of thumb" manner, but the patient and his lesions must also be considered. For instance, in a case with very definite localized tubercles it will be found by cupping that the tubercle has a very defective blood supply. It remains pallid in the midst of its engorged surroundings.

Obviously, in such a patient, the blood may be strengthened against the lepra parasite, but as the blood cannot get at the lesions the results will be poor. In such cases I have used cupping with marked benefit.

From this stage with very defective blood supply all grades of lesions may be met with up to the diffused infiltrations where the blood supply is little, if at all, interfered with. The nearer to a good blood supply, the better will be the results. The best reactions and clinical improvement will be obtained in patients in whom the lesions are "juicy." As far as my experience goes, the more "juicy" the lesions, the more definite the reaction and subsequent improvement. The old sclerosed cases may be with difficulty affected.

The vaccine is now being made at the Bombay Bacteriological Laboratory, Parel, Bombay. The dose recommended at present for routine use is about 1 c.cm. I use doses varying from 1 to 5 c.cm., but with the higher doses, in certain juicy cases, very dangerous and even fatal reactions may occur.

Briefly, then, these are the results which I have obtained, and I think that when the results are compared with those of other investigators, a case is made out for a revision of the generally accepted views as to the bacteriology and treatment of this disease.

If these views become generally accepted, then it is obvious that we must examine anew all the clinical manifestations of the disease, to determine the part played in them by the differing phases of the streptothrix. Further, when the various suggested modes of transmission of the disease are examined from this new point of view, it is possible that more tangible results will be achieved in the elucidation of this very interesting and important problem.

It would appear from the accounts presented at the annual general meeting of Livingstone College on December 5th that the year 1910–11 was hardly satisfactory from a financial point of view. In this respect its experience is on a par with that of allied bodies, for there has been a falling off, we understand, in the receipts of most missionary associations for some years past; indeed, one purpose of the World Missionary Conference at Edinburgh was to consider its causes and how they could be met. Still, Livingstone College would never find difficulty in paying its way if missionary bodies duly recognized that the elementary knowledge of medicine and hygiene it supplies was a necessary part of the education of those they dispatch to tropical countries. This, however, has hitherto not been the case; their attitude towards this enterprise has, indeed, been much less reasonable and gracious, so to speak, than that of the medical profession, which, so soon as assurance was offered that its authorities set their face strictly against old students practising medicine when within reach of properly qualified medical men, at once afforded it support. One fact in particular in the record of events of the past year is somewhat striking evidence of this circumstance; the principal of the college, Dr. Charles Harford, has, with the full approval of the medical men concerned, been appointed to hold simultaneously a post under the Church Missionary Society, which will involve his supervision of its medical missions. We note, too, that the students of the college continue to be welcomed at the Seamen's Hospital, the Poplar Hospital, and other institutions, and that several well-known medical men are assisting in their education.

A REMARKABLE DAILY VARIATION IN LEUCOCYTES IN SEVERAL DISEASES:

*MALARIAL FEVER, HODGKIN'S DISEASE, CANCER.**

BY

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Prefatory Note.

THESE observations were made by means of a new blood counting method devised by me to make exact enumerations of the number of parasites in malaria and sleeping sickness, as suggested by Sir Ronald Ross. Some of these enumerative researches have already been published: Ross and D. Thomson (1910), Fantham and J. G. Thomson (1911), Ross and D. Thomson (1911), Ross and J. G. Thomson (1911), D. Thomson (1911). Although it is recognized that the leucocytes in normal individuals do not vary beyond about 5,000 to 15,000 per c.mm., yet I have thought it advisable to make three controls to show that the method is accurate enough. The apparatus is at present in the hands of the instrument makers, and as soon as it is ready I shall publish a full description of the instrument, with the method of using it (1911).

MALARIAL FEVER.

In the *Annals of Tropical Medicine and Parasitology*, vol. v, No. 1, 1911, I published the results of a year's research on the behaviour of the leucocytes in malarial fever. In that article it was pointed out that isolated blood counts once daily were insufficient, and that it was necessary to examine the blood every four to eight hours before the true behaviour of the leucocytes could be ascertained.

The leucocyte charts obtained in this way were very remarkable, and justified the great amount of labour entailed.

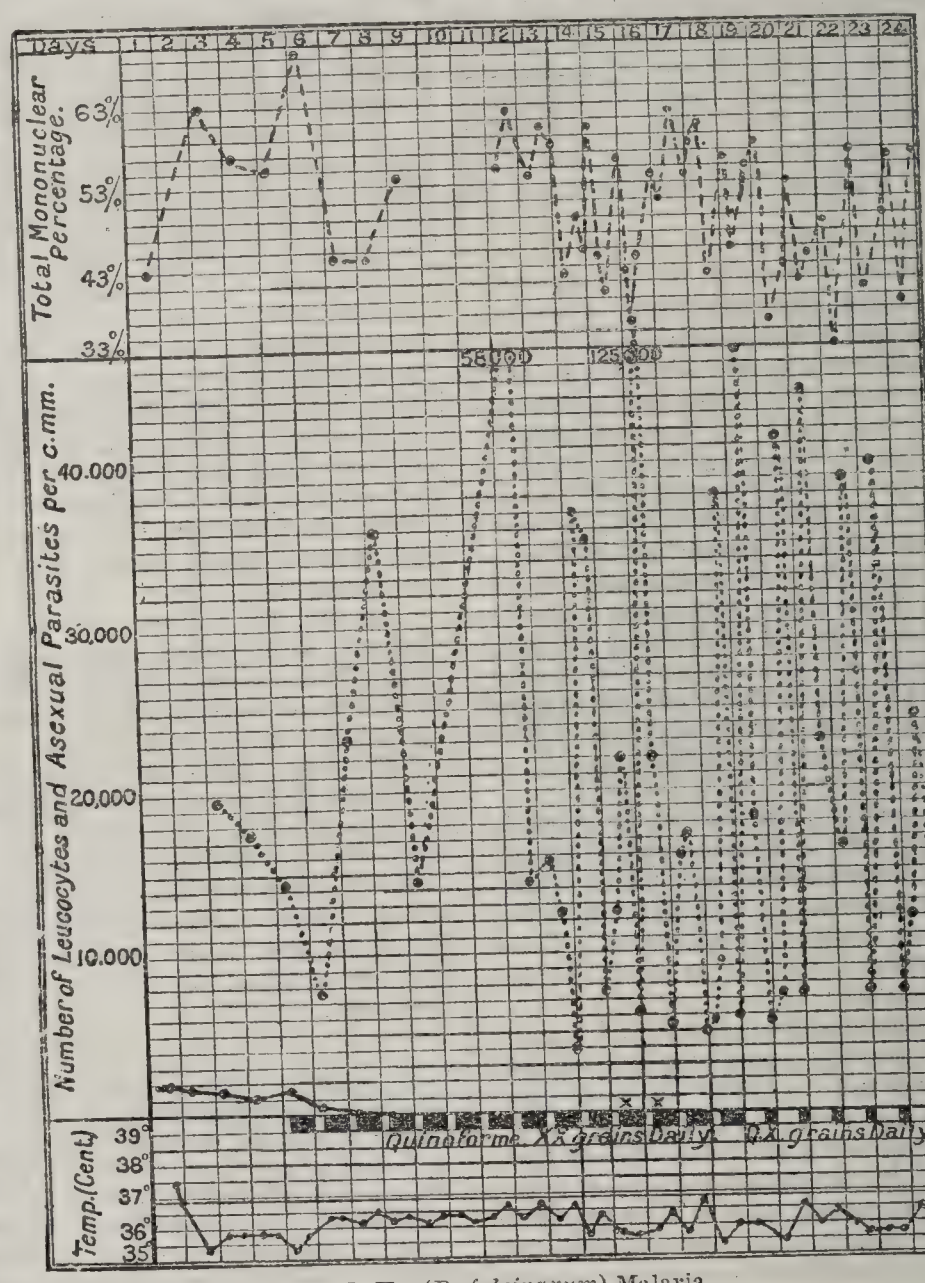

T. H.—(*P. falciparum*) Malaria.

—•—•— Asexual parasites per c.mm. -•---•- Total mononuclear percentage.
•••••••• Leucocytes per c.mm. X = X rays ten minutes over spleen.

It was noticed that the leucocytes changed very markedly in numbers and in variety according to the stage of development of the malarial parasites, and also according to the number of parasites present in the blood. During the sporulation of the parasites—that is, during the liberation of the malarial virus into the blood plasma, the percentage of mononucleated leucocytes falls markedly, and where many parasites are present the total leucocyte count is also low.

Simultaneously with the fall of temperature the leucocytes increase in number and also the percentage of mononucleated leucocytes rises. This leucocytic variation was found to be much more delicate than the temperature change. Long after the temperature remained normal and the disease was apparently cured by quinine the change in number and variety of leucocytes continued in a very marked degree. Thus it was found that a very marked leucocytosis took place about the time of the day during which the sporulations of the parasites had formerly occurred. This marked increase in leucocytes continued only for a few hours, when they again fell to normal numbers. I attribute this phenomenon to the supposition that small numbers of parasites must still be alive and sporulate as before, in spite of continued quinine treatment, though they are, however, too few in number to cause a temperature reaction, or to be detected even by a prolonged microscopic search. The chart of Case T. H. (*P. falciparum*) shows this phenomenon very clearly. This case had quotidian fever, and later, when apparently cured, showed marked quotidian rises in the number of leucocytes occurring at the time of day when the fever was formerly due.

Strange to say, when the parasites are very numerous there tends to be a constant leucopenia; but as the numbers of parasites become reduced the leucocytes increase, and finally the marked periodic leucocytoses occur, when the parasites are too few to be detected.

In support of my belief that this latter phenomenon is due to the sporulation of small numbers of parasites, I found that a subcutaneous injection of five to ten million dead malarial germs, mixed with corpuscles, produced in one half-hour a marked and transient leucocytosis.

As these leucocytic variations might be of great value as a diagnostic sign of latent malaria, Sir R. Ross considered it advisable that I should examine the blood of various other diseases in a similar manner—namely every four to eight hours over a period of several weeks. In septic diseases with suppuration it was found that the number of leucocytes remained more or less constantly high, with a tendency to be more numerous during the intervals between the swinging temperature. In other words, the leucocytosis swung at a high level inversely with the temperature. This phenomenon has also been observed by Dr. Moore Alexander, Pathologist to the Royal Southern Hospital, Liverpool. In these septic cases a high polymorphonuclear percentage is more or less constantly maintained.

HODGKIN'S DISEASE.

The next cases that I examined in this way were two of Hodgkin's disease and one of cancer of the stomach.

CASE I.—H. M., male, aged 14, under the care of Dr. Macalister at the Royal Southern Hospital, Liverpool, was diagnosed by him as a case of Hodgkin's disease.

History and Clinical Notes.—Two years previously two small masses were observed on the side of the patient's neck. The medical attendant operated and removed them, but the swelling again appeared, and grew slowly and painlessly on the left side of the neck between the ear and the shoulder. He came under the care of Dr. Macalister on February 28th, 1911. Since then the swelling has enlarged considerably, and is now as large as a goose's egg. Various other glands in the body are also enlarged.

* This variation occurred in all of 40 cases of malaria examined; but with regard to the two latter diseases the author does not assert from his isolated cases that it is a constant occurrence.

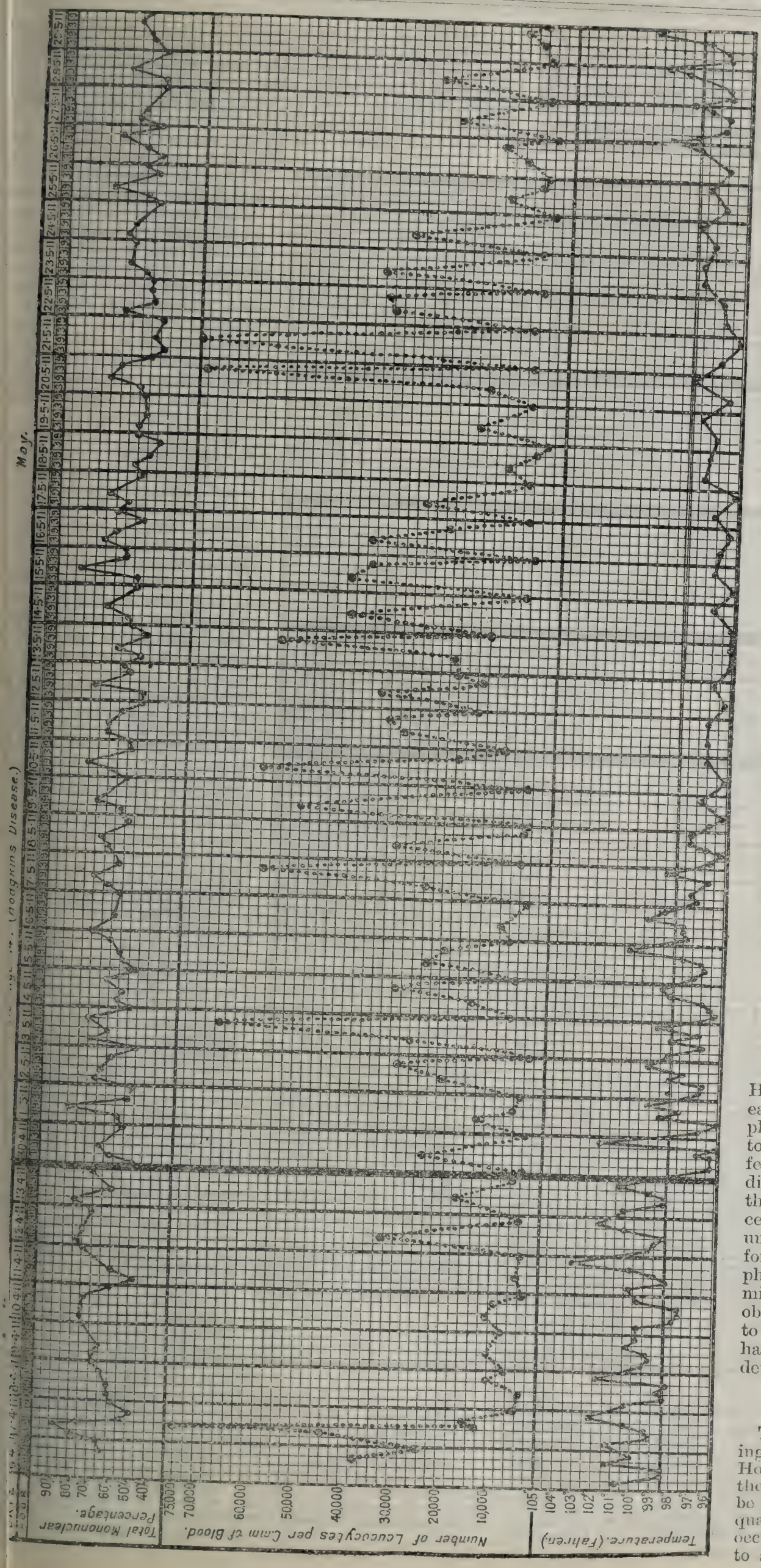

but they are not so prominent as those on the left side of the neck. The liver extends 1½ in. below the costal margin, and the spleen is enlarged to 2 in. below the costal margin. The patient has bouts of daily pyrexia, alternating with periods of freedom from fever, as indicated on the chart. The patient is not, as a rule, confined to bed. The treatment has been chiefly the administration of arsenic preparations and the occasional application of *x* rays over the swelling in the neck.

I commenced to make observations on the blood of this patient every six to eight hours on April 6th, 1911, and continued these observations over a period of two months. From the accompanying chart it will be clearly observed that a very remarkable leucocytic phenomenon has been revealed in this case.

(*a*) There is a very marked daily variation in the number of leucocytes, showing occasionally a swing from 6,000 to 75,000 leucocytes per c.mm. of blood—a twelvefold increase.

(*b*) The percentage of total mononuclear leucocytes is abnormally high amounting to from 50 per cent. to 80 per cent. of the total leucocytes.

(*c*) The mononuclear percentage tends to rise with the rise in the number of leucocytes.

(*d*) The number of leucocytes rises with the fall of temperature and falls with the rise of temperature.

(*e*) This leucocytic variation takes place during the periods of freedom from fever, and tends to be even more marked during the apyrexial period than during the pyrexial period.

Here, then, we have a disease in which the leucocytic phenomena are very similar to those found in malarial fever. The chief point of difference is that in the latter the total mononuclear percentage does not remain so uniformly high as in the former. These leucocytic phenomena suggest to my mind the possibility that this obscure disease may be due to some protozoal parasite having a definite periodic development.

Leucocytes.

The blood in this interesting case is not typical of Hodgkin's disease, in which the leucocytes are said to be normal in number and quality, and any leucocytoses occurring are said to be due to an increase in the poly-

morphonuclear variety, whereas in this case they are due chiefly to an increase in the mononucleated variety. The mononuclear leucocytes in this disease were of the large type of lymphocytes. This case would seem therefore to lie midway between a Hodgkin's disease and an acute lymphatic leukaemia. Such cases are mentioned by Cabot (1904). He states that "transitions from Hodgkin's disease to leukaemia have taken place under the eyes of competent observers, but they are very rare. But few such cases are on record, so far as I know, that of Flescher and Penzolt,[8] that of Mosler,[9] and one reported by Senator,[10] in which two sisters came under observation both suffering from Hodgkin's disease. One died of it. In the other the blood changed to that of leukaemia before death. Wende[11] reports a typical case of this transition. . . . From the existence of these very rare cases of a transition to leukaemia, it has been supposed, specially by French observers, that Hodgkin's disease is simply an early stage of true leukaemia, and that this would always become apparent were it not that the patients die of some intercurrent disease before the signs of leukaemia have time to show themselves in the blood."

I have no authority on these matters, and wish simply to give an account of the leucocytic phenomena which have been revealed in this case. I would like also to lay stress on the importance of frequent daily blood examinations, as I now believe that no true estimate of the numbers of leucocytes can otherwise be obtained. In this case very occasional eosinophilic myelocytes were found. There were no mast cells, and there was no marked increase of eosinophiles.

The red cells showed very marked poikilocytosis, and in fresh blood films showed some amoeboid movement. Nucleated red cells were very scarce, but a considerable number showed basophilia. Microcytes were also occasionally seen. The number of red cells averaged about 4,200,000 per c.mm. of blood. The haemoglobin was on the average 75 per cent.

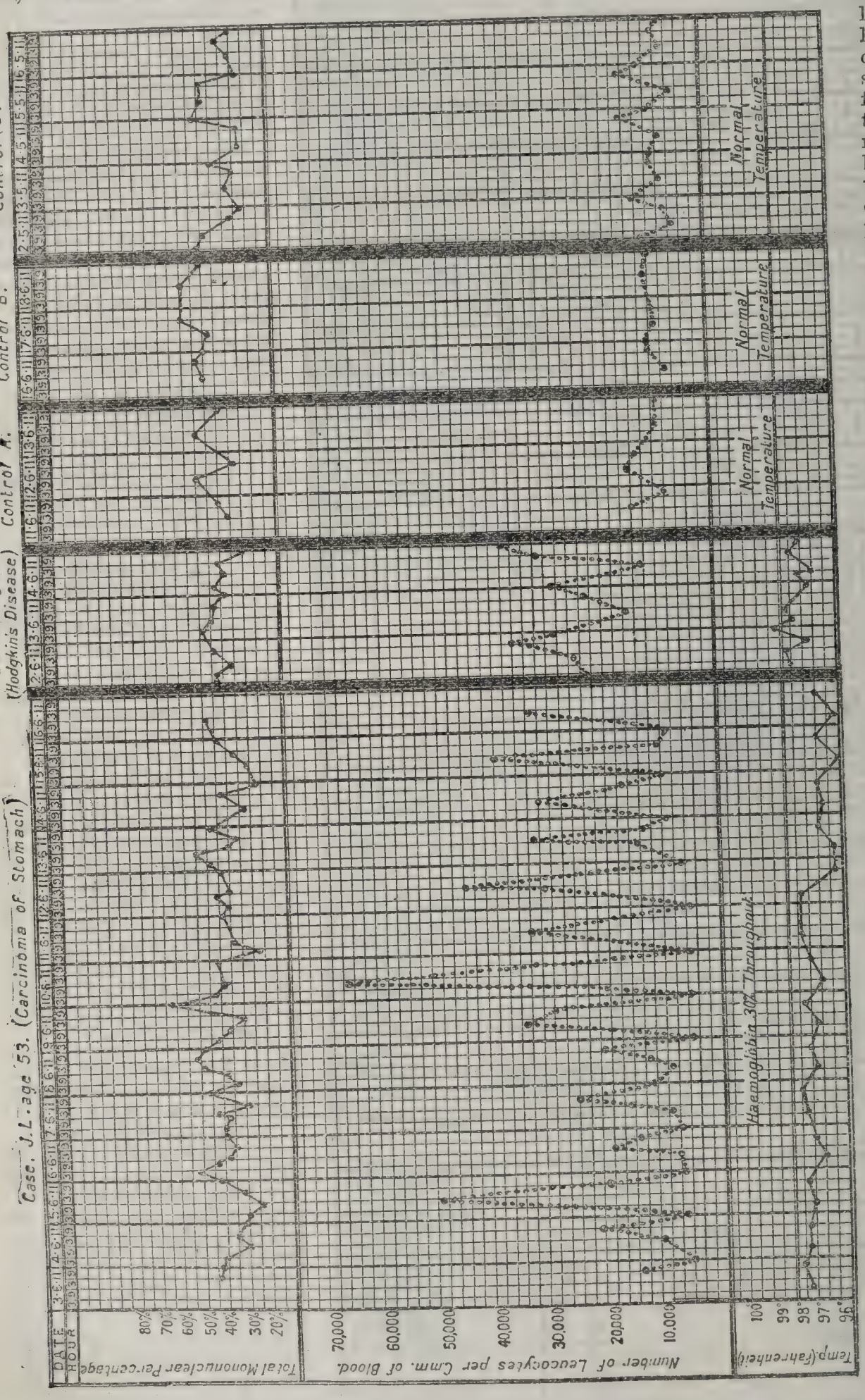

CASE II.—O. H., a boy aged 5

History.—Disease commenced about two years ago. Parent stated that the condition cam on immediately after vaccina tion.

Clinical Signs and Symptoms.— These are unfortunately incon plete, as patient was only allowe to stay in hospital for thre days. There is a very larg swelling on the left side of th neck. The spleen is ver much enlarged, extendin beyond the umbilicus.

The Blood.—The leucocyt chart of this case also show a daily swing. The fall leucocytes took place at midda thus differing from Case I, whe the fall occurred at midnigh It also differed from the latte in that the percentage of tot mononuclear leucocytes was n abnormally high.

Red Cells.—Basophilic cel were numerous. Nucleated r cells were scarce. There we a fair number of microcytes a megalocytes. Poikilocytosis w not quite so marked as Case I. *The leucocytes* did n show much abnormality regards variety. A very f mast cells were present. T haemoglobin averaged 50 cent. The patient remained bed during the period of e mination.

CANCER.

CASE.—J. L., male, aged under the care of Dr. Llo Roberts at the Royal Southe Hospital, Liverpool, and gnosed by him to be a case cancer of the stomach.

History.—Three years ago he had a sudden haematem while at work. He was quite well before that, except for pa in the back of about two years' duration. He had no previ sickness or vomiting. After the attack of haematemesis remained fairly well, except for pain in the back, until a y ago, when a new pain developed in the region of the stom below the left costal margin. He vomited very seldom. pain became more severe and constant, and vomiting atta came on more frequently, about twice a week. He has vomited blood since the first occasion three years ago. He no blood in his stools.

Clinical Signs and Symptoms.—He is much emaciated and very pale. The abdomen is slightly distended. At the inner half of the left costal margin a hard mass can be felt projecting downwards for a couple of inches. It is dull on light percussion. It is separated from the spleen, which is not enlarged, by a belt of resonance. It is continuous with the liver dullness. The liver does not extend below the costal margin.

The Blood.

The leucocyte chart of this case shows a very similar variation to that of the Hodgkin's disease. There is a marked daily rise and fall in the number of leucocytes. The variation on the average amounts to from 5,000 to 40,000 leucocytes per cubic millimetre of blood, an eight-fold increase. The leucocytes reach their height about midday, and are lowest about midnight.

The total mononuclear percentage, however, unlike that of Case I (Hodgkin), remains at about normal level, and there seems to be a tendency for the mononuclear percentage to fall with the leucocyte rise. The temperature of this case has so far remained normal, and during the period of observation the patient remained in bed.

Further Observations on the Blood.

Red Cells, 3,200,000 per cubic millimetre.—They showed some poikilocytosis and basophilia. Occasional nucleated red cells and occasional microcytes were found. Haemoglobin 30 per cent.

Leucocytes.—The eosinophiles were slightly increased, sometimes as many as 8 per cent. Occasional myelocytes were seen, and there was an occasional increase of large mononuclear leucocytes. This case, in my opinion, also suggests the possibility of the presence of a protozoal parasite having a definite period of development. Again referring to Cabot (1904), I find that the leucocyte counts in cancer of any part of the body are very variable, from 000 per c.mm. to considerably over 100,000 per c.mm. of blood. Isolated counts, however, seem only to have been made, usually not more than once daily, so that I am led to believe that the variations recorded depended chiefly upon the fact that the blood was taken at different periods of the leucocytic cycle, the cycle having been missed owing to the infrequency of the counts. It is stated also that a digestion leucocytosis is seldom found in cancer of the stomach, so that the daily variation revealed in this case can hardly be attributed to a digestion leucocytosis, in which the leucocytes seldom increase to even twofold their number. It appears also that considerable variations in the character of leucocytes are found in cancer cases. It is stated by Cabot that Taylor, Osler and McCrae have found an increase of the large mononuclear leucocytes in some cases amounting to 26 per cent.

I think that these facts are also significant, as in malarial fever, in which there is a marked leucocytic cycle, marked variations also take place in the relative variety of leucocytes, and there is a marked increase in the number of large mononuclears.

Controls A, B, and C.—The leucocytes in these controls showed no abnormality in variety or numbers. Control A was a healthy female, aged 26; controls B and C were healthy males, both 27 years of age. From this paper it would appear that repeated daily counting of leucocytes is likely to give a valuable method of diagnosis in various diseases.

N.B.—None of the above cases, nor the controls, had any history of malarial fever, neither had they any septic complications.

Before concluding I would beg to thank Dr. Macalister and Dr. Lloyd Roberts for their kindness in giving me full scope in the examination of the blood of their patients.

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THE DANGERS OF SALINE INJECTIONS.

BY

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IN recent years the practice of injecting hot solutions of saline into a vein, or under the skin, has greatly increased. The use of these injections in the prevention or treatment of operative shock, in the treatment of cholera or severe haemorrhage, or as a vehicle for salvarsan or anaesthetics has fully proved their value. It appears, however, to be widely believed that the intravenous or subcutaneous injection of large quantities of saline is an entirely innocent procedure. On looking for trustworthy evidence in support of this belief, one is met with two striking facts: (1) The great variation in the quantities of liquid injected, together with absence of any serious attempt to graduate the volume of injection according to the body weight; (2) the wide variation in the absolute quantities of salt injected.

For some considerable time we have been studying the effects on animals of injection of saline solutions of various strengths, of distilled water, and of other liquids. Though our experiments were undertaken for a very different purpose, the results may have some value in helping us to determine how far the administration to man of saline injections can be safely carried. We have, therefore, briefly summarized those points that bear on this question. We find that the injection of large quantities of normal or slightly hypertonic saline solutions into a vein or under the skin is not nearly so innocuous a proceeding as is often supposed. The quantities injected were usually far smaller than the quantities, relatively to body weight, that are frequently given in man. The undesirable effects that we encountered include fever, rigors, subnormal temperatures, diarrhoea, intestinal haemorrhage, Cheyne Stokes breathing, convulsions, and sudden death. The last two we have only met with after injection of strongly hypertonic solutions, and, except in the case of young animals, only when the injection has been given rapidly. For all practical purposes of injection in man these accidents may probably be neglected, though their occurrence in animals accentuates the need for caution in human injections. The other accidents mentioned occur very frequently after injection into a vein or under the skin of normal or slightly hypertonic solutions. The grave sequel to large saline injections (in man) of pulmonary oedema has recently been noted in this JOURNAL.[1] To this list of clinical drawbacks to saline injections in animals may be added the onset of glycosuria recorded by Martin Fischer and quoted by Bingel.[2] We must also note the histological changes observed by other workers on this subject. Raum,[3] for example, showed that intravenous injection of the dog with normal saline was followed by vacuolation of the liver cells. Allbrecht[4] found that the red cells of animals were damaged by large injections of normal saline; Rössle[5] observed degenerative changes in the heart muscle and capillary walls of animals similarly injected, and Hössli[6] found that saline injections caused in animals fatty changes in the heart muscle and kidneys. We cannot here discuss in detail all of these effects of saline injections, but one result—namely, fever—we may refer to, because it illustrates the points on which we wish to lay stress. It has long been known that injections of saline into a vein or under the skin in man or animals may set up fever. In the last two years several papers have appeared on this subject in Germany, and in them it is often assumed that the fever which follows injection of saline is solely due to the salt injected and not to the water in which the salt is dissolved. In consequence, therefore, of the absence of proper controls, no constant

attention has been paid to any relation between the extent of the fever produced by injection and the ratio of the volume of water injected to the weight of the animal receiving the injection. It is, therefore, frequently stated that the fever is proportionate in extent to the amount of salt injected. We find, however, that this is not the case, and that if certain precautions, which we shall later refer to, are taken with regard to the water used in making up the solutions no fever whatever follows the injection of saline solutions. We find, on the other hand, that consideration of the ratio of the volume of liquid injected containing the salt to the body weight is of the greatest importance. In other words, we are able to show that some of the bad effects produced by saline injections are more easily brought about by injections of distilled water, as one of us has already shown.[7] Whether any benefit ensuing from saline injections is due to the salt, or to the water, or to both, it is certain from our experiments that in animals injected with sufficiently large volumes of saline, the influence for evil of the water injected cannot be ignored. The importance, therefore, of ensuring that the total volume injected does not exceed a certain fraction of the body weight is manifest. The basis of this statement is the fact that in rabbits injection of volumes of saline below what we may call the critical point of safety produces no apparent ill effects, whilst the injection of quantities above this point does produce undesirable effects, and that in a very short time. What we have so far said relates mainly to single injections. When multiple injections are given, and still more when continuous injection is practised, unpleasant results ensue in proportionate degree. In attributing, however, the fever in our control experiments only to the distilled water injected, there is a possibility of error.

In a recent paper by Wechselmann,[8] attention is called to the dangers of intravenous injection of saline solutions of salvarsan. This observer believes that many of the unpleasant effects which he found to follow the injection of salvarsan were directly due to bacteria he found in the distilled water of the solutions he injected. He states that the rigors, fever, diarrhoea, vomiting, cyanosis, and headache which so many have reported are due to the fact that the water used is not sterile, and that they can be avoided by filtration of the water through hard filters and by heating in an autoclave. He bases his belief on the fact that the water he used when plated out gave a luxuriant growth of a Gram-staining spore-bearing bacillus. He admits, however, that slight fever still occurred in 19 per cent. of his cases even after filtration and heating of the water. If Wechselmann's finding of living bacteria in the water that he supposed to be sterile applies to all distilled water prepared and stored with the ordinary precautions observed in all laboratories, it is clearly a discovery of the greatest importance. It immediately concerns, in fact, every clinical or laboratory worker who believes that distilled water, collected and protected from infection with all the care incident to a surgical operation, is innocent of bacterial protein. Its interest to those who give injections of salvarsan in saline is evident. It equally affects all who inject solutions of saline in order to prevent or combat operative shock, or to those who treat cholera or other diseases by the same method, as well as to those who administer anaesthetics by the intravenous route. It also seriously affects those engaged in studying experimental fever by the injection of solutions in which water supposed to be protein free is the solvent. And it is difficult to believe that it does not also affect the interpretation of serum reactions in the test tube, or in the living animal if the serums are diluted with water or saline. Finally, it cannot but affect the interpretation of the results of using leucocytes or vaccines for purposes of diagnosis or treatment after repeated washing with solutions containing unsuspected organisms.

So far-reaching, in fact, are the possibilities involved by Wechselmann's observations that it becomes very necessary to determine if distilled water collected and kept under ordinary conditions of surgical cleanliness is or is not sterile. We have therefore gone very fully into this matter. Detailed observations will be found at the end of this paper. We find that if ordinary precautions are taken to prevent infection the number of organisms that can be cultivated from the distilled water we examined is quite insufficient to account for the fever. The possibility of multiplication of non-spore-bearing organisms in the bod after injection is excluded by the custom of boiling a solutions of saline before injection, and the absence spore-bearing organisms in the samples of water examine was shown by unsuccessful cultivation. We were al able to exclude the possibility of fever being caused b unaltered protein of living organisms, because the numb of bacteria found on cultivation was in all cases too sma Control observations with virulent typhoid organism showed that much larger numbers must be injected these to produce fever. We found, moreover, that filtr tion or centrifuging was ineffective in removing the feve producing properties from any of the samples of wat allowed to stand that we examined. On the other han we find that if water distilled in a suitable glass retort at once injected into animals it does not produce feve On the contrary, freshly distilled water tends to produ on injection a marked fall of temperature. We are force therefore, to the conclusion that the results reported b Wechselmann must have been due to gross contaminatio of the water he employed. How, then, are we to expla our own results? We are driven to the suggestion th the fever which always follows the injection of suitab quantities of distilled water allowed to stand is caused b soluble products, perhaps of bacterial origin, and is n directly due to bacteria as such or to unaltered protei From our innumerable experiments with distilled wat injections, which will be published in due course, w believe that Wechselmann's inability to prevent fever 19 per cent. of his cases proves that he has not been al to get rid of the fever-producing properties that we find all distilled water allowed to stand. In salvarsan thera it must be remembered that the quantities of saline i jected are relatively small. If, therefore, he had studi the ratio of volume of injection to body weight he wou have found, as we have done, that the percentage of cas giving a febrile reaction after larger injections would, spite of filtration and heating, have been considerab greater. To conclude, we think—

1. That saline injections as at present administe are by no means free from risk, especially when th are large.
2. That the cause of the toxicity of distilled wa that is allowed to stand in sealed sterile vessels is n yet explained.
3. That neither centrifuging, filtration throu cotton-wool or bacterial filters, nor boiling, is su cient to prevent the fever that follows sal injections.
4. That distillation in a sterile Jena retort of water used in the preparation of saline solutio followed by immediate injection, is at present the o reliable method of ensuring that no fever follows t injections.

It has been proposed that instead of injecting norm or slightly hypertonic solutions of saline, Ringer's solut may be a good substitute, on account of the inhibit effect on fever that it is supposed to possess. Bef however, this can be accepted, fresh experiment m be undertaken with this solution, made up with wa distilled in the manner suggested, and tested by inject for atoxicity.

EXPERIMENTAL DATA.

1. Water obtained by distillation from a Jena g retort, if injected at once, produced no fever. amounts of water injected varied from one-five-thousan to one-twenty-fifth of the body weight. This water, a standing for five hours, on plating gave four organisms cubic centimetre. The total solids, kindly estimated Dr. Young from 225.0 c.cm., were 1.7 mg.

2. A sample of the above water was autoclaved i plugged Jena flask for ten minutes at 120° C., and allowed to stand at room temperature for forty-e hours. On injection it produced marked fever. It boiled before injection twice.

3. Distilled water as used for routine purposes collected from a copper still into a closed tin-l copper receiver, and immediately injected after boi It produced slight but constant rises of tempera This water contained 160 organisms per cubic centim The total solids from 225 c.cm. were 2 mg.

4. Water from the same source allowed to stand for a few days or weeks in clean stoppered bottles constantly produced high fever after boiling. The amount of fever was always nearly proportionate to the volume injected. Several hundred observations were made. The total residue from 225 c.cm. of water that had stood for many weeks was 2.2 mg. Two different samples were plated out. (*a*) The water that had stood for two months gave 40 organisms per c.cm. (*b*) The water that stood for ten days gave 73,000 organisms per c.cm. The counts in all cases were made from agar plates grown for forty-eight hours at 37° C. Counts made from agar plates at 22° C. were taken on two occasions and gave very similar results. The water that contained 40 organisms per c.cm. gave a greater fever than that which gave 73,000 organisms. Both these waters were centrifugalized for thirty minutes in Dr. Martin's turbine centrifuge. Small quantities of the upper layers immediately below the surface invariably gave rise to high fever. The invisible deposit when injected in 0.50 c.cm. of water gave rise to no disturbance of temperature.

5. Distilled water that had been allowed to stand gave rise to fever after filtration either through a Doulton filter or through cotton-wool. Two filters were used. One was new, the other had been used several times. In both cases after filtration the water showed on analysis considerable quantities of calcium. Before filtration the ammonium oxalate test gave no reaction. The same results were obtained with a Berkefeld filter.

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REPORT OF SIX CASES OF ARSENICAL POISONING CAUSED BY FUMES FROM A COKE STOVE.

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THERE are many well-known ways by which arsenic can be slowly absorbed into the system, causing symptoms of poisoning, such as from wall-papers containing arsenic, but we do not remember having seen any record of arsenical poisoning being caused by fumes from a coal or coke stove. For this reason we think the following cases are of sufficient interest to be worth reporting.

On May 4th, 1911, one of us was called to see a girl working in a laundry who was suffering from vomiting and loss of power in her legs. As after a few days she did not improve, she was sent home, for there were no means of nursing her where she was working.

In the early part of June, 1911, two more girls were attacked with weakness in the legs and vomiting, followed in a few days by pain in the legs. When we together saw these two girls, on June 29th, 1911, one of them (Case II) was very ill indeed. Her face was cyanosed, and there was some puffiness of the eyelids. She seemed to be half-dazed, and lay in bed curled up. It was difficult to get an answer from her, and she gave the idea of being rather hysterical. She frequently vomited, but had no diarrhoea. She had diplopia, due to paresis of the external recti muscles; on making her look to either side, in addition to the eye not moving beyond the middle line, there was marked nystagmus of both eyes. The pupils were widely dilated, but reacted sluggishly to light. The legs were almost completely paralysed—they could not be lifted from the bed or flexed at the knee by the patient, and her attempts to move them caused cramp. There was complete loss of sensation of touch below the knees, but pain sensations of heat and cold were normal. The calf muscles were exquisitely tender, the patient crying out on the slightest squeeze. There were no knee-jerks or plantar reflex, and, owing to loss of power in the tibialis anticus, the feet lay in bed with the toes pointing downwards. The pulse was slightly irregular. There were no changes in the skin. The other case (Case III) was in practically the same condition, but less severe.

We both thought of arsenic as a possible cause, but the most thorough examination of the colouring on the walls and of the food failed to detect any anywhere. We searched the garden—a very large one, in which the workers were allowed to roam and pick leaves and flowers—for poisonous plants, but failed to find any cause here.

Two or three days later another girl fell down while standing at a wash-tub, her legs simply giving way under her.

On July 3rd we again visited the laundry to make a further examination. Inquiry elicited the fact that all the cases at the time they were attacked either actually were, or had just been, working in the ironing room. We thoroughly examined this room; it was large and lofty, there was no crowding or lack of air space, and we could not find anything even suspicious here. Leading out of the ironing room up a few steps was the room where the irons were heated; this was a small room, 15 ft. long by 7 ft. broad, and about 8 ft. high. There was no window, and only one door leading to the ironing room. It was lighted by two very small skylights, one of which was closed, and the other not half open. To open or close these lights some one had to climb on to the roof outside. There were two iron stoves in the room with the flues running straight up through the roof. The stoves were so placed that it was possible to walk completely round each one, and each stove had three tiers of shelves running quite round it, on which to stand the irons, a worker bringing her cold iron in, placing it on a shelf quite close to the stove to heat, and taking out a hot one. The stoves, which were cracked in places, and the flues being red-hot, we thought it just possible that the toxic agent might be carbonic oxide gas, for we found that coke, and not coal, was burnt in the stoves, as when coal was used the flues did not draw properly and the room became full of smoke; therefore, we thought that probably the air might be contaminated with CO gas both from the down-draught through the cracks, etc., and also possibly by the passage of the gas through the red-hot iron. We accordingly took samples of the air in this room after having the stoves well stoked up, and the skylights and door closed for some time. We examined the blood of the two worst cases spectroscopically for carboxyhaemoglobin, but failed to detect it.

Mr. H. Lowe very kindly examined the air samples for us, and reported that there was no CO gas present in it, but a fair proportion of SO_2 gas. Mr. W. F. Lowe, A.R.S.M., F.I.C., suggested that as SO_2 was present in the air probably there was arsenic present in the coke used in the stoves, as "malt has frequently been contaminated with arsenic by the use of coal or coke in the kilns instead of anthracite." He most kindly undertook to examine for arsenic the coke used in the stoves. His report was as follows: "The total amount of arsenic (calculated as As_2O_3) in the coke is 0.001 per cent., or $\frac{1}{14}$ grain per lb. The fixed arsenic (as As_2O_3)—that is, the portion which remains in the ash when the coke is burnt—amounts to 0.0002 per cent. or $\frac{1}{71}$ grain per lb., so that four-fifths of the total amount is volatile and passes off in fumes when the coke is burnt."

We have no doubt that the fumes from the coke escaping into the air of the stove-room were the cause of the poisoning in these cases and that the poisoning was arsenical, because we detected arsenic in the urine of the two worst cases admitted to Chester Infirmary, and the presence of this arsenic was verified for us by Mr. W. F. Lowe. Since attention was drawn to the danger from the stoves no more cases have occurred. Coal only is used in the stoves, so that any leak can be at once recognized by the smoke in the room, and a fresh stove has been installed in a bigger room.

CASE I.

F., aged 17 years. In February last this girl ran away from the laundry, and was out in the cold all night. Five days later she complained of pains in her legs. This continued until the end of April, when she began to vomit. There was "numbness

and tingling in her legs. She did not feel sure of her steps, and felt dazed."

When first seen, on May 4th, 1911, she could only walk with difficulty. There was much loss of power in the legs, especially of the extensor muscles. Knee-jerks and plantar reflex were absent. Sensation to touch was impaired, but not abolished. The upper extremities were not affected, and there was no diplopia or squint. She left the institution, and was subsequently treated in the Mill Road Infirmary, Liverpool. At the present time we hear she has practically recovered the use of her legs, and is able to walk slowly. Her general health is good. She had worked in the ironing room since the previous September.

CASE II.

F. G., aged 17 years, was seen by us together on June 29th, 1911, and admitted to Chester General Infirmary on June 30th. The patient stated that three weeks before admission her legs started "going from under her," and became painful. Everything she took "came back." She said she felt giddy, and if she looked long at one object she saw it double. She had worked from March to June in the ironing room.

The patient on admission is pale and anaemic-looking, with a cyanosed appearance, which becomes more marked on exertion. Her eyelids are puffy. Heart sounds are normal, but beat is irregular. Tongue clean. Bowels constipated.

The pupils are dilated, but react sluggishly to light. On fixing an object with the eyes there is convergent squint, the external recti muscles are both completely paralysed, and on looking at an object on either side of the field of vision there is marked nystagmus.

There is complete loss of power below the knees, and great wasting of the leg muscles; the muscles of the thigh act very slowly, but any attempt at movement brings on violent cramp in the legs. There are no knee-jerks or plantar reflexes, and on taking hold of the calf of the leg the patient cries out with pain. The tibialis anticus has completely lost its power, and the foot lies with the toes pointing downwards; on lifting the leg the foot is quite flail-like. There is complete loss of sensation of touch below the knee, but the sensations of heat and cold are not impaired. Electrically there is a complete reaction of degeneration. There is retention of urine. The ordinary routine examination of the urine on admission showed nothing abnormal. Later a more detailed examination revealed arsenic. For a week after admission a catheter had to be used.

She was treated with strychnine and dilute hydrochloric acid, and milk and barley water until the vomiting stopped. Massage to the legs was begun as soon as the tenderness was sufficiently diminished for the patient to bear it, that was in about nine weeks after admission. Supports were kept below the feet to keep the toes up in order to prevent any deformity occurring. The weakness of the external recti muscles slowly passed off, and now she is able to move her eyes perfectly, and there is no diplopia or nystagmus. Now, eighteen weeks since her admission, she is able to flex and extend her knee, but her leg muscles are still very weak, though the tenderness has completely disappeared. She is still improving under massage and electrical baths to her legs. Menstruation began again in October after four months' cessation.

CASE III.

A. D., aged 15 years, was admitted to the Chester General Infirmary at the same time as Case II. About the end of May she noticed her legs getting weak; about a week later her calves became painful, and have been getting worse since. At the same time there was giddiness and pain in her eyes; she says that she saw things "as through a mist." She had abdominal pain and vomited after food. She had been working in the ironing room for about two months.

On admission, this patient's condition was exactly the same as Case II, except that none of the symptoms were so severe. She had diplopia, but only slight paresis of the external recti. There was loss of power in the legs and tenderness of the muscles on gripping the calf, but very little if any wasting. There was no bladder trouble. There was arsenic found in the urine. This patient improved more rapidly than Case II, and in seven weeks' time was able to get up and in ten weeks could walk, but still had ankle-drop and difficulty in walking. In fifteen weeks she had lost all her symptoms and was apparently quite well.

CASE IV.

A. N., aged 16 years, seen by us at the laundry on July 3rd, 1911. The day before she had tumbled while standing at her work, her legs simply giving way beneath her. She had no vomiting, but was very anaemic looking, and had no other symptoms except the weakness in her legs. This patient was sent home at once.

CASE V.

M. C., aged 40 years, was admitted into Chester General Infirmary on July 11th, 1911. She was deaf and dumb, so that it was very difficult to obtain a history from her. Her legs were extremely painful on taking hold of them, but she was able to walk with help. There was no squint, and apparently she had not got diplopia. She improved rapidly under treatment, and was discharged quite cured on September 20th, 1911.

CASE VI.

G. M., aged 23 years, complained of pains in the abdomen and legs, with some loss of power. She was removed by her friends, and subsequently admitted into the Royal Hospital, Salford. Here she was diagnosed as a case of "peripheral neuritis of unknown origin." This girl was engaged in the ironing room from April, 1910, to April, 1911. Her symptoms were much the same as in the other cases: Numbness and tingling in the legs and left hand; reflexes absent, loss of power; vomiting and giddiness. This patient has now returned to her work at the laundry. She has regained her reflexes, but still walks slowly, and does not seem quite well yet.

A NOTE ON PAROXYSMAL ATTACKS OF DYSPNOEA, OCCURRING AT NIGHT, IN HEART DISEASE.

By HUGH BARBER, M.D.Lond.,

ASSISTANT PHYSICIAN, DERBYSHIRE ROYAL INFIRMARY; LATE MEDICAL REGISTRAR, GUY'S HOSPITAL.

I AM tempted to send brief notes of four cases of heart disease, in which asthmatic attacks occurred at night, by a letter of Dr. James Mackenzie[1] in the BRITISH MEDICAL JOURNAL, which contains the suggestion that such attacks must be seen at the time, in the night, to be fully appreciated. After several years' post-graduate appointments in the medical wards of a large hospital, I had hardly realized that such attacks existed, but in private practice, in a few years, I have met with four cases in which very definite paroxysmal attacks of dyspnoea came on suddenly in the middle of the night as one of the earliest symptoms of a diseased heart.

I have been present during many attacks, and during at least one in each case. The patient has gone to bed apparently in his usual state of health, or, at any rate, not having complained of feeling ill; he has been seized with an attack, usually between 1 a.m. and 2 a.m., which has compelled him to sit up, and has appeared to be similar in every way to the spasmodic attacks occurring in asthma. The attack has passed off in time, varying according to its severity and the treatment adopted; and next morning, at any rate in the earlier attacks, there has been little or no distress on waking. The pulse has varied, being rapid in the most severe attacks; the veins have not been excessively full nor the cyanosis extreme. The patient usually has had the sensation of an obstruction to his breathing, which he locates as underneath the lower part of the sternum. Sometimes a little expectoration has occurred, and been accompanied by slight relief; there has not been much tendency to flatulence, and carminatives have not given relief. There has been no pain, nor have paroxysms of angina pectoris occurred at any other time in these cases.

Morphine, usually combined with atropine, given hypodermically, has brought relief in ten to fifteen minutes in most cases. Nitrites have proved disappointing, and so has morphine administered by the mouth if the attack is well established. To prevent recurrence rest has seemed to be the essential remedy, but the paroxysms seem to recur as soon as the reserve force of the heart is again exhausted.

The features, common to all the cases, are that they occurred in elderly men in whom the heart was enlarged. In no case was there valvular disease which appeared to be primary, nor signs of an aneurysm. In two the high blood pressure might suggest chronic interstitial nephritis as a primary disposing cause to the heart trouble, but in the absence of albuminuria, or other signs of kidney disease, the attacks would not appear to be uraemic. In the three fatal cases it has not been possible to obtain a *post-mortem* examination, but I imagine the morbid anatomy of the condition, in all, has been degeneration of the heart muscle.

CASE I.—A man, aged 72 years; had been a casual labourer. First seen at 2 a.m. in March, 1906, with a typical asthmatic attack; he had never had any attacks previously, nor any serious symptoms of heart disease. He felt quite well on going to bed before the attack, and was in no distress in the morning. The heart was enlarged with the impulse ½-in. external to the nipple line in the fifth space; there was a mitral systolic bruit. He rested in bed a day or two. He died in the street about eight weeks later, having had no other symptoms of heart trouble.

CASE II.—A man, aged 75 years, who was known to have an enlarged heart, but was attending to the business of a large mill. On December 27th, 1906, he went to bed in his usual health. I was called up at 1 a.m. to an asthmatic attack, which lasted about half an hour, and then subsided. Examined la

in the day, he had no dyspnoea, the lungs were very emphysematous, the cardiac dullness extended 1 in. external to the nipple line: there were no bruits. The tension of the pulse was high, and the artery thickened (blood pressure, taken subsequently, was 180 mm.). There was no albuminuria. He remained fairly well, with occasional tendency to a little swelling of the feet until the second attack occurred, in the early morning of April 4th, 1909. This was followed by a bad breakdown, with much oedema, which, again, after sufficient recovery had taken place to allow him to attend his office, was followed by a third attack of asthmatic character, on December 28th, 1909; dropsy set in, and he died, with the distress usual in mitral disease with anasarca, on April 14th, 1910.

CASE III.—A man, aged 50 years, an ironmonger; enjoyed good health until 48 years of age, after which age he had been short of breath on exertion. First seen during a short feverish attack lasting four days; the heart impulse was in the sixth space, 2 in. external to the nipple line, no bruits; pulse moderate tension (blood pressure, taken subsequently, 145 mm.); liver 2 in. below the costal margin; no oedema. He returned to work in a few days, but a few weeks later, on February 1st, 1909, I was called up to an asthmatic attack, which was relieved with morphine; in several of the next few nights the paroxysm recurred. He has been under observation since, and has had several bouts of heart failure, beginning, on each occasion, with these night attacks, which have tended to recur for several nights in succession; bromide has not prevented the attacks, and morphine, by the mouth, has only been of use if taken before any respiratory distress has developed. There has been some pyrexia at times, but only a definite embolism once, in April, 1911, when aphasia was present for six hours. The physical signs are unchanged, in November, 1911; there has never been oedema, though occasionally the feet are rather puffy. He has avoided attacks of an asthmatic nature for the last nine months by taking the greatest care not to overexert himself. The attacks in his case have been most violent, producing lividity and profuse sweating, unless cut short with morphine hypodermically.

CASE IV.—A managing clerk, 50 years old; first seen in October, 1910, for shortness of breath on slight exertion; has had no previous illness. The heart was enlarged, dullness 2 in. external to the nipple line, mitral systolic bruit, rough first sound in the aortic area, no diastolic bruit; pulse 110, high tension, blood pressure 170 mm., artery rather thick; lungs emphysematous; urine contained no albumen, but 5 per cent. of sugar present. A few days' rest, with suitable diet, reduced the pulse to 84 and the percentage of sugar to 1.25. He returned to work with a pulse of 80 in about a month. In January, 1911, he did a fortnight's very strenuous work, mostly manual, and on the 15th went to bed tired, but otherwise well. At 1 a.m. next morning he had an asthmatic attack; the pulse later in the morning was 120 and the breathing rather rapid, but no urgent dyspnoea. After a long rest he again returned to work, contrary to advice, and broke down in March, in June, and in August, one of the earliest symptoms of failure in each case being an asthmatic attack in the night. In September he developed oedema, and died with the usual symptoms of mitral regurgitation with anasarca on October 12th.

A fifth case—an alcoholic man—I have been called up very many times to attacks which at the time have been exactly comparable, but as it was not possible to demonstrate any derangement of the heart, as there was a large amount of albumen in the urine and as no *post-mortem* examination was obtained, I have not included the case, though I should conclude that the attacks depended on a degenerated heart muscle.

Probably such attacks are not very rare, but they are very striking, and appear to have received little attention in textbooks. Under the index of "cardiac asthma" in one book,[2] I have found a clear account of such paroxysms, but nowhere else. This name, "cardiac asthma," has been criticized, and one cannot presume to enter that controversy; but these spasmodic paroxysms, occurring in association with senile heart troubles, would appear to be worthy of further recognition in books, for they would appear to be an early and, to the medical man fresh to hospital, an unexpected indication of a very grave condition.

REFERENCES.

[1] Correspondence on Cardiac Asthma, BRITISH MEDICAL JOURNAL, November 4th, 1911. [2] *Diseases of the Heart*, James Mackenzie, M.D.

THE late Sir Samuel Wilks, Bart., left estate valued at £22.

AMONG the diaries we have received is one issued for the benefit of amateur photographers by Messrs. Burroughs, Wellcome and Co. In addition to space for ordinary diary notes it includes tables on which to record a variety of important details concerning exposures, and a multitude of photographic tips. Information is also given as to how to obtain permission to take photographs at certain picture galleries and elsewhere, and in the cover is a valuable exposure calculator. There is more than one edition of the diary, since the details given vary somewhat according to the latitude in which the book is to be used. The edition of the edition for Great Britain and Central Europe

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

VACCINE TREATMENT OF BACTERIAL INFECTION OF THE STOMACH WALL.

THE following case may be of interest to some of your readers. The patient, a man aged 48, who consulted me in April 1910, had been suffering for some twelve months from "foul breath." So great was the social inconvenience that it became almost impossible for him to carry on his business, involving as it did intercourse daily with a somewhat fastidious *clientèle*.

In his efforts to seek relief he had consulted many physicians and specialists, among the latter a very eminent throat specialist who declared that he was quite free from nasal trouble, and a dentist who declared that his denture was flawless.

I made a very careful general examination and could discover no physical disability save a cystitis of long standing (45 years). This latter, the patient informed me, dated back to his childhood when he had been operated on for stone in the bladder, at the age of three years. A stricture followed the operation, and as long as the patient can remember his urinary stream has been small. There were no symptoms of stone at the time of examination. On passing a No. 4 catheter about 2 oz. of "residual" urine came away; this was found to contain numerous pus cells, and on bacteriological examination yielded a growth of pure streptococcus.

The patient did not complain of "indigestion" (that much abused term). He had a hearty appetite, but eating or starving he had his "foul breath." The stomach emptied itself in normal time, and the gastric chemistry was normal. Cultivations made from specimens of his stomach contents yielded streptococcus and *B. coli*.

There was a possibility that the streptococcus found in the stomach came from the nose or was due to pyorrhoea alveolaris, but the opinions of the above mentioned specialists would seem to negative this. The patient would therefore seem to be suffering from a bacterial infection of the stomach, and it is interesting to note that the streptococcus was found in the bladder also.

I had a "vaccine" prepared consisting of a streptococcus from the urine and a *coli* from the stomach in the following proportions:

	1	2	3	4
Streptococcus	5	5	10	20
Coli	5	10	15	20

I made the first injection on April 19th, 1910, and repeated it at intervals of one week, giving in all four doses. By the middle of May, 1910, the "foul breath" had completely disappeared and has not returned up to the present, now seventeen months afterwards.

The case presents many features of extreme interest to the stomach specialist, but in the course of a short communication I shall refer to one only. Hitherto, infection of the stomach walls by the *B. coli* has been noted by gastro-enterologists in obstruction of the pylorus due to malignant disease only, and I have been unable to find in the literature any record of a case in which, though the gastric motility was normal, a bacterial infection of the stomach mucosa by this organism had occurred.

The cystitis in this patient improved, but did not, of course, disappear during the treatment, but he has since had the urethral stricture dilated, and all the pus has disappeared from his urine.

Dublin. FRANK KENNEDY CAHILL, F.R.C.S.I., D.P.H.

TREATMENT OF INTESTINAL STASIS.

I HAVE read with interest Dr. Frank Elvy's article on this subject in your issue of November 4th. My method in the treatment of chronic constipation may also be of use, especially as the patient can carry out the treatment himself.

An ordinary rubber ball 10 inches in circumference and 4 lb. of No. 8 shot are required. The shot will just fit into a ball of this size, which should be full and hard. To fill the ball a small slit must be made and the shot poured through a funnel—an aural speculum answers the purpose. The slit can then be closed with a patch, applied as to a bicycle tyre puncture. A ball of this weight is suitable for an adult, about half for a child. Cost, 1s. 6d.

I always advise the patient to keep the ball near his bed and use it regularly, in the recumbent position, night and morning for ten minutes, rolling it over the course of the large intestine. The results vary; some cases have to persevere for two or three weeks before the bowels act regularly; with others there is an immediate improvement.

I believe if this treatment was in general use there would be fewer cases of indigestion, haemorrhoids, and possibly even appendicitis, and probably a reduction in the sale of patent medicines.

I may mention a few of my recent cases. A young lady, who had spent a considerable sum in massage treatment without much benefit, improved greatly in a short time. A man, aged 50, who suffered from constipation and haemorrhoids for many years, was cured of both.

A witty lady patient christened her ball the "Corporation Roller." She has ceased taking purgatives.

R. E. FOOTT, M.D.

Monkstown, Co. Cork.

GUNSHOT WOUND OF THE ABDOMEN: OPERATION: RECOVERY.

A SOLDIER was admitted to the Military Hospital, Aldershot, having an hour previously received a bullet wound in the abdomen.

On admission he was collapsed and pulseless and had a large lacerated wound in the left subcostal zone. A small wound in the back was also seen, below the last rib and three inches from the spine on the left side. He was immediately placed on the operating table, when the anterior wound was enlarged longitudinally. The abdomen was found to contain much blood and intestinal contents. The small intestine was found to be severed in four places. Its lumen was completely cut across in two places, and in the other two places continuity was merely maintained by about one-sixth of its uncut circumference near the mesenteric attachment. Thus there were two loops of intestine, each about twelve inches long, with gaping ends to be dealt with. These loops were both high up, and were excised and the mesentery ligatured. This left three inches of gut from the duodeno-jejunal flexure, which was joined end to end to the distal portion of the bowel. The abdomen was then swabbed out and its walls closed without a drain.

The wound healed rapidly with the exception of a small area around the site where the bullet entered; this necrosed, owing probably to the skin having been burnt by cordite gases. The small wound of exit in the back, however, suppurated and left a long sinus which did not close for two months. Eventually the patient was able to return to duty.

J. W. H. HOUGHTON,
Major, R.A.M.C.

Aldershot.

IODIZED PHENOL IN THE TREATMENT OF SINUSES.

EVERY surgeon knows the difficulty of curing a chronic discharging sinus. For some years I have treated without a single failure or recurrence long-standing as well as recent cases by the application of iodized phenol on a probe dressed with cotton-wool—Playfair's for large sinuses, an ordinary probe for small ones. These cases range from old tuberculous hip sinuses down to small abscess sacs. In one there were seven large and deep sinuses; in another the bare femur was struck by the probe. I once treated a Bartholinian abscess by dressing the sac in this way immediately after letting out the pus, and the wound healed without further discharge and without pain. Most cases require three or four dressings at intervals of a fortnight or three weeks. Contact is continued for about five minutes.

DIGBY F. B. COTES, M.R.C.S.Eng.

Burton-on-Trent.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, November 29th, 1911.

Mr. J. M. COTTERILL, President, in the Chair.

The Position of the Stomach.

DR. W. RUSSELL, in a paper on the position of the stomach as a guide to pyloric or duodenal difficulty, described the changes consequent upon mechanical obstruction resulting from healing of duodenal and pyloric ulcers. These changes might be dilatation of the fundus ventriculi, ptosis of the lower border, ptosis of the whole organ, and carrying of the right border well past the middle line. The means of determining the stomach limits clinically were visible peristalsis, percussion, succussion, and auscultatory percussion. He specially emphasized this delimitation of the right border, which might be the only evidence of mechanical obstruction, and pointed out that in these cases the pylorus still remained central, and was posterior to the displaced antrum pylori. Dr. CHALMERS WATSON said that auscultatory percussion was shown to have no value in delimiting the stomach by radiography and bismuth meals. Dr. J. S. FOWLER asked if cases of mechanical obstruction in the stomach occurred between the ages of 3 and 10 years, following a congenital stenosis of the pylorus. Dr. LOVELL GULLAND said that projection of the pyloric antrum to the right often occurred in cases without stenosis. Clinical methods of examining the stomach, such as Dr. Russell had described, were superior to *x* rays. Professor CAIRD said that a difference in position and shape of the stomach at the time of operation from a previous clinical examination was due to the fact that the organ was empty. He advocated examination of the stomach both in the upright and lying down position. Dr. W. T. RITCHIE spoke from practical experience of the wide divergence between *x* ray and clinical examination of the stomach borders. Mr. STILES said that in the congenital stenosis of the pylorus in children, operation always showed the pylorus overlapped by the dilated antrum. He placed more reliance upon clinical examination of the stomach than upon radiography.

Vaccine-Therapy.

Dr. JAMES RITCHIE, in a paper on vaccine-therapy discussed the difficulty of judging the effects of vaccination. Estimation of the opsonic index, at present the only serological method available, was almost impracticable because of the laborious procedure, and the difficulty of attaining requisite technical skill, and it lay with the clinician to define the signs and symptoms of successful and unsuccessful reaction in the case of each infection. On the prophylactic side, the success of antityphoid inoculation suggested that all persons likely to be exposed to typhoid infection abroad should undergo the treatment. In their therapeutic use, the statistical bases for judgement were less satisfactory. The only cases in which weight could be attached to opinions based on limited experience were those in which a sudden improvement took place either in a chronic disease whose previous treatment had failed, or in an acute illness of fatal import. It was generally agreed that good results had been obtained in chronic suppurative conditions, except, perhaps, in acne, and the same was true of gonorrhoeal arthritis and gonorrhoeal vulvo-vaginitis in children. In pulmonary tuberculosis statistics showed that tuberculin inoculations had definitely improved the results obtained by sanatorium treatment. In already caseating or suppurating tuberculous glands vaccines were ineffective; but they were likely to have good results in earlier gland infections, or in persistent sinuses and mixed infections. In tuberculosis of bones and joints a plea was put forward for the more extended use of tuberculin in early synovial tubercle, caseation being relatively a late event in this condition. Success had also attended vaccine treatment in old-standing semi-quiescent tubercle in whatever site it occurred. In non-tuberculous infections of the urinary tract there had been good results, especially in subacute *coli* infections and even in many chronic cases. Bacilluria often persisted after the disappearance of symptoms. In acute diseases, striking success has

tended vaccine-therapy in pneumonia, erysipelas, and phoid fever. In conclusion, Dr. Ritchie said that ccine-therapy had suffered more than any other cently-introduced therapeutic method from the indis-iminate use of the weapons by those who had taken no uble to acquire a knowledge of their characters. While rther specialization in medicine was to be regretted, it ight be laid down that in all serious cases in which ccination was applied special knowledge was necessary the best interests of the patient were to be consulted. here had been a tendency in certain quarters to apply ccine treatment to disease whether or not there was any ientific ground for supposing that the condition was of cterial origin. The empiricism of such procedures uld discredit not so much vaccine-therapy as the whole actice of medicine.

ROYAL SOCIETY OF MEDICINE.

SECTION OF ANAESTHETICS.

Methyl Chloroform.

a meeting held on December 1st, Mr. MCCARDIE, sident, in the chair, a letter was read from the editor of *British Pharmacopoeia* asking for an expression of nion on the propriety of making chloroform derived n methyl alcohol official, and the answer to be sent s discussed. Dr. BUXTON was of the opinion that, ically, chloroform derived from methyl alcohol and tone was as good as that derived from ethylic alcohol. ORR said there was no difference detectable between hyl and ethyl chloroform; but was of the opinion that fference could be detected in the case of acetone $CHCl_3$. BERRY suggested that methyl and acetone choloro-m should be added to the official list. Dr. BARTON erred methyl chloroform. He did not think acetone roform was as good. Mr. GILL said, provided there purity of production, there was no distinction the final chloroform produced. The PRESIDENT McCardie) said that as the end product of ufacture was chloroform it did not matter from t source it was obtained. Dr. SCHARLIEB said he had various brands of chloroform prepared from methyl ethyl alcohols, from acetone, and from chloral, and was inced there was no difference at the time of adminis-on or afterwards in the clinical results. Mr. APPERLY ght that more acetone chloroform was required to ice anaesthesia, and experiments on animals bore this out. Mr. BOYLE was convinced ethyl alcohol was edly less dangerous. After Mr. GILL had asked if the ion was sufficiently important to be referred to a l general meeting, it was decided: (*a*) That methyl oform was sufficiently important to be included in the *sh Pharmacopoeia*; (*b*) that acetone chloroform should e recommended to be so included.

The Originator of Ether Anaesthesia.

Dr. DUDLEY BUXTON, in a paper on Crawford Long, the er of ether anaesthesia, pointed out that Long sprang a family of strong intellectual bias, was himself at n exceptionally able man imbued with professional of advertisement and premature exploitation of y worked-out research. At the time of his first ex-ces with ether inhalation in 1841 that drug was wn except as an exhilarant, for which purpose it had employed by Beddoes, Pearson, Warren, Cullen, and Long observed that painful knocks, etc., were not uring the exhibition of ether, and so employed it l of nitrous oxide to produce full surgical anaesthesia. he did in 1842. Subsequent successes led to re-ances from neighbouring medical men, who feared ter. Long practised in a small village out of touch urgical centres, and refrained from publishing his although it was well known throughout the State of n. When Morton sought to obtain sole recognition ongress (and a sum of money) for his nostrum n"—which was really sulphuric ether—Long was led by his friends to publish a succinct account of s done four and a half years earlier. Long refused further recognition. The paper was illustrated eries of interesting photographs of the original nts, proving the justice of Long's claim to be l as the first person to suggest the use of ether for anaesthesia and to be the first who actually so employed it. Besides tracing Long's career, the lecturer gave a full account of the actual work done and the state of medical thought concerning mesmerism and other attempts at painless surgery. The methods of 1841 and 1911 were contrasted and comparisons instituted, a final appeal being made that those who practised anaesthesia nowadays should supplement their practical skill by research, so that the art should follow the extension of science.

LARYNGOLOGICAL SECTION.

AT a meeting held on December 1st, Dr. STCLAIR THOMSON, President, in the chair, the following were among the exhibits:—Dr. JOBSON HORNE: A series of three cases of *Specific disease of the tongue, palate, and fauces*, one of the cases manifesting fenestrae in the posterior pillars of the fauces. Dr. WILLIAM HILL: (1) A patient with fixation of the left vocal cord and *Tracheal tugging* from aortic aneurysm. Mr. PERMEWAN (Liverpool) expressed the opinion that undiagnosed cases of recurrent paralysis of the left vocal cord would be more frequently found to be due to aneurysm than to any other cause. (2) Some pieces of a chestnut he had removed by *Upper bronchoscopy* from an infant 13 months old. The case was one of the youngest on record. Several members advised lower bronchoscopy at such early ages in order to avoid the glottic oedema which was liable to follow the passage of the tube through the infantile glottis. Dr. W. H. KELSON: A case of *Tuberculous disease of larynx* in a man, aged 37, to illustrate the fact that in tuberculous disease the larynx does not heal *pari passu* with the lung. Dr. DAN MCKENZIE: A woman, aged 57 years, who had suffered from prolonged *Laryngeal stenosis* from some obscure inflammatory cause (? pneumococcus infection). The practical interest in the case lay in the fact that in the early stages sarcoma of the pharynx had been closely simulated. Mr. HERBERT TILLEY: *A large suppurating bony-walled air cell* of the right middle turbinal, which had been associated with chronic empyema of the corresponding antrum. Mr. GEORGE WILKINSON (Sheffield): A case of *Unilateral paralysis* affecting the face, pharynx, larynx, and tongue, acute in onset, and diagnosed as due to acute polioencephalitis. He pointed out that the danger to the ear in bathing was well known, although not so frequently guarded against as it ought to be, but that the nasal sinuses might become infected in the same way had hitherto escaped general notice. Dr. JEFFERSON FAULDER and Mr. W. H. HARMER: A case of *Pharyngeal tuberculosis* with tuberculous lesions of other parts, which was under treatment by injections of tuberculin. The appearances of the pharyngeal ulcers were so unusual as to arouse considerable comment. It appeared that the tuberculous disease had spread from the tonsils to the pharyngeal wall after simple tonsillotomy some years ago—an event which many of the members regarded as strengthening the case in favour of entirely enucleating tonsils.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Tuesday, November 21st, 1911.

Dr. WILLIAM DAWSON, President, in the Chair.

Eugenics and Sterilization.

DR. GEOFFREY CLARKE, in a paper based largely upon laborious investigation and analysis of cases in the Long Grove Asylum, Epsom, passed in review the statements recently made concerning elimination of the so-called unfit and the measures by which it was proposed to carry this out. The advocates of sterilization averred that present-day medical and hygienic care resulted in keeping alive a greater proportion of weaklings than formerly; but it must be remembered that there were many others whose early years were full of ailments and a source of anxiety to their parents, but who yet blossomed into vigorous and healthy adults. The great question which required answering was, Had the advances in science tended to impair the mental and physical qualities of the race? He contended that the arguments and conclusions of stock-breeders could not be applied to human beings; the mental as well as the physical had to be reckoned with, and he did

not think knowledge had yet advanced sufficiently far to enable any one to say to certain people that they must not be permitted to reproduce their kind. Insanity was not a definite disease, but a variation from the average normal standard, the standard itself varying with the country and time, and even in different places in the same country—that is, a person might not be able to stand the stress and surroundings of a London slum, but could live a successful life in a quiet country place. Moreover, there was a large class of mental degenerates who were yet not insane. If sterilization were to be adopted, it should take place in some forms of mental disease quite apart from the eugenic standpoint. It had yet to be shown that any practicable scheme of sterilization would materially diminish the normal rate of increase of insanity. He did not think that any hope of a material decrease of insanity was justified on the statistics at present available. There was great need of a better record of family histories, which should be kept quite separate from the present statistics, which had to be furnished by asylum superintendents, and which he regarded as useless for such an inquiry as the present one. At present the defective histories swamped the good ones. The PRESIDENT congratulated the author on his paper—an attempt to place upon reasonable, scientific, and arguable lines the statements which had been made with regard to inheritance of insanity. At present there was much loose talk on the subject, and that made reliable statistics all the more necessary. Dr. T. E. K. STANSFIELD said that all who had to do with asylum work would feel that something ought to be done to stem the flow of the insane and the unfit. Some years ago he suggested to the London Asylums Committee that there should be a special officer appointed whose function should be to go to the homes of these people, see the relatives, and estimate the amount of insanity, of course uncertified, present among them. He still hoped that something of the kind would be done. Dr. EDEN PAUL agreed that there was not yet sufficient knowledge nor enough detail in family histories to enable one to say how much insanity was the direct result of inheritance. But he thought efforts should not be delayed simply because the information desired was not available in its entirety. The public was now happily awakening to the importance of trying to do something to improve human stock, and the public looked to members of the association for guidance in the matter. He did not agree that the experience of breeders of animals was not of much use in regard to human beings. It was the average which it was desired to raise, and that was also one of the aims of breeders. Sterilization did not appear so necessary in the case of those who were definitely insane as for those whose mental capacity prevented certification but who were free to propagate their species, such as the feeble-minded. There seemed to be a case made out for small beginnings, and for trying to guide public opinion on the matter. Dr. WOLSELEY LEWIS, while agreeing that the material available did not justify sterilization, thought that the mere fact that 50 per cent. of persons admitted into asylums had a hereditary nervous history made out a strong case for segregation, even permanent, and that might be extended to the habitual criminal and the inebriate class, as they both suffered from very defective self-control. Dr. A. N. BOYCOTT regarded sterilization as an impracticable policy, but did not express any opinion as to its merits in the abstract. Dr. M. A. COLLINS, referring to the statement regarding the increase of insanity, pointed out that the kind of person formerly regarded as the harmless village idiot was now included among the certified. Dr. HUBERT BOND thanked Dr. Clarke for the time which he bestowed on analysing the Long Grove statistics; these were very full, as the speaker made a point of trying in every case to ascertain from the superintendent of any previous asylum the patient had been in particulars of the case, and also particulars concerning any relatives said to have been mentally affected. The falling birth-rate made the suggestion as to sterilization very serious. Investigation of the question seemed worthy of the care of a special committee. Dr. D. G. THOMSON thought sterilization should certainly not be one of the horrors of certification, because it would defeat its own ends, even if it were desirable in itself, since people would seek to evade certification even more than at present. Before long the medical inspection of school children would provide more knowledge on the subject than a present existed; and it would be better to await it tha to tinker on the subject. Dr. SOUTTAR said people seeme to vary enormously in regard to heredity. There wer stocks amongst one's patients so bad that they produce little but neurotic and insane progeny. Yet notwith standing that, there were an enormous number of highl competent men and women who had been doing the mos important work of the world. That was a fact whic should weigh with those who considered tables of heredit Something more might be done than at present to improv environment, for in that direction lay much hope fo stemming the tide of mental disease. Dr. HAYES NEWING TON reminded the meeting that the union of sanity an insanity did not necessarily produce bad results in th children. The main trend was not for such union to brin sanity down to the level of insanity, but to approxima insanity nearer to sanity. He deprecated any attempt interfere with the laws of reproduction; there wer channels of improvement short of sterilization. Dr. G. ROBERTSON said the whole problem rested largely on th question of heredity. He agreed that Nature stepped and did more than men's schemes were ever likely to do an artificial way to check the production of the unfit. Th largest number of cases of hereditary insanity occurred an early age, and therefore in those who did not procreat The general trend of disease was towards recover towards the normal. More good would be done b encouraging the marriage of physiologically healt people. Dr. CLARKE replied, reminding the meeting of h chief point, namely, that sufficient information was n available on the mental side of heredity.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Therapeutic Use of Alcohol.

AT a meeting on December 6th, Dr. F. H. JACOB, Pre dent, in the chair, Dr. C. H. CATTLE, in opening a discu sion on alcohol as a drug, said that when he start practising, thirty years ago, alcohol was always given consumptives, but now should be withheld on the grou that the aim in treating these patients was to increase t resisting power, and this it seemed must, according modern science, be lowered by alcohol. The comparat disuse of alcohol was strikingly brought out by the reco of the asylums of London. In 1889, 1,900 gallons of wi and spirits were consumed by patients; in 1905 o 250 gallons were used. Considering that the number patients had doubled during that period, it meant that o one-sixteenth the amount of alcohol was used in the lat period. When he prescribed alcohol himself it was small doses, such as ½ oz. every four hours. After referri to the physiological action of alcohol, Dr. Cattle conside that it should never be employed in neurasthenia or d pepsia; but in severe febrile cases, such as typhoid pneumonia, where the pulse was failing, it might be giv and also in the first stage of threatened delirium treme The PRESIDENT (Dr. F. H. Jacob) said he had fo alcohol in large doses useful in cases of extreme collap and had seen much improvement follow its use in case phthisis and eczema. However, he seldom especia ordered it except in cases in which the temperature very low and the pulse small; in these it was useful a temporary stimulant. Miss SARAH GRAY said that althe personally she was a teetotaler, yet she found alcohol ful in stimulating the appetite of patients after long severe illnesses. It was extremely dangerous to give i the menopause or to neurasthenics. Mr. A. FULTON poin out the danger of giving it in cases of dysmenorrhoe as a galactagogue. Dr. J. WATSON said alcohol in form of champagne was useful in cases of post-anaesth vomiting. Dr. T. D. PRYCE thought the disuse of alc was largely the result of fashion. He found it usef stimulated the gastric secretion in cases of long illne such as typhoid. Mr. A. R. TWEEDIE mentioned tha the South African war small doses of alcohol were g to the men after forced marches to enable them to their rations better. Dr. M. PARRY-JONES was convinced of the value of alcohol in serious cases. great opposition to its use was largely due to specia who had no experience of dealing with patients from

ginning of their malady to the completion of their nvalescence. The vintage employed was of more portance than the quantity.

OXFORD MEDICAL SOCIETY.

a meeting on December 8th, DR. ARTHUR WATERS, Vice-esident, in the chair, Mr. A. G. VERNON HARCOURT gave demonstration of his method of administering chloro-m. He emphasized the importance of concentration being the feature most essential to control. A per-ntage of 2 per cent. was sufficient, he claimed, to secure l anaesthesia even in a hard drinker. Mr. A. P. DODDS-RKER, in a paper on the *Fate of the appendix after cess formation*, analysed 17 cases collected by him ing the previous six years. The conclusions drawn re that: (1) The appendix was never destroyed but was naged. (2) There was liability to fresh attacks with h a diseased organ in the belly. (3) In the present n struggle for existence it was wiser to remove such nenace to life. (4) The danger of a second operation s not great, and herniae might at the same time be ed: the mortality in the 17 cases recorded was *nil*. he discussion which followed, Dr. COLLIER bore out Dodds-Parker's conclusions, and emphasized the fact t appendicitis was now much more deadly than nerly. He also mentioned the good effects of fibro-n in reducing the bulk of the adhesions in a case wn to him. Mr. CECIL BEVERS stated that early ation had now resulted in abscess formation being rare. It was justifiable to attempt to remove the ndix in many cases at the same time that the abscess evacuated. He mentioned a case in which no ndix had been found in an operation subsequent to vacuation of an abscess.

DFORD MEDICO-CHIRURGICAL SOCIETY.

he November meeting, Dr. S. LODGE, President, in the , Dr. EURICH, in a paper dealing with difficulties in *iagnosis of typhoid fever*, recorded an afebrile case ich the gastro-intestinal symptoms had predominated, n which a swinging temperature developed only when liagnosis had been made on other grounds. In a d case a woman in failing health became suddenly tose, with cyanosis and coldness. In her the nervous toms had predominated, and the absence of fever had sed the difficulty of arriving at the cause. The sym- of a third patient was neuritis, and she rapidly oped a "typhoid state" and died. Even when fever ed diagnosis was not always easy. In the case of a a fatal attack began with a conjunction of the oms of appendicitis with those of dilated stomach. ecurrence of haematemesis did not help to clear the r up, and a Widal test, which proved strongly e, was done only because the patient's general state bled typhoid. The complications of typhoid might mally be the first sign of the disease. A case illus-; this was described. The value of the Widal test sisted upon. It was not positive before the eighth d might not become so until after convalescence. other hand, it remained so for months and even Hence with a positive Widal, a previous attack must luded. Repeated examination was advisable, since he development and the increase in intensity of an positive Widal indicated an attack. A leucocyte ation was often helpful in addition, for marked tosis, or the presence of the alterations diagnostic r conditions, might exclude typhoid. Of course, ation accompanying enteric would cause leucocytosis. BAGLIATI, in a paper on *Some common fallacies of l logic*, said that medical men were usually fairly as to the facts of a case, but that their deductions y no means always the logical inference of their tions. Two fallacies were common. Because, for e, two symptoms were constantly found together, not logical to elevate one to the position of being se of the other. Both might be due to a common Again, because a certain disease appeared in a family at the same age, it did not, therefore, follow e disease was hereditary. It was, to some extent, an assumption that the previous condition was the cause of the subsequent one. Neither did it follow that the recurrence of the same or even of different diseases in the same individual was the cause of any subsequent condition. All might be due to a common and wholly different cause. Various instances of these fallacies were given, and it was argued that real progress as to the causation and the treatment of disease could not be expected unless accurate deduction were regarded as of not less importance than accurate observation.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on December 8th, Dr. FREELAND FERGUS, President, in the chair, Mr. W. ERNEST MILES (London), in opening a discussion on the treatment of *Carcinoma of the rectum*, said that in his experience and that of others resection of the diseased segment with end-to-end anastomosis, whether performed from the perineum or from the abdomen, failed to prevent recurrence, as also did the so-called abdomino-anal operation, in which the proximal end of the divided colon was brought down to the anus. He then gave statistics relating to the radical abdomino-perineal operation, which he described at the annual meeting of the British Medical Association last year (see BRITISH MEDICAL JOURNAL, October 1st, 1910, p. 941). He had now performed it in 42 cases, which showed an operation mortality of 40 per cent.; such mortality was markedly influenced by the age of the patients, for, while all the 8 cases over the age of 60 died, only 9 of the 34 cases below that age died—a mortality of 26 per cent. Among the 25 patients who survived the operation, 4 had suffered from recurrences. Of the remaining 21 cases, 2 had died from other causes, and 19 were alive at the date of his report and manifested no signs of recurrence; 6 of these patients had now lived for over three years after the operation, 4 for over two years, and 9 for periods under two years. He was satisfied that the operation should not be reserved for advanced cases only, but should be performed as early as possible in any cases of malignant rectal growth in which recurrence was to be expected.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on December 7th, Mr. T. H. IONIDES, President, in the chair, the following were among the exhibits:—Mr. G. MORGAN: A baby of a few months of age with a *Lipoma* in each cheek. Dr. WALTER BROADBENT: A woman of 54 with a large *Aneurysm of the third part of the arch of the aorta*. She had a paralysed left vocal cord, tracheal tugging, and unequal pupils. There was dullness in the first, second, and third left spaces for about three inches from the edge of the sternum, and pulsation could be felt. The second sound was loud over this area, and the breath sounds were tracheal in character over the upper lobe of the lung. There was no history of syphilis, but she had done heavy lifting. The chief point of interest was that she had been under treatment for two years and the aneurysm had become smaller and the pulsation less. This, the exhibitor said, was very uncommon when the second or third part of the aorta was affected. Mr. T. H. IONIDES: Two uteri—one with a very small fibroid, but which had given rise to severe haemorrhage for nine months, and the other in an early stage of sloughing. Mr. NETHERSOLE FLETCHER: A kidney, removed for calculi. There was a thirty years' history, during which the patient had passed 324 small stones. In the kidney removed there were some hundreds of minute stones, and one large branched one. Dr. HERBERT FRENCH read a paper on *High blood pressure and the commoner affections of arteries*.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

AT a meeting on December 8th, Professor A. BOSTOCK HILL, President, in the chair, Dr. A. A. MUSSEN, in a paper on the *Notification of Births Act, 1907*, said that up to the present time 148 out of the 250 metropolitan boroughs,

county boroughs, and non-county boroughs, and 148 out of the 1,500 urban and rural district councils had adopted the Act. In Liverpool a staff of twenty-two women health visitors were now employed in carrying out work made possible by the adoption of the Act. Doctors notified about 10 per cent. of the births, institutions about 12 per cent., and midwives nearly 60 per cent. A considerable number of births attended by doctors without a midwife escaped notification, but this was not a very serious matter, since the vast majority of the houses to which a visit by one of the female staff was likely to be of benefit were those at which a midwife was in attendance. Incidentally the Act had been found exceedingly useful in supplementing the Midwives Act, and so assisting in the discovery of neglected cases of mild ophthalmia neonatorum. One point which could not be insisted upon too strongly was the care which should be exercised in selecting the members of the female staff, who must take a personal interest in the homes and people they visited if any useful result was to be obtained.

SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

AT a meeting on November 25th, Dr. J. MALCOLM FARQUHARSON, who was in the chair, reported a case of *Primary nasal syphilis*. The chancre appeared in the floor of the vestibule of the right nostril. It was followed by severe oedema of the whole nose, of the malar regions, and of the eyelids, and enlargement of the submaxillary, sublingual, and pre-auricular glands. An injection of salvarsan was given. Fourteen days later Wassermann's reaction, which had been positive, was negative, and at the end of six weeks all oedema and induration had disappeared. Dr. G. T. GUILD showed a woman on whom he had, eight years ago, performed *Thyrotomy* for the treatment of lupus of the larynx. Severe dyspnoea had made this necessary. The result was most satisfactory and the patient had required no further treatment. She was able to speak well and there was no interference with breathing. Dr. W. G. PORTER showed (1) a case of suspected inflammation of the mastoid process in illustration of the *Diagnostic value of skiagrams*. The patient had suffered from acute middle-ear suppuration. The discharge from the ear had ceased, but there remained oedema and tenderness over the mastoid; temperature 100° F., leucocyte count 16,800. A skiagram of the mastoid was taken, but before it was developed the mastoid cells were opened and were found healthy. The skiagram was then developed, and showed a condition in accord with that found on operation. (2) A woman with *Varix involving the soft palate*, the left tonsil and the left pharyngeal wall. The condition had been present for sixteen years at least, and caused a choking sensation, especially when the patient stooped. There had been no haemorrhage. She had also a small angioma on the left little finger, and several members of her family had suffered from varicose veins. Drs. J. S. FRASER and J. K. MILNE DICKIE contributed an analysis of 123 consecutive cases in which operations had been performed for the relief of the mastoid, labyrinthine, and intracranial complications of *Suppurative middle-ear disease*. Of these the ear disease was acute in 32, chronic in 78, tuberculous in 12, and malignant in 1. Intracranial complications were present in 13. In 2 of these, cases of lateral sinus thrombosis, operation on the sinus led to recovery. In 4 cases the labyrinth was successfully operated on.

A SOCIETY OF MICROBIOLOGY has just been founded in Berlin.

THE next triennial award of the Reuben Harvey Memorial Prize is to be made on July 1st, 1912, and essays in competition for it must be lodged with the Registrar of the Royal College of Physicians of Ireland on or before June 1st, 1912. Competitors, who must be either students in one of the Dublin schools of medicine, or graduates or licentiates, of not more than three years' standing at the date of the award, of any licensing body in Ireland, can choose any subject they please in animal physiology or pathology; but their work must represent original research, and be illustrated by drawings or preparations. The value of the prize is £25.

Reviews.

THE ALIMENTARY CANAL.

THE Goulstonian lectures on the *Sensibility of the Alimentary Canal*[1] delivered last March before the Royal College of Physicians of London by Dr. ARTHUR F. HERTZ have been republished with the addition of a short chapter on hunger, and we welcome their appearance in book form as they constitute by far the most complete and compendious study of a subject which is of far-reaching importance in the diagnosis of abdominal diseases. They are based to a large extent upon original observations and experiments, and where Dr. Hertz has reached conclusions that differ from those of previous observers we think he has shown grounds for the reconsideration of the points at issue. For example, his modified method of introducing thermal stimuli through a double tube so as to avoid arousing sensation in the sensitive oesophagus and anal canal, has enabled him to show that the stomach and rectum are insensitive to thermal sensations, upon which previous observers had differed although the majority favoured the view that these organs were sensitive to thermal stimulation. Tactile sensibility appears to be absent throughout save in the upper end of the oesophagus and the anal canal; thermal sensation extends throughout the oesophagus but is absent in the stomach and intestines. While alcohol produces a sensation of warmth wherever it comes in contact with the alimentary mucous membrane, dilute hydrochloric and organic acids produce no sensation in the oesophagus or stomach, and the pain produced by excessive acidity is attributed to increased tension in the pyloric end of the stomach caused by the exaggerated peristalsis of a hypertonic stomach (p. 55). The chief cause of visceral pain in the stomach and intestines is held by the author to be increase of tension, and is marked in proportion to the rapidity and not to the extent of the increase, slow distension to a considerable size being compatible with entire absence of pain. The sensation of fullness which precedes pain is attributed to the same cause and bears similar relations to the rapidity with which the tone of the viscus is excited. Hunger is ascribed to a general bodily sensation of weakness and want and the accompanying sensation of emptiness to the periodic peristaltic movements of the stomach and intestines. Pain may, however, be produced by the spread of inflammation to sensitive structures, such as the peritoneum and subperitoneal connective tissue. Referred pain is explained as due to excitement by the afferent sympathetic nerves of the segments of the spinal cord from which the sensory nerves come which supply the skin or muscles in the painful or tender area. This mechanism becomes more readily excited by training and by the irritable condition of the nervous system induced by neurasthenia and anaemia. It is interesting to learn that ulcers of the stomach and intestine are no more sensitive than the intact mucous membrane to tactile and thermal stimuli or to contact with dilute acids, so that the pain experienced after the ingestion of food must be due to some other cause, probably to spasmodic peristalsis of the pyloric end of the stomach. The tone of the stomach is maintained by the relaxation of its muscular fibres and also by their rearrangement, for in the contracted and empty stomach there are fifteen or twenty layers, but in the fully distended stomach these are two or three only. The last two chapters form an essay on abdominal pain which deserves the careful attention of every practitioner and the lectures as a whole are worthy of the Goulstonian Foundation and a credit to the college and the lecturer.

The fasciculus on the pathology and treatment of enteroptosis and its relations to general diseases in Professor Albu's encyclopaedia[2] is by Dr. WALTER ZWEIG, Privatdozent in Vienna. He gives a good account of the history of the subject, which dates back only thirty years, and

[1] *The Goulstonian Lectures on the Sensibility of the Alimentary Canal, 1911.* By Arthur F. Hertz, M.A., M.D.Oxon., F.R.C.P. Oxford Medical Publications. London: Henry Frowde, Oxford University Press; Hodder and Stoughton. 1911. (Demy 8vo, pp. 83; 5s. net.)

[2] *Sammlung Zwangloser Abhandlungen aus dem Gebiete der Verdauungs und Stoffwechsel-Krankheiten.* Herausgegeben von Professor A. Albu in Berlin. Band III, Heft 4. *Die Pathologie und Therapie der Enteroptose und ihre Beziehungen zu Allgemeinerkrankungen.* By Privatdozent Dr. Walter Zweig. Halle a.S.: Carl Marhold. 1911. Medium 8vo, pp. 61. Band I, 8 Halfte. M. 8.)

describes the various conditions—namely, gastroptosis, enteroptosis, nephroptosis, atony of the oesophagus, ptosis of the heart, liver and spleen, and female genital organs, which are associated with the same general neurasthenic condition. He gives a fairly complete account of the treatment, except in so far as surgery is concerned, as he merely alludes to operative measures in order to deprecate their employment. It is a good summary of what has been written in Germany, but with the exception of Glénard it makes little reference to authorities west of the Rhine; the author does not accept the view that the general nervous and dyspeptic symptoms often associated with these displacements depend upon the anatomical anomaly.

The fasciculus in Professor ALBU's encyclopaedia of diseases of the digestion and metabolism[3] devoted to the diverticula and dilatations of the oesophagus is by Dr. HUGO STARCK of Carlsruhe, and gives an excellent account of these relatively rare conditions. Dr. Starck states that more careful examination of bodies in the *post-mortem* room has shown that they are present in 6 per cent. of all adults. In most of the cases no clinical symptoms have revealed the conditions during life. He concludes, therefore, that they are not so rare as they were once thought to be. Diverticula may be produced either by propulsion or by traction due to inflammatory adherence of the wall of the oesophagus to some neighbouring structure; the latter are always anterior or lateral and funnel-shaped, with the apex directed upwards, and seldom form a simple pouch. The treatment of diverticula is not very satisfactory; the only radical remedy is a surgical operation, but that is not without its disadvantages. Fistulous openings have often resulted, while death has occurred in not a few cases. A simpler operation which seems suitable for small sacs is by invagination, so that the sac hangs down into the lumen of the oesophagus. The medical treatment is first of all by taking care that the patient masticates and insalivates his food thoroughly and drinks after each mouthful. The sac should be emptied at least once a day, and many patients are able to do this by bending the head forward or to one side, or pressing on the trachea or the thyroid area, while at the same time they make efforts to vomit. If these means fail, the sac should be emptied by means of a tube. It is rarely necessary to empty the sac in order to prevent irritation and fetor and further enlargement. In treating dilatation of the oesophagus, the most important thing to bear in mind is the prevention of inflammation, as when this occurs a vicious circle is established; inflammation is followed by spasm, spasm by obstruction, and obstruction by further inflammation. In addition, it is our duty to do what it is possible to prevent obstruction and any increase of dilatation. Inflammation of the oesophagus may be prevented by taking care that the food is finely divided and free from chemical, mechanical, or thermal irritants; it should be semi-fluid and demulcent, and alcohol, tobacco, and spices should be forbidden. The oesophagus should be washed out every evening with warm water, and if there are local erosions a 1 per 1,000 solution of silver nitrate may be used. Washing with alkalis or waters containing carbonic acid is recommended in order to stimulate the wall to contract. In bad cases rectal feeding may be needed, combined with rest in bed for a couple of weeks. Many patients are able to assist the passage of food down the oesophagus by producing pressure by swallowing air or liquid, and at the same time expanding the thorax. These practices should be learnt and taught to other patients, as they are unexpectedly useful. When the irritation has subsided the dilatation should be treated by keeping the oesophagus empty, washing it out by a tube with a double opening, the lower one 20 to 30 cm. from the end. Such a tube keeps the cardia open and permits the water with which the oesophagus is washed to find its way into the stomach. Peristaltic action may be stimulated by cold water, carbonated waters, and electricity. It is also necessary to treat the constipation; if this is due to spasm, it may be relaxed by the use of anaesthesine, bismuth, or morphine. Where it is necessary it may be dilated from the mouth by passing sounds; if the opening is impermeable an operation must be performed from the stomach, the opening being dilated with the finger or with some instrument. A complete cure cannot be looked for, as the oesophagus will always remain more or less dilated, and there will always be a tendency for the stenosis to return, so that treatment ought to be repeated from time to time. Dr. Starck has given us an excellent account of what is known regarding these conditions.

[3] III. Heft 5. *Die Divertikel und Dilatationen der Speiseröhre*, by Hugo Starck. Halle a. S.: Carl Marhold. 1911. (Roy. 8vo. 11 figures 11. M. 2.40.)

CHEMISTRY OF EXCRETIONS.

DR. CARL NEUBERG has published a textbook on the urine and the other excretions and fluids of the body,[4] aided by eighteen distinguished contributors. The work fills two bulky volumes, each of nearly 1000 pages, and forms in reality almost a complete textbook of physiological chemistry. Dr. P. Mayer deals with the general investigation of the normal urine—colour, reaction, specific gravity, rotatory power, spectroscopy, etc.; Dr. S. Fränkel with the inorganic constituents, and Professor Neuberg himself with the organic, nitrogen-free constituents. In looking through this section we note Neuberg's summary of the Cammidge reaction, in which he concludes "that the significance of the ozone crystals is more than uncertain, and that a single mother substance of these crystals scarcely can be said to exist." To Dr. A. C. Andersen, of Copenhagen, is allotted the section concerning nitrogen-holding bodies of the urine, while Professor A. Hefter treats of medicinal and poisonous substances; Dr. M. Jacoby, of ferments and antiferments; and Dr. v. Zeynele, of the pigments in the urine. Professor Ivar Bang deals with the blood, lymph, transudates and exudates, pus, milk, and colostrum; Professor Jacoby, with ferments, antiferments, and antibodies of the blood; and Dr. A. Pappenheim with the microscopic elements of the blood. Dr. J. Wohlgemuth discusses the chemistry of the secretions of the glands, Dr. O. Schumm that of the faeces, while Professor A. Albu gives the clinical methods of investigating the faeces, including the bacteriological investigation and parasitology. The bacteriology of the urine is dealt with by Professor Morgenroth and Dr. Halberstaedter. To Professor A. Loewy, as a leading authority, the description is allotted of the gases of the body and gas analysis, and calorimetry, while Professor Caspari treats of the metabolism. The work closes with sections on physico-chemical methods of investigation by Professor P. Bottazzi, and micro-chemical quantitative analysis by Professor S. Fränkel. The whole forms a valuable reference work for those engaged in research on problems of physiological chemistry.

THE massive work of Professors SCHMIDT and STRASBURGER on the examination of human faeces, first published in 1903, has been further enlarged in its third edition,[5] and now lays before the reader all that is known about this important but neglected subject. The first section, of 45 pages, describes the macroscopic investigation of the faeces; the next 50 their microscopic examination. Then follow 190 pages on the chemical methods of identifying faecal substances—proteins, fats, carbohydrates, enzymes (fourteen are mentioned), gases, and so forth; the methods of analysis are well and clearly set out, and the clinical deductions that have been drawn by various observers from the results of their analyses are quoted. It may be said that in general these deductions are of a somewhat vague and indefinite type, and calculated to give no more than a general guidance to the clinician in search of definite indications for treatment. About 100 pages are devoted to the bacteria of the intestine and the protozoa, and at the end of the book the higher parasites—worms and arthropods—are briefly considered. The authors conclude that intestinal bacteria are essential for the proper development of the young of various species of animals, and therefore, probably, for human beings also; the most recent researches of Schottelius (1908) show that chickens hatched and kept free from all bacteria die in a

[4] *Die Harn sowie die übrigen Ausscheidungen und Körperflüssigkeiten.* Edited by Dr. Carl Neuberg. Teils I and II. Berlin: Julius Springer. 1911. (Sup. roy. 8vo; Teil I pp. 994, Teil II pp. 956-1823. M.58.)

[5] *Die Fäzes des Menschen im normalen und krankhaften Zustande, mit besonderer Berücksichtigung der klinischen Untersuchungsmethoden.* By Professor Ad. Schmidt and Professor J. Strasburger. Third edition, revised and enlarged, with 16 figures in the text and 15 lithographic plates. Berlin: A. Hirschwald. 1910. (Sup. roy. 8vo. pp. 439. M. 21.)

few weeks, but can be saved by the administration of *B. coli* in their otherwise sterile food. On the subject of lactic acid producing bacilli the authors say little. The book ends with a good index, and the fifteen lithographic plates are excellently reproduced; it is indispensable to the workers in clinical laboratories, and is made all the more valuable by many hundreds of references to the literature.

The microscopical and chemical examination of the stools of infants has made great progress since its inception some forty years ago, and a compendium of all that is known about it is given in Dr. HECHT's recent manual.[6] The digestive disturbances to which the young are liable are notoriously many, and indications for their treatment may often be found by investigations into the absorptive powers of the intestine; and these are best examined by analyses of the food ingested on the one hand, and of the solid excreta on the other. The discovery that the absorption of fat, or carbohydrates, or proteins, is deficient will naturally lead to correction of the diet given to an infant or child with indigestion. Dealing with the bacterial flora of the intestine, Dr. Hecht contents himself with noting the percentage of the dried faeces that is made up of bacteria—from 9 to 24 per cent.—according to different authorities and in children of different ages; he does not attempt to deal with the varieties of the microbes that can be cultivated from the stools. In this country comparatively little work is done on the composition or abnormal constitution of the stools of sick infants and children; and Dr. Hecht's book, while it contains many points that are interesting to the physiologist, gives few indications that would be of practical service to the clinician. The book appears to contain no reference to the work of Soetbeer, de Lange, and others, which has shown that many cases of juvenile phosphaturia depend upon a diminution of the calcium salts excreted in the faeces and a corresponding increase in the urinary excretion of calcium. We cannot help thinking that the value of Dr. Hecht's compendium would be much increased by the addition of an index.

SURGERY.

WE have great pleasure in calling attention to the *General Surgery* volume of 1911 of the Practical Medicine Series.[7] It is edited this year again by Professor JOHN B. MURPHY of Chicago, and that fact alone is a sufficient guarantee that the review of surgical progress is thorough and comprehensive. The great difficulty that conscientious men have in keeping strictly up to date is a constant anxiety to them, so that any plan whereby we may keep abreast of the ever-growing knowledge is welcome. In this Year Book the work of all the departments of surgery is noticed. The table of contents includes anaesthesia, analgesia, radiotherapy, operative technique, wound healing, tumours, vascular system, lymphatic system, and the whole range of regional surgery. The latest operation methods are described, statistics are reproduced, and the numerous illustrations appear to be in most instances the actual pictures from the original papers. References are given in footnotes on every page. Perhaps as interesting as any part of the book are the exceedingly liberal quotations from papers of more or less philosophical trend by Mr. W. Thorburn of Manchester on The Evolution of Surgery, and by Dr. W. J. Mayo on Italian Surgery. The Year Book is therefore not merely a scissors and paste compilation—it is a spirited, sometimes humorous, commentary on the surgery of the year. The editor's introduction consists of a series of *obiter dicta*. Quotations will show their distinctive dogmatic flavour. "The injection of antitetanic serum is the initial procedure in the management of all lacerated wounds." "Ether is rapidly displacing all other means for general anaesthesia." "Surgical diagnosis is becoming more exact. A large factor in the production of this good result is the careful analysis of the clinical history of the cases. Exploratory operations are therefore happily diminishing in frequency." We strongly recommend the Year Book to the notice of surgeons and those practitioners who are far removed from a hospital and who do their own surgical work.

It is only three years since we welcomed the fifth edition of DA COSTA's admirable textbook on surgery, and now we welcome again its successor. Da Costa's *Modern Surgery*,[8] as the title now reads, is a brave and distinctly successful attempt to compress all that modern surgery means and is into one volume. The author acknowledges the arduous nature of his task. He recognizes that all so-called advances and discoveries may be but passing whims and fashions, which prove worthless when tested by experience or exposed to the cold light of impersonal investigation and observation, and he has exercised a wise discrimination. At the same time he has included in this edition notice of many quite recent theories and practical procedures which are still in the experimental stage (though it may be truly said everything in surgery is experimental) but have already a firm foothold in the new fields. For example, arteriorrhaphy, the use of positive and negative air pressure in thoracic surgery, intravenous local anaesthesia, the parathyroids, the diagnosis of tuberculosis by the finding bacilli in the blood, and serum diagnosis of cancer, are all described. The author regrets that the bulk of the volume increases with each edition. We regret also that he has rather departed from the purpose set forth in the preface to the first edition, when he wrote: "The aim of this manual is to present in clear terms and in concise form the fundamental principles, the chief operations and the accepted methods of modern surgery." The desire to include everything that the student and practitioner might seek for has evidently outstripped the author's convictions as to what are the chief operations and the accepted methods. It is impossible to criticize such a work in detail, but we have searched in many different departments for the latest information, and have invariably found the subject admirably, fairly, and fully treated. No student or practitioner, not even the operating surgeon, will find himself disappointed when he turns to Dr. Da Costa's book for enlightenment. Its main characteristics are thoroughness, completeness, accuracy, and modernness. Yet the work appeals to us as one more suitable for the practitioner and for the surgeon anxious for a scientific exposition of modern surgery and for help in the practical part of his work than for the student entering upon surgical study. The latter might well feel irritated by a certain diffuseness and slovenliness in literary style, a tendency to iteration, and a fondness for tacking on the name of the inventor of a bandage or modifier of an operation on every conceivable opportunity. The time has come when most surgical conditions and apparatus should be known only by their own names and not by the names of the men who discovered or described them. An immediate result would be that operations and many forms of surgical apparatus which hold their place simply from the association of a name would be discarded or relegated to a historical section. But these remarks deal after all with the non-essentials of the work. When the essentials of Dr. Da Costa's book are examined we have nothing but praise to offer. It bears abundant evidence of the work of a master in the science and art of surgery, and we feel assured that it will continue to hold its position among the great surgical textbooks in the English language.

NOTES ON BOOKS.

WEIL'S DISEASE.

A MONOGRAPH on Weil's disease by Surgeon-General Dr. HECKER and Staff Surgeon Professor OTTO[9] contains a good account of the epidemic at Hildesheim in 1911. The temperature charts of the cases (20) that occurred among the soldiers of the garrison are reproduced. There was no evidence of contagion; the men attacked came from

[6] *Die Fæces des Säuglings und des Kindes. Die Bedeutung und Technik ihrer Untersuchung.* By Dr. A. Hecht, with an introduction by Professor Escherich. Berlin and Vienna: Urban and Schwartzenburg. 1910. (Roy. 8vo, pp. 192. M. 8. Geb. M. 10.)

[7] The Practical Medicine Series, 1911, vol. ii: *General Surgery.* Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery, North-Western University, etc.. Chicago. 1911. Chicago: The Year Book Publishers. (Post 8vo, pp. 611, figs. 197, plates 33.)

[8] *Modern Surgery, General and Operative.* By John Chalmers Da Costa, M.D., Professor of Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia General Hospital, etc. Sixth edition, thoroughly revised and enlarged. Philadelphia and London: W. B. Saunders Company. 1910. (Roy. 8vo, pp. 966 illustrations. 24s.)

[9] *Veroffentlichungen aus dem Gebiete des Militaer-Sanitaetswesen.* Heft 46. *Beitraege zur Lehre von der Sog. Weilschen Krankheit.* Von Generalarzt Dr. Hecker und Stabsarzt Professor-Dr. Otto. Berlin: August Hirschwald. 1911. (Sup. roy. 8vo, 10 Tfn., 1 Sk. 15 Nurven im Text. M. 8.)

different companies and barrack-rooms: the authors are not able to add anything to what was previously known of the disease, and in particular they are not able to confirm the presence of the *proteus* bacillus as its cause; but it is interesting that, as in other epidemics, the outbreak seemed to have some connexion with bathing, as all the early cases had been learning to swim in the regimental bath. Stopping the bath, however, did not check the progress of the epidemic. It broke out in July, in the hottest time of the year; at first the cases were not typical, only six of them showing jaundice, and the spleen was hardly ever found to be enlarged. On the whole, the monograph adds nothing to what may be learnt from reading the excellent article on this disease contributed by Dr. William Hunter to Allbutt and Rolleston's *System of Medicine*. It is evidently a specific infectious fever which occurs with considerable frequency during the summer among the garrisons of the Prussian army, but which only appears sporadically and rarely in this country.

PHYSICS.

A pamphlet by Professor E. RUTHERFORD, dealing with the subject of radium standards and the employment of radio-active measurements,[10] has been published in Germany, presumably as part of an effort to acquaint scientific men and governments of all countries with the findings of the special international committee which reported on the matter to the Brussels Congress of 1910, and the primary standard prepared by Madame Curie. The author states that, using the gamma-ray method, he has compared the radium standards in use in various important European laboratories, and he has found that the differences between them in some instances have reached 0 per cent. He enters into many interesting details with regard to radium disintegration.

Mr. CANDY'S *Manual of Physics*[11] is intended especially for the use of medical students, and the subject is carried as far as is necessary in preparing for the First Professional Examination of the Conjoint Board in England. The first part deals with general physics (kinetics, statics, pneumatics, etc.), and other sections are devoted to heat, sound, light, electricity, and magnetism. The author has succeeded admirably, with the aid of a clear style and well-chosen illustrations, in giving a lucid account of these subjects within a very small space; the matter is concisely put, but the book is far from being a "cram" book, and can be strongly recommended. Instructions for a course of practical work comprising between one and two hundred experiments are included.

Notes on Practical Physics,[12] by Dr. A. H. FISON, is a book intended for use on the laboratory bench during a course of practical work in elementary physics; it contains accordingly no full descriptions of experiments, but such notes and directions as the author's teaching experience has shown that it is desirable to supply to the intelligent student. Nearly 200 experiments in general physics, light, heat, magnetism, electricity, and sound are dealt with, and the directions are such as will save the demonstrator's time and help the student, while not at all relieving the latter of the need for thinking for himself. Examples of how notes should be kept, and some necessary tables, conclude the book.

WHITAKER'S ALMANACK.

The new edition of the invaluable *Whitaker's Almanack*[13] has been issued. The first edition for the year 1869 contained 362 pages, and the new, which is the forty-fourth, contains 856: some idea of the multiplicity of the information it contains can be gathered from the Editor's statement that the index contains 7,000 references. Among the new matter is, of course, an abstract of the census of 1911, and there is a new article on public and private health and charitable bequests. There is also a new article on science and invention in 1911, which includes references to the Anaesthetics Committee of the British Medical Association, to the treatment of cholera devised by Professor Leonard Rogers, and to the Tuberculosis Commission's Report. The accuracy and completeness of such a work of reference can only be correctly estimated by daily use, and judging from the experience of previous issues we have no doubt the new edition will be fully justified by this test when it comes to be applied.

[10] *Radiumnormalmasse und deren Verwendung bei radioaktiven Messungen*. By E. Rutherford, F.R.S. Translated by Dr. B. Finkelstein. Leipzig: Akademische Verlagsgesellschaft. 1911. (Post 8vo, pp. 72; figs. 3.)

[11] *Manual of Physics for Medical Students*. By Hugh C. H. Candy, B.Sc.Lond., F.I.C. London, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1911. (Fcp. 8vo, pp. 392; 262 illustrations and coloured frontispiece. 6s. net.)

[12] *Notes on Practical Physics*. By A. H. Fison, D.Sc. London: Edward Arnold. 1911. (Post 8vo, pp. 152; 13 illustrations. 3s 6d.)

[13] *Whitaker's Almanack for 1912*. London: J. Whitaker and Sons, Limited. (Cr. 8vo, pp. 856, bound 2s. 6d., paper edition 1s.)

MEDICAL AND SURGICAL APPLIANCES.

Metal Syringe for Local Analgesia.

MAJOR F. J. W. PORTER, R.A.M.C., writes: The all-metal syringe for local analgesia which was a few years ago manufactured for me by Messrs. Allen and Hanburys, Limited, has been recently adapted for spinal analgesia. This syringe was originally based on the lines of Mr. A. E. Barker's well-known syringe, the great feature being the tightly fitting piston and its practical indestructibility. A large number of these instruments has been ordered by the War Office. The spinal needles (fitted with cannulae which extend right to the tip) are carried in clips in the lid of the box. A hollow needle is also supplied through which the solution can be drawn into the barrel of the syringe, and by means of which air can be expelled. A triangular-edged knife for puncturing the skin is included in the outfit. The needles and knife have been copied from Mr. Canny Ryall's spinal syringe.

MEDICINAL AND DIETETIC ARTICLES.

An Albuminous Compound of Silver.

A CONSIDERABLE number of organic compounds of silver have been introduced in recent years, and several have now a well-established position. Finality, however, has not been reached, and it is claimed for the compound formed by the action of ammonio-silver nitrate on albumose, which Messrs. Schering of Berlin are now putting forward under the name Hegonin, that it possesses certain advantages over all others. We have received samples of this preparation, in the form of tablets containing 0.25 gram, from the British agents, Messrs. A. and M. Zimmermann (3, Lloyds Avenue, London, E.C.): it is a reddish-brown amorphous substance, dissolving without trouble in water to form a neutral or faintly alkaline solution. The proportion of silver in it is about 7 per cent., and the solution is not precipitated by sodium chloride. It is particularly recommended for use, in about $\frac{1}{4}$ per cent. solution, as an injection in gonorrhoea, and it is stated that cures are effected more rapidly than by other silver compounds, and that no complications occur such as are encountered in a fair percentage of the cases treated by the older preparations.

Epinine.

The isolation of the active principle of the suprarenal gland was followed at no long interval by its synthetic production in the laboratory; further research on compounds of the same group has now led to the production of a new artificial substance, having a similar property of raising the blood pressure, but a more lasting effect. This compound, 3,4-dihydroxyphenyl-ethyl-methyl-amine, has been introduced by Messrs. Burroughs Wellcome and Co. (Snow Hill Buildings, London, E. C.), in whose laboratory it was first produced, under the name Epinine. One of the disadvantages of adrenine is the ease with which it undergoes decomposition, and it is claimed for epinine that it is much more stable, and being a synthetic product is more easily obtained in a pure state. A 1 in 100 solution of epinine, it is said, is equal in activity to a 1 in 1,000 adrenine solution, in its effects on the blood pressure, the heart's action, the uterus, etc., but the rise in blood pressure is more prolonged. It is supplied as a 1 per cent. solution in bottles, and also in sterilized "vaporoles," each containing 1 c.cm.; also in the form of ophthalmic tabloids, each containing 0.006 gram ($\frac{1}{10}$ grain) of epinine. The same firm prepare a combination of epinine with cocaine hydrochloride. In this combination the epinine is intended to enhance the effect of the local anaesthetic, without risk of sloughing through excessive vaso-constriction. It will probably prove useful in dental work. The solution is supplied in bottles and in sterilized "vaporoles"; each c.cm. contains 0.02 gram of cocaine hydrochloride, and 0.0003 gram of epinine.

MOTOR CARS FOR MEDICAL MEN.

WE are asked to state that the price of the 9-h.p two cylinder De Dion Bouton chassis is, with 750 by 85 mm. tyres, £227 10s., not, as erroneously stated in a recent advertisement £215, which is the price *minus* tyres.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE Governors and General Council of King Edward's Hospital Fund for London made their awards for the present year to hospitals, convalescent homes, and consumption sanatoriums at a meeting over which the SPEAKER presided at St. James's Palace on December 11th.

The report of the HONORARY TREASURER, Lord Revelstoke, showed that the sums received by the Fund up to December 8th for general purposes amounted, after payment of expenses, to £176,745 0s. 3d., and Sir HENRY BURDETT stated that it was hoped that the contribution of the League of Mercy, together with the sums distributed by it among the hospitals and home counties, would amount together to £20,000.

The Distribution Committee.

The report of the Distribution Committee, read by its Chairman, Sir WILLIAM CHURCH, showed that it had had placed in its hands a sum of £151,000 as against £150,000 in 1910; while the number of hospitals applying for grants was 105, as against 106 last year. The Governors of St. George's Hospital had withdrawn their application as a result of the decision of the Fund on the question of the amount which should properly have been paid by them to the medical school in respect of work done by it for the hospital. The same decision also entailed a lapse to the Fund of the maintenance grant of £2,000 which was made to the hospital last year, but withheld pending decision on the point in question. Communications had passed between the Fund and the five throat, nose, and ear hospitals, and between these hospitals themselves, with a view to amalgamation, but so far no agreement as to a full detailed scheme had been reached, and it was recommended that, instead of making grants to the four of these five hospitals which had applied, the committee should be authorized to add £2,500 to the amounts granted in previous years by way of maintenance, or towards capital expenditure, but held in reserve in view of the possibility of amalgamation, and then set the total sum of £20,000 aside until such time as agreement on a satisfactory scheme or schemes of amalgamation should be reached. If such event took place before the date of the next distribution meeting the committee should be empowered to draw upon this sum to such extent as it might deem desirable.

The proposed grant of £5,000 towards the expense of moving King's College Hospital to South London would bring up the total amount contributed by the Fund towards this object to £42,000. Kentish Town would shortly be provided with improved hospital accommodation by the rebuilding of the out-patient department of the amalgamated Hampstead and North-West London Hospitals.

Awards.

The awards recommended by the Distribution Committee and the Convalescent Homes Committee amounted together to £157,500—namely, ordinary grants to hospitals, £148,500; grants set aside for the amalgamation of hospitals, £2,500; and grants to sanatoriums and convalescent homes, £6,500, as against £5,000 last year. The Distribution Committee prefaced its list of proposed awards by a statement that the absence of a grant did not necessarily imply dissatisfaction with the institution concerned. The following excerpts from the list cover the principal hospitals, large and small, and show the grounds on which, when stated, awards were recommended or otherwise.

Alexandra Hospital for Children.—£300.
Beckenham Cottage Hospital.—£25.
Belgrave Hospital.—£1,500, of which £1,000 to reduce building debt.
Blackheath and Charlton Cottage Hospital.—£150.
Bolingbroke Hospital.—£1,400.
British Lying-in Hospital.—£500.
Central London Ophthalmic Hospital.—£1,500, to rebuilding in accordance with the scheme submitted to the Fund.
Charing Cross Hospital.—£4,000, of which £1,000 to special appeal for reduction of debt.
Chelsea Hospital for Women.—£500.
Cheyne Hospital for Sick and Incurable Children.—£100, in consideration of the fact that some curable cases are admitted. The committee is glad to see that a country branch has been opened.
City of London Hospital for Diseases of the Chest, Victoria Park.—£4,000.
City of London Lying-in Hospital.—£1,000, of which £500 to reduce building debt.
Clapham Maternity Hospital.—£100.
Dreadnought Hospital.—£4,500, of which £500 to reduce debt, and £500 to underpinning of Docks Branch
Ealing Cottage Hospital.—£750, of which £500 to rebuilding in accordance with the scheme submitted to the Fund.
East End Mothers' Lying-in Home.—£500, of which £300 to extinguish building debt.
East London Hospital for Children.—£2,000, of which £500 to recent improvements in accordance with the scheme submitted to the Fund.
Eltham and Mottingham Cottage Hospital.—£100.
Finchley Cottage Hospital.—£25.
Florence Nightingale Hospital for Gentlewomen.—£250.
French Hospital.—£200.
Friedenheim Hospital.—£50.
General Lying-in Hospital.—£400.
German Hospital.—£200.
Gordon Hospital for Fistula, etc.—£25.
Great Northern Central Hospital.—£4,000, of which £1,000 to reduce debt.
Grosvenor Hospital for Women.—£350.
Guy's Hospital.—£6,500.
Hampstead General Hospital.—£4,500, of which £1,650 on account of maintenance and rent, as agreed upon amalgamation with the North-West London Hospital, and £2,750 to rebuilding of out-patient department in Kentish Town in accordance with scheme submitted to the Fund, on condition that the balance is raised by the hospital.
Home and Infirmary for Sick Children.—£200.
Home for Mothers and Babies, Woolwich.—£100.
Hospital and Home for Incurable Children, Hampstead.—£150, in consideration of the fact that some curable cases are admitted, of which £100 to lift and isolation ward in accordance with the scheme submitted to the Fund.
Hospital for Consumption, Brompton (including Sanatorium at Frimley).—£4,000.
Hospital for Epilepsy and Paralysis.—£1,500, of which £1,000 to extension in accordance with the scheme submitted to the Fund.
Hospital for Sick Children.—£3,500, of which £500 to reduce general fund debt.
Hospital for Women, Soho Square.—£1,750, of which £500 to reduction of mortgage on No. 4, Frith Street.
Hospital of St. John and St. Elizabeth.—£400.
Hostel of St. Luke.—£25.
Infants' Hospital.—£50.
Italian Hospital.—£500.
Kensington and Fulham General Hospital.—£25.
Kensington Dispensary and Children's Hospital.—£25.
King's College Hospital.—£7,000, of which £5,000 to removal fund.
Leyton, Walthamstow, and Wanstead Children's and General Hospital.—£300, of which £50 to improvements.
London Fever Hospital.—£100.
London Homœopathic Hospital.—£500.
London Hospital.—£12,000.
London Lock Hospital.—£4,500, of which £500 to the Harrow Road Hospital, and £4,000 to the rebuilding of the Dean Street Hospital in accordance with the scheme submitted to the Fund.
London Temperance Hospital.—£1,500.
Maternity Charity and District Nurses' Home, Plaistow.—£150.
Medical Mission Hospital, Balaam Street, Plaistow.—£350.
Memorial Hospital, Mildmay Park.—£50.
Metropolitan Hospital.—£3,500.
Middlesex Hospital.—£4,000.
Mildmay Mission Hospital.—£400.
Miller General Hospital for South-East London.—£2,750, of which £2,000 to extension in accordance with the scheme submitted to the Fund.
Mount Vernon Hospital for Consumption (including Sanatorium at Northwood).—£2,500.
National Dental Hospital.—£450, of which £200 to equipment.
National Hospital for the Paralysed and Epileptic.—£1,750.
New Hospital for Women.—£1,750, of which £750 to structural improvements in accordance with the scheme submitted to the Fund.
Norwood Cottage Hospital.—£50.
Paddington Green Children's Hospital.—£1,250, of which £750 to reconstruction of out-patient department in accordance with the scheme submitted to the Fund.
Passmore Edwards Acton Cottage Hospital.—£75.
Passmore Edwards East Ham Hospital.—£50.
Passmore Edwards Hospital for Willesden.—£50.
Passmore Edwards Cottage Hospital, Wood Green.—£25.
Poplar Hospital.—£750, of which £500 to improvements in accordance with the scheme submitted to the Fund.
Prince of Wales's General Hospital.—£4,000, of which £1,500 to reduce debt. The committee considers that this hospital should receive more support from the public.
Queen Charlotte's Lying-in Hospital.—£750.
Queen's Hospital for Children.—£3,500, of which £1,500 to reduce debt.
Royal Dental Hospital of London.—£750.
Royal Eye Hospital.—£1,000, of which £250 to reduce debt.

Royal Free Hospital.—£3,000.
Royal Hospital for Diseases of the Chest, City Road.—£1,500, of which £250 to reduce debt.
Royal Hospital, Richmond.—£200.
Royal London Ophthalmic Hospital.—£2,250.
Royal National Orthopaedic Hospital.—£5,000, of which £3,000 to reduce building debt.
Royal Waterloo Hospital for Children and Women.—£1,750, of which £250 to recent improvements.
Royal Westminster Ophthalmic Hospital.—£100.
St. John's Hospital for Diseases of the Skin.—£700, of which £500 to reduce mortgage debt, and £100 to the provision of baths in Leicester Square.
St. John's Hospital, Lewisham.—£350.
St. Luke's House.—£50.
St. Mark's Hospital.—£200.
St. Mary's Hospital.—£5,500, of which £1,500 to reconstruction Casualty Department in accordance with the scheme submitted to the Fund.
St. Mary's Hospital for Women and Children, Plaistow.—£1,000, of which £250 to roof-garden for patients.
St. Monica's Hospital.—£75.
St. Peter's Hospital for Stone.—£100.
St. Saviour's Hospital, Osnaburgh Street.—£200.
Samaritan Free Hospital.—£1,750, of which £750 to new nurses' home in accordance with the scheme submitted to the Fund.
Santa Claus Home.—£25.
South Wimbledon, Merton, and District Cottage Hospital.—£300 to the rebuilding of the hospital in accordance with the scheme submitted to the Fund.
University College Hospital.—£4,000.
Victoria Hospital for Children.—£1,250, of which £250 to recent improvements.
West End Hospital for Diseases of the Nervous System.—£350.
West Ham and East London Hospital.—£2,000.
West London Hospital.—£5,000, of which £2,000 to reduce debt.
Westminster Hospital.—£3,500.
Wimbledon Cottage Hospital.—£450, of which £400 to rebuilding in accordance with the scheme submitted to the Fund.

Sanatoriums and Convalescent Homes.

The Convalescent Homes Committee reported that the applications eligible for consideration numbered 43 from convalescent homes and 7 from consumption sanatoriums. against 45 and 8 respectively last year. In dealing with applications from convalescent homes the committee adhered to its original policy of giving special consideration those closely connected with London hospitals. The scheme of arranging with sanatoriums to place beds at the disposal of patients in London hospitals had worked satisfactorily, and the hospitals to which beds had been allotted testified to the value of the arrangement. Of such beds there are now 37—namely, 7 at the Sanatorium of the National Association for the Establishment and Maintenance of Sanatoria for Workers, Benenden, Kent; 8 at the King Sanatorium, Holt, Norfolk; 10 at the Devon and Cornwall Sanatorium, South Brent, Devon; and 12 at the Northamptom Sanatorium, Creaton, Northants. In accordance with the principle adopted last year, preference was given in the allotment of these beds to the two consumption hospitals which had no country branches, the City of London Hospital for Diseases of the Chest (17 beds), the Metropolitan Hospital for Diseases of the Chest (8 beds), and the grant divided between the two largest general hospitals on the Fund's list of applicants, the London Hospital and Guy's Hospital (6 beds each). Of the total sum at the disposition of the committee, £3,500 was awarded to sanatoriums and £3,000 to convalescent homes. The grant to the former being divided between only five institutions was of necessity comparatively large, ranging from £250 to the Queen's Sanatorium at Holt, to £1,050 to the Northampton Sanatorium at Creaton. The convalescent homes selected numbered, on the other hand, as many as 38, the grants in consequence averaging very much smaller than they ranged from £25 in the case of the majority of the applications to £250 in the case of the Home of the East London Hospital at Bognor, and £400 in respect of the Home at Clacton belonging to the Middlesex Hospital.

Message from the King.

In moving the adoption of the reports and awards, the CHAIRMAN stated that as his two colleagues were attending the Barbar ceremonies, it had been necessary to put into operation the clause of the Act of Incorporation which authorized the Governors to delegate their powers to a committee. Such committee had been formed by associating himself with Lord Donoughmore and the Right Hon. Sir Thomas Vezey Strong. He then read out the following message from His Majesty:

Emperor's Camp, India,
December 9th, 1911, 2.45 p.m.

On the occasion of the annual meeting on Monday I wish to congratulate the Governors and Council of the Fund upon the satisfactory results achieved last year. I am glad to think that they can increase the annual distribution by £2,500, indicating the continued support of the public and confidence in its efficient administration. I highly appreciate the generous and untiring work given to the Fund by the honorary secretaries and members of the various committees; and I take as ever the deepest interest in its welfare.

GEORGE, R.I.

The Speaker said that the withdrawal of St. George's Hospital from the list of applicants was a matter of deep regret to the Fund, but the Fund had no option except to observe both in the letter and the spirit the findings of Sir Edward Fry's Commission on the financial relations between hospitals and medical schools. The Special Committee appointed to inquire into the out-patient system had completed its collection of evidence before the end of the summer, but did not think it desirable to settle its report while the National Insurance Bill was before Parliament and was liable to changes which might affect its bearing on out-patient work. It was much regretted that Mr. Fry was unable to continue his invaluable services as one of the honorary secretaries of the Fund, and to take his place Mr. J. G. Griffiths had been appointed; he was already well known in the hospital world through his connexion with the Revised Uniform System of Hospital Accounts.

Sundry formal motions, including one for the adoption of the reports and a vote of thanks to the Speaker, were then passed, and the proceedings terminated.

ASSOCIATION OF CERTIFYING FACTORY SURGEONS.

THE annual meeting and dinner of the Association of Certifying Factory Surgeons were held at the Trocadero Restaurant, London, on Friday, December 8th, and were exceedingly well attended by members from all parts of the country.

Annual Meeting.

The chair was taken by the PRESIDENT (Dr. W. F. Dearden), who, in the course of an address, outlined the various matters which had been brought before the consideration of the council during the year. In referring to the report of the Departmental Committee on Industrial Accidents, which was issued in February last and gave expression to the view that the investigation of the certifying surgeon was of so little practical importance that it could be usefully abolished, he pointed out the unfairness of coming to such a conclusion on evidence given solely from a lay inspector's point of view, and without utilizing the experience of prominent certifying surgeons. As the report mentioned that a further committee would be appointed to consider the duties and position of the certifying surgeon, he trusted that not only would the fullest evidence be gathered from those most interested, but that the Government would recognize the advisability and justness of appointing a representative of this branch of the profession on the Committee itself. A deputation had waited upon the Chief Inspector in March to discuss with him the question of conditional certificates, and a satisfactory definition of the conditions which were legally binding and of those which could be considered of an advisory nature had now been established. As regards the latter it was shown that, if not carried out, the inspector had the power to refer to the certifying surgeon for re-examination. Representatives had been sent to a joint meeting convened by the Association of Medical Officers of Health, and to one called by the National League for Physical Education and Improvement, both of which had reference to conjoint action under certain circumstances. Representatives were also sent to the National Conference on the Prevention of Destitution, at which a discussion was opened on the physical bar to employment in a paper contributed by himself on "The Work of the Certifying Factory Surgeon and its Relation to other Branches of Preventive Medicine," this being subsequently followed by a paper from Dr. Alex. Scott on "Physical Unfitness as a Cause of Unemployment." Dr. A. Glen-Park also made

a useful contribution on detection of incipient phthisis in young workers.

Dr. C. A. GREAVES, of Derby, contributed a short paper on the report of the committee on factory accidents, in which he criticized very severely the conclusions arrived at with respect to the utility of certifying surgeons' investigations. He submitted that the findings were wide of both facts and reasonable conclusion. The statement that the surgeon's report did not generally dispense with the inspector's visit was not borne out by his forty-four years' experience of the work. The inspectors with whom he had worked only visited a small percentage of the cases notified, practically limiting themselves to the fatal accidents and the few others of extremely serious character. Very little consideration of the facts would be required to show that the committee's suggestion to transfer the duties of certifying surgeons to the shoulders of inspectors would be neither desirable, practicable, nor economical. He mentioned that in the district of Derbyshire there were thirty-three certifying surgeons, all of them being within easy reach of the factories in their districts, whereas there was only one inspector and one assistant inspector for the whole area. The distance that the inspector would have to travel might be anything up to 50 miles for a single investigation, and as about 2,000 accidents per annum were reported in the county it would be practically impossible to cope with the work.

A discussion subsequently took place on the advisability of increasing the staff of medical inspectors by appointing one to each superintending inspector's district, and allotting to him the function of supervising the work of certifying surgeons in such district, and it was unanimously resolved to make representations to the chief inspector in favour of such appointments.

The following members of the medical profession, distinguished for their researches on industrial disease, were elected honorary fellows of the association:

Dr. M. Christoferis, President of the Permanent International Commission for the Study of Industrial Disease.
Professor L. Carozzi, of Milan.
Dr. L. Teleky, of Vienna.
Dr. D. Glibert, Chief Medical Inspector of Factories of the Belgian Government.
Professor R. Sand, of Brussels.
Sir Thomas Oliver.
Professor J. Glaister.
Dr. T. M. Legge.

Dr. R. W. Edginton, of Birmingham, was elected president, Dr. T. Watts honorary treasurer, and Dr. W. F. Dearden honorary secretary.

Annual Dinner.

Over sixty members and guests dined together under the presidency of Dr. DEARDEN. A letter was read from Mr. Masterman, Parliamentary Under Secretary of State, saying how deeply he regretted that pressure of parliamentary business prevented his presence. The toast of "The Home Department of H.M. Government" was suitably proposed by Dr. EDGINTON, and Sir ARTHUR WHITELEGGE, in responding, said that he looked upon the certifying surgeon as a very important essential in factory administration. Although, as stated by the proposer, a Departmental Committee had to a certain extent reported adversely on the utility of the surgeon's investigation into accidents, the committee itself was undoubtedly very favourably impressed with the great and increasing usefulness of their work in other directions. Their functions were being brought more and more into association with the science of industrial hygiene, and as a consequence they were bound to exercise an increasing influence on the elucidation of the problems of occupational disease. There was no question of the valuable work that had already been accomplished under Home Office regulations and special rules, and in the investigation of industrial poisonings. He admitted that British methods were somewhat different to Continental methods, but pointed out that, although these islands were perhaps behind in certain features, notably in the establishment of museums to illustrate methods of prevention and the fencing of machinery, in other respects they more than held their own. He illustrated the advance made in the study of industrial disease generally, in the solution of the dust problem, of the study of methods and character of lighting, and in investigating the causation and natu of fatigue. He looked forward with confidence to th part which would be taken by the certifying surgeon i advancing knowledge in these subjects. He also quit appreciated the value of the association in assistin towards this end, and wished it every success.

Dr. T. M. LEGGE proposed the toast of "The Association which was responded to by the PRESIDENT; and Dr. J. F KEAY, in a characteristically humorous speech, propose "Our Guests," to which Mr. J. NEVILLE, M.P., and D T. D. LISTER responded.

ADMINISTRATIVE CONTROL OF PHTHISIS.

THE Local Government Board for Scotland has issued report by three of its medical inspectors on "The Admini trative Control of Pulmonary Phthisis in Glasgow."

Introduction.

In an introductory note by Dr. Leslie Mackenzie, medic member of the Board, he states that some years ago th parish council, in order to deal adequately with sickne established three large hospitals—Stobhill Hospital, th Eastern District Hospital, and the Western Distri Hospital. They also extended the Barnhill Poorhous The intention was two-fold: First, to make better provisi for all variety of sickness, and secondly, to enable the pari council to classify patients more adequately. But, mea while, owing to the improved accommodation, the strea of patients demanding treatment continued to increas and the pressure on the available hospital and poorhou space had become very great. The pressure on t parochial institutions was not an isolated fact. It was t result of the steadily increasing concentration of the pub mind on the group of problems due to tuberculos Accordingly, instead of dealing simply with a min matter of administrative arrangement, the Local Gover ment Board for Scotland decided to institute an investig tion into the whole facts bearing on the administrati control of pulmonary phthisis in Glasgow. These thr reports are the result of the investigation. In t first, Dr. Dittmar, Medical Inspector, summarizes a illustrates the work of the Glasgow parish council. the second, Dr. Elizabeth McVail, Lady Inspect describes and illustrates the work done in the section Glasgow served by Govan Combination Poorhouse. In t third, Dr. Dewar, Medical Inspector, deals fully with t administrative measures taken by the local authority. T three reports together contain a mass of administrat material of the highest value. The facts are dispassi ately presented by officers accustomed to exact obser tion. The cases were taken at random. They may, the fore, be properly regarded as representative in their vari grades.

General Conclusions.

Five and a half years ago the Board issued to the pu health authorities in Scotland a circular on the adminis tive control of pulmonary phthisis. The reports now sented indicate how far the community of Glasgow proceeded in elaborating the methods of control. Glasgow parish council spends £22,000 a year on the h pital treatment of phthisis cases alone. On any one over 500 cases are accommodated in the parochial inst tions. From the Govan parish area of the city some Glasgow cases were admitted to the Govan Combina Poorhouse in the three and a half years ending Novem 1910. The Public Health Department of the T Council, during 1910, handled in one way or another 3,500 cases.

These figures are enough to show what a vast am of admirable work the public authorities are systematic doing; but the need for increased hospital accommoda is held to be demonstrated, crowded houses of one or rooms being quite unsuitable for the treatment of tu culous cases. Another outstanding conclusion is that voluntary agencies, great and valuable as their work been and is, cannot cope with the demands on organization

Dr. Dittmar's Report.

Dr. Dittmar states that the parish of Glasgow deals ith cases of phthisis pulmonalis in one or other of the llowing three ways:

1. By hospital treatment in one of the Poor Law institutions the parish.
2. By boarding out in the country.
3. By dealing with cases in their own homes in the city.

Special accommodation has been provided at Stobhill ospital for cases of phthisis. In addition to special ard accommodation there are modern outdoor shelters the grounds for cases that are considered suitable. commodation for phthisis has not been provided in the strict hospitals and Barnhill Poorhouse, but all of them ceive a considerable number of cases of the disease ry year.

The bulk of these cases have been at one time boarded-out ldren, who, having reached the age of 14 or 15, and ring phthisis, have had to be boarded out again, either their original or in other homes. Houses for phthisical es are chosen in the country at as high an altitude as sible, and the householder who receives them is always rmed that the case is one of phthisis, and is instructed at precautions he should take for his own protection. A arate bedroom for the cases is insisted on as a *sine qua* in all instances. A variable number of cases is at all es in the receipt of outdoor relief, and are attended by parish medical officer. The officers of the Health artment of Glasgow also visit them.

ulmonary phthisis has been a notifiable disease in gow since January, 1910, and the nurses attached to Health Department visit all cases regularly. As in case of other infectious diseases, arrangements have made to call for the washing at regular intervals. It ll disinfected, and sent back washed to the house- er. By calling at the Sanitary Department people can in disinfectants and brushes for limewashing, and in in cases the limewashing is done for them by the ary staff.

ne way in which the sputum was actually dealt with investigated in 20 cases under observation. With few tions all had been in hospital, some of them for more one period of several weeks or even months. All ocket spit-cups, in the use of which they had been cted, and most of them, especially those with sputum, made use of these spit-cups. But in where the amount of sputum was large the pocket up was of no use. Thus, in one case, that of a young far gone in phthisis, there was a domestic washing about half the ordinary size) standing under his bed. ail, on examination, proved to be more than half full tum. In another case the patient had a spit-cup, splained that he kept it in his pocket for use when s outside. In another case the sputum was collected ordinary domestic jug, which was standing at the e. These patients should have been isolated in al.

rther consideration in connexion with the home ent of phthisis is: How much money have the to live on? The 20 cases dealt with were all in of parochial relief. Only two families had as as 5s. a head a week for food, after making the ary deductions. All the rest had less than 3s. a week for food, the lowest having 1s. 8d. and the 2s. 9d. Dr. Dittmar says it is impossible to under- ow any one can obtain sufficient nourishment on so s 2s. 6d. a week.

general conclusions which he thinks may be drawn, siting the cases of phthisis treated at home by the of Glasgow, are:

at effective isolation is not practical in houses of a partment.

at in the majority of houses of two apartments effective is also impracticable, and this quite apart from the ere isolation is not even attempted.

e amount of aliment given to the families of phthisical on the outdoor roll is inadequate to supply them with ncy of wholesome and nourishing food.

Dr. Elizabeth McVail's Report.

cVail's conclusions are much the same as those of mar in regard to the home treatment of phthisis— re no proper means of isolation nor disposal of sputum, while the sanitary condition of the homes left much to be desired.

Dr. Dewar's Report.

In his report on the measures adopted by the local authority, Dr. Dewar describes the system of notification, visits by nurses and dispensaries, and pays a high compliment to the staff engaged in carrying on the work. He refers to certain anomalies in connexion with cases of phthisis. He says:

Perhaps next in salience to the fact of the association of phthisis and destitution is the strange medley of anomalies which have arisen through the gradual evolution of our law regarding the poor, the ailing, and the infectious sick. When an intemperate workman develops phthisis his wife and children may be better off than they have ever been before! When a woman is similarly affected she, if the wife of an able-bodied man, may get no relief, and have the eighteen months of her declining health embittered not only by the anxiety regarding the condition of her children, but by inevitable pain, cough, and feebleness. If she is a widow, or her children are illegitimate, her condition will be far less deplorable than if she has an able-bodied husband earning an average labourer's wage. A like anomaly occurs with regard to thrift. One of the 100 cases classified was a steady, respectable fellow, a good workman, and a good husband and father. He had saved some money. With the supervention of phthisis his savings gradually vanished. It took years to gather but only months to scatter them. With dismay he sees them diminish and disappear. There is no one, certainly no official public body, to help. But, so soon as he is actually destitute, his difficulties are at an end. Then, and not till then, will he find a place in a Poor Law hospital, and his wife and children will receive a reasonable, if not even a generous allowance. It is surely to the credit of the authorities that they sometimes do better than the law sanctions. The proportion of the notified cases associated with common lodging-houses is very large. Dr. Chalmers, writing in 1906, stated that of a series of cases of phthisis coming to the knowledge of the local authority, through application for Poor Law relief, the lodging-houses supplied one-fourth. In these institutions—many of them admirable of their kind—no special precautionary measures are taken. In these lodging-houses a phthisical person does not always have a bed reserved to himself. On his removal to hospital or elsewhere efficient disinfection has been the exception. Moreover, the men who reside in these houses are usually of careless and dirty habits.

When it is added that ventilation is bad in the dormitories at night, and some of the bunks close and of unsuitable shape for free aëration, it would not be surprising if lodging-houses should prove to be frequently responsible for the diffusion of infection and the inception of the disease.

In his remarks on "in-and-out" cases Dr. Dewar says:

This phrase is intended to indicate those cases of the indigent class who enter one or other of the Poor Law hospitals, or Barnhill Poorhouse whenever they feel inclined, and leave it as soon as they tire of it. Many repeat this process indefinitely. Now, these persons, when they are "out," live better in lodging-houses, where there is neither isolation, non-preventive precautions, nor (at least in the past) disinfection, or in homes of the poorest, most dirty, most untidy, and, in short, most squalid type. If phthisis be correctly regarded as an infectious disease (no matter how low the degree of infectivity), it is for the public weal—it is consistent with the public safety—that this strange alternation of institutional with vagrant life should be permitted without any attempt at supervision or restraint. Nothing is more certain than that the public money spent in the isolation and treatment of this class of patients in hospitals is absolutely thrown away so far as any public benefit is concerned, and scarcely less completely wasted if viewed from a philanthropic standpoint.

Surely the whole system whereby men suffering from an infectious disease go into and out from hospital at their own sweet will, without regard to their own ultimate welfare, the comfort and well-being of their family, or the protection of the public, is archaic and indefensible to a degree.

Dr. Dewar recapitulates the measures which are recommended as the outcome of this inquiry:

1. The whole duty and responsibility for the control of pulmonary phthisis should be vested in the local authority (as apart from the relief of dependants rendered destitute by the illness of the wage-earner).
2. There should be such extensions of the accommodation for cases of phthisis as will permit of
   (*a*) A period of educational isolation for all early or hopeful cases which desire or require it, and
   (*b*) Isolation of all advanced cases which desire institutional treatment, and are prepared to accept it for a reasonable minimum period.
3. There should be such modification of the methods of disinfection as will imply the thorough cleaning of premises by the tenant, or, in his default, by the owner, the procedure being adopted to suit each case on recommendation made after a visit by the medical officer of health or his assistant.
4. Cases which have been notified should be kept under

observation so long as they remain a menace to the public health; to secure this end, it should not be impossible to devise machinery based upon the powers conferred by the Public Health Act.

5. In the exercise of the same process, patients who are excreting tubercle bacilli in their sputum, and whose houses or habits make domestic isolation impossible, should be detained in hospital.

6. There should be close and regular supervision of all notified cases which frequent and usually reside in common lodging-houses.

7. Suitable premises should be provided for the conduct of the work of the distress areas, and that work extended by increase of the medical and nursing staff.

SCIENCE NOTES.

THE question of the antiquity of man is one which must interest every thinking person endowed with any spice of scientific curiosity, but it must appeal particularly to medical persons who by reason of their anatomical training are competent to form a judgement on the data upon which some of the conclusions as to the characters of prehistoric man rest. The facts, however, have been scattered in many technical periodicals and not a little obscured by a special terminology and controversies on points of minor importance. Dr. Arthur Keith, the accomplished Curator of the Museum of the Royal College of Surgeons of England, has therefore laid us all under an obligation by writing for Harper's Library of Living Thought, a kind of primer on the subject, a little volume entitled *Ancient Types of Man*.[1] It is the kind of book that only a master of his subject could write. It is addressed to the public, and it has been kept as free from technicalities as was perhaps possible. The reader is led by gentle stages from late Neolithic to early Palaeolithic man, and on to the enigma of the fossil man of Java. Dr. Keith believes that the Neanderthal man represents "the stock from which all modern races have arisen. . . . The negro and the European have a greater similarity in structure than either has to the Neanderthal man. The extent of the difference between black and white indicates that the racial separation of the modern type of man must be placed far back in time. Yet the Neanderthal type seems the parent stock, and it is probable that while Neanderthal man was the dominating race in glacial Europe, a branch of the same stock was shaping towards the modern form outside the bounds of that continent." He was a strange, uncouth creature, who stood with half-bent knees, his face heavy, with beetling brows and a long head held far back to make room for the massive jaw, which was chinless, like an ape's, but had teeth of human type. Nevertheless, "the brain had reached, as regards size, more than the average degree of development in modern man." Dr. Keith, who is enabled to enliven his pages by a sadly humorous War Office story about it, regards the Gibraltar skull, now in the Museum of the Royal College of Surgeons of England, as the only known example of the most primitive human type yet found in Europe—a certainly human connecting link with the doubtfully human, though Dr. Keith admits it man, fossil *Pithecanthropus erectus* of Java. The Gibraltar man belonged to the Neanderthal type, probably, Dr. Keith thinks, a primitive example of that type, and he believes that the type is to be put back to anything between 500,000 and 1,500,000 years ago. "Thus the earliest trace of the skeleton of man yet found in Europe must be assigned to a period which carries us back many thousands of years, almost to the beginning of the geological epoch which preceded the present. Yet even at that early date we find man already evolved, brutish perhaps in appearance, savage no doubt in his nature, yet large-brained, erect in posture, and in every sense of the biologist—a man." As the book is not addressed to professed geological anthropologists, we feel inclined to grumble that Dr. Keith has not given us a chronological table; he will allege his statement that "the succession of human races is disorderly, and that the race which survives is not necessarily the one with the big body or with the big brain, nor even that in which there is a combination of such characters," and that any attempt to fix a date, may easily be wrong by ten or a hundred thousand years. But even so, a classification based on chronological probabilities would help to the understanding of a thesis which, though it be stated in popular way, is not easy to follow through without a good many references backwards and forwards.

[1] *Ancient Types of Man.* By A. Keith, M.D., LL.D.Aberd. London: Harper and Bros. 1911. (Cr. 8vo, pp. 160; 29 figs. 2s. 6d. net).

LITERARY NOTES.

SOME one defined a proverb as "one man's wit and a men's wisdom." The Spaniards, who are a grave an sententious people, are especially fond of proverbs, characteristic well displayed in Sancho Panza. It is sai of Hudibras that

> He could not ope
> His mouth but out there flew a trope.

This, with the substitution of "proverb" for "trope might truly be said of the squire of the Knight of th Sorrowful Countenance. One or two Spanish proverb relating to medicine were quoted in an article entitle "Proverbial Medicine in Dispraise of the Doctor," publishe in the JOURNAL of December 2nd, but there are man others. We may quote the following specimens from work entitled *La Medicina Espanola contenida en pr verbios vulgares*, etc., written by one Juan Sorapan, native of Logrosán, who "flourished" in the seventeent century. *Si quieres vivir sano hazte viejo tempran* (If you wish to live healthy, make yourself old earl —which counsel we take to mean that a man shoul master his passions before they have mastered him) *De hambre à nadie vi morir; de comer mucho à cien m* (I have seen no one die of hunger, but a hundred thousan of overeating); *Pan de ayer, carne de hoy, y vino de antan crian al hombre sano* (Yesterday's bread, to-day's mea and last year's wine make a man healthy); *El que quier vivir sano que coma poco y cene temprano* (Whoso woul live healthy, let him dine sparely and sup early); *Despu de comer dormir, y de cenar pasos mil*—which is th equivalent of our "After dinner rest (the Spaniard say 'sle p') a while; after supper walk a mile." As to wate there are various recommendations, of which we nee only quote one; it shows that even Spaniards we not so ignorant of hygiene as we assume all people in th seventeenth century to have been: *Agua mala, hervida colada* (Bad water should be boiled and filtered). As exercise, we are told that *Quien se ejercita descansa, el que está en ocio trabaja*—a striking way of expressin the healthful effects of work and the evils of idlenes The following might be useful to ladies in these da of the strenuous life: *Salud y alegria belleza cr* (Health and cheerfulness make beauty). The following quaint: *Si quieres que tu hijo crezca lavale los pies rápale la cabeza* (If you wish your son to grow, wash h feet and shave his head). The injunction as to washi the feet would not have been out of place among some the great ladies of our country a century later, if be true that when some one called the attention Lady Mary Wortley Montagu to the dirtiness of h hands, the celebrated wit and beauty exclaimed surprise, "What would you say if you saw my feet?"

It is amusing to compare these precepts with some those of the Ayurvedas, perhaps the most ancient treat on hygiene known. There it is enjoined that only t meals a day should be taken, and that one should ne eat anything prepared the day before. The *siesta* is f bidden. It is recommended never to expose oneself to t rising sun; in this precept many may find a justifi tion for late rising. Other recommendations are to t an emetic every six months and a purge every f months. Sexual intercourse in the daytime is condemn and it is urged that a man should only have connex with a woman younger than himself. A husband m pay what theologians call his conjugal debt not m than once a month. Here we may quote the practice Mr. Shandy Senior, as to whom we are told:

> Tristram Shandy's father was one of the most regular me everything he did, whether 'twas matter of business or ma of amusement, that ever lived. As a small specimen of extreme exactness of his, to which he was in truth a slave had made it a rule for many years of his life, on the Sunday night of every month throughout the whole yea certain as ever the Sunday night came, to wind up a h house clock, which we had standing on the back-stairs head, with his own hands. And being somewhere between fifty and s years of age at the time I have been speaking of, he had like gradually brought some other little family concernments to

same period, in order, as he would often say to my Uncle Toby, to get them all out of the way at one time, and be no more plagued and pestered with them the rest of the month.

In connexion with the subject of personal cleanliness, we stated some time ago, in an article entitled "The Briton and the Bath," that at the beginning of the last century there was not a bathroom in any private house in London. Bathing was not, indeed, unknown, as may be gathered from certain unedifying passages in Peter Pindar, Casanova, and other writers, but it does not appear that the scenes there referred to took place in bathrooms. We learn from *Leaves from the Notebook of Lady Dorothy Nevill*, published in 1907, that in country houses bath-rooms are of comparatively recent institution. She says:

Up to comparatively recent years the country houses, as I have said, which could boast a bathroom were very few in number, whilst in the forties and fifties, and even later, such conveniences were practically unknown. In some houses, indeed, there were no big baths at all, guests being expected to perform their ablutions in the so-called foot-baths, which were a sort of cross between a wine-cooler and a soup tureen. At the same time it must be added that people were probably not so very much dirtier than they are to-day, for the modern practice of lying in hot water need not necessarily be any more cleansing than the vigorous rubbing of a soaped flannel which, in olden days, children were taught to apply. I remember going to stay at a country house, shortly after my marriage, where there were no baths at all. However, I determined not to be beaten. I sent to the laundry for a large wooden wash-tub, which was brought up into my bedroom, and answered its purpose uncommonly well.

Some people there were who declared baths to be dangerous, as inducing a tendency to catch constant chills. Untidiness in dress and the like were, on the whole, I think, regarded with more tolerance than is the case to-day—to go even farther back, the beautiful costumes of the eighteenth century, there is reason to believe, in many cases covered people none too careful about their personal toilet. The travelling of the past, when comparatively little luggage could be taken, was rather apt to promote careless habits of dress, and several great travellers were quite notorious for this sort of thing, their economy of linen being regarded with considerable lenience.

I recall to mind a story which used to be told of a celebrated traveller who, almost alone, had made several wonderful journeys into the Far East, and wandered over many strange and wild places on the earth's surface, in the course of which wanderings he was declared to have contracted a supreme contempt for some of the ordinary ways of civilized society. Careless to a degree, the changing of his shirts appeared to him as nothing but an irksome usage, and, consequently, it was by no means often that a snowy expanse of shirtfront graced his breast. On one occasion, when about to visit a country house at which he was to be the lion of the party, his wife, who was not accompanying him, determined that this once at least he should do her honour. The visit was to last three days, and so carefully packing three spotless shirts in his bag, she bade him at their adieu to take particular care to don one of these shirts regularly every evening. The three days passed, and her husband returned. "I hope you did as I told you," said she. "Of course I did, my dear," was the reply. "I put on a clean shirt every evening, so, with the one I started in, that makes four I am wearing at the present moment."

This reminds us of the story of the fisherman of whom it is related that he consulted a doctor for supposed heart disease. Layer after layer of under-garments was removed to allow of an examination being made, and at last a live flounder was found, whereat the fisherman exclaimed, "I kind noo; I lost him when I pit on my winter claes." It is, of course, a fable, but it illustrates the fact that fishermen are as a rule more particular about the number than the cleanliness of their under-garments. A friend once told us as a fact that when he made a patient strip to examine the chest, a last envelope was discovered in the shape of a undervest which the patient expressed his delight at discovering. He said he had not seen it for more than two years!

In the fifth volume (1834–40) of *Recollections of a Long Life*, by Lord Broughton, there is the following entry (p. 119):

February 14th. I went to the College of Surgeons and heard Mr. Travers deliver the Hunterian Oration. I thought it a little too flowery, but written in a liberal spirit, he being, with Brodie, one of the few of his great profession who belonged to the Liberal party. This accounted for the presence of Lord Grenville and Lord Denman and other friends at the lecture. Brodie pointed out to me some of the most distinguished guests—Owen, who was bidding fair to be the greatest of comparative anatomists, and Clift, John Hunter's associate, a shepherd's boy from Cornwall. Lord Radnor concluded the meeting with a short speech, in which he congratulated the surgeons at being no longer twins with the barbers. This ended very odd, and was odd, although it is true that Travers decided to the union of the two trades, which I believe was not effected until somewhere about 1745.

Broughton was not a snob; his reference to surgery as a trade may therefore be taken to indicate the social position which surgeons held in early Victorian days. Lord Broughton is probably better known to many as Byron's friend, John Cam Hobhouse. A letter of Byron in verse to his publisher, referring to *Childe Harold*, begins as follows:

> My dear Mr. Murray,
> You're in a d——d hurry
> To set up this ultimate canto:
> But if they don't rob us
> My friend, Mr. Hobhouse,
> Will bring it safe in his portmanteau.

The end of an illness is not always in sight when the doctor's visits cease. Very often the weeks of convalescence which follow the turning point of a malady are almost as trying to the patient and his family as the time of the illness itself, and they are certainly, although in a different way, quite as critical. Unfortunately, many people do not realize this important fact, or if they realize it, do not know how to avoid the errors which may have such disastrous consequences for the patient left in their care; and it is to them that Madame Augusta Moll-Weiss addresses her admirable article on "Convalescence," which appeared in the November number of *L'Hygiène*. This article is intended primarily for mothers and all those who have charge of children, and are consequently liable to be called upon to nurse a young family after an attack of measles or scarlet fever; but there is nothing in it which does not apply to patients of a larger growth. In the first place, Madame Moll-Weiss impresses upon her readers the immense importance of the greatest possible care being expended on the most trifling details concerning the daily régime of the invalid. His diet, the regularity of his meals, the ventilation of his room, the avoidance of all excitement and fatigue, and, what is even more dangerous, sudden changes of temperature, should be the object of the most minute and scrupulous attention, for carelessness as regards any of these things may mean a dangerous or even fatal relapse. Above all, Madame Moll-Weiss lays stress upon the need of patience, for the process of transition from illness to health is a slow and lengthy one, and one that cannot be forced. Another article in the November number of *L'Hygiène*, which has some bearing on the same subject, is by Dr. Maurice de Fleury, who writes on the evil effects of last summer's excessive heat, from which many people are still suffering; whilst M. E. Mosny has contributed an account of that dangerous delicacy, the oyster. A short sketch of the late Henri Monod is also included in the same number of the periodical, which maintains its high standard of excellence.

A correspondent asks for some account of the life of Sir Arthur Brooke Faulkner, who was physician to the forces in the early years of the nineteenth century. His name occurs in the *Dictionary of National Biography*, where it is stated that he was born at Castletown, co. Carlow, in 1779. After taking a degree in Arts at Trinity College, Dublin, he studied medicine at Edinburgh, where he graduated in 1803. He was incorporated M.D. at Oxford in 1806, and was elected a Fellow of the College of Physicians in 1808. He was appointed physician to the forces and served on the staff in Spain, Holland, Sicily, and Malta. When he was at Malta the plague was introduced, after a period of 140 years of freedom from the scourge. Faulkner distinguished himself by tracing the spread of the disease and directing quarantine measures, whereby the disease was kept within bounds. On his return to England in 1815 he was knighted, and became physician to the Duke of Sussex. In 1820 he published an account of the outbreak. After retiring from the service, he settled as a physician at Cheltenham, and died at his residence at Edington, near that town, in 1845. Besides his contributions to medical literature, Faulkner wrote books of travel: *Rambling Notes and Reflections*, giving an account of a visit to France (London, 1827); *Visit to Germany and the Low Countries in 1829–1830–1831* (London, 1833); and *Letters to Lord Brougham*, describing a visit to Italy (London, 1837). These writings are said to be excellent of their kind. Faulkner was also the author of miscellaneous pamphlets, among which may be mentioned a Letter to the College of Physicians (1829), urging upon that institution the expediency of giving up antiquated privileges and assuming new duties.

British Medical Journal.

SATURDAY, DECEMBER 16TH, 1911.

THE NEXT SIX MONTHS.

"Gentlemen," said Washington to his counsellors, "let us all hang together, for if we do not we shall all hang separately."

THE National Insurance Bill was read a second time in the House of Lords on Monday, on the motion of Lord Haldane, who explained its provisions. Lord Lansdowne stated that the Opposition would not seek to amend the bill in the short time at its disposal. The most interesting speech from the medical point of view was that delivered by Lord Sandhurst, who expressed the opinion that four of the points put forward by the British Medical Association had been embodied in the bill and that two others could be met provided the financial requirements were satisfactorily adjusted; this he clearly indicated could not be done on a basis of 6s. per annum for each insured person. On Tuesday the bill was taken in Committee in order to sanction the alteration throughout the bill of the term "local Health Committee" to "local Insurance Committee." The bill was then recommitted, and is to be considered in Committee on Thursday, when a number of Government amendments will be taken, all, with few exceptions, being of the nature of drafting amendments; the exceptions, in so far as they affect medical interests, are explained in our parliamentary notes on the bill (SUPPLEMENT, p. 620). The most important rectifies a mistake or oversight with regard to the appointment of medical men to be members of local Insurance Committees in Scotland. It is expected that the Committee stage will terminate on Thursday, and, if so, the Report and Third Reading stage may be taken on Friday.

The bill, with the exception of certain provisions which chiefly affect the setting up of the administrative bodies, is not to come into operation until July 15th, 1912, and, in respect of the provisions of the Act relating to health insurance, the Privy Council may substitute some subsequent date, but not later than January 1st, 1913. The bill provides that insured persons shall not receive benefits until after the expiration of six months from the commencement of the Act, and seeing that the Act cannot come into operation until July 15th, 1912, at the earliest, it cannot be until the middle of January, 1913, that the arrangements which will previously have been made for the provision of medical benefit will come into force.

During the first six months of next year it will be the duty of the Insurance Commissioners to draw up the regulations under which the Act will be administered. These regulations must include provisions relating to the arrangements which are to be made by local Insurance Committees with qualified medical practitioners; they must prescribe the extent and conditions under which drugs and surgical and medical appliances will be included in "medical benefit," and generally define the arrangements under which the Insurance Committees will administer the medical and sanatorium benefit. The regulations must set out also a scheme under which the panels of doctors shall be formed, and must define the way in which medical men and insured persons alike shall be enabled to exercise the freedom of choice provided in the bill. The provisions of the second section of Clause 15 define the right of medical practitioners to decline attendance upon individual insured persons, and leave the distribution of patients to whom no medical practitioner is anxious to give attendance to be arranged, as far as possible, by the practitioners themselves, amongst themselves. Regulations must also be drafted providing for the conduct of the inquiries which must be instituted when objection is taken to any medical men on the panel, and for setting up the court of reference to which such questions should be referred. These regulations when drafted, and before their promulgation, will no doubt be submitted to the judgement of the profession generally and to the General Medical Council and the licensing bodies. Matters arising under this category would, it must be assumed, be referred in the first place to the local Medical Committee for report upon the facts.

The regulations must also provide that the Insurance Committees shall make arrangements whereby a district limit of income may be defined and under which any insured person may contract out of the ordinary provision of the Act affecting medical benefit and make his or her own arrangements with a private practitioner. This is a point to which the official Explanatory Memorandum (SUPPLEMENT, p. 612) makes special reference. The regulations must also set out the conditions under which organizations now administering medical benefit may be approved, and under which any persons at the present time receiving medical benefit under such organization shall be secured in the free choice of a medical attendant. Further regulations must be framed to deal with the conditions under which medical men will continue to dispense their own medicines, and under which in other places a panel of pharmacists will be set up to supply and dispense medicines; in all probability a schedule of prices will be arranged, for which the doctor's prescription will act as a voucher.

The general arrangements for the administration of the sanatorium benefit will require to be formulated during this first six months, and the machinery under which local dispensaries or clinics might be set up at which treatment of a minor form could be given—a development which some members of the profession, it seems, would welcome—must be indicated. It will clearly be necessary to establish some system by which those cases which are suitable for sanatorium treatment shall be sorted out from those which are not—a work which cannot be left to the hospitals, and for which the clinics might be made to serve as "clearing-houses." It will be necessary, also, for arrangements to be drafted, in consultation with the Local Government Board, under which dispensaries and sanatoriums and other necessary institutions may be provided out of the grants allotted to the Board for that purpose. In a similar way, the conditions under which the maternity benefit is to be administered will require to be defined.

The setting up of the Advisory Committee and the definition of the work required of it will no doubt be an early duty of the Commission, as will also the regulations under which the Insurance Committees will be formed and the mode in which their members as representing insured persons and

the medical profession shall be chosen. Besides all this, the duties of the Commissioners with regard to the keeping of accounts, the arrangements for crediting contributions, the treatment of reserves, the grouping and approval of societies, and others, are as numerous as they will prove difficult.

So far as the initiative of the medical profession itself is concerned, it will no doubt be desirable as soon as possible to arrange for the election of the local Medical and district Medical Committees. It seems almost essential to do this before the terms on which members of the profession may be willing to give their service under the bill are discussed. It will be necessary to agree upon the line proposed to be taken as to those insured persons to whom members of the profession may be willing to give attendance at the ordinary rate, whatever that may be, and as to those who must be exempted on the ground of income or for other reasons. The fees to be charged for minor operations, for consultations, for long journeys, for night visits, and many other kindred services, will call for careful consideration at the hands of these Medical Committees. There are six months clear within which the preliminary arrangements affecting these matters may be got in hand, and a further six months for the consideration of the terms upon which medical men may be willing to work under the bill. It seems quite certain that when the question of the remuneration for the multifarious services the medical profession must be asked to render under the scheme, and upon the efficient discharge of which not only the popularity of the scheme with the insured but its financial stability will depend, comes to be considered, it will be obvious, even to the Treasury, that the estimate of 6s. a head a year for each insured person is inadequate. If the profession maintains its solidarity and shows a united front, then it will have the nation on its side, and there can be no doubt that the House of Commons will more or less cheerfully provide the necessary funds. If the profession does not maintain its union, if the movement now on foot—its promoters are, we do not doubt, actuated by the very best motives—should tend to break down the unity which has been achieved, then, like the sticks in the faggot, we shall be broken singly.

In conclusion, we may refer to one other point: When, by a comparatively recent amendment of the bill, separate bodies of Commissioners were set up for Wales, Scotland, and Ireland, a new clause was introduced directing the institution of a joint committee of the several bodies of Commissioners in the three countries and the Principality. The main duty of this joint committee will be to make the necessary financial adjustments between the several national funds, to make regulations as to the valuation of societies and branches having members resident in England, Scotland, Ireland, and Wales, and to exercise such other powers as may be provided by regulations to be made by the Treasury. Mr. Asquith on Tuesday stated that Mr. Masterman, M.P., at present Parliamentary Under Secretary of the Home Office, will be chairman of this committee, and will represent in the House of Commons; Sir Robert Morant is to be vice-chairman; and the other members are to be the chairman of the Scottish, Irish, and Welsh Commissions, Mr. Bradbury of the Treasury, Mr. Smith Whitaker, and the Chief Registrar of Friendly Societies. Not improbably it will turn out that the duties of this joint committee will be of very considerable importance, as it will no doubt seek to secure uniformity of administration in respect of general principles at least.

THE ANGLICAN CHURCH AND "FAITH HEALING."

WE have on many occasions dealt with "faith healing"—using that term as meaning the cure of disease without the intervention of any known physical agency—and we have endeavoured to show that what are called "miracles" are not peculiar to any religion, Christian or other, and have been wrought by "animal magnetizers" and healers of various kinds, who are not in any way associated with theological or spiritual formulas. We have constantly maintained two propositions: (1) That it is foolish to declare dogmatically with Matthew Arnold, following Renan, that "miracles," in this sense, do not happen; (2) that the operative factor in spiritual healing is the ill-defined force known as "suggestion." It is, in very truth, the patient's faith that makes him whole. That faith can be excited by certain beliefs, by certain personalities, and very largely by "imitation," the potency of which was clearly recognized by the French Commission which reported on mesmerism in 1784. Belief in "miraculous" cures is like panic or enthusiasm—whether religious, military, or political—in the highest degree contagious; and it is amid crowds of devout believers thronging around a famous shrine, with all the accessories that contribute to quicken faith into the force that "moves mountains," that such events are most common.

As we have repeatedly pointed out, however, there are very definite limits to the curative power of faith. Roughly, these limits may be indicated as corresponding to the boundary between diseases which are called "functional" and those which are "organic." As medical science progresses and research reveals the secret springs of disease the class of functional disorders steadily becomes smaller. Therefore, as knowledge advances "miracles" become fewer, and such as seem to remain tend more and more on scientific analysis to resolve themselves into natural phenomena.

We are glad to note that these views are finding acceptance among the more enlightened of the clergy. In a Charge delivered to the clergy within the Archdeaconry of London on April 23rd, 1910,[1] by Dr. Sinclair, then Archdeacon of London, the BRITISH MEDICAL JOURNAL is freely quoted and with approval. His conclusions are summed up in twelve propositions of which we need only quote those that directly concern the medical profession. After stating that the powers of healing exercised by Christ were continued in the primitive and mediaeval Church, and have continued with various intermissions to the present day, he says that these powers are not different in kind from those exercised through faith in God even in pagan and heathen countries. He adds that they are efficient "chiefly through what is known in psychology as the subconscious self, and may work either through hypnotism and its kindred agents or through suggestion or through personal faith." Faith may be aided by certain religious rites, but while such ministrations fall within the province of the clergy, "the use of suggestion or any other form of mental therapeutics was not confined by our Lord to any section of His Church." Dr. Sinclair goes on: "As the science of healing has by common consent passed into the hands of the medical and surgical professions, nothing can properly be attempted without their sanction." Further, "any alleged success in healing by faith must be subject to the most public tests."

[1] London: Houghton and Co.

Canon Henson has lately dealt with the subject in a like spirit, but with a wider reach. In an address delivered at Greenlanes Congregational Church, Harringay, on December 10th, he formulated his views in the following four propositions: (1) "Faith healing" appears to be coextensive and coeval with religion itself. It is nowise distinctive of Christianity. (2) "Faith healing" appears to have no necessary connexion with moral excellence either in the "healers" or in those whom they "heal." It is throughout non-moral, and cannot, therefore, have any proper relation with Christianity. (3) "Faith healing" appears to be limited in its efficacy, which could hardly be the case if it were really the direct Divine response to human faith. Only some forms of disease are capable of being cured by "faith." (4) "Faith healing" appears to be identical in all but name with healing by means of suggestion, and therefore offers no real exception to the known procedures of Nature.

By way of illustrating the revival of faith healing in recent years in America and in this country, he referred to the Emmanuel movement, to "spiritual healing" and to Christian Science. All these have been fully discussed in the JOURNAL, and we are glad to see that Canon Henson clearly recognizes the folly and danger of these things. He rightly pointed out that "a recrudescence of mediaeval modes of thinking implies an intellectual degradation which cannot be confined to the sphere of religion." He strongly deprecates the practice of healing by the clergy, in the first place, because it is not their primary work; and secondly, because, even if they possess an extraordinary healing gift, they have not the requisite medical knowledge to make an adequate diagnosis, and may do serious mischief by attempting to deal with cases in which scientific treatment was necessary. Moreover, such pretensions on the part of the clergy encourage in superstitious minds a radically false notion of physical well-being, and they excite hopes in many cases doomed to disappointment. He added that "suggestion" was taking its place among the recognized methods of medical science, and it was not reasonable to isolate it from the others. He concluded by reminding his hearers that the progress of medical and surgical science had been conditioned by its emancipation from theological presuppositions, and he held it impossible to believe that there could be any return to the old bondage. This frank declaration on the part of a divine so distinguished as Canon Henson will be welcomed by the medical profession, especially in view of the fact that not a few of his brethren have been playing with the theory he so unequivocally condemns.

But the doctors are not altogether free from blame. They have taken up the attitude of Gallio in respect to those things, in which they should be profoundly interested. Mere scepticism, with no more solid foundation than the prejudice of an education that takes heed of nothing which cannot be seen or felt, weighed, and measured, is not a truly scientific position. We have often advocated a more serious study by men of adequate scientific training of the nature of suggestion and the conditions under which it can be brought into play. The mystical element should be altogether eliminated, and while every advantage should be taken in suitable cases of religious faith as expressed in prayer, the other factors, such as the personality of the doctor, should not be overlooked. It is certain that one man will succeed where another equally learned and skilful will fail. Why? One reason is the power of inspiring hope, which in itself is a potent remedy for many ills. It is to this side of human nature that quackery appeals—not always in vain. Not for the first time we urge on all medical practitioners the value of a knowledge of the workings of the mind and especially of the heart of "this foolish, compounded clay, man." The kind of knowledge required is not to be gained in laboratories, valuable as are the results of experimental psychology. It is to be got from the great observers and painters of human nature—the poets, the novelists, and the moralists. Sydenham's famous reply to Blackmore when he asked what medical works he should study—"Read *Don Quixote*; it is a good book; I read it still"—was not wholly a jest; it contains a large amount of truth.

THE CHIEF THERMAL SPRING OF BUXTON.

DURING last summer it was noticed that the temperature of the mineral water in the pump room at Buxton, which is taken at regular intervals, varied from time to time though never more than two degrees. The variation was thought to be of sufficient importance to call for investigation as soon as the season was over, as it was known that there was a cold spring near the hot ones and some admixture of the two was suspected. Examination of the source from which the pump room supply is obtained revealed the same variation, while the springs supplying the natural swimming bath retained their normal characters. Excavations were therefore begun about a fortnight ago over the ground external to the baths and lying between them and the pump room. The rock was found about 10 ft. from the surface at a fairly uniform level over the area examined (about 60 ft. square). The first trial hole revealed the foundations of an old pump room, which, as far as can be ascertained, was in use about a century ago. It was probably erected many years earlier, possibly in Elizabethan times. Into these foundations and tanks connected therewith two streams of water were flowing, one hot and one cold. Three other pits were sunk in different places, and in all free supplies of the hot mineral water were found as soon as the rock was reached. In one the supply was from 50 to 60 gallons a minute, and the temperature was about a degree higher than that of any other known spring in the town (82.5° F.). The water escaped by a channel in puddled clay, and passed into a brick sough or overflow. This sough has not yet been thoroughly investigated; it leads away from the natural baths and pump room, and it is thought that the water possibly goes into the river. Examination revealed a large fissure in the limestone rock, from which the water issued, and the presumption is that this spring, which has never been used within the memory of anyone living, is really the principal source, the other springs being branches from it at varying depths, and reaching the surface by more or less devious paths. It is proposed now to carry this water to the pump room, and to allow it to discharge into an open basin. From this basin the water will be obtained for drinking in its natural condition without pumping; the distance being only about 60 ft., little heat will be lost, and effective precautions against the cold spring found close by gaining access to it will be taken. So far, therefore, as the finding of hitherto unknown or unused supplies of the thermal water goes, reports which have appeared in the newspapers are correct, but it is not yet proved that the new source dates, as has been stated, from Roman times. The greater part of the original Roman bath was removed about the end of the eighteenth century to make room for the foundations of the Crescent, and probably the bricks were used in making the channels or soughs to lead away the water which would otherwise have flooded the foundations. Some forty years ago excavations were made for other purposes, and one of the masons employed on this work has reported that on that occasion Roman brickwork was

found in one of the soughs laid bare. The fact that in the walls of the basement of the natural baths there are remains of Roman brickwork, and that similar brickwork has been found in the soughs, has given rise to the statement that the source now unmasked is Roman. This remains to be proved. The water of the new spring is highly gaseous, and is naturally regarded both by the medical profession and the inhabitants of Buxton generally as a most valuable discovery, which will, as has already been indicated, render it possible to have a stream actually flowing from the spring through the pump room. The cold spring is to be analysed and its properties ascertained.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

On December 6th a dinner was given to welcome Professor Newstead on his return from the sleeping sickness expedition to Nyasaland and to wish Godspeed to Dr. Harald Seidelin on his departure on a yellow fever expedition to Yucatan, in Mexico. Owing to having contracted a chill, Professor Newstead was unable to be present. Sir William H. Lever, who was in the chair, in proposing the toasts of the evening, remarked that the trustees of Sir Alfred Jones had intimated that they would come to the assistance of the school, and, in addition to better accommodation in Liverpool, it was proposed to establish a laboratory on the West Coast of Africa, where investigations into tropical diseases might be made on the spot. The Government had given support to their movement, but he considered it was not adequate, and he echoed Sir Owen Phillips's opinion that it should grant to the London and Liverpool Schools £10,000 annually. If America had succeeded in making the Panama zone healthy, there was no reason why they should not, with adequate financial support, make West Africa sanitary. If they had only a little more money, he was certain it would not be many years before they had swept tropical diseases from every British possession. He paid a tribute to the efforts on behalf of the cause made by Lord Crewe and Mr. Harcourt, and remarked that if the Colonial Office would be more generous they would accomplish wonders. Sir Ronald Ross read a letter from Professor Newstead, in which he stated that the recent spread of sleeping sickness in Nyasaland had emphasized the urgent need for a further investigation into the causation of this disease in British Central Africa. It had formerly been held that the disease was produced by a single species of trypanosome, and that its parasite was conveyed by one kind of tsetse fly, *Glossina palpalis*. Recently, however, good reasons had been given to doubt this conclusion as regards both the parasite and its transmitting agent, the tsetse fly. Any definite conclusions as to the best methods of controlling or extirpating either the disease or the tsetse fly were to be deprecated pending the final results obtained by the commission appointed by the Government under the direction of the Royal Society. Seeing that the tsetse fly (*Glossina fusitans*) common to Nyasaland was so rapidly spreading to areas where it had hitherto been unknown, and that had also become a menace to the commercial prosperity of the Protectorate, he had been deputed to investigate the bionomics of this insect. The natural breeding grounds of this tsetse fly had not hitherto been discovered, and, as had been thought probable that localization of *Glossina fusitans*, both general and special, depended largely on the requirements of the preliminary stages of the fly, it was highly important that these should be found and studied. The breeding places had eventually been found in various parts of the forest, so that they were now in a position to clear up much that had hitherto been puzzling in regard to the bionomics of this insect. They had confirmed their conclusions by breeding tsetse flies in captivity. Some of the natural enemies of the fly were also discovered for the first time. The natural habits which were specially characteristic of the fly-belt were studied, especially in regard to the proportion of the low forest to woody scrub, grass soil, etc. In the region of the upper Shiré River the fly-belt was characterized by the preponderance of sanya trees, with an undergrowth of short grass, and isolated groups of various deciduous trees or shrubs. It would seem, therefore, that this fly was sufficiently specialized in its choice of habitation to be influenced by measures such as clearing or opening out tracts of country now clothed in low forest. Speaking of the relationship of game to trypanosomiasis, he said that recently a deputation representing various missionary societies in Nyasaland waited upon the Colonial Secretary in relation to the outbreak of sleeping sickness in that country. It was represented that the Government was incurring a grave risk in continuing the policy of preserving game which lay under such grave suspicion, and begged the Government for this reason to remove all game restrictions from the whole or a large part of the Protectorate. While it must be admitted that there was evidence incriminating certain antelopes and other animals as natural reservoirs for the trypanosomes, the time was not yet ripe to formulate any definite measure as to the wholesale destruction of the wild game of the country. Dr. Harald Seidelin, in responding to the toast, said that in Yucatan he himself had been afflicted with yellow fever. He had demonstrated the parasite in the blood, and he now hoped to find it in the living state. He also hoped to find the parasite in the mosquito, and to find some new means of treatment of yellow fever and to make important entomological investigation if there was time. Sir Edward Durning Lawrence, in proposing "Research in Tropical Disease," asserted that there were men who tried to excite vulgar passions whereby research was rendered impossible. They owed much to vivisection, and he had reason to thank God for vivisection. Science, in the direction of research, was progressing in spite of the passions of cunning men and ignorant women, and they were all looking to find a Carnegie who would make it possible for them to continue the good work on behalf of mankind for years to come. Sir Ronald Ross, in responding, said Liverpool had become one of the greatest centres of medical research, and any one who contributed to the movement would be adding a gift to humanity for ever. Dr. Stephens also responded, and mentioned the inaugural work of the Queensland Tropical School.

RESEARCH IN LIFE ASSURANCE.

At the second sessional meeting of the Scottish Faculty of Actuaries a paper on Research in Life Assurance was read by Mr. Lewis P. Orr, F.F.A., Secretary to the Scottish Life Assurance Company. Mr. Orr said that the subject was far-reaching, and extended beyond the confines of life assurance itself; it was to be regarded as the first step in the task of disseminating knowledge that would redound not only to the benefit of life assurance business, but also of the public. Of late a new interest and a new publicity had been given to their profession by the recognition by the State of the value of the services which can be rendered to it by actuarial science. In the past the work done by British actuaries had raised their country to the foremost place in actuarial science, and they must not fail to maintain that position. The business of a life assurance company was to assure lives, and its duty was to assure these lives on just and equitable terms. While every well-managed office did its best to deal reasonably and fairly with proposers, it could only do so according to the knowledge, medical, actuarial, and general, which it possessed. Great progress has been made since the days when a proposer was elected or rejected according to the impression that his personal appearance made on the assembled Court of Directors, and much had been done in the way of opening the portals of life assurance to those who at one time would have been refused the right of entry. The prevailing system of assessing lives,

especially impaired lives, resting though it did on the best medical and actuarial opinion available, was capable of improvement by being based to a less extent on individual opinion, and to a greater extent on the more solid ground of statistical experience. No praise could be too great for the painstaking skill and the anxious consideration shown by medical officers, and it was the duty of actuaries to lighten the labours of the physicians by placing them in possession of the important lessons to be learnt from research. In the archives of the life offices there were papers to be numbered by hundreds of thousands, containing full particulars of the personal and family histories of each life, and a very considerable proportion of these lives remained on the books until death. It was these papers that under the scrutiny of the actuary and the medical officer could be made to furnish an answer to many problems. It was important to know what were the favourable or unfavourable elements in varying personal and family histories, and no more conclusive knowledge could be obtained than that which the records of life offices could be made to yield. In the past a number of tables dealing with mortality had been made up by medical officers, and some interesting results could be learnt from them; but they were of little practical value for the one and only purpose for which they were really needed by insurance companies—namely, the assessing of new entrants. What was wanted was a combination of the best brains of the actuarial and the medical professions to engage in special investigations into the rate of mortality prevailing in various classes and founded on the broad basis to be obtained from combined figures of English and Scottish offices, the object being to assist companies in the initial selection of their risks by increasing their knowledge of the various circumstances which affect longevity. Mr. Balfour had said recently that he was one of those who felt the duty of doing all in their power as a community to encourage that research which was going to make medicine thirty years hence as superior to the medicine of to-day as the medicine of to-day was to the medicine of thirty years ago. That was the position which the Faculty of Actuaries should take up in regard to medical science in its bearing upon life assurance. This point of view raised the subject to a higher plane than when looked at from the purely business position. It was remarkable how one science dovetailed into another, how the discoveries in one helped to the development of knowledge in another. The vast stores of life-histories the assurance companies, and they alone, could draw upon were bound to reveal facts which would have a bearing upon medical science, as had already been shown by limited investigations made in the past. Practically nothing of any value had been done in this country in the way of classifying impaired lives statistically; very little had been done on the Continent; but in the United States a comprehensive investigation had been made, and was now in course of being revised. The belief that such investigations would yield interesting results might be illustrated by the example of proposers who had a pulse-rate below 60. A group of these lives, numbering 12,000, showed at all ages a uniformly favourable mortality experience. As an example of the practical value, from the actuary's point of view, he gave figures relating to lives above the average in weight (also from the American experience); although the lives had been regarded as so good that any objections on the ground of weight were overruled, yet in the largest group, consisting of over 26,000, the deaths were 47 per cent. above the number expected, and for lives entering above age 43 the excess mortality was no less than 72 per cent. The lessons to be learnt from such research as he pleaded for should be made public, so that they might become known to the members of the medical profession generally, and through them become available for the benefit of all. To obtain successful results the English and the Scottish offices must collaborate, and he advocated the establishment under their joint auspices of a bureau of research, well equipped actuarially and medically. The bureau could work for the future as well as for the present by accumulating statistics to be used when sufficient data had been obtained to form a broad enough basis. Any objection on the score of cost should be put out of court at once; British offices counted their income by tens of millions, their funds by hundreds of millions, and in comparison the cost would be microscopic. He did not seek to minimize the amount of work involved in such research or the difficulties in pursuing it: but the Faculty of Actuaries, by virtue of its royal charter, was the custodian of the science in Scotland, and he hoped that in this movement in the evolution of life assurance it would take a leading part, believing it to be in its power to confer benefits not only upon the business of assurance but upon medical science and upon the community at large. In the discussion which followed, Dr. Byrom Bramwell, Dr. John Playfair, Dr. T. R. Ronaldson, and others took part. The proposed scheme has also the cordial support of Sir James Affleck.

TELEPHONE CHARGES.

THERE is possibly room for doubt as to the wisdom of a medical man causing a telephone to be supplied at his house, for it must often seem that the public, and patients seen at some previous date, take an unfair advantage of the facilities it affords for asking questions. But there can be no doubt that it has become a necessity in many practices and once installed it is unquestionably desirable to be able to receive and send messages in and from more than one room if required; otherwise some calls are likely to be passed unnoticed, and in the dispatch of messages inconvenience may arise. For this reason many medical rentees of telephones use a plug apparatus, and have two or more sockets inserted in different parts of the house, and move the receiver about as convenience requires. Doubtless many other employers of the telephone do the same thing and all should be encouraged to do so, because the financial success of the Government's enterprise in taking over the telephone system largely depends on the public learning to depend on the telephone as an indispensable appliance in all houses, small or great. For this reason the Postmaster-General is hardly to be congratulated on the attitude that he took up in the House on December 4th when a question was addressed to him on the subject by Mr. George Cave, on behalf, we believe, of a medical constituent. So far from showing any inclination to fall in with the suggestion that the charge for a second plug and second bell should be reduced to a nominal figure, he expressed his intention to maintain that charge at 15s. a year in addition to ordinary rental. Nor is the answer satisfactory from other points of view, for as will be seen on turning to our Parliamentary Notes the defence for the charge put forward was that it covered both installation and maintenance. But if this be the case, the plan is hardly in accordance with businsss common sense, unless the proportion charged for maintenance is much over the real average of expenditure annually incurred in this direction, and therefore unfair, the Postmaster-General must be charging much too little for installation, and gambling for the recovery of the balance, on the chance of the householder continuing to rent a telephone for a sufficient number of years. Any attempt, in short, to combine the two items of installation outlay and maintenance outlay in an annual charge can be nothing more than a guess, the only businesslike course being to make a full charge for the first installation of a second plug and a nominal annual charge for what is in actual fact a mere nominal risk in respect of maintenance outlay. There must be hundreds of second plugs in hundreds of houses which have entailed no expenditure whatever since their first installation, so that the interests of the

Office in respect of maintenance would be amply safeguarded by the suggested annual sum of 1s.

CARE OF THE FEEBLE-MINDED.

On Tuesday last the Home Secretary received a deputation arranged by the Manchester and Salford Sanitary Association which urged upon him that the proposed legislation for the care of the feeble-minded should provide: (1) Power of compulsory committal for detention in certified residential schools or other training establishments, institutions, or colonies of feeble-minded children when necessary; (2) adequate Government grants for such residential schools and training institutions; (3) that the Education (Defective and Epileptic Children) Act, 1899, be made compulsory instead of permissive as at present; (4) the extension of the age up to which feeble-minded children can legally be detained on a further renewable certificate; (5) that it be rendered obligatory on county councils to provide suitable homes, institutions, or colonies, for the reception of mental defectives after training. Mr. McKenna, in reply, said that the bill he intended to introduce would need a great deal of outside support if it was to be passed through Parliament. It would be necessary to provide a large number of homes in addition to those already in existence, and financial assistance would be necessary not only from the State but also from the local authorities, which he hoped would be willing to bear their share of the expense, since the treatment of the feeble-minded in national homes must lead to a reduction in the poor rate. While he would do his best to secure adequate money from the Exchequer, he must rely upon the members of the deputation and others to do their best to secure adequate contributions from the local authorities also. Mr. C. N. Nicholson, M.P., in thanking Mr. McKenna said that there was no doubt that the local authorities would receive favourably the Home Secretary's remarks with regard to sharing in the cost of the scheme.

PELLAGRA FIELD COMMISSION.

At a meeting of the Pellagra Investigation Committee on December 12th, in London, Dr. Louis Sambon and Dr. J. J. Chalmers gave an account of the work of the Field Commission on Pellagra, from which they have just returned. The Commission visited Hungary, Roumania, Austrian Tyrol, North Italy, and Spain, examining the districts in the several countries where pellagra prevails. In every country the members of the Commission were cordially received, and the governments and medical men interested in pellagra facilitated their work in every way. The object of the visit was to test still further the opinion advanced by Dr. Sambon that pellagra is a disease due to infection by an organism, and not to eating maize. Dr. Sambon, in the spring of 1910, visited the North of Italy, and succeeded in proving that pellagra occurred in districts where the simulium fly exists. According to his observations, pellagra occurs only where running streams abound, and chiefly in the hill regions, where some species of the various species of this fly is met with. Several striking instances of this co-relation of pellagra and simulium were related, and from the epidemiological point of view every observation went to prove Dr. Sambon's theory. The commissioners related an interesting fact in regard to a certain district in Roumania where Roumans and Bulgarians dwell. The former are maize eaters, and it was said that they suffered from pellagra, whereas the Bulgarians who did not consume maize did not suffer from the disease. On inquiry this legend was found to be false, the Bulgarians being found in many instances to be the subjects of pellagra. Sir Patrick Manson, who presided at the meeting, stated that Dr. Sambon had proved that eating maize could no longer be considered as the cause of pellagra, and that there was much to be said in favour of the theory that the disease was due to a parasitic infection, and possibly conveyed by some insect. Drs. Sambon and Chalmers also described their pathological inquiries, and demonstrated a microscopic organism in the nucleus of cells obtained from the nervous system of a woman of whom they had the opportunity of making a *post-mortem* examination shortly after death. The committee considered that the study of pellagra by Drs. Sambon and Chalmers should be encouraged, and that, in particular, the relation to the disease of the organism they describe should be investigated.

MEDICAL HYDROLOGY.

A reprint[1] of the three Hyde Memorial Lectures delivered for the first time this year, reminds us that Dr. Fortescue Fox very appropriately devoted the first of the series to a consideration of what term ought to be applied to the science to which the late Samuel Hyde devoted so much of his life. After showing that a study of the medical uses of waters included considerations of geology, chemistry, electricity, and pharmacology, as well as of the physiological and pathological laws governing the reaction of the living body to many kinds of stimuli, he set himself the task of considering what single comprehensive name could be applied to such a science. The name chosen should, he pointed out, be inclusive of all the medical uses of water, and, besides being truly distinctive, should as far as possible conform to, or be capable of, international use. He then considered in turn various terms which at one time and another have been used in this connexion, including balneology, hydriasis, hydropathy, and hydrotherapy, showing at what date and in what country each of them had first come into use, and to what extent each of them had been generally adopted, and in what sense they were commonly at present used. No one of them, he contended, quite met the needs of the situation at the present time, whatever may have been their claims when they were first introduced, and some were for other reasons objectionable. Finally, he expressed his preference for the term "medical hydrology." This phrase, he showed, had been considerably used at one time and another in various parts of the Continent, and was still quite common among the Latin races, despite the fact that the first use of it he could find in literature was in the work of an English author. This was W. Simpson, who, in 1670, published a work entitled *Hydrological Essays, or a Vindication of Hydrologia Chymica, being a further Discovery of the Scarborough Spaw, and the right use thereof.* In the years that had since elapsed the name "hydrology" had, he said, undergone a certain growth in meaning, as evidenced by the definitions given in various foreign and English lexicons and dictionaries of different dates, and that which he now proposed to apply to it was as follows: "Medical hydrology is the science of waters, vapours, and mineral or organic deposits in connexion with waters, as used in medicine, both by internal administration and in the form of baths and applications." In his concluding lecture Dr. Fortescue Fox showed to what extent the subjects connoted by the term are taught in foreign schools, and put in a by no means unconvincing plea for the inclusion of teaching on medical hydrology in the curriculum of students in the British Isles. Incidentally he mentioned that India possessed one of the most valuable, extensive, and varied group of medicinal springs in the world, and that many of them are situated at fine climatic stations. The thermal springs of New Zealand, he added, formed another group of exceptional and varied interest.

INTERNATIONAL RED CROSS CONFERENCE.

The Ninth International Red Cross Conference will be held at Washington in May, 1912 (7th to 17th). The Marie Feodorovna Prize Competition will be held in con-

[1] *Proceedings of the Royal Society of Medicine*, June, 1911.

junction with the Conference. The following are the subjects for competition; (1) Organization of the methods of evacuation of the wounded on the battlefield, comprising as complete an economy as possible in litter bearers; (2) portable (surgeons') washstands for war; (3) methods of packing dressings at the aid stations and in the ambulances; (4) wheeled stretchers; (5) carriage of stretcher on mule back; (6) folding stretcher easily portable; (7) transport of the wounded between war vessels, hospital ships, and the coast; (8) the best method of heating railroad cars by a system independent of steam from the locomotive; (9) the best model of a portable Roentgen apparatus permitting utilization of x rays on the battlefield and at first-aid stations The value of the prizes is as follows: First prize of 6,000 roubles (£600); two second prizes of 3,000 roubles (£300) each; six third prizes of 1,000 roubles (£100) each. Inventions entered in this competition are to be displayed at an exhibition to be held on the occasion of the Conference. All inventions to be entered in this competition will be admitted exclusively through the medium of the Central Committee of the Red Cross of the respective country of the exhibitor. Articles entered in this competition must be received, carriage prepaid, at Washington, D.C., on or before April 15th, 1912. The Chairman of the Exhibition Committee is Major Charles Lynch, Medical Corps, United States Army. It may be mentioned that the fund was founded during the Seventh International Red Cross Conference, held at St. Petersburg, in 1902, by the Empress Marie Feodorovna, the August Protectress of the Russian Red Cross Society, for the purpose of awarding prizes to the authors of the best inventions having for their object the diminution of the sufferings of the sick and wounded in time of war, in accordance with the conditions promulgated in the approved statutes of the fund. Her Majesty gave £10.000 to create the fund, with the proviso that the interest accruing thereon should be distributed for the objects above stated upon the results of an international competition to be held every five years. Further particulars of the forthcoming competition can be obtained on application to the Secretary, British Red Cross Society, 9, Victoria Street, London, S.W.

TERRITORIAL GENERAL HOSPITALS FOR LONDON.

WE are informed that in accordance with the War Office instructions the County of London Territorial Force Association has now approved and is submitting to the War Office plans for the rearrangement of two large buildings in London so that they can be used as General Hospitals, each capable of accommodating 520 patients and admitting of considerable extension. They are for No. 3 and No. 4 General Hospitals, which are administered by the county. The nursing arrangements are quite complete, and the County of London Branch of the British Red Cross Society is arranging for the schedules of equipment.

PROFESSIONAL SECRECY IN THE COURTS.

A QUESTION of much importance to medical witnesses was raised in the Bray Court of Petty Sessions last week. A young woman was charged with the wilful murder of her child on November 5th or 6th in a house where she had been employed as a domestic servant. Dr. Richard Brew, who had previously attended the girl, was called as a witness, but stated that anything he knew as medical attendant was of a purely confidential nature, and claimed privilege in connexion with it. On examination he further stated that anything he knew was learnt some time before the month of October, and therefore long before the alleged murder took place. The District Inspector submitted that Dr. Brew had no right to claim privilege in a case of homicide or infanticide, but the claim was allowed and Dr. Brew was permitted to withdraw. We have always, when asked for advice by medical men placed in a position similar to that in which Dr. Brew found himself, ventured to express the opinion that if the point were fairly and temperately put, as Dr. Brew put it, no court would insist upon the violation of professional confidence.

ACUTE POLIOMYELITIS AND CEREBRO-SPINAL FEVER.

THE Local Government Board has addressed to sanitary authorities in England and Wales a circular letter suggesting that both acute poliomyelitis and cerebro-spinal fever (epidemic cerebro-spinal meningitis) should be made notifiable at an early date in those districts in which such regulation is not already in force. Notification, it is pointed out, will facilitate the detailed investigation of outbreaks of either disease by medical inspectors of the Board. Such investigations have already been undertaken, and it is intended shortly to issue their reports, accompanied by a summary of the history of acute poliomyelitis and an account of its pathology. As at the commencement of these outbreaks, difficulty has been experienced in the diagnosis of the disease owing to a certain similarity of its symptoms to those of cerebro-spinal fever, the Board has issued memorandums by its medical officer on both diseases.

THE "PRACTITIONER" AND THE "DAILY MAIL."

THE *Practitioner* has issued a memorandum and question to members of the medical profession, and as the *Daily Mail*, which on Thursday gave great prominence to the matter, states that it has been sent to 32,000 practitioners it may be assumed to have been forwarded to every medical man and woman in England and Wales, Scotland and Ireland. It may perhaps be doubted whether our contemporaries have done a service to those who believe that the referendum would be a useful addition to the British Constitution. The question at any rate illustrates the difficulty of framing a form of words which will enable a direct "Yes" or "No" to be given with regard to a complicated measure. Unintentionally, no doubt, the question is so framed that a monosyllabic reply cannot be given by many members of the profession who have made themselves most thoroughly familiar with the scheme as it is now about to become law. The result of the Referendum, therefore, whatever it may be, cannot throw any real light on the opinion of the profession. As we read the question it is directed to the matter of remuneration and terms of service, and neither the one nor the other of these points is "embodied in the National Insurance Bill." The *Practitioner* is described by the *Daily Mail* as a "non-political medical journal." We do not know of any political medical journal; this by way. We do not question the absence of politics from the pages of our medical contemporary, but the *Daily Mail* will hardly wish to make any such claim for itself, and the sudden interest it is displaying in the medical profession may not be unconnected with political considerations. The statement made by the *Daily Mail* that "wholesale resignations" are taking place from the British Medical Association is not correct.

THE *Times* announces that the Government has been fortunate enough to secure the services of Dr. J. C. McVail, Medical Officer of Health for the counties of Stirling and Dumbarton, as a member of the Scottish Insurance Commission. It states further that the chairman has not yet been chosen, but adds that the other members will be Mr. Addison Smith, the Scottish Registrar of Friendly Societies, and Miss Younger.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Tuberculosis.—Mr. C. Bathurst asked the President of the Local Government Board whether, in view of the admission of the Royal Commission on Human and Animal Tuberculosis in their final report that man's liability to infection from tuberculous animals remained a matter only by inference, he would consider the desirability of pursuing further investigations with the object of discovering whether the residence of human tubercle bacilli in the bodies of infant children or adults led to such modification as to render them indistinguishable from bovine tubercle bacilli. Mr. Burns, in reply, drew attention to the statement on page 35 of the final report, that the Commission "have investigated many instances of fatal tuberculosis in the human subject, in which the disease was undoubtedly caused by a bacillus of the bovine type and by nothing else." The conclusion of the Commission was that "man must be added to the list of animals notably susceptible to bovine tubercle bacilli." He was not at present prepared to make any statement in regard to future investigations of the subject referred to in the second part of the questions, but referred the inquirer to the observations of the Commission on this point, which appeared on pages 35 to 37 of their final report. Mr. C. Bathurst asked whether the statistical information relating to abdominal tuberculosis, stated at page 49 of the Second Interim Report of the Royal Commission on Human and Animal Tuberculosis to have been received from the great hospitals and about to be published in a subsequent report, had yet been so published. Mr. Burns said that a further reference to these records was contained on page 49 of the memorandum attached to the final report of the Commission, from which it would be seen that subsequent examination of the records showed that they were of little value for the purposes of the Commission. Mr. C. Bathurst asked whether any information had been published, either by the Board or by any Royal Commission or Departmental Committee on Tuberculosis as to the efficacy of the process of the pasteurization of milk in the destruction of tuberculous germs and as to the effect of such process upon its nutritive value; and, if not, whether he proposed to institute such investigation. Mr. Burns replied that information on the subject was contained in paragraphs 70 to 76 of the report of the Royal Commission on Tuberculosis of April 3rd, 1895. Since that time numerous other observations had been made by other workers, the results of which had been published in various journals. As to the latter part of the question, a report would shortly be published by the Local Government Board.

Shops Bill.—This bill was considered on report on December 8th, and read a third time. In consequence of diverse criticisms to which some parts of it had been subjected, and as the difficulty of limiting the hours of those who work in shops, whilst not restricting the time at which the shops shall be opened, appeared to make the administration of the bill wellnigh impossible, it was decided to drop the clauses relating to the hours of labour in shops for the present session. The bill, as passed through the House of Commons, deals with two subjects, namely, the securing of dinner time for meals and a weekly half-holiday to all assistants in shops. It provides that at least on one day a week the shop assistant shall not be employed after 1.30 in the afternoon, and that with the exceptions provided in the Act each shop shall be closed for the serving of customers not later than one o'clock on one day in every week. The intervals for meals prescribed in the bill are three-quarters of an hour for dinner, between the hours of 11.30 and 2.30, and not less than twenty minutes for tea between the hours of 4 and 7. When the meals are not taken in the shop the total of the interval allowed for them should be one hour and a half altogether. No person is to be employed for more than six hours continuously without an interval of at least twenty minutes. The second schedule of the Act sets out the classes of shops which shall be exempted from the compulsory closing of one half-day a week, but the exemption does not extend to the assistants employed therein, who must have their half-holiday on one day a week. The shops specified are those for the sale of intoxicating liquors and refreshments, motor and cycle accessories, newspapers, meat, fish, milk, cream, bread, confectionery, fruit, vegetables, and flowers and other perishable commodities, tobacco, railway bookstalls, and shops for the sale of medicines and medical and surgical appliances. The bill was amended on report and read a third time.

Lunacy Bill.—The bill as amended was considered by the House of Commons on December 8th, read a third time, and passed.

Vaccination in Workhouses.—Mr. Snowden asked if Mr. Burns would issue an Order directing that the performance of vaccination in workhouses shall be regarded as part of the ordinary duties of the medical officers for which they are paid by salary. Mr. Burns replied that he was not unwilling to consider the question of allowing a workhouse medical officer an inclusive salary to cover payment for vaccination when a vacancy was to be filled.

Telephone Charges.—Among the questions not orally answered in the House of Commons on December 4th was one by Mr. George Cave, member for the Richmond Division, suggesting that the charge to medical men and others for the use of an extra plug and socket for a telephone ought to be reduced to 1s. In his reply the Postmaster-General stated that the annual charge for fitting sockets in two rooms, in order that a movable telephone with a plug might be used in either room, was 10s., and if a second bell were also required there was an additional charge of 5s. a year. This charge covered the first cost of the socket and bell as well as additional wiring up to 110 yards, and also the maintenance of the wire and apparatus. In practice the use of extra appliances of this kind gave rise to occasional special difficulties, and thereby slightly increased the cost of maintenance. On this account the present charges were fully justified, and he could not agree to their reduction to a nominal sum.

House of Commons (Ventilation).—In reply to Mr. Crawshay-Williams, the Prime Minister said that he was informed that the expenditure incurred in carrying out the recommendations of the Select Committee of 1902 ceased in June, 1907. Until more precise methods had been demonstrated, from whatever source, for dealing with the outstanding problems of ventilation, the time seemed hardly ripe for pursuing these questions by the establishment of another Select Committee.

Woolcombers and Anthrax.—Mr. Jowett, in calling attention to a case of a woman who had died from anthrax contracted during her employment as a woolcomber, inquired if the wool which the deceased had been combing prior to her illness had undergone the same precautions for the removal of dust and blood stains as would have been obligatory if the material had been dealt with in a sorting room by woolsorters. The Home Secretary replied that all the dangerous wools in the combing of which the woman had been employed had in the process of opening or sorting been treated over an exhaust for the removal of dust and examined for blood stains; the wools had also been subsequently washed. The precaution of examining wool for blood stains was not obligatory under the regulations at present in any process, and in this and other respects the precautions taken went beyond what the regulations required.

Dairies and Cowsheds Orders (Ireland).—In reply to Mr. Guiney, the Chief Secretary said that the total cost of administering the Dairies and Cowsheds Orders in Ireland could only be obtained by circularizing the various local authorities, but the approximate charge for salaries paid by them in connexion with the Order of 1908 was from £10,000 to £12,000 a year. The Order applied, without the preliminary of adoption, to every rural as well as urban district in Ireland. It embodied no provision authorizing the slaughter of cattle.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LIVERPOOL.

Explosion at Bibby's Oil-Cake Mills.

The explosion which took place at Bibby's Oil-Cake Mills caused thirty-eight deaths. Many of the victims were killed outright at the time of the explosion; others died in the David Lewis Northern Hospital from injuries received. Altogether there were 137 casualties. The resources of the hospital were taxed to the utmost by so sudden and unexpected a call, over 100 casualties being taken to the hospital at once. In the course of an hour and a quarter they were all attended to and 73 admitted. Professor William Galloway, the originator of the coal-dust theory of colliery explosions, has published a note in *Nature* in which he accepts the view that the explosion was due to the ignition of a mixture of fine dust and air. It appears that some of the seeds crushed in the mills contain no oil and form an exceedingly fine powder. He recalls a disastrous explosion at the Tradeston Flour Mills in Glasgow in 1872, and in flour mills at Minneapolis in 1878, and says that most millowners are now alive to the risks run from this cause. Sugar refineries, storage works, and factories for the preparation of madder, lycopodium powder, and flower of sulphur have all been scenes of explosions of this kind. Lycopodium powder, which consists of the spores of the staghorn moss, is among the most inflammable. It burns with a sudden flash of yellow flame and a hissing noise, probably due to the bursting of the individual spores, when its mixture with air is ignited.

Apart from a small number of general injuries, such as simple or compound fractures, the large majority of those injured were suffering from burns of the hands, face, and head. Some, however, had received more widespread burns on the trunk and limbs as well. The burns were mostly of the first and second degree, a few of the third, and some even more severe. Some victims appeared as if they had been subjected to a rapidly acting and transient intense heat, causing scorching and singeing of the hair. Others appeared with the skin whitened at the seat of injury, a condition commonly due to exposure to superheated vapour—for example, steam. It is interesting to note that in no case were the eyes directly injured, but several patients became temporarily blind from swelling of the eyelids. Some have since suffered from conjunctivitis, and one or two from corneal ulceration. Others have developed local cellulitis and abscess. There has been no case of duodenal ulcer. In one case pneumonia developed. One boy died from shock, having received no other injury than a fractured wrist. The sufferings of the injured were extreme, and the subsequent dressing has proved very painful. The principal applications to the burnt surfaces used have been solutions of picric acid or iodine. Every praise is due to the surgical and medical staff, the nurses, and other officers and servants of the hospital, also to members of the committee who each and all worked hard and well to cope with the difficulties and the severe strain put upon them by the unprecedented catastrophe. Messrs. J. Bibby and Son are making every arrangement not only to meet their legal liabilities in full, but to extend to mothers and widows a wise generosity. In the case of those with young children, they intend to make such provision as will afford the children the opportunity of becoming good citizens.

Consumption in Liverpool Schools.

At a meeting of the Liverpool Education Committee, Alderman Oulton presiding, Alderman Shelmerdine raised the question of providing special school accommodation for children suffering from pulmonary tuberculosis. He advocated immediate action. The chairman pointed out that there was no question of the earnestness of the committee in the matter, but that at present the information was incomplete. Ultimately it was referred to a joint subcommittee representing the Health Committee and Hospitals Committee for consideration and report.

The Dispensing Department of the Royal Infirmary.

A meeting of the Liverpool Chemists' Association was held last week in the new out-patient department of the Royal Infirmary by permission of the committee and on the initiation of the dispenser, Mr. Prosper Marsden, M.P.S., the special object being to inspect the dispensary. In the fitting and arrangement of the dispensary in the new building Mr. Marsden has been given a free hand, and the excellency of his scheme has been praised by all experts who have visited it. The infirmary has been visited by people from all parts of the world, including the Inspector-General of the United States Hospitals, who, after a European survey, reported to his Government that this was the most advanced example of hospital construction he had seen. Mr. Marsden, in giving an account of the department, said that before the opening of the new out-patient department by the Earl of Sefton on March 29th, 1911, the whole of the work had been conducted in the older building erected in 1890. In that year the number of out-patients treated in the department was 8,164. In 1910 it was 20,741, with attendances for redressings of 88,000. With the exception of a small charge for redressings and applications in skin diseases, all the work was free. Almost every patient tried to obtain free medicine, but unless specially marked the prescription had to be dispensed by an outside chemist. Originally the total cost of the dispensary was £1,474 13s. 4d., of which drugs accounted for £411 19s. 11d. and wines and spirits for £314 7s. 2d In 1910 the total was £2,190 9s. 10d., of which drugs, etc. cost £1,151 12s. 7d. and wines and spirits only £37 11s. 2d.

MANCHESTER AND DISTRICT.

The David Lewis Epileptic Colony.

The annual meeting of the David Lewis Manchester Epileptic Colony was held in Manchester on December 4th, the chair being taken by Alderman J. Royle, Chairman of the Committee of Management. The report stated that at the beginning of the year there were in the colony 215 adults and 41 boys and girls. On the opening of the school at Soss Moss, belonging to the Manchester Education Committee, the boys and girls were removed and their places filled by adults, and at the end of the year the total number of colonists was 130 males and 130 females, th daily average number in residence during the year having been 250. The homes were now fully occupied, and many applicants were awaiting admission. The Sandlebridge farmhouse had been furnished as a home for the better class of epileptic boys, and was now known as Colthurst House. It was intended to provide a house for nurses and the staff on night duty at a cost of about £2,500, and it was hoped that this might be done without trenching on the capital funds. The taking over of the Sandlebridge farm of 63 acres had enabled the Committee of Management considerably to extend the farming operations. In the medical report, read by Dr. Alan McDougall, the director of the colony, it was stated that the children sent to the school in the early stage of the disease formed the most hopeful group of patients. At the same time, many of the adults showed very considerable improvement, an instance being quoted of a man who was admitted in 1905 and who in the first year had 453 fits, in the second 201, in the third 282, in the fourth 76, in the fifth 36, in the sixth only 3, and in the present year none at all. The rareness of serious injury was noteworthy, and though every care was taken, it was thought that to protect the patients completely from risks of falling during fits would be to promote mental and physical degeneration. They were allowed freely to take part in both outdoor and indoor games and employments. During the seven years since the colony began, it had been found that most epileptics were pleasant and very likeable persons, and where they showed troublesome features it was often due to the mishandling that they had received from those most anxious to help them; with fair treatment, the epileptic gave little cause for reproach. In moving the adoption of the report, the Chairman said that the good work done by the colony had made the guardians of the poor more fully aware of their duty to epileptics, and soon after the establishment of the David Lewis colony the Manchester Board had established its home at Langho. He hoped that before long they

would be in a position to accept a greater number of poor people at a less charge, or in special cases free of charge, but for that it was necessary that their funds should be increased. A sum of £500 had been transferred out of income and placed to credit of the fund to assist needy applicants. Acknowledgement was made of the valuable services of Dr. Alan McDougall.

MEDICAL TREATMENT OF SCHOOL CHILDREN.

In an article contributed to the *Manchester City News* of December 9th, Councillor J. M. M'Lachlan strongly advocates the establishment of school clinics for Manchester. He considers that the system of medical inspection at present in force is wellnigh perfect so far as it goes, even the hiatus which exists by the legal requirement to inspect children only at the ages of 5 and 13 being bridged by the great attention which is given to special cases. But the remedial treatment which obviously ought to follow inspection is not being provided by parents, many of whom are too poor to carry it out. He considers that the problems presented in Manchester can no longer be left in their present position, and that recourse should be had to the powers available under the circular of the Board of Education for the establishment of school clinics. He believes that dental and medical treatment for the whole of the 110,000 school children of Manchester could be given for much less than the amount of money produced by a rate of one penny in the pound. Palatial buildings are not necessary, and with ten small clinics properly localized he thinks disease in the Manchester schools could be dealt with most thoroughly. Special emphasis is laid on the view that the hospital is no place for the child, and the further drawbacks of the long distances to be travelled by children to hospitals, the loss of time and earnings to parents accompanying their children to hospitals, and the inappropriateness of hospital treatment for many of the common ailments of school life. The article concludes:

> Already we spend much money in maintaining and educating incurables and feeble-minded. Can we not spend money in curing easily remediable cases of disease also? Can we learn of the means of raising £500 to £700 to institute one voluntary clinic which will demonstrate the value of medical treatment?

It is understood that the money difficulty has been the reason why Manchester has not undertaken some system of medical treatment of school children. Possibly the promise given by the Chancellor of the Exchequer in his third reading speech on the Insurance Bill, that the Treasury will make a "grant for the purpose of aiding local authorities who are undertaking the medical treatment of school children," will stimulate the Manchester Education Committee to put an end to the present unsatisfactory state of affairs.

LEEDS.

THE GENERAL INFIRMARY.

Changes in the Ophthalmic and Aural Department.

For many years—indeed, ever since the work of the old Ophthalmic and Aural Institute was taken over by the Infirmary, and that is more than thirty years ago—the charge of eye cases and of ear cases has been entrusted to the same officers. At first the number of ear patients was small, and the condition of aural surgery was such that operations were not numerous. During the last twenty years the advances made in this branch of surgery have, of course, been very great, and it has been increasingly apparent year by year that the position of members of the honorary staff in connexion with the ophthalmic and aural department was an anomalous one, calling upon them, as it did, to attend to cases belonging to two different categories which had no essential connexion with one another. The matter has been further complicated by a large amount of nose and throat work gravitating to the department in consequence of the close connexion between diseases of the naso-pharynx and those of the ear. At present there are two ophthalmic and aural surgeons and one ophthalmic and aural surgeon with charge of out-patients: as the result of much deliberation, it has been determined that the following rearrangement of the department shall be carried into effect. There are to be two departments: (1) An ophthalmic department and (2) an ear, throat, and nose department. Each of these departments will be under the charge of two honorary officers, and this, of course, will involve an increase in the present number of the staff from three to four. The duties of these officers will involve attendance not only in the wards, but in the out-patient department, as, of course, is the case elsewhere. In connexion with this, some special regulations have been framed as to the tenure of office by those members of the honorary staff who are attached to these departments; there will in future be no assistant honorary officers, but all will be on the same footing. As there is but one member of the honorary staff in charge of the gynaecological department who sees both in-patients and out-patients, the new rules have been made to apply to this department as well. It may be remembered that the rules as to the tenure of office of members of the honorary staff were extensively revised some years ago, and were favourably reviewed in this column. Briefly they provided that the appointment to the assistant staff was for a period of ten years. If, during that period a vacancy occurred on the full staff, the election committee could, at its discretion, promote a member of the assistant staff, or could appoint an outside candidate. If, at the end of ten years, there had not been any vacancy on the full staff, it was necessary for the assistant who had served the infirmary for ten years to submit himself for election to the post of physician or surgeon with charge of out-patients. Election did not carry with it any change in duties, but removed from his title the prefix of "assistant," and, what was more important, provided that if at any time a vacancy occurred on the full staff he was entitled to succeed without going through any further form of election. All members of the staff were, by these rules, promoted to the consulting staff on their attaining the age of 60, or at the end of twenty years' service, such twenty years to count from the date of their election as physician or surgeon or as physician or surgeon with charge of out-patients. Now, it is clear that in the three departments referred to, namely, the ophthalmic, the ear, throat and nose, and the gynaecological, as there are to be no assistant members of the honorary staff, the longest time any one could hold office would be twenty years, whereas in all the other departments it is possible a man might hold office for thirty years—that is to say, if he were elected to the assistant staff at the age of 30 and served his full period of ten years in that capacity. It has therefore been arranged that in future all those elected to departments which have no assistant members of the honorary staff in connexion with them shall be elected in the first instance for a period of five years. If at the end of that period they desire to remain in connexion with the infirmary, they must submit to re-election, and, if re-elected, they may hold office for a further period of twenty years, or until they attain the age of 60, whichever event may occur first. These rules were confirmed at a general meeting held on Friday, December 8th, and at the same meeting Mr. H. Secker Walker and Mr. A. L. Whitehead were appointed surgeons to the eye department, and Mr. Constable Hayes was appointed surgeon to the ear, nose, and throat department. All these gentlemen have been on the staff for a considerable number of years, and the rule as to twenty-five years' service which will now be the maximum in these departments has been made to apply to them, for every one feels that, as they are giving up a certain amount of work, they should be granted the more favourable conditions as to tenure of office which will be enjoyed by their successors.

ANNUAL DINNER OF PAST AND PRESENT STUDENTS.

At the annual dinner of the past and present students of the Leeds School of Medicine, held at the Great Northern Hotel, the chair was taken by Mr. A. L. Whitehead, and there was a large attendance of the members of the staff as well as a large gathering of past and present students, for whom these annual meetings afford such excellent opportunities. The Lord Mayor was present, and replied to the toast of "The Guests," among whom were representatives of the students of Manchester and Liverpool.

SOUTH WALES AND MONMOUTHSHIRE.

CARDIFF INFIRMARY.

THE Lord Mayor of Cardiff (Alderman J. W. Courtis) has issued a powerful appeal, through the press, for funds to meet the challenge of a "Glamorganshire Owner of Property" to raise £5,000 for the infirmary, in amounts of £500, by Christmas. Already £1,500 has been promised, and Alderman and Mrs. Courtis have generously added a further £500. Mrs. Courtis has for many years been an active member of the Board of Management.

CURE OF CONSUMPTIVES.

A meeting of the Cardiff Trades Council on December 7th decided to ask for the appointment of a permanent medical officer for the Cardiff Consumption Dispensary. Complaint was made of inadequate accommodation at the present dispensary in the City Hall.

UNIVERSITY OF WALES.

Lord Kenyon, in the House of Lords on December 7th, moved the second reading of the University of Wales (No. 2) Bill, and pointed out that it would render the medical degrees of the university registrable. The university had at present power to confer such degrees, but they were not registrable. The curriculum had been fixed at six years, and the General Medical Council approved of the bill, which had passed through the other House without debate. Lord Morley said that the bill had been approved in every quarter, and the Government offered no opposition. The bill was read a second time, and passed through Committee without amendment on December 12th.

WORKMEN'S COMPENSATION CASES.

The difficulties of county court judges in arriving at decisions were brought out by two cases at the last Tredegar court. In the first case it was shown that a collier who had lifted and carried for some distance a valve weighing 75 lb. had complained, when he again tried to lift it, of great pain in the abdomen. He did no more work that day, and a few days later, without having resumed work, he was operated on for acute peritonitis, and died the next day. Mr. Greer, the surgeon who operated, held that the great strain had broken down existing adhesions about a chronic appendicitis, while Dr. Marsh thought that the onset of pain at the time of strain was a coincidence. His Honour held that there had been no accident to account for the condition found by Mr. Greer. In the second case the applicant was a collier, who two years previously had been crushed about the head and neck by coal trams. He was able to walk home, and did not take to bed for a fortnight, when he went to bed for a month. He had done no work since, and had been an in-patient at Newport Hospital. Dr. Gratte, of Newport, said that the man was now suffering from pernicious anaemia, which he attributed to shock following the injury. Dr. Elworthy agreed that the man was suffering from anaemia, and was of opinion that an attack of rheumatic fever, since the accident, was a possible cause of it. He, and the respondent's other medical men, had never heard of pernicious anaemia as the result of shock. His Honour held that the accident two years previously was the cause of the present condition.

PRESENTATION TO A PONTYPRIDD DOCTOR.

At a well-attended dinner at Pontypridd recently Dr. Howard Davies was the recipient of a handsome silver fruit stand, presented to him by many officials and friends, on the completion of his twenty-fifth year as Medical Officer of Health for Pontypridd. It was stated that during this period the population of the district had trebled, and that the rateable value had increased from £40,000 to £220,000.

ST. JOHN AMBULANCE ASSOCIATION.

The Cardiff Nursing Division of the above association was inspected recently by Lady Herbert Perrott, the Lady Superintendent-in-Chief of Nursing Corps. The Lord Mayor of Cardiff presided. Amongst those present were Mr. Herbert Lewis and Dr. Thomas Wallace. A very large number of members and their friends attended. Lady Duncan gave away medals and prizes, the Cardiff division having won the two first prizes at the Welsh National Nursing Competition last August.

LONDON.

LONDON COUNTY COUNCIL.

London Asylums' Finance.

A REPORT upon the financial aspects of the annual report of the Asylums Committee was presented to the London County Council by the Finance Committee on December 12th. The total debt outstanding on March 31st, 1911, in respect of lunatic asylums was £2,040,549, and the Council was committed to the erection of a new asylum for 2,000 patients on the Horton estate, which would probably cost about £509,000. Certain London boards of guardians had represented that it would be desirable to provide a new asylum on the north instead of the south side of the Thames, but, in view of the existence of an unoccupied and very suitable site at Horton, the Finance Committee recommended its utilization. The number of patients in the county asylums on January 1st, 1911, was 20,187, an increase of 237 for the year. The number of lunatics for whom the Council was responsible was a constantly increasing number, though there appeared to be evidence that the average rate of increase was declining. The Metropolitan Asylums Board's institutions were available for the reception of harmless idiots and imbeciles and harmless chronic lunatics. During the year 114 male and 90 female patients of this class had been transferred to metropolitan asylums, and if justices of the peace when making reception orders for pauper lunatics would bear in mind the nature of the accommodation the Metropolitan Asylums Board provided, and would insist on suitable cases being sent to the Board's care, a more even distribution of the balance of accommodation would result. The weekly cost of maintenance of each patient in the London County Asylums, excluding private patients, averaged 10s. 2.65d., as against 10s. 0.34d. in 1909–10. The total expenditure, other than on capital account, amounted to £604,187. The Asylums Committee had continued its efforts to deal with cases of patients who had provable settlements outside the county, and from December, 1908, to December, 1909, 57 patients, who had cost the London ratepayers £19,300, which could not be recovered, were removed from London asylums. Twenty-one further cases had since been adjudicated, and in all but one case had been removed elsewhere. The saving in maintenance expenses of the 78 cases represented a sum of £3,000 a year.

With a view to securing a definite outcome to the debate reported in the BRITISH MEDICAL JOURNAL last week, p. 1571, with reference to means of limiting the propagation of the feeble-minded, Mr. Walter Reynolds has given notice of the following motion:

> That in order to enable the Council to decide what action should be taken for the prevention of lunacy, especially so far as it is due to hereditary transmission by persons known to be of unsound mind and is to that extent preventable, it be an instruction to the Asylums Committee to submit a full report on the subject of the causes of lunacy, particularly the hereditary causes, with particulars of cases which have come under the observation of the Committee of the hereditary transmission of insanity.

Contributions to Hospitals and Convalescent Homes.

Last year the London County Council obtained parliamentary sanction to the expenditure in any one year of not more than £500 in making "contributions to the funds of any hospital, convalescent home, dispensary, or other similar institution in which an employee of the Council may receive treatment" (BRITISH MEDICAL JOURNAL, vol. ii, 1909, p. 235). The General Purposes Committee on December 12th reported that this sum might be allocated under two heads;

(*a*) To hospitals in respect of primary treatment of injured employees or surgical operations upon employees; and

(*b*) For reception into convalescent homes and similar institutions of sick employees and employees recovering from injuries or operations.

The views of the chief officers of the Council, of Dr. R. J. Collie, the medical examiner, and of the Secretary of the Staff Benevolent Association had been obtained on the matter. Dr. Collie, whose opinion was most valuable in view of the fact that he examined all employees who had been on the sick list for twenty-eight days, said that in his experience difficulty was seldom met with in obtaining admission for acute cases to the large London

hospitals through the employee's medical attendant or otherwise. He had found, however, that the reverse was the case with convalescent homes in the country or at the seaside, and with sanatoriums, and said:

In the course of every year I see scores of employees whose sickness would be cut short and who would be sooner restored to their work if there were some facilities for sending them away to convalescent homes for even a week or two. . . . Pulmonary tuberculosis costs the Council much. Early sanatorium treatment of this disease is, for the working people at any rate, the only chance of cure. This being so, the difficulty I frequently find myself in is this—I cannot bring myself to advise the superannuation of employees suffering from the incipient stages of this disease, for I know that want of work, and inability to get food, will absolutely determine the fatal issue; whilst appropriate open-air treatment for, say, three months, will probably effect a cure, if the disease is really caught early. It has been my practice in all such cases to endeavour to obtain this, but there is nearly always regrettable delay, and lately my efforts have been so constantly ineffectual that there is the temptation to cease trying. I have before me now the particulars of eleven cases of incipient phthisis amongst the Council's employees, which came under my notice during 1909-10, all of which recovered and resumed duty after receiving immediate sanatorium treatment. But I have also particulars of many other cases of phthisis, in which sanatorium treatment was unavoidably delayed, or treatment could not be sufficiently prolonged, and these entailed ultimate certification as permanently unfit for the service.

Dr. Collie recommended that the Council should subscribe regularly to six of the best convalescent homes (two in the country and four at the seaside) and three sanatoriums for open-air treatment, so that a certain number of convalescent tickets would always be available. The General Purposes Committee was in thorough accord with Dr. Collie's views. There seemed to be practical unanimity of opinion that the direction in which the Council could most materially assist in the medical treatment of its employees was by making such contributions to convalescent homes and sanatoriums as would secure the reception therein of sick employees. With the limited amount at the Council's disposal, the committee considered that pecuniary assistance to the metropolitan hospitals should be limited to donations to institutions which had provided long-continued treatment of an employee or had received a comparatively large number of employees, and recommended that the funds available should be allotted in the proportions of £15 and £85 per £100, the distribution of the smaller amount to be considered at the end of the year on the recommendations of the chief officers concerned, and the larger sum to be expended forthwith in subscriptions to convalescent homes recommended by Dr. Collie. Employees should be required to contribute, wherever possible, towards the cost of their treatment. The National Insurance Bill could not be in operation so as to benefit the Council's employees within a period of less than twelve months, and meanwhile much could be done by the means indicated to aid the speedy restoration to health of employees in need of institutional treatment.

Major Levita, speaking as a member of the governing body of the Brompton Hospital, pointed out that, while hospital managers would welcome any contribution, the sum proposed was not sufficient to entitle the Council to preferential treatment. The cost of treating one case of consumption was about £65 in the year, and a number of County Council employees had been dealt with at the Brompton Hospital.

The Committee's proposals were then agreed to.

Compulsory Notification of Pulmonary Tuberculosis.

The Local Government Committee drew attention to several important questions of local government and "action" raised by the regulations in relation to the notification of pulmonary tuberculosis issued by the Local Government Board under the general order of November 15th, 1911.[1] The order would cast considerable additional expenditure on local sanitary authorities, and in the opinion of the Committee the imposition of financial burden on local authorities by a Government department was contrary to the principles of local government. In London the fees paid to medical practitioners for the notification of infectious diseases under the Public Health (London) Act, 1891, were recoverable from the local authorities from the Metropolitan Asylums Board. The Board paid the fees out of its common fund, so that the charge was spread equally over the whole of London. There was no provision of this kind in regard to fees payable under the new order. The cost of maintenance of persons received into the fever and small-pox hospitals of the Asylums Board was equalized over the county, but the new order contemplated that local authorities should either provide sanatoriums themselves or contract for the use of such institutions, and any expenses which were not recovered would fall, apparently, on local funds. The form in which the order had been framed would result in the expense of administration falling upon the various metropolitan boroughs, and the heaviest burden would have to be borne by boroughs in which the rateable value was low and the rates were high. The principle of equalization of expense was particularly applicable in this matter, and the Committee recommended that a resolution to that effect be passed and forwarded to the Local Government Board.

The Council approved the recommendation.

[1] BRITISH MEDICAL JOURNAL, November 25th, p. 1432.

THE REORGANIZATION OF PUBLIC HEALTH ADMINISTRATION.

In connexion with the reorganization under one authority of the administration of general public health and school medical work in London, a proposal is under consideration by various committees of the County Council to appoint whole-time permanent medical officers to carry out duties in relation to medical inspection and infectious diseases. Whole-time appointments, it is thought, will be the means of securing more effective co-operation with the medical officers of the metropolitan boroughs. Probably six officers will be required ultimately for this purpose.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

SCOTTISH MEMORIAL TO KING EDWARD.

In connexion with a proposed memorial to the late King the town council of Glasgow appointed a special committee to report as to the desirability of co-operating with counties and other burghs in raising funds to promote a systematic crusade against consumption, such funds to be applied (1) to the promotion of research and the dissemination of knowledge bearing on the prevention and treatment of tuberculosis, and (2) towards the establishment and support of sanatoriums in suitable localities. Its deliberations resulted in the following proposals:

1. That an institute be founded, as a memorial to the late King Edward, to deal with preventive medicine and research and the dissemination of knowledge bearing on the prevention and treatment of tuberculosis.
2. That the co-operation of town and county councils throughout Scotland be invited with the view of placing the institute on a national basis, and that a conference of representatives from the various councils be convened to that end.
3. That as regards the erection of sanatoriums, further consideration thereof be meantime deferred till the proposed conference have an opportunity of considering the subject in all its branches, and whether sanatoriums should be erected in co-operation or by the local authorities individually.
4. That in the event of these recommendations being approved, it be remitted back to this committee to make the necessary arrangements for holding the proposed conference.

These proposals having been approved by the town council last week, arrangements for the conference will now be made.

MEDICATED WINES.

At a meeting on November 18th, which members of the medical profession in Glasgow were invited to attend, under the chairmanship of Dr. William L. Reid, Dr. Mary Sturge of Birmingham gave an address on medicated wines. She laid stress on the great value of the analyses of these mixtures published in the BRITISH MEDICAL JOURNAL, particularly because these figures showed the paucity of the meat element in much-vaunted meat wines, as well as their markedly high alcoholic content. She described cases of mental and physical breakdown due to the alcohol habit which had been found in abstainers and others after taking so-called tonic wines. Special blame lay on those mixtures which were labelled with such fancy names that no one could be expected to guess that they were merely alcohol in disguise. In one town in England

schoolgirls were reported to be taking one of these medicated wines with their lunch, the parents having no idea that it was as strong as port wine. Recently fifty-eight medical men in Leeds had signed a strongly worded "warning" to the public on the whole subject, and it was hoped that the profession elsewhere would follow suit. She entreated all doctors to avoid ordering these "wines," and to explain to their patients the insidious danger involved. The law in force in America, whereby in the case of all proprietary mixtures the exact percentage of alcohol they contained must be stated on the label or wrapper, ought, she urged, to be introduced into this country. At the conclusion of the address the following resolution was passed unanimously:

That in view:

1. Of the enormous consumption of alcohol and other habit-forming drugs under the guise of medicated wines,
2. Of their disastrous effect on the population, and especially on women,
3. Of their successful masking of the practice of drinking under the pretence of health seeking,
4. Of their consequent lowering of the status of the pharmacist to that of the publican, making the chemist's shop the competitor of the public-house,
5. And finally, of the dangerous and, above all, the secret composition of these so-called remedies,

this meeting of medical practitioners and friends held in Glasgow, November 18th, 1911, calls upon their colleagues in the profession to discountenance their use in every way, and also calls upon the Royal Pharmaceutical Society to take this national question into their most serious consideration, with a view to taking such measures in regard to it as shall put a stop to a scandal which is at once disgraceful to their calling and ours, and a most serious and spreading public evil.

PHYSIOLOGICAL RESEARCH.

On the recommendation of the Health Committee the Corporation of Glasgow has made a grant of £50 to Professor D. Noel Paton, of the Physiological Department of the University of Glasgow, towards the work being at present carried on in connexion with the investigation of the dietaries of the very poor in the city.

GLASGOW INFIRMARIES AND RATE SUPPORT.

An interesting controversy has developed from a speech made by the new Lord Provost of Glasgow, when presiding at the annual meeting in connexion with the Western Infirmary. In moving the adoption of the annual report he said that while no one had a greater admiration for the good work accomplished by the directors, he was afraid he did not quite agree with the financial methods adopted. The infirmaries should form part of the civic establishment. The people who gave to the infirmaries and all such works throughout the city and country were bearing the burden willingly in excess of what they would have to bear if borne publicly. Sir Matthew Arthur, who seconded the adoption of the report, said that no member of the Board of Directors was in sympathy with the suggestion that the voluntary system should be abandoned, and Sir William Bilsland, an ex-Lord Provost, said that the views expressed as to rate support were not the best, either in the interest of well-to-do people or of suffering humanity.

Sir John Ure Primrose, another ex-Lord Provost, took occasion in opening a bazaar on the following day to state that nothing more sterilizing to humanity could happen than the casting of the infirmaries on the rates. He hoped that if this question assumed any more definite form there would be an expression of opinion on the part of the community that would utterly stop any effort to cabin and confine individual effort and responsibility in this direction, and that in the future they would have, as complementary and supplementary to the work of the churches, those glorious voluntarily supported institutions that had been the pride of Glasgow in years past.

At the meeting of the Victoria Infirmary the Lord Provost again referred to the subject, repeating his view that before long the whole burden would be put upon the civic establishment, and the Honorary Secretary of the Glasgow and District Societies Council of Public Health has, on behalf of the executive of that council, written an endorsement of the Lord Provost's views. The council considers that the Lord Provost has voiced much more accurately than his critics the mind of the great majority of the community, irrespective of class, as to the increasing difficulties on the one hand of financing the infirmaries by "voluntary" subscriptions and donations, and on the other of getting admission to the infirmaries without delays painful and dangerous to those who urgently need the aid of these institutions.

INFANTILE MORTALITY IN GLASGOW.

The annual report of the Glasgow Infant Health Visitors' Association shows that it is doing useful work in reducing infant mortality despite the fact that the workers are not so numerous as they might be. The annual report contained interesting information on vital statistics by Dr. Chalmers, and on infant consultations by Dr. Florence Mann. In the year ending October 31st, 389 consultations had been held, with an average attendance of 14 infants. In all 1,516 separate children were dealt with. The total number of attendances was 5,198, or an average of 3.4 visits per child. The babies visited in all the districts numbered 3,227, and at the end of the year there were 242 visitors carrying on the work. Dr. Chalmers's statistics deal only with 2,544 infants, born between November, 1909, and October, 1910. His results are summarized thus: Attained the age of 1 year, 896; died under 1 year, 287; removed and untraced, 905; visits unnecessary, 192; visits objected to, 3; final reports not received, 77; not reported on, 184. It was thus only possible to deal definitely with the 896 who had attained the age of 1 year, and with the 287 who had died. This suggested a death-rate of 243 per 1,000 births. In the previous year the rate was 236 per 1,000, a slight increase which is striking when it is remembered that the total death-rate of infants had fallen continuously for some years—for example, in 1908 it was 136; in 1909, 131; and in 1910, 119. While there has thus been an improvement in the general death-rate, there is still ample scope for work among the children. As Dr. Chalmers points out, both the number of the cases lost sight of and of the cases that die might be reduced if the services of more visitors were available.

EAST PARK HOUSE FOR INFIRM CHILDREN.

To collect funds for a proposed country branch of the East Park House for Infirm Children a very successful bazaar was recently held in Glasgow. The receipts came to over £13,500, and, as the expenses only amounted to £730, the organizers of the bazaar claim with every reason that it was very economically run. In addition to the money obtained at the bazaar, subscriptions to the extent of £4,374 have been received, and in response to a special appeal a further sum of £3,437 has been obtained. The total expenses amounted in all to £1,238. By a fancy dress ball a further sum of £882 was got. As the result of these efforts the institution benefits to the extent of £22,500. It is thought probable that the East Park House will amalgamate with another home, in which way the funds will be utilized to the greatest advantage.

GLASGOW CORPORATION AND TUBERCULOSIS.

At a meeting of the special subcommittee on the prevention of tuberculosis, on November 29th, the report by the Local Government Board on tuberculosis in the city, and special reports by the medical officer of health on phthisis and on the housing question in Glasgow, were considered. It was agreed to recommend that the parish councils and the school boards within the city be invited to confer with the corporation representatives on the best means for the prevention of consumption. It was also agreed to recommend that the erection of the small-pox hospital at Robroyston be proceeded with at once, and that as soon as completed it be fitted up and, until otherwise required, utilized for the treatment of consumptive patients, for whose accommodation about 200 beds would be provided.

GLASGOW'S EXTENSION SCHEME.

It is not improbable that the scheme for the extension of the city boundaries will be curtailed so far as the south side of the city is concerned. The position of the Giffnock area proposed to be included originally in the extension is that it forms a part of the Eastwood and Mearns Water District supplied by a special reservoir, and a new reservoir is being constructed at an outlay of £26,000 by the Renfrew County Council. It is hardly probable that Glasgow could annex the greater part of this water area without taking over the whole undertaking, involving a large expenditure

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE FORMATION OF A MEDICAL GUILD IN BELFAST.

A LARGE meeting of medical practitioners of Belfast was held in the Medical Institute on the evening of December 7th to discuss the question of the formation of a Medical Guild of the profession in Belfast. Dr. J. R. Davison occupied the chair, and there was a large attendance. Dr. George Elliott acted as honorary secretary. It was decided, after discussion, to form such a guild, which should include all branches of the profession. The purpose of the guild is to watch carefully all movements likely to affect the interests of medical men in any way and to take united action in regard to them. It will act in harmony with existing medical societies, but will deal with matters which cannot be treated in a satisfactory manner by the other societies as at present organized. The opinion found considerable expression that such work could be advantageously carried on by the Belfast Division of the British Medical Association, and that such was the intended work of the Division. The guild sent its hearty congratulations to Dr. W. J. Maguire on his appointment as Medical Commissioner for Ireland under the new insurance scheme.

MEDICAL OFFICERS AND THE NEW ROSS GUARDIANS.

For some time past the medical officers of the New Ross Union have been seeking an all-round increase in their salaries, and the Local Government Board has asked the guardians to consider the matter favourably, but up to the present an increase has been refused. About a month ago the medical officership of Dysertmoor (co. Kilkenny) became vacant, and was advertised as such. The local doctors refused to apply, owing to the insufficiency of the salary offered, and a medical man practising in England was the only candidate, and was ultimately declared elected. On learning the position of affairs, however, this gentleman resigned immediately, and the post is again being advertised as vacant at the old salary of £105 per annum. It is stated that owing to the attitude of the doctors the guardians are determined to continue their opposition to an increase of salaries in other parts of the union. It is important that all medical men who intend to offer themselves as candidates for the present vacancy should make themselves thoroughly acquainted with local circumstances before making application.

CORK DISTRICT LUNATIC ASYLUM.

The inspector opens his report with an expression of regret that the Committee of Management has done nothing to relieve the congestion in the asylum by the addition of further buildings. The female side of the house is much the more congested portion. The increasing numbers in the institution are not due to admissions so much as to a decrease in the number of deaths. During the twelve months which elapsed since the last inspection 329 patients had been admitted; 162 had been discharged, of whom 139 had recovered; 32 were transferred to the auxiliary asylum at Youghal, and 97 had died. As the result of these changes 1,736 patients remained on the books of the asylum, as compared with 1,698 at the date of the last visit, showing an increase of 38 during the year. The deaths were all due to natural causes, pulmonary tuberculosis being responsible for 33, heart disease for 15, and general paralysis of the insane for 2. It was satisfactory to note that in no instance did bedsores exist at death, that *post-mortem* examinations were held in 31 cases, and that there had been no fatal accident or suicide.

QUESTION OF MEDICAL FEES.

In the Chancery Division last week, before the Master of the Rolls, Sir Charles Ball sitting as medical assessor, a ruling was made on the question of payment of medical fees in connexion with the administration of the estate of a deceased merchant. The fees charged amounted to £346, and it was contended that the sum was excessive, and also that the sum of £60 which had been paid to Dr. Gill, the medical man in question, some time prior to the death of the patient was a full discharge of all fees then due. Dr. Gill contended that this sum of £60 was only a payment on account, and stated the scale of fees on which he had framed the charge sent in. The Master of the Rolls, in giving judgement, said that Dr. Gill had come unscathed through as severe a test under examination as any professional man could be subjected to, and allowed him the full sum charged, and also his costs and expenses in the case.

THE WESTERN INFIRMARY.

The annual report submitted at the thirty-seventh annual meeting may serve to show how much the local hospitals are dependent upon employees' subscriptions, which it is feared may be seriously affected as the result of the Insurance Bill. The total ordinary expenditure of the hospital was over £39,000, and the ordinary income was £23,600, of which nearly £7,500 came from the subscriptions from employees in public works, warehouses, offices, etc. Even under the present conditions the income falls short of the ordinary expenditure, and it is invariably necessary to utilize extraordinary income to finance the running expenses. In the past year the extraordinary income failed to meet the deficit, and it was necessary to withdraw over £4,700 from the stock account to make ends meet. Last year seems to have been an expensive year, as the average cost per fully occupied bed rose from £72 7s. 6d. in 1909-10 to £74 2s. 1d., while the average cost per patient was £4 7s. 3d. as against £4 2s. 3d. in 1909-10. Possibly the hospitals would save somewhat under the Insurance Bill in the out-patient departments, as they would, at any rate, not have to give free medicine. In the past year over 12,000 medical cases, representing 33,411 visits, and over 10,000 surgical cases were treated.

WOMEN'S NATIONAL HEALTH ASSOCIATION.

The annual general meeting of the Dublin branch of the Women's National Health Association was held last week in Dublin, when the report of the Dublin branch was presented. The report contained the following paragraphs:

On the adoption of the Early Notification of Births Act by the Corporation, it will be remembered that the Public Health Committee accepted our offer to make arrangements for organizing classes of instruction for ladies prepared to work as voluntary health visitors under the Act. A subcommittee was formed to draw up a scheme of instruction, and several tutorial classes were held by doctors and other experts to instruct the first forty volunteer workers. This same subcommittee organized a large meeting, held at the Mansion House, under the chairmanship of Lord Mayor Doyle, in order to bring the working of the Act before the public, and to obtain more volunteers. As this work must be carried out directly under the Public Health authorities, the organization and working out of the scheme was handed over to a special committee, called the Dublin Committee for the Prevention of Infantile Mortality. This committee, which includes a representative of the Women's National Health Association, has been working in the Public Health offices, and has now over forty health visitors, and before the end of the year hopes to have 100 ready for work. These ladies, after passing a qualifying examination, visit the homes of the poor where a birth has been notified, and advise and instruct the mother on the care of the infant, supplementing this advice with some properly organized charitable help when required.

We must also place on record a special effort made by the Central Women's National Health Association to meet the emergency caused by the epidemic of summer cholera amongst young children during the autumn. A meeting was held at Ely House, which was attended by many of our members, and eight emergency nurses were attached to the eight dispensary districts to work under the medical officers during seven weeks. The result of their work is appended. The number of cases attended amounted to 1,407; visits paid, 5,000; 9,122 bottles of milk were provided by the Pasteurized Milk Dépôt for recommended cases. The number of deaths amounted to 88.

Work has also been done by the branch in endeavouring to persuade the Corporation to provide lavatory accommodation for women. This is at present very deficient. Several ineffectual efforts have been made, but it is now really hoped that the money for this work will be put in the estimates for next year.

A great feature of the work of the Dublin branch for 1911 was the organization of the café chantant at Ui Breasail. This was done along with the branches of Castleknock and Terenure, and was a brilliant success, reflecting great credit on all who assisted at it.

After this report had been received, the Countess of Aberdeen read the report of the Samaritan Committee, which stated that during 1911 the two nurses employed had paid 5,682 visits. Forty-one patients had been sent to sanatoriums, 54 to hospitals, 25 to the Allan Ryan Home, and 8 to the Sutton Preventorium. In addition, 76 children were sent to the country, and numerous families were

aided by presents of food and clothing. Much work had also been done in disinfecting rooms, supplying sputum flasks, etc.

ST. LAURENCE'S HOME FOR NURSES.

In the annual report of this institution, read at the annual meeting last week, the committee called attention to the fact that the home has now completed twenty years of work. During this time it has trained a large number of nurses for work amongst the poorer classes in Ireland; at the present moment there are about sixty-eight Jubilee nurses at work throughout Ireland who have received their training in the institution. Twelve nurses during last year worked directly from the home, and paid 57,015 visits to patients in their own homes. In spite of the good work that the institution is doing subscriptions have lately fallen off, and totalled last year only £260. In the coming year the capitation contribution from the Queen Victoria Jubilee Institute is to be diminished, and in consequence, unless there is a great increase in public support, the activities of the home must be diminished. It is hoped that this will be forthcoming. Most medical men throughout Ireland can testify to the important work that the Jubilee nurses are doing.

Special Correspondence.

PARIS.

Treatment of Gonorrhoeal Arthritis.—The Hot Summer. —Intrapleural Injections of Camphor Oil.

M. FELIX RAMOND described recently to the Medical Society of the Hospitals a method of treating gonorrhoeal arthritis which he had employed with good results in several cases of arthritis of the knee-joint with effusion, in some cases purulent. The needle of a moderate sized syringe was put into the knee-joint and 3 to 5 c.cm. of the synovial fluid withdrawn and reinjected subcutaneously in the neighbourhood of the joint. The injections were repeated every two or three days if necessary, and in eight to ten days the joint affection was usually cured, no ankylosis resulting. After each injection the joint was encircled with a gauze dressing fairly tightly applied. When the effusion into the joint was purulent the initial doses for subcutaneous injection were smaller, the first being 1 c.cm. and the second injection 3 c.cm. It must be noted, however, that in no case in which Ramond employed his new treatment were gonococci found in the effusion. This treatment is interesting and requires further investigation, as it is neither a vaccine treatment nor is it exactly a serum treatment, although somewhat similar to both, as it produces immunity for the gonococcal organism, though dead gonococci are not injected—as shown by microscopic examination—nor is the fluid an immune serum, as it is the synovial fluid of the patient's own knee. Gilbert of Geneva described an analogous method for the treatment of pleurisy with effusion.

At a recent meeting of the Académie de Médecine, Dr. Maurice de Fleury read a paper on the effects of the excessive heat of last summer in Paris. Gastro-intestinal derangements headed the list of diseases, and were attributed to many different causes. Adults as well as children in many cases were laid up with summer diarrhoea. That after-results from this affection may exist was demonstrated by the fact that some of the patients were and are still under medical care. The most frequent physical signs found were slight enlargement of the liver accompanied by urobilin and indican in the urine, and the patient suffered milder periodical recurrent attacks of diarrhoea. In discussing causes, Dr. de Fleury referred not only to the more rapid decomposition of foods in warm weather, but also to the increased resort to iced drinks which may produce atony of the stomach with delay in digestion, so that undigested food passes the pylorus and produces acute irritation of both the large and small bowel. If, when such an attack has been present, the patient continues ordinary diet, the irritation is kept up and diarrhoea persists, whereas a few days of light diet cures the condition and brings about immediate relief. Dr. de Fleury recommends avoidance of all milk, eggs, fish, and meat for some time, and the use of lacto-ferments to aid gastro-intestinal antisepsis.

A paper on intrapleural injections of camphor oil in pleurisy, communicated to the Surgical Society of Paris by M. Delbet, is worthy of note. The injection of oil into the pleural cavity produced, he said, over each pleural surface a smooth coating, which is inimical to the micro-organisms present in pleurisy, and also presents the absorption of the toxins, while allowing the fluid itself to be absorbed. Experiments on animals seemed to show that the injection of oil into the peritoneal cavity in septic peritonitis did more good than harm. In a dog the intestine was perforated; the oil containing 10 per cent. salol was injected into the peritoneal cavity immediately afterwards, and inhibited general peritonitis from being followed by the usual toxic infection. The question whether in pleurisy with moderate effusion the fluid acts as a healing agent by means of its presence, or whether it acts as a good culture medium, is still in doubt. In an ordinary so-called tuberculous or rheumatic pleurisy, the question of the culture medium is difficult to answer, but in a pneumococcal pleurisy following pneumonia there is little doubt that the pneumococcus up to a certain extent flourishes in the fluid and gives rise to great autointoxication. Now, if by injecting camphor oil pneumococci are killed, and the fluid in the pleural cavity reabsorbed, it would seem an empyema should never be allowed to develop once effusion in the pleural sac is diagnosed. The operation of resection of rib would then be considered a relic of the days when medical and surgical science were still further from perfection than they are at the present day.

VIENNA.

Law Prohibiting Spitting in Railway Carriages and Public Conveyances. — The Opening of the New Clinics.

TUBERCULOSIS has increased to such an alarming extent in certain parts of Austria that the attention of the authorities has been roused, and every effort is now being made to prevent its spread and to close all the possible sources of infection. For this purpose a law has been passed forbidding passengers to expectorate in railway carriages or tramcars under pain of a fine of 200 kronen (£8), placards to that effect being placed in all public conveyances. It remains to be seen, however, whether the police will prove efficient guardians of the public health, for the Austrian is, as a rule, a very easy-going person. This same law applies to all public offices and buildings, where spittoons are placed at convenient intervals, and warning notices posted in the corridors. This decree against "promiscuous spitting," as it is styled in the notices, is more than a year old, but as yet no single instance has occurred of any offender being fined so much as a penny for spitting in a public place. The official conscience, however, is quite easy, and regards with complacency its efforts to prevent the spread of consumption. In addition to, and in connexion with, these ordinances, experiments are now being made in the hope of ascertaining whether the danger of infection from railway carriages and tramcars is such as to form a serious menace to the health of the passengers. Considerable numbers of tuberculous patients are constantly *en route* to the various Austrian health resorts, such as Meran, Arco, or Riva, and the cars used by them might well become breeding places of infection. Recent investigations, however, have proved that the dust in railway carriages is by no means as infectious as might be supposed. Infection by means of the saliva is far more dangerous, and the warnings issued by the authorities may perhaps help to prevent tuberculous subjects coughing and spitting in the midst of other people, and thus scattering the seeds of disease amongst their neighbours.

A fortnight ago the New Clinics were opened, and work is now in full swing. The buildings are situated quite close to the old general hospital, in which, ever since 1780, generation after generation of Austrian medical students has received its medical education, and whence the glory of the old medical school of Vienna is derived. The new clinics are distinguished by some interesting features. For instance, out of the hundred beds in one of them Professor von Noorden's medical wards contain thirty solely for the use of patients suffering from disturbances o

metabolism. These patients get their food from a special "dietetic" kitchen attached to the clinic; and in this way the doctors, students, and nurses have the opportunity of learning the confusing dietetic requirements of gouty, diabetic and rheumatic persons, whilst scientific investigation will be rendered possible by the different kinds of food and the ways of cooking it. Moreover, every modern method of physical treatment, such as hydro-electro-therapeutics, radium, and *x* rays, gymnastics, mud and sand baths, etc., will be provided by this department. It is not surprising, therefore, that the hospital will be a very heavy expense to the State, since the patients are only charged the usual hospital fee (about 2s. 6d. per diem) and the actual cost is more than double that sum. An interesting feature in connexion with the clinic for children's diseases, whose chief, Professor von Pirquet, has just begun his course of lectures, is the "observation ward." This consists of twelve cells, built of glass and iron, and situated on either side of a broad corridor, each cell being about 10 cubic feet and accommodating one patient. Here suspicious cases are brought immediately after examination in the out-patient department, and are kept under observation by the students and visited by friends without the risk of spreading infection. For this reason the patients are only seen by their visitors through the glass walls of the cell from the central or "unpolluted" corridor, whilst the doctors and nurses go in and out by means of a passage known as the "suspicious" corridor, on the other side of the cells. These cells are under the care of a nurse, who occupies a little room on a rather higher level than the others. Besides the observation ward the clinic possesses a department for the sterilization of milk, to be used, when required, for the newborn babies in the obstetric ward, and also to be sold to the public. The third clinic is the rhino-laryngological department, under Professor Chiari. It contains 50 beds, and special arrangements have been made for the instruction of twenty students at a time, so that large classes can be held without the usual difficulties, and every student will be able to examine the patient without hindering his neighbours. The department is further provided with all the latest apparatus for bronchoscopic and oesophageal examinations, so that the clinic is completely up to date, and is fit to serve as a model for all similar institutions.

Correspondence.

"LIFE FROM A LABORATORY WINDOW."

SIR,—Your delightful homily with the above text in the last number of the JOURNAL afforded, I have no doubt, pleasure to many. In my own case this was the keener as I felt persuaded that your well-meant address in Advent would make no difference. I mean that, in my belief, your kindly admonition will happily, as I think, not avail to entice away from his fetish one solitary specialist. The *Ton Meister* will still live with their instruments; the Kants will continue to contemplate their steeples; the Tycho Brahes will keep their eyes glued to their telescopes; the Rembrandts will stick to their canvases; the Kochs will persist in bringing up their young bacilli free from aërial) contamination. I will not deny that it might be for the good of the Great Ones could they be enticed away: your Beethoven, could he be smoked out of his garret and whirled round the town with a party of young ladies from the States, and shouted at through a megaphone (happy thought! for was he not deaf?), would perhaps be livened up; may be, your Kant would be all the better for a week or two amongst the *cabarets* of Montmartre—at all events, we would have occasion to become aware, to quote your expressive words, "of those human potentialities with which Nature had endowed him"; your Rembrandt or Rubens might be prescribed a course of Calvin's sermons; your Koch would, perchance, be helped by an experience of club-doctoring amongst the domestics of subalterns *in einer kleinen Garnison-Stadt*, could he be induced to go on the "panel" (but mind, even in similar circumstances he slunk away and "pure-tured" the anthrax bacillus). I say such *bouleversement* might be beneficial to these *illustri*. On the other hand, they might go through their experience under a sense of *Hemmung*, otherwise a feeling of obfuscation blended with oppression. To my mind it is immaterial how they might be affected; what is material is that, in the interests of mankind, the experiment be not made; in the interests of mankind I believe it to be important that the laboratory windows of these priceless Unitarians be, if necessary, bricked up, and their doors "banged, barred, and bolted"; that they be encouraged in their disinclination to "envisage the whole field of life." Having written the sonata, located the star, painted the portrait, described the life-history of the bacillus, the rôle of each is over. Mankind is the richer; let the Genii dissolve into the mists of Time; let their names be given to the streets, and their lineaments be perpetuated (if possible free from sartorial accompaniment) in stone.—I am, etc.,

Cardiff, Dec. 12th. EDWIN GOODALL.

SIR,—The opinion of the writer of a not very striking book which affords the text for a leading article under the above heading in your issue of December 9th might quite well be passed over in silence, but it is distinctly otherwise when that opinion has the support of an influential organ of science such as the BRITISH MEDICAL JOURNAL. The opinion is expressed as follows: "The man of science . . . discovers that he has purchased the scientific habit of mind at the cost of his individuality. He finds himself a cold, unimpassioned reasoner of cause and effect, a machine for making and recording experiments."

Now, if this proposition were in any sense true, two inevitable consequences would follow. First, that no more pernicious means of education for the young could possibly be devised than the exclusively scientific one; secondly, that only mediocrity could ever be content to devote a lifetime to work which renders inevitable this progressive deterioration of all the higher faculties. The first contention is, of course, a very old one, and and is not infrequently met with to-day, in spite of, *inter alia*, its thorough discussion and wholesale refutation by Herbert Spencer in the first chapter his little book on *Education*, wherein he enunciates this striking conclusion:

> For direct self-preservation, or the maintenance of life and health, the all-important knowledge is—Science. For that indirect self-preservation which we call gaining a livelihood, the knowledge of greatest value is—Science. For the due discharge of parental functions, the proper guidance is to be found only in—Science. For that interpretation of national life, past and present, without which the citizen cannot rightly regulate his conduct, the indispensable key is—Science. Alike for the most perfect production and present enjoyment of art in all its forms, the needful preparation is still—Science; and for the purposes of discipline—intellectual, moral, religious—the most efficient study is, once more—Science.

Now, I will admit that a trace of truth may exist in your thesis if you confine your definition of a man of science and of laboratory research to the type, if such really exists, where the sole scientific labour consists in the routine examination of blood smears, the making of bacterial cultures, the details of everyday urinanalysis, and the like, then it is conceivable that on taking stock little more than "a machine for making and recording experiments" will be found. But is this research; is this a man of science? And at the beginning was he any better endowed than we discover him later to be? The true man of science, on the contrary, needs an intellectual endowment of a very different order, and he finds in experimental science a pursuit which develops and exercises every conceivable faculty necessary to the highest enjoyment of mental life.

There has just been published a translation of Radot's *Life of Pasteur*, which, in addition to its intrinsic appeal, also has the further one, for English-speaking readers especially, of being presented with a foreword by Sir William Osler, and in it are quoted the following very appropriate remarks of Dumas, the friend and colleague of Pasteur:

> The art of experimentation leads from the first to the last link of the chain, without hesitation and without a blank, making successive use of reason, which suggests an alternative, and of experience, which decides on it, until, starting from a faint glimmer, the full blaze of light is reached.

Add to this the necessity for the gift of imagination, which, no less active because kept within legitimate bounds, has been possessed by all great men of science; bear in mind also that all research work is pioneer work,

and that preconceived opinions are constantly being upset as experimental results accumulate, requiring, to make the necessary readjustments [illegible] full exercise of that alertness, receptivity, and [illegible] mind, which is the greatest enemy of the deadly process of fossilization that sooner or later overtakes the mind devoted to work which, unlike experimental science, largely partakes of repetition and uneventful routine. It obviously follows, then, that the rich mental equipment, by which the chaos of the unknown can alone be explored and rendered intelligible, is exercised and nourished thereby to the fullest possible capacity. A laboratory may be "only a little corner of a big world," but all knowledge is the kingdom of its worker, and the same cannot truly be said of the studio, the office, or the drawing-room.

Only the week before, in a similar leader, you discussed the debates in a lay contemporary concerning "the ten greatest men living." Are there ten? Is there not only one: his name—Lord Lister? It may be that a truer perspective would impel the addition of two more—Alfred Russel Wallace and Guglielmo Marconi, but I venture to affirm that, so far as known, no other could be selected one whit greater than several hundred of his fellows. I say so far as known advisedly, remembering that, had a similar question been propounded at any time between 1866 and 1884, no one would have thought of including a certain persecuted monk in Austria, yet the achievements of the Abbot Gregor Mendel undoubtedly stand out clearly among the few really great ones of history. And yet it is not to be denied that all these achieved greatness only in so far as they possessed "the scientific habit of mind."—I am, etc.,

London, N., Dec. 11th. A. RUGG GUNN.

PARASITISM.

SIR,—Professor Minchin's note on Sir H. Butlin's theory of the cancer cell seems to me equivalent to a demand for a new definition of a term hitherto taken under strict limitation. The cancer research reports, taking the term "parasitism" under such limitation, state the causation of cancer through parasitism as highly improbable. They do not reject a limitation, which they do not even call in question, but by holding to it they seem to me to implicitly validate it. The impression they leave on my mind is that we must go for the causation of cancer not to histological elements, intrinsic or extrinsic to any particular organism, but to the coherent physiological process accounting for the ontogeny of the organism and its elements, whether normal or abnormal. Thus the protozoon is accounted for by its specific ontogeny and not by its environment, mode of life, or whether it is free, parasitic, symbiotic, or commensal. The same thing holds for the higher metazoon; its genetic continuity is its essential characteristic. To identify the cancer cell as an independent organism it must have a specific ontogeny of its own, not be a derived or modified cell having no genetic continuity. The parasitic protozoon has such specific continuity *ab initio*, and the limitation is connoted in the term "parasitism." Rejecting the limitation, defining the parasite by environmental facts, by locus in another organism and dependence for nutriment on it, we might state the fetus *in utero*, the sperm on entry into the germ cell, and, indeed, all, cells as dependent on other cells and cell aggregates as parasites. But if the interdependence does not define parasitism, neither does the effort in the cell complex to adapt itself by physiological and pathological modification to a necessarily varying state define it.—I am, etc.,

Newry, Dec. 11th. W. R. MACDERMOTT, M.B.

SIR,—I think that Professor Minchin's letter in the BRITISH MEDICAL JOURNAL, December 9th, p. 1572, on the subject of parasites is most timely, because it makes us consider the exact meaning of the word "parasite," which at present is not very clear. Professor Minchin proposes to divide parasites into two varieties—"idioparasites" and "xenoparasites"—but it seems to me that before we begin to subdivide them we should have a definition in accordance with modern knowledge as to what parasites really are, for the existing definitions seem to be rather out of date. I am open to conviction, and may be entirely wrong, but am of opinion that in defining a "parasite" it should be sharply differentiated from a "host." In order to do this, a good line of distinction to employ could be based on whether the organism in question does or does not contain the hereditary characteristics of the host. Since all the body cells of a creature have originally evolved either from one cell or from a pair of cells which have conjugated, I should like to suggest that no matter what happens to those cells, they can never become parasites of their own stock, for they are all of one family, and all contain the parental (perhaps paternal and maternal) characteristics. Therefore, one might propose this definition: A parasite is a creature which lives in or on another creature, but which has never morphologically contained any of the living parental characteristics of its host. Such a definition will, I think, narrow down the meaning of the word, and give us grounds to characterize a given creature definitely as to whether it is a parasite or not.—I am, etc.,

London, S.W., Dec. 11th. H. C. ROSS.

THE NATURE AND ORIGIN OF CANCER.

SIR,—In a pamphlet dated June, 1909, I put forward a theory of cancer which I venture to say goes one step further than that of Sir Henry Butlin, who, in his lectures on "Unicellula Cancri," has been guilty of the simple logical fallacy of "begging the question." It is neither scientific nor sufficiently explicit simply to say that the cancer cell has been endowed with the wondrous gift of life, and that the host has fashioned it out of his own tissues, and it has become an independent creature—a new creation of a living thing. The scientific mind inquires further and asks "How?" and is not satisfied merely with empty phrases. The theory I tried to elaborate is based mainly on Weismann's conception of germ-plasm, but does not necessarily involve the very numerous assumptions associated with it. Briefly stated, the theory is as follows:

From a physiological point of view the animal body consists of two kinds of cells—the somatic and the germ cells, whose difference of function is well known. According to such authorities as Minot, Weismann, and Metchnikoff, the somatic cells of the body have lost their power of unlimited multiplication, potential immortality being only retained by the reproductive cells for the express purpose of perpetuating the species. Weismann thinks that the power of unlimited multiplication was lost in the somatic cells when it ceased to be of use; but the explanation is probably bound up in the problem of differentiation of cells and the division of labour.

Now, according to the prevalent theories of heredity as worked out by Weismann and others, it is maintained that each cell is dominated by a specific hereditary substance termed "idioplasm," which is now identified with the chromatin of the nucleus. This substance controls and determines all the qualities of a cell (it varies for each kind of differentiated cell), and is the bearer of hereditary qualities in cell division, which process it directs. In the segmentation of the fertilized ovum, the germ plasm (or specific idioplasm of the germ cell) splits up in a systematic and qualitative manner, thus determining the process of ontogeny. But this does not happen altogether, for the germ cells which are to produce eventually the reproductive cells proper are more or less early set aside from the somatic cells, and do not take part to any great extent in the marked differentiation which characterizes the behaviour of the body cells. The germ cells retain their early embryonic characters, and contain original undifferentiated germ plasm in a latent but slightly altered form, still with the power of indefinitely continued division, but without the power of specialization necessary for ontogeny, unless as reproductive cells subsequent fertilization occurs.

In order for somatic cells, whose energy of cell division is nearing exhaustion (local senescence), to gain the power of continued reproduction as a response to persistent stimulation, it would seem necessary to transfer some of the original undifferentiated idioplasm of the germ cells prior to their specialization into sexual cells proper—that is, spermatozoa or ova—to the somatic cells under consideration; for, according to Weismann, the specific idioplasm of a somatic cell cannot be reconverted into original

germ plasm, and atavistic characters such as cancer cells possess can only be explained in terms of the hereditary substance. I suggested that the cells with exhausted energy of cell division now began to exert an attraction—a positive chemiotaxis for germ cells or for their specific idioplasm—the germ plasm.

Now, although the active migration of germ cells is not unknown in nature, yet it hardly seems likely under the circumstances we are discussing; the only alternative assumption is that some special "carrier leucocyte" takes up the germinal idioplasm and migrates towards the somatic cell, being attracted thither by chemiotaxis. The conjugation of two such cells might account for the cancer cell with properties of both—that is, with the reproductive power of germinal cells, but dominated by its own specific idioplasm, and therefore retaining more or less it own specific character.

So far as the animal body is concerned, this process of auto-fertilization would presumably result in a new species of cell (not a protozoan or new independent living creature as Sir Henry Butlin supposes), but a sort of hybrid cell with renewed power of multiplication, and which in the vigour of youth runs riot and devours all before it, thus constituting the rapidly multiplying cancer cell. It will be seen that on this germ-plasm theory the cancer cell is thus closely related to the spermatozoon of the same host, hence, perhaps, its analogy to the living parasite.

The conditions which predispose to the exhaustion of the energy of cell division, and which indirectly predispose to cancer are (1) age, and (2) prolonged reproductive activity of cells, whether as a normal process of repair oft repeated, or as a direct response to some irritant; for it is now known that some physical, chemical, and pathological agents have the specific power of inducing proliferative activity directly.

It is impossible to go into detail here, but I may say that most of the primary phenomena of cancer can be accounted for on this germ-plasm theory, and, like Sir Henry Butlin, I would say a diligent search is required to find the two or three essential phenomena of cancer which are not explained by it.

In conclusion, if this germ-plasm theory is an approach in the right direction, it might suggest new means of attaking the cancer problem, such as a study of the relative behaviour of cells from the point of view of chemiotaxis.—I am, etc..

London, E., Dec. 8th. F. B. SKERRETT.

SIR,—I think the standpoint from which Sir Henry Butlin approaches the problem of cancer is the only logical one. The human body may be compared to a huge army of soldiers—each cell a soldier—arranged in methodical groups, each group knowing and doing exactly the work expected of it. But there must be a controller of this huge army, otherwise disorganization results. Sir Alfred Pearce Gould, in his Bradshaw Lecture, stated that the knowledge of the law which governs cell growth is the power required to prevent, to control, and to cure cancer. There must be a governor of cell activity somewhere in the body, and the fact of carcinomatous growth occurring after middle age makes one wonder in which part of the anatomy the governor exists, also affected by the lapse of time, degenerating, and thus losing its governing power.

Mr. Kenneth Campbell, in a letter published in the JOURNAL (January 28th, 1911), asks: "What hidden force is it which lashes the epithelial cells into such unwonted reproductive activity?" I rather ask: "What hidden force is it, now absent, which, up to the present, has prevented the epithelial cells, lashed into unwonted reproductive activity by continued local irritation, from becoming continuous and going far beyond the reparative process?" It is surely a secretion, which is absorbed into the blood and acts chemically on cell processes. Drs. Ross and Cropper have induced cell division in human leucocytes and in epithelial cells by the agency of certain chemical substances—namely, kreatin, xanthine, and substances containing the amidine grouping. For this secretion, this regulator of cell growth, we naturally look to glands which are comparatively large in the young. Such glands are the ductless glands. We know that the thyroid, the pituitary body, and the adrenals are intimately associated with the metabolism of the organism. The physiology of the thyroid is well known; the pituitary body has been designated by Woods Hutchinson the growth-centre; hyper-pituitarism results in acromegaly and gigantism; hypo-pituitarism in infantilism. Experimental evidence also is in favour of the view that the adrenals furnish an internal secretion essential to normal metabolism.

Having these facts in mind, I asked Burroughs, Wellcome, and Co. to remove from a sheep the thyroid, adrenals, and the entire pituitary body—for it is the secretion of the anterior lobe of this body which is concerned in tissue metabolism—to thoroughly triturate them, and make some tabloids. This they carried out carefully, with the result that each tabloid contained glandulae thyroidei grains 6, glandulae suprarenalis grain $\frac{3}{4}$, and corporis pituitariae grain $\frac{1}{15}$.

On June 23rd last I was consulted by a lady, aged 46. She complained that for the last few months there had been gradually increasing difficulty in swallowing, and that she could now only take liquids very slowly. With the finger one could feel an irregular obstruction at the upper part of the gullet; beyond this it could not pass. The breath was offensive, and occasionally she "hawked" up phlegm tinged with blood. She was weak, and trembled at the knees. The diagnosis was that of carcinoma of the oesophagus. In the course of a few weeks she got much worse, had attacks of fainting from sheer weakness, looked ill, with shrunken, listless eyes, and evidences of the cancerous cachexia. I sent her at this time to a Liverpool surgeon with a view to, at any rate, a partial removal. He confirmed my diagnosis, confessed his inability to operate, and gave a hopeless prognosis.

On July 31st I put her on these tri-gland tabloids—one night and morning. She did not improve; neither, however, did she get worse. It was at this time I had the utmost difficulty in dissuading the relations from taking her to a quack. In the course of two months, however, one could see a very slow, gradual improvement, and this was more rapid during the following two months. She gathered strength and weight, lost her weary look and became more animated, and had not such difficulty in swallowing liquids—the grains of Benger's Food, as she called them, still gave her trouble. A month ago I increased the dose of tabloids to three a day. She was then able to swallow bread and butter well masticated.

On December 2nd I found her, as she declared, "As well as ever I was, and can swallow everything except butcher's meat"—indeed, I have a shrewd suspicion that she was anxious to dispense with my services altogether, being an honest woman, and afraid of her liability to me. The breath is no longer offensive, and she does not now use the spray (menthol). The tabloids produced no ill effects whatever.

But after all, an ounce of practice is worth a ton of theory. I do not get many cases of carcinoma, and I should like others, more fortunate, to try this treatment.—I am, etc.,

Wigan, Dec. 3rd. J. THOMSON SHIRLAW.

SIR,—With reference to Sir Henry Butlin's suggestion as to the *fons et origo cancri* may I be permitted to quote a paragraph from *The Present Evolution of Man*, written more than fifteen years ago by Archdall Reid?

> Sometimes, though rarely, this or that cell-descendant of the germ reverts to the very remote unicellular ancestral type, in so far that it does not multiply at a rate bearing a definite proportion to the rates of multiplication of its other co-descendants of the germ-cell, but at a rate that has no definite proportion to them, and is only proportionate to its supply of nutriment and powers of assimilation. There then results the morbid condition which is known as a tumour (cancer), in which the cell-descendants of a cell which has so reverted to the remote ancestral type form a more or less spherical mass which performs no definite functions beneficial to the whole mass of the cell-community, but is rather a deadly encumbrance.

—I am, etc.,

Portsmouth, Dec. 2nd. C. MARSH BEADNELL, Fleet Surgeon, R.N.

SIR,—Having regard to the views of Sir Henry Butlin and Sir William Collins, I think it only fair to call their attention and their readers' attention to a remarkable book published in the early part of this year, *Disorders of Post-Natal Growth and Development*, by Hastings Gilford, F.R.C.S. It appears that others have been working out the parasitic and protozoan affinities of cancer, as in the above-mentioned book this subject has received masterly treatment, and the theory has been carried beyond the stage at which both Sir Henry Butlin and Sir William Collins leave it. Dr. Gilford, I notice, discusses the causes of the change and contends that cancer formation is as much a biological as a pathological process, and that it has its origin in normal events carried to a pathological extreme.—I am, etc.,

Caversham, Dec. 4th. CECIL L. LAKIN, M.D.Lond.

Sir,—I think Sir H. T. Butlin has, as near as possible, solved the cancer problem. The missing link in the chain of evidence is that which converts the natural cell into a protozoon or vital unit. Now, may that change not be produced by electricity generated by friction or irritation, continued, it may be, for months or even years, without the individual suffering any convenience or being conscious of its presence? The exciting cause may be external, as in the case of the chimney-sweep, or it may be due to some abnormal changes in the capillary vessels of the part. We know that electricity will greatly increase the growth of living vegetable cells; is it not feasible, then, to suppose that a modified form of it in animal life may convert the natural tissue cell into a new creature, the germ or parasite of cancer? Many natural philosophers maintain that the origin of life on this planet was due to electricity under conditions that can never be repeated. Whether it was or is the primary cause of life remains a mystery; but it is to the almighty electron that we must look for the origin of matter, energy, and life.—I am, etc.,

Ardrishaig, Dec. 4th. Allan Wilson, M.D.

Sir,—The position as to the origin of cancer seems to be: (1) That the cancer cells are germ cells, descendants of and similar in nature to the parent cancer germ cell; (2) that the parent cancer germ cell is found amongst the tissue cells, and is itself a transmuted tissue cell. The question then arises, Has there been brought to the parent cell any fertilizing agent? It is this question which would seem to offer a field for research. To dismiss the matter as heterogenesis is not enough. There is no finality about that, and it smacks too much of Mesopotamia. As regards the starting-point of cancer, it may be remarked that the testis and the medulla of bones, where the cancer cell grows most rapidly, are the most common situations to find multinuclear and giant cells, and as to the metastases the lungs would seem, reasonably, to be the most likely situations, because they form the periphery of one system of the circulation, and they would be the first stopping-places for cancer cells which have obtained access to the pulmonary circulation, just as the liver would collect from the portal system, and the lymphatic glands from the primary growth.

As to mode of growth: to fertilize one of the tissue cells would be to convert it into a germ cell, and to endow it with the power of infinite multiplication (by the process of endogenous formation), and as long as the germ cells were produced, the mass would have the well-known features of malignant growth. If, however, tissue cells as well as germ cells were produced by the multiplication of the fertilized parent germ cells, then the growth would tend to diminish, the cells fail to maintain themselves, and pass into degeneration in a corresponding degree. This, in fact, does occur, as Sir Henry Butlin says, much more frequently than is supposed.—I am, etc.,

Stowmarket, Dec. 9th. H. T. Dufton.

Sir,—In his second lecture on this subject, Sir Henry Butlin sums up what he considers to be "the vital difference" between cancerous and normal cells as follows: "Implant the normal cell, and you cannot make it live. Implant the cancer cell, and you cannot kill it." I have always understood, however, that, in the early days of skin grafting, experiments were made in transplanting epithelial grafts from coloured persons to white, and vice versa. These in many cases took root, and proliferated, so that large raw surfaces became covered with foreign epithelium from a few small patches.

If this be true, then the distinction above quoted cannot be said to hold good.—I am, etc.,

Bishop Auckland, Dec. 9th. Francis Hernaman-Johnson.

SWEETS IN CHILDHOOD.

Sir,—As a contribution to the discussion on this subject I venture to quote from a book published some years ago —*The Hygiene of the Mouth*:

> Many believe that sugar injures the teeth by inducing caries, and therefore sweets are debarred. It may be well to remind the reader that the ferment of saliva, known as ptyalin, converts starch into sugar. This sugar is acted upon by the bacteria of the mouth, producing lactic acid.

Miller[1] states as the result of his wide experience and experimental research:

> I consider starch and amylaceous substances more detrimental to the teeth than sugar, particularly as sugar, being readily soluble, is soon carried away or so diluted with the saliva as to be rendered harmless, whereas amylaceous matter adheres to the teeth for a greater length of time, and consequently manifests a more continued action than sugar.
>
> This statement accords with our own experience, especially among the poor in the hospital, where children of 2 or 3 years of age are found with scarcely a sound tooth, and the teeth, or what remains of them, coated with the remnants of bread or biscuits. This material nearly always gives an acid reaction when tested with litmus paper.
>
> To deprive children of wholesome sweets at suitable times in order to preserve their teeth is a mistaken idea. It also deprives them of nourishment, for it is well known that sugar is an important food.

Since that was written I have had no reason to alter my opinion; in fact, further experience has only confirmed it; and few are bold enough to question the experimental researches of the late Professor Miller, to whom we owe so much knowledge of the bacteriology of the mouth.

We dentists who have been so long engaged in placing before our medical brethren the importance of dental disease as a factor in the production of other diseases, and who are also profoundly satisfied that medical officers of health are taking an interest in the subject, will have to be careful of our advice lest we be regarded as faddists. Toothbrushes have been indicted, and now sweets are threatened. Presumably Dr. Sim Wallace has in mind the rubbish sold as sweets, and if so the less of that rubbish the children eat the better.

Dr. Skerrett's well-timed extracts from Herbert Spencer's *Education* should induce your readers to consult this work, both for their own sakes and their children's. His profound insight into physiological needs was a revelation to me as a student.—I am, etc.,

London, S.E., Dec. 5th. R. Denison Pedley.

Sir,—Considering the state of the teeth and the amount of malnutrition among school children, even when there is no lack of food, I think we shall agree with Dr. O. Hildesheim that the time is ripe for some plain speaking on this subject. He is quite right, too, in assuming that by "studied opinion," I meant an opinion which had been arrived at as the result of the study of certain phenomena, clinical or experimental, or both. Some of the experimental evidence, which is too long to give here, he will find in the late Dr. W. D. Miller's famous work on the micro-organisms of the human mouth. Suffice it here to say that only in the presence of a certain amount of carbohydrate (starch or sugar, or both) can dental caries be produced in laboratory experiments. Other experiments by Dr. Miller showed that while the amount of acid formed from meat, fish, fat, and raw vegetables in twelve hours is *nil*, the amount of acid formed from starch in the same time is 20 units, and from sugar 17 to 19.

With regard to clinical observation or experiments the simplest is what may be called the "look and see" experiment; in other words, give two or three children some chocolate, and some time—say a quarter of an hour—after, look into the mouth and observe the crevices in the first or second permanent molars, and observe that chocolate is to be seen in some of the crevices. Look again a quarter of an hour later, and still some chocolate will very generally be seen in the deeper crevices where caries generally starts. In another half hour look again, this time with a mouth mirror in a good light, and still a certain amount of chocolate may be visible. If, in addition to this, a child is habitually supplied with food of a non-detergent nature so as to allow the micro-organisms to flourish on the teeth, we may be justified in saying that after the eating of chocolate the state of the mouth "may be most unhygienic and objectionable."

Another piece of evidence bearing upon this point is the fact that among recruits for the German army farmers have the smallest number of carious teeth, 6.4, while confectioners head the list with 15.6. One may safely assume that confectioners brush their teeth at least as frequently as farmers.

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[1] *The Micro-organisms of the Human Mouth*, p. 207.

It is not my intention, however, to go into the evidence as to causation which has accumulated since the pathology of the disease was scientifically elucidated. I wish merely to indicate that "the studied opinion" is the result of experimental, statistical and clinical evidence.

Since Dr. Hildesheim seems to be anxious to hear on what grounds I base my views, it may be of interest to him to consult my recently published pamphlet entitled *The Prevention of Dental Caries*.—I am, etc.,

London, W., Nov. 29th. J. SIM WALLACE.

SIR,—There are doubtless few, if any, members of the profession who would be found to dissent from the opinion expressed by different correspondents, that to find means for the prevention of dental caries is a question of considerable importance; but before an attempt can be made to effect this in any very much greater degree than is at present the case, it is, I conclude, requisite that the causation should be known.

The theory, which is supported by some dental surgeons, is that caries may be ascribed to the action of acids produced by the fermentation of retained portions of various carbohydrate foods between the teeth, which destroy the enamel and thereby facilitate the entry of bacilli that effect a disintegration of the dentine. On analysing this view it is seen that although the affection is attributed to the use of carbohydrate foods, of which sugar is now being especially condemned as harmful, the cleansing of the teeth directly after partaking of the latter, and the same applies to other carbohydrates—among methods recommended for accomplishing this being the eating of fresh fruit—is said to prevent any ill effects which may be thus occasioned. The theory, therefore, resolves itself into little more than one which has been advanced many times—namely, that decay is due to lack of cleanliness in regard to the teeth and mouth.

The acids that are formed in the mouth by fermentation and putrefaction are recognized to be an exciting cause, but the main factor in the occurrence of caries rests, I think, on a different basis; and, briefly stated, is dependent on the predisposition induced by various agencies, elsewhere alluded to, that decrease the quality of the blood, and thus, through the medium of the lymph, can produce defects either in the chemical constituents of which dentine and enamel are composed, or in the formation of the teeth, in this way rendering them liable to be affected by adverse influences in the mouth. Dr. Coats says in his *Manual of Pathology* (fifth edition):

> It may be that before the teeth yield to an undue acidity they have an already abnormally weak power of resistance, and this may be related to personal peculiarities inherited or otherwise.

—I am, etc.,

Oxford, Dec. 9th. A. STAYT DUTTON.

THE VARIETIES AND TREATMENT OF ASTHMA.

SIR,—In connexion with the question of nomenclature which gave rise to this discussion the following points may be worth noting: The special heart feature noticeable in the ordinary case of confirmed spasmodic asthma is its soundness and endurance. The recurring attacks are usually more damaging to the lungs than to the heart. Indeed, they almost seem to act as a tonic exercise for the left heart. Dr. Harry Campbell even suggests—but I cannot quite agree—that they also favour the work of the right heart in proportion to the pulmonary distension. If the heart should ultimately give way, they are not often directly responsible for its failure, but only indirectly through the chronic emphysema which they gradually determine. There is a great contrast between this underlying efficiency of the circulation and its progressive disablement which precedes the onset of so-called "cardiac asthma." In its respiratory aspect also this is more of the nature of a climax in a growing pulmonary embarrassment than of a sudden seizure in which spasm is the early or the central determining agent. The panting inspiratory hyperpnoea which is distinctive of purely cardiac dyspnoea is based upon its freedom from expiratory obstruction. And the means to allay it is to regulate the respiration and to obtain a more efficient inhalation of air or of the oxygen we may supply by deepening the shallow expirations. Here, however, there is a spasmodic element undoubtedly present, and undoubtedly related to the main condition, which is cardiac. But the pulmonary congestion of heart disease does not exclude the possible operation of the ordinary factors of asthma, and especially of the gastric and of the bronchitic factors, which are often conspicuous at this stage. We should bear in mind, too, that a comparatively slight degree of bronchiolar spasm might then suffice to act as a last straw in setting up a paroxysm; and the same is true of the asthmatic complications sometimes superadded to the dyspnoea of chronic phthisis. These points of difference illustrate the inherent difficulty in any attempt to identify the mechanism of cardiac or of renal asthma with that of genuine nervous spasmodic asthma. But the clinical condition is definite, and as there is for it no name equally convenient and descriptive, we may perhaps be content to continue to secure clinical clearness by still using the old term, with all due pathological reservations.

In venturing to follow Dr. Harry Campbell in his excursion into the wider subject of dyspnoea, my chief excuse must be the therapeutical perplexity which would arise from an unchallenged acceptance of his ingenious theory. Granted that in any case of asthma we may have failed to identify the *causa causans*, it is the dyspnoea itself which becomes the immediate object of our rational treatment. Yet, unless his remarks have conveyed a wrong impression, he would seem to welcome the progressive pulmonary distension, which we are accustomed to identify with the essence of the asthmatic deadlock, as Nature's method of cure. That optimism would be unimpeachable if we could regard as a satisfactory solution the eventual suppression of the spasm by the asphyxial exhaustion in which the paroxysm culminates spontaneously; but that is not the patient's view. Among the various comments which suggest themselves I need only mention the following:

The best that might be said for a chestful of stagnant air is that it is better for all the oxygen which it contains than the stagnant air in a collapsed lung. The most urgent of all dypsnoeas is that of the *inspiratory* stenosis of glottic obstruction or spasm, or of a valvular obstruction of the trachea. This is a fatal exception to the "law" that in all cases of dyspnoea the chest tends to increase in size. In this instance it suffers a progressive diminution, although we fully admit that the muscular struggle is for its expansion. But we fail to perceive that in asthma that law can operate otherwise than adversely. We still adhere to the old view that asthma is practically an *expiratory* stenosis, by relative disparity of the expiratory forces, although we recognize the possibility so well argued by Dr. Watson-Williams of a rhythmic constrictor spasm. That disparity must grow, *pari passu*, with the stretching of the expiratory muscles, and these can only be restored to efficiency by some instalment of diaphragmatic and thoracic reduction. The troublesome aspect of that law is that any form of respiratory discomfort invariably calls forth an inspiratory effort, even when expiration is the only requirement—as in the expanding lung of asthma which is still provisioned but ill satisfied with its available store of oxygen. As less air is able to escape, so much the greater becomes the respiratory stimulus of the accumulating carbon dioxide, until the hypercapnia reaches an asphyxial percentage and breaks the vicious circle.

Let us be practical in our treatment, though this may be only symptomatic. If gentle pressure should be tolerated, let us gratify the inspiratory anxiety and render it effective by careful rhythmic expiratory compression, least resented and most effectual when administered from behind with mainly dorsal and lateral pressures, to assist the helpless expiratory muscles, whilst getting rid of some of the carbon dioxide. Oxygen, which is usually disappointing, might then be of use if inhaled simultaneously. Carbon dioxide is contraindicated unless we should be bent upon hastening the asphyxial cure. At most it might be tried only tentatively for the sake of its regulating power and of its local anaesthetic effect, on the strength of the singularly various response of asthma to paradoxical remedies. Our next concern is the relief of the bronchiolar obstruction. Pilocarpin is a double-edged weapon; but in the absence of contraindications and with the proviso of careful watching we might try the effect of an adequately large dose of potassium iodide with plenty of hot water as most likely to hydrate the adhesive mucus and to modify the glandular

action. It will also tend to lessen the spasm and to favour the action of our antispasmodics. As regards the latter, after hearing the praises of such opposites as adrenalin and amyl nitrite, or morphine and atropine, we may well ask which is the rational remedy for the spasm. No harm can result from a small subcutaneous injection of nitroglycerine. But of all remedies morphine will probably be most appreciated by the patient, although it may be wise to combine it with atropine and to prescribe the injection under that name. The treatment of the interval affords plenty of rational indications, but that is too large a subject for your space.—I am, etc.,

WILLIAM EWART.

London, W., Dec. 3rd.

SIR,—Dr. Watson-Williams asks me to explain in terms of the vasomotor theory some clinical facts which he considers incompatible therewith. I will do my best. But to do so it seems necessary once more to insist upon the fact that in the vascular engorgement of the bronchiolar mucosa constituting the obstruction to respiration, there are two entirely separate, but equally important, vascular factors: (1) The peripheral vaso-constriction; and (2) the localized (bronchiolar) vaso-dilation. The critics of the vasomotor theory for the most part persist in ignoring the former.

1. Why do we not, as a rule, have asthmatic symptoms in acute bronchitis? Because in acute bronchitis there is present only the second of the vascular factors of the engorgement—namely, the bronchial vaso-dilation. Not only is there, as a rule, no peripheral vaso-constriction, but, in accordance with the fact that acute bronchitis is a fever, there is a certain degree of the opposite condition—namely, peripheral vaso-dilation—a vaso-dilation which we quite properly do our best to increase by means of hot applications to the surface of the chest.

It is true that at the beginning of an attack, that is, during the chilly stage, there is a tendency to peripheral vaso-constriction, just as there is at the same stage of, practically, all fevers; but then, that is just the stage in which, according to Dr. Watson-Williams himself, definite asthmatic symptoms *are* liable to appear.

2. How explain the action on the asthmatic paroxysm of morphine and chloroform? Morphine abolishes the first of the two factors of the vascular engorgement, the peripheral vaso-constriction. After an adequate injection of morphine, the skin, from being anaemic and cold, becomes flushed and warm: the radial, from being constricted, dilates, and the sphygmomanometer shows that the blood-pressure falls decisively. Any medical man who has once been unfortunate enough to inject a full dose of morphine into a vein, will never again question the general vaso-dilative action of morphine; the signs are even more conspicuous than after an inhalation of amyl nitrite. This fact, though not, I think, mentioned in textbooks, is well known to all morphinists, and to all medical men having special experience of drug habits. At the same time, morphine may act also in ways other than by promoting vaso-dilation; it may, for instance, afford relief by reducing the craving for oxygen through its action on the respiratory centre.

Chloroform, I believe, relieves the asthmatic paroxysm mainly by abolishing the second factor in the vascular engorgement—namely, by directly promoting vaso-constriction in the dilated bronchial area. There are two grounds for arriving at this conclusion: (1) A few whiffs of chloroform will often relieve instantaneously for the time being vasomotor nasal obstruction, giving complete freedom of nasal respiration. This has always succeeded in my own case, but I admit it fails sometimes in others. (2) Hyde Salter says of a case of asthma in which he administered chloroform vapour: "The *first act* of inspiration was accompanied with a sensible relief *long before the blood charged with chloroform could have reached the nervous centres*" (italics mine).[1] Direct vaso-constriction of the dilated bronchial area and consequent relief from dyspnoea, has been effected also by inhalation of cold air, adrenalin spray, and even finely powdered alum (Hyde Salter). At the same time it need not be claimed that all the relief afforded by chloroform depends on direct vaso-constriction. The drug may act also by dilating the periphery. Incidentally it may here be pointed out that all arguments in favour of the bronchial spasm theory, which are founded on the "antispasmodic" action of drugs in asthma, are really beside the mark. Both the bronchial spasm and the vasomotor theories connote muscular spasm. In the former the spasm is regarded as affecting the circular fibres of the bronchial tubes; in the latter, the circular fibres of the middle coat of the peripheral arteries and arterioles. Both sets of fibres are of the same non-striated variety, nor is there adequate reason to suppose that the one would be more readily acted upon than the other.

3. In pointing out that the vascular engorgement had often been seen in those parts of the respiratory tract which are exposed to view, I did not intend to convey the idea that it had often been seen in all the visible parts simultaneously, nor in all during the actual progress of the asthmatic attack, and certainly I did not mean to suggest that laryngoscopic examination during a paroxysm was an easy task. I have myself frequently seen the turgescence in the nose, and in the tissues of the palate and pharynx; but, as Dr. Harry Campbell stated in his letter in your issue of December 2nd, the engorgement in the upper parts of the respiratory tract has often disappeared by the time it has begun to affect the terminal bronchioles, and so give rise to the asthmatic dyspnoea. Consequently it may frequently have ceased to be present in the larynx and trachea before it reaches the small tubes. Indeed, in many cases no doubt it affects the latter exclusively. As far as I know, the engorgement in the lowest visible passages was first seen by Störk, who "actually observed with the laryngeal mirror that, in certain instances of asthma, the whole length of the trachea, and part of the right bronchus, were deeply congested."[2] Moreover, Fraenkel had the almost unique opportunity of making a *post-mortem* examination on a case in which death had occurred during an asthmatic paroxysm. The changes found were limited to the smallest bronchi—that is, to tubes which still retain their stratified columnar epithelium, but which have lost their cartilages and glands, and which are about to break up into the alveolar passages and infundibula; and these pathological changes were entirely consistent with severe vascular engorgement during life.[3]

4. I am unable to help in elucidating the reason of the "expiratory dyspnoea of asthma"; but that is because I am unable to believe in its existence. Having been for upwards of fifteen years a resident in general hospitals of some size, I have had ample opportunity for examining cases *during the paroxysm*, and I can safely state that on no one occasion have I seen what I understand is regarded as expiratory dyspnoea. Expiratory dyspnoea must imply an effort—muscular effort—to expel air from the lungs. This has always been absent; indeed, the muscles of expiration, notably those of the abdomen, have always been more or less flaccid (certainly never violently contracted) during expiration. Herein they contrast markedly with the muscles of inspiration, which are contracted not only during inspiration—when naturally their contraction is most extreme—but also to some considerable extent during expiration. This observation seemed so hopelessly at variance with the many textbooks that I long lacked the courage to put it in print. Now, however, the observation has been made by others. Starling says the asthmatic "type of breathing is often described as being marked by expiratory dyspnoea. This description is, however, erroneous. The muscles, which in these cases are contracted to their utmost, are the inspiratory muscles; the expiratory muscles, such as the abdominal, will be found to be quite flaccid during expiration."[4] What has apparently been taken for expiratory dyspnoea is the admitted prolonged expiration of asthma. The explanation of this phenomenon need not here be repeated, as it was clearly stated by Dr. Harry Campbell in his letter in this JOURNAL of December 2nd.

In conclusion, may I be permitted to suggest that the controversy hitherto seems a little one-sided? I have tried to answer seriatim the points put forward in support of the bronchial spasm theory. On the other hand, in my letter of November 25th I put forward more than twenty points all of which seemed to me to support the vasomotor theory. None of these have been controverted.

I am, etc.,

FRANCIS HARE.

Beckenham, Dec. 17th.

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[1] *On Asthma*, 1868, p. 217.

[2] Goodhart, in *Allbutt's System of Medicine*, vol. v, p. 309.

[3] J. J. Perkins, in the *Practitioner*, 1900, p. 447.

[4] *Textbook of Physiology*, E. A. Schäfer, vol. ii, p. 312.

SIR,—There can be no doubt of the accuracy of the remark made by Dr. Auld—that certain of your correspondents have been wandering away from the point originally raised by Dr. Mackenzie. This is not the case, however, with the interesting remarks of Dr. Watson-Williams. He surely, however, has not taken the trouble to read my introduction to the discussion, at which we were all sorry not to have the benefit of his assistance. In these remarks, his interesting suggestions were not only mentioned, but the following sentence actually occurs: "It seems to me that this is not merely a reasonable, but a probable suggestion." To my mind it is practically certain that there is a rhythmical contraction and dilatation of the bronchials and bronchioles, and that there is, further, a disturbance of the normal balance between contraction and dilatation in asthma. This belief does not in any way militate against the conception that, in such a disturbance, the contraction of the tubes is the predominant factor in the affection.

Another point to which reference should be made is the production of emphysema but, as this was so fully explained in my introductory remarks, it seems unnecessary to recapitulate what was then stated so definitely.

The communications of Dr. Hare and Dr. Francis are of the greatest value, and form an important addition to the literature of asthma. It is satisfactory to find that our colleagues still possess an open mind in regard to the etiology of the affection. Dr. Hare admits that there is no direct evidence in support of either the view which he advocates or that which commends itself to my judgement; but he forgets that, while it is easy to produce experimentally (as has been done by Brodie and Dixon in the physiological laboratory) a complete representation of all the essential phenomena of asthma, through contraction of the tubes, no one has ever yet succeeded in producing anything like it by vasomotor changes. It is assuredly a most interesting fact that there is no experimental evidence in favour of a hyperaemic paroxysm, in spite of the vasomotor control over bronchial as well as pulmonary vessels. Constriction of the superficial vessels, associated with dilatation of the bronchial vessels, cannot be put upon the same level as peripheral constriction and splanchnic dilatation. Not one of the seven heads mentioned by Dr. Hare is antagonistic to the view advocated by me—that spasm of the muscular coats of the tubes is the essential feature of the affection.

The only point in the letter of Dr. Francis requiring remark is that bearing on the use of certain drugs. It seems to me that he forgets or ignores the fact that the drugs he refers to act on unstriped muscle in the same way, whether in the arterial coats or in the bronchial walls.

Dr. Verdon's views, even with the qualification which he has now added, appear to be far too narrow. This is not the place to discuss theories explaining the phenomena of angina pectoris; but in my Morison Lectures a great amount of evidence was adduced in favour of the view that efferent impulses not merely travel to the bulbar region by the vagus, but also to the spinal region by the cardiac nerves. No doubt experimental evidence of this belief will be forthcoming before long. In my previous letter Dr. Verdon's attention was called to the fact that his assertion as regards pulmonary and coronary arteries has been shown to be absolutely baseless by the observations of Dr. Argyll Campbell. Since the date of that letter Professor Brodie and Miss Cullis[1] have proved beyond possibility of doubt that the coronary arteries have both constrictor and vaso-dilator nerves, both derived from the sympathetic system—the former being, as would only be expected, the more powerful. In a region exactly analogous, we may expect before long to have experimental proof of the belief stated in those figures.

The letters of Dr. Harry Campbell, "A General Practitioner," and Dr. George Mahomed are, from every point of view, most interesting; but the various questions with which they deal have been already fully discussed in this correspondence.—I am, etc.,

G. A. GIBSON, M.D.

Edinburgh, Dec. 4th.

[1] *Journal of Physiology*, 1911, vol. xliii, p. 313.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY INDUCING AN ARTIFICIAL PNEUMOTHORAX.

SIR,—Dr. Stuart Tidey, in his interesting letter published in your issue of December 2nd, assumes that a lung which has been healed by an artificial pneumothorax cannot fill the thoracic cavity, as cicatrization of much of the pulmonary tissue has diminished the volume of the lung. But the walls of the thoracic cavity, even in the adult, readily adapt themselves to the altered conditions. The chest wall falls in on the affected side, the diaphragm rises, and the heart is drawn over till no "residual interval" is left between the chest wall and the lung, even when it is considerably diminished in volume. And yet this occurs without any great external deformity or spinal curvature.

It is curious how little even a complete pneumothorax embarrasses respiration when once the thoracic organs have adapted themselves to altered conditions, and a patient may be able to walk at the rate of three miles an hour on the flat with a large left-sided pneumothorax extending more than two inches to the right of the middle line and displacing the heart so that its apex is palpable in the right mid-axillary line.—I am, etc.,

Gorleston-on-Sea, Dec. 5th. CLAUDE LILLINGSTON.

ACUTE POLIOENCEPHALOMYELITIS IN CORNWALL.

SIR,—In the monthly reports for this year of the Cornwall County Council upon the health of their urban districts I find that Penryn had the highest zymotic death-rate of any town in March, was equal second in May, was second in June and August, and in September was highest again with the figure of 19.42. These facts speak for themselves. Dr. Blamey has admitted the state of the river, the list of diseases which in my last letter I said had been present in the town and that there are defects in the sanitation of the town. It is evident that he does not appreciate the import of our paper on poliomyelitis, which I may venture to say has been well received by the medical profession generally. I do not wish to trespass further upon your toleration and as far as I am concerned this controversy must cease.—I am, etc.,

Penryn, Dec. 11th. LEONARD B. HOPPER.

Medico-Legal.

TOWN COUNCILS AND FEVER CASES.

IN Dundee Sheriff Court on November 27th an action was brought against Dundee Town Council for £60 as damages for the alleged consequences of their allowing the daughter of the pursuer to be discharged from their fever hospital before the fever had run its course; these were that three other children became infected. The Town Council denied negligence, and pleaded that the action was irrelevant and incompetent. The Sheriff dismissed the action on the ground that pursuer's averments were not relevant. In a note the Sheriff said he did not think it could be maintained that the medical officer was the servant of the defenders. His appointment was regulated by the Public Health (Scotland) Act, 1910, and he could not be removed from office except by the Local Government Board.

ATTENDANCE ON THE FAMILY OF A MEDICAL PRACTITIONER.

THE case of Corbin *v.* Stewart, which was decided last week by Mr. Justice Scrutton in the King's Bench Division, involved the consideration of a usage hitherto, we believe, uncanvassed in any court of law. A widow sold the practice of her late husband to the defendant, who went to reside in her house in order to obtain the necessary introduction. While there he attended her children and cook professionally. A dispute having arisen as to the sale of the practice, the widow brought suit to recover the purchase money. The defendant counterclaimed for (*inter alia*) his fees for attendance. The plaintiff in her reply pleaded that it was an immemorial custom of the medical profession to attend members of the profession, their wives, widows, and families without fee. Mr. Justice Scrutton said: "I am quite clear that although there is no binding custom, there is a very general practice among medical men, to their honour be it said, not to charge the widow and children of a diseased medical man for attendance shortly after his death. I need not go further than that." He went on to say that although where nothing was said there was an implied contract to pay a professional man his ordinary charges, that implication fell to the ground where, according to the practice of the profession, the ordinary charge is not made. It will be seen that

the learned judge did not extend the custom one inch beyond what was necessary for the decision of the case. His ruling could not be quoted as an authority for the proposition that a medical man is bound, by custom, not to charge for attendance upon a brother practitioner, his wife, and family. Yet if anyone knows that he is likely to be made the victim of an abuse of any such kindly custom, he will be well advised to take the proposed hint of the judge who tried this case. He said: "I think that in a case like the present, if a doctor intends to charge he must say so, thus giving the patient the opportunity of declining his services and of going to another doctor who will not charge."

WORKMEN'S COMPENSATION.

Privilege Claimed for Medical Reports.

IN a case at Liverpool (November 20th) it appeared that a stokehole labourer, aged 55, on one of the White Star liners met with an accident in March, 1909, sustaining injury to his head. He complained of pains in the head for a considerable time. In August, 1911, acting under medical advice he went to a hospital, where he underwent an operation, but he died on August 6th, cerebral abscess being given as the cause of death. The widow having claimed compensation on behalf of herself and her four children, the employers paid £10 into court. The widow was willing to accept this sum, but the county court registrar being of opinion that the amount was inadequate, invited the company's solicitors to let him see any medical reports there might be in existence in relation to the man's death. The solicitors respectfully declined to do this, on the ground that the reports were privileged. Upon the matter being referred to the judge, he refused to record an agreement, on the ground that the sum of £10 was inadequate, but he gave no ruling on the question of the privilege claimed.

Capacity of a One-eyed Collier.

In a case at Sheffield (November 23rd) the question arose whether a collier who had lost the sight of one eye was capable of working at the coal face. Dr. Hayes, of Leeds, said that, although there were many miners with only one eye, he considered their occupation was dangerous. In the case of a fall of coal the chance of escape was much diminished. Dr. Pooley, on the other hand, was of opinion that the man was fit to work in the pit. He said he knew a professional cricketer with but one eye who took fifty wickets during the season, his batting average being 20. The county court judge awarded the sum of £1 a week.

MULTIPLE DOORPLATES.

SANDY.—Our correspondent's questions appear to suggest the existence of a rule of "one man, one doorplate," but we do not know of such a rule. All that seems reasonable is that a doorplate should indicate a bona fide tenancy, though in scattered country districts it may be necessary to indicate houses at which messages may be left for the doctor on his rounds.

Public Health AND POOR LAW MEDICAL SERVICES.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Warwickshire.—Dr. Bostock Hill in his report dealing with the health of Warwickshire for 1910 states that there were 9,860 births compared with 9,835 and 10,308 in the two previous years, which gives a birth-rate of 23.7. In the urban districts the birth-rate was 22.8, and in the rural districts 25.1, the highest being in Nuneaton (32.2), and in Foleshill (34.1). The deaths numbered 4,844, giving the low death-rate of 11.6. The total number of deaths registered from phthisis was 333, and from other tuberculous diseases 109. At the present time there is no sanatorium in the county nor any institution devoted to the treatment of consumptive patients, but during the year the Lord Lieutenant appealed to the county as a whole to help him toe stablish a sanatorium for persons suffering from this disease. The County Council has sent health visitors to advise all persons known to be suffering from consumption, and the Medical Officer of Health has proposed that the small-pox hospital be made use of for treating phthisical patients.

County Borough of Oldham.—The estimated population at the middle of 1910, based on the last census returns was 146,700. The birth-rate was 25.2 per 1000 of the estimated population, and the death-rate from all causes 16.7 per 1,000. The infantile mortality-rate was 127 per 1,000 births, compared with 144 in the preceding five years. As many as 95 per cent. of the total number of births registered were reported to the Medical Officer of Health under the provisions of the Notification of Births Act. Two women inspectors devote most of their time to visiting the homes of newly-born children. As a consequence of representations made by the National Housing Reform Council as to certain insanitary conditions which were said to prevail in Oldham, Dr. Reginald Farrar reported upon the sanitary circumstances of the town to the Local Government Board in the year 1909. In that report testimony was borne to the civic pride and spirit of municipal enterprise which characterized the administration of the borough, though certain important recommendations were made. Dr. Wilkinson states in his report that those recommendations have been dealt with by converting two waste pieces of ground into gardens; paving several back streets and passages; trapping street gullies and disconnecting rainwater fall pipes; replacing ashpits with ashbins; and effecting improvements in the cowsheds.

City of Hereford.—Dr. Miller, Medical Officer of Health for the City of Hereford, in his report for 1910 states that the population as estimated by the Registrar-General to the middle of 1910 was 22,652; it is on this estimate that the various rates are calculated. The birth-rate for the year 1910 was 21.85 per 1,000, compared with 21.59 during the previous year, showing a slight increase, but compared with the average of the past ten years show a diminution of 1.35 per 1,000. The death-rate was 12.83 per 1,000, the infantile mortality-rate was 101 per 1,000 births. During 1910 advantage was taken of the Housing and Town Planning Act, 1909, to deal with many houses which were considered unfit for habitation. During the year the medical officer of health reported on the water supply, especially with reference to filtration, with the result that the Town Council has recommended two extra filters to be installed which will when completed treble the present filtering capacity. Appended to the health report is the third annual report to the Education Committee which deals with the sanitary condition of the schools in the town and the medical inspection of school children. With reference to the medical treatment of those inspected Dr. Miller states that where parents were present at the time of inspection their attention was drawn to any disease or defect found; in other cases a written notice was sent advising the parents to have the child attended to. Medical and surgical treatment was obtained in about 60 per cent. of his cases, in one-third of them only after second notices.

SCHOOL CERTIFICATES.

DOUBTFUL (Scotland) states that the School Board in his parish—which is 30 miles long by 15 miles broad, with two schools about 10 miles apart—makes him to grant certificates of medical unfitness to attend school for a fee of 2s. 6d., but will not grant him travelling expenses. The parents object to pay, and are, he considers, too poor to do so. Our correspondent wishes to know what he should charge, and whether he can legally refuse to give certificates. He also mentions that he asked the School Board to give him a retaining fee to cover expenses of granting certificates, but it has refused to do so.

*** Our correspondent is under no legal obligation to grant school certificates of medical unfitness, and can demand to be adequately remunerated for doing so. A retaining fee of £15 to £20 per annum would be little enough for this purpose. An alternative plan would be to charge the School Board 2s. 6d. for each certificate, plus mileage for travelling expenses.

LATE M.O.H.—If a sanitary authority elects to pay the whole of the salary of a medical officer of health out of the local rates and not to claim a moiety from the Exchequer grants to the county council, the sanction of the Local Government Board is not necessary.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.D.—V. J. Woolley, W. Tyson, B. K. Nutman, J. F. Windsor.
M.B., B.C.—R. H. Manhood, H. C. Snell.

UNIVERSITY OF BRISTOL.

Degrees.

AT the autumn congregation the following degrees in the medical faculty were conferred. The candidates were presented by the Dean of the Medical Faculty, Professor Ed. Fawcett.

M.D.—I. F. Blackett, Latimer J. Short.
M.S.—C. A. Ioll.
M.B., CH.B.—R. C. Clarke, E. E. Davies, C. A. H. Gee, S. H. Kingston, W. A. Reynolds, R. S. Statham, E. F. Thomas, I. W. J. Willcox, F. P. Mackie.
B.D.S.—C. J. Kelsey, W. J. Lennox.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—†E. G. Brisco-Owen, *†B. W. Brown, *†C. C. Messiter.
MEDICINE.—*†F. C. Shone, *†W. H. Vincent.
FORENSIC MEDICINE.—B. W. Brown, L. K. Edmeads.
MIDWIFERY.—B. W. Brown, A. J. Tozer.
* Section I. † Section II.

The diploma of the Society has been granted to Messrs. E. G. Brisco-Owen and C. C. Messiter.

Obituary.

FRANCIS T. BOND, M.D.Lond., M.R.C.S., F.R.S.E.,

M.O.H. GLOUCESTERSHIRE COMBINED SANITARY DISTRICT; HONORARY SECRETARY JENNER SOCIETY.

It was our regretted duty last week briefly to announce the death of Dr. Francis T. Bond, of Gloucester, which took place at his residence on December 5th. Dr. Bond was in his 78th year. On the morning of November 30th he was taken suddenly ill at the Great Western Railway Station, Gloucester, when waiting for a train to Cirencester, where he was to have attended a meeting of the urban district council. He collapsed, and medical aid having been summoned, he was conveyed to his residence. It was soon apparent that the condition was one of great gravity, and death came, as stated, five days later.

He was the last surviving child of the late Commander William Francis Bond, R.N., of Weymouth. Fifty-eight years ago he took the degree of B.A.Lond., and became a Member of the Royal College of Surgeons of England in 1856. In 1857 he took the degree of M.B. with Honours in Physiology, and graduated M.D. in 1860. He studied and gained distinction at Queen's College, Birmingham, St. Mary's Hospital, London, and at Paris and Edinburgh. From 1858 to 1861 Dr. Bond was Physician and Professor of Clinical Medicine at Queen's Hospital, Birmingham, and from 1862 to 1873 Principal of Hartley Institute, Southampton.

In 1873 he was appointed first Medical Officer of the Gloucestershire Combined Sanitary District, which included no less than thirteen sanitary areas. This responsible post brought Dr. Bond into contact with numerous authorities, by whom he was held in the highest esteem throughout his long period of service extending over nearly forty years.

He was a man of boundless energy and great resource. Of somewhat stern disposition, his genuine worth and kindliness of heart were patent to all with whom he came in intimate contact. As an authority on sanitary matters he held a position unrivalled in Gloucestershire, and his fame was not merely local. He had held the offices of President of the Gloucestershire Branch of the British Medical Association, of the West of England and South Wales Branch of the Society of Medical Officers of Health, and of the Midland Association of Medical Officers of Health. He was honoured and highly respected by sanitarians throughout the country. His genius for invention resulted in the patenting of a filter, a hygienic quilt, and a special form of skipping-rope. In 1906 he wrote a pamphlet, "A Plea for the More General Practice of Skipping as an Unsurpassed Form of Home Gymnastics." He also identified himself closely with scientific agriculture, and more especially with the dairy industry. He introduced a special form of cheese, with the manufacture of which he was associated for many years. A convinced believer in the value of cheese as an article of diet, he wrote pamphlets showing how delicious dishes could be prepared by the inclusion of cheese, enhancing the nutritive value and the palatability of many familiar articles of diet.

Probably the work by which his name will be best remembered arose out of his keen controversial mind. The long and bitter conflict on the subject of vaccination has no name stands out so prominently on the defence as that of Dr. Bond. He was ready at all times and on all occasions to champion the case for vaccination. He had with a mass of evidence collected and collated from all parts of the world, he attacked the opponents of vaccination, and spread dismay among them. He was prominently associated with the formation of the Jenner Society, of which he remained honorary secretary until his death. Advancing years brought limitations to his activity in this controversy. It was fitting that his magnificent vindication of Jenner should have emanated from Gloucester—Jenner's birthplace. Every aspect of the controvery was dealt with in a masterly manner in pamphlets written or edited by Dr. Bond, and published by the Jenner Society. It was Dr. Bond's ardent desire that this work should be continued after his death, and that the mass of valuable literature should be utilized more extensively than his health and strength had enabled him to do during recent years. The work was so dear to his heart as to make him reluctant to sever his active connexion with the Jenner Society, though he often felt that a successor should be appointed.

The President of the Association of Public Vaccinators (Dr. A. E. Cope, London) marked the sense of the high appreciation of Dr. Bond's efforts and life-work by arranging for Dr. Drury (Halifax) to attend the funeral as representing the association.

Dr. Bond leaves a widow, a daughter (Dr. Eleanor Bond, Bournemouth), and a son, Major R. F. C. Bond, of the Royal Engineers, now stationed in India.

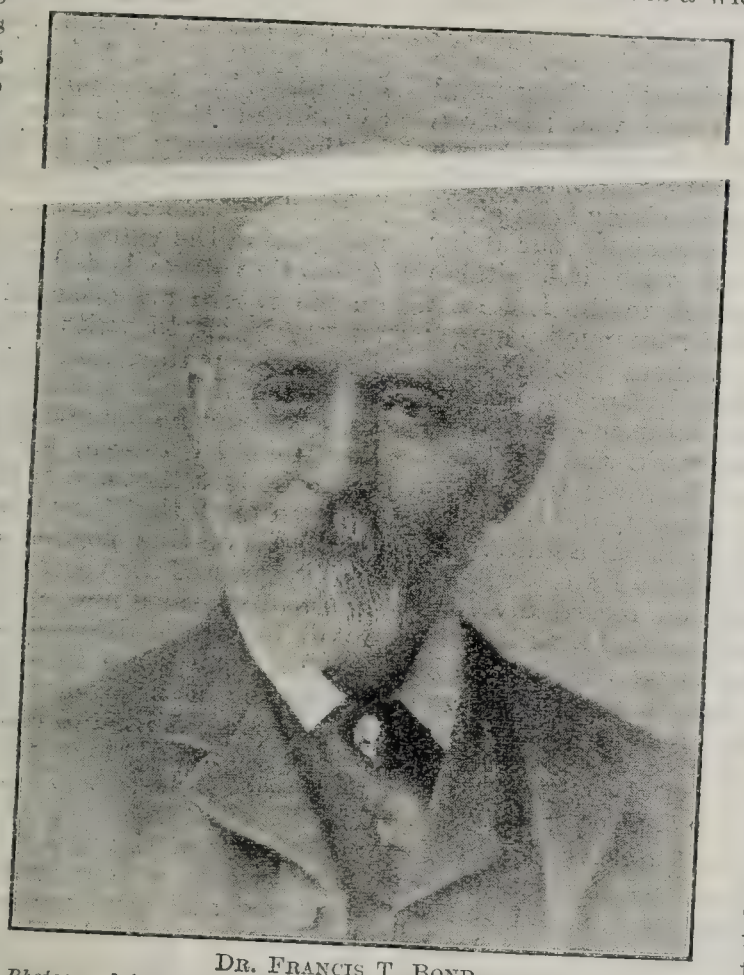

Photograph by] DR. FRANCIS T. BOND. [*H. W. Walson, Gloucester.*

The unique and valuable work of Dr. Bond, carried on to the very end of a life reaching beyond the natural span, entitles him to a prominent place on the long list of distinguished departed medical men of whom the profession is justly proud.

Dr. J. C. McVAIL (Glasgow) writes: I willingly accept the opportunity of paying tribute, imperfect though it must be, to the memory of Dr. Bond. Our spheres of official work were far apart, but we had a common interest in the subjects of vaccination and small-pox. His knowledge of all that related to the influence of vaccination on small-pox was remarkable, and so also was his capacity for making use of it. In newspaper polemics he was unique. One particular qualification which he humorously claimed for himself was the Pauline virtue of suffering fools gladly. He never seemed to think the most unfair or unreasonable antivaccinationist unworthy of reply, and he wrote not merely *currente calamo*, but in such terse, vigorous English as is seldom at the command of the rapid writer. The more numerous his opponents the better he was pleased, and the crusading spirit never deserted him. Like Alan Breck, he was a "bonny fechter" and had all the chivalry of that Stevensonian hero. He knew the value of vaccination, and delighted not only in defence but in attack. As years advance some men tend to lose interest in affairs whose development and results belong to the next generation, but that was not the case with Dr. Bond. So long as health and strength permitted his activities remained unabated. Unless I am mistaken, he never was a public vaccinator and had no kind of personal interest in promotion of the practice; but he believed vaccination to be essential for the public welfare, and therefore he fought for it. He was a man of remarkably keen and active intellect, who thought it his duty to use to the fullest the powers with which he had been gifted, and he will be sorely missed by all who knew him.

Dr. J. MIDDLETON MARTIN (County Medical Officer of Health, Gloucester) writes: So sudden came the attack, and so short was his illness, that few of the colleagues and friends of Dr. Francis T. Bond knew that he was ill until the last rites and tributes had been paid. Early on

Thursday morning, with his wonted energy, he was on his way to attend a council meeting when he was overtaken by an apoplectic attack at Gloucester Station, and was carried to his home, where he remained in a semi-unconscious condition till the end came on the following Tuesday. It was pathetic the day after the funeral to turn to the books and papers on which barely a week before he was engaged with the vital spirit which actuated the whole of his life. It is difficult for the majority of those now engaged in public health work to appreciate the many difficulties which such a pioneer in the profession as Dr. Bond had to meet, and on this his compeers alone can dwell adequately. Yet his younger colleagues who have benefited by the hard spade-work of such men as Dr. Bond, and especially those who had the privilege of his personal acquaintance, are bound to value highly the experience and zeal with which he approached every subject and the fluency with which he expressed his views on every matter, and to acknowledge the debt they and the community owe to him in his efforts to increase the well-being of the people. His whole-hearted support of Jenner and of the latter's invaluable contribution to modern preventive methods will be more appropriately eulogized by those more intimately connected with him in his work, but brief mention may fittingly here be made of his versatile and inventive turn of mind, which, had it been accompanied by greater business aptitude, would have made him as well known and appreciated by the general public as he was by his fellows. There was hardly a [illegible] to which he would not turn subject of scientific interest to [illegible] his attention, and of late this had particularly been given to scientific agriculture, and more especially the dairy industry. Dr. Bond was endowed with indomitable energy, and covered his large district to the last in a manner which might well be imitated by much younger men. For over thirty-seven years without a holiday—as he himself informed me only a few days before his death—did he devote himself, in his office and in inspections, to his many interests in public health work, and few men have taken less rest. His opinions, however forcibly he might put them, one could not but respect, and his grasp of public health problems one could not but admire. As one of his colleagues for over nine years, I am very glad to have this opportunity of placing on record my high appreciation of his work and of his personal kindliness to me in all our relations, and of deploring the loss of so eminent a member of the public health service and so energetic a worker in the interests of the health of the people.

Dr. ALBERT ERNEST COPE (London), President of the Association of Public Vaccinators of England and Wales, writes: It is with the utmost regret that the news comes to me of the death of Dr. F. T. Bond of Gloucester, and I should like to express, on behalf of the Association of Public Vaccinators of England and Wales, our deep appreciation of the self-sacrificing labours to which he committed himself in his advocacy of vaccination, and of the vigour and success with which he met the misleading and mischievous machinations of the antivaccinators. Strangely enough, although actively identified with the Association of Public Vaccinators from its inception in 1898, I only once had the pleasure of meeting Dr. Bond, and that was in the summer of 1899 at the Southampton Congress of the Sanitary Institute. I had been reading a paper on the importance of educating the profession and the public in vaccination matters, and had the privilege of the support of Dr. Bond, and at the close he made himself known to me and accompanied me back to the railway station. I have never lost the impression of vigour and enthusiasm with which he inspired me, though even then he was feeling the burden of work too heavy for him. Since that time we have been occasionally in communication with one another, and in 1902 he sent a paper to be read before the annual meeting of our Association, but was unable at the last moment to be present himself. He has kept in the closest touch, however, with our work, and was early made a Vice-President of the Association. I am sure that he would deem it the best testimony to his work if his life should inspire some still living to make it their aim to realize the first object of the Jenner Society: "To commemorate the name and work of Edward Jenner, M.D., of Berkeley, in the County of Gloucester, and to bring home again to the mind of the nation in a time of growing forgetfulness of his great discovery the immense benefit he conferred by it upon mankind."

SIR JOSEPH HOOKER, M.D., F.R.S., G.C.S.I., O.M.

THE death of Sir Joseph Dalton Hooker, which occurred on December 10th at his residence, The Camp, Sunningdale, in his 95th year, has severed one of the few remaining links that connected the present age with the great scientific achievements of the early and mid-Victorian era. Sir James Ross, under whom Hooker sailed as Assistant Surgeon, R.N., on his first voyage of scientific investigation, is a name that is more closely associated in the popular mind with such Elizabethan heroes as Frobisher and Drake than with the great men who were his late contemporaries, such as Joule, Kelvin, and Darwin, and Sir Joseph Hooker was one of the few remaining men who were left to bridge the gulf.

Joseph Dalton Hooker was the second son of Sir William Hooker, who also was Director of Kew Gardens. Joseph Hooker was educated at the High School, Glasgow, and from there he went to the University of Glasgow, taking the degree M.D. at the age of 25. In the course of his medical studies he had shown great aptitude for natural science, and he eagerly took advantage of the opportunity offered him to go with Sir James Ross in the *Erebus* on a voyage of Antarctic discovery as assistant surgeon and naturalist. From the outset of his career he showed his originality in [illegible] aid to research. His recognizing the value of travel as an aid to [illegible] Antarctic voyage lasted from 1837 to 1843, and it yielded on his return six classical volumes, that took him nearly twenty years to write—the *Flora Antarctica*, the *Flora Novae Zelandiae*, and the *Flora Tasmanica*. In later years Sir Joseph Hooker used to say that these were the only volumes he published that had ever brought him in any financial return, for the Admiralty was so pleased with the idea that one of their junior surgeons was capable of such work that they made him a donation of £500. It was said of this portion of his work with truth that he had discovered the vegetation of the Southern hemispheres, and had provided new material that formed the basis of many important discussions.

After four years in England Hooker decided to study vegetation in the tropical belt, and with this object he set off on an expedition to the Sikkim and Nepaul Himalayas, where he spent four years. They were four years of unwearied industry. He not only laid the foundation for his *Himalayan Journals* and his *Flora Indica*, but he made maps of the passes into Thibet that still retain their value, wrote a remarkable work on the Sikkim rhododendrons, and gave material assistance both to Lyell and Darwin by his observations on the glaciers of the Himalayas. His subsequent career proved him an indefatigable traveller. Undeterred by the privations he had undergone when he was made prisoner by the Rajah of Sikkim, he went on expeditions to Syria and Palestine, to Morocco and North America. The wide experience he thus gained thoroughly justified the eulogy of Professor Asa Gray, who said of him: "No botanist of the present century, perhaps of any time, has seen more of the earth's vegetation under natural conditions."

From the outset of his career Hooker came under the influence of Darwin. When, in 1899, he unveiled a statue of Darwin at Oxford, he described how Sir Charles Lyell lent his father the proof sheets of Darwin's *Voyage of the Beagle*. "At that particular time," he said, "I was engaged upon engrossing hospital duties, and I slept with the proofs under my pillow that I might at once, on awaking, devour their contents. They impressed me profoundly—I may say despairingly—with the genius of the writer, the variety of his acquirements, the keenness of his powers of observation, and the lucidity of his descriptions." Shortly after his return from Ross's expedition Hooker got into close contact with Darwin. Some twenty years later Darwin wrote to him: "You have represented for many years the whole great public to me," and in 1844 Hooker was the first in whom Darwin confided his ideas as to the origin of species. "I am almost convinced," Darwin then wrote, "that species are not (it is like confessing a murder) immutable." Later, when he

feared that he was dying, he considered Hooker "by far the best man to edit my species volume," and on another occasion he characterized him as "our best British botanist, and perhaps the best in the world." The part that Hooker played in connexion with the publication of the *Origin of Species* is too well known to require description. It may be mentioned, however, that his presidential address before the British Association in 1868 did much to win acceptance for the views of Darwin.

The contributions that Hooker made to botanical science were of a most comprehensive order. In addition to the volumes already mentioned, he published the first instalment of the *Genera Plantarum*, a monumental work in which he collaborated with Mr. Bentham. The *Icones Plantarum* was another large conception; he edited thirteen volumes of the *Botanical Magazine*, and in 1870 published the *Student's Flora of the British Isles*. Apart from such works as these he was the author of some 80 or 90 monographs, including one on the carnivorous plants *Nepenthes*, and another on the extraordinary West African plant, *Welwitchia mirabilis*.

His claim to be the founder of a new botanical era rests primarily on his work in connexion with the theory of the multiple origin of species. De Candolle admitted the continuity of the existing floras, but he still adhered in principle to the multiple origin of species. Hooker, however, showed that widely dissevered localities for species, which De Candolle had found an insuperable obstacle against abandoning the doctrine of multiple origin, afforded the most convincing proof of the genetic relationship of the floras of which such species were components. His essay, again, on the Flora of Australia, which appeared in 1859, did much to break down in England the old received doctrine of the immutability of species. He, also, by his work in the Antarctic, proved that the animal life in the oceans depends ultimately on the plants that float in it, extending thereby an existing generalization, known to hold good on land, to marine fauna. His practical work in beautifying Kew Gardens, of which he was for twenty years director, has won public recognition.

Sir Joseph Hooker died full of honours. He was awarded a C.B. in 1869, was made K.C.S.I. in 1877 and G.C.S.I. in 1897; he was included in the Order of Merit on its institution in 1907. He was awarded the Royal, Copley, and Darwin medals of the Royal Society, of which he was chosen President in 1872. He and Sir Richard Owen were the first recipients of the Linnean Medal. He was also awarded the Albert Medal of the Society of Arts, the Founder's Medal of the Royal Geographical Society, and a medal from the Manchester Philosophical Society. He held many honorary degrees and foreign distinctions. He was twice married, and leaves six sons and two daughters.

Mr. William Soper died on November 27th at Ventnor, which place he had retired after nearly fifty years spent in a general medical practice in Clapham. He was born in 1835, and received his medical education at Guy's, after three years' apprenticeship with Drs. Martin and Holman of Reigate. During his long and busy professional career he held many important appointments, being Medical Officer to Spurgeon's Orphanage at Stockwell (from its foundation until 1905), the Jews' Hospital at Norwood (for forty-three years), the London and South-Western Railway Servants' Orphanage (from its foundation in 1886 until 1909), to the Church of England Waifs and Strays, the Anchorage Mission, and the South Lambeth Dispensary. For some years he sat on the Lambeth Board of Guardians, and he was a member of the Metropolitan Asylums Board. Shortly before his retirement he became Vice-President of the Therapeutical Section of the Royal Society of Medicine. Mr. Soper was tall and well built, and his strongly-marked aquiline features were well set off by a flowing beard. He had to perfection the professional "grand manner" to which most of the last generation of medical men aspired, but not all of them attained. Such a striking personality as this brought terror to the malingerer and inebriate, but also immense comfort and confidence to nervous women, and was magnetic in a marvellous degree for children. Mr. Soper, as a result of great experience at the three orphanages, and this gift of attracting and understanding children, became an authority of some repute upon their management and hygiene. He was also a very able practical gynaecologist and obstetrician. He was, in the true sense of the word, a link between the old and the new in medicine. Although professionally educated in the days when apprenticeship was the rule, and botany was looked upon as one of the most important subjects in the medical curriculum, he retained flexibility of mind to master many of the theories and methods of modern medicine. The funeral took place at Holy Trinity, Ventnor, on November 30th. A large number of friends and relatives travelled from London to be present, and many others sent flowers.

After an illness dating from May, the death occurred on December 7th of Dr. Lloyd Edwards. He received his early education at Carmarthen, was a student of the London Hospital, and became M.R.C.S. and L.R.C.P. in 1884. He took the diploma of D.P.H. of the Conjoint Board in England in 1905. Dr. Edwards was widely known as a pioneer of education. He was a former Chairman of the Barry School Board and a member of the Court of Governors of the University of Wales. A few years ago he became the first School Medical Officer at Barry, and he was known locally as "The Children's Friend." He was a keen Volunteer, and held the rank of Major in the Severn Division of Royal Engineers. He was a Past Master of the Barry Lodge of Freemasons. Dr. Edwards was a bachelor, and in his 50th year. His funeral, which was a military one, took place on December 11th, and was very largely attended, the deceased gentleman being widely known and as widely esteemed.

The Services.

THE DURBAR HONOURS.

On the occasion of the great Durbar ceremony at Delhi, the King has been pleased to make the following appointments and promotions:

Knights Commanders of the Order of the Star of India.

Surgeon-General Charles Pardey Lukis, C.S.I., M.D., Indian Medical Service, Director-General, Indian Medical Service, and an Additional Member of the Council of the Governor-General of India for making Laws and Regulations. Sir Charles Lukis, who received his medical education at St. Bartholomew's Hospital, became M.R.C.S.Eng. in 1879, graduated M.B.Lond. in 1889, and took the diploma of F.R.C.S.Eng. in 1890. He joined the Indian Medical Service in 1880. Before his appointment to be Director-General I.M.S. he was Principal and Professor of Medicine at the Medical College, Calcutta, and First Physician to the College Hospital.

Surgeon-General Francis Wollaston Trevor, C.B., M.B., K.H.S., Principal Medical Officer, India. Sir Francis Trevor received his medical education at Guy's Hospital, took the diploma of M.R.C.S.Eng. in 1874 and graduated M.B., C.M.Aberd. in the same year. He was promoted to Colonel in the Army Medical Service in 1903, and was P.M.O. of the Scottish District in that and the following year. He served in Afghanistan in 1878–80 (medal, two clasps, bronze star) and the Soudan 1884–85 (medal with clasp, bronze star), South Africa 1901–2 (dispatches, Queen's medal, five clasps). He has been Principal Medical Officer of H.M. Forces in India since 1908. He is Honorary Surgeon to the King, and was created a Commander of the Bath in 1907.

Knight Commander of the Order of the Indian Empire.

Surgeon-General Arthur Mudge Branfoot, C.I.E., Indian Medical Service (retired). Sir Arthur Branfoot, who received his medical education at Guy's Hospital, graduated M.B.Lond. in 1872 and took the diploma of F.R.C.S.Eng. in 1906. He served in the Madras Presidency, and was Professor of Midwifery and Diseases of Women and Children in the Madras Medical College. He has been President of the Medical Board of the India Office since 1904, and is also a member of the Advisory Board, Army Medical Service, and a member of the Council of the Lister Institute.

Knight of the United Kingdom of Great Britain and Ireland.

Lieutenant-Colonel Charles Henry Bedford, M.D., D.Sc., Indian Medical Service, Chemical Examiner,

Bengal. Sir Charles Bedford, who graduated in the Medical Faculty of the University of Edinburgh in 1887, and won the D.Sc. of the same university in 1892, has put in a good many years' excellent work as Professor of Chemistry at the Medical Colleges at Calcutta and Lahore, and was also the representative of India at the sixth International Congress of Applied Chemistry at Rome. The honour bestowed upon him is, however, more probably a well-deserved recognition of the services rendered by him in connexion with the manufacture and Excise control of alcoholic liquids in India. It was borne in upon the Indian Government some ten years ago that the methods hitherto employed did not allow of proper control of the quality of (more especially) Indian-made alcoholic liquors, and that in consequence the interests neither of those who drank them nor of the Treasury were properly safeguarded, but the difficulties of the subject were so great that for some time no remedy seemed possible. Finally, however, in 1904, it placed the whole matter in charge of Major Bedford, as he then was, providing him with two chemical assistants from home. He was given a very free hand as to what he should do, but his general instructions were to investigate exhaustively the processes and results of distillation throughout India, with the object of ascertaining precisely what were the noxious constituents present in the various liquors resulting, and the practical means by which they might be eliminated or diminished. He was then to devise a standard of purity which might be prescribed for country liquor in addition to standards of strength for all distillery liquors. The difficulty of the task imposed upon him is obvious, for in Great Britain even single sections of such work have commonly been deemed to require the creation of Royal Commissions or special departmental committees. In India, moreover, the work was complicated by the very great number of different alcoholic liquors in use by the people, the wide variation in the fashion of their production, and the desire of the Government not to introduce any standards which would result in the liquors being rendered unacceptable to the consuming classes, and thus by driving the latter to resort to illicit practices defeat the general object in view. The work connected with the original inquiry, and his subsequent researches regarding Excise control methods, occupied Colonel Bedford between six and seven years, and is regarded as having been eminently successful, more accurate and easily applied standards having been introduced and considerable revenue savings effected. Incidentally also a good deal of interesting light has been thrown on the chemistry and physiology of the subject, and a somewhat curious fact discovered and remedied—namely, that the official Sikes's tables, used since the time of George III, in connexion with the Sikes's hydrometer, for levying all spirit duties in the Customs and Excise, had been applied in India and elsewhere apparently without any proper investigation of the differences likely to ensue from variations in the climates in which the hydrometers and correction tables were used. Much other original work on highly technical and very practical aspects of Excise work has also been successfully carried out; and Sir Charles Bedford's work has further been largely utilized by many foreign and Colonial Governments. He was invited to serve on the recent Royal Commission on Whisky and other Potable Spirits, presided over by Lord James of Hereford; and two years ago, at Lord Crewe's request, he advised Sir Mackenzie Chalmers's Colonial Office Commission on the Southern Nigeria Liquor Trade on the scientific and technical aspects of their reference. He also acted as scientific and technical adviser to Sir James Thomson's Indian Excise Commission in 1905–6, and was specially commissioned by the Government of India to report on and advise the Government of Burma on their Excise problems in 1907. Besides the numerous special reports dealing with his original work, Sir Charles Bedford has published a number of medical and clinical books, two of which have been translated into several of the chief European languages; and several others have been specially published by Government.

Companions of the Order of the Star of India.

Lieutenant-Colonel WILLIAM BURNEY BANNERMAN, M.D., Indian Medical Service, Surgeon-General with the Government of Madras, and lately Director, Bombay Bacteriological Laboratory.

Colonel GEORGE FRANCIS ANGELO HARRIS, M.D., V.H.S., Indian Medical Service, Inspector-General of Civil Hospitals, Bengal.

Lieutenant-Colonel ARTHUR RUSSELL ALDRIDGE, Royal Army Medical Corps, lately Sanitary Officer, Army Head Quarters.

Companions of the Order of the Indian Empire.

Lieutenant-Colonel CHARLES MACTAGGART, Indian Medical Service, Inspector-General of Prisons, United Provinces of Agra and Oudh.

Major LEONARD ROGERS, M.D., Indian Medical Service, Professor of Pathology, Medical College, Calcutta, and Bacteriologist to the Government of India.

Lieutenant-Colonel EDULJI PALANJI FRENCHMAN, Indian Medical Service (retired).

Major HENRY BURDEN, Indian Medical Service, Residency Surgeon in Nepaul.

Lieutenant-Colonel JAMES REED ROBERTS, Indian Medical Service, Residency Surgeon in Indore, and Administrative Medical Officer in Central India.

Major FREDERICK FENN ELWES, M.D., Indian Medical Service, Surgeon to the Governor of Madras.

Commander of the Royal Victorian Order.

Colonel CHARLES JAMES BAMBER, Indian Medical Service, Inspector-General of Civil Hospitals, Punjab, and a Member of the Coronation Durbar Committee.

Kaisar-i-Hind Medal for Public Service in India.

Major ALBERT ELIJAH WALTER, Indian Medical Service, Superintendent, X-Ray Institute, Dehra Dun.

Major ARTHUR GWYTHER, M.B., F.R.C.S., Indian Medical Service, Civil Surgeon, Howrah, and Superintendent of the Howrah Gaol.

Dr. THOMAS JOSEPH O'DONNEL, lately Chief Medical Officer, Kolar Gold Fields.

Captain JASPER ROBERT JOLY TYRRELL, M.B., Indian Medical Service, Agency Surgeon, Bhopawar, Central India.

Major WILLIAM HANCOCK TUCKER, M.R.C.S., L.R.C.P., Indian Medical Service, District Medical and Sanitary Officer, Coimbatore, Madras Presidency.

Dr. HERBERT F. LECHMERE TAYLOR, M.B., Ph.D., of the Church of Scotland Mission, Jalalpur, in the Gujrat District, Punjab, and in charge of the Jalalpur Hospital.

The Reverend JOHN CAMERON YOUNG, M.A., M.B.Glas., D.P.M.Liverp., Medical Missionary of the Keith Falconer Mission at Sheikh Othman, Aden.

Dr. RAGHAVENDRA ROW, M.D., D.Sc., of Bombay.

SUBORDINATE MEDICAL SERVICE.

THE *Gazette of India* publishes the following Royal Warrant:

Whereas we have deemed it expedient to alter the rank and designation of the senior officers of the Indian Subordinate Medical Department, our will and pleasure is that our warrant of March 12th, 1894, be hereby cancelled, and the commissioned grades in the Indian Subordinate Medical Department shall hereafter be as follows:

1. Senior Assistant Surgeon with the honorary rank of Lieutenant.
2. Senior Assistant Surgeon with the honorary rank of Captain.
3. Senior Assistant Surgeon with the honorary rank of Major.

Promotion to the grade of Senior Assistant Surgeon with the honorary rank of Lieutenant or Captain shall be made according to the regulations governing such promotion.

Promotion to the grade of Senior Assistant Surgeon with the honorary rank of Major shall not ordinarily be made until after fifteen years' service in the commission grade. Senior Assistant Surgeons shall enjoy the precedence and other advantages attaching to their honorary military rank. They shall have authority under the Medical Officers to command members of their own department, hospital attendants, patients in military hospitals, and such warrant officers, non-commissioned officers, and men as may be attached thereto (without their own officers) for hospital duty. Given at our Court at Balmoral this 26th day of September, 1911, in the second year of our reign.

STATION HOSPITALS.

I.M.S. writes: Officers of the Indian Medical Service military side have for the past few years been living in the hope and expectation that the Station Hospital System was about to be introduced in the Indian Army. They are now informed that the introduction of that system has fallen through on professed financial grounds. The regimental hospital system is inefficient and utterly unsatisfactory. This is now universally known and acknowledged. Has efficiency to be sacrificed to economy, or rather supposed economy? Apart from this matter of efficiency, there is the personal ground which must sooner or later affect every I.M.S. officer, the I.M.S. remains as it was—a service without prospects. In the absence of possible posts there obviously can be no prospects. A man joins the service, becomes medical officer of a regiment, and as such he will remain—there is no possible prospect—with the extremely remote possibility of a principal medical officership (chances are about 1 in 49), and even that can only be held at the extreme end of one's service from twenty-seven to thirty years. Further, it must be distinctly

remembered that the present Director-General in a speech at Simla two years ago warned the service that they must look to the military rather than to the civil side for the future of the service.

Medical News.

AT the meeting of the Royal Microscopical Society to be held at 20, Hanover Square, W., on Wednesday next, at 8 p.m., Dr. F. Shillington Scales will make a communication on photomicrography of the electrical reactions of the heart.

UNDER the will of the late Mrs. Laura Theresa Pearce, of Tunbridge Wells, King's College Hospital receives a bequest of £500 and the Tunbridge Wells General Hospital one of £200.

THE German Congress of Internal Medicine will hold its twenty-ninth annual meeting in Wiesbaden next April (15th to 18th) under the presidency of Professor Stintzing of Jena. The chief subject proposed for discussion is the use of the Roentgen rays in the diagnosis and treatment of diseases of the stomach and intestine.

FOR some years past the Chelsea Hospital for Women has suffered from inadequacy of accommodation alike for nurses and patients, and from noisiness due to alterations in the line of traffic. Earl Cadogan, as was recorded last June, has presented the authorities with a much more suitable site, and as the foundation of a fund for building thereon the trustees of a charitable bequest have since made the institution a donation of £10,000; an appeal for further contributions is now made by the treasurer of the hospital, Mr. H. E. Wright.

THE sixth International Congress of Obstetrics and Gynaecology, as already announced, is to meet in Berlin in September 10th, 11th, and 12th next. The organizing committee now states that it has the co-operation of the German and of the Berlin Gynaecological Societies, and that an exhibition of obstetrical and gynaecological specimens, instruments, and apparatus will be held during the congress.

MESSRS. BURGE, WARREN AND RIDGLEY, of 91, Great Tower Hill, E.C., have issued a new catalogue of their products in the way of fountain pens. The choice they have to offer in respect of price, size, variation in nib, method of filling, and external decoration is very great. Their own favourite, it appears, is the "twin-feed Neptune" at 10s. 6d.; one small ordinary Neptune fitted with steel nibs, and intended for children, is priced, we note, as low as 2s.

THE step taken by the National League for Physical Education and Improvement in forming a new department to deal with infant consultation centres and schools for mothers, appears to have met with much approval among those specially interested. The object is to co-ordinate the work of such undertakings, and to act as a clearing-house and source of information for those who propose to start work of the same kind and desire to profit by knowledge of the sources of failure and success elsewhere. Leaflets and coloured wall charts to assist in the education of social and prospective mothers are in hand, and two reports containing much useful information on the subject have already been prepared. The address of the League is Tavistock Square, W.C.

MESSRS. INGRAM AND ROYLE, of Bangor Wharf, Belvedere Road, S.E., have issued the twelfth edition of a booklet to which we have drawn attention in connexion with the exhibitions at several annual meetings. It supplies full analyses of most or all such medicinal waters as are ever sent away from the springs from which they arise, together with information as to their dosage and the reputed indications for their use. There is also an index which, in addition to indicating the page at which the analysis of each water will be found, shows the altitude at which the springs lie, and the diseases in which their waters are reputed. The pamphlet, of which copies can be obtained post free on application, is undoubtedly one of much value, more particularly as in this present edition the analyses are stated throughout in grains per pint, instead of in former editions sometimes in grains, sometimes in grammes parts per litre.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

PASTOR asks whether the Rogers Tytos sphygmomanometer is more rapid and superior to other makes.

N. N. S. asks for information as to the preparation of medicated sawdust as used by the late Mr. H. O. Thomas of Liverpool.

JUNIUS asks for information about Waldenburg's apparatus for the treatment of emphysema recommended in Pepper's *System of Medicine.*

INQUIRENS asks for information as to the best means for removing the dark stain of tobacco from a white moustache without causing injury to the hair.

RETIRED asks for experience in the treatment of internal pile by Unna's method of chrysarobin suppositories and the modification recommended by Kosobudski.

SANDFIELD would be grateful for any suggestions with regard to the treatment of a left facial spasm without discoverable cause. The subject is a female teacher in a council school.

ESURIENS asks for information concerning Chatham, Ontario: (1) As regards its climate. (2) Would it suit a case of chronic laryngeal catarrh? (3) Are there any prospects there for one desirous of engaging in fruit-growing?

S. D. C. writes: (1) James I is said to have expressed the opinion that doctors were of "very little use and hardly necessary." What is the reference for this? (2) Charles II, when attending Newmarket races, is said to have amused himself in conferring the M.D. indiscriminately. The holders of these bogus titles were known as "jockey doctors." What is the reference for this?

IDIOSYNCRASY asks for suggestions in the treatment of a patient who contracted syphilis eighteen years ago, and now has gummatous ulceration of the tongue. He cannot take iodides, although the various salts have been tried in small and large doses and in combination with ammonia, cinchona, etc. After taking the drug a few days he gets severe pains in the head, which keeps him from sleeping, and he suffers from very serious depression. He declares if the drug is insisted upon that he will not be responsible for his actions.

ANSWERS.

DR. GUBB (Mustapha Supérieur) writes: In reply to "Inquirer" (p. 1456) I think he would find Algiers especially suitable from a climatic point of view, the average temperature being several degrees higher than the resorts north of the Mediterranean. The hotel terms compare favourably with the European tariff—"pension," inclusive, can be had for from 8 to 10 francs a head a day. There are steamers direct from Southampton to Algiers (Nederland and North German Lloyd) every fortnight.

DREAMLESS NIGHTS.

DR. H. J. THORP (Ipswich) writes: In reply to "Chloroform." If he thinks his dreams at night are caused by worry or overwork, he may obtain relief by taking spirit of turpentine (m 30) in capsules at bedtime. Sufferers are apt to form exaggerated estimates of the amount of their wakefulness.

DIPLOMAS IN PUBLIC HEALTH.

WITH reference to the answer published under this heading in the JOURNAL of October 28th, p. 1144, "J. W." writes to suggest that prospective candidates should try for a diploma of a university, and recommends that granted by Oxford.

THE CRIMINAL AND THE COMMUNITY.

PRISON SURGEON.—The following books may serve our correspondent's purpose: *Crime: Its Cause and Remedies*, by Cesare Lombroso, translated by H. F. Horton (16s. net); *Criminal Psychology*, by Hans Gross, translated from the fourth German edition by H. M. Kallen (17s. net); *Modern Theories of Criminality*, by B. Bernaldo de Quiros, translated from the Spanish by Alfonso de Salvio (14s. net), all in the Modern Criminal Science Series, published by Heinemann; *The Crime and the Community*, by James Devon, published by John Lane (5s. net); *Crime and Criminals*, by R. F. Quinton, published by Longmans.

NAIL BITING.

M. C. W. writes: In reply to "M. J. M." there is only one way to cure biting nails: Give the offender a nice small pair of nail scissors, and insist upon their being always kept in readiness in the pocket and used constantly, never allowing any roughness of the nails to remain. Rigidly keep to this, and I will guarantee the habit is cured however old the offender may be.

LETTERS, NOTES, ETC.

SHIP SURGEONS.

NOVICE who, lured, as he states, by glowing accounts of the sunny south, recently acted as surgeon to a ship for a nominal salary of 1s. a month, warns other young practitioners from following his example. He found his quarters very uncomfortable, and learnt that most such boats were in reality cargo boats taking passengers, and might be detained at the port of destination for weeks longer than the advertised time in order to pick up cargo. Medical men, however, who choose to give their services for a shilling a month and their board deserve, many will think, what they get and no more.

P. AND O. SURGEON writes to advise all qualified men who have any idea of going into the mercantile marine for a livelihood or for a voyage or two, to insist upon being supplied with a copy of the regulations which apply to them before joining, and also upon obtaining proper accommodation on board. He quotes the following regulation, which he has found irksome:

> Reg. X.—Executive officers are not permitted to participate in the amusements of passengers, such as games, etc. They will confine themselves to politeness and courtesy to passengers when *off* duty. Officers *on* duty are strictly forbidden to enter into conversation with passengers, although courtesy dictates a polite reply to an inquiry.

Strictly read, he said, the surgeon is by this resolution forbidden to form acquaintances among the passengers, has no opportunity of exercise, since the decks are taken up by the passengers, and therefore is compelled to spend the bulk of his time in his cabin, which is frequently dark and without ventilation.

RESUSCITATION OF THE STILLBORN.

DR. ALEXANDER DUKE (London) writes: The description by Dr. H. Stokes of his plan for resuscitation of a stillborn child is so like the plan I described and practised myself with marked success nearly twenty years ago, that I may be pardoned for describing it. (I copy description from a printed paragraph published in the *Medical Press and Circular*, May 9th, 1892.) "I first of all clear mucus from mouth of infant, and then pass finger into pharynx and endeavour to open up 'atmospheric highway.' I then at once lay the infant face downwards across the palm of my right hand, the tips of fingers over cardia region, so as to detect at once improvement in the beat of heart. With the hand under thorax I compress the ribs (as one would a rubber bellows) at intervals of ten seconds, measured by counting. The head and chest being kept at lower level than the pelvis favours the gravitation of blood to the brain, and also the exit of any mucus from mouth. When I find the action of heart improve I plunge the infant into hot water, keeping up the rhythmical compression of ribs all the time infant is in the water (five minutes, as a rule, I found sufficient), and direct the nurse in attendance to dash a little cold water over back and shoulders, which is soon followed by gasping and infantile cry, the former most important, as when neglected it is often the primary cause of atelectasis in after-life." The similarity of Dr. Stokes's description to my plan, which I have never found to fail if I could distinguish any cardia action (even the faintest), must be my excuse for asking the favour of publication in the BRITISH MEDICAL JOURNAL.

FATAL INTRAPERITONEAL HAEMORRHAGE FROM THE VITELLINE VEIN.

DR. W. HAROLD BEVERLEY (Barnsley) writes: On November 2nd I was called to see a child *in extremis*. On arrival at the house at 6.30 a.m. I was shown a newborn female child. On examination I found life extinct, the legs and arms covered with a cold perspiration, the lips pale. There was no rigidity of the limbs; the cord was properly tied, 2½ in. from the umbilicus. There were no external signs of violence. A midwife attended the labour at 11.15 p.m. on the previous day. The birth was quite natural, head first, occiput to the left front, no difficulty with the shoulders. The midwife requiring no medical help, finished her work, and left the house at 1 a.m. on November 2nd. She was called again at 5.30, and on finding the child seriously ill, sent for me, but the infant expired three minutes before my arrival. The *post-mortem* examination showed the body well-nourished. On making the median incision the peritoneal cavity, before it was opened, appeared to contain blood. The incision was carried down on the splenic side of the umbilicus. On opening the peritoneal cavity a quantity of blood clot was found on the right side up to the liver, in the right loin, and in the pelvis. The left loin was quite free. The liver, spleen, kidneys, stomach, intestines, lungs, heart, and brain were all normal. Immediately inside the abdomen, at the umbilicus, the Vitelline vein was cleanly severed transverely, as if by a sharp knife, for about ⅛ in. No other injury could be found. At the inquest the midwife denied any traction on the cord or any prolapse of same prior to birth.

INFANTILE PARALYSIS.

DR. D. MCNICOL (Glasgow) writes: In view of the very serious outbreak of anterior poliomyelitis in different counties of England, reported in BRITISH MEDICAL JOURNAL with the discussions and theories as to etiology, etc., I should like to report the following case:

The house in which the case occurred was not in Glasgow, but abuts on a main road, the traffic over which is great—motors largely. The patient is a bright, active girl, aged 2 years and 5 months, supposed to be "too intelligent for her age." The illness began on September 19th, 1911. Slowly she got cross and peevish and irritable and slightly feverish and very constipated; there was no sickness or vomiting; sleep was broken and restlessness great—that was all. On September 23rd the mother took her to a doctor, who said there was not much wrong beyond a cold, etc., and prescribed something. The child ran about the kitchen for a time when she came back, then asked to be put to bed. Next morning, September 24th, she "couldn't stand." The affection was then supposed to be rheumatism, and the doctor who saw her on September 24th and 25th is stated on the latter day to have said that the urine on that day resembled that of an old man with gout, the quantity of uric acid crystals being so great. The child, I am told, at this time screamed out when grasped to lift her up, held herself stiff and straight out, and "couldn't sit" on a seat or on her mother's knee (that is, opisthotonos). She vomited one day, but only a little curdled milk. This condition lasted a week. Improvement began in the third week, slowly. I saw the case at the beginning of the fifth week. The child was quite well and happy, and sitting playing with toys in bed. The condition of the right leg was as follows: The muscles of the right thigh and leg were soft, atrophied distinctly, and very flaccid; the circumference of the thigh was 1 in. less and that of the calf of the leg ¾ in. less than the other. She could move it about from the knee when sitting, but could not raise it up, and she could not keep it straight under when standing. Although wrapped up in a flannel bandage, the surface was colder then the other leg, which was bare. Sensation was normal. I prescribed arsenic and natural sodium salicylate, and suggested she should be well fed; raw meat juice, milk, white of egg, Allenbury's food, bread and butter, light and clear soups; bath every night (sea salt), followed by rubbing; massage of muscles of the leg and weak galvanic current for three minutes daily to begin with. Three weeks later, the eighth after the illness began, power is coming back to leg, which feels much firmer and not so cold, she can raise it up, and is nearly able to let it fall gradually, but utterly unable to put it straight under her when standing.

If this should meet the eye of some man who has treated a number of these cases to a finish, I should be glad to hear any suggestions as to whether electricity, high-frequency current or other, would help. I tested the hip-joint thoroughly, so as to eliminate morbus coxae. Spinal meningitis, too, I thought of, but a careful description of the illness from the parents, and, above all, the swiftness of the paralysis and its completeness, negatived that too. I am publishing this case to warn men in this country of the possibility of cases turning up in their practice, so that they may be on guard. The chances are not great, perhaps, in our more northern latitude, and seeing that it is now the cold season.

ERRATUM.

WE regret that, in the list of contents of the JOURNAL of December 2nd, the qualifications of Dr. Watkin W. Jones, who contributed a letter on the treatment of obesity, were incorrectly given as M.R.C.S., L.R.C.P.—his correct qualifications are M.D., F.F.P.S., L.S.A.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

MEDICAL EDUCATION AND EXAMINATIONS.

BY

JOSEPH GRIFFITHS, M.C., F.R.C.S.,

SURGEON TO ADDENBROOKE'S HOSPITAL.

THE interest taken at the present time in medical education prompts me to write my views upon it and upon examinations. My experience as teacher and examiner has given me opportunities to observe the defects as well as the advantages in each, and I hope that my observations may be of some help to others to formulate their conceptions upon what must be of the greatest importance to the future of medicine.

With the revival of learning, and especially with such immense expansion of the range of knowledge as was seen during the first half of the nineteenth century, it was found that just the acquisition of manipulative skill was insufficient to make the apprentice a doctor. Consequently a demand arose for more knowledge of a kind the apprentice could not as a general rule obtain first hand. Gradually there came to be established lectures on anatomy and physiology, medicine and surgery, supplementary to the manipulative training; and these were attended in those early days by young men who had passed or were passing through their apprenticeship, and who had acquired almost the whole of their technical training, and had become familiar with all sorts of diseases and accidents and the way they were treated. These pupils, having already the knowledge that comes of actual contact with things, could understand what the lecturer was talking about and follow his reasonings, and could appreciate his remarks about the natural course of this or that disease, and enter fully into any detail of anatomy which gave explanation to a phenomenon already familiar but incomprehensible to them.

About the middle of the nineteenth century a most important change occurred—a change which completely altered the point of view medical men held with regard to the training and the making of a doctor. The chief result of this change was to promote further development in the medical schools in the different centres, and at the same time weaken the training given to the apprentice. As the schools extended, teachers had to be found—teachers who could collect, systematize, and rearrange knowledge from all sources. The demand soon met with an adequate response. The teachers, ever mindful of the importance of their own part of the work—as is but natural and right—increased the range of their sphere until at last it has become so great that in the ordinary period of five years allotted to a medical student it is not possible to grant sufficient time for each and all of the teachers to give to the students the knowledge they have gathered from the works of former masters, from their own labours, and from current literature. The imparting of that knowledge, which each teacher thinks is necessary for the proper training of a doctor to-day, more than occupies the field, and the difficulty now is to limit the sphere of the teachers so that a medical student shall acquire the sound and established portion of this knowledge all are so eager to impart to him, and, in addition, a modicum of that manipulative skill which later on in life is what he will depend upon for success. The growth of the lecture system has extended beyond what is reasonable. Time was when a lecture was given to supplement knowledge gained by practical acquaintance with real things, but to-day a lecture is often given so that the student of medicine may have knowledge stored either in his notebook or in some remote and hidden portion of his brain, often, it is sad to say, inaccessible to himself as well as to others. A huge organization has developed around this system, and it will not be an easy matter to make necessary changes—changes that will bring medical education back to a point where a technical training amongst the patients and in the laboratory forms a basis which needs only to be supplemented by lectures. This is, I believe, the goal that will sooner or later have to be reached, and, so far as I can see, the sooner the better.

The education of the medical student naturally divides itself into two parts: A general education in the natural sciences, together with a particular education in anatomy and physiology, and an education in all the subjects embraced in medicine.

I.

It is, I think, universally acknowledged that it is not desirable to attempt to give a student destined to become a doctor a comprehensive education in comparative anatomy, in botany, in chemistry, or in physics; nor is it to the advantage of a doctor to spend such time as would be necessary to acquire a sound general knowledge, together with all the established facts and the hypothetical views of the construction of the human body; nor, indeed, is it profitable to load or endeavour to load an impressionable brain with all the speculations, often indulged in by men of great learning and experience—speculations in physiology—in addition to the truths revealed by experiment and observation. Nevertheless, it is beyond dispute that a good general knowledge based upon practical work done by the student himself in the natural sciences may be made an invaluable instrument for training in manipulative skill, as well as in the development of the mind.

At present the education is stereotyped and each student is compelled to go through the stereotyped course and it alone. In order to show how absurd it is to insist upon a stereotyped education for one and all, it is only needful to take an example from the University of Cambridge. A student who has, let us say, taken up the study of chemistry, comparative anatomy, human anatomy, and physiology, and who after three years' study has obtained a first class degree in these subjects, finds that at the end of this period he, for some reason or other, desires to enter the profession of medicine. Such a man, without any doubt whatsoever, is better trained and better educated than the majority of the medical students. But all is of no use, for such a man must attend courses of prescribed length, and must pass examinations which we know are not so good as the one in which he has already attained, perhaps, the highest distinction, before he can enter upon the study of medicine.

To my mind, the evils attendant upon prescribing exact courses of study for the medical student are far greater than those that may possibly arise from insufficient knowledge, and one of the first steps to take in reform is to give the medical schools complete control over all the training up to the end of anatomy and physiology, and to throw upon them the responsibility of certifying the pupils as fit and proper persons to enter upon the work at the hospitals. The machinery for the training should be under the supervision of the General Medical Council in order to ensure that every facility exists for the necessary training of each student.

II.

Is not three years sufficient time to give a student training in all branches of clinical work, and to give him, in addition, all the sound knowledge concerning that work? Unhesitatingly I answer, Yes! All that is needed to carry this out is that the training shall be definitely arranged, step by step, that each pupil should undertake successively the work of each step, and that he be certified as to proficiency in that portion of the work before he proceeds to another. All the great hospitals that are at present clinical schools could, with a little modification of what they do at present, carry out such a plan. Of course under such a system no hospital could take more pupils than it could occupy, and there would be no room for the looker-on in such an institution. Naturally the General Medical Council would be the body to determine how many pupils a hospital could train—that is, the capacity of the facilities, both in laboratory and clinical work, would have to be determined.

III.

There is only one more point which I wish to refer to, and it is this: Which is the portion of the training of medical men that the General Medical Council should concern itself especially with? Clearly the most important portion of a doctor's education is concerned with the acquisition of skill in the diagnosis and in the treatment of disease. This for all practical purposes is technical work in its best sense. The General Medical Council should be as sure as it reasonably can be that each doctor possesses that degree of skill which those experienced in practice find to be necessary for the proper treatment of man and his diseases. One and all of the examining bodies now existing—corporations as well as universities—could perform

the duty of testing the students at their work, and by a simple arrangement a uniform standard, though not necessarily a stereotyped one, in the technique of medicine could be established and then maintained throughout the country. The "doctor" would receive the stamp that he possesses a sound technical training and a substantial knowledge of medicine, and I have no doubt he would be a better man than the one who now finds himself licensed to practise.

In instituting such examinations certain principles underlying their proper conduct should be kept in view, and to my mind these principles are embodied in the following:

1. That the examination should be a test in the work actually done by the student.
2. That it should be conducted where the teaching was undertaken.
3. That the test should be applied at the end of each complete course of training.
4. That the Board of Examiners should consist of at least three persons—namely: (1) The teacher; (2) a representative of the corporation or university the student is attached to; and (3) a representative from the General Medical Council. The duties of the first two should be to conduct the examination and to award marks, the duty of the last to see that a due standard of proficiency in all the technical portions of the work is attained by each candidate.

If this were done it would practically mean the establishment of a "common State qualification" having a standard in technique that must be attained by all who desire to enter upon the duties of the profession of medicine. All would then be doctors in the ordinary acceptance of the word, and a new title might be created. We should then no longer have the L.S.A., the M.R.C.S., L.R.C.P., etc., which in reality mean nothing much more than that an examination was held in one part of the kingdom, another in another, a third in Scotland, and a fourth in Ireland, and so on. Rivalry in examinations is not worth any trouble expended upon it, but rivalry in teaching in the different schools means everything to the doctors, and in the end to the public they will serve.

I can almost hear some of those who will read this cry out, "What will become of the universities, old and new, and the royal corporations under such a scheme?" Well, I think all that need happen is that these bodies turn their attention to the further encouragement of learning in all its branches, and to show their graduates that an ordinary State qualification, though sufficient to give all the State privileges, just gives all that which is necessary and not all that which is known and may be desirable. By further study useful knowledge may be gained, and I would reward men who carry their studies further by establishing degrees in the science of medicine proper, in that of surgery, in that of midwifery, and in that of hygiene. The examinations for such degrees would not be hampered in any way whatsoever by the General Medical Council, for it would have no business with them.

Conclusions.

In conclusion it may be well to collect my suggestions:

1. The General Medical Council to throw upon the medical schools the responsibility of training and certifying the medical student as a fit and proper person to enter a hospital for training in clinical work; the machinery for giving such training to be under the inspection and supervision of the Council, so as to ensure that each medical student is given facilities for proper training.
2. The clinical training to extend over a period of three years, and each student to be examined in the work done at the end of every complete course.
3. The certificates for each course to form the record of the student, and as soon as all certificates are duly filled the student to be entitled to State registration and to all the privileges such protection affords.
4. The universities and the royal colleges too, to encourage the best men to continue their studies and to proceed to examinations to test especially the quantity and quality of their knowledge in any branch, and to grant degrees, say, in the science of medicine, in that of surgery, of midwifery, and of hygiene, or whatever else may be thought desirable.

ABDOMINAL SECTION UNDER SPINAL ANALGESIA, WITH OR WITHOUT THE AID OF GENERAL ANAESTHESIA.

WITH NOTES OF SIXTY-FIVE CASES.

BY

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Although the intraspinal application of drugs is rapidly taking its place as a recognized and approved method of anaesthesia, and has, so far as the rectum, bladder, groins and lower extremities are concerned, largely replaced general anaesthesia in certain hospitals, it has not as yet proved itself absolutely satisfactory in all cases when applied to abdominal surgery. The extraordinary efficiency of such drugs as stovaine, novocain, and tropacocaine in the abolition of pain during operations on tissues governed by the systemic nervous system is to a certain degree lacking when the internal organs are submitted to operation under its influence. The results are uncertain, especially with regard to the depth of analgesia, and this uncertainty appears to be due rather to individual characteristics of the subject than to the variety of drug used, its particular dose, or to the height to which it is pushed. Thus two different patients of the same physique submitted to similar doses of the same drug, and exhibiting systemic analgesia to a similar height, will often, when the abdomen is opened and the organs are submitted to very much the same degree of manipulation, react in a totally different manner. For one may experience no discomfort whatever, while the other becomes nauseated and complains of dragging pain in the chest, which, for lack of a better term, I have called "pectoralgia"; one will require nothing but the injection already given to complete his operation, while the other will require the assistance of a slight amount of a general anaesthetic. Whatever else this diversity may be due to, it is certainly largely determined by individual sensibility, racial characteristics, the element of sex, and that of neurosis. The upper regions of the abdomen especially appear to be only slightly controlled by the intraspinal injection, even when the analgesia of the systemic nerves is fully established to a height above that which corresponds to the rami communicantes of the splanchnic area involved in the operation. Thus the analgesia may be pushed to the clavicles, and yet a gastro-enterostomy may be impossible of accomplishment. That this is not due to interference with the vagus terminals is shown by the fact that the same sensations at times attend the handling of other organs not supplied by this nerve.

These sensations of nausea and pectoralgia are especially evoked by traction upon or the application of pressure forceps to the parietal peritoneum, the stomach, the mesentery, and upper portions of the intestinal tract. Even in a simple exploratory laparotomy discomfort may be present all the time the abdomen remains open, being aggravated by the passage of the hand to its different quarters, and ceasing at once upon its closure. This would seem to point to the existence of a hyperaesthesia of the peritoneum rather than to a hyperalgesia of the organs themselves.

The lower half of the abdomen is much less affected than the upper, and most operations can be completed here without difficulty; but even here one meets occasionally with a refractory peritoneum, and a simple appendicectomy may require a brief period of general anaesthesia.

So far as I have been able to ascertain from a perusal of my own cases and from those of other surgeons, nausea and pectoralgia are the only two symptoms of any importance at all constantly associated with dragging upon or compression of the abdominal organs. I have certainly seen a slight fall of blood pressure and diaphoresis, but only occasionally, and not in any way associated with shock, being quite temporary in character; and indeed it is doubtful if these latter symptoms are in any way due

to the manipulation, as they are not infrequently seen for a brief period during the early stages of the analgesia where the operation is not a laparotomy at all.

Now it may be asked why I stand as an advocate of a method which would at first sight appear to be so uncertain, and what is to be gained by its use. In the first place, I advocate it because it is an advance—I believe a considerable one—towards the realization of a safer and sounder method of anaesthesia than that which we at present possess, and which, if not as yet perfect, will in due time and with greater experience become so. I advocate it also because *in those cases in which it has succeeded unaided by any general anaesthetic it has already proved itself perfect*, and these cases, I am glad to say, form the majority of those which form the subject matter of this paper. As will be seen—with one exception (No. 59)—I have not included any cases of inguinal or femoral hernia, although in many of the former, especially those of gigantic hernias treated by my own double-filigree method, large masses of omentum and several feet of bowel have frequently had to be manipulated, my reason being that the majority of surgeons would not be willing to allow that inguinal hernia is, strictly speaking, an abdominal condition nor its radical operation an abdominal section. Further, the parietal peritoneum forming the sac of a hernia does not appear to retain the same degree of sensitiveness as that of the abdominal cavity proper. Nor have I included any cases of appendicular abscess, since in these the peritoneum is shut off.

As regards the advantages to be gained by the employment of spinal analgesia alone or in combination with general anaesthesia, I would offer the following remarks, which, in conjunction with the appended notes, will, I think, bear out my contentions.

I. The Abolition of Surgical Shock.

Sufficient time has now gone by and sufficient experience has been gained to permit those who are especially conversant with spinal analgesia to state definitely that surgical shock, even where the analgesia has not wholly dominated the splanchnic area, is very largely, indeed in most cases entirely, abolished. In the list of my own cases there is not one, even where general anaesthesia has had to be given, in which there was any sign of shock, and yet some of them were severe and prolonged, often in nervous women, and at times in men and women of poor physique and lowered vitality. If this is so, it is surely an indication for the use of the intraspinal injection, if only as a prophylactic, even in cases in which one cannot reasonably expect to complete the entire operation under its influence.

I have repeatedly adopted this method during the last two years, and have every reason to be satisfied with it. The only real objection to be urged against it is the possibility of having to employ the Trendelenburg position, for the analgesia has risen to the height of the ensiform cartilage, or even higher, and chloroform has then to be administered and the Trendelenburg position adopted, it is, of course, possible that with the active respirations of the patient and the downward trend of the spinal theca the drug may rise to a still greater height. As a matter of experience this is little likely to occur after a period of fifteen to twenty minutes from the time of injection, unless the initial rise has been unusually high and rapid, when, in most cases, general anaesthesia will not be required. It must also be remembered that it is not every abdominal operation that requires the Trendelenburg position. It is chiefly in operating upon the upper regions of the abdomen that general anaesthesia is useful, and it is just in such cases that the Trendelenburg position is unnecessary. In cases in which its need is anticipated, it is well to stop the rise of the analgesia when the sixth dorsal area is reached. By the time the patient is prepared, and the surgeon and his assistant are ready, or at least by the time the abdomen has been opened and the preliminary investigations have been made, the patient may as a rule be placed in the Trendelenburg position without fear of any further serious rise of the drug in the theca. In fact, I have usually found it impossible, after this period, to get any further rise without the aid of a second injection. As regards the possibility of raising the analgesia higher than the origins of the phrenic nerves without causing diaphragmatic paralysis by the strychnine-stovaine method of Jonnesco,[1] I am by no means convinced that such success as I obtained in 1909[2] was due to the use of strychnine, as I have repeatedly seen analgesia reaching the clavicles without the least sign of intercostal paralysis when stovaine alone was used; and I am distinctly of opinion that strychnine shortens the period of analgesia; for this reason I have not thought it worth administering in my later cases. In Case 65 the analgesia rose as high as the third cervical nerve.

There is no objection, so far as can be seen, to the administration of any general anaesthetic in combination with spinal analgesia, and in no case of my own, nor, so far as I am aware, in that of any other surgeon, has an accident occurred as the result of such combination. Clearly, however, if a patient is analgesic to his clavicles, in most cases his intercostal respiration is in abeyance, and it is open to question how far it is safe to allow him to depend on his diaphragm alone. It would not be wise in the case of stout, heavy men, nor in elderly subjects with obvious osteo-arthritic changes in the thorax. Analgesia to the clavicles, however, is little likely to require the assistance of general anaesthesia.

It is noteworthy that if general anaesthesia is required, a very insignificant amount of chloroform or ether will suffice to abolish the discomfort to the patient, and as the abdominal walls are already under the influence of the spinal injection, there is no necessity for deep anaesthesia. One of the best testimonials to the efficacy of spinal analgesia in the abolition of shock is to be found in the statement by Tyrrell Gray in his article on this subject with regard to children,[3] namely, that "with the exception of one case of resection and anastomosis, no case of intussusception has been lost under spinal anaesthesia, one case of appendicitis with practically general peritonitis has died on the eighth day, and only one case of pneumococcal peritonitis (other than pyaemic) has been lost up to the time of writing." This article, it must be remembered, covers a series of 200 cases of spinal analgesia in children.

The blockage of the particular afferent impulse which results in shock has been proved to be one of the most constant results of spinal analgesia, and to actuate over a period extending far beyond that in which mere pain is subdued. Thus, not only is immediate shock abolished, but that which is termed "delayed shock" is in most cases prevented. Should this latter complication make its appearance, however, it should be met by a second injection. The cases on my list to which I would especially draw attention as examples of severe or prolonged operations in which shock was entirely absent, and in which such absence would have been quite unusual had general anaesthesia alone been employed, are Nos. 3, 4, 6, 8, 9, 27, 31, 36, 50, 52, 55, 56, 57, and 59; the last four were especially remarkable, and I am convinced that these patients, with the exception of No. 56, are alive to-day as the direct result of the immunity to shock given by the method under discussion.

II. The Avoidance or Minimizing of the Danger of Certain Complications.

The greatest danger attending the prolonged handling of abdominal organs, next to that of shock, is that of *intestinal paresis*. If by any means in our power we can minimize this risk we ought certainly to adopt it, at least in those cases which from their nature suggest the probability of its occurrence after operation. Such are those of very large ventral hernias; those requiring extensive separation of adhesions; those involving the resection of unusual lengths of bowel; and those necessitating prolonged manipulation of the mesentery and structures in the portal fissure. Since ileus or peritoneal shock depends on transmitted peripheral nerve impulses in the splanchnic, just as general shock depends upon a similar condition in the systemic area, the cutting off of such impulses by the interposition of a temporary root paresis, such as that provided by spinal analgesia, must go far towards preventing the development of this dreaded phenomenon.

Again, it is obvious that where no general anaesthetic is given there is *no risk of bronchitis or pneumonia* due to this cause; and equally, where very little is required, such risk, if not entirely abolished, is at least greatly reduced. It is thus possible to submit safely to operation patients

who would under general anaesthesia run a very serious risk; for even when such anaesthesia is required to supplement spinal analgesia it is only administered for a short period, in very small quantities, and is never pushed to such a stage as would interfere with conjunctival or laryngeal reflexes. *Thus the average period of anaesthesia for the 18 cases in which it was used was fourteen minutes; the longest administration forty, and the shortest three minutes.* The immediate result of this combined method is the speedy return of the patient to his normal state of bodily comfort, as compared to the marked depression, anorexia, and nausea so frequently met with after prolonged anaesthesia. Feeding can be proceeded with at once, stimulants can be given, and the burden of nursing is materially reduced.

Similarly, patients whose cardiac condition would be an absolute bar to their undergoing any prolonged operation under general anaesthesia can be dealt with, frequently by spinal analgesia alone, always by the combined method, with a degree of safety which fully warrants their being submitted to such operation; such are cases of aortic aneurysm, double aortic and mitral disease, fatty degeneration of the heart, etc. The latter is perhaps the least favourable condition, since quite apart from the danger of anaesthesia, its victims do not react well after any operation, and in them the mortality of any extended procedure is always rather high. Thus, I have seen patients, both in my own practice and in that of other surgeons, come through their operation apparently in perfect safety, only to die at the end of five or ten days (note Cases 50 and 56), nothing being found at the autopsy to account for their deaths save extensive fatty infiltration of the heart. It must be understood that these are cases in which the burden of life has become sufficiently heavy to justify us in putting the victims to so considerable a risk. The mortality *must* always be high, but the number of cures in such cases is ample justification for entertaining hopes of a less tragic sequel. And here I would again state most emphatically that stovaine, the drug I have almost constantly employed, is *not* a cardiac depressant. Its action is probably to a slight extent vaso-dilator, but its influence in this direction is very brief and very limited, and it will be found that a patient who enters the operating theatre with a pulse of 140 will soon after injection be found to have a frequency of only 80 or 90, the beats being strong and regular (Cases 31 and 52).

Where spinal analgesia is used alone, post-operative vomiting is of the rarest occurrence, and when present is even more rarely anything but a simple regurgitation. The same holds good for the combined method; possibly sickness may be slightly more frequent, but in my own experience it has been quite rare after the combined method as compared with its almost constant and often violent and prolonged occurrence after general anaesthesia alone. This is a point which I think ought to appeal to the more progressive surgeon, since the strain on sutures and the consequent risk of post-operative hernia is greatly diminished,* the dryness of the wound lessens the risk of infection, a matter of importance where the operation concerns the implantation of large silver filigrees, and the patient starts convalescence free from the exhaustion and starvation which so greatly prejudice his chances. Further, the quietness of the circulation and the absence of straining greatly diminishes the chance of persistent oozing into such cavities as the bladder, stomach, or bowel.

III. The Ease of Operating is Greatly Increased.

As has been pointed out by many writers, the abdomen under the influence of spinal analgesia presents a very different aspect to that which it exhibits under general anaesthesia, so far as the surgeon is concerned. It is flaccid, quiet, undisturbed by the involuntary efforts of straining and forced respiration which are often unavoidable in certain cases of general anaesthesia. Its walls are easily drawn aside without the disconcerting rush of intestinal coils so often seen in these cases, and especially so when the incision, as in cases of gigantic ventral hernia, at times reaches almost from the ensiform cartilage to the pubes. For the same reason these walls are easily approximated afterwards without the troublesome tendency of sutures to cut out through peritoneum, muscle, and fascia. In cases of intestinal or gastric perforation, appendicular abscess, pyosalpinx, etc., the ease with which the intestinal coils can be examined is of the greatest advantage, and saves the patient much unnecessary danger.

The immediate result of these advantages is that many abdominal sections can be performed in two-thirds of the time usually required under general anaesthesia.

IV. The Advantage of Retained Consciousness.

A point to which I have elsewhere drawn attention is the importance of being able to obtain from the patient on the spot permission to proceed to any special modification of the originally intended limits of the operation. Thus, for instance, the necessity may be found on opening the abdomen for the removal of both ovaries where only one was believed to be diseased, or possibly even a panhysterectomy may be required to which the patient had not previously given her consent. Such extension of operation under general anaesthesia when permission cannot be obtained has already been proved to be an extremely risky proceeding, and would now necessitate the closing of the abdomen, the obtaining of such permission, and the performance of a second operation.

Under this heading also may be put the advantage to the patient who has undergone a really serious operation of emergency. If seriously ill and in danger of death, he may still be in a position to sign a deed or leave directions to his friends, a thing which might be impossible had a general anaesthetic been used.

V. The Fact that it is Possible to Complete Many Abdominal Sections under Spinal Analgesia alone.

As will be seen from the cases which form the subject of this paper, the partial failure of spinal analgesia to control unaided the sensibility of the splanchnic area is no good reason for refusing to acknowledge its possibilities. In the majority of cases it is possible to complete an operation by its means alone with entire satisfaction to both patient and surgeon. Of the cases here reported (65) no less than 47, a proportion of 72.3 per cent., were done entirely under spinal analgesia, while, as already stated, in the remaining 18 the average duration of general anaesthesia administration was fourteen minutes, the longest administration—namely, forty minutes—being incidental to an operation of two hours' duration. The mere fact that, as in this latter case, a weakly and elderly patient may be saved the ordeal of a general anaesthesia lasting two hours, by substituting for it a very light administration of forty minutes, is a gain that the most confirmed supporter of general anaesthesia can hardly deny.

From considerations of space, I have been compelled to report the cases as briefly as possible; they are, however, consecutive, and, to the best of my belief accurate in all details. The temperature and pulse-rate given at the end of each case represent the highest readings in the five days immediately following operation; in this way I have avoided the possibility of a record of "delayed" shock being overlooked. It must be remembered that a rise of temperature is almost invariable for forty-eight hours or four days after stovaine injections, the average being about seventy-two hours, and the usual reading ranging from 100.2° to 98.8°.

In most of the cases in which a pulse-rate is recorded which would seem to indicate the occurrence of post-operative shock, it must be stated that other causes were present to account for such pulse-rate; thus, in Case 1 the patient was at the time of operation suffering from shock, and was extremely ill; the immediate result of the injection was a fall in the pulse-rate from 150 to 144, and subsequently to 110. In Case 13 there was, so far as could be seen, nothing to account for the pulse-rate of 1[illegible]. As the patient had an unduly rapid pulse all the time she was in hospital, and yet appeared to be in perfect health it was presumably physiological in her case.

Case 14 was again that of a patient who was *in extremis*, her operation being done hastily as a forlorn hope. The pulse of 116 in No. 17 was recorded on the fifth day, and probably indicated the occurrence of deep suppuration, as his umbilical and inguinal wounds subsequently discharged; he was

* I have twice had all the deep stitches burst at the end of an operation under general anaesthesia. In one the accident occurred on the table, and was dealt with; in the other a recurrence of the hernia resulted in six weeks, the stitches having been ruptured three days after operation, vomiting having lasted for five days.

ese and plethoric subject and in poor health at the time operation. The sweating recorded in his case was thing more than that which is occasionally seen for short period on the table about ten minutes after injection; it was not due to shock, as will be seen from the lse-rate recorded with it.

In Case 19 the pulse-rate of 120 was due to distension the bowels three days after operation, and was relieved the rectal tube. In Case 27 the rate was a decreasing and not an increasing one, the reading *before* eration being 140, the patient being very ill. In se 30 the pulse-rate was little affected by the operam, the patient being emaciated and feeble at the time. . 32 at the time this reading was taken (namely, ird day), owing to the circumstances of the operan, had a drainage tube in the abdomen; before is it had always been under 100. No. 35 renbled No. 13 in the fact that he appeared to in perfect health in spite of his pulse-rate of 124. . 42 was another case of a patient in a very grave te with rapid pulse before operation; as this rate fell m 130 to 110 after injection, his *shock was distinctly enced* for the time being. So completely devoid was . 50 of anything like shock after operation that I eady congratulated myself on her recovery. Her conion altered so rapidly before death that it was clear t her pulse-rate of 120 was due to commencing cardiac ure and not to delayed shock. In No. 55 the patient s intensely septic, and his recovery I attribute almost irely to the employment of spinal analgesia, his shock g markedly decreased by his injection. No. 56 ely resembled No. 50. Both were enormously stout ents with fatty hearts; both came through very re operations without a sign of shock; both died as result of cardiac failure, and in both the pulse ran up tly before death.

all there were 8 deaths, and the question arises, ld any of these be attributed to the effects of spinal gesia? The analysis shows the following points:

Analysis of Deaths.

eration.	No. of Cases.	Lived after Operation.	Spinal Symptoms.	Shock.	*Post-mortem* Findings.
al hernia	1	48 hours	Nil	Nil	Cardiac failure; fatty heart and liver.*
lical hernia	1	6 days	Nil	Nil	Cardiac failure; advanced fatty degeneration of all organs.*
ostomies..	3	4 hours	Nil	Nil	Cardiac failure.
		10 ,,	,,	,,	Sloughing gall bladder.*
		4 days	,,	,,	Cardiac failure.
stomy	1	36 hours	Nil	Nil	Cardiac failure.
enous ppendix	1	4 days	Nil	Nil	Pulmonary embolism.
rectomy..	1	10 days	Nil	Nil	Uraemia; calculous anuria.

hese cases only was it possible to examine the spinal meninges d; in all of them they were normal.

ill thus be seen that none of the deaths recorded n any way connected with the method in question, such cases as Nos. 26, 27, 38, 55, 57, and 58 serve ve the value of spinal analgesia in some of the st cases in surgery. It is interesting to note, in of certain Continental reports, that the only case showed any trace of albuminuria after injection o. 49, and she had albumen in her urine before ion.

onclusion, the results in these cases are, I think, ntly encouraging to warrant our attempting to the method more frequently in abdominal surgery, ing it when necessary with general anaesthesia. ot improbable that it may be found possible to even this general anaesthesia by injections of mine and morphine in the near future, and so ne the hypersensitiveness of the peritoneum and l organs. If this proves to be the case, a very l advance will have been made in our methods of with the abdomen and its contents. As regards the method of injection, I would draw attention to the fact that in all of these cases, with the exception of Cases 8 and 9, the *lateral position* was used.

NOTES OF CASES.

CASE 1.—*Complete Procidentia of the Uterus: Ventrifixation by Author's Method of Filigree Suspension.*

S. D., married, aged 47. Complete prolapse for thirteen years. Injection 6 cg. stovaine-glucose solution in third lumbar interspace. Analgesia to sixth dorsal. Some temporary discomfort on packing abdomen with gauze. Dragging on uterus caused no discomfort. Analgesia lasted eighty minutes. No after-effects other than pyrexia and slight headache. Patient expressed her satisfaction with method. Pulse 88, temperature 99.6°.

CASE 2.—*Appendicectomy.*

C. McD., male, aged 26. Injection 6 cg. in third lumbar interspace. Analgesia to fifth dorsal. Analgesia lasted forty minutes. Vomited twice after operation. No headache. Felt some dragging on bowel; chloroform three minutes towards end of operation. Patient stated afterwards only some discomfort, no pain. The case was uncomplicated and with but few adhesions. Pulse 80, temperature 99.2°.

CASE 3.—*Ventral Hernia (Gigantic): Implantation of 8-in. Filigree.*

E. P., married woman, aged 47, with a very large median ventral hernia containing caecum, appendix, 3 feet of small intestine and a large mass of omentum. Injection 6 cg. in second lumbar interspace: analgesia to third dorsal; adhesions very dense; much time occupied in detachment. Duration of analgesia seventy-five minutes—hardly sufficient to complete operation. Patient complained of dragging on bowel. Chloroform given for ten minutes. No symptoms on table; slight headache afterwards. Two pounds' weight of omentum removed and an 8-in. filigree implanted. Convalescence uninterrupted. Pulse 96, temperature 100°.

CASE 4.—*Total Hysterectomy for Uterine Fibroids.*

A. B., unmarried woman, aged 48; a hospital nurse. Patient at her own request was submitted to operation under spinal analgesia. Injection 7 cg. in dorsi-lumbar interspace. Analgesia to fourth dorsal. Incision from midway between ensiform and umbilicus to pubes. Operation required much gauze packing and manipulation of organs. Patient exhibited no symptoms on table, felt nothing at all of operation, nor did her pulse-rate vary ten beats throughout. Analgesia lasted ninety minutes. Uterus and tumour weighed 8 lb. Patient made an excellent recovery. Pulse 82, temperature 100°.

CASE 5.—*Appendicectomy.*

A. S., male, aged 19. Injection, 6 cg. in third lumbar interspace. Analgesia to eighth dorsal. Did not last well; although operation lasted only thirty minutes, patient began to feel dragging on caecum and appendix at end of twenty minutes. Appendix found sloughing, but no perforation. Chloroform given for five minutes. No after-effects other than two days' pyrexia. Convalescence uninterrupted. Pulse 84, temperature 101.2°.

CASE 6.—*Enterostomy for Paralytic Ileus.*

J. P., male, aged 32. Patient was extremely ill, having recently recovered from the effects of an acute osteo-myelitis, and having the week previously been operated upon for biliary obstruction due to chronic pancreatitis, a cholecystenterostomy being performed. Ileus developed with faecal vomiting. Pulse 150. Injection 6 cg. in third lumbar interspace. Analgesia to fourth dorsal. Ileum opened in last 10 in. Condition on table good, no pain or discomfort; pulse fell from 150 to 144. After-condition good; vomiting ceased, bowels recovered, but patient died ten days later from sloughing of the gall bladder. Autopsy showed perforation of anterior wall of organ; anastomosis sound; general peritonitis commencing; cord and meninges normal. There is little doubt that this patient would have died on the table under a general anaesthetic, so extremely exhausted was he. Pulse 144, temperature 101°.

CASE 7.—*Ventrifixation of the Uterus by Filigree Suspension for Complete Procidentia (Author's Method).*

B. W., married, aged 37, had suffered from complete procidentia for some years. Injection 7 cg. in third lumbar interspace. Analgesia to sixth dorsal. Patient complained of nothing till uterus pulled up to abdominal wall, when some nausea and "pain in chest." As morphine did not affect this, chloroform was given for ten minutes. Abdomen remained flaccid, and intestines quiet throughout. No after-effects save pyrexia; patient made a good recovery. Pulse 100, temperature 100.6°.

N.B.—This patient has since been confined at full term without assistance.

CASE 8.—*Excision of Caecum, Appendix, and Four Inches of Ileum for Myxosarcoma.*

A. S., a male, aged 21. A pale, thin lad, who had had recurrent attacks of pain in the right iliac fossa without temperature, accompanied by vomiting. He looked very ill, and presented a firm mass in the region of the appendix. Injection 7 cg. in the second lumbar interspace in sitting posture. Analgesia to eighth costal cartilage. Abdomen opened to left of linea semilunaris; mass found involving structures named. Separation of adhesions gave rise to nausea and pectoralgia;

as this persisted, chloroform given for twenty-five minutes and the whole mass excised. A lateral anastomosis was performed by Murphy's button between the ileum and the ascending colon. Shock was entirely absent, although operation lasted nearly two hours, and patient made a good recovery. Pulse 80, temperature 100.4°.

CASE 9.—*Umbilical Hernia (Gigantic) and Implantation of 8-in. Filigree.*

S. C., a very stout woman aged 42, and weighing 18 stone. Has had a large umbilical hernia for many years. Injection, 6 cg. in dorsi-lumbar interspace in sitting position; difficult owing to lack of bony landmarks and great depth of fat. Analgesia to clavicles; patient was anxious owing to inability to cough. Diaphragmatic respiration, however, good, and a little oxygen served to make her quite comfortable. Operation conducted entirely under spinal anaesthesia without difficulty, an 8-in. filigree being implanted. Operation lasted ninety minutes, and the analgesia at the umbilicus 2.5 hours. No after-effects except pyrexia. Patient made a good recovery. Pulse 98, temperature 101°.

CASE 10.—*Ventrifixation of Uterus by Filigree Suspension (Author's Method).*

B. R., married, aged 65. Complete procidentia for seven years. Injection 6 cg. in third lumbar interspace. Analgesia to fourth dorsal. No pain nor discomfort on pulling on uterus. Operation lasted seventy minutes. No shock, sickness, nor headache. Patient said she felt nothing whatever of the operation. Good recovery. Pulse 100, temperature 100.3°.

CASE 11.—*Appendicectomy.*

B. R., male, aged 20. Fourteenth day of first attack. Injection 6 cg. in second lumbar interspace. Analgesia to eighth dorsal. No symptoms on table; patient comfortable. Incision internal to semilunar line; appendix found behind caecum, puffy and inflamed; few adhesions. Operation lasted thirty-five minutes; analgesia lasted ninety minutes. No after-effects; good recovery. Pulse 96, temperature 99.4°.

CASE 12.—*Ventrifixation of Uterus by Filigree Suspension (Author's Method).*

J. D., unmarried, aged 50. Sent to me by Dr. Boyd Robson. Complete procidentia for twelve years. Injection 6 cg. Analgesia to eighth dorsal. Patient felt some dragging and was nauseated in middle of operation. Chloroform given for five minutes. Operation completed under spinal analgesia. No shock or other after-effect. Good recovery. Pulse 79, temperature 99.5°.

CASE 13.—*Ventrifixation of Uterus by Filigree Suspension (Author's Method).*

K. O., married, aged 34. Sent by Major Norrington, R.A.M.C. Complete procidentia five years. Injection 6 cg. in second lumbar interspace. Analgesia to sixth dorsal. Felt nothing till almost the end of operation, when she complained of nausea and pectoralgia. Operation completed under chloroform for five minutes. No after-effects save rapid pulse, which appears to be natural to her, and pyrexia. Patient stated that she was very pleased with the method (she has had general anaesthesia before), and made a very good recovery. Pulse 136, temperature 100.8°.

CASE 14.—*Caecostomy for Acute Intestinal Obstruction*

H. W., male, aged 49. Brought into hospital almost moribund, with history of faecal vomiting for three days. No cause of obstruction discovered. Injection 6 cg., in second lumbar interspace. Analgesia rose to fourth dorsal, when vomiting ceased. Caecum brought out and opened. Nothing felt of operation, and patient said he was much more comfortable after injection made. Pulse, which was running at 140, came down to 110. Patient, however, died four hours later, and was found at autopsy to have a malignant stenosis of the first part of the rectum.

CASE 15.—*Appendicectomy.*

C. B., male, aged 18. Recurrent attacks of pain for five months. Injection 6 cg. in second lumbar interspace. Analgesia to second dorsal. Slight retching, some diaphoresis, and pallor ten minutes later. Soon cleared up, and patient was perfectly comfortable, although towards end of operation analgesia was found to have extended to seventh cervical area; the intercostals were not notably affected. Appendix removed. No after-effects. Good recovery. Case uncomplicated by adhesions. Pulse 114, temperature 100.4°.

CASE 16.—*Ventral (Appendicular) Hernia: Implantation of 5-in. Filigree.*

F. A., male, aged 18. Operated upon in Chatham in 1907 for suppurating appendix; wound drained; recurrent abscess in 1908 in scar, again operated upon. Now marked bulging through both operation sites. Injection 6 cg. in second lumbar interspace. Analgesia to eighth dorsal. Many adhesions; operation very difficult. Some discomfort on separating ileum from sac, but not sufficient to necessitate chloroform. No toxic signs on table or after operation except pyrexia. Patient made an excellent recovery. Pulse 90, temperature 100.6°.

CASE 17.—*Umbilical Hernia: Implantation of 7-in. Filigree.*

G. D., male, aged 41. Has had umbilical and inguinal hernias since birth. Injection 6 cg. in second lumbar interspace. Analgesia to second dorsal. On separation of adhesions patient complained of "pain in chest," and sweated profusely. Pulse 82. Chloroform given for twenty minutes. Sigmoid found adherent to sac; adhesions separated, and 7-in. filigree implanted. Operation completed under spinal analgesia alone. No after-effects. This wound subsequently broke down, and part of the filigree had to be removed, a second filigree being implanted at a later date. Pulse 116, temperature 100.4°.

CASE 18.—*Appendicectomy.*

H. N., male, aged 18. Second attack of appendicitis; operation on tenth day. Injection 6 cg. in third lumbar interspace. Analgesia to sixth dorsal. Appendix removed through separate in muscles. Patient felt nothing of operation, and exhibited no toxic signs on table. Good recovery. Pulse 79, temperature 98.9°.

CASE 19.—*Reposition of Caecum after Caecostomy.*

J. T., male, aged 40. Patient had had caecostomy done for ileus following a gastro-enterostomy. Injection 6 cg. in third lumbar interspace. Analgesia to sixth dorsal. Caecum detached, wound invaginated by three rows Lembert sutures, and bowel returned to abdomen; wound packed with gauze. No symptoms of any kind on table or after operation, except some distension which accounted for his pulse-rate. Good recovery. Pulse 120, temperature 99.2°.

N.B.—This patient again came to operation for hernia of his scar (see Case 24).

CASE 20.—*Appendicectomy.*

F. B., male, aged 18. First attack, tenth day. Injection 6 cg. in second lumbar interspace. Analgesia to ninth dorsal. Appendix removed with some difficulty owing to intimate adhesion to caecum. No symptoms on table and operation was devoid of pain, but an hour after injection analgesia was found to have mounted to second dorsal, and patient was rather cyanosed and retched once or twice. The I attribute to the carelessness of the porters, who took him upstairs feet first and in their ignorance handled him rather roughly. He was the only case on the list that had to be taken upstairs. Made a good recovery. Pulse 84, temperature 99.8.

CASE 21.—*Ventral (Appendicular) Hernia: Implantation of 7-in. Filigree: Appendicectomy.*

L. L., male, aged 30, sent me by Dr. M. J. Longinotto. He had an appendicular abscess nine months previously; operation was done, but appendix not removed. Sinus persisted and from it a calculus was ejected six months later; healing followed by hernia. Injection 6 cg. in second lumbar interspace. Analgesia to fourth dorsal. Old cicatrix and sinus removed; appendix found very adherent behind caecum, and removed. Peritoneum repaired and 7-in. filigree implanted. Patient felt nothing of operation, in spite of much pulling on the bowels. Slight headache, yielding to aspirin, after operation. Excellent recovery. Pulse 76, temperature 99.4°.

CASE 22.—*Ventrifixation of Uterus by Filigree Suspension (Author's Method).*

L. D., married woman, aged 27. Complete procidentia for over two years following confinement. Injection, 6 cg., in third lumbar interspace. Analgesia to fourth dorsal. Intestines packed back, uterus withdrawn, filigree implanted in anterior wall of uterus, floor of pelvis, and abdominal wall as high as umbilicus. Patient was slightly nauseated for a few minutes at commencement of operation, after which she was perfectly comfortable; no sickness. Operation lasted seventy minutes, and analgesia at umbilicus ninety-five minutes. No after-effects other than pyrexia. Good recovery. Pulse 120, temperature 100°.

CASE 23.—*Appendicectomy.*

W. P., male, aged 21. First attack; operation on seventh day. Injection 6 cg. in second lumbar interspace; analgesia imperfect, rising only to twelfth dorsal. Second injection given, 4 cg. in same space; analgesia to ninth dorsal, but not very deep, as patient from time to time complained of sensations of dragging; he, however, would not have a general anaesthetic. Appendix found acutely kinked and inflamed; removed. No after-effects. Convalescence normal. Pulse 76, temperature 100°.

CASE 24.—*Ventral (Appendicular) Hernia: Implantation of 6-in. Filigree.*

J. T., male, aged 40. Hernia resulting from reposition of caecum (see Case 19) after caecostomy. Injection 6 cg. in dorsi-lumbar interspace; analgesia to fourth dorsal. Cicatrix excised and appendix removed.* Filigree implanted after extensive separation of adhesions. No difficulty encountered; patient remained perfectly comfortable, and, having twice before had chloroform, volunteered statement that he much preferred spinal analgesia. No after-effects. Convalescence normal. Pulse 88, temperature 98.4°.

CASE 25.—*Epigastric Hernia.*

J. C., male, aged 35. Small hernia of spontaneous origin half-way between umbilicus and ensiform cartilage. Injection in this case after Jonnesco's formula: Stovaine (pure) 1 + strychnine 1 mg., in the seventh dorsal interspace;

* It is my invariable rule to remove the appendix before implanting a filigree here; if this is not done there is always the possibility of appendicitis occurring where the appendix has not been removed, the time of its suppuration, in which case the filigree would be destroyed by operation.

and shoulders dependent; analgesia from eyes to groins, and very perfect. Sac excised and muscles approximated. No pain, nausea, nor sickness. Respiration quite uninterfered with. No after-effects other than pyrexia. Pulse 90, temperature 100.2°.

N.B.—This case subsequently recurred and was cured by filigree implantation.

CASE 26.—*Perforated Duodenal Ulcer: Laparotomy.*

H. L., male, aged 26. Admitted to hospital in a very feeble and desperate condition, having apparently suffered perforation sixteen hours previously. Injection after Jonnesco's formula: Stovaine (pure) 10 cg. + strychnine 1 mg., in dorsi-lumbar interspace; analgesia to second dorsal. Ulcer found on posterior aspect of the second part of duodenum and partially sealed off. Much pus among the intestinal coils and in the pelvis. Site of ulcer packed with gauze four days; abdomen swabbed out and drained through loin and pubes. Patient felt nothing of operation; no vomiting; condition on table, if anything, improved by injection. Operation lasted seventy minutes. Good recovery. Pulse 96, temperature 100.8°.

CASE 27.—*Perforated Appendix: General Peritonitis: Laparotomy.*

H. C., male, aged 32. In London Hospital two years ago for appendicitis; condition of kidneys at this time precluded operation. On admission had apparently perforated six hours previously. Looked extremely ill; typical facies Hippocratica; pulse 135. Injection 6 cg. in third lumbar interspace. Analgesia to eighth dorsal, and quite perfect. Pus and lymph in abdomen and pelvis; appendix found adherent to caecum, and perforation near base; removed; abdomen swabbed out; drainage through wound and above pubes. Patient felt nothing of operation and his condition was distinctly improved by the injection. Good recovery. Pulse 120, temperature 104°.

CASE 28.—*Appendicectomy.*

R. F., male, aged 25. Has had three attacks in the last twelve months, temperature ranging from 100° to 102.5°. Injection cg. in third lumbar interspace; analgesia to seventh dorsal. ncision internal to semilunar line. Appendix very friable, ith recent adhesions to omentum and old ones to caecum. mentum ligated and removed. No toxic signs on table and no fter-affects. Analgesia perfect. Pulse 89, temperature 102°. ood recovery.

CASE 29.—*Oöphorectomy.*

K. M., unmarried woman aged 36. A nervous, thin woman ffering for some years from right-sided ovarian pain. Injecon after Jonnesco's formula: Stovaine (pure) 8 cg. + strychnine mg., in dorsi-lumbar interspace; analgesia to fourth dorsal. o pain felt; no nausea; no after-effects. Right ovary and be found bound to floor of pelvis by adhesions; removed. ood recovery. Pulse 82, temperature 99.8°.

CASE 30.—*Gastrostomy for Carcinoma of Cardia.*

C. R., male aged 60. Gradual wasting and inability to swallow lid food. This patient was sent into hospital much too late, d was only operated upon at the earnest request of his relaes. Injection after Jonnesco's formula: Stovaine (pure) 6 c.g. + chnine 1 mg., in second lumbar interspace. Analgesia to rth dorsal, but imperfect. Patient complained of dragging soon as the stomach was drawn out of abdomen. Chloroform en for twenty minutes. Witzel's gastrostomy done. Patient dually sank and died thirty-six hours later. His pulse ran to 120 shortly before death, although on the table it was er over 90.

CASE 31.—*Oöphorectomy: Appendicectomy: Myomectomy.*

S. C., a thin, nervous married woman of 43, sent me by Dr. ft Watts, of Farnborough, suffering from a large abdominal nour and pain in the region of the appendix. Before operaa this patient's pulse was 130 from nervousness. Injection r Jonnesco's formula: Stovaine (pure) 6 cg. + strychnine g., in dorsi-lumbar interspace. Analgesia to fourth dorsal. soon as abdomen opened, and patient informed that operation been in progress some minutes, her pulse fell to 88, and er rose above this again. Right ovary size of a Rugby footand filled with old blood, found adherent to appendix, which long and hyperplastic; there was also a fibroid of the us the size of a Jaffa orange projecting from the right side iat organ; this was enucleated, and the ovary and appendix e removed. Patient knew neither when the operation began when it finished. There was neither nausea, discomfort, ness nor shock, and she made a rapid recovery. Pulse 98, perature 100.4°.

CASE 32.—*Gangrenous Appendicitis: Drainage.*

H., male, aged 23. Admitted during his second attack. ase appeared to be subsiding, but on tenth day his temture rose suddenly and he had tenderness over the appen- Injection 6 cg. in third lumbar interspace; analgesia to dorsal. As soon as peritoneum opened an almond-shaped dus was extruded into the wound, and appendix found to timately bound to caecum, ileum, and abdominal wall, o be gangrenous at the tip, the whole site being intensely ned. Area cleansed and packed with gauze. Patient felt ng of operation and was quite comfortable. No afters; temperature normal on third day. On the fourth his ran to 100, and his temperature to 99.5°, and on the morn- f the fifth day, while being placed on the bedpan, he suddenly collapsed, his pulse being then 120, and he died almost at once. Autopsy showed large *ante-mortem* clot in pulmonary artery.

CASE 33.—*Appendicectomy.*

J. T., male, aged 20. Second attack. Operation on tenth day. Injection 6 cg. in second lumbar interspace; analgesia to tenth dorsal. Patient vomited once on manipulation, after which he was comfortable. Appendix adherent to caecum and abdominal wall; small concretion at base. Analgesia perfect after first five minutes. Appendix removed. No after-effects. Recovery normal. Pulse 100, temperature 101.4°.

CASE 34.—*Ventrifixation (Simple).*

G. G., unmarried woman, aged 40. A nervous woman but of good physique, sent me by Dr. J. M. Brydone. Has had prolapse of uterus of second degree for four years. Injection 6 cg. in third lumbar interspace; analgesia to eighth dorsal. Shortly after injection she became faint and sweated for about fifteen minutes. She also complained of pectoralgia when uterus drawn into wound. Chloroform was therefore given for fifteen minutes and operation completed under its influence. Her symptoms on table were, I think, largely nervous, and were never serious, nor did they cause any anxiety. No after-effects. Recovery normal. Pulse 78, temperature 99°.

CASE 35.—*Appendicectomy.*

H. G., male, aged 16. Has always had pain in right side of abdomen from time to time. Suffered from Raynaud's disease about four years ago, affecting his fingers, toes, and ears. This is his second definite attack of appendicitis. Injection 6 cg. in third lumbar interspace; analgesia to sixth dorsal. No toxic symptoms. Appendix found adherent and much lymph in vicinity; removed. No after-effects. Convalescence normal. There was nothing to account for his pulse-rate, his condition being excellent all the time. Pulse 124, temperature 99.4°.

CASE 36.—*Ventral Hernia (Gigantic): Implantation of 9-in. Filigree.*

J. H., a stout woman aged 50, with an enormous ventral hernia of some years' standing, for which she was sent to me by Dr. Fleming, of Hampstead. Injection after Jonnesco's formula: Stovaine (pure) 8 cg. + strychnine 1 mg., in second lumbar interspace; analgesia to third dorsal. The operation was difficult, owing to the density of the adhesions. Sac contained the entire omentum, transverse colon, and about 10 feet of small intestine. In spite of prolonged handling of the bowels, the operation, which lasted fifty minutes, was entirely devoid of discomfort, nausea, and shock. Pulse remained regular throughout. There were no after-effects. Patient developed facial erysipelas on the eighth day, but this cleared up rapidly. Good recovery. Pulse 76, temperature 98.6°.

CASE 37.—*Ventral Hernia.*

W. B., male, aged 62. Hernia followed a suprapubic prostatectomy done abroad some years previously, and was of the size of a Jaffa orange. Injection 6 cg. in third lumbar interspace; analgesia to eighth dorsal. Sac opened and adhesions of small intestine detached; bladder separated from margins of wound; simple approximation of recti muscles. Patient felt nothing of manipulation; no nausea; no after-affects. Convalescence normal. Pulse 76, temperature 97°.

CASE 38.—*Panhysterectomy and Oöphorectomy.*

This case was injected by me at the request of Mr. J. Bland-Sutton, who operated upon her, in order to avoid the danger of general anaesthesia. The following notes were kindly given me by Mr. Bland-Sutton: "The patient was a stout woman of 58 years of age, with a large calcified fibroid in the uterus and a big ovarian cyst extending high under the costal arch. Heart was pronounced to be in a state of fatty degeneration by a physician and an anaesthetist. Operation urgently necessary on account of the tumour embarrassing respiration. Administration of ether or chloroform considered to be attended with very grave risks. Intradural injection of stovaine. Operation easily completed. Patient ate her usual dinner six hours after the operation. Recovered quickly and easily. In excellent health eight months later." Injection 6 cg. in dorsi-lumbar interspace to one side of middle line owing to ossification of supraspinous ligament. Analgesia to second dorsal. No toxic symptoms. Patient said she "felt as if she were in a warm bath." The operation involved a very great deal of traction and severe manipulation of abdominal contents, but she felt nothing of it. Pulse 78, temperature 99.2°.

CASE 39.—*Appendicectomy.*

H. H., male, aged 42. Developed appendicitis whilst in medical wards for pneumonia. First attack. Operation tenth day. Injection 6 cg. in third lumbar interspace; analgesia to seventh dorsal. Appendix found behind caecum and adherent; removed through separation in muscles. No discomfort; no after-effects. Recovery normal. Pulse 70, temperature 99.2°.

CASE 40.—*Ventral Hernia: Implantation of 7-in. Filigree.*

M. H., unmarried woman, aged 45. This patient, sent to me by Dr. Forsyth of Southend, had been operated upon for appendicitis four years previously by another surgeon, and two years later by the same surgeon for an ovarian tumour, both of these operations being done through the same incision. A ventral hernia developed, and at time of operation the gap admitted the whole hand edgewise into the abdomen. Injection 6 cg. in

third lumbar interspace; analgesia to sixth dorsal. Patient felt nothing of the operation, which was an extensive one, till within five minutes of the end, when she complained a little of the upper sutures. It was not bad enough to induce her to have general anaesthesia, and the operation was completed in seventy minutes. A 7-in. filigree was implanted. No nausea on table nor any after-effect. Patient was very pleased with the method, and made an excellent recovery. Pulse 99, temperature 98.8°.

CASE 41.—*Exploratory Laparotomy.*

B. R., a married woman of 46. Admitted for swelling of abdomen, which had all the characteristics of pregnancy. She, however, had had nine children, and said she was positive she was not pregnant, having been regular to date, and having had no morning sickness or other signs. No fetal heart was heard nor movements felt. On the possible chance of finding an ovarian cyst, an operation was performed. Injection 6 cg. in second lumbar interspace; analgesia to sixth dorsal. Abdomen opened and explored; tumour was found to be a pregnant uterus at seventh month. Patient felt no discomfort, and was not nauseated. No after-effects, and patient made a rapid recovery. She was normally confined two months later; there was considerable hydramnios. Pulse 86, temperature 98.2°. There is no doubt but that had this case required it, a Caesarean section or a Porro's operation would have been quite painlessly performed.

CASE 42.—*Caecostomy for Acute Obstruction.*

C. M., male, aged 65. This patient was seen by me for Dr. E. C. Bridges of South Kensington, and was suffering from acute intestinal obstruction, the cause of which was uncertain. He was a prematurely aged man, and was extremely ill, with faeculent vomiting and rapid pulse and diaphoresis. A diagnosis of carcinoma of the sigmoid was the most probable, and operation was performed. Injection 6 cg. in dorsi-lumbar interspace; analgesia to sixth dorsal. Abdomen opened in middle line below umbilicus, but exploration failed to reveal the cause of the obstruction, the bowels being so tensely distended and the patient so ill that I did not consider anything extensive justifiable at the moment. Caecum brought out and opened, and a Paul's tube inserted. Considerable relief resulted from the injection, the pulse falling from 130 to 110. The bowels, however, never fully recovered their tone, only small quantities of flatus and motion passing, and patient died on the fourth day. No after-effects other than those due to his condition. No autopsy was allowed. This patient would almost certainly have died on the table under general anaesthesia, which in any case would have gravely increased his danger.

CASE 43.—*Ventral Hernia: Enterectomy: Entero-anastomosis: Implantation of 7-in. Filigree.*

I. B., married woman, aged 45. Suffering from a large ventral hernia of some years' duration, for which no less than five operations had been done in other hospitals. Injection 6 cg. in dorsi-lumbar interspace; analgesia to fifth dorsal. Adhesions of ileum and omentum to sac were very dense and required prolonged dissection to remove latter. A stenosis of the ileum was found which required resection of about 2 in.; an end-to-end anastomosis by direct suture was performed, and a 7-in. filigree was implanted on the posterior lamella of the rectus sheath. Patient became nauseated during the anastomosis and complained of pectoralgia; chloroform given for about fifteen minutes. Operation completed under spinal analgesia alone. No after-effects, and patient made an excellent recovery, in spite of the very severe handling of the bowels. Pulse 80, temperature 99°.

CASE 44.—*Appendicectomy.*

G. G. Recurrent appendicitis for past six months. Injection 6 cg. in third lumbar interspace; analgesia to sixth dorsal. Simple appendicectomy; no adhesions; patient felt nothing of operation; no after-symptoms. Good recovery. Pulse 80, temperature 100°.

CASE 45.—*Exploratory Laparotomy.*

P. C., male, aged 59. Chronic abdominal pain for ten weeks in region of pylorus; vomiting and diarrhoea, but no haematemesis. Injection 6 cg. in dorsi-lumbar interspace; analgesia to fourth dorsal. Patient became nauseated when stomach drawn into wound, and complained of pectoralgia, bringing up quantities of wind. Stomach and pylorus were normal. Chloroform given for ten minutes. A well-marked pocket was found to the left of the oesophageal opening in the diaphragm, but there was no bowel in it. Nothing else was found to account for his trouble. No after-effects, except that he developed femoral thrombosis a week later, first in one and then in the other leg. This ultimately cleared up. Pulse 94, temperature 100.2°. Good recovery.

CASE 46.—*Appendicectomy*

S. G., male, aged 24. First attack; operation tenth day. Injection 6 cg. in third lumbar interspace; analgesia to seventh dorsal. Appendix found adherent to caecum and acutely inflamed; separation difficult on account of old adhesions, in spite of patient's statement as to first attack. No symptoms on table or after operation. Good recovery. Pulse 92, temperature 99°.

CASE 47.

M. J., unmarried woman, aged 25, sent me by Dr. J. M. Brydone. Has had one or two attacks of appendicitis. Injection 6 cg. in third lumbar interspace; analgesia to seventh dorsal. Incision internal to semilunar line; appendix found adherent in pelvis. During manipulation patient became nervous, but not nauseated, nor did she complain of discomfort. Chloroform was given for three minutes, but this patient objected strongly to and refused to continue with. Operation completed under spinal analgesia alone. Patient felt nothing, and had no after-effects. Good recovery. Pulse 76, temperature 99.2°.

CASE 48.—*Appendicectomy.*

S. N., married woman, aged 38. Has had five attacks of appendicitis, and is the subject of well-marked locomotor ataxy. Injection 6 cg. in second lumbar interspace; analgesia to fourth dorsal. Incision internal to semilunar line; appendix adherent and requiring much separation and handling of bowel; removed. Patient felt nothing of operation, which lasted forty minutes. Slight headache, which yielded to aspirin after operation. No alteration in her spinal symptoms as result of injection up to time of writing (seven months). Good recovery. Pulse 74, temperature 100°.

CASE 49.—*Oöphorectomy.*

F. O., unmarried woman, aged 25. Admitted for a solid tumour of right ovary. Patient looked ill and wasted, but there was no sign of any other trouble, except a slight cloud of albumen in her urine, which was thought to be due to pressure of the tumour on her ureters, and a temperature of 101° and pulse of 94, which seemed to point to suppuration in the tumour. Injection 6 cg. in dorsi-lumbar interspace; analgesia to fourth dorsal. Tumour found to be right ovary, the size of a Rugby football, with many recent adhesions of the ileum to its upper pole and some slightly turbid fluid in abdomen. Removed and abdomen swabbed out; weighed 15 lb. Patient was comfortable throughout operation, which lasted forty-five minutes. Tumour on incision contained grumous-looking fluid at upper part, remainder being pure fibroma. On eighth day patient ceased to pass urine, her pulse being 110 and her temperature 101°. On the ninth she became convulsed and finally comatose, and she died on the tenth day after operation. The autopsy revealed large calculi in both kidneys; no pus in either pelvis, but acute inflammation of parenchyma. She had never had renal colic or any other sign of culculus, save the albumen mentioned.

CASE 50.—*Ventral Hernia (Gigantic): Implantation of 10-in. Filigree.*

M. C., an unmarried "woman," aged 47. This patient was the victim of the largest ventral hernia I have ever seen. She weighed 19 stone, and was in such discomfort that she was entirely incapacitated from any active work. Rather against my advice she begged that something might be done, although the grave risk of such an operation was fully explained to her and to her relatives. A specially long needle had to be constructed to reach her theca. Injection 6 cg. in dorsi-lumbar interspace; analgesia to second dorsal. Patient was perfectly comfortable, without nausea or discomfort through a long (two hours and a half) and very trying operation. Sac contained about 10 ft. of small intestine, the entire omentum, transverse colon and sigmoid. With great difficulty all the bowel was returned, the omentum being removed, and a 10-in. filigree (the largest I have ever used) was implanted. Patient was not in the least upset by operation; pulse 85. All went well till second day, when her pulse ran up to 120 without any evidence of shock, and she became cyanosed and died suddenly. Autopsy revealed, as expected, advanced fatty degeneration of the heart and organs. No other lesion present. Patient was a well marked male hermaphrodite; no uterus or ovaries; well developed testis in left inguinal canal with patent vas deferens; clitoris size of penis of a boy of 15, and rudimentary vagina, into upper part of which urethra opened.

CASE 51.—*Appendicectomy.*

M. C., unmarried girl of 25. First attack. Operation, tenth day. Injection 6 cg. in third lumbar interspace. Uncomplicated case. No nausea; some discomfort in middle of operation. Chloroform given for twelve minutes. Appendix removed. No after-effects other than pyrexia. Pulse 78, temperature 101°. Good recovery.

CASE 52.—*Ventral Hernia: Implantation of 8-in. Filigree.*

M. de B., married woman, aged 43, sent to me by Dr. Beer of Hampstead, for a large ventral hernia, following two laparotomies done elsewhere. Injection 6 cg. in dorsi-lumbar interspace; analgesia to third dorsal. Sac excised, contents returned, and 8-in. filigree implanted. Patient felt nothing of operation till adhesions nearly separated, when she complained of nausea and pectoralgia; chloroform given for fifteen minutes. Operation completed under stovaine alone, patient being fully conscious for last twenty minutes. Case very difficult owing to density of adhesions, which involved stomach, omentum, transverse colon, and small intestine. Pulse never altered on table, remaining below 90, although before operation it was 120 to 130. Operation lasted two hours. In this case only had the patient any real headache; it was severe and lasted four days. This is the only case I have come across in which aspirin failed to relieve. She told me, however, that she had had just the same trouble after each of her other operations done under general anaesthesia. No other after-effects. Excellent recovery. Pulse 80, temperature 101.2°.

CASE 53.—*Ventral Hernia (Appendicular) following Appendicectomy: Implantation of 6-in. Filigree.*

L. A. D., male, aged 32. Patient was sent to me by Fleet Surgeon Macnamara, R.N. Was operated upon six years ago for appendicitis after second attack. Bulging of scar for 5.5 years. Scar admits four fingers easily into abdomen. Injection 6 cg. in second lumbar interspace; analgesia to ninth dorsal. Difficulty in getting drug to rise owing to there being no table admitting of Trendelenburg position. Scar excised, and small intestine found densely adherent to upper angle of the incision. Separation difficult and prolonged; patient began to feel some pain, and as much remained to do at this spot chloroform was given for eight minutes. Detachment effected and filigree inserted. Remainder of operation done under stovaine alone, patient being fully conscious. Pulse remained below 80 throughout in spite of severe handling. No after-effects. Excellent recovery. Pulse 80, temperature 99°.

CASE 54.—*Appendicectomy.*

E. S., male, aged 28. First attack; operation on tenth day. Injection 6 cg. in second lumbar interspace; analgesia to seventh dorsal. Uncomplicated case; appendix found in pelvis not adherent; removed. No discomfort on table or after operation. Normal recovery. Pulse 80, temperature 99.2.°

CASE 55.—*Perforated Appendix: General Peritonitis.*

R. S., male, aged 37. Admitted looking very ill; facies Hippocratica; rigidity of right side of abdomen, vomiting, and tenderness. Pulse 110, temperature 101°. Tongue moist, but furred. Had apparently perforated about six hours. Refused operation at 4 p.m., but consented at 8.30 p.m.; condition then much worse. Pulse 130. Distended; tongue dry and brown. Injection 6 cg. in second lumbar interspace; analgesia to seventh dorsal. Pus and gas in abdomen among coils and in pelvis in quantity. Appendix gangrenous and perforated at base. Swabbing out caused some nausea and discomfort, so chloroform was given for ten minutes. Appendix removed, abdomen drained through wound and over pubes. Completed under stovaine done. Patient's shock was markedly decreased after injection, pulse dropping from 130 to 108. Case was intensely septic, and convalescence was slow. Ultimate recovery excellent. Pulse 14; temperature 101.2°.

CASE 56.—*Umbilical Hernia: Implantation of 6-in. Filigree.*

H. C., male, aged 50. This patient was very stout and lethoric, and had had a litholapaxy done some years previously. hronic cystitis ever since. I had performed a double-filigree nplantation upon him three weeks previously under spinal nalgesia, for inguinal hernia of large dimensions. The risk of esent operation was inconsiderable compared with the latter, hich was difficult and extensive. Injection 6 cg. in dorsi- mbar interspace; analgesia to sixth dorsal. Operation was mple, and only took twenty-five minutes, a 6-in. filigree being nplanted. Patient felt nothing of it, and was comfortable roughout. Patient did well till fifth day, when he comenced to vomit small quantities of dark-coloured fluid from ne to time; bowels open every day; no tenderness nor disnsion; he became cyanosed the following day, and it was ear that his heart was failing; on the seventh day from operan he died suddenly. Autopsy showed advanced fatty deneration of heart and organs. No other lesion except chronic stitis above mentioned. Kidneys healthy. Wound sound; gree incorporated. Pulse 87, temperature 100.8°.

SE 57.—*Carcinoma of Rectum: Ligation of both Internal Iliac Arteries: Abdomino-perineal Excision: Transverse Colotomy.*

I. W., unmarried woman, aged 67, sent to me by Dr. Donkin Bexley for bleeding from rectum and constipation. Growth nd in second part of rectum; cauliflower epithelioma with nds in sacral chain enlarged; not fixed and not very vasar. Injection 6 cg. in dorsi-lumbar interspace; analgesia to rd dorsal. Patient, who was a thin, delicate-looking woman, y understood the nature of what was proposed, and said she uld tell me if she wished to have chloroform. A transverse otomy was first of all performed through an incision to the of the middle line, the bowel being left on a rod. Abdomen ned below umbilicus; intestines packed off; both internal arteries tied; sigmoid isolated, double-ligated, and divided. his point patient became nervous and asked for chloroform, ch was administered by Dr. Maynard Horne for about forty utes. Ends of sigmoid invaginated; rectum and glands oped from sacrum; abdomen closed; direct excision of ched bowel now performed in lithotomy position. All of latter was performed under spinal analgesia alone, the ent being fully conscious, as the chloroform administration been very light. Operation lasted two hours, during which e was excellent, and she had no nausea on table or afterls. Next day patient told me she "had nothing she could pain, but her nerve failed her." No after-effects; recovery llent. Pulse 98, temperature 99.8°. This patient was so le that I would never have attempted so severe an ation under general anaesthesia in her case.

CASE 58.—*Appendicectomy.*

C., male, aged 50. First attack; operation on tenth day. was uncomplicated. Injection 6 cg. in second lumbar space; analgesia to fourth dorsal. Appendix found long slightly engorged; complete stenosis at last inch of its h; no adhesions. Removed through separation in muscles. nt comfortable; no nausea; no after-effects; good ery. Pulse 80, temperature 99.8°.

CASE 59.—*Strangulated Inguinal Hernia: Enterectomy: Entero-anastomosis.*

J. L., male, aged 54. This patient was under the care of and was operated upon by Mr. Gwynne Williams in my absence. He was admitted in a very feeble condition with faecal vomiting due to a strangulation of intestine in a hernial sac of large dimensions. Strangulation for over forty-eight hours; pulse 120. Injection 6 cg. in second lumbar interspace; analgesia to sixth dorsal. On opening the sac, 10 in. of gangrenous bowel found; inside the abdomen and fixed to the pelvis was a second coil of bowel strangulated by the first, and also gangrenous; these two portions, including the intervening section, totalled a length of over 7 ft.; a single resection of the whole was performed and an end-to-end anastomosis by direct suture was done; mesentery overlaid and fixed down to the iliac fossa. A faecal fistula developed, but closed after a short time, and patient was discharged well. Operation lasted ninety minutes, and patient felt nothing of it; no shock nor any after-effects other than pyrexia. Pulse 100, temperature 100°.

I have included this case, although it was an inguinal hernia, because from the very great length of intestine removed and from the pelvic connexions of the gangrenous portion, it was really of the nature of a laparotomy, and because of the very serious condition of the patient on admission. It was in the highest degree improbable that he would have left the operating table alive had the operation been done under general anaesthesia.

CASE 60.—*Exploratory Laparotomy.*

E. C., male, aged 48. Aching pain in right iliac fossa for a month, vomiting, retching, constipation. Tumour in iliac fossa, tenderness and rigidity. Patient had been explored a week previously under spinal analgesia through an incision over appendix, when density of mass forbade any further attempt by this route—a portion had been removed and proved to be carcinomatous. Injection 6 cg. in dorsi-lumbar interspace; analgesia to eighth dorsal. This injection was given with a view to diminishing shock rather than to replace general anaesthesia; chloroform was therefore given at once. Median incision; tumour found to involve caecum, ascending colon, and a large coil of small intestine. After an attempt, lasting twenty minutes, to separate the mass, operation was abandoned as impossible and abdomen was closed. Patient was never under influence of chloroform entirely, and was completely conscious during the closure of the abdomen. He felt nothing and suffered no shock on table or after operation. Temporary recovery good. Pulse 110, temperature 101.4°. Patient died eighteen months later from carcinoma of liver, etc.

CASE 61.—*Appendicectomy.*

P. F., male, aged 36. Admitted for pain, rigidity, and tumour in right iliac fossa. First attack; operation tenth day. Incision internal to semilunar line. Appendix found in a mass of omentum, perforated at tip, and adherent to caecum and lower end of ileum; some pus in omentum. Injection 6 cg. in second lumbar interspace; analgesia to fifth dorsal. Slight pectoralgia; not bad enough for chloroform. Appendix removed. No after-effects. Recovery normal. Pulse 98, temperature 100°.

CASE 62.—*Ventral (Epigastric) Hernia.*

J. L., male, aged 33. Ventral hernia all his life above umbilicus. Lately getting larger. Injection 6 cg. in third lumbar interspace; analgesia to second dorsal. Ten minutes after injection some nausea and vomiting, which soon passed off, after which comfortable. Sac removed; omentum ligated; rectus muscles turned out of sheath and approximated. Recovery normal. No after-effects, except pyrexia. Pulse 88, temperature 100°.

CASE 63.—*Gastro-enterostomy: Duodenal Ulcer.*

J. N., male, aged 44. Pain, vomiting, and melaena for five months. Injection 6.5 cg. in dorsi-lumbar interspace; analgesia to third dorsal. Some nausea lasting five minutes; no vomiting; patient declared himself quite comfortable. Abdomen opened and duodenum explored; ulcer found in first part and adherent to liver. Stomach turned out and posterior gastro-enterostomy performed. Operation lasted forty-five minutes; patient felt nothing of it, and left table with a pulse of 80. Good recovery. Pulse 98, temperature 100°.

CASE 64.—*Panhysterectomy: Fibroids and Double Pyosalpinx.*

J. L., married woman, aged 45. Sent me by Dr. Hogarth, of Woolwich. Tumour growing in abdomen for four months; lately been very painful; slight metrorrhagia during the past fortnight. Injection 6.5 cg. in dorsi-lumbar interspace; analgesia to third dorsal. Patient rather nervous, with pulse of 130; became nauseated ten minutes after injection, and retched from time to time during operation; she however felt no pain, and in spite of her sickness refused chloroform twice when it was offered her. Many adhesions between uterus, ileum, and transverse colon, separation of which caused absolutely no pain, but started retching. Both Fallopian tubes distended and adherent. Uterus extensively fibromyomatous, and about the size of a child's head. Pulse at this time 100. Whole tumour removed, abdomen swabbed out, and closed. Operation lasted forty-five minutes. Patient's colour and pulse were excellent all the time, the former being 80 just at conclusion of operation. Pulse 36, temperature 100°. Convalescence normal.

CASE 65.—*Gastrostomy: Carcinoma of Oesophagus.*

W. D., male, aged 59. Patient, although unable to swallow solids, and very little fluid, was still in fair condition, but suffering a good deal of pain. Injection 6 cg. in dorsi-lumbar interspace. Owing to an error in arranging the table, the analgesia ran rather high and fairly rapidly, reaching the clavicles in three minutes. Patient became rather pallid, but his respiration remained good throughout; he complained of inability to cough, a sign I have noted in a few other cases of very high analgesia, where the intercostals have been affected. The pulse was also feeble for some minutes, but at no time did his condition cause anxiety. Analgesia at this time found to reach third cervical; diaphragmatic respiration good. A Senn's gastrostomy was easily and quite painlessly performed, retching only occurring on two occasions, when a mouthful of bile was ejected. Operation lasted twenty-five minutes, at the end of which a little oxygen was given for the patient's comfort, not because he was cyanosed. Fifteen minutes after returning to bed, analgesia had fallen to the fifth dorsal. No after-effects, except pyrexia. Pulse 87, temperature 99.8°. Convalescence normal.

N.B.—This case represents the highest analgesia I have ever obtained, with the exception of those cases done by Jonnesco's method.[5] It was unintentional, unnecessary, and should not have occurred. It, however, again serves to prove the immunity of the heart to the influence of stovaine, and supports the statement I have made elsewhere that the success of Jonnesco's method is not necessarily due to the presence of strychnine.

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THE ROUTINE USE OF SPINAL ANAESTHESIA:

A STUDY OF FIVE HUNDRED CONSECUTIVE CASES.

BY

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A NEW discovery, in surgery or any other craft, usually passes through certain well-defined stages of development. Originally it is in the hands of one or more enthusiasts, who produce results not remarkable for their uniform success or their practical usefulness, but merely for the fact that it is found possible to produce any results at all in an entirely novel way. The first aviators were content with showing that it was possible to fly, without caring greatly where they arrived.

The next stage is that in which a number of men apply themselves to the improvement of methods, and succeed in demonstrating that it is possible for experts to produce results of practical value. The third stage is that in which the members of the craft concerned decide whether the use of the new discovery is to be confined to experts, or whether it is sufficiently easy, safe, and useful to become part of the equipment of the ordinary worker.

It is clear that spinal anaesthesia has passed through the first two stages, and is now in the third. Without going into the history of its development in detail, the fact that it is possible to produce it has been abundantly demonstrated. The publication of a series of successful cases by men who have given special attention to it, has shown that in their hands it is capable of yielding useful results.

The question now is, Whether it is to remain in the hands of experts, like *x* rays, bronchoscopy, and the many ingenious and elaborate methods which are used in the surgery of the nose, throat and thorax, or whether it is to take its place, like iodine, rubber gloves, and Arbuthnot Lane's bone plates, in the outfit of the ordinary surgeon. And in deciding this we have to consider not only whether it is easy, effective and safe, but whether it has any such advantages over chloroform and ether as would justify us in preferring it, either in all possible cases, or in certain selected ones.

The present paper does not aim at showing what can be done with the method, nor at suggesting that still better results can be got with an improved technique or a new solution. It is simply an account of the way in which the results of its use have worked out over a reasonably large number of cases in a native hospital where the conditions are by no means ideal, and where the administration has been conducted by a large number of men without special experience. Such a record will give a broader and fairer view of the good and bad points of the method for general use, than details of a smaller number of cases in the hands of one man.

For this purpose I have taken the first 500 cases in which it was used in my wards. Various drugs have been used, and various instruments and methods; the injections have been given by myself, my assistant surgeon, a large number of successive residents and house-surgeons, and, just recently, by the anaesthetist. In all instances the student to whom the case was allotted has filled up, at the time of administration, a form giving details of the drug and dose, the level of the injection, the nature of the operation, the time taken, the level reached by the anaesthesia, the symptoms during operation, etc. This form has then been put up over the patient's bed, and the house-surgeon on his rounds has inquired for and noted any after-effects which followed in the next few days. These forms were copied into a register on the patient's discharge.

The patients were, with three exceptions, males; they varied in age from 9 to 90, and were mostly fellaheen, that is to say, agricultural labourers and small farmers, with a fair proportion of townsfolk from Cairo itself.

Before the operation the patients, as a rule, had their back and operation area sterilized with iodine in the ward and covered with dressings. They were next wheeled into the anaesthetic room, and sat or lay on the stretcher with their backs bent to receive the injection. They were then at once laid on their backs, wheeled into the theatre, and lifted on to the table. Their heads were raised on a pillow, and a screen was arranged across the table to prevent them from seeing the operation, which was usually begun as soon as the re-sterilization and arrangement of towels was complete. A student was told off to sit at the head of the table to watch their condition and talk to them. At the end of the operation they were put on a stretcher and wheeled back to bed.

Technique.

As regards the technique of injection, provided that the solution is lodged in the right place, the means used are not very important. We have used a variety of needles and syringes; personally I rather prefer a Record syringe holding 3 or 4 c.cm. and the nickel needles employed by Mr. Barker. They are blunt and they bend, but one is free from the risk of a rusty needle breaking and leaving its point deep in the tissues. Whatever needle is used, it must have a stylet which fits it accurately and is ground and sharpened with it.

The disadvantage of iodine is that it hardens the skin and makes it difficult to penetrate. The risk of carrying in infection is probably overrated, and the method of introducing the needle through a drop of pure lysol placed on the skin, without previous preparation, would very likely be quite sufficient. I have used this as a routine in a large number of intramuscular injections without any ill effects; but for spinal anaesthesia in inexperienced hands there is more safety in having a larger sterilized area.

A line drawn between the highest points of the iliac crests gives the level of the fourth lumbar vertebra, and, as will be seen below, it is a matter of indifference through which lumbar space the injection is made, so it is best to choose the one which seems easiest. It is easier to go just to one side of the middle line to avoid the supraspinous and interspinous ligaments, and it should be an absolute rule not to inject the anaesthetizing solution except while cerebro-spinal fluid is actually dripping from the needle. A faint staining of this fluid with blood does not matter; the dripping of pure blood means that the needle is in the posterior spinal venous plexus. Drawing spinal fluid into the syringe to mix with the solution gives additional security that the needle is rightly placed, but has no other advantage, and the rate of injection seems to make no difference in the anaesthesia produced. A fairly common blunder is to disconnect the needle from the syringe before withdrawing it; this allows some of the injection to escape. The puncture needs no dressing. Heavy injections (stovaine-glucose) require a special arrangement of the patient, and are referred to below. The syringe and needles must be sterilized by boiling in water and not in soda solution as even a trace of alkali decomposes the solution.

The technique is very simple and requires no special skill. All the anaesthetizing solutions can easily be procured sterilized in glass bulbs or ampoules.

Nature of Operations.

The operations in this series include 177 hernias, of which 22 were double, 6 were strangulated, and 30 were combined with some other operation, usually for hydrocele.

There were 117 operations on the genitals and urethra, including amputation of the penis, castration, operations for stricture and stone in the urethra, hydrocele, and varicocele, also a large number of extensive bilharzial fistulae of the perineum and its neighbourhood.

There were 37 operations of various kinds on the anus and rectum and 102 on the bladder, of which 8 were prostatectomies, 7 cystotomies for various purposes, and the remainder mostly lithotrities.

On the legs there were 51 operations, including 8 amputations through the femur and 9 (one double) through the leg. There were 5 operations on the knee-joint, and the rest included wiring fractures, excision of the ankle, and the removal of sequestra, of varicose veins, and of innocent and malignant growths.

The only abdominal operations done were 4 removals of the appendix and 4 for fistulae of the abdominal wall.

One case of necrosis of the upper ribs was performed under cervical anaesthesia.

It will be seen that this list contains most of the common operations below the navel, and that operations above this level have practically not been attempted. It is quite possible, by injecting at a higher level, to get a satisfactory anaesthesia for abdominal work, especially pelvic; but for general use I have felt that the proper sphere of the method lies below this. In the operations mentioned above, the limitations of time and space are pretty well defined beforehand. In the abdomen this is often not the case, and it is doubtful if it is wise to teach students to rely on stovaine for their general abdominal work in the future. Gynaecology, where the main part of the work is pelvic, is, in these respects, on rather a different footing.

There is no doubt that one of the most valuable applications of the method is in abdominal conditions involving shock; but these are not routine cases, they do not come within the scope of this paper, and they are not suitable for treatment by this method except by experienced surgeons.

Results.

The results can be summarized as follows:

There were 12 cases in which it was found impossible to make any injection; these are not counted in the series.

There were 3 deaths either at the time of operation or shortly afterwards.

There were 38 cases in which the injection was given, but no anaesthesia followed, and a further 18 in which it was insufficient, and had to be supplemented by chloroform. In the remaining 444 cases the anaesthesia was sufficient. So that, working under the conditions described above, we have had 2.34 per cent. in which the method could not be used, and in the remainder there was a mortality of 0.6 per cent.; while in 11 per cent. the anaesthesia was either absent or not sufficient for the whole operation. The method proved entirely satisfactory in only 86.7 per cent. of the total number attempted. Of these, a large proportion of the failures were due to mistakes or to the use of defective instruments or solutions. Three-quarters of the failures to administer occurred in the period covered by the first 100 cases, and a number of the insufficient anaesthesias were certainly due to decomposition of the solutions.

But it seems probable that in inexperienced hands the percentage of failures from these and similar causes would well all far short of 10 per cent.

Failures in Administration (12 Cases).

On one occasion the usual needle had been sent to be opened, and one only 6 cm. long was used instead. It failed to reach the canal in one case, produced only a partial anaesthesia in another, and in a third, where the dose was less, it acted perfectly.

In 2 cases the stylet was missing, and the needle—a short one, ground rather flat—acted like a cheese-taster, and became blocked with a cylinder of ligament and fat before it was introduced.

In 5 cases repeated attempts failed to reach the canal, and in 4 nothing but blood came from the needle. One of these last was a case in which I tried to inject a patient for my colleague, Dr. Dobbin. The woman had an enormous ovarian cyst, her back was oedematous, and her superficial veins dilated. Probably the needle entered a dilated venous plexus behind the space.

The first three failures could have been easily avoided by using a proper needle with a stylet; the others represent a certain proportion of patients in whom it is difficult to reach the canal, either from the small size of the interval available or from the presence of a dilated venous plexus.

I do not think skill plays any great part. The problem is merely to introduce a needle through any one of the lumbar spaces, and most men, if they are told what to do and have seen it done once, can do it quite easily. If they fail in one space they usually succeed in another; nor is any harm, beyond slight pain to the patient, likely to follow an unsuccessful attempt.

Deaths (3 Cases).

Death from spinal anaesthesia, when it occurs, seems to occur at once—that is to say, during or at the end of the operation. I have only had one case in which there was any question of a delayed effect—that was of a man of 70 with prostatic retention, whose prostate was removed under novocain. He was noted as being "all right" the night after the operation, but the next day he developed coma and died. He had a large secondary pouch in his bladder and an advanced double pyelitis, so that his coma was probably renal; the only thing pointing to the anaesthetic was some oedema of the brain. He can hardly be considered an anaesthetic death.

The 3 deaths due to the anaesthetic all occurred on the operating table. In a good many patients there is some depression soon after anaesthesia is established, shown by vomiting, yawning, or faintness, and where patients are in a critical condition this may go on to actual failure of heart or breathing.

1. The first case was a man of 90 with an enlarged prostate, who was so feeble that he seemed unfit for chloroform. Moreover, I had recently had a good result with a similar case in which the patient seemed to have no shock, and could be fed at once after the operation, so I decided to give him stovaine. At the end of the operation, which lasted seventeen minutes, his pulse and breathing failed, and he died half an hour later.

Post-mortem Examination.—Emphysema, fatty heart, one kidney destroyed by calculus.

2. A man of 45 with a suprapubic fistula, who died in a few minutes of heart failure.

Post-mortem Examination.—Advanced bronchitis, commencing bronchopneumonia, acute pleurisy, tricuspid orifice 5½ in. round, septic bladder and kidneys.

3. A young man who had had an amputation for crushed leg the day before, and developed free haemorrhage from the stump. He was given stovaine while the flaps were opened up, and died in seven minutes. This case was under the jurisdiction of the Parquet, and the body decomposed before any examination was made.

In the first case my short experience of the method (36 cases) led me to expect too much help from it. In a similar case I should now insert a suprapubic drain under cocaine.

The second patient should never have come to operation, and would not have done so had the routine examination of the chest in the ward been carried out properly.

In the third case the risk was great. The shock of the accident and the previous operation added to loss of blood then and later, made him unfit for any further anaesthetic, and what was necessary would have been better done without one.

It is probable that all three would have died under chloroform, and their deaths should not, I think, be credited to any special danger inherent in spinal anaesthesia, although it is necessary to record the fact that they did occur under it.

I may add that since the conclusion of this series of cases I have had no further deaths under spinal anaesthesia in my section.

Complete Failures (38 Cases).

In these instances cerebro-spinal fluid escaped from the needle after insertion; the injection was apparently successful, and yet no anaesthesia followed. Some cannot be explained, but a good many were due to some fault in the solution. For example, I ordered a stock of three different solutions from a first-rate firm of London chemists. These arrived, and proved successful in a

number of cases. Then several failures occurred in succession, and little oily drops were noticed adherent to the sides of the ampoules. I ceased to use them, and later received a letter from the chemists to say that they kept control ampoules, and that these had decomposed. The fault apparently lay in the kind of glass used for making the bulbs. Ordinary glass, rich in sodium, has a good deal of soluble alkali in it, and stovaine is decomposed by any trace of alkali. If distilled water is boiled in a new glass beaker, it becomes alkaline to a test solution, and at least two days' steaming is required to extract this soluble alkali. The only glass which is nearly free from soluble alkali when it is new is the hard Bohemian glass, containing more potassium than sodium. The best results were got by using ampoules from a French firm (Poulenc), and even with these, which are made of hard glass, I find notes on three occasions that after a group of failures "a new box" of the same solution has acted perfectly. Two of these notes were in August and one in May, so that probably the heat of the Egyptian climate is partly to blame. Solutions made locally and put into bulbs of ordinary glass were responsible for several failures, probably for the same reason. Ampoules are so clean and handy and portable that for general outside use it would be difficult to replace them, although freshly made solutions are probably more reliable. But the French ampoules would probably be satisfactory in a cool climate.

Partial Failures (18 Cases).

In one case there was "partial anaesthesia of the scrotum and paralysis of the legs" after ten minutes, but after fifteen minutes the anaesthesia was localized in the right side of the scrotum only. This suggests that the solution (injected in the third lumbar space) had been partially deposited outside the common cavity. In another the fluid is noted to have flowed "very freely" from the needle, and "very little was allowed to escape." The case preceding, which received on the same day the same dose of the same solution, also had "a very free flow," but it is noted that "plenty" was allowed to escape, and the anaesthesia was excellent. This suggests that where the pressure is very high there may be a certain amount of leakage into the tissues from the puncture in the dura, unless the intradural pressure is relieved before injecting.

In another case the needle was disconnected from the syringe before withdrawal. Loss occurred, and the anaesthesia, which was in other respects satisfactory, disappeared before the end of the hour occupied by the operation.

In several other patients the anaesthesia was good, but passed off early. It was sufficient for the operation on one side of a double hernia, but not for the other (2 cases); or for a hernia but not for its accompanying hydrocele (2 cases); or it ended in 20 minutes, 27 minutes, 30 minutes, 20 minutes, etc.

In other instances the anaesthesia was sufficient locally, but traction on the mesentery caused epigastric pain, and chloroform was given to avoid this; while in yet others anaesthesia was partial throughout. So that these partial failures resolve themselves into cases where the anaesthesia was too short, those in which it was too low, and those in which it was too weak. Apart from errors of technique they were probably due to the routine dose being insufficient for the individual patient, or to some defect in the solution.

Symptoms at the Time of Operation.

In a fair number of cases some depression follows the onset of anaesthesia; the patient yawns, complains of feeling sick or giddy, and very commonly asks for a drink of water. In a few this is marked enough to require brandy or strychnine. This stage only lasts for a few minutes, and then the patient settles down into a condition of mental and bodily comfort, which lasts till the operation is over.

Altogether there were 16 cases of vomiting, 7 of nausea, and 5 of faintness sufficiently marked to be noted. Quite apart from this group of symptoms, there have been nausea and epigastric pain (in one case actual vomiting) produced by pulling on the peritoneum or the cord in hernia operations. This was noted in only 4 cases, but occurred to a slight degree in many more; it was never serious. In the same class are the cases, of which 3 are noted, in which forcible distension of the bladder in washing out after a lithotrity caused pain, although the interior of the bladder was apparently anaesthetic.

These are simple examples of interference with a sensitive region above the level of anaesthesia. They can be avoided, as a rule, as soon as the patient begins to complain.

If patients have not had a preliminary purge their bowels are often opened on the table, simply from relaxation of the sphincter. This is unpleasant, but can hardly be called a symptom; it can be avoided by giving an enema previously in the ward.

Symptoms following Operation.

For these I have had to depend in most cases on the notes of my house-surgeons made on the slip hung over the bed for the purpose. In 107 cases no note was made. Inquiry showed that this was very seldom due to slackness, but to the fact that the house-surgeons, especially new ones, did not appreciate the importance of recording the absence of symptoms. If there was nothing to record they contented themselves with not recording anything, and one may fairly assume that in these cases there were at any rate no symptoms requiring treatment.

In 186 cases there was a definite note that the patients had no after-effects whatever, and in a further 115 there was only some headache or backache lasting a day or less. So that it appears that in 402 cases (80 per cent.) there were no after-symptoms of importance.

Of the patients presenting symptoms, most complained of pain in the head or back. In 54 cases this lasted for two days, in 27 for three or more, and it was in some instances severe: so that the proportion of serious backache and headache was considerable (about 16 per cent.), and these symptoms occurred in some degree in nearly 40 per cent.

This was a serious drawback to the method, and various devices were used to avoid it. Allowing fluid to escape freely at the time of injection, diluting the solution by drawing up spinal fluid and injecting slowly, had no effect. Mr. Thom, lately Resident at the hospital, in his paper[1] on the use of stovaine in shock, remarks on the rise of pressure which took place in one case between the first and second injection of stovaine, and suggests running off the spinal fluid at the end of the operation in order to avoid after-effects. He suggested this to me at the time, and it seemed reasonable to suppose that it would do good not only by relieving the pressure but also by withdrawing some of the solution employed. I tried it in 8 cases, removing as much fluid as ran freely just before the patient left the theatre. Of these 8 cases, 5 had no symptoms, but the other 3 had backache and headache. Drugs and purgatives had no better effect.

The headache seemed to depend on some later reaction, for, though many patients complained of it the same night or the next morning, with others it did not begin till two or even three days after the operation. The most probable explanation was that it was due to a reaction of the irritated membranes, leading to a rise of tension some time after the irritant had been absorbed or had decomposed. This suggested tapping the space, not immediately after operation, but later, when the reaction and rise of tension had already developed. In three severe cases in which this was done complete and lasting relief was produced within a few minutes, but whether this would always be the case it is not possible to say. My own impression is that persons with serious illness and low vitality enjoy a certain immunity to these after-effects, and this may be due to a naturally low blood pressure. Certainly my patients—all men, and many of them well and vigorous—suffered much more from headache than Dr. Dobbin's gynaecological patients. This difference, which has often puzzled me, may possibly be accounted for by the men's higher level of strength, vitality, and (presumably) blood pressure; for it can hardly have a sexual basis, and the conditions are otherwise practically the same. We employ, as a rule, the same dose of the same solution given in the same way for both men and women.

Amongst the various symptoms noted in addition to these are post-operative vomiting (2), rigor (6), giddiness (1), slow thinking and dullness (3), loss of rectal control (1), twitching of the occipito-frontalis (1), pain in the eyes (1), pain in legs (7), numbness and weakness (3), retention (2), loss of memory for two days (1), impaired

movement of leg (1). A good many also had a rise of temperature for a day or two.

This seems a serious list, but actually (except for a case of pain in the legs which lasted in some degree for a week) these symptoms were not severe, usually passed off in twenty-four hours, and never lasted for more than two days. The completeness of the list is due to the keenness and thoroughness of the house-surgeons; for our patients do not of their own accord complain of anything except severe pain, and would not be likely to volunteer statements as to slowness of thought and dulness.

The only patient of these 500 who showed anything like a lasting after-effect was a policeman, who complained of persistent pain in the back after an injection of tropacocaine for a lithotrity. He attended my out-patient department for several weeks, and was given "light duty"; finally he ceased to attend, and I suppose went back to duty. The Egyptian police are mainly conscripts, and even in the British volunteer army idiopathic pain in the back is sometimes brought on by the mere prospect of a hard day's work. It is likely that this policeman started with genuine backache, and, finding it attracted a flattering amount of attention and allowed him a life of leisure, was loth to part with it.

Of the serious ocular and other paralyses which have been put on record I have as yet had no experience here, either in this series of cases or out of it.*

The Solutions Used.

These include novocain, tropacocaine, stovaine, stovaine-glucose, stovaine-strychnine, and stovaine-adrenalin. They differ to some extent in their action, but are all capable of producing a workable anaesthesia.

Novocain was used in the form of tabloids having the following composition:

Novocain	0.15 gram
Suprarenin borate	0.000325 gram

Dissolved in 3 c.cm. normal saline.

Two cases were successful; the anaesthesia was perfect and lasted in each case for one and a half hours. They both had a rigor and headache afterwards. The third case was the prostatectomy described with the fatal cases; the patient died on the following day. I do not think the novocain can be blamed for the death, but I decided not to use it again, as these three cases, done on the same day, were not encouraging.

Tropacocaine was procured in the form of powder, of which about 0.5 gram dissolved in water or saline was given in 5 cases. The peculiarity of this drug lay in the height of the anaesthesia (which with lumbar injections commonly reached the third or fourth rib) and in its character. It was an analgesia rather than an anaesthesia. The sensation of pain was abolished, but that of touch remained, and there was very little paralysis; several patients were noted as being able to move and raise their legs throughout.

A typical case was the first one, in which the anaesthesia rose to the level of the third rib with an injection between the second lumbar space. The note is: "Motion perfected; the patient could raise his legs and kick. Analgesia absolute; ordinary sensation present in some areas all over, but not interpreted rightly. No after-effects." This probably renders tropacocaine a safer drug to work with high anaesthesia, but from the operative point of view a complete paralysis such as is given by stovaine has further an advantage.

Stovaine-glucose (Barker) was given in 13 cases. The formula used was:

Stovaine	0.10 gram
Glucose	0.10 ,,
Water to	2.00 c.cm.

1 to 2 in ampoules locally. About half this quantity was usually used.

The case was easy, by varying the position of the patient in accordance with Mr. Barker's directions, to produce at will either a pure sacral anaesthesia—that is, over the lower two-thirds of scrotum, perineum, anus, back of thighs and sacrum, and legs below the knee—a lumbar anaesthesia, or (for demonstration purposes) a unilateral anaesthesia becoming bilateral when the patient was rolled on to his back. The after-effects were rather severe; 10 out of 13 cases had headache and backache in varying degrees.

The method is satisfactory and manageable, but for doing operations for hernia, stone, etc., has no advantages over the lighter solutions, while for teaching students it has the drawback of requiring more care and sense. What is required for teaching and general use is a method which shall be reasonably safe even in the hands of a careless or stupid anaesthetist. The precision with which the injection can be placed in a desired region makes one fear that under such conditions it might be localized equally definitely in an undesired one. With stovaine-adrenalin it requires no special skill or care to produce uniform results sufficient for any operation below the navel, and it is difficult to convert them into anything dangerous.

So that although theoretically and in capable hands a heavy solution is better, in the way in which a pistol is better than a blunderbuss, for routine work in inexperienced hands its disadvantages seemed to me to outweigh its advantages.

Stovaine was used alone in 53 cases, in a dosage of about 0.06 gram dissolved in water or saline; and

Stovaine-strychnine in 25 cases, with a formula—

Stovaine	0.10 gram
Strychnine	0.001 ,,
Water to	1.00 c.cm.

and a dosage of from ½ to 1 ampoule.

Both of these were satisfactory enough, but they had the disadvantage of giving a rather shorter anaesthesia than stovaine-adrenalin. They contributed rather more than their share to the cases where the anaesthesia was of insufficient duration, and with the stovaine-strychnine especially there was apt to be a partial return of sensation towards the end of the operation. There seems to be no special advantage in introducing strychnine into the spinal cavity in every case, where it can be so readily given hypodermically to those patients who show signs of needing it. It apparently enables larger doses of stovaine to be given, but if the resultant anaesthesia is no longer or better this is clearly no gain.

The use of stovaine-strychnine for high anaesthesia is referred to below.

Stovaine-adrenalin (Billon) was used in 381 cases. Its formula is:

Epirenin borate	0.0026 gram
Stovaine	0.08 ,,
Sodium chloride	0.0022 ,,
Water to	2.00 c.cm.

and its specific gravity is just about that of cerebro-spinal fluid. As a rule about 0.06 of stovaine was given; less often the whole bulbful was injected.

It gives a very constant anaesthesia of ample duration. The suggestion that the adrenalin is the chief cause of after-effects does not seem to have any truth in it. Comparing the 116 cases done with solutions free from adrenalin with those done with solutions containing adrenalin, the proportion of one and two day headaches works out almost exactly the same; while in the 24 cases of headache lasting three days or more, the proportion due to solutions containing adrenalin happens to be less than half that due to the other solutions.

The other less weighty objection to adrenalin is that it is unnecessary. But I think, though it is not possible to prove it from my notes, that it does actually prolong the anaesthesia, and my colleagues, as well as myself, after trying various solutions, have come now to using this combination almost exclusively. At the same time the difference is not great. Results of the same class can be got with many different formulae, and it is more important to come to some conclusion as to the value of the method as a whole than to discuss the relative merits of the drugs used in it.

The Level of Anaesthesia.

This varied with different solutions. With stovaine-adrenalin the results can be summed up by saying that with few exceptions an injection into any of the lumbar spaces produces anaesthesia as high as the navel, while

Correction while in the Press.—A case has just come to my notice in which persistent headache followed the use of stovaine. The patient was a man who came in in March, 1911, with a parasitic aneurysma. He was given stovaine; this failed, and the operation was performed under chloroform. In June, while I was in England, he returned, complaining that some degree of headache had persisted from the date of the operation. He was treated for a few days, and declared relieved; he has not returned since. I never saw him, and cannot say how far his headache can be connected with the stovaine.

injections into the lower dorsal region extend it to the lower end of the sternum.

Of these 381 cases, there are notes of the extent in 275; in the others it is either not noted, or described as "sufficient" or "insufficient."

Thirteen cases injected in the first lumbar space had an average of 1 in. above the navel, more than half reached exactly to it, and only one fell below it.

One hundred and twenty-seven cases injected in the second lumbar space averaged within half an inch of the navel, and 86 (over two-thirds) reached exactly to it.

One hundred and twenty-one cases injected in the third lumbar space averaged within half an inch of the navel, and 84 (over two-thirds) reached exactly to it.

Of 10 cases injected in the fourth lumbar space, in 8 the anaesthesia reached exactly to the navel.

Most of the patients were injected sitting, and immediately laid flat on their backs.

It seems clear that under these conditions it makes no difference through which lumbar space the injection is made; the result is nearly always anaesthesia up to the level of the navel.

The level can, however, be altered to some extent by position. In several cases where the anaesthesia was at first too low it was raised in a few minutes by lowering the head end of the table, and could be made to rise and fall several times in the same way. This was noted at the time in five patients, but occurred in many more. If we are dealing with an inelastic fluid of uniform specific gravity contained in a rigid tube, it is not clear why this should occur; but it undoubtedly does occur, and provides a very useful working adjustment.

Injection into the dorsal region (10–11–12 D.) gives anaesthesia averaging just above the xiphistermum, but as I have used it in very few cases, while it has been extensively employed by other writers, not much need be said about it here. It gives a good relaxation of the abdominal wall.

Injection into the cervical region, as recommended by Jonnesco, is never likely to be used extensively. I tried it in 2 cases only. In each there was a flow from the needle and the injection was easy. The first case had no anaesthesia, nor any ill effects, and probably the fluid went astray.

The second patient was a man with caries of the upper ribs, who received 0.03 gram stovaine with strychnine in the first dorsal space. He had anaesthesia of the arms and head, none of the legs, and the operation was carried out. A quarter of an hour after the injection was given respiration ceased and had to be carried on artificially for about ten minutes. The patient then recovered, was returned to the ward, and passed into a condition of noisy mania, which was succeeded by entire loss of memory for two days. After this he recovered completely.

I have not used the method again. There is no doubt that anaesthesia can be produced in this way, but there is too much risk of its becoming general and permanent.

Duration.

It was found impossible as a matter of routine to determine the duration of anaesthesia. Those cases in which it fell short of the requirements of the operation are classed under partial failures. In the rest it was sufficient, and how far it was excessive was not determined.

In the only cases of which I have notes—16 in number—it varied from half an hour to two and a half hours, and averaged an hour and ten minutes. Most of the operations lasted, more or less, about half an hour, so this leaves a good margin. The longest lasted an hour and three-quarters (lithotrity of a large stone).

These figures were taken from the time when sensation and motion began to return in the legs, but the workable anaesthesia is probably longer, for the recovery of full sensation is gradual. With fairly rapid operating the anaesthesia was ample for the kinds of operations which were done. When it is not it is quite possible to give a second injection. The reason I have not done so is that it involves so much disturbance of the patient, and increases the risk of sepsis.

Mental Condition of Patients.

Most of our patients were of a stolid rustic type who took things as they came. They were sometimes rather apprehensive till the operation was begun, and then, finding that they were not hurt, they became quite contented. They sometimes talked to the student, or smoked cigarettes, and one man volunteered a song while his thigh was being amputated.

It is a mistake with nervous patients to test carefully for anaesthesia, for to do so destroys their confidence and gives no information of value. Men of this type profess to feel the slightest touch if they are questioned, but a 4-in. incision, quietly made, causes no break in their conversation. Practically the preparations on the table give ample time for anaesthesia to develop.

It is, of course, essential to have a proper screen: a sterilized towel on an iron hoop clipped to the table does very well. The patient's line of vision is so low that this cuts off the instrument table and assistants from his sight, and yet it allows the operator to see his face and speak to him. One difficulty, dislike of exposure before an English sister, has never been raised; there seems to be a complete mental detachment from the region anaesthetized. If there is a specimen, such as a stone or a prostate, the patients often ask to see it and sometimes want to take it away.

It is very difficult to find out whether patients really prefer spinal anaesthesia to general. The chief attendant in the surgical wards, who has the most chance of knowing, has several times assured me that they do. Apparently the chance of feeling pain has less terrors for them than that of going to sleep and not waking up.

I once found a man making a disturbance in the anaesthetic room, demanding to be discharged rather than have chloroform. I took him into the theatre and let him talk to a patient who was being operated on for hernia under stovaine. The patient laughed at him, and assured him it was quite enjoyable ("By God, a sweet thing, my brother"), so he had his operation under stovaine and departed loudly grateful. It is, of course, a question of temperament. Frank Buckland is said to have refused chloroform on the ground that he wished "to be present at the operation"; many people would risk a good deal to avoid "being present." It is, at any rate, an advantage when patients have any strong views on the point, to be able to give them their choice.

On one occasion we tried to treat hysteria with stovaine. The patient was sent to me by Dr. Warnock, Director of the Government Hospital for the Insane. She was a buxom girl of about 25, quite sane, but possessed by the idea that her legs could not be extended. She carried her objection to stovaine so far as to bite one of the dressers, but a little later she was able to sit and contemplate her extended legs for nearly two hours. At the end of this time she gradually drew them up, and the next day they were less flexed, but she threatened a contraction of her arm. She was discharged to her home, unrelieved.

Natives of this class treat hysteria as an evil spirit and exorcize it by various ceremonies, one of which consists in the patient riding a sheep round the room to the sound of tambourines, and subsequently drinking its blood. This is probably as good a treatment as any other, but for educated patients, stovaine, represented as a remedy, might possibly make a lasting mental impression. At any rate, it allows the patient to see for herself that extension and passive movement are possible, whereas with a general anaesthetic she has only evidence at secondhand.

Conclusion.

The cases on which this paper is based give a reasonable ground for forming an opinion on the value and drawbacks of spinal anaesthesia as a routine method in a busy native hospital. The successful cases call for little comment, but I have tried to deal fully with the failures.

A question which is often asked is whether spinal anaesthesia is "better than chloroform." Looked at broadly, it certainly is not. The discovery of stovaine by surgeons who already possessed chloroform excited a good deal of interest and appreciation; it is nothing to the enthusiasm with which the discovery of chloroform would have been greeted by men who knew no anaesthetic but stovaine. The mere fact that chloroform produces with certainty anaesthesia of the whole body puts it into a different category from an agent which produces with a high degree of probability an anaesthesia of part of it. The question is whether, in cases in which both are available, spi

aesthesia ever possesses advantages over chloroform ficient to make us prefer it. For certain operations prefer cocaine. No one suggests that it can replace oroform, but we should be sorry to be without it.

Spinal anaesthesia has a great many good points. It ms reasonably safe—reference to the three fatal cases his series shows that any one of them would have been ad risk with chloroform. Its materials are portable and venient, everything necessary for a dozen cases will go pocket. The after-effects may be vexatious, but none hem so far have been very serious or at all lasting. anaesthesia produced is fairly constant in its extent of reasonably long duration. The technique is simple uniform, and does not demand the experience and gement of a skilled anaesthetist for the whole period of operation. In fact, it is quite simple for the surgeon, king single-handed, to produce the anaesthesia and then ate at his ease, with an occasional question or a glance he patient's face. This is one of the chief advantages. ing nearly the whole of the period covered by this es of cases I was without the services of a competent sthetist, and the risks and drawbacks of the method therefore to be compared, not with those of chloroform ully given, but with those of chloroform in the hands n untrained man. Now that a capable anaesthetist been appointed to this hospital the conditions are rent, but one may fairly expect stovaine in his hands ow results rather better than my own.

general practice in the country it must often be ult to get an assistant, and more often difficult to get who is in the habit of giving anaesthetics. The use of ine, at any rate, reaches a fair level of efficiency in perienced hands, the personal equation is less dis- ng, and this level of efficiency can be reached by n working single-handed.

e dangers of stovaine are negligible compared to those confident and inexperienced chloroformist, or to those oroform given fitfully by the operator or by a lay- Another advantage of stovaine in the case of patients or vitality is that, instead of preliminary purging sting, and subsequent nausea, the patients can be t any time up to, during, and after the operation. two of my cases—old men with enlarged prostates ere very weak—this appeared to be a great help. were fed up to time of operation, and given hot rum ilk immediately after it, and did not suffer from

muscular relaxation obtained with stovaine is more d than with deep chloroform anaesthesia. The ter ani becomes so flaccid that motions are often on the table, unless the rectum has been previously d. Anal operations are rendered much easier, and hincter requires scarcely any stretching. In the way a bladder which is contracted and irritable ives rise to a good deal of trouble and delay under orm, the chloroform having to be pushed before the can be adequately filled. The abdominal muscles over it, and it is not easy to tell if the resistance to ion is an active or passive one. With stovaine a of this kind dilates at once to its maximum size uite a low pressure.

etting fractures the difference between the two is t is still in favour of stovaine.

a large number of cases have to be dealt with, naesthesia saves a good deal of time, not only in tration, but also because, if the list is finished tedly early, other waiting cases can be added to ut preparation. If there is much work or many ncy cases, it sometimes happens that minor cases, hernias or hydroceles, are prepared two or even ays in succession and left over for want of time. very trying for the patients, and can be avoided by ovaine.

exhausts the most obvious advantages of stovaine s of the kind described above. Of its use in ogy I have no experience, and I have practically upted to extend its general use above the umbilicus ns already given.

advantages are considerable. In the first place, absolutely trustworthy. Under the conditions l above there were over 10 per cent. of partial or failures, and if it is necessary to have a chloro- n waiting in case the stovaine does not work, its chief advantage for general use is gone. Possibly this estimate is too pessimistic, and when no anaesthetist is available, it is at any rate 9 to 1 on stovaine saving the situation. And where two men are available it is better to have an assistant, with a 1 in 10 chance of his ending up as an anaesthetist, than to devote him to that duty from the start.

Again, the anaesthesia fails where it is necessary, as in abdominal work, to extend the operation higher than was anticipated, but in the class of cases which compose this series this question does not arise.

The dosage cannot easily be varied in the course of an operation, it can be adapted beforehand to the patient's age or size, but not to his idiosyncrasy. In order to reach the necessary level and full degree of anaesthesia, a dose must be given which will produce an effect lasting about an hour, even if the operation is going to be over in ten minutes. As a matter of fact increased duration of the anaesthesia does not seem to involve any increased tax on the patient's strength. The patients fail, if they fail at all, at the beginning of the anaesthesia, and apart from loss of blood improve towards the end. Of course an overdose of chloroform can be checked by stopping its administration, while an overdose of stovaine goes inevitably on. But actually the risk of an overdose is probably less with stovaine than with chloroform; one is dealing with an exact quantity of a pure drug, whereas with chloroform given on a mask the amount which enters the patient's system bears no constant relation to the quantity dropped from the bottle, and can only be roughly guessed at from the effects it produces. The rate of administration, which is so important with chloroform, also plays no part in spinal anaesthesia. So that, though the original administration admits of no adaptation afterwards, the state of the patient is the only factor not accurately known and controlled. Giving chloroform is an art; giving stovaine is a scientific experiment.

As to the after-effects, experience differs. Mine has been less fortunate than the reported results of others. To make any fair comparison one should question a similar number of chloroform cases, and probably they would furnish a fairly formidable list of discomforts. But after chloroform these are expected and taken for granted, whereas when they occur after stovaine they are sought for and diligently recorded. Although backache and headache may be a nuisance, or worse, to the patient, they do not have the disastrous effect on the wound that is sometimes brought about by the violent sickness occurring after the administration of a general anaesthetic. If permanent damage were caused by stovaine the position would be different; so far, I have seen no instance of it. A consideration lying outside the scope of this comparison, but important in a teaching hospital, is the necessity of giving students sufficient experience of the use of chloroform. This is chiefly a question of the amount of material. If this is small the students suffer; if it is ample they gain, by learning two methods instead of one. There is no question as to the necessity of all students learning to give chloroform; this learnt, there is much advantage in their learning to use stovaine as well.

The class of cases in which stovaine offers advantages has been partly indicated above. In unskilled hands it is probably safer not to attempt to get anaesthesia above the navel—but this is a matter of opinion. Bladder and rectal cases show the method at its best, and the excellent short paper by Mr. Thom, quoted above, shows what may be done with it in cases of shock from injury. I was particularly impressed by his third case, which I saw at the time; and his concluding remarks on the use of stovaine in fractures can hardly be improved on. In combating shock from injury it cannot be compared with chloroform, for it does good where chloroform does harm.

Its routine use in herniae and operations on the legs will probably remain for some time a question of the preference of the patient and the taste of the surgeon.

The most significant testimony to the value of this method is that both my colleagues and I have gradually come to use it more and more. Dr. Dobbin, in the gynaecological section, uses it almost exclusively; Mr. Madden, on the surgical side, to about the same extent as myself. The total number of operations performed in the surgical theatres of this hospital in 1910 (excluding gynaecological and minor operations which are performed elsewhere) was

1,261, and of these 662, more than half, were performed under spinal anaesthesia. The first cases were done in October, 1907, so that the method has ceased to be a novelty, and the increase has been a gradual one. Moreover, a large number of these operations were done by assistant surgeons or house-surgeons, who used the anaesthetic they preferred.

To sum up, it is clear that spinal anaesthesia, owing to its limited field, can never replace chloroform. If we are to be limited to one method that must, of course, be general anaesthesia. But, in the ground common to both, there is not a vast difference between the two methods in case, safety, and effectiveness, if these are taken together over a large number of cases. What there is, is slightly in favour of general anaesthesia. Yet in a number of cases spinal anaesthesia offers advantages which cannot be got in any other way, and its apparatus and technique are so simple that it is worth any surgeon's while to use it whenever there is anything definite to be gained by it. In the large number of cases where there is nothing to choose between the methods, the use of stovaine becomes a matter of taste and convenience

There seems to be a tendency in England to regard spinal anaesthesia as a dangerous method, and one that can only be employed successfully by a few experts who have devoted their attention to it. As far as my experience goes this is less true than it is of chloroform—the danger of spinal anaesthesia is about the same, and the skill required for its administration less.

In conclusion, I should like to express my especial obligation to Dr. Aly Bey Ibrahim, my assistant surgeon, and my thanks to the English and Egyptian residents, especially Dr. Thom and Dr. Maloney, to my successive house-surgeons, and to Dr. Shahin, recently appointed anaesthetist to the hospital, who have helped me by anaesthetizing cases, by keeping notes, and by making valuable suggestions.

REFERENCE.

1 *Lancet*, October 1st, 1910.

A CASE OF PAROXYSMAL TACHYCARDIA.

BY

R. O. MOON, M.D.OXON., F.R.C.P.,

PHYSICIAN TO THE WESTERN GENERAL DISPENSARY, MARYLEBONE, AND TO THE HOSPITAL FOR DISEASES OF THE HEART, SOHO.

M. K., a tailoress, aged 35, came up to my out-patient department at the Heart Hospital in 1909 complaining of palpitation of the heart and pains in the chest for some years. On feeling the pulse I found it was beating at the rate of 180, but examination of the heart disclosed nothing abnormal beyond the rapidity of the pulse.

She was said to have been delicate from childhood, and began to be subject to these attacks of rapid heart beating and palpitation some fourteen years previously. There was no history of any other illness. The attacks used to come on about every five or six months, beginning quite suddenly and unexpectedly, very often soon after food, but also quite frequently in the night. She herself associated the attack with indigestion. The attack would last any time from four to twenty-four hours and then pass off gradually. As is generally noted in these cases of paroxysmal tachycardia, she was not very much distressed, and would go to her work as usual; she could not, however, lie down during an attack, and therefore when it occurred at night she was a good deal troubled by it. On only one occasion did she complain that she had severe pain in an attack.

I saw her from time to time, when her pulse was usually 76, but I never saw her with the tachycardia again as on the first occasion. She could never be persuaded to come into the hospital, but by treatment of the indigestion she became much better, the attacks very infrequent, and her condition generally improved. In August, 1910, however, she had two attacks lasting seven and ten hours respectively, after which there were no more. I saw her in January, April, and May, 1911; each time she complained of feeling generally weak, but there were no more attacks of tachycardia, and after May 15th I did not see her again. Apparently she had been fairly well till September 2nd, and was at work that day the same as usual, but about midnight she was seized with an attack. The friends with whom she lived were not alarmed, as it appeared to them no different from other attacks; but she soon complained of very severe pain, calling out with the pain, which she had never done before, and saying that she was dying. At 4 a.m. she became very quiet, and died at 4.30. As she had not been to the hospital for four months an inquest was held, and the *post-mortem* examination, which was made by Dr. Freyberger, closed an unusually large patent foramen ovale, but an otherw normal heart.

Clinically I had never found any evidence of an organ lesion of the heart, and I looked upon the case as one simple paroxysmal tachycardia. Had we been able take her into the hospital, some features pointing the congenital lesion might have revealed themselv I have not come across, in the literature on the subje any other instance of paroxysmal tachycardia being as ciated with a congenital lesion, and consider that in t instance the association was a purely accidental o Although the ultimate prognosis in paroxysmal tachycar is unfavourable, yet I think anything in the nat of sudden death is distinctly rare; as a rule, the atta become more frequent and last longer, the heart dilat and we have all the signs and symptoms of card insufficiency with backward pressure.

In my experience, most attacks of paroxysmal tac cardia terminate abruptly, the heart appearing to patient to be jerked, so to speak, into the right pla However, in this case the patient was quite clear that t symptoms passed off gradually.

LEUCODERMIA UNDERGOING PIGMENTATI ON EXPOSURE TO SUNLIGHT.

BY

K. H. JONES, M.B., CH.B.VICT.,

STAFF SURGEON, R.N.

In view of the interest recently exhibited in certain pat logical conditions of the skin, concerned with the compa tive absence or excess of pigment in its layers, notes of following case may be worthy of record.

G. A. L., aged 18, entered the Royal Navy as a youth January, 1911, and came under my care for a scalp woun March of the same year. A few days after his entry on the list I saw him stripped to the waist, and the fact that he subject to leucodermia in a high degree was at once obvi The condition affected the skin of the neck in front and beh as well as that of both groins. The usual condition obtaine this case—there was a brownish pigmentation of the skin, the patches devoid of pigment lay in the coloured port There was a yellowish ochreous coloration of the skin of sides and the front of the neck above the clavicles, and al the vertebra prominens behind, and a much slighter pigme tion of that over both scapulae. On the left side of the n were two large oval patches of leucodermia about 1¼ in. l and about ¾ in. wide, their long axes being approximately h zontal. In front of these patches and above them was a m smaller one, of about the same shape. On the right side of neck were two small oval patches. Posteriorly a large butte shaped patch had its head at the vertebra prominens, extended over both scapulae. In the region of the groins mentation and leucodermic patches were less well marked in the neck.

This youth was of a fair complexion, with blue eyes, an skin was of the cream-coloured tint that tans a deep brow exposure to the sun. He was sturdily built, enjoyed ge excellent health, and had had the leucodermia ever sinc could remember. There was not the slightest suspicio syphilis in this case, but it is of interest that the distributi that usually associated with syphilitic leucodermia.

In July I had occasion to look at this youth again, a once noticed a change in all the leucodermic patches o sides of the neck which were exposed to light. In all appeared a reddish blush of inflammation, and in all, especially in the two largest on the left side of the neck, had developed numerous oval and rounded areas, 2 or 3 m diameter, and of a brown colour; whilst a pigmentary sion of the periphery of the patches was also seen to be t place. At the back of the neck and in the groins, whe light reached the leucodermia, no change in them had t place.

This youth had previously to his entry into the navy a high collar, and had been engaged in an indoor em ment. Having to wear the characteristic open collar bluejacket, exposed to the light, and particularly the light, portions of his skin which previously had covered, and the pigmentary invasion of the leucod patches was probably the result.

It is stated by many authorities that the pig increases in these cases during the summer, and pa larly at the edges of the leucodermic patches. Stelw of Philadelphia, cites a case in which all pigmen

emoved by the extension and coalescence of the leucodermic atches, and that thereafter the skin was unaffected by he sun. Crocker quotes Ehrmann as stating that in one ase brown spots occurred in the leucodermic patches, as n the case above described, but does not ascribe any ause.

There is little doubt that with continued exposure to he sun the whole area in this case would become pig- ented, the exact opposite of what usually obtains in ch cases. From the reddish blush of the skin in this se there is little doubt that the increased pigmentation inflammatory, probably due to the actinic rays of the n, and very closely allied to ordinary sunburn.

Memoranda:

EDICAL, SURGICAL, OBSTETRICAL.

TOPIC PREGNANCY TWICE IN THE SAME PATIENT IN SIX MONTHS, NECESSITATING TWO SEPARATE LAPAROTOMIES.

E patient was sent to me by Dr. J. McLaren of ttenham. She is 27 years of age, and has been married r years. Three years ago she was confined with a nonths child, which lived three days. Six weeks er this confinement the menstrual discharge made its ppearance, and thereafter it recurred regularly every nth until April, 1911. On May 18th, after an amenor- eic cycle of seven weeks, she was suddenly seized h severe pain in the lower abdomen, and at the same e a haemorrhagic discharge made its appearance inally.

rom May 18th until June 12th, when I performed the laparotomy, there had been continuously a haemor- gic discharge from the vagina and there had been e separate attacks of pain. The physical signs then d were the following: On palpating the abdomen there felt in the hypogastrium a small swelling, but the men generally was so tender that satisfactory palpa- was impossible. The cervix, which was somewhat er the anterior vaginal wall than usual, was lower than ual. The body of the uterus—not enlarged—was felt nt bimanually. In Douglas's pouch was felt a boggy ing, which extended into the left pelvis and appeared of about the size of a cocoanut.

the operation the omentum with much small bowel adherent to a swelling in the left and posterior seg- s of the pelvis. On separating these adhesions dark immediately escaped. The left tube, which contained ntity of blood clot, was removed with the left ovary. mbryo of about six or seven weeks was found, and ere discovered in the ampullar end of the tube.

nstruation began as usual on August 30th. and lasted for ual number of days (four). She expected to menstruate ptember 27th, but she missed this period, and almost same time complained of feeling sick in the morning. ctober 25th she complained of slight pain in the abdomen and almost at the same time she remarked e had a haemorrhagic discharge. She continued to reely for five days, and altogether for ten days. ; the first five days there was abdominal pain, but as never severe. It was never at any time like the perienced on the previous occasion. She was sent me on November 15th, 1911, merely because she ined of tenderness of the abdomen, and although ad been no vaginal discharge since November 4th l become apprehensive that something was wrong.

physical signs noted on November 15th were the ng: There was nothing detected on palpating the n except slight tenderness in the right iliac region. vix uteri was centrally placed; it was not soft and as not patent. The body of the uterus was felt imanually; it was not enlarged. Behind and to the the uterus was felt a small, tense, movable swelling, as only very slightly tender. This swelling was ze of a hen's egg.

second operation a large amount of small gut was t to the small swelling in the posterior and right s of the pelvis. The haematoma burst immediately grasped. The right tube and ovary—the former od clot and the latter with a corpus luteum—were ligatured and removed. The embryo on this occasion was about ¾ in. in length. The patient made a good convalescence, with no untoward symptom.

London, W.C. JAMES OLIVER, M.D., F.R.S.Edin.

EPIDEMIC JAUNDICE.

THE cases mentioned in the BRITISH MEDICAL JOURNAL of November 18th, p. 1353, of catarrhal jaundice occurring in an epidemic form, are interesting to me, because it was only a few days ago I was called to see a boy 8 years old similarly affected. He complained of pain in the abdomen and slight vomiting, and there was also headache and malaise. His temperature was nearly 102°, his tongue was coated, and there were some very prominent bright red papillae visible, but his throat was all right. The conjunctivae were yellow and the urine discoloured. The skin was very hot, but not apparently tinged. There was pain and great tenderness in the epigastrium and hypo- chondria, chiefly the right. I do not think that the liver was enlarged, but he would scarcely allow me to examine him. There was not much tenderness below the um- bilicus. He had had no rash, and his mother told me that the other three children (who were younger) had had their eyes jaundiced and also the urine, but that they had recovered.

He had been ill for some days, but was going on well until he went out, and then he rapidly got worse and the pain appeared in his abdomen, and that was the reason I was called to attend him. There was nothing that they had taken that could have caused it, and I said that it was a case of "epidemic jaundice." He was given a mixture containing strong doses of sodium bicarbonate, a little dilute hydrocyanic acid, and chloroform water, which was to be taken every four hours. He was to be kept on a fluid diet and in bed, and if the pain increased linseed meal poultices were to be applied, and I was to be informed if he got worse. I first saw him on Wednesday, November 8th, and I next visited him on Friday, November 10th.

I was told that a poultice had been applied on the afternoon of November 8th over the painful region, and that it had relieved him. He had now got up, the conjunctivae were clearing and also the urine, his temperature was normal and he felt well and he had practically recovered. He has continued to improve, and there has been no necessity to visit him.

The whole of the children in the house were affected. It is situated on the countryside and in a bleak position, and the weather was cold and wet. I am not aware of any other cases in the district, and I think it appropriate to communicate this because of the apparently comparative rarity of these epidemics.

Glandowey, Cardiganshire. D. OWEN WILLIAMS, M.B.

PERIODICAL HAEMATEMESIS AND MENSTRUATION.

ON account of its rarity the following case may be of interest to readers of the BRITISH MEDICAL JOURNAL.

M. J., aged 29 years, has been under my care for over twelve months. Menstruation is quite regular and seems normal, but at each menstrual period she expectorates considerable quantities of blood. For twelve months both oral and uterine discharge has occurred regularly every twenty-eight days, and neither has occurred without the other during that time. The woman has always been allowed to go to bed in the Infirmary for a few days at each menstrual period, and the stages of the process have been repeatedly and carefully observed.

She becomes uncomfortable with a feeling of sickness, and this sensation is relieved when a mouthful of dark- coloured foul-smelling blood clot is brought up, by an effort akin to vomiting, without any straining. This occurs about ten to twelve times in the twenty-four hours, and con- tinues about four days.

The woman seems healthy and expresses herself as quite well between the periods. Her history is not much to be relied on, but she has had one miscarriage.

One hears and reads of vicarious menstruation, but as the case I refer to does not agree with any one I have ever seen or heard of I should be glad to know if any similar case has been recorded.

DAVID FLECK, M.B., B.Ch.,
Medical Superintendent, Eastern Counties Reformatory,
East Harling, Norfolk.

Reports of Societies.

THE ROYAL SOCIETY.

Thursday, December 7th, 1911.

Sir ARCHIBALD GEIKIE, K.C.B., President, in the Chair.

The Physiological Influence of Ozone.

IN a paper on this subject, Drs. LEONARD HILL, F.R.S., and MARTIN FLACK pointed out that ozone, in concentrations of one part in a million and more, acted as an irritant to the respiratory tract, and diminished the respiratory metabolism, as shown by the lessened output of carbonic acid and the diminished fall in body weight, which occurred both during the period of administration and for some time after. Concentrations of several parts per million caused acute inflammatory congestion of the lungs, and animals died as the result if kept long exposed to the ozone. Concentrations which could just be sensed by smell—that is, far less than one part per million—had no injurious effect, and could be used safely in systems of ventilation. Injurious concentrations of ozone, by producing irritation of the air passages, cough and headache, compelled a person so exposed to remove himself from the influence of ozone before any serious damage was done to the respiratory tract. Very low concentrations of ozone masked disagreeable smells, gave a fresh quality to air vitiated by such smells, and varied the depressing monotony of air which was artificially warmed. Ozone might possibly have some value in the treatment of disease of the respiratory tract if used in concentrations which produced a slight irritation and thus brought more blood and tissue lymph to the part.

The Factors concerned in Agglutination.

The conclusions of a paper by Mr. H. R. DEAN, M.A., M.B., on this subject were as follows:

(1) If, to a mixture of sheep corpuscles with antiserum so dilute that no agglutination is visible, be added a solution of globulin obtained from normal guinea-pig serum, the corpuscles are markedly agglutinated. By use of suitable controls it can be demonstrated that neither the globulin solution nor the dilution of antiserum employed are of themselves capable of agglutinating the corpuscles.

(2) The substance present in the globulin solution which aids agglutination is relatively thermostable, and its presence can be demonstrated in whole heated guinea-pig serum.

(3) Corpuscles, sensitized and washed to remove free antibody, can be agglutinated by the globulin solution. If, after agglutination has taken place, the corpuscles be removed with a centrifuge, the supernatant fluid can be shown to have lost its agglutinating property.

(4) The agglutinating power of an extremely dilute anti-typhoid serum can be increased by addition of globulin solution. Adding this to a mixture of emulsion of *B. typhosus* with a dilution of antiserum too weak by itself to agglutinate bacilli, distinct agglutination can be obtained.

(5) Formation of a specific precipitate by interaction of serum and homologous antiserum depends on presence in the mixture of a relatively large amount of antiserum. If, to a mixture of serum with antiserum so diluted that it is no longer able to produce a precipitate, is added the globulin solution, a definite turbidity is produced.

(6) Probably agglutinating serum (antiserum) contains two factors, both of which are necessary to produce agglutination; one of these is the specific antibody, the other is a non-specific substance, possibly serum globulin. The interaction of antigen with antibody produces an aggregation of molecules of non-specific substance which may ultimately result in formation of definite turbidity. This process of aggregation of the particles of non-specific substance is an essential part of the process of agglutination. It is possible to make a dilution of an antiserum which contains sufficient of specific anti-substance but not sufficient of non-specific substance. Deficiency in non-specific substance can be made up by addition of globulin solution obtained from normal serum.

The Origin and Destiny of Cholesterol.

Messrs. G. W. ELLIS and J. A. GARDNER reported the results of analyses of the livers of a number of rabbits fed on the following diets: Cabbage, bran which had been extracted with ether, and extracted bran to which cholesterol had been added. In some cases the cholesterol, instead of being given with the food, was injected in olive-oil solution into the peritoneal cavity. For animals fed on extracted bran alone the total liver cholesterol per kilo of body weight was very constant, but when cholesterol was given with the food or injected into the peritoneal cavity a considerable increase took place. A similar increase was observed in the liver cholesterol during inanition, when the animal lived on its own tissues. The percentage cholesterol content of the livers of newly-born animals was of the same order as that of normally fed adults. The results afforded support to the working hypothesis, with regard to the origin and destiny of cholesterol in the organism, put forward some time ago by the authors, namely, that cholesterol was a constituent constantly present in all cells, and that when these cells were broken down in the life process the cholesterol was not excreted as a waste product, but was utilized in the formation of new cells. A function of the liver was to break down dead cells—for example, blood corpuscles—and eliminate their cholesterol in the bile. After the bile had been poured into the intestine in the processes of digestion, the cholesterol was reabsorbed, possibly in the form of esters, and carried in the blood stream to the various centres and tissues for reincorporation into the constitution of new cells.

MEDICAL SOCIETY OF LONDON.

Monday, December 11th, 1911.

Dr. J. MITCHELL BRUCE, President, in the Chair.

Operations involving the Peritoneum.

MR. J. D. MALCOLM analysed a series of 400 consecutive operations involving the peritoneal sac. In 216 of these the female generative organs were treated, with 4 deaths. In 184 cases, with 11 deaths, other abdominal structures were diseased; the later cases showed a much lessened mortality, thanks to the introduction of improved methods including the more judicious use of opium and purgatives and the post-operation administration of fluids. The cases of hysterectomy included 2 deaths. In one the urine contained no albumen before the operation, but after death there was suppression of urine, and the ureters were found greatly dilated. The other case was an operation performed by Wertheim's method, which it was urged should only be recommended in cases where the conditions permitted a low mortality and a hope of a prolonged immunity. Forty operations for removal of inflamed Fallopian tubes occurred with two deaths. It was urged that free drainage of the pelvis, obtained by removal of the uterus, was very useful in some cases of Fallopian tube disease. One case was recorded in which, after removal of suppurating ovaries and Fallopian tubes with the uterus, haemorrhage occurred a week later. This was stopped by reopening the abdomen. It was believed that this patient would not have recovered without removal of the uterus. Another case ended fatally owing to the fundus falling over and arresting pelvic drainage through an incision in the vagina. In reference to cases of intestinal obstruction due to intestinal adhesions a case was related in which a complete obstruction arose but no purgative was given, and the patient recovered perfectly, flatus passing downwards freely a few hours after the separation of adhesions by operation. The 20 cases of intestinal anastomosis afforded 2 deaths, and 7 cases of resection 1. There were 2 deaths in 64 operations for removal of the vermiform appendix. In one of these, the intestine being unhealthy, a piece was removed, and the point of union gave way. In another the patient, a boy aged 13, was not seen until the eighth day of the illness which was far too late. In another case the patient, who made a good recovery, was delivered of a full-term child thirty-six hours after the operation. It was suggested that in all abdominal cases one of the most important improvements in treatment was the more exact knowledge regarding the best time for operating and the disadvantages of delay.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Tuesday, December 12th, 1911.

Mr. CLINTON T. DENT (followed by Sir ANTHONY BOWLBY) in the Chair.

Intestinal Obstruction following Ovariotomy.

THE PRESIDENT (Mr. Clinton T. Dent) read a paper on a case of intestinal obstruction following ovariotomy for five years previously. Ovariotomy was performed in 1864 by Sir Spencer Wells, the pedicle being secured by clamps. The patient made an uneventful recovery and experienced no ill effects until 1909, when complete intestinal obstruction supervened on attacks of constipation and partial obstruction. On operation numerous adhesions were found constricting the small intestine in several places. The adhesions were divided and the obstruction relieved;

patient was apparently cured. Two months later she had an attack of partial obstruction, and four months from the time of operation died of complete intestinal obstruction. Her general condition precluded an operation. Mr. Dunn, Mr. Eccles, Mr. Mummery and Mr. Spencer discussed the cause and prevention of adhesions following abdominal operations.

Treatment of Claw Foot.

Mr. Robert Jones gave an account of the treatment of this condition in its various degrees of severity, from the right-angled contraction of the tendo Achillis to the extreme deformity. Right-angled contraction is cured by exercises and massage; boots should be worn without heels. In the earlier cases of claw foot manipulative treatment and tenotomy of the plantar fascia, extensors, and tendo Achillis suffice. He laid stress on the fact that it is inadvisable to try to effect a cure by operation at one sitting. For the later cases he described an operation which he had devised to save amputation of the foot—namely, astragalectomy combined with excision of the heads of all the metacarpal bones.

Sir A. Bowlby wished for further information as regards the production and the prevention of the deformity.

Mr. Eccles remarked on the difficulty he had experienced in obtaining healing in the worst cases.

The Results of the Operation for Inguinal Hernia in Young Children.

Mr. Thomas H. Kellock read a paper on this subject. In a series of 75 cases he had had no recurrences or bad results. The age of his patients ranged from a few months to 3 years. He first prepared the children for operation by keeping them in the Trendelenburg position for three days. Then through a 1-in. vertical incision he completely removed the sac without dividing the external oblique. He did not injure the inguinal canal. The post-operative treatment consisted in keeping the child in the Trendelenburg position for a fortnight. He strongly disapproved of the treatment by trusses, as it left the sac behind and a recurrence was likely to take place at any minute. He confined to extend the treatment to adults, excepting the adoption of the Trendelenburg position.

Section of Gynaecology and Obstetrics.

Tuesday, November 21st, 1911.

Dr. Amand Routh in the Chair.

Insanity and Amenorrhoea.

There was a meeting held in conjunction with the Psychological Association, the subject for discussion, "Amenorrhoeal Insanity," being introduced by Dr. C. T. Ewart. He pointed out that menstruation was a rhythmical periodic function, due to an internal secretion of the ovaries, and asked whether in insanity, associated with suspension of the menses, the latter was a cause or an effect. He considered that there was a form of insanity due to suppression of the menstrual flow, and stated the patients of this order recovered in three months from the establishment of the menstruation. In every such case there was an heredity which caused the patient to have an unstable nervous system. Dr. Robert Jones said that animals in captivity had good general health, but suffered in the reproductive function. Presumably the nervous system was at fault. It was well-known that the advent of menstruation was attended by definite and distinct physical conditions. A large number of anaemic girls in Claybury Asylum suffering from amenorrhoea, in many, when the menses were re-established, full recovery took place. Towards this, Turkish baths and other means of eliminating toxins were of great value. The climacteric was also a very important period. A great deal of loose talk was indulged in on this subject, for every one would admit that in all women menstruation caused a considerable strain, while in those with an unbalanced nervous system it was a dangerous period. Dr. Macnaughton Jones thought there was nothing more dangerous than to introduce a term which was not strictly accurate, such as "amenorrhoeal insanity." He did not think a woman or girl who was psychasthenic or neurotic and who also had stoppage of the flow should be classed as a case of amenorrhoeal insanity. He believed that cases of insanity had their hearts affected, but one would not suggest on that account that the people had cardiac insanity. Dr. Percy Smith took the same view. There might be amenorrhoea both in cases of melancholia and in cases of mania, and insanity was often associated with amenorrhoea, but he did not think there was a special amenorrhoeal insanity. It must be remembered that amenorrhoea was a very common symptom in all acute insanities in women. If the term was justifiable in any cases it was in those young women in whom there had been prolonged fatigue or stress due to exhausting occupations, leading to great anaemia. If amenorrhoeal insanity was a definite disease, it should be diagnosable early, not from the fact of recovery three months after the return of the menses. Dr. Russell (Glasgow) agreed with the criticism of the term. In his experience amenorrhoea in cases which had nervous disturbance he regarded as the effect rather than the cause. He described one patient in whom mental trouble occurred simultaneously with a growth of the ovary, and when that was removed the normal mentality returned. Among such young women of this class one could trace persistent neglect of the proper principles of feeding and regular relief of the bowel. Dr. W. Dawson did not believe there was a special form of insanity caused by amenorrhoea. The form of insanity most commonly associated with amenorrhoea was melancholia, and those subjects were most apt to have disorders of digestion, sometimes associated with diseased kidneys. Of course he agreed that amenorrhoea affected the mental condition of the woman, even many sane women. Anaemic girls were particularly liable to nerve symptoms at menstruation. Dr. Walter Griffith said it was not very clear what was meant by amenorrhoea. He agreed with Dr. Percy Smith that the gynaecologist had no definite place in the asylum, and that the insane woman should not be touched in this respect unless an operation were required, such as for a growth. If a robust, healthy girl did not menstruate for years, there was something definite which neither iron, nor purgatives, nor exercise, nor fresh air would do good to. Dr. Haydn Brown strongly advocated a greater use in the profession of psycho-therapy for nervous conditions. Dr. Stoddart associated himself with most of the speakers in denying that there was such a disease as amenorrhoeal insanity. He regarded the amenorrhoea as simply a concomitant symptom. He, however, gave an instance of a lady upon whom he carried out a process of psycho-analysis, which was followed by a return of the menses, and from that time she improved mentally. Dr. Amand Routh said it was known that menstruation was due to some chemical agent which accumulated in the blood, and psychically reached a certain pitch and encouraged the uterus and the ovaries to become active. The change in the blood was due to the formation of an excess of calcium, and the first act of the menstruating uterus was to excrete a large quantity of lime salts which lowered the lime content of the blood, and encouraged haemorrhage from the uterus. Amenorrhoea showed that the products which ought to be in the blood in order to encourage menstruation were absent. So probably amenorrhoea meant that the patient suffered from a diminution of some substances and an excess of others. Dr. Ewart replied.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, December 14th, 1911.

Mr. J. B. Lawford, President, in the Chair.

Pathogenesis of Choked Disc.

Dr. Thomson Henderson, in a paper on choked disc, said that the brilliant results obtained by cerebral decompression had conclusively proved that the manifestations of choked disc were the direct expression of the mechanical agency of increased intracranial pressure. In choked disc the intraocular pressure was normal while the intracranial pressure was raised, and, therefore, to appreciate the essential relationship between cause and effect it was essential for them to possess a clear and definite conception of the physiological association between the normal intraocular pressure and the normal intracranial pressure. He had experimentally demonstrated that under physiological

conditions the intraocular and intracranial pressures were similar in nature and in level. The condition of venous engorgement and of swelling of the disc, which together completed the ophthalmoscopic picture of choked disc, were both the result of the sudden break at the level of the lamina cribrosa of the physiological equilibrium of pressure which normally existed at this point. When the intracranial pressure was raised, the cerebral venous pressure mounted to the same level, and therefore the pressure in the neural portion of the retinal vein likewise rose, hence, to complete the retinal circulation the pressure in the intraocular portion had to rise *pari passu*, thereby producing the retinal venous engorgement. As fluids tended to lie at the lowest hydrostatic level, and as the hydrostatic pressure behind the lamina cribrosa was greater than in front, fluids passed forward into the now lower hydrostatic level of the eye, and so caused swelling of the disc. The arching forward of the lamina cribrosa and the so-called hydrops vaginae represented a yielding of those structures to the increased hydrostatic pressure they were called upon to support. As the brain acted as a viscous and not a fluid mass, and, further, as the rigidity of the falx and tentorium tended to hinder general diffusion of hydrostatic pressure, the pressure in one cerebral hemisphere and corresponding optic nerve might rise above that in the other, thereby accounting for the ipsolateral feature of choked disc. Mr. HERBERT PARSONS considered that on logical grounds Dr. Henderson's contention did not hold good. Pressure was not a question of volume in the sense in which Dr. Henderson meant it. If the intraocular pressure were identical physically with intracranial pressure, then admittedly the intraocular pressure would be equal to the intraocular venous pressure; for the intraocular pressure, to be always equal to intraocular venous pressure, would mean absolute rigidity of the corneo-sclera. That was where the fallacy lay. There was evidence that the sclera was not quite rigid. He did not believe a purely physical explanation could be given either of glaucoma or of increased intracranial pressure; physiological factors must be taken into account. Mr. J. L. PATON regarded Dr. Henderson's paper as a return to the crude, original ideas published in the Sixties, only modified by an application to the explanation of venous congestion published by Dr. Leonard Hill in 1896. Venous pressure alone did not suffice to account for the phenomenon of choked disc, and in this connexion he mentioned the example of thrombosis of the central vein. He asked the author in what proportion of the cases of optic neuritis which he had examined he had seen the arching forward of the lamina cribrosa. Out of sixty eyes he had seen in which there was optic neuritis, in only one was there that arching forward of the posterior fibres of the lamina cribrosa. Dr. GORDON HOLMES thought it remarkable that when such views as in this paper were put before a scientific society the facts also were not given. He proceeded to discuss the question of the dissociation between intraocular and intracranial pressure, and regretted that the question of ipsolaterality had not been considered more quietly. Dr. HENDERSON replied that Schencks had experimentally produced ipsolaterality. Foulkes had described the corneal sclera as rigid.

Corneal Ulcer and Iris Spasm.

Dr. ADOLPH BRONNER described 3 cases of ulcer of the cornea combined with painful spasm of the sphincter pupillae. In the first case the severe pain persisted, in spite of all ordinary methods of treatment, from October 9th to November 21st, when an iridectomy was performed, which gave immediate relief, and the ulcer healed in four days. In the second case the symptoms persisted from June until August, when an iridectomy again gave immediate relief. The third case persisted for three months, and was at once cured by an iridectomy. The peculiarity of these cases was that the ulcers were superficial, often traumatic, not infiltrated, and did not heal, in spite of the usual methods of treatment, for several weeks or months. The pain and photophobia were also more severe and more intermittent than usual, and at once ceased after iridectomy. The chief peculiarity, however, was that the pupil did not dilate with atropine, and that often the pupil of the other eye did not act as readily as usual. The fact that the iris was not infiltrated, that there was no lymph on the anterior capsule, and that the pupil dilated after iridectomy, proved that there had been no severe iritis. Probably the unusual symptoms were due to neuritis of the nerve endings in the cornea, which caused reflex spasm of the constrictor pupillae muscle, and this, in turn, possibly prevented the ulcer from healing.

LIVERPOOL MEDICAL INSTITUTION.

AT a meeting on December 7th, Dr. T. R. BRADSHAW, President, in the chair, Dr. NATHAN RAW read a paper based on 183 cases of pneumonia and other pneumococcal infections in which ordinary treatment had been supplemented by *Vaccines*. The vaccines were followed by immediate lowering of temperature and pulse rate, but this effect was temporary. Complications seemed to him less frequent when the cases were thus treated, but neither the mortality nor the duration of the disease was reduced. The PRESIDENT did not consider that the use of vaccines in pneumonia was attended by better results than the ordinary treatment. The mortality in 131 cases treated by him was 6.87, a rate almost identical with that found by Dr. A. T. H. Waters some years ago. Dr. HUBER ARMSTRONG said he had found better results in chronic cases than in acute when the patients were children. One case he had treated with doses of five and ten millions every other day. This child developed an empyema, and was discharged cured in three months, but ten days later the child returned with pneumonia of the other lung.

The following were among the exhibits at the meeting. Dr. R. J. M. BUCHANAN: Several cases of acute rheumatic fever with polyarthritis, endocarditis and pericarditis which had been treated and cured by vaccines. One patient had been in full work as a coal trimmer for ten months after recovering from severe rheumatism and pericarditis. There had been no return of the arthritis and the heart remained quite sound. Mr. H. E. JONES: (1) Case of myopia and *Immature cataract*, in which both cataracts had been extracted after preliminary extirpation of both lacrymal sacs, these being the seat of blenorrhoea. The result was vision $\frac{6}{6}$ and $\frac{6}{9}$. (2) A case of *Rodent ulcer* involving the frontal sinus, ethmoidal cells, and antrum. An attempted radical operation was followed by recurrence in the deep part of the cavity. Carbon dioxide snow had proved of very little use. (3) A case of glioma of both eyeballs. The parents had refused to allow removal of the eyeballs for eighteen months, and then consented. Four months after enucleation recurrence took place in orbit socket and extensive growths in the neck. Mr. J. STEVENSON showed a boy aged 10 from whose right orbit he had removed a piece of wood 3 in. long; it was the pointed end of a home-made arrow, which had passed through the sphenoidal fissure. Its point must have just crossed the inner end of the petrous bone. The total ophthalmoplegia was passing away, but the eye was blind from optic atrophy.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on December 3rd, Mr. W. MCADAM ECCLES, President, in the chair, Dr. SEYMOUR TAYLOR, in a paper on *Unrecognized cases of diphtheria*, said that failure to recognize diphtheria chiefly occurred in cases of simple sore throat without any of the confirmatory concomitant signs of false membrane, enlarged cervical glands, or albuminuria. He related as a case in point the history of a man who complained of choking and difficulty in swallowing, and who had a nasal intonation, absence of knee jerks, and palate reflex. No history of sore throat could be obtained until after a persistent inquiry it was found he had had a mild sore throat three months previously. This was called to mind by a shipmate who had suffered from a similar affection, and at the same time, namely, when both were engaged in cleaning out some part of the ship full of decomposing refuse. In another case a lady complained of weariness and dyspnoea. She had paralysis of the right side of the face, no patellar and no palate reflexes. A history of sore throat could not at first be obtained. Later it transpired that both she and her cook had had sore throat shortly after the clearing of an obstructed and offensive drain in the back yard of the house. Other similar illustrative cases of mild and neglected sore throats, follow

y palsy of muscles and other signs of toxic peripheral euritis, were given. A skilled bacteriologist, paid by the tate, should be available so that every case of suspicious ore throat could command his services. Swabs should be ken not only from the fauces, but also from the inferior sal meatus; a patient could not be certified as free from phtheria unless and until two separate swabbings at one eek's interval had been made and showed an entire sence of the Klebs-Loeffler bacillus. Dr. JULIUS BERN-EIN dealt with the bacteriological aspect of diphtheria ses. He considered the most serious difficulty arose m the existence of healthy "carrier" cases—doctors, rses, and children, often several members of one family, o harboured virlent organisms, to the possible danger of community. The PRESIDENT said he would be interested hear opinions on certain points: How soon after possible ection could the bacillus be found? What was the best a from which to take a swab? Were there such anisms as "pseudo-diphtheritic bacilli"? What was longest time true diphtheria bacilli had remained in throat of a carrier? Dr. F. G. CROOKSHANK said the ctitioner's first duty, if he suspected diphtheria, was to antitoxin. Then let him go and fetch a swab. The tor who first gives antitoxin safeguards his patient; he takes a swab and waits safeguards himself only. After e further discussion Dr. SEYMOUR TAYLOR replied.

ULSTER MEDICAL SOCIETY.

meeting on December 14th, Dr. MCKISACK, President, e chair, Dr. JOHN MCCAW, in introducing a discussion *Acute poliomyelitis*, gave a full description of the emic in the United States, and pointed out many of novel symptoms found in the epidemic form, and not nt or not noticed in the sporadic case. Professor IERS described the results of laboratory investigation e disease and the results of inoculation in monkeys; ese animals the poison, whatever it was, was found in pinal cord, the brain, the mucous membrane of the pharynx, and some of the lymphatic glands. Dr. O'BRIEN said he had seen a number of cases through-lster, and his attention had been drawn to others of he had heard; there seemed to have been many on aboard of the County Down; and there were some ich brain symptoms had been very prominent. Dr. NER ROBB had seen many cases where the question of a diagnosis of cerebro-spinal fever. It had been in other countries that an epidemic of acute polio-is had followed one of cerebro-spinal fever. In one he had performed lumbar puncture in a case that uently died, and got pus, when there was in the at the moment another child of the same family clear acute poliomyelitis. He thought perfect the earlier stage was the true treatment. Dr. N related the notes of three children, two and a brother, who all took ill on the same uly 12th. Dr. CALWELL said he had seen seven one of these might be objected to as it was of myelitis, but had the onset, course, and history of acute poliomyelitis. He objected to n "poliomyelitis," as it was shown both clinically he laboratory that the poison was widely diffused; olioencephalomyelitis was better. He agreed with b as to the advisability of refraining from active nt at first. The general symptoms, onset, the of pain and delirium in some were present in his in those already described. As regards diagnosis, ght lumbar puncture in some cases was essential; ree in which he had done it, the fluid was clear ile; he suggested that the case of pus which Dr. d punctured might be either an accidental case of ner affection, as a pneumococcal meningitis, or a tion; although rare and improbable, there was no hy there should not be a double infection of the ord. He also asked, could some of the cases of r. O'Brien had heard not be cerebro-spinal fever? s of cases in the same family under Professor of Birmingham tended to prove that abortive ght coexist with well-marked cases, that is, a case ptoms but without paralysis might lie side by the undoubted case. In his opinion their views of should be much wider, and the possibility enter-t such affections as Landry's disease, myelitis, some obscure cerebral affections, even certain cases of vertigo from cerebellar involvement, were all ultimately due to this infection. The PRESIDENT briefly reviewed the debate, and said that, of the cases he had seen, he was struck with the brain and general symptoms, and with the complaint of pain that was present with some of the cases, although others resembled the sporadic type.

HUNTERIAN SOCIETY.

AT a meeting on December 6th Dr. HINGSTON FOX, President, in the chair, the following were among the specimens shown:—Mr. W. CIRLING BALL: (1) A specimen of *Sarcoma of the testicle* from a boy aged 21, with a history of sudden swelling of that organ three weeks before admission to the hospital. On section it was found that there was a large haemorrhage into the centre of the growth accounting for this sudden swelling, which was the first sign of the disease. (2) A specimen of *Hypernephroma of kidney*—small, encapsuled tumour the size of a walnut, with haemorrhage into it. It was situated just underneath the capsule in the renal cortex, and had not invaded the pelvis. It was found quite accidentally in the *post-mortem* room, not having given rise to any symptoms during life. The patient died at the age of 77, with a fractured base of the skull. There were no other growths found in the body. (3) A small "*Fraction*" *diverticulum of the oesophagus*, the size of a small marble, situated in the anterior wall of the oesophagus, just below the bifurcation of the trachea. It had a distinct neck, and was in no way attached to the surrounding tissues. The lymphatic glands in the region were healthy, and showed no evidence of old or recent inflammation. Dr. W. H. KELSON: A series of microscopic slides, illustrating the more common affections and pathological conditions found in the throat, nose, and ear. Dr. THEODORE THOMPSON: Sections of spinal cords, illustrating subacute combined degeneration. Dr. A. C. JORDAN: Skiagrams of chests and lungs, illustrating a condition described by him as "peribronchial phthisis."

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

AT a meeting on December 5th, Dr. CONSTANCE LONG, President, in the chair, Dr. L. MADGSHON gave an account of *Poisoning by antipyrin* in a girl suffering from dysmenorrhoea, for which she was given 10 grains of antipyrin. About a quarter of an hour later she complained of violent headache and a burning sensation in the throat and stomach. The face and lower limbs were flushed, and there was an urticarial eruption on the arms. A pinkish fluid was vomited. Warm water was administered and the patient made to rest. The symptoms gradually passed off. Dr. AMY SHEPPARD read a paper on *Extraction of cataract in the capsule*, which, with some minor alterations, she had read before the Birmingham meeting of the British Medical Association. In the discussion that followed Dr. ADELINE ROBERTS commented on the adverse opinion of the operation held in this country on account of the bad results that had been obtained. This might be due to the difficulty in getting sufficient experience in the technique of the operation, which required great skill, whereas in India great numbers of cataract cases were met with. The freedom from after-cataract, which was one of the chief claims for extraction in the capsule, did not seem a sufficient reason for adopting a method that had many difficulties and dangers compared with the old operation in which the incidence of after-cataract was only about 5 per cent. In considering the good results claimed for the operation in India it was necessary to bear in mind the greater difficulty of following up the after-history of cases in that country. Mrs. FLEMMING pointed out that as early as the eighteenth century a surgeon at Guy's Hospital had removed the lens in its capsule. The PRESIDENT then gave a brief summary of alterations in the Insurance Bill up to date. She emphasized the importance of unity of action among all medical practitioners, and expressed the hope that medical women would be found ready to serve on the local Medical and Health Committees which were to be formed all over the country for the purposes of organization and administration.

Reviews.

EDUCATION, OLD AND NEW.

UNLIKE many modern authors, Dr. WALSH has chosen a singularly appropriate title for his new book, *Education, How Old the New*.[1] The volume consists of a series of essays, or rather lectures, on the mental training of youth in the past; and the author has succeeded admirably in proving how much of our vaunted progress in education exists in imagination rather than in actual fact. The latest methods and most recent systems for teaching the young idea how to shoot are often nothing but an unconscious throwback to earlier days; and that which modern educationalists fondly imagine to be the latest thing in educational novelties is here shown in many instances to have been invented, tried, and discarded or forgotten by those who have gone before us. Like man himself, the various systems of education have their exits and their entrances, and probably will so continue in regular rotation long after the disappearance of our existing civilization. Dr. Walsh is strongly of the opinion that human knowledge, like civilization itself, goes in cycles. Whenever the human race has reached a certain standard of learning and refinement, he says, it has almost invariably lost it in some great convulsion which has plunged the world once more into the darkness of ignorance and superstition. It follows, therefore, that what is lost has again to be sought for and found, only to vanish in its turn like *les neiges d'antan*. "Man's skull has not changed," says Dr. Walsh, "his body has not been modified, his soft tissues are the same as they used to be. His brain is no different. Why, then, should he not have done things in the olden time just about as he does them now?" That he did them, and in many instances did them better, is proved by Dr. Walsh's extremely interesting account of the old-world schools and universities, and the mental fare they offered to those who came to them in search of knowledge. It is well known, of course, that much of "the glory that was Greece and the grandeur that was Rome" arose from the splendid opportunities for self-culture afforded by these ancient civilizations, which, in the region of art and literature we, with all our boasted progress, have never been able to surpass. But it may not be so generally realized that a great part of the Greek and Roman learning came from Egypt, where, amongst other things, medical education appears to have been highly developed and advanced centuries before the coming of Hippocrates and his disciples. The oldest medical textbook in existence—the Ebers Papyrus—was written in Egypt seventeen hundred years before the birth of Christ; and in that volume, portions of which date from nearly 3000 B.C., we find that "there is scarcely a disease of any important organ with which we are familiar in the modern time that is not mentioned here. . . . While the treatment was mainly symptomatic, it was not more so than is a great deal of therapeutics at the present time, even in the regular school of medicine." Further on Dr. Walsh points out that professional education in Egypt "was not very different from our own, and its results, particularly in the line of specialism, are startling anticipations of the most modern phase of medicine. They anticipated our interests in psycho-therapy, and some of them were mental healers and more of them used the influence of the mind on the body than our physicians have been accustomed to until very recent years." Even our spas and sanatoriums find parallels in the cures at the Egyptian, and later at the Greek temples. At Alexandria (which Dr. Walsh describes as the first modern university, resembling "our own in so many ways that I, for one, find it impossible to discover any essential difference between them,") the curriculum was almost the same as that of any university at the present day; and, moreover, both students and demonstrators had the advantage of scientific laboratories such as we have enjoyed only during the last hundred years. Unhappily, the whole of this wonderful fabric of learning was demolished by barbarian invaders, and the knowledge painfully acquir through centuries of labour and research was in great pa lost to the world in the sack of Alexandria. B Dr. Walsh is careful to point out that even in the darke period of the Dark Ages the lamp of knowledge was nev wholly extinguished. Speaking of mediaeval medicine, reminds us that "Simon of Genoa worked out the dosa of opium and indicated its uses. Anodyne drugs we employed much more generally and successfully than are apt to think. Various methods of anaesthesia, one them by inhalation . . . were invented, and a lar number of drugs and simples were experimented wi Down at Montpellier, Bernard Gordon suggested red lig for small-pox." Moreover, we learn that "not only we the (medical) schools excellent and the teaching p gressive, but there was a fine development of medi science and, above all, of surgery. . . . There was greater period in the history of surgery than that fr 1200 to 1400." It was due to the fact that they we formed upon the same lines as the mediaeval medi schools that the medical schools founded by the Spania in South America were so infinitely superior to the which sprang up later on in the United States. In wh is perhaps the most striking essay in the whole bo "Origins in American Education," Dr. Walsh shows h much the American nation owes to the Spanish settle and how for generations South America, following t ancient methods of teaching, was, in science, art, a literature, immeasurably in advance of the United Sta with her brand new modern scholarship. For t Reformation accomplished more than the partial overthr of the old faith: to a great extent it paralysed educati The enthusiastic love of learning manifested in every ra of society at the period of the Renaissance was crush in succeeding years by the great religious conflict wh tore Europe asunder, whilst the abolition of religi houses removed the only refuge which learning mi otherwise have found. The long wars of religion affo a possible explanation of the deterioration of popu education and the intellectual stagnation of the mas which followed the revival of the new learning. T eighteenth century, says Dr. Walsh, witnessed the low ebb of human education, and it is only during the last t or three generations that we have begun to recover l ground and to rediscover many of the things that forefathers found out long ago. It is a chastening refl tion but a very salutary one. It is difficult to give adequate account of the manifold charm of this m interesting book. Unlike a large proportion of mod historical literature, it is no mere piece of bookmaki but the careful, reflective work of a widely-read a cultured man, whose deep learning and thorough und standing of his subject fully qualify him for the m fascinating of all tasks. Some of Dr. Walsh's opinio we imagine, will hardly find favour amongst such of fellow-countrymen as hail from New England, for he is respecter of persons, and the dubious or ill-founded lege even when it sheds glory upon his native land, fares v badly at his hands. But those who desire a lifelike unprejudiced account of the state of popular education different periods of its development cannot do better t to read, mark, learn, and inwardly digest one of the m delightful historical studies that has appeared for so time.

[1] *Education, How Old the New.* By James J. Walsh, M.D., Ph.D., Litt.D., Dean and Professor of the History of Medicine and of Nervous Diseases at Fordham University School of Medicine; Professor of Physiological Psychology at the Cathedral College, New York. Published by the Fordham University Press, New York. 1910. (Med. 8vo, pp. 467. $2.00 net.)

PHYSIOLOGICAL GYNAECOLOGY.

THE second part of the title of this book more corre describes its contents than the first (*Reproduction in Human Female*[2]), for it is really an account of the st ture of the mucous membrane of the uterus and of functional changes which it undergoes during menstr tion and pregnancy. Part of the work was incorpora in the thesis which the author submitted in connex with his graduation as M.D. in the University of E burgh. Unlike many contributions of this kind, it cont more than a careful description of specimens and a tentative conclusions drawn therefrom; the specim

[2] *Reproduction in the Human Female: The Uterine Mucosa in Resting, Menstrual, and Pregnant States, and the Function of Decidua, incorporating an Account of an Early Human Ovum.* James Young, M.D., F.R.C.S.Ed., Physician to the Lauriston Maternity Home, etc. With 20 plates and 68 figures. Edinburgh London: William Green and Sons. 1911. (Sup. roy. 8vo, pp. 21s. net.)

are described (and some of them are very interesting), but, in addition, deductions of a very important kind, and with what may be far-reaching results, are cleverly constructed upon them and powerfully presented for the reader's consideration. Indeed, if there is any fault to find, it is that speculation is carried perhaps just a trifle further than the facts are able to bear. Beginning with the structure of the resting mucous membrane of the uterus, Dr. YOUNG strikes at once the keynote of his argument when he maintains that the marked peculiarities of the uterine mucosa (which separate it from other mucous membranes) are in all probability intimately bound up with the functional changes which it undergoes during menstruation and pregnancy. One of these peculiarities is that the so-called blood vessels of the endometrium are simply undifferentiated tracks through the stroma, their intima and media being nothing more than ordinary stroma cells flattened by pressure. The network of the stroma also does not exist apart from the cells, but is formed by the branching processes of these cells, and these processes are films rather than filaments. "This structural peculiarity," says the author, is obviously designed for the purpose of permitting with the greatest possible efficiency an immediate flushing of any part of the stroma with a plentiful supply of blood." The mucosa is "not merely a spread out triumph surface, such as Leopold named it, but a potential blood-sponge." The oedematous infiltration of the tissues which precedes the menstrual flow is due to protoplasmic changes which result in an active imbibition of fluid from the vessels. The stroma and the vessels (or blood-tracks, according to Dr. Young) are thus opened out and the way prepared for the escape of the blood corpuscles, which is partly at least by a process of diapedesis; and the tissue changes are due to some material (secretion or hormone) liberated by the ovary and arriving at the mucosa via the blood vessels. In pregnancy, the author believes, the bio-chemical substance which is derived from the chorionic cells produces changes in the maternal tissues (not solely in the mucosa, but also in such important parts as the cervix and vagina) identical with those seen in the uterine mucosa in menstruation. If this be so then, of course, the bio-chemical substance must reach these more distant parts by the blood stream, and, if this be the route it follows, then the oedematous swelling found in other parts of the body—for example, in the arms and hands—during pregnancy may well be due to that substance also. The changes in the uterine mucous membrane during pregnancy consist in an opening up of the vessels, and an irregular oedematous and haemorrhagic escape, and the question at once arises, How is this change limited in area? If it were to be unlimited obviously no gestation could go on. Dr Young's answer is that "the function of the decidual membrane is to prevent an irregular and increasing opening up and expansion of the maternal vessels, and a tearing up of the mucosa by fluid and blood after the tissue changes necessary for an adequate supply of the maternal blood for the engrafted ovum have been accomplished." Thus the chorionic invasion of the maternal tissues is limited by the decidual membrane, therefore the presence of the decidual cells is necessary for the proper growth of a pregnancy, and before the whole of the stroma—for it is all susceptible—must undergo the decidual change, giving rise to decidua vera, reflexa, and serotina. In support of this statement is the fact that in tubal pregnancy decidual changes in the tubal mucosa are poorly marked, and that the opening up of the vessels and the tearing up of the tissues by oedema and haemorrhage are little restrained, hence the well-known results of invasion of the substance of the tube wall and rupture of the sac. The parts of the mucosa which resist invasion by chorionic elements are precisely those in which decidual change is marked. The bearing of these conclusions upon chorion-epithelioma is considered by the author in an interesting and instructive way; but we have already quoted enough to show that the book is worthy of careful study and that its appearance may mark a new departure in our mode of regarding the early phenomena of gestation in the human subject. As was pointed out by Dr. Amand Routh a short time ago, the great desideratum now is a knowledge of the exact nature of the bio-chemical substance which has to do with the setting up of menstruation and with the changes in the uterine mucous membrane in pregnancy. To this substance, whatever it is, Dr. Young attributes great importance. It should be added that the plates and figures which illustrate the work are excellent, and that the whole volume is well got up. We have not detected a single printer's error.

In this connexion we may notice a recent French book, *Opothérapie mammaire*,[3] in which Dr. LUNCZ endeavours to establish the mammary juice or extract treatment in gynaecology on a clear physiological basis. Dr. Luncz feels sure that the milk-secreting glands also give out or rather give in an internal secretion; the mammae, in fact, are endocrinal as well as yielders of milk. The internal secretion or hormone has a marked influence on the ovaries, for the relation between the mammae and the ovaries is otherwise than "nervous" as was till recently believed. The frequency of removal of the ovaries alone of the uterus without them, and of both uterus and ovaries during the past forty years has thrown much light on this important question, although Dr. Luncz admits that evidence as to the physiological and psychological effects of castration of women after puberty is conflicting. Before maturity the development of the mamma seems entirely dependent on the ovary, whilst the ovary goes on quite well if the mamma be removed. The ovary influences the mamma by an internal secretion, which, he thinks, is in all probability lutein. Can the mamma reciprocate? When the ovary is in the height of a menstrual cycle the breasts become congested, when it develops the corpus luteum in pregnancy they begin to secrete actively and yield milk. But Luncz admits that several living physiologists, whom he quotes, are at variance about the equilibrium between mammary and ovarian functions in pregnancy. The effects of doses of mammary glandular tissue, however, are such, he contends, as to prove that there certainly is an internal mammary secretion. On that fact all Dr. Luncz's reasoning and practice is based. He endeavours to show that uterine haemorrhages, and also the growth of fibromyoma of the uterus, are beneficially influenced by mammary opotherapy. His dissertation on metrorrhagia and menorrhagia is clear enough; but his advocacy of opotherapy for fibroid disease is much less convincing, as every particular form of surgical, medical, and therapeutic treatment for that common disorder has had its advocate, who always implies that if it be not a panacea it at least represents the last word on the subject. Dr. Luncz, however, is no bigot, and so that we may judge his subject on its own merits he adds to his essay over thirty cases under the observation of different writers. He also quotes Pryor's experiences, but there is always a great lack of sufficiently long after-histories in these reports of "cure" of fibroids. On haemorrhages from other causes the effect of the treatment seems to have been satisfactory in Luncz's hands. Mammary substance taken from the cow or sheep in full lactation is employed for the purpose, and Luncz gives full doses for a long period.

TOXICOLOGY.

THE *Manual of Toxicology*,[4] by Professor WITTHAUS, of Cornell University, is a large work, and those poisons which are included in it are fully treated, but the omissions are somewhat serious for a work of such magnitude. The book opens with a historical introduction of great interest, tracing the use of poisons back even to Sanskrit medical writings, passing through Greek writings, to the Roman period, giving a vivid description of the heyday of political poisoning, of which the Borgias form the central figures, and ending up with the development of organic analysis which rendered "poisoning without detection" a very hazardous procedure. Then follows an exceedingly useful bibliography of works ancient and modern dealing with toxicology, to which we can give unstinted praise, as not omitting any

[3] *Contribution à l'étude de l'opothérapie mammaire dans les hémorrhagies et dans le fibrome de l'utérus*, etc. (A contribution to the study of Mammary Opotherapy for Haemorrhages and for Uterine Fibroid, preceded by a review of the relations of the mammary gland with the female genital organs and with some of the ductless glands.) Par le Docteur Jacques Luncz, de la Faculté de Médecine de Paris. Paris: Vigot Frères. 1911. (Sup. roy. 8vo. pp. 136.)

[4] *Manual of Toxicology*. By R. A. Witthaus, Professor of Chemistry, Toxicology, and Medical Jurisprudence, Cornell University. Second edition. London: Baillière, Tindall, and Cox. 1911. (Roy. 8vo. pp. 1272, illus. 37. 30s. net.)

work of importance. Next follows a section dealing very fully with toxicology in general—definition, sources, statistics, absorption by various routes, actions of poisons, elimination, treatment (general), evidence to be given in trials, duties of medical men in suspected cases, details of autopsy, analysis, simple and complete, questions arising in the course of the trial; all these various points are dealt with in a very complete manner, the typographical devices used to distinguish subjects being excellent, so that no difficulty can be experienced in finding any required point. The chemical details, too, are very full and practically exhaustive of the subject, very many reactions being given, with the authority for each, so that a rich choice is presented to the analyst, who can thereby, if he wishes, check his results very carefully by comparison with the results obtained by other chemists whose reputation may be known to him. Finally, some thousand pages are occupied with a detailed description of individual and groups of poisons, including in each case a rich mass of statistics, symptoms, diagnoses, prognoses, treatment, *post-mortem* appearances, and analyses. The book ends with a good index. The paper, the type, the print, and the general arrangement of the material are all excellent, and certainly make Professor Witthaus's book eminently readable and a valuable work of reference for all that it contains, and we gladly award to it all the praise we can from this general standpoint. It is when we come to a detailed criticism of the actual contents that we feel bound to express disappointment; for instance, there seems to be a considerable sense of disproportion about the work. Thus, arsenic occupies no less than 248 pages, or nearly a quarter of the work, while what Professor Witthaus calls synthetic poisons occupy only 109 pages altogether. The latter group only includes CO, $CHCl_3$, chloral hydrate, phenols, and nitrobenzine, with no mention even, so far as we can find by the index, of such very common drugs as trional, veronal, sulphonal, pyramidon, antipyrin, antifebrin, etc., which play such an important part in clinical toxicology, here in England at any rate. Aniline occurs in the index only once, and that as a reference to distinguish it from strychnine. The only metals discussed are Ba, Bi, Cr, Cu, Pb, Hg, and Zn, with no mention of Tin, Ag (except a few lines on the nitrate), or of the many iron minerals which contain toxic admixtures. Poisoning by foodstuffs is dismissed in some eleven pages, Professor Witthaus's explanation being that most of the cases belong rather to the bacteriologist than to the toxicologist. We can only conclude by saying that for what it contains the book is excellent, but its omissions are so numerous as to spoil it as a satisfactory work of reference, which its very size would seem to claim as its *raison d'être*.

Dr. KAUNGIESSER'S pamphlet on acute poisoning[5] will prove very useful to German country practitioners on account of the very lucid directions for treatment, which, after all, must be the first care of a medical man called in to a case of acute poisoning. It contains a brief but sufficient account of the symptoms and treatment of most of the common poisons—arsenic, opium, belladonna, oxalic acid, mushrooms, snake-bite, etc.—but has no pretensions to being anything but a small practical guide to ordinary cases occurring in country practice; as such we can confidently recommend it to those medical men to whom the German tongue is familiar.

RADIOGRAPHICAL DIAGNOSIS.

OF the many branches of surgery which have sprung into being and grown with great rapidity during the last two decades, probably none has proved so uniformly useful and advanced so much in favour with all classes of our profession as radiography. In the earlier days we were content that a fracture of bone was demonstrated, and some surgeons may yet maintain that any finer diagnosis of changes in bone by means of *x* rays is not possible. In his short work on *Disease in Bone and its Detection by X Rays*,[6] Mr. SHENTON places before us the thesis that the *x* rays are not to be limited in their use to the detection of gross and sometimes rather obvious lesions, but are to be used as a routine method in examination of all diseases of bone, and in many general diseases as well. Many bone and joint diseases are clinically similar but radiographically different—for example, tubercle and osteo-arthritis, sarcoma and chronic inflammatory disease in the shafts of long bone, and a skilful radiographer is able to clear away any doubt as to diagnosis. Mr. Shenton means one who will interpret aright the obscurities and indistinctness of a plate, and not one who will produce only beautiful pictures with clear definite lines and no pathological meaning. Radiography of bone disease should be directed to demonstrating differences in density of bone, and these depend on the quantity of mineralized material in the bone. It is a matter of surprise to us to learn how quickly and in what varied conditions absorption of the mineral constituents or "thinning" of the bone may take place. It is particularly noticeable in chronic inflammation of bone, in long illnesses from any cause, and in chronic alcoholism; in this last condition fractures are as a rule severe, with a great deal of shattering. The thinning may be so marked that no shadow at all is exhibited by the *x* rays. The author points out that certain well-defined rules in the interpretation of radiographs of bone disease may be laid down: in tubercle the outlines are lost, they are "fluffy," there is no clearness of definition, as a photographic picture it is disappointing; in osteo-arthritis or rheumatoid arthritis the picture is one of brilliant contrast with clear outlines, there is characteristic thinning of the bone and emphasizing of cancellous tissue; in malignancy the outstanding feature is irregularity in the substance of the bony growth; it is "spotty"; in exostosis the increase in the bony growth proceeds in quite regular fashion. There is much else in the book to which attention might be called, but we have indicated sufficiently that it is a real contribution to the surgery of bone disease as well as to the highest kind of *x*-ray work, and an indication of the future of radiography. We thereafter very heartily commend it to the notice of surgeons and *x*-ray workers. There are many illustrations, all of them excellent; they are reproductions of actual radiograms, and are in no wise "doctored." The book is beautifully printed in large type with a convenient rubric. There are proof-reading slips on pages 35 and 65, which will no doubt be rectified in future editions.

The word "compendium" exactly describes Dr. RUEDIGER'S book on radio-diagnosis for student and practising physician.[7] The charge of prolixity certainly cannot be brought against this German author, for in the course of eighty pages he traverses all the important diagnostic uses of the *x* rays, from the most obvious localization of a foreign body to the complicated manœuvres by which, with the aid of bismuth or collargol, an intestinal or ureteral picture may be obtained. The space devoted to the technical side of radiology is short, and the main portion of the book is divided broadly into the consideration of the osseous system, the thoracic viscera, and the intestinal tract. The compendious method has its disadvantages. When, in a given case, there are a dozen obscure issues for one issue that is clear, the tendency is to avoid involved explanations and take a negative standpoint. Dr. Ruediger, however, has resisted this tendency, and even in the page or two he is able to devote to intestinal diagnosis he is careful to set down as far as possible the precise significations, negative and positive, of the bismuth method, including the value of the bismuth clyster in tumours, with stenoses of the large intestine. Those who read German will find in his succinct pages an interesting summary of the present position of the radiological method

NOTES ON BOOKS.

EVEN to grown-up people a visit to the dentist is an unpleasant ordeal, whilst to children, especially imaginative children, it is often a veritable nightmare. But the sensations of these young people would probably undergo a considerable change if they could look forward to such an exciting experience as befell Mr. BASIL JACKSON'S little hero when he went to have a tooth pulled out under ga

[5] *Die akuten Vergeitungen.* Von Friedrich Kaungiesser. Jena: Verlag von Gustav Fischer. (Post 8vo, pp. 52. M.1)

[6] *Disease in Bone and its Detection by X Rays.* By Edward W. H. Shenton, M.R.C.S.Eng., Senior Surgical Radiographer, Guy's Hospital, London: Macmillan and Co., Ltd. 1911. (Med. 8vo, pp. 84; figs. 46. 4s. 6d. net.)

[7] *Kompendium der Röntgendiagnostik für Studierende und praktische Aerzte.* By Dr. Edgar Ruediger. Wurzburg: Curt Kabitzsch (A. Stuber's Verlag.) 1911. (Roy. 8vo, pp. 98; 16 illus. M.3.)

George's Adventures in Upside Down Land[1] make very entertaining reading, and are none the worse for being, either consciously or unconsciously, strongly reminiscent of the adventures of the immortal Alice. Mr. W. Tarbox's clever illustrations should add appreciably to the enjoyment of this quaint little story.

In a volume entitled *Where the World Ends*,[2] we have an addition to the large number of booklets depicting the claims of one or other health or pleasure resort to the suffrages of tourists or other travellers. In this instance the place described by the anonymous author, "A. H. H.," is a village in the Rhoetian Alps—namely, Arosa, and an excellent description is supplied of what it offers both in summer and in winter to those who are active on their legs even if physically unsound. There are included also some useful hints derived from the author's experiences during several years in Switzerland as to the conduct of those whose primary object in resorting to the place is to obtain prophylactic or curative treatment of pulmonary tuberculosis. The book in intention relates solely to Arosa, but as the general descriptions given of life at this resort would apply equally well to half a dozen other villages lying at the same altitude—and the book is pleasantly written—it can be commended to a comparatively wide circle of readers. Its printing and binding reflect great credit on the local firm responsible for its production.

The publishers have kept their promise to proceed regularly with the issue of the Centenary Biographical Edition of Thackeray[3] at the rate of two volumes a month, and the last volume, containing *Miscellaneous Essays*, has been published. Each of the twenty-six volumes contains a portrait of Thackeray, some of them now published for the first time, and the interest of Lady RITCHIE'S introductions has been fully maintained. As was said in these columns when the publication of this edition began, the volumes contain all the original illustrations, and in the introductions many others, chiefly from Lady Ritchie's own collection. The edition is one in every way strongly to be recommended, and would, by reason of the introductions and portraits, be a valuable addition even to the library of one fortunate enough to possess the original volumes.

The new edition of *Whitaker's Peerage, Baronetage, Knightage, and Companionage*,[4] for the year 1912, only contains 25 pages more than the issue of last year, and the editor gratefully acknowledges that he has much to be thankful for, as he says "500 new creations, such as at one time seemed likely, might have increased the sum of human happiness; they must have proved little short of overwhelming to the compiler of such a book as this." The directory is arranged in one alphabet, which is on the whole the most convenient plan for ready reference. The introduction, to which an index is provided, contains much useful information, including an official glossary, which would be better described as a glossary of official terms and titles.

Old beliefs die hard; and none seem more difficult to kill than the erroneous notions entertained by so many people concerning the alleged indifference to suffering displayed by that overworked and underpaid section of the community, the doctors and nurses of a large hospital. It is to be regretted, therefore, that Mrs. ROBERTS, in her forthcoming account of *Five Months in a London Hospital*[5] has chosen it to describe those under whom she worked in an unpleasing aspect, and so give a handle to the numerous detractors of two hardworking and conscientious professions. The book, which purports to be a diary kept by the author during the period of her training as a maternity nurse, is written in a flippant tone and a slangy style, but in a way is decidedly interesting as a picture of a certain type of nurse who can never forget that she is a "lady" condescendingly to work with "second-class patients." Her continual complaints of the "callousness" of the medical and nursing staffs quickly become wearisome, and the question naturally arises whether the so-called "callous" nurse would not be ultimately more useful to her patient than the tender-hearted and sympathetic person who, when left in charge of a woman with fits and asked if she knew what to do, replied, "I don't know what I am supposed to do, but I know exactly what I will do—I will leave the room"!

The second quarterly issue of *Progressive Medicine* for 1911[6] is devoted to hernia, the surgery of the abdomen, gynaecology, ophthalmology, and diseases of the blood and nutritional systems. In each case, of course, the matter provided is a critical summary of recent literature dealing with the subject, for the publication is a quarterly digest of advances, discoveries, and improvements in medicine and surgery. The authors of each section are all American medical men, while the editorial work has been again carried out by Dr. H. A. HARE, Professor of Therapeutics and Materia Medica in Jefferson Medical College, Philadelphia, assisted by Dr. L. F. APPLEMAN, Instructor in Therapeutics at the same institution.

We have already reviewed (December 24th, 1910, p. 1978) Division I, Part IV, of the letters to and from Carl von Linné, which are being published by the University of Upsala, with the assistance of a subsidy from the Swedish Government. The new volume, Division I, Part V,[7] includes correspondence which passed between Linné and his personal friends. Some of these letters are in Swedish, others in Latin. The tale of letter writers includes such familiar names as Celsius, and Colin Campbell of East India Company fame. More than half this volume is devoted to correspondence which passed in the period 1756-1776 between Linné and Abraham Bäck, whom Linné addresses as his "dear brother," and to whom he confides his daily experiences and thoughts as well as his scientific observations. These latter are by no means limited to botany, and his interest in such widely different subjects as entomology and medicine involved him in a lengthy correspondence with both fellow countrymen and foreigners. In 1761 he writes to Bäck, "I received to-day a four-sheet letter in German, from Tesdorf of Hamburg, dealing with Naturalia, but it will take me at least four hours to read it." He goes on to relate how three boxes of insects from Java are expected from Gothenburg, and how he has written a long letter to the Governor of a foreign colony asking for insects unknown elsewhere. Even his letters to his great friend are characterized by a certain formality and old-world courtliness. Writing to Bäck in 1767 he tells how he treated his colleague, Professor Samuel Aurivillius, who was suffering from that dangerous "hemitritaea petechisante cum dolore colli et faucium" after attending on a patient. In spite of every effort his colleague died of aphthous stomatitis and faucial obstruction. These letters afford an excellent insight into Linné's many-sided character, and should be of interest to those whose knowledge of Swedish or Latin is sufficient.

[1] *George's Adventures in Upside Down Land*. By Basil Jackson. London: Arthur Henry Stockwell. 1911. (Cr. 8vo, pp. 96, illustrations. 3s.)

[2] *Where the World Ends*. By "A. H. H." Arosa: Herr Jungunger & Co. 1911. (Pott 8vo, pp. 93. Fr. 3; post free, 3s.)

[3] Centenary Biographical Edition of the Works of William Makepeace Thackeray, with biographical introductions by his daughter, Lady Ritchie. In twenty-six volumes, demy 8vo, gilt top, price each, including a photogravure portrait of the author as a boy in each volume, and very numerous other illustrations and facsimiles. London: Smith, Elder and Co. 1911.

[4] *Whitaker's Peerage, Baronetage, Knightage, and Companionage* for 1912. London: J. Whitaker and Sons. 1911. (Post 8vo, 7s. net.)

[5] *Five Months in a London Hospital*. By Katherine Roberts. Garden City: Letchworth. 1911. (Pp. 145. 2s. 6d. cloth; 1s. paper.)

[6] *Progressive Medicine: A Quarterly Digest*. Vol. ii. Edited by Hobart Amory Hare, M.D., assisted by Leighton F. Appleman, M.D. London: Rebman, Limited. 1911. (Double roy. 16mo, pp. 397. Price 12s. each.)

[7] *Bref och Skrifvelser af og til Carl von Linné med Understöd af Svenska Staten, Utgifna af Upsala Universitet*. Första Afdelningen Del V. Stockholm: Aktietolaget Ljus. 1911. (Roy. 8vo, p. 366. Price kr. 6.)

MEDICINAL AND DIETETIC ARTICLES.

Gonococcic Vaccine.

IN certain of the complications of gonorrhoea, especially epididymitis and arthritis, much success is said to have attended the use of gonococcic vaccine, and Messrs. Schering have now placed a vaccine on the market under the name Arthigon. It is an aqueous emulsion of killed gonococci, with an addition of 0.4 per cent. of cresol as a preservative. It is supplied by Messrs. A. and M. Zimmermann in bottles containing 12 c.cm., the dose being from 0.5 to 2.0 c.cm., by injection intramuscularly into the gluteal region.

Gaultheria Liniment.

Messrs. Corbyn, Stacey, and Co., Ltd. (673, Commercial Road East, London, E.), have submitted a sample of a liniment in which the chief active ingredient is oil of gaultheria. It is recommended as an analgesic in rheumatism and lumbago, etc. It is a thick creamy emulsion, showing no separation after long standing; it is evidently a suitable means for the local application of methyl salicylate, of which oil of gaultheria consists.

ASYLUMS FOR IMBECILES.

WE have before us the latest published reports of the three largest charitable institutions in England for idiots, imbeciles, and the feeble-minded—that is to say: enumerating them in the order of their seniority—the Earlswood Asylum, the Royal Eastern Counties Institution, Colchester, and the Royal Albert Institution, Lancaster. The last-named has now the largest number of patients resident, namely, 704 (on June 30th last), against 486 at Earlswood and 363 at Colchester (on January 1st, 1911). In each institution male preponderate over female patients in the proportion of about 2 to 1, contrasting with the sex distribution in lunatic asylums, where women outnumber men. The average number resident at the three institutions during the twelve months under review was—at Earlswood 466, at Colchester 348, and at the Royal Albert 679; and their respective death-rates, calculated on this average, were 3.43, 3.73, and 3.97 per cent., tuberculous disease accounting for about 45 per cent. of the aggregate mortality.

The following special notes may be interesting with regard to the individual institutions:

Earlswood Asylum.

During the sixty-three years of its existence no fewer than 3,800 patients have been admitted, of whom 1,141 have died in the institution. Of 2,173 discharged after training, 2,006 are tabulated as "relieved" and 21 as "recovered." The tendency of late years has been to diminish the proportion of cases discharged to the care of their friends, and during 1910 the number was only 11 (one of these being classed as "recovered"), while there were 53 admissions. Dr. Caldecott notes that 87 patients had been in residence over thirty years, 52 over forty, 19 over fifty, and 1 over sixty years, and that of 153 cases admitted for life, 71 had died at the average age of 50.6 years. This observation is interesting in view of the proposed provision of permanent homes for the feeble-minded. That 56 patients have had 4,520 fits during the year, and that there have been three outbreaks of zymotic disease, affecting in all 26 patients (that of measles having been limited to one case, and of typhoid to three), shows the need and value in such an institution of constant medical supervision.

The Royal Eastern Counties Institution, Colchester.

It is noteworthy that with 35 cases admitted during the year 1910 only two were discharged, and these were transferred to other institutions. Mr. J. J. C. Turner, the superintendent, remarks that of 353 cases then in the institution no less than 178 had been in residence for periods between seven and fifty years, and that a patient had recently died at the age of 67, having been admitted in 1861. The report of Dr. Douglas Turner, the resident medical officer, shows that the average annual death-rate since his assumption of office in 1905 has been no more than 22.8 per 1,000, whereas in the previous forty-five years it had averaged 77 per 1,000, and that the tuberculous death-rate has been reduced since 1906 to 5 per 1,000 instead of 44 per 1,000, the rate previously recorded. Better heating and ventilation, together with open-air treatment, have had much to do with this improvement, and it is in contemplation by the Board to build a tuberculosis hospital when funds permit. A small hospital for infectious cases is also to be erected; the pressing necessity for it has been demonstrated by a troublesome epidemic of 23 cases of scarlatina during the year.

Royal Albert Institution, Lancaster.

This institution had admitted between December 14th, 1870, and June 30th, 1911, an aggregate of 3,151 patients, of whom 606 had died while in residence and 1,841 had been discharged, of whom 28.08 per cent. were "much improved," 32.37 "moderately improved," and 22.98 "slightly improved." Of the 61 cases discharged during the year ending June 30th, 1911, all but fifteen are reported to have improved in greater or less degree. Dr. Douglas, the medical superintendent, emphasizes the necessity, on racial as well as individual grounds, of further provision being made for the permanent care of those requiring it. To meet this need in some degree the Central Committee has issued an appeal for funds to enable it to extend its farm and industrial colony system, and hopes eventually to erect six homes for permanent cure, each to accommodate about forty inmates, on detached portions of the estate, which now consists of 205 acres. It has also been decided to build an isolation hospital for infectious diseases, in addition to the "Rodgett Infirmary" for the ordinary sick. Fortunately the finances continue to flourish, the income from all sources for the year being £28,197 16s. 2d.

The authorities of these institutions agree, while desirous of increasing the proportion of cases retained for life, that the problem of a comprehensive system of permanent care is beyond the reach of voluntary charity and urgently calls for State aid.

THE ARCHIVES OF NEUROLOGY.

THE publication of the *Archives* of the Claybury Laboratory[1] is always looked forward to by neurologists with eager expectation, and that expectation has never yet been disappointed. The publication of this, the fifth volume, has been delayed by various circumstances, chief of which was the printers' strike in the earlier part of the year.

The present volume contains the records of all the work done at Claybury in the interval since the publication of the last volume. Dr. Mott says in his preface:

As heretofore, theses for the Doctor of Medicine degree by medical officers engaged in the asylum service and the London County Council and by gentlemen working in the Pathological Laboratory are contained in this volume. By publishing these theses and other papers by medical officers in the service in the *Archives of Neurology and Psychiatry* it is hoped that the attention of the authorities may be called to the fact that they have in their service officers who can find time to pursue clinical and pathological investigations and at the same time perform in a satisfactory manner the routine duties of their office.

In previous volumes the influence of alcohol and syphilis was very fully discussed. The present volume contains a very important paper by Dr. Mott on congenital syphilis and feeble-mindedness. After giving a summary of the evolution of our knowledge of congenital syphilis, especially in relation to disease of the nervous system, Dr. Mott concludes, from data which are set forth at length, that syphilis probably plays a more important part in the production of idiocy and imbecility than is apparent from the English statistics. He cites with approval the conclusion of a paper by Dr. Dean, who has worked specially at the examination of the blood serum of idiots by the Wassermann reaction, that it is reasonable to think that many cases of idiocy should be classed with that form of syphilis which manifests itself alone by a selective toxic action upon the nervous system. Alcoholism and environment are contributory factors, but a much greater allowance has to be made for the force of hereditary predisposition in the production of feeble-mindedness in all its forms. Dr. Mott says that experience shows that imbecility and idiocy are more frequently met with in rural than in urban populations.

It is a fact, even in communities where purity of living and sobriety are the rule, that imbecility, idiocy, and certain forms of insanity are almost as common as among the general population. Again, in the rural districts of Ireland, syphilis is comparatively infrequent, and general paralysis is hardly ever seen. Yet the relative percentage to the population of imbecility, idiocy, and insanity is very high. Doubtless this fact, as well as the fact that a greater proportion of cases of congenital amentia *pro rata* occur among the inmates of rural than urban asylums, may be accounted for thus: There has been a constant drain of emigration, of a mentally and physically fit to the industrial centres, leaving the unfit to procreate their species.

Dr. Mott discusses the syphilitic lesions of the nervous system in great detail, and his conclusion is that many cases of affection of the nervous system arising later in life might never have occurred if the congenitally syphilitic infants had been treated judiciously with mercury for a year or two instead of a month or two. Mercury should be given in all cases of *syphilis hereditaria tarda*, and continued with periodical remissions for several years. An examination of the blood by the Wassermann method and, if necessary, of the cerebro-spinal fluid, should be made periodically. A negative reaction of the serum may lead one to remit the treatment, and, in Dr. Mott's experience, if the blood serum gives a negative result, the cerebro-spinal fluid will also be negative, and therefore lumbar puncture is not necessary. Should the blood serum give a positive reaction, however, examination of the cerebro-spinal fluid will afford very valuable information. A positive reaction points to a parasyphilitic affection, especially general paralysis. In juvenile syphilitic affections he has seldom seen any benefit from anti-syphilitic treatment. There is little more to be done f

[1] *Archives of Neurology and Psychiatry from the Pathological Laboratory of the London County Asylums, Claybury, Essex.* Edited by Frederick Walker Mott, M.D., F.R.S., F.R.C.P., Director of the Laboratory and Pathologist to the London County Asylums; Physician to Charing Cross Hospital; Fullerian Professor, Royal Institution; Corresponding Member of the Société de Psychiatre de Paris; Foreign Associate of the the Société Clinique de Médecine Mentale. Vol. V. 1911. Printed for the London County Council, and may be purchased either directly or through any bookseller, from P. S. King and Son, 2 and 4, Great Smith Street, Victoria Street, Westminster, S.W., Agents for the sale of the publications of the London County Council.

parasyphilitic affections due to congenital syphilis than for the similar affections in adults. Dr. Mott's masterly review of the whole subject embodies the results of other investigators, which he compares in a judicial spirit with his own observations. This gives a special interest to the paper, which is a contribution of the highest value to our knowledge of a much debated and obscure subject.

Dr. Rondoni gives an account of the results of the microscopic investigation of a case of tabo-paralysis with ophthalmoplegia bilateralis. Drs. Harper-Smith and R. W. J. Pearson record a case of diffuse cerebro-spinal syphilis, terminating ten years later in pseudo-general paralysis. Dr. Candler and Professor George Dean contribute a report on institutional dysentery, the object of which is to record the presence in certain cases of intestinal dysentery at the Claybury Asylum of types of organisms which have been associated by Dr. Morgan with the summer diarrhoea of children. Some of the difficulties and conditions leading to error in the clinical and bacteriological diagnosis of institutional dysentery are indicated, and attention is drawn to the usefulness of bacteriological methods to the clinician. The limitations in practice of such methods are discussed in the light of the experience of the authors.

Dr. Bernard Hart discusses the psychological conception of insanity in a manner which illustrates the modern tendency to reversion from materialistic notions to metaphysical ideas of almost scholastic subtlety. Dr. Barham describes two cases of a curious species of obsession, of which the principal features were various "phobias" of infection, of contamination, of contact, and personal uncleanliness, leading to constant washing of the hands.

Dr. Ernest Jones reviews recent literature in England and America on clinical psychology and psychopathology. Readiness to accept a psychogenetic origin of certain naladies is much more widespread in the American nedical profession than in England. Dr. Jones notes that he medical profession in England still looks askance at typnotism, and adds that this is even more the case in merica.

Dr. G. H. Harper-Smith writes on dementia praecox. he pathology of the same condition, especially in relation o the circulatory changes, is dealt with by Dr. Ray Gibson, ho holds that the changes in the nervous elements dementia praecox are at first functional, and that in the ter stages of the disease actual degeneration and destruction take place. He thinks that while during the early ages temporary recovery is possible, in the later stages cannot occur. But though recovery does take place uring the early stages, it is only temporary. Circulatory sturbances, by impeding the supply of oxygen to brain ssues predisposed to disease, are important exciting tors in its onset: and toxins, whether microbial toxins, totoxins, or cytotoxins, probably play a certain part in causation. The mental state is largely dependent on physical, and especially the circulatory conditions, and early cases any improvement in the two latter is bound show its effects in the former. Acting on these consions, Dr. Ray Gibson practised at Morningside a method reatment intended to cause an increase in the blood ssure, not only in the general systemic circulation, but he vessels of the brain.

he patients were induced to take cold baths and were well bed down afterwards, and they were sent out for rather e vigorous walks than is customary with asylum patients. y were further directed to practise breathing exercises, r food was carefully attended to, and extra diet along with , custards and maltine and cod-liver oil, given with a view nproving the general health of the patients. The drugs loyed were mainly cardiac tonics, and those which seemed ield the most satisfactory results were digitalis, strothus, nux vomica, caffeine, and adrenalin. Of these the ts apparently obtained with 7½ minims of digitalis and inims of tincture of nux vomica were the best. These s were administered three times a day for a fortnight as a al rule, and then an interval of a week was allowed to e.

the eleven cases in which the treatment was adopted, were discharged, two at the date of writing were ly going out, one completely recovered her mental ties, but developed phthisis and died in that institu- one recovered from her catatonic condition, but vards fell into a state of what might be called al lunacy; five showed practically no lasting e.

A. B. Droogleever Fortuyn, Demonstrator of Zoology in the University of Amsterdam, describes researches on the cortex of the auditory centre, the insula and Broca's convolution, in a case of deaf-mutism. Dr. Rondoni and Dr. E. S. Calthrop record a case of diffuse cancer with special reference to changes in the brain.

In addition to these papers, the volume includes reprints of Dr. Mott's Oliver-Sharpey Lectures on the cerebro-spinal fluid; of his Huxley Lecture on the hereditary aspects of nervous and mental diseases; and of a lecture on heredity and insanity, being the last of a series of six delivered at the Royal Institution. Many will doubtless be glad to have these valuable papers in a permanent form.

Dealing with the relation of insanity to heredity, Dr. Mott contends, from the results of the investigation of over 2,400 relatives who are or have been inmates of the London county asylums, that the law of anticipation or antedating which was foreshadowed by Morel has been established. In 420 pairs of parent and offspring he has found only one instance in which the first attack occurred in the offspring at a later age than in the parent. In over 50 per cent. of these cases the offspring became insane twenty-five years earlier than the parent. From this it is inferred that a considerable proportion of insane offspring of insane parents are congenital imbeciles or become insane in adolescence. On this subject Dr. Mott makes the suggestive remark:

> There is an intensification of the mental defect, and if Nature were left to herself it would tend spontaneously to eliminate all such weak types, and thus there would be either a complete destruction of an unsound stock, or a tendency to regression to the normal after three generations, unless there be consanguinity or introduction of unsound elements by marriage into an unsound stock.

It is pointed out that there are individuals born of sound stock whom no acquired conditions—disease, drink, poisons (engendered within the body or taken in from without), head injuries, emotional shock, distress, and even profound misery and destitution combined—can render insane. There are others, generally of a neuropathic stock, whose mental equilibrium may be disturbed by any one of these factors, or even without any apparent cause, except the physiological conditions appertaining to the function of the sexual glands at puberty, the puerperium and the climacteric period of life. Between these two extremes may be found every gradation of mentality, from a congenital imbecile and the insane adolescent at one end of the scale, to the potential sound mind which no combination of acquired conditions can render permanently insane.

Referring to the alarmist cry so often heard about the increase of insanity, Dr. Mott reminds us of the fact that in the last fifteen years the London County Council has opened four new asylums and an epileptic colony, and is now building another huge asylum. He adds, however, that it would be well, when people are feeling most pessimistic about a natural decay of the race, that they should comfort themselves by remembering what Huxley said in a lecture on "Harvey and the Discovery of the Circulation of the Blood":

> I am one of those people who do not believe in the *natural* decay of nations; I believe, to speak frankly, that the whole theory is a speculation invented by cowards to excuse knaves. My belief is that so far as this old English stock is concerned, it has as much sap and vitality and power as it had two centuries ago, and that with due pruning of rotten branches and due hoeing up of weeds which will grow about the roots, the like products be yielded again. The weeds to which I refer are mainly three: The first of them is dishonesty, the second is sentimentality, and the third is luxury.

The volume also contains the following reprints: A summary of what is known about human trypanosomiasis, by Dr. Mott; a record of cases of amaurotic idiocy (Tay-Sachs disease), by Hildred B. Carlyll and Dr. Mott; and a paper on motor localization in the brain of the gibbon, by Mr. Mott, Mr. Edgar Schuster, and Dr. Sherrington. The volume ends with a reprint from the *Proceedings* of the Royal Society of Medicine, of a paper by Dr. J. P. Candler on the incidence of gall stones and of primary carcinoma of the gall bladder and biliary passages in the insane.

We heartily congratulate Dr. Mott, his collaborators and assistants on the new volume of the *Archives of Neurology*, which fully maintains the deservedly high reputation of its predecessors. We also congratulate the London County Council on the liberal spirit which it displays in the

promotion of researches of such value to mankind. It is only by means of such spade-work as is done at Claybury that we can hope for the elucidation of the causes of insanity, and for the discovery of efficacious methods of prevention.

LITERARY NOTES.

MESSRS. CASSELL AND COMPANY will shortly publish the first volume of *A New System of Surgery*, of which the General Editor is Mr. C. C. Choyce, F.R.C.S., and the Pathological Editor Professor J. Martin Beattie, M.D.

With reference to the story about Lady Mary Wortley Montagu's disregard of personal cleanliness, mention of which was made in this column in the JOURNAL of December 16th, Professor Saundby writes:

> Do you not prefer Lady Mary Wortley Montagu's original words, "Si vous voyiez mes pieds"? I cannot give you the reference, but they have always stuck in my memory.

We agree with our distinguished correspondent that the remark loses its grossness and becomes more epigrammatic in French.

Dr. John Johnston, of Bolton, of whose happy gift of versification we have given many specimens, has sent us what is called in the music halls a topical song, entitled "The State Insurance Doctor—A.D. 1913—An Anticipation," sung at the annual dinner of the Bolton Medical Society on October 26th. A few extracts will doubtless amuse our readers. After some introductory lines he proceeds:

> Lloyd George declared that his great Bill
> Would cure the Doctors' every ill;
> Instead of which it's proved a "pill"
> For the State Insurance Doctor.
> His troubles in the days of yore,
> Were causes oft of grievance sore;
> But he's discovered several more,
> Now he's an Insurance Doctor.
>
> *Chorus.*
>
> O, who'd not be a medical man,
> On the Lloyd George great Insurance plan,
> Which such a glorious time began
> For the State Insurance Doctor?

The worker under the Insurance Act is described as "a glorified club doctor." Only his case is much harder, for—

> When responding to a call by night,
> How oft he longs for his vanished right
> To refuse attendance—as he might,
> When he was a Private Doctor.
> But now, alas! he well doth know,
> That, *nolens volens*, he must go;
> And should he hesitation show,
> That the patient may "change his doctor."
> For wasn't this "free right of choice"
> Urged by the B.M.A.'s joint voice?
> It therefore *must* the heart rejoice
> Of the State Insurance Doctor.

The bard goes on:

> Malingering should he detect,
> And to the patient's claim object,
> The penalty he may expect,
> Is "the sack," as that patient's doctor.
> The "Sixpenny Doctor" he despised,
> And his "knobstick" methods criticized;
> Now "Sixpenny" is equalized
> With himself as Insurance Doctor.
> He's on the "panel" and can claim
> Equality of place and name;
> And his "capitation fees" 's the same
> As a State Insurance Doctor.
>
> The income tax he had to pay
> Was an overcharge he used to say:
> But the income itself's now dwindling away
> From the State Insurance Doctor.
> With motor and *chauffeur* complete,
> He used to spin from street to street;
> He walks, or uses the tram-car fleet
> Now he's an Insurance Doctor.
> He then could take a holiday;
> But now at home he has to stay—
> Five guineas a week as locum's pay,
> Are too much for a State Club Doctor.

There is, however, the consolation that—

> He's working "for the good of the State,"
> As a philanthropic doctor.
> How dare he then his duty shirk,
> Of sharing in this "noble work"?
> For isn't self-sacrifice the mark
> Of the State Insurance Doctor?

Many doctors, however, do not fully appreciate the privilege they are offered of giving to the people the largest share of the "rare and refreshing fruit" so generously promised by the Chancellor of the Exchequer.

Sir John Byers, who presided at a lecture on Ulster place names, given at Belfast by Mr. J. J. Doyle, on December 13th, delivered an interesting address on old streets in Belfast. He said that when Belfast was first incorporated, in 1613, it was simply a village, with a population not exceeding 500, and in 1660 it had only five streets, which still remained—High Street (also called at times Front Street and Fore Street), Bridge Street (a stone bridge opposite it crossed the Farset River, which flowed down where Castle Place and High Street are now situated), Skipper Street (seafaring people lived in it), North Street, and Waring Street (called after the Warings, who were great tanners and merchants in the seventeenth century, and who, with the Waringstown branch, were descended from a common ancestor). It was when Swift was at Kilroot, near Belfast, that, about 1696, he carried on a flirtation with Jane Waring—her father was William Waring—whom he called "Varina"; and it was curious that the only other place in Belfast associated with the great satirist is Lilliput Street, a name evidently taken from *Gulliver's Travels*. In former times Waring Street was named Broad Street. Other old streets that still existed were Peter's Hill (also called Petter's Hill), Castle Place, the old name of which was the Parade, from the fact that soldiers roved about there; Castle Street, Mill Street, Millfield, Callender Street (called from calenders used to smooth linen and cotton), and Long Lane (much shorter now than formerly, but which had existed under its present name for 184 years), which led from North Street to Carrick Hill and joined the Carrickfergus Road, now North Queen Street); York Street, whose early name was Duke Street, called from the Duke of York, second son of George III; Lettuce Hill, whose old name was Lettice Hill, called from Letitia, Countess of Donegall; Pottinger's Entry, called from a famous Belfast family, one of whom was Ambassador to China; Arthur Street and Arthur Square, called from the fact that five Earls of Donegall in succession for 150 years bore the name of Arthur Chichester; Ann Street, formerly called Back Street, which thoroughfare, and also probably St. Ann's Church (originally Ann's Church), was called after another member of the Donegall family; Corn Market, formerly Shambles Street; Fountain Lane, formerly called Water Street; Union Street, which dated back to 1792, and others. Sir John Byers mentioned a number of old Belfast streets the names of which have become altered or extinct within his own memory. There has also disappeared within his memory the old house of correction, the local police-court in Howard Street, situated where now Messrs. Fulton had their premises. He remembered being present in that old building on the occasion of one of the last of the public election nominations, when, amidst a wild scene, the celebrated John Rea was dragged off the platform.

Dr. Charles E. de M. Sajous, of Philadelphia, has been appointed Supervising Editor of the *New York Medical Journal*, a position corresponding somewhat to that of the French *Directeur scientifique*. Dr. Sajous received his preliminary education in France. He studied medicine in Philadelphia, graduating with honours from the Jefferson Medical College in 1878. In 1881 he was appointed Professor of Anatomy and Physiology in the Wagner Institute of Science, Lecturer in the Philadelphia School of Anatomy, and Clinical Assistant in the Laryngological Department of Jefferson Medical College. In 1891 he went to Paris, where he devoted six years to original research. The outcome of this work was the publication of two volumes on *Internal Secretions and the Principles of Medicine*. Dr. Sajous founded in 1888 the *Annual of the Universal Medical Sciences*, which he conducted with the collaboration of some of the most eminent physicians in America and Europe, until the publication was abandoned in 1893. The *Annual* had a circulation of over 500,000 volumes, and the *Cyclopaedia of Practical Medicine*, founded by Dr. Sajous in 1888 to succeed the *Annual* and intended more particularly for the general practitioner, has attained a circulation of 240,000 volumes; a seventh edition is now in course of preparation.

SCIENCE NOTES.

THE anthrax bacillus has formed the subject of several recent interesting investigations. A considerable amount of attention has been devoted to the nucleus and the formation of spores, and reference has already[1] been made to some of the more important results arrived at in regard to these. Since then several communications dealing with capsule formation have been published. Of these the most noteworthy, perhaps, is that by Preisz,[2] who has given a comparatively full account of the changes which take place in cultures. Virulent strains of anthrax can be attenuated by growing them at 42.5° C., but at the same time in the culture a whole series of varieties arise which differ from each other not only culturally and microscopically, but also in regard to their virulence. The alteration in the virulence is apparently associated with a change in the capacity for forming a capsule. This power may be changed either qualitatively or quantitatively. On agar the capsules may be firm or soft, and may disappear either slowly or quickly. The firmer and more permanent the capsules are, the more virulent is the variety, and those strains which lose their capsules rapidly possess a low virulence. Some of these strains, indeed, become so attenuated that they lose their virulence even for mice. The quantitative change is evidenced by the fact that when these attenuated varieties are inoculated into susceptible animals they do not form capsules to anything like the same extent as unattenuated varieties of the same strain under the same circumstances. Under similar conditions virulent varieties do not form capsules at all. These changes in virulence do not proceed in the same direction as changes in the capacity for spore formation, for highly virulent strains may be practically non-sporing, whereas others of low virulence may produce copious spores. These interesting results are of the highest importance, and they call attention to the desirability of working with pure, unmixed strains.

A new theory with regard to the physics of the *x* ray was brought forward by Professor W. H. Bragg, F.R.S., in a lecture before the Roentgen Society on December 5th. He reminded the society of the two rival theories with regard to the nature of light—the corpuscular theory, advocated by Newton, which supposed light to consist of particles shot out from the illuminating body to the eye; and the wave theory, which supposed the existence of ether throughout space in order to carry the waves. Some of the phenomena of light seemed to fit better into the corpuscular theory than into the wave theory, and this was true of the *x* rays. While he did not oppose the wave theory of light, he thought that the one theory did not necessarily destroy the other, and he asked that the *x* rays at least should be regarded from the corpuscular point of view. The *x* rays produced ionization in the air through which they passed, and excited swiftly moving electrons in the material on which they impinged. When ionization was made in a gas by the passage of rays, the electrons dropped from the atoms with comparatively little speed, but this speed became much greater in the case of electrons caused by the *x* rays impinging on solid substance. The speed of the darting electron was also governed to some extent by the strength of the rays used. A gamma ray would give the electron a speed almost equal to that of light, while the speed caused by the *x* ray would be from one-third of that downwards. He thought that the theory which regarded the ether as a storehouse, its energy being derived from without, was untenable. He regarded the *x* ray as something which maintained its energy until it reached its untimely end, which did not spread in transmission, and which on striking an atom imparted its whole energy to one electron. The *x* ray as such, in his opinion, did nothing but went on its course except carry the energy, and this energy which it conveyed so quietly—without, as it were, disturbing any of it—became transformed suddenly into the energy of the electron, and it was this electron which carried out the work. Slightly to vary the figure, the ether was a channel through which energy was carried undiminished from one point to another, and the effects which had been attributed to the *x* rays were really due to something else set up within the body. Or, again to vary the figure, the *x* ray might be likened to a shot from a gun, the shot being the carrier of the whole of the energy, and that energy being discreetly deposited at the point where the ray was stopped by solid matter. What were known as *x*-ray effects were really due to the work of the electron into which the energy carried by the ray had been transformed. In reply to questions in the course of discussion, Professor Bragg said that the critical point which excited the general interest was that, if the *x* rays and light were the same thing to begin with, why was it that some part of their work was best explained as being due to waves on the ethereal hypothesis, while another part suggested the corpuscular theory? That was the moot-point in physics at the present day. The German physicists had been discussing it, and it was evident that they were divided in opinion. Some said it was absurd to give up the theory of the ether with its waves, and others that the behaviour was more compatible with a corpuscular system. He did not see at present any way of getting round the difficulty. The gamma and *x* rays certainly acted like corpuscles moving within a certain limited area. All that remained was to work out both theories and try in the end to put them together.

Flint implements of human manufacture discovered by Mr. J. Reid Moir of Ipswich in the detritus beds at the base of the red crag in Suffolk and by Mr. W. G. Clarke at the base of the Norwich crag in Norfolk have recently been described to the Royal Society by Sir E. Ray Lankester, F.R.S. They are of a novel type, to which the terms "rostro-carinate" or "eagle's beak" have been applied, but they include also scrapers, hammers, and large one-sided picks. This subcrag type (rostro-carinate) is essentially compressed from side to side, thus differing from the Chellian and Acheuilian and Moustierian types, which are essentially depressed or flattened like a leaf. Sir Ray Lankester concludes that they were manufactured at a period previous to one of severe glaciation, which set in before the lowest beds of the red crag and Norwich crag were deposited, and characterize a phase of human development earlier than any hitherto known by equally indisputable evidence. The rostro-carinate implements were, he thinks, not improbably used for dressing and smoothing the skins of animals. On the land surface from parts of which these implements were moved into the detritus beds at the base of the East Anglian "crags" similar implements remained, which were embedded in the subsequent deposits of the glacial period, and have been found in a few isolated instances in mid-glacial sands and boulder clay. The red crag is commonly regarded as of greater geologic age than its proper fauna would indicate. Its mammalian fossils are derivatives of an earlier age, and the few molluscs of pliocene character found in its earlier layers are lingering survivors from a warmer condition of the sea. They became extinct at the early onset of the conditions proper to the red crag sea, and the red crag should be grouped with the pleistocene rather than with the pliocene series. The race of men who manufactured these subcrag flint implements probably lived on the land surface not remote from the sea, during the period of the coralline crag, which was characterized by a warmer climate than that of the red crag, and may justly be regarded as marking the close of pliocene conditions in this part of Europe. The land barrier joining Britain to Scandinavia, which had kept the southern part of what is now the North Sea from access of cold northern waters ever since the earliest tertiary period, disappeared at the beginning of the deposition of the red crag. Sir Ray Lankester pointed out that if these propositions are accepted, it remained a question for later inquiry whether the men who made the subcrag implements were of greater antiquity than those who made the implements (so-called Eoliths) of the high plateau gravels of Kent, or than those recognized by some archaeologists as makers of roughly-chipped flints found in other localities. In any case the implements from the subcrag beds in East Anglia are of special and very distinct type, and cannot, he considers, be associated with any known from any other locality.

[1] BRITISH MEDICAL JOURNAL, August 19th, 1911.
[2] *Centralbl. f. Bakt.*, I, Orig. lviii, p. 510.

British Medical Journal.

SATURDAY, DECEMBER 23RD, 1911.

THE INSURANCE ACT.

THE Insurance Bill received the royal assent by Commission on Saturday, December 16th, and the King's Speech contained the following reference to Part I—the part which contains provisions for medical, sanatorium, sickness, disablement, and maternity benefit: "I anticipate with confidence that the operation of this measure, while fortifying existing inducements to thrift and self-reliance, will do much to alleviate misery and to check disease among those whose social conditions it is designed to ameliorate."

The Act cannot come into operation until July 15th, 1912, and the Privy Council has power to postpone the date for six months. The administration of benefits will not begin until six months after the date at which the Act comes into operation. Certain things were, however, to be done when the Act passed, and certain steps have already been taken by the Government. The boards of Insurance Commissioners in England, Wales, Scotland, and Ireland have been constituted, as has the Joint Committee for the United Kingdom, which has Mr. Masterman, the Parliamentary Under-Secretary to the Home Office, as its Chairman. The Insurance Commissioners will no doubt at once proceed to study the facts and circumstances upon which the regulations they are directed to prepare must be founded.

There are at the present time two different currents of opinion with regard to the policy which the profession should adopt in view of the fact that the insurance scheme is now law. The one is that embodied in the concluding words of the first resolution adopted at the meeting of the medical profession held in Manchester on December 14th. It is that the members of the profession should refuse "to undertake any duties which the bill proposes to assign to them." The other is that of the British Medical Association, which advises the medical profession to insist upon the six cardinal principles, and engages to do its best to ensure that no medical practitioner shall undertake the medical attendance and treatment of insured persons under arrangements that are not absolutely in accordance with these principles. The Manchester resolution also advises the members of the profession to refuse to form a panel under the bill, which seems to be another way of saying that, to quote again the words of the British Medical Association resolution, they shall not "undertake the medical attendance and treatment of insured persons." At the meeting held in London on December 19th the concluding words of the Manchester resolution were omitted, and it was affirmed that every medical practitioner "should refuse to accept any office for giving medical attendance and treatment until those demands"—that is to say, the six cardinal principles—"shall have been definitely conceded." The London meeting, therefore, did not go so far as the Manchester meeting, and if the terms of the London resolutions are analysed the policy there outlined seems to be very nearly the same as that recommended by the Representative Meeting, if indeed the two be not identical. The omission from the London resolution of the concluding words of the Manchester resolution is one which must strike every impartial observer. So far as the Manchester resolution recommends members of the profession to refuse to form a panel under the Act, it differs from the policy of the Association in that it appears to recommend that this announcement should at once be made to the Government, and the attitude of the meeting was emphasized by its rejection of the proposal to add to the motion the words "unless and until the cardinal points are fully agreed upon." The London meeting considered that the six cardinal points are not guaranteed by the provisions of the Insurance Act in a manner which satisfies the profession, and, looking to the resolutions of the Representative Body at its last meeting, it seems clear that this was its opinion also. That this was the case appears to be shown by the resolution of that meeting to take steps for the organization of the profession for the purpose of protecting its interests under the Insurance Bill, and the point was emphasized by the further resolution to instruct the Council to take steps to secure "that no arrangements for attendance on insured persons be completed anywhere until the Association is assured by reports from the local Medical Committees that terms in conformity with the policy of the Association in detail have been agreed upon everywhere."

We do not desire to minimize the importance o the difference of opinion and sentiment displayed by various meetings throughout the country; but i order that the situation, which now seems in dange of being obscured by rhetoric, should be made clear i is necessary that the exact ground of difference shoul be set out, by bringing the various typical resolution into juxtaposition. The Manchester resolution woul have the profession refuse to undertake any dutie under the bill; this would involve a refusal t serve on the national boards of Insurance Com missioners, on the Advisory Committees, o local Health Committees, and a refusal to for local Medical Committees. The policy recommende by the British Medical Association—and, judgin from its silence on the point, the policy recom mended also by the meeting in London—is t make use of the machinery of the Act in respec of administrative bodies so that the case of th profession may be clearly and emphatically state and the terms of appointment and remuneratio which it demands be placed, in a form whic cannot be misunderstood, before the Insurance Com missioners and the local Insurance Committees, an through them before the Government and the publi The policy of the Association, as we understand is that the strike weapon should not be used un this has been done; that is to say, the refusal to for a panel should be carried into effect when it has be proved that the terms the Insurance Commissione are willing or able to arrange are incompatible wi the requirements of the profession.

Some speakers at recent meetings would appear have been under the impression that the first du the medical profession was invited to undert under the bill or Act was to set up a panel doctors. This, however, is not a correct view the way in which the machinery created by the would work. The Act provides that in ev county and in every county borough all the quali medical practitioners shall be entitled to form committee of medical men representing themsel If the Insurance Commissioners are satis

that the committee is representative of the duly qualified practitioners resident in the area they *must* recognize it, and it *must* be consulted by the local Insurance Committee "on all general questions affecting the administration of medical benefit, including the arrangements made with medical practitioners for giving attendance and treatment to insured persons." If the formation of such a committtee does not commit the profession in advance to accept service under the Act—and there are no words in the Act which carry such an implication—then it has been asked, Ought the profession to forego the advantage of this machinery to enable it to obtain information and to enforce its conditions?

If a Medical Committee is constituted in any locality, its first duty would be to study the provisions of the Act, and of the regulations made under it, and work out in detail the requirements of an efficient medical service. If the advice of the Representative Body of the British Medical Association be taken in this respect, the medical men in any district will form a panel only on the recommendation of their own committee. The Representative Body, as already said, further advised that no arrangements for attendance on insured persons shall be completed anywhere until the Association is assured by reports from the local Medical Committees that conditions in conformity with the policy of the Association in detail have been agreed upon everywhere.

The Association has failed to obtain the desired proportion of representation on the local Insurance committees, and one of the points which would be tested, if local Medical Committees be set up, would be whether the representation which has been obtained is sufficient to ensure that the wishes of the profession are adequately presented to the local Insurance Committees, and, as the Medical Committee would have full knowledge of what is proposed to be done by the local Insurance Committees, could keep the profession adequately informed.

There is one other point to which it seems proper to call attention. If local Medical Committees are appointed and the profession consents to be represented on the local Insurance Committees, then, in the event of a controversy on the terms and conditions of service and remuneration arising between the local Medical Committee and the local Insurance committee in any district, the matter must be referred to the national Insurance Commissioners, whose duty it will be to judge the question on its merits and, if possible, bring about an equitable solution. If the policy of the Manchester resolution be followed, and the profession refuses "to undertake any duty which the" Act "proposes to give to them," and if, in consequence, no local Medical Committee is formed and no member of the profession serves upon the local Insurance Committee, that committee will be composed entirely of representatives of the insured persons, of the county council, and of the Insurance Commissioners, and the profession will have no direct means of knowing what the local Insurance Committee proposes to do, and will not have any statutory right to be consulted by that committee as to the administration of medical benefits. In the case supposed—if, that is, the profession has declined to form a panel for the purpose of giving medical attendance and treatment in compliance with the terms of the Act—in that case, again, the position would have to be considered by the national Insurance Commissioners, and, in the absence of any organized medical body in the locality, they would probably be forced into the position of taking advantage of provisions of the Act which empower them either to appoint whole-time officers or to suspend medical benefit altogether, paying in money to the insured person the estimated average value of medical benefit, whatever that might be. This result might not be altogether disagreeable to the friendly societies, inasmuch as they would be able to invite every insured person in receipt of this annual sum to become a member of a friendly society, and obtain medical benefit through it in the same manner as in the past.

We feel it incumbent upon us in this grave crisis to put forward these considerations, founded upon an unbiassed examination of the present position of the profession in relation to the Insurance Scheme which Parliament has adopted. The Representative Body of the British Medical Association, composed almost entirely of general practitioners chosen by the general practitioners in all and every part of the four divisions of the United Kingdom, fully informed of all the facts, and deeply impressed, as was obvious to every spectator, by the gravity of the decisions it was called upon to make, has given certain advice to the profession. Certain members of that Body, and certain other members of the profession, tender other advice. It is for the rank and file of the profession to decide to which counsellors they will listen.

SOCIOLOGICAL ASPECTS OF QUACK ADVERTISEMENTS.

As far as we are aware, no sociologist has yet studied the relation of quack advertisements to civilization and the light which they may throw on the character and habits of the people to which they are addressed. We are told that surely in vain the net is spread in the sight of any bird; therefore, special devices must be adopted for decoying the confiding fowl. The nature of the snare should to the discerning eye reveal something of the habits and customs of the game which the poacher wishes to catch. A specially coloured fly will draw a salmon to the hook, and the skill of the angler is shown in his choice of the right kind for the purpose. In the same way the wily advertiser adapts his bait to the supposed needs or desires of his quarry. Thus, from a study of the advertisements of different peoples one might infer the nature of the diseases most in fashion among them and the directions in which they look for help from medicines.

As an illustration of the kind of lure that is believed likely to attract our Indian fellow subjects, we may cite an advertisement page from a native newspaper published in Calcutta, which has been sent to us by a correspondent. It is wholly occupied by glowing accounts of "Kaviraj Keshab Lall Roy's Wonderful Remedies." He describes them as "some of the best specifics ever found out in the system of Ayurveda." The most cursory examination shows that Kaviraj Keshab Lall Roy thinks he will find a sure market for his wares among persons suffering from what he euphemistically calls "nervous debility." At least four different preparations are recommended for the cure of this condition. Thus, of "Ratiballav Moduck," we are told that "it is a powerful aphrodisiac. It gives vigor to the nerves and organs; enhances the manly power, strengthens the nerves, and nourishes the blood vessels and muscles. It makes life cheerful and a blessing. Once used it is always used. It is what

every husband should have and what every wife desires in her heart of hearts." A box of this precious elixir, sufficient for fifteen days' use, may be had for the small sum of one rupee. Again, of Chyavanpras, we are told that it is the restorer of lost vigour. "It radically cures nervous debility, general prostration, languor, and lassitude arising from excessive mental exertion, and abuse of vital strength." But it is more than this, for it is "a potent factor and a sovereign remedy for cough, bronchitis, asthma, consumption, phthisis, susceptibility to cold, and all other complaints of the chest, lungs, and throat." Nor does even this list exhaust its virtues, for "it purifies the blood. It gives tone to the weak constitution, keeps the liver in good order, creates good appetite, and makes man happy in the best sense of the word, and restores lost energy." Then we have Jogeshwar Ghrita, described as "the best nervine tonic." It is said to be "an infallible remedy for nervous debility, loss of manhood, and diseases arising from over-exercise of the brain, excessive drinking, and sedentary habits." It will be seen with what insistence the note of "lost energy" is sounded. Even now the net is not cast sufficiently wide, for we are assured that it "is a powerful remedy in cases of mental debility and loss of the retentive faculty caused by too much study or exercise of the brain." There is here something of what Hamlet would call damnable iteration, but all advertisers act on the principle expressed in the line,

Gutta cavat lapidem non vi, sed saepe cadendo.

Kaviraj Keshab Lall Roy goes on to say that Jogeshwar Ghrita is especially beneficial to students, for it improves and strengthens memory and sagacity. It also "cools the brain." It is not only in Burma that a medicine having this property would be useful; it might even find a sphere of usefulness among Celtic orators, and possibly even in the innermost sanctuary of the Treasury. Further, it cures "sympathetic headache, vertigo, depression of spirits, indisposition for works"—possibly the works of Herbert Spencer, or, it may be, the plays of Mr. Bernard Shaw, or the literature issued by the various "antibodies"—"languidness, palpitation of the heart, shortness of breath, burning sensation in the palms and feet, sleeplessness," etc. This truly sovereign remedy also "cures excessive or scanty discharge during menses"—how convenient a medicine is that which has opposite properties!—"unbearable pain during menses and other female organic disorders." Roy also has a Vigor Pill which he calls "Friend of the Deluded Youth." The name of the said deluded youth unfortunately is not given or we might have a word of advice for him. With an eye to babus preparing for examinations, Roy says this "Friend of the Deluded Youth" can safely be recommended to students who get overworked. We are rather surprised that he does not say that it will ensure them a safe passage through the ordeal, for we are assured it is really the magician's wand.

We do not get a favourable notion of the morals of the babu from some of the other remedies which Roy advertises. There is, for instance, the Mrittunjoy Rasa, which is said to act like a charm in the chronic stage of syphilis. "It is the best and surest cure for acquired, congenital, and mercurial syphilis." This latter would seem to be an exceptionally dangerous form of the disease, for it is described as "so subtle and dangerous that months of careful and persistent treatment are sometimes necessary to effect a natural cure." Again, there is Kanakashab, described as "a capital remedy for gonorrhoea, gleet," etc. Roy says "our Kanakashab will cure all sorts of prurient discharges"—"prurient discharge" is decidedly a happy invention—"haemorrhage, sores in the urinary passage, burning sensation at the extremities, feverishness, giddiness, melancholia, weakness, incontinence of urine, vacuity of thought." A remedy that should cure vacuity of thought would be indeed a boon in these days of Christian Science, spiritualism, problem novels, discussion plays, and infinite talk, like that of Gratiano, about nothing.

The babu is apparently a prey to dyspepsia. To him Roy offers his Sudha Churna, "an invaluable specific for indigestion, flatulence, sour eructations, rumbling in the abdomen, pinching or griping pains in the bowels, etc." "It produces a magical effect in curing acidity, attended with all its symptoms and complications," and so on, and so on. But there is another resource for sufferers from dyspeptic troubles, and that is Draksharista, "the efficacy of which," it is modestly stated, "is not unknown." By using it "the evil effects of Biles, impurities of blood, blood biles"—whatever these may be—"bile coughs, pain in the chest, emission of blood through nostrils, burning sensation in the extremities, and all sorts of skin diseases are cured." It might be tried by those who take a gloomy view of life, for (if we are to believe the advertiser) "it makes dull spirits buoyant, increases the appetite, and keeps bowels clear." Female disorders are, of course, not forgotten. Sufferers have but to expend three rupees for a phial of Abala-Suhrid Ghritta, which exorcises the evil spirits that cause leucorrhoea, dysmenorrhoea, amenorrhoea, sterility, and generally "all uterine and menstrual disorders of females." It will be noted that Roy is cautious, for he is careful not to guarantee that his remedy will cure the uterine and menstrual disorders of males. Notwithstanding this limitation, it has great possibilities, for it gives tone to the system and rejuvenates the old and decrepit. There is only one specific for constipation; but, then, several of the other medicines are said to cure that trouble. Roy can turn his great mind even to the hair. There is the Kuntal Bilas oil. Although, he says, there are numerous scented hair oils in the market, he still entreats his countrymen to give his oil a single chance, which will convince them of its efficacy. It is indeed a most attractive oil, for it possesses a charming odour, cools the brain, and gives rise to a good growth of hair. The hair would seem in Roy's pathology to play nearly as important a part in the economy of the ordinary man as that of Samson. But Kuntal Bilas oil is much more than a hair restorer, for it cures "restlessness, hysteria, epilepsy, headache, giddiness, burning sensation, vacuity of thoughts, and various other head diseases." Vacuity of thought would seem to be almost as common as "nervous debility" among the folk for whose benefit Roy dresses his window.

It is noteworthy that consumption is only vaguely referred to, while cancer, leprosy, plague, and even malaria, have no place among the diseases that this great medicine man professes to cure. No specific for drink are offered.

It would be interesting to compare Roy's advertisements with those in British, American, German and French newspapers and others of different nations.

MEDICAL MEN CALLED IN TO ASSIST MIDWIVES

THE Midwives Act, 1902, was so badly constructed that while laying on midwives the obligation to call in medical aid in cases of difficulty, it made no provision for the remuneration of the medical practitioner so called in. In some cases local authorities have made themselves responsible for

the payment of this fee, but in many other districts they have not accepted this responsibility in spite of the suggestions of the Local Government Board. That Board last year, in an amending bill, proposed that in such cases the Poor Law guardians should be made responsible for the payment; strong objection was taken to this procedure and the bill was dropped. When the Insurance Bill was in committee of the House of Commons, Dr. Addison moved an amendment providing that where a midwife, in accordance with the provisions of the Midwives Act, requested the services of a medical man, the society responsible for payment of the maternity benefit should be empowered to pay the fee of the doctor so called in. An undertaking was given by the Government to consider the point later on, but it had not been introduced into the bill as it left the House of Commons. Representations were accordingly made by Dr. Addison, and Lord Sandhurst put down the amendment which had been proposed and temporarily withdrawn in the Commons; its principle was accepted by Lord Haldane on behalf of the Government, and words have been added to Clause 18 providing that if a parturient woman has chosen to be attended by a midwife and it subsequently becomes necessary to summon a medical practitioner, the fee shall be recoverable as part of the maternity benefit, whether administered by an approved society or directly by the local Insurance Committee. There is good reason to believe, therefore, that the Insurance Act, when it comes into force, will at any rate rectify this injustice to the profession, and will avoid the distasteful alternative of such payment being made under the Poor Law. Whatever view may be taken of the provisions with regard to medical benefits contained in the Insurance Act, we believe it will be generally recognized that Dr. Addison has done a real service to the profession by his staunchness in obtaining the removal, to a very large extent at any rate, of a grievance of a particularly irritating kind.

MAN'S REDEMPTION OF MAN.

MAN has too often persecuted and destroyed his fellow-man for religious or political differences or for the mere lust of conquest. But there is another side to the story, in which "Nature red in beak and claw" is replaced by the devotion, even to the laying down of his own life, of man for the welfare of his brethren. The doctor is the principal hero of this story, and it is well—particularly at a time when he has been represented by a Minister of the Crown as haggling for fees in the lobby-rooms—that this should be impressed on the public mind. Sir William Osler has therefore done well to reissue it, in the form of a booklet, an address delivered some little time ago at a service held for the students of the University of Edinburgh in connexion with the Edinburgh meeting of the National Association for the Prevention of Tuberculosis.[1] He points out that man has received a triple gospel—of his soul, of his goods, and of his body. The gospel of his body, he says, is the final conquest of disease. After a short review of the evolution of medicine, he dwells on the immense victory over pain wrought by Listerian surgery. Anaesthetics and asepsis between them have brought a complete revolution in hospital life. Pain has to a large extent been abolished. Even after operations of the first magnitude the wound now may be dressed without pain, and the after pain is reduced to a minimum. We call the special attention of antivivisectionists, who make more fuss over "tortures" created by their own imagination than Sterne did over a dead ass, to the statement. "Man's redemption of man" is, says Sir William Osler, nowhere so well illustrated as in the abolition and prevention of acute infections. With regard to small-pox and the value of vaccination in its prevention, Sir William Osler says: "I do not see how any one who has gone through epidemics as I have, or who is familiar with the history of the subject, and who has any capacity left for clear judgement, can doubt its value. Some months ago I was twitted by the Editor of the Journal of the Anti-Vaccination League for maintaining a curious silence on the subject. I would like to issue a Mount Carmel-like challenge to any ten unvaccinated priests of Baal; I will take ten selected vaccinated persons, and help in the next severe epidemic with ten selected unvaccinated persons." Here we venture to interpolate the remark that it might not be easy to find the latter, and it would doubtless be still less easy to induce them to play their part in the object-lesson. Antivaccinators are as little inclined to visit small-pox hospitals as antivivisectors are to see for themselves the results of the antitoxin treatment of diphtheria. Sir William Osler goes on: "I should choose three members of Parliament, three antivaccination doctors (if they could be found), and four antivaccination propagandists. And I will make this promise—neither to jeer nor to jibe when they catch the disease, but to look after them as brothers; and for the three or four who are certain to die I will try to arrange the funerals with all the pomp and ceremony of an antivaccination demonstration." After referring to cholera, Sir William Osler proceeds to speak of yellow fever, the history of which in Havana and in Brazil, he says, should be studied if one wishes to get an idea of the powers of experimental medicine. "There is nothing," he says, "to match it in the history of human achievement." With regard to the Panama Canal, he says that for four centuries the isthmus had been a white man's grave, and during the French control of the canal the mortality once reached the appalling figure of 170 per 1,000. Even in the most favourable circumstances it was extraordinarily high. All this has been changed by human effort, so that of more than 54,000 employees, about 13,000 of whom are white, the death-rate per 1,000 for the month of March, 1910, was 8.91—a lower percentage probably than that of any city in the United States. Passing on to tuberculosis, Sir William Osler said that although reduced by sanitation to a mortality amounting since 1850 to above 40 per cent., it still remains the most formidable foe. He makes a strong appeal for further efforts in its suppression. It is, he truly says, a campaign for the public. Past history shows that it is a campaign of hope; only long and united efforts carried on through several generations can place the disease in the same category with typhus fever, typhoid, and small-pox. Sir William Osler ended on a note of confident hope for the future. There is no place, he said, for despondency or despair, although there is still a vast amount of needless pain and thousands of valuable lives are lost every year to the State by preventable causes of disease. Sir William Osler says the cheapness of life is every day's tragedy. Yet there never was a time when human life has been held more dear, and when more has been done for the preservation of the individual and the conservation of the race. The day of politicians like Gladstone, who could not be got to take any interest in sanitation, is happily past; not only the public but the State is becoming more and more awakened to the vital importance of the matter. The future holds in it the promise of an ever-increasing regard for the care of the health of the community, in which, after all, the strength of a nation finally lies.

[1] *...'s Redemption of Man: A Lay Sermon.* McEwan Hall, Edin... Sunday, July 2nd, 1910. By William Osler. London: Constable ..., Ltd. 1910.

RARE MALFORMATIONS OF THE FEMALE PELVIS.

THE standard statistical work on Caesarean operations, performed by British surgeons and obstetricians, prepared by Dr. Amand Routh and recently published,[1] has directed

[1] BRITISH MEDICAL JOURNAL, 1911, vol. i, pp. 219, 634.

much attention to malformed pelves in women. Pathologists and physiologists also have recently been engaged in investigations into the phenomena of mollities and the relation of bone nutrition to the "internal secretion," hormones, endocrines, or whatever they may be, produced by the female organs. There appears to be a special mollities of pregnancy, and experience has already shown that if a clear view of the nature and frequency of the condition is to be obtained, great care must be taken by all workers to avoid errors due to defective reports finding their way into museum catalogues. Thus there is already in the museum of the Royal College of Surgeons a specimen showing mollities ossium affecting the pelvis of a woman who had passed through five natural labours and one recent abortion, after which acute mollities developed, the patient became pregnant, and the late Dr. Broughton of Preston performed Caesarean section. The patient died, but the child was saved. The case is fully described in Radford's *Observations on the Caesarean Section*. Yet, when the pelvis passed into the hands of the late Mr. Carr Jackson, who presented it to the College museum, it appears that that surgeon received with it a report worse than inaccurate. Mr. William Adams figured the Broughton pelvis in his *Lectures on the Pathology and Treatment of Lateral and other Forms of Curvature*. He described it as a rachitic pelvis, in the possession of Mr. Carr Jackson, and stated that Broughton performed Caesarean section, but the patient's age is given inaccurately, and it is added that she had aborted twice, without mention of any pregnancies to term. Adams believed that the deformity was due to rickets developed in childhood, mollities, as he rightly observed, often appearing in adult women who have previously been free from malformation, and borne children spontaneously. He was quite unaware that the latter condition, not the former, was the case in this instance. The pelvis shows all the appearances of mollities, and the case exemplifies, as so often before in the history of medical literature, that second-hand information may mislead men of repute. The College museum, when it acquired the old Obstetrical Society's collection of pelves, thereby became possessed of a remarkable specimen of a pelvis from a rachitic dwarf on whom Dr. Yarrow, of Finsbury, performed Caesarean section in 1872. On further examination in the museum it has been found that the Yarrow pelvis shows "low assimilation" of the first sacral vertebra, unsymmetrical, as it bears a transverse process, like that attached to the fifth lumbar, on the left side. The lateral mass on the right side is normally developed, being completely fused with the right side of the second sacral vertebra. This asymmetry involves slight obliquity of the brim. The two pelves will, we believe, be reported at length for publication. Under the direction of the Museum Committee of the Council of the Royal College of Surgeons a collection of deformed female pelves is in course of preparation. It will include the two interesting rarities above mentioned. The series will be mounted in the museum with the measurements indicated on each pelvis. Specimens of malformed female pelves in the possession of readers of the JOURNAL will, should their owners feel disposed to part with them, be gratefully received with full acknowledgement by the Conservator of the Museum, Dr. Keith, and added to the new series.

PRIZES OF THE ACADÉMIE DE MÉDECINE.

THE annual award of prizes by the French Academy of Medicine was made on December 12th. Considerations of space will not allow us to give the list in full—only the most important can be mentioned. The winner of the prize offered by the Academy for the best essay on the influence of previous inflammations on the development of cancer, was won by Dr. Legrand of Tsang-sin-Tien, near Peking. The Marquis d'Argenteuil Prize of £272 fell to Dr. F. Legueu, Professor *agrégé* of the Paris Medical Faculty, for his surgical treatise on urology; the Francois-Joseph Audiffred (a bond of the value of £960 at 3 per cent.) for the discovery of a remedy, curative or preventive, recognized as "certain and sovereign" against tuberculosis, was not awarded; but sums of £40 each were granted to Dr. Jozsef Hollos, of Szeged, for an essay on tuberculous intoxications; to Dr. M. Piéry, of Lyons, for one on pulmonary tuberculosis; and to Dr. Léon Thévenot, of Lyons, for one on tuberculosis of the joints, sheaths, and serous bursae. The Barbier prize of £80 (offered for the discovery of a cure for diseases hitherto regarded as incurable) was divided among three candidates: Dr. Marcel Pinard, of Paris (£40 for an essay on immunity in syphilis); Dr. Paul Cantaloup, of Sumène, in the department of Gard (£24 for an essay on Malta fever in France); and Dr. Georges Rosenthal, of Paris (£16) for bacteriological and clinical researches on lactic bacteriotherapy. The Buignet prize of £60 was awarded to MM. A. Villiers, Fayolle, and Eugène Collin, for their treatise on food adulteration. The Chevillon prize of £60 fell to Dr. André Chalier, of Lyons, for a series of memoirs on cancer of the rectum. The Theodore Herpin prize of £120 (offered for the best work on the cure of epilepsy and nervous diseases) was awarded to Dr. J. Tinel, of Paris, for his studies on meningeal pathology. The Laborie prize of £200 (for the greatest advance in surgery) was awarded to Dr. Aimé Guinard, Surgeon to the Paris Hôtel-Dieu, for a monograph on surgical affections of the abdomen. It may be remembered that some months ago Dr. Guinard was lost to surgery, having been murdered by a former patient, who has since committed suicide in prison. The Lefèvre prize of £72 (for the best essay on melancholia) was awarded to Dr. Marchand of Charenton. The Meynot prize of £104 (for the best work on diseases of the eye) has been awarded to Dr. Etienne Genestous, of the Suburban Hospital of Bordeaux. The Rebouleau prize of £68 for the best work on the cure of asthma has been awarded to Dr. R. Moncorgé. The Tarnier prize of £210, for the best work on gynaecology, has been awarded to Dr. Louis Bazy, of Paris, for a treatise on haemorrhages of the non-gravid tube (haemorrhagic pachysalpingitis). The Hugo prize of £40, for the best work on a subject relative to the history of medical science, has been awarded to Dr. Fay for a volume entitled *History of Leprosy in France: Lepers and Cagots of the South-West*. It is perhaps suggestive of the passing of a fashion in medicine that there were only two competitors for the Portal prize (£24) on the pathological anatomy of appendicitis; the fortunate candidate was Dr. Augier, of Lille.

CLIMATE AND CONSUMPTION.

SOME new observations and statistics have been contributed to this rather threadbare subject by Dr. E. Kaurin[1] of Reknes Sanatorium in Norway. He compares the results obtained by eleven sanatoriums in Norway, Sweden, Denmark, and Finland, where the height above the sea ranges from 11 to 565 metres. Some of these sanatoriums are on the coast, others are situated in the subalpine zone inland. The best results were obtained in the Danish sanatorium at Vejlefjord, which is 25 metres above the sea. Here 84 per cent. of the patients improved, although only 13 per cent. were in the first stage of the disease. Dr. Os of Bern has collected the reports of eight Swiss sanatoriums situated 907 to 1,860 metres above the sea, and in the period 1900 to 1904 the number of patients treated wa 7,493, of whom 83.6 per cent. improved, a result practicall identical with that obtained at Vejlefjord in the perio 1900 to 1910 with 1,572 patients. At the Danish sana torium Boserup, which is only 13 metres above sea level, wit 42 per cent. of its patients in the first stage of the disease

[1] *Medicinsk Revue*, July.

improvement was recorded in 85 per cent. The percentage of improved cases in the different Scandinavian sanatoriums is wonderfully uniform, varying only from 70.4 to 85 per cent., in spite of the fact that the class of patient, the duration of treatment, the financial and physical status of the patients, the physician's estimate of his patient's health, are all liable to affect materially the results reported. When the leper hospital at Reknes, on the west coast of Norway, was in 1897 converted by the State into a sanatorium, the economy effected by the adaptation of a leper hospital to a sanatorium was severely criticized, on the assumption that the climate of the west coast of Norway was eminently unsuitable for the cure of consumption. Experience, however, has shown this criticism to be unwarranted, for the results, immediate and late, have been as good or better than those of inland sanatoriums several hundred metres above the sea. Few of the patients who are admitted to Reknes Sanatorium have previously slept with windows open, yet they readily adopt this procedure, in spite of the stormy and variable climate. This climate does not invariably favour catarrh of the respiratory tract, as has been supposed, and patients with such catarrh frequently improve at Reknes after leaving the dry inland climate. The reverse is also sometimes the case. Brehmer and many others have held that wind is poison for the consumptive. It is undoubtedly unpleasant, and both patients and the staff of the sanatorium dislike it; but Kaurin has seen no ill effects from it except in patients also suffering from rheumatism. Many writers have held that climatic conditions affect the occurrence of haemoptysis, the frequency of which in consumption has been variously estimated at 24 to 79 per cent. In the period 1905 to 1909 haemoptysis occurred at Reknes in 4.8 per cent., at Vejlefjord in 7 per cent., and at Lyster (470 metres above the sea) in 5.9 per cent. The relative frequency of haemoptysis at other sanatoriums situated at various altitudes is further quoted by the writer, who finds that haemoptysis is dependent rather on the nature and site of the disease and incidental causes than on climatic conditions. The conclusions drawn are that climate is of little importance to consumptives taken as a whole, and that there is no such thing as a specific climate for the consumptive, for every climate within certain limits is beneficial to many. Choice of climate for each patient is, however, a matter of importance, and factors such as the type and stage of the disease, the patient's constitution, and possible complications must also be considered. In Scandinavia the ideal site for a sanatorium is a sunny spot well surrounded by woods, where rain and wind are relatively rare, and where the earth is dry and porous. The height of the sanatorium above the sea is a trivial factor which should be ignored if a high level involves hard living.

THE FUTURE OF THE PREMATURE INFANT.

WORCESTER, in his famous soliloquy, complains that he was deformed, unfinished, sent before my time into this breathing world scarce half made up." That he lived to be a soldier's death at Bosworth nobody can doubt, but the legend of his premature birth is very uncertain, and his deformity was possibly that of an ostler or of any other person who has habitually ridden on horseback from a very early age, rather than that due to congenital disease. Yet his arm, if it were, indeed, "like a withered sapling, withered up," suggests some form of paralysis. Drs. Wallich and Fruhinsholz,[1] in a monograph, which will be of interest to all concerned in the subject especially to parents and the children themselves, take as their historical worthies who were prematurely born. Their list include, more or less traditionally, Newton, Fontenelle, Rousseau, Voltaire, Cuvier, Victor Hugo, Michelet, and Renan. Van Swieten states that Fortunius Licetus, Professor of Medicine at University of Padua, entered this world as a span-long baby of the seventh month. He lived to be 80. It appears certain that Renan was a seven months child, very sickly in infancy. Wallich and Fruhinsholz find that more recent and scientific authorities imply that premature birth is in itself very unfavourable, presaging a short and gloomy life. Their own researches, which deserve study, do not lead them to so extreme a conclusion. We are not surprised to learn that the authors admit to having met with great difficulty in eliminating all cases where a taint could have caused premature labour. Hospital and maternity cases are specially doubtful, for the paternity of the child is often unknown, and it is exposed after birth to prejudicial conditions inimical to the most robust infants delivered at term. On the other hand, families of patients in local hospitals can often be traced, and the authorities are officially acquainted with their life-history; this is especially the case on the Continent. The authors have followed up many premature children delivered in hospital where it seemed clear that the parents were healthy. The habitual causes of the premature birth of a child of parents free from taint are sexual relations—sexual traumatism as Pinard would call it—and overwork. The last factor is relatively rare in private cases, though not so infrequent as is generally supposed, since fatiguing pleasures induce premature labour, and many ladies are hard workers. Wallich and Fruhinsholz quote an instance in which the father drank and the mother took coffee to excess. All their fourteen children were premature, all were suckled by the mother, but only four survived infancy. One was drowned at the age of 11, the second, a girl now 17 years old, is imbecile, the third is at the present time a healthy girl of 16, and the fourth a healthy boy, aged 8. These children, however, were not free from taint. Wallich and Fruhinsholz, after careful elimination of all cases in the least doubtful, conclude that in private practice premature children undoubtedly in some instances become adults healthy in body and mind, but in other instances develop certain disorders —hernia, talipes, and enuresis and other neuroses, disorders related to the degree of prematurity and of obstetrical traumatism undergone at birth. In hospital practice the authors find a large proportion of premature children in the ranks of the degenerates. The degeneracy in these children is in relation with taints affecting the parents and also with the degree of prematurity, and also primogeniture. The latter is a remarkable fact. Nageotte and others have turned attention to the frequency of prematurity of the firstborn where the mother has subsequently been delivered of healthy children at term. In such a case the chances that the premature firstborn will live appear small. Altogether, although Wallich and Fruhinsholz have shown that the dangers of prematurity have been over-rated, their researches indicate that it implies, as a rule, complications most unfavourable to survival.

[1] *Ann. de gynéc. et d'obstét.*, November, 1911.

ANTIVACCINATION IN THE ISLE OF MAN.

WE learn from the *Manchester Guardian* that a deputation waited on Lord Raglan, the Governor of the Isle of Man, on December 7th and asked him to introduce as a Government measure a bill giving the same privilege to conscientious objectors to vaccination in the Isle of Man as existed in Great Britain, and in the meantime that prosecutions and imprisonment should cease. Mr. Henry Hough, who introduced the deputation, said there had been only one death from small-pox in the island since 1879, and only eighteen cases in ten years. There were eighty-nine prosecutions in the last decade, of which forty-three had taken place this year. Mr. T. C. Kennish, lately a member of the House of Keys, said that Manx antivaccinators claimed the same rights as their fellow subjects in England, and were prepared to go to gaol. Lord Raglan said that his business was to

enforce the law, and therefore he declined to stop the prosecutions. He was also against the conscience clause, preferring medical experts to the deputation. The deputation had their own members and their own parliament, and could go to it, but he would be no party to such a bill. The Rev. W. Carr, Primitive Methodist minister, of Laxey, reminded His Excellency that this was not made a party question in Parliament; both the Conservative Government in 1898 and the Liberal Government in 1907 had passed a conscience clause. Lord Raglan replied: One was as bad as the other. They were both cadging for votes. It had always struck him, he added, that the conscience clause was one of the most feeble things ever done by a great country. We commend the sensible remarks of the Governor of the Isle of Man to the attention of the President of the Local Government Board.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Sleeping Sickness.

DR. CHAPPLE, on December 13th, asked the Secretary of State for the Colonies whether the evidence that *Glossina morsitans* was a carrier of the trypanosome of sleeping sickness was now sufficiently conclusive to justify him in so relaxing the severity of the game laws of Nyasaland as to permit of the natives hunting game known to harbour the trypanosome in the blood, in order that both the game and the infecting fly which invariably accompanied it might be driven off from the populous centres, and the black and the European population and their domestic animals be protected from the spread of this disease?

Mr. Harcourt replied that there was not yet sufficiently conclusive evidence to justify his taking the course suggested. A scientific commission under the direction of Colonel Sir David Bruce was now engaged investigating in the Protectorate the relations between the fauna of the country, the tsetse fly, and the trypanosome, and, when definite results were reached, he should not hesitate to adopt such measures as might be required. Domestic animals as well as game were suspected of being carriers of the trypanosome.

Dr. Chapple inquired if the Government were aware that sleeping sickness in man and trypanosomiasis in domestic animals were spreading in Nyasaland, and that these were associated with the presence of game and tsetse around the populous centres. Mr. Harcourt said that he had been in close communication with Dr. Kinghorn, and was considering the matter very carefully. Whilst the Commission was inquiring into it, he thought he ought to be allowed to wait for their recommendations.

Dr. Chapple further asked if the Government were aware that in the meantime sleeping sickness was spreading very rapidly in Nyasaland, and that Professor Koch recommended that the game be driven back from populous centres because of the danger to natives and domestic animals from the proximity of game and infective tsetse; and was it not a fact that Dr. Kinghorn had experimentally inoculated susceptible animals with trypanosomiasis from the bite of infected *Glossina morsitans*, the tsetse fly of Nyasaland?

The Speaker said that the Secretary of State for the Colonies could hardly be expected to answer those matters without notice.

Dr. Chapple gave notice that he would raise the question on the motion for adjournment, and when this stage was reached he called attention to the immediate importance of doing something drastic with regard to the spread of sleeping sickness in Nyasaland. To wait for the report of the Sleeping Sickness Commission involved great waste of precious time, whilst the disease was spreading amongst the natives and the whites, and also amongst domestic animals, all over Nyasaland. Sleeping sickness was introduced into the Congo so recently as about two years ago by the servant of a captain who went to the Congo, and on his return went to one of the lake towns where there was no tsetse fly. He stayed there for some time, and went back to a place where there was the tsetse fly, and shortly afterwards an epidemic of sleeping sickness started. *Glossina morsitans* was the carrier of sleeping sickness in Uganda. A Boer general who fought against us in the war went shortly afterwards into this country. He was bitten by the *Glossina morsitans* in the neck, the neck suddenly swelled up; he contracted sleeping sickness, and was now dead. Captain Hallam Hardy contracted sleeping sickness in Nyasaland and also died. A number of other whites and numerous natives had been dying there from sleeping sickness, and a report which had just come to hand from Nyasaland contained the following statement:

> The health of the native community has been quite satisfactory, apart from the existence of sleeping sickness, which has slowly extended during the last twelve months, in spite of every effort to arrest it.

The disease did not occur among game, which were immune, but the domestic animals—the dog, the horse, the cow, and the goat—were afflicted and died off. A herd of 200 cattle had been reduced to eighty, and a small herd of seven to two. The result was that as the cattle died off there was no milk, which was a necessary food amongst natives who suffered from alimentary diseases. There was no ploughing, because oxen were needed for ploughing for the cotton fields.

At this point it was found that forty members were not present, and the House adjourned.

Hospital Stoppages (Army).—Mr. W. Peel called attention to the fact that while he was in hospital 7d. per diem was deducted from the soldier's pay, his ration allowance—6d. per diem—was stopped, and he lost the benefit of messing allowance—3d. per diem—making a total charge of 1s. 4d. against an average charge for subsistence per patient per day estimated to be 11½d.; and asked whether, in view of the fact that the soldier received no benefits under the Insurance Bill while serving, the desirability of either abolishing hospital stoppages or reducing them to at least one third of the present rate would be considered. The Financial Secretary to the War Office replied that in the debate on the Insurance Bill on November 7th an undertaking was given to afford an opportunity for adequate discussion of the whole question of hospital stoppages on Army Estimates next session.

Select Committee on "Patent" Medicines.—Mr. Lynch asked the Home Secretary whether he was in a position to state whether the Select Committee promised for next Session to inquire into the subject of patent medicines and allied matters would be a Departmental Committee or in the nature of a Royal Commission; and whether the medical profession would be represented both in regard to science and to professional practice. Mr. McKenna said that he was unable at present to make a definite announcement, but it was proposed that the inquiry should be by a Select Committee of the House of Commons, or possibly a Joint Select Committee. Mr. Lynch also asked whether, in regard to the Select Committee to consider medical matters, he would consider the advisability of making the terms of reference fairly extensive, so that not merely questions of patent medicines might be dealt with, but also the practice of medicine by unqualified men?

Certifying Lunatics.—Captain Faber asked the President of the Local Government Board whether, looking at a recent case in which a doctor refused to allow a man to be removed to an asylum owing to weakness, although he had himself certified the man insane, he would consider the advisability of preventing any local authority from appointing only one doctor to certify lunatics; and whether the Local Government Board or the Lunacy Commissioners had any power over a single doctor, and were able to call in another doctor, if necessary. Mr. McKenna, who replied on behalf of the President of the Local Government Board, said that a local authority had no power to appoint a single doctor to certify lunatics for reception into asylums; it rested with the justice who made the order, under Section 16 of the Lunacy Act, 1890, to call in any medical practitio

whom he might choose to examine the patient and sign the certificate. Neither the Local Government Board nor the Lunacy Commissioners had any power over the doctor who had given a certificate under Section 19 (2) for the suspension of removal, nor were they able to call in another doctor.

Small-pox.—In anwer to Mr. Rupert Gwynne, the President of the Local Government Board said the two cases of small-pox recorded in Eastbourne within the last ten years occurred in 1902, one in the week ending February 8th, and the other in the week ending May 4th, 1902. In the annual report of the medical officer of health the exact ages of these patients were not given, but one was recorded as being in the age period 15-25, and one in the age period 55-65. He had no exact information as to the vaccinal condition of the cases. The disease was imported in both cases.

Paupers (London).—In reply to Mr. Haddock, the President of the Local Government Board said that the total expenditure on relief of the poor and purposes connected therewith, including expenditure out of loans, in London during the year ended March 31st, 1911, amounted approximately to £3,917,000. The latest available figures showing the annual cost per head of each indoor and outdoor pauper in London were those for the year ended March, 1910, as follows:

	£	s.	d.
Cost per indoor pauper	34	8	4
Cost per outdoor pauper	8	12	2¼

Expenditure out of loans was not included in these figures.

Sight Tests.—Mr. Lynch asked the President of the Board of Trade whether, in reference to the various offices under his control, he could state what proportion of candidates tested for vision were colour blind; whether any classification of results was obtainable, as, for instance, with regard to degree or kind of colour blindness, or the association of this defect with any other physical condition; and, if so, whether he could give the statistics for the last five years, supplemented by any comments of the medical authorities which might be useful in the scientific regard of the question. Mr. Buxton said that the only examinations for colour vision conducted by the Board of Trade were those of persons serving or intending to serve in the mercantile marine or in the fishing industry. Particulars of these examinations were published in an annual report on the working of tests. As candidates for certificates of competency were required to undergo the sight tests on every occasion on which they presented themselves for examination, many persons appeared more than once in the total number of examinations, and the figures were therefore no guide to the general incidence of colour blindness. He was not aware of any data showing the association of colour blindness with any other physical condition, but information was available as to the nature of the colour defects of candidates who failed to pass the tests. These were classified on the Young-Helmholtz theory of colour vision according to whether complete or incomplete red or green blindness was present. The whole question of the present tests at present in force was now being considered by a Departmental Committee. A table giving the statistics desired was appended:

	1906.	1907.	1908.	1909.	1910.
Number of examinations in colour vision	6,410	6,564	6,288	6,028	7,393
Number of failures	57	76	44	71	112
Nature of defects—					
Incomplete red blindness	10	29	15	20	32
Complete red blindness	9	5	4	15	17
Incomplete green blindness	25	31	18	23	42
Complete green blindness	13	11	7	13	21

Woolcombing Regulations and Anthrax.—Mr. McKenna, in reply to Mr. Jowett, stated that sixteen persons had lost their lives from anthrax contracted at the works of Messrs. Campbell and Harrison, woolcombers, Shipley, and of Woolcombers, Limited, since January 1st, 1910. The number of reported cases of internal anthrax in woolcombing establishments during the ten year 1901–10 was eighteen, of which seventeen were fatal. Five cases of internal anthrax among woolsorters had occurred during 1901–10, all of which were fatal. The figures for the ten years preceding the special rules could not be given, as the obligation to notify cases was not imposed until 1895: he was advised, however, that such evidence as existed pointed to the greater prevalence of the disease then than now. Mr. Lynch having stated that under proper conditions the mortality from anthrax should be reduced to *nil*, Mr. McKenna said that every precaution was now taken, but he would be glad to consider any further suggestions if they were communicated to the Home Office.

Small-pox in India.—Mr. Black asked the Under Secretary for India what was the cause of the heavy mortality from small-pox amongst children under 10 years of age in India, namely, about 70 per cent. of the total deaths from that disease, in view of the fact that about 8,000,000 primary vaccinations were carried out amongst children in India every year. Mr. Montagu said that the explanation desired might possibly be found in the fact that while the number of births in British India averaged about 8½ millions a year, the number of children under 1 year of age annually vaccinated was less than 4,200,000, and the total number of children between 0 and 6 years annually vaccinated was only 7¼ millions. The unvaccinated infantile population was thus very large. In the five years ending 1909 the number of small-pox deaths of children under the age of 10 in India averaged 74,600 a year, the total small-pox deaths of all ages averaging 111,200. Mr. Black also asked whether any attempt was made to ascertain the vaccinal condition of the children attacked by and dying from small-pox in India; and, if not, whether he would take steps to endeavour to secure that such a record should be kept in future and the results published in the annual sanitary reports, especially in those provinces which contained small-pox hospitals. Mr. Montagu replied that, so far as was known, the answer to the first question was in the negative. In the conditions which existed in India any such attempt would necessarily be restricted to municipal or other similar areas having small-pox hospitals or an efficient medical inspecting agency. The suggestion made, however, would be brought to the notice of the Government of India.

Vaccination Officers' Fees.—Mr. Peto asked the President of the Local Government Board questions relating to the payment of fees to vaccination officers in the Steyning and the West Bromwich Unions. Regarding the Steyning Union Mr. Burns replied that although the vaccination fees had diminished, the total incomes of the vaccination officers had increased, and it did not appear necessary to him to urge the guardians to grant them compensation. In the case of the vaccination officer at West Bromwich Mr. Burns replied that the guardians had appointed the officer to be assistant relieving officer at a salary of £1 a week, a condition of the appointment being that no further claim for loss of vaccination fees should be made. He was informed that the vaccination officer was quite satisfied with the arrangement. Replying to Mr. Butcher, the President of the Local Government Board said the Board was dealing with twenty-five outstanding grievances, and was meeting with considerable success.

Foot and Mouth Disease and Vaccine Lymph.—Sir George Scott Robertson asked the President of the Local Government Board whether the last two outbreaks of foot and mouth disease in the United States were declared authoritatively to have been started by calves used to propagate vaccine virus, and what steps he proposed to prevent the importation into this country of vaccine virus which might be contaminated with this disease. Mr. Burns, in reply, said: A careful study of the evidence contained in the report issued by the United States Department of Agriculture had not led my advisers to quite the same conclusions at which the American investigators arrived. The precautions taken at the Government lymph establishment in regard to the use of imported lymph are of a stringent character, and no further measures seem to be called for at present.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

SCOTTISH INSURANCE COMMISSIONERS.

IT was officially announced on December 20th that the following Scottish Commissioners had been appointed under the National Insurance Act:

Chairman: Mr. James Leishman, Treasurer of the City of Edinburgh.
Deputy Chairman: Dr. John Christie McVail, M.D., LL.D.
Commissioners: Mr. John McNicol, General Secretary, Loyal Order of Ancient Shepherds, Ashton Unity; and Miss M. M. Paterson, H.M. Deputy Principal Lady Inspector of Factories.
Secretary: Mr. John Jeffrey, Inspecting Officer, Local Government Board for Scotland.

The Chairman, Mr. Leishman, has been engaged in business in Edinburgh, and has done good work as a member of the school board and town council. The Deputy Chairman, Dr. J. C. McVail, has been medical officer of health for the counties of Stirling and Dumbarton for the last twenty years; before his appointment to that office he was engaged in general practice in Kilmarnock, where he also acted as medical officer of health. His work in connexion with vaccination is well known, and he recently acted as one of the special investigators for the Royal Commission on the Poor Laws, and presented a report on Poor Law Medical Relief in Certain Unions in England and Wales.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

WELSH INSURANCE COMMISSIONERS.

IMMEDIATELY before Parliament was prorogued on Saturday the Chancellor of the Exchequer announced to the House of Commons that the following Welsh Commissioners had been appointed under the National Insurance Act:

Chairman: Alderman T. J. Hughes, Vice-Chairman of the Glamorgan County Council for twelve years.
Vice-Chairman: Dr. Meredith Richards, Medical Officer of Croydon, who has had a large experience of medical work.
Commissioners: Mr. John Rowland, M.V.O., of the Treasury, and Miss Violet Douglas-Pennant, who has had a wide experience of social work.
Secretary: Professor Thomas Jones, M.A., Secretary to the King Edward Welsh National Memorial Fund.

The salaries are stated to be as follows: Chairman, £1,500; Vice-Chairman, £1,200; the other Commissioners, £1,000; the Secretary's salary is £850, rising to £1,000.

We quote from the *Western Mail* the following comment:

It is safe to say that the appointments will give satisfaction throughout the Principality. It is a strong, well-balanced Commission, and each member has clearly been selected for special fitness to deal with the complicated work of the State Insurance Act.

Only one of the five Commissioners is a North Walian. This is Miss Douglas-Pennant. The other four are South Walians, and all five are Welsh, and most of them are Welsh-speaking. Two only of the Commissioners have been closely identified with politics, namely, Mr. T. J. Hughes, a vigorous Radical, and Miss Douglas-Pennant, an energetic Ruling Councillor with the Primrose League. Mr. John Rowland, although the private secretary of a Radical Cabinet Minister, would resent being ranked with the politicians; he is a Welsh Nationalist first and last, and people of all shades of politics speak highly, and, indeed, gratefully of the great aid he has always given to purely Welsh interests. Dr. Meredith Richards has a remarkable record of public work for so young a man, and Professor Tom Jones, the Secretary of the Commission, already distinguished in the academic world, has won a new reputation by his work for the national campaign against consumption.

In the immediate past many justifiable criticisms have been made on the Welsh appointments of the Radical Government. On this occasion it is evident that a serious effort has been made to secure the best available Commissioners, and there seems every reason to be satisfied with the result.

BIRMINGHAM.

BEQUESTS TO BIRMINGHAM CHARITIES.

THE late Mr. John Roderick, a well-known auctioneer in Birmingham, has left the following legacies to local charities: To the General Hospital £50,000. to the Queen's Hospital £10,000, to the Blue Coat School £10,000; to the Birmingham General Dispensary £1,000, and to the Skin and Urinary Hospital £1,000. The value of the estate is estimated at present at £362,022, and the residue, after a number of other legacies have been paid, has been left as to half to the General Hospital, as to a quarter to the Queen's Hospital, and as to a quarter to the Birmingham General Dispensary.

BIRMINGHAM HOSPITAL SUNDAY FUND.

The total sum collected this year is £5,861 9s. 3d., and the expenses amounted to £315. The General Hospital and the Queen's Hospital have received one-third each and the remaining third has been divided among the following institutions in varying amounts: General Dispensary, Children's Hospital, Eye Hospital, Women's Hospital, Deaf and Dumb Institution, Blind Institution, Homoeopathic Hospital, Orthopaedic and Spinal Hospital, Birmingham Sanatorium, Lying-in Charity, Skin and Urinary Hospital, Ear and Throat Hospital, Dental Hospital, District Nursing Society, and Moseley Convalescent Home. The sum total mentioned includes special donations and subscriptions, which have been handed over to the institutions to which they have been specially given.

LONDON.

POOR LAW CHILDREN'S DEFECTIVE VISION.

THE Lambeth Board of Guardians at their last meeting received a return showing that in twelve months 63 visits were made by children in the Poor Law schools at Norwood to the Royal Eye Hospital. The medical officer reported that each child sent to the institution was suffering from defective vision, and in need of treatment by a specialist. No less than 122 pairs of spectacles were provided at a cost of £20 9s. 6d., whilst repairs were executed amounting to £12 17s. 6d. The travelling expenses to and from the hospital were £21 1s. 5d. There were 70 girls and 58 boys in the school wearing spectacles, the proportion being somewhat in excess of 20 per cent. of the school population. The board decided in future to send the children for treatment of their eyes to the clinic established, with the sanction of the London County Council, at West Norwood.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

ULSTER MEDICAL SOCIETY.

ON the evening of December 12th the President of the Ulster Medical Society and Mrs. McKisack entertained the Fellows and Members of the society and ladies at a reception in the Medical Institute. The place was tastefully decorated. Dr. and Mrs. McKisack received their guests in the large lecture hall. Some excellent music and recitations were provided, and refreshments were served in the library. The kindness and geniality of the hosts were keenly appreciated by all, and, in the case of the younger guests the appreciation reached high enthusiasm by the thoughtfulness of the hostess in organizing a dance towards the end of the evening. A most delightful evening was spent.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

Mr. G. B. Story, F.R.C.S.I., read an interesting paper on the medical inspection of school children at a meeting of the Statistical and Social Inquiry Society held last week in Dublin. He said that the subject divided itself naturally into four heads: (1) What does medical inspection of schools and scholars mean? (2) What good can it do in Ireland? (3) What will it probably cost? (4) Where is the money to come from? The first two of these questions could best be answered by an appeal to English experience

which, during the last three years, had amply demonstrated the necessity for inspection and the good done thereby. Detailed figures to prove these points were dealt with. As regards the cost of inspection, examination of the English figures suggested that the cost would work out to about 6d. a child in average daily attendance. The first year's expenditure would therefore amount to £12,500, as the attendance might be regarded as approximately 500,000. Of the two sources from which the money might be obtained, namely, by a Government grant or through the local rates, Mr. Story favoured the latter, but feared that difficulties might be met in getting over the religious objections that would certainly be raised, as if local elective bodies were to levy a rate for school purposes they must have some voice in the management of the schools, and the present managers would regard that as the thin end of the wedge of purely secular education.

DENTAL ASSOCIATION DINNER.

The annual dinner of the Irish branch of the British Dental Association was held on December 16th at the Shelbourne Hotel, and was largely attended by members and their guests. After the toast of "The King-Emperor" had been honoured, the President of the branch, Mr. G. P. Moore, proposed "His Excellency the Lord Lieutenant and Prosperity to Ireland." His Excellency responded in a characteristic speech, and urged his hearers to remember that however much parties in Ireland might differ in their political views, they were all intent on doing the best for the country. The other speakers included the Lord Chancellor of Ireland, the Editor of the *Irish Times*, Mr. Kevin O'Duffy, and Sir Charles Ball. An excellent musical programme was provided.

IRISH ASSOCIATION OF REGISTERED MEDICAL WOMEN.

The third annual meeting of this association was held on November 9th, by kind invitation of Dr. Katharine Maguire, at 67, Merrion Square, the President, Dr. Everina Kissy, in the chair. A resolution of regret at Dr. Baker's resignation of the post of Honorary Secretary, and expressing thanks for her efficient services, was proposed by Dr. Webb, seconded by Dr. Maguire, and carried *nemine contradicente*. Dr. Prosser then read a report of the year's work, and presented the accounts. The meeting decided to ask the Secretary to write to Dr. Gick, Secretary of the Irish Medical Association, expressing the desire of the Irish Association of Registered Medical Women to co-operate in the work of the Irish Medical Association with regard to the National Insurance Bill, and also to subscribe to a fund for this purpose should such a fund be opened by the Irish Medical Association. Miss Kathleen Lynn, L.R.C.S.I. (9, Belgrave Road, Dublin), was elected Honorary Secretary to the Association.

DINNER TO PROFESSOR METTAM.

Last week Professor Mettam was entertained at dinner by the students and staff of the Royal Veterinary College Scotland, of which he is the Principal, to mark the occasion of his election to the Presidency of the Royal College of Veterinary Surgeons. After the toast of "The King" had been honoured, Mr. Walsh proposed Professor Mettam's health, and said that all students of the college were indebted to him for the interest which he took in their welfare both in the college and also after they had received their diploma, and further for the great interest he had always taken in the development and promotion of college clubs and pastimes. In his reply Professor Mettam expressed his gratification that the Irish College had been recognized by the election for the first time of a resident in Ireland to the post of President of the Royal College of Veterinary Surgeons. The toasts of "The Royal Veterinary College Scotland," "The Army Veterinary Service," and "The Royal College of Veterinary Surgeons," were subsequently proposed, and the proceedings terminated.

R.M.S. *Arcadian*, which has been built and fitted solely for use as a pleasure cruising vessel, left Southampton on January 3rd for the West Indies, the Spanish Main, and New York, this being her maiden voyage. She is a boat of nearly 9,000 tons, with cabins fitted with bedsteads instead of bunks, and a flush deck running the whole length of the ship.

Special Correspondence.

PARIS.

Eye Clinics of Paris.—The Uses and Dangers of Salvarsan.

PRACTICALLY every general hospital in Paris has its eye department, and besides this there are eye infirmaries. To the Quinze-Vingts Hospital, which is the national eye hospital in France, cases are sent from all parts of France; it has three or four dispensaries for outdoor patients, which may be visited by any stranger, and the number and variety of cases seen in an afternoon will amply repay the visitor. Operations also take place every afternoon, and all that the visitor requires to do is to present his card, and immediately he is shown into the theatre and can watch all that is going on. It is here that Dr. Kalt operates, and his cataract operation with the corneal stitch, if once seen, will never be forgotten; and, after having been seen, may possibly be adopted later with advantage. At Rothschild's Eye Hospital the outdoor dispensary attendance is enormous; operations take place in the forenoons. This hospital is a model as regards modern installation and general outfit. At Dr. Landolt's private clinic in rue St. André des Arts, operations are performed on Wednesdays and Saturdays at 12.30 p.m. The most important feature of this clinic is the work on strabismus and muscular advancement, though all branches of ophthalmology receive attention. Each case of strabismus is gone into so thoroughly, and the methods of diagnosis so clearly explained and demonstrated, that any one present has the satisfaction not only of seeing a correct diagnosis being made, but also of noting how the conclusion was drawn, and why each test is applied. At the eye clinic of Dr. Morax at Larisboisière Hospital, operations and dispensary work may be seen every morning. The plastic work done here is of the first order, and other operative work is equally good. Special courses in the bacteriology of the eye are held, and are very valuable, since Dr. Morax is a high authority on the subject. Amongst eye clinics at other hospitals may be mentioned Hôtel-Dieu, where Professor Lapersonne attends daily at 9 a.m., and the Enfants-Malades, where Dr. Terrien attends daily at 2 p.m.

Salvarsan has had an extensive trial in Paris, and has shown itself extremely useful in some cases. Astonishing cures have been reported, especially as regards the sudden disappearance of secondary eruptions. Many, however, have doubts as to the absolute cure of virulent syphilis, and some even go so far as to deny any advantages gained by this new remedy, alleging that the risk to the patient is so great that mercury should be employed in preference. At a recent meeting of the Académie de Médecine, Professor Gaucher reported on two cases treated with salvarsan. Both patients died from leptomeningitis. The first case was that of a man aged 48, with a syphilitic history extending over fifteen years, but at the time of treatment the disease was latent. He died after an injection of 60 cg. of salvarsan, and *post-mortem* examination showed that leptomeningitis was present. The second case was that of a strong man aged 21, infected with a primary sore. He had two injections of 60 cg. at intervals of a week, and he also died of leptomeningitis. In both cases the injections were given intravenously, and no bacteriological report was given as to the organism found in the meninges. Dr. Milian, in a paper read before the Medical Society of the Hospitals on the dangers of salvarsan and the precautions to be observed, laid down the following rules:

As Regards the Patient.—Make sure that the patient can stand arsenic as a drug by giving him a medicinal dose of this drug, and wait for five days after this has been administered before attempting to give salvarsan.

As Regards the Salvarsan Solution.—(1) Use artificial serum solution of 6 per cent. strength, and never 9 per cent. strength. (2) Prepare the serum with water distilled on the same day as the serum is to be used. (3) 1 cg. of salvarsan should be contained in 4.5 cg. serum.

Precautions Necessary in Administration.—(1) Inject very slowly and especially so at the beginning of the injection. (2) The first dose should not exceed 30 cg. of salvarsan in robust patients, and 10 cg. in feeble patients. (3) Succeeding doses should not be larger if the primary one has not been well borne. (4) Never use more than 40 cg. as a usual dose. (5) One week should elapse between the first two doses, and a fortnight between the later doses.

With such precautions Dr. Milian has had no serious complications after 8,000 injections given to 1,500 different patients. Needless to say great care has been taken to eliminate unfavourable subjects, but amongst the cases treated were patients suffering from general paralysis, hemiplegia, cardiac disorder, and nephritis.

Correspondence.

A HOSPITAL FOR PAYING PATIENTS.

SIR,—My attention has been called to Mr. L. McGavin's letter under the above heading which appeared in your issue of December 2nd.

Mr. McGavin raises several objections to the proposed hospital the fallacies in which are self-evident, but there are two points in his letter which call for reply: (1) Mr. McGavin "feels that the proposed scheme will not find favour with the medical profession;" and (2) he states that the present type of nursing home is satisfactory.

(1) Mr. McGavin is wrong in surmising that the proposed scheme will not find favour with the medical profession. The leading members of the profession, recognizing that the present system is inefficient according to modern ideas, endorse the need for something better, and have promised support to our scheme. Many private practitioners have applied for shares, as they also recognize that this is the only way they can secure the best possible accommodation for their patients, and the medical press has on all sides supported the scheme.

(2) Mr. McGavin's second point convinces me that his experience of nursing homes is limited, or that he has a personal knowledge of one of exceptional efficiency; or that his standard of efficiency in a nursing home is below the modern standard, and is below what the patient of to-day expects and has a right to expect.

Can Mr. McGavin point to a single nursing home that has been specially erected for the purpose, and is not merely a more or less converted dwelling house; the situation of which has been selected not out of consideration for the patient's comfort as regards quiet and open space, but solely with a view to suit the convenience of the doctors? Can Mr. McGavin contemplate without a shudder what would happen in 99 per cent. of ordinary nursing homes, with their narrow staircases and no lifts, in the event of fire? Does he know of no nursing homes where many of the nurses are untrained, and the food, cooking, and service generally are not above reproach; and where the noises of traffic and cab whistles outside and of "domesticity" within condemn them as unsuitable places for the accommodation of the sick?

Whatever Mr. McGavin's opinion may be, the public and the profession generally are dissatisfied with the existing state of things, as is proved by the large measure of support we are receiving for our new hospital for paying patients.—I am, etc.,

London, S.W., Dec. 18th. HARVEY HILLIARD.

THE VARIETIES AND TREATMENT OF ASTHMA.

SIR,—I am very glad to find that Dr. Gibson supports the view I have advanced, and that he feels "practically certain that there is a rhythmical contraction and dilatation of the bronchials and bronchioles, and that there is further a disturbance of the normal balance between contraction and dilatation in asthma"; but I had carefully read both his masterly introduction to the discussion on asthma at Birmingham, yet feared from his letter in your issue of November 18th that he had "thought better of it." I thank Dr. Gibson for his explicit statement to the contrary. May I now add that I entirely concur in the conception that in asthma the contraction of the tubes is the predominant factor in the affection, although without the diminution in this contraction during inspiration—and that is equivalent to partial dilatation—the gradually increasing emphysema would not arise? I am convinced that it is the physiological contraction and dilatation of the bronchioles which results in the collapsed lungs of the new-born infant becoming distended with air. How otherwise is it possible that the alveoli can be distended unless we assume that the tidal air in the newborn is equivalent to the entire respiratory capacity and residual air. The physiological distension of the alveoli depends on the predominance of the contraction phase in expira tion, and in asthma the pathological overdistension o the alveoli is the result of the exaggeration of the norma predominance of the contraction phase, most intens during expiration.

Conversely, if the bronchiole is rendered paretic or para lysed by an intense inflammatory affection—for example capillary bronchitis in a child—the alveoli beyond collaps because the mechanism by which alone they were origin ally distended and were maintained in distension no longe obtains for bronchial contractions, and dilatations are i abeyance. Thus on section of the bronchiole the secre tions which could no longer be expelled are found to hav collected in the lumen, and then we are expected to believ that a ball-valve action has caused the alveolar collapse!

My thanks are due to Dr. Francis Hare for his mos courteous reply to the criticisms I offered on his interestin communication supporting the vasomotor engorgemen theory. Dr. Hare pleads that, while he has tried t answer seriatim the points put forward in support of th bronchial-spasm theory, none of the more than twen points, all of which seemed to him to support the vas motor theory, have remained uncontroverted. I men tioned certain well-observed clinical facts which it seeme to me were fatal to Dr. Hare's explanation of the asthmat paroxysm, and I venture to think that he postulates t much in insisting "that in the vascular engorgement the bronchiolar mucosa constituting the obstruction respiration there are two entirely separate but equall important vascular factors: (1) The peripheral vas constriction, and (2) the localized (bronchiolar) vas dilatation." If it is the vaso-dilation of the bronchiol mucosa that causes the respiratory obstruction, why is so essential that peripheral vaso-constriction should e exist before the respiratory obstruction appears? I thin it lies with Dr. Hare to afford some evidence that vascul engorgement of the bronchi can cause the marked respir tory obstruction, assuming that such engorgement is o of the essential factors. Brodie and Dixon found th "even by producing a most marked congestion, as temporarily clamping the pulmonary vein issuing from lobe, the restriction of the air movements of that lobe inconsiderable."[1]

Then Dr. Hare, in support of his view, instanced t constriction of the radial artery with the onset of dyspno and relaxation on cessation of the attack. But why d he postulate that constriction of the radial connotes dilat tion of the bronchial arteries? Both being systen arteries one may assume rather that the evidence point to a general systemic constriction, and that trinit relieves asthma by vasomotor dilatation of the bronch arteries since it acts on the arteries, though his oppone would explain its effect by its action of the bronch unstriped muscular fibres which, as Dr. Hare hims reminds us, are as readily acted on by the "antispasmodi drugs used in asthma. It is known that the respirato vasomotor, and cardio-inhibitory bulbar centres work co-ordination, and there is very strong clinical evide that excessive action of the respiratory centres in asth is associated with vasomotor phenomena, but as in bronchi or in the vasomotor territory, the evidence su points to "contraction as the dominant factor in affection."—I am, etc.,

Clifton, Bristol, Dec. 17th. P. WATSON-WILLIAMS, M.D

SIR,—In reply to Dr. G. A. Gibson, I by no means fo Brodie and Dixon's laboratory experiments. To do would be difficult: we are never allowed to forget th But I dissent from the inferences drawn from them by Gibson, who apparently regards them as *direct* evide that asthma in the human being depends on bronc spasm. These experiments prove—and, so far as I see, prove only—that stimulation (direct or indirect their motor nerve causes contraction of the circular mu fibres of the bronchial tubes, and that such contrac causes dyspnoea through diminution of their lumen. when was this doubted? Not surely since the disco of the muscularity of the bronchi. Since then, we recognized that bronchial spasm *might* cause asth what we want to know, however, is whether bronc spasm *does* cause it. And it is just here that the

[1] *Journ. of Physiol.*, xxix, No. 2, March 16th, 1903, p. 156.

quoted laboratory experiments of Brodie and Dixon fail us. As to whether the results of stimulation of the vagus are a "complete representation of all the essential phenomena of asthma," will depend upon what phenomena we regard as essential. For me, the circulatory phenomena are quite essential. Have these been reproduced in laboratory asthma?

Dr. Gibson considers it an "interesting fact that there is no experimental evidence in favour of a hyperaemic paroxysm." If he restricts experimental evidence to laboratory experiments on animals, I can only ask, Has such evidence ever been looked for? It may well be that the laboratory experts have hitherto been no more conversant with the vasomotor theory of asthma than was Dr. Gibson himself a week or so ago. If, on the other hand, it is permissible to collect experimental evidence also in the hospital ward, then Dr. Gibson is incorrect in denying the existence of experimental evidence supporting hyperaemic obstruction.

In my letter of November 25th I pointed out that the asthmatic paroxysm may be relieved by reversing its responsible vasomotor conditions namely, by relaxing the cutaneous vaso-constriction by means of heat to the skin, while simultaneously constricting the bronchial vaso-dilation by causing the patient to inhale cold air; also, that the paroxysm may be seriously accentuated by reversing these thermal measures. We may go further, however. The reversed thermal measures—namely, cold of any kind to the skin *plus* the simultaneous inhalation of hot air or vapour are ample in many asthmatics to initiate an asthmatic paroxysm during a period of respiratory freedom. The experiment is distressing, but not, I think, very dangerous, since it can be at once terminated by reversing the thermal conditions. The only difficulty likely to be encountered is obtaining the patient's consent. One has to be selected who is sufficiently imbued with scientific curiosity. But the outstanding advantage of the experiment is that it is performed on the human subject and under conditions which are apt to occur in ordinary life—that which can certainly not be said of laboratory experiments on the lower animals.

But it may well be asked whether any such clinical experiment is really necessary; for the essential thermal conditions are continually being reproduced indeliberately, and their results will be found, if looked for, in the histories of many asthmatics. How many asthmatics have not been forced to abandon cold bathing through its tendency to start a paroxysm? And how many have not been attacked by their familiar dyspnoea on suddenly entering a hot room? The well-known habits of chronic asthmatics arise, for the most part, through the extreme facility with which their vasomotor balance is upset. Their tendency to encase themselves in flannel indicates the necessity for maintaining dilated the cutaneous peripheries; their craze for open windows during a paroxysm results from the relief they obtain by inhaling cold air. To explain these two divergent thermal influences to the patient, and thenceforward, if he continues to suffer, he can combine them, thereby halving his respiratory distress.

Finally I say, in conclusion, that I entered on this discussion through Dr. Gibson's challenge to adduce "one single fact in favour of sudden engorgement of the bronchial mucous membrane."[1] In my reply,[2] I gave thirty facts arranged under eleven heads, all of which are directly explained by the vasomotor theory, but few of which have any special meaning when considered in the light of the theory of bronchial spasm. Yet Dr. Gibson has hitherto controverted none of these facts. He is content to state his opinion that "not one of the eleven . . . is antagonistic to the view" he advocates. Sir, I submit that something is called for beyond the unsupported expression of Dr. Gibson's opinion, valuable as it undoubtedly is. For example, he might show how the facts adduced by me and undisputed by him can be shown to harmonize with the theory of bronchial spasm. On the other hand, he might himself adduce a single clinical fact which supports the bronchial-spasm theory which cannot be explained by the theory of vasomotor relaxation.—I am, etc.,

Durham, Dec. 16th. FRANCIS HARE.

[1] BRITISH MEDICAL JOURNAL, November 18th, p. 1382.
[2] Ibid., November 25th, p. 1443 et seq.

THE NATURE AND ORIGIN OF CANCER.

SIR,—I have read Sir Henry Butlin's lectures on Unicellula Cancri with great interest, especially as they testify to his belief that cancer is a truly parasitic disease. My only regret is that he does not go further and admit that it is also extrinsic in origin. His "cancer cell" unquestionably behaves as a true parasite, just as a locomotive draws behind it a string of coaches; but in each case it is the contained specific energy which is the motive power. Whence comes the specific malignant intracellular entity of the "cancer cell"? It is impossible for it to be intrinsic; no disease arises from within. In every case disease is due to the action of extrinsic agency, directly or indirectly.

Sir Henry Butlin says he cannot explain why spontaneous cancer begins at one point only. Naturally this cannot be explained by any intrinsic theory whatever; but it is obvious that the entrance of an extrinsic parasite would explain it satisfactorily as the point of infection. It is extraordinary that acceptance of this solution should be so difficult. The clinical history of the disease and successful experiment so clearly point to its extrinsic origin. Only one argument can be truthfully advanced against it, and it is really no argument at all. No causal parasite has, so far, been isolated, but this cannot preclude its existence. Our knowledge of and appreciation of parasitism in relation to disease is as yet only embryonic, if even that.

I notice in your correspondence column that Professor E. A. Minchin, in criticizing Sir Henry Butlin's theory, refers to "intrinsic and extrinsic" parasites, the former being self-generated. I must admit that I have never before heard that the human body possesses the power of creating parasites, and I must protest against any such statement. Our bodies are, indeed, the hosts of countless parasites, but I deny the possibility of their being able to create them.

Professor Minchin's example of an intrinsic parasite, which he calls a "benign idioparasite," is a singularly unhappy one. He suggests that the human female is capable of parthenogenesis, and overlooks the significant fact that, while the fetus is, indeed, an example of exuberant proliferation of generative tissue, it is only after the *extrinsic* stimulus provided by the spermatozoön has been applied that the ovum commences to proliferate, the spermatozoön in this instance acting as a true extrinsic protozoan parasite.

I pointed this out in my thesis on the "Infectivity of Cancer," published in the *Lancet* of January 11th, 1908, in drawing a very suggestive parallel between benign and malignant proliferation, to show that neither generative tissue nor other normal tissue cells can proliferate without an *external* specific stimulus.—I am, etc.,

Driffield, Dec. 9th. A. T. BRAND, M.D.

SIR,—Dr. Thomson Shirlaw agrees with Sir Henry Butlin, Sir Alfred Pearce Gould, and others, in clearly recognizing that in order in any way to really *understand* cancer, we are driven to conceive of some "law which governs cell growth," some central "controller" of this huge army of cells—a "governor" which, in the case of cancer, has to some extent ceased to govern. Though to many these expressions may seem mere "verbalisms," I believe that they represent a position which will be before long recognized as impregnable. Dr. Shirlaw, however, having got so far on the right road, tumbles into the usual pitfall. He thinks of this central "governor" or "controller" as being material in nature, resident "somewhere in the body"; finally, he plumps for the internal secretion of one (or more) of the ductless glands.

Now, we will never make further progress as long as we continue to hug to our bosoms this discredited notion that the principle of life is something "material." It has, of course, a material aspect, but is not material *per se*. Pierre Janet, the French psychiatrist, rightly regards hysteria and the allied neuroses as representing a "dissociation of personality;" the various separate mental activities, no longer kept in check by the central will, "scatter" in all directions; the psychic condition of the patient is one of anarchy; he or she is "demoralized." When the will-power is exerted the insurgent faculties are "roped in" and put back in their due position of subordination, and the patient is cured.

Let me suggest that cancer may represent, in the organic field, a somewhat similar "dissociation of personality." It will perhaps be found that the central co-ordinating principle (of the cells in this case, instead of the separate mental faculties) is something allied in nature to the will—if, indeed, it is not one and the same thing. What this "will" power in its essence is I must leave to the metaphysicians to explain—if they can. That it is very far from being a mere "metaphysical entity" or "abstraction" the subjective experience of each one of us irrefragably confirms.

As I have striven to amplify this view in a forthcoming article in a medical contemporary, I shall not presume to trespass further on your valuable space.—I am, etc.,

Edinburgh, Dec. 16th. ARTHUR J. BROCK, M.D.

SIR,—In connexion with the biological conception of the term "unicellula cancri," so aptly applied to the cancer cell by Sir Henry Butlin, we must admit that that "parasite" displays somatic as well as germ properties, and that both of these functions are of a primitive and erratic character.

The purely "germ cell" seems to have subjected all its properties to that essential one of reproduction; and in its higher evolutionary state that function can only be carried on by the combining connexion of two cells separately possessing male and female elements, and these are mostly located in separate and distinct bodies. Lower forms have the male and female elements resident in the one colony, and still lower forms possess the power of reproduction by simple fission of the single cell.

In "unicellula cancri," wherever it may draw its stimulation for the extraordinary and erratic proliferation, there does not seem to be any conjunction of elements such as exist in the higher forms of germ cells preceding its division.

No method of investigation has so far proved capable of discovering any differential male and female metabolites in evidence as preceding the division of the ordinary amoeba. Nor has any scientific contrivance so far enabled human capacity to discover what are the exact precursors of division in the simple unicellular organism that secures for it the epithet of "an immortal." When the time arrives to give us such instruments to aid our limited senses then, perhaps, may we find some hypothetical analogue of such precursor, and, finding it, we may finally be enabled to check the remorseless ravages of the extraordinary proliferative power of the "unicellula cancri."—I am, etc.,

Bath, Dec. 18th. WM. P. KENNEDY.

SIR,—May I draw the attention of your readers to what is, if not a new explanation, at least a new application of facts which are known?

Mr. Roger Williams in his *Natural History of Cancer*, p. 86, points out the relation of cancer to wealth and high living, but the figures for 1909 are even more interesting than those he quotes, and he does not press home his conclusions or indicate how the phenomena he draws attention to are to be explained.

A study of the seventy-second report of the Registrar-General shows that for the year 1909 in the richest parish in the kingdom (St. George's, Hanover Square) cancer accounts for 1 death in 8, in Bethnal Green 1 in 20, Hampstead 1 in 9, Poplar 1 in 19, and in poorer provincial towns the ratio sinks to about 1 in 30. As no one can suppose that the inhabitants of Bethnal Green live under better hygienic conditions than those of Mayfair these facts need consideration. Again, in certain provincial towns, where the rich congregate, and where feeding is therefore high, we find rates approximating those of the rich parts of London. This is seen in many cathedral towns. Thus in Canterbury it is 1 in 12, Chichester, Exeter, and Winchester 1 in 10, Oxford and Cambridge 1 in 9. It thus seems as if cancer incidence all over England may be taken as a measure of the wealth of the population, and we know that the rate is lower in Scotland and considerably lower in Ireland.

There can be, I think, only one explanation of these facts—namely, that cancer in England is like gout in Persia—"the rich man's disease." Gout in Persia, as I have elsewhere pointed out, is called "the rich man's disease" because meat being scarce in that country, only the rich can afford to eat it. In the same way cancer appears to be the rich man's disease in England, because the rich use their wealth in the purchase of flesh, fish, fowl and game, tea, coffee, and chocolate, as well as meat soups and meat extracts, all of which are costly foods, rich in xanthin and uric acid, the very substances which produce gout and rheumatism, and, in producing them, cause widespread irritation throughout the tissues of the body. With a steadily increasing consumption of these substances, especially among the rich, cancer has increased not only in this country, but also in the United States, Australia, and New Zealand.

Mr. Roger Williams shows (loc. cit., p. 60) that the death-rates of cancer and tubercle move in opposite directions. This is not difficult to explain, for tubercle increases in relation to densely populated areas, which mean poverty and inability to obtain the above-named dietetic "luxuries," which increase gout, rheumatism, and tissue irritation. The relation of cancer to tissue irritation is already well known to your readers. I do not doubt that the incidence of tubercle is also connected with nutrition, as this disease notoriously attacks individuals in poor condition, and is cured by stimulating nutrition with a relative excess of proteid. But this very condition which cures tubercle favours the accumulation of waste products and so increases the liability to cancer. The rich are of larger stature and better nourished than the poor, hence they resist tubercle, but are more liable to cancer.—I am, etc.,

London, W., Dec. 11th. ALEXANDER HAIG.

"A BIOLOGICAL VIEW OF THE CANCER CELL."

SIR,—Here is another "biological view of the cancer cell." No wonder—to the professional biologist and embryologist—that the medical profession understands little or nothing of the "biology" of the cancer cell, when its British organ writes (December 2nd, 1911, p. 1494) "in the Metazoa, on the other hand, the descendants of the zygote remain in union, and build up a complex organism. At first the cells of the metazoan embryo are similar in nature and potentialities to the zygote itself." These statements are the exact opposites of fact. The cleavage of the human egg has never been seen, but all that we know of mammalian development goes to show that of the products of the egg cleavage not more than *one-eighth part—a single cell—goes to evolve an embryo, while the other seven parts are trophoblastic in nature, and never at any time enter into the formation of an embryonic body.* These seven parts possess characters and potentialities the very antitheses of embryo or soma—that is, a small fractional part of the cleaved egg is embryonic in nature and destiny, and seven-eighths are the very opposite of this or trophoblast, *the equivalent of cancer* morphologically, biologically, embryologically, and chemically. These are facts, not fables.

If the learned professor of the parable knew anything about modern embryology and stereo-chemistry, he would take the statement of the "child of the desert" that it was "born of the grains of sand" with a large grain of salt. He would not be "astonished" at a mere empty assertion, but would request the "curious little object" to submit itself and its credentials to a crucial examination in Pasteur's favourite instrument, the polarimeter. Probably this examination would suffice to explain everything about it, and the "learned professor's" final remark might be of a pertinent scientific nature: "Give this 'curious little object' a good bath of two pancreatic enzymes in strong solution, and as he can jump, be sure and see that they are very strong, *and not inert.* This will demonstrate beyond doubt and very quickly that there is not a trace of 'sand of the desert' in his composition; for, like a snowflake in the warmth of the sun, our 'child of the desert' will melt away. On the other hand, if you, your friends, wish to keep this 'curious little object' with you as a useless curiosity, by all means keep him away from the polarimeter, do not mention Pasteur or stereochemistry in his presence, and—see that he only makes close acquaintance of inert ferments. Then he will live and thrive, and you may reproduce him—asexually—as often as you like, and even write big 'scientific reports' upon him."

There is precious little "biology"—and no embryology—in either your article or the two lectures reviewed.—I am, etc.,

Edinburgh, Dec. 12th. J. BEARD.

*** Dr. Beard has misquoted the article which he criticizes, since the expression there used was not "complete organism," but "*complex* organism," a slight but not unimportant difference. Had it stood as quoted by Dr. Beard, however, his criticisms would still have been somewhat beside the point. Considering the matter from a general point of view, it would have been perfectly correct to say that the fertilized ovum gives rise to a complete organism, and that the blastomeres are at first similar in their potentialities to the ovum itself. That, at least, is what happens in all primitive types of development where the ovum, whether set free from the maternal tissues or not, goes through its embryonic development independently of maternal aid, as for instance, in sponges, coelenterates, echinoderms, annelids, amphioxus, etc., in thousands of cases well known to every zoologist or embryologist. The fact that in certain instances, to be found especially among the higher vertebrates and in other groups, such as arthropods, some of the cells produced by the cleavage of the ovum give rise at an early stage of the development to tissues and organs subservient to the needs of the embryo, and cast off when they are no longer required, is merely a case of an adaptation to special conditions which in no way invalidates the general statement. The second half of Dr. Beard's letter may be left to be commented upon by those who understand it.

PARASITISM.

SIR,—While I am unable to offer a perfect definition of parasite, I feel some diffidence in criticizing that pre-ented by Dr. H. C. Ross in the BRITISH MEDICAL JOURNAL or December 16th, page 1624; but it appears to me that is definition does not allow of any differentiation between *mbiosis* and *parasitism*—which are, at least in the egetable kingdom, two essentially different phenomena.—am, etc,

Liverpool Dec. 19th. J. A. WHELDON.

EGYPT THIS WINTER.

SIR,—Many people who are more or less invalids find it sirable to leave England during the winter months for me place where the climate is warmer and drier, and of ese not a few naturally think of Egypt. I find that there a more or less prevalent idea that there are reasons why *s year* Egypt should not be selected as a place of resi-ice. So far as I can make out it is supposed that vellers run some risk (1) from the war between Italy l Turkey, and (2) from the possibility of cholera break-out in Egypt. As regards the war, a few minutes' sideration will convince any reasonable person that glishmen run no risk whatever. Egypt, in spite foolish statements in some of the newspapers, has er been more tranquil than at present. The very ht disturbance in the lower quarters of Alexandria, ch lasted for a few hours some weeks ago, though h exaggerated in one of the London newspapers, not to be compared for one moment with the riots ch occurred in many English towns a few months and did not affect English residents or tourists at all. other disturbance of any kind has occurred. The ger of any attack on life or property exists only in the ds of alarmists in England, and is not seriously emplated in Egypt.

regards cholera, the precautions taken at the otian ports are so stringent that an outbreak of ra is practically impossible. I am pleased to find, from personal experience that the precautions are not ned to the ports, but that the address of every ller who has touched at an infected port is taken and ed to the sanitary officer of the district or town he to, so that should a sporadic case by any chance pass rontier, it would be dealt with very quickly and, ieve, effectively. Some discomfort—that is, one or days' detention on the steamer which has conveyed —may be inflicted on tourists who have come from an ed port, but those coming from England by sea, not ing at an infected port, or those coming overland by Marseilles, or by the excellent service via Trieste and Austrian Lloyd steamers, would suffer no inconvenience whatever.

I am so convinced that residence in Egypt is as safe this year as any other year that I have brought out a wife and family, and I write these lines to do what is possible to dissipate the rumours I have alluded to.—I am, etc.,

Helouan, Egypt, Dec. 10th. R. ACKERLEY.

ACUTE POLIOMYELITIS IN CORNWALL.

SIR,—In replying to Dr. Hopper's letter in the JOURNAL of December 16th, p. 1629, I wish to point out that it is unfair to any town to pick out special months in which the zymotic death-rate happens to be high, and to say that therefore the sanitary state of that town must be bad; and especially when no mention is made of the particular zymotic disease which is accountable for any exceptionally high death-rate, nor of the fact that such disease is at the same time causing similar high zymotic death-rates, not only throughout Cornwall, but also throughout the whole of England.

It would be a very easy thing for me to pick out months when our zymotic death-rate is *nil*, but because of this I would not pretend to deceive any one into thinking that we were never again going to have such diseases.

Dr. Hopper says that I have not appreciated the import of his paper. If I have not done so to his liking I am sorry, but Dr. Hopper has not seen fit to reply to my questions, in spite of his offer to substantiate his statements. He is, no doubt, well advised in this, and prudent in covering his retreat under "no further correspondence," etc., for he must have known that he was rapidly approaching the danger zone.

I am much obliged to you for inserting my letters, and I regret having taken up so much of your valuable space; but I felt that important principles were involved in this matter, which apparently cannot now be further discussed.—I am, etc.,

Penryn, Dec. 19th. JAMES BLAMEY.

MISS FLORENCE NIGHTINGALE'S LETTERS.

SIR,—As executors of the will of the late Miss Florence Nightingale, we shall be glad to receive any letters written by Miss Nightingale, and any other materials relating to her which the owners may be willing to lend us for the purposes of a memoir.

We should respect the wishes of every friend and correspondent of hers who will kindly afford us information, and no letters will be published without the consent of the owners. Papers should be sent by registered post to the executors of the late Miss Florence Nightingale, 31, South End Road, Hampstead, London, N.W., who will be happy to give any further information.—Yours, etc.,

HENRY BONHAM CARTER.
S. SHORE NIGHTINGALE.
L. H. SHORE NIGHTINGALE.
London, W., Dec. 13th. A. H. CLOUGH.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., B.C. (*Part I, Chemistry*).—B. P. Ayre, W. T. Beswick, W. H. Blackburn, C. V. Braimbridge, W. S. Brown, F. T. Burkitt, G. E. Burton, A. E. Clark-Kennedy, L. Cunningham, I. de B. Daly, U. de B. Daly, J. C. Davies, H. B. Dodwell, C. G. Edwards, W. Fenwick, E. A. Fiddian, H. G. Galbraith, J. H. Gulliland, W. F. T. Haultain, A. D. Y. Herries, S. C. Ho, F. Moor, E. S. Orme, F. N. Sidebotham, R. O. Sternberg, B. H. Swift, G. B. Tait, G. S. Taylor, A. A. Thomas, A. R. Walker, G. H. Ward, W. T. Warwick, B.A., H. G. E. Williams, R. A. Woodhouse, R. S. Woods.

Part II, Physics.—B. P. Ayre, G. H. Bickley, J. F. J. Blanchard, C. E. Bond, C. V. Braimbridge, W. S. Brown, F. T. Burkitt, A. E. Clark-Kennedy, L. Cunningkam, I. de B. Daly, U. de B. Daly, J. C. Davies, S. R. E. Davies, J. M. Downie, W. L. Emtage, W. Fenwick, E. O. Goldsmith, R. W. Nichol, G. W. Pratt, E. G. Snaith, G. B. Tait, G. S. Taylor, R. R. Traill, A. C. Walker, A. R. Walker, W. T. Warwick, B.A., R. C. P. Whitcombe, H. G. E. Williams, R. A. Woodhouse, R. S. Woods.

Part III, Biology.—C. G. Ainsworth, B.A., C. E. Bond, W. S. Brown, L. Cunningham, U. de B. Daly, H. W. Featherstone, E. A. Fiddian, L. S. Gathergood, A. A. Gemmell, W. F. T. Haultain, N. S. Hewitt, R. W. Nicholl, P. R. O'R. Phillips, F. N. Sidebotham, E. G. Snaith, B. H. Swift, R. R. Traill, W. T. Warwick, R. A. Woodhouse, R. S. Woods.

THIRD M.B. (*Pathology and Pharmacology*).—M. Avent, B.A., H. M. McC. Coombs, B.A., R. Gamlin, M.A., H. K. Griffith, B.A., A. N. Hodges, B.A., R. M. Miller, M.A., C. G. H. Moore, B.A., R. S. Morshead, B.A., G. M. Parker, B.A., C. H. G. Philp, B.A., V. T. P. Webster, B.A.

Degrees.

The following degrees have been conferred:
M.D.—I. D. H. Freshwater.
M.B.—C. Ede, K. I. Singh.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examinations indicated:

SECOND M.B., CH.B.—*Part A:* Ethel Chadwick, G. H. Darlington, A. N. Misbah, G. H. Pearson, L. B. Stott, A. W. Weston. *Part B:* F. A. Belam, C. W. Dixon, H. E. Marsden, R. Martlew, A. C. Mooney, R. E. Roberts.

FINAL M.B., CH.B.—*Part I:* Kate M. Cowe, D. Parkes, H. P. C. de Silva, T. O. Williams. *Part II:* D. Parkes.

The following candidates have been approved at the examination for the Diploma in Tropical Medicine:

F. F. Brown, D. J. Chand, J. M. Holmes, C. L. Ievers, E. K. Lomas, D. S. MacKnight, J. V. Mascarenhas, A. L. Oluwole, J. A. Taylor.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on December 14th, Mr. Rickman J. Godlee, President, in the chair.

The Fellowship.

Diplomas of Fellowship were granted to thirty candidates, found qualified at the recent examination, and to one qualified in May, who had since attained the age of 25 years, namely:

Habibmia Ismail Janmahomed, H. Robinson, T. W. Smith, A. J. Hull, Captain, R.A.M.C., A. C. Haslam, H. R. Jeremy, P. A. Reckless, H. L. Morgan, J. R. H. Turton, G. R. Girdlestone, A. T. McCaw, B. A. Lloyd, D. Ranken, L. Colledge, V. Townrow, B. G. Goodwin, Lieutenant, R.A.M.C., H. Lee, W. R. Parkinson, S. A. Vairakiam, W. L. Pink, A. S. Moorhead, A. W. Bourne, H. Bullock, C. G. Aickin, J. H. Connolly, H. M. Johnston, A. F. Maclure, R. C. MacWatt, Lieutenant-Colonel, I.M.S., C. G. Shaw, T. W. Todd, Eleanor Davies-Colley.

The following candidates have passed the final examination but in point of age are not yet eligible for admission to the Fellowship:

R. C. Harkness, A. G. H. Lovell, and B. C. Maybury.

The L.D.S.

Diplomas of the Licence in Dental Surgery were granted to forty-four candidates found qualified at the recent examination.

University of Liverpool.

Mr. Edmund Owen was reappointed a member of the Court of the above University for a period of three years.

Meeting of Fellows and Members.

In regard to the third resolution passed at the meeting of Fellows and Members on November 16th, the Council decided not to take any action. The resolution in question was:

> That this twenty-seventh annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the Council, which as now constituted does not represent the whole Corporation; and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.

In regard to the fourth resolution carried at the same meeting, the Council also decided to take no action. The resolution was:

> That this meeting of Fellows and Members requests the Council to include in their next annual report a balance sheet showing fully and without reserve the assets and liabilities of the College on Midsummer Day, 1912.

Mr. Edward Cock.

An offer from Sir James F. Goodhart to present to the College a marble plaque of Mr. Edward Cock, President of the College in 1869, was accepted with thanks.

ROYAL COLLEGE OF SURGEONS IN EDINBURGH.

THE following candidates, having passed the requisite examinations, have been admitted to the Fellowship:

W. Beggs, H. S. Cormack, Lieutenant I.M.S., G. A. Davies, M. J. Jinadasa, J. H. Lawry, S. G. Luker, W. C. Macknight, J. Mitchell, D. Munro, Captain I.M.S., J. C. S. Oxley, D. Richmond, H. M. Robertson, J. W. Robertson, E. C. T. Smith, C. Stiebel, and N. B. Taylor.

UNIVERSITY OF SHEFFIELD.

THE Council have made the following appointments: Dr. William Vincent, Superintendent of the South Yorkshire Asylum, Wadsley, to the lectureship in mental diseases, in place of Dr. Kay, resigned. Mr. W. W. King, M.B., Ch.B., F.R.C.S.Edin., to the post of tutor in clinical obstetrics and diseases of women, in place of Mr. E. H. Phillips, appointed lecturer in diseases of women.

Obituary.

E. F. TREVELYAN, M.D., F.R.C.P.,

PHYSICIAN TO THE LEEDS GENERAL INFIRMARY.

IT is with feelings of deep regret that we have to record the death of Dr. E. F. Trevelyan of Leeds, after an illness of some months' duration, which from the first caused his medical friends to entertain grave apprehensions as to its ultimate result. A palliative operation was performed some weeks ago, with an encouraging improvement in his condition, so that it was hoped that the more serious operation for which this had paved the way might be the means of restoring him to health, but though he rallied well after this second operation, his strength gave way and he died on December 11th, at the comparatively early age of 52.

Dr. Trevelyan received his medical education at St. Bartholomew's Hospital, from which he graduated at the University of London, first as B.Sc. in 1885 and subsequently as M.B. and M.D., which last degree he obtained in 1887. He also took the Membership of the Royal College of Surgeons, and when his line of work was definitely determined towards practice as a consulting physician he obtained the Membership of the Royal College of Physicians, to the Fellowship of which he was promoted in 1901. Dr. Trevelyan came to Leeds as resident medical officer to the General Infirmary in 1889, and held that post for some three years, at the end of which time, on starting practice, he was elected to the position of Honorary Physician to the Leeds Public Dispensary. With this institution he preserved his connexion till the time of his death, being senior physician since the resignation of Dr. Griffith some few years ago. In 1894, owing to the death of Dr. Jacob, there was a vacancy on the assistant staff of the infirmary, and to this position Dr. Trevelyan was elected without a contest. The death of Dr. Jacob caused a vacancy in the Chair of Pathology as well, for at that time the professor of pathology was not required to devote the whole of his time to the interests of his chair. Probably no man who was devoting his main energies to practice could have been found so well suited to carry on the duties of such a position as Dr. Trevelyan, for he was an exceedingly well-read man, a good linguist, a most assiduous and enthusiastic worker, and had already done a considerable amount of original work in pathology. The work he did for the university will always be remembered. It was only the pressure of his other work which, coupled with his strong feeling that the claims of pathology demanded the undivided attention of even the most zealous of workers, led him to resign and give the university the opportunity of securing the services of one who should devote himself entirely to the work of the chair. Shortly after this resignation, which occurred six years ago, he resumed his connexion with the university as Professor of Therapeutics, but his other spheres of activity did not permit him to retain this position for long.

In 1899 the Leeds Association for the Prevention and Cure of Tuberculosis began its work, and from the beginning Dr. Trevelyan was intimately associated with its development. Into all the details of the work, into the selection of a suitable site for the sanatorium, into the enlisting of the sympathies of the public as well as into the more strictly medical and scientific aspects of the work, he threw himself with unwearying and characteristic zeal and energy. His interest in tuberculous affections was by no means newborn at this period. He had from time to time published researches on the subject, and had devoted a considerable amount of attention to the tuberculous affections of the nervous system.

For some years Dr. Trevelyan was intimately associated with the work of the Leeds Institute of Science, Literature and Art, which was based on the old Mechanics' Institute and at the time of his death he was Chairman of the Committee of Management. Some few years ago he was appointed to the magistracy of the city, and was a regular attendant on the bench.

Such is a brief outline of the work with which Dr. Trevelyan had been associated since he settled in Leeds. He was a man of sterling integrity of character, greatly beloved by those with whom he was

intimately associated, enthusiastic to a degree, and imbued with the true scientific spirit. His colleagues in the university and on the staffs of the various teaching institutions with which he was associated will cherish his memory, and bear in mind the excellent work he has done alongside of them; the students will long remember the kind and zealous teacher, with his good-natured disposition, cheerful countenance, and consideration for their difficulties; the profession at large will miss a reliable and painstaking consultant; the medical societies will call to mind his useful administrative work and the valuable scientific contributions he was in the habit of bringing before them; the general public loses one of its most useful citizens; and, finally, his great kindness of manner, his sympathy, and his gentleness with his poorer patients, will be an abiding example to those who have worked with him throughout many weary hours in the out-patient room.

At the weekly meeting of the board of the General Infirmary a resolution was proposed by the chairman, Mr. Charles Lupton, and seconded by Dr. Barrs, to the following effect:

The Board of the General Infirmary at Leeds desires to express its sense of the great loss which the infirmary and the city have sustained by the death of Dr. Trevelyan. During the eighteen years that he has been on the staff of the infirmary he has devoted himself to the interest of his patients, and has enjoyed the confidence and affection of his colleagues. He has also devoted much time to teaching and been a pioneer in various branches of research. The board would also like to commemorate its sense of the great debt which the city owes to Dr. Trevelyan for the interest and unstinted labour which he devoted to the treatment of patients suffering from tuberculosis.

The board desires to express its deep sympathy with Dr. Trevelyan's sisters in the great loss which they have sustained.

At the meeting on December 15th of the Leeds and West iding Medico-Chirurgical Society, with the work of which was so long and so intimately associated, his close rsonal friend Mr. Littlewood, as chairman, gave eloquent pression to the regard in which he was held by everyone. Dr. Trevelyan, who was unmarried, is survived by two ters, one of whom, Mrs. Hicks, is the wife of the Bishop Lincoln.

He was buried at Lawnswood cemetery, on Thursday, the h of December, the earlier part of the service being en at Holy Trinity Church, in the centre of the city, en a very large gathering of the public, and of his fessional and personal friends assembled to pay their pect to the memory of one who was a favourite with all.

DR. GEORGE HUBERT MAPLETON died at his residence at dhurst, Kent, on December 10th, aged 53 years, from ic laryngitis, after a very short illness; he took to his on Friday and died on Sunday. Tracheotomy, which performed very early on the morning of that day, gave considerable relief, but he passed away in his sleep in afternoon. He will be greatly regretted by many ds and patients, and not least amongst the poor. He attended during his last illness by his neighbour, Harvey, in consultation with Dr. Adeney and Dr. rie, of Tunbridge Wells. Dr. Mapleton was born in at Saxby, Leicestershire; his father, the Rev. nald John Mapleton, later became incumbent of olumba's Kilmartin, Argyllshire, and was afterwards nted Dean of Argyll and The Isles. Dean Mapleton, n of great literary ability and a noted archaeologist, ocally known as "The Bishop." Dr. G. H. Mapleton, studying at Glenalmond, proceeded to Edinburgh rsity, where he graduated M.B. and C.M. in 1880, wards proceeding to Vienna for special medical study. eld the position of House-Physician at the Royal aries of Edinburgh and of Glasgow. After a short of medical service at sea he became Government al Officer at Montserrat and afterwards at St. Kitts, Indies. At the latter place he was Police Surgeon ssistant Surgeon to the Cunningham Hospital. fourteen years of medical practice in the West he settled in Goudhurst in 1896, and practised until his death. He held almost all the public l appointments, including that of Medical Officer blic Vaccinator for the Goudhurst District. He a widow, the eldest daughter of Dr. Burdett Johnson, of Montserrat, three sons, and one daughter. Dr. Mapleton took a keen interest in his profession, and his abilities as surgeon and physician were much appreciated. He gave his best attention to many cases where there was little, if any, prospect of pecuniary recompense. He had two brothers in the Army Medical Service, one of whom was in charge of the Intombi camp for women and children during the siege of Ladysmith.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. N. Nejoloff, Professor of Obstetrics and Gynaecology in the Medical Faculty of Warsaw; Dr. Adam Szulislawski, Extraordinary Professor of Ophthalmology in the Medical Faculty of Lemberg; Dr. Walter Wyman, Surgeon-General of the Public Health and Marine Hospital Service, aged 63; and Dr. Bernhard Fränkel, the distinguished laryngologist of Berlin, aged 74.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

REGULATIONS FOR THE ENTRY OF SURGEONS FOR TEMPORARY SERVICE IN THE MEDICAL DEPARTMENT OF THE ROYAL NAVY.

THE following Regulations have just been issued by the Board of Admiralty:

Surgeons who may be temporarily employed in the Royal Navy in time of war or emergency to meet the requirements of the service will be appointed under the following regulations:

Qualifications.

To be registered under the Medical Act as qualified to practise medicine and surgery in Great Britain and Ireland.

To produce certificates of good character.

To be reported physically fit after medical examination.

Age not to exceed 40 years.

Pay and Allowances.

Full Pay.		Half Pay.	
A Day.	A Year.	A Day.	A Year.
22s. 0d.	£401 10s. 0d.	10s. 0d.	£182 10s. 0d.

NOTE.—Half pay is for sickness and extra leave only.

To be granted thirty days' advance of pay on joining a ship after appointment.

To receive the same allowances as are payable to permanent offices of their rank.

Lodging money at the rate of £50 a year is usually allowed when employed on shore without quarters in the United Kingdom, and £24 a year in lieu of rations. In cases, however, of temporary employment on shore, the lodging and provision allowances will be at the rate of 3s. 6d. and 1s. 6d. per day respectively.

If quarters are provided in a medical establishment, an allowance is granted in lieu of provisions, for self and servant, and for fuel and lights at the rate of £39 a year in the United Kingdom, and £108 a year abroad.

Uniform.

Each surgeon to provide himself as follows

1. Frock coat, waistcoat, and trousers.
2. Undress coat.
3. Uniform cap.
4. Mess jacket and waistcoat.
5. Sword and undress belt.

All as specified in the uniform regulations.

To cover the above each officer accepted for service will receive an equipment allowance of £20, payable on the officer being called up for active service.

The following instruments must be provided by the surgeon.

A pocket case of instruments.
A stethoscope.
Three clinical thermometers.

Messing.

Surgeons will be allowed, when attached to ships in commission, the ordinary ship's rations; but will have to pay about 2s. a day towards the maintenance of their mess as ward-room officers.

*Pensions for Wounds and to Widows, etc.**

In the event of surgeons engaged for temporary service being wounded in His Majesty's service, gratuities or pensions varying in amount according to the injuries sustained, will be granted, on the basis of the awards in similar cases of naval officers.

Should temporary service surgeons be killed in action, die within two years of wounds received in action, or meet their deaths by acts of the enemy the following pensions and allowances will be granted to their widows, children, etc.

	Widows.		Children up to the Age of 18 for Boys, and 21 for Girls.		Widowed Mothers Dependent on their Sons, if the Latter left no Widows or Children.	Orphan Sisters Dependent on their Brothers, if the Latter left no Mothers, Widows, or Children.
	Killed in Action.	Drowned, etc., by Acts of the Enemy.	Killed in Action.	Drowned, etc., by Acts of the Enemy.	Killed or Drowned, or Suffered Violent Death by Acts of the Enemy.	Killed or Drowned, or Suffered Violent Death by Acts of the Enemy.
	£	£	£	£	£	£
Surgeon..	80	65	12 to 16	10 to 14	50	50

In addition to the foregoing pensions, the widows and children of officers killed in action will be granted the following gratuities:

Widows—One year's pay of husbands' corresponding rank in the Royal Navy.

Each unmarried child, under the age of 21, one-third of the gratuity paid to the widow.

These pensions and gratuities can be given only in cases of injury or death caused by acts of the enemy, and not on account of injury, disability, or death which may result from carrying on the ordinary duties of the service.

Conditions of Service.

To engage for six months certain, but the liability to serve will be limited to five years.

To serve when and where required from the date of signing the declaration.†

To be liable to immediate discharge for misconduct or incompetency.

To rank with, but after, surgeons in the permanent service.

To be under the general rules of the service as regards discipline, etc.

To receive two calendar months' notice of services being no longer required.

To be granted a gratuity of two calendar months' pay on discharge, if not discharged for misconduct or incompetency.

Voluntary resignation of appointment will be allowed subject to the convenience of the service, but the gratuity of two calendar months' pay on discharge will be thereby forfeited.

The following form of Declaration and of Schedule of Qualifications will be required from candidates:

DECLARATION.‡

Christian and Surname at full length. I.....

.....

a Candidate for temporary service as a Surgeon in the Royal Navy, do hereby engage for general service, and attest my readiness to proceed on duty abroad whenever required to do so, upon the terms specified in these regulations.

I DECLARE—1st. That I am ..... years of age, and that I was born on.....18....., at.....

2nd. That I am§.....

.....

3rd. That I labour under no mental constitutional disease or weakness, nor any other imperfection or disability which can interfere with the most efficient discharge of the duties of a Medical Officer in any climate.

4th. That I am registered under the Medical Act in force as duly qualified professionally, and that I hold the following Diplomas, etc., in Medicine and Surgery:

.....,

.....,

.....

Signature.....

Date.....

N.B.—A mis-statement by a canditate will invalidate any subsequent appointment, and cause forfeiture of all privileges for services rendered.

Medical School .....

Present Address .....

†*Permanent Address of Parents or near Relative* .....

NOTE.—The certificates of birth (*not of baptism*) or declaration thereof made before a magistrate, of medical registration, and of character (*up to date*) must accompany this declaration.

* Unmarried candidates will be preferred.

† It should be distinctly understood that candidates entering their names are not liable in any way to serve until they have signed the declaration, which they will only be called on to do when their services are required. The entering of names is simply for the convenience of communicating with candidates quickly.

‡ See previous footnote.

§ Here insert of "pure European descent and the son either—(*a*) of natural-born British subjects; or (*b*) of parents naturalized in the United Kingdom."

NOTE.—If any doubt should arise upon this question the burden of clear proof that he is qualified must rest upon the candidate himself.

* Any change of address to be notified to the Director-General Medical Department of the Navy, Admiralty, London.

† This address is required for communications during an officer's absence from England, when on service.

TERRITORIAL FORCE.

Consolidated Allowances.

AUTHORITY has at last been granted by the War Office for the staff officer to the A.M.O. of a Territorial Division to receive during the annual training in camp a mess allowance of 4s. and half lodging allowance (2s. a day), thus placing them on the same footing as the combatant.

It is hoped before long that the A.M.O. will receive the same consolidated allowance—namely, £150 a year—as that now given to brigade commanders. Up to the present the A.M.O. receives neither pay nor allowance except during camp training, and has to pay out of his own pocket the expense of the journeys to and from his office. We understand that in London and other large centres the officers' attendance at their offices averages three days a week.

Over a year ago the Territorial Forces Committee of the British Medical Association adopted the following resolution:

(*b*) *Pay and Allowances of A.M.O. and his Staff Officer.*

That in the opinion of the Association the A.M.O. and staff officer should receive the same pay and allowances as the other staff officers of similar rank under Paragraph of the Territorial Regulations.

Representations were accordingly made to the War Office by the Council of the British Medical Association. The answer reported to the meeting of the Committee on December 2nd, 1910, was in the following unsatisfactory terms:

In reply I am to inform you that the Army Council regret that as at present advised they are unable to comply with the suggestion your Council make in regard to the emoluments of Administrative Medical Officers and Staff Officers to Administrative Medical Officers in the Territorial Force.

GLASGOW TERRITORIAL FORCE ASSOCIATION.

LIEUTENANT-COLONEL A. DRYDEN MOFFAT, M.D., commanding the Second Lowland Field Ambulance, has been appointed military member of the Glasgow Territorial Force Association, in succession to Lieutenant-Colonel W. F. Somerville, resigned.

FIRST SOUTHERN GENERAL HOSPITAL, R.A.M.C.

THE third annual supper of the First Southern General Hospital was held at the White Horse Hotel, Birmingham, on December 16th, and was well attended by the officers, *à la* officers, and the N.C.O.'s and men of the unit. Lieutenant-Colonel Jordan Lloyd presided, and among the guests were Colonel Whitcombe, T.D., Colonel Ludlow, C.B., Lieutenant-Colonel Barnsley, V.D., Lieutenant-Colonel L... and Lieutenant-Colonel Howkins. The prizes were distributed by Colonel Whitecombe. The unit is now up to full strength and the mobilization scheme of the hospital is complete in every detail.

Public Health
AND
POOR LAW MEDICAL SERVICES.

THE CENSUS.

BEFORE the parliamentary session closed it was stated on behalf of the Local Government Board that the revised population figures, distinguishing the separate civil parishes for the whole country, would be published in two volumes, showing respectively the constituent parishes of each administrative area, and of each Poor Law and registration area. It was hoped that the volumes would be issued about the middle of next year.

The following table was also supplied, showing estimates of the numbers living at the single ages, 21 and 25 years, for England and Wales as a whole and separately. As the age constitution of the population at the recent Census was not yet known, it had been assumed that the age constitution of the population in 1901 still prevailed. Previous to 1901 the age constitution of the population had been changing in the direction of greater mean age, and there was no evidence that this change had ceased. In view of this fact, and of the recent decline in the birth-rate, it was quite possible that the results of the recent Census, when they became known, would differ materially from the estimates shown in the table. Similar figures for Scotland and Ireland could not be given.

Estimated Age and Sex Populations at Census, 1911.

(Based upon Unrevised Sex Populations as enumerated in 1911 combined with Age Proportions as in 1901.)

	Males.	Females.
England and Wales—		
Aged 21–22 years	341,000	356,000
Aged 25–26 years	318,000	343,000
England (including Monmouthshire)—		
Aged 21 and upwards	8,931,000	10,036,000
Aged 25 and upwards	7,708,000	8,652,000
Wales (excluding Monmouthshire)—		
Aged 21 and upwards	557,000	550,000
Aged 25 and upwards	482,000	475,000

The figures at these ages cannot be given for England and Wales separately.

Medical News.

DR. BERNARD HUDSON has been appointed His Majesty's Consul at Davos in succession to the late Dr. W. R. Haggard.

THE Royal Dental Hospital, Leicester Square, has received a donation of £200 from the Goldsmiths' Company.

THE library of the Royal Society of Medicine will be closed from Saturday, December 23rd, to Wednesday, December 27th, both days inclusive.

REUTER'S telegram states that Dr. Kinghorn, who is at present in North-Western Rhodesia, has transmitted the *trypanosoma rhodesiense* by means of *Glossina morsitans*.

THE following are among the newly-elected Fellows of the Royal Sanitary Institute: Fleet Surgeon W. E. Home, Dr. Victor Horsley, F.R.S., Dr. John Wright Mason, Dr. H. Hull, Dr. E. Moody Smith, M.O.H. York, Dr. J. A. Valintine, Chief Health Officer, Wellington, N.Z., and Dr. W. H. Willcox.

A JAPANESE-CHINESE School of Medicine has recently been opened at Mukden. It has accommodation for one hundred students. The education given is free, and the teachers consist of sixteen Japanese and Chinese doctors.

IT is understood that a bequest made a good many years ago by Mr. Robert Irvine is about to take effect, and that a sum of £30,000 will shortly be available for the purpose of endowing a Professorship of Bacteriology in the University of Edinburgh.

THE Anchor Line has arranged for two of its steamers to sail from Liverpool to Gibraltar, Egypt, and India, one of them, the *Castania*, starting on January 2nd; and the other, the *Elysia*, starting on January 22nd. These vessels, from their size, are well equipped, and the fares are moderate.

THE Friday evening discourses at the Royal Institution of Great Britain will be resumed on January 19th, when Professor Sir James Dewar will speak on "heat problems." On February 2nd Dr. James Mackenzie Davidson will give an address on the vital effects of radium and other rays: and on March 15th Mr. Frederick Soddy, F.R.S., will speak on the origin of radium.

A PAMPHLET issued by the Cunard Steamship Company describes in detail some very attractive Mediterranean cruises that have been arranged for Americans and English people. The two seemingly best suited to the needs of the latter leave Liverpool on February 10th and 21st respectively, the boats employed being the *Carpathia* and the *Saxonia*. Each ship will visit all the larger seaport towns on the Mediterranean shore, and any passenger specially attracted by any one of them can apparently remain behind and complete the voyage by one of the ships of the latter series of cruises.

THE National Association for the Prevention of Consumption has established a bureau for the collection of information relating to pulmonary tuberculosis from every point of view in all countries, and is engaged in forming a library. It appeals to medical officers of health, school medical officers, and to medical superintendents or secretaries of hospitals, sanatoriums, tuberculosis dispensaries, and open-air schools to send regularly copies of reports or other documents bearing on consumption; books, pamphlets, and reprints from physicians and social workers in general will also be gladly received by the Honorary Secretary at 20, Hanover Square, London, W. It is intended that the information obtained by the bureau shall be made available not only to members of the medical profession, but to the public at large.

THE current issue of *Nursing Notes* contains an interesting account of the Incorporated Society of Trained Masseuses, the policy of which seems to have developed—though on previously existing lines—since last we had occasion to study its regulations. It is continuing to hold the examinations for men belonging to the Royal Army Medical Corps, which it instituted at the suggestion of the War Office a few years ago, and is now also granting certificates for proficiency in Swedish exercises. The candidates, however, in addition to being already holders of the massage certificate of the society, must afford proof of due training in the subject at an approved school, and obtain not less than 50 per cent. of the maximum marks at an examination in Swedish exercises, and also in anatomy, physiology, and the theory of movement and its remedial employment. In regard to training, it is stated that the council, being the only public body which examines and grants certificates in massage and remedial exercises, considers itself bound to maintain a catholic attitude towards all schools and teachers. The examiners are drawn from different schools, and candidates sent up by any school or teacher are admitted to examination provided they fulfil the general conditions relating to it and produce evidence that a satisfactory amount of instruction has been received by them. In addition, the place of their instruction is withheld from the examiners until the practical examinations have been completed, in order to ensure that efficient massage of every type shall receive due recognition. With the object of maintaining an independent and broad-minded attitude towards all teachers alike, the council consistently refuses to appoint "official" trainers, or to "recognize" the work of any trainer or school as embodying its ideals of massage. For the convenience of candidates, however, who apply to the society for assistance in obtaining the instruction they require, the council publishes a short list of teachers whom it knows to be persons of long experience, and with whose skill in affording instruction it is acquainted by the results of examinations. An increasing number of schools and private teachers, it appears, are approaching the society when beginning courses of instruction and submitting their proposed syllabus of work to approval, and this fact the council regards as satisfactory evidence that its attitude towards teachers is becoming generally understood. Holders of the certificate of the society are liable to have their certificates cancelled if found guilty of unprofessional conduct—such conduct, we gather, being primarily constituted by any breach of the agreement which every candidate has to sign before admission to the examination. This is to the effect that, if granted the certificate, she will undertake the massage of no patient unless the case remains under the charge of a registered medical practitioner, and that when such case is a male above the age of childhood she will act in accordance with the special rules of the society relating to such patients; she also promises that she will not advertise in any way whatever, except through the medium of a recognized medical paper, and that she will not sell goods to any person in her capacity as a masseuse.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

METHODIST writes: Can any reader tell me of any book treating of the diseases of the Old Testament in the light of the present day? And where I could borrow a book on the subject.

PASTOR asks for advice in the treatment to adopt in a case of a man, aged 54, who is quite unable to digest even the most minute quantity of starch. He is well in every other way. Can he be kept on a non-starch diet indefinitely without a bad result?

FACTITIOUS URTICARIA.

W. F. B. asks for suggestions in the treatment of chronic urticaria in a young lady, aged 20, which has occurred since she began to menstruate. The slightest pressure on the skin anywhere—such as drying the face with a towel, pressure from a hat, etc.—causes the skin to rise up in patches corresponding to the part touched. At first the patches are red and then become white. This condition lasts for about ten minutes. Any name or diagram can be drawn on the body by simply using moderate pressure with the finger. Arsenic has been tried without success.

ANOTHER correspondent asks for advice in another case of urticaria in a young woman, aged 20, who suffers from frequent transitory generalized itching urticaria, commencing on the face, or on the hands if immersed in washing soda solutions; she has slight frontal headaches, but is not neurotic; the throat, digestion, and menstruation are normal.

SCOPOLAMINE AND MORPHINE IN LABOUR.

MR. A. E. HODDER, M.B., B.C.Cantab. (Stafford) writes: I was called early one morning recently to a two-para whose confinement I was expecting, and found her in apparently normal labour with membranes intact and the os uteri rather smaller than a crown piece. I gave a subcutaneous injection of scopolamine $\frac{1}{150}$ grain c. morphine $\frac{1}{6}$ grain, and said I should return in two hours. I had not been home more than five minutes—the patient lives less than a quarter of a mile from my house—when a messenger arrived asking me to return at once, as the nurse thought the baby was being born. I went off at once on a bicycle, and arrived to find the whole uterine contents in the bed and the child dead. The nurse told me that I had hardly left the house when the patient had a couple of strong pains, and child and placenta were expelled together; the child had made no attempt at breathing, in spite of the usual stimulation having been applied. The patient was quite lively and the uterus well retracted, and there was no excessive bleeding. I shall be glad if any members who have large experience of the use of scopolamine and morphine in labour will give their views as to whether the injection I gave was responsible for the stillbirth of the infant less than a quarter of an hour afterwards. It seems a little difficult to believe that it was, but, as the mother says she felt the child moving the day before labour began, the only other explanation seems to be that there was a large separation of placenta very early in the labour, which had been in progress about five hours when I first saw her. The expulsion of the placenta with the child would seem to favour this view. The mother exhibited no symptoms of sleepiness or anaesthesia during the day after the injection, and this agrees with my small previous experience of the drugs in question, in which I have not been able to satisfy myself that they produce any of the anaesthetic effects ascribed to them by many who have written on the subject, with the literature of which I have some acquaintance.

ANSWERS.

RETIRED MEMBER.—Mr. Gilbert Barling has been good enough to inform us that Hodenpyl's work on the serum treatment of cancer, to which he called attention in his Address in Surgery at the Annual Meeting of the British Medical Association last year, was published as a preliminary communication in the *New York Medical Record*, 1910, vol. lxxvii, p. 359.

GUMMA OF THE TONGUE.

DR. DOUGLAS FRESHWATER (London) writes: In reply to "Idiosyncrasy" *re* gumma of the tongue, I should advise him to try intramuscular injections of iodipin; I have never known it to produce iodism. I would refer him to an article by me in the BRITISH MEDICAL JOURNAL on May 22nd, 1909. Iodipin can also be given by the mouth if preferred. He will not get a permanent effect without the use of mercury or salvarsan.

DR. A. CLARKE BEGG (Swansea) writes: I would most strongly suggest that the patient should be treated with salvarsan by intravenous injection, unless, of course, there is any contraindication in the way of cardiac or renal disease, etc. Quite recently I have treated two somewhat similar cases in this way with the happiest results, the lesions completely healing up in the course of a few weeks. The depression, which is often such a marked feature in these cases, passes off a few days after the injection.

ATONIC DILATATION OF THE STOMACH.

ONE of the latest books published in English which deals with this subject is *Diseases of the Stomach*, by S. H. Habershon, M.D., F.R.C.P. (London: Cassell and Co., Limited. 1909. 9s.) A somewhat older book is Professor Saundby's *Treatment of Diseases of the Digestive System* (London: Charles Griffin and Co. 1906. 3s. 6d.).

THE OATMEAL TREATMENT OF DIABETES.

NORTH.—The oatmeal treatment of diabetes was introduced by Professor von Noorden of Vienna some time ago. In his own words, "The oatmeal cure consists in the daily administration of 200 to 250 grams (about 6½ to 8½ oz. of oatmeal), best given in the form of gruel every two hours, 200 to 300 grams (6½ to 10 oz.) of butter, and often about 100 grams (3½ oz.) of vegetable proteid or a few eggs may be taken in addition; otherwise nothing else is allowed except black coffee or tea, good old wine, or a little brandy or whisky." After three or four days of this diet, one or two vegetable days follow, and then the patient reverts to his restricted diabetic diet. The quotation is from Professor von Noorden's book on *Diabetes Mellitus*, published by John Wright and Co., Bristol, 1906.

NAIL BITING.

MR. BERNARD ROTH (London, W.) writes: "M.C.W.'s" suggestion that the offender should be given "a nice pair of nail-scissors, to be constantly used," is a good suggestion, but he omits one very important element in effecting a cure. It will be almost invariably noted that in all confirmed nail-biters the skin at the root of the nail has become attached and drawn forward with the growing nail. This is the exciting cause of the habit. Let the patient be advised to push this back. At times even considerable force is required to detach and replace this strained skin, which frequently covers as much as one-half the surface of a badly bitten nail.

LIP READING.

AURICLE.—(1) A good many books on lip reading have been published; one of the best is *Practical Lip Reading*, by Miss E. F. Boultbee (Upcott Gill, Bazaar Buildings, Drury Lane). Another is *Speech Reading*, by A. J. Story (Yellon, William and Co., 43, Chancery Lane). (2) A saucer-shaped sound collector, made by Messrs. Hawksley, 357, Oxford Street, suits many people, and, being portable, is worth examination. The choice of an instrument depends entirely on the peculiarities of the hearing of the individual who is to use it, and however close may be the apparent resemblance between two cases, no one can be sure that the same instrument will suit both equally well.

LETTERS, NOTES, ETC.

A WARNING.

DR. G. P. BARFF (Ty Croes, Anglesey) writes under date December 12th: A man called to see me one evening last week, and was left in the drawing-room for a couple of minutes. He stated that he was desirous of obtaining a post as dispenser. After his departure a purse containing over £1 was missing. The man in question was about 35, and was well dressed; his nose was somewhat red, and he had a heavy dark moustache. He was traced by the police to Holyhead. I write this to warn medical men in the North to be on their guard.

DR. A. OGIER WARD (37, Onslow Square, S.W.) writes: On December 2nd a man called with a note addressed to me. It purported to be written by himself, and stated that he had been referred to me by a priest from the Brompton Oratory for an order for a skin hospital. While the maid was bringing me the note the man stowed away an umbrella of mine in his trousers and walked crab-fashion down the front steps, bowing and apologizing. He has visited two other houses, to my knowledge. Members are asked to call up the nearest police station if this man pays them a visit. He is of medium height, about 30 to 35, spotty face, and I believe has a moustache.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address

ON

HE VARIETIES OF COLITIS AND THEIR DIAGNOSIS BY SIGMOIDOSCOPIC EXAMINATION.

BY

P. LOCKHART MUMMERY, F.R.C.S.,

ENIOR ASSISTANT SURGEON ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM; SURGEON QUEEN'S HOSPITAL FOR CHILDREN.

OLITIS is at the present time a name which is very loosely ed to describe a number of quite distinct conditions.

Ulcerative colitis is a very distinct and definite disease, aracterized by severe and intractable diarrhoea, profuse emorrhage, high temperature, and which seriously reatens life.

Follicular colitis appears to be a complication of other seases, such as cancer and stricture of the colon.

Tuberculous colitis is generally a late complication of thisis.

Pericolitis, which causes a tight tubular stricture in ne part of the colon, results from a slow fibrous change the bowel wall.

There are also a number of specific types, peculiar to pical climates.

Chronic Muco-membranous Colitis.

n addition to these specific forms of colitis, we have better known and commoner condition usually in this ntry called "chronic muco-membranous colitis." The ef symptoms are an excess of mucus in the stools, ompanied by abdominal pain, usually of a paroxysmal e and associated with chronic constipation. Up to a years ago, little was known as to its pathology, and it s studied almost entirely from the clinical aspect. ring the last few years, however, we have been able to prove our knowledge of the causes and pathology, tly by a systematic examination of the colon by means the sigmoidoscope, in all cases presenting themselves treatment, and partly by the knowledge gained during performance of operations for the relief of the ptoms.

have during the last few years seen a large number of se cases, and had numerous opportunities of studying causes at work, both by a routine sigmoidoscopic mination and during operations. As a result, I have led inevitably to the conclusion that chronic muco-nbranous colitis is not, as usually described, a clinical ty, but, on the other hand, is a collection of symptoms ch, owing to want of better knowledge as to the nology and physiology of the colon, have been placed ther and labelled as a disease; whereas, in fact, these ptoms may result from a large number of entirely inct pathological lesions.

hus, I have seen cases in which all the characteristic ptoms of chronic muco-membranous colitis were found, careful investigation to be due to one or other of the wing causes:

1. Kinking and partial obstruction of the colon from adhesions or pericolitis.
2. Dilatation of the colon and visceroptosis.
3. Chronic appendicitis.
4. Inflammation or displacement of the uterus or appendages.
5. Previous operations upon the abdomen resulting in adhesions.
6. Cancer of the colon.
7. Fibrous stricture of the colon.
8. Aneurysm of the abdominal aorta.
9. Floating kidney.

ny of these conditions are only an indirect cause of ymptoms in that, by causing accumulation of faecal rial in the colon, they set up pain and excessive mucus tion.

addition to these cases where a mechanical cause for ymptoms can be found, there are a certain proportion ich I have found in my experience to be about 45 per cent.—in which there is a definite chronic inflammatory condition of the mucosa of the colon. These are the only true cases of chronic colitis, in that they are the only cases in which a definite inflammatory condition exists.

It is possible to distinguish three distinct types of inflammation of the mucosa.

In the *hypertrophic form* the mucous membrane appears swollen, due to submucous oedema, and of a paler colour than normal, with much sticky mucus.

One of the commonest forms is the *granular variety*, in which there is a markedly granular appearance of the whole visible mucosa, accompanied by considerable inflammation, giving the whole a dusky red colour.

There is a third well-marked variety in which the visible mucosa looks as if it had been sandpapered; the normal glistening appearance has gone and the surface epithelium has apparently been removed, leaving a bright red surface, while here and there patches of yellow membrane can be seen adhering to the surface. The appearance of the mucous membrane in many of these cases of true chronic colitis bears a close and remarkable resemblance to the inflammatory conditions of the throat.

It is, I think, obvious that in dealing with a condition having such a variety of causes and pathology the first essential of treatment and the most important factor is to make a correct diagnosis as to the nature and causation of the symptoms, and that a large percentage of failures must result if we simply class all such cases as colitis and proceed to treat them as such. Such conditions as adhesions, floating kidney, and chronic appendicitis cannot be expected to get well as the result of lavage or the administration of intestinal antiseptics and aperients. So that the all-important factor is the diagnosis.

The diagnosis in many of these cases is very difficult, but much can be done by careful investigation of the stools, examination of the abdomen, and, more especially, by a systematic sigmoidoscopic examination of the pelvic colon. The last-named method of investigation should never be omitted in these cases. With this instrument we can distinguish the different forms of true inflammatory colitis with certainty, and very frequently obtain valuable information in the cases where symptoms are due to some mechanical cause.

In cases of ulcerative colitis a sigmoidoscopic examination affords the only means we have of distinguishing this condition from cancer or villous tumour of the rectum, or from multiple papilloma of the rectum—conditions which exactly simulate ulcerative colitis in symptomology.

The following cases well illustrate the value of a routine sigmoidoscopic examination in all cases:

CASE I.—A. B., a man aged 34, was sent to me for an opinion with a history that for eight months he had been suffering from chronic muco-membranous colitis. The stools had during that period contained large quantities of mucus and membrane, and there had been chronic abdominal pain of a slight character. No diarrhoea or bleeding. During six months he had been under treatment for colitis, but without benefit. On examination with the sigmoidoscope I discovered a malignant growth high up in the sigmoid flexure. This was subsequently resected, and the patient made a good recovery.

CASE II.—Mrs. X, a lady aged 35, had for twelve years been a chronic invalid, with symptoms of chronic muco-membranous colitis. During that time she had been more or less completely incapacitated with frequent very severe attacks of abdominal pain, which necessitated her staying in bed. A sigmoidoscopic examination showed the pelvic colon to be unduly fixed, and the presence of a kink due to adhesions was diagnosed. I operated upon her, and found several tough adhesions kinking the pelvic colon and obstructing it. These were divided, and she made an excellent recovery and had no further symptoms of colitis.

CASE III.—Mrs. M., aged 34, had for many years been an almost complete invalid from what was thought to be chronic muco-membranous colitis. On examination I found a markedly retroverted uterus pressing upon the rectum, and adhesions involving the pelvic loop. I divided the adhesions and performed ventrifixation of the uterus with complete success, the symptoms entirely disappearing.

CASE IV.—Last year I was called to see a lady who had symptoms of ulcerative colitis. On making a sigmoidoscopic examination I found the entire colon, as far as could be seen, full of polypi; and one of these had already undergone carcinomatous change.

I might easily relate a number of similar cases, but these are sufficient to illustrate the importance of a routine sigmoidoscopic examination. The examination can easily be made without an anaesthetic, as it does not cause pain, when a certain amount of dexterity in passing the instru-

ment has been acquired. In difficult cases, however, I prefer an anaesthetic, as the examination can be more deliberately carried out, and it also affords better facility for palpation of the abdomen. The one important factor for a successful examination, however, is to ensure the pelvic colon being empty at the time.

Recently one or two letters have appeared in the medical papers, in which it has been stated that there is danger in using the instrument, and that accidents may result. There is not, however, the least foundation for any alarm on this account. Naturally the instrument is not safe in inexperienced or incompetent hands any more than the majority of other special instruments, and it takes some time to learn to use it properly. Accidents have resulted from its use, but, so far as my knowledge goes—and I have, as far as was possible, investigated all the cases that have come to my knowledge—always as the result of an entirely illegitimate use of the instrument. I have personally never seen the slightest harm result from its use, and I have on numerous occasions used the instrument in cases in which the bowel was seriously ulcerated, and also in cases where an anastomosis, or other operation, had recently been performed upon the pelvic colon, for the purpose of investigating the line of union. Although the instrument is constantly being used at St. Mark's Hospital, we have no records of any injury caused by it.

In addition to the commoner forms of colitis already mentioned, there are several other varieties which are occasionally met with, and which it is important to be able to distinguish. A rare but important form is haemorrhagic colitis. This is a variety of ulcerative colitis in which the whole mucosa of the colon becomes soft and spongy, and remarkably haemorrhagic in appearance. It results in profuse bleeding and severe diarrhoea. There is also severe toxaemia, with high temperature. Most of the cases I have seen have been due to a primary infection of the colon with the *Diplococcus pneumoniae*, large numbers of these organisms being present in the stools in almost pure culture. The condition somewhat closely resembles enteric fever in symptomatology, but can be distinguished from it by the fact that blood is present in the stools from the first. The disease is very dangerous, but I have had excellent results from appendicostomy.

There is a form of ulcerative colitis sometimes seen in this country which is often described as chronic dysentery. The patient has usually suffered from dysentery while in the tropics, but instead of the diarrhoea stopping after the disease has run its course, it has persisted intermittently—often for several years. At the time when we see such cases over here they are indistinguishable from those of chronic ulcerative colitis, indigenous to this country, and require the same treatment. No specific parasite or micro-organism is to be found, and they do not react to the ordinary antidysenteric treatment, unless amoebae can be found in the stools, which is seldom the case. I have performed appendicostomy in several such cases with most gratifying results.

Another rare form of colitis is that due to infection by the bilharzia parasite. This parasite finds a lodging in the walls of the colon, and sets up a very severe and intractable colitis. Such cases are very uncommonly met with here, but are fairly common, I believe, in Egypt.

Most of the interest in colitis in this country centres round the cases of chronic muco-membranous colitis; and, in closing my remarks, I should like again to insist on the importance of not considering this condition as a disease but as a symptom, and in the routine examination of all cases by the sigmoidoscope as a preliminary to treatment.

AN exhibition illustrating the materials and methods of construction of economical forms of sanatoriums, schools, hospitals, and other temporary buildings, will be held in the museum of the Royal Sanitary Institute, Buckingham Palace Road, during January. The exhibition will be open free daily, from 9.30 a.m. to 5.30 p.m., and on Mondays till 8 p.m. The following lectures will be given: On January 15th, at 7.30 p.m., Professor Kenwood, on fresh air; on January 19th, at 4 p.m., Dr. T. D. Lister, on problems of after-care of sanatorium patients; on January 24th, at 4 p.m., Dr. M. Paterson, on employment of patients in sanatoriums; and at 4.30 p.m. on the same day, Dr. D. J. Williamson, on antituberculosis dispensaries; and on January 26th, Professor Ralph P. Williams, on open-air schools.

VICIOUS CIRCLES ASSOCIATED WITH DISEASES OF THE SKIN.*

BY

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THE presence of a vicious circle frequently baffles th dermatologist in his efforts to cure disease, for the recipr cally acting morbid processes aid and abet each othe prolong and aggravate the disorder, and tax the resourc of the medical armamentarium to the utmost. No wonde therefore, that such strong epithets as "eternal," "endless "highly pernicious," "incurable," "of fatal import," ha been applied by various writers to so vexatious a comp cation.

In this inquiry the following classification of circl associated with diseases of the skin will be convenien although it cannot always be logically adhered to:

1. Circles associated with inflammatory disorders.
2. Circles associated with parasitic disorders.
3. Circles associated with neuroses.
4. Circles associated with the appendages of the skin hair, nails, sweat and sebaceous glands.

I. CIRCLES ASSOCIATED WITH INFLAMMATORY DISORDERS

Eczema.

Numerous circles will be met with in the study of common a dermatitis as eczema, which may serve as type of pruriginous disorders. The itching and associat scratching aggravate and may indefinitely prolong t lesion that produced them. Thus McCall Anderso speaking of acute eczema, says:

> Scratching always aggravates the disease and tends to bri out fresh crops of eruption. . . . Often, in mild cases, wh there is not much infiltration, the disease is kept up by scratching alone.[1]

Similar correlations occur in chronic eczema, as Kap points out:

> The attendant itching is usually very severe and indu violent scratching. This acts as a cutaneous irritant and n excite a fresh eczema.[2]

Kaposi has also called attention to the "endless *circu vitiosus*" associated with varicose veins of the leg. Th veins give rise to itching and scratching, as a result which papules, excoriations, haemorrhages and crusts produced. The resulting inflammation and itching lea deeper excoriations and increased inflammation. Kap thus describes the process:

> Such a condition of the skin predisposes in a high deg *per se*, to renewed attacks of inflammation on the sligh provocation; and, since the inflammation again tends maintain and increase the ulceration, we have here an end *circulus vitiosus*.[3]

Varicose ulcers may, as Unna points out, also be co plicated by that "incurable *circulus vitiosus*" whic established when chronic oedema of the skin has cau a disappearance of elastin.

> Owing to the loss of elastin, the oedematous skin gradu loses more and more elasticity; that is, the spontaneous ela recoil of the collagenous tissue, displaced by pressure or movements of the body, takes place more and more slowly incompletely; the muscles of the skin lose a great part of t action on the skin texture. Thus we have an additional fac favouring the oedematous swelling of the cutis. By the oed directly attacking the elastin it interferes with the most portant factor in the healing of oedema and induces an in able *circulus vitiosus*, which terminates in complete los resistance of the skin, rupture of the epidermis, and lymp rhoea externa.[4]

This circle is especially obstinate in what Unna "callous eczema" with thick and indurated edges:

> This variety of eczema is always complicated by a *cir vitiosus*. The eczema itches; the itching leads to scratch the scratching produces and perpetuates hyperkeratosis, the hyperkeratosis in turn keeps up the itching. By noxious circle very trivial attacks of eczema, such as erythemato-squamous or pityriasiform variety, may be t formed into hard callous eczema, which lasts for the re life.[5]

Somewhat similar correlations may complicate forms of chronic ulceration, as, for instance, that met in the vulva.

* A paper read before the Reading Pathological Society.

As the inflammatory products from the ulcer reach the lymphatic glands a more or less complete blockage (Ausschaltung) of the gland may result (the functional activity has probably been already affected by sclerosis). The associated lymph stasis will, in its turn, favour hyperplasia of the tissues, while it delays or even prevents the healing of the ulcerating surfaces. In this way a kind of *circulus vitiosus* may be established.[6]

Esthiomène is complicated in much the same way:

The ulceration, with or without attacks of acute lymphangitis, with or without lymphatic obstruction, by degrees induces a chronic state of hypertrophic lymphangitis, a true vulvar elephantiasis. This lymphangitis, in its turn, reacts on the ulceration, which it aggravates, perpetuates, and renders almost incurable.[7]

Morbid correlations may also complicate eczema intertrigo, a disorder which sometimes arises when opposing surfaces of the skin remain long in contact and chafe each other.

In these localities the disorder, beginning as an erythema traumaticum, proceeds by its irritative effects to stimulate the secretion of sweat, which is freely poured out between the adjacent folds of skin, and may there temporarily be imprisoned. The surface, heated and reddened, is also somewhat macerated by the effused perspiration, and the latter, when chemically altered, as it is frequently under these circumstances, adds still further to the original disorder.[8]

The crusts that are so frequently present in eczema sometimes serve a useful purpose by protecting the delicate epidermis. At other times they prolong the morbid action by forming a reservoir in which pus collects. This pus in its efforts to escape further erodes the subjacent tissues and prolongs the malady, acting very much like an irritant foreign body.

In some cases the skin that has been attacked by eczema undergoes contraction, and this may establish morbid correlations. For example, eczema of the lower eyelid often leads to eversion of the punctum lachrymale and to constant lacrymation, which in turn perpetuates the original lesion.

When the position of the lid has thus been altered, the tears flow over the cheek, causing eczema, with thickening and excoriation of the skin, so that a vicious circle is set up, which tends always further and further to increase the deformity.[9]

But the circles associated with eczema may extend far beyond the skin and involve other great systems of the body. Both acute and chronic neuroses may be established and in turn lead to increased local disturbance. Thus Duhring, speaking of eczema, writes:

The patient may suffer from constant insomnia, from neurasthenia caused by incessant pruritus, and from great loss of blood. General anaemia follows; the skin, too, is anaemic and unduly sensitive. Under these conditions any gastric disorder, nervous or physical excitement may provoke eczema, while at other times such sources of irritation would do no harm.[10]

Apart from neuroses, many illustrations will be met with of that "vicious circle that arises between the cause and effect of eczema." Thus a primary focus may provoke secondary outbreaks in remote parts of the body.

In this way the whole organism may become "eczematous," and the general health suffers. The condition of the blood is altered, and a vicious circle is established, wherein ill health produces to outbreaks of eczema, and the eczema aggravates ill health.[11]

The digestive system is specially liable to be affected, as Malcolm Morris has pointed out:

The irritation of the skin may . . . set up reflex irritation in the intestine, preventing the proper digestion of food. The irregularity of the bowels reacts in turn on the skin, and thus a vicious circle is established.[12]

Urticaria.—Urticaria is another common disorder which is aggravated by scratching.

The wheals are accompanied by intense itching, which causes the sufferer to scratch himself. This scratching gives rise to a further crop of wheals.[13]

Lichen Ruber.—Lichen ruber planus may be quoted as a typical example of those pruriginous disorders in which severe itching goads the sufferer to scratch himself, and so intensifies the disease.

In the majority of cases itching is present; at times it is severe, and interferes with sleep. . . . The patient scratches himself, and the usual effects of scratching show themselves. The itching is usually more severe the greater the nervous irritability. The scratching leads to an extension of the eruption, and rows of papules will be found along the linear tracks due to the finger-nails.[14]

Clavus.—An inflamed corn or clavus owes its persistence and growth to a different circle. For the more its conical apex (that is, the hard core projecting into the cutis) irritates the papillae and nerve filaments, the more do these (on the subsidence of the pressure) become congested. Hence results increased proliferation of epidermal cells and accelerated growth of the corn.

Iodide Eruptions.—A grievous artificial circle has at times been established when potassium iodide has been prescribed for the cure of various forms of dermatitis, and the remedy has itself provoked fresh eruptions. Increased doses of iodide may then be ordered in ignorance of the real cause of the aggravation, and in the hope of curing the very lesions the drug has produced! There can be no doubt that death has sometimes resulted from such lamentable error.

Thus Thibierge writes:

The various lesions provoked by iodide of potassium are often mistaken for manifestations of syphilis. This error of diagnosis leads to further use of the remedy, or even to increased doses. Hence result a persistence and aggravation of the eruption.[15]

Again, Brocq says:

When the true nature of the eruption is not recognized, and the physician consequently persists in the administration of the iodide, the cutaneous lesions rapidly increase in number and severity, invade the mucous membranes, and become haemorrhagic. Albuminuria, diarrhoea, and marasmus gradually supervene, and the patient may succumb.[16]

The danger is perhaps all the greater from the fact that there is here no such principle as *accoutumance;* one attack of a drug eruption seems to intensify the susceptibility to subsequent attacks.[17]

II. Circles Associated with Parasites.

A.—Animal Parasites.

Oxyurides.—A familiar illustration of reciprocal correlations due to an animal parasite is met with in the case of children suffering from oxyurides. The irritation at the anus and the consequent scratching lead to portions of the helminths or to their eggs being caught under the finger-nails, conveyed to the mouth, and swallowed by the host. Thence the ova pass into the intestines and rapidly attain sexual maturity. In this way the irritation ensures, by autoinfection, successive generations of the parasite. According to Cabot[18] the oxyuris host infects himself anew almost daily, or even every night.

Scabies.—Scabies may also create a circle through the itching and scratching excited by the acari. The parasite may lodge under the finger-nails, and thus be transferred from one part of the body to another. Such transference contributes greatly to the extension of the disorder.[19] Acarophobia is at times complicated by troublesome correlations.

There are some persons who have recovered from scabies, but who in consequence of the attack and of the treatment adopted are still suffering from a more or less extensive eczema. They will not believe themselves cured, and worry their doctor to order them more and more active treatment. This only aggravates the eruption and the itching, so that the poor sufferer cannot escape from the vicious circle in which he is caught.[20]

Pediculosis.—Several circles are associated with pediculi capitis. The crawling and sucking of the parasites cause itching and scratching of the infected area. The finger-nails then produce excoriations and effusions, and thus supply further food material for the lice and accelerate their propagation. The louse itself promotes the same result, for when it has satisfied its appetite and withdrawn its haustellum a drop of blood wells up to the surface, thus supplying further nutriment.

Again, the inflammation and tenderness of the affected skin prevents the proper use of the comb. Hence the diseased spot, and the colony infesting it are left undisturbed, and the lice can multiply unhindered. Moreover the cutaneous secretions readily form crusts and glue the hairs together, thus affording a hiding-place for the increase of the parasites. Especially is this the case in those countries where the plica polonica is still in fashion. No wonder that, in Hebra's words, "the lice swarm as if one had disturbed a nest of ants." Lastly, lice may be conveyed from one part of the body to another by means of the nails much as in the case of scabies.

B.—Vegetable Parasites.

These may be subdivided into:

(*a*) Fungi.
(*b*) Bacterial micro-organisms.

(*a*) *Fungi.*

Ringworm. — Some important circles are established when ringworm invades the hairy or the glabrous regions of the skin. For example, if an endothrix member of the trichophytons insinuates itself between the cuticle cells of the hair, it rapidly proliferates, so that in course of time the shaft becomes stuffed with spores. The hair is thus rendered brittle, and readily breaks off. The detached portion with its spores is then free to spread infection far and wide; in fact the continual breaking off of the hair is the means by which the parasite diffuses the spores. In Malcolm Morris's words, "As the fungus grows the hair breaks, and infected fragments are carried to other parts, there to set up secondary foci of disease." Another circle arises when the itching which so often accompanies ringworm leads to scratching and to the autoinoculation of fresh foci. The parasite may be merely lodged under the nails and transferred to another portion of the scalp. Or the nail itself may be invaded by onychomycosis, which in its turn facilitates the inoculation of fresh areas of scalp. The ordinary combing and cleansing of the hair is a means of diffusing infection, and thus leads to further cleansing. Especially is this the case when the hair is washed, since water is a necessity for the nourishment of the fungus. As Sabouraud says:

> Any attempt to cleanse the diseased scalp disperses the infective agent and creates fresh points of inoculation. In girls, for instance, the linear tracks left by the use of the comb are indicated by rows of diseased hairs.[21]

When the fungus takes root in the non-hairy skin, it causes dissociation of the epidermic cells, and the débris supplies the parasite with the nutriment necessary for its further growth. The irritation also provokes inflammation and exudation, both of which are favourable to rapid increase.

Similar correlations are established in the case of favus and tinea versicolor. Here, too, the fungus may at times provoke inflammatory reactions as shown by discomfort, burning, or itching. The consequent rubbing or scratching may then inoculate the fungus into fresh areas, there to reproduce a similar reaction. Some fungi require a more favourable soil, a greater warmth and more prolonged contact than others, but the principle remains the same.

Otomycosis.—Otomycosis, an occasional cause of otitis externa, represents another type. The inflammatory secretions excited by the fungus supply a nidus for its further nourishment and growth. The result is a perpetuation of the mischief. Indeed, the disease largely depends on the fact that the fungus increases the discharge, and thus facilitates its own growth.

(*b*) *Bacterial Micro-organisms.*

Impetigo.—Impetigo contagiosa or parasitica may be taken as an example. The eruption gives rise to discomfort and itching; the finger-nails rupture the thin roof of the phlyctenae, setting free the serum containing streptococci, which then are readily inoculated into any excoriations the scratching may have caused. Indeed, repeated autoinoculations may cause the disease to persist indefinitely. In the words of Sequeira:

> The eruption itches, and autoinoculation is exceedingly common. By scratching and simple contact fresh spots form with great rapidity, and large areas may be involved.[22]

Similar correlations are associated with ecthyma, furunculosis and sycosis.

III. CIRCLES ASSOCIATED WITH NEUROSES.

All dermatoses are complicated by a more or less important neurotic element. But it will be convenient to group under a separate heading some neuroses where neither inflammatory nor parasitic factors come into play.

Pruritus.

A familiar example is presented by pruritus, a sensory neuroses which may be independent of local irritation or of pathological changes in the skin. Thus Kaposi speaks of persons in whom the fear of pruritus coming on in a theatre, where there would be no opportunity of privacy, sufficed to excite an attack:

> Whether the affection proceeds rapidly or slowly, it alm always culminates in an itching of great intensity. The pati is irresistibly compelled to scratch. . . . In many cases scratching aggravates the pruritus, makes it more inten more persistent, and more extensive, by increasing the ref irritation.[23]

In obstinate cases the itching may culminate in wh Unna[24] calls the "*circulus vitiosus* of scratching and hyp keratosis," a correlation which has been strongly uph by Brocq and Jacquet, although other dermatologi believe that a slight eczema or other lesion may start process. If the scratching has been indulged in for lo a permanent change known as lichenification is apt follow. This again perpetuates the pruritus, as Macl has described:

> When lichenification is established a vicious circle is set for the thickening of the skin irritates the nerve-endings so keeps up the pruritus, whilst the rubbing which is indul in to relieve the pruritus increases the lichenification.[25]

In other cases of long-continued pruritus innervat may be so disturbed as to produce an exaggerated activ of the reflex mechanism of scratching. The habit n persist after all peripheral lesion has disappeared. T condition resembles that occasionally met with in ot muscular mechanisms such as blepharospasm, cou vomiting.

Prurigo.

In prurigo also the neurotic element plays an import part. There has been much dispute as to whether scratching gives rise to the papules or the papules to scratching; but whatever the sequence, a circle is est lished. Thus Sir Jonathan Hutchinson writes:

> Prurigo, from whatever cause it may have begun, tend perpetuate or even to aggravate itself. It causes itching, the itching causes scratching, and the scratching extends prurigo, and thus the patient goes on from bad to worse.[26]

Blushing.

Another circle is associated with blushing—a vaso-mo disorder provoked by emotional disturbance and show itself by dilatation of the blood vessels of the skin. I especially common in nervous, self-conscious women. more self-conscious, the more they blush. The har they try to avoid blushing the worse they suffer.

IV. CIRCLES ASSOCIATED WITH HAIR, NAILS, SEBACEO AND SWEAT GLANDS.

(*a*) *The Hair.*

Several circles involving the hair (pediculosis, ringwo have been already alluded to under parasitic disord and need not be further dealt with.

Trichiasis.—Abnormal arrangement of the eyelas known as trichiasis, may sometimes create correlati owing to secondary keratitis and blepharospasm.

> The corneal inflammation causes great pain with ph phobia and lacrymation, owing to which the patient keeps eyes convulsively closed (blepharospasm), and by so d causes a still greater approximation of the incurved lashe the cornea, and establishes a vicious circle.[27]

Baldness.—According to some writers baldness ma dependent upon reciprocally acting factors. Owing to fashion of keeping the head covered, and of thus depri the hair of sun, air, and nourishment (especially if a h rimmed hat is worn), the hair in the regions most quently covered tends to atrophy and falls out. T Brocq writes:

> Persons who keep their head constantly covered with a h and tightly-fitting hat lose their hair much more rapidly than those who keep their head uncovered.[28]

The result is more or less extensive baldness, whic its turn provokes increased use of the head-gear.

Hirsuties.—Hirsuties may lead to an artificial c owing to the practice of epilation or to the use of pilatories. Neither epilation nor depilatories are of permanent value. They merely make new hair grow luxuriantly than the former crop, owing to the incre local circulation and hypertrophy of the papillae. the hypertrichosis leads to epilation, and this to fu hypertrichosis.

(*b*) *The Nails.*

The nails have more than once been referred to a as sharing in the formation of circles. At times used to relieve pruritus, they become the carrier infection, as in the case of oxyurides or of impetigo thus serve to start the disease afresh.

At other times the nails directly aggravate the pruriginous disorders they are intended to relieve, as in the case of urticaria and eczema.

Onychogryphosis.—But there are other instances in which the nails themselves are diseased. Thus Heller has drawn attention to a circle that is established in onychogryphosis owing to a keratoma in the nail-bed.

This cushion-like growth, caused by the inflammatory irritation in the matrix, raises up the nail-plate and disturbs its natural growth. This raising of the nail also increases the angle between the matrix and the nail-plate, as this latter emerges from the posterior fold. A *circulus vitiosus* is now established, since the space between the plate and the matrix (owing to the plate being obliquely raised) again becomes filled by the horny growth.[29]

Ingrowing Toe-Nail.—Other correlations may be associated with onychia, where inflammation leads to accelerated nail growth, and this, in turn, intensifies the inflammation. An illustration is afforded by ingrowing toe-nail, as Sir Jonathan Hutchinson has pointed out.

As soon as any degree of inflammation has been set up, the conditions aggravate each other; the inflamed nail expands and grows laterally against the raw surface, now unable to tolerate any pressure. No doubt, also, as in onychia maligna, the secretion produced is in itself a source of irritation.[30]

The later stage of the disease is characterized by an enormous development of the sebaceous glands and of the fibrous tissue—changes which reciprocally aggravate one another. The process is similar to that met with in rhinophyma and acne cheloid. Wilfred Fox thus describes it:

The fibrous tissue obstructs further the sebaceous ducts, renders the outflow more difficult, and by stagnation favours additional pustulation, which in its turn produces fresh fibrous tissue, and so a vicious circle is set up.[32]

Seborrhoea.—Facial seborrhoea in neurotic persons may at times establish a circle in the following way:

In some chloranaemic and neurasthenic individuals, men and women, facial seborrhoea appears in the form of oily, sweaty drops upon the nose and forehead, not alone after overheating, but also suddenly, as the result of nervous excitement. This vicious circle may lead to considerable mental depression, inasmuch as the patients devote their entire attention to this condition, imagine themselves scrutinized by every one, and dread intercourse with others.[33]

Large accumulations of fat and epidermis, due to seborrhoea, are sometimes observed in the retracted depression of the umbilicus. In course of time this mass may become rancid and irritating, thus provoking increased

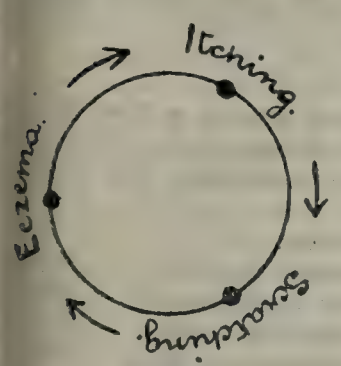

Eczema.

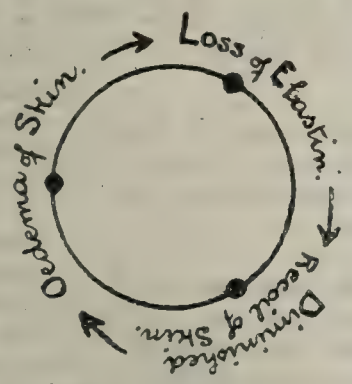

Oedema of skin.

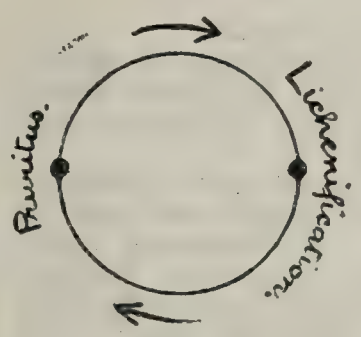

Pruritus.

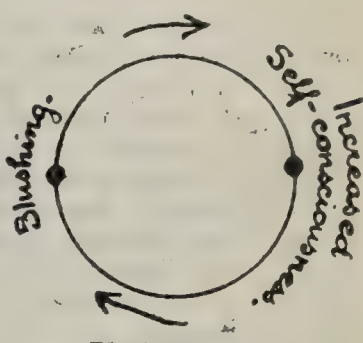

Blushing.

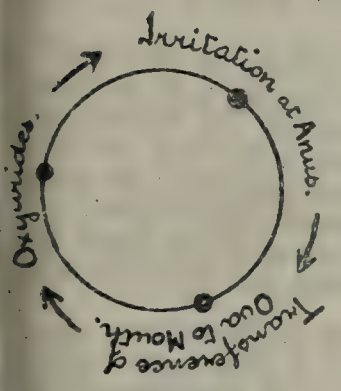

Oxyurides.

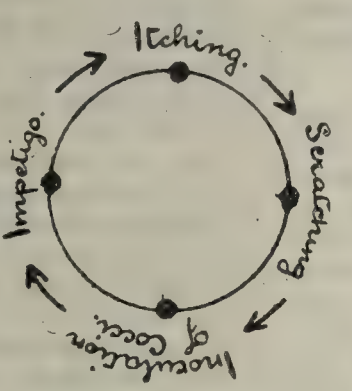

Impetigo contagiosa.

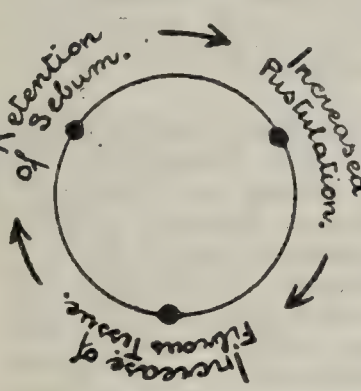

Acne rosacea.

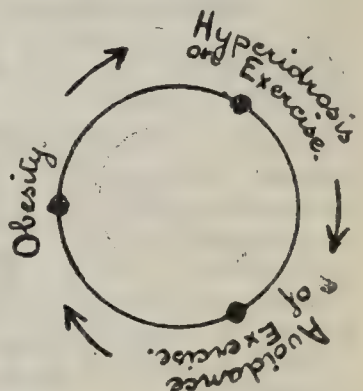

Hyperidrosis.

CIRCLES ASSOCIATED WITH DISEASES OF THE SKIN.

(c) *Sebaceous Glands.*

Sebaceous Cysts.—Many circles depend on obstruction o efferent ducts and the consequent accumulation of etained secretions. For example, hyperkeratosis of the uter third or funnel of a pilo-sebaceous follicle may give ise to a comedo-plug, whose presence acts as an irritant nd promotes further hyperkeratosis. Sebaceous cysts ften arise by a similar process, the accumulation of ebaceous matter causing hyperactivity of the follicular alls and increased accumulation. The same applies to cne vulgaris, where inflammation of the walls of the llicles is probably associated with microbic infection. he increased secretion leads to increased irritation and ice versa.

Acne Rosacea.—Some interesting correlations may be resent in acne rosacea, and account for the chronic ature of the disorder. The disease begins with temporary nt recurrent angio-neurotic flushing of the skin over the ntral portion of the face. In course of time these flushes ve rise to a network of vascular dilatations associated with langiectases and acne-like papules, resulting eventually inflammation of the sebaceous glands. The relations tween the telangiectases and the pustules are thus scribed by Brocq:

A form of vicious circle is established. The inflamed acne ours the afflux of blood to the face, and aggravates the dilatan of the blood vessels; while, on the other hand, the chronic gestion of the skin favours the production of acne and the uration round the base of the pustules.[31]

secretion and accumulation. Seborrhoea genitalium is another example, which arises when, through want of cleanliness, smegma is allowed to collect and decompose. Especially is this likely to happen with a phimotic prepuce. The phimosis causes retention; the retention sets up balano-posthitis and aggravates the phimosis. Thus Corner writes:

The secretion decomposes and irritates both the glans penis and the prepuce, producing a chronic superficial balano-posthitis and a deeper chronic inflammation in the prepuce, causing its fibrosis and subsequent contraction on the glans penis. The meatus in it also becomes contracted, so that it can no longer be withdrawn over the glans, and the secretions under it collect and ferment, producing further irritation. The greater the irritation of the glands by decomposing secretion, the greater the amount of secretion they produce. In this way a vicious circle is established.[34]

In females a similar condition results if the smegma about the clitoris and vulvar folds is not frequently removed. Decomposition, vulvitis or balanitis clitoridis ead to increased secretion and accumulation.

(d) *Sweat Glands.*

Hyperidrosis.—General hyperidrosis, when associated with the prostration of serious disease, is frequently the result of debility as well as the cause of its aggravation. In the words of Alfred Sangster:

The nervous excitement and the continued loss of water tend to exhaust the already debilitated patient.[35]

Some stout persons, in whom the thick layer of fat diminishes the amount of heat given off by radiation and conduction, are much troubled by abundant perspirations. These make the sufferer lazy, and thus tend to increased obesity and perspiration.[36] Hyperidrosis of the axillary regions frequently causes women to wear impervious shields, in order to protect their dress from unsightly stains. The shields, however, encourage the retention and decomposition of the secretions, and thus provoke irritation of the skin and further hyperidrosis. Many dermatologists have attributed pompholyx or dysidrosis to disorder of the sweat apparatus, although the matter is still *sub judice*. But, in any case, the associated itching and scratching are both cause and effect of the disorder. As Brocq says:

> The patient complains of intense itching and burning. The more he scratches himself the more numerous and the larger do the vesicles become. They seem almost to develop under the fingers at the itching spots as these are being rubbed.[37]

Retention cysts of the sweat glands may be due to a circle, much as happens in the case of other glands. Owing to its narrow lumen some obstruction or kinking of the sweat duct is readily brought about, leading to accumulation of sweat and cystic dilatation. This may in turn cause further obstruction and further accumulation, until the cyst reaches a considerable size.

THE BREAKING OF THE CIRCLE.

The question may be asked of this study of vicious circles—*Cui bono?* The reply is that we gain a clearer insight into the methods of *natura medicatrix*, and guidance for rational therapeutics.

Although some circles are, as stated above, "endless" and "incurable," there are many others that can be "broken" by natural processes. For example, kerion results from Nature's effort to cure ringworm. The folliculitis may loosen and expel the diseased hairs with all the attached fungus. In fact, as Sabouraud says: "The curability of tinea tonsurans is in direct proportion to the degree and inflammation of the follicles."[38] And again:

> The suppurative reaction is a curative process because of its expulsive action. As soon as the diseased hair is expelled the inflammation subsides.[39]

Even the well-linked chain of reactions associated with varicose ulcers may be snapped. The acute pain may confine the patient to bed. The oedema is relieved, the itching subsides, the excoriations heal. Reparative replace destructive processes. Again inflamed corns may be cured without medical aid. The congestion at the base may proceed to suppuration and the entire mass be thrown off.

Many pruriginous eruptions get well in spite of associated itching and scratching. There may be prolongation of the attack, but the natural tendency to repair triumphs in the end.

Generally speaking, however, disorders complicated by a circle are obstinate and difficult of cure. The aid of the ἰατρὸς πολύπειρος is indispensable to recovery. The recognition that a circle is present draws attention to the fact that each of the co-operating hostile forces can be attacked. Such recognition conduces to a surer and speedier victory.

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EPIDEMIC POLIOMYELITIS OCCURRING AT STOWMARKET, SUFFOLK.

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TWENTY-FIVE cases of this disease occurred in Stowmarket between August 12th and September 18th, 1911. There is some evidence to show that other cases existed at an earlier date, but the presence of the disease in an epidemic form was not recognized until the date mentioned, and no record of any such cases has been preserved.

Distribution of Cases.

In three instances more than one case occurred in the same house.

In one house there were 3 cases, the first appearing on August 12th, the next on August 17th, and the third on August 19th. In two other houses there were 2 cases. In one the first case arose on August 26th, the second August 29th. In the other the first case occurred on September 1st, the second on September 4th. Of the other 18 cases the majority occurred in groups in adjacent houses.

Age Incidence.

Five cases occurred in adults. Of the remaining 20, 3 occurred in infants under 2 years old and 12 in children between the ages of 2 and 12 years.

Mortality.

There were 6 deaths. Four died within a few days of the onset of illness from paralysis of respiratory muscles. Two died in the later stages from bronchitis and heart failure.

Climatic Conditions.

The cases occurred in exceptionally hot, dry weather, when there was a great deal of dust and swarms of flies. Whilst inspection of premises revealed no serious sanitary defects, the exceptional drought accentuated what trifling defects there were, a temporary accumulation of refuse, which in an ordinary English summer would have passed unnoticed, becoming offensive and tending to be the breeding-place of swarms of flies.

Measures Adopted to Cope with the Outbreak.

These were (1) compulsory notification; (2) isolation; (3) destruction of flies: (4) watering the streets with antiseptics; (5) all contacts were instructed to spray nose and throat with permanganate solution; (6) householders were warned against accumulation of refuse.

These measures were put in force early in September. The epidemic ceased quite suddenly, the last case being notified on September 18th.

This sudden cessation cannot be attributed to a change in the climatic conditions, since in the rural districts immediately adjoining cases continued to arise until the end of October. No fewer than 32 cases occurred within a radius of a few miles ontside Stowmarket after September 18th.

The value of compulsory notification was emphasized, not only from a public health point of view, but also from an economic standpoint. Before notification exaggerated rumours prevailed, panic was created, and the trade of the town suffered in consequence. At the end of August it was stated in the press that there were 30 cases with 6 deaths. Careful investigation at this time showed that there had been 15 cases with 3 deaths. Before notification uncertainty prevailed; afterwards authoritative statements could be made and public anxiety allayed.

Transmission of the Disease.

Probably the disease was transmitted in three ways (1) By dust; (2) by flies; (3) by "contacts," the organism being carried in the nasal mucous membrane.

The sudden cessation of the epidemic on September 18th is curious, and I venture to think important, as it appears to throw some light on the problem of transmission.

To account for the somewhat dramatic ending of the epidemic in Stowmarket, one of two explanations must be accepted: (1) Either the "soil" was exhausted in this particular area; or (2) the measures adopted were efficacious in stopping the spread of the infection.

As against the first assumption, it may be pointed out that there was no gradual "tailing off" in the number of cases which one would have expected on this hypothesis. During the last week (between September 9th and 18th)

9 cases were notified. Assuming the preventive measures were efficacious, it is interesting to consider which was most likely to be efficiently performed.

Flies still swarmed after the epidemic ceased. The spraying of "contacts," although advocated, was not supervised and could not be insisted on. The probability is that this measure was neglected in many instances, and cannot be reckoned as a potent factor in staying the spread of infection. Isolation was observed as far as possible. But in many instances parents refused to send their children to the isolation hospital, only four patients being admitted. The only measure thoroughly and regularly performed was watering the streets with antiseptics, and in this way rendering the dust innocuous. The evidence from this epidemic, therefore, would appear to support the view that dust infection is an important factor in spreading the disease.

Clinical Symptoms.

The symptoms differed in no material respect from those already published in the BRITISH MEDICAL JOURNAL of November 4th, as typical of the epidemics in Cornwall, Huntingdon and Devonshire.

In the majority of cases gastro-intestinal trouble either preceded or accompanied the attack. In one instance amongst my own cases the illness was preceded by tonsillitis. Headache, pain at the back of the neck, furred tongue, vomiting, usually constipation, with some fever, marked the onset of the disease. In bad cases muscular twitching and convulsions occurred, also retraction of the head and spinal rigidity. Paralysis of one or more limbs supervened in from two to three days. Kernig's sign was present in 75 per cent. of the cases. Reflexes were usually abolished with the onset of paralysis. Retention of urine occurred in 10 per cent. of the cases. Pain and tenderness was usually present in the paralysed limbs. In some cases hyperaesthesia was very marked. The paralysis in the majority of instances appears to be permanent.

Bacteriology.

In several cases the spinal fluid was examined, and Dr. Heath, county medical officer of health, has obtained some interesting results, which will be published in due course. Miss Alice Taylor also worked at the bacteriology of the disease, and her results appeared to confirm those of Dr. Heath.

Treatment.

Various drugs were tried, including urotropine, but the course of the disease appeared to be uninfluenced. No doubt with the isolation of the specific organism, and preparation of a vaccine, better results will be obtained.

NOTES OF CASES.

H. D., aged 19. On August 10th suffered from tonsillitis, which passed off in a few days. On August 19th complained of headache, especially at the back of the neck, vomiting, and pains in limbs and back. Temperature 100°. Tongue furred; constipation present. August 21st, paralysis of left arm and leg. Kernig's sign present—paralysis of left arm severe. At the present time, three-and-a-half months from onset, has not recovered full use of arm, and is still slightly lame.

E. O., aged 5, commenced August 19th. Much pain in back of head and down the spine. Retraction of head and spinal rigidity very marked—some twitchings of muscles during sleep. Kernig's sign present; reflexes abolished. Hyperaesthesia of paralysed limbs. The case is interesting, as, although cerebro-spinal symptoms were well marked, examination failed to confirm the diagnosis of cerebro-spinal fever. Patient died of bronchopneumonia after one month's illness.

Mrs. B., aged 40, taken ill September 14th, and moved into hospital. Paralysed in both legs—very complete; no hyperaesthesia. Kernig's sign absent; reflexes absent; temperature from 100° to 102°. Retention of urine for ten days. She died after three weeks' illness from bronchitis and heart failure. Examination of spinal fluid was negative, as far as cerebro-spinal fever was concerned. This patient was certain she contracted the disease from one of her children, whom she said was ill a week before she was, with vomiting and headache. The child was not attended by a doctor, and when seen later showed no paralysis, but this may have been an abortive case.

E. R., aged 4. Commenced with vomiting and headache, and pain in the back, on September 4th. Paralysis of both legs. Kernig's sign present; hyperaesthesia present; constipated. Reflexes absent. Paralysis very complete. At present time there is some slight return of power in the flexors. Examination of spinal fluid negative as regards cerebro-spinal fever.

C., aged 5. Seen September 14th. Left leg paralysed. Had slight attack of headache, pain in back of neck, and vomiting three days previously. Doctor only called in when paralysis noticed. Uninterrupted recovery. Cerebro-spinal fluid negative.

A RECORD OF SOME CASES OF EPIDEMIC PARALYSIS OCCURRING IN HAMPSHIRE.*

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I PROPOSE shortly to narrate 7 cases of acute disease affecting either the spinal cord or the meninges, or both, which I have personally seen between the beginning of September and the middle of November. I have purposely described these cases under the general heading of "Epidemic Paralysis," as in my opinion, although two, at least, may, perhaps, be considered to approximate the description of cases of acute anterior poliomyelitis, even these presented some unusual features. In view of the fact that the county medical officer has asked for a return of all such cases in his area, it is of more than ordinary interest to note that, in addition to the cases mentioned in this paper, I had two other undoubted instances of acute poliomyelitis admitted into hospital within the last six weeks, the date on which this note was made being October 16th, and I know of at least two or three others.

CASE I.

R. B. was taken ill on September 6th, but Mr. Way was not sent for until September 11th, when he found him complaining of great pain in the head and back of the neck, and aching pains and stiffness all over. Weakness of the legs was so great that he could hardly stand. The temperature was 101°. On September 12th the stiffness had increased and the pain concentrated in the back of the head and neck; it was very acute, and the head was very markedly retracted. The temperature was slightly lower. The breathing was hurried and jerky. The knee-jerks were absent. Babinski's sign was absent, but Kernig's sign was marked on attempting to extend the knee on the flexed thigh. The stiffness and pain in the neck muscles rendered the patient unable to raise his head. There was more or less general hyperaesthesia.

On September 13th, when I saw him in consultation with Mr. Way, this condition obtained, but he was evidently much worse. He was perspiring freely all over, was of a dusky, cyanotic colour, and had a rapid and very soft pulse, but no cough; breathing was shallow and very irregular; there was acute congestion of both bases; the temperature was subnormal. There was considerable loss of power in the arms, but no sign of involvement of the facial nerves, and he was fully conscious and able to answer questions, though acutely ill. He died the same evening, apparently from paralysis of the phrenics.

His history was that he had been apparently well until September 6th, when, after a long bicycle ride in the great heat, he felt ill and feverish, and went to bed shivering and complaining of aching in limbs and stiffness.

It is interesting to note that there was a definite history of a similar but milder attack, in which much the same symptoms were complained of a month earlier, from which he completely recovered without medical aid.

CASE II.

The next case was a girl, D. P., aged 6, who a few weeks previously had been under my care for an attack of the gastro-enteritis which prevailed during the hot weather. On September 2nd she had fallen into the river, but her mother had given her a hot bath and wrapped her in warm blankets, and she was apparently none the worse for her adventure.

On or about the September 17th it was noticed that her walking was stiff and her gait somewhat unsteady, and on September 19th she complained of backache, and was apparently feverish and out of sorts. On September 20th the feverish attack was distinct and her eyes were suffused and bloodshot. She complained of no pain except a slight backache, but was unable to turn over in bed.

On September 21st fever still continued and I was asked to see her, but was not told of any of the above symptoms or history, except that she had had a feverish cold. She was always a pale, fragile-looking child. There was nothing to indicate anything of a more serious nature, so I must confess to having been caught napping until I was sent for again on September 25th, when I found her lying on her side with her legs drawn up and her head somewhat retracted, complaining of great tenderness all over, and especially of acute pain in the legs when touched, pain in the back, and inability to raise herself at all from the bed. Any attempt to straighten her limbs caused her to cry out loudly. She could not stand. The knee-jerks were absent. Her temperature was normal; she was not flushed, nor was there any rash. She could not sit up, and began to cry directly she was raised in the bed. There was some delay in performing the act of micturition.

She was removed to hospital, where after a few days her condition began to improve and she could straighten the legs without much pain. It was then found that the peroneal group of the left leg was paralysed. A note on October 16th says that "There is a good deal of wasting of both legs, but she can now move them quite freely and sit up in bed without

*Read before the Winchester Division of the British Medical Association.

pain." As the acute febrile condition had subsided and she is a nervous child I abstained from lumbar puncture, though had she become worse I should have drawn off some spinal fluid for examination. The feature in her case is the extreme rigidity of the ham-strings and calf muscles of both legs and the general weakness of the back and shoulder muscles. The reflexes are still absent. Babinski's sign was never present.

The paralysed peronei are already (October 17th) recovering under massage and faradism. She has had no elevation of temperature since admission to the hospital.

CASE III.

On September 27th I was called to B. B., a girl aged 4, who had been taken ill on September 18th with pains in the head, neck, and limbs. She also complained of stomachache and was very feverish. Her mother noticed that she had twitchings of the face and that she was unable to speak clearly. She was unable to cough or sneeze and her breathing was gasping in character. She was quite unable to sit up and cried when any attempt was made to raise her.

When I saw her on September 27th she was asleep, and I was at once struck by a curious catch in her breathing about every third or fourth respiration. Otherwise it was quiet, though rather shallow, and her colour good.

On September 30th she complained of pains in the left arm and leg and especially in the back of the neck, and was unable to raise her head from the pillow. The knee-jerks were absent, but there was no wasting or paralysis of the legs. The plantar reflexes were present. Babinski's and Kernig's signs were absent; there was no eruption, and her temperature was not raised.

She slowly improved; breathing on October 15th was normal and the knee-jerks had returned, but there was a marked flaccidity of the muscles of the shoulder girdle, though no actual paralysis. On lifting her up under the armpits the shoulders seemed to slip upwards owing to weakness of the rhomboids and latissimus dorsi (the phenomenon so generally obtained in pseudo-hypertrophic paralysis) was very marked, but she could now walk well, though somewhat unsteadily.

During August she had had a so-called bilious attack, in which she complained of pain in the head and neck, and vomited. I was not at that time asked to see her.

CASE IV.

B. O., a boy aged 5, I saw in consultation with Dr. Whittindale of Bishop's Waltham, who has kindly sent me the following notes:

"On September 17th he was taken with sudden acute pain in the head and back of the neck, followed by general malaise and pains in the arms and legs. His mother says the child was fretful and feverish for some days. First seen September 22nd. Temperature normal. Pupils equal reaction. Marked retraction of head. Slight opisthotonos; acute pain in neck, back, and legs. Legs drawn up. Kernig's sign marked. Tache cérébrale present. No hyperaesthesia. Constipation. Patellar reflexes absent. September 24th. Rapid catching breathing; general râles all over chest. September 27th. Marked head rolling; distressing insomnia. September 28th. Urine and faeces passed involuntarily."

When I saw the patient on September 29th I had nothing to add to Dr. Whittindale's careful notes. The boy was extremely ill, and the condition was just as he has described for September 22nd. In view of the fact that the lungs were beginning to clear up and that he had recovered the use of bladder and rectum, was fully conscious and able to answer questions, I ventured to give a hopeful prognosis, but stated that in my opinion it would be some weeks before he would be really convalescent.

On October 13th Dr. Whittindale reports that "the boy is slowly improving. The attacks of pain come on three or four times daily only; he can almost put his feet down straight, but Kernig's sign is still marked, and he cannot get his chin to the sternum; breathing normal, deep reflexes absent. General condition much improved.

He was treated with bromides, and at my suggestion a small dose of strychnine and 3 grains of urotropin were added to the mixture to be taken every six hours; strychnine was indicated by a feeble and rather rapid pulse.

CASE V.

A. G., 3 years old in November, 1911, seemed a little tired on the afternoon of October 12th. She had an attack of sudden pain at 5 a.m. on October 13th, crying, putting her hands to the back of the neck, exclaiming, "Can't move my head, Nanny." The head was retracted. She lay on her back with the knees drawn up. Kernig's sign was not present, but there was slight rigidity. Breathing was very shallow, jerky, and catchy, but there was no alteration in colour. The temperature was subnormal, and the pulse 120. There had been no vomiting. Poultices were applied at once, and 6 grains of urotropin in milk given at 8 o'clock. The urotropin was continued every four hours in doses of 3 grains. There were involuntary spasms of the face, and slight trismus of the jaw, but no alteration of speech or difficulty in swallowing. Jerky movements of both arms were present, but there was no tache cérébrale. Profuse sweating was possibly due to poultices.

The knee-jerk was obtained with difficulty on the left side; it was absent on the right. Babinski's sign was not present. There was some vomiting during October 14th, but on the following day both knee-jerks were present, and the patient was apparently quite well. On October 16th there were slight twitchings of the arms, and she seemed otherwise very well; a rather prolonged attack of twitchings occurred in the evening, the patient being somewhat constipated at the time. After a good sleep and satisfactory action of the bowels these symptoms had passed away.

I will supplement this series by 3 cases now in hospital—2 under my colleague, Dr. Tullis; the third sent to me by Dr. Hodgson of Alresford.

HOSPITAL CASE I.

T. T., aged 14, towards the end of August was sitting in a chair one evening at the end of his day's work, when he was suddenly taken with acute pain in the head, neck, and back, and was unable to rise from his chair. He had felt quite well all day. He was unable to sleep that night owing to the acuteness of the pains in the spine and legs, and the following day was unable to move either arms or legs. The pains lasted four or five days. He regained a certain amount of power in about two days' time, but was unable to lift the left arm above the head, though he could raise the forearm to the mouth.

When admitted on October 6th the triceps and muscles of the left shoulder girdle were the parts chiefly affected. Of the lower limbs the left leg was the worse, the thigh muscles being chiefly involved; he was unable to draw up the left leg. The knee-jerks were absent on both sides. He could not bear any attempt at extension of the knee on the flexed thigh, and he had pains in the limbs.

The temperature ranged from subnormal to 99.6.° A lumbar puncture was done shortly after admission, the report from the Clinical Research Association being as follows:

"The fluid is faintly alkaline but fairly albuminous; it shows a normal reduction with Fehling's solution. The centrifugalized deposit is small in amount, and consists of a few blood discs, an extremely small number of leucocytes, chiefly of the lymphocyte type, and a little, if any, in excess of the normal. Neither tubercle bacilli, meningococci, or other pyogenic micrococci are demonstrated, and only a very small number of Gram-negative bacilli are seen. The absence of pus, or even an excess of leucocytes, together with a reduction of Fehling's solution, might suggest that the case is not an infection with meningococci or other pyogenic cocci, but it may possibly be of the tuberculous type, the excess of albumen is the only pathogenic feature, unless the bacilli prove to be of a pathogenic variety."

HOSPITAL CASE II.

L. W., aged 16, was quite well on Sunday, September 10th. When he got up on Monday he had pains in the back and neck, but there was no vomiting. He went to work, but his legs felt weak. He shivered when he got home.

On September 11th the pains were worse in the back and waist, and he had marked girdle pain. He was constipated, and temperature was somewhat raised. He could not bear to have his head raised on account of the pain.

On September 11th he found he was losing power in his legs, and by September 12th he could not stand. He was admitted to hospital on September 16th, when Mr. Smith made the following notes:

"Paresis of legs—unable to move right leg—knee-jerk absent. Babinski present. No ankle clonus—unable to draw the leg up—slight power of extension. Left leg: Knee-jerk absent—Babinski present. More power in this leg than the other. Can both flex and extend the knee though the movements are weak. Arms: No loss of power. No impairment of sensation. No involvement of bladder or rectum. Abdominal and cremasteric reflexes absent. Pupils equal, react to light. Tache cérébrale. Pains along the spine and around waist. Temperature 99.4°, pulse 102." Pain was still so bad that it was necessary to give injections of heroin.

Report on the Spinal Fluid.—"The fluid is faintly alkaline and fairly albuminous; it gives a practically normal reduction with Fehling's solution. The centrifugalized deposit is small in amount and shows a small number of blood discs, a few endothelial cells, and some leucocytes. The latter are distinctly in excess, but not in sufficient numbers to constitute pus. A differential count shows 4 per cent. polynuclear and 96 per cent. mononuclear leucocytes. Smear preparations show an occasional Gram-positive micrococcus and a few Gram-negative bacillary organisms. Neither meningococci nor tubercle bacilli are found, but the characters of the fluid are suggestive of the tuberculous type of the disease."

Later Report.—The staphylococcus isolated from this specimen has the cultural characters of the *Staphylococcus epidermidis albus*. The bacillus is of saprophytic type. The coccus, also is probably derived from the skin, or some other extraneous source."

HOSPITAL CASE III.

J. J., aged 7, sent me by Dr. Hodgson, of Alresford, with the following notes:

"Taken ill on September 17th. First seen on 18th. Complained of stiffness overnight in legs and back. Could not stand. Temperature slightly raised. There was a history of a feverish attack about a month previously. Loss of power of the extensor muscles of the right leg and thigh, with partial anaesthesia on the same side. (Note—this is the first instance in the series of anaesthesia, though there was often hyperaesthesia both general and localized, in the affected limbs.) Knee-jerk increased on right side—absent on left. Extensor response on right side (Babinski). September 24th: Acute pain in right leg. Marked retraction amounting to opisthotonos, the boy lying on his side with the legs drawn up and head retracted; great pa

being caused on raising the head, or on attempting to straighten the legs."

On admission (October 15th), the retraction and the pains had subsided, but on attempting any passive flexion of the legs the boy at once twisted over to the opposite side, sharply arching his back, though he could bear them fully extended if lying on his back. Any attempt to obtain Kernig's sign produced this curious contraction of the spinal muscles, and was evidently very painful.

The state of the reflexes was as Dr. Hodgson had already noted, but ankle clonus was present, in addition, on the right side.

There was much loss of power in the extensor muscles of the thigh on the right side, and as in all cases in which the patellar reflexes were lost there was an extraordinary laxity of the patella tendon, so that the fingers could be inserted between that bone and the head of the tibia.

I have not noticed this phenomenon in so marked a degree in ordinary cases of loss of knee-jerk, and I take it that it may be looked upon as an index of the degree to which the extensor muscles have suffered.

Remarks.

Here, then, we have what may be considered as a fairly widespread epidemic of acute disorder affecting the spinal cord and meninges, and although we have heard a good deal of late of epidemic acute anterior poliomyelitis, I think that these cases do not all conform to the type which we have been accustomed to meet with during the last twenty years, inasmuch as the intense pain in the back of the head and neck, the twitchings of the face, the retraction of the head, amounting in some cases to opisthotonos, the marked rigidity, and continued pains in the limbs, the interference with the due control over the bladder and rectum, and, in several instances, the more or less rapid and complete recovery, are quite contrary to the usual experience of that disease.

I had the advantage of meeting Sir James Goodhart in consultation over A. G., my fifth case, and he was decidedly of the opinion that we had to deal with cerebro-spinal meningitis, which was the conclusion I had previously come to with regard to the other cases I had then seen.

Sir William Osler makes the statement that those instances of acute basic meningitis, with which from time to time we have met in such a severe and fulminating form, are nothing more or less than sporadic cases of cerebro-spinal meningitis.

There are doubtless several signs which have been looked upon as more or less classical of this disease which were present in my cases, notably the rash from which the old name of "spotted fever" was derived, but even in the severe basic form, of which I have seen a few instances, I do not call to mind any rash. Where this occurs it indicates a malignant form of the disease, and a very severe anæmia in addition to the local signs. Vomiting also in my series was unusual, although it did occur in case v.

It may be that when, as in the epidemic form, the disease becomes generalized, it at the same time loses some of its virulence (and abortive cases do occur) but it is interesting to note that the older the victims the more severe and last-ing has been the mischief—one of my cases (Case I, seen with Mr. Way) having died on about the fourth day, while the two youngest (Cases III and V), have apparently recovered without any trace of the paralysis occurring in acute anterior poliomyelitis.

So far I have not come across any cases in adult males, nor have I observed any connexion between this epidemic and the incidence of herpes zoster referred to by Harrow of Maryport in Cumberland, in an epidemic of poliomyelitis which occurred there in August and September 1910. This was also noticed in the Cornwall epidemic this year.

I do not wish to give the impression that every case in the present epidemic is cerebro-spinal fever, but at the same I would submit that anterior poliomyelitis is a rarer, since the meningeal symptoms, either cerebral or spinal, have been most marked. Cases I, IV, and V in the private series, together with Nos. I and II of the hospital cases, present clinically the picture of cerebro-spinal fever.

With regard to the pathology of cerebro-spinal fever there are three cocci which have been claimed by their observers as being the specific cause: (1) Weichselbaum's *micrococcus intracellularis;* (2) Still's meningococcus (in sporadic cases); (3) a micro-organism resembling the pneumococcus of croupous pneumonia; and I am fully aware of the absence of any pathological evidence in my cases as to the presence or otherwise of any of these organisms. Houston and Rankin's recent researches go to prove that the two former are quite distinct.

In Dr. Tullis's cases the specific organisms were not found, though albumen was present in the spinal fluid, which probably indicated inflammation of the meninges, notwithstanding that the normal reducing action of the fluid on cupric oxide was present, which reaction in cases of meningeal inflammation is generally absent. Had the cases come under observation during the very early stage, something more might have been learnt.

It would be interesting to know in what percentage of cases during the various epidemics reported it has been possible to examine the spinal fluid in the acute and early stage, since bacteriologists I presume would not admit the existence of cerebro-spinal meningitis without the presence of one of the above-mentioned organisms; but of this I am convinced, that, notwithstanding Dr. Allen Starr's classical description in Allbutt's *System* of acute anterior poliomyelitis, which I must admit describes very nearly some of the milder cases I have seen, we have here at any rate in some of the cases a distinct clinical entity, which is much more serious to life.

Pain! pain! has been the persistent outcry in all the cases, sometimes persisting for weeks, and as that acute observer, the late Dr. Bristowe, remarks of anterior poliomyelitis that "pain is no essential feature of its clinical history," and that "an almost total absence of pain may be regarded as characteristic of this disease," it is, I think, fairly evident that we have in this present epidemic a condition of things which, to quote from Dr. Ormerod, we may at least say, "We have had (until now) very scanty experience."

Now, while I fully concede that bacteriology and modern laboratory research bear a very great and increasing value in determining the hitherto obscure origin of many diseases, as an old practitioner I very much deprecate the fact that clinical observation is often made to take a back seat to the newer methods of diagnosis, and although, as I said before, several of my cases approximate more nearly the type of acute anterior poliomyelitis, there are in some (notably I, IV, and V) symptoms which correspond almost exactly to the "simple type" of cerebro-spinal fever which is described in *Allbutt's System of Medicine.*

EPIDEMIC ANTERIOR POLIOMYELITIS IN SOUTH DERBYSHIRE.

By JOHN HAYMOIR, M.D., D.P.H.,

NEWHALL, BURTON-ON-TRENT.

In the general interest evolved by the recent epidemic of anterior poliomyelitis during the past summer, a short synopsis of 25 cases which occurred in this district in South Derbyshire may be of some value.

All the cases occurred within the Urban District of Swadlincote, which comprises a population of 22,000, scattered over an area of about three square miles. The principal industries are coal mining and earthenware manufacture. During the summer work is bad, and many families are in a state bordering on destitution. Dr. R. A. Parkhill has kindly supplied me with the records of 14 cases which came under his care, the remainder being under my own observation.

There were two periods of greatest incidence, the first early in June amongst Dr. Parkhill's patients in the south-west of the district, the second early in August in the north-west. The epidemic apparently spread in this direction through the district, but there is no evidence to show the mode of progress. The distribution of cases was very scattered, with some exceptions, namely, 3 cases occurred in one street, and 2 in each of two houses. There was practically no communication between the houses affected, except possibly where the three cases occurred in one street. Twelve cases occurred in very poor and dirty houses. Dusty roads do not appear to be of any etiological moment. Many of the patients were strong and well nourished. The occurrence in both sexes was of

equal frequency. The ages of those attacked ranged from ten months to eight years, three and four years being by far the commonest age.

The mode of onset was mostly with fever, malaise, and symptoms of pulmonary catarrh. Some cases began very suddenly and went on with remarkable rapidity to a fatal issue. Constipation was a marked feature; prominent among the symptoms were great tenderness and pain over the spine and the back of the legs, and the presence of Kernig's sign. Deep reflexes were lost early, but in 2 cases of the encephaloid type the knee-jerks were at first exaggerated. In 1 case a papular rash was present over the face, neck and shoulders; the papules were isolated, superficial and shot-like, and had a small inflammatory base. They were not painful to touch.

Of the 25 cases 5 were of the encephaloid type, and proved fatal, death being due to respiratory paralysis early in the disease—in 1 case six hours after the onset. In the remaining 20 cases—of the spinal type—death occurred in 3, and was due to respiratory paralysis in 2. The remaining death occurred a month after onset from acute bronchopneumonia. This gives a total mortality of 8, or 32 per cent. Several cases, which were open to doubt, have been omitted from this analysis.

The paralysis affected one leg in 11 cases, both legs in 4 cases, one arm in 2 cases, one arm and one leg in 1, and all four limbs in 2 cases.

Some of the cases bore a great resemblance to sunstroke, and I am convinced that exposure to the sun or unaccustomed excessive heat is an important etiological factor. In most of the cases under my observation, there was no proper means of isolation, and in many there were large families of young children who escaped, though they came into more or less intimate contact with the victim.

There was no evidence to show in what way the virus was transmitted in any case.

RETENTION OF A FETUS IN THE ABDOMINAL CAVITY FOR FORTY YEARS.

BY

E. WEATHERHEAD, M.B.CAMB., M.R.C.S., L.R.C.P.,

BRIGHTON.

CASES of extrauterine gestation in which the fetus survives the rupture of the tube are rare. The continuance of the development of the fetus without serious accident to the mother until its death at the onset of the so-called "false labour," and its subsequent retention in the abdominal cavity for many years, is of yet rarer occurrence.

At the October meeting of the Sussex Medico-Chirurgical Society I was able to show a specimen of such a fetus which had been retained in the abdominal cavity for forty years. An additional interest was given to the case by the fact that it was possible to turn for the early history of the case to the *Proceedings* of the society itself. In the notes of a meeting held in September, 1872—just thirty-nine years ago—the following account is to be found:

> Mr. Tuke* brought a patient before the notice of the society with a large abdominal tumour, which was examined by some of the members. The woman was of tolerably healthy aspect. She married at 21; had one child, who died in eighteen months. [This, I may say, is a mistake. The child here alluded to is alive now, and made a home for his mother up to the time of her death.] Her husband died, and she married again at 25 and has had no children since. The catamenia were quite regular up to March, 1871. [She would then be 38 years of age.] At the end of April she had an attack of enteritis, relieved by opium. After this she thought herself pregnant, as she felt larger and had what she deemed as the usual signs of childbearing. At the end of six months there was milk in the breasts. She thought she felt the movements of the child. At Christmas, which would be the termination of the supposed pregnancy, she had severe pains, none of them bearing down, and she had a dangerous attack of peritonitis about this period. The medical man who saw her found a tumour in the hypogastric region having all the appearance of a fetus in utero. He heard the placental murmur, not the fetal heart. He did not examine for ballottement. The catamenia returned on May 3rd; been quite regular to the present time. There is now a very large tumour lying across the hypogastric region. On the left side this is extremely hard; on the right somewhat softer. There is no fluctuation. There appears to be a kind of sulcus in the middle of it. On examining per vaginam the os is very small, slightly open, and appears fixed at the left side. The tumour can be distinctly felt through the uterine walls. The sound had not been passed, and no examination made per rectum. Mr. Tuke examined the tumour in March, 1872. [Six months previous to the meeting of the society, and about three months after the termination of the supposed pregnancy.] He thought on the left side he could distinguish the parietal bone. . . . On examination per vaginam, os uteri was enlarged, as well as the body of the uterus, which was pressing down on the pelvis. On using to and fro movement he felt fluctuation on the left side, and the body he felt seemed to float in fluid. . . . Mr. Tuke's opinion was that it was a fetus encysted in the abdominal cavity, probably with a fibroid tumour of the uterus.

In the discussion that followed, it is interesting to note that none of the doctors who spoke on the question agreed with Mr. Tuke's diagnosis. They held that no importance could be attributed to the woman's statements as to the supposed signs of pregnancy, and, as one doctor put it, "but little to the medical man's, who had not heard the fetal heart." They seem to have been generally agreed that the tumour was a fibroid tumour of the uterus with calcareous deposit. Mr. Tuke, in his reply, made the pointed remark that he "had heard no explanation given of the fact that the tumour had much diminished"—as it would, from absorption of the liquor amnii. I am told that some years later the patient was seen by Sir Spencer Wells, and other eminent gynaecologists, who diagnosed a lithopaedion.

To come down to more recent times, the patient came under my care four years ago. She was then 74 years of age, and had been bedridden for some years. The abdomen was prominent, and a hard mass could be felt in the hypogastric region, rising up out of the pelvis. Part of the mass appeared on palpation to be of bony hardness, and suggested a fetal head. It appeared to be tender to pressure. The patient complained of a good deal of pain at times, but her general health was fairly good for her age.

In the early part of September last she began to suffer from diarrhoea with raised temperature, and gradually sank, dying about three weeks later. I obtained permission for a *post-mortem* examination, which disclosed the following condition:

The tumour consisted of a fetus lying in the bag of membranes, which were more or less completely calcified. It forms an ovoid mass, which filled up the greater part of the pelvic cavity, the broader end of the ovoid being uppermost. The adjacent coils of intestine were intimately adherent to the sac and had to be peeled off, and the parietal peritoneum on the lower part of the anterior abdominal wall was also adherent. The uterus, flattened out by the tumour and atrophied, can be recognized lying in front of the lower part of the mass, with the inner ends of the Fallopian tubes and part of the broad ligament. There is no sign of any fibroid tumour. The fetus lies in the breech position, face looking forwards, and in the usual attitude of flexion of the head and extremities. The skin where it is in contact with the calcified membranes, is for the most part adherent to them. This made it difficult to know how one could best demonstrate the parts, and it was decided to make a section as nearly as possible vertically through the middle of the mass. This had to be done mainly with a saw. The section, as a matter of fact, has passed somewhat obliquely to the right of the middle line of the fetus, opening up the right side of the thorax.

As to the condition of the fetus, there is no calcification of any of the deeper tissues, but there is a good deal of calcareous deposit in the subcutaneous tissue, and at parts in the skin, and according to some authors it would be classified as a lithopaedion.

The fetus has not undergone that process of dehydration which results in mummification—a condition which has sometimes been recorded in cases of long retention. All the parts are easily distinguishable. The substance of the fetus has a curious waxy or soapy consistency, suggesting that it may be partly converted into that rare material adipocere.

The umbilical cord is seen passing to the remains of the placenta, which is situated laterally on the right. As to the age to which the living fetus had attained before its death, judging from the history which we have of the

* Mr. Tuke died in 1880.

pregnancy, it ought to be nearly full term. The finger-nails reach to the ends of the fingers, but not beyond; a tuft of well-grown hair is visible at one spot on the scalp. The weight, including the membranes, is 3¾ lb. I think that we should not be far wrong in considering the fetus to have reached about eight months' development—allowing for the general contraction that would occur after the death of the fetus.

The sex appears to be female, but the parts about the external genitals are, unfortunately, too much damaged to admit of a positive statement.

It is probable that the primary rupture of the tube occurred at the so-called attack of enteritis mentioned in the early history of the pregnancy, apparently somewhere between the fourth and eighth weeks. The severe pains which the patient had at Christmas—about which time she expected her confinement—may probably have been associated with the onset of false labour, which would coincide with the death of the fetus.

Two notable cases of long retention of a fetus have been recorded by Cheston and Barnes. In the one case a lithopaedion was retained fifty-two years (Cheston, *Medico-Chirurgical Transactions*, vol. v, p. 104); in the other a lithopaedion was retained forty-two years (Barnes, *Transactions of the Obstetrical Society*, vol. xxiii, p. 170).

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CATARRHAL JAUNDICE APPEARING IN EPIDEMIC FORM AMONG CHILDREN.

DURING the winter 1909–10, what can only be described as an epidemic of jaundice occurred in a portion of the district in which I work. Living in about the centre of an area with a radius of about seven miles, all the cases were in one quadrant of the circle; the rest of the district was entirely free from the complaint during the period of the epidemic. The neighbourhood in which the cases occurred is a very exposed, thinly populated moorland, and is inhabited by farmers and shepherds, whose houses are widely apart. Nearly all the children took the "infection." In more than one house there were two children simultaneously in bed. In one house there were three cases at one time or another. That the parents looked upon the disease as being communicable was shown by letters received asking me to visit or send medicine to such and such a child who "has caught the jaundice." The ages of the children were from 4 or 5 years up to 9 years, with the exception of one girl who was 16 years old. This girl's two younger brothers were laid up about the same time. About two weeks after they recovered she developed the complaint herself. The symptoms consisted of moderate fever and some prostration, with the usual signs of obstructive jaundice.

The number of cases that came within my knowledge was 15, and I think it probable that there were other older cases for which medical attendance was not sought.

Dr. W. J. H. Pinniger's paper in your issue of November 18th has prompted me to send you this note. It seems to support the idea that there was an infectious agent at work.

Wark-on-Tyne. R. F. CAMPBELL, M.B.Aberd.

DR. HOLDERNESS's note (p. 1533) induces me to report a small epidemic of catarrhal jaundice which came to my notice recently. The cases occurred amongst the children attending a village school in Cambridgeshire. When I visited the school for another purpose the cases had all, with one exception, cleared up, but inquiry, however, elicited the following particulars: Seven children in all were affected (to these must be added two lads of 15—one the brother of one of the children attacked—who were at work in the village). The onset was characterized in each case by sickness and the usual symptoms of abilious stools, bile in the urine, and yellowness of the conjunctivae. In two families there were two children attacked. No adults in the village were affected.

Cambridge. EVA MCCALL.

TREATMENT OF GONOCOCCAL ARTHRITIS.

I HAVE read with much interest the instructive paper on the vaccine treatment of gonococcal arthritis by Dr. Stockman, of Glasgow. Like him, I cannot say that I have been impressed by the success of vaccines in clearing up arthritis following an attack of gonorrhoea; even after vaccine treatment had been given a fair trial, Dr. Stockman found it necessary in several of the cases which he records to resort in the end to the usual methods of treatment, and with this combination does not seem to have achieved any very startling results. He says: "My experience has been that the great majority of uncomplicated cases of ordinary severity which require hospital treatment can usually be cured in from five to eight weeks."

With all due deference to the opinion of one who has had such a large experience of the treatment of this disease as Dr. Stockman, I think that somewhat better results can be obtained, in the male at least, by a more active method of procedure—namely, thorough lavage of the urethra as soon as the pain and scalding on micturition of the early stage of the disease are past. I first of all wash out the anterior part of the urethra with warm water and then inject 1 grain of cocaine dissolved in ʒj of tepid water. As soon as this is injected I grasp the glans firmly between the thumb and index finger of my left hand to prevent it escaping, and with my right firmly stroke the urethra backwards until the cocaine is forced into the bladder. This requires to be done patiently and thoroughly, as unless the cocaine is driven completely along the whole course of the urethra, thereby paralysing the internal sphincter in its passage, it will be found exceedingly difficult to force any other fluid into the bladder.

The next step is to introduce into the bladder as much of a solution of silver nitrate, 10 grains to the pint, as the patient is able to bear at his first sitting. For this purpose I use an ordinary Higginson's syringe, fitted with a glass nozzle sufficiently small readily to enter the urethra. Having introduced this into the canal for about an inch I firmly grasp the glans penis and make pressure on the stem of the nozzle, so as to prevent any of the fluid from escaping between it and the urethra. The patient is asked to steady the syringe with either hand, and I then slowly pump the solution into the bladder until the bottle is empty or until the patient can stand no more. He is then asked to rise from the couch and urinate. In this manner the urethra is twice well cleansed—when the fluid is injected and when the patient empties his bladder.

This treatment should be carried out every second day regularly until the discharge ceases. One washing out is usually sufficient to stop it for forty-eight hours, but if this is not repeated the discharge shortly returns, and the subsequent length of treatment is consequently prolonged. Hence I insist that the patient comes without fail every second day, and it is rare that he requires to come more than three times; where, however, a man has suffered for months from gonorrhoea, and taken many bottles of medicine without the slightest benefit, I insist that he have a course of five instead of three injections.

Most patients confess to a feeling of well-being after the first lavage, and state usually after the course of treatment is finished that they have not felt so well for months. It is most manifest in those men who have been suffering from arthritis. The pains nearly always undergo great amelioration from the very first, and rapidly subside as treatment progresses. It would almost seem as if the thorough lavage of the urethra removes the poison at its source, and no more being thrown into the system, the *vis medicatrix Naturae* is enabled speedily to overcome the toxins in the joints.

The following 2 cases illustrate very well what can be done for cases of urethritis of some months' standing by lavage with a solution of nitrate:

CASE I.—J. H., aged 40, unmarried, came crawling into my consulting room with the aid of two sticks. He stated that he had been under the care of a medical man for five months, and had taken many bottles of medicine, but had been steadily getting worse. The pains in his feet had been so bad that he was completely disabled from attending to his shop, and had thereby practically lost his business. As the urethral discharge was profuse, I directed my attention wholly to this at first, and soon had the satisfaction of seeing it dried up; in fact, one washing out of the urethra effected that, but as this was an old-standing case I insisted he should have five injections, to make

sure he was properly cured. The progress of the arthritis was also satisfactory, and in three weeks he was able to walk without his sticks, though still a little lame. I then put him on a mixture containing potassium iodide, urotropine, and tincture of cinchona, which he took for some weeks. About two months after he had come crawling to see me I saw him hurrying along the street, looking the picture of health, and evidently not suffering the slightest inconvenience from his feet.

CASE II.—A. J., aged 25, unmarried, complained of gonorrhoea of four months' duration; what was giving him even more anxiety was the onset of pains in both knees, which made him afraid to go to sea. His treatment was practically the same, except that he only received three urethral injections, which completely dried up the discharge, and, what was of even more importance in the man's opinion, also removed the pain from his knees, which had been beginning to trouble him badly. I suggested he should have two more urethral washings, but he was quite satisfied with his progress, and happening to obtain a situation at once went off to sea.

J. BAIN, M.B.

South Shields.

ENUCLEATION OF THE TONSIL.

THE only criticism I would offer of the method of enucleation of the tonsil, described by Drs. Whillis and Pybus in the BRITISH MEDICAL JOURNAL of November 25th, is one which applies to all methods in which the guillotine alone, or combined with forceps, is used. It is not definite. Moreover, it seems to me that it would be more likely to fail in those cases in which one is particularly anxious to effect a complete enucleation. I refer to cases of embedded tonsils with enlarged glands—tonsils which in a large proportion of cases are probably tuberculous.

During the past two years I have been using a method which definitely effects the object aimed at, and is rapid in execution, so that I now make use of ethyl chloride as the routine anaesthetic. The method is fully described in *Les Archives Internationales de Laryngologie d'Otologie et de Rhinologie*, January–February, 1911, and in the *Glasgow Medical Journal* for May. A pair of broad-toothed forceps are passed through the loop of a Krause's nasal snare. The snare is allowed to hang on the forceps and the tonsil is grasped in its long axis, care being taken to obtain a good grip, and drawn towards the middle line. A non-cutting slightly-curved elevator, such as Mackenzie's, is passed through the plica semilunaris, and a sweep is made downwards, separating the anterior pillar, pressure being at the same time applied by the elevator to draw the tonsil out of its bed. The posterior pillar is then treated in the same way. The upper part of the tonsil then emerges from between the pillars, and the snare is passed over it and drawn tight, the point of the barrel being pressed against the lower end of the anterior pillar. My usual habit is to leave this snare on while the other tonsil is removed, thus avoiding the delay which might be caused by the haemorrhage from the first tonsil. The adenoids are then dealt with.

W. S. SYME, M.D.

Glasgow.

I HAVE read with interest the article on the above subject in the JOURNAL of November 25th. The method advocated by Drs. Whillis and Pybus appears to be the same in principle as that described and illustrated by Ballenger of Chicago, in the third edition (published this year) of his *Text Book on Diseases of the Nose, Throat, and Ear*, and attributed by him to Dr. Greenfield Sluder, who has, I believe, introduced a special modification of Mackenzie's guillotine for the purpose.

The two most important points in the technique are the following: (1) The tonsil is drawn by the ring of the guillotine upwards and forwards over a bony prominence on the inferior maxilla, called by Sluder the eminentia alveolaris, which in turn pushes it through the ring; (2) the tonsil is still further pressed through the ring by means of the operator's finger applied to the anterior pillar of the fauces and the adjacent part of the soft palate.

I have employed the method in a number of cases during the last six months, and have convinced myself of its value. In place of the position adopted by Drs. Whillis and Pybus (right lateral for removal of right tonsil and supine for removal of left tonsil), I prefer the left lateral, grasping the guillotine with the right hand for the right tonsil and with the left hand for the left. This has the advantage that the patient's position remains unaltered during the manipulation.

Ballenger was one of the first to advocate complete removal of the tonsil with its capsule intact, and he formerly accomplished this by using a straight bistoury "from the beginning to the end of the operation." He now, however, confesses that "Sluder's method is simpler, safer, and better in every way," though he finds that enucleation by this means is not anatomically complete in more than 75 per cent. in all cases.

THOMAS GUTHRIE, M.B., F.R.C.S.

Liverpool.

ACIDITY OF URINE.

UNDER the heading "The Surgical Treatment of Glycosuria" this subject was discussed at some length in the BRITISH MEDICAL JOURNAL of June and July, 1910. I wish now to bring once more under consideration some points bearing upon the accepted statement that the monobasic soda salt affords much of the acidity of urine; for if the glomeruli of the kidneys have the power to remove phosphoric acid as such, however valuable the conclusions are derived from the calcic method of Joulie, we have at least in the expression of "physiological acidity of the blood" a more restricted significance. For many years past 5 c.cm. of lime water coloured with one drop of phenolphthalein solution have been my constant method of estimating the acidity of urine and all other acidities I may be interested in. This gives, from the behaviour of the phosphates, a much higher acidity of urine than by the sodic hydrate method. If I take 1 c.cm. (mil or cubic centimetre) of official dilute phosphoric acid and dilute it with water to 100 mils or c.cm. I have a solution that would approximate to a normal urine in acidity. For example, 4 c.cm. decolorized the tint, and I conclude that such weak solution contains by volume 0.12 per cent. of phosphoric anhydride; that is, the constant dividend 0.48 divided by 4 affords that quotient. If to 5 mils or c.cm. of lime water I now add 1 cm. of such weak phosphoric acid solution and centrifuge, I obtain a deposit of 2 cubic decigram volumes in the tube, or 1 mg. phosphoric anhydride.

But urine allows this estimation of the total phosphates, and 1 c.cm. of urine added to 5 c.cm. of lime water, shaken, and centrifuged, is my fairly accurate method of obtaining the total phosphates of the urine in a few minutes. As for urine acidity, I use for my 5 c.cm. of lime water the term "phosphoric anhydride," using also the constant dividend 0.48 (0.98 sulphuric, 1.26 oxalic) in ascertaining acidity of the urine, I see immediately acidity and phosphates in one common term, namely, phosphoric anhydride. Often the results are identical, and it has been this fact which has compelled me to ask whether we have not several important clinical points presented here, as regards history of the origin of the phosphates and physiological conditions. Such outlook would be entirely missed by using soda for the estimation of the acidity, and the results, again, from the behaviour of the phosphates, would not be the same. I make a 1 per cent. solution of acid phosphate of soda, accepting such solution is 0.5 per cent. of phosphoric anhydride. Acidity, as just described, gives me 0.16 per cent. phosphoric anhydride, whilst the centrifuge deposit with 1 c.cm. of solution and 5 c.cm. of lime water, affords approximately, 0.5 per cent. Suppose the mixture used for acidity be centrifuged—that is, exactly neutral—then the residual greater part retained, like ordinary phosphate of soda solution, can be precipitated by more lime water. As regards Joulie's acidity, I have recommended elsewhere lime water to be used instead of lime sucrate, and I have given the details of several estimations of urine. However, if the centrifuge be used to correct the eye in its detection of the first appearance of opalescence, we are left with a supernatant fluid which will dissolve further deposits arising from the dropping in of the lime water.

When we accept the monobasic sodium phosphate as the cause of the acidity of urine we have a ready method of ascertaining in a given sample how far such is the case in the behaviour of the monobasic and bibasic salts in the lime water methods, just described, and such differentiation is important, and a few careful observations should make us still more able to diagnose cases.

J. BARKER SMITH, L.R.C.P.

London.

Reports of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Friday, December 8th, 1911.

MR. W. I. DE C. WHEELER in the Chair.

Veno-venostomy for Ascites.

SIR CHARLES BALL read notes of a case of ascites in an alcoholic woman, aged 35. The abdomen, which had quickly refilled with fluid after tapping, was opened and washed out with saline. The fluid rapidly accumulated again. On November 30th, 1910, she was treated by lymph-angioplasty, loops of floss silk being passed from the peritoneal cavity through the right saphenous opening into the subcutaneous tissue of the thigh, one extending down nearly to the knee. This operation was quite unsuccessful in preventing the accumulation of ascitic fluid. In three weeks she was again fully distended. On December 21st the following operation was undertaken. An incision was made from the left saphenic opening down the thigh over the course of the vein for about 10 in. The vessel was ligatured and cut across below and dissected out up to the point at which it went in deeply to join the femoral vein. The abdomen was opened by an oblique incision over Poupart's ligament, and the lower edge of the peritoneal incision separated from the pelvis until the femoral ring was exposed. The cut end of the saphena vein was brought through the canal into the subperitoneal tissue. An incision was made through the outer layer of peritoneum of the mesocolon, and a large sigmoid vein was found. By separating the peritoneum with the finger from the incision in the mesocolon, the primary wound in the abdominal wall was easily reached, so that the saphena vein could be brought up into the mesocolon extraperitoneally. The intestinal vein was then anastomosed into the saphena vein, and when the clamps were removed blood was seen flowing into the saphena vein without leakage at the line of union. Before closing the abdomen the side of the silk drains on the opposite side were felt, and it was found they had been smoothly covered by lymph, so that they were useless for draining the peritoneum. The patient made a rapid recovery, but a moderate amount of fluid re-formed in the peritoneum, so she was tapped again on January 18th, after which she remained well until about two months ago, when she began to drink heavily, and the fluid re-formed. It was suggested that it was reasonable to suppose that had she given herself fair play she would have remained longer well.

MR. W. I. DE C. WHELLER said he had found the Talma operation to work well in a case of ascites, but no patient suffering from jaundice, cirrhosis of the kidney, or heart affection could be suitable for such an operation. Cases of atrophic ascites were those most favourable for the operation. MR. GUNN said it seemed to him that in these Morrison cases the patient either improved immediately or there was no improvement at all. If the improvement were due to the anastomosis being satisfactory, one would expect it to be of a gradual nature. He would prefer to try the operation suggested by Sir Charles Ball than the Morrison. MR. STONEY said that although he considered the operation described by Sir Charles Ball a most excellent one, he did not think that lymphangioplasty could be dismissed by saying it was always an absolute failure. He had experience of this operation in a case of polyserositis, and found it most satisfactory.

Dioradin.

MR. R. A. STONEY, in a paper on the treatment of surgical tuberculosis by dioradin, said that Dr. Bernheim visited the Royal City of Dublin Hospital last August, and saw several cases of various forms of surgical tuberculosis, and, having examined and given each patient an injection of dioradin, he left a supply of the fluid to continue the treatment. In all, 15 cases had received one course of injections. Each course consisted of forty injections of 0.cm. or less (according to the patient's age) of dioradin given in the gluteal muscles, the first thirty on consecutive days, and the last ten on alternative days. Dr. Bernheim advised that at least two courses of injection should be given with an interval of about a fortnight between them. Of these 15 cases, the results might be summarized as follows: In 5 cases without secondary infection there was one apparent cure (Case I, Pott's caries); and the other 4 cases were all greatly improved, and would probably result in cure after a further course of treatment (Case IV, tuberculous knee; Case VI, tuberculous tarsus; Case IX, advanced tuberculous hip; and Case X, early tuberculous hip). In 10 cases with secondary infection there was one apparent cure (Case V, with multiple tuberculous foci); 2 cases were greatly improved and appeared likely to result in cure after a further course of injections (Case III and Case XI, both advanced tuberculous hips); 4 cases showed some improvement (Case II, tuberculous cystitis; Case XIII, tuberculous peritonitis and fibroid phthisis; Case XIV, lupus; and Case XV, phthisis and enlarged cervical glands). And finally there were 3 cases which showed no improvement (Case VII, multiple tuberculous foci; Case VIII, hip disease; and Case XII, tuberculous cystitis). Of these 3 cases which show no improvement, the case of cystitis is distinctly worse, but there is no reason to suggest that the treatment is to blame for this; he was only admitted to hospital to try and get him sufficiently improved to allow him to go back to the country to die. The disease had lasted several years, and his kidneys were almost certainly affected also. The case of the hip was never proved to be tuberculous; in fact, there was always much doubt about this, and in any case the septic element which was present always appeared the more important. The third case, that of multiple tuberculous foci, was improving at first and then developed whooping-cough and relapsed; however, a few days ago it was reported that he was much better again—in fact, almost perfectly well, only one very small sinus still remaining with a very slight daily discharge. One very important point about these cases was that many of them had already been in hospital under various forms of treatment, mostly without any improvement, for many months before the injections of dioradin were started.

MR. W. I DE C. WHEELER said he had an idea that radium preparations used locally might have a good effect, but it was hard to see how its use intramuscularly could do any good. He attributed the improvement effected in the cases reported as much to the extra amount of attention given to them by Mr. Stoney as to the use of dioradin.

DR. CROFTON said he had seen dioradin fail in three advanced cases of pulmonary tuberculosis. MR. STEVENSON said that it was of interest to note that the cases which gave the best results were those in which there was no secondary infection. It was to be hoped that by combining dioradin treatment with a vaccine for whatever the secondary infection might be, better results would be obtained. The improvement brought about by dioradin seemed very much the same as that produced by tuberculin, except, perhaps, it might be more rapid. He considered the great objection to the use of the drug was the uncertainty as to its exact composition. The formula appeared to him to be unintelligible. DR. KIRKPATRICK said that he gathered from what Mr. Stoney had reported that there was some encouragement to continue the treatment. However, he was not very favourably impressed by it so far. He had not yet seen any case which could be called a "cure." He understood that Dr. Bernheim claimed that it was in cases of mixed infection the best results were to be attained, and this had led him to hope a vast improvement would follow by relieving the patient of the trouble of secondary infection. But such a result had not yet been experienced by him. Mr. Stoney said that most of his patients had been under treatment for a considerable time without improvement, but that as soon as dioradin was injected it did them some good. It had been definitely demonstrated by test-tube experiments that the combining of radium chloride with menthol and iodine had increased the power of destruction of the tubercle bacillus. Some cases of secondary infection treated by him had improved very considerably after the application of the drug.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, December 13th, 1911.

DR. HAIG FERGUSON, President, in the Chair.

Abdominal Hysterectomy for Cancer Uteri.

DR. F. J. MCCANN (London), in a paper on the technique of the more extensive abdominal operations for cancer

of the uterus, described his own method, and showed how it differed from that of Wertheim. Speaking of the complications of operations of this order, he said that if the ureter were injured high up, the proximal end might be ligated to induce atrophy of the kidney, or the kidney might be excised. If the injury were low down, the ureter should be transplanted afresh into the bladder in the same way as Stiles recommended for transplantation into the pelvic colon in cases of extroverted bladder. If the ureter necrosed after the operation the fistula usually closed with daily applications of tincture of iodine. If the bladder were torn or thinned it was sutured, and if invaded part of it was excised. Post-operative cystitis was one of the most frequent complications, but Dr. McCann had not met with it. It was due to keeping gauze for many days in the pelvis and to emptying the bladder only twice a day. The use of battiste protectors saved the abdominal wound from contamination. The mortality in his cases was 2 out of 41 operations. He believed that it was not necessarily any higher than the mortality of vaginal hysterectomy. When this was attained the latter operation would gradually die out. The commonest cause of death was put down as shock, but he was of opinion that it was often shock *plus* the hemorrhage at the operation. The aim of his technique was to prevent hemorrhage. In his series 9 out of 20 had remained free from recurrence after periods varying from two years and nine months to four years. He had had 24 complete operations for cancer of the body, with 1 death. Dr. BREWIS had been long an advocate of vaginal hysterectomy, but he was now converted to the abdominal operation, because it gave a better chance of deciding at the outset whether or not the case were operable. When reliance was placed solely on vaginal examination, inflammatory fixation might be mistaken for true malignant infiltration. He thought the removal of glands was of no avail. His own experience was that cancer of the body was as common as cancer of the cervix, and spread as quickly. Professor KYNOCH said that cancer of the cervix was not seen at such an early stage in this country as in Germany. So far he had practised vaginal hysterectomy for cancer of the body. Mr. SCOTT CARMICHAEL was a great supporter of Wertheim's operation, and had never done vaginal hysterectomy. He agreed that the separation of the bladder by blunt dissection was to be condemned, but he used a sharp bistoury instead of scissors. He had never had any difficulty in finding the ureter by Wertheim's method. On the principle of breast operations, he advocated removal of glands. The PRESIDENT said the two main results of the discussion were the demonstration that the mortality could be brought as low as that of vaginal hysterectomy and the agreement that complete removal of the glands was impossible. Only in a third of the cases of cancer of the cervix were the glands enlarged. Recurrence was usually in the scar after vaginal hysterectomy, from which he had obtained good results, and the scar could be kept free from invasion by the abdominal method. Dr. MCCANN, in reply, said that after vaginal hysterectomy recurrence took place in the scar, and was prevented by wider removal. After the abdominal operation recurrence took place in the glands, and that was best prevented by a freer removal of the glands. If any difficulty was experienced in separating the bladder, one should commence at the sides and work to the centre.

UNITED SERVICES MEDICAL SOCIETY.

AT a meeting on December 13th, Major E. B. WAGGETT, R.A.M.C.(T.), in the chair, Fleet Surgeon D. J. P. MCNABB, R.N., who has been in charge of the hospital ship *Maine*, spoke of the advantages of ships of this type, both in peace and war. They were constantly ready to receive the more serious cases of illness and accident from the fighting ships of the fleet at sea or in places where there was no suitable accommodation on shore, thus relieving the strain on the sick-berth accommodation of the fleet and providing the sick with air space, nursing, quiet, and general comfort almost impossible to obtain in a busy man-of-war. In war time the duties of hospital ships would naturally be much more exacting and important, as there would be urgent need of clearing fighting ships of their wounded as soon as possible after an action, both from the point of view of the welfare of the injured and also for the reason that a ship encumbered with a large number of wounded would be much hampered should it be necessary to renew the action. If in war time the fighting was taking place on land, but in the vicinity of the sea, in many places (such as the West Coast of Africa) the hospital ship was an invaluable accessory, taking to the wildest parts of the earth all the resources of civilization, and providing the sick and wounded sent down to the coast with an amount of accommodation, attention, and comfort otherwise impossible. Another function of hospital ships, both in peace and war, was the transport of large numbers of sick either from the seat of war home or from a foreign hospital to a home one. The ideal hospital ship was one of from 3,000 to 4,000 tons, with a speed of about 12 knots, and with accommodation for about 240 sick in peace time and 100 more in war time. Each should have accommodation on the boat deck for cases of infectious disease.

Reviews.

DISEASES OF THE PANCREAS.[1]

MUCH has been added during the last ten years to our knowledge of diseases of the pancreas, but this information is scattered so widely through medical periodical literature that we welcome the excellent monograph upon the diagnosis of pancreatic diseases by Professor A. ALBU in his encyclopaedia of diseases of digestion and metabolism. The principal advance has been made in diagnosis, but the author protests against the practice which has been raised by some surgeons to a principle, of using the knife for this purpose. Some of the old tests have been proved to be useless, such as the absence of ethereal sulphates and indican, the presence of lipuria and of maltose. Glycosuria when present is of great value, so too is the production of alimentary glycosuria, by giving 100 grams of chemically pure grape sugar, or 200 grams of ordinary sugar dissolved in coffee, tea or milk; glycosuria occurs in a couple of hours when the result is positive, and may last from twenty-four to forty-eight hours. Unchanged muscle fibre is often present in the faeces of healthy men, and in various affections of the stomach and intestines, but especially if there is diarrhoea. Capsules, which are supposed not to dissolve in the stomach, often do so in spite of the ingenuity which has been applied to their construction. Many suggestions have been made for testing for trypsin in the faeces. A useful method is that of Gross. A solution of pure casein in soda solution is made and kept for use; the stool is diluted with three parts of soda solution rubbed up and filtered, added to 10 c.cm. of the casein solution, which is then put in an incubator for from five to fifteen hours. With normal faeces complete digestion takes place so that no precipitation or cloud appears on the addition of a drop of 1 per cent. acetic acid. Unfortunately a positive result does not prove the presence of trypsin as erepsin may be present. Another method is to look for trypsin in the siphoned stomach contents after administration of oil or cream, but the precaution must be taken of giving half a teaspoonful of burnt magnesia or some similar alkali before the oil. But even here erepsin may flow back into the stomach, and complete absence of digestion is not necessarily due to pancreatic insufficiency, as many circumstances may hinder the back flow into the stomach. Schmitz's test by swallowing muscle fibre tied up in little bags of gauze and looking for the disappearance of the cell nuclei is one of the best, but a negative result does not prove the insufficiency of the pancreas. Fatty stools are present in only a proportion of cases. The fat may be there mixed with the stools or in the form of oil solidifying on standing. Such stools may be provoked by giving half a pound of butter or 100 grams of pure olive oil. Another suggestion is to look for lecithin in the faeces; though traces of it may be present in health and in other diseases, yet its existence points to disease of the pancreas. Another

[1] *Sammlung zwangloser Abhandlungen aus dem Gebiete der Verdauungs- und Stoffwechsel-krankheiten.* Herausgegeben von Professor Dr. A. Albu in Berlin. III Band, Heft I. *Beitraege zur Diagnostik der inneren und chirurgischen Pankreaser-krankungen.* Von Professor Dr. Albert Albu in Berlin. Halle a. S.: Carl Marhold. 1911. (Med. 8vo, pp. 104. M.2.80.)

diagnostic help is the diminution of fat in the stools after administering preparations of pancreas, and it is noteworthy that these do not appear to have any effect upon the passage of undigested muscle fibre. Again, it is attempted to prove the existence of disease of the pancreas by looking for diastase in the faeces. To do this some diluted faeces are added to a starch solution and incubated for twenty-four hours; the mixture is then tested with iodine solution, or we may add iodine solution to the faeces in order to see whether the ingested starch has been completely converted. It is also sought to prove the absence of the internal secretion of the pancreas by noting the absence of adrenalin mydriasis; when a drop of solution of adrenalin is instilled into the eye the pupil dilates under normal circumstances, but in diabetes and Graves's disease this fails to occur; this test needs further investigation. Professor Albu says Cammidge's reaction has been much criticized from both chemical and clinical standpoints. It is difficult to carry out, useless in the presence of dextrose or laevulose, so that the urine should be thoroughly fermented. It is not certain what the crystals are, but Cammidge's later suggestion that they are pentosazone is impossible, as pentose urine does not give the reaction, and the amount is too small for proper chemical investigation. Positive results are stated to have been obtained in other diseases, especially those of the liver, while integrity of the pancreas has been proved *post mortem* in other cases where the test gave a positive result, and again the test has been negative in stomach disease of the pancreas. Yet Professor Albu does not think it deserves the total neglect it has encountered in Germany. In his limited experience it gave negative results in three cases of intestinal disease and a positive result in one case of pancreatic disease, and he thinks that in combination with other symptoms and signs a positive Cammidge reaction should help in diagnosis—in any case it is a pathologico-chemical curiosity which may contribute to a better knowledge of the metabolism of carbohydrates. The only subject which seems to have escaped Professor Albu's attention is that of metastatic pancreatitis in mumps, which has been observed with some frequency in France.

It is several years now since our review of the first edition of Professor OPIE's *Disease of the Pancreas*[2] was published. The book then was welcomed as being one of the first modern works to deal with the subject of pancreatic disease in a systematic way. Many vexed problems were attacked by Professor Opie, and very considerable light was thrown upon much that till then was obscure. The present edition is equally welcome. It is beautifully illustrated, and is written with clearness and precision. Many of the older problems and their solution are restated, and it is pleasing to say these solutions as there given are reaffirmed on the strength of subsequent investigations by Professor Opie and writers all over the world. Evidence is brought to show that haemorrhagic pancreatitis is due to a diversion of the bile into the pancreatic duct and passages, the escape at the ampulla of Vater being obstructed, but a free way being left in the neighbourhood by which a continuity of biliary and pancreatic ducts is maintained. Fat necrosis is nothing more than a result of the steatolytin action of pancreatic juice after escape from its passages acting upon fat in various parts of the body, but especially in that of the peritoneal cavity. An excellent account of cysts of the pancreas will be found, based largely upon the work of Oder and of Körti. The greatest interest of this edition centres round the verdict given by subsequent investigation of the correctness of the view so ably presented after much work at elucidation by Professor Opie, namely, of the relation of disease of the cells forming the islands of Langerhans to diabetes mellitus. The paper by Dr. R. L. Cecil contains a report on the pancreas from ninety cases of diabetes mellitus. In 63 cases interacinar pancreatitis was present, accompanied by some change in the islands of Langerhans; in 4 cases there was interlobular pancreatitis with sclerosis of the islands of Langerhans; in 12 cases the parenchyme of the pancreas was normal, but there were changes in or about the islands of Langerhans. There were 11 cases in which the structure of the pancreas was found to be normal. Professor Opie's discussion on these and other findings will be read with great interest, and this review will fairly serve its purpose if it states that Professor Opie tests every link in his chain of argument with fairness and a not too great impartiality for the views he holds. His thoroughly judicious attitude seems to us to be one of the best pieces of evidence we have ever read, that a scientific worker may be trusted to pass a verdict upon his own theories. No doubt the occasion is rare, but this is but one more reason why this masterly work should be amongst the works of reference of every physician and surgeon.

[2] *Disease of the Pancreas, its Cause and Nature.* By Eugene L. Opie, Professor of Pathology, Washington University, etc. Second edition, rewritten. Philadelphia and London: J. B. Lippincott Company. 1910. (Roy. 8vo, pp. 397; 50 illustrations. 15s. net.)

THE DEAF CHILD.

THE aim of Dr. J. KERR LOVE'S book on *The Deaf Child*[3] is well set forth in a "foreword" by Helen Keller—herself both blind and deaf, who is a living proof of how much can be achieved by scientific education. "It will be a great step forward," she writes, "when the physician takes part in the work for defectives who have been hitherto wholly entrusted to teachers in schools." In this spirit Dr. Kerr Love discusses the training of the deaf child, and shows that medical men have done little in the past towards furnishing a clinical basis for educational methods, though they have devoted much study to pathological changes in the temporal bone associated with deafness. Damage to the auditory apparatus, he points out, is indeed often merely a "by-product of a more general disease, and it is the prevention of this latter, and not the study of the by-product, which will help the children of the future." Dr. Kerr Love rightly attaches great importance to the scientific classification of pupils for instruction according to the degree of deafness, each class requiring methods physiologically appropriate. In addition to the congenital deaf-mute (and it is noted that absolute deafness is comparatively infrequent) deaf pupils more or less unfit for the ordinary instruction of elementary schools fall into three categories—(1) the hard of hearing; (2) the semi-deaf; (3) the semi-mute who has lost hearing in early life; the mentally defective deaf forming a group apart. The author urges segregation for the last-named, but seems to think that only pronounced original cases of deaf-mutism need to be sent to residential institutions, day-school instruction being better adapted for those in the other categories. Modes of testing degrees of deafness by whispered speech, by a specially fitted bell and by tuning-forks are described and illustrated in a way which would alone make the book of great practical service to those engaged in the medical inspection of schools. For teachers we find (on pp. 57 to 60)) most valuable hints as to the physiological indications they should follow in the training of various classes of deaf pupils: and the comprehensive account of the methods employed in the chief schools in Europe and America visited by Dr. Love cannot fail to suggest points of practical utility in administration. Altogether, this book may be said to open up a new vista in the training of the deaf upon strictly physiological lines.

[3] *The Deaf Child: A Manual for Teachers and School Doctors.* By James Kerr Love, M.D. 1911. Bristol: J. Wright and Sons; London: Simpkin, Marshall and Co. (Post 8vo, pp. 198; with 10 figures and chart. 4s. 6d. net.)

ANATOMY.

UNDER the able editorship of Professor ARTHUR KEITH, Sir FREDERICK TREVES'S small handbook of *Surgical Applied Anatomy*[4] continues to hold its own amongst the numerous and elaborate competitors which have sprung into existence during the last ten years; indeed, it is doubtful if any other book of the same size contains more or more wisely chosen information, or information as well arranged and as well adapted for the use of students. All the more important bearings of anatomy upon surgery are touched upon, more or less fully, and the information provided is kept well up to date. Naturally, in a book of such small size, many of the descriptions must of necessity be outlined sketches of the subject dealt with, but they are vigorous sketches, in which all the main outlines stand out so clearly that they must impress themselves on the reader's mind. The utility of the text is augmented by many illustrations, unpretentious in character but strong and instructive. Little

[4] *Surgical Applied Anatomy.* By Sir Frederick Treves, Bart. Sixth edition. Revised by Professor Arthur Keith, M.D., etc. London and New York: Published by Cassell and Co., Ltd. 1911. (Fcap. 8vo, pp. 686; figs. 137. Price 9s.)

fault can be found either with the text or with the figures, but the register of the red colour of the muscles in some of the figures is unsatisfactory. There is a discrepancy between Fig. 19 and the statement regarding it, and although Fig. 91 may be an excellent reproduction of a skiagraph of injected ureters it gives a false idea of the relations of the ureters to the ovaries and the uterus.

It is generally admitted that, so far, at least, as this country is concerned, the inadequacy of anatomical supply has seriously diminished the amount of original investigations on the sectional anatomy of the human body. Moreover, since Braune's famous atlas of sections was issued in 1875, the introduction of formaldehyde as a hardening agent has completely revolutionized many of our ideas of the anatomy of the viscera. Professor BERRY[5] of Melbourne has done well, therefore, to study again, with the help of the improved technique now available, the anatomy of the body in section. Professor Berry was fortunate in that for three or four years he was able to command a supply of material slightly in excess of the annual demand. The surplusage he devoted to the making of sections in transverse and sagittal planes, and the *Atlas* now published contains 60 original plates printed from photographs of the sections and reconstructions. The plates are beautifully coloured, the originals having been painted by means of Japanese transparent water tints. Any necessary strengthening of the photographic shadows was made from the specimens by means of weak washes of lampblack. The result on the whole is satisfactory, though naturally we inquire if any superiority has been attained over the older methods of illustration by woodcuts and lithographic plates. Frankly, we do not think so. Here and there the touching up of shadows and the black edging of the nerves and muscles produce a somewhat diagrammatic effect. We wish, too, that Professor Berry had reproduced some of the sections on a larger scale. Figs. 34, 35, 36, 37, and 38, for example, lose somewhat, instead of gaining, by reduction. Nevertheless, the plates are of the greatest interest, and will well repay constant and repeated study by all those—and they are an increasing number—who are interested in the subject of sectional anatomy. That the original plates were of the very highest class in photographic art is shown by the fact that six were "hung" in the Dresden International Photographic Exhibition of 1909. Professor Berry has produced a notable atlas.

NOTES ON BOOKS.

CHEMISTRY.

IN his *Handbook of Organic Analysis*,[6] Mr. H. T. CLARKE has not merely added another to a large number of books covering more or less the same ground, but has met a distinct want by producing a very useful guide for the chemist who has occasion to identify organic compounds, or mixtures of such. The enormous and bewildering number of organic compounds, most of them of complex structure, renders impossible a simple scheme for their identification, corresponding to the familiar "chart" for the recognition of compounds of the metals; but the problem can nevertheless be best attacked systematically. The first step is to discover what elements, and what groups or radicles are present; usually, one or more of the elements or groups must be determined quantitatively; many physical constants must be ascertained; it may then become possible to identify the substance by a comparison of all its properties with those of known compounds containing the constituent groups which have been found. In this book concise directions are given for the recognition of all the more important radicles and types of compounds, and these are followed by tables of organic substances classified into groups and arranged in order of melting points or boiling points, all their properties necessary for identification being given: several hundred compounds are thus dealt with. The book is not for beginners; to those who have the necessary experience it cannot fail to prove most useful.

Dr. A. C. CUMMING'S[7] *Practical Chemistry for Medical Students* is an excellent little book for teaching the elements of the subject. The course of work outlined includes the preparation of the commoner gases and of salts, as well as the identification of the latter by tests, and elementary volumetric analysis. The matter is so presented as to give the student a good understanding of the reasons for the various operations, and the directions are adequate and instructive without being excessive. The book is the outcome of the author's experience in teaching medical students in Edinburgh University, and shows the hand of the good teacher. Only the simplest apparatus is required for the work described, and the book will be a good guide to students working by themselves, as well as very useful to those attending classes.

The *Handbook of Physics and Chemistry*[8] of Messrs. H. E. CORBIN and A. M. STEWART is especially intended for those preparing for the examinations of the Conjoint Board in England. Chemistry occupies slightly more than half the book, and as the text begins with simple conceptions of chemical change, and concludes with salicylic acid and other benzene derivatives, taking metals and their compounds and non-metallic elements on the way, it is evident that no one division can be very fully dealt with. The section on physics covers even more ground in less space. Such a book is, of course, almost always used as a companion to lectures and demonstrations, and the fact that it has reached a fourth edition in twelve years shows that this one has proved useful for its purpose.

Famous Chemists,[9] by Mr. E. ROBERTS, consists of twenty-six chapters, each giving some account of a famous chemist, eleven of them being Englishmen. The first chapter is devoted to a few facts relative to Stahl and the phlogiston theory which he put forward about the end of the seventeenth century; among early experimenters next dealt with are Boyle, Black, Cavendish, and Priestley, and chronological order is followed with others down to the present time, Mendeléeff and Perkin, who died in 1907, being included. The average space devoted to each chemist is between eight and nine small pages, so that no very detailed account of either the life or the scientific work of each is possible. It is not very clear to what class of readers the book is intended to appeal; chemical formulae are introduced rather freely, but will scarcely be understood by the general reader, while the chemist who is interested in the history of the science and the men who have made it will naturally turn to more voluminous works. Nevertheless, the book makes fairly interesting reading, and the chronological arrangement enables it to serve as a slender sketch of the development of chemical science. The chemists whose work is touched on include great experimenters and discoverers of new facts, and others whose most important contributions have been in the domain of theory, so that the interdependence of theory and practical progress may be noted. The book is unfortunately marred by rather numerous printer's errors, especially in the punctuation.

[5] *A Clinical Atlas of Sectional and Topographical Anatomy.* By Professor R. J. A. Berry, M.D., F.R.S.E., Melbourne. Edinburgh: Messrs. W. Green and Sons. (D. sup. roy. 8vo, pp. 73; plates 60 42s.)

[6] *A Handbook of Organic Analysis, Qualitative and Quantitative.* By Hans Thacher Clarke, B.Sc.Lond., A.I.C. With an introduction by J. Norman Collie, Ph.D., LL.D., F.R.S. London: Edward Arnold. 1911. (Post 8vo, pp. 272; 23 illustrations. 5s. net.)

[7] *Practical Chemistry for Medical Students.* By Alexander Charles Cumming, D.Sc. With preface by Professor James Walker. Edinburgh: James Thin. 1911. (Med. 8vo, pp. 171; 14 illustrations.)

[8] *A Handbook of Physics and Chemistry.* By Herbert E. Corbin, B.Sc.Lond., M.R.C.S., L.R.C.P., D.P.H., and Archibald M. Stewart, M.A., T.C.D., B.Sc.Lond. 4th edition. London: J. and A. Churchill. 1911. (Post 8vo, pp. 527, 183 illustrations. 7s. 6d. net.)

[9] *Famous Chemists.* By E. Roberts, B.Sc.Lond. London: George Allen and Co., Ltd. (Crown 8vo, pp. 247. 2s. 6d.)

MEDICINAL AND DIETETIC ARTICLES.

Hormonal.

THE isolation and therapeutic employment of the active principle of the suprarenal gland has directed attention to other substances belonging to the class of hormones, or internal secretions. Such a substance is contained in hormonal, a liquid prepared by Messrs. Schering and described as a solution of the hormone which causes normal peristalsis. This preparation, a sample of which we have received from Messrs A. and M. Zimmermann is a light brown liquid, preserved by means of a small addition of cresol, intended for administration by intravenous injection in cases of chronic constipation. It is also supplied with the addition of ¼ per cent. of eucaine hydrochloride, for intramuscular injection.

THE PARLIAMENTARY SESSION.

THE first Parliament elected in the present reign met on January 31st of this year and concluded its work on December 16th. It thus happened that the House of Commons sat in every month, except September, for the transaction of business. The first few days of this long session were occupied by the election of the Speaker and the swearing-in of members, and the real start at the actual business of the year was only made after the delivery of the King's Speech on February 6th. The proposals for legislation mentioned in the Speech from the Throne were singularly few, but of vast social and political importance. The relations between the two Houses of Parliament involved radical changes in the Constitution, and the proposals for insurance against sickness and invalidity proved most complicated in their nature and very far-reaching in their effects on the medical profession in relation to its daily work among the poor. This bill was only added to the Statute Book in the last hours of the session, and, as the full and interesting references to it in the pages of the BRITISH MEDICAL JOURNAL show, it has yet to be shaped for administrative purposes by the Insurance Commissioners before it comes into actual operation. A new Parliament is always full of activity as regards legislation, and so it was only natural that private members should be eager with proposals for reforms. Accordingly, the records show that some 224 bills were put forward by private members in the Commons out of a total of less than 300. The prospects of success for these enterprising legislators were, however, rudely shattered by the decision of the Government to take the whole time of the House of Commons up to Easter, on account of the gravity and importance of its own bills. In spite of this, 350 members balloted for places, and the lucky men introduced some twenty-five bills, of which at the end of the session ten had surmounted all dangers and had become law. They are now Acts of Parliament, with the following titles: Intestate Husbands Estate (Scotland), Municipal Elections, Old Age Pensions, Parsonages, Protection of Animals, Public Health (Ireland) and Public Health (Scotland) Act, 1897, Amendment. These passed before the recess, and after Parliament reassembled in October the Local Authorities (Ireland) (Qualification of Women), Public Roads (Ireland), and the University of Wales Acts were enacted.

Few of these had any relation to public health, and those that did affect the profession did so only in a small degree. The Protection of Animals Act, which naturally suggested an antivivisection measure, was introduced and carried by Mr. George Greenwood. It is a useful Act which consolidates the law as to cruelty to animals in the general sense, and does not in any way relate to laboratory experiments. The two Public Health Acts dealt with matters of minor importance: that passed for Ireland was modified in the Standing Committee to deal only with the inspection of meat for sale in any urban district and the prohibition of the sale if necessary; the Scottish Bill had for its object the extension of the powers given to local authorities by the Public Health (Scotland) Act, 1897, with reference to the construction of sewers, to all authorities empowered to supply water to a district. Both measures, though limited in their scope, are useful additions to sanitary laws. The University of Wales (No. 2) Act was a second attempt to draft a measure to extend to the Welsh University the provisions of the Medical Acts and to the graduates thereof. Another portal has thus been added by this measure to the medical profession and another member to the General Medical Council, both additions, in the opinion of medical reformers, of very doubtful advantage to a profession with already too many ways of entrance and to a Council already too numerous.

The output of the Government—fifty-three bills in all—contrasts favourably with last year's results, when a score or so fewer were passed. This year, too, some of the Acts are of momentous importance, such as the Parliament Act and the National Insurance Act. To the latter so much space and consideration has been given in the JOURNAL that there is no need to do more than mention it. Among the others there are four of medical interest as bearing on public health—namely, the Coal Mines, the Shops, the Rag Flock, and the Lunacy Acts. The coal miners have for some years been asking for some fresh enactment to lessen their liability to accidents and to render their occupation less unhealthy, and the Government have to a large extent met their requirements in this measure. The Shops Act, as now enacted, is only a part of the more comprehensive measure originally brought in by Mr. Winston Churchill when Home Secretary, but by its regulations the lives of shop assistants will be rendered more healthy.

The Rag Flock Act deals with a serious scandal in the manufacture of flock for stuffing bedding and upholstery. The cheaper varieties of flock have long been made from old rags and similar unclean materials, but in future a proper standard of cleanliness will be enforced in the manufacture and use of flock, and thus another danger to public health prevented by sanitary officers.

The Lunacy Act which was passed this year is a much less ambitious effort than the bill lost last year. It has grown small by degrees, and beautifully less, until it now only provides for the appointment of two additional Lunacy Commissioners, one of whom will be a medical man. The bill as originally introduced this year provided for the amalgamation of the Lunacy Commissioners and the Masters in Lunacy, but the opposition of the Bar was strong enough to cause this proposal to be dropped.

Of the crowd of bills that failed for the session, many of which will be revived next year, there were very few introduced by the Government. Indeed, the only bill of medical interest which was dropped by a Minister was the Health Visitors Bill of Mr. Burns. Private members were, of course, less successful, and two useful little Public Health Bills dealing with water rights and sewers and drains were lost. The Nurses' Registration Bill will no doubt come up again next session, and so will the bills for abolishing vivisection, two in number, and one of Mr. Black's, for repealing the vaccination laws. Dr. Addison's valuable bill for teaching hygiene in elementary schools has twice been favourably received, and will no doubt reappear. The late Dr. Hillier had charge of the Medical Officers of Health Superannuation Bill, and that, with a bill dealing with asylum officers, will again be taken up. From this brief sketch it will be seen that the activity of the session was not very marked as regards medical bills. There were, however, two other directions in which the interest in health questions was well displayed. Several interesting debates were raised as occasion offered, and the most notable of these was one on vaccination, opened by the late Dr. Hillier. On the Local Government Board vote the payment of vaccination officers was debated at length and a division taken. On the education vote the medical inspection of children occupied a large share of attention, and on the Indian Budget a discussion was raised on the prevalence and prevention of plague in India. Lead poisoning, which is always a subject for consideration on the Home Office Vote, missed this year the able assistance of the late Sir Charles Dilke, but was nevertheless well discussed. Milk legislation, long promised, was brought before the House of Commons on the Newcastle-on-Tyne Corporation Bill, and the promises of future attention again given on behalf of the Government. The medical members of the House took prominent part in most of these debates.

Lastly, questions to Ministers as usual afforded the most constant and easy method of directing public attention to sanitary matters, as the following list of some of the topics raised amply shows: White bread and national degeneracy; vaccination exemption certificates; medical practitioners and motor spirit; plague heroism of European doctors; medical inspection of schools; anthrax; destruction of rats; Chinese pork; treatment of sick poor; the amendment of the Midwives Acts; sanitation of Holyrood Palace; international co-operation to check plague; medical referees under the Compensation Acts; the cost of certifying inebriates and lunatics in London; deaths after vaccination; patent medicines; margarine and milk blended butter; cost of Poor Law Commission; Poor Law administration; vaccination in Scotland; small-pox in London; standard bread and the navy; Dresden Hygiene Exhibition; measles at Royal Naval College; public health in Egypt; sleeping sickness; American imported meat; International Plague Commission; flannelette; medical examination of Territorials; vaccination exemption certificates; deaths from chicken-pox; beri-beri

at Galway; rice (polished and adulterated); leadless glaze ware; Indian Medical Service; tuberculosis; telephone charges; ventilation of the House of Commons; care of the feeble-minded; R.A.M.C.; Royal Naval Medical Corps; opium conference; University of London Commission; midwives; vivisection; anterior poliomyelitis. This list might be made much longer, but is sufficient to show the variety of subjects mentioned in questions, all of which have been recorded in the columns of the JOURNAL. This list has purposely excluded many scores of questions on the National Insurance Bill, all of which have been scrupulously reported in these columns. On the whole, whatever may be thought of the results of the session as regards medicine and public health, there can be no doubt that medical questions have occupied much of the attention of our legislators.

LITERARY NOTES.

WITH the advent of the taxi-cab, the motor omnibus, and all the additional facilities for motion which of late years have helped to swell the traffic in the streets of our great cities, there has naturally been a corresponding increase in street noises, and it is beginning to be realized that this constant turmoil constitutes a very real and serious menace to the health and mental equilibrium of modern town dwellers. Mr. Reginald A. Bray, writing in the December number of *The Child*, comments upon the terrible effects that the roar of a crowded thoroughfare may have upon the sensitive organism of a child forced to live day and night in the heart of a busy neighbourhood amidst the ceaseless sound of human industry. The crowded dwellings, the dangerous excitements of their only playground—the public street—and, above all, the atmosphere of feverish, noisy energy which from their earliest years surrounds the children of the poorer class of town dwellers, reacts upon mind as well as body, and too often breeds a spirit of restlessness and unrestraint, which deprives these budding citizens of all taste or aptitude for the humdrum work which must inevitably fall to their share in later life. "It is needless to labour the question," says Mr. Bray; "the town is a place of noise, and the noise wears down the nervous tissue. Nervous irritation, nervous breakdown, sudden uprushes of undirected and irrelevant excitement; these are the consequences, and they are all summed up in the single word—unrest." What this unrest may ultimately lead to we have already had an opportunity of judging from the deplorable exhibitions of hooliganism which have disturbed the public peace from time to time during the last few years. It was to combat the evil influences of the streets upon the minds and morals of city waifs and strays that the National Refuges for Homeless and Destitute Children were founded by Mr. William Williams, of whom a sympathetic sketch is given in the present number of *The Child* by his former secretary, Mr. Harry Ebdon; whilst the noble work done by these refuges is well described by Mr. Henry G. Copeland. The same number contains several other articles of an interesting nature from writers well qualified to speak with authority on the important subject of child welfare.

The *Glasgow Medical Journal* for November contains the presidential address delivered by Dr. Freeland Fergus at the opening of the Medico-Chirurgical Society of Glasgow last October. It is a most interesting review of the origin and development of the Glasgow School of Medicine. The "true begetter" of the school was Maister Peter Lowe, who obtained from James VI a Charter of Incorporation founding the Faculty of Physicians and Surgeons in the City of Glasgow. That charter was dated November, 1599, and it formed those practising medicine or surgery or anything allied thereto within a specified district into a sort of guild. The Faculty had full power to call before it all persons professing or using the art of surgery, to examine them as to their knowledge and skill, and if they were not found wanting, to grant certificates to that effect. The rise and early progress of the Glasgow Medical School depended almost entirely on William Cullen. Before his time, indeed, some attempt had been made to teach medicine or some of the allied subjects in the university. In 1577 a *nova erectio* of James the Sixth provided for the teaching of physiology along with the supposed cognate subjects of geography, chronology, and astrology. In 1637 Robert Mayne was elected to be "ane Professoure of Medicine in the City Colledge." Mayne died in 1646, and his chair passed away with him. In 1704 a physic garden was begun, and in 1714 Dr. Johnstoun was appointed by the Faculty of the University Professor of Medicine, but it seems to be uncertain whether he gave instruction in the subject. But already from the commencement of the eighteenth century the university had begun to give degrees in medicine. In 1720 a chair of anatomy and botany was established. In 1758 Cullen became professor of medicine; four years later he received a "call" to Edinburgh. We need not follow Dr. Freeland Fergus further through ancient history. In due course we come to the epoch-making advent of Lister. Stress is laid on the point that it was entirely during the time he occupied the chair of surgery at Glasgow that Lister introduced his antiseptic method. Dr. Freeland Fergus heard him say at a meeting that the nine happiest and, he might perhaps say, most useful years of his life had been spent at Glasgow, for it was during that period that he had attempted to adapt to surgical practice the great biological principles set forth by Pasteur. An excellent sketch is given of Gairdner the teacher, the physician, and the man. It is probably now known to comparatively few that besides being Professor of the Practice of Physic, Gairdner was medical officer of health to Glasgow. His labours in that capacity were largely in the nature of pioneer work, and so deep was the mark he left that Dr. Freeland Fergus quotes Dr. John Brownlee as saying that in the public health department of Glasgow he still met Gairdner at every corner. Of other Glasgow teachers—William Mackenzie, whose reputation as an ophthalmologist was world-wide; Allen Thomson, the great anatomist; McKendrick, the distinguished physiologist—who have helped to make the Glasgow Medical School famous we have no space to speak. All interested in the medical life of Glasgow should read Dr. Freeland Fergus's paper.

Vaccine therapy is more or less fashionable at the present time; it was inevitable, therefore, that it should have an organ of publicity all to itself. The *Journal of Vaccine Therapy* is, in a journalistic sense, the latest birth of time. The editor is Dr. R. W. Allen. Among the articles which will probably appear in the first volume are the following: The Methods of Administration of Vaccines; Methods of Controlling the Dosage of Vaccines; Vaccines in Diseases of Infancy and Childhood; The Bacteriology and Treatment of Nasal and Post-nasal Catarrh; The Bacteriology and Treatment of Bronchial Catarrh and Asthma; Vaccines in Treatment of Diseases of the Central Nervous System; Vaccine Treatment in Diphtheria; Pyorrhoea Alveolaris: its Bacteriology and Treatment by means of Vaccines and otherwise; Vaccines in the Treatment of Chronic Arthritis; Tuberculin in Pulmonary Phthisis; The Mixed Infections of Pulmonary Phthisis and their Treatment. The new journal will be published by H. K. Lewis.

In the North of England and in Scotland New Year's Eve is called Hogmanay, and on the morning of December 31st the children go round singing rhymes and getting cakes in return. The *Encyclopaedia Britannica* gives the words as:

> Hogmanay
> Trollolay,
> Gie us your white bread and nane of your grey,'

But the late Professor Masson told the writer that in his early days the children (in Aberdeen) sang:

> Get up gude wife and shake your feathers,
> But dinna think that we are beggars.
> We are but bairns come out to play,
> So get up and gie us oor Hogmanay.

The meaning of the word is obscure, but Professor Masson believed it to be a corruption of Hoc Mane, which is at least a reasonable guess. Cotgrave derives the word from the Norman French, *hoguinané*. The *New English Dictionary* says *Hogmanay* corresponds exactly in sense and use to the old French *aguillaneuf*, the last day of the year; and adds that "although the phonetic difference between *aguillaneuf* and the Scottish word is great, the Norman form *Hoguinané* is much closer to *hagmané*, *hogmanay*, and it cannot be doubted that both the custom and the term are from the French." The earliest example of the word in a printed book occurs about 1680.

British Medical Journal.

SATURDAY, DECEMBER 30TH, 1911.

THE MEDICAL ASPECTS OF THE PARLIAMENTARY SESSION.

A MEMORABLE session has been the first session of he first Parliament elected in the reign of King eorge V. It has been memorable for its length, nning from January to December, and for the umber of the Acts passed, but still more memorable r the momentous importance of its legislation in vo directions. First, in the establishment by the arliament Acts of democratic control, by giving the ected chamber the supreme power in the Consti- ution; and secondly, by the passage of that most r-reaching piece of social legislation called the ational Insurance Act. It would be out of place discuss the former measure in these columns, and e second has been so copiously reported, ventilated, d criticized in the BRITISH MEDICAL JOURNAL and SUPPLEMENT that it will not be discussed in is general review of the session. No session of rliament in this generation has excited more erest in the profession on account of the antici- ted effects of the Insurance Act on medical ctice, and by a remarkable coincidence the session s in many other respects been unusually prolific of dical topics. In spite of the listlessness which m time to time overtakes the Commons House the sion was really strenuous, and even in the last ek furnished notably able and lengthy debates. e output of Government Acts passed—some fifty- in number—is also proof of a very active session. w of these bear directly on medical and sanitary stions. First in importance and least in length es the short Act called the Lunacy Act. It a sad disappointment to all who looked for e adequate legislation to meet the difficulties of Lunacy Commission. So far back as 1908 the al Commission on the Feeble-minded, to whom subject of lunacy reforms was subsequently rred, advised a large scheme of change and made e ninety-six recommendations as regards England e. But, in view of the magnitude of the ms involved, they made in urgent terms a porary recommendation that the Lord Chancellor ld amalgamate the office of Chancery Visitors with Lunacy Commissioners and appoint two addi- l Medical Commissioners. This was considered erately to be the minimum of reform necessary fficiency, and was therefore embodied in the s introduced. The Lord Chancellor pointed out the number of Lunacy Commissioners is now the as in 1845, when the number of lunatics was 25,000, whereas now they amount to over 130,000, argued that it must be evident that increased gth and better organization is urgently needed. ite of this, the small measure of change proposed s year's bill has had to be abandoned in face of sition, mostly legal, and last August the Lord cellor had to jettison, as he said, what he could nger hope to carry, and content himself with power to appoint two extra Commissioners in Lunacy, one of whom will be a medical man. It is a poor result after some years of effort and much consideration by a Royal Commission. The additional Commissioners will be useful, but the danger is that the passage of this absolutely inadequate Act may postpone reforms for many sessions.

The Rag Flock Act, which stands to the credit of the Local Government Board, is but a small product for a great department. The manufacture of flock for stuffing mattresses and upholstery from rags has long wanted supervision, as the filthy nature of the rags and material employed could hardly be exaggerated. In the interests of health and decency it was high time this dirty and unwholesome method of preparing flock should be abolished, and, under the Act, the possession and use of unclean flock will be punishable by fine, and all flock will be required to conform to a standard of cleanliness prescribed by regulations of the Local Government Board. The sanitary authority in each locality will enforce the regulations by means of its health officials.

The Shops Act is another measure which has been greatly curtailed in its scope. The provisions relating to the hours of labour in shops had to be dropped, and, as passed, the Act only provides for a proper time for meals and a weekly half holiday. No person is to be employed for more than six hours continuously without an interval of at least twenty minutes. These provisions are all to the good so far as they go, and will help to improve the health of the workers, but it is hoped that the passage of the Act will not long delay the larger reforms originally proposed.

The Coal Mines Act also touches on the public health and safety of some three-quarters of a million workers. For some years past the death-rate from accidents in coal mines has been stationary, and the men have been dissatisfied on this account, as upt o 1902 a great reduction had been made. The new Act will secure more scientific management by raising the qualifications of managers, and, in a minor degree, of all the officials; further, no collier will be placed in charge of a working place unless he has had two years' work under a skilled man, and a skilled miner will only be able to have one unskilled man under him. Then, again, a standard of ventilation will have to be maintained, and a working place "shall not be deemed" healthy "if the air contains either less than 19 per cent. of oxygen or more than $1\frac{1}{4}$ per cent. of carbon dioxide." Methods of ventilation are also provided for. It is further sought to prevent pulmonary affections by insisting on mechanical power for drilling hard sandstone and rock, and by providing water-spray or some other efficient means to prevent the escape of dust. Lastly, several clauses are devoted to regulating the efficiency of sanitary conveniences, and to the provision of washing and drying accommodation so that the collier can free himself from the dusky livery of his toil before mingling with the general population. In these and many other details the new Mines Act is likely to improve the safety of coal mining and add to the healthiness of the occupation. The Act is a good illustration of how in the most purely industrial measures the efficiency of labour may be promoted by wise sanitary regulations.

So much for the Government Acts which have special hygienic features. The private members' Acts have not much importance in this direction, as will be seen by reference to the article on the parliamentary session (p. 1701). We must, however, while welcoming the new Act which places the University of Wales in the list of medical authorities for qualifying practitioners, ask how long is this multiplication of portals

to the profession to go on? Is it not time that the General Medical Council should advise the Government of the serious difficulties likely to arise if the process is allowed to go on indefinitely? Among the dropped bills there were several in the hands of private members which indicate the trend of public opinion on certain subjects. If anything, the anti-vivisectionists were a little less aggressive this session, but the questions and bills indicate activity among the opponents of vaccination, in spite of the excellent debate, initiated by the late Dr. Hillier, on the motion for adjournment last Easter. In this debate the medical members acquitted themselves with distinction, and, indeed, throughout the session they have taken a praiseworthy part in the debates on all questions of public health.

The Local Government Board, which has the credit of passing the Rag Flock Act, failed to pass the Health Visitors Bill which would have authorized the local governing bodies to appoint as health visitors suitable women, for the purpose of advising on the nurture, care, and management of children of tender age and the general promotion of cleanliness in lying-in and other cases. That these health visitors would be useful there can be no doubt, as they would supplement the work of existing nursing bodies, and in this way promote well-being in the poorer districts. The bill, however, was not seriously pressed, and we hope that next session will show the Local Government Board more active, and prepared among other proposals to redeem its promises as to the long delayed and urgently needed milk legislation. In the upper chamber Lord Curzon did useful service in connexion with the proposed abolition of the office of Sanitary Commissioner with the Government of India. In the House of Lords a question offers special opportunities of developing a point and even explaining an argument which the stricter proceeding in the Commons will not permit. The matter of the future of the Sanitary Commissioner and his relations to the Director-General of the Indian Medical Service was in this way put before Parliament, and pause, at all events, given to the Government before any sanction was expressed for the abolition of the sanitary official. It would be a good thing for public health in our great dependency if the sanitary branch could be built up more on civil and local administrative lines, as in this way native interest and co-operation could be best secured.

In reviewing the session one cannot fail to be struck by the somewhat haphazard way in which medical and health topics are embodied in legislative proposals. Each great Government department appears to settle the medical details of its bills on the authority of its own advisers, if it have any, and thus, as abundantly shown in the case of the Insurance Bill, grave dangers of overlapping and confusion may be introduced into the administration of the law. It seems to us a great pity that there is not some common referee open to all the departments, whose function it should be to co-ordinate proposals relating to public health. Until our civilization has attained sufficient wisdom to recognize the supreme value to the State of health in its widest aspects we cannot hope to see the science of well-being set free from the shackles of a somewhat haphazard departmental control. Till that happy day is reached, we think there ought to be a kind of clearing house through which all proposals for legislation on sanitary matters should pass for consideration, criticism, and control, in order that harmony and efficiency in administration should be secured. In these days, when gigantic schemes of social reform are so lightly undertaken, th need is urgent, and the counsel and co-operation medical knowledge essential to successful reform.

THE UNIVERSITY OF LONDON.

The Royal Commission on University Education i London issued on December 23rd an interim repo dealing with one point only of its very wide referen —the question of the housing of the university hea quarters. The Commission was instructed to inqui into the working of the present organization of th University of London and into other facilities f advanced education—general, professional, and tec nical—existing in London for persons of either se above secondary school age, and further to consid what provision ought to exist in the metropolis f university teaching and research.

The University of London has never had a buildin of its own. For many years it occupied a building Burlington Gardens, behind the Royal Academy, co taining offices, examination rooms, a library, and lecture theatre, in which the meetings of Convocatio used to be held. When the university was la reorganized, the Office of Works resumed possessio of this building, which is now used by the Civ Service Commissioners for examinational purpose and the university was given offices and examinatio rooms in one wing of the Imperial Institute at Sou Kensington.

The most important statement contained in th interim report now issued is the expression of th unanimous opinion of the Commissioners that, wha ever its future constitution may be, it is a matter national importance that the University of Lond should be recognized and accepted as a great publ institution. "In our opinion," they continue, "th extent and value of its work already entitle it to th position; and we are sure that the work which w rightly fall to it, as it increasingly fulfils its purpos in the future, will more and more entitle it to publ recognition and support."

The Commissioners further say that the inceptio of any scheme for the reorganization of the Universi of London which they may be able finally to evol will be seriously delayed unless steps have be taken to provide for the university as reconstitut a site and buildings more convenient and adequa than those it now occupies. Consequently, they sa "We think it is fitting and right, and will be universal accepted, that such an institution should have for head quarters permanent buildings appropriate design to its dignity and importance, adequate extent and specially constructed for its purpos situated conveniently for the work it has to do, be ing its name and under its own control." The Co missioners do not regard the Imperial Institute bui ing as either convenient in situation or adequate the accommodation it provides. The building li they say, on the western side of the circumferen of a circle which embraces most of the universi institutions of importance, and its situation h caused much inconvenience and loss of time to tho concerned with the working of the university, and h had a harmful effect on its development. The acco modation they find to be insufficient in extent, and many respects unsuitable. The Commission conside that provision necessary for central examinatio should be made upon a site which might be obtain in an accessible neighbourhood but upon economic terms. They consider, however, that the he quarters of the university should be in a cent

position, and that the home of the reconstituted university should be of such a character as to be the visible sign of its recognition and acceptance as a great university. The buildings immediately required would be a great hall for university ceremonies and for use on occasions when the university would fittingly act as host—a hall of capacity and external beauty fitting to rank with the McEwan Hall of the University of Edinburgh and the Whitworth Hall of the University of Manchester. The buildings to be at once provided should also afford proper accommodation for the Senate, for committees, for the Principal and the head quarters staff, for the meetings of Convocation and for its officers, for common rooms to encourage the growth of a social and corporate life in the university, for a club house for the union societies, or head quarters for the Officers' Training Corps; common rooms for professors, graduates, and students; several lecture theatres, and rooms for housing certain collections of books, and reading rooms for the use of persons engaged in particular researches. All this will mean a large site, but the Commission considers that the purposes for which central accommodation is desirable are so extensive and varied that the site, which they consider ought now to be secured, should be large enough to allow a large measure of freedom in determining the nature of the building eventually to be erected; these would in time include scientific institutes, containing laboratories for advanced work in a number of departments of science beyond the scope of the teaching institutions now connected with the university, and for which supplementary provision ought to be made by the university itself. It is because the Commissioners consider the early acquisition of an adequate site particularly urgent that they have made this interim report.

A great university can never be self-supporting, and the Commissioners recognize that as an institution for learning, in which liberal education and instruction in the methods of advancing knowledge in a wide range of subjects and the highest professional training are combined with large scope for the free exercise of thought and with opportunities and encouragement for the systematic prosecution of research, the University of London can never exist financially on the fees of its students. The Commissioners accept the view that the university is entitled to public contributions from Imperial and local funds, and appear to assume that the Government will continue to take the responsibility for its housing; but they go on to point out that the university needs far more than adequate housing accommodation and the funds necessary for the maintenance of its routine work. Like other universities in this country, it must look for the support necessary for its full development to the endowments of private benefactors.

The Commissioners conclude their report by saying that their inquiry has impressed them "so forcibly with the almost unlimited possibilities of the University of London in the future, that we cannot easily conceive a more splendid opportunity than its endowment and the provision of a noble and suitable building for its home afford for the liberality of the men."

The Commissioners give no hint as to the date of their final report and recommendations may be expected to issue, and it may well be that the form and tenor of their final recommendations may in some respects be influenced, if not determined, by the response to the appeal that is now made to benefactors.

In addition to the affirmations that a university cannot be, and should not try to be, self-supporting, and that the State owes it pecuniary support, one point that already emerges is that the Commissioners see clearly that the university should be placed in a position to encourage research by the establishment of laboratories, and by the organization of special collections of books to be available for consultation by students, old and young, of science and arts alike.

It will not be denied that the university has suffered in the past, and not least during the last ten years, from the want of a central rallying point where the many activities and interests of its members could be brought into contact and co-operation. While fully recognizing that a university is a union of scholars, graduates, and teachers imbued with diverse but similar aspirations, those who look to the university to harmonize the many noble but disjointed efforts to promote higher education in London may yet admit that this university soul deserves to be clothed in a suitable body, big enough to give full space for its manifold collective activities, and beautiful and attractive enough to express its spiritual aspiration to the world of passers-by.

MINOR OPERATIONS ON OUT-PATIENTS.

IT is to be feared that, in the hurry of dealing with a large number of out-patients at hospitals, some are occasionally sent away without sufficient care being taken to impress upon them precautions which should be observed after a small operation or against taking cold or exposure to infection. This matter has been brought to our attention by a leading otologist, who referred us to an article which appeared in a recent issue of the *British Journal of Nursing*. The story is told, doubtless by a nurse, who, travelling in an omnibus, observed among the passengers three pale little boys. On inquiry it appeared they had been to a neighbouring hospital where they had been operated on for adenoids. The mother said that after resting for a time she had been told to take the children home, no directions being given for the care of them. The nurse impressed upon her a few elementary precautions, and when the mother and her children had got out, the other passengers began to make remarks to the effect that it was a shame to turn children out in that condition, and that it was the sort of thing that made socialists. What the relevancy of the last unilluminating observation may be we cannot take it upon ourselves to say. There is no doubt, however, that this little story points a moral, if it does not exactly adorn a tale. That moral is, of course, that even if it is impossible for the hospitals to receive all the children whose physical condition requires operations for the removal of tonsils and adenoids, there should be the strictest medical supervision of each child after operation before discharge, and every precaution should be taken against chill and against possible septic infection of the wounds. The lady who tells the story afterwards interviewed the secretary of the hospital, who pointed out that a card of printed directions is given to every person in charge of a child who has been operated on. The first of these directions is to the following effect: "Drive home with mouth covered over. Keep in bed two days, and in the house at least four days." When asked what the mouth was to be covered over with, the secretary is said to have declined to be cross-examined on medical matters. The writer suggests that before out-patients leave the hospital after operations for the removal of tonsils or adenoids a sterilized gauze dressing should be applied over the nose and mouth and a regulation packet of sterilized dressings provided for each patient's use. In operations on the ear similar precautions should be adopted. We have ourselves first-hand knowledge of a case of gross carelessness which occurred some years ago. A young

child had been brought from a long distance for operation, and in accordance with orders had had no food since early morning. It was not till the afternoon that the operation took place. The discourtesy of every one—surgeon, nurse, and porter—the utter carelessness and lack of the most elementary provision for the comfort of the children, made an unpleasant impression on a lady who was there. In the particular case to which we refer the result of the exposure to wet, the prolonged starvation, and the long wait in the hospital, was that a few days later the child had a severe attack of pneumonia. It is a pitiful story of a little child being driven about from pillar to post in a hospital, where apparently there was no one who said a kind word to it, and who was sent away a short time after the operation without any directions being given as to treatment. It has to be added that the father of this child had paid half a guinea, described in the formal receipt as "being contribution towards the cost of maintenance of in-patient." The child was not an in-patient, and its maintenance during the two or three hours in the hospital consisted in the provision of a bed with imperfect covering to lie on, and a rag upon which to spit out blood. We could add similar stories, but those narrated will suffice. We well know how difficult is the management of an overcrowded out-patient department, especially when anything in the nature of an operation has to be done. At the same time we think it is intolerable that out-patients should be treated like cattle in an open market. We are quite sure that the majority of medical officers and nurses are more courteous and humane than those to whom reference has been made, but the mere fact that such things should be possible is in itself a scandal of a crying nature. Allowance must of course be made for the weakness of human nature, when a man or woman is pressed with work and hurried for want of time. None the less, it is a blot on our hospital system that things of the kind related should occur at all. It is the hospital patient above all others who most deserves consideration and humane feeling. We recognize, of course, that there is another side—that patients are often extremely vexatious, exacting, and even insolent, and that they are apt to complain when there is no real cause. An example of this kind of patient may be seen in the case of the man who recently shot M. Guinard, surgeon to the Paris Hôtel-Dieu. But it is a curious commentary on the perversity of fate, which so often punishes the righteous instead of the guilty, that the surgeon in this case was not only a man of conspicuous humanity in his dealings with his hospital patients, but one who was never tired of impressing on his pupils the highest standard of professional duty towards the poor people under their charge.

ACROMEGALY IN PREGNANCY DISAPPEARING IN PUERPERIUM.

READERS must, no doubt, have studied with great interest a contribution by Dr. Jameson Evans on some manifestations of pituitary growths, which appeared in the BRITISH MEDICAL JOURNAL of December 2nd. Dr. Evans dwelt on hyperpituitarism and hypopituitarism, *sesquipedalia verba*, the former expressing a condition associated with acromegaly and gigantism, the latter an opposite condition associated with ateliosis and diminutive stature. The distinctions between acromegaly and ateliosis, besides the excess and arrest of development, were conveniently tabulated by the author. Professor Keith[1] has recently written on the remarkable overgrowth of the skeleton in acromegaly, involving changes other than regular or localized hypertrophy. His observations are based on a skeleton recently added to the Museum of the College of Surgeons, the soft parts of which are still undergoing careful dissection in the workrooms of the college. In November a remarkable instance of close association of acromegaly with pregnancy was reported in a German contemporary by Dr. Marek, of Prossnitz.[2] A primipara, aged 26, came under his care at the end of last April. Nothing of importance was to be gleaned from her previous history; the menstrual periods had been normal, and the last had ceased on August 16th, 1910. All went well until the beginning of the eighth month of pregnancy, when the patient began to notice that her gloves and boots were becoming tight. Then the rings on her fingers hurt her and had to be removed with a file. Pains in the extremities set in; yet the patient grew very somnolent. To these symptoms were added distressing thirst and frequent passage of large quantities of urine containing sugar. There was neither headache nor defective sight, but hoarseness and coryza developed. Her friends were struck by the rapid alteration in her features. Dr. Marek noted at once the characteristic disfigurements of acromegaly—the coarse thick darkened skin, thickened nose and lips, and projection of the lower jaw which caused the lower row of teeth to project beyond the upper when the mouth was closed. There was neither bronchocele nor exophthalmos. The skin of the hands, feet, and legs up to the knee was thickened and firm. The urine, free from albumen, contained sugar. Dr. Marek diagnosed hyperpituitarism, not holding the glycosuria to be merely a symptom of disease of the pituitary body he did not put his patient on any diabetic diet, but advised much limitation of farinaceous food. The hoarseness, which was ultimately associated with angina, was treated and relieved. Labour set in at 5 a.m. on May 8th; the membranes gave way early, the pains were strong and rapid, yet the head did not advance, and as the fetal heart-sounds became weak delivery was effected by aid of the forceps. The child was a healthy male, it cried lustily, and was afterwards suckled and reared by the mother. On the first day the temperature rose to 101°, the pulse was 128, but it had been rapid before labour began; the urine contained more than a trace of sugar. Within a few days the pulse fell to 88°, and the thirst diminished, as did the dullness and somnolence. Then it became evident that the features were becoming thinner, and the integuments of the extremities more supple. At the end of three or four weeks the lower jaw could be closed firmly, the teeth fitting normally behind those in the superior maxilla. By the end of June the patient could put her rings on and wear them with comfort, and although she had not been under special diet the sugar in the urine gradually diminished until, by the second week in July, no trace could be detected. This case occurred in private practice. The patient was a lady who had consulted a specialist in Vienna in September, 1910, to ascertain if she were pregnant. He gave a guarded reply about pregnancy, and did not, it appears, note any constitutional malady. The rapidity with which signs of hyperpituitarism developed late in gestation and subsided after delivery, is highly interesting. It contrasts strongly with the chemistry of this remarkable condition when it arises under conditions unassociated with pregnancy or the female sex.

SYDENHAM AND BLACKMORE.

SIR RICHARD BLACKMORE, a physician of some note in the days of Queen Anne and George I, but better known as grubbers in the dust heaps of literature as the author of *King Arthur*, *Alfred*, the *Creation*, and other epics, written as Dryden says, "to the rumbling of his chariot wheels," was a pupil of Sydenham. When he first took up the study of medicine he asked the advice of the famous physician as to the books he should read in order to acquire the necessary knowledge. He tells us that the reply of the English Hippocrates was, "Read *Don Quixote*.

[1] An Inquiry into the Nature of the Skeletal Changes in Acromegaly, *Lancet*, April 15th, 1911.

[2] *Zentralbl. f. Gynäk.*, No. 47, November 25th, 1911.

a very good book; I read it myself still." Johnson, referring to this piece of advice in his Life of Blackmore, comments upon it as follows: "The perverseness of mankind makes it often mischievous in men of eminence to give way to merriment. The idle and the illiterate will long shelter themselves under this foolish apophthegm." Was it a "foolish apophthegm"; or a snub to self-satisfied conceit; or was it a serious counsel? Payne says the obvious meaning is, "Read what you like: reading by books will never make you a doctor." It has been interpreted by others as a sneer at Blackmore, whom, it is assumed, Sydenham must have looked upon as a "pompous ass," if we may use a description applied by Lord Beaconsfield to one of his political supporters. But against this must be placed the fact that Blackmore had not at the time erected the monuments of dullness which afterwards gave him a place in the *Dunciad*, in which we are told:

> But far o'er all sonorous Blackmore's strain.
> Walls, steeples, skies, bray back to him again.
> * * * * *
> All hail him victor in both gifts of song
> Who sings so loudly and who sings so long.

Sydenham, we know, thought little of book-learning, and often spoke disrespectfully of the sciences which are held to be the foundation stones of medicine. When Hans Sloane brought him a letter of introduction which recommended him as "a ripe scholar, a good botanist, a skilful anatomist," Sydenham, after reading the letter, said: "This is all very fine, but it won't do. Anatomy—botany. Nonsense! Sir, I know an old woman in Covent Garden who understands botany better; and, as for anatomy, my butcher can dissect a joint full as well. No, young man, this is stuff; you must go to the bedside, it is there alone you can learn disease." Sydenham spoke of the researches of anatomists and physiologists with the same great contempt of the "practical man." Perhaps his contempt may not have been wholly unjustified; but at the present day the man of the laboratory is as much out of place in the sick-room as a professor of physics or electricity would be on the bridge of a line-of-battle ship. It is possible that Sydenham may have had in view the necessity to a physician who would cure many forms of bodily ill of knowledge of human nature. To "cleanse the stuff'd bosom of that perilous stuff which weighs upon the heart" is often an essential part in the healing of disease. Whatever Sydenham may have meant, Blackmore seems to have taken to heart the lesson that medicine was not to be learnt by poring over Greek and Latin writers. When he forsook the Muse he wrote books on medical subjects. These do not seem to have been very illuminating, but at any rate he shows a fine contempt for the critics, sneering at the Father of Medicine himself in a manner that reminds one of the fable of the ass and the lion.

SECONDARY SCHOOL EXAMINATIONS AND INSPECTION.

Over three years ago the Board of Education instructed the Consultative Committee on Examinations in Secondary Schools to make another report on examinations in secondary schools for boys and girls, and on this occasion to consider the question under three heads: (i) examinations at entrance to school, (ii) examinations during school life, and (iii) examinations on leaving school. The report, though voluminous, deals directly with secondary schools in England, but in the appendices of evidence attention is paid to the Intermediate of Scotland, and the committee expresses the opinion that the general principles apply to secondary schools in Wales, and that in any reform of examinations regard should be taken to bring the systems of the two countries into harmonious adjustment; the intermediate system in Ireland is not discussed, save incidentally. The report discusses the history of the growth and development of external examinations in secondary schools in England during the last sixty or seventy years, and gives an account of the existing system. This is followed by a criticism, and a discussion of the general principles which should underlie any sound system of external examination; the report concludes with suggestions and recommendations. The committee advises that there should be a more intimate co-ordination of inspection with examinations, and expresses the belief that this would put the importance of examinations in its true perspective as one factor only in estimating the excellence of a school. In order that the inspectors should assume a continuous and detailed responsibility in respect of a large number of schools not at present under their supervision, it is recommended that district head quarters for inspectors should be provided. Closer co-operation between the Civil Service Commissioners and the various education departments is also advised, since there appears to be at present no systematic interchange of experience. The committee also recommends that the professional status and prospects of teachers in secondary schools should be improved—an opinion used to emphasize the fact that any successful reform must depend upon the intellectual interest and ability of the teachers. The committee concludes by expressing its regret that the recommendations made seven years ago, though they had some effect indirectly, were to a great extent nullified by the absence of any subsequent driving power, and the hope that the Board will accept the view that it is "under all circumstances responsible for seeing that the necessary reforms are carried out." The Board of Education publishes the report with a disclaimer to the effect that it must not be held to have accepted or rejected the principles laid down or the opinions stated in evidence by its own officials. The committee recommends a system of external examinations held under a widely representative Examinations Council, which should include representatives of the universities, of the teachers, of the local authorities, of the Board of Education, and of persons of practical experience of the requirements of professional, industrial, and commercial life. This council would supervise all external examinations in secondary schools, laying down regulations as to their scope, time, and method. Such a scheme, the committee believes, would lend itself to judicious experiment in accommodating methods of examinations to those parts of the school curriculum which are liable to injury from the application of a too mechanical or uniform test, and would facilitate the establishment of an early certificate, for which they suggest the name Secondary School Testamur, to be taken before the candidate became eligible for the final Secondary School Certificate. Mr. Marshall Jackman, ex-President of the National Union of Teachers, in a dissenting memorandum, objects that the acceptance of the proposal for an official secondary school certificate would be unjust to those who for economic reasons are unable to take full advantage of a course in a secondary school. Such a certificate would, he thinks, supplant all others, and the brighter pupils in elementary schools would have their path to promotion barred.

THE SUPPRESSION OF ASSOCIATED MOVEMENTS.

In a thesis on the synkinesias[1]—otherwise known as synkinetic or associated movements in English, and in German as *Mitbewegungen*—Dr. Stroehlin describes and discusses the origin of these involuntary motions. In the newly-born infant almost all movements, whether reflex or voluntary, are bilateral and symmetrical. The object and result of education and exercise are to acquire the

[1] *Les Synciné sies: leurs rapports avec les fonctions d'inhibition motrice.* By Dr. G. Stroehlin. Paris: G. Steinheil. 1911. (Sup. roy. 8vo, pp. 147.)

power of unilateral movement, and at the age of 9 months a child will usually clutch at any small object it wants with one hand rather than two; in other words, it has already lost the bulk of the associated movements that were normal to its arms at birth. As the education of the muscular movements progresses, so the number of associated involuntary movements lessens; but even in the normal adult the request to perform some new and unpractised movement with one arm or leg will often provoke an involuntary similar movement in the other arm or leg, until the individual has practised sufficiently to be able to inhibit this associated movement. For example, a beginner who has just learnt to bicycle can often get along more easily if he takes both hands off the steering-bar than if he attempts to steer with one hand only. Dupré asserts that the swinging of the arms seen in walking is due to active muscular contractions, and is not passive; he finds a functional homology between the arms and legs, and that the gait of the human biped has close analogies with the gait of quadrupeds—the arms, in other words, execute associated movements when one walks. Dr. Stroehlin notes that associated movements become more prominent in all states of motor weakness; it is particularly in hemiplegia that they become apparent and have been studied, and after quoting the views of various neurologists on their character and causation he details a number of his own observations. These movements cannot be checked by efforts of the will; they appear only on attempted movement, and are increased if that movement is resisted; and they are more marked on one side—the hemiparetic side—of the body than the other. Stroehlin comes to the conclusion that they are evidence of a return to the bilaterality of movement that is normal in the infant; they are due to motor impulses coming down the pyramidal tracts of the sound side, on the one hand, and on the other to the deficiency of the inhibitory influences descending by the pyramidal path on the affected side. It is merely this inhibition, acquired by education, that makes associated movements latent in the normal person; and, as has been said, it does so only so long as the normal person is not called on to execute some hitherto unpractised asymmetrical movement. The thesis is an interesting study, and may be commended to the attention of neurologists.

PEDANTRY IN PLURALS.

ROBERT LOUIS STEVENSON said, if we remember aright, that prepositions are the fiends of the English language. In a much more restricted sphere we are inclined to say the same thing of the plurals of words formed or derived from foreign tongues. We remember receiving an intimation from a very superior person indeed that he would not be responsible for such a plural as "serums." Of course, every one knows that a Latin noun ending in *-um* forms its plural in *-a;* that is an excellent rule to remember when we are writing Latin. But if we adopt words into the fold of our English mother tongue, we should give them full right of citizenship and therefore make them obey our laws. Hence we say "serums" not "sera." In this we have the sanction of so scholarly a writer as Sir Clifford Allbutt, who, in his little book, *Style in Medical Writings*, condemns as pedantic the use of Greek and Latin plurals in words which have become part of the English language. He instances "asyla" for "asylums"; to this we may add "encomiums," "eulogiums," "emporiums," and "sanatoriums," to take the first words that come to mind. In regard to the last of these words we may state that the question of its plural was debated by the Académie Française—and the French are very particular in such matters—with the result that the Latin plural was rejected. We saw with pleasure the other day a heading in the *Times* to the following effect "Results of Referendums." A *reductio ad absurdum* of the pedantic plural has recently been supplied by our much respected contemporary the *Manchester Guardian*, which seems to have spoken of "panjandra," presumably as the plural of "panjandrum." This moved *Punch* to the following deliverance:

> O adorable Cassandra!
> Since the tyrannous Panjandra
> On your movements keep an ever-watchful eye;
> Let us pack our *vade mecа*
> And elope to Costa Rica
> On the speediest of motor omnibi.

The form "omnibi" as the plural of "omnibus" is various attributed to Cobden and to Joseph Hume. It may be pleaded in excuse for both these politicians that neither was a classical scholar. But what are we to say of such a plural as "innuendi," which we have just come across in a novel called *Account Rendered* (1911, p. 57), by Mr. E. F. Benson, author of *Dodo*, *The House of Defence*, and other popular works. Mr. Benson was a scholar of King's College, Cambridge, and ought to know that "innuendo" is not an Italian word (we will not harbour the suspicion that Mr. Benson is thinking of the impossible Latin original, *innuendus*, from which he could get the plural he uses), but is the ablative gerund of *innuere*, and, converted into an English noun, takes the natural plural "innuendoes," or, as our grandfathers wrote it, "innuendos," and our great-grandfathers "innuendo's." This is a particularly flagrant instance of the form of pedantry against which we have often protested. We have long striven to hasten the naturalization of foreign words which seem likely to be useful additions to our native speech. We venture to recommend the same course to our contributors. Brander Matthews not long ago said: "One may help along the simplification of English by taking care, now and always, to use the plural form which is certain to establish itself sooner or later in the future. We can lend a hand to the inevitable process by setting a good example now and writing criterions, formulas, beaus, mediums, and syllabuses. With that authority, too, we admit frankly that there are a few foreign plurals—such as alumni, bacteria, memoranda, and data—so solidly established in English that it would be hopeless as well as foolish to seek to change them at this late day. But it would be mere pedantry to speak of "ureteres" or "masseteres." And we can show that we have not forgotten our accidence by saying "sinuses" and "meatuses," thus carefully avoiding the dreadful pitfall of "meati"!

TRYPANOSOMIASIS.

TOD AND WOLBACH, who recently returned from the Gambia, where they were specially investigating the diagnosis and distribution of human trypanosomiasis, conclude that gland palpation and puncture were by far the most effectual of the procedures employed by them for the diagnosis of the disease. After an exhaustive search they found that at least 0.8 per cent. of the population of the Gambia were infected with trypanosomes, though many showed no symptoms, or, at least, symptoms so slight that they could not have been diagnosed without special examinations. As regards prophylaxis, they believe that measures designed to control human trypanosomiasis might be usefully instituted in the Gambia, and recommend that they should include a continued examination of the whole population, the establishment of villages for the isolation, observation, and treatment of cases, and the appointment of a special staff for the administration and execution of these projects. In a paper entitled "Recent Advances in our Knowledge of Sleeping Sickness," read before the Society of Tropical Medicine and Hygiene on October 2nd, 1911, Dr. Bagshawe stated that there was little new

record under the heading of symptoms. In connexion with the onset of cases of trypanosomiasis in Rhodesia and Nyasaland, attention had been drawn, however, to the occurrence of painful swellings, usually in the neck. Dr. May had suggested that they might be caused by some creeping nocturnal insect, which transmitted the trypanosome. These swellings had sometimes the appearance of boils, being dusky, painful, and varying in size and number. Suppuration, though expected, had never been recorded. The pathology of the swellings was obscure, but their concurrence with other symptoms in persons exposed to infection might lead to a suspicion of trypanosomiasis. They do not appear to be peculiar to Rhodesia and Nyasaland, cases from the Congo, the Cameroons, and Angola also having been reported.

GALACTORRHOEA AND AMENORRHOEA AFTER A BURN OF THE BREAST.

A REMARKABLE phenomenon, explained by the title of this paragraph, was reported two years ago by Dr. Emil Vogt, assistant to Professor Leopold, of Dresden. Dr. Vogt has followed up the case and published a second report,[1] which shows how close and subtle is the association between the mammary and the ovarian functions, a subject which is at the present time occupying the attention of physiologists. The patient, a healthy woman, gave birth to her third child at the end of January, 1908. On June 10th, 1908, she was badly burnt owing to the explosion of a can containing spirits. One breast was the seat of a burn of the third degree; that is to say, the surface but not the deepest part of the corium was destroyed, so that grafting might be, and in fact proved to be, satisfactory. The patient had weaned her child six weeks before the accident, and the periods had returned. Immediately after the burn was received profuse secretion of milk was observed, and after one scanty show of blood the menstrual periods were suspended. Grafting was practised with every care and precaution, yet the entire surface of the wound was not covered with epidermis until August, 1909, fourteen months after the accident. As long as the healing remained incomplete, so long did the galactorrhoea continue and so long were the periods absent. Almost directly after the healing process was completed the secretion of milk ceased, and two days later, or thirteen months after the only period which had occurred after the accident, the catamenia reappeared, lasted three days, and were fairly copious. They continued with regularity until February 7th, 1911. The patient again became pregnant (for the fourth time), and gestation had reached the seventh month and was proceeding normally when Dr. Vogt made his second report. The injury, it will be observed, affected a breast independently of gestation, as the periods had reappeared, there was no evidence of incipient pregnancy at the time, and, more important still—one scanty period was observed about a month after the burn. The amenorrhoea, it is equally clear, was not due to shock.

THE "MEDICAL DIRECTORY," 1912.

The new edition of Churchill's *Medical Directory* appeared with commendable punctuality about a fortnight before the end of the year. The excellent abstract of the principal laws affecting the medical profession made by the late Mr. R. G. Glenn, barrister, and revised by Mr. Oliver Bridges, barrister, contains under the head of "The Past Year" a brief note to the effect that when the revision was carried out the National Insurance Bill was still undergoing alterations, so that it was found impossible to embody any review of the scheme in the article. The table containing short notes on the principal British and Colonial spas and climatic health resorts by Mr. Norman Hay Forbes, F.R.C.S.Edin., reappears, and, as corrections are invited, it may be assumed that the article has been revised. The numerical summary shows that the number of names contained in the *Directory* is 411 greater than in the issue for 1911; rather over two-fifths of this increase has taken place in the list of those resident abroad, the number having risen from 5,188 to 5,364. The net increase in England is 79, in Wales 34, in Scotland 24, in Ireland 78, and in the Services 20. The increase, so far as it concerns those resident abroad, may possibly be to some extent artificial, as the number in the *Directory* for 1911 was exactly the same as in that for 1910. The total number of qualified medical practitioners now in the *Directory* is 41,053.

[1] *Zentralbl. f. Gynäk.* No. 23, 1909, and No. 46, 1911.

SURGEON-GENERAL A. T. SLOGGETT, C.B., C.M.G., has been selected for the post of Principal Medical Officer, Head Quarters Staff of the Army in India, in succession to Surgeon-General Sir Francis Woollaston Trevor, who retires at an early date.

THE recommendation made in the Christmas appeal of the Royal Commissioners on University Education in London for the early acquisition of a central site for the head quarters of the university of the future has naturally given rise to some speculation, for it is thought unlikely that the Commissioners would have made so definite a recommendation if they had not at least one possible site in mind. Rumour has suggested vaguely a site near the British Museum, which, however, could only be obtained by the clearance of an area now covered by houses not of the cheapest sort. Another suggestion is that the Government might be willing to give Somerset House to the University, and to house the Inland Revenue and other Government offices now accommodated there in other buildings in another part of London. Close to Somerset House are the buildings of King's College, and that college holds the site from the Crown at a peppercorn rent. If Somerset House and the adjacent property were the site in contemplation, it may possibly be in contemplation to recommend the removal of King's College, which is within about a mile of University College in Gower Street, to the south side of the river, where more than two millions of people have no fully equipped college of university rank.

A CLINICAL demonstration open to all qualified medical practitioners, free of charge, will be given at the Manchester Royal Infirmary every Monday and Friday at 4.30 p.m. The demonstrations will begin on Monday, January 15th, and will continue throughout the year, with the exception of Whitsun week and the months of April, August, and September. The demonstrations will be given by members of the honorary medical staff. It is intended, as far as possible, to devote the Monday demonstrations to subjects of medical and the Friday demonstrations to subjects of surgical interest. A notice giving the particulars of each day's demonstration will be posted in the lodge at the main entrance in Oxford Street.

THE accounts submitted at the annual meeting of the Metropolitan Hospital Sunday Fund on December 21st showed that the collection for the year ended October 31st amounted to £67,015 14s. 8d., of which sum £37,061 (or £3,717 less than in 1910) had been collected in places of worship. On the adoption of the accounts being moved, an attempt was made to get a grant of £1,554 to St. George's Hospital rescinded; this having failed, the Rev. L. S. Lewis moved an amendment directing the Distribution Committee of the Fund to follow next year the line taken by King Edward's Hospital Fund with reference to the hospital in question. This was opposed by the Hon. Sydney Holland on the ground that it would be wrong to direct their own Distribution Committee to guide its actions by those of a committee over which the Metropolitan Hospital Sunday Fund had no control. Finally the amendment was withdrawn, the Lord Mayor undertaking to investigate himself the financial relation between St. George's Hospital and its medical school. For this task his long professional experience, he pointed out, well fitted him.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

GLASGOW MEDICAL UNION.

A PUBLIC meeting was held, under the chairmanship of Sir William Macewen, on December 21st in the Masonic Hall, West Regent Street, Glasgow, to consider the advisability of forming a medical union.

The Chairman said that the action of the Government had practically forced the profession into the formation of a union by the introduction of a measure which implied catering for professional services by collective bargaining. The profession could not afford to meet this individually. Some form of union was essential. The British Medical Association did not contain all the medical profession. A minority remained outside it and constituted the crux of the situation. If a medical union could be formed to include even a proportion of the minority it would be doing good work, but the union hoped to include many who were also members of the British Medical Association. The union was primarily for business purposes and had no antagonism to the British Medical Association. Sir William Macewen concluded by pointing out that in the midst of all the drastic changes it behoved them to be ready for all emergencies. The surest way to preserve peace was to be ready for war. The surest way to preserve peace was to have a strong, efficient, well-equipped union, which, conscious of its strength, would be slow to use it, but if compelled would be capable of doing so effectively.

Dr. James Hamilton moved the following resolution:

> That the general purposes of the proposed union be stated as follows:
>
> An organized union of the medical profession for the purpose of protecting the interests of the profession and of strengthening the bonds of professional fellowship. It aims at ascertaining and defining the rights of the medical profession and is resolved to defend these, and it is not formed in any antagonism to any existing society or association; on the contrary, it hopes to be able to support any action, from whatever source it may emanate, calculated to uphold or advance the interest of the medical profession.

A committee was subsequently appointed to draw up a scheme of organization for the union to be submitted for approval at a subsequent general meeting.

"NATIONAL INSURANCE MEDICAL ASSOCIATION."

The following advertisement appeared in the *Glasgow Herald* of December 23rd under the above heading: "An association of medical men who are willing to accept posts under the Insurance Act is being formed to assist the State in efforts to improve the public health. Members' names will not be published. Particulars can be obtained from the honorary organizing secretary, Dr. Knight, 7, Chambers Street, Edinburgh." The Edinburgh correspondent of the *Daily News* (December 23rd) says he has had an interview with Dr. Charles Frederick Knight, who informed him that the intention was to form branches in all the large cities of Great Britain. Asked as to the amount of support which he expected from the profession, Dr. Knight is reported to have said that he drew a hopeful inference from the fact that the referendum taken by the *Practitioner* left nearly 10,000 doctors who either were in favour of the Act or whose views had not been ascertained. Dr. Knight has issued the following pledge for signature:

"Feeling that the present National Insurance Act is just to the medical profession, I hereby pledge my word to give my best services to it. I stipulate, however, that members of my profession in Great Britain are to be free to exercise their own judgement."

We are not exactly aware, as Mr. Micawber said of the meaning of the word "gowans," what the exact purport of the stipulation here suggested may be. As our columns bear abundant witness, the members of the medical profession are freely exercising their judgement about the Act, and we see no reason to think that they will be stimulated to any further exercise of that prerogative by the permission graciously conceded to them by Dr. Knight.

APPOINTMENT OF UNIVERSITY LECTURERS IN GLASGOW.

The Court of the University of Glasgow has had under consideration for some time a scheme whereby the clinical teaching may be more uniformly distributed between th Royal and Western Infirmaries. Briefly the scheme make physicians and surgeons of these two institutions eligible fo appointment as university lecturers in clinical surger and medicine, and the number of students attending th clinical classes is to be restricted. The lecturers will tak part in the examinations. The scheme was submitted t the consideration of the physicians and surgeons of th Western Infirmary, but no appointments have been made Under the present condition of unlimited classes the bul of the clinical teaching is done at the Western Infirmary and with the proposed limitation of classes several of th clinical teachers, who attract large numbers of student would certainly suffer. The staff of the Royal Infirmar seem to have viewed the scheme with more favour, and th following physicians and surgeons have been appointe clinical lecturers:

Clinical Lecturers on Medicine: Drs. J. M. Cowan and J. I Mackenzie Anderson.

Clinical Lecturers on Surgery: Drs. J. Barlow and J. A. Adam

If the University Court were to desire to force th Western staff to come under the scheme it might seek t effect this by passing a regulation refusing to recognize clinical course attended by more than the fixed number students as a course qualifying for graduation purposes.

PHTHISIS IN GLASGOW.

A report on the administrative treatment of phthisis Glasgow has been prepared by Dr. A. K. Chalmers, th Medical Officer of Health, in order to place before th corporation the extent and distribution of the disease Glasgow as disclosed by the compulsory notification orde The analysis is confined to cases registered in 1910. Th number notified in terms of the Act was 3,205, and the tot registered 3,590. The attack-rate was thus 4.5 per 1,000 the population. Of the cases, 1,308 were in private pra tice, 1,171 in public practice under the Poor Law, and 7 from charitable dispensaries and other institutions; 2 cases were only known after death had been registere The deaths registered during the year numbered 1,118— fatality-rate of 31 per cent. of cases registered.

The report deals with the housing of the cases, the sleeping accommodation, and the position of the patien in relation to the wage-earning capacity of the household The procedure after notification is also detailed. It w not considered necessary to visit those who were under th care of a medical attendant, or those dwelling in lodgin houses, or where hardship might result from the publici incidental to visitation. Many patients at first offere objection to visitation, but this group was now relative small. Four nurses were appointed, who made in during the year 8,262 home visits to 1,348 patients, a attended 429 dispensary consultations. The city w divided into five districts, in each of which was situated tuberculosis dispensary designed to serve a twofold pu pose: (*a*) to advise and, as far as possible, treat those w had no medical attendant otherwise; and (*b*) to exami those who, from their symptoms or association wi consumptive patients, were suspected to be themselv consumptives.

One of the main features disclosed by notification, a probably the gravest, was the rapidity with which t disease compelled its victim to seek help beyond the pow of the family resources to supply; 44 per cent. of the no fications were received from the Poor Law officers and per cent. more from the charitable dispensaries, wh during the year 47 per cent. of the total cases registe were for some time in Poor Law hospitals. It was fou that of the 2,477 "home" cases only 773, or 31 per cen had a separate sleeping room, 538, or 22 per cent., sl in a separate bed but in the same room with 1,244 oth members of their families, and 1,166, or 47 per cent., occ pied the same bed as 1,619 other persons. Dr. Chalm advises that adequate provision for a fully develop movement against the disease would include—

1. A hospital for consumptives—(*a*) for the determination such cases as would probably benefit by regulated treatment a sanatorium; and (*b*) for isolation when this was required.
2. Sanatorium accommodation for those found suitable un (1) (*a*).
3. Country homes, with which might readily be associa open-air schools for "pre-tuberculous" children.
4. Home treatment either without or after sanatorium tre ment, with such help as may be required in the form of additional bed, blankets, or food.

RELICS AT GLASGOW ROYAL INFIRMARY.

In the course of the demolition of the old medical block of Glasgow Royal Infirmary, in connexion with the present rebuilding of the institution, the workmen came upon the foundation stone of the old building, laid on May 18th, 1792. The original buildings were opened on December 8th, 1794. and the accommodation then provided was for 152 beds in eight wards—four for females and four for males. The site was chosen as being one of the most salubrious in the city. When the cavity was opened it was found to contain a glass bottle and a slab of glass, in which were enclosed four coins of the reign, two of which were coppers, the other two silver. The bottle contained different specimens of Glasgow muslin manufactures "in their present state of improvement," a printed copy of the infirmary's charter, a copy of Glasgow newspapers of the day, and a written document bearing the names of the magistrates and council and of the principal and professors of the university, etc. The tinplate covering the cavity bore an inscription in Latin referring to the objects of the institution, and the names of Lord Provost James M'Dowall, who laid the foundation stone, and of the architects of the building, Messrs. Robert and James Adam, Edinburgh.

EDUCATION AND HEALTH IN GLASGOW.

The Glasgow School Board on December 14th agreed to ask the Corporation of Glasgow to co-operate with it in the education of public opinion regarding the conditions necessary for personal and public health. It was felt that much more could be done in the schools to impress on the rising generation the necessity for hygiene, sanitation, good housing conditions, and the prevention of consumption. One speaker, supporting the motion, stated that there were over 1,000 physically defective children at present under the school board, and according to medical authority not half of them should have been defective. At the Town Council meeting subsequently held the matter was referred to the Health Committee.

SCOTTISH CRUSADE AGAINST CONSUMPTION.

The Lord Provost of Glasgow has addressed the following letter to the town and county clerks in Scotland:

City Chambers, Glasgow,
December 11th, 1911.

Crusade against Consumption.

Dear Sir,—The Corporation of the City of Glasgow are of opinion that the time has come when a determined effort should be made to grapple with the problems connected with the prevention and treatment of tuberculosis. The action to be taken might, they think, to be divided into two branches, namely: (1) The establishment of an Institute of Preventive Medicine and Research; and (2) the erection of sanatoria. The Institute of Preventine Medicine and Research might well take the form of a national memorial to the late King Edward, while sanatoria might fall in with the scheme of the National Insurance Bill. The Corporation have remitted to a committee to consider the whole question and consult with the counties and the other burghs of Scotland, and as the committee are convinced that, at least as regards the establishment of an Institute of Preventive Medicine, the work should be on a national scale, they invite their co-operation. I am consequently instructed to request your Council to be good enough to send one or two delegates to a meeting to be held in the City Chambers, here, on Friday, January 12th, next, at two o'clock, for the purpose of considering the whole question and reporting to their respective councils with a view to future action. I shall be pleased if your Council will kindly consider this matter favourably, and advise the Town Clerk of its intention to be represented at the proposed conference.—I am, dear sir, yours faithfully,

D. M. STEVENSON, Lord Provost.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

WALES.

MEDICAL COMMISSIONER FOR WALES.

H. MEREDITH RICHARDS, who has been appointed to the Vice-Chairmanship of the Welsh Commission under the Insurance Act, is a native of Cardiff. He took the degrees of M.B. and B.S. of London in 1891, and the M.D. in 1893. He gained a gold medal in State Medicine, and is a Fellow of University College. He is at present Medical Officer of Health for Croydon. While warmly approving of the appointment of Dr. Richards from the academic standpoint, a little regret is expressed that the new Commissioner has had no experience of general practice; but it is hoped that his general knowledge of the business side of public health matters will more than make up for this.

CARDIFF TUBERCULOSIS DISPENSARY.

The large amount of work done by this section of the medical officer of health's department in Cardiff may be gauged by the fact that 1,400 patients are on the books. The estimated number of tuberculous patients in Cardiff is 3,000, and there were 300 deaths from some form of this disease in the city last year. Tuberculin treatment has been carried out in suitable cases and with very gratifying results, but it is thought that with the aid of grants under the Insurance Act much more will be done in this direction, since every insured person will contribute 1s. 3d. a year and the State 1d. to the local Insurance Committee, which will have to arrange for the treatment of consumptive patients. On the estimated basis of 50,000 insured persons, the revenue would be about £3,000 per annum. There is urgent need of better accommodation, seeing that the notification of consumption becomes compulsory on January 1st next, and, under the new order, local authorities have powers to equip dispensaries in their own areas.

CARDIFF MILK SUPPLY.

Dr. Walford, the Medical Officer of Health, in a report on the suggested municipal milk supply, states that supervision is necessary at the farm, during transit, at the dairy, and at the consumer's house. When the report was discussed by the Public Health Committee, Dr. Biggs proposed that this supervision should be carried out by appointing a health visitor to superintend the milking arrangements, and by having all the milk sterilized and diluted as necessary at the City Hall. He afterwards withdrew his motion pending further inquiries.

New South Wales.

SYDNEY.

Centenary of the Sydney Hospital.

THE foundation stone of the Sydney Hospital was laid on October 30th, 1811, by Lachlan Macquarie, Esq., the Governor of New South Wales at that time, and the centenary of this event has been celebrated in a becoming fashion by the Board of Directors and the Honorary Medical Staff. On Sunday, October 29th, there were special services in the hospital chapel in the morning and afternoon, and in the evening special sermons were preached in St. Stephen's Presbyterian Church, and St. James's Church of England. At the latter church the Rector, the Rev. Wentworth Sheilds, sketched the work accomplished by the hospital since its foundation, pointed out step by step how it had grown to its present proportions, and made an appeal for the maintenance of the present system of voluntary hospitals rather than State-paid institutions. On Monday, October 30th, in response to the invitations of the President and the Board of Directors, a large gathering of friends and subscribers to the hospital assembled in the hospital grounds. The fountain in the centre of the grounds was illuminated with coloured lights, while long strings of lights stretched to the corners of the buildings, and the State Military Band played a special programme of music. The President, Sir Matthew Harris, said that from the foundation of the hospital it had always enjoyed the practical sympathy of every Governor of New South Wales, and had received support from every Ministry, these facts showed that the institution had ably performed its duty to the public, and carried out its noble work in such a way as to deserve the support it had received. He took occasion to thank all those who had assisted to maintain the work by their annual subscriptions; the various gentlemen who had assisted by serving on the Board, and by giving their valuable professional advice; the clergymen who had always been ready to render any service in their power to the patients. He

referred in sympathetic terms to their late President, Mr. John Pope, who was too ill to attend, although his heart was with them. The Lieutenant-Governor, Sir W. P. Cullen, said that when Governor Macquarie laid the foundation stone of the hospital he looked out on a broader aspect and a wider horizon than the requirements of Sydney seemed to justify at the time in the minds of many. He looked forward to the great expansion and development of the colony. He hoped that the great faith the people had in the future of the country, in its great promise of development, in its fulfilment of all that was anticipated, would be realized to its fullest extent. But he felt confident that those great qualities which had made the hospital what it was, which had built the country up to what it was, would never be displaced. In the future many questions would have to be settled. There was the question of how far a national hospital was to look for its funds to the public purse, and at what stage the benefactor was to come in. In the past the greatest generosity had been shown by the rich and the poor. The problems of the future would, no doubt, be settled for the best by the wisdom and advice of those who undertook the work. The Premier, Mr. McGowen, spoke of the debt of gratitude due not only to the founders of the institution, but to the many professional men and women who had done such good work in the wards of the hospital. He referred specially to Sir Philip Sydney Jones, Dr. J. Cox, and Sir Normand MacLaurin. Twenty years ago the weather-board front of the hospital buildings was a disgrace to the city, and he recalled with pleasure waiting upon Sir George Gibbs, then Premier, for the necessary funds to complete the buildings. Their two large hospitals—the Royal Prince Alfred and the Sydney Hospitals—were equal to any in the civilized world, while the closest scrutiny had shown them to be most economically managed. There had been some confusion about the question of nationalizing the hospitals. While the rich and the strong were able and willing to help the poor and the weak they should be encouraged. It was better for them, and it was better for the community. But if they failed to do this voluntarily, the State, with knowledge of the grandeur of the work, would step in and help in the work done by these kings among men and ministering angels among women. The Chief Secretary, Mr. Flowers, said that the State now realized its obligations with regard to the health of the community. To leave the matter entirely to charity was a mistake. Year by year the subscriptions had been falling off, while the demands of the institution increased. The State had to make up the deficit. It was a national enterprise. As the hospitals in the metropolis were congested, the State would have to take a more important part in hospital development than in the past, for it was deeply concerned with everything that concerned the protection of human life. The time would come when the State would have to take complete control of the hospitals, but that was not just now. The Honorary Treasurer of the hospital, Mr. David Fell, referred to the financial aspect of the hospital work. There was a deficiency of at least £6,000 a year, and it was necessary for the Government to provide an amount to meet the demand. This would probably be increased, the Hospital Employees' Union having given notice that they were applying for a wages board, and making such demands that it would run into some thousands of pounds to meet them. Again, the cost of reducing nurses' hours would be considerable. The Government of the future, whatever financial scheme was adopted in order to provide for the upkeep of the hospitals, would have to face a considerably higher expenditure than the current year, without necessarily getting any better results. With regard to their benefactions, £44,831 had been invested in hospital buildings, and the balance invested in various stocks. A large proportion of this was now held as security by the bank against the overdraft, which it was the object of the directors to have extinguished by a special collection during the centenary year. The deficit of £16,000 was the result of the grants reduced and underpaid by the Government since 1905 to date; while at the same time the expenses were increasing, particularly in regard to wages. The Government allowed £35 a bed, whereas the cost was about £85. Dr. Fiaschi said that when Governor Macquarie laid the foundation stone no one realized that Australia would have attained the commercial and political importance that it had. Governor Macquarie, in erecting a two-story building capable of receiving 160 patients, was criticized for extravagance and vanity. He saw further than his critics, for within thirty or forty years the hospital had become too small for the requirements. The Sixties and Seventies might be called years of absolute arrest of progress, and it was only in 1881 that, with a new Act of Parliament, and a new board of directors, and a new name, that the Sydney Hospital started again its progress. Surgery had been most progressive in that time, and the Sydney Hospital had not been behindhand, for shortly after the operation for appendicitis had been performed in Europe several successful operations for that disease had been performed in the hospital. He concluded with some striking statistics of the increase in the number of patients, both indoor and outdoor, in the last twenty or thirty years, and the great increase in the number of operations. A vote of thanks to the Lieutenant-Governor was proposed by the Lord Mayor, Sir Allen Taylor, and the proceedings terminated.

The historical records show that the foundation stone was laid at 12.45 p.m. on October 30th, 1811, and that a handsome box was handed to Governor Macquarie, containing gold and silver coins, in commemoration of the jubilee of King George III. This was enclosed in a lead box and placed in a cavity below the base stone with a medallion on which the data with respect to the foundation were engraved. This medallion was recovered when the old hospital was demolished, and it is now in the possession of the Board of Directors. The box of coins cannot be traced. On May 17th, 1810, tenders were called for the building of a general hospital, medical officers' quarters, with the necessary offices and enclosure. Macquarie gave orders that the buildings were to be of noble proportions, and to his foresight in predicting the future growth of Sydney the present hospital owes its splendid site. It is stated that Mrs. Macquarie largely influenced the Governor in the choice of a site, and it is possible that she was also the designer of the original buildings. These buildings were in three main blocks, the land first enclosed for the use of the hospital being seven acres in extent. The northern wing is now a portion of Parliament House, and the southern wing is now the Royal Mint, being only slightly altered. The present hospital occupies the site of the original central block.

Hospital Improvements.

The Government intends to carry out such extensive improvements at the Coast Hospital that it will practically amount to a rebuilding, but the work is to be proceeded with in sections, so that the efficient working of the hospital may not be interfered with. First to be undertaken is the rebuilding of one of the wards. This is to be replaced by a two-story brick building, accommodating about twenty-six beds on each floor. Then one of the present galvanized iron wards is to be replaced by a two-story brick building with all the latest improvements in hospital construction. New administrative and kitchen blocks are to be erected before the present ones are demolished. This hospital, which was originally erected as an emergency small-pox hospital at the time of an outbreak of that disease in Sydney nearly thirty years ago, has been in active service ever since, and has been enlarged from time to time by the addition of wards for other infectious diseases. It is also in direct connexion with the Leper Lazaret. The rebuilding has not been undertaken a day too soon, for the present buildings are quite out of date, and this is the only hospital available for infectious disease in Sydney. The Government's architect's department is also now engaged on plans for a new hospital to be erected in South Sydney. It is to be erected on the same lines as the Coast Hospital new building, but only the administrative and kitchen block, with two wards one for males and the other for females, each to contain fifteen beds, are to be built now. In addition to these new buildings the Government is about to expend about £5,000 on the Women's Hospital in Crown Street, Sydney. This seems an unnecessary expenditure, as this institution is not far removed from the Royal Hospital for Women in Glenmore Road, which has not yet been fully completed in accordance with the original plans.

Deaf and Dumb and Blind Institution of New South Wales.

This charity has now reached the fiftieth year of its existence, and the annual report presented at the last annual meeting referred to the fact that the work of the charity was commenced in a small house in Castlereagh Street, Sydney, with 7 pupils. Now there are 140 children on the roll. An Act for the compulsory education of the deaf and dumb and blind children of the State had not yet been passed, but the ex-Minister of Education had intimated his intention of introducing such a bill. The directors report the satisfactory progress of a little girl who was deaf, dumb, and blind. Under the guidance of her teacher this child is making such rapid progress that it is stated that she will be able to accomplish all that Helen Keller succeeded in doing. The following have been elected as the medical staff: Honorary Consulting Physician and Honorary Medical Inspector, Dr. George E. Rennie; Honorary Consulting Surgeon, Dr. Charles P. B. Clubbe; Honorary Ophthalmic Surgeon, Dr. J. C. Halliday; Honorary Aural Surgeon, Dr. John Graham; Honorary Physicians, Dr. P. Sydney Jones and Dr. E. Selwyn Harrison.

Special Correspondence.

BUDAPEST.

'tand made against Contract Practice.—Abolition of the Title "Operateur" (Operating Surgeon).—Reports of the Medical Societies in the Daily (lay) Press.—"Pneumosan."

HE coming year will witness many changes in Hungarian edical practice, one of the most important arising from ie decision taken by a number of provincial medical nions to put an end to contract practice as it exists at esent in the country. The reason for this measure is at contract practice is usually underpaid, and consequently a gross abuse of the doctor's time. In the majority of ses, the family doctor is only engaged on the under- anding that his fees are to be commuted for a certain arly sum, a system which naturally involves considerable ancial loss; and, moreover, he is at the beck and call his patients, and is liable to be called up at midnight a trifling ailment which would certainly never require attendance if his night visit had to be paid for at the ual rate of double fees. The unions have fully recognized fact that the ethical side of the question—that is, the uring of proper medical attendance for the public—may se the profession to cling to the old system; but life is hard for doctors in country towns that they have been ced to protect their interests by stringent regulations.

Thirteen years ago the diploma of operative surgery s abolished in Austria, and now the same measure has n proposed in Hungary by Dr. Max Rosenak, at the meeting of the Budapest Royal Society of Medicine. gave as his reason for desiring the abolition of this loma the well-known fact that no one can hold an ointment as surgeon in an Hungarian hospital without he result being that hospital appointments are often n to young and inexperienced men over the heads of ful surgeons, who have learnt the art of operating from ctice rather than from books, as is frequently the case the former, though nominally the possessor of the oma of operative surgery is required to spend two s after graduation as surgical clerk in one of the ersity clinics. Dr. Rosenak's proposal was supported Dr. Hültl, professor of surgery, who mentioned case of one of his own assistants, a man who performed more than 3,000 operations during six s' hospital practice, and who failed nevertheless otain a good appointment simply because he held no oma in operative surgery, the appointment being given young man of 27, who ought to have been his pupil. ical assistants in public hospitals, continued Dr. l, who are often left alone for weeks when their chiefs away on holiday, have naturally many more oppor- ies to learn practical surgery than the clerks in a , where they are so numerous that they have very chances to work by themselves. The wisest course to pursue, when judging between the merits of rival candidates, is to be guided by their knowledge of surgery rather than their various diplomas, for the mere fact of holding a diploma for operative surgery does not necessarily mean that its possessor is skilful with the knife. Dr. Rosenak's proposal has been submitted to the professorial board of the university, with whom the final decision rests.

Up to the present it has been the usual custom after any medical meeting to distribute reports to the various press agencies for publication in the daily papers, but it is now proposed to abandon that custom. The proposal comes from Dr. Havas, a member of the Royal Medical Society, whose suggestion that henceforth no information should be given to the lay press has not met with universal approval. One of its opponents, Dr. Poór, the Registrar of the Royal Medical Society, remarked that, as the society was not a secret one, there was no reason why its proceedings should not be known, not only to the profession, but to the whole nation. Indeed, to a certain extent, it was a kind of moral duty to keep the country informed as to the manner in which the society fulfilled its lofty task, and publicity acted as an incentive to further efforts. It was on these grounds that he urged the presidency to continue to allow the publication of the society's meetings in the daily papers. Dr. Poór was supported by the secretary of the society, Dr. Hirschler; but several members were in favour of Dr. Havas's motion, and urged the example of England, where the daily papers devote no space at all to topics of purely medical interest. It was finally decided by the meeting that henceforth only topics of general interest discussed by the society should be reported in the lay papers.

The last number of the *Orvosok Lapja* (December 7th) contains an article by Dr. Adolf Erdös on a new drug, "pneumosan," recommended as a preventive of tuberculosis. The author has experimented with this drug in ten cases, the majority of which were either in the first or second stage of the disease, and the result was satisfactory in every case, the patients without exception having gained weight and improved in general health at the end of the treatment. The fever was greatly reduced, in one case a high temperature being brought down to normal after the third injection, whilst expectoration became less and haemoptysis ceased entirely. A rise was also to be remarked in the opsonic index. In one instance the patient had had several haemoptyses, but not a trace of blood was to be seen in his expectorations after the treatment with pneumosan. The drug is administered in the form of subcutaneous injections, a "cure" consisting of thirty to forty doses.

Correspondence.

SOME REASONS WHY THE PUBLIC SHOULD OPPOSE THE INSURANCE ACT.

To the Editor of the "British Medical Journal."

SIR,—At present there is a very energetic movement by a large number of medical men against the medical provisions of the Insurance Act. These gentlemen have suddenly wakened up to the dangers of the Act as it affects medical men, and, instead of blaming themselves for their previous lethargy, they have found a very convenient scapegoat in the form of the Council of the British Medical Association. It has been clearly shown by Sir Victor Horsley and others that the Council is merely an executive body, which, quite unlike the executive of Parliament which initiates legislation, carries out the behests of the representatives as expressed in their decisions at the annual and special meetings. If, therefore, there be any composite body—collectively and individually—to blame, it surely must be the Representative Body, or, to carry the censure a stage further back, it might be appropriately applied to the Divisions of the Association who sent the Representatives to the meetings and instructed them how to vote. Of all the culpable individuals, I think the most culpable are the enormous number of members who never attend a meeting of their Divisions, and who only wake up when they find that their own craft is in danger. One member who has been very loud in his denunciation of what he has been pleased to call "the great betrayal," according to his own showing

has only been studying the subject for three weeks. Many of those gentlemen who strongly condemn the medical provisions of the Act still approve of the general principle, and are quite prepared to work it if they can only get what they consider adequate remuneration—it does not matter who pays the bill.

Now, I have been consistently opposed to the bill throughout because I believed it, and still believe it, to be a palpable fraud on the public. I have taken every public occasion which occurred to me to speak against the bill. In medical circles I have expressed my opinion against the bill, but I have not often publicly spoken against it because the British Medical Association, of which I am President-elect, and, so far as I could gather, the great bulk of the medical profession, had approved of the general principle of the bill. Of course, I was quite willing that the Association and the profession should shape their own policy in the matter; I had no intention of setting up my own opinion against their united wisdom. Even now I am told by some of my Radical friends that I should not say that I have been consistently opposed to the bill, because people will say that I am actuated by political motives. Well, I do not mind very much what motives partisans ascribe to me, but I shall now try to briefly set out a few of the reasons on which I think the public should have been opposed to the bill, and on which, I think, they should now try to upset the Act.

1. It is a long step in the downward path towards socialism. It will tend to destroy individual effort, and increase that spirit of dependency which is ever found in degenerate races. This spoon-fed race will look more and more to a paternal government to feed and clothe it, and not require it to work more than a few hours daily. They will be further encouraged to multiply their breed at the expense of the healthy and intellectual members of the community.

2. The expense of this huge scheme will be enormous, and will be an ever-growing expense. The cost of administration will be great, and the hard-working, honest man and woman will never get a chance of participating in that barefaced fraud of "ninepence for fourpence." The honest working man who has got a family to support cannot afford to be ill for ten shillings a week. It will be the loafers and wastrels who will get the bulk of the ten shillings and enjoy the benefit of free medical advice. There will probably also, as in Germany, spring up a crop of unscrupulous lawyers to look after the malingerers and see that they are handsomely treated. As a patient has to be ill four days before he can claim under the Act, there will be a direct incentive to the prolongation of illness.

3. I have reason to believe that the Act is not actuarially sound. The meagre facts which were submitted to the actuaries were from the picked lives of large friendly societies. Consequently, when the Act is applied to a third of the population, it will soon be found that there is not sufficient money to go round, and unless the Act be bounty-fed by the State and county councils it will soon become bankrupt. The experience gained from Mr. Lloyd George's work in other spheres of finance strongly supports this contention. Moreover, the energetic and healthy members of these large friendly societies frequently sought medical aid without drawing sick pay, and of these minor ailments the societies have no record. Under a State Insurance Act there will not be the same incentives to save the funds as there are in mutual benefit societies.

4. The provision for medical and surgical attendance, drugs, and appliances, is utterly inadequate for an efficient service—and unless the service be efficient it becomes a fraud—and is calculated to undermine rather than improve the health of the nation. This Act will perpetuate all the worst features of club practice without having any redeeming feature of its own. In the present day many a medical man takes a club at a very inadequate rate of remuneration as an advertisement to get him into practice, and he afterwards retains the club to prevent any interloper sharing in his work. At present the club doctor has only to deal with picked lives, consequently the amount of attendance is comparatively small, and it does not interfere with his private practice, on which he mainly depends for his livelihood. Under this Act many of these men would have practically nothing but club practice, their *clientèle* would be of an inferior type, sickness would be prevalent, and they would have to do an enormous amount of indifferent work in order to earn a bare living wage. The actuarial basis of this Act for the provision of medical service which has been held out as the great boon of the Act has, I believe, been at the rate of 4s. 6d. a head for the medical man, and 1s. 6d. for the druggist. I should like to get hold of a druggist who would supply even a healthy household like my own with drugs and appliances at the rate of 1s. 6d. a head per annum. If medical men and druggists worked extensively on these scales, I am afraid the former would wend their way to the cemetery and the latter to the workhouse. Could any medical man get a plumber to do patchwork on such terms?

5. Not only is there no institutional treatment, apart from a few sanatoriums for consumptives, provided in the Act, but the very foundations on which voluntary hospitals have been built up are seriously undermined. Hospital treatment is absolutely essential for the working classes, but the Act will tend to destroy all that fine altruistic feeling which is the highest product of human evolution. Both the employer of labour and the labourer are heavily taxed for a very inadequate provision for times of sickness. In times of health they will have to strain every nerve to support an army of officials, to provide means of subsistence for loafers, wastrels, and those in chronic ill health, and in times of stress and sickness the honest hard-working man will get a dole on which he and his family can barely subsist, let alone provide medical comforts. Even then he will require to be ill four days before this quack doctor provides him with any refreshing fruit for his parched lips.

6. This Act is supposed to be conceived in the interests of the wage earners; but it will be carried out in such a cumbersome and expensive manner that very few benefits can accrue to those who are the mainstay of the empire. The wage earner is the individual who is best able to take care of himself, and every one who is worthy of his salt does so, and the less unnecessary interference he has with his liberty the better for the State. An eminent Canadian recently said to me that there can be no stronger evidence of the degeneracy of the English people than their submission to such legislation and that they should allow their lives to be seasoned and their liberties controlled from the cradle to the grave by State officials.

7. The supposed benefits of the Act as applied to domestic servants are nothing short of an outrage on humanity. There will be an exaction of 26s. a year on account of each servant for much inferior benefits to those which they now receive for nothing. We are told that all employers do not treat their servants generously, or even considerately. Well, I should think in the present day servants are sufficiently independent not to serve any one who does not treat them with consideration. Certainly the worst conditions under which they now serve will not be improved by the Act.

8. The sanatorium benefits under the Act apply to the treatment of consumption and not to its prevention. The statements to the contrary which have been made are only the products of the perfervid imaginations of visionaries and of those who have an axe to grind. The wave of enthusiasm over the conquest of consumption in the present day is so overwhelming that the methods adopted though always expensive, are seldom wise, rarely successful and not likely to lead to the improvement of the race. Dr. D. W. Hunter, of the Royal Albert Asylum for Idiots, says that "many an imbecile owes his existence to the fact that his parents failed to die of tuberculosis." Hitherto medical men have been devoting all their energies to the environment, adapting the environment to the individual, not the individual to the environment, thus not assisting the race to take care of itself. We know that the tubercle bacillus, which is the necessary element in the production of tuberculosis, is not transmitted in the germ plasm, but the long, narrow flat chest and delicate lungs, and feeble resisting power to the tubercle bacillus, and to many other germs, is undoubtedly inherited, just as much so as the shape of our nose or the colour of our hair. Medical men who are shutting their eyes to the truth, and encouraging matrimony and the propagation of the species by mental and physical weaklings, are incurring a fearful race

responsibility, and their action should be condemned in no uncertain language.

I am in favour of the abolition of tuberculosis, because I dvocate artificial to assist natural selection. Moreover, uberculosis is a poor method of a selective death-rate, as t seriously damages the survivors, is a very slow and expen- ive disease to combat, and many an individual succumbs who would be a worthy citizen in a better environment. By all means improve the environment, improve your anitary conditions, which will be beneficial in preventing uberculosis and many other diseases; as far as possible estroy the tubercle bacillus, both human and bovine, and ee that the milk and meat supply are free from such rganisms. Above all, both for the prevention of insanity nd consumption, discourage and prevent the propagation the species of mental and physical weaklings. Raise up race which will not be catching tuberculosis or anything se.

The medical officers of health are doing an enormous nount of good work in attacking the sources of supply of e tubercle bacilli, in preventing their dissemination, in oking after the meat and milk supply, and in improving e sanitary conditions under which we live, and it is to em we owe the enormous reduction in tuberculosis which s taken place during the last fifty years; but your sionary and blatant propagandists must see the disease fore they begin to stamp it out with tuberculin dis- nsaries and sanatoriums. This Act will barely touch the nge of prevention.

). The enormous increase in taxation, the useless and steful expenditure which has taken place during the last arter of a century makes some of us who hold eugenic als wonder when this nation is going to cry halt in its id descent towards decadence and decay. Where is all money to come from which is necessary for the impera- e social legislation required for the future advancement he race? Every source of revenue is being tapped for benefit of the least worthy citizens. Now the medical n are to be sweated in order to provide gratuitous medical ice for the least worthy of the wage-earning popula- . In time the industrious, hardworking, independent n may consider whether such advice is worth having. advice to my medical brethren is to stand from under Act, and let it and its author crash together. A less and independent breed would not tolerate this perization and vicarious charity.

). Lord Beaconsfield said: "The public health is the dation on which repose the happiness of the people the power of the country. The care of the public th is the first duty of the statesman." Now we have litician who looks after the diseases of the community only considers the question of health when there is an ssive amount of sickness in any particular locality. health of a nation is its most valuable asset, and as the duty of a statesman to develop the assets of the ire, all such legislative measures on behalf of the should be on lines preventive of disease. So far as tate is concerned, a diseased individual, *qua* disease, no value to any one except to himself, his doctor, and ist. There is here plenty of scope for the evolution he finest altruistic feelings, sympathy with our r-beings in their suffering, but this is no business of tate. It may be necessary for the State to prevent iseased from becoming a nuisance and a danger to ublic, hence the necessity for workhouses and hos- for infectious diseases, but the primary duty of tate should be to maintain á high level of health.

ave been one of those who fondly hoped that the of medicine would be more on preventive lines t has been in the past. I stated in an address which e in Canada in June that in future medical men not be content with treating the diseases of ommunity—they must point out the lines along the nation is to be improved by encouraging multiplication of the fit and controlling the se of the unfit. The public must be taught the health of the nation is its most valu- sset, and that the maintenance of health is of more importance than the treatment of disease. leparture of placing physiological processes before ogy involves a higher form of medical education hat prevalent in our medical schools of to-day— cation in which only men of the highest intelligence should take part. I should now like to ask what medical education would meet the requirements of Mr. Lloyd George. If this Act be allowed to remain on the Statute Book it will set back the hands of the medical clock for at least a quarter of a century, and in future prevent the intellectual youths of the country from entering the medical profession. If the money wasted by the State in all manner of useless schemes for the supposed betterment of the people were employed to encourage the multiplication of the intelligent and vigorous, there might be some chance for the country.

11. A good many years ago an Act was passed, I believe, at the instigation of Mr. Joseph Chamberlain, to make advance notes to sailors illegal tender. This Act was conceived in the interests of the sailors, and may have been, if they only could have seen it; but they did not see it in that light, and consequently the Act was only in force in Liverpool for about twenty-four hours. The shipowners could not man their vessels; hence the Act had to be disregarded, and it was repealed the next session. I am very doubtful about there being so much cohesion in the medical profession as to set this Act at naught; but if Sir Charles Macara and the cotton spinners of Lancashire say they will not have it, then Mr. Lloyd George may retire with his Act to that obscurity from which he should never have emerged. I quite agree with the *Standard* that it is nothing short of a national calamity that such a man should hold any office in any Government.

—I am, etc.,

Liverpool, Dec. 22nd. JAMES BARR.

THE LESSON OF THE CRISIS.

SIR,—The machinery of the British Medical Association has failed, as I felt sure would be the case when I pointed out its weak spot last February,[1] namely, that we each pay the princely sum of 1d. a week for its upkeep, a sum that would excite the merriment of any dock labourer or fish porter. As our Council are unpaid, we place ourselves under an obligation to them, and feel very uncomfortable when we have to grumble, and the same remark applies to our Representatives and the Branch and Divisional Secretaries. The Council meetings are comparatively few, and the Representative Meetings very far between. The time in each for discussion is very limited, and even under these circumstances most of the members of these bodies must find the work inconvenient and expensive. Now the crisis has arrived, do not let us repeat our mistake.

Two shillings a week is not an exorbitant sum for us to pay for efficient servants, efficient protection, and a host of other benefits.

1. The following should be salaried, whole-timed men:

(*a*) *Central Office:* President, Medical Secretary, Business Secretary and Treasurer, Editor of JOURNAL, Office Assistants.

(*b*) *Branch Secretaries*, who would form the Council and at the same time replace Representatives. They must attend all Council and Branch meetings (unless prevented by illness or other unavoidable cause). Each to be provided with a motor car, and to visit periodically each Division, keeping Divisional Secretaries and members in touch with current business, also to bring in, if possible, all outsiders.

Whenever possible Branch Secretaries and President to be returned to Parliament.

(*c*) *Branch Treasurers*, whose duty it would be to collect subscriptions and forward them to the General Treasurer. This post might be held by a clerk, who could be insured in a Fidelity Guarantee Office, and who could also help the Branch Secretary with office work.

2. *Divisional Secretaries* should be paid a reasonable sum per annum for their services, and should be eligible for re-election.

3. A large *Fighting Reserve Fund* should be accumulated, from which also any members suffering loss through loyalty to the Association might be assisted.

4. A *Benevolent Fund* should be established for keeping up the subscriptions of men temporarily in distress through illness, etc.

5. A department should be established for advising young qualified men and those out of employment free of cost, and helping them to obtain suitable positions, in this way cutting off the supply of blacklegs.

[1] BRITISH MEDICAL JOURNAL, vol. i, p. 405.

These are a few samples of the benefits we might obtain. We should have an executive with ample time to study our interests and of necessity obliged to follow our instructions, and we should no longer find ourselves alternately sponging on and abusing the members of our Council and Representative Body.—I am, etc.,

F. C. MEARS.

North Shields, December 21st.

THE NATURE AND ORIGIN OF CANCER.

SIR,—Judging from the text of Sir Henry Butlin's lectures, as published in the BRITISH MEDICAL JOURNAL, and from your leader upon them, it appears to me that his theory must be regarded as an addition to the main principle which has formed the basis of many of the theories that have been advanced in the past, and are still the most generally accepted.

There undoubtedly exists in the bodies of multicellular organisms an interaction, a mutual regulation or common influence dominating the individual cells of a group or groups, which causes them to be dependent upon each other, and which, under normal conditions, limits the lines along which differentiation and multiplication in each group takes place. Whether we call this influence "Cell autonomy,"[1] "Tissue tension,"[2] "Somatic co-ordination,"[3] or something else, does not really matter. I prefer my own term because I think it best conveys my particular shade of meaning; others no doubt prefer their terms for a similar reason, but there is really no fundamental difference. All who have advanced these theories believe that malignancy is due to the cells of the growth, having escaped from this influence and living in a parasitic manner upon the organism in which they occur.

Sir H. Butlin's addition to this generally accepted basis of many of the existing theories of cancer, appears to me to consist in describing the cancer cell as a parasitic protozoon of an entirely new kind, whose origin is fundamentally different in nature to that of any known organism, and in his suggesting generic and specific names for the different kinds of cancer cells on this assumption.

Is it really the "prevailing view among zoologists" that, in the "body of a higher animal" "each cell is to be regarded . . . as an individuality primitively independent and complete in itself—equivalent to an entire individual amongst the protozoa and other unicellular organisms"? Is not the prevailing idea rather that a development of the comparison made originally by Bütschli between the life-cycle of a colony of protozoa and the successive development of the bodies of the metazoa, is a comparison that holds good with regard to a limited number of points only? The view you suggest as being generally accepted would make an individual cell in the brain, pancreas, or liver of a man as independent as an individual paramoecium, which it certainly is not.—I am, etc.,

CHARLES WALKER.

Research Department,
Glasgow Cancer Hospital, Dec. 19th.

SIR,—The only known fertilizing agent arising from within the body is the spermatozoon. We are told that its head is formed from the nucleus of the proliferating cells of the testis, and its chief characteristic is its great activity.

The chief seats of cancer are those where metabolism is the greatest—for example, the medulla of bones, the mamma, and testis; and in these situations, and elsewhere, wherever cell activity arising from irritation is found, as in tubercle, syphilis, or simple granulation tissue, giant cells are found to be present. The multinuclear giant cell is, as it were, the "managing director" of cell activity. In the ordinary course of events it may be supposed that the giant cell disintegrates, and sets free its nuclei, which may die and be carried away. But these nuclei are extremely powerful and active, and it may be possible that in the process of disintegration of the overworked giant cell one or more nuclei may be set free, persist, and, acting as a sperm cell or cells, may fertilize one of the adjacent tissue cells.

It is difficult to discover what becomes of the nuclei of the giant cells, but it may be that, from the constant presence of these giant cells in the neighbourhood especially of the cell activity resulting from irritation, the microzoon required to connect the chain and to fertilize the tissue cell is a discharged nucleus from a giant cell.—I am, etc.,

H. T. DUFTON.

Brockford, Dec. 19th.

[1] James Ewing: "Cancer Problems," *Arch. Intern. Med.*, vol. i, 1908. (Gives a full account of the development of the theory.)
[2] Ribbert: *Beitrâge z. Entstehung d. Geschwulste.* Bonn. 1906–7.
[3] C. E. Walker: *Essentials of Cytology.* Constable, London. 1907.

SWEETS IN CHILDHOOD.

SIR,—Dr. Sim Wallace adduces evidence to the effec that carbohydrate fermentation produces acidity, and tha acids corrode the teeth. No one denies these facts. H refers me to Dr. Miller. But as Mr. Denison Pedley' letter shows, Miller defended sweets; his "studied opinion was to the effect that bread and biscuits were the chie sources of mischief.

This correspondence has drifted into a discussion o the etiology of dental caries, and as the subject is tre mendously important, perhaps you will allow me a fe words on it.

An admirable survey of the question will be found in a address to the School Dentists' Society delivered last yea by Mr. Hopewell-Smith. He says: "Our knowledge of th etiology of dental caries is based on misapprehensio developed on lack of research, and crowned by ignorance.

The following are some of the problems that urgentl demand investigation:

1. The especial incidence in childhood.
2. The greater incidence in females after puberty.
3. The different incidence in different social classes.
4. The incidence among different races and the relation— any—to their dietaries.
5. The incidence in wild and domesticated animals.
6. The degree of vulnerability of various teeth and of variou surfaces.
7. The bacteria that are causally related to caries.
8. The nature and functions of Nasmyth's membrane.
9. The difference between white caries and brown.
10. The determining factors in the alkalinity and acidity the saliva.

I would ask that an organization should be forme (including physiologists, pathologists, dentists, physician ethnologists, veterinary surgeons, and philanthropist with these objects:

1. To awaken a national interest in the problem.
2. To entice millionaires to endow dental research.
3. To urge the powers that be to establish a network dental clinics throughout the land.
4. To initiate research along the lines suggested abov —I am, etc.,

O. HILDESHEIM.

Northwood, Middlesex, Dec. 19th.

THE RESUSCITATION OF THE STILLBORN.

SIR,—In reading the paper by Sir F. Champneys, an the discussion thereon, on the above subject, in the BRITIS MEDICAL JOURNAL of October 21st, just to hand, I was su prised to see no mention made of what for short I wou call the "concertina-action" method, which I have us for over twenty-five years, and find complete and effectiv and so simple to apply that it is the only method I t except direct inflation.

A bath of hot water, the more water the better, and washhand basin of cold water are put on a table. With small swab I clean out the mouth and throat, turning t child upside down during the process. I next compress t nostrils a few times, and clean away the exuded dischar

Now let the baby sit on your left hand, the pu towards the wrist, spread your fingers and thumb and g them into the folds of the bent thighs, the pubis, t buttocks—anywhere, in fact—according to the size of t child, so long as you grip him so firmly that he will slip when pulled by your right hand. My hand is la and the fingers long, so I have no difficulty with the n process—the important part—because the left hand only for support and for counter-extension. Place yo right palm on the baby's back with thumb into the l and the fourth and fifth fingers into the right axilla, a stretch the hand so that the finger points go well round the front, the thumb on to the ribs over the heart and t fingers over the right nipple and lower ribs, while the fi and middle fingers are passed up on either side of t posterior neck muscles to keep the head and neck stea The higher the table the more easily this grip can be and maintained. Having a firm grip of the baby betwe

ie hands, he can be held in the air or may lie or sit in
ie hot water as preferred, with, if necessary, only part of
ie head and face exposed.

Next proceed thus: Grip tightly with the left hand,
raighten the thumb and fingers of the right hand so as
ot to compress the chest, and separate your arms, so that
ou extend the baby's trunk, and (thus the chest) raise his
houlders and arms (which rest on the side of your thumb
id fourth finger respectively, while the first and middle
igers steady the head) until his shoulders and arms are
ell above the height of his clavicle, then slowly close
our right hand so that the thumb presses on the chest
er the heart, and the fourth and fifth fingers over
e right ribs, and at the same time bringing your
ms closer together again so as to compress the trunk
d the chest at the same time. Repeat this "con-
tina action" steadily and slowly, the nurse meanwhile
aring the nose and mouth when necessary. By
sing your arms out of the bath, the same process can
continued in the air, changing the general position from
izontal to perpendicular, or vice versa, as the tiring
sations of your muscles demand, and then return baby
he hot bath again, adding hot water from time to time.
f no breathing results continue the movement and
nge him into the cold bath for one or two extensions,
n back into the hot bath again, so that you get the
tinuous heat and the stimulation of cold air or cold
er without ceasing the artificial respiration, and without
n shifting your hands, except to open and close your
t hand and to separate and bring together your arms.
n short, the weight of the child (and of your counter-
nsion) rests on the sides of your thumb and fourth
er, so that the scapulae, ribs, and humeri are raised
stretched, and then compressed by approaching the
s and closing the fingers and thumb simultaneously.
after several movements there be no success, blow
ly with lips to lips and inflate the baby's lungs once
vice, continuing the extension, etc., movement between
s. If gurgling be heard, as if fluid were present, raise
left and lower your right hands so as to turn the
upside down, and continue the movement, the nurse
hing, ready with small swabs to catch or wipe away
harges.

this simple method I get all the extension which
ster or Schultze's methods can give, and all the com-
ion I like to apply, and in addition also compression
the heart, retention of heat, stimulation of skin by
r cold water, inflation of lungs by mouth blowing;
et, if the bath stands on a table, I stand erect, my
hang forward naturally, the process is not very
, and I can move the baby into any position and
um which I wish.

en I tire I get the nurse to press the baby's buttocks
ighs firmly on to the floor of the bath in a sitting
on, and I use only one hand for the raising and com-
on, and either right or left hands can be used by
the baby to the opposite side of the bath; but by
my own counter-extension I can graduate the
ion, expansion, and compression much more satis-
ly, and can have the baby in bath, air, or cold water,
sitting, inverted, etc., at my pleasure without
g my hands, and with no assistance except to clear
outh and nose.

process may sound complicated, but in practice it is
mple and very effective if the bath is raised, but on
ound it is irksome and very tiring to back and arms.
, etc.,

vaal, Nov. 20th. J. B. KNOBEL, M.D., L.R.C.S.Ed.

MEDICAL MISSIONARIES.

—I hope you will kindly permit me to explain the
sement which has appeared in your columns setting
he needs of medical missionaries for certain im-
posts in the mission-field under the Church
ary Society. This society has medical missions in
nd West Africa, in Egypt, Palestine, Turkish
Persia, India—especially along the North-West
r—and in various parts of China. In many of these
hey are the principal exponents of Christianity,
y prove that the Christian religion is not merely a
of creeds or formularies, but concerns itself with
-being of every member of the human race.
is an urgent need at the present moment for
doctors and nurses for important posts, especially for Turkish Arabia, and I should be very pleased to give full information to any one who may be inclined to offer for this work. It should be clearly understood that the calling of a medical missionary combines both medical and missionary work, though it does not necessarily involve a lengthy theological preparation. At the same time, some special preparation may be necessary, and languages must be learnt; but once this is done an opportunity is afforded for usefulness which is the best reward for those who undertake the work.

A good all-round medical training is a necessity, particularly in surgery and in some special departments. It is also worthy of mention that there are educational posts which may tempt those who are interested in medical education.—I am, etc.,

CHARLES F. HARFORD,
Secretary, Medical Committee.
Church Missionary Society, Salisbury Square,
London, E.C., Dec. 19th.

THE DISORDERS OF POST-NATAL GROWTH AND DEVELOPMENT.

SIR,—Your reviewer, in his comments on the above book,[1] has unwittingly fallen into one or two errors; and these errors cause the book to appear so much more stupid than it really is that I must ask your permission to correct them. No one who has read the book could accuse me of making such a statement as that "old age is a reversion to an anthropoid ancestor," that "most intrinsic diseases . . . take the form of reversions to bygone ancestors," or that all old men show simian characters. Such statements are foolish on the face of them. They are of the nature of those half-truths which are wholly misleading. There is about as much truth in them as there is in the vulgar impression that Darwin taught that men are descended from apes, and I emphatically deny that they represent my views.

The book has taken some fifteen years to write, and no part of it gave me more trouble to put together than the summary at the end. Indeed, it seemed almost impossible to convey an accurate impression of such a complex subject in the space of a dozen pages. Yet your reviewer after, I suppose, spending an hour or so over the preface and summary has not scrupled to break away parts of the summary, patch them together and serve them up as a sample of my opinions. He regards this as a way of "avoiding any unconscious misrepresentation" of my views.

But it need hardly be said that misrepresentation is not necessarily avoided by piecing together passages which have been dislocated from their context, and of this truth your reviewer furnishes a very good example.—I am, etc,

Reading, Dec. 11th. HASTINGS GILFORD.

*** We much regret that the review of his book should have given dissatisfaction to Mr. Hastings Gilford, but we cannot admit that it was "misleading" or that it was a "misrepresentation" of the author's expression of his views. Mr. Gilford objects to our attribution to him of the opinion that old age is a reversion to an anthropoid ancestor, but the following passage, which occurs on page 701, seems enough to justify our reviewer, let alone other expressions scattered through the book:

"Now we have seen that when cells or organs degenerate they rarely go back beyond the limits of their phylogeny. In other words, the cell does not (or cannot) retrace its ancestry beyond the amoeba stage, nor does the organ beyond the metazoan stage. So also *when the whole man retrogrades in his development his retrogression is limited. He exhibits the characters which were at one time the characters of his remote ancestor, palaeolithic man of simian type, which again were derived by him from his ancestors the brutes. Traces of this reversion can be detected in some old men, whose prominent eyebrows, large shapeless noses, diffuse hairiness, and inability* to stand erect have their precedents in our simian forbears." (The italics are ours.) Again, on page 685, it is distinctly stated that what happens in "normal old age" is a reversion towards prehistoric man of simian type.

Mr. Gilford also objects to our statement that in his opinion "most intrinsic diseases are degenerations of one or other of these units (cells, metazoa and complex organisms) and take the form of reversion to bygone ancestors, such as the amoeba, the sponge and prehistoric man."

We can only say that after a good many hours (not as Mr. Gilford supposes one hour) devoted to a study of the book, that was the impression left upon the reviewer's

[1] BRITISH MEDICAL JOURNAL, December 9th, p, 1539.

mind. The author best knows what he meant to convey, and we accept his statement that his views are not quite what we supposed them to be. Mr. Gilford objects to the selection of passages from the introduction and general summary for quotation as representing his views. It is not easy to see how, short of quoting the whole six pages of the introduction and the fourteen pages of the summary, the author could better have been made to tell his own tale. As the reviewer stated, there is in the pages of this book much food for reflection. We hope that many of our readers will study the book and profit by the many interesting facts and theories which it contains, and at the same time draw their own conclusions.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.—*Organic Chemistry:* E. W. Bowell, J. M. H. Hardman, W. Champneys, G. R. Cowie, G. Donald, S. C. Dyke, G. I. Evans, G. T. Gimlette, F. G. Hobson, T. L. Ormerod, G. Perkins, O. S. Phillips, A. H. Plummer, S. S. L. Steyn, S. C. Varley, J. P. S. Walker, A. L. Watts. *Human Anatomy and Human Physiology:* J. D. Batt, L. R. Broster, C. M. Burrell, G. Cranstoun, L. Gameson, F. C. Gladstone, C. W. B. Littlejohn, G. B. Selby, J. F. West.

SECOND M.B.—*Materia Medica and Pharmacology:* W. H. Bleaden, A. L. Pearce Gould, D. B. I. Hallett, A. Jackson, G. Stanger. *Pathology:* G. E. Beaumont, G. W. Carte, W. A. Cooke, W. J. Hart, S. Hibbert, A. Juett, W. R. Reynell, E. Scott, P. T. Spencer-Phillips, E. H. Udall. *Forensic Medicine and Public Health:* W. H. Bleaden, C. H. Budd, N. G. Chavasse, T. B. Heaton, D. P. MacDonald, E. G. Martin, W. J. Oliver, W. J. Pearson, S. S. Strahan, G. H. Varley, W. E. Waller, J. A. Wood. *Medicine, Surgery, and Midwifery:* C. F. Beevor, W. H. Bleaden, P. H. C. Fowell, T. B. Heaton, W. J. Oliver, W. J. Pearson, H. W. Scott-Wilson, S. S. Strahan, C. J. G. Taylor, W. E. Waller.

The following degrees have been conferred:

D.M.—H. C. G. Semon.

B.M. AND B.CH.—J. A. Noble, W. J, Pearson, C. J. G. Taylor, W. J. Oliver, W. W. Wagstaffe, W. H. Bleaden, T. B. Heaton.

Radcliffe Infirmary.

At a meeting of the Board of Faculty of Medicine, on December 9th, the following resolution was passed:

That the Radcliffe Infirmary, Oxford, be a hospital approved by the Board of Faculty of Medicine for carrying on *post-mortem* work by students, provided that no student be signed up for this course unless he has (*a*) passed the First M.B. Examination or has taken the Final Honour School of Physiology; (*b*) personally taken part in the actual performance of not less than ten *post-mortem* examinations; (*c*) regularly attended *post-mortem* examinations at the Radcliffe Infirmary during not less than two full terms.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., B.C., PART I. (*Anatomy and Physiology*).—J. C. Andrews, G. L. Attwater, L. W. Batten, G. A. G. Bonser, J. C. Bramwell, H. F. Brice-Smith, W. E. H. Bull, H. R. Buttery, A. B. Buxton, M. Chadwick, G. F. Clifton, G. R. E. Colquhoun, A. C. M. Coxon, E. C. Cunnington, E. D. D. Davies, A. N. Drury, H. Dunkerley, H. S. Evans, E. Forrester-Paton, L. S. Fry, H. A. C. Goodwin, E. H. H. Granger, C. Grantham-Hill, W. T. Hare, J. B. Hunter, J. H. Jordan, H. D. Lander, F. C. Lapage, H. W. Leatham, A. H. Little, H. D. McCall, E. C. Malden, R. A. Mansell, C. G. T. Mosse, D. F. A. Neilson, W. D. Newcomb, W. Oats, H. B. Padwick, H. R. Pollock, S. R. Prall, W. B. Purchase, G. D. Read, W. H. C. Romanis, T. H. Somervell, G. E. Spicer, H. N. Stafford, A. R. S. Warden, E. Watson-Williams.

THIRD M.B., B.C., PART II (*Medicine, Surgery, and Midwifery*).—L. A. P. Anderson, J. H. Baldwin, A. M. Bodkin, W. J. Carr, F. G. Chandler, H. M. McC. Coombs, W. D. Coplestone, M. Donaldson, C. A. Dottridge, E. A. Dyson, A. G. Evans, G. V. Fiddian, A. W. Gaye, A. H. Gosse, H. K. Griffith, A. E. Herman, A. C. Jepson, G. G. Johnstone, N. F. Lock, A. J. McNair, J. C. Marklove, R. A. Ramsay, W. D. Ross, H. B. G. Russell, W. A. Russell, A. W. Stott, J. F. Taylor.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.—J. A. M. Alcock, J. S. Alexander, Hannah K. Alton, *C. R. Andrew, K. E. Attenborough, R. T. Bailey, G. T. Baker, C. D. Banes, W. R. Barrett, E. V. Beaumont, J. W. Bigger, J. A. Binning, Constance M. Briggs, H. G. Broadbridge, L. A. Celestin, J. D. Constantin, R. C Cooke, D. D. R. Dale, Raghunath G. Dani, J. M. Davey, ††L. S. Debenham, A. R. Dingley, C. Y. Eccles, †S. H. Edgar, E. F. Fernando, T. R. W. F. Figg-Hoblyn, W. Fletcher-Barrett, Marjorie E. Franklin, W. L. M. Gabriel, Aziz Girgis, L. Goodfellow, H. M. Gray, J. W. H. Grice, *‡A. G. Harsant, T. L. Heath, N. H. Hill, H. M. Holt, G. P. B. Huddy, D. B. S. Jones, F. R. Law, H. Lewis, Katharine Lloyd, D. Loughlin, S. A. S. Malkin, F. K. Marriott, A. H. Morris, J. K. Muir, J. J. Murphy, Sinnethamby Muttiah, D. F. Parton, Eleanor J. Partridge, R. L. Portway, C. G. Schurr, Elisabeth H. Schwab, N. M. Sen-Gupta, C. E. A. Shepherd, H. G. Stormer, R. Stowers, †E. C. Tamplin, F. A. Unwin, W. J. Vance, S. Vidot, Josephine L. H. Wallace, J. W. Wayte, W. R. White-Cooper, ‡G. C. N. Younger.

* Passed with distinction in General Biology.
† Passed with distinction in Inorganic Chemistry.
‡ Passed with distinction in Physics.

M.D., BRANCH I (*Medicine*).—C. A. Basker, Muriel C. Bywat[er], J. A. P. Cullen, D. M. Davies, I. J. Davies, T. B. Davies, Gopa[l] Deshmukh, E. C. B. Ibotson, W. Johnson, Charlotte A. Ki[ng], N. C Lake (University Medal), E. L. W. Mandel, H. R. Wilso[n].

M.D., BRANCH II (*Pathology*).—A. Davies, Emily H. Morris.

M.D., BRANCH IV (*Midwifery and Diseases of Women*).—J. Bru[ce] Bays, Gladys M. C. Dunbar, Mabel E. Gates, H. C. Luc[as], W. H. Miller (University Medal), Florence M. Morris, Hele[n] Moss, A. G. Tresidder.

M.D., BRANCH V. (*State Medicine*).—T. S. Higgins.

M.D., BRANCH VI (*Tropical Medicine*).—H. S. Stannus (Univer[sity] Medal).

M.S., BRANCH I (*Surgery*).—J. E. Adams, E. W. C. Bradfield, E. Martin, H. Platt, D. Ranken.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the exami[na]tions indicated:

SECOND M.B., CH.B.—†Lily Allan, J. C. P. Bayley, B. Brown, F. Chadwick, J. W. Craw, A. T. Gibb, †D. T. Harris, *J. R. Jag[ger], O. M. de Jong, J. D. Kenyon, E. A. Linell, *Clara A. Lon[g], Kate K. May, Kamil Maximus, A. S. Paterson, W. A. Roger[s], J. R. B. Russell, E. H. Walker, H. Wilson.

* Passed with distinction in Anatomy.
† Passed with distinction in Physiology.

THIRD M.B., CH.B. (*Pharmacology, Therapeutics, and Hygien[e]*).—F. C. Bentz, W. R. Blore, F. S. Charnock, H. C. Duffy, H. Ke[n]sey, R. McGill, Gladys H. Ramsden, H. A. Sandiford, F. Tomlinson, C. H. Whittall.

THIRD M.B., CH.B. (*General Pathology and Morbid Anatomy*).—A. Barrett, *F. A. Bearn, J. G. Bennett, E. S. Brentnall, C. Crawshaw, H. N. Crossley, H. F. Hutchinson, H. Kemp, *T. B. Kinner, E. Leahy, C. G. Lees, F. L. Newton, T. Robertson, H. Sheldon, *A. V. Stocks, E. Talbot, C. Thomps[on], H. W. F. Williams, G. W. Wood.

FINAL M.B., CH.B.—K. D. Bean, L. W. Howlett, W. H. Lash, S. E. McClatchey, N. Matthews, H. G. Peake, J. Walker, Warburton.

* Passed with distinction in Pathology.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the sub[jects] indicated:

SURGERY.—*†R. E. Clarke, *†P. J. Montgomery, *†J. E. Taylor.

MEDICINE.—*†R. E. Clarke, *†D. E. S. Davies, †L. K. Edmea[ds], *†W. G. Fraser, *J. G. Lewis, *G. Meyer, *†P. J. Montgom[ery], †F. C. Shone, *†A. J. Tozer.

FORENSIC MEDICINE.—R. E. Clarke, H. Rimington, H. Robin[son], H. G. Steel, A. J. Tozer.

MIDWIFERY.—E. M. Brand, R. E. Clarke, H. Robinson.

* Section I. † Section II.

The diploma has been granted to Messrs. R. E. Cla[rke], D. E. S. Davies, and P. J. Montgomery.

Obituary.

JOHN P. SWINDALE, M.R.C.S., L.S.A.

EARLY on Sunday, December 17th, Mr. John Swin[dale] passed peacefully away at his home at Ipswich. He [was] in his 70th year, and for the past ten years his health [had] been indifferent. He came of a North Devon family, [and] was born at Appledore, near Bideford, and commenced [his] professional curriculum by being apprenticed to a [Mr.] Clark, of Finsbury Park. He entered as a student of Mid[dle]sex Hospital, where he won several prizes, and ha[d a] brilliant record, and in 1864 obtained the diploma[s of] L.S.A.Lond., taking that of M.R.C.S. the following y[ear]. He afterwards held the posts of Resident Physician [and] Registrar, and on leaving London was appointed Ho[norary] Surgeon to the Royal Berkshire Hospital, Reading. [The] physicians at that time were Drs. Cowan, Woodhouse [and] Wells, and the surgeons, Mr. Bulley, Mr. George May, [sen.,] and Mr. Moxhay. Mr. George May, sen., and Mr. The[odore] B. Maurice were on the consulting surgical staff. [Mr.] Swindale was in constant touch with the members of [the] Reading Hospital staff, from whom he always rece[ived] much kindness. He was for many years a member of [the] excellent institution, the Reading Pathological Soc[iety]. At the suggestion of Dr. Cowan he settled in [practice] at Binfield, Berks, about ten miles from Reading, w[here] he remained in active practice for over thirty-five y[ears]. When he retired, owing to ill health, he was very m[uch] missed both by rich and poor. He had the reputatio[n of] being a most able, painstaking, and hard-wor[king] practitioner, and incessant work undoubtedly led t[o] failure of health. His old friend, Dr. Cowan, died at [the] end of 1868; a little later Mr. O. C. Maurice joined [the] surgical staff, and as years progressed became a [most] staunch friend of Mr. Swindale, a friendship of n[early] forty years, existing up to the time of Mr. Maurice's [death] in 1907. Mr. Swindale was twice married, and leav[es]

first wife two sons and six daughters. Both his sons in their father's profession.

Dr. W. J. MAURICE (Reading) writes: I knew Mr. ndale well during the later years of his life at field. He was a man of retiring disposition, trusted l beloved by those who came into close contact with , while his straightforwardness and devotion to his k won the respect and esteem of every member of his profession.

Dr. R. W. BROGDEN (Ipswich) writes: I knew Mr. ndale well during the ten years of his retirement which spent at Ipswich. I know from various sources how rious and faithful his work had been while engaged is practice, and how conscientiously he spent himself he benefit of his patients. His continued love for his ession was shown by his membership of the Ipswich ical Society and attendance at its meetings. He was lly ready to give of his leisure hours, as far as his health ld permit, in various useful ways in the town where he come to enjoy a well-earned rest, and he did yeoman ice on the Committee of the Ipswich Nurses Home, for ile on the Education Committee, as Treasurer of the and Dumb Society, and Secretary and Treasurer of St. Margaret's Parish Room, and in other ways. Of and unassuming manner, he will be greatly missed any an old friend who enjoyed his company and ersation, or indulged with him in his favourite game ess.

THE LATE DR. TREVELYAN OF LEEDS.

GEORGE HARDWICKE (Snainton, Yorks) writes: The of Dr. E. F. Trevelyan of Leeds deprives several al institutions and the public of a distinguished cian, and many old Leeds students of a greatly valued ersonal friendship. He was much sought after by nts near the end of their time as a source of informa- eyond the textbooks, this information being of high ific accuracy and in advance of usual medical teach- btained from a personal knowledge of medical thought h centres as Vienna and Berlin, supplemented by a nergetic digging into and translating from German, , and Italian literature on the subject in hand, and ction of anything speculative, the information he ed could be regarded as complete and strictly te. He would always end a statement by repeating n a characteristic manner, "There is no doubt about It must be said of him that he did not suffer fools but to those students who were "working" he spare neither time nor trouble in giving them enthu- lly of his inexhaustible knowledge. He was known walking encyclopaedia," and will be remembered for his intimate knowledge of pathological pro- -his astonishingly comprehensive knowledge of diseases, and of lesser known and obscure medical ons. Personally he was of a shy and retiring yet gly genial disposition, and would spare no pains or to help his former students. His hobby was ine," and he worked at it with unbounded enthu- His death at an early age is a great loss to the profession, to Leeds students particularly, and a f deep grief to all professionally and personally ed with him.

RNEST CASSEL, in memory of his daughter, the late ud Ashley, has given the sum of £50,000 to hos- nd other kindred institutions. Of this amount goes to the King Edward's Hospital Fund for on the understanding that it is divided among the ns which receive grants from the Fund this year ame proportion as the Fund's grants are divided, easing the distribution of the Fund by one-fifth— 7,500 to £189,000. The sum of £7,000 is divided the Romsey Nursing Home, the Royal Hants Hospital, Winchester; the Victoria Hospital, Black- Fleetwood Cottage Hospital, the Lytham Cottage the Royal National Hospital for Consumption ases of the Chest, Ventnor, and the Royal Sea- Hospital, Margate. The remainder of the sum of as been allocated among the various London subject to certain conditions.

Medical News.

AT the meeting of the Medico-Legal Society to be held at 11, Chandos Street, on January 16th, at 8.30 p.m., Dr. R. R. Rentoul will read a paper on sterilization of the unfit.

THE next meeting of the North-East London Clinical Society will be held at the Prince of Wales's Hospital, Tottenham, on Thursday, January 4th, at 4.15, when an address on diseases of the colon will be delivered by Dr. W. G. Hadley.

MESSRS. PHILIP HARRIS AND CO. of Birmingham have issued a fourth edition of their surgical instrument catalogue. It is divided into thirty-four sections, and has an extensive index. It includes scientific apparatus suitable for public health laboratories and aseptic furniture.

THE new wing recently added to the Craw Road Hospital by the Paisley Parish Council is two stories in height, and comprises four wards, providing 60 additional beds for infirm men and 12 beds for cases of specific diseases.

A COMMUNICATION to the Council of the Royal Hospital for Diseases of the Chest has been made by Dr. Barty King, Assistant Physician to the Hospital, of a sum of money to cover the entire cost of rebuilding and enlarging the out-patient department. The new buildings will include a lecture theatre, pathological museum, and research laboratory for clinical instruction and research in diseases of the chest. The gift will amount to over £6,000.

THE first three of the series of health posters which are in course of publication by the National League for Physical Education and Improvement deal respectively with the choice of good and bad feeding bottles, with the dangers arising from unguarded fireplaces and inflammable clothing, and with the evils of push cars. A specimen which has reached us makes it clear that the League well understands the pictorial method of driving home hygienic truths.

AN effort is being made at Leicester to raise a sum of £6,500 in order to bring into use the third floor of the children's block at the infirmary, and to provide sundry improvements in the way of additional balconies for open-air treatment and reconstruction of the operating theatre. As the treatment of children's diseases represents one of the most successful divisions of the work of this institution, and it is well known that the accommodation falls far short of the demands habitually made upon it, there should be no difficulty in securing the sum in question.

DURING the sittings of the International Opium Commission at the Hague two resolutions proposed by Great Britain were adopted, to the effect (1) that every Government shall frame effective laws and regulations for the control of the production and distribution of raw opium; (2) that every Government represented at the conference shall restrict the number of places at which the import and export of raw opium shall be permitted. It was also decided, at the instance of the Portuguese delegate, that the decisions of the conference should be communicated to those nations that were not represented, and their co-operation in furthering the objects of the conference be requested.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on December 15th, Dr. de Havilland Hall in the chair. It was reported that in accordance with the experience of previous years the rate of sickness during the autumn months had been moderate. In fact, the figures showed that the sickness rate of last autumn had been exceptionally light, and although as the cold weather arrived the claim list always lengthened, the cases so far notified had been for the most part of a mild nature and of short duration. The final figures of the year's business were not available, but the financial results of the operations of the society for 1911 would undoubtedly be found very satisfactory. A large number of new proposals had been secured, and the number of members who had obtained additions to the amount of sick pay they had already secured was larger than in any previous year's workings. The list of those totally and permanently incapacitated was slowly growing, and there were on the claim list nearly fifty members who would probably draw sick pay until they died. To render these annuities, which are usually of £104 per annum, perfectly secure, a special reserve is made at each valuation of the society's business. Prospectus and all further particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

FRIGIDUS asks whether treatment by CO_2 snow has been tried for large haemorrhoids in patients who refuse to have the usual operation or are unsuitable.

E. K. asks for information about the poisonous properties of teak. Carpenters and others who handle the wood aver that a slight prick by a splinter causes intense inflammation.

PETROL DUTY REBATE.

A. C. R. purchases from time to time half a gallon of petrol for his motor cycle, but has been informed by the Excise authorities that he cannot claim repayment for these half-gallons.

*** There is no restriction in the Act in regard to the quantity purchased at one time; the only condition is that 5 gallons shall have been used in the six months preceding the date of the claim.

INCOME TAX.

J. L. L. holds certain appointments for which he is assessed to income tax under Schedule E. Being over-assessed under Schedule E, he has objected to the surveyor of taxes, who states that if our correspondent claims that his assessment under Schedule D includes his appointments it will be necessary to give particulars of gross earnings and expenses of the practice for the past three years.

*** There appears to be a misunderstanding in the matter. The proper course in the circumstances set forth would be for our correspondent to explain to the surveyor that it is the Schedule E assessment and not the Schedule D assessment that is in question, and to specify the respects in which the Schedule E assessment is incorrect.

ANSWERS.

INTOLERANCE OF IODIDES.

DR. JOHN IRVING (Scarborough) writes: "Idiosyncrasy" will probably find the addition of phenazonum and perhaps some preparation of iron will counteract the unpleasant effects of potassium iodide. I have found this prescription most serviceable in cases such as he describes: ℞ Potassii iodidi gr. xv, phenazoni gr. v, fer. et am. citratis gr. x, aquam ad ℥j solve. Sig.: Ex aquâ q.s. ter in die sumend.

DR. JOHN BAIN (South Shields) writes that he has found the following prescription useful in similar cases: ℞ Sol. Donovani ℥ss, ferri. et am. cit. ℥ij, potas. chlorat. ℥j, aq. menth. pip. ad ℥viii. Sig.: ℥ss thrice daily thirty minutes after food.

DR. H. J. THORP (Ipswich) writes: Possibly the patient could take the mixed iodides with the addition of ammon. bromide gr. x and tr. nucis vom. ♏ x to each dose.

M.R.C.S. writes to suggest to "Idiosyncrasy" to try tablets of mercury perchloride; begin with gr. $\frac{1}{20}$ three times a day and increase it to gr. $\frac{1}{10}$ or even gr. $\frac{1}{5}$ three times a day if it does not purge, and continue for at least three months; he has never known the perchloride *per se* to salivate. purges, gr. $\frac{1}{60}$ morph. hydrochl. with each dose will pr that.

A SECOND YOUTH.

DR. WALTER G. WALFORD (London) writes: The probable for the change of colour in "Alter Ego's" hair is that h not very long since enlarged his neck wear, and thus imp the communication between his heart and brain, an lymphatic circulation. This is what I happened to do I had just reached 70, when in addition to greatly imp health my hair not only became darker, but grew so pro where I had previously been bald, as to become quite r able, and more than one hairdresser has offered to bu secret.

CANADIAN FRUIT FARMING.

DR. R. M. FRASER (Strandtown, Belfast) writes: "Esuriens others interested in Canadian fruit growing might prof direct their attention to the Columbia River Valley—a and "unboomed" district in British Columbia. Columbia Valley Irrigated Fruit Lands, Limited, which the lots, is a subsidiary of the Canadian Pacific Railw its literature is issued under the authority and fron offices of the Canadian Pacific Railway. The manager company is at present in England. In the official bu of the district issued by the British Columbia Goveri there is an interesting description from the pen of Pro Adami. My acquaintance with the valley is due to f who have settled there, of whom one was an asth Its altitude, clearness of atmosphere, and freedom moisture should be beneficial to catarrhal affections.

MEDICATED SAWDUST.

MR. PAUL B. ROTH, F.R.C.S. (London), writes: In re "N.N.S.'s" inquiry *re* medicated sawdust, as used by th Mr. H. O. Thomas, of Liverpool, that in *Contributi Surgery and Medicine, Fractures, Diseases, etc., of the Extremities*, by Hugh Owen Thomas (London: H. K. 1 1890), p. 199, footnote, occurs the following: "The med wood sawdust . . . is prepared thus: A sackful of pin sawdust, which has to be coarsely sieved, then med with the following mixture: two buckets of water ch with oil of tar two pints, hyd. perchlor. 1 drachm; an mur., 1 drachm."

*** Messrs. R. Sumner and Co., 50A, Lord Street, Live write to state that they prepare the medicated sawdu supply it to surgeons at the rate of 2d. a pound.

LETTERS, NOTES, ETC.

A WARNING.

DR. GILBERT E. COPE (London) writes: Apropos of Dr. Ward's warning notice in the BRITISH MEDICAL JOURN December 23rd, I also lost my umbrella in a precisely si manner on the 15th or 16th instant. Evidently the same is still going round. I noticed my loss and telephoned the within five minutes of the theft, but have heard nothing

A CORRECTION.

DR. JOHN D. MALCOLM (London) writes: In the JOURN December 23rd, the abstract of my remarks on 400 oper involving the peritoneum, read at the Medical Soci London, gave me credit for 184 operations on the abdo wall, kidneys, gall bladder, etc., with 4 deaths. The n of deaths was *eleven*, and I am sorry if the original w was the cause of the mistake.

SHIP SURGEONS.

EX P. AND O. SURGEON writes: With regard to the le "P. and O. Surgeon" in the JOURNAL of December perhaps you will allow me to point out that the surge matter whether serving in the Royal Navy or Mer Marine, is *not* an executive officer. The executive offi a ship are those who perform or execute the duties con with the navigation and general working of the ship surgeon, being thus not a member of the executive bra not debarred from participating in the amusements passengers.

Another correspondent writes making similar observ

SCALE OF CHARGES FOR ADVERTISEMENTS IN BRITISH MEDICAL JOURNAL.

	£ s.
Eight lines and under	0 4
Each additional line	0 0
A whole column	2 13
A page	8 0

An average line contains six words.

All remittances by Post Office Orders must be made pay the British Medical Association at the General Post Office, L No responsibility will be accepted for any such remittance safeguarded.

Advertisements should be delivered, addressed to the M 429, Strand, London, not later than the first post on Wednesday n preceding publication, and, if not paid for at the time, sho accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receiv *restante* letters addressed either in initials or numbers.

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EPITOME

OF

Current Medical Literature.

JULY TO DECEMBER, 1911.

London:

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, W.C.

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Readers in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goître, and Thyroid; Diabetes, Glycosuria and Sugar; Eye, Ophthalmia and Vision, etc.

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AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

1. Meningitis due to Paratyphoid Bacillus.

OONACKER AND GORTER (*Arch. de mal. des enf.*, May, 1911) ecord a case of meningitis due to paratyphoid bacillus ith tetany in an infant 8 months old. The illness began ith symptoms of gastric trouble. After a few days signs f disease of the nervous system showed themselves in the rm of slight strabismus, conjugation deviation, and iffness of the neck. In the third week a lumbar puncture as made, but this provided no relief. At this time also nvulsions occurred, and during the intervals the child's nbs rested in tonic contraction typical of tetany. Later t all the severe symptoms ameliorated, but marked ismus, preventing feeding by the mouth, supervened, as ll as the characteristic signs of tetany. The child died ring the ninth week. Bacteriological examination of e cerebro-spinal fluid showed the presence of the para- phoid bacillus B. The authors could only find one other mmunication in the literature on this subject—that of tz and Boese, but the two cases described by these thors differ from Boonacker and Gorter's in that the tients died in less than a week. The authors consider e presence of tetany was purely accidental.

Biot's Breathing.

NNER (*Amer. Journ. of Med. Sciences*, March, 1911) calls ention to Biot's breathing, a respiratory rhythm occur- g in meningitis, and first described by Cammille Biot his studies of Cheyne-Stokes breathing as being quite ike that particular type. The gradual diminution and rease in the force of the respiratory movements before l after the apnoeic periods characteristic of Cheyne- kes breathing are lacking in Biot's breathing, in which periods of apnoea vary in length, and occur at irregular rvals with constant irregularity in rhythm and force, with the frequent occurrence of deep sighs. In spite onstant variation in the depth of inspiration, as shown he tracings, there is great uniformity of the expiratory l, the top of the tracing forming a straight horizontal . This latter peculiarity would appear to be due to the that the expiratory act is purely a passive one, all ve muscular expiratory efforts being absent. Some- s referred to in the literature as "cerebral breathing," type of respiration has been supposed to occur in r cerebral conditions than meningitis, and of the or's 7 typical cases 6 were proved to be meningitis, e the seventh (otitis and suppurative mastoiditis) may been one, but no autopsy was performed, and at the ation there was no thrombosis of the lateral sinus, and idence of a brain abscess. When once established, s breathing usually persisted through the greater part ie illness, and as in 4 of the cases it was present , only a few days after the onset of symptoms, it may times be an important diagnostic sign of meningitis. ecial relationship to the state of the pulse, or absence esence of any other symptom, was noted, it being in deep coma, and in states of consciousness in which drowsiness and apathy were the only departures the normal. An explanation of the condition may ly be found in an assumption that the root of the o-pharyngeal nerve becomes involved in the meningitic mation, and therefore it should be met with more lly in the epidemic type of meningitis, in which may be a tendency towards an involvement of the roots, and it was so present in the only case of this of meningitis that the author has as yet had an tunity of studying graphically.

Chronic Intestinal Catarrh.

LISCH (*Wien. med. Klin.*, No. 7, 1911) deals with the ient of chronic intestinal catarrh. The question of of primary importance. Certain well-defined groups es can be differentiated. First come cases of intes- atarrh complicated by gastric lesions, giving rise to -called chronic dyspeptic diarrhoea, which can be sed by Schmidt's method of a test diet combined xamination of the stools. The essential point about t diet is that it is such that it can under all circum- s be completely digested by a sound intestinal tract. esence of connective tissue and tendinous elements l from meat is most common, and points to a failure tric digestion. The particular gastric anomaly present needs to be carefully inquired into, and the excel- lent results obtained from appropriate treatment will confirm the diagnosis. The presence of muscle tissue points to defective small intestine digestion, and in catarrh of the small intestine, fat, sometimes up to 40 per cent. of that taken, is usually present. Mucus from the small intestine is recognizable, because it contains bilirubin, and is stained green by Schmidt's sublimate test. The failure of small intestine digestion is often to be traced to defective function of the pancreas; several tests are available for confirming this diagnosis. Müller Schlecht's method of direct demonstration of trypsin in the stools being a quite certain one. Treatment con- sists in the administration of one of the pancreas prepara- tions, as, for instance, pancreatin in doses of about 1 gram (15½ grains), or of pancreon in doses of 4 to 6 grams (62 to 93 grains) three times a day. A third abnormal con- stituent of the stools may be remains of the mashed potato given in the test diet, demonstrable by the addition of iodine; such a condition, according to Schmidt, points to a purely functional defect of the small intestine, which may, however, lead secondarily to irritation of the mucus membrane and to catarrh. Treatment consists essentially in the restriction of the amount of carbohydrates taken and the use of taka diastase. Schmidt's test also serves to demonstrate the presence in the stools of an abnormally high amount of albumen liable to decomposition, and this may be inferred if on keeping the stool in the incubator it gets of a dark colour, an alkaline reaction and an intense odour of decomposition. The author's results with l acto-bacillin have not been encouraging; but, on the other h and, a diet of milk, such as yoghurt, is often very effec- tive. He recommends a large reduction in the amount of rotein given, and has had very good results from a diet onsisting especially of tea, milk, purée of vegetables, butter, flour foods, sugar, potato purée, zwieback, and only very little meat. The exclusion of eggs is often found useful. The cereals are well taken; sugar is especially serviceable, and the author agrees with Salomons in finding that a diet consisting of large quantities of sugar only may quickly cause the disappearance of diarrhoea. The different groups of foods are next considered. Proteins are useful as being well absorbed, even in catarrhal con- ditions of the intestine, provided that there is no achylia or diminution in amount of hydrochloric acid and no increase in the decomposition processes. The tender meats which are poor in connective tissue and fats are to be chosen, and raw and smoked meat to be altogether avoided. Eggs can usually be taken with advantage, and need only be absolutely forbidden where there is a tendency to decomposition of proteins. Carbohydrates, even sugar, are to be restricted in cases of fermentative dyspepsia, but in all the other cases they form an essential and often a chief part of the diet. All vegetable food con- taining cellulose is to be avoided. Fat usually increases peristalsis, and the amount taken should be restricted, and is best given only as butter. All cold fluids are to be avoided. The author finds the patients do better without alcohol, and in no case is it a necessity. Heated wine (glüh Wein) often has a sedative action. Mineral waters which are poor in carbonic acid and contain lime are to be recommended. Carlsbad water has long been known to be beneficial, especially in cases of fermentative dyspepsia. The author is accustomed to make use of hot Carlsbad Sprudel water for washing out the large intestine. The medicinal treatment of intestinal catarrh has not made any great advances.

SURGERY.

4. Atoxyl and Optic Atrophy.

J. GARCIA DEL MAZO (*Revista de Medicina y Cirugia Practicas*, April 28th, 1911) relates the details of a case of optic atrophy following the use of atoxyl, and summarizes present knowledge of this disastrous occasional effect of the drug. His patient received by injection 21 grams of atoxyl spread over two months. From about the middle of the third month he noticed a rapid diminution of the acuity of vision, accompanied by slight oedema of the eyelids. Seen by Del Mazo towards the end of the fourth month after the commencement of the atoxyl injections, there

was found a normal cornea and conjunctiva, slight mydriasis, a pupil sluggish to both light and accommodation, moderately good central colour vision, but a notable contraction of the field of vision, particularly towards the nasal side, for all colours, with visual acuity reduced to one-sixth of the normal. On ophthalmoscopic examination the optic papilla was found to be pale and the retinal vessels attenuated. The blindness progressively and rapidly increased, until, after the lapse of six months, the appearances of optic atropy were complete and typical, and vision was reduced to perception of light. All treatment—the continuous current, lactate of zinc, strychnine, mercury, etc.—proved ineffectual. So far atoxyl seems to be alone among the compounds of arsenic in causing optic atrophy, with the doubtful exception of arsacelvia, which is certainly much less toxic. Blindness is not more frequent in Styria or the Tyrol, where arsenic is habitually taken in large doses as a habit, than elsewhere, and amongst the thousands of persons poisoned by arsenic in beer in the year 1900 in England, there were no cases of blindness. There are on record 6 cases of optic neuritis due to the ingestion of arsenate of soda and potash, but these were the usual peripheral optic neuritis of toxic and infectious origin, and with a central scotoma and a normal field of vision, and, above all, with a marked tendency to recovery. Croner and Seligman have demonstrated that atoxyl is eliminated rapidly by the kidneys, and that only a small part is retained, chiefly in the liver. If its elimination is in any way interfered with, symptoms of poisoning and blindness supervene very rapidly. In 1907 Dr. Koch, while investigating sleeping sickness in Africa, encountered 30 cases of partial or total blindness following the injection of atoxyl. Since, cases have been reported by Kopke, Salmon, Laveran and Tiroux, Coppez, Borneman, Krudener, Campenhout, Birch-Hirschfeld, Lesser and Greef, Fehr, and others. All authors agree that atoxyl is broken up in the system, and it is to some product of its transformation that its toxic effects are due. Nierenstein believes it is oxidized, Ehrlich that it is reduced. Levaditi and others subscribe to the reduction theory, but contend that it must unite with an albumen in order to act on the tissues. The author of the present report believes that, in view of the very grave risk of absolute and incurable blindness, our ignorance of the toxic dose, and the fact that the loss of vision generally progresses in spite of the suspension of the exciting cause, atoxyl should be absolutely abandoned in therapeutics, especially as we have now other compounds of arsenic which are more efficacious and free from its dangers.

5. Ether Anaesthesia by Sudek's Method.

Gheza (*Rif. Med.*, March 13th, 1911) gives his experience of Sudek's method of giving ether in 260 operations of various kinds. Anaesthesia was successfully induced in all but 4 cases, and of these 1 was a young, vigorous drunkard suffering from periostitis of the tibia, who seemed equally resistant to chloroform. In 2 cases of dislocated shoulder some chloroform had to be given in order to induce complete muscular relaxation, and similarly in a plastic operation for ruptured urethra and fractured pelvis. Sudek called his method "ether drunkenness"; it is based on the fact that after the first few mouthfuls of ether and before the excitable stage sets in a period of analgesia is established during which operations may be performed. At first he limited the method to operations of short duration, but in Gheza's 260 cases several operations of over an hour were performed. The ether was given on an ordinary mask, and the amounts used were 40 to 50 grams for fifteen minutes' anaesthesia, up to 120 to 130 grams for anaesthesia of one hour or more in duration. The post-anaesthetic conditions were good—hardly any sickness, 2 very slight cases of bronchial catarrh, and no anxiety as to patient's condition from the anaesthetist's point.

6. Enlarged Thymus and Tracheo-Bronchial Adenopathy.

At a meeting of the Paris Société de Pédiatrie (*Bull. de la Soc. de Péd. of Paris*, April, 1911) held on April 25th, a discussion took place on enlarged thymus and tracheo-bronchial adenopathy. Vean showed a girl on whom he had operated successfully for tracheo-bronchial adenopathy. The author finds there are two kinds of glottic spasm, the one symptomatic, observed in generalized convulsions, etc., independent of the thymus, removal of which has no effect on the spasm; the other idiopathic, as found in tetany, and if associated with an enlarged gland the latter should be removed. Ferraud and Chatelin find that in typical cases the thymic shadow shown by radiography is distinctly median in appearance, united with the cardiac shadow, but increased upwards and to the left. glandular shadows are less often in the middle line, propagated to some distance. The authors narrate a of Little's disease, in which there were marked convulsi and when the child was in a state of opisthotonos enlarged thymus produced congestion of the vessels of neck and phenomena of suffocation. The radiog showed a thymic shadow, verified on autopsy. Chat described a case in a child of 8 months of hypertroph thymus, spasm of the glottis, tetany, and rickets. former was only discovered on autopsy. The aut considers if the enlarged gland is not sufficient *per s* cause glottic spasm, it possibly assists in its production venous congestion. Other speakers considered that action of the parathyroids and thymus were related. latter might secrete the poison destroyed by the form Marfan finds the salts of calcium valuable in the treatm of tetany, but thinks that phosphorus acts more rapidly

7. Bismuth Treatment of Chronic Fistulae.

Hermann Schmid (*Wien. klin. Woch.*, No. 7, 1911) employed Beck's method of injection of bismuth pa in the treatment of chronic fistulae and abscess cavit The paste used contained 33 per cent. of bismuth s nitrate made up with vaseline. The method is as follo The preparation is melted in a glass tube in a water b and sterilized. The fluid is then sucked up into a gl syringe holding 25 c.cm., and injected in a half fluid c dition slowly, under light pressure, into the fist About 100 grams (1,550 grains) can be injected at one ti The author has carried out this treatment in 30 ca but only 15 are completely reported in the article, the la ones being too recent; the 15 cases included 7 cases tuberculous spondylitis, 2 of caries costae, 2 of tuber lous abscess of soft parts, 1 each of caries of the zygo of osteomyelitis femoris, of fistula after the closing of anus sacralis, and of lung abscess. Twenty-nine inj tions were made in all. One case of tuberculous spon litis was cured, 3 were definitely improved, 3 sligh improved; 1 case of caries of the zygoma and 2 of absc of soft parts were definitely improved. The case of ost myelitis femoris recovered after eight injections, t of fistula after one injection, and of abscess of lung af one. The recent results also appear to be very favourat As a rule, for a day or two after an injection there is increased secretion of pus which is mixed with partic of bismuth, but after this time the amount quic diminishes, and the secretion becomes thinner and m serous. Any pain which may have been present usua quickly disappears after the injection. The injections h reported were not painful except in the cases of jo tuberculosis, and in another case in which the end of syringe probably pressed directly upon an intercostal ner The value of the method as a diagnostic agent is undoub and of great importance. For instance, in one case spondylitis the diagnosis had been for a long time t of caries costae, but a Roentgen-ray photograph clea showed the bismuth against the tenth vertebra. another case, in which several unsuccessful operations h been undertaken for supposed caries of the sacrum a coccyx, the correct diagnosis was found by the bism method to be of abscess of the soft parts under the apex the coccyx, and treatment was then quickly successf The therapeutic effect of the bismuth injections v encouraging. Besides the symptomatic improvem described above, a complete recovery or substan improvement was obtained in many cases. The le favourable cases were those of tuberculous fistula in wh the primary area was in a florid state. No unfavoura by-effects were observed. In order to avoid danger bismuth poisoning the granulations of the wound sho not be injured by the sound or the syringe, nor should bismuth be injected under too strong pressure.

OBSTETRICS.

8. Placenta Praevia.

Schauta (*Wien. med. Woch.*, No. 11, 1911), in one o series of articles, discusses the treatment of place praevia. The treatment of rapid extraction of the ch in central placenta praevia has been superseded methods in which haemorrhage is controlled by pressu either Braxton Hicks's method of version and bring down a foot, or by the use of Charpentier's metreuryn The latter method seemed at first likely to supersede t of Braxton Hicks, because Charpentier's bag could passed through the placenta in small compass with l injury to the placenta and less danger to the child. T

danger of the hydrostatic dilator is, however, one of danger to the life of the mother from the profuse haemorrhage which may occur when the bag falls out of the uterus, and as the children are for the most part premature, the mother's life comes before that of the child, even more decidedly than in ordinary cases, and Braxton Hicks's method is therefore to be preferred. It has been recommended from America that Caesarean section should be performed in cases of central placenta praevia in the interest of the child, and Sellheim and Kronig have recently suggested it again. The author opposes Caesarean section, in view of the danger to the mother who is already enfeebled by loss of blood when the diagnosis is made, and of the poor chance of life of the child for whose benefit the operation is to be undertaken. On looking through his records for the last ten years he finds that 88 out of 438 cases of placenta praevia were central. Of these, 63, or 71 per cent., had already been examined outside the hospital, and even though Caesarean section were the rule, such cases could not, in the author's opinion, be suited for it, because of the impossibility of ensuring asepsis where an outside examination has been made; 12 of the 88 cases died; 8 of them had been examined outside, and the remaining 4 were so enfeebled by loss of blood that Caesarean section was contraindicated. Thus no single case was suited for the treatment. In the present year, however, one such case presented itself. The cervix was so long and narrow that Braxton Hicks's method was not available, while metreurysis would have been a lengthy proceeding. Caesarean section was successfully performed; the child was living and the woman made a good recovery. Placenta praevia is rare in primiparae, but for them, and especially for elderly primiparae, the author would choose Caesarean section.

9. Bilateral Tubal Pregnancy.

LAUNAY (*Bull. et mém de la Soc. de Chir. de Paris*, November 22nd, 1910) attended a woman who had been kept in bed for symptoms of inflamed appendix. There was the characteristic effusion in the right iliac fossa, and it appears that on vaginal exploration at the beginning of the illness no pelvic disease could be defined. As the acute symptoms were in course of subsidence, signs of acute internal haemorrhage appeared quite suddenly. The period had passed for three months, but the patient was supposed to be normally pregnant. Now rupture of a tubal sac was diagnosed, and Launay operated. He found a left tubal gestation sac recently ruptured, the placenta was normal, and the fetus was of the third month. On the right side a retrocaecal sac was discovered; it contained two smaller masses, with a single placenta. The uterus was amputated above the cervix, with the appendages. Its cavity was free a decidua.

GYNAECOLOGY.

10. Kraurosis, Atrophy, and Cancer of Vulva.

DEMONS AND CHARBONNEL (*Comptes rendus de la Soc. d'Obstét. de Gynéc. et de Pédiat. de Paris*, 1911, No. 3) consider that the precise limits of these three diseases of the vulva are by no means easy to define. Atrophy may be due to a local operation as well as to removal of the ovaries, or to complete senile atrophy of those organs themselves, and any subsequent local disease will add to the difficulties in diagnosis. A woman, aged 67, underwent an operation about three years before she came under the authors' observation, her doctor dissecting away what he reported as a superficial serpiginous lupus of the vulva, with tubercles almost confluent and beginning to ulcerate. He did not seem certain that the disease was lupus, not epithelioma. Demons and Charbonnel suspected that it was vestibular epithelioma. About eight months before they consulted them recurrence was suspected. When they examined her they were struck by the extreme atrophy of the parts and retraction of the adjacent integuments. The introitus vestibule and labia minora had disappeared, and were replaced by a hard red ulcer as big as a sixpence. The labia majora were highly atrophic, the fourchette reduced, and the vaginal orifice stenosed, being less than two-tenths of an inch in diameter. All these structures felt tough and fibrous; yet the skin was simply dead white or somewhat cicatricial in appearance. There were no leucoplasic areas, vascular inflammation, nor could any engorgement of the inguinal glands be detected. The authors are not certain that the clitoris and labia minora had been completely removed, as the first doctor's notes, which described the disease, gave no details about the operation. But the atrophy of the labia minora and the stenosis of the introitus were not results of the operation, hence the condition discovered by the authors seemed to them to be true kraurosis vulvae with recurrent epithelioma of the vestibule. They insist that in their case, or any other with a similar clinical history, it could not be proved that the kraurosis preceded or succeeded the development of malignant disease. Following modern classification of this important degenerative malady, the kraurosis was not, in this instance, of the leucoplasic type which precedes or follows typical leucoplasia and is perhaps syphilitic; nor was it of the "red kraurosis" type associated with follicular inflammation; nor of the now well-known post-operative variety observed after surgical procedures where both ovaries are removed. It was a true senile kraurosis. This type is quite different from extreme physiological senile atrophy of the vulva where the labia and clitoris are unusually reduced in size but do not disappear. In the authors' case it was complicated with epithelioma. Malignancy, common as a complication in leucoplasic kraurosis vulvae (in 6 out of 67 cases collected by one writer), is much less frequently associated with senile kraurosis. There was no history of syphilis, nor had any operation been performed on the ovary in this case. Neglected inflammatory affections in the neighbourhood of the vulva, such as herpes, erysipelas, abscess of vulvo-vaginal glands, and the irritation of uterine and vaginal discharges do not, as all gynaecologists know, by any means necessarily cause kraurosis, and there were no such complications in the authors' case. Bearing in mind that surgical castration, on the other hand, undoubtedly causes kraurosis in many cases, Demons and Charbonnel conclude that senile kraurosis must be due to complete senile atrophy of the essential elements of the patient's ovaries. In such a case the malignant disease demands an operation. Antisyphilitic treatment and local sedative applications or cauterizations are of no avail in true senile kraurosis.

THERAPEUTICS.

11. Salvarsan.

GOLDENBERG AND KALISKI (*Amer. Journ. of Med. Sciences*, March and April, 1911) record their personal experiences with salvarsan in the treatment of syphilis based upon their observations in forty-eight cases. In every case selected for treatment a complete physical examination, including the eye-grounds was made, and all cases with organic cardiac lesions, kidney involvement, or eye trouble referable to the optic nerve (other than those of specific origin) were rejected. The patients were kept in bed for two or three days, and Wassermann reactions were obtained before and after injection. All manifest symptoms yielded to the injection, at least temporarily, chancres healing within a week or two. Lymphadenitis was only slowly and partially affected, and during the first three weeks nodes markedly diminished in size and became more mobile, after which the condition remained stationary. The macular and pustular secondary cutaneous syphilides disappeared more promptly than the papular eruptions, while mucous patches, moist condylomata, and eroded papules of the mucous membrane underwent astonishingly rapid evolution, the remedy showing its most wonderful and magic-like effects more especially in these lesions. Examinations for *Spirochaeta pallida*, positive prior to the administration of the drug, were negative twenty-four hours afterwards. Of the late specific cutaneous lesions the circinate squamous syphilides reacted most quickly, gummata responding more slowly, and requiring from three to four weeks for an ultimate cure. Deep-seated gummata, ulcers, periostitis, and iritis responded rapidly in from two to four weeks, and cases of cerebro-spinal syphilis showed symptomatic improvement. From the evidence given by the Wassermann reaction it must be concluded that while salvarsan does not cure the disease, it may clear up its symptoms. Five relapses occurred. Except in one case, where the intravenous method was adopted, the injections were intramuscular, 0.45 gram for women, and 0.5 gram for men, being the dose originally administered, but this was gradually increased until the maximum dose of 0.6 gram for women, and 0.7 gram for men, was reached. In some instances it was necessary to repeat the injection, some cases thus receiving 1.35 grams. While no definite or binding conclusions can be drawn from so limited a number of cases, it would seem advisable to give fresh cases of syphilis the benefit of this treatment, provided there are no contraindications, and cases of malignant

syphilis, those intolerant of mercury, or having gummata of vital or important structures, are suitable cases for treatment.

12. Preventive Injections of Antidiphtheritic Serum.

MARKUSON AND AGOPOFF (*Arch. de méd. des enf.*, May, 1911) find (1) that the systematic use of this serum does not reduce the number of cases of contagion from diphtheria; (2) during the period of what should be the greatest immunity (first and second week) the contagion of those immunized was even greater than those not immunized; (3) the mortality in the course of diphtheritic infection in patients suffering from measles and scarlet fever did not appear to be diminished by preventive injections; and hence (4) the immunity obtained from preventive injections should be considered as very unstable, and it is not desirable to continue to employ preventive injections or, above all, to repeat them.

13. Salvarsan in Small-pox and Typhus.

MARAÑON, at a meeting of the Spanish Medico-Chirurgical Academy (*Revista de Med. y Cirugia Practicas*, April 7th, 1911), reports that he injected by the intravenous route 0.30 gram of salvarsan into a patient suffering from small-pox on the day on which the eruption was first observed. The drug did not seem to have any influence whatever in modifying the course of the disease, which was of a severe confluent type with high temperature and troublesome suppuration. He states that salvarsan is even more efficacious in relapsing fever (*tifus recurrente*) than in syphilis. In exanthematous typhus he tried the drug, similarly administered, in one case—namely, that of a woman, aged 40, whom he injected on the fourth day of the disease, when the rash was most intense. The course of the malady was so favourably affected that Marañon is determined to employ salvarsan in all future cases of typhus which he may encounter in his practice.

14. The Treatment of the Apparently Drowned.

JULIO BARREIRO (*Revista de Med. y Cirugia Practicas*, May 14th, 1911) criticizes unfavourably the usual methods of treating the apparently drowned, and suggests a new method based on his view of the pathology of asphyxia by submersion. As a result of 9 autopsies made by himself on cases of death from drowning, he sums up the appearances as follows: Intense pallor of the skin, generally with patches of cyanosis; froth in the mouth and nostrils, sometimes blood-stained; the abdomen notably distended; the lungs high and retracted, crepitating on pressure and exuding on section a fine froth; the heart dilated and full of dark fluid blood; at the root of the neck the large veins are found to be full of dark fluid blood, a sign of cerebral congestion, confirmed on opening the skull. The author traces the relationship between these appearances and the series of events which occur during the process of drowning. The pallor of the skin is due to the vaso-constriction caused by the coldness of the water. The blood from the surface is driven inwards, chiefly to the abdominal organs. When the water eventually gains access to the stomach, intestines, and lungs, and these in their turn are subjected to the influence of the cold, an intense congestion of the brain and spinal cord result. The distension of the abdomen by the water and air swallowed, forces up the diaphragm and compresses the lungs. The resistance to the peripheral circulation is followed by dilatation of the heart, which at last fails in diastole. Guided by these considerations, Barreiro advocates a copious blood-letting as an important part of the treatment of the apparently drowned. The blood should be taken from a vein of the lower extremity, so as not to interfere with the movements of artificial respiration, which of course must always be proceeded with at once. The abstraction of blood, he says, relieves the cerebral congestion and the "heart-block." It favours the absorption of the water in the lungs, and so aids in the restoration of the function of respiration. It withdraws from the system a not inconsiderable quantity of the toxins produced by the muscular fatigue due to struggling. Barreiro regards the usual methods of artificial respiration as ill-adapted for the apparently drowned. He has devised a method in which the patient is in a sitting posture, with the head and shoulders well raised. The weighty contents of the abdomen then tend to draw down the diaphragm and aid in the expansion of the lungs. The operator may be behind the patient, supporting his back against his knee, and alternately expanding and compressing the thorax with the patient's arms in the usual way. Meanwhile another assistant in front may perform rhythmical tracti on the tongue. Lastly, of course, every available mea must be employed to restore the lost heat to the surface the body, and oxygen, when at hand, is an importa adjunct.

PATHOLOGY.

15. Adrenalin and Yeast Cells.

OSWALD SCHWARZ (*Wien. klin. Woch.*, No. 8, 1911) poin out that the view that adrenalin acts by way of t sympathetic in inducing glycosuria is still not absolute established, and that we base our theories as to the sou of the sugar in adrenalin diabetes upon a scanty numb of facts. In order to further elucidate the action adrenalin, the author has tested its action on unicellul organisms, and especially upon the yeast cell. T following was the author's method of procedure: O fermentation flask was filled with a definite amou of yeast and of a 0.5 per cent. solution of glucos and a second with the same amount of yeast and sug and with adrenalin enough to make a 1 per 1,0 solution. After twenty-four hours the flask with t adrenalin was found to have produced twice as mu CO_2 as the control flask without adrenalin. All t sugar of the control had, however, been fermente and the additional CO_2 in the adrenalin flask must ther fore have been derived from the yeast itself. A test co firmatory of this conclusion was carried out. A defini amount of yeast was mixed with salt solution in o fermentation flask, while in another adrenalin was adde In the latter flask the whole limb of the flask was fill with CO_2, while in the first no trace of fermentation w visible even after twenty-four hours. Moreover, t amount of CO_2 was less, the less the amount of yea employed. It would therefore appear to be true th under the influence of adrenalin yeast forms out of i own substance a fermentable sugar, or, in other word that under the influence of adrenalin the yeast cell co verts its glycogen into sugar to a very greatly increase extent. These experiments bring out an analogy with t known signs of the action of adrenalin on young animals. A attempt was next made to decide whether under the infl ence of adrenalin substances such as glycogen, casein, a alanin would be converted into fermentable substances b yeast, and it was found that this was the case. Th mechanism of the action of adrenalin was examined in th light of experiments previously made; and in spite negative experimental results the author's view is that th effect of the adrenalin is to increase the amylolytic activit of the yeast cell. The next point to investigate wa whether the action of adrenalin was a vital process d pendent upon the yeast cell being living and intact. was found that with yeast killed by the action of aceton so that no plasmolysis took place, and the intracellula yeast ferments remained intact, the addition of adrenali led to the formation of CO_2 from the yeast itself, as wit living yeast, and also caused the fermentation of glycoge and casein, as in the other experiments; moreover, th yeast treated with acetone led to the fermentation glycogen, etc., even without the addition of adrenali The following is the author's explanation: The thre yeast ferments—zymase, diastase, and tryptase—are a three endoenzymes, and therefore substances such a glycogen and protein, which are not diffusible through th fresh yeast cell, are not converted; after the acetone trea ment of the yeast, however, and much more after treatme by adrenalin, diastase and tryptase become able to diffu through the cell wall, and so to attack the substances question. It is specially interesting that in these exper ments the action of adrenalin upon the unicellular an nerveless organism was analogous to that seen in exper ments upon highly organized animals.

16. Lymphocytosis of Cerebro-Spinal Fluid in Chorea in Children.

RICHARDIÈRE, LEMAIRE, AND SOURDEL (*Ann. de méd. chir. inf.*, May, 1911), as a result of the examination the fluid in 15 cases of chorea, came to the followin conclusions: (1) The cerebro-spinal fluid in true cases chorea nearly always shows a marked lymphocytosi (2) This sign is a more constant one than any organ lesion. (3) Lumbar puncture in choreic patients present no especial danger. (4) In certain cases the condition ameliorated and cure hastened as a result of lumba puncture.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

17. Heroinomania and Morphinomania.

DUHEM (*Journ. des prat.*, April 15th, 1911) draws attention to the differences to be observed in patients who are being treated for heroinomania or morphinomania. He deals only with the heroin habit, and emphasizes the difference in the condition of the patient during the process of withdrawal of that drug from that of the morphinomaniac in similar circumstances. During the first few days of diminished dose the patient behaves very much like a morphinomaniac. Yet the general conduct is not the same, and reveals a more profound intoxication. Feebleness and prostration are more marked, perspiration is more abundant, and the complexion more livid. The vital functions are attacked more profoundly. As the dose is progressively diminished intellectual torpor follows, the circulation and respiration become slower, and feelings of suffocation arise. The gravity of these syncopes rests on the fact that they happen insidiously. The patient may be quite calmly lying in bed, when suddenly respiration fails, the patient becomes pallid, the face is covered by a clammy sweat, and he loses consciousness. The pulse gives no sign of this impending attack until after the respiratory arrest. When cardiac syncope occurs in demorphinization the most simple means of dealing with it is to give a hypodermic injection of morphine. In the case of heroin no such relief is obtainable—an injection of the drug has no effect, and recourse must be had to morphine. It is a fatal error, on the other hand, to relieve a morphinomaniac by the administration of heroin. In this connexion the author also uses psychotherapy with the patient's collaboration. This is slow, but with the occasional use of morphine, as suggested above, adds to the lasting character of the cure. It is necessary to penetrate into the morbid imaginings of the patient—discover and, if possible, destroy the particular mental warp. Each phase of the treatment ought to be made the occasion of some such moral assistance. The author does not believe in breaking off the heroin habit too quickly, but allows three weeks or longer if necessary. During that time there is leisure to prepare the mental state of the patient. Cardiac tonics are used when such symptomatic treatment is required, and of these sparteine is preferable. Jennings has shown that although morphine acts as a sedative in those unaccustomed to its use, lowering tension, in the case of those suffering from drug habit, when in a state of hypotension during treatment, it may be given when needed as a stimulant, resulting in a temporary increase of arterial tonicity. Sparteine acts similarly in such cases. Bicarbonate of soda, especially in the form of Vichy water, is also of use, and hot baths aid disintoxication. The patient must not be lost sight of, but the system used must not be too rigid. Finally, the author reiterates the value, owing to the absence of suffering, of the rather extended method of treatment.

18. Etiology of Pancreatic Diseases.

AMES R. DAVIS (*Med. Record*, May 13th, 1911) states that unction determines the form of tissue structure. The uct of Wirsung would have certain advantages if it were ot for its nearness to the outlet of the bile, which is so asily infected from the intestine. A sketch of the anatomy f the pancreas is given. The position of the gland in the bdomen is well protected against injury. The large proortion of cases of pancreatic disease of infective type are ue to its association with the common bile duct. The our pancreatic enzymes are able to digest all forms of ood. The nerve supply is from the vagus and sympathetic. n studying the etiology of pancreatic diseases the author gards the subject from two viewpoints: the pathology f the gland exclusive of the islands of Langerhans, and ne pathology of these islands. The causes of lesions of ne first division are circulatory disturbances caused by auma and anaemia, inflammations due to bacteria, coholism, and fat necrosis. The islands constitute a parate structure, and their function is due to the proction of an internal secretion. Diabetes is the most mmon disease involving them. In some cases at autopsy ese islands are entirely atrophied; in others they are changed. Diabetes may result in three ways—by failure duodenal secretion, failure of excitation of the cells of e pancreas, and changes in other tissues of the body. Functional tests of the pancreas are of value in the diagnosis of diabetes. Failure of albumen, fat, and carbohydrate digestion is as important to recognize as failure of carbohydrate metabolism.

19. Myxoedematous Coma.

M. HERTOGHE (*Bull. de l'Acad. Royal de Méd. de Belgique*, 1911) points out that in myxoedema the central nervous system often suffers together with the rest of the body and consequently nervous symptoms may arise. Of these a special form of migraine may appear, characterized by being more marked early in the morning after the night's inanition and disappearing during the day, as a result of muscular exercise and feeding; often this is complicated by occipital neuralgia. These migrainous attacks come on after excessive fatigue, after taking alcohol, or after smoking excessively. When thyroid impoverishment has well advanced the migrainous attacks are replaced by a continuous headache and with a feeling of heaviness, especially frontal. The intelligence is normal but slow. Fatigue of thought becomes so great that the patient prefers to take no part in discussions. Speech becomes very difficult owing to infiltration of the tongue and pharyngeal walls. Noises in the ear are common, with hallucinations of hearing, and incessant buzzing noises and attacks of vertigo are very troublesome. In more advanced stages the patient suffers from constant drowsiness and he falls asleep wherever he happens to be. At night sleep is very heavy and the sphincters may relax and nightmare and terrifying hallucinations occur. On waking the patient with great difficulty rises and finds himself more tired than when he went to bed. Sometimes true epileptic attacks occur, and, lastly, attacks of coma simulating nephritic or diabetic coma may occur. As illustrating the occurrence of myxoedematous coma the author quotes the following cases: A man of 52 had for eight years violent head pains and his sight had begun to fail (this latter was due to white atrophy of the optic nerves). He was pale and anaemic. Three years ago, after a fatiguing journey and on arriving home, he became suddenly comatose, power of movement, sensation, and consciousness being entirely abolished. For three days he remained in this condition and then recovered, remembering nothing of the attack. This patient presented none of the characteristic puffy appearance of a man with myxoedema, but a brother and sister were suffering from myxoedema, and the patient's temperature was subnormal, the skin dry and cracked, and the hairy parts of the body were badly covered with hair. He complained of vertigo, persistent headaches, noises in the ears and asthmatic attacks, together with extreme weakness of the muscles, articular pains, and sleepiness. His weight was 96 kilograms. Under thyroid treatment in less than a year 10 kilograms in weight were lost, his strength had returned, and his health was absolutely re-established. The second case was that of a man, 62 years of age, who complained of violent and frequent attacks of migraine and of a gradually increasing intellectual torpor. He complained of feeling cold, and at night could not get warm. His face was puffy, the eyelids hiding the globes of the eyes. Walking was painful to him, and going up a few rungs of a ladder brought on attacks of intense suffocation. He had no appetite, but in spite of his poor appetite he weighed 96 kilograms. His skin was dry and cracked. He complained of constant vertigo and of noises in the ears, and of a constant tendency to sleep. During the night his sphincter relaxed. Efforts of thinking, speaking, or discussing were very fatiguing to him. He had fallen down in the street several times, and had broken his arm and dislocated his shoulder during these falls. For five days he suffered from a serious attack of epistaxis. Three years ago, after a series of distressing attacks of vertigo, he became suddenly comatose, and for eleven days made no attempt at movement, was devoid of sensation, and quite unconscious. His sister had died when 60 of an attack of coma which was supposed to be the result of Bright's disease, but the author had no doubt that she was the subject of myxoedema. Under treatment with thyroid the patient lost in weight 250 to 500 grams per day, but after eight days' treatment the drug had to be omitted owing to troublesome symptoms arising, which, however, gradually subsided, the nocturnal enuresis disappeared, and after three weeks the functions of the skin had returned. Thyroid feeding was again

started in smaller doses, and at the end of a month the patient had lost 14 kilograms in weight, his appetite gradually returned and he completely regained his health. In conclusion the author points out that when one meets with a case of coma which is not diabetic, not renal, not due to trauma, and not the result of haemorrhage, one should suspect the possibility of myxoedema being the cause.

SURGERY.

20. Stiff and Painful Shoulders.

THOMAS (*Amer. Journ. Med. Sci.*, April, 1911) discusses the etiology and treatment of stiff and painful shoulders with loss of power in the upper extremity. Characteristic of such cases is more or less limitation of abduction and rotation, which though never complete is usually crippling and persistent. Acute pain about the joint, and often radiating down the arm, is present in the early stages, with loss of power in the shoulder muscles, but later there may be little or no pain unless the restricted motion is forced. Scapulo-humeral limitation of movement is always present. The value of Codman's work and his theory of a bursitis to account for such cases are acknowledged, but the author conceives the pathology to be that of a peri arthritis rather than of bursal origin, all the symptoms being explained best upon the basis of a torn capsule with subsequent contraction. Abduction and external rotation pull upon the torn portion, while adduction and internal rotation relax it, and, since after injuries to the shoulder of this nature rest in the most comfortable position is generally advised, the arm is kept adducted and internally rotated, so that the tear in the capsule heals and becomes contracted in its relaxed position. The scapulo-humeral ankylosis will vary widely in degree, but is never complete, because some laxity remains in the affected portions of the capsule. In support of this suggestion that these stiff and painful shoulders are due to a contracted capsule is the fact that a similar condition results after the operation of contracting the axillary portion of the capsule for a recurrent dislocation of the shoulder. In treatment at the time of the original injury the position in which the arm is immobilized is important, the arm being kept in abduction to a right angle or more, varying the exact position according to the type of patient. In a young man anxious to return to work the fixed abduction might be early dispensed with, the arm being bound to the side with the wrist in a sling, while gentle massage and passive movements should be carried out daily. A nervous patient will be best treated by remaining in bed with the arm fixed in nearly full abduction, or on an obtuse-angled splint which might be removed daily to allow of massage and passive movements being carried out. If the cases do not come under observation till later, when the cicatricial tissue in and about the torn capsule is firmly contracted and resistant, the resistance should be broken down completely at one sitting under an anaesthetic, the scapula being immobilized with one hand while, with the other grasping the elbow, the humerus is used as a lever to tear the shortened capsule, the most rational treatment being that which aims at increasing the length of the contracted tissues to normal, favours the absorption of inflammatory material, and increases the power of the weakened and atrophied muscles. Those cases in which there is no history of dislocation may be explained by a spontaneous reduction having taken place as the arm falls to the side, or by the greater frequency of milder tears from forced abduction which are not sufficiently extensive to permit the occurrence of a dislocation.

21. Operative Treatment of Varicocele.

NILSON (*Zentralbl. für Chir.*, No. 17, 1911) is of opinion that the two main elements of success in the operative treatment of varicocele are removal of the enlarged veins and elevation of the testis. The latter condition, he holds, is not fulfilled by Bennett's operation, in which the stumps of the shortened cord are brought together by a ligature. Phlebectomy alone will not always effect a satisfactory cure, as in many instances the patient continues to suffer from subjective troubles on account of the ptosis of the testis. The following operation, devised with the aim of obtaining high suspension of the testis, has been practised by the author in 65 cases. An oblique incision is made over the inguinal canal, as in Bassini's operation for hernia, and the cord freely exposed by dissection. If the external spermatic vein be found varicose, a portion of this vessel should be excised. Through a longitudinal wound along the front of the scrotum the dilated veins of the cord are isolated by blunt dissection. The whole mass of veins thus detached from the rest of the cord is ligatured high up in the wound near the peritoneum, and then divided. The long venous stump attached to the testis is then thrust from behind forwards through a slit made in the conjoined tendon, drawn well through, and tied in a loose knot. The testis is thus raised to what seems to be a questionable position, as it is made to rest in the groin and behind the abdominal muscles, where it is likely, it might be imagined, to cause the same troubles and to undergo atrophy and degeneration to the same degree as the undescended testis.

22. Treatment of Malignant Pustule.

BENIGNO VELÁZQUEZ AMÉZAGA (*Revista de Med. y de Cirugia Practicas*, February 7th, 1911) reports three cases of malignant pustule treated by the local application of mercury perchloride and parenchymatous injections of the tincture of iodine. A crucial incision through the entire diameter and depth of the pustule was first made, the wound then washed with sublimate lotion, and, when the haemorrhage had ceased, well powdered with pure perchloride and covered by a dry dressing. Next day several hypodermic injections of a 2 per cent. of iodine were made into the brawny area which surrounded the vesicles. These were repeated for four days, while carbolic acid was exhibited internally. All three cases made an uneventful recovery.

23. Nephro-ureterectomy.

LILIENTHAL (*Ann. of Surg.*, April, 1911) describes a new and improved method of removing the entire ureter along with a diseased kidney. Notwithstanding a general disinclination among surgeons to prolong the operation of nephrectomy in order to remove the ureter, the author is fully convinced of the necessity of this additional step especially in cases of tuberculosis. He states that incomplete extirpation of a tuberculous ureter is often followed by lumbar sinuses and abscesses, as well as by retro-vesical suppuration. Well-marked tuberculous cystitis may, he adds, occur in cases in which nothing but a short stump of diseased ureter had been left after nephrectomy the other kidney being comparatively healthy. The steps of the operation are as follows: After removal of the kidney, the ureter and vessels being tied separately, the duct should be divided between two ligatures or forceps, the mucous membrane of the stump being cauterized with phenol. The ureter is now drawn out of the wound, if possible, or it is isolated by gauze, and the ligature or forceps having been removed, a good sized flexible urethral bougie, with conical or olive point, is passed down towards the bladder. A ligature is tied tightly around the ureter and the instrument so as to hold the latter in place, and to prevent the leakage of infected fluid from the canal. After the greater part of the lumbar wound has been partly closed and drained, the patient is turned on his back. An oblique incision is made from a point about 1 in. to the median side of the antero-superior iliac spine. This is carried through the muscular structures of the anterior abdominal wall, and the surgeon's finger is carried extraperitoneally down to the ureter, which is rendered readily perceptible by the presence of the catheter in its lumen. The surgeon will now find no difficulty in separating the ureter and drawing it out together with the bougie from the wound, when an assistant removes the catheter through the nephrectomy wound and tightens the ligature. A gentle pull will draw the ureter out of the inguinal wound, and it may be easily followed down to the bladder, where it must be firmly closed by a ligature and cut away, the mucosa being carbolized. In closing the anterior wound, should there be risk of infection, which may well occur when the walls of the ureter have been seriously damaged by disease, great attention must be paid to the drainage.

OBSTETRICS.

24. Metritis Dissecans in Puerperium after Cynanche.

RISCH (*Med. Klin.*, No. 5, 1911) describes this condition as he observed it in a primipara, aged 19. She caught cold, and was under hospital treatment for bronchitis in the middle of pregnancy. After convalescence a rather severe attack of cynanche developed. The left tonsil was deeply injected, but bore no deposit. Next day she was delivered spontaneously of a child weighing under 5 lb. and measuring over 17 in. It lived, and was well when the patient was discharged from a maternity. No examination had been made before delivery. One hour after delivery a rigor

occurred. The temperature was high for a few days, yet the swelling in the neck diminished whilst involution proceeded slowly. The uterus was tender to touch. On the fifth day fetid purulent discharge came away; it increased, and on the twelfth Sitzenfrey's method of drainage was adopted. A tube was introduced into the uterus, connected with a suction pump. Three days later a great quantity of pus escaped, and the patient forthwith began to recover. On the twenty-fifth day of the puerperium more pus escaped, and with it a big piece of muscular tissue. Convalescence was complete by a few days later. This case was an instance of metritis dissecans complicated with uterine abscess. Risch finds that it is the fifty-eighth case of this form of metritis and the twenty-second case of undoubted abscess of the uterus. The coexistence of these pathological conditions has only once been reported before. In that instance, as in the present, the patient was under observation in von Franque's wards.

25. Eclampsia in Vesicular Molar Pregnancy.

SITZENFREY (*Zentralbl. f. Gynäk.*, No. 9, 1911) reports an instance of this complication. He notes that eclampsia is rare when the gravid uterus bears a vesicular mole, as that form of mole is usually expelled about the fifth month, whilst convulsions rarely set in so early. Hitschmann and Kroemer distinguish a complete or "sterile" type of vesicular mole, where no trace of a fetus or of normal placental tissue remains; but Hitschmann and also Dienst found that eclampsia may occur even when the mole is "sterile." Sitzenfrey's case was of the same nature. A primipara, aged 22, was admitted into von Franque's wards at Giessen deeply comatose. She was in the sixth month of pregnancy; some slight haemorrhages had occurred, and then fits set in. The uterus, which was found to contain a vesicular mole, was emptied just after the thirtieth attack and the mole removed; the urine was highly albuminous at the time. Only one fit occurred after the operation, and the albumen steadily disappeared from the urine during convalescence. The mole bore large vesicles, some as big as a pigeon's egg. There was a large central cavity, holding 250 c.cm. of fluid, but it contained no trace of any fetal structure or placenta. Under the microscope it was found to be simply a gigantic vesicle, not an amniotic cavity. Thus, eclampsia can develop even when no fetal tissues are present to cause, as is alleged, prejudicial effects on the maternal economy.

GYNAECOLOGY.

26. The After-History of Pubiotomy.

RAMOS (*Annales de gynéc. et d'obstét.*, May, 1911) maintains that this operation, if properly undertaken and performed, entails no bad consequences. He has followed up 3 cases that had been under treatment in a maternity hospital. The patient is by no means crippled. Rising on the twentieth day, she usually complains of little more than a feeling of weight in the left lower extremity, which disappears in a few hours. There is no pain on walking and no limping. In one case, and one only, persistent sciatica developed, but Ramos found that the same symptom had followed a previous confinement where delivery was effected by the forceps. Inguinal hernia, genital prolapse, and urinary trouble did not occur in any of the cases. The development of callus is the essential factor in the consolidation of the divided bone. This process follows no rule, no order of time; it may be completed shortly after the operation; or, on the other hand, the callus may remain fibrous for years. The development of the callus has little or nothing to do with the conditions which rendered pubiotomy necessary. The callus is always insensitive and does not ache, nor is it ever over-abundant. Ramos admits that in one of his cases callus did not develop, but a true pseudo-arthrosis was established, and it gave rise to no lameness whatever.

27. Suppurating Tubes and Ovaries in Healthy Subjects.

FERRÉ (*Comptes rendus de la Soc. d'Obstét., de Gynéc. et de Pédiat. de Paris*, No. 3, 1911) was consulted by a healthy primipara, aged 27, on account of a tumour in the epigastrium. When 17 she already noticed it; the catamenia had always been normal. She married at the age of 22, but never became pregnant. The tumour remained painless, but grew bigger, and at length reached above the umbilicus. A sudden attack of abdominal pain occurred, with very temporary obstruction and rise of temperature. This complication vanished in forty-eight hours. A month later Ferré operated. The tumour was a large pyosalpinx of the right tube, measuring nearly 10 in. in long diameter, and full of yellowish-green pus. There were a few soft omental adhesions. The uterus and the left tube were quite healthy. The tube was removed and convalescence was uncomplicated. Mériel, discussing this case when it was reported, stated that he had once performed ovariotomy, removing a very bulky cyst full of pus. The patient was perfectly well and free from any febrile symptoms, and recovered without any such symptoms. Undoubtedly, suppurating tubes and ovaries are often associated with severe symptoms of local or general infection; still, Mériel believed that the reverse condition, seen in his case and Ferré's, was not very rare.

THERAPEUTICS.

28. Tuberculin Treatment.

JOSEF SORGO AND ERHARD SUESS (*Wien. klin. Woch.*, No. 1, 1911) point out the difficulty which frequently occurs in distinguishing between the effects of sanatorium treatment and of tuberculin treatment when the two are combined. An example is given in which the two could be clearly distinguished. In this case, a girl 17 years of age, with tuberculosis of the right apex and of the left upper lobe, was completely cured by an eighteen months' stay in a sanatorium, combined with treatment by tuberculin. Tuberculin was given during the second three months and the last four months of her stay, and it was during these periods only that objective improvement occurred, the objective condition remaining unchanged by sanatorium treatment alone. In order to distinguish the effects of sanatorium treatment from specific treatment it has been the rule in the author's institute to give tuberculin only after a period of simple sanatorium treatment has been first tried. The present-day opinion is that tuberculin acts in two ways—(1) by giving rise to immunization processes, and (2) by causing the so-called area reaction—but the relative value of the two processes is still in dispute. The estimation of the sensitiveness of tuberculin by the reaction to von Pirquet's and the ophthalmic test in tuberculous patients does not, in the author's opinion, form a guide to prognosis, nor does the sensitiveness, as shown by the extent of the general reaction. In patients, however, who have already had large doses of tuberculin, a sudden rise in sensitiveness to tuberculin seems to be of unfavourable prognosis, and there is often a lasting intolerance to tuberculin and a rapid progress of the disease. There does not seem to be any constant relationship between the intensity of the area reaction and the intensity of the reaction to von Pirquet's or the ophthalmic test. The two great methods of administration of tuberculin are those of the repeated administration of minimum doses, the anaphylactizing method, and the administration of gradually increasing doses—the immunization method. The latter method was until recently practically the only one in use, and whatever may be the theoretical objections to it, it has proved practically useful. The other method is now frequently employed; Escherich has found it especially suitable for young children, and, moreover, it is often the only possible method, because the patient cannot bear any increase of the dose. The form of tuberculin administered does not seem in most cases to be of great importance if the precaution of using the more toxic forms only in large dilution is taken. T.R. and the bacillary emulsion are, however, the forms best borne by patients with fever, while, if Bandelier's observations be correct, bacillary emulsion may be harmful in laryngeal tuberculosis, and should be employed only with caution. The authors have made large use of old tuberculin by the immunization method. An initial dose which may be tried by inexperienced persons is 0.000001 gram, or 0.00001 gram. With experience the operator may in suitable cases begin with a larger dose, 0.0001 gram. The severity of the cutaneous reaction is of some service in fixing upon the initial dose, but taken alone it does not give a certain indication as to how much tuberculin will be tolerated. If, however, a cutaneous reaction is present when a small dose is given, and absent when the same dose is repeated, the dose may be safely increased, while in cases of excessive cutaneous reaction it is perhaps advisable not to increase the dose. Small haemorrhages from the lungs do not absolutely contraindicate tuberculin treatment; nor heart affections, though when the cardiac muscle is much affected and subjective symptoms follow an injection, the treatment should be

discontinued. Injections should not be given in the case of women during the menstrual period. No benefit is to be expected from tuberculin administered to patients with fever. If the value of tuberculin treatment be acknowledged the authors do not consider it justifiable to limit its use to patients in sanatoriums, and they believe that it can safely be employed for patients who are up and about if unsuitable cases are excluded. Patients with fever, or in very poor general condition, those who are very nervous, who suffer from heart disease, or from a tendency to haemorrhages, are to be considered unsuitable. The patients also must be able to take and register their own temperatures, must be willing to go to bed if a general reaction occurs, and be prepared to undergo a prolonged course of treatment.

29. Acute Tonsillitis and its Treatment.

HAROLD HAYS (*Med. Record*, May 13th, 1911) states that a culture should be made in acute tonsillitis to differentiate it from diphtheria and Vincent's angina. It is always due to infection, and may be caused by streptococci, staphylococci, pneumococci, etc. The streptococcus is the cause in about 80 per cent. of cases. In diphtheria there may be no membrane, but the crypts of the tonsil may be filled with pus and the parenchyma intensely inflamed. Vincent's angina may affect any part of the throat, and when involving the tonsil the membrane will resemble that of diphtheria; here the bacillus and spirillum of Vincent are the cause. Ulceration and destruction may be prevented by the use of Lugol's solution and silver nitrate. The author recommends the treatment of tonsillitis by means of a 50 per cent. silver nitrate solution, after thorough anaesthetization of the tonsil with cocaine. This treatment is painless and cures the disease in twenty-four hours by destroying the germs at once. The openings of the tonsillar crypts are filled with pus and débris, so that sprays will not reach them. The silver is applied to the opening of each crypt, and the patient afterwards uses a spray of peroxide of hydrogen.

30. Effects of Internal Secretions on Malignant Tumours.

ROHDENBURG, BULLOCK, AND JOHNSTON (*Archives of Internal Medicine*, April 15th, 1911) studied the effects of some of the internal secretions upon malignant tumours (1) by investigating the effect on infectivity and malignancy of the removal of internal secreting glands of rats; (2) by endeavouring to destroy immunity by the removal of different internal secreting glands; (3) by ascertaining the effect of gland extracts on tumours in mice; (4) by endeavouring to produce immunity in mice with gland extracts; (5) by ascertaining the effect of gland extracts on pieces of tumour in the test tube; and (6) by noting the result of treatment of human beings with gland preparations. Removal of the thymus, or of the testes and thyroid, was found to influence tumour infectivity, and in three animals immunity was destroyed by complete removal of the testes and thymus, and there is evidence of the presence in many of the internal glands of a substance which confers immunity. The thymus, testes, and thyroid are a group of glands intimately connected, removal of the testes causing enlargement of the thymus, and vice versa. It is suggested that these three glands acting together produce a hormone or chemical compound, whose exact nature is unknown, but which is necessary to many of the biologic and chemical changes of life, and that such a hormone may be the immunizing or curative agent, and that removal of one of the trio of glands produces temporary overactivity of the remaining two, with an increase of hormone and corresponding increase of immunity. As there is no means of isolating this hypothetical hormone in a pure state, the effects of the glands in various combinations was tried in human carcinomata. On a basis of 48 cases it was concluded that the thymus given for a period of from three to five weeks markedly influences malignant tumours by relieving the pain, increasing the weight, reducing the size of the glands, and causing cessation of the growth of the tumour. Following this is a period of quiescence, with neither progress nor retrogression, for about a fortnight, after which the tumour may again gradually increase in size or remain stationary, or, as in one case, completely disappear with no recurrence at the end of nine months. Thyroid extract alone gave similar but less marked results. The administration of testes caused no improvement, but apparent increase in size of tumour and rate of growth. The combination of thymus and testes, or of all three, proved no more efficacious than thymus alone. Although positive conclusions are not at present justified, the evidence points to the fact (1) that removal of certain glands decreases the susceptibility to cancer; (2) that removal of single glands, o combination of glands, in immune animals lessens th immunity to cancer; (3) that injection of extracts of thes glands increases immunity against cancer, and that ex tracts of certain other tissues produce like effects; (4 that injection of such extracts in cancer alleviates pain reduces, and may even cause disappearance of, tumours and (5) that it would appear that many tissues contai some common element of the nature of a hormone capabl of producing immunity.

31. The Prevention of Insanity.

A. J. ROSANOFF (*Med. Record*, May 13th, 1911) describes th modern viewpoint with reference to the etiology of insanit and its prevention. The essential causes are heredity alcoholism, syphilis, and injuries to the head. The inc dental or contributing causes are all sorts of strain upo the physical and mental systems. The author gives th probabilities for the production of insanity or its avoid ance in various degrees of heredity in the parents an grandparents. Both parents being normal and from norma ancestors, all children should be normal and not capable c transmitting any hereditary taint. Alcoholism is the caus of insanity in about 30 per cent. of all male admissions t insane hospitals. Syphilis causes insanity in from 10 t 35 per cent. of admissions. Head injuries cause neu asthenoid states or traumatic dementia. As to preventio heredity may be controlled by education and by steriliz tion of defectives and criminals. Alcoholism may be co trolled by regulation of the traffic in this commodity. Th Gothenburg system seems the best as yet found. It allow societies to obtain liquor licences with the view of di couraging the use of stimulants, and organizes clubs an provides good saloons for the lower classes. Local optio and no licence assist in lessening crime, but not insanity The prevention of syphilis is allied with the prevention c prostitution. Measures for this have been found far fro satisfactory. Compulsory reporting of syphilis with segre gation when necessary would help to prevent the spread c the disease. By the use of salvarsan the infectious perio will be reduced from three or more years to as man months or weeks. Syphilitics should be advised not t marry without at least three years of thorough treatmen The wife when pregnant should be treated. Education c the neuropathic individual along preventive lines will be c value.

PATHOLOGY.

32. Experiments with a Rat Sarcoma.

UHLENHUTH, HÄNDEL, AND STEFFENHAGEN (*Arb. aus den kaiserl. Gesundheitsamte*, Bd. xxxvi, H. 4, 1911) have con ducted an extensive series of transplantation experiment with a rat sarcoma which they obtained from D Bashford. Their results show that even when th material transferred is highly virulent a certain numbe of rats are resistant to subcutaneous or to intraperitonea inoculation. Such rats are, in general, immune agains subsequent inoculations by the subcutaneous or intra peritoneal method. In some rats well-developed tumou underwent spontaneous resolution, and with these anima immunity against subsequent inoculation was found to h practically the rule. All sites of the body were found be suitable for the inoculation of tumours. When thre different sites in the same animal were inoculated simu taneously the percentage of positive results was lessene but in those animals where growth took place develo ment occurred at each site of inoculation, and sometim the multiple tumours proliferated with greater vigour tha the single tumours in other animals. When a tumour wa already established it was found that secondary inocul tion, if performed from eight to fourteen days after th primary, might yield a positive result; but if the secondar inoculation was performed after an interval of three weel such a result was rare, and after four weeks it neve occurred. These results were not affected by differenc in the site (intraperitoneal or subcutaneous) of the primar and of the secondary inoculations. Secondary inocul tions were also negative in rats from which well develope three weeks old primary tumours had been removed *in to* by operation; and it was found to be immaterial whethe the rats were inoculated with their own or anothe animal's tumour immediately after the operation or tw or three weeks later. When, after operation, there is recurrence of growth, it appears to be usual for a secondar inoculation, if performed at an early date, to be followe by the development of a secondary tumour.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

33. Cardiac Rhythm and Cheyne-Stokes Breathing.

LOUIS GALLAVARDIN (*Arch. des mal. du coeur, des vaisseaux et du sang*, April, 1911) points out that although in most cases of Cheyne-Stokes breathing the pulse-rate is slower during the apnoeic period of the breathing than it is during the hyperpnoeic period, yet this rule is not an absolute one, as cases have been reported in which the exact reverse occurred. The author has reported a case of the latter kind. This was a patient suffering from subacute nephritis, in whom during the apnoeic period the pulse quickened and during the hyperpnoeic period slowed; this occurred especially after the patient had taken digitalis. During the apnoeic period the pulse was rapid, dicrotic, and of low tension; at the appearance of the first inspiration the pulse-frequency at once diminished and the pulsations became strong. The author believes that this hyperpnoeic slowing of the pulse corresponds really to an auricular tachycardia, but that this auricular tachycardia is masked owing to the fact that only half the number of ventricular beats which the auricular tachycardia should give rise to are transmitted to the pulse. In the author's case he found that during the hyperpnoeic period the number of pulsations was always half of a number which was greater than the number of pulsations during the apnoeic period; for instance, he noted that during the hyperpnoeic period the pulse-rate was 80, and during the apnoeic period 140 beats per minute. Whether this halving of the ventricular beats was due to a ventricular bradycardia, such as may occur after the administration of digitalis, or to a pseudobradycardia with coupled rhythm, the author was unable to decide, owing to the fact that on account of the violence of the respiratory movements at the hyperpnoeic period auscultation of the heart could not be carried out. The author concludes as follows: (1) Hyperpnoeic bradysphygmia may occur in certain subjects, and perhaps under the influence of digitalis may replace the apnoeic bradycardia commonly found during Cheyne-Stokes breathing. (2) This hyperpnoeic bradysphygmia corresponds probably to a hyperpnoeic auricular tachycardia, but is masked by the fact that only half of the ventricular beats which the auricular tachycardia should give rise to are transmitted to the pulse. (3) The hyperpnoeic phase of Cheyne-Stokes breathing may, by stimulation of the vagus or by acceleration of the auricular beats, constitute a condition which predisposes to the appearance of the coupled digitalis rhythm.

34. Radiological Diagnosis of Penetrating Gastric Ulcer.

RAUDEK (*Arch. of Roentgen Ray*, June, 1911) deals with the radiological signs of a penetrating ulcer of the stomach. Such an ulcer frequently gives rise to a special appearance on the *x*-ray screen, taking the form of a patch or streak of bismuth, isolated from the mass of the meal, or branching out from it, usually to be found at the lesser curvature and in the pars media of the stomach, and at the summit of this isolated patch there is a gas bubble. Further indications are the retention of the bismuth for a considerable time in this region, and the immobility of the bismuth patch, which is not influenced by palpation or pressure. He has observed this appearance in 38 cases. As to the differential diagnosis of carcinoma and penetrating ulcer, he points out that it is the characteristic of carcinoma to cause a defect in the bismuth shadow, due to the projection of the tumour into the lumen of the stomach. In other words, carcinoma gives a subtraction from the complete bismuth shadow, while the diverticular shadow of the penetrating ulcer is a *plus* quantity, something added to the normal shadow. Furthermore, in carcinoma he has never found the hemispherical bubble of gas which is usually imprisoned in the diverticulum of penetrating ulcer, and which accumulates at the apex when the patient is upright.

35. Senile Chorea.

HERMANN EICHHORST (*Wien. med. Klin.*, No. 8, 1911) describes a case of chorea occurring in an old man 80 years of age, treated in the Zurich clinic. The patient had been mentally unlike himself for some time, and for three weeks had complained frequently of headache and giddiness. Burning pain in the right leg, and later in the right arm, developed, followed by increasing restlessness and involuntary movements in the muscles of the affected limbs. When the patient was brought to the clinic the movements had become so violent that care had to be exercised to prevent his being shot out of bed. The movements were of flexion, extension, pronation, and supination, which alternated with one another irregularly; they were accentuated by attempts at voluntary movement. The left side was unaffected. The patient slept little, but the movements stopped during sleep. He was put on a milk diet, and sodium bromide administered three times a day. The patient was conscious on admission, but was mentally sluggish; he became steadily worse mentally, and was unconscious for a day before death, which occurred six days after admission. The movements continued to the end of life. The anatomical diagnosis made *post mortem* was of oedema of the brain, aneurysm of the heart with thrombus formation in the left ventricle, and chronic interstitial nephritis. There was no macroscopical change to explain the chorea, since all the brain abnormalities were as marked on one side as the other, while the choreic movements affected one side only. Similarly, microscopical examination of the brain and spinal cord, while it showed a series of changes, showed none which could be held to be of specific significance. The bacteriological examination of the brain and spinal cord was negative. A review of the literature brings out the fact that very little is known about senile chorea. One other case, in a woman 73 years of age, occurred in the Zurich clinic. It resembled the one already described in that psychical excitement was a preliminary symptom, the movements were one-sided, and the anatomical examination *post mortem* was negative. Bischoff found that in 9 out of 53 cases—that is, in 17 per cent.—the symptoms were ascribed to mental excitement. The prognosis was much worse than in juvenile chorea: 25 per cent. of 55 cases ended fatally, and the disease became chronic in 49 per cent. Relapses in senile chorea are uncommon. Psychical disturbance was present in 43.6 per cent. of the 55 cases. The author believes that juvenile and senile chorea are of the same nature, although the possibility of their being in reality different diseases cannot fail to suggest itself.

36. Cutaneous and Ocular Leprosy.

DUBREUILH AND CABANNES (*Gaz. hebd.*, April 16th, 1911) give the history of a case of this kind. The patient was a man 49 years of age who had wandered a good deal in leprous regions such as Tahiti and the Solomon Isles. He had lived for a fortnight with a Tahitian woman who was believed to have been leprous. In 1890 he first developed on the plantar surface of his toes a bullous condition which continued for some months. In 1899 he noticed that the skin of his forehead had become thickened and wrinkled. During that year the infection seems to have broken out. The patient was seized with intense fever, shivering, and neuralgic pains in the face, forearms, and legs. Almost simultaneously small macular spots appeared, and following on this a number of tubercles appeared on the face and limbs. Some months later a number of these ulcerated, while others completely disappeared. The patient lost the hair of his eyebrows and eyelashes, and his beard and moustache also thinned. At this time he was treated by the administration of chaulmugra oil, and locally the thermo-cautery was used to destroy the nodules. Two months later all the nodules had disappeared. The patient's strength was well preserved, and he still continued to work until 1900, when a second eruption appeared. This attack was in all respects similar to the first, and recurred every year until 1908. In January of that year all the symptoms became graver. Achromatous spots appeared and pemphigoid lesions on the dorsum of the fingers. The patient also suffered from ocular symptoms such as photophobia and conjunctivitis. The previous treatment now being of no avail injections of atoxyl were tried. The ocular symptoms became more severe, and the patient left hospital attributing this condition to the atoxyl. A deep perforating ulcer now appeared over the first metatarso-phalangeal joint exposing the flexor tendon of the great toe. Several of these ulcers appeared at intervals. The nodules were the predominating feature, and were

widely scattered. These were of all sizes, ranging from a pinhead to the size of a walnut, and of a reddish-brown colour. They were round or flat in shape with a tendency to desquamation on the summit, and to the touch were firm, resistant, and elastic. They were anaesthetic. On the abdomen especially were to be met with the cicatrices of those nodules which had undergone spontaneous absorption. Tactile sensibility was abolished in the hands and arms to the elbow and in the lower limbs to the middle of the leg. Anaesthesia and heat anaesthesia existed all over the face, except in the case of the eyelids. The muscles of the extremities were atrophied, as were those of the face, and the expression completely altered. There was also present a condition of osseous hyperaesthesia—a slight blow upon the clavicle, frontal, or other bones provoking severe pain. Impotence had existed for two years, and there was almost general anidrosis. An examination of one of the nodules showed the bacillus of Hansen in large numbers.

SURGERY.

37. Non-Cancerous Stricture of the Oesophagus.

SENCERT (*Arch. des mal. de l'app. dig.*, March, 1911) describes strictures due to inflammation and cicatricial formation. The latter are much the more frequent, and are due to wounds of the oesophagus by gunshot or erosions of the mucous membrane by ulceration from diphtheria and the like, and, most frequent of all, boiling or caustic liquids. The inflammatory strictures may be due to syphilis or tubercle, etc. The diagnosis is based on the history, on inspection, palpation, and auscultation of the thorax and neck. On auscultation of the oesophagus, the second bruit heard on swallowing is delayed to ten or twenty seconds after the first, instead of from six to eight as in health. A more important sign described by Reirdseff consists in the fact that if the patient after the second bruit is induced to make swallowing movements, but without swallowing anything, a new bruit is produced three or four times, according to the amount of fluid originally swallowed. Catheterization and radioscopy also give valuable indications, but oesophagoscopy permits of a definite diagnosis being made. The prognosis is always serious; inflammatory strictures are less grave than cicatrizations. About one-third of all patients affected with stricture as a result of burns die if medical treatment has first been tried and found wanting. Treatment may be medical or surgical. Good results have been obtained from opium; mercury is sometimes of value in syphilitic strictures. Thiosinamin and fibrolysin have given good results in some cases, but should not be used for six months after the stricture has formed, and then only if there is no other disease present, such as tuberculosis, pulmonary or local. If after ten injections no amelioration is obtained, they should be discarded. Thiosinamin is given in an alcoholic solution 15 in 100, or thiosinamin 2, glycerine 4, aq. dest. 14. Half a syringeful (Pravaz) to begin with, then a whole one twice a week. After the fifth injection it is advisable to wait for a few weeks. Fibrolysin is employed intramuscularly, 3 c.cm. per diem. Surgical treatment consists in either making a new passage or acting directly on the stricture in one of the following ways: (1) Either from above by the mouth; (2) from below by opening the stomach; or (3) externally to the oesophagus. 1. (*a*) Cauterization; not to be employed. (*b*) Dilatation by means of bougies, gradually increased in size, cylindrical or cylindro-conical, which are to be left in from five to thirty minutes according to the sensitiveness or otherwise of the patient. In cicatrices from burns dilatation should not be commenced from six weeks to two months after the accident. Dilatation with the assistance of the oesophagoscope is to be preferred to dilatation without it. (*c*) Electrolysis, linear or circular; the latter the author prefers, also with the assistance of the oesophagoscope. (*d*) Internal oesophagotomy, also with the oesophagoscope. The author believes in this method if the stricture is very short, above all if it is valvular, and also if it is short and very indurated, and undilatable.

38. Acetabular Fracture.

FULLER (*Amer. Journ. of Med. Sci.*, March, 1911) records two cases of fracture of the acetabulum with intrapelvic, or central, dislocation of the femoral head. The condition is due to indirect violence acting through the femur or its trochanter, the head of the femur being driven thereby into the pelvic cavity. In considering the diagnosis it must be remembered that all symptoms and signs of central dislocation of the femoral head may be wanting, the limb even being capable of rotation without crepitus, eversion, or shortening, and patients have been known to walk some distance with but little discomfort. The presence, however, of a deeply sunken trochanter, slight shortening of the leg with eversion of the foot, the absence of crepitus with the presence of practically all motions, though painful and limited, the evidence obtainable from rectal examination, and the history of the accident, would justify a diagnosis without a skiagram. The absence of crepitus is explained by the femoral head and neck acting as a wedge separating the broken fragments, and the degree of movement in the thigh will depend upon the size of the opening, being greatly restricted if the opening is small. Inversion of the foot may sometimes take the place of eversion. The remarkably sunken appearance of the great trochanter and its slightly altered position to Nélaton's line, together with the age of the patient and the extreme degree of causative violence, will serve to differentiate the condition from impacted fracture of the femoral neck, but the clinical findings should always be confirmed by *x* rays. The mortality is high, being due rather to the associated internal pelvic injuries than directly to the fracture or dislocation, and the prognosis is favourable in uncomplicated cases properly treated. Treatment must first be directed towards the control of haemorrhage and the repair of damaged pelvic organs, and in dealing with the reduction of the dislocated head to the acetabulum and maintaining it *in situ* the contractile force of the muscles to be overcome is greater than that encountered in any other fracture. When reduction has been accomplished an exaggerated position of abduction or adduction of the femur, rather than traction force, will better preserve the femoral head in the acetabulum, since experiments show that the condition can only occur with the leg slightly abducted, owing to the acetabular floor being weakest near the pelvic portion. Extension and counter-extension with lateral traction from the upper third of the femur may prevent the return of the head into the pelvic cavity, and, in cases of failure to replace the head in the acetabulum, operative interference to overcome the opposition to reduction may be necessary, and will depend upon the individual case.

39. Treatment of Urinary Affections in Young Children.

PARDOE (*Pediatrics*, January, 1911), in discussing the treatment of acute and chronic affections of the urinary tract in infancy and childhood, points out that the predisposing factors of infection met with in adults are less frequent, and that the greater part of the cases are due to autogenous infections, not dependent upon any gross disease of the urinary passages, and not accompanied by conditions interfering with the freedom of micturition. Acute infections usually begin with a rigor and hyperpyrexia, urinary symptoms developing in twenty-four hours or so. Of the 8 cases of autogenous infections in children which the author has observed, 3 were definitely chronic in character. The patients had periods of illness alternating with periods of freedom from subjective signs, although, when searched for, quite typical symptoms were apparent. In such cases fever is absent during the periods of comparative health, and only a slight rise is noticed during the exacerbations of the disease. The chronic cases are extremely intractable. They may be associated with the presence of stone or stricture, or prostatic enlargement, and a chronic infection present before operation, or in some cases induced by operation, is only too often there to remain. In acute cases the main points relied upon for treatment are: Rest in bed, free diuresis, the use of urinary demulcents and sedatives, the alkalinizing of the urine, milk diet, and no instrumental interference. The patient is given abundance of Contrexéville, Vichy, or Wildungen waters, with the use of spirits of nitrous ether, ammonium acetate, and squills; while potassium bicarbonate or citrate in large doses is used to produce alkalinity. Milk and barley water are advised, and to relieve the scalding sensation one may give a wineglassful of a decoction of "triticum regens" every two hours. The best sedative drug is oil of sandalwood, given as sammetto, a proprietary preparation. In *Bacillus coli* infections such antiseptics as urotropin, cystamin, and cystopurin are of little value, but the benzoates of sodium and ammonium, when exhibited with alkalis, are useful. Vaccines have not proved satisfactory for children. In chronic cases, when the infection is a mixed one, thorough washing of the bladder with a mild antiseptic gives relief. The most useful drugs are the benzoates, oil of sandalwood, and hyoscyamus in large doses, and when such pus-producing organisms as staphylococci or *B. faecalis* are

present, then urotropin or cystamin may be given. In these cases a vaccine carefully administered ameliorates symptoms to a degree unattainable by any other methods in the writer's experience. Not only do vaccines relieve symptoms, they appear also to be prophylactic of those eruptions of activity to which these cases of chronic *Bacillus coli* infection are so liable. The disease is very intractable, but by periodic doses of vaccine the patient is kept in a state of comparative comfort, and are well worth trying when other methods fail.

OBSTETRICS.

40. Primary (?) Abdominal Pregnancy: Operation at Term.

W. LANE, Boston, Mass. (*Boston Med. and Surg. Journ.*, May 11th, 1911) operated at term on a woman, aged 30, who had not been pregnant for five years. At the end of that time she became gravid, and the gestation was associated with metrorrhagia and other abnormal symptoms. At term labour pains came on, and, as the patient was exhausted, Caesarean section was at once performed. A live male infant, that only survived twenty-four hours, was delivered. It lay in a sac which bled profusely when opened. The placenta was situated in the left lumbar fossa; the sac adhered to the anterior abdominal wall, the great omentum, and posteriorly to the descending mesocolon. The uterus, Fallopian tubes, and ovaries showed no sign of any rupture; they seemed perfectly normal, except that the uterus was enlarged to the size seen in a two and a half months pregnancy. Packing was practised, and, after grave haemorrhage when it was removed on the third day, and arterial transfusion, the patient ultimately recovered.

41. Icterus after Removal of Tubal Gestation Sac.

HIRIAR (*La Clinique de Bruxelles*, January 21st, 1911) operated on a case diagnosed as inflammation of the right appendages and retroversion. It proved to be a haematosalpinx due to tubal gestation. Forty-eight hours after the removal of the sac the patient became jaundiced. Chiriar believed that the symptom was due to the action of chloroform on the hepatic cells and to another complication, acute dilatation of the stomach, which had developed in the same interval of time. The dilatation was treated by washing out of the stomach with Vichy water. From immediately after the operation a continuous current of oxygen was employed to counteract peritoneal infection. A small incisional hernia developed, which somewhat protracted recovery.

GYNAECOLOGY.

42. Radiotherapy for Uterine Fibroids.

BORDIER (*Rev. de gynéc. et de chir. abdom.*, May, 1911) has no doubt that the *x* rays have a direct action on a fibromyoma of the uterus, and he reminds the gynaecologist that Reifferscheid's experiences have demonstrated that the *x* rays directed to the ovaries cause degeneration of the follicular epithelium, atresia of the Graafian follicles after the anterior aspect of the ovary, and capillary haemorrhages in the cortex. Reifferscheid based his conclusions on six ovaries from women under *x*-ray treatment; the same effects had already been observed in the ovaries of animals. With precautions described in full, Bordier reports 18 cases of fibroid disease under his treatment at Lyons, several having been examined by Pollosson and Doulay. All were kept under observation for long after the conclusion of the treatment, and the catamenia were stopped in all cases. Careful sketches of the outline of the fibromyomatous uterus were made, and its disappearance or reduction in size authenticated. In one or more cases there appeared to be fibrosis with metrorrhagia rather than fibromyoma, but the haemorrhages were completely arrested. The artificial menopause was never associated with severe symptoms; a few of the patients suffered from occasional flushings. In one case the menopause was effected by two applications at an interval of four months, but the fibromyoma did not diminish until after several further applications; then it became at last hardly palpable to touch. In two other cases the patients had passed the menopause, but the tumours were very large. The *x*-ray treatment brought about very distinct diminution of the fibromyoma in each case, with complete disappearance of the pressure symptoms. Bordier has more cases under treatment, and those which are cured will be duly reported. He insists that it is only the experienced gynaecologist who can decide what cases of uterine fibroid require surgical operations, and what other cases may be cured by radiotherapy.

43. X Rays and the Ovaries.

REIFFERSCHEID (*Monatsschr. f. Geb. u. Gyn.*, January, 1911) reports experiments with the *x* rays on mice and monkeys which appear to accord with what is observed in the human female when the ovaries have been removed after similar treatment. The effects of a full application in animals were marked, the whole of the ovarian tissue being destroyed. Under a milder dose the epithelium of the follicles and the ova alone were broken up, the stroma apparently resisting damage. In women the results seemed similar. Mild doses produced degeneration of the primordial follicles, and degenerative changes, less marked at first in the mature follicles, leading to total destruction of the epithelium and ova. Signs of diffused capillary haemorrhages were noted in the cortical portion, but it was not clear that they were due to the application of the rays. Reifferscheid's report was read at a meeting of a society. It was noted in the discussion that abortion had been found to follow the application of the Roentgen rays; according to Reifferscheid's demonstrations this result might be due to degenerative changes in the corpus luteum of pregnancy. In reply Reifferscheid referred to previous clinical reports. He believed that the induction of abortion by *x*-ray treatment had already proved a failure. Fränkel succeeded in one case; Reifferscheid failed in another case under his care. Krause admitted that after careful observation of a series of cases at Jena he found that *x*-ray treatment was valueless for that purpose. Menorrhagia seemed but temporarily relieved by this treatment.

THERAPEUTICS.

44. Carbohydrates in Infant Feeding.

A. v. REUSS (*Wien. med. Klin.*, Nos. 28, 29, and 30) discusses the significance of carbohydrates in the nutritional disturbances of infants. The carbohydrates usually supplied to infants are either disaccharides such as lactose, saccharose, and maltose, or polysaccharides such as starch and dextrines. All are probably split up into monosaccharides in the intestinal tract, and dextrose is the monosaccharide with which the organism most easily works. Clinically, however, it is found that grape sugar is one of the least suitable carbohydrates for infants. The splitting up of the carbohydrates taken as food is brought about by the action of different ferments, all of which appear to be present, though in varying proportions according to the age of the child, in infancy, and the author does not consider insufficiency of ferment action to be a primary cause of nutritional disturbance in infants. In adults under normal condition the small intestine plays the greatest part both in the splitting up and absorption of carbohydrates, but direct investigation in infants is lacking. Bacterial action is also an important factor in the breaking down of carbohydrates, the most important decomposition products being the lower fatty acids. Under normal conditions bacterial action only takes place in the large intestine, and the large amount of fatty acids present in the normal stools of infants, and derived chiefly from the milk sugar though partly from fat, shows that a relatively large amount of milk sugar escapes absorption in the small intestine, and is acted upon by bacteria in the large intestine, where, according to Strassburger, the products of bacterial decomposition are useful as a means of exciting peristalsis. Development of bacteria in the small intestine not only leads to failure of absorption, but is said by Czerny and Keller to cause severe toxic enteritis, and Bokay has shown that almost all acids have a more irritant effect on the small intestine than on the large (except the rectum). In general it may be stated that bacterial decomposition takes place more easily the more simple the composition of the sugar. Polysaccharides, however, though less easily absorbed than monosaccharides, are split up slowly and are less liable to bacterial decomposition, and may therefore be less irritant. For healthy infants disaccharide sugar, such as milk sugar, saccharose, or maltose, is most commonly given. In pathological conditions the particular carbohydrate chosen must depend on the condition. From the foregoing considerations it appears that if carbohydrates are to be of use for the general metabolism, it is essential that the digestive tract, especially in its upper part, should

be free from inflammatory changes. If this condition is satisfied, the carbohydrates lead both to a better retention of absorbed proteins and a better absorption of fat. The power of carbohydrates to replace fat in the diet is of practical value in the treatment of that form of atrophy or decomposition in which soapy substances appear in the stools. As a whole, however, apart from forms of atrophy uncombined with symptoms of sensitiveness of the intestinal tract, carbohydrates are not freely used in the early months, and when they are given it has to be remembered that they constitute a form of treatment rather than being a food to be taken in large quantities continuously for long periods. Signs of intestinal irritation are an indication to stop the supply of carbohydrates. Recent researches appear to show that the addition of milk sugar to diluted cow's milk does not alter the weight curve of the child. The author would not, however, wholly dispense with it for fear of constipation or the development of soapy stools. As a rule 2 to 3 per cent. of sugar only is needed as an addition to the milk. In the presence of slight sensitiveness of the intestinal tract, one of the disaccharides is the form of sugar indicated, and cane sugar or maltose is commonly preferred to lactose, which is slowly absorbed and therefore more liable to bacterial decomposition. In more sensitive conditions the addition of carbohydrates to the milk should be discontinued for some time. Where milk, even without the addition of carbohydrates, leads to an exacerbation of intestinal symptoms, Finkelstein and Meyer have brought out a mixed food (*Eiweissmilch*) without added sugar, but containing an excess of proteid. In suitable cases the carbohydrates, and especially the whey of the milk, may be altogether eliminated from the diet for a few days, and the milk having been curdled by rennet, the casein and fat alone given; if the general condition is very bad, the whey cannot be altogether omitted without danger even for a short time. The author has had strikingly good results from the casein and fat diet.

45. Drugs in Gastric Therapeutics.

J. W. WEINSTEIN (*Med. Record*, April 29th, 1911) notes the effect of alkalis before meals in the causation of increased secretion of the gastric glands. If given at the height of digestion they neutralize acidity. They are of great service in hyperacidity, hypersecretion, and gastric and duodenal ulcer. The best alkali is magnesium oxide, which is much more powerful as an antacid than sodium bicarbonate, and is a laxative at the same time. A reaction occurs after neutralization by alkalis, and in forty-five minutes acidity is again increased. Hydrochloric acid activates the pepsinogen of the stomach. It cannot be given in sufficient quantity medicinally to have this effect, but it is an important stomachic, stimulating the appetite. Pepsin is always present in the stomach when acid is present. It should never be prescribed except with an acid, and the author considers it of little value therapeutically. Pancreatine has a very limited use; it is destroyed in the stomach, and can act only in an alkaline medium. Bismuth subnitrate is a very valuable drug in duodenal and gastric ulcer, coating over the sensitive ulcers and regulating the bowels. It should be given in large doses in a tumbler of water, on an empty stomach. Cerium oxalate is of great value to stop vomiting. The malt preparations have no digestive value, but are palatable beverages. Combinations of enzymes are valueless.

46. Masso-Lavage of Colon.

BAUMANN (*Arch. des mal. de l'appareil digestif*, January, 1911) points out that simple lavage, whether employed in small doses or in large doses such as a litre, under weak pressure frequently gives very unsatisfactory results in spite of every precaution. The water often remains in the lower end of the large intestine, distends it, and provokes pain and irritation, and in the end only results in a small evacuation. If used daily, it is apt to be followed by abolition of the reflex, an exaggeration of intestinal spasm, and the production of false membrane. Double lavage as practised at Châtel Guyon sometimes overcomes these difficulties, but even this in some obstinate spasmodic constipations is not satisfactory. The author's method consists in associating massage with double lavage. A first lavage of 400 grams is given and usually rejected immediately. This is followed by another of 700 grams, and massage is commenced in the left iliac region. Deep pressure is applied, and by an alternate series of pressure and glidings the hands traverse the length of the descending colon to the splenic flexure. The water can be felt passing the spastic portion of bowel. There is especial resistance at the junction of the sigmoid flexure with the descending colon. The movements are continued along the transverse colon, and here again the negotiation of the splenic flexure is difficult. At the hepatic flexure the movements are stopped, as the fluid passes easily into the ascending colon. At the second application light effleurage of the colon is practised in the same direction, and in cases of atony a light pétrissage may be added. For the third application effleurage is performed in the normal course of the colon in order to regularize the peristalsis of the bowel again. The resulting evacuation is generally very copious and affords much relief. Extreme gentleness throughout the proceeding is essential, otherwise danger may result. The advantage is the relief obtained in cases of extreme coprostasis where the stercoral masses are situated high up in the colon. It facilitates also the introduction of fluids in cases of intestinal spasm, without necessitating the use of a large quantity of fluid. This is especially the case in spasmodic constipation and mucomembranous colitis. The method allows also of a thorough cleansing of the intestinal mucosa, and if necessary bringing medicated solutions in direct contact with any local lesion. Intestinal putrefaction is greatly lessened, and toxic infections of intestinal origin are much benefited.

PATHOLOGY.

47. Hereditary Syphilis and the Wassermann Reaction.

REUBEN (*Arch. of Ped.*, June, 1911) has come to the following conclusions: (1) The most usual mode of transmission of syphilis to the fetus is through the placenta. If the infant is syphilitic the mother is also; the father may or may not be so. (2) Mothers with no syphilitic symptoms but who give birth to syphilitic children, have syphilis in a latent form; 71 per cent. of these women give a positive Wassermann reaction. (3) Mothers with syphilitic symptoms who give birth to luetic children give a positive Wassermann reaction in 72 per cent. (4) The earlier the blood is examined after delivery of the last syphilitic child the greater the percentage of positive Wassermann reaction; within one year 90 per cent., within four years 40 per cent. (5) The great majority of infants of syphilitic mothers are themselves syphilitic. (6) Ninety-nine per cent. of infants with hereditary lues give a positive Wassermann reaction. (7) An infant suffering from hereditary lues may give a negative Wassermann reaction before any symptoms are present, and a positive one when symptoms arise. (8) Mercury and salvarsan cause a positive Wassermann reaction to become negative. (9) These drugs do not cure syphilis, but transform an active into a latent lues. (10) The blood of every wet nurse should be examined for the Wassermann test. If positive, she should not be employed; if negative, the blood of her infant should be tested. (11) The virulence of syphilis is mild at first, increases in severity, then remains stationary, and later declines. (12) Syphilitic women on the average conceive about six times, but seldom have more than two to three living children, unless the number of pregnancies is more than six. Seventy-five per cent. of all conceptions of syphilitic mothers result in death of the infants within one year of birth. It will be seen the author considers Colles's and Profeta's laws fallacious.

48. Haemolysis by Cholera Vibrios.

BAERTHLEIN (*Arb. aus dem kaiserl. Gesundheitsamte* Bd. xxxvi, H. 4, 1911) has been investigating the disputed question as to the capacity of the cholera vibrios to produce haemolysis. Amongst the cultures he examined were seven freshly isolated strains. All of these produced definite haemolysis in suspensions of sheep's blood corpuscles in from twenty-four to forty-eight hours, and with some of the cultures the haemolysis was very intense. He tested in all fifty-three cholera cultures upon suspensions of blood corpuscles, and the same number upon blood-agar plates. The suspensions of corpuscles showed haemolysis in 22 per cent. of the cases after twenty-four hours, and in 47 per cent. of the experiments after forty-eight hours; on the blood plates positive results were only obtained in 11 per cent. of the cases. Apart from the facts that some strains reacted very strongly, others only slightly, and others not at all, he found that with individual strains the capacity for haemolysis varied from time to time. Viruses which did not haemolyse to begin with exhibited this property later on, in a greater or less degree, and, conversely, some strains producing haemolysis to begin with failed to do so when tested subsequently. These variations were observable alike on solid and in liquid media. The reaction was not so sensitive on blood plates as in suspensions of blood corpuscles.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

49. The Colour of the Urine.

D. C. GORRIZ CASTELLANO (*Revista de Medicina y Cirugia Practicas*, May 28th, 1911) discusses the colouring matters in the urine and their practical significance. Quoting A. Gautier, he mentions, among the product of physiological origin, the yellow pigment urochrome (somewhat improperly termed normal urobilin by some), the red pigment indogen, which has as its antecedent, indoxylsulphuric acid, which in its turn originates in indican, also encountered as potassium indoxylsulphate. In union with these pigments in various proportions, other chromogenous bodies appear in the urine. Hugounenq names the following: Urobilin, uroerythrin, urochrome, and urorosein, and the specially important indoxyl, which gives rise to indican and indirubin. Gautrelet, an eminent authority, mentions first the two fundamental colouring matters, urobilin and uroerythrin; urochrome, a pigment found only in normal urine, and then only transitorily, for while passing it is transformed into uroerythrin, urobilinogen, urochrome-erythroseinogen, indigogen, and indirubinogen. Normal urobilin originates in part from the transformation of bile pigments in the intestine and in part, at the expense of haemoglobin, in the liver and other organs. In either case the process is one of oxidation of albuminoids in such a way that if the oxidation is excessive, the normal urobilin formed takes up further oxygen, becoming febrile urobilin, which is distinct in colour (old mahogany) and gives different absorption bands in the spectrum. According to Jafte and Costa, between 0.004 and 0.019 gram of indogen is found in the urine in the twenty-four hours, and as its origin is in the breaking up of albuminoids, its presence in excess shows the presence of intestinal fermentation. In like manner the presence of indoxyluria with hypoazoturia denotes hepatic inactivity. Generally speaking, the less colour in the urine the feebler the metabolism of the tissues. Where there is increased colour, and that of a reddish hue, increased metabolism is indicated. In this latter case the colour is caused by febrile urobilin. On the other hand, a heightened yellowness of the urine is due to uroerythrin and unoxidized bilirubin, denoting lessened metabolism and defective hepatic function.

50. Laënnec's Cirrhosis.

CASTAIGNE (*Journ. des prat.*, April 8th, 1911) discusses the dietetic, regimenal, and medicinal treatment of Laënnec's cirrhosis. This particular form of hepatic cirrhosis is characterized by a high degree of atrophy, distended abdominal veins, and usually pronounced ascites. There is a progressive cachexia and increasing hepatic insufficiency, which, following a condition of coma, may terminate life suddenly. Internal haemorrhages and other intercurrent affections are also a constant menace to life. Skimmed milk is undoubtedly of service in this condition, although experiments have shown that after a certain time an exclusive milk dietary causes a slackening of hepatic activity. It ought therefore to be rapidly replaced by ordinary diet. Boiled meats or purées may be given, but no fermentative substances. Necropsies on these cases have shown that the small intestine is longer and of much smaller calibre than normal, and this necessarily means diminished function. Life in the open air must be insisted on so as to combat the anaemia. Skin friction and counter-irritation over the hepatic region is also of use, while, according to Keim, cold lavements repeated twice daily stimulate the hepatic functions. As to medicinal treatment, opotherapy in the form of fresh pork liver, hashed or macerated in bouillon, is the best. It is disagreeable to take, and there are certain risks of tubercle to be guarded against. The same precautions must be observed in the administration of the extract of liver. Half an hour before each meal and at bedtime a glass of the following may be taken: Sodii bicarb., 10 grams; sodii benzoatis, sodii sulphatis, sodii phosphatis, aā 3 grams; potassii iodidi, 1 gram, to a litre of water. Ferruginous preparations may be combined with this treatment with advantage. Paracentesis abdominis will become necessary sooner or later. This should be done very slowly and with the utmost precautions. The ordinary diuretics, such as theobromine, are not very successful in cirrhosis nor as a dechloridized regimen. Following on Gilbert's treatment of sero-fibrinous pleurisy by injections of pleural fluid, injections of ascitic fluid have been tried. The method is to withdraw about 10 c.cm. of the fluid by a simple puncture, and inject this immediately under the skin of the abdomen. The author does not recommend this. He has also objections to urge against the idea of permanent drainage proposed by Kahn, as also against another operation method which consists in enlarging the collateral venous circulation. In a certain number of cases, however, he approves of injections into the peritoneal cavity, and experimental injections of methylene blue have shown that such are eliminated as rapidly after peritoneal absorption as is the case in subcutaneous injections. Adrenalin has been used in this way and has produced cardiac stimulation and pronounced diuresis. The method has given good results in the long and tedious progress of the malady.

51. "Carriers" and Diphtheria.

EBEN C. HILL, of the United States Army (*Med. Record*, June 10th, 1911) describes an epidemic of diphtheria occurring in an isolated army post, in which the first case occurred in a man employed in the meat shop where all meats for the post were bought. This man was sick with nasal diphtheria for some three weeks before his case was diagnosed by culture. The second case was in a boy who had frequently been to this market. From these developed a number of other typical cases and many well carriers of the bacilli were discovered by cultures. These were at once isolated until free from germs. All were immunized with 1,000 units of antitoxin, including the infants, and no bad effects were observed. At the close of the epidemic no disinfection of houses was done, yet no further spread occurred. This epidemic emphasizes the fact that it is the carriers and undiagnosed cases that spread the disease, and not clothing and other fomites.

52. Hemlock Poisoning.

EGDAHL (*Archives of Internal Med.*, March 15th, 1911) records a case of poisoning due to eating poison-hemlock (*Cicuta maculata*). The European form of the plant is called *Cicuta virosa*. While working with her father and younger brother in a field the patient ate some of the root, and in a few minutes she became unconscious, with convulsions every ten or fifteen minutes. She vomited several times and the vomitus contained particles of the root. When first seen professionally three-quarters of an hour later, she was quite unconscious and slightly cyanotic, with dilated fixed pupils and heavy breathing through the nose and open mouth, which latter contained a considerable amount of mucus and saliva. The convulsions began with twitching around the mouth and eyelids, rapidly spreading over the whole body until finally all the muscles were firm and rigid and the forearms and hands slightly flexed with clenched fingers. The legs were extended and slightly parted, and the head was slightly raised from the pillow, but the shoulders and buttocks rested on the bed. The respiratory muscles shared in the tonic convulsions, the face becoming markedly cyanotic. When apparently on the verge of suffocation, clonic convulsions set in, the muscles relaxing, and the body coming to rest. There was no defaecation or micturition during an attack. After washing out the stomach the convulsions ceased, but for about three hours the patient was extraordinarily restless, tossing about aimlessly from side to side and from end to end of the bed, and striking her head against the bed or wall unless prevented. Under bromides she gradually became quiet, but remembered nothing from the time of onset at noon on Monday until the following Wednesday evening. Constipation was only relieved by enemata. After the third day, the patient made an uneventful recovery. Her father, who had chewed a bit of the root and spat it out, shortly afterwards felt dizzy and sick, and her brother, aged 7, after eating a small quantity, became unconscious, had one convulsion, and vomited. He was conscious when seen, but felt sick, and he made an uneventful recovery. Of 46 recorded cases, 32 were children, the symptoms of nausea, vomiting, and convulsions usually appearing within an hour, being most characteristic and pronounced, with pain in the stomach as a primary symptom in 5 cases. Early and free vomiting is a most favourable occurrence, recovery taking

place in the great majority of instances when this follows either spontaneously or through the administration of emetics, or, better still, the use of the stomach tube.

SURGERY.

53. Biloculation of the Stomach.

AUBOURG has brought before the Société de Radiologie Médicale de Paris (*Bull. et mém.*, March, 1911) a radiological observation of an interesting case of biloculation of the stomach. A woman of 43 years, who had not previously suffered from any gastric condition, sustained a shock, due to being in a burning house, and this was followed by pains in the stomach, with bilious vomiting. The trouble lasted for one year, but ultimately it yielded to a milk diet and careful nursing. Some time afterwards, however, another emotional disturbance occurred, owing to the fear of ruin, and the symptoms reappeared. This time, in spite of very careful nursing, the patient, without being cachectic, lost 16 kg. (36 lb.) in three months. An *x*-ray examination with bismuth proved the stomach to be divided into two pouches, united by a sinuous canal of 6 to 8 cm. in length and 1 to 2 cm. in breadth. There were no contractions visible in the upper and smaller pouch, nor in the communicating channel, but the lower pouch had as good a function as the normal stomach. The surgeon who practised a laparotomy reported that there was a thick band of constriction, descending perpendicularly to the great arch of the stomach and adherent to the pancreas. Pressure upon the upper pouch only emptied it with great difficulty, whereas a moderate pressure upon the lower pouch was successful in passing the contents by the pylorus into the duodenum. It was decided, therefore, to assist the evacuation of the upper pouch by an anterior gastro-entero-anastomosis, an anastomosis between the two gastric pouches being impracticable. The operation had the result of raising the patient's general state and rendering digestion easy. A subsequent screen examination showed the persistence of the two pouches as before the intervention, but the upper pouch was emptied easily in eight minutes by both ends of the anastomotic communication. This simultaneous evacuation by the two segments of the ileo-gastric loop was shown clearly in the radiograph. The lower pouch worked as an independent stomach, with normal contractions as to number and intensity, and was emptied by the pylorus in the duodenal bulb.

54. Surgical Use of Tincture of Iodine.

CHAMPEAUX (*Journ. des prat.*, April 29th, 1911) draws attention to the prophylactic value of tincture of iodine in such a septic traumatism as that resulting from the kick of a horse, especially before any inflammatory reaction occurs. In such a contused wound of the leg, even with considerable loss of tissue, the author fills up the wound with tincture of iodine and paints it freely over the surrounding surface. A dry dressing is applied and left on for several days. When the wound is redressed the deeper tissues are usually united, and even in a severe case at the end of a fortnight the wound is quite healed with a flexible cicatrix. The author quotes several instances of such injuries with destruction of tissue in various parts of the body in which the treatment was uniformly successful. It is important, however, that the treatment should be carried out immediately after the accident. It is less efficacious than the oxygenated antiseptics he employed later on, and indeed, in suppurating wounds it has given bad results. The author has been led by these facts to the following conclusions: Tincture of iodine is absorbable by the surface of recent wounds. It acts as an antiseptic and is favourable to healing. It becomes non-absorbable however, when the wound is crowded with pyogenic organisms and pus cells. Its action seems then to increase irritation and secretion. Later, when the wound has discharged most of these cells and has passed the suppurative stage and repair is about to begin, the action of tincture of iodine is particularly favourable to the development of a healthy cicatrix. The author is accustomed also in dealing with an especially dirty wound to give an injection of antitetanic serum so as to immunize the organisms, as the spores of tetanus, if present, are inaccessible to an antiseptic applied in this way to the surface of a wound. Commenting on the suggestion of Reclus that iodine carries its effects deeply into the tissues, the author thinks it desirable to find out experimentally how in that case it affects the spores of tetanus. Every year, he points out, tetanus follows small local traumatisms which seem at the time quite harmlesss. The matter is worth investigating from this point of view alone. But the results ought not to prejudice in any way the use of serum-therapy when the indications clearly exist for such treatment.

55. Complete Removal of the Larynx in Two Stages with Local Anaesthesia.

RICARDO BOTEY (*Revista de Med. y Cirugia Practicas*, May 28th, 1911) reports a case in which he successfully removed the whole larynx with local anaesthesia. The method adopted was that of Perier and Glück, with the important modification due to Chiara, in which the trachea is first divided and sutured to the skin, and after this wound has firmly healed, the extirpation of the larynx is proceeded with in a second operation. The patient was a man of 44 years of age who suffered from epithelioma of the right side of the larynx, crossing the middle line to the left, and involving the whole of the epiglottis. Twenty minutes before the commencement of the operation three syringefuls of 0.5 per cent. solution of cocaine, with a little adrenaline, were injected about the field of operation. From time to time, as the tissues were divided and fresh surfaces exposed, these were touched with small swabs soaked in 15 per cent. cocaine-adrenaline solution. This preliminary operation presented no especial difficulty. The patient bore it well, and complained of no pain. The cut trachea was stitched to the skin by three deep sutures, one anterior and two lateral. Part of one cartilaginous ring necrosed; nevertheless, in twenty days the wound was firmly healed. The second part of the operation was then undertaken. Five syringefuls of ½ per cent. solution of cocaine with a little adrenalin were injected at the beginning; from time to time during the course of the operation the cut surfaces were brushed over with the stronger solution. The dissection was tedious and difficult, and the operation lasted two and a half hours. The removal of the jugular gland on the right side was necessary, and proved very difficult, because of its adherence to the vein. This was wounded in spite of great care, and had to be ligatured. At the end of the operation the patient was collapsed, and injections of saline solution, ether, camphorated oil, etc., were required, and had the desired effect. Questioned, he said that only when the last sutures were inserted did he feel slight pain. For the first twenty days after the operation, food was given by a nasal tube. Since, the patient has been able to take food by the mouth without difficulty. This case, remarks Botey, demonstrates the perfect possibility of total extirpation of the larynx with local anaesthesia. The great inconvenience of chloroform in operations on the larynx is thus avoided, the patient retains consciousness, and is able to assist the surgeon in various ways. It is probable that chloroform is especially dangerous in these operations. The respiratory centre in the medulla is apt to be reflexly paralysed by traumatism of the larynx, and this is the more likely to happen when its function is depressed by chloroform. Another great danger of the operation—septic pneumonia—is minimized by this method of removing the organ in two stages. It is very important that all glands possible should be removed. The author believes that in many cases where the condition of the patient renders it hazardous to do this completely at the second operation, a third intervention for that purpose alone may be justified.

56. Trigger-Finger.

COTTON (*Amer. Journ. of Orthop. Surg.*, February, 1911) records a case of trigger-finger in a woman, aged 39, giving a definite history of rheumatism. During the last three years she experienced some trouble in movement of the second finger of the left hand, and this has become worse during the past year since she had a fresh attack of rheumatism. She has no trouble unless she clenches the fingers, when the second finger sometime catches so that she cannot straighten it without considerable effort, occasionally even requiring the assistance of the other hand. When the finger is straightened it flies out into a position of full extension without any accompanying pain. On opening the tendon sheath a mass of translucent, soft, vascular tissue was found attached to the sublimis tendon, the profundus tendon not being involved in any way. This mass was removed and the tendon sheath closed by a single stitch, and eight weeks later the cure was complete, no trace of trigger action being present. A needle which had become embedded in the palm seven years previously was also removed at the operation, as it lay opposite the base of the ring finger, but it apparently had no part in causing the above condition of the second finger. The mechanism of the condition would appear to be a jamming of the tendon as a rope jams on a pulley block, and this may result either from any localized thickening of the

tendon, or from a thinning in spots causing irregularity, or from any irregularity, thickening, or narrowing of the sheath. From the records of about 160 previously reported cases, single or repeated traumata, strain, or overuse would appear to be among the main causative factors, though rheumatism, as in the case reported, may so operate.

OBSTETRICS.

57. Induction of Premature Labour.

SCHAUTA (*Wien. med. Woch.*, No. 10, 1911) deals with the indications for bringing on abortion and the methods to be employed. The danger of Caesarean section is now so small that the author no longer considers a contracted pelvis an indication for the induction of abortion. On the other hand, tuberculosis of the mother is more and more considered to form an indication, if it is during the first three months of the pregnancy before any serious aggravation of the disease has set in; and Norwegian doctors, for instance, have become unwilling to take phthisical patients into sanatoriums during pregnancy, on the ground that such patients do badly, even under the best conditions. With regard to the methods to be employed, the author gives a strong caution against passing instruments into the uterus to detach the ovum, because of the great danger of perforation. In some cases perforation occurs as a result of a too abrupt dilatation. Only 2 out of 9 cases of perforation reported here ended fatally, and in both of these an attempt was made to save the uterus—an attempt which the probability of subsequent infection renders dangerous. Of late, dilatation by means of laminaria, colpeurynters, or iodoform gauze has been employed, but cases of ascending infection after simple dilatation by these agents have been reported. Where the cervix cannot be dilated at a sitting, rather than leave iodoform gauze in position for twenty-four to forty-eight hours and so run the risk of infection, the author recommends either detachment of the ovum with one finger and removal by Schultze forceps, or division of the anterior wall of the cervix, performing a colpohysterotomia and detachment and removal of the uterus with more exactitude than by the other method; the latter operation is clearly impossible in a private house. Next are considered the methods of prevention of further conception, the necessity for which most commonly occurs in tuberculous cases. In such cases Bumm in Berlin removes the uterus, but the author considers this procedure to be too heroic. The simplest method is ligaturing and dividing the tubes close to the uterus, and this has the further advantage that if the patient recovers and is later anxious to have a child, by planting the stump of the tube into the uterus conception may be once more rendered possible.

58. Delayed Extraction of the Head in Breech Presentations.

THE danger of asphyxiation of the child in breech presentations, if birth of the after-coming head is unduly delayed as a result of spasmodic rigidity of the soft parts, has long been recognized. Sigmund Gottfried (*Wien. klin. Rundschau*, November 13th, 1911) has been successful in such a case in preserving the child's life by passing up into the mouth to the back of the tongue the tube used in laniotomy, and thus depressing the tongue and allowing the child to breathe through the tube. The case was one of placenta praevia in which turning by Braxton Hicks's method had been carried out and a foot brought down. The pregnancy had lasted seven months. Birth proceeded without difficulty until contraction of the not completely taken up cervix on the upper part of the after-coming head made extraction for the time being impossible. The cord was pulseless, and the child began to make attempts at breathing. The air tube was now passed in, with the result that when the soft parts relaxed about five minutes later the child was born, not only not asphyxiated, but breathing quietly. A simple metal tube, the size of a laniotomy tube, whose upper end for about 6 to 8 cm. (2½ to 3.2 in.) is formed of rings, so that any required curvature can be obtained, is especially suitable for this purpose.

GYNAECOLOGY.

59. Acute Torsion of Omentum in Women.

This condition gives rise to puzzling symptoms in women, and in either sex the primary cause is not always clear. In the *Zentralbl. für Gynäk.*, No. 23, 1911, two cases are reported, being collected from current literature. Schönholtzer publishes an instance where a girl, aged 20, recently subject to attacks of abdominal pain, sought medical relief on account of their increase in frequency and severity. However, there was no vomiting, and flatus passed freely. There was a tender resistant area in the right side of the abdomen. The pulse and temperature rose shortly after the examination, therefore an operation was performed. A tumour as big as a fist, consisting of thickened omentum, infiltrated with blood, was found rotated 360 degrees on the upper part of the omentum and adherent to the colon. It was removed, together with the vermiform appendix, which showed (under the microscope) slight thickening of its walls. Schönholtzer considered that torsion of the omentum was preceded, in this instance, by adhesive inflammation and thickening of the affected structure, the inflammation being secondary to chronic appendicitis; for he had already operated on a case of torsion, where he found that the omentum was not only adherent to an inflamed appendix, but also covered an abscess cavity. Balduin, whose complete report was published in the *Prager. med. Woch.*, vol. xxxv, Nos. 45-46, 1910, operated in a similar case where, as in Schönholtzer's, the patient was a girl. The symptoms were less definite; she had been troubled for five days with sharp pains in the right side of the abdomen, especially during micturition. There was vomiting, and defaecation caused great pain. A hard tender body could be defined above Poupart's ligament. It proved to be a piece of omentum, twisted on itself, thickened, and over 4 in. in breadth. Balduin carefully resected the omentum in the healthy tissue far above the seat of torsion. He held that reduction of the twisted portion was bad surgery, as there were always thrombosed veins in the diseased and half-strangulated tissues, so that thrombi might be detached. In this case there was no affection of the appendix and no hernia. In the original report in the *Prager. med. Woch.* Balduin notes the recent researches of Corner and Grant (JOURNAL, ii, 1908, p. 1426), who dwelt on epiploceles and on reduction *en masse* of their contents, but he turns attention to torsion of omentum not involved in any form of hernia. About fifteen such cases have been reported, all since 1904, and in most the extremity of the omentum had already become adherent to peritoneum. There remains a minority where the twisted omentum was free from the first, quite unadherent, in fact. Balduin's own case, above noted, was of this class, and occurring in a girl of 19 without hernia, it strongly suggested some acute disease of the genital tract or appendicitis.

THERAPEUTICS.

60. Marienbad Waters and Albuminuria.

E. PFLANZ (*Wien. klin. Woch.*, No. 10, 1911) deals with the effect of the Marienbad sulphate waters upon albuminuria and cylindruria. His recent observations are upon 53 persons—39 men, 14 women—who collectively went through sixty-eight cures of an average length of four weeks each. In 8 cases of chronic diffuse nephritis without increase of blood pressure the result of the cure was found to be uncertain, and such cases should make use of it cautiously only. In a second group of 10 cases of contracted kidney and much increased blood pressure, with cardiac hypertrophy, and in several cases with marked cardiac insufficiency the general effect of the cure was favourable; albumen disappeared in 1 case, diminished in quantity in 7, and remained constant only in 1; in 2 cases the cylinders disappeared, and in 4 became fewer in number and more favourable in type. Another group was composed of 20 cases—14 men, 6 women—in which there was no sign of kidney disease except for the presence of a slight degree of albuminuria and cylindruria, but all the patients were over forty-five years of age, and arterio-sclerosis was present in all. In this group of cases of what might be described as old age kidney the effect of the cure was very good; albumen disappeared in 7 cases, was reduced to a mere trace in 9, and in 3 only remained the same, while cylinders disappeared altogether in 13 cases, and in 2 cases epithelial cylinders were replaced by granular forms in very scanty numbers. In 7 of these 20 cases the blood pressure was normal; in 13 it was moderately increased at the beginning of the cure, but fell to normal in 4 cases during the cure; in the latter cases the increased blood pressure must have depended on functional causes, and especially on a rise of intra-abdominal pressure through meteorism. In another group of 15 cases the cause of the condition was doubtful. The patients

were all over 40 years of ago, were usually fat, had in many cases suffered from rheumatic affections, possibly sometimes gouty in origin; there was no arterio-sclerosis, and the blood pressure was normal except in two instances, in both of which it fell to normal during the cure. The effect here was very good. Albumen disappeared in all but three cases, and was reduced to a trace only in the others, and cylinders disappeared in all. In these cases a kidney-sparing diet was not adopted. A review of the whole series of cases shows that the effect upon the albuminuria did not depend on any special diet adopted, nor on the baths taken, but upon the waters drunk, and in these the sulphates of the Ferdinand and Kreuzbrunnen waters were in all probability the effective agents. All but two of the patients took these waters either to reduce weight or for the removal of constipation which was present in 22 out of 53 cases. The effect upon albuminuria did not, however, appear to depend on the removal of constipation. V. Noorden and Ritter found in cases of nephritis that at times there was a marked increase in the amount of albumen in the faeces independently of the food taken, and he ascribed the condition to a vicarious output of the products of abnormal metabolism. Other authors have made similar observations, and it has been found that the intestine under the influence of aperients can take on a part of the work of the kidneys. Salts which can be taken for a comparatively long time without harm and usually have a beneficial effect upon the intestinal mucous membrane must be especially suited for bringing about such a sparing of the kidneys. Certainly in the cases under consideration an improvement—even if only a temporary improvement—in the kidney function must be considered to have occurred.

61. Salvarsan in Malaria.

BILFINGER (*Wien. med. Klin.*, No. 13, 1911) describes a case of malaria treated with salvarsan. The patient, who was a man 37 years of age, when first seen was suffering from acute rheumatism and syphilitic symptoms, which proved somewhat resistant to treatment on ordinary lines. After about two months the signs of syphilis disappeared, but at the same time the fever which had been present became typically that of tertian malaria, and finally a few tertian parasites (gametes and schizonts) were found in the blood. Quinine, and later on methylene blue, were tried without effect during a period of three months. An intravenous injection of arsenobenzol 0.4 g. (6.2 grains) was then given, with the result that for about a fortnight no malarial attack occurred, and no parasites could be found in the blood. The attacks began again, however, at the end of the fortnight, though they were less severe than before, and a few parasites (gametes) were again present in the blood. Treatment by quinine was begun again, this time with complete success, and the patient was discharged six weeks later fully recovered. The author considers that the case was probably one of old malarial infection, and that the resistance of the organism to malaria had perhaps been weakened as a result of syphilis and acute rheumatism. With regard to the failure of quinine when first administered, the author points out that before the diagnosis was fully established quinine was given in an unsatisfactory manner, 0.5 g. (7.7 grains) being administered three times a day, irrespective of the malarial attacks, and as a result the resistance to quinine may have been heightened. Later on the quinine was given in doses of 1.5 g. (23 grains) five hours before an attack was expected. The effect of salvarsan was apparently to take away the resistance of the parasites to quinine. The case is of special interest taken in conjunction with cases of syphilis in which an injection of salvarsan has resulted in a development of sensitiveness to the action of mercury where this had previously been absent.

62. Hypodermic Injection of Oxygen in Asphyxia.

RAPIN (*Rev. méd. de la Suisse rom.*, April 20th, 1911) employed this new method in the condition of asphyxia due to bronchopneumonia. A child, aged 14 months, had had bronchitis since the middle of January. Early in February this became aggravated, and on February 7th convulsions of an hour's duration, with complete loss of consciousness and a temperature of 103.1° F., occurred. On February 8th Rapin found diffuse bronchitis of both lungs, which was most marked at the right base. On February 10th there was dullness over the entire right lower lobe. On February 17th the pulse began to flag and there were signs of progressive asphyxia. Five drops of digalen were given thrice daily and a powder containing 0.03 gram (about ½ grain) of camphor was ordered every three hou Hot and cold baths, poultices, the steam-kettle, etc., we also employed. Towards the evening of February 18th t condition became alarming. The child breathed less a less deeply, and became cold and collapsed, hot bat being powerless to increase the temperature and co affusions to provoke any reaction or sign of life. T radial pulse was imperceptible and the precordi pulsations feeble and irregular. The hands and low lip became oedematous, and the skin generally was livi Inhalation of oxygen produced no improvement. A sm quantity of oxygen gas was then injected under the sk of the thigh. The immediate effect was to raise t temperature locally, and to replace the lividity of the sk by a pale rose colour. Then within a few minutes t face lost its waxen aspect and became animated. T dyspnoea was markedly relieved and the pulse becan perceptible. Oxygen was slowly but continuously inject under the skin, first of one thigh then of the other, duri twenty-four hours. This appeared preferable to the intr duction of a large quantity at once, which would ha distended the tissues and produced conditions less favou able to absorption. Three hours after the beginning of t oxygen injection the child appeared to be out of dange The temperature, which had become subnormal, rose the following day to 104° F., but this rise was unacco panied by disquieting symptoms. Defervescence occurr by lysis, and the child became convalescent. Expe ments on rabbits gave the following results: (1) An anim which has received a prophylactic injection of oxyg under the skin resists asphyxia longer than a rabbit n so prepared. (2) Existing asphyxia can be relieved the hypodermic introduction of oxygen, and the pul simultaneously improves. (3) If asphyxia is pushed un the corneal reflex is abolished, the injection of oxyg permits of recovery, even though the duration of apno has been prolonged beyond the period fatal in contr animals. The method would probably prove of service pneumonia, croup, pleurisy, certain cases of pulmona tuberculosis, acute anaemia from external or intern haemorrhage, and syncope, and possibly also in poisoni by chloroform, ether, and carbonic oxide. It should al be useful in asphyxia neonatorum, and could be appli to the undelivered fetus after a foot has been broug down by version. The apparatus is simple. A rubb tube is connected with a gas bag full of oxygen by a stc cock. The other end of the tube is plugged lightly wi sterile cotton wool, and then connected with a large bo hypodermic needle.

PATHOLOGY.

63. Staining of the Tubercle Bacillus.

H. DOLD (*Arbeiten aus dem kaiserlichen Gesundheitsam* Bd. xxxvi, Heft 4, 1911) has examined recent methods the staining of the tubercle bacillus, with special referen to their alleged significance in differential diagnosis. T tubercle bacillus, as Gasis has pointed out, resists colorization by alkali, as well as by acid; but Dold do not find the test of alkali-resistance to be specific. It is property which, like acid-resistance, does not belong to t genuine tubercle bacillus alone, but is shared by the wh group of "acid-fast" organisms. The degree of alka resistance varies in different cases, and seems to dependent on the same bacillary substance as is the pow of acid-resistance. None of the staining methods whi have been claimed to be specific by Gasis, Telemai Kronberger, Betegh, and Fontes provide, in Dold's opinion reliable means of distinguishing genuine tubercle bacilli fr non-pathogenic acid-fast organisms. It has been claimed Much that his modified Gram's stain brings to light certa forms of the tubercle bacillus which fail to stain by t ordinary method of Ziehl. Dold does not find himself a to confirm this statement. In the material which he h investigated (tuberculous lymphatic glands and splee from guinea-pigs) comparison between specimens stain according to Ziehl, and similar specimens stained Much's method, has not revealed any noticeable differen in the numbers of tubercle bacilli demonstrable. He do not dispute the existence of tubercle bacilli which are acid-fast (that is, which do not stain by Ziehl's metho but he doubts the diagnostic importance of Much's Gra positive rods, granular forms, and isolated granules. admits, however, that staining methods which combi the procedures of Much and Ziehl give very instructi specimens.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

64. Optic Nerve Atrophy in Tabes.

ASCHNIG (*Wien. med. Klin.*, No. 9, 1911) has investi-ted 66 cases of optic nerve atrophy in tabes. Two were ses of advanced tabes, 4 were of progressive paralysis, e rest showed only slight signs of tabes or were in the eataxic stage, and in several instances the diagnosis was sed upon the eye symptoms. Repeated examination as not possible in all the cases, so that only 44 were ailable for tracing the course of optic nerve atrophy. As ule, whenever one eye had begun to be affected, loss of ht progressed more or less rapidly either continuously by exacerbations, so as to be almost complete within a v months, although absolute blindness might never ur. The course of the disease in the first eye almost ways formed a good basis for prognosis for the second e. Four cases were exceptions to this rule. In 1 the ond eye was unaffected a year and a half after the first s found to be amaurotic. In another the condition of second eye became practically no worse during four l a half years. In a third the second eye was unaffected ring a period of observation of fourteen months, and the ht of the first eye slightly improved. In all energetic isyphilitic treatment was carried out. In 3 cases an parently unknown ocular symptom of tabes was ob-ved—that is, eye crises, which in 1 instance were of most typical description. The pain could be distin-shed from ciliary neuralgia by the absence of narrow-of the pupils and of watering of the eyes at the height the attack. In only 3 of the whole series of cases s the reaction to light normal. Of the 66 patients were men and only 9 were women. Only 1 woman e a positive history of syphilis, but in the case he others either there had been repeated miscarriages, , or Wassermann's reaction was positive. In 43 out he 57 men there was a positive history, and where this s absent, in the more recent cases, Wassermann's ction was positive. The early treatment of syphilis l been on the whole extremely unsatisfactory; 15 out 44 cases with a positive history had received no treat-nt at all; 18 with a negative history, including 8 women o had suffered from repeated miscarriages, had also n untreated. In 2 cases the Hall iodine water had n taken for a short time, and 22 cases had received an nction cure, followed in some instances by administra-n of iodine for a short time. In only 3 out of the whole nber had adequate treatment according to present day as been carried out. These figures differ from those of e other workers: for instance, Winternitz found that er cent. of his cases of tabes had had good treatment he original syphilitic injection, but the difference obably depends upon the definition of "adequate treat-nt." Thus the author considers a two to four years' rmittent mercury and iodine treatment as necessary an adequate cure after syphilitic infection. The great tment is the preventive treatment of the original infec-. Where both eyes become affected almost simul-ously the prognosis is most unfavourable, but the hor is of opinion that where one eye is affected first an getic and well-directed treatment may be of real ificance for the preservation of the second eye. He ies out in nearly every case an ordinary antisyphilitic ed treatment, and does not believe that the use of cury is contraindicated, though systematic observation he urine and the general condition is essential. It ears that reflex pupil changes are usually present re the onset of optic nerve atrophy, so that observation e pupils in syphilitics and the prompt beginning of tment if changes of pupils occur becomes a pressing both for the general practitioner and the der-ologist. With respect to the Ehrlich-Hata treatment, rvations are needed as to its effect in the prevention eta-syphilitic diseases, and the author fears lest it ld prove unsatisfactory in this respect.

Chronic Influenza.

8 (*Amer. Journ. of Med. Sciences*, February, 1911) nds that influenza may be, and frequently is, a ic intoxication. The fashion of dating various ail-s or chronic ill health from a severe epidemic attack tainly correct, and its close similarity to tuberculosis any respects leads to the supposition that many cases of chronic capillary bronchitis, pneumonia, and bronchi-ectasis, diagnosed as tuberculosis, were due to the *Bacillus influenzae*. In man the influenza bacillus is capable of producing pathogenic processes without the aid of other organisms; and while it is the most important cause of a large number of cases of acute and chronic respiratory infection during the interepidemic periods, it is also a contributory cause in many other cases when associated with the pneumococcus, *Micrococcus catarrhalis*, and other organisms. The bacillus may be present in the sputum for years, and the frontal, ethmoidal, and maxillary sinuses are frequently infected and act as the nidus of infection in chronic cases. Probably cases of intermittent fever with-out obvious cause are due to an acute exacerbation of a chronic infection. The *Bacillus influenzae* shows a marked predilection for the nervous system, and organic and inorganic nerve disease may result from acute influenza. Prostration is a frequent symptom and far outlasts the symptoms of the disease, while vertigo, insomnia, de-lirium, and coma are not uncommon. Neuralgic pains, myalgia, joint pains, hyperaesthesia, neuritis, etc., fre-quently accompany the attacks, and may persist long after the subsidence of all acute symptoms. Neurasthenia and other neuroses may be initiated by the acute attacks, and the view is held that influenza is always with us as a chronic infection and as the source of the acute cases which arise sporadically and endemically. The invasion of the accessory sinuses is a most frequent complication, and is responsible for a large majority of cases of sinusitis, otitis, salpingitis, mastoiditis, and their sequels.

66. Syphilis and Addison's Disease.

GAUCHER AND GOUGEROT (*Ann. des mal. vén.*, May, 1911) report a case of Addison's disease which rapidly improved under mercurial treatment, and was, therefore, probably of syphilitic origin. The patient, a man, aged 32, had all the classical signs of the disease, which was only of a few months' duration. About three years previously he had a chancre of the penis, but no secondaries were noticed; however, he presented patches of leucoplakia on the tongue and labial commissures. Rapid improvement took place under twenty injections of benzoate of mercury. The authors remark that syphilis may be a more frequent cause of Addison's disease than is generally supposed, and, therefore, that it is important to search carefully for any signs or history of syphilis in these cases, since improve-ment may result from specific treatment. They mention other cases of Addison's disease of syphilitic origin re-ported by Gaucher, Barlow, Hadden, Boinet, and Schwytzer. Clinically, the cases present nothing peculiar. Pathologically, suprarenal syphilis generally coexists with hepatic and renal syphilis. It may be gummatous or sclerous, the latter form being apparently more common.

67. Alcoholic Paralysis.

P. PEDRO JIMINEZ OLIVEROS (*Revista Balear de Ciencias Medicas y La Revista de Medecina y Cirugia Practicas*, May 28th, 1911) publishes a case of acute alcoholic paraly-sis which presented some unusual features. The patient was a youth aged 20 years, healthy, no previous illnesses or constitutional taint, and was not accustomed to alcohol. On the day previous to the attack he drank a good deal, but did not become completely intoxicated. He arrived, however, at a state of over-exaltation which obliged him to lie down. After sleeping tranquilly, he awoke on the following morning completely paralysed in all four limbs. His intellect seemed quite clear, nor was there any dis-turbance of the circulatory or respiratory functions. An energetic eliminative treatment was pursued, acetate of ammonia, vapour baths, etc. The condition remained unchanged for two days; on the morning of the third the paralysis was found to have disappeared completely. Six months later the patient suffered from another very similar attack, again following undue indulgence in alcohol. This time only the lower extremities were affected, and the con-dition lasted only one day. Also, the onset of the paralysis did not so quickly follow the ingestion of the alcohol; about twenty-four hours intervening. Can we, asks Dr. Sainz de los Terreros, in the *Revista de Medecina y Cirugia Practicas*, regard this as a case of alcoholic poisoning, or was the alcohol merely the occasion for the development of some constitutional defect (hysteria)? As, however, there was no sign of any such defect, but, on the contrary,

the patient appeared to be an absolutely healthy and robust subject; and as the attack in each instance distinctly followed an unaccustomed over-indulgence in alcohol, there seems no escape from the conclusion that this was the peccant material. It may have been that the beverage drank contained other poisons besides ethyl alcohol (amyl alcohol, etc.). Usually, of course, it is in chronic alcoholism that paralysis occurs, and then the clinical picture is entirely different.

SURGERY.

68. Intestinal Stenosis.

J. SCHNITZLER (*Wien. med. Klin.*, Nos. 11 and 12, 1911) deals with practical points in connexion with intestinal stenosis. Severe general symptoms are often absent in the early stages of intestinal obstruction, but they may be present from the beginning, especially in cases of strangulation involving a large piece of intestine or mesentery, and they invariably supervene when the intestine becomes stretched above an obstruction. Errors of diagnosis are not uncommon. In cases of trauma invagination may occur and be overlooked. Early peritonitis may simulate intestinal obstruction, and a circumscribed peritonitic paralysis of a part of the intestine may give rise to all the symptoms of paralysis, while a generalized peritonitis due to perforation may fail at first to do so. Two cases of perforation of gastric ulcer are described in which the patients recovered as a result of treatment which aimed only at removal of obstruction. In one of these cases Schnitzler did not see the patient until the sixth day after the perforation. The general condition was then so good, the pulse 90 to 100, temperature 36.8° C. (98.2° F.), that it was decided that the general infection of the peritoneum had been overcome, but that the symptoms of vomiting, constipation, etc., were due to intestinal obstruction. At the operation turbid exudate and gas were present in the peritoneal cavity and the small intestine was enormously distended; a loop of intestine with a thickened and somewhat oedematous wall was stitched into the abdominal wound and opened, and gas and fluid contents of the small intestine poured out in large quantities. Recovery was so rapid that faeces began to be again passed per anum six days after the operation, and the fistula healed spontaneously within a few weeks. Other instances are given of the significance of enterostomy in the treatment of peritonitis, but obviously cases of generalized paralysis of the intestine will not be suited to this treatment. For successful operative treatment a diagnosis should be made before the onset of faecal vomiting. Auscultatory phenomena may be of great use in establishing a diagnosis. The author considers that high pitched metallic murmurs, sometimes audible even at a distance, point to acute or subacute intestinal stenosis. The presence of colicky pains, of sounds such as those described above, and the absence of stools and flatus passed per anum are sufficient evidence upon which to base a diagnosis and to undertake an operation. In such cases, due to peritonitis, the author's method is the formation of one or more fistulae, as in the case previously described. He considers high irrigation to be seldom useful and to be dangerous in peritonitic processes. He gives a small enema, and if this is without result advises enterostomy within twenty-four to forty-eight hours at latest if no stool is passed. His experience of operative treatment of peritonitic intestinal obstruction now extends to nearly 100 cases, and he describes his technique with regard to the formation of artificial intestinal fistulae. When threatening symptoms recur after the formation of the first fistula, search is made for other distended loops of intestine, and the author has known recovery to follow even where four such fistulae have had to be opened up. Where no neoplasm nor other real and permanent obstruction is present the passage of stools per anum invariably begins again after a few days, and in the great majority of cases the peritoneal adhesions disappear later. Most of the cases of peritonitic stenosis of the intestine belong to the appendicitis group of cases. The author has three times been obliged to operate months or years later to free the loop of intestine from the intestinal wall because of symptoms due to fixation. Operation is undoubtedly the only real treatment of intestinal stenosis, and the direct removal of the obstruction is the ideal treatment. In cases of pronounced meteorism, or where faecal vomiting has been present for some time, radical treatment is often dangerous to the patient and recovery will frequently follow the milder procedure of the formation of a fistula. The author concludes by the statement that he prefers to operate at the right moment under a wr diagnosis than at the wrong moment under a corr diagnosis.

69. Anterior Dislocation of the Head of the Radius.

DAVIS (*Amer. Journ. of Orthop. Surg.*, February, 19 describes an operation for the treatment of anterior location of the head of the radius in a boy, aged 8 yea in whom reduction by manipulation was impossib Although the condition is usually produced by traction the forearm in children under the age of 3, in the c recorded it was the result of an injury to the elbow b fall from a box six months previously. The usual meth of reduction by forced supination and backward press on the head of the radius, followed by forced flexion of elbow, was unsuccessful, with the result that there w inability to flex the elbow beyond a right angle, and full extension the head of the radius could be seen as distinct prominence on the anterior surface just abo and to the inner side of, its normal position, while p teriorly there was a corresponding abnormal depress immediately below the external condyle. Through 2 in. incision, with its centre over the lower end of external condyle, the capitellum was exposed, and t head of the radius forced back into its normal positi where it was held in place by sutures of chronic cat passed round its neck and into the tissues posteriorly, remains of the external lateral and articular ligame being sutured and adapted as well as possible over head. It was found necessary thus to suture the he into its place, since, after simple reduction, the dislocat recurred on flexion beyond an obtuse angle, but by t method the radius was maintained in good position. T arm was placed upon an anterior obtuse-angled spli giving a flexion at the elbow of about 130°. On the ten day the splint was removed, and the patient treated w the arm acutely flexed, and six weeks after the operat he was discharged with the radius in normal position, shown by a skiagraph, and capable of passive flexion u the hand touched the shoulder. Fifteen months after operation flexion could be performed voluntarily 40 degrees (and by pressure to 35 degrees), thus showing gain of 50 degrees upon the 90 degrees limit of flexion pr to operation. Slight forward displacement could be felt forcible contraction of the biceps, or upon pressure forw over the head posteriorly, but when flexion was contin beyond 90 degrees the head, instead of sliding forward before the operation, sank backwards into its norm position.

70. Orthopaedic Treatment of Infantile Paralysis.

GILLETTE (*Pediatrics*, March, 1911) believes in compl rest at the commencement of the paralysed limb by mea of splints or plaster of Paris and gradual straightening the flexed member to prevent permanent deformity. A six or eight weeks following the acute symptoms bra should be applied. If the dorsal muscles are paralyse support should be adjusted to keep the spinal colu straight. The author has not much belief in massage electricity, and considers tendon transference has a v limited applicability. Any instrument used must by w for a long time as the deformity is almost certain to re if the appliance is removed too soon.

71. Dermoid Cysts of the Mesentery.

HOUZEL (*Arch. prov. de Chir.*, April, 1911) has collec sixteen reports of this kind of tumour, all from fem subjects. He adds a case in his own practice wh the patient was a male infant aged 23 months. tumour had apparently caused the child no pain, had but recently been discovered; the parents found it was increasing rapidly. Houzel defined a bulky fluct ing tumour, making a marked prominence of the pari in the left hypochondrium and flank, extending from ribs to the anterior iliac spine. It hardly reached middle line in front, but it protruded posteriorly in lumbar region. Its surface was resonant on percuss towards its external and also its internal limits, but q dull over its middle portion. The parietes moved fr over the tumour, which could not be moved vertically. the operation, a cystic tumour protruded from the abdom incision. It was tapped and over a pint and a half of liquid material mixed with pale downy hairs escap Then the wall of the cyst was laid freely open with usual precautions. It included three mucoid cysts as as walnuts, a lock of long fair hair, and a great quantit free downy hair. The cyst lay between the descend colon and small intestine, encapsuled by the mesent The patient did not bear the operation well; on

account Houzel did not attempt enucleation or resection of intestine, but simply fixed the edges of the cyst to the parietes. Its interior was swabbed with tincture of iodine, and afterwards washed out, weak solutions of nitrate of silver being injected. The patient recovered. Houzel adds abstract reports of several other cases already reported.

OBSTETRICS.

72. Obstetrical Infections of the Newly-born.

RUDAUX (*La Clinique*, June 2nd, 1910) distinguishes between a congenital infection and one which has had its origin at the time of birth. In the former the infection may be conveyed to the child through the mother, and may only become evident some days after birth. Thus small-pox in the mother may produce a pustular rash in the child a few days old and is a typical congenital infection. A bronchopneumonia occurring in a child which has been for some time in infected amniotic fluid constitutes an obstetrical infection; so also does purulent ophthalmia due to the presence of the gonococcus in the vagina. Such infections are either localized or general; the former are the more common and are due to the entry of germs which form a lesion at the point of localization. In general infections the germs are in the blood stream. An infected amniotic fluid may cause sepsis of the mouth and nose, or by penetrating into the lungs and alimentary canal may produce vomiting, gastro-intestinal disturbances, or jaundice, or bronchitis and bronchopneumonia. External infections are generally localized round the umbilicus or in the skin itself, which may show rashes, furuncles, or abscesses. The eyes are frequently involved. Prophylactic measures are very important. As soon as the fetus has been expelled the eyes should be cleansed with cotton wool and warm soap and water and a few drops of a solution of silver nitrate should be inserted between the lids. The mouth and pharynx should be wiped out with sterilized gauze, and when it is feared that septic fluid has been drawn in insufflation should be practised. Boiled water is advised for washing the child; it should be rubbed over with vaseline, then with an antiseptic soap, and finally be rinsed in several waters. After the bath a second cleansing of the nose, mouth, and ears is advised and should include the genitals. The body may be carefully rubbed over with a lotion containing formol 5 grains, alcohol 50 grains, and glycerine equal parts. Finally, sterilized talc powder is used to dust with. The cord should be touched with tincture of iodine each day, and the application should be made to the scar when the cord becomes detached.

GYNAECOLOGY.

73. Trendelenburg's Position and Pulmonary Embolism.

THE recent rise in the mortality from pulmonary embolism after gynaecological operations is discussed by P. Zweifel (*Arch. f. Gynaek.*, vol. xcii, 1910), who publishes the records of his clinic, which show that the death-rate from all causes after operation has risen from 5.5 per cent. in the period 1887-1892 to 7.8 per cent. in the period 1903-1909. Doubtless, this rise is largely due to the introduction of such heroic operations as Wertheim's operation for cancer, but even when all such operations, which number 377, are excluded, the death-rate is still as high as 5 per cent. In order to make a fair comparison between death-rates, past and present, the writer has drawn up the following table, in which only such operations as salpingectomy and myomectomy are included, which have undergone no recent important changes in technique:

Period.	Operations.	Deaths.	Death-rate.
1892-1898	467	12	2.5 per cent.
1899-1902	342	7	2.0 ,,
1903-1909	577	17	2.9 ,,

If now the deaths from pulmonary embolism are excluded from the above table, the death-rate, past and present, becomes almost identical, being 1.1 per cent. in the period 1899-1902, and 1.2 per cent. in the period 1903-1909. The writer began to employ Trendelenburg's position systematically in 1898, but when he found that out of 1,832 operations there were 18 deaths from pulmonary embolism, he no longer kept the patients' legs flexed and firmly bandaged, but placed them loosely in horizontal frames. The shoulders, too, were propped up, and Trendelenburg's position was adopted as seldom as possible. After this change, the deaths from pulmonary embolism were reduced to 3 in 806 operations. It has been suggested that the increase in the death-rate from pulmonary embolism may be checked by early rising after operation, but the writer is sceptical as to the efficacy of this change, for before 1899, with an experience of 1,681 laparotomies, he never had a case of pulmonary embolism, although his patients were kept in bed for at least fifteen to twenty days after operation. Olshausen has also called attention to the association of Trendelenburg's position with pulmonary embolism, and he showed in 1908 that not only had deaths from this case increased on the introduction of Trendelenburg's position, but that when this position was abandoned or modified, the death-rate from pulmonary embolism again fell. Zweifel considers that Trendelenburg's position favours thrombosis, both by facilitating sepsis and also by its mechanical action on the blood vessels.

74. Sea Baths in Gynaecology.

BOSSI (*Gazz. degli Osped.*, January 4th, 1911) pleads for a more extended use of sea-bathing in gynaecological work. He says that many cases which are now treated surgically might with patience be cured by judicious use of sea baths or bathing. Amongst the class of cases which give the best results are chronic parametritis, chronic inflammatory conditions of the cervix, and uterine annexa, subinvoluted unresolved haematocele, prolapse, uterine displacements (even where adhesions are present), chronic endometritis not remedied by curetting, and some fibromyomata. The sea contains more salt and as much iodine as many of the better-known balneological resorts; in addition (in suitable climates) it gives the advantage of exposure to warm air, sun, and the stimulating effect of friction with moving water. It is well not to bathe during the first days of menstruation (in some cases the few preceding days should also be prohibited), nor during pregnancy, at any rate in the later months. The duration of the bath may vary from fifteen minutes up to two or three hours, according to circumstances. A more detailed account is promised; meantime the above are the general conclusions at which the author has arrived after twenty years' experience in Genoa.

THERAPEUTICS.

75. Games and Exercises in the Treatment of Muco-membranous Entero-colitis.

A COMMUNICATION too lengthy to summarize on the treatment of muco-membranous entero-colitis by means of games and exercises was presented by E. Larat to the Paris Congress of Physio-therapy (*Arch. d'électr. méd.*, May 25th, 1911). He assumes that the disease is generally secondary to some disturbance of the nervous system. The association of the nervous and arthritic factors produces a bad function, one of the characteristics of which is the hyperexcitability of the solar plexus. Hence, to raise the general state, at once stimulating the circulation and cellular nutrition, diminishing the automatism of the ganglions, and reasserting the supremacy of the cerebro-spinal centres, kinesiotherapy, with its gamut of manœuvres, rich in "nuances," is the treatment of choice. In the essential and most frequent variety of muco-membranous entero-colitis, the treatment should commence with simple exercises which proceed in such a manner as increasingly to demand the intervention of the will and the attention of the individual. In particularly nervous patients a start may be made with general massage and the passive movements of mechano-therapy. By these measures the irritable nervous system is not fatigued and yet the blood circulates better, and the function of glands and muscles is improved. Locally a very light massage of the abdomen may be practised. The vaso-dilator nerves are much more sensitive to such feeble excitations than the vaso-constrictors, so that by gentle manœuvres a good vaso-dilatation is obtained. The patients should next be encouraged to take walks. Walking is so natural an exercise that it calls for no strain on the attention, and the mind is pleasantly diverted at every turn. The idea must be to associate progressively mental energy and will power with the physical exercise, to make the patient undergo a discipline of spirit as well as body, to recruit him morally and make him master of himself. To this end athletic tastes should be developed. Of these, the climbing of mountains, in the

author's opinion, should crown the training. It is a violent exercise, necessitating continual effort to maintain equilibrium, and encouraging the synergy of the muscles, which, together with heart, lungs, and brain, should be prepared beforehand. The bicycle is good, but is far from possessing the value of the alpenstock or even of the oar. But it necessitates a certain discipline and develops the solidarity of the system. Tennis and similar games, as well as leaping and light racing, bring into correspondence the muscles of the pelvis and the limbs; but the author cannot recommend the pastime which has come to be known as "rinking." The crowded hall, with the jostling of individuals, the coquetry and the emulation, are altogether too exciting, and the game is decadent gymnastics. Much tact and prudence are necessary in suggesting games to patients, and the individual case needs such special study that general rules can scarcely be formulated at all.

76. Digipuratum in Heart Disease.

BOOS, NEWBURGH, AND MARX (*Archives of Internal Medicine*, April 15th, 1911), call attention to the value of Gottlieb's digipuratum, a purified product of the digitalis leaf, which has been in use in the Massachusetts General Hospital for over a year in the treatment of more than 180 cases of heart disease. The difficulty of making even standardized liquid preparations of digitalis permanent in their strength renders a product which can be relied upon as constant most useful, as digipuratum proves to be. The extract is a yellow liquid whose active principles are insoluble in cold water and acids, but easily soluble in dilute alkalis. The fluid is standardized physiologically, the unit of strength being taken as the minimum amount which in thirty minutes causes systolic stoppage of the heart of a frog weighing 30 grams, this being known as a "frog unit." The fluid is then taken up with sugar of milk to form a powder having the definite constant pharmacologic strength of eight frog units to each 0.1 gram of the powder. For convenience this is generally dispensed in tablets each one containing 0.1 gram of the powder. In treating broken cardiac compensation four tablets were given the first day, three the second, three the third, and two the fourth, that is, 1.2 grams, or 18 grains, in four days, but in severe cases the drug was continued in doses of one or two tablets for a longer period. Eight cases are reported in brief, the diuresis being efficient in all. One patient, a woman, aged 23, with mitral stenosis and regurgitation, aortic regurgitation, ascites, and oedema, was in a moribund condition on admission, with marked cyanosis, dyspnoea, and vomiting. She responded rapidly to treatment, compensation being established in a week, all ascites and oedema having disappeared. For several months she continued taking two tablets daily, until now, after a year, she averages only four or five a week, and sometimes going without any for a week or ten days. The physical signs remain the same as when she left hospital, but she is comfortable and able to attend to her household duties, although living up one flight of stairs. Of the whole 180 cases the urinary output was usually very prompt, there was no vomiting or diarrhoea, and no cumulative poisoning occurred. This latter possibility, however, must be borne in mind during treatment, though with digipuratum the tendency thereto is diminished as compared with other preparations, and by its use digitalis therapy may be pushed in a manner formerly unknown.

PATHOLOGY.

77. Injury as a Causative Factor in Cancer.

COLEY (*Ann. of Surg.*, April-May, 1911) attempts to disprove the view held by many practical surgeons and recently advocated on statistical grounds by Phelps and Segond, that trauma has no influence whatever upon the development of cancer. Including under this term all forms of malignant disease, he argues that the old and popular belief of its origin in injury should be judged by the results of wide personal experience rather than by those of statistical study. Analyses are given of 970 cases of sarcoma and of 250 cases of carcinoma, all personally observed and carefully noted by Coley. In the first group a definite history of injury was made out in 225 cases, or 23 per cent. In 52 per cent. of these 225 cases the tumour developed within the first month after the time of the injury. In the series of 250 cases of carcinoma there was a history of antecedent trauma in 82, or 32.8 per cent. Of 120 cases of carcinoma of the breast included in this table 50, or over 43 per cent., gave records of injury. In dealing with the argument advanced by Segond, of the absence of any definite knowledge of the condition of the affected parts prior to the accident, Coley refers to several instances in his own practice, in which the healthy condition of the seat of post-traumatic cancer had been proved immediately prior to the accident, by careful examination. The number of such instances is certainly very small, but it is held that it is quite logical to believe that in most of the other collected cases in which circumstances did not permit the fulfilment of strict scientific conditions, especially a medical examination directly prior to the injury, the trauma played the same rôle in the development of the tumour. In the final portion of his long and exhaustive paper which is continued in the May number of the *Annals of Surgery*, the author states that in his belief the evidence based upon his extensive personal experience justifies the following conclusions: (1) Local trauma of any kind, from chronic irritation to a single local contusion, is not infrequently the direct exciting cause of malignant tumours of all types. (2) That a single local injury may cause a carcinoma as well as a sarcoma, is no longer open to speculation. The cases that the author has submitted fulfil, it is held, all the conditions necessary to establish a definite causal relationship between a single trauma and the development of a cancer. (3) This relationship in no way depends upon our ability to offer a scientific explanation of it; nor does it depend upon the acceptance of any one of the various hypotheses as to the etiology of cancer. It can be equally well explained whether we accept the extrinsic or intrinsic origin of malignant tumours. (4) Medico-legal side: The medico-legal aspect of this question is as yet in a most unsettled state. While we must admit that trauma often plays an important causative rôle in the formation of malignant tumours, this relationship must be clearly and definitely established according to principles and conditions very similar to, if not quite so exacting as, those laid down by Segond, before any legal liability can be admitted.

78. Anaphylaxis and White of Egg.

BESREDKA AND BRONFEUBRENNER (*Ann. de l'Inst. Pasteur*, May 25th, 1911) find that subcutaneous injection of normal white of egg produces active anaphylaxis in guinea-pigs in from twelve to twenty days. Passive anaphylaxis of very marked degree may be produced in guinea-pigs by injection with the serum of rabbits which have been previously treated with normal white of egg. This passive anaphylaxis is not developed until several hours after the injection of the serum, simultaneous injection of serum and white of egg being without effect. After active sensitization, the guinea-pig preserves its anaphylactic condition for several months, whereas passive sensitization disappears in a fortnight. The hypersensibility of guinea-pigs, treated either actively or passively, is such that a dose of from $\frac{1}{10^{0}}$ to $\frac{1}{500}$ c.cm. in the jugular vein, or $\frac{1}{50}$ to $\frac{1}{200}$ c.cm. beneath the dura mater, produces death in a few seconds. But in control experiments on similar guinea-pigs with white of egg heated to 100° C. (diluted in ten times its bulk of distilled water to prevent coagulation) no anaphylactic shock is produced. The reaction seems to be specific; guinea-pigs sensitized with the fowl's white of egg give only a feeble reaction to the white of egg from the pigeon or the turtle-dove. The authors consider that the production of anaphylactic shock depends not so much on the quantity of material injected as on the rapidity with which it is absorbed and brought into union with the preformed sensibilisin, their reason for this view being that subcutaneous or intraperitoneal injections, which are more slowly absorbed, do not produce anaphylaxis even when given in doses one-thousand times as great as those efficacious by the intravenous and intracerebral methods. By vaccination with small doses appropriately timed, they have produced an antianaphylactic condition. This, they find, can be accomplished either by inoculation (subcutaneously, intraperitoneally, into a vein, or into the cerebrum) or by administration per os or per rectum. With the two last methods it takes from two to four days for anaphylaxis to appear. The antianaphylactic condition is specific; it is of short duration, not exceeding three weeks. Guinea-pigs actively sensitized with white of egg heated to 100° C. are extremely susceptible to reinjection with similar material. An equally high degree of susceptibility can be produced by the passive method, through the serum of rabbits previously treated with several doses. The antianaphylactic condition towards heated white of egg can also be established. Comparing the reactions of normal with those of heated white of egg, the authors conclude that there are differences in the chemical constitutions of the two substances.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

79. Diagnostic Value of Estimation of Fats in Faeces.

Zuccoia (*Rif. Med.*, April 10th, 1911) draws attention to the value of an analysis of the fatty contents of the faeces in pancreatic disease. From a consideration of the physiology of the pancreas, one would expect a diminution in the soaps contained in the faeces, and a proportionate increase in the neutral fats and fatty acids, if the pancreas is diseased or the pancreatic duct occluded. In normal conditions the faeces contain 24 per cent. neutral fats, 25 per cent. fatty acids, and 49 per cent. soaps. It is said that the fatty acids are constantly increased out of proportion to the neutral fats in pancreatic disease, but the author does not find this universally true, and of his 3 cases (malignant disease of the pancreas), in 1 the fatty acids oscillated between 62 per cent. and 46 per cent.; in the second, 51 per cent.; whilst in the third they only reached 27 to 30 per cent. The soaps were diminished in each case, only averaging about 8 per cent. Possibly the variations in the fatty acid contents may be partly influenced by putrefactive changes going on in the large intestine, for the germs have the power to split the neutral fats into free fatty acids and glycerine.

80. The Syndrome of Brown-Sequard.

Fernandez Sanz (*Revista de Medicina y Cirugia Practicas*, May 28th, 1911) communicates to the Academia Medico-Quirúrgica Española a case of injury to the spinal cord in which the syndrome of Brown-Sequard was a prominent feature. The patient, a labourer of 45 years of age, fell from a height of three metres, receiving a blow on the back. He did not lose consciousness, but lost the power of movement and sensation in both legs. In eight days he was unable (voluntarily?) to pass water or to defaecate. These functions were then re-established, and he commenced to recover sensibility in the right leg. Twenty days after the injury he could move the toes of the left foot a little. Gradually the power of movement returned completely to the left leg; later, but incompletely, the right leg also recovered, remaining jerky and rigid. A year after the accident, although none of the muscles of the right leg were quite powerless, all its movements were slow and weak. Compared with the left limb, the right was somewhat wasted. The knee-jerks and Achilles tendon reflexes were exaggerated on both sides. Ankle clonus, slight on the left, was pronounced on the right, where also were present the signs of Oppenheim and Babinski. On the left there was no plantar reflex. Cremasteric and abdominal reflexes existed on both sides, but were more marked on the right. The motor functions of the left lower extremity were normal. There was a loss of sensation for heat and pain on the left side as high as the groin. Above that limit there was a zone of hyperaesthesia; tactile sensibility was unaffected. On the right side sensation was normal. The sphincters did not yet act quite normally. There was girdle sensation at the base of the thorax and pain in the lumbar region. Analysing these signs and symptoms, Dr. Sanz considers that they are best explained by assuming the existence of a haemorrhage into the spinal cord at the level of the first lumbar vertebra. This, if on one side only, would cause the syndrome of Brown-Séquard (the motor paralysis on one side with anaesthesia on the other), and the involvement of the sphincters. To account for the rigidity and clonus on the right side, the narrow zone of hyperaesthesia on both sides, the girdle sensation and lumbar pain, he presumes a haemorrhage into the membranes of the cord, pressing on the roots of the nerves at the level of the three last dorsal and first lumbar vertebrae on the right side, and the last three dorsal on the left. Brown-Séquard, in the middle of the last century, described the symptoms associated with his name as characteristic of a hemilateral lesion of the grey matter of the cord. In such cases there is motor paralysis on the side of the lesion, and anaesthesia (excluding the muscular sense) on the opposite side. On the paralysed side the muscular sense is abolished or diminished, while there is hyperaesthesia, especially to painful impressions. Oppenheim describes the syndrome more in detail as follows: (*a*) On the side of the lesion there is (1) paralysis, with exaggeration of the tendon reflexes, although these at first may be absent; (2) hyperaesthesia for pain only or for all stimuli; (3) loss of sensation of attitude (muscular sense); (4) occasionally, as the paralysis passes off, ataxia has been observed. (*b*) On the opposite side there is either loss of all forms of sensation or, more often, thermo-anaesthesia and analgesia. Kleppel and Chabrol have described various forms of the syndrome, explaining causation by the varying depth of the lesion. When this is superficial, extending only to the column of Gowers, there is incomplete dissociation of motor and sensory paralysis. If the lesion is deeper, and involves the grey matter, there will be loss of the muscular sense. Finally, if the posterior columns are reached, tactile sensibility will be affected. The author regards this arrangement as too artificial. Regarding etiology, the most frequent causes of the syndrome are incised wounds, blows, fractures of the vertebrae, and haemorrhages into the cord. It is important to bear in mind that the external wound may be on the opposite side to the injury of the cord. Medullary syphilis, acute myelitis, syringomyelia, and cancer, may any of them at times give rise to the syndrome of Brown-Séquard.

SURGERY.

81. Pulmonary Surgery.

Jopson (*Annals of Surgery*, May, 1911), in a paper on recent advances in pulmonary surgery, with special reference to differential pressure and wounds of the lung, attributes the rapid development that has occurred in this branch of surgical work to modern methods of overcoming pneumothorax and collapse of the lung, and to the means afforded by improved operative technique of preventing infection of the pleura and the thoracic contents. Exploratory thoracotomy, it is held, is as safe to-day as exploratory laparotomy. Differential pressure, defined by Willy Meyer as a higher pressure within than outside the lungs, is, as is now well known, produced in one of two ways—either by increasing the intrapulmonic pressure, the positive pressure method; or by decreasing the atmospheric pressure on the surface of the lung, the negative pressure method. The author describes the different forms of apparatus for producing differential pressure, taking in order: (1) The cabinets of Sauerbruch and Meyer for providing either negative or positive pressure at the will of the operator; (2) the positive pressure cabinets of Garré, Murphy, and others; (3) the positive pressure masks of Robinson and Tregel; and (4) the devices of Fell, O'Dwyer, and others for direct insufflation through the larynx or trachea. Great improvements have been made in these forms of apparatus since the first introduction of a differential pressure cabinet by Sauerbruch in 1904. By means of the later and perfected forms of apparatus rhythmic changes of pressure sufficient to aid the patient's flagging respiration and to effect exchange of air in the lung by its alternate collapse and distension can, the author states, be readily obtained. At the present time it is generally acknowledged that there is no advantage of one form of differential pressure over the other. The binding indications for thoracotomy in penetrating wounds of the chest would, it is suggested, be as follows: (1) A wound which from its situation and direction would render likely a perforation of the heart, pericardium, or diaphragm; (2) severe primary or recurring haemorrhage, as shown by the physical signs of haemothorax or excessive bleeding, or severe haemoptysis with threatened aspiration of blood into the other lung; (3) secondary, especially to be looked for in gunshot wounds; (4) severe pneumothorax, especially when accompanied by symptoms of mediastinal and cardiac displacement, dyspnoea, cyanosis, and threatened suffocation, also when extensive and increasing external emphysema is present; (5) secondary pneumothorax, which, according to v. Möller, is always due to suppuration or sloughing of lung tissue; (6) empyemata. In determining the indications for operative treatment in cases of wounded lung it would seem desirable, Jopson believes, to restore completely the normal condition of the pleura, check haemorrhage, remove infection or the conditions favourable to its development, and prevent absolutely all danger from the accidents that may possibly occur as sequelae of such injuries.

82. Tarsalgia in Adolescents.

Mauclaire (*Journ. des prat.*, April 22nd, 1911) describes the case of an errand boy, aged 16 years, who suffered from this condition. The pain was at first slight, appearing only at night and disappearing by morning. Latterly the foot had been very painful and walking became difficult. There was obvious weakening of the plantar arch and an abnormal projection on the internal border of the foot at the level of the astragalo-scaphoid articulation, caused undoubtedly by the head of the astragalus. All these signs were exaggerated when the patient walked, and the foot was entirely deviated outwards. No muscular atrophy existed, but there was evidence of rickets in the form of a slight degree of genu valgum and enlarged epiphyses. The general condition of the boy otherwise was satisfactory. In the author's opinion the diagnosis was clear, although sometimes in such cases it is difficult to distinguish between this and congenital flat-foot, or flat-foot consequent upon luxation of the peroneal tendon, or the flat-foot arising from a badly united bimalleolar fracture, or that consequent upon an osteomyelitis of the inferior extremity of the tibia, or following tuberculosis of the bones of the tarsus. The condition has also been confused with metatarsalgia—Morton's disease. In this case, however, the seat of pain is very different, being localized at the level of the anterior extremity of the metatarsals and especially at the fourth metatarsophalangeal joint. According to the author, the distinguishing symptom of the condition is the painful contracture which exists. Rickets plays an important part in the etiology, and youths engaged in certain trades, such as grocers' boys, are especially prone to it. It does not develop after 20 years of age. Anatomically the lesions affect all the posterior bones of the tarsus, and frequently there are bony deformations and subluxations, and occasionally atrophy of the peroneals. The initial lesion is difficult to localize, one author suggesting a primary mediotarsal arthritis. Insufficiency on the part of the long lateral peroneal may explain certain facts, but cannot apply to all these cases. The most satisfactory theory would seem to be that an initial deformity exists which, even if slight, acting during a period of growth upon so complex an articulation as the tarsus, brings about a weakening of the plantar arch. The influence of overwork will of course aggravate the evil. The prognosis is not good unless the patient can change his occupation. If no improvement is brought about the thing progresses from the painful stage to that of contraction, and to a final period of permanent deformity with definite osteo-articular lesions. With regard to treatment, prolonged immobilization in bed relieves many cases but does not cure, as the condition recurs when the original occupation is resumed. The author has had excellent results from specially adapted cork or aluminium soles. The various surgical means of cure are reviewed by the author, who estimates that in the majority of cases osteotomy with cuneiform resection is the best method. Ogston's operation has also given good results, although it has sometimes happened that the ivory pegs used are badly tolerated and have to be removed.

83. Surgical Intervention in the Peritonitis of Typhoid.

Giordano (*Arch. des maladies de l'appareil digestif*, January, 1911) describes a case of this kind, and in doing so emphasizes the difficulty of always distinguishing clinically the symptoms of what appears to be a perforation from those of occlusion due to intestinal paralysis. The diagnosis in some of these cases can only be made by surgical intervention. The patient in this case was a man 24 years of age. He had suffered for some days from fever, which was attributed to intestinal intoxication, but ultimately he developed the classical symptoms of enteric fever. Convalescence seemed to be approaching, when he was suddenly seized with violent abdominal pains, which, beginning on the right side, soon extended all over the abdomen. He became obstinately constipated, and troublesome vomiting set in. The urine became scanty, and was passed with some difficulty. The facies was characteristic, the tongue dry, and the pulse 110. The abdomen became very tender, retracted, and hard. Both iliac fossae were equally tender. Percussion revealed iliaco-hypogastric dullness, which changed with position, while the hepatic dullness, although reduced, had not disappeared. The splenic dullness was increased. On rectal examination, there was a condition of general tenderness of the pelvic cavity, and evidence of a uniform elastic tension of a fluid character. The retraction of the abdominal wall, according to the author, explains the presence of the hepatic dullness, the tension of the abdominal wall preventing the spread of a tympanic quality. The patient was given an injection of scopolamine, with atropin and morphine, and the abdomen was opened by a vertical incision in the ileo-caecal region. The appendix was found to be normal, while a greenish-yellow fluid of a very fibrinous character came away. About 30 cm. from the ileo-caecal junction the intestine was covered by a flocculent material—almost pseudo-membranous—from the centre of which under slight pressure gas escaped from a small intestinal perforation about the size of a pin-head. In cases of this kind without adhesions of any sort, and with a condition of diffuse peritonitis existing, the best method is to do a cuneiform resection of the portion of intestine where the ulcer is situated with circular suture in healthy tissue. The wound was well drained, and saline were given per rectum. On the second day the temperature had fallen to normal, and there had been a evacuation. The wound healed without any untoward result. Rapid operation in such an emergency in enteric fever seems to afford the only chance of recovery.

OBSTETRICS.

84. Puerperal Scarlatina and Erythema.

Vouters and Repellin (*Rev. mensuelle de gyn. d'obst. et de pédiat.*, March, 1911) review the divided opinions of modern obstetricians on the diagnosis of these two complications of the puerperium. Braxton Hicks held in 18 that erythema under the circumstances was really true scarlatina, but his views were contested at the time. Bergé in 1895 reported a study of scarlatina and puerperal sepsis with red rashes. He ascribed both to the streptococcus, which when it entered the patient through the mouth produced the characteristic febrile disease with angina and strawberry tongue, whilst when it was introduced into the genital tract it produced puerperal scarlatina. Within a few years later, several French observers working in different obstetrical clinics under well-known directors, made out that the puerperal scarlatina of most authors was in most cases not scarlatina at all. Bernard taking observations in Lyons, reported in 1908 18 cases of red rash developing in the puerperium. He claimed to have distinguished 9 of these cases as purely septic erythema, 7 as undoubtedly scarlatina, and 2 as instances where the rash was caused by drugs and had no relation to scarlatinal or septic infection. Vouters and Repellin publish their own observations made at Lille. They specially dwell on 4 recent cases. The first patient died on the third day, there was neither cynanche nor enlargement of the cervical glands. The second had throat symptoms and, during her convalescence, desquamation. The third had "strawberry tongue" and desquamation accompanied her recovery. The student who took notes of this case suffered from scarlet fever within a week. The fourth, like the first, ended fatally. The fauces were very red and the tonsils distinctly swollen. Diagnosis seemed difficult till a few days after her death a relative who had attended her, and a month later a child living in the same house were both attacked with scarlet fever. Vouters and Repellin in conclusion insist that these cases prove that true puerperal scarlet fever may occur as decided by the infection of others. More frequently the scarlatiniform rash was, in their opinion, an indication of puerperal sepsis. Bergé's theory, however, may be quite true; in that case the streptococcus entering the uterus sets up a genuine scarlatina rash, yet may entirely spare the throat and its lymphatic glands.

85. Kidney Decapsulation in Eclampsia.

Rupert Franz (*Wien. klin. Woch.*, No. 13, 1911) discusses decapsulation of the kidney as a treatment of eclampsia. The object of the procedure is, according to Sippel, to obtain a better circulation through the kidneys, and with it an increase or a return to normal of the depressed kidney function. Apart from theoretical considerations the operation deserves a trial on the ground of the favourable results reported from it. Thus Sitzenfrey reported in 1910 on 5 cases of unilateral and 53 cases of bilateral kidney decapsulation in eclampsia, with a mortality of 80 per cent. in the 5 cases and of 35 per cent. in the 53. The 35 per cent. mortality is to be considered favourable since the cases were severe cases in which other treatment had failed; it has, however, to be remembered that the most severe cases of eclampsia sometimes recover without treatment. Decapsulation is a symptomatic treatment and is only indicated if the secretion of urine is diminished. The author describes a case in which he performed the operation with apparently good result. B

this case labour was induced, but the condition became worse after delivery, collapse was threatening, coma had been present for twelve hours, the attacks were becoming more frequent, and the kidney function was almost in abeyance. Decapsulation was performed, and soon afterwards the conditions had altogether changed: the attacks had ceased, the coma had given way to a state of somnolence in which the patient answered when spoken to, the amount of urine had increased fourfold, while the amount of albumen in the urine diminished to a fifth during the following hours. The operation appeared to have saved the patient's life. In this case the indication for decapsulation was comparatively clear, but it is frequently doubtful. The author requires the following conditions to justify decapsulation: (1) That delivery shall have occurred; (2) persistence of oliguria, for example, anuria or increasing albuminuria; (3) persistence of eclamptic attacks or of coma.

GYNAECOLOGY.

86. Appendicitis and Inflammation of the Fallopian Tube.

I. I. GREKOW (*Wien. klin. Woch.*, No. 6, 1911) believes that in cases in which both the appendix and the Fallopian tubes are inflamed, the most common method of spread of disease from one to the other is by direct contact. The differential diagnosis in such cases is a matter of extreme difficulty, and it is often almost impossible to decide which organ was primarily affected. Contact between the appendix and the tube is specially likely to occur during pregnancy in those cases in which the appendix has for a long time been within the true pelvis. In a case under the author's care, the patient, a woman 19 years of age, suffered from a purulent fistula, which persisted after a perityphlitis operation undertaken after two attacks of appendicitis. The patient had not menstruated during the six months which followed the operation, otherwise there were no special symptoms referable to the genital organs; the hymen was intact. The scar of the operation wound was seen in the right iliac region, extending almost to the symphysis, and the pus could be pressed out from the fistula by pressure on the abdomen above Poupart's ligament on the left side, where a somewhat large infiltrate could be felt. On vaginal examination with one finger a hardness could be made out in the anterior fornix on the right side. A median laparotomy was performed and later at the operation the fistula was lengthened below by an incision which joined the lower end of the median incision. It was found that the fistula was connected with a retroperitoneal collection of pus, which passed between the uterus and the bladder to the left iliac fossa. Adhesions between coils of intestine were separated and the appendix, 6 to 7 centimetres (2.4 to 2.8 in.) long, was found to be closely united to a greatly swollen and enlarged right Fallopian tube. The appendix was perforated in one half of its circumference where it joined the tube, and during the operation became torn in two, with the result that a large amount of foul pus was emptied from the tube. The opening of the uterus into the tube was obliterated. The ovary was cystic. In this case the retroperitoneal fistula was evidently artificial in origin, and there was typical parametritis of appendicular origin. It had clearly not been possible to diagnose the pyosalpinx before the operation, since the gynaecological examination with an intact abdomen was necessarily incomplete, and the uterus, which was shut off from the tube, remained normal. Two similar cases are reported in the literature. The frequent cessation of menstruation during appendix attacks is a fact to be remembered.

THERAPEUTICS.

Therapeutic Value of Thiosinamine.

GUINON (*Journ. des prat.*, April 29th, 1911), after stating the divergent views which are held as to the use of thiosinamine, offers his own practical experience of the drug. Discussing its method of use, the author mentions that it has often been given with salicylate of soda or antipyrin, and suggests that administered in this way its action may be considerably modified. He generally uses the simple 5 per cent. solution prepared cold, so as to avoid decomposition of the product by heat. In man the state of the blood is modified by its use, as after a series of injections of 8 cg. the percentage of haemoglobin, estimated by Tallqvist's calorimeter, was lower, and there was a reduction of the red corpuscles of from 300,000 to 700,000. There was some leucocytosis. A fortnight after the blood count had not returned to normal. Repeated experiments showed a sensible diminution of the blood pressure. Diuresis was unaffected. The author has used the preparation in many diverse conditions: Tabes, medullary sclerosis, central sclerosis (post-hemiplegic), and the various scleroses of the pulmonary and vascular systems, in doses of from 8 to 10 cg. In cerebro-medullary sclerosis there was noted some diminution of the contractures and of the exaggerated reflexes. In tabes there was some lessening of the pains, and on one occasion the knee-jerks reappeared. In chronic rheumatism and in retractions of the palmar aponeurosis there was at times marked benefit. With regard to vascular conditions, the best results were obtained in chronic aortitis. There was improvement noted in the dyspnoea, and a capacity for a certain amount of exertion resulted, although the auscultatory phenomena were not modified in any way. The results in arterio-sclerosis without cardiac lesions were variable, although at times the arterial tension was reduced and cephalalgia greatly relieved. Accidents sometimes follow use of the drug, in the form of vomiting, syncope, and fever, although the author, in the course of 5,000 injections in doses of 4 to 10 cg., has experienced nothing of this kind. The injections are not painful, and are made under the skin of the abdomen. They may be continued for some months without inconvenience. Thiosinamine may also be administered internally in cachet, each containing 2 cg. mixed with lactose. One of these may be taken night and morning. It is contraindicated in tuberculosis.

88. Treatment of Dysphagia in Tonsillar Inflammation.

T. HALD reports (*Ugeskrift for Laeger*, April 6th, 1911, p. 485) the results he has obtained by cutaneous compression in 46 cases of inflammation in or near the tonsils. The troublesome dysphagia so frequently associated with this condition may often be relieved by firm digital compression in the neighbourhood of the external ear. This manœuvre, applied at meal times, relieved or completely banished pain on swallowing in 32 cases; but as digital compression was tiring and troublesome, the writer devised a simple instrument which can be fitted on to the patient's head at meals. He found two areas, over each of which pressure could be effectively applied in a certain number of cases. One of these is situated at the postero-lateral aspect of the external auditory meatus, and it is most readily reached by pressing upon the tragus so as to close the external auditory meatus. The other area is situated behind the ear, over the upper portion of the mastoid process. In some cases pressure over both areas was equally effective, while in others pressure on only one or other of these areas gave relief. The benefit which the patient derives from this treatment can scarcely be attributed to suggestion, as compression of other cutaneous areas, such as the skin of the forehead, is valueless. Nor is the effectiveness of compression of the tragus due to the closure of the external auditory meatus, and the subsequent pressure put upon the membrana tympani, for the action of tragus compression is not affected by the insertion of a glass tube, open at both ends, into the external meatus. The writer gives the following explanation of the above phenomenon. The tonsils and the cutaneous areas mentioned are derived from tissues which are in close proximity in the embryo. Consequently, there is an intimate correlation in their nerve supply, and irritation of the cutaneous areas is therefore capable of inhibiting impulses which normally convey the sense of pain to the throat.

89. Physical Treatment of Sciatica.

DELHERM (*Arch. d'électr. méd.*, May 25th, 1911) says that any of the various electrical and physical treatments suggested for sciatica—galvanization, thermo-penetration, thermo-luminotherapy, and radiotherapy—give excellent results, according to the case. The local applications of the high-frequency current are valuable in those forms of sciatica in which pain is not very acute and in which there is no muscular atrophy nor abolition of the Achilles tendon reflex. Thermo-penetration has been tried in a few cases, but it does not appear to the author to be superior to any of the older methods. Hot air and thermo-luminotherapy generally calm the painful manifestations for a longer or shorter time after the sitting, but the effect is not very durable. It is preferable to associate this method with that of galvanization. The galvanic current at a high intensity of from 40 to 60 milliampères, sittings being

given for fifteen or twenty minutes every two hours, is efficacious, especially when the sciatica is grave, with muscular atrophy. Out of 21 cases thus treated there have only been three absolute checks. Of the remainder, 16 have been cures and 2 have been ameliorations. The average number of sittings was 25. Nevertheless, in rebellious cases it is preferable to make use of radiotherapy on the lumbar and ischiatic regions. Four cases have been recently treated by the author and rapidly cured with relatively feeble intensities.

90. Salvarsan.

FORDYCE (*New York Med. Journ.*, May 6th, 1911) is of opinion that salvarsan is an important addition to the therapeutics of syphilis, but recommends a combination with mercurial treatment. He uses the following procedure: An intravenous injection of salvarsan, followed by a course of mercurial inunctions or injections for a period of four to six weeks; after this, a second intravenous injection of salvarsan and a second course of mercury. If the Wassermann reaction is then negative no further treatment is given, but if it becomes positive a third intravenous injection is given with another course of mercury. He thinks this gives the patient a better chance than the use of mercury alone. Trimble (*Med. Record*, May 6th, 1911) compares the action of salvarsan with that of mercury and comes to the following conclusions: (1) Salvarsan causes an unusual and very rapid disappearance of lesions of mucous membranes; (2) its action is no quicker than mercury, if as quick, on papular syphilides; (3) its action is no quicker than mercury in tertiary cutaneous syphilis; (4) relapses are frequent and appear very quickly after apparent cure; (5) the time effect is excellent; (6) it is a very potent remedy, which will probably find a place in the therapeutics of syphilis in special cases, but it will not supersede mercury. Wise (*New York Med. Journ.*, April 29th, 1911) draws attention to the dangers and contraindications of salvarsan. One danger is the misconception that one or several doses of salvarsan can cure syphilis; if the lay public gets the notion into its head, more cases of insufficiently treated syphilis will be turned loose into the world than has ever been the case under mercury and the iodides. The dangers of administration may be local or general. The local dangers (which occur in connexion with subcutaneous and intramuscular injections, but not with intravenous injection when properly performed) include injury to large nerve trunks, such as the sciatic, puncture of large blood vessels, embolism, local necrosis and ulceration. The latter may result from acid, alkaline, or neutral solutions of the drug, and to a lesser extent from oily suspensions. The chief general dangers concern the nervous system, and include, according to Wise, iritis, choroiditis, oculo-motor paralysis, neuritis of the vestibular and cochlear nerves, and possibly optic atrophy. The contraindications for salvarsan are absolute and relative. The absolute contraindications include aortic insufficiency and stenosis, aneurysm, myocarditis and angina pectoris, peripheral arterio-sclerosis, diseases of the central nervous system, especially those with degenerative changes, severe cases of retinal and optic nerve lesions, advanced pulmonary disease (excepting tuberculosis), non-syphilitic renal disease, diabetes, and gastric ulcer. Among the relative contraindications are compensated cardiac disease, acute infectious diseases, cachexia, chronic debilitating diseases, old age, pregnancy during the last four or five months, cases previously treated with other organic preparations of arsenic.

PATHOLOGY.

91. The Blood in Tuberculosis.

WRIGHT AND KING (*Amer. Journ. of Med. Sci.*, June, 1911) give the result of their findings of the cellular elements of the blood in tuberculosis from a routine examination of 577 cases. Except just prior to death, when both are decreased, the red cells average above 5,000,000 and the haemoglobin 85 per cent. The red cells, however, were found to exhibit an increased resistance to the haemolytic action of salt solutions, this being increased directly as the progress of the disease, and the lower the haemolytic index the less favourable the prognosis—thus, with the normal haemolytic index as 1, cases in which it does not fall below 0.5 are regarded as favourable, those not below 0.3 as guardedly favourable, while those below 0.3 are unfavourable. The haemolytic index, besides being thus valuable in prognosis, may prove useful i differential diagnosis. Platelets presented a norma or reduced count readily explained by the increase resistance of the red cells. The white count steadil increases as the disease progresses, and decreases as th disease improves—thus, like the haemolytic index, bearin a direct relationship in prognosis, and in most cases th stage of the disease in uncomplicated cases can be more o less accurately determined by the total white count. Th polymorphonuclear neutrophiles were found to have bu little, if any, phagocytic action in the disease, a high pe centage rendering the prognosis less favourable. There i strong probability, however, that the lymphocytes ar markedly phagocytic, since (*a*) patients with a high pe centage improve more rapidly than those in whom th percentage is low, (*b*) the percentage increases directly a improvement, and (*c*) progressive deterioration of th patient invariably coincides with a decreasing percentage The haemolytic index and lymphocyte percentage go han in hand, a rising index being coincident with an increasin percentage and vice versa. In any given case the follow ing blood findings are positive proof of improvement: (*a* decreasing white count, (*b*) falling polymorphonuclea percentage, (*c*) rising haemolytic index, and (*d*) risin lymphocyte percentage. Every physical examinatio should be made coincidently with a blood examinatio because of the valuable information relative to the patient condition thereby obtainable.

92. Congenital Absence of Femora.

DE LA VILLÉON (*Gaz. hebdom.*, April 30th, 1911) give some details of one of these unusual cases. The patien was a boy of 13. There was nothing of note in his ante cedents except a quintuple pregnancy on the part of a aunt. In his own case his mother had had a normal pre nancy. There had been no abdominal or other traumatism and his mother had borne other children who were norma in all respects. He had been fed naturally, and had ha no diseases of infancy. He was first examined at the ag of 8 months, when his small stature with reference to th development of bust was noted. His left arm was absen and the right arm was abnormally long. He had walke since the age of $2\frac{1}{2}$ years, but it was only since his fourt year that walking had been at all easy. On examinatio the absence of the thighs was noted at once, the trunk, whic had developed naturally, resting upon two inferior extrem ties of peculiar appearance. These were, in point of fac symmetrical, but appeared to consist of a single segment the leg—the thigh having disappeared. The feet were abnormal dimensions. At its upper end the leg seemed be in direct relation with the pelvis, and the knee appeare to be blended with the hip. By deep palpation the contou of the pelvis could be made out. Free articulation appeare to exist at the upper extremity of the leg, but it was dif cult to decide whether there was another bone interpose between the upper end of the tibia and the hip bone. Th difficulty was enhanced by the great muscularity existing this region. The range of movement in this pseudo-joint wa wonderfully free and approached the normal. Two lar callosities over the ischiae marked the position of th pelvis in the seated posture. There was no gluteal mass muscle, but the group of muscles uniting leg and pelvis we well developed and very powerful. A skiagraph shows th the legs were normal, and the patellae were present. Th right femur was represented by a small osseous segme occupying an oblique situation, and presenting a thicken lower extremity where there was an indication of condyle very much modified. The upper extremity thinned out a ended abruptly. On the left side the vestige of femur pr sent was confined entirely to the condyles. The pelvis w found to be almost normal, the lesions affecting only t cotyloid portion of the bone. There was no cotyloid cavit no vestige of articulation, the outer surface of the pelv presenting instead a thick bony wall. The author classifi the causes of such cases as under two categories: (1) caus acting extrinsically to the germ; (2) those inherent in t germ. Among the former are physical causes such compression or strangulation, and diseases of the amnio In the latter class there must exist a pathological state the ovum itself. The theory of atavism has been raised this connexion, and psychic impressions of the moth have also been held to account for it. Following the clas fication of St. Hilaire this case approaches most closely the type of phocomelian monster. The luxation of the h in this case is essentially a congenital malformation, arrest of development of the constituent part of the cox femoral articulation. The author concludes that the ca under discussion may be thus classed as a congeni luxation of the hip and a true phocomelian.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

93. Dilatation Test for Chronic Appendicitis.

Bastedo (*Amer. Journ. of Med. Sci.*, July, 1911) calls attention to the usefulness in diagnosis of dilating the colon with air in order to determine the presence or absence of latent or chronic appendicitis. A large experience has shown the test to be reliable, in many instances establishing the diagnosis when other methods of examination had failed. A colon tube, through which air is injected with an atomizer bulb, is passed into the rectum for about 12 in., and pain and tenderness developing at McBurney's spot as the colon descends point to the presence of appendicitis. Before withdrawal of the tube the air must be allowed to escape, otherwise colicky pains may result. In an acute case, or in an undoubtedly chronic case, the test would be contraindicated, but it is found to be of great value when chronic or latent appendicitis is suspected, or in any persistent digestive or abdominal disturbance without a discoverable cause. In cases where appendicitis has been suspected because of tenderness over McBurney's point, but in which the diagnosis has been obscured by additional points of tenderness along the colon or on the left side, the dilatation test frequently intensifies the tenderness at McBurney's point, while causing all the other points of tenderness to disappear, thus clearing up the diagnosis. Its application is of use in distinguishing between an inflamed appendix and a right-sided ovarian or tubal inflammation. Notes of six cases are recorded illustrating the positive findings of the test, and during the last four years no case occurred in which the test was positive and the operation findings negative.

94. The Stomach in the Upright and Horizontal Positions.

A PAPER by Barret and Leven on the modifications of the stomach which follow a change in the attitude of the subject provoked a good deal of criticism and interrogation when it was read before the Société de Radiologie Médicale de Paris (*Bull. et mém.*, May, 1911). The authors, who have employed the orthodiagraphic method, contend that the stomach should be defined, not merely by its dimensions and form, but by certain phases of its function, particularly its mode of filling. In the normal stomach the cavity is adapted to the volume of the contents, so that it appears to be almost always completely filled. With the increase of the bismuth meal the transverse dimensions are proportionately augmented, but the level of the liquid remains practically the same. This mode of filling indicates a good tonicity of the gastric walls. On the other hand, the atonic stomach—quite wrongly called the ptosed stomach—does not adapt its cavity to its contents. It fills as though it were a sac with inert and flaccid walls, and the level of the liquid is raised in proportion to the quantity ingested. This aspect of the organ should be considered as the essential sign of dilatation, much more significant than the elongation of the stomach and the falling of its lowermost part. In the upright position the lower border of the normal stomach is generally found near the umbilicus—that is to say, almost at the level of the iliac crest. But too much attention must not be attached to this connexion of the gastric cul-de-sac with the crest. A stomach may descend one centimetres below the crest without being atonic or dilated. The state of the gastric walls as observed in filling and emptying—not the anatomical position of the stomach—is the essential element to be considered. The modifications which the stomach undergoes in various attitudes are very complex, and it is vain to attempt to be exact with regard to the relation of the organ to certain points in the skeleton. The authors speak of three orders of facts which have to be borne in mind: (1) Displacements of the gastric contents in the stomach cavity; (2) displacements of the stomach as part of the displacement of the abdominal viscera generally; (3) displacements peculiar to the stomach itself. The first class of displacements are important for the reason that, in the case of the stomach, the contents give the form to the container, and it is this alone which is visible upon radiological examination. The mouth mass which projects its shadow on the screen only gives the exact image of the stomach if the mass reaches the borders of that organ. This condition is fulfilled by the action of gravity when the subject is in the vertical position, but not necessarily so when he is placed horizontally. In dorsal decubitus the gastric contents flow backwards, the air chamber is displaced, and may even occupy the cul-de-sac and pyloric extremity, the lowest point of the stomach being abandoned by the liquid and becoming no longer visible. In abdominal decubitus, however, the stomach may be filled completely if a moderate amount of bismuth is used, and under good conditions the cul-de-sac and pyloric extremity may be made out. The authors conclude that, always reserving possible exceptions, the modifications in form and situation which the stomach undergoes when the subject passes from the vertical to the horizontal position may be classified as follows: (1) The normal stomach in the normal abdomen makes an ascent of some centimetres, but the gastric form and direction are only slightly modified; (2) the normal stomach in the obese has an exaggerated ascension and takes a transverse direction; (3) the atonic stomach in an abdomen with flaccid walls undergoes very considerable changes both in form and direction.

95. Narcolepsy.

Bonhoeffer (*Berlin. klin. Woch.*, July 3rd, 1911) showed a case of this rare affection at a recent meeting of the Breslauer Psychiatrisch-Neurologische Vereinigung. The patient was a boy aged 10 years. There was nothing noteworthy in his family history, personal history, or temperament. He was an intelligent, lively boy; he had a good memory, and did well at school. The attacks commenced eighteen months previously, and were preceded by a period of restlessness and uneasiness; he ground his teeth during sleep, which was broken, but without talking or any degree of somnambulism. He was irritable, cried a great deal, and sat for hours motionless and speechless. This condition did not last long. He recovered his former spirits and the attacks commenced. They were very frequent—twenty or thirty in the day. He would suddenly stop if walking, or perhaps take one or two more uncertain steps. The eyes were turned a little upwards, and the lids flickered slightly; the face became a shade paler; the pupils reacted normally immediately afterwards; its short duration made it difficult to examine them during the attack. He never fell, but sometimes his knees gave way, and occasionally, if the bladder was full, a little urine might be passed. The condition lasted only a few seconds, and consciousness did not seem to be lost. He knew when he had had an attack, and would mention it directly afterwards. He was perfectly normal immediately after the attack, never sleepy, nor did he have any headache, never passed urine during sleep, nor was the tongue ever bitten. During slight feverish ailments the attacks occurred less often; excitement increased their frequency. In regard to treatment the bromides have proved absolutely useless. Bonhoeffer discusses the differential diagnosis of the disease. He points out that it is distinguished from *petit mal* by the extraordinary frequency of the attacks; by the fact that consciousness is retained, although that happens sometimes in *petit mal*; by its resistance to the bromides, and especially by the fact that, in spite of the frequency of the attacks, the intelligence and memory are unaffected. In the subsequent discussion, Ludwig Mann mentioned that he had recently seen two exactly similar cases. A fortunate accident enabled him to note in one of the cases an evanescent dilatation and fixation of the pupils during an attack. He also observed in both cases a phenomenon not hitherto described—namely, a pronounced increase of galvanic irritability similar to that in tetany.

96 Subacute Purpura and Tuberculosis.

Haushalter (*Arch. de méd. des enf.*, May, 1911) describes a case of a girl of 7, who, before being admitted to hospital, suffered off and on during five months from outbreaks of purpura and excessive epistaxis. One month after admission fever occurred, and the child became slightly delirious. After fifteen to twenty days stiffness of the neck, Kernig's sign, facial paralysis, and strabismus showed themselves, with signs of pulmonary mischief; death then supervened. On autopsy, slight signs of bronchopneumonia were found to explain the rise of temperature, and thrombosis of the dural sinuses gave the

clue to the nervous symptoms noticed during life. Old tuberculous lesions were found in enlargement of the peritracheo-bronchial glands, with caseation of some of the glands and recent lesions in miliary tuberculosis of the lungs, liver, and spleen. The author notes the frequency of tuberculosis in connexion with purpura.

SURGERY.

97. Intussusception in Children.

STARR (*Pediatrics*, April, 1911) quotes the results of some cases of intussusception treated in the Toronto Children's Hospital. After citing the rule that after five or six hours from the onset of the symptoms it is not safe to waste time by trying to secure reduction by taxis and injection, he mentions that during the past two years 11 cases of intussusception — 7 males and 4 females — have been operated upon, the ages varying from 3 months to 7 years, and the duration of symptoms from three hours to seven days. In all the cases but one the onset was sudden, with crying and pain, the bloody mucus passed in the stools being the feature most alarming to the parents, whilst vomiting and the recognition of a tumour were present in nearly all the cases. The most important point is early diagnosis, which may be made from sudden pain with absence of rigidity, vomiting, frequent call to stool, with the passage of blood-stained mucus, often great prostration, and usually the presence of a tumour. Pulse and temperature are not of much importance. Injection and taxis, while the child is suspended by the feet, should always be tried if the case is seen soon enough, but if reduction is not effected at once, immediate preparations for abdominal section should be made. After reducing, a stitch or two may be put into the caecum to fix it, and also a fold in the mesentery where the invagination began, so that there will be an enlargement at that point instead of a constriction, and a recurrence prevented.

98. Decapsulation of the Kidney in Chronic Bright's Disease.

JAMES TYSON (*Med. Record*, July 8th, 1911) presents the histories of four cases in which decapsulation of the kidneys was done for the cure of Bright's disease, with excellent results as far as the improvement of health and the ability to work was concerned. In none of them did the albumen entirely disappear. These results are not as good as those claimed by Edebohls, who reports 14 ideal cures out of 72 cases operated upon. The author claims that this operation is so serviceable that it should be done more frequently. It is demanded by stubborn persistence of symptoms which cause inconvenience or danger to life, such as dropsy, uraemia, anuria, and excessive albuminuria. The operation should not be considered until medical treatment has failed. Obstinate haematuria, perinephritis with miliary abscesses, hydronephrosis, and pyonephrosis all justify the operation. It is contraindicated by age, valvular heart disease, extensive cardio-vascular changes, retinitis albuminurica, etc. The cause of the improvement after operation has been claimed to be due to relief of congestion and the formation of new vascular connexions after the removal of the capsule, and before the formation of the new capsule which is soon formed. The immediate benefit is ascribed by Edebohls to the massage of the kidney which is produced during the handling of the kidney at operation. The cases most favourable for the operation are chronic parenchymatous nephritis, according to the author, and interstitial nephritis according to Edebohls.

99. Abdominal Contusions.

TOMASELLI (*Gazz. degli Osped.*, June 25th, 1911) discusses the important question as to when to intervene surgically in cases of severe abdominal contusions. He takes some of the chief indications seriatim—for example, shock, state of pulse, respiration, muscular contraction, pain, meteorism, iliac dullness, nature and direction of injury, etc., and concludes that no safe guidance can be obtained from any one symptom *per se*, but taken together a clinical picture may be seen which raises a strong probability in favour of rupture of some internal organ. Much importance is given to an accurate history (where obtainable) of the accident, the nature of the body causing the contusion, its speed and direction, the extent of bruised surface, and the position and general condition of the patient (empty or full viscera, etc.) at the time of the accident. A small and quick pulse, frequent shallow respirations, contracture of the abdominal parietes, intense continuous pain more or less localized or diffused, point to interference. Meteorism d'emblée, associated with an improving pulse and respiration, failure o marked defensive abdominal rigidity and by slight pain are generally indications for non-interference and point t recovery. But if there is a want of harmony in his grou of symptoms, even though meteorism d'emblée exists, an a suspicion of severe internal injury arises, it is better t interfere at once and do an exploratory laparotomy rathe than wait for some more definite symptoms. The autho illustrates his paper by giving details of four cases o abdominal contusion.

100. Lingual Syphiloma in a Girl of 6 Years.

COMBY AND SCHREIBER (*Arch. de méd. des enf.*, April 1911) describe this rare case. They considered the dis ease was due to congenital syphilis, the earlier symptoms as nasal stridor and cutaneous lesions, giving place late to the lingual disease, which responded to Fournier's description of syphilitic lenticular glossitis. Wasser mann's reaction was positive. Hutchinson's teeth were absent. Mercurial inunction and potassium iodide exer cised a favourable influence on the disease.

OBSTETRICS.

101. Caesarean Section.

W. RUBESKA (*Wien. klin. Rundschau*, Nos. 15, 16, 17, an 18, 1911) deals with the present-day position of Caesarea section and with his own experience of it at the Prague Obstetrical Clinic. In this clinic between 1892 and 190 Caesarean section was performed 42 times, the classica operation 39 times and the cervical or suprasymphysis opera tion 3 times. Four mothers—that is, 10 per cent.—died Two of the children were macerated at birth and one of tw twins died from congenital weakness; 33 of the 39 fundu Caesarean sections were conservative; in 19 of these th uterus was probably aseptic, and there was one materna death—that is, 5 per cent. The post-operative course wa free from fever in 14 cases—that is, in 77.7 per cent. A critical review of the different cases is made in the article From his own experiences and those of others the autho shows that a distinction must be made between (1) th classical operation of section of the body of the uterus an (2) the cervical or suprasymphysis section with incision o the neck and necessarily also of the lower uterine segment The mortality from corporeal section, if the uterus i aseptic, is about 5 per cent., and in less favourable case 10 per cent. The mortality from cervical section is onl 4.4 per cent., although cervical section is frequently carrie out in cases in which the asepsis of the uterus is ver doubtful and the operator dare not venture on the classica operation. Caesarean section of the fundus may be (a conservative, (b) combined with amputation of the uterus (c) combined with total extirpation of the uterus. Con servative Caesarean section is only indicated where th uterus is aseptic and the true conjugate is under 6 cm (2.3 in.) or some other analogous hindrance to birth exist In addition to the classical operation, amputation of th uterus and removal of the ovaries is indicated in oste malacia, and amputation of the uterus in stenoses o the cervix and vagina and in carcinoma of the cervix radical extirpation is not possible. Total extirpation o the uterus is indicated in carcinoma of the cervix, radical removal is possible, in myoma, especially of th neck of the uterus, and where the cavity of the uterus infected. The transperitoneal cervical incision is ind cated, like the conservative classical incision, in clea cases, especially if the pains have lasted for a long tim and the cervix is canalized and already drawn up. Th cervical incision, when it can be carried out, is to be pr ferred to incision of the body of the uterus, because it is better prognosis, but special anatomical conditions ma contraindicate it, and it cannot be performed until the en of the first stage of labour. The extraperitoneal cer vical incision is indicated in all cases where infectio of the uterus is suspected. The operation may be per formed by Sellheim's method, in which first the per toneum is freed from the anterior wall of the bladder as high up as possible and then divided; next the peritoneu is freed from the anterior wall of the uterus and divide and the two parallel edges are stitched together to shut o the peritoneal cavity before the uterus is opened; Latzko's extraperitoneal operation, in which the bladd is strongly drawn to one side and the peritoneum free from the bladder and uterus, may be preferred. In t author's opinion, Latzko's operation is much more easi carried out than Sellheim's, and he further suggests modification of his own, in which the first incision is ma

through the abdominal wall at a distance of 2 to 3 cm. (0.8 in. to 1.2 in.) from the middle wall. For cases in which infection of the uterus has already occurred Sellheim's method of cervical incision and extraction of the fetus through a utero-abdominal track is indicated; the author had already recommended this method before it was brought into prominence by Sellheim. It seems that cervical Caesarean section, in one or other of its forms, will in the future replace classical Caesarean section in a majority of the cases.

102. Blood Condition during Pregnancy.

JULIUS NEUMANN AND EDMUND HERMANN (*Wien. klin. Woch.*, No. 12, 1911) examined specimens of blood obtained from women at different periods of pregnancy and after labour, and also blood from newborn children, from adult men and non-pregnant women, in order to determine whether changes in the blood dependent upon pregnancy can be demonstrated. The specimens of blood were defibrinated and alcoholic extracts obtained. They found that the blood extracts showed two characteristics in varying degrees: (1) Turbidity on the addition of water and certain acids, and (2) turbidity on the addition of alcoholic solution of platinum chloride. The strength of these reactions varied inversely in different cases—that is, the more readily turbidity occurred on the addition of water or acids, the less easily it occurred on the addition of platinum chloride. In newborn infants the first change hardly occurred, while the second—the turbidity on the addition of the platinum chloride solution—was most marked, and the blood of newborn infants could in this way be distinguished from that of any other group. Non-pregnant women and men showed the first reaction more clearly than infants and the second less clearly. Pregnant women from the end of the third month of pregnancy showed the first reaction more clearly than any of the other groups, and the turbidity became more and more marked with the advance of pregnancy up to the time directly after delivery; during the same period the second reaction progressively diminished. The reaction was not sufficiently marked before the end of the third month of pregnancy to enable a diagnosis of pregnancy to be made upon the strength of its occurrence, but it might be used for this purpose later. The amount of turbidity was also found to vary to a small extent in connexion with menstruation, the first reaction being weakest at the menstrual period. A further investigation was made as to the nature of the substances extracted from the blood. The alcohol used was 95 per cent. alcohol at room temperature. The absence of the biuret reaction showed that the turbidity did not depend upon the presence of proteins, while treatment with ether showed the presence of fatty substances in the extract; lipoids in alcoholic solution are known to be precipitated by the reagents employed, and the authors' investigations show that the degree of turbidity with water and acids is a delicate measure of the lipoid contents of the blood extracts, and probably especially the cholesterine contents. It therefore follows that a condition of lipoidaemia is an accompaniment of normal pregnancy. To determine whether these variations depended upon the ovary, the blood of women in the post-climacteric period and of women after the removal of the ovaries was examined, and marked lipoidaemia found to be present in both groups. After delivery, the lipoidaemia of pregnancy was found to begin to diminish even on the first day. The results arrived at were confirmed by experiments upon guinea-pigs and dogs, and the authors conclude that during pregnancy the activity of the follicular apparatus of the ovaries progressively diminishes.

GYNAECOLOGY.

103. The Action of Hot Air in Gynaecology.

SALVADOR CLAVIGO (*Revista de Med. y Cirugia Practicas*, June 14th, 1911) reports the results of the treatment of 20 cases of diseases of the female genital organs with hot air, without any other treatment. Six of the patients suffered from slight perimetritis, 4 from catarrhal salpingitis, 2 from perimetro-anexitis, and 8 from metritis. The patients were placed in the dorso-sacral position and Cusco's speculum introduced, surrounded by a roll of cotton-wool to protect the lateral and inferior parts. The duration of the sittings has been from ten to fifteen minutes, and the current of hot air was directed alternately upon the posterior vaginal cul-de-sac and upon the iliac fossa. The first effect produced was analgesia, which lasted four or five hours. The mucous membrane of the vagina became dry and rough, and the cervix became swollen and of a violet tinge. Two of the cases of metritis, with erosion extending to the cervix, were cured after three applications, without any other treatment. Two cases of ovaritis were cured by fifteen and twenty applications respectively. A case of abscess in the broad ligament was notably improved. The author is convinced that had he been able to apply the treatment more frequently and systematically, even better results might reasonably have been hoped for. He considers that the hot air acts as an analgesic, resorbent, and resolvent, augmenting the defensive forces, particularly of the blood.

104. Incontinence of Urine in Women.

HOWARD CANNING TAYLOR (*Med. Record*, June 17th, 1911) states that incontinence of urine, complete or partial, is much more common in women than in men, being found in a large proportion of women who have borne three or four children. It is due to the imperfect action of the sphincter vesicae, with a weakened condition from overstretching and dragging on the neck of the bladder by prolapsus uteri. The amount of this dragging that will prevent proper control of the sphincter is very small. Prognosis should be guarded as to cure. The author does not approve of Gersuny's injection of paraffin around the neck of the bladder and urethra, nor of twisting of the urethra. He denudes the anterior wall of the vagina in the vicinity of the neck of the bladder, and resutures it so as to pucker the urethra. The traction on the neck of the bladder must be removed by operations for prolapsus uteri. Illustrative histories are given.

THERAPEUTICS.

105. Radium Ionization.

A CASE of sarcoma of the omoplate successfully treated by the radium ion has been related to the Société de Radiologie de Médicale de Paris (*Bull. et mém.*, May, 1911) by Dr. Haret of the Saint Antoine Hospital. The patient was a telephone operator (female), aged 27 years, who was first seen in January, 1909, for a very perceptible tumour situated near the right axillary cavity and depending upon the omoplate, the movements of which it followed. It was rather larger than the average fist and had a ligneous hardness; the skin and subcutaneous tissue moved freely over its mass. The result of radio-therapy on such a tumour could not be conjectured, and surgical intervention was proposed, but this the patient categorically refused. Resort was therefore made to *x*-ray treatment, and as the result of one sitting per week until September, 1909, the tumour's original diameter of 10 cm. was reduced to one of 6.5 cm. Beyond this point, however, no further diminution seemed possible, although the treatment was followed up tenaciously. Moreover, the pain, which had receded, reappeared. Radio-therapy was continued until October, 1910, the total dose given being 195 H. units. It was then decided to attempt radium ionization. A thorough preliminary examination of the patient was made. Nothing abnormal was found in the urine; the examination of the viscera failed to reveal any lesion, and the menstrual periods were regular. The first introduction of the radium ion was made on October 22nd, 1910. An active electrode of four thicknesses of the Leduc compress was soaked in a solution containing 3.5 micrograms of radium bromide. This was connected with the positive pole and placed on the region to be treated. A large indifferent electrode was placed on the chest. The current was raised gradually to 14 milliampères, the sitting lasting for thirty minutes. The urine was found to be radio-active for three days afterwards. On October 28th a second sitting was given, and on this occasion 10 micrograms of radium bromide was used. After the third sitting, on November 3rd, the pain had disappeared, and after the fifth sitting, on November 17th, the tumour had so greatly diminished as to be practically unmeasurable. An attack of pulmonary congestion interrupted the treatment until December 29th, when the tumour was scarcely to be discovered, but seventeen further sittings were given between that date and May 4th, 1911, in order to prevent relapse. By that time, although the skin was slightly thickened, there was no difference upon palpation between the left and right regions. The general state of the patient's health was good, she had slightly put on weight, and had returned to her telephone work, which she bore without fatigue. Haret recommends frequent sittings in such cases. In

carcinoma of the breast, which is more resistant to various radiations than sarcoma, he has given as many as three sittings of ionization per week, using a solution of 10 micrograms of radium bromide. These cases are still under treatment. It is prudent to split up the sittings into a succession of short series, allowing a three weeks' interval between each series. The reason for this precaution is that the radium ion acts not only on the neoplastic tissue, but also on the white corpuscles of the blood, and a profound leukocytopenia has been discovered in patients who have been submitted for several months to ionization. Indeed, cases of leukaemia are even being treated by the radium ion.

106. Treatment of Heart Disease.

MAX HERZ (*Wien. med. Woch.*, Nos. 12 and 13, 1911) deals with the treatment of heart disease in general practice, and emphasizes the importance both of working on some broad plan and also of modifying the treatment for the individual case. Two great rules of treatment are—first, that the heart should never be treated alone without consideration of the condition of other organs and of the general condition; and, secondly, that what is actually repugnant to the patient is probably harmful to him—that is, that the subjective reaction of the patient must always be allowed for. The author attaches such importance to the psychical condition of the patient that in some cases he would even hide from the friends, as well as from the patient himself, the fact that organic heart disease was present, in order to avoid depression. With regard to drugs, he does not use digitalis or strophanthus in compensated heart lesions, in the breathlessness of mitral stenosis, which is due not to diminution of driving power but to narrowing of the valvular opening, nor in nervous heart weakness, nor does he often find these cardiac tonics useful in uncompensated aortic insufficiency, or in the end stages of a heart embarrassed by masses of fat. The initial dose of digitalis should be small in cases in which an intolerance to the drug may be expected; and even in ordinary cases the smallest effective dose is the best. With such doses a cumulative action need not be feared, even if digitalis is taken over a long period; but at intervals its use should be discontinued, in order to ascertain whether it is still indispensable. In all chronic cases diuretin should be given with digitalis to prevent injury to the coronary arteries. Of the digitalis preparations the author speaks most favourably of digipuratum, and well also of digalen. Digitalis or its preparations may prove effective where it has previously failed, if the patient is put on a milk diet. Digitalis is dangerous in the condition known as pulsus intermittens regularis. Cerebral symptoms respond as a rule best to iodine, while stenocardiac symptoms are usually more resistant. Theobromine preparations appear to have a favourable effect on the coronary circulation, and are therefore specially indicated in angina pectoris; diuretin is usually given, but it may, by irritation of the gastric mucous membrane, have a reflex action on the heart, and should then be replaced by theobrominum purum. The author has had splendid results from pancreon in many cases of arterio-sclerotic heart in which iodine and theobromine have failed. Subcutaneous injection of morphine is the first and most important measure in cardiac asthma and oedema of the lungs, and Hey uses morphine without hesitation in angina pectoris. Camphor in doses of 0.1 gram (1.5 grains) several times a day both stimulates the heart, dilates the coronary vessels, and acts as a diuretic. With respect to diet, Herz deprecates any unnecessary cutting off of what is customary and pleasant, on the ground that the suffering involved is harmful in itself. In compensated valvular disease he does not necessarily restrict the amount of fluid taken, nor absolutely forbid, except in individual cases, tobacco, alcohol, tea, or coffee. Small frequent meals are, however, to be preferred to large ones. Where there is loss of appetite, miniature meals may be taken hourly, being alternately sweet, as for instance a glass of sweetened milk; sharp, as bread and butter, sardines, sausage, etc.; and acid in character. In cases of dropsy, where the amount of fluid taken is reduced, the reduction may with advantage take the form of the withdrawal of coffee, tea, and soups, and the vegetables should be served in a less watery form than normal. The Karell milk cure is strongly recommended in cases of high-grade muscular insufficiency of the heart. Finally, the physical methods possible in general practice are considered.

107. Salvarsan in Typhus Fever.

MARAÑÓN (*Revista de Medicina y Cirugia Practicas*, July 7th, 1911), in a paper on salvarsan in non-syphilitic diseases, read before the Academia Medico-Quirúrgica Española, related two cases of typhus fever in which this remedy w tried. Both cases were in women of about the sar age—39 years. The first case was seen on the four day of the disease; the temperature was 39.2° C.; th irruption was fully out and the patient in a condition stupor; 0.40 gram of salvarsan was injected intravenousl The fever disappeared rapidly, the general state marked improved, and the irruption commenced to fade from th following day. Convalescence was rapid. The second cas was less severe, although the diagnosis was undoubted. was the fifth day of the disease. The administration of th salvarsan intravenously was succeeded after some hou by a rapid fall in the temperature. Convalescence he also was uninterrupted and quick. The author has als treated two other cases since in men, with similar results except that in one of them the stuporose conditio persisted for three or four days after the temperature ha become normal.

PATHOLOGY.

108. Blood Changes in Workers with Roentgen Rays.

NICHOLAUS V. JAGIC, GOTTWALD SCHWARZ, AND LEO V LIEBENROCK (*Berl. klin. Woch.*, July 3rd, 1911) have examined the blood of a number of "Roentgenologen," and others exposed more or less in their work to small but frequent doses of Roentgen rays over long periods of time, and set forth their results. They were led to this investigation by the fact that one of them (G. Schwarz) had observed a case of leukaemia in a chemist whose business exposed him for a lengthened period to radium emanations. Other cases of death from leukaemia of workers with Roentgen rays have occurred; also, experiments on animals have shown that exposure to Roentgen rays may cause changes in the blood in normal individuals. It is clear, remark the authors, that the protective measures employed by workers in Roentgen-ray laboratories are not completely effectual. They are exposed to a small proportion of the primary rays which filter through the interposed media, and also to the secondary rays which permeate the whole room in which the work is carried on to such an extent that a fluorescent screen, although not exposed to any direct or primary rays, is still to some extent excited to action. Altogether, the results of the examination of the blood in ten individuals are given in detail. Most of the cases were men who had worked for years with Roentgen rays, always, except in the earliest years, with protective apparatus; most of them were apparently in normal health, or complained only of slight general weakness. There was, in all the cases, a slight but definite diminution in the total number of leucocytes in the blood. The number was either below the normal or near the lower limit of normal variation. The diminution was chiefly in those leucocytes which originate in the bone marrow—that is, the neutrophile polymorphonuclear leucocytes. It was a striking fact that the acidophile leucocytes were in some cases altogether absent. On the other hand, the lymphocytes were in every case increased in absolute number, in one case to as many as 3,300 per c.mm. In the number of large mononuclear leucocytes no regular alteration was to be made out; the same was true of the red blood cells. It is to be remarked that a relation between the amount of the exposure to the rays and the degree of blood change was apparent to the extent that the case in which the exposure was greatest showed the most marked changes.

109. Cephalhaematoma.

GONZALEZ ALVAREZ (*Revista de Medicina y Cirugia Practicas*, June 28th, 1911), speaking at the second National Congress of Obstetrics, Gynaecology, and Pediatrics, held last April in Madrid, expressed dissatisfaction with the usual explanation of haematoma of the scalp. The haemorrhage in these cases is generally considered to be between the periosteum and the bone. Alvarez, however, contends that it is impossible for the periosteum to be so separated from the bone. He refers to the researches of Cajab and Medoza, which seemed to show that the base of the haematoma is formed by the external surface of the internal table of the cranium and the remains of the diploë which exists normally between the two tables. The sharp, hard edge which is characteristic of cephalic haematomata is, he says, formed by the edge of the external table. The origin of the haemorrhage must be in the diploë if we accept this view of the pathology of the condition.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

10. Consistency of the Blood in Sucklings.

LUST (*Jahrbuch für Kinderheilk.*, Heft I and II, 1911) s investigated the percentage of water in the blood, and variations in the nutritional disturbances, of sucklings. wborn infants—that is, infants during the first few eks of life—are to be distinguished from older infants, ause in the newborn the percentage of water is aller than in older infants, and is slightly smaller n in adults. The blood of children beyond the of infants and also of adults has been examined purposes of comparison, and the results are ulated in the article. The nutritional abnormalities sidered include the exudative diathesis, dyspepsia, itis, alimentary intoxications, cystopyelitis, atrophic ditions, etc.; the influence of carbohydrates and salts on the watery contents of the blood and the uence of oedema are also considered. The author finds t the blood of sucklings contains a distinctly higher centage of water than that of older children and adults. e average percentage of water in sucklings is 82 per t.—that is, about 3 to 4 per cent. higher than that of r life. The exception is that mentioned above—nely, the blood of newborn infants. In artificially-fed lthy infants the percentage of water is usually slightly her than in healthy breast-fed infants. The sharply ng curve of weight of an infant during the first weeks life runs almost exactly parallel to the curve of per-tage of water in the blood, and therefore the idea of an rease in the water contents of the organism as a whole, ddition to an increase in the water contents of the blood, be excluded. After the blood has once arrived at the sistency normal to infancy—that is, after the first weeks of life—the lines of body weight and percentage tents of water in the blood no longer run parallel, but tead the blood tends to preserve a constant density by ans of interchange with the fluid of the tissues. This able density of the blood may be preserved even in te disturbances of nutrition, so long as the whole abolism of the body has not suffered serious injury; even in diarrhoea the density of the blood is usually temporarily increased. In very great losses of fluid n the body, however, and invariably at the onset of xications, the blood increases in density; but the ent of the process is limited, and thus—for example, re death from an intoxication — the blood again omes hydraemic. In chronic disturbances of nutri-the consistency of the blood differs little from normal. the beginning of recovery from an acute disturbance nutrition retention of water takes place, and the ease of percentage contents of water in the blood is portional to the previous increase in density, so that body weight curve and the water contents of the d curve rise in two almost parallel lines. In many s, especially after chronic diseases, there is a porary increase in the density at the beginning of very. An increase of weight, due to feeding with ohydrates, is accompanied by an increase of the er contents of the blood, and if such an increase does occur, then the diet is to be considered unsuitable for ging about recovery. A rise of weight following the inistration of much salt, even if it leads to oedema, in one case give rise to strong hydraemia, and in her leave the concentration of the blood unchanged, the reason for this is not known. After oedemas the d does not return to its normal consistency until super-us fluid from the tissues ceases to find its way into the d stream.

[illegible]. Hepatic Insufficiency.

(*Rif. Med.*, May 15th, 1911) in a synthetic review of ern methods for estimating the degree and existence epatic insufficiency, quotes Ferrannini, who finds the test of insufficiency to lie in the relation between the unt of bile in the urine and in the faeces; little bile in faeces associated with the absence of urobilinuria ns hepatic insufficiency of high degree; bile in the es coupled with internal urobilinuria means serious ase of the liver but not insufficiency; normal amount le in the faeces with scanty bile in the urine indicates ght hepatic derangement. The presence of indican in rine, since normally it should be arrested in the liver, some value as an index of hepatic insufficiency. Estimations of the toxic properties of the urine are so full of possible errors, and require so many allowances for other possible causes for the increased toxicity than faulty hepatic action, that they cannot be accepted as useful tests of hepatic insufficiency *per se*. And where the kidney was diseased or functionally out of order such estimations would be almost valueless. The elimination test with methylene blue is uncertain, and only of value in association with other corroboratory evidence. The author finds that the best of all the tests is the estimation of the levulose in the urine. The dose for a child under 5 years is 25 to 40 grams, and the best test for detecting the levulose in the urine is the phenyl-hydrazin method. In 32 cases specially examined by the author his confidence in the levulosuria test as an index of hepatic insufficiency was amply confirmed. Hepatic opotherapy and massage of the liver have occasionally done good in the treatment of hepatic insufficiency.

112. Contractions of the Stomach under Direct Electrization.

IN a communication to the Société de Radiologie Médicale de Paris (*Bull. et mém.*, No. 24, 1911) Lebon and Aubourg describe some investigations which they have been making upon the contractions of the stomach and the great intestine under the influence of direct electrization. A deglutitory electrode was employed, after the manner of Max Einhorn, of New York, and the endo-galvanization which was thus made possible provoked stomachal contractions readily visible on the fluorescent screen. It was found that if the current were not interrupted the contractions followed one another in an almost continuous fashion, and a ptosed stomach was made to empty its contents in ten minutes. On the other hand, in a patient who had had a gastro-entero-anastomosis the stomach was emptied with extreme slowness, and galvanization only brought about a light undulation of the lower border. The intensity of current necessary to obtain good contractions varied, according to the subjects, from 10 to 15 milliampères. The stomachal contractions were produced equally with the anode and the cathode, but they were more energetic when the anode was made the active pole. The authors think that the galvanic current should be reserved for the treatment of painful affections of the stomach, while the faradic might be employed against the dilatation due to paresis of the gastric muscular coat, in the absence of any pyloric obstacle. They have never observed stomachal contractions produced in an indisputable manner by endo-faradization. If endo-faradization has any action on the stomach it should be analogous to that of massage. They add some notes upon the electrization of the great intestine after rectal injections, from which it appears that the colic thus produced is not an index of the contraction of the great intestine. They have provoked violent colic with milliampèrages of 35 without moving the great intestine, and they have obtained contractions of the great intestine without any colic with 15 or 20 milliampères.

113. Kala-azar in Greece.

ARAVANDINOS AND MICHAILIDIS (*Zentralbl. f. inn. Med.*, April 15th, 1911) state that kala-azar was clinically observed and described under the name "ponos" on the Greek island of Spezzia as long ago as 1835. Subsequently the disease was frequently confused with visceral syphilis, the various pseudo-leukaemic conditions, especially splenic anaemia of children, Banti's disease, and malignant malaria. Nicolle first suggested that kala-azar probably occurred along the entire shore of the Mediterranean, and Marchand, Mesnil, Gabbi, and Williamson recognized that the ponos of Spezzia and kala-azar were identical. The writers visited Spezzia five weeks after Gabbi, but did not meet with a single case of ponos. Two suspicious cases of splenomegaly with hepatic enlargement, anaemia, and pyrexia were examined, but proved to be neither kala-azar nor malaria. That such occur is of clinical interest, and requires further investigation. On the island of Hydra a disease exists with the symptoms of the ponos of Spezzia. It is said almost exclusively to attack children between 2 and 7, and is known as "tzanaki." A case observed by the writers shows that tzanaki is also identical with kala-azar. A boy, aged 2½ years, had healthy brothers, aged respectively 6 years and 6 months, and healthy parents, but one of his maternal

relatives was affected with tzanaki. In May, 1910, according to the mother, during dentition, the child was attacked with intermittent fever, which began with a rigor and ended with sweating. The pyrexia continued without change of type during four months. It then became less intense, and on the writer's arrival was unaccompanied by rigors or sweats. The pulse was 128. The appetite was good. The inguinal glands were of the size of lentils. There was bronchitis. The hepatic dullness extended from the fourth interspace to two fingerbreadths below the costal arch in the right nipple line. The spleen extended from the sixth rib to the level of the anterior superior spine of the ilium, but did not reach the middle line. Its surface was smooth and hard. The abdomen was covered with enlarged superficial veins. Catarrhal dysentery had existed for some months. The tint of the skin of the face was peculiar. It was distinct from that present in malarial cachexia, anaemia, or hepatic disease, though decidedly yellowish. Splenic juice obtained by puncture and stained by May-Grünwald solution, and counterstained by Giemsa's solution, showed the presence of numerous Leishman-Donovan bodies. Nothing could be ascertained of the method of infection. The disease is popularly regarded as contagious and incurable. The patients are therefore avoided as though suffering from leprosy, and a medical man is seldom summoned. Dentition is supposed in some way to be responsible. Both in Spezzia and Hydra rain water stored in cisterns forms the drinking water supply. Possibly the parasite gains access by this means, though nothing definite is known. Rogers regards the bed-bug as the probable intermediate host, but physicians in Spezzia state that cases of ponos are as common in families not infested by bugs as in those so infested. Nicolle found the Leishman-Donovan parasite in the spleen of dogs. The family possessed a dog in the writer's case of tzanaki in Hydra, but splenic puncture was not permitted. If the disease is contracted from dogs the flea would be a more probable intermediary than the bug, which does not bite dogs. Cases of ponos in Spezzia and of tzanaki in Hydra tend to occur periodically, and in the intervals the disease may apparently completely disappear. The writers believe that a disease known in Cephalonia as "aplopinako," and in Ithaca as "klidopinako," is probably kala-azar. They suggest "ponos" in place of kala-azar, as more euphonious and historically preferable.

SURGERY.

114. Pleurisy and Empyema.

KARL EWALD (*Wien. med. Woch.*, Nos. 14 and 15, 1911) has operated twenty-eight times during the years 1902–8 on cases of inflammatory exudate in the thorax, having employed in 14 cases Bulau's method of siphon drainage, in 2 cases thoracotomy, in 5 resection of rib. The details of the carrying out of siphon drainage are fully described. The trocar used is about the thickness of the finger. The results of treatment tend to differ in cases of pleurisy and of empyema, if by pleurisy is meant an advancing lesion and by empyema one which has come to a standstill; in pleurisy when the pleural endothelium has not suffered severely recovery may occur within fourteen days, but such a result is rare in empyema. A very great advantage of siphon drainage, as compared with thoracotomy, is that the exudate is removed gradually, and the danger of a sudden emptying of a greatly distended cavity is avoided. In siphon drainage also the bandage needs to be changed only occasionally. Ewald's view is that frequent change of the drainage tube furthers saprophytic infection of the secretion in the thoracic cavity, and he recommends that the drain should be left in position until it can be permanently removed, which can be done when the secretion has sunk for several weeks down to a few drops only in the course of twenty-four hours. Siphon drainage is so mild a procedure compared with other methods that the author decides upon drainage much more readily than used to be the case. The larger the exudate the more satisfactory the method, because small encapsuled exudates may miss being opened when a trocar is used. Relapses often occur in the months which follow apparent recovery. In one case described, that of a child 3 years of age, a drainage tube was kept in for six months, and on its removal the fistula healed quickly and apparently completely; three years later, after an attack of measles, the patient again developed an exudate in the thoracic cavity, the old scar broke down, and the exudate flowed out. As a rule the longer a purulent secretion continues the more danger there is that the fistula will not close without further treatment. But in one case of woman 62 years of age, complete recovery occurred eleve months after the beginning of drainage. The author h only seen sinking in of the thoracic bony wall occur ten time and as a rule it is not seen in growing children. The so parts only suffered as a result of resection of ribs once; i this case two ribs were resected near the spine, and the was a very striking atrophy of the muscles. The cau of the pleurisy is the most important factor in prognosi Tuberculous pleurisies are well known to be of unfavou able prognosis. Appendicitis is not to be overlooked as cause of pleurisy, nor, though they are of much le frequent occurrence, cholelithiasis and cholecystiti Plastic operations were undertaken in 6 cases, and thoug great caution was employed, and it was not attempte at one stroke altogether to close the cavity, yet the percen tage of losses was high; two died after the operation, on recovered enough to be treated as an out-patient, but wa then lost sight of, and three recovered.

115. Isolated Fracture of the Transverse Processes.

CASES of isolated fracture of the transverse processes a not nearly so rare as the scarcity of the published observ tions would incline one to believe, says Douarre, of th Maritime Hospital, Toulon (*Arch. d'électr. méd.*, May 25t 1911). Most of the observations are to be found in Germa works; the smallness of their number in France may b due to the fact that in that country systematic radiograph in traumatisms affecting the spinal column is not suf ciently practised. Douarre relates the recent case of sailor who, during some manœuvres on board ship o January 30th, 1911, was struck heavily by a chain whic owing to a sudden pitching of the vessel, was wrenche out of the hands of the men on drill. Upon reaching th infirmary the victim of the accident complained of sever pain in the lumbar region. Only a few superficial scratch were visible. There was no fracture of the spinal colum and no sign of compression or medullary disturbance. O the following day there was some fever; the whole of th left lumbar region was painful, compelling the patient t lie in a curved position. There was no voluntary mictur tion, and the introduction of a catheter brought urine tha was strongly uratic. Twenty-four hours later the pai was present, but it had diminished in intensity; th vesical weakness remained. Each of the following da saw an improvement, walking becoming easier and th pain at once less severe and more localized. But flexio of the trunk was painful, and there were erratic pains, a first in the dorsal region and then at the buttock, wit irradiations into the left thigh. A zone of hypaesthesi appeared in the left lumbar region, which was attribute to hystero-traumatism. On March 16th, on arrival a Toulon, the man was examined by means of the *x* ray and it was discovered that there had been a fracture of th transverse process of the first, second, and third lumba vertebrae, together with the tearing away of a small fra ment of the lower border of the body of the twelfth dors and a fracture of the twelfth left rib, almost at th posterior extremity. By this time the pain was almo imperceptible, but the lumbar site of sensitive disturban already mentioned had become a veritable zone of anae thesia to the width of a hand or thereabouts, surrounde by a region of well marked hypaesthesia. The sensibilit returned, though not to its full extent, after ten sittings faradization. From this observation and from others literature the author concludes that the isolated fractu of the transverse process has a symptomatology sufficient constant to be thus summarized: (1) Pain on pressur diffused at first, and then assuming a fixed localizatio accompanied sometimes by irradiations into the thora abdomen, and lower members; (2) checking and limitatio by pain of various movements of the lumbar column, suc as flexion and rotation; (3) a more or less marked degr of scoliosis; (4) an attitude generally of dorsal decubitu pain accompanying any attempt to lie on the side or o the abdomen. To these may be added sensitive trouble as in the case above described. He believes that the cau of the fracture is as often a sudden contraction of th sacro-lumbar muscles as the direct blow, and that th transverse processes are exposed more freely to tra matisms, owing to the fact that at the moment of suc accidents the trunk is frequently in flexion. Although th condition may be suspected when the clinical signs ju given are present, the diagnosis generally can only b established definitely by the radiograph, and hence th value of radiography in all cases of persistent traumat lumbago with functional impotence. The radiograph ma not only modify the diagnosis, but may also enable a opinion to be formed as to the patient's capacity for wor or the permanent or temporary nature of his incapacity.

116. Anaesthesia in Cystoscopy and Bladder Operations.

. Leonardo de la Peña (*Revista de Medicina y Cirugia racticas*, June 21st, 1911) compares the different methods f producing anaesthesia of the bladder for cystoscopic nd operative purposes. After mentioning the various cal anaesthetics, beginning with cocaine, and referring the inconveniences of general anaesthesia by chloroform ether, he decides in favour of spinal analgesia by the jection of stovain into the subarachnoid space of the mbar region of the cord. This method, he affirms, has table advantages over the others mentioned, and he has en able to practise cystoscopy and lithotrities, which ould have been impossible with any other form of naesthesia.

OBSTETRICS.

117. Septic Abortion.

. Winter (*Wien. med. Klin.*, No. 16, 1911) reports that out 100 cases of septic abortion treated at the Konigsberg ynaecological Clinic 13 ended fatally from infection; of ose which recovered, 4 were complicated by pyaemia, y peritonitis, 18 by parametritis exsudativa, 10 by endo- etritis; 54 ran a normal course. The figures from other nics show an equally great mortality. The first point consideration is that of prophylaxis. Because of the nger of causing infection the author limits the use of cking of the vagina within the clinic to cases of severe eeding in which manual evacuation of the uterus is not t possible; the danger of causing infection by the opera- n is great. He finds that 36 per cent. of all cases which e free from fever on admission, but in which the vagina s already been packed, and 26 per cent. of these simi- ly treated within the clinic suffer later from fever. trauterine manipulations which do not lead to complete acuation of the uterus and slow and incomplete evacua- n are also to be avoided, the former being especially ngerous. When septic abortion is already present, e prognosis and the treatment both largely depend on the particular organism present. Out of 11 aths occurring in a series of 80 cases of septic ortion, 6 deaths were among 20 cases in which the ecting organisms were haemolytic streptococci, 4 were ong 10 cases of streptococcic infection in which the estion of haemolysis was not determined, and only one ath occurred among the remaining 50 cases, in which organisms were staphylococci, *Bacterium coli*, etc. The gnosis, therefore, becomes serious where haemolytic eptococci are the infecting organism. The author's ures also bring out the dangers of active treatment in se cases. Fourteen cases of haemolytic streptococcic ection which received active treatment ended fatally, 1 4 ran a severe course, as compared with 1 death, and others running a severe course, out of 6 cases allowed to l spontaneously; 16 cases of septic abortion are re- ted in which the waiting treatment had to be aban- ed, either on account of haemorrhage or because of the essive duration of the process, or because of doubt as to indications. One of these patients died. The case s one of probably criminal abortion with haemolytic eptococci, in which the placenta was removed because severe haemorrhage thirty-six hours after the expulsion the ovum. There had been moderate fever before, but ns of severe sepsis only began after the removal of placenta, and the author ascribes the fatal sepsis to intrauterine operation, and not to the previous ex- tant treatment. In the whole series, except for slight oxication symptoms, no injury resulted from the ectant treatment, and, in the cases of haemolytic ction, much benefit. In 5 cases in which haemolytic ptococci were present at the beginning they had dis- eared from the excretion in four days, four days, en days, eleven days, and twenty-three days respec- ly, and the evacuation could then be safely carried In another case of retained placenta the irritant nisms had disappeared after seventeen days, and the enta was then removed without injury to the patient. ectant treatment is, however, clearly not possible or irable in all cases of septic abortion, and in cases of ction with organisms other than haemolytic strep- cci the treatment will, as a rule, be active. Moreover, ases of severe haemorrhage active treatment has to undertaken without waiting for a bacteriological ort. Active treatment is not to be undertaken when infective process has already spread beyond the us. In carrying out active treatment the infective organisms should, as far as possible, be first removed by means of long-continued douching of the uterus, the vitality of the tissues should be injured as little as possible, and as few fresh wounds as possible made, and the use of the curette should be altogether abandoned.

GYNAECOLOGY.

118. Sarcoma of Fallopian Tube: Hydrops Profluens.

Scheffzek (*Zentralb. f. Gynäk.*, No. 26, 1911) claims to have added to previous records an eighth case of primary sarcoma of the tube. The patient was 61 years of age, apparently a virgin, subject for four months to haemorrhages and fetid discharge, with loss of flesh. There appeared to be an ovarian tumour. Scheffzek operated, removing the left Fallopian tube, which was of the size of a goose's egg and filled with a medullary new growth. The left ovary was the seat of small cystic degeneration; the right appendages were normal. The tumour was a spindle-celled sarcoma with necrotic areas marked amidst the strands of connective tissue which divided the new growth into lobes. The epithelium of the tubal mucosa was modified, being either absent or reduced to the squamous type, and some papillary growths were detected, but the normal epithelial area and the growths were distinct from the sarcoma, which was fairly circumscribed as though of not very high malignancy. Weinbrenner (ibid., No. 27, 1911) reports a highly characteristic case of hydrops tubae profluens, where the cause was without doubt primary carcinoma of the tube. A lady, accustomed to travel, suffered from attacks of colicky pain in the sacral and left iliac regions. A quantity of fluid, distinctly blood-stained, came away, and then the pain disappeared. The attacks occurred almost daily. The patient's doctor detected a tumour, and advised an operation, but she went abroad and postponed it for a year. The crampy pains and sudden discharge of sanious fluid slowly diminished, the former at length ceased, and the discharge became muco-purulent and constant. Weinbrenner examined the patient. She was 42 years old, and had been four times pregnant. The periods were still perfectly regular. The tumour was a uterine fibroid, bearing what appeared on palpation to be a large pyosalpinx. Panhysterectomy and removal of the appendages was performed; the patient recovered. The left Fallopian tube was the seat of a medullary new growth, a papillomatous carcinoma. Weinbrenner detected innocent papillomata on the mucosa near the uterine end of the tube, which was free from the cancerous growth, and he notes that the right tube as well as the ovary were the seat of chronic inflammation. The left ovary was invaded at one or two points from the tube. The hydrops profluens had ceased when the dilated cavity of the tube had become filled with the new growth.

THERAPEUTICS.

119. Treatment of Tuberculous Cripples.

Gauvain (*Pediatrics*, November, 1910) says the conservative treatment of tuberculous cripples naturally falls under two heads—the general and the local. General treatment comprises measures which will help to increase the patient's power of resistance to disease—namely, open-air treatment, the administration of ample and easily digested food, and the exhibition of those tonics and drugs which, if not a specific, at any rate exert a beneficial effect upon the tuberculous child. Of still greater importance is the proper application of local treatment designed specifically for each case. Rest is of primary value and must be absolutely enforced; by this is understood immobilization of the affected part, carried out for a long period under the best hygienic conditions. Immobilization arrests disease, prevents the onset of deformity, and, where deformity exists, assists in correcting it. Spinal caries is the most severe and the most common form of tuberculous bone disease which exists. Recumbency alone does not ensure rest; the patient must be kept recumbent and immobilized in that position which will prevent deformity. For this purpose it is advised to use a board with a jacket attached. When properly adjusted, the spine is hyper-extended to such an extent that the spasm of the muscles about the spine is gradually diminished and the increase of the deformity arrested. This board may be modified into a splint which allows the

necessary attention to be given to the back without in any way allowing movement of the spine; at the same time, progressive hyper-extension can be obtained by properly padding the splint from time to time as may be indicated. When the deformity has been corrected as far as possible and the disease is arrested, the child is immobilized in a plaster jacket, which will relieve completely the pressure on the injured joint. Later, when it is evident that repair has taken place about the site of the lesion, a light removal splint is substituted for the jacket, and, later still, is worn only when the patient is walking about. Abscess formation is a frequent complication of tuberculous bone disease. It occurs in a very large percentage of the cases, and when dealt with by the ordinary methods is liable to lead to sinus formation. Radical treatment of tuberculous abscess is to be deplored; quite often adequate immobilization will modify it and lead to spontaneous absorption of the material. In any case, aspiration is preferable to incision. The writer advocates education of tuberculous cripples in hospital, and considers that this can be best carried out entrusting the teaching to specially selected nurses who have been trained to teach the child simultaneously with their training to nurse the patient. For older cripples, technical training, if properly given, is invaluable.

120. Rectal Injections in Sepsis.

J. WERNITZ (*Wien. klin. Rund.*, Nos. 12 and 13, 1911) recommends the injection of large quantities of saline solution per rectum in cases of acute sepsis. In carrying out the treatment it is essential first to efficiently wash out the lower part of the intestine. For this purpose the rectal tube must be passed above Nélaton's sphincter. Lavage must be done slowly and repeatedly; masses of faeces are only gradually softened, and the irrigator must be frequently raised or lowered so as to help on the passage of the solution up into the intestine. The whole process of lavage may take from one and a half to two hours. When the tube has been rightly passed and lavage repeatedly and skilfully attempted without result, the fluid returning at once as soon as the tube is withdrawn, the sphincters are already paralysed and the prognosis probably hopeless. At the end of lavage no fluid need be left in the intestinal canal. In the later injections the saline solution is left for a time in the intestine for absorption to occur. It will be found that from half to three-quarters of the amount injected may be absorbed, or later even practically all. With absorption of the fluid the amount of urine passed increases, and at the same time the dryness of the mucous membranes disappears, the skin becomes moist and the temperature falls. If the injections are stopped, the symptoms return, but only gradually. The number of injections is regulated by the severity of the case. While the temperature remains high, or rises quickly again after an injection, it should be repeated every two or three hours, each injection taking an hour to carry out. Great stress is laid on the technique of the operation. The fluid must be allowed to flow in gradually, in order not to distend the intestine and cause active peristalsis. During the hour about a litre of fluid will be absorbed. The process differs materially from that of injecting saline solution directly into the vascular system, where it will act as a foreign body, against which the organism will react, because by the author's method the organism receives an assimilated fluid and bears it well. A disadvantage of the method is that if the doctor himself makes the injections he is suddenly called upon to give practically his whole time for a day or two to the case, while if he leaves the carrying out of his instructions to others, failure is likely to result. The change observed in desperate cases of sepsis under the treatment is almost incredible, and the cases described in the article illustrate it as a life-saving agency in acute puerperal sepsis. The author has also found the treatment useful in infectious diseases in which a circulatory poison has to be got rid of or overcome. Thus, in typhoid, injections made once or twice a day appear to result in the disease running a milder course, with frequent absence of lung symptoms and better sleep. In severe septic scarlet fever and in severe forms of plague the treatment has done good service.

121. Vaccine Treatment of Pyorrhoea Alveolaris.

WILLIAMS (*Amer. Journ. of Med. Sci.*, May, 1911) considers that the dental treatment of pyorrhoea alveolaris—Rigg's disease—though frequently efficient is far from ideal; and he records his experience in the supplementary treatment by bacterial vaccines. Eight cases were treated with autogenous vaccines, and 13 with a stock vaccine prepared by mixing in equal proportions four of the vaccin used in the autogenous treatment. The gum and t tooth having been cleaned with a sterile swab, pus w obtained by inserting a platinum loop into the rec under the gum and along the root of the tooth, a standar ized vaccine being prepared from the organisms whi appeared to predominate. The interscapular, subscapula and deltoid regions were the sites of injection, which w occasionally followed in a day or two by transito exacerbation of symptoms, to be succeeded by distin improvement. Acute swelling of a lymph node in t floor of the mouth was the severest manifestation, b this eventually resolved perfectly. All those treated b such autogenous vaccines were intractable cases of lo standing, and had been previously carefully treated b dentists, and in all marked improvement took place. Th number of the injections varied from four to eighteen, i doses of from 6 to 90 million of killed bacteria. The result with the stock vaccine were encouraging, but at present is impossible to formulate any opinion as to whether the lead to such long remissions as was the case with aut genous vaccines. Owing to the difficulties attendin opsonic determinations, these were dispensed with, and seems reasonable to rely on the patient's symptoms t control the dose, as by proceeding carefully no harmfu results followed, all the patients treated with autogenou vaccines being very greatly benefited. General improve ment in health resulted, due, doubtless, in part to th increased ability to masticate properly without discomfor and also to the elimination of sepsis from the suppuratio around the teeth. While exposure of roots due to bon absorption cannot be repaired, it is reasonable to hope tha vaccines, in conjunction with dental treatment, may pre vent the progress of the disease, and enable such teeth t be saved as still have a fair amount of bony support.

PATHOLOGY.

122. Antiformin and Tubercle Bacilli.

C. HART AND O. LESSING (*Wien. klin. Woch.*, No. 9, 1911 describe their experience of the antiformin treatment o tissues for the demonstration of tubercle bacilli. As result of the solvent action of antiformin upon the tissue they were able to demonstrate the presence of virulen tubercle bacilli in old sclerosed areas, in granulation tissu and in lymph glands which showed no macroscopic tube culous changes. Merkel has devised a method by whic the examination of tissues for tubercle bacilli can be muc shortened. The pieces of tissue are cut into sections on th freezing microtome, they are then placed in slightl warmed 20 per cent. antiformin solution in which the become almost instantly dissolved, are washed with wate and the sediment spread on coverslips for examination This method is recognized by the authors to be of th greatest value, but they believe that microscopic examina tion of the sediment is not enough, and that animal ex periment is also needed. They have investigated b means of subcutaneous and intraperitoneal injections int animals the effect of a combination of freezing, formo and treatment staining with haematoxylin, antiformin treat ment upon bacilli in the tissues, and find that if the bacill are present in large numbers in the tissues, and therefor in the deposit after centrifugalization of the homogeneou mass obtained by antiformin treatment, the bacilli ar not killed even after twenty-four hours in 15 per cent antiformin solution. A weakening of the virulence o the organisms does, however, occur and perhaps th death of isolated bacilli; the different procedures shoul therefore not be of longer duration than is necessary The antiformin method is a very useful one. When it i made use of it becomes unnecessary to study section afte section of tissue and in the end obtain only an uncertai result. Antiformin quickly clears up and renders trans parent fat and loose connective tissue, so that if glands ar to be examined, as, for instance, the glands from the neck these are cut into pieces and placed in the antiformin solu tion which quickly renders the fat transparent, and th gland tissue can then be removed and treated as above By the help of antiformin it would be possible in future t carry out on a large scale examinations *post mortem* on th different groups of glands in children, an enormous propor tion of whom are known to be effected, in order to obtai information as to the method of infection, the point of entry of the bacilli, the relative frequency of tuberculosis a different age periods, and the truth of the theory tha phthisis is due to a massive reinfection

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

23. Arneth's Method of Blood Counting.

NOR AND RINGER (*Amer. Journ. Med. Sci.*, May, 1911), m a study of Arneth's method of blood counting in over) cases of pulmonary tuberculosis, consider that it has listinct value in enabling an estimate to be formed of e resisting power, likelihood of recovery, and general ognosis of such cases. On the assumption that the ung white cells of the blood—those with one or two clei—are less resistant, and less able to combat an infec- n that the older ones with more nuclei, Arneth counted number of nuclei in all the neutrophilic white cells, l arranged them in five classes according to the number heir nuclei. By placing these classes in a row, starting h Class I (cells containing one nucleus) on the left up to ss V (cells containing five nuclei) on the right, a neutro- lic blood picture is obtained, and from a count of fifteen mal individuals he formed the following normal ure:

I.	II.	III.	IV.	V.
5%	35%	41%	17%	2%

ulmonary tuberculosis he found an altered percentage, rift, the younger cells of Class I and II being increased, h a lessening of the more mature cells of Classes III, and V, this drift being more marked in proportion to severity of the case, for example, the picture in a case iliary tuberculosis being:

I.	II.	III.	IV.	V.
36%	56%	8%	0%	0%

h drift is regarded as evidence of the patient's lowered stance, and it is found that as the case improves the t tends towards the right again, or, if becoming worse, ards the left. Such findings agree remarkably well the actual clinical facts, and thus the method affords eful means of forming a prognosis. Especially in the advanced cases is the method of assistance, since not would an unfavourable picture, in an otherwise arently favourable case, justify a strong suspicion of outlook, but changes in the picture during treatment rd valuable hints. In every case the authors estimated entages from a count of the nuclei of 200 neutrophiles, r normal picture in the case of ten healthy men aging:

I.	II.	III.	IV.	V.
2.5%	18.2%	55.6%	18.6%	5.1%

ir experience confirms the reliance that may be placed the method as a means of prognosis, and justifies them ecommending it to the profession, several cases being l in support of their conclusions.

The Voltaic Vertigo.

LL, VINCENT, AND BARRÉ report at length their cal and experimental investigations upon voltaic go (*Arch. d'électr. méd.*, June 25th, 1911). Voltaic go is an electrical phenomenon produced by the n of a galvanic current of 1 to 2 milliampères on the bular fibres of the eighth pair. Normally it consists e inclination of the head towards the shoulder on the of the positive pole, and this movement becomes pronounced as the current is augmented above the sity just stated. The negative pole seems to have a lsing action. The excitation—again in normal cases— ateral, and is directed to the general static apparatus. fact of abnormal vertigo, indicated by the hyper- tiveness, exaggerated resistance, or the asymmetry is reaction, enables one to affirm that this apparatus ected by some lesion, or is the seat of a functional rbance. The unilateral but complete destruction of estibule of the osseous labyrinth brings about in the al, and sometimes in the man, an inclination of the towards the sound side, this symptom remaining the whatever the direction of the current may be. -seated but incomplete alterations of the two vesti- give a galvanic reaction that is abnormal. Fre- ly there is a predominating action upon the side most ked. In a great number of patients suffering from sis of the ear with variable degrees of deafness, ed perturbations of the voltaic vertigo may be noted, ugh other tests suggest a normal condition of the centres of equilibrium. A complete and bilateral destruction of the static apparatus, such as may be observed in complex traumatisms of the base of the skull, brings about the total abolition of the voltaic vertigo. But although the smallest functional—and apparently organic—trouble of the vestibular apparatus is betrayed by modifications of the voltaic vertigo, the authors hesitate to say categorically that if there is normal voltaic vertigo the static apparatus is sound.

125. Cancer of the Stomach.

RUMMO (*Rif. Med.*, May 29th, 1911) discusses cancer of the stomach, dealing fully with some of the more recent aids to early diagnosis. He points out that none of them can be taken alone as diagnostic, but in combination their value may in any given case be great. The presence, for example, of enlarged glands above the left clavicle is sometimes undoubtedly associated with gastric cancer, but the author does not believe as a sign it is of great value by itself. Radiography is useful in helping to differentiate between medullary cancer and a diffuse infiltrated carcinoma; it may also render aid in determining whether a given tumour is truly gastric or extra-ventricular, according as the shadow moves with the movement of the stomach or not. The absence of free HCl, although common in cancer, is not constant, and appears to depend on whether the mucosa is atrophied or not. It has been said the presence of HCl is commoner where cancer has developed in an old gastric ulcer. The author discusses Salomon and Gluzinski's tests and the tryptophan reaction, and agrees in their usefulness as aids to diagnosis, but attaches no absolute value to them alone. Gastric cancer situated in the upper part of the stomach does not, as a rule, set up disturbances of mobility, which is the reverse of what happens in the case of gastric ulcer. Some clinical cases are given in illustration of the points discussed.

126. Malignant Endocarditis.

THOMAS E. SATTERTHWAITE (*Med. Record*, July 15th, 1911) states that malignant endocarditis is a simple endocarditis that has become infected. It is in most instances a fatal disease. The author has studied 100 cases recorded in the reports of three hospitals in New York: the New York, St. Luke's, and the Presbyterian. The statistics are as follows: New York, admissions, 88,365, cases, 50; St. Luke's, admissions, 14,266, cases, 45; Presbyterian, admissions, 33,592, cases, 118; total, 136,223 admissions; cases treated, 213. The infecting organisms are various: the streptococcus, staphylococcus, pneumococcus, gonococcus, etc. Some cases are examples of mixed infection. The disease is rare under 3 or 4 years of age, and is chiefly found during early middle life. It is accompanied by high fever, petechiae, haemorrhages, headache, and diarrhoea. The leucocytes are diminished in number, and the haemoglobin index is low. Rheumatism accompanied 37 per cent. of the cases. Cultures should always be made, but the results cannot always be depended upon. When they are negative one must depend upon leucopenia, enlarged spleen, haemorrhages, previous endocarditis, displacement of the heart, precordial pain, and a septic temperature. The prognosis is bad, 85 per cent. of the cases dying. Histories are given of 5 cases which were improved or cured. The indications for treatment are rest, abundant food, liberation of pus when possible, and quinine and iodine internally.

127. Idiopathic Hydrocephalus Acutus Internus.

MICHAEL PAP (*Wien. med. Woch.*, No. 8, 1911) describes a case of acute idiopathic hydrocephalus, with complete blindness, lasting for ten days and ending in recovery. The patient was a child 7 years of age, whose illness began with fever and vomiting; blindness followed in two days. Examination eight days after the beginning of the illness showed congestion of both discs, the pupils being fixed, dilated, and amaurotic. Lumbar puncture was performed and 40 cg. of clear fluid withdrawn, the result being that two days later the pupils reacted and the child could distinguish light. A diagnosis of hydrocephalus was made and trephining, with puncture of the ventricle, was held to be indicated. The patient now came under the author's care, and lumbar puncture was again performed, followed on the next day by trephining and puncture of the lateral ventricle, from which about 5 cm. of clear fluid flowed. The pupil reaction, which had been almost nil before the

operation, returned immediately after it, and the child became able to count the fingers of a hand. Recovery was rapid and complete. The wound had healed thirteen days after the operation; vision was perfect and no pathological change could be detected in the disc.

SURGERY.

128. Resection of Gastric Ulcers.

FEDERMANN (*Allgem. med. Central-Zeitung*, No. 14, 1911) discusses the cases in which resection of a gastric ulcer is to be preferred to gastro-enterostomy. Resection may take the form either of a continuous resection out of the whole circumference of the stomach or the typical stomach resection, Billroth II. Gastrostomy is indicated in cases in which the ulcer is in the neighbourhood of the pylorus and is either a simple ulcer or is already in the stage of scarring; it may also be undertaken, as in one of the cases described, as a temporary measure when, owing to loss of blood, the patient cannot stand the more severe operation. But gastro-enterostomy is usually without benefit in cases of torpid callous ulcer at the pylorus, and still more so in cases of extrapyloric ulcer. The author describes two cases of successful resection. The first was of a man 58 years of age, who had suffered from stomach symptoms for fourteen years, and had had many attacks of haematemesis. The ulcer was a deep callous ulcer on the small curvature of the stomach, and firm adhesions had formed with the small omentum. A piece 4 cm. (1½ in.) in breadth was excised out of the whole continuity of the stomach, and the two halves of the stomach reunited in three layers. The patient made a complete recovery, and can now eat all kinds of food without discomfort. The second case was of an old callous ulcer, which had grown deeply into the pancreas; there were also firm adhesions between the posterior wall of the stomach and the small intestine. A resection such as the one described above was impossible here because of the extent of the ulcer, and resection Billroth II, combined with posterior gastro-enterostomy, was performed. Here, again, the treatment was completely successful, and in the weeks which have followed the operation the patient has had no return of symptoms, can take any sort of food, and has put on 8 lb. in weight. Recent investigations, which have shown that as many as 40 to 50 per cent. of all cases of callous gastric ulcer finally become carcinomatous, form the most weighty argument for the performance of resection. An additional argument in its favour is the great difficulty which exists in many cases, and which was pointed out by Küttner at the Surgical Congress in 1910, of distinguishing a callous ulcer from a carcinomatous one either clinically or after opening the abdomen.

129. Relaxation of the Sacro-Iliac Joints.

PITFIELD (*Amer. Journ. of Med. Sciences*, June, 1911) considers that relaxation of the sacro-iliac joints is frequently overlooked as a cause of sciatica and backache, many cases being erroneously treated as rheumatic, whereas he records 20 cases of sacral backache or sciatica which were entirely relieved by treating the relaxed or dislocated sacro-iliac joints. The joint surfaces are large, irregular, and firmly held together by ligaments allowing of movement with every large movement of the trunk, and of relaxation during labour and menstruation, and there is a corresponding play of the two pubic bones at the symphysis. They are true joints, with synovial membranes and fluid, and, being supplied with nerves, local pain and tenderness is a common symptom of relaxation due to strain. From their relation to the sacral plexus, any gross or abnormal disturbance of the sacrum and ilia, by causing pressure or stretching of the plexus trunks passing over them, may cause pain and disability in the distribution of these nerves. The sacrum moves on the ilia on an axis drawn horizontally through the middle, and if the upper part of the sacrum is tilted forward on the ilia the lower part is tilted backward, and the two ilia spread laterally, any abnormal excess in movement causing a condition of strain. While the joints are liable to the ordinary pathological arthritic changes, relaxation or laxation are by far the most common. Simple strain and relaxation may follow prolonged stooping, riding in cars or on horseback, lying in hammocks or soft beds, and a subluxation may follow violent trauma directly to the back, or strains during football, wrestling, lifting, etc. The symptoms are mainly backache, tenderness over the sacro-iliac joints, pain in the sciatics or buttocks, paraesthesias in the feet and kn and often lameness and atrophy of the leg muscles. rising from a low chair the back is held stiffly, and examination is frequently straight without the nor lumbar lordosis. Limitation of movement on ben sideways and inability to extend the leg on the t without pain when the patient lies on his back with thigh flexed on the body are among other signs, whil the patient lies prone, preternatural mobility of the p joint will be detected by firm pressure on the p bones when the leg on the affected side is moved up down. Radiography will show a difference between two articulations, the pubic bone being higher on affected side, and relief from pain by posture is o evidence of relaxation of the joint. If really disloca anaesthesia may be required for forcible reduction immobolization with a plaster cast, but generally application of adhesive straps over the dorsum of pelvis suffices. These should be applied forcibly in strips, reaching from just below the anterior supe spines to the top of the trochanters and intergluteal f care being taken not to have the straps too high lest ilia tend to tilt forward and so cause more relaxation pain, and such straps worn for six weeks will often cu severe case. The pelvis may be encircled by a w webbing belt, with perineal straps to prevent its rid up, thus immobilizing the joints and relieving pa Merrill, of Philadelphia, has devised an efficient br which should be moulded to the patient in order to sec an accurate fit. The condition is prone to relapse. Fi experience of twenty such cases successfully relieved the above measures, the author concludes that true neu or idiopathic neuralgia of the sciatic nerve are r clinical entities.

130. Strangulated Hernia in Infancy.

JOSÉ BLANC (*Revista de Medicina y Cirugia Practi* June 14th, 1911) communicated to the second Natio Congress of Obstetrics, Gynaecology, and Pediatrics, h in Madrid, his experience of this accident in infants. 32 cases of inguinal and umbilical herniae he met w 3 cases of strangulation—that is, about 10 per cent.; as this percentage is calculated only from cases opera upon, he supposed the actual frequency of the accident be greater. He was struck by the absence or fewness adhesions between the gut or the omentum and the s Strangulation seemed comparatively less frequent those cases in which the hernial sac and the tun vaginalis were continuous. In the umbilical cases it v often very difficult, during the operation, to keep t intestines within the abdomen. The hand of an assista wrapped in a towel, he had found to be the best inst ment for the purpose. In inguinal herniae, especially of considerable size, he preferred the Trendelenb position. He used deep sutures, including peritone and the muscular coat. The peritoneum of infants is t fine and too easily torn to be sutured alone. All his ca pursued an aseptic course. In 2 of them the blo examined on the second day, gave a leucocyte count 25,000 and 27,000, diminishing to 19,700 and 19,000 resp tively on the sixth day, when the temperature beca normal. This indicated not a septic process, but w due simply to the reabsorption of autogenous a heterogeneous organic products.

131. Irregular Type of Appendicitis in a Child.

ELMER (*Pediatrics*, April 1911) describes a case of obsc abdominal symptoms treated by him, where the course the disease was calculated to disguise the fact that originated in the appendix. As a general rule, he advoca operation without delay, the practice of waiting for t interval between the attacks, which may sometimes followed with safety in adults, being quite unsafe in t case of children. The puzzling case was that of a b 8 years old, who had been subject to slight illnesses fr time to time, looked upon as bilious attacks. Early o morning he was found lying on the left side with the kn drawn up, crying with pain, and unable to lie on the ba or to straighten the legs without an increase of sufferi An ice bag was placed over the appendix and an operati within two or three hours decided on; but by noon he w lying on his back free from pain, the abdomen flat a easily palpated, with tenderness only over the gall bladd Next day the symptoms were those of marked acetonaemi disappearing in four days. Elmer still suspected t appendix, and after another similar attack an operati was performed, when the appendix was found in the pelv coiled upon itself, the proximal end fixed in such a w that when the appendix was distended bacterial ferment tion was set up. This had caused about a dozen ulce

which had been the foci of infection in each attack, perforating after a few hours, easing the abdominal pain and causing tenderness over the liver and gall bladder. Six months after the operation the boy was quite well.

OBSTETRICS.

132. Salvarsan in Obstetrics.

ALVEREZ Y SAINZ DE AJA (*Revista de Med. y Cirugia Practicas*, June 28th, 1911) communicated to a recent meeting of the Academia Medico-Quirúrgico Española the details of some cases of maternal syphilis during pregnancy treated with mercury or salvarsan, in order to avoid or to minimize syphilitic manifestations in the children. Eight cases were treated with salvarsan. All of these gave a positive Wassermann reaction, and showed evidences of syphilis otherwise. Of these, 6 went on to full term, and gave birth to children of normal aspect and apparently healthy. In one case the child developed mucous plaques on the twenty-fifth day after birth. There was no unfavourable effect of any kind to be attributed to the salvarsan, which in most of the cases was given intravenously. Neither the mother at the time, nor the child subsequently, was adversely affected in any way by the drug. The author concludes from his observations that salvarsan is superior to mercury in the circumstances under consideration. He mentions that the puerperium, nearly always febrile in untreated syphilitic mothers, in these cases was afebrile.

133. Extrauterine Pregnancy.

SCHAUTA (*Wien. med. Woch.*, No. 16, 1911) deals with the subject of extrauterine pregnancy. He distinguishes between extrauterine abortion and extrauterine rupture. By extrauterine abortion he means the discharge of the ovum into the cavity of the tube from the muscular tissue in which it is embedded; by extrauterine rupture, rupture into the general peritoneal cavity. Extrauterine abortion is usually accompanied by the passage of the blood through the fimbriated end of the tube into Douglas's pouch, with the formation finally of a retrouterine haematocele. The symptoms may be insignificant, and the author lays great stress upon the importance of obtaining a history of a monthly period having been missed. With tubal rupture the symptoms are much more acute, and the unsatisfactory diagnosis of "peritonitis," with the consequent expectant treatment, could often be avoided if an inquiry as to the menstrual history were made. The treatment is always operative. In tubal abortion there is, of course, the possibility of a successful termination without operation, but since the patient is never free from danger, Schauta refuses to treat any such case on conservative lines, except in an institution. If the patient is in a private house and the need for operation occurs suddenly, the removal to a nursing home is, in any case, a severe shock, and often on arrival it is too late to operate. In tubal rupture operation should be the invariable rule, however desperate the condition of the patient. A case is described in which the patient at the time of the operation was blanched, pulseless, and looked to be dying; the abdomen was distended and no examination could be made. The diagnosis of tubal rupture was confirmed by the history of one missed period. Operation was performed and the patient left the institution recovered after eight days. The author believes that many women die from tubal rupture who could be saved by operation.

GYNAECOLOGY.

134. Tuberculosis of the Cervix Uteri.

TERRA DES PLA (*Revista de Med. y Cirugia Practicas*, June 14th, 1911) communicated to the second National Congress of Obstetrics, Gynaecology, and Pediatrics, held in Madrid in April last, some conclusions based on an analysis of 40 cases of papillary tuberculosis of the cervix uteri. The affection, he said, was fairly common, as secondary to tuberculosis in some other organ. Primary tuberculosis of the cervix was very rare. Without absolutely denying the possibility of infection by the vaginal route, he believed that in the immense majority of cases the infection was conveyed by the blood stream, and only occasionally by the lymphatics or the peritoneum. Papillomatous tuberculosis of the cervix is most frequent in virgins, and not uncommonly the cervix alone is affected. In the ulcerated form of the disease other parts of the genital organs are generally involved, especially the tubes. Tuberculosis of the cervix requires to be distinguished from hypertrophic cervicitis and from epithelioma. From the latter it can be distinguished clinically by its softness and absence of friability and an infiltrated base, opposed to the hardness, friability, and deep infiltration of the tissues proper to epithelioma. The mucus secretion, too, is thick, and there is very little bleeding; very different in these respects to the fetid, sanious discharge of cancer. The histological examination is generally decisive, but may lead to erroneous diagnosis, an instance of which was cited. Usually the diagnosis can be made with certainty on the clinical examination alone.

135. Growth of Beard in Woman subject to Tumours of Suprarenal Body.

GOLDSCHWEND (*Prager med. Woch.*, Nos. 37, 38, 1910) reports a case somewhat similar to those described by Bulloch and Sequeira, whom he quotes, where hair grew on the face as well as on the pubes of children subject to new growths of the suprarenal body itself, as well as in hypernephroma, a different type of tumour. Goldschwend's case occurred in a married woman aged 39. She had been five times pregnant. For four months she had suffered from pains radiating from the back to the epigastrium, loss of appetite, and steadily increasing debility. At the same time a swelling developed in the left side of the abdomen, and hair grew freely on the upper lip and cheeks. The patient died after the appearance of icterus gravis. The tumour proved to be a malignant adenoma of the left suprarenal body. The kidneys were normal, but the liver was greatly enlarged, softened, and bile-stained, and was infested with metastatic deposits, another deposit in the dura mater had perforated the calvaria. On the other hand, the spleen, pituitary body, and pineal gland bore no growths. The rapid development and spread of the new growth was associated with the remarkably sudden development of hair on the face. Goldschwend notes that this patient, who was only 39, and had been delivered of her fifth child six years previously, had reached the menopause at the early age of 36. At the necropsy, the uterus was found highly atrophic and the ovaries were very small, but no adrenal tissue was detected in the genital tract.

THERAPEUTICS.

136. Intravenous Injection of Salvarsan.

LEVY-BING AND DUROEUX (*Ann. des mal. vén.*, July, 1911) report their experience with the intravenous injection of salvarsan. These observers have already reported the results of six months' experience with intramuscular injections, and find that the intravenous method is distinctly superior, being more rapid in action and painless. The average doses were 0.5 gram for women and 0.6 gram for men; two or three injections were given as a rule, with an interval of eight days between the first and second, and three or four weeks between the second and third. No accidents of any consequence were noted. The cases included 8 primary, 23 secondary, 16 tertiary, and 9 parasyphilitic. The action of salvarsan on ulcerative lesions of primary, secondary, and tertiary syphilis was rapid, but little benefit was obtained in sclerous and nervous lesions. As regards parasyphilis, salvarsan had no effect on leucoplakia, and little or none on general paralysis; one case of tabes was improved temporarily. Relapses often occurred after the first injection, and the Wassermann reaction usually remained positive after two or three injections. However, in patients who had received three injections, no relapses had occurred up to five months. The authors conclude that the rational treatment of syphilis consists in utilizing both mercury and salvarsan, but it remains to determine the precise indications for the two medicaments.

137. Auricular Gymnastics in the Treatment of Deafness.

FERNET (*Sem. Méd.*, March 15th, 1911) discusses in detail the functional impotence of the muscles of the ear; the accessory rôle they may play, in hearing, and the necessity for their re-education. He refers to the great mobility of the ear in animals, and is convinced that a majority of people can, by voluntary effort, move the ear upwards appreciably, as well as backwards and forwards. Duchenne has studied these muscles under faradization, and has shown that the muscles of the tragus and antitragus, of the helix and antihelix, all share in moving the lobe of the

ear, and can even modify its shape. The effect is to favour the access of sound waves to the tympanum, and also to protect the ear against too strong impressions. The muscles of the middle ear are more important still. All these muscles, extrinsic and intrinsic, are innervated by the facial nerve, and the author suggests that as there is a relationship between the contraction of the extrinsic muscles of the ear and those of the epicranium and face, some similar relationship may exist between these muscles and those of the middle ear. These extrinsic muscles of the ear, according to the author, are capable of reflex contraction, under ordinary conditions, and the action can be reinforced by voluntary effort. The act of listening intently stimulates the activity of these muscles. Acting on these principles the author suggests, in addition to massage and electrization, a series of auricular gymnastics such as movements of the scalp from before backwards, this to be followed by relaxation and a reversal of the movement. Associated with these are similar movements of the ear, which is dragged backwards by the epicranium, as well as by its own muscles. This is also done in the case of the other muscles of the ear, and finally without the aid of the epicranial muscles, the endeavour being to produce a sort of circumduction round the auditory orifice. It is necessary to proceed slowly during the séance, a short series of movements being followed by rest, as over-fatigue might lead to giddiness. The author recommends these exercises in the early morning for a period of time lasting from 10 to 15 minutes. Reflex movements are also to be encouraged by such means as listening to the ticking of a watch, and very gradually increasing the distance. The sustained effort of listening seems to exalt the auditory sensibility, whether from a succession of sound waves—which might not happen in the case of a single excitation—or because the extrinsic muscles of the ear assist in the manner described above. A defective ear must be encouraged, and the tendency to listen always with the better ear avoided. This regularization and co-ordination of all the functions of such an organ as the ear results in more perfect development, and the author suggests that in certain cases of middle-ear deafness the dilated muscle of the Eustachian tube may also be beneficially acted on in this way, as it is also innervated by the facial nerve.

138. Vaccine Treatment of Typhoid Fever.

JAMES G. CALLISON (*Med. Record*, June 24th, 1911) has for two years treated with vaccines all of his cases of typhoid fever. Beginning with the small dose of 25,000,000, he has increased this to 500,000,000 at intervals of two to three days. In prophylactic vaccination three injections are given, each at an interval of ten days. Antibodies begin to develop on the fifth to the tenth day; they are bacteriolysins, opsonins, and agglutinins. There is an incubation period between the injection and the beginning of formation of antibodies, and then the amount of these bodies rises for twenty to twenty-five days, after which it gradually falls during a period of one year. In an attack of typhoid fever there is a rise of temperature for eight or ten days until the bacillus may be demonstrated in the blood. Then there is a period of even high temperature and the Widal reaction becomes evident in smaller dilutions, followed by a gradual decline. This is to be compared to the similar rise of antibodies in vaccination. Recovery from typhoid fever and the development of immunity are brought about by a similar mechanism. Thus one should expect little effect from the vaccines in the first eight or ten days; then the antibodies natural to the disease and those artificially developed combine to cause improvement of the symptoms. The author gives an account of the systematic treatment of typhoid fever by vaccines as reported by various authors, and reports 23 cases treated by himself. Three of these are excluded because not treated in the proper stage of the disease. Of the 20 remaining cases there were 1 relapse and 3 deaths. There were 3 failures, all of them becoming septic in their temperature curve. The deaths were from rare complications: femoral phlebitis, lobar pneumonia, and meningococcus septicaemia. There were haemorrhages in 3 cases. Other complications were rare. The cases seemed better, showed a better appearance, and were more comfortable, having better appetite and sleep. Of 214 collected cases the mortality was 5.6 per cent.; relapses occurred in 5.1 per cent. The vaccine does not seem to have done harm. The inoculations were subcutaneous. Almost universally where used the treatment is considered to have done good. It lessens complications and relapses.

139. Site of Action of Strychnine.

RYAN AND MCGUIGAN (*Journ. of Pharm. and Exper. Therap.*, March, 1911), working in the laboratory of physiology and pharmacology of Washington University investigated the site of action of strychnine in the spinal cord. With regard to the sensory cells, the distribution of their fibres to various levels of the cord renders it possible to study the action of strychnine by its application to a localized region of the cord, but in order to make the experimental conditions more favourable the method of transfusion was used, thus giving the animal under observation two separate systems of circulation, into one of which the drug could be injected, thereby poisoning one part while the other remained unpoisoned. By connecting the central ends of the carotid arteries and external jugular vein of the donor to the peripheral ends of the thoracic aorta and inferior vena cava of the recipient, everything below the point of anastomosis in the latter was supplied by blood from the former, while everything above this point was supplied by the recipient's own blood, and a drug could be injected so that either half of the animal could be poisoned without affecting the other half. When the lower half of the spinal cord was slowly poisoned with strychnine by the above method symptoms of poisoning developed in the following order: (1) Exaggerated reflexes below the anastomosis; (2) spasms upon stimulation of the skin below the anastomosis; (3) spontaneous tetanus in hind part; (4) spasms of entire animal upon cutaneous stimulation of the lower half, while similar cutaneous stimulation in the upper half only produced normal reflexes; (5) general spontaneous tetanus. In more gradual poisoning by direct application of strychnine to the spinal cord in different regions the symptoms were slower in development, commencing with exaggerated reflexes and ending with spontaneous spasms, at first localized to the poisoned region, and later appearing in unpoisoned regions. With regard to the action of strychnine on the motor cells, the minimal electrical stimulus required to elicit a response in the fore and hind limbs when applied to corresponding cortical areas was first established, and then the spinal cord in the region of those limbs was poisoned, and the difference in response to the cortical stimulation noted. Poisoning of either the lumbar or cervical region of the cord was followed by increased excitability of the poisoned area when the corresponding cortical area was stimulated, and a similar result was obtained if the posterior roots in the poisoned area were severed. By so thoroughly poisoning the cervical region of the cord that cutaneous stimulation causes general spasm and then severing all the posterior roots, stimulation of the foreleg cortical area will cause spasm of the forelegs only, the stimulus required to bring about such result being weaker than that required in the beginning to cause a mere twitch. As the result of these investigations, the authors are of opinion that the irritability of the motor cells is increased by strychnine, though there are still some hypothetical objections which must be met experimentally before a definite conclusion can be drawn.

PATHOLOGY.

140. The Search for Albumen in Sputum.

ROGER (*Rif. Med.*, May 29th, 1911) draws attention to the diagnostic importance of looking for albumen in the expectoration. The number of examinations is 1,710, some in tuberculous and some in non-tuberculous cases. With very few exceptions, albumen is constantly found in tuberculous cases, and its presence may be taken as an index of the activity of the disease; when this is quiescent the albumen disappears. Acute miliary tuberculosis seems to be an exception to the general rule that the more active the disease the greater the albumen, as it may fail entirely in these cases. With regard to non-tuberculous cases, albumen was found in the sputum in 72 (pneumonia, bronchopneumonia, etc.). In these cases the albumen was usually present abundantly, but completely disappeared with the disappearance of the acute disease. In 142 cases of simple bronchitis the test for albumen was negative; this is of much importance, as it helps to distinguish a simple from a tuberculous bronchitis. Albumen may be found in the sputum of cardiopaths or albuminurics. Certain fallacies should be avoided. The sputum should be fresh, contain no blood, and as far as possible no pharyngeal secretion; it should be collected in a dry recipient, mixed with saline solution, and well stirred. A few drops of acetic acid are added to coagulate the mucus, and then filtered. The albumen is tested for in the filtrate by boiling, a little saline solution being first added.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

141. Demonstration of Hydrochloric Acid in the Stomach without Passage of Stomach Tube.

FULD recently claimed that the presence of HCl in the stomach could be demonstrated by the administration of a solution of soda an hour after a test breakfast and auscultation over the gastric region. If HCl is present, a fizzing is heard owing to the generation of CO_2. E. Schütz (*Zentralbl. f. inn. Med.*, May 27th, 1911) has tested the method in about 100 cases. An hour after a test breakfast he gives 2 grams (about 3ss) of bicarbonate of sodium dissolved in 50 c.cm. ($1\frac{3}{4}$ oz.) of water. Previously a small portion of the gastric contents was extracted with the stomach tube and its acidity determined, to enable a comparison to be made between the degree of acidity present and the results of auscultation. Examination in the erect position gave more reliable results than in the supine. In the latter the results of analysis of the gastric contents and of auscultation frequently disagreed. But in the former fizzing due to the evolution of CO_2 is usually plainly heard. This probably depends on the fact that the sounds are loudest when the fluid is in the immediate neighbourhood of the abdominal wall and faintest when a layer of gas is interposed between the fluid and the abdominal wall. The ear should be placed directly on the skin and the position of greatest intensity of the sounds determined by rapidly examining the whole of the upper part of the abdomen. If the acidity falls below 15, no fizzing occurs, or it is indistinct. With high degrees of acidity it is often extremely loud and persists for some minutes. Extreme obesity or rigidity of the abdominal walls may obscure the results, even with marked hyperacidity. The sounds which arise in fermentative processes within the stomach are easily distinguished from the fizzing sounds accompanying the evolution of CO_2. Even the presence of lactic acid appears to give no positive result. Fuld's test is thus in no way so reliable as direct chemical examination of the gastric contents, as a negative result does not exclude the presence of free HCl with certainty. A positive result, however, appears to be conclusive of its presence. The method may also be used to determine the lower limit of the stomach, as the fizzing with the patient in the erect position ceases suddenly at the lower margin of the stomach.

142. Icterus in a Child due to Emotion.

MERKLEN (*Ann. de méd. et chir. inf.*, April, 1911) records the case of a girl of 11 in whom jaundice occurred forty-eight hours after a fright, and analyses five other cases, the only ones he can find in the literature. Five out of the six cases occurred in girls, the greater impressionability of the female contributing, he considers, to the preponderance of the disease in this sex. The jaundice never supervened immediately after the shock; there was always an interval of twenty-four hours at least. The effect of the shock is most frequently felt by the stomach first, headache, loss of appetite, and vomiting being frequent early symptoms; it may, however, affect the liver directly. In Merklen's case, after the patient was cured she went to live with a family where there were four children, two of whom shortly afterwards became jaundiced. The author finds that "emotional" jaundice is nearly always caused by fright; it has been known to succeed anger, but both emotions have this in common, that they are of a painful nature, and it seems as if "emotional" jaundice can only result from emotions of this kind.

143. Hyperchlorhydria and Chronic Dyspepsia.

CHARLES SUMNER FISCHER (*Med. Record*, July 15th, 1911) states that most chronic dyspeptics have hyperchlorhydria, which is simply an exaggeration of the normal function of the stomach. A normal stomach responds to irritation by increase of activity. The acid of the stomach is a protective against bacteria; digestion implies self-preservation; the tendency of animal protection is acid, the secretions of the bacteria being alkaline. Sour stomach, bilious attacks, and sick headaches are attacks of hyperchlorhydria. The causes of hyperchlorhydria are remote and immediate. The foundation of many of these cases is laid in bad dietetic habits of childhood, promiscuous and irregular eating, and the constant presence of food in the stomach exciting secretion. The majority of stomach troubles are due to conditions of life rather than dietetic indiscretions. The average chronic dyspeptic is underfed. Old cases exhibit defective digestion, defective innervation, and defective metabolism. The relation of constitutional conditions to gastric secretions is not close, the stomach acting independently. In the functional neuroses is seen the greatest variability of stomach secretion. Fully 25 per cent. of nervous dyspepsias are cases of hyperacidity. There is lack of inhibitory control in these neuroses. The daily irritations of life increase hyperacidity.

144. A Skin Eruption in Poliomyelitis.

BROWN (*Pediatrics*, April, 1911) describes an eruption which appeared in six consecutive cases of poliomyelitis in the Hospital for Sick Children at Toronto. The rash was most abundant on the paralysed limbs, and only occasionally and sparsely visible on the unaffected abdomen and chest and an unaffected upper extremity. It appeared as a small papule, shot-like in character, with a tiny inflammatory base, sometimes going on to vesication, with a clear fluid, not unlike chicken-pox, the inflammatory base then disappearing. The spots did not follow any definite nerve segments, nor were they painful to the touch. No uniform results were obtained from lumbar punctures, smears or cultures from the vesicular serum, and sections through the vesicles themselves showed that they were not deep-seated, but only between the Malpighian and corneal layers of the skin, the only pathological change being a little perivesicular inflammation.

SURGERY.

145. Spontaneous Wounds.

Y. TANAKA (*Wien. med. Woch.*, No. 18, 1911), describes a form of wound which occurs spontaneously and is frequently seen in Japan, the so-called Kamaitachi disease. The wound is suddenly formed and is exactly identical in appearance with a tear of the soft parts; in shape it is somewhat crescentic. Usually it occurs in one of the lower limbs, sometimes on the face. Migamura has recently reported a case in which the wound was in the right patellar region, was sickle shaped, 6 cm. (2.4 in.) in length, 2.5 cm. (1 in.) in breadth. The injury occurs during thunderstorms. In explanation the author points out that it is known by meteorologists that during thunderstorms a temporary vacuum may occur in places as a result of stray air currents, and if a part of the body comes into such a space a tear may result from the internal pressure unmodified by the action of external pressure. The cases usually occur in outlying mountain districts, rich in trees and streams, and it is in just such districts that in a thunderstorm atmospheric conditions can most readily produce a vacuum of the kind described.

146. The Ultra-violet Rays in Ophthalmology.

J. RUHEMANN (*Berl. klin. Woch.*, July 3rd, 1911) gives particulars of 13 cases of various diseases of the eye treated by means of a preparation called "aqua zeozoni." Most of these cases had one symptom in common—photophobia—in greater or lesser degree. It has long been known that the ultra-violet rays have an irritating effect upon the eye. These rays are included between 300 and 400 $\mu\mu$ Wellenlänge, and most of them do not penetrate the cornea. Some—those between 320 and 375 $\mu\mu$ Wellenlänge—do, and are absorbed; those between 375 and 400 $\mu\mu$ set up a slight fluorescence in the lens (Schanz and Stockhausen). Light rich in these rays is supposed to be the cause of electric light ophthalmia, snow blindness, spring conjunctivitis, and it is probable that they play some part in some other inflammations and diseases of the eyes. A considerable number of substances have been proved, in solution, to have the property of absorbing the ultra-violet rays, and in particular aesculin. Four soluble derivatives of aesculin have been experimented with by the author. They were all able, in solutions of 1 in 10,000 and a centimetre in thickness, to absorb completely the ultra-violet rays. From these, after various

trials, one was selected—the ortho-oxy derivative of aesculin, already recommended by P. G. Unna for the protection of the skin. It was neutralized with boric acid and used in 0.03 to 0.05 per cent. solutions, which were of a light yellow-brown colour, and named "aqua zeozoni." This solution, dropped into the eye three or four times daily, did not provoke a trace of irritation, and was found by Ruhemann of the greatest service, not only in specific eye disorders, like snow blindness, due to the ultra-violet rays, but in many other eye diseases characterized by photophobia, and inflammation of the cornea, conjunctiva, and even of the iris and retina. The relief of irritation is particularly apparent in the atropinized eye, and facilitates the use of the ophthalmoscope. The author supposes the new medicament to act by infiltrating the tissue of the cornea and conjunctiva by its continued instillation, and thus intercepting the harmful rays. As to how far these rays may stand in a causal relation to cataract, and to what extent "aqua zeozoni" may be of use in that disease, is a question for the future.

147. The Internal Secretion of the Prostate.

N. LERALLACH AND MARTIN PARÉZ (*Revista de Medicina y Cirugia Practicas*, July 7th, 1911) have carried out, at the Municipal Bacteriological Laboratory of Barcelona, a great number of experiments on dogs with the object of ascertaining the action of the internal secretion of the prostate gland. These experiments are the continuation of a series, the results of which have already been published (*Société de Biologie*, Paris, December 28th, 1907, vol. lxiii, p. 790). From these it appears that the prostate gland exercises a powerful influence upon the testicles and upon spermatogenesis. It was found that in dogs whose prostate had been as far as possible (that is, not completely) removed, the testicles atrophied, and spermatozoa disappeared from the semen. If, however, contemporaneously or previously to the removal of the gland, a portion of it was engrafted in the subcutaneous tissue of the animal or an extract of the gland given by the mouth, these consequences were averted. It was also found that a glycerine extract of the prostate gland, injected intravenously, caused a marked testicular vaso-dilatation and spontaneous emission of semen from the vas deferens. In order to answer the objection that in these experiments the prostate was never completely removed, the authors made many attempts to devise a method of operating which would enable them to remove every vestige of prostatic tissue without at the same time vitiating the results of the experiment in other ways. They chronicle here their success in this attempt, and describe the consequences of the removal of the prostate gland complete "in the most absolute sense of the word." Here, as in the former experiments, the dogs without a prostate suffer an atrophy of the testicle and a suspension of spermatogenesis, shown during life by the absence of spermatozoa from the semen, and when the testes are examined microscopically, by the absence of the transition forms of sperm cells. Microphotographs are shown of sections of the testes of dogs at varying periods after complete prostatectomy. At the end of about a month the seminiferous tubules are seen to be totally deprived of seminal epithelium, the cells of Benza are absent, and the picture is one in which all the characteristic features of a normal testicle are absent. The authors describe an experiment made with the object of demonstrating the action of the secretion of the prostate. Two puppies, as nearly as possible alike, were taken from the same mother. When they were 61 days old one of them was given daily doses of extract of prostate gland for about five weeks; the other was kept as a control. At the end of five weeks a testicle of each was removed and examined microscopically. It was found that the testicle of the animal which had taken *prostatina* was in a much more advanced stage of development than the other. Microphotographs are given. During the progress of the experiment it was observed that a marked difference appeared in the growth and demeanour of the puppies. The one which took the extract of prostate gland was much thinner, livelier, and more inquisitive, intelligent, and excitable than the other.

OBSTETRICS.

148. Uterine Pregnancy after Ectopic Gestation.

ESSEN-MÖLLER (*L'Obstétrique*, March, 1911) has systematically followed up 56 cases of ectopic gestation in his clinic. All recovered, and all except one underwent operation. Seventeen cases being put aside for sound reasons—high age, removal of both Fallopian tubes, death from general disorders soon after the operation, too recent operation, etc.—39 remain, and of these 18 became pregnant again. There were 24 normal uterine pregnancies (one gemellar); 2 abortions, one after two living children, the other followed by another pregnancy, the child being born alive; and lastly, 2 tubal pregnancies, one following a normal pregnancy where the child was born alive. Thus there were 22 pregnancies, and in 27 the tube functioned normally. Out of the 18 patients, 11 had one normal pregnancy, 3 had two, and 2 had three. The space of time between the operation and conception ranged from a month to five years. Essen-Möller insists that these statistics prove that when a tubal sac is removed the opposite appendages should be saved. There is risk of gestation in the saved tube, but that risk is not great, and is compensated by the fact that the patient may probably become normally pregnant more than once. When the appendages are bound down by adhesions it is not always necessary to remove them. Engström has reported six pregnancies after operations for tubal gestation where he set the opposite appendages free from adhesions. Prochownik has noted 4 similar cases. Essen-Möller set free the opposite appendages in 1 case, but in that instance pregnancy occurred in the saved tube. Drainage diminishes the chance of pregnancy. There is difference of opinion as to the relative results of the removal of a tubal sac and the expectant treatment of tubal haematocele. According to Prochownik's statistics, no less than 20 pregnancies followed 40 tubal pregnancies treated without operation, and no less than 21 pregnancies followed 39 operations for the removal of tubal sacs.

149. Abortion: Gangrenous Colpitis: Hemiplegia after Curetting.

LEVY (*Comptes rendus de la Soc. d'Obstét. de Gyn. et de Pédiatr. de Paris*, etc., No. 4, 1911) was consulted about a woman, the mother of three children, who had induced abortion by violent exercise and vaginal injection of caustic solutions. The membranes came away piecemeal for a fortnight. The midwife (no practitioner of any kind had been in attendance) grew alarmed and called in Levy. He withdrew a big piece of fetid placenta and applied the curette to the endometrium. Left hemiplegia almost immediately followed without abolition of reflexes or sensibility; there was contraction of some of the muscles of the right side of the face. At the same time the vaginal mucosa, which showed numerous eschars when the curette was applied, sloughed entirely. There was hardly any rise of temperature. At the end of a fortnight the mucosa was found to be reconstituted; it had been washed out daily. There was slight cystitis, which soon subsided. But the paralytic symptoms remained, and seven weeks after the operation there was but little improvement. The patient was not neurotic, the paralysis was clearly not of the hysterical type, and Levy admits that it was set up by the use of the curette, which caused embolism.

150. Polyuria in Retroversion of the Gravid Uterus.

NUBIOLA (*Revista de Medicina y Cirugia Practicas*, June 14th, 1911) discussed, in the Second Congress of Obstetrics, Gynaecology, and Pediatrics held in Madrid, the occasionally observed polyuria in retroversion of the gravid uterus distinct from the abundant discharge of urine which is customary after the reduction. He related details of two cases observed by himself, and quoted another observed by Dr. Fargan. In the first case, on the two days before the reduction of the uterus, 5,730 and 1,036 grams respectively were drawn off by the catheter, and on the six days following the reduction 4,980, 2,885, 2,750, 1,925, 1,560, and 636 grams of urine were passed. For the first few days there was a slight elevation of temperature, due to some gastro-intestinal disturbance. The pregnancy progressed normally. In the second case there was oedema of the lower extremities, hypogastrium, and vulva, and ulceration of both legs. The quantity of urine passed on the thirteen days succeeding the reduction was 8,540, 9,800, 5,105, 1,120, 7,210, 6,495, 6,015, 5,105, 5,100, 4,450, 4,100, 4,310, 3,250 grams. During the next fortnight the amount gradually decreased to 2,996 grams, when the observation was suspended. The patient suddenly aborted. In Dr. Fargan's case the patient was in the fifth month of pregnancy, and in the space of the hour occupied by the consultation she passed 9 litres of urine, and in the two or three succeeding days 6 to 8 litres daily. The uterus was reduced and gestation continued. The author believes that this polyuria, and even the lesser degree usually associated with these cases, cannot be explained by the causes commonly adduced—retention due to bending or elongation of the ureter,

dema of the cervix, vesical paralysis. He refers it to nother etiological factor—reflex hyperaemia of the omeruli caused by the distension and pressure on the adder.

51. Non-gonococcic Ophthalmia Neonatorum.

ORAX (*Annales de gynéc. et d'obstét.*, June, 1911) has ade some researches to aid in the distinction between nococcic ophthalmia in infants and certain other forms, e other specific types (pneumococcic, diplobacillary, c.), and what is known to ophthalmologists as inclu- n ophthalmia (*Einschluss Blenorrhoee*) on account of rtain histological changes in the epithelial cells of the lpebral conjunctiva. This type is far less virulent an the variety of ophthalmia caused by gonorrhoea, ere is much local swelling of a characteristic nature, t ulceration and perforation of the cornea and ner changes prejudicing vision do not occur. Dia- osis therefore becomes highly important, the more since Morax found the two forms coexistent. pical gonococci were detected in an infant. At two nths, after appropriate treatment, distinct "inclusions" re observed, whilst the gonococci had entirely dis- peared. The milder form was in this, as in other cases, tinate and caused thickening of the palpebral con- ctiva. The mixed type has already been observed and istered in obstetrical and eye clinics. Lindner detected "inclusion" cases in 53 infants with gonococcal thalmia. In 20 cases of non-gonococcal ophthalmia mined by Morax himself, working with Lindner and lack, "inclusions" were detected in 15. Out of 115 es of ophthalmia neonatorum of all types Lindner nd that 49 were gonococcal, 53 "inclusion" ophthalmia, ixed, and 13 of other varieties, neither gonorrhoeal nor the inclusion type. Morax concludes that non- ococcal ophthalmia in the infant is in the great jority of cases of the inclusion variety, and is probably common as before the days when prophylactics became erally used so as to effect great diminution of gonococcal ction. Nitrate of silver is of little value in treatment. dner considers that it is closely related to trachoma.

GYNAECOLOGY.

2. Vesico-Vaginal Fistula.

SCUDDER (*Medical Missions*, July, 1911) claims the t satisfactory results in 16 cases of vesico-vaginal ula operated upon at Vellore. Great precautions are n both in preparation and after-treatment. A quarter grain of morphine sulphate is given hypodermically re chloroform is administered. The parts, especially nd the fistula, are painted with iodine. A pair of t silk sutures, passed deeply and widely apart into the s of the vagina, are used in the place of lateral actors. The first incision is made with the knife just he junction of the bladder and vaginal mucous mem- ne, then the usual splitting process is carried out ly all round. Kell's special scissors, curved on the are employed at this stage. When the splitting is d sufficient to allow of the bladder walls falling ther without the least tension, the edges are ened, denuded, and sutured together with fine silk- n gut, so as to invert slightly the edges of the wound, ring the even closure of the bladder walls without ne constriction of the parts enclosed in the sutures. micized kangaroo tendon is preferred by some ators. The ordinary milk test is now applied; in ses in Scudder's series minute fistulae beyond the of that just closed by suture were detected for the time. When there is no leakage the vaginal tissues united by suture. Perfect union, often difficult to re, is not absolutely necessary, as, when there is not ient mucous membrane to cover the sutured bladder, are space granulates over rapidly. The stitches are ed with tincture of iodine and the vagina packed gauze soaked in iodine solution, one drachm to the e. The bladder must be well washed out with steri- water to remove the milk and any possible blood A soft rubber catheter is left in the bladder for five days, being removed daily to allow of the ing out of the vesical cavity with sterile boric solu- hrough a glass catheter. The stitches are removed e end of a week. Free liberation of the bladder is nain principle of this method; very large fistulae ring the urethra and complicated by adhesions to the ibis can be closed satisfactorily if a fair area of er be set free.

153. Pendulous Abdomen: Sloughing of Parietes.

WALTHARD (*Zentralbl. f. Gyn.*, No. 27, 1911) recently demonstrated at a medical congress a patient with pendulous abdomen. A sore developed in the lower part of the pendulous parietes, the necrosed tissues were infected by the staphylococcus, and wide destructive inflammation followed, perforating the parietal peritoneum, but the perforation had been preceded by protective adhesions in the region of the uterus. Walthard removed the infected uterus and resected the pendulous parietal sac; after suture the integument, fascia, and muscle united by second intention.

154. Ectopic Pregnancy and Accessory Tubes.

WALTHARD (*Zentralbl. f. Gyn.*, No. 27, 1911) demonstrated, at a meeting of the German Gynaecological Society last June, a very early human ovum lying in the mesentery of a small accessory tube or paratube. The ovum was embedded, not in the paratubal mucosa, nor did it lie in the paratubal cavity. Its bed was the maternal connective tissue in the process of mesosalpinx which invested the paratube. The relations were made clear by the aid of coloured photograms, and may throw some light on the pathology of intraligamentary pregnancy.

THERAPEUTICS.

155. Salvarsan in Oto-Rhino-Laryngology.

GERADA (*Revista de Medicina y Cirugia Practicas*, June 28th, 1911) communicated to the Academia Medico-Quirúrgico Española his results in 8 intramuscular and 53 intravenous injections of "606" in syphilitic affections of the ear, nose, and larynx. All the intramuscular injections were into the gluteal muscles—30 cg. in the female and 40 to 45 in the male. The patients were kept in bed for a day or two, and warm fomentations applied after the injection. In 6 of the 8 cases there was much swelling, which in 3 remained at the end of three months. One case suppurated. The intravenous dose was never more than 2 cg. There were 42 cases of secondary syphilis treated, most of them being cases of mucous plaques. These showed signs of improvement a few hours after the injection, and were healed in three or four days. Eight cases of aphonia with erythema of the vocal cords were cured, five of them in six hours and the others in from two to three days. In the majority of the cases the accompanying adenopathy remained unaffected. No doubt these cases were not radically cured, and required further injections. Eleven cases of tertiary syphilis were treated. Four of them were cases of extensive disease, which had resisted treatment by mercury and iodides. Two cases of deep and ulcerated gummata of the pharynx, one of which had to be fed with a tube, cleared up in ten days. Swallowing was possible without difficulty on the same day as the injection. In a case of labyrinthine disease the hearing improved in twenty-four hours, and the tinnitus and vertigo disappeared. A tuberculous syphilide cured in eight days. A case of gummatous glossitis improved considerably for eight days, and then remained stationary. Up to the present time there have been 4 cases of relapse, all in intramuscularly injected cases. None of those treated intravenously have so far relapsed. The reaction of Wassermann was tested only in 15 cases. In 14 of these cases the reaction was positive before treatment; in 2 cases it remained so after treatment; in the other 12 cases it was negative after treatment. In one case the reaction was negative before treatment and positive afterwards.

156. Serum Treatment of Stomach Cancer.

DON ALFONSO VELASCO (*Revista de Medicina y Cirugia Practicas*, June 7th, 1911) relates a case in which all the usual symptoms of gastric carcinoma were present, and which disappeared completely after injections of anti-cancerous serum and 50 drops of "opogastricina" daily. The patient was a parish priest, and was 73 years of age and a native of Cabeyon de Elena (Oviedo). He appears to have suffered from definite symptoms—loss of appetite, pain in the epigastrium unrelated to and unaffected by the taking of food, and vomiting, with much general malaise. Latterly to the above symptoms must be added several attacks of profuse haematemesis. On examination his condition was as follows: Feeble, great emaciation, skin dry, rough and pale; pulse small and frequent, some fever, severe diffuse pain in the epigastrium, extending to the right hypochondrium; vomits food alternating with dark blood, anorexia, and constipation, giving place at

times to stools sometimes black and at other times colourless. At the level of and to the right of the umbilicus could be felt a hard, only slightly movable, tumour, a little painful on pressure. The stomach was dilated, and there were enlarged glands in the groin. An examination of the stomach contents showed a total absence of HCl. The institution of the treatment mentioned above—an injection of anticancerous serum every two days and 25 drops of opogastricina night and morning, with a milk diet—was soon followed by a sensible amelioration of the symptoms, and after a time (not definitely stated) by their complete disappearance. There was no longer any palpable tumour, and the patient was restored to perfect health. The author truly observes that, had this patient died, without doubt the diagnosis would have been cancer. He goes on to discuss the differential diagnosis of cancer of the stomach, and concludes that the only other condition which might correspond to some extent with the clinical picture is a hypertrophic sclerosing gastritis; and as in his view this form of gastritis is the basis on which cancer is engrafted, or even an early stage of cancer, the practical result is the same. He attributes a large share in the cure to the opogastricina, and suggests its further trial.

157. Electrolytic Treatment in Sciatica.

Laborderie has a note upon a case of sciatica treated successfully by ionization with hyposulphite of soda (*Arch. d'électr. méd.*, May 10th, 1911). The patient, aged 50 years, was unable to walk or to perform his work, and had suffered thus for ten months. The pain extended along the right lower member from the hip to the foot, and compelled him to lie continually in a curved position. It was accompanied by loss of appetite and general enfeeblement. Many methods of treatment had been tried unavailingly, from vesications to pomades and liniments. On being brought to the electrical department he could only descend some stairs backwards, on all fours, and very painfully. An electrical examination failed to reveal any noteworthy modification, either qualitative or quantitative, of the reactions. The treatment was designed to take advantage of the hyposulphurous ion, S_2O_3, resulting from the electrolytic decomposition of hyposulphite of soda. The electrode consisted of a piece of tin measuring 25 by 15 (cm.?), covered with a thick layer of absorbent tissue which had been saturated with a warm 5 per cent. solution of hyposulphite of soda. This was attached to the negative pole and placed at the posterior part of the thigh, and at the point of emergence of the sciatic nerve. A positive electrode, saturated in ordinary water, was placed on the calf and slightly to the front of the leg. Three sittings a week were given, the current being 70 to 90 milliampères, and the duration forty minutes. From the fourth sitting the amelioration was clearly marked, and by the tenth sitting the patient was able to walk a mile without any support. This was at the end of 1908, and the cure has persisted (April, 1911). Laborderie has also had excellent results with the electrolytic introduction of the salicylic ion, but here the number of sittings has always been considerable (twenty to twenty-five), while in the case of the hyposulphurous ion, albeit only in this isolated instance, ten sittings sufficed. The chemical results of the electrolytic decomposition of hyposulphite of soda are a disengagement of SO_2 and a deposit of sulphur under the negative electrode, rendering the skin oily. The procedure has been interpreted as follows: After the passage of the current $S_2O_3Na_2$ is decomposed, the ion S_2O_3 going to the positive pole and Na to the negative. But Na, in the presence of H_2O of the solution, gives the reaction:

$$Na + H_2O = NaOH + H.$$

This hydrogen H, incompatible with the ion S_2O_3, gives:

$$S_2O_3H = SO_3H + S.$$

The ion SO_3H, which is an anion, is carried to the positive pole, and, penetrating the organism, is oxidized and produces an augmentation of the sulphates and phenolsulphates,

PATHOLOGY.

158. Benign and Malignant Chorion Epithelioma.

F. Hitschmann and Robert Cristofolette (*Wien. klin. Woch.*, Nos. 19 and 20, 1911) deal with the pathology and treatment of malignant chorion epithelioma. They find that there are no anatomical, clinical, morphological, or even, in some cases, microscopical differences which can be relied upon in every case to establish with certainty the diagnosis as between malignant and benign chorio epithelioma. Clinically, cases which already sho metastatic growths may recover spontaneously, whi cases which appear to be benign may subsequentl run a malignant course. Microscopically it is not easy t find essential differences between trophoblast and chorio epithelioma. Morphologically fetal cells resemble tumou cells in their enormous capacity for growth and the power of destruction of maternal tissue. The microscopi appearances must always be taken in combination wit the clinical examination. The treatment of chorio epitheliomata has not advanced; vaginal extirpation ha been almost universally employed, and the cases ofte run an acute malignant course after operation. Th tumours are exceedingly friable, and tumour masses lie i the patent maternal vessels, so that the danger of meta stasis is exceedingly great and any operative interferenc may give rise to embolism. In one case described signs o metastasis in the lungs appeared thirteen days after opera tion, and the patient died eleven days later, althoug before the operation she had been in good general healt and the wound had healed by first intention. In this cas the blood vessels of the uterine wall contained tumou cells and many of them were still patent. To preven embolism the authors recommend that the vaginal opera tion should be abandoned, that laparotomy should be per formed, and the uterus not be dealt with until th spermatic and perametric veins have been ligatured. Th danger of metastasis after operation is clearly brought ou by an examination of records of 300 cases, most of whic were treated by operation, but 46 of which were not s treated. The average duration of life was decidedl greater among those not operated upon. In 28 of ther also—that is, in decidedly more than half—no metastasi was discovered *post mortem*, and only in 6 of them was condition of general metastasis present. Curetting i particularly dangerous; in one case described vagina metastasis occurred within a few days after curetting The operation recommended in the article is that per formed in puerperal septic thrombo-phlebitis, the mai principle being that the venous stems should be firs ligatured with as little manipulation as possible in orde to lessen the danger of embolism. The course of case after operation is very various, and the authors believ that it largely depends on the condition of the parametri and spermatic veins at the time of operation. If these ar patent the danger of embolism is obvious. On the othe hand, fetal tissue depends for its nutrition on the ci culating maternal blood; any blockage of the circulatio leads to injury of the fetal epithelial tissue and to necrosi and this again to further thrombosis. Necrosed tissue, embolism occurs, may act like a simple, not a malignan embolus, while widespread thrombosis may lead t necrosis and subsequent absorption of the whole tumou if it is limited to the venous region in question. A case i described in which spontaneous recovery followed opera tion, although it had been found impossible to radicall remove the tumour because of the wide infiltration of th pelvic connective tissue. Recovery from secondar growths in the lungs and also in the vagina have u doubtedly occurred and are considered by the autho to depend upon the small power of resistance of the fet cells and their great dependence on the circulatin maternal blood. The authors would extend the indic tions for operation to all cases in which technically could be carried out, and would not consider that th presence of metastasis necessarily contraindicated oper tion.

159. Congenital Elevation of the Scapula in a Child Affected with Multiple Malformations.

Madame Nageotte-Wilbouchewitch (*Arch. de méd. d enfants*, July, 1911) adds another case to the 100 alread published of this deformity called after Sprengel. Th child, 9½ years of age, showed marked elevation of th right scapula, slight scoliosis of cervical and upper dors region with a convexity to the right, a fibro-lipoma at th base of the spine of the left scapula and one on the occipu Traces of four angiomata were present at the root of th neck, a fibro-cartilaginous protuberance on each ear, and fibro-chrondroma at the base of the tragus of the left ea The nose was asymmetrical and the arch of the palat increased. The teeth only met at the level of the molar The right hand was 1.5 cm. broader than the left. Th indices were longer than the ring-fingers. The left foot ha six toes, with campodactyl of the fifth. In addition th child had suffered from hydrocephalus at the age 5 months and slight signs of left hemiplegia, characterize by hypotonia and combined flexion, without any atroph or contracture.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

160. False Vomiting.

MATHIEU (*Rev. Française de méd. et chir.*, June, 1911) defines vomiting as the rejection by the mouth, with a characteristic effort, of substances coming from the stomach, and hence false vomiting proceeds from rumination and regurgitations. The author leaves out of consideration the former, and devotes his attention to false oesophageal vomiting and regurgitations. The former he divides into vomiting or regurgitation with dysphagia, vomiting, or regurgitation accompanying a dilatation, or oesophageal diverticulum, and oesophageal pituitous vomiting. The latter is of four kinds: (1) Immediately after a meal, a sensation of weight and pain is felt in the stomach, salivation becomes increased, and a spasm of the cardiac end of the stomach results. When the oesophagus above the cardic end is filled with liquid, a sensation of pain and thoracic uneasiness is felt, and this is at once followed by rejection of the fluid. (2) In other patients the nausea is primary, and precedes the accumulation of the saliva in the oesophagus; this is the condition in the morning vomiting of alcoholics. (3) In the same patient a pituitous vomiting may result from the oesophagus; it may be elementary, of gastric origin, or it may be bilious. (4) Haemorrhagic pituitous vomiting of hysteria. The colour of the liquid is similar to syrup of currants diluted with water, or it may be browner if exposed to the air for a certain time. The condition is nearly always hysterical. The author believes the blood can come from the salivary glands, the pharynx, or oesophagus. The author considers the vomiting of regurgitation is semi-voluntary, and can easily become voluntary, and cure can be obtained by appealing to the good sense of the patient. In cases of sialorrhoea ending in vomiting, the author has seen good results from taraxacum. In haemorrhagic vomiting suggestion plays a great part.

161. Epidemic Poliomyelitis and Beri-beri.

O. V. HUFFMANN (*Med. Record*, June 17th, 1911) believes that beri-beri and multiple neuritis have often been confused with anterior poliomyelitis. Lesions have been found in the anterior horns of the spinal cord in cases of neuritis. Multiple neuritis and poliomyelitis are identical disease processes; both show degeneration and infiltration in the nerves. There is no great difference between the symptoms of the two diseases. The author considers the diseases as occurring in epidemics only, the sporadic cases being left out of consideration. Beri-beri often affects the lower extremities, like poliomyelitis, but may involve the upper ones. Oedema is not as often seen as has been supposed. The author notes the epidemics of poliomyelitis that have been observed in different parts of the world. Seaports are usually the first places involved in the epidemics. Quarantine has seemed to be effective in checking the spread of poliomyelitis. It may be spread by a common parasite, such as the flea, louse, or bed-bug, or by an insect from tropical fruits. The domestic animals, such as the horse, dog, and chicken, are affected by poliomyelitis. This would seem to be caused by faulty foods. Beri-beri is also associated with faulty feeding; rice, barley, or flour may be suspected as causative factors. The analogy of the two diseases is worthy of notice.

162. Chronic Intestinal Indigestion in Early Life.

GRIFFITH (*Arch. of Ped.*, May, 1911) finds that chronic intestinal indigestion in infancy is more frequent in the first year of life, especially in the first six months. The most important cause is an unsuitable diet, and hence is more frequent in those artificially fed. According to the researches of Finkelstein, the disease is a disturbance of the digestive process, not a direct bacterial disease—a fault, therefore, of the secretory and absorbing power of the intestine, often with a startling intoxication from chemical poisons produced. The symptoms are as follows: In some cases constant diarrhoea, the stools being watery, greenish, and containing curdy masses; in other cases there is chronic constipation, the stools being often pasty and too light in colour; vomiting occurs occasionally. The abdomen is distended with gas, and colic is frequent in cases with constipation; the appetite is generally good, and sometimes large; irregular fever occurs in many cases. The chief symptom is increasing loss of weight. The disease steadily passes into chronic ileo-colitis; thrush and intertrigo are frequent. The disease lasts for months, and a tendency to relapse is frequent; death may occur. The prognosis is always serious. Medicinal treatment is symptomatic: constipation is to be relieved by enemata or gentle laxatives, diarrhoea by suitable drugs. The child should be in the open air as much as possible, or, if the weather prevents or the condition of the child prohibits it, then fresh air in a well-ventilated room. In breast-fed infants weaning should not be advised too soon. In artificially-fed infants careful inquiry should be made into the food previously taken; if active symptoms are present, a moderate starvation for twenty-four hours is advisable. Thin barley water or arrowroot water is often of service; afterwards, whey, with the addition of cream as the child improves, is often of advantage. Finkelstein and Meyer recommend "casein milk" made as follows: The milk is coagulated with rennet and the whey strained off; the casein curd remaining is rubbed through a sieve and mixed with buttermilk. In many cases cereal decoctions, as oatmeal, are of value, and buttermilk frequently gives encouraging results. In older children the most frequent age lies between 3 and 10, and the commonest cause ingestion of carbohydrates. The child loses flesh, the complexion becomes pale or sallow, the appetite poor, the abdomen distended, the tongue pale, flabby and indented, and the bowels constipated, or constipation may alternate with diarrhoea; the stools are pale and often contain mucus; sleep is restless and disturbed by dreams. The course is slow and there is a tendency to relapses; the prognosis is on the whole good. The most important treatment is dietetic. Mastication should be slow. Starchy food should be avoided, the child taking only meat, milk, beef-juice, and green vegetables; fats should be avoided. A daily cool morning sponge is valuable and fresh air indispensable. Laxatives should be given to counteract the constipation. The author finds bicarbonate of soda, nux vomica, and gentian the best drugs; the treatment should be continued for some time.

163. The Bite of a Poisonous Lizard.

MADAME PHISALIX (*Gaz. hebd. des sci. méd. de Bordeaux*, July 2nd, 1911) describes to the Academy of Science the consequences of a bite from a venomous lizard of the Helodermatide family, found in Mexico. She was examining one in the menagerie of the museum and was trying to open its mouth with the index finger of her right hand, in order to inspect the poison fangs in the inferior maxilla. Just as she had finished the animal suddenly turned its head and seized the point of the finger, one poison fang penetrating the pulp, two others compressing the nail with sufficient force to cause an ecchymosis, and two teeth of the upper jaw being deeply fixed in the tissues. The wound bled freely, and was washed at the tap for ten minutes; the pain, which was very severe, passing along the course of the median nerve up to the axilla, and a deep purple swelling extending from the tip of the finger to the wrist. The puncture itself was surrounded by a colourless areola, as in the case of a viper bite. The general symptoms made their appearance five minutes after the bite, and consisted of a profuse sweating all over the body, with marble pallor of the face and vertigo, making a sitting position compulsory. Half an hour later diuresis and diarrhoea came on, but no vomiting or even nausea, these phenomena lasting about three hours, and the treatment being limited to the quenching of the severe thirst by fresh orangeade. The local pain remained acute until the next day, with occasional exacerbations, in spite of continuous compresses of sterilized water, but the swelling did not increase, and the axillary glands were not involved.

164. Thrush.

EUSTACE SMITH (*Pediatrics*, June, 1911) devotes an article to this subject and recommends the following treatment:—*Local:* Directly the bottle has been taken the mouth should be swabbed out with a soft linen rag, and afterwards the glycerine of borax should be brushed over the interior of the mouth. If superficial ulceration is present 10 grains of sulphate of zinc may be added to each ounce

of the wash. In the worst cases a paint of 3 or 4 grains of papain mixed with glycerine should be employed, and then the uncovered surface treated with 5 to 20 grains of resorcin in an ounce of normal saline. *Food and hygiene:* The breast is preferable to the bottle and asses' milk to cows' milk; it should be thickened with barley water. White wine whey is a valuable food. Fresh air, warmth to the belly, and perfect cleanliness are essential. *Medical treatment:* If the bowels are not relaxed a dose of rhubarb with a grain of grey powder should be given, and afterwards a draught containing a few grains of carbonate of soda and an aromatic three or four times a day. If there is nausea the stomach should be cleared out by ʒj of vin. ipecac. or $\frac{1}{60}$ to $\frac{1}{30}$ grain of apomorphine hypodermically. Glycerine, carbolic acid, and tincture of iodine, half to one drop each of the two latter in a teaspoonful of water sweetened with glycerine every four hours, is invaluable.

SURGERY.

165. Idiopathic Splenomegaly and Splenectomy.

H. SENATOR AND FEDOR KRAUSE (*Berl. klin. Woch.*, July 3rd, 1911) report a case in which the first-named physician diagnosed the above disease, and the latter surgeon removed the spleen. The patient was a man of 40 years of age, a Hungarian, and complained chiefly of giddiness and periodic severe headaches; also of a feeling of fullness and weight in the body. He suffered also from occasional attacks of severe pain in the abdomen, which necessitated the resort to hypodermic injections of morphine. Repeated examination of the blood showed the erythrocytes very slightly diminished—4 to 5 millions—and the leucocytes distinctly diminished in number—2,700 to 4,800. The patient had been told that he had Banti's disease, and on that account journeyed to Berlin to have his spleen removed. Neither the condition of the blood, nor any of the symptoms of which he complained seemed to have any distinct connexion with the spleen enlargement, so that Professor Senator at last made the above diagnosis, and discouraged operation. The insistence of the patient, however, eventually resulted in the removal of the spleen by Professor Krause. It weighed 1,450 grams, and measured 29 by 16 by 8½ cm. On microscopical examination, the increase of connective tissue with disappearance of the pulp, and partial destruction of the follicles, which is usually found in chronic enlargement of the spleen, was present. The removal of the organ seemed to have very little effect upon the general symptoms of the patient, which really seemed to be neurasthenic in character, and to be connected with the injections of morphine to which he frequently resorted. For a short time after the operation the white cells were more than doubled in number, 10,000 to 11,000 per c.cm. Two and a half years after the operation, however, a blood examination showed an almost normal count of all the blood elements. The operation, at all events, removed one of the patient's chief anxieties. He was no longer haunted by the fear of Banti's disease.

166. Successful Operation for Goitre.

MOURE (*Gaz. hebd. des sci. méd. de Bordeaux*, July 2nd, 1911) showed to the Bordeaux Medical and Surgical Society a case on which he had operated for a goître. The patient was a nurse in the infirmary, 20 years of age, with a family and personal history of no special importance, the only thing noteworthy being that the catamenia were scanty, lasting only about twenty-four hours. A year before she came under observation she had had an attack of influenza, accompanied by dilatation of the stomach, sufficient to cause her to be treated in the infirmary as a patient. After being relieved at the time, the dilatation reappeared three months before the present illness, in September, 1910; but on coming under observation in December the only symptoms were some loss of appetite, occasional vomiting, and obstinate constipation. Her neck was said to have always been rather thick, but it had increased since the September illness, causing a slight degree of embarrassment to the respiration and an occasional dry cough, but no paroxysms. In September, 1910, on leaving the infirmary after being treated for dilatation, she was seen to turn pale and to swoon, and for ten minutes she lay unconscious. A fortnight later she had another attack of unconsciousness, accompanied with delirium, the pulse being 130 and the temperature 102° F., recovering in a few minutes after an injection of caffeine. In the beginning of November she resumed her work; she then had two slight attacks of syncope, but there was not any marked interference with respiration, which was somewhat slow and shallow. During November she had three attacks of greater severity, with feelings of suffocation and a frequent harsh cough; and on December 13th she was admitted to Moure's clinic. In the subhyoid region a tumour was present, apparently developing from the left side, the lateral lobes reaching the angle of the jaw and the lower part passing behind the sternal notch. Its consistence was uniformly doughy, no nodules or cysts being perceptible, except in the inferior part behind the sternum. After ten days' observation, she was well enough to resume her duties, but on January 26th, 1911, she had another attack, lasting for two hours, similar to the former ones, but accompanied this time with cyanosis and marked suffocation, passing in the afternoon into a condition of coma, lasting until the operation next day. This was performed without a general anaesthetic, an injection of morphine having been administered half an hour before, and cocaine applied along the line of incision. The gland was represented by a cyst containing a pale chocolate fluid, which was evacuated before the extirpation of the sac. At the close of the operation a tolerably large healthy portion of the thyroid was left in position. Consciousness returned gradually as the operation proceeded, until at the close both it and the respiration were normal. She was discharged cured on February 10th, and was seen again on March 17th, when all abnormalities had disappeared, a slightly keloid condition of the inferior part of the cicatrix being the only sign left of the affection.

167. Neoplasms Within the Skull.

WILLIAMS (*Amer. Journ. of Med. Sci.*, July, 1911) urges the importance of recognizing the earliest signs of intracranial neoplasm in order that the growth may be removed, thus affording the only means by which relief can be obtained. There is no case on record in which a non-specific growth has been proved *post mortem* to have been cured by drugs, and even temporary improvement does not justify postponement of surgical interference. Among symptoms pointing to the possibility of a cerebral tumour, fine focal epilepsy is the most striking. Slowly progressive or recrudescent paralysis, impaired muscle and other sensibilities, general or partial dystaxia or dysergia, and aphasia are suspicious when granulomata have been excluded, and certain forms of mental dullness, amnesia, emotionalism or changes in character may point to local destructive or irritative effects of a tumour of the frontal lobe. Immediately a neoplasm is suspected the absurdity of postponing operation until signs of cerebral compression have developed is pointed out, and since intracranial neoplasms are often benign, and frequently capable of diagnosis while very small, their operability, apart from technical difficulties, should be more hopeful than in the case of cancer of the breast, uterus, etc. Notes of 3 cases are given in which operation was refused which would undoubtedly have benefited thereby, illustrating the author's contention of the imperative necessity of an early neurological examination of any patient complaining of vague intracranial discomfort (frequently regarded as neurasthenic); progressive weakness; dulling of sensibility in any part of the body; nausea and dizziness; dimness of vision not due to refractive errors, especially if evanescent; subjective sensations of taste and smell; mental dullness; and loss of memory, or change of disposition. By such early diagnosis alone can operation be undertaken early enough for the extirpation of an intracranial neoplasm.

OBSTETRICS.

168. Labour in Primiparae over Thirty.

HESSELBERG (abstract report by Brandt, *Zentralbl. für Gynäk.*, No. 26, 1911) publishes statistics of 200 deliveries of primiparae over 30 years of age in the Christiania Lying-in Hospital. The full report appeared in the *Norsk Magazin for Lagevidenskaben*, 1910, p. 1303. The duration of labour was prolonged to from twenty-one to twenty-nine hours, the average for primiparae in the hospital being fourteen and three-quarter hours. The membranes ruptured much earlier before birth than the average two hours, the interval being from eight to over nineteen hours, increasing with the age of the patient. Notwithstanding these relatively unfavourable conditions so distinctly marked, the mortality of the mothers was not increased, nor was that of the children above the average. Whilst the average of forceps deliveries for all patients in the institution was 8.8 per cent., and for primiparae under

only 2.6 per cent., the percentage for old primiparae s as high as 25.4 per cent. Lacerations seemed to be her frequent, as was *post-partum* haemorrhage, but ther complications were markedly common. Haemor- ge of pelvic contraction was 3.5 to 4 per cent.; in the ies of old primiparae it attained 5 per cent. Twin ours reached 3 per cent. in the series, against 1.8 per t. of the total number of patients. Hesselberg found t young primiparae (under 20) fared very well; the ours were usually normal, lacerations smaller, and ding less common than in other cases. The fetal rtality was relatively small, for the maternal mortality ched the average, as eclampsia was most frequent in se young subjects.

9. Disseminated Sclerosis: Forceps Labour.

ASSE, POTTET, AND ECALLE (*Comptes rendus de la Soc. bstét. de Gynéc. et de Péd.*, No. 4, 1911) publish the plete clinical report of a case of pregnancy where the ient was subject to disseminated sclerosis. She was a ssmaker aged 24. In August, 1909, she aborted at the d month. Three months later symptoms of the nerve ase were first observed, and she was placed in erine's wards in August, 1910. She could no longer k. The catamenia had ceased after July 22nd, 1910. he end of March, 1911, she was transferred from the pêtrière to the Baudeloque clinic, under Pinard. The nors were very marked, especially in the left superior inferior extremities. Nystagmus was present, and the ent complained of distressing vertigo. She could not from her bed unaided. The fetal head presented in first position when labour set in at 9 p.m. on April 21st. contractions recurred at long intervals, the os was pletely dilated by 6.45 a.m. At 10 a.m. there was a ked caput succedaneum, and the labour made no pro- s, the contractions occurred at intervals of twenty utes. As the membranes had ruptured an hour after onset of labour, and rotation had not occurred twelve s later, the forceps was applied. Neither the uterine ractions nor the introduction of the forceps caused eciable pain. The child weighed 7¾ lb.; it was living n the report was published. The placenta was removed xpression half an hour later; it weighed about 1¼ lb. puerperium was normal, non-febrile, but the sclerosis ed no signs of improvement. There was no evidence philis.

GYNAECOLOGY.

Tuberculosis of the Cervix Uteri.

ING AND RIGAUD (*Prov. méd.*, July 8th, 1911) report se of tuberculosis of the cervix occurring in a young an who had had two children. After the last birth suffered from bronchitis and from incessant leucor- , which developed into metrorrhagia, and finally the x was found to be ulcerated. The speculum revealed lcerated surface extending over the anterior and rior lips of the cervix, and prolonged into the interior e cervical canal. The base was covered with granula- , between which were bleeding points and pus; the in was irregular, undermined, and of a bluish colour. croscopical examination revealed the presence of the cle bacillus. The patient was advised to undergo a rectomy; it was then found that the lesions were ned to the uterus, the adnexa being healthy. Tuber- s affections of the cervix are rare, and the diagnosis en confused with that of cancer; the disease must also stinguished from a traumatic ulceration, a chancre, a hancre, and tertiary ulceration. A traumatic ulcer ually induced by the use of pessaries or the intro- on of some instrument or foreign body. A syphilitic re on the neck is very rare; it is recognized as a ficial erosion, and is slightly raised above the level tissue, it is greyish in colour, and feels hard to the , while the microscope should discover spirochaetes. t chancre is also rare, and others are present on ent parts; it is a deep ulcer with a yellow base. The y ulcer is raised, and has circinated margins. The osis can be corroborated by Wassermann's reaction. tain diagnosis of tubercle can be made unless the is is found to be present. In all cases the best ent is to remove the uterus through the abdomen.

Prolapse of Intestine (Traumatic) Ten Years after Vaginal Panhysterectomy.

Zentralbl. f. Gynäk., No. 28, 1911) reports a severe f rupture of a vaginal cicatrix and prolapse of the part of the small intestine. A countrywoman, aged 61, fell astride a rafter when lifting a pile of faggots. Ten years previously she had undergone vaginal panhysterectomy, the uterus and appendages being removed for chronic haemorrhages. A vaginal hernia developed. At the moment of the accident she felt only slight pain; she descended a ladder, crossed a yard, went into her room, and then fainted. When she revived she noticed that something was hanging out of the vulva, and she felt severe abdominal pain. Two hours after the accident her doctor saw her, and found that a mass of intestine had prolapsed. He failed to reduce it, every effort causing the descent of more and more bowel, yet there was no vomiting. The prolapsed mass was covered with iodoform gauze and clean towelling, and the patient was dispatched to a hospital which she reached ten hours after the injury had occurred. There was a tumour as big as a man's head between the thighs, made up of coils of ileum and jejunum. The bowel was deeply injected, distended, covered at certain points with coagulum, and its coils adhered to each other. There were several lacerations of the mesentery and a large haematoma of the left labium majus. Reduction under anaesthesia proved impracticable. Abdominal section was performed. One tensely stretched coil or rather a band of small intestine ran down to the pelvic cavity, passing through a rent in the vagina 2½ in. long. All the remainder of the small intestine lay outside. The large intestine was found in its place, excepting the caecum, which was dragged down deeply into the pelvis. Reduction of the prolapsed bowel proved rather difficult. The laceration of the vagina, which apparently did not correspond to the cicatrix of the hysterectomy, was oblique, running from the left above downwards to the right, ending in the site of the posterior fornix. The laceration and the abdominal wound were closed, the former drained for a few days; the patient was placed in bed with the hips raised and the knees bound together. The patient recovered. Rupture of the vagina, not rare in association with puerperal rupture of the uterus, is very unusual after hysterectomy or after local violence. Rommel reported in 1902 an instance of spontaneous prolapse of bowel through a laceration in the posterior fornix; the patient was 38 years old, and there was no evidence of direct injury, but she had strained herself lifting a kettle. The case ended fatally. Rupture of the vagina has been recently noted in association with retroversion of the gravid uterus and ascites, with an old haematoma, with degenerate tissues in aged subjects, and also with procidentia.

THERAPEUTICS.

172. Methods of Administering Salvarsan.

HERNANDEZ SAMPELAYO, speaking at the Academia Medico-Quirúrgica Española said that on the first introduction of salvarsan there were various authors—Michaelis, Treupel, Iversen—who employed methyalcohol in making the solution (*Revista de Med. y Cir. Pract.*, May 14th, 1911). At the Königsberg Congress last September this method was unanimously condemned. Guth attributed to it some cases of amaurosis. The intramuscular method in use at the present time was made practicable by the employment of soda to render the solution neutral or faintly alkaline. In the early days most of the methods of preparation in use resulted in a solution strongly either acid or alkaline. This was followed by much pain and other unpleasant consequences. The method employed at the present day for intramuscular injection was chiefly that of Alt-Marks; the dose of salvarsan was dissolved in hot water, neutralized or made faintly alkaline by the addition, little by little, of a solution of soda, and adding water to make up the bulk to 20 c.cm. This was divided between the two gluteal regions. Wechselmann, Volk, and Kromayer were the first to employ emulsions with the object of diminishing the bulk of the injection. The emulsifying agents were various. Rosenthal used veronal, others paraffin, petrovaseline, and olive oil. The method was really originated by Lang in the case of calomel and salicylate of mercury. The injection may be made between the muscles—*inter*-muscular. Loeb injected into the scapular instead of the gluteal region, but the author believes that pain, abscess, and necrosis are more frequent in that case. He contends that it is impossible to ensure the absence of these untoward consequences of intermuscular or intramuscular injection, and in spite of the greater complexity of the technique, he prefers the intravenous method. The salvarsan is added to 50 c.cm. of saline solution (0.9 per

cent.), and soda solution added gradually until complete solution is attained. The volume is then made up with saline solution to 300 c.cm. All the numerous instruments invented to perform intravenous injection are modifications of two instruments—the irrigator of Weintraut and the syringe of Schreiber. One of the best was that of Azua. Another very useful and ingenious piece of apparatus (shown) was that of Gerada. Finally, salvarsan may be used locally in an acid solution of 1 per cent., with which surprising results have been recorded.

173. Salvarsan for Infants and Young Children.

JOHANN v. BOKAY, who worked in conjunction with Ludwig Vermes and Zoltau v. Bokay (*Wien. klin. Woch.*, No. 17, 1911), describes the action of salvarsan in 26 cases of syphilis in infants and young children. Thirteen of the patients treated were under a year old; 23 out of the whole 26 suffered from congenital syphilis, and 10 out of the 13 babies. The youngest baby was 5 weeks old. All were fairly well developed and well nourished breast-fed infants. At first the initial dose was 0.005 gram per kilogram of weight, but later this was increased to 0.008 gram and to 0.01 gram per kilogram. Wechselmann's neutral suspension was found a more satisfactory preparation than the neutral or slightly alkaline solution in methyl alcohol recommended by Ehrlich, because it caused a smaller and more quickly disappearing infiltrate, and as a rule no subsequent pain. One child was treated indirectly through the mother, but with only partial success; later salvarsan was given directly to the child, and the symptoms disappeared. Three injections were given in 1 case, two injections in each of 9 others. Second injections were given when either the symptoms were slow to improve, or Wassermann's reaction remained positive. All but one of the injections were intramuscular, none were intravenous. The injection was followed by high fever in 3 cases only, but in all cases fever had disappeared by the third day. The increase in weight of the infants while under observation was fairly satisfactory, especially since the weight tends to remain below the average in infants under mercuric treatment. During three months one baby put on 3,100 grams (6.8 lb.), another 2,200 grams (4.8 lb.), and a third 1,500 grams (3.3 lb.) The children did not suffer from digestive disturbance as a result of salvarsan. Fourteen of the cases were under observation for more than four months, 6 from two to four months, and the remaining 6 for rather less than two months. Altogether three relapses were observed, one of them three months after a second injection, another four months after a first injection, and another ten weeks after injection in the child who had received a preliminary indirect treatment; in 2 of the cases the relapses occurred in spite of the fact that Wassermann's reaction had become negative. The cutaneous manifestations of syphilis and those of the mucous membranes improved with wonderful rapidity under the treatment. In 2 cases of osteochondritis cubitorum improvement was very rapid, and in one of them after two weeks, in the other after three, the symptoms had altogether disappeared. Salvarsan was given in 4 cases of keratitis parenchymatosa in congenital syphilis, and the author is of opinion that it is a valuable agent in such cases. There was considerable improvement in a case still under observation of syphilitic cerebral tumour, with hydrocephalus (int. chron. minor. grad.) and already developing optic atrophy; here two injections were given and lumbar puncture performed between the first and second injection. In a case of moderate hydrocephalus internus without functional symptoms, it appeared to the author, during an observation which extended over several months, that the use of salvarsan had brought the process to a standstill, but in another of hydrocephalus with severe spastic symptoms no improvement occurred. It appeared from the cases that Wassermann's reaction might be expected to change to negative at the end of the sixth to the eighth week, having become gradually less marked before that time. In spite of suggestions to the contrary, the author finds that salvarsan in doses of 0.01 gram to the kilogram of weight, given intragluteally, is well borne by infants and harmless; it excels mercury preparations in the quickness of its action. Three undoubted relapses occurred in the series of cases, and further observations are needed as to the permanence of the cure. Full notes of the cases are given.

174. Merjodin and Salvarsan.

MAXIMILIAN v. ZEISSL (*Wien. klin. Rund.*, No. 18, 1911), in an article dealing with the salvarsan treatment of syphilis, with the formation of dépôts after mercurial injections, and with nerve symptoms in the early stages of syphilis, describes the experience he has had of the combined use of merjodin and salvarsan, and warmly recommends it. Merjodin has been on the market in form of tablets since 1909. Each tablet contains diphenol-parasulphate of mercury, corresponding 0.0021 gram of iodine and 0.0033 gram of meta mercury. The author has been able to test the paration on a large scale, as it was supplied to for this purpose from Trommsdorff's manufactory. found that it was well borne when given in doses from 3 to 10 tablets after food, and that the patie seldom complained of stomach or intestinal sympto The appearance in one case of an iodine acne sho that the iodine is an effective part of the preparat although the action of the mercury is the greater. such a combination the mercury forms the bacterici element, while the iodine deals with the endotoxi H. Zeissl has already pointed out the importance iodine in early syphilis. The only change of d needed during the treatment is the exclusion of a thing likely to cause diarrhoea and abdominal pain, for instance, vinegar and lime juice. The author given merjodin since 1910, when he began to make of salvarsan in all cases in which after salvarsan relap occurred or in which no salvarsan treatment or appli tion of mercury beneath or upon the skin could be carr out; in all he has treated 200 cases of syphilis w merjodin, with good result. In one case it caused rapid disappearance of an ocular muscle paralysis, a in another recovery from a syphilitic gonitis. In giv merjodin, as in any other form of mercurial treatme care of the mouth is needed.

175. Air and Light and Sun Baths.

MONTENUIS (*La Clin.*, June 30th, 1911) considers that importance of aërotherapeutics is still greatly neglect and that its value as a hygienic measure is often regarded. Light baths are an invaluable remedy for present generation, which is weakened by the inherita of gout and alcoholism and which suffers greatly fr intestinal toxicity and exciting foods. Air treatment better than hydrotherapy, and is more readily combi with gymnastic exercises. When on the seashore b adults and children ought to indulge freely in light a air bathing. The air bath should be taken early in morning, when the atmosphere is clear and carries ple of ozone and when the light is strong. The early ray the sun are regarded as the most efficacious. During day a light bath should be taken; the patient will t walk upon the shore in a thin muslin or calico garm through which the rays can penetrate; he thus obta the tonic effect of sea water, light baths, and baref walking on the sands at one and the same time. S methods are regenerating and strengthening, and knowledge of the vigour and healing which can be dra from them requires to be more generally taught.

PATHOLOGY.

176. Primary Tuberculosis of Striped Muscle.

OWING to the rarity of the above condition, Sp (*Rif. Med.*, April 24th, 1911) reports the following cases. (1) A child aged 8 years who had been ailing two months developed a tumour about the size of palm of the child's hand in the upper part of the rectus abdominis; the skin covering it was sligh bluish, with three distinct vascular maculae, the surf was nodulated, and the edges of the tumour faded distinctly in the surrounding tissue. There was a sli local rise of temperature. The consistency was firm fleshy, with indistinct fluctuations at the centre. It painless and not transparent. There were no sign tubercle elsewhere, and the ophthalmic and cutane reactions were negative. On puncture a puriform liq was extracted which contained no tubercle bacilli, set up tuberculosis when injected into a guinea-pig. growth was excised and scraped away, and numer tubercle bacilli were found in the sections. (2) A aged 40 presented a painless swelling, of some mon duration and varying a little in size, in the left serra magnus. Ophthalmic and cutaneous reactions were ne tive; exploratory puncture was also negative. Free e sion was practised, and on section several tubercle ba were found. There was no evidence of tubercle elsewh Of the true types of tuberculous myositis described gummatous, cold abscess, and the infiltrating vari the last is the rarest. In both the author's cases disease started in the thickness of the muscle and primary. Left to themselves, these tumours either br down and form abscesses with fistulae or calcify.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

177. Pancreatitis and Mumps.

RUDOLF NEURATH (*Wien. med. Woch.*, No. 19, 1911) describes four cases of mumps which presented during the course of the illness abdominal symptoms suggestive of a complicating pancreatitis. The four cases occurred in two families. In three cases the patients were children, in one an adult. From a study of his own and other cases in the literature the author finds that the typical picture of the complication is that during an attack of epidemic parotitis, usually between the second and eighth day of the disease, nausea and vomiting with or without fever set in suddenly; there is severe pain in the abdomen situated above the umbilicus between the epigastrium and the left hypochondrium: over the same area there is also marked tenderness, and sometimes diminished resonance and a diffuse sense of resistance on palpation. In a number of the cases bradycardia is present. The urine is always free from sugar. In one case in which the faeces were examined for tryptic ferments the result was negative. Sometimes blood is passed per rectum, and sometimes fatty and oily masses with the stools. The symptoms last usually for a few days only: the prognosis is always good. Cases are described in the literature in which primary pancreatitis, during an epidemic of mumps, appears as the only sign of a mumps infection. The localization of the pain and tenderness and of the resistance suggest disease of the pancreas: moreover, the structural and functional resemblance of the parenchyma of the pancreas to that of the parotid, taken with the fact that in mumps other glands with similar or differing parenchyma are also affected, supports the diagnosis of an affection of the pancreas. The symptoms are compatible with such a diagnosis, which in the author's cases he makes without hesitation.

178. "X"-ray Diagnosis of Subphrenic Abscess.

EGBERT H. HOLLAND (*Archives of the Roentgen Ray*, May, 1911) states that, in making *x*-ray examinations with a view to the diagnosis of subphrenic abscess, he prefers the fluorescent screen to the plate, and insists upon the standing or sitting position, that is, with the chest upright. The presence of subphrenic abscess cannot be diagnosed by means of the *x* rays alone. The radioscopic signs—the essential one being the raising of the diaphragm and its limitation of movement or even actual fixation—must be considered along with all the other evidence which bears upon the condition, as many conditions other than subphrenic abscess may raise the diaphragm, and limit or fix its movements, and cause some slight displacement of the heart. The value of *x*-ray examination in cases of severe illness in which the symptoms point to a collection of pus lies in the fact that it enables one to say where the pus is, or at least where it is not. It enables one to say that there is no collection of pus in the thorax, and therefore, if there must be some pathological condition causing the raising of and alteration in the movements of the diaphragm, if the pus is the cause of the symptoms, it must be pus below the diaphragm.

179. A New Sign described by Grocco.

The sign in question consists in the appearance of minute multiple haemorrhages in the skin of patients suffering from purpura, pellagra rheumatica, etc., after the application of slight pressure by means of an elastic band. Prof. Grocco found that these haemorrhages occurred more readily and under much slighter provocation in the subjects of purpura, and that the amount and degree of the artificial purpura was an index of the severity and of the progress of the disease: as the latter disappeared so it became more difficult to induce the artificial condition. Tugini and Cangni (*Rif. Med.*, April 24th, 1911) corroborate the diagnostic value of this sign, and have tried to determine its pathogenesis. Does it mean an altered condition of the blood or of the vessels? It seems probable from their researches that the condition is not due to any marked change in the blood, for no such changes could be found. The alternative hypothesis—namely, that it is due to some morbid change in the capillaries—for example, loosening of the endothelial cells, permitting diapedesis—is the one which commends itself to the authors, although they admit it will not explain everything. Cases, for example, where no haemorrhages could be induced by strong friction of the face, and yet were easily procured in the same person in other parts of the body, suggest a local vulnerability of the vessels rather than any general blood change.

180. Delirium Tremens.

RANSON AND SCOTT (*Amer. Journ. of Med. Sci.*, May, 1911) examined the results of medicinal treatment in 1,106 cases of delirium tremens (934 in the Cook County Hospital, Chicago, and 172 in the Massachusetts General Hospital), a considerable number of which were personally observed. Two sharply defined stages are considered: (1) An incipient stage characterized by insomnia, restlessness, tremor, and occasional hallucinations, and (2) a later stage of delirium characterized by uncorrected, chiefly visual hallucinations, with great inco-ordination. The patients were usually allowed up during the incipient stage, being put to bed and mechanically restrained during the second stage. Elimination was maintained by the administration of a cathartic on admission, and a free use of water and liquid foods. Usually more than one drug was used in an individual case, so that it is not possible to compare a series in which one drug alone was used with another series in which a different drug was used alone, but in order to determine the value of any drug the cases were divided into two groups according to whether or not it was employed, all other factors being the same. Of the hypnotics, chloral was found on the whole to have an unfavourable effect upon the circulation of patients in the delirious, or second, stage, and this more than counterbalanced any good it did, but in the incipient, or first, stage it possesses a marked influence in preventing the disease from passing from the first into the second stage. Bromides and paraldehyde had much the same effect as chloral. Morphine and hyoscine were found to increase the mortality in delirious patients more than either chloral, bromides, or paraldehyde, while in incipient cases they had but little effect in warding off the stage of delirium. Veronal was the only hypnotic which did not increase the mortality in delirious patients, and it was found to be superior to the others in action on incipient cases, producing a pronounced sedative effect on the nervous system without any disturbance of the circulation. In the majority of incipient cases it is therefore possible to arrest the course of the disease by the use of hypnotics, of which veronal is the best. As to alcohol, evidence goes to show that, while the question of its administration in the second stage is one still open to discussion and by no means as yet settled against its use, it should never be withdrawn from incipient cases, as such withdrawal greatly increases the chances of an incipient case becoming delirious. Ergot, in drachm doses of the fluid extract every four hours, is of great value in both stages, producing its effect mainly by reducing cerebral hyperaemia. It is concluded that medicinal treatment proves to be much more effective in the first than in the second stage, and that incipient cases should be given veronal, whisky, and ergot at regular intervals, such treatment being discontinued gradually and only when all signs of restlessness and tremor have disappeared. In the second stage veronal alone of the hypnotics should be given in moderate doses, ergot being administered as in incipient cases. In this stage the evidence is not conclusive as to whether or not whisky should be regularly employed.

181. Abnormal Cases of Measles.

BALDINI (*Arch. de méd. des enf.*, June, 1911) narrates the following cases: (1) A case of hyperthymia without apparent complications. The temperature reached 41.3° in the axilla on the second day of the eruption in a boy 11 years old. The child recovered. (2) A boy of 18 months, badly nourished, died on the third day of the eruption with a temperature of 41.6°. There were no complications. (3) Measles in the course of a pneumonia. Acute laryngitis. A boy, 7 years old, showed the eruption of measles three days after the commencement of a pneumonia. Both diseases followed the ordinary course, and five days afterwards laryngitis, with bilateral cervical adenopathy, supervened. The child recovered. (4) The sister of the above, aged 5½ years, caught the disease; the spots were

markedly purpuric, and there was excessive epistaxis, necessitating plugging of the nostrils. Recovery took place. (5) Haemorrhagic measles in a child 2 years of age, with haematemesis and melaena. Death occurred. This type of measles is excessively rare.

SURGERY.

182. Rapid Hand Disinfection.

ALEXANDER JENEY (*Wien. med. Woch.*, No. 21, 1911) points out how unsatisfactory are the usual methods of disinfection of the hands, and then describes the so-called rapid method of disinfection, devised by Dr. Konrad, which the author has found satisfactory. The solution employed is a chlormeta cresol acetone alcohol. Chlormeta cresol is prepared by the firm of Richter in Budapest, under the name of lysochlor. Enough lysochlor to make 2 per cent. of the whole is added to a mixture of two parts of 96 per cent. alcohol and one part of acetone. The hands of the operator are first washed in soap and hot water, without using a brush, for half a minute, and the nails are next cleaned; the hands are then washed for from three and half to four minutes in the above-described solution, with the help either of a soft brush or a flannel. At the end of this procedure the skin is sterile. The solution can be used again after filtration. This method of skin disinfection was tried by Johann Turesa at the garrison hospital, No. 16, at Budapest. One hundred aseptic operations were carried out, and healing without reaction took place in all. No sterilized gloves were used. In several cases as a further test scabs of epidermis were removed by sterile instruments partly from the hands after "sterilization," and partly from the fold of the nail. Bacteriological examination showed all these scabs to be sterile. The method is specially suited for hand disinfection in war time, when water for mechanical disinfection may not be available in sufficient quantities. The author has seen no case in which the solution caused irritation of the skin, though the use of a brush at the preliminary washing with soap and water may cause the solution to affect the skin. The method of disinfection is simple, cheap, and quick, and should, in the author's opinion, be more widely employed.

183. Self-performed Operation for Hernia.

TZAICOU (*Rev. Française de méd. et de chir.*, July 10th, 1911) describes an operation for hernia performed by him on himself under rachi-strychno-stovainization (previously reported in *La presse méd.*, of February 11th). His conclusions were as follows: (1) The pain caused by the lumbar puncture is greater than that produced by a subcutaneous injection, but it is decidedly less disagreeable than the sensations experienced by many patients at the beginning of chloroform anaesthesia. (2) In his case the anaesthesia was ushered in by agreeable sensations, and passed off unconsciously. (3) The slight excitement at the beginning of the anaesthesia, and the vertigo which he felt on quick movement prove that the anaesthesia was diffused in the direction of the cerebral hemispheres. His intellectual faculties remained perfectly intact, and his consciousness was unaffected, the evident proof of this being his performance to completion of a delicate operation. (4) The technique of the anaesthetization and the position of the patient after the injection are the essential factors on which depend the degree and intensity of the anaesthesia. (5) The anaesthesia has a tendency to remain segmentary. In his case all the body above the level of the anterior superior spinous processes of the ilium remained free, the movements of the hands being unaffected. (6) He proved the efficiency of the anaesthesia by being able to operate upon himself and to cut into his own flesh as if it had belonged to some one else. (7) The harmlessness of the method is proved by the fact that during the whole time, with the exception of the occasional vertigo caused by brusque movements, not one disagreeable sensation was experienced, in spite of the circumstance that, operating upon himself, he was obliged to maintain the sitting posture, and to reach for instruments, wash his hands, etc. (8) The upright posture and the movements executed during the operation caused no unpleasantness during the operation, but produced some secondary post-operative effects. (9) Rest during the anaesthesia, and afterwards for at least four days, is necessitated by the principle of general pathology that "rest is the best antiphlogistic," for the secondary accidents are due to irritation of the meninges by the substances injected, and the consequent variations in the cerebro-spinal fluid, all of which are prevented by rest in the horizontal position. (10) A purgative ought to be taken before spinal anaesthesia to prevent absorption of intestinal toxins in the event of post-operative paresis. (11) A means of anaesthesia sufficiently efficacious and sufficiently innocuous to allow a surgeon to operate on himself for hernia, with success and without any unpleasant consequences, may be modified and improved, but will certainly not be abandoned until human imagination has found a still more wonderful method.

184. Ocular Complications of Acute Exanthemata.

GRISCOM read a paper on this subject before the Philadelphia County Medical Society on January 11th, 1911. In small-pox the cornea is attacked in from 38 per cent. to 70 per cent. of cases in which the eyes suffer. Before the advent of vaccination about one-third of all cases of blindness were caused by small-pox, but vaccination has reduced this to about 5 per cent. (America). The lid complications are secondary to the ulceration following pustules. Iritis and choroiditis have been observed. Vaccina may be associated with phlyctenular disease of the conjunctiva, but this is of no importance. The accidental inoculation of an eye with vaccine, may, however, be serious. Vaccine ulcers of the lids and conjunctiva are not uncommon; corneal ulcers may be severe and dangerous. Measles.—In this disease acute catarrhal conjunctivitis is a symptom; it may take on a pseudo-membraneous form. Streptococcal infection is most dangerous, and may end in rapid sloughing of the cornea. Apart from their association with conjunctivitis, corneal ulcers are rarely seen in measles. Trantas (Constantinople) describes a superficial punctate keratitis, which he says is present in 75 per cent. of all cases; in fact, Trantas is inclined to regard it as rather a pathognomonic sign than a complication of measles. The keratitis generally begins on the third, fourth, or fifth day of the malady, and takes the form of a slight cloudiness of the cornea with numerous superficial whitish spots visible with a loupe. This usually affects both eyes, and may not be associated with any symptoms of irritation. Scarlet Fever.—The most important ocular complication is uraemic amaurosis. Sudden blindness may appear without any external or ophthalmoscopic signs, except slight dilatation of the pupil. Convulsions are often present. Albuminuric retinitis is rare.

185. Pseudo-sarcoma of the Popliteal Space.

CODET-BOISSE describes (*Gaz. hebd. des sci. méd. de Bordeaux*, June 11th, 1911) a case of pseudo-sarcoma of the popliteal space in a boy of 12. The tumour was removed, and microscopical examination reported a fibro-sarcoma. The tumour returned soon after the operation, and five ulcers were noted at the level of the cicatrix of the operation wound. The tibiae were increased in size, and gave the appearance of a syphilitic condition. The patient was treated by syrup of filbert, and the morbid condition rapidly cleared up.

OBSTETRICS.

186. Dystocia from a Large Fetus.

LEPAGE, Wallich, and others (*Ann. de gyn. et d'obstét.*, August, 1911) recently discussed the question of Caesarean section as a necessary measure when the fetus was bulky and the alleged "shock" noted after the delivery of a big child by other means. Lepage operated on a woman who at a previous labour had suffered severely in this manner. Labour setting in, he performed Caesarean section at once and extracted an infant weighing nearly 11½ lb. Shortly after its birth it suffered from fever and alarming ocular symptoms, ascribed to intrauterine troubles due to its large size. Rudaux stated that he had induced labour at the eighth month and delivered a dead fetus 11 lb. in weight. Should the mother become pregnant again, he would advise Caesarean section. That operation seemed justifiable, even when the pelvis was normal. Pinard could not feel so sure about such a doctrine; the operation ought not to be undertaken until the usual therapeutic measures had failed in previous labours. Slight pelvic contraction, of course, altered the nature of the case, and he admitted that even when it was not present Caesarean section was demanded in any particular case where at the onset of labour delivery through the vagina seemed impracticable. Wallich then read notes on the various phenomena of shock consecutive to the delivery of big children. He referred to pallor, giddiness, and a condition akin to syncope, sometimes called puerperal shock. This shock was certainly consecutive to the delivery of the

child, but in reality, when such a case was examined, a laceration would be detected or else rapid dilatation had been practised. The best remedies were judicious administration of alcohol, serum injections, and uterine massage. Champetier de Ribes and Lapage dwelt on "puerperal shock." They believed that it was really a neurosis, but that it had been observed independently of excess of bulk and weight in the fetus and laceration of the uterine wall. Certain forms of puerperal shock could not always be explained, and the neuropathic history of the mother, independent of pregnancy, must be taken into account.

187. Fatal Cholera Gravidarum.

DIEKMANN (*Monats. f. Geb. u. Gyn.*, June, 1911) recently reported 3 cases of chorea gravidarum, 2 proving fatal. The remaining case occurred in a multipara aged 23 who had suffered from a distinct attack of chorea in childhood. The symptoms came on about the eighth month, delivery was spontaneous at term, and the tremors ceased one day and a half later. Experience has already shown that the prognosis of chorea gravidarum is favourable when the pregnancy is otherwise uncomplicated, and the patient has suffered from chorea in childhood. The second case was of an opposite type, where chorea first appeared in pregnancy and recurred in subsequent pregnancies: prognosis is bad under those circumstances. Diekmann's patient was 27 years old. Chorea first appeared in the second half of the patient's first pregnancy, lasting about a month. It ceased spontaneously, and labour was normal. Chorea recurred in the sixth month of the second pregnancy. Premature delivery occurred in the eighth month. The child was still living. The patient became pregnant for the third time: the chorea recurred very suddenly in the seventh month, in a highly acute form. Deglutition became difficult, and there was exhaustion from asomnia. Vaginal section was therefore performed, and the child was delivered; yet the chorea grew worse. There were violent jactitations, bronchopneumonia duplex, and endocarditis. The patient died at the end of a fortnight. The third patient was 23 years of age, with no neurotic history. Chorea set in at the end of pregnancy, but it was complicated with advanced nephritis and endocarditis. Death occurred suddenly during delivery. In the discussion which followed the reading of this report two obstetricians remarked, dwelling on their own experiences, that artificial induction of labour was not rarely followed by aggravation of the choreic convulsions and death. Birnbaum had included many such cases in his well-known paper on the subject, and had also personal experience of fatal results after induced labour. Hannes, like Birnbaum, had performed panhysterectomy, death ensuing after aggravation of the chorea. In Hannes's case there was endocarditis of a fortnight's duration. Neurologists agreed with obstetricians that essential chorea gravidarum is much graver than chorea beginning in childhood and reappearing in pregnancy, whatever may be the pathology of the two conditions.

GYNAECOLOGY.

183. Strangulated Ovarian Entero-epiplocele.

DERVAUX (*Bull. et mém. de la Soc. de Chir. de Paris*, No. 4, 1911) reports an instance where an operation was successfully performed on a woman, aged 62, for strangulated hernia. There was no congenital or hermaphroditic malformation such as is observed in many cases of ovarian and uterine hernia, but the sac contained a normally developed ovary, congested, oedematous, and marked with haemorrhagic patches, a mass of sloughing omentum, and part of the transverse colon sphacelated at three points. The patient's condition was highly unfavourable; she was a sickly subject with ankylosis of the left hip-joint dating from the age of 15, pulmonary disease originating in influenza, and neglected hernia, which had existed for over fifteen years. She did not call in a doctor until six days after distinct symptoms of strangulation had set in. The integuments were red, oedematous, and tender. Dervaux removed the ovary; the patient was not in a condition to allow of any further procedure, yet she rallied, although her condition seemed desperate. The coil of colon yielded next day, and faeces passed through the hernial wound. Later on the bowel was resected, and the patient recovered.

189. Ossification of Laparotomy Cicatrix.

HANNES of Breslau (*Zentralbl. f. Gynäk.*, No. 27, 1911), when repairing an incisional hernia in a woman aged 61, came across a hard mass in the lower part of the border of the neck of the hernia which was wide enough to admit two fingers. It proved on microscopic examination to be true bone, closely incorporated with the surrounding cicatricial tissue. Four similar cases have been reported, all within recent years. Rubesch observed ossification in the cicatrix of a hernia epigastrica. In Roepke's case several ossified tracts were detected in the scar of an appendix operation. Sabiyakina found a piece of bone half an inch broad in the scar of a laparotomy wound, but he admitted that there were cartilaginous elements in the neighbourhood of the cicatricial tissue. Lecène operated, like Hannes himself, on an incisional hernia and found an area of bone. He ranked it as "osteoma." In Rubesch's case there was a tendency to bone formation elsewhere. Küttner, writing on "myositis ossificans circumscripta," classes both Rubesch's and Roepke's cases as traumatic myositis ossificans, but Hannes notes that in all five instances the bone was found in cicatricial tissue and not in the substance of the rectus or the lateral abdominal muscles. In 2 out of the 5 cases there was hernia of the cicatrix: this included Hannes's case, where the drainage tube was used. The bone in no case, even in Lecène's, could be considered as a new growth. Roepke found degenerative processes in the bony deposit. Altogether, though this condition is not myositis, it seems to be the result of an essentially inflammatory process.

THERAPEUTICS.

190. Treatment of Dyspepsia.

SUMNO (*Rif. Med.*, May 22nd, 1911), in the course of his lectures on dyspepsia, deals with hyposecretion. And, first, it is possible for the condition to exist without any marked symptoms, or even with symptoms suggestive of hypersecretion. This is partly explained by vicarious function on the part of other sections of the intestinal tract. In a typical case, if such existed alone, one would expect to find a fairly good general condition, little appetite, no special thirst, white coated tongue, pain after food, feeling of weight in the stomach, vasomotor troubles, headache, sleepiness, pain disappearing two or three hours after food, no constipation, but possibly diarrhoea, starchy food fairly well digested, and the reverse with regard to albuminoids. In all these respects a deficiency of HCl contrasts in its effects with an excess of that acid. Hyposecretion may be due to mere sluggishness on the part of the stomach, or a reaction after over-secretion, and therapeutically calls for stimulation or rest. Some of the direct stimulants—for example, pilocarpin, muscarin, etc., are for practical purposes not available. One of the best stimulants is meat broth. Then we have the alkalines, bitters, and alcohol. Of the alkalines, soda bicarbonate in small doses—gr. x.—given one hour before meals. The action of bitters is not quite easy to explain, but clinically there is no doubt as to their value, but they should not be given for too long a period. With regard to HCl, it appears that the small amounts usually given are valueless, according to recent researches, at least twenty times the usual dose should be given to get adequate physiological effects, and such dosage is not practicable. Since most stomachs contain some pepsin, the problem is rather to supply HCl than pepsin, and we have seen that the requisite amount cannot be given—possibly, too, natural HCl as manufactured in the stomach contains some element missing in chemically prepared HCl. The author attaches little value to pepsin or pancreatin, takadiastase may be useful. Hydrotherapy, cold epigastric douches, massage are also to be recommended. But, as Brinton said long ago, "drugs do not cure dyspepsia."

191. Roentgen Rays in Malignant Disease.

HERMANN MARSCHIK AND IGNAZ ZOLLSCHAU (*Wien. med. Woch.*, No. 22, 1911) describe 3 cases of malignant tumour treated with good results by Roentgen rays. Palliative treatment of removal of the main mass of the tumour appeared to help to the result. In all 3 cases the localization of the tumour (pharynx, nose, and accessory nasal cavities respectively) was eminently favourable to the treatment. The first case was one of tonsillar malignant growth, which in type most nearly resembled a lymphosarcoma. Complete removal was found to be impossible, and a recurrent growth quickly appeared. Roentgen rays were then tried, with the result that after a few applications the tumour retrogressed and the wound healed. Up to the present time—that is, nine months after the

beginning of the raying—recovery seems to be complete. The next case was of a nasal growth in a woman aged 81. The eyelid on the side of the growth was pushed up, and the limiting conjunctiva bulbi et palpabrae slightly reddened. For complete removal of the tumour resection of the upper jaw and the ethmoid would have been necessary, and radical operation was clearly impossible. Partial excision was performed, the tumour proving to be a round-celled carcinoma. After two weeks the tumour already showed active new growth at the site of the test excision, and it was decided to try the effect of Roentgen rays. The tumour diminished definitely in size after two applications, and the excision wound had healed. At the present time it is only about half the original size, the lid opening is almost normal, and the patient is able to go about her customary work. The third case was of malignant growth of the right upper jaw, which had penetrated into the orbit, the ethmoid, the eyelid, and the skin of the cheek. Partial removal was carried out with resection of the affected portions of bone, but in this case, also, complete removal was impossible, and recurrence quickly appeared. One application of the rays sufficed to bring about external recovery, though the treatment was continued longer as a precautionary measure.

192. Radium and Sarcoma.

W. B. SNOW (*Med. Record*, August 26th, 1911) presents the history of a case of sarcoma of the outer side of the left hand which had been incised as an inflammatory swelling, a portion having been examined and pronounced sarcoma and amputation of the forearm advised. The case was treated by the insertion into the growth of a tube of radium, which remained in place for eight days, after which its position was changed and the tube reinserted for three days. Application of radiant light and heat were also given. The hand has recovered and there is no evidence of sarcomatous tissues at present. This case shows the selective action of radium on sarcoma cells.

193. Thyroid Extract in Eczema.

ROCAZ (*Gaz. hebd. des sci. méd. de Bord.*, July 25th, 1911) recommends the administration of thyroid tabloids in the treatment of the eczema of nurslings and young children. After quoting the experience of other observers, he cites several cases of his own. In one instance of an infant 5 months old, the head and face were covered with a weeping eczema which had resisted all previous treatment, and had begun to invade the arm, causing an intense pruritus which deprived the child of rest. After a week of treatment by thyroid extract, the rash had faded in colour and the weeping had ceased. A relapse followed the premature discontinuance of the treatment at the end of six weeks, but on its resumption the fresh access disappeared in two weeks, and the patient has remained free for two years. Of the cases treated by Rocaz, 18 were cured in one month, 12 in two and 8 in three months, whilst in a few patients there was only a temporary amelioration, and some were absolutely unrelieved. He has found that the exciting cause of the eczema is the strongest determining factor with regard to these varying results. Errors in diet and overfeeding, especially in infants brought up by hand, are responsible for many cases of eczema, but some are undoubtedly the results of an arthritic diathesis on the part of the parents, and such is the variety most frequently met with in urban districts, where hygienic conditions are fairly good. It is these arthritic cases which respond most readily to the thyroid treatment, those depending on digestive disturbances being less amenable. The initial dose ought not to exceed ¾ grain, gradually increased, if necessary, after ten days to 1½ grain: but larger doses should be employed only in the case of older children. Its effect on overfed children is to diminish, in underfed to increase, the weight, thereby bringing the bodily nutrition to normal in both cases. External applications are not so satisfactory in their results, and they should only be employed as an auxiliary—to remove the crusts, for example, in cases of impetigo, by sterilized water dressings, or to cleanse the skin by means of sterilized vaseline.

194. Adaline as Sedative and Hypnotic.

KALISCHER (*Echo med. du Nord*, 1911, xv, 386) has treated patients suffering from functional and nervous diseases with this drug in doses from 0.25 gram to 1.50 grams. As a calmative 0.25 gram to 0.50 gram many times a day suffices; as a hypnotic the doses must be raised t 1.50 grams. No bad effects were noticed after prolonge use of the drug for weeks or months. It had no cumula tive effect. Small doses of 0.25 gram to 0.50 gram produc a feeling of lassitude; larger ones, deep sleep follows i half an hour. There are no evil effects felt in the morn ing. The smaller doses are of value in cardiac neuroses the larger ones in convulsions; epileptic attacks were no decreased in violence or number. It is valuable as a hypnotic in excitability of all kinds. Its sedative actio is more marked than the bromides and slightly less tha codeine. As an hypnotic it is feebler than veronal an less efficacious.

PATHOLOGY.

195. A Darwinian Interpretation of Anaphylaxis.

R. G. ECCLES (*Med. Record*, August 13th, 1911) interprets anaphylaxis as a means of defence of one organism against the attacks of another, one of the results of natural selection. Anaphylaxis consists in a poisoning resulting from the injection of the proteins of some other organism into the blood. Each organism can receive the protein of its own species without harm, but poisoning results from the reception of a serum or protein of an alien organism. This toxicity exists for vegetable as well as animal proteins. Injections of dead bacteria at intervals of ten days produce marked disease symptoms. All the anaphylactic manifestations are associated with eosinophilia. We seem to be approaching an all-embracing principle with which to link together medical facts, and which will simplify medicine incalculably. The reason why these proteins do not constantly poison one is that they are destroyed by digestion in the intestine before they reach the cells which they would poison. Evolution has improved gradually upon the digestive apparatus in this protective line so that the organism is well defended against alien proteins. In the blood these proteins are found again converted into proteins, but with their constituents rearranged so as not to be toxic any longer. Thus in evolution the poison of to-day becomes the food of to-morrow. The food and not the bacteria contain the poisonous substances as pro-poisons existing in it. Among these pro-poisons are the amino-acids, which are important constituents of the proteins. Digestion is a reverse process to growth and separates these amino-acids from one another. Blood serum and cell proteins are composed of the same kinds of substances, the amino-acids and polypeptic combinations. The linking together of amino-acids through reverse enzyme action occurs in the building of proteins. Anaphylaxis is due to an attempt to digest more alien protein than the cells can take care of in respect to their toxic products, and some damage is done to the cells in the sensitizing stage. Tyrosin, cystin, and tryptophan are present in all kinds of proteins. Substances that have a high reducing power are especially toxic. These substances are non-toxic until broken up in contact with the nuclei of the cells. The nuclei of the phagocytes show evidence of great injury by these poisons.

196. Cultivation of the Spirochaeta Pallida.

NOGUCHI (*Journ. Amer. Med. Assoc.*, 1911, p. 102) claims to have made pure cultures of the *Spirochaeta pallida* which were pathogenic for the rabbit and produced lesions identical with those set up by syphilitic material. The material used was syphilitic testicular tissue of the rabbit, and the culture medium serum water (from the horse, sheep, or rabbit) to which was added a piece of sterile rabbit tissue. After sterilization of the serum water at 100° C. for three days, a small piece of the freshly-removed testicle was added. The tubes were then incubated at 37° C. for two days. The first growths of spirochaetes were obtained without adding agar or gelatine to the medium, but later generations were secured in a solid medium. At first strict anaërobiosis was necessary; later on this was not essential. In almost all the first growths the spirochaetes were mixed with bacteria. Separation was effected by allowing the spirochaetes to grow through a Berkefeld filter, which holds back the bacteria. Two strains of *Spirochaeta pallida* in pure culture, obtained in this way, when inoculated into the testicle of the rabbit gave rise to typical lesions containing numerous spirochaetes.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

197. The Cyto-diagnosis of Affections of the Stomach.

Loeper and Binet (*Progrès méd.*, May 6th, 1911) point out that, in spite of the great variety of methods for gastric diagnosis, including the study of the gastric chemistry, examination of the faeces, and even radioscopy and radiography, it is difficult to distinguish sometimes an organic from a functional gastric disorder. The majority of these methods deal with disorders of secretion or of the motor functions of the stomach. The gastroscope has given uncertain results. It is sometimes possible to note in the gastric fluids the presence of abnormal cellular elements, and by the reaction of Meyer the presence of small quantities of blood may be detected, and, according to another author, the presence of albumen in those suffering from gastric cancer. The investigation of these cellular elements has hitherto been rather neglected. The researches of Rosenbach, Ewald, and others have certainly proved the presence of cancer cells, but these have been found in the vomited matter, and the admixture with food débris has rendered this method unsatisfactory and difficult. Cohnheim and others, in order to remedy this and make the technique more precise, had recourse to repeated lavage of the stomach, and a cytological examination of the gastric contents thus treated has in suitable cases revealed large numbers of typical cancer cells. This method, according to the authors, may be more widely extended to include the diagnosis of gastritis, ulceration, and other diseases, and can differentiate more certainly, for example, between dyspepsia and gastritis than can ordinary clinical methods. The procedure advocated by the authors is to give no food by mouth from morning to night, to introduce a gastric sound, and obtain the residual fluid in the stomach. A primary lavage with 250 c.cm. of water is given, to be followed after its removal by 250 c.cm. of physiological serum. This is preferable to the use of an alkaline solution, as it more nearly approximates to the normal gastric contents. The fluid is centrifugalized for twenty minutes and examined without staining to begin with. In normal cases cellular elements of varying size are found, some of them evidently pavement epithelium of buccal origin. Others smaller come from the oesophagus or pharynx. There is also cellular débris gastric in origin often consisting solely of the nucleus, and leucocyte detritus. These elements are found not only in normal individuals, but in cases of nervous dyspepsia. In patients suffering from aërophagy there are more cellular elements of pharyngeal than of gastric origin. In pathological states, such, for instance, as an irritative lesion like gastritis, there are to be found leucocytes in the form of polynuclears, lymphocytes, and eosinophiles in varying degrees of disintegration. There are also red corpuscles of somewhat larger size than normal. The occurrence of these shows more definitely than an examination of the stools the presence of occult haemorrhage. The epithelial cells found are chiefly of gastric origin; they have a pronounced fragility and rapidly break up—a distinguishing feature of the inflamed epithelial cell from the cancer cell. This condition of the cellular elements is also found in hyperchlorhydria, gastric atony, and ulcer. In the case of gastric cancer the diagnosis is by no means always so easy, and the cells are often confused with the desquamated cells of an irritable mucosa. It is important to study only the fresh fluid when the cellular elements are still intact. Several varieties of cancer cells are found—pavement cells from epithelioma of the cardiac end of the stomach, cylindrical or colloid cells from epithelioma of the pylorus. These cells stain more deeply in all cases than the normal epithelial cells. They also preserve their shape longer, and, following the technique of Brault, they preserve the glycogenic reaction. Leucocytes and red cells are also found, as is also the Boas bacillus. There are traces of albumen or peptones. In their concluding remarks the authors reiterate the value of this practice.

198. Chorea and Hereditary Syphilis.

Rabia (*Revista de Medicina y Cirugia Practicas*, July 15, 1911) described, before the Spanish Society of Paediatrics, a case of chorea in a child of 8 years of age, which affected the left side of the body and had lasted for four months, resisting all the usual methods of treatment—bromides, arsenic, etc. Inquiry having elicited the fact that the father had suffered from acquired syphilis, an antisyphilitic plan of treatment was pursued in the case of the chorea. In twenty days the child was cured. The author proceeds to discuss the manifestations of inherited syphilis in infancy and childhood. The syphilitic and parasyphilitic affections of infants, he says, express themselves in the most various ways according to the organ or tissue affected. They may simulate very closely the allied affections of the same organ of a non-syphilitic character, and that they are at bottom manifestations of syphilis may only be made plain by the result of treatment. Hydrocephalus, for instance, may sometimes be cured only by antisyphilitic treatment. This being well known and admitted with regard to organic diseases, may not some functional disorders like epilepsy, hysteria, chorea have a like etiology? The alterations in the nervous centres of children of a sclerotic nature and dependent on a form of arteritis, described in autopsies by P. Marie, have been evidenced chiefly by symptoms of a convulsive or paralytic nature, and where these changes do not reach a degree which becomes visible to the eye or the microscope it is possible that they may be at the root of some of the functional disorders of the nervous system of children. Syphilis seems to be the most probable agent in producing these alterations in the nerve centres. In all such cases which do not respond to ordinary treatment it is worth while to remember the possibility of inherited syphilis and to search for the usual stigmata; the reaction of Wassermann is also useful in children in case of doubt.

199. Purpura Haemorrhagica.

Matthews and Carpenter (*Amer. Journ. Med. Sci.*, July, 1911) discuss the etiology, pathogenesis, and treatment of purpura haemorrhagica, and report an idiopathic case which was atypical from the fact that no evidence of integumentary lesions developed until the constitutional symptoms had practically run their course and had almost ended fatally. The patient, an insane male aged 35, whose previous physical condition was normal except that he was anaemic, was suddenly taken ill in the night with two attacks of nausea and vomiting. The next morning he was apparently normal again, and was allowed up in the ward later in the day. The following night he had three attacks of vomiting, also passing off and leaving him apparently well, but he was kept in bed. Two days later a profuse haemorrhage from the bowels occurred followed immediately by vomiting. The cause of the haemorrhage could not be ascertained, leukaemia, haemophilia, and purpura being eliminated from the diagnosis from the results respectively of the blood examination, consideration of history, normal clotting time, and age, and from the absence of skin lesions. During the following fortnight the patient rapidly failed from frequent and profuse haemorrhages and the inability to take nourishment. It was not until the patient was in a state of collapse at the end of a fortnight from the first attack that signs of purpura appeared upon the extremities, and later upon the trunk, with an occasional small haematoma. He was immediately placed upon 20-grain doses of calcium chloride three times a day, from which time the nausea, vomiting, and haemorrhages ceased, and his recovery was slow but steady. At the end of four days the calcium chloride was withheld for three days, after which he was given calcium lactate for a week, followed by tonics, iron, and a liberal diet during convalescence.

200. Hyperplasia of the Thymus Gland.

In *l'Echo méd. du Nord* of May 21st, 1911, Swynghedamo and Durand discuss the pathology and symptomatology of this condition, and describe in detail two cases of the kind. Hypertrophy of the thymus may be due to many causes, but these divide themselves into two main groups: (*a*) Simple hyperplasia; (*b*) hypertrophy due to a lesion of the gland. Dealing with the former, the authors say it is due to an intoxication in connexion with one of the chronic infections, such as rickets, tuberculosis, or syphilis. The hyperplasia is generally coincident with alterations in the thyroid, suprarenals, pituitary or genital glands. The symptoms of the condition are, in any case, due to the volume of the organ and not to any hyperfunction.

Sudden death in such cases is not, the authors believe, as Svehla suggests, due to a state of hyperthymia or hypersecretion of the gland, but is due rather to reflex action following nervous compression. The thymus gland attains its maximum size about the age of 1 year, after which it atrophies gradually. Anything over 10 grams in weight may be regarded as abnormal. The authors then discuss the physical signs of an enlarged thymus, and remark upon the inconstancy of the area of dullness. Even in radiographic study of the enlarged gland opinion is divided as to the shape and direction of the shadow cast by the gland. Inspection is of no value, and indeed none of the physical signs are pathognomonic. The symptoms are important, however. Thymic dyspnoea may occur either as a chronic dyspnoea with paroxysms or as separate attacks with intervals of normal breathing. These attacks are mainly due to a flattening of the trachea at the junction of the cervical and thoracic portions. This has been confirmed by the tracheoscope. In either case death may follow quite suddenly. Compression of the vessels is another feature of the condition, as shown by cyanosis, distension of the veins of the neck, and tension of the fontanelle. Death may result from acute oedema of the lung. Spasm of the glottis may follow compression of the nerves at the base of the neck, and this may be superadded to the respiratory and vascular symptoms already detailed. When the pneumogastric is involved death may result suddenly from cardiac syncope. The authors refer to Cruchet's results in 67 cases which came to autopsy as showing that death is most commonly due in these cases to nerve compression. This is shown by the fact that death has occurred with such symptoms when a thymus gland of only from 2 to 3 grams has been present. In other cases these symptoms have not been present when on *post-mortem* examination a thymus gland of nearly 200 grams has been found. The two cases quoted by the authors in the result bear out this view. As to treatment, opotherapy has not been of much benefit. Radiotherapy as recommended by Heinecke has been of service in some cases, but is uncertain in its results. The authors advise the passage along the trachea of a tube, together with thymectomy, as the best means of dealing with the ever-present dangers already alluded to. They describe, finally, the technique of the operation they recommend.

201. Erythema Nodosum.

DELÉARDE AND HALLEZ (*Echo méd. du Nord*, 1911, xv, 401) find that this condition may be secondary to some affections where tuberculosis can be excluded, and also evolving secondarily during well-marked tuberculosis, the latter being by far the commoner; secondly, it may be primary in appearance, and even benign, but the greater number of cases arise from a tuberculous soil, which is not at first apparent, but shows itself later. The authors recommend rest in the horizontal position in bed, wet compresses of water, slightly alcoholic, and covered with absorbent wool. If the pain is very severe, apply vaseline 40 grams, extract of belladonna 0.50 gram, and extract of opium 0.25 gram as an ointment and cover the limb. Sodium salicylate and potassium iodide are of value. If signs of tuberculosis are present, open-air treatment is advisable and good food and hygienic conditions.

SURGERY.

202. Varicose Veins.

VIKTOR POLLAK (*Wien. med. Woch.*, No. 26, 1911) points out how unsatisfactory are the results of the more usual operations for varicose veins. Trendelenburg's operation of central ligature of the internal saphenous vein is, in the author's opinion, only effectual where Trendelenburg's pressure test is positive. Recently Rindfleisch has introduced another method, which the author finds to fulfil all the requirements of a radical operation. In this method, as described by Friedel, a piece of the internal saphenous vein is resected in the upper part of the thigh. A spiral incision is then made, beginning under the knee and passing round the leg several times to reach the dorsum of the foot; if ulcers are present the spiral must pass above and below them. The chief requirement in settling the direction of the incision is that it should cut through all the varices, and if possible do so several times. The more close together are the turns of the spiral and the more often the single varices are divided the greater is the possibility of complete removal. The skin wound is now deepened and carried through to the muscular fascia, the edges of the wound are pulled strongly apart, and any vein which does not stop bleeding with simple plugging is secured. Varices which are visible under the fascia are doubly ligatured after deepening the wound. The wound is now plugged, and healing takes place by second intention. All granulations which form during healing are cauterized, so that the wound skins over at a deep level, and finally a firm, deeply cut linear scar results. In a case in which Pollak followed this procedure, healing of the wound took two months. The appearance of the scar was so unsightly that under Mozkowicz's direction the operation was afterwards modified, and the wound sutured instead of being allowed to heal by granulations. Pollak reports on 10 cases in all. In two cases the operation was carried out on both legs, in the others only on the one most seriously affected. In the slighter cases Trendelenburg's resection of the internal saphenous was combined with the spiral incision; in the more severe cases the widened vein was extirpated through several incisions in the thigh. Ulcers when present were treated before the operation was performed. The results of the operation were good. All the patients lost their symptoms, and were able to go back to their work, which was usually hard and involved standing. All of them were instructed to bandage the legs, so that the cases give no information as to the result of adopting a contrary procedure. In no case was there a definite relapse, and in none has any fresh ulcer developed. In those cases, however, in which the final turn of the spiral was not brought down to pass over the dorsum of the foot—a point to which Kayser attaches much importance—small networks of veins are seen afterwards in the skin itself. Whether this would have occurred if Rindfleisch's method had been carried out in its entirety is not known. The author's conclusions is that: (1) Closure of the wound by skin stitches gives the better cosmetic effect, and the functional result is entirely good, but the turns of the spiral should be drawn very close to one another, and the lowest turn passing over the dorsum of the foot should not be omitted. Rindfleisch's original method should be reserved for the most severe cases, which are complicated by eczema, ulcers, and elephantiasis.

203. Fracture of Rib.

GAULEJAC (*Rev. Française de méd. et de chir.*, July 10th, 1911, quoted from the *Bulletin médical*, April 22nd, 1911) reports a case of unusual fracture of a rib without external violence. A man, aged 45, was suffering from an acute attack of pneumonia of both bases, having been subject, for four years, to pulmonary emphysema with attacks of asthma at the beginning of winter and in spring. Suitable energetic treatment resulted in improvement lasting for four days, but on the evening of the fifth day, the paroxysms of coughing having become more severe, the respiration embarrassed, the thorax dilated to its maximum, with forced inspiration and an apparent impossibility of expiration, a crack was heard, followed by acute pain on the left side of the chest. Respiration and coughing began again at the same time, and characteristic crepitation was audible with each inspiration and expiration, produced by the friction of the two ends of the sixth rib, fractured a little in front of the line of the left axilla. The symptoms of pulmonary congestion not being aggravated by the fracture, a simple support was supplied round the thorax, without interruption to the pulmonary treatment. Ten days later the lungs were free, and in a month there was no further sign of the fracture. Such a case is extremely rare, and although it was very painful it does not seem to have had any deleterious influence on the subsequent evolution of the pulmonary congestion, as soon as the fragments were prevented from irritating the pulmonary tissue and the pleura. The mechanism was the great enlargement of the angle of the rib, exceeding its limit of extensibility.

OBSTETRICS.

204. Salvarsan in Pregnancy and the Puerperium.

ERWIN LANGES (*Wien. med. Klin.*, No. 20, 1911) has treated with salvarsan eight pregnant women and twelve puerperal women suffering from syphilis, a positive Wassermann reaction being taken as proof of the disease sufficient for working purposes. All three methods of injection were employed. The dose given was 0.3 gram by intravenous injection and 0.3 to 0.6 gram by subcutaneous or intragluteal injection. The intravenous injections gave rise to

practically no unpleasant side-effects, except fever, which started from a half to two hours after the injection, and lasted for from four to five hours. The other two methods of injection gave rise to marked infiltrations and considerable pain. The effect upon the Wassermann reaction was more prompt when intravenous than when intragluteal injections were made. The 8 cases treated during pregnancy were all in the last three months. In all the syphilis was latent. In 5 of the cases one injection sufficed to change the Wassermann reaction to negative; in the other 3 cases a second injection was given with the desired result after delivery. In none did the injection cause labour pains to set in. None of the children in this group showed symptoms of syphilis, nor was the reaction positive in any of them. One case of cerebro-spinal syphilis which had been treated with salvarsan outside the clinic was admitted twenty-four hours later in labour; the seven months fetus was macerated and syphilitic, and it seems most probable that, with a dead fetus, salvarsan had been the cause of the beginning of labour. Of the 9 puerperal women, 8 were cases of latent syphilis, 1 of secondary syphilis. In the last case the woman had been delivered of a seven months macerated fetus; one other woman had aborted at the fifth month; the others had gone to term, but one child had a positive reaction at birth, and one suffered from severe syphilitic pemphigus, and died a few hours after birth. The other five children were non-syphilitic. Indirect salvarsan treatment was effective in the case of the child with a positive reaction, which became negative at the end of three weeks. The five children non-syphilitic at birth were all breast-fed, and none of them showed signs of syphilis later. It is noteworthy that none of the children of the mothers who were treated during pregnancy were syphilitic, while almost half of the children of the other mothers were manifestly syphilitic, or had a positive reaction. It thus appears that salvarsan cannot be given too early in pregnancy where symptoms of syphilis are present. The author believes that salvarsan treatment followed by a mercury cure may prevent abortion in a syphilitic woman, and lead to the birth of a healthy, non-syphilitic child. He would have the Wassermann reaction tested in all unmarried pregnant women in order that salvarsan might be administered if necessary. While indirect treatment through the mother suffices to change the reaction when no other symptoms are present, he doubts whether it would be enough in cases of severe "florid" syphilis of the child. The series of cases are in opposition to Colles's law that mothers of syphilitic children are immune from syphilis if they show no symptoms of the disease; on the contrary, the serum test shows that such mothers are to be looked upon as syphilitic.

GYNAECOLOGY.

205. Vulvitis in Newly Married Women.

JUDREY (*Prov. méd.*, July 1st, 1911) finds that simple forms of vulvitis are common among persons lately married, and that whilst giving rise to unpleasantness and discomfort, they tend to be confused with other varieties of the disease. This form of the malady is accompanied by a more or less copious discharge with pain during a week or ten days, and at the same time intercourse is painful. The trouble is sometimes associated with a contraction of the levator ani, in which case genuine vaginismus is present. Pain at the time of connexion may be due to a laceration of the hymen or to abrasions of the dilated vaginal orifice. As a rule cystitis is present, with frequency of micturition and discomfort. The symptoms and pain complained of by these patients are very variable, but they are also transitory, and their fears can be readily appeased. A local examination shows a superficial vulvitis involving the lower third of the vagina, the fourchette, the sides of the vulva, and the orifices of the Bartholinian glands. These parts are often inflamed, and may show ecchymoses or even erosion; there is no pus to be seen. The treatment should include warm boracic injections into the vagina daily, and thrice during the day the part should be cleansed with a small pad of cotton-wool soaked in a mild disinfectant solution. If the vulvitis does not yield to the above treatment, a solution of zinc sulphate or an application of protargol is advisable. The complaint may be regarded as almost physiological, but in nervous people may be the starting-point of neuralgic or other trouble; it therefore merits careful attention.

206. Tuberculosis and Carcinoma of Female Organs.

VON FRANQUÉ (*Zentralbl. f. Gynäk.*, No. 27, 1911), at the Munich meeting of the German Gynaecological Society in June, demonstrated some preparations in the course of a discussion on the relation of tuberculosis to the female genito-urinary tract. He showed that the atypical epithelial growths in the Fallopian tube, uterus, and cervix subject to tuberculosis bear a strong resemblance to carcinoma. He then exhibited a specimen of carcinoma of the tube developed on the site of an old tuberculous deposit. It was clear that the malignant disease had not developed in the atypical tuberculous epithelial growths, which were plainly visible, but in areas of unaltered epithelium on the surface of the tubal mucosa and in the gland-like involutions which were present. Von Franqué concluded that in tuberculosis of the female genital tract, protracted chemical (*sic*) stimulation acted like in cancer of the skin developed around the orifice of a tuberculous fistula.

THERAPEUTICS.

207. Dosage and Toxicity of Camphor.

LEMAIRE (*Gaz. hebd. des sci. méd. de Bord.*, June 11th, 1911) devotes a long article to this subject. Camphor may be used internally as a stimulant, cardiac tonic, nervous excitant, antispasmodic, diaphoretic, antiparasitic, bactericide, antitoxic, antigalactogogue, and anaphrodisiac. Externally it may be employed as an analgesic, antiseptic, and local stimulant. The dose in adults varies from 0.10 to 1 gram, hypodermically 0.50 gram per diem in divided doses. In children the doses are as follows: 0.005 to 0.01 gram to 15 months, 0.01 to 0.05 gram from 15 months to 3 years, from 0.05 to 0.10 gram from 3 years to 5 years, and 0.05 to 0.15 gram from 5 to 10 years of age. In tuberculosis it is useful in certain acute forms with febrile complications, and in chlorotics and anaemic persons in injections of 1 c.cm. of oil, increasing every day by 1 c.cm. Seibert recommends it in pneumonia every twelve hours in injections of 12 c.cm. of oil of camphor 20 per cent., and in pneumonias of old people daily injections of 5 c.cm. of the oil (20 per cent.); these doses may be increased to 15 to 20 c.cm. Wurtz recommends every three hours injections of 0.50 to 1 c.cm. of the oil in alimentary intoxication. In peritonitis it has been found successful in injections into the abdominal cavity of 100 to 300 grams of the oil (1 per cent.). In surgical infections and post-operative shock a dose up to 100 grams of the oil in twenty-four hours has been injected with success. In man the signs of toxicity are excitement, continual desire for movement, headache, buzzing in the ears, delirium, dimness of vision, vertigo, and hallucinations, and, if the dose is sufficient, somnolence, amnesia, paralysis of the bladder and rectum, coma, and in some cases death. In some cases the stage of excitation is missing. Hyperleucocytosis, increase of the bronchial secretion, sweating, and polyuria have been noticed. The respiration is quickened during the excitable stage, and later becomes slowed when convulsions may or may not occur. Many cases have been noted of convulsions after poisoning by this remedy.

208. "X"-rays in Sciatica.

"CURE" is not too positive or definite a term to describe the results of *x*-ray treatment in sciatica, according to Babinski, Charpentier, and Delherm, who report four observations (*Arch. d'électr. méd.*, June 10th, 1911). In the first case the patient had suffered from pain in the tract of the sciatic nerve since 1904. The pain diminished, but failed to yield entirely to a sodium salicylate treatment. Other methods also failed to produce more than a temporary amelioration, and recourse was made to the *x* rays in March, 1907. At that time the pain was violent; there was very marked scoliosis, and the Achilles tendon reflex was abolished on the affected side. The lumbo-sacral region of the vertebral column and the middle part of the thigh were each exposed to penetrating rays for ten minutes, and three sittings were given in the course of five days, the total dose absorbed (whether by each region separately or by both together is not quite plain), being about 5 H. It was sufficient to change the Noiré-Sabouraud pastilles from the clear yellow tint to deep ochre. After an interval of twenty days a second series of three sittings was given. At the end of this second series the patient who had enjoyed a progressive amelioration, was able to return to his work, pain and scoliosis having disappeared. Some time afterwards he was examined, and it was found that the Achilles tendon reflex had returned. A year

later, in 1908, the complete cure was maintained. The second case was that of a woman, aged 36 years, who was seized with sciatic pain in 1906. It was temporarily calmed by galvanization, and, upon recurrence, by various analgesic medicaments. But it got worse, and was accompanied by scoliosis and by the abolition of the Achilles tendon reflex. Treatment by means of *x* rays was undertaken at the end of 1906. In the course of four sittings a quantity of penetrating rays equal to about 5 H was made to fall on each painful region, and also on the region of the roots of the sciatic nerve. The series was repeated after an interval of twenty days. From the second sitting of the first series the pain ceased, and after the eight sittings the scoliosis had disappeared and the patient resumed her occupation. Four years later she was examined, and was found to have a normal Achilles tendon reflex. The third case was that of a man who had lumbago in January, 1910, followed in April by pains on the tract of the sciatic nerve, ultimately compelling him to abandon his work. Sulphurous baths, cocaine injections, and other measures were tried, without much result, and radio-therapy was commenced in December. At that time there was some scoliosis, and the Achilles tendon reflex on the affected side was abolished. The lumbo-sacral region only was exposed to the rays, and in the course of three sittings, each lasting for about ten minutes, a dose of 4 H of penetrating rays was absorbed. A second series of three sittings was given in January, 1911, and a third in February, amelioration being progressive throughout the treatment, and at length the patient was free from pain and scoliosis, although the Achilles tendon reflex had not returned. The fourth case was very similar to the third in character of onset and method of treatment, and in the result the patient was completely free from pain and able to walk long distances without assistance.

209. Effects on Blood Pressure of Hypophysis Extracts.

LEWIS, MILLER, AND MATTHEWS (*Arch. of Intern. Med.*, June 15th, 1911) studied the effects on blood pressure of intravenous injections of extracts of the various anatomical components of the hypophysis in order to determine the origin and mode of secretion of the different substances acting upon blood pressure. In making the extracts the different portions of the gland were isolated in as pure a condition as possible, the ox hypophysis being used because the pars intermedia is sharply demarcated from the pars nervosa, and can be cut away from the latter without the inclusion of nervous tissue. The effects of intravenous injections of the following extracts were separately examined—namely, from the entire anterior lobe; from the part of the anterior lobe distant from the cleft, and from that portion adjacent to the cleft; from the entire posterior lobe; from the pars intermedia, and from the fringe of the pars intermedia which frequently remains attached to the anterior lobe at the margins of the cleft after separation of the lobes; from the pars nervosa; and from the stalk uniting the infundibulum to the floor of the third ventricle. The effects of injections of the contents of cysts in the pars intermedia and the thick colloid removed from the cleft were also examined. As a result it was found that extracts of the pars intermedia intravenously injected cause a decided rise in blood pressure, and in order to become active the extract does not need to come in contact with the pars nervosa, extracts of which latter also give a pressor effect, the primary rise being followed by a fall, which is succeeded by a rise associated with a marked slowing of the pulse. Extracts of the anterior lobe give a primary fall, followed by a secondary rise above the level existing at the commencement of the experiment. The pressor substance is confined to that portion of the anterior lobe bounding the cleft which contains groups of cells belonging to the pars intermedia. The contents of a cyst of the pars intermedia gave a decided pressor effect. A depressor substance soluble in alcohol exists in the anterior lobe, the pars intermedia, and the pars nervosa. Since it is unlikely that the pars intermedia and the pars nervosa, so histologically different, would secrete a substance having the same blood-pressure effect, it is probable that the pressor substance is secreted by the pars intermedia, from whence it passes into the pars nervosa. Extracts of the hypophysial stalk did not give any pressor effects.

210. Neurotropic Action of Salvarsan.

K. HEUSER (*Wien. med. Klin.*, No. 15, 1911) has had under his observation three cases of nerve affections after treatment with salvarsan. The first case showed a papular iritis and epileptiform attacks in the early stage of lues. In this case 0.2 gram of salvarsan was first given by intramuscular injection, and, later, 0.4 gram intravenously. The epileptiform attacks began about four weeks after the second injection. The patient was by occupation a painter, but there were no signs of lead poisoning. The case may have been one of direct arsenical intoxication, with a coincident, though not demonstrable, chronic lead intoxication, or it may have been one of so-called secondary epilepsy, such as is sometimes seen in the first months after the secondary stage. The second case was of paralysis of the soft palate and vocal cords rather more than a month after an intravenous injection of 0.4 gram of salvarsan. There was only a slight angina, and, although it is true that paralysis does occasionally occur after infectious diseases other than diphtheria, there was no severe general condition to justify such a diagnosis in this case. It thus appears that there was either a direct nerve injury through salvarsan, or that the arsenic prepared a *locus minoris resistentiae* for the action of syphilis. The improvement of the symptoms during a calomel cure appears to support the latter view. The profuse sweating which broke out at intervals for a period of weeks is also to be looked upon as a sign of general injury of the nervous system. The third case was one of syphilis of the brain with defects of speech and epileptiform convulsions. Such cases point to the need of careful observation of the effects of salvarsan upon the nervous system, because, though the direct effect in injuring the nervous tissue would seem to be less than that of atoxyl, yet it appears not infrequently to have an indirect effect. The author has also made investigations as to the length of time after an intramuscular or intravenous injection, during which arsenic can be demonstrated to be present. Intravenous injections were not made until December, 1910, so that the data with respect to them are still imperfect, but the author finds that arsenic is still present in the urine one-half to three-quarters of a year after intramuscular injections, still present from one to three months after intravenous injection, in one case being found both in the blood and the urine.

PATHOLOGY.

211. Portals of Entrance of Tuberculosis in Children.

POTTER (*Pediatrics*, 1911, xxiii, 454) considers the different theories promulgated at various times as to the method by which the tubercle bacillus enters the system. These are as follows: (1) Prenatal infection or transmission by heredity, either by (*a*) germinal transmission; it is of no importance, practically, whether the spermatozoon is healthy or carries the tubercle bacillus with it; (*b*) placental transmission; this includes those cases in which the bacilli have been found in the fetal blood without changes in the organs and those in which tuberculous nodes and enlarged glands have been found at birth; (*c*) transmission *intra partum*; this is of little practical importance, owing to the extreme rarity of tuberculosis of the vagina and external genitals. (2) Lymphatic affection through the mouth, nose, and pharynx. Extension of tuberculosis from the cervical glands to the mediastinum is rare, the latter much more commonly become affected from the lungs. In many cases infection is carried by the food, although the possibility of the hands of infants may carry infection to the mouth and naso-pharynx. (3) Transmission through other mucous membranes, as conjunctiva or urogenital membrane, or through the skin. Transmission by the skin is difficult to determine, but it is well known that it may occur by the other membranes. (4) Through the air passages or aërogenic infection. This, of course, is the commonest method of transmission. Tubercle bacilli on the bronchial mucous membrane are much more dangerous than on the intestinal membrane. Findel found that 5 million tubercle bacilli inhaled by a dog caused extensive pulmonary tuberculosis, but 1,220 times that dose produced no effect when given by the stomach. (5) By means of the intestinal tract, or enterogenic infection. Three possibilities have been suggested to explain this method: (*a*) There develops a primary tuberculosis of the intestine which gives rise to secondary involvement of the mesenteric glands; (*b*) that the intestine becomes the seat of a non-tuberculous infection, and this allows a passage of tuberculous material; (*c*) that healthy intestine allows the passage of tubercle bacilli, more especially during childhood. The primary focus in the two latter is in the mesenteric lymph nodes.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

212. The Absence of Cough in Early Phthisis.

UFRECHT (*Berl. Klin. Woch.*, July 24th, 1911) emphasizes ne importance of not relying on cough as an early sign of hthisis, for many physicians consider the examination of ie chest for pulmonary tuberculosis to be superfluous in ie absence of cough. Such an attitude delays the timely iagnosis of phthisis, and may frequently be fatal for the atient. The evidence in support of the writer's view is onsiderable, and includes the following points: (1) Haemo-tysis due to phthisis frequently occurs in patients pparently well and without cough. (2) Apical infiltration ay be detected in patients without cough, and the sease may subsequently run a rapid and typical course.) Necropsies have frequently revealed active tuberculous ci in the lungs of persons killed by accident who did ot cough, and who had been apparently well. Such nditions as wasting, extreme anaemia, tiredness on sing in the morning, and night sweats are all earlier gns of phthisis than cough, which may not appear till ery other sign of phthisis is present and well marked. some cases, even, there is no cough till a few days fore death. Cough, in fact, is not directly due to the lmonary disease, but to the laryngeal irritation which curs sooner or later, and which is due to the action the sputum on the larynx. Even in the last stage phthisis sputum may collect in the lung, without causing ugh or disturbing sleep, and in the morning it is coughed hawked up in large quantities. The drainage of sputum om the lung is mainly effected by the ciliated epithelium the respiratory passages, and it has been experimentally own that not only watery mucus, but also blood clots d viscid secretion are carried up to the larynx, even ien the head is raised. Coughing is merely an auxiliary echanism by which matter which has collected under glottis may be forcibly expelled. Often in early phthisis patient complains of having to clear his throat quently, and the physician's attention is diverted from lungs to the throat. Laryngeal catarrh is seldom sent except in early phthisis, and it readily appears as a ing or autumn "cold." Such colds are usually transi-y, but they may persist and lead to the examination of chest and the detection of phthisis. Blame is then ached to the "cold," and a previous history of tiredness l anaemia is ignored. In animals stimulation of the enchyma of the lung with a fine needle has failed to uce cough, which invariably is provoked by stimulation the upper respiratory passages. The earliest tubercu-s foci in the lung do not involve even the smallest nchioles, but are limited to minute blood and lymphatic sels, and it is obvious that such foci cannot *per se* uce cough. But though the relation between cough and hisis is thus shown to be indirect, the action of the ner on the latter is most harmful, as it favours exten-of the disease. Coughing should therefore be carefully ated.

213. Radiography of Intestine.

coming of the intensifying screen marked the real mencement of successful radiography of the intes-, and Aubourg, in the preface to a lengthy paper *h. d'électr. méd.*, July 10th, 1911), points out that ordinary *x*-ray installations it is now possible to in good radiographs of almost every section of the stive tube. He never passes through his Gundelach a smaller milliampèrage than 7, and with this and or other intensifying screen he is able to obtain in than two seconds a good image of the intestine at r 80 cm., or even 1 metre from the anticathode. re are two complementary methods of examination ractice, which he names respectively the "high" and *x*" method. The first consists in imbibing 100 grams ismuth carbonate in clear or mucilaginous water, the other of a bismuth clyster, also of 100 grams, in or mucilaginous water or in oil. The former is the edure of choice for the examination of the duodenum small intestine. The person examined should be in bitus if a clear rendering of the duodenum is desired. his position the duodenum ascends by the height of vertebra, but its image is not masked, as generally ens when the upright position is chosen. Aubourg oduces a remarkable picture, showing most of the ansae of the small intestine filled with bismuth, which had been obtained in the case of a patient who ten years previously had been laparotomized in order that a gastro-entero-anastomosis might be done. After the ingestion of the bismuth preparation the contents of the stomach passed into the small intestine so rapidly as to make the stomach seem to be but a continuation of the oesophagus. The plate in this instance was placed on the anterior surface of the abdomen, the patient reclining, the anticathode was 65 cm. distant, and the exposure was twenty-two seconds. An important point in the radiograph is that the borders of the ansae are not rectilinear but indented or festooned. The festoons represent the valves of Kerkring, and the clearness with which they are visible proves that for twenty-two seconds at least there was no peristaltism. In ordinary subjects not all the segments can be so clearly obtained in a radiograph. The extreme mobility of the caecum is well brought out by this method. The appendix may frequently be filled with bismuth so that a pin-like radiological image can be obtained, not rarely having an S form. The radiograph, however, can give no indication as to its healthy or diseased condition, and if its image is altogether absent this is probably due to the fact that the vermicular process has a retrocaecal situation. In the transverse colon, where the bismuth remains for a long time, the appearance is suggestive of a series of hucklebones on a string. The second procedure—that of administering a bismuth clyster—will demonstrate the intestinal tract from the anus to the caecum, which latter is filled in from two to five minutes after injection. The quantity of fluid required to obtain an entire image of the great intestine is less than a litre. In the horizontal position the ascending colon has a height of 20 cm., the lowest point of the transverse colon is at the base of the fourth lumbar, and the descending colon is greatly enlarged at the iliac crest. In the upright position the transverse colon is seen to be lowered and divided into two portions, forming a concavity in which the fundus of the stomach appears to lie. The author concludes that this latter method of radiological examination furnishes useful knowledge as to the form, situation, calibre and motor physiology of the great intestine, and has considerable surgical value, especially as affording a means of judgement of the position and nature of stenoses.

214. Werlhof's Disease.

MAGGIORE (*Rif. Med.*, July 24th, 1911) records the case of a boy, aged 5, admitted into hospital in May, 1911. There was nothing of any importance in the family history. The child was breast-fed for a year, teethed at 9 months, and walked at 13 months. His present illness began in January, 1910, when the mother noticed a few purpura spots on the chest, followed a few days later by bruise-like maculae on the face, abdomen, and back. No known cause could be made out, and after a short time the spots disappeared. In other respects the child was well. In May the child had a severe attack of epistaxis, followed later by maculae as before. In September he had another attack, and nearly bled to death as the result of a fall causing a wound on the forehead. He also had epistaxis. Since November, at intervals of twenty days or so, he has suffered from repeated epistaxis and purpura. Beyond a certain degree of anaemia the child did not appear ill; there was no fever, no sign of any toxic infection, no cardiac or renal disease, and no joint pains. The mucous membranes showed marks of purpura. Examination of the blood showed that the specific gravity both of the serum and the blood was higher than normal (1104), that there was a notable increase in the cryoscopic index and also in the viscosity. The coagulation time was the same as that of a healthy individual, differing in this respect from haemophilia, where there is a retardation in the coagulation time. There were no abnormal changes in the blood corpuscles.

215. Peculiarities of Typhoid Fever in Children.

HUTINEL (*Journ. des prat.*, June 10th, 1911) draws attention to several interesting points in this connexion. Typhoid fever in children is often remarkably benign in its course, and shortened in duration. The nausea, vomiting, and diarrhoea are usually comparatively slight, the spleen not much enlarged, and the usual hebetude less pronounced. Severer forms of the disease occur only in

epidemics. In the adult the initial symptoms are usually gradually progressive, whilst in children they often begin suddenly, and the temperature rises sharply. Sometimes a marked initial symptom is rigidity of the neck, and one author has noted an actual torticollis. In dyspeptic and constipated children there is usually an exaggeration of the constipation as well as the presence of colitis. The author has also seen typhoid fever follow immediately upon an appendicular crisis. Pneumonia as an early and prominent sign is frequent—the modification of the pulse, the abdominal swelling, and the prostration of the little patient all help the diagnosis. Below the age of 6 epistaxis is rare, but vomiting is a marked feature of the disease. The abdominal distension is not so marked as in adults, and, unless in exceptional cases of suppurative cholecystitis, the liver is not painful. An enlarged and painful liver is in favour of tuberculosis rather than enteric fever. Bronchitis is frequent and, as a rule, is general all over the chest. The pulse is dicrotic and not much accelerated, and in the graver forms there is an embryo cardiac rhythm. This, however, is not of such grave significance as in the adult. Meningeal symptoms are more common than in adults, and the fever tends to fall by crisis rather than by lysis. It often falls quite suddenly from 39.6° C. to 36.6° C. The character of the pulse and the general state of the little patient will indicate sufficiently whether this fall is due to an intestinal haemorrhage or not.

SURGERY.

216. Arterial and Arterio-venous Aneurysm on same Artery.

JULLIEN (*Echo méd. du Nord*, February 26th, 1911) relates the case of an agent of police who suffered from this condition as the result of a bullet wound in the left groin. There was pretty free haemorrhage, and as this did not become arrested spontaneously, and compression was of no use, an incision was made over the entry of the projectile. Haemostasis finally being complete the wound was sutured without drainage. The bullet was localized in the left iliac fossa, but was not extracted. Later the limb became painful, incapable of movement, and oedematous. The pain was chiefly localized in the front of the thigh. A swelling appeared in the left inguinal region, which finally occupied the space between the pubis and the anterior superior iliac spine. On its outer side the swelling was pulsatile and expansile, while on the inner side, corresponding to the artery, there was a manifest thrill. Under the recent wound and adherent to it was a mass the size of an egg, which appeared to be inflammatory tissue. The pain became intolerale, preventing sleep; varicosities appeared at various points on the leg, and severe trophic disturbances in the area of distribution of the crural nerve occurred. As the conditions pointed to speedy rupture or death from exhaustion, an operation was decided on. On the assumption that the communication existing between the femoral artery and vein was of recent date and the walls of the vessels fairly sound, it was proposed to separate the two vessels, suturing each of them laterally. This was done, although in course of the operation difficulties arose owing to rupture of the arterio-venous anastomosis which had taken place, resulting in profuse haemorrhage. The field of operation was enlarged, the bleeding points controlled, and clots cleared out. At this point a small opening in the posterior wall of the femoral artery was discovered, quite independent of the arterio-venous aneurysm already referred to. A quadruple ligature was placed upon both the femoral artery and vein, and, the patient's condition being serious, injections of serum were given and caffein administered. He died after a few hours. The explanation of the curious lesions described would seem to be that the bullet on its way to the left iliac fossa passed between the femoral artery and vein, grazing and damaging their walls, the result being an arterio-venous aneurysm without a sac and indicated by the signs already described. In its further progress the bullet evidently damaged the posterior wall of the femoral artery, the injury being too slight to cause much immediate bleeding but sufficient to bring about the formation of an aneurysm. During the few hours that elapsed before death occurred there was evidence that the circulation in the injured extremity was quite satisfactory. This had probably been established by the ischiatic artery prior to the operation.

217. Benign Stenosis at the Splenic Flexure.

ED. ALTARD (*Wien. med. Klin.*, No. 17, 1911) describes two cases of benign stenosis of the left flexure of the colon upon which he operated during the preceding winter. Both patients were men, one 51 years of age, the other 25. Both had suffered from obstinate chronic constipation. The first patient had had since 1903 several periods of about three weeks' duration, during which he suffered from repeated colic-like attacks of pain, with special localization in the left hypochondrium. During these periods the constipation was even more marked than before. Finally, in 1910, the time during which the attacks came on was no longer limited to three weeks, but continued until the patient came to the Breslau clinic. The attacks were less severe when the patient took little food, and he had, therefore, reduced the amount, with the result that when first seen he was emaciated, and his appearance was suggestive of malignant disease. On examination the abdomen was found to be very little distended, and was soft; no enlarged coils of intestine could be felt; there was no resistance and no tumour. The abdomen was tender on pressure in the region of the angle of the ribs on the left side—the place where the pain had been felt, and pressure on the ascending colon and hepatic flexure caused pain on the left side—there was, in fact, a reversed Rovsing symptom. Bismuth was injected into the large intestine, and a Roentgen-ray photograph showed that the transverse colon was depressed; the splenic end rose steeply upwards to a splenic flexure high in the hypochondrium; the angle of the flexure was very acute. The symptoms improved under daily lavage, regulation of the diet, and administration of atropine, but the patient relapsed on his return home, and an operation was decided on. At the operation, in both cases, many adhesions were found, showing that subacute or chronic pericolitis had been present. With regard to causation, the splenic flexure is more fixed than the rest of the colon, and is usually at a higher level than the hepatic flexure, so that the turn tends to be at an acute angle. Roith has shown that the transverse colon is usually full, while the descending colon is almost always found empty and strongly contracted. Holzknecht and Bloch have described antiperistaltic movements as occurring in this part of the intestine; it would appear, in fact, that the splenic flexure presents what might almost be described as a physiological hindrance to the passage of the intestinal contents. Exaggeration of the physiological peculiarities can obviously lead to the production of obstinate constipation, and also slight lesions may easily occur which may result in pericolitis, with the formation of adhesions. The typical occlusion crises of the first case made the diagnosis clear, but in the second case it could hardly have been arrived at without the use of Roentgen rays. Treatment by aperients, intestinal lavage, atropine, and physostigmum, etc., will often be beneficial, but in the author's cases operative treatment was the only possible measure, and was in both cases completely successful.

218. Rare Intestinal Lesion.

RAZZABONI (*Rif. Med.*, August 21st, 1911) reports the case of a woman, aged 85, admitted into hospital for strangulated inguinal hernia of a few hours' duration. The hernia had been existent for fifty years, and in addition the patient suffered from extensive ulcerating cancer of the breast. As the hernia did not yield under taxis and cold applications, spinal anaesthesia was induced next day and herniotomy performed. Owing to adhesions and the condition of the sac a good deal of manipulation was necessary, and during this stage the hernia slipped back, so that the sac was empty on being opened. Some relief was obtained; the bowels opened naturally, but later on the vomiting returned and the patient died forty-eight hours after operation. At the *post-mortem* examination the small intestine was found transfixed in two places by two fish bones (whiting), and probably death was largely due to this cause. The perforation may have taken place and been due to the manipulation necessary in the performance of the operation or the previous taxis, and the situation of the perforation pointed to the fact that it occurred in the part of the small intestine which was the seat of the hernia.

OBSTETRICS.

219. Cornual Pregnancy.

BECKMANN (*Zeit. f. Geburts. u. Gyn.*, vol. lxviii, part 3, 1911) shows by his own experience and by statistics that this type of abnormal gestation has become of late years much more frequent, or rather, perhaps, much more often diagnosed than before. In 1904 Werth collected 100 cases. Beckmann, who has observed two instances in his own

experience, reports the second, hitherto unpublished, and tabulates 50 new cases arranged chronologically from 1904 to 1911. Owing to the great improvements introduced into the arts of surgery and obstetrics during the past twenty years statistics show results surprisingly satisfactory in comparison with earlier records. In 20 cases gestation continued to the last few months: namely, in 5 to the seventh month, 4 to the eight, and 11 to the tenth. Only 3 out of the entire 20 ruptured before operation. Out of 36 with clear histories 2 died, both from haemorrhage after rupture; in 10 more rupture occurred, but operative measures saved the patient, and 24 underwent operation before rupture occurred; 4 out of the 50 were, Beckmann admits, doubtful. In 2 the malformation was really uterus bilocularis, in 1 uterus didelphys, and in the fourth the sac was probably tubo-uterine or interstitial. Operative treatment is always indicated. The gravid cornu alone should be amputated, for 5 patients registered in Beckmann's series bore children in the normal cornu after recovering from the operation. Only when the gravid cornu is very closely connected with its fellow should total hysterectomy or a supravaginal operation be performed. The course of a cornual pregnancy is less regular than is generally supposed. In two of Beckmann's cases rupture was not fatal, nor did it even kill the fetus at once. Hannes operated when the fetus had become surrounded by a secondary sac, as in tubo-abdominal pregnancy, and continued to develop. Kiparsky removed from the abdominal cavity a living child nineteen days after rupture of the cornu. In Beckmann's two cases the fetus apparently survived the rupture for several days. Werth's statistics include three similar cases. Thus rupture of the cornu is not always immediately succeeded by fatal haemorrhages: indeed, in these cases of survival of the fetus the amount of blood effused into the peritoneum was never very marked.

GYNAECOLOGY.

220. The Funnel Pelvis.

WHITRIDGE WILLIAMS (*Amer. Journ. Obstet.*, July, 1911) finds, as a consequence of systematic measurements, that contractions of the pelvic outlet occur much more frequently than is generally believed. During the past two years he has measured over 1,000 additional pelves and now reports upon the findings in 2,215 women who were delivered at full term out of a series of 2,750 consecutive patients in the obstetrical service of the Johns Hopkins Hospital. According to his conclusions, (1) in typical funnel pelves the distance between the tubera ischii is reduced to 8 cm. or less, while the usual measurements remain unchanged. (2) Such pelves were noted in 6.1 per cent. of the 2,215 consecutive full term labours of equal incidence in white and black women. They may give rise to serious dystocia. (3) The funnel pelvis is the most common abnormality in white women, in whom it constitutes 44 per cent. of all deformed pelves. In coloured women, on account of the greater incidence of the more usual types, it is relatively less important and stands fourth in order of frequency. (4) The prognosis depends not so much on the actual narrowing of the pubic arch or upon the distance between the tubera ischii as upon the relation between the latter and the posterior sagittal diameter. (5) Moderate degrees of dystocia can frequently be overcome by placing the patient in an exaggerated lithotomy or an exaggerated Sims's position. In either event, the antero-posterior and posterior sagittal diameters undergo an average increase of 1.62 cm., which may so augment the available space as to make spontaneous labour possible. (6) Such an enlargement affords an explanation of the successful outcome of certain low forceps operations, which appear theoretically impossible from the measurements taken in the usual position. (7) Pubiotomy is the operation of choice in cases of pronounced dystocia, as it not only affects the delivery of the child, but leads to a permanent increase in the size of the outlet, which may be further enlarged by the softening of the fibrous union under the influence of the hyperaemia incident to pregnancy, and thus make possible the spontaneous termination of subsequent labours.

221. Cold Abscess of the Fallopian Tubes.

AUVERTS AND TAUCOT (*Echo méd. du Nord*, 1911. xv, p. 365) describe two cases, in girls of 17 and 28 respectively, of abscess of the Fallopian tubes on whom operation was successfully performed. The affection is always bilateral, and tuberculous in nature. Lesions of the latter kind may be found on the parietal and intestinal peritoneum. The ovary may also become affected, and adhesions form to the uterus, intestine, and pelvic peritoneum. Pain is usually intense, fever slight or absent; the tumours can be felt on palpation. Treatment consists in removal of the tubes after laparotomy. Bertrand considers that the uterus should also be removed. The authors believe that it is not always advisable to remove ovaries and uterus, as it is not possible to be certain that the tuberculous foci are thereby removed. The organs grossly affected should be excised, but where the lesions are slight the organs mildly affected should be retained.

THERAPEUTICS.

222. Ear Troubles Caused by Salvarsan Injections.

BOURGEOIS (*Progrès méd.*, August 19th, 1911) draws attention to the serious results to the auditory apparatus that may follow the use of salvarsan. These may appear from several days after the injection to a period of three months or more. The intravenous injections are responsible for the earlier manifestations of the trouble, the intramuscular injections for those occurring later. The latter are the most frequent, and from that point of view the intramuscular method is the more dangerous. The auditory nerve may be affected alone or with the other cranial nerves. The author quotes Bénario as showing that out of 126 cases the auditory nerve was attacked alone on 51 occasions. In 8 cases it was associated with the facial nerve, and in 15 cases the auditory trouble was bilateral. Of the 51 cases quoted, in 17 both branches of the nerve were affected—that is to say, both deafness and affections of the semicircular canals resulted. On 29 occasions the cochlear branch was attacked, and on 5 the vestibular branch. This latter is very rare in syphilis without arsenical treatment. As a rule, the premonitory symptoms are headache, buzzing sounds in the head, and vertigo. Deafness more or less absolute follows. Castex has noted a congested state of the tympanum, and in some cases ecchymoses, and the author believes middle-ear lesions are more common than has been supposed. This action of "606" has been variously explained, some authors asserting it as toxic in character. The supporters of the remedy do not acquiesce in this view, however. They affirm it is brought about by the syphilis itself, which is in some way modified by the action of the drug. Ehrlich himself holds that the early manifestations of paralysis are in the same category as what is called the phenomenon of Herxheimer. A species of tumefaction of the syphilitic nodule is produced by the treatment, and this presumably compresses the auditory nerve in its passage through the bone. David, while accepting Ehrlich's theory in explanation of the earlier auditory affections, declines to accept it for the later phenomena, which, he says, are toxic in origin. Sicard, on the other hand, says that the paralyses are due to the liberation of a large quantity of endotoxin consequent upon the destruction of the spirochaetes. As the author points out, no one theory fits all the cases, and the question meantime must remain in abeyance. Intravenous injections are more to be recommended on the whole than intramuscular injections. Further, no patient suffering from any original auditory trouble ought to be treated. If the premonitory symptoms already detailed appear after a first injection, it is desirable to leave salvarsan alone and revert to mercurial treatment. In unilateral labyrinthine syphilis the author does not recommend salvarsan, but if the lesion is bilateral and severe, there is nothing to lose and everything to gain by the use of the remedy.

223. Digitalis in Typhoid.

ALEXANDER SKUTETZKY (*Wien. med. Klin.*, No. 22, 1911) has given digitalis in 93 out of 495 cases of typhoid treated at the Prague Garrison Hospital (No. 11), between the years 1899 and 1910. The indications for its use were heart weakness as shown by increased frequency of pulse, arrhythmia of heart, weak tension, and defective filling of the pulse: 24, or 25.5 per cent. of the cases, ended fatally. This percentage is high, because the cases thus treated were the most severe ones, but the case mortality of the whole number of cases was not unduly high. Digitalis was always given in the form of the infusion, and was frequently combined with sulphuric ether. Notes of 30 of the cases thus treated are given in

the article. In the first case described the patient's condition during the second week of typhoid had become apparently hopeless; signs of oedema of the lungs were present, the pulse was scarcely perceptible and was arrhythmic, but within three days after 1.8 gram (27 grains) of digitalis had been given, without any other treatment except the customary cold compresses, the condition had altogether changed and all threatening symptoms referable to the circulatory system had disappeared. In another case, which was almost as striking, the improvement began twenty-four hours after the first administration of digitalis. In none of the cases did the digitalis treatment appear to do harm. Those which ended fatally were either (1) cases which on admission were in a desperate condition in the second or third week of illness, and in which several times there was severe haemorrhage from the intestine on the day after admission. (2) Cases in which, in spite of temporary improvement in the circulatory system, death ensued as a result of inflammatory changes in the lungs or in which complications such as abortion, severe intestinal lesions, or sepsis, made the prognosis much more unfavourable. (3) Cases in which the time was too short for the action of digitalis to become effective, or in which the heart muscle was too much degenerated to allow of effective action. (4) Cases which were resistent to the action of digitalis. The author did not find that the increase of blood pressure due to digitalis appeared to cause intestinal haemorrhage. The action of digitalis usually became apparent twenty-four hours after the first dose was given; the administration was interrupted after a few days in order to avoid cumulative action. The author concluded that (1) digitalis exerts a favourable influence on a heart severely affected in typhoid, and often appears to be the direct cause of saving of life; it should be given under all circumstances at the first symptom of heart weakness. (2) The treatment must be individualized; the initial dose is from 0.5 gram (7.5 grains) to 1.0 gram (15.5) a day, according to age, general condition, and severity of symptoms; on each following day the dose should be diminished by about 0.1 gram (1.5 grains), and the administration continued until 0.1 to 0.05 gram (1.5 to 0.7 grains) has been reached, unless the desired result has been arrived at earlier. (3) In severe cases the combination of digitalis with small doses of sulphuric ether is indicated as giving a quicker and more intense action. (4) A history of intestinal haemorrhage does not contraindicate the use of digitalis, but care is needed in the dosage, especially in the case of older people. (5) In severe collapse, in order to obtain a quick effect, other agents—such as camphor, ether, strophanthus, saline infusions, and adrenalin—are to be preferred. (6) The administration is to be discontinued on the appearance of any sign of cumulative action.

224. High-frequency Currents in Exophthalmic Goitre.

ZIMMERN AND BORDET have studied the action of high-frequency currents in five cases of exophthalmic goitre (*Arch. d'électr. méd.*, August 25th, 1911). The applications were made by the condensation couch method, and the current had an intensity occasionally reaching one ampère. The applications usually lasted for ten minutes, and their number varied in the five cases from ten to thirty-two. In only one of the cases was there any objective amelioration of the chief symptoms associated with exophthalmic goitre, and even in this instance the improvement was only partial, and the pulse quite uninfluenced. Two or three of the patients, however, expressed themselves as feeling better after the application, and the authors conclude that while high frequency does not bring about any important modifications in the objective signs presented by sufferers from exophthalmic goitre, it does relieve the associated insomnia, amyosthenia and anxiety, and has a general sedative action.

225. Pantopon.

R. KAFEMANN (*Wien. med. Klin.*, No. 26, 1911) has for two years made extensive use of pantopon in the treatment of diseases of the throat, nose, and ear. Pantopon is a yellowish powder, easily soluble in water; it contains hydrochlorates of the alkaloids of opium, and by many workers on the subject it is said to excel all other preparations of opium. The author was not able to demonstrate the presence of any local anaesthetic action upon mucous membranes in pantopon, but he found that absorption from the nasal mucous membrane undoubtedly took place. Different indications for the use of pantopon in diseases of the throat, nose, and ear may be divided into groups as follows: (1) Indications when used along with operative measures; (2) in the treatment of inflammatory conditions; (3) in nervous diseases. Pantopon is especially useful as an aid to inhalation narcosis. The investigations if Loewys, Wertheimer, and others have shown that it diminishes the depth and frequency of respiration to a less degree than does morphine, and the circulation is not affected. The author has also found pantopon useful applied to the nasal mucous membrane together with other antiseptic and anaesthetic substances, when plugging the nose after operation to prevent bleeding; in persons specially sensitive to opium, symptoms of poisoning may occur as a result of such a procedure, but this very rarely happens. The author has followed Sahli in giving pantopon in small doses (5 mg. three times a day) in cases of tracheitis and laryngitis. The result is so good that only very severe forms require a long sparing of the voice, while in many cases the voice can be used throughout. In bronchial affections Kafemann gives pantopon in combination with other drugs as an inhalation. He has found it effective when applied locally within a few hours of the first appearance of symptoms in cutting short the course of acute myringitis. In nervous diseases pantopon has an undoubted effect. In one case described by the author a slight xerosis of the mucous membrane of the nose and throat was treated for several weeks without giving any relief to subjective symptoms so severe as to incapacitate the patient for work; local applications of pantopon were then substituted for the former treatment, with the result that after fourteen days the symptoms had altogether and apparently had permanently disappeared. The author has not himself come across any case of pantopon craving, but Heymann reports a case. In every instance the dose and the form in which the drug should be given are best determined by cautious trial.

226. Tuberculin Reaction in Syphilis.

AUGAGNEUR (*Thèse de Lyon*, 1910) finds that syphilitics free from clinical signs of tuberculosis react in the same proportion as tuberculous subjects to the cutaneous, intradermic, and subcutaneous tuberculin tests (20 per cent. positive). Hence the specificity of the cutaneous and subcutaneous tuberculin reactions cannot be admitted, and these reactions are of no assistance in distinguishing between syphilitic and tuberculous lesions.

PATHOLOGY.

227. Belladonna Poisoning.

KNOWLES (*Amer. Journ. Med. Sci.*, July, 1911) reviews the local and general eruptions caused by belladonna and atropine, and gives notes of cases of generalized eruptions of an unusual type caused by absorption from a belladonna plaster, and from the ocular instillation of atropine. In one case, that of a negress aged 23, an eruption consisting of innumerable miliary and larger vesicles on an acutely inflamed base over the cheek, side of nose, and lower eyelid on the left side followed the instillation of atropine into the eye, a similar result occurring two years later from the same cause. In another case, that of a man aged 25, an intensely itchy generalized eruption, consisting of dark red erythematous spots and areas, developed five days after the application of two large belladonna plasters over the scapular region; while in a third case, that of a man aged 30, a generalized pruritic erythematous eruption followed the instillation of atropine daily for a few days into the right eye. On the chest, lateral portions of the trunk, and outer surface of the arms and thighs, the rash consisted of bright to dark red, erythematous, macular spots which had become confluent. The hands and feet were not attacked, and the rash on the lower portion of the trunk, buttocks, and thighs was of a darker colour than elsewhere. In the great majority of cases of poisoning the pupils are widely dilated, but in some cases no dilatation occurs, while in a few recorded cases the belladonna acted on one side only. It is not necessary for the skin to be broken or denuded of epidermis for absorption to take place, though the symptoms develop sooner if there is any skin lesion. In the majority of cases general symptoms of poisoning are present, though the eruption may be unaccompanied by other manifestations of drug absorption. Usually the eruption is of an erythematous or scarlatinal type affecting the face and upper portions of the body, but in a considerable number it is generalized, and the drug may produce a local eruption from the local irritant effect.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

228. Hydatid Cyst of Left Auricle.

Roques and Durand (*Rev. Française de méd. et de chir.*, May 25th, 1911) give details of an unusual case of this nature. The patient was a young girl of 17 years of age who came under observation in September, 1910, suffering from incessant cough, haemoptysis, and rapid wasting. On examination the respiration was found to be short and shallow. On percussion there was slight subclavicular dullness and also supraspinous and infraspinous dullness. Vocal fremitus was also increased on the right side. After coughing, crackling râles were heard all over the upper lobe of the right lung. At the apex they were moist and gurgling. Complete anorexia existed, but there was no diarrhoea. The cardiac sounds were loud and ringing, but no murmurs were to be heard. The pulse was regular but slightly accelerated. The patient complained of dyspnoea on slight exertion, and suffered from an intractable neuralgia at the level of the sixth intercostal space on the left side. There was an oscillating temperature, the fever at times being of the inverse type, and night sweats were profuse. The diagnosis of pulmonary tuberculosis was at first made, and the treatment so directed. On October 28th there was a severe attack of "blue" syncope, from which after energetic stimulation she recovered. This, however, was soon succeeded by another attack of grave cardiac syncope, to which in spite of treatment she succumbed. *Post mortem* both lungs were found to be congested, and on the right side there were pleural adhesions affecting the upper lobe. Hard nodules were found scattered all over the lung. At the apex these nodules had become caseous in some instances, while in others small cavities had formed. At the base of the lung the nodules were found to contain vesicles possessing a transparent membrane, and filled with a clear watery fluid. On opening the pericardium there was a free flow of a lemon-coloured fluid. The left auricle was found to be notably increased in size. On incision, a clear crystalline fluid escaped, and with it a number of vesicles varying in size from a millet seed to a small marble. The myocardium of the left auricle was found on incision to be similarly affected. Microscopical examination of these vesicles and their contents left no doubt as their being hydatid. The authors then discuss the question as to the path of entry of the scolex. Leuckhardt's view is that, the embryo having escaped from the intestine, enters one of the mesenteric veins, or the splenic vein, finding its way by means of the vena cava to the right side of the heart. This, however, does not explain the arrival of the parasite at the left auricle, unless, indeed, it was able to pass through the liver as well as the lungs. Another view is that access to the circulation is obtained by way of the lymph channels, beginning in the chyle ducts; and yet another that the eggs of the echinococcus are introduced into the system by means of the inspired air. The author appears to adopt the view that the scolices enter the circulatory system by way of the haemorrhoidal veins. The difficulty in making a diagnosis from pulmonary tuberculosis in such a case as this is lessened by the use of Weinberg's reaction of fixation, or the reaction of Ascoli. The authors' view is that, in all cases of seeming tuberculosis of the base of the lung which are at all abnormal in type, it is as well to consider the possibility of multiple hydatid cyst of the lung. Both diseases may, of course, coexist in the same lung. The only hope of treatment in such cases lies in the discovery of a specific serum.

229. Malarial Icterus and Haematuria.

Tropeano (*Giorn. internaz. d. Scienze med.*, Naples, vol. xxxiii, 337) found that quinine produced no haematuria in a patient of his suffering from paroxysmal haemoglobinuria. But in the last four years he has met with 11 malarial patients in whom the administration of quinine invariably produced fever with jaundice and haematuria, quite apart from their ordinary febrile disturbances. Of these 11, 3 had intermittent quotidian malaria, 5 intermittent tertian, 1 quartan, 2 chronic cachectic malaria; 7 were men, 5 women; 5 were aged 10 to 20, 5 aged 20 to 30, 1 was 70. He has had another series of 4 malarial cases in which a similar febrile jaundice and haematuria occurred spontaneously (and without the exhibition of quinine). These two forms of fever are entirely distinct; they occur side by side on the Ionic and Adriatic littoral. The author notes that the ictero-haematuric fever due to quinine, which has been described by Tomaselli, can be produced at will at any phase of a malarial infection, and also during or even for a certain time after convalescence from it, by giving quinine. The spontaneous attacks of ictero-haematuric fever, on the other hand, follow the normal course of malarial infections, and are improved and generally cured by giving large and repeated doses of quinine; whereas if the haematuria is due to quinine, as in the 11 cases quoted, then the patient must be cured by eucalyptus, phenocol, or other drugs, and not by quinine in even small doses. In 5 of these 11, Tropeano estimated the quantities of quinine sufficing to bring on ictero-haematuric fever; the dose varied from 50 to 20 cg. by the mouth, half that quantity by hypodermic injection, a quarter by intravenous injection. The dose necessary to produce the fever lessens on repetition; the fever lasts longer when the drug is given by the mouth; all the forms in which quinine can be administered produce it, the bichloride and bisulphate being the most active; the drug is excreted in the urine as soon as it begins to contain blood, and continues to be excreted for eighteen to thirty hours. He believes that in these patients quinine lessens the resistance of the blood corpuscles to haemolysis, so that they break up in the circulating blood, and set free their haemoglobin, which is then excreted by the kidneys. Throughout his paper Tropeano appears to draw no distinction between haematuria and haemoglobinuria.

230. Treatment of Symptomatic Sciatica by Salicylic Ionization.

Cabrera y Benitez (*Revista de Medicina y Cirugia Practicas*, July 21st, 1911) publishes in the *Revista Clinica y Laboratorio* a case of sciatica on the right side caused by an osteo-sarcoma of the ilium on the same side. The patient was a man of 54 years of age. The right limb was considerably atrophied, slightly flexed, and abducted with marked external rotation. There was constant dull pain over the whole region of the sciatic nerve, with acute exacerbations on the slightest movement. There were two tender points, pressure on which at once provoked an intense attack of pain. With the necessary number of electrodes of wool and gauze in the form of pads about 3 cm. in thickness, 15 cm. in breadth, and 29 cm. in length, and whose posterior part was in contact with a sheet of tin 120 cm. square, moistened with lukewarm distilled water and powdered with salicylate of soda, the region over the sciatic nerve was covered, and especially the tender points. Special care was taken to adjust these perfectly to the skin by means of gauze bandages, in order to avoid the burns which are apt to occur when the direct current is used and the contact of the electrodes with the skin is incomplete. These electrodes were connected with the negative pole. The positive pole was connected to an electrode applied in the interscapular region. The current was increased slowly and steadily up to 25 milliampères and sustained at that strength for forty-five minutes, the strength being regulated by a spiral metallic rheostat. Daily applications as described were followed in eight days by the disappearance of the tender points; in twelve days it was noted that the frequency of the acute exacerbations was diminished; and in twenty-nine days all pain was gone. Altogether forty-one applications of the treatment were made, and the sciatica was then quite cured.

231. Dysentery.

Whitmore (*Philippine Journal of Science*, June, 1911), writing on an epidemic of bacillary dysentery with a high death-rate in Luzon, province of Batangas, Philippine Islands, states that he found the Shiga-Kruse type of dysentery bacillus to have been the causative agent. At the same time, however, the Flexner-Strong type of dysentery bacillus was found in some cases of dysentery around Manila; the bacillus Y and the Strong type with which Lentz worked were not found. Whitmore, after his work on the bacteriology of bacillary dysentery, concludes that great care is necessary in describing types of the dysentery bacillus from their reactions in sugar media alone, as the amount of sugar present and the length of time the organism has been on artificial media often affect the reaction.

SURGERY.

232. Severe Collapse after Stovaine Injection.

OSTALI (*Gazz. degli Osped.*, August 22nd, 1911) reports a case of grave collapse after spinal anaesthesia produced by stovaine. The patient, a boy aged 16, suffering from anal fistula, was given an injection of 7½ cg. of stovaine (Billon) in the fourth lumbar space. The pressure of the spinal fluid was very high: some of the fluid was allowed to flow out and the stovaine solution mixed with an equal quantity of the spinal fluid. Paralysis of the lower limbs was complete eight minutes after, and the anal sphincter was relaxed. During the operation the patient was completely conscious, face slightly pale, and pulse rather weak but regular, respiration superficial. Twenty minutes later, when the patient was being raised from the operating table, he was seized with intense pallor, cold sweating, and collapse. The radial pulse could not be felt, but the heart beat regularly; respiration ceased; the corneal reflex did not disappear and the pupil was small. The sensorium was dulled, and the patient appeared as if in a deep sleep. Artificial respiration and cardiac stimulants, also saline injections and precordial massage, were practised, and the patient gradually recovered about an hour after the spinal injection. The pulse remained slow and intermittent for about eight days.

233. Certain Fractures of the Upper Extremity in Children.

HAYNES writes on this subject in the *Archives of Pediatrics*, May, 1911. The following is a summary of his paper:—*Clavicle:* The fractures are usually "greenstick," or, if complete, more apt to be transverse than in the adult. Retention of the shoulder during healing is best obtained by a padded figure-of-eight shoulder dressing and a broad sling passing beneath the elbow of the injured side, and tightly drawn over the sound shoulder. Adhesive plaster should not be employed. *Humerus:* Separation of the upper epiphysis.—The arm should be elevated in abduction until the shaft is brought into line with the upper fragment; the extremity is then fixed in this position of abduction by a plaster spica enveloping the chest and upper extremity as far as the wrist. Union takes place in three or four weeks. Supracondyloid fractures.—The commonest form is the "extension fracture" in which the line of fracture is oblique from above downward and forward; if the line of fracture runs from in front and above to downward and backward, the "flexion" variety results. In the "adduction" form the line of fracture is directed from the outside and above downward and inward. These fractures should be treated by moulds or splints embracing the shoulder and forearm with the elbow at the side. A weight should be suspended on the forearm close to the elbow, while the wrist is fixed by a narrow sling which keeps the forearm flexed at right angles to the arm. At night a weight and pulley should be employed. Where there is comminution of the lower fragment the author recommends that a plaster spica be applied embracing the chest and fixing the arm in the position of right-angled abduction to the chest, and the forearm at right-angled flexion to the arm. Before the plaster splint is applied to the forearm two moleskin adhesive strips, 1 or 2 in. wide, are applied to the dorsal and ventral surfaces of the forearm, and reaching to the palm of the hand. While applying the splint to the forearm two narow strips of thin board an inch wide are incorporated into the dorsal surface of the splint; these strips reach to the end of the fingers. When the plaster has set the ends of the adhesive strips are attached to the ends of the wooden strips by strong rubber bands.

234. Surgical Treatment of Dysentery.

MOTZ (*Echo méd.*, 1911, xxxvi, p. 425) recommends the following line of treatment: In the acute form, which has proved itself rebellious to other treatment, appendicostomy may be resorted to and warm sterilized water injected into the caecum by means of an india-rubber tube. In cases of chronic dysentery removal of the appendix is indicated in the rebellious forms. Where the rectoscope reveals the ulcerations these should be touched by the galvano-cautery or ichthyol. Those inaccessible to the rectoscope must be treated by lavage of the large intestine after appendicostomy. Ileo-sigmoidostomy has also been employed, but the results are not so satisfactory. The fistula should not be closed until the injections have been suspended for some days. In those cases in which appendicostomy is without result a large caecostomy should be performed. In all cases of dysentery where the lower part of the bowel is much affected there is nearly always some contraction of the rectum, and this should be dilated by means of bougies.

235. Taxis and Succussion in Intussusception.

ZAHORSKY (*Arch. of Ped.*, May, 1911) describes his method as follows: The little patient is anaesthetized with chloroform or ether; the abdomen is bared, and a small pillow should be placed under the hips. The tumour is grasped through the abdominal wall and firmly compressed for a few moments. Then the thighs are flexed on the abdomen, the knees or legs grasped, and with a rapid up and down movement the lower part of the trunk is vigorously shaken for several seconds. Then the tumour is grasped again and compressed, and after a few moments succussion is again resumed. The author recommends two or three trials of fifteen minutes each at intervals of two or three hours. After twenty-four hours the method is inapplicable. The author describes three successful cases.

236. Macrocheilia.

G. MASERA (*Il Morgagni*, Milan and Naples, 1911, liii, Archivio, 151) brings forward two cases of macrocheilia due to hypertrophy and hyperplasia of the labial mucous glands. The patients were girls of 24 and 19; the affection dated from the ages of 11 and 14, and appeared not to have been congenital. In one the upper lip was twice the size of the lower, and its free mucous margin rose a little above the level of the adjoining skin and was vinous red in colour. On eversion of the lip, the mucous surface looked swollen and prominent; on palpation, the swelling seemed composed of numerous fleshy granulations the size of millet seeds, placed beneath the mucous membrane: on compression, the hypertrophied part of the lip grew smaller. The second patient had noted two small submucous nodules near the edge of the upper lip five years previously, and these had grown steadily since. When she came under observation the upper lip was one-third larger than the lower. This enlargement was due to the presence of two soft elastic nodules on either side of the median line, separated by a sagittal sulcus, each the size of a small nut and covered with normal labial mucous membrane. Near them were felt smaller submucous nodules the size of millet seeds. There was no pain on pressure; steady squeezing appeared to make these nodules smaller. In each case elliptical incisions were made in the lip parallel to the axis of the mouth under cocaine, and a lobulated racemose mass, adherent to the under surface of the mucous membrane of the lip, was removed. Under the microscope these masses presented the normal structure of the acinous mucous glands of the lip, the gland cells gave the mucin reaction, and there were numerous excretory ducts. The author believes the macrocheilia to have been due in these cases to hypertrophy and hyperplasia of the mucous glands rather than to adenomatous enlargement of them, for the reason that the enlarged parts appeared to preserve their normal structure and function.

OBSTETRICS.

237. Galactophoresis and Galactophoritis.

GAUDINI (*La Pediatria*, July, 1911) discusses, under the above terms, certain normal and pathological conditions of the breast in newborn children. His cases number 500; the bulk of these were cases of galactophoresis—that is, a normal secretion of colostral milk occurring in the breasts of newborn babes of either sex during the first ten days of life. The condition is not pathological, and does not seem to affect weakly children, using weight as a test of robustness. The author found that milk was present in 279 medium-sized children (that is, about 3,500 grams weight), in 115 bigger (that is, over 3,500 grams), and in 106 small (below 3,000 grams). If, owing chiefly to want of cleanliness, the milk ducts get choked, over-distended, burst and set up inflammation, then you get galactophoritis, going on, it may be, to mastitis. Blocking may occur from failure to wash off the vernix caseosa from the little depression over the nipple. Fortunately inflammation is comparatively rare—for example, only 27 out of the 500 went on to inflammation, and of these 20 cleared up under simple fomentations, 5 required surgical treatment, and 2 died (one from secondary septicaemia and the other from haemorrhage due to a leech which had been applied by the parents to the child's breast). In the way of prevention, gentle friction, so as to empty the milk ducts, and strict cleanliness are the most important precautions. If inflammation occurs, simple fomentations containing some mild an-

septic (not carbolic) usually answer all the needs of the case; if pus occurs, the usual surgical treatment is indicated. Details of 7 of the more interesting cases are given.

GYNAECOLOGY.

238. Mud Baths and Fibromyomata.

Leopold Fellner (*Wien. med. Woch.*, No. 23, 1911) believes that the prevalent idea that the Franzenbad mud baths are contraindicated in cases of fibromyoma of the uterus is in most cases a wrong one. As a rule he finds that the bath lessens haemorrhage, and in cases in which menstruation is more profuse during a first cure it usually becomes less so during repeated cures. He has not found that tumours tend to increase with more rapidity as a result of the baths, but if anything a contrary effect occurs. The mud baths at Franzenbad are given in such cases at a temperature not higher than 24° to 26° R. (86° F. to 90.5° F.), of a fluid or medium consistency, and the duration of a bath is not more than from fifteen to twenty minutes. Perhaps the unfavourable results reported from other places are caused by the mud baths being at too high a temperature, of too thick a consistency, or of too long duration. There is, however, a possibility that in cases of submucous or subserous fibromyoma the tumour may swell as a result of the congestion of the uterus, and breaking through its capsule may lead in the submucous form to severe haemorrhage into the uterus, or in the subserous form may lead to severe haemorrhage into the peritoneum followed by peritonitis. One such case is described by the author, in which severe uterine haemorrhage set in and the uterus was packed to stop the bleeding. The patient was operated upon, and it was found that a submucous myoma had almost perforated the mucous membrane. The author has had no other similar case among 800 cases of fibromyoma treated by him. In 34 out of 206 cases treated during eleven years, the loss at the period had diminished during or after the cure, while in none of the others had it increased. One case is given in which menstruation began immediately after the patient's arrival, and was so profuse as to threaten life. After the first course of mud baths the loss was much less, and now after three "cures" no special measures to lessen the haemorrhage are required. Notes are given of five other cases in which the effect of the baths in diminishing the menstrual haemorrhage was very striking. The baths are effective also in cases of atypical bleeding connected with fibroids. In the case of one unmarried woman who had lost continuously for four months in spite of a course of iron baths at Franzenbad, and of the internal administration of hydrastis canadensis, the bleeding ceased after a few cool mud baths, 24° R. (86° F.) combined with the administration of ergotin and iron. Three years later the patient, now a married woman, came with a history of five months' continuous haemorrhage, for which she had consulted several doctors. She had been free from any abnormal haemorrhage for two years after the first cure. An examination was made, and a small interstitial fibroid found, which had probably been the cause also of the previous attack. This time also the bleeding ceased after a few baths. Other similar cases are described, and the author is convinced that the mud baths have a specific action in checking the haemorrhage, which is not seen after other baths—for instance, after chalybeate baths. In cases of fibromyoma complicated by inflammatory disease of the adnexa, or by peri- or para-metrites, mud baths are specially useful in combating the inflammatory conditions and the symptoms resulting from them. The author gives mud baths in cases of small or medium sized fibromyomata in which growth is not known to be specially rapid, and which are accompanied by haemorrhage or pain, or in which other conditions are present for the treatment of which the mud bath is indicated.

THERAPEUTICS.

239. Radium in Deep-seated Cancer.

Dominici and Chéron have furnished a report on the treatment of deep-seated cancers by radium to the French Association for the Advancement of Sciences (*Arch. d'électr. méd.*, July 10th, 1911). Most of it covers ground already familiar, such as the varieties of technique which are commonly practised, and the degrees in which radium-therapy may be combined with surgical procedure. On the general question as to the results which follow radium applications in deep-seated cancers, the authors state that "in favourable cases" the irradiation is capable of palliating a desperate situation, relieving intolerable pain, sterilizing infected neoplastic tissue, draining wounds which bleed and suppurate, and occasionally bringing about an entire regression from the clinical point of view. To these palliative effects are joined certain others resulting from the suppression of functional troubles which accompanies the diminution of tumours. These vary according to the nature and situation of the tumour, and may include a disappearance of oedema, when an ablation of a cancerous breast is followed by transcutaneous irradiations of the neoplastic retro-clavicular ganglions: improvement in deglutition, following upon the introduction of radiferous tubes in soft cancers of the mouth and tongue, or of radiferous sounds in cancers which cause a narrowing of the oesophagus; relief of pain and vomiting in gastric cancers by placing large radiferous plates upon the stomachal region; regularization of defaecation and micturition by the introduction of radiferous tubes in rectum or bladder; ameliorations of the respiratory functions by the reduction of tumours of the mediastinum with irradiations of the surface, or by the introduction into the oesophagus of tubes giving rays filtered through 2½ mm. of platinum. The authors admit that hard cancers of the tongue and of the inner surface of the cheek are *noli me tangere* so far as radium is concerned, but other cases in which apparently total regression has lasted for at least a year are numerous. These results have been obtained most notably in the case of tumours of the uterus, when it has been possible to use large doses of radium (20 cg.). Among the deep-seated cancers which have not recurred for more than two years after radium therapeutic treatment the authors are able to cite such conditions as scirrhus of the breast (atrophic); epithelioma of the breast, circumscribed or diffused, the clinical form of which made immediate relapse after surgical intervention appear probable; infiltrating glandular epithelioma of the superior maxillary, and lymphadenoma limited to an organ such as the parotid. The term "epithelioma" sometimes conveys a different meaning to the French and English intelligence. The authors define it as a tumour "proceeding from the multiplication of epithelial cells of the skin or the mucosa, or the noble cells of the various glands of the organism." The rarity of radium successes, in their opinion, is no measure of the curative value of radium in deep malignant tumours. It is due to the small amounts of radium at the general disposal, and to the fact that the cases so frequently reach the radium therapeutist only when they are in a desperate stage.

240. Tuberculin in Ophthalmic Practice.

E. Juselius (*Finska Läkaresällskapets Handlingar*, p. 298, 1911) draws attention to the tardy recognition of the frequency of tuberculous disease of the eye. Fuchs, in his standard work on the eye published in 1898, states that "the majority of cases of parenchymatous keratitis are due to congenital syphilis. A few are due to scrofulosis or tuberculosis, and there is frequently no apparent cause." This disease was traced ten years later in every other case to tuberculosis, whereas it was traced to syphilis in only 22 per cent. of all cases. Tuberculosis of the eye appears as keratitis, iritis with or without deposits in the iris, retinal infarcts, and choroiditis, which, in the form of disseminated choroiditis, is the commonest of all. The course of these diseases is usually chronic, and spontaneous recovery may occur. Usually, however, the condition passes from acute to chronic, and this stage is again succeeded by an acute phase when the patient's general vitality is lowered. The prolonged and almost painless course of the disease leads to its neglect by both patient and practitioner, who therefore fails to restore the eye to complete health. Hitherto these conditions have been empirically treated with mercury, zinc lotions, salicylates; but recently tuberculin, given subcutaneously, has been advocated by many authorities. The writer, who used new tuberculin (T.R.) and "endotin"—a tuberculin made in St. Petersburg—gives a detailed report of nine cases of tuberculous iritis or keratitis thus treated. In every case the results were excellent, and recovery was more rapid than with other methods. The following procedure was adopted: The patient's temperature was taken for two consecutive days, and when it was found at any time to be over 98.6° no diagnostic injection was given. Otherwise, a subcutaneous injection of 0.1 to 1.0 mg. tuberculin was given in the morning in the back. When no rise of temperature occurred a double dose was given on the third day: but if the temperature rose only ¼° C. the dose was not increased, nor was it repeated till the temperature had fallen to normal. When repeated the second dose frequently caused a greater rise of temperature than the first,

and this phenomenon was taken as proof positive of the existence of tuberculosis. If, however, the first small doses caused no rise of temperature the dose was increased to 5 mg., and finally to 10 mg., and if this latter dose, once repeated, produced no reaction, the absence of tuberculosis was proved. After a positive diagnostic reaction small therapeutic injections were given. The initial dose was at first very small, for fear lest the disease might be disseminated in feeble and scrofulous children: but with further experience the smaller were abandoned in favour of the larger doses, none of which harmed the patient. The opsonic index was at one time the standard criterion for the dosage of tuberculin, and the small doses which kept the opsonic index at a maximum height were preferred. Since 1909, however, it has been admitted that better results are obtained by the larger doses even when the opsonic falls or fluctuates.

241. Oats as a Food in Diabetes Mellitus.

A. MAGNUS LEVY (*Berl. Klin. Woch.*, July 3rd, 1911) discusses the *rationale* of the oats and allied cures in diabetes mellitus. "When a moderate quantity of oats, wheat, or rye is added to a strict diet in a case of diabetes relatively much sugar appears in the urine. When five times as much of any of these cereals is given *alone*, relatively little sugar is excreted." This appears to be because in the second case some harmful substances were absent, which in the first case prevented the full utilization of the sugar in the system. These harmful substances seem to be associated chiefly with animal food. One of the best established results of v. Naunyn's life-work was that the reduction of the amount of meat in the diet diminished the glycosuria. Apart from the purins, etc., of meat it is probable, as many observations indicate, that there is a specific difference between animal and vegetable proteins. For the superiority of oats over other grain foods in diabetes another explanation is required. This must be due to some positive property possessed by oats and not by wheat, rye, etc. Either the starch of oats is differently constituted to the starch of the other grains, or there is in the oat grain some substance present which favours the utilization of its starch, and which is absent from the grains of wheat and rye, etc. This hypothetical substance, if it could be discovered and isolated, would go far towards solving the problem of the treatment of diabetes. The author, however, has conducted an elaborate series of observations on the behaviour of the excretory organs of diabetics on diets of oat gruel and oat starch and the starch of other cereals, from which he concludes that no such hypothetical substance exists. The superiority of oats in the dieting of diabetics he ascribed to a peculiarity of the starch itself in oats which distinguishes it from the starch of other grains. Formerly it was supposed that starch, whatever its origin, was always the same substance. It now appears, from the observations of others besides the present author, that such is not the case.

242. Treatment of Zona.

CLAISSE (*La Clinique*, June 2nd, 1911) writes that the lesions found in zona present wide differences, the vesicle which is at first filled with a serous liquid may dry up and form a crust, or it may become purulent, suppurate and cicatrize or necrose and destroy the tissue under it. A gangrenous form will sometimes develop which destroys large areas of the skin and will keep a patient in bed for many weeks. When the vesicle is clear and has only lately appeared it may be compared to a burn of the second degree and treated with picric acid. The part should be well cleansed with boiled water and soap, the vesicles are then opened with a sterilized needle, covered with picric acid, and dressed with sterile gauze. The cure is rapid. When suppuration has begun the effect of the acid is less certain; good results have been obtained by using a solution of equal parts of picric acid, sulphate of copper and sulphate of zinc in distilled water, but where the epidermis is already destroyed a solution of two parts of sulphate of zinc, one part sulphate of copper and three hundred parts of camphor water is advisable. In a few days it is generally possible to substitute a dry dressing of aristol or a suitable ointment. In some cases even after suppuration has ceased the wounds show no inclination to cicatrize, and good results have been obtained by the application of compresses of hot horse serum, followed by hot-air baths. The neuralgia which accompanies the eruption requires local applications of a sedative kind, or hypodermic injections of sodium salicylate can be given, while by mouth the usual analgesics—antipyrine, aspirine, pyramidon, or aconite—can be tried. Morphine or morphine and scopolamine should be held in reserve. It is advisable to look for a deep-seated cause of the complaint, especially in those cases where the neuralgia is intractable or where a rise of temperature persists.

PATHOLOGY.

243. Congenital Syphilis and Wassermann's Reaction.

L. HALBERSTAEDTER AND A. REICHE (*Therap. Monats.*, July, 1910) deal with the treatment of congenital syphilis, and base their article upon observations made at the institution for congenitally syphilitic children in connexion with the Friedrich orphan asylum of Berlin. Here the children could be kept under observation for many years. Wassermann's reaction was employed in all cases as an aid to diagnosis, and before and after each course of treatment the reaction was again tested in order to find out whether in this way the success of the treatment could be judged. As a first cure each child at the institute received a weekly subcutaneous injection of 0.002 to 0.005 gram (0.03 to 0.08 grain) of sublimate for eight weeks. In the second cure, 0.03 to 0.08 gram (0.4 to 1.2 grains) hydrarg. iodat. was administered per os daily for eight weeks. The third cure was like the first, and so on. If possible, each child went through three cures during the first year, at least two during the second, and at least one during the third. As a rule, except for infants, an inunction cure of ung. ciner., lasting for six weeks, was substituted for the internal administration of hydrarg. iodat. The symptoms (rhagades, papules, etc.) usually disappeared in the second or third week of treatment, but rather more slowly when hydrarg. iod. was administered per os; the syphilitic rhinitis of the spleen and swelling persisted longer than the other symptoms. Under systematic treatment the children developed well on the whole, were nearly as resistant to intercurrent infectious diseases as non-syphilitic children, and suffered from very few relapses, only 4 relapses being noted amongst 40 children under observation for years. At the end of the first cure Wassermann's reaction was tested in each of 31 children, of whom 8 reacted negatively and 23 positively—that is, in 26 per cent. the reaction was reversed as a result of treatment. Of the 8 negative cases 1 child died of an intercurrent disease, the others were later positive in spite of the carrying out of systematic treatment as outlined above. At the end of the second cure the reaction was tested in 22 cases, and was negative in 4 (18 per cent.), positive in 18 (82 per cent.). At the end of the third cure, out of 18 children tested 5 were negative, 13 positive. Of these 5 2 had been already negative, a change of reaction as a result of the cure was therefore seen in 3 only. Other cases in which cure took place gave similar results. It is thus seen that a single cure may change the reaction from positive to negative, that this happens most frequently in the more recent cases as a result of the first cure, but that the negative reaction may again change quickly to positive without the development of fresh symptoms of syphilis. A definite disappearance of the reaction may possibly be first seen after years, but it was often not seen in children who had been under observation for two to three years. The tendency of the reaction to remain positive after a temporary change to negative is very marked. These results are not as good as those obtained in the case of recently acquired syphilis in adults, in whom a single cure often suffices to change the reaction from positive to negative, but they resemble more the results of treatment of acquired syphilis at a late stage. The obstinacy with which a positive reaction persists in congenital syphilis may be due to the saturation of the whole organism with spirochaetes and to the abundant deposition of them in the internal organs, or may depend on the nature of the cure adopted; thus, for example, the mercury cures carried out in the case of infants may be too weak, and are certainly relatively not so large as those given to adults. On the other hand, in inunction cures the amount rubbed in is often relatively greater than in adults, and yet the reaction did not become negative more frequently after an inunction cure than after internal treatment; indeed, in some cases a reaction which was negative before an inunction cure was found to be positive at the end of it. It is probable, therefore, that the persistence of the positive reaction is due rather to the nature of the hereditary disease than to the method of treatment adopted, and it is not possible to decide on the relative merits of the different methods of treatment by means of the determination of Wassermann's reaction; the intermittent treatment cannot safely be discontinued because of the occurrence of a negative reaction, and the reaction as tested at any stage does not justify conclusions as to prognosis.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

244. Muscular Headaches.

Rose (*Scm. méd.*, March 29th, 1911) deals with the pathology, diagnosis, and treatment of this affection. In his opinion there are many obscure types of headache, which the ordinary analgesics do not relieve, which can be classified under this heading. Muscular headache is essentially chronic in type, and the pain, however bearable at times, has periodic severe exacerbations. It is very frequently felt in the nape of the neck and radiating towards the back. Here it is particularly severe, especially when the patient lies down. More rarely the epicranium is the seat of maximum intensity. The attacks are provoked by cold—especially damp cold—rapid changes of temperature and atmospheric pressure, or by traumatism. Gentle palpation reveals a number of specially tender points. These are indurated, nodular, and irregular like callosities, and appear to occur for the most part at the points of insertion of the muscular fibres into the tendons. They must not be confused with the occasional contractions of the muscular bundles themselves under the influence of the pain provoked by the examination. The seats of election for these painful indurations are the muscles of the epicranium and of the neck. The frontal muscle, the clavicular portion of the trapezius, the sterno-cleido-mastoids, and the scalenes are especially so affected. According to Forström, these nodosities pass through three stages: (*a*) Swelling; (*b*) resistance, in which they preserve a certain elasticity; and (*c*) induration. One notable symptom of the condition is, according to Müller, a state of muscular hypertonus. In the acute exacerbations of pain this is sometimes so marked as to resemble the condition seen in meningitis. Whereas light pressure provokes contraction of the affected muscles, strong pressure appears to diminish pain and bring about muscular relaxation. There is also swelling of the lymphatic ganglia, especially those of the lateral chains of the neck, and, further, a painful turgidity of the superior cervical sympathetic ganglia. To the causes of the affection already enumerated the author adds that in certain women reclining in one position for long periods rather favours the condition, as do playing the piano, writing, and speaking in public. As to the pathology of the condition, some authors suggest that it is due to compression of the nerves of the affected parts by the nodosities, more especially the great and small occipital nerves. Müller, on the other hand, seeks to explain it through the muscular hypertonus, which, he says, is reflex in origin and brought about by a lateral arthritis of the sterno-clavicular and upper vertebral articulations. He finds that the contractions are exaggerated by pressure over these articulations. His theory is parallel with Charcot's nerve-reflex muscular atrophies. The hypertonic muscles act indirectly by obstruction of the venous flow into the internal jugulars. The author then gives in some detail the various points of obstruction to the venous flow, all of which affect the circulation in the jugulars. Venous congestion of the encephalon follows and probably some increase in the tension of the cerebro-spinal fluid. The origin of the particular condition referred to, as well as of the muscular irritability, is to be sought for as a sequel to the various toxic infections, such as influenza. Hypothyroidism has also been suggested by some authors as a cause of the affection. The prognosis is good as a rule, except in long-standing cases complicated by neurasthenia or chlorosis. As to treatment, the galvanic current is of service, but massage is the best treatment. Müller practises pétrissage, sometimes parallel with, sometimes perpendicular to, the muscular fibres. Each muscle should be treated separately. The patient ought to rest for half an hour after each séance. At first there is rather more pain, but towards the third week improvement commences. A certain measure of relief may sometimes be afforded by the usual analgesic remedies.

245. Lead Poisoning.

Villain (*Journ. des prat.*, August 19th, 1911), after alluding to the historical interest of the subject, points out that lead only becomes harmful after a prolonged stay in the digestive tube, when it becomes transformed into the more poisonous salts, such as acetate, oxide, or chromate of lead. Acute intoxication is rare. It may be caused indirectly by certain well known articles of diet, such as meal of any kind wrapped in linen cloth which has been stained with chromate of lead; bread prepared from flour which has been ground by millstones repaired with lead; sweetmeats covered with "silver" paper. More dangerous still is the habit of preserving wine and other acid solutions in tin vessels. In nine cases out of ten lead poisoning occurs in trades where lead in some form is handled. In certain individuals there may be predisposing causes which decide whether the intoxication is to take the form of a paralysis, a saturnine colic, or an albuminuria. In the rare cases of acute intoxication, the first symptom is a metallic sugary taste, followed by a sensation of burning in the œsophagus and stomach. Hiccough and vomiting rapidly supervene. In the vomited matter there is often found small particles of one of the salts of lead. The pulse becomes irregular, the breathing difficult, and death usually follows in a few days from syncope, asphyxia, or coma. The chronic intoxications affect chiefly the digestive and nervous systems. The gingival line of Burton may be seen, and Gabler's spots may also be found inside the cheeks. These patients also have a slowly progressive parotitis. The tongue is furred, the breath fetid, while there is often a subicteric colouration of the skin and conjunctivae. Anaemia is habitually present. The colic may appear suddenly or with premonitory symptoms. Deep pressure generally eases the pain, and the attacks usually occur as crises separated by longer or shorter intervals. The urine contains a large quantity of urobilin and sometimes albumen, which, however, is generally transitory. The second sound of the heart is loud and ringing, and there is marked hypertension in the pulmonary artery. At times there is heard a murmur of tricuspid insufficiency which, as Potain has pointed out, is present in many painful abdominal states. After calling attention to the differential diagnosis between lead colic, biliary colic, renal colic, and appendicitis, the author then refers to the treatment of the condition. This in the acute cases consists in the use of emetics, and plentiful gastric lavage with a solution of the sulphate of soda or magnesia, and followed by castor oil as a purgative. In the chronic cases morphine is generally necessary for the pain. In less severe cases extract of belladonna or antipyrin may be given, while purgatives in the form of sulphate of soda or senna will be required.

246. Pancreatitis and the Solar Plexus.

Mathieu (*La Clinique*, July 14th, 1911) writes that the reason why simple pancreatitis causes so much pain is its proximity to the solar plexus, and its intimate relations with the sympathetic nervous system which give rise to paroxysmal attacks of pain. These manifestations are apt to render diagnosis difficult; the symptoms have been seen to simulate the gastric crises of locomotor ataxia; in the latter disease the periods between attacks are generally free from all gastric disturbance, while in pancreatitis the gastric symptoms persist more or less continuously. Some reliance may be placed on finding the painful area of Chauffard-Desjardins; it should be situated two finger-breadths below and to the right of the umbilicus. The gland must be very much destroyed before the stools show a definite amount of unutilized fat. The crises may last for some days, then leave the patient entirely, only to recur years later with the characteristic paroxysms. The solar plexus lies on the upper margin of the pancreas, with the two semilunar ganglia on either side and sympathetic nerve fibres passing into the substance of the organ. Thus pancreatitis produces a solar crisis. Other lesions which irritate the plexus, such as perigastric troubles, inflammatory or cancerous disease, have the same effect. In one case at the autopsy a lesion commencing in the body of the organ had progressed up to the head and come into contact with one of the ganglia. The patients suffer from intestinal discomfort, tenesmus, and jaundice; the jaundice has been wrongly considered to be associated only with cancer of the pancreas, it having been demonstrated that when it appeared late in the illness it was due to the growth invading the head of the organ and the biliary ducts, and when it appeared early the growth was seated in the head itself. Solar crises and painful manifestations of this type do not occur frequently in diabetes, but

sufficiently often to make it important to test for sugar in all cases of paroxysmal pain. Many of these cases have been operated upon; where cancer of the pancreas has been found much relief has often been given by laparotomy. In chronic cases the pancreas is found indurated and lumpy, with adhesions, and excision of the solar plexus with the semilunar ganglia has appeared to cure the pain. Direct massage of the ganglia appears to have a beneficial effect. It is difficult to estimate the value of these operations, since the cases are few in number, and much may be attributed to the effect suggested by the operation on a nervous subject.

247. Treatment of Diabetic Acetonaemia.

LEPINE, in the *Progrès méd.* of May 6th, 1911, alludes to the difficulty of dealing with the carbohydrate supply in diabetes. If the carbohydrates are too restricted it has been found that there is a risk of aggravating the acetonaemia, whilst if they are given too freely the diabetic condition becomes worse, and the glycolytic insufficiency increased. In each case daily analyses should be made to show how the acetonaemia and glycosuria stand respectively. Sodium bicarbonate may be given in large doses to saturate the diacetic acid and oxybutyric acid in the blood, and to facilitate the elimination of the latter as a sodium salt. If acetonaemia was simply an acidosis it would have been easy to deal with it in this way. But it is a special intoxication, and Desgrey having shown that the addition of alcohol to propionic and butyric acids diminishes their toxicity, the fact has been made use of with some favourable results in the treatment of acetonaemia. Intravenous injections of alkalis are not on the whole to be recommended. If given at all they are best administered before coma has supervened. The solution the author uses is one of 17 grams of sodium bicarbonate to a litre of water—isotonic. Two litres of this solution may be given, and an hour should be taken in its administration, so as not to overcharge the heart. Copious diuresis follows as a rule.

SURGERY.

248. Closure of the Bladder after Suprapubic Cystotomy.

ANSCHÜTZ (*Zentralbl. f. Chir.*, September 9th, 1911) at the Association of Surgeons of North-West Germany opened a discussion on primary closure of the bladder after the suprapubic operation. He regarded it as the ideal method, as it diminished the duration of the illness, and was most comfortable for the patient. The dangers of primary closure consisted not so much in infiltration of urine as in haemorrhage and renal infection. The occurrence of urinary fistula after primary closure cannot be avoided in the greater number of cases. The question should be discussed whether primary closure ought to be abandoned. A severe degree of cystitis does not necessarily hinder primary healing of the bladder wound, but it is generally true that the establishment of a fistula is more apt to follow if the urine is infected than if it is not or only slightly infected. Contraindication to primary closure rests not in the condition of the bladder, but in the condition of the kidneys, and this may not actually be knowable in the presence of serious infection of the bladder. Immediate suture should be performed after operation for removal of stone. In 60 per cent. of the author's cases primary union resulted; in the remainder fistulae formed requiring an average period of fourteen days to close. In papilloma of the bladder immediate closure should be attempted. The risks of haemorrhage will be obviated by exact suture of the mucosa. Five of the last 15 cases healed by primary union, in the others fistulae formed, requiring on an average four weeks to heal. Probably the unreadiness of the bladder wound to unite by first intention arises partly from the rough handling it receives in the use of retractors. Prostatectomy presents the most difficult problem; quite a number of cases healed primarily, while in others a fistula formed, and in others, again, the bladder required to be reopened on account of haemorrhage. No material change in the technique of the operation is noted. The author recommends a curved incision to the right of the middle line or one longitudinally placed in the middle line. The transverse incision of Pfannenstiel is not recommended; if fistula does form it heals very slowly. In the discussion which followed, the speakers were opposed to primary suture after prostatectomy, but regarded it as feasible after most of the other suprapubic operations. The longitudinal incision was preferred to the transverse.

249. Post-Operative X Radiation in Cancer.

SKINNER (*Yale Medical Journal*, April, 1911) urges the routine application of the *x* rays to every case of cancer in which the knife has been used. The radiation should be started as soon as the operation wound was healed, quite irrespective of the likelihood or otherwise of recurrences. If the operation wound has not healed by the tenth day, radiation should be started in any case without further delay. He does not, however, recommend preoperative radiation, because—the chief among several reasons—it produces almost always a certain amount of systemic toxaemia, involving depression of the vital powers, which ought not to be provoked just before an operation. Further, the *x*-ray reaction may interfere with the subsequent healing in susceptible cases.

250. Transplantation of Articulations.

LEXER and others have published cases in which articulations have been successfully transplanted, and with a view to see what happens in such cases Soupallomeni (*Archiv. di Ortoped.*, Ann. 28, f. 3, 4, 1911) has operated on 15 rabbits and 18 cocks, the knee and tibio-metatarsal joint being selected for the experiment. Of the 4 birds whose tibio-metatarsal joints were transplanted, success was obtained in 1; in 8, where the knee was selected, success followed 4 times. In 10 rabbits transplantation of the knee failed in 6. The author goes into the technique of the operation, both as regards animals and men, and then mentions the kind of cases where transplantation may be called for. These are: (1) Severe injuries to the joint, the soft parts not being immediately damaged. (2) Malignant disease of the articular heads; excellent results have been obtained here. (3) Acute and chronic inflammation. On the whole the author is against transplantation in these cases. (4) Ankylosis. Here all depends on the kind and place of the ankylosis; a knee ankylosed in a good position is a different matter from an ankylosed elbow; each case must be taken on its merits. The subjects of the operation should be young, healthy individuals. The question of what material to implant is of prime importance. Heteroplastic material has not answered well in other cases, and is not any more likely to answer in the case of articulations, so that we are driven to the use of human bones. The best material is that which comes straight from an amputated limb, only being kept for a few minates in physiological solution, but success has followed the use of bone kept in saline for three weeks in an ice safe. The author looks forward to a time when operating theatres will be furnished with a supply of preserved human arteries, viscera, bones, etc., to take the place of the parts of the body removed.

OBSTETRICS.

251. Pregnancy: Cribriform Fleshy Hymen.

CHAPOTIN (*Ann. de gynec. et d'obstét.*, September, 1911) was consulted by a woman aged 24, married two years. The periods had ceased for two months. The uterus was characteristically enlarged, and a fibroid as big as a fist could be felt at the right of the fundus. Vaginal exploration was impracticable owing to the presence of a thick fleshy hymen, which had become concave, like the finger of a glove owing to attempts at complete coitus. A minute orifice, through which the finest probe could not be passed, was detected on the surface of the hymen posteriorly near the fourchette, and yet it was clear that the menstrual blood had passed regularly through the orifice. On rectal exploration a pedunculated fibroid could be defined, protruding from the much dilated os externum. Seven months later the hymen appeared softened and hypertrophied, and several orifices could be seen. One allowed of the passage of an ordinary surgeon's pocket-case sound. Then a director was passed into the orifice, and upon it Chapotin dissected up the greater part of the membrane, about the diameter of a two-franc piece. The vaginal mucosa was united to the muco-cutaneous integuments of the vulva (as after a circumcision for phimosis) by interrupted catgut sutures. The vagina was found fairly capacious, the polypus sprang from the posterior lip of the cervix. The breech presented. A week later delivery occurred, the presentation was rectified by external version, bringing down the vertex. As usual, the fibroid at the fundus gave no trouble. A "preventive" section of the perineum was made and repaired with two sutures after delivery. On the tenth day the cervical polypus was found to be undergoing atrophy.

GYNAECOLOGY.

252. Premature Menopause.

Fiebag (*Dissert. Breslau*, 1911) recently made researches in Ludwig Fraenkel's out-patient department about the period after the age of 40. By "premature menopause" he understands cessation of the catamenia before 45. In 163 out of 925 cases carefully selected the climacteric was premature in that sense. In most cases the early cessation was due to well-known causes: amongst the most noteworthy facts demonstrated by Fiebag was the large number of women who had passed through pregnancies late in sexual life, especially where they were multiparae. Contrary to the experience of others, this fact would seem to imply that frequent pregnancies after 35 or 40 cause atrophy of the genital organs, the ovaries in fact are worn out and become senile before their time. Atmocausis, recent puerperal haemorrhages and infections, and adherent placenta removed manually were noted in other cases. Other patients had come from a warm climate, and had begun to menstruate early, many had been subject to menorrhagia from different causes, and lipomatosis universalis was noted in one case. Lastly, general disorders and debilitating maladies were very common antecedents to the premature menopause. Fiebag specially notes tuberculosis, typhoid fever, dysentery, cholera, and in particular leukaemia, diabetes, Addison's disease, exophthalmic goître, and acromegaly.

253. The Treatment of Chlorosis.

Robin (*La Clinique*, May 26th, 1911), in a discussion of the symptoms and varieties, divides anaemia into three classes. Anaemia with marked destruction of issue, which will respond to the use of arsenic, anaemia with insufficient assimilation, for which iron is beneficial, and anaemia due to loss of mineral salts, which calls for a supply of minerals. The principal effect of arsenic is to lessen poikilocytosis, to diminish the reaction of the tissue and the respiratory interchanges, whereas iron builds up the haemoglobin of the blood cells. Iron has the power of carrying oxygen and then of liberating it as a direct oxydase. It also stimulates the action of the diastases and organic catalytic action. It is absorbed into the haemoglobin molecule, and helps to reconstitute the blood cells. Since the liver plays an important part in the genesis of blood, no result can be expected from the free use of iron unless this organ is in a healthy state and free from degeneration or fatty conditions. The liver must be carefully examined before iron is prescribed. In cases where the function of the liver is sluggish, the administration of iron will stimulate it to act. A good preparation to use is iron reduced by hydrogen, but where the patient cannot tolerate this, one may order the tartrate of iron and potassium. Ten centigrams of this drug with a small dose of rhubarb and some quinine make a suitable mixture. The rhubarb has a desirable action upon the stomach and intestine, exciting appetite and preventing constipation. The treatment should be continued until the blood is normal again, and should be combined with rest, a liberal diet containing abundant animal food, plenty of light and air. A mineral water cure is a useful adjunct.

THERAPEUTICS.

254. Fibrolysin in Oesophageal Cancer.

Von Kuester (*Wien. med. Klin.*, No. 25) discusses the palliative treatment of carcinoma of the oesophagus and cardiac end of the stomach. Carcinoma of this region may be either of the soft or hard type. Growths of the soft type seldom cause complete blocking of the oesophagus, and if they do the blockage is usually only temporary. In the hard type of carcinoma, however, there is abundant formation of scar tissue, and permanent blocking of the food passage is one of the most prominent symptoms. No trustworthy data as to the relative length of life in the two types of disease are available. The soft type of growth is much less common than the other. Gastrostomy with the formation of a permanent fistula enables patients to get the necessary amount of food and drink, but it brings home to them the misery and hopelessness of their condition. Under these circumstances the author has tried, in cases of carcinoma of the hard type, to transform the tumour into one of the soft type by the administration of fibrolysin, and failing this has tried, at any rate, to prevent further formation of scar tissue and the softening of that already formed. With the administration of fibrolysin is combined the regular passing of bougies. The method was as follows: Injections of the contents of one ampulla of Merck's fibrolysin (2.25 grams, or 35 grains approximately) were made subcutaneously in the epigastric region twice a week, and a bougie was also passed twice a week. The local application of fibrolysin was found to have a psychical effect upon the patients. The bougies were at first fine whalebone bougies, and later, if the lumen became wider, Trousseau's sound was employed—that is, a whalebone stem with an olive varying from 5 to 15 mm. (0.2 in. to 0.6 in.) in diameter at the end. Olives of larger diameter were not employed because of the danger of tearing the tumour tissue; and for the same reason force in passing the bougie, its daily use, or too long leaving of it in position, were all avoided. Sometimes, in spite of these precautions, slight tears of the tumour occurred, with a resulting temporary increase of the stenosis; but this was invariably followed by further improvement. The author has made use of the method since 1909, and gives notes of eight cases. All the patients during the time of treatment were able to live a comparatively bearable life. Some of them reported that the terrible cough often present in such cases was decidedly better after the injections. The author did not arrive at a conclusion as to the number of injections needed. In one case in which there had been complete stenosis, so that fluids could no longer be taken, but in which after about six weeks' treatment the condition had improved and solid food could be taken, the patient left off the treatment and returned two and a half months later, once again suffering from complete stenosis and in a state of severe cachexia. On the other hand, in another case in which complete stenosis had been present before the beginning of treatment, no injections were made for six months before death, and the patient alternated between a condition in which solid food could be taken and relapses, usually very temporary in character, in which only fluids could be taken. When, owing to the acuteness of the symptoms an initial gastrostomy had to be performed, the use of fibrolysin later appeared to have no prejudicial effect upon the operation wound. In none of the cases could the immediate cause of death be ascribed to the effect of the treatment: one of the patients died apparently from embolism, and two from perforation, but these are common causes of death even when fibrolysin is not given. In no case was the mode of death especially distressing. All the patients were out-patients, so that a *post-mortem* examination was only obtainable in one instance. The author recognizes that the use of fibrolysin is not free from danger, especially the danger of increasing the tendency to perforation, but he uses it in order to make bearable to the patient the remainder of life.

255. Ureabromin.

Fischer and Hoppe (*Berl. klin. Woch.*, October 9th, 1911) recommend a new preparation—ureabromin. The authors have been impressed by the drawbacks to the usual treatment with the alkaline bromide salts. Their prolonged and routine use is apt to put a severe strain upon the excretory organs, especially upon skin and kidneys. As a consequence, the activity of the heart is prone to suffer. Means must be taken, during the administration of a prolonged course of bromide, to counteract these ill-effects. As a powerful diuretic, urea is well known, and many attempts have been made to combine it with drugs which are known to be difficult of excretion. The authors have in this case gone a step further. Relying on the well-known experiments of Ringer on the stimulating effects of calcium salts on the heart muscle, they have utilized this salt in preference to sodium or potassium, and have had produced a combination of calcium bromide and urea under the name of "ureabromin." Ureabromin forms clear, colourless crystals or a white powder, and is easily soluble in water and alcohol. It contains 36 per cent. of bromine. In experiments with animals, the excretion of both calcium and bromine was more rapid than when given in the form of calcium phosphate and sodium bromide. Given to patients who already showed signs of bromism, especially when an acneiform eruption was present, the acne disappeared within two weeks without recurrence of the symptoms held in abeyance by the bromine salt. Where the action of the heart was weak, its administration is followed by a rise of blood pressure and the disappearance of cardiac irregularity. In infantile tetany and other spasmophilial conditions the over-excitability of nerve and muscle is dependent on a fall in the calcium content of the blood. Ureabromin continued for six or eight weeks results in a rise in the calcium content of the blood and in a diminution of the

muscular over-excitability. In status epilepticus, an intravenous injection of a solution which is isotonic with, and of the same alkalinity as the blood, results in rapid improvement. The dose of the solution is two or three tablespoonfuls daily for adults, two or three teaspoonfuls for children. For rectal injection in status epilepticus 4 to 6 grams (60 to 90 grains) is necessary, and for intravenous infusion about 4 grams (60 grains) in a solution isotonic with the blood and of the same alkalinity.

256. Salvarsan in Ophthalmology.

SANS BLANCO (*Revista de Med. y Cirugia Practicas*, June 28th, 1911) discussed at a recent meeting of the Academia Medico-Qúirurgica Española the use of "606" in syphilitic affections of the eye. At the outset, he said, the question arose to what extent the use of arsenobenzol was liable to be followed by the unfortunate results which had occurred after the use of the closely allied atoxyl and arsenacetin. Some cases of retrobulbar neuritis have been reported after the injection of the drug; also a case of peripheral choroiditis, with opacities in the vitreous. Finger has recorded a case of paralysis of the third and sixth nerves undoubtedly due to salvarsan. Still, on the whole, these cases seem to be extremely rare, and even these are not with certainty to be ascribed to the drug. The author himself has seen no cases of the kind. Nevertheless, in view of our limited experience, he considers that the fundus oculi should be examined in every case before treatment with salvarsan, and where any serious non-syphilitic disease is present, its use should be regarded as contraindicated. The cases treated by the author include chancres of the conjunctiva and eyelids, episcleritis, choroiditis, chorido-retinitis, neuritis, and subsequent atrophy. In a case of the last-mentioned disease Hirsch obtained a notable enlargement of the field of vision. The best results were in cases of syphilitic iritis.

257. Treatment of Impetigo.

FAGE (*Progrès méd.*, August 12th, 1911), in discussing this question, points out that dermatologists are still divided in their interpretation of the word "impetigo." The author divides the condition into (*a*) true impetigo and (*b*) impetigo echthyma. In the former case there is a definite dermatosis characterized by rapid formation of bullae of varying size, and filled with a transparent liquid which is inoculable, and which has a rapid tendency to form yellowish crusts. Impetigo, especially in the child, is parasitic. The bullae are to be opened, crusts are to be softened by a moist dressing of boiled water applied every hour or two. The affected surfaces are to be repeatedly touched with a tampon soaked in the following solution:

Sulphate of copper	...	...	...	gr. 10
Sulphate of zinc	...	...	...	gr. 35
Camphor	...	...	āā	gr. 2
Safran in powder				
Aq.	...	...	to	1,000

This is to be allowed to dry, after which the following paste is applied:

Camphor	...	...	...	gr. 50
Acid. boric.	...	...	...	gr. 1
Oxide of zinc	...	...	āā	gr. 6
Lanolini				
Vaselini	...	...	...	gr. 8

This is to be replaced by the following pomade:

Yellow oxide of mercury	...	...	...	gr. 1
Vaselini	...	...	...	gr. 20

When the impetigo resists this treatment, the author advocates a solution of silver nitrate. This method, following Brocq, is the most efficacious in dealing with the infectious character of impetigo. In the case of impetigo echthyma the contents of the bullae become purulent or sero-purulent, and large areas of skin are detached. It attacks any part of the body. The treatment is much the same as in the former case. Care must be taken to remove the affected skin. After an application of the lotion already referred to, the wound is covered with the following application:

Diachylon plaster—					
Minium	...	...	...	...	gr. 5
Cinabre	...	...	...	...	gr. 3

If any irritation follows this plaster, the wound may be dusted over with aristol or dermatol.

258. Treatment of Diabetes.

HOMER WAKEFIELD (*Med. Record*, September 16th, 1911) states that errors in the treatment of diabetes are frequently due to a faulty conception of the conditions present. Prophylaxis and neutralization of the acidity present are not undertaken. Gastro-intestinal fermentation is not treated, excessive ingestion of acid and acid-forming foods is not prohibited, and tetanoid states of peripheral tissues causing development of sarcolactic and beta-oxybutyric acids are not considered. Administration of neutralizing alkalis should be carried just far enough to keep up a daily slight alkalinity of the urine. Sodium bicarbonate should be given in hot water on rising and between meals, never after them. Syrups, sweetened foods, sugar, malt foods, and malt beverages should be prohibited, because they produce acids. Diastatic ferments should never be given. The diabetic should get the carbohydrates that contain the least sugar, and are most rudimentary and concentrated; the vegetables should be those that contain most cellulose and other excrementitious matters. In diabetes there is a sluggish state of metabolism; oxygenation must be improved, and for this purpose exercise is important. Each case must be individualized and the mental condition must be treated. In order that the treatment may be successful, the intelligent co-operation of the patient must be gained.

PATHOLOGY.

259. Leucocytes in Hyperthyroidism.

IN a communication to the *Real Academia de Medecina de Madrid*, April 8th, 1911, Marañon discusses the changes in the proportions of the white blood cells in hyperthyroidism, their significance and their origin (*Revista de Medicina y Cirugia Practicas*, June 7th, 1911). Kocher demonstrated the frequency with which there was a definite alteration in the proportion of the white cells, and expressed it thus: "Leucopenia not very marked (4,500 or 5,000 leucocytes—in our case 3,700) with an increase, sometimes absolute, and always relatively, of the number of mononuclears, and especially of the lymphocytes." As a result of the work of Kocher, confirmed and more or less amplified by Gordon and Yagic, Giovine, Kurloff, Ciuffini, Michailow, Carpi, Meyer, Roth, Bühler, Oller, Guedea, Kappis, Kostlivy, and others, it may be regarded as settled that in typical cases of exophthalmic goître leucopenia and mononucleosis are almost constant. These changes are also found, but with less frequency, in atypical forms of the malady. In some cases of simple goître there is lymphocytosis. The author, as a result of his own experience, concludes that in all the forms of Basedow's disease the change described by Kocher's formulae is found very frequently; but there are cases in which the leucocytes maintain their normal proportions. The mononucleosis is more constant than the leucopenia. In the author's experience the mononucleosis is almost always at the expense of the lymphocytes. He has not been able to confirm Caro's observation that in typical forms of the disease the increase of lymphocytes predominates, and in the atypical forms the mononuclears. He has observed in some cases the large lymphocytes with voluminous nucleus described by Kocher, but cannot regard them as characteristic of the disease. In some of the author's cases of simple goître there was mononucleosis. That the leucopenia-mononucleosis of Kocher is caused *directly* by the disturbed function of the thyroid in Basedow's disease is supported by three facts: (1) The possibility of producing these blood changes by hyperthyroidism experimentally or therapeutically produced; (2) that the blood changes disappear after thyroidectomy; (3) the fact that the amount of the blood change and the degree of hyperthyroidism run parallel. The author proceeds to examine the evidence which points to a relationship between Basedow's disease and the "status lymphaticus." Many investigators have found a hyperplasia of lymphatic tissue throughout the body, and often persistence of the thymus gland, not only in exophthalmic goître but in Addison's disease, in acromegalia, etc. The subject is summed up as follows: In pathological states dependent on alterations in internal glandular secretion there is frequently a hyperplasia of lymphoid tissue, and, probably dependent upon this, an alteration in the blood characterized by an increase, absolute or relative, of mononuclear leucocytes, especially of the lymphocytes, and at times a diminution of the total number of white cells. The conclusion, therefore, is that the formula of Kocher is not pathognomonic of Basedow's disease, but indicates a coexisting status lymphaticus, and has the same signification when it is found in Addison's disease, in acromegalia, and in simple goître.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

260. Cerebro-spinal Meningitis due to Bacillus Influenzae.

RHEA (*Arch. of Internal Med.*, August, 1911) reports two cases of cerebro-spinal meningitis due to *Bacillus influenzae*, from one of which the organism was obtained in pure culture from the circulating blood eighty-five days before death. The first case was of interest because pure cultures of *Bacillus influenzae* were obtained from the meninges, and acute encephalitis and intrapial and perivascular haemorrhages were present, the intrapial haemorrhage being unusually extensive in a fairly well circumscribed area 3.5 by 5 cm. on each side of the left Sylvian fissure. The microscopical areas of acute encephalitis in influenzal meningitis are important as possibly having some bearing on the temporary as well as on the permanent paralysis of children which follow acute cerebral conditions other than genuine anterior poliomyelitis, since, if such an area should occur in the cerebral centre for any given muscle or group of muscles a temporary, or even permanent, paralysis might result. In the second case, which was prolonged for eighty-nine days, the influenza bacillus was cultivated from the circulating blood and the cerebro-spinal fluid, death eventually occurring from internal hydrocephalus, probably resulting from obstruction of the foramen of Majendie following the organization of meningeal or ependymal exudate. On the seventy-third day after the onset of the disease occasional attacks of transitory bradycardia occurred, the pulse-rate falling suddenly from 140 to 70 for a few minutes, during which time the respirations were markedly slow and laboured, and the patient was usually unconscious. During the last few weeks the pupils were widely dilated, but reacted to light, and vomiting of the cerebral type was present, all these symptoms being attributable to the hydrocephalus. Half way through the illness a complete left-sided hemiplegia occurred. Three injections of an autogenous vaccine, prepared from a pure culture of the influenza bacillus obtained from the cerebro-spinal fluid, appeared to have no effect upon the disease. The chronic meningitis following acute influenzal meningitis the arteries of the meninges may show varying degrees of connective tissue increase internal to the internal elastic membrane. These two cases are important, as showing that the influenza bacillus may produce a meningitis with extensive intrapial haemorrhages; that there may be an acute inflammatory reaction about the blood vessels in the brain substance, which inflammatory changes may be related to some of the permanent lesions of the central nervous system, following some acute illnesses associated with cerebral symptoms; that bacteriaemia may develop in the course of influenza; that internal hydrocephalus may result from the organization of an acute exudate interfering with the normal circulation of the cerebro-spinal fluid; and that influenzal meningitis may be followed by paralyses of varying extent.

261. The Innervation of the Tongue, the Soft Palate, and the Larynx.

GARCIA TAPIA (*Revista de Medicina y Cirugia Practicas*, July 21st, 1911), in presenting to the Real Academia de Medicina de Madrid a case of hemiplegia of tongue and larynx without paralysis of the soft palate, caused by a bony growth in the upper part of the carotid region, near the angle of the jaw, where the hypoglossal crosses the pneumogastric nerve, discussed the usually accepted views as to the innervation of these organs, and contended that they were in some important respects erroneous. According to the classical opinion, all the muscles of the velum, except the palato-pharyngeus (innervated by a branch from the pharyngeal plexus) receive their motor nerve supply by way of the facial nerve. If this were true it would follow that every lesion of the facial situated above the geniculate ganglion must produce hemiparalysis of the velum. But, as a matter of fact, this is far from being the case. Lermoyez, from evidence both clinical and physiological, claims to have demonstrated that the facial is not involved in paralysis of the velum. The author himself has described a case of paralysis of the velum in which an autopsy demonstrated the integrity of the facial. Fernandez Sanz and others have supplied the counter-proof—that is, lesion of the facial above the geniculate ganglion without paralysis of the velum. The current textbooks of anatomy, in describing the distribution of the pharyngeal nerve, do not mention any branches going to the muscles of the velum palati. If this were so, no lesion of the pneumogastric or the pharyngeal could produce hemiparalysis of the velum palati. Nevertheless, Lermoyez has published two such cases, and the author one. The latter was a case in which the syndrome of Schmidt was present (hemiparalysis of the larynx, of the velum, and of the sterno-mastoid). The facial nerve was intact. In the interpretation of the part played by the spinal nerves in the movement and sensation of the larynx and velum, there is still much confusion. Works on anatomy describe an internal branch which goes to the pneumogastric, and an external, which goes to the sterno-mastoid and trapezius. Lately, there has been a tendency to return to the old view of Willis, and to apply the term spinal only to the external or medullary root, and to call pneumo-spinal the nerve formed by the union of the bulbar and old spinal roots with the pneumogastric. Cajal supposes that this union is effected outside the skull in order to shorten the course of the nerves, that is, to effect an economy. It appears that to these roots we must look for the motor innervation of the larynx and of all the muscles of the velum except the peri-staphylinus externus, which is innervated by a minute branch of the trigeminus. The various ways in which nervous defects of these organs are associated are: Hemiparalysis of the larynx, with paralysis of the velum on the same side (syndrome of Avellis), hemiparalysis of the larynx and the tongue (syndrome of Tapia), and hemiparalysis of the larynx, tongue, and velum (syndrome of Jackson). If we add to the last-named syndrome homolateral paralysis of the sterno-mastoid and trapezius, we have the most complete lesion due to a one-sided affection of the associated nerves. In the discussion which followed the reading of this paper by Tapia, Gomez Ocaña said that he thought that the internal spinal nerves lent fibres to the vagus which served to express the emotions, through the voice and language—and the external spinal innervated the sterno-mastoid, which, next to the larynx, was most the muscle of expression.

262. Mountain Sickness.

IN a recent monograph on this subject Regnier distinguishes two clinical forms of mountain sickness: (*a*) An acute and early attack occurring in course of the ascent, resulting in large measure from a predisposition on the part of the individual; (*b*) a subacute and later attack coming on independently of muscular exertion. In both cases the attack is brought on by the retention of the products of incomplete oxidation, which brings about a condition of autointoxication. The former appears, as a rule, in the Alps at an altitude of 3,500 metres, while in the Himalayas or Cordilleras it is generally over 4,000 metres. Certain temperaments are peculiarly susceptible, and stout persons offer less resistance than others. Fatigue plays an important part, but training can counteract a good deal of this. The characteristic symptoms are cephalalgia, dyspnoea, tachycardia, and anorexia, followed frequently by vomiting. There is a pronounced tendency to somnolence, and syncope is a frequent occurrence. The author mentions the case of a medical man who, after an attempted ascent of Mont Blanc which had to be abandoned owing to the gravity of his symptoms, succumbed to mountain sickness. *Post mortem* the heart and kidneys were found to be normal; the lungs, however, were very oedematous. In the subacute or delayed form of the malady the ascent is usually accomplished without fatigue, and the author distinguishes a stage of invasion lasting twenty-four hours, during which the digestive symptoms are the most prominent, along with a condition of mental torpor, a phase during which shivering, headache, dyspnoea, oedema of the hands and face—the latter coincident with diminution of the flow of urine—occur; and, lastly, a stage of regression with polyuria and a return of the appetite. As to prophylactic treatment, any cardiac lesion is a contraindication; so, too, are bronchiectasis, asthma, emphysema, or renal disease. Patients suffering from pulmonary tuberculosis ought not to go beyond a certain altitude. All unnecessary fatigue should be avoided, and the ascent should be slow and regular. Until the limit of the perpetual snow is reached, according

to Regnier, the iced water met with on the way may be drunk with benefit. When the ice has been reached, tea or coffee are always indicated, but no alcohol. The clothing, needless to remark, should be warm and woolly. In the acute attack the vomiting may be allayed by sucking ice. The diarrhoea may be regarded as a defence of the organism against autointoxication, and ought not to be interfered with too lightly. If excessive, salicylates of bismuth with benzo-naphthol may be given. If syncope occurs, it must be dealt with in the ordinary way, but it is better to give up any further attempt at ascent. In the subacute attacks, if acclimatization is aimed at the patient should rest for a time in a warm, well-aërated room, and so gradually lessen the state of anoxyhaemia. Warm drinks will assist diuresis, and a hypotoxic regimen of milk and vegetables will lessen the strain upon the excretory organs. Inhalations of oxygen may be necessary in some cases.

SURGERY.

263. Intradural Conglomerate Tubercle.

BONNIGER AND ADLER (*Wien. med. Klin.*, Nos. 18 and 19, 1911) describe a case of removal of an intradural conglomerate tubercle of the spinal cord with a consequent marked improvement in the condition of the patient. The case presented a typical picture of tumour of the spinal cord. The symptoms, however, pointed to a lesion at the level of the eleventh dorsal vertebra, while at the operation it was found that the tumour did not reach above the level of the twelfth vertebra, and above it the cord appeared to be quite normal. Several explanations for this discrepancy are suggested, and its practical importance pointed out. Since such a discrepancy may occur, the operator should clearly not hesitate freely to expose the spinal canal. The patient was a man 39 years of age. The first symptom of the disease was severe pain in the lower lumbar region of the back, worst on the right side. The conditions before and a year after the operation are contrasted. The following are some of the differences observed: Before it the patient could neither stand nor walk, and there was spastic paralysis of both legs, very strongly pronounced ataxia of the left leg, and pronounced ataxia of the right leg. After the operation the patient could walk without a stick. There was still spastic paresis of the left leg; the right was normal, except for moderate spasm; there was pronounced ataxia on the left side, and a trace on the right side. The pathological changes in the reflexes were very little changed as a result of the operation. The very severe bladder and rectal symptoms which had been present before the operation were much relieved; incontinence and cystitis disappeared, though there remained a frequent desire to pass water. Adler performed the operation. The extirpated tumour was 15 mm. in length, 8 mm. in breadth, and 5 mm. in thickness (0.6 in., 0.3 in., 0.2 in.). It was intradural and caused considerable compression of the cord from behind and the left side. It was removed entire, without injury to the cord or nerve roots, but at its lower end a small piece of firmly adherent dura had to be excised. The diagnosis, in which the pathologist, Professor Benda, concurred, was of a conglomerate tubercle—that is, of a tumour formed by the confluence of many miliary tubercles. The diagnosis was supported by the absence of vessel changes in the areas of necrosis and by the presence of large numbers of tubercles and giant cells. The possibility of the tumour being gummatous was considered and rejected. With regard to diagnosis of spinal-cord tumour, the impossibility is noted of distinguishing in some cases, by clinical symptoms, between tumour and infectious granulation swellings. Tuberculous lesions of the spinal cord and brain are discussed at some length in the article. In connexion with the author's case, a case described by Veraguth and Brun is of interest; in it, a tuberculous tumour of dimensions 17 mm., 11.5 mm., 9.5 mm. (0.7 in., 0.45 in., 0.38 in.), taking origin from the pia mater, pressing upon the spinal cord and appearing macroscopically to have grown into its substance, was removed entire without injury to the cord, which proved to be neither infiltrated nor injured. In both cases a blunt instrument was used to shell out the tumour, and this method should undoubtedly be attempted in such cases, even when it may not seem likely to succeed.

264. Acquired Diverticula of the Sigmoid.

DUNN AND WOOLLEY (*Amer. Journ. of Med. Sci.*, July, 1911) report six cases of acquired diverticula of the sigmoid. The condition occurs in two varieties, the true and the false, the former being merely of anatomical significan as pouches whose walls contain all the layers of t bowel, while the latter, being herniaform protrusions the mucous membrane through the muscularis, are clinical and pathological interest. Any or all of t following factors may operate in their causation, namel Congenital or acquired anatomical predisposition localized weakness in the bowel wall, to which potenti factors may be added certain definite mechanical ones for example, strain due to accumulation of gas or faec changes in the calibre and structural strength of t "vessel holes" consequent on stasis and senile circ latory disturbances or rapid loss of visceral fat, and ato due to age, distension, or obesity. They vary in si from microscopic pretensions to processes the size grapes, with ostia varying from very narrow openin to those equal in calibre to the diameter of the dive ticulum. The necks may be contracted by the penetrat muscularis, or occluded by catarrhal inflammatory swelli of the mucosa, thus forming a thin-walled sac filled wit infectious material external to the bowel. Their pote tiality for mischief is obvious from thinning of the coat ulcerative and perforative action of retained concretio and faeces, the presence of pathogenic micro-organism and defective drainage, and the following resulting morb processes have been recorded, namely: local and gener peritonitis, chronic hyperplastic sigmoiditis, cance stenoses, adhesions, chronic mesenteritis, metastatic su puration, and perforation into a hernial sac. Diagnosis seldom easy or certain, and must be made largely exclusion. In many cases the treatment must be surgica and, although some may recover without a resectio operation is indicated in those presenting abscesses a vesico-sigmoidal fistulae.

265. Transplantation of Part of a Vein between Two Sections of Femoral Artery.

MANTELLI (*Gaz. degli Osped.*, June 6th, 1911) records t case of a man, aged 40, operated upon in Septembe 1910, for a sarcoma originating in the vascular sheath in the middle third of the right thigh. On March 20t 1911, recurrence occurred, and although the blood vesse were obviously involved the circulation was not com pletely abolished, as pulsation could be felt above an below the tumour; a well-marked collateral circulatio had, however, developed. The growth was freely ex posed, and it was then seen that the femoral vesse and internal saphenous nerve were completely su rounded by the tumour, and so intimately connecte that it was impossible to dissect out the neoplasm; th whole, including the vessels, was therefore removed about 5 cm. in all. In view of the efficient collatera circulation, both ends of the femoral vein were tied an a piece of healthy femoral vein inserted between th two ends of the femoral artery and sutured by Cassell method. The subsequent progress of the case wa satisfactory, and less than a month after the operatio good pulsation (equal to that above and below) coul be felt over the site of the transplantation. Not man similar cases have been recorded, and of these severa proved ineffectual, but the author's case seems to hav been quite successful.

266. Sterilization of the Skin and Mucous Membranes.

FREDERICK-EMIL NEEF (*Amer. Journ. of Surg.*, Septem ber, 1911) discusses this subject, and gives in detail th methods adopted by him. No method should be simplifie at the expense of safety, and the best depends neither o disinfection nor on mechanical cleansing alone, but is composite one. The iodine method is one of the simples and most efficient of those based on chemical disinfectio alone. The routine employed consists in cleansing th skin with benzine to remove sebaceous material an painting the surface with official tincture of iodine no later than four to five hours before operation; a secon coat of iodine is applied on the operating table. Benzin is objectionable on account of its inflammability, so carbo tetrachloride may be employed. The offensive odour o the commercial product can be disguised without materiall impairing its usefulness by the addition of methyl sali cylate 1 per cent. dissolved in alcohol. In the case o mucous membranes fat solvents are unnecessary. Th author recommends an aqueous solution of tannic aci 1 per cent. for bathing mucous membranes for operatio purposes. The tannic acid precipitates the chief con stituent of the mucus in the form of an insoluble tanno protein, and with it the entangled bacteria; the deposite mucus may then be washed away. Much higher per centages may be used without risk for any mucou

membrane. It may be used in combination with iodine for vaginal swabbing as in the following formula :

Iodine	...	...	...	5.0 or 2.5
Potassium iodide	...	...	...	8.0
Tannic acid ...	...	...	...	1.0
Distilled water	...	...	...	20.0
Glycerine ...	...	...	up to	100.0

Vaginal irrigation with aqueous solution of tannic acid corrugates the mucous membrane and renders manipulations easier.

OBSTETRICS.

267. Sudden Death in the Course of Normal Labour.

LACROTTE (*Journ. des prat.*, June 3rd, 1911) relates a case of sudden death in the course of what seemed a normal labour. The patient was a woman of robust health, who had already borne three children without untoward incident of any kind. The author had previously examined her circulatory system, which was normal. The patient was first seen and examined when the pains were slight. There were no varices, no oedema, and the pulse was normal. The dilatation of the os was small at this stage. Labour progressed satisfactorily for some hours in quite an uneventful manner, the os uteri having dilated slowly, but otherwise normally. The pulse was still good and the sounds of the fetal heart normal. About this time, after a vaginal examination, the patient suddenly became inert, she breathed badly, and became pulseless. The heart on auscultation was found to have stopped beating, and, after a few inspirations, she expired. The author then goes on to discuss the possibilities of this tragic occurrence. The patient had no endocarditis, no varices, and no placenta praevia. The pains had been regular and there was no tetanic contraction of the uterus. There had been no suggestion of eclampsia nor retroplacental haemorrhage. The patient had not become pallid and the pulse ceased suddenly: further, there had been no change in the shape and size of the uterus. After referring to the possibility of embolus, the author states that the only conclusion he can come to is that death resulted from syncope by inhibition.

GYNAECOLOGY.

268. The Pathogeny of Chlorosis.

BERNHEIM (*Journ. des prat.*, August 26th, 1911) emphasizes the distinctions existing between an ordinary anaemia and chlorosis. The former may perhaps predispose the patient to chlorosis but does not cause the disease, which is a specific disease of the blood. It is characterized by its sudden appearance, its persistence, and its resistance to ordinary hygienic and medicinal treatment. The number of red cells is increased by the administration of iron, but so it is also by rest and feeding. All the symptoms persist, and the haematopoietic function remains in abeyance. There was no apparent alteration, however, in the spleen, liver, or medulla of the bones. The author reviews the various theories advanced in explanation of the disease from the time of Hippocrates downwards, most of them ascribing the condition to an intoxication arising from a disordered menstrual function. But although menstrual irregularities commonly exist in chlorotic girls about the age of puberty, they are generally subsequent rather than antecedent to the chlorosis. It has been suggested also that although menstrual troubles may have no causal connexion with chlorosis, the condition may yet be ovarian in origin. Although there is something to be said for an ovarian pathogeny, yet certain known diseases of the uterus and ovaries at puberty result only in a certain degree of anaemia but not chlorosis. The author refers also to the supposed gastro-intestinal origin of the disease, and points out that in chlorotics both digestion and appetite are often remarkably good. He also dismisses the various theories that the disease is neurotic in origin as being inadequate. Primarily, he thinks the disease lies in the blood itself. There is something in the blood which interferes with its normal reconstitution, and this, he thinks, is an organic toxin of microbic origin. The serum of a chlorotic person injected into the rabbit is generally more toxic than normal blood. It is known that certain ages are especially susceptible to certain organisms, such, for instance, as the causative organisms of infantile paralysis, osteomyelitis, or the various eruptive fevers. These may quite well be a toxin of microbic origin, which finds at the time of female puberty the necessary conditions for its elaboration and consequent pernicious effects. The frequent presence of fever in these cases favours such a theory.

269. Thermo-therapy in Gynaecological Cases.

S. FLATAU (*Med. Record*, October 7th, 1911) describes a new apparatus for the application of dry heat to the genital organs through the vagina and abdomen, by means of electricity. It consists of a thick hollow rod of silver-plated metal filled with asbestos powder, ending in a sort of bulb which is heated by means of an electrical current from any street current. This rod is placed in the vagina, and large pads are placed on the abdomen. A continuous or alternating current may be used. It raises the temperature of the vagina to 40° C. for any length of time; it requires no superintendence, may be done in any clinic or in the home of the patient, and the instrument is cheap and lasting. This method is indicated in any catarrhal condition of the pelvic organs, parametritis or perimetritis, metritis, dysmenorrhoea, amenorrhoea, or chronic catarrh of the bladder. It should not be used in acute or febrile cases. It should be applied for three hours daily.

THERAPEUTICS.

270. The Action of some Drugs in Hepatic Diseases.

POLAIN-CARTIER (*Le Scalpel*, 1911, lxiv, p. 63) considers the action of benzoate of soda, bile, the biliary salts, physiological serum, peptone, alcohol, adrenalin, and aloes on the liver. His results are as follows: Benzoate of Soda: Experiments on dogs showed that this salt of soda was not so powerful a cholagogue as the salicylate. It increases the quantity of bile, but the principal elements are diminished in amount; hence it is of value in those cases in which a lavage of the liver is desirable, as in cases of infection of the liver and ducts, but if a true cholagogue action is required, salicylate of soda should be added to the prescription. Bile was found to increase not only the quantity of bile secreted, but the absolute quantity of dry extract, biliary salts, and fats. The author considers it the best of all cholagogues employed as an extract in pills of 10 cg. taken before meals 1 to 10 pilules per diem. Biliary Salts: The author found that the glycocholate and taurocholate of soda were the chief salts of the bile to produce the cholagogue action. Physiological Serum: Experiments were made on dogs by injecting intravenously ordinary physiological serum, and it was found that no increase of bile occurred. Peptone: Intraduodenal or subcutaneous injection of the peptone of Witte produced complete arrest of biliary secretion in the dog, and the author considers it should be employed with great caution in all patients with icterus, hepatic congestion, and biliary infection. Alcohol: Intravenous injection in dogs produced a diminution of biliary secretion to a slight extent only, but the bile collected is more diluted. Intraduodenal injection had no action. Adrenalin decreased the secretion of bile considerably, and the bile was poorer in solid matters. Aloes produced a slight decrease in the amount of bile secreted, and the percentage of the principal constituents was diminished, and should not be looked upon as a direct cholagogue. It can be employed with great advantage with calomel in hepatic congestion, 5 cg. of each every morning in pill accelerating the evacuation of bile.

271. Chologen.

VAN ELSBERGEN (*Wien. med. Klin.*, No. 32, 1911) describes his experience during the past five to six years in the treatment of gall stones by chologen. He has made use of chologen especially in chronic cases of typical cholelithiasis with attacks of colic followed by the passage of stones, and also in cases of recurrent pain in the stomach region, sometimes accompanied by tenderness in the region of the gall bladder. He warmly recommends chologen as a prophylactic, since it regulates intestinal action and influences the flow of gall. He has had good result from it in cases of long-standing jaundice due to chronic blocking of the choledochus, though as a rule such cases more rightly belong to the surgeon. Chologen is also to be recommended as a treatment for patients during the intervals in which they feel well and are unwilling to continue a protracted cure. As a result of his experience the author concludes that chologen most probably both has some effect in dissolving gall stones and also works quali-

tatively upon the bile, so that new stones do not form, or in any case do not so easily form. Five cases are described in the article, none of which have been under observation for less than two years. The first case was of a patient who had suffered from cholelithiasis for years, and had carried out without result a long course of treatment by Carlsbad waters, a Neuenahr cure, and an oil cure. The severity and persistence of the attacks, which recurred every four to six months, were such that the patient had been obliged to give up work. The patient was now given chologen, and told that in a case of so long duration treatment would have to be continued for two years. Already, after two months, the attacks had become less severe; after the first year they only recurred occasionally and were slight, and for three years the patient has had no attack and has been back at work; he now carries out a chologen cure every alternate year. In the second case described, the patient, a woman 56 years of age, had suffered from attacks of gall-stone colic for years. Finally an empyema of the gall bladder was feared, but her condition was so bad that the surgeon did not believe she would survive an operation, and recommended delay. Stimulants, hot compresses, and morphine were given, and in addition chologen. The condition improved; the administration of chologen was continued, and the patient has now been free from further attacks up to the present time—a period, that is, of three years—and feels well and able to carry on her work as a midwife. In another case of many years' standing, in which the presence of cancer was suspected, the patient refused operation and recovered under chologen. Ten cases in all are described. The method of administration was as a rule that recommended by Glaser. The author most warmly recommends the preparation to the profession.

272. Nutritive Value of Soy Bean.

JOHN RUHÄH (*Med. Record*, September 23rd, 1911) states that the soy bean is an annual leguminous plant that is used frequently in China and Japan and has great nutritive value. It is especially useful in the dietary of diabetes, since it contains protein, nitrogen-free extract, and fat in considerable amount, and cane sugar and starch in small amount. Soy bean flour yields 13 grams of protein and a food value of 120 calories. The beans may be cooked in soups, baked, or boiled with salted meats, etc. After the beans are soaked for some hours the firm skin will separate and can be removed easily. The author gives recipes for making gruels, broths, muffins, nut cakes, pancakes, etc.

273. Effect of Radium in Combined Sclerosis.

FABRE AND EGGER MAX (*Journ. méd. de Bruxelles*, July 27th, 1911) give some details of the treatment by radium of a case of this nature. The patient was a man of 42 years of age, whose father had a sudden paraplegia at 50, and of whose three living children one was debilitated and dystrophic. He acquired syphilis at 24 years of age, and the first symptoms of his present condition appeared about ten years later. He was treated with biniodide of mercury at first, but after a period of quiescence the symptoms became markedly aggravated. The shooting pains returned. There was continual incontinence of urine, heavy spastic gait, and increasing incapacity to hold himself upright. The reflexes of both upper extremities were abolished, and there was also analgesia and anaesthesia of both lower limbs. There was fibrillary tremor of the tongue, and finally thoracic respiration became paralysed. On March 23rd radium was first tried. The application was made along the whole length of the spine. Fifteen days after the pains had lessened and flexion of the upper and lower extremities became possible. The hands, however, were still rigidly contracted. On April 28th a second application was made, lasting for a period of ten hours. The patient's condition then generally improved. The pains were considerably less, and the patient could hold himself upright for a short time. On May 20th a similar application was given, and for a few days a relapse set in, but after eight days improvement again began. The patient could hold objects and feed himself, execute movements of flexion with the forearm, and carry his hand to his neck. He was able to hold himself erect for some minutes, and take a few steps. The regression of the symptoms occurred in inverse order of their appearance.

274. Apparatus for Forcible Respiration in Children.

JOSEPH O'DWYER (*Med. Record*, September 16th, 1911) describes an apparatus for forced respiration applicable in cases of chloroform poison in the newborn and others, in poisoning by opium, hydrocyanic acid, carbon dioxide, strychnine, and caffeine, and in drowning, suffocation, cerebral haemorrhage, and collapse. The apparatus consists of a cone-shaped appliance connected with a tube which fits snugly into the larynx. This is connected with a long cylindrical bottle, which acts as a wash-bottle to clean and warm the inspired air. The rate of respiration in infants is much higher than in adults, and the rapidity of the action of the apparatus should be proportioned to to the age of the child.

PATHOLOGY.

275. Experimental Work on Acute Poliomyelitis.

PAUL H. RÖMER (*Wien. med. Klin.*, No. 28, 1911) deals with experimental work on acute poliomyelitis. Müller has shown that even cases of old standing are recognizable by the method of serum diagnosis. The serum of the patient is mixed *in vitro* with the poliomyelitis organism, and after sufficient contact is injected intracerebrally into monkeys. The results vary with the particular virus employed. With an "original" virus—that is, one taken direct from a patient—the result in a large proportion of cases is negative. With a virus, however, which has already been passed through monkeys, the result is positive in 85 per cent. to 95 per cent. of cases. Cases are described of monkeys experimentally infected. In monkeys, as in men, the author finds that the most frequent form of the disease is spinal paralysis, with symptoms almost analogous to those seen in man. In monkeys, more frequently than in men, the disease follows a course similar to Landry's paralysis. The experimental disease in monkeys is, as a rule, much more severe than the spontaneous disease in man. The bulbar form and form affecting the pons are frequently seen in monkeys, and facial pareses are specially common. The cerebral form is also occasionally seen. The difficulty of recognition of abortive forms in monkeys after experimental infection is considerable, but the author has no doubt of their existence. The experiments on monkeys give a further argument, if such were needed, that the classical spinal paralysis in children is only one symptom of a general specific disease. The incubation period in monkeys after intracerebral and intraneural injection is, as in men, usually about a week, but may be as long as forty-six days—a fact of interest in connexion with cases occurring in man in which, if the disease is contagious, the incubation period must have been long. Landsteiner's experiments have shown definitely that acute poliomyelitis is due to a living virus. The author, together with Joseph, has shown that the virus retains its vitality for as long as five months when kept in glycerine. Glycerine therefore provides a convenient medium for preservation and carriage. In many cases the virus cannot be identified or cultured, but a method of keeping it would be to keep pieces of the spinal cord, chosen preferably from the lumbar or cervical enlargements, in 50 per cent. glycerine. The question as to whether the process begins in the ganglion cells or the interstitial tissue has been much disputed. In the author's experimental investigations the ganglion cells were, in the acute cases, the first to be attacked, and the ganglion cells might be found to be already replaced by masses of lymphocytes and leucocytes, even when no recognizable interstitial changes were present. In the slower cases, however—those which lasted from two to four days—the author's impression was that the interstitial processes played a large part, and that the ganglion cells were altered and degenerated only secondarily. The view that the process may begin in the interstitial tissue leaves unexplained the localization of the anterior horns. But experimental investigation has shown that the organism has an elective affinity for the central nervous system and a considerable affinity also for the lymph apparatus. Wickman's explanation that the intensity of the process varies in proportion and the number of vessels—or perhaps still better of lymph vessels—in the part concerned, is, at any rate, a very possible one. As for the method of spread of infection, experiment has supported Wickman's view that the spread is by way of the nerves to the spinal cord. After direct nerve injections the paralyses always began in the parts corresponding to the infected nerve; also, after injection in the upper half of the body, as through inhalation, the beginning of paralysis is, as a rule, in the upper extremities, and after infection in the lower half of the body, in the lower extremities. Investigations as to the entrance point of the infective organism have not been very conclusive. In monkeys it is found that almost without exception a very clear immunity follows infection. The author and Joseph have prepared a vaccine from killed cultures which promises to be useful.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

276. Tapotement snd Vibration Massage of the Liver and Stomach.

V. Jaworski (*Wien. klin. Woch.*, No. 25, 1911) employs apotement and vibration massage to demonstrate tenderness in affections of the liver and stomach, and so as an id to diagnosis. The posterior surface of the liver is ccessible to tapotement from the lower edge of the tenth ib to the twelfth rib, and overlaps the apex of the right idney; the lateral surface is accessible from the eighth to he tenth ribs in the axillary region, the anterior surface rom the sixth to the eighth rib in front. Tapotement of he liver in the epigastric region causes tenderness even n sound individuals, but it is one of the most delicate ethods of eliciting "splashing" in the stomach. Tapotement is carried out by very quick strokes given with the lnar side of the extended right hand, parallel to the ribs, referably in the intracostal spaces, the force of the blows cing varied. For the under part of the liver a small liptical plexiметer may be used, and stronger blows ven either by means of the finger or a hammer, or finger ercussion can be employed. The author makes use tapotement in all cases of suspected cholelithiasis. In most all typical cases of gall stones he has found tapotement to elicit tenderness, while in many suspicious ones e test has clinched the diagnosis. The method is valuble as a means of diagnosis between gall-stone colic and ses of stenocardiac symptoms, of enteralgia, of gastric cer, sometimes of appendicular colic, and many cases of stro-enterosis and nephroptosis. Tenderness in the wer part of the left thoracic region behind, without corresponding tenderness on the right side, would pport a doubtful diagnosis of gastric ulcer. Cases owing the value of the method are described. Unfortutely, tenderness cannot invariably be elicited in cases of ll-stone colic, because tenderness is a symptom of local itation or inflammation of the organ, and these conditions may only be present very temporarily. A negative sult of the test does not, therefore, exclude the possiity of gall stones, except when the patient is complaining of pain in the liver region at the time the test is ried out. The author has, however, known cases in ich tenderness could still be elicited a fortnight after an ack of colic, when all other objective and subjective nptoms had disappeared. In making a diagnosis, nful spots, such as the pressure points in gastric ulcer, steria, and intercostal neuralgia, and painful places in ercostal rheumatism, periostitis, pleurisy, and lumbago st be excluded; tapotement in the axillary region gives y trustworthy results, because of the infrequency of h tender points in this region. Tapotement may fail give a diagnosis as between colic of the right kidney i of the liver; painfulness on tapotement in the right ibar region speaks rather for nephritic colic, tenderness the lateral surface of the liver for gall-stone colic. derness of the posterior part of the liver is the safest ication that irritation or inflammation of the gall sages is present. The article also deals with the erentiation between organic pain and so-called nervous n in the upper abdominal region, especially in the gastric and gall-bladder regions. Marked tenderness ressure by the finger-tips in either of these two places gests one of four conditions—either nervous pain (for mple, cardialgia, pyloric cramp), gastric ulcer, early cer in the small curvature or pylorus, or, finally, cholelasis. When symptoms of gastric ulcer and cholelasis are absent, and tapotement of the liver gives a ative result, the diagnosis may be a matter of much culty. A diagnosis of nervous pain would be supported he presence of other nervous symptoms; the state of pupils may also be a valuable aid, because in nervous ents they are often large, and may be unequal, and react very quickly and intensely to light. Again, ous pains usually disappear quickly if pressure comd with vibration massage be applied, while pains with rganic basis usually become stronger with such treatt; an intelligent patient is, however, necessary for method of diagnosis to be applicable.

Addison's Disease.

LAIN (*Journ. des prat.*, September 9th, 1911) refers fly to the symptomatology of the disease. It is characterized by asthenia, pigmentation, hypoarterial tension, abdominal pains, and finally death with symptoms of acute renal insufficiency, or more slowly by a progressive cachexia. Tuberculosis, primary or secondary, is one of the commonest causes of the disease In certain cases, however, syphilis has been proved to be the cause, as demonstrated by specific treatment. Haemorrhages into the gland, sclerosis, and malignant diseases also contribute to the etiology of the disease. In certain cases, again, a condition of arrested development of the suprarenal gland has been found. The sympathetic nervous system has been found to have undergone changes, the solar plexus having been destroyed in some cases. Microscopically the medulla of the nerves has been found to have undergone fragmentation, and there is pigmentation of the cells. The latter is more generally due to the presence of haemosiderin or melanin. Frequently there is hypertrophy of the liver, thyroid, and pituitary body. According to the author, none of the prevailing theories satisfactorily explains the mechanism of the disease. As to treatment, the asthenia must be regarded as a defensive effort on the part of the organism, and the patient must be spared any fatigue. The supposition is that muscular activity creates certain toxins, which in the normal state are neutralized by the secretion of the gland, but against which the organism is helpless in a diseased state of the gland. If drugs of toxic power are administered they must be given in much smaller doses than usual. If the patient has had a history of syphilis it is as well to give specific treatment, and so, too, in the case of a tuberculous patient. Lecithin has been found particularly serviceable in these cases. Opotherapy has given contradictory results. From 10 to 25 cg. of a glycerine extract of the gland is usually administered hypodermically. For this purpose the suprarenal gland of the calf or sheep is best, and young animals only should be used. This is far preferable to adrenalin, which represents only a portion of the suprarenal secretion.

278. Haemoptysis in Pulmonary Tuberculosis.

Mariano P. Florez Estrada (*Revista de Medicina y Cirugia Practicas*, July 14th, 1911) has observed two chief varieties of haemoptysis in tuberculosis of the lungs. One occurs during the early days of the disease; the other is a sign that the malady is nearing its termination. The first is due to the initial hyperaemia and reaction of the tissues which follow the first implantation of Koch's bacillus, and thus may be one of the earliest signs of infection. The second is caused by the rupture of the aneurysms of Ramussen—minute dilatations in the arterioles which occur on the walls of cavities. This second variety of haemoptysis must therefore be one of the late symptoms of the disease. The first variety, rare in comparison with the second, notifies us of the fact that the parenchyma of the lungs is invaded—that the bacillus has gained a secure lodgement in the tissues. It is the end of the beginning. The second kind, much commoner, apt to be intractable, and frequently a direct cause of death, is a sign that the tuberculous process has arrived at the final stage of its evolution. It is the beginning of the end. It justifies the worst prognosis, and may be called the haemoptysis of prognosis, whereas the first variety is the haemoptysis of diagnosis. There are occasionally observed cases of haemoptysis which cannot be placed in either of these categories. The author relates a case in a boy of 16 years of age, in which the expectoration gradually became more and more blood-stained, until by degrees it reached a condition of almost constant profuse haemoptysis. This led naturally to a very profound anaemia, which in turn favoured the rapid development of the disease, and led to the early death of the patient. It is an interesting question as to how far a tendency to the haemorrhagic diathesis played any part in this case.

279. Panoptosis.

Under this heading Ledoux and Tisserand (*Progrès méd.*, August 5th, 1911) discuss in its entirety a syndrome which hitherto has not been studied as a complete morbid entity. Floating kidney, one of the commoner phases of this condition, is, they state, only one feature of the general condition, for usually accompanying it, although not

always recognized, is gastroptosis, coloptosis, hepatoptosis, and enteroptosis. Extreme flaccidity of the abdominal wall, too, is nearly always a marked feature of these visceral ptoses. The female sex is especially liable to panoptosis, and in this case the uterus also shares in the general state. Metritis is usually present, and frequently also membranous dysmenorrhoea, which accompanies a similar condition in the colon. The menstrual flow is regular but excessive as a rule. Accompanying the gastric ptosis is a state of nervous and atonic dyspepsia. This condition of affairs arises from a state of atony of the various suspensory ligaments and their musculo-aponeuroses. There is a state of general tissue insufficiency. Herniae may develop as a result of the laxity of the inguinal canal. In men flaccidity of the scrotum is a marked feature, and varicocele is often present. The articular ligaments are relaxed and the vertebral column itself seems to participate in the general atony, and in this case lordosis or scoliosis may follow. Neurasthenia in all its protean forms may develop. The patient is restless, depressed, and constantly fatigued, especially in the morning. All the tissues of the body are equally affected by an insufficiency of nourishment, vitality, and resistance. Surgical interference may relieve a local visceral ptosis, but is no more than palliative in this connexion, as the cause of the trouble remains. It is a remarkable thing that during the first months of pregnancy in such cases the general condition markedly improves, but after delivery there is a recrudescence of the malady. In explanation of this fact the authors take the view that in panoptosis a state of hypothyroidism exists, and that during pregnancy a kind of autothyroid therapy comes into play. All the features of the condition, they say, bear out this hypothesis, for, on examination of patients suffering from panoptosis, they affirm the thyroid is frequently atrophied. This is in accord with the observations of Trémolières on muco-membranous colitis. The results of treatment on these lines have been very satisfactory. The explanation of the condition, according to the authors, is to be found in the failure of the thyroid to maintain the usual calcium equilibrium of the organism. The treatment, therefore, aims at the recalcifying of the system by the use of the cachets of Ferrier or some similar preparation.

SURGERY.

280. Stomach Displaced by Cystic Tumour of the Spleen.

A CASE in which the stomach was displaced by an immense cystic tumour of the spleen has been reported to the Société de Radiologie Médicale de Paris by Belot and Woiman (*Bull. et mém.*, No. 26, 1911). The patient, aged 50 years, first noticed an enlargement of the abdomen six weeks before coming for examination. Rapidly, and almost without any painful phenomena, the tumour increased in volume, until an enormous mass occupied the left side. It was hard, heavy, and impossible to mobilize, and the clinical examination suggested a tumour of the spleen. Percussion, following upon insufflation of the stomach and colon, discovered the stomach to be completely in the right hypochondrium, its left side resting upon the lower border of the tumour, though without any fixed connexion. A radioscopic inspection showed the diaphragm to be rather higher on the left than on the right side, and its image to merge into the cardiac shadow. The stomach was again insufflated, and the screen then proved that the organ was pressed to the right side by a rounded, opaque mass. The stomach, in fact, occupied a narrow defile between the liver on the one hand and the abdominal tumour on the other. In this tenuous portion it was reduced to a width of from 1½ to 2 cm., but its base, which descended below the region occupied by the tumour, was enlarged. The picture was more evident after a bismuth meal, when the stomach took a form resembling a German student-pipe. The pylorus maintained its topographical connexion with the stomach, but the gaseous pouch of the stomach was displaced. The points of its upper attachment were normal, but the stomach was straightened in this part against the diaphragm, and reduced to a flat conduit, in which the bismuth did not remain. The tumour was found to have developed at the expense of the spleen, and operation proved it to be an enormous cyst, as large as the head of an adult. The puncture allowed from 2 to 3 litres (3½ to 5 pints) of haematic liquid to escape. The stomach, as examination had previously shown, was pressed to the right, and—an interesting fact—the tumour had also forced to the front the hind cavity of the epiploons. The finger, introduced into the cyst, proved a nodular, pimpled, splenic surface, which bled easily. The authors emphasize the mutual agreement between the evidence furnished by percussion after insufflation, and by radioscopic examination after insufflation, and after the absorption of bismuth, but they point out that the *x* rays permitted an absolute affirmation to be made regarding a state of affairs which percussion had only led them to suspect. In addition, the *x* rays gave a precise idea as to the dimensions, working value, and integrity of the stomach.

281. The Pathogeny of Hallux Valgus.

LERICHE (*Rev. d'orthop.*, September, 1911) points out that an examination of the literature of the subject shows that it is regarded as almost always a manifestation of a rheumatic diathesis and a stigma of "arthritism." But when we invoke arthritism as factor in a malady we forget that arthritism is an effect and not a cause; the arthritic individual is so because he is rheumatic or emphysematous or suffers from sclerosis of white fibrous tissue. In a word, it is simply playing with words to class hallux valgus under arthritism. He goes on to say that Poncet and he have indicated its frequency amongst tuberculous subjects and have classed it with localized forms of chronic tuberculous rheumatism. In 1908 Deborgne made personal observations of 51 cases of hallux valgus; 3 were due to nervous disease. Of the remaining 48, tuberculosis was clinically present in 41, and he concluded that it was impossible to avoid the conclusion that that disease was the cause of the lesion. For his own part Leriche examined 12 cases of the lesion, and in all there were clinical evidences of tubercle. It seems quite natural to conclude with Poncet that hallux valgus through an attenuated infection, while almost always an arthropathy of ordinary appearance, is of tuberculous origin.

282. Surgical Management of Acute Abscesses of Lymphatic Glands in Infancy.

SOUTHWORTH (*Arch. of Ped.*, 1911, xxviii) finds (1) that incision of a gland which is only partially broken down into pus delays rather than hastens healing, and hence it is advisable to await fluctuation before intervening surgically; (2) the smallest incision which will allow of gentle expression of the pus, and the smallest tube drainage which will permit the continuous escape of discharge are all that are required; (3) gauze packing, except in large wounds, dams up the secretion rather than drains it; (4) the dressing should be changed in forty-eight hours; (5) on the fourth day the drainage tube may usually be dispensed with, and a dressing of ichthyol ointment 10 to 20 per cent. applied; (6) healing generally occurs by the seventh day.

283. Lumbar Puncture in Cerebral Haemorrhage.

ROSSI (*Rif. Med.*, April 17th, 1911) draws attention to the prognostic value of lumbar puncture in cerebral haemorrhage. He classifies the cases in four groups: (1) Severe cases with sudden onset, followed by deep coma and death in twenty-four to forty-eight hours. (2) Cases with mild onset, often no true ictus but more like transitory disturbance of the circulation, followed a few days later by signs of meningeal irritation and death. These cases are not due to a second haemorrhage but to irritation (not purely mechanical) of the adjacent parts by the effused blood. (3) The common class where after a temporary irritative phase the usual motor lesions are left and no further consequences follow. (4) Cases of embolism, thrombosis, and toxaemic states, for example, uraemia. The chief result of his observations lies in the conclusion that the presence of haemorrhagic fluid in the sample taken from the spinal cord is of very bad import and is chiefly of value in regard to the second group of cases, for beginning mildly as they often do the turn for the worse is the more unexpected: if blood is found in the cerebro-spinal fluid of these cases it should put one on the look-out for increased gravity in the symptoms. In the third and fourth group of cases blood is not found.

OBSTETRICS.

284. Syphilis and Monstrosities.

BUDAUX AND LE LORIER (*Ann. de gyn. et d'obstét.*, September, 1911) publish some long series of cases showing that a large proportion of children born with anomalies are the offspring of syphilitic parents. They do not

exaggerate this proportion but rate it at 13.8 per cent., whilst according to recent bacteriological research the percentage is 14. It appears clear that syphilis is specially prejudicial to the cerebro-spinal system, as hydrocephalus, anencephalus, and spina bifida, now known to be the result of prenatal disease, are especially frequent in the children of syphilitic subjects. Beyond the brain and spinal cord, syphilis seems associated with cranial and facial deformities, harelip, cleft palate, perforation of the hard palate, and absence or ill development of the pinna. There is no special syphilitic fetal dystrophy—that is to say, that although certain malformations are relatively very frequent in the children of syphilitic parents, any such malformation in any particular case may be due to other causes, nor can it be certain whether the case represents a result of syphilis or a sequel of some other fetal malady. Prophylaxis can hardly be brought to bear on these cases, which represent mischief already done; treatment during pregnancy comes too late, and the cure of both parents before the conception of the child is the only way of avoiding the possibility of maldevelopment.

GYNAECOLOGY.

285. Primary Malignant Chorion-Epithelioma of Broad Ligament.

LECÈNE (*Annales de gynéc. et d'obstét.*, September, 1911) reports an instance of a primary tumour developing after the menopause. The patient was 54 years of age. She was married when 21 years old, and had borne eight children and miscarried twice. The last child was born fourteen years and the last abortion occurred six years before she came under Lecène's care. She consulted him on account of hypogastric pains radiating to the left loin and left thigh; there was no leucorrhoea nor bleeding. The periods had ceased for five months, the pains beginning one month after the last appearance of the catamenia. Two years previously the patient had been under Lucas-Championnière for severe metrorrhagia, which speedily subsided after the use of the curette. Lecène noted strange symptoms—daily epistaxis, pruritus, flushings, and vomiting after meals. He detected a tumour of the size of an orange in the left fornix posteriorly. It was not tender, and fluctuated. At the operation the uterus was found to bear a small fibromyomatous outgrowth. The Fallopian tubes and ovaries were quite normal. The tumour, although it did not pulsate, was exceedingly vascular. The uterus and appendages were removed by supravaginal hysterectomy. In securing the left uterine artery the tumour was wounded, and a jet of black blood escaped. The tumour at once diminished greatly in size, and, on the other hand, there was great difficulty in securing the vessels of the left broad ligament. The patient died on the eighth day. When the uterus and appendages were removed, Lecène found dilated, and apparently thrombosed, veins on the left mesosalpinx. At the necropsy the broad ligament tumour appeared as an angioma, with thrombosis of some of its vascular cavities. Sections were made, and the microscope proved that the growth was not an angioma at all but a malignant chorion-epithelioma, infiltrating and thrombosing the veins of the base of the broad ligament. Not a trace of chorion-epithelioma could be found in the uterus, vagina, ovaries, or tubes, nor were there any metastases in the lungs, liver, or kidneys.

286. Adeno-Carcinoma of Cervix after Supravaginal Hysterectomy for Fibroids.

LADINSKY (*Amer. Journ. Obstet.*, August, 1911) reported an instance of this sequel at a meeting of a medical society. A married woman, aged 43, underwent supravaginal hysterectomy for fibroid disease in February, 1910. In September of that year she was referred to him on account of severe pelvic pains, dysuria, and pain during defaecation. He found the cervix normal, and a large hard mass, as big as an orange, occupied the site of the uterus. Believing it to be a fibromyoma that had been overlooked at the operation, he opened the abdomen in order to remove it. It sprang from the stump of the cervix, and adhered to the omentum, rectum, and bladder. It was shelled out, and the patient made a good recovery. It looked like a sloughing, degenerating fibroid, but when examined under the microscope it proved to be a papillary adeno-carcinoma. Some of the attached omental tissue was invaded. Ladinsky states that that was the fourth case in his experience where a carcinoma developed in the cervix (*sic*) after a supravaginal hysterectomy for fibroids.

THERAPEUTICS.

287. Iodine in the Nascent State as Treatment for Lupus.

AXEL REYN (*Berl. klin. Woch.*, October 16th, 1911), in the Finsen Institute in Copenhagen, has devised a new method by which iodine may be brought into contact with the tissues in the nascent state. Pfannenstill had, more than a year before, successfully treated lupus of the mucous membranes by giving sodium iodide by the mouth and thereafter playing a stream of ozone on the ulcerated surface. The iodine set free in this way had in the nascent state a powerful healing action. It was a drawback to the method that the two substances must come into actual contact, and the anatomy of the skin, unlike that of the mucous membranes, in general prevented this. Reyn conceived the idea that it might be possible to set free the iodine deeper in the tissues by means of electricity. If an electric current is passed through a solution of sodium iodide, iodine is set free at the positive pole, as can be seen by the resulting blue coloration if some starch has been added. Similarly a current was passed through calves' serum, to which iodine and starch had been added and a blue colour obtained, although only when the iodine was present in stronger proportions (1 in 30.000). A rabbit given 50 cg. sodium iodide by the stomach pump, after the injection of starch solution into an ear, showed a blue coloration when the positive pole of the current was applied to the same ear. From numerous experiments, Reyn concludes that the reaction was strongest one and a quarter to two hours after the dose. With that interval of time the coloration appears with a dose of 7 cg. of sodium iodide. In man a corresponding dose amounts to 3 grams (45 grains), which is, as a rule, well borne. A young man was given 2 grams sodium iodide and an hour later 50 c.cm. of blood was withdrawn. The serum was tested in the same way and gave a blue reaction with a current of 20 milliampères. In later experiments a dose of 3 grams showed reaction in the serum with a current of 2 milliampères. Finally, starch was injected into the ear of a man, who was given 4 grams sodium iodide in the course of a quarter of an hour. One hour after the dose of iodide a blue coloration showed itself in the ear at the positive pole. In practice the patient holds the negative pole in his hand, while the positive pole, in the form of a fine platinum-iridium needle, is passed into the ear. Five such needles may be used in conjunction, and a current of 3 or 4 milliampères for three minutes gives rise to no considerable pain. Reyn has treated five patients with lupus by the method with extraordinarily quick and favourable results. In two the disease completely disappeared; in all there was obvious improvement. In no case was there necrosis of tissue. The author thinks that the method is likely to be of service in other conditions—as, for example, in inoperable tumours. The technique, he thinks, is capable of improvement, and is now at work to perfect it.

288. Injection Methods for Preparations of Mercury and Arsenic.

KARL ULLMAN (*Wien. med. Woch.*, Nos. 24 and 25, 1911) finds that the danger of injections of insoluble salts of mercury has been overrated, partly as a result of the fact that too large a dose has often been given. Accidents may certainly occur as a result of idiosyncrasies, but this is true of any powerful procedure. Persons with a so-called idiosyncrasy usually prove either to be suffering from renal disease or to be still under the influence of mercury previously administered. Regular examination of the urine carried out at least once a week would reduce the fatal cases of idiosyncrasy almost to *nil*. The author and E. Lang have examined the notes of 69 cases occurring between 1889–1908, in which death resulted from injections of mercury, one-third only being injections of insoluble salts and a part only of these to injections of grey oil. The doses given had been often three, four, or even ten times the customary dose, while other defects in technique were those of absence of thorough examination of the patient and of the urine and injection at unsuitable sites. Lassene has collected from the literature 31 cases in twenty-five years, in which injections of grey oil seem to have been, in part or wholly, the cause of death, even without overdosage or other recognizable defect in technique. A larger number of cases is reported of severe illness ending in recovery both after intramuscular injections of grey oil and also of the soluble salts of mercury. Embolism is the most frequent condition, and the author considers it to be the one accident whose occurrence cannot be prevented with absolute certainty, though the condition is not dangerous if the injection has been

aseptic and not more than half a cubic centimetre has been injected. One fatal case of late embolism, after five injections of grey oil in all had been made, is reported in twenty-five years. The author himself always makes use of the intramuscular method, and his experience now extends over many thousand cases. The only unpleasant by-effects have been symptoms of local irritation and slight toxic general symptoms, the latter almost always after calomel or after hydrarg. oxyd. flavum, occasionally after Hg salicyl., never after grey oil. Fifteen fatal injection cases have been collected by Lassene from the literature of thirty years. In some of these it is not improbable that the injection or a large part of it was made into the fat and not into the muscle; that on this account it remained to a great extent inactive and led to the injection of more mercury, while at the same time loss of fat on the part of the patient might lead to absorption of the mercury previously injected, and so to severe and fatal intoxication. The author has repeatedly seen cases of this description although they have not ended fatally; in the course of a year he has operated upon two such cases and removed the accumulation. In future, therefore, attention should be directed to ensuring that a mercury or arsenical injection is made into the muscles themselves and not into surrounding tissues. Undoubtedly also in the case of women very fat but poor in muscle, in people with high grade anaemia or cachexia, and in children under 12 years of age, the subcutaneous method should be substituted for the intramuscular. A further necessary condition for intramuscular treatment is that the patient should be organically sound. Until more effective principles for the destruction of spirochaetes, as for instance in certain cases the intravenous injections of salvarsan, are developed, the method of treatment preferred by the author is the intramuscular application of the less soluble preparations of mercury.

289. Radium Treatment in Cancer of Digestive Tract.

MAX EINHORN (*Med. Record*, September 23rd, 1911) believes that benefit is obtained in inoperable cancer of the stomach from the application of radium directly by an apparatus introduced into the stomach by way of the oesophagus. By this means pain is diminished, haemorrhage is controlled, and life is prolonged. If the treatment is begun early enough, absolute cure may be obtained. The author presents the histories of 7 cases of disease of different parts of the stomach. His apparatus for introducing the radium tube consists of a radium receptacle with a long whalebone stem, which is passed into the stomach along the thread of a duodenal bucket. The instrument may be left in from one hour to one hour and a half without inconvenience to the patient. For more prolonged application, a spiral metal sound, covered with rubber, and a mandril, should be used.

290. Salvarsan in Sucklings.

DÖBLIN (*Berl. klin. Woch.*, March 20th, 1911) reports the results of subcutaneous or intramuscular injection of salvarsan in 6 cases of congenital syphilis. The infants were from 1 to 3 months old, and the doses of salvarsan from 0.025 to 0.06 gram. The general condition before injection was good in 3 cases, moderate in 1 case, and bad in 2 cases. Of the 6 infants treated, 2 were improved, while 4 died—half a day, one day, four days, and three and a half weeks respectively after injection. The 4 fatal cases included 2 who were in good condition and 2 in bad condition before injection. In the 2 infants who survived the injection the skin eruptions cleared up, but no improvement took place in glandular swellings, nor in rhinitis. In one infant the skin eruptions recurred. In one of the fatal cases (a well-nourished infant, which died four days after injection of 0.03 gram of salvarsan) the autopsy showed oedema of the subcutaneous tissue and mesenteric glands, signs suggestive of acute arsenical intoxication.

291. Autogenous Vaccine in Sepsis.

CHARLES A. DUNCAN (*Med. Record*, September 16th, 1911) advances the view that in cases of sepsis vaccination can be accomplished by administering by mouth to the patient a small amount of the discharge from his own wound. The author cites as an example of Nature working by this method the fact that animals lick their wounds, and that they never have septic wounds except on the head where they cannot lick them. Autogenous vaccination by the mouth tends to be curative in all stages of sepsis, but is especially prompt in the earliest stages when the germs have not become virulent, and in the later stages when the infected area has been well walled off. The author has used this method for two and a half years with good results. He believes it is the simplest, oldest, and most natural method of curing wounds. It may be used for preventive purposes. The author describes the method of preparation, the dosage at various periods of infection, and illustrative cases treated by him.

PATHOLOGY.

292. Experimental Investigations of Kidney Function.

ARTHUR KATZ AND ROBERT LICHTENSTERN (*Wien. klin. Woch.*, No. 23, 1911) describe their more recent experimental investigations of kidney function, and review those of other workers. They have examined the effect of ligature of one ureter first upon the kidney of the same side and next upon the other kidney and the organism as a whole. Fiori has shown that kidney secretion does not stop immediately after ligature of the ureter, and that probably trophic changes in the kidney afterwards occur. Nefedieff, in the Pasteur Institute, ligatured the ureter in guinea-pigs, and from twenty-one to forty-one days later injected serum from the animals so treated into other guinea-pigs with the result that diffuse nephritis was set up in them; his conclusion was that, after ligature, toxins were formed in the organism, and increased in amount as time went on. Timofew also found toxins in the blood after ligature of a ureter. In dogs, after ligature of the ureter, there was a considerable increase in the lymph secretion after a few days, and the serum injected into other dogs gave rise to the same result in them also: moreover, a few days after ligature of the ureter injection of Koch's physiological salt solution caused oedema, ascites, and oedema of the lungs with a fatal result. The toxins produced must have been possessed of haemolytic peculiarities, since the serum was always intensely stained with haemoglobin. Timofew suggested "nephroblaptine" as a name for the toxin produced. The nature of the toxin is not known, but since the presence of molecular proteins of a different molecular value from those naturally present in the blood serum give rise to more or less specific precipitin reaction the authors have investigated these reactions and have obtained positive results on each of two lines, since they have been able to demonstrate the presence of substances in the serum precipitable on treatment with the specific antiserum, and also to show that these substances were soluble in an excess of the serum. The method employed was simple: To obtain normal precipitin for normal dog's blood, guinea-pigs were injected either by the intraperitoneal or intravenous route, the amount injected being increased either at short intervals of three to six days or on three consecutive days. To obtain the isoprecipitin for guinea-pig's blood the injection of guinea-pig serum was made from one guinea-pig to another. A week after the last injection the antiserum was effective, and gave an evident precipitate with normal dog or guinea-pig serum in dilutions of from 1 in 1,000 to 1 in 2,000. To obtain an antiserum to the blood serum after ligature of the ureter laparotomy was performed on dogs or guinea-pigs, one ureter ligatured in each case, and some days after the operation blood taken from the jugular vein in the case of dogs and the ear veins in the case of guinea-pigs, and the serum, as described before, injected into guinea-pigs. Here also the activity of the antiserum was fully developed after about a week. A series of tests were then undertaken, and all with similar results. In order to eliminate any precipitate given by the interaction of the serum obtained after ligature, and of normal antiserum, guinea-pig's normal antiserum was added, the mixture centrifugalized, and the clear serum then treated with "ureter" antiserum with the result that a further precipitate was formed. This experiment shows that not all the precipitable material in "ureter" blood serum is precipitable by normal serum, and therefore that a toxin must be in solution which is nearly allied to the protein bodies. The reaction was obtained in dilutions of 1 in 100 to 1 in 200. The reversed method of procedure—that is, the precipitations of the ureter serum with ureter antiserum, and the later addition of normal antiserum, also gave a positive result. The precipitate formed by the action of ureter antiserum on ureter serum cleared up on the addition of an excess of ureter serum. The following are the results of the investigation: (1) That after ligature of a ureter in the dog or guinea-pig toxins are formed which can be clearly demonstrated by the precipitin reaction; and (2) that these toxins are to be considered either as protein bodies or products of protein bodies of high molecular value.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

293. Asthmá in Childhood.

Cornby (*Arch. de méd. des enfants*, October 11th, 1911) discusses true asthma as a paroxysmal respiratory neurosis. As to its etiology, it is a disease of young life, and is frequent enough in the first two years of life. In 75 cases the first access of asthma appeared within the first six months on 9 occasions; between the sixth and twelfth months on 15, and between the first and third year in 32 cases. The remainder all occurred before the sixth year. Out of the 75 cases, 40 were hereditarily predisposed, and, failing a direct history of asthma, there was in every case an hereditary history of the arthritic diathesis. It is not usual for children of the same family to be affected by this hereditary taint in precisely the same manner; one may be asthmatic, while another may display it in the form of migrainous attacks or some other variation of a paroxysmal neurosis. A great many of these children are nervous and excitable, and some have convulsions. The author's experience does not allow him to agree with those who affirm that adenoids and similar sources of local irritation are directly causative of asthma. There must be the hereditary taint, and that being present a wide range of exciting causes may precipitate an attack. Laryngismus stridulus, spasm of the glottis, or convulsions may accompany the asthmatic paroxysm with regard to prognosis; the mechanical lesions resulting in emphysema are more reparable in the young. Emphysema is the rule in old asthmatics, it is the exception in the young. The cardiac mechanism withstands the strain, too, very well in childhood. The prognosis is largely influenced by the regimen under which the little patient is placed. The diagnosis in an infant is sometimes difficult in the case of bronchopneumonia. Spasms of the glottis and the various stridors, resulting from compression of the trachea, are, as a rule, quite distinctive. The treatment resolves itself into two parts—(*a*) treatment of the attack, (*b*) constitutional treatment. In the former case, oxygen may be required, while mustard poultices are of service. Dover's powder may be given, and a mixture containing belladonna, grundelia, and lobelia. In the intervals the child must have plenty of fresh air, exercise without fatigue, and cold baths. The dietary should follow vegetarian lines, and everything calculated to excite the nervous system should be avoided. Sodium iodide may be administered for ten days, following which the bromides of soda may be given, and so on alternately. The waters of La Bourboule are of great value in the asthma of childhood.

294. Cardiac Neuroses.

To Hess (*Wien. med. Woch.*, No. 27, 1911) divides the cases into two types—those in which the cardiac symptoms come on only occasionally during the course of many forms of neurosis and those in which the cardiac symptoms are the most prominent ones in the case and persist for years, coming on sometimes at regular intervals, as for instance, in the menstrual heart neuroses, or at irregular intervals, as after exertion or excitement. In the latter type the symptoms often date back from early childhood or, more frequently, from the period between the fifteenth to the twentieth years, when the increased demands of life throw an increased burden upon the heart and nervous system. The prominence of the cardiac symptoms in these cases, their persistence, their typical not regular beginning, make it probable that there is a predisposition of the heart and vascular system which makes them especially liable to be the starting point of the neurosis. Clinical and radiological examination at first appear to support this view, since in a large percentage of the cases some form of congenital underdevelopment of the heart is present, but further investigation shows that just the same morphological peculiarities may be present in the other form of cardiac neurosis in conjunction with the most insignificant and transitory symptoms. In some cases, perhaps, there is late development rather than under-development, and where there is remission of the symptoms after one or two years it is possible that the defect has remedied itself. At any rate it must be allowed that a general neuropathic predisposition is not enough even when joined with "asthma" of the heart to give rise to a cardiac neurosis. In considering cases of cardiac neurosis and the general circulation, the regulatory function of the vessels and capillaries has to be taken into account, and also, what is of more importance, the nervous mechanism which causes by reflex action local changes in the vessels. At periods of strain, as for instance at puberty or the climacteric, the changed distribution of the blood finds expression in symptoms not unlike those of chlorosis, though the composition of the blood may be normal. Perhaps the greatest physiological variation in the distribution of the blood takes place in the act of going to sleep, and in many cases of cardiac neurosis the symptoms are only or are specially felt at this time. In many neurasthenics there is marked instability and irritability of the vasomotor system, particularly in cases with subjective heart symptoms. Seventeen illustrative cases of cardiac neurosis are given, in twelve of which the cardiac symptoms predominated. In two of the cases the symptoms referable to the vessels were so marked that the name "vasomotor heart neurosis" would be a fitting one. In one of these the patient suffered from bromidrosis of the feet, and the feet becoming cold was the starting point of attacks of palpitation, a sense of faintness, coldness of hands, and pallor of face. Signs of irritability of the vasomotor system were not absent in the other cases described. Among them were included signs such as a tendency to urticaria, blushing of face and hands, tendency to sweating, anomalies of the vessels, and in the majority of the cases hyperplasia of the tonsils and of the follicles of the tongue. In a further five cases nervous symptoms referable to other organs were the most prominent, and vasomotor symptoms were absent or insignificant. These patients did not suffer spontaneously from palpitation or from phrenocardiac or other similar symptoms, though palpitation could be often induced by the subcutaneous injection of adrenalin with the resulting narrowing of the vessels. Symptoms, such as an inclination to sweating, constipation, causeless nervous diarrhoea, gastric symptoms, strong respiratory arrhythmia are to be ascribed to an irritable condition of the autonomous nervous system. Perhaps cases of cardiac neurosis in which, along with bradycardia and hypotonus, there is also an increased irritability of the vessel nerves, are to be looked upon as cases of vagotonic cardiac neurosis.

295. Oxaluria and Phosphaturia.

Hogge (*Le Scalpel*, 1911, lxiv, 111–114 and 125–131) enters very fully into these conditions in two articles in the above journal. The urine in the former condition is dark in colour, of high specific gravity, showing a flocculent deposit chiefly formed of lime oxalate. Oxalic acid exists in the urine in the form of salts of lime, magnesium, and soluble alkaline salts and is derived from digestion and from oxidation of numerous organic substances. The normal medium amount of oxalic acid in the urine is 0.017 grain. The first form or alimentary oxaluria results from the digestion of substances containing oxalates. The soluble oxalates are absorbed, the insoluble ones are not absorbed and are eliminated by the faeces. Alimentary substances rich in oxalic acid contain too little free acid and soluble oxalates to exercise an influence on oxaluria. The second or endogenous source is derived from a diet of food containing nucleins, proteids, and gelatinous material. It is also found after pneumonia, in leukaemia, diabetes, obesity, etc. The author considers the pathological importance of oxaluria has been exaggerated. That treatment consists in avoiding foods which contain oxalic acid such as the leguminosae and to increase the acidity of the urine by flesh foods. Albuminoids and fats should be prescribed, carbohydrates avoided. Coffee, tea, chocolate and cocoa should be taken in moderation. Large amounts of alkaline waters should be avoided. Whisky is permissible in moderation. In neurasthenics tonics, as arsenic and strychnine, are indicated; and calmatives, as bromides, the salts of soda, being given in place of those of potash. Phosphaturia may be physiological, nervous, sexual, juvenile, diabetic. In this latter, described by Tessier, all the symptoms are similar to those in diabetes, but there is no glycosuria. *Physiological:* The phosphates of the urine are derived from food or from phosphatic combination of the toxins of the

body. A good diet in alkalines, carbonates, or which contains alkaline salts, vegetable acids, or alkaline albuminates, diminishes the acidity of the urine and leads to phosphaturia. *Nervous:* Under the nervous influence a diminution of urine acidity is produced, and phosphaturia results. *Sexual:* This form is met with in various urogenital troubles, as urethritis, prostatitis, and the like. *Juvenile:* Rickets, osteomalacia, functional troubles of the genital organs and of the thyroid are frequently accompanied by phosphaturia, and the latter seems to be due to an excretory excess of the lime salts. The treatment consists in taking a large amount of water, especially in the morning, fasting if possible (Vittel, Contrexéville, Wildungen); plenty of fresh air and good hygienic measures are indicated. Urotropine is the best of all drugs. Milk, vegetables, and fruit, which contain much lime, should be avoided as far as possible.

SURGERY.

296. Polyarticular Tuberculous Rheumatism.

CURTILLET AND PIERRE LOMBARD (*Revue d'orthopédie*, September, 1911) describe two cases of polyarticular tuberculous rheumatism, with vertebral localization in the form of acute cervical arthritis, followed in the one case by pathological luxation, and in the other by Pott's disease. Acute cervical arthrites of tuberculous origin and of rheumatic semblance have not yet been definitely isolated; the authors think that their two cases establish their existence. Case I was a girl of 12, who, two years before admission to hospital, suffered an attack of arthritis of the feet articulations, which were painful, swollen, and reddened, without rise of temperature. Over a year later a similar illness occurred, with, in addition, affection of all the large joints in turn; they were painful, swollen, and reddened, with pyrexia, and there was no reaction to sodium salicylate. Some days later pains appeared in the neck, which required the patient to lie quite immobile. Convalescence was very slow, and when she rose the head was flexed on the trunk, with rotation towards the left, and there was an abnormal protuberance in the upper cervical region. This deformity was more noticeable at the end of the day after the child had been going about than in the morning after the night's rest. Difficulties in deglutition were then noticed, a perceptible effort being required at every act of swallowing. On admission to hospital on January 2nd, 1911, the condition was as follows: All the joints were normal in appearance and in movement; the head was slightly flexed on the trunk, and rotated towards the left; in the middle line of the neck behind there was an abnormal prominence, making the suboccipital depression deeper—this prominence was slightly pyramidal in shape, and apparently was the arch of the second cervical vertebra; pressure on the transverse processes of this vertebra was painful. In the pharynx a bony prominence was also distinctly palpable. Flexion was good, extension hindered, and rotation abolished. A radiogram confirmed the external appearances, and showed, in addition, that the vertebral canal was greatly narrowed. In other respects the child was well. It was found that reaction to tuberculin was frankly positive. There were no evidences of pressure on the cord. The authors call attention to two points in the case: (1) The extent of a vertebral displacement, which was unaccompanied by any mischief in the cord; (2) the history of events preceding and accompanying this displacement. In the course of an attack of general articular rheumatism with fever an acute cervical arthritis occurred; when the inflammatory attack subsided there appeared in a few days a bony prominence which altered in size in accordance with the patient's position during the day and during the night. The opinion of the authors is that they had to deal with a true pathological luxation due to alteration of joint capsule and ligaments and not with a case of Pott's disease with bony changes. In consideration of the history of the case and the positive tuberculin reaction they submit that the rheumatic attacks were really of tuberculous nature and they think the case should be grouped along with Poncet's "dislocating rheumatism." Case II was a girl of 8 years who, two months after an attack of what appeared to be general articular rheumatism with high temperature, when beginning to move about complained of cervical pains and held the head in the attitude of torticollis, making all movements of the head with extreme caution and crying out at the least contact. On admission to hospital the head was immobilized on the trunk, flexed and rotated towards the left; slight flexion and extension movements were possible, but rotation was abolished. Pressure on the head and on the spinous processes of the third and fourth cervical vertebrae was at first painful, but disappeared in two months or so. The only other condition noteworthy was the presence of a tuberculous gland in the neck. This state of affairs persisted for nearly eight months when in January, 1911, it was observed that the spinous process of the third cervical was distinctly prominent, deviated towards the left, and tender on pressure, and that the gland was soft. Signs of pressure on the cord showed themselves. Finally the patient died, fifteen months after the first observations, of an illness which was introduced by pains in the knees lasting for two days, and developed rapidly into an acute pulmonary disease. In this case, then, the tuberculous infection appeared to have been evolved in several stages; an acute cervical arthritis followed a febrile polyarticular rheumatism (so-called); the painful phenomena in the neck slowly subsided, leaving the vicious position of the head as the only evidence of the illness. Eight months passed, and the signs of bony infection and changes appeared with pressure on the spinal cord. The authors insist then on the existence of vertebral arthritis, both acute and chronic, of tuberculous nature, of greater frequency than has been hitherto appreciated; these are inflammatory arthrites, which may subside as elsewhere in the body, but which may result in fibrous ankyloses with chronic torticollis, and in bony lesions constituting spinal osteo-arthritis—Pott's disease. They claim that the type of arthritis affecting the limbs formerly looked upon as rheumatic, but said by Poncet to be really tuberculous, may be found with equal frequency in the vertebral column.

297. Movable Caecum and Typhlotomy.

OTTO LERCH (*Medical Record*, October 14th, 1911) believes that a diagnosis of appendicitis may be made when there is present a condition which he calls movable caecum with typhlitis. It causes some but not all of the symptoms of appendicitis. There are caecal pain, spontaneous and colicky, gurgling in the caecal region, a tumour that feels like an air cushion, and is very painful on deep palpation; and intestinal disturbance consisting of constipation alternating with diarrhoea. There is absence of the rigidity of the recti, leucocytosis, and the characteristic tongue of appendicitis. Skiagraphic plates show a widening and dilatation with excessive motility of the caecum, and a retention and slow motion of the chyme in both the caecum and ascending colon. The author believes that catarrhal typhlitis of the caecum is the cause of this trouble. Atony and slow movements cause retention and fermentation of the chyme, and constipation, diarrhoea, and the formation of a gaseous tumour are favoured by the movable caecum. Enteroptosis is always the underlying condition. The author presents the histories of four cases of this trouble. The recognition and proper medical treatment of this condition will lessen the number of operations for appendicitis, some of which do not relieve the symptoms for which the operation is performed. Rest is the principal aim in the treatment of these cases; the head should be kept low and the abdomen raised so as to favour the replacement of the prolapsed viscera. A careful diet, hydrotherapeutic measures, and a suitable supporting bandage complete the cure.

298. Syphilitic Strumitis.

CARL SCHUSTER (*Wien. klin. Rundschau*, Nos. 26, 27 and 28, 1911) describes two cases of strumitis on a syphilitic basis. The first was of a man 66 years of age, the second of a woman 27 years of age. In both cases syphilis was denied. The first patient from childhood had suffered from a slight enlargement of the thyroid, especially on the right side, but there had been very few resulting symptoms. Five weeks before his admission to the clinic the tumour had become painful, and respiratory symptoms had been more frequently felt. He had also begun to suffer from headache on the right side of the head, and the general condition had become greatly affected; he was pale, and lost weight rapidly. On examination on admission the right lobe of the thyroid was occupied by a somewhat considerable fixed tumour, firm in consistency except at the upper end. The skin over the tumour was but little changed. The temperature varied between 37.6° C. (99.7° F.) and 38.5° C. (101.3° F.). The diagnosis was of malignant tumour. After a few days the condition changed in that fluctuation became evident at the lower pole, and the skin in this part became somewhat red and oedematous. A large quantity of thick pus mixed with pieces of necrotic gland tissue was evacuated. At first the patient's condition improved, and the wound seemed to be taking a

normal course, but later it began to discharge freely, and after three months had not healed up. At this stage the formation of an ulcer on the leg led to the taking of Wassermann's reaction with a positive result, and the diagnosis of syphilitic strumitis now made was confirmed by the result of antisyphilitic treatment. In the second case the purulent focus had developed in a tumour of long standing. Active symptoms were pain in the neck and ear, and pain on swallowing. When seen there was a diffuse swelling reaching from one sterno-mastoid to the other, the skin over it was red, and fluctuation could be detected. The voice was hoarse. Pus was evacuated, and the operation wound during the course of healing took on the appearance of a specific ulcer. Potassium iodide caused healing in a short time. In the meanwhile mucous plaques had appeared in the mouth, Wassermann's reaction had proved to be positive. In neither of these cases was there anything at first to suggest syphilis. In the second case syphilis appeared to be the primary affection and the acute thyroid condition to be of the nature of a secondary metastatic infection, since no other primary infection seemed probable. The article deals with the general symptoms and cause of a strumitis as described in the literature and with the differential diagnosis of the condition.

OBSTETRICS.

299. Direct Transfusion in Haemorrhage in the Newborn.

HAEMORRHAGE in the newborn is discussed in *Surgery, Gynaecology, and Obstetrics* for January, where Lepinasse and Fisher describe 6 cases treated by direct transfusion of blood. The donor in most of the cases was the father, it not being considered advisable to further deplete the mother. The object was to fill the baby's depleted vascular system with rich red blood capable of clotting and carrying oxygen, and it was found that the treatment stopped the haemorrhage, cured the anaemia, and, because the adult plasma contained more bactericidal substances than that of the child, enabled it to overcome any infection present more readily than if it had had to depend on its own plasma. The amount of blood required was found to be small, as an 8-lb. baby has normally only 6.4 oz. of blood, and the radial artery of the adult in consequence was able to supply this amount without producing faintness. In the first case recorded by Lepinasse and Fisher the child was a female weighing 8 lb. 12 oz., born apparently healthy. Five hours after birth the cord was retied for oozing, and twelve hours after a haematoma developed on the tongue which at first was thought to be a naevus. The temperature the first night after birth was 102° F., the child was pale, and bled a little from the mouth. Next day she began to bleed slowly and continuously from the nose, and a haematoma appeared above the left ear. Treatment with calcium lactate and adrenalin failed to check the bleeding. On the third day the child was waxy white, the mucous membranes colourless, and nasal bleeding was still continuing. She vomited blood at intervals, and passed it in addition in her stools. The haematoma on the scalp had increased until the corresponding eye was closed, the temperature was subnormal, respirations were shallow and rapid, pulse 150, and the child was obviously dying. As a last resource transfusion was performed by Carrel, the right popliteal vein of the child being directly anastomosed to the radial artery of the father. Transfusion was carried on till the pale transparent whiteness of the child was changed to a brilliant red, and she began to cry lustily and struggle in her bandages. In an hour the whole complexion of things was thus transformed, the child took milk greedily, and fell asleep. Haemorrhage, vomiting, and diarrhoea ceased, and in two days the stools became normal. As the result of this case and a survey of the others recorded, the authors therefore have come to the conclusion that the ideal method of treatment, in spite of the difficulty of the operation, is transfusion, because it checks the haemorrhage at once by supplying coagulable blood, cures the anaemia, and supplies the child with a plasma which is capable of resisting the underlying infection which is so often present.

GYNAECOLOGY.

300. Perithelioma of Fallopian Tube.

BARBOUR AND WATSON (*Journ. of Obstet. and Gyn.*, September, 1911) report a case in a multipara, aged 53, previously in good health. Menstruation ceased at the age of 51, and seven months before the patient came under observation pains were felt in the left of the hypogastrium, directing her attention to a swelling. Vaginal discharge appeared, usually sanious and purulent, but sometimes pure blood. The abdominal swelling increased and the general health began to deteriorate. On admission into hospital a hard mass could be defined, almost filling up the left iliac fossa; it appeared to be continuous with the uterus. Beyond the outline of the mass the abdomen was distended as high as the umbilicus. The abdominal cavity was laid open and much fluid came away. The peritoneum, parietal and visceral, were studded with nodules. The mass proved to be the left Fallopian tube, hard, nodular, and adherent to the intestines and to the ovary, which was covered with secondary nodules. The right ovary was converted into a cystic tumour of the size of a small fetal head: it was covered with nodules. The Fallopian tubes and ovaries were removed, but it was not possible to excise the secondary deposits. The patient died eleven days after the operation. Unfortunately no necropsy was allowed. The tumour measured 4 in. in length, and 7 in. in circumference; it consisted of a slightly enlarged left ovary, and a left tube greatly dilated, but only beyond the isthmus. The tube here bore an encephaloid mass, which completely effaced the lumen, and broke at one point through the serous coat. The new growth in the right ovary was a common cystic adenoma bearing malignant nodules. Barbour and Watson found on microscopic examination that the tubal tumour was a true perithelioma, and they publish an illustrated report of its appearances. Although it was impossible to be absolutely definite on such a point, since there was no *post-mortem* examination, the Fallopian tube seemed to be the primary seat of the malignant growth. No other tumour was detected at the operation.

THERAPEUTICS.

301. Treatment of Pleurisy by Injections of Air.

CASTAIGNE (*Journ. des prat.*, July 15th, 1911) discusses this method of treatment in obstinate and recurrent cases of pleural effusion. He quotes the case of a woman, 27 years of age, who developed all the classical signs of pleurisy, and in whose case on the fourth day of the illness there was absolute dullness all over the lung. Following this practice of Joulin injections of antidiphtheritic serum were given for several days running, but with no good effect. Repeated thoracentesis was practised with the same result, and finally the injection of air, according to the following method, was tried. An ordinary paracentesis apparatus was used, the air being filtered by passing it through sterile cotton-wool. About 500 c.cm. of fluid was withdrawn and an almost equal quantity of air injected—the quantity of air being gauged by the capacity of the vessel attached to the apparatus. The result was very satisfactory, as the fluid gradually disappeared. The author finds a difficulty in explaining the action of the air, and states that it may be chemical, or merely mechanical. It is certain that ordinary air is more satisfactory than pure oxygen which is more quickly absorbed. The injection of azote on the other hand has given very good results, but a complicated apparatus is required for this procedure. An actual pneumothorax, of course, follows the injection of air, but this is of no moment. The compression of the lung by the air prevents not only the recurrence of the pleurisy, but also the formation of adhesions. The air is very slowly absorbed, forming a sort of cushion more compressible than fluid between the visceral and parietal pleurae, and allowing the lung to come back little by little to the normal state. The author considers the treatment a valuable addition to therapeutics.

302. Chorea and Salvarsan.

ERNST MAYERHOFER (*Wien. klin. Woch.*, No. 27, 1911) has made successful use of salvarsan in a case of post-rheumatic chorea minor which had persisted for nearly three years in spite of all ordinary methods of treatment. The patient, a child 7 years of age, when first admitted to hospital had involuntary movements of all the limbs, those of the arms being most marked. A month earlier she had suffered from joint pains. She was treated by rest in bed and by the internal administration, first, of arsenic in increasing doses, and later of aspirin, both of which, however, proved ineffectual. An intercurrent attack of scarlet fever led to the breaking off of the treatment of the chorea, and during the fever recovery from the chorea was reported to have occurred. About

four months later, without any fresh signs of rheumatism, a relapse occurred, and the child now showed typical choreic movements of medium strength over the whole body; a loud systolic cardiac murmur had now developed at the apex and base. The child was again treated with rest in bed, and aspirin later with arsenic. From this time onwards (that is, from January, 1909, to April, 1911) the symptoms never altogether disappeared, and there were frequent relapses, the child being treated in the Franz Joseph Hospital five times. Aspirin, bromides, and arsenic were given at different times. In the last attack, which was especially severe and affected the whole musculature of the body, 10 drops of Fowler's solution three times a day did not modify the movements, and treatment by arsenic had to be abandoned because of the appearance of patches of arsenical melanosis. Three months later, in spite of absolute rest in a darkened room, the symptoms had increased in severity. Wassermann's reaction was tested and found to be negative; v. Pirquet's was positive. An intramuscular injection of 0.25 gram hyperideal in acid solution was now made in the interscapular space. Later there was some necrosis at the site of injection; the choreic movements in the month which followed the injection were diminished in severity but still present. A second injection of 0.5 gram of hyperideal was now made deeply into the lateral muscles of the thigh. Fever up to 38.40° C. (101.3° F.) was present on the following day, and some swelling and tenderness at the site of injection. On the fourth day after the injection the swelling had extended over the whole thigh, but it then began to gradually diminish. The dry necrosis at the site of the first injection remained unaltered by the second. Within six days after the second injection the chorea had disappeared and the child was quite quiet in bed. A week later she began to get up, and had no return of chorea. She became able to write again, and the skill of the arm and hand returned with surprising quickness. A month after the first disappearance of the choreic movements there had been no return. The author decided to try the salvarsan treatment in this case because other treatments had failed, and because a successful case had already been reported by Bokay.

303. The Potato Cure in Diabetes.

RATHERY discusses (*Journ. des prat.*, September 23rd, 1911) in a critical manner the use of potatoes in diabetes. It is a mistake to suppose, as some patients do, that the more potatoes they eat the more quickly they will be cured. Dujardin-Beaumetz proved potatoes to be superior to gluten bread, as furnishing less sugar to the economy, but their use must be restricted within definite limits if the glycosuria is not to be increased. The amount ought not to exceed, on an average, 100 grams of potatoes at each meal, cooked in water. Mossé goes so far as to say that not only are potatoes better tolerated and assimilated than any other form of aliment in diabetes, but they actually ameliorate the disease. This view, the author says, has become more or less prevalent of late. To determine the value of potatoes in diabetes they must be given to selected cases, and to this end the author divides the disease into (*a*) the simple form of diabetes in which the glycosuria disappears whenever carbohydrate restriction is practised, and (*b*) the graver forms of the disease which are unaffected by a restricted dietary, in which indeed the restriction of carbohydrates, carried on too rigorously, may result in the production of acidosis. The former class is the more appropriate for the potato regimen. To study the potato cure two methods are available. In the one case the patient is rendered aglycosuric, and potatoes are given in increasing quantity until sugar appears in the urine again. The same method of estimation may be employed in the case of other starchy foods, also for comparative purposes. The second method is used in the case of a patient under a fixed dietary but with sugar always present. Increasing quantities of potato are given, and it is noted whether the sugar increases or diminishes. The first of these is the best, and gives the most satisfactory results. To prevent any error in the interpretation of results, the experiment must be prolonged for several days in succession. Another source of error will arise if during the treatment there is any variation in the amount of exercise taken by the patient. It is difficult to obviate these errors in general practice, but they must be recognized. The author then quotes a number of clinical experiments of his own which on the whole went to prove that potatoes have no specific virtue in diabetes. They were given also in certain cases with haricots to see whether they facilitated the assimilation of the latter, but with negative results. The author is of opinion that potatoes may be given in a large number of cases, but ought to be considered merely as a convenient dietary, not to be given with impunity, but in proportion to the amount of carbohydrate the diabetic cases tolerate. One kilo of bread corresponds to two and a half kilos of potatoes in carbohydrate value, the chief advantage of the latter being that its greater volume seems to appease the hunger of these patients more satisfactorily. In the opinion of Mossé potatoes are also more easily assimilated than the other carbohydrates, such as bread, haricots, and lentils. They are also better tolerated. Mossé further adds that the potato cure augments the glycolytic power, and in consequence improves the diabetes, this effect being due to the large amount of potassium salts present in the potato. As the author points out, this argument is open to considerable doubt, more especially as alkalis can be given in much larger quantity in other ways. The great point to be considered is the personal coefficient of carbohydrate utilization. We have to treat not the diabetes but the diabetic, and a cut-and-dry regimen cannot be advocated in advance. The author's conclusion is that the potato is not *the* remedy for diabetes, as some would suggest, but in certain diabetics it possesses peculiar advantages over other foodstuffs.

304. Electric Treatment of Warts.

LOBLIGEOIS (*Progrès méd.*, July 29th, 1911) points out that although warts are met with at all ages, their character and treatment differ materially in childhood and old age. Warts occurring in youth are contagious, and although benign in character, are nevertheless very tenacious. After referring to the ordinary treatment of these warts, which he declares is often unsatisfactory, the author strongly recommends the employment of electricity in some form. The continuous current may be used, with or without ionization. The positive pole is to be applied near the part to be healed, while the active electrode to which a platinum needle is attached is applied to the wart which is pierced to its base, the current being gradually increased up to 4 milliampères, and then diminished. The Thole operation lasts about three minutes. A cicatrix seldom results. When the warty condition is flat and confluent, ionization offers the best means of cure, the most successful results being achieved by the use of magnesium sulphate in a 5 per cent. solution. The séance lasts in this case about fifteen minutes, and on the whole is less painful than the preceding method. The magnesium ion appears to have an almost specific action upon the flat type of wart, and a great many of them may be treated at one time. The high-frequency current is also used, but is usually out of reach of the general practitioner. Radiotherapy is the method of treatment to be recommended in senile warts, care being taken to protect the adjoining healthy skin.

PATHOLOGY.

305. Rickets.

SILVESTRI (*Rif. Med.*, August 14th, 1911) discusses some of the more recent views with regard to the pathology of rickets. He first points out that the view put forward by him in 1906 that the spasmophilia found in rickets was due to hypo-calcification of the neuro-muscular system has been widely accepted. The fact that calcium elimination takes place chiefly through the intestine—a fact which has only recently been fully known—has a bearing on this relation. However, it is not only the metabolism of calcium that is at fault, but also that of phosphorus; the two processes go on independently, but are due to a single cause—the diminished metabolic activity of the cartilage cells. The theory that this diminution is due to intestinal auto-intoxication is not satisfactory, and fails to explain the existence of congenital rickets. The author lays great stress on heredity as a predisposing cause, for, although there is no heredity in the strict sense of the word, just as in the case of phthisis, there is heredity as regards soil. Mere deprivation or diminution of the amount of calcium in the food supplied will not cause rickets. There is some evidence to show that the suprarenals act directly or indirectly on the metabolism of calcium and on the nutrition and development of the skeleton; on the other hand, the treatment of rickets, either in the way of prevention or of cure, by adrenal tabloids has not been markedly beneficial.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

206. Typhoid and Rheumatism.

Friedrich Kayser (*Wien. klinische Rundschau*, Nos. 23, 24, and 25, 1911) describes a case of typhoid fever during the course of which joint affections developed, and reviews the literature on the subject to ascertain whether as a matter of fact typhoid may be complicated by acute rheumatism or whether the joint affection is caused by the typhoid bacillus. Kaufmann has collected observations of 23 cases up to the year 1900, and notes of these cases are described in the article. These cases all fall into one of four groups. (1) Those beginning with swelling and joint pains, with later typical symptoms of typhoid. (2) Cases of purulent joint inflammation during the latter part of an attack of typhoid caused by typhoid bacilli or secondary infection. (3) Pseudo-rheumatism with typhoid condition—that is, sepsis with localization in the joints and severe general symptoms. (4) True polyarthritis rheumatica with severe general symptoms—that is, high fever and delirium. It is thus seen that cases in which typhoid and acute rheumatism develop together are exceedingly rare and Curschmann does not believe in a simultaneous onset. On the other hand Pribram accepts the possibility, and reports cases, five of which in the author's opinion do appear to be true cases of coincident attacks of typhoid and true rheumatism. The author has only met with one other case in the literature, reported by Pel in 1902. In this case the patient, who had had an attack of acute rheumatism during the preceding month, developed in the second week of a typical and undoubted attack of abdominal typhoid what appeared to be an acute relapse of rheumatism which responded to treatment by salicylates. Pel thinks the type of each disease remains unaltered by the simultaneous course, though in his case Widal's reaction was absent. Kayser's case was in the Griefswald medical clinic (Minkowski). The patient was a boy 13 years of age, who came into hospital suffering from an attack of typhoid of medium severity. The diazo reaction was clearly visible, and Widal's reaction was positive. The illness ran a typical course. In the third week the patient was free from fever. He had a relapse in the fifth and sixth weeks, but was free from fever for a fortnight after the relapse, and was considered convalescent. The temperature and the pulse-rate then rose suddenly, and at the same time severe pain in the wrist set in, together with reddening and swelling. The right elbow, the right shoulder, and the left wrist were successively attacked. A typhoid relapse was suspected, with localization of the typhoid bacillus in the affected joints. Salicylates were, however, given, with the result that the pains quickly altogether disappeared, the swelling diminished, and the power of motion returned. This case was undoubtedly one of a double infection. The question, however, is still to be considered whether the two infections were coincident or whether one began after recovery from the other. In view of the tendency to relapse the author considers that the patient had not yet overcome the typhoid infection when the rheumatic infection occurred, and therefore the case must be included in the very few cases of coincident infection which have been described.

307. Ileo-caecal Tuberculosis.

Delbet (*Journ. des prat.*, October 7th, 1911) relates the case of a man, aged 30, who for some time suffered from pains in the right side of the abdomen, the pains becoming shooting and lancinating when he walked. He also suffered from dyspnoea, frequent cough, and complained of a feeling of extreme fatigue. He had never suffered from colic, vomiting, constipation, or diarrhoea, nor had there been blood in the motions. On examination he was found to be depressed, somnolent, and indifferent to what was going on around him. On palpation a swelling, which was easily movable in a transverse direction but not vertically, was found in the right iliac fossa. The surface of the swelling presented irregular nodosities. The existence of an appendicular abscess seemed unlikely from the mobility of the tumour and the absence of pain on pressure. Further, an ileo-caecal neoplasm at this patient's age seemed improbable, and there were no constitutional symptoms to suggest such a thing. The diagnosis of ileo-caecal tuberculosis, therefore, seemed the most likely from the history of the case. This diagnosis is supported by the condition of semi-somnolence, headache, and slight rise of temperature. These point to some meningeal localization of the bacillus of Koch. With the question of surgical intervention in view it is necessary to determine the extent of the pulmonary lesion, and also to see whether a lumbar puncture yields a specific result. The treatment is resection followed by a termino-lateral or termino-terminal anastomosis. The author believes that if the operation is carefully performed the risk of further dissemination of the bacillus is not great, although, of course, the coincident risk of a tuberculous meningitis has to be faced.

308. Tuberculin Tests.

Lawrason Brown (*Amer. Journ. of Med. Sciences*, October, 1911) discusses the specificity, danger, and accuracy of the tuberculin tests. Recent research tends to show that sensitiveness to these tests cannot be produced in healthy individuals, and a slight reaction to a small dose at any time during treatment is sufficient proof that the patient had had a tuberculous infection. Although accidents have followed the conjunctival test, it would appear to be comparatively safe when using only 1 per cent. and 5 per cent. solutions of the Old Tuberculin, provided that the patients are carefully selected to the exclusion of all those who have ever had the slightest eye troubles. Except in scrofulous children, the dangers of the cutaneous test from lymphangitis, etc., are so slight as not to warrant consideration, and it is of value in early life. With regard to the subcutaneous use of tuberculin, there can be no doubt that it is a specific test for the detection of tuberculous infection; and, although in some unsuitable cases the danger may be real, in the great majority it is slight. The appearance of tubercle bacilli in the sputum following a reaction has no connexion with the reaction itself, even if severe, and can only be regarded as a coincidence. Increased physical signs occur in about one-third of all cases, and in one-half of those showing increase of pulmonary symptoms, and these are independent of the appearance of tubercle bacilli in the sputum. Exposure to infection and characteristic signs (for example, haemoptysis, pleuritic effusion, double dry pleurisy, or localized physical signs at one apex) are diagnostically of more importance in clinical tuberculosis than the data derived from tuberculin tests; and a positive reaction, when only doubtful symptoms of pulmonary tuberculosis are present, is of uncertain value, unless the pulmonary symptoms or signs are definitely increased during the reaction. Also a negative reaction is of uncertain value in the face of positive symptoms.

309. The Clinical Signs of Hypertrophy of the Thymus.

Oelsnitz (*Arch. des méd. des enfants*, March, 1911) gives a complete account of this condition, and divides the cases into four groups: (1) Those in which death is sudden; (2) latent forms with sudden appearance of symptoms so threatening as to require immediate intervention; (3) silent forms with intermittent and transitory respiratory symptoms; (4) forms with continuous manifestations with intermittent exacerbations. The symptoms are as follows: (1) Dyspnoea, increased on lying down and overextending the head. On inspiration there is an anterior protrusion of the sternum, accompanied by transverse flattening of the thorax and widening of its lower circumference; sometimes the protrusion is asymmetrical, it disappears on expiration; in other cases the protrusion may be subclavicular. The inspiratory dyspnoea may be so great as to lead to attacks of suffocation, and is generally accompanied by cyanosis. (2) Stridor has been noted on many occasions: the stridulous laryngitis may come on so suddenly as to lead to the suspicion of diphtheria, but there is no elevation of temperature, or any signs in the throat. Marked laryngitis stridulosa of unusual duration should lead to a suspicion of enlarged thymus. (3) Epistaxis. (4) General malnutrition and cachexia. Physical signs which have been met with are: (1) Oedema of the eyelids; (2) exophthalmos; (3) increase of tension of the fontanelles; (4) persistent cyanotic tint of the face; (5) dilatation of the superficial veins of the neck; (6) contraction of the platysma on inspiration; (7) asymmetrical arching of the

sterno-costal articulation, more frequent on the right side: (8) the enlarged thymus can sometimes be felt beneath the sternum; (9) abnormal dullness on percussion in the thymic region; (10) vascular souffle on auscultation can often be heard when the head is overextended; (11) radiogram shows an abnormal shadow above the cardiac shadow.

SURGERY.

310. Hemiplegia and Craniectomy.

BABINSKI (*Journ. des prat.*, September 16th, 1911) relates the history of a patient who had for some time suffered from pains in the head, difficulty in moving, general weakness, and ocular troubles. He had, indeed, every evidence of intracranial hypertension and cerebral oedema. To relieve these symptoms craniectomy had been performed, the operation being in two parts, and following the second operation hemiplegia had occurred. The patient presented some curious and distinctive signs. On the right or sound side the upper extremity placed in supination remained in that attitude. On the affected side, however, the hand immediately turned over to pronation—Babinski's sign of pronation. This is characteristic of organic paralysis. On the affected side, also, while tactile sensibility was preserved, and heat sensation only slightly affected, the notion of position was considerably at fault. The patient could tell he was holding something, but could not say what it was. The retention of the thermic sense thus differs from syringomyelia where it is abolished. In such cases of cerebral oedema, if rachicentesis or therapeutic measures of a specific nature fail to give relief, surgical measures are advisable. These must not be undertaken too early or too late, when the oedema has produced irreparable damage. There are two methods of performing craniectomy: (*a*) extractive, or (*b*) decompressive. The former gives good results, especially in the case of superficial tumours. The easier operation is decompression craniectomy in cases in which the site of the tumour cannot be localized, or when the cerebral oedema is simply symptomatic of a serous meningitis. The operation is generally done in two parts: resection of the bone, and incision of the dura mater, the region chosen being the right subtemporal. In the present case, following the first part of the operation, the headaches improved, walking became easier; as, however, after some days the oedema of the papilla became more threatening, the second part of the operation was not delayed. This, as already stated, was followed by the hemiplegia described above. The author's view is that in so pronounced a case of oedema the circulatory perturbation caused by decompression resulted in a haemorrhage which, without destroying the Rolandic area, compressed it. The author considers these facts instructive as helping to fix the indications for decompressive craniectomy.

311. General Anaesthesia with Exclusion of the Limbs.

DELAGÉNIÈRE (*Arch. prov. de chir.*, August, 1911), in a paper read before the Académie de Médecine, describes his experiences of general anaesthesia with reduced circulation by exclusion of all four limbs from the anaesthesia. The idea of excluding the blood of the four limbs during narcosis to lessen its dangers is due first to Klapp. The exclusion is accomplished by means of elastic bands applied round the proximal ends of the limbs with such firmness as to arrest both the arterial and the venous circulation. In so doing, not only is the blood contained in these limbs excluded, but all the tissues of the limbs are excluded also. This blood and these excluded tissues are not charged with the anaesthetic during the narcosis, so that when they are replaced in the circulation by the removal of the bands they help to bring about automatically a rapid unloading of the whole mass of the blood, and in particular of the blood in the bulb, impregnated as it is with the poison. This unloading is the result of the dilution of the blood impregnated with the anaesthetic by the excluded blood, which contains none of it, and also by the absorption of a portion of the anaesthetic contained in the non-excluded blood by the muscles and other tissues which have been excluded. General anaesthesia with circulation so reduced has been practised in Delagénière's hospital clinic 1,144 times with chloroform, and 35 times with ether. The results are given with the advantages and inconveniences. Anaesthesia is more rapidly induced, the average time for induction being five minutes only. Anaesthesia is better and the respiration more easy to observe. A smaller quantity of chloroform is necessary to induce sleep and to maintain it, an economy of about 50 per cent. being effected. Reawakening is also more rapid; in fixing averages he arrived at the result that it is obtained at the end of ten minutes instead of thirty minutes under ordinary anaesthesia; often, indeed, reawakening is immediate as soon as the elastic bands are removed. Perhaps the greatest benefit of the method is that post-operative organic troubles are lessened, because the anaesthetic is taken in less quantity and is eliminated much more quickly. All the viscera ought *a priori* to benefit by the method. Vomiting is much less frequent and less severe, occurring in 20 per cent. of the cases in place of 30 per cent. Post-operative jaundice is much less frequent and less serious. Post-chloroform albuminuria may be said to exist no more when one has recourse to narcosis with exclusion, in so far as this method suppresses to a great extent the dangers of post-operative uraemia. The use of the method allows one to combat efficiently respiratory syncope by removal of one or more of the bands at the moment of respiratory failure. The excluded blood is replaced in the circulation, and as it is at zero as regards chloroform concentration it acts as a favourable diluent to the rest of the blood. Further, being charged with carbonic acid during its period of exclusion it will act as a stimulant on the respiratory centre. The inconveniences are of less importance. They are tingling of the limbs after some hours' exclusion, minute ecchymoses of the skin, a slight temporary engorgement, even a slight paresis. Possibly the method is more prone than the ordinary to phlebitis. The author had 4 cases of post-operative phlebitis of the lower limbs; but 3 of these cases were gynaecological affections where the pressure of the crutch acted injuriously on the veins in which the circulation was brought to a standstill by the application of the elastic bands. As contraindications the author admits only certain cases of myocarditis, vascular lesions, general systemic infections. On the other hand, absolute indications are found in all diseases of the kidneys and of the liver, and above all in alcoholism.

312. Extirpation of Tumours of Vomer.

CHARLES H. MAYO (*Annals of Surgery*, September, 1911) discusses the methods of approach in removing nasal tumours—through the normal anterior and posterior openings, by displacement of external nose and cartilage upward, by division and separation of the upper jaws, by lateral incision, by incision across bridge of nose and turning it down. He followed the plan suggested by Nélaton by operating through the roof of the mouth. In two cases he was able to remove a pear-shaped enlargement of the septum which completely closed the posterior nares through the roof of the mouth by removal of a section of bone 1 in. long, $\frac{3}{4}$ in. wide; the soft palate was not divided. "In preparation for the operation it is advisable to give the patient 30 to 50 grains of urotropin twenty-four to forty-eight hours preceding the operation, as it undoubtedly aids in preventing meningeal infection." Ether anaesthesia is used, preceded by hypodermic injection of morphine $\frac{1}{4}$ grain with scopolamine $\frac{1}{150}$ grain. Resection of the central posterior half of the hard palate is made by midline incision with preservation of the muco-periosteum and soft tissues. The septum is rapidly removed with bone-cutting scissors and curette and the space packed with gauze. The haemorrhage is free; the primary gauze pack may be removed in a few minutes, and the area of upper attachment of vomer cauterized and then repacked with gauze. If the disease is not very extensive the muco-periosteum may be stitched together at once, but in other cases the opening may for a time be left for observation and treatment. Details of two cases are given, both sarcomata.

313. Subtotal Resection of Scapula.

DE GAETANO (*Rif. Med.*, October 2nd, 1911) reports a case of nearly complete resection of the scapula for an extensive enchondroma. The patient was a man, aged 23, who first noticed signs of weakness in the right arm in 1906; in 1907 a tumour was noticed in the scapular region, and, on the assumption that it was a gumma, 50 mercurial injections were given, in addition to various outward applications, but no good result followed. In July, 1911, the tumour had reached an enormous size, involving the whole scapula, and as big as a man's head. On July 31st the tumour was removed as a whole, and all the scapula except the articular surface and the coracoid and acromion process. The only muscle insertions preserved were those of the long head of the triceps and biceps and the muscles inserted into the coracoid process. The growth proved to be an enchondroma, degenerating in parts. The post-operative course was good, and the patient left the hospital twenty-two days after the operation. At the

present time he is well able to do his work (a milkman), can lift heavy weights, and shows no return of the growth. A photograph displays the man holding his right arm out at right angles. The author has collected 27 cases of subtotal scapulectomy, and the progressive improvement in the results obtained is very striking—for example, of 15 cases between 1833 and 1869 there were only 4 cures, whilst from 1871 to 1909 out of 12 cases there was only 1 death, eight weeks after, from dissemination of the disease.

OBSTETRICS.

314. Temperature of the Normal Infant.

Ganjoux and Lassablière (*Ann. de méd. et chir. enfant.*, March, 1911) find that in the normal fetus just before expulsion the temperature oscillates around 37.5° C., without being lowered or elevated more than 0.3°. In a well-nourished infant at term with a temperature above 37°, soon after birth the temperature becomes lowered to 35.7° or 35.5° or below; it takes about ten days for it to reach 36.7°, and at the end of one month it has attained to 37°. From three months to the second year the rectal temperature oscillates at about 37.2°. The above refer to morning temperatures. In children at the breast the mean curve of the evening temperature showed in 12 children an elevation, commencing at 4 a.m. and continuing for seven hours; from the latter time (11 a.m.) till 1 p.m. it remained about the same, then became elevated till 7 p.m., and fell quickly to 10 p.m., and remained stationary until 4 a.m. The temperature of children fed by the bottle showed similar changes, only a little more irregular. In children from 2 upwards the temperature ascended from 2 a.m. to 8 a.m., remained fixed until 4 p.m., and then fell rapidly, the minimum being reached between 10 p.m. and 2 a.m. The most important factor acting on the temperature was found to be exercise. Digestion did not affect the temperature curve if the stomach was in a healthy condition. The surrounding temperature also altered the curve, the latter being slightly higher in summer than in winter.

315. Intrauterine Fetus Discharged through Abdominal Wall.

Kubacki (*Zentralbl. f. Gynäk*, No. 40, 1911) was called in to attend a woman attacked with severe flooding in the seventh month of pregnancy. She was a 6-para, 37 years old. He suspected placenta praevia. The fetal movements ceased in the eighth month, then a discharge appeared, clear at first, fetid and purulent later on. There was no fever, and the fetal outline was distinct on palpation. At the beginning of the ninth month an abscess developed between the umbilicus and the pubes. It subsided, and the patient was taken into a hospital, and the breech of the child was found presenting in the abscess cavity. It was extracted, and then the placenta was detached and removed from the uterine cavity. Convalescence was protracted. The parts were examined a few months later. The uterus appeared anteverted and drawn towards the right through shortening of the right broad ligament. It was not fixed. No trace of adhesions or bands between the uterus and parietes could be defined. Kubacki believed that rupture of the uterus occurred in the seventh month with partial detachment of the placenta. The fetus was delivered through the laceration into the space between the folds of the right broad ligament, and developed there for a time. Then it died, and inflammatory changes were set up, ending in a parametritic abscess which ultimately ruptured.

GYNAECOLOGY.

316. Obscure Symptoms Caused by Fibromyoma of the Uterus.

Kaarsberg (*Hospitalstidende*, August 23rd, 1911) discusses the various symptoms which may arise owing to toxaemia caused by latent necrosis of a fibromyoma of the uterus. When necrosis of such a tumour is accompanied by a vaginal discharge the practitioner is in little doubt as to the cause of various toxic symptoms, such as a rise of temperature, a rapid pulse, general and progressive debility. But diagnosis of necrosis of a fibromyoma is most difficult when there is no vaginal discharge, and when the symptoms are not referred to the pelvic organs. A number of such cases have recently been reported, and attention has been drawn to the various aspects which this condition may present. The writer classifies the condition thus: Acute cases which present a slight rise of temperature and some abdominal pain, and chronic cases in which there is little or no rise of temperature, the patient gradually becoming weaker till the slightest exertion becomes exhausting. In some cases there is infection of the fibromyoma without the occurrence of necrosis, micro-organisms having apparently entered through the blood stream and not through the endometrium. Usually, however, there is necrosis of the tumour with or without suppuration. Careful observation of the patient over a considerable period is often necessary to decide whether the symptoms of general toxaemia are due to an inflammatory condition in the pelvic organs or elsewhere. As the signs of toxaemia often include adventitious murmurs heard over the region of the heart, the physician is liable to conclude that the cardiac condition is primary, not secondary. The patient may also suffer from a cough, which again may mislead the physician as to the true cause of the disease. A valuable guide to the existence of necrosis of a fibromyoma of the uterus is its rapid growth, and the writer records a case in which, after a fortnight's observation, such a tumour was found to have extended upwards from a point half-way between the symphysis and the umbilicus to the level of the umbilicus itself, without the tumour being either painful or tender on pressure. The writer further records the case of a patient, aged 70, who suffered from a fibromyoma which occupied the greater part of the abdomen. Necrosis of the tumour was not demonstrable, but there was a typhoid-like fever, the patient dying after six days' illness. The *post-mortem* examination disclosed a necrotic area, the size of a man's fist, in the substance of the tumour, and no other cause for the fever could be found. Probably a fibromyoma of the uterus causes degenerative changes in the heart muscle even in the absence of necrosis, for, as the writer's cases show, circulatory disturbances—such as irregular action of the heart, adventitious murmurs, and cardiac dilatation—appeared at an early stage. He also reports the case of a patient who suffered from fibromyoma of the uterus at the age of 41. She had become extremely cachectic in the course of four months. The temperature was slightly raised, the pulse was 100, and there was severe dyspnoea and palpitation of the heart. Necrosis of the tumour was diagnosed, and vaginal hysterectomy was performed; but neither macroscopic nor microscopic necrosis of the tumour was found. The patient died shortly after the operation from marked cardiac degeneration. Further evidence of the view that fibromyoma of the uterus causes toxic conditions even without necrosis is to be found in the fact that the removal of such a tumour has a striking influence on the health of the patient, whose vitality is markedly increased after the operation.

THERAPEUTICS.

317. Artificial Pneumothorax in Lung Tuberculosis.

Arnold Cahn (*Therap. Monats.*, October, 1911) discusses the methods of inducing collapse of the lung artificially as a treatment for phthisis; the indications for, and the results of, the operation; and the complications which may interfere with its successful performance. Collapse of the lung can be produced either by removal of part of the thoracic wall or by introducing fluid or gas between the layers of the pleura. Salt solution is for this latter purpose too rapidly absorbed; sterilized oil, with which many attempts have been made, is apt, even with complete asepsis, to cause irritation of the pleura, and to result in a free exudation of fluid. In a case of bronchiectasis the accidental injection of oil into the lung instead of into the pleural cavity caused gangrene to supervene. Oxygen also is too quickly absorbed. There remains only nitrogen as the most suitable gas for the purpose. A gas such as nitrogen is not only easier to inject than a fluid, but its pressure is more easily measured, and its dose more readily calculated. It forms a movable and very elastic cushion around the collapsed lung. Inasmuch as a gas is bound ultimately to be absorbed, the injection must be repeated at intervals until the aim is achieved. The collapsed lung under such conditions is functionless. In rabbits in which a pneumothorax has been performed, and which are placed in a soot-laden atmosphere, the affected lung remains free from soot particles indefinitely. The circulation of blood and lymph through the collapsed lung is hindered and from the analogy of the effects of Bier's treatment of venous congestion this may be of advantage. Whether an active hyperaemia is produced is questions

able. The apparatus used by Cahn is simple: two 2-litre or 3-litre jars connected together so that the one filled with boric acid solution acts as a pressure flask while the other is filled with nitrogen. A T-shaped stopcock connects with the nitrogen flask, with a U-shaped manometer filled with boric acid solution, and with the cannula, on the way to which the gas is filtered through cotton-wool. The injection is done under local anaesthesia and a small area of pleura is laid bare before puncture. The most serious complication is the formation of an effusion which is apt to become purulent. The tuberculous foci in the pleura are apt to be kindled into activity by the stretching and rupture of recent adhesions, with the result that a massive effusion forms. If, as sometimes happens, this becomes purulent the complication is fatal. Surgical emphysema is not infrequent. Sometimes unexpectedly the pleural cavity is completely obliterated. Cases suitable for the treatment are those in which the disease is predominantly one-sided, where the affection is acute and progressive and associated with haemoptysis and where the pleural cavity is not obliterated. In one-third of cases of unilateral disease the results are good and lasting. In a smaller fraction a certain benefit is achieved. In about one-fifth, through the unavoidable pleuritis, especially through empyema, the result is vitiated. Rib resection should be reserved for one-sided cases in which the lung is contracted and the pleural cavity obliterated.

318. Bismuth Paste and Chronic Abscesses.

EMIL G. BECK (*Wien. klin. Woch.*, No. 26, 1911) quotes three rules of Calot's on the treatment of chronic abscesses: (1) It is not permissible to open such abscesses when they are not easily accessible. (2) It is permissible to open those which are easily accessible even if spontaneous rupture is not threatening. (3) It is a pressing duty to open chronic abscesses when there is danger of spontaneous rupture. With the first and last of these rules the author is in complete agreement, but with the second he disagrees and would put off operation so long as the patient has little pain and no high fever, and provided that there is not steady deterioration in general condition. The method of treatment, if operation is needed, is by aspiration of the pus followed by the injection of some slightly antiseptic solution. Since 1908 the author has made extended use of bismuth paste as an injection. His method is as follows: When a chronic abscess seems ready to rupture it is opened by an incision 1 to 2 cm. ($\frac{2}{5}$ to $\frac{4}{5}$ in.) in length and emptied. Not more than 100 grams of a 10 per cent. bismuth-vaseline paste is then injected through the incision wound, gentle massage is applied over the whole neighbourhood of the abscess, in order to ensure if possible the penetration of the paste into all corners and folds, and a sterile gauze bandage is applied and changed daily. As the cavity gradually shrinks fragments of the thickened paste are pressed out through the wound. If pus collects again it is got rid of by repeatedly reopening the incision. Repetition of the bismuth injection is not required. The author's first trial of this method was on a $2\frac{1}{2}$ year old boy, with a tuberculous abscess situated over the middle of the tibia. Within a week after the injection the abscess cavity had closed and did not open again. A more striking case was that of a boy $4\frac{1}{2}$ years of age, with an abscess which extended over Poupart's ligament and showed an area of softening at its upper part; $1\frac{1}{4}$ litres of pus (44 oz.) were evacuated and 120 grams of 10 per cent. bismuth paste injected. Before the injection the patient had had high fever, but after it he remained free from fever. The wound closed after four days, but as pus formed again it was reopened three days later, and after evacuation of the pus 60 grams of a 30 per cent. bismuth paste was this time injected. Three days later the incision wound had closed up and did not reopen, while the general condition quickly improved. The author has also made use of bismuth injections for suppurating glands and para-rectal abscesses. No case of secondary infection or high rise of temperature has followed an injection. All but one of the last 26 cases treated by the author on these lines have recovered; the one case was of severe coxitis and in it a fistula formed. Beck has made cytological examinations in more than 100 cases in order to elucidate the method of action of the paste, and finds that it causes a marked local leucocytosis. The advantages of bismuth paste as compared with other disinfectant solutions are: (1) The thick consistency of the paste while it permits secretions to find exit prevents the occurrence of secondary infection from without. (2) A single injection is usually sufficient and brings about recovery. (3) The injection is not painful nor irritant in its action. The paste is injected in a warm half fluid condition and remains for a long time in contact with the abscess wall. The vaseline does not give rise to maceration of the wall and the danger of bismuth poisoning is only small. The question of the value of intra-articular bismuth injections is still under investigation.

319. Abnormal X-ray Reactions.

THE result of a referendum of leading French *x*-ray therapeutists as to the existence of idiosyncrasies in the domain of *x*-ray treatment appears in the *Archives d'électricité médicale* (No. 314, 1911). The first question was framed thus: Are there cases of idiosyncrasy, that is to say, an irregular reaction of the skin, following the application of a dose of *x* rays equal to or smaller than that which provokes the ordinary erythema? An answer in the affirmative was given by eleven authorities and in the negative by twelve. Three observers in the first category reported such cases of radio-dermatitis in subjects who suffered from hyperidrosis. Asked what time should elapse between the first normal dose (Tint B, Sabouraud and Noiré; tint I, Bordier) and the second, the greater number stated that, without filtration, and upon the sound skin, the interval should be twenty-one to twenty-five days. The intervals between subsequent doses vary considerably; and one or two workers note an increase in sensitiveness after four or five sittings. A further inquiry was made as to how long a time special *x*-ray sensitiveness persisted after one or more normal doses had been given without any unfortunate result. Was it possible that a normal dose given some months or years after the course of treatment had finished could produce a radio-dermatitis? If treatment has been of short duration, six months at most, and has been supported without any extraordinary reactions, the same skin will support a normal dose without accident six months later. It is otherwise if the treatment has lasted for a long time, as in the case of fibroma. Further, may a skin which has been radio-therapeutically treated without any appearance of dermatitis be unfortunately affected subsequently by a physical or chemical irritant? This rarely happens, but there are exceptions, and patients may be warned against putting plasters or tinctura iodi on the irradiated regions. Again, may a skin, treated without immediate ill effect, give signs of trophic troubles some years after the cessation of *x*-ray treatment? Not generally, if the treatment has been of short duration, but here also there are exceptions. One case is cited in which the hands were treated for chronic eczema, and two years afterwards there were evident signs of radio-dermatitis. One observer stated that local *x*-ray treatment may bring about trophic troubles of the skin in a neighbouring region. This observation also related to an eczematous subject.

PATHOLOGY.

320. Anaphylaxis and Cow's Milk.

FINIZIO (*La Pediatria*, September, 1911) records 4 cases of marked idiosyncrasy to cow's milk, 2 of the cases occurring in one family and 3 being congenital. The amount of milk necessary to cause symptoms of anaphylaxis was very small, in each case varying from 20 grams to 120 grams. The symptoms set in rapidly, rarely later than three hours after ingestion, beginning usually with vomiting, followed by frequent liquid, green stools and some rectal tenesmus; occasionally the stools were bloody. In addition certain spasmophilic symptoms set in (tetany, convulsions), and these might persist for long periods after the acute gastro-intestinal symptoms had disappeared. The temperature was raised in 3 out of the 4 cases. The acute symptoms disappeared with considerable rapidity—that is, to collapse, dyspnoea, vomiting, and diarrhoea—but the fever and spasmophilics persist for some time. Examination of the blood serum of 2 of the cases showed distinct precipitin reaction with cow's milk, and in the fourth case there was a diminution in the complemental power of the serum, which tends to prove the existence of a condition of anaphylaxis in these cases. In one of the cases there was a history of maternal tuberculosis; possibly this may have some bearing on the predisposition to anaphylaxis. On the theory that the heterogeneous protein introduced was the cause of the symptoms, the milk was predigested, but without any obvious good effects. On the other hand, milk serum (given as a kind of vaccine) seemed to have a beneficial effect. At present we know only a little about anaphylaxis, but if these cases of intolerance to cow's milk prove to be examples, the study of them may, as the author believes, throw a little further light on this obscure subject.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

321. Heart Disease in Children.

F. GÖPPERT (*Wien. med. Klin.*, No. 49, 1911) deals with those points which are likely to lead to doubts or errors in the diagnosis of heart disease in children. In his opinion, an error frequently made is to mistake a slight impurity of the first sound for an endocardial murmur, or to allow reduplication of the second sound over the pulmonary area to arouse suspicion of heart disease; both these conditions may be considered almost normal in children. The diagnosis is more difficult, however, if the pulse frequency is also increased and the apex beat, as is normally the case in young children, is outside the mammary line. To settle the diagnosis the child should be directed to run up two flights of stairs, and should be examined as soon as he comes down. In normal children there is only moderate breathlessness, the pulse remains strong, and the increased pulse-rate resulting from the exercise does not last longer than three minutes, while frequently, if the child has been much excited beforehand, the pulse is actually slower after the experiment. An example is given in which a child, 10 years of age, of neuropathic heredity, had a pulse-rate of between 130 and 140 on each of several days; but from two to three minutes after running five times up and down a flight of stairs 13 ft. high, the pulse-rate had sunk to 90, and after being assured that his heart was sound, the pulse-rate never rose at any subsequent examination much above 100. Another class of case is that described by Martin as dilatative heart weakness, which is marked by a strong or diffuse apex beat, together with a very weak, frequent pulse. In these cases the pulse-rate after exertion remains quickened for more than three minutes. When these signs appear only on motion, the treatment consists in ordering an hour's rest in bed each day, together with avoidance of long walks and games. In severe cases the child must be kept away for a part of the day from school, and lie down for rather longer each day. Most of these children are insufficiently fed, and the supply of a free meal at school may be of great value in the treatment. Change of air, preferably to the seaside, has the best results. Another frequent error is to diagnose myocarditis in cases of slow intermittent pulse. The condition is, as a rule, a peculiarity of the child's and not a sign of disease, and the pulse becomes regular if it is quickened, as by the child running upstairs. The condition is especially likely to lead to a mistaken diagnosis if it is observed for the first time during an illness. Thus tuberculous meningitis may be diagnosed if it is accompanied by vomiting and constipation, or myocarditis if it is observed during convalescence after fever. Myocarditis is of special significance as observed after scarlet fever, diphtheria, and rheumatism. After scarlet fever a systolic murmur becomes audible at the end of the first week or during the second week. Such a murmur may persist for months, and even in one case under the author's care for as long as one and a half years, but, as a rule, finally disappears. The prognosis, both in scarlet fever and diphtheria, is unfavourable if combined with nephritis. In these cases the child may be seen sitting upright in bed, breathless, with ice-cold skin, and a scarcely palpable pulse; moderate oedema may be present, and the amount of urine much diminished, or even totally suppressed. These extreme symptoms are seen most frequently in children who are supposed to have recovered from scarlet fever and have returned to playing in the streets, and the author has only once seen it in those in whom careful treatment of the nephritis and avoidance of strain has been carried out. No treatment is successful when the condition has once developed. Valvular disease after purulent infections, rheumatism, and scarlet fever does not differ in character from that seen in adults. In treating acute rheumatism in order to avoid cardiac complications the indication is to try and bring about a speedy recovery from the affections of the joints. The author is of opinion that too small doses of aspirin, etc., are often given, and to a 3-year-old child he would give as much as ½ gram (7.75 grains) of aspirin three or four times a day. In the first days of illness or in a relapse he advises also a dose of 0.2 to 0.3 gram (3 grains to 4½ grains) of pyramidon daily. On the occurrence of cardiac symptoms a blister over the cardiac area often gives much relief, and may be followed later by the application of cold compresses or an icebag. For a large pericardial exudate Heubner recommends puncture with the finest Pravaz cannula in the fourth intercostal space without aspiration. Caffeine relieves the subjective symptoms when signs of cardiac weakness are present. The essential point of treatment is to give rest, and the gradual modification of this treatment until the patient has recovered completely, or as completely as the organic lesion will allow, is carefully considered.

322. Barium Sulphate as a Substitute for Bismuth in Radiological Examinations.

SOME discussion has been proceeding among radiological workers in France as to the legitimacy of substituting barium sulphate for bismuth in the radiological examination of the digestive tract. The chief reason advanced for the change is the comparatively high cost of bismuth carbonate, which is estimated to be about three times as great as that of the finely pulverized barium sulphate required by the speciality. Barium sulphate is almost equally opaque to the *x* rays, and—although on this point there is sharp contradiction—the claim is made for it that it has no toxic action. Bensaude and Ronneaux (*Bull. et mém., Soc. de Radiol. Méd. de Paris*, No. 27, 1911) state that the dose required for a given opacity need not be much higher than in the case of bismuth carbonate, but the difficulty of suspending the barium sulphate in liquid makes it necessary to increase the mucilaginous quality of the solution. In a series of twenty-six patients, only two, both suffering from gastric ulcer, showed any sign of pain, regurgitation or vomiting (alimentary), after the ingestion of 100 grams of the chemically pure barium sulphate. One of the authors twice administered to himself 150 grams, and once 300 grams, the whole being perfectly tolerated. The innocuousness of the substance, they add, is due to its great insolubility. The other side of the case, however, is stated by Lebon in the same journal. Bensaude and Ronneaux's list of cases, he thinks, is too small to be conclusive, and the absence of cases of poisoning in medical literature is due to the fact that the substance is not to-day used in medicine. If on occasion it has been prescribed, it has been on the condition that it be given only in small quantities and with great prudence. Although one of the most insoluble bodies known, its solubility increases rapidly in the presence of acids, and this may produce evil consequences in the organism. He points out that there is another barium salt, the carbonate, almost insoluble in water which is admittedly violently toxic, and he does not think that a case has been made out for the use of the neutral barium sulphate, the absolute purity of which is difficult to ensure, in radiology. To this Ronneaux, one of the authors of the original paper, replies that the toxicity of the other salts of barium is no valid objection. To take a parallel case, no one would cease to employ bismuth carbonate because the subnitrate was toxic. The increase of the solubility of barium sulphate in the presence of acids is negligible, he thinks, since it still takes 23,000 parts of hydrochloric acid to dissolve one part of barium sulphate. Zirconium oxide, sold in Germany under the name of "kontrastin," is recommended by one participant in the discussion, Belot, as superior to barium sulphate, though, perhaps, not to bismuth carbonate. Its advantages are its freedom from any earthy taste and its rather greater opacity than bismuth. So far as known, its use has not resulted in any mishap.

323. Acute Poliomyelitis and Diet.

ADAMS (*Amer. Journ. Obstet.*, October, 1911) reports a case under his observation where an infant, 16 months old, had lost the use of his legs after exposure to cold, but otherwise appeared perfectly well. The epiphyses were very tender. The child, after being put on a full milk diet with orange juice, was quite cured five days later. Adams is of opinion that many cases of poliomyelitis that were rapidly cured were truly instances of scurvy, and he urged that all poliomyelitis cases should be treated carefully, even if experimentally, to satisfy the parents. In referring to the recent epidemic at Boston, the patients were put in a room adjoining a main ward in the city hospital, but were attended by the same nurse as the ward patients. No cases had been proved to arise in any of the hospitals in the same city. In one district 800 cases

had been reported yet no two in the same family. In one there were thirteen children, yet only a single infant suffered from the epidemic poliomyelitis.

324. Taenia in a Suckling.

Comby (*Arch. de méd. des enfants*, July, 1911) describes a case of taenia saginata in a girl 9 months old; the child had been given for three months raw beef juice. This was the first case the author had seen in a child under 1 year. Numbers of rings were passed in the stools, but the head was not found. The child was lost sight of, and at the age of 3 years she returned and was treated with male fern, and the worm, head and all, was passed.

SURGERY.

325. Cataract in Tetany following Thyroidectomy.

A. Vogt (*Corr.-Bl. f. schweizer Aerzte*, July 10th, 1911) states that only five cases of cataract have been reported as complicating that form of tetany which occasionally follows thyroidectomy (tetania strumipriva). This is noteworthy, since cataract in tetany unconnected with thyroidectomy cataract is not uncommon. A female cigar-maker, aged 39, underwent thyroidectomy for goître twenty years before coming under Vogt's observation. Since that time she had been subject to attacks of painful tonic spasms of the flexor muscles, which were bilateral and usually symmetrical. Each attack lasted for one or two days, and was followed by great prostration. The prodromal symptoms were: Pains in the legs, abdominal region, back, and arms. Vision was said to have always deteriorated during an attack. When seen there were advanced cataracts in both lenses. The middle and lower portions were chiefly affected and the stellate opacities were most marked at the periphery. There was neither albuminuria nor glycosuria. There was slight tachycardia (104 to 108). The knee-jerks were absent, but the patient could stand with the eyes shut, and there was no ataxy. Chvostek's sign was well marked over the frontal and palpebral branches of the facial nerve. Trousseau's sign (spasm on pressure over large arteries and nerves) was not elicited with certainty. Under parathyroid tablets the general condition temporarily improved. It was of interest that the changes in the epidermis, hair, and finger-nails, which have been frequently observed in cases of tetany complicated by cataract, were not present, though there were a few patches of psoriasis on the elbows, knees, and extensor surfaces of the legs. The writer performed iridectomy on the right side with a view to extraction of the cataract. Senile cataract could be excluded in this case because the opacities could be dated back many years, were in practically the same stage on either side, and were of a character unlike that of the senile variety. Tetany cataract is, like that which sometimes occurs in ergotism and is also accompanied by tetanoid spasms, evidently of toxic origin. Ponck has recently reported the development of chronic tetany with lenticular opacities, which began as necrosis of the epithelium of the lens, in thyroidectomized rats. The failure to produce cataract of similar experiments in dogs evidently depended on the short period of survival after thyroidectomy.

326. Concurrent Abdominal Affections.

Walzberg (*Wien. med. Klin.*, No. 32, 1911) describes three cases, in each of which two distinct abdominal affections with concurrent symptoms were present. In the first case the patient, a woman 18 years of age, who had complained for some weeks of gastric symptoms, suddenly passed a large quantity of blood per rectum. She was taken into hospital and dieted, and the bleeding ceased. On the second day in hospital she complained of abdominal pain; the abdomen was found to be retracted, hard, and somewhat tender, but the tenderness could not be localized. The patient had a small quick pulse, was restless and looked anxious; the temperature was normal at mid-day, but had risen at night to 38.3° C. (100.9° F.). The diagnosis was of perforated gastric or duodenal ulcer. Laparotomy was performed, but no perforation was discovered. The appendix, however, was in a state of acute inflammation, and contained pus. The appendix was removed, the patient made an uninterrupted recovery, and no further bleeding occurred. The condition, therefore, was a combination of intestinal haemorrhage and acute appendicitis. The author suggests that, since the temperature usually falls acutely in perforation, the evening temperature should perhaps have suggested appendix disease. The second case was of a patient 81 years of age, with an old umbilical hernia, who had several times suffered from symptoms of obstruction. At the operation a carcinoma of the transverse colon was found of the size of a child's fist; it had already spread to the ligamentum gastro-colicum, and several glands were affected. The interest of the case depended on the fact that the carcinoma had developed without giving rise to either pain, bloody stools, or to cachexia; the symptoms, indeed, had all pointed to the umbilical hernia as the seat of the mischief. The last case was one of hernia of the umbilicus and linea alba, combined with commencing thrombosis of the mesenteric vessels. The patient, a man 62 years of age, had for about six weeks suffered from attacks which were suggestive of intestinal obstruction, and had lost weight and looked ill. The diagnosis made was of intestinal obstruction due to periodical incarceration of part of the intestine in one of the hernial sacs. At the operation adhesions were found which would have accounted for the symptoms, and in addition changes were found in the mesenteric vessels; there was extensive extravasation of blood into the mesentery, and a number of the vessels were tortuous and distended with dark-coloured blood. There was, in fact, the commencement of embolic processes which had put out of action a large tract of the vascular territory of the mesenteric artery, and resulted in intestinal paralysis and necrosis. The number of such cases described in the literature is comparatively small.

327. Continuous Stomach Drainage.

Anthony Bassler (*Amer. Journ. Surg.*, October, 1911) says that in three kinds of cases after operation stomach lavage is useful: (1) Cases of gastro-duodenal dilatation; (2) in intestinal obstructions in which cleansing of the stomach lessens the amount of toxic absorption; (3) in septic peritonitis the distended paralysed bowel may crowd the stomach upwards so that the drinking of water creates great discomfort or pain by increase of intraperitoneal pressure, but the intermittent continuous irrigation relieves thirst. He employs a rubber tube of small calibre with bulb and funnel, the last being kept immersed in a basin of water, while the tube is passed into the stomach through the nostril and fixed to the face by tapes or strapping. The apparatus is comfortably borne and patients can talk and swallow with ease. It acts by siphonage; the closing of the stopcock enables food or medicines to be administered.

328. Thoracocentesis by Open Trocar.

Allaria (*La Pediatria*, August, 1911) pleads for a return to simple thoracocentesis by means of trocar and cannula in the pleural effusion of children. He gives brief details of 7 cases where his treatment was practised, and the results are as good as one would have got by aspiration. He uses an ordinary trocar of about 3 mm. diameter with an extra opening at the side, and punctures the thorax in the eighth space. The greater the effusion, the greater the pressure, the quicker the fluid runs out. The bugbear of the admission of air can be neglected; in the author's experience the admission of air has done no harm, and is usually absorbed in a few days. The amount withdrawn varied from 30 to 1,000 c.cm.; in one case the cannula got blocked and could not be cleared, and in every case a small amount was left in the thorax. The pneumothorax which formed in all the cases except one seemed to give rise to no trouble. The fluid never became purulent in any of the cases after open tapping in this way.

OBSTETRICS.

329. Placental Prolapse.

I. P. Hartmann (*Hospitalstidende*, August 16th and 23rd, 1911) draws attention to the confusion which exists in the use of the terms "placental prolapse" and "placenta praevia." The former condition was not recognized till the middle of last century, and it is still so little understood and so rare as to be ignored altogether in some textbooks. The term, according to the writer, should be confined to a condition in which the placenta, which is attached to the fundus of the uterus, becomes detached and slips down to the cervix, through which it escapes before the child. As placenta praevia is a well-recognized bugbear, while placental prolapse is little known, the latter is often unrecognized, and is described as placenta praevia. Cases of so-called placenta praevia have sometimes been described in which, after the membranes were ruptured on account of haemorrhage, only a margin of the placenta

could be detected through the cervix, and later more and more of the placenta became palpable till it was expelled altogether into the vagina. When the patient has been under observation from the beginning of labour, and the progressive descent of the placenta has been observed, the diagnosis of placental prolapse is easy enough; but when on a first examination the placenta already presents at the external os the diagnosis is most difficult. Premature detachment of a normally situated placenta has probably occurred if labour has been prolonged and painful, and if there has been slight loss of blood over a considerable period. When, however, there has been violent haemorrhage at the commencement of labour, placenta praevia is probably present. The differential diagnosis is of some practical importance as different treatment may have to be adopted for the two conditions, treatment which is suitable enough for placenta praevia being sometimes insufficiently rapid and certain for placental prolapse. The conditions which give rise to placental prolapse are the same as those which cause partial or complete premature detachment of the placenta from its site; but the latter conditions are far commoner. The writer has, in a few cases, found the placenta to be completely detached when a hand was passed into the uterus in the course of labour. Nephritis usually exists in such cases; but whether placental prolapse and premature detachment of the placenta are due to the nephritis or not is uncertain; probably all these conditions are due to a common, unknown factor. The fact remains that necroses, degenerative processes and white infarcts of the placenta are usually associated with nephritis. The commonest exciting cause of placental prolapse is sudden diminution of the uterine capacity as in cases of hydramnion. The escape of a large quantity of liquor amnii has been known to cause such great uterine contraction that the placenta has not only become detached, but has even been expelled together with the liquor, the uterus contracting firmly upon the child, and thereby preventing any extensive haemorrhage from the placental site. In the case of twins, the birth of the first child may lead to so sudden a diminution of the volume of the uterus that the placenta of the second child is prematurely detached and expelled. This accident is further favoured if the second child's placenta is pulled on by the placenta of the first-born, either directly or through the medium of the membranes. Placental prolapse cannot occur when the true pelvis is completely filled by that part of the child which is presenting. Transverse presentations and premature labour are therefore favourable to this condition, as the passage of the placenta through the cervix is not prevented by the fetus. Again, the membranes in the neighbourhood of the placenta must be detached from the uterus before placental prolapse can occur. But the membranes need not necessarily be ruptured, for they may become detached, together with the placenta, from the uterus, when the whole fetal sac rotates within it till the placenta appears at the cervix with its maternal surface uppermost. In such cases it is the maternal surface which faces outwards on birth, whereas when the membranes have previously been ruptured, it is usually the fetal surface of the placenta which presents. The prognosis is best when there has been rapid detachment of the placenta, followed by its expulsion, as is usually the case in hydramnion, while it is worse when the process of detachment is slow and the patient is weakened by prolonged haemorrhage. Treatment depends largely on circumstances. As it is most exceptional for the child to be born alive, that treatment should be adopted which is most favourable to the mother, and only when prolapse has apparently immediately followed the detachment of the uterus does the possibility arise of saving the child. It must be borne in mind, however, that the placenta may be expelled as much as ten minutes before the birth of the child without causing its death. If the placenta has been expelled or is presenting at the os and there is severe and continuous haemorrhage, labour should be hastened by such methods as rapid dilatation of the cervix or vaginal Caesarean section. If, on the other hand, haemorrhage ceases with the expulsion of the placenta, expectant treatment may be adopted, although the physician must be prepared to adopt more drastic measures should severe haemorrhage recur.

GYNAECOLOGY.

330. Ante-uterine Romanopexy.

VEL (*Archives provinciales de Chirurgie*, July, 1911) under his title describes a new operation for extreme prolapse the rectum in women. He discusses the various degrees prolapse, and accepts the subdivision of Mikulicz into prolapsus ani, prolapsus recti (prolapsus recti et ani) and prolapsus coli invaginati. For very obstinate cases, operated on perhaps several times (one of his cases was the subject of no fewer than eight operations of different kinds, intra-abdominal and external), he does not think any of the methods suggested efficient, and reviews those of Verneuil, Eiselsberg, Bardenheuer, Mikulicz, and Quenu and Duval. He has operated on only two cases by his method, but finds the results so satisfactory that he puts these on record and describes the operation. He prefers to use the term "S-Romanum" to indicate the sigmoid flexure of the colon. The following are the steps of the operation: (1) Trendelenburg position; transverse incision of Pfannenstiel extending in curved direction across the lower abdomen from a little below one anterior superior spine to the other, following a natural fold of the skin. (2) Incision of the fascia of the external oblique and sheath of recti in the same transverse direction. The fascia is detached from the muscles down to the symphysis pubis and then upwards to the umbilicus. The peritoneum is opened and the muscles held well apart with retractors, exposing the contents of the pelvis, when it is observed that the mesosigmoid is of great length. (3) The mesosigmoid is carefully examined to define the position of the vessels; a favourable place is found, and an opening made through the mesosigmoid, so that the portion to be afterwards fixed to the uterus is the lowest part of the flexure, or "S-Romanum." The round ligaments are cut close to their entry into the inguinal canal and held by Kocher's forceps; then the uterus is passed through the opening in the mesosigmoid, so that the sigmoid flexure lies in front of the fundus between it and the bladder. A few sutures are inserted, fixing the cut edges of the mesosigmoid to the uterus, and an epiploic appendix is also sutured to the fundus. If the woman has not reached the menopause she should be sterilized. (4) The free cut ends of the round ligaments are brought through the recti at the level of the transverse abdominal incision, and sutured across the middle line superficial to the rectus sheath, so that the uterus is held firmly up towards the posterior surface of the abdominal wall. The exact position of the uterus should be determined before the abdominal cavity is closed; this is done in the usual way with catgut sutures approximating the recti. The author answers various hypothetical objections to the operation. It requires no more time than any other abdominal colopexy. Strangulation of the bowel by its passing across the broad ligaments is not likely to occur in view of the fact that formed motions daily pass, so that stenosis cannot have opportunity of taking place. The nutrition of the bowel is sufficiently protected if the opening in the mesosigmoid be made in a part where the vessels are not likely to be compromised. There is no interference with the function of the bladder. And, lastly, defaecation is accomplished with ease very soon after the operation; there is no pain, no constipation, and no diarrhoea.

THERAPEUTICS.

331. Occasional Ill Effects of Massive X-Ray Dosage.

ANDRÉ BROCA, whose technique was described in a previous abstract (EPITOME, No. 181, March 26th, 1910), is an advocate of massive dosage in *x*-ray treatment of rebellious skin diseases. In the ordinary course, after applying a dose of eight Holzknecht units, which are equal to Tint II on the Bordier radio-chromometer, upon a carefully circumscribed lupus lesion, he obtains a radio-dermatitis lasting for four or five weeks, and good results follow. But in some cases, especially those of alcoholics and syphilitics (*Arch. d'électr. méd.*, September 10th, 1911), the duration of this radio-dermatitis may be indefinitely prolonged. The remedy is to keep the alcoholic under restraint, and put him on a milk régime, when a rapid clearing-up may be expected within about ten days; and, similarly, to institute an antisyphilitic treatment in the companion case. Sometimes, again, unfavourable results occur when there has been a relapse of lupus on vicious cicatrices due to a previous treatment with the thermo-cautery. The reaction under such conditions is likely to take place in two periods. The first is the normal reaction, and the second follows it at the end of a few weeks in the shape of a new lesion, like lupus erythematosus rather than radio-dermatitis in appearance. A further dose of *x* rays would be disastrous, and the lesion must be treated by ordinary aseptic procedures. It will then clear up within five or six weeks, and in all the observed cases the apparent cure of the lupus was obtained. Another case was that of a patient with lupus erythematosus on both sides

of the face. Although the rest of the lesion subsided satisfactorily under *x*-ray treatment, a new lesion of epitheliomatous aspect appeared at one side six months afterwards, and operative measures had to be instituted, with the result that the patient lost a good third of his ear. This is an accident for which the author cannot account, since in numerous other cases he has seen the same region receive analogous doses (two or three applications of 9 H.) without any unfavourable incident, and the subject was a hill-dweller, young and healthy, and free from alcoholism and syphilis. On the other hand, the author cites two cases of chronic lesions due to small repeated doses of *x* rays, which cleared up under a big dose. One was a case of lupus tuberculosus which had turned to epithelioma under *x*-ray treatment, and which healed after two massive doses of 12 H. had been given on each point of the lesion, with three weeks' or a month's interval. The other was originally a case of sycosis barbae. An unfiltered dose of 15 H., equal to Tint III Bordier, was given in this instance, the lesion being closely circumscribed. The cure was maintained.

332. Use of Ascitic Fluid for Nutritive Purposes.

CARTER (*Amer. Journ. Med. Sci.*, August, 1911) records the results of experiments with ascitic fluid conducted with a view to supply hypodermically considerable amounts of protein to the organism, the caloric needs of the body being otherwise satisfied by additional amounts of fat and carbohydrates given by the mouth. In tiding over conditions in which there is grave danger to life from great protein loss, as in acute gastro-enteritis in children, cholera, etc., it is an important step in advance that we can so supply a large part of the protein requirement. The theoretical indications for the use of such serum injections would be: (1) Any condition, probably only of short duration, in which there is need of protein which the organism cannot make use of when given as food; (2) conditions—for example, vomiting, diarrhoea, gastro-enteritis, etc.—in which the percentage of fluid in the organs is lowered, ascitic fluid much more nearly meeting the physiological demands than physiological salt solution; (3) when the organism is being overcome by an infection for which we have no specific antitoxin; (4) in cases of marasmus; and (5) in certain blood conditions—as haemophilia, haemorrhage, melaena neonatorum. Nine children were treated by hypodermic injections of ascitic fluid, 8 of which suffered from severe acute gastro-enteritis, and 1 from bronchopneumonia and enteritis; 2 recovered absolutely, and 1 showed immediate and progressive improvement, although death resulted at the end of a week without discoverable cause; 2 cases were given only one injection of 30 c.cm. of serum, and 1 was given repeated doses for eight days. The 7 cases that died all received several injections without showing any improvement, but further experience is required before it can be decided whether one or several injections will give the best results, since in the 3 cases that recovered or improved both methods were tried. A proportion of 22 per cent. cured in spite of such desperate conditions as existed in all the 9 cases treated renders the subject at least worthy of further investigation.

333. Adrenalin and Local Anaesthetics.

P. ESCH (*Wien. med. Klin.*, No. 30, 1911) has experimentally investigated the method of action of suprarenal gland preparations when used in combination with local anaesthetics. Braun's conclusions on the subject were that adrenalin aided local anaesthesia by constricting the vessels and producing a local anaemia; that the local anaemia lowered the vitality of the tissues and rendered them less able to withstand the action of the anaesthetic, and that the anaemia also delayed parenchymatous absorption, so that the anaesthetic remained longer at the seat of injection and had a more intense local action. In the author's opinion the matter needed further investigation, because it is difficult to understand how local anaemia should so quickly give rise to a lowered vitality of the tissues when the tissues are bathed with isotonic salt solution. He therefore attempted to discover the relative amounts of anaesthesia produced by solutions of cocaine of equal strength, first with and then without the addition of adrenalin, when the action of adrenalin in making the tissues anaemic had been excluded. The effect of the solution upon motor nerves was used as a test of its anaesthetic effect on sensory nerves. To carry out the experiment the sciatic nerve of a guinea-pig on either side was exposed and raised from the surrounding tissue; the small blood vessels leading to it and the nerve twigs to muscles were separated and the nerve itself divided at its point of division. The free end of the nerve was then laid in a small vessel brought into the muscular gap and filled with the anaesthetic solution to be tested. The electric stimulus used to test the irritability of the nerve was applied at a point just before it entered the anaesthetic. In the experiment as thus conducted the effect of adrenalin upon the circulation was excluded. Control experiments showed that the irritability of the nerve remained intact for an hour after its division, and the actual experiments were therefore always brought to an end within forty minutes after the division of the nerve, in order to exclude the effects of the division. The following were among the results obtained: (1) The peripheral narcotic action of novocain, alypin and especially cocaine, was greatly increased by the addition of adrenalin. (2) Since the effect of local anaemia was excluded, the increased action of the anaesthetic when combined with adrenalin must be attributed to a specific action of adrenalin upon the nerve tissue. (3) This action of adrenalin has not been previously recognized. It is comparable to the effect of a mordant in tissue staining. (4) The addition of adrenalin to tropacocaine did not increase its anaesthetic action, since by tropacocaine not only the vaso-constrictor action of adrenalin was affected but also its specific influence on nerve tissue.

334. Phytin.

HEDWIG DONATH (*Wien. klin. Woch.*, No. 38, 1911) has made use of liquid phytin in children's practice in order to increase appetite and thus improve digestion. Phytin is the potassium and magnesium salt of the anhydro-oxymethylene diphosphoric acid. It splits up when boiled with H_2SO_4 into inosit and phosphoric acid, and different investigations appear to show that for practical purposes it may be regarded as the potassium and magnesium salt of inosit-phosphoric acid. The author has given phytin in a large number of different diseases. In about 50 cases of tuberculosis of the lungs with fever the appetite and weight almost always improved under phytin, and the local signs went back. The effect of phytin was very marked in 5 cases of anterior poliomyelitis acuta, which ran nearly the same course; the paralyses improved during about the first six weeks and then remained stationary through another four weeks, while the child through long lying became depressed and lost appetite. Phytin was then given, and within fourteen days in each case the appetite had returned, strength was increasing, and the paralyses were again improving. In a case of nystagmus in a 15-months-old child, who was suffering also on admission from lobular pneumonia, there was an increase of weight of 1.5 kilograms (3.3 lb.) in a month while phytin was given, and there was also a great improvement in the nystagmus, which should, in the author's opinion, be put down to the administration of phosphorus in so easily assimilable a form. In 3 cases of chorea phytin appeared to do good service, but it failed in 7 other cases. Out-patient cases of hysteria could not be observed as closely as in-patient cases, but the relations of the children often bore witness, unasked, to the favourable effect of the drug. A case of purpura simplex recovered quickly under phytin, and since the patient had no feeling of weariness or loss of appetite, the treatment is worthy of more extended trial in the more severe forms of the disease. The results of phytin as tested in many severe cases of rickets were excellent. In the dyspepsia with anaemia of infants, also, phytin proved of great value. Attempts to prove in man that the administration of phytin increased the amount of the gastric secretions had negative results, but experiments on dogs showed that in them the gastric secretions were almost doubled in amount as a result of phytin; the amounts of both free acids and acids in combination were largely increased; the amount of pepsin remained almost unchanged.

PATHOLOGY.

335. Cerebro-spinal Fluid in Tuberculous Meningitis.

NETTER AND GENDRON (*Bull. de la Société de Pédiatrie*, May 16th, 1911) find (1) that tuberculous meningitis is the disease of infancy which gives the most marked lymphocytosis. (2) Intraspinal injections of serum give rise to no alteration in the form of the cells in tuberculous meningitis, but in cases with healthy meninges there is a marked increase in the number of the cellular elements, many of which are polynuclear. (3) Tubercle bacilli are found in 85.7 per cent. of cases. (4) The cerebro-spinal fluid is an excellent medium for the culture of Koch's bacillus.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

336. Rare Complications of Mitral Stenosis.

UKTEDIR EFFENDI (*Deut. med. Woch.*, October 12th, 1892) refers to two rare complications of mitral stenosis inequality of the radial pulses and paralysis of the current laryngeal nerves, giving illustrative cases. The use of the inequality of the radial pulses when the right dial is weakest has been traced by Popoff to great dilata- n of the vena cava and right innominate veins. These ess upon the trunkus branchio-cephalicus, which already ntains less blood than normal. Less is known of the use which leads to comparative weakening of the left radial lse, as insufficient evidence on the subject has as yet en collected *post mortem*. Possibly dilatation of the left ricle is the cause of this phenomenon. Paralysis of the current laryngeal nerves may be unilateral or bilateral. the former case it is invariably the left recurrent nerve ich is involved. The sympathetic nervous system may so be affected, and this results in dilatation of the pupil, ually on the left side. These pressure symptoms are used by the dilated left auricle. The simultaneous currence of inequality of the radial pulses and recurrent ralysis is characteristic of aortic aneurysm, and the ferential diagnosis of this condition and of mitral nosis as far as the above signs are concerned is most fficult. Several observers claim that the two signs are s variable in aortic aneurysm than in mitral stenosis, which the inequality of the radial pulses may be entuated when the patient lies on his back or right e, while it may be diminished when the patient stands or bends forward. Others hold that in mitral stenosis patient's voice is less hoarse when he lies on his back n his right side than when he lies on his left side or ds forward. The greater persistency with which these as occur in aortic aneurysm is probably due to the fact t the aneurysmal sac soon becomes adherent to sur- nding structures, while the dilated heart is relatively with the thorax. But the writer doubts the value of se differences, even if they exist, in the differential gnosis of aortic aneurysm and mitral stenosis, in neither of his cases were the signs in- nced by posture. (1) A well-built man, aged 25, had suffered from malaria, complained of liver , which radiated to the right shoulder and left ochondrium. His face was somewhat cyanosed, his perature was 99.1, and he suffered from dyspnoea and gh. The right radial pulse could not be felt. The left al pulse was easily palpable, and was weak, irregular, rapid. The liver was enlarged, and painful on pres- , and there were numerous moist râles audible over lungs. The right side of the heart was much dilated, there was a whirring, diastolic murmur heard most ly over the mitral area; the normal heart sounds muffled. The patient died of heart failure. At the opsy a much enlarged heart, with large coronary els, presented irregular fatty degeneration; and on the th surface of the pericardium there were numerous norrhages. The mitral valve was thickened, and red by vegetations, and its lumen scarcely admitted finger. The aortic valve also presented thickening and ction. Both auricles were much dilated; the right ricle was dilated and hypertrophied; and there was mpetence of the tricuspid valve, which admitted four rs. The large arteries and veins presented no abnor- ty except the vena cava and the innominate veins, h were dilated and filled with blood. (2) A school boy, 15, had previously suffered from malaria and pneu- ia. Four months previous to his present illness he nded the palm of his left hand with a revolver shot. w days later he complained of cardiac palpitation, noea, general weakness, hoarseness, and a dry cough. ing up hill was difficult, and the patient could no r lie on his back. His face was pale, and his lips and r fips were cyanosed. The right pupil was dilated, he right hypochondrium was somewhat prominent. iver was considerably enlarged, and painful on pres- The spleen was palpable, and the chest wall pro- d somewhat in the region of the heart, the apex of was palpable three fingerbreadths outside the e line. Here there was audible a whirring, diastolic mur conducted to the axilla. The second pulmonary was accentuated, and both percussion and the *x* rays showed much enlargement of both the right and left sides of the heart. The right radial pulse was rapid, intermittent, but full. The left was scarcely palpable, but it was synchronous with the right radial pulse. There was paralysis of the left vocal cord. The urine was scanty, and it contained cylinders and albumen. After two days' treatment with digitalis the hoarseness of the voice completely disappeared, but the inequality of the radial pulses persisted. The patient was discharged at his own request, somewhat improved in health.

337. The Evacuation Power of the Stomach.

KEMP (*Arch. des malad. de l'app. dig.*, February, 1911) describes his researches on the power of the stomach to remove its contents in the healthy and diseased organ. In the first case he found that after a meal of 200 c.cm. of oatmeal, 50 grams of basted veal, two pieces of white bread and butter, eight prunes, and a small teaspoonful of compote of bilberries, the time occupied by the stomach in removing the major part of its contents varied from three to five hours. The smaller macroscopic débris took another hour, and the very smallest or microscopic remains might not be removed until twelve hours after the meal had been taken. In pathological conditions he found the time occupied was much longer. In diseases of the intestine only there was no delay in evacuation of the stomach contents, but in gastric diseases retention of the contents was very frequent, more particularly in patients with organic disease. In 90 per cent. of cases of cancer of the stomach retention of the major part of the stomach contents existed from six to twelve hours, in 80 per cent. of cases of ulcer of the stomach, and in 54 per cent. of cases of gastric catarrh. From these results he draws the conclusion that if the diagnosis rests between functional dyspepsia and ulcer of the stomach, a retention of five, six, or eight hours is strongly in favour of gastric ulcer, and this is almost certain if in addition there remain in the empty stomach 50 c.cm. of hydrochloric acid. Where small amounts only are retained the author considers them to be due to a pathological alteration of the mucous membrane, and he found that this was most frequent in organic lesions than in functional diseases. If this small amount is relatively abundant, an organic lesion of the stomach is almost certain. The author does not consider that the retention of the minutest remains of food has any diagnostic importance.

338. Arterio-sclerosis with Gustatory Paraesthesia.

A. MÜLLER (*Zentralbl. f. inn. Med.*, July 15th, 1911) saw a man, aged 52, who complained of a persistent sweet taste in the mouth, of three weeks' duration. There had been troublesome shortness of breath on exertion for a year past, which was accompanied by precordial oppression and pain radiating towards the left shoulder. The patient was a moderate drinker, but excessive smoker. He had always previously been healthy. The apex beat was heaving and the cardiac dullness was increased to the left. The second aortic sound was accentuated. The blood pressure was 175 mm. of Hg. The *x* rays showed cardiac enlargement and diffuse dilatation of the aorta. Wassermann's reaction was negative. The urine was normal. Except for slight reddening of the mucosa, the mouth appeared healthy. The teeth were in good condition, and the nares were normal. Taste was considerably impaired for acid, sweet, and bitter substances owing to the constant presence of the sweet paraesthesia. The nervous system was normal, and the patient did not appear to be neurotic. He was at first treated with local application and bromides. As these failed, a mouth wash of myrrh and rhatany was prescribed, with 7½ grains of diuretin thrice daily internally. The paraesthesia promptly disappeared. That diuretin, which was given to combat the arterio-sclerosis, was the cause of the disappearance of the gustatory symptoms, was shown by the reappearance of the sweet taste whenever it was discontinued. The patient now takes diuretin constantly, and has remained free from abnormal symptoms for a year. The results of treatment seem to prove that the gustatory paraesthesia was of arterio-sclerotic origin. Gustatory paraesthesiae, especially a sweet taste or that of rotten eggs, are commonest in diabetes. They are otherwise rare, and no case depending on arterio-sclerosis has previously been

reported. The writer has also seen a case of arteriosclerosis which was accompanied by paroxysmal pain in the tongue. The attacks became less intense and less frequent under diuretin, but the patient was lost sight of before a cure was effected.

339. Mediastinal Cyst compressing Trachea.

BLACKADER AND EVANS (*Archives of Pediatrics*, March, 1911) describe a case they consider unique in medical literature. On *post-mortem* examination the cyst lay between the trachea and oesophagus behind the thymus, and appeared to project against the left auricle. The innominate and carotid arteries and the left pneumogastric nerve crossed over it. There was no connexion between the different organs, neither could a pedicle be found. The cyst contained an ounce of clear, mucus-like fluid, was unilocular, the wall was muscular and fibrous, the muscles in two layers; inside of the inner layer the surface was lined by columnar ciliated epithelium. The authors consider the origin of the cyst was a partial persistence of the original fistulous communication between the trachea and oesophagus. The authors describe some other cases of cysts found in the literature, none of which bear any close resemblance to their case.

SURGERY.

340. Ulcer of the Stomach and Duodenum.

WILLIAM J. MAYO (*Ann. of Surg.*, September, 1911) narrates the end results of a series of 1,000 operations upon the stomach and duodenum for indurated ulcer. By indurated ulcer he means ulcer that can be seen or felt in the stomach or duodenal wall. Acute mucous ulcers and erosions do exist and are caused by various gastrotoxic substances; they do not apparently give rise to the chronic indurated ulcers, but he suspects that mucous ulcers, fissures, or erosions of a chronic character may exist, and show no evidence of their existence on the exterior of the stomach. The proximal duodenum above the common duct is embryologically, functionally, and pathologically closely related to the stomach although morphologically it has the appearance of small intestine. Its mucous membrane is thin and granular without valvulae conniventes and it does not possess any great degree of muscular action. He controverts three preconceptions. In the first place chronic benign ulcer of the stomach is *not* so much more common than duodenal ulcer as is supposed. Of the 1,000 cases in his series 428 were classified as gastric (including all the ulcers around the pylorus which really are duodenal) and 572 as frankly duodenal. He thinks that 2 out of 3 cases of ulcer will be found to have their origin in the duodenum rather than in the stomach. In the second place it has been an almost universally accepted statement that benign ulcer is more common in women than in men. In Mayo's 1,000 cases, 255 were women and 745 were men. In the third place, as regards the number of ulcers present in the involved organ, it has been alleged that multiple ulcers are the rule. This may be true of acute toxic ulcers, but it is not so of the chronic indurated ulcer, more than 95 per cent. being single. The greater number of gastric and duodenal ulcers are situated within two inches of the pylorus, and the clinical picture is fairly definite and well-known. Haemorrhage, both obvious and occult, is less important in diagnosis than he had formerly believed, and cannot be regarded as pathognomonic. The most important diagnostic sign is food retention, not necessarily gross obstruction, but such as causes particles of food to be found in the stomach eight or more hours after a meal. Differential diagnosis between duodenal and gastric ulcer is not difficult, but is not essential; location of the lesion is duodenal if there is a long interval between food and pain and if pain is situated to right of middle line as well as in the epigastrium. Other conditions, gall stones, appendicitis have similar symptoms: a differential surgical diagnosis at the time of operation is quite as essential as a differential medical diagnosis before operation. The cases are classified as follow: I. Gastric ulcers —(*a*) ulcers with obstruction, pyloric or hour-glass; (*b*) ulcers without obstruction, usually ulcers of body of stomach. II. Duodenal ulcers—(*a*) treated by gastro-jejunostomy with or without infolding the ulcer; (*b*) ulcers treated with or without pyloroplasty or Finney's gastro-duodenostomy. The operative mortality over all was 2.4 per cent.; much better results were obtained during the past six years, when the operative technique had been thoroughly worked out. It is observed that wherever the obstruction is marked the results are favourable, and in the earlier days, previous to 1906, most cases operated had marked obstruction of the pyloric outlet. Excision the ulcer with or without pyloroplasty is not satisfacto on account of formation of adhesions. The Finney ope tion gives good results in suitable cases. He finds th practically all ulcers situated close to the pylorus a accompanied by obstruction are relieved by gast jejunostomy, whether or not the ulcer is excis Wherever possible the ulcer is excised, on account the liability to malignancy. In ulcers of the body of t stomach without obstruction the best results are obtain from combination of gastro-jejunostomy and excisi Excision alone of ulcers in posterior wall of stomach not satisfactory, on account of formation of adhesio and later gastro-jejunostomy has been required. Wh excision of the ulcer is difficult and dangerous sutu (pentagonal) may be applied so as to cut out the ul base, the portion included within the stitch bei destroyed, and a second row of musculo-periton sutures is inserted. In a few cases ulceration of t stomach is so extensive that no operation on the stoma is possible, and jejunostomy for jejunal feeding w complete gastric rest is found necessary. Mayo's c clusions are: (1) That the treatment of all duodenal a all obstructing ulcers of the pyloric end of the stoma by gastro-jejunostomy and excision or infolding the ul is satisfactory, and gives 98 per cent. of cures or gr improvement; (2) that 85 per cent. of ulcers of the bo of the stomach will either be cured or greatly relieved excision or devitalizing suture compression with gast jejunostomy. The remaining 15 per cent. will be more less benefited. The mortality of the surgical treatm of chronic gastric and duodenal ulcer is well un 2 per cent.

341. Ribs in Transplantation of Bone.

W. J. DOBROTWORSKI (*Zentralbl. für Chir.*, No. 32, 19 points out that there is general agreement that autopla is the best and safest method of bone transplantati and suggests the ribs as being the most conveni material. A piece of rib from the antero-lateral part the thoracic wall is specially suited by its elasticity a plastic peculiarities to make good defects of the cra bones, particularly of the markedly convex parts of t skull. The rib is resected with the external periosteu The median surface is necessarily freed subperiosteal but its smooth surface is particularly valuable, especia where the dura is lacking. If the rib proves to be massive it can easily be split lengthways by an osteoto chisel. The author first made use of a rib for tra plantation in 1910 for a defect in the region of the fron eminence with considerable disfigurement resulting fr the falling in of the frontal eminence and the supercili ridge. A piece of rib 10 cm. (4 in.) in length was split i two halves lengthways. An excellent result was obtain both as regards making good the defect and also cosmet ally. During the last year three other cases of defect the skull and one of naso-frontal cephaloma have b treated with complete success on the same plan. T ribs can also be used for defects in the bones of t extremities. The author in one case filled in a def 6 cm. (2.4 in.) in length of the humerus with the help two ribs, and the functional result was excellent. T patient, a boy 16 years of age, had had a large pi struck out of the upper third of the humerus by a sh at close quarters, and several sequestra subsequen formed, so that finally there was a defect of the ab length of the bone in its whole thickness and the li was useless. After the external wound had healed pie of the seventh and eighth ribs from 5 to 8 cm. (2 to 3.2 i in length were resected. The ends of the broken b were freed from scar tissue, the medullary canal w opened, and one piece of rib was fixed in with its ends the medullary canals of the broken ends of the humer the other rib was laid outside and each end secured w a stitch. After eight weeks firm growth resulted, a the function of the limb was restored.

342. Stay in Bed after Abdominal Operations.

COSENTINO (*Gazz. degli Osped.*, July 2nd, 1911) belie that patients are kept in bed for an unnecessarily l period after abdominal operations. For the last year has tried a different method, and as the result of experience is convinced that a long stay is unnecessa Most of his patients—he gives brief details of 30—were on the eighth to twelfth day, and without suffering in a way. The advantages of a shortened period in bed sufficiently obvious. Others have suggested a shor period, but the author is not in favour of that.

OBSTETRICS.

343. Lactation Mastitis.

A. SCHILLER (*Monats. für Kinderheilk.*, No. 11, 1911) calls attention to the present classification of lactation mastitis, which he considers to be faulty. Usually the textbooks group lactation mastitis under two heads: (1) Phlegmonous mastitis, which is said to be the commonest form, and is attributed to infection through a fissure in the nipple; retention of milk ensues, and the condition may go on to abscess formation. (2) Simple retention mastitis, which is a transitory condition provided the child is soon given the breast. The writer considers that practically every case of lactation mastitis is due to retention of milk, from which all other evils follow, and that local inflammatory conditions around a fissure are rarely, if ever, the cause of lactation mastitis. Were it otherwise the inflammation would first cause a cutaneous inflammation, or a progressive erysipelas, or a phlegmon of the subcutaneous tissue and the interlobular fatty and connective tissue of the breast, the condition resembling that which arises elsewhere in the body from infection through an abrasion of the skin. But if this were the explanation of lactation mastitis the inflammation would be interstitial, while, as as a matter of fact, lactation mastitis is almost always intralobular, the inflammation beginning within one lobule, and spreading thence if unchecked to neighbouring lobules. Attention should therefore be concentrated on milk stagnation, which is practically the sole cause of lactation mastitis. Czerny-Keller has demonstrated the presence in milk of numerous bacteria, which are harmless enough under normal conditions; but when there is obstruction to the escape of milk from the breast, an inflammatory condition arises which is similar to that caused by obstruction to drainage from sebaceous glands, the bladder, the pelvis of the kidney, or the gall bladder. Probably the present confusion with regard to the etiology of lactation mastitis is partly due to the fact that it is so often associated with a fissure of the nipple; but this is only an indirect cause of lactation mastitis, for it leads the mother to cut short each feed on account of the pain caused by the fissure, or to exclude the painful breast from every other feed. This procedure inevitably leads to milk stagnation and subsequent mastitis. The writer holds that a valuable advance in the treatment of retention mastitis has been effected by Bier's suction treatment, which is capable of warding off abscess formation. After suction has been practised once or twice a day for three quarters of an hour each time the milk is withdrawn either by the breast pump or by massage. When a considerable quantity of milk has thus been withdrawn, the child is put to the inflamed breast, and the mother is encouraged to continue breast feeding, as suckling induces active hyperaemia, which is an important preventive of mastitis. Between the feeds the breast should be bandaged in such a manner that the nipple occupies its centre, and no opportunity for kinking of the milk ducts is afforded. Dealing with operative treatment for abscess in the breast, the writer advocates the employment of large radiating incisions with drainage, which he prefers to puncture treatment, combined with Bier's suction treatment. The operator should take care that the circular muscle fibres about the areola of the nipple should not be wounded by these incisions. As retention mastitis is one of the commonest causes of the abandonment of breast feeding, its appearance should be diagnosed early in order that the treatment, on the lines indicated above, may be most successfully adopted. Fortunately at the present time this complication is seldom dangerous for the mother, but it frequently leads to early weaning of the child, which henceforth is dependent on artificial foods, the inferiority of which, to the mother's milk, has again been repeatedly emphasized by leading pediatric physicians.

GYNAECOLOGY.

344. Carcinoma and Sarcoma Combined in the Ovary.

ERNEST CULLEN (*Johns Hopkins Hosp. Bull.*, October, 1911) reports a case of some importance, as the true pathology of a solid ovarian tumour is necessary to be made clear, so that relative malignancy may be estimated and the chances of recurrence calculated. Carcinoma and sarcoma, as two separate tumours, have been repeatedly observed in the uterus. In 1904 a report was read before the Johns Hopkins Hospital Medical Society of an adeno-carcinoma of the body of the uterus, showing a stroma of mixed-celled sarcoma. Two years ago Taylor reported a case of adeno-carcinoma of the thyroid gland with a stroma of mixed-celled sarcoma in much more active growth. Ernest Cullen has failed to find any record of such a tumour developing in the ovary. He therefore publishes a complete pathological report of an instance of combined adeno-carcinoma and mixed-celled sarcoma of the ovary, removed by T. S. Cullen. The patient was a single woman, aged 50, subject for several months to pelvic pain. The pelvis and hypogastrium were filled by a rather tender hard tumour; it interfered with micturition, so that the catheter had to be employed. There was oedema of the vaginal vault with suspicious induration. Abdominal section was at once undertaken. The tumour occupied the left ovary and looked very malignant. The bladder was drawn high up, and was adherent to its posterior (*sic*) surface. The uterus and both appendages were removed; there was close adhesion between the tumour and the opposite (right) ureter which demanded a complicated dissection, until about a third of the pelvic peritoneum was removed with the internal organs. No malignant tissue visible to the naked eye was left behind. The tumour measured nearly 6 in. in its longest diameter by $5\frac{1}{2}$ in. by $2\frac{3}{4}$ in. It was on the whole smooth outside, and in form like a normal ovary, which is the rule in ovarian sarcoma, carcinomas being more lobulated. The tumour is figured with photomicrographs of sections. A few weeks after convalescence recurrence occurred in the pelvis. The patient died eleven months after the operation. General peritoneal metastases were discovered, and a big cystic tumour occupied the pelvis. The cysts contained new growths, mixed, but with sarcoma tissue predominating. In the primary solid ovarian tumour the carcinomatous elements prevailed, yet the peritoneal metastases were purely carcinomatous.

345. Gonorrheal Endometritis and Cervicitis.

W. T. DANNREATHER (*Med. Record*, November 4th, 1911) states that in gonorrhoea in the female the endometritis and cervicitis are much more difficult to diagnose than the urethritis; the chronicity, danger of complications, and resistance to treatment are also greater in the former conditions. The gonococcus is frequently found in the secretions from patients in whom the disease was not suspected. It is found in little girls, in young women before marriage, and in unmarried women after the menopause. Indirect infection may occur from towels, toilet seats, etc. A married woman may for a time resist the disease of her husband, and later, on account of lowered resistance, succumb to it. No patient should be considered cured until repeated examination of the secretions has shown the gonococcus to be absent. In every case of vaginal discharge a microscopic examination of the discharge should be made. A thick greenish discharge, or one that excoriates the vulva, should always be suspected. The appearance of the cervix may be such as to resemble a cauliflower, or it may be swollen and everted. Specimens should be obtained on a little sterile cotton from the meatus urinarius, the cervical canal, and the vaginal orifice. If no gonococci can be detected in the cervix and they are found in the vagina, it is because they are hidden in Bartholini's glands. Intrauterine injections are frequently responsible for the spread of the disease. The acute cases should be kept in bed on a bland diet, and should be given vaginal irrigations by means of a syringe, with a nozzle having a hole in the end instead of at the side. Subacute cases should be treated in the office by dilating the cervix and irrigating the uterus with a hot watery solution of iodine, 1 drachm to the quart, or of silver nitrate 1 in 5,000. Nabothian glands must be punctured and sterilized. The uterine cavity may be curetted and swabbed out with iodine.

THERAPEUTICS.

346. Non-operative Treatment of Appendicitis.

RUDOLF (*Canadian Med. Assoc. Journ.*, October, 1911), in considering the treatment of appendicitis from a physician's point of view, divides the subject into five stages: (1) The early stage. Immediately any symptoms of acute appendicitis appear the patient must be kept absolutely quiet, all food by the mouth stopped, and no aperient medicine given. If vomiting is present, stomach lavage is useful, and thirst may be relieved by small saline enemata. In this early stage the question of operation depends upon

whether skilled surgery is available, and when this can be obtained early operation without delay is certainly advisable in every well-marked case which is manifestly getting worse, as also in every fulminating case. When skilled surgery is not immediately available, opium should be administered in sufficient quantities to keep the patient comfortable, in addition to the complete rest, starvation, and avoidance of aperients. (2) When a case has passed the early stage, and lasted more than a day or two, the question of operation is more doubtful, and in the immense majority of cases the inflamed area has become walled-off, and the danger of general peritonitis is unlikely in a case carefully treated by opium, starvation, etc., and is too slight to warrant cutting down upon an inflamed appendix, so that operation in this intermediate stage should only be performed when vitally indicated. The occurrence of general peritonitis demands immediate operation, but when an abscess has formed which is well walled off there is but little danger of this bursting into the peritoneal cavity, and it can be opened in due course. (3) Occasionally relapses occur without the patient being free from symptoms in the interval, and, although these may quieten down under medical treatment, they usually call for operation. (4) After complete recovery the inflammation recurs in a certain percentage of cases, and for these the comparative safety of operation in the quiescent period renders it the best treatment. (5) Some patients after one or more attacks of appendicitis never appear to be well, and, though in many instances removal of the appendix may effect a cure, there is frequently a neurasthenic factor to be dealt with which may militate against complete cure after operation, and the influence of an erring appendix with its adhesions has probably been overemphasized. In such cases, if a careful course of medicinal and dietetic treatment fails to cure, then the removal of the appendix should be advised.

347. Radio-Active Earth and Radium in the Treatment of Rheumatic Arthritis.

A CASE of acute articular rheumatism cured by radium is described by Madame Fabre (*Arch. d'électr. méd.*, October 25th, 1911). The rheumatism was of somewhat unusual form, evolving without great febrile reaction, without urinary phenomena, and with localizations rebellious to all save radium treatment. The pain was preceded by erythematous sore throat and some head symptoms. At first it attacked only the two tibio-tarsal articulations, and was accompanied by a redness extending along the calves of the legs. Three days later it appeared at the left radio-carpal, and brought with it functional impotence and an oedematous redness, the latter extending upon the back of the hand, and in some degree upon the forearm. Movement of the fingers was difficult, especially the opposition of the thumb. Intramuscular injections only slightly influenced the condition, and subsequent salicylic treatment (4 grams per day) resulted in some diminution of pain in the lower limbs and a slight reduction of temperature, which, however, never rose above 38° C., or just over 100° Fahr., during the whole course of the disease. At the radio-carpal articulation the pain persisted, together with the swelling and restriction of movement. An application of packs of radio-active earth upon the affected parts was then made with the continuous current for half an hour. On the following day there was distinct amelioration, and the digital movements were made with greater freedom. This treatment with radio-active earths, 15 milliampères of current being applied for half an hour daily, was continued, and within a week the oedema at the wrist had diminished slightly, but an eruption appeared at the back of the hand. A day or two later three vessels each containing 1 centigram of radium salt (activity, 500,000) were applied to each of the articulations involved for two hours, and the amelioration was progressive until, within little more than a week, the patient was able to leave the hospital. Three days afterwards, however, he was back again with some return of the pain. Another radium application was made, and on the following day there was amelioration. Seen a week later he appeared to be completely cured and capable of doing his work without pain or inconvenience. The case shows that, whereas radio-active earths may have a favourable action on the pain-symptom, it may require radium itself to bring about the rapid cure.

348. Incandescent Light as a Therapeutic Agent.

NOT much is heard of incandescent light as a therapeutic agent on this side of the Atlantic, but Howard Humphris, vice-president of the American Electrotherapeutic Association (*Archives, Roentgen Ray*, October, 1911), reports good results in the relief of pain and the treatment of skin diseases with an incandescent electric globe of 500 candle-power, having a single carbon filament which carries 12 ampères of current. A cluster of small lights will not answer the same purpose as the one filament carrying the larger ampèrage. The lamp is installed in such a manner that it can be swayed slowly backwards and forwards over an affected area for twenty minutes or half an hour. No clothing, however diaphanous, should intervene between the lamp and the skin, and the distance at which the lamp is held will depend upon the tolerance of the patient. When deciding as to the duration of treatment and the frequency of applications, the physician must be guided by the results obtained. Sometimes it is well to make applications daily; at other times bi-weekly. The physiological effects are chiefly dilatation of the superficial vessels and glands, removal of venous stasis, and bactericidal action on superficial germs. The practical results are relief of pain and restoration of functional activity both in the skin and in the deeper glands. The author has found this form of treatment succeed when others have failed in acne, eczema, and other skin diseases. The relief of pain is found more particularly in cases of rheumatic and rheumatoid diseases of the digestive system. Passed up and down the spine for ten or twelve minutes and then applied for a similar period to the abdomen, the lamp will relieve neurasthenia and insomnia. The author has also obtained definite and satisfactory results in abdominal pains over the region of the appendix, and he believes—although he speaks on this point with diffidence—that there are certain cases of incipient appendicitis which have been aborted by the early use of this light.

349. Pharmacological Action of Salvarsan.

FERRANNINI (*Rif. Med.*, September 25th and October 9th, 1911), as the result of a series of experiments with reference to the pharmacological action of salvarsan, draws the following conclusions: *In vitro* salvarsan, even in comparatively strong solutions (2 in 1), does not destroy or change the blood corpuscles. It has a quick and constant erythrocytogenic power, markedly shown in the regeneration of the erythrocytes in acute anaemia following blood loss. Its action is much less marked in this respect as regards the reproduction of leucocytes, and the drug has no causative action in leukaemia. Although it helps notably in the reproduction of the red corpuscles, it has little or no influence in the formation of haemoglobin. Salvarsan makes no marked change in the blood-count formula except a slight, inconstant, and transitory increase in the lymphocytes at the expense of the polymorphonuclear cells. In healthy individuals the resistance of the red and white corpuscles, the alkalinity and coagulability of the blood are unchanged by salvarsan, nor is the oxidating powers of blood in any way modified by it. It acts as a haematinic in the same way as do other arsenical preparations—namely, by stimulating the activity of the haematopoietic organs, and especially the bone medulla.

PATHOLOGY.

350. Mongoloid Maculae.

CONSIGLIO (*La Pediat.*, July, 1911) under this title describes those curious pigmentary stains, usually of a bluish colour, which are sometimes seen on the sacral or gluteal region of infants. The condition was supposed to be a special peculiarity of Japanese babies. Apparently it is not confined to the Japanese, for out of 1,457 children seen in Parma during last year the author was able to find 32 who showed these pigment stains, and he gives diagrams illustrating the site and size of the spots in each case. In colour they vary from a distinct blue to various shades of blue and violet. They do not disappear on pressure, and may fade off into the healthy skin, or end abruptly in sharply defined lines; they may appear as discs, streaks, or dots of pigment. In any case, they usually disappear in later life. As to their etiology, the author takes the view that they are probably atavistic, and due to some distant Mongolian admixture, and he points out that in the fifteenth century a large trade was done in foreign slaves—for example, Venice alone imported every year 10,000 persons of every race. It has been suggested that these spots are abortive cases of spina bifida.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

351. Hypodynamia Cordis Diarrhoeica.

THE effect of constipation in giving rise to secondary symptoms referable to the heart is generally recognized. V. Jaworski (*Wien. klin. Woch.*, No. 34, 1911) deals with a condition less often observed, that in which the use of the customary laxatives either causes the appearance of cardiac symptoms or leads to an increase in their severity should they be already present. The author gives five illustrative cases. In one of these the patient, a man 61 years of age, suffered from pulmonary emphysema, from myocarditis, arterio-sclerosis, spastic constipation, and from the condition of hypodynamia cordis under consideration. As a result of taking aperients, instead of the cardiac tonic which had been ordered, he passed four or five diarrhoeic stools and suffered from weakness, sense of cardiac oppression, oppression in the stomach region, and from breathlessness. He lay in bed with a typical "facies abdominalis"; the pulse was 90, arrhythmia small and scarcely palpable, the heart sounds were feeble, the liver enlarged and tender. The patient's condition became worse, and he died after three days with the symptoms of cardiac asthma. In none of the other cases was a fatal result observed. Among the more common symptoms were pallor and coolness of the skin, general weakness, sense of faintness, a quick pulse, with a tendency to become arrhythmic and feeble, displacement of the apex beat, and feeble heart sounds. The patients, as a rule, were elderly people suffering from latent or manifest inflammatory or nutritive changes of the myocardium. The treatment is difficult. As a rule, the constipation is first allowed to continue for some days. Stronger laxatives, and even the customary aperient waters, are to be avoided, and remedies such as glycerine injections, water enemas, and oil injections, with galvanization of the intestine, insisted upon. Internally belladonna or magnesia usta, both of which are comparatively well borne, may be given. The diet is regulated. Fats, vegetables, and fruit are to be recommended. Should such measures prove unsuccessful, more energetic ones may have to be tried. When heart symptoms are present, as a result of diarrhoea, the patient must be at rest in bed, and measures adopted with a view to changing the distribution of the blood from the anachnic area to the periphery muscles and brain. Thus, strychnine is given to contract the intestinal vessels, caffeine and alcohol to widen the peripheral ones. Hot-water bottles are applied to the skin. Opium and styptics are given to influence transudation. Patients are to be warned against "cures" in which purgatives are often administered, and the warning should be specially emphatic in the case of older patients in whom arteriosclerosis is suspected, and in whom there is less power on the part of individual organs to resist fatigue.

352. Diagnostic Value of Von Pirquet's Cuti-Reaction in Children.

MÉROZ AND B. KHALATOFF (*Rev. méd. de la Suisse rom.*, October 20th, 1911) have investigated the value of this sign in children below the age of 15 years. They rigorously followed von Pirquet's technique and employed Koch's concentrated tuberculin. The following conclusions were reached: (1) The cuti-reaction is the simplest and most practical method for the early diagnosis of tuberculosis in children. (2) The value of a positive reaction is the greater the younger the child. (3) In an infant, especially if breast-fed, a positive reaction is rare. No reaction was obtained in 15 infants under 6 months, but of 15 between 6 and 12 months a reaction was obtained in one. The percentage of tuberculosis (6.6) agrees almost exactly with that found by Binswanger as the result of 532 autopsies in children below one year, which was 6.8 per cent. (4) The more the child approaches adult life the more positive reactions are obtained. Thus, between 1 and 4 years the percentage of positive reactions rose to 20, a figure which agrees closely with the 39 per cent. of tuberculous cases found in a series of 2,596 autopsies in children of this age at Kiel. Between 10 and 15 years the reaction was positive in 70 per cent. of the cases. Thus, though with advancing age the diagnostic value of the test diminishes, it at least gives valuable information as to the presence in the blood of tuberculous antibodies. (5) The cuti-reaction may be negative, in spite of the presence of tuberculosis, if applied a few days before death. The tuberculous antibodies cease to be produced when the general condition is very grave. The reaction may also fail to appear in cachectic conditions, in the presence of pneumonia, in tuberculous meningitis, acute miliary tuberculosis, and measles. In one of the writers' cases there was apical consolidation, von Pirquet's reaction was negative, and the diagnosis of acute lobar pneumonia was made. *Post mortem* caseous foci were found in the centre of the pneumonic infiltration, which had evidently obstructed the reaction. (6) In every case in which a negative reaction is obtained a second test should be made eight days after the first. Only then has a negative result any real value. (7) The reaction was positive in 175 of 337 children examined in the children's wards at Geneva (in 51.9 per cent.). (8) Of 159 children with certain or probable signs of tuberculosis the reaction was positive in 143, or in 90 per cent. (9) Of 178 children who presented no signs of tuberculosis a positive reaction was obtained in 29, or in 10.6 per cent. (10) A necropsy was made in 35 fatal cases. In 15 in which no tuberculous lesions were found *post mortem* the cuti-reaction had been negative. Of 20 cases in which there were tuberculous lesions the cuti-reaction had been present in 18. Of the two cases in which the reaction had been negative, one was complicated by extensive pneumonia and one by tuberculous meningitis. (11) There is no agreement between the intensity of the reaction and the extent of the tuberculous lesions, but the reaction tends to become feeble or absent in severe cases.

353. The Variability of Disease.

BANTI (*Rif. Med.*, January 2nd, 1911) discusses briefly three diseases in which a change in type seems to have occurred in recent years. The diseases are appendicitis, pneumonia, and typhoid. With regard to appendicitis (excluding mild cases of appendicular colic), the author believes that it is absolutely more frequent than it used to be. He does not believe that food has much to do with its causation, and still less the presence of so-called foreign bodies in the appendix. He believes it originates chiefly via the intestine, and not via the blood, inasmuch as he has never found organisms in the blood in the early stages of the disease. He suggests that the greater frequency may in some obscure way be associated with the greater frequency of influenza, as the two conditions are very often correlated. With regard to pneumonia, he draws attention to a group of cases where, in spite of general improvement after the crisis or even after lysis, the temperature keeps up for seven to ten days without any recognizable complication to account for it. He supposes that in these cases there is a slow absorption of some pyrogenic material, probably the exudated cells. As regards typhoid, the classical type of invasion is frequently replaced by a sudden rise of temperature, great inconstancy in splenic tumefaction, failure of diarrhoea or typhoid state, and marked irregularity of the temperature chart, the pyrexia being notably remittent in type. Excluding the group of paratyphoids, which as yet cannot be clearly differentiated clinically, it is possible these cases are really typhoid, but the organism has in some way altered its type, just as we know may happen with regard to some of the diplococci. Usually these anomalous cases of typhoid are associated with clearly marked cases of that disease; and for this reason, amongst others, the author believes they are, in spite of their anomalous character, really cases of typhoid and not a new disease.

354. Pulmonary Concretion expelled during a Fit of Coughing.

BRANDEIS (*Gaz. hebdom.*, April 23rd, 1911) relates this unusual occurrence as having happened to a doctor aged 43. Both the patient's parents had died of tuberculosis, and he himself had suffered from tubercle of the right apex, but this had become arrested. There was some chronic bronchitis with bronchiectasis on the right side, but the left lung was normal. Expectoration was abundant, thick, and inodorous, and an examination revealed neither tubercle bacillus, Charcot-Leyden crystals, nor elastic fibres. There were, however, many Gram-staining organisms. One day during a fit of coughing the patient felt the presence of something unusual in his pharynx,

and spat out a large mass dark green in colour, swollen at one extremity and thinned out at the other. At the thinner end there was buried a hard mass, dry and brittle in consistence, which, on micro-chemical examination, was found to consist of phosphates, fibrin, and haemoglobin. There were no other organized elements. A second rather smaller mass followed. The author expresses his difficulty in determining the nature and origin of this concretion. It may be, he suggests, a portion of a small bronchus and necrosed pulmonary parenchyma in the immediate vicinity. Or perhaps a pseudo-membranous cast of a bronchus which has undergone a sort of mummification by prolonged retention in the bronchus, with secondary infiltration by mineral salts. Again, the mass may be an old tuberculous process which has undergone calcareous transformation. The author concludes by saying that he considers the case worth mentioning as adding to the limited number of cases of pulmonary lithiasis which have been reported.

SURGERY.

355. A Rare Sarcoma.

WALKER (*Canadian Med. Assoc. Journ.*, October, 1911) records a case of rare sarcoma occurring in a woman, aged 48, who complained of trouble in the left arm and right leg. The family history was negative. Two years previously her right toe was frozen, and, under treatment by an old woman, separated at the metatarso-phalangeal joint, accompanied, apparently, by an attack of septicaemia, the patient being covered with a rash. A month later a painless subcutaneous nodule developed over the tendon of the extensor hallucis, about 1 in. above the metatarso-phalangeal joint, to be followed rapidly in the course of the internal saphenous vein by others, which grew in size and became painful. Five months ago the left arm began to swell rapidly above the elbow-joint, and became painful and useless. A large tumour could be felt in the right iliac fossa, firmly adherent to the pelvic brim and the deep tissues of the thigh. The liver was normal, and though the apices of the lungs were shrunken, there were no signs of active trouble. There was marked oedema of the right labium majora extending backwards to a mass of solid oedema over the sacrum. The right leg was very oedematous, and from the base of the great toe, and along the course of the internal saphenous vein, fourteen nodules existed, varying in size from a marble to half an orange. They were firm, sessile, non-capsulated, slightly tender, and the majority were of a bluish-red colour. The popliteal space contained a large, deeply lying mass over which the skin was adherent, and in Scarpa's triangle there was a large, tense, purple tumour, the size of half an orange, the overlying skin being thin, smooth, shining, and adherent. At the junction of the middle and lower third of the leg was a slightly indurated black mole. A large, firm, spindle-shaped tumour occupied the lower third of the left humerus and involved the elbow-joint, the overlying skin being adherent and reddish, and the hand was oedematous. On the right scapula was a solid, sessile, non-fluctuating tumour as large as an egg. A month prior to death spontaneous fracture of the left humerus occurred, and other tumours appeared having similar characteristics to those already described. A portion of the tumour over the tendon hallucis removed for examination exhibited the characteristics of typical round-celled sarcomata, with some deposit of pigment, and *post-mortem* pigmentation was found also in the bronchial glands, in a metastatic tumour of the lung, and in the lung itself. The pigmentation present in the tumours of the extremities was due to blood, and there was no pigmentation in the newer growths of the body, extremities, or abdomen. From the clinical, pathological, and histological findings this case would appear to be the rare form of idiopathic multiple pigmented sarcoma described by Kaposi as a separate clinical type.

356. X-Ray Diagnosis of Osseous Rarefactions.

THE radiological diagnosis of osseous rarefactions, says Delherm, in a communication to the Société de Radiologie Médicale de Paris (*Bull. et mém.*, No. 26, 1911), is far from being precise. A recent case brought forward by Laquerrière, in which the radiograph showed a complete disappearance of osseous tissue from a portion of the front of the tibia, leaving a well-defined niche, was variously diagnosed as due to a gumma, an osseous hydatid cyst, sarcoma, osteoporosis, tuberculosis, and a lesion following upon arterial obliteration by embolism. A similar case o Delherm's own was rather more satisfactory. The radio graph showed, 3 cm. from the end of the tibia, a clear, egg shaped cavity, 5 cm. in length and 2 cm. in width. Al the lower part of the tibia was modified in appearance especially at the external border, which was raised an enlarged. He tested the radiograph according to the indi cations lately given by Amédée Granger: (1) Osteosarcoma produces a paler shadow than normal osseous tissue, an across it are irregular denser areas, rendered white on th negative owing to the calcification, giving a general appear ance on the negative of frosted glass streaked with whit paint; (2) "large osteoma" gives an appearance not unlik the foregoing, but the shadow is much more dense, an does not entirely cover the osseous segment; (3) in circum scribed osteomyelitis the central shadow is surrounded b a border of osteo-sclerosis, and in an extensive case th bone appears as though riddled by holes; (4) tuberculosis of the bone gives a pale shadow, almost always commenc ing at the epiphyses and extending to the articulations (5) syphilis of the bone shows darker shadows, and here i is the periostosis which gives the irregular appearance. I the case in question there was osseous thickening aroun the cavity, and as this does not exist in osteosarcoma th diagnosis lay between osteomyelitis and syphilis. In bot these conditions there is hyperostosis, but in syphilis th hyperostosis is raised, and more irregular than in osteo myelitis. For this reason, and in spite of the fewness o the reacting symptoms which had accompanied the evolu tion of the case, the diagnosis of osteomyelitis was made and shortly afterwards was confirmed by a surgical inter vention. In the subsequent discussion Laquerrière, wh had charge of the similar case to which allusion was mad at the beginning as the subject of so many contradictor diagnoses, stated that an observation of the steady progres of decalcification had forced him to the belief that the cas was not an osseous hydatid cyst as he had at first thought but that it was a sarcoma, differing, however, from every other sarcoma of which he had experience in that n deformation of the bone had occurred, and that the slende line which represented the periosteum was absolutely regular.

357. Ureteral Stone.

LEOPOLD CASPAR (*Wien. med. Woch.*, No. 37) deals with th diagnosis of stone in the ureter. Subjective symptom may be inadequate for making a diagnosis between ston in the kidney and stone in the ureter. Palpation as a means of diagnosis may be quite untrustworthy, and th tenderness due to ureteral stone may simulate that o appendix disease. Red blood cells will be present in th urine in all cases of ureteral stone which are causing pain but it is now known that in some cases of nephritis wit colic albumen may be temporarily absent, while blood cell and hyaline and granular cylinders may be present. Eve catheterization of the ureter may be deceptive, because, o the one hand, the catheter often passes a stone in th ureter, and on the other, it may be stopped by folds of th mucous membrane or deviations in the ureter. And again functional examination of the kidney combined with th passage of a ureteral catheter may fail to show an differences between the kidneys. Radiography remains the best agency for enabling a diagnosis to be made although in stout persons stones may not be visible on th plate, and mistakes may also arise from shadows due t phleboliths, calcified glands, or projections from th pelvic bones. A combined process will, however, enable diagnosis to be made even in such cases. A ureter catheter armed with a steel tip is introduced. The ray are now applied, if necessary first from one direction an then from the other; it at once becomes evident whethe the doubtful shadow and the tip of the catheter are an remain in contact with one another, in which case th presence of stone can be diagnosed. The author describe a case in which all the customary methods failed to clea up a doubtful diagnosis between nephritis with colic an stone in the ureter. The localization of the pains migh have signified either perityphlitis or ureteral stone Attacks of colic might have been due either to stone o to nephritis. Hyaline and granular cylinders were presen in the urine and were suggestive of nephritis. Th ureteral catheter could be passed for 15 cm. (6 in.) on th right side, and could not be passed far on the other. Th functional action of both kidneys was the same. Roentgen ray examination showed a round shadow in the neighbou hood of the bladder, but this, in the opinion of a first-rat expert, was not caused by a stone. It was only the use o the catheter and the Roentgen rays applied from tw directions which showed that the shadow always staye in contact with the end of the catheter, and was that of

stone. The difficulties of the method are obviously too great for use in every case, but they can be overcome in expert hands.

OBSTETRICS.

358. Pituitrin in Obstetrics.

C. HAHL (*Finska Läkaresällskapets Handlinger*) gives an account of his experience of pituitrin in obstetric practice at the university clinic in Helsingfors. The drug was given subcutaneously to 34 patients, the course of labour in each case before and after an injection of pituitrin being recorded at considerable length. Apart from its stimulating action on uterine muscle, pituitrin raises the blood pressure, it increases the force of the contractions of the heart, which beats more slowly, and it increases diuresis, intestinal peristalsis, and the contractions of the bladder. The action of pituitrin on the course of labour differed considerably among the 34 patients, although the dose was usually the same (0.5 to 1 gram). Twice Caesarean section was performed with the aid of pituitrin, which, in one case, was injected directly into the wall of the uterus. In 22 cases the drug increased the pains and hastened labour to a marked degree, in 6 other cases it had a similar though a somewhat less powerful action, and in 2 cases it had no action whatever on the course of labour. In 4 cases the action of the drug on the uterus was tested by Professor Westermark's apparatus, which records graphically the strength of uterine contractions in millimetres of mercury, the duration of labour pains, and the intervals between them in seconds. By this objective method of gauging the action of pituitrin on the uterus more satisfactory evidence is obtained than by the mere clinical estimation of the strength of labour pains, which is inevitably a matter of personal opinion to a large extent. In one of these cases the course of labour before an injection was observed for 38½ minutes, during which there were sixteen pains lasting an average of 87 seconds each. The average maximum uterine contraction with each pain measured 87.5 mm. of mercury. After the injection the average duration of a pain was 64 seconds, and the average maximum uterine contraction was 130 mm. of mercury. Before the injection the average period between each pain was 67 seconds, and the uterine contraction measured 32 mm. of mercury; after the injection this period was shortened to 53 seconds, and the contractions were raised to 37 mm. of mercury. In other words, after an injection of pituitrin the pains became shorter and stronger; the intervals also became shorter, while the intrauterine pressure at this stage was raised. In the second case in which the pains were tested by Westermark's method, the above conclusions were confirmed, the changes in force and frequency of labour pains being even greater after an injection than in the first case. In the first case the action of pituitrin began to pass off 20 minutes after the injection, and in the second case this period was as long as 80 minutes. In the third case a similar increase of labour pains followed an injection which successfully terminated labour 37 minutes later. In the fourth case, however, the injection had no influence on labour as shown by Westermark's apparatus. Probably the dose of pituitrin was too small. In 6 cases it was found necessary to repeat the injection once before a satisfactory increase in labour pains was induced, and once a third injection was necessary. Although the writer obtained such excellent results in the majority of his cases, he is doubtful as to the great value which many observers have attached to this drug, extolling it as the ideal, long sought for remedy for uterine inertia. It may be that a larger dose would have been effective in the three cases in which no reaction followed the injection; but, as Westermark's test showed, the drug shortens the intervals between labour pains and raises the intrauterine pressure during this period, and therefore it is possible that a large dose would cause tetanic contractions of the uterus, and endanger the child's life after the membranes have been ruptured. With the large injections of pituitrin which are now given in many maternity hospitals, fatal accidents to the child are not likely to be wanting in the near future. The action of a second injection of pituitrin on the same patient is not invariably similar in all cases. Sometimes it acts more powerfully and sometimes less so than the first injection, and in the writer's experience frequently no reaction occurred till the second or third injection had been given. As patients react so differently to the same dose, he advocates the adoption of a small initial dose, followed if necessary by larger doses till a reaction occurs. This cautious procedure should, however, be limited to the period of expulsion of the child. *Post partum*, the drug should be given in one large dose if haemorrhage is impending, when uterine contractions cannot be too powerful. The writer began with doses of 0.5 to 0.7 gram of pituitrin during labour, but he soon found a dose of 1 gram give more sure results. This dose may be repeated twice in the course of labour over a period of a few hours. As much as 3 grams have been given in one dose by some writers, but this is certainly too much, as a case has already been recorded in which a dose of 2 grams had a far too violent effect. No toxic effect has been observed by the writer or others after the injection of pituitrin either during or after labour. Klotz holds a high blood pressure, due to such conditions as nephritis, as a contraindication; but others have disregarded his warning with impunity.

GYNAECOLOGY.

359. Syphilitic Uterine Haemorrhage.

JOSEF V. JAWORSKI (*Wien. klin. Woch.*, No. 29, 1911) has had under his care during the last six years 8 cases of obstinate uterine haemorrhage of syphilitic origin. There is a syphilitic angio-sclerosis of the uterus marked by a hardening of the uterus to a quite characteristic consistency; the process, as a rule, only attacks the lower segment of the uterus, but may spread to the whole organ and even to the parametric tissues. As a rule, the blood vessels are affected, and the syphilitic arteritis of tertiary syphilis may be the most prominent, and indeed may be the only, uterine change. The loss of elasticity of the uterine tissue, together with the hardening of the uterine vessels, may give rise to frequent, copious, and obstinate bleeding from the uterus, both at the menstrual period and in any hyperaemia of the uterus. The author gives notes of five of his cases. In the first of these the haemorrhages had been excessive during three years, and three "cures" with saline baths and peat baths had done no good, nor had curetting the uterus. At this time the man with whom the patient—an unmarried woman—cohabited came under treatment for tabes. Antisyphilitic treatment was now given to the woman, with the result that the abnormal haemorrhages altogether ceased, and the uterus became smaller and also became normal in consistency. The symptoms which suggest tertiary syphilis of the uterus are very little characteristic. The most constant symptom is the occurrence of uterine haemorrhages which resist local treatment, and the next in frequency is an obstinate offensive muco-purulent discharge. The loss of blood always results in severe anaemia, which may even go on to a kind of cachexia. The uterus is usually increased in bulk, occasionally is atrophic, its tissue is lacking in normal elasticity, and may be hard, sometimes almost of cartilaginous hardness. A history of habitual abortion, usually at the same period of pregnancy, would be a great help to diagnosis. In the ulcerated forms of late syphilis of the uterus carcinoma of the uterus may be wrongly diagnosed. Diffuse or circumscribed gummata of the uterus may be mistaken for myomata of the uterus.

THERAPEUTICS.

360. The Futility of Giving Tuberculin by the Mouth.

B. MÖLLER AND W. HEINEMANN (*Deut. med. Woch.*, October 5th) record their researches dealing with the oral administration of tuberculin. These researches were prompted by Robert Koch, who also superintended the greater part of their investigations. Two questions were raised: (1) What influence have the digestive juices, (*a*) of the stomach and (*b*) of the intestine, on the specific action of tuberculin? (2) Is it possible to prescribe tuberculin by the mouth so that it will pass unchanged through the stomach and be set free in the intestine? A number of capsules were tested, for which it was claimed that they remained undissolved in the stomach while they dissolved in the alkaline secretion of the intestine. These capsules, which had been hardened in formalin vapour, were tested in (*a*) natural human gastric juice, (*b*) artificial gastric juice, (*c*) artificial intestinal juice, (*d*) artificial intestinal juice after the capsules had been exposed to the action of gastric juice, (*e*) water as a control. Some capsules resisted the action of the gastric juice, but they took three to six hours or more to dissolve in the intes-

tine; others dissolved in artificial but not in natural gastric juice, while they took about four hours to dissolve in the intestine. Others, again, escaped undissolved with the faeces. The claims, therefore, for such capsules are not always made good, although they are fulfilled in some preparations. In attempting to answer the question whether the specific action of tuberculin is affected by its administration by the mouth the writers adopted the following procedure: They first tested the specific action of Old Tuberculin after it had been kept (1) in saline solution as a control, (2) in natural gastric juice, (3) in artificial gastric juice. Further control solutions (*a*) of natural gastric juice, (*b*) of artificial gastric juice, (*c*) of glycerine in bouillon, were also prepared. All six solutions were placed in the incubator for four hours, after which several patients were tested by von Pirquet's method with adjacent cutaneous inoculation of each solution. It was found that the Old Tuberculin in saline solution was but slightly affected, whereas the Old Tuberculin in natural gastric juice had lost much of its specific potency. Similar conclusions were drawn from inoculations in tuberculous guinea-pigs, the intraperitoneal injection of tuberculin which had been acted on by gastric juice causing no reaction, while a similar injection of pure tuberculin caused the death of the guinea-pig with symptoms characteristic of tuberculin poisoning. The destructive action of the digestive juices on tuberculin was further demonstrated by the complement fixation method of Bordet and Gengou, which showed that hydrochloric acid and pepsin reduced the specific bodies in Old Tuberculin considerably, while a still further reduction of the specific antigens in a solution of Old Tuberculin was affected by trypsin and the combined action of pepsin and trypsin. Although these observations indicated the futility of the oral administration of tuberculin either for diagnostic or therapeutic purposes, further observations were made in man, tuberculin in capsules being given by the mouth. Doses as small as 0.01 mg. were given at first, but these were raised to doses of 250 mg. given four times a day when the smaller doses were found to give no reaction. These enormous doses, which are twenty times greater than the maximum dose for subcutaneous injection, usually cause no rise of temperature or any other reaction. For diagnostic purposes, therefore, the oral administration of tuberculin is utterly valueless. But does it still produce any degree of immunity? This question is also answered in the negative, for whereas the subcutaneous injection of Old Tuberculin at the end of a course of treatment when large doses are given induces immunity demonstrable by the absence of von Pirquet's reaction, no such evidence is forthcoming after the oral administration of tuberculin. Further, a tuberculin, cutaneous, or ophthalmic reaction is frequently seen to flare up again during a course of tuberculin treatment when the subcutaneous or intravenous method is employed; but this phenomenon has never been observed by the writers after the oral method of administration. The action, if any, on the tissues produced by tuberculin given by the mouth can further be tested by the subcutaneous injection of tuberculin. Given subcutaneously in increasing doses to a tuberculous subject tuberculin effects an immunity demonstrable by the fact that the organism at first reacts violently to the small doses and not at all to the subsequent large doses. If, therefore, the oral administration of large doses of tuberculin has produced any immunity, the subsequent subcutaneous injection of a small dose of tuberculin should produce no reaction. The contrary is, however, the case in practice. No focal reaction such as frequently follows the subcutaneous injection of tuberculin was ever observed after the oral administration of tuberculin. In the majority of their patients treated by the oral administration of tuberculin the writers observed a gain in weight and a subjective sense of improvement; but similar results are obtained by rest in a hospital alone, and, while the subjective condition may show improvement, the physical signs often show stationary or actively progressive disease. After the oral administration of tuberculin reactions such as fatigue and headache, which often follow the subcutaneous injection of tuberculin, were never observed. Occasionally the capsules containing tuberculin were vomited, and others reappeared unchanged in the faeces. The writers conclude that the oral administration of tuberculin is as harmless as it is futile.

361. A New Preparation of Opium.

PARASPORO (*Rif. Med.*, August 28th, 1911) gives his experience of pantopon, a new preparation of opium. It is soluble and contains all the alkaloids of opium in the form of hydrochlorates, but freed from the colloid material (fats, wax, and resin). Owing to its easy solubility it is rapidly absorbed, and may be given by the mouth or hypodermically. The ordinary dose is 1 to 2 grains hypodermically. It may be used in all cases where opium or morphine is indicated, and, except in very rare cases, does not give rise to any of those unpleasant effects which are often seen after the administration of morphine. Moreover, it succeeded in some cases where morphine had failed. Owing to its greater solubility, it is not indicated in cases where a prolonged use of opium (for example, in some intestinal diseases) is necessary, but as a sedative for troublesome cough, as a hypnotic, and as an analgesic it is said to be superior to morphine; in haemoptysis, peritonitis, appendicitis, and painful post-operative conditions, the author has found it very useful. Fourteen cases of various kinds of disease are given in brief where pantopon was given with success. The preparation was first introduced by Sahli.

362. Practical Application of Bacterial Vaccines.

MARTIN J. SYNNOTT (*Med. Record*, October 14th, 1911) states that the essentials of success in administering vaccines are the knowledge and experience necessary so to determine the dosage and intervals between inoculations as to cause the immunizing responses, and the production of the bacterial antitoxins which circulate in the blood and pass into the focus of infection. Vaccines aid in producing immunizing substances only in persons who have the necessary power to react to the stimulus. Failure to recover may be due to inadequate or slow immunizing response, to a severe or prolonged negative phase, or to some interference with the free circulation of the antibacterial agents through the focus of infection. In generalized infections one can only hope to raise the patient's resistance by cautious minimum doses, and such treatment should be given only by an experienced immunizer under the control of the opsonic index. The localized infections are a field for the general practitioner, and excellent results may be obtained by the use of vaccines. In joints or foci walled off by connective tissue the antibacterial substances cannot reach the infected focus. Inoculations should be repeated every two to ten days. Staphylococcal infections such as furunculosis are rapidly cured by vaccines, stock vaccines being used, the dose varying from 50 to 750 millions. Streptococcus infections are an important class in which excellent results have been obtained. Erysipelas shows excellent results, as do acne and gonorrhoeal affections. The milder pneumococcal infections may be treated in this way. Both in the prophylaxis and cure of typhoid fever inoculations are of value. The immunity lasts several years, and the dosage is definitely determined. Early cases of tuberculosis are benefited, and tuberculous glands yield rapidly. Bacterial vaccines retain their efficiency for a long time except in the case of typhoid vaccine. A reliable stock vaccine may be used while waiting for the production of an autogenous one.

PATHOLOGY.

363. Experimental Leprosy.

DUVAL AND GURD (*Journ. of Exper. Med.*, August, 1911) maintain that few, if any, of the ordinary laboratory and domestic animals are immune against infection by *Bacillus leprae*. To obtain successful results a sufficiently large number of organisms must be employed, and particular attention must be paid to the fact that second and subsequent inoculations are more liable to produce leprous lesions than are the primary inoculations. The first dose, when only moderate in amount, merely produces a condition of hypersensitiveness which prepares the way for the second inoculation. Lesions arising as the result of a second inoculation develop more rapidly and persist for a longer period than those resulting from a single inoculation even with a very large dose. It is also found that the bacilli in the lesions produced by a second dose are more liable to lead to metastasis and generalized infection. It is interesting to compare these results with the development of the disease in human cases, where prolonged and intimate contact with leprous patients is usually requisite before infection is induced. The authors state that in their attempts to infect various mammals with cultures of human leprosy they have obtained positive results in almost every instance after the second injection. "In this manner we have been successful in the production of lesions in the monkey, goat, horse, guinea-pig, and mouse."

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

364. Crises of Hypersecretion in Gastric Ulcer.

MATHIEU (*Journ. des prat.*, October 7th, 1911) points out that these crises are found principally in ulcers of the pyloric region, although they occur in a less marked degree in the other sites of gastric ulcer. There may in these cases also be haematemesis or melaena, but the more pronounced symptom is pain. Another notable feature of these cases is the presence of a hyperchlorhydric residual fluid found in the stomach in the morning, this containing no alimentary detritus. The vomited matter may be almost black in colour or simply of a brownish tinge, like bouillon, and may fill a basin. The pain is coincident with spasm, and at first is relieved by taking food or by the administration of alkalis, but finally it resists this treatment. This is especially characteristic of pyloric or juxtapyloric ulcer. It may occur also in ulcer of the lesser curvature, but in this case there is an absence of the morning fluid with clapotage, such as is found in the former case. A diagnosis has sometimes to be made from tabetic crises. While the main symptoms are sometimes identical, in tabes there is not generally a progressive dyspepsia, and the attack is sudden, as is also its termination. On examination there is no clapotage and no pain on pressure. These crises of an ulcer in evolution must be distinguished also from the painful crises of stenosis of the pylorus of malignant origin. In these cases the hypersecretion is due to the stasis. Further, the vomited matter is of a foul and disagreeable odour. The appetite, too, of these patients is bad, and the increasing feebleness and general aspect all help to confirm the diagnosis of malignant disease. The gastric phenomena associated with uraemia may give rise to painful crises with hypersecretion, but the evident signs of Bright's disease in one form or another will prevent mistakes. The slighter forms of the condition may be healed by complete rest, and subcutaneous injections of atropine to relieve spasm. Alkalis are almost useless. Pylorectomy or gastroenterostomy may have to be performed.

365. Pericholecystitis in Children.

MONINI (*La Pediatria*, May, 1911) says that this condition is commoner in young children than is generally believed; he gives brief clinical records of 17 cases in quite young babies verified *post mortem*. Out of 2,674 autopsies performed by the author on children below 4 years of age, pericholecystitis was present in 14.7 per cent. The relation between pericholecystitis and appendicitis is interesting; there may be no connexion, but if any such connexion exists it is usually from the gall bladder to the appendix, and not vice versa. Infective germs pass from the intestine without much difficulty into the biliary apparatus, as the bile has no antiseptic value. As might be expected, the *B. coli* is the most frequent offender. The author describes in a good deal of detail the appearances found in these cases, and illustrates with photographic reproductions. In some cases the gall bladder and appendix have been found bound together by adhesions; whilst appendicitis is rare in early infancy, cholecystitis is not infrequent. The clinical diagnosis of the condition is extremely difficult; a cry of pain, aggravated by movement, not relieved by the passage of faeces or flatus, is a constant symptom. Jaundice may or may not be present. Tenderness over the gall bladder region is frequently found. The temperature in the acute phases is raised. Urobilinuria is frequently seen, and indicanuria is almost constant (88 per cent.).

366. The Leucocyte Count during Sleep.

CULPIUS (*Sem. méd.*, June 28th, 1911) draws attention to some interesting facts in this connexion. Hitherto the influences of food, fasting, exercise, and certain medicaments have been recognized as affecting the leucocyte count. The author points out the sleep must be added as another physiological factor, which produces a marked alteration of the leucocyte equilibrium. Impressed by the discordant reading of the blood in tuberculous cases, very comparable clinically, the author has come to the conclusion that the time at which the blood count is made is responsible for this. If the blood of an individual asleep or awake is examined, it is found that the lymphocytes, which are normally 25 per cent., rise to 40 per cent. or more, while the polynuclears diminish in proportion as do the eosinophiles and basophiles. Two or three hours later, when the patient has begun to move about, the normal ratio is established. The actual total of leucocytes per c.mm. undergoes only slight variation, as do the red cells and percentage of haemoglobin. The author quotes, among other cases, that of a tuberculous patient whose blood examined during sleep gave a total of 18,500 leucocytes per c.mm. Of these, 74 per cent. were polymorphonuclears and 16 per cent. were lymphocytes. The result of an examination later in the day showed a total of 17,500, of which 80 per cent. were polymorphs and 7 per cent. lymphocytes. Indeed, a tuberculous person examined during the day may present a lymphopenia, whereas during sleep and rest there may be a normal average of lymphocytes. The author suggests that the slowing of the circulation during sleep may suffice to explain the condition as an unequal distribution of the elements of the blood—the heavier elements accumulating in the heart and great vessels, while the lighter elements circulate in the peripheral vessels. He is not, however, satisfied with such an explanation. The results obtained, however, go to show that, contrary to the usual opinion, the leucocyte equilibrium is not constant physiologically apart from the effect of food, exercise, and other influences.

367. Intradermic Reaction in the Diagnosis of Syphilis.

FONTANA (*Gazz. degli Osped.*, October 3rd, 1911) gives his experience as to the results of injecting various substances into the skin in relation to the diagnosis of syphilis. The substances used were: (1) Syphilin—that is, a glycerine extract procured from flat condylomata rich in treponemes; (2) sodium glycocholate in 10 per cent. watery solution; (3) phosphoplasmin, a preparation made from egg lecithin; (4) extract of guinea-pig's heart. Of these four substances the only one which gave at all satisfactory results was syphilin. This was tried in 67 patients, of whom 51 were syphilitic and 16 non-syphilitic. Of the 51 syphilitics 27—that is, 53 per cent.—gave a positive reaction twenty-four hours later, consisting in true skin infiltrations—not mere hyperaemic maculae, whilst in the other 16 cases only 2—that is, 12.5 per cent.—reacted. The best results (45.4 per cent.) were obtained in cases of secondary syphilis. Comparative tests in 40 cases were made with the Wassermann test, and whilst positive results were obtained in 85 per cent. of them, only 47.5 per cent. were positive to the syphilin test, which shows the superiority of the Wassermann test; but with improved technique the author believes the syphilin test may give better results in the future. The sodium glycocholate only gave 40 per cent. of positive results; probably stronger solutions might give better results, but, on the other hand, they would probably be too irritating.

368. Anarthria.

CLAUDE (*Journ. des prat.*, August 5th) relates the history of one of these rare cases. The patient was a woman who had previously had good health, and whose family history was also good. She became pregnant in January, 1908, and did well until the later months, when she suffered from headache and vomiting, finally becoming comatose. A child was born dead, the comatose condition lasting for for some days after this event. On recovering consciousness the patient was found to be paralysed on the right side and to have completely lost the use of words. The paretic symptoms improved considerably, and finally the sole trouble persisting was the aphasia. The patient understood what she was asked to do and could execute physical movements perfectly. This was proved by simply telling her to do a certain thing, but not showing her how to do it. There was no deafness, therefore. She likewise understood writing, and could carry out what she was asked to do in this way. There was, therefore, no agraphia. If asked to pronounce certain words, however, there was noted a marked defect of articulation, although even when her words were unintelligible it was possible to tell from the correctness of her syllables that she had a clear idea of the word required. There was no paralysis of the lips, tongue, or palate. The author then discusses the variety of affections for which the word "aphasia" is used. He points out that recent views seem to be that there are two principal classes which can be included in what is known as Broca's aphasia. In the one there exists both motor and

sensory troubles; in the other there is only speech difficulty. In cases in which the mental representation of the word is preserved, but the path of communication is cut between this centre and that for the movement of the lips necessary for articulation, the name of "aphemia" or "anarthria" has been given. In those cases of which this is an example there is no intellectual disability, and the patient may be able to follow her occupation, and is entirely responsible for her actions. The condition is curable by re-education of the muscles.

369. Congenital Lymphosarcoma of Spinal Theca.

G. BERGHINZ (*La Pediatria*, Naples, 1911, xix, 276) reports the case of an infant, born normally of young and healthy parents, that showed paralysis of both its legs, beginning three days after birth. A week later it came under his observation; it weighed 3 kg., and was a normal child but for flaccid paralysis and anaesthesia of the legs, beginning three fingerbreadths below the umbilicus; the anus was patent, the urine dribbled continuously, the deep reflexes of the legs were absent, and the muscles of the legs did not respond to electrical stimulation. The temperature was normal; Wassermann's reaction was absent; the child wasted and died in a fortnight. Nothing abnormal was found *post mortem* except in the spinal canal; a small-celled lymphosarcoma, 4 cm. long and nearly 2 cm. wide, was found in the lumbar region between the eleventh dorsal vertebra and the promontory of the sacrum. It was soft, gelatinous, adherent to the dura mater, and crushed the spinal cord. Berghinz's description leaves it uncertain whether the tumour arose from the dura or the periosteum. Apparently no secondary deposits were found.

SURGERY.

370. Linitis Plastica (Cirrhosis of Stomach).

HENRY H. M. LYLE (*Ann. of Surg.*, November, 1911) gives a full historical survey of this disease with a complete list of synonyms, a synopsis of all the cases known, and a bibliography of 242 references, together with a report of a case under his own observation, cured by gastro-jejunostomy. Brinton, in 1854, was the first to claim for the condition that it was a special disease of the stomach. He named it "linitis plastica," and pointed out that it was benign in nature, characterized by a diffuse or circumscribed increase in the connective tissue, involving chiefly the submucosa and to a less degree the other layers of the stomach, so that the stomach walls were markedly thickened and its lumen as markedly diminished. Clinically the disease is characterized by insidious onset, slow progressive gastric symptoms, cachexia, death. Other names suggested are sclerosis of the stomach, chronic interstitial gastritis, gastro-intestinal sclerostenosis. The pathology is not yet clear; it has been suggested that it is a stage of advanced gastritis, a primary atrophy, a result of chronic passive hyperaemia due to cardiac insufficiency, a diffuse cancer of the stomach. But amidst all the theories two main ideas stand out—one that linitis plastica is a special affection of an indefinite nature and cause, the other that it is a special form of scirrhous cancer. Two forms are recognized—the local, which is rare; the general, which is the commoner. In the latter the stomach is found to be a shrunken, thick-walled tube, often so rigid that on removal collapse of the viscus does not occur, but its original shape is maintained; its peritoneal covering is dull grey in colour and scarred in appearance. The stomach wall is greatly increased in thickness, even to six or eight times the normal, the submucosa playing the chief part in the abnormal thickening. The mucosa is often normal in appearance and function. In marked involvement of the walls the knife seems to be cutting through cartilage. Tumour formation is uncommon; it is a flat infiltrating process, and associated chronic peritonitis is generally present. Microscopically it is seen that the most marked and constant lesion is a diffuse hypertrophy of the connective tissue elements of the submucosa. The bundles of white connective tissue traverse the layers in irregular bands surrounding the blood vessels and interlacing with one another. The resemblance of this tangled interlacing of fibres to the weave of sail-cloth suggested the word "linitis" to Brinton. The symptoms are at first those of indefinite dyspepsia, then vomiting, anorexia, gastric pain, and tenderness. Vomiting is that of a small stomach intolerant of any but a small quantity of food. The points in favour of benignity are: A history of cardiac insufficiency, endarteritis; its occurrence in comparatively young people; its long duration; absence of evidences of dilatation of stomach; the slow decrease in size of stomach; the infrequency of haematemesis and melaena; the character of the cachexia, that of a starvation rather than poisoning; the appearances to the *x* rays after a bismuth meal. The treatment depends on the difficulty of establishing that the disease is not cancer, or at least a precancerous state, and so gastrectomy is the operation of choice. Gastro-enterostomy may be, and has been, successful, as in the author's case.

371. Extensive Calcification of Lymphatic Ganglia.

A CASE of extensive calcareous infiltration of various ganglionary territories, for which the authors have been unable to find a parallel in medical literature, is described by Rocher and Spéder (*Arch. d'électr. méd.*, September 25th, 1911). The patient, a woman aged 36 years, who had had enlargements in the neck from girlhood, was first treated for an ulceration of the tongue. Lingual tuberculosis was demonstrated, and to this was added an epitheliomatous reaction. An operation was performed, and it was discovered that on both sides of the neck, in the submaxillary region and above the clavicle, there were chains of very hard fibrous masses. Later there was great distension on one side of the neck, accompanied by sharp pain, both locally and by irradiation, in the occipital region and the nape. A month afterwards a cold abscess made its appearance over the sternum, and invaded one of the mammary glands. This cleared up under treatment, but a radiograph made on that occasion revealed an extensive calcification of ganglia, affecting the submaxillary, cervical, supraclavicular, and intrathoracic groups. At this time the condition was thought to be one simply of ganglionary tuberculosis, but later investigation proved the co-existence of tuberculosis and cancer in the same organs—namely, the tongue and ganglia. Radiotherapy was unavailing, and gave rise to an irregular reaction. The submaxillary and upper cervical regions at this stage were greatly tumefied; salivation was present as well as difficulty in swallowing, and there was a bitonal voice by reason of the oedema of the arytenoid region. A palliative intervention was made, but the patient died shortly afterwards. A special point of interest in the case was the radiograph, which showed on each side of the vertebral column, from the mastoid and suboccipital region to the supraclavicular, and to some extent even towards the diaphragm, abnormal shadows, arranged like knotted cords, and consisting of closely compacted opaque masses varying in size from a pea to a large bean. In places these small shadows had an opacity greater than that of the vertebrae or the ribs, and it was possible even to see the retropharyngeal ganglia in front of the mass of the vertebral bodies. The sterno-cleido-mastoid muscle was limited both within and without by the superficial and deep cervical chains. Certain of the masses were formed almost entirely of opaque deposits of nebulous aspect, others were homogeneous deposits of clear contour. The ramified and spongy aspect frequently noted in calcified glands in the lumbar and renal region most nearly approached the appearance observed in this patient.

372. Gastro-colic Fistula discovered by X Rays.

AN interesting case, incidentally proving the value of radiological screen-examination before surgical intervention, has been related by Menuet before the Société de Radiologie Médicale de Paris (*Bull. et mem.*, October, 1911). The patient, aged 24 years, began to suffer in boyhood from violent sick headaches, accompanied by abundant vomiting. Towards the age of 20 these attacks became more frequent, sometimes taking place twice a week. The vomiting was very acid and bilious, and generally appeared about a quarter of an hour after a meal. Its frequent repetition and the patient's consequent emaciation gave rise to neurasthenic troubles, with a suicidal tendency. The patient was pronouncedly of the hyperchlorhydric type. Before ultimately making a laparotomy, a radioscopic examination was undertaken, and this proved that there was no abnormality in the oesophagus, that the fundus of the stomach was two fingerbreadths below the umbilicus, that there was no gastric dilatation, and that more than normally energetic contractions in the juxta-pyloric zone appeared in association with a certain degree of pyloric stenosis. Very little bismuth was evacuated by means of the pylorus, but it was discovered that the bismuth was being passed through a gastro-colic fistula until the colon was filled with the successive ball-shaped masses of the meal. It was thus clear that this hyperchlorhydric patient had pyloric stenosis, because of the unusual energy of the peristaltic contractions and the feeble evacuation towards the duodenum, and that he had

a gastro-colic fistula, the stomach emptying into the colon. The fistula was situated at the angle formed by the transverse and the descending colon. In view of the feebleness of the patient, a rapid gastro-enterostomy was done, and the fistula was not obliterated. The patient rapidly got well, the vomiting ceased, and within six weeks he had gained 11 lb. in weight. Two subsequent *x*-ray examinations were made within three months of the operation, and both showed that the stomach was enlarged in its tubular portion, that the juxtapyloric region was the site of peristaltic contractions, that the bismuth passed with great difficulty by way of the pylorus, that the new gastro-jejunal opening had a perfect function, and that the old fistula appeared to have no functional capacity. Even when the abdominal walls were made to contract very forcefully, nothing passed directly from the stomach into the colon.

OBSTETRICS.

373. Pyelitis during Pregnancy.

ERNST VENUS (*Wien. klin. Rundsch.*, Nos. 33 and 34, 1911) reviews the literature on the subject of pyelitis during pregnancy. The etiology of pyelitis gravidarum is not yet established with certainty. Probably infection may be either an ascending infection from the bladder, or may be by way of the blood vessels or the lymphatics, the customary infection being the ascending one. Albeck found that in some cases considered to be pyelitis in pregnancy pus had been present before pregnancy began, and Kermanner looks upon the condition as often only of the nature of an acute relapse of a latent colipyelitis. Bacteriuria may exist without pyelitis, and it is certain that damming back of the urine plays a great part in the production of pyelitis. Albeck suggests that defective function of the sphincter vesicae during pregnancy may change a bladder bacteriuria into a cystitis, but that the bacteria do not make their way in the ureters unless there is stagnation of urine as a result of compression. It does not appear that the compression can always be the result of pressure by the pregnant uterus, because in a certain number of the cases pyelitis sets in during the first half of pregnancy, when pressure by the uterus on the ureter cannot be accepted as a cause. To such cases the explanation suggested by Mirabeau and Hartmann may be applicable—namely, that the mouth of the ureter is closed by the pressure of the thickened and swollen bladder wall. Hartmann has also pointed out that the swelling of the mucous membrane of the whole urogenital tract, together with the changes of form of the bladder during pregnancy, may be important factors in hindering the flow of urine and causing stagnation. The present author, while not denying the pressure of the uterus as one of the causes of pyelitis in many cases, would lay even greater stress on the causes assigned by Mirabeau. The *Bacillus coli* is the most frequent infective organism, but staphylococci, streptococci, and *Bacillus proteus* are often found. The symptoms and course of a pyelitis of pregnancy are, as a rule, somewhat typical, and the diagnosis is usually not difficult if cystoscopy and catheterism of the ureters are carried out. Appendicitis, cholelithiasis, threatened miscarriage, and paranephritic abscess are the conditions to be considered in making a differential diagnosis. The prognosis for the mother is, as a rule, good as far as her life is concerned, but not so absolutely good with regard to complete recovery. The prognosis for the life of the child is usually unfavourable, but is better the nearer to the end of pregnancy the pyelitis sets in. The treatment is in the first place conservative. Catheterism of the ureter and lavage of the pelvis of the kidney are indicated in all severe cases. Artificial interruption of pregnancy only comes into question in the rarest cases, and is only indicated in severe degenerative processes in the kidneys.

GYNAECOLOGY.

374. Interstitial (Tubo-uterine) Pregnancy and the Curette.

STONE SCOTT (*Amer. Journ. Obstet.*, November, 1911) in a clinical address on interstitial pregnancy expresses his belief that it is not nearly so rare as is usually supposed, and that the general practitioner and the obstetrician as well as the pathologist should be on the look-out for it, especially in obscure cases of suspected incomplete abortion where the curette is employed. He distinguishes three distinct varieties. The external interstitial form is that which is best known and is very dangerous. The sac develops in the outermost part of the uterine wall, including, perhaps, some of the contiguous portion of the Fallopian tube. Early rupture seems all but invariable, and the case must be treated as a ruptured tubal sac. A middle interstitial type, where the ovum develops regularly in the uterine part of the tubal canal, the uterine wall of the sac being almost equally thick on its tubal and on its uterine side, has been demonstrated, but it is exceedingly rare. It ruptures early, and, as in the external variety, its surgery is that of ruptured tubal sac. There remains the internal variety where the sac develops close to the uterine orifice of the tube. Stone Scott trusts recent reports of cases of internal tubo-uterine pregnancy and believes that he has himself observed it. He holds that it is more common than dangerous. On *a priori* reasoning the ovum might find its way into the uterine cavity, whether by development or tubal abortion. The author states positively that he has failed to find a single instance on record where a sac, interstitial at first, grew into the uterus, and continued its development normally in the uterine cavity. On the other hand, tubo-interstitial abortion, the normal uterine cavity receiving and expelling the ovum, is, he maintains, not unknown. He quotes three cases in his own practice where symptoms of abortion, painful and incomplete, developed. The curette being used, a cavity was detected corresponding to the junction of the tube with the uterus, whilst there was no evidence that the latter organ was bicornute. In a fourth case Stone Scott feels sure that he succeeded in detecting what he could not find recorded. A swelling as big as a walnut was definable on the right side of the uterus at the third month, the patient had miscarried twice, and she complained of abdominal pain and bleeding. By the fourth month the supposed fibroid was merged into an irregularly-shaped uterus, which became within a month later perfectly symmetrical. When labour occurred, the membranes were so tough that it was necessary to incise them with sharp scissors. Then spontaneous delivery followed. It is certain that the curette not rarely enters a cavity at the cornu when it is employed for an early incomplete abortion, and that in some instances that cavity lies in an "internal" interstitial sac; whilst the interpretation of the lecturer's fourth case may be disputed. He notes that most authorities ascribe to gonorrhoeal or puerperal infection all forms of tubal gestation; but all his four cases occurred in married women who had been entirely free from such infection. All, however, had previously undergone curetting for various reasons. On that account he was inclined to believe that this common therapeutic measure was the etiological factor in the production of these interstitial pregnancies.

THERAPEUTICS.

375. Silver Acetate in Ophthalmia Neonatorum.

HANS TREBER (*Wien. klin. Rundsch.*, Nos. 35 and 36, 1911) reviews the results of the prophylactic use of silver nitrate for ophthalmia neonatorum, and recommends the adoption of prophylactic treatment as a routine measure in private practice as well as in hospital practice. He does not, however, deny the possibility of setting up the so-called "silver catarrh" if a solution stronger than 2 per cent. of silver nitrate is employed, and admits that when a solution is kept for some time evaporation may lead to concentration to a greater strength of silver nitrate, enough to set up irritation when brought into use. In order to avoid this danger, silver acetate, as recommended by Zweifel (1900), is to be preferred to silver nitrate. At a temperature of 14° (58° F.) silver acetate is only soluble to the amount of 1.02 per cent., and therefore too strong a solution is impossible. Its action is as prompt and certain as that of silver nitrate, and, according to some authors, is even better. Thus Thies, in each of 2,000 infants, had 1 per cent. silver acetate solution dropped into one eye and 2 per cent. silver nitrate solution into the other. Five of the children developed ophthalmia, but in two of the cases the inflammation attacked the silver nitrate eye and not the other. To test the value of Credé's prophylactic method, as carried out with either silver nitrate or the acetate, the author has made a study of the statistics of institutions for the blind and of the cases which have come under his own care. The diminution in the number of cases in which gonorrhoea was the cause of blindness was well marked in the case of the Royal Institute for the Blind in Munich, from an average of 42.9 per cent. in the years from 1876 to

1892, when Credé's method would not have been employed for any of the cases, to an average of 25.4 per cent. in the last seventeen years, when the method would have been somewhat widely employed—that is, a fall of 16.4 per cent. The author also reports on the results of treatment in 426 births at the School for Midwives in Munich. In 14 cases, 3 per cent. of the whole, the mothers suffered from a muco-purulent vaginal discharge, but none of the children in these cases developed ophthalmia. In 7 other cases, where there was no suspicion of disease of the mother, there was a purulent eye affection in the child, but only one of these was gonococcal in character—that is, 0.2 per cent. Even this case might evidently have been avoided, and was probably due to some defect on the part of the nurse, since the inflammation affected one eye only. The article concludes with a strong recommendation for the use of the prophylatic treatment in every case, the best solution to employ being one of silver acetate.

376. Diphtheria Antitoxin.

CAILLÉ considers (*Pediatrics*, 1911, xxiii) that when scarlet fever or measles are complicated by diphtheria from the start it is unwise to wait for a laboratory report for confirmation before employing antitoxin. In some forms of bronchopneumonia diphtheria is the primary agent at work. Early and persistent dyspnœa with marked cyanosis are pronounced, and not infrequently large membranes are coughed up. In these cases antitoxin should be given freely in large doses, and 5-grain doses of camphor in oil prescribed every two hours for one day. In cases of whooping-cough antitoxin is indicated as soon as the slightest visible throat or nose exudate occurs. In stomatitis and noma the culture findings are usually negative as to diphtheria, but antitoxin is often valuable in these cases. In foul-smelling sore throat and mouth with a pus-like non-membranous exudate antitoxin frequently acts as a charm, although cultures as to diphtheria are negative. The author recommends as a safeguard for individuals previously sensitized by horse serum the use of a scratch test similar to von Pirquet's test for tuberculosis. If a minute quantity of serum rubbed into a scratch in the skin is followed by severe local or systemic reaction, its further introduction into the system in a full dose is to be avoided.

377. Electrical Treatment of Thyroideal Instability.

LAQUERRIÈRE (*Arch. d'électr. méd.*, September 10th, 1911) suggests electrization of the thyroid body in certain cases of thyroideal instability characterized by various phenomena of hypothyroidation and hyperthyroidation. He publishes three observations, the first two showing clearly the Basedow syndrome (*formes frustes*). A woman, aged 42 years, who had always been nervous and impressionable and subject to palpitation, had shown two months previously a thyroid body, the right lobe of which was more appreciable than the left. Ordinary treatment having no result, a negative galvanization of the thyroid body was instituted (current, 20 milliampères; duration 10, afterwards 15, minutes) with inhalation of ozone. An immediate diminution in the pulse-rate was noticed after each sitting, and the patient rapidly improved. Circumstances made it impossible to continue the treatment after fifteen sittings, by which time the pulse was reduced from 96 to 84, and the crises of breathlessness and palpitation were produced less easily and were less intense. Eight months later the improvement was fully maintained. The second case was that of a young woman, very obese, suffering from general ill health, with crises of palpitation and dyspnœa. The thyroid body was well marked without being, properly speaking, hypertrophied. Negative galvano-faradic treatment was directed upon the thyroid body (10 to 20 milliampères; ten-minute sittings) together with inhalations of ozone, which latter were agreeable to the patient, although six months previously they had not modified her condition. After thirty sittings the patient had greatly improved. From the first there was some amelioration, the patient becoming less subject to breathlessness, although attacks of palpitation still persisted. The third case was simply one of thyroideal instability with appreciable tachycardia (pulse 110). Galvano-faradization of the thyroid body resulted in a considerable amelioration. After twenty-six sittings the pulse was maintained at 74-80, and the palpitation and also the phobia disappeared. From these and other cases the author concludes that when an arthritic or neuropathic patient shows a marked tachycardia it is well to think of a thyroideal origin and to institute an electrical treatment bearing upon the gland itself. This is especially the case if the symptoms fail to respond or respond incompletely to an appropriate medical treatment. The best electrical procedure is negative galvano-faradization.

378. Novojodine.

DRACHTER (*Zentralbl. f. Chirurgie*, No. 34, 1911) describes the use of novojodine as a substitute for iodine in surgical tuberculosis. Novojodine, with the formula $C_6H_{12}N_4I_2$, is mixed with equal parts of talc, and forms a light brown powder, without odour, insoluble in the usual solvents. In addition to other preparations, it can be obtained as a 5 per cent., 10 per cent., or 20 per cent. novojodine gauze. Novojodine in contact with the tissues splits into iodine and formaldehyde. Schattenfroh found that in blood serum, pus, and physiological salt solution, in dilutions of 1 in 1,000, it has a strong disinfectant action superior to that of iodoform. The present author has tested novojodine clinically principally in tuberculous diseases, especially of the bones and joints, and also in tuberculous fistulae and abscesses of the soft parts. In open tuberculosis with suppuration novojodine was found to reduce the amount of pus and to aid in quickly drying up the wound and in the formation of healthy granulations. Tuberculous wound cavities were either filled with a suspension of novojodine or packed with novojodine gauze, and almost invariably the treatment led to a cessation of the suppuration. The author has invariably had good results in the treatment of open-joint tuberculosis. Novojodine is to a high degree deodorant in its action, a peculiarity due to the action of the formaldehyde. This deodorant action was very marked in a case of gangrenous appendicitis. The preparation seems to be altogether non-irritant and non-poisonous. Even used in large quantities for small children there were no unpleasant side-effects, and animal experiments also showed the harmlessness of the drug. Novojodine is stable in the dry state at ordinary temperatures, but is decomposed at high temperatures. It is considerably cheaper than iodoform.

379. Cutaneous Affections consecutive to Salvarsan Injections.

FISICHELLA (*Rif. Med.*, May 22nd, 1911) reports two cases of syphilis treated by gluteal injections of salvarsan (0.60 and 0.40 gram of a slightly alkaline solution respectively) followed at a short interval by skin eruptions. The first case was a man suffering from gummatous ulceration and syphilis of eighteen years' duration. The salvarsan acted very well on the syphilitic lesions, but thirteen days after a typical attack of herpes zoster occurred in the fifth and sixth right intercostal space; the only difference from an ordinary attack of shingles was the mildness and the short duration (about six days). In the second case, a woman suffering from secondary syphilis, ten days after the salvarsan injections an attack of erythema circinatum, preceded by intense pruritus, set in, lasting about five days. A little later the same patient was treated by another doctor with arsenic, and a similar but less marked eruption developed. Both these cases were in the author's opinion due to the injections of salvarsan.

PATHOLOGY.

380. Wassermann Reaction.

J. B. STEIN (*Med. Record*, November 18th, 1911) states that the Wassermann reaction is not positive in syphilis until the seventh week after the appearance of the chancre. A negative reaction does not prove the absence of syphilis, but the positive reaction does prove its presence. Untreated secondary syphilis gives a positive reaction generally; treated secondary cases give a positive reaction when symptoms are present. Untreated tertiary syphilis gives a positive reaction, but treated tertiary may not give it. Latent syphilis often gives a weak reaction; 10 per cent. of tabes and nervous syphilis cases are negative, 20 per cent. incompletely positive, the rest positive. In dementia paralytica the reaction is always positive. In congenital syphilis the reaction is strongly positive. Treatment makes a positive reaction negative; prognosis is bad when this is not the case. This reaction has shown that the mother of a syphilitic child is also syphilitic, and that the child of the syphilitic mother is not immune to it. The serum of nervous and anaemic children and of syphilitics about to marry should be tested by the Wassermann reaction. The great practical value of this test to the masses should be utilized by the establishment of large municipal clinics.

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National Insurance.

ACTION OF THE BRITISH MEDICAL ASSOCIATION.

THE UNDERTAKING AND THE MEMORIAL.

THE following is the text of a circular letter inviting all members of the medical profession in Great Britain and Ireland to sign an undertaking not—should the National Insurance Bill become law—to enter into any agreement to give medical attendance and treatment to insured persons except such an agreement as shall be satisfactory to the medical profession and in accordance with the declared policy of the British Medical Association, only to enter into any such agreement through a local medical committee representative of the medical profession in the district in which he practises, and not to enter into any individual or separate agreement with any approved society or other body for the treatment of such persons.

Any member of the medical profession in Great Britain or Ireland who has not received copies of this circular and form of undertaking, and of the Memorial published in the SUPPLEMENT of last week, page 469, is asked to communicate at once with the Medical Secretary, 429, Strand, London, W.C. The list of addresses of non-members of the British Medical Association which was used was the latest available, but there is reason to believe that, owing to changes of residence, a certain number of practitioners have failed to receive the copies of the Memorial and Undertaking addressed to them last week.

June 21st, 1911.

Dear Sir (or Madam),

National Insurance Bill and the Medical Profession.

In a letter dated June 3rd, 1911, the British Medical Association placed before all members of the medical profession a short statement of the action which it had taken, and proposed to take, on behalf of the profession with respect to the National Insurance Bill now before Parliament. You were informed that as a result of a careful consideration of the whole subject, in the course of which opportunities were given to all members of the profession to take part in meetings convened by Divisions of the Association, the Association had arrived at the following six points upon which, in its judgement, it was imperative that the profession should unitedly insist:

1. An income limit of £2 a week for those entitled to medical benefit.
2. Free choice of doctor by patient, subject to consent of doctor to act.

3. Medical and maternity benefits to be administered by local Health Committees and not by Friendly Societies.
4. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that Committee.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.
6. Adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committees; and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee.

It was also stated that, in the opinion of the Association, the Government should be urged to postpone dealing with the medical benefits under the Bill until a satisfactory arrangement should have been arrived at with the medical profession.

The replies received to this communication, and the reports of numerously attended meetings of the profession spontaneously held in every part of the country, prove that the policy of the Association in this matter is the policy of the medical profession in the United Kingdom as a whole.

Gratifying evidence has also been afforded during the last fortnight of the general public recognition of the justice of the medical demands. Nevertheless, the reports of the conferences of Friendly Societies, and the reluctance of the Government to take such definite action as would secure to the profession even those points upon which the Chancellor of the Exchequer has expressed his agreement, demonstrate the necessity of continued and strenuous efforts, not only on the part of the Association, but on the part of each member of the profession who approves its policy in this matter, if full advantage is to be taken of the present opportunity to place the medical work of this country upon a satisfactory basis. The action necessary to this end falls into two stages—namely, first that which must be undertaken with a view to obtaining necessary amendments of the Insurance Bill in Committee of the House of Commons; and, secondly, the action that must be taken in furtherance of the policy of the profession in the event of the bill becoming law.

For both these purposes it is absolutely essential that the Association should be enabled to produce conclusive evidence that the profession is truly united in support of the above demands. It has been freely stated in the conferences of the Friendly Societies that the policy of the Association goes beyond what a large number of members of the profession approve, and that a very considerable proportion are in sympathy with them rather than with the policy of the British Medical Association. To place beyond doubt the unity of the profession, the Association invites every registered medical practitioner to sign the enclosed Undertaking, and to attest also by his or her signature approval of the enclosed Memorial of the profession[1] to the Government and to Parliament. Please sign both the form of Undertaking and the statement of approval of the Memorial, and forward *at once* in the enclosed stamped envelope, which is already addressed, to the Honorary Secretary of the Division of the Association in whose area you reside.

We are aware that some Divisions have already circulated their own form of Undertaking, but it is deemed to be of such importance that practitioners all over the Kingdom should sign the same form, that you are urged to sign the enclosed, even though you may already have signed a similar document.

There are other ways in which you can also contribute towards the cause of the profession at the present juncture—namely, first, by using your personal influence with your medical friends to induce them to sign the Undertaking and Memorial, if they have not already done so; secondly, by making full use of such opportunities as you have of securing the support of Members of Parliament; and, thirdly, by subscribing to the Funds which are being organized for the purpose of this campaign.

[1] The Memorial was published in the SUPPLEMENT last week (June 24th, p. 469).

As regards representations to Members of Parliament, official deputations representative of the profession in every constituency are being organized by the Divisions of the Association, but you may have opportunities of exercising a personal influence which may be of great value. It is evident that the points upon which the profession is experiencing the greatest difficulty are as regards the income limit of medical benefits, and the emancipation of the Insurance Medical Service from Friendly Society control. On both these points the Chancellor of the Exchequer has referred the profession to the House of Commons as the body whose consent it is necessary to obtain. Every effort will be made by the Association officially to place its policy before Members of Parliament, but it is of paramount importance that each practitioner should do all that in him lies towards inducing Parliament to recognize the justice of these demands and the necessity of complying therewith.

Concerning subscriptions to Funds, I have to inform you that a Central Fund will be organized by the Association and Local Funds will also be formed in many districts. Such Funds may be necessary for the purpose of compensating members of the profession for loss incurred through adherence to the policy of the Association, or for guaranteeing them against such loss, or giving them other necessary financial support. Full particulars of the objects of these Funds will be furnished to you at an early date, but in the meantime it has been thought well to make the fact known that the necessity of such provision has not been lost sight of, and that the necessary steps are being taken to carry it out.

It is abundantly clear that, given union and firmness in the profession, success is within sight. The firmness of the profession is dependent upon nothing more and upon nothing less than the firmness of each individual member thereof. The response to this appeal will show whether the necessary support can be counted upon to assure success.

I am,
Yours faithfully,
J. SMITH WHITAKER,
Medical Secretary.

British Medical Association,
429, Strand, London, W.C.

NATIONAL INSURANCE BILL.

UNDERTAKING BY THE MEMBERS OF THE MEDICAL PROFESSION.

I, the undersigned, hereby undertake that in the event of the National Insurance Bill becoming law, I will not enter into any agreement for giving medical attendance and treatment to persons insured under the Bill, excepting such as shall be satisfactory to the medical profession and in accordance with the declared policy of the British Medical Association; and that I will enter into such agreement only through a local Medical Committee, representative of the medical profession in the district in which I practise, and will not enter into any individual or separate agreement with any approved Society or other body for the treatment of such persons.

Name .....

Address .....

.....

(If holding any Friendly Society appointments, please give particulars below and overleaf, if necessary.)

NAME OF SOCIETY OR ORDER.
e.g., "Oddfellows, Manchester Unity."

NAME OF BRANCH, LODGE, COURT, ETC.,
"Unity Lodge, No. 542."

NATIONAL INSURANCE BILL.

MEMORIAL.

Please include my name as a signatory of the Memorial to the Government and Parliament.

Name .....

Address .....

.....

There seems some reason to think that in the course of communications with M.Ps., by deputation and otherwise, so much attention has been given to the question of the income limit that there is a certain risk that the impression may have been conveyed that the objection of the profession to working under the control of the friendly societies has diminished. To members of the profession it is, of course, quite clear that this is not at all the case, but less stress may recently have been laid on this point than is desirable, because it is generally believed that most members of Parliament are convinced that it is necessary, in the interests of insured persons and medical men alike, to give free choice of doctor. This to the mind of a medical man conveys the consequence that the administration of medical benefit by the friendly society is out of the question. If the patient's choice is to be free from a general list of registered practitioners willing to undertake the duty, the list must be controlled by a public body such as the local Health Committee acting under the advice of the local Medical Committee. It is, indeed, difficult to see what advantage there could be to the friendly societies in administering the medical benefits if the appointment of doctors is not in their hands, and if, further, as has been indicated by the Chancellor of the Exchequer, the conditions would be such as to preclude the societies making any profit out of the money allotted to cover the cost of medical benefit.

AMENDMENTS TO THE BILL.

AMONG the amendments placed on the Order Paper of the House of Commons for consideration in committee which we were unable to notice last week, the most important to the medical profession are those of which Dr. Addison (Shoreditch, Hoxton) has given notice. As will be observed, his amendments in many instances embody the principles laid down by the Representative Meeting and received with so much approval by the medical profession throughout the United Kingdom.

It is proposed here to give some account of Dr. Addison's amendments, and at the same time to make certain observations with regard to those drafted by the British Medical Association.

THE INCOME LIMIT.

It appears to be necessary to lay emphasis on the fact that the income limit of £2 a week, which the Association desires is not meant to apply to sickness and disablement benefits. As far as the British Medical Association is concerned, it matters nothing that persons are compelled or allowed to join the insurance for sickness or disablement. If, to quote the Chancellor of the Exchequer, the Governor of the Bank of England or Mr. Lloyd George himself desires to obtain 10s. a week sickness benefit or 5s. week disablement benefit, the Association has no desire to raise any objection, but the whole profession does most strongly object to the medical benefits of the insurance scheme being accorded to them or to persons with a total income of over £2 a week. The practical experience of the profession shows that persons with an income above this amount are well able to pay ordinary medical fees, and, even where possibly some hardship might be feared, if the whole amount of a doctor's bill were demanded at once, the custom of allowing payment by instalments, made in many parts of the country through a collector, mitigates any difficulties. What persons in the lower middle classes often do find a real difficulty is to meet the serious expenses connected with surgical operations and nursing, and yet, by a sort of bitter irony, the bill would give these persons what they do not need with a concomitant injury to general practitioners, while it neglects to provide what they do need, except indirectly in a way which will inflict hardship on the hospital staffs, and seriously threatens the continued existence and efficiency of voluntary hospitals.

Dr. Addison has not seen his way to put down the amendment desired by the Association, which is to add to paragraph (7) of Clause 8, which enumerates the benefits to which an insured person is not to be entitled, a new subparagraph as follows:

> (*g*) to medical benefit who is in receipt of an average income from all sources exceeding £2 per week.

Dr. Addison has given notice of the following amendment, which would fix the level of exemption from income tax as the income limit for voluntary insurers in respect of medical benefit on special terms acceptable to the medical practitioners and approved by the Insurance Commissioners. This is the limit prescribed in Schedule I, Part II, beyond which persons employed otherwise than by way of manual labour will not be compelled to insure. The bill as it stands would leave it open to them to become voluntary insurers.

> Clause 8, page 8, line 14, at end, insert:
> (*g*) to medical benefit who is not a manual worker, as defined in this Act, and is in receipt of income or remuneration, or income and remuneration together exceeding one hundred and sixty pounds per annum, except upon such special terms, if any, as may be prescribed by the Insurance Commissioners.

ADMINISTRATION OF MEDICAL BENEFIT.

Friendly Societies: Health Committees.

With reference to the relations between the profession and the friendly societies, it was noted in the SUPPLEMENT of last week that Mr. Gibbs, M.P. (Bristol, W.), had put down an amendment to place the administration of medical benefits entirely in the hands of the local Health Committees. The method which he adopts to arrive at this was described, and is somewhat different from that chosen by the British Medical Association, though the same general result would probably be attained. The Association, however, instead of amending par. (3) of Clause 14 as Mr. Gibbs proposes, prefers to delete it altogether and to provide by amending Clause 45 (1) that all sums of money available for medical, maternity, or sanatorium benefit should be paid or credited directly to the local Health Committees, and not through the medium of the approved societies. Dr. Addison has given notice of the amendments desired by the Association, and if the local Health Committees are to administer the medical benefits, it is difficult to see any reason why the funds should reach them through any intermediate societies.

Dr. Addison has given notice of an amendment of this paragraph (3), which, by omitting the first part and altering the second part, would make it read as follows:

> There shall in each year be paid out of moneys credited to each approved society such sum in respect of every member of the society entitled to medical, maternity, and sanatorium benefit, and resident in the county or county borough, as may be agreed between the society and the local Health Committee, or if they do not agree, as may be prescribed by the Insurance Commissioners.

He has also given notice of two amendments to omit from paragraph 1 of this clause (14) the words

authorizing an approved friendly society to enter into agreements with medical practitioners to give attendance and treatment to insured persons. As he has also given notice of a series of new subparagraphs to 14 (1) nearly identical with those desired by the Association (SUPPLEMENT, June 24th, p. 466), it is more convenient to print the whole of this paragraph as Dr. Addison would amend it a little further on.

We have received the following letter from Sir Alfred Cripps, K.C., K.C.V.O., M.P. (Wycombe, Bucks.):

House of Commons,
June 27th, 1911.

Sir,

My attention has been called to an article in your issue of June 24th referring to my amendments to the National Insurance Bill. It is difficult for me to understand how any writer could have so totally misunderstood the purport and meaning of these amendments. Apparently the writer has confused the issues connected with questions of local government with the issues raised by the medical profession, but it would have been better to make inquiries on a complex question rather than to fall into a regrettable misunderstanding.

I may add that I am a staunch supporter of what I understand to be the views of the medical profession, and shall vote for amendments in favour of these views during the Committee stage of the bill in the House of Commons.

Yours truly,
C. A. CRIPPS.

We are very glad to know that Sir Alfred Cripps is a staunch supporter of the views of the medical profession and will vote for amendments in favour of these views, and we regret to have misunderstood the purport and meaning of his amendments. We are, however, so far impenitent as to say that the effect of these amendments still appears to us to be to eliminate the local Health Committees proposed to be set up under the bill, to impose the duties proposed to be assigned to them on "the existing health and sanitary committees" of the counties and county boroughs, and to retain the control of the friendly societies in respect of the administration of medical benefit. The medical profession is altogether opposed and will strenuously resist any attempt to place it under the control of the friendly societies; judging from the experience of the past, it is altogether dissatisfied with their administration, and cannot entertain any suggestion for its continuance and extension. The profession is also opposed to any amendment which would make the Public Health Committee of the county or county borough the insurance authority under the bill. Upon this point Mr. Lloyd George is in agreement with the medical profession, for when replying to a deputation from the County Councils Association and the Association of Municipal Corporations on June 27th he said that he was very glad that there was no demand for making the local Health Committee a committee of the county council in the sense that the council would control it.

"Obviously," he said (we quote from the report in the *Times*), "that would be impossible, because if it becomes a committee of the council the finances must be the finances of the council, and that would be a very serious thing indeed. Under present conditions, the whole of the sanatorium million is handed over to these committees. That million has been raised by the workmen, by the employers, and by the State. To that million the local authorities contribute nothing, except of their free will. In addition to that, they will have the disposal of the funds of the whole of the Post Office contributors. That may amount to millions a year—you cannot be quite certain about that; but at any rate they are funds that are not raised by the ratepayer."

The next paragraph of Mr. Lloyd George's speec will be of particular interest to medical men. H said:

In addition to that they would probably have half t medical attendance of the country under their control, f it looks at the present moment as if something like on half of the whole of the medical attendance of the membe of the societies would be handed over to the local Heal Committees. The Hearts of Oak have already express their intention of handing over their medical attendance the local Health Committee. I understand it is the inte tion of collecting societies and industrial insurance co panies to do the same thing, because they want to get r of the responsibility of setting up a local authority, and t only way they can do that is by handing over the medic attendance to the local Health Committee. That mea the local Health Committees would have something li six millions or seven millions of money raised, not out the rates, but raised out of taxes, it is true, and raised o of the contributions of the industries and out of the cont butions of the workmen. Under those conditions it wou be obviously impossible that a county council which repr sents the ratepayer should administer funds to the exte of six millions or seven millions raised by others quite ou side the persons whom they directly represent. It is p fectly true that if the county councils came to the resc and subscribed one-half, they are entitled then to ask for reconstitution of the local Health Committee in order ensure a larger representation. That, of course, would part of the bargain which they make. When it is ma perfectly clear on the face of it that they are free agen they will be absolutely free to bargain in these respec and they can make the condition that they should ha representation; and if they do not get their own rep sentation, then they will be entitled to say, "Very we we decline to come in and help you."

FREE CHOICE OF DOCTOR.

The Association has found it necessary, in order get the principle of the free choice of doctor establish in the bill itself, to propose a considerable addition Clause 14, but the new subsections suggested see fully to cover every point insisted on by the Spec Representative Meeting, and will leave no doubt as what is intended. Dr. Addison has given notice the desired amendment, and it will be convenient set out here the whole of paragraph 1 of Clause (administration of medical benefits) as he proposes should read.

14. (1) (*a*) Every local Health Committee shall for t purpose of administering medical benefits make arran ments with registered medical practitioners for insu persons entitled to such benefit to receive attendance a treatment to the satisfaction of the Insurance Co missioners from such practitioner.

(*b*) All arrangements of the local Health Committee w medical practitioners for attendance and treatment insured persons shall be subject to the approval of Insurance Commissioners.

(*c*) The local Health Committee shall prepare a list registered medical practitioners who have entered i arrangements with the Committee for giving attenda and treatment to insured persons whose medical benefi administered by the Committee.

(*d*) In the list of registered medical practitioners fr whom insured persons shall make their selection the lo Health Committee shall include all registered medi practitioners who apply to be included, unless in resp of any such practitioner the Insurance Commissioners satisfied after due inquiry that his appointment would prejudicial to the efficiency of the service.

(*e*) The Insurance Commissioners shall have power any time after due inquiry to remove from the list registered medical practitioners for any district any pr titioner whose conduct is deemed by them to be pre dicial to the efficiency of the medical service of insured.

(*f*) Every insured person shall be entitled to select fr the list so prepared a medical practitioner, subject the consent of such practitioner, to attend him wh required.

It is possible that two objections may be raised against these provisions. It may be urged that existing medical officers of friendly societies may suffer loss if free choice of doctor is given all round. But it must be remembered that even if these medical officers were to lose some of their present club patients, which would only occur where there existed some dissatisfaction—and a dissatisfied club patient is not only an unsatisfactory patient but a cause of endless worry—the fees paid on behalf of the remaining members would probably be slightly increased. In addition, if any existing club doctor could show actual loss through loyalty to the rest of the profession, the guarantee funds which are to be raised would be available for compensation. The second difficulty suggested is that if a capitation system be adopted troublesome patients may find it difficult to find any doctor to accept them on his list. The adjustments necessary to meet this and similar difficulties would doubtlessly be matters to be dealt with by the local medical committees.

The Local Medical Committees.

The Association has found it necessary to propose the insertion of a new clause in order to get statutory recognition for the local Medical Committees, and it may be found advisable to add even a further subsection providing for the payment of the expenses of these committees on the same lines as the expenses of the local Health Committees are provided for. Only general intimation of the duties to be assigned to the Medical Committees is given, but in the regulations their powers could be further defined, among them being probably the important duty of dealing with cases of suspected malingering or with practitioners against whom complaints are lodged, and the duty of making recommendations on these and other points to the Commissioners. The local Medical Committees must be regarded as being of the utmost importance, both for securing fair treatment for the profession, and for dealing, as expert advisers to the Local Health Committees, with all questions affecting medical service.

Dr. Addison has given notice of an amendment to insert a new clause which very nearly follows the lines of that drafted by the British Medical Association, and very closely follows the wording, but he has not seen his way to propose that the local Medical Committee should be elected by the registered medical men in the district, but would merely provide that the local Medical Committee shall consist of medical practitioners engaged in medical practice in the district. He has also thought it desirable to substitute for the words desired by the Association providing that the local Medical Committee shall be consulted by the local Health Committee the provision that the local Medical Committee "shall act as advisory committee" to the local Health Committee. The new clause, as he proposes it, would read as follows:

> A local medical committee shall be formed in the area of each county and county borough consisting of registered medical practitioners engaged in medical practice in such county or county borough.
>
> The number of members of each medical committee, the mode of election and period of service of such members of each committee, shall be determined by the Insurance Commissioners.
>
> The local medical committee shall act as an advisory committee to the local Health Committee on all matters concerning the arrangements with registered medical practitioners to give attendance and treatment to the insured and shall discharge such other duties and exercise such powers as shall be determined by the Insurance Commissioners.

The Local Health Committees.

Two methods are suggested by the Association for amending the bill so as to get more adequate representation of the profession on the local Health Committees. By the first method suggested the resident practitioners would directly elect one-fourth of the committee, though with the subsequent addition of a proportion of members by the Commissioners, the medical representatives would not quite number one-fourth of the completed committee. In the second method at least one-fourth of the complete committee would be chosen by the Insurance Commissioners from a list of medical men nominated by the resident practitioners. The first method is considered preferable, as the election by the resident practitioners is more direct, but the second method might possibly give one additional medical man on the committee. The representation of the profession on the Advisory Board and among the Insurance Commissioners is dealt with by amendments following the suggestions of the Representative Meeting, and Dr. Addison has given notice of an amendment providing for representation on the former.

Subsidies to Hospitals.

With regard to Clause 17 of the bill, which gives power to the approved societies to subscribe to hospitals and other charitable institutions, in view of the determination of the Government, definitely expressed by Mr. Lloyd George, not to deal with the hospital question for the present, it has been thought that the wishes of the Representative Meeting could best be carried out by the entire deletion of this clause, and Dr. Addison has given notice of an amendment to this effect. The Association objects altogether to the mingling of a State medical service with charity which this clause would sanction, and it is matter for surprise that the Government should have proposed a system of subsidizing charitable hospitals which, as is acknowledged by the Board of Education, has been a complete failure in London in connexion with the medical treatment of school children.

"Medical" and "Sanatorium" Benefits.

It may be convenient here to note the effect of a series of amendments to the first two subparagraphs (*a* and *b*) of Clause 8 of which Dr. Addison has given notice. He would make provision for dressings and appliances, and would extend the benefits of sanatorium treatment to persons suffering from the effects of injury, and permit the local Health Committee to admit to a sanatorium persons not insured under the scheme. The two subparagraphs as he proposes to amend them would read as follows:

> (*a*) Medical treatment and attendance, including the provision of proper and sufficient medicines, dressings or any other material or appliance necessary for efficient treatment (in this Act called "medical benefit"); except as hereinafter provided.
>
> (*b*) Treatment in sanatoriums or other institutions when suffering from tuberculosis or from any other disease or from any injury according to arrangements made by the Insurance Commissioners with the Local Government Board or with any other authority with the approval of the Treasury (in this Act called "sanatorium benefit"); provided that the Insurance Commissioners with the approval of the Treasury may make arrangements with the local Health Committees whereby persons other than persons insured under this Act may be able to receive sanatorium treatment.

He also proposes the insertion at the end of subparagraph (4) of words permitting an insured person to go abroad in search of health, and to make a temporary unavoidable sojourn abroad without losing sickness, disablement, or maternity benefit.

THE FINANCE OF THE SCHEME.

The *Times* has published in its Financial Supplement two articles on the finance of the scheme which, for several reasons, are worthy of attention.

In the first it is pointed out that when the scheme is fully developed the taxpayer's contribution would cover three-tenths of the pension and health insurance, while the other seven-tenths would be borne by the persons insured and their employers; in this the old age pension, equivalent to a further premium of about one penny per week starting from the earliest age when premiums have to be paid is included, because, as the Chancellor has said, it forms part of the taxpayer's contribution. In the case of employed men the State and the employer each provide 3d. out of the total premium of 10d., while in the case of women the premium of 9d. is to be divided into three equal parts. In the case of persons earning 15s. a week or less, a graduated part of the worker's share is to be transferred to the employer; in the case of women and also in the case of agricultural labourers and other persons earning small wages, the average share borne by the worker would thus be considerably less than one-third.

In the second article it is pointed out that, according to the actuarial calculations, out of the total income of the insurance 72.5 per cent. will in the case of men be absorbed by sick pay and medical benefit, 12.5 per cent. by invalidity pensions, and 15 per cent. by administrative expenses; in the case of women the figures are respectively 68 per cent., 15 per cent., and 17 per cent.; in neither case is any allowance made for age pensions, orphans, widows, or other dependents. It is contended that the chief item of the insurance, sick pay, is unnecessary to a certain, it is estimated a large, section of the employed, because full pay is continued during all temporary sickness to such "salaried" workers as clerks, and to many of the "waged," such as foremen, domestics, and persons engaged in various other employments. Medical benefit, the second largest item of the insurance, is said to be useless to great numbers of the insured, seeing that curates and teachers (other than elementary), professional men before they have obtained a practice of their own, bank clerks, agents, many well-paid mechanics, small tradesmen, farmers, and others, will not, it is believed, want the insurance doctors, but will prefer to pay their own doctor, in spite of the compulsory insurance, all these classes being able to tide over the period of sickness by the help of their own savings. The article continues:

> For the classes mentioned above, which may fairly be assumed to comprise 40 per cent. of the total number under the £160 limit, and for many other persons, the insurances which would be much more valuable are maintainance allowance for widows, and for orphans during their infancy, larger disablement allowances, and adequate retiring pensions continuing until the date of death. . . . It is for these items of insurance, almost entirely neglected by the bill, that State help is chiefly needed. The voluntary system has covered a great majority of the cases where temporary sick pay is required, but the provisions which it makes for age, for permanent infirmity, and for widows, orphans, and other dependents are hopelessly inadequate. . . .
>
> Why elect to devote more than four-fifths of the fund to that insurance which is already most adequately covered? Why neglect the clearly expressed desires of the workers who have been asked in special cases to vote upon this selection? Why apply universal compulsion to the one item on the list which is not universally needed, to an insurance which is not wanted at all in about 30 per cent. of the cases? Why not, at any rate, give an option to substitute adequate provision for age, disablement, or dependents? Nothing could illustrate the disadvantages of the bureaucratic method more strongly than this flat uniformity accompanied by compulsion—the same insurance for all despite the varying needs, the same scale for all despite the fact that one member may be earning pounds when another is earning shillings, and that the costs and conditions of living may be equally divergent.

The article then proceeds to contend that the sickness and medical benefits are what bring in many of the complications and most of the financial uncertainties of the scheme and so enormously raise the cost of the administration. If these benefits were left to the friendly societies the cost of administration of the State scheme would, it is thought, fall from 16 per cent. to about 4 per cent., and the remaining benefits could be administered centrally as is now the case with old age pensions where the cost is between 2 per cent. and 3 per cent. The following suggestions are made:

> If the State left temporary sickness to the societies, but relieved them of the permanent allowances after the first year, and devoted a fraction of the new assistance (that is, of the 5d. per week) to subsidizing the voluntary insurance against sickness, the other claims (that is, age, disablement and dependents) could be well covered without making the combined contribution exceed that at present proposed. . . . Instead of making an end of the friendly society system it would greatly extend its field. It would probably win for the State scheme the full co-operation of those great organizations in co-ordinating the sickness and disablement insurances, and in assisting in the administration of the latter. The societies would then have full control of the insurances which they conducted, and of the funds thereof. All questions as to solvency would be removed (by wiping out the necessity for pension reserves) and large funds would be released, sufficient to enable the societies to increase the insurances or to reduce the premiums of their present and future members.
>
> This change would remove one of the greatest objections to the scheme as it stands, namely, that it bands the strong with the strong and the weak with the weak, and gives to the former for the same premium several times as good an insurance as to the latter.

This last point is illustrated by pointing to the favourable position of a society whose members are drawn from one select calling, such as bank clerks, compared with a society which draws its members from the sweated workers and the weaklings who have been refused by other societies; and the article concludes by saying:

> It is only by confining the compulsory insurance to the allowances which can be centrally administered that this great injustice to the needier members can be avoided, and it is only temporary sick pay and medical relief which cannot be so administered.

In this article the whole matter seems to be looked at from the standpoint of the friendly societies, with which the State scheme is regarded as coming into competition. It is suggested that the State should subsidize voluntary insurance against sickness, and relieve the societies of the unprofitable part of their business—namely, the provision of permanent allowances. It is evidently expected that, if the Government were to agree, the societies should still "have full control of the insurances which they conduct and the funds thereof," the object being that the societies "may increase their insurances or reduce their premiums, for both their present and future members." We cannot believe that either the Government or the House of Commons would agree to any such scheme. The suggestion that if the sickness and medical benefits were left to the societies the cost of administering the State scheme would be reduced from 16 per cent. to about 4 per cent. must be regarded with the greatest suspicion, since the reasons given are that the local inspection would be reduced to a minimum, and the whole could be administered centrally. Confining ourselves to the

medical benefit, with which the medical profession is most directly concerned, it may be pointed out that it has never been possible to get reliable information as to the actual present cost of the medical benefits to friendly societies. Application has been made on several occasions to the Chief Registrar of Friendly Societies, and the reply has been that in nearly all the great friendly societies it is the custom for the whole cost of the medical benefits to be lumped with the costs of general administration. Protests against this most unbusinesslike proceeding have been unavailing, and it is a fact that many members of friendly societies do not know how much their doctor is paid; often enough the greatest surprise has been expressed by members who have freely availed themselves of the services of their club doctor when they were told by him that he only got about 4s. a year. Under the bill the chief items of cost for medical benefits may be grouped under four heads—payment of doctors, cost of medicines, cost of inspection, and cost of clerical work—and it may be well to consider these separately.

By this time it must be perfectly clear that, whether medical benefits be administered by the local Health Committees or by the friendly societies, the payments to doctors will have to be very considerably raised as compared with the present cost to the societies. Both the Government and the medical profession are determined on that, and the conclusion of the writer in the *Times* that if the societies had "full control of the insurances which they conduct and the funds thereof," they would be able to "increase their insurances or reduce their premiums" really seems to come to suggesting that the societies would be glad to continue their present system of exploiting the doctors in order to benefit their members.

As to the cost of medicines, it has been hinted that if the societies can retain control of the medical benefits, they may establish dépôts or dispensaries where medicines will be supplied to the prescriptions of the doctors, and unless the bill is amended there is nothing to prevent them supplying the cheapest drugs and having them dispensed by unqualified dispensers. Here, again, the excuse would be that the societies were desirous of saving money in order to "increase their insurances or reduce their premiums." The Chancellor of the Exchequer, in his reply to the General Medical Council, stated that he agreed that it would be necessary to include in the bill the provision that prescriptions should be carried out by duly qualified persons, which ought to mean—in accordance, generally, with the Pharmacy Acts in respect of the person dispensing and the strength and quality of the drugs dispensed.

The suggestion of the *Times* article to the effect that the State, by handing over the administration of medical benefit to the society, would be saved the cost of medical inspection, can only be interpreted as meaning that State inspection of the medical service, if it were conducted by the societies, would be unnecessary. This is an error; the fact that the administration of medical benefits by the friendly societies in the past has been condemned by Mr. Lloyd George, condemned by the medical profession, and condemned lock, stock, and barrel by both the Majority and the Minority of the Poor Law Commission, would render absolutely necessary the most rigid State inspection of any medical service, were the societies permitted to conduct it. Neither would it be sufficient for the societies to appoint their own inspectors, even if there were any guarantee that they would do so. To mitigate the evils inherent in the system independent State inspection would be absolutely necessary; and when this and the other considerations mentioned are weighed it will be found that the *Times* article in fact leads to the conclusion at which the medical profession has unhesitatingly arrived—namely, that friendly society control over medical benefit must be eliminated from any scheme of national insurance.

As to the cost of the clerical work, it will be sufficient to say that, if we may judge from the remarks of the Chief Registrar of Friendly Societies about the kind of audit which many local branches of the societies conduct, it would be far from satisfactory to leave the clerical work of a medical service to be carried out by these bodies.

To sum the whole matter up—all the arguments advanced in favour of the friendly societies being entrusted with the control of medical benefit simply amount to this, that it would give them an opportunity of saving on the medical benefits—that is, at the expense of doctors and chemists—towards "increasing their insurances or reducing their premiums." The Chancellor of the Exchequer may say that he will not allow this, but if he gives the societies any part or lot in the management of the medical benefits that is worth having, he will not be able to prevent it. The writer in the *Times* recognizes this, and appears to desire that the societies should have "full control"—additional evidence of what the profession has to expect if it relaxes in the least in its determination to free itself once and for ever from the domination of the friendly societies.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

THE Royal College of Physicians of Ireland has addressed the following letter to its Licentiates and Members:

Royal College of Physicians of Ireland,
6, Kildare Street, Dublin,
June, 1911.

Dear Sir,

The Royal College of Physicians of Ireland has had under careful consideration the terms of the National Insurance Bill now before Parliament. The College agrees with the following policy which has been extensively adopted by the profession:

1. That the profession should be adequately represented on all boards and committees controlling or administering medical benefits.
2. That the friendly societies should not make the arrangements with medical practitioners for the attendance and treatment of insured persons, nor otherwise administer medical benefits.
3. That provision should be made for exclusion from medical and maternity benefits of persons whose average income from all sources exceeds £2 a week.
4. That adequate remuneration should be assured to medical men for their services.
5. That the patient should be allowed to select his own doctor from those available, but subject to the consent of the doctor selected.

The College does not ask for expressions of opinion on these points, but, before taking further such active steps as may be deemed advisable in reference to the bill, is desirous of obtaining information as to the effect which the scheme embodied in the bill would have upon the income and standing of the Members and Licentiates of the College.

Replies are therefore invited to the following questions:

1. What proportion of your patients would come under the compulsory insurance scheme of the bill?
2. What percentage of your takings during the past two years has come from attendance on workers who would become insured?
3. Are any of your patients members of clubs, and if so, what proportion, if any, of your income do you suppose you would lose under this bill?
4. What proportion of your gross receipts is spent upon drugs and dressings?

The College appeals to those Licentiates or Members whose practice will be especially affected by the bill to answer the foregoing questions, addressing replies to the Registrar, Royal College of Physicians of Ireland, 6, Kildare Street, Dublin. All information will be regarded as absolutely confidential.

We are, dear Sir,
Yours faithfully,
(Signed) J. HAWTREY BENSON, M.D.,
President.
T. P. C. KIRKPATRICK, M.D.,
Registrar.

UNIVERSITY OF LONDON.

WE have received from Mr. W. McAdam Eccles, writing on behalf of the University of London Conservative Association, the following correspondence for publication:

NATIONAL INSURANCE BILL.
Medical Graduates of the University of London.
124, Harley Street, W.,
June 15th, 1911.

Dear Sir Philip Magnus,

At a meeting of the committee of the University of London Conservative Association, held on June 12th, I was requested to send to you and to the press a copy of the following resolution, which was unanimously agreed to:

That it was unanimously resolved that the attention of the sitting member for the University of London (Sir Philip Magnus) should be specially invited to those clauses of the National Insurance Bill now before Parliament which adversely affect medical graduates of the university, and that he be urged vigorously to oppose them and to support the following points, upon which, in the opinion of the Royal College of Physicians of London, the views of the medical profession have been plainly stated—namely:

1. That the profession should be adequately represented on all boards and committees controlling or administering medical benefits.
2. That the friendly societies should not make the arrangements with medical practitioners for the attendance and treatment of insured persons nor otherwise administer medical benefits.
3. That provision should be made for exclusion from medical and maternity benefits of persons whose average income from all sources exceeds £2 a week.
4. That adequate remuneration should be assured to medical men for their services.
5. That the patient should be allowed to select his own doctor from those available, but subject to the consent of the doctor selected.

I am, yours faithfully,
W. MCADAM ECCLES,
Honorary Secretary.

Sir Philip Magnus, M.P.

House of Commons,
June 16th, 1911.

Dear Sir,

I have to acknowledge the receipt of your letter of the 15th inst., enclosing copy of a resolution passed at a meeting of the committee of the University of London Conservative Association.

I was already aware, from notices I had seen in the press, that the members of the medical profession are of opinion that certain clauses of the National Insurance Bill now before Parliament should be materially modified in order that medical practitioners may be able loyally to discharge the responsible duties which are imposed on them under the bill.

I may remind you that the bill, although a Government measure, is rightly regarded in all quarters of the House of Commons as one which should be discussed strictly on its merits, apart from all political consideration, and I think it desirable, therefore, that I should endeavour to ascertain the views of our medical graduates generally—both Liberals and Unionists—before taking any action on the resolution of your association. I propose, accordingly, to invite all medical members of Convocation to attend a conference to be held on Thursday, July 6th, at 5.30, at the House of Commons.

I hope this proposal will be approved by your association.

I am, dear Sir,
Yours very truly,
PHILIP MAGNUS.

W. McAdam Eccles, Esq., M.S., F.R.C.S.

The conference referred to in the concluding paragraph of Sir Philip Magnus's letter will, as announced last week, take place on the day and at the hour mentioned in Grand Committee Room No. 10, House of Commons, when the attendance of medical members of Convocation is requested.

THE SCOTTISH CORPORATIONS.

THE Royal Colleges of Physicians and Surgeons of Edinburgh and the Royal Faculty of Physicians and Surgeons of Glasgow have each appointed committees on the National Insurance Bill, and a meeting of three delegates from each committee was held recently to consider the action which should be taken. It is understood that the views of each of the three corporations are generally in accord with those expressed by the British Medical Association and the General Medical Council. It is probable that, having regard to facilities for parliamentary action, each corporation will act separately, though on similar, if not identical, lines.

QUESTIONS IN PARLIAMENT.

Maintenance and Medical Treatment.

MR. LANSBURY asked, with reference to the National Insurance Bill, what provision it was proposed to make for the maintenance and medical treatment of such insured persons amongst the deposit contributors as did not recover from their ill health by the time the money standing to their credit, less the Government deductions, was exhausted; and if it was intended that such persons, notwithstanding that compulsory deductions had been made from their wages for insurance in a compulsory scheme as insured persons, should become a burden upon the poor rates and themselves classed as paupers. Mr. Lloyd George replied that in the last resort deposit contributors would no doubt still have to have recourse to the Poor Law, but this would only happen when they had drawn by way of benefit not only the whole amount of the compulsory deductions from their wages, but the employers' contributions and the State contributions as well. Under existing conditions they would usually have to resort to the Poor Law at once.

Supply of Medicine and Drugs.

The Marquis of Tullibardine asked whether a per capita payment for the supply of drugs would deprive insured persons of many remedial agents, and whether, in the interests of insured persons, the Commissioners would frame a scale of prices based on the cost or market price of the commodity; and whether, in that event, insured persons would be permitted to obtain their supplies from any registered chemist accepting such a scale. Mr. Lloyd George: The supply of drugs was, under the bill, a matter for the approved societies and the local Health Committees, who need not adopt a per capita system. The Insurance Commissioners were not specially empowered to interfere, except in so far as they must, as a condition of approving any society, satisfy themselves that the society was providing the benefits prescribed by the bill. The Marquis of Tullibardine asked whether, under the present proposals of the National Insurance Bill, the supply of medicines and drugs might be under the control of the friendly societies; and, if so, whether, in view of the fact that such an arrangement would have a deleterious effect upon the trade of those who have gone to expense and trouble in qualifying under the Pharmacy Acts, the interests of such people would be safeguarded by stipulating that the supply of medicines and drugs must be carried out by qualified chemists under arrangements direct with the Insurance Commissioners. Mr. Lloyd George: As I stated on May 29th, the approved societies and local Health Committees retain under the bill precisely the same freedom as friendly societies at present have in regard to the supply of drugs. It is, of course, desirable that these bodies should employ qualified chemists for the purpose, and I have no doubt the interests of the chemists will be most favourably affected by the operation of the bill.

Wage Limit.

Mr. Joynson-Hicks asked whether the right hon. gentleman was aware that the medical profession was practically unanimous in asking for a wage limit beyond which free medical benefit should not be given, and whether he could state, for the information of the House, his exact reasons why such wage limit was impossible? Mr. Wedgwood Benn (in the absence of Mr. Lloyd George) said: I fear it would be impossible to argue a complicated question

such as this in reply to a parliamentary question, but I would refer the hon. member to the passages dealing with the subject in my right hon. friend's speech on the second reading of the bill on May 29th.

Sanatorium Benefit.

Mr. Joynson-Hicks asked whether the right hon. gentleman had yet considered the point in the management of consumption sanatoriums regarding patients who proved to be incapable of recovery; whether they would be kept in the sanatoriums or sent home to die, as was the very common practice at the present time, thus spreading the disease over a wider circle. Mr. Wedgwood Benn: The administration of sanatorium benefit would be in the hands of the local Health Committees. Mr. Joynson-Hicks: Am I to assume that the local Health Committees in one district can send dying men home to spread the infection? Mr. Wedgwood Benn: I understand that this matter will be left in the hands of the local Health Committees. Perhaps the hon. member will postpone his question until my right hon. friend is present.

MEETINGS OF THE PROFESSION.

GLASGOW.

A MEETING summoned by the Glasgow Branch of the British Medical Association, held at the Western Infirmary on June 15th, was attended by over 400 medical men, including many non-members of the Association. After the earlier proceedings, during which Dr. J. N. Marshall inducted his successor, Dr. W. L. MUIR, in the chair, the meeting proceeded to consider the National Insurance Bill.

The CHAIRMAN said that if any good was to be done it must be through the unanimity of the profession. After attending all the Representative Meetings of the British Medical Association except one, he could say that he had never been at a meeting where 200 men had talked so little irrelevant matter, and where unanimity was practically so universal on all except a very few points. The Government invalidity scheme, if carried into effect as it stood, would mean semi-ruin to the profession; more than three-fourths of its members were to be driven into the position of club doctors. Mr. Lloyd George had spoken very sympathetically to the Representative Meeting, but he had really talked round and round the subject, and when his speech was analysed with a view of ascertaining what he had agreed to, little or nothing was found. He seemed to agree that the proposal in the bill to extend the scheme to persons, whatever their income, who were "wholly or mainly dependent for their livelihood on their earnings" created a real difficulty, but it was not clear that he would consent to confine the provision to persons whose incomes did not exceed £160 a year. After consideration of various proposals to fix the limit of income at 25s., 30s., or 35s., the meeting ultimately agreed by a large majority on the limit of 40s. With that Mr. Lloyd George declined to agree. With regard to the objection to the scheme in the bill that it would place the profession under the heel of friendly societies, Mr. Lloyd George was sympathetic, but practically put the profession in this position: It was to allow the bill to go through—it would, he said, go through whether they willed it or not—and that then after the Insurance Commissioners and the local Health Committees and other committees had been appointed, the profession was as to go hat in hand to the several commissioners for what it wanted. Mr. Lloyd George seemed to agree that the medical profession was to have some sort of representation in the committees, but whether a sufficient representation was not defined. There were many other matters in the bill, questions affecting consultants and hospitals, but Dr. Muir thought that as far as possible the meeting should not travel along that line. The resolutions that were to be proposed to the meeting would be moved by Representatives of Branches of the British Medical Association in the West of Scotland; they would, he hoped, be seconded from the body of the hall, and it was open to any one, whether a member of the British Medical Association or not, to move an amendment.

Dr. E. DUNCAN (Glasgow) moved the first or general resolution as follows:

That, whilst approving the main objects of the bill, and being desirous of co-operating for their attainment, nevertheless, in view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

Referring to the first part of the resolution, he observed that Mr. Lloyd George had said that the National Insurance Bill was the first of a series of legislative Acts designed to abolish poverty and misery. The unanimity with which the first reading of the bill was carried in the House of Commons was not to be wondered at when these were the objects which the introducer declared he had at heart. There was no body of men who were more desirous of achieving these objects than the members of the medical profession. It was not a new thing for it to work for such objects; it had been the pride of the medical profession since history began to be in the forefront and pioneers of every movement which sought these objects. If the medical profession were satisfied with the provisions of the bill, there would be no more enthusiastic supporters of it. Dr. Duncan said he had studied the bill and had considered its provisions not only in the committee of the Branch, but also in committee of the Faculty of Physicians and Surgeons. Although the bill had on its introduction been received with a chorus of approval, almost every interest in any way affected by it had protested in some way against it, and asked for amendments. The actuaries had told him that Mr. Lloyd George was wrong in his figures, and while not pretending to be an actuary, Dr. Duncan could not forget what the public had been told in connexion with the Old Age Pensions Bill, a bill which had cost double what Mr. Lloyd George had estimated it would cost when he introduced it. The friendly societies declared that the bill required amendment, and actuaries had stated that it meant almost ruin to many of the societies. In certain trades, especially the building trade, it was stated that the employers would be ruined. Then there was the unanimous opinion of every meeting of the medical profession that the clauses referring to the medical benefits could not be carried out without doing an enormous amount of injury not only to the profession but also to the general public interests. Dr. Duncan continued: In the first place, if the profession is damaged in its self-respect and its honour and its pecuniary position, it will be so degraded that it will no longer be an object of ambition for any young man of ability to enter, the service to the general community will suffer, and the whole public interest, if this bill is carried out as it is proposed. I have read somewhere—I think it was Mr. Robert Lowe who said that one of the principal objects of a Chancellor of the Exchequer was to distribute a certain amount of human misery, and he said he was the best Chancellor who distributed his human misery most equally among the people. I think this Chancellor of the Exchequer is going to distribute a great deal among every profession and business that will be seriously affected, and one that will suffer a considerable amount will be the medical profession. I think it is absolutely necessary that we should have time to put our views before the members of Parliament. This is not a question for any political party; it is certainly not a question for the party politician to carry through without a great deal more consideration. I myself think that no party politician should have the carrying through of such a measure which is of such importance that it ought to be put before a Royal Commission of the wisest men, who should consider deeply all the issues before such a bill is to be submitted to Parliament. It has been said that ignorance is less damnable than humbug, but when it prescribes pills it may happen that it may produce a greater amount of human misery—it may lead to greater loss on the part of the community and of everybody concerned. Now we have here a certain series of pills, as we may call them, in the clauses of this bill which remind me of the kind of pills that were vaunted by a quack in the eighteenth century—pills against earthquakes. I think it is as impossible to abolish poverty and misery as it is to abolish earthquakes. It can only be by united action on the part of every practitioner, every profession and business in the community, by the united action of all wise and philanthropic men, that any kind of amelioration of the condition

of the people can be brought about. Certainly it will never be by party politicians of the type of those we have been familiar with in recent years. (Laughter.)

Sir Henry Craik (M.P. Glasgow and Aberdeen Universities), who was received with cheers, said: Mr. Chairman and Gentlemen, I came here without preparation, except that preparation which is given me by careful study of the bill and by careful study of all that has been laid before me in weighty words by my constituents from every part of the country. I have already had meetings with my constituents in London, in Aberdeen, and in Manchester. I have had several meetings, but I have never been present at a more important or a larger gathering than this. I quite agree, Mr. Chairman, with Dr. Duncan, that this bill is not a case for party politics. I think the party to which I belong have proved by an attitude that we do not wish to make any party capital out of it. We have been ready to welcome it as an honest, possibly a hopeful—we will be glad if it is a hopeful—means of bringing about ameliorating influences for the troubles of society. But that is altogether a different thing from saying that we are prepared to overlook defects, and that we are prepared to say that this bill will be productive of benefit if it goes into operation with all these defects upon it. I listened from beginning to end to the discussion in the second reading of the bill. That discussion was unduly hurried, and that was the universal opinion of all unbiassed men in Parliament. We had no time even to receive resolutions from the members of your great profession or from other interests concerned in the bill. The second reading, remember, is the only stage at which you can discuss the general principles of the bill. After it goes into committee we are confined to the separate details of each of the clauses, and we are out of order if we refer to general principles. That is the only point for discussing the general principles, and it was unduly hastened and unduly curtailed in its length. Now Mr. Lloyd George —about whom I do not wish to use a single word of vituperation or of party hostility—uses arguments that are sometimes rather curious. I never knew a Minister in charge of a bill who so flagrantly and undisguisedly, as he did in his meeting with the British Medical Association, based his defence of the bill upon the comparative number of votes for a particular view. Is that real statesmanship? Are we to count up the votes and say, because so many millions belong to the friendly societies and only 30,000 or 40,000 to the medical profession, therefore we are bound to follow the dictum of the millions rather than of the expert and experienced men? That is no argument, and I believe the conscience of the nation will be with you in demanding that truth and justice and the establishment of the long-lasting benefit of the community will be their guide in this difficult crisis, and not merely a counting of heads in the undisguised form that the Chancellor of the Exchequer put forward. But another curious thing was—observe that the Chancellor of the Exchequer grants the reasonableness of all the general demands of the profession—it is only when you come to details that he finds an immense difficulty in making provision for them. He tells you that you are to be represented on the Insurance Commission, on the Advisory Committee, and on the local Health Committee. But what is the advantage of that if you get so small a representation that you will be outvoted on every possible occasion? He agrees with the principle of free choice of doctor; he agrees absolutely to all the strong arguments that have been brought before us during the discussion on the bill—the necessity, if you are to have the confidence of the patient which is one of the inherent conditions of successful treatment, that the patient must have free choice, and that the relation of doctor and patient must be one of perfect freedom. But when you come to ask Mr. Lloyd George about putting that into effect, he raises immediately enormous difficulties. He shows how many traps there are, how many abuses there are in it, or that may arise. Well, gentlemen, that does not to my mind say that it is less necessary to give freedom of choice; it only points to the fact that the arrangement must be one carefully, deliberately, slowly, but surely made, and not hurried and botched in order to satisfy a Chancellor of the Exchequer in a hurry. Then, in what was no doubt a difficult simile, Mr. Lloyd George said at Birmingham that it took a long time to build a house, but need not take you a long time time to settle whether you will take that house or not. An analogy of that sort is very well for the platform, where there are thousands of people hanging upon your lips. Are you going to take the house with the mere assurance that the drainage is all right, and that in any case it can be put right afterwards? He may say, "I cannot tell you if the beams are solid, but take it on my word, and in time, after it has been repaired and pulled about in all directions, your house may come to be a sound house, a sanitary house, in which you will live and not die." (Laughter.) But we take care when we are buying a house for ourselves that we shall have it examined by experts and found that its construction and its drainage give us a fair hope of its holding its roof over our heads; all the more necessary when we are taking over a house that is to serve for the whole of the country, that is to carry out an enormously difficult work—perhaps the most difficult that has ever been attempted by the State in social economics. We shall take care that we have it examined, and that we do not simply shut our eyes and open our mouths and take what Fate will send us. I want to say to you that I understand the position of the profession. You have been pioneers in this matter. It is you and you alone who have for many years known the real difficulties of the poor and the sick. It is you more than others who have brought help to them and who have understood their difficulties and their trials. No doubt you found that the only means of benefiting them was by giving a helping hand to the clubs and friendly societies. You did not feel it right to oppose yourselves, you went as far as you could. Is it fair because you sacrificed many of your interests, because you were liberal in the terms you granted, and because you thought, "After all, we are only fighting against a temporary evil, some day better arrangements will be made"—is it fair because you acted in a generous spirit that it should be turned against you and you should be asked to ruin yourselves and your profession for the sake of a problematical good? Now, the real difficulty, I believe, lies in two matters; but upon these, as I understand it, the feeling of the profession is very decided. That is, first, that you cannot be subjected to the rule and the administration of the friendly societies. (Loud applause.) I am glad I interpret your feeling rightly. Some means—some arrangement that will leave you free—must be come to. I do not wish to say anything against the clubs; we know that many of them are chiefly interested in saving money and in cutting down the medical profession to the lowest point in payment. Is it right—I do not say for you as individuals, I do not even say for you as a profession—but is it right for this great country that the health of the nation should be dependent upon the administration of bodies such as these, actuated by such motives? I believe no. Then the next difficulty is this: What is to be the limit of income? As I understand from your Chairman, Mr. Lloyd George has said (although never in my hearing, but I have no doubt he did) he is ready to cut out the Post Office contributor, as he is called, over £160 a year. But he has shown no sign of cutting down the £160 limit for compulsory adoption of the scheme.

The Chairman: He said we would never find a member, except a university member, to propose it or second it.

Sir H. Craik: So there is some use for a university member after all. Well, we do not exactly count by votes, we count by the arguments that are put forward. Well, that is, of course, an enormous difficulty. I believe there is an immense number of people of incomes up to £160 a year who if you ask them would really prefer to be outside this scheme, to be perfectly free to make their own bargain. There are people who do not always want to be told exactly that they must go to a man who is paid a contract price. They wish to be treated as individuals, and remember, after all they are the great bulk of the nation. In many towns of which I have statistics, in Lancashire—and I have no doubt in Scotland—there are not 2 or 3 per cent. of the people who are income-tax payers. It is just by the fees paid by these people who are under the £160 limit, who are far above the starvation level or the pressure of poverty, and who would be ashamed of calling themselves men held down by the pressure of poverty, and who do not wish to be treated in that way, and upon whom it is no pressure to pay the not extravagant fee demanded by the profession—it is

just that class of people who have enabled you to give absolutely free attendance to the class below. Society must be worked upon that principle. What position does the Chancellor of the Exchequer leave to the profession when he cuts off from it the whole or the main part of that which constitutes the remunerative work of a vast proportion of the profession, and turns them all over to be paid upon a scale which the profession have accepted far more out of common humanity and benevolence than from any idea that it was remunerative? (Applause.) One word more—we must fight for consideration, for the due deliberation which a measure of this magnitude requires. We proceed with no threats, with no ill will against a scheme which is intended to benefit this nation; but that scheme must be carefully thought out, it must not be hurried and botched, and it must not involve, not merely injustice of the most flagrant type to individuals, but, what is much more, the degradation of one of the greatest, perhaps the most beneficent, profession of this country—the profession whose welfare, whose high-standing, whose adequate remuneration and fair amount of prosperity is an interest not only to the members of that profession but to the nation as a whole. (Applause.) It is in that spirit as your representative I shall fight in Parliament. (Long and loud applause.)

Dr. J. N. MARSHALL (Rothesay) said: It is of the utmost importance that we should support the declared policy of the Association as set forth in the circular which you have all received, and which, I think no medical man in the kingdom would deny, covers fairly reasonably ground of our complaint against the bill. It is fortunate we have now such an Association as we now have, which has been for some years improving its organization so that it is now ready to undertake such a fight as this. We have leaders whom we can trust, and we have a body round which we can rally. This bill, gentlemen, makes great demands upon the medical profession. It would seem to be the attitude of Mr. Lloyd George that we are asking favours of him. We are doing nothing of the sort. The medical profession, aided by the Association, was in process of getting rid of the worst features of club practice, but now we are all to be, *nolens volens*, club doctors. Now what are the conditions under which good medical practice can be done? By good practice I do not mean remunerative practice, but practice good from the patient's point of view. I say one condition is that the patient should have perfect confidence in his medical adviser, and that can be most easily secured where he has choice of doctor. That seems to be a very doubtful thing we are to work under the friendly societies. Another thing is that the medical man should have time to study not only his cases, but also to study his books. Now, from my experience of contract work, with a huge visiting list and harassing calls at odd times, there was no time to study at all. Another condition that is favourable to good work is that the doctor should have a good mixture of rich and poor people. By attendance on the poor he gains by the bulk of the material a certain amount of experience, by attendance on the rich he is stimulated by consultation and in other ways to adopt the latest and best mode of treatment. If this bill goes through it seems likely that the whole profession will be divided into two classes, one consisting of club doctors, the other of specialists and attendants upon the rich. Then the middle class, who are not on the club list and who are not rich, will suffer indeed. Another condition of good medical practice is that the medical man should feel that he is being paid fairly for his work. I voice the opinion that payment by attendance is really better than contract work. The circular of the Association, wisely, however, I think, leaves that question of the method of payment to be decided by the men in each district. What is wanted, after all, is that people should be attended well, and in this the public will doubtless support us. But whether they do support us or not, our one chance of getting what we want is to stick loyally to the Association and support its policy.

The resolution was then put to the meeting and unanimously adopted.

Dr. JOHN ADAMS (Glasgow) moved the second resolution:

That this meeting of the medical profession in Glasgow and the West of Scotland supports the British Medical Association in endeavouring to amend the National Insurance Bill in the points noted in the circular of June 3rd, and that the medical men present at this meeting pledge themselves to united action to attain this object.

He said that the motion was designed to form a basis for carrying out the resolution the meeting had just unanimously adopted. The bill proposed to ask general practitioners to perform duties which were very ill defined or else not defined at all, and at a rate of remuneration also not defined, but which did not promise to work out on the side of liberality. Payment of fees to consultants and specialists and for operations were to be arranged by the local Health Committee. Who was to be empowered to employ consultants who were to decide in a particular case whether consultation or operation was necessary did not appear. When asked at the Representative Meeting what he had to say about payment for extras, the Chancellor of the Exchequer asked what extras meant. He seemed very much surprised to think that such things existed. Till he had been asked that he thought that the capitation fees were to include all things—consultations, operations, midwifery; he thought these could be arranged for and carried out in any contract which he would decide upon. It was obvious, Dr. Adams said, that all branches of the profession were interested in making proper and fair arrangements, and it behoved all to combine, to show a united front, so that the representations of the profession should be as powerful as possible in the proper quarter; all the members of the profession must take up a strong attitude against the provisions of this bill as it stands, and be able to say with some measure of confidence that as a body they decline to have anything to do with the medical service under the bill unless and until such arrangements are made as they shall consider satisfactory to themselves and in the best interests of the patients they will be called upon to attend. He continued: How can this combined action best be accomplished? In my opinion there is only one answer at present to that question—by joining the British Medical Association, and by adhering loyally to the conditions which that body lays down. During the last three years I have been honoured by being sent as the Representative of the Central Division to the Representative Meeting, and I have been filled with admiration at the ability and the method and the completeness with which the work is carried out by men who read and work up everything in connexion with the Association. I am perfectly satisfied that these leaders of the Association are worthy of our entire confidence. At head quarters there are representatives of every branch of the profession, and individual requirements are very well understood by these and by most of the men who are on the Council. For these reasons I would ask you without hesitation to agree to the resolution which I have placed before you. I should add that the Chancellor of the Exchequer said at Birmingham that he heard the moans of the wounded. Let us see to it that we in turn may not be grievously wounded by this revolutionary movement which threatens to overwhelm our individuality and rob us of the business of our daily life, and bring many of us within measurable distance of starvation. I beg to move the resolution.

Dr. MACKINTOSH, M.V.O. (Glasgow): As your Representative to Council in London, I have pleasure in seconding this resolution. Dr. Adams has covered the ground so well as to leave it unnecessary for me to deal with most of the points. He has said, How can we best attain these objects? and answered, By joining the British Medical Association. May I point out to you one or two reasons for doing so? First of all, it is an organized body of the medical profession, and in December last there were 22,488 members, and there has been a large accession of new members within the last two or three weeks. In fact nothing in my lifetime as a medical man has aroused such keen interest in the medical profession as this bill you have met to consider. This Association, which represents so large a percentage of the medical men, must justify itself, and must take the lead. I think it has justified itself on this occasion more than might have been expected of it, and to those who are not members of the British Medical Association, and who will reap the advantage, we would earnestly plead to support and join us. Now the National Insurance Bill is before us, and there has been no time in the history of this Association when it was more necessary for the profession to take united action in order to assist in developing a scheme which has for its object the efficient medical treatment of the industrial classes.

It is only by united action that we can hope to continue the beneficent work which has always been associated with the medical profession, and at the same time allow each member of the medical profession to retain his independence and his self-respect. As to the bill, there has been so much written and so much said about it, that it is now past the stage of being dealt with by general resolutions, and if we are to make any headway we must indicate the main points which we wish amended, and not go from this meeting without clearly defining the clauses we desire to be amended.

The resolution was then put to the meeting and carried unanimously.

Dr. JAMES GRANT ANDREW (Glasgow) moved the following resolution:

> That the income limit should be £2 per week for those entitled to medical and maternity benefit.

Dr. Andrew said that at the Representative Meeting this matter was thoroughly discussed. Representative after representative had said that the profession would be very hardly hit if the bill were passed without amendment. Men from the Midlands had told the meeting that the bulk and the cream of the practice was derived from wage-earners who had an income above 30s. a week, and Dr. Andrew thought that the medical men in the West of Scotland would agree to that. The preponderating number of those who were attended by private practitioners were receiving an average income of between £1 to £2 a week. Mr. Lloyd George was full of sentiment, but this was not a question of sentiment, but of business.

The resolution was seconded by Dr. CRUICKSHANK (Glasgow) and carried.

The next resolution was moved by Dr. SEMPLE YOUNG (Helensburgh) as follows:

> Free choice of doctor by patient, subject to consent of doctor to act.

The motion, he said, embodied the principle on which the Association had taken a firm stand, and from which the profession could not recede. It was best for the doctor and the patient, for without it it would be impossible for that harmony and friendship to exist between them which was essential for the end desired. A point upon which Mr. Lloyd George was quite clear was that all they had to do was to exercise their influence on their members of Parliament in order to secure their votes. If the medical profession used its combined influence, Dr. Young was satisfied that it would win.

The motion was seconded by Dr. MONTGOMERY (Glasgow) and carried.

Dr. C. E. ROBERTSON (Glasgow) moved:

> That medical and maternity benefits be administered by local Health Committees and not by friendly societies.

Dr. Robertson said that the resolution had been carried by the Representative Meeting with the utmost enthusiasm. The profession now had the opportunity of getting rid of the friendly societies, and was determined to do so. It was not an occasion of every man for himself but of the profession for the profession. If the profession had to fight trade unions, there was no other way than by adopting trade union principles.

The motion was seconded by Dr. MCNICOL (Glasgow) and carried.

The next resolution—

> The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee—

was moved by Dr. CLOW (Paisley), who said that it was intended to provide for differing conditions.

The motion was seconded by Dr. D. MCKAIL (Glasgow), who said that in Scotland there were 125,000 men working underground who paid about 13s. a year. Under Mr. Lloyd George's scheme the local Health Committee would have to fix a rate for these men, who at present paid for themselves, their wives, and families, whether they had wives and families or not. Under the scheme, if the local Health Committee fixed 6s. a year as a sum to be paid by these men, the practitioners who at present attended them would suffer a dead loss of 50 per cent. unless some arrangement were made for the inclusion of the wives and children.

The CHAIRMAN observed that this was one of the difficulties of the bill; at present there were many schemes in Scotland and England under which wives and children were attended.

The resolution was then put to the meeting and carried.

The next resolution was moved by Dr. A. THOMPSON CAMPBELL (Glasgow) as follows:

> Medical remuneration to be what the profession considers adequate, having regard to the duties to be performed and other conditions of service.

The resolution was seconded by Dr. GRANT (Blantyre) and carried.

The sixth resolution was moved by Professor STOCKMAN (Glasgow) as follows:

> Adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committee, and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee.

Dr. GALT seconded the resolution, which was carried unanimously.

In reply to a vote of thanks, Sir HENRY CRAIK said that he had welcomed the invitation to be present. He was glad to observe the unanimity which prevailed, and that the members of the profession was not fighting each for his own hand but for a great profession, and that what it had at heart was the public interest. In so strongly supporting the resolutions of the British Medical Association the meeting had greatly strengthened the hands of its representative in Parliament.

Sir DONALD MACALISTER, who had been unable to be present at the earlier part of the meeting, said that he had just received the reply of the Chancellor of the Exchequer to the points put before him by the General Medical Council.[1] Sir Donald MacAlister considered that upon most of the points the Chancellor of the Exchequer agreed with the General Medical Council, and that with regard to one or two others which required further explanation he had promised his sympathetic consideration.

FIFE.

AT the annual meeting of the Fife Branch, held at Kirkcaldy on June 15th, the National Insurance Bill was discussed, and it was agreed to forward the following resolution to the Representative Meeting—namely:

> That power be given to local Health Committees under the Insurance Bill in colliery and other districts to arrange for deductions for medical benefits for wives and families as at present carried out in these districts, with, of course, free choice of doctor by the contributors.

The meeting thereafter received the reports of the Special Defence Committee, presented by Dr. ELLIOT DICKSON, which showed that, in addition to the general meeting at Kirkcaldy, and the raising of the defence fund, several committee meetings had taken place, and much useful business had been transacted. The profession throughout the county was thoroughly well organized, and nearly every practitioner had bound himself not to undertake any work in connexion with the bill under friendly or other societies unless the terms thereof were approved by the Branch. Several members of Parliament had been interviewed in connexion with the position of colliery and other doctors in the county, and the committee recognizes the great assistance which has been rendered by Dr. T. G. Nasmyth, who had gone to London on their behalf and had interviewed members of Parliament with regard to amendments to be proposed to the bill. Dr. Nasmyth had also offered to go to London again on a similar mission during the Committee stage of the bill.

The meeting then discussed the following motions which were unanimously agreed to, Drs. DOUGLAS, TUKE, DOW, DAWSON, BRYSON, JACK, DICKSON, HAIG, and TAYLOR and the CHAIRMAN and HONORARY SECRETARY taking part:

1. That we signify our approval of the resolutions adopted at the Special Representative Meeting.
2. That in the event of the National Insurance Bill becoming law, and the terms not being acceptable to the medical profession, the profession in Fife will decline to accept service under the bill, or under any friendly or other society, and will agree to practise only on a contract rate or scale of fees agreed upon by the Branch.

[1] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, June 24th, 1911, p. 474.

3. That in preparation for this eventuality the Branch Council draw up a uniform and minimum scale of fees for private practice throughout the county of Fife, and report to a future meeting thereon.
4. That the members be prepared to consider the advisability of attaching a penalty clause to the acceptance of any contract not ratified by the Branch.

ABERDEEN.

A MASS meeting of members of the medical profession in the area of the Aberdeen Branch of the British Medical Association was held in the Medico-Chirurgical Society's Hall on June 15th, at 3 p.m.; Dr. JOHN GORDON, President, occupied the chair. There were over 120 present, including the following:

Professor Cash, University.
Professor Matthew Hay, University.
Professor Marnoch, University.

Dr. Edmond
Mr. J. Scott Riddell
Mr. H. M. W. Gray
Dr. Geo. Williamson
Dr. J. C. O. Will
Dr. A. Irvine Fortescue
Captain Fortescue, R.A.M.C.
Dr. Mitchell (Old Aberdeen)
Dr. G. M. Duncan
Dr. Thos. Fraser
Dr. Bruce (Cults)
Dr. Rorie (Cults)
Dr. Hendry (Ballater)
Dr. Mitchell (Old Rayne)
Dr. Smith (Peterhead)
Dr. Wilson (Huntly)
Dr. Galloway (Aberdeen)
Dr. Mortimer (Turriff)
Dr. Cameron (Inverurie)
Dr. Geddie (Aberdeen)
Dr. Turner (Kintore)
Dr. Keith (Aberdeen)
Dr. Forbes (Inverurie)
Dr. Levack (Aberdeen)
Dr. Gray (Wartle)
Dr. Howie (Aberdeen)
Dr. Hendry (Kemnay)
Dr. Robertson (Aberdeen)
Dr. Skinner (Skene)
Dr. Thos. Milne (Aberdeen)
Dr. Wyness (Aberdeen)
Dr. A. Gray, I.M.S. (retired)
Dr. A. W. Adam (Aberdeen)
Dr. Christie Crowe (Aberdeen)
Dr. Mearns (Aberdeen)
Dr. Jas. Watt (Aberdeen)
Dr. Scott (Aberdeen)
Dr. Shirreffs (Aberdeen)
Dr. Troup (Aberdeen)
Dr. Lister (Aberdeen)
Dr. Cheyne (Aberdeen)
Dr. Bell (Aberdeen)
Dr. Geo. Mitchell (Aberdeen)
Dr. Jno. Bowen (Aberdeen)
Dr. Smart (Aberdeen)
Dr. Thomson (Aberdeen)
Dr. Davidson (Aberdeen)
Dr. Gregory (Aberdeen)
Dr. Clark (Woodside)
Dr. Cockburn (Old Meldrum)
Dr. McNaughton (Stonehaven)
Dr. Taylor (Stonehaven)
Dr. Howie (Strathdon)
Dr. Smith (Peterhead)
Dr. Smith (Aberdeen)
Dr. Calder (Aberdeen)
Dr. A. Ogston, jun. (Aberdeen)
Dr. McKerron (Aberdeen)
Dr. Croll (Aberdeen)
Dr. Innes (Aberdeen)
Dr. A. G. Anderson (Aberdeen)
Dr. Byres (Aberdeen)
Dr. Noble (Aberdeen)
Dr. Banks (Aberdeen)
Dr. McPherson (Aberdeen)
Dr. Mair, R.N. (retired)
Dr. A. Mercer Watson (Aberdeen)
Dr. Sandeman (Aberdeen)
Dr. Presslie (Aberdeen)
Dr. Gall (Aberdeen)
Dr. Semple (Aberdeen)
Dr. Ellis Milne (Aberdeen)
Dr. P. Mitchell (Aberdeen)
Dr. Johnstone (Aberdeen)
Dr. Christie (Woodside)
Dr. Duffus (Auchenblae)
Dr. Findlay (Crimond)
Dr. Munro (Tarves)
Dr. McIntosh (Aboyne)
Dr. Thom (Crathes)
Dr. Nicol (Alford)

The CHAIRMAN in opening the meeting gave a summary of the medical aspects of the bill, pointing out the scope of it with reference to compulsory and voluntary insurance, and laying stress on the fact that the bill as it stood allowed of the extension of the medical benefits to children under the age of 16 years. He gave a clear account of the proposed method of administration, and pointed out the necessity of adequate statutory medical representation on the Insurance Commission, Advisory Committee, and local Health Committees. He drew attention to the present unsatisfactory conditions of contract practice, both within the area of the Branch and in the country generally, and dealt briefly with the various resolutions submitted by the Central Committee of the British Medical Association in the circular of June 3rd. He ended a very lucid and pointed speech by inviting free discussion and appealing for a unanimous finding.

Dr. LAWSON, Nordrach-on-Dee, who represented the Branch at the Special Representative Meeting, detailed his impressions of the meeting in London which the Chancellor of the Exchequer attended, and showed how unsatisfactory the answers of the Chancellor were to the questions submitted to him. The discussion which followed was taken part in by Dr. George Williamson, Aberdeen; Dr. Sandeman, Aberdeen; Dr. Fergusson, Banff; Dr. Gray, Wartle; Dr. Edmond, Aberdeen; Dr. Duffus, Auchenblae; Dr. Anne Mercer Watson, Aberdeen; Dr. Mortimer, Turriff; Dr. Beveridge, Aberdeen; Dr. Findlay, Crimond; Dr. Smart, Aberdeen; Dr. Christie, Woodside; Dr. Rorie, Cults. All insisted strongly that there should be no giving way on the wage limit question; and while many thought that £2 a week was too high, were willing to accept it to allow of a unanimous finding. The question of extra allowance for mileage was strongly insisted on by country practitioners, whose work was scattered over wide and sparsely-populated areas, and all were agreed on the profession absolutely declining to accept friendly society control. The resolutions submitted in the circular of June 3rd were then put to the meeting by the Chairman and were passed unanimously.

The meeting, which was the largest medical meeting ever held in Aberdeen, seemed determined that it would be a mistake to carry on a process of bargaining with Mr. Lloyd George, and that after the weighed deliberations of the Representative Meeting they were firmly resolved to abide unflinchingly by the above resolutions whether it meant the wrecking of the bill or not, and that if, in spite of the protest of the medical profession, the bill were rushed through Parliament in its present form, they were prepared to decline to act under it let the result be what it might.

Apologies were intimated from Dr. Christie (Aberdeen), Dr. Farquhar (Aberdeen), Dr. Law (Macduff), Dr. Niven (Turriff), Dr. Crarer (Turiff), Brigade-Surgeon Lieutenant-Colonel Davidson (Turriff), Dr. Whitton (Aberchirder), Dr. de Maine Alexander (Kingseat), Dr. Galloway (Banff), Dr. Taylor (Mid Yell, Shetland).

STIRLING.

A MEETING of the Stirling Branch was held in the Station Hotel, Stirling, on June 13th. Forty-three members and four non-members were present, and eleven apologies for unavoidable absence were received. Dr. CLARK STEWART (Vice-President) presided over the meeting.

The National Insurance Bill was discussed, and it was unanimously resolved to circulate among all the practitioners within the Branch area a form of undertaking not to enter into any arrangement for treatment of patients under the insurance scheme unless the scheme is amended in accordance with the six recommendations of the Special Representative Meeting.

Deputations were appointed to lay the views of the Association and Branch before the four members of Parliament for the area.

It was unanimously agreed to form a guarantee for a local defence fund in support of the action taken by the practitioners in the area. The fund is to be used as the majority of a general meeting of the practitioners within the Branch area may direct.

The Secretaries of the Branch report that on June 25th the undertaking resolved upon had been signed by every practitioner within the area of the Branch, 106 in number. The guarantee for the local defence fund at the same date amounted to £1,330.

ST. BOSWELLS.

AT the annual meeting of the South-Eastern Counties Division of the Edinburgh Branch of the British Medical Association, held at St. Boswells on June 21st, the Representative read his report of the Special Representative Meeting of the British Medical Association; and the members were firmly of opinion that the policy of the Association with reference to the National Insurance Bill should be supported.

BORDER BURGHS.

ON June 17th representatives of the South-Eastern Counties Division of the Edinburgh Branch met Sir John Barran, M.P., in a friendly conference at Hawick. The chair was taken by Dr. OLIVER, President of the Division, who stated generally the objects of the conference, and referred to the intensity of feeling amongst medical men in reference to the National Insurance Bill.

Dr. J. R. HAMILTON presented a list of questions to Sir John, and stated that the local profession was absolutely united in demanding that the stipulations of the British Medical Association be met. Drs. HAMILTON, MUIR, DIXON, and STEVENSON explained the position of the friendly societies in the Border Burghs, and Dr. BARRIE spoke on the subject of the amount allowed to meet the cost of drugs, and the necessity for provision being made for extras, such as antitoxin.

Sir JOHN BARRAN asked a number of questions relating to voluntary insurance, a wage limit, and charges for

mileage, on which information was given by Drs. MUIR, P. HENDERSON, and others. It was pointed out to Sir John that medical men demanded that conditions of practice should be stated fairly and squarely in the bill, and should not be left an open question to be settled by committees on which the profession would be in the minority.

In conclusion the meeting passed a vote of thanks to Sir John Barran for his courtesy in listening to the views expressed; and Sir JOHN, in his reply, stated that he would give careful consideration to the information that had been given him.

SOUTH-WESTERN SCOTLAND.

AT the annual general meeting of the Scottish Division of the Border Counties Branch of the British Medical Association, held at Dumfries on June 9th, Dr. RODGERS reported on the Special Representative Meeting which he had attended in London.

The six conditions laid down by the Representative Meeting were then considered. The first three recommendations—(1) income limit, (2) free choice of doctor, and (3) medical and maternity benefits to be administered by Health Committee—were adopted.

It was proposed by Dr. BRYSON, seconded by Dr. SCOTT, and carried unanimously, that Recommendation 4 should read as follows:

> That the method of remuneration for medical practitioners be uniform throughout the country, preferably on the principle of capitation grants, which must be adequate.

Dr. CLARK moved, Dr. SANDERS seconded, and it was unanimously agreed, that the following be added to Recommendation 5, referring to medical remuneration:

> Including extra remuneration for mileage, consultations, fractures, night visits, and administration of anaesthetics.

The general resolution, suggesting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms had been arranged with the medical profession, was approved.

The Executive Committee was instructed to call a mass meeting of the profession, both members and non-members, throughout the area, with the view of pledging themselves to a definite policy regarding the medical aspects of the National Insurance Bill.

It was also resolved to send a copy of the resolutions to each of the members of Parliament representing the district.

SOUTH-EASTERN IRELAND.

AT an ordinary meeting of the South-Eastern of Ireland Branch of the British Medical Association the following resolutions were unanimously passed:

Proposed by Dr. LAFFAN, seconded by Dr. CAREY:

1. That we regard with satisfaction the fact that the views expressed by us at the meetings of the South-Eastern of Ireland Branch of the British Medical Association on the new insurance scheme, held at Waterford on April 5th, 1911, and at Kilkenny on May 24th, have been endorsed by the Roman Catholic Bishops of Ireland and by the General Council of the County Councils of Ireland—namely, That this bill should not be, in its present form, extend to this country.

Proposed by Dr. POWER, seconded by Dr. CAREY:

2. That in case the bill is forced on this country, seeing that it does not propose to fix the amount or "condition of remuneration" for medical attendance, but allows it to be settled afterwards between Health Committees, advisory committees, insurance companies, and medical men, we submit that similar powers of arrangement as to the admission or exclusion of voluntary classes, and as to the terms on which they may obtain medical benefits under the Act in Ireland, should be insisted on when the gross annual emoluments of such persons exceed £75 per annum; and that voluntary and all other contributors whose gross weekly earnings exceed £2 per week be excluded from the operation of the Act.

Proposed by Dr. QUIRKE and seconded by Dr. P. J. O'BRIEN:

3. That the latter part of Section 6, Clause 59, beginning with the words "and those officers," must be deleted from the bill.
4. That we heartily approve of the position taken up by our Deputy Representative, Dr. Jos. Power, at the Representative Meeting held in London, and we strongly disapprove of the Chairman's failure to put to Mr. Lloyd George the vital question handed up by him; and that we desire to point out that Section 6 of Clause 59 only applies to Ireland, and that, therefore, Sir V. Horsley's resolution does not cover the ground. The question was as follows: "Is the Chancellor of the Exchequer prepared to remove from the bill the provision compelling medical officers of the local authorities in Ireland to treat beneficiaries at rates to be prescribed under the clause?" And this meeting now requests that the Chairman of Representative Meetings shall procure the answer which should have been obtained at the Representative Meeting.

Proposed by Dr. LAFFAN and seconded by Dr. QUIRKE:

5. That we call upon the Parliamentary representatives of the area embraced by the South-Eastern of Ireland Branch, British Medical Asssociation, to give effect to resolutions passed here to-day with reference to the Insurance Bill.

UNIVERSITY OF DUBLIN.

A MEETING of the medical graduates of Trinity College was held in Dublin on June 26th for the purpose of discussing the National Insurance Bill.

The PROVOST presided, and called on Sir Charles Ball to open the discussion. Sir CHARLES BALL dealt principally with the effect that the bill was likely to have on the hospitals, and said that Mr. Lloyd George's statement that the German hospitals received larger sums now in voluntary contributions than before the introduction of State insurance was entirely misleading, unless coupled with the further statement that most of the German hospitals were State-aided or State-supported. As regards the working of the bill in Ireland, he pointed out that the Irish Poor Law system was quite different from that of England, and that it was impossible to compare the scattered population of agricultural Ireland with the crowded population of industrial England.

The meeting next proceeded to discuss amendments to the bill similar to those that have already been suggested by the British Medical Association, but it was soon apparent that the general feeling of the meeting was that the bill could not in its present shape be so amended as to be applicable to Ireland, and in consequence the following resolution, proposed by Dr. WINDER, was passed with only two dissentients.

> That we, the Graduates in Medicine of Dublin University, knowing the conditions of labour and employment in Ireland, and taking into consideration the present system of medical relief for all poor persons as afforded by the Poor Law and hospitals, do hereby condemn the medical clauses of the Insurance Bill as unnecessary and not applicable to Ireland; and we request the Chancellor of the Exchequer to cancel the aforesaid clauses as far as this country is concerned, and to remodel the present system of Poor Law and hospital medical relief, so that it may apply to their present conditions of labour and employment as existing in this country.

Subsequently those present undertook that, as far as it was in their power, no graduate of the University of Dublin would go over to England and work under the bill unless amendments satisfactory to the profession in England were obtained.

It was decided that, inasmuch as the Government might insist on forcing the bill on Ireland, it would be advisable to discuss the amendments that should then be suggested and a committee was appointed for this purpose. The general feeling of the meeting appeared to be that an income limit of £2 a week was far too high for Ireland.

SOUTH CONNAUGHT.

AT a meeting of the South Connaught Division of the British Medical Association, and of all members of the profession within the area of the Division, held in Hayden's Hotel, Ballinasloe, the following resolutions were unanimously passed:

1. That we heartily approve of the general principles of the Insurance Bill.
2. That, in the opinion of this meeting, medical benefit under the Insurance Bill should be restricted by a wage limit not exceeding £100 a year.
3. That the principle of voluntary subscribers to National Insurance Funds being eligible for what is practically free medical attendance is not one which this Division will tolerate.
4. That in all districts where the National Insurance Bill may have force a free choice of doctors must be allowed to the insured, subject to the consent of the doctor to act.
5. That under no circumstances must the medical profession be placed under the control of, or in the power of, the so-called friendly societies, or of any Government Board or association, unless the medical profession is adequately represented thereon.

6. That for the treatment of cases—surgical, medical, and special—in hospitals and institutions, proper remuneration should be secured to the medical officers of such, and special fees be paid for operations and infectious cases.
7. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee.
8. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.
9. That it is most desirable that serious details should be settled in the House of Commons before the bill is allowed to become law, and not left to the arbitrary action of Insurance Commissioners.
10. That, having regard to the efficiency of the public medical services in Ireland, the medical clauses of the Insurance Bill are uncalled for, unsuited, and inapplicable to Ireland.
11. That, failing the introduction of the above modifications into the bill, we pledge ourselves to have nothing to do with it, and to fight it by every legal means in our power.

The Honorary Secretary of the Division is Dr. John Mills, The Asylum, Ballinasloe.

CHANNEL ISLANDS.

A MEETING of the medical practitioners of Guernsey was held in the Lukis House on June 17th, under the chairmanship of Dr. C. D'A. COLLINGS, President of the Guernsey and Alderney Division of the British Medical Association.

After an address by Dr. J. F. CARRUTHERS, the Representative of the Channel Islands at the Representative Meeting of May 31st and June 1st, the following resolution was carried unanimously:

That this meeting of the medical practitioners of Guernsey is in entire sympathy with the policy of the British Medical Association towards the National Insurance Bill, and pledges itself to adhere loyally to that policy.

DENBIGH AND FLINT.

A SPECIAL meeting of medical practitioners resident in the area of the Denbigh and Flint Division of the British Medical Association was held at the Wrexham Infirmary on June 3rd, when the following resolutions were put to the meeting and carried unanimously:

1. That a total income limit of £2 per week be fixed for all those receiving medical benefits.
2. That provision should be made in the bill to secure free choice of doctor by the insured, subject to the consent of such doctor.
3. That the medical representation on the local Health Committee should be increased to one-fourth of the total number of members of each committee, and that such representatives be elected by the local profession.
4. That provision should be made for exclusion from medical and maternity benefits of persons whose average income exceeds £2 a week from all sources.
5. Medical and maternity benefits to be administered by local Health Committees, and not by friendly societies.
6. That the following declaration and pledge be approved of:

   We, the undersigned members of the medical profession of the Denbigh and Flint Division, hereby pledge ourselves on our honour not to undertake any work under the scheme of the National Insurance Bill now before Parliament nor under any modification of it, which does not comply with the fundamental principles laid down in the above resolutions, and we severally guarantee to subscribe a sum not exceeding £1 in calls of 5s. towards defraying the expenses of opposition to the bill.

7. That in the opinion of this meeting it is desirable that every member of the profession in the area of this Division who is not a member of the British Medical Association be written to with a strong appeal to them to join our ranks, and that the members of the British Medical Association in the locality be written to and asked to bring pressure upon the non-members to sign the undertaking and pledge.
8. That if any medical practitioner does not join the British Medical Association he shall nevertheless be asked to sign the declaration and pledge.

It was finally resolved:

That a deputation, consisting of Dr. Edwards-Jones (Mayor of Wrexham), the Honorary Treasurer of the Branch (Dr. E. Moss), and the Honorary Secretary (Dr. E. D. Evans) be appointed to wait on the members of Parliament for the counties and boroughs of Denbigh and Flint to place before them the views of the members of this Division on the National Insurance Bill as far as it relates to medical benefits.

A sum of £6 5s. was subscribed in the meeting, being the call of 5s. per member towards defraying the expenses of opposition to the bill.

CARDIFF.

A SPECIAL meeting of the South Wales and Monmouthshire Branch was held at Cardiff on June 16th, for the purpose of considering the National Insurance Bill. Dr. BIDDLE (Merthyr), the newly-elected president, occupied the chair, and he was supported by Sir Victor Horsley, Dr. J. Glendenning (ex-President), Dr. Ewen Maclean (Chairman of Representative Meetings), and Drs. W. E. Thomas and W. J. Greer (Honorary Secretaries). (Resolutions passed at a meeting held on May 17th were published in the SUPPLEMENT of May 27th, p. 301.)

Dr. MACLEAN proposed the following resolution:

That whilst approving of the main objects of the bill, and whilst desirous of co-operating for their attainment, this meeting, in view of the fact that the present proposals of the Government are unsatisfactory, is of opinion that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

The Bill and the Profession.

He wished to emphasize one point. A suggestion had been made in certain quarters that the Association now realized for the first time its power, and was determined to do what it could to use that power recklessly with the object of breaking the bill. He knew something about the feeling of the Association in the country and at head quarters, and he wished most emphatically to give that statement the strongest possible denial. Their object as an Association was to regulate, or insist on the regulation, of the terms of emolument and conditions of service, in order that the profession might carry out the enormous responsibilities which the Government had called upon it to carry out. The first condition they insisted upon was that if they were to draw this enormous load they must have harness which would not gall at every point. They could not, and would not, any longer submit to be under the domination and control of the friendly societies. It was not in consequence of any quarrel with the objects of the friendly societies, for they had the utmost admiration for the general benefits of those societies, but the control of the medical benefit must be transferred from the friendly societies to those local Health Committees which would be set up by the bill itself. Referring to the fact that out of 1,200 practitioners in Wales 1,000 were in the Association, Dr. Maclean said that the only way they could attain their objects was by unity.

Dr. D. J. WILLIAMS (an ex-president) seconded the proposition.

Sir VICTOR HORSLEY expressed accordance with Dr. Maclean's views. From the professional point of view the bill was quite clear. Whilst supporting the bill in its objects, they must protect themselves against the faults which undoubtedly existed. If they looked at this question fairly, they must admit that Mr. Lloyd George had approached the subject with what material he had at his disposal, and that material was "The Contract Practice Report. From a Medical Point of View," which was published by the Association. Here he thought that Mr. Lloyd George, with all his brilliant statesmanship, had made a mistake in not coming to them in order to ascertain what had come within their knowledge during the past six years. That was a mistake, and a very serious mistake, because their Contract Practice Report, although it was a classical document, did not contain the essential data for the construction of a bill like the National Insurance Bill. Mr. Lloyd George had talked to them for two hours. He said he had learnt that the whole problem was a more expensive one than he at first thought. Sir Victor Horsley believed that in those words lay the germ of the whole difficulties which surrounded the bill. The question of remuneration to the profession did not occur in the bill; in fact, it was not intended that it should, as that was a point which would require consideration and rearrangement. But this was a question they bould not possibly leave undecided until the bill was passed. The fundamental point in the bill was the relation of the doctors to friendly societies. They must have Clause 13 altered. The first half of it must be abrogated. Their relations with the State as a profession for the administration of the bill must be through a Government department. There must also be medical representation in the administration. The Association had decided to demand the admission of medical representation. He was pleased to

say that in their interview with Mr. Lloyd George they had obtained the admission that the medical profession must not be under the administration of friendly societies, but under the administration of a Government department. Referring to the omission of married women from the purview of the bill, the speaker said there was no reason why any section of the community should be omitted, and he hoped an amendment would be introduced to remedy this. A great deal had been said about a capitation grant, but he could only say that the rates of payment must be left for each district to decide for itself because of the enormous differences in the conditions of labour. He could only hope that the various districts would be very careful in framing their rates. His experience was that medical practitioners were incurably modest; in fact, foolishly so. He would quote, for example, the schedule of fees for Liverpool drawn up in relation to the medical treatment of school children. That schedule was a sweated scale of the worst kind, which would take years and years to rectify. He urged the members to go most carefully into the matter. To his mind, the case was absolutely their own.

The resolution was unanimously carried.

Position of Voluntary Hospitals.

Dr. LATIMER (Swansea) supported the previous speakers, and assured the members of the heartiest support of the General Medical Council. He asked the members to consider what would happen if the bill went through in its present form. Would they put their sons to a profession in which they would be sweated as this bill would sweat them? (Loud cries of "No.") What security had a man who had paid £2,000 for his practice? It was blasting their financial prospects. He said that it would have the effect of causing voluntary hospitals to come within the same scope as State sanatoriums.

Dr. EDGAR DAVIES (Llanelly) urged that the Association should secure all possible data from Germany, where contract practice was in vogue, and urged that delegates should at once be sent to Germany for that purpose.

Sir VICTOR HORSLEY stated that this had already been done, and, further, replying to a member, said that the rate of remuneration must be determined by each district.

Dr. VACHELL (Cardiff) also spoke.

Resolutions.

The following resolutions were then carried:

1. An income limit of £2 a week for those entitled to medical benefit.
2. Free choice of a doctor by the patient, subject to the consent of the doctor.
3. Medical benefits to be administered by local Health Committees, and not by friendly societies.
4. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.
6. Adequate medical representation among the Insurance Commissioners, on the Central Advisory Committee, and on the local Health Committees, and statutory recognition of a local Medical Committee representative of the profession in the district of each local Health Committee.

Dr. BROOKS (Swansea) moved:

That having regard to the undue and enormous burden which the bill imposes on the medical profession and the insulting attitude adopted by the Chancellor of the Exchequer in his speech at Birmingham, this meeting considers that unless the bill is so modified as to obtain the fullest approval of the profession, the British Medical Association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom.

Sir VICTOR HORSLEY said that if Dr. Brooks would eliminate the personal reference to the Chancellor of the Exchequer they could all vote for the amendment. With that omission it would mean that Clause 17 of the bill should be abrogated, and that was exactly what the Representative Meeting had demanded.

Dr. BROOKS said he would accept Sir Victor's suggestion. But he would like to say this: That in forming an estimate of the value of the gratuitous services rendered to the Swansea Hospital alone, they had arrived at the sum of £44,000 in one year. Let the public know that, and he asked, Who was going to pay the bill?

The amendment, as altered, was then adopted.

SHROPSHIRE AND MID-WALES.

A MEETING of the Shropshire and Mid-Wales Branch of the British Medical Association, to which all registered practitioners in the district were invited, was held at the Salop Infirmary on May 23rd to discuss the National Insurance Bill. The PRESIDENT (Mr. H. B. Macleod) took the chair, and sixty-one medical men were present.

The following resolutions were unanimously carried:

1. That medical benefits are not a desirable part of a State insurance scheme.
2. That this meeting is strongly of the opinion that members of the profession should refuse to attend on this basis those whose income is more than 30s. per week.
3. That there shall be free choice of doctors.
4. That all medical men in a district who are willing shall be employed.
5. That the administration of the medical benefits shall not be in the hands of the friendly societies, but in those of a local representative committee on which the general practitioners of the district shall be adequately represented.
6. That this meeting does not approve of the principle of capitation payment, but approves of the principle of payment for work done.
7. That the resolutions passed here to-day be here and now written down by the Honorary Secretary, and signed by every practitioner present willing to do so, and that each medical man practising in the area covered by the Branch, whether a member of the British Medical Association or not, be written to by the Honorary Secretary, and asked to subscribe the same.

This was done, and altogether 186 signatures were obtained.

At a further meeting of the Branch held on June 20th at the Salop Infirmary, at which fifty-four medical men were present, Dr. TREDINNICK read his report from the Representative Meeting, and the resolutions as drawn up by the Association were unanimously adopted.

It was also resolved that a deputation of general practitioners should interview the members of Parliament for districts within the area of the Branch, and that the action of the Branch be reported in the local press.

Subsequently the Secretary announced that 181 medical men in the area had already signed an undertaking not to enter into any arrangement for treatment of patients under the insurance scheme except under the conditions defined in the policy of the Association.

Only nineteen more signatures were required to make the whole area united, and it was hoped that the further signatures would soon come in.

CITY AND NORTH-EAST OF LONDON.

A CROWDED and enthusiastic meeting of medical practitioners practising within the area of the City Division of the British Medical Association, comprising the City of London and boroughs of Bethnal Green, Finsbury, Hackney, Shoreditch, and Stoke Newington, was held at the Town Hall, Hackney, on June 16th. The large committee room was crowded, many late arrivals having to stand.

Dr. GERALD JOHNSTON (Upper Clapton) took the chair, and having briefly explained the occasion of the meeting, called upon Dr. E. W. GOODALL, who, after giving an account of the interview with Mr. Lloyd George at the Representative Meeting, moved the resolutions enunciating the main points approved by that meeting (SUPPLEMENT, June 10th, 1911, p. 404).

Dr. FREDERICK WALLACE (Upper Clapton) seconded the resolutions, which were discussed seriatim, amongst the speakers being Drs. MAJOR GREENWOOD (Hackney Road), CUTHBERT DIXON (South Hackney), BERNSTEIN (Stamford Hill), HOUSTON PORTER (Haggerston), BERDOE (Victoria Park), WITHERS GREEN (City), GOLDNEY (Hackney), BENOLY (Bethnal Green), and GARRETT (Shoreditch).

The resolutions were carried unanimously, with acclamation.

Dr. J. W. HUNT (Upper Clapton) then moved:

That this meeting of medical men practising in the Division, having heard the proposals of the Representative Body, cordially supports them, and, furthermore, in the event of the Government not incorporating these main principles in their bill, pledge themselves not to take any office created under the Act.

Dr. PORTER seconded, and the resolution was carried *nemine contradicente*.

Dr. SOUTHCOMBE announced that to 345 notices of the meeting which he had sent out 128 replies had been received promising to attend, 176 others wrote confirming the resolutions of the Association and regretting inability to be present.

Dr. DAVID ROSS (Kingsland) moved that the resolutions passed should be sent to the Chancellor of the Exchequer, the local members of Parliament, and the medical press, and that deputations be formed to approach the member for each constituency within the Division. The resolution was carried, and the following gentlemen undertook to act for their respective districts: *Hackney* (*North*), Dr. Frederick Wallace; (*Central*), Dr. C. F. Hadfield; (*South*), Dr. E. W. Goodall. *Bethnal Green*, Dr. Edward Berdoe. *Shoreditch* (*Haggerston*), Dr. Major Greenwood; (*Hoxton*), Dr. H. G. Dixon. *Finsbury* (*East*), Dr. W. F. Roe. *City*, Dr. Withers Green.

Dr. PORTER moved:

> That this meeting declares its readiness to subscribe to a fund for the support of those members of the profession who may be adversely affected by not taking office under the Act.

This was carried unanimously, and the meeting closed with a cordial vote of thanks to the Chairman.

KENSINGTON.

WE have received the following communication, signed by the chairman and secretary of the Kensington Medical Reading Society:

Sir,—The Kensington Medical Reading Society pledged themselves to support the British Medical Association, but they earnestly beg it to lower the limit of £2. Were this limit retained they feel that not only would many of their poorer brethren suffer from a very serious reduction of income, but that a large number would be absolutely ruined, and the lives of all these made even sadder and harder than ever. Many patients with incomes of £100 a year willingly pay a few pounds for their health, and many of us members of the profession pay much more than one-four-hundred-and-twentieth of our incomes in presents to those who have helped us in times of sickness.

We are of opinion that the voluntary clauses are most unjust, and therefore should be entirely abolished.

E. A. BARTON, Chairman.
E. CHITTENDEN BRIDGES, Secretary.
2, Courtfield Road, S.W.

HARROW.

A MEETING, to which all members of the medical profession resident in the area of the Harrow section of the Watford and Harrow Division of the British Medical Association were invited, took place on June 19th to consider the policy which the profession should adopt towards the National Insurance Bill. Dr. A. LAMBERT occupied the chair, and twenty-seven members of the medical profession were present.

Letters of regret for non-attendance were read from Mr. H. Mallaby-Deeley and the Hon. Charles Mills (the Parliamentary members representing the constituencies which embraced the district within the area of the section), and also from several medical practitioners, who all wrote expressing their support of the resolutions on the agenda.

Election of Officers.—The following were elected officers for the ensuing season:

Chairman, Dr. A. H. Williams; *Honorary Secretary and Treasurer*, Dr. C. M. Pennefather; *Executive Committee*, Drs. Bluett, Edwards, Fothergill, Hildesheim, Wansbrough Jones, Lambert, with Dr. Pennefather and Dr. Williams *ex officio* members.

The following resolutions were then passed unanimously, after each had been discussed:

1. That this meeting approves the policy of the British Medical Association, and will support it.
2. That this meeting strongly supports the following resolution adopted at the Special Representative Meeting:
   That, whilst approving the main objects of the bill, and being desirous of co-operating for their attainment, nevertheless, in view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.
3. That we individually and collectively pledge ourselves not to accept any appointment dealing with the treatment of the insured under the bill, unless the terms of medical services are approved by the British Medical Association and the profession as a whole.
4. That in the opinion of this meeting in the event of the capitationmethod of payment being adopted, the minimum rate of payment, exclusive of the provision of drugs, etc., and exclusive of special fees for special medical services, etc., should be 8s. 6d. per annum, provided the income limit of £2 a week be embodied in the bill, and that this minimum fee does not refer to Post Office contributors.
5. That in the opinion of this meeting, provision should be made in the regulations under the bill for the due and fair remuneration of medical men for special medical services, such as:
   (*a*) Night visits.
   (*b*) Maternity cases.
   (*c*) Fractures and dislocations.
   (*d*) Operations.
   (*e*) Anaesthetics.
   (*f*) Consultations.
   (*g*) Special mileage.
   (*h*) Services in other circumstances which do not come under the existing conditions of club practice.
6. That a report of this meeting be sent to the members of Parliament of the constituency, with a list of the practitioners attending the meeting.

Before the meeting ended every member of the profession present signed an "undertaking" in the terms of resolution 3, and the Honorary Secretary was requested to obtain the signatures of other practioners within the area of the section to this pledge.

MANCHESTER.

A SPECIAL meeting of the Manchester (West) Division was held on June 16th at the Technical Institute, Old Trafford, to which all the practitioners in the district had been invited. The attendance was forty-three. Dr. PROWSE occupied the chair, and in a short address explained the object of the meeting. The minutes of last meeting and a number of letters of apology for non-attendance were read.

A letter from Mr. Needham, M.P. for South-West Manchester was read, in which he expressed a wish to meet the medical practitioners resident in his Division in order to discuss the National Insurance Bill. It was resolved that a letter be written to Mr. Needham thanking him for his offer, and suggesting that a meeting should be arranged between all the members of Parliament for Manchester and the practitioners of the district.

The HONORARY SECRETARY reported that twelve applications for membership had been received since May 31st.

The following resolutions were then proposed from the chair, and were adopted unanimously:

1. That, whilst approving the main objects of the bill, and being desirous of co-operating for their attainment, nevertheless, in view of the fact that the present proposals of the Government with regard to the medical benefits of the scheme are unsatisfactory, it is the opinion of the meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.
2. That this meeting unanimously adopts the policy of the British Medical Association as set forth in the proposals of the Representative Meeting, and demands that the method of remuneration for the district shall be payment per attendance.
3. That the Honorary Secretaries be instructed to send an account of this meeting to the Chancellor of the Exchequer, the local members of Parliament, the BRITISH MEDICAL JOURNAL, and the Branch Council.

A meeting of the Manchester (South) Division of the British Medical Association, to which all medical practitioners residing in the area were invited, was held on June 16th.

Statement by Representative: Discussion.

THE REPRESENTATIVE OF THE DIVISION (Mr. P. Stocks) gave a clear and interesting account of the proceedings of the Special Representative Meeting.

Dr. GRANT DAVIE proposed a vote of thanks to Mr. Stocks for his work and for his interesting account.

Dr. T. A. HELME then addressed the meeting on the National Insurance Bill, and at the conclusion of his remarks he proposed that the Division should accept the Association's policy formulated by the Representative Meeting and circulated to every practitioner.

This was unanimously and enthusiastically agreed to; whereupon a further resolution was moved from the Chair:

That this Division cannot recognize in a State Insurance scheme a system of remuneration on a capitation basis, but will only accept one where payment is in direct relation to the work done.

This was unanimously agreed to.

The Secretary was instructed to forward a copy of the Association's policy and of the last resolution to the members of Parliament in the area of the Division; and copies of the last resolution to the Medical Secretary and Branch Secretary.

Canvassing Committee.

It was decided that the Executive Committee of the Division be empowered to start an active canvass to (1) urge all non-members to join the British Medical Association, (2) obtain the support of all practitioners to the policy of the Association, and (3) secure the pledge of all practitioners not to serve under the bill unless the conditions of work were acceptable to the British Medical Association.

Special Fund.

Dr. RUSSELL proposed and Dr. BROWN seconded:

That the subscription to the Association be doubled for the purposes of forming a war chest to fight the Government on the National Insurance Bill.

Whereupon an amendment by Dr. COTTERILL and seconded by Dr. MARTIN:

That this meeting approves of the formation of a local fund for the purpose of fighting the Government on the National Insurance Bill, and directs its Executive Committee to take steps to approach all members of the profession in the district asking them to subscribe.

The amendment was carried.

The amendment was then put to the meeting as the substantive motion and carried unanimously.

Dr. RUSSEN RHODES proposed and Dr. WEBB seconded:

That there be conveyed to the Central Body of the British Medical Association the recommendation that every member of the medical profession should immediately provide 25s. towards a military fund for the purpose of protecting the interests of the profession in relation to the National Insurance Bill.

This was carried.

Dr. SENIOR then recommended that the Joint Committee of Manchester and Salford be asked to consider the advisability of inviting the members of Parliament in the district to the mass meeting of medical practitioners to be held in Manchester in July.

A special meeting of the Manchester (Central) Division of the British Medical Association to consider the National Insurance Bill was held at 14, St. John Street, Manchester, at 4.15 p.m. on June 16th, the chair being taken by Professor MURRAY and later by Dr. BOOTH. In the unavoidable absence of the Honorary Secretary, Mr. Rayner, through illness, Dr. T. ARTHUR HELME acted as secretary of the meeting and also gave an account of the proceedings of the Representative Meeting, which he attended as Deputy Representative for the Division.

It was resolved unanimously:

That this meeting approves and pledges itself to support the policy of the Association as defined by and contained in the statement issued by the Representative Meeting on June 1st, 1911 (see SUPPLEMENT, June 10th, p. 404).

It was also resolved:

That this meeting is of the opinion that payment should be by fee for work done upon an agreed scale and *not* by capitation fee.

It was resolved unanimously:

That a committee composed of the following members—namely, Professor Murray, Dr. Booth, Dr. Ferguson, Dr. John Scott, Dr. Walls, and Dr. Helme—be formed to bring before the members of Parliament representing the members of this Division the amendments to the National Insurance Bill framed by the Central Committee of the British Medical Association.

It was resolved unanimously:

That a committee composed of the following members—Professor Murray, Dr. Annacker, Dr. Booth, Dr. Ferguson, Dr. Gibson, Dr. Helme, Dr. Judson Bury, Dr. John Scott, Mr. Telford, Dr. Tylecote, Dr. E. J. Walker, Dr. Walls, and Mr. Wrigley (with power to add to their number)—be formed to make arrangements for the personal canvass of every member of the profession within the Division with the view to obtaining a personal pledge to support the Association in its policy.

It was resolved unanimously:

That a very cordial vote of thanks be accorded to Dr. T. Arthur Helme for representing this Division at the Representative Meeting.

ASHTON-UNDER-LYNE.

A SPECIAL meeting of the Ashton-under-Lyne Division of the British Medical Association was held on May 26th to consider the National Insurance Bill. Thirty-three members were present and also six non-members; Dr. HILTON (Ashton-under-Lyne) was in the chair.

A letter in opposition to the medical attendance clauses of the bill from the Halifax Division was read. Dr. PARK moved, and Dr. CLARKE seconded, the following addition to the resolutions passed at the Branch meeting in Manchester on May 24th:

That, in the opinion of this meeting of the Ashton-under-Lyne Division, it is not desirable that the Government should include contract medical attendance among the benefits afforded under the State Insurance Bill.

Drs. FOX, WALLACE, BLEASDALE, BISHOP, and E. SMITH made remarks; and, after Dr. PARK'S reply, the resolution was carried by a large majority (27 to 5).

A resolution to the effect that all members be invited to guarantee at least a guinea towards any fund raised to oppose the passage of the bill in its present form was carried unanimously.

Small deputations were appointed to wait on the members of Parliament for the various districts of the Division.

Lastly, the following resolution was passed unanimously:

That we members of the profession practising in the Ashton-under-Lyne Division pledge ourselves to jointly and severally support whatever action the Council of the British Medical Association takes in reference to the State Insurance Bill; and that, further, a copy of this pledge be sent to all the doctors in the Division for signature.

A special meeting was held on June 3rd, 1911, under the chairmanship of Dr. RODOCANACHI, at which thirty-one members and non-members were present.

The SECRETARIES reported that fifty-four members of the profession (that is, 80 per cent.) had signed the pledge issued according to instructions received at the last meeting.

Dr. CLARKE presented a full report on the proceedings of the Special Representative Meeting, for which he was thanked on the proposition of Dr. PARK, seconded by Dr. TALENT, and supported by the CHAIRMAN.

The paragraphs of the short summary of the policy of the Association were considered seriatim, and adopted unanimously, with the following proviso as to the wage limit of £2.

That under special circumstances the local profession should be able to fix a lower limit than £2.

Further it was resolved to send copies of the suggested amendments to all Cabinet Ministers, and to explain the same personally to the various local M.Ps.

It was proposed by Dr. ROBERTSON, and seconded by Dr. RALPHS:

That a subcommittee of three be appointed to arrange a personal canvass of all doctors in the district who have failed to sign the pledge.

This was passed unanimously, and Drs. Robertson, Ross, and G. Hamilton were appointed.

Dr. MAMOURIAN moved, Dr. PARK seconded, and it was unanimously resolved:

That this Division views with disfavour the apathy displayed by the medical faculties of many universities and teaching schools generally towards the State Insurance Bill, and asks the Council of the British Medical Association to induce them to act in this matter.

HUDDERSFIELD.

A MEETING of the Huddersfield Division of the British Medical Association was held at the Huddersfield Infirmary on June 16th, 1911. Dr. PORRITT occupied the chair, and forty members were present. Several letters and telegrams were received expressing regret at inability to attend and vigorous opposition to the Government bill as at present constituted.

Letters were read by the Secretary from the Chancellor

of the Exchequer, Mr. Sherwell, M.P. for Huddersfield, and Mr. Leech, M.P. for the Colne Valley.

The minutes of the Executive Committee, held June 13th, 1911, were considered one by one, and duly approved.

With regard to the recommendation of the Representative Meeting that there should be an income limit of £2 a week for those entitled to medical benefit, it was unanimously decided that this should be 30s. a week.

The recommendation that there should be free choice of doctor by patient, subject to consent of doctor to act, was approved.

The following were also adopted:

That medical and maternity benefits shall be administered by local Health Committees and not by friendly societies.

That no members of a Health Committee should be a member of a friendly society except those officially appointed.

That the method of remuneration of medical practitioners adopted by each local Health Committee shall be according to the preference of the majority of the medical profession of the district of that Committee.

That medical remuneration shall be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.

That there shall be adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committees, and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee, and that the medical representation to be adequate must exceed the representation of the friendly societies.

It was proposed, seconded, and approved:

That a local guarantee fund of £1 be formed, with an immediate call of 5s., the committee to have the management of the fund.

Dr. McCully was appointed honorary treasurer to this ınd.

Dr. Draper (Almondbury, Huddersfield) was re-elected as ıe Representative for the Division on the Representative ouncil.

A resolution expressing surprise and regret that no eeting of the Yorkshire Branch had been held to consider ıe National Insurance Bill, and calling upon the Branch convene one forthwith, was adopted.

NORTH NORTHUMBERLAND.

s will have been gathered from reports already published, e North Northumberland Division has given much tention to the National Insurance Bill, especially as it ects thinly populated rural districts, of which that part the county presents so many examples. Dr. C. Clark ırman of Alnwick, Honorary Secretary of the Division, s been in communication on its behalf with the Right ın. Sir Edward Grey, Bart., M.P. for the Berwick Division Northumberland, and on June 3rd transmitted to him a tement of the objections to the National Insurance Bill ıring the signature of every medical man in the parliantary division which Sir Edward Grey represents. Sir ward Grey's reply to this letter was as follows:

Foreign Office,
June 9th, 1911.

ear Dr. Burman,

I have received your letter of the 3rd inst., enclosing a ement of the views of the medical practitioners in my stituency with regard to the National Insurance Bill. quite realize the weight and importance of these views, and eceipt of your original letter of May 22nd I communicated ı the Chancellor of the Exchequer.

now enclose a Memorandum dealing with the points raised, ı which you will see the Chancellor of the Exchequer is in e consultation with the British Medical Association on the le matter.

ıere will, of course, be an opportunity for full discussion in ımittee on the bill, and you will see from the statements e by Mr. Lloyd George, both in and out of Parliament, that luestion is receiving the most serious consideration of His esty's Government.

Yours faithfully,
(Signed) E. GREY.

Memorandum.

Foreign Office.

e Insurance Bill does not prescribe the form of agreement made by an approved society with a doctor for the purs of the medical benefit. Societies at the present time lly adopt the principle of payment by contract at so much nnum per person entitled to attendance. The bill does not ent them from continuing this practice, except that it pros them from agreeing on a fee inclusive of drugs, and es the whole of the arrangements subject to the Insurance missioners, who will be responsible to Parliament. The bill does not prescribe any definite rate of payment, but the contributions have been calculated on an actuarial basis, providing a sum of 6s. per head per annum for medical attendance and drugs (in addition to 1s. 3d. for sanatorium treatment, and the separate provision for maternity cases) as compared with 4s., the average sum provided by friendly societies at the present time. It was necessary to adopt some figure for the actuarial calculation, and the figure adopted shows a 50 per cent. increase.

With regard to the inclusion of medical attendance in cases of illness the result of misconduct, it is unlikely that this would more than outweigh the special provision for consumptives, which would relieve the doctors of a large number of the cases they are required to deal with under their existing contracts with friendly societies.

It is not anticipated that persons of substantial means will take advantage to any great extent of the provisions of the bill. The voluntary contributors are likely to be limited practically to the small tradesman and other classes of persons working on their own account, who are already found in large numbers in friendly societies, and are therefore at present receiving medical attendance on contract terms for about 4s. per annum inclusive of drugs and appliances. The well-to-do will in nearly all cases be unwilling to submit to the restrictions which an approved society would impose on its members. The Chancellor of the Exchequer is, however, in close consultation with the British Medical Association on the whole matter.

Under the National Insurance Bill the friendly societies will retain the same power as they now have of rejecting applicants for membership. In the case of the deposit contributors, who have not joined societies, the arrangements for medical attendance are from the commencement in the hands of the local Health Committee, who, if the provision included in the contributions proves insufficient, may obtain a further sum from the county or county borough council and the Treasury. The same provision applies also to medical attendance supplied by the societies if they agree to transfer the provision of the attendance to the Health Committees.

It may be added that the arrangements between the doctors and the approved societies are to be subject to the approval of the Insurance Commissioners, who will be in a position to require the revision of any agreement, which in consequence of the inadequacy of the amount set apart for medical attendance on any other ground is unsatisfactory.

NORTHUMBERLAND AND DURHAM.

THE following resolution was passed at a meeting of medical men of the Counties of Northumberland and Durham, held at the County Hotel, Newcastle-upon-Tyne, on May 24th:

That we agree to a scheme for national insurance including medical benefits, but that we indicate very strongly the grounds upon which the present proposals of the bill are unacceptable to the profession:

1. That the scheme must not be administered by the friendly or other societies.
2. That there must be absolutely free choice of doctor by patient.
3. That the capitation allowance is grossly inadequate.
4. That the wage limit for compulsory members of £160 a year is far too high and should not exceed 25s. a week.
5. That voluntary contributors to this scheme should not receive medical benefits.
6. That illness occasioned by misconduct should be paid for.

The meeting was attended by fully 300 medical men, and the above resolution was carried with only three dissentients.

EAST YORKS AND NORTH LINCOLN.

AT the fifty-fifth annual meeting of the East Yorks and North Lincolnshire Branch of the British Medical Association, held at Hull on June 15th, Dr. MacNidder reported on the Special Representative Meeting held in London on May 31st and June 1st to discuss the National Insurance Bill. A long and interesting discussion ensued on the policy of the Association laid down at the meeting, and the following resolutions were carried:

1. That this meeting approves of the policy of the British Medical Association drawn up by the Special Representative Meeting, and pledges itself to do all in its power to support that policy.
2. That this meeting approves of the form of undertaking submitted by the central authorities of the Association, and asks all members of the profession in the Branch area to sign this undertaking.

The resolution of the Special Representative Meeting approving of the main objects of the bill, but asking the Government to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession, was also passed, with a recommendation that it be sent direct to the Chancellor of the Exchequer.

It was also resolved that copies of these resolutions be sent to the local members of Parliament.

A deputation was appointed to wait on the candidates for the Central Hull by-election.

Before the meeting closed the members present with one exception signed the undertaking in question. More than half the members of the profession in the area of the East Yorks Division have already signed as the result of a personal canvass, and it is hoped that all will ultimately give their adherence to the Association's policy.

About a dozen new members have joined the Association since the bill was introduced into Parliament.

WILLENHALL, STAFFORDSHIRE.

AT a meeting of the medical profession in this district, held on May 26th at the house of Dr. JOHN J. HARTILL, the following resolutions were adopted unanimously:

1. That they do not desire State interference of any kind, as between doctor and patient.
2. That if they cannot prevent State interference, the proposal for the medical service of the country to be regulated by contract between the larger friendly societies and the profession, is one which will have their most determined opposition.
3. That, if there is to be State interference, there must be free choice of doctor on the part of the patient, and the right which the doctor now has of refusing to attend any patient must still be reserved to him.
4. That the proposed fee of 6s. per annum per person insured, including the provision of drugs, dressings and appliances, is utterly inadequate; also that 4s. 6d. for medical attendance only is utterly inadequate.
5. That, in their opinion, the passing of the bill in its present form will take away in this district from three-fourths to five-sixths of their private practice, besides taking away their liberty of action.
6. That the remaining fourth or sixth of private practice will be totally inadequate to maintain themselves and their families.
7. That most of them have paid a very heavy premium for the goodwill of their practices, and have relied upon their ability to sell that goodwill when they so desired; and that, in their opinion, this bill will greatly depreciate, if indeed it will not destroy, the value of their goodwills.
8. That, whilst they recognize that it is the duty of the State to increase the prosperity of all classes, including the less prosperous of medical men, in their opinion the State has no right to interfere with or juggle with the prospective income or goodwill of any prosperous practitioners in the country without giving adequate compensation.
9. That, in their opinion, a fee of 11s. a year per person insured for medical attendance will not compensate them for the loss of private practice, if called upon to attend persons having incomes up to £160 a year, and in some cases of more than that amount.
10. That all members of friendly societies here have a more or less strict examination before entry, and cannot enter, as a rule, after the age of 40; that, in the opinion of the meeting, at least 95 per cent. of them earn less than 30s. a week; and that in some cases they cannot remain club patients if their earnings are more than 30s. a week.
11. That, subject to full consideration of details, if there is to be State interference, the meeting is of opinion that all moneys intended for medical attendance should be posted in the several districts and divided either by a committee of medical men or by a committee on which the medical profession is dominantly represented, and that all arrangements for medical attendance should be made through that committee; and that the only body capable in the near future of bringing about such an organization is the British Medical Association, through its Council, Branch Councils, and Divisional Councils.
12. That friendly societies should arrange for medical attendance on their members through the committee as defined in Resolution 11; and that each member of a friendly society should have the right to choose his own doctor, reserving, however, the doctor's right, as defined in Resolution 3.

SOUTH STAFFORDSHIRE.

AT the annual meeting of the South Staffordshire Division of the British Medical Association, held in Wolverhampton on June 21st, Dr. MACTIER, Representative of the Division, reported on the action taken by the Special Representative Meeting with regard to the National Insurance Bill. He also read a letter from the Deputy Medical Secretary of the British Medical Association (Dr. Cox), stating that it was hoped shortly to get out to every member of the profession a letter containing a copy of a detailed undertaking, which he would be asked to sign, and a copy of the memorial to Parliament, together with an envelope addressed to the secretary of the local Division, which each member would be asked to forward to that address. And at the same time it was hoped to send to the secretaries a set of questions to be addressed by deputations to members of Parliament, and the amendments which have been drafted to the bill to secure the objects for which the profession is fighting. Dr. Mactier undertook to arrange a mass meeting of the medical profession to meet the local members of Parliament as soon as he received the questions to be addressed to them.

DERBYSHIRE.

AT the annual meeting of the Midland Branch of the British Medical Association, held at Derby on June 15th, the PRESIDENT (Mr. E. Collier Green), after a few introductory remarks, opened a discussion on the National Insurance Bill. He said that a state of war had been thrust upon, not sought by, the profession, and it therefore behoved each individual to discuss what was the cause of the fight, and how best he might be fitted for the fray. He quoted the Chancellor's speech at Birmingham and maintained that wrangling in sick rooms was not a habit of the profession. It was necessary to know how matters stood before entering the sick room. State work must be paid for adequately, and for such work the profession must be answerable, not to officials of friendly societies, but to proper State committees, on which there was reasonable representation of the profession. The sympathy of the country would be on the side of the profession if its dignity was maintained and no display of greed or unreasonableness made. Union was essential to success, and every medical man must be brought to join the Association. Trades unionism was to be deprecated, but it was now thrust upon the profession as the only method of self-preservation. The central organization in London would only achieve success in their negotiations with the Government if supported as it would be by the entire profession.

The six resolutions on the bill which are contained in the report of the Special Representative Meeting, were introduced by the PRESIDENT, and discussed by a great many members. The resolutions were all carried when put to the vote by the President. The special resolution asking Parliament to delay action with regard to medical benefits was moved by Dr. POPE, of Leicester, and carried unanimously.

The meeting closed with a hearty vote of thanks to the President for his able address.

Sir THOMAS ROE, Senior Member of Parliament for the Borough of Derby, was entertained as a guest, and in a few well chosen words assured those present that he would do what lay in his power to ensure that they obtained justice in their demand for the amendment of the bill.

DARLINGTON.

AT a meeting of the Darlington Division of the British Medical Association held at Darlington on June 7th the following resolutions were passed:

1. The members of this Division are quite willing to co-operate with the Government in any reasonable scheme for the provision of adequate medical attention for those who are not in a position to obtain it for themselves. But we emphatically refuse to have anything to do with this scheme until the following conditions have been complied with:
   (1) No control of medical benefits by the friendly societies.
   (2) Free choice between doctor and patient.
   (3) A wage limit of 30s. per week for those to receive medical benefit.
   (4) Voluntary contributors not to be entitled to medical benefit.
   (5) Payment by an adequate scale of fees for work actually done.
   (6) Cases of sickness due to misconduct not to be entitled to medical benefit.
   (7) A fair and reasonable allowance for mileage, night work, emergencies, and minor surgery.
2. The members of this Division are prepared loyally to support the policy approved by the Association, but at the same time they consider the wage limit of £2 per week too high, and they strongly urge the Council, before putting that forward as the limit to be universally demanded, to take the opinion of the whole profession by referendum.

To urge the Association not to commit its members to the acceptance of *any* capitation fee without, by a referendum, making certain that the majority of the profession are willing to work for a fixed fee per head per annum.

EAST NORFOLK.

A SPECIAL meeting of the East Norfolk Division of the British Medical Association was held on June 20th, at 4 p.m., at the General Hospital, Great Yarmouth, to consider the action of the local profession with regard to the National Insurance Bill. All members of the profession resident in the area of the East Norfolk Division were invited to this meeting, whether members of the Association or not, and altogether twenty-six medical men were present. Dr. SHAW presided, the Chairman (Dr. Vickers) being unavoidably absent. The minutes were read by the SECRETARY and approved. Letters regretting inability to attend were read from Drs. Hempe, Case, and Beales, also one from Dr. Henry Blake, who suggested that all honorary medical officers of hospitals throughout the country should give notice at once that they will resign their appointments and duties on the day that this bill becomes law.

Dr. A. C. MAYO then gave the meeting an account of the Representative Meeting and the consultation of that meeting with the Chancellor of the Exchequer.

Dr. POTTS then proposed the following resolution, which was seconded by Dr. H. WYLLYS:

> That we, the members of the East Norfolk Division of the British Medical Association, for the sake of the unanimity of the profession, pledge ourselves to accept the policy of the British Medical Association, provided that the policy is strictly adhered to and no concessions made; at the same time we regret that the policy is not stronger.

Drs. SANKEY, LEY, and RYLEY spoke in support of this resolution.

Dr. BACK moved, and Dr. DIX seconded, an amendment to delete the last sentence. The amendment was put to the meeting, and six voted for it and seven against. Dr. Potts's resolution was then put, and carried unanimously.

The Chairman then asked those members who were not members of the Association to make up their minds to join.

Every gentleman present at this meeting signed the following personal undertaking:

> We, the undersigned medical practitioners resident in the area of the East Norfolk Division of the British Medical Association, do hereby pledge ourselves not to enter into any arrangement for the treatment of patients under the National Insurance Bill, except under the conditions defined in the policy of the British Medical Association.

The meeting terminated with a hearty vote of thanks to the Chairman. At the conclusion of the meeting several gentlemen present signified their intention of joining the British Medical Association.

NORTHAMPTON.

AT a meeting of the South Midland Branch of the British Medical Association, held at Rugby on June 8th, under the presidency of Dr. CLEMENT DUKES, the following resolution was adopted unanimously on a motion from the chair, seconded by Mr. BAXTER:

> That whilst approving the main objects of the National Insurance Bill, and being desirous of co-operating for their attainment, in view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

GLOUCESTER.

A SPECIAL meeting of the Gloucestershire Branch of the British Medical Association was held at the Royal Infirmary, Gloucester, on June 15th. The chair was taken by the PRESIDENT, and forty-five members were present.

The REPRESENTATIVE OF THE BRANCH made a few remarks on the Special Representative Meeting held in London on May 31st and June 1st.

A discussion of the policy of the Association followed, the summary finally reading as follows:

1. An income limit of 30s. a week for those entitled to medical benefit.
2. Free choice of doctor by patient, subject to consent of doctor to act.
3. Medical and maternity benefits shall not be administered by friendly societies.
4. The method of remuneration of medical practitioner adopted in each local area to be according to the preference o the majority of the medical profession in that local area.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.
6. Adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committee, and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee.

General Resolution.

7. That, whilst approving the main objects of the bill, and being desirous of co-operating for their attainment, nevertheless, in view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

EASTBOURNE.

AT a meeting of the Eastbourne Division of the British Medical Association, held on June 15th, under the chairmanship of Mr. A. C. Roberts, the National Insurance Bill was discussed.

Mr. J. A. EWART (the Representative) gave a lucid and interesting summary of the proceedings of the Special Representative Meeting held in London on May 31st and June 1st.

The HONORARY SECRETARY submitted the contents of a circular letter sent to all the Branches and Divisions by the Medical Secretary, dated June 2nd, giving a summarized statement of the policy of the Association adopted by the Representative Body, with the main points upon which the profession should make a united stand, urging upon Branches and Divisions the imperative necessity for rallying the profession throughout the country in actively prosecuting a plan of campaign by holding mass meetings of the profession in every district, personally canvassing every member of the profession, and endeavouring to secure their adhesion to the policy of the Association by asking them to sign a form of petition and declaration, etc.

After discussing the matter in all its bearings, it was resolved and unanimously carried:

(*a*) To endorse the general resolution of the Representative Body.
(*b*) To personally canvass all members of the profession in the area, and invite them to sign the following letter.

The following letter addressed to Mr. Rupert S. Gwynne, M.P., was adopted:

Dear Sir,

NATIONAL INSURANCE BILL.

We, members of the medical profession residing within the area of the Southern or Eastbourne Parliamentary Division of Sussex, whilst approving the main objects of the National Insurance Bill, and being desirous of co-operating for their attainment; nevertheless, in view of the fact that many of the present proposals contained therein are unsatisfactory to the whole body of the medical profession, petition and appeal to you, our Parliamentary Representative in the House of Commons, to represent and urge upon His Majesty's Government the imperative necessity for postponing in Committee the consideration of those clauses pertaining to "Medical Benefits," until satisfactory terms have been arranged with the medical profession.

NATIONAL INSURANCE BILL.

We, the undersigned members of the medical profession residing within the area of the Eastbourne Division of the British Medical Association, herewith individually pledge our honourable bond and collectively agree, NOT to undertake, nor enter into any arrangement for the treatment of patients under the scheme of the National Insurance Bill, except and unless under the conditions formulated and adopted by the Special Representative Meeting on June 1st, 1911, as the policy of the Association and defined in the following approved summary of the main points at issue: [The conditions laid down by the Representative Meeting (see SUPPLEMENT, June 10th, p. 404) were here inserted.]

At the conclusion of the meeting twenty-five subscribed their signatures to both documents, and several more have since been added.

CORRESPONDENCE.

EVILS OF FRIENDLY SOCIETY CLUB PRACTICE.

DR. A. G. BATEMAN writes:

If the present determination on the part of the medical profession to make common cause against the National Insurance Bill as promoted by Mr. Lloyd George leads to the extinction of club practice untold benefits will accrue both to the community and to medical men. The views of friendly societies in respect of such practice—a practice which blesses neither him who gives nor him who receives—are well illustrated by the following excerpts from the *Guide Rules of the Friendly Societies Medical Alliance*, which, though published many years ago, is worth recalling once again. In this *Guide* it is stated that:

> One average medical practitioner can undertake and attend with ease upon an association of 2,000 persons: can hold interviews with patients, prescribe and dispense their medicines and visit such as are unable to attend at the surgery. An average medical practitioner and dispenser can undertake the duties attendant upon an association of from 2,500 to 3,500 members. The same practitioner having an assistant capable of seeing patients and dispensing medicine and visiting under the direction of the chief medical officer can work an association of from 3,000 to 4,000 members. Where associations have upwards of 5,000 members it will be found that either three medical men, or two medical men with dispenser will be required.

As a committee of the General Medical Council recorded in its report (1893), "these limits are often exceeded." The following paragraphs are quoted from the report of this committee:

> In the Northampton Friendly Societies Medical Institute, with a total of 14,369, there are only three medical officers. In Derby, with a grand total of 12,365 members, there are but three medical officers. In the Nottingham Friendly Societies Medical Institute, with 4,501, there is but one medical officer. In the Leicester Friendly Societies Medical Institute there is a membership of 7,890 with two medical officers. In the York Institute there are 10,251 members with three medical officers.
>
> These numbers with apparently inadequate staffs support the statements that have been made to the committee that in many of the institutions the medical officers are frequently overworked.

The views of the medical officers were expressed to the same committee, fully exposing the "sweating" nature of the work done. One medical officer stated, "many men break down from overwork." In one month his recorded work was "600 visits, 1,100 consultations, 10 confinements, besides operations, vaccinations, and certificates." He adds:

> Two predecessors died. The wholesale doctoring is fraught with danger to the public. It kills all scientific work. One man is made to do the work of two. In this scrimmage I have overlooked grave cases which I should be ashamed to mention.

Another stated:

> I have sometimes 200 to 250 cases a day and 150 midwifery cases a year. I would say most assuredly that such a large number of persons being admitted who might fairly have been under other care, the really proper cases for such a society were neglected. It was quite impossible to do the work.

Another stated:

> Always in winter I felt that I did not give attention to individual cases. The system is detrimental to the public for want of time. A careful examination in the surgery is very rare. The better class of patients are swindling me. The system disheartens the doctor.

Another stated:

> The work involves great strain; with 150 patients a day and 150 cases of midwifery a year, it is impossible to examine patients systematically. It is not a desirable method of practice. One's faculties get exhausted.

Another stated:

> It is the system and the amount of work for the money that I object to, as £1,000 a year would not pay. It endangers a man's health so much.

A medical officer of another association said:

> I have seen in one day 260; the average now is 230.

Another reported:

> Thirty visits a day; seventy-five consultations at surgery; two midwifery cases a week. One night had three midwifery cases, and same day saw two patients a minute. Sometimes whilst dressing a case I attended to two or three others. As to time for visits, the people say we are like Jack in the Box—in and out—average one and a half minutes. A case has to get very bad before we find it out. I cannot afford time for physical diagnosis. If there is an accident I send fifty people away to attend to one man.

These statements might be repeated *ad nauseam*, and they disclose a position which establishes the bad consequences of contract practice. These evils will be accentuated should the profession yield to the importunities of a Chancellor. In order to make a bare living medical practitioners would have to increase the daily number of their patients to the extent illustrated in the above statements, and skilled diagnosis and careful treatment would be lacking. I wish we could take the opportunity of destroying all such contract practice by resigning existing appointments. The whole principle is bad, and no amount of legislation or amendments to legislation will affect the issue. We should decline absolutely to have anything to do with this most degrading form of medical practice. It cannot be mended; it must be ended once and for all.

THE INCOME LIMIT.

Dr. J. CUTHBERTSON WALKER (Rochdale) writes to support the arguments advanced by Dr. S. W. Carruthers (SUPPLEMENT, June 24th, p. 482). Dr. Walker considers that the profession have no right to insist that persons with an income of over £2 a week shall not be allowed to insure against medical attendance. Dr. Walker considers this a mistaken policy and in conflict with the considered report of a committee of the Association on medical attendance insurance, in which the following occurs:

> Provided that the element of charity by the profession is thus entirely eliminated, and that, whatever system of payment be adopted, there is a full and proper remuneration, there seems no reason why any wage limit that the State is likely to fix for compulsory insurance should not be accepted by the profession as the limit of those admitted to medical attendance (BRITISH MEDICAL JOURNAL, March 4th, 1911, SUPPLEMENT, p. 94).

In laying stress on a wage limit at this stage we weaken our case.

*** As there seems to be a certain amount of misapprehension with regard to the attitude of the Association with reference to contract practice and insurance, it may be as well to endeavour to point out what the position really is. The Special Representative Meeting adopted a series of resolutions dealing with this matter, and, in estimating their effect, the scheme embodied in the National Insurance Bill must be considered in relation to the explanations given by the Chancellor of the Exchequer. All the resolutions were set out in full in the SUPPLEMENT of the JOURNAL of June 10th, page 408, and it will suffice to quote here certain of them:

That it is desirable that there should be facilities for enabling persons who cannot otherwise meet the cost of medical attendance to insure against such cost in such a way as will tend to develop higher efficiency, will afford conditions of service and remuneration satisfactory to the medical practitioners employed, and otherwise shall be in accordance with such fundamental principles as may be approved by the British Medical Association.

That the inclusion of medical benefits among those available under a State sickness insurance scheme is desirable, provided that the conditions of the scheme tend to develop higher efficiency, afford adequate remuneration to the medical practitioners employed, and are otherwise in accordance with such fundamental principles as may be approved by the British Medical Association in reference thereto.

That the Association support the establishment by the Government, in co-operation with the medical profession, of a medical service or services, the cost of which is met by insurance under conditions satisfactory to the profession.

That the administration of medical benefit under any Government scheme of insurance should not be placed in the hands of Friendly Societies.

That medical practitioners should decline in any circumstances to associate themselves with any medical service which Friendly Societies or similar bodies may attempt to establish.

That the benefits of any kind of Insurance Medical Service should be restricted by an income limit approved by the profession.

That, while the income limits of those receiving benefits under an Insurance Medical Service should, as far as possible, be fixed locally, a maximum total income limit should be definitely fixed by the Association.

That, in connexion with any Insurance Medical Service, provided that the Government or other Public Authority guarantees the payment for all necessary medical attendance in accordance with an agreed tariff of fees,

the method of remuneration by fees per attendance is preferable to the method of capitation payment.

That if the amount available for remuneration of medical practitioners is limited in proportion to the number of the insured, the capitation method of payment is preferable, provided that provision be made for extras and contingencies.

RURAL DISTRICTS.

Dr. W. GORDON (Exeter) writes: The past fortnight has brought forth two important utterances, namely:

(*a*) The evidently inspired article in the *Westminster Gazette* declaring (1) that, if we resist, a whole-time medical service will be created; and (2) that the wage limit of Government contract practice is now to be raised in Germany—statements which will do good, by further consolidating the British medical profession against the proposals of the political opportunist who presumes to make them—and

(*b*) The protest of the Irish Roman Catholic Bishops against the application of the bill to agricultural and relatively healthy Ireland.

Now this second utterance has far-reaching bearings. For what is true of agricultural Ireland is true also of the agricultural areas of England, Scotland, and Wales. Why should these notoriously more healthy districts be forced to pay a flat rate with the notoriously less healthy towns, and thus bear a burden all too heavy which does not belong to them? If anyone doubts the difference in the prevalence of disease in the towns and country districts of Great Britain, let him consult the mortality figures of the Registrar-General, and he will soon be convinced.

There is, unhappily, in this island, no body of prominent men to act collectively for the agricultural districts as the Irish Bishops have so well acted for Ireland. But surely the members of Parliament whom they have returned are bound to see that such a flagrant injustice is not perpetrated.

THE EFFECT IN IRELAND.

Dr. HENRY M. HARRISON (Dublin) desires to draw the attention of members of the medical profession in England to the views in connexion with the medical part of the State Insurance Bill expressed at the meeting of the Royal College of Surgeons of Ireland and also that of the Leinster Branch of the British Medical Association held in the Royal College of Physicians of Dublin, and ask them carefully to consider the opinions expressed by those best acquainted with the conditions of medical practice in Ireland. He says that, briefly, the position taken up by the profession in Ireland is almost unanimously against both the principle involved and the manner in which the Chancellor of the Exchequer seeks to exploit our calling. After making quotations from the speeches at the above-mentioned meeting (SUPPLEMENT to BRITISH MEDICAL JOURNAL, June 17th, pp. 446–447), our correspondent continues:

There is no desire on our part to make the provisions for State medical attendance popular, and we do not intend to do so. It would be a gross misrepresentation of the feeling of the profession in Ireland, to say they desired, from any motive whatever, to carry out the intention of Mr. Lloyd George's bill, and we feel that we in Ireland are not alone in this respect. Although Ireland is a poor country, its people are intelligent, and not easily duped as far as the State is concerned; and its medical men are imbued with enough professional spirit to prevent them from pretending to the people that they can afford to give even a fair amount of time and skill to the sick poor under any form of contract practice analogous to that of the friendly societies.

We do not want to "toe the line" with a view to making the Chancellor of the Exchequer give us "an extra shilling" and "representation," but to retaining our liberty and rights as a profession in order that we may continue to act up to the traditions we have been proud of in the past, and have continued to hold at much denial, and even in some cases suffering, to ourselves.

We are indeed face to face with the first far-reaching act of the State to tie up the hands of our profession at less expense to the country, and yet more effectively than any whole-time medical service could possibly do, and I contend that we are not likely to have again such a favourable opportunity for taking combined action along these lines advocated above.

I have given my support to both the "undertaking" and "memorial" as formulated by the British Medical Association, but I keenly regret (with many of my brother practitioners) that we are not demanding payment "by fee for work done"—or the formation of a whole-time medical service.

NORTH OF IRELAND desires to direct attention to the serious injustice which will accrue to a large number of medical men in Ireland. As an example, he writes: I will briefly state the case of a town in the North of Ireland with about 3,000 inhabitants, almost all who are capable of working employed in the mills in and around the village. Two medical men at present practise there—one, the dispensary doctor holding all the appointments; the other entirely dependent upon his private practice. A low estimate of the number of contributors under the bill would be about 3,000, including those resident outside the town, but within the dispensary district. All these people would be compelled to send for the dispensary doctor, not only for themselves, but also for their families, because (1) they would be entitled to gratuitous treatment by him, and (2)—and more important still—it would be upon his report whether or not they would receive sickness allowance. In the place of which I am writing it would be quite impossible for the medical officer under the board to give efficient attendance to all those compelled to resort to him. The other doctor, over twenty years in the town, would be forcibly compelled to leave him more than three-fourths of his patients. Could there be a greater injustice perpetrated by a law than this?

Amongst the important suggestions put forward by the British Medical Association is one—namely, the free choice by the patient of medical attendant; and I would add to that the deletion of the capitation grant and the payment for each individual attendance. If such an arrangement were adopted thus, the greatest grievance in the bill would be eliminated, and there would arise as a consequence amongst the profession a healthy and legitimate spirit of rivalry, a constant and continuous incentive to the acquisition of more information, which could, and would, be used for the alleviation and, if possible, the more frequent cure, of the patients.

THE GERMAN EXPERIENCE.

Dr. E. D. KIRBY (Edgbaston, Birmingham) has sent us a letter he has received from his friend Dr. Franze, the well-known heart specialist of Nauheim, a gentleman who possesses an English qualification, and therefore takes an interest in current medical politics. As will be seen, the profession in Germany, under the lead of the Leipziger Verband, has found successful a policy on the same lines as that now advised by the British Medical Association in the crisis brought about by the National Insurance Bill:

After the introduction of the insurance laws for the working class in Germany the first influence on the medical profession was decidedly injurious. The canvassing of the doctors for the appointments to the insurance societies took on forms which were quite opposed to the professional ethics. Thus the presidents of said societies soon got supreme power over the doctors and were in a position almost to dictate terms, which, it is needless to say, were quite to the advantage of the societies and against the requirements of the doctors.

But, fortunately, in about 1897 (I forget the exact year) one Dr. Hartmann, of Leipzig, succeeded in uniting the majority of the profession in a league or federation with the view of defending the financial and material requirements of it. This league is called Der Leipziger Verband der Aerzte Deutschlands zur Wahrung ihrer wirtschaftlichen Interessen. Now about 30,000 of the 40,000 German doctors belong to it. This league has succeeded in gaining back the lost ground, and in providing for our profession a position in reference to the insurance societies which is decidedly favourable for the profession. No contract or stipulation may now be signed by any one of the members of the league which has not previously been approved by the head quarters of the latter. Thus, no unworthy contracts can well any more—except in exceptional cases—come into force! In short, the league of Leipzig has turned out a tremendous success for us.

The league has fixed 4 marks per head per annum as the minimum fee; but in other cases single visits and procedures are paid, also at rates fixed by the league.

On the whole the German doctors may now be considered as satisfied with the insurance scheme, whilst it in the beginning nearly ruined them, and certainly would have done so if Dr. Hartmann had not come to the rescue.

There is an income limit, which is fixed at 2,000 marks per year; but from January 1st, 1912, it will be raised to 2,500 marks income per year.

British Medical Association.

MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN UNDER THE LONDON COUNTY COUNCIL.

DEPUTATION TO THE PRESIDENT OF THE BOARD OF EDUCATION.

ON June 27th the President of the Board of Education, the Right Hon. Walter Runciman, M.P., received a deputation from the British Medical Association, representing both the Central Executive of the Association and the Metropolitan Counties Branch, on the subject of the medical inspection and treatment of school children in London.

In addition to Mr. Runciman, M.P., there were present on behalf of the Board of Education: Mr. Charles P. Trevelyan, M.P. (Parliamentary Secretary), Sir Robert L. Morant, K.C.B. (Permanent Secretary), Sir George Newman, M.D. (Chief Medical Officer), Mr. L. A. Selby-Bigge, C.B. (Principal Assistant Secretary), and Mr. J. C. G. Sykes, C.B. (Assistant Secretary).

The British Medical Association was represented by Mr. T. Jenner Verrall (Chairman of the Medico-Political Committee), Sir Victor Horsley, F.R.S. (Chairman of the School Children Committee of the Metropolitan Counties Branch), Mr. C. E. S. Flemming, Dr. Major Greenwood, Dr. Langdon-Down, Dr. H. Beckett-Overy, Dr. Lauriston E. Shaw, Dr. E. W. Goodall, Dr. F. E. Fremantle, Dr. W. Griffith, Dr. M. I. Finucane, Dr. Harvey Hilliard, Dr. J. A. Howard, and Mr. J. Smith Whitaker (Medical Secretary of the British Medical Association).

Dr. ADDISON, M.P., who introduced the deputation, said that he believed that the Board of Education was aware that the method adopted by the London County Council with respect to the examination of entrants amongst school children was exceedingly inadequate, and seemed to be that the children were inspected by a teacher in a class and paraded before the medical officer, who selected certain of them for examination. It was evident, from the report of the London County Council's own medical officer, that the system was not really an inspection of the entrants, and that by it a very large proportion of defects amongst the children was overlooked—probably at least a half. Further, the records of the children were entered on cards which contained nothing like the details which the Board's medical officer said were required. The London County Council's report stated that 120,000 children had been examined between August, 1910, and March 23rd, 1911, and those children, with the present staff, could not possibly have been examined in an adequate manner. The result of the present method was that at least half of the defects was not detected, and for those in whom defects were detected the treatment was exceedingly inadequate. A large number of children was supposed to be sent to hospitals, but as a matter of fact the children so expected to be treated did not attend the hospitals. For example, it was anticipated that 1,000 children would be sent to the Throat Hospital, whereas only 131 were actually treated; at the London Hospital something like one-third of the expected cases was treated, and at St. George's Hospital about one-half. The British Medical Association had some time ago suggested to the Board a scheme of school clinics, which the President of the Board of Education and his officers had approved in the main, but, so far as could be seen, there was no nearer prospect of the establishment of an adequate system of school clinics than two years or eighteen months ago. Such a system was the only one which could meet the case, and in some places school clinics had been established with very great success on very economical lines. He would point out that in the Board's Medical Officer's report it was stated:

> It must be a matter of profound regret to the Board to find that the London Education Authority have not only failed in fact to carry out the clear intention of Parliament and perform the duties imposed upon them in pursuance of Section 13 of the Education (Administrative Provisions) Act, but that they have adopted and continue to maintain arrangements which are manifestly inconsistent with the performance of their statutory duties, and, indeed, have rendered their performance impracticable.

At the present time it was believed that that condemnation was as fully warranted in many respects as at the time it was made. The deputation would place certain facts before the Board of Education, and, whilst fully recognizing the great difficulties to be confronted, would urge the Board, so far as it was able, to see that the children of London were adequately attended to by the London County Council.

Sir VICTOR HORSLEY said he desired to lay before the Board the views of the British Medical Association on three separate points: Medical inspection, medical treatment, and dental treatment of the school children of the metropolis. The British Medical Association approached the subject from the point of view, chiefly, of the prevention of national physical deterioration, but also, naturally, from the point of view that every child, so far as it was hampered by physical defects and was thereby unable to take proper advantage of the educational opportunities offered by the Government, should be placed in a position to receive that education.

Medical Inspection.

It was in the hope of advancing the question of medical inspection as well as hygiene and temperance that the British Medical Association in 1906, and again in 1907, pressed on the Education Department the establishment of a medical bureau, and it regarded the establishment of that medical bureau and the holding of the chief officership of that bureau by Sir George Newman as the best guarantees for the furtherance of the great questions mentioned. From the point of view of the British Medical Association, medical inspection must be applied to every child entering a school. In 1907, when medical inspection was determined upon by statute, the British Medical Association furnished the Board of Education with a schedule of what it thought to be the minimum conditions into which inquiry should be made by the medical inspectors. That schedule was practically adopted by the Department, and in Circular No. 582 the Board stated that they regarded that schedule as "constituting the minimum of efficient medical inspection." What had the London County Council done in respect of that fundamental point? According to the view of the British Medical Association, the London County Council had taken a wrong position from the start. The London County Council's idea of medical inspection was the inspection of selected groups of children in selected schools. That, the Association contended, was not the intention of Parliament, and did not meet the medical requirements of the nation. The London County Council employed the schedule of the Board of Education for but a short time, and then introduced an abbreviated card. Sir Victor Horsley produced the following to indicate the difference between the Board of Education schedule and the London County Council abbreviated card:—

COMPARISON OF NUMBER OF DEFECTS FOUND BY THE BOARD OF EDUCATION AND THE LONDON COUNTY COUNCIL.

(Report of L.C.C. School Medical Officer for the Year 1909.)

Defect.	Board of Education Schedule.	L.C.C. "Simpler Plan."
Uncleanliness	5.2 per cent.	2.7 per cent.
Adenoids	3.5 ,,	1.7 ,,
Glands	6.5 ,,	0.54 ,,
Speech	0.91 ,,	0.08 ,,
Heart	1.4 ,,	0.25 ,,
Chest...	0.9 ,,	0.3 ,,
Rickets	0.89 ,,	0.18 ,,
Tuberculosis	0.1 ,,	0 01 ,,

At first the London County Council spoke of the use of the abbreviated card as the simpler plan, but in the view of the British Medical Association it was merely simplifying by leaving out. The first diagram showed the facts taken from Dr. Kerr's report for 1909, referring to certain defects exposed by examination of children under the Board of Education's schedule and the number of defect

RETURN MADE BY MEDICAL INSPECTORS SHOWING UNDER "INFANTS' DEPARTMENT" THAT THEY DISCRIMINATE BETWEEN THE CHILDREN REALLY INSPECTED (EXAMINED IN DETAIL) AND THOSE SIMPLY LOOKED AT (INSPECTED).

M.O. 83.

☞ *To be filled up and forwarded by the Doctor or Nurse to the Medical Officer (Education) on the day of the examination.*

LONDON COUNTY COUNCIL.

The following table furnishes particulars as to the examination conducted at _____ school, during the { morning / afternoon } session of _____ (date).

Name of Doctor _____ *Name of Nurse* _____

Ages.	Number of children examined in senior departments.		Infants Department.			Urgent Cases.			Number of cards advising treatment.		Number of parents invited to be present.	Number of parents who attended.	Time given to work by						Remarks.
			Number of entrants inspected.	Number of entrants examined in detail.		Boys.	Girls.	Infants					Doctor.		Nurse.		Teacher.		
	Boys.	Girls.		Boys.	Girls.				Boys.	Girls.			hrs.	min.	hrs.	min.	hrs.	min.	
Infants.																			
8—9.																			
12—13.																			
Other ages (state ages)																			

Signature _____

SCHEDULE CARD AS APPROVED BY BOARD OF EDUCATION.

LONDON COUNTY COUNCIL.

I.—NAME _____
Surname first.
Address _____
Date of Birth _____

School _____ Dept. _____

GENERAL OBSERVATIONS.

I.—PERSONAL HISTORY:

(*a*) Previous Illnesses of Child (before admission).

Measles _____ Scarlet Fever _____
Whooping-cough _____ Diphtheria _____
Chicken-pox _____ Other Illnesses _____

(*b*) Family Medical History (if exceptional).

DIRECTIONS TO PARENT OR TEACHER.

[REVERSE.]

	I.	II.	III.	IV.
1. Date of Inspection				
2. Standard and Regularity of Attendance				
3. Age of Child				
4. Clothing and footgear				
5. Height				
6. Weight				
7. Nutrition				
8. Cleanliness and condition of skin				
Head				
Body				
9. Teeth				
10. Nose and throat				
Tonsils				
Adenoids				
Submax. and cervical glands				
11. External eye disease				
12. Vision				
R.				
L.				
13. Ear disease				
14. Hearing				
15. Speech				
16. Mental condition				
17. Heart and circulation				
18. Lungs				
19. Nervous system				
20. Tuberculosis				
21. Rickets				
22. Deformities, Spinal Disease, &c.				
23. Infectious or contagious disease				
24. Other disease or defect				
Medical Officer's initials				

ABBREVIATED CARD SUBSTITUTED BY LONDON COUNTY COUNCIL.

M.O. 72. LONDON COUNTY COUNCIL.

NAME _____ SCHOOL _____

ADDRESS _____ DATE OF BIRTH _____

Has the child previous to examination suffered from	Measles.	Scarlatina.
Date		
Standard		
Without Shoes. — Heights in Cm.		
Without Shoes. — Weights in Kilos. and tenths		
Vision — Teacher		
Vision — Doctor		
Age at Examination in Years Mos.		
Remarks—		

[REVERSE.]

Date		
Cleanliness		
Clothing		
Nutrition		
Teeth		
Throat and Nose		
Hearing and Ears		
Remarks—		
Initials of Examiner		

as discovered by the London County Council method. The enormous difference would be seen at a glance. The same thing was also shown in diagrammatic form.

Failure of London County Council Medical Inspection and Treatment.

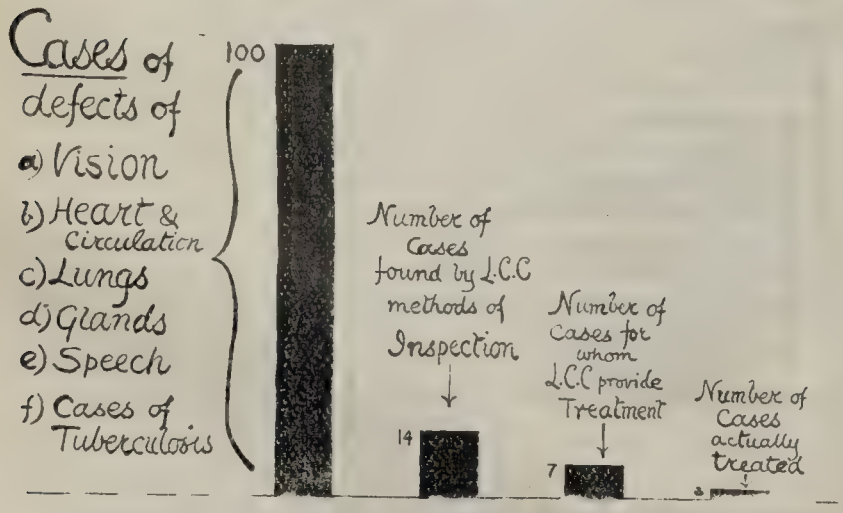

See Report of London County Council Medical Officer for 1909, p. 7, etc.; Minutes of London County Council Education Committee, December 7th, 1910.

Continuing, Sir Victor Horsley said that whilst that was serious enough there was more behind. The Association had found that with regard to entrants whom the Act of 1907 specifically indicated should be medically inspected not more than 25 per cent. of them at the outside were so inspected, and the others were simply marched past the medical inspector. The Association was also informed that the medical inspectors returned the facts, according to whether they simply looked at the children or medically examined them, under two headings; yet the County Council did not publish those returns under two headings but under one as "medical inspection," and the British Medical Association wished, on behalf of the medical profession, to dissociate itself at once from this action of the London County Council. It was obvious that the question of carrying out the Act of 1907 was simply a matter of financial provision. The British Medical Association regarded the evasion of the Act by the London County Council as a definite breach of faith on the part of a public body towards the nation, and, inasmuch as medical inspection was now compulsory, the British Medical Association had come that day to call on the Board of Education to compel the London County Council to carry out medical inspection in future according to the Act of 1907 and according to the code and regulations of the Education

Department. If that were done, it would embrace all the requirements, the failure to observe which was the reason of the deputation.

Medical Treatment.

Dealing with medical treatment, Sir Victor Horsley observed that there was a grave error in the report of the Medical Officer to the Board of Education with respect to the findings of the Committee which formed the basis, to some extent, of the British Medical Association's action, and at any rate accurately reflected the ideas of the Association. The Medical Officer in his report for 1909 stated that there was a subcommittee of the Education Committee of the London County Council appointed, that upon it were placed certain members, and the names were given. Then certain conclusions of the subcommittee were given, the last of which was, "That to supply the additional provision for the medical treatment of school children which has been found desirable, the Council should utilize institutions of the types now existing, giving financial help." That was a complete error. The subcommittee referred to, of which he, the speaker, was vice-chairman, furnished a report to the Education Committee, in which it made two recommendations, of which the first was the following: "It is clear, therefore, that the hospitals and provident dispensaries of the metropolis cannot adequately provide the treatment required," and the second was, "That the Council should establish school clinics at suitable centres in the metropolis for the medical treatment of the defects." That, as would be seen, was absolutely contrary to the report of the medical officer of the department. The mistake had arisen through the medical officer confusing the findings of the subcommittee with the action taken by the Education Committee. The report passed by the subcommittee went before the Education Committee, and there, by a party vote, it was thrown out and the situation reversed. Every one had assumed that the findings were the findings of the special subcommittee, and that consequently the British Medical Association had associated itself with the conclusions of the committee that hospitals should be employed for the purpose, which placed the British Medical Association in an entirely false position. The position of the British Medical Association was that it objected *toto* to the hospital system of the London County Council. It had made its protest to the Board of Education on August 4th, 1909, pointing out that the hospital scheme was radically bad and must fail. Its failure was now notorious, and the cruelty involved to children by such failure was equally notorious. By the courtesy of the Board the British Medical Association had made on March 23rd, 1910, a further protest through the medical officer, and was then relieved to hear from Mr. Selby-Bigge that the sanction of the Board of Education to the hospital scheme of the London County Council was only conditional on the London County Council furnishing a report of the working of the scheme. That report had never been furnished to the Board of Education at all, because, as the British Medical Association was well aware, if it had been furnished it would have shown that the hospital scheme was a failure, and that the London County Council ought to have accepted the scheme of the Association. The Association had been told that the Board of Education had renewed its sanction for another year. The minutes of the Education Committee of the London County Council had been searched, and an assurance in words and a resolution had been found, but there was nothing to promise that the gross defects of the scheme would be recognized and the scheme abandoned. It was known that the Board of Education had demanded of the London County Council that it should furnish a complete scheme by October 11th, 1911, but the British Medical Association also noticed that the Finance Committee of the London County Council had reported that the London County Council ought not to publish such a complete scheme, or commit itself to a complete scheme, and the London County Council had adopted the report of that Finance Committee. Consequently, to put it in a few words, the British Medical Association did not trust the assurances of the London County Council, and regretted very greatly that the Board of Education should have sanctioned the continuance of the scheme.

Sir Victor Horsley drew attention to a map on which was indicated every school in the metropolis and the Divisions of the British Medical Association, pointing out how school treatment centres could be established in proximity to the schools as required, and said that the Association could not see why the establishment of those treatment centres should not be undertaken at once. Whilst the answer might be that this policy was being pursued, yet it was being done lingeringly and slowly. Until there was a complete scheme, the requirements of the children of the metropolis would not be met. The map showed that 100 or 120 centres would be necessary, and that showed at once that the British Medical Association's scheme was the only one adequately to meet the case. Those centres must be staffed by local practitioners and registered dentists in each division, because, otherwise, the London County Council would be called upon to construct a vast school medical service. Therefore he urged that the British Medical Association's scheme was the only one to meet the requirements of the case, and pressed the Board of Education to sanction that scheme and put an end, as far as it could, to the hospital scheme of the London County Council.

Dental Treatment.

The British Medical Association regarded the action of the London County Council in refusing to take up dental treatment of school children until quite recently as most inimical to public health. It had been found, as had been acknowledged by the Education Committee in 1910, that a much larger number of school children required dental inspection and treatment than had ever been imagined. For instance, of children between $7\frac{1}{2}$ and $8\frac{1}{2}$ years of age, 60,000 were admitted by the Education Committee to require treatment, and therefore, with regard to the carrying on of dental inspection and treatment throughout the 800,000 children in London, it was shown that something like 700,000 required dental treatment. That difficulty, although it might seem enormous, could be easily met by the British Medical Association's scheme. The dental hospitals, rightly considering that State aid ought not to be confused with charity, had refused to entertain the London County Council's scheme at all. Therefore there was no experiment to be faced. It had been represented to the Board of Education by the London County Council that the whole thing was in an experimental stage, and it was to be regretted that the Board of Education had lent some colour to that suggestion. If the treatment centres of the British Medical Association were established, then there would be two rooms set apart for the visits and work of the registered dentists. The whole thing worked quite simply and easily from the British Medical Association's point of view. Further, the scheme of the British Medical Association was elastic. Treatment centres could be established as required, extended as required, and could be officered from a very large reserve of medical officers.

The PRESIDENT OF THE BOARD OF EDUCATION, replying to the deputation, said that the remarks made by Sir Victor Horsley might very well have been addressed to the London County Council.

Sir VICTOR HORSLEY: They have been.

The PRESIDENT OF THE BOARD OF EDUCATION was glad to find that the views held by the Board had been reinforced in such high quarters, and assured the British Medical Association that he was quite alive to the defects of the methods adopted by the London County Council, both in medical inspection and in medical treatment. Dealing first with the latter, he pointed out that the Board had no power to compel the London County Council to undertake medical treatment. The London County Council could, if they liked, give medical treatment, or refrain from doing so; but that was the position as the Legislature had left it. But if the London County Council did undertake medical treatment, it then became the Board of Education's duty to see that that treatment was adequate, properly organized, and that the schemes were such as the Board could sanction. To that extent, therefore, there was power, but it was a limited power, and if the Board of Education were to insist on the London County Council undertaking certain medical treatment, the London County Council could, as far as the law was concerned, say they did not intend to do it, and there would be no power to compel

them. Where the Board came in was that when the London County Council undertook medical treatment they must have the Board's sanction to any scheme. He hoped the deputation would believe him when he said that the Board had not seen fit to give its approval to the method of medical treatment organized by the London County Council during the last two years. There had been frequent communications on the subject, and not only did the Board describe in its medical officer's report the view it held with regard to medical treatment and condemn the system which had been undertaken by the London County Council, but it had been in frequent communication with the latter, both by letter and by word of mouth, over a comparatively long period. The Board began a vigorous attack upon the Council in December, 1909, and throughout last year and the present year there had been constant communications with the London County Council, and he (Mr. Runciman) hoped that there would in the coming year be some effort made to carry out the promises to which Sir Victor Horsley had referred. It must be believed that when the London County Council passed a resolution it meant to act on it, and until it had failed to act on it, the view could not be held that the resolution was not worth the paper it was printed on. Mr. Runciman trusted, therefore, that by the autumn of the present year a considerable improvement would be seen in the organization which the London County Council was responsible for. Some improvement had already been made, and steps had been taken which were all to the good. The Council was making use of several voluntary clinics, and in the last three or four months had started clinics in Hampstead, Norwood, and Wandsworth. It was to be hoped that that start would lead to the establishment of clinics in other parts of London. When it was said that 100 clinics were necessary to cover the whole of London, the alarm which the Chairman of the Finance Committee of the London County Council felt would be understood, and it sounded like a very heavy burden on the Council's finances; but he (Mr. Runciman) could only say that, so far as he was concerned, he saw no reason why the work of medical treatment should be shirked merely because it would throw a very small addition upon the ratepayers of London. The question of treatment was not likely to pass out of the purview of the Board of Education. The London County Council was committed deeply to treating children who had physical defects, and the Board would see that no scheme should receive its sanction which it did not believe to be, under the circumstances at the time, adequate, and such as might be expected of the London County Council, considering the difficulties of area, of distance, and of the organization which the Council could reasonably be expected to have at its disposal. He was greatly strengthened by the view expressed by the deputation, and thought he would be justified in telling the London County Council that, in pressing them to undertake the work, the Board was not playing the part of autocratic and domineering officials, but was really carrying out the view honestly held by those best qualified to know the medical requirements of the metropolis.

Dealing with inspection, Mr. Runciman said the Board of Education had been in communication with the London County Council ever since August, 1908, and some of its communications had been condemned as being high-handed, and so forth, merely because they expressed in rather milder language exactly what Sir Victor Horsley and Dr. Addison had said that morning. Ever since 1908 the Board of Education had pressed the London County Council to increase its staff, to see that its staff did their work well, and to see that medical inspection and medical treatment were co-ordinated. He pointed out that the London County Council, as the result of that pressure, had increased their staff to some extent. Last year there were 52 doctors doing medical inspection work, at Christmas there were 70, and now there were 100. Further, there were 14 doctors giving the whole of their time, or half their time, or a quarter of their time, to the administrative side of the work. The Board of Education had three, or perhaps four, to cover the whole of England and Wales. Therefore he hoped, if the Board could do its work with 4, the London County Council would succeed in doing its work with 14. The duty of the two authorities, of course, was different. The Board could not undertake to go round to every school to see that the medical officer was doing his work. That was physically and demonstratively impossible, and could not be attempted. But the Board did want to know that the medical officers of the local authorities were actually carrying out the work which was believed to be necessary. From some of the samples of the work undertaken by the London County Council, he was afraid there was a very large element of truth in what was said by Dr. Addison—namely, that there had been a scamping of cases, and that to a large extent defects had never been seen which might have been seen if the inspection had been careful, and the diagrams produced put in a startling form the inadequacy of inspection. He hoped the diagrams would be brought before the London County Council, because nothing could be more dramatic than the contrast between the number of cases detected and those which might be considered a fair proportion. The sloppiness, however, as it might be described, of inspection had certainly decreased very greatly of late. Last year, when the entrants were being rushed, it was said it was due to the fact that there were two years of arrears of work to overtake. There ought not to have been two years of arrears to overtake. Nevertheless, that had been so, and the arrears had to be made up, and that must account to some extent for the sloppiness of the inspection at the time. With regard to the cards used by the medical officers of the County Council not containing anything like the number of particulars suggested in the Board of Education's medical cards, and which had been adopted practically by every local education authority in the country, the deputation, as medical men, would well believe that the card did not mean everything, and that any man who knew his work could record his inspection on a clean sheet of notepaper as well as in any other form. The forms used, it was believed, did considerably facilitate the thoroughness of the medical inspection, but that was purely a technical matter of organization to which the attention of the County Council had been drawn, and it was to be hoped that the change made in medical inspection by the Council would include an improvement in the cards used among their medical staff. In conclusion, he would say that the improvement of the staff, the improvement of the records, and the co-ordination of inspection and treatment were all things which had been promised to the Board, and it was to be hoped that in the near future it would be seen that every one of those promises was fulfilled. The medical task in London was greater than in any other area in the United Kingdom, and the Board was well alive to that fact. It was to be regretted that in the medical officer's report published in 1910 it should have been necessary to say that in no part of the country had there been less progress made than in London. The publicity, however, which had been given to the criticisms of the London County Council, and the pressure exerted with increasing force during the last two years, and especially during the last few months, would, it was to be hoped, bring forth good results, and he (Mr. Runciman) was glad that the views which the Board had put sometimes in drastic form, and which it had of necessity to press upon the County Council, were largely reinforced by those who, like the members of the deputation, came in direct contact with the cases under consideration, and who knew the technical and professional side of the problem far better than those who were only administrators could know. In conclusion he thanked the deputation for its attendance, and for having strengthened the hands of the Board of Education, and assured those present that the points raised would have the full consideration of those engaged in medical inspection and treatment through the Board of Education.

Dr. Addison, having thanked the President of the Board of Education for receiving the deputation, the proceedings terminated.

The late Mr. Alfred Lafone, who died in the 91st year of his age, leaving an estate valued at over £196,000, included in his will a statement to the effect that, in consequence of the burdensome death duties now in force, he had some years since made provision for the charitable institutions which he had originally intended to benefit by his will.

THE SEVENTY-NINTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION,
BIRMINGHAM,
JULY 25TH TO 28TH, 1911.

President:
Sir HENRY BUTLIN, Bart., Pres.R.C.S., D.C.L., LL.D., Consulting Surgeon, St. Bartholomew's Hospital, London.

President-elect:
Professor ROBERT SAUNDBY, M.D., LL.D., F.R.C.P., Professor of Medicine, University of Birmingham, and Physician, Birmingham General Hospital.

Past-President:
Sir WILLIAM WHITLA, M.D., LL.D., Professor of Materia Medica, Queen's College, Belfast.

Chairman of Representative Meetings:
EWEN JOHN MACLEAN, M.D., C.M., M.R.C.P.Lond., F.R.S.E., Gynaecologist, Cardiff Infirmary.

Chairman of Council:
JAMES ALEXANDER MACDONALD, M.D., M.Ch., R.U.I., Honorary Physician, Taunton and Somerset Hospital, Taunton.

Treasurer:
EDWIN RAYNER, M.D.Lond., F.R.C.S., Consulting Surgeon, Stockport Infirmary, Stockport.

The Seventy-ninth Annual Meeting of the British Medical Association will be held in Birmingham in July, 1911. The President's Address will be delivered on Tuesday, July 25th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 21st, 1911.

PROGRAMME OF BUSINESS.

The Address in Medicine will be delivered by BYROM BRAMWELL, M.D.Edin., President of the Royal College of Physicians of Edinburgh, Senior Ordinary Physician,, Edinburgh Royal Infirmary.

The Address in Surgery will be delivered by Professor JORDAN LLOYD, M.S., F.R.C.S., Surgeon, Queen's Hospital, Birmingham.

THE SECTIONS.

The scientific business of the meeting will be conducted in sixteen Sections, which will meet on Wednesday, July 26th, Thursday, July 27th, and Friday, July 28th.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

The following sixteen Sections have been authorized by the Council:

ANATOMY AND PHYSIOLOGY.

President: Professor THOMAS H. BRYCE, M.A., M.D., Glasgow.

Vice-Presidents: Professor EDMOND WILLIAM WACE CARLIER, M.D., Birmingham; Professor PETER THOMPSON, M.D., Birmingham; ALEXANDER LOW, M.B., Aberdeen.

Honorary Secretaries: DAVID FRASER HARRIS, M.D., University, Birmingham; THOMAS YEATES, M.B., University, Birmingham; JOHN ERNEST SULLIVAN FRAZER, Anatomical Department, King's College, W.C.

The following provisional programme has been arranged:

Discussion on the Nutritive Value of Nitrogenous Foods: to be opened by Professor B. MOORE, D.Sc.

Papers:

CARLIER, Professor E. Wace, M.D. (1) Notes on the Physiology of the Allyl Compounds. (2) Notes on Some Effects of Isosmotic Solutions of Certain Salts on Frog's Muscle.
HARRIS, D. Fraser, M.D. Some Physiological Aspects of Mine Rescue Apparatus.
HAYCRAFT, Professor J. Berry, D.Sc. The Colour-blind Margin of the Blind Spot.
HENDERSON, Professor Richard, M.A. On Variation, with Special Reference to Muscle.
HAIG, A., M.D. Some Factors of the Circulation admitting of Easy Measurement.
WILKIE, D. P. D., F.R.C.P.E. The Existence of Valves in the Gastric Veins in Man.

DERMATOLOGY.

President: JAMES GALLOWAY, M.D., London.

Vice-Presidents: JAS. H. SEQUEIRA, M.D., F.R.C.P., London; HORATIO GEORGE ADAMSON, M.D., London; E. GILBERT SMITH, F.R.C.S., Birmingham.

Honorary Secretaries: A. DOUGLAS HEATH, M.D., 41, Newhall Street, Birmingham; R. CRANSTON LOW, M.B., 6, Castle Terrace, Edinburgh; W. ARTHUR LOXTON, F.R.C.S., 85, Cornwall Street, Birmingham; ARCHIBALD M. HENRY GRAY, M.D., F.R.C.S., 30, New Cavendish Street, London, W.

The following is the programme arranged for this Section:

Wednesday, July 26th, 10 a.m.—Discussion on the Vascular Disorders of the Skin and their Relationship to other Morbid States, to be opened by Dr. T. COLCOTT FOX. The following, among others, will take part in the discussion: Professor Sir William Osler, Sir Malcolm Morris, Dr. J. J. Pringle, Dr. Leslie Roberts.

Thursday, July 27th, 10 a.m.—Joint meeting with the Section of Therapeutics to discuss Recent Developments in

the Recognition and Treatment of Syphilis: To be opened by Mr. J. ERNEST LANE, followed by Major T. W. Gibbard, Major H. C. French, Dr. Otto Grünbaum, Captain L. W. Harrison, Dr. G. H. Lancashire, Mr. J. E. R. McDonogh, Dr. G. Pernet, and others.

Friday, July 28th, 10 a.m.—Papers.

Cases of interest will be demonstrated on Wednesday and on Friday morning at 9 a.m.

DISEASES OF CHILDREN.

President: OTTO JACKSON KAUFFMANN, M.D., Birmingham.

Vice-Presidents: WALTER ROSS JORDAN, M.D., Birmingham; GEORGE HEATON, F.R.C.S., Birmingham; JOHN DOUGLAS STANLEY, M.D., Birmingham; Miss ANN ELIZABETH CLARK, M.D., Birmingham.

Honorary Secretaries: JAMES EDWARD HILL SAWYER, M.D., 93, Cornwall Street, Birmingham; SEYMOUR GILBERT BARLING, M.S., 81, Edmund Street, Birmingham; REGINALD HY. MILLER, 53, Queen Anne Street, London, W.

The following programme has been arranged:

Wednesday, July 26th.—Discussion on the Diagnosis, Prognosis, and Treatment of Tuberculous Peritonitis. To be opened by Dr. H. D. ROLLESTON, F.R.C.P., and Mr. G. A. WRIGHT, F.R.C.S., followed by Messrs. C. L. Macalister, Douglas Drew, Parry Morgan, Edmund Cautley, and others.

The following is an abstract of Dr. H. D. ROLLESTON'S paper: The designation "tuberculous peritonitis" includes various degrees of intra-abdominal infection with the tubercle bacillus, and the features of the disease, and especially the prognosis, vary according as the infection falls mainly on the peritoneum or involves the glands or the intestines as well. As statistics usually apply to all forms of abdominal tuberculosis in which the peritoneum shares, their value is much impaired. *Diagnosis:* In some cases the disease may be latent or only become manifest by causing a hernia. Though the onset is usually considered to be insidious, it is acute in probably one-third of the cases, and may then imitate appendicitis or even more acute conditions. Diagnosis is naturally most difficult in the early stages, and in the rare instances in which the disease attacks children within the first twelve months of life, in whom other forms of gastro-intestinal disturbance may simulate it. The ascitic form must be distinguished from the ascites of cirrhosis and of sarcoma, comparatively rare conditions, and from that of polyorrhomenitis. Jaundice and enlarged cutaneous veins on the abdomen are in favour of cirrhosis. Help may, of course, be obtained from tuberculin tests and examination of the fluid. Encysted tuberculous peritonitis must be differentiated from various tumours and cysts. Attention is drawn to the tympanitic form. *Prognosis:* This is good in the ascitic form, bad in widespread abdominal tuberculosis, in mixed infections, in cases with much pyrexia, and in the presence of advancing tuberculosis elsewhere. In children prognosis is better than in adults; probably this is in part due to the greater incidence of more extensive tuberculosis; for example, of Fallopian tubes, or of hepatic cirrhosis in adults. *Treatment:* The importance of proper hygiene and treatment for tuberculosis in general is emphasized. The old problem of medical *versus* operative treatment is discussed; and in connexion with the *rationale* of laparotomy the question how often removable tuberculous foci are found in children is raised. Medical treatment is referred to, and also treatment by *x* rays. Lastly, the effects of vaccine treatment is put forward for discussion.

The following are the headings under which Mr. G. A. WRIGHT will treat the same subject from the surgical standpoint:

(1) Diagnosis from other varieties of peritonitis, pneumococcal, gonococcal, and allied forms, and from peritonitis due to infection by various pyogenic organisms, also from traumatic inflammations, enteritis, and mechanical obstruction; (2) the importance of the family and personal history; (3) the forms of tuberculous peritonitis (*a*) ascitic, (*b*) dry (plastic), (*c*) miliary, (*d*) localized; (4) involvement of lymphatic glands; (5) prognosis of the different varieties as to life, and as to subsequent troubles, faecal fistula, etc.; (6) treatment, (*a*) general, (*b*) laparotomy, (*c*) opening local collections, (*d*) plastic operations, (*e*) tuberculin.

Papers:

SPRIGGS, N. I., F.R.C.S. Congenital Intestinal Occlusion and Stenosis.

PARSONS, Dr. Leonard. Infantilism Associated with Chronic Interstitial Nephritis.

GRAY, H. Tyrrell, F.R.C.S. Demonstration on Spinal Anaesthesia.

Thursday, July 27th.—(1) Demonstration (9 to 9.45 a.m.), of the use of Plaster of Paris in the Mechanical Treatment of Spinal Caries, by Mr. H. J. GAUVAIN. (2) Discussion on the Diagnosis and Treatment of Chronic Pulmonary Affections of Children: To be opened by Dr. SAMUEL WEST, followed by Drs. Clive Riviere, C. P. Lapage, H. Vogt (Strassburg), Parry Morgan, Hugh Thursfield, J. E. H. Sawyer, and others.

The following is a syllabus of the remarks to be made by Dr. SAMUEL WEST in opening the discussion:

Tuberculous pulmonary affections in children are usually acute. *Phthisis* is rare; so, too, is *haemoptysis;* but both may occur even in infants. *Tuberculous pleurisy* is much less frequent than tuberculous peritonitis. *Tuberculous mediastinal and bronchial glands* rarely lead to pulmonary lesions, unless they communicate with a bronchus, and then the mischief excited is acute. They are a frequent cause of spasmodic dyspnoea, often called asthma. True *spasmodic asthma* is rare. *Stridor* and *dyspnoea* of indefinite cause should always raise the question of foreign body, in the diagnosis of which the *x* rays might help. *Child-crowing* and *laryngismus stridulus bronchitis* is generally acute. What is called chronic bronchitis is often merely recurrent acute attacks. Chronic bronchitis as met with in the adult is rare. *Emphysema* as the result of bronchitis or violent coughing is a transient over-distension. Permanent compensatory emphysema would often be more correctly described as hypertrophy. Genuine atrophic emphysema is rare. It is of nutritional and not mechanical origin, and may be started by some acute disease, such as pneumonia. *Collapse* is common in infants, because of their feeble muscular power and the want of rigidity in the chest walls. Very slight obstruction in the air tubes may thus lead to marked inspiratory recession and widespread collapse. Collapse becomes less common as age advances. In obstruction to the air tubes the air in the corresponding vesicles is rapidly absorbed, and that under a negative pressure sufficient to cause dilatation of the adjacent vesicles, or, even when the collapse is extensive, to produce considerable displacement of the organs in the mediastinum. When the lungs are compressed the collapse is most marked in the parts immediately adjacent, as in pleuritic effusion. When the movements of the diaphragm are interfered with, as in great abdominal distension, and in reflex inhibition or actual paralysis, the collapse of the lower parts of the lungs is extensive and of grave import. *Bronchiectasis and bronchiolectasis* in the acute form is common in acute bronchitis. In the chronic form it is associated with fibrosis of the lung. The peculiar condition described as "turtle lung" is often preceded by a febrile attack like pneumonia, but its cause is often obscure. It is sometimes simulated by extensive collapse. *Treatment* must be on the same general lines as in the adult. Prevention is better and easier than cure. If the risks of the acute affection be past, recovery is easier and more complete in children than in adults. In many chronic conditions the mischief is done and the lesion irremovable, so that treatment must be systematic and general. Affections of the mediastinal glands are often overlooked; yet, if recognized and treated on general lines, much relief may be given.

Papers:

VOGT, Dr. H. (Strassburg). Disturbances arising from milk feeding in children after the first year.

FITZWILLIAMS, D. C. L., F.R.C.S. Nervous Influence in the Causation of Angeiomata.

BARNES, Frank, F.R.C.S. The Open Incision in Congenital Dislocation of the Hip.

Friday, July 28th, 9 a.m.—Demonstration of scoliosis by Mr. Paul Roth at 9 a.m.

Papers:

BATTEN, Dr. F. S. The Epidemiology of Acute Poliomyelitis.

STOELTZNER, Professor, of Halle. Oxypathy and Uric Acid.

ROTH, Paul B., F.R.C.S. Report upon 1,000 Cases of Scoliosis.

MILNE, Dr. Robert. Measles: Its Treatment and Prevention.

GOYDER, F. W., F.R.C.S. Modifications of Owen's Operation for Hare-lip.

ELECTRO-THERAPEUTICS AND RADIOLOGY.

President: HUGH WALSHAM, M.D., London.

Vice-Presidents: ASTLEY VAVASOUR CLARKE, M.D., Leicester; W. DEANE BUTCHER, M.R.C.S., London; JOHN ALFRED CODD, M.D., Wolverhampton.

Honorary Secretaries: FRANKLIN EMRYS-JONES, L.M.S.S.A., 103, Newhall Street, Birmingham; GEORGE HARRISON ORTON, M.D., 67, Upper Berkeley Street, London, W.

The following programme has been arranged:

I. The *X*-ray Treatment of Ringworm. To be opened by Dr. HALL-EDWARDS, with a paper of which the following is a syllabus:

The disease more common than generally accepted. Old methods of treatment lengthy and uncertain. The *pros* and *cons* of *x*-ray treatment. The best methods of applying the *x* rays. Condition of tube most suitable for treatment. Measurement of the dose. Advantages of *x*-ray treatment. Dangers, and how to avoid them. Treatment after epilation.

II. Ionic Medication and the Theory of Ions. To be opened by Dr. LEWIS-JONES with a paper of which the following is an abstract:

As our knowledge progresses we begin to recognize that the effects of electricity on the human body fall into line as chemical or physical actions. The chemical are mainly ionic, the physical mainly thermal. The electric shock is due to the sudden displacement of ions in the nerve trunk or nerve endings. The sting of the constant current is due to the slow displacement of ions, and, indeed, the sensations of the constant current can be altered by altering the solutions with which the electrodes are moistened. An example of an ion whose penetration produces slight pain is the salicylic ion, while the ion of carbonic acid is one which causes severe pain at the electrode from which it is entering the skin. All this has been clearly established by the writings of Professor S. Leduc. The vexed question of the absence of shock or sensation when the large currents of the high-frequency apparatus are used is also explicable upon this theory of ionic displacement. With the very brief impulses of high frequency the ions are displaced so slightly as to be incapable of stimulating the tissues; and it is important to note that d'Arsonval long ago showed that ordinary alternating dynamo currents produced less and less effect as their wave lengths were reduced, and he gave the figure of 30,000 per second as the speed at which sensation disappeared. It is probable that the wave length which is just too short to stimulate is not the same for all nerves; sensory effects seem to require rather longer waves than motor phenomena. With high-frequency currents the ionic effects have disappeared, and nothing is left, that we know of, except the thermal effect. This may be the sole agent in producing the therapeutic results of high frequency, and, if so, it leads us to hope that in the near future the employment of much more powerful apparatus and of larger currents may give better results in high-frequency applications.

III. The Therapeutic Uses of Radium. To be opened by Dr. DEANE BUTCHER with a paper of which the following is a syllabus:

The active agent, filtration, applicator, quantity; the action of radium irradiation on the nerve-endings in the suppression of pain and itching; the haemostatic effect; the stimulation of epithelial growth and of fibrous tissue; action on rodent ulcer, on superficial epithelioma of the integument, warts, naevi, eczema, psoriasis; the introduction of radium into the cavity of new growths by Wickham's method; Harel's method of the electrical introduction of radium ions; the *rationale* of radium and *x*-ray radiation; the theory of auto-immunization; radium in gynaecology and in diseases of the rectum, oesophagus, and bladder; the use of radium emanation; the replacement of radium by thorium.

Papers:

HOLLAND, Dr. Thurstan. Calcareous Abdominal Glands.

WORSLEY, Dr. Fred. Fractures Undiagnosable except by *X*-Ray Examination.

ABBEL, Dr. On the Differences in the Appearances of Phthisical Chests as shown by *X* Rays before and after Open-air Treatment.

NEWMAN-JOHNSON, Dr. On the Treatment of Certain Diseases of the Alimentary Tract by *X* Rays, combined with the Internal Administration of Metallic Silver.

MORTON, Dr. Reginald. The *X*-Ray Treatment of Malignant Disease.

BRUCE, Dr. Ironside. Pyleography and the Use of Collargol in the Diagnosis of Disease of the Urinary Tract.

SALAMONSON, Dr. On a Modified Form of Benoist's Penetrometer.

NAGELSCHMIDT, Dr. Diathermy.

SAUBERMANN, Dr. (Berlin), will give a Demonstration of the Latest Apparatus for the Making of Radio-active Water and Suitable Apparatus for Inhalation.

Sir Oliver Lodge and Professor Haemish have also expressed their intention of contributing to the Section.

LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

President: FRANK MARSH, F.R.C.S., Birmingham.

Vice-Presidents: FREDERICK WALTER FOXCROFT, M.D., Birmingham; WILLIAM LAMB, M.D., Birmingham; ATWOOD THORNE, M.B., London.

Honorary Secretaries: WILFRED GLEGG, M.D., 85, Cornwall Street, Birmingham; BERTRAND SEYMOUR JONES, F.R.C.S., 93, Cornwall Street, Birmingham; WILLIAM GUTHRIE PORTER, F.R.C.S., 16, Manor Place, Edinburgh.

The following subjects have been selected for special discussion:

Wednesday, July 26th, 10 a.m.—Treatment of Laryngeal Tuberculosis. To be opened by Dr. DUNDAS GRANT and Dr. WATSON WILLIAMS.

The following are synopses of their papers:

Dr. DUNDAS GRANT (not yet received).

Dr. P. WATSON WILLIAMS: (1) Briefly historical. (2) Reference to the pathogenesis of tuberculous affections of the larynx, and the differentiation of clinical varieties; their prognostic import from the therapeutic standpoint. (3) General treatment; the effects of climate, altitude; the value of sanatorium methods; the tuberculins, etc. (4) Local therapy—for example, submucous injections, galvano-cauterization, applications of lactic acid, curettement, and other surgical measures; their indications, scope, and limitations. (5) Survey of our present position in the treatment of tuberculous affections of the larynx.

Thursday, July 27th, 10 a.m.—Treatment of Chronic Adhesive Processes in the Middle Ear: To be opened by Mr. MACLEOD YEARSLEY and Dr. FREY with papers, of which the following are abstracts:

Mr. MACLEOD YEARSLEY, F.R.C.S.: Magnitude of the subject. The conditions to be discussed must be limited to post-suppurative and post-catarrhal processes. Importance of accurate diagnosis, which is dependent upon the careful consideration of three factors — symptoms, results of physical examination, and the evidences afforded by careful functional testing. Value of regular inflation and nasal treatment, especially with regard to Rosenmüller's fossae. Prophylaxis the treatment of the future. In well-established cases of deafness from chronic adhesive middle ear processes, how far are we justified in recommending nasal operative treatment? What are the values of such adjuncts to treatment as oto-massage, applications of hot air, and various intratympanic injections? Electrical treatment after the method of Urbantschitsch. The use of thiosinamin, or its derivative fibrolysin, is disappointing. The operative methods of treatment include mobilization of the malleus, incision of the posterior fold, tenotomy of the tensor tympani and stapedius muscles, exploratory tympanotomy, the division of adhesions, removal of portions of the membrana tympani, and ossiculectomy. Some of these are useful. The value of ossiculectomy is doubtful; possibly the operation is unjustifiable. Whatever method of treatment, non-operative or operative, is employed, a considerable number of cases remain unrelieved. For these, two courses are open—lip-reading, or the use of an artificial aid to hearing. As regards the latter, there is room for valuable research. There is much to be done in the investigation of the relative uses of electrical aids, combinations of telephone and microphone; but such investigation requires the co-operation of the expert electrician and the otologist.

Dr. FREY: (1) Difficulties arising from loose terminology in present use. (2) A plea for the distinction of otosclerosis from chronic adhesive process, and for more exact reports and better diagnosis by contributors. (3) Definitions of the term "chronic catarrhal adhesive process." (4) A cursory account of the etiology of the disease. (5) Discussion and comparison of various methods

of treatment under the following headings: (*a*) Prophylactic measures; (*b*) local—mechanical, electrical; (*c*) constitutional; (*d*) operative. (6) Summary of the chief points in treatment.

Friday, July 28th, 10 a.m.—The Diagnosis and Treatment of Conditions in the Accessory Nasal Sinuses giving rise to Oculo-Orbital Symptoms. To be opened by Professor Onodi and Dr. Bronner, of whose papers the following are abstracts:

Professor ONODI: (1) Oculo-orbital symptoms in manifest and latent accessory sinus disease. (2) The diagnostic value of central scotoma, enlargement of the blind spot, narrowing of the field of vision, the ophthalmoscopic appearances, the unilateral symptoms, etc. (3) Indications for treatment in the individual manifest accessory sinus diseases. (4) Further treatment in latent accessory sinus disease by bleeding and relief of pressure. (5) Post-operative visual disturbances and blindness.

Dr. ADOLPH BRONNER: The commonest affections of the accessory nasal sinuses giving rise to oculo-orbital symptoms are: (1) Empyema, following rhinitis, often due to scarlet fever, measles, influenza, erysipelas, typhoid, etc. (2) Diseases of the bone, secondary to empyema, due to syphilis or tuberculosis. (3) Growths. (4) Wounds. There are often congenital defects of the bone which facilitate spread of disease from one sinus to the other, or to the brain and orbit. Transillumination and *x* rays are useful for diagnosis, especially the latter in case of frontal sinus disease. *X*-ray treatment should be tried in some cases. In cases of syphilis energetic treatment is necessary: Mercurial inunctions, very large doses of potass. iodide with decoctum sarsae co., and if necessary "606." In tuberculous cases inject tuberculin. Try Moro test. Vaccine (if possible autogenous) or serum treatment should be tried in all severe cases. In many cases several of the accessory nasal sinuses are involved, and treatment of one sinus alone is useless. (1) Empyema of maxillary antrum. Most reliable method of diagnosis to wash out the antrum through nares. Bad smell and taste often the only symptoms. Treat by making large opening through the nares, and often also through the canine fossa. Remove diseased teeth or dental cysts. As all, even the most trivial, nasal operations can give rise to severe local and general affections, the patient should always remain in bed, and be watched for a few days. If there is a growth of the maxillary antrum, or much diseased bone (tuberculosis), the upper jaw should be removed. These operations are most successful. If the orbit is affected there is generally phlegmonous cellulitis due to thrombosis of the veins. Also consequent cavernous sinus disease, and thrombosis of the central retinal veins. Often conjunctivitis, mucocele, asthenopia. (2) Empyema frontal sinus. Pain over the frontal sinus may also be due to disease of the maxillary antrum. If the frontal sinus is affected, the pain is more severe and intermittent. Upper or inner wall of orbit often painful on pressure. If the orbit is affected (caries, cellulitis), Killian's or even a more extensive operation (Watson Williams) should be performed, as in most cases the anterior ethmoidal cells are also diseased. If there is optic neuritis, or cerebral symptoms, the posterior wall of the frontal sinus should be opened up, and the brain exposed. In some cases the frontal sinus extends backwards as far as the optic foramen. If the symptoms are not urgent it is always advisable to try intranasal treatment first, removing part of the middle turbinate and any small recurrent polypi at intervals of a few days, to get free drainage. There is always a danger of disease of diploë after the external operation on the frontal sinus. Periostitis of the orbit with consequent cellulitis is more common than primary cellulitis. In cases of hydrops of the sinus a less extensive operation suffices. (3) Empyema of ethmoidal cells. There is often pain on pressure on the inner wall of the orbit with crackly noise. Periostitis of the orbit is often mistaken for disease of the lacrymal sac. Operate intranasally, and, if necessary, extranasally. Make large incision extending below lacrymal sac. If there is meningitis due to disease of the cribriform plate or upper wall of orbit, also expose and drain these parts thoroughly. Remove sarcoma of the ethmoid (not uncommon) extranasally (Moure, Watson Williams). (4) Empyema sphenoidal sinus. Often there are no symptoms. In all cases of obscure retrobulbar neuritis, slight optic neuritis (unilateral), meningitis, the sphenoidal sinuses should be carefully examined and explored. Size of sinus varies very much; one side often overlaps the other. Posterior ethmoidal cells also frequently involved, as they often overlap the sphenoidal sinus. Very important because of position of optic nerve. Optic neuritis and retrobulbar neuritis due to pressure or to perineuritis or toxins. Central scotoma due to congestion of veins of optic nerve or toxins. Meningitis and cavernous sinusitis more frequent than disease of orbit. Often cerebral and extradural abscess. Caries of sella turcica or growth of pituitary body. Paralysis of ocular muscles frequent. Anterior and also lower wall should be removed thoroughly. Small opening often closes up. In most cases necessary to remove middle turbinate first. In cases of growth or extensive bone disease, try to remove extranasally (Jansen, Moure). Importance of semicanalis ethmoidealis (Onodi). If several of the accessory sinuses are involved and the symptoms are urgent, operate on all the cavities at once through the maxillary antrum (Jansen); (maxillary antrum and sphenoidal sinus are often only separated by thin bone), or through front sinus, removing lower wall, or from the front (Moure, Watson Williams, Lowe), or each cavity separately.

MEDICAL SOCIOLOGY.

INCLUDING MEDICAL INSPECTION OF SCHOOL CHILDREN, HOSPITAL ADMINISTRATION, AND CONTRACT PRACTICE.

President: GEORGE REID, M.D., Stafford.

Vice-Presidents: MATTHEW HALLWRIGHT, M.R.C. Birmingham; MATTHEW ARDEN MESSITER, M.R.C. Dudley; HENRY WILLIAM ARMIT, M.R.C.S., London.

Honorary Secretaries: JAMES NEAL, M.R.C.S., 6 Coventry Road, Small Heath, Birmingham; GEO. AUGUSTUS AUDEN, M.D., Solihull, Birmingham; JA. PEARSE, M.D., 28, St. George's Terrace, Trowbridge.

The following programme has been arranged:

A. Discussion on Medical Aspects of the Poor L Question, with special reference to State Insura and the provision of better medical attendance on poorer members of the community by (*a*) whole-ti medical officers, (*b*) provident dispensaries and ot forms of contract practice, (*c*) private medical pra tioners. To be opened by Mr. J. Smith Whital Medical Secretary.

The following are synopses of some of the pap contributory to the discussion.

1. *State Insurance* (Dr. J. H. TAYLOR).—Starting w the principle affirmed by the British Medical Associat that, if certain conditions are fulfilled, the inclusion medical benefits in a State sickness insurance scheme desirable, the paper will discuss how the medical profess should meet the position if, as seems not improbable, so of these conditions are not granted by amendments to National Insurance Bill now before Parliament.

2. *State Insurance* (Dr. MICHAEL DEWAR).—The clusion of the destitute and indigent from a natio medical service. This class ought to be attended by a reformed Poor Law system. Difficulties of pro ing for the class immediately above the paupers, those w up to the present time have been the recipients of volunt medical charity. A possible way out of the difficulty. the better wage-earning class there must be a wage li The wage limit proposed too high. A probable redunda to Budget for ordinary and institutional treatment persons up to £160 a year limit. Reasons for opin Provisional scheme for affording such treatment up to £160 limit. Question as to the best way in which the w can be carried out in the interests of the public, the St and the medical profession: (1) By whole-time med officers; reasons against such proposal. (2) By provi dispensaries; reasons against proposal. (3) By an ex sion of contract practice under the friendly societ reasons against proposal. (4) By private medical pra tioners—the only feasible and practicable solution of difficulty; discussion of methods.

3. *State Insurance* (Dr. P. R. COOPER): (1) Need of b and comprehensive view of whole subject by medical m reasons which have led to introduction of present In ance Bill; general reception of the measure. (2) Gen principles of insurance; objects of State scheme; c defects of bill; systems in vogue in other count (3) Relations of medical profession to Government sche

operation of profession essential to its working—it is uism that "best interests of public and of profession identical," and it has been admitted in principle, even the Chancellor himself, that no medical service under ational scheme of insurance can be an enduring success ch does not afford satisfactory and honourable condi- s of service and equitable terms of remuneration to the lical men employed. (4) Regarding conditions of service, lical men are practically unanimous on the following nts: (*a*) Refusal of friendly society control; (*b*) granting air representation of medical men on all controlling ies; (*c*) freedom of choice of doctor by patient, and versa; (*d*) strenuous resistance to imposition of condi- s which approach to sweating and slavery, and which ld inevitably gravely injure the present status of profession and its capacity for doing good work for advancing medical science, besides seriously ling to exclude from its ranks the best men in the re. Reasons for insisting upon all these points. Regarding methods and terms of remuneration, all are ed that payment should be adequate for services ren- d, but there is some difference of opinion as to what is quate, and as to how it should be paid—that is, per , per head, etc. No payment can be adequate which not yield a fair fee per unit of work done—that is, if nent be by capitation it must when worked out as $\frac{\text{capitation fees received}}{\text{total visits paid}}$ yield a fair fee per unit. present proposals of the Chancellor work out at about er unit of work done, and this makes no allowance for ras." (*a*) Payment according to work done upon an ed tariff of fees the preferable and more equitable plan. ctions to the method considered and answered; great ntages of the method shown; a sliding scale of fees ssary for the better-to-do classes. (*b*) Payment by ation fee shown to be pernicious in principle and to failed signally in practice in almost every instance Contract Practice Report, BRITISH MEDICAL JOURNAL, Law Commission Reports, etc.). Payment per capita sarily involves question of wage limit; reasons for ing on wage limit and other fatal objections to capita- system. (6) Compromise suggested, namely, (*a*) a ning fee of 5s. per head per annum from each bene- y, which entitles the latter to two free medical ltations or overhaulings per annum, and (*b*) a fee per ordinary visit or attendance, with special for "extras." All medicines, dressings, appli- , vaccines, *x*-ray and laboratory examinations, etc., paid for separately out of the insurance fund. A limit and a sliding scale of fees would still, of course, cessary. A portion of the doctor's fee should be paid e patient, or out of a savings or deposit fund contri- to by the patient. (7) The attitude of the medical sion towards the National Insurance Bill and the of the British Medical Association in regard to the ure (*a*) before it becomes law and (*b*) afterwards. ed for stronger union amongst members of the pro- n, both for maintaining a high ideal of professional r and usefulness, and for protecting our calling from structive inroads of rash and ill-considered legisla- which, however good in intention, may be fraught grave danger to the community.

The Future Position of the Poor Law Medical Officer . E. LARKING).—The paper will show that the Poor edical officer is probably a doomed individual, whose will be taken away from him by the State under ational Insurance or other bill.

The Importance of Maintaining the Independence of eneral Practitioner (Dr. FLEMMING).—The position alue of the general practitioner as regards the the patient, science, and the medical profession, these are affected by his independence. The of interfering with his independence. Cannot be red with the medical officer of health, who deals nits and not with human individuals. The sum of luence of several independent medical practitioners red with the influence of a body of State servants. ractitioner's immediate and primary concern with ient is treatment and not prevention. The influence e patient of the private practitioner as opposed to the official. The enervating influence of officialdom e want of stimulus of constant competition not to t of the patient. Official tendency to routine methods and schools of thought are opposed to progress of science, or at least do not help progress, and are a hindrance to originality. The commands and prizes in a State service go to diligence and duty, and not to originality and science. Individuality and character would have no value, and the profession would in status come to be on a level with any other Government service.

6. *The State Distrust of the Profession* (Dr. F. WYNNE).—That there is such a distrust can be demonstrated, and it is the main factor in the troubles which constantly arise between the public and the profession. *Evidences of its Existence:* The attitude towards the profession of all bodies representative of various sections of the public—for example, executives of clubs, friendly societies, insurance companies, hospitals, boards of guardians, municipal councils, and Parliament. Instances of the effect of this attitude in various disputes and in speeches by public men—for example, Lloyd George and John Burns. Its effect on legislation in the past, as seen in the Midwives Act, Notification of Births Act, and the Death Registration Bill. Sir W. Collins's statement that there was an impression in the House that the profession was "out for fees." *Causes of its Existence:* The revolt of the profession against exploitation. A disunited and sentimentalized profession has been thoroughly appreciated by the public. The peculiar nature of our services renders it ethically impossible to refuse them. This fact has been used to cheat the profession of its just rights, and its own jealousy and disunion have completed its serfdom. The modern general practitioner is the successor of the old physician with the gold-headed cane and of the shop-keeping apothecary. But the conditions of neither are suitable to him, hence the disorganization of a profession which has attempted to combine these incompatible functions and at the same time to acquire and administer modern medical science. As long as the doctor consented to be a beast of burden the public assured him that he belonged to a noble profession, but the instant he asks for a fee the same public declares in horror that he is "demanding his pound of flesh." It is this distrust which gives rise to the difficulty between ourselves and the Government in connexion with the State insurance scheme. There is now no doubt that the majority of the profession, or at all events of this Association, wishes to get rid of the contract system, to be paid in proportion to the services actually rendered. It is equally certain that the Government do not intend to grant this. Their refusal is not on the grounds of greater direct cost. Fees could be arranged on a scale to obviate this. It is distrust of the profession. It is the belief that under the contract system the profession would have an interest in discouraging malingering, while under a system of payment for work done they would have an interest in encouraging it. They cannot conceive of any higher ethical standard actuating men who have so long been enslaved. Our aim must be to convert this distrust into confidence, but before we can be trusted we must be feared. If the profession now accepts a continuance and an enormous development of the contract system under State patronage it will give its sanction to a system that contains the seeds of corruption and decay. Contract practice is doomed, and any attempt so set it on its legs again will succeed only in demonstrating its rottenness. The break-up of the present scheme which will ensue will then inevitably lead to the reorganization of the whole profession on the basis of a State medical service. Even if that were, as some think, the ideal solution, to approach it via some forty years in the wilderness of contract practice is a wasteful and stupid proceeding. If this Association fails to modify the Government proposals before they become law, it should be its policy to render them unworkable on any terms but its own.

7. *A State Medical Service* (Dr. F. G. LEYTON).—In this paper it will be suggested that what is required is a State Medical Service, having at its head a Minister of Public Health of Cabinet rank; that the service should be financed by national funds, and be manned by whole-time properly salaried officers, and these should automatically proceed from junior posts upwards, provided they continue to be competent. The latter point would be determined by their subjection to a periodical and otherwise practical clinical examination. The scheme would include a single portal of entry to the medical profession.

B. Discussion on Hospital Reform, with special reference

to (*a*) out-patient departments; (*b*) subscribers' notes; (*c*) registration fees.

The following are abstracts of some of the papers contributory to this discussion:

1. Dr. LAURISTON SHAW: Details and programme of reform must be in abeyance until the Act is passed. General principles should be carefully considered at once to enable the interests of the reform movement to be safeguarded: First, in Committee stage of the bill; secondly, during the negotiations that must follow the passing of the Act. The chief aim of reform should be to *define the scope and improve the character* of the service to be rendered by the hospital. The provision on an insurance basis of *ordinary medical treatment* for all workers by the bill concentrates attention on the *extraordinary* character of hospital treatment. The *economic* scope of hospital work becomes much more easily defined, especially in view of the income limit of those receiving "medical benefit," which will be insisted on by the profession. The *professional* scope of hospital work is greatly simplified. Ordinary medical attendance being otherwise satisfactorily secured, the hospital must provide only *consultative* assistance. *Hospital reform* of the future will consist, not in providing checks to keep out unsuitable cases, but in providing attractions to bring in suitable cases. The two classes of hospital reformers will be voluntary hospital-enders and voluntary hospital-menders. The enders are those who desire the municipalization of all *institutional* treatment. The menders are those who believe in the voluntary system and intend to perpetuate it. The menders must so reform the hospital that it will attract medical men responsible for domiciliary treatment to desire its consultative assistance; that it will satisfy the philanthropist that it provides something different from and superior to that provided by the State; that it will satisfy the patient with its service without making him dissatisfied with the service of his ordinary attendant. Hospital reform must maintain a voluntary institution, approved of by the subscriber, by the doctor who works inside it and the doctor who works outside it, and by the patient. It must promote the treatment of the sick, the advancement of science, and the education of the student, the practitioner, and the teacher of medicine.

2. Mr. J. COURTNEY BUCHANAN (Secretary of the Metropolitan Hospital, London): The paper suggests that hospital reform should be directed to preserve the voluntary system unimpaired, and maintain the hospitals as a supplementary service to any service under any State or municipal authority for the following three purposes: (1) Consultation: To provide consultative and special treatment for the most grievous forms of disease. (2) Education: To raise the general standard of all medical education. (3) Scientific research: To advance and facilitate scientific research. With regard to out-patients, at all events, the National Insurance Bill completely changes the position and prospects of the voluntary hospitals. The future of the hospitals will largely depend on the attitude of the medical profession towards the Government in connexion with the bill, for it is conceivable that, without strong action by the British Medical Association, there might be sufficient doctors in London (though not in the country) who would accept the terms of the bill as at present drafted, and leave the hospitals to deal with all or most of the cases which are difficult or expensive to treat. It will be suggested that patients ought not to be free to attend at the hospitals until they have been examined by their own doctors, and it is suggested that institutions on provident principles, such as those laid down in the Majority Report of the recent Royal Commission on the Poor Laws and Relief of Distress, should be grouped around the hospitals as the venue for the medical provision under the Insurance Bill. The voluntary hospitals would then bear the same relation to the provident institutions and other medical service, including the Poor Law infirmaries (which are existing State hospitals) provided for the general use of the poorer classes, that consultants bear to general practitioners in the case of the well-to-do. The organizing work of the almoner's department of the hospital should be fully developed: (i) To assist patients to render the benefit received at the hospital of permanent service; and (ii) to bring the hospital into co-operation with outside charitable agencies, and into co-ordination with the Public Health Service to arrest and prevent disease. In order to avoid further confusion in the already complex local administration with borough councils, sanitary committees, health committees, etc., it is submitted that consideration of the medical sections of the reports of the recent Royal Commission on the Poor Laws and Relief of Distress should be taken *pari passu* with consideration of the National Insurance Bill. To maintain the voluntary system the whole service should be controlled by a central council with advisory and supervisory powers, such as are now exercised by the King's Fund. A central council with definite powers in relation to the hospitals would also be of value as a trained and experienced body for such public inspection and control as it may be found necessary to extend to voluntary hospitals which receive money from the "approved societies" for the treatment of patients, or grants-in-aid from the State for the erection of new buildings, for medical education, and scientific research.

Mr. NEVILLE CHAMBERLAIN (Birmingham): Hospital out-patient departments under present conditions. Their defects from the point of view of the hospitals, of the medical profession, and of the patients. The failure of the remedies hitherto proposed. Experiments in Birmingham. The remedy must come from without and not from within the hospitals. The ideal system of medical relief. Provident dispensaries. The difficulties that retard or prevent success. Free dispensaries and Hospital Saturday funds. Their effect on provident dispensaries. The trend of modern legislation. Can our voluntary institutions withstand it? The National Insurance Bill; its effect, if passed, on hospitals, provident dispensaries, and general medical practitioners. Conclusions as the probable future of voluntary hospitals.

4. Dr. E. D. KIRBY (Birmingham): Hospital reform in Birmingham complicated by the fact that people are allowed to subscribe to the medical charities for their own benefit, converting them into provident institutions; the foundation of the general dispensary; its progress and present condition; the influence of the Hospital Saturday movement; the injury to the public, the friendly societies, and the profession.

5. Mr. PENROSE WILLIAMS (Bridgwater): The paper refers only to hospitals officered by general practitioners; questions of out-patients and subscribers' notes materially aided by National Insurance Bill. All hospitals will cease to be alternatives to club and parish sources of medical aid. All hospitals will take their proper place—institutions for *special* treatment only. A necessary corollary that work must be subdivided and staff "specialize" and further necessity for increase of staff—in fact, as many as possible, instead of a few—with great benefit of general combination and union in local profession.

C. Discussion on the treatment of school children, with special reference to (*a*) school clinics, (*b*) reference to private medical practitioners, (*c*) reference to the Poor Law, (*d*) medical certificates to justify absence from school.

MEDICINE.

President: ALFRED HENRY CARTER, M.D., Birmingham.

Vice-Presidents: HENRY MALET, M.D., Wolverhampton; THEODORE STACEY WILSON, M.D., Birmingham; WILLIAM HUNTER, M.D., London.

Honorary Secretaries: ARTHUR STANLEY BARNES, M.D., 141, Great Charles Street, Birmingham; JOSEPH GEORGE EMANUEL, M.D., 47, Newhall Street, Birmingham; EDWARD TURTON, M.D., 1, Albion Street, Hull; HAROLD PRITCHARD, M.D., 55, Harley Street, London, W.

The following subjects have been selected for discussion:

Wednesday, July 26th.—Asthma, its Varieties and Treatment:—To be opened by Dr. GEORGE ALEXANDER GIBSON, D.Sc., F.R.C.P.

Thursday, July 27th.—Obscure Cases of Fever without Physical Signs:—To be opened by Dr. WILLIAM HALE WHITE, F.R.C.P.

Friday, July 28th.—Papers.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: EDWIN GOODALL, M.D., Whitchurch, Cardiff.

Vice-Presidents: JAMES WILLIAM RUSSELL, M.D., Birmingham; CUTHBERT S. MORRISON, L.R.C.P., L.R.C.S., Hereford; JAMES CRAIG, M.D., Dublin.

Honorary Secretaries: SAMUEL ALEXANDER KINNIER WILSON, M.B., 63, Wimpole Street, London, W.; BENJAMIN HENRY SHAW, M.B., County Asylum, Stafford.

The following subjects have been selected for special discussion:

Wednesday, July 26th.—The Different Types of Disseminated Sclerosis:—To be opened by Professor H. OPPENHEIM (Berlin).

Thursday, July 27th.—Trauma in Relation to Nervous and Mental Affections:—To be opened by Dr. F. W. MOTT, F.R.S., with a paper of which the following is a syllabus:

1. The medico-legal importance of distinguishing between cause and coincidence of head injury in relation to nervous and mental disease; also of recognizing that head injuries are not infrequently the result of nervous and mental diseases. Typical illustrative cases. 2. Head injuries causing (*a*) fracture, (*b*) haemorrhage, (*c*) localized meningo-encephalitis, resulting in organic brain diseases, neuroses, and psychoses. 3. Head injuries causing "commotio cerebri," followed by neuroses, psychoses, and organic brain disease, for example, general paralysis. 4. Head injuries as (1) a direct cause, (2) an exciting factor, (3) an accelerating factor in nervous and mental disease. Typical illustrative cases. 5. Asylum statistics of head injury in relation to general paralysis and traumatic epilepsy. 6. The value of the examination of the blood and cerebro-spinal fluid cytologically and by Wassermann's reaction.

Friday, July 28th—Papers:

DEVINE, Henry, M.B. The Significance of some Confusional States.
HYSLOP, T. B., M.D. Phrenasthenia.
MUIRHEAD, Winifred, L.R.C.P. The Wassermann Reaction in the Blood and Cerebro-spinal Fluid in Insanity and Examination of the Spinal Fluid.
MALLIS, Dr. Mackenzie. Blood Pressure, etc., in Mental Disorders.
THOMSON, D. G., M.D. Progress during the Past Year as to Post-graduate Training and the Granting of a Diploma in Psychiatry.
YEAR, M. D., B.Sc., M.R.C.S. A Case of Obsession and Hysteria Treated by the Freud Psycho-analytic Method.
WANFORD, R. V., M.Sc., Ph.D. The Need for Chemistry in the Investigation of Mental Disease.
MEYER, Dr. The Pathological Changes found in the Nervous System Forty-nine Years after Birth in an Unusual Case of Obstetrical Paralysis.

Members are invited to contribute any preparations, specimens or drawings, or any instruments or apparatus pertaining to the work of the Section, which have been designed by themselves, in order that the Committee of the Section may make arrangements to form a special exhibit of such objects.

OBSTETRICS AND GYNAECOLOGY.

President: Professor EDWARD MALINS, M.D., Birmingham.

Vice-Presidents: CHRISTOPHER MARTIN, F.R.C.S., Birmingham; CUTHBERT LOCKYER, M.D., London; NATHANIEL THOMAS BREWIS, M.B., Edinburgh; FREDERICK EDGE, M.D., Wolverhampton.

Honorary Secretaries: SMALLWOOD SAVAGE, F.R.C.S., 7, Edmund Street, Birmingham; JOHN THOMAS HEWETSON, M.D., 89, Cornwall Street, Birmingham; HAROLD BUCKWITH WHITEHOUSE, M.S., 52, Newhall Street, Birmingham; HARRY BECKETT-OVERY, M.D., 40, Harley Street, London, W.

The following two subjects have been selected for discussion:

Wednesday, July 26th.—(1) The Pathology and Treatment of Asphyxia Neonatorum. To be opened by Sir Francis Champneys, Bart. The following will take part in the discussion: Drs. Swayne, Handfield Jones, Herbert Spencer, Hellier, A. W. Russell, Thomas Wilson, Gemmell, Lloyd Roberts, and Sir Halliday Croom.

The following is a syllabus of the remarks to be made by Sir FRANCIS CHAMPNEYS: *Cause of the first breath:* (*a*) Predisposing; (*b*) exciting. *Two stages of asphyxia:* (*a*) Blue; (*b*) pale. *Treatment:* Artificial respiration. *Objects:* (1) Removal of foreign bodies; (2) procuring of patency of air passages; (3) excitation of circulation; (4) ventilation of lungs. *Methods* of artificial respiration: (*a*) Silvester; (*b*) Schultze; (*c*) direct inflation; (*d*) rhythmical tongue traction (Laborde). *Summary of treatment.*

Thursday, July 27th.—(2) The Present Position of Vaginal Operations in relation to the Uterus and its Adnexa. To be opened by Professor Strassmann (Berlin), followed by Mrs. Scharlieb, and Drs. Swayne, Herbert Spencer, Amand Routh, Hellier, J. F. Jordan, Purslow, A. W. Russell, Thomas Wilson, Lloyd Roberts, John Campbell, Stanmore Bishop, C. Newnham, G. Scott Carmichael, and others.

Papers:

TWEEDY, Dr. Hastings. The Cause and Cure of Eclampsia.
ROBERTS, Dr. Hubert. On Eclampsia occurring in Labour in a girl aged 12. Recovery of Mother and Child.
WILSON, Dr. Thomas. Dysmenorrhoea due to very small Fibroids.
PURSLOW, Dr. False Elephantiasis of Vulva. Notes of case, with specimens and photographs.
STARK, Dr. Nigel. The Dangers of Fibromyomata of the Uterus in the Later Years of Life.
CAMERON, Dr. S. Uterine Adenomyomata.

The committee has arranged for a section of the Pathological Museum to be specially set aside for the exhibition of specimens, microscopic slides, photographs, etc., relating to the degenerations and complications of fibromyomata of the uterus. In addition the committee is willing to receive other specimens of interest.

ODONTOLOGY.

President: Professor FRANK EARLE HUXLEY, M.D.S. Birm., M.R.C.S.

Vice-Presidents: HENRY WATSON TURNER, M.R.C.S., L.D.S., London; CHARLES EDWARD WALLIS, M.R.C.S., L.D.S., London.

Honorary Secretaries: PERCY THOMAS NADEN, L.M.S.S.A., L.D.S., 22, Temple Row, Birmingham; JOHN HERBERT GIBBS, F.R.C.S., L.D.S., 12, Coates Crescent, Edinburgh.

The following is the programme arranged:

Subject for Special Discussion: The Teeth in Relation to Public Health. To be taken under the following headings:

Wednesday, July 26th: (1) School Dentistry and Conservative Dental Treatment generally from the Physician's standpoint. To be opened by Dr. R. J. Erskine Young. (2) Dentistry and the Public. To be opened by Mr. Cyril Howkins. (3) The Bacteriology of the Toothbrush. To be opened by Mr. Herbert Smale and Dr. Carmalt Jones.

Thursday, July 27th: Visit to Odontological Museum, where a discourse will be delivered entitled "Scientific Value of an Odontological Museum," by Mr. John Humphreys, Professor of Dental Anatomy and Physiology.

Friday, July 28th: Joint meeting with the Section of State Medicine and Industrial Diseases. (4) Prevention of Caries from a Public Health Standpoint. To be opened by Dr. James Wheatley. (5) The abuse of Sweetmeats. To be opened by Mr. A. Hopewell-Smith. (6) Infant Feeding. To be opened by Mr. C. E. Wallis. (7) The Bread Question. To be opened by Dr. Sim Wallace.

The following are synopses of the opening papers:

1. Mr. ERSKINE YOUNG.—Present position of school dentistry in England; school clinics in various towns; dental clinic in Liverpool under Liverpool Education Committee; object aimed at, school clinics; need for education of the public and the press. Question of school dental treatment a national question; expense of clinics and how met; effect of rates; State aided or rate aided; attitude of medical profession towards dental disease and dentistry; hopeless ignorance of lay patients; education of latter by medical practitioners; preventive medicine and its effects on national health. Ultimate effects of school dentistry in this direction. Importance of same.

2. Mr. CYRIL HOWKINS.—Necessity of early treatment of dental caries in children; school dental clinics; brief reference to work done; cost, etc., of treatment of the

teeth of children who attend primary schools; cost, etc., of dental treatment for working classes.

3. Mr. HERBERT SMALE and Dr. CARMALT JONES.—The toothbrush is septic; experiments demonstrating septic nature based on numbers of bacillary colonies obtained from culture; experiments to test value of antiseptics to correct this condition; experiments with new toothbrushes on similar lines; conclusions.

4. Dr. WHEATLEY.—Not yet received.

5. Mr. HOPEWELL-SMITH.—The main feature in this short contribution to one aspect of the study of the etiology of dental caries is the account which deals with certain original experiments carried out *in vitro*. These have been undertaken to ascertain whether, and in what ways, the oral secretions are altered in their nature, chemical reactions, and amounts by the use of sweetmeats; to compute the reactionary variations between the salivas of immunized and non-immunized persons; and to determine whether typical sweetmeats placed on interstitial surfaces, in artificially prepared cavities, and on the free surfaces of human teeth, produce caries of the enamel or dentine. The "abuse of sweetmeats" in the mouth implies dental destruction by mechanical, chemical, and bacteriological means. The classification, constituents, and relative solubilities of the commoner sweetmeats are briefly described, and those which appear to be harmful and harmless noted.

6. Mr. C. E. WALLIS.—Not yet received.

7. Dr. SIM WALLACE.—The chemical composition of the tooth plays no part in the initiation or induction of dental caries. The chemical composition and the microscopical structure of the tooth is always practically the same, no matter what the foods may have been during the formation of the tooth. The enamel of the temporary teeth is completely formed before the sixth month, and the nutritive constituents of bread do not play any part in the development of these teeth. The only way in which bread affects the teeth is, on the one hand, for the bad by lodging unduly in the crevices of or between the teeth, thus giving rise to acid fermentation, and, on the other hand, for good by its detergent effect during mastication. Experiments indicate that there is no appreciable difference in the rate of fermentation of different kinds of bread when equal amounts are incorporated with equal numbers of bacteria. The detergent effect of bread and its consequent antagonism to dental caries is due to its physical qualities alone. The most detergent form of bread is crust, and the crusts of white, standard, and stone-milled bread are all practically equally efficient in cleansing the teeth and correspondingly in preventing the onset of caries. Next in efficacy in this way is toasted bread of any variety, and least effectual of all is untoasted bread without crust, especially when new. Bread and marmalade is liable to be markedly harmful to the teeth, except when other foods are taken which counteract the harmfulness. So, too, bread soaked in milk tends to leave the mouth dirty and disposed to rapid fermentation by robbing the bread of the detergent qualities it otherwise does possess, and should only be recommended as a staple article of diet, or associated only with other equally non-detergent foods, if the desire be to see the teeth dirty, the gums inflamed, and the food highly charged with obnoxious bacteria each time the child takes a meal.

OPHTHALMOLOGY.

President: HENRY EALES, M.R.C.S., Birmingham.

Vice-Presidents: EDWARD WILLIAM WOOD WHITE, M.D., Birmingham; HENRY SECKER WALKER, F.R.C.S., Leeds; JOHN GRAY CLEGG, M.D., Manchester.

Honorary Secretaries: ROBERT JAMES COULTER, M.B., Bryn Ivor, 11, Clytha Park Road, Newport, Mon.; JOHN JAMESON EVANS, M.D., 85, Edmund Street, Birmingham; WILFRID ALLPORT, F.R.C.S.Edin., 95, Cornwall Street, Birmingham; ARTHUR WILLIAM ORMOND, F.R.C.S., 7, Devonshire Place, London, W.

The following provisional programme has been arranged:

Wednesday, July 26th.—Discussion on the Operative Treatment of Glaucoma, to be opened by Mr. PRIESTLEY SMITH.

Papers:

ELLIOTT, Major R. H. Simple Trephining for the Relief Glaucomatous Conditions.
CLEGG, Dr. J. Gray. Observations on Trephining the Sclera.
HENDERSON, Dr. Thomson. The Comparative Anatomy of th Ciliary Region.

Thursday, July 27th.—Discussion on the Etiolog Diagnosis, and Treatment of Concomitant Squint an Heterophoria, to be opened by Mr. Claud Worth.

Papers:

BUTLER, Dr. T. Harrison. A New Operation for Extirpation the Lacrymal Sac.
POLLOCK, Dr. W. B. Inglis. The Treatment of Chron Dacryocystitis.

Friday, July 28th.—Papers:

GROSSMANN, Dr. K. The Eyesight of Sailors.
MITCHELL, Dr. L. J. C. A Report on the Use of Carbon Dioxi Snow in Ophthalmic Work.
SHEPPARD, Dr. Amy. Extraction of Lens in its Capsule.
HARMAN, Mr. N. Bishop. The Blind and the 1911 Census.
MACCALLAN, Dr. H. Egyptian Ophthalmic Hospitals.
HARMAN, Mr. N. Bishop. A New Photometer for the Use School Doctors (Exhibit).

The following, among others, will take part in the discu sions: Messrs. C. Devereux Marshall, H. H. B. Cunningha T. Harrison Butler, Thomson Henderson, A. B. Cridland.

Foreign and Colonial visitors are cordially invited attend the meetings of the Section, and should they desi to read papers they are requested to send in their names soon as possible to one of the Birmingham Honora Secretaries, giving the titles of their papers for appro by the Committee of Reference.

Members are invited to contribute any cases, prepa tions, specimens of drawings, or any instruments apparatus pertaining to the work of the Section wh have been designed by themselves in order that the Co mittee of the Section may make arrangements to form special exhibit of such objects.

PATHOLOGY.

President: Professor ROBERT FRASER CALDER LEI M.B., Birmingham.

Vice-Presidents: JAMES HUGH THURSFIELD, M.D., Lond CHARLES JAMES LEWIS, M.D., Birmingham; WALTER D'E EMERY, M.D., London.

Honorary Secretaries: WILLIAM HY. WYNN, M.D., Newhall Street, Birmingham; LEONARD GEORGE JOS MACKEY, M.D., 141, Great Charles Street, Birmingha BRYDEN GLENDINING, F.R.C.S., 7, Devonshire Place, Lond

The following is the provisional programme:

Wednesday, July 26th.—Discussion on Hypersensiti ness in its various manifestations, especially in relation serums, vaccines, and tuberculin. To be opened Dr. WALTER D'ESTE EMERY with a paper on Anaphyla Professor Charles Richet will contribute to the discussio

The following is a syllabus of Dr. W. D'ESTE EME paper: (1) Historical introduction; (2) description of main phenomena, and definition of term; (3) conditions its occurrence, and the question as to its occurrence, w substances other than antigens; (4) the more complica phenomena—passive anaphylaxis, antianaphylaxis, e (5) an outline of some of the more important theorie account for the phenomena; (6) the rôle to be attribu to anaphylaxis in the evolution of disease, especially tuberculosis; and (7) its significance in immunity and biology generally.

Thursday, July 27th.—Discussion on the Pathoge Action of *Bacillus coli*. To be opened by Dr. H. ROLLESTON with a paper of which the following is abstract:

It would no doubt be desirable to confine attention to typical *Bacillus coli communis* of the Escherich group, as far as possible to exclude the intermediate group c prising *B. enteritidis* and the paracolon and paratyph organisms, but this is hardly possible at the present ti Infections with the intermediate group, however, will be specially considered. The *B. coli* is widely distribu rapidly invades the body after death, may outgrow crowd out other micro-organisms, and, further, anaër cultivations have not always been carried out in ca in which *B. coli* have been grown; it is there fully recognized that great caution must be exercised

deciding that the *B. coli* present in any case are pathogenic. These qualifications and the ease with which contamination may occur are so familiar that there is perhaps a risk that the pathogenic effect of *B. coli* may sometimes be overlooked, and an infection regarded as a contamination. Criterions for estimating the importance of *B. coli* in the tissues and discharges, and the limitations of agglutination and the opsonic index, are mentioned. The question of the importance of a mixed infection and symbiosis of *B. coli* and other organisms, as in enteric fever, is put forward for discussion. The clinical features of the reaction of the human body to the various forms of infection with *B. coli* are discussed; and it is pointed out that, whereas high fever seems to be a prominent feature, experimental intoxication with the endotoxin of the organism causes a marked fall of temperature (Vaughan). Rigors may occur in clinical infections, and the endotoxin has been found to cause convulsions. Haemorrhagic inflammation may be set up by virulent infections with *B. coli*, but not by the endotoxin; this is compatible with Vaughan's statement that the cultures of *B. coli* contain a haemolytic body, which is quite distinct from the endotoxin. Acute *coli* infections show a fair leucocytosis. The chronicity of urinary infections with a special tendency to exacerbations and their resistance to treatment are notable. In connexion with general haemic infection with *B. coli* mention is made of three groups of cases—namely, (*a*) those somewhat resembling typhoid fever; (*b*) cases of pyaemia with metastatic abscesses, which, however, are much rarer than in haemic infections with streptococci, staphylococci, and pneumococci; and (*c*) cases of terminal infection. Discussion is invited on the frequency with which septicaemia, due to *B. coli*, occurs in fatal peritonitis and appendicitis; from Ibman's blood cultures it appears to be very rare. The portals of entry are given. Reference is made to Adami's view of the bearing of subinfection with *B. coli* on the biology of pernicious anaemia, haemochromatosis, and hepatic cirrhosis. Metchnikoff's contention that indol and phenol produced by *B. coli* cause visceral lesions and arterio-sclerosis are mentioned, and reference is made to the production of arterio-sclerosis by injections of cultures of *B. coli* (Studzinski). Various local infections with *B. coli* are mentioned; special attention is paid to infections of the urinary tract, and the modes of infection in this condition—namely, ascending, transparietal, and descending or haemic are discussed. The influence of the reaction of the urine is considered, and the explanation of the beneficial influence of rendering the urine alkaline put forward for discussion.

Friday, July 28th.—Papers.

...w, Dr. Nathan. Human and Bovine Tuberculosis.
...UNBAUM, Professor A. S. Post-operative Drowning.
...NDLAY, Dr. Leonard. The Etiology of Pulmonary Anthra...osis (an experimental study).
...ILLIPS, Dr. Montague, and Associate Professor E. GLYNN. The Comparative Value of Certain Microscopical Methods of Demonstrating *Spirochaeta pallida*.
...YNN, Associate Professor E. A Case of Cirrhosis, Adenoma, and Carcinoma of the Liver.
...LLS, Mr. Percival, F.R.C.S. The Action of Radium on Healthy Tissues.

Arrangements will be made for the exhibition in the ...thological Museum of specimens illustrating the work of the Section. Members wishing to exhibit specimens or photographs should communicate with Dr. Leonard ...ckey, 141, Great Charles Street, Birmingham, Secretary of the Pathological Museum.

STATE MEDICINE AND INDUSTRIAL DISEASES.

President: Professor ALFRED BOSTOCK HILL, M.D., ...mingham.

Vice-Presidents: JOHN ROBERTSON, M.D., Birmingham; ...NEST HUGH SNELL, M.D., Coventry; SIDNEY BARWISE, ...D., Duffield, Derbyshire; MABYN READ, M.D., Worcester; ...WARD WILBERFORCE GOODALL, M.D., London.

Honorary Secretaries: ROBERT ARTHUR LYSTER, M.D., ...e Castle, Winchester; THOMAS SHADICK HIGGINS, ...B., Health Department, Council House, Birmingham; ...THUR DOUGLAS COWBURN, M.D., 31, Barkston Gardens, ...ndon.

The following subjects have been suggested for discussion:

1. Administrative Control of Tuberculosis: (*a*) Notification; (*b*) Sanatoriums; (*c*) Dispensary and Domiciliary Treatment.
2. Disease Carriers.
3. The Need for a Unified Public Health Service.
4. Disease, Industrial or Otherwise, as a Subject for Claim for Damages or Compensation at Law, to be opened by Dr. COLLIE in a paper of which the following is a synopsis:

I. Examinations (7742) as to general fitness of candidates for public services. Standard of fitness required. Varies with nature of proposed occupation. Analysis of causes of rejection. Notes upon tests for eyesight and colour-blindness. Cyclical albumen. Diabetes. Dental caries. II. Examinations (7073) of sick employees. Analysis showing incidence of certain diseases. Need for systematic examinations at stated intervals during illness. Personal influence of the medical examiner. Accident cases. Analysis showing incidence of certain injuries. Notes upon pain in the back. Malingering. Return to work should be gradual after serious illness. III. Medico-legal examinations (2185). Origin of traumatic neuroses. Influence of litigation upon claimants. Medical man in the witness-box.

5. Joint discussion with the Odontological Section on the Prevention of Caries from a Public Health Standpoint.

SURGERY.

President: Sir THOMAS FREDERICK CHAVASSE, F.R.C.S., Birmingham.

Vice-Presidents: WILLIAM DUNNETT SPANTON, F.R.C.S., Hanley; WILLIAM FREDERICK HASLAM, F.R.C.S., Birmingham; JAMES THOMAS JACKMAN MORRISON, F.R.C.S., Birmingham; EDWARD DEANESLY, F.R.C.S., Wolverhampton; DAVID WALLACE, C.M.G., F.R.C.S.Edin., Edinburgh.

Honorary Secretaries: LEONARD PARKER GAMGEE, F.R.C.S., 95, Cornwall Street, Birmingham; CHARLES ARTHUR KINAHAN BALL, M.D., 22, Lower Fitzwilliam Street, Dublin; CHARLES ALBERT LEEDHAM-GREEN, F.R.C.S., 9, Newhall Street, Birmingham; JOHN HOWELL EVANS, F.R.C.S., 25, Berkeley Square, London.

The following subjects have been selected for discussion:

1. The Treatment of General Peritonitis. To be opened by Mr. J. RUTHERFORD MORISON in a paper of which the following is an epitome:

The cause of septic general peritonitis is invasion of the peritoneal cavity by pyogenic organisms through some gross channel. The terminations of septic peritonitis are the same terminations as of inflammation elsewhere, and are determined more by the circulatory disturbances produced than by any specific microbic action. Knowledge of the condition of the general and local circulation is of more importance in prognosis and treatment than of the name of the organism producing the mischief. The chief factor in the marked improvement in results comes from an earlier diagnosis of the cause and more prompt treatment of general septic peritonitis. Perforation of the vermiform appendix, of gastric and of duodenal ulcers are the chief causes of infection, and all of them, as a rule, are easy of diagnosis. If the focus of infection can be removed or excluded from the peritoneal cavity early enough, the fatal progress of general septic peritonitis is arrested. (Statistical proof.) The special and only reason for operation in general septic peritonitis is to deal with the infecting focus. All other indications for operation are those for abscess elsewhere in the body. Though early operation is the treatment of an overwhelming majority of cases of septic peritonitis, in some it may be a serious mistake. It is likely to be so when the infective focus cannot be removed—for example, pneumococcal and gonococcal peritonitis. It may also be so after the infective focus has been shut off by a "natural cure." Operation: Maintain body heat. Central straight or lateral oblique incision as nearly over focus of infection as possible. No rough manipulations or unnecessary exposure of viscera. After removal of the focus, recovery depends upon the reaction of the peritoneum. Diffused extravasated contents should be washed out if little or no gross evidence of peritonitis exist. Washing out and drainage may prevent residual subdiaphragmatic

and pelvic abscesses. In the after-treatment the greatest advance has been "proctoclysis."

2. The Technique of Wound Treatment:—To be opened by Mr. ALEXIS THOMSON (Edinburgh).

THERAPEUTICS, INCLUDING DIETETICS.

President: Sir ROBERT M. SIMON, M.D., Birmingham.

Vice-Presidents: PAUL MORGAN CHAPMAN, M.D., Hereford; THOMAS SYDNEY SHORT, M.D., Birmingham; HENRY WILLOUGHBY GARDNER, M.D., Shrewsbury.

Honorary Secretaries: WILLIAM ALEXANDER POTTS, M.D., 118, Hagley Road, Birmingham; ALEXANDER BRYCE, M.D., "St. Kilda," Anderton Park Road, Moseley, Birmingham; HECTOR CHARLES CAMERON, M.D., 6, St. Thomas's Street, London.

The following is the provisional programme:

Wednesday, July 26th.—The Merits of a Relatively Low Protein Diet:—To be opened by Dr. CHITTENDEN in a paper of which the following is a syllabus:

(1) Dietetics as a part of the physiology of nutrition is entitled to the same careful and thorough study as any other branch of biological science, while the opinions and theories connected therewith should be formulated upon evidence that is both comprehensive and reliable. It is a fair argument that the quantity of food consumed daily should be proportional to the needs of the body. In order to avoid excess or deficiency, it is important to ascertain what the real needs of the body for food are; how much food is needed by the average man under ordinary conditions of life to repair tissue waste, and to furnish fuel for the required energy. It is not the part of wisdom to accept unquestioningly dietary standards based simply upon the everyday habits of mankind under the assumption that because civilized people make a practice of eating daily a certain amount of food, that quantity must represent the real needs of the body. (2) Various data are presented tending to show that the ordinary conception of the protein requirement of man is an exaggerated one. A large number of data recently collected among the American people indicates that many people at least, apparently in health and vigour, and with ordinary resistance to disease, do live at a much lower level of nitrogen metabolism than the ordinary accepted standards call for. Additional experiments just completed corroborate the view that normal individuals are able to maintain their usual condition of health, with, indeed, more or less improvement, on relatively small amounts of protein food. Bio-chemical study of these individuals shows that their metabolism is unimpaired. The partition of urinary nitrogen, etc., is in nowise disturbed. Utilization of the nitrogen of the food, as well as the fat, is maintained at the proper level on a relatively low protein diet. (4) Various data from State institutions are in harmony with the view of the adequacy of a relatively low protein diet. (5) Brief discussion of the results presented by other investigators in the study of protein metabolism, as the people of Bengal, leads to the conclusion that the alleged bad effects of low protein intake are not to be associated with the quantity of nitrogen, but with other factors, such as the character of the food, involving its availability, etc. An attempt is made to show the necessity of a ration that is well balanced—one in which the various physiological factors are given due consideration. Nitrogen and calories by no means constitute the only elements to be considered in a so-called standard dietary. Distinction is to be drawn between the needs of a growing organism and the needs of an adult who has attained his growth. The need of protein per kilogram of body weight in the two cases must be different. Experimental data, however, show that even in the early periods of growth the protein of the food constitutes a surprisingly small part of the diet of the suckling infant. The fully-developed man, having an abundance of fat and carbohydrate in a readily available form to meet the energy requirements of his body, can, it is believed, live with perfect health on a few grams of nitrogen per day. To serve its full purpose in the economy, however, man's food must be in a form readily assimilable, free from a large excess of indigestible material.

Thursday, July 27th.—(In conjunction with the Section of Dermatology). Recent Developments in the Recognition and Treatment of Syphilis.

Friday, July 28th.—The Scope of Immune and Norm Serum in Treatment.

TROPICAL MEDICINE.

President: Sir FRANCIS LOVELL, K.C.M.G., F.R.C.S London.

Vice-Presidents: ANDREW BALFOUR, M.D., Khartoum ROBERT THOMSON LEIPER, M.B., Eltham; ARTHUR BAGSHAWE, M.B., Rickmansworth.

Honorary Secretaries: LEONARD G. PARSONS, M.I 52, Newhall Street, Birmingham; HENRY CURTIS, F.R.C.S 59, Harley Street, London, W.; K. S. WISE, M.B., B.S B.Sc.Lond., D.P.H., Royal Societies Club, 63, St. James Street, London, S.W.

The following subjects have been selected for discussio

Wednesday, July 26th, 10 a.m.—Plague—in its Endemi logical and Epidemiological Aspects. To be opened Dr. C. J. MARTIN, F.R.S.

Thursday, July 27th, 10 a.m.—Yellow Fever on the We Coast of Africa.

Friday, July 28th, 10 a.m.—Sanitation of Villages a Small Towns in the Tropics, with Special Reference Efficacy and Cheapness. To be opened by Professor W. RITCHIE SIMPSON, C.M.G.

In view of the lively debates which the three subjec selected for discussion may be expected to elicit, there w probably be less opportunity than usual this year f papers on miscellaneous subjects. Such as are approve by the Committee of Reference for the Section will be rea so far as time permits.

FOREIGN GUESTS.

THE following foreign guests have accepted invitations take part in the work of the Sections:

Therapeutics.—Dr. Russell H. Chittenden, Yale Universit Newhaven, Massachusetts; Professor Carl von Noorden, Alser Strasse, Vienna.

Electro-Therapeutics.—Professor Haenish, Hamburg; D Wertheim Salomonson, Amsterdam; Dr. Frantz Nagelschmid Berlin.

Laryngology.—Dr. Frey, Vienna; Professor Onodi, Budapest

Children.—Professor Stoeltzner, Halle; Dr. Vogt, Priva dozent, University of Strassburg.

Obstetrics.—Dr. Paul Strassmann, Berlin.

Neurology.—Professor Oppenheim, Königin Augustastrasse 2 Berlin, W.

Dermatology.—Dr. Leo Burger, Mount Sinai Hospital, Ne York.

ACADEMIC DRESS.

IT is requested that academic dress or uniform should b worn at the Religious Services, the President's Addres and the Lord Mayor's Reception.

THE REPRESENTATIVE BODY.—VISIT TO DROITWICH.

THE local medical practitioners invite a party of 50 or 6 Representatives to attend an At Home at the Salters Hal Droitwich, on Saturday evening, July 22nd, and the pro prietors of a number of hotels and boarding houses in th town have offered to entertain the party for the week-en July 22nd to July 24th. Representatives wishing to ava themselves of this offer are requested to communicate wit Dr. Wilkinson, Droitwich, Worcestershire, as soon a possible.

SECRETARIES OF DIVISIONS.

The dinner of the Secretaries of Divisions and Branche will be held on Monday, July 24th, at 7 p.m., at the Gran Hotel, and will be followed by the Annual Conference.

THE EXHIBITION.

The Exhibition of Surgical Instruments, Drugs, an Foods, arranged in the Bingley Hall in connexion with th Birmingham Meeting, promises to be of special interes and it is hoped that all members visiting Birmingham wi make a point of attending some time during the meeting.

The Bingley Hall is within easy access, but for the con venience of members the Wolseley Tool and Motor Ca Company, Limited, of Adderley Park, Birmingham, hav kindly placed at their disposal motor cars to run betwee the Reception Room and the Bingley Hall. The Exhibi tion will be open daily from the Tuesday to the Friday from 9 a.m. to 6 p.m.

Honorary Local Treasurer—

J. T. J. MORRISON, Esq., F.R.C.S.,
54, Newhall Street, Birmingham.

Honorary Local Secretaries—

ALBERT LUCAS, Esq., F.R.C.S.,
9, Easy Row, Birmingham.

JOHN FURNEAUX JORDAN, Esq., M.B., F.R.C.S.,
9, Newhall Street, Birmingham.

W. TRACY LYDALL, Esq., M.D.Brux.,
Greswolde House, Yardly, Worc.

A. W. NUTHALL, Esq., F.R.C.S.,
89, Cornwall Street, Birmingham.

PROVISIONAL PROGRAMME.

The following has been settled as a provisional Time Table. ıe final fixing of the hour for the meeting of the Repre-ıtative Body is left to the Chairman of the Representative ɔetings and the Chairman of Council:

FRIDAY, JULY 21ST, 1911.

10 A.M.—Annual Representative Meeting.

SATURDAY, JULY 22ND.

9 A.M.—Representative Meeting.

MONDAY, JULY 24TH.

9.30 A.M.—Council Meeting.
10 A.M.—Representative Meeting.
7 P.M.—Secretaries' Conference and Dinner.

TUESDAY, JULY 25TH.

9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.
9.30 A.M.—Representative Meeting.
2 P.M.—Annual General Meeting.
3.30 P.M.—Religious Services.
8.30 P.M.—Adjourned General Meeting; President's Address.
10 P.M.—After the address the Birmingham and District General Medical Practitioners' Union will give a smoking concert in the Drill Hall.

WEDNESDAY, JULY 26th.

9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.
9.30 A.M.—Council Meeting.
M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Medicine.

THURSDAY, JULY 27TH.

8 A.M.—National Temperance League Breakfast.
9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.
M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Surgery.
7.30 P.M.—Annual Dinner.

FRIDAY, JULY 28TH.

9 A.M.—Council Meeting.
9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.
M. to 1 P.M.—Sectional Meetings.

SATURDAY, JULY 29TH.

Excursions.

PATHOLOGICAL MUSEUM.

THE following are the members of the Committee:

Chairman: Professor R. F. C. LEITH.

Honorary Secretary: A. W. NUTHALL, F.R.C.S.

Ex-officio Members.

The PRESIDENT-ELECT (Professor Saundby, M.D., F.R.C.P).

The LOCAL HONORARY TREASURER (Professor J. T. J. Morrison, F.R.C.S.).

The LOCAL HONORARY SECRETARIES.

The following circular has been sent out by the Committee of the Pathological Museum to gentlemen interested in pathology and likely to help in the organization of a Museum:

The Committee appointed to organize the Pathological Museum in connexion with the Annual Meeting in Birmingham, 1911, propose to arrange the material under the following heads:

I. Exhibits bearing on discussions and papers in the various Sections.
II. Specimens and illustrations relating to any recent research work.
III. Instruments relating to clinical diagnosis and pathological investigation.
IV. Individual specimens of special interest, or a series illustrating the following special subjects:

(*a*) The degenerations and complications of fibroid tumours of the uterus.
(*b*) Osteo-arthritis and rheumatoid arthritis.
(*c*) Granulomatous formations in tertiary visceral syphilis, including hereditary syphilis.
(*d*) The inter-relation between human and bovine tuberculosis.
(*e*) The pathology of glaucoma.
(*f*) Malignant growths of the gastro-intestinal tract removed by operation, with final results.
(*g*) Simple and malignant tumours of the testis.
(*h*) Hypernephromata.
(*i*) Radiograms illustrating — Osteo-arthritis and rheumatoid arthritis; abnormal and pathological conditions of the abdominal viscera; early pulmonary tuberculosis.
(*k*) Pyloric obstruction in children.
(*l*) Diseases of the middle ear.
(*m*) Diseases of the pancreas.

The Committee wish it to be understood that the above are only suggestions, and if there is any subject in which you are specially interested and can supply interesting specimens, they will be welcomed.

The Museum will occupy a central position in the same building as that in which the Sectional work is carried on, and will be easy of access.

The Committee desire to enlist your hearty co-operation, and I shall be glad to hear from you if you are able to make an exhibit. Every care will be taken of specimens, and the contents of the Museum will be insured.

It is hoped that it will be possible for arrangements to be made whereby exhibitors may have an opportunity of demonstrating their specimens.

Yours faithfully,
A. W. NUTHALL,
Honorary Secretary.

89, Cornwall Street, Birmingham, April, 1911.

THE SATURDAY EXCURSIONS.

Warwick and Leamington.

The invitation of the Warwick and Leamington Division will be extended to 300 persons. The party will leave Snow Hill Station about 9.15 a.m., arriving at Warwick half an hour later. The party will visit the Castle, Leycester Hospital, St. Mary's Church, and other interesting parts of Warwick, and then proceed by special trams to Leamington, where lunch will be provided by the Mayor and Corporation in the Town Hall at 1.30. This will be followed by an inspection of the Pump Room, and later by tea and a concert by the band of the Gordon Highlanders in the garden.

Stratford-on-Avon.

The local members of the profession have invited a party of 150 to visit Stratford-on-Avon. The party, which will leave Snow Hill Station about 9.30, and arrive at Stratford about 10 o'clock, will visit the Parish Church, Shakespeare's Birthplace and Museum, and Anne Hathaway's Cottage. After lunch a matinée performance of one of Shakespeare's plays will probably be given at the Memorial Theatre. Golf, tennis, and boating will also be possible. An extension of this excursion, limited to 50, will be taken on to Broadway, where they will be shown round the ancient houses by Dr. Standring and other local medical men. Tea will be arranged at the Old Priory, where the party will be welcomed by the well-known artist, Mr. F. D. Millet.

Droitwich.

A party not exceeding 200 in number will leave Snow Hill Station about 9.30 a.m., arriving at Droitwich soon after 10. The bathing establishment will first be visited, and an opportunity afforded to visitors of indulging in a brine bath. Afterwards a luncheon will be given by the Corbet Trustees, and in the afternoon a drive through the surrounding country will be arranged.

Malvern and Worcester.

A party limited to 50 persons will leave by the same train as the Droitwich excursion and arrive at Malvern about 11. After a drive through places of interest they will be entertained to lunch by the local medical men, and will leave about 2 p.m. for Worcester, where they will be met by the local medical men, who will show them the various places of interest. Evensong at the cathedral may be attended, and afterwards tea will be provided.

Hereford.

The party, limited to 50, will leave Snow Hill Station about 9.30 a.m., arriving at Hereford about 11.30 a.m. The party will be met at Hereford by members of the local profession, and, after being shown some of the sights of the city, will be entertained at lunch. In the afternoon it is provisionally arranged that those taking part in this excursion shall be entertained at a garden party at Holme Lacy, the ancient home of the Earls of Chesterfield, which has been placed at the disposal of the local branch of the profession by the kindness of Sir Robert Lucas Tooth.

GOLF.

MEMBERS attending the Annual Meeting will find that the local committee has not been behindhand in catering for the devotees of the royal and ancient game. Practically all the clubs in the neighbourhood have generously placed their courses at the disposal of the local executive, but in one or two cases Saturday afternoons have been excluded. On presentation of their card of membership visitors to the meeting will be considered members of the club for the day and freed of all green fees. Although there is no first-class course in the district, there are a number which fall little short of that exalted standard, such as Sandwell Park, Olton, Handsworth, Sutton Coldfield, King's Norton, Harborne, and Little Aston. Further afield are Malvern and Leamington. The links at Malvern, charmingly situated at the foot of the beautiful Malvern Hills, are among the oldest in England, and known by name or repute to most golfers. Sunday play is allowed, without caddies, at nearly all the clubs. There is no play at Malvern on Sundays, and at Leamington only after mid-day.

MATCH.

Birmingham v. The Rest.

On Wednesday, July 26th, a match, twenty-five a side, is being arranged at Little Aston between the visitors to the meeting and the Birmingham Medical Golfing Society. The Little Aston course is situated about nine miles from Birmingham, and about ten minutes' walk from Streetly Station on the Midland Railway; it is, however, hoped that sufficient motor cars will be available to convey players in the match from the Grand Hotel to the club house. The course is rather a new one, but will be found a good test of golf. It is formed out of a deer park once belonging to the well-known Staffordshire family of Parker-Jervis. Mr. J. B. Clarke, of Little Aston Hall, which adjoins the course, has kindly undertaken to provide tea at his house for the players. Members wishing to play in the match should send their names, together with their handicaps, to Dr. Thomas Sansome, Sandwell House, West Bromwich.

THE ULSTER CUP COMPETITION.

The Ulster Cup, presented by the Ulster members in 1909, will be played for as usual on the Friday of the Annual Meeting. The play is against bogie. It will take place on the course of the Handsworth Club, about three and a half miles from the Birmingham Town Hall, and about one mile from Handsworth Wood Station; it can also be reached by tram from the Roebuck Inn, eked out by cab for about a quarter of an hour at a fare of 1s. 6d. It is hoped to arrange for a motor omnibus to run at intervals of about one hour from the Grand Hotel to the club house. A special prize has been offered by Mr. Saunders, the captain of the club, in connexion with this competition. Mr. C. A. Palmer, well known as the runner-up for the amateur championship a few years ago, has kindly offered to entertain the competitors to tea at his house, which adjoins the course. The Handsworth course is about 5,650 yards in length, the soil is light and springy, the greens are excellent, but a little fast in dry weather; there is an abundance of bunkers most artfully placed to catch a bad shot; but the player who keeps straight and hits a fair ball will be sure of finding a good lie, and get the reward of accurate play.

Further details of the match and of the Ulster Cup Competition will be posted in the reception room at the town hall, and information will be given as to the means of reaching the various links.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will be held at 2 o'clock in the afternoon of Wednesday, July 5th, in the Council Room at 429, Strand, London, W.C.

By Order,
GUY ELLISTON,
Financial Secretary and Business Manager.

June 13th, 1911.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for candidates for election as Members of Council by Grouped Representatives for the year 1911–12 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting, on Monday, July 24th, 1911. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (1) for Nomination by a Division, and (2) for Nomination by a Representative of a Division included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,
J. SMITH WHITAKER,
Medical Secretary.

BIRMINGHAM MEETING, 1911.

JULY 25th, 26th, 27th, and 28th.

NOTIFICATION OF ATTENDANCE.

Members of the Association, including residents in **BIRMINGHAM** and **DISTRICT,** intend to take part in the **Annual Meeting,** are earnestly requested to fill up and this form as soon as possible.

Early intimation will greatly facilitate the arrangements for official entertainments as as for private hospitality.

On receipt of this form a voucher will be sent enabling the member and those mpanying him to obtain Railway Tickets at reduced fares.

Notices on matters of interest to those attending the Meeting will appear from time ime in the *Supplement to the Journal.* Particulars of Hotels and Lodgings are given cleaf.

It is my intention to be present at the ANNUAL MEETING in BIRMINGHAM and

Please write distinctly.

*I expect to be accompanied by**.....

Name.....

Address.....

indicate whether accompanied by a lady, as separate Railway vouchers are required for each person. The Ladies' Entertainment Committee will be glad to have early intimation of the *names* of ladies accompanying members to the Meeting.

THE ANNUAL DINNER.

The Annual Dinner of the Association will take place on THURSDAY EVENING, July 27th, e GRAND HOTEL, BIRMINGHAM, at 7.30 o'clock. The cost of each Dinner Ticket (exclusive ine) is 10s. 6d.

Early application for Tickets is requested.

Please reserve a seat for me at the Dinner for which I enclose a remittance of 10s. 6d.

Signature.....

eques should be made payable to Mr. ALBERT LUCAS, and this form when filled up, posted to the AL INSTITUTE, BIRMINGHAM.

BIRMINGHAM MEETING, July, 1911.—List of Lodgings.

Name and Address.	Probable Accommodation.	Distance from City.	Price for Bed and Breakfast.
Mrs. Cane, 50, Carlyle Road, Edgbaston.	2 double-bedded rooms 1 sitting-room	1 mile	3s. 6d.
Mrs. Suffield, 199, Rotton Park Road, Edgbaston.	2 double-bedded rooms 2 sitting-rooms	2 miles	5s. 6d.
Miss Purden, 7, S. Augustine's Road, Edgbaston.	2 double-bedded rooms 1 sitting-room	2 miles	3s. 6d.
Miss Fulford Brown, 52, Stirling Road, Edgbaston.	Several bedrooms Sitting-room	1½ miles	3s. 6d.
Mrs. Whatmore, 1, Carlyle Road, Edgbaston.	1 bedroom 1 sitting-room	1½ miles	10s. per day.
Mrs. Greenway, Glenbourne, Stanmore Road, Edgbaston.	1 bedroom 1 sitting-room	2 miles	4s.
Mrs. Martindale Vale, 6, Beaufort Road, Edgbaston.	Uncertain Paying Guests	1 mile	4s.
Miss Howlett, 19 & 27, Beaufort Road, Edgbaston.	Uncertain but several rooms	1 mile	3s. 6d.
Mrs. Barford, 17, Duchess Road, Edgbaston.	1 double-bedded room 1 sitting-room	1 mile	3s. 6d.
Mrs. Barrow, 9, Francis Road, Edgbaston.	1 double-bedded room 1 single bedroom 1 sitting-room	1 mile	3s. 6d.
Miss Lyndon, 33, Hagley Road, Edgbaston.	1 double-bedded room 1 sitting-room	¾ mile	4s. 6d.
Mrs. Buncher, 21, Francis Road, Edgbaston.	3 double-bedded rooms 1 or 2 sitting-rooms	1 mile	3s. 6d.
Mrs. Dudley, 60, Francis Road, Edgbaston.	2 single bedrooms 1 sitting-room	1 mile	4s. 6d.
Mrs. Tinley, 52, Francis Road, Edgbaston.	1 double-bedded room 1 sitting-room	1 mile	4s.–4s. 6d.
Nurse Haynes, 24, Hamstead Road, Handsworth.	2 double-bedded rooms	2 miles	4s.
Mrs. Bekenn, 73, Wheeleys Road, Edgbaston.	1 double-bedded room 1 sitting-room	1 mile	3s. 6d. for 1 6s. for 2
Mrs. Bird, 182, Bristol Road, Edgbaston.	4 bedrooms 2 sitting-rooms	1½ miles	5s.
Mrs. Baker, 116, Bristol Road, Edgbaston.	3 bedrooms 2 sitting-rooms	1½ miles	—
Mrs. Bushell, 195, Bristol Road, Edgbaston.	2 or 3 bedrooms 1 sitting-room	1½ miles	—
Mrs. Collins, 197, Bristol Road, Edgbaston.	5 bedrooms 2 sitting-rooms	1½ miles	—
Mrs. Ward, 13, Greenfield Terrace, Edgbaston.	3 bedrooms 1 sitting-aoom	1 mile	—
	Boarding House.		
Mrs. Cope, 4, Vicarage Road, Edgbaston.	2 single bedrooms 1 sitting-room	1½ miles	5s.

Penny Stamp.

ALBERT LUCAS, Esq., F.R.C.S.,

Medical Institute,

Birmingham.

BIRMINGHAM MEETING, July, 1911.—List of Lodgings.

Name and Address.	Probable Accommodation.	Distance from City.	Price for Bed and Breakfast.
Stenner, 73, Holly Road, Handsworth.	2 bedrooms 2 sitting-rooms	2 miles	—
	Private Hotel.		
Goold, Grosvenor House, Hagley Road, Edgbaston.	2 double-bedded rooms or more	1 mile	5s. 3s. dinner 10s. 6d. inclusive.
Kershaw, 1, Soho Road, Handsworth.	3 double-bedded rooms 1 single bedroom	1½ miles	5s. per day.
Mrs. Andrews, 103, Hunters Road, Handsworth.	1 double-bedded room 1 sitting-room	1¼ miles	5s.
Mrs. Shufflebotham, 28, Salisbury Road, Birchfields.	2 double-bedded rooms 1 sitting-room	2¼ miles	3s. 6d.
	Boarding House.		
Mrs. Steinmann, Osborne House, 215, Hagley Road, Edgbaston.	1 double-bedded room 1 sitting-room	1½ miles	4s. 6d. Dinner 2s. 6d. Inclusive 7s. 6d.

All these houses have been inspected and approved by members of the Local Ladies' Committee.

HOTELS.

HOTELS.	Number of available Beds.	Tariff.	
GRAND HOTEL, Colmore Row	150 (double & single)	Bed and breakfast from 7s. 6d. Inclusive, 13s. 6d. per day, which would include baths.	Luncheon, 2s. 6d. & 3s. 6d. Dinner, 3s. 6d. & 5s.
MIDLAND HOTEL, New Street	40 single bedrooms 30 double bedrooms	6s. 6d. bed and breakfast for single rooms. Luncheon, 2s. Dinner 5s. (Table d'Hôte).	12s. bed and breakfast for double rooms. Inclusive, 10s. 6d. per day.
N'S HOTEL (Telegrams: "Bestotel, Birmingham"), New St. Station)	10 single bedrooms 20 double bedrooms	Single bedrooms from 4s. 6d. Breakfast, 3s. Luncheon (Table d'Hôte), 3s.	Double bedrooms from 8s. Dinner (Table d'Hôte), 5s.
MPERIAL HOTEL, Temple Street	60 beds	Bed and breakfast, 6s. 6d. Luncheon, 2s. 6d.	Table d'Hôte dinner, 3s. 6d. Inclusive, 10s. 6d.
STORK HOTEL, Corporation Street	25 beds	Bed and breakfast, 6s. 6d. Lunch, 2s. 6d.	Dinner, 4s. 6d. Inclusive, 10s. 6d.
OLONNADE HOTEL, New Street	40 to 45 bedrooms	Bed and breakfast, 6s. Luncheon (Table d'Hôte), 1s. 6d.	Inclusive, 9s. 6d. Dinner (Table d'Hôte), 2s. 6d.
WAN HOTEL, New Street	12 to 15 beds.	Bed and breakfast, 5s. 6d.	Dinner (mid-day), 2s. 6d. Inclusive, 9s. 6d.
EY'S HOTEL, Moor Street	6 beds	Bed and breakfast, 6s.	Inclusive, 10s. 6d.
LOUGH AND HARROW, Hagley Road	6 beds		
		TEMPERANCE HOTELS.	
EN AND CHICKENS, New Street	10 to 25 beds	Bed and breakfast, 4s. to 5s.	Inclusive, 7s. 6d. or 8s. per day.
OBDEN, Corporation Street	50 beds	Inclusive, 7s. 6d. or 8s. per day.	Table d'Hôte dinner, 2s.
RIA HOTEL, Corporation Street	6 to 8 bedrooms	Bed and breakfast, 5s. 6d.	Luncheon, 2s. 6d. Tea, 2s. 3d.

UNIVERSITY HOSTEL.

proposed to open the Hall of Residence for University Women Students (University House, Edgbaston Park Road, Birmingham) during the Meeting of ish Medical Association. The Hall stands on a site of 2½ acres, close to the New University Buildings at Bournbrook. A convenient service of trams runs inutes' distance by which the Reception Room can be reached in 20 minutes. About 50 ladies and gentlemen can be accommodated. All rooms are

Terms.—Bed and Breakfast ... ... 4s. 6d. to 5s. 6d. according to room.
Dinner (5 courses), 3s. Lunch (cold), 1s. 6d. Tea, 6d. Inclusive Terms, 8s. 6d. to 9s. 6d. according to room.

of Bath Rooms (11 in number); 3 Tennis Courts and Library included. As the University House is not licensed no alcoholic drinks will be served.

Grand Hotel and The Imperial Hotel will serve the meals in a room reserved for the members of the British Medical Association. The Colonnad ill also do so if there are sufficient members staying there.

ELECTION OF COUNCIL, SESSION 1911—12.

BRANCHES IN THE UNITED KINGDOM.

BRANCHES INCLUDED IN GROUP.	NAME.			UNOPPOSED OR CONTEST.
North of England, and North Lancashire and South Westmorland Branches	Dr. DAVID F. TODD	—	..	Unopposed.
Yorkshire Branch	Dr. J. E. EDDISON	—	..	Unopposed.
Lancashire and Cheshire Branch	Mr. F. CHARLES LARKIN ..	—	..	Unopposed.
	Dr. J. H. TAYLOR	—	..	Unopposed.
East York and North Lincoln, and Midland Branches ..	Dr. F. M. POPE	—	..	Unopposed.
Cambridge and Huntingdon, East Anglian, and South Midland Branches	Dr. B. H. NICHOLSON ..	**162**	..	Elected.
	Dr. D. G. Thomson ..	93	..	——
Birmingham and Staffordshire Branches	Mr. ALBERT LUCAS	—	..	Unopposed.
North Wales, Shropshire and Mid-Wales, and South Wales and Monmouthshire Branches	Mr. D. J. WILLIAMS	—	..	Unopposed.
Metropolitan Counties Branch	Dr. MAJOR GREENWOOD ..	—	..	Unopposed.
	Sir VICTOR HORSLEY, F.R.S.	—	..	Unopposed.
	Dr. A. J. RICE-OXLEY ..	—	..	Unopposed.
	Dr. LAURISTON E. SHAW ..	—	..	Unopposed.
Bath and Bristol, Gloucestershire, West Somerset, and Worcestershire and Herefordshire Branches	Mr. HERBERT JONES ..	—	..	Unopposed.
Dorset and West Hants, and South-Western Branches ..	Mr. E. J. DOMVILLE	—	..	Unopposed.
Oxford and Reading, and Southern Branches	Mr. C. R. STRATON	—	..	Unopposed.
South-Eastern Branch	Mr. J. HENRY EWART ..	—	..	Unopposed.
SCOTLAND.				
Aberdeen, Northern Counties, Dundee, and Perth Branches	Dr. JOHN GORDON	**124**	..	Elected.
	Dr. J. Munro Moir	106	..	——
Edinburgh and Fife Branches	Dr. J. R. HAMILTON	—	..	Unopposed.
Glasgow and West of Scotland Branch (4 City Divisions) ..	Dr. D. J. MACKINTOSH, M.V.O.	—	..	Unopposed.
Glasgow and West of Scotland (4 County Divisions), Border Counties, and Stirling Branches	Dr. G. R. LIVINGSTON ..	—	..	Unopposed.
IRELAND.				
Connaught and South-Eastern of Ireland Branches	Dr. R. B. MAHON	—	..	Unopposed.
Leinster Branch	Dr. F. W. KIDD	—	..	Unopposed.
Munster Branch	Professor H. CORBY, M.D. ..	—	..	Unopposed.
Ulster Branch	Mr. R. J. JOHNSTONE	—	..	Unopposed.

BRANCH AND DIVISION MEETINGS TO BE HELD.

CAMBRIDGE AND HUNTINGDON BRANCH.—The annual meeting of this Branch will be held at St. Neot's, Hunts, on July 12th, at 12.30. President-elect, Dr. E. J. Cross. Luncheon 1.30, "Cross Keys." Presidential address, 3. Garden party in the grounds of Hall Place, 4.—H. B. RODERICK, Honorary Secretary, Cambridge.

DORSET AND WEST HANTS BRANCH.—The next meeting will be held in Ringwood, on Wednesday, July 12th.—JAMES DAVISON, Honorary Secretary, "Streateplace," Bournemouth.

EAST ANGLIAN BRANCH.—The annual meeting of the East Anglian Branch will be held at the Norfolk and Norwich Hospital, on Thursday, July 13th. Programme of proceedings: 12.15 p.m., Meeting of Branch Council in the Board Room of the Hospital; 12.45 p.m., General Meeting of the Branch in the Board Room. (1) Minutes. (2) Report of Council. (3) Report of Election of Officers. (4) Financial Report. (5) Matters referred for consideration of Branches by Central Ethical Committees and Organization Committee. 1.30 p.m., Luncheon at the Norfolk and Norwich Hospital, by invitation of the President-elect, Dr. F. W. Burton-Fanning. 2.15 p.m., Resumed General Meeting in the Pathological Museum of the Hospital. Agenda: (6) Introduction of the New President by the Retiring President. (7) To consider a letter from the Financial Secretary of the Association, Mr. Guy Elliston, containing a proposal to hold the Annual Meeting of the Association at Norwich in 1913. (8) Address by Mr. J. Smith Whitaker, the Medical Secretary of the Association, on "The Prospects of the Medical Profession under the National Insurance Bill." General discussion. 4.45 p.m., Afternoon Tea, to which members are invited to bring ladies, in the grounds of the Norfolk and Norwich Hospital, by the kind invitation of Dr. and Mrs. Burton-Fanning. Exhibition of instruments by Down Bros., drugs, etc. The hospital is within two minutes' walk of the Norwich (Victoria) Station, G.E.R., and in direct tram communication with Thorpe Station.—B. H. NICHOLSON, HAMILTON A. BALLANCE, J. GUTCH, Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH: RICHMOND DIVISION.—A meeting will be held at the Town Hall, Kingston-on-Thames (by kind permission of the Mayor), at 4.30 p.m. (this day), Friday, June 30th. A deputation consisting of eight members of the Division, with power to add to their number, will be requested to interview Members of Parliament in the area of the Division and convey to them the resolutions on the National Insurance Bill to be passed at this meeting. The following resolutions will be proposed by the Chairman: (1) Free choice of doctor by patient, subject to consent of doctor to act. (2) Medical and maternity benefits to be administered by local Health Committees, and not by friendly societies. (3) Adequate medical representation among the Insurance Commissioners, on the Central Advisory Committee, and on the local Health Committees, and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee. By adequate representation on the Health Committee is meant, that on the local Health Committee there shall be a proportion of medical men elected by the local profession equal in number to the representatives of the beneficiaries, in addition to the medical men to be appointed by the Insurance Commissioners. (4) Compulsory insurance for medical benefits should not apply to persons whose total income exceeds 30s. per week, and no voluntary contributors should be included in the bill. (5) That the remuneration of the doctors should be for work done, and that for purposes of ascertaining the amount of money to be set aside for the proper payment of these services, the calculation of the Government should be based on a scale not lower than that adopted by the National Deposit Friendly Society. (6) Failing the acceptance of these conditions by the Government, that medical benefits should be entirely omitted from the bill.—G. CARDNO STILL, Honorary Secretary.

SOUTHERN BRANCH.—The annual meeting of this Branch will be held in the Grand Jury Room, Town Hall, Portsmouth, on Wednesday, July 5th, at 12.30, when the following alteration of the Branch Rule No. 7, Part 2, will be recommended to the members present—namely: "Every candidate who resides within the area of this Branch shall forward his application to the Secretary of the Branch, accompanied by a certificate from two members of the Association that he is personally known to them and is a fit and proper person to be elected a member. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association and to every member of the Branch Council, and the candidate, if not disqualified by any regulation of the Association, may be elected a member of the Association by the Branch Council at any meeting thereof held not less than a month after the date of the said notice." At the conclusion of this and the other business, the President for the coming year (Mr. C. P. Childe, of Southsea) will deliver an address. He invites the members to luncheon in the Mayor's Banqueting Hall at 1.45, and to a garden party at the Queen's Hotel, Southsea, at 4.30. By kind permission of the Admiral Superintendent of His Majesty's Dockyard and of the Captain of H.M.S. *Excellent*, members are invited to visit either a battleship in the Dockyard or the Gunnery School at Whale Island.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

LANCASHIRE AND CHESHIRE BRANCH:

MANCHESTER (SOUTH) DIVISION.

THE eighth annual general meeting of the Division was held on May 26th at the house of Dr. P. MacDougall, Barcombe, Wilmslow Road, Fallowfield. Dr. G. H. GRANT DAVIE presided. There were also present: Drs. E. Vipont Brown, Chevers, Cotterill, Edlin, Gregory, Heathcote, Crichton-Hood, Jones, MacDougall, MacGregor, Mitchell, Morton, Russen Rhodes, Sawers Scott, Simcock, and Stocks. Three intending members were present by invitation—Drs. Martin, Moran, and Salter.

Confirmation of Minutes.—The minutes of the last meeting (May 19th) were read and confirmed.

Correspondence.—(1) A letter from the Branch Secretary was read. This pointed out that, in accordance with the new articles and by-laws, the Representative of the Division on the Representative Body must be one of the two Representatives of the Division on the Branch Council. (2) A letter from Mr. Guy Elliston was read. This referred to the nomination of candidates for election on the Central Executive by Branches or groups of Branches. The nomination of the committee was then formally ratified by the Division. (3) A letter from the Organization Committee was read. This contained three new rules for the election of the Representative on the Representative Body. (4) The consideration of a letter from the Halifax Division was postponed to the next meeting of the Division. (5) A letter from Dr. J. H. Taylor was read, thanking the Division for the letter conveying the vote of confidence in his work which the Division passed at the last meeting. (6) Dr. GRANT DAVIE read a letter from Dr. Hopkinson, who regretted he could not be present to take the chair at the annual meeting.

Annual Report of Executive Committee.

The SECRETARY read the annual report of the Executive Committee, which was as follows:

Number of Meetings.—A. Division.—Your Executive Committee has to report that during the year ten meetings of the Division were held, and that the average attendance at these was 16.2; the numbers varying between 10 and 29. During the year 3 new members have been added to the list, 7 members have removed out of and 7 into the Division; 2 members have resigned. The following list shows the number of meetings each member has attended: Dr. Ashton (2), Barr (1), Booth (3), Boyd (4), Brown (7), Chevers (3), Cotterill (9), Grant-Davie (8), Dickey (1), Edlin (9), Godson (7), Goodfellow (6), Gregory (9), Heathcote (5), Helme (1), Holt (2), Hood (7), Hopkinson (9), Howe (3), Hutchinson (1), Jones (2), MacDougall (5), MacGregor (3), Middleton (1), Mitchell (10), Morton (3), Robinson (1), Russell (1), Russell (1) Russen Rhodes (5), Sarjant (2), Sawers Scott (8), Senior (1), Simcock (8), Stocks (10), Whitworth (4), Wild (1). It will be seen from these figures that the average attendance has increased during the year; before the last meeting it had risen from 13 to 14.6, and the attendance at the last meeting raised it to 16.2. Thirty-six members have attended at least one meeting, leaving 43 who did not attend at all; of these 43, 12 are consultants and three are professors, so that 28 general practitioners have not been at a single meeting. The scientific meetings had a better average attendance than the business meetings, the average being 19. B. Committee.—The Executive Committee has met five times, and the following list shows the attendance of each member: Dr. Cotterill (3), Grant Davie (4), Edlin (4), Godson (5), Gregory (4), Hopkinson (4), Mitchell (5), Russen Rhodes (1), Sawers Scott (5), Simcock (5), and Stocks (5).

Character of Meetings.—The custom of last year has been continued, and the meetings have been held at the houses of members in the different districts of the Division—Heaton Chapel, Didsbury, Longsight, and Withington. Your committee, on behalf of the Division, desires to heartily thank those members for their hospitality on these occasions. The subjects discussed during the year are as

follows: Rules of ethics of consultation, tariff of medical charges, deaths after operations, appointment of medical practitioners on boards of hospitals, report on ophthalmia neonatorum, Early Notification of Births Act, fees in contract practice, and for examination in cases for insurance, model nursing rules, lectures on hygiene, ambulance work, etc. Definition of the term "consultant," ambulance in emergencies, organization of medical attendance on the provident or insurance principle, capitation fee for Representative's expenses, referendum by postal vote, and the National Insurance Bill. There have been three scientific papers read during the year:—(1) Dr. Wild: Some recent methods in the treatment of cancer; (2) Mr. Burgess: Abdominal crises in general practice; (3) Dr. Loveday: Vaccine-therapy.

Resumé of Subjects Discussed during the Year.

Rules on the Ethics of Consultation.—The following principles dealing with the ethics of medical consultation were unanimously approved by the Division and become binding on the members, since all the conditions for their adoption have been complied with: (*a*) When a patient who has not previously been seen in consultation calls on a consultant at his rooms without introduction from a general practitioner, inquiry should be made in every case as to whether the patient is under the care of any practitioner. (*b*) If it is ascertained that the patient is not under the care of another practitioner, there is nothing ethically wrong in the consultant prescribing at his rooms for the patient, but it is inadvisable for any practitioner who wishes recognition as a consultant to attend any patient at the patient's own house, except in co-operation with a general practitioner. (*c*) If it is ascertained that the patient is under the care of another practitioner, it is the duty of the consultant to use every endeavour to persuade the patient to allow him to communicate with the attending practitioner; but should the patient refuse this permission, the consultant has the right to make an examination and to express an opinion, but not to undertake the treatment of the case.

Matters Referred by the Division to the Manchester and Salford Joint Committee.—Several matters have been referred during the year for consideration by the Joint Committee of Manchester and Salford, for example, tariff of medical charges, deaths after operations, suggested appointment of medical practitioners on boards of hospitals, Early Notification of Births Act. Last year complaint was made that matters referred in this way to the Joint Committee were never heard of again; to remedy this one of the Representatives on the Joint Committee has given an account at the next Division meeting of all matters discussed at the last Joint Committee meeting. In this way members are able to keep in touch with the after-history of any matter referred, and also are in a position to hear what is being done by other Divisions and the Central Executive.

Definition of the term "Consultant."—At the Representative Meeting in London last year (1910) the Chairman of the Central Ethical Committee undertook at the request of your Representative to reconsider the definition of the term "consultant" contained in the rules for the ethics of consultation. The objection to the definition as it stood was that it permitted the consultant to see the patient already under the attending practitioner's care without the latter's knowledge or consent. Your committee appointed a subcommittee to consider the definition and draw up a new one. The subcommittee recommended the following: In these rules the term "consultant" to be understood as meaning any practitioner who is called upon by the patient or by any person acting on behalf of the patient "to consider jointly" with the attending practitioner with regard to that patient. This definition admitted of a personal meeting or a communication by letter or otherwise. It was approved by the Division and forwarded to the Central Ethical Committee.

Doctors Called in to Examine Patients under Charge of Other Practitioners.—The interim report on the position of medical practitioners called upon to examine otherwise than by request of the patient or persons acting on his behalf, patients who are under the care of other practitioners, and the suggested rules in connexion with this subject, were read and discussed by your committee, who recommended their adoption by the Division with this modification to Rule 1. This rule insists that the medical attendant should be notified by the medical inspector of his intention to visit the patient of the former, with two exceptions when he need not do so: (*a*) if a surprise visit is necessary; (*b*) when there is not sufficient time for notification of his intention. Your committee suggested that this clause be inserted after Rule 1:

> That where the medical inspector avails himself of the exceptions to this rule, it shall be his duty to send a letter to the medical attendant stating the fact of his visit and the reasons for his action.

This addition was approved by the Division.

Ambulance in Emergencies.—In November, 1910, complaint was made by a member that before he could procure the services of the police ambulance for conveyance of a serious case of illness he had to go to the nearest police station and deposit the necessary fee. As this was felt to be an unsatisfactory arrangement, a subcommittee was appointed to interview the chief constable. The result of this interview was that a promise was given that the ambulance would be sent (if available) to any case at the request of the medical practitioner, provided the fee was guaranteed. This the Division considered satisfactory.

Early Notification of Births Act.—Early in this year the Manchester City Council wished to adopt the Early Notification of Births Act. The Joint Committee of Manchester and Salford, at the suggestion of the South Manchester Division, drew up a circular letter embodying the objections of the profession to this Act. The Division then commenced an active canvass of all the city councillors in the area of the Division, with the result that nearly all the councillors who were interviewed, seeing the injustice done to the medical man, promised to oppose its adoption. As a consequence the City Council has requested the Joint Committee to appoint representatives of the medical profession to meet in joint conference the members of the City Council appointed for this purpose.

Report on the Organization of Medical Attendance on the Provident or Insurance Principle.—This occupied the Division's attention at three meetings—on March 21st, 28th, and April 11th, and the main points decided on were as follows: The Division approved of persons unable to meet the ordinary medical fees insuring against sickness, but was averse to the Government including medical attendance in its State insurance scheme unless in a form acceptable to the profession, and especially opposed to the control of any scheme being placed in the hands of the Poor Law or local health authorities, or of the friendly societies. Should the Government provide for medical attendance, the Division preferred that the service should be organized by the profession itself, that a wage limit be locally fixed, and that payment per attendance form the basis of contract. If the Government decided that a capitation system of payment must be adopted, it was felt that there were not sufficient data on which to decide what would be a fair sum; but it was suggested tentatively that 10s. per adult male and 15s. per woman or child might be accepted at first, subject to revision when two years' experience of the working of the scheme had been gained.

Capitation Fee for the Expenses of your Representative at Representative Meetings.—As it was considered unfair to ask the Representative to leave his practice for several days once or twice a year and also pay his own expenses while doing work in the interests of the Division, it was decided to request each member to give 2s. 6d. This amount given by each of the eighty members would produce £10, which was calculated to be sufficient to pay hotel expenses and for the supply of a locum.

Ophthalmia Neonatorum.—The report of the Central Council on ophthalmia neonatorum and its scheme for the prevention of this disease were read and discussed by the Division. As a result of this discussion, the Heaton Norris Urban District Council acceded to the request of the Division, and decided to adopt compulsory notification of ophthalmia neonatorum. Also the Manchester City Council granted the Division's request that facilities for the bacteriological examination of discharges from the eyes of all suspected cases of ophthalmia neonatorum be provided free of charge. The Division's request to the Manchester City Council to provide competent nursing free of charge to all cases of ophthalmia neonatorum needing such care is still *sub judice*.

Model Rules suggested for Adoption by Nursing Associations.—These were approved by the Division as being suitable, with one exception—namely, in the rule as approved by the Central Council, it states that where a nurse has been called in to help in an emergency, she "must at once leave" if the people acting on behalf of the patient refuse to adopt the nurse's advice to call in a doctor. The Division recommends that instead of those words it should read, "The nurse should not remain in attendance after the emergency is over."

Contract Practice.—Four clubs have raised their capitation fee per annum to 6s., the rate adopted by the Division as the minimum. Your attention is again specially directed to the Division rule adopted May, 1908—namely, *That the Division is of opinion that no new appointment to the medical officership of a club shall be undertaken at a less remuneration than 6s. per member per annum.*

Royal London Insurance Company.—The Division passed a resolution in relation to the medical examination in relation to this company as follows: "That where a complete report with examination of urine is expected by insurance companies, no fee of less than 10s. 6d. be accepted."

Resignation and Election of Representative.—Your committee regrets to announce that Dr. Grant Davie can no longer see his way to represent the Division at Representative Meetings, which he has so ably and effectively done for the past two years. Your committee, in the name of the Division, wishes to express to Dr. Davie its heartiest thanks for the great amount of time and trouble he has so willingly devoted to the interests of the Division and the Association. Mr. P. Stocks was unanimously elected to be the Representative of the Division.

In this critical period of the profession's history your committee cannot impress too strongly upon every member of the Division the urgency of his and her unswerving loyalty in faithfully adhering to all demands made upon them by the executive of the Association.

Recent events have proved that the profession is a hitherto unknown force that must be reckoned with, and it is in the power of each one of you to permanently establish it.

(Signed) G. H. GRANT DAVIE, Chairman.
A. M. MITCHELL, Honorary Secretary.

The report, on being put to the meeting, was unanimously adopted.

Treasurer's Report.—The financial report of the treasurer was then taken and adopted unanimously. It was pointed out that, though every care had been taken to economize, there was a deficit of 16s. 10d.

Election of Office-bearers.—The following office-bearers were unanimously appointed for 1911-12: *Chairman*, G. H. Grant Davie, M.B.; *Vice-Chairman*, H. E. Edlin, M.R.C.S.; *Honorary Secretary and Treasurer*, A. M. Mitchell, M.B.; *Representatives on Branch Council*, W. E. Sawers Scott, M.D., W. P. Stocks, F.R.C.S.; *Representative for Representative Meeting*, W. P. Stocks, F.R.C.S.; *Committee*, J. Simcock, M.D. (Heaton Chapel), H. J. Dickey, M.B. (Heaton Mersey), A. Gregory, M.R.C.S. (Longsight), R. G. Southcote, M.R.C.S. (West Didsbury), T. Morton, M.B. (Urmston); *Representatives on Joint Committee*, the Chairman (*ex officio*), Honorary Secretary (*ex officio*), A. E. Sterrill, M.R.C.S., F. A. Godson, M.B., W. P. Stocks, M.R.C.S.; *Ex officio Member of Committee*, the Past Chairman (A. Hopkinson, M.B.).

Installation of Chairman.—Dr. GRANT DAVIE then took the chair.

Vote of Thanks to Past Officials.—The CHAIRMAN then proposed a hearty vote of thanks to the past Chairman, Secretary, and other past officers for the good work they had accomplished on behalf of the Division during their year of office. This was carried with acclamation.

Addition to Division Rules.—The Committee's suggested addition to the rules of the Division was then considered. It was: "That the Representatives of the Division on the Joint Committee shall be *ex officio* members of the Committee of the Division." Carried *nemine contradicente.*

Paper.—Dr. DONALD then read a most interesting and practical paper on gynaecological symptoms. Mr. P. Stocks proposed a hearty vote of thanks to Dr. Donald for the trouble in coming to address the Division. Dr. DONALD suitably responded.

Vacancies and Appointments.

VACANCIES.

ABERDEEN PROVINCIAL COMMITTEE FOR THE TRAINING OF TEACHERS.—Medical Officer and Lecturer on School and Personal Hygiene. Salary, £400 per annum, rising to £500.

ABERDEEN UNIVERSITY.—Additional Examiner in each of the following subjects: (1) Mental Philosophy; (2) Materia Medica; (3) Pathology; (4) Surgery; (5) Divinity.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—Male House-Surgeon. Honorarium, £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Locumtenent to act as Junior House-Surgeon. Remuneration, £3 3s. per week.

BODMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

BURY INFIRMARY.—Senior House-Surgeon. Salary, £110 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) House-Physician; (2) Second House-Surgeon. Salary, £80 per annum each.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon. Salary at the rate of £70 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—(1) House-Surgeon; (2) House-Physician. Salary, £80 and £70 per annum respectively.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.—Assistant to the Chemist and Bacteriologist. Salary, £150 per annum, rising to £200.

CHELTENHAM GENERAL HOSPITAL.—House-Physician. Salary, £80 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £70 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

DARENTH ASYLUM.—Third Assistant Medical Officer. Salary, £150 per annum, rising to £170.

DERBY: CHILDREN'S HOSPITAL.—Lady Resident Medical Officer. Salary, £60 per annum.

DERBY: DERBYSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £30 for six months.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary, £100 per annum, increasing to £120.

DURHAM COUNTY HOSPITAL.—House-Surgeon. Salary, £120 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House-Physician (male). Salary at the rate of £75 per annum.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Four Resident Medical Officers.

GLAMORGAN COUNTY COUNCIL.—School Medical Officer. Salary, £300 per annum.

HARTLEPOOL BOROUGH.—Medical Officer of Health and School Medical Officer. Combined salary, £250 per annum, rising to £300.

HOLBORN UNION.—Second Assistant Medical Officer at the Infirmary, Archway Road, N. Salary, £80 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Locumtenent for the post of Bacteriologist and Clinical Pathologist.

HULL: VICTORIA CHILDREN'S HOSPITAL.—Assistant House-Surgeon. Salary, £40 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Office Salary, £100 per annum.

LEICESTER EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum.

LEICESTER INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident House-Physician. Salary at the rate of £60 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

LONDON HOSPITAL, E.—Six Honorary Dental Surgeons.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

MAIDSTONE: KENT COUNTY COUNCIL.—Assistant to the County Medical Officer of Health. Salary, £300 per annum.

MANCHESTER CHILDREN'S HOSPITAL.—Assistant Medical Officer for the Out-patient Department. Salary, £50 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Assistant Physician for Diseases of Children.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary at the rate of £60 and £40 per annum respectively.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Junior House-Surgeon. Salary at the rate of £80 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—House-Physician. Salary, £75 per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Professor of Physiology. Salary, £450 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—(1) Two House-Surgeons. Salary, £80 per annum each. (2) Casualty Officer. Salary, £60 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, 160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

PERTH: COUNTY AND CITY OF PERTH ROYAL INFIRMARY.—House-Surgeon. Salary, £60 per annum.

PRESTON ROYAL INFIRMARY.—Junior House-Surgeon (male). Salary at the rate of £60 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Dental Surgeon.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Honorary Surgeon.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

SHEFFIELD ROYAL HOSPITAL. — Assistant House-Physician. Salary, £50 per annum.

SHEFFIELD ROYAL INFIRMARY.—Seventh Resident Medical Officer. Salary, £60 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House-Surgeon. Salary at the rate of £60 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Physician. Salary, £75 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Physician (male). Salary, £100 per annum.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, Welbeck Street, W.—Honorary Medical Officer in charge of the Massage and Electrical Department.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WESTMINSTER HOSPITAL, S.W.—Resident Obstetric Assistant.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WEST RIDING ASYLUM, Wadsley.—Fifth Assistant Medical Officer. Salary, £140 per annum, increasing to £160.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Salary, £80 per annum.

MEDICAL REFEREE.—The Home Secretary announces a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for Bromsgrove, Redditch, and Droitwich County Courts.

APPOINTMENTS.

ACHESON, B. J., L.R.C.P.and S.Irel., Certifying Factory Surgeon for the Caton District, co. Lancaster.

BROWNE, J. L., M.B., Ch.B.Liverp., Medical Officer of the Chester Union Workhouse.

BUCHANAN, G. B., M.B., F.R.F.P.S., Professor of Surgery, Anderson's College Medical School, Glasgow.

CONNOR, S. G., M.B., C.M.Edin., Medical Officer of the Westminster Union Workhouse.

COOK, E. S., M.B., B.S.Lond., Assistant (female) Medical Officer at the General Post Office.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

BROTHERSTON.—At 11, Merchiston Bank Gardens, Edinburgh, on June 19th, the wife of William Brotherston, W.S. (Margaret Merry Smith, M.B., Ch.B., D.P.H.), a daughter.

HUTT.—On June 24th, at Clevelands, Victoria Road, Grappenhall, Warrington, to Dr. and Mrs. C. W. Hutt, a son (George).

MARRIAGES.

DICKSON—RICE.—On June 24th, at St. Michael's, Bowes Park, N., Robinson Simpson Dickson, M.D., to Marguerite Victoria, eldest daughter of W. G. Rice, Esq., J.P., of Grasmere, Bowes Park, N.

GRANT—BROWN.—On May 25th, at the Roman Catholic Cathedral, Johannesburg, by the Very Rev. Bishop Miller, William Gordon Grant, M.D.Aberd., to Isabel Guise Brown.

DIARY FOR THE WEEK.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:
OBSTETRICAL AND GYNAECOLOGICAL SECTION, 11, Chando Street, W., 8 p.m.—(1) Exhibition of Specimens. (Presidential Address: The Appendix—its Relation t the Causation and Surgical Treatment of Affections o the Adnexa.

FRIDAY.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish Square, W., 5 p.m.- (1) Annual General Meeting of Fellows. (2) Election o Officers and Council for Session 1911-12.

SATURDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF DISEASES OF CHILDREN.—Provincial Meetin at Cambridge.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road W.C.—Lectures, Tuesday and Friday, 3.45 p.m., Nose.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHES Brompton, S.W.—Wednesday, 4 p.m., Pleurisy.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Gree wich.—Daily arrangements: Out-patient Demonstr tion, 10 a.m.; Medical and Surgical Clinics, 2.15 p.r and 3.15 p.m. respectively; Operations, 2 p.m. Speci Clinics: Ear and Throat at noon and 4.30 p.m., Monda and noon, Thursday; Skin, at noon and 4 p.m., Tue day, and noon, Friday. Eye, 11 a.m., Wednesday ar Saturday. Radiography, Thursday, 4.30 p.m.

MANCHESTER ROYAL INFIRMARY, Tuesday, 4.30 p.m.—The last of t present series of Post-Graduate Demonstrations Medical, Surgical, and Pathological.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Stree W.C.—The following clinical demonstrations ha been arranged for next week at 4 p.m. each da Monday, Skin; Tuesday, Medical; Wednesday, Su gical; Thursday, Surgical; Friday, Eye. Lectures 5.15 p.m. each day will be given as follows: Monda Ocular Malingering and its Detection; Tuesday, T Diagnosis of Intracranial Tumours (with Lante Demonstrations); Wednesday, Malformations in the Clinical Aspect; Thursday, The Modern Treatment Hernia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Que Square, W.C.—Tuesday, 3.30 p.m., Paraplegia; Frida 3.30 p.m., Cerebellar Disease.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales General Hospital, Tottenham, N.—Monday, Clinic 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Ou patient, Nose, Throat, and Ear. Tuesday, 10 a.m Medical Out-patient Clinic; 2.30 p.m., Operation Clinics: Surgical, Gynaecological; 3.30 p.m., Medic In-patient. Wednesday, 2.30 p.m., Medical Out-patien Skin and Eye Clinics; *X* Rays. Thursday, 2.30 p.m Gynaecological Operations; Clinics: Medical a Surgical Out-patient; 3 p.m., Medical In-patien Friday, 2.30 p.m., Operations; Clinics: Medical Ou patient, Surgical, Eye; 3 p.m., Medical In-patient.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W. Medical and Surgical Clinics, *X* Rays and Operation 2 p.m. daily. Monday, Gynaecology, 10 a.m.; Path logical Demonstration, 12 noon; Eye, 2 p.m. Tuesda Gynaecological Operations, 10 a.m.; Demonstration Minor Operations, 11.30 a.m.; Throat, Nose, and Ea 2 p.m.; Skin, 2 p.m. Wednesday, Diseases of Childre 10 a.m.; Gynaecological Demonstration, 10 a.m. Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m. Gynaecology, 2 p.m. Thursday, Lecture, Practice Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2p.m Friday, Gynaecological Operations, 10 a.m.; Throat Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday, Di eases of Children, 10 a.m.; Throat, Nose, and Ea Operations, 10 a.m.; Eye, 10 a.m. Special Lectures 5 p.m. daily.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
	JUNE.
30 FRIDAY ..	RICHMOND DIVISION, *Metropolitan Counties Branch*, Town Hall, Kingston-on-Thames, 4.30 p.m.
	JULY.
1 SATURDAY ..	
2 Sunday ..	
3 MONDAY ..	
4 TUESDAY ..	
5 WEDNESDAY	**London: Central Council, 2 p.m.** SOUTHERN BRANCH, Annual Meeting, Grand Jury Room, Town Hall, Portsmouth, 12.30; Luncheon, Mayor's Banqueting Hall, 1.45 p.m.; Garden Party, Queen's Hotel, Southsea, 4.30 p.m.
6 THURSDAY ..	

Date.	Meetings to be Held.
	JULY *(continued)*.
7 FRIDAY ..	
8 SATURDAY ..	
9 Sunday ..	
10 MONDAY ..	
11 TUESDAY ..	
12 WEDNESDAY	CAMBRIDGE AND HUNTINGDON BRANC Annual Meeting, St. Neot's, 12 p.m.; Luncheon, Cross Keys, 1 p.m.; Presidential Address, 3 p.m Garden Party, Hall Place, 4 p.m.
13 THURSDAY ..	EAST ANGLIAN BRANCH, Ann Meeting, Norfolk and Norwich H pital, Branch Council, 12.15 p.m General Meeting, 12.45 p.m Luncheon, 1.30 p.m.; Resum General Meeting, 2.15 p.m.; Aft noon Tea, 4.45 p.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

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SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he belongs. BY ORDER.

National Insurance.

AMENDMENTS TO THE BILL.

The already long list of amendments to the bill by various members of Parliament has grown rapidly, and in addition to those of which some account has already been given the following are of direct interest to the medical profession.

It is evident that a considerable number of amendments are to be proposed to facilitate the enrolment of friendly and other societies as approved societies, and to remove some of the restrictions imposed by the bill; and the Government itself seems disposed to give greater facilities for such enrolment. At the same time Mr. Lloyd George is giving practical proof that he is in earnest in his expressions of sympathy with the desire of the British Medical Association that the administration of medical benefits shall be transferred from the approved societies to the local Health Committees. He has made it a condition with the Hearts of Oak and the collecting societies that if they are to be approved societies they shall agree to hand over the administration of medical benefits to the local Health Committees; and he claims to have been so successful in this that even at the commencement of the Act something like 7,000,000 persons—that is, nearly half of the insured—will receive medical benefit through the local Health Committees. This is a step towards what the British Medical Association demands, but of course it is not sufficient. It still leaves the rest of the great friendly societies in their present position as regards medical benefits. Perhaps the greatest difficulty will be experienced in the case of the medical aid associations, which have something like 300,000 members. Most of them, if not all, at present have salaried whole-time medical officers, and it is probable that they will offer the strongest opposition to giving up their present position. Notice of the British Medical Association's amendment to Clause 13—to provide that medical benefit shall be administered by the local Health Committees—stands in the name of Dr. Addison, but Sir Philip Magnus, the Earl of Ronaldshay, Dr. Hillier, and Mr. Barnes have all given notice to the same effect, while Mr. Gibbs would attain the same result by a different amendment of the bill; though there is no reason to expect that these amendments will be accepted as

Government amendments, it is understood that Mr. Lloyd George will personally support them.

As regards the question of income limit, Sir Philip Magnus and the Earl of Ronaldshay have undertaken to propose on Clause 8 the British Medical Association's amendment that "no insured person shall be entitled to medical benefit if his average income from all sources exceeds the sum of £2 per week." This completes the list of the amendments which the British Medical Association has put forward as embodying its declared policy. Some have been substantially adopted by the Government, others have Mr. Lloyd George's personal support, while the position as to the income limit is still as stated by him to the Special Representative Meeting—that is, the Government is opposed.

With regard to the scope of medical benefit, Mr. Lansbury has a series of amendments to Clauses 8 and 15, by which he would extend medical and sanatorium benefits to "the wives and children under the age of 16 of insured persons." It is probably the intention of the Government that this should eventually be done, in the first instance, in the form of optional and additional benefits when the funds will allow of it, but it is very questionable whether the House of Commons will consider that the time is yet ripe for so great an extension of the insurance. Mr. Lees Smith would include dentistry under the head of medical benefits, and Dr. Addison would include "dressings or any other material or appliance necessary for efficient treatment." He would also, as already stated, allow arrangements for persons other than the insured to be eligible for sanatorium benefit, and would extend the treatment in sanatoriums or other institutions to certain other diseases and to injury. On Clause 15, which deals with sanatorium benefit, Dr. Hillier proposes that "any insured person suffering from pulmonary tuberculosis in an active stage, whether early or advanced," shall be entitled to sanatorium benefit, and that the provision for such treatment shall be made by the local Health Committees. This is a considerable modification of the bill as it stands, which provides that "an insured person shall not be entitled to sanatorium benefit unless the local Health Committee considers the case suitable for sanatorium treatment."

The antivaccination and antivivisection party is much to the fore with several perfectly gratuitous amendments. Mr. Chancellor, for instance, proposes that none of the money which Parliament may set aside for the purposes of research shall be used "for experiments on living animals or for providing buildings or apparatus for the purpose of such experiments." Mr. Lansbury also proposes that no regulations requiring vaccination or revaccination for insured persons shall be recognized as legal, nor shall insured persons lose any benefit through refusal to be vaccinated or revaccinated or through refusal to have their children or dependents vaccinated or revaccinated. Mr. Chancellor even goes so far as to propose that refusal to submit to surgical operations or to inoculation or vaccination shall not be held to be misconduct which would allow of the suspension of sickness or disablement benefit, and he would not allow "serums, vaccines, or lymph for vaccination" to be included under the term "medicines."

On Clause 14 Mr. Mount has an important amendment, which provides that when the money payable to a local Health Committee is insufficient to meet the estimated expenditure for medical benefit the committee shall only have recourse to the Treasury, and not both to the Treasury and the county or county borough councils. This is a radical alteration to the expressed intention of Mr. Lloyd George, who considers that county and county boroughs may reasonably be asked for grants towards the cost of medical benefit, seeing that the provision of proper and efficient medical treatment would be the means of saving a considerable amount to the rates by the reduction of sickness and its consequent cost that now falls on the rates.

Dealing with maternity benefit, Mr. Lees Smith, Mr. Bridgeman, Sir Henry Kimber, Sir Samuel Scott, and Mr. Beale are anxious that provision should be made that a mother should be at liberty to decide whether she shall be attended by a certified midwife or a registered medical practitioner at her confinement. Dr. Addison goes further, and proposes that in cases where a midwife requires the aid of a medical practitioner the local Health Committee shall make arrangements, subject to the approval of the Commissioners, for the payment of such practitioners. This would be a great advance on existing arrangements, for, as is well known, in only two or three instances have midwives' supervising committees made any arrangements for the payment of medical men summoned to the aid of midwives. In most cases this is left to boards of guardians, who, as a rule, put many obstacles in the way of payment. Mr. Snowden would raise the sum of 30s. which is allowed by the bill for maternity benefit, to 40s., while numerous members would allow maternity benefit to be "in addition to the other benefits" though the bill at present excludes persons in receipt of maternity benefit from receiving sickness, disablement, or medical benefit for a period of four weeks after confinement. Mr. Barlow would provide that if a married man and his wife are both insured persons the maternity allowance should be 60s., and Mr. Booth and Mr. M'Callum Scott would prevent the scale of maternity benefit being reduced in cases in which an approved society has a deficit on valuation. Mr. Lansbury also proposes that married women who before marriage were insured persons shall not be deprived through marriage of right to medical, sanatorium, and maternity benefit, as would be the case under the bill if they did not continue to be "employed persons," and there are several other amendments which would allow married women to become voluntary contributors.

Another important amendment by Mr. Lansbury refers to the fact that under the bill, when the deposit of a post-office contributor is exhausted, such person will lose right to medical benefit after the end of the current year. He accordingly proposes that in such cases the "local Health Committee shall make for such person, at the expense of the rate levied under the Public Health Act, such provision as they may deem necessary, so that he may not become a charge upon the Poor Law authority."

As stated in last week's SUPPLEMENT, most of the amendments suggested by the British Medical Association have been put down by Dr. Addison, but several other members have also shown their great interest in the medical amendments; for instance, Mr. Needham, member for S.W. Manchester, besides adopting several of these amendments, has undertaken to propose that among the Insurance Commissioners there shall be included "one or more registered medical practitioners who have had personal experience of general practice among the classes from which the insured are drawn." It is understood that an amendment on these lines will be accepted by the Government. Mr. Joynson Hicks further proposes that

he Commissioners shall include representatives of the Pharmaceutical Societies of Great Britain and Ireland. Dr. Addison proposes that the Advisory Committee hall include practitioners who have had personal xperience of general practice, and Mr. Joynson-Hicks ould also add duly qualified pharmacists.

On Clause 43, which deals with the constitution of he local Health Committees, Sir Philip Magnus and Dr. Hillier propose that one-fourth of the Committee hall be appointed by the Insurance Commission from mong registered medical practitioners. This is not ite the same as the amendment suggested by the ritish Medical Association, which would place the ppointment of one-fourth of the Committee in the ands of the registered practitioners resident in ie county or county borough. Dr. Addison, with ir Henry Kimber and Mr. Beale, would further have ie Commissioners appoint at least one duly certified idwife on the Committee, and there are several pro-osals for the inclusion of one or more pharmacists. ealing with the duties of the local Health Com-ittees, Sir Henry Kimber, Sir Samuel Scott, and r. Bridgeman propose that the local Health Com-ittees shall, in considering the needs of a district ith regard to all questions of public health, make ch reports and recommendations as they think fit, ncluding the provision of certified midwives."

In the amendments proposed on behalf of the itish Medical Association dealing with free choice doctor, Sir Philip Magnus and Dr. Hillier make o substantial alterations which deserve attention. ie is that when the Commissioners have to make quiry into the conduct of any practitioner on the t, notice shall be given to the practitioner concerned. obably this would be done in any case without ecial provision, but it may be well to make compulsory. It has been suggested that it might advisable that the conduct of any practitioner ould first come before the local Medical Committee inquiry and report before the Commissioners ive at any decision. The other alteration is that ien an insured person selects a practitioner on the to attend him, it shall be the duty of that practi-ner to attend "unless he forthwith after receiving ice of the desire of an insured person to be ended by him, notifies in writing the local Health mmittee and the insured person concerned that he unwilling to comply with the desire of the insured rson."

Up to the time of going to press we have not eived the terms of any amendments to be proposed the Government, though, as stated before, it is derstood that several of the Association amend-nts will be substantially adopted.

MEETINGS OF THE PROFESSION.

SCOTLAND.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

e following resolutions were passed at a meeting of the ege on June 27th, 1911:

That the medical profession should be adequately represented on:
(*a*) The Insurance Commission.
(*b*) The Advisory Committee.
(*c*) The local Health Committees.

That "medical benefit" and "maternity benefit" should be administered by the local Health Committees and not by "approved societies."

That in respect of the administration of "medical benefit" the "arrangements with duly qualified medical practitioners" made by the local Health Committees should be such as to admit of free choice of the medical practitioner on the part of the insured person; and that in respect of the administration of "maternity benefit" the like free choice of medical practitioner or midwife on the part of the person receiving "maternity benefit" should be admitted.

4. That it be enacted, that the drugs and medicines supplied shall be of the standard required by the *British Pharmacopœia*, and that the dispensing of prescriptions shall be carried out by legally qualified persons.
5. That in respect of the grant of subscriptions and donations to hospitals and other charitable institutions, contemplated in Clause 17 of the bill, power should be given to local Health Committees to grant subscriptions or donations to hospitals or other similar institutions.
6. That in "maternity cases" attended by a midwife, the local Health Committee should be empowered to pay for the attendance of a medical practitioner should such attendance be called for by the midwife in accordance with the rules governing her practice.
7. That the capitation sum of 6s. which has been suggested for "medical benefits" is inadequate to secure the standard of medical attendance and drugs which is essential.
8. That in respect of the deposit contributor class, which will consist of members other than the picked lives of the friendly societies, a higher remuneration for medical attendance should be provided than in the case of those insured through friendly societies.
9. That the "medical benefits" under the Act be limited to persons whose average income from all sources does not exceed £2 per week.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

The following is a copy of a letter which the President of the Royal Faculty of Physicians and Surgeons of Glasgow has forwarded to the Right Honourable the Chancellor of the Exchequer with reference to the National Insurance Bill:

Sir,

National Insurance Bill.

At a largely-attended extraordinary meeting of the Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow held on the 12th current, the following resolutions on the subject of the above bill were adopted, and I was requested to forward them to you for your earnest consideration.

The resolutions were:

1. That (*a*) the Insurance Commission, (*b*) the Advisory Committee, and (*c*) every local Health Committee should include an adequate representation of duly qualified medical practitioners.
2. That "medical benefit" and "maternity benefit" should be administered by the local Health Committees, and not by "approved societies."
3. That in respect of the administration of "medical benefit" and "maternity benefit," the arrangements with "duly qualified medical practitioners," made by the local Health Committees, should be such as to admit of free choice on the part of the insured person of the medical practitioner to be employed, and that the medical practitioner should have the right of refusal, such refusal being a matter of appeal to the local Health Committees.
4. That in respect of the grant of subscriptions and donations to hospitals and other charitable institutions, contemplated in Clause 17 of the bill, the governing conditions should be assimilated to those set forth in Clause 15 (1) with regard to the administration of "sanatorium benefit."
5. That in respect of the provision to be made for "the supply of proper and sufficient drugs and medicines" under Clause 14 (2), the supply of proper surgical dressings and appliances should be included; and, further, that steps should be taken to insure that the drugs and medicines are of the standard required by the *British Pharmacopœia*, and that the dispensing of prescriptions is carried out by qualified persons.
6. That "medical benefit" should include provision for consultations and for operations when these are necessary; further, that the local Health Committees be empowered to determine the remuneration of duly registered medical practitioners for special services rendered.
7. That, in the case of an insured woman, it should be made clear that "sickness benefit" accrues in addition to "maternity benefit," and further, that in cases attended by a midwife, the local Health Committee be empowered to pay for the attendance of a medical practitioner, should such attendance be called for by the midwife, in accordance with the rules governing her practice.
8. That in respect of the deposit contributor class, which will consist of members other than the picked lives of the friendly societies, increased remuneration should be paid to medical practitioners.
9. That provision should be made in the bill for exclusion from medical and maternity benefits of persons whose average income from all sources exceeds £2 per week.

Signed in name and on behalf of the Royal Faculty of Physicians and Surgeons of Glasgow,

D. N. KNOX, President.

IRELAND.

AT an early date after the text of the National Insurance Bill was issued the Irish Committee of the British Medical Association took into consideration the proposals with regard to the application of the scheme to Ireland, and on May 30th issued the following letter to all medical practitioners in Ireland:

IRISH COMMITTEE, B.M.A.
Royal College of Physicians,
Kildare Street,
Dublin.

Dear Sir, May 30th, 1911.

The National Insurance Bill now before Parliament gravely affects the future position of the medical profession in this country, and on behalf of the Irish Committee we wish to draw your special attention to the following points:

In so far as the scheme concerns sickness and invalidity, two classes of insured persons are constituted:

Compulsory.—All employed persons whose earned incomes are at or below £160 per annum.

Voluntary.—Every person who receives a weekly wage or a yearly salary, whatever its amount. These include:

1. Persons engaged in a regular occupation, and mainly dependent on their earnings for their livelihood.
2. Persons who have worked for an employer but are now working on their own account may join, if they join within the first six months after the passing of the Act.

All who are insured are entitled to free medical attendance, for which the doctor will be paid at the rate of 4s. per annum (or 6s. where drugs and dressings are included).

As regard Ireland the special points in the Act are:

The power given to a county council or corporation to form a benefit society under the Act: being empowered

(*a*) To appoint officers and district committees for such society.

(*b*) To reduce the benefits below the minimum rates provided by the Act.

It shall be the duty of the medical officer of health of each dispensary district in the county, without the production of any medical relief ticket, to attend and treat every contributor resident in his district and requiring medical attendance or treatment.

There shall be paid to the medical officer in respect of his services under the last paragraph, such yearly sum as may be prescribed in respect of each deposit contributor resident in his district.*

All those whose earnings amount to £160 or less per annum are compelled to contribute, and, as a result, will have the right to medical attendance. In other words, those who at present furnish the bulk of the income of the doctor earned through private practice are, under the bill, entitled to medical attendance at a rate which may be fixed at less than 4s. per annum.

We hope at an early date that a meeting in Dublin will be arranged which the whole of the medical profession will be asked to attend.

Yours faithfully,
R. J. JOHNSTONE,
Chairman.
ARTHUR H. WHITE,
Honorary Secretary.

Resolution passed at Special Meeting of Irish Committee, British Medical Association.

That the Irish Committee approve of the benevolent objects of the National Insurance Bill, but consider the arrangements for medical benefits to be unworkable and unsuitable.

In the opinion of the committee, the bill requires amendments in the following directions:

(*a*) Medical benefits under the bill should be confined to persons below a fixed limit of income.
(*b*) Free choice of medical attendant to be ensured.
(*c*) Adequate remuneration.
(*d*) Strong direct medical representation on the proposed boards.

On June 17th the Conjoint Committee of the Irish Medical Association and the Irish Committee of the British Medical Association, which, during the past year, has been dealing with the question of a national medical service, adopted the following resolution:

That this Conjoint Committee heartily endorses the resolution of delegates at the recent meeting in Dublin to summon a mass meeting of the profession to be held on the 30th inst and will do all in its power to make the policy agreed o successful.

* The utterly inadequate amount of 2s. has been mentioned.

MASS MEETING IN DUBLIN.

A mass meeting of Irish doctors was held in the Antien Concert Room, Dublin, on June 30th, for the purpose discussing the National Insurance Bill. There was a attendance of about 300 medical men from all parts Ireland, and numerous letters of apology for inability t attend were received. Dr. JEREMIAH COTTER, President the Irish Medical Association, who was in the Chair, referre in his opening remarks to the effect the bill had alread exerted on the members of the medical profession by cor solidating their ranks, and converting them into an abso lutely united body whose claims for consideration n Government could afford to despise. He asked the meetin to refrain from discussing the bill generally, and t confine its attention to arriving at a decision regardin what course of action the profession should adopt whe asked or compelled to work the completed Act. In hi own opinion, the bill, if suitably modified, would prov most beneficial to the Irish workpeople.

Dr. DONNELLY reported the result of the interview which the committee appointed at the Cork meeting of th Irish Medical Association had been directed to hold wit Mr. Lloyd George and with the leaders of the Irish politica parties. He stated that a letter sent to Mr. Lloyd Georg had received no reply, but that, in response to a telegram the committee had been informed that any matter relating to the measure in Ireland should be discusse with the Local Government Board in Ireland. Th committee had in consequence that morning inter viewed the Local Government Board, and had bee received most courteously. Nothing definite had bee promised, but the Vice-President of the Board had le them to believe that extensive modifications would b introduced into the bill to suit special Irish conditions but gave no indications that they are prepared t support such alterations as would bring it into accor with the wishes of the profession. Mr. John Redmond in reply to a letter asking him to receive a deputa tion, had referred them to the committee of th Irish party now sitting in Dublin to receive informa tion concerning the bill. They had had a meeting wit that committee, and had supplied it with information, bu had received none in return. Mr. William O'Brien's views were expressed in his reply to a letter sent to him on behalf of the Cork committee. He stated that the party he represented wanted a separate bill for Ireland, but that if Mr. Lloyd George forced the bill on Ireland, his party would do all in its power to effect amendments in favour of the Irish doctors. Lastly, Mr. Lonsdale, the Whip of the Irish Unionist members, had telegraphed saying that his party was willing to receive a deputation.

The meeting then discussed a series of suggestions with reference to the bill which had already been submitted to a referendum of the profession by the Irish Medical Association. Over 50 per cent. of the profession returned replies in relation to the first group of suggestions, and of the replies 95 per cent. were favourable to their adoption. These suggestions, proposed by Dr. DARLING and seconded by Dr. HORNE, were as follows:

I.—That this mass meeting of the medical profession in Ireland approves of the following:

1. A total income limit of £2 a week for those entitled t medical benefit.
2. Free choice of doctor by patient, subject to consent o doctor to act.
3. Medical and maternity benefits to be administered b local Health Committees and not by friendly societies.
4. The method of remuneration of medical practitioner adopted by each local Health Committee to be accordin to the preference of the majority of the medical professio of the district of that Committee.
5. Medical remuneration to be what the profession con siders adequate, having due regard to the duties to b performed and other conditions of service.

Dr. DARLING pointed out that the clause rendering th carrying out of the work of the bill compulsory on dis pensary doctors in Ireland would almost certainly lead t the resignation of many who from age or other cause were unable for the extra work forced upon them. Th profession, he thought, had the gravest cause of complaint it had not been consulted. Some men had said that capitation fee of 8s. 6d. would be satisfactory, but th

›resent indication was that they would hardly get a fourth ‹f that. After considerable discussion the above resolution vas adopted.

Sir JOHN MOORE proposed the next resolution:

That this mass meeting of the medical profession in Ireland approves:

(*a*) That at least one-fourth of the Committee be medical practitioners, and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee; and

(*b*) that a Special Insurance Commission be instituted for Ireland.

The referendum showed in reference to Clause (*a*) 4 gainst, and 1,351 in favour; and in reference to Clause (*b*), 1 against, and 1,276 in favour. The resolution was dopted.

The meeting next approved of the following:

(*a*) Payment by capitation with a minimum fee of 8s. 6d. for medical attendance alone.

(*b*) Extra provision for special services such as—(1) Anaesthetics, (2) operations, (3) consultations, (4) night work.

(*c*) Mileage reckoned from doctor's house to patient's.

The analysis of the referendum showed that 80¾ per ‹nt. of the replies had favoured payment by capitation, ıd 99 per cent. extra provision for special services.

Dr. LEONARD KIDD proposed the next resolution, which as seconded by Sir JOHN LENTAIGNE, and carried ıanimously:

That in the event of a satisfactory settlement not being arrived at under the main conditions suggested by the above, we are prepared to refuse to administer the medical and maternity benefits under the National Insurance Bill.

On the motion of Dr. MCNAMARA (Kilmallock) it was ›cided:

That the Committee of Council of the Irish Medical Association and the Irish Committee of the British Medical Association be appointed an Executive Committee to look after the interest of the medical profession in Ireland in connexion with the National Insurance Bill.

It was proposed by Dr. LEONARD KIDD, and resolved:

That the meeting pledges itself to support the action of the profession in England, and to do its utmost to prevent Irishmen going to England to accept appointments under such terms, unless, and until, the British Medical Association are satisfied that they have secured the rights they demand, and that copies of the resolution be sent to the teachers in every medical school in Ireland.

The meeting then separated, after passing a vote of ıanks to the Chairman.

CAVAN AND MONAGHAN.

MEETING of the co. Cavan members of the Cavan and ›naghan Division of the British Medical Association and ıer co. Cavan practitioners, summoned by Dr. E. W. ‹Quaid, Honorary Secretary of the Division, was held on ne 22nd to consider the position of Irish doctors under › proposed Sickness and Invalidity Bill. In the absence Dr. W. Henry, Chairman of the Division, Dr. T. H. ›ORHEAD presided. The HONORARY SECRETARY having ›d a number of letters of apology for non-attendance, the ›owing resolutions were passed unanimously:

›roposed by Dr. MOORHEAD, seconded by Dr. O'REILLY:

›hat this Division, in view of the very unsatisfactory results of Mr. Lloyd George's interview with the Representative Meeting of the British Medical Association, and the fact that medical benefits are not to be confined to the poor and necessitous only, is of opinion that medical benefits should be deleted from the National Insurance Bill, unless a satisfactory scheme providing for payment for work done is devised. If this is not done, each individual member of the British Medical Association should enter into an agreement to refuse to do any work or accept any appointment under the bill.

›roposed by Dr. M'GAURAN, seconded by Dr. MALCOLMSON, resolved:

›hat this meeting of the medical practitioners of co. Cavan consider the proposed Invalidity Insurance Bill quite unsuited to the conditions of the majority of the inhabitants of Ireland and their medical attendants, and we agree with the members of the Roman Catholic Hierarchy and those public bodies who have protested against the extension of the scheme to Ireland,

› meeting of medical practitioners in West Monaghan, ›moned by Dr. E. W. McQuaid, Honorary Secretary of Monaghan and Cavan Division of the British Medical Association, was held in Monaghan on June 27th. Dr. T. H. MOORHEAD, of Cootehill, presided, and the following medical practitioners attended:

Dr. Hall, Monaghan; Dr. W. Henry, Clones; Dr. Gillespie, Clones; Dr. Elliot, Smithboro'; Dr. Cayne, Monaghan; Dr. Canning, Rockcorry; Dr. McCaul, Carrickmacross; Dr. McKenna, Carrickmacross; Dr. Crawford, Castleshawe; Dr. Whitla, Monaghan; Dr. Halfpenny, Scothouse; Dr. Leonard, Emyvale; Dr. Henry, Monaghan; Dr. Moorhead, Cootehill; Dr. McQuaid, Cootehill.

The HONORARY SECRETARY having read letters of apology, the following resolution, proposed by Dr. W. HENRY, and seconded by Dr. MCKENNA, was unanimously adopted:

That the present proposals of the Government are unsatisfactory, and it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

Dr. Elliot and Dr. McCaul were appointed delegates to attend the mass meeting to be held in Dublin on June 30th, and the proceedings terminated with a hearty vote of thanks to the Honorary Secretary for the trouble he had taken to organize opposition to the medical clauses of the National Insurance Bill in the two counties.

PORTADOWN AND WEST DOWN.

AT a quarterly meeting of the Portadown and West Down Division of the British Medical Association held at Warrenpoint on June 14th, under the chairmanship of Dr. HOWARD SINCLAIR, the resolutions adopted by the Representative Meeting on June 1st (SUPPLEMENT, June 10th, p. 404) were unanimously adopted, as was also the following resolution:

In view of the fact that the income of hospitals will be interfered with through the operation of this bill, we request our Representatives to see that proper provision be made to secure the undisturbed upkeep of hospitals.

A general meeting of the profession resident within the area of the Division took place at Portadown on June 23rd, when Dr. AGNEW (Portadown) took the chair.

The resolutions were adopted, and an executive committee appointed to watch the progress of the bill and to take such steps as may seem advisable to give effect to the principles laid down. The opinion was freely expressed that the Government were pressing on their proposals much too hastily, and should postpone dealing with the medical benefits until terms satisfactory to the profession had been arranged.

Among those present at the meeting were Drs. H. Sinclair, Potts, Floyd, Palmer, Steede, Beamish, S. E. Martin, R. H. Martin, Smart, Maude, Mayne, Bell, Marshall, Elliott, Lawless, Wright, Dawson, Berry, C. F. Williamson, Moore, Frier, Pedlow, Fergus, Houston, Taylor, McWilliam, Rowlett, Dougan, W. E. Hadden, R. E. Hadden, Johnson, Boyd, McKee, Berry, Darling (honorary secretary). Letters and telegrams supporting the resolutions were received from Drs. Blakely, McBride, Browne (Benburb), Allen, Evans, Glenny, Browne (Ballynahinch), McCartan, Boyd (Hillsborough), Moag, Martin (Banbridge), Boucher, Gillespie (Cookstown), and Mrs. Haire, M.B.

DUNDEE.

As already announced, the annual meeting of the Dundee Branch of the British Medical Association was held in the School of Medicine on June 2nd. There was a large attendance of the medical practitioners of Dundee and District.

The National Insurance Bill was fully discussed, and the following resolutions were adopted unanimously:

1. That, whilst approving the main objects of the bill, and being desirous of co-operating for their attainment, nevertheless, in view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.
2. That there be free choice of doctor by patient, subject to the consent of the doctor to act.
3. That the control of the medical and maternity benefits be removed from the control of the benefit societies and other bodies.

   (*a*) Under no conditions to accept service under the friendly societies.

4. That there be provision under the bill for medical representation on the committees.
5. That there be adequate medical representation on the committees.
6. That there be an income limit of £2 per week for those entitled to medical benefit.
7. That the financial provision be adequate for the services to be rendered.
8. That a deputation, consisting of the President and Secretary, be appointed to interview the M.Ps. for the Branch area.
9. That there be a personal canvass for the signature of every practitioner.
10. That there be a canvass to join the Association.
11. That a special fund be supported.

GLASGOW.

A SPECIAL meeting of the Lanarkshire Division of the British Medical Association was held in Glasgow on June 29th, when there were present Messrs. Donald Douglas, James Muir, Robert Jope, John Mains, John MacKenzie, J. Marshall, J. A. Wilson, J. Murray Young, Hugh Miller, John Goff, A. C. Barron, Bruce Goff, J. Livingstone Loudon. The CHAIRMAN OF THE DIVISION (Dr. Bruce Goff) presided.

The special meeting was held to further consider the State Insurance Bill, and (1) to make arrangements for (*a*) canvassing the whole Division, (*b*) petitioning the various members of Parliament in the Division; (2) to consider (*a*) amendments to the bill as formulated by the Committee of the Council of the British Medical Association, (*b*) the result of the replies received in answer to the postcard circulated to all members of the profession in the Division.

The minutes of the last special meeting held on May 25th were read, and having been approved were signed by the Chairman. Apologies for absence were intimated from Dr. Fotheringham and Dr. Paterson of Law, Carluke.

The SECRETARY intimated that in response to the form of agreement, and petition to members of Parliament and Government which had been circulated amongst the practitioners in the Division, 122 promises of support had been received, the total number of practitioners resident in the area being 200. He explained that the list he had received was rather imperfect, and that several of the replies received would have to be consigned to their correct Division. Only one form had been returned with the second portion, that is the petition to Parliament and Government signed, and the first portion unsigned.

On the motion of Dr. LOUDON, seconded by Dr. WILSON, it was agreed to appoint a deputation to bring the views of the Division before the various members of Parliament. The following Committee was appointed; in each case the convener of the committee to be the doctor resident in the Parliamentary constituency:

1. For Mid-Lanark, Dr. MacNay, Larkhall.
2. For North-West Lanark, Dr. Donald M'Phail, Whifflet.
3. For North-East Lanark, Dr. John Goff, Bothwell.
4. For South Lanark, Dr. J. MacKenzie, Douglas.
5. For Falkirk Burghs, Dr. Livingstone Loudon, Hamilton.

With a view to canvassing all the practitioners resident in the Division area, it was moved by Dr. LOUDON, seconded by Dr. MARSHALL, and agreed to, that the gentlemen who had already been appointed on the Parliamentary Committee should be the conveners of the Canvassing Committee. They were instructed to add to their number any members of the Association whom they thought fit, to help them in making a complete canvass of the whole Division area. The Chairman intimated that several medical men had offered to place their motor-cars at the disposal of the Canvassing Committee when making their journeys to outlying regions. The SECRETARY was instructed to obtain copies of the amendments to the bill formulated by the Committee of the Council of the British Medical Association, and to see that they were forwarded to the conveners of the several deputations and canvassing committees.

The meeting then concluded.

CHELSEA.

AT the annual meeting of the Chelsea Division of the British Medical Association on June 27th the National Insurance Bill was discussed, and it was decided to appoint a deputation to interview the members of Parliament for Chelsea and Fulham. The Chairman and Secretary, and Drs. Fletcher and Wells were eventually appointed to ac as the deputation.

Dr. CAMPBELL BOYD intimated that four members of th Chelsea Clinical Society desired to accompany th deputation to the M.P. for Chelsea.

Dr. FLETCHER moved, and it was unanimously resolved:

That all medical men in the area of the Division, whethe members of the British Medical Association or not, be invite to attend all Divisional meetings for as long a period as deemed expedient.

WOOLWICH.

THE Woolwich Medico-Chirurgical Society, at its meetin on June 13th, unanimously passed resolutions approvin the policy of the Association in regard to the Nationa Insurance Bill.

RICHMOND (SURREY).

A SPECIAL meeting of the Richmond Division of th British Medical Association, to which all registered prac titioners in the area were invited, was held at the Tow Hall, Kingston-on-Thames (by kind permission of th Mayor), on Friday, June 30th.

Dr. G. J. MAGUIRE (Chairman of the Division) pre sided, and, notwithstanding the widespread boundaries o the Division, which extends along the Thames Valley fro Barnes to Shepperton, sixty-five practitioners attended, o whom forty-eight were members and seventeen non-mem bers. In addition sixteen letters of apology for absenc were received, all expressing sympathy with the resolu tions generally, but in two instances opposing a 30s. wag limit.

The CHAIRMAN, in opening the proceedings, briefly state the principles of organization of the British Medical Asso ciation, and explained that the Executive Committee o the Division had spent considerable time in drafting th resolutions printed on the letter of invitation, and whic he would ultimately formally propose. The resolutions, h explained, would, if approved by the meeting, be an instru tion to a deputation appointed by the Division to wait o the members of Parliament, a portion of whose con stituencies were in the area of the Division—namely George Cave, K.C., M.P. for the Kingston Division o Surrey; the Hon. Charles T. Mills, M.P. for the Uxbridg Division of Middlesex; and Mr. H. Joynson Hicks, M.P for the Brentford Division of Middlesex. The deputation with power to add to their number, was as follows: Drs R. L. Langdon-Down, J. R. Johnson, A. E. Evans, H. N Holberton, G. J. Maguire, G. Cardno Still, W. E. St. L Finny, and R. N. Goodman. The Chairman explained that letters had been received from each of the members o Parliament referred to, stating that they would receive the deputation, and that they were in communication with each other with a view to arranging a joint interview, and to fix a date. The resolutions on the agenda were pu *seriatim* by the Chairman, duly seconded, and, after amendment, were carried unanimously.

1. Free choice of doctor by patient, subject to consent o doctor to act.
2. Medical and maternity benefits to be administered by local Health Committees, and not by friendly societies.
3. Adequate medical representation among the Insurance Commissioners on the Central Advisory Committee and on the local Health Committees, and statutory recognition of a local Medical Committee, representative of the profession in the district of each Health Committee.
   By adequate representation on the Health Committee is meant that on the local Health Committee the proportion of local medical men elected shall not be less than one-fourth.
4. Compulsory insurance for medical benefits should not apply to persons whose total income exceeds 30s. per week and no voluntary contributors should be included in the bill.
5. That the remuneration of the doctors should be for work done, and that for purposes of ascertaining the amount of money to be set aside for the proper payment of these services, the calculation of the Government should be based on a scale not lower than that adopted by the National Deposit Friendly Society.
6. Failing the acceptance of these conditions by the Government, that medical benefits should be entirely omitted from the bill.

No. 1, the free choice of doctor, was carried without discussion; No. 2 was considered by some to be ambiguous but after discussion and explanation was allowed to stand in its original form. A Member here interposed a question

about compensation for loss by practitioners adhering to the policy of the Association. The CHAIRMAN answered that though the question of compensation was no part of the bill, it had not been forgotten by the Association; and he referred the questioner to the letter of the Medical Secretary, dated June 21st, sent to all practitioners. Some doubt was thrown by one speaker on the value of control by local Health Committees, but it was explained that some medical representation would be got through such committees, but probably none through friendly societies.

No. 3 produced a good deal of discussion and one or two minor amendments, but was ultimately carried as above.

It was evident that the meeting was not unanimous on the question of the wage limit. Able arguments were brought forward by the advocates of the 30s. and 40s. limits respectively. It was considered by many that in the event of payment by capitation, the higher the wage limit the higher the capitation grant would need to be. The CHAIRMAN ruled that a show of hands should be taken, and this being done, declared the result in favour of the 30s. limit by 2 to 1. During this discussion a member strongly urged non-members to join the Association, emphasizing the importance of unity, and stating that Mr. Lloyd George had supplied the mortar which should be utilized for cementing the bricks. A non-member supported this appeal, and stating that it was his intention to join forthwith.

Nos. 5 and 6 were carried without opposition.

Resolution.—Mr. H. N. HOLBERTON had given notice to move the following resolution, which after amendment was seconded by Mr. H. COOPER and carried unanimously:

> That this meeting of medical men in the area of the Richmond Division of the British Medical Association agree to accept the policy of the Association, and individually pledge themselves not to accept service under the National Insurance Bill until the conditions of such service are accepted by the British Medical Association.

The CHAIRMAN asked if the meeting had any other names to suggest for the deputation which was to wait on members of Parliament, but no names were forthcoming. The deputation afterwards, however, agreed to exercise its power and add the name of Dr. Owen Coleman of Surbiton to their number. It was pointed out that a small portion of the Division lay in the Esher parliamentary division of Surrey; and the Honorary Secretary was instructed to write to Mr. W. Keswick, M.P., and inform him of the proposed deputation and request him to give them an audience at the same time as the other members of Parliament referred to.

Vote of Thanks.—A hearty vote of thanks was accorded to the Mayor of Kingston for the use of the room, and to the Chairman for presiding.

SEVENOAKS.

AT a general meeting of the Sevenoaks Division of the British Medical Association, held on July 1st, the Representative of the Division, Dr. TENNYSON SMITH, delivered an address on the subject of the National Insurance Bill, after which it was moved by Dr. MAUDE (Westerham), seconded by the President, Dr. WALKER (Ightham), and carried unanimously:

> That this meeting of the Sevenoaks Division of the British Medical Association, having heard the proposals of the Representative Body, cordially supports them, and further, in the event of the Government not incorporating these principles in their bill, the members do pledge themselves jointly and severally not to take any office under the Act.

ASHFORD.

AT the annual meeting of the Ashford Division of the British Medical Association, held on June 30th, the National Insurance Bill was considered. Mr. F. COKE opened the discussion by reviewing the chief points of the bill, pointing out their probable effects upon medical practice. Drs. BENTLEY, LITTLEDALE, and WILKS, and Messrs. HICKS and VERNON joined in the discussion. On the motion of Mr. COLVILLE, seconded by Mr. HICKS, the following resolution was carried unanimously:

> That this meeting of the Ashford Division pledges itself to support the policy of the British Medical Association.

Mr. COLVILLE proposed, and Dr. LITTLEDALE seconded:

> That a deputation, consisting of the Chairman, Vice-Chairman, and Secretary, with Dr. Wilk, be appointed to approach the Right Honourable Lawrence Hardy, M.P., and ask him to promise either to put down in his own name or to support the amendments to the bill desired by the British Medical Association.

This was carried unanimously.

TORQUAY.

AN intermediate meeting of the Torquay Division of the British Medical Association was held at the Newton Abbot Hospital on June 30th. Dr. VICKERS was in the chair. Forty-five medical men were present, among whom were non-members. Letters and telegrams were received from five other members regretting their inability to be present.

The HONORARY SECRETARY read a report as to the results of canvass by letter of the profession in the neighbourhood. Ten non-members resident in the Division had promised to join the Association. With reference to the undertaking and memorial sent out by the Association, the Secretary reported that there are 116 medical men practising in the Division; 107 men had signed, three, while regretting not to be able to do so, stating that they were with the profession in their views, and six members had not answered the letter. Two of these six practise homoeopathy.

The CHAIRMAN then opened a discussion on the National Insurance Bill, and Dr. YOUNG EALES, of Torquay, proposed the following resolution:

> That this meeting should endorse the policy of the British Medical Association as laid down in their letter accompanying the declaration and memorial.

This resolution, after some discussion and speeches calling for a firmer attitude of the Association, was carried unanimously. It was obvious that one or two members of meeting considered that any concession to the framers of the bill was a sign of weakness on the part of the profession.

The CHAIRMAN then said a few words on the proposed guarantee fund, and it was decided that the Secretary should send a circular letter to members of the profession asking for their support.

A discussion was then opened as to the best way to approach members of Parliament in the Torquay Division. Letters were read from Colonel Burn, M.P. for Torquay, and Captain Morrison Bell, M.P. A deputation was formed of three medical men, together with the Chairman and Secretary, and it was decided that these gentlemen should wait on the three members of Parliament and lay before them the amendments as received from the head quarters of the British Medical Association.

A resolution was then passed thanking the Board of the Newton Abbot Hospital for the use of their Board Room, and the meeting then adjourned to tea, kindly provided by the matron of the hospital.

WEST SOMERSET.

THE sixty-ninth annual meeting of the West Somerset Branch of the British Medical Association was held at Taunton on June 30th. Dr. J. A. MACDONALD fully explained the policy of the Association on the National Insurance Bill, and the resolutions approved by the Representative Meeting on June 1st (SUPPLEMENT, June 10th, p. 404) were unanimously carried.

It was unanimously resolved that copies of the resolutions be forwarded to the local members of Parliament, and that they should be approached, when possible, as to their opinions.

WINCHESTER.

AT the annual meeting of the Winchester Division of the British Medical Association, held at Winchester on June 27th, the National Insurance Bill was discussed and the following resolutions passed unanimously:

1. That the medical practitioners in the Winchester Division, while heartily approving the declared objects of the National Insurance Bill and anxious to make the measure a success, are determined not to accept service under the Act unless it is amended in such a manner as to provide satisfactory conditions of working and adequate remuneration to the medical profession.

2. That all present at this meeting pledge themselves not to accept any post under the National Insurance Bill without first communicating with the Executive Committee of this Division and receiving an assurance from the committee that the conditions of service and rate of remuneration are satisfactory to the majority of the local profession.
3. This meeting is resolutely opposed to the control of medical benefits under the Act by friendly societies, and would refuse to accept any post under such conditions.
4. That any scheme of national medical insurance, in order to provide satisfactory conditions of working and to secure the whole-hearted support of the medical profession, must contain the following provisions:
   (*a*) Free choice of doctor by the insured, subject to doctor's consent to act.
   (*b*) Control of service by local Health Committee in conjunction with an advisory committee of local practitioners vested with certain statutory disciplinary powers.
   (*c*) Adequate representation of the medical profession on the Insurance Commission and all bodies and committees connected with the administration of the medical benefits under the Act.
   (*d*) The establishment by the local Health Committee of a panel of reputable practitioners open to all the local profession who are willing to perform the work.
   (*e*) Adequate remuneration, with allowance of special fees for special services, such as night calls, operations, midwifery, fractures, dislocations, mileage, etc.
   (*f*) The medical benefits of the Act shall be limited to those of the insured whose total income does not exceed £100 per annum.

This meeting agrees to recognize the Executive Committee of the Winchester Division as the body representing the local profession for the purpose of taking the necessary steps to secure the above-stated modifications in the National Insurance Bill, and the members pledge themselves to follow the advice and policy of the British Medical Association, and to stand loyally by one another.

That we individually and collectively pledge ourselves to resign any friendly society appointment for medical attendance which we at present hold, and to decline any similar appointment which may be offered, if required to do so by the British Medical Association.

A list of 101 medical practitioners in the district who had signed the undertaking and memorial of the British Medical Association was before the meeting.

NORTH LINCOLNSHIRE.

A LARGELY attended and enthusiastic meeting of medical men practising in Grimsby, Cleethorpes, and North Lincolnshire was held, under the auspices of the British Medical Association, on June 28th. The report of the Representative of the North Lincolnshire Division on the Special Representative Meeting held in London on May 31st and June 1st to consider the National Insurance Bill as it affected medical men was read as follows:

The National Insurance Bill now before Parliament vitally affects the medical profession. There are few, if any, medical practitioners whose present position and future prospects will not be gravely affected by the bill if enacted in its present form. The numerous meetings which have already been held throughout the country show how widely the profession realizes the position, and realizes also that only by the unanimous acceptance of a definite policy, and by its united action to carry that policy into effect, can the interests of the profession be protected in this vital matter. To impress the Government, to impress Parliament, to impress public opinion with the justice of our case, individual preferences must be sunk, and the common aim made paramount.

Foreseeing the crisis with which the profession was about to be faced, the British Medical Association has made during the last twelve months a most careful study of the general question of sickness assurance, and has taken every means in its power to ascertain the opinion, not only of its own members, but of every member of the profession. Meetings have been held in every part of the United Kingdom for the discussion of the subject, and the opinions voiced by these meetings have been brought to a focus in a Special Representative Meeting, attended by delegates from every part of the country, which was held in London, as stated above.

Giving effect to the instructions which they had received from their respective constituents, and after discussing the bill with the Chancellor himself, the Representatives unanimously arrived at a statement of policy upon the many matters which require the consideration of the profession. The chief points upon which the profession should insist were those adopted by the Special Representative Meeting (see SUPPLEMENT, June 10th, p. 404).

After this report had been discussed, the following resolutions were carried unanimously:

1. That this meeting approves of the policy of the British Medical Association, drawn up by the Special Representative Meeting, and pledges itself to do all in its power to support that policy.
2. That this meeting approves of the form of undertaking submitted by the central authorities of the Association, and asks all members of the profession in the divisional area to sign it.
3. That, while approving the main objects of the bill, and being desirous of co-operating for their attainment, nevertheless, in view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.
4. That, in the opinion of this Division, payment for work done is the only satisfactory method, in the absence of any statistics on which to base a capitation grant, and that, if after five years a man can prove to his employers or to the local Health Committee, that he is insured with a good friendly society or commercial company for benefits at least equal to those which the State proposes to grant he ought to be free from interference.

A strong committee was appointed to look after medical interests in the event of the bill going through, and a deputation appointed to wait on the members for the district and press on them the views of their medical constituents.

The HONORARY SECRETARY (Dr. G. A. Grierson, Dudley Street, Grimsby) intimated that the Association's undertaking to abstain from State service until permission had been given by the local Division of the British Medical Association, had been signed by almost every doctor in the divisional area.

ST. HELENS.

A MEETING of the medical men in St. Helens and district was held on June 9th, under the auspices of the St. Helens Division of the British Medical Association, to consider the attitude of the profession towards the Insurance Bill, when there were present: Drs. Reid, Bassett, Merrick, Jackson, O'Keeffe, Donnellan, Wilson, Holden, E. J. Fox, J. S. Fox, Dow, Tough, G. Cooke, Officer, Challoner, Masson, Bates, Unsworth, Knowles, R. Cook, Graham, Liddall, Cotton, and Buchan, of St. Helens; Drs. Youatt, Wild, Brindle, and Green, of Prescot; Drs. Thomson, Jackson, and Dowling, of Haydock; Drs. Valentine and Latham, of Earlestown; Dr. Watkins (Newton), Dr. Brown (Rainhill), and Dr. Larkin (Liverpool). Dr. Fox (Accrington) was present as a visitor. Apologies for absence were intimated from Dr. Street (Newton) and Dr. Prosser (Rainford).

Dr. REID, of St. Helens, was voted to the chair, and letters were read from Mr. Rigby Swift, M.P., and Lord Wolmer, M.P., regretting they could not be present at the meeting, but promising to give their careful consideration to any resolutions passed.

Mr. LARKIN, of Liverpool, then gave an address on the Insurance Bill, and dealt in detail with the policy of the Association in relation thereto. On the motion of Dr. BASSETT resolutions were passed unanimously supporting the six principal points in the policy of the Association. It was further resolved that the members of Parliament for St. Helens and for the Newton and Ormskirk Divisions of Lancashire be approached so as to get their support to the policy, and Drs. Bates, Bassett, Jackson, Reid, O'Keeffe, Watkins, Dowling, Youatt, Wild, and Buchan were appointed a deputation to wait on these members.

The meeting was most enthusiastic and unanimous, and closed with a vote of thanks to Dr. Larkin for his address.

BOOTLE, LIVERPOOL.

THE annual meeting of the Liverpool (Bootle) Division was held at the Masonic Hall, Merton Road, Bootle, on June 30th. The chair was taken by Dr. WATERS, eight members being present. The financial statement was presented by Dr. WATERS, who acted as Secretary and Treasurer *pro tem.*, in place of the late Dr. Daley. The following were elected to the respective offices for the ensuing year:

Chairman, Dr. Anderton, Ormskirk.
Vice-Chairman, Dr. Waters.
Secretary and Treasurer, Dr. Walker.
Committee, Drs. Turner, Sumner, Stevenson, Dunn, Wills, and Eminson.
Branch Representative, Dr. Dunn.
Representative at Representative Meetings, Dr. Waters.

Dr. WATERS presented his report of the Special Representative Meeting on May 31st and June 1st last, in which he emphasized the salient points of the National

Insurance Bill to which the medical profession as a whole entertains the strongest objections. He further gave an account of the visit of the Chancellor of the Exchequer to the meeting and his own impressions of the conference.

The remainder of the meeting was devoted to a discussion of the National Insurance Bill in its medical aspects, and it was finally resolved by the meeting that, failing agreement on the wage limit of £2, the Representative be instructed to support a wage limit of 30s. per week at the Representative Meeting.

It was further resolved that the Division was in favour of payment being made to doctors under any sickness insurance bill according to a scale to be fixed by the local supervising committee.

YORKSHIRE.

IN response to requests received from the Bradford, Halifax, and Huddersfield Divisions, and from members of other Divisions, a special meeting of the Yorkshire Branch of the British Medical Association was held at Leeds on June 28th to consider the National Insurance Bill, now before Parliament, notice of which was sent to all members of the medical profession within the area of the Branch. The meeting was presided over by Dr. CHURTON, and was attended by over 600 members of the medical profession. A large number who were unable to be present wrote expressing their sympathy with, and approval of, the resolutions to be submitted.

The following resolutions, proposed by Mr. PYE-SMITH and seconded by Dr. EDDISON, were carried with two dissentients:

1. That this meeting of the Yorkshire Branch of the British Medical Association calls on all members of the Branch to decline service under the proposed terms of the National Insurance Bill now before Parliament.
2. That, as those concerned in framing the National Insurance Bill, and many of its supporters in Parliament do not seem to realize the disastrous effects which its adoption would produce on medical practice, medical education, and medical charities, this meeting of the Yorkshire Branch begs respectfully to call the serious attention of all members of Parliament representing constituencies within its area to the subject.

It was further decided that a copy of these resolutions be sent by the Honorary Secretary to each of the members of Parliament therein referred to, and to the principal newspapers within the area of the Branch.

A long discussion subsequently took place, and ultimately the two following resolutions were passed. The former proposed and seconded by Drs. PRIESTLEY LEECH and J. J. BELL, and the latter by Drs. D. J. MACAULAY and WM. MITCHELL.

A. That this meeting of medical practitioners in the area of the Yorkshire Branch of the British Medical Association pledges itself not to accept any form of contract practice under any National Insurance scheme.

B. That the British Medical Association be called upon to raise, without delay, a special fund of at least £100,000, to be vested in trustees, and to be used for the purpose of subsidising those members of the profession who may suffer financially from loss of club appointments.

STOCKPORT.

A SPECIAL meeting of the Stockport and District Medical Society was held on Tuesday, June 27th, when the following resolutions were passed:

That this society supports the policy adopted by the British Medical Association towards the medical provisions of the National Insurance Bill, pledges itself not to accept such bill, unless the demands of the Association are fulfilled, and regrets that the policy formulated is not stronger.

That the society approves of the six recommendations of the British Medical Association, but suggests that for a district like this the income limit should be 30s.

BISHOP AUCKLAND.

A MEETING of the Bishop Auckland Division of the British Medical Association was held on June 29th at the Wear Valley Hotel. In addition to Dr. KANE, the President, and Dr. Hernaman-Johnson, the Secretary, the following practitioners were present: Drs. Beattie (Butterknowle), Brown (Shilden), Brown (Wellington), Caldwell (Crook), Campbell (Camden), Ellis (Bishop Auckland), Farquharson (Spennymoor), C. MacCullagh (Bishop Auckland), Naismith (Low Law), Petullo (Spennymoor), and Smeddle (Shilden).

Letters of apology were read from several members, expressing regret at being unable to attend, and binding themselves to abide by any decisions which might be arrived at. The undertaking recently issued by the head quarters of the British Medical Association was discussed, and a resolution was carried unanimously binding each member present to accept no work under the National Insurance Scheme without the approval of the Division.

The SECRETARY intimated that, in addition to those present, twenty-three other medical practitioners in the district had signed the British Medical Association undertaking, making thirty-six in all to date.

NORTH LANCASHIRE AND SOUTH WESTMORLAND.

THE annual meeting of the North Lancashire and South Westmorland Branch of the British Medical Association was held in Lancaster on June 28th.

Dr. F. E. DANIEL and Dr. BLAIR addressed the meeting on the National Insurance Bill, and gave an account of the proceedings of the Special Representative Meeting. On the motion of Dr. H. F. OLDHAM, seconded by Dr. P. F. MANNIX, it was resolved:

That this meeting endorses the resolutions of the Special Representative Meeting of June 1st and pledges itself to support any action that the Association may take to secure their acceptance by the Government.

It was further resolved, on the motion of Dr. A. E. THOMPSON, seconded by Dr. J. LIVINGSTON:

That this meeting views with regret and alarm the endeavour of the Government to force a scheme of contract practice upon the profession, and urges the Association to obtain adequate remuneration on the basis of work done.

NORTH NORTHUMBERLAND.

A SPECIAL meeting of the North Northumberland Division of the British Medical Association called by the Secretary, to which all the medical men practising in the Division were invited, was held at the Infirmary, Alnwick, on June 30th for the purpose of discussing the National Insurance Bill; an attendance of nineteen proved the interest taken in the subject, and resolutions were passed and measures taken to acquaint the member for the Division, Sir Edward Grey, with the strong feeling of his medical constituents against the bill as it now stands. The requisition to Sir Edward Grey was signed by every medical man in the constituency. A copy of the proceedings at this meeting was sent to every medical man, every vicar, and to most of the persons of influence in the Division, so that the public should be made aware of the feeling of the profession. On the motion of Dr. DAY, seconded by Dr. WATSON, it was proposed that a defence fund be formed, the details to be arranged by the Secretary and sent to the members.

JERSEY.

AT the quarterly general meeting of the Jersey Division of the Southern Branch of the British Medical Association, held on June 27th, the SECRETARY read a paper entitled "Remarks on the Present Medical Position in Relation to the National Insurance Bill," adding some observations on the question as to how medical practitioners in the Channel Islands might be affected by the bill should it pass into law. In the discussion which followed, approval of the general policy of the Association on the question was expressed.

THE CHARITY ORGANIZATION SOCIETY.

THE following resolution has been adopted by the Council of the London Charity Organization Society:

That in view of the extremely complicated nature of the National Insurance Bill, the immense importance of the interests involved in it, and the fact that it seeks to introduce principles and methods entirely novel in the administration of this country, the results of which it is not easy to forecast, but which may in the gravest manner affect the well-being, character, and independence of the wage-earning classes, it is in the opinion of the Council of the Charity Organization Society indispensable that the measure should not be pressed forward until such ample time has been given to inquiry and discussion as cannot possibly be secured in the present session of Parliament.

EFFECT ON HOSPITALS.

Lancashire, Cheshire, and Derbyshire.

A meeting of representatives of voluntary hospitals of Lancashire, Cheshire, and Derbyshire was held last week in the Manchester Town Hall to consider the National Insurance Bill in its relations to voluntary hospitals. There were present seventy-two representatives of the hospitals of twenty-six of the chief towns of the three counties, the meeting being presided over by Sir William Cobbett, Chairman of the Board of Management of the Manchester Royal Infirmary. In a memorandum presented to the meeting it was stated that if the bill passed in its present form, all kinds of donations and subscriptions to the voluntary hospitals would decrease, and unless there were some satisfactory provision to supply the deficiency so caused, the hospitals would either have to close their doors or to lesson the scope of their work. Clause 17 of the bill did not make satisfactory provision for the deficiency that would occur. It was held that hospital treatment for disease and accident of insured persons should be made a benefit under the bill, and placed on the same footing as the treatment of tuberculosis in sanatoriums. It was also suggested that Clause 15 (1) should be amended so as to direct local Health Committees to make similar arrangements with managers of hospitals for the treatment of insured persons entitled to hospital benefit, as the clause now directed shall be made with the managers of sanatoriums for persons entitled to sanatorium benefit, but that no charge should be made by the hospitals unless the last published accounts showed a deficiency on the previous year's working. Further that such institutions and their officers, nurses, and servants should be exempted from liability under the bill.

Sir Wm. Cobbett explained that the meeting had been summoned in accordance with a request made at a meeting of the British Hospitals Association. The Chancellor of the Exchequer had expressed an opinion that the bill would not affect the hospitals, but he had arrayed against him the practically unanimous opinion of hospital governors and managers, which was that the injury done to such institutions by the bill would be very serious. The workmen who would come under the insurance scheme were substantial contributors, and their assistance, combined with that of their employers, was considerable. By dealing with these aids at the source the bill could not fail to hit very hardly the contributions coming to the hospitals from the factory and workshop.

After some discussion, Sir Frank Forbes Adam, Chairman of St. Mary's Hospital, Manchester, proposed, and Mr. W. P. Park, Chairman of the Preston Royal Infirmary, seconded, a motion that a memorial should be sent to the Chancellor of the Exchequer in the terms approved by a subcommittee of the British Hospitals Association on behalf of the voluntary hospitals of Great Britain and Ireland. The motion was carried unanimously. The memorial urges that any adequate scheme for medical attendance for the working classes involves the provision of hospital accommodation for persons suffering from serious or unusual diseases, or in need of operative assistance; that the voluntary hospitals are at present supplying this need at an annual cost of nearly £4,000,000, exclusive of interest on the cost of buildings; that all the medical schools of the country depend for their efficiency upon voluntary hospitals, and that all such hospitals should be recouped for the expenses which they may actually incur in the treatment of persons voluntarily or compulsorily insured under the bill.

PROVIDENT DISPENSARIES.

A conference of representatives of dispensaries in London and the provinces was held on June 28th. Letters were read from dispensaries in many parts of the country. The feeling was unanimous that the National Insurance Bill as it stood would be most prejudicial to dispensaries, whether they were provident or free, and in many cases would practically destroy them. It was pointed out that in some towns as many as a third or more of the population were members of provident dispensaries. A committee was appointed to communicate with dispensaries throughout the country with a view to their concerting measures for submitting their case to the Chancellor of the Exchequer. The following resolution was passed unanimously:

> That, in the interest of many hundred thousands of the working classes who receive medical aid from dispensaries all over the country, it is most desirable that these institutions, many of which have existed for very many years, and are approved by the medical profession, should be utilized for the administration of medical benefits under a national insurance scheme.

THE UNDERTAKING AND THE MEMORIAL.

Glasgow (North-Western) Division.

We are requested to state that, owing to a printer's mistake at head quarters, many envelopes were sent to members of other Divisions addressed to Dr. Caskie, the Secretary of the Glasgow (North-Western) Division. Many of the recipients of these envelopes, in addition to forwarding to Dr. Caskie the form of undertaking and their signature to the memorial, also sent letters to which Dr. Caskie found it impossible to reply, and he hopes that the writers will take this as a general acknowledgement.

CORRESPONDENCE.

Contract Practice.

G. P. writes to criticize the calculation contained in the letter by Dr. James Ross, published in the Supplement, June 24th, p. 482. Dr. Ross stated that during 1910 he received for attending 100 "sound" patients whose incomes are below £2 a week £150; that the cost of dispensing was £15, leaving a net profit of £135. As to this, "G. P." writes: Dr. Ross argues that it does not require an actuary to calculate that under the new scheme he would only receive £20, and that he would have to attend another 575 patients to make up his £135. It does not seem to have occurred to Dr. Ross that for his 100 sick patients he would be paid under the national insurance scheme a capitation fee for 1,000 insurers (assuming it to be a fact, as I believe statistics show, that the number of sick persons in a community is roughly 10 per cent. per annum). This would amount to £300 at 6s. a head. Take from this his own estimate of £15 for drugs, etc., and it leaves him a profit of £285 instead of his present obviously small fee profit of £135, so that admitting the accuracy of his own calculation if he were working under the new contract scheme, and had on his list only 2,000 names, he would earn £570 profit per annum instead of £270 under his present system of payment for work done.

A practice which only caters for a population of 2,000 in working-class districts is a very small one. Now, consider a larger one which caters for 4,000 persons—this would bring in a gross income of £1,200. It can be shown that roughly 400 of these will come under treatment in the course of the year. I believe statistics show that the average number of days of sickness of those claiming sick pay in the friendly societies is about 14 each in a year. Supposing that four visits are paid the first week and three in the second—a very fair allowance—the total number of visits to be paid per annum works out at $400 \times 7 = 2{,}800$—divide this by the number of days in the year, 365, and the number of visits to be made comes to roughly only eight per day. What would an ordinary small fee practice earn under similar circumstances?

In my early days I assisted a practitioner in a colliery district in South Wales, and he made a gross profit of about £2,400 a year on the poundage system, that is, 2d. in the £ deducted from the man's wages each week by the employers and paid direct to him. We had there a fairly comfortable time, and our visits were rarely more than twenty a day. Just after this I assisted a practitioner who had a large small fee practice in a mill town in Yorkshire. He made, approximately, about the same income, or rather larger, and our life was, to express it mildly, unbearable. Our visits numbered about eighty a day. We were at work incessantly from morning to night, rarely had an unbroken night's rest, and the number of bad debts was enormous, notwithstanding the fact that he had to employ two collectors constantly at work. To my mind far the most satisfactory method of contract work is by the poundage system, and, if this could be adopted, the question of a wage limit would not bother us. Cannot those who have large contract practices be induced to give their opinion on the subject?

They are the real experts, and in the hope that the British Medical Association will listen to them is my apology for troubling you with this long letter.

NATIONAL MEDICAL SERVICE.

Mr. W. B. CLARK, M.B., B.S. (Chelsea), writes: At the present moment we have the majority of the medical men in the country in revolt against a further extension of the contract system, but in spite of their protests this extension will in all likelihood occur, bringing in about 14 millions of the population under contract rates. It is extremely probable also that in the future it will be extended to wives and children, which will bring in about three-quarters of the population to be medically treated under this system. Recently there has been a deputation from the British Medical Association to Mr. Runciman, complaining of the inefficient way in which the medical inspection of school children was being carried out by the London County Council, and the insufficiency of special clinics for their treatment. We may also have a break-up of our present Poor Law system and the medical relief undertaken by a separate body for that purpose.

We will therefore have in the future the State directly or indirectly employing the bulk of the medical profession —some under the Insurance Acts, some as medical officers of health, some as medical inspectors of school children, some employed by the Metropolitan and County Asylums Boards and fever hospitals, some in the workhouse infirmaries—all under no central authority, and with no precautions against overlapping and waste. Would it not, therefore, be better to have a thoroughly organized national medical service, similar to our civil and Indian medical services? This would co-ordinate and consolidate the above-mentioned various medical appointments. The fact that a large proportion of our best men seek to enter the Indian Medical Service shows how enticing are the prospects of a fixed income and a pension compared to the worries of a general practice.

The co-operation that would ensue under a State medical system would give the medical man ample time for the scientific side of his profession and his recreations, and to the public a thoroughly efficient medical service.

FREE CHOICE OF DOCTOR.

Dr. MAURICE JACOBS (Hull) writes to express the opinion that the Memorial of the British Medical Association (SUPPLEMENT, July 1st, p. 1) contains clauses which, if carried out, would bring ruin to many club doctors. He also takes exception to a passage in an editorial article (p. 5) to the effect that under free choice of doctor the club doctor, if he were popular, would only lose a few of his dissatisfied patients and be better without them. Dr. Jacobs writes: In the large centres a doctor's club patients are scattered about in every quarter of the town at wide distances. Nobody who knows anything of the working classes can doubt that, quite apart from dissatisfaction, the majority of these will seek the services of the nearest man. There are a dozen other factors which would tend to the ruin of the club doctor under "free choice."

THE LONDON COUNTY COUNCIL.

REPORTS AND SUGGESTED AMENDMENTS.

VARIOUS London County Council Committees reported at the meeting of the Council on July 4th as to the effect on local administration—particularly with regard to public health matters—of the proposals contained in the National Insurance Bill.

Public Health Administration.

The Parliamentary Committee, in a long report summarizing the opinions of the different committees of the Council, urged that the general powers of oversight and the independent powers of initiation proposed to be given to the local Health Committees which the bill set up would only be regarded as an encroachment on the functions of the Council. The interposition of an independent authority between the Council and the central authority in public health must be viewed with concern; it was entirely new to the system of local government, and was unnecessary for securing the due performance of the public health duties at present entrusted to the Council and the local sanitary authorities—the metropolitan borough councils. The Public Health Committee expressed the opinion that it was inadvisable to set up a new authority having public health powers in the administrative county, and that the powers and duties proposed by the bill to be entrusted to the local Health Committee should be conferred, in London, upon the County Council, acting through a committee, provided that representation on such committee should be given approved societies and deposit contributors. The committee, however, noted the remark made by the Chancellor to the deputation from the Associations of County Councils and Corporations on June 27th that such an arrangement would be "impossible." Criticizing the composition of the local Health Committees, the report stated that the representation proposed to be given to the Council, consisting of less than one-third, would place upon the Council some responsibility for the committee's administration, though it was insufficient to give the Council an effective voice. While the representation of the Council on the local Health Committee might be adequate as regards the administration of the Post Office fund, it was clearly inadequate for the purpose of the duties in connexion with medical and sanatorium benefits and other public health duties with which the local Health Committee would be charged. The position of this proposed independent county authority in the scheme of local government was anomalous. It would have powers and duties which either properly belonged to local government authorities, or could be conveniently and efficiently performed by them. Its funds, so far as it could have any funds other than those derived from the insurance fund, must be obtained from the county ratepayers, whose representatives would be in a minority on the local Health Committees. The funds must be obtained from contributions made by the bodies whose actions in matters of public health the local Health Committee would criticize and stimulate. On these grounds the new committee appeared to be an unsuitable body for the purpose it was intended to serve. The setting up of such an authority would cause overlapping of jurisdiction and duplication of administrative machinery, and if any additional public health powers of the kind in question were required in London they should be entrusted to the Council.

Sanatoriums.

With regard to the provision of sanatoriums, the report observed that the matter was apparently left by the bill optional to the Council, but it might be anticipated that public opinion would virtually compel the exercise of the powers. The provision in the bill for the recovery of expenses from a local authority in default added a new complication to an already complicated system of local taxation. The clause stating that the medical officer of health of the county, at the request of the local Health Commitee, might attend meetings of the committee, might lead to difficulties of administration.

Effect upon the Council's Medical Services.

The work of administering the provisions of the Education (Administrative Provisions) Act, 1907, in relation to the medical treatment of school children could not but be profoundly though indirectly affected by the bill, which would entirely revolutionize the conditions of medical treatment and relief existing among the whole of the elementary school population. The wage-earning classes would be brought universally into relation with medical practitioners, and the present haphazard methods would be superseded by a definite organization. The hospital system must be affected. Voluntary funds dependent on workers and employers, like the Hospital Saturday Fund, would disappear. The need of charitable relief for the working population, which was the *raison d'être* of the hospitals at present, would no longer exist. The hospital out-patient departments, so far as adults were concerned, would largely disappear, just as in-patient institutions and hospitals must come eventually under the supervision or control of the local Health Committees. Under these conditions, on the one hand the out-patient departments would be freed to undertake the work of medical relief of school children, and on the other hand very serious objections to subsidizing charitable institutions which were under no official supervision or control would vanish. The disap-

pearing (voluntary) funds would practically throw much of such hospital provision open to new arrangements, and make support from public funds necessary. Under the bill local Health Committees were to have considerable powers of subsidizing institutions for medical treatment, and under Clause 47 provision for the erection of such institutions by local authorities was foreshadowed. For many purposes clinics must be established locally to deal with special branches of medical relief. As such fundamental changes would take place inevitably under the bill in the organization of medical relief amongst the working classes, the Council's position with regard to the treatment of school children could not fail to be seriously affected. To secure unity, economy, and efficiency it would almost be necessary eventually for the Council to link up its organization with that of the local Health Committees, and conjointly with them to arrange for the establishment or subsidy of institutions for medical relief, the local Health Committees being responsible for that share of the cost which would be expended in the medical relief of workers under the insurance scheme, and the Council for that share expended in the medical relief of school children. It seemed, therefore, that the Council would be well advised in avoiding any permanent commitments and in looking upon all present schemes for medical treatment as provisional until the great reorganization of the medical relief of the working classes foreshadowed in the bill had been carried into effect.

Finance.

The Finance Committee, reporting concurrently upon the financial provisions of the Insurance Bill, emphasized the point that the Council should not be in the position of being forced to make up deficiencies incurred by a local Health Committee without having some control over the operations that had led up to a deficiency. The clause, which imposed a serious potential liability upon the Council and local authorities in the event of excessive sickness due to bad housing or insanitary conditions, even if workable, was quite unsuitable for London. The ratepayers of the county as a whole might be heavily penalized as a result of the default of a borough council as sanitary authority, and the County Council might be involved in large expenditure on account of epidemics which it had no power to prevent. With regard to Clause 14, Subclauses 4 and 5, providing that the County Council and the Treasury shall each make good one-half of any deficiency "reasonably" incurred by the local Health Committee, the Finance Committee noted that the Chancellor had said to the deputation from the Association of Municipal Corporations that "local Health Committees had no right to hypothecate either rates or taxes for the purpose of expenditure without the full and unfettered consent of the county council and the Treasury," but this declaration did not appear to be consistent with the assurance to the medical profession in the Chancellor's speech to the British Medical Association on June 1st. On that occasion he suggested very specifically that the local Health Committees had behind them the rates and taxes in case their funds for medical benefit were insufficient. It appeared to the Finance Committee to be very doubtful whether in actual practice the local authorities would have any real discretion in the matter under the bill as it now stood. The position would resolve itself largely into making good a deficiency brought about by past action, unless the local authorities were consulted at an earlier stage.

The Parliamentary Committee, though unable to adopt the suggestion of the Public Health Committee that the powers and duties of the new committee should be conferred on the Council, advised that amendments in the National Insurance Bill be sought to provide that:

1. The Council shall not be liable to make good out of the county fund one-half of any sums expended on medical benefits in excess of the amount received from the insurance fund by the local health committee.
2. The Council shall not be liable to provide or maintain sanatoriums.
3. Complaint of default by a local authority shall be made (in London) in the first instance to the County Council, which shall make any necessary order, the Local Government Board being appealed to only on default of the County Council.
4. Certain amendments relative to Part II of the bill.

The report was not reached until a late hour, when detailed consideration was adjourned for a week.

PROCEEDINGS IN PARLIAMENT.

Committee Stage.

The National Insurance Bill entered on its Committee stage on Wednesday, July 5th, in a full House of some 400 members. The decision of the Government not to propose any time limit to the Committee stage gave general satisfaction. The so-called "kangaroo" closure, no doubt, will be applied from time to time by the Chairman in order to pass over groups of amendments regarded as unimportant, but in other respects it is hoped there will be full and adequate discussion. Indeed, Mr. Buxton, in speaking for the Government against an instruction to divide the bill into two parts, said opportunity would be available for full discussion of all parts of the bill. There were fifty-six pages of amendments and ten instructions on the paper to be dealt with, after the Government had carried the suspension of the 11 o'clock rule for the day by a majority of 100. Soon after 6 o'clock the instructions were disposed of, and the actual work of the Committee began.

An amendment to bring married women within the scope of the first clause of the bill, moved by Mr. Keir Hardie (Merthyr Tydvil, Lab.), was resisted by the Chancellor of the Exchequer, and rejected on a division by 244 to 46. An amendment by Mr. Wedgwood (Newcastle-under-Lyme, Min.) to abrogate the compulsory character of the scheme was negatived without a division. Mr. Wedgwood also moved to omit the proviso that the Insurance Commissioners might, by regulations made with the approval of the Treasury, provide for including among the persons to be compulsorily insured any persons engaged in any of the excepted employments in Part II. of the Schedule. The Chancellor of the Exchequer, whilst resisting the amendment in this form, suggested that the word "regulations" should be replaced by the words, "special order made in the manner hereinafter provided." This amendment, the effect of which is that a special order must lie on the table of the House of Commons for thirty days, during which it might be objected to and in that case would not come into operation, was agreed to. Another amendment to omit the words restricting to persons wholly or mainly dependent on their earnings the right to become voluntary insurers was resisted by the Chancellor of the Exchequer and withdrawn.

Mr. Pollock (Warwick and Leamington, Opp.) proposed to include persons who had previous to the passing of the Act contributed for a period of not less than five years to a society which became an approved society. The purpose was, he said, to include members of friendly societies who, though members of the society to obtain medical benefit, were not members for the purpose of receiving full benefit. The Chancellor of the Exchequer replied that such persons would enjoy exactly the same benefit before and after the passing of the Act; and the Attorney-General said that the compulsory part of the Bill was intended to meet the case of a man who was a breadwinner, and whose income ceased when he became sick. The amendment was rejected by 234 to 105.

Mr. Leif Jones (Rushcliffe, Min.) moved an amendment to insert words with the object of allowing married women to come into the scheme as voluntary contributors. The Chancellor of the Exchequer thought it would be preferable to raise the question on Clause 34, and Mr. Ramsay Macdonald (Leicester, Lab.) asked whether on that clause it would be possible to insert a provision that a married woman who had been a contributor before her marriage might continue to be a contributor. The Chancellor of the Exchequer said that if necessary, when Clause 34 was reached, he would move to recommit the bill in order to insert words to meet hon. members' objections, and the amendment was withdrawn.

Mr. Joynson-Hicks (Brentford, Opp.) moved an amendment to limit the class of voluntary contributors to those whose total income from all sources does not exceed £160. The amendment was, he said, in accordance with the view expressed to the British Medical Association, and was desirable not only in the matter of medical benefits, but in regard to the provisions of the bill generally, the financial side of which they overweighted; there were reasons for limiting the number of voluntary contributors.

The Chancellor of the Exchequer said that it was true that every voluntary member increased the

deficiency, and it was unfair that a burden should thus be placed on industrial members by persons able to provide for themselves. The amendment also simplified matters in regard to the medical profession one of whose greatest difficulties was the apprehension that the class of patients whose payments at present enabled them to deal liberally with the poorer members of the community would be put upon contract terms. He therefore could not resist the amendment. It was agreed to without a division.

Mr. Barnes (Glasgow, Blackfriars, Lab.) moved to delete subclause 4, which excluded persons over 65 years of age not previously insured. The Chancellor of the Exchequer resisted the amendment, but said that he would not object to a scheme to form a fund to which men between 65 and 70 could contribute, to which the employers and the State would also contribute, and upon which the aged men could draw to the extent the fund would permit. That would bridge the gap between the age at which they became unable to work and that at which they would be entitled to old age pensions. In reply to questions the Chancellor of the Exchequer said that he would insert an amendment excepting deposit contributors "as hereinafter provided." In reply to Mr. Austen Chamberlain, the Chancellor of the Exchequer was understood to say that these people should be in the position of deposit contributors who got full medical benefits but no other benefits.

Mr. Barnes's amendment was withdrawn, and that of the Chancellor of the Exchequer agreed to.

An amendment, moved by Mr. Cave (Surrey, Kingston, Opp.), to exclude from the operation of the bill young persons under the age of 16 was withdrawn on the understanding that the question of the benefits to be given to young people under 16 could be raised at a later stage.

Mr. Cave also moved an amendment to include a person over 65 years of age who for at least one year before the passing of the Act had been a member of a friendly society providing benefits similar to those conferred by the Act. The Chancellor of the Exchequer contended that persons over 65 would be placed in a better, and not a worse, position by the bill as it stood, and, after some further discussion, the amendment was rejected by 156 to 53. The clause as amended was then agreed to and progress reported.

There is naturally a good deal of conjecture as to how long the committee stage will last. There ought to be twenty full days in committee at the lowest estimate, and so if the bill were considered from day to day on four days a week the earliest day on which it could be finished would be August 15th. Fridays can hardly be counted, as they are half-days, and, moreover, other business must be transacted from time to time, to say nothing of the time that may be required by the constitutional crisis brought about by the Parliament Bill. Under these circumstances it is generally thought that the Government will be very lucky if the bill gets through the House of Commons by the end of August.

QUESTIONS IN PARLIAMENT.

Friendly Societies (Expenses of Management).

MR. ASTOR asked the Chancellor of the Exchequer what was the total amount of the expenses of management incurred by the friendly societies in 1905 and 1909, and what that percentage of the total revenue it represented; what were the comparative figures of the sickness insurance funds in Germany for those years; what was the estimated cost of the expenses of management of approved societies under the National Insurance Bill; and what percentage of revenue would this estimated cost represent. The Chancellor of the Exchequer said that the information asked for in the first part of the question was not available. The cost of administration in Germany for 1909, excluding the cost of Government assistance, which was very considerable, was:

	Per Member.
For sickness insurance	2s. 4¼d.
For invalidity insurance	1s. 3¼d.

which, he believed, included the cost of administering old age pensions. The percentage of total revenue, including interest, was 8.1 per cent.; excluding interest the percentage for sickness was 8.3; for invalidity, 10.3. The figures given for sickness were for the local sick clubs. The amount set apart for management of approved societies in the actuaries' report was 3s. 8d. per head.

Dispensers for Medical Men.

Mr. Butcher asked the Chancellor of the Exchequer whether his attention had been called to the effect which the National Insurance Bill is likely to have on persons holding the certificate of the Apothecaries' Society who act as dispensers for medical men in their surgeries; whether he was aware that numbers of such dispensers would lose their present employment by reason of the fact that the medical men who employed them would no longer supply their patients with medicines, and that in the existing state of the law such dispensers would find it difficult, if not impossible, to obtain other employment either as chemists' assistants or otherwise; and whether he would take the case of such dispensers into consideration and consider in what manner they could be relieved from hardship. Mr. Lloyd George said that it seemed to him that under the bill as it stood the demand for the services of persons of the class described in the question should be increased rather than diminished.

Treatment of Phthisis.

Major Anstruther-Gray asked the Chancellor of the Exchequer whether his attention had been drawn to the most recent discoveries with regard to the treatment of phthisis by radio-active menthol iodine; and whether, before embarking on the expense of sanatoriums throughout the country, he would carefully consider alternative methods of combating the scourge. The Chancellor of the Exchequer said that his attention had been drawn to the treatment which he understood was still in an experimental stage. The bill empowered the Insurance Commissioners to expend upon research a part of the additional State grant for sanatorium benefit.

Benefits.

Mr. Fred. Hall asked whether some of the strongest friendly societies for 7½d. per week granted benefits to the extent of 12s. per week for twelve months, 6s. per week for a further twelve months, and 3s. per week continuously till recovery or death, with death benefits in addition; and, if so, why it was that the Government for much less benefits demanded 9d. per week in all. Mr. Lloyd George said that the actuaries' report showed that the cost of medical benefit, sanatorium benefit, and maternity benefit amounted to nearly 2½d., and that the 9d. per week included a disposable margin of ¾d. Moreover, it also included the amount to be accumulated to make up the deficiency due to the admission of persons of all ages up to 65 to the national health insurance. Any surplus which might be realized, whether in consequence of an over-estimate of the contributions or for any other reason, was applicable for the benefit of the contributors.

Provident Dispensaries.

Sir Clement Hill asked a question as to provident dispensaries charitably aided and securing to their members and their families, as well as to their widows and children, complete medical attention and medicine for sums varying from 1d. to 3d. a week; and whether the injurious effect which the compulsory payments under the National Insurance Bill were likely to have upon such institutions had been considered. Mr. Lloyd George referred to his reply on May 24th. It was the intention of the bill that existing organizations which wholly or partly covered the ground to be included in the National Health Insurance should be preserved and utilized rather than displaced.

Maternity Benefit.

Mr. Astor asked the Chancellor of the Exchequer whether a woman confined in a hospital or other institution would receive benefit under the provisions of the National Insurance Bill; and, if so, would any portion of it be given to the institution. The Chancellor of the Exchequer said that the answer to the first part of the question was in the negative, and the second did not arise. He was in communication on this matter with persons responsible for the management of homes which received maternity cases.

Sanatorium Benefit.

Mr. Astor asked how soon after the commencement of the National Insurance Act an insured person would be entitled to sanatorium benefit. Mr. Lloyd George: An

insured person, if the local Health Committee considered the case one suitable for sanatorium treatment, might be entitled to sanatorium benefit as from the commencement of the Act.

Duration of Sickness and Invalidity.

Mr. Cassel asked what was the average number of days of sickness or invalidity under the German insurance law in the last year for which the figures were published, and what was the average number of days allowed for in the actuarial calculations under the National Insurance Bill; and whether the average number of days of sickness and invalidity under the German law had shown any tendency to increase, and, if so, at what rate. Mr. Lloyd George said that the average number of days' sickness recorded for persons insured under the German Sickness Insurance Law in 1908 (the latest year for which complete returns have been published) was eight and a half. As compared with 1904, when sickness benefits were extended from thirteen to twenty-six weeks, there was in 1908 an increase of about half a day per head of all persons insured. These figures could not be used without qualification for comparative purposes, inasmuch as many of the German sickness funds exercised their right to grant sickness benefits up to fifty-two weeks. No record was kept of the duration of sickness or disablement continuing beyond the period for which the sickness funds were liable. The numbers of days' sickness assumed by the actuaries at each age separately for the purposes of their calculations for the National Insurance Bill was stated in their report. The average number per head of persons of all ages insured would require a fresh calculation.

Sanatoriums.

Mr. David Davies asked whether the sum set apart for sanatorium benefit in the Insurance Bill was to be confined exclusively to the relief of insured persons, or whether it is to be applied in such a way as to make provision for uninsured persons as well. Mr. Lloyd George: The annual sum set apart for sanatorium benefit, being derived mainly from the contributions of insured persons and their employers, will be confined exclusively to the relief of insured persons. But the sanatoriums which receive grants out of the capital sum set apart from last year's realized surplus will be free to take other patients. Mr. David Davies asked whether the scope of sanatorium benefit in the National Insurance Bill was limited to the treatment of tuberculosis in sanatoriums and similar institutions, or whether it includes provision for education, tuberculosis exhibitions, early diagnosis, after-care, and other means for the prevention and cure of this disease. Mr. Lloyd George: It is not intended to confine the treatment of tuberculosis to sanatoriums, but the words of the bill are intended to make it possible for the disease to be treated at clinics or dispensaries which could be established locally and in which the proper means to be taken for the prevention and cure of the disease could be taught. The bill also provides that a portion of the funds available for the benefit can be applied to research.

Medical Herbalists.

Major White asked the Chancellor of the Exchequer whether he has received any communications from associations of medical herbalists with regard to the National Insurance Bill; and whether he is prepared to give any facilities under the bill to those insured persons who prefer to undergo herbalist treatment rather than that of the ordinary medical practitioner. Mr. Lloyd George: I have received such communications, and they are receiving my consideration.

Assistant Teachers at Universities and University Colleges.

Sir Philip Magnus asked whether demonstrators and assistant lecturers in universities and university colleges who, in consideration of the educational advantages they secured by acting as assistants to distinguished professors, are content to accept salaries of less than £160 per year, will be compelled to insure under the compulsory schemes of the National Insurance Bill; and whether the universities and colleges, as employers, will be obliged on behalf of such persons to contribute to the insurance fund. Mr. Lloyd George: The answer to both parts of the question is in the affirmative.

MEDICINE AND PHARMACY.

A MEETING of the Standing Joint Committee of the British Medical Association and of the British Pharmaceutical Conference was held at the Office of the British Medical Association, 429, Strand, London, W.C., on Thursday June 15th, under the Chairmanship of Dr. J. H. TAYLOR.

There were also present: As Representatives of the British Medical Association, Sir H. T. Butlin, Bart. (President of the Association), Mr. T. Jenner Verrall, Dr. C. H. Wise, and Dr. A. Cox (Deputy Medical Secretary); as Representatives of the British Pharmaceutical Conference Mr. W. F. Wells (President), Mr. C. T. Allen, Mr. T. Maltby Clague, Mr. C. G. Druce, Mr. H. Wippell Gadd, Mr. F. W. Gamble, Mr. A. McMillan, Mr. J. F. Tocher, and Mr. E. Saville Peck and Mr. Finnemore (Honorary General Secretaries).

The Joint Committee had under consideration questions of mutual interest to medical practitioners and pharmacists arising in connexion with the National Insurance Bill. Various recommendations bearing thereon were arrived at, and it was agreed that such recommendations should be submitted to the respective parent bodies.

The conference also received reports of action taken by both bodies with respect to the question of the practice of medicine and surgery by unqualified persons.

The recommendations of the conference with respect to the National Insurance Bill were considered at a meeting of the Council of the British Medical Association held on Wednesday last (July 5th), when the Council passed the following resolutions:

1. That this Council affirms the principle that the dispensing under the Government scheme should be done through the channels provided by the Pharmacy Acts, and that provision should be made in the National Insurance Bill itself for the carrying out of the expressed intention of the Chancellor of the Exchequer that this work should be done by pharmacists or medical practitioners.
2. That this Council further favours the constitution of lists of pharmacists under the jurisdiction of the local Health Committees, and is of opinion that all registered pharmacists should be entitled to be placed upon the lists.
3. That this Council agrees to endeavour to secure free choice on the part of the insured, of pharmacists from the lists.
4. That this Council considers that the remuneration for dispensing and supply of drugs should be arranged with the local Health Committees on a scale system and not on a capitation basis.
5. That this Council considers that every effort should be made to secure for pharmacists in Ireland the same professional and financial privileges and rights as are accorded to them in Great Britain.

Hospitals and Asylums.

EVERSFIELD CONSUMPTION HOSPITAL, ST. LEONARDS-ON-SEA.

OWING to the long waiting list, the committee of the Eversfield Hospital for Consumption, St. Leonards-on-Sea, decided last year to increase the accommodation by adding from twenty-five to thirty beds, and making certain necessary alterations and additions at an estimated cost of £7,500—namely, £2,000 for extra lavatory accommodation, baths, etc.; £2,000 for widening the balconies, new wards, sitting rooms for men and women, and enlarging dining hall—all to have a south aspect facing the sea; £3,500 for nurses' home, dispensary, and laboratory on the recently purchased plot of land opposite the hospital. As the various appeals resulted in upwards of £1,500 being obtained, the committee decided to undertake the first portion of the work, and the sanitary block was commenced last week. It is hoped that funds will permit the whole scheme to be carried out before the close of next year. Mr. John Payne, A.R.I.B.A., of London, is the architect.

NORFOLK AND NORWICH HOSPITAL.

THE report submitted at the annual meeting of the Norfolk and Norwich Hospital on April 8th showed that the year 1910 ended with a debit balance of over £800, although the extraordinary expenditure was quite small and the extraordinary income comparatively large. The daily average number of patients (172) the average cost of each in-patient per week (£1 9s. 1d.) and the average duration of stay (24.58) were all slightly below the figures for 1909. Of the 2,395 in-patients, 1,302 were admitted on letters of recommendation. The casualties, dental cases, and out-patients numbered over 9,000. The latter are supervised by an honorary almoner. Major operations numbered 1,124, and anaesthesia was administered for examination and other purposes in 1,020 other cases. Permission has been received to name the new wards for septic and infectious cases after His late Majesty King Edward VII, by whom their foundation stone was laid in 1909.

MATTERS REFERRED TO DIVISIONS.

British Medical Association.

AGENDA

OF

Annual Representative Meeting, 1911.

THE Annual Representative Meeting will be held in the Midland Institute, Birmingham, at 10 a.m., Friday, July 21st, 1911; on Saturday, July 22nd, at 9.30 a.m.; on Monday, July 24th, at 10 a.m.; on Tuesday, July 25th, at 10.30 a.m.; and on Wednesday, July 26th, if required.

In this Agenda are printed, not only Notices of Motion received not less than three months before the Annual Representative Meeting, as required by the Regulations, but also Notices of Amendments to such Motions, Motions arising out of Reports of Council or Committees, and other Motions which the Chairman finds to be in order, and which were received in time for inclusion. The printing of such Amendments and Motions does not affect the position of relevant Amendments or Motions subsequently received.

E. J. MACLEAN,
Chairman of Representative Meetings.
July 6th, 1911.

Reception of Return of Representatives Elected.

Motion: That the Return of election of Representatives Divisions for the year 1911-12 be received, approved, and entered on the Minutes.

Motion: That the Notices (if any) of appointment of Substitutes for Representatives under By-law 32 be received, approved, and entered on the Minutes.

Standing Orders.

(For Standing Orders as adopted at London, see BRITISH MEDICAL JOURNAL SUPPLEMENT of June 3rd, page 321; or Minutes of Annual Representative Meeting, London, page 86.)

Motion: That the Standing Orders submitted by the Chairman be adopted as Standing Orders of the Meeting.

The Chairman will submit the Standing Orders adopted at London, with the addition of the following new Standing Orders proposed by him, and subject to such additions and alterations as may hereafter be notified to the Representatives.

Motion: That the Standing Orders of Representative Meetings be amended as follows:

SECTION I.

STANDING ORDER 1.

(*a*) That Standing Order 1, subparagraph (iii), be amended to read as follows:

(iii) *Annual Report of Council.*—Receive the Annual Report of the Council with the Balance Sheet and Financial Statement for the past year, and the Estimate of income and expenditure for the current year presented under Article 40, and consider Motions relating to the adoption thereof in whole or in part.

(*b*) That in Standing Order 1, subparagraph vii, the word "other" be inserted after the word "any," and that the words "relating to the honour and interests of the Medical Profession or of the Association" be deleted.

(*c*) That Standing Order 1, subparagraph (viii), be amended to read as follows:

(viii) *Election of Officers.*—Elect at such time as the Meeting shall determine:

(*a*) President of the Association, under By-law 55.
(*b*) Chairman of Representative Meetings, under By-law 56.
(*c*) Deputy-Chairman of Representative Meetings, under By-law 35.
(*d*) Treasurer (if the office be vacant), under By-law 58.

(*d*) That a new subparagraph be inserted as follows:

(ix) *Election of Vice-Presidents and Honorary Members.*—Consider, at such time as the Meeting shall determine, nominations, if any, by the Council of:

(*a*) Vice-Presidents, under By-law 60.
(*b*) Honorary Members, under By-law 8.

(*e*) That subparagraphs ix, x, and xi be renumbered x, xi, and xii respectively.

STANDING ORDER 4.

(*f*) That in Standing Order 4 the words "at any time" be substituted for the words "either at the commencement or after the expiration of two hours from the commencement of any daily session."

SECTION II.

STANDING ORDER 1.

(*g*) That in Standing Order 1, Section II, the words "in office or elected to take office at the conclusion of the Meeting" be added.

SECTION III.

STANDING ORDER 15.

(*h*) That the first portion of Standing Order 15, Section III, be amended to read as follows:

(*a*) Nominations for the offices of President of the Association, Chairman of Representative Meetings, Deputy-Chairman of Representative Meetings, and Treasurer, shall be handed in writing to the Secretary of the Meeting not later than one hour after the commencement of the second day's proceedings. Each nomination shall be signed by the nominator, and shall contain a declaration that the candidate nominated has agreed to serve.

(*b*) If only one candidate be nominated for any office such candidate shall at once be declared by the Chairman to be elected.

(*c*) If more than one candidate be duly nominated the names of all such candidates shall be duly placed in a voting paper, which shall be issued and collected at such time as the Meeting shall direct. Each voter shall number the names of the candidates for each office in the order of his preference.

NEW STANDING ORDER.

(*i*) That a new Standing Order be inserted in Section III as follows:

16. *Election of Vice-Presidents and Honorary Members.*

The name of any person nominated by the Council for election as a Vice-President or as an Honorary Member shall be submitted to the Meeting from the Chair.

(PRESENT) STANDING ORDER III, 16.

(*j*) That in the present Standing Order III, 16, subparagraph (iii), the words "prescribed form" be substituted for the words "form appended."

(*k*) That in Standing Order 16, subparagraph (vi) the words "prescribed form" be substituted for the words "form appended."

(*l*) That Standing Order 16, subparagraphs (vii) and (viii), be amended to read as follows:

(vii) Each Representative shall number the candidates on the list in the order of his preference. The

voting papers shall be collected at such time as the Meeting shall direct.

(viii) The votes shall be counted in accordance with the method of the Single Transferable Vote. In the event of two candidates being found at any stage in the counting to have the same number of votes in their favour, each voter shall be credited with the number of votes which he would be entitled to give on a vote by card, and the candidate who shall then be found to have received the greatest number of votes shall have the preference.

5. **Amendment** by LEICESTER DIVISION:

That the mode of election prescribed in Standing Order III, 16, relative to the election of twelve members of Council by Grouped Representatives under By-law 41 (*c*) be by card vote.

(PRESENT) STANDING ORDER III, 17.

6. **Motion:** (*m*) That in present Standing Order III, 17, subparagraph (i), the words "the fourth day of the Annual Representative Meeting" be substituted for the words "Tuesday, July 26th."

(*n*) That in present Standing Order III, 17 subparagraph (iv) the words "the fourth day of the Annual Representative Meeting" be substituted for the words "Tuesday, July 26th."

(PRESENT) STANDING ORDER III, 18.

(*o*) That in present Standing Order III, 18 the following subparagraph be inserted:

(i) In addition to members nominated by the Council, it shall be open to any member of the Representative Body to nominate a candidate for election as a Service Member of Council.

(*p*) That subparagraph (i)—now (ii)—be amended to read as follows:

(ii) Voting papers containing the names of all candidates duly nominated shall be circulated, etc.

(*q*) That subparagraph 2 be made subparagraph (iii).

NEW STANDING ORDER.

(*r*) That the following new Standing Order be inserted after the present Standing Order III, 19:

Committee of the whole Representative Body.

Upon it being resolved that any item or items of the Agenda of a Representative Meeting be considered in Committee of the whole Representative Body, the following shall be the procedure:—

(i) The consideration of the business in Committee shall take place at such time as the Representative Meeting shall determine.

(ii) In Committee of the Representative Body, Representatives of Divisions and Members of Council respectively shall have the same rights of voting and speaking as in a Representative Meeting, and the rules of debate shall be the same as for a Representative Meeting, except that a Member may, subject to the consent of the Chairman, speak more than once on the same motion or amendment.

(iii) On the conclusion of the consideration of the business referred to the Committee, the Committee shall confirm its Minutes as the Report of the Committee to the Representative Body, and the Representative Meeting shall thereupon resume.

(iv) The proceedings of the Committee may be temporarily suspended at any time by a motion that the Committee be adjourned, whereupon the Representative Meeting shall resume. The business of the Committee shall be resumed at such time as shall be fixed by the Committee, unless otherwise determined by a vote of the Representative Meeting.

SECTION IV.

STANDING ORDER 1.

(*s*) That in Standing Order IV, 1, third line, the words "to stand" be substituted for the word "standing."

(*t*) That in Standing Order IV, 4, the words "a resolution or amendment" be substituted for the words "an original resolution."

Renumbering and Consequential Alterations of Standing Orders.

(*u*) That the Standing Orders be numbered consecutively and that any verbal alterations that may be rendered necessary by the above alterations be made accordingly.

Election of Service Members of Council.

7. **Motion:** That the following Recommendation of the Council be adopted (paragraph 33 of Annual Report):

That in future one Member only be nominated by the Council for election as a Member of Council to represent each Service, provision being made under the Standing Orders of the Representative Body, whereby any Member of that Body may nominate a Member of the Association for election, to represent any of the three Services.

Method of Voting in Association Elections.

8. **Motion:** That the following Recommendation of Council be adopted (paragraph 37 of Annual Report):

(1) That the following elections be conducted on the Transferable Vote system:

Members of the Central Council—

(*a*) By Branches within the United Kingdom by Voting Paper.
(*b*) By grouped Representatives.
(*c*) By the Representatives as a whole (Four Members).
(*d*) By the Representatives as a whole (Three Service Members).

Officers—

Elected by the Representative Body—

(*a*) President.
(*b*) Chairman of Representative Meetings.
(*c*) Deputy-Chairman of Representative Meetings.
(*d*) Treasurer.

Elected by the Council.

(*e*) Chairman of Council.

(2) That the following elections be conducted on the present basis—namely, that those candidates, up to the number to be elected, who receive the greatest number of votes be declared elected:

Members of Committees by the Representative Meeting.
Members of Committees by the Council.

(3) That the following elections be conducted in such manner as the Bodies concerned may think fit:

Representatives in Representative Meetings by Divisions.
Officers of Branches.
Members of Branch Councils.
Officers of Divisions.
Members of Executive Committees of Divisions.

Recording Names of Voters in Representative Meetings upon those Resolutions which require a Two-thirds Majority.

9. **Motion:** That the following Recommendation of Council be adopted (paragraph 39 of Annual Report):

That provision be made by Standing Order for names being taken, when desired, of those in Representative Meetings voting for and against any motion for which a two-thirds majority is required.

C. Election of Honorary Member of Association.

10. **Motion:** That in accordance with By-law 8, the Right Hon. Joseph Chamberlain, M.P., Member of His Majesty's Privy Council, be elected an Honorary Member of the British Medical Association, in recognition of his eminent services in promoting the systematic study of tropical diseases.

D. Annual and Supplementary Reports of Council.

(For Annual Report of Council, 1910–11, see SUPPLEMENT, May 27th, p. 254. For Supplementary Report of Council see p. 68 of this SUPPLEMENT.)

11. **Motion:** That the Annual Report of the Council for the year 1910–11, and Estimate of Income and Expenditure for the year 1911 be received.

12. **Motion:** That the Supplementary Report of the Council for the year 1910–11 be received.

13. **Motion** (By the Chairman): That all Motions by Divisions or Branches which relate to matters dealt with in the Annual or Supplementary Reports of Council be considered as Amendments or Riders to the Recommendations, if any, to which they are relevant, or to the Motion: "That the remainder of the Report under the heading . . . be approved."

14. **Motion:** That paragraphs 1 to 10 of the Annual Report of the Council be approved.

FINANCE.

15. **Motion:** That the Financial Statement and Balance Sheet for the year 1910 be approved.

16. **Motion:** That paragraph 26 (Estimate of Receipts and Expenditure for 1911) be approved.

17. **Motion:** That paragraph 27 (Apportionment of Members' Subscription) be approved.

ORGANIZATION.

8. **Motion:** That paragraph 28 (Membership of the Association) be approved.

9. **Motion:** That paragraph 29 (Articles and By-laws of the present Company) be approved.

0. **Motion:** That paragraph 30 (New Company) be pproved.

1. **Motion:** That paragraph 32 (Procedure for Election f Members of Council) be approved.

Affiliation of Outside Bodies.

2. **Motion:** That the following Recommendation of Council e adopted (paragraph 40 of Annual Report):

That the Representative Body approve and adopt the Special Report of the Council on the subject of Affiliation of Outside Bodies. (For this Report see SUPPLEMENT to BRITISH MEDICAL JOURNAL, April 29th, 1911, page 206.)

. **Motion:** That the remainder of the Annual Report of ouncil under heading Organization (paragraphs 31 to 48), approved.

. **Rider** by the ROCHDALE DIVISION:

That membership of the British Medical Association should not necessarily imply subscribing to the BRITISH MEDICAL JOURNAL, and an alternative subscription should be provided, fixed at a figure which will cover the share of the working expenses of the Association which Members would pay who under this scheme would not subscribe to the JOURNAL.

Rider by the NEW ZEALAND BRANCH:

That no Member of the Association be allowed to transfer from one Division to another unless such transfer is applied for in writing by the Secretary of the Division he is leaving.

Motion: That the Supplementary Report of Council ler heading Organization (paragraphs 3 to 6, page 68 his SUPPLEMENT) be approved.

BRITISH MEDICAL JOURNAL.

Policy of Journal.

Motion: That the following Recommendation of ncil be adopted (paragraph 53 (i) of Annual Report of ncil):

(i) That while it must clearly always be the object of those responsible for the conduct of the JOURNAL to maintain harmony between the Editorial utterances and the policy of the Association, and that there should be such co-operation between the Departments of the Association as may be necessary to secure that object, it is undesirable to lay down specific provisions such as were suggested by the Kensington Division.

Leading Articles in Journal.

Motion: That the following Recommendation of ncil be adopted (paragraph 53 (ii) of Report):

(ii) That it is inadvisable to adopt the policy suggested by the Chelsea Division, as indicated in Minute 74 (a) of the Annual Representative Meeting held in London.

Advertisements in the Journal.

29. **Motion:** That paragraph 54 (Advertisements in the Journal) be approved.

Letter from National British Women's Temperance Association.

30. **Motion:** That paragraph 55 (Letter from British Women's Temperance Association) be approved.

31. **Motion:** That the remainder of the Annual Report of the Council under heading BRITISH MEDICAL JOURNAL (paragraphs 49–61) be approved.

SCIENCE.

32. **Motion:** That the Annual Report of Council under heading "Science" (paragraphs 62–9) be approved.

33. **Motion:** That the Supplementary Report of Council under heading "Science" (paragraph 7, page 68, of this SUPPLEMENT) be approved.

MEDICAL ETHICS.

Definition of Term "Consultant" in Report on Ethics of Consultation.

34. **Motion:** That the following Recommendation of Council be adopted (paragraph 71 of Annual Report):

That the definition of the term "Consultant" contained in the Report on Ethics of Consultation be not altered.

35. **Motion:** That the remainder of the Annual Report of Council under heading "Medical Ethics" (paragraphs 70–80) be approved.

Reference of Certain Ethical Cases Direct to Branch Councils.

36. **Rider** (arising out of paragraph 70, "Uniform Ethical Rules for Association") by EXETER DIVISION:

That it is desirable that any *pro forma* Ethical Rules formulated for adoption by the Divisions generally should give power to the Chairman and Secretary of a Division to refer direct to the Branch Council any ethical matter concerning any individual member of the Division which, in their opinion, it would be detrimental to the interests of the Association to allow to be dealt with locally by the Division in question.

Medical Prescribing in Lay Papers.

37. **Motion:** That the following Recommendation of Council be adopted (page 73 of this SUPPLEMENT):

That the practice of medical men taking charge of columns in which answers to correspondents on medical questions are printed is highly detrimental to the public interest, and most improper from a professional point of view.

38. **Amendment** by BIRMINGHAM CENTRAL DIVISION:

That it is ethically improper for medical practitioners to prescribe treatment for individuals through the correspondence columns of the lay press.

39. **Rider** (if the above be carried) by BIRMINGHAM CENTRAL DIVISION:

That the Council of the Association be instructed to take such action as may seem desirable to suppress the practice.

Support of Unqualified Practitioner.

40. **Rider** by WESTMINSTER DIVISION:

That the Representative Body considers it is contrary to the interest of the British Medical Association that one of its Past-Presidents should have given evidence in support of the treatment of a bonesetter, a person not in possession of any registered medical qualification.

41. **Motion:** That the remainder of the Supplementary Report of Council under heading "Medical Ethics" (paragraphs 8 to 11, pages 68–69, of this SUPPLEMENT) be approved.

MEDICO-POLITICAL.

Definition of Term "Fully Experienced and Thoroughly Competent Whole-time School Medical Officer."

42. **Motion:** That the following Recommendation of Council be adopted (paragraph 100 of Annual Report):

That paragraph 3 (i) of the Report on Medical Inspection of School Children and Treatment of those found Defective, approved by the Annual Representative Meeting, 1909, be amended to read as follows:

On the subject of salaries the Association has already approved the suggestions of the Medico-Political Committee, namely, that for whole-time Junior or Assistant School Medical Officers the commencing salary should not be less than £250 per annum, and that for more experienced whole-time School Medical Officers the commencing salary should not be less than £500 per annum. These sums are to be understood as exclusive of travelling expenses, clerical assistance, cost of stationery, postage, etc.

Whole-time Officers for Medical Treatment of Defective School Children.

43. **Motion:** That the following Recommendation of Council be adopted (paragraph 101 of Annual Report):

That the Memorandum of Reasons in favour of the employment of private practitioners for the treatment of school children found upon medical inspection to be defective, be approved.

Terms of Employment of Whole-time Officers for Treatment of School Children.

44. **Motion:** That the following Recommendation of Council be adopted (paragraph 101 of Annual Report):

That as regards remuneration of whole-time medical officers engaged in the treatment of school children, the scale already approved by the Association for school medical officers engaged in inspection should be applied—namely, that for junior or assistant officers the salary should not be less than £250 per annum, and that for more experienced officers the salary should not be less than £500 per annum. These sums to be understood as exclusive of travelling expenses, clerical assistance, postage, etc. Also that in any appointments of this kind provision should be made that the salaries of both officers should rise automatically.

Appointment of Specialists for Treatment of School Children.

45. **Motion:** That the following Recommendation of Council be adopted (paragraph 101 of Annual Report):

That the following be approved as the policy of the Association in regard to the appointment of specialists for treatment of school children:

(*a*) That in the treatment of school children whenever it is necessary for particular cases to employ specialists they should usually be employed, not as whole-time officers, but as consultants, called in "ad hoc" for the treatment of individual cases of special difficulty, and paid the fees for such treatment upon an agreed tariff.

(*b*) That where the employment of specialists as whole-time officers is known to be contemplated by the education authority, and the local profession considers this not to be required by the circumstances of the case, representations should be made accordingly.

Conditions of Service of Pathologists and Bacteriologists.

46. **Motion:** That the following Recommendation of Council be adopted (Paragraph 110 of Annual Report):

That inquiry having been made into the conditions of service of pathologists and bacteriologists attached to public institutions, the Representative Body is of opinion that such inquiry has revealed no general grievance, and that the variety of the conditions under which such appointments are held renders it difficult and undesirable to make any suggestions of general application.

47. **Motion:** That the remainder of the Annual Report of Council under heading "Medico-Political" (Paragraphs 81 to 122) be approved.

Treatment by School Medical Officers.

48. **Rider** (in connexion with the subsection of the Annual Report headed "Medical Inspection and Treatment of School Children") by the SOUTH STAFFORDSHIRE DIVISION:

That while admitting the right of the School Medical Officer or his Assistants to supervise the treatment of children found defective on inspection, the Representative Body considers that the treatment of these children by the School Medical Officer or his Assistants, when whole-time officers, is contrary to the interests of the profession and of the children, and should therefore be opposed.

Certificates under Workmen's Compensation Act.

49. **Rider** by LEIGH DIVISION:

That in cases arising under the Workmen's Compensation Act the minimum fee for the initial examination and report shall be £1 1s.

Death Certification.

50. **Rider** by LEIGH DIVISION:

That in the opinion of this Meeting it is expedient that uniform action be taken with regard to inserting the duration of disease on death certificates for insurance purposes, and that it be referred to the Council to consider what such action should be.

Tax on Alcohol used for Manufacture of Medicinal Preparations.

51. **Rider** by PLYMOUTH DIVISION:

That in the opinion of this Meeting it is an act of injustice and against public policy that an increased tax should be levied on alcohol which is used for the purpose of preparing tinctures, etc., and that the Council of the Association be instructed to take steps to bring the matter under the notice of the Chancellor of the Exchequer.

Powers of Royal College of Physicians of London.

52. **Rider** by PLYMOUTH DIVISION:

That the Council of the British Medical Association be instructed to take such steps as they may deem suitable to induce the Royal College of Physicians of London to exercise the powers they undoubtedly possess against persons who are practising medicine, surgery, or midwifery illegally.

53. **Rider** by PLYMOUTH DIVISION:

That the Council be instructed to petition the General Medical Council to take such steps as they may consider suitable to induce the Royal College of Physicians, London, to carry out the duties imposed on them by their Charters.

Parliamentary Representation.

54. **Rider** by CHELSEA DIVISION:

That this Meeting recognizes the necessity of converting the British Medical Association into a union of medical practitioners with Parliamentary representation when necessary, and requests the Council of the British Medical Association to ascertain the wishes of members in the United Kingdom by referendum at the earliest possible date.

55. **Motion:** That the Supplementary Report of Council (paragraphs 12 to 16, page 70, of this SUPPLEMENT) be approved.

PUBLIC HEALTH AND POOR LAW.

Amended Form of Minute 234 Annual Representative Meeting, 1909.

56. **Motion:** That the following Recommendation of Council be adopted (paragraph 125 of Annual Report):

That the following amended form of Minute 234 of the Annual Representative Meeting, 1909, be adopted:

That, in the general interests of Public Health and of the Medical Profession, it is desirable (i) that Medical Officers of Health should, as a rule (and without prejudice to those at present holding part-time appointments), be required to devote their whole time to official duties; (ii) that all Medical Officers of Health should be adequately paid, districts being grouped where necessary to make this practicable; (iii) that all Medical Officers of Health should be admitted to participation in a Government Superannuation Scheme; and (iv) that all Medical Officers of Health should be protected, in the proper discharge of their duties, against capricious dismissal or reduction of salaries.

Part-time Appointments other than those of Medical Officers of Health.

57. **Motion:** That the following Recommendation of the Council be adopted (paragraph 127 of Annual Report):

A. That the term "part-time appointments," occurring in the following Resolution of the Annual Representative Meeting, 1910, be understood as meaning appointments the holder of which is permitted to engage in private practice.

Minute 317 (b).—That the following motion be referred to the Council:

* * * * *

(*b*) That in every form of public medical service the system of part-time appointments (other than those of medical officers of health) of medical practitioners should be maintained as far as such appointments can be made consistently with the requirements of the services, and that all public medical officers should be protected in carrying out their duties, should be secured from capricious dismissal or reduction of salary, and should be allowed to participate in any superannuation scheme approved by the Local Government Board.

Minute 318.—That the question of compensation for disturbance be referred to the Council for consideration.

58. **Motion:** That the following Recommendation of the Council be adopted (paragraph 127 of Annual Report)

B. That the following statements of principle be approved:

(i) That all public medical officers should be protected in carrying out their duties.

(ii) That all public medical officers should be secured from capricious dismissal or reduction of salary.

(iii.) That all public medical officers should be allowed to participate in any superannuation scheme approved by the Local Government Board or other public authority.

(iv) That in every form of public medical service (other than that of medical officers of health) the system of part-time appointments of medical practitioners should be maintained as far as such appointments can be made consistently with the requirements of the service.

(v) That when the appointment of any medical officer is determined without any reflection upon his method of performance of his duty, and he is not entitled to any pension, he should have compensation as suggested by the Poor Law Officers' Superannuation Act, 1896—namely, a gratuity not exceeding two years' salary.

59. **Motion:** That the remainder of the Annual Report of Council under heading "Public Health and Poor Law" (paragraphs 123–31) be approved.

HOSPITALS.

60. **Motion:** That the Annual Report of Council under heading "Hospitals" (paragraphs 132–6) be approved.

NAVAL AND MILITARY.

61. **Motion:** That the following Recommendation of Council (paragraph 143 of Annual Report) be adopted:

That the Officers elected at the Annual Representative Meeting, 1911, to represent on the Council the Royal Navy Medical Service, the Army Medical Service, and the Indian Medical Service, be appointed to serve for a period of three years in each case.

62. **Motion:** That the remainder of the Annual Report of Council under heading "Naval and Military" (paragraphs 137–46) be approved.

63. **Motion:** That the Supplementary Report of Council, under heading "Naval and Military," be approved (paragraph 17, page 70, of this SUPPLEMENT).

SCOTLAND.

64. **Motion:** That the Annual Report of Council under heading "Scotland" (paragraphs 147–8) be approved.

IRELAND.

65. **Motion:** That the Annual Report of Council under heading "Ireland" (paragraph 149) be approved.

66. **Motion:** That the Supplementary Report of Council under heading "Ireland" (paragraph 18, page 70 of this SUPPLEMENT) be approved.

BRANCHES OUTSIDE THE UNITED KINGDOM.

67. **Motion:** That the Annual Report of Council under heading "Branches Outside the United Kingdom" (paragraph 150) be approved.

GENERAL APPROVAL OF ANNUAL AND SUPPLEMENTARY REPORTS OF COUNCIL.

68. **Motion:** That, subject to the Amendments and other Resolutions adopted by the Meeting with reference thereto, the Annual Report of Council be approved as a whole.

69. **Motion:** That, subject to the Amendments and other Resolutions adopted by the Meeting with reference thereto, the Supplementary Report of Council be approved as a whole.

E. Special Reports of Council (if any).

F. Fix Place and Time of Next Annual Representative Meeting.

70. **Motion:** That the next Annual Representative Meeting, 1912, be held at Liverpool, and commence on Friday, July 19th, 1912.

G. Election of Officers.

Elect a President of the Association, Chairman of Representative Meetings, and a Deputy Chairman of Representative Meetings for the year 1911–12.

71. **Motion** (by the Council): That Sir James Barr, M.D., LL.D., F.R.C.P., be nominated President-elect of the Association.

H. Election of Council.

(i) Election of 12 Members of Council by Grouped Representatives. [For Nomination Forms and Voting Paper *see* SUPPLEMENT, June 3rd, 1911, pages 325–6.]

(ii) Election of four Members of Council under By-law 41 (*d*).

(iii) Election of Members of Council to represent Royal Navy Medical Service, Army Medical Service, and Indian Medical Service.

I. Election of Committees.

Election of members of Finance, Organization, Journal, Central Ethical, Medico-Political, Public Health, Hospitals, Naval and Military, and Colonial Committees; and other Committees, if any.

J. Standing Orders.

Consider proposed amendments of Standing Orders, other than those relating to the order of business.

K. Any other Business.

L. Confirm Minutes.

By Order,

J. SMITH WHITAKER,

Medical Secretary.

SUPPLEMENTARY REPORT OF COUNCIL.

Annual Representative Meeting, 1912.

1. PLACE OF ANNUAL MEETING.

The Council has received, and has pleasure in recommending the Representative Body to accept, an invitation from the Liverpool Divisions to hold the Annual Meeting in Liverpool in 1912. A motion to this effect will be placed before the Representative Body.

2. PRESIDENT-ELECT.

A motion that Sir James Barr, M.D., LL.D., F.R.C.P., be elected President of the Association for the year 1912-13 will also be submitted to the Representative Body.

Organisation.

3. ARTICLES AND BY-LAWS OF PRESENT COMPANY.

(*Continuation of paragraph 22 of Annual Report.*)

As indicated in the Annual Report of Council those amendments to By-laws, the desirability of which was suggested by the Comptroller of the Companies' Department of the Board of Trade will be brought before a Special Representative Meeting on July 24th, 1911. The terms of the proposed amendments were stated in the Notice which appeared in the Supplement to the JOURNAL of June 24th. (See Appendix A, Section II., page 72.)

4. ALTERATION OF BY-LAWS DEALING WITH ELECTION OF REPRESENTATIVES.

(*Continuation of paragraph 34 of Annual Report.*)

The alterations of By-laws necessary to give effect to Minute 105 of the Annual Representative Meeting have now been drafted by the legal advisers of the Association. The Regulations of the Association provide that two months' notice shall be given of the proposed amendment of By-laws by an Annual Representative Meeting, but as time did not permit of the requisite notice being given for the forthcoming Annual Representative Meeting, a Special Representative Meeting has been convened for which only one month's notice is necessary. The notice of Special Representative Meeting and full text of the suggested amendments appeared in the Supplement to the JOURNAL of June 24th, page 487, and copy is appended to this Report. (See Appendix A., Section I., page 72.)

5. CAPITATION GRANTS.

After consideration of the work and average expenditure the Branches for the three years 1908 to 1910 inclusive and of t balances of Association moneys in their hands, including tl balances in the hands of their Divisions, grants at rates varyi from 1s. to 4s. per head of their membership, have been ma to such of those Branches as had furnished satisfactory Repo and required grants. No grant has been made to Branch which had a balance of over 5s. per head of their Membershi

A grant of 4s. per Member has been made to each Bran outside the United Kingdom.

6. REFERENDUM AND POSTAL VOTE.

(*Continuation of Paragraph 38 of Annual Report).*

The report on the subject of the Referendum and Post Vote was published in the Supplement of April 29th, 1911, a circulated to the Divisions. As only five replies have be received, the Council is submitting the Report to the Repr sentative Body in the form in which it was submitted to t Divisions.

Science.

7. MIDDLEMORE PRIZE.

The Middlemore Prize has been awarded to Dr. Charl Walter Gordon Bryan for his essay on "Serum and Vacci Therapy in connection with Diseases of the Eye."

This prize, which takes the form of an illuminated certifica and a cheque value £50, was instituted by the late Richa Middlemore, F.R.C.S., of Birmingham, who conveyed to t Association in trust the sum of £500, and directed that t interest on this sum should be devoted to a prize for the be essay on any subject which the Council might select in a department of Ophthalmic Medicine or Surgery.

Medical Ethics.

8. ANSWERS TO QUESTIONS ON MEDICAL MATTERS IN LAY PAPERS.

The attention of the Council having been drawn to t practice of those lay newspapers which publish a colum devoted to medical matters and profess to give medical advic the whole subject has been carefully considered and a Repo with Recommendations is now submitted for the considerati of the Representative Body. (See Appendix B, page 72.)

9. MEDICAL MEN GIVING INFORMATION RESPECTING PATIENTS TO INSURANCE COMPANIES WITHOUT PATIENT'S CONSENT.

A communication was received from the Honorary Secreta of the Bradford Division enclosing the following letter with request that a reply should be sent from the Central Office :—

Bradford and District Trades and Labour Council.
Secretary, W. Barber,
Trades Hall, Bradford,
January 28th, 1911.

Sir,

On behalf of the above Council, I am directed to call t attention of the British Medical Association to a practi which is growing amongst Medical men.

The practice referred to, is that of doctors furnishin reports to Insurance Companies, concerning patients up whom they are in attendance as Medical Adviser, suc reports being forwarded without the consent or knowledg of the patient.

My Council have always understood that the relatio ship between doctor and patient is and should be one privilege, and that no doctor has the right to impart an outsider any information concerning a patient obtain in his capacity as Medical attendant or adviser.

This being so, they regard the practice referred to as breach of privilege and a course of conduct which is be deprecated.

My Council will be glad if you will lay this matt before your Association in the hope that your Associati

will express its disapproval of the practice to which I have referred.

Hoping to be favoured with a reply at an early date,

Yours faithfully,
(Signed) WALTER BARBER,
(Secretary).

J. B. Dunlop, Esq., M.D.,
Secretary,
Bradford Division),
British Medical Association.

The Bradford Division have been advised to inform the adford Trades and Labour Council that the Division was t cognisant of the existence of the state of affairs alleged that Council, but was bringing the matter under the notice the local profession. The Division was advised to address e following letter to all local practitioners :—

Private and Confidential.

"As Honorary Secretary of the Bradford Division, I have received the following communication from the Honorary Secretary of the Bradford Trades and Labour Council :—

After careful consideration of the matter and consultation with the Central Ethical Committee of the Association, the Division has directed me to inform the Bradford Trades and Labour Council that the Division, while previously unaware of the prevalence of the practice which they allege, is taking steps to bring the matter under the notice of all members of the local profession.

The Division considers that, if there is any foundation in fact for the statement of the Bradford Trades and Labour Council, that local medical practitioners have been in the habit of giving to Insurance Companies and others information, obtained in their professional capacity, respecting their patients without the patients' knowledge and consent, it is most desirable that it should be brought under their notice that such a practice is not only in contravention of the recognised principles of professional ethics, but may also in some cases lay them open to actions at law.

The Central Ethical Committee of the Association advises the Division that the principle which has always been recognised by the Association in dealing with such matters is that a doctor is not entitled to divulge to a third party any information obtained by him in the course of his attendance upon a patient without the patient's knowledge and consent expressed or implied. Cases in which such consent must be understood to be implied include, for example, that of giving any information which a practitioner is expressly required to give under the provisions of any Statute or by the direction of a Judge when giving evidence in a Court of Justice. Information given to Insurance Companies or others against whom patients have claims would not fall within such a category.

view of the interest which the above correspondence has he members of the medical profession generally, it has decided to ask the Secretaries of all Divisions to circulate ter to all practitioners in their areas similar to that issued ie Bradford Division.

POSITION OF PRACTITIONERS EXAMINING ON BEHALF OF INTERESTED PERSONS.

e Council has considered the replies of the Divisions on nterim Report on the Position of Practitioners examining half of interested persons. The Report has been amended cordance with these replies, and is now submitted for the deration of the Representative Body (*see* Appendix C, 73).

RELATION OF THE ASSOCIATION TO HOMŒOPATHS.

e Council having considered Minutes 194, 195, 199, and f the Annual Representative Meeting, 1910, namely :—

Minute 194.—That the following recommendation of ouncil be adopted (paragraph 16 of the Supplementary eport :—

That the Association should not attempt to pronounce, in connection with homœopathy, or in any other connection, what constitutes sound doctrine in medicine or surgery, nor condemn individual practitioners on the ground that they hold peculiar views of pathology or treatment, or give effect to such views in the practice of their profession.

Minute 195.—That the following recommendation of Council be adopted (paragraph 16 of Supplementary Report) :—

That in the opinion of the Representative Meeting it is contrary to the recognized principles of professional conduct for any medical practitioner to advertise the holding of peculiar views of pathology or treatment, or the fact that his practice is based thereon, as a means of attracting to himself patients.

Minute 190.—That the following recommendation be referred back to the Council for further consideration and report :—

That the Representative Meeting expresses its disapproval of the conduct of those medical practitioners who permit the publication of their names in the *Homœopathic Directory* or similar compilations, or who make use of door plates or similar means to intimate to the public that they are guided in their practice by peculiar theories of pathology or treatment.

Minute 206—That the recommendation as amended be adopted as follows :—

That practical effect be given to the foregoing Resolution by an expression of opinion of the Representative Meeting as follows: (*a*) That it is desirable that the bodies which have the power of electing Members should not elect those who are reasonably believed to act unprofessionally in any of the ways stated; and (*b*) that, concerning those who are already Members, the disciplinary powers of the Council and of the Branches should be duly exercised if and when cases of the kind are brought under their notice in conformity with the ordinary Rules of Procedure of the Association in Ethical matters;

reports as follows :—

Acting under an instruction of the Representative Meeting, 1908, to the effect that the Council should consider the whole question of the relation of Homœopaths to the Association, the Council submitted to the Annual Representative Meeting, 1910, a Report containing certain Recommendations.

The Meeting, upon consideration of this Report, adopted three of the Recommendations submitted by the Council in the following form.

(*See Minutes* 194, 195, *and* 206 *as above.*)

The third Recommendation, submitted by the Council (contained in Minute 190) was referred back for further consideration.

Upon perusal of the Resolutions which were adopted, it will be seen that the Association has now, through the Representative Body, declared its opinion that, while the holding of any peculiar views of pathology or treatment, or practice based upon such views, is not to be regarded as ground for condemnation, the advertisement of such opinions, or of practice based thereon, as a means of attracting patients, is contrary to the recognised principles of professional conduct, and that cases of individuals who are alleged to have acted unprofessionally in these respects should be dealt with accordingly by the proper authorities of the Association as occasion may arise.

On the other hand, the Representative Body found itself unable to approve the statement contained in Recommendation (3) of the Council, in which, as will be seen, certain acts are specified as being considered to be in contravention of the general principles laid down in Recommendation (2). The discussion showed that the cause of the reference back of Recommendation (3) was the difficulty, so frequently ex-perienced in framing Rules, of including specific instances without excluding, or being supposed to exclude, by implication, to all those which are not mentioned.

Upon a full reconsideration of the subject, the Council is of opinion that it is unnecessary, and, therefore, in view of the difficulty just stated, undesirable, to attempt, at all events for the present, to lay down such a definition as was proposed in Recommendation (3). The Representative Body has, in the opinion of the Council, afforded, by the three Resolutions above quoted, sufficientg uidance to enable the proper authorities of the Association to deal effectively with any individual cases which maybe submitted for their judgment.

Medico-Political

12. SALE OF PATENT MEDICINES.

(Continuation of Paragraph 88 of Annual Report.)

Since the issue of the Annual Report of Council, communications have passed between the Association and the Parliamentary Committee on Food Reform, a body composed of members of Parliament who are interested in the general question of Food Reform and whose policy as regards the sale of patent medicines corresponds closely with that of the Association. Copies of all reports of the Association dealing with the subject have been furnished to the Committee, and the support of the Association has been promised so far as its declared policy will allow. The British Pharmaceutical Conference has also taken up the subject, and is circularising its constituent associations with a view to obtaining information, and later to taking action.

It has been arranged that further data shall be collected and that in the Autumn an effort shall be made to induce the Home Secretary to receive a strong deputation on the subject. The Parliamentary Committee on Food Reform reports that it is also co-operating with the British Pharmaceutical Conference, the English County Councils Association, the Association of Municipal Corporations, and the Scottish Society of Medical Officers of Health.

In view of the recent statements of the Home Secretary concerning the probability of appointment of a Departmental Committee, or Royal Commission, to inquire into the whole question of patent medicines, instructions have been given for the preparation of evidence upon this subject with a view to submission to the Home Secretary, the Departmental Committee, or Royal Commission. The Council has indicated the willingness of the Association to co-operate with any other body interested in this question.

13. SPIRITUAL HEALING.

In November, 1908, the Metropolitan Counties Branch drew the attention of the Council to proposals which had recently been made to the Bishop of London for the establishment of a Diocesan Council to consider the subject of Spiritual Healing. In view of the fact that the subject was apparently arousing considerable interest both in medical and lay circles the Council has caused an investigation to be made by a Special Sub-Committee of the Medico-Political Committee and submits for the consideration of the Representative Body a Report embodying the results of the investigation. (This Report will be published next week).

The Committee recommends:—

That the Report on Spiritual Healing, submitted by the Council, be approved, and that the Council be instructed to take steps to give it general publicity.

14. CENTRAL EMERGENCY FUND.

(Continuation of paragraph 122 of Annual Report).

The preliminary appeal to the active workers of the Association issued on May 1st has realised the sum of about £450, but in view of the special emergency occasioned by the introduction into Parliament of the National Insurance Bill and of the decision of the Special Representative Meeting as to the formation of special defence funds for coping with this emergency, the Council has decided not to proceed further with this appeal. Those who have already subscribed have been asked whether they desire their subscriptions to be applied to any of the purposes to which the Central Emergency Fund may be applied, or whether they should be ear-marked for purposes specially relating to the National Insurance Bill.

15. MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN IN LONDON.

(Continuation of paragraph 97 of Annual Report).

As the result of a request from the Metropolitan Counties Branch Council that the Central Executive of the Association should co-operate in asking the President of the Board of Education to receive a deputation on subjects connected with the medical inspection and treatment of school children in London, a Memorandum was forwarded to the President, who agreed to receive a deputation on June 27th, 1911. (The Memorandum will be printed next week.)

The deputation consisted of the Officers of the Association, and the Members of the Medical Inspection of School Children Sub-Committee of the Association, together with the Members of the School Children Sub-Committee of the Metropolitan Counties Branch. (For report of deputation see Supplement to BRITISH MEDICAL JOURNAL, July 1st, 1911, page 24.)

16. CARE AND CONTROL OF THE FEEBLE-MINDED.

A communication concerning the care and control of the feeble-minded has been received from the Manchester and Salford Sanitary Association, requesting the support of the British Medical Association in representations to the Government as to certain methods of dealing with this important matter, the necessity of dealing with which has already been the subject of repeated representations by the British Medical Association to the Government. Inasmuch as the suggestions of the Manchester and Salford Sanitary Association go into matters which the British Medical Association has not previously considered, the Council has given instructions for a special report on the subject to be drawn up by the Medico-Political Committee and submitted to the Representative Body.

17. Naval and Military.

The Council regrets to learn that Surg.-Genl. W. R. Browne, C.I.E., I.M.S., who was nominated by the Council for election as a representative of the Indian Medical Service on the Council for the years 1911-1914, has been obliged, on the grounds of health, to retire from the Council, and will be unable to accept election. The Council nominates in his stead, as a Representative of the Indian Medical Service Surg.-Genl. J. P. Greany, I.M.S., for the term stated.

18. Ireland.

The Irish Committee has anxiously considered the special position of the medical profession in Ireland as regards the National Insurance Bill. While approving the benevolent objects of the Bill, the Committee expressed the opinion that the arrangements for medical benefits for Ireland are unworkable and unsuitable, and has circulated to the profession in Ireland a letter in which certain amendments of the Bill were indicated as being absolutely essential. In conjunction with the Irish Medical Association the Committee is striving to rouse and organise medical opinion in Ireland by means of circulars, meetings and deputations to Members of Parliament.

19. National Insurance Bill.

The Council has considered the instructions of the Annual Representative Meeting relating to the National Insurance Bill.[1]

Upon reference to Minutes 78 and 81 of the Representative Meeting, it will be seen that the duties devolving upon the Council in relation to the Bill fall under two heads, namely: first, that of the action necessary to secure amendment of the Bill in accordance with the views of the Association, and, secondly, the action necessary for the organisation of the profession, in order that, in the event of the Bill becoming law, a united front may be presented to secure the demands of the profession, upon points not specifically provided for by the Bill. The Council submits a Report of the action which has been taken, and of the present position, under each of these heads.

I. ACTION WITH RESPECT TO THE BILL.

Question as to Points to be provided for by Amendments.

In accordance with Minute 78 of the Representative Meeting, the question has been very carefully considered of which points in the policy of the Association, as declared by the resolutions of the Representative Meeting, would require amendments of the Bill and which would be more suitably carried out by regulations adopted under the Bill.

[1] Resolutions of Special Representative Meeting were published in the SUPPLEMENT of June 10th, pp. 408–9.

Amendments Drafted.

Amendments to the Bill have been prepared to give effect to the Resolutions of the Representative Meeting on the following points.

(1) Income limit for medical benefits (Minute 55).

(2) Placing the administration of medical and maternity benefits in the hands of the local Health Committees and not of the approved societies (Minute 56).

(3) To secure free choice of doctor by patient, subject to the consent of the doctor to attend (Minute 58).

(4) To secure due representation of the local profession in the governing bodies of the Service (Minutes 60, 61 and 63).

(5) To secure statutory recognition of local Medical Committees (Minute 67).

(6) To secure the separation of the State Service from charity (Minute 73).

Comparison of Amendments with Six Points.

Upon comparison of the above amendments with the statement approved by the Representative Meeting (Minute 82), of the six cardinal points in the policy of the Association, it will be seen that the amendments, if adopted, would give effect to points 1 (Income Limit); 2 (Freedom from Friendly Society control); 3 (Free Choice of Doctor); and 6 (Medical Representation in Administration). As regards points 4 and 5 (Local Option as regards Method of Remuneration, and Adequacy of Remuneration) the Council is of opinion that the Bill in its present form affords full opportunity for the profession to obtain all its demands, and that the position would not be improved by the proposal of amendments. Every effort will be made, however, to resist any amendment from other quarters which might prejudice the future action of the profession in this respect.

Income Limit as regards Maternity Benefit.

With reference to Minute 55 of the Special Representative Meeting, namely:

Minute 55.—That provision be made for the exclusion from medical *and maternity* benefits of persons whose average income from all sources exceeds £2 per week,

the instruction as affecting medical benefits has already been referred to. Respecting the maternity benefits the expediency of pressing amendments to the Bill, applying an income limit thereto, has been carefully considered and the Council has decided to postpone taking action in this matter pending further consideration by the Annual Representative Meeting. From statements which have been made since the introduction of the Bill it appears that the maternity benefit will be administered in the form of a contribution of a fixed amount towards the expenses incurred in connection with confinement, and will not necessarily involve any arrangements by local Health Committees, or other authorities under the Bill, with medical practitioners as to the terms on which they shall attend such patients. In these circumstances the question whether any given class of the community should receive the benefit would appear to be a matter in no way concerning the medical profession.

Action by Divisions.

Prints of these proposed amendments have been circulated to all the Divisions. Prints have also been circulated setting forth the six cardinal points above referred to, and also the General Resolution (Minute 28) urging delay in dealing with medical benefits pending arrival at an arrangement satisfactory to the profession. The Divisions have been urged to bring these under the notice of all Members of Parliament.

A form of Memorial has been circulated to all members of the profession, and the Divisions have been requested to organise a personal canvass to secure signatures to the Memorial of any who might not previously have signed.

Proposal of Amendments in Parliament.

Through the Central Office, Members of Parliament have been interviewed and induced to put down the amendments desired by the Association, with the result that every amendment now appears on the Order Paper of the House of Commons.

The amendments desired by the Association have also been placed by a Deputation before the Chancellor of the Exchequer, in order, if possible, to induce the Government to accept the amendments proposed by the Association.

Instructions have been given to the State Sickness Insurance Committee to place before the Annual Representative Meeting a full Report of the present position of the matter, which Report will be issued to the Divisions at the earliest possible date.

II. Organisation of the Profession.

Circularising the Profession generally.

On June 3rd, 1911, a letter embodying the principles approved by the Special Representative Meeting in reference to the Bill, was sent to every practising member of the profession in the United Kingdom, with the exception of the members of the Navy and Army Medical Services. With the letter was enclosed a post-card on which the recipient was asked to signify his approval and support of the policy of the Association.

Up to July 1st, 1911, nearly 18,000 post-cards had been received practically all expressing approval. About 100 refusals were received chiefly from practitioners who thought that the policy of the Association was not strong enough.

Letter to Secretaries.

At the same time a letter was sent to all Secretaries of Divisions and Branches informing them of what had been done to approach individual medical practitioners, and indicating the probable plan of campaign. They were urged (i.) to call Mass Meetings of the profession, and (ii.) to organise a canvass of the individual doctors in their areas for the purpose of securing their adhesion to the policy of the Association and inducing non-members of the Association to join it.

Action of Divisions.

A large number of Meetings have been held, all of which appear to have been well attended and enthusiastic. Many Divisions spontaneously formulated pledges which bound those signing them not to accept employment under the Bill except on terms agreeable to the local profession, and these were largely signed. Some commenced local guarantee funds, and practically all increased their membership. The total number of new members during the present year is over 3,000, an increase which is quite unprecedented and most of which is directly traceable to the activity of the Association with regard to the Insurance question generally, and especially the Bill.

Fresh Circular to Profession Generally.

On June 21st a Form of Undertaking and a Memorial to Members of Parliament and the Government were sent, together with a covering letter to every member of the profession (excluding Service Members, and practitioners describing themselves as not in practice). The recipient was asked to sign the Undertaking and Memorial and forward the documents to the Honorary Secretary of the Division of the Association in which he resided. Owing to the pressure of time the addressing of the envelopes was placed in the hands of a firm who keep the names and addresses of all members of the profession standing in type, and a list was supplied to each Honorary Secretary of a Division of those within the Division area to whom letters had been sent. Time did not permit of checking the list which has proved to be very defective, but through the great assistance of the Honorary Secretaries in correcting the lists it is believed that most members of the profession have now received the documents.

Division Secretaries were asked to institute a canvass of all members of the profession who had not returned their signed forms of Undertaking by June 26th, and the information now to hand shows that an active canvass of the profession is going on practically all over the British Isles. Several Divisions have reported that all, or all but one or two practitioners in their area have signed.

APPENDIX A.

SPECIAL REPRESENTATIVE MEETING.

Notice is hereby given that a Special Representative Meeting will be held in the Midland Institute, Birmingham, on Monday, July 24th, 1911, at 10 in the forenoon, for the purpose (I) of considering the following alterations of By-laws of the Association, submitted by the Council in accordance with the instruction contained in Minute 105 of the Annual Representative Meeting, 1910, as follows:—

> *Minute* 105.—That the Meeting approve of the principle that each Constituency elect at least one Representative and (in the United Kingdom) an additional Representative for each 100 Members after the first 50, and that on a card vote the voting power of a Constituency which has more than one Representative be equally divided among all the Representatives of that Constituency, and that the Council be instructed to prepare for consideration of the Representative Meeting such alteration of the Regulations as are necessary to carry this Resolution into effect.

(II) Of considering alterations of By-laws, relating to appointment of auditors and to alteration of Regulations, submitted by the Council in order to give effect to an undertaking reported to the Representative Body in the Annual Report of Council (see Supplement of May 27th, page 263, paragraph 29.)

Alterations of By-laws proposed.

(I.)—RELATING TO ELECTION OF REPRESENTATIVES.

By-law 18.

That in sub-paragraph (a) of By-law 18 the words "or Members" be inserted after the word "Member."

By-law 29.

That in sub-paragraph (1) of By-law 29 the words "each such Constituency being entitled to elect one Representative" be deleted.

That in sub-paragraph (2) of By-law 29 the article "a" be substituted for the word "one" in the second line, and that the word "one" be substituted for the article "a" in the fifth line.

New By-law (after present By-law 29).

That the following new By-law be inserted :—

Number of Representatives.

(1) Each Constituency shall be entitled to elect one Representative.

(2) Each Constituency in the United Kingdom having not less than 150 Members (according to the Annual List in force at the time of the election) shall be entitled to elect one additional Representative for each complete number of 100 Members in excess of fifty Members.

(Present) By-law 30.

That in sub-paragraph (1) of present By-law 30 the word "Every" be substituted for the word "The" in the first line.

That in sub-paragraph (2) of the present By-law 30 the word "or" be substituted for the word "and" in the last line.

That in sub-paragraph (3) of present By-law 30 the words "and instructing the Representative or Representatives thereon, and if such Meeting of the Members of the Constituency shall not be held, no Representative of the Constituency shall be entitled to attend the Representative Meeting," be substituted for the words "and instructing the Representative thereon,.....Representative Meeting."

That in sub-paragragh (4) of present By-law 30 the words "twenty-one" be substituted for the word "fourteen" in the second line, the words "or Representatives" be inserted aft the word "Representative" in the fifth line, and the wo "every" be inserted before the word "such" in the last line.

(Present) By-law 31.

That in present By-law 31 the word "Every" be substitute for the word "The" in the first line.

(Present) By-law 37.

That sub-paragraph (2) of present By-law 37 be amended t read as follows :—

> (2) Voting shall be by show of hands, unless befor such vote is taken twenty Representatives present reques that the vote be taken by card.

That a new sub-paragraph of present By-law 37 to be num bered (3), be inserted as follows :—

> (3) Where a vote is taken by card the Representativ of each Constituency shall be entitled (or in the case of Constituency electing two or more Representatives, such of those Representatives as are present shall together b entitled), to record a total number of votes equal to th number of Members in that Constituency according to th Annual list then in force; and where two or more Represen tatives of a Constituency are present the total number o votes of that Constituency shall be divided equally betwee those Representatives, fractions of votes being ignored Members of Council representing the Navy, Army an Indian Medical Services shall not take part in a vote take by card.

That in the present sub-paragraph (3) of present By-law 3 the words "or Representatives" be inserted after the word "Representative" in the third line.

That the present sub-paragraphs (3) and (4) of present By-law 37 be numbered (4) and (5) respectively.

(II).—RELATING TO APPOINTMENT OF AUDITORS AND TO ALTERATIONS OF REGULATIONS.

New By-law (after present By-law 28).

That the following new By-law be inserted :—

Business of Annual General Meeting.

> The appointment of an Auditor or Auditors (who shall be a professional accountant or professional accountants), and the fixing of his or their remuneration shall form part of the business of the Annual General Meeting.

Amendment of (Present) By-law 35.

That in present By-law 35 the words "to appoint an Auditor or Auditors (who shall be a professional accountant or professional accountants), and fix his or their remuneration" be deleted.

That in present By-law 35 the words "Regulations or," which occur in the nineteenth and twentieth lines, be deleted.

(III.)—RE-NUMBERING AND CONSEQUENTIAL ALTERATIONS.

That the By-laws be re-numbered as required, and that any verbal alterations which may be rendered necessary by the above alterations be made accordingly.

E. J. MACLEAN,
Chairman of Representative Meetings.

June 19th, 1911.

APPENDIX B.

ANSWERS TO QUESTIONS ON MEDICAL MATTERS IN LAY PRESS.

REPORT OF COUNCIL TO ANNUAL REPRESENTATIVE MEETING, 1911.

The attention of the Council has been drawn from time to time to the long-established and growing practice of lay newspapers publishing a column called "Health Hints,"

Medical Answers," or some similar title, in which they ofess to give medical advice and prescribe treatment to lividual correspondents.

2. In many cases it is asserted that the questions are swered by a medical practitioner, sometimes called "A est End Doctor of High Standing" or "An M.D.," and it nown to the Council that the statement that a qualified ctitioner is employed is certainly true in some instances.

3. A request has been received from a local professional ganisation that the Central Ethical Committee would press its opinion as to the propriety of medical men acting behalf of newspapers in this manner, and attention is led to the Resolution already placed upon the Agenda the Annual Representative Meeting, on behalf of the rmingham Central Division.

. The Council finds that it is a subject on which no inite pronouncement has been made by the Association, l therefore desires to submit the matter for the considera-n of the Representative Body.

. The Central Ethical Committee has been in communication h the medical writer of one of these columns, a Member of Association, who while expressing his desire to act in ordance with the wishes of the Association, states his sonal belief (i) that the continuance of such columns in lay press is to the public advantage; (ii) that if medical n do not conduct these columns they will certainly be ried on by lay-men whose advice will be less valuable;) that if these questions are answered by a medical man will use a wise discretion, will recommend the consulta-n of a private practitioner whenever he thinks a neglect do so would be dangerous, and will discourage the consul-ion of quacks and the employment of quack remedies and paratus.

. It has been suggested that, instead of condemning irely any association by a medical practitioner with such umns, some attempt should be made to regulate them. us it has been proposed that advice should only be given points of personal hygiene and diet, no prescription for rapeutic preparations of any sort being given, or, again, t therapeutic prescriptions should be restricted to external lications.

On the other hand it is contended that the basis of such umns is that advice is given and treatment prescribed for ents who have not been seen by the medical adviser. The lical man has to rely upon the patient's description of his nent or upon his statement of his former medical ndant's diagnosis, both of which are obviously untrust-thy.

This fact causes the public using such columns to run t risk of improper treatment.

Such improper treatment may itself be harmful, and in y cases it may cause serious danger by postponing proper tment.

. This system induces people to think that, if it is pos-for medical men to treat patients without seeing them also possible for unqualified persons to do so, and this s encouragement to one of the most cruel methods of kery.

. The fact that these columns might, if removed from ical control, be carried on by laymen with less satisfac-results to the correspondents is no excuse for the profes-giving countenance to what, even if less dangerous, is highly unsatisfactory and fraught with great risk to the munity.

. Such a modified plan as has been suggested in para-h 6 would still involve interference with the treat-t prescribed by other practitioners, and would, in any be undesirable, as the prescription, with insufficient wledge of the case, of hygienic measures, does not differ inciple from that of material remedies.

Recommendation:

That the Council recommend to the Representative Body

That the practice of medical men taking charge of columns in which answers to correspondents on medical questions are printed is highly detrimental to the public interest, and most improper from a professional point of view.

APPENDIX C.

REPORT OF COUNCIL ON POSITION OF MEDICAL PRACTITIONERS CALLED UPON TO EXAMINE (OTHERWISE THAN BY THE REQUEST OF THE PATIENT OR PERSONS ACTING UPON HIS BEHALF) PATIENTS WHO ARE UNDER THE CARE OF OTHER PRACTITIONERS.

REFERENCE.

THE Annual Representative Meeting 1909, passed the following Resolution, which has been referred by the Council to the Central Ethical Committee, and by the Central Ethical Committee to the Standing Sub-Committee, for consideration and report:—

> *Minute* 40*a*.—That the Council be instructed to prepare and submit to the Divisions a Report on the position of medical practitioners who are called upon to examine, on behalf of employers, insurance companies, and persons similarly interested, patients who are under the care of other practitioners.

MEMORANDUM.

I. *Question of* locus standi.—Any right of one person to employ a medical practitioner to make an examination and report on the health of another will usually arise under (*a*) a contract of employment, including those which fall within the purview of the Workmen's Compensation Act, or (*b*) a contract of insurance. It may suffice for the present to confine the consideration of the subject to these groups of cases.

II. The fundamental difference between the relations to one another of the medical practitioners concerned in a case of the kind under consideration and that of the practitioners in an ordinary consultation, such as was dealt with in the Report on the Ethics of Consultation, arises from the fact that in an ordinary consultation the practitioners taking part are all engaged in the interest of the patient, whereas in the cases to be dealt with in the present Memorandum they act for persons whose interests are divergent. Each medical practitioner is concerned in the interests of the person who employs him. Their rights and duties in respect of one another, apart from ordinary courtesy and the consideration which members of the profession are in every case bound to show to one another, depend upon the rights, and the obligations to one another, of those for whom they act.

III.—It is necessary, therefore, to consider briefly what are the rights and duties of the persons in whose interests the medical practitioners are respectively acting.

IV.—Of the cases in which the examination in question is made in connection with a contract of employment a large number arise under the Workmen's Compensation Act. In these cases the rights of the employer and of the workman, as regards the medical examination of the latter by doctors employed by the former, are to a great extent defined by statute. The workman will forfeit his claim to compensation if he throws any unreasonable difficulty in the way of his examination by the employer's doctor in the manner prescribed. On the other hand, the employer cannot demand as part of his statutory rights that any examination should be carried out in a manner which may injure the workman's health, of which the workman's doctor is the recognised guardian.

V.—Other cases in which an employer may claim to satisfy himself by an examination made by a doctor acting in his interest, as to the state of health of a workman, are those in which the question is to be determined of the workman's fitness for employment, apart from any question of compensation. In these cases, again, a workman has to consider whether it is more to his interest to submit himself to examination by the employer's doctor or to risk losing his employment. If he decide that it is to his interest, on the whole, to be examined, it is clear that his doctor can claim no right to interpose any difficulties in the way of examination other than those which are necessary for the protection of the workman's health.

VI. In insurance cases the person or company who have incurred a liability to pay compensation in respect of disease or injury are entitled to satisfy themselves by medical examination, by a doctor employed by them, as to the extent of such disease or injury, and the patient by refusing un-

reasonably to submit himself to examination, risks forfeiting his right to compensation. It is reasonable that he should be protected against injury in connexion with the examination, and he may demand, if he think proper, that his own doctor should be present at the examination to watch his interest in this and any other respect.

VII. In view of the considerations above stated it may be assumed for the purpose of the present Report that in every case which requires consideration in the Report the patient is satisfied, before any question of relations of the two doctors arises, that it is to his interest to submit himself to examination, and the medical practitioner who acts on his behalf can claim no rights upon grounds of medical ethics or medical etiquette, the exercise of which would conflict with the interest of the patient.

VIII. On the other hand, any rules of which the Association may express approval should be so framed as to tend by their operation to secure that the interests of the patient shall be properly safeguarded through the agency of the doctor employed by him.

IX. For convenience, the two practitioners concerned are spoken of in the following paragraphs and Rules as the "Medical Inspector" and the "Medical Attendant" respectively.

X. It may be the duty of the Medical Inspector to make such examination and enquiries as will enable him to report upon any of the following matters:

(*a*) Present state.
(*b*) Etiology of any existing disorder..
(*c*) Prognosis.
(*d*) Treatment.

XI. It will be the duty of the Medical Attendant:

(i) To give any information which his patient may authorise him to give.

(ii) To facilitate the examination in every way consistent with the patient's welfare.

Suggested Rules.

The following Rules are suggested as complying with the principles above stated:—

(1) Except as hereinafter mentioned, the Medical Inspector should give the Medical Attendant such notice of the date, time, and purpose of his visit as will afford reasonable opportunity for the Medical Attendant to be present should he or the patient so desire.

The exceptions are—

(*a*) When circumstances justify a surprise visit.

(*b*) When circumstances necessitate a visit within a period which does not afford time for notification.

(*c*) When the Medical Inspector, after due enquiry made, has no information as to whether the patient is under medical care.

Where the Medical Inspector has availed himself of any of the above exceptions, it shall be his duty to inform the Medical Attendant, if any, of the fact of his visit, and the reason for his action.

(2) The Medical Attendant must not put any unnecessary difficulties in the way of fixing a time convenient to both practitioners.

(3) If the Medical Attendant fails to appear at the time agreed upon, the Medical Inspector may proceed with his examination forthwith.

(4) The Medical Inspector must not, without the consent of the Medical Attendant, do anything in the course of his examination which involves active interference with the treatment of the case.

(5) Where the Medical Attendant fails to communicate with the Medical Inspector, the Medical Inspector shall, at his discretion, and subject to the consent of the patient, make any examination he may consider necessary.

(6) The Medical Inspector must not make any comments to the patient which are of the nature of criticisms of, or reflections upon, the treatment, nor must he express, without the concurrence of the Medical Attendant, any opinion to the patient as to the etiology, diagnosis, or prognosis of the case. His duty is strictly confined to examining into such matters as are necessary for the purpose of his report, and reporting to his employer, and to his employer only, his conclusions from such examination.

Meetings of Branches & Division

BIRMINGHAM BRANCH.

The fifty-seventh annual meeting of the Birmingh Branch was held on June 15th, at the Medical Institu Professor Barling was in the chair, and 52 memb present.

Confirmation of Minutes.—The minutes of the last ann meeting were read, confirmed, and signed.

Annual Reports.—The annual report of the Council the Branch, the report of the Representative on the Cent Council, the report of the Pathological and Clinical Secti the report of the Ethical Committee, and the financial sta ment of the Treasurer, having been circulated amongst t members were taken as read. It was resolved:

That they be adopted and approved.

Election of Officers.—The following officers were declar elected by the President, there being no contest: *Preside elect*, Dr. E. N. Nason; *Honorary Treasurer*, Dr. Thom Wilson; *Honorary Secretaries*, Mr. J. Furneaux Jorda and Dr. J. G. Emanuel.

Installation of New President.—The retiring Preside then welcomed the new President, Professor J. T. Morrison, who took the chair.

Votes of Thanks.—It was moved by the President seconded by the President-elect, and carried with acc mation:

That the cordial thanks of this meeting be given to Profess Barling for his services as President during the past sessi

It was moved by Dr. E. Underhill, seconded by M Seymour Barling, and carried:

That the best thanks of this meeting be given to the Rep sentative on the Central Council, the Honorary Treasur the Honorary Secretaries, and the officers of the Pati logical and Clinical Section.

Proposed Formation of New Division.—An applicati from a large number of practitioners in Walsall and t neighbourhood for the formation of a new division, to known as "Walsall Division of the Birmingham Branch was read. After the Chairman had announced that t application had been approved by the Central Division a recommended by the Branch Council, it was resolved:

That the application be granted, subject to a satisfacto arrangement of boundaries.

Postponement of President's Address.—The inaugur address by the new President was deferred to anoth occasion, in consequence of a meeting of the Branch to b held in the Midland Institute for the purpose of considerin the National Insurance Bill.

Central Division.

The annual meeting of the Central Division was held o Wednesday, June 14th, at the Medical Institute. M Marsh was in the chair, and fifty-five other members wer present.

Confirmation of Minutes.—The meetings of the las annual meeting were read, confirmed, and signed.

Scrutineers.—Drs. Sproat and Wilkes were appointe scrutineers.

Election of Officers.—No other nominations having bee received, the Chairman pronounced the following dul elected: *Chairman*, J. F. Jordan; *Vice-Chairman*, A Lucas; *Honorary Secretaries*, W. T. Lydall, B. C. Aldren To fill five seats on the Branch Council eight member were nominated, of whom Drs. Dain, Neal, and Purslow Messrs. Marsh and Nuthall were elected. Twelve nomina tions were made for the seven members of the Executive The following were elected: Drs. Alldridge, Boeddicker Jordan, Kirby, McCall, and Trumper, with Mr. Gamgee.

Report of the Executive Committee.—The report of th Executive, taken as read, was received and adopted.

Payment for Instruction in First Aid.—The report of th Executive on the payment for instruction in first aid hygiene, etc., was, after discussion, approved. This repor contained a recommendation to the effect that such service as are indicated in the report should be paid for, but tha exceptions might be made in special cases only with th sanction of the Executive Committee.

Proposed New Division.—A proposal from Walsall to rm a separate Division of the Association received the proval of members present.

Annual Representative Meeting.—A resolution empower- the Executive to instruct the Representative upon any sh matters arising before the Annual Representative eting was agreed to. The Division then considered the enda of the Representative Meeting, and instructed the presentative as to his attitude towards the various tions.

Votes of Thanks.—A vote of thanks to Mr. Marsh for his vices as Chairman during the past year was carried by clamation and briefly acknowledged. Votes of thanks to other officers, members of the Executive Committee, d the scrutineers concluded the business of the meeting.

WARWICK AND LEAMINGTON DIVISION.

E annual meeting of this Division was held at the rneford Hospital, Leamington, on June 10th. There re present Drs. Haynes, Thursfield, Rice, J. F. Sutfe, W. H. Sutcliffe, Clague, Clayton, Cole, Burg, lyneux, Ward, Silvester, Atkinson, Alexander, Mason, ie, Elkington, Latimer Greene, Ellerton, Handfield-nes, Dickinson.

National Insurance Bill.—It was unanimously decided to pport the policy of the British Medical Association, and Executive Committee was instructed to canvass each dical practitioner in the district personally.

BORDER COUNTIES BRANCH.

E spring meeting of this Branch was held at the chton Royal Institution on Friday, May 26th. Twenty- members were present. The SECRETARY intimated t he had received a telegram from Dr. Bird, President, ressing regret that he was at the last moment pre- ted from attending the meeting. Dr. BOWSER moved t Dr. MURDOCH (Annan), Vice-President, take the ir.

Minutes.—Dr. MURDOCH, having taken the chair, called n the Secretary to read the minutes of the last Branch eting.

Apologies for Non-attendance. — The SECRETARY inti- ed apologies from twenty-five members.

Idiocy and Imbecility.—Some discussion arose as to ther the order of business on the agenda be departed n and the meeting given up to a discussion on the posi- of the medical profession under State insurance. It unanimously decided to proceed with the business in order on the agenda paper. Dr. MURDOCH then called n Dr. F. H. Pearce for his paper. Dr. PEARCE, after nking the members of the Branch for the opportunity had given him of reading a paper on idiocy and ecility, said that he hoped that there might be points nterest in it for all. As regards the classification of type of mental case, he thought the perfectly simple of calling them all "mental defects" was the , and then to divide them into three groups— h grade, middle grade, and low grade. The h-grade mental defect was the man or woman who only just capable of earning his or her own living nst competition, and the low grade was the individual was quite helpless and could not be taught anything. ween these two types there was a gradual scale, and no could quite say where the middle grade commenced where it passed into the low grade; but roughly, the dle grade was the mental defect who could just be ht some simple work, but no more. He thought he right in saying that if a patient had been diagnosed mental defect, and it was then found that he or she d earn his or her own living against competition, then diagnosis was at fault; but people must remember a mental defect who was getting good wages in some e or place where the master or mistress thoroughly rstood his or her ways was not earning a living nst competition. All mental defects needed super- n. They needed some one who would keep a look them, and also be prepared to overlook certain things they did, and in that lay the secret of training and aging them, and also of getting good work from them. e etiology of the mental defect heredity played a very large part, and, if they were to exclude Mongols, about 70 or 80 per cent. of the cases showed heredity. Dr. Pearce quoted cases to bear out this contention, and also quoted cases to show the effect of mental impressions. Dr. Pearce said that he had often been asked this question by general practitioners: What can we say about an obvious mental defect when asked to give a prognosis of what will happen if the child is sent to an institution? He thought the answer must depend upon the grade that the mental defect was, but that the one golden rule to remember was, "Once a mental defect, always a mental defect." One could not cure a mental defect, though one could sometimes improve the cases out of recognition. The low grade mental defect could not be taught much to render him or her of any use, and all that could be hoped for was perhaps teaching cleanly habits and a certain amount of obedience, but the middle and high grades could be taught almost anything. With the middle grade there was always this to be considered, that one of these cases could be taught obedience, cleanly habits, and simple house work, and that when sent home a brighter member of the family might go out and earn money for the upkeep of the house while the mentally defective did the house work. For regular routine work there was nothing to beat the middle grade mentally defective, and many people quite forgot that it was no drudgery to them to do the same thing day after day, week after week, and year after year; the fact was that they were pleased to do it. If the mentally defective were taught to do good work, and then set to make a hundred things the hundredth was made with just as much care as the first. For simple odd jobs about the house or garden that an ordinary gardener would shirk, the middle grade mentally defective was most admirably suited, and, as a class, mentally defectives took pleasure in the work they did, while he thought the average dement did not. The Mongolians were a very interesting class. They were called Mongolians from their resemblance to the Mongol race, and they could almost all be mistaken for brothers and sisters. Moreover, if one had never seen a certain individual case before, one could tell the relatives all the peculiarities of the patient, much to their surprise. They were practically of two types—the lively and bright, which corresponded to the middle grade mentally defective, and the dull and lethargic, which were low grade. The lower the grade the more did these children seem to favour the type of face of the new-born child, and especially one that was not full term, and this was interesting because the weight of evidence now went to show that these cases were due to lack of vitality in the parent or parents. Dr. Pearce then described very fully the observations made by Dr. Rankine and Dr. Ormonde of Guy's Hospital, of cases at Earlswood, and gave the results of their examinations of the eye in these cases. He afterwards threw a series of thirty-two lantern slides upon the screen. Dr. MURDOCH moved a very hearty vote of thanks to Dr. Pearce for his interesting paper. Dr. EASTERBROOK seconded Dr. Murdoch's motion. Dr. PEARCE replied.

Investigation of Mental Processes.—Dr. MURDOCH then called upon Dr. W. J. Maloney for his paper. Dr. MALONEY drew attention to the great advances made in scientific methods of investigation of mental processes. He then detailed various experimental works in which he had been engaged on the Continent. Dr. Maloney's paper will not readily be forgotten by those who listened to his vivid and eloquent description of his dash into the realms of insanity. The PRESIDENT moved a very hearty vote of thanks to Dr. Maloney.

National Insurance Bill.—The SECRETARY suggested that as a meeting of the Scottish Division was convened to be held at the termination of the Branch meeting, it might possibly facilitate matters if the Branch meeting was terminated and the Scottish Division meeting constituted. He was sure there would be no objection made to the members of the English Division present taking part in any discussion upon State Insurance. An irregular and animated discussion then followed as to whether the Branch meeting should be closed or not. On the CHAIRMAN putting the question to the meeting, it was unanimously resolved to proceed to the consideration of the question of State Insurance. After most of the members had spoken on the subject the resolution published in the SUPPLEMENT of June 17th, p. 448, was passed.

Dinner.—The meeting was thereafter brought to a close, some of the members of the Branch afterwards dining together at the Station Hotel.

CONNAUGHT BRANCH.

THE annual general meeting was held at Regan's Hotel, Claremorris, at 1 p.m. on May 24th. In the absence of the President, Dr. C. J. O'L. Maguire, Dr. J. MACDONNELL (of Roscommon) was voted to the chair.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Apologies for Non-attendance. — Apologies for non-attendance were read from Drs. Kinkead, O'Brien, Gorham, Birmingham (of Westport), Martyn, Fawcett, Carroll, Rutherford, Rossiter, and Hanrahan (Holymount). The latter, in a letter expressing regret at his inability to attend, added that he thought the Insurance Bill bad and inapplicable to Ireland.

Election of Officers.—The following officers were elected: *President*, C. J. O'L. Maguire, M.D.; *President-elect*, M. J. B. Costello, M.B.; *Honorary Secretary*, John Mills, M.B., District Asylum, Ballinasloe; *Representative for Representative Meeting*, T. B. Costello, M.D.; *Representatives on Irish Committee*, R. B. Mahon, M.D., John Mills, M.B.; *Executive Committee*, Drs. C. L. Birmingham, J. Carroll, D. Crowly, T. B. Costello, J. A. Hanrahan, R. W. Kelly, R. J. Kinkead, Joseph MacDonnell, R. B. Mahon, R. J. Martyn, and John Mills.

Correspondence.—Various documents from the Financial Secretary and Medical Secretary were read. On reading the circular from the Medico-Political Committee of December 21st, 1910, it was resolved unanimously:

> That no fee of less than 10s. 6d. for complete examination with urinary analysis should be accepted.

The queries on the Report on the Organization of Medical Attendance were considered and answered, and the report directed to be returned to the Medical Secretary. It was unanimously resolved that committees of public assistance authorities in Ireland should not contain shopkeepers, in accordance with the precedent established by the Congested Districts Board.

Representative at Representative Meetings. — It was unanimously agreed that if the Representative to Representative Meetings notified his inability to attend any meeting during the ensuing year, the president and honorary secretary be empowered to nominate a deputy.

National Insurance Bill.—The National Insurance Bill was carefully discussed, and the resolutions published in the SUPPLEMENT of June 3rd, p. 349, were adopted.

DORSET AND WEST HANTS BRANCH:

BOURNEMOUTH DIVISION.

A MEETING of this Division was held on Thursday, May 25th, at St. Peter's Hall, Bournemouth, at 3.30 p.m. Invitations to attend had been sent to all members of the profession. Over eighty practitioners were present, more than two-thirds of whom were members of the Division.

Apologies for Non-attendance.—Many apologies for non-attendance were received. The chair was taken by Dr. E. KAYE LE FLEMING.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Referendum.—The questions referred to the Division relating to the above were answered as follows:

> I. In the affirmative, except that 10 per cent. of the membership be substituted for the proposed one-fifth.
> II. No previous registration to be required from members.
> III. In the affirmative to both parts.

National Insurance Bill.—The National Insurance Bill was discussed (see SUPPLEMENT, June 10th, p. 416).

WEST DORSET DIVISION.

A SPECIAL meeting of the Division was held at the Princess Christian Hospital, Weymouth, on June 7th, Dr. WHITTINGDALE, President of the Branch, in the chair.

The National Insurance Bill.—This matter was discussed (see SUPPLEMENT, June 24th, p. 480).

Treatment of School Children.—A report of the Special Committee of the Bournemouth Division on the Treatment of School Children found on inspection to be defective, w considered in connexion with the memorandum (No. 25) this subject.

The alterations and recommendations suggested in tl report were adopted as they stood.

Vote of Thanks.—A vote of thanks to the Hospital Co mittee for their kindness in lending the room, and o to Dr. Sanderson Wells, for his hospitality in giving t members tea, closed the proceedings.

DUNDEE BRANCH.

THE annual meeting of this Branch was held in t School of Medicine on June 2nd, 1911. There we present sixty medical practitioners of Dundee and distric

Election of Officers.—The following office-bearers we elected: *President*, C. S. Young, Dundee; *President-ele* Charles Aymer, Bervie; *Past-President*, D. Laing, Arbroat *Vice-Presidents*, D. Wardrop, Alyth; W. E. Foggie, Dunde *Treasurer*, D. M. Greig, Dundee; *Secretaries*, R. Cochra Buist, Dundee; Martin Smith, 324, Perth Road; *Counc* M. Connon, Montrose (elected 1909); A. D. Yule, Arbroat (elected 1909); G. A. Pirie, Dundee (elected 1910); C. Ke Dundee (elected 1910); N. J. Sinclair, Forfar (elected 1910 A. P. Low, Dundee; *Representative for Representati Meeting*, R. C. Buist.

National Insurance Bill.—The National Insurance Bi was discussed (see SUPPLEMENT, June 24th, p. 481). Dr. R. BUIST reported on the resolutions passed at the Speci Representative Meetings, and gave an account of the vie expressed by the Chancellor of the Exchequer at th meeting. The National Insurance Bill was then fully di cussed by many of those present, and Dr. Buist explaine various points which were not quite clear to several of t members. The various motions as drawn up by the Ass ciation were put to the meeting and unanimously adopte while various measures necessary for the unity of t medical men locally were proposed and adopted. It w also resolved that a deputation, consisting of the Presider and Secretary, be appointed to interview the members Parliament for the Branch area.

EDINBURGH BRANCH:

LOTHIANS DIVISION.

THE annual meeting of this Division was held on June 7t

Election of Officers.—The following were elected office for the ensuing year: *Chairman*, Dr. Keay (Uphall); *Vic Chairman*, Dr. Martine (Haddington); *Honorary Secretar* Dr. Easterbrook (Gorebridge); *Executive Committee*, Dr H. Ballantyne (Dalkeith), G. A. Dickson (South Queens ferry), Scott (Broxburn), A. D. R. Thomson (Musselburgh and F. Crombie (North Berwick).

LANCASHIRE AND CHESHIRE BRANCH:

ISLE OF MAN AND BLACKPOOL DIVISIONS.

A JOINT meeting was held at Jenkinson's Café, Blackpoo on May 29th, 1911, at 8 p.m. There were present Dr Dora Bunting, Dunderdale, Fearnhead, Rhodes, A. Taylo and Rees Jones. Dr. RHODES was voted to the chair.

Representative at Representative Meetings.—Dr. DUNDE DALE proposed and Dr. A. TAYLOR seconded:

> That Dr. E. W. Rees Jones be elected Representative of th Joint Divisions at meetings of the Representative Body the Association.

ANNUAL MEETING.

The annual meeting was held at Jenkinson's Café, Black pool, on May 29th, 1911. There were present Drs. Do Bunting, Baird, Barton, Court, Dunderdale, Forbes, Fear head, Gornall, Hill, Iredale, Johnson, B. Jones, G. Jones, Linnell, McIntosh, McCandlish, Pike, Rhode Richardson, Stewart, A. Taylor, Walton, Rees Jones, an the following visitors: Drs. Edith Johnson, W. H. Buckle Carr, Calvert, Dochard, Johnson (Fleetwood), Penma HENRY (Poulton), Riddell, Godley, Thomson (c.o. D Dunderdale). In the absence of Dr. Forbes, Dr. RHODE was voted to the Chair.

Confirmation of Minutes.—The minutes of the gener meeting held on April 5th, 1911, were read, approved, an signed by the Chairman of this meeting.

Report of Executive Committee.—The report of t Executive Committee was read, received, and adopted.

Election of Officers.—The following office-bearers were ected for the ensuing year: *Chairman*, Dr. F. S. Rhodes; *ice-Chairman*, Dr. J. Stewart; *Secretary*, Dr. E. W. ees Jones; *Representative at Representative Meetings*, r. Rees Jones; *Representative on Branch Council*, Dr. ees Jones; *Executive Committee*, Drs. Forbes, Dora unting, McIntosh, Richardson, Gornall, Dunderdale, Ire-le, and Billing.

National Insurance Bill.—The meeting then proceeded discuss the Insurance Bill, and the discussion was rown open to all persons present at the meeting. The llowing persons took part in the discussion: Drs. RHODES, ORBES, B. JONES, BARTON, CARR, PENMAN, JOHNSON (Fleet-ood), MCINTOSH, RICHARDSON, CALVERT, STEWART, DOCHARD, EDALE, BUNTING, and DUNDERDALE. The resolutions ere published in the SUPPLEMENT of June 17th, p. 451.

MANCHESTER (WEST) DIVISION.

HE annual general meeting of this Division was held on ay 31st at the Technical Institute, Old Trafford.

Election of Officers.—The following officers were ected for the ensuing year: *Chairman*, Dr. Prowse; *ce-Chairman*, Dr. Mockler; *Secretary*, Dr. Scanlon; *sistant Secretary*, Dr. Knight; *Representative at Repre-ntative Meeting*, Dr. Worswick; *Executive Committee*, s. Boyd, D'Ewart, Edge, Nicholl, Dearden, Floyd, rrison, Paterson, Prowse, Woodcock, and Worswick; *int Committee of Manchester and Salford Divisions*, s. D'Ewart, Mockler, Prowse, Scanlon, and Worswick; *presentatives at Branch Council*, Drs. Prowse and rswick.

National Insurance Bill.—The National Insurance Bill s discussed at a special meeting on June 16th (see PPLEMENT, July 1st, p. 17).

WIGAN AND LEIGH JOINT DIVISIONS.

MEETING of these Divisions was held in the Royal Hotel, gan, on June 13th, Dr. BLAIR in the chair.

National Insurance Bill.—The resolution published in SUPPLEMENT (June 24th, p. 481) was proposed by Dr. RSH (Atherton), seconded by Dr. GRAY (Leigh), and carried *nine contradicente*.

Every member of the Wigan Division gave his signed nesion to the policy of the Association.

Representative at Annual Representative Meeting.—Dr. nne, Medical Officer of Health, Leigh, was proposed by BLAIR, seconded by Mr. MACELLIGOTT, and unanimously cted Representative of the Joint Divisions at the Annual neral Meeting to be held in Birmingham in July.

METROPOLITAN COUTIES BRANCH:

HAMPSTEAD DIVISION.

E annual meeting of this Division took place on Friday, ne 9th, at 8 p.m., at the Central Library, Arkwright ad. In the absence of Dr. Ford Anderson at the inning of the meeting, Dr. OPPENHEIMER took the chair.

Minutes.—An account of the last Divisional meeting ing been printed in the JOURNAL, the minutes were en as read.

Readjustment of Boundaries.—A letter was read from Honorary Secretary of the Tottenham Division *re* djustment of boundaries. This was referred to the mittee.

Installation of New Chairman.—Dr. Adam Oakley was nimously elected Chairman of the Division for the sion 1911–12. Dr. OAKLEY then took the chair and ressed his thanks to the Division and his feeling of idence in following the able chairmanship of Dr. Ford lerson.

Vote of Thanks to Dr. Ford Anderson.—A vote of nks to Dr. Ford Anderson was proposed by Dr. RE, seconded by Dr. OPPENHEIMER, and carried with lamation.

Election of Officers.—The following officers and members the committee were unanimously elected: *Vice-irman*, Dr. Coram James; *Honorary Secretary*, Miss a L. Dobbie, M.D.; *Assistant Honorary Secretary*, Mr. A. Dorrell; *Representatives on Branch Council*, Drs. E. Ware and H. J. Macevoy; *Members of Committee* (10), J. Ford Anderson, Mr. H. W. Armit, Dr. P. Evans, Dr. Taylor, Dr. C. MacFadden, Mr. A. R. Roche, Mr. F. E. Scrase, Miss E. S. Milestone, M.D., Dr. C. F. McLeary, and Dr. A. W. Picard.

Vote of Thanks.—A vote of thanks to Dr. Cunnington, the retiring Honorary Secretary, was passed. Dr. CUNNINGTON replied.

Branch Council.—Dr. CORAM JAMES gave a short account of matters recently under consideration by the Branch Council.

National Insurance Bill.—This bill was discussed (see SUPPLEMENT, June 24th, p. 477).

GREENWICH DIVISION.

A MEETING of this Division was held at the Lewisham Infirmary on Thursday, June 8th, Dr. H. C. BURTON in the chair. There were present thirty-eight members and eighteen visitors.

Confirmation of Minutes.—The minutes of the previous meeting were confirmed.

Annual Report.—The annual report was received and adopted.

Election of Officers.—The following officers were elected: *Chairman*, Dr. C. J. Parke; *Vice-Chairman*, J. H. Keay, M.D.; *Honorary Secretary and Treasurer*, L. F. Hemmans, M.B.; *Representative at the Representative Meetings*, J. H. Keay, M.D.; *Representative on the Branch Council*, Dr. C. G. Gooding; *Executive Committee*, Drs. E. Du Cane, F. S. Hogg, F. S. Toogood, A. E. Crabbe, F. J. H. Bateman, H. C. Burton, C. G. Wallis, and E. O. Cox.

National Insurance Bill.—Dr. KEAY opened a discussion on the State Insurance Bill. This was continued by Drs. HARTT, BOTHROYD, ANNIS, MACNAMARA, and others, and the resolution published in the SUPPLEMENT of June 17th, p. 448, was moved by Dr. HARTT, seconded by Dr. ANNIS, and carried *nemine contradicente*.

TOTTENHAM DIVISION.

THE sixth ordinary meeting of this Division was held on June 13th, at the Hornsey Council Schools, Woodstock Road, Finsbury Park. Dr. H. B. BRACKENBURY in the chair. All the medical men in North Middlesex were invited to be present. More than 80 attended. There were 67 members of the Association present.

Confirmation of Minutes.—The minutes of the annual meeting of May 26th were signed as correct.

Change of Boundary of Division.—A letter from the Honorary Secretary of the St. Pancras Division having been read, it was unanimously resolved:

> That the boundary common to the Tottenham and the St. Pancras and Islington Divisions be forthwith moved so as to correspond with the boundary of the Administrative County of London.

National Insurance Bill.—The National Insurance Bill was discussed (see SUPPLEMENT, June 24th, p. 479).

NORTHERN COUNTIES OF SCOTLAND BRANCH.

THE annual meeting of this Branch was held on Saturday, June 10th, at Elgin, Dr. BRODIE CRUICKSHANK (Nairn) in the chair. Thirty members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

Apologies for Non-attendance.—Apologies were intimated from Drs. Cameron (Nairn), Brander (Fort William), Balfour (Aviemore), Kaye (Strathpeffer), and many others.

The late Dr. Asher Forsyth.—Dr. BRODIE CRUICKSHANK referred in suitable terms to the loss the Branch had suffered by the death of Dr. Asher Forsyth (Inverness), President-elect for 1911–12, and it was resolved to enter on the minutes a record of the high esteem in which he was held by all the members of the Branch in the district in which he resided, and the Secretary was asked to forward to Mrs. Forsyth an expression of their deep sympathy in the loss she had sustained by the death of her husband.

Election of Office-bearers for 1911–12.—The following were elected officers for 1911–12: *President*, Dr. Sellar (Aberlour); *Vice-Presidents*, Drs. Cruickshank (Nairn) and Pender Smith (Dingwall); *Members of Council*, Drs. Kaye (Strathpeffer), Salter (Nairn), Hutchison (Grantown), Miller (Aviemore), Ironside (Fochabers), Duguid (Buckie); *Representative on Representative Meeting*, Dr. Brodie Cruickshank (Nairn); *Representative on Central Council*,

Dr. John Gordon (Aberdeen); *Honorary Secretary and Treasurer*, Dr. J. Munro Moir (Inverness).

Annual Meeting.—It was agreed to hold the next annual meeting at Craigellachie.

Autumn Meeting.—It was decided to hold the autumn meeting at Nairn.

National Insurance Bill.—This measure was considered (see SUPPLEMENT, June 24th, p. 482).

Luncheon, etc.—After the business meeting the members joined the Aberdeen Branch for luncheon, and in the afternoon golf was enjoyed at Lornemouth through the courtesy of the Moray Golf Club.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH:

FURNESS DIVISION.

A MEETING of the Furness Division was held in the Masonic Buildings, Barrow, at 3.15 p.m. on June 9th. Invitations had been sent to every practitioner in the Furness district, as the meeting was called to receive the Representative's report and to discuss the State Insurance Bill. The response exceeded expectation, as the meeting was the largest and most enthusiastic held since the Division was constituted. The following members were present: Dr. Kendall (Chairman), Drs. Sansom, Daniel, Callaghan, Allan, Carmichael, Fawcitt, Sinclair, Lowther, Alexander, Wilson, Anderson, E. Reed, Hawksworth, J. A. Reed, Brown, Cook, Carter, Pooley, Ashburner, Bowman, Cross, Foster, Fothergill, Booth, Thompson, Harper, Parsons, Johnston, Coffey, and Livingston; nine non-members—namely, Drs. Thomas, Cammock, Howie, Hooper, Orr, Dearden, Challinor, Dunn, and Stoney.

Confirmation of Minutes.—The minutes of the previous meeting were read and adopted.

Apology for Non-attendance.—The SECRETARY then read a telegram of apology from Dr. Collins.

Letter from Medical Secretary.—The SECRETARY then read communications from the Medical Secretary indicating the policy of the British Medical Association and showing the lines along which they intended to go.

Dr. SANSOM took the chair during the first part of the meeting.

Election of Vice-President.—Before commencing the discussion of the State Insurance Bill the SECRETARY intimated that Furness had the choosing of the Vice-President for the Branch for the following year. Dr. Daniel was unanimously elected.

Report of Representative.—Dr. DANIEL (Representative) then read his report. The CHAIRMAN thanked Dr. Daniel for his report.

National Insurance Bill.—The meeting then proceeded to discuss the resolutions passed by the Representatives. The discussion was general, the CHAIRMAN being of the opinion that it was not advisable to make the ruling too strict. The bill was criticized mostly adversely, the general impression apparently being that it seemed to be impossible to work the bill as it stood at present. It was too vague, and while it threatened to cripple, if not ruin the practitioner, there was little tangible to lay hold of. The feeling was absolutely unanimous and very strong that the friendly societies should not have the administering of the Act nor the control of the medical men. One member pointed out that whatever action was taken regarding "friendly societies" should apply to all works and contract practices where the method of working and paying were the same as in the friendly societies—in short all "club" work should be treated alike. A non-member said this bill was a reflection on the manner in which doctors had carried out their work in relation to clubs. He thought that now was the time for medical men to show what they could do in administration work. Those present, with one exception, condemned absolutely the medical benefits being available for those over £2 weekly. Under free choice of doctors the position of friendly societies' medical officers was considered. The question of malingering was raised by one non-member, who thought that at present malingering was bad enough, but with free choice of doctors there would be no check on it. All the resolutions passed by the Representatives were then adopted. The second of the resolutions published in the SUPPLEMENT was proposed by Dr. CARMICHAEL, who said he could not understand why the Association had allowed go unchallenged the remarks made by Mr. Lloyd George the effect that club doctors did not supply proper medicin to their patients. While this might be true of a very fe it was certainly not generally true, and that statement w really a serious reflection on an honourable body of me They should not allow it to go unchallenged simply becau we thought it was too ridiculous or small. Hundre of people would believe it because Mr. Lloyd George ha said it.

Vote of Thanks.—The following resolution was passed

> The best thanks of the medical men of Furness are due Dr. Daniel for his services as Representative, and for t clear and lucid manner in which he has laid the matt before the meeting.

NORTH WALES BRANCH:

SOUTH CARNARNON AND MERIONETH DIVISION.

THE annual meeting of the Division was held at the Tow Hotel, Pwllheli, on Thursday, May 25th. Dr. W. WILLIAMS (Machynlleth), Chairman, presided, and the were present: Dr. Hugh Jones (Dolgelly), Dr. H. Jon Roberts (Penygroes), Dr. R. Jones Evans (Pwllheli), Dr. Lloyd Owen (Criccieth), Dr. D. Livingstone Davi (Criccieth), Dr. R. H. Griffith (Portmadoc), Dr. Rowland (Llanaelhaiarn), Dr. R. Rowlands (Criccieth), Dr. O. Wynn Griffith (Pwllheli), Dr. G. W. Griffith (Pwllheli), Dr. Jones Evans (Llangian), Dr. J. E. Griffith (Pwllheli), D L. F. Cox (Llanbedr), and Dr. Y. M. Jones-Humphrey (Cemmaes), Honorary Secretary, *pro tem.*, Dr. Edward (Dolgelly), Dr. Thomas (Bottwnog).

Confirmation of Minutes.—The minutes were read an confirmed.

Election of Officers.—The following were elected officer for the ensuing year: *Chairman*, Dr. R. H. Griffit (Portmadoc); *Vice-Chairman*, Dr. Thomas (Bottwnog) *Honorary Secretary*, Dr. H. Gladstone Jones (Criccieth) *Representative to Representative Meetings*, Dr. R. H Griffith (Portmadoc); *Deputy Representative*, Dr. Hug Jones (to meeting in London); *Representatives on Branc Council* (three), Dr. Harry Griffith (*ex officio*), Dr. Hug Jones, Dr. Richard Jones, Dr. J. W. Rowlands; *Executiv Committee*, Dr. Jones Evans, Dr. W. R. Williams, D G. W. Griffith; *Representative of North Wales Branch o Central Council*, Dr. H. J. Roberts.

SOUTH-EASTERN BRANCH.

THE annual meeting of the Branch was held on Wednesday June 7th, 1911, at the Old Grammar School, Ashford.

Meeting of Council.—The Council met at 11.30 a.m., an got through a long agenda, including the election of 10 candidates, and arrangements were made for a specia Council meeting before the usual quarterly one, if require for the election of candidates.

Luncheon.—The President-elect, Dr. GEORGE WILKS, o Ashford, entertained the members to lunch.

General Meeting.—The annual meeting was held a 2.15 p.m. at the Old Grammar School, sixty-six member being present. The chair was taken by Dr. C. H. ALLFREY the retiring President, who, after the reading and confirmation of the minutes of last annual meeting, referred i feeling terms to the death of Dr. J. J. Macan, the ex-President, all the members standing.

Election of Officers.—The election of officers for 1911–12 was reported as follows: *President*, Dr. George Wilks Ashford; *President-Elect*, Dr. John Scott, Bromley; *Vice-Presidents*, C. H. Allfrey (St. Leonards), Mr. J. Cooper Wilkinson (Ashford); *Honorary Secretary and Treasurer* Dr. E. A. Starling (Tunbridge Wells). Dr. Allfrey then vacated the chair, which was taken by Dr. G. WILKS.

Apologies for Non-Attendance.—Apologies for absence were read from Drs. Caldecott, Hoare, Gosse, Douglas Simpson, Willock, Dartnell, F. Hinds, Batterham, Merry Bushnell, Jamison, and H. Chisholm Will.

Annual Report and Financial Statement.—The annual report and the financial statement were taken as read, and were separately received and adopted by the meeting.

Votes of Thanks.—Votes of thanks were passed to the officers of the past year. The Honorary Auditors, Dr. D Davies and Mr. C. Elliott, were thanked and asked to kindly act again.

Rules of Branch.—The rules of the Branch as revised d presented by the Council were received and adopted.
National Insurance Bill.—The National Insurance Bill is then introduced. The policy of the Association as pressed by the Special Representative Meeting was read, d led to a very animated discussion. General approval is expressed of the various points, and especially of the ministration of medical and maternity benefits not being aced in the hands of the friendly societies. A strong nority wished to have the principle of payment per endance definitely introduced into the Bill. In the end resolution passed by the Special Representative Meet- was carried unanimously and directed to be sent to all mbers of Parliament in the South-Eastern Branch (see PPLEMENT, June 17th, p. 449).
The members were very kindly entertained to tea by . G. Ashley Dodd, D.L., High Sheriff of Kent, and Mrs. ley Dodd, at Godinton.
Dinner.—Forty members and friends, including Sir Henry tlin, President of the British Medical Association, and sident of the Royal College of Surgeons, Mr. G. Ashley ld, D.L., and Mr. Lister Kay, dined together in the ning at the Saracen's Head, under the Presidency of G. WILKS.

DOVER DIVISION.

MEETING of this Division was held at the Grand Hotel, ver, on June 15th, at 8.30 p.m. Dr. M. K. ROBINSON, irman, presided, and there were present: Dr. Moles- th (St. Margaret's-at-Cliffe), Dr. Kerswell (Sandwich), Hulke (Deal), Dr. S. Hulke (Walmer), Dr. Baylor h), Dr. Mason (Deal), Dr. Long (Kearsney), Drs. Young, ne, Richardson, Howden, Burns, Baird, Charles Wood, ttlitz, and F. A. Osborn (Honorary Secretary).
Confirmation of Minutes.—The minutes of the last ting, excluding the resolutions passed on May 25th inserted in the SUPPLEMENT for June 3rd, were roved.
Election of Officers.—The following were elected officers the year 1911–12: *Chairman*, C. Wood, Dover; *Vice-irman*, Dr. J. H. C. Howden; *Member of Executive esenting Deal and Walmer*, Dr. F. B. Hulke; *Repre- ative for Representatative Meetings.* Major Palk, S.; *Representative on Branch Council.* F. A. Osborn; orary Secretary and Treasurer, F. A. Osborn.
National Insurance Bill.—The National Insurance Bill discussed. (See SUPPLEMENT, June 24th, p. 479.)
New Members.—Several of those present expressed their ngness to join the Association.
Votes of Thanks.—A vote of thanks was passed to the Chairman, Dr. Robinson, who for three years had so filled this office. A vote of thanks to Dr. Wood, the rman, terminated the meeting.

EASTBOURNE DIVISION.

ninth annual meeting was held at the Grand Hotel, bourne, on Friday, May 26th, at 7 p.m. Mr. H. D. ELL, Chairman, presided, and seventeen members were nt.
Apologies for Non-attendance.—Apologies for unavoid- absence were read from eight members.
Confirmation of Minutes.—The minutes of last annual ing were read and confirmed.
Annual Report.—The annual report of the Executive mittee was received and adopted.
Election of Officers.—The following were unanimously ed: *Chairman*, Kenneth Frazer, M.D.; *Vice-Chair-* Astley C. Roberts, M.R.C.S.; *Honorary Secretary Treasurer*, William Muir Smith, M.B.; *Representative Representative Meeting*, J. H. Ewart, M.R.C.S.; *Repre- tive on Branch Council*, W. J. C. Merry, M.D. *utive Committee*, H. D. Farnell, F.R.C.S., H. S. tt, M.D., F. C. Goodman, M.D., A. Harper, M.D., Brien Harding, M.R.C.S.
Notices of Motion.—Notices of motion for the Repre- tive Meeting (SUPPLEMENT, April 22nd) were con- d, and instructions framed for the guidance of the sentative.
Dinner.—Thereafter the meeting adjourned for dinner, hich eighteen members and four visitors sat down, R. FRAZER occupying the chair. At the conclusion e repast, the Chairman proposed the toast of "His Majesty the King," to which the company responded. Dr. HABGOOD proposed the health of the Chairman, to which Dr. FRAZER suitably responded.
National Insurance Bill.—In accordance with previous arrangements, the company then returned to the library, where, by the generosity of the Chairman, coffee, cigars, and cigarettes were handed round—a courtesy gratefully appreciated by those present—for the purpose of considering the proposals contained in the National Insurance Bill affecting the profession. For this part of the meeting supplementary notices had been issued to all non-members inviting them to be present and join in the discussion. Dr. E. K. FRAZER was in the chair, and twenty-two members and eleven non-members were present. The CHAIRMAN explained the object of this part of the meeting, and, in welcoming the non-members, strongly urged them to become members of the Association, to which five responded by signing forms of application for membership in the room. At the request of the Chairman, the Honorary Secretary read the circular letter, sent to all the Secretaries of Divisions by the Medical Secretary on May 13th, containing an explanation of the action already taken by the Council on this matter—a summarized statement of the views of the Association based upon replies received from Divisions on the report submitted early in March, urging all Divisions to rally the profession throughout the country as a united body in support of the policy of the Association; and indicating the probable course of action to be pursued by Divisions after the views of the Special Representative Meeting had been ascertained. In the general discussion that followed—participated in by quite half of those present—there was a unanimous expression of protest against the injustice and hardship which many of the proposals in the bill would inflict on the profession. Finally, the resolution published in the SUPPLEMENT was duly proposed and carried unanimously.

GUILDFORD DIVISION.

THE annual general meeting of the Division was held in the Board Room of the Royal Surrey County Hospital on Friday, June 9th. Dr. WEAVER (Chairman of the Division) presided, and there were twenty-eight present, of whom seven were visitors.
Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.
Election of Officers.—The following officers for the ensuing year were elected: *Chairman*, Dr. Kingsford; *Vice-Chairman*, Dr. H. B. Butler; *Representative on Branch Council*, Dr. Bird; *Representative at Representative Meetings*, Dr. Richard Thorne Thorne; *Honorary Secretary*, Dr. Cecil P. Lankester; *Executive Committee*, Drs. Kendall, Morshead, Parker, Pearse, Sheaf, Sloman, Winstanley, Hope-Walker, Hudson, and Weaver.
National Insurance Bill.—A long discussion (introduced by the CHAIRMAN) then took place on the National Insurance Bill, and the resolutions published on page 450 of the SUPPLEMENT of June 17th were passed unanimously.

HASTINGS DIVISION.

A SPECIAL meeting of this Division, to which all registered practitioners in the district were invited, was held at the Eversfield Hotel on Thursday, May 25th, previous to the annual meeting of the Division. Dr. C. H. ALLFREY was in the chair.
Apology for Non-attendance.—A letter of apology, regretting his inability to attend, was received from Dr. A. Hill Joseph, President of the Division.
Confirmation of Minutes.—The minutes of the special meeting held on April 25th were read and confirmed.
Medical Treatment of School Children.—The CHAIRMAN explained that negotiations were in progress with the School Management Subcommittee in the matter of the medical treatment of school children.
National Insurance Bill.—The CHAIRMAN then read the report of the Special Committee appointed to consider the question of medical treatment on the provident or insurance system (see SUPPLEMENT, June 24th, p. 480). The report, having been amended in some of the details, was unanimously passed by the meeting.

THE annual meeting of the Division was held at the Eversfield Hotel at 6 p.m. on Thursday, May 25th. Dr. C. H. ALLFREY was in the chair.

Apology for Non-attendance.—A letter of apology for non-attendance was received from Dr. A. Hill Joseph.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Secretary's Report.—The Secretary's report was read and unanimously adopted.

Election of Officers.—The officers for the ensuing year were then unanimously elected as follows: *Chairman*, G. A. Ballingall, M.D.; *Vice-Chairman*, J. P. Wills, M.D.; *Honorary Secretary*, G. V. Hewland, M.D., 4, Eversfield Place, St. Leonards-on-Sea; *Representative for Representative Meetings*, E. Kaye Smith, M.R.C.S.; *Representative on Branch Council*, J. W. Batterham, M.B.; *Executive Committee*, C. H. Allfrey, M.D., A. W. Brodribb, M.B., J. W. Emmet, M.R.C.S., A. Huckle, M.R.C.S., and Thomas Redmayne, M.B.

Installation of New Chairman.—Dr. BALLINGALL took the chair and thanked the meeting for his election.

Vote of Thanks to Retiring Chairman.—A hearty vote of thanks was then accorded to the retiring Chairman.

Deputy Representative at Representative Meetings.—It was unanimously resolved that Mr. Farrant Fry should be asked to attend as deputy for Mr. Kaye Smith as Representative in Representative Meetings, in the event of the latter being unable to attend. Mr. FRY assented.

ISLE OF THANET DIVISION.

THE forty-fifth and annual meeting of this Division was held at the Victoria Hotel, Hardres Street, Ramsgate, on June 8th, at 4 p.m. Dr. BRUNTON was in the chair. There were also present thirty-one members: Drs. Styan, Watts, Chidell, Moon, Tamplin, Hicks, Brightman, Briddle, Fisk, Thornton, Sworder, Nichol, Halstead, Storar, Summershill, Newell, McCombe, Sawers, Richards, Webb, Rutherford, Heaton, Flint, Raven, White, Woods, Street, Hemming, Archibald, Worthington. Seven other members of the Association, chiefly from the Dover Division: Drs. Day, E. Baylor, Anderson, H. Baylor, White, Hulke, Davey, and eight medical practitioners not members of the Association: Drs. Powell, Palmer, Hunt, Smythe, Mason, Alliot, Mudie, and Bennett-Powell. There were also present: Mr. Norman Craig, M.P. for the Isle of Thanet, and Mr. C. N. Nicholson, M.P., Liberal member for Doncaster.

Confirmation of Minutes.—The minutes of the last two meetings were read, confirmed, and signed.

Annual Business.—The annual report, which had been circulated among the members, was taken as read and adopted, together with the statement of accounts for 1910, which had been duly audited.

Executive Committee.—Dr. TAMPLIN proposed and Dr. CHIDELL seconded that Drs. Archibald, Biddle, Brunton, and Thornton, with power to add to their number, should be elected members of the Executive Committee; and this was carried *nemine contradicente*.

Election of Honorary Secretary, etc.—Dr. WATTS proposed and Dr. NICHOL seconded:

> That Dr. Raven be re-elected Honorary Secretary and Treasurer and member of the Council of the South-Eastern Branch.

This was carried unanimously.

National Insurance Bill.—The CHAIRMAN then addressed the meeting on the National Insurance Bill, and began by explaining that for convenience he wished to propose the official resolution of the Association in place of the resolution which had been drafted and circulated by the Executive Committee, as they covered the same ground. The Chairman then formally proposed the resolution published in the SUPPLEMENT on June 10th, p. 410. He addressed the meeting both on the general resolution and on each of the heads, pointing out that they were the minimum demands of the profession, and that the profession must unanimously support their representatives in their negotiations with the Government. Dr. WATTS seconded the resolution, and although an amendment was proposed to divide the resolution into two parts no seconder was found, the meeting being anxious unanimously to support the whole line of action of their representatives. Drs. SUMMERSHILL, BAYLOR, POWELL, STORAR, CHIDELL, TAMPLIN, NICHOL, THORNTON, and ARCHIBALD all spoke in favour of the resolution, which on being put to the vote, was carried unanimously. The CHAIRMAN then called on Mr. Norman Craig, M.P. for Thanet, to address the meeting, and he was followed by Mr. C. N. Nicholson, M.P. for Doncaster, who spoke on various aspects of the bill.

Letter from Medical Secretary.—The HONORARY SECRETARY read a letter from the Medical Secretary of the Association defining the policy of the Association which included: (1) A personal canvass of all members of the profession to induce them to sign an undertaking to support the policy of the British Medical Association, and not to take any service under the Act until the demands were met. (2) To interview members of Parliament and secure their support to amendments in the bill to meet those demands. (3) To form a defence fund if necessary. (4) To induce all medical practitioners to join the British Medical Association.

Representative Meeting.—A letter was read from Dr. William Gosse, Representative of the Division, describing the meeting of Representatives.

Votes of Thanks.—A vote of thanks was cordially passed to Mr. Craig and Mr. Nicholson for their addresses and presence at the meeting. A warm vote of thanks was also passed to the Chairman for presiding.

REIGATE DIVISION.

THE annual meeting of this Division was held at 5.15 p.m. on June 15th at Laker's Hotel, Redhill. Dr. BROMET was elected to the chair in the unavoidable absence of Dr. Rawlings (Chairman) and Dr. Hewetson (Vice-Chairman). Colonel R. H. Rawson, M.P., kindly attended the meeting and twenty-five members and five non-members were present.

Confirmation of Minutes.—The minutes of the last meeting were confirmed.

Election of Officers.—The officers for the ensuing year were elected as follows: *Chairman*, Dr. Rawlings; *Vice-Chairman*, Dr. Hewetson; *Representative on the South-Eastern Branch*, Dr. Caldecott; *Representative at the Annual Meeting*, Dr. Palmer; *Committee*, Drs. Berridge, Blackler, Bromet, S. A. Clarke, S. M. Mackenzie, Price, Prince, Porter, Thornton, A. R. Walters; *Honorary Secretary and Treasurer*, Dr. J. G. Ogle.

Referendum and Postal Vote.—The questions submitted to the Division by the Council were discussed, and the meeting agreed with the opinions expressed by the Exeter Division, namely:

(i) That one-fifth of the constituencies having an aggregate membership of not less than one-fifth of the membership of the Association is far too high a proportion to inquire, and that one-tenth is ample.

(ii) That provision should be made that every Referendum shall be taken and posted to every member of the Association without restriction, and that he be allowed to record his vote on a Referendum by post.

(iii) (*a*) That the reply be in the affirmative.
(*b*) That the reply be in the affirmative.

Twenty-five members voted for and none against.

National Insurance Bill.—The National Insurance Bill was discussed (see SUPPLEMENT, June 24th, p. 479).

SOUTHERN BRANCH:

PORTSMOUTH DIVISION.

THE annual meeting of the Division was held at 5, Pembroke Road, on Thursday, June 8th, 1911, at 4 p.m. Dr. W. P. MCELDOWNEY was in the chair, and thirty-nine other members were present.

Confirmation of Minutes.—The minutes of the previous annual meeting held on June 8th, 1910, were read and passed.

Correspondence.—Letters from the Honorary Secretaries of the following Divisions respectively were read, namely, Harrow and Watford, Exeter, and Halifax. It was resolved that the same be referred to the Executive Committee for consideration and instruction to the Representative. Letters were also read from Mr. Smith Whitaker and Mr. Guy Elliston *re* the election of Representatives on the Representative Body and Central Council respectively.

Election of Officers.—The following gentlemen were unanimously elected to office for the ensuing year, namely: *Chairman*, Dr. D. A. Sheahan; *Vice-Chairman*, Mr. A. B. Wright; *Representatives on Branch Council*, Drs. Carling, McEldowney, and Colt; *Executive Committee*, Drs. L. Maybury, Jeans, Leon, Ward Cousins, Blackwood, Burrows,

hes Green, Phillips, Milne-Thomson, and C. A. S. out; *Clinical Secretary*, Mr. C. P. Childe; *Medico-itical Secretary and Treasurer*, Dr. B. H. Mumby; *litors*, Drs. Blackman and James Green.

nstallation of the Chairman.—Dr. SHEAHAN then took chair, and thanked the meeting for electing him. The thanks of the meeting were accorded to Dr. W. P. ldowney for his able conduct in the chair during the year.

nnual Report.—The ACTING MEDICO-POLITICAL SECRE- read his report of the work done by the Division ng the past year. There had been fifteen business tings, seven of the Executive Committee, and eight of Division; the aggregate attendance at the Divisional tings was 126, giving an average of 18; the aggregate ndance at the Executive Meetings was 60, giving an age of 8.4; in addition there had been held 4 clinical tings, with the aggregate attendance of 106, and an age attendance of 26.2. The special subjects dealt were: (1) The establishment of a school clinic for smouth; (2) the establishment of a tuberculin dis- ary in Portsmouth; and (3) a national sickness rance scheme, report D 14, besides other matters red to the Division from head quarters.

tional Insurance Bill.—The DEPUTY REPRESENTATIVE L. K. H. Hackman) read a report of what was done at Special Representative Meeting held in London on 31st and June 1st; after which a general discussion ed, and as a result the resolution published in the PLEMENT of June 17th, p. 450, was passed.

SOUTH MIDLAND BRANCH.

annual meeting of this Branch was held on Thurs- June 8th, at the Temple Speech-room, Rugby, under presidency of Dr. CLEMENT DUKES. There were forty bers present.

nfirmation of Minutes.—The minutes of the last ing were read and signed.

w Members.—The PRESIDENT announced the election e following new members: E. A. Sanders, M.R.C.S., hampton; W. A. E. Waller, M.R.C.S., Rugby; C. R. yn, M.B., Rugby; S. H. Pitcairn, M.R.C.S., Rothwell- ring; H. R. Grellet, L.S.A., Hitchin; W. P. Grellet, C.S., Hitchin; Thomas Duke, Rugby; T. P. Little- M.R.C.S., Beaconsfield, Bucks; T. A. B. Harris, C.S., Burton Latimer, Kettering; F. W. Hobbs, C.S., High Wycombe; T. D. Bird, L.R.C.S., Thrapston, nants; A. J. Graves, M.R.C.S., Northampton; F. P. lel, L.R.C.S., Bedford.

esident's Address.—The PRESIDENT delivered a most address on the Influence of Medicine in the Home, chool, and the State (published in this week's issue of OURNAL, p. 57).

tional Insurance Bill.—A resolution was passed on nsurance Bill (see SUPPLEMENT, July 1st, p. 21).

BEDFORD AND HERTS DIVISION.

annual general meeting was held at the Swan Hotel, ord, on June 15th, 1911, after a luncheon kindly given e PRESIDENT (Dr. Ross), at which 30 members and s were present. The following were present at the al meeting: Miss Stacy, Drs. Macfayden, Meredith ble, Smith, R. H. Kinsey, Rowland Coombs, H. rville, Stanbury Phillips, W. G. Nash, W. A. Sharpin, y Sharpin, David Bower, W. L. Garner Brooke, Kilham ts, J. W. Bone, A. C. Hartley, G. T. Birks, F. S. l, David Ferrier, A. E. Larking (Bucks Division), A. ngworth, Cleveland, J. C. Clark, H. Sworder, George rs, Street, Skelding, Ambler, Messrs. Miller and Tilley County Hospital, Dr. Ross, H. Goldsmith.

nual Report and Financial Statement.—The SECRE- ead the annual report and the financial statement.

ction of Officers.—The following officers were elected e ensuing year: *Chairman*, Dr. Butters; *Vice-Chair-* Dr. Holmes; *Secretary*, G. H. Goldsmith; *Executive ittee*, W. G. Nash, A. F. Goldsmith, W. A. Sharpin, Lloyd, S. J. Ross; *Representative*, Dr. R. H. Coombs, *y Representative*, Dr. Bone; *Branch Committee*, Drs. , Dixon, Hartley.

Future of the Medical Profession.—An address was by Mr. SMITH WHITAKER on the future of the medical sion. The address was discussed by Drs. LARKING and HARTLEY. The former proposed that a guarantee fund be started for the relief of those practitioners who suffered for their loyalty to the Association's recommendations, but it having been pointed out that Dr. Larking was not a member of the Division, the same was proposed by Dr. KILHAM ROBERTS, seconded by Dr. SWORDER, and carried. Dr. KILHAM ROBERTS promised £20 and Dr. SWORDER £25. Mr. R. H. KINSEY also promised £5 to the Divisional and £5 to the Central fund.

New Members.—It was reported that six Luton gentlemen were willing to join the Association if the addendum to the rules were waived. Dr. SWORDER proposed and Dr. BONE seconded that a strong representation be made to the Branch that this addendum be waived at this critical juncture, and that these six Luton gentlemen be asked to join. Carried unanimously. The Secretary was asked to send out post cards to members of the Division asking for a guarantee as suggested.

BUCKINGHAMSHIRE DIVISION.

THE annual meeting of this Division was held on June 14th, at the Royal Bucks Hospital, Aylesbury. Thirty-six members and friends were present. Dr. E. O. TURNER, on the vacation of the chair by the retiring chairman, Dr. Reynolds, presided. The others present were Drs. Baker, Brooks, Magrath, Freeman-Long, F. A. Cooke, Littlejohn, A. H. Turner, Clarke-Cohen, Kerr, McFarland, J. B. Cooke, Durran, Craig, Perrin, Horace Rose, Shaw, Eagles, Humphrey-Wheeler, England, Eva Meredith, Benson, Hogarth, Kelly, Drake, Morrison, Larking, Bradbrook, Woollerton, West, Onslow Ford, Raiment, Milton Townsend, Graham, and Mower White.

Apologies for Non-attendance.—Apologies were received from Drs. Buxton, Pemberton, and Cotes-Preedy.

Annual Report.—The annual report was adopted after the account of the deputation to the Bucks County Council had been amended.

Election of Officers.—The officers for the ensuing year were elected as follows: *Chairman*, Dr. E. O. Turner; *Vice-Chairman*, Dr. Benson; *Secretary*, Dr. Larking; *Representative*, Dr. Bradbrook; *Deputy Representative*, Dr. Buxton; *Committee*, Drs. Reynolds, Baker, Shaw, West, Humphrey-Wheeler, and Smith-Wynne; *Branch Council Representatives*, Drs. Durran and Morrison.

Paper.—Mr. MOWER WHITE, Surgeon to the Great Northern Central Hospital, read a very interesting and instructive paper on Injuries of the Stomach and Intestines. A very hearty vote of thanks was accorded to him.

Special Representative Meeting.—Dr. BRADBROOK, the Representative, then gave an account of the special meeting in London. An animated and sustained discussion took place, in which some members thought a wage limit of £2 a week too high, but it was pointed out that this amount met with more general support all over the country. Several members expressed regret that a very much larger proportion of the Representatives were not general practitioners, as few consultants understood the difficulties of the practitioner. A member gave the result of his investigations into the relative amounts obtained from club patients and private ones per attendance; the private patients brought in three times as much per attendance as the contract ones, who were taken at 4s. per year; therefore the capitation fee ought to be 10s. or 12s. per annum in his practice. The control of the friendly societies must never be conceded, for the first thing they would do would be to employ special whole-time men and make slaves of them. There was great mistrust among a certain number of medical men of the British Medical Association; they feared it would not stick to its guns and would give way on certain points. But several members said that at the first sign of any weakness such an outburst of indignation would arise as would shake the Association to its foundation, and another would arise from its ashes and secure for the practitioners that justice which, by any vacillation, it would fail to secure. But the general feeling was that the Association since its reorganization was doing far more for the practitioner than it ever did before. It was no good dividing their forces; they must all stick together. Another important matter was that it was difficult to fight against public opinion, and they must convince the public that their complaint was fully justified. Many people thought that they were doing

very well on the 4s. a year. Mr. Lloyd George spoke very differently on one day to the day before. He was exceedingly pleasant on one day, and the next day in Parliament said they had not even taken the trouble to read the bill. The voluntary members in the bill were a great danger, and should be left out entirely. A MEMBER said that he thought that as Mr. Lloyd George saw they were already apparently content with the 4s. a year, they ought not to blame him for offering 6s. Vested interests were in existence, and were difficult to deal with. They must be compensated by a Guarantee Fund. A powerful speech was made by Dr. TOWNSEND, and was frequently applauded. The profession must not be buttered and blarneyed until the bill passed and then "God help them." As the medical profession did not ask for this bill, they were justified in stating their own terms. It seemed to be the opinion of many laymen that it was their duty to be altruistic. When free education was introduced, did the Government limit the amount to be paid? No. They paid all that was required. Why should they not pay in the same way for medical advice? Dr. RAIMENT drew attention to the very large proportion of artisans who were not treated by club doctors at all and were content to pay ordinary fees. Mr. Lloyd George was making the great mistake of thinking that all were being treated by contract. It was pointed out that it was impossible to fix any capitation fee until they knew what they were required to do for it. The value of practices that at present had no clubs would be much affected. Finally the meeting unanimously passed the resolutions published in the SUPPLEMENT of June 24th, p. 479.

Guarantee Fund.—During the last few minutes the subject of a Guarantee Fund was mentioned, and in a very short time the sum of over £70 was raised by the few remaining. It was anticipated that at least £250 will be found by the Bucks Division, and more if required.

NORTHAMPTONSHIRE DIVISION.

THE annual meeting of the Division was held in the Board Room of the Northampton General Hospital at 2.30 on June 13th. Dr. TERRY and then Dr. HICHENS occupied the chair. There were present Drs. Burt, O'Rafferty, A. Hope, Sanders, Graves, Pickering, Watson, Percival, Crossley, Linnell, Buszard, Evans, Greenfield, Beddow, Burland, Odgers, Wickham, Milligan, Sheppard, Arthur, Richardson, Thomas Duke, Digby White, Robson, Darley, Stone, Baxter, and Beatty (30).

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Annual Report.—Dr. HICHENS then read the annual report as follows: Membership on December 31st, 1909, 96. Increases: New members, 3; through change of address, 4; total additions, 7. Losses: Through resignations, 2; through change of address, 1; total deductions, 3. Net membership on December 31st, 1910, 100. Finances: Balance in hand on December 31st, 1909, £17 3s. 4d.; grants received from Branch Council, £4 18s.; total, £22 1s. 4d.; secretarial expenses, £2 14s. 6d.; balance in hand on December 31st, 1910, £19 6s. 10d. Proceedings: Divisional meetings held, 4; meetings at which scientific or clinical matters were discussed, 4; meetings at which medico-political or ethical matters were discussed, 4; social functions, 4 luncheons; average attendance at meetings, 13.75; number of members who attended at least one meeting, 32; Divisional Executive Committee meetings, 2; average attendance, 5. By the action of the Division, the appointment of an Assistant Medical Officer of Health for Northampton at the inadequate salary of £200 a year was prevented. All the candidates applying loyally withdrew, and an appointment was finally made at a salary of £250 a year. In a dispute between a Poor Law medical officer and a board of guardians the guardians were induced to promise to pay for all midwifery cases to which the medical officer was summoned, whether they were cases in receipt of parish relief or not.

South Northants Nursing Institution.—Dr. DARLEY reported that there had been no difficulty in connexion with the South Northants Nursing Institution during the past year.

Election of Officers.—The following officers were elected for the ensuing year: *Chairman*, Dr. Hichens; *Vice-Chairman*, Dr. Baxter; *Honorary Secretary and Treasurer*, Dr. Hichens; *Representative for Representative Meet* Dr. Baxter; *Representatives on Branch Council*, Drs. A. Cooke, D. G. Greenfield, Digby C. White; *Executive C mittee*, Drs. H. Cropley, A. R. Darley, F. J. Grindon, Linnell, P. N. B. Odgers; *Representatives on So Northants Nursing Association*, Dr. Darley and Dr. A. Hope.

Installation of New Chairman.—Dr. TERRY then vaca the chair, after making a few appropriate remarks, and was taken by Dr. HICHENS.

Vote of Thanks to Retiring Chairman.—A cordial v of thanks was then passed to the late Chairman, Dr. Ter

National Insurance Bill.—Dr. BAXTER then gave a f account of the Special Representative Meeting on t Insurance Bill, emphasizing the points chiefly insist upon—namely, a wage limit of £2 a week, control by lo Health Committees and not friendly societies, free choice doctor, proper representation of medical men on the co mittees and on the commissioners, adequate remunerati according to the area, whether town or country, spec remuneration for special cases. He proposed the reso tions published in the SUPPLEMENT, June 24th, p. 480. The matter was then discussed by Drs. BUSZARD, GREE FIELD, O'RAFFERTY, LINNELL, WICKHAM, CROPLEY, HICHE STONE, and DUKE. The motions were then carried *nemi contradicente*, and the meeting terminated.

SOUTH WALES AND MONMOUTHSHIRE BRANCH

SWANSEA DIVISION.

THE annual meeting of the Division was held at t Swansea Hospital on Thursday, June 8th, at 3.30 p.m Dr. A. W. C. CAMERON was in the chair, and thirty-thr members and three non-members were present.

Confirmation of Minutes.—The minutes of the annu meeting held on June 2nd, 1910, were read and signed b the Chairman as correct.

Report of Executive Committee and Financial Statement.

The annual report of the Executive Committee togethe with the financial statement having been printed an circulated were taken as read and unanimously adopte The report stated that on January 1st, 1910, the tota membership was eighty-four. During the year three ne members had been added; one member, Dr. E. B. Evan had died; and three had been lost through change o address. The total membership at the end of the yea was therefore eighty-three. The following was th balance sheet, 1910:

Dr.	£	s.	d.	Cr.	£	s.	d.
Balance in hand ...	3	17	6	Printer's bill to June, 1910, including printing, stationery, and postage	8	3	
Grant received from Branch Council in November	4	4	0	Do. to December, 1910	3	9	
Grant received in December	4	4	0	Clerical aid	0	10	
Deficit on December 31st, 1910	1	10	0	Secretaries' expenses	1	13	
	£13	15	6		£13	15	

In addition to the annual meeting, sixteen meetings were held during the year, at nine of which scientific and clinical matters only were discussed; at two, both scientific and ethical matters were considered; whilst at five, ethical matters were brought before the Division.

The ethical business consisted of: (*a*) The discussion of matters sent down to the Division by the Central Office; (*b*) the consideration of the appointment held by certain members as medical officers to the local branches of the Commercial Travellers' Association, which resulted in the passing of a resolution condemning such appointments; (*c*) the consideration of the object and rules of the South Wales Nursing Association, when a resolution was passed setting forth the views of the Division thereon; (*d*) the question of the establishment in Swansea of a fully equipped laboratory, and the appointment of a whole-time pathologist and bacteriologist. The standard of scientific and clinical material brought before the Division had been maintained, and had proved to be valuable in character and of general interest.

The average attendance at meetings was 13.5, the same as last year, and was rather a higher percentage than that of the Divisions generally throughout the Association.

the 84 members of the Division, 40 had attended at least meeting. The annual dinner was held on October h, and was successful and encouraging from a social ndpoint.

The Executive held five meetings at which the routine siness was carried on.

Election of Officers.—On the proposition of Dr. CAMERON, onded by Dr. HANSON, Dr. F. G. Thomas was elected airman of the Division for the ensuing year. He there- n took the chair. The following were elected officers the Division for the year 1911–12:—*Vice-Chairman*, J. M. Morris (Neath); *Honorary Secretaries*, Dr. L. eman Marks, Dr. H. E. Quick; *Representatives of the ision on the Branch Council*, Dr. F. G. Thomas, Mr. F. Brook, Dr. J. Arnallt Jones; *Ordinary Members of Executive Committee*, Dr. Lancaster, Dr. Begg, Dr. neron, Dr. Llewelyn Lewis (Neath), Dr. Dahne (Pontar- ve), Dr. Hanson; *Members to serve on Branch Contract ctice Committee*, Dr. Knight, Dr. J. S. H. Roberts, J. W. Thomas (Neath).

National Insurance Bill.—Dr. L. FREEMAN MARKS presentative of the Division at Representative Meetings he Association) presented a report of the proceedings he Special Representative Meeting held in London on y 31st and June 1st last as it dealt with the National rance Bill now before Parliament, especially drawing ntion to the short statement of the main heads of the cy of the meeting as the basis on which the Association ld take action with respect to the bill. Questions e then put and, as far as possible, answered, followed a general discussion. Dr. L. FREEMAN MARKS then ed the resolution published in the SUPPLEMENT of e 17th, p. 450. This was seconded by Dr. VEALE, and ied *nemine contradicente*. As several members present e desirous of knowing what effect the bill would have ocal works and colliery practices, the resolution pub- d in the SUPPLEMENT of June 17th, p. 450, was proposed Dr. HANSON and seconded by Mr. BROOK.

SOUTH-WESTERN BRANCH.

annual meeting of this Branch of the British Medical ciation was held at the Royal Devon and Exeter pital on June 7th. Dr. NOY SCOTT (Plymstock), the ing President, occupied the chair at first, and was sup- ed by Mr. A. C. ROPER (Exeter), the President-elect. ngst those present were Messrs. J. Somer, John imer, P. H. Stirk, William Ashford, J. de E. Shapland, aury Deas, C. J. Vlieland, A. Bertram Soltau, A. W. escue Sayres, J. H. Square May, E. Slade King, . D. King, C. W. Vickers, C. E. Bell, Geo. Jackson, ough, William F. Thompson, A. Turner, G. Michel- , T. W. Widger Bovey, J. M. Ackland, C. A. Webb, Ingram, O. Eaton, G. P. Hawken, R. J. Andrews, . Solly, H. D. Pardor, S. E. Atkins, H. Goodwyn, . Norton Palmer, J. Culross, R. Jaques, E. Corbett, usgrave, H. Serpell, D. H. Vickery, Mabel L. Ramsay, ha M. Mules, G. T. Clapp, Edward J. Domville, John ner, Ransom Pickard, D. F. Shearer, Henry Davy, . Gooding, William Odell, Herbert Child, G. Leon, ard Eager, T. Duncan McCarthy, F. W. Langridge, rt Worthington, J. H. Iles, J. B. Fitzsimons, J. Cock, ellesley Kendle, William Langram, Chas. Aldridge, . Lucy, H. O. Grenfell, C. E. F. A. Roper, T. A. Goard, oe, and A. E. Good.

Confirmation of Minutes.—The minutes of the last al meeting were read and confirmed.

Installation of New President.—The CHAIRMAN, in ing the chair in favour of his successor, said he was ing himself of the responsibility of office at a time he feared the medical profession was faced with ave situation. Last year several questions were ght to a satisfactory termination, and others to which were still giving their attention they hoped to see actorily settled before very long. But the one ct which would engage their attention during the g year was the great scheme which was now before ountry. Mr. ROPER, having taken the chair, moved Dr. Noy Scott be elected a Vice-President, and that he artily thanked for the manner in which he had d out the duties of President during the past year. ote was carried with acclamation.

Annual Report.

Mr. RUSSELL COOMBE, the honorary secretary, presented the annual report, which was as follows:

The Branch membership on April 30th, 1911, was 471, as against 455, an increase of 16 as compared with last year; 13 candidates have to-day been elected by the council, and since the notices were sent out 13 more names had come in, which would bring the membership up to within 3 of 500, which was the greatest strength the Branch had yet achieved. The annual meeting at Plymouth was well attended. There were present 55 members and 1 guest. The President (Dr. Noy Scott) hospitably entertained those present at luncheon. In his inaugural address he discussed the relation of the medical man to the public, and first dealt with the question of fees, and inquired whether it would not be possible for a uniform rate to be established, pointing out that he did not object so much to uniformity provided that the uniform rate was of a sufficient amount. He criticized severely the out-patient departments of hospitals, pointing out that employers posed as philanthropists when they subscribed in order that they might get their employees attended gratuitously on the part of the profession. He emphasized the bad finance of the out-patient departments, and recorded one instance where the cost of the out-patient department was £227, of which only £54 was spent on medicine and surgery, whereas £173 went in other expenses. With regard to sick clubs he mentioned that he had himself had to attend a man who was receiving £6 or £7 of weekly compensation at a club rate of 4s. per annum, and pointed out that if the profession united 10s. per annum could well be obtained from every club, or even that the system could be completely abolished if the profession chose to unite for this course. Referring to the scientific side of medical work, he emphasized the valuable evidence from direct observation which general practitioners could collect if they had better opportunities of arranging their notes of cases, and how much more valuable this evidence would be than many of the theories brought forward. He finally expressed the hope that hospitals would remain as they were, and ended by advocating part-time medical officers in any public medical service. In the afternoon the members of the Plymouth Division kindly provided tea and a steamboat excursion as an entertainment for visitors to the Three Towns. Owing to the short time at which the annual meeting was held after the lamented death of King Edward VII no annual dinner took place.

Intermediate meetings of the Branch were held at Exeter on October 20th, 1910, when Mr. Smith Whitaker (the Medical Secretary of the Association) in a most able speech, opened a discussion on the Majority and Minority Reports of the Poor Law Commission. Other intermediate meetings were held at Torquay on January 24th, 1911, and at Penzance on April 8th, 1911. Those who contributed to the scientific proceedings of the meetings were Messrs. Arnold, Gordon, Russell Coombe, Solly, Roper, Soltau, Cheyne Wilson, Sayres, Harris, Hamilton Whiteford, and Panting.

A special meeting of the Branch to consider alterations in rules was held at Penzance on April 8th, 1911.

The matters which have specially occupied the attention of the council during the past twelve months have been:

(*a*) *Ethical Matters.*—Liskeard. An unfortunate difference of opinion arose between the local members of the Branch and Liskeard, and was taken in hand by the Branch Council at the request of the Central Ethical Committee. The Branch Council appointed at the October meeting the President, Messrs. G. Jackson, E. J. Domville, and the Honorary Secretary as a committee to investigate and report, and it is a matter for satisfaction that they were able to report to the winter meeting that the matter had been by their endeavour settled in a manner satisfactory to all parties, and that there was every prospect of future harmonious work between the practitioners concerned.

On the death of a member in a Devon parish, an objection to certain well-to-do members of the local clubs was raised by his successor, and the Division supported the objections, warning notices being put in the medical journals. Notwithstanding this, a member of the Association, in defiance of these warning notices, took the clubs on their own terms. The Central Ethical Committee took the matter in hand, and the Central Council have by

resolution expelled the offending member from the Association. A further ethical matter of a very serious nature has been referred to the Branch Council by the Central Ethical Committee. The Branch Council appointed a committee to inquire into the facts of the case at the request of the Central Committee, which has been done, and a formal report on the subject sent in.

(*b*) *New Rules.*—Rule 6, as adopted at the last annual meeting, had not been approved by the Organization Committee. The alterations to Rule 15 (*c*), on the other hand, had been approved.

A new rule with reference to the election of the Branch President in place of the existing Rule 4 was adopted at the special meeting above referred to at Penzance.

(*c*) A Council meeting was held at Newton Abbot on May 8th with reference to the report of the Central Council on the provision for a postal referendum under the new constitution, when it was felt by the Branch Council that nothing should be done by them officially as a body.

(*d*) *National Insurance Bill.*—Members would already have had a notification from the Central Office as to the necessity for very active steps to combat the objectionable clauses in this bill, and the Branch Secretary is already arranging to facilitate the arrangements for meetings of all the medical men practising in each of the parliamentary divisions of the Branch with a view to emphatic representations being made to the various members of Parliament.

Finances of the Branch.—The finances of the Branch stand in a much more satisfactory condition than they did at the last annual meeting.

The Branch was allowed by the Central Association the full available capitation fee for the year of £91. The expenses for the year amounted to £82 5s. 2d. The balance in hand from last year was £30 7s. 10d., which, with the £91 received, made a total of £121 7s. 10d., and this, deducting the amount expended, left a balance of £39 2s. 8d. to be carried forward to the new year.

The Next Annual Meeting.—The Branch Council recommend that the annual meeting in 1912 be held at Newquay, and have pleasure in nominating Dr. Hardwick for election as President-elect.

Dr. NOY SCOTT moved the adoption of the report.

Mr. JACKSON (Plymouth), seconding, said he hoped they would support the Association in its action with regard to the State Insurance Bill. There should be a guarantee fund raised to support the society to stand out against the pretences of the friendly societies. They must fight now. If they did not they would be damned for ever. They must insist on an income limit of not above £2 per week, and that was rather in excess of what it should be. Next May was, he thought, too early for the bill to come into operation. January, 1913, was suggested instead. If they were not going to stand together they must give up the whole thing. They must stand together, as the Cornishmen said, "One and all."

Mr. ROPER hoped the effects would not be that they would be damned for ever.

The report was adopted.

Election of Officers.—On the motion of the PRESIDENT, seconded by Dr. VICKERS, Dr. Hardwick (Newquay) was unanimously elected President-elect, and Mr. Russell Coombe was re-elected Honorary Secretary, acknowledgment being made of the services rendered by him in that capacity during the past year. Mr. RUSSELL COOMBE, in reply, emphasized the importance and necessity of organization work at the present moment, and the value of individual effort, to make it perfectly clear to members of Parliament that the medical profession would not on any terms consent to be put under the heels of the friendly societies.

Presidential Address.

Mr. ROPER took as the text for his presidential address the following resolution from the special report of the Hospital Committee at the Annual Representative Meeting held at Sheffield in 1908:

> That it is desirable that self-supporting nursing homes should be established for patients who, being ineligible for the voluntary hospitals, are yet unable to pay the customary professional fees as well as the charges usually made in private nursing homes.

He said: The annual presidential address may be regarded in the light of a sermon, inasmuch as discuss upon it is neither invited nor, upon a June afterno desired by the majority of the audience. The envi ments of the address, sandwiched as it is between luncheon and an annual dinner, do not predispose peopl polemics or to keen criticism of scientific subjects, so sermon or address is written upon some points of gene interest. It is, however, customary to accord a vote thanks to the president for his address, and I sh endeavour to earn that by making my remarks as brief I can. It is usual to write a sermon upon a text, but being in ignorance of a suitable one, drafted my addr without such, and when I was discussing certain matt in connexion therewith with my friend and colleague, Domville, he turned up a text which fits the sermon v well and which is to be found on page 267 of the minu of the Annual Representative Meeting held at Sheffield 1908. It is Resolution No. 113 of the Special Report of Hospital Committee and reads: "That it is desirable th self-supporting nursing homes should be established patients who, being ineligible for the voluntary hospitals, yet unable to pay the customary professional fees as w as the charges usually made in private nursing homes."

It must be obvious to everyone practising our profess that there is urgent need for well-equipped hospitals the very large portion of the community who take ra between the well-to-do and the objects of charity patients who can and ought to pay for treatment a nursing, but who are quite unable to pay from £5 5s. £9 9s. or £10 10s. a week at a private nursing home even the ordinary fees charged by consultants or operati surgeons. The need has, of course, been brought home me in cases of persons who have required surgical tre ment, but there must be a number, possibly even larg than the surgical group, of medical cases such as hea kidney, and nerve cases, who would get immeasural benefit from methodical nursing in the routine and seclusi of a nursing home.

It would be necessary to start with an income limit a to take every precaution possible that only eligible perso are admitted. The interests of existing nursing hom which have done and are doing excellent work should rigidly safeguarded, and I should be inclined to start wi a limit of £200 a year for ordinary cases, with an extensi to £250 in cases which are likely to be prolonged or u usually expensive. We should thus include some ill-pa professions, such as many clergy and musicians, beginne in law, arts and sciences, who are dependent upon th own earnings. Tradesmen and shopkeepers in a sm way of business, clerks, shop assistants, well-paid artisa and mechanics, small farmers, market gardeners, and su like. We especially feel the need of the last-named in agricultural county such as Devon. The need of such ins tutions is apparent from the points of view of both t public and of our profession, and these points of vie though widely different, converge to a focus which is t benefit of the patients.

From the public's point of view it is obvious that a m earning £150 a year cannot afford a fee of £21 for abdominal emergency operation in addition to the charg which would not fall far short of another £21, for th weeks in a private nursing home, and yet he stands in urgent need of expert assistance as either the rich man the poor man, both of whom are amply provided for.

An important operation may be, can be, and frequen is done successfully under most disadvantageous circu stances and environments as regards general hygiene of t room and house—cramped space, lack of nurses, difficu of water supply, deficient light, and absence of train expert assistance—but the results of a series of ca treated amid all or some of these disadvantages wo inevitably compare unfavourably with a similar ser treated amid the special and complete appointments o hospital or of a well-equipped nursing home. In the c case everything is unfavourable to both patient a operator, while in the other all that science can devise experience suggest for the requirements of the case are hand and automatically at work. It is bad also for t public morale that people should not pay according their means, even when such payment is a severe tax their resources. These people of whom I am speaking a not eligible for the general hospital; they are not in t strict sense proper objects of charity—they are not t

s of people who can with decency claim the gratuitous charitable work of members of our profession, and h of them as are imbued with a proper sense of self- ect resent the idea of being recipients of charity and er to pay what they can afford.

iewed from the public standpoint, then, it is bad nomy in valuable lives that this large middle class ld not enjoy the same advantages as the rich and the , while it is bad for their morale, and tends to lessen r very proper sense of independence, self-reliance, and -respect that they should be driven, as they are often en, to seek charity of medical men.

oes some one think that I put the case too strongly? ot this the kind of thing that frequently occurs?

ome member of a family which is crowded into a small se gets a severe appendicitis, which the medical ndant thinks is due to perforation, and the only safe se to adopt is operation. (And let me say here in nthesis that I feel convinced that if every case of ndicitis were operated on and the source of trouble oved on the first, or even the second, day of the ase, the death-roll from it would be enormously ced, and would be under 1 per cent. I believe it to be only safe treatment, and if I were told by a competent that I had appendicitis, I should ask him to make ngements to remove my appendix within a few hours. uld not take the risk of lasting through the illness. ve seen many deaths, and still more narrow shaves of h, from appendicitis with operation too long delayed. ve not seen a death from appendicectomy.) To resume argument: A consultant is called in and confirms the ion, but the question arises, "Where?" There is no e room, no accommodation for nurses, and the house, ded to its full capacity, is deemed to be wholly ited for such a critical case. The patient would be and willing to pay a matter of £10 or £15 for nursing treatment, but that would not defray his bill at the te nursing home, and would certainly leave no margin medical attendance and operation fees, and so he is to the hospital, where possibly a charge per week is e for board and nursing, but the medical attendance is lly unremunerated. Thus the patient is made an t of the charity of our profession.

om the professional point of view, the matter almost ves itself into one of hospital abuse, and should be dly and generally considered in the light that every aid is a gain to the profession as a whole, and, con- ly, that the profession is a loser by every fee that ld be—but is not—paid. Our first duty is to our nts, but we ought to be very punctilious to see that in discharge of it we do not injure our profession com- ially. We ought, I think, to be much more careful we are in this matter, especially those of us who are ably free from monetary anxiety. I am sure that y of us are too prone to give way to the very natural ng that "I can afford to do without this fee a great better than this patient can afford to pay it." This is pted by an instinct which does credit to our hearts, which ought never to be allowed to operate unchecked he consideration that some struggling professional ner might be glad to do the work at a fee which our ssional status does not permit us to accept.

this connexion consultants and specialists have, ps, a greater responsibility than general practitioners, se they have usually less opportunities of knowing position of their patients and, in hospital practice ially, are very liable to be imposed upon; but the al practitioner is not without his responsibility, and to be feared that too often patients are sent by him spitals who ought to pay for work there done gratui- y. I desire to emphasize this opinion, formed as the t of nearly thirty years' experience, because, if the c are allowed or taught to think that they have any of right to free treatment by consultants, it will not ng before they demand it of the general practitioners. lows, then, that no member of our profession, whether consultant or general practitioner, has any right to the floodgates of hospital abuse. Applying this ning to our case of appendicitis, we find the doctor in dance on the horns of a dilemma. He knows that an tion must be done, that the patient can afford to pay, alf, the usual fees; the surgeon who he has called in ltation will very likely have said that he will operate for a quite small fee, but does not approve of the environments. The doctor, in fact, has to choose between doing his duty to his patient at the expense of his profession or the converse. There is probably no difficulty in deciding the question. The patient's safety is ever the first consideration with us, but I maintain that we ought never to be put in such a position. We practise our profession as a means of livelihood, we save lives in order to maintain our own existence; and here we are called upon to save a life at our own expense, not because the patient cannot, or even will not, pay us, but because we must not take the fee which would be willingly paid.

It is clear, then, that there is urgent need of some place, run on hospital lines, which will serve those who can afford to pay, and who, for the most part, wish to pay for treatment and nursing, but who cannot afford to pay the usual fees.

In many small country towns a cottage hospital supplies this need by taking in patients at inclusive fees from 10s. to 30s. a week, while their own medical man attends them at his usual fees, which are, of course, proportioned to their station in life.

In large towns, such as Exeter, there are no cottage hospitals: there is only the large hospital for the poor, and the nursing home for the well-to-do. But it is in the larger towns that men who have specialized in the various branches of our profession have for obvious reasons settled; and so it comes about that where the specialists, operators, and consultants are congregated there are the fewest facilities for their carrying on their work among the second largest class of the community.

In some county hospitals, as in some of the London hospitals, there are wards set apart for paying patients, where members of the staff can operate upon or treat patients at reduced fees, and thus there are a few isolated instances of an endeavour to meet this need.

The endeavour is, however, not a complete satisfaction of the requirements of the case, for the simple reason that it limits the choice of medical attendant to those on the staff of the hospital. A hospital in a large town cannot be run upon the proper cottage hospital lines, throwing the beds open for every practitioner of the town to treat his patients in. The committee could never sanction the use of their scientific appliances, their instruments, their resident medical and nursing staffs by any other than their own appointed officers. I can imagine what Mr. Harris would feel like if he thought that I was going to his electrical department to take an *x*-ray photograph with his precious apparatus, by considering how I should feel if I thought that my friend—shall I say Dr. Davy—were going to the Eye Infirmary to do a cataract extraction with my pet Graefe's knife.

Realizing fully the limitations which these necessary restrictions impose upon patients and medical men alike, I am of opinion, and have been for many years, that an attempt might be made in Exeter to utilize some of the spare space and the equipment of both the hospital and Eye Infirmary for this unprovided middle class of patient. It would go some way towards meeting a great need, and would, I believe, meet with approval from the medical men of Exeter and around it.

The needs of Exeter would be satisfied by a small hospital with male, female, and children's wards, divided up into cubicles, which might be omitted in the case of the children's ward. It would be desirable to have about four separation wards for serious cases, or for such as could afford to pay for the additional privacy which a separate ward affords.

1. There should not be less than twenty beds, because the house staff required for a hospital of twenty beds is very little larger—about two probationers and one house or wardmaid—than that required for one of ten or twelve beds.

2. The charges should be graded according to the means of the patients, with a minimum fixed according to the estimated or ascertained cost per bed occupied.

3. It should be controlled by a committee, on which the medical profession should be strongly represented, and particular care should be taken that the income limit is strictly observed in any town where an efficient nursing home already exists.

I have briefly outlined what is required in such a town as

Exeter, but since most things in this world cost something, I must supplement my sketch with an estimate of the cost.

First, then, we want a place to put the hospital—a site, land—about an acre of it, and in a fairly accessible position, not too far from the abodes of the healing divinities of medicine and surgery. The cost of this is not a matter on which I am going to hazard a guess.

Secondly, a building, and this could, I believe, be built and equipped for about £,6,000. I consider that these are about all that would be required of philanthropy, the land and the building, though it might be wise to get guarantors for a year or two until the public confidence in and knowledge of the new institution became well-established, when I feel sure that it could be made self-supporting.

I have ascertained from various sources the cost per patient per week, ranging from luxurious nursing homes—I had almost written palaces—to cottage hospitals in country towns, and I believe that such an institution in Exeter could be run at about £2 a week for each patient, exclusive of the rent and taxes payable on the building.

A case requiring special night and day nursing would cost more, and might have to pay extra for such; but these cases are a minority, and calculations must be made rather on the basis of the ordinary run of hospital work.

My address up to this point was written before Mr. Lloyd George introduced his Sickness and Unemployment Insurance Act, the principle of which is accepted with more or less enthusiasm by most people. It has an important bearing on the subject, because, as it seems to me, unless the Government intend to nationalize the hospitals of the country and salary the experts who do the work of those hospitals, they will have to provide hospitals to serve the needs of the very large class of workers who come within the Government limit of £160 a year, but who are far above the wage limit fixed by most hospitals which runs, I suppose, from £65 to £80 a year.

Our profession will be even more inept than has been its wont if it suffers the wage earners of from say £80 to £160 a year to be treated wholesale and gratuitously by the voluntary staffs of hospitals.

The club doctor of the present has only a few club patients who cannot, when something a little out of the general run of private practice arises, claim charity at a hospital, but it is going to be otherwise with the club doctor of the future; at least half of his cases are going to be ineligible for hospital charity, and not a few of them are going to try their best to get on the same terms with the hospital doctors as those who are eligible. These will be patients who have hitherto paid (or owed) him so much per visit, but who are now coming under contract practice; so that it will lessen his work, without reducing his pay, if he can get some one else to attend them for him.

I think I spy openings here for many young and energetic specialists, but I am not going to detain you on this rather fascinating speculation. Suffice it to say that this this new departure in practical and constructive statesmanship can only tend to emphasize the need for such institutions as I am arguing for and to show that through philanthropy or through the State they are a tolerable certainty in the not very distant future. The principle has been accepted in that portion of Mr. George's scheme which proposes to provide sanatoriums for tuberculous patients. These institutions are, it is true, for specific purpose just as our civic and county sanatoriums are for zymotic diseases or our asylums are for the insane, and it is to be devoutly hoped that treatment in them will be, as in the others, more or less compulsory; but it must not be forgotten that these diseases which are provided for are but a portion of the diseases from which the community suffers or dies; and it logically follows that, just as they are provided because they are necessary to efficiency in the treatment or prevention of specific disorders, so these self-supporting hospitals, equally necessary to efficiency in the treatment of general diseases, must come.

One knows, however, that all-important changes and movements are only taken up by Government after private enterprise or charity have proved their necessity or utility.

This very Act has for its object the compulsory extension of the club principle, which has been working since the seventeenth century, when Daniel Defoe, the author of *Robinson Crusoe*, in his *Essays on Several Projects* (1696), advocated "Societies formed by mutual assurance for t relief of members in seasons of distress . . . by whi not a creature so miserable or so poor but should cla subsistence as their due, not ask it of charity." And it pretty certain that Defoe was only seeking to extend t operations of thrift institutions already in existen Compulsory education, too, has been slowly, and in manner characteristically English, evolved from the ti when monasteries were the only schools for those w desired to acquire learning prior to going to the unive sities. In a few places there were chantries or choriste schools, the earliest form of the grammar school, and t Reformation and the disestablishment of the monasteri furthered enormously the establishment of these scho all over the country. But they were all established a endowed by private enterprise or benevolence, and I think, will the establishment of these hospitals for t lower middle class be.

The tremendous and rapid advance of surgical scien has caused the need to be, suddenly as it were, acute. B we doctors are the only body of men who are sufficient corporate to thoroughly realize it, and to give expression it. It is not our duty to provide for the need, but we c give it expression, and it is with that object that I ha to-day brought it prominently to your notice.

Vote of Thanks.—Mr. DOMVILLE proposed a vote thanks to the President for his address, and said there w no doubt the question brought forward was a proble which required early solution. If it had not been for t National Insurance Bill, it would still have been their du to consider how it was possible to meet that thing on t part of the public. Dr. LANGRIDGE seconded, and sa they as medical men owed Mr. Lloyd George a debt gratitude for giving them the opportunity—but he did n think for the moment it was intentional—of making know the heavy burdens the medical profession had borne f many years. They were in a position to dictate and n to accept terms. The vote was carried with acclamation.

This concluded the business of the meeting.

The Reception.—After the meeting Mr. and Mrs. A. Roper at the Barnfield Hall received the members of t Association and a number of citizens, about 350 in a The string band of the R.M.L.I. (Plymouth Division under Bandmaster J. W. Newton, provided a pleasing pr gramme, and there were vocal contributions by Mr. E. Roper. The invited guests were:

The Archdeacon of Exeter and Mrs. and Miss Sande Admiral White, Misses Meade-King, Miss Cowie, Mrs. a Miss Dymond, Miss Trenerry, Prebendary and Mrs. Bird, Mi Hiscocks, Sir Robert Newman, the Bishop of Exeter and Mr Robertson, Rev. J. H. and Mrs. Prince, Dr., Mrs., and Mi Wood, Colonel and Mrs. O'Brien, Misses Finlay, Misses Noddal Miss Cole, Misses Walsh, Rev. R. H. and Mrs. Couchma Colonel, Mrs., and Miss Webb, Miss Leakey, Dr. and Mr Culross, Dr. and Mrs. Iles, Miss Vyvyan, Dr. and Mr Mortimer, Mr. and Mrs. Hussey, Mrs. and the Misses Kenn way, Mr. L. Kennaway, Mrs. and Miss Trefusis, Mrs. a the Misses Swinton, Dr. Black, Misses Spurway, Colonel, Mrs and Miss Currie, Misses Forbes, Mr. and Mrs. Norman, t Bishop of Marlborough, Canon and Mrs. Pryke, Dr. and Mr Shirley Perkins, Rev. C. A. and Mrs. Curgenven, Mrs. a Miss Nevile, Mr., Mrs., and Miss White, Mrs. Granger, M and Mrs. Penry, Mr., Mrs., and Miss Granger, Mr. a Mrs. Tanner, Mrs. and Misses Harding, Mr., Mrs., and Mi Ackland, Mr. and Misses Bazeley, Mr. and Mrs. Montgomer Dr. and Mrs. Morton, Mr. C. E. Bell, Rev. T. J., Mrs., a Miss Ponting, Dr. and Mrs. R. V. Solly, Mr. and Mr Masefield, Miss Smale, Mr. and Miss Rogers, Mrs., Miss, a Mr. Shawfield, Miss Penny, Sir Dutton, Lady, and Misses Co Mrs. and Miss Baukart, Dr. and Mrs. Raglan Thomas, Dr. a Mrs. Pollock, Mr. and Mrs. Hockin, Mr., Mrs., and Miss M Tosswill, Misses Fitzgerald, Dr. and Mrs. Sayres, Rev. E. T. a Mrs. Foweraker, Mr. and Misses Rowe, Mr. and Mrs. Dybal Miss Townsend, Miss Brandt, Mrs. Molloy, Mr. A. Daw, th Sheriff of Exeter and Mrs. Owen, Mrs. and Miss Daw, Mr. a Mrs. Campion, Mr. and Miss Domville, Mr. and Mrs. Andrew Dr. and Miss Gough, Mr. and Mrs. Caunter, Mr. and Miss Chil Mrs. Russell, Rev. C. A. Russell, Dr. Pickard, Mr. and Mr R. L. Williams, Chancellor, Mrs., and Miss Edmonds, Mr. a Mrs. Mathew, Mr. M. Mathew, Mr. Worthington, Mr. and Mr Kindersley, Mr. and Mrs. Bowden, Rev. C. J., Mrs., and Miss Valpy French, Misses Elgy, Mr., Mrs., and Miss Clap Mr., Mrs., and Misses Hepburn, Rev. H. de Vere and Mr Welchman, Miss Janson, Rev. H. S. and Mrs. Wyatt, D Langridge, Rev. A. H. M. Hare, Mrs. and Miss Macalister Mr. Lilley, Mr. and Mrs. Cunningham, Dr., Mrs., a Miss P. Maury Deas, Mr. and Mrs. Vickery, Mr., Mrs and Miss Benson, Mr. G. Michelmore, Inspector-General Todd Mr. and Mrs. Shapland, Dr. and Mrs. Harper, Dr. and Mis Pratt, Misses Kestall Cornish, Dr. and Mrs. Vlieland, Mr. a

. C. Clapp, the Mayor of the Exeter and Mrs. Loram, Misses sdon, Mr. and Mrs. Williams, Dr. Hawker, Dr. and Mrs. rnton, Dr. and Mrs. Beesley, Mrs. and the Misses Lyster, Dr. el Ramsay, Mr. Hedden, Major and Mrs. Salmon, Major Mrs. Zimmerman, Miss Grimaldi, Colonel, Mrs., and Miss don, Mr. Odell, Rev. R. C. B. Llewellyn, Dr. and Mrs. er, Mr., Mrs., and Mr. C. Parsons, Mr. Thompson, Mr. gstaff Smith, Dr. and Miss Davy, Mr. Elgar Down, Mr. Mrs. Walrond, Mr. Fox, Dr. and Mrs. Harris, Dr. Ingram, and Mrs. Pereira, Mr. and Mrs. Luke, Dr. Fenwick, Mr. and . Gidley, Mr. and Mrs. Lucy, Mr. and Mrs. Mackey, Prin-l, Mrs., and Miss Clayden, Dr. Goulston, Miss Champer-ne, Mr. and Mrs. Isbell Oldham, Mr. Sarslot, Mr. J. Geare, . Mrs., and Miss Harris, Deputy Inspector-General and Mrs. nes, Mr. E. Petherick, Dr. M. Palmer, Mr. Cosens, Miss ourne, Mr. and Mrs. King, Mr. Sturdee, Dr. and Mrs. Tindall, Carter, Mrs. Rule, Mrs. and the Misses Gidley, Dr. A. Turner, . R. W. B. Langhorne, Dr. Good, Mr. and Mrs. Richards, and Mrs. Evans, Mr. and Mrs. Corbett, Mr. and Mrs. Good-Dr. MacCarthy, Dr. Fitzpatrick, Miss Moore, Mr. and Miss afell, Mr. and Mrs. Russell Coombe, Mr. Pollock, Rev. F. Mrs. Simmons, Dr. Coldough, Sir John, Lady, and Miss naway, Mr. Date, Mr. L. Tosswill, Dr. Harmer, Dr. and . Cooke, Dr. Douse, Dr. Fitzsimmons, Mr. and Mrs. Ashford, s Mules, Dr. Ash, Mr. Elles Pearson, Dr. Bradford, Mr. G. son, Dr. and Mrs. McCulloch, Mr. and Mrs. Cann, Mr. and . De Denne, Mr. and Mrs. Atkins, Mr. Stirk, Mr. May, Mr. Kendle, Dr. and Mrs. Sandoe, Dr. Paul, Dr. and Mrs. Bovey, Leon, Mr. and Mrs. Jacques, Dr. Hodgson, Mr. and Mrs. ter, Mr. Shapley, Mr. and Mrs. Goad, the Misses Fraser, Dr. Miss Aldridge, Mr. and Mrs. Hudson, Dr. McIndoe, Dr. en, Mr. and Miss Strange. From the Royal Devon and er Hospital—Miss Biggs, Miss Brown, Miss Hussey, Miss or, Miss Thomas, Miss Jackson, Miss Dufty, Miss David, D. Grimaldi, Miss Glover.

Annual Dinner.

he PRESIDENT (Mr. Roper) presided at the annual er at the Rougemont Hotel in the evening, being orted at the head of the table by Dr. Noy Scott President), the Mayor of Exeter (Mr. A. T. Loram), Sheriff of Exeter (Mr. J. G. Owen), the Bishop of er, Mr. H. E. Duke, K.C., M.P., the Archdeacon of ter, Vice-Admiral White, Colonel Western, C.B., Mr. . Wood, Mus. Doc., Principal Clayden, and Mr. C. E. e. During the repast the band of the Royal Marines mouth Division) discoursed choice selections of music, lmaster J. W. Newton conducting. The toasts were spersed with excellent songs by Mr. E. W. Roper.

. P. MAURY DEAS proposed "The Bishop and Clergy," h was acknowledged by the DIOCESAN, who expressed appreciation of the honourable position maintained rally by the members of the medical profession. He always held the profession locally in the highest m.

he PRESIDENT submitted "The Imperial Forces," nasizing the point that for a rich and powerful nation as ours to be inadequately defended was almost ulous; it was certainly highly reprehensible, and e the question of compulsory training had come very to the fore of late years. It would be a very fine for the future fathers of the English nation if the of the nation had a year's training in the army, ially from a moral, mental, and physical point of view. Admiral WHITE responded for the Navy, remarking any Government ought to be kicked out at a moment's e that did not see that Britain had a sufficient and nt navy and army. They wanted such an army as l allow the navy to be absolutely free to meet the y in any part of the world. Colonel WESTERN, C.B., nanding the Wessex Division, replied for the army.

. E. J. DOMVILLE proposed "The British Medical Asso-n," and said they, as the medical profession, felt that ars gone by they had earned, at no small self-sacrifice, ratitude and respect of their fellow-citizens, and were placed, as it were, in the balances. Their merits were weighed in the scales of a not too impartial tribunal. moment had come when they must all speak with no tain voice. As one man the profession intended to together as brethren of a good cause, willing to give eir best for the benefit of their fellow-creatures, but ling to become slaves or the servitors of any combina-of men, however distinguished or undistinguished. nany years a great number of the younger members of profession, in order to start in a not too well paid ssion, had accepted menial rewards at the hands of iendly societies. The rewards had been to a certain t repaid by side-issues. They were now face to face bare facts, and it was of the utmost importance that all classes of the community should realize that while they were anxious to look after the good of the citizens of the empire, they were not going to be put upon. They were not going to be set aside, or submit to lifelong tyranny, which was apparently involved in the projects before the country at the present moment. They had the united voice of the profession, which intended to get justice. If they did not get justice they were not going to share in the work whatever. There was a distinct determination throughout the country on the point, and already twenty-six new members had joined that Branch.

Dr. NOY SCOTT, in reply, said the only regret he had was that apparently the Chancellor of the Exchequer had not seen fit to enter into two and a half years' negotiation with them as he had done with the friendly societies. If they did not stand shoulder to shoulder and act as one man they would be entering upon an avenue which would lead to death, damnation, and disaster. If the trinity of evil fell upon them, it must necessarily react upon the nation at large. If they were unable to sustain the position to which they were entitled by their education and by the necessity of the maintenance of their social position and by the dignity of their work, it must necessarily follow that the result to the nation would be the degradation of the profession and the lessening of the responsibilities they had to carry out. It would be their own fault if they did not get it on a business footing. If a reduction was to be made on the question of economics, they could, if they stood together, get what they wanted.

Mr. Duke's Optimism.

Mr. H. E. DUKE, M.P., proposing "The City of Exeter," remarked that the bill now before the House of Commons was undoubtedly a measure demanded by the general sense of the public. He was quite satisfied that by the joint action of the House of Commons and the medical profession and the Chancellor of the Exchequer, that when the affairs of the profession in its relation to the industrial classes were put upon the commercial footing, it would be a footing which would be mutually satisfactory. He was quite certain of that, and that the bill could not work without the co-operation of the medical profession. From observations he had heard from the Chancellor of the Exchequer, he would approach the matter in a businesslike spirit, and listen to the representations of the medical profession; and he could not help thinking that by the joint action of the medical profession and those who had had charge of the fortunes of this great scheme, a satisfactory result would be arrived at.

The MAYOR, in reply, said he had listened to no speech that evening with greater pleasure than to that of Mr. Duke, who had obtained the view of both sides, and was able to lay before the company thoughts which would tend, he (the Mayor) felt sure, to allay any extreme anxiety given voice to on that occasion. The profession must surely realize that the sense of common justice, instinctive to the English nation, would see to it that even if the Government passed a measure that was hard and overbearing on a profession like the medical profession, it should in the near future be rectified. Dr. Domville, he felt sure, would be as gratified as any one in the near future if he found he had on the present occasion overstated the case.

Dr. DAVY, an ex-President of the British Medical Association, in proposing the health of the President, said the Insurance Bill if passed in its present form spelt ruin for a very large number of practitioners who were dependent on the lower middle class throughout England. He was glad to think that as a profession they were unanimous on this matter, and were prepared to fight the question with money or in any other manner, rather than see the poorer part of their brethren ruined in this way.

Mr. ROPER having replied, proposed the health of the Honorary Secretary of the Branch, Dr. Russell Coombe.

WEST CORNWALL DIVISION.

THE annual meeting of the Division was held at the Royal Cornwall Infirmary, Truro, on Tuesday, May 30th. Over fifty members were present. Dr. SYMONS, of Penzance, Chairman of the Division, took the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The following officers for the ensuing year were elected: *Chairman*, Dr. J. W.

Haughton (Falmouth); *Vice-Chairman*, Dr. F. Chown, M.B. (Townshend); *Representative on Representative Council*, Mr. Russell Coombe (Exeter); *Representatives on Branch Council*, Drs. Whitworth (St. Agnes), Shaw (St. Austell), and Taylor (Helston); *Honorary Secretary and Treasurer*, Dr. Taylor (Helston).

Work Done by Division.—The HONORARY SECRETARY read a report on the work done by the Division in the general interests of the profession during the past year:

1. An arrangement has been made with the County Education Authority that certificates for school children shall be paid for at the rate of 1s. 6d. per certificate (no visiting being required).

2. The profession generally has accepted the advice of the Association that no lectures for ambulance, British Red Cross Society, etc., be given for less than £5 5s. per course.

3. The County Council has agreed to raise the scale of fees for ambulance lectures from £7 7s. to £10 10s. for ten lectures of two hours each, the County Council paying the examiners' fees and all incidental expenses.

4. Meetings were held in each union district and the questions of fees in general discussed. Owing to the Government Invalidity Insurance Bill being brought on these meetings were not continued, but very good service was done by getting the medical men together and talking over many vexed questions in a friendly way.

5. Every medical man practising in the area has agreed not to accept less than £1 1s. for independent reports under the Workmen's Compensation Act.

6. Unfortunately, no similar agreement was come to *re* fees for examining lives for life insurance; 75 per cent. of the medical men were in favour of a fee of £1 1s. for examining cases where the sum insured was £100 or over.

7. An ethical committee was formed, who considered the model rules, and will bring them up for adoption at the next meeting.

8. The question of model rules for nurses gave no trouble, as the County Committee have shown their anxiety to meet the views of the medical men, and it was not considered worth while to upset the present harmony for the sake of gaining any minor points.

9. The Association has advised and backed up the Penzance medical men in their dispute with the guardians over a Poor Law appointment.

National Insurance Bill.—The meeting then resolved itself into a general meeting of medical men practising in the West Cornwall area to consider the above bill. Over sixty medical men were present, and letters from thirteen more were read expressing inability to attend, but promising full support; the opinion of over 75 per cent. of medical men practising in West Cornwall being thus obtained. Strong opposition was expressed to the "capitation" system, as being bad for both the beneficiaries under the scheme and the medical men. The resolutions published in the SUPPLEMENT (June 17th, p. 450) were discussed and passed unanimously.

Vote of Thanks.—A special vote of thanks to the Honorary Secretary for his trouble was proposed from the Chair. Dr. BRAMWELL, of Penzance, in supporting it, expressed the thanks of the West Penwith Medical Society to the British Medical Association for the support given by the latter in the Penzance guardians' dispute.

STAFFORDSHIRE BRANCH:

SOUTH STAFFORDSHIRE DIVISION.

THE annual meeting of the Division was held in the Star and Garter Hotel, Wolverhampton, on Wednesday, June 21st, at 8.30 p.m. Dr. MALET was in the chair and there were twenty-two members and two prospective members present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The following were elected officers for 1911-12: *Chairman*, Dr. W. R. Somerset; *Vice-Chairman*, Dr. W. McE. Clendinnen; *Secretary*, Dr. H. C. Mactier; *Three Representatives on Branch Council*, Dr. Ridley Bailey, Dr. J. T. Hartill, and Dr. Malet; *Three Members of Executive of Division*, Mr. Deanesly, Dr. J. Grout, and Dr. S. Poole.

A Medical Coroner for Wolverhampton.—Dr. MACTIER proposed and Dr. POOLE seconded and it was carried unanimously:

That this meeting of the South Staffordshire Division of British Medical Association would welcome the appo ment of a medical coroner for the borough of Wol hampton should the Council see fit to appoint a med candidate, and that a copy of this resolution be sent to town clerk.

National Insurance Bill.—The National Insurance was discussed (see SUPPLEMENT, July 1st, p. 20).

Affiliation of Outside Bodies.—The report of Council affiliation of outside bodies was approved.

Metric System.—The Report on the adoption of metric system was ordered to lie on the table.

Referendum and Postal Vote.—Report of Council referendum and postal vote—the Representative instructed to use his own discretion in this matter.

Model Rules for Nursing Associations.—Model rules nursing associations were approved.

Memorandum on First Aid, Hygiene, and Kind Subjects.—This was approved and the SECRETARY repor that the Branch had already taken action in the matter.

ULSTER BRANCH.

THE spring meeting of the Branch was held in the Harb Office, Londonderry, on Saturday, April 29th, Dr. W CALWELL, President, in the chair.

Confirmation of Minutes.—The minutes of the previ meeting were read and passed.

Report of Council.—The report stated that six n members had been elected, and that a request from t Irish Poor Law Reform Association asking for t attendance of delegates at a public meeting had be considered and acceded to.

Demonstration.—Mr. H. HANNA (Belfast) gave a dem stration of the Edridge-Green colour perception lantern.

Multiple Papillomata of Larynx.—Mr. H. HANNA re notes of a case. The patient was a boy, aged 3 years, whom he had operated by direct laryngoscopy for multi papillomata of the larynx. He suffered greatly fr dyspnoea; subsequently relapse occurred. Thyrotor was done, and all the growths were snipped away wi curved scissors and the divided thyroid brought togeth in the middle line by catgut, and patient made to breat through tracheotomy wound for some weeks. Later, O'Dwyer's tube was passed and the tracheotomy wou allowed to close up. The patient was operated on October, 1910, and he still wore the intubation tube. said the after-treatment of such cases still offered ve considerable difficulty and was unsatisfactory.

Ulcer of the Stomach and Duodenum.—Mr. A. MITCHELL (Belfast) gave a demonstration of sever specimens of these conditions.

Operative Treatment of Backward Displacements Uterus.—Dr. JOHN CAMPBELL read a paper on this subje He said the difficulties in the way of effectively treati backward displacements of the uterus by pessaries we well known, and the objections to most of the operatio hitherto adopted were almost equally recognized. Vario operations by the vaginal route had been tried, and h failed to effect a permanent cure, or had so interfered wi parturition as to make the cure worse than the disea The Alexander operation suited only cases which we quite free from adhesions, and in some instances p disposed to inguinal hernia, so that it was unsuitable f many cases which must need relief. Numerous operatio through the abdominal cavity had been tried and fou wanting. Those which did not attach the uterus to t anterior abdominal wall were proved to be only tempora in their results, while those which obtained firm uni between the uterus and the anterior abdominal wall re dered parturition in many cases difficult, and oft gave rise to vesical and reflex symptoms of a di agreeable character. The method which Dr. Campb adopted for about three or four years past was free fro all the objections above referred to. It gave a permane good result; it caused no difficulty in pregnancy or labou and it caused few, if any, reflex disturbances. The id first occurred to a surgeon named Ferguson. It was tak up and elaborated by Gilliam, an American operator. T essential thing was to pull the round ligaments, with t adjacent part of the broad ligaments forward through hole in the rectus muscle on either side, and to secure t ligaments by stitching them to the anterior aponeurosis the recti muscles. By this means the uterus was he

orward in close contact with the anterior abdominal wall, nd yet the corpus was not attached to the abdominal wall nd was free to move and free to expand in pregnancy. The uterus was, in fact, suspended by its round ligaments. The operation was devoid of risk, unless pyosalpinx or ther complication introduced an element of danger. It nabled the uterus and its appendages to be thoroughly reed, if adherent, and dealt with as seemed best. It pro- uced a good and lasting result, and it did not interfere ith pregnancy or labour.

Dangers and Difficulties in the Administration of naesthetics.—Dr. H. W. CUNNINGHAM (Derry) read a aper on this subject. He drew attention to the diffi- ulties and dangers likely to arise in the preliminary stage om a faulty position of the patient, pressing the anaes- ietic too rapidly and not sufficiently diluted, and also om allowing a cyanotic state to arise. Later on, while e patient was anaesthetic, he emphasized maintaining light an anaesthesia as possible compatible with the rgical procedure, and also the best methods of dealing ith rigidity and tremor. In the recuperative stage ference was made to open ether anaesthesia and the sence of troublesome sequelae with this method, also the best means of preventing bronchitis, pneumonia, d acetone poisoning.

Thrombosis of Inferior Mesenteric Vessels.—Dr. J. G. OKE read notes of a case. A man aged 36 had a sudden zure of abdominal pain with symptoms of acute obstruc- n and an inguinal hernia; there was also a tumour in t iliac fossa. The hernia was operated on first, and nd to consist of congested omentum and an appendix iploica. The abdomen was then opened, and the tumour nd to be a deeply congested mass of mesentery, the on being also deeply congested. The diagnosis was made thrombosis of some vessels of inferior mesenteric system. e patient lived for six days, and died very suddenly. fore death the femoral artery on the left side was ombosed. A large *ante-mortem* clot was found *post rtem* in the left auricle. The bowel had recovered to reat extent in the interval owing to freer anastomoses haemorrhoidal vessels with inferior mesenteric system. e rarity of this condition of inferior mesenteric vessels ompared to the superior mesenteric was pointed out.

ore Throat.—Dr. COOKE also read notes of two cases in ch sore throat was the initial symptom. The first an with an ulcerated sore throat, followed by effusion the left knee joint. In a day or two an attack of hema nodosum supervened, and a typical case of acute matism followed. The coincidence of the erythema the effusion into the knee joint led to the case being to hospital as a case of purulent arthritis. The hema, however, being typical and symmetrical the nosis was plain on careful examination. The second was a girl, aged 25, who came complaining of sore at, from which she had suffered for a week. On mining the throat, which was inflamed, blood was exuding from the tonsils, also from the gums. On ner examination the patient was found to have large ymoses on the back and thighs; haematuria, melaena, hemorrhage from the uterus. She became delirious tly after admission. She developed a temperature of and died in two days—a typical case of purpura morrhagica. The cases were contrasted, and the source fection referred to the throat in both cases.

rostomia.—Dr. CALWELL read notes of two cases of stomia. He said that, speaking strictly, only one of cases was a true idiopathic xerostomia; the other symptomatic of accidental, chronic, and unsuspected donna poisoning. A lady, somewhat advanced in , received a prescription from a well-known physician twenty or thirty years ago for a pill for constipation; ntained a small amount of extract of belladonna ($\frac{1}{8}$), and the directions were that one pill was to be two or three times a week. This pill acted very actorily, but gradually lost its effect, and the dose was ased year by year long after the death of the physi- who prescribed it. She came to Dr. Calwell com- ng of dryness of the mouth, inability to masticate or to swallow without washing it down with a fluid. thought there was some obstruction. After trying is remedies, a throat specialist and Dr. Calwell d an oesophageal bougie, proving the absence of sis. A few visits later, in questioning for any possible cause, he was told of these constipation pills, which had never been mentioned; she was now taking two each night. The belladonna was omitted, and the dryness was cured. The second was a true case of idiopathic xerostomia. It was that of a woman, aged 30, who had suffered from it for a year; there was no discoverable cause. The tongue was dry and painful, or raw; the cheeks and structures generally were dry; there was a little moisture under the tongue; milking the parotids was quite barren; psychic stimulation was also useless; pilocarpin brought a slight moisture, but made her feel hot and and gave her a head- ache. She had to moisten all food and could not masticate. This affection, said Dr. Calwell, was commoner in middle- aged women; it was often apparently causeless, and, if chronic, did not amend; it frequently caused no marked deterioration of general health, but was a source of much discomfort. This patient was somewhat frail; her nutrition was not much to boast of; she had thrush a little time ago. Her blood was just under normal, showing a slight anaemia of the chlorotic type.

Sympathetic Ptosis.—Dr. CALWELL read notes of a case of sympathetic ptosis. A young lady of good health and active disposition manifested some vague nerve trouble about four years ago; she was a golfer, horsewoman, and of bright disposition; there was a pricking sensation of the right foot, and then loss of sensation; then the same signs came on in the right hand; there was no paresis, and the patient could walk. She became well in a month. About a year later she suffered a rather severe shock. On March 22nd, 1911, there was lessening of the palpebral fissure of the right eye; the upper lid drooped, the lower covered a little more of the iris than in the left; there was distinct fibrillar quivering in the circumorbital fibres. She could elevate the lid with ease. There was no paralysis of any of the external muscles of the eye, nor of those sup- plied by the facial; the pupils were equal, but the right did not enlarge in a dim light as well as in the left. Dr. Calwell saw this patient on April 6th, when these signs were well marked. He saw her again on April 21st, and they had completely disappeared. The sympathetic sup- plied the unstriped fibres, going from the edge of tarsal cartilage to the levator palpebrae superioris, and also those fibres from the capsule of Tenon forwards on the inner side to the lacrymal bone, and on the outer to the malar; hence the slight endophthalmos.

Lumbar Puncture in Landry's Paralysis.—A healthy farmer, aged 50, was digging a trench, about March 28th. He had a shivering fit; that evening his legs got weak. Next day the weakness was more marked, and his ab- dominal muscles became affected, and then his arms; the reflexes disappeared. He was seen by Dr. Gaussen, of Dunmurry. On April 1st he could still move his arms, but very feebly, and the paralysis just stopped short at the neck; his tactile sensation was lessened slightly, but he could distinguish heat and cold, and had control over bladder and rectum. The breathing was becoming affected, and he was troubled with cough from mucus in trachea. On April 2nd he was palpably worse; the pulse jumped about from 100 to 140 in a very irregular manner, varying even in a few minutes. His blood was now becoming inefficiently aërated. Dr. Calwell performed lumbar puncture, and obtained perfectly clear fluid, with some serum albumen in solution. He centrifugalized some, but obtained no deposit for making a film; it was absolutely sterile on agar and broth. His sensibility was certainly lessened, as he did not seem to mind the lumbar puncture. It was either a case of very rapidly spreading diffuse myelitis or of Landry's paralysis. Dr. Calwell said that a few days before the date of the meeting he had done a lumbar puncture on a man with acute myelitis limited to the lumbar enlargement; there was some blood in it from accidental wounding of some vessel, but at times the fluid came perfectly clear, as in the other case. The examination did not reveal any abnormal condition; one of the tubes gave a growth of *Staphylococcus albus*, probably from a contamination.

Optic Atrophy treated by Opening Sphenoidal Sinus.—Dr. J. W. KILLEN (Derry) read notes of an interesting case of this condition, in which treatment by opening the sphenoidal sinus was adopted.

Diseases of the Accessory Sinuses of the Nose.—Dr. J. W. KILLEN showed several interesting cases and read notes of them.

Vaccine Treatment in Tuberculous Disease of the Uterine Adnexa.—Mr. R. J. JOHNSTONE read notes of some cases in which this form of treatment had proved very successful.

GRIQUALAND WEST BRANCH.

THE annual general meeting of the Griqualand West Branch was held at the hospital on Friday evening, April 28th, the following members being present: Drs. Spencer Wicks (President), Symonds, Minter Brown, Russell, Harris, Zwieback, and Vaughan Jones.

Election of Officers.—The following office-bearers were elected: *President*, Dr. Spencer Wicks; *Vice-President*, Dr. Symonds; *Honorary Secretary and Treasurer*, Dr. Vaughan Jones; *Members of the Branch Council*, Drs. Russell, Minter Brown, Harris, and office-bearers.

The late Dr. Walcott.—The PRESIDENT, at the opening of the meeting, referred in appropriate terms to the loss the Branch had sustained through the death of Dr. Walcott of Vryburg, who had been a faithful member of the Branch.

New Member.—Dr. F. P. Maitland, of Gwelo, Rhodesia, made application for membership of the Association, and was duly elected.

Representative at Annual Meeting.—Dr. Arnold H. Watkins was appointed to represent the Griqualand Branch of the Association at the Annual Meeting to be held at Birmingham in July.

Proposed Amendment to Public Health Bill.—A letter was read from the Orange Free State Medical Society *re* amendment to Public Health Act *re* appointment of medical officers to the union. It was unanimously resolved to assist in getting the amendment to the Public Health Bill passed.

Association Notices.

ANNUAL GENERAL MEETING.

Notice is hereby given that the 1911 Annual General Meeting of the British Medical Association will be held in the Midland Institute, Birmingham, on Tuesday, July 25th, 1911, at Two o'clock in the Afternoon.

ANNUAL REPRESENTATIVE MEETING.

Also, notice is hereby given that the 1911 Annual Representative Meeting will be held in the Midland Institute, Birmingham, on Friday, July 21st, 1911 (and following days as required), at Ten o'clock in the Forenoon.

BY ORDER OF THE COUNCIL,

GUY ELLISTON,
Financial Secretary and Business Manager.

J. SMITH WHITAKER,
Medical Secretary.

BRITISH MEDICAL ASSOCIATION.

ANNUAL SUBSCRIPTION.

Those Members who have not already paid their Subscriptions for the current year are requested to forward to 429, Strand, London, a Cheque or Post Office Order for 25s. in favour of the British Medical Association, crossed London County and Westminster Bank. Members joining as from July 1st should forward 12s. 6d.

GUY ELLISTON,
Financial Secretary and Business Manager.
429, Strand, London.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for candidates fo election as Members of Council by Grouped Representative for the year 1911–12 will be received by the Medica Secretary up to the end of the first hour of the proceeding of the Annual Representative Meeting, on Monday, July 24th 1911. Each Nomination must be on the prescribed form copies of which will be forwarded by the Medical Secretar on application.

Separate forms have been prepared: (1) for Nominatio by a Division, and (2) for Nomination by a Representativ of a Division included in the Group, and those applyin are requested to state for which purpose the form i desired.

The voting papers will be issued at the Representativ Meeting to each Representative or Deputy Representative o a constituency in the United Kingdom in attendance at th Meeting.

By order of the Council,

J. SMITH WHITAKER,
Medical Secretary.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and blu books in the Library of the British Medical Associatio available for issue to members on loan has been printed, an copies can be obtained free on application to the Librarian at the house of the Association, 429, Strand, W.C. Th regulations governing the loan of these publications ar stated in the introduction to the list.

The Library is open for consultation from 10 a.m. til 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD

CAMBRIDGE AND HUNTINGDON BRANCH.—The annual meetin of this Branch will be held at St. Neot's, Hunts, on July 12th, a 12.30. President-elect, Dr. E. J. Cross. Luncheon 1.30, "Cros Keys." Presidential address, 3. Garden party in the grounds o Hall Place, 4.—H. B. RODERICK, Honorary Secretary, Cambridge

DORSET AND WEST HANTS BRANCH.—A meeting of the Branc will be held in the Crown Hotel, Ringwood, on Wednesday July 12th, 1911, at 3 p.m., the President, Dr. Whittingdale, i the chair. Agenda: 1. Minutes of last meeting. 2. Letters apologies for non-attendance, etc. 3. To read a letter from th Honorary Secretary of the Branch resigning his office. 4. Th date and place of the autumn meeting. 5. Dr. Frank Fowle will open a discussion on "Muscular Rheumatism." 6. If time permits the Government Insurance Bill, as it affects the medica profession, may be further discussed. A luncheon will be pro vided at the Crown Hotel, from 1 to 2.30 p.m., at 2s. 6d. per hea exclusive of wines, etc. A meeting of the Council of the Branc will be held on the same day and at the same place at 2.30 p.m —JAMES DAVISON, Honorary Secretary, Bournemouth.

EAST ANGLIAN BRANCH.—The annual meeting of the Eas Anglian Branch will be held at the Norfolk and Norwich Hos pital, on Thursday, July 13th. Programme of proceedings 12.15 p.m., Meeting of Branch Council in the Board Room of th Hospital; 12.45 p.m., General Meeting of the Branch in th Board Room. (1) Minutes. (2) Report of Council. (3) Repor of Election of Officers. (4) Financial Report. (5) Matters re ferred for consideration of Branches by Central Ethical Com mittees and Organization Committee. 1.30 p.m., Luncheon a the Norfolk and Norwich Hospital, by invitation of th President-elect, Dr. F. W. Burton-Fanning. 2.15 p.m., Re sumed General Meeting in the Pathological Museum of th Hospital. Agenda: (6) Introduction of the New President b the Retiring President. (7) To consider a letter from th Financial Secretary of the Association, Mr. Guy Elliston, con taining a proposal to hold the Annual Meeting of the Associatio at Norwich in 1913. (8) Address by Mr. J. Smith Whitaker, th Medical Secretary of the Association, on "The Prospects of th Medical Profession under the National Insurance Bill." Genera discussion. 4.45 p.m., Afternoon Tea, to which members ar invited to bring ladies, in the grounds of the Norfolk and Nor wich Hospital, by the kind invitation of Dr. and Mrs. Burton Fanning. Exhibition of instruments by Down Bros., drugs, et The hospital is within two minutes' walk of the Norwic (Victoria) Station, G.E.R., and in direct tram communicatio with Thorpe Station.—B. H. NICHOLSON, HAMILTON A BALLANCE, J. GUTCH, Honorary Secretaries.

NORTH WALES BRANCH.—The annual meeting of the Branc will be held at Conway on Tuesday, July 18th.—H. JONE ROBERTS, Honorary Secretary, Llywenarth, Penygroes, S.O.

British Medical Association.

SEVENTY-NINTH ANNUAL MEETING, BIRMINGHAM, JULY 25th–28th, 1911.

THE SECTIONS.

The following additional information has been received since the date of our last issue.

MEDICINE.

President: ALFRED HENRY CARTER, M.D., Birmingham.

Vice-Presidents: HENRY MALET, M.D., Wolverhampton; THEODORE STACEY WILSON, M.D., Birmingham; WILLIAM HUNTER, M.D., London.

Honorary Secretaries: ARTHUR STANLEY BARNES, M.D., 41, Great Charles Street, Birmingham; JOSEPH GEORGE EMANUEL, M.D., 47, Newhall Street, Birmingham; EDWARD BURTON, M.D., 1, Albion Street, Hull; HAROLD PRITCHARD, M.D., 55, Harley Street, London, W.

The following subjects have been selected for discussion:

Wednesday, July 26th.—Asthma, its Varieties and Treatment:—To be opened by Dr. GEORGE ALEXANDER GIBSON, B.Sc., F.R.C.P.

Thursday, July 27th.—Obscure Cases of Fever without Physical Signs:—To be opened by Dr. WILLIAM HALE WHITE, F.R.C.P.

The following is a synopsis of Dr. HALE WHITE's paper: In considering a diagnosis of fever without physical signs, non-morbid causes which may affect the temperature record must be remembered. Even a few comparatively simple chemical bodies have the property of causing pyrexia. So too, sometimes, has an excess of carbohydrate food. The effect of the nervous system on temperature is not sufficiently appreciated. Fracture of the spine in the cervical region will lead to it, and damage to the corpus striatum also leads to considerable pyrexia. Hysterical pyrexia also occurs. The importance of examining the blood in pyrexia is very considerable, and examination of the cerebro-spinal fluid is often of great help. An explanation of the pyrexia may be found in the urine, even though free from albumen, blood, or casts. Malignant disease is often overlooked as a cause of raised temperature, and cirrhosis of the liver leads to errors; but probably most errors are made by overlooking the presence of small collections of pus. Malignant endocarditis is also known to be a fertile source of errors, and this and latent tuberculosis and typhoid fever are discussed.

Friday, July 28th.—Papers.

OBSTETRICS AND GYNAECOLOGY.

President: Professor EDWARD MALINS, M.D., Birmingham.

Vice-Presidents: CHRISTOPHER MARTIN, F.R.C.S., Birmingham; CUTHBERT LOCKYER, M.D., London; NATHANIEL THOMAS BREWIS, M.B., Edinburgh; FREDERICK EDGE, M.D., Wolverhampton.

Honorary Secretaries: SMALLWOOD SAVAGE, F.R.C.S., 3, Edmund Street, Birmingham; JOHN THOMAS HEWETSON, M.D., 89, Cornwall Street, Birmingham; HAROLD KENDRICK WHITEHOUSE, M.S., 52, Newhall Street, Birmingham; HARRY BECKETT-OVERY, M.D., 40, Harley Street, London, W.

The following two subjects have been selected for discussion:

Wednesday, July 26th.—(1) The Pathology and Treatment of Asphyxia Neonatorum. To be opened by Sir FRANCIS CHAMPNEYS, Bart. The following will take part in the discussion: Drs. Swayne, Handfield Jones, Herbert Spencer, Hellier, A. W. Russell, Thomas Wilson, Gemmell, Lloyd Roberts, and Sir Halliday Croom.

Thursday, July 27th.—(2) The Present Position of Surgical Operations in relation to the Uterus and its Annexa. To be opened by Professor STRASSMANN (Berlin), followed by Mrs. Scharlieb, and Drs. Swayne, Herbert Spencer, Amand Routh, Hellier, J. F. Jordan, Purslow, A. W. Russell, Thomas Wilson, Lloyd Roberts, John Campbell, Stanmore Bishop, C. Newnham, G. Scott Carmichael, Mr. R. J. Johnstone, and others.

The following is a synopsis of Professor STRASSMANN's papers:

Laparotomy in gynaecological diseases is not such a necessity at present as in former times, because: (1) The old enormous tumours are not so frequent as formerly. (2) Diseased appendages from inflammation are no longer so often removed. (3) The vaginal operation has won a great sphere for itself. *A general view of the organs* by the vaginal operation is much more easily attained than by laparotomy. *The narrow space for the vaginal operation* can be overcome by means of additional incisions, anterior flap incisions, and the simplification of instruments. Definition of the indications for the anterior or a posterior vaginal incision. The importance of the easy *drainage* secured. *The method of vesico-fixation*, especially favoured by the author, will be described. The possibility of the formation of haematoma behind the flap will be mentioned, and the ease of the post-operative treatment emphasized. Great value is attached to the vaginal exploratory incision. *In displacements of the uterus*, the indications for laparotomy—ventrifixations and Alexander's operation—will be defined. When *appendicitis* is suspected, in spite of the possibility of operating by the vagina (Ott's speculum), laparotomy is to be preferred. Laparotomy for *prolapse* is never necessary. Retroflexions, which require repair of the cervix and perineum, are best operated on by the vagina with fixation in the majority of cases. The vaginal operation *for tumours* requires an extensive differential diagnosis, and hospitals without a special gynaecologist will always prefer laparotomy; but, in spite of its more difficult technique, the vaginal route is safer. *Myomas* should only be removed by laparotomy when they are larger than the head of a newborn child. Multiple myomas can be removed vaginally. At the most, one-fifth of the operative cases require laparotomy. *Tubal pregnancy* is easier to remove vaginally the earlier the time of pregnancy and the more recent the rupture. *Haematoceles* should always be incised vaginally. In *carcinoma* of the body of the uterus the vaginal route should be chosen. Perforation and injuries of the uterus can be dealt with through the vagina. The vaginal cicatrices have no importance in later deliveries. Post-operative cystitis is shown to be very frequently only a paresis of the bladder, and to occur also after the abdominal operation for myomas or carcinoma.

STATE MEDICINE AND INDUSTRIAL DISEASES.

President: Professor ALFRED BOSTOCK HILL, M.D., Birmingham.

Vice-Presidents: JOHN ROBERTSON, M.D., Birmingham; ERNEST HUGH SNELL, M.D., Coventry; SIDNEY BARWISE, M.D., Duffield, Derbyshire; MABYN READ, M.D., Worcester; EDWARD WILBERFORCE GOODALL, M.D., London.

Honorary Secretaries: ROBERT ARTHUR LYSTER, M.D., The Castle, Winchester; THOMAS SHADICK HIGGINS, M.B., Health Department, Council House, Birmingham; ARTHUR DOUGLAS COWBURN, M.D., 31, Barkston Gardens, London.

The following programme has been arranged:

Wednesday, July 26th.—Discussion on the Administrative Control of Tuberculosis, under the following headings:

(1) *Notification*, to be opened by Dr. ROBERTSON (Birmingham).

(2) *Sanatoriums*, to be opened by Dr. A. E. LYSTER (Chelmsford).

(3) *Dispensary and Domiciliary Treatment*, to be opened by Dr. PHILIP (Edinburgh), followed by Drs. Camac Wilkinson, Killick Millard, Mearns Fraser, and others.

Paper:

WYNNE, Dr. F. E. (Leigh, Lancs). Domestic Hot-water Supplies as a Factor in the Production of Lead Poisoning.

Thursday, July 27th.—Discussion on the Need for a Unified Public Health Service:—To be opened by Dr. R. A. LYSTER (Hampshire), followed by Drs. J. R. Kaye (West Riding), A. W. Gilchrist, T. W. Barlow (Wallasey), A. H. Bygott (Barking), and others. A discussion on Disease Carriers, to be opened by Dr.

Davies (Bristol), followed by Drs. Goodall, Ledingham, Caiger, Paterson, and others.

Friday, July 28th.—(1) Discussion on Disease, Industrial or otherwise, as a subject for Claim for Damages or Compensation at Law, to be opened by Dr. Knocker, followed by Drs. Collie, Cowburn, and others. (2) Joint discussion with the Odontological Section (see Programme for Friday of that Section). (3) Paper: Dr. Edginton, Industrial Disease in Birmingham.

The following are the headings of Dr. Douglas Knocker's paper: (1) On an insurance policy; (2) breach of contract causing disease; (3) negligence causing disease; (4) Workmen's Compensation Act; (5) industrial insurance.

Visits.

On Wednesday, at 3 p.m., a visit will be paid to the City of Birmingham's "Yardley Road Sanatorium" for the educational and tuberculin treatment of pulmonary tuberculosis. Limited to 150. A demonstration will be given by Dr. Wynne, Visiting Physician, and Dr. Dixon, Resident Medical Officer. Visitors will be conveyed to and fro and entertained to tea by the City Health Committee.

On Thursday, at 2.30 p.m., there will be a visit to the Sewage Disposal Works. The Tame and Rea Drainage Board invite 150 visitors to visit and inspect the Sewage Disposal Works and to tea at the conclusion of the inspection, which Mr. Watson, Engineer to the Board, has kindly consented to direct. These works are the largest biological installation in the world, there being upwards of 50 acres of percolation beds.

Application for tickets for either of these visits should be made to Dr. T. Shadick Higgins, The Council House, Birmingham.

SURGERY.

President: Sir Thomas Frederick Chavasse, F.R.C.S., Birmingham.

Vice-Presidents: William Dunnett Spanton, F.R.C.S., Hanley; William Frederick Haslam, F.R.C.S., Birmingham; James Thomas Jackman Morrison, F.R.C.S., Birmingham; Edward Deanesly, F.R.C.S., Wolverhampton; David Wallace, C.M.G., F.R.C.S.Edin., Edinburgh.

Honorary Secretaries: Leonard Parker Gamgee, F.R.C.S., 95, Cornwall Street, Birmingham; Charles Arthur Kinahan Ball, M.D., 22, Lower Fitzwilliam Street, Dublin; Charles Albert Leedham-Green, F.R.C.S., 9, Newhall Street, Birmingham; John Howell Evans, F.R.C.S., 25, Berkeley Square, London.

The following subjects have been selected for discussion:

1. The Treatment of General Septic Peritonitis. To be opened by Mr. J. Rutherford Morison, to be followed by Professor Koch (Groningen), and Messrs. Hubert J. Paterson, G. P. Newbolt, Damer Harrisson, W. F. Cholmeley, F. M. Caird, Albert E. Morison, J. Grant Andrew, W. de C. Wheeler, E. Scott Carmichael, Gilbert Barling, Douglas Drew, W. J. Greer, Philip Turner, Harold Collinson, J. Crawford Renton, Cuthbert Wallace, A. S. Barling, W. Morley Willis.

2. The Technique of Wound Treatment. To be opened by Mr. Alexis Thomson (Edinburgh), followed by Professor Koch (Groningen), and Messrs. Hubert J. Paterson, G. P. Newbolt, Damer Harrisson, Albert E. Morison, W. de C. Wheeler, Gilbert Barling, C. Leedham-Green, Douglas Drew, Harold H. B. Macleod, J. Crawford Renton, Cuthbert Wallace, A. S. Barling, W. Morley Willis.

Friday, July 28th.—Papers:

Wilkie, D. P. D., F.R.C.S. Some Functions and Surgical Uses of the Omentum.
Paterson, Hubert J., M.C. Appendicitis without Physical Signs.
Dunhill, T. P., M.D. Partial Thyroidectomy Under Local Anaesthesia with Special Reference to Exophthalmic Goître.
Leedham-Green, C., F.R.C.S. An Inquiry into the Value of the Sterilization of the Skin by Iodine.
Newbolt, G. P., F.R.C.S. Tuberculous Mesenteric Glands.
Berry, James, F.R.C.S. A Further Series of Cases of Cleft Palate Treated by Operation.
Morison, Albert E., F.R.C.S. Three Cases of Hypernephroma.
Wheeler, W. de C., F.R.C.S. A Case of Abdominal Aneurysm Successfully Treated by Operation.
Drew, Douglas, F.R.C.S. Rupture of the Popliteal Artery and Vein. Diffuse Haematoma.
Greer, W. J., F.R.C.S. Fibromatous Tumours of the Mesentery.

THERAPEUTICS, INCLUDING DIETETICS.

President: Sir Robert M. Simon, M.D., Birmingham.

Vice-Presidents: Paul Morgan Chapman, M.D., Hereford; Thomas Sydney Short, M.D., Birmingham; Henry Willoughby Gardner, M.D., Shrewsbury.

Honorary Secretaries: William Alexander Potts, M.D., 118, Hagley Road, Birmingham; Alexander Bryce, M.D., "St. Kilda," Anderton Park Road, Moseley, Birmingham; Hector Charles Cameron, M.D., 6, St. Thomas's Street, London.

Wednesday, July 26th.—Discussion on The Merits of a Relatively Low Protein Diet. To be opened by Dr. Chittenden, of whose paper an abstract was published last week, followed by Professor von Noorden, Drs. Arthur Luff, Chalmers Watson, Robert Hutchison, Alexander Haig, William Russell, and Lieutenant-Colonel Melville.

Thursday, July 27th.—Discussion on Recent Developments in the Recognition and Treatment of Syphilis. To be opened by Mr. J. Ernest Lane, followed by Majors T. W. Gibbard and H. C. French, Captain L. W. Harrison, and Messrs. Otto Grünbaum, G. H. Lancashire, J. E. R. McDonogh, G. Pernet, and others.

Friday, July 28th.—Discussion on the Scope of Immune and Normal Serum in Treatment. To be opened by Dr. T. J. Horder, followed by Dr. E. C. Hort, E. W. Goodall, Foord Caiger, and others.

Paper:

Muthu, C., M.D. The Treatment of Pulmonary Tuberculosis by Continuous Inhalation.

PATHOLOGICAL MUSEUM.

A pathological museum has been organized in connexion with the meeting in the Pathological and Brewing Laboratories of the University College, Edmund Street, and it is hoped it will be open to visitors on Monday, July 24th.

The museum will serve the purpose of displaying those specimens which are required to illustrate papers read in the Sections, and it is also intended to present collections or series of specimens of subjects of prominent interest.

The museum is divided into sections and each section has been placed under an honorary secretary and curator.

Medicine	L. G. J. Mackey, M.D., 141A, Great Charles Street. Sholto Douglas, M.B., The University, Edmund Street.
Surgery	Seymour Barling, F.R.C.S., 81, Edmund Street. W. Billington, F.R.C.S., 47, Newhall Street. B. J. Ward, F.R.C.S., 141A, Great Charles Street.
Gynaecology	J. T. Hewetson, F.R.C.S., 89, Cornwall Street. S. Lewis Graham, M.B., 51, Newhall Street.
Dermatology	Douglas Heath, M.D., 41, Newhall Street. W. A. Loxton, M.B., 85, Cornwall Street.
Diseases of Children	L. G. Parsons, M.D., 52, Newhall Street.
Ophthalmology ...	Jameson Evans, F.R.C.S., 85, Edmund Street.
Ear and Throat ...	Seymour Jones, F.R.C.S., 93, Cornwall Street.
State Medicine ...	John Robertson, M.D., Council House. T. S. Higgins, D.P.H., Council House.
Dental	John Humphreys, M.D.S., 61, Newhall Street. H. Humphreys, M.B., B.Ch., 61, Newhall Street.
Radiology	J. Hall-Edwards, L.R.C.P., 103, Newhall Street. J. R. Ratcliffe, M.B., Wake Green Road, Moseley.
Veterinary Medicine	Lawton Sedgwick, Broad Street, Birmingham.

The Honorary Secretary of the Pathological Museum is Mr. A. W. Nuthall, F.R.C.S., 89, Cornwall Street, Birmingham.

There will be a series of specimens to illustrate the following special subjects:

(*a*) The degenerations and complications of fibroid tumours of the uterus.
(*b*) Osteo-arthritis and rheumatoid arthritis.

(*c*) Granulomatous formations in tertiary visceral syphilis, including hereditary syphilis.
(*d*) The inter-relation between human and bovine tuberculosis.
(*e*) The pathology of glaucoma.
(*f*) Malignant growths of the gastro-intestinal tract removed by operation, with final results.
(*g*) Simple and malignant tumours of the testis.
(*h*) Hypernephromata.
(*i*) Radiograms illustrating — Osteo-arthritis and rheumatoid arthritis; abnormal and pathological conditions of the abdominal viscera; early pulmonary tuberculosis.
(*k*) Pyloric obstruction in children.
(*l*) Diseases of the middle ear.
(*m*) Diseases of the pancreas.

By kind permission of Mr. Shattock and Dr. Keith, of the Royal College of Surgeons, a selection of the specimens prepared by the workers on the Royal Commission on Tuberculosis will be available for exhibition in the division of the museum devoted to the inter-relation between human and bovine tuberculosis.

The museum will be opened from 10 a.m. to 5 p.m. on each day, and notice of special demonstrations given by the honorary curator at convenient times will be posted on the notice board in the reception room and on the doors of the museum. Arrangements have been made to place on exhibition in the museum a number of rare old medical books in the possession of the library of the university. These will be in the charge of Mr. Cope, the university librarian.

NOTIFICATION OF ATTENDANCE: RAILWAY TICKETS.

ALL members of the British Medical Association who purpose to attend the Annual Meeting in Birmingham at the end of this month, including those resident in Birmingham, are requested to at once fill up, if they have not already done so, the form of "notification of attendance" published this week in the advertisement pages (7, 8, 9, and 10).

If the form is filled up and returned to the address shown, a voucher or vouchers will be issued from the Central Offices, 429, Strand, giving the right to the special terms that have been arranged with the railway companies.

On presentation of these vouchers the companies will issue return tickets at a single fare and a quarter, available from July 20th to August 1st, both dates inclusive.

The excursion to Studley Castle Horticultural College during the annual meeting of the British Medical Association at Birmingham will take place on the afternoon of Thursday, July 27th, and not Wednesday, July 26th, as previously announced.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 9,159 births and 3,781 deaths were registered during the week ending Saturday, June 17th. The annual rate of mortality in these towns, which had been 13.3, 13.0, and 12.2 per 1,000 in the three preceding weeks, was again 12.2 per 1,000 during the week under notice. In London the death-rate did not exceed 12 per 1,000, against 12.2, 12.1, and 11.6 in the three previous weeks. Among the seventy-six other large towns the death-rates ranged from 5.1 in Handsworth (Staffs), 4.3 in Hornsey, 5.4 in Burton-on-Trent, 5.7 in Barrow-in-Furness, and 7.1 in Leyton, to 16.9 in Oldham, 17.2 in Sunderland, 18.0 in Stoke-on-Trent, 19.0 in Stockton-on-Tees, and 19.1 in West Bromwich. Measles caused a death-rate of 1.8 in Swansea, and in Stockport, in South Shields, and in Newport (Mon.), and 2.2 in Smethwick; whooping-cough of 1.2 in Newcastle-on-Tyne, and 1.4 in Warrington; and diphtheria of 1.2 in Croydon, and in Stoke-on-Trent and in Merthyr Tydfil. The mortality from scarlet fever and enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 3,781 deaths from all causes registered in the seventy-seven towns, 37 were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Liverpool, 5 in Birmingham, 4 in Sunderland, and 4 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,097, 1,140, and 1,141 at the end of the three preceding weeks, had further increased to 1,207 on Saturday, June 17th; 190 new cases were admitted during the week, against 158, 185, and 152 during the three preceding weeks.

In seventy-seven of the largest English towns 6,830 births and 3,487 deaths were registered during the week ending Saturday, June 24th. The annual rate of mortality in these towns, which had been 13.0, 12.2, and 12.2 per 1,000 in the three preceding weeks, had further declined to 11.5 per 1,000 in the week under notice. In London the death-rate did not exceed 10.6 per 1,000, against 12.1, 11.6, and 11.2 in the three previous weeks. Among the seventy-six other large towns the death-rates ranged from 5.1 in King's Norton, 5.5 in Hornsey, 5.7 in Tottenham, 6.8 in Walsall, and 7.0 in Ipswich, to 15.4 in Halifax, 15.6 in Dewsbury, 15.7 in Liverpool, 15.8 in Wigan, and 17.0 in Stockton-on-Tees. Measles caused a death-rate of 1.4 in South Shields, and 1.9 in Great Yarmouth; the mortality from the other epidemic diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 3,487 deaths registered in the seventy-seven towns, the causes of 27 were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Liverpool, 3 in Birmingham, and 2 each in Bootle, Rochdale, and Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospital and the London Fever Hospital, which had been 1,140, 1,141, and 1,207 at the end of the three preceding weeks, had further increased to 1,223 at the end of the week under notice; 159 new cases were admitted during the week, against 185, 152, and 190 during the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the principal Scottish towns 908 births and 466 deaths were registered during the week ending Saturday, June 17th. The annual rate of mortality in these towns, which had been 16.9 and 14.9 per 1,000 in the two preceding weeks, declined to 14.2 in the week under notice, but was 2.0 per 1,000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates ranged from 11.5 in Aberdeen and 13.5 in Edinburgh to 15.2 in Greenock and 17.9 in Paisley. The mortality from the principal epidemic diseases averaged 2.0 per 1,000, and was highest in Paisley and Perth. The 219 deaths from all causes registered in Glasgow included 10 from measles, 1 from scarlet fever, 12 from whooping-cough, 2 from diphtheria, and 7 (of children under 2 years of age) from diarrhoea. Two deaths from measles and 5 from whooping-cough were recorded in Edinburgh; 2 deaths from measles in Leith; 2 deaths from diphtheria and 2 from whooping-cough in Perth; and 2 deaths from whooping-cough in Dundee, 2 in Paisley, and 3 in Greenock.

During the week ending Saturday, June 24th, 825 births and 435 deaths were registered in eight of the principal Scottish towns. The annual rate of mortality in these towns, which had been 14.9 and 14.2 per 1,000 in the two preceding weeks, further declined to 13.3 in the week under notice, but was 2.0 per 1,000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates ranged from 8.3 in Aberdeen and 11.5 in Edinburgh to 15.5 in Dundee and 22.2 in Greenock. The mortality from the principal epidemic diseases averaged 1.8 per 1,000, and was highest in Glasgow and Paisley. The 205 deaths from all causes registered in Glasgow included 14 from whooping-cough, 12 from measles, 4 (of children under 2 years of age) from diarrhoea, 1 from enteric fever, and 1 from scarlet fever. Three deaths from measles and 3 from whooping-cough were recorded in Edinburgh, and 3 deaths from whooping-cough in Paisley and 2 in Greenock.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, June 17th, 692 births and 350 deaths were registered in the twenty-two principal urban districts of Ireland, as against 583 births and 354 deaths in the preceding period. The annual death-rate in these districts, which had been 16.5, 17.1, and 16.1 per 1,000 in the preceding weeks, fell to 15.9 per 1,000 in the week under notice, this figure being 3.7 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 19.2 and 14.4 respectively, those in other districts ranging from 6.9 in Armagh and 7.9 in Dundalk to 26.4 in Queenstown and 29.8 in Kilkenny, while Cork stood at 15.0, Londonderry at 10.2, Limerick at 12.2, and Waterford at 17.1. The zymotic death-rate in the twenty-two districts averaged 1.0 per 1,000, or the same as in the preceding week.

During the week ending Saturday, June 24th, 577 births and 297 deaths were registered in the twenty-two principal urban districts of Ireland, as against 692 births and 350 deaths in the preceding period. The annual death-rate in these districts, which had been 17.1, 16.1, and 15.9 per 1,000 in the preceding weeks, fell to 13.5 per 1,000 in the week under notice, this figure being 2.2 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 15.1 and 11.1 respectively, those in other districts ranging from 3.9 in Galway and 4.2 in Drogheda to 31.1 in Portadown and 41.0 in Wexford, while Cork stood at 19.7, Londonderry at 8.9, Limerick at 6.8, and Waterford at 7.6. The zymotic death-rate in the twenty-two districts averaged 1.2 per 1,000, as against 1.0 per 1,000 in the preceding week.

During the week ending Saturday, July 1st, 836 births and 374 deaths were registered in the twenty-two principal urban districts of Ireland, as against 577 births and 297 deaths in the preceding period. The annual death-rate in these districts, which had been 16.1, 15.9, and 13.5 per 1,000 in the preceding weeks, rose to 17.0 per 1,000 in the week under notice, this figure being 5.3 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 19.5 and 15.7 respectively, those in other districts ranging from 4.4 in Newry and Portadown, and 5.7 in Waterford, to 33.0 in Queenstown and 35.4 in Galway, while Cork stood at 18.4, Londonderry at 14.1, and Limerick at 14.9. The zymotic death-rate in the twenty-two districts averaged 1.0 per 1,000, as against 1.2 per 1,000 in the preceding week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Fleet Surgeon W. J. BEARBLOCK to the *Royal Oak* on its becoming the parent ship, undated; Surgeon A. SCOTT, M.B., to the *Vivid*, additional, for disposal, June 27th.

ARMY MEDICAL SERVICE.

COLONEL F. B. MACLEAN is placed on retired pay, June 13th. Appointed Surgeon, March 6th, 1880, he became Surgeon-Major, March 6th, 1892; Lieutenant-Colonel, March 6th, 1900; and Colonel, February 6th, 1908.

Lieutenant-Colonel F. H. TREHERNE, from the Royal Army Medical Corps, to be Colonel, vice F. B. Maclean, retired, June 13th. Colonel Treherne's previous commissions are thus dated: Surgeon, February 4th, 1882; Surgeon-Major, February 4th, 1894; and Lieutenant-Colonel, February 4th, 1902. His war record includes the Soudan Expedition in 1884, including the battles of El Teb and Tamai (mentioned in dispatches, medal with clasp, and Khedive's bronze star); the Nile Expedition in 1885, present at the action of Kirbekan (two clasps); and

the South African war, 1899–1901, when he was in the actions at Elandslaagte, Rietfontein, and Lombard's Kop, and at the defence of Ladysmith (mentioned in dispatches, Queen's medal with three clasps).

ROYAL ARMY MEDICAL CORPS.

Captains H. C. R. HIME, M.B., C. C. CUMMING, M.B., and C. R. EVANS are promoted to be Majors, dated June 4th. Their previous commissions are dated—Lieutenant, December 4th, 1899; Captain, December 4th, 1900. Major Hime served in the South African war in 1899–1902, and took part in operations in the Transvaal, Orange River Colony, and Cape Colony, for which he has the Queen's medal with three clasps and the King's medal with two clasps. Major Cumming was also in the South African war in 1900–2, and was present at the relief of Kimberley, and in actions at Paardeberg, Poplar Grove, Dreifontein, Houtnek (Thoba Mountain), and Zand River, in the Orange Free State; and in actions near Johannesburg, Pretoria, Diamond Hill, and Belfast, in the Transvaal; he also took part in operations on the Zululand Frontier of Natal in 1901; he has received the Queen's medal with six clasps and the King's medal with two clasps. Major Evans was in the South African war in 1900, receiving the Queen's medal with two clasps.

Lieutenant-Colonel JOHN BATTERSBY, M.B., half-pay list, is placed on retired pay, May 19th. He was appointed Surgeon, February 5th, 1881; Surgeon-Major, February 5th, 1893; and Lieutenant-Colonel, February 5th, 1901. He was placed on half pay, October 2nd, 1910. He served in the Egyptian war in 1882, and was present at the battle of Tel-el-Kebir (medal with clasp, and Khedive's bronze star); with the Chitral Relief Force in 1895 (medal with clasp); and with the Nile expedition in 1898, including the battle of Khartoum (Egyptian medal with clasp, and British medal).

Lieutenant-Colonel J. R. FORREST retires on retired pay, June 21st. Appointed Surgeon, February 2nd, 1884, he became Surgeon-Major, January 31st, 1897, and Lieutenant-Colonel, January 31st, 1905. He was with the Soudan expedition in 1885, receiving a medal with clasp, and the Khedive's bronze star, and with the Tirah Expeditionary Force during the North-West Frontier of India campaign in 1897–8, receiving a medal with two clasps. He was one of the earliest Military Sanitary Officers appointed in India, and received the acknowledgements of the Government of India for his "work under difficult circumstances." He was afterwards successively appointed Sanitary Officer in the Punjab and in Burma, and Officiating Principal Medical Officer, Burma Division.

Captain G. W. G. HUGHES, from the Seconded List, is restored to the establishment, June 16th. He was seconded for service with the Egyptian Army, April 7th, 1904.

Lieutenant J. S. LEVACK is also placed on the establishment. He was appointed on probation, January 27th, 1911.

Lieutenant-Colonel H. A. HAINES, M.D., has been appointed Senior Medical Officer Eastern Coast Defences, vice Lieutenant-Colonel R. P. Bond.

ROYAL ARMY MEDICAL CORPS.

EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in Stamps or Post Office Order with the notice, not later than Wednesday morning in order to ensure insertion in the current issue.

OFFICER, R.A.M.C. (R.P.), holding a retired pay appointment on south coast (a delightful place possessing many attractions) wishes to exchange to an inland station.—Address Alpha, No. 3600, c.o. BRITISH MEDICAL JOURNAL.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL H. HENDLEY, M.D., is promoted to be Colonel, from April 7th. He entered the service April 1st, 1884, and became Lieutenant-Colonial April 1st, 1904. He was with the Soudan Expedition in 1885, receiving a medal with clasp and the Khedive's bronze star; he was also in the Burmese Campaign in 1886–8, receiving a medal with two clasps.

Lieutenant-Colonel W. H. QUICKE, Bombay, retires from the service from April 25th. His first appointment bears date March 31st, 1883; that of Lieutenant-Colonel March 31st, 1903. He served with the Zhob Valley Expedition in 1884, and with the Burmese Expedition in 1885–6, for which he received a medal with clasp.

Captain W. H. DICKINSON, M.B., is promoted to be Major, from January 28th. He was appointed Lieutenant, July 27th, 1899, and Captain, July 27th, 1902.

Lieutenant-Colonel L. J. PISANI retires from the service, June 10th. His commissions were thus dated:—Surgeon, April 1st, 1886; Surgeon-Major, April 1st, 1898; Lieutenant-Colonel, April 1st, 1906. He took part with the Hazara Expedition in 1888, and was present at the action of Kotai (medal with clasp).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

CADET SERGEANT ROBERT A. GREENWOOD, from the Edinburgh University Contingent, Officers' Training Corps, to be Lieutenant (on probation), June 2nd.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

INFANTRY.

BERTRAM M. FOOTNER, F.R.C.S., is appointed Second Lieutenant in the 5th Battalion South Staffordshire Regiment, May 4th.

Surgeon Lieutenant-Colonel F. SHANN, 5th Battalion Prince of Wales's Own (West Yorkshire Regiment), resigns his commission, June 17th; he retains his rank and uniform.

Third Western General Hospital.—Captain EDGAR REID, from the list of Officers attached to Units other than Medical Units, to be Captain, whose services will be available on mobilization, June 24th.

Second Highland Field Ambulance.—CHARLES CAMERON, M.B., to be Lieutenant, April 1st.

First West Lancashire Field Ambulance.—Lieutenant C. H. LINDSAY, M.D., to be Captain, May 25th.

Third West Lancashire Field Ambulance.—JOHN J. BUCHAN, M.D., to be Lieutenant, May 1st.

Second North Midland Field Ambulance.—WILLIAM I. CUMBERLIDGE, F.R.C.S.Eng., to be Lieutenant, May 13th. Lieutenant ROGER K. HAMILTON resigns his commission, June 14th.

First Northern General Hospital.—Major HENRY B. ANGUS, M.B., F.R.C.S., to be Lieutenant-Colonel, January 11th. Captain JOSEPH W. LEECH, M.D., F.R.C.S., to be Major, January 11th.

Second Home Counties Field Ambulance.—Lieutenant-Colonel A. R. HENCHLEY, M.D., reverts at his own request to the rank of Major, June 16th; he resigns his commission, June 17th.

Lieutenant-Colonel C. AVERILL, M.D., has been appointed Sanitary Officer, Welsh Division.

Major W. J. HOWARTH, M.D., has been appointed Sanitary Officer, Home Counties Division, vice Lieutenant-Colonel A. NEWSHOLME, M.D.

Major D. R. OSWALD, M.B., retired list, has been awarded the Territorial Decoration.

Attached to Units other than Medical Units.—Officers resigning their commissions, June 14th: Captain ROBERT W. MEIKLE, Captain JOHN CAMERON, M.B. Major D. R. OSWALD, M.B., resigns his commission and is granted permission to retain his rank and wear the prescribed uniform, June 17th. Captain T. H. THOMSON, M.D., resigns his commission, June 17th.

For Attachment to Units other than Medical Units.—GERALD R. RICKETT, M.D. (late Lieutenant, Third Middlesex R.G.A., Vols.) to be Lieutenant, May 1st. DANIEL R. KILPATRICK, M.D., to be Lieutenant, May 5th. Lieutenant G. M. A. THOMAS, from the Second Welsh Field Ambulance, to be Lieutenant, June 14th. ROBERT H. SHAW, M.D., to be Lieutenant, May 20th. ROBERT PROUDFOOT, M.B., to be Lieutenant, May 20th. Captain JAMES WALKER, M.B., from the First Lowland Field Ambulance, to be Captain, May 26th. JOSEPH B. DAWSON to be Lieutenant, June 17th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during May:

	FROM	TO
Colonel F. B. Maclean	Meerut	Mussoorie.
,, R. I. D. Hackett, M.D.	Pretoria	Karachi.
Lieut.-Col. W. W. Pike, D.S.O., F.R.C.S.I.	Tidworth	Cairo.
,, T. Daly	Dalhousie	Peshawar.
,, H. H. Brown, M.B.	Rawal Pindi	Murree.
Bt.-Lieut.-Col. O. R. A. Julian, C.M.G.	Kasauli	Dublin Dist.
Major A. W. Bewley	Meerut	Landour.
,, C. A. Stone, M.D.	Bellary	Cosham.
,, F. Smith, D.S.O.	Rawal Pindi	Murree.
,, W. A. S. J. Graham	Nowgong	Neemuch.
,, O. L. Robinson	Meerut	Kirkee.
,, F. W. Begbie	Colchester	Tidworth.
,, J. C. Jameson, M.B.	Cairo	Woolwich.
,, S. H. Withers, M.B.	Ambala	Gharial.
,, E. C. Anderson, D.S.O.	Rawal Pindi	Kuldana.
,, G. S. Crawford, M.D.	Malta	Curragh.
,, F. R. Buswell	Kamptee	Jubbulpore.
,, K. B. Barnett, M.B., F.R.C.S.I.	Shorncliffe	Eastbourne.
,, P. J. Probyn, D.S.O., M.B.	Hong Kong	Irish Comm'd.
,, J. McD. McCarthy, M.B.	Chester	Multan.
,, W. P. Gwynn	Karachi	Quetta.
,, G. B. Carter, M.B.	Kildare	Rangoon.
,, P. H. Collingwood	Crownhill	Devonport.
,, H. B. G. Walton	Bareilly	Mussoorie.
,, W. B. Wingfield	Agra	Chakrata.
,, G. J. A. Ormsby, M.D.	Fyzabad	Dinapore.
,, H. M. Nicholls, M.B.	Colaba	Deolali.
,, J. F. Burke (retired pay)	Falmouth	Lancaster.
Captain T. Biggam, M.B.	Aldershot	Bordon.
,, J. F. Whelan, M.B.	Manchester	Nowgong.
,, J. T. Johnson, M.D.	Bareilly	Ranikhet.
,, R. N. Hunt, M.B.	Bordon	Cairo.
,, J. W. West, M.B.	Rawal Pindi	Murree.
,, A. B. Smallman, M.B.	Colchester	Woolwich.
,, W. F. Tyndale, C.M.G., M.B.	Kilbride	Dublin.
,, H. V. Bagshaw	Halifax	Lichfield.
,, G. H. J. Brown, M.B.	Delhi	Strensall.
,, J. H. Duguid, M.B.	Limerick	Tipperary.
,, H. C. Hildreth, F.R.C.S.Edin.	Dublin	Glen Imaal.
,, A. C. Osburn	Bedford	Colchester.
,, W. F. H. Vaughan	Cosham	Parkhurst.
,, G. E. Cathcart	Chester	Trawsfynydd Camp.
,, D. P. Johnstone	Liverpool	Ross Camp.
,, A. A. Meaden	Nasirabad	Fermoy.
,, H. T. Wilson	Cosham	Wool Camp.
,, E. J. H. Luxmoore	Canterbury	Dover.
,, G. R. Painton	—	W. Africa.
,, N. Low	Cannanore	Belfast.
,, R. H. L. Cordner	Rawal Pindi	S. Command.
,, A. W. Gater	Fermoy	Kilworth Camp.
,, R. G. Meredith, M.B.	Malta	Totley Camp.
,, F. E. Roberts	,,	Edinburgh.
,, R. K. White	Aldershot	Buttevant.
,, J. E. Hoar	St. Thomas's Mount	Ballykinler Camp
,, C. W. O'Brien	Aden	Dublin.
,, G. G. Tabuteau	Jhansi	Jutogh.
,, J. M. B. Rahilly, M.B.	Cairo	Woolwich.
,, W. G. Maydon	Edinburgh	Fort George.
,, G. Ormrod, M.B.	Belfast	Londonderry.
,, E. L. Moss	Bareilly	Dublin.
,, M. B. H. Ritchie, M.B.	Rawal Pindi	Murree.
,, W. McConaghy, M.B.	Birmingham	Tidworth.
,, H. Stewart, M.B.	Ferozepore	Solon.
,, W. R. Galwey, M.B.	Lahore	Dalhousie.
,, R. G. H. Tate, M.D.	Ambala	Kasauli.
,, R. E. U. Newman, M.B.	Rawal Pindi	Murree.
,, A. H. Bond	Bareilly	Naini Tal.
,, D. De C. O'Grady	Rawal Pindi	Barian.
,, J. H. Spencer, M.B.	Ambala	Kasauli.
,, D. M. Corbett, M.B.	,,	Dalhousie.
,, E. J. Kavanagh, M.B.	Delhi	Ranikhet.
,, F. T. Turner	Poona	Purandhar.
,, R. D. O'Connor	Kasauli	Cliffden.
,, O. R. McEwen	Multan	Dalhousie.
,, M. O. Wilson, M.B.	Ambala	Gharial.
,, T. H. Scott, M.B.	Ferozepore	Jullundur.
,, E. M. Middleton	Amritsar	Rawal Pindi.
,, F. T. Dowling, M.B.	Nowshera	Khanspur.
,, H. T. Treves	Windsor	London.
,, C. P. O'Brien Butler	Purandhar	Belgaum.
Lieutenant H. H. Blake, M.B.	Allahabad	Peshawar.
,, A. Shepherd, M.B.	Agra	Landour.
,, W. J. Dunn, M.B.	Kirkee	Colaba.
,, R. O'Kelly	Bangalore	Ranikhet.
,, D. S. Buist, M.B.	Netley	Quetta.

		FROM		TO
Lieutenant	J. A. Clark, M.B.	London	...	Cairo.
,,	D. H. C. MacArthur, M.B.	Ambala	...	Dagshai.
,,	D. E. C. Pottinger, M.B....	Lucknow	...	Bareilly.
,,	H. Gall	Jullundur	...	Dagshai.
,,	C. H. O'Rorke, M.B. ...	Lucknow	...	Chakrata.
,,	A. W. Byrne, M.B.... ...	Lahore...	...	Dalhousie.
,,	J. Startin	Poona ...	...	Kirkee.
,,	S. W. Kyle, M.B.	,, ...	...	Jubbulpore.
,,	J. W. Lane, M.D.	,, ...	...	Kamptee.
,,	A. T. J. McCreery, M.B....	,, ...	...	Khandalla.
,,	S. S. Dykes, M.B.	Edinburgh	...	Barry Camp.
,,	W. H. O'Riordan	Lichfield	...	York.
,,	P. S. Tomlinson	Warwick	...	Fargo Camp.
,,	O. W. McSheehy, M.B. ...	Exeter ...	...	Devonport.
,,	M. J. Williamson, M.B....	Cardiff ...	...	Tidworth.
,,	P. G. M. Elvery	Curragh	...	Cairo.
,,	J. J. H. Beckton	Rawal Pindi	...	Sialkot.
,,	W. B. Rennie, M.B. ...	Deepcut	...	Hyderabad.
,,	R. Gale, M.B.	London	...	Pirbright.
,,	A. G. Jones, M.B.	Tidworth	...	LarkhillCamp.
,,	T. H. Dickson, M.B. ...	Birr ...	...	Dublin.
,,	J. Gilmour, M.B., ...	Tregantle	...	Devonport.
,,	J. T. Simson, M.B. ...	Bordon...	...	Aldershot.
,,	C. Robb, M.B.	Curragh	...	Kilbride.
,,	T. J. Hallinan, M.B. ...	,,	...	Cork.
,,	J. K. Gaunt, M.B.	Fermoy	...	Limerick.
,,	L. F. K. Way	Cosham	...	Reading.

Vacancies and Appointments.

his list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BERDEEN PROVINCIAL COMMITTEE FOR THE TRAINING OF TEACHERS.—Medical Officer and Lecturer on School and Personal Hygiene. Salary, £400 per annum, rising to £500.

ARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

ARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

RMINGHAM CITY ASYLUM.—Junior Assistant Medical Officer and Pathologist (male). Salary £150 per annum.

RMINGHAM EDUCATION COMMITTEE.—Medical Officer. Salary, £250 per annum.

DMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

NTERBURY: KENT AND CANTERBURY HOSPITAL.—(1) House-Surgeon; (2) House-Physician. Salary, £80 and £70 per annum respectively.

RDIFF UNION.—Assistant Medical Officer for the Workhouse. Salary, £150 per annum.

VENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

RBY: CHILDREN'S HOSPITAL.—Lady Resident Medical Officer. Salary, £60 per annum.

RBY: DERBYSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £30 for six months.

VONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

ST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House-Physician (male). Salary at the rate of £75 per annum.

EAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Resident Medical Officer. Salary, £120 per annum.

ILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

SPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—(1) Resident Medical Officer. Salary, £200. (2) House-Physician. Honorarium, 30 guineas for six months.

SPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Surgeon; (2) House-Physician. Salary, £30 for six months and £2 10s. washing allowance each.

LL: VICTORIA CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £50 per annum.

DS HOSPITAL FOR WOMEN AND CHILDREN.—Surgeons.

CESTER INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

ERPOOL INFIRMARY FOR CHILDREN.—Resident House-Physician. Salary at the rate of £60 per annum.

DON HOSPITAL, E.—Six Honorary Dental Surgeons.

GHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

WICH: NORFOLK AND NORWICH HOSPITAL.—(1) Two House-Surgeons. Salary, £80 per annum each. (2) Casualty Officer. Salary, £60 per annum.

TINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

TINGHAM PARISH WORKHOUSE INFIRMARY.—Resident Assistant Medical Officer. Salary, £130 per annum.

STON ROYAL INFIRMARY.—Junior House-Surgeon (male). Salary at the rate of £60 per annum.

MOND ROYAL HOSPITAL.—Locumtenent as Assistant House-Surgeon. Salary, 3 guineas a week.

AL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary at the rate of £50 per annum.

MARY'S HOSPITAL, Paddington, W.—Ophthalmic Clinical Assistant. Salary at the rate of £50 per annum.

PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, ted Lion Square, W.C.—Clinical Assistant.

FFIELD ROYAL INFIRMARY.—Seventh Resident Medical Officer. Salary, £60 per annum.

SHROPSHIRE EDUCATION COMMITTEE.—Medical Inspector. Salary, £250 per annum, rising to £300.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—(1) House-Physician. Salary, £100 per annum. (2) Junior House-Surgeon. Salary at the rate of £60 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Terms, £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces a vacancy at Bexhill-on-Sea, co. Sussex.

APPOINTMENTS.

CARSON, J. T., Senior House-Surgeon to the Borough Hospital, Birkenhead.

CROWE, J. T., L.S.A.Lond., L.M.S.S.A.Lond., Medical Officer to the P. F. Collier Memorial Dispensary for the Prevention of Tuberculosis, Charles Street, Upper Ormond Quay, Dublin.

DALEY, W. A., M.B., B.Ch.Liverpool, Medical Officer of Health of the Borough of Bootle.

DAVIES, A. O., L.R.C.P. and S.Edin., M.R.C.S.Eng., Certifying Factory Surgeon for the Machynlleth District, co. Montgomery.

DWYER, H. de B., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Banbury District, co. Oxford.

FARNCOMBE, Harry, M.B., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond., Assistant Physician, Royal Portsmouth Hospital.

GULLAND, George Lovell, M.D., Ordinary Physician to the Edinburgh Royal Infirmary, vice Dr. Bruce, deceased.

HOLTBY, John R. D., M.B., B.S.Dunelm, Chief Demonstrator of Anatomy in Trinity College, Dublin.

HORGAN, M. J., B.A., M.B., B.Ch., B.A.O., N.U.I., Senior Resident Surgeon, General Dispensary, Nottingham.

HOWARTH, Walter G., M.A., M.B., B.C.Camb., F.R.C.S.Eng., Surgeon-in-Charge of the Throat Department at St. Thomas's Hospital, and Surgeon-Laryngologist to the City of London Hospital for Diseases of the Chest, Victoria Park.

MACPHERSON, W. H., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Topsham District, co. Devon.

MARTIN, Robert, L.R.C.P. and S.Edin., etc., Medical Officer to the Post Office at Banbridge, including Corbet, Edenordinary-Garvarghy and Lenaderg.

McILROY, J. Hamilton, M.A., M.B.. D.Sc., Assistant Medical Officer, Glasgow School Board.

PEARSON, G. B., L.R.C.P. and S.Edin., L.F.P.S.Glas., Certifying Factory Surgeon for the Buckingham District, co. Buckingham.

TAYLOR, R. T., M.R.C.S., L.R.C.P., Medical Officer of the Holborn Union Workhouse.

THOMASON, H. P., M.B., Ch.B.Birm., Certifying Factory Surgeon for the Fillougley District, co. Warwick.

WILLIAMS, A. E., M.D.Edin., D.P.H.Liverpool, Medical Officer of Health of the County of Flint.

WILSON, Alexander, M.D.Glasg,, F.R.C.S.Edin., Port Health Officer for Wanganui and Medical Referee (under Workmen's Compensation Act).

WINTERBURN, J. W., L.S.A., District Medical Officer of the Exminster Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTH.

HERNAMAN-JOHNSON.—At Bishop Auckland, Durham, on June 23rd, the wife of Francis Hernaman-Johnson, M.D., R.N. (ret.), a daughter.

MARRIAGES.

HARVEY—JORDAN.—On June 27th, 1911, at the parish church of Great Shelford, Cambridge, by the Rev. E. D. Jordan, M.A., and the Rev. W. B. Nettleship, M.A., Vicar, Willoughby Henwood Harvey, M.D., to Muriel Margaret Robertson Jordan, only daughter of Mrs. E. M. Jordan and the late Rev. Joseph Jordan, of Holy Trinity Church, Woolwich.

HURTER—ROME.—July 1st, at St. Michael's-in-the-Hamlet, Liverpool, by the Rev. R. Lorimer Rome, M.A., Rector of Humber (uncle of the bride), assisted by the Rev. Canon Grenside, Vicar of Melling, Carnforth, and the Rev. A. F. Thornhill, M.A., Vicar of the Parish, Herbert Richard Hurter, M.D., son of the late Ferdinand Hurter, Ph.D., M.A., and of Mrs. Hurter, of Cressington Park, to Dorothy Edith, eldest daughter of Thomas Rome, of Liverpool.

MASSY-MILES—INGLE.—On July 5th, at Zion Church, Rathgar, Dublin, by Rev. Canon Miles, M.A., Rector of Pangbourne, Berks, and father of the bridegroom, assisted by the Rev. W. J. Clarke, D.D., Rector of the Parish, Harry Godfrey Massy-Miles, L.R.C.P. and S.I., of 36, Marlborough Road, St. Albans, to Charlotte Elizabeth Josephine, eldest daughter of the late Arthur F. Ingle, Superintendent of Indian Post Offices, and of Mrs. Ingle, of 24, Grosvenor Place, Rathgar, Dublin.

WILSON—KENNEDY.—On April 27th, at St. Paul's, Wellington, New Zealand, Alexander Wilson, M.D., F.R.C.S.E., to Vida, only daughter of Mr. and Mrs. W. A. Kennedy, Clifton Terrace, Wellington.

DEATHS.

GALLIE.—On June 29th, at 50, Weymouth Street, W., Charles Pinel Gallie, M.B., of 129, Camberwell Road, S.E., aged 52.

WEBB.—On July 3rd, at Strathcona, Ashcombe Gardens, Weston-super-Mare, Thomas Law Webb, M.D., formerly of Ironbridge, Salop, aged 64.

DIARY FOR THE WEEK.

THURSDAY.

NEW LONDON DERMATOLOGICAL SOCIETY, Cavendish Rooms, 51, Mortimer Street, Cavendish Square, W., 4.30 p.m.—Cases and Specimens.

OPHTHALMOLOGICAL SOCIETY, 11, Chandos Street, Cavendish Square, W., 8 p.m.—(1) Cases and Specimens. (2) Paper: Mr. W. H. Jessop, Monocular Lidwink as a Diagnosis of Long Standing Amblyopia. (3) Annual General Meeting.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday and Friday, 3.45 p.m., Ear.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m., The Surgical Treatment of Empyema.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday. Eye, 11 a.m., Wednesday and Saturday. Radiography, Thursday, 4.30 p.m.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following Clinical Demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, Lupus and Its Treatment; Tuesday, Prognosis in Heart Disease; Wednesday, Some Newer Conceptions of Cardiac Disorders (illustrated by the Polygraph); Thursday, The Erythemata.

NORTH-EAST LONDON POST-GRADUATE COLEEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations. Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient. Wednesday, 2.30 p.m., Medical Out-patient; Skin and Eye Clinics; *X* Rays. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays and Operations, 2 p.m. daily. Monday, Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday, Gynaecological Operations, 10 a.m.; Demonstration of Minor Surgery, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday, Diseases of Children, 10 a.m.; Gynaecological Demonstration, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday, Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday, Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday, Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Lectures at 5 p.m. daily.

PUBLISHERS' ANNOUNCEMENTS.

MR. AND MRS. SIDNEY WEBB have written a book, entitled, *The Prevention of Destitution*, which will be published by Messrs. Longmans shortly. It includes an examination of the experience of the German Government and of our own friendly societies, of social insurance generally, and Mr. Lloyd George's bill in particular. It is stated that the Government bill is made the subject of faithful though friendly criticism from the standpoint of expense, adverse effects on national character and unthrifty distribution of benefits, and some suggestions are made for its amendment in the light of the little-known experience of the German Government.

Messrs. J. and A. Churchill have in preparation a new annual intended to supply the need of a book of reference containing the names, appointments, and achievements of the world's foremost scientists. It will be called *Who's Who in Science*, and is to be edited by Mr. H. H. Stephenson. Schedules are now being addressed to men of science, who, it is hoped, will assist the publication by filling in and returning the forms to 7, Great Marlborough Street, London, W., as soon as possible.

Messrs. P. Blakiston, Son, and Co. announce the publication of a work, entitled, *American Red Cross Abridged Textbook on First Aid* (Slovak Edition), by Major Charles Lynch, Medical Corps, United States Army, and First Lieutenant M. J. Shields, Medical Reserve Corps, United States Army. With 49 illustrations. An Italian edition of this book is also ready. Polish and Lithuanian editions are in press.

It is announced that at an early date Messrs. Macmillan will have ready the concluding volume of the second edition of the *System of Medicine* which has been in course of publication for some years past under the joint editorship of Sir Clifford Allbutt and Dr. H. D. Rolleston. The work, which now fills in all eleven volumes, has been thoroughly revised since the original edition, of which Sir Clifford Allbutt was sole editor, was completed in 1899.

RECENT PUBLICATIONS.

The Pharmacopoeia of the Queen's Hospital for Children, Hackney Road. Fifth edition. London: H. K. Lewis. 1911. Royal 32mo, pp. 73. Price 2s. 6d. net.)

A volume compiled by a committee of the medical staff, and detailing prescriptions founded on their experience as to drugs which prove useful in dealing with diseases of children. It concludes with some good recipes for sick-room foods, and well-worded directions to mothers on the feeding of infants and the rearing of children, including the care of the teeth, and the special needs of those suffering from rickets and paralysis.

Materia Medica, Step by Step. By Arthur W. Nunn, F.C.S. 1911. J. and A. Churchill. (Fcap 8vo, pp. 236. Price, 3s. 6d. net.)

Intended to serve as an introduction to the study of materia medica, not as a work of reference. Notable for the clearness of its statements, the inclusion of any point of general interest which the subject presents and the elimination of superfluous matter. Well suited to the needs of prospective pharmacists, and of some utility to medical students.

One Thousand Surgical Suggestions. By Walter M. Brickner, B.S., M.D., New York, and others. Fourth American edition. 1911. New York: The Surgery Publishing Company. (Cr. 8vo, pp. 227. Price, 1 dol.)

A collection of dicta on various points of diagnosis and treatment in connexion with conditions chiefly of a surgical order, drawn up by the Editor-in-Chief of the *American Journal of Surgery* and his four associates. The publication started originally as *Surgical Suggestions* and attained the right to its longer title with the present edition. A useful and interesting book, the attractiveness of which is increased by the pithiness of its phraseology.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
	JULY.
9 Sunday ..	
10 MONDAY ..	
11 TUESDAY ..	
12 WEDNESDAY	CAMBRIDGE AND HUNTINGDON BRANCH, Annual Meeting, St. Neots, 12.30 p.m.; Luncheon, Cross Keys, 1.30 p.m.; Presidential Address, 3 p.m.; Garden Party, Hall Place, 4 p.m. DORSET AND WEST HANTS BRANCH, Crown Hotel, Ringwood, 3 p.m.; Luncheon, 1 to 2.30 p.m.
13 THURSDAY ..	EAST ANGLIAN BRANCH, Annual Meeting, Norfolk and Norwich Hospital, Branch Council, 12.15 p.m.; General Meeting, 12.45 p.m.; Luncheon, 1.30 p.m.; Resumed General Meeting, 2.15 p.m.; Afternoon Tea, 4.45 p.m.
14 FRIDAY ..	
15 SATURDAY ..	
16 Sunday ..	
17 MONDAY ..	
18 TUESDAY ..	NORTH WALES BRANCH, Annual Meeting, Conway.
19 WEDNESDAY	
20 THURSDAY ..	
21 FRIDAY ..	
22 SATURDAY ..	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 15TH, 1911.

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SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he belongs. BY ORDER.

National Insurance.

SUMMARY OF THE CASE FOR THE MEDICAL PROFESSION.

Issued by the British Medical Association.

PREFATORY NOTE.

Requests have been received at the Central Office of the British Medical Association from Members of Parliament, both directly and through deputations which have waited upon them, for a concise and complete statement of the grounds upon which the British Medical Association, and the medical profession, generally base the chief proposals which they have put forward in connexion with the National Insurance Bill. The following Memorandum has been prepared in response to these requests.

J. SMITH WHITAKER,
Medical Secretary, British Medical Association.
July 12th, 1911.

MEMORANDUM.

General Points.

1. The position of members of the medical profession differs from that of most other persons whose interests require to be considered in connexion with the National Insurance Bill in that they are a body of potential employees upon the efficiency of whose work the achievement of the public objects of the insurance scheme must to a great extent depend. They are also a body of persons whose present means of livelihood would, as they believe, be seriously injured by the operation of the Bill if enacted in the form in which it was introduced. They recognize that in the public interest a certain degree of State interference, such as the Bill proposes, with existing conditions of medical practice is inevitable, and they have indicated their willingness to fall in with such proposals in so far as they are necessary, and to give their cordial co-operation in making them a success. On the other hand, they feel entitled to ask that the interference shall not be carried beyond the point which is demonstrated to be necessary for the achievement of the public objects of the Bill

2. Thus, from the point of view of the medical profession, there are two general questions which, it is submitted, require consideration in connexion with the Bill. First, in so far as its provisions involve interference with existing conditions of medical practice, are they equitable towards those now engaged in such practice? Secondly, are the provisions of the Bill such as to offer a reasonable prospect that the Insurance Commissioners (and other bodies constituted under the Bill to deal with questions of employment of medical practitioners to attend the insured) will be able to offer such conditions of service as to attract a sufficient number of competent medical practitioners to make the service a success?

3. Before stating the specific points which the medical profession asks Members of Parliament to consider in these connexions, it is well, for the sake of a clear understanding, to draw attention to an important general principle underlying the medical demands. Comments, both in Parliament and in the press, have been based upon the supposition that the profession are mainly or entirely concerned with the question of adequacy of remuneration. This is not the case. The question of the relative advantages of private practice as compared with any kind of official or contract service weighs as much or more in the minds of a very large proportion of members of the profession. They prefer the independence of private practice with its risks to the security of an official service with its constraints. They believe firmly that the treatment of disease, at all events by the ordinary medical attendant of a patient, will be carried out with most benefit to the patient and most satisfaction to all parties on the lines of private practice. This conviction springs mainly from recognition of the peculiarly personal character of the relation of doctor and patient.

Specific Points raised by the Profession.

4. The points upon which the profession lays chief stress are the following:

1. An income limit of £2 a week for those entitled to medical benefit.
2. Free choice of doctor by patient subject to consent of doctor to act.
3. Medical and maternity benefits to be administered by local Health Committees, and not by friendly societies.
4. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that Committee.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.
6. Adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committees, and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee.

5. Of the above points it is considered that to give effect to the first, second, third, and sixth, amendments of the Bill would be necessary. Concerning the fourth and fifth it is recognized by the profession that the provisions of the Bill in its present form, regard being had specially to the wording of Clause 14 (1), would make it possible for the bodies constituted under the Bill to make satisfactory arrangements with the profession, provided that the financial provisions in connexion with the Bill are sufficiently elastic.

SUGGESTED AMENDMENTS OF BILL.

Income Limit.

6. The first of the points upon which amendments are desired is that of the income limit in respect of medical benefits. It is upon this point especially that the medical profession feels that the Bill, as at present framed, interferes with existing conditions of practice to an extent that is unnecessary for the fulfilment of its public objects. The arguments that have been advanced against the recognition of an income limit do not relate to the merits of the case, but rest upon political and administrative considerations. These are, first, that the attempt to exclude from "medical benefit" the section of the community in question would, it is supposed, rouse their opposition, and secondly, that any limit other than the income-tax limit, would be very difficult to apply in practice with such precision as would be necessary in giving effect to a statutory limitation. So far as can be gathered there is general agreement with the view put forward by the medical profession, on the merits of the case, that the section of the community whose income exceeds £2 per week can afford to, and do at present, employ doctors privately to attend them in a very large proportion of cases; and that there is no necessity for insurance or a State subsidy to enable them to obtain ordinary medical attendance. If they require assistance in this respect, it is only as regards the special attendance necessary in cases requiring special medical or surgical skill, or requiring institutional treatment. As to the political objection, such difficulty as exists turns probably upon the meaning to be attached to the term "medical benefit." If this can be defined as meaning not necessarily attendance and treatment provided for an insured person by the authorities constituted under the Bill for the purpose, but possibly, as an alternative, a contribution from the Insurance Fund to the cost of his treatment under a private agreement between the insured person and his own doctor, there is no disadvantage to the insured. On the contrary, there can be no doubt that a very large proportion of the working classes prefer to employ their doctors privately. Under the Bill, however, as it stands, if they employed a private doctor, they would be forfeiting the benefit for which they had paid. The question then, may be, whether it is possible so to amend the Bill that persons above the limit stated shall be attended under private arrangements and receive from the insurance fund a contribution towards the cost of their medical attendance. As to the supposed administrative difficulty, the question of an income limit has often been considered by the profession. It has never been proposed that any inquisitorial investigation should be made for the purpose of giving effect to it. It is sufficient that the principle should be recognized that a person above the limit is not entitled to claim attendance under the same arrangements as are made for affording attendance to persons below the limit, but must make his private arrangement with the doctor who attends him on such terms as may be agreed upon between them. This principle being recognized, the working details could easily be adjusted locally between those concerned.

*Free Choice of Doctor.**

7. Concerning the free choice of doctor by patient, subject to the consent of the doctor to attend, it

*NOTE.—On this point the Chancellor of the Exchequer has put down amendments which the British Medical Association believes will meet the views of the profession.

appears to be generally recognized that the patient will have more confidence in the doctor whom he has selected than in a doctor selected for him by the local administrators of the Insurance Fund, and that this confidence will contribute to success in treatment. Such arrangements are in operation in many towns, and have been found as attractive to the patient as they are to the profession. Difficulties have been suggested as regards the possibility that malingering may be less easily checked under this system, but it is believed that any abuses in this direction could be sufficiently provided against. Moreover, it is not desirable in the interests of the service to place too much reliance upon the doctor, who is to treat the patient, as a detective to check malingering. His primary business is to do the best he can to restore the patient to health.

Administration of Medical Benefit.

8. Concerning the question of administration of medical benefits (and of maternity benefit so far as this may involve the making of any arrangements with medical practitioners), it is urged that upon all grounds this will be best placed in the hands of the "local Health Committees" proposed to be constituted under the Bill. The Royal Commission on the Poor Law has criticized, in both the Majority and Minority Reports, the inefficiency of the medical service of friendly societies. The medical profession have long been dissatisfied with the system, and in many towns open ruptures have taken place, with the result that the societies have been driven to form services staffed by whole-time officers. The number of private practitioners who thus sever their connexion with the friendly societies has steadily increased in recent years. Further, if the principle of free choice of doctor be recognized, it is difficult to see what advantage can be derived by the approved societies from the nominal power of administration of medical benefit. It is presumed that the friendly societies would not be permitted to make a profit by exploiting their medical officers—that is to say, by paying in medical remuneration less than they receive for that purpose. The rate of remuneration of doctors in any district must be the same whether they are employed by the local Health Committees or by friendly societies. Then it is clearly provided in the Bill that the duties are to be determined by the Insurance Commissioners. Thus it is to be assumed that the friendly societies would not have (*a*) the appointment of the doctor, (*b*) the power to fix his remuneration, or (*c*) the power to define his duties. In these circumstances, to confer by statute upon the societies a technical "control" which must in fact be little more than nominal, can only operate as a cause of vexation and friction. Moreover, regard being had to recent manifestations of medical opinion, it is plain that the number of competent practitioners who will enter into arrangements with the societies must be exceedingly small. The consequent narrow restriction of choice of doctor cannot be advantageous to the insured.

9. Lastly, there is a general consideration, on public grounds, in favour of the entire control of medical service being in the hands of the local Health Committees, namely, that they will be responsible for the administration of the sanatorium benefit, and for medical attendance on the deposit contributories. It is much better that the entire medical service for treatment of insured persons should be under the one local control.

Suggested County Council Control.

10. In reference to the question of administration by local Health Committees, it seems well to advert to certain alternative proposals which have been put forward affecting the constitution of those Committees. Members of Parliament have given notice of amendments which would have the effect of making the "local Health Committee," that is to say, the body locally administering the Insurance Service (whatever may be its designation), a Committee of the County Council or other existing local authority. Without disputing in any way the advantages that may be anticipated from an ultimate unification of local authorities dealing with questions of health and medical treatment, the profession does not believe that any of the existing authorities should have added to their duties the control of the new service about to be instituted. They think it much more desirable that the service should be started independently under a distinct control, and that the question of unification should be subsequently faced in a deliberate and unprejudiced spirit. They foresee great advantages from the assemblage in one Committee of representatives of the insured, of the medical profession, and of the local authority. They do not believe that it would be wise, at all events at the outset, to give to the representatives of the local authorities that preponderance over other members of the Committee which must result from subordination of the Committee to the County Council or other local authority. On these grounds it is believed that the medical profession generally would regard the provisions of the Bill as it stands as being more conducive to the satisfactory working of the Insurance Medical Service than the alternative suggested.

*Medical Representation in Administration.**

11. Concerning the sixth point mentioned on p. 98, the Association submits that the duties of the various administrative bodies will include the institution and management of the most important medical service in the country for actual treatment of disease. Many mistakes in the administration of medical services have been made from want of personal familiarity on the part of the administrative bodies with the nature of the work with which they were dealing. The highly technical character of medical work makes this point of special importance. Experience has also shown in the working of various medical services to what an extent friction is avoided, with resulting increase of efficiency, by the inclusion of members of the medical profession in the actual controlling bodies.

12. The profession thinks it desirable, therefore, that among the Insurance Commissioners should be included medical practitioners who have had personal experience of the kind of medical work which it will be one of the principal duties of the Commissioners to organize and control, that there should be adequate representation in the Advisory Committee of medical practitioners possessed of such experience, and that at least one-fourth of the members of the local Health Committee should be medical.

13. The profession also suggests that the smooth working of the service would be greatly facilitated by the constitution of a local Medical Committee in each district, representative of the local medical profession, to whom the local Health Committee would look for advice on matters affecting the employment of local

* NOTE.—The Chancellor of the Exchequer has put down amendments which the British Medical Association believes will, on the whole, meet the views of the profession as regards representation among the Insurance Commissioners, on the Advisory Committee, and in the local Health Committees.

medical practitioners. This provision will, it is believed, be recognized as obviously advantageous to the service.

MATTERS ON WHICH AMENDMENTS ARE NOT SOUGHT BY THE PROFESSION.

Method of Remuneration.

14. A considerable proportion of the profession are of opinion that the capitation system of payment, which is at present prevalent in various forms of club and contract practice, is unsatisfactory to the profession, and does not yield the best results to the community. That not only will medical practitioners be better satisfied with the conditions of their employment if remunerated by the method of payment per attendance, but that the results as regards the actual treatment of their patients will be more satisfactory. The profession is content for the present, however, that it should be left open to the administrative bodies under the service to deal with this matter experimentally under agreement with the profession in their several districts, in order that experience may determine which system is in the long run more satisfactory to the community as well as to the profession.

Amount of Remuneration.

15. Concerning the amount of remuneration, medical practitioners believe that the demands upon their services under the Insurance Bill will be much greater, in respect of the same number of patients, than under existing forms of contract practice, and that the calculation of 6s. per head per annum, as the average cost of affording medical attendance and treatment, drugs and appliances for the insured, is insufficient. There is great difficulty, however, in forming any reliable estimate at the present time of the cost of medical attendance under conditions differing so widely from any of which the profession has had experience as those which would be created under the Bill. In the Bill itself are various provisions as to medical services being rendered in circumstances in which they would not be rendered at present to club patients, and it remains to be seen which of these are finally retained in the Bill. Whether medical remuneration be based on the method of capitation payment or payment per attendance, it must obviously be calculated with due regard to the services which the practitioner is to be liable to render under his agreement with the local Health Committee. No such calculation can satisfactorily be made until the terms of that agreement have been drawn up by the Insurance Commissioners, when members of the profession will, for the first time, see definitely what duties they are expected to undertake. For this reason the British Medical Association has not up to the present time put forward any suggestion as to what would be adequate remuneration under the Bill, and believes that statutory prescription of rates or fees would be inexpedient.

CONCLUSION.

Members of Parliament will doubtless more fully appreciate, after considering the above statements, that the question at issue is not merely that of dealing fairly with the existing practitioners, but of securing, as far as possible, that the service which is about to be created for the provision of the medical requirements of one-third of the population (and which will not improbably develop into a service for two-thirds or three-fourths of the population) should be of such a character as to secure the most hearty and efficient work which the medical profession is capable of rendering. Otherwise it must resu (1) that there will be a difficulty in inducing t necessary numbers of medical practitioners to ent the service; (2) that those who consent to serve w not include the most competent private practitioner and (3) that many of those who may find themselv driven by their pecuniary circumstances to enter t employment will give their services grudgingly.

It is further to be recognized that the number entrants into the medical profession has shown in th past fifteen years a steady and recently rapid diminu tion. One of the chief reasons for this is undoubtedl the recognition by young men, who would otherwis enter the profession, that the present remuneratio and conditions generally of medical practice do no offer them a sufficient inducement to undergo th expenditure of work and capital necessary for prepara tion for a medical career. They find that there ar many markets which promise a better return for thei ability and energies. It will be recognized to be matter of public concern that the medical professio in this country should be sufficiently attractive as career to include men of a high standard of ability The conditions of the insurance service will have considerable influence in determining, for the future whether this shall or shall not be the case.

MEETINGS OF THE PROFESSION.

MANCHESTER AND DISTRICT.

Mass Meeting.

A MASS meeting of the medical practitioners of Manchester and Salford was held at the Milton Hall, Manchester, on July 6th, under the auspices of the British Medical Association, to consider the Insurance Bill. There was an attendance of about 350, which is more than half of the whole profession of the district, and the proceedings were throughout most enthusiastic.

Dr. T. ARTHUR HELME, who presided, said that by the introduction of the Insurance Bill Mr. Lloyd George had created a situation full of peril for the profession. It was recognized that, in order to withstand this onslaught on their profession, union was the first essential, and the meeting was asked to adopt the policy of the Association. The action necessary fell into two stages—to obtain amendment of the bill, and, failing that, to refuse to accept office under it. May 4th, 1911, would ever be a memorable day in the history of the profession, for on that day Mr. Lloyd George's infant prodigy was born, after a somewhat protracted gestation of three years. In the disordered imagination of its parent the weakling took the form of a giant whose great and glorious mission would be to place the heel of the friendly societies upon the neck of the profession, and to rivet upon its fettered limbs the shackles of a dishonourable servitude. But the parent's hopes were not likely to be realized. The antenatal conditions were so unsatisfactory that the constitution of the infant was not quite sound, and it would require much bolstering up at the hands of the family doctor if it was to escape going to swell the lists of infant mortality. Had the author of its being called in medical advice at the proper time it might have had a chance not only of life, but of vigorous existence; but during the three years spent in the framing of the bill the Chancellor of the Exchequer consulted every one except the doctor. He had framed his measure with deliberate disregard for the profession, because he thought they were not united, and they must expect nothing but what they could wring out of him in fear of their strength. The scheme of the bill depended for success upon efficiency of service, the goodwill of the medical profession and its power of attracting to the work men of capacity and strong and independent character; for this the conditions of service and remuneration must be satisfactory. The bill was so constructed as to destroy the individual and independent character of professional work and the doctor was to become more or less of an official working under the control and subject to the

criticism of a committee largely lay. Dr. Helme did not believe that the best men would be induced to enter the profession under such terms, and if the status of the profession were reduced it would be to the disadvantage of the public, so that what had been intended as a blessing would become a curse. On the question of remuneration the scheme broke down hopelessly; it was not drawn on business lines, and the Chancellor was compelled to turn to the charity of the profession to complete his scheme. In Lancashire alone the unpaid work of the hospital staffs amounted to between a quarter and half a million pounds a year, but Mr. Lloyd George must know that, though the profession was willing to give of its charity for its less fortunate brethren, it was not prepared to give of its charity to reduce the rates. He professed to give the public free medical attendance, but in reality he was giving only a part; for the more serious work he was asking the charity of the profession, and this part would of necessity tend to grow. He must not expect the profession to submit to his terms and allow private and remunerative practice to be taken away while medical men gave unpaid service in hospitals. There was no need for the scheme in its present scope and magnitude. By the absence of an income limit it brought in people who did not need help, and would sap the very foundation of the dignity and self-respect of those who had not asked for it, who were able to pay for what they got and willing to do so. In Bacup, for instance, 95 per cent. of private practice would be wiped out as such. Many of the families were getting £6 and £7 a week, and the bill would drag them compulsorily, without any demand on their part and with our expressed disapproval and protest, into an insurance scheme based on the charity of the profession. The doctors were asked not only to submit to be robbed, but to assist in the robbery—a truly self-denying ordinance. If Mr. Lloyd George intended to take away the great bulk of private practice he must face the position that medical charity must cease. One of the most offensive proposals was that they should be subject to the friendly societies. That provision had to go, there could be no question about that. These were matters on which they had to fight, and the fight had been wantonly forced on them. They had not chosen it, but as they had to fight, it should be to the finish. They asked no quarter, and none should be given.

Dr. J. H. TAYLOR moved a resolution accepting the declared policy of the British Medical Association, with the addition of payment per attendance as the most satisfactory for that district. He gave a full account of the course of the negotiations between the Chancellor of the Exchequer and the British Medical Association, and explained the amendments to the bill which the Association had adopted. He also described how on some points the Chancellor had met the views of the Association and had adopted some of its amendments. With regard to the friendly societies, it was plain that the Chancellor of the Exchequer had endeavoured to get the administration of medical benefits handed over to the local Health Committees, with the result that even if nothing more were accomplished, about 7,000,000 of the insured would, at the commencement of the Act, be receiving medical benefit through the committees. The one outstanding point of disagreement with the Government was the question of the income limit, to which the Government seemed at present to be resolutely opposed. Referring to expressions of opinion from all over the country that the £2 limit was too high, though he quite agreed, he must remind them that at least 85 per cent. of the profession in Manchester had pledged themselves to the policy of the Association, and signatures were still coming in daily. This number included at least five-sixths of the club doctors, a fact which utterly falsified the statement of the Manchester Unity of Oddfellows that the club doctors were satisfied with their position. He could vouch for these figures, as all the pledges had been sent to him in that district. He might also tell them another most gratifying fact—that almost the whole of the medical and surgical staffs of the local hospitals had signed the pledge. That being the case, as practical men they must face two alternatives: if, on the one hand, the Government granted the £2 limit, the profession would be in honour bound not to repudiate a bargain demanded by itself—that is, it would not be at liberty in honour to demand a lower limit, such as 30s. But if, on the other hand, the £2 limit were refused, as was practically certain to be the case, then "we shall simply call on you to carry out your pledge." This remark was received with loud cheers, and Dr. Taylor then went on to say that he utterly repudiated the insinuation that the Association was wavering or in any way inclined to back down. But even if they had to strike, the position was not so hopeless as some of them seemed to think. It meant that they would only attend insured persons as private patients. But suppose the Government agreed to that, and the Commissioners paid towards medical bills a contribution out of the insurance funds, equal to the average cost of medical attendance under the bill—would they object to receive such a contribution towards their bills which would prevent them ever having a wholly bad debt? ("No, no.") Of course not; if that could be arranged they would be quite independent of the £2 income limit, as they could graduate their bills, as they did now in private practice, and receive a subsidy towards them. He was in a position to say that if this suggestion were put forward by the Association there was reason for believing that the Government would give it careful consideration. It had been said that the profession was "out for fees." Of course it was; why deny the fact? But that was not half the truth. It was also out for justice, and it was strange to see how the public was simply aghast at the idea that a profession which had been so simple-minded in the past should now ask for justice. It was also out for preserving its private practice, which was so seriously threatened by the bill as it at present stood. And, beyond all, it was out for bettering the medical service for the poorer classes, which could only be done by a profession contented with the terms of its service.

Dr. P. R. COOPER, in seconding the motion, dealt with the method of payment per attendance as being preferable to any capitation system; but as the time at the disposal of the meeting was too short for a full consideration of this part of the motion, it was postponed to a future meeting.

Dr. P. MCDOUGALL moved an amendment to delete from the declaration of the Association the words "while approving the main objects of the bill and being desirous of co-operating for their attainment." This was seconded; but the CHAIRMAN explained that the words referred only to the desire to prevent disease, not to the means adopted by the bill for that purpose. The amendment was defeated, only the mover and the seconder voting for it. The resolution was then split into two, and the first part, accepting the policy of the British Medical Association, was carried unanimously; the second part, relating to payment per attendance, was postponed.

LANCASHIRE.

AT the seventy-fifth annual meeting of the Lancashire and Cheshire Branch of the Association, held in Blackburn on June 29th, the new President of the Branch, Dr. ALFRED GREENWOOD (M.O.H., Blackburn), devoted his presidential address to the National Insurance Bill, and the same question was the subject of discussion by Sir James Barr, Mr. Larkin, and others at the dinner which followed in the evening.

President's Address.

After having been inducted into the chair by the retiring President of the Branch (Dr. J. M. Ferguson of Burnley), Dr. GREENWOOD, after some initial observations, spoke as follows:

Although I know that a scientific address is invariably more appreciated by a medical audience, and although I would have much preferred to deal with some subject which interests me specially in my branch of medicine, such as infantile mortality, medical inspection of school children, or various other problems in public health administration, yet I feel constrained to disobey the call of science on this occasion. I believe that it is my duty to miss no opportunity afforded me of urging upon the medical profession the absolute importance of a thorough appreciation of the gravity of the crisis through which it is now passing—a crisis which not only affects the future of medicine as a vocation, but of medicine as a science. I have therefore chosen as my subject the National Insurance Bill.

Great as was the progress in medicine, surgery, and

State medicine up to ten years ago, progress has been infinitely greater during the last ten years, and particularly during the last five years. Much of this progress has been associated definitely with legislation which has been framed in the hope of guarding the interests of the population at certain age periods, and it has also been associated with the adoption of measures for the protection of the population generally. Notable amongst such legislation have been public health measures affecting conditions of birth, childhood, and later life, as the Notification of Births Act, legislation dealing with the medical inspection of school children, the Children Act, the Housing and Town Planning Acts, and various orders referring to infectious diseases, etc.

These and allied legislative measures have been administered by local sanitary authorities, and to some extent have affected the work and remuneration of general medical practitioners. For example, the provision of fever hospitals has tended to deprive medical practitioners from attending many cases of scarlet fever, typhoid fever, and diphtheria, and very greatly to diminish the income of such practitioners, as compared with the income derived from those sources in former days; in fact, the general practitioner in a large town rarely attends a case of typhoid fever throughout the illness. Nevertheless, it has long been realized that some more efficient provision was necessary for medical attendance of the poor, and a great impetus was given to this feeling by the inquiry and report of the Royal Commission on the Poor Law and the Relief of Distress.

The National Insurance Bill recently introduced into Parliament contains proposals which affect the whole medical profession far more than any of the other legislative measures I have named.

Although I am not in general practice, and although I belong to a band of workers who will probably not be affected financially by this bill, I can claim some qualifications to speak on this subject. In the first place, I have read through the bill carefully; secondly, my official work is concerned mainly with the homes and lives of the people who are specially provided for in this bill; thirdly, my position as Secretary of the Blackburn Division of the British Medical Association has entailed a considerable amount of work in the nature of many verbal and written communications on this subject during the past few months.

As is well known, it is a bill to provide for insurance against loss of health, for the prevention and cure of sickness, for insurance against unemployment, and for purposes incidental thereto. The scheme of the bill is a contributory one, joined by the State, the employer, and the employee. The compulsorily insurable persons include all persons employed in manual labour, whatever their income may be in any one year, and all other persons whose incomes are below £160 a year. This limit has been chosen probably because it corresponds with the income tax level. The Chancellor of the Exchequer probably considered that this tax is paid already and that the fixing of any other limit would have increased the cost of his scheme. The group of voluntarily insurable persons appears to include practically every other person who receives a wage or salary of any amount, and also every person who has been at any time in his life a compulsory contributor. Persons excluded by the friendly societies will join a group called "Post Office contributors."

The remuneration for medical attendance and for provision of drugs is to be separate. It should be noted here that "drugs" are the only articles specified, and that no provision has been made for surgical dressings, surgical apparatus, or for special consultations, etc. Provision has also been made for the appointment of Insurance Commissioners and local Health Committees. Added to all these, it has been laid down that the medical portions of the bill shall be administered by friendly societies. It is now well known that these societies will not relinquish this control if they can possibly avoid doing so.

The immense scope of the bill is realized when it is known that, if it is passed as it stands, it provides medical attendance for about one-third of the population in the United Kingdom. If, in the future, the medical benefits are extended to wives and families, this proportion will be increased to about two-thirds.

All will agree that any legislative measure which may assist in preventing disease and destitution and in bringing medical relief within the reach of every one who cannot afford to obtain the same otherwise, without hardship, difficulty, or loss of independence and self-reliance, should have the support of all members of the community, and especially the support of all members of the medical profession. But no sooner was this bill published than it was obvious to the medical profession that it involved a considerable encroachment upon their liberty and remuneration. Many meetings were held without delay, and throughout the whole country the medical profession, with overwhelming majorities—it may even be said with unanimity—has refused absolutely to serve under any bill drawn on the lines of the present bill. The British Medical Association has, however, taken a step beyond this "non-possumus" attitude and has attempted to assist the Chancellor of the Exchequer by indicating the lines of an arrangement which might be accepted by the medical profession. Such suggested arrangements include the following:

1. A wage limit to be fixed not higher than £2 per week. In this connexion it may be mentioned that a considerable number of medical men think that this wage limit should be 30s. per week.
2. A free choice of doctor to be granted to all, the doctor to have the right of refusal.
3. The doctor to be made responsible to the State, either directly or through a local committee upon which medical practitioners should be represented adequately.
4. The remuneration for work done by doctors to cover all treatment, both medical and surgical.

There are, however, some medical men who think that it has been unwise to go further than to give a definite refusal to serve under the National Insurance Bill as drafted at present. My own view is that it would be much better if the Government would postpone, for the present, all matters affecting the medical attendance and treatment of the insured until such can be placed upon a more satisfactory basis. It should not be forgotten that although three years have been spent in the preparation of this bill, the medical profession has not been consulted, in spite of urgent requests from the British Medical Association, as to what would be acceptable to that profession. Perhaps a few individual medical men may have been consulted, but I make bold to say that if their views have been incorporated in the bill, they certainly are not views representative of the medical profession.

Whether future negotiations are permitted or not, perhaps I may be allowed to state that in my opinion a system of payment for work done would be the most satisfactory method for both doctor and patient. However, when the above-named suggestions were received in high political quarters, certain comments were made upon them, and although we all realize that it is not easy for any prominent politician to commit himself, when objections to his own bill are raised, yet it appears to me that the criticisms to the medical arrangements have not been answered as fully as they might have been.

I will not comment upon any remarks which have been made respecting unseemly wrangles in a sick room, or respecting the more efficient drugs which patients will receive from the hands of the chemists than from the hands of the doctors, because, although these references wounded the feelings of a considerable number of medical men at the time, they are of minor importance when compared with the great and far-reaching issues contained in the bill. The medical profession have no wish for an endowment scheme, and only desire equitable treatment, for the dictum that "the labourer is worthy of his hire" is applicable in all branches of the community. I think all will agree that in the past medical men have performed a larger amount of work without remuneration than the members of any other profession; and whether or not it be admitted that the members of the medical profession have been exploited previously, the time has certainly now come when the business aspect of this important economic question must be considered carefully, whatever may be the opinion from a philanthropic point of view. Other members of the profession will be more able than I am to make definite statements respecting the injury, from the financial side, which will be inflicted upon general medical practitioners. It appears to me that such statements should include particulars showing, if possible, that the larger numbers of contributors who will be

paying for medical attendance in future, and who previously have not paid for such attendance, will produce such a sum which will, or will not, balance the sum previously received by medical men from the same class of patients for work actually done. I do not wish to labour the financial side of this bill, but the two following points appear to be worthy of note. There appears to be no doubt that those medical men who have bought medical practices for considerable sums of money in the past will suffer, and I suppose to-day it would not be possible to sell any medical practice for even a minute proportion of its original cost. Then another point occurs to me which I have not heard mentioned before. This is in reference to outstanding debts. It is well known, particularly in Lancashire, that small sums of money are paid weekly to collectors employed by medical men, and as the attendances have accumulated, bills increased, and years passed on, this has meant that in a considerable number of practices, through the collection of these small sums regularly, the medical man has been able to depend upon a fairly well fixed income, varying from £200 to £500 per annum, in this manner alone. Now, when this bill is enforced I believe that many of these past accounts will not be settled. It may be said that the debt has been acknowledged through the payment of a portion of it previously, and that the doctor has his remedy in the county court. As a rule, however, medical men are strongly averse to county court proceedings, and it has occurred to me that there is a possible further loss of income in the foregoing way. I may or may not be wrong in this view, and time alone can prove or disprove it.

Then, coming to a question which does not involve any finance, it would seem that there would be a danger under the provisions of the bill as already set forth that there may be a disturbed relationship between doctor and patient. There is no doubt that in the past the relationship between medical men and friendly societies has been far from satisfactory in many instances. Anything which would extend and continue this want of proper relationship should be deprecated. It has been said by friendly society officials that medical men, especially young men commencing practice, have only been too glad to do this work at much smaller payments per head for medical attendance than have been proposed in the bill, and that therefore the position of the medical profession will be improved financially. Now, this argument appears to be based upon a false premiss—namely, that the previous conditions of work and relations between medical men and the friendly societies have been satisfactory, and that all that is necessary further is a slightly increased rate of remuneration. There are some people who say that the services of medical men can be obtained at any price, or even at no price.

Again, it is well known that members of friendly societies, although entitled to medical benefits, have often preferred to choose and remunerate their own doctor. Therefore, even granting that only a small proportion of this work has been pernicious, degrading, and conducive to "sweating" in the past, surely it is a risky proceeding to extend this character of medical work in such a wholesale manner in the future. It is possible to divide the medical men into three groups with reference to their views and intentions regarding the National Insurance Bill—namely:

1. Those medical men who will not have anything to do with contract practice in any shape or form.
2. Those medical men who do not disapprove of contract practice altogether, but who will only support the bill on condition that satisfactory terms of contract practice are arranged.
2. A group of medical men who, I believe, will be extremely small in number, and who will take appointments under any conditions.

I mention the third group because in a large profession such as our own there will be, probably, some medical men who will not adhere loyally to the wishes and decisions of the majority of their fellow-practitioners. At all events, it is highly improbable that this group can be depended upon to administer the bill. At the same time, it should be remembered that a hint has been given that a whole-time service, to administer the provisions of the bill, consisting of seven or eight thousand medical men, under Civil Service conditions of salary and pension, might be established. Now, therefore, more than ever before in the annals of medical history, is it necessary for our profession to stand firm individually and collectively.

With respect to those medical men who are at present medical officers to friendly societies, I believe that it would tend towards greater unanimity if such officers, in case of resignation of their appointments, should be compensated by their fellow-practitioners. Guarantee funds might be organized both centrally and locally, and the sum of £5 guaranteed by each medical man would soon produce more than £150,000 for the purpose. I believe also that some medical men would resign such appointments, without compensation, if they could feel sure that no other medical man would supplant them.

Past history shows that the medical profession as a whole has been singularly lacking in business capacity. The lack of unanimity and co-operation has been equally great. I believe that these difficulties will never occur again to the same extent as they have occurred in the past. Mr. Lloyd George certainly deserves the hearty thanks of the whole medical profession, because he has brought that profession together in a way which no other individual has been able to do. As the honorary secretary of a Division for many years, I have been discouraged frequently by the lack of enthusiasm and want of attendance at the Blackburn Division meetings, and I believe that other Divisional secretaries have experienced the same discouragement. Out of a membership of nearly 80 it has for years been impossible to obtain an attendance of more than 10 or 12 members at meetings of this Division. Within the last few months the membership of the Blackburn Division has increased to well over 100, and the attendance at our meetings has averaged about 40. When I mention the fact that at a recent meeting of this Division, at the awkward hour of 2.45 p.m., and on the awkward day on Monday, there was an attendance of 31 members, this will tell its own tale.

Certain critics will say that this increased interest has been brought about solely because the pockets of the medical profession are being touched. Although it is impossible to discuss the National Insurance Bill without also discussing money matters, there are other equally important and far-reaching questions, apart from the financial side, which involve the honour, dignity, and future comfort of medical practitioners, and these qualities are inseparable from the best interests and wellbeing of their patients.

Also, I believe that under the provisions of this bill as drafted at present there would be a great danger of medical men becoming mere machines, and of losing their individuality. I believe also that the future scope and personal utility of medical men would be curtailed, and that the incentive to regard medicine as a science, full of brilliant possibilities in the future, might be diminished, if not lost.

Steps should be taken that, in the time to come, the medical work can be carried out without any oppression of the doctor on the one hand, and that the patient shall obtain the very best skill and whole-hearted attendance from the doctor on the other hand. It is probable that in a short time the National Insurance Bill will be placed on the Statute Book, but unless the goodwill of the doctors is obtained it must be a failure. It would indeed be unfortunate and disastrous to both doctor and patient if any State medical service should become general in which the patient could not choose his own doctor, in which the doctor had more work to do than he could do efficiently, and for which work he felt that he was underpaid, and in which he might experience difficulty in detecting malingerers and a still greater difficulty in exposing them, without risk of causing offence to his electing committee, and perhaps without risk of losing his position. We all know the difficulties in detecting malingering under existing conditions of medical practice, even after a most careful clinical examination of the patient repeated many times. I would lay stress upon the point that the doctor himself has this difficulty, and yet it has been suggested seriously that reliance may be placed upon the better class of members of the future friendly societies in calling the malingerers to book. How can this possibly be done by laymen who are lacking in skilled medical knowledge and experience? Even if they could bring them to book, would they do it? I say emphatically, *No!* The risk and inconvenience would be too great. I know that many members of friendly

societies already try to discourage malingerers, but remembering the proposed enormous scope of the bill, I believe that it will still be a difficulty requiring very careful handling.

With respect to the *free choice of doctor*, it may be said that the committees of management of friendly societies will be elected by the members themselves, and that they will thus have free choice, but an arrangement under which any patient could be attended by a doctor whom he had not chosen individually of his own free will could not be called "free choice of doctor," and on a large scale the results would not be satisfactory either to doctor or patient. The cordial and friendly relationship between doctor and patient is a necessary part of the treatment, and this relationship cannot, in any way, be compared to a mercantile transaction, where, perhaps, even in a friendly way, each party is doing the best for himself.

Again, for certain conditions of disease and for certain classes of patients, hospital treatment will always be necessary whatever may be the future circumstances of domiciliary treatment. Gloomy forecasts have been made respecting the feared diminution in future of voluntary contributions to hospitals and infirmaries. Many of these institutions throughout the country are already in need of funds, and a greater need in this respect may pave the way for State maintenance of all hospitals and infirmaries in the future. Whether this would be a step for good or ill, it is not for me to say.

Also fears have been expressed regarding the future personnel of the medical profession. It is a fact that many fathers, especially medical men, are hesitating to send their sons into the medical profession, owing to the present unsettled state of affairs. This, of course, may only be temporary, but if this unwillingness should be lasting the results will be disastrous, for although it is never desirable to overcrowd any profession, yet a certain supply must be kept up, and this supply should contain, as it has hitherto contained, a useful proportion of the most vigorous intellects of the middle classes. Anything which would prevent this desirable influx would certainly cause the profession to diminish in calibre and strength, and in my opinion, this is an economic side of the subject which should be remembered.

I will now refer briefly to certain sections of the bill which concern public health mainly, but which are of interest to all medical men. The bill contains references to the formation, powers, and duties of local Health Committees. I think that this is an unfortunate name to have given to such committees, and it seems to me that they would have been described more accurately as local medical assistance committees, or some similar name. I fear that there is a possibility of overlapping between the work of local sanitary authorities and of the local Health Committees named in the bill.

Reading between the lines of the recent speech of the Chancellor of the Exchequer at Birmingham, one duty of the local Health Committee would appear to be a making of reports and recommendations concerning all questions of public health, and that the function of the local Health Committees will be the supervision of the work of the local sanitary authorities. In my opinion the valuable work carried out by local sanitary authorities in matters of public health during the last twenty or thirty years, and which work is being continued vigorously now, does not require any further supervision than it receives at the present time from the Local Government Board and the Home Office, and certainly not from a committee constituted in the way indicated in the bill. The results of this work carried out by the local sanitary authorities throughout the country is shown in the diminished death-rates.

Reference to the National Insurance Bill will show that large sums of money are to be set aside for the erection and for the maintenance therein of sanatoriums for consumptives. Without casting doubt upon the efficiency of sanatoriums for consumptives as they exist now, I would suggest that most careful consideration should be given to this question before the further expenditure of large sums of money in this way. Although I do not agree with those observers who say that sanatoriums are not needed, and that the whole question of tuberculosis can be met by the establishment of dispensaries and serum injections of tuberculin, I believe that this latter method calls for full and impartial investigation. But I do assert that a great factor in the prevention of tuberculosis is an improvemer and a maintained improvement, in the sanitary conditio especially with reference to the efficient ventilation a lighting in the homes of the poor. The antituberculos dispensaries of Paddington, North Kensington, and Mar lebone, which are institutions for the detection of ear cases of tuberculosis, visitation of such cases in their ow homes, giving advice as to precautions, removal of ear and late cases to suitable institutions respectively, a supervision of the other contact members of the famil are carrying out a magnificent preventive work. Assiste by the charity organizations, who provide extra comfort introduction to suitable occupations, etc., this preventiv work is rendered still more valuable. Again, as has bee done previously, I would lay stress upon the necessity fo careful scientific research as a most important means i the further prevention of tuberculosis. In short, I woul say that sanatorium treatment is valuable but alone i inadequate, and that it must be assisted by the othe measures which I have named—not only towards th eradication of tuberculosis, but also towards the productio of results in some measure proportionate to the expenditur incurred.

Now, I will refer briefly to a question which is of con siderable importance, not only at present, but in the futur —the fuller representation of our profession in Parliament The number of medical men who are members of Par liament is extremely small. This has always been felt t be unfortunate, but never so much as at present. Twenty or thirty medical men as members of the House o Commons, speaking from personal knowledge and ex perience, would have been able to change very materially the character of the debate on the bill when it came up for the second reading, and their help would be invaluable in the further stages of this important measure. It is to be hoped that in future more medical men will gain member ship of the House of Commons. A profession so intimately concerned with social progress in every sense should be represented adequately in the deliberations of a body responsible for legislative measures which govern social progress.

Time will not allow me to deal with many other matters in this bill. There is much that is admirable in it. Its general objects and principles, including the maternity clauses, should receive universal support. But in the application and administration of some of those principles there seems to be a distinct need for radical modification, particularly with respect to the conditions of employment and the choice and remuneration of the doctor, to which I have already referred.

Finally, gentlemen, we must see to it that, whilst justice is done to the large body of workers whom this bill is intended to benefit, equal justice shall be done to the members of the medical profession, without whose co-operation the scheme cannot be a success. In this spirit of reasonableness let us approach the matter; in this spirit, putting aside all minor differences, let us work shoulder to shoulder with one great united effort until such alterations have been made in the bill as will meet all reasonable objections.

In proposing a vote of thanks for the address, Dr. FERGUSON said that there was no doubt that the feeling in Lancashire and Cheshire was that the bill as at present drafted must be resisted to the utmost. If medical men stood shoulder to shoulder they would get adequate and fair treatment, otherwise their opposition would collapse. They had a chance at the present time of abolishing the undesirable club practice. Let them take it; it would be better for the patients and better for the medical men. Dr. WALKER, of Southport, in seconding the vote of thanks, said that Mr. Lloyd George had received a deputation of medical men only to hold up the medical profession to ridicule at his next public meeting at Birmingham. The speaker had received an assurance from a member of the House of Lords that when the bill came up he was prepared to support amendments to clauses which inflicted hardship on the medical profession. Dr. SERGEANT (M.O.H. Lancashire), who supported the resolution, spoke of the overlapping of authorities and expressed the opinion that the proposed Health Committees were superfluous; he thought there was no reason why there should be a revising body to watch over committees engaged in work which

ey had been doing and doing well for numbers of years. he selection of Dr. Greenwood for the presidency of the ranch was an honour to the department of medicine to hich he and the speaker belonged, and showed that State edicine and general medicine were united in their aims.

The Dinner.

At the dinner which followed in the evening, the toast to e Branch was moved by Mr. Alderman CROSSLEY, who ter touching on the fact that the National Insurance Bill id helped to bring the medical profession into unity, said at medical men and medical skill were a great public id national asset such as no Minister, however important might be, could afford to ignore. Perils lay in the ith, but he was sure that medical men in Lancashire ould show the sound sense in dealing with them that was ways to be expected in Lancashire and Cheshire men. e could not imagine what the final outcome would be any of the things predicted, should the measure be rried through in its present form, actually happened. ne total membership of the Branch, he learnt, would ortly reach 2,000, or nearly one-seventeenth of what he derstood to be the whole number of medical men in the itish Isles. He hoped the prosperity both of the Branch d the parent Association would endure, and that its embers would continue to be alive to the duties which volved upon them and the opportunities presented to em. He concluded by coupling the toast with the name Mr. Charles Larkin.

In his reply, Mr. LARKIN said that the Branches of the ssociation had at all times, and more particularly within cent months, quite justified their existence, although at e period they were in danger of being annihilated. Led Sir Victor Horsley, there had been a movement wards disbandment of the Branches, on the ground that ey were of little use. The action taken by their own anch in the matter of State insurance had been an ample to the rest of the country. The Association was ing excellent work in the provision of medical knowdge and also in its diffusion, which was of more value to e general community than its mere collection, but to-day was faced with a problem which menaced the livelihood medical men. If the National Insurance Bill were ssed in its present form medical science would be ippled. It would no longer attract men of high intellect to its ranks, would advance no further. The future of edicine hung in the balance.

Sir JAMES BARR, in proposing the toast to the town of lackburn, said that in regard to the National Insurance ll he took a wide view of the matter, and from a public int of view would ask what advantage would accrue m the bill. The people would get cheap physic, but eap physic was a bad thing, likely to do more harm than od. A great deal of the socialistic legislation of the day d good to no one except the officials whom it brought to existence. There would be a great many appointents under the State insurance scheme, and he would vise some of his medical friends to go in for these posts. would be better than doctoring. The loafer might also nefit, for he would take care that he was sick for at least months a year. The hard-working man made prosion for himself by private insurance, and this was much tter than Government insurance. It was the duty of atesmen to look after the healthy portion of the nation ther than diseased individuals, and preventive measures ere better than the seeking of a cure. The country at rge seemed to him to be in a decaying condition. In ncashire a new asylum was being built every five years, d in another half century half the population of the itish Isles would either be in asylums, workhouses, or isons, or be otherwise maintained by the remaining half. ere was no advantage in the bill, and he hoped it would ver pass. Medical men ought to refuse to have anything do with it, and say, "We will not touch your bill." If o-thirds of the population, as was anticipated, came der the bill, paying their medical attendants starvation ges, the bill in the long run would kill itself, for he fied any man to do his duty by the large number of tients that he would require in order to make a living at e rates of pay offered by Mr. Lloyd George. The bill uld ruin the medical profession and eventually the blic; indeed, it might very possibly ruin the public first. individual who was ill required proper medical treatment, and such treatment would be impossible if the bill passed.

Other speakers during the evening were Dr. J. T. BALLANTYNE, of Darwen, who proposed the toast to "The Guests," Mr. C. KENYON, who said the thanks of the Branch were due to Dr. F. Stephenson, who had organized the supply of motor cars used by its members during the afternoon, and Dr. RIGBY, chairman of the Blackburn Division, who moved the concluding toast to "The President." This having been duly acknowledged, the party separated.

MEDICAL MEMBERS OF CONVOCATION OF THE UNIVERSITY OF LONDON.

ON July 6th a meeting of medical graduates of the University of London, convened by Sir Philip Magnus, M.P. for the University, was held at the House of Commons, and was attended by nearly two hundred graduates. The object of the meeting was that Sir Philip Magnus might obtain the opinion of his constituents in the medical faculty with regard to the provisions of the National Insurance Bill.

Sir PHILIP MAGNUS, on the motion of Mr. W. MCADAM ECCLES, took the chair.

Sir PHILIP MAGNUS said that the Insurance Bill was in no sense a party measure, and must evoke the sympathy and goodwill of all classes of the community, as its objects were the prevention and cure of disease. He was desirous of affording an opportunity to the graduates of the London University to express their views as to the value of the measure. He was also anxious that the meeting should consider the effect of the bill upon medical education and on the practice afforded in the hospitals. It was to be regretted that a bill of such far-reaching consequences, affecting 15 millions of the citizens of the country, should have been introduced at so late a date in the session. It seemed to him that a measure of such great social importance ought to have been brought into Parliament at the beginning of the session, or, if introduced at a later date, after its second reading a certain amount of time should have been permitted for its consideration with a view of taking into consideration the various criticisms offered, and, if necessary, sending the bill back, so that it might be redrafted or reconstructed, and brought before Parliament in an amended form the following session. If that course had been adopted, he believed there would have been a better opportunity of making the bill a really valuable and workable measure. He had received a very large number of letters from graduates in all parts of the country expressing absolute agreement with the proposals of the British Medical Association, many of them containing a definite refusal to co-operate in carrying out the objects of the bill under the conditions imposed by it. (Loud applause.) The main object of the bill was to compel every working man and woman whose wages amounted to less than £160 a year, and their employers to contribute to a fund for the purpose of obtaining medical attendance. Parliament, of course, could enforce the payment of those contributions; but it was to be distinctly remembered that Parliament could not enforce medical service from the medical profession. In other words, it could command the *quid*, but it could not command the *quo*. He was certain that the medical profession would not put forward any claims which were not reasonable, and it was essential, in his opinion, that the just claims of the members of the medical profession should be satisfied. No other profession had so unreservedly admitted the claims of the poor to the benefit of its acquired skill and knowledge, and it would be a sorry day for the country if the measure now under consideration should alter in any way the humane and sympathetic relations which had hitherto existed between the members of the medical profession and the millions of people whom they served. The two important points on which members of the medical profession insisted were: First, that the remuneration for medical attendance should have some relation to the services rendered. Whilst he desired to see that principle universally or generally recognized, at the same time he did not believe it would be possible altogether to do away with the system, which had many disadvantages and inconveniences, known as the contract system; but he felt that if that system was to remain it ought to be regarded as absolutely essential that the area which the operation

of the system covered should be far less than was proposed in the bill now before Parliament. (Applause.) The lessening of that area could only be effected by lowering the wage limit in accordance with the recommendations of the British Medical Association. (Renewed applause.) It must be generally recognized that any compulsory contract system must increase very largely the number of persons coming under the system, be the wage limit what it might; and he would be very sorry if that contract system should deprive a number of practitioners in poor districts almost entirely of their present private practice—a deprivation which would lessen their income, and which would at the same time destroy their opportunities of leisure for further study and for recreation, and prevent their looking forward to the carrying on of their practice on other lines, when it should be developed and improved under the enlarged experience they might have gained. The second point to which he believed the British Medical Association attached considerable importance was that the arrangements connected with insurance of medical benefit should no longer be in the hands of a committee of the friendly societies, but should be placed in the charge of the Health Committees, or of some other bodies on which members of the medical faculty were adequately and fully represented. (Loud applause.) Commenting upon the rapidity with which matters were changing in connexion with the bill, Sir Philip said it was quite possible at that very moment an amendment was being moved to substitute for the Health Committees proposed in the bill statutory committees of the county or borough authorities who would take charge of all matters connected with the public health of the district, including those who came under the Insurance Bill. He took it that the meeting would prefer that the administration of medical benefits should be in the hands of a committee of the local authority on which medical men were represented, rather than it should be, as at present, in the hands of a committee of the friendly societies. He understood that Mr. Lloyd George regarded the matter as an open question, leaving it to the decision of the majority of the House, but he (Sir Philip) feared that many members of the House of Commons, who stood in close relationship with the friendly societies, might vote against it. He thought the very fact that, originally, there had been no proposal to limit voluntary insurers, showed how little consultation had taken place prior to the introduction of the bill. Speaking in the House the previous evening, the Chancellor of the Exchequer stated that the doctors were reconciled to the proposals the Government had made. (Loud cries of No, no). If the Chancellor were wrong, he should be told so in unreserved language, for it was only a plain statement of the facts to say that members of the medical profession at present were masters of the situation. No law could compel them to enter into a contract which they believed would be injurious to their interests, and consequently injurious to the masses, who would have to contribute week by week a portion of their hard-earned wages to secure the benefit of medical assistance and advice. (Loud applause.)

Sir ALFRED PEARCE GOULD said in his opinion the mode of remuneration was far more important even than the question of amount. The great majority of medical men were paid by their patients for services rendered, and the relationship was between patient and doctor alone. Only a small minority of doctors were paid on the contract system, or by per capita payment. They had now to decide which of those two principles was the right one. He submitted the only right principle was for the patient himself to pay the medical man for services rendered. If, by any chance, the contract system were to be imposed upon the medical profession to the extent of 15 millions of the working population of the country, before long it would be extended to the wives and children of those 15 millions, and that would mean a very large proportion of the whole population, and it was impossible to shut one's eyes to the fact that eventually it would be imposed upon every patient in the kingdom. He hoped those present would give a very definite negative to such a proposition. It had been said that such a thing was inevitable, but it was not. Payment of the doctor by the patient was in vogue in the great majority of cases among the working classes, and there was no shadow of foundation for the statement made that the contract system was inevitable. The system was for the patient and it was bad for the doctor. The pu liked freedom of action and freedom of consultation their own doctor, and liked to pay their doctor themsel The contract system was open to abuse on the part of medical profession itself because it operated against a doing his work well. The better a man did his work less he was remunerated, and, if he scamped his work did not recognize serious disease when present, or shunted patients off to the hospital and shirked his responsibi altogether, he got his payment just the same as the man did his work conscientiously, and was richer in money tho not in honour at the end of the year. The contract sys was a premium on the shirking of work. Dealing with £2 a week limit, he suggested that that was wholly a trary. There were many people in country villages had £2 a week and were well off, while a man in a to with a large family was badly off on £2 a week. Further, £2 limit was capable of alteration in the future, and w Parliament accepted to-day might be upset to-morrow a a higher limit imposed. He considered, in the place of contract system, that the actuarial value of a work man's insurance premium should be set aside for medical benefit, and that that man should be left to spe it in the wisest and best way he could. The working m would not be able to get it without a certificate from doctor that he was ill, and, so long as the certificate w given, the money would go every week, with unfailing re larity, into the home of the sick man. The medical p fession, having its finger upon the entrance of t money into the sick home, would be in a bet position to protect itself than it was now. the medical profession took up that position it wou simplify the bill enormously. Not only did it get rid the question of the wage limit, and interference on the pa of the friendly societies and outside bodies, but it got rid all difficulty about free choice of doctor, and afforded ve great protection against malingering, which must be reco nized as one of the possible difficulties in the bill. The would be no inclination for the sick man to have unnece sary visits from the doctor when he had to pay for eve one of such visits. The present moment was a psych logical one. The attitude the medical profession held a maintained to the public was the most important thi they had to consider in connexion with the measure, a he hoped, therefore, that the meeting would inform t member for the University of London of their opinio upon the matter by passing the following resolution:

That, in the opinion of this meeting, no scheme for t remuneration of medical practitioners can be regarded as sati factory which does not provide for the payment of medic practitioners to be made according to the character and amou of services rendered to the patient, and that the bill be modified as to give effect as far as possible to this condition.

Sir R. DOUGLAS POWELL, in seconding the motio endorsed the remarks of Sir Philip Magnus to the effe that medical men had not been in any way consulted i reference to the Insurance Bill; the bill had been frame without any sort of consultation with them.

Dr. CHARLES SANDERS said those present at the meetin came to deal generally with the principles of the Insuranc Bill. Those of them who had any dealings with friendl societies and with the working classes recognized on point in connexion with the bill. and that was that if any thing was to be done by a body of persons those person must be absolutely united. He felt—he said it witho any disrespect to his colleagues—that medical men ha not the brains of trade unionists; and he said that witho any disrespect to the trade unionists. Trade unions ha uninterruptedly since their inception carried out grea benefits for their class; but the present was the firs opportunity medical men had had, and, so far as he coul judge, it was being taken advantage of. The bill, h believed, would ultimately result in a great advantage t the profession, because it was banding medical me together and showing them if they were to succeed the must stand together. (Applause.) He desired to vie the question merely from the point of view of medica graduates, and he thought if the Chairman could see hi way to admitting an amendment by which those presen adopted the principles laid down by the British Medica Association that would contain all that was asked for i the original resolution. Those principles covered contrac

ctice, of which there was a great deal in the country, l that was one of the difficulties of passing an indefinite tion with regard to a detail of the bill. He thought feeling of the meeting was that it should present to . Lloyd George a united front, and, having regard to fact that a large majority of the profession was banded ether in the British Medical Association, and had pted a series of resolutions which were being agreed to, l would be agreed to before very long, by the vast jority of the profession, he trusted that, whatever pened to the motion, he would be allowed to move an endment adopting those principles as the distinct and ted view of the meeting. (Enthusiastic applause.)

ir PHILIP MAGNUS said it had been thought advisable t the meeting should assent to the general proposition ed by the mover and seconder of the resolution as ressing the general opinion with regard to the principle remuneration, and it was intended at the same time t an amendment or rider should be moved as follows:

nat if, under the provisions of the bill, this principle of remuneration is not generally practicable, the contract system for medical benefit should be limited to those whose average income from all sources does not exceed £2 per week.

t carried out the resolution of the British Medical ociation, and it was thought it might not be inropriately introduced after assenting to the general position proposed by Sir Alfred Pearce Gould and nded by Sir Douglas Powell.

r. FOTHERGILL asked the mover and seconder of the lution to accept a modification, and suggested the ssion of the words "and that the bill be so modified as give effect," and the insertion of the words "steps ld be taken to see that these principles are introduced the regulations affecting the bill." He thought the policy was to get the bill through on the lines gested by the British Medical Association, and then to o work in one united body to see that those principles e incorporated in the way they wished. (Applause.)

r BERTRAND DAWSON was opposed to the motion and d conceive nothing which would please their opponents e than the passing it as it stood. It was an unwise g to go beyond what was capable of being done. Sir ed Pearce Gould's motion amounted logically to this: t the meeting was in favour of complete abolition of ract practice. Whatever their view might be of the rability, or undesirability, of contract practice, they t ask themselves, as practical men and women, if it possible for anybody at the present time to abolish it. as an impossibility, and, if an attempt were made to do ne medical profession would alienate from itself that ic support which, in his opinion, was absolutely ssary to the success of the movement. One of the t satisfactory things about the medical movement had that the profession had carried all the best elements iblic opinion with it. His feeling was that the policy ld be to keep rigidly to the principles of the British ical Association, which had been carefully thought out which had been supported with much eloquence by Charles Sanders. Personally he should vote against motion as extremely harmful and imperfect. (Loud ause.)

ter some discussion, Sir PHILIP MAGNUS inquired ther any one would be prepared to move as an amendt to Sir Alfred Pearce Gould's proposition—

at the meeting approved of the six points recommended by he British Medical Association.

. CHARLES SANDERS: That is what I intended to move. d applause.)

ter further remarks, Sir PHILIP MAGNUS announced Sir Alfred Pearce Gould was prepared to withdraw notion, and

. CHARLES SANDERS moved that the meeting adopt the points of the British Medical Association. This was nded by Dr. NORMAN MACFADYEN, and after Dr. C. H. IAM (Brighton) had spoken in support, Sir PHILIP nus put the motion as follows:

at this meeting of graduates of the University of London pproves the proposals laid down by the British Medical ssociation as the essential conditions for their co-operation n giving effect to the National Insurance Bill.

e motion was carried unanimously amidst loud and nued applause.

Mr. MCADAM ECCLES moved:

That the provisions of the bill should be carefully considered in their relation to voluntary hospitals and medical schools, more particularly in the bearing of such provisions on (1) medical education, (2) the welfare of patients, and (3) financial conditions.

He said that during the past fifteen years there had been a gradual diminution in the number of medical students, both male and female, entering the profession, and if as an outcome of the bill there was to be a still further disadvantage to entering the profession, there would be another serious diminution, and the outcome of that would be that the profession would be recruited by those who had not that high mental ability and high educational advantages that the present members of the profession had. An extended contract system would very seriously alter the relationship of the profession to the nation, and the welfare of the patients, which every one regarded as the most important thing, would be seriously jeopardized.

Dr. WARREN LOWE seconded, and the resolution was carried unanimously.

RICHMOND (SURREY) DIVISION.

Interview with Members of Parliament.

A DEPUTATION, consisting of Drs. G. J. Maguire, R. L. Langdon-Down, R. N. Goodman, W. St. L. Finny, A. E. Evans, J. R. Johnson, H. N. Hoberton, Owen Coleman, and G. Cardno Still was received by Mr. George Cave, K.C., M.P., Mr. W. Joynson-Hicks, M.P., and the Hon. C. T. Mills, M.P., at the House of Commons, on Wednesday, July 5th.

The resolutions in connexion with the National Insurance Bill passed at a meeting of practitioners in the area of the Richmond Division on June 30th (SUPPLEMENT, July 1st, page 54) were submitted.

The deputation confined itself chiefly to the question of friendly society control and the wage limit. Dr. MAGUIRE, having introduced the deputation, defined the area of the Division, and gave practical examples taken from his own practice on the disastrous effects of the bill if passed in its present form. Drs. FINNEY, LANGDON-DOWN, EVANS, COLEMAN, and GOODMAN also spoke, and each of the members of Parliament made copious notes. Though none of the members were willing in the meantime definitely to state his position as regards the income limit and friendly society control, the impression left on the deputation was that they were in sympathy with the resolutions thereon. The interview lasted about an hour, and the members of Parliament having been thanked, the deputation withdrew.

STRATFORD.

AT the annual general meeting of the Stratford Division of the British Medical Association, held on June 29th, Dr. PERCY ROSE presented a report of the Special Representative Meeting, and a lengthy discussion ensued. A deputation of members was appointed to approach the members of Parliament in the Division upon the National Insurance Bill.

ROCHDALE.

ON Friday, May 26th, Mr. A. G. C. Harvey, M.P. for the Borough of Rochdale, met a number of medical men practising in the borough to ascertain their views on the subject of the National Insurance Bill. The meeting was organized by the Rochdale Division of the British Medical Association. There were present: Drs. LORD (in the chair), McMaster, Kilroe, Henry, Brentnall, Jameson, Stanwell, Malim, Hodgson, Standing, Hunter, Kenrick, Renshaw, Sugden, Fielding, Mackichan, Walker, Rodley, Ward, and Jefferson.

The subject was introduced by Dr. LORD, who emphasized the objections to friendly society control.

This was confirmed by Dr. MALIM, who pointed out that while doctors were in sympathy with the general objects of the bill there was the gravest objection to the admission of persons of practically any income to the medical benefits of the scheme.

Drs. STANWELL, JAMESON, JEFFERSON, WALKER, and GRANT also spoke.

Mr. HARVEY, who addressed the meeting both before and after the general discussion, stated that the sympathy of themedical profession was essential to the success of the

measure. In his opinion choice of doctor was desirable and the doctor's remuneration must be adequate. A request for a figure which would be regarded as an adequate capitation fee met with no response from the meeting, except the statement that it seemed undesirable to mention a specific figure at the present time.

The thanks of the meeting were accorded to Mr. Harvey.

BOURNEMOUTH.

AT a very largely attended meeting of members of the medical profession of Bournemouth and district, held on July 5th at St. Peter's Hall, Bournemouth, it was decided to form a Local Practitioners' Union. The objects of this union are to get in touch with every medical man and woman in the district, particularly with those who are not members of the British Medical Association, and to organize in an efficient manner for the purpose of protecting their interests as affected by the National Insurance Bill.

Dr. HYLA GREVES was chairman of the meeting, and was unanimously elected president of the Practitioners' Union; and Dr. A. Heygate Vernon was unanimously elected vice-president.

The following resolution, proposed by Dr. A. HEYGATE VERNON and seconded by Dr. W. JOHNSON SMYTH, was carried without a single dissentient:

> That this meeting of the Bournemouth and District Medical Practitioners' Union disapproves of the Chancellor of the Exchequer's proposals for medical benefits in his National Insurance Bill, and feels that unless they are so altered as to meet the approval of the profession as a whole, it is the duty of members of the profession to refuse to undertake service under the Act.
>
> That this union heartily approves the action of the British Medical Association in this matter, and pledges itself to support it in the present crisis.

WEST CORNWALL.

ON July 4th meetings of the West Cornwall Divisions were held at Penzance and Truro, at which forty medical men were present. Letters promising unqualified support were received from sixteen others. The following resolutions were adopted:

1. That a delegation, composed of Drs. A. E. Permewan and F. Chown, arrange to wait upon Mr. Acland, M.P. for the Mining Division.
2. That a joint deputation, composed of Drs. Edwards (St. Ives Division), J. W. Haughton (Falmouth and Penryn), and M. R. Taylor (Truro-Helston) arrange to see the members for those constituencies, in London if necessary.
3. That a subscription of 2s. 6d. a head be asked from all medical men in the Division to cover the delegates' expenses.
4. That a local guarantee fund of £2 2s. a head be arranged, and the Honorary Secretary take steps at once in this matter.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

AT a meeting held on July 4th, Mrs. DICKINSON BERRY, President, in the chair, a discussion took place on the National Insurance Bill.

Dr. CONSTANCE LONG, after giving a summary of the bill, set forth the reasons underlying medical opposition to it in its present form. Not the least evil of the bill was its widespread introduction of contract practice among persons who could pay for private medical attendance, and the exclusion from benefit of the most unhealthy and poorest classes of the community. It might also be found that difficulties would arise between the patient and doctor in certifying to the insurance authority diseases brought about by a person's own misconduct, and venereal diseases might consequently have to be made notifiable in the case of insured persons. Suspected cases might then be sent for independent bacteriological examination, and the disease be notified from the laboratory. The patient might then be referred for institutional treatment during the infectious stages of syphilis and gonorrhoea. The Government seemed to the speaker somewhat belated with regard to sanatorium treatment, for tuberculin dispensaries were widely considered more practical than tuberculosis dispensaries and equally educational.

In the discussion which followed, Mrs. WILLEY said that the bill did not really safeguard the national health, and that if the status of practitioners were lowered it was greatly to be feared that an inferior class of person mi be led to take up medicine as a career. All speak urged the importance of loyally supporting the Brit Medical Association, and a resolution supporting all proposals put forward by it was unanimously adopt The following resolution was also put to the meeting a carried unanimously:

> That the British Medical Association be asked to urge inclusion of a medical woman on the advisory committee

CORRESPONDENCE.

THE INCOME LIMIT UNDER STATE SICKNESS INSURANCE

DR. J. H. TAYLOR (Salford) writes: In your leading arti of last week attention was drawn to the fact that t acceptance by the Government of Mr. Joynson Hick amendment to the Insurance Bill limiting the volunta insurance by an income limit of £160 a year only mitiga to a slight degree the position of medical men, and in way lessens the necessity for the profession to insist the income limit of £2 a week for medical benefits. It important that the profession should carefully consider position on this question. I have little doubt that if t question could be considered *de novo* the demand would for a 30s. rather than a £2 limit; but of course the Ass ciation is now committed, and, if by any chance Mr. Llo George could be persuaded to accept the £2 limit, t profession would be in honour bound to abide by t bargain on which it has itself insisted, and not afterwar demand a lower limit. After all, the critics who compla that the Representative Meeting was not demanding enou forget that the higher the income limit is the higher t rate of remuneration will have to be, and many medic men who would be satisfied with even a 6s. capitation f if the income limit were £1 a week would demand f more if the limit were £2. In this way a united pr fession should easily be able to adjust the differen between a 30s. and a £2 income limit. But there a obvious limitations to this, and if there be no incom limit at all for medical benefit, it might in practice impossible to obtain an adequate fee.

But the profession must face the probability, if not t certainty, that Parliament will refuse to fix any incom limit for medical benefit. The Government is apparentl determined on this refusal, and may even go to the lengt of using the Government Whips to defeat the Association proposal for the £2 limit. The forthcoming Representativ Meeting will have to be prepared to deal with the positio that would then arise. I take it for granted that there ca be no drawing back on so vital question, and at any rate have not seen the least sign of any wavering at the hea quarters of the Association. It must either be the £ limit or something better. There is a fundamental diffe ence between an ordinary labour strike and what woul happen in the event contemplated. In a labour strike th strikers refuse to do the work, but medical men canno with reason refuse altogether to give medical attendanc to the insured. They can only refuse to enter into an arrangements with approved societies or local Health Com mittees, and decline to attend insured persons except a private patients at ordinary fees. That would, of course bring about a deadlock which I do not care to contem plate, as in spite of the urgent need for amendment in th bill, I am completely in agreement with the resolution o the Representative Meeting "approving the main object of the bill and being desirous of co-operating for thei attainment." I see, then, no way out of this deadlock bu to approach the Government with a suggestion that i should leave the insured to be dealt with as private patient as they are now, but should pay out of the insurance funds towards their medical bills a subsidy to be agreed on. A arrangement of this sort would be quite independent of an defined income limit, as the doctors would charge each patient, as they do now, what they considered him able t pay.

I am conscious that this suggestion means a radica alteration in the basis of the bill. Even at present medica benefit does not mean full medical and surgical attend ance, as operative and other treatment in hospital are no provided, but under this scheme medical benefit in th case of well-to-do persons would simply mean a contribu tion towards the cost of medical attendance. Neverthe

s, there are some advantages that would outweigh is. The fact that many patients would have to pay mething out of their own pockets would in their case event over-attendance by doctors and those irrita- g and unnecessary calls on the doctors which are so com- on with club patients, while it would act as an efficient eck on malingering. In the case of the poorer patients y local medical committee might, if it were so inclined, t not otherwise, draw up a list of those of the insured om the doctors of the district might be willing to attend thout any charge beyond what the insurance provided, ile persons not on the list would have to pay what e doctor of their choice liked to charge them over and ove the insurance subsidy. In drawing up the list, the dical committee might either consider each case on its lividual merits, as is now done in private practice, or it ght adopt any income limit suitable to the district. The nger of doctors undercutting would be neither more nor s than it is now, but if the medical committee liked it ld draw up a scale of fees for persons not on the list. ith this scale the local Health Committee would have thing to do, its only business being to pay for each insured rson the amount agreed on, leaving the doctors to recover y excess. There would be far less temptation for patients attempt to form medical clubs than there is at present, d any such attempt would be more easily defeated by local medical committees, which are to have statutory cognition. The check against over-attendance by doctors sing from the fact that patients would be paying part of ir own bills, would remove one of the greatest objections ainst the system of payment per attendance, but other- e the choice between capitation payment and payment attendance would not be affected.

Put briefly, if the income limit of £2 is refused, I can see thing for it but a deadlock, with a refusal to attend ured persons except as private patients. Would medical n then refuse to accept towards their private bills contribution from the insurance fund? Perhaps the atest argument in favour of the plan is that it would olve the very least interference with private practice it is possible, while doctors would be insured against y of their bills becoming wholly and completely bad ts. It may be added that there are reasons for ieving that if the Association would approach the vernment with a proposal on these lines, the Govern- nt would give it most careful consideration. As a tter of fact there seems to be nothing in the bill as it nds to prevent this suggestion being acted upon, but re would be obvious advantages in the addition of some tutory recognition of the arrangement if it should et with approval. There are two amendments dealing h this on the Order Paper in the names of Mr. Goldman l Mr. Worthington Evans, but from a professional stand- nt there are serious objections against both.

* Dr. Addison's amendment (JOURNAL, p. 130) was put the paper since our correspondent wrote.

HOSPITALS AND HOSPITAL STAFFS.

Mr. W. F. BROOK, F.R.C.S.Eng. (Swansea), writes: As orted in the SUPPLEMENT of the JOURNAL, July 1st, the th Wales and Monmouthshire Branch on June 16th t, at a very largely attended meeting at Cardiff, passed following resolution[1]:

'hat having regard to the undue and enormous burden which the bill imposes on the medical profession, this meeting considers that unless it is so modified as to obtain the fullest approval of the profession, the British Medical Association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom.

July 21st the Annual Representative Meeting will mmence its sittings at Birmingham, and in the interval ore this the Divisions are to meet to consider a report m the Central Council on the subject of the Insurance l, and to give their Representatives final instructions h regard to this.

shall be obliged if you will give me space to show that he profession is to leave no stone unturned to ensure success of its fight to prevent grievous financial harm many of its members, amounting in some instances ost to ruin, every Division should adopt the above or ne equivalent resolution.

think there can be no doubt that the bill will, for political purposes, be forced through Parliament with practically no material alterations, unless it is made plain that further and more serious consequences will result than the mere passive opposition to its working by the great majority of the medical profession. It must be remembered that in politics it is votes, and votes alone, that count. Moreover, that as a profession we can scarcely hope at an election, by our votes alone, to affect the issue in a single constituency. That this is too well realized by the Chancellor of the Exchequer is evidenced by his recent behaviour, for, despite his empty words of sympathy and professed kindly sentiment, scarcely had the door by which he left the meeting of our Representatives closed behind him than he was indulging in gibes and insults at our expense for the delectation of his Birmingham audience.

It may be asked, Why should Mr. Lloyd George wish to force his bill through Parliament if the opposition it receives from the medical profession gives no hope of its being carried into working effect? In reply to this, one can only too readily conceive the following line of argument being adopted by Mr. Lloyd George:

> If the bill is passed, but rendered of no effect by the attitude of the medical profession, I still stand to gain votes, for I can point to a measure which would have benefited millions, but which has been wrecked for their own ends by these selfish doctors. On the other hand, is it so certain that it would be so wrecked? There are some 4,000 to 5,000 doctors who have not signed the undertaking not to work under the bill. These are enough to make a start with, and once the start has been made there are a sufficient number of poorer doctors with families to support, who, from sheer fear of losing their means of livelihood, would very soon give way. Thus I stand to gain either way.

I do not say that Mr. Lloyd George would be right as regards the latter proposition. But what if he were? Now, in reckoning up the position, voters fall into three classes—namely:

1. The beneficiaries under the bill, numbering some 10 to 20 millions of voters, naturally in favour of it.
2. The unwilling benefactors, chiefly ourselves, opposed to it, but under the circumstances with no voting power.
3. The remaining millions, whose pockets are utterly unaffected by the medical provisions of the bill, but who, with the exception of a negligible fraction, take no interest in them, and have never troubled to understand them.

It is this class which we should seek to interest in the matter, and there is no more sure and speedy way of rousing that interest than by means of the above resolution.

As I stated at Cardiff, an estimate has been made of the £ s. d. value of the honorary medical services to the Swansea Hospital for the year 1910, based upon a very modest tariff, of which the main figures were:

> 5s. per head per visit to patients in the wards.
> 2s. 6d. per head per consultation in the out-patient depart-ment.
> £15 15s. per surgical operation for indoor patients.
> £2 2s. per surgical operation for outdoor patients.

The valuation amounted to £44,500, and that in a hospital of only 130 beds. According to *Burdett's Annual* for 1911, the number of beds in the voluntary hospitals of the United Kingdom amount to 49,200 odd. Reckoned at the above rates, the medical services given for these amount to considerably over 16½ millions sterling.

Now, hospitals are part of the necessary machinery of every civilized community, and if the resolution were put into force throughout the country, even if the figures were halved, there would result a little annual bill beside which the cost of an additional two or three Dreadnoughts per annum would sink into insignificance. I am not going to discuss the question of how the bill would be paid; suffice it that at our bidding it would have to be paid, and the payment would ultimately fall upon the taxpayer. Thus the voter in Class 3 becomes interested.

I can already hear some of your readers objecting that this is going too far, that it would mean neither more nor less than the municipalization of hospitals with all the attendant ills which have resulted from the system on the Continent. My reply is that of two evils we must choose the least. Our first duty is to our own brethren. It is the general practitioner, whose practice is the least remunerative, who will first go to the wall in the event of

[1] As a rider to the previous resolution, and not as an amendment as simultaneously reported.

the bill becoming law, and it is to those of us who are doing hospital work, especially those who are consultants in their private practice that he now looks for help and support. If the bill were ever to take effect in its present state, it is we (that is, the consultants) alone, who for the time being at all events, would probably benefit, for it would result in depreciation of the services of the general practitioner and leave more money at liberty with which to indulge the present fashion of consulting a so-called "specialist" on every possible occasion. For this reason, if no other, the resolution should receive the support of every hospital physician and surgeon.

Finally, if the worse should come to the worst, we are already morally bound to compensate and recoup those who suffer financially for their loyalty to the profession. In this district are scores of practitioners whose incomes would be halved at a stroke and many others who would emerge from the struggle with no practice at all, no matter which way the fight went. Where, I ask, is sufficient money to come from to fully compensate such cases as these? The fund which is being organized for the purpose, though no doubt it will be well supported, would never stand the strain.

Here, then, is a ready means of sufficiently supplementing the fund to enable it to meet all contingencies. There can be no hospital physician or surgeon who would not be prepared to hand over the payment made him for hospital work. And in doing this he would be doing no more than bare justice to his less fortunate neighbour. For under the present hospital system it must not be supposed that the enormous contribution to charity in the shape of gratuitous services is a personal contribution of hospital staffs alone. Apart from the abuse of hospitals, which, as we all know, has attained gigantic proportions, and which cruelly hits the poorer practitioner, the latter is daily making financial sacrifices in the interests of his patients. As the result of the more costly and lengthened period of medical education, the modern general practitioner is fully equipped to deal with a large proportion of clinical material which finds its way into the hospital, and, if he wished, could benefit by the experience it provides and at the same time, in many instances, be paid for his work. It is merely the want of adequate nursing which deters him from doing so, and in so refraining he is preferring his patients' interests to his own.

While, then, there is yet time, let the Divisions prepare this second line of defence. Let them make it known to the public and the Government, and that in no uncertain voice, that while as heretofore we as a profession are quite satisfied to continue voluntarily to shoulder a share of the charity of the country out of all proportion to our numbers, any attempt to force upon us by Act of Parliament work of a semi-charitable nature under conditions which are loathsome to us will be surely followed by a rearrangement of the whole position, and, as the result of the new order of things, medical men will pay neither more nor less than their just share of the cost of hospital work and maintenance along with the other taxpayers of the United Kingdom.

Thus will the issue of the fight be further assured before a single blow has been struck.

DISCIPLINARY POWERS OF INSURANCE COMMISSIONERS.

Dr. P. NAPIER JONES (Crowthorne, Berks) writes to express the opinion that the amendments to Clause 14 (1) proposed by the British Medical Association contain a serious flaw. He refers particularly to subclauses *d* and *e* (see SUPPLEMENT, June 24th, p. 467, also July 1st, p. 4), and in the course of his criticism makes the following observations:

A lay body—the Insurance Commissioners—are given disciplinary powers over medical men: power in the first place to decline to appoint a registered medical practitioner, and in the second to inquire into complaints against and erase the name of a doctor from the panel.

The increased powers and wider use of them by the General Medical Council have been gradually winning us a worthier position in public esteem, and if now this bill is passed as amended by us and service is accepted under it, all we were gaining will be lost and we shall deliver ourselves bound into the hands of a body of laymen and one or two doctors with experience of club practice.

Those amendments ought to be further amended so as to place all power of appointment of medical men and power to inquire into conduct or remove from appointm in the hands of the General Medical Council, and lar sums should be placed in the Council's coffers by the St for these purposes.

The whole profession will welcome increased disciplin powers if those powers are wielded by the medical p fession, and nothing will secure the solidarity of profession more certainly than a knowledge that our ra will be purged of the unworthy and the self-seeking ma

*** There is undoubtedly weight in this criticism, bu is difficult to see how the bill could invoke the Gene Medical Council. Although it sometimes suspends jud ment, the only real disciplinary power possessed by Council is erasure—an extreme penalty. In practice may be presumed that the Insurance Commissioners wo be advised by the local Medical Committee which Chancellor of the Exchequer has agreed shall be set under the bill.

TRIBUNAL FOR SETTLING DISPUTES.

Dr. J. H. KEAY (Greenwich) writes: Notwithstanding fact that I may have an opportunity of bringing t matter before the Representative Meeting, perhaps will kindly allow me space to refer to the amendme suggested by the Association in reference to representat on the various bodies that will control medical attenda under the State Insurance Bill. The demand made by Association I regard as quite insufficient.

To the most casual reader of this bill, it must h appeared evident at the first glance that everything complicated through the overlapping that must necessa ensue between the Assurance Commissioners and Local Government Board, and between the local Hea Committees and the existing Public Health authoriti This may concern us as citizens, but what more parti larly concerns us as medical men is that no provisio made for the settlement of disputes that will undoubte arise in large numbers between medical men and insured after the passing of this bill. To whom are t to be referred? To the Assurance Commissioners? every petty dispute in every town or village is to referred to the Assurance Commissioners, an enorm department will be required, or, as is more likely, decisi will be hung up, and there will be dissatisfaction am all concerned. To the Advisory Committee? T may quite possibly be a temporary body that disappear after the completion of the bill. The natu forecast is that unless the Association take str action, all disputes will be referred to the lo Health Committees. And here it is that the danger l If the medical men on a local Health Committee are, proposed in the bill, to be limited to two, or even as acco ing to the demands of the Association to one-third or o fourth of the membership, and the great majority of committee is to be composed of members of frien societies and representatives of the insured, it is q evident that when any dispute arises a decision in fav of friendly societies and the insured will be a foreg conclusion. For the settlement of these disputes it se but reasonable that medical men should have the sa number of representatives as those providing the fu namely, the Government and the contributories. I rea admit that the appointment of Medical Committees i step in the right direction, but it is far from being all t that is required.

Perhaps you will allow me to add that the experience medical men during thirty years of State insurance Germany has aroused them to the importance of matter, and in the debates on the new German bill, and the pages of the journals, it has occupied a space only than that given to freedom of choice. Among the med men in this country the necessity of definite action in matter has been hitherto entirely ignored, and its imp tance must be my excuse for again urging the member this Association not to let this bill pass before s definite action is taken.

POWERS OF INSURANCE COMMISSIONERS.

Dr. MAJOR GREENWOOD, honorary secretary of the Law Medical Officers' Association of England and W writes: Many think that the protection we should be li to receive from the Insurance Commissioners, as co

ed by the above bill, in our dealings with the friendly ieties would be very inadequate.

n incident that has just occurred in the metropolis, in opinion, strongly supports that contention.

here has been for some time past a dispute between the lical officers of St. Leonard, Shoreditch, and the rdians of that parish. The Local Government Board ughout have sympathized with the former, and have eatedly written to the guardians urging that justice uld be done to their officers. The guardians, however, e consistently adhered to their unjust policy, and the mpanying letters from the Local Government Board ne parties interested pretty accurately show the position ffairs.

would appear that the Upper Board is powerless to edy a condition of things which it recognizes to be versive to the public interest and unjust to the medical ers.

, then, a Government department, with all its extensive ers, is unable to protect a public service under such mstances, what is to be expected from a super- ading authority to which is simply relegated the right nctioning or refusing conditions of service demanded he friendly societies of their medical officers?

would doubtless sympathize with the hardship of the ical officer, but the final response to his appeal would unlikely take the form of a softly worded *non umus*.

Local Government Board,
Whitehall, S.W.,
June 13th, 1911.

am directed by the Local Government Board to advert to communication of the 25th ult. and previous corre- lence with reference to the salaries of the district medical rs in the parish of St. Leonard, Shoreditch, and to transmit ne information of yourself and the other officers concerned ccompanying copy of a letter which the Board have this ddressed to the guardians on the subject.

e Board regret that they do not consider that they can lly intervene further.

I am, Sir,
Your obedient servant,
J. S. DAVY,
Assistant Secretary.

trict Medical Officer.

am directed by the Local Government Board to advert to spondence with reference to the salaries of the district al officers in the parish of St. Leonard, Shoreditch, and to ss their regret that the guardians have not seen fit to alter decision on the subject.

Board are not satisfied that the medical officers are ately remunerated, and they direct me to state that the ians must accept full responsibility for employing medical s at the low rate of remuneration now paid.

Board request that particulars of the appointment of a al officer for the third district may be communicated to on one of the enclosed forms.

I am,
Your obedient servant,
J. S. DAVY,
Assistant Secretary.

k to the Guardians of the
Parish of St. Leonard, Shoreditch.

A NATIONAL MEDICAL SERVICE.

uoted from the *Westminster Gazette* some weeks ago, LEMENT, June 24th, p. 473), a note by its Lobby Cor- ident, in which it was stated, somewhat ironically, thought, that in the event of "the doctors going on it is not likely that the Government will be driven to by threats. In the last resort there is a possible ative, which is that the State should provide its own al officers. . . . The doctors so appointed would ll paid [by a fixed salary], and would devote their time to the service of insured patients, and it is just le that such a scheme would prove more economical." cheme, if so it can be called, seemed to bear no little blance to that of the Minority of the Royal Commis- n the Poor Law.

J. M. HOBSON (Croydon) thinks that such a method ling with the matter would be a better way than that d in the bill, even, we gather, with the amendments l by the British Medical Association. He writes:

e is one central fact in all this controversy over the nce Bill—to wit, that the idea of a National Medical has "arrived." I cannot help regretting that the views ward in its favour from time to time by medical thinkers did not influence the collective thought of our profession so as to create a policy in anticipation of the Chancellor's scheme.

For centuries we and the laity have been going on assuming that the physician was a commercial person, selling his skill to his patients. Little by little, as our knowledge has increased, and as *pari passu* the demands upon that knowledge by the commonwealth has increased likewise, we have come to realize that the old relations are intolerable. Who among us can deny that commercialism—the question of "how much"—is the bane of our profession? This question has, at the same time, produced an estimate of us by the laity which I can only describe as semi-contemptuous. It has thus been possible for a Chancellor of the Exchequer to base his plans upon a contract system, by which a few men have made a living, and by which many have supplemented their incomes, but which has proved unsatisfactory.

The "better way" for which I plead is, briefly, to create a new department of State for medical affairs, with a Cabinet Minister—preferably a medical statesman—at its head. I would bring under its purview and control all medical matters—education, hospitals, individual practice, research, hygiene in its widest scope; under "hospitals" I would include both small and great, sanatoriums, and the Poor Law infirmaries. Young men just qualified should be encouraged to stay on at the hospitals with small incipient salaries, instead of being turned adrift to seek a precarious living under existing conditions. As a young man showed special aptitude for any particular line he should be appointed to such, subject to further promotion. As to those already in practice, they should all come into the State service if they wished. To these, generally speaking, I would give a salary equal to their present net professional income and provide their working expenses. They would have the prospect of promotion and the option of transfer to other localities or different classes of work. There would be no "wage limit" under my scheme, for, as all would have to pay, all would be free to call in a "State doctor" if they wished.

It may be objected to my scheme that it would make the proposed department an earthly providence for practitioners and that it would do away with all incentives to good work by eliminating competition. To this I would reply that most of the conditions I suggest already obtain in the navy and army medical services. Commercial competition and undue compliance with the whims of patients would be eliminated, but the honourable competition by way of proficiency would remain and *esprit de corps* and *camaraderie* would be enhanced.

Neither would I do away with the very wholesome and necessary personal factor as between doctor and patient, for every person would be free to choose his own medical attendant. To the objection that I would make a constitution which could not "march," I would reply that this is no revolution but an experimental step in evolution. No medical man need join against his wish and no layman would be forced to avail himself of the benefit, though I believe that eventually it would become universal.

I believe that the standard and status of the medical profession would surely rise and that the commonwealth would be the gainer.

Mr. CHAS. WRAY, F.R.C.S.Eng. (Westminster) writes that at present the general impression is that if vital points are not conceded by the Chancellor the profession will refuse to have anything to do with the service inaugurated by the bill, and continues as follows:

In this event the authorities will proceed to enroll a number of whole-time medical officers. In a borough containing, say, 100,000 people, there will be no difficulty in getting eight or ten men whose practises are unsatisfactory, and who would gladly give their services for about £300 a year. These men, working as whole-time officers, could see a very large number of the insured at a central clinic, leaving domiciliary treatment to the other members of the profession. These men would affect more or less seriously the receipts of loyal practitioners, and obtain an introduction to the families of the insured. They would, doubtless, be free to resign their appointments after due notice, and in that case, with the slightest sagacity, they would have secured an exceeding good *clientèle*. These reasons suggest that we must work on other lines. It is exceedingly imprudent, from a strategic standpoint, to advance four or five objections to the bill, and it would be wise to compel the redoubtable Chancellor to deliver his attack on a given point, and that point well chosen. This wholesale contract-practice if inefficient would cause more deaths in a year than a big war, and more serious consequences than the ravage of a pestilence such as the plague, or the biggest typhoid scourge which has visited this island during the last century. Contract practice is bound to be inefficient, and with absolute unanimity the profession has affirmed this view. This being the case, we must repudiate this new departure, because the service instituted by the bill would be inefficient, and therefore dangerous; and not only so, we must insist on a proper service at the hands of Parliament, aided by a suitable number of representatives of the medical profession. This plan would be humane, and likely to produce a measure highly beneficial to the public interests. In the event of the Cabinet outgeneralling and outfighting us and refusing this most reasonable request, we might bring forward a resolution to call out, after due notice, all the honorary staffs and students in every institution in the kingdom. Of course, it would cause a sensation, but that is inseparable from warfare on

modern lines, and it must not be forgotten that that sensation would put in high relief our contention that it is our duty to oppose the bill because it is dangerous, and that we desire to found an efficient service conjointly with the Lords and Commons.

Professor BENJAMIN MOORE (Birkenhead) desires to express his strong dissent from the view that it would be better that medical benefits should be excluded from the bill altogether. The end result of such exclusion would, he considers, be to establish a low grade of sweated service under whole-time officials in the pay and under the ban of the friendly societies. He continues as follows:

Supposing all references to medical benefits were struck out of the bill so that it provided a compulsory scheme of insurance for sick payments only. Then the friendly societies would run this compulsory scheme, and alongside it would run, as at present, a voluntary medical attendance scheme, on the same miserable system as at present, with the doctor chosen and underpaid by the society, and with no choice of doctor by the patient. Into this voluntary part of their scheme they would constantly keep urging all insured persons on their books for sick pay only, and these persons would be open to weekly visits by their emissaries. Further, with the excuse of prevention of malingering, and to make certain that they were called upon to disburse sick pay to any ailing insured person, they could insist upon his being visited at the commencement, and at intervals during the course of the illness, by their own paid medical official to see whether the patient was yet fit to return to his work and come off the sick pay list. Under such conditions, in addition to certifying and supervising the patient's illness, they could offer treatment, of sorts, for practically nothing, and soon all of the millions insured by them would be under treatment by the friendly society doctors.

Dr. H. P. LUARD (Northallerton), in writing to express the opinion founded, in part, on the perusal of the reports published in our columns of meetings in various parts of the country, that one uniform system of rate or method of payment will clearly not meet the needs of different localities, adds:

Broadly considered (he says), the question of wage limit, the question of per capita or per attendance payments, and all the fundamental interests we have at issue are founded on finance, on a demand for proper payment for our services. Our real paymaster will inevitably be the local authority; our power of bargaining with the local authority depends solely on our local union in areas of uniformity or homogeneity of medical interest. A local deadlock, supposing a local medical union not to obtain satisfactory terms from its authority, would be a minor misfortune which would not seriously embarrass the State; indeed it would be an event in which it would be to the interest of the State to put pressure on the local authority to comply with medical demands, as the State even now does when inadequate salaries are paid to medical officers of health, etc.

Local deadlocks would simply mean force—a temporary re-establishment of perfectly free private practice during the term of such deadlock—and so would hold no terrors for us. All the interests of State and local authority, engaged, as they would be, on the side of conferring the legal medical benefit on these constituent members, would be on the side of making the deadlock as short as possible and of coming to our terms.

It will be no good for the local authority to say to us, "We cannot pay your demands; we have no funds," for we (the local medical union) will reply: "Then pay us for as much as your money covers, and for the rest of the required service go without"—an argument which will be irresistible whichever way it is taken, for it will unmask before every ratepayer and elector the true nature and extent of the financial liabilities of the State to our profession under this bill, which unmasking, however gradual it may be, and however horrified State financiers may be at its magnitude, will not be accomplished at our expense.

More than all, our liberty, both as individuals and as a locally and nationally united profession, will be completely retained in our own hands.

CHILDREN ASSISTING IN BUSINESS: RENTAL LIMIT.

Dr. A. H. HOFFMAN (M.O.H., Ellesmere) writes: Has the profession grasped the fact that all the children, male and female, who are over 16 years of age, of every farmer, tradesmen of every kind and description, hotel-keepers, etc., who are in any way assisting in the business, will be compelled to insure? And there are usually two or three in every house. It is no good thinking they will not avail themselves of the Act, when both the parent and the child are compelled to pay 3d. a week, and this carries free medical attendance and medicine. It is beyond human nature to expect them to pay the doctor as well, and if they do not take this advantage, they get nothing for their money, as the Act says that no sickness allowance is payable as long as the employer provides board and lodgings. This evil will also increa as the Act says once insured always insured, so, no mat what position the children may obtain, they are s insured, and in turn they will be compelled to insure th children; so in a few years no one belonging to any these classes will be outside the bill; also all bank cler assistant masters at schools, apprentices at engineering a motor works, etc., will also be compelled to insure. It true all the above, in common with the children of t farmers and tradesmen, are paid a salary or wages, b they are not living upon it, and in most cases it is mere pocket money. They are in reality learning the vario trades and professions with the view of earning the living by them, and in the majority of cases are the so of well-to-do people, who have always paid for any medic attendance they may require; and the strong point is the people have never asked for this insurance and no cau has been shown that they require it, and the serious a important point is that these people form the largest a best-paying part of every general practice. What t profession must insist upon is that the class and positi of the persons entitled to be insured must be clearly a beyond question defined, so that only the bona fide worki or labouring man (in the strict and usual acceptance of t word) of every class, trade, or description who is worki for weekly wages and living in a house, cottage, lodgings of a certain rental shall be included. If th were done, the profession could safely accept even the £1 limit, because no wage limit—not even 30s.—can preve what I have said taking place. If this is not done at lea three-quarters of all private patients will be compelled insure.

CONTRACT PRACTICE.

Dr. EDGAR G. BARNES (Eye) writes: It appears to n that "G.P.'s" criticism of Dr. James Ross is founded upon gross fallacy in so far that he assumes the number of si persons in a community to be 10 per cent. per annum. Exper ence shows that club patients are attended not only f fourteen days' disablement per annum, but for min ailments not causing disablement to such an extent th 60 per cent., instead of 10 per cent., is more near correct.

In the practice in which I am a partner we have 59 club members, and receive from them at the rate of 5s. f adults and 3s. and 4s. for juveniles—£136 18s. per annum In 1910, which was not by any means a year of excessiv sickness, we actually attended 353 of these—that is, a nearly as possible 60 per cent.; we therefore received a club pay 7s. 9d. for each patient actually attended. In th same year we attended 202 other patients of the poore classes, who will indubitably come at once under th National Insurance scheme, and received from the £163 1s., an average of 16s. 1½d. for each patient. Furthe comment is unnecessary.

Dr. A. W. HARRISON (Merton, S.W.) writes: In th SUPPLEMENT of July 8th, in criticizing some calculation by Dr. Ross, "G. P." uses some figures which are so fa from accurate that it seems necessary to call attention t the error. Dr. Ross says that for attending 100 sour patients last year he received £150, but that under th bill he would only receive £20. "G. P." says he woul receive £300, on the ground that 100 patients in one yea means 1,000 insured persons, "assuming it to be a fact, a I believe statistics show, that the number of sick perso in a community is, roughly, 10 per cent. per annum." As matter of fact, statistics show nothing of the sort. Durin my experience as surgeon to the Post Office I found tha the number of cases annually was from 60 to 100 per cen of the employees, and I have known it 120—that is, th employees have averaged more than one illness each in on year. The same thing is shown in the Postmaste General's returns.

Again, "G. P." says that "I believe statistics show tha the average number of days of sickness of those claimin sick pay in the friendly societies is about 14 in eac year"; and if only 10 per cent. are ill, that would averag 1.4 days of sickness each for the whole of the members of th club, whereas the Chancellor says that in Germany *eac* insured person has 8½ days' sickness in the year. "G. P.'s calculation that in a practice catering for 4,000 clu patients there would only be eight visits a day, demo

strates how absolutely fallacious his premisses are. Dr. Ross's statement that his income would be considerably reduced under the bill is obviously much nearer the truth than "G. P.'s" calculation that it would be doubled.

Dr. HENRY SHARMAN (Hampstead, N.W.) writes to express the opinion that "G.P.'s" criticism of Dr. Ross's letter (SUPPLEMENT, July 8th, p. 58) all depends on the figures of "10 per cent. sick per annum."

Now where does this figure of 10 per cent. come from, and what precisely does it mean? If it means that out of 100 persons only ten trouble the doctor during the course of a whole year, it means that the average member of the community only has an illness or disability requiring medical attention once every ten years. I cannot think that this is right. If on the other hand it means that taking the whole year round on an average 90 per cent. of people are well and 10 per cent. are under treatment *at any given moment*, this is obviously an entirely different matter, and absolutely vitiates "G.P.'s" argument.

I ask about this because I have seen it stated that one friendly society claimed only 2½ per cent. of sick per annum on an average. If we took this in "G.P.'s" sense it would mean that the average member of a friendly society only came under the doctor's care once every forty years!

I venture to suggest that the more probable explanation is the second, namely, that a doctor with a thousand patients on his books will have on an average 25 at a time on his visiting list, not necessarily being seen every day, but under treatment.

If we take the percentage in this second sense, probably the 2½ would be about right and "G.P.'s" 10 too high. If in the former sense, both of them appear to be ridiculously too low. It is impossible to argue about percentages and figures unless one has a clear definition of their exact meaning in one's mind. "G.P.'s" suggestion about getting figures from those doing contract practice is an excellent one.

Dr. WILLIAM B. BENNETT (Aigburth, Liverpool) writes: In the debate on the second reading, Sir Thomas Whittaker fell into the common error of estimating the doctor's work by calculating the average number of weeks of sickness per year per person; he found the average to be one and a half weeks, and therefore at 6s. a year the payment for doctor and medicine to be 4s. a week. He is evidently not aware that all available statistics include only those cases of sickness where the member "goes on the club" and claims sick pay. A member of a friendly society frequently consults his doctor, and obtains advice, medicine, dressings, etc., for some complaint which does not necessitate leaving his work, bnt the officials are not notified in such cases, and no record is kept.

I am medical officer to two friendly societies, and am convinced that not more than one-half my attendance is known to the officials, so that calculations on such a basis are worthless.

Dr. STUART NORRIS (Birmingham) writes to protest against the view that the medical profession is morally bound to help on the bill because it will help the working classes, the real truth being in his view that it will exact money from the poor to keep a costly army of officials. The bill, he adds, even with the £2 a week limit (which unfortunately lets in all the reckless youth of the country), means contract practice spread over half the people of the kingdom, and it also means that the doctors' position will be no better than the school board teachers'. Contract practice has always been held, both by the public and the profession, to produce bad work and degrade the profession; then why make it universal? We are just as strong as the nation, and each cannot do without the other.

The two general practitioners, whose article, entitled "Some Facts and Figures Concerning Contract Practice," was published in the SUPPLEMENT of May 27th, inform us that their books have been examined by Mr. J. F. Sowerby, chartered accountant, of the firm of Moore, Partridge, and Co., 2, Gresham Buildings, E.C., who has sent them the following summarized report:

Gentlemen,—According to your instructions, I have examined your books with a view to verifying the accuracy of the figures published in your article of May 27th.

I have much pleasure in reporting that in no case does the error exceed 1 per cent., save that the average fee over the whole practice for private patients should be 3s. 0½d., not 3s. 5d.

Yours faithfully,
J. F. SOWERBY.

Dr. C. ADOLPHE K. RENSHAW (Sale) writes, with reference to the letters from "G. P." and Dr. Jacobs (SUPPLEMENT, July 8th, pp. 58–9), to express the opinion that some misunderstanding has occurred with regard to the agreement as to the "free choice of doctors." Those who hold large club appointments did not, he says, "understand that such a pledge was to be in any sense of the term retrospective. . . . Contract practice has drawbacks; it also has great advantages. The gain in knowing that payment is certain and punctual, the absence of the worry of bookkeeping and rendering accounts, the knowledge that if you deal squarely with the working man he will deal the same with you, outweigh any disadvantage in the system. Finally, for twelve years I have held a large club appointment, and during that time I cannot recollect being sent for unnecessarily, while night work has been practically non-existent. I have no wish in my turn to exaggerate, but certainly my contract work is far from being the least pleasant that I perform as a general practitioner."

*** The pledge asked by the British Medical Association as to free choice of doctor does not involve an undertaking to resign club appointments now held. Although the profession may eventually approach the holders of club appointments with this intention, the undertaking at present sought does not include this. Should the bill be passed as it stands, the friendly societies which do not become "approved societies" will be in competition with a State-subventioned scheme; if the bill is amended as the British Medical Association desires, medical benefits will cease to be administered by friendly societies. In either case, medical men will have to enter into new agreements, the terms of which must be influenced by the terms of the bill as passed. With free choice of doctor, the medical officer of an existing club would be in a favourable position to retain his present club patients under the new conditions.

A SCHEME OF PAYMENTS.

Dr. P. W. MASON (Swindon) writes: As it is improbable that Mr. Lloyd George will give way regarding the income limit of £2 a week for those entitled to "medical benefit," the difficulty could be overcome by adopting the usual practice that the payment by a patient for medical attendance should be in proportion to his income.

It is already proposed by Mr. Lloyd George that when the wages of an "employed contributor" are not more than 1s. 6d., 2s., or 2s. 6d. a day, his contributions should be 1d., 2d., or 3d. a week respectively (the amount being made up to 7d. by the employer). Under the German scheme the same principle applies to all the contributors, and if a man earns 6s. a week he pays 2½d., while a man earning 30s. a week pays 10½d. a week. It would therefore not be unreasonable to ask an "employed contributor" earning, say, £3 a week, to pay 6d. a week instead of the 4d. proposed in the bill, the additional 2d. being applied to increasing the amount paid to the doctor, in accordance with the following table:

Weekly Wages in Shillings.	Annual Amount in Shillings Paid to Doctor.	Contributions in Pence Paid by Worker *per* Week.	
1–9	4	1	Contributions already proposed in the bill.
10–12	4/6	2	
13–15	5	3	
16–25	6	4	
26–30	7	4½	
31–40	8	5	
41–50	10	5½	
51–60	12	6	

Necessary alterations could be made to this table to suit the requirements of any particular district.

METHOD OF REMUNERATION.

Contribution towards Private Fees.

Mr. HENRY BROWN, M.B. (Sheffield), writes: Speaking on the second reading of the bill, Mr. Ramsay Macdonald, Chairman of the Independent Labour Party, proposed that any insured person, by paying some extra charge, should be free to make his own arrangements for medical attendance (see SUPPLEMENT to the BRITISH MEDICAL JOURNAL, June 3rd, p. 376). That this would be to many a welcome concession is shown by the fact that many club members under the present system engage and pay

their own doctor, foregoing the medical benefits of their society, whilst still receiving their sick pay. If it be urged that this might encourage malingering, this could be guarded against by providing for an occasional visit by a doctor appointed under the Health Committee. Mr. Macdonald's suggestion seems to me highly practical and feasible, and the desirability of its further discussion is my reason for asking a little of your space.

Additional Benefits: Attendance on Wives and Children.

Dr. John Mason (Windermere).—We do not think that the Chancellor of the Exchequer left the matter of the intention to make medical attendance on persons dependent upon the labour of an insured person in any uncertainty, either in his speech on the first reading or in the memorandum on the bill (see British Medical Journal, May 13th, pp. 1120, 1144). He stated that the actuarial calculations provided a margin of, approximately, 10 per cent., and that well-managed societies would, almost from the outset, be able to make a substantial addition to the standard schedule of benefits. The first of these additional benefits, he stated, would be free medical attendance for dependents, free medical treatment not merely for the working man himself, but for his family. There was no suggestion to limit such attendance to periods during which the insured himself is incapacitated.

A Capitation Rate—for Horses.

Mr. J. McDougall (McDougall Brothers, Port Street, Manchester) thinks that the following facts as to capitation rates paid for veterinary attendance on horses may be of interest in the consideration of the Insurance Bill:

It is a very usual practice in the industrial districts of the North of England, for firms who keep a number of horses to have them attended to by the veterinary surgeon, under contract, paying for the service a capitation fee per horse per annum, for which all veterinary attendance and medicine that may be required is provided.

For many years we paid £1 1s. per horse per annum, although at the present time we are only paying 17s. 6d., but I believe £1 1s. to £1 5s. per horse per annum is a very usual arrangement. It does, therefore, seem rather strange that the medical profession should be expected to attend working men for one-third the amount that is paid for attendance upon a horse.

MEETINGS TO BE HELD.

St. Pancras and Islington.

A meeting of all practitioners in the St. Pancras and Islington boroughs has been summoned by the St. Pancras and Islington Division of the British Medical Association on Wednesday, July 19th, at 9.15 p.m., at the Midland Grand Hotel, N.W., to consider the special report of the Central Council in respect of the National Insurance Bill, and to instruct the Representative at Representative Meetings thereon.

ATTITUDE OF FRIENDLY SOCIETIES.

At a special meeting of the directors of the Manchester Unity of Oddfellows, held in London on July 7th, the committee appointed by the conference held at Brighton in Whit week (Supplement, June 10th, p. 420) reported that it had drafted a large number of amendments to the National Insurance Bill, and had got most of them placed upon the order paper of the House of Commons by various members of both parties.

The directors also passed the following resolutions for the information of Members of Parliament:

That in the opinion of the board of directors of the Manchester Unity it is vital to the interests of friendly societies that the resolution of the Brighton Annual Movable Conference with regard to having the control of arrangements with medical officers should be absolutely insisted upon, and every effort should be used to maintain this position.

It is essential to the future existence of voluntary friendly societies that they should receive the contributions and have the management and investment of all funds for which they will be required to pay benefits for members, including those who will become insured persons under the National Insurance Bill, as decided by the Brighton Annual Movable Conference.

NATIONAL INSURANCE AND THE POOR LAW MEDICAL SERVICE.

At the annual meeting of the Poor Law Medical Officers' Association on July 6th, Dr. Major Greenwood, Sen., speaking on the subject of the National Insurance Bill, said that though it directly affected only Poor Law medical officers in Ireland it must indirectly affect those in Great Britain likewise, especially such of them as were only part-time officers engaged also in private practice. It did not ostensibly affect their work, since it did not interfere with the present administration of boards of guardians; but the intention of the bill was that everybody should be taken out of the Poor Law, at any rate, so far as outdoor relief was concerned, by universal and compulsory deductions from wages. Either as a new member of a friendly society, or as a voluntary contributor, every wage earner would henceforth have his medical attendance provided for him either by the "club" doctor, or by one of those appointed by the new local Health Committees instituted by the bill. Thus the number of persons applying to the relieving officer for medical orders would rapidly diminish year by year, with the obvious result that the Poor Law medical officer would find his salary being cut down at every opportunity, and that at no point could he claim compensation for abolition of office. As long as the Poor Law Medical Service officer had private practice behind him he could afford to put up with inadequate payment for the Poor Law part of his work, but how could he continue to hold his Poor Law appointment at the present rate of payment when his private practice had been destroyed, as it would be by the operation of the National Insurance Act in its present guise? Those who were whole-time officers would not be so much affected by the bill, so it might be worth while for members of the Association to reconsider their previous objections to the Poor Law Medical Service becoming a whole-time service.

In any case it was clear that reform of the Poor Law would follow the introduction of national insurance; so it was of interest to surmise to which of the two reports of the late Poor Law Commission the path of reform would incline. Most likely it would be the Majority Report, because if under the provisions of a National Insurance Bill all paupers were compulsorily insured (the premiums being paid by the Poor Law authorities), the pith of the recommendations in the Majority Report would be met, so far as medical attendance was concerned. This fact supplied a further reason for again considering the objections on which their previous opposition to the Minority Report had been based. These were that the unified county service which the Minority Report proposed to establish would inflict a serious injury on private practice; but would any private practice of a kind capable of being injured by a unified county service be left if Mr. Lloyd George's bill became law?

If, therefore, it were agreed that in present circumstances it seemed likely that the Poor Law Medical Service would be reshaped on the lines recommended in the Majority Report, and that it would become only an incident in a scheme of almost universal club practice, the Association would have to consider very seriously whether its policy should not be directed to the furtherance of the views expressed in the Minority Report. Such a crisis, however, would only arise if the National Insurance Bill in its present form actually became law, so for the moment it was merely necessary to point out that in that case the policy represented by the report of the Council now before the Association would obviously require modification. Under the scheme of the Minority Report the position and emoluments of existing Poor Law medical officers would be secured to them for life, and they would do their work under the direction of the chief medical officer of the public health committee of the locality. Those who found themselves injuriously affected by the change would be entitled to full compensation as for abolition of office. If they were part-time officers, their interest as private practitioners would be less unfavourably affected under the Minority Report than under Mr. Lloyd George's bill; for though under the scheme of the Minority Report the public doctor would treat all persons who came to him, drastic charges would be made by the registrar of public assistance to all those who,

having applied to the public doctor, were deemed not entitled to medical attendance at the public expense. The income limit suggested was the same as that for industrial school charges—namely, an income of 3s. a week for each adult in the family, *plus* rent. Under such a scale, practically only families whose aggregate income was less than £1 a week would be lost to private practitioners.

Meantime, it was the duty of Poor Law medical officers throughout the country to unite with colleagues who were not doing Poor Law work in opposing the National Insurance Bill in every possible way, the points on which they should particularly insist being a reasonable income limit in the case of those compulsorily insured, no general voluntary insurance in any circumstances, and freedom from control of the friendly societies. These points ensured, some compromise might be possible, and a true National Insurance Bill for the poorer classes of the community be promoted. Its objects should be confined to the encouragement of thrift, and the State should not be permitted to foist the care of the destitute on medical men for the same payments that these might be willing to accept from poor but non-destitute persons, who were making an honest attempt to pay for their medical attendance themselves, assisted by a small grant from the State.

In conclusion, the speaker pointed out that the claim sometimes made that the medical profession has no right to reject legislation approved by a majority of the representatives of the nation in the House of Commons was both a truism and an absurdity. The class rights of medical men gave them no right to oppose national legislation, but at least they possessed the right common to all classes of the community—that of individual liberty. The Government could enact any bill it pleased, but there was nothing to prevent each and every medical man refusing the terms offered in such enactment, and if medical men remained united, even in moderate degree, no such enactment could be made to work. It was the plain duty of every practitioner, both for the sake of the public and of his profession, to act in strict unison with his brethren and endeavour to prevent the great ruin that was threatening them. Little by little the independence of the medical profession had been whittled away, and the time had come when they must act if independence was worth retaining.

In the discussion which followed Dr. LARKING (Buckingham) disagreed with the idea of making Poor Law medical work a whole-time service; Dr. Greenwood's views in regard to the future seemed to him too pessimistic. Improvements in the arrangements as to Poor Law medical work would no doubt be made, but would follow the present line. In regard to the National Insurance Bill the speaker agreed that they should strictly adhere to the policy of the British Medical Association, though he considered the agitation in respect of free choice of a doctor somewhat of a craze. Dr. HOLDER (Hull) expressed the same disagreement with Dr. Greenwood's view of matters. If the speaker were paid capitation fees for his paupers at the rate proposed by the National Insurance Bill, he would receive about £500 a year. Mr. GEORGE JACKSON (Plymouth) thought a free choice of doctors would not injure the present club doctors if they had done their work properly in the past. Surgeon-General EVATT considered that the National Insurance Bill should not be regarded as being put forwarded by Mr. Lloyd George, but as by a rising democracy. He did not think that it would injure medical men. Dr. MAJOR GREENWOOD, in his reply, pointed out that the views expressed in the Minority Report did not necessarily imply whole-time appointments, but they did imply that Poor Law medical work and sanitary work must be brought under the same authority.

Subsequently Dr. LYSTER (M.O.H. Hants), in a paper entitled, The Poor Law Medical Service and the Public Health, expressed his anticipation that the passage of the National Insurance Bill would result in shrinkage of the amount of work to be done by Poor Law medical officers; and after advising them to aim in consequence at becoming an integral part of the public health service, he described in some detail the position which he expected they would occupy therein and its advantages.

An account of the discussion which followed the reading of this paper and of other proceedings at the meeting will be found on page 142 of this issue.

LONDON COUNTY COUNCIL.

Report of Education Committee.

On July 11th the London County Council adjourned to a special meeting on July 17th the consideration of the reports of various committees upon the probable effects of the National Insurance Bill upon local public health administration, The reports were summarized in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL, July 8th, p. 59.

The Education Committee has since reported as to the bearing of the measure upon the education service. The report points out that, apart from the work done by the voluntary health societies in various parts of London, the borough councils as the local sanitary authorities, and the County Council also, disseminated a large amount of information with regard to public health. It was the Council's duty, under the Elementary Education Acts, to provide instruction in hygiene, the laws of health and cognate subjects, and the committee considered that the powers and duties of the local Health Committee in this respect should not apply to London, but that its function should be purely advisory. The Education Committee also raised the point, in regard to the question of juvenile employment, that if employers, as appeared to be the case, were required to contribute less towards the insurance fund in the case of a juvenile a premium would be placed on the employment of juvenile labour, and on the dismissal of such workers at the age of 18. On this point the bill required further elucidation. The report also dealt with the effect of the bill upon the medical treatment of school children. If the provisions as to insurance were to be interpreted as relating to children employed while still in attendance at school, the effect would be that a considerable number of children over 12 years of age would be entitled to free medical treatment under the insurance scheme, and that, if any of these children in the course of medical inspection were found to require treatment, they would be referred by the Council to the friendly societies or the local Health Committee. There would be no need for the Council to make any arrangements for the treatment of these children; treatment would be provided presumably by a medical attendant under contract, or by the hospitals direct. In dealing with the position of hospitals under the bill, the committee remarked that important new proposals were made with regard to sanatoriums, and these were not necessarily institutions for the treatment of tuberculosis only. It must be anticipated that, in course of time, the provisions of the bill would be extended to institutions dealing with other diseases, and that the tendency would be for hospitals as well as special sanatoriums to be included in the scheme.

It was provided that State aid at the rate of 1d. a head a year for each person insured was to be given to "sanatoriums or other similar institutions," and that the Insurance Commissioners might retain the whole or part of the sums so payable for the purposes of research. The committee pointed out that there was nothing in the bill to prevent the Insurance Commissioners utilizing the services of the Council and the Council's laboratories for the conduct of any research bearing upon public health, and it was highly desirable that this should be effected.

From a consideration of Clauses 13 and 17 of the bill it appeared that sanatoriums and hospitals provided by voluntary agencies might receive in due course assistance from the State, the local authority, the local Health Committee, or the friendly societies, and that municipal sanatoriums and hospitals might be established by the local authorities. The bill would thus have an important direct bearing upon the provision and maintenance of hospitals. The indirect effect, perhaps, would be even more important. The fact that the bulk of the working-class population would be entitled to free medical treatment would bring about a marked diminution in the number of out-patients, and it would seem likely that the whole of the existing system of hospital treatment would undergo important modification.

If the bill tended to improve home conditions, it would indirectly promote the cause of education. At first the effect upon the general mass of casual labour would be slight, but if in course of time the provision made by the bill for tiding over times of sickness and unemployment tended to diminish the amount of casual labour and the number of the unemployed, this would be followed, no

doubt, by a corresponding reduction in the number of necessitous children, and would enable parents to bring up their children under better conditions as regards housing, clothing, and general environment. In that case the purely remedial physical work upon which so much attention was now being concentrated in the case of school children would tend to diminish, while at the same time the physical and mental improvement in the children would enable them to benefit more from the education they received. If the bill secured a more regular income to the parents and lessened the demand for the employment of children, the standard of education was likely to be raised.

The Committee submitted recommendations embodying the suggestions made in the report, and these will be considered on July 17th.

NURSES AND THE BILL.

THE room of the Medical Society of London in Chandos Street was quite inconveniently crowded on Monday evening, July 10th, when members of the nursing profession met together to consider their position under the Government's Insurance Bill. Mrs. BEDFORD FENWICK occupied the chair, and a painstaking exposition of the measure was given by Mr. D. F. PENNANT, the honorary secretary of Queen Victoria's Jubilee Institute. The standpoint taken was that of the nurse as an insured individual, the separate question of the influence and representation of nurses on the Health Committees was not touched on.

Mr. PENNANT said that one of the most debatable provisions from the nurse's point of view was that which laid it down that a person under treatment in a hospital should receive no sickness benefit. Would hospital nurses be content for a benefit of 7s. 6d. a week to leave the institution during illness and to forego the splendid medical and nursing attention which it afforded them? Provisions with regard to maternity did not greatly affect the nurse because, as a rule, she ceased to be a nurse upon marriage. The Government, he thought, should have given women a much longer notice of their intentions, for the bill was based upon the assumption that everybody would be a member of a friendly society, and while friendly societies for men were highly organized bodies, friendly societies for women were in a much less flourishing condition. Women should have been given time to build up such societies for themselves. Few nurses were members of anything which could be called a friendly society, and in order to obtain an appreciable benefit under the bill it was necessary to belong not merely to any friendly organization, but to a large and well-managed society. The greater size of the society meant its better solvency, because expenses of management were proportionately less, and because it was less likely to be overturned by a sudden epidemic of illness in a particular district. After pointing out the rather illusory benefits to the insured person who did not belong to a society, he ventured the opinion that the profession had excellent material ready to their hand in the National Pension Fund for Nurses. By founding a society in connexion with that body for the purposes of the bill they would have at their command a certain amount of gratuitous and business-like assistance. He protested, finally, against the view that, the whole business being very troublesome, one was best out of it altogether. Even assuming that the final bill was not in all points satisfactory, it was always possible that provisions might be altered, and in any case it was well to stand in with a national system rather than to remain outside it.

Miss GORE-BOOTH, speaking from her experience as secretary of a large industrial society for working-women, said that the bill operated hardly against the sex. Insured women earning under 15s. a week were entitled to 7s. 6d. benefit, whereas insured men earning the same amount and paying exactly the same contribution were entitled to 10s. a week. Again, there was no unemployment benefit for women. Such benefit pertained to certain favoured trades for men, but working women, including nurses, not only received no benefit when out of work but had to pay their employer's contribution as well as their own. It was like "Alice in Wonderland"—when you lose your income you pay double.

Mrs. BEDFORD FENWICK said that trained nurses at present were better provided for during sickness and invalidity than any other class of women. All hospitals worth the name had medical officers of first-class ability to attend their sick nurses. Nurses in hospitals had the most expert opinion, the finest diagnosis, the highest surgical skill in the world. Could they purchase that for 7s. 6d. a week? Nurses had not realized this splendid asset. She went on to protest against the assumption that when a nurse married she ceased to be a nurse. Did the medical man lose his professional status when he took a wife? The professional midwife did not cease to be a midwife when she married. But in the eyes of the law nurses did not exist. With regard to the constitution of a friendly society among nurses, she insisted that such a body should be largely self-governed and should not be managed gratuitously.

Dr. KINGSFORD pointed out the serious consequence to the voluntary hospitals, and incidentally to the nurses, of the insurance levy which would be made upon those institutions as employers of nurses and servants, and also of the withdrawal of donations from employers of labour, who would now have to make large insurance contributions. Many voluntary hospitals would either close their doors or become State institutions, and it seemed probable that there would be much less hospital nursing than at present.

After a number of questions had been asked and answered, the feeling of the meeting was informally tested. Not a single hand was held up in favour of the bill as it stood. A proposal that nurses should support one of the parliamentary amendments deleting the clause which denied them the 7s. 6d. a week if they were provided with board and lodging by their employers was unanimously accepted, and Mrs. Fenwick's suggestion that the hospitals should have the 7s. 6d. met with hearty approval. Finally, those present registered their unanimous opinion that any society of nurses which was formed should be central and largely self-governed. A small subcommittee volunteered under Mrs. Bedford Fenwick to meet at once and as often as might be necessary "to keep an eye upon the bill."

THE PHARMACEUTICAL SOCIETY.

ONE of the largest rooms of the Holborn Restaurant was filled to overflowing on July 6th, when the members of the Pharmaceutical Society of Great Britain met to consider resolutions on the National Insurance Bill drawn up by a representative conference on July 1st. Mr. C. B. ALLEN (President) occupied the chair, and several members of Parliament were present.

A resolution was passed approving the proposals for the modification of the Insurance Bill already submitted to the Chancellor. These were as follows:

1. That no agreement for the supply of medicines for insured persons should be made except with a person, firm, or corporate body entitled to carry on the statutory business of a pharmaceutical chemist, or a chemist and druggist, in conformity with the Poisons and Pharmacy Act, 1908.
2. That the dispensing contemplated under the bill should be done under the direct supervision of a pharmacist.
3. That a panel of all qualified pharmacists in a particular district willing to arrange for the supply of medicines to insured persons at the scale rate should be set up, so that the insured person could, within the limits of the panel, choose his own pharmacist.
4. That remuneration should be by a scale system and not upon a per capita basis.
5. That the control of medical and pharmaceutical services to insured persons be in the hands of the Health Committees (subject to regulations passed by the Commissioners) and not under the control of friendly societies.
6. That pharmacy should be represented on the Health Committees and on the Advisory Committee or the Insurance Commission.
7. That medical benefit should not be extended to persons earning more than, say, £160 per annum.

The various speakers urged that the bill should make use of existing means for the distribution of medicines and not open the door to the establishment of dispensing institutions opened by private persons to meet the additional demand created by the bill and competing with the private chemist. It was generally thought that the income limit should be £100 (though the point was not pressed), and several speakers claimed that chemists should be represented on all the bodies on which medical men are seeking representation. There must be free choice of pharmacist and payment must be by scale.

Mr. R. A. ROBINSON, a former Chairman of the London County Council, urged that it was manifestly absurd, and the promoters of the bill had apparently come to see it, for chemists to be asked, for 1s. 6d. a head, to undertake to provide whatever drugs or dressings might be ordered for the insured by a third person, the doctor. Remuneration must be in proportion to the services rendered, and there must be no undercutting of one chemist by another.

Mr. GLYN JONES, M.P., said it must be recognized that the bill took an immense step forward in separating dispensing from medical attendance. If the amendments the Pharmaceutical Society desired were passed, the position of pharmacists would be enormously enhanced. It was undesirable that chemists should seek representation on the Insurance Commissioners; it would serve their purpose better to be represented on the Advisory Committee and the local Health Committee and on the special committee proposed by medical men to advise the local Health Committee.

It was proposed later in the meeting by the Scottish representatives that the onus of making suitable arrangements for the dispensing of medicines be placed on the

Insurance Commissioners, but it was urged that this was a matter which must be affected to some extent by local circumstances, and should be dealt with locally.

The amendment was lost by a large majority, and the proceedings terminated.

WOMEN WORKERS.

THE following is given by the *Times* as the correct text of the proposed amendments recommended by the joint committee of representatives of the Women's Industrial Society, which has sat under the chairmanship of Mr. Lees Smith, M.P.:

1. That the contributions of women earning under 15s. a week should be lower by 1d. than the rates proposed in Schedule II, and that the employers should make up the difference.
2. That married women be allowed to enter the scheme as voluntary contributors.
3. That all maternity benefits be paid from the men's fund.
4. That the money thus set free from the women's fund should be used to give compulsorily insured women sickness benefit during confinement.
5. That married women who enter as voluntary contributors shall not be entitled to sickness benefit during confinement, if it is made clear that this will lead to an increase in the rate of women's contributions as a whole.
6. That a woman is entitled to maternity benefit from the men's fund in those cases where an affiliation order has been granted.
7. That the women shall have free choice of doctor (male or female) or of midwife.
8. That the State should contribute 2d. in respect of the wives of insured men and those women insured before marriage, whether they pay the contribution or not; and that this money should provide: (1) Sanatorium and institution treatment, together with an allowance while the wife is away from home; (2) medical benefit.
9. That Clause 8, Subsection 7 (*e*), should be omitted.

Schedule II, 10.—That the words "over the age of 21" be deleted.

11. That steps be taken to include women doctors on the panel of doctors.
12. Clause 43, Subsection 5.—Add, "and one duly certified midwife."
13. When a sufficient period is elapsed, to judge whether the cost of the right of re-entry of widows does, or does not, exceed the granting of surrender values on marriage, it shall be provided in the bill that the balance, if any, shall be used for additional benefits for women who have contributed.
14. That the inmates of rescue homes, penitentiaries, and reformatories not insured previous to admission, should be exempt. But that the managers of those various institutions should keep up the payments on behalf of all those persons insured at the period of admission.

IRELAND.

THE Irish Nationalist party on Wednesday evening issued a report, one of the provisions of which is that as regards the whole of Ireland medical benefit should be eliminated from the bill, the reason assigned being that there is already in Ireland a system of medical relief for the poor, paid for chiefly out of the rates. The party desires also a separate Irish insurance fund, with separate Commissioners, and that no persons working for their parents or other persons liable to maintain them should be compulsorily insurable.

Mass Meeting in Dublin.

Dr. SEYMOUR STRITCH (Dublin) writes to point out that in the report of the mass meeting of the medical profession held in Dublin on June 30th, and published in the SUPPLEMENT of July 8th, p. 52, the following resolution was omitted:

> That this mass meeting of the medical profession in Ireland, subject to our claims being granted by the Chancellor of the Exchequer, approve of the National Insurance Bill being applied to Ireland, and from our intimate acquaintance with and knowledge of the needs of the poor, trust that nothing will be permitted to exclude this country from the benefits it provides for.

At the time the report was prepared we were not aware of the fact that the resolution had been proposed by Dr. Stritch or of its terms. Dr. Stritch informs us that it was seconded by Mr. McArdle and carried unanimously after the Chairman had expressed a hope that it would be passed.

PROCEEDINGS IN PARLIAMENT.

COMMITTEE STAGE.

Clause 2.—Exemptions.

ON the second day of the Committee stage, Clause 2, which deals with exemptions, was considered, and Mr. James Hope moved an amendment to add in Subsection 1 after "proves" the words "that he is a member of a specially exempted society." This was intended to enable men to prefer the societies which give greater benefits than the Government scheme, and was moved in the interests of the United Friendly Societies Council of Sheffield. After a long discussion, in which individual claims to exemption on the part of agricultural labourers in Scotland was urged by Mr. Balfour and others, the amendment was withdrawn on the undertaking of the Chancellor of the Exchequer to consider the matter and try "to weave into" the bill a provision to meet the cases discussed.

Mr. Peto then moved to leave out the words "he is not as a rule employed for more than thirty-nine weeks in a year, and" as being unnecessary and confusing. Mr. Lloyd George said that he had no objection to the amendment, and after some discussion it was accepted. The clause as amended was then put, and after some debate was ordered to stand part of the bill.

The Financial Resolution.

The National Insurance Bill (Money Resolution) was then considered in Committee, as it was necessary to pass the resolution authorizing the necessary payments before Clause 3 could be considered.

> That for the purposes of any Act of the present session to provide for insurance against loss of health, and for the prevention and cure of sickness, and for insurance against unemployment, and for purposes incidental thereto, it is expedient:
>
> (1) To authorize the payment out of moneys provided by Parliament of—
>
> (*a*) Sums not exceeding two-ninths (or in the case of women one-quarter) of the cost of providing the benefits specified in Part I of such Act and of the administration of those benefits, together with—
>
> (i) As respects medical benefit, one-half of any excess expenditure on medical treatment and attendance (including the provision of medicines) for insured persons which may be sanctioned by the Treasury;
>
> (ii) As respects sanatorium benefit, including research work in connexion therewith, a sum not exceeding one penny a year for every insured person.
>
> (iii) As respects benefits for persons who have been in the naval or military service of the Crown such additional sums as may be provided by the said Act;
>
> (*b*) A contribution not exceeding one-third of the total contributions received from employers and workmen in any year towards the cost of unemployment benefit and other payments to be made out of the unemployment fund established under Part II of the said Act, and of a contribution by way of repayment to associations of persons of a part (in no case exceeding one-sixth) of the aggregate amount expended by such associations in payments to persons while unemployed; and
>
> (*c*) The salaries and remuneration of any commissioners, umpires, referees, and other officers and servants appointed in pursuance of such Act and other expenses incurred in the execution thereof;
>
> (2) To authorise the Treasury to make for the purposes of Part II of the said Act advances out of the Consolidated Fund, and to borrow money for such advances by the issue of Treasury bills or Exchequer bonds, the principal of and interest on such Exchequer bonds to be charged on and payable out of the Consolidated Fund.

Mr. Snowden, as one wishing to increase the money granted by the State, took the opportunity of raising the important question of making the bill non-contributory. He was opposed to the principle of contributions. He thought it was wrong policy to put the burden of dealing with a special problem on a section of the people. A contributory scheme was costly, cumbersome, and irritating; it was against the tendency of modern legislation to require a direct contribution for social services, for this had been found both expensive and ineffective. He argued that the whole of the burden ought to be cast on the State.

Mr. Lloyd George opposed. All classes, he said, would benefit. The employer would benefit by increased efficiency on the part of the employed. The man who benefited principally was the man whose health was improved—the man who was saved from sickness, the man whose

children were protected, whose house was cleansed of the scourge of tuberculosis. That was the man who primarily benefited himself and his household. If this scheme benefited employees and benefited the workman and his household, and the capitalist and his business, was not that a scheme that benefited the whole community and benefited the State? The charges were distributed in a way that would make them the slightest burden upon the whole community. £21,000,000 had to be raised for this purpose, and he submitted to the House that the way proposed was the most effective way and the way that would cause least interference with trade.

A long discussion followed, in which Mr. Wedgwood and Mr. Lansbury took part, the latter speaking against the Post Office contributors' scheme. A large number of other speakers followed, some of whom opposed the non-contributory scheme, but criticized the financial resolution on account of its terms preventing any attempts to amend the bill as to the variation of the benefits and the alteration of the proportions of the contributions.

Mr. Lloyd George said that there was nothing to prevent the Committee making its will manifest, by discussion as to the way in which it preferred money to be spent. There was nothing in this resolution which would prevent that being done. If it was the general opinion of the House that hon. members would like to take a certain proportion of the amount which was available out of one particular benefit and put it in another, he did not think it would be difficult. It would then be the duty of the Government to introduce an amending resolution to put the matter right.

In the course of the evening useful speeches in connexion with the institution of medical benefit were made. Sir Henry Craik said that the bill, instead of bringing the help of the State to what was the most important part of the scheme—namely, the preservation of health—had put the financial burden on the local rates. Previous experience had shown that the consequence would be severely to restrict the benevolent portion of the bill, for it held out to local authorities an object for economizing on this particular point. The Chairman having pointed out that an objection to the proportion only would be in order, Sir Henry Craik said that he objected to the restriction of the State subvention. He instanced what had happened with regard to medical inspection as showing what would happen with regard to insurance. Local authorities varied infinitely in their circumstances. In districts where the population was scattered medical relief could only be given at the cost of enormous expenditure of labour and a disproportionate expenditure of money. That was a public service, and should be borne by the State. Generous provision ought to be made for medical relief; it should not be restricted absolutely to the minimum necessities of the case. Half of the expenditure of the sanatoriums was not placed on the locality. Why was not this analogy followed with regard to medical benefits?

Dr. Addison asked for an assurance that the matter of medical relief would receive free discussion in the later stages of the bill. It was of the first importance in the interest of the insurer as well as the fund that the House should know whether the wives of insured persons would receive the benefits with a free hand hereafter. It was useless to undertake the campaign against tuberculosis if the resolution prevented the House from extending the benefits to the wives of insured persons.

Mr. Leslie Scott argued that paragraph (*a*) (i) of the resolution governed the subclauses of Clause 14 which provided that if the amount payable to a local Health Committee in respect to the administration of medical benefit was insufficient the Committee might make a call upon the Treasury and the County Council. Mr. Lloyd George said that both the County Council and the Exchequer were in a position to say that they would not give half unless better representation was obtained. Finally at 11.25 p.m. the resolution was carried by 220 to 9 and ordered to be reported on Friday, July 7th.

On that day, on the resolution that the House do agree with the Committee on the said resolution, Mr. Hayes Fisher criticized the scheme of the resolution and distribution of benefits and the incidence of the excess expenditure. Mr. Lloyd George defended the resolution, which was criticized at length by Mr. Cassel, Mr. Rowntree, Mr. Lees Smith (who dwelt on the extension of sanatorium benefits), and Sir Philip Magnus, who spoke of the difficult position of borough and county authorities as regards expenditure recommended by the Health Committees.

Dr. Hillier said it was extremely unfortunate that the financial resolution should have been taken at so early a stage of the bill. The second reading debate was closed after a very inadequate time had been given, and the effect was to exclude many members on both sides who had studied the subject carefully. The financial resolution would jeopardize if not actually destroy many of the important amendments on the paper. Whatever the intentions of the Chancellor of the Exchequer, what had already happened had made it clear that many amendments would be regarded by the Chairman of the Committee as in conflict with the financial resolution. Dr. Hillier added that he attached the greatest importance to the sanatorium benefit and to the mode of its administration. Clause 15, to which he had an amendment, practically left to the discretion of the local Health Committees the decision as to what cases of phthisis should go to the sanatorium. He had no hesitation in saying that the State must address itself to the treatment of advanced cases with even greater assiduity than to the early ones.

The Speaker said that he did not see how the question of money to be advanced by the State affected what the local committees were to consider suitable or unsuitable cases.

Dr. Hillier replied that while he was prepared to move that it should be obligatory to make provision for all insured cases of consumption in sanatoriums, it might be argued that that would involve further expenditure, and that therefore an amendment to that effect would be out of order.

After speeches by Mr. Leif Jones and Mr. Mount, the Financial Secretary to the Treasury answered many of the questions raised as to the extension of benefits. Other speakers followed.

Dr. Esmonde spoke at some length on the importance of extending sanatorium benefits if tuberculosis were to be effectively dealt with. He also said: "No provision has been made in this financial clause for the treatment of disease that may be brought on by a man himself. That is a great blot upon the bill. They will have free medical attention and medicine, but I do not see why it should not go a step further. Medical attendance and medicine are of very little use if a man has not food and good nourishment. I am not pleading whether a man is right or wrong in his indiscretion which may have possibly brought disease upon him. But it is a monstrous thing to suggest that, because a man has sinned and become unfortunate, it should become the duty of the State to handicap him and cut him out of the benefits of this Act. We know perfectly well if a man is suffering from disease brought on by his own misconduct he did not go out on purpose to contract it, and I say it is vital that the State should try and stamp out all such forms of disease. I hope the Chancellor of the Exchequer will see his way to allowing such people to take advantage of the 10s. a week, and if not, that at least some portion would be paid to a man if he is unable to work if he happens to be a married man, so that his children may have some help."

Mr. Austen Chamberlain followed, and after other criticisms said he thought the duration of sickness was likely to be increased under the scheme. "When every man is insured," he said, "men will be much more likely to claim sick pay and to stop from their work. I am not now talking of pure malingering or pure shirking. I am talking of men who are ill and who are not malingering, but whose illness is not necessarily such that they could not go to work. It may be better that they should not go to work. It is quite possible that their chance of a healthy life is better if they do not go to work, but, when you have a universal scheme of State insurance, I think many men of that class, quite apart from the increased danger of malingering, will claim sick pay who would not under present circumstances claim it, or will claim it for a longer period than they would do at the present time. Doctors will have an entirely novel authority under this bill, and I think that in many cases they will insist that a man shall take much longer sick leave than they have hitherto done. Take the case of a man who stays away from work because he is ill. The doctor tells him he thinks he is fit to go back, but if he does so he is likely to

become ill again within six months. A week at the seaside or in the open air, however, might prevent that. In days gone by, in a great number of cases, the patient would have replied, 'I cannot afford to do that; I have no resources.' In other cases the doctor would not make the recommendation, knowing that the circumstances of his patient rendered it impossible for him to act on the advice. But under this bill the man will be bound to obey the doctor's orders. He will not be allowed to go back to work until the doctor gives him leave, and I think you will find that, in many cases, in consequence of this, the expectations as to the length of sickness will be altogether falsified by the mere fact that the doctors will insist that a man shall stay away to make a complete recovery, instead of going back to work imperfectly cured. Nobody can possibly say what will be the effect of these forces upon the total estimate of the cost of administering the bill."

Mr. Lloyd George, after replying to the criticisms on the actuarial calculations and finances of the resolution, said that it was true that they were going to deal with different classes of lives; that was why he retained the Post Office depositors, the bad lives in the sense of lives already attacked by disease and therefore deprived of the opportunity of securing club benefits. "The moment you eliminate those who cannot pass the medical examination and put them into a separate class there is no reason why the lives should not be as good as those in friendly societies. Take the case of the agricultural labourer. There is a very large proportion—I am not sure it would not amount to 50 per cent.—who have not been insured at all; they are very good, healthy lives. The same thing applies to others engaged in a good many open-air pursuits, although they cannot possibly secure high wages. So there will be a very large percentage of very good lives, which will come in, and I doubt, from the purely physical point of view, whether the lives which will come in will be much worse, if at all, than those which are to be found within the four walls of some society or other." As to the questions about sanatoriums, he would like to consider before giving an answer. He continued: "I will agree with them to this extent, that if this experiment is a success and it becomes perfectly evident that it is effectively stamping out consumption, it will be a great mistake for the State not to face any liability within reason in order to effectively stamp out this scourge altogether. It would be thoroughly bad economy, because the loss inflicted upon the community by consumption is quite out of proportion to any contribution which we might be called upon to pay. I appeal to my hon. friends from this point of view. I am a believer in sanatoriums, as my hon. friends are, but it is an experiment. There are doctors in this country of great experience who are not quite so confident as to this being the best method of stamping out consumption. I think it is worth while making the experiment, and it is worth while making it well. I think we have done that. We have set aside £1,500,000 in order to build not necessarily expensive buildings, and I hope we shall not spend it upon expensive buildings, but you must have some sort of structure. It is all very well to say home treatment may be the best, but there are some poor consumptives who have no homes of any sort. Someone suggested that the danger was that this provision will be for the better class. As a matter of fact, it is for the wretched people who have no homes where they can be cured that these sanatoriums will be most useful. I agree that for a man who has a cottage in the country or a decent house in town it may be much cheaper and much more effective, at least it will cover a wider area and produce greater results, if you attempt to cure them in their homes in the majority of cases, but there are many cases in which the only possible way you can cure them is to send them to these sanatoriums. I invite the House to try the experiment on this very considerable scale—£1,500,000 towards building and £1,000,000 a year towards maintaining them." The position of the doctors was engaging the attention of the Government. There was no difficulty in connexion with it raised by the Government. It was rather a difficulty in regard to the doctors themselves. He had told the House of Commons that what was wanted was general criticism of the whole bill without going into matters of detail on the Report stage of the financial resolution. There would be other opportunities for dealing with the different points. As regards the treatment of tuberculosis, he said that the treatment to be provided for persons suffering from tuberculosis did not mean compulsory treatment in sanatoriums. That was where the criticism was wrong. "We are," he said, "dependent for advice upon the Health Committees, who will decide. It is wrong to assume that every man suffering from tuberculosis must necessarily go to a sanatorium. They will be sent to sanatoriums only if the Health Committees think it is better that they should go. An insured person has not the right to demand to be sent to a sanatorium against the advice of the doctor and the local Health Committee. I believe there will be accommodation for all those whom it is necessary to send to sanatoriums."

Some other speeches followed, and then the resolution was put and agreed to.

Clause 3.—Contributions by Insured Persons, Employers, and the Treasury.

Clause 3 was then considered. The discussion was mainly concerned with financial points, but after a short time the clause was passed, and the Committee reported progress.

Clause 4.—Rates and Rules for Contributions by Employed Contributors and their Employers.

On Monday, July 10th, after suspending the 11 o'clock rule, the Committee entered on the discussion of Clause 4.

Mr. Bathurst moved the first amendment to insert in subsection (1) words to except those employed in agricultural industries. He proposed, if this amendment were carried, to make it clear that it would exclude farm labourers, market gardeners, and all other persons employed on the land. The country labourer and his employer had a good claim to special treatment, as the wages were low and the profits small. Moreover, they were a specially healthy class.

The Chancellor of the Exchequer said, in his reply, that a vast majority of the rural friendly societies were insolvent, and if they were not assisted the members would suffer. It should also be noted that the greater the health of a class and the longer the average life of those who composed it, the greater the amount of sickness that had to be provided for in the end. For these reasons he could not consent to take off the 1d. which the amendment proposed. Were the amount of the contribution reduced it would not be possible to guarantee the same benefits as he proposed to give to the agricultural labourer. But he could do something to meet the wishes of the hon. member. In Scotland, Durham, Northumberland, and in other parts of the country there was a six months' contract system under which labourers were paid during temporary sickness. Acting upon this precedent, he was prepared to exclude temporary sickness altogether from benefit if farmers would undertake the liability existing under the system to which he had referred. The total contribution would then be reduced by 2d. Permanent sickness would be met out of the fund. The health of the agricultural labourer being comparatively good, the farmer might well undertake to pay wages for six weeks or so during illness. He should propose, therefore, that when a class of the community was granted special terms under which during sickness a payment was made equivalent to the benefit contemplated in the bill, there should be a special order of exemption from payment for temporary sickness. Thus the agricultural labourer would retain his 1d. and the farmer would retain his. An amendment dealing with the question would be moved at a later stage.

Mr. W. H. Forster, who acted as spokesman for the Front Opposition Bench, criticized this concession, and suggested that the whole question should be held over for further consideration.

In a further explanation the Chancellor said that if an employer, whether farmer, shipowner, or the master of a domestic servant, undertook to pay an equivalent to temporary sickness benefit, he would be exempted from the obligation imposed by the bill. The sum retained would be divided between the employer and the person employed. The question whether the contract between the parties justified the exemption ought, he held, to be decided by the Insurance Commissioners, subject to the decision of Parliament.

Mr. Long asked for more detailed information, and suggested that the contract between the farmer and the farm

servant should be submitted for consideration to some local body rather than to the central office in London.

The Chancellor of the Exchequer argued that, in the first instance, the local Health Committee should adjudicate on the sufficiency of the contract system in the locality for which it acted. Then, if a substantial number of persons in the district should be dissatisfied with the Health Committee's decision, there would be an appeal to the Commissioners. Answering further questions, Mr. Lloyd George stated that nurses, seamen, clerks, and other classes could be brought within the scope of the amendment which he should move.

From the Ministerial side of the House there came some unfavourable criticism of the Chancellor's proposal, and it was pointed out that were extensive contracting out permitted, the approved friendly societies might be placed in a position of extreme difficulty.

In the end the amendment was withdrawn.

Mr. Hunt then moved an amendment for a reduction in the contributions in the case of casual labourers. Mr. McKenna opposed the amendment and Mr. Lansbury supported it, but it was rejected by 297 to 93. Mr. G. Locker Lampson then moved that young persons under 16 should not be compelled to contribute, as they were only to have medical and sanatorium benefits and not to have proper sick and disablement benefit. A somewhat animated debate arose on this amendment. Mr. Lloyd George suggested that it could be more conveniently discussed on Clause 8, but the discussion was continued till after midnight. The amendment was finally rejected by 216 to 131. Progress was then reported.

On Tuesday the discussion of Clause 4 was resumed, and first there was a short discussion on the proposal to exempt from contribution persons earning a minimum wage, the chief object being to relieve from payment women in sweated industries. The Chancellor of the Exchequer, in opposing the demand, advanced the argument that the scheme would cease to be a contributory scheme if the earners of *minimum* wages were relieved of all burden, and he reminded members that under the graduated scale of payments these people would not pay more than 2d. or 1d. a week, for which they would obtain a right to all benefits conferred by the bill. It should be borne in mind, however, that the margin of profit to employers was often very small. Their burden, therefore, could not well be increased. The amendment was rejected by 259 votes against 28.

Mr. Worthington Evans brought up an amendment to the fifth subsection of the clause, to the effect that the money coming from the employer of persons of 65 should be used to secure medical benefit for the employed, to whom any balance should be paid when he reached 70 years. Mr. Lloyd George agreed to consider the matter, and promised to bring up an amendment on the Report Stage. The amendment was withdrawn and the clause agreed to.

Clause 5.—Rates and Rules for Contributions by Voluntary Contributors.

The fifth clause led to the discussion of an amendment of Mr. Sandys, which sought to lessen the contributions of Territorials. It was urged that the concession would help recruiting, and as it dealt with picked lives a smaller contribution might justly be charged.

The Attorney-General said if this question was to be raised, the case of the voluntary contributors in the force could not be considered alone. It would be necessary to extend the concession to employed contributors as well, and the exemption would then assume a serious aspect. There was a division, and the amendment was rejected by 252 votes against 141, and after some further conversation the clause was passed.

Clauses 6 and 7.—Change from Voluntary to Employed Rate: Payment of Contributions.

On Clauses 6 and 7, dealing with contributions, there was considerable debate, which lasted some three hours, and several amendments were promised to make the clauses clearer.

Clause 8.—Rates and Conditions of Benefits.

Clause 8 was reached about 9.30, and the House filled up to hear the discussion of the difficult question of the position of the medical profession. The debate was very animated and lasted till midnight, when progress was reported. On the motion of Dr. Addison a formal amendment was agreed to—one enabling provisions to be introduced later on to satisfy the reasonable requirements of the medical profession.

Mr. Joynson Hicks then moved to omit the subsection which includes among the benefits medical treatment and attendance and proper and sufficient medicines. He said that in common with all other members he was anxious to hear from the Chancellor of the Exchequer how far the negotiations with the medical profession had progressed, and his amendment was designed to extract information.

Mr. Lloyd George submitted that the arrangements with the doctors could be more conveniently discussed on on Clause 14, but he was pressed by members of the Opposition to make a statement as to the position of affairs, and Mr. H. W. Forster assured him that the progress of the bill would be facilitated if the cards were put upon the table. It would greatly assist the House to be told what had been done with regard to the professional payments.

The Chancellor of the Exchequer said that the negotiations with the doctors might be prejudiced were he to comply with the wishes of members opposite. The doctors were considering proposals which had been put before them, and he was full of hope that a satisfactory solution would be reached. A debate now would render it very difficult to proceed with the negotiations.

Sir R. Finlay insisted that before committing itself to the principle of medical benefit the House ought to know in general terms what response the Chancellor proposed to make to the doctors, and urged that the consideration of the subclause should be deferred. The successful working of the bill, so far as the medical benefits were concerned, must depend on the attitude of the medical profession towards the proposals finally adopted. He hoped the Chancellor of the Exchequer would not persist in refusing to state definitely what response he was going to make to the demands of the medical profession.

Dr. Addison thought that on this clause the result of negotiations that might be in progress as to the conditions under which the medical profession would work could not be satisfactorily discussed.

Sir Philip Magnus, while agreeing that though it might not be desirable to discuss the details while the negotiations had not arrived at any satisfactory stage, hoped that the consideration of the subsection would be postponed, since it implied that negotiations had been arranged and settled between the Chancellor of the Exchequer and the medical profession. The House ought not to vote for the expenditure of a vast sum of money for medical benefits before it was certain that the medical profession would support the scheme.

Mr. G. Roberts (Norwich, Lab.) said that without co-operation with the medical profession the whole scheme was doomed to failure. He was anxious that an equitable and just settlement should be obtained with the doctors. He thought the matter ought not to be pursued further.

In reply to questions, the Chairman said that a part of a clause could not be postponed, and that even if the words "as hereinafter provided" were inserted it would be difficult to deal with the matter under Clause 14 if the subclause were omitted.

Sir Henry Craik, who said that he had at least 5,000 doctors in his constituency, urged that if any restriction upon those who were to receive medical benefits was to be made, it must either be by restricting the range of benefits —that is to say, the number of those who came within any general scheme of medical attendance—or by increasing the payments made under Clause 14. He asked for an assurance that the point of restriction of the number of people who were to benefit would be in order if raised later.

The Chancellor repeated that discussion at that stage would be mischievous, and this, he said, appeared to be recognized by the members of the House who had a special claim to speak for the doctors. He mentioned that within the last two hours he had received a communication from the British Medical Association. The only outstanding question of difficulty was that of the income limits. Clause 14 defined the persons who were to receive medical benefits, and if exceptions were desired that was the proper place to introduce them.

Sir R. Finlay urged that Clause 8 defined who were the ersons to be insured for medical benefit, while Clause 14 ntered into the details of administration. He therefore hought that Clause 8 was the proper place for the efinition.

Mr. Lloyd George again appealed to the House to post-one the further discussion of the medical question.

Mr. Austen Chamberlain, while agreeing that nothing hould be done which might put difficulties in the way of n amicable settlement with the doctors, was strongly of pinion that the House should preserve its liberty of action ntil after the result of the pending negotiations had been ıade known.

Mr. Lloyd George said that the amendments drafted ere all in respect of Clause 14, and there was nothing to revent the representatives of the medical profession om raising the whole question on that clause. The oint was that the medical profession should not be bliged, unless the terms were satisfactory, to attend nder contract terms persons of an income of £2 per eek and upwards. While contending that Clause 14 as the proper place, he undertook, if it should prove at he was mistaken, to move the recommittal of lause 8.

Mr. Harvey Dixon thought it was a great piece of pre-mption for the House to decide what the medical pro-ssion were to do; the members of that profession were ot slaves to be ordered about by the House of Commons. he Chancellor of the Exchequer had said that there was ly one question outstanding between him and the edical profession; but could he say that the profession as not to be put under the guidance and management of iendly societies? That was a question of even greater nportance than the income limit.

Mr. Joynson Hicks expressed himself satisfied with the surance of the Chancellor of the Exchequer, and the nendment was by leave withdrawn.

Mr. McKenna, upon an amendment for the inclusion of ntal treatment among the benefits, stated that if it ıould appear, after the scheme was in working operation, at there were funds in the hands of the Commissioners ıd the approved societies which could be used for nferring additional benefits, dental treatment would be cluded among them.

Mr. Lansbury moved to add to Paragraph (*a*) Subclause 1, ause 8, words extending medical treatment and attend-ıce to the wife or child under 16 of any insured rson. He said that the wives and children could not be nitted from any great scheme of national insurance ainst ill-health. A very large proportion of the children tending elementary day-schools had something or other quiring medical treatment. An insurance scheme under ıich a mother and child were attended to for three or ur weeks and then left without any attendance was not national scheme. The education authorities now attended the health of school children in a very slipshod manner, d it would be better to bring the children into the bill. e contended that the wife was as much a wage-earner the husband, since she took charge of the home, and he ged that she should be included, so that at times of kness other than maternity she should get the medical tendance she needed.

The Chancellor of the Exchequer agreed that it was sirable to do what Mr. Lansbury asked; if there was y money left, that would be one of the additional benefits der the scheme, and he held that if the societies were perly managed there would be enough money.

After some further discussion, during the course of ıich Mr. W. Rutherford said that one of the blots on the l was that women were unfairly treated, the Committee ided, and the amendment was rejected by 167 to 62.

The Chancellor of the Exchequer accepted an amend-nt to add to the words providing that medicines should provided, the following: "and such medical and surgical pliances as may be prescribed by regulations to be made the Insurance Commissioners."

Progress was then reported, and the House adjourned at e minutes after midnight.

On Wednesday, which was the sixth day in Committee, e eighth clause was still under consideration, and Mr. sten Chamberlain opened the proceedings by moving e omission of paragraph (*b*) in Subsection 1, which deals h tuberculosis and sanatoriums. He questioned the wisdom of special provision being made for the treatment of tuberculosis, and he doubted whether the money to be spent for sanatorium treatment of consumption would realize the greatest advantage. The peculiar treatment of one disease was an excrescence on the general scheme of the bill. If such provision were made as regard tubercle, why not for cancer, an equally terrible scourge? He criticized the scheme of carrying out a health campaign against a particular disease at the expense of the insurance fund. It should be dealt with in a separate measure. Mr. Munro-Ferguson said it was not fair to compare consumption and cancer, and he defended the provisions of the bill as regards sanatoriums and the crusade against tuberculosis. Mr. Walter Long expressed a hope that the Chancellor of the Exchequer would not commit the House to the exclusive acceptance of the sanatorium treatment for consumption, as our knowledge was not sufficient. The final report of the Tuberculosis Commission made it clear that there was need for more investigation, and therefore to erect immediately a chain of sanatoriums throughout the kingdom was premature. There was, as far as he knew, no certain evidence that the sanatorium treatment was really curative. He could only find that some £60,000 would go to research. He thought more would be required, and he specially praised the methods pursued in Edinburgh and in Ireland.

Dr. Addison followed, and agreed that the most sanguine anticipations as to the results of sanatorium treatment had not been fulfilled, but enough had been proved to justify the scheme of the bill. He thought the comparison with cancer was somewhat unfortunate; they had no knowledge how to prevent cancer, but they knew a great deal about the prevention of tuberculosis. He certainly advised the Chancellor not to sanction any extravagant outlay on bricks and mortar. There were in all 2,000 beds available in the existing sanatoriums, and the number at the disposal of patients with small means was only 1,500, and yet there were in the country between 250,000 and 300,000 persons suffering from tuberculosis. He laid stress on the training which patients undergoing treatment received. They were taught to abstain from doing things which might lead to the infection of other persons, which was very important. A large percentage of patients could be cured, or their lives at any rate prolonged. When the system was extended under the bill the Health Committees ought to appoint visitors who would keep in touch with discharged patients.

Dr. Hillier, who followed, was of opinion that the Chancellor was proposing a costly palliative, not a real remedy. He had heard Professor Koch say that neither in Germany nor in any other country had the necessary measures been taken to secure persons against infection, which was the chief cause of the prevalence of consumption. A poor patient returned home to die and infected his family. This danger ought to be guarded against; if it was not, the Chancellor's scheme would fail as a preventive measure. He expressed an earnest hope that the subject would be dealt with in a comprehensive scientific way, and not in the piecemeal fashion proposed by the Government. More expert evidence ought to be collected before the House proceeded with the project.

Mr. Barnes saw in the Chancellor's proposal the germ of a free national medical service. A start was being made in the old British blundering fashion. He should vote for an extension of the scheme whenever the opportunity arose.

The Chancellor of the Exchequer, after paying a tribute to the character of the debate, and saying that it was perfectly right that the proposals of the bill should be examined very carefully, went on: The warning not to trust entirely to sanatoriums was very timely and necessary. Sanatoriums could not possibly cover all the cases of consumption. It would be a mistake, while concentrating the whole of their efforts on sanatoriums, to neglect the very large percentage of cases which could not possibly receive treatment under that system. It was true that there were fashions in cures, and undoubtedly for the moment sanatoriums were fashionable, but that did not mean that they were not very useful and valuable. There were a good many remedies which only after years of struggle secured the approval of the medical profession, but when they came, came to stay. The case of sanatoriums was a case of that kind. They had not been suggested in the last two or three years only; they were

suggested a good many years ago. The experiment had, in fact, been a long one, and the success which had attended it had at last convinced the doctors that there was a good deal to be said for it. He did not think, therefore, that sanatorium treatment was to be put in the category of merely fashionable cures. It had been tried by the most severe test—the test of experience extending over something like two generations. He agreed that it was not enough to show that the ravages of the disease were terrible, but that it was necessary he should show that this particular method of dealing with it deserved at least a trial. They had, fortunately, two or three very important facts on a large scale which enabled them to come to a conclusion as to whether sanatoriums were something more than a temporary craze, and whether they were justified in spending 1½ millions of capital and 1 million a year on maintenance for the purpose of trying in this way to arrest and cure consumption. They had, first, the experience of their own country. A valuable book called *The Conquest of Consumption*, by Arthur Latham and C. H. Garland, contained a good many figures showing what the result had been in the sanatoriums which they had in England. Unfortunately, there were two rival schools, and each thought it necessary, in order to establish the advantages of its own method, to decry the other. There was no rivalry like that of the advocates of special remedies for either body or soul. They were not content to insist that their own specifics were the best; they insisted that any remedy suggested by anybody else was poison. There was just a little of this spirit in the advocacy of the rival schools for the treatment of consumption. That was a mistake. The two methods were not substitutes for one another; they could be used to supplement each other. He hoped, therefore, the Committee would not consider them as antagonistic methods. For a man in one stage of the disease one method might be suitable; for a man in another stage another method. The report of the Hearts of Oak on their sanatorium said: "All the patients with early tuberculosis did well and left the sanatorium with the disease arrested, and fit to return to work. The success of the treatment almost entirely depends on the stage of the disease when the patient is admitted." In 58 cases treated by the society up to May, 1909, the results were tabulated thus: Disease arrested, 34.5 per cent.; improved, 57.0 per cent.; unimproved, 8 per cent. So the vast majority of those who entered the sanatorium were either cured altogether or left considerably improved as the result of the treatment. The Post Office Sanatorium Society treated 168 cases. The results were: Disease arrested, 48.8 per cent.; improved, 36.3 per cent.; unimproved, 14.2 per cent. Only 1 patient died out of the total number. That showed that experiments in this country had been a very considerable success. The member for Hoxton had pointed out that the provision so far had been on a small scale. They had only 2,000 beds, and 1,500 alone were available for the treatment of this particular disease. In Germany, however, there were about 10,000 beds for the exclusive use of consumptives belonging to the working classes. The experiments in Germany had been going on a considerable number of years. The statistics of the Imperial Insurance Office showed that every year the proportion of consumptive patients discharged from sanatoriums as able to return to work increased and the duration of their earning capacity was more prolonged. The figures were striking: 65 per cent. of the persons treated in 1897 were able to return to work; in 1909, 83 per cent. The proportion of persons treated who were able to work at the end of the first year was 62 per cent. in 1902; now it was 80 per cent. The proportion able to work at the end of the second year had increased from 44 per cent. to 68 per cent.; at the end of the third year, from 30 per cent. to 57 per cent.; at the end of the fourth year, from 30 per cent. to 52 per cent.; at the end of the fifth year, from 27 per cent. to 46 per cent. There had been an improvement year by year in the method and results of sanatorium treatment in Germany. Whilst in 1902 one person in four was still able to work five years after undergoing treatment, the proportion now was nearly 50 per cent. He thought that was sufficient to justify the Government in embarking on this experiment. Every inquiry he had made showed that, at any rate, the sanatorium treatment gave an increased chance to men who were fighting for their lives against this disease. If the treatment had no other effect strengthened them for the struggle. It removed th from the small homes and unfavourable atmosphere o town into particularly healthy places where they h good food and were protected from indiscretion regard to diet, ventilation, and other matters. T Medical Officer to the Local Government Board h made an analysis of the whole of the figures for consum tion in this country, and Dr. Newsholme was complet convinced that sanatorium treatment was very valuable, a that it had enabled a large proportion of patients to resu their ordinary life. With regard to what had been sa about not erecting expensive and extravagant buildings, was completely in accord with that. He was told that good deal of the money in Germany had been practica wasted, not upon bricks and mortar, but upon marble. wanted to make the money go as far as possible. San toriums were in the experimental stage at present, a therefore to erect magnificent and costly buildings wou be a great waste. The Government did not propose exclude other methods of treatment. There were thr advantages in supplementing the sanatorium experiment other methods, or rather by supplementing other metho by sanatoriums. In Germany a great deal of money h been spent on sanatoriums. They were providing abo 10,000 beds and feeding some 40,000 consumptives. B he did not consider it was possible, or even desirable, build a sufficient number of sanatoriums to provide accom modation for all the consumptives in this country, and f the reason that some cases could be treated more effective in other ways. (Hear, hear.) The first advantage having other methods was that it enabled the patients f treatment in sanatoriums to be selected. It was no go sending those for whom there was no hope to a sanatoriu Another advantage of having other methods was that would be impossible to send the whole of the 250,000 co sumptives into sanatoriums. A third advantage was th by having other methods of treatment they could short the period which patients stayed in a sanatorium, and enable a very much larger number of persons to pa through each sanatorium. He could not agree with th dangerous doctrine that unless the State did everythi it had better do nothing. The Government in this matt were taking an exceedingly long stride forward. A sho time ago no great sanatorium advocate would have thoug of getting from the Government 1½ millions for sanatoriu buildings and another million for maintaining them. The were going to try the experiment on a sufficiently large sca to make the results reliable. Many local authorities in En land and Ireland were beginning to wake up, and were spen ing considerable sums of money in battling with the diseas He thought there was a germ in the bill which migh fructify into something even bigger than this plan. H should like to see the system extended so that the whole the family could be cured in the sanatorium, and he thoug there was a method suggested in the bill which would, whe it developed, enable them to do that. In one clause of th bill there was a provision that the local authorities might there was some doubt about the interpretation of the word but the intention of the Government was that they shou have an option—find half the excess charged in respect medical benefits which were administered by the loc Health Committees. He thought that might be ver usefully extended to sanatorium benefits as well. If it we decided to make treatment in sanatoriums for the famili compulsory, it would mean that they must find three and quarter millions straightaway, but if it were made option he had not the faintest doubt that local authoriti and approved societies would use the sanatorium f curing the wives and families as well as the insure people. It would soon be discovered that the accom modation was inadequate, and if the treatment we successful then it would be open to the local authorit to approach the Treasury with a view to spending mo money for increasing the accommodation. The Treasur would undertake half the additional expense, and it wa left entirely to the option of the local authority to unde take the other half. It was to the interest of the loc authority to do so, for any one who had had experience local government must know that a very considerable pr portion of the expense of medical benefit which was no chargeable to the poor-rates was attributable to tube culosis. It was a source of heavy expenditure to the rate

and this provision would, to that extent, be a relief to the rates, and would provide a much more effective system of dealing with cases of tuberculosis. But he should certainly not like to undertake this responsibility on behalf of the Treasury merely on the assumption that the local authorities would afterwards come to the rescue. He was not going to be a party to another transaction of the kind that took place with reference to old age pensions, and therefore before he undertook, on behalf of the Treasury, any further liability in the matter, there ought to be a very clear understanding with the local authorities. He hoped this would not degenerate into an attempt on the part of those who represented the local authorities merely to raid the Exchequer. The endeavour should be to secure co-operation between local authorities and the imperial authorities for the purpose of stamping out a great disease. If the local authorities met them in the spirit in which they were making this advance to them, it would be possible to deal with tuberculosis on a thoroughly national, comprehensive, and drastic scale. He threw out this suggestion, but, as he had already said, he hoped it would not be allowed to degenerate into a squalid attempt to extract a sum of two and a half millions out of the Exchequer for the relief of the rates. If what he had suggested could be done they would make a very great step in advance. He agreed with what his hon. friend the member for Hoxton and the hon. member for Hitchin had said. Dr. Koch, whom the hon. member for Hitchin had quoted, had said in one of his books that "consumption is a disease of small homes." That was one of his most striking sayings in regard to this matter, and it was one that was perfectly true. It was very largely, though not entirely, a poverty disease. It no doubt attacked those in better circumstances, but, in the main, it was the scourge of those who lived under conditions which did not enable them to strengthen their frames to struggle against its incipient attacks, and therefore it was very largely a housing question. (Hear, hear.) But they could not make this bill deal with every aspect of the disease, and he hoped the Committee would not overburden the scheme by attempting too much. After all, this was only one step towards the purpose they had in view. It was perfectly clear that they had to go on and reform the Poor Law in many respects, and he hoped that they would be able in the course of a few years to do a good deal more towards solving the housing problem. If they were only able to secure co-operation between the national authorities and those who were charged with the burden of looking after the welfare of the people, they might hope to remove this most terrible scourge from their midst for ever.

Mr. Austen Chamberlain expressed his satisfaction with the Chancellor's statement and offered to withdraw his amendment, but this was not allowed, and the debate was continued.

Dr. Chapple said that it would be generally accepted that better results in the treatment and cure of tuberculosis had followed from the erection of sanatoriums than from any other treatment known to medical science, but that need not blind them to the limitations of the system. They might waste an enormous amount of money on sanatoriums and get very poor results. It was not the building of sanatoriums as such or the treatment in them that cured tuberculosis, but the resistance of the tissues in the persons affected, and all that sanatoriums could do was to provide sanatorium conditions—fresh, abundant air, good food, and the rest. The question to decide was whether these conditions could be provided in any other and cheaper way, because if so they had to be cautious lest they spent too much on buildings and were guided too much by the imagination of the people and too little by their own cool judgement. The Chancellor of the Exchequer had said the Health Committees would make selections for sanatorium treatment. What was to guide them? In the early stages tuberculosis was not infectious and was curable. In the later stages it was infectious and not curable. For which of these two classes was the sanatorium to be provided? In one case it would be a treatment hospital and in the other an isolation hospital. The question he would like to ask was, Was there any other and less expensive way in which the same result could be reached? He would rather follow the course of hanging every home under sanatorium conditions and would give the Health Committees jurisdiction over all infected houses, which should be registered as such. There should be compulsory notification of every case, and in every infectious case the Health Committee should have power to disinfect the home. If this was not done the supply of the disease would be kept up. (Hear, hear.) His criticism was not directed against sanatoriums, because he believed in them, but he thought the Health Committees should have the power to employ officers whose duty it would be to visit homes and give their guidance and report to their committee as to whether proper sanitary conditions prevailed.

Dr. Esmonde agreed that it would be desirable to include married women and children in the scheme, but the fact must be faced that there was only a certain amount of money to spend. His experience in medical practice had taught him that it was most difficult to get the consumptive patient to leave his home. If everybody would look at the matter from a scientific point of view, apart from the sentimental wish to die at home—for frequently the doctor was not called in until the disease was far advanced—then he would not say that a few large sanatoriums would not be beneficial if well staffed and equipped. But it would be an iniquitous thing to send a man in the primary stage to a sanatorium among a number of advanced cases. If the Government were going to have sanatoriums, they must make up their minds to have two classes, one for curable and the other for incurable cases. The proper method to adopt would be to provide some form of small pavilion which could be moved from cottage to cottage, and which could be used for cases in an early stage of the disease for a patient who refused to leave home, and sleeping in this the man would not be a focus of contagion for the whole family. From this small hut open to the air a man could proceed to his work in the day. The disease did not increase in the daytime to anything like the extent it did at night if the patient worked in good air; it was the sleeping in a close room with perhaps a wife and small children that did most mischief. He suggested to the Chancellor of the Exchequer that he should not spend 1½ millions in large buildings that might be useless in a few years, but spend more money in research work and so get more value for the money. By enforcing some by-law for compelling the patient to sleep in such a hut as he had mentioned there would be open-air treatment, and research in capable hands in the near future might discover some other method for treating the disease on a different principle.

The amendment was negatived without a division, and Mr. Lansbury moved an amendment to extend treatment in sanatoriums to wives and children under 16. The Chancellor preferred his plan of extending benefits, and the amendment was withdrawn.

Mr. Lees Smith proposed an amendment, which was agreed to, substituting for the words "other institutions," in the first line of the subclause, the words "or otherwise," so that the opening words of the subclause now stand, "Treatment in sanatoria or otherwise when suffering from tuberculosis or such other diseases as the Local Government Board, with the approval of the Treasury, may appoint (in this Act called sanatorium benefit)."

Mr. Lees Smith then moved to leave out the first word "weekly" of paragraph (c), whereupon the Chancellor of the Exchequer moved, as agreed, to report progress, adding, in reply to a question, that the Committee proceeding would be resumed on Monday.

QUESTIONS IN PARLIAMENT.

Sanatoriums.

MR. WORTHINGTON-EVANS asked the Chancellor of the Exchequer whether the figures in column 5 (Sanatoriums) of Table X, page 27, of the Actuaries' Report on the National Insurance Bill included only the 1d. referred to in Clause 15, Subsection (2) (b), of the bill; and whether two-ninths (men) and one-fourth (women) of the 1s. 3d. referred to in Clause 15, Subsection (2) (*a*), was included in the figures in the other columns of that table, or whether the whole of the said 1s. 3d. was to be paid out of contributions in respect of insured persons and not as two-ninths (men) and one-fourth (women) out of moneys provided by Parliament. Mr. Lloyd George said: The figures in the column headed "Sanatoriums" of Table X include only the 1d. referred to in Clause 15 (2) (b).

The annual sum of 1s. 3d. per head provided for sanatorium benefit includes the usual proportion from the Exchequer under Clause 4, and the sums payable on this account are included in the other columns of Table X.

Medical and Sanatorium Treatment.

Mr. G. Locker Lampson asked how the respective sums of 4s. 8d. and 4s. 6d. (Clause 38) had been arrived at; whether the only benefits covered by these amounts were medical aid and sanatorium treatment; and how the amounts in question were to be apportioned in order to provide for the benefits named and the cost of administration thereof. Mr. Lloyd George said: It is estimated that when the contribution under Clause 15 to sanatorium benefit has been paid over, the balance of the contributions under Clause 38 will be sufficient to cover the comparatively trifling expenditure on benefits in respect of contributors under the age of 16.

In reply to Mr. Worthington-Evans, Mr. Lloyd George gave the following figures as to the 4s. 8d. and the 4s. 6d.:

	Boys.	Two-ninths from the State.	Total.	Girls.	One-fourth from the State.	Total.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Contributions	4 8	1 4	6 0	4 6	1 6	6 0
Sanatorium...	0 11⅔	0 3⅓	1 3	0 11¼	0 3¾	1 3
Balance...	3 8⅓	1 0⅔	4 9	3 6¾	1 2¼	4 9

Pulmonary Tuberculosis.

Sir John Rolleston asked the Chancellor of the Exchequer whether his attention had been called to the fact that during the ten years ending 1908 the death-rate from pulmonary tuberculosis was 13.3 per 10,000 of the population of the United Kingdom, and 17.9 per 10,000 of the population of that part of the German Empire for which returns had been furnished to the Registrar-General for England and Wales; and whether he could give the House information as to the cause of the higher death-rate from this disease existing in Germany despite State sick insurance there for many years. Mr. Lloyd George said: It is undoubtedly the case that the rate of mortality from pulmonary tuberculosis is higher in Germany than in the United Kingdom. There has been a large reduction in the death-rate from this cause in Germany since the sickness and invalidity insurance laws have been in full operation, and German authorities attribute the reduction in part to the beneficial influence of these laws upon the health of the nation, and particularly to the measures adopted—including an extensive system of sanatoriums—for the treatment of consumption in the early stages of the disease. The same authorities agree that unsatisfactory conditions of life, and especially of housing, contribute largely to the existing high rate of mortality from consumption.

Advisory Committee.

Mr. Astor asked whether members of the advisory committee to be appointed under Clause 42 of the bill would receive a salary; whether they would be required to give their whole time to the service of the committee; and for what term they would be appointed. Mr. Hobhouse said that the members of the advisory committee would be unpaid and would not be required to give their whole time. The term of appointment would be a matter for the Insurance Commissioners to decide.

Maternity Provisions.

Mr. Charles Bathurst asked whether it was intended by Clause 8 (6) of the National Insurance Bill to exclude a woman from every kind of benefit after a confinement during a period of four weeks although she was herself an employed contributor, and during such period might be suffering from some serious disease, such as small-pox, wholly unconnected with her confinement; and, if so, how such provision could be justified. Mr. Hobhouse said perhaps the effect of Clause 8 (6) might be interpreted in that way. They proposed to make it clear that only benefits in respect of the disability arising from the confinement were referred to.

Health Committees.

Mr. Rupert Gwynne asked whether, in view of the wor it was intended to impose on the Health Committees unde the National Insurance Bill, the Government proposed t pay members of those committees on the same princip as members of Parliament. Mr. Hobhouse replied in th negative.

Medicines and Appliances.

Mr. Cooper asked if the right hon. gentleman was awar that, according to the statistics of the German Empire fo 1908, vol. 229, the cost of medicines and appliance pe insured person for that year averaged 3.52 marks; and ha he evidence that would lead to the conclusion that in thi country the cost would be less under the National Insuranc Bill. Mr. Hobhouse said that the figure quoted was correc but pointed out that the charge 3.52 marks included famil treatment where the rules of a sickness fund provided fo it. Further, the charge assigned in the German statistic to "medicine and appliances" included such items a milk, wine, baths, etc. For these reasons the figure quote afforded no guidance as to the probable cost of medicine unde the National Insurance Bill. Mr. Cooper asked whethe by family treatment, treatment for the family was meant and Mr. Hobhouse replied, "Family treatment generally. Mr. Cooper asked under what arrangements drugs wer dispensed under the German scheme of sickness insurance and, if there was a schedule of prices, would he circulat a translation of it. Mr. Hobhouse said that under th German sickness insurance system drugs were eithe dispensed by licensed chemists or obtained at unlicense drug shops. There was an official schedule of maximun prices (uniform for all Germany) for such medicament as might only be supplied by licensed chemists. As however, the sickness funds commonly included specia agreements with the local chemists' associations, th prices charged to these funds varied considerably, an no single schedule of prices could be regarded a representative.

Hospitals and Asylums.

MONMOUTHSHIRE ASYLUM, ABERGAVENNY.

THE annual report for the year 1910 of Dr. J. Glendinning, th Medical Superintendent, shows that on January 1st of that yea there were 935 patients in the asylum, and on the last day of th year 957. The total cases under care during the year numbere 1,109, and the average number daily resident 951. During th year 174 were admitted, of whom 166 were direct admissions 7 transfers, and 1 a statutory readmission. As a whole, th admissions were unfavourable, many, Dr. Glendinning says being much debilitated in health, and no fewer than 43 of th 100 male admissions suffering from organic brain disease. As t duration of disorder in the direct admissions, in 73 the attack were first attacks within three months, and in 21 more withi twelve months of admission; in 23 not-first attacks withi twelve months; and in all the remainder, excluding 1 in whon it was unknown whether the attack was a first attack or not but including 18 congenital cases, the attacks were either o more than twelve months' or of unknown duration. As to th forms of mental disorder, and considering only the direc admissions, the patients were classified as follows: Mania of al kinds, 68; melancholia of all kinds, 18; senile and secondar dementia, 14; epileptic insanity, 18; general paralysis, 14 delusional insanity, 7; insanity with gross brain lesions, 6 confusional insanity, 3, and congenital or infantile defect, 18 Concerning the probable causation in these same direct ad missions, alcohol was assigned in 33, or just under 20 per cent. syphilis in 11, and other toxins in 5; critical periods in 29 child-bearing in 8; nervous diseases in 33; various bodily dis orders in 5; bodily trauma in 1, and mental stress in 26. A insane heredity was ascertained in 36, and an epileptic o neurotic heredity in 2 more.

During the year 54 were discharged as recovered, giving recovery-rate on the direct admissions of 32.5 per cent., or o recoveries in the direct admissions on the direct admissions o 31.3 per cent., also 14 as relieved and 9 as not improved. Durin the year also 75 died, giving a death-rate on the average number resident of 7.8 per cent. Except one case, a male patient, wh died suddenly whilst being fed with bread sopped in milk, al deaths were due to ordinary causes: in 26 to nervous diseases including 11 from general paralysis; in 11 to diseases of the hear and blood vessels; in 12 to respiratory diseases; in 2 to genito urinary diseases, and in the remainder to general diseases, includ ing 2 deaths from senile decay, and 14 from tuberculous diseases Extensive alterations, which, Dr. Glendinning says, will brin the asylum up to modern requirements, have been in progres since 1909, and will shortly be completed.

IATTERS REFERRED TO DIVISIONS.

EPORT ON THE SUBJECT OF "SPIRITUAL IEALING," SUBMITTED BY THE COUNCIL.

APPOINTMENT AND TERMS OF REFERENCE.

1. A Sub-Committee was appointed in January, 09, in consequence of representations made by the tropolitan Counties Branch of the Association. The anch had noted that a meeting of clergy and laymen l asked the Bishop of London to form a Central urch Council in the Diocese of London, for the sideration of questions connected with healing by ritual means, and was of opinion that the subject was sufficient importance to the profession as a whole to rit careful consideration.

2. The Sub-Committee was instructed to investigate l report on the whole subject, and in appointing it e was taken to make it representative of the different nches of the profession. It included general practi- ners, physicians, neurologists and alienists.

PROCEDURE ADOPTED.

3. The first difficulty experienced by the Sub- mmittee, after a study of some of the literature of the ject, was to obtain a clear idea of what was under- od by the term "Spiritual Healing" by those who l it. Accordingly a communication was sent to the owing gentlemen who were known to be interested he question. (*See* Appendix A). :—

The Archbishop of Canterbury (the Most Rev. Randall T. Davidson, D.D.).
The Bishop of London (the Right Rev. A. F. Winnington-Ingram, D.D.).
The Bishop of Winchester (the Right Rev. H. E. Ryle, D.D.), now Dean of Westminster.
The Dean of Westminster (the Very Rev. J. Armitage Robinson, D.D.). now Dean of Bath and Wells.
The Revd. A. W. Robinson, D.D.
The Revd. Percy Dearmer (author of "Body and Soul.")
The Revd. C. H. Mylne.
The Revd. W. B. Trevelyan.
The Revd. F. Boyd (Warden of the Guild of Health).
Lt.-Col. W. B. Hepworth.
Mr. Geoffrey Rhodes (Honorary Secretary of the Church and Medical Union).

ese gentlemen were asked to assist the Association earing up the confusion (of which the Sub-Com- ee found much evidence in the literature of the ct), which existed in connection with the use of llowing terms, namely, "Spiritual Healing," "Faith ing," and "Psychic Healing."

Replies, many of them detailed and very helpful, received from each of these gentlemen (see ndix B). As will be observed, most of the writers ienced considerable difficulty in defining the ence between "Spiritual Healing" and other forms ioned. The communications showed, however, that was a general desire on the part of those interested e matter for guidance on the technical side of the ion.

5. A Special Investigating Sub-Committee was appointed to inquire into cases brought to its notice which had been treated or were about to be treated by so-called "Spiritual Healers," and it was instructed to call to its assistance any members of the profession specially qualified for the purpose.

6. The Investigating Sub-Committee found great difficulty in obtaining cases for investigation and in following up the cases submitted. Persons who have written and spoken a good deal on the subject did not see their way to put the Sub-Committee in touch with patients treated, or with those treating them. The only cases actually seen were provided by the Society of Emmanuel through the intermediation of the President, Mr. J. M. Hickson, and the Chairman of Committee, the Rev. Maurice Bell. The Rev. F. Boyd, Warden of the Guild of Health, also submitted some details of cases in writing to the Sub-Committee. The Investigating Sub-Committee spent two afternoons at the Hospice of the Society of Emmanuel and personally examined ten patients, afterwards communicating, where possible, with the former medical advisers of the patients seen. The patients, of whose cases particulars were given but who were not seen, were written to and their statements compared with those of their former medical advisers. In each of the cases submitted a personal examination was made as far as possible, and the diagnosis verified by reference to the records of previous medical advisers or of hospitals. Three of the cases were seen a second time at an interval of four months. Opportunity for subsequent examination, though requested, was not permitted.

7. The Sub-Committee also elicited by interviews and by correspondence the views of certain medical practitioners specially interested in healing by mental suggestion and hypnotism.

General Conclusions.

8. The *modus operandi* adopted in "Spiritual Healing" consists in the laying on of hands and offering up of prayer by the "healer" in surroundings of a more or less impressive character.

9. After carefully considering the various definitions submitted to it, and the evidence afforded by its investigations the Sub-Committee is of opinion that there is no difference in kind between "Spiritual Healing," "Faith Healing," "Mental Healing" and "Psychic Healing." All these forms seem to depend for their effect upon what is known as "Mental Suggestion."

10. No evidence has been brought before the Sub-Committee which would bear out the contention often urged by so-called "Spiritual Healers," that a special "Gift of Healing" is possessed by them.

11. Suggestion, it is well known, exercises a powerful effect in some cases of disease, principally those designated "functional," and the Sub-Committee believes it to be the essential factor in the cures wrought by means variously designated as above.

12. Curative suggestion may be brought into operation by various means, such as by the personal influence of one person over another, reinforced by appropriate surroundings as in the consulting room of the physician; by excitement engendered under the influence of the claims made publicly by the quack, as seen frequently in the cures wrought on public platforms; by the atmosphere of ecstacy and expectation pervading a shrine such as "Lourdes"; and there is no reason to doubt that it

may be induced by prayer and the laying-on of hands by the "Spiritual Healer" or by the priest. The surroundings may be different; the agent appears to be the same. In each case the receptive mental attitude of the patient is a most important factor.

13. The investigations of the Sub-Committee have satisfied it that the ministrations of the "Spiritual Healer," as of any other person skilfully using suggestion in its various forms, may cure functional disorders and alleviate pain in organic disease. No evidence has been forthcoming of any authenticated cure of organic disease. The undoubted subjective improvement noted in some cases of organic disease treated by "Spiritual Healing" can be equalled by treatment by other forms of suggestion for which no spiritual or supernatural claims are made. It seems to be mainly due to the spirit of hope and cheerfulness with which the patients are inspired, and which is often noted in similar cases at the beginning of any course of treatment hitherto untried. So far as such improvement, temporary though it be, occurs in cases of organic disease the method of treatment must be credited with it. There is, however, grave danger that this subjective improvement may buoy the patient up with false hopes and may induce him to refrain from seeking proper treatment until it is too late.

14. The Sub-Committee is confirmed in the opinion that the diagnosis and treatment of disease should be confined to those who have been trained with that end in view. Occasional cases of alleviation, or even apparent cure, of disease are not a sufficient set-off to the risks which must be run when unqualified persons meddle with things which they cannot, from want of the appropriate training, understand.

15. So far as the ministrations of a priest may be helpful, as they undoubtedly are, in certain cases of illness, the medical man, whose business it is to cure his patient by any means at his disposal, will naturally and gladly avail himself of them.

16. The Sub-Committee is of opinion that the co-operation at present existing between the medical profession and the clergy in cases of sickness is often helpful to all concerned. Such co-operation has hitherto been of an informal nature, and has been governed by the circumstances of each case as it arose. The Sub-Committee can see no advantage in any more formal alliance, such as has for example been instituted in the United States, where Clinics have been established in which certain cases, after being diagnosed by medical practitioners, are handed over to clergymen for treatment. Such a formal partnership, it is believed, is certain to set up, in the minds both of the clergy and of the public, erroneous ideas as to the nature of the education and qualifications necessary for the proper treatment of disease. The use of suggestion is within the power of all medical men to a greater or less degree, and when the practitioner feels that he would like further assistance he can obtain it from physicians who are specially skilled in this department of medicine. Where the kind of suggestion that is set up by religious influence is specially needed, the practitioner will no doubt be able to secure the assistance of the clergyman or other person whose influence over the patient is likely to be most effective.

Summary of Conclusions.

7. The Sub-Committee is of opinion:—

(*a*) That there is no difference in kind between "Spiritual Healing" and other forms of "mental," "psychic," or "faith" healing.

(*b*) That the essential factor in all forms of psyc healing is mental suggestion, which has be used from remote periods, although m fully explained by modern psychology.

(*c*) That there is abundant evidence of the effic of mental suggestion in the treatment many disorders. No evidence has been for coming of any authenticated cure of orga disease.

(*d*) That the benefits of hypnotic suggestion waking suggestion can be obtained fr qualified medical practitioners whose traini enables them to distinguish the conditio which are amenable to this kind of thera from the conditions which should be de with by other kinds of medical or surgi treatment.

(*e*) That, in accordance with the principle that the protection of the public the diagnosis a treatment of disease are best left in the han of those whose training has fitted them f that calling, any formal co-operation of cler men and medical practitioners in the treatme of disease is to be deprecated. All t benefits which may undoubtedly accrue fro the assistance given to sick persons by t ministrations of the clergy in suitable cas may be obtained in a way which will n give rise to dangerous misunderstandings the part of the public.

APPENDIX.

A.—LETTER FROM THE ASSOCIATION ASKIN FOR ASSISTANCE.

DEAR SIR,

The British Medical Association, which includes in its ran about 22,000 medical practitioners, and is naturally interest in all matters affecting the prevention and relief of physical mental disorder, has recently had brought to its notice t movement in the Church of England which is concerned wi what has been designated "Spiritual Healing," and which h obtained an indefinite kind of recognition at the Lambe Conference and elsewhere.

The matter has been referred to a Committee of the Associ tion for investigation from the professional side, but t Committee finds itself hampered at the outset by the want definition of the term "Spiritual Healing." It is obviou from a study of the literature of the subject that there considerable confusion between "Spiritual Healing" and wh are known respectively as "Psychic Healing" and "Fai Healing," and from every point of view it is desirable that th confusion should be cleared up.

Knowing the interest you have taken in the matter, t Committee ventures to ask for your assistance in elucidatin the definition of the terms above mentioned by stating t conception you yourself have formed of their meaning.

The Committee is specially anxious to be placed in a positio to collate the opinion of eminent authorities as to the manne in which the healing is brought about in the cases include under each of the three heads stated.

MARCH , 1909.

B.—REPLIES.

(1) *From the Lord Bishop of London* (the Right Rev. A. F Winnington-Ingram, D.D.)

In answer to your letter of March 15th, the Bishop asks m to say that as the Archbishop of Canterbury is considering th whole matter, the Bishop has ventured to refer your lett to him.

I am,
Yours very truly,
(Signed) M. P. GILLSON,
Chaplain.

MARCH 24TH, 1909.

(2) *From the Lord Archbishop of Canterbury* (the Most Rev. Randall T. Davidson, D.D.)

I thank you for your letter of yesterday's date. It is true hat the Bishop of London sent to me a previous letter from ou to himself dated March 15th, but I had not understood hat you were awaiting a communication from me upon the atter. In that letter you ask the Bishop of London s assistance in elucidating the definition of the terms Spiritual Healing,' 'Psychic Healing,' and 'Faith Healing,'' d you ask the Bishop to state the conception he has himself rmed of their meaning. I do not know whether the Bishop London is prepared, in reply to this request, to give you his ews upon the subject as a whole; but, speaking for myself, I n say that—after prolonged and careful consideration of a atter which has been brought to my notice from many sides thout intermission during recent years—I am quite at a loss give any definition which would cover the different erpretations placed upon these terms by the men who make e of them, or who follow the lines of action which, speaking nerally, the terms indicate. The subject is so complex and ficult that no one who has investigated it would, I imagine, willing to attempt, in a compendious way, to give it egorical treatment. It cannot, I think, be doubted that a at deal is now being done to which patients and others ach what they would describe as a spiritual or, perhaps, chic character, which is really explicable in a more normal l conventional way. On the other hand it is, I suppose, tain that the different forms of action to which you make erence have, along with much that is erroneous or ngerous, drawn attention in a valuable way to neglected ths respecting the inter-relation of body, mind, and rit.

am sorry not to be able to give you in a more precise form aid you seek in pursuance of your investigations. The ject is one which requires a treatise rather than a er.

AY 13TH, 1909.

From the Lord Bishop of Winchester (Right Rev. H. E. Ryle, D.D., now Dean of Westminster.)]

beg to acknowledge your kind letter of the 5th inst., in rence to the subject of Spiritual Healing. Will you allow to state that I welcome with the greatest pleasure the rmation that a Committee of the British Medical Associa- has been appointed to investigate from the professional the subject of Spiritual Healing. This is a step which e of us in the Church of England have for some consider- time regarded as most desirable. In my opinion it has me urgently important.

has appeared to me to be a mistake to expect that siastical authorities like Bishops and Clergy should be to define scientifically the precise character of the nomena which are designated by such terms as "Spiritual ing" or "mental therapeutics." The results which are ned are physical; the methods which are alleged are ted by such terms as "spiritual," "psychic," "mental" faith" healing. Without a proper scientific training for tering the diminution of illness or disease, or for com- ng alleged healings with ordinary cases of recovery, it possible for Clergymen to do more than base unscientific ralizations upon a large number of cases that come before notice, which are very different in character, very rfectly reported, and very enthusiastically described.

w that the subject is being taken up seriously by a nittee of the British Medical Association, I hope that may be sifted and classified, and that scientific value may ttached to the influences that may be productive of dial and restorative results

own opinion upon a matter which, after all, awaits ific elucidation, is really worth nothing. But I am ready to inform you of the provisional conclusions ds which my mind was impelled at the time of the enquiries held by the Committee of the Lambeth rence in July last. I am inclined to place all alleged ual, psychic, mental, and faith healings, in one category; f the influence (which I do not pretend to understand) nind or will over another person's mind or will, reacting ully upon the latter person's physical condition. So far can gather, there is no distinction generically between ealings alleged on behalf of the Christian Scientists, lickson, Faith Healers, or the Shrine at Lourdes. In all it would appear that the element of faith, however it may ined, enters largely into the claim of healing. And the predominance of a strongly asserted will-power seems to be an almost universal feature. Personally I do not draw any marked distinction between the claims of such healing alleged by Christian Scientists, by Church of England Healers, by Faith Healers, by Mohammedans, or by members of other religions. Where the Christian Faith is firmly held, I believe that the patient may, by the wise and hopeful inculcation of Christian truth, be predisposed in will and mind and consequently, in some unintelligible manner in physical conditions, towards the successful combat with disease or disorder. But I have seen no reason to accept the view, which in some quarters has been maintained, that gifts of healing are the prerogative of Clergy, or of members of the Church of Christ, as such.

In the course of the investigation, I seemed to discern that there was evidence of the traces of curative influence upon the physical condition of patients, produced by personal forces to which these different names have been given. But I have been very unwilling either officially to recognise such alleged cases of healing, or to encourage the claims to work such results, until scientific men had investigated the phenomena and, so far as the physical condition is concerned, had seen reason to admit that physical changes had been produced, and healings affected, in which the causes alleged to be spiritual or psychic had been vigilantly recorded and scientifically registered and defined.

I earnestly trust that your enquiry, which I presume will be conducted by a Committee on which mental doctors will serve as well as physicians and ordinary practitioners, will be carried out with thoroughness, and—if you will allow me to add—with patience and forbearance towards an eager, and perhaps too credulous section of the community. If at a later time I could be of any service, I should be very glad to grant you an interview on some occasion when I am up in London.

MARCH 16TH, 1909.

(4) *From the Dean of Westminster* (the Very Rev. J. Armitage Robinson, D.D., now Dean of Bath and Wells.)

I am exceedingly glad that the British Medical Association has taken up the question of what has been called "Spiritual Healing." I am myself only an interested inquirer, with no experience or special knowledge which could enable me to speak on the subject.

But at the meeting at Sion College, at which I was present—when my few remarks were somewhat seriously misreported—I urged two things:—

(1) That the Church of England ought to take at least as great precautions in testing alleged cases of cure, as are taken by the Roman Catholic authorities at Lourdes, if any kind of recognition was to be given to healing of this kind; and

(2) That the term "Spiritual Healing" should be avoided altogether, because properly speaking "Spiritual" healing ought to stand in contrast to "Bodily" healing, and so to refer to spiritual welfare and not to "healing by spiritual means."

I was answered that the term was in common use, and would not be misunderstood. I am glad to find that your Committee have at once challenged it: for it is a slipshod phrase which ought not to be allowed to pass.

The only side of the subject of which I have any knowledge is the question of the early use of oil and the blessing of oil, in the Primitive Church; and there my enquiries lead chiefly to negative results; namely, to proving that there is no evidence of a continuous *rite* of the Christian Church in the second and third centuries derivable from an apostolic custom based on the well-known passage in St. James' Epistle. The earliest blessing of oil was a part of the blessing of various kinds of firstfruits.

In the latter periods I am interested in the mediæval miracles of healing, such as those at our shrine of St. Edward in the Abbey—"the kings' evil" is of course connected first of all with his name. But this is a historical problem and does not directly concern your enquiries.

You will see that my chief practical interest in the question is that great caution should be used by the authorities of our church, and it is to me most satisfactory that your Association should have seriously taken the matter in hand.

MARCH 15TH, 1909.

(5) *From the Rev. A. W. Robinson, D.D.*

In reply to your letter I will gladly try to give you my view of the matter to which you refer. You are right, I am sure, in recognising that a great deal of confusion exists in regard to the use of such terms as "Spiritual Healing," "Psychic Healing," and "Faith Healing." But the fact that they are in general use must be taken as an indication of a wide-spread feeling that there are influences at work amongst us of whose nature and conditions we have much need to learn far more than is at present known. I am sure that the feeling exists, and like many others I am anxious that it should be wisely directed. So far as I can see the grounds upon which it rests are these :—

1. The conviction that physical means, though unquestionably effective, are not the only, and perhaps not the principal causes of physical cures.

2. The recognition of the power of Mind as evinced by hypnotism and other methods of suggestion.

3. The philosophy of the sub-conscious element in personality as insisted upon by modern psychology.

4. The belief that there is a moral power in a strong and high-souled personality which can be brought to bear with extraordinary effect upon weakened wills and disordered constitutions.

5. The knowledge that physical, mental and spiritual processes are greatly aided by Prayer—partly no doubt as telepathically influencing the condition of those for whom it is made; but over and above this as a means of setting free the action of the Power to which we owe ourselves.

"Spiritual Healing" I take it, is a comprehensive term to include all efforts to bring those higher influences to bear. "Psychic Healing" and "Faith Healing" are terms used by those who rely mainly—and in some instances even exclusively—upon the natural and super-natural agencies in the process.

That physical and spiritual influences ought always to supplement each other, I feel assured; and I have no doubt that they have often in the past been kept too far apart. The question of their proper co-operation is deeply interesting but fearfully difficult. The future is certain to produce a large amount of unintentional and even intentional charlatanry. Is is for this reason that I have been most anxious to see a Council formed to consist of trusted medical practitioners and experienced clergy, with the object of investigating what it actually being attempted in many directions, and of givins some guidance to public opinion.

I am rejoiced, if I may say so, to know that the British Medical Association has appointed a Committee to deal with the matter.

March 16th, 1909.

(6) *From the Rev. Percy Dearmer.*

"I think perhaps the best thing I can do is to send a cutting from the proofs of a book which I have now in the press, and which is to be called 'Body and Soul.' The enclosed cutting deals with only one part of the subject, but perhaps it will be sufficient for the moment."

March 16th, 1909.

We now know enough to see that these powers come also within the realm of law. They are not supernatural. Nothing is, and nothing ever was.

This is no new argument invented to meet the needs of modern philosophy. St. Augustine summed it up long ago in a perfect epigram :—"Portentum ergo fit non contra naturam sed contra quam est nota natura."

City of God, XXI., 8. The same thought is worked out by Augustine in C. Faust, XXIX., 2, and in XXVI., 3, and again LVI., 3, which last is quoted in the Report of the Lambeth Conference, 1908, p. 73, and thus translated :—"For it is the course of nature which is known to us and familiar that we call nature and when God does anything contrary to this, such events are called marvels or miracles (magnalia vel mirabilia). But as for that supreme law of nature which escapes our knowledge because we are sinful or because we are still weak, God no more acts against that than he acts against himself."

Or, as we might render it, "Miracles are not contrary to nature but only contrary to what we know about nature." Faith has been feeble because men have set their religion as a thing apart, suspended among shadows. But the great ages of faith are yet before us; an era of unexampled spiritu illumination and activity is dawning, because our faith is bei regenerated in reason, and we are learning again, with profounder confidence, that the spiritual energy which w displayed in the life of Christ is about us now, working by t same laws accomplishing the same miracles of conversion a of healing—real as nothing else is real—bestowing new life body and soul; and we remember that as men can approa towards the perfection of our Master in goodness, so can th in power. Miracles are becoming natural to us, now that know a little more about nature

Mental and Spiritual.

We feel, therefore, that there is a class of health-givi powers which cannot well be called mental. The term convenient because it is commonly taken to include the psych work of the possibly agnostic mind-curer, or even the hypnotis and raises no religious points; it sounds humble and unassu ing, and we may often use it for this reason. But we must careful to remember that we do not even in its humblest u confine it to intellectual processes. It includes for us intelle emotion, and will; and we often use it as covering the emotio of mundane hope and faith. There is, however, a more fund mental aspect of man which we call spiritual; mind is inde one of the sides of this ultimate spiritual being, but when speak of man's spiritual nature, and of the spiritual means which it may be healed, we mean not only mental but al moral and religious powers. Faith, hope and love exist on t mental plane (I may have faith for instance, in the waters Contrexéville): faith, hope, and love are real and useful powe on this plane; but in the spiritual world they are somethin more—they are the "three theological virtues."

More spiritual succour, therefore—the healing, convertin cleansing, inspiring of man by the power of religion, wheth it be his body that is healed, or his soul, or his spirit—is ju the use of powers that are higher and stronger than tho which are mental. Instead of faith in the doctor (or in additi to it) we have the theological virtue of faith in God. Instea of hope as a matter of temperament we have the theologic virtue of hope as a triumphal quickening of the spirit. Instea of the natural love, which the Greeks called *eros*, instead eve of that ethical virtue which is called *philadelphia*, we have th Love for which the Church found the new name *agapé*, as which nothing higher could be said of God than that He Love, and nothing higher of man's destiny than that he wh dwelleth in Love dwelleth in God. So it is that when w speak of spiritual healing, whether of body, soul, or spirit, w mean that there is, in addition to the mental or psych influence of one person upon another, the pouring in of th "grace" of God through prayer or sacrements, through fait and silence and meditation, through the charged atmosphere common worship, through human intercession and religiou benediction.

That is the difference between mental and spiritual. It is difference, I think, of degree, and not of kind. For we cann set up a barrier between what is secular and what is religiou Nor ought we to allow the word mental to be used as if th mind were some inferior form of the spirit, and mental gif due to some lower source than God. One of the central lesso of Christianity is that religion is "Wisdom," and that th intellectual gifts are the particular inspiration of the Ho Ghost. Some people talk as if the inspiration of God w merely emotional, and as if there were something pious being foolish.

All things come of God, and not least the dower of nob thought. All things indeed come of God, both high an humble, for spirit, soul and body; all means of health an healing, spiritual, psychic, material, may be used under Go and with his blessing—only mighty works may be done spiritual means when all others have failed.

The Unworthiness of the Minister.

Much may be done on the psychic plane, and is done ordinary medical practice. Nay it is done also by the verie quacks and imposters, who owe their existence to the fact th they do manage to have successes because they often get ho of the subconscious self when the methods of reputable me have failed. It may be done also by a "mental healer" wh has some mental or psychic power, but who may for all th be without morals, science, or religion. For psychic researc has shown beyond controversy that certain people ha peculiar gifts, which may be, as Mesmer thought, due to "fluid" that passes from the operator, or may be due to special power of focussing the will, or may be due, as Mye considered to some combination of both.

It is remarkable that one of the sayings of our Lord takes it for granted that wicked people would have power to do mighty works, and even to do them in His name. Speaking of those false prophets who bear evil fruit and refuse to do the will of the Father in heaven, he says:—

> "Many will say to me, in that day, Lord, Lord, did we not prophesy by thy name, and by thy name cast out demons, and by thy name do many mighty powers? And then will profess unto them. I never knew you: depart from me, ye that work iniquity."

Thus the greatest Healer in the world's history warns us that men may have great psychic powers without goodness, that quacks and unworthy persons may have success; and that we are not to believe a person to be a true prophet because he happens to heal us. This is just what people are always forgetting: they argue that because someone has been spiritually healed therefore the healer must be a true prophet or prophetess, and that the healer's view about things in general must be true also. It does not in the least follow. Mental or spiritual healing has gone on in the temples of many religions, ancient and modern, in ancient Egypt and Greece, in India and in China, as well as in the Christian Church and in many Christian or non-Christian sects or heresies: it is practised by spiritists and by agnostics, by mesmerists, and by hypnotists, by faith-healers, and by mind-healers, by "Mental Science," "Christian Science," and "Higher Thought," by believers in relics and the apparition of Mary at Lourdes and by the simplest of Puritan sects—Shakers, for instance, who would have been horrified at the idea of relics and shrines. They may all have got hold of a great truth; but they cannot all be entirely right; and it was in this very connection that our Lord warned us to "Beware of false prophets."

Yet, though there may be unworthy, sordid, or mistakes people who produce genuine results by mental means, it doen not at all follow that the power which they use is not spiritual. It was practical experience that led the Church to declare (in another connection) that the unworthiness of the minister hinders not the effect of the Sacrament; and this may well be true of the application of spiritual power to the bodies of men. Our forefathers did not disbelieve in magic, but they held that it was generally "black."

To take a simple illustration—a barrel may be full of very precious liquid, but it does not follow that only a very good person can turn the tap. It may be, as in the case of the Sacraments, that certain ministers are entrusted with the key; and they are sometimes unworthy of their trust. Or it may be in the case of mental healing that the tap is rather hard to turn, and a man goes with his cup and fails to move it, and someone else comes along who has stronger hands—with perhaps no other qualification. He turns the tap, and the patient fills his cup and is happy. In some such way is spiritual power stored up, and a man may be helped by one who is less spiritual than himself. After all, this is what we clergy are always experiencing; people often come to us who are so much better than we as to make us ashamed of our unworthiness; yet we are able to help them because we are the ministers of holy things and of the reality of the help there is no doubt whatever.

"Ah!" the materialist may say (if he has followed me so far), "but you have got into a territory where I refuse to follow you." Yes, that was my intention, I do not in this humble work propose to prove the truth of religion; it is one of my postulates, and the truth of natural science is another. If natural science should change again, I shall have to rewrite this book; if religion should be disproved, I would burn it.

The Source of Life.

To me there is only one explanation of all things, and that is—God. In him we live and move and have our being, the Spirit of God is, as the Creed says, the Giver of Life, and our bodies are the temples of the Holy Ghost; so that in truth—

> Closer is He than breathing,
> And nearer than hands and feet.

The Self which is within man owes its existence to Him, and its life is permanently from Him, as the ray is from the sun, and yet is immeasurably less than the sun. Therefore when the Self is revived and recuperates a harmed body, it is revived by the power of God, however unworthy be the wills that have cooperated to bring it about. And after all, who is worthy? St. Peter had no doubt at all that he could heal: he had also no doubt that he was "a sinful man."

Therefore all healing is of God, whether the means employed be medicine or miracle. It is not the farmer who creates the corn, he merely aids the processes of "Nature," that is to say of God. In the same way the doctor does certainly not create healthy tissue: he merely assists the inward spirit to make full use of the Life which is of God, and thus to restore the body into closer conformity with God's laws. He can do nothing without the co-operation of that which he may call the *vis medicatrix naturæ*; when that fails, as it does in the closing scenes of a fatal illness, he knows that all further efforts are useless, and that no treatment can be of any avail, because the power to respond is gone, the *vis medicatrix* can heal no longer.

That *vis medicatrix* is but a form of words covering the unknown. The psychologist, knowing a little more now, may call it the activity of the sublimal self. The theologian may say that it exists because it is of God Who is the giver of life. To all three it is a mystery.

7) *From the Rev. C. H. Mylne.*

I regret the delay in answering your letter, and can only plead pressure of work.

You ask me to define the terms "Spiritual Healing," "Psychic Healing" and "Faith Healing," by stating the conception I have myself formed of their meaning.

Before attempting to do so, may I state clearly that I write as a Clergyman of the Church of England, from the standpoint of belief in the Incarnation of the Son of God, and in consequence that I approach the whole subject from the Christian point of view, believing the Incarnation to be the central fact in human history.

The term "Faith Healing" I prefer not to touch upon. It is intimately associated with the crude jargon of Mrs. Eddy and her followers, and therefore has become, in my eyes too discredited to deserve notice. I would ask you to notice, however, that in the above statement it is the theory of Christian Science with which I am concerned. I make no allusion to its practical results.

"Psychic Healing" and "Spiritual Healing" may be sharply distinguished from each other theoretically and for purposes of definition. In practice they are apt to run a good deal into each other.

The difference lies, as I understand it, in two assumptions which underlie the two terms, and the systems which they present.

"Psychic Healing," as I understand the term, is based on only two assumptions.

First, that in every human being, in his measure and degree, the states of the mind exercise an influence on the functions and conditions of the body, which influence cannot be accounted for by anything at present known about the physiological sequence of functional activities or cerebral states.

By this I mean that if I will to move my finger when it is merely at rest, physiology can give me an account of what passes between the brain and the finger to produce this result. But if, as is claimed by Psychic Healing, I hope and will and trust that my finger, being ailing shall recover its functional activities and then this actually takes place, physiology cannot at present give any account of the process which issues in this result.

On this follows a second assumption—that one character presumably a stronger one can, by suggestion or otherwise, start a process in the mind of another, presumably weaker character, which shall issue in the result described above.

Nothing, be it observed, is here claimed or taken for granted as to the existence of any power superior to, or other than the human characters in question. Belief in "Psychic Healing" may, and very often does, go along with a firm belief in God, and in His acting directly in answer to prayer. But "Psychic Healing" as such, does not take this for granted. It begins and ends with the human mind and body, and the only difference between its assumptions and those of ordinary medical practice lies in its taking more for granted as to what may be looked for from mental states acting upon bodily functions.

"Spiritual Healing" I should distinguish from "Psychic Healing," by saying that the assumption which underlies it is as follows:—That besides, and above all that may be known or believed about mental conditions and their influence on physical functions, there exists and there can be brought to bear upon man's mental physical conditions another force, different in kind from anything human. In other words, that where Faith in God exists in a sufficiently high degree, a human being can bring to bear upon himself or upon another a power

entirely above that of a human character or force of will. This, as I believe, takes place by the patient and healer alike believing in, and invoking the action of God upon the bodily condition of the patient, apart from the ordinary physiological sequences known to us in daily experience.

Spiritual Healing, then, has so much in common with Psychic Healing that in each case the mental powers of the healer and the patient are brought to bear upon the functional conditions to be corrected. The difference between them lies in Psychic Healing bringing these mental powers in themselves to bear directly on the pathological conditions; whereas Spiritual Healing brings them to bear indirectly, by first concentrating them upon God in prayer and then relying upon His intervention in the physiological processes.

I trust that the above may be of some assistance to your Committee in the work which lies before it.

MARCH 19TH, 1909.

(8) *From the Rev. G. P. Trevelyan.*

My Brother, Rev. W. B. Trevelyan, has referred to me your letter in reference to Spiritual Healing, as I have had more to do with it than he has.

I beg to apologise for delay in giving an answer.

It seems to me that underneath all the different kinds of psychical healing there lies a common natural basis, viz., that which is spoken of as Auto-suggestion, or, in cases where the suggestion is conveyed from one mind to another to induce this Auto-suggestion, Telepathy.

I think that this power is used differently by different people according to the faith that is in them and in the patient.

I should wish to confine the term, Spiritual Healer, to those who definitely use the natural power in the power of Prayer and Sacramental grace.

The vocation of a Spiritual Healer seems to me to depend on his having special powers of Telepathic suggestion, which he uses in and with the power of the Christ.

I believe that similar powers are exercised by the Priests, who have no such special power, through faith in the Sacraments and prayer.

If the term, Faith Healing, is used, I suggest that faith has a very different content in different people. In some it is faith in natural powers; in others it is combined with an intense faith in the presence of the Christ.

I believe that the highest effects are produced by such healing as is done in the Christian spirit of faith, though physical healing is produced by all.

MAY 4TH, 1909.

(9) *From the Rev. F. W. Boyd (Warden, "Guild of Health").*

In reply to yours of the 20th inst., I quite agree that one of the chief difficulties in this matter arises from the use of terms by different people in different senses. It is almost unavoidable that in a new situation new phrases should be coined or old ones given a new meaning, and until the new words or phrases have a definitely accepted content there must be a good deal of confusion.

In this Guild we are accustomed to divide healing into three classes—(1) physical, (2) mental, (3) Spiritual.

Under (1) would fall the usual practice of medicine, surgery, etc.

Under (2) we include methods and systems which rely on the use of mental forces—*e.g.* hypnotism, spiritism, suggestion, psychic treatment, Christian Science, etc.

By (3) we understand that method of healing which uses Spiritual forces—*e.g.* prayer, the imposition of hands, Holy Unction, and that force or energy which it is the business of all religion to create and increase.

I quite recognise that there is no hard and fast line between any of these methods. The whole person is affected, directly or indirectly, by each of them; and they are not by any means necessarily alternatives. The distinction is only meant to imply that the various methods are *characteristically* physical, mental or Spiritual. The two first methods are scientific, the third is religious; by which I do not mean there is any opposition, but that there is a difference.

I do not use the phrase "faith-healing," as it has come to have undesirable associations, and depends for its meaning on the content of the word "faith," which is very differently understood.

I enclose a Memorandum which explains the position and aims of this Guild, and also a cutting from an article in the current number of our Quarterly Magazine.

I should be very glad to answer any questions or to give any further information I can to your Committee. My own conviction is that the public will very shortly need protection from irresponsible "healers," who exploit for their own advantage the power of mental and spiritual forces. On our part we should welcome any steps that might be taken to secure the restriction of these methods to those in whose hands they can be wisely and safely used.

I may add that we are in no sort of opposition to the medical profession or the use of medicines. Indeed I can think of nothing more foolish than to create a conflict between one set of God's gifts and another. And also that we have never countenanced the receiving of any fee or reward of any kind whatever.

Please let me repeat that I am at the service of your Committee to the best of my ability.

MARCH 23RD 1909.

Extract from Guild of Health Quarterly Magazine.

(Forwarded by Rev. F. W. Boyd.)

"I am quite sure that we want to keep a clear distinction between Mental and Spiritual Healing. Mental Healing is a branch of science. Its success depends on the healer's knowledge of mental laws, his study of mental states and diseases, and his skill in the application of their laws, just as physical depends on the knowledge, ability and skill of the doctor or surgeon. Success in these methods depends on *cleverness*, based on scientific knowledge.

Spiritual Healing, on the other hand, rests on faith and goodness. It is the result of union with our Lord. It is a bye-product of that spiritual force or energy which it is the work of religion generally to produce and increase. It is not the least necessary for either patient or healer to know "how it works." Faith does not rest on the knowledge of secondary causes, but on the acceptance of primary and fundamental truths. It is not necessary for a priest to study psychology before he administers the Sacraments, nor does he recommend them on psychological grounds. In the same way the Spiritual Healer is not required, as such, to have any scientific knowledge of healing at all; his warrant is Our Lord's commission and the vocation of the Holy Spirit. He needs no greater knowledge than was possessed by Christ himself. Spiritual Healing is therefore not so much a matter of study as of spiritual endeavour.

If little has been said from our point of view, it is greatly because there is little to say. The few pamphlets published by the Guild contain practically all the simple Christain need "know" about it.

For the genuine student it is very interesting to read other books that illustrate the subject. No amount of study will produce a grain of faith, though it may indeed be helpful to many to remove objections from a *scientific* point of view. The way for mental healing is through laborious study, experiment, verification, etc. The way for *us* is through the not less laborious path of prayer, meditation, and the exercise of spiritual energy, for our success is not in itself the healing of the body or even the balance of the mind, but the uplifting of the whole man into union with God. The result is a spiritual result, and to be reckoned in terms of a spiritual valuation."

(10). *From Lt.-Col. J. S. Hepworth of the Church and Medical Union:*

"It appears to me that the terms 'Spiritual Healing' and 'Psychic Healing' have one and the same meaning, both relating to healing of or by the action of the mind of the Healer, and that both must necessarily partake in a measure of 'Faith Healing.' That is the conception that I have of the meaning of the terms, but as you will see if you are kind enough to read the enclosed account of a paper that I recently read in this neighbourhood, I have dealt with the subject of 'Healing' more from the point of view of its efficacy in conjunction with medical science and skill, my point being that, assuming that the 'Gift of Healing' is, as I believe it to be, a doctrine of the Christian Church, although long dormant, Christian men are bound to use it, if at all, in conjunction with, and not in substitution of Medical Science and skill, such science and skill which did not exist (or at any rate only to a very limited extent) in the time of our Lord being at the

present day the Divinely appointed means for the cure and healing of the human body (see quotations from the Lambeth Conference towards the end of my Paper).

"The danger, in my opinion, of so called Christian Science lies in the fact that it entirely ignores Medical Science, and the same remark also applies to so-called 'Spiritual Healers' who profess to work on independent lines."

MARCH 20TH, 1909.

(11) *From Mr. Geoffrey Rhodes (Honorary Secretary, Church and Medical Union).*

In reply to your letter asking me for definitions:—

Psychic Healing I take to denote the curing of bodily ailments through influence on the mind of the patient, as, for instance, by means of Suggestions.

Spiritual Healing I take to be distinguished from Psychic Healing in that the influence brought to bear on the mind is of a religious character, and that the object which it seeks to attain in the first instance is to bring "the human will" into harmony with the "Divine Will." The healing of the body in this point of view is secondary.

Faith Healing is, I think, a term usually applied to cures by the action of faith only (generally in some object of worship) without the help of medicine.

MAY 12TH, 1909.

MEMORANDUM TO THE PRESIDENT OF THE BOARD OF EDUCATION

ON

MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN IN LONDON.

INTRODUCTION.

1. The British Medical Association desires to lay before the President of the Board of Education the views held by the Association concerning the present systems of Medical Inspection and Medical Treatment of School Children within the County of London. Considering the urgent and national character of the questions at issue the Association most respectfully requests the President to afford it an opportunity of placing its views before him by means of a Deputation, and in the meantime submits a Memorandum on the subject.

2. The Association desires, as in 1909 and 1910, to bring prominently under the notice of the President of the Board of Education, the grave public evils occasioned by the methods which are at the present time employed by the London County Council both as regards the Medical Inspection and the Medical Treatment of School Children, and urges that the sanction of the Board to the schemes of the County Council should be withdrawn in favour of the principles of Medical Inspection and schemes of Medical Treatment advocated by the Association.

3. The members of the Association are concerned in this great national question as citizens and as rate-payers, but particularly as members of a profession which has always taken a keen interest in furthering public health and preventing national deterioration, and as persons who, in virtue of their professional knowledge, are specially qualified to judge of the defects of the system of inspection and treatment at present adopted in London, and of the evils which are resulting from persistence in such defective methods.

4. Finally the Association desires to remind the President of the Board of Education that, inasmuch as the work of medical inspection and treatment is carried out by medical practitioners, its representations are made on technical and practical knowledge of the subject.

Medical Inspection of School Children.

5. On the subject of Inspection, the Association considers that the records at present obtainable shew that the staff of medical practitioners employed by the London County Council is inadequate for the purpose of complying with the objects of the Education (Administrative Provisions) Act, 1907, and the requirements of the Code and of the Board of Education.

6. The Association further desires to point out that the County Council of London have also persistently avoided fulfilling the primary duty laid upon them by Section 13 of that Act (*See* Board of Education Circular 567, p. 7, par. 9), and particularly the "fundamental principle" of that section, namely, the medical inspection of all "entrants," i.e., each of the children "immediately before or at the time of or as soon as possible after their admission to a public elementary school," and whose ages range from 3 to 7.

7. The Association is aware that since November, 1910, that is, nearly two years after the section of the Act (1907) came into operation, the County Council has reported to the Board of Education that it is now medically inspecting all entrants. Further the Association has been informed on March 23rd, 1911, through the Board of Education, that more than 120,000 children had been medically inspected since 1st August, 1910.

8. But the Association desires to point out to the Board that the so-called Medical Inspection of the children defined by the Act of 1907, and the Code, as "entrants," as carried out under the orders of the County Council of London since November, 1910, is a travesty of the provisions and requirements of the Act, since the majority of entrants are not medically inspected at all. The procedure reported by the County Council as "medical inspection" of each child is actually as follows:—An abbreviated card is filled up by the teacher or nurse, the children are then marched past the School Medical Officer, who, if his attention is attracted by a child looking ill, makes a proper inspection of that individual. The Medical Inspectors make separate returns of the children who are merely looked at, but no such distinction is made in the returns furnished by the County Council. Thus the large majority of the entrants are included in the County Council Statistics

as "inspected" without any Medical Inspection having been really made.

9. Further, as regards the Medical Inspection actually made, the abbreviated card of points for medical inspection (M.O. 72), termed by the London County Council the School Record Card, includes only a certain number of the points contained in the Schedule (Circular 582), which the Board of Education "regard as constituting the minimum of efficient medical inspection."

10. The British Medical Association, in view of the incomplete character of the medical inspection made under this abbreviated card, considers that its adoption by the County Council constitutes a further evasion of the meaning and effect of Section 13 of the Education (Administrative Provisions) Act, 1907.

11. That the "simpler plan" and abbreviated card adopted by the County Council of London has led to grave over-looking of physical defects in the children actually inspected is shown in the Report of the Medical Officer (Education) to the County Council for 1909, pp. 7 and 8, wherein the "simpler plan" is compared with the Board of Education Schedule. Thus, of defects of vision the Schedule method revealed three times the amount found by the "simpler plan," five times the number of defects of the heart and circulation, three times the number of defects of the lungs, twelve times the number of defects of the glands, eleven times the number of defects of speech, and ten times the amount of tubercular infection.

12. It is therefore abundantly clear that not only is medical inspection given to but a few of the very large number of children, who ought all to be examined, but that the scheme adopted by the County Council is exceedingly imperfect and that in consequence a very considerable number of children continue to suffer from defects which adequate inspection would have revealed.

13. Thus the great objects of the provision of medical inspection and medical treatment, namely, the formation of national records, the testing of the physical fitness of the children for Education and for profiting thereby, and the prevention of physical deterioration, are most seriously neglected by the County Council.

14. The British Medical Association therefore expresses the hope that in view of the grave nature of the inadequacies of provision made for the medical inspection of school children by the County Council of London, the Board of Education will withdraw its sanction from the present methods of the County Council and will require the execution of a real system of medical inspection of entrants and leavers according to the Act, the Code and the Schedule of Circular 582.

Medical Treatment of School Children found Defective on Medical Inspection.

15. The British Medical Association from 1907 onwards has by its Representative Meetings, Central Executive and Metropolitan Counties Branch, fully considered and published the principles on which in its opinion the Medical Treatment of School Children must be based.

16. The Association recognised from the first that any attempt to combine State Medical School Service and the Voluntary Hospitals and Charitable Institutions must result in failure, and in 1909 made representations to the Board of Education, the County Council and the Hospitals concerned, pointing out the fatal errors of principle embodied in the Hospitals scheme of the County Council and urging the adoption of the British Medical Association's Scheme of local School Treatment Centres, or School Clinics, staffed locally by private practitioners.

17. The Hospitals Scheme of the County Council was, however, allowed as an experiment by the Board of Education for a year (ending December 31st, 1910), with a condition that a Report on the Scheme was to be furnished by the Council. The President of the Board of Education, in response to a request from the Association to be received by him in deputation, kindly approved a Conference between representatives of the Association and the Chief Medical Officer of the Board, Sir George Newman, and the Principal Assistant Secretary, Mr. Selby-Bigge, which was held on March 23rd, 1911. At that Conference the Association pointed out in fullest detail the reasons why Hospital Schemes are necessarily faulty, and why from every point of view, social, technical and educational, all Medical and Dental treatment of School Children should in the Metropolis be administered by means of local centres or clinics.

18. Though the Hospitals Scheme has admittedly failed and no Report has been furnished by the County Council on its administration, the Association has learnt with regret that the continuance of the Scheme has been sanctioned by the Board of Education for another year. On the other hand during the past year three School Treatment Centres or Clinics, organised by local committees of medical practitioners through the British Medical Association, have been adopted by the County Council and are in successful operation.

19. The Association desires respectfully to urge upon the Board the immediate necessity of withholding its sanction from any hospital scheme, and of approving only schemes of medical and dental treatment at School Centres or Clinics, or in sparsely populated districts at recognised surgeries by a voucher system.

THE SEVENTY-NINTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, BIRMINGHAM, JULY 25TH TO 28TH, 1911.

President:
Sir HENRY BUTLIN, Bart., Pres.R.C.S., D.C.L., LL.D., Consulting Surgeon, St. Bartholomew's Hospital, London.

President-elect:
Professor ROBERT SAUNDBY, M.D., LL.D., F.R.C.P., Professor of Medicine, University of Birmingham, and Physician, Birmingham General Hospital.

Past-President:
Sir WILLIAM WHITLA, M.D., LL.D., Professor of Materia Medica, Queen's College, Belfast.

Chairman of Representative Meetings:
EWEN JOHN MACLEAN, M.D., C.M., M.R.C.P.Lond., F.R.S.E., Gynaecologist, Cardiff Infirmary.

Chairman of Council:
JAMES ALEXANDER MACDONALD, M.D., M.Ch., R.U.I., Honorary Physician, Taunton and Somerset Hospital, Taunton.

Treasurer:
EDWIN RAYNER, M.D.Lond., F.R.C.S., Consulting Surgeon, Stockport Infirmary, Stockport.

The Seventy-ninth Annual Meeting of the British Medical Association will be held in Birmingham in July, 1911 The President's Address will be delivered on Tuesday, July 25th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 21st, 1911.

PROGRAMME OF BUSINESS.

The Address in Medicine will be delivered by BYROM BRAMWELL, M.D.Edin., President of the Royal College of Physicians of Edinburgh, Senior Ordinary Physician,, Edinburgh Royal Infirmary.
The Address in Surgery will be delivered by Professor JORDAN LLOYD, M.S., F.R.C.S., Surgeon, Queen's Hospital, Birmingham.

THE SECTIONS.

The scientific business of the meeting will be conducted in sixteen Sections, which will meet on Wednesday, July 26th, Thursday, July 27th, and Friday, July 28th.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

The following sixteen Sections have been authorized by the Council:

ANATOMY AND PHYSIOLOGY.

President: Professor THOMAS H. BRYCE, M.A., M.D., Glasgow.

Vice-Presidents: Professor EDMOND WILLIAM WACE CARLIER, M.D., Birmingham; Professor PETER THOMPSON, M.D., Birmingham; ALEXANDER LOW, M.B., Aberdeen.

Honorary Secretaries: DAVID FRASER HARRIS, M.D., University, Birmingham; THOMAS YEATES, M.B., University, Birmingham; JOHN ERNEST SULLIVAN FRAZER, Anatomical Department, King's College, W.C.

The following programme has been arranged:

Wednesday, July 26th.—Joint debate with the Section of Pathology and Therapeutics, to be opened by Professor ATTENDEN.

Thursday, July 27th:

CARLIER, Professor Wace, M.D. Notes on Some Effects of Isotonic Solutions of Certain Salts on Frog's Muscle.
GRAHAM, Lewis, M.D. Notes and Demonstrations on an Achondroplasic Skeleton.
HARRISON, Professor Richard, M.A. On Variation, with Special Reference to Muscle.
HOWARD, Miss. Demonstration on Reconstruction Models of Ferret's Brain and Pharynx.
GOOD, J. P., M.D. Demonstration of Models Illustrating Spina Bifida in a Ferret.
WILKIE, D. P. D., F.R.C.P.E. The Existence of Valves in the Gastric Veins of Man.
YEATES, Thomas, M.B. (*a*) Notes on Strengthening Plates Used in the Reconstruction Method. (*b*) Demonstration of Embryo Ferrets Cut *in Utero*.

Friday, July 28th:

CARLIER, Professor Wace, M.D. Notes on the Physiology of Some of the Allyl Compounds.
HAYCRAFT, Professor J. Berry, M.D., D.Sc. The Colour-Blind Margin of the Blind Spot.
EDRIDGE-GREEN, F. W., M.D. On Tetra-Chromatic Vision.
HARRIS, D. Fraser, M.D., D.Sc. Some Physiological Aspects of Mine Rescue Apparatus.
HAIG, A., M.D. Some Factors of the Circulation Admitting of Easy Measurement.
WOODWARD, Chad, F.R.C.S., F.R.C.S.E. Observations on the Nutrient Foramina of Fibulae in Man and Apes.
WHITNALL, S. E. Exhibit: Dissections Illustrating Some Points in the Anatomy of the Orbit.

DERMATOLOGY.

President: JAMES GALLOWAY, M.D., London.

Vice-Presidents: JAS. H. SEQUEIRA, M.D., F.R.C.P., London; HORATIO GEORGE ADAMSON, M.D., London; E. GILBERT SMITH, F.R.C.S., Birmingham.

Honorary Secretaries: A. DOUGLAS HEATH, M.D., 41, Newhall Street, Birmingham; R. CRANSTON LOW,

M.B., 6, Castle Terrace, Edinburgh; W. ARTHUR LOXTON, F.R.C.S., 85, Cornwall Street, Birmingham; ARCHIBALD M. HENRY GRAY, M.D., F.R.C.S., 30, New Cavendish Street, London, W.

The following is the programme arranged for this Section:

Wednesday, July 26th, 10 a.m.—Discussion on the Vascular Disorders of the Skin and their Relationship to other Morbid States, to be opened by Dr. T. COLCOTT FOX. The following, among others, will take part in the discussion: Professor Sir William Osler, Sir Malcolm Morris, Dr. J. J. Pringle, Dr. Leslie Roberts.

Thursday, July 27th, 10 a.m.—Joint meeting with the Section of Therapeutics to discuss Recent Developments in the Recognition and Treatment of Syphilis: To be opened by Mr. J. ERNEST LANE, followed by Major T. W. Gibbard, Major H. C. French, Dr. Otto Grünbaum, Captain L. W. Harrison, Dr. G. H. Lancashire, Mr. J. E. R. McDonogh, Dr. G. Pernet, and others.

Friday, July 28th, 10 a.m.—Papers.

Cases of interest will be demonstrated on Wednesday and on Friday morning at 9 a.m.

DISEASES OF CHILDREN.

President: OTTO JACKSON KAUFFMANN, M.D., Birmingham.

Vice-Presidents: WALTER ROSS JORDAN, M.D., Birmingham; GEORGE HEATON, F.R.C.S., Birmingham; JOHN DOUGLAS STANLEY, M.D., Birmingham; Miss ANN ELIZABETH CLARK, M.D., Birmingham.

Honorary Secretaries: JAMES EDWARD HILL SAWYER, M.D., 93, Cornwall Street, Birmingham; SEYMOUR GILBERT BARLING, M.S., 81, Edmund Street, Birmingham; REGINALD HY. MILLER, 53, Queen Anne Street, London, W.

The following programme has been arranged:

Wednesday, July 26th.—Discussion on the Diagnosis, Prognosis, and Treatment of Tuberculous Peritonitis. To be opened by Dr. H. D. ROLLESTON, F.R.C.P., and Mr. G. A. WRIGHT, F.R.C.S., followed by Messrs. C. L. Macalister, Douglas Drew, Parry Morgan, Edmund Cautley, and others.

The following is an abstract of Dr. H. D. ROLLESTON'S paper: The designation "tuberculous peritonitis" includes various degrees of intra-abdominal infection with the tubercle bacillus, and the features of the disease, and especially the prognosis, vary according as the infection falls mainly on the peritoneum or involves the glands or the intestines as well. As statistics usually apply to all forms of abdominal tuberculosis in which the peritoneum shares, their value is much impaired. *Diagnosis:* In some cases the disease may be latent or only become manifest by causing a hernia. Though the onset is usually considered to be insidious, it is acute in probably one-third of the cases, and may then imitate appendicitis or even more acute conditions. Diagnosis is naturally most difficult in the early stages, and in the rare instances in which the disease attacks children within the first twelve months of life, in whom other forms of gastro-intestinal disturbance may simulate it. The ascitic form must be distinguished from the ascites of cirrhosis and of sarcoma, comparatively rare conditions, and from that of polyorrhomenitis. Jaundice and enlarged cutaneous veins on the abdomen are in favour of cirrhosis. Help may, of course, be obtained from tuberculin tests and examination of the fluid. Encysted tuberculous peritonitis must be differentiated from various tumours and cysts. Attention is drawn to the tympanitic form. *Prognosis:* This is good in the ascitic form, bad in widespread abdominal tuberculosis, in mixed infections, in cases with much pyrexia, and in the presence of advancing tuberculosis elsewhere. In children prognosis is better than in adults; probably this is in part due to the greater incidence of more extensive tuberculosis; for example, of Fallopian tubes, or of hepatic cirrhosis in adults. *Treatment:* The importance of proper hygiene and treatment for tuberculosis in general is emphasized. The old problem of medical *versus* operative treatment is discussed; and in connexion with the *rationale* of laparotomy the question how often removable tuberculous foci are found in children is raised. Medical treatment is referred to, and also treatment by *x* rays. Lastly, the effects of vaccine treatment is put forward for discussion.

The following are the headings under which Mr. G. A. WRIGHT will treat the same subject from the surgical standpoint:

(1) Diagnosis from other varieties of peritonitis, pneumococcal, gonococcal, and allied forms, and from peritonitis due to infection by various pyogenic organisms, also from traumatic inflammations, enteritis, and mechanical obstruction; (2) the importance of the family and personal history; (3) the forms of tuberculous peritonitis (*a*) ascitic, (*b*) dry (plastic), (*c*) miliary, (*d*) localized; (4) involvement of lymphatic glands; (5) prognosis of the different varieties as to life, and as to subsequent troubles, faecal fistula, etc.; (6) treatment, (*a*) general, (*b*) laparotomy, (*c*) opening local collections, (*d*) plastic operations, (*e*) tuberculin.

Papers:

HUME, Dr. W. E. General Oedema following Gastro-enteritis in Children.

PARSONS, Dr. Leonard. Infantilism Associated with Chronic Interstitial Nephritis.

GRAY, H. Tyrrell, F.R.C.S. Spinal Anaesthesia in Children.

Thursday, July 27th.—(1) Demonstration (9 to 9.45 a.m.), of the use of Plaster of Paris in the Mechanical Treatment of Spinal Caries, by Mr. H. J. GAUVAIN. (2) Discussion on the Diagnosis and Treatment of Chronic Pulmonary Affections of Children: To be opened by Dr. SAMUEL WEST, followed by Drs. Clive Riviere, C. P. Lapage, H. Vogt (Strassburg), Parry Morgan, Hugh Thursfield, J. E. H. Sawyer, and others.

The following is a syllabus of the remarks to be made by Dr. SAMUEL WEST in opening the discussion:

Tuberculous pulmonary affections in children are usually acute. *Phthisis* is rare; so, too, is *haemoptysis;* but both may occur even in infants. *Tuberculous pleurisy* is much less frequent than tuberculous peritonitis. *Tuberculous mediastinal and bronchial glands* rarely lead to pulmonary lesions, unless they communicate with a bronchus, and then the mischief excited is acute. They are a frequent cause of spasmodic dyspnoea, often called asthma. True *spasmodic asthma* is rare. *Stridor* and *dyspnoea* of indefinite cause should always raise the question of foreign body, in the diagnosis of which the *x* rays might help. *Child-crowing* and *laryngismus stridulus bronchitis* is generally acute. What is called chronic bronchitis is often merely recurrent acute attacks. Chronic bronchitis as met with in the adult is rare. *Emphysema* as the result of bronchitis or violent coughing is a transient over-distension. Permanent compensatory emphysema would often be more correctly described as hypertrophy. Genuine atrophic emphysema is rare. It is of nutritional and not mechanical origin, and may be started by some acute disease, such as pneumonia. *Collapse* is common in infants, because of their feeble muscular power and the want of rigidity in the chest walls. Very slight obstruction in the air tubes may thus lead to marked inspiratory recession and widespread collapse. Collapse becomes less common as age advances. In obstruction to the air tubes the air in the corresponding vesicles is rapidly absorbed, and that under a negative pressure sufficient to cause dilatation of the adjacent vesicles, or, even when the collapse is extensive, to produce considerable displacement of the organs in the mediastinum. When the lungs are compressed the collapse is most marked in the parts immediately adjacent, as in pleuritic effusion. When the movements of the diaphragm are interfered with, as in great abdominal distension, and in reflex inhibition or actual paralysis, the collapse of the lower parts of the lungs is extensive and of grave import. *Bronchiectasis and bronchiolectasis* in the acute form is common in acute bronchitis. In the chronic form it is associated with fibrosis of the lung. The peculiar condition described as "turtle lung" is often preceded by a febrile attack like pneumonia, but its cause is often obscure. It is sometimes simulated by extensive collapse. *Treatment* must be on the same general lines as in the adult. Prevention is better and easier than cure. If the risks of the acute affection be past, recovery is easier and more complete in children than in adults. In many chronic conditions the mischief is done and the lesion irremovable, so that treatment must be systematic and general. Affections of the mediastinal glands are often overlooked; yet, if recognized and treated on general lines much relief may be given.

Papers:

VOGT, Dr. H. (Strassburg). Disturbances arising from milk feeding in children after the first year.
FITZWILLIAMS, D. C. L., F.R.C.S. Nervous Influence in the Causation of Angeiomata.
BARNES, Frank, F.R.C.S. The Open Incision in Congenital Dislocation of the Hip.

Friday, July 28th, 9 a.m.—Demonstration of scoliosis by Mr. Paul Roth at 9 a.m.

Papers:

BATTEN, Dr. F. S. The Epidemiology of Acute Poliomyelitis.
STOELTZNER, Professor, of Halle. Oxypathy and Uric Acid.
ROTH, Paul B., F.R.C.S. Report upon 1,000 Cases of Scoliosis.
MILNE, Dr. Robert. Measles: Its Treatment and Prevention.
GOYDER, F. W., F.R.C.S. Modifications of Owen's Operation for Hare-lip.

ELECTRO-THERAPEUTICS AND RADIOLOGY.

President: HUGH WALSHAM, M.D., London.

Vice-Presidents: ASTLEY VAVASOUR CLARKE, M.D., Leicester; W. DEANE BUTCHER, M.R.C.S., London; JOHN ALFRED CODD, M.D., Wolverhampton.

Honorary Secretaries: FRANKLIN EMRYS-JONES, L.M.S.S.A., 103, Newhall Street, Birmingham; GEORGE HARRISON ORTON, M.D., 67, Upper Berkeley Street, London, W.

The following programme has been arranged:

Wednesday, July 26th, 10 a.m. to 1 p.m.

PRESIDENT: Introductory remarks.
Sir OLIVER LODGE: On the Conveyance of Electricity through Solids, Liquids, and Gases, and the production of Radiation.
Dr. LEWIS-JONES: To open a discussion with demonstration on Ionic Medication and the Theory of Ions.

The following is an abstract of Dr. LEWIS-JONES's paper:

As our knowledge progresses we begin to recognize that the effects of electricity on the human body fall into line as chemical or physical actions. The chemical are mainly ionic, the physical mainly thermal. The electric shock is due to the sudden displacement of ions in the nerve trunk or nerve endings. The sting of the constant current is due to the slow displacement of ions, and, indeed, the sensations of the constant current can be altered by altering the solutions with which the electrodes are moistened. An example of an ion whose penetration produces slight pain is the salicylic ion, while the ion of carbonic acid is one which causes severe pain at the electrode from which it is entering the skin. All this has been clearly established by the writings of Professor S. Leduc. The vexed question of the absence of shock or sensation when the large currents of the high-frequency apparatus are used is also explicable upon this theory of ionic displacement. With the very brief impulses of high frequency the ions are displaced so slightly as to be incapable of stimulating the tissues; and it is important to note that d'Arsonval long ago showed that ordinary alternating dynamo currents produced less and less effect as their wave lengths were reduced, and he gave the figure of 30,000 per second as the speed at which sensation disappeared. It is probable that the wave length which is just too short to stimulate is not the same for all nerves; sensory effects seem to require rather longer waves than motor phenomena. With high-frequency currents the ionic effects have disappeared, and nothing is left, that we know of, except the thermal effect. This may be the sole agent in producing the therapeutic results of high frequency, and, if so, it leads us to hope that in the near future the employment of much more powerful apparatus and of larger currents may give better results from high-frequency applications.

Dr. THURSTAN HOLLAND: Calcareous Abdominal Glands.
Dr. FRED. BAILEY: Fractures Undiagnosable except on *X*-ray Examination (illustrated by lantern slides).

Thursday, July 27th, 10 am. to 1 p.m.

Sir VICTOR HORSLEY and Dr. FINZI: A Note on the Action of Filtered Radium applied directly to the Brain.
Mr. DEANE BUTCHER: To open a discussion on the Therapeutics of Radium. The following among others have expressed a wish to join in the discussion: Dr. Dawson Turner, Dr. Sequeira, Dr. Abraham, Dr. Robert Knox, Dr. Finzi, Dr. Armstrong.

The following is a syllabus of Mr. DEANE BUTCHER's paper:

The active agent, filtration, applicator, quantity; the action of radium irradiation on the nerve-endings in the suppression of pain and itching; the haemostatic effect; the stimulation of epithelial growth and of fibrous tissue; action on rodent ulcer, on superficial epithelioma of the integument, warts, naevi, eczema, psoriasis; the introduction of radium into the cavity of new growths by Abbe's method; Harel's method of the electrical introduction of radium ions; the *rationale* of radium and *x*-ray irradiation; the theory of auto-immunization; radium in gynaecology and in diseases of the rectum, oesophagus, and bladder; the use of radium emanation; the replacement of radium by thorium.

Professor WERTHEIM SALOMONSON: A Modified Form of Benoist's Penetrometer.
Dr. REGINALD MORTON: The *X*-ray Treatment of Malignant Disease.
Dr. IRONSIDE BRUCE: Pyelography and the use of Collargol in the Diagnosis of Diseases of the Urinary Tract.

Thursday, July 27th, 2 p.m. to 3 p.m.

Mr. WM. ARMSTRONG: Radium Water Therapy.
Dr. SAUBERMANN: Demonstration of the Latest Apparatus for the Making of Radio-active Water, and Suitable Apparatus for Inhalation.

Friday, July 28th, 10 a.m. to 1 p.m.

Mr. HALL-EDWARDS: Will open a discussion on the *X*-Ray Treatment of Ringworm.

The following is a syllabus of the paper with which Mr. HALL-EDWARDS will open the discussion:

The disease more common than generally accepted. Old methods of treatment lengthy and uncertain. The *pros* and *cons* of *x*-ray treatment. The best methods of applying the *x* rays. Condition of tube most suitable for treatment. Measurement of the dose. Advantages of *x*-ray treatment. Dangers, and how to avoid them. Treatment after epilation.

Dr. NAGELSCHMIDT: The Diathermic Treatment of Circulatory Disorders. Demonstration: A New Condensator Couch.
Dr. KNOBEL: The Differences in the Appearance of Phthisical Chests, as shown by *X* Rays before and after Open-air Treatment.
Dr. HERNAMAN-JOHNSON: The Treatment of Certain Diseases of the Alimentary Tract by *X* Rays, combined with the Internal Administration of Metallic Silver.

LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

President: FRANK MARSH, F.R.C.S., Birmingham.

Vice-Presidents: FREDERICK WALTER FOXCROFT, M.D., Birmingham; WILLIAM LAMB, M.D., Birmingham; ATWOOD THORNE, M.B., London.

Honorary Secretaries: WILFRED GLEGG, M.D., 85, Cornwall Street, Birmingham; BERTRAND SEYMOUR JONES, F.R.C.S., 93, Cornwall Street, Birmingham; WILLIAM GUTHRIE PORTER, F.R.C.S., 16, Manor Place, Edinburgh.

The following subjects have been selected for special discussion:

Wednesday, July 26th, 10 a.m.—Treatment of Laryngeal Tuberculosis. To be opened by Dr. DUNDAS GRANT and Dr. WATSON WILLIAMS.

The following are synopses of their papers:

Dr. DUNDAS GRANT (not yet received).

Dr. P. WATSON-WILLIAMS: (1) Briefly historical. (2) Reference to the pathogenesis of tuberculous affections of the larynx, and the differentiation of clinical varieties; their prognostic import from the therapeutic standpoint. (3) General treatment; the effects of climate, altitude; the value of sanatorium methods; the tuberculins, etc. (4) Local therapy—for example, submucous injections, galvano-cauterization, applications of lactic acid, curettement, and other surgical measures; their indications, scope, and limitations. (5) Survey of our present position in the treatment of tuberculous affections of the larynx.

Thursday, July 27th, 10 a.m.—Treatment of Chronic Adhesive Processes in the Middle Ear: To be opened

by Mr. MACLEOD YEARSLEY and Dr. FREY with papers, of which the following are abstracts:

Mr. MACLEOD YEARSLEY, F.R.C.S.: Magnitude of the subject. The conditions to be discussed must be limited to post-suppurative and post-catarrhal processes. Importance of accurate diagnosis, which is dependent upon the careful consideration of three factors — symptoms, results of physical examination, and the evidences afforded by careful functional testing. Value of regular inflation and nasal treatment, especially with regard to Rosenmüller's fossae. Prophylaxis the treatment of the future. In well-established cases of deafness from chronic adhesive middle ear processes, how far are we justified in recommending nasal operative treatment? What are the values of such adjuncts to treatment as oto-massage, applications of hot air, and various intratympanic injections? Electrical treatment after the method of Urbantschitsch. The use of thiosinamin, or its derivative fibrolysin, is disappointing. The operative methods of treatment include mobilization of the malleus, incision of the posterior fold, tenotomy of the tensor tympani and stapedius muscles, exploratory tympanotomy, the division of adhesions, removal of portions of the membrana tympani, and ossiculectomy. Some of these are useful. The value of ossiculectomy is doubtful; possibly the operation is unjustifiable. Whatever method of treatment, non-operative or operative, is employed, a considerable number of cases remain unrelieved. For these, two courses are open—lip-reading, or the use of an artificial aid to hearing. As regards the latter, there is room for valuable research. There is much to be done in the investigation of the relative uses of electrical aids, combinations of telephone and microphone; but such investigation requires the co-operation of the expert electrician and the otologist.

Dr. FREY: (1) Difficulties arising from loose terminology in present use. (2) A plea for the distinction of otosclerosis from chronic adhesive process, and for more exact reports and better diagnosis by contributors. (3) Definitions of the term "chronic catarrhal adhesive process." (4) A cursory account of the etiology of the disease. (5) Discussion and comparison of various methods of treatment under the following headings: (*a*) Prophylactic measures; (*b*) local—mechanical, electrical; (*c*) constitutional; (*d*) operative. (6) Summary of the chief points in treatment.

Friday, July 28th, 10 a.m.—The Diagnosis and Treatment of Conditions in the Accessory Nasal Sinuses giving rise to Oculo-Orbital Symptoms. To be opened by Professor Onodi and Dr. Bronner, of whose papers the following are abstracts:

Professor ONODI: (1) Oculo-orbital symptoms in manifest and latent accessory sinus disease. (2) The diagnostic value of central scotoma, enlargement of the blind spot, narrowing of the field of vision, the ophthalmoscopic appearances, the unilateral symptoms, etc. (3) Indications for treatment in the individual manifest accessory sinus diseases. (4) Further treatment in latent accessory sinus disease by bleeding and relief of pressure. (5) Post-operative visual disturbances and blindness.

Dr. ADOLPH BRONNER: The commonest affections of the accessory nasal sinuses giving rise to oculo-orbital symptoms are: (1) Empyema, following rhinitis, often due to scarlet fever, measles, influenza, erysipelas, typhoid, etc. (2) Diseases of the bone, secondary to empyema, due to syphilis or tuberculosis. (3) Growths. (4) Wounds. There are often congenital defects of the bone which facilitate spread of disease from one sinus to the other, or to the brain and orbit. Transillumination and *x* rays are useful for diagnosis, especially the latter in case of frontal sinus disease. *X*-ray treatment should be tried in some cases. In cases of syphilis energetic treatment is necessary: Mercurial inunctions, very large doses of potass. iodide with decoctum sarsae co., and if necessary "606. In tuberculous cases inject tuberculin. Try Moro test. Vaccine (if possible autogenous) or serum treatment should be tried in all severe cases. In many cases several of the accessory nasal sinuses are involved, and treatment of one sinus alone is useless. (1) Empyema of maxillary antrum. Most reliable method of diagnosis to wash out the antrum through nares. Bad smell and taste often the only symptoms. Treat by making large opening through the nares, and often also through the canine fossa. Remove diseased teeth or dental cysts. As all, even the most trivial, nasal operations can give rise to severe local and general affections, the patient should always remain in bed, and be watched for a few days. If there is a growth of the maxillary antrum, or much diseased bone (tuberculosis), the upper jaw should be removed. These operations are most successful. If the orbit is affected there is generally phlegmonous cellulitis due to thrombosis of the veins. Also consequent cavernous sinus disease, and thrombosis of the central retinal veins. Often conjunctivitis, mucocele, asthenopia. (2) Empyema frontal sinus. Pain over the frontal sinus may also be due to disease of the maxillary antrum. If the frontal sinus is affected, the pain is more severe and intermittent. Upper or inner wall of orbit often painful on pressure. If the orbit is affected (caries, cellulitis), Killian's or even a more extensive operation (Watson Williams) should be performed, as in most cases the anterior ethmoidal cells are also diseased. If there is optic neuritis, or cerebral symptoms, the posterior wall of the frontal sinus should be opened up, and the brain exposed. In some cases the frontal sinus extends backwards as far as the optic foramen. If the symptoms are not urgent it is always advisable to try intranasal treatment first, removing part of the middle turbinate and any small recurrent polypi at intervals of a few days, to get free drainage. There is always a danger of disease of diploë after the external operation on the frontal sinus. Periostitis of the orbit with consequent cellulitis is more common than primary cellulitis. In cases of hydrops of the sinus a less extensive operation suffices. (3) Empyema of ethmoidal cells. There is often pain on pressure on the inner wall of the orbit with crackly noise. Periostitis of the orbit is often mistaken for disease of the lacrymal sac. Operate intranasally, and, if necessary, extranasally. Make large incision extending below lacrymal sac. If there is meningitis due to disease of the cribriform plate or upper wall of orbit, also expose and drain these parts thoroughly. Remove sarcoma of the ethmoid (not uncommon) extranasally (Moure, Watson Williams). (4) Empyema sphenoidal sinus. Often there are no symptoms. In all cases of obscure retrobulbar neuritis, slight optic neuritis (unilateral), meningitis, the sphenoidal sinuses should be carefully examined and explored. Size of sinus varies very much; one side often overlaps the other. Posterior ethmoidal cells also frequently involved, as they often overlap the sphenoidal sinus. Very important because of position of optic nerve. Optic neuritis and retrobulbar neuritis due to pressure or to perineuritis or toxins. Central scotoma due to congestion of veins of optic nerve or toxins. Meningitis and cavernous sinusitis more frequent than disease of orbit. Often cerebral and extradural abscess. Caries of sella turcica or growth of pituitary body. Paralysis of ocular muscles frequent. Anterior and also lower wall should be removed thoroughly. Small opening often closes up. In most cases necessary to remove middle turbinate first. In cases of growth or extensive bone disease, try to remove extranasally (Jansen, Moure). Importance of semicanalis ethmoidealis (Onodi). If several of the accessory sinuses are involved and the symptoms are urgent, operate on all the cavities at once through the maxillary antrum (Jansen); (maxillary antrum and sphenoidal sinus are often only separated by thin bone), or through frontal sinus, removing lower wall, or from the front (Moure, Watson Williams, Lowe), or each cavity separately.

MEDICAL SOCIOLOGY.

INCLUDING MEDICAL INSPECTION OF SCHOOL CHILDREN, HOSPITAL ADMINISTRATION, AND CONTRACT PRACTICE.

President: GEORGE REID, M.D., Stafford.

Vice-Presidents: MATTHEW HALLWRIGHT, M.R.C.S. Birmingham; MATTHEW ARDEN MESSITER, M.R.C.S. Dudley; HENRY WILLIAM ARMIT, M.R.C.S., London.

Honorary Secretaries: JAMES NEAL, M.R.C.S., 610 Coventry Road, Small Heath, Birmingham; GEORGE AUGUSTUS AUDEN, M.D., Solihull, Birmingham; JAMES PEARSE, M.D., 28, St. George's Terrace, Trowbridge.

The following programme has been arranged:

A. Discussion on Medical Aspects of the Poor Law Question, with special reference to State Insurance and the provision of better medical attendance on the

poorer members of the community by (*a*) whole-time medical officers, (*b*) provident dispensaries and other forms of contract practice, (*c*) private medical practitioners. To be opened by Mr. J. Smith Whitaker, Medical Secretary.

The following are synopses of some of the papers contributory to the discussion.

1. *State Insurance* (Dr. J. H. TAYLOR).—Starting with the principle affirmed by the British Medical Association that, if certain conditions are fulfilled, the inclusion of medical benefits in a State sickness insurance scheme is desirable, the paper will discuss how the medical profession should meet the position if, as seems not improbable, some of these conditions are not granted by amendments to the National Insurance Bill now before Parliament.

2. *State Insurance* (Dr. MICHAEL DEWAR).—The exclusion of the destitute and indigent from a national medical service. This class ought to be attended to by a reformed Poor Law system. Difficulties of providing for the class immediately above the paupers, those who up to the present time have been the recipients of voluntary medical charity. A possible way out of the difficulty. For the better wage-earning class there must be a wage limit. The wage limit proposed too high. A probable redundancy Budget for ordinary and institutional treatment for persons up to £160 a year limit. Reasons for opinion. Provisional scheme for affording such treatment up to the £160 limit. Question as to the best way in which the work can be carried out in the interests of the public, the State, and the medical profession: (1) By whole-time medical officers; reasons against such proposal. (2) By provident dispensaries; reasons against proposal. (3) By an extension of contract practice under the friendly societies; reasons against proposal. (4) By private medical practitioners—the only feasible and practicable solution of the difficulty; discussion of methods.

3. *State Insurance* (Dr. P. R. COOPER): (1) Need of broad and comprehensive view of whole subject by medical men; reasons which have led to introduction of present Insurance Bill; general reception of the measure. (2) General principles of insurance; objects of State scheme; chief defects of bill; systems in vogue in other countries. Relations of medical profession to Government scheme; co-operation of profession essential to its working—it is truism that "best interests of public and of profession identical," and it has been admitted in principle, even the Chancellor himself, that no medical service under national scheme of insurance can be an enduring success which does not afford satisfactory and honourable conditions of service and equitable terms of remuneration to the medical men employed. (4) Regarding conditions of service, medical men are practically unanimous on the following points: (*a*) Refusal of friendly society control; (*b*) granting fair representation of medical men on all controlling bodies; (*c*) freedom of choice of doctor by patient, and *vice versa*; (*d*) strenuous resistance to imposition of conditions which approach to sweating and slavery, and which would inevitably gravely injure the present status of the profession and its capacity for doing good work for advancing medical science, besides seriously tending to exclude from its ranks the best men in the future. Reasons for insisting upon all these points. As regarding methods and terms of remuneration, all are agreed that payment should be adequate for services rendered, but there is some difference of opinion as to what is adequate, and as to how it should be paid—that is, per visit, per head, etc. No payment can be adequate which does not yield a fair fee per unit of work done—that is, if payment be by capitation it must when worked out as

$$\frac{\text{capitation fees received}}{\text{total visits paid}}$$

yield a fair fee per unit. The present proposals of the Chancellor work out at about 1*s.* per unit of work done, and this makes no allowance for overhead charges." (*a*) Payment according to work done upon an agreed tariff of fees the preferable and more equitable plan. Objections to the method considered and answered; great advantages of the method shown; a sliding scale of fees necessary for the better-to-do classes. (*b*) Payment by capitation fee shown to be pernicious in principle and to have failed signally in practice in almost every instance (Contract Practice Report, BRITISH MEDICAL JOURNAL, Poor Law Commission Reports, etc.). Payment per capita necessarily involves question of wage limit; reasons for insisting on wage limit and other fatal objections to capitation system. (6) Compromise suggested, namely, (*a*) a retaining fee of 5*s.* per head per annum from each beneficiary, which entitles the latter to two free medical consultations or overhaulings per annum, and (*b*) a small fee per ordinary visit or attendance, with special fees for "extras." All medicines, dressings, appliances, vaccines, *x*-ray and laboratory examinations, etc., to be paid for separately out of the insurance fund. A wage limit and a sliding scale of fees would still, of course, be necessary. A portion of the doctor's fee should be paid by the patient, or out of a savings or deposit fund contributed to by the patient. (7) The attitude of the medical profession towards the National Insurance Bill and the policy of the British Medical Association in regard to the measure (*a*) before it becomes law and (*b*) afterwards. (8) Need for stronger union amongst members of the profession, both for maintaining a high ideal of professional honour and usefulness, and for protecting our calling from the destructive inroads of rash and ill-considered legislation, which, however good in intention, may be fraught with grave danger to the community.

4. *The Future Position of the Poor Law Medical Officer* (Dr. A. E. LARKING).—The paper will show that the Poor Law medical officer is probably a doomed individual, whose work will be taken away from him by the State under the National Insurance or other bill.

5. *The Importance of Maintaining the Independence of the General Practitioner* (Dr. FLEMMING).—The position and value of the general practitioner as regards the State, the patient, science, and the medical profession. How these are affected by his independence. The effect of interfering with his independence. Cannot be compared with the medical officer of health, who deals with units and not with human individuals. The sum of the influence of several independent medical practitioners compared with the influence of a body of State servants. The practitioner's immediate and primary concern with the patient is treatment and not prevention. The influence with the patient of the private practitioner as opposed to that of the official. The enervating influence of officialdom and the want of stimulus of constant competition not to interest of the patient. Official tendency to routine methods and schools of thought are opposed to progress of science, or at least do not help progress, and are a hindrance to originality. The commands and prizes in a State service go to diligence and duty, and not to originality and science. Individuality and character would have no value, and the profession would in status come to be on a level with any other Government service.

6. *The State Distrust of the Profession* (Dr. F. WYNNE).—That there is such a distrust can be demonstrated, and it is the main factor in the troubles which constantly arise between the public and the profession. *Evidences of its Existence:* The attitude towards the profession of all bodies representative of various sections of the public—for example, executives of clubs, friendly societies, insurance companies, hospitals, boards of guardians, municipal councils, and Parliament. Instances of the effect of this attitude in various disputes and in speeches by public men—for example, Lloyd George and John Burns. Its effect on legislation in the past, as seen in the Midwives Act, Notification of Births Act, and the Death Registration Bill. Sir W. Collins's statement that there was an impression in the House that the profession was "out for fees." *Causes of its Existence:* The revolt of the profession against exploitation. A disunited and sentimentalized profession has been thoroughly appreciated by the public. The peculiar nature of our services renders it ethically impossible to refuse them. This fact has been used to cheat the profession of its just rights, and its own jealousy and disunion have completed its serfdom. The modern general practitioner is the successor of the old physician with the gold-headed cane and of the shop-keeping apothecary. But the conditions of neither are suitable to him, hence the disorganization of a profession which has attempted to combine these incompatible functions and at the same time to acquire and administer modern medical science. As long as the doctor consented to be a beast of burden the public assured him that he belonged to a noble profession, but the instant he asks for a fee the same public declares in horror that he is "demanding his pound of flesh." It is this distrust which

gives rise to the difficulty between ourselves and the Government in connexion with the State insurance scheme. There is now no doubt that the majority of the profession, or at all events of this Association, wishes to get rid of the contract system, to be paid in proportion to the services actually rendered. It is equally certain that the Government do not intend to grant this. Their refusal is not on the grounds of greater direct cost. Fees could be arranged on a scale to obviate this. It is distrust of the profession. It is the belief that under the contract system the profession would have an interest in discouraging malingering, while under a system of payment for work done they would have an interest in encouraging it. They cannot conceive of any higher ethical standard actuating men who have so long been enslaved. Our aim must be to convert this distrust into confidence, but before we can be trusted we must be feared. If the profession now accepts a continuance and an enormous development of the contract system under State patronage it will give its sanction to a system that contains the seeds of corruption and decay. Contract practice is doomed, and any attempt so set it on its legs again will succeed only in demonstrating its rottenness. The break-up of the present scheme which will ensue will then inevitably lead to the reorganization of the whole profession on the basis of a State medical service. Even if that were, as some think, the ideal solution, to approach it via some forty years in the wilderness of contract practice is a wasteful and stupid proceeding. If this Association fails to modify the Government proposals before they become law, it should be its policy to render them unworkable on any terms but its own.

7. *A State Medical Service* (Dr. F. G. LEYTON).—In this paper it will be suggested that what is required is a State Medical Service, having at its head a Minister of Public Health of Cabinet rank; that the service should be financed by national funds, and be manned by whole-time properly salaried officers, and these should automatically proceed from junior posts upwards, provided they continue to be competent. The latter point would be determined by their subjection to a periodical and otherwise practical clinical examination. The scheme would include a single portal of entry to the medical profession.

B. Discussion on Hospital Reform as affected by the National Insurance Bill.

The following are abstracts of some of the papers contributory to this discussion:

1. Dr. LAURISTON SHAW: Details and programme of reform must be in abeyance until the Act is passed. General principles should be carefully considered at once to enable the interests of the reform movement to be safeguarded: First, in Committee stage of the bill; secondly, during the negotiations that must follow the passing of the Act. The chief aim of reform should be to *define the scope and improve the character* of the service to be rendered by the hospital. The provision on an insurance basis of *ordinary medical treatment* for all workers by the bill concentrates attention on the *extraordinary* character of hospital treatment. The *economic* scope of hospital work becomes much more easily defined, especially in view of the income limit of those receiving "medical benefit," which will be insisted on by the profession. The *professional* scope of hospital work is greatly simplified. Ordinary medical attendance being otherwise satisfactorily secured, the hospital must provide only *consultative* assistance. *Hospital reform* of the future will consist, not in providing checks to keep out unsuitable cases, but in providing attractions to bring in suitable cases. The two classes of hospital reformers will be voluntary hospital-enders and voluntary hospital-menders. The enders are those who desire the municipalization of all *institutional* treatment. The menders are those who believe in the voluntary system and intend to perpetuate it. The menders must so reform the hospital that it will attract medical men responsible for domiciliary treatment to desire its consultative assistance; that it will satisfy the philanthropist that it provides something different from and superior to that provided by the State; that it will satisfy the patient with its service without making him dissatisfied with the service of his ordinary attendant. Hospital reform must maintain a voluntary institution, approved of by the subscriber, by the doctor who works inside it and the doctor who works outside it, and by the patient. It must promote the treatment of the sick, the advancemen science, and the education of the student, the practitio and the teacher of medicine.

2. Mr. J. COURTNEY BUCHANAN (Secretary of the M politan Hospital, London): The paper suggests hospital reform should be directed to preserve the vo tary system unimpaired, and maintain the hospital a supplementary service to any service under any Sta municipal authority for the following three purpo (1) Consultation: To provide consultative and sp treatment for the most grievous forms of dis (2) Education: To raise the general standard o medical education. (3) Scientific research: To adv and facilitate scientific research. With regard to patients, at all events, the National Insurance Bill pletely changes the position and prospects of the volu hospitals. The future of the hospitals will largely de on the attitude of the medical profession towards Government in connexion with the bill, for it is ceivable that, without strong action by the British Me Association, there might be sufficient doctors in Lo (though not in the country) who would accept the t of the bill as at present drafted, and leave the hos to deal with all or most of the cases which are diffic expensive to treat. It will be suggested that pa ought not to be free to attend at the hospitals until have been examined by their own doctors, and it is gested that institutions on provident principles, su those laid down in the Majority Report of the r Royal Commission on the Poor Laws and Relief of tress, should be grouped around the hospitals as the for the medical provision under the Insurance Bill. voluntary hospitals would then bear the same relat the provident institutions and other medical se including the Poor Law infirmaries (which are ex State hospitals) provided for the general use o poorer classes, that consultants bear to general titioners in the case of the well-to-do. The orga work of the almoner's department of the ho should be fully developed: (i) To assist patients to r the benefit received at the hospital of permanent se and (ii) to bring the hospital into co-operation with o charitable agencies, and into co-ordination with the Health Service to arrest and prevent disease. In or avoid further confusion in the already complex administration with borough councils, sanitary comm health committees, etc., it is submitted that conside of the medical sections of the reports of the recent Commission on the Poor Laws and Relief of D should be taken *pari passu* with consideration o National Insurance Bill. To maintain the volu system the whole service should be controlled by a c council with advisory and supervisory powers, such now exercised by the King's Fund. A central c with definite powers in relation to the hospitals woul be of value as a trained and experienced body fo public inspection and control as it may be found nec to extend to voluntary hospitals which receive mone the "approved societies" for the treatment of patie grants-in-aid from the State for the erection o buildings, for medical education, and scientific resear

3. Mr. NEVILLE CHAMBERLAIN (Birmingham): H out-patient departments under present cond Their defects from the point of view of the pitals, of the medical profession, and of the pa The failure of the remedies hitherto proposed. E ments in Birmingham. The remedy must come without and not from within the hospitals. The system of medical relief. Provident dispensaries. difficulties that retard or prevent success. Free d saries and Hospital Saturday funds. Their effect on dent dispensaries. The trend of modern legislation our voluntary institutions withstand it? The Na Insurance Bill; its effect, if passed, on hospitals, dent dispensaries, and general medical practit Conclusions as the probable future of voluntary hosp

4. Dr. E. D. KIRBY (Birmingham): Hospital refo Birmingham complicated by the fact that peop allowed to subscribe to the medical charities for the benefit, converting them into provident institution foundation of the general dispensary; its progres present condition; the influence of the Hospital Sa movement; the injury to the public, the friendly so and the profession.

5. Mr. PENROSE WILLIAMS (Bridgwater).—The paper refers only to hospitals officered by general practitioners; questions of out-patients and subscribers' notes materially aided by National Insurance Bill. All hospitals will cease to be alternatives to club and parish sources of medical aid. All hospitals will take their proper place—institutions for *special* treatment only. A necessary corollary that work must be subdivided and staff "specialize" and further necessity for increase of staff—in fact, as many as possible, instead of a few—with great benefit of general combination and union in local profession.

C. Discussion on the treatment of school children, with special reference to (*a*) school clinics, (*b*) reference to private medical practitioners, (*c*) reference to the Poor Law, (*d*) medical certificates to justify absence from school.

MEDICINE.

President: ALFRED HENRY CARTER, M.D., Birmingham.

Vice-Presidents: HENRY MALET, M.D., Wolverhampton; THEODORE STACEY WILSON, M.D., Birmingham; WILLIAM HUNTER, M.D., London.

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The following subjects have been selected for discussion:

Wednesday, July 26th.—Asthma, its Varieties and Treatment:—To be opened by Dr. GEORGE ALEXANDER GIBSON, D.Sc., F.R.C.P., with a paper of which the following is a syllabus:

Physiological Bases for Classification.—(1) Mechanical arrangements for aëration of blood. Upper air passages: Vascular and nervous supply. Erectile tissues. Protective or defensive mechanism. Lower air passages: Larger tubes with little muscular tissue; smaller tubes with much muscular tissue. Distribution of cilia. (2) Nervous mechanism of respiration: Afferent tracts. Centres. Efferent tracts. Control of higher centres.—*Theories to account for Asthmatic Paroxysm.*—Spasm—bronchial tubes; inspiratory muscles. Paresis—bronchials. Vasomotor neurosis—hyperaemia of bronchial tubes. Acute catarrh—bronchial tubes. Microbic infection—bronchial tubes.—*Varieties of Paroxysmal Dyspnoea.*—(A) Neurotic: (1) Respiratory—Nasal, laryngeal, bronchial; (2) Digestive buccal, pharyngeal, gastro-intestinal; (3) Renal; (4) Pelvic. (B) Toxic: (1) Diabetic; (2) Uraemic; (3) Cyanotic.—*Consequences of Asthma.*—Emphysema of lung; sclerosis of vessels; dilatation of heart.—*Treatment of Asthma.*—Basis of management: Watch over digestion and assimilation; circulation and excretion; obviate nasal irritation and bronchial catarrh. Details of management: Climatic, dietetic, medicinal.

Thursday, July 27th.—Obscure Cases of Fever without Physical Signs:—To be opened by Dr. WILLIAM HALE WHITE, F.R.C.P.

The following is a synopsis of Dr. HALE WHITE's paper: In considering a diagnosis of fever without physical signs, non-morbid causes which may affect the temperature record must be remembered. Even a few comparatively simple chemical bodies have the property of causing pyrexia. So too, sometimes, has an excess of carbohydrate food. The effect of the nervous system on temperature is not sufficiently appreciated. Fracture of the spine in the cervical region will lead to it, and damage to the corpus striatum also leads to considerable pyrexia. Hysterical pyrexia also occurs. The importance of examining the blood in pyrexia is very considerable, and examination of the cerebro-spinal fluid is often of great importance. An explanation of the pyrexia may be found in the urine, even though free from albumen, blood, or casts. Malignant disease is often overlooked as a cause of raised temperature, and cirrhosis of the liver leads to errors; but probably most errors are made by overlooking the presence of small collections of pus. Malignant endocarditis is also known to be a fertile source of errors, and this and latent tuberculosis and typhoid fever are discussed.

Friday, July 28th.—Papers.

JOHNSON, Dr. Stacey. Colon Dyspepsia.
HALLEY, Dr. Douglas. Lung Syphilis.
ADDIS, Dr. J. Treatment of Hereditary Haemophilia.
CHOWRY-MUTHU, Dr. Continuous Antiseptic Inhalation in the Treatment of Pulmonary Tuberculosis.
RAW, Dr. Nathan. Direct Tuberculous Infection of the Lungs from the Lymph Glands of the Neck, with a Record of 32 Cases.
EWART, Dr. Demonstration of a Method for the Clinical Use of Carbonic Acid Gas.
DALLY, Dr. Halls. The Clinical Determination of Blood Pressure by Means of Pachon's Sphygmo-oscillometer.
TYSON, Dr. W. J. Mania following Pneumonia.
PRICE, Dr. F. W. Recent Advances in Cardiac Therapeutics.
JENNINGS, Dr. Oscar. Treatment of Morphinism.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: EDWIN GOODALL, M.D., Whitchurch, Cardiff.

Vice-Presidents: JAMES WILLIAM RUSSELL, M.D., Birmingham; CUTHBERT S. MORRISON, L.R.C.P., L.R.C.S., Hereford; JAMES CRAIG, M.D., Dublin.

Honorary Secretaries: SAMUEL ALEXANDER KINNIER WILSON, M.B., 63, Wimpole Street, London, W.; BENJAMIN HENRY SHAW, M.B., County Asylum, Stafford.

The following subjects have been selected for special discussion:

Wednesday, July 26th.—The Different Types of Disseminated Sclerosis:—To be opened by Professor H. OPPENHEIM (Berlin).

Thursday, July 27th.—Trauma in Relation to Nervous and Mental Affections:—To be opened by Dr. F. W. MOTT, F.R.S., with a paper of which the following is a syllabus:

1. The medico-legal importance of distinguishing between cause and coincidence of head injury in relation to nervous and mental disease; also of recognizing that head injuries are not infrequently the result of nervous and mental diseases. Typical illustrative cases. 2. Head injuries causing (*a*) fracture, (*b*) haemorrhage, (*c*) localized meningo-encephalitis, resulting in organic brain diseases, neuroses, and psychoses. 3. Head injuries causing "commotio cerebri," followed by neuroses, psychoses, and organic brain disease, for example, general paralysis. 4. Head injuries as (1) a direct cause, (2) an exciting factor, (3) an accelerating factor in nervous and mental disease. Typical illustrative cases. 5. Asylum statistics of head injury in relation to general paralysis and traumatic epilepsy. 6. The value of the examination of the blood and cerebro-spinal fluid cytologically and by Wassermann's reaction.

Friday, July 28th—Papers:

DEVINE, Henry, M.B. The Significance of some Confusional States.
HYSLOP, T. B., M.D. Phrenasthenia.
MUIRHEAD, Winifred, L.R.C.P. The Wassermann Reaction in the Blood and Cerebro-spinal Fluid in Insanity and Examination of the Spinal Fluid.
WALLIS, Dr. Mackenzie. Blood Pressure, etc., in Mental Disorders.
THOMSON, D. G., M.D. Progress during the Past Year as to Post-graduate Training and the Granting of a Diploma in Psychiatry.
EDER, M. D., B.Sc., M.R.C.S. A Case of Obsession and Hysteria Treated by the Freud Psycho-analytic Method.
STANFORD, R. V., M.Sc., Ph.D. The Need for Chemistry in the Investigation of Mental Disease.
BRYER, Dr. The Pathological Changes found in the Nervous System Forty-nine Years after Birth in an Unusual Case of Obstetrical Paralysis.

Members are invited to contribute any preparations, specimens or drawings, or any instruments or apparatus pertaining to the work of the Section, which have been designed by themselves, in order that the Committee of the Section may make arrangements to form a special exhibit of such objects.

OBSTETRICS AND GYNAECOLOGY.

President: Professor EDWARD MALINS, M.D., Birmingham.

Vice-Presidents: CHRISTOPHER MARTIN, F.R.C.S., Birmingham; CUTHBERT LOCKYER, M.D., London; NATHANIEL THOMAS BREWIS, M.B., Edinburgh; FREDERICK EDGE, M.D., Wolverhampton.

Honorary Secretaries: SMALLWOOD SAVAGE, F.R.C.S., 133, Edmund Street, Birmingham; JOHN THOMAS HEWETSON, M.D., 89, Cornwall Street, Birmingham; HAROLD BECKWITH WHITEHOUSE, M.S., 52, Newhall Street, Birming-

ham; HARRY BECKETT-OVERY, M.D., 40, Harley Street, London, W.

The following two subjects have been selected for discussion:

Wednesday, July 26th.—(1) The Pathology and Treatment of Asphyxia Neonatorum. To be opened by Sir FRANCIS CHAMPNEYS, Bart. The following will take part in the discussion: Drs. Swayne, Handfield Jones, Herbert Spencer, Hellier, A. W. Russell, Thomas Wilson, Gemmell, Hubert Roberts, and Sir Halliday Croom.

The following is a syllabus of the remarks to be made by Sir FRANCIS CHAMPNEYS: *Cause of the first breath:* (*a*) Predisposing; (*b*) exciting. *Two stages of asphyxia:* (*a*) Blue; (*b*) pale. *Treatment:* Artificial respiration. *Objects:* (1) Removal of foreign bodies; (2) procuring of patency of air passages; (3) excitation of circulation; (4) ventilation of lungs. *Methods* of artificial respiration: (*a*) Silvester; (*b*) Schultze; (*c*) direct inflation; (*d*) rhythmical tongue traction (Laborde). *Summary of treatment.*

Thursday, July 27th.—(2) The Present Position of Vaginal Operations in relation to the Uterus and its Adnexa. To be opened by Professor STRASSMANN (Berlin), followed by Mrs. Scharlieb, and Drs. Swayne, Herbert Spencer, Amand Routh, Hellier, J. F. Jordan, Purslow, A. W. Russell, Thomas Wilson, Lloyd Roberts, John Campbell, Stanmore Bishop, C. Newnham, G. Scott Carmichael, Mr. R. J. Johnstone, and others.

The following is a synopsis of Professor STRASSMANN'S papers:

Laparotomy in gynaecological diseases is not such a necessity at present as in former times, because: (1) The old enormous tumours are not so frequent as formerly. (2) Diseased appendages from inflammation are no longer so often removed. (3) The vaginal operation has won a great sphere for itself. *A general view of the organs* by the vaginal operation is much more easily attained than by laparotomy. *The narrow space for the vaginal operation* can be overcome by means of additional incisions, anterior flap incisions, and the simplification of instruments. Definition of the indications for the anterior or a posterior vaginal incision. The importance of the easy *drainage* secured. *The method of vesico-fixation*, especially favoured by the author, will be described. The possibility of the formation of haematoma behind the flap will be mentioned, and the ease of the post-operative treatment emphasized. Great value is attached to the vaginal exploratory incision. *In displacements of the uterus*, the indications for laparotomy, ventrifixations and Alexander's operation, will be defined. When *appendicitis* is suspected, in spite of the possibility of operating by the vagina (Ott's speculum), laparotomy is to be preferred. Laparotomy for *prolapse* is never necessary. Retroflexions, which require repair of the cervix and perineum, are best operated on by the vagina with fixation in the majority of cases. The vaginal operation *for tumours* requires an extensive differential diagnosis, and hospitals without a special gynaecologist will always prefer laparotomy; but, in spite of its more difficult technique, the vaginal route is safer. *Myomas* should only be removed by laparotomy when they are larger than the head of a newborn child. Multiple myomas can be removed vaginally. At the most, one-fifth of the operative cases require laparotomy. *Tubal pregnancy* is easier to remove vaginally the earlier the time of pregnancy and the more recent the rupture. *Haematoceles* should always be incised vaginally. In *carcinoma* of the body of the uterus the vaginal route should be chosen. Perforation and injuries of the uterus can be dealt with through the vagina. The vaginal cicatrices have no importance in later deliveries. Post-operative cystitis is shown to be very frequently only a paresis of the bladder, and to occur also after the abdominal operation for myomas or carcinoma.

Papers:

TWEEDY, Dr. Hastings. The Cause and Cure of Eclampsia.
ROBERTS, Dr. Hubert. On Eclampsia occurring in Labour in a girl aged 12. Recovery of Mother and Child.
WILSON, Dr. Thomas. Dysmenorrhoea due to very small Fibroids.
PURSLOW, Dr. False Elephantiasis of Vulva. Notes of case, with specimens and photographs.
STARK, Dr. Nigel. The Dangers of Fibromyomata of the Uterus in the Later Years of Life.
CAMERON, Dr. S. Uterine Adenomyomata.

The committee has arranged for a section of the Pathological Museum to be specially set aside for the exhibition of specimens, microscopic slides, photographs, etc., relating to the degenerations and complications of fibromyomata of the uterus. In addition the committee is willing to receive other specimens of interest.

ODONTOLOGY.

President: Professor FRANK EARLE HUXLEY, M.D. Birm., M.R.C.S.

Vice-Presidents: HENRY WATSON TURNER, M.R.C.S., L.D.S., London; CHARLES EDWARD WALLIS, M.R.C.S., L.D.S., London.

Honorary Secretaries: PERCY THOMAS NADEN, L.M.S.S., L.D.S., 22, Temple Row, Birmingham; JOHN HERBERT GIBBS, F.R.C.S., L.D.S., 12, Coates Crescent, Edinburgh.

The following is the programme arranged:

Subject for Special Discussion: The Teeth in Relation to Public Health. To be taken under the following headings:

Wednesday, July 26th: (1) School Dentistry and Conservative Dental Treatment generally from the Physician's standpoint. To be opened by Dr. R. J. Erskine Young. (2) Dentistry and the Public. To be opened by Mr. Cyril Howkins. (3) The Bacteriology of the Toothbrush. To be opened by Mr. Herbert Smale and Dr. Carmalt Jones.

Thursday, July 27th: Visit to Odontological Museum, where a discourse will be delivered entitled "Scientific Value of an Odontological Museum," by Mr. John Humphreys, Professor of Dental Anatomy and Physiology.

Friday, July 28th: Joint meeting with the Sections of State Medicine and Industrial Diseases. (4) Prevention of Caries from a Public Health Standpoint. To be opened by Dr. James Wheatley. (5) The abuse of Sweetmeats. To be opened by Mr. A. Hopewell-Smith. (6) Infant Feeding. To be opened by Mr. C. E. Wallis. (7) The Breath Question. To be opened by Dr. Sim Wallace.

The following are synopses of the opening papers:

1. Mr. ERSKINE YOUNG.—Present position of school dentistry in England; school clinics in various towns; dental clinic in Liverpool under Liverpool Education Committee; object aimed at, school clinics; need of education of the public and the press. Question of school dental treatment a national question; expense of clinics and how met; effect of rates; State aided or not aided; attitude of medical profession towards dental disease and dentistry; hopeless ignorance of lay patient; education of latter by medical practitioners; preventive medicine and its effects on national health. Ultimate effects of school dentistry in this direction. Importance of same.

2. Mr. CYRIL HOWKINS.—Necessity of early treatment of dental caries in children; school dental clinics; bibliography reference to work done; cost, etc., of treatment of the teeth of children who attend primary schools; cost, etc., of dental treatment for working classes.

3. Mr. HERBERT SMALE and Dr. CARMALT JONES.—The toothbrush is septic; experiments demonstrating septic nature based on numbers of bacillary colonies obtained from culture; experiments to test value of antiseptics to correct this condition; experiments with new tooth-brushes on similar lines; conclusions.

4. Dr. WHEATLEY.—Not yet received.

5. Mr. HOPEWELL-SMITH.—The main feature in this short contribution to one aspect of the study of the etiology of dental caries is the account which deals with certain original experiments carried out *in vivo*. These have been undertaken to ascertain whether, and in what ways, the oral secretions are altered in the nature, chemical reactions, and amounts by the use of sweetmeats; to compute the reactionary variations between the salivas of immunized and non-immunized persons and to determine whether typical sweetmeats placed in interstitial surfaces, in artificially prepared cavities, or on the free surfaces of human teeth, produce caries of the enamel or dentine. The "abuse of sweetmeats" in the mouth implies dental destruction by mechanical, chemical and bacteriological means. The classification, constitution and relative solubilities of the commoner sweetmeats are briefly described, and those which appear to be harmful and harmless noted.

6. Mr. C. E. WALLIS.—Feeding of infants at present time most unsatisfactory owing to outside occupation of mothers, ignorance and apathy of parents, maternal inability, etc.; influence upon teeth and jaws, prevalence of caries in temporary dentition, consequent oral sepsis and its sequela. Suggestion for amelioration — Legislation little or no use; education of parents by lantern lectures, "parents' evenings"; advantages of local health societies and health visitors; general principles of infant feeding to be taught in all schools.

7. Dr. SIM WALLACE.—The chemical composition of the tooth plays no part in the initiation or induction of dental caries. The chemical composition and the microscopical structure of the tooth is always practically the same, no matter what the foods may have been during the formation of the tooth. The enamel of the temporary teeth is completely formed before the sixth month, and the nutritive constituents of bread do not play any part in the development of these teeth. The only way in which bread affects the teeth is, on the one hand, for the bad by lodging unduly in the crevices of or between the teeth, thus giving rise to acid fermentation, and, on the other hand, for good by its detergent effect during mastication. Experiments indicate that there is no appreciable difference in the rate of fermentation of different kinds of bread when equal amounts are incorporated with equal numbers of bacteria. The detergent effect of bread and its consequent antagonism to dental caries is due to its physical qualities alone. The most detergent form of bread is crust, and the crusts of white, standard, and stone-milled bread are all practically equally efficient in cleansing the teeth and correspondingly in preventing the onset of caries. Next in efficacy in this way is toasted bread of any variety, and least effectual of all is untoasted bread without crust, especially when new. Bread and marmalade is liable to be markedly harmful to the teeth, except when other foods are taken which counteract the harmfulness. So, too, bread soaked in milk tends to leave the mouth dirty and disposed to rapid fermentation by robbing the bread of the detergent qualities it otherwise does possess, and should only be commended as a staple article of diet, or associated only with other equally non-detergent foods, if the desire be to have the teeth dirty, the gums inflamed, and the food highly charged with obnoxious bacteria each time the child takes a meal.

OPHTHALMOLOGY.

President: HENRY EALES, M.R.C.S., Birmingham.

Vice-Presidents: EDWARD WILLIAM WOOD WHITE, M.D., Birmingham; HENRY SECKER WALKER, F.R.C.S., Leeds; JOHN GRAY CLEGG, M.D., Manchester.

Honorary Secretaries: ROBERT JAMES COULTER, M.B., Glyn Ivor, 11, Clytha Park Road, Newport, Mon.; JOHN WILSON EVANS, M.D., 85, Edmund Street, Birmingham; ALFRID ALLPORT, F.R.C.S.Edin., 95, Cornwall Street, Birmingham; ARTHUR WILLIAM ORMOND, F.R.C.S., 7, Devonshire Place, London, W.

The following provisional programme has been arranged:

Wednesday, July 26th.—Discussion on the Operative Treatment of Glaucoma, to be opened by Mr. PRIESTLEY SMITH.

Papers:

MOTT, Major R. H. Simple Trephining for the Relief of Glaucomatous Conditions.
GRAY, Dr. J. Gray. Observations on Trephining the Sclera.
ANDERSON, Dr. Thomson. The Comparative Anatomy of the Ciliary Region.

Thursday, July 27th.—Discussion on the Etiology, Diplopia, and Treatment of Concomitant Squint and Heterophoria, to be opened by Mr. Claud Worth.

Papers:

FISHER, Dr. T. Harrison. A New Operation for Extirpation of the Lacrymal Sac.
HANCOCK, Dr. W. B. Inglis. The Treatment of Chronic Dacryocystitis.

Friday, July 28th.—Papers:

ASMANN, Dr. K. The Eyesight of Sailors.
MITCHELL, Dr. L. J. C. A Report on the Use of Carbon Dioxide Snow in Ophthalmic Work.
PRIDDARD, Dr. Amy. Extraction of Lens in its Capsule.
HARMAN, Mr. N. Bishop. The Blind and the 1911 Census.
MACCALLAN, Dr. H. Egyptian Ophthalmic Hospitals.
HARMAN, Mr. N. Bishop. A New Photometer for the Use of School Doctors (Exhibit).

The following, among others, will take part in the discussions: Messrs. C. Devereux Marshall, H. H. B. Cunningham, T. Harrison Butler, Thomson Henderson, A. B. Cridland.

Foreign and Colonial visitors are cordially invited to attend the meetings of the Section, and should they desire to read papers they are requested to send in their names as soon as possible to one of the Birmingham Honorary Secretaries, giving the titles of their papers for approval by the Committee of Reference.

Members are invited to contribute any cases, preparations, specimens of drawings, or any instruments or apparatus pertaining to the work of the Section which have been designed by themselves in order that the Committee of the Section may make arrangements to form a special exhibit of such objects.

PATHOLOGY.

President: Professor ROBERT FRASER CALDER LEITH, M.B., Birmingham.

Vice-Presidents: JAMES HUGH THURSFIELD, M.D., London; CHARLES JAMES LEWIS, M.D., Birmingham; WALTER D'ESTE EMERY, M.D., London.

Honorary Secretaries: WILLIAM HY. WYNN, M.D., 41, Newhall Street, Birmingham; LEONARD GEORGE JOSEPH MACKEY, M.D., 141, Great Charles Street, Birmingham; BRYDEN GLENDINING, F.R.C.S., 7, Devonshire Place, London.

The following programme has been arranged:

Wednesday, July 26th.—Discussion on Hypersensitiveness in its various manifestations, especially in relation to serums, vaccines, and tuberculin. To be opened by Dr. WALTER D'ESTE EMERY with a paper on Anaphylaxis. Professor Charles Richet will contribute to the discussion.

The following is a syllabus of Dr. W. D'ESTE EMERY's paper: (1) Historical introduction; (2) description of the main phenomena, and definition of term; (3) conditions for its occurrence, and the question as to its occurrence, with substances other than antigens; (4) the more complicated phenomena—passive anaphylaxis, antianaphylaxis, etc.; (5) an outline of some of the more important theories to account for the phenomena; (6) the rôle to be attributed to anaphylaxis in the evolution of disease, especially in tuberculosis; and (7) its significance in immunity and in biology generally.

Thursday, July 27th.—Discussion on the Pathogenic Action of *Bacillus coli*. To be opened by Dr. H. D. ROLLESTON with a paper of which the following is an abstract:

It would no doubt be desirable to confine attention to the typical *Bacillus coli communis* of the Escherich group, and as far as possible to exclude the intermediate group comprising *B. enteritidis* and the paracolon and paratyphoid organisms, but this is hardly possible at the present time. Infections with the intermediate group, however, will not be specially considered. The *B. coli* is widely distributed, rapidly invades the body after death, may outgrow and crowd out other micro-organisms, and, further, anaërobic cultivations have not always been carried out in cases in which *B. coli* have been grown; it is therefore fully recognized that great caution must be exercised in deciding that the *B. coli* present in any case are pathogenic. These qualifications and the ease with which contamination may occur are so familiar that there is perhaps a risk that the pathogenic effect of *B. coli* may sometimes be overlooked, and an infection regarded as a contamination. Criterions for estimating the importance of *B. coli* in the tissues and discharges, and the limitations of agglutination and the opsonic index, are mentioned. The question of the importance of a mixed infection and symbiosis of *B. coli* and other organisms, as in enteric fever, is put forward for discussion. The clinical features of the reaction of the human body to the various forms of infection with *B. coli* are discussed; and it is pointed out that, whereas high fever seems to be a prominent feature, experimental intoxication with the endotoxin of the organism causes a marked fall of temperature (Vaughan). Rigors may occur in clinical infections, and the endotoxin has been found to cause convulsions. Haemorrhagic inflammation may be set up by

virulent infections with *B. coli*, but not by the endotoxin; this is compatible with Vaughan's statement that the cultures of *B. coli* contain a haemolytic body, which is quite distinct from the endotoxin. Acute *coli* infections show a fair leucocytosis. The chronicity of urinary infections with a special tendency to exacerbations and their resistance to treatment are notable. In connexion with general haemic infection with *B. coli* mention is made of three groups of cases—namely, (*a*) those somewhat resembling typhoid fever; (*b*) cases of pyaemia with metastatic abscesses, which, however, are much rarer than in haemic infections with streptococci, staphylococci, and pneumococci; and (*c*) cases of terminal infection. Discussion is invited on the frequency with which septicaemia, due to *B. coli*, occurs in fatal peritonitis and appendicitis; from Libman's blood cultures it appears to be very rare. The portals of entry are given. Reference is made to Adami's view of the bearing of subinfection with *B. coli* on the etiology of pernicious anaemia, haemochromatosis, and hepatic cirrhosis. Metchnikoff's contention that indol and phenol produced by *B. coli* cause visceral lesions and arterio-sclerosis are mentioned, and reference is made to the production of arterio-sclerosis by injections of cultures of *B. coli* (Studzinski). Various local infections with *B. coli* are mentioned; special attention is paid to infections of the urinary tract, and the modes of infection in this condition—namely, ascending, transparietal, and descending or haemic are discussed. The influence of the reaction of the urine is considered, and the explanation of the beneficial influence of rendering the urine alkaline put forward for discussion.

Friday, July 28th.—Papers,

RAW, Dr. Nathan. Human and Bovine Tuberculosis.
GRÜNBAUM, Professor A. S. Post-operative Drowning.
FINDLAY, Dr. Leonard. The Etiology of Pulmonary Anthra osis (an experimental study).
PHILLIPS, Dr. Montague, and Associate Professor E. GLYNN. The Comparative Value of Certain Microscopical Methods of Demonstrating *Spirochaeta pallida*.
GLYNN, Associate Professor E. A Case of Cirrhosis, Adenoma, and Carcinoma of the Liver.
MILLS, Mr. Percival, F.R.C.S. The Action of Radium on Healthy Tissues.

Arrangements have been made for the exhibition in the Pathological Museum of specimens illustrating the work of the Section. Members wishing to exhibit specimens or photographs should communicate with Dr. Leonard Mackey, 141, Great Charles Street, Birmingham, Secretary of the Pathological Museum.

STATE MEDICINE AND INDUSTRIAL DISEASES.

President: Professor ALFRED BOSTOCK HILL, M.D., Birmingham.

Vice-Presidents: JOHN ROBERTSON, M.D., Birmingham; ERNEST HUGH SNELL, M.D., Coventry; SIDNEY BARWISE, M.D., Duffield, Derbyshire; MABYN READ, M.D., Worcester; EDWARD WILBERFORCE GOODALL, M.D., London.

Honorary Secretaries: ROBERT ARTHUR LYSTER, M.D., The Castle, Winchester; THOMAS SHADICK HIGGINS, M.B., Health Department, Council House, Birmingham; ARTHUR DOUGLAS COWBURN, M.D., 31, Barkston Gardens, London.

The following programme has been arranged:

Wednesday, July 26th.—Discussion on the Administrative Control of Tuberculosis, under the following headings:

1. *Notification.* To be opened by Dr. ROBERTSON (Birmingham).

The following is a summary of Dr. ROBERTSON's paper:

Experience has demonstrated that there is now no valid objection to compulsory notification of tuberculosis of the lung, provided (*a*) proper steps are taken to safeguard the patient from being dealt with on the same lines as persons suffering from acute infectious diseases, and (*b*) that machinery exists to enable value to be obtained from the notification. Compulsory notification is of value in protecting the medical man from prosecution, and in enabling measures to be taken against the disease. Since sanatorium and tuberculin treatment has become available for the masses of the people notification is of real value to individuals. Voluntary notification is probably as effective as compulsory if the machinery is good. In Birmingham we probably get a higher percentage of cases notified than in Sheffield. Both forms of notification have this defect namely, that they bring cases of tuberculosis of the lu to light in too advanced condition to enable really go results to be obtained. It is, therefore, necessary not o to have notification, but to have home visitation on t lines suggested by Dr. Philip of Edinburgh.

2. *Sanatoriums.* To be opened by Dr. A. E. LYST (Chelmsford).

3. *Dispensary and Domiciliary Treatment.* To be open by Dr. PHILIP (Edinburgh), followed by Drs. Can Wilkinson, Killick Millard, Mearns Fraser, and others.

The following is a *précis* of Dr. R. W. PHILIP's remark

Far-reaching significance of tuberculosis to the co munity. Large outlook necessary. Tuberculosis an fective disease. Conditions and limits of infectivi Tuberculosis an endemic disease. "Tuberculous nest Tuberculosis most protean in clinical manifestation (du tion, symptomatology). The tuberculosis seedling and t full-grown tree. Tuberculosis more frequent than generally supposed. A great devitalizing influence in t community. The *raison d'être* of the tuberculosis d pensary Tuberculosis must be searched for. The inf tion must be diagnosed early Not sufficient to wait u cases present themselves. Cases must be classified with view to treatment. Cases must be distributed for tre ment. Many cases suitably treated at home. Study home environment and of household. The tuberculo dispensary in action: Inquiry bureau. Receiving hou Centre of diagnosis and direction. Centre of home tre ment, general and special (tuberculin. Clearing hou Connecting link (nodus) of tuberculosis agencies—hospi sanatorium, colony. Storehouse of facts and statist Relation to Public Health Department. Notificati Relation to Charity Organization Society and other s agencies. Qualifications of the dispensary medical offi Cost of tuberculosis dispensary. Results, immedi ultimate.

Paper:

WYNNE, Dr. F. E. (Leigh, Lancs). Domestic Hot-water Supp as a Factor in the Production of Lead Poisoning.

Thursday, July 27th.—Discussion on the Need a Unified Public Health Service. To be opened Dr. R. A. LYSTER (Hampshire), followed by Drs. J Kaye (West Riding), A. W. Gilchrist, T. W. Bar (Wallasey), A. H. Bygott (Barking), and others. A cussion on Disease Carriers. To be opened by DAVIES (Bristol), followed by Drs. Goodall, Ledingh Caiger, Paterson, and others.

The following is a synopsis of Dr. DAVIES's paper:

Carriers: Administrative Methods.—The difficulties dealing with chronic carriers in regard to typhoid fe and diphtheria is enhanced by the marked intermitte of the condition. Investigation as to its existence sho be commenced during convalescence, before discharge f hospital. In the case of typhoid fever two or three rou examinations at intervals of urine and faeces ought t made in every case. This is useful in two ways: it g definite indication as to cases needing after-supervis and gives opportunities for commencement of treatmen a time when it may be of service to the patient. hospitals should make suitable arrangements for secu the necessary determinations. In the majority of hosp at the present time typhoid convalescents are discha on clinical symptoms alone. The bacteriological me simplifies the after-supervision of cases; those gi positive indications must, of course, be kept under as tinuous supervision as possible, and others who deal food supplies should be advised to submit to perio examination. It is doubtful whether it is advisabl warn employers, or only in very exceptional cases. In case of diphtheria, bacteriological control over conva cence and before discharge is more generally observed. amount of after-control necessary in cases showing ps or doubtful forms varies according to circumstances. must be more stringent in the case of school children example, than of adults engaged in ordinary occupat The variation in type of different strains may m bacteriological examination and restriction over contac one time immaterial, at another highly necessary.

Friday, July 28th.—(1) Discussion on Disease, Indus or otherwise, as a subject for Claim for Damages or C pensation at Law. To be opened by Dr. KNOCKER, follo

by Drs. Collie, Cowburn, and others. (2) Joint discussion with the Odontological Section (see Programme for Friday of that Section). (3) Paper: Dr. EDGINTON, Industrial Disease in Birmingham.

The following are the headings of Dr. DOUGLAS KNOCKER'S paper: (1) On an insurance policy; (2) breach of contract causing disease; (3) negligence causing disease; (4) Workmen's Compensation Act; (5) industrial insurance.

Dr. COLLIE will treat the same subject under the following headings:

I. Examinations (7742) as to general fitness of candidates for public services. Standard of fitness required. Varies with nature of proposed occupation. Analysis of causes of rejection. Notes upon tests for eyesight and colour-blindness. Cyclical albumen. Diabetes. Dental caries. II. Examinations (7073) of sick employees. Analysis showing incidence of certain diseases. Need for systematic examinations at stated intervals during illness. Personal influence of the medical examiner. Accident cases. Analysis showing incidence of certain injuries. Notes upon pain in the back. Malingering. Return to work should be gradual after serious illness. III. Medico-legal examinations (2185). Origin of traumatic neuroses. Influence of litigation upon claimants. Medical man in the witness-box.

Visits.

On Thursday, at 2.30 p.m., there will be a visit to the Sewage Disposal Works. The Tame and Rea Drainage Board invite 150 visitors to visit and inspect the Sewage Disposal Works, and to tea at the conclusion of the inspection, which Mr. Watson, Engineer to the Board, has kindly consented to direct. These works are the largest biological installation in the world, there being upwards of 50 acres of percolation beds. Application for tickets for this visit should be made to Dr. T. Shadick Higgins, The Council House, Birmingham.

The proposed visit to the Yardley Road Sanatorium, announced last week, has since been cancelled owing to the occurrence of some cases of small-pox.

SURGERY.

President: Sir THOMAS FREDERICK CHAVASSE, F.R.C.S., Birmingham.

Vice-Presidents: WILLIAM DUNNETT SPANTON, F.R.C.S., Burnley; WILLIAM FREDERICK HASLAM, F.R.C.S., Birmingham; JAMES THOMAS JACKMAN MORRISON, F.R.C.S., Birmingham; EDWARD DEANESLY, F.R.C.S., Wolverhampton; DAVID WALLACE, C.M.G., F.R.C.S.Edin., Edinburgh.

Honorary Secretaries: LEONARD PARKER GAMGEE, F.R.C.S., 95, Cornwall Street, Birmingham; CHARLES ARTHUR KINAHAN BALL, M.D., 22, Lower Fitzwilliam Street, Dublin; CHARLES ALBERT LEEDHAM-GREEN, F.R.C.S., 9, Temple Street, Birmingham; JOHN HOWELL EVANS, F.R.C.S., 25, Berkeley Square, London.

The following subjects have been selected for discussion:

The Treatment of General Septic Peritonitis. To be opened by Mr. J. RUTHERFORD MORISON, to be followed by Professor Koch (Groningen), and Messrs. Hubert J. Paterson, G. P. Newbolt, Damer Harrisson, W. F. Dimeley, F. M. Caird, Albert E. Morison, J. Grant Skew, W. de C. Wheeler, E. Scott Carmichael, Gilbert Young, Douglas Drew, W. J. Greer, Philip Turner, Harold Jamson, J. Crawford Renton, Cuthbert Wallace, A. S. Young, W. Morley Willis.

The following is an epitome of Mr. J. RUTHERFORD MORISON'S paper:

The cause of septic general peritonitis is invasion of the peritoneal cavity by pyogenic organisms through some channel. The terminations of septic peritonitis are the same terminations as of inflammation elsewhere, and are determined more by the circulatory disturbances produced than by any specific microbic action. Knowledge of the condition of the general and local circulation is of more importance in prognosis and treatment than of the name of the organism producing the mischief. The chief factor in the marked improvement in results comes from an earlier diagnosis of the cause and more prompt treatment of general septic peritonitis. Perforation of the vermiform appendix, of gastric and of duodenal ulcers are the chief causes of infection, and all of them, as a rule, are easy of diagnosis. If the focus of infection can be removed or excluded from the peritoneal cavity early enough, the fatal progress of general septic peritonitis is arrested. (Statistical proof.) The special and only reason for operation in general septic peritonitis is to deal with the infecting focus. All other indications for operation are those for abscess elsewhere in the body. Though early operation is the treatment of an overwhelming majority of cases of septic peritonitis, in some it may be a serious mistake. It is likely to be so when the infective focus cannot be removed —for example, pneumococcal and gonococcal peritonitis. It may also be so after the infective focus has been shut off by a "natural cure." Operation: Maintain body heat. Central straight or lateral oblique incision as nearly over focus of infection as possible. No rough manipulations or unnecessary exposure of viscera. After removal of the focus, recovery depends upon the reaction of the peritoneum. Diffused extravasated contents should be washed out if little or no gross evidence of peritonitis exist. Washing out and drainage may prevent residual subdiaphragmatic and pelvic abscesses. In the after-treatment the greatest advance has been "proctoclysis."

2. The Technique of Wound Treatment. To be opened by Mr. ALEXIS THOMSON (Edinburgh), followed by Professor Koch (Groningen), and Messrs. Hubert J. Paterson, G. P. Newbolt, Damer Harrisson, Albert E. Morison, W. de C. Wheeler, Gilbert Barling, C. Leedham-Green, Douglas Drew, Harold H. B. Macleod, J. Crawford Renton, Cuthbert Wallace, A. S. Barling, W. Morley Willis.

The following is a synopsis of Mr. THOMSON'S paper:

The author looks on the technique of a wound as a bacteriological problem. The tissues play an important but only a secondary part, the first and main essential being to prevent the entrance into the wound of pathogenic organisms. The principles of Listerism have never altered and probably never will alter. The means of carrying them out are always changing, and will probably continue to change. Two attitudes to be avoided: on the one hand, that of adopting every new device simply because it is new, and on the other believing one's results to be so good that they cannot possibly be improved upon. Technique a means to an end, not an end in itself. Knowledge and skill required for carrying out the Listerian principles. The surgeon should be a trained bacteriologist, for he practises bacteriology every time he operates. Every surgical clinic should be associated directly or indirectly with a bacteriological laboratory. Everything in the operating theatre should be subjected to culture and other tests, and no method of sterilization should be regarded as exempt from this. Difficulties to be contended with in teaching hospitals where undergraduates and nurses have to be trained. The technique in cases where the skin is intact and where it is broken. Methods of sterilization. Their reliability as regards instruments, dressings, clothing, ligature materials, etc. Uncertainty regarding skin of patient and hands of surgeon. Methods. The glove question. Conservation or stimulation of phagocytic power of tissues. Methods of operating, vaccines, serums.

Friday, July 28th.—Papers:

WILKIE, D. P. D., F.R.C.S. Some Functions and Surgical Uses of the Omentum.

PATERSON, Hubert J., M.C. Appendicitis without Physical Signs.

DUNHILL, T. P., M.D. Partial Thyroidectomy under Local Anaesthesia, with Special Reference to Exophthalmic Goitre.

LEEDHAM-GREEN, C., F.R.C.S. An Inquiry into the Value of the Sterilization of the Skin by Iodine.

NEWBOLT, G. P., F.R.C.S. Tuberculous Mesenteric Glands.

BERRY, James, F.R.C.S. A Further Series of Cases of Cleft Palate Treated by Operation.

MORISON, Albert E., F.R.C.S. Three Cases of Hypernephroma.

WHEELER, W. de C., F.R.C.S. A Case of Abdominal Aneurysm Successfully Treated by Operation.

DREW, Douglas, F.R.C.S. Rupture of the Popliteal Artery and Vein. Diffuse Haematoma.

GREER, W. J., F.R.C.S. Fibromatous Tumours of the Mesentery.

THERAPEUTICS, INCLUDING DIETETICS.

President: Sir ROBERT M. SIMON, M.D., Birmingham.

Vice-Presidents: PAUL MORGAN CHAPMAN, M.D., Hereford; THOMAS SYDNEY SHORT, M.D., Birmingham; HENRY WILLOUGHBY GARDNER, M.D., Shrewsbury.

Honorary Secretaries: William Alexander Potts, M.D., 118, Hagley Road, Birmingham; Alexander Bryce, M.D., "St. Kilda," Anderton Park Road, Moseley, Birmingham; Hector Charles Cameron, M.D., 6, St. Thomas's Street, London.

The following is the provisional programme:

Wednesday, July 26th.—The Merits of a Relatively Low Protein Diet. To be opened by Dr. Chittenden, followed by Professor von Noorden, Drs. Arthur Luff, Chalmers Watson, Robert Hutchison, Alexander Haig, William Russell, and Lieutenant-Colonel Melville.

The following is a syllabus of Dr. Chittenden's paper:

(1) Dietetics as a part of the physiology of nutrition is entitled to the same careful and thorough study as any other branch of biological science, while the opinions and theories connected therewith should be formulated upon evidence that is both comprehensive and reliable. It is a fair argument that the quantity of food consumed daily should be proportional to the needs of the body. In order to avoid excess or deficiency, it is important to ascertain what the real needs of the body for food are; how much food is needed by the average man under ordinary conditions of life to repair tissue waste, and to furnish fuel for the required energy. It is not the part of wisdom to accept unquestioningly dietary standards based simply upon the everyday habits of mankind under the assumption that because civilized people make a practice of eating daily a certain amount of food, that quantity must represent the real needs of the body. (2) Various data are presented tending to show that the ordinary conception of the protein requirement of man is an exaggerated one. A large number of data recently collected among the American people indicates that many people at least, apparently in health and vigour, and with ordinary resistance to disease, do live at a much lower level of nitrogen metabolism than the ordinary accepted standards call for. Additional experiments just completed corroborate the view that normal individuals are able to maintain their usual condition of health, with, indeed, more or less improvement, on relatively small amounts of protein food. Bio-chemical study of these individuals shows that their metabolism is unimpaired. The partition of urinary nitrogen, etc., is in nowise disturbed. Utilization of the nitrogen of the food, as well as the fat, is maintained at the proper level on a relatively low protein diet. (4) Various data from State institutions are in harmony with the view of the adequacy of a relatively low protein diet. (5) Brief discussion of the results presented by other investigators in the study of protein metabolism, as the people of Bengal, leads to the conclusion that the alleged bad effects of low protein intake are not to be associated with the quantity of nitrogen, but with other factors, such as the character of the food, involving its availability, etc. An attempt is made to show the necessity of a ration that is well balanced—one in which the various physiological factors are given due consideration. Nitrogen and calories by no means constitute the only elements to be considered in a so-called standard dietary. Distinction is to be drawn between the needs of a growing organism and the needs of an adult who has attained his growth. The need of protein per kilogram of body weight in the two cases must be different. Experimental data, however, show that even in the early periods of growth the protein of the food constitutes a surprisingly small part of the diet of the suckling infant. The fully-developed man, having an abundance of fat and carbohydrate in a readily available form to meet the energy requirements of his body, can, it is believed, live with perfect health on a few grams of nitrogen per day. To serve its full purpose in the economy, however, man's food must be in a form readily assimilable, free from a large excess of indigestible material.

Thursday, July 27th.—(In conjunction with the Section of Dermatology). Recent Developments in the Recognition and Treatment of Syphilis.

Thursday, July 27th.—Discussion on Recent Developments in the Recognition and Treatment of Syphilis. To be opened by Mr. J. Ernest Lane, followed by Majors T. W. Gibbard and H. C. French, Captain L. W. Harrison, and Messrs. Otto Grünbaum, G. H. Lancashire, J. E. R. McDonagh, G. Pernet, and others.

Friday, July 28th.—Discussion on the Scope of Immune and Normal Serum in Treatment. To be opened by Dr. T. J. Horder, followed by Dr. E. C. Hort, E. W. Goodall, Foord Caiger, and others.

The following is a syllabus of Dr. Horder's paper:

The difficulty of the subject is due largely to need correlation between results of laboratory experiments a clinical observations. Scope of normal serum might enlarged. Its use as control against the use of "specifi serums. Properties of normal serum. Normal serum treatment of certain infective conditions. Scope of i mune serum, antitoxic and bactericidal. Neglect of ser administration following introduction of vaccine thera unjustifiable. Value of immune serums at outset of acu infections. High grades of immunity essential to succe Univalent and polyvalent serums. A reversion to u valent antistreptococcus serum in *S. pyogenes* infectio Results.

Paper:

Muthu, C., M.D. The Treatment of Pulmonary Tubercul by Continuous Inhalation.

TROPICAL MEDICINE.

President: Sir Francis Lovell, K.C.M.G., F.R.C. London.

Vice-Presidents: Andrew Balfour, M.D., Khartou Robert Thomson Leiper, M.B., Eltham; Arthur Bagshawe, M.B., Rickmansworth.

Honorary Secretaries: Leonard G. Parsons, M. 52, Newhall Street, Birmingham; Henry Curtis, F.R.C. 59, Harley Street, London, W.; K. S. Wise, M.B., B. B.Sc.Lond., D.P.H., Royal Societies Club, 63, St. Jame Street, London, S.W.

The following subjects have been selected for discussi

Wednesday, July 26th, 10 a.m.—Plague—in its Endem logical and Epidemiological Aspects. To be opened Dr. C. J. Martin, F.R.S.

Thursday, July 27th, 10 a.m.—Yellow Fever on the W Coast of Africa.

Friday, July 28th, 10 a.m.—Sanitation of Villages a Small Towns in the Tropics, with Special Reference Efficacy and Cheapness. To be opened by Professor W Ritchie Simpson, C.M.G.

In view of the lively debates which the three subje selected for discussion may be expected to elicit, there v probably be less opportunity than usual this year for pap on miscellaneous subjects. Such as have been approv by the Committee of Reference for the Section will be r so far as time permits.

Foreign Guests.

The following foreign guests have accepted invitations take part in the work of the Sections:

Therapeutics.—Dr. Russell L. Chittenden, Yale Univers Newhaven, Massachusetts.

Electro-Therapeutics.—Professor Haenish, Hamburg; Frantz Nagelschmidt, Berlin.

Laryngology.—Dr. Frey, Vienna; Professor Onodi, Budape

Children.—Professor Stoeltzner, Halle; Dr. Vogt, Priv dozent, University of Strassburg.

Obstetrics.—Dr. Paul Strassmann, Berlin.

Neurology.—Professor Oppenheim, Königin Augustastrasse Berlin, W.

Dermatology.—Dr. Leo Burger, Mount Sinai Hospital, N York.

Professor F. Koch (Groningen), Professor Gilchrist (Ba more), Dr. Schuster (Aachen), Professor Dock (the Universit Louisiana, New Orleans), and Professor Hofrath M. von L hossek (Budapest), have also accepted invitations.

Academic Dress.

It is requested that academic dress or uniform should worn at the Religious Services, the President's Addr the Lord Mayor's Reception, and the Degree Congregat of the University.

The Representative Body.—Visit to Droitwich.

The local medical practitioners invite a party of 50 or Representatives to attend an At Home at the Salters H Droitwich, on Saturday evening, July 22nd, and the p prietors of a number of hotels and boarding houses in town have offered to entertain the party for the week-e July 22nd to July 24th. Representatives wishing to a

themselves of this offer are requested to communicate with Dr. Wilkinson, Droitwich, Worcestershire, as soon as possible.

SECRETARIES OF DIVISIONS.

The dinner of the Secretaries of Divisions and Branches will be held on Monday, July 24th, at 7 p.m., at the Grand Hotel, and will be followed by the Annual Conference.

UNIVERSITY OF BIRMINGHAM.

Special Degree Congregation.

A special degree congregation will be held at the University Buildings, Bournbrook, on Thursday, July 27th, at 3.30 p.m. Afterwards visitors will be shown over the new University Buildings, and opportunities will be afforded for small parties to visit the Chamberlain tower, from which a fine view of the surrounding country is obtained. Tea will be served during the afternoon. The University can be reached by trams starting from Navigation Street, and special arrangements will be made on this occasion for the convenience of members.

THE EXHIBITION.

The Exhibition of Surgical Instruments, Drugs, and Foods, arranged in the Bingley Hall in connexion with the Birmingham Meeting, promises to be of special interest and it is hoped that all members visiting Birmingham will make a point of attending some time during the meeting.

The Bingley Hall is within easy access, but for the convenience of members the Wolseley Tool and Motor Car Company, Limited, of Adderley Park, Birmingham, have kindly placed at their disposal motor cars to run between the Reception Room and the Bingley Hall. The Exhibition will be open daily from the Tuesday to the Friday, from 9 a.m. to 6 p.m.

NOTIFICATION OF ATTENDANCE: RAILWAY TICKETS.

ALL members of the British Medical Association who purpose to attend the Annual Meeting in Birmingham at the end of this month, including those resident in Birmingham, are requested to at once fill up, if they have not already done so, the form of "notification of attendance" published this week in the advertisement pages (7, 8, 9, and 10).

If the form is filled up and returned to the address shown, a voucher or vouchers will be issued from the Central Offices, 429, Strand, giving the right to the special terms that have been arranged with the railway companies.

On presentation of these vouchers the companies will issue return tickets at a single fare and a quarter, available from July 20th to August 1st, both dates inclusive.

Railway Facilities.

For the convenience of those members residing within a radius of 50 miles of Birmingham, and who desire to travel backward and forward each day, arrangements have been made with the railway companies to issue from Birmingham return tickets at a *single fare and a quarter on presentation, at the time of booking, of the member's card.*

The railway vouchers issued from the head office should be used for the first journey to and the last journey from Birmingham.

Honorary Local Treasurer—

J. T. J. MORRISON, Esq., F.R.C.S.,
54, Newhall Street, Birmingham.

Honorary Local Secretaries—

ALBERT LUCAS, Esq., F.R.C.S.,
9, Easy Row, Birmingham.

JOHN FURNEAUX JORDAN, Esq., M.B., F.R.C.S.,
9, Newhall Street, Birmingham.

W. TRACY LYDALL, Esq., M.D.Brux.,
Greswolde House, Yardly, Worc.

A. W. NUTHALL, Esq., F.R.C.S.,
89, Cornwall Street, Birmingham.

PROGRAMME.

The following has been settled as the Time Table for the Birmingham Meeting:

FRIDAY, JULY 21ST, 1911.

10 A.M.—Annual Representative Meeting.
7.30 P.M.—Dinner of Representatives and Council.

SATURDAY, JULY 22ND.

9 A.M.—Representative Meeting.

MONDAY, JULY 24TH.

9.30 A.M.—Council Meeting.
10 A.M.—Representative Meeting.
7 P.M.—Secretaries' Conference and Dinner.

TUESDAY, JULY 25TH.

9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.
9.30 A.M.—Representative Meeting.
2 P.M.—Annual General Meeting.
3.30 P.M.—Religious Services.
4 P.M.—Garden parties by Sir Oliver and Lady Lodge, and Professor and Mrs. Saundby.
8.30 P.M.—Adjourned General Meeting; President's Address.
10 P.M.—After the address the Birmingham and District General Medical Practitioners' Union will give a smoking concert in the Drill Hall.

WEDNESDAY, JULY 26th.

9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.
9.30 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Medicine.
2 P.M.—Golf match at Little Aston.
Excursion to Lichfield. The local members of the profession invite a party of 100 to visit Lichfield, where they will have an opportunity of seeing the statue of King Edward VII, the local museum, the Boswell statue in Market Place, Johnson's birthplace and museum, Bridgeman's sculpture works; and of attending evensong at the Cathedral at 4 p.m. The Mayor will receive the visitors at the Guildhall at 5 p.m., when the Corporation insignia and plate will be displayed and tea provided.
3.30 P.M.—Garden party at Bournville.
3.30 P.M.—Garden party by Professor and Mrs. Gilbert Barling.
8.30 P.M.—Reception at the Council House by the Lord Mayor and Lady Mayoress.

THURSDAY, JULY 27TH.

8 A.M.—National Temperance League Breakfast.
9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Surgery.
3.30 P.M.—University of Birmingham; Special Degree Congregation. To be followed by an inspection of the new buildings.
3.30 P.M.—Matinée at Picture House, limited to 800.
Excursion to Studley Castle Horticultural College. The Countess of Warwick, foundress of the college, and Dr. Lillias Hamilton, the warden, will receive a party of members at the Horticultural College for Women at Studley Castle. The students will show parties round the gardens, market houses, and orchards, and a pastoral play will be performed in the shrubbery.
7.30 P.M.—Annual Dinner.
8.30 P.M.—Special performance of *The Fantasticks*, by Harcourt Williams and Company, at the Theatre Royal.

FRIDAY, JULY 28TH.

9 A.M.—Council Meeting.
9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.
10 A.M. to 1 P.M.—Sectional Meetings.
Golf competition at Handsworth.
3.30 P.M.—Garden party by Mr. and Mrs. Frank Marsh at Aston Hall and Park.
3.30 P.M.—Garden party by Dr. and Mrs. Stacey Wilson, at Wydrington.
Excursion to Coventry. In the afternoon a party will visit Coventry, and will be shown the Daimler Works or the Rover Works, St. Mary's Hall, and St. Michael's Church. Afterwards they will be entertained at tea by Colonel Wyley, at the Charterhouse.
8.30 P.M.—Reception at the Botanical Gardens, Edgbaston.

SATURDAY, JULY 29TH.

Excursions.

PATHOLOGICAL MUSEUM.

A PATHOLOGICAL MUSEUM has been organized in connexion with the meeting in the Pathological and Brewing Laboratories of the University College, Edmund Street, and it is hoped it will be open to visitors on Monday, July 24th.

The Museum will serve the purpose of displaying those specimens which are required to illustrate papers read in the Sections, and it is also intended to present collections or series of specimens of subjects of prominent interest.

The Museum is divided into sections and each section has been placed under an honorary secretary and curator.

Medicine	L. G. J. Mackey, M.D., 141A, Great Charles Street. Sholto Douglas, M.B., The University, Edmund Street.
Surgery	Seymour Barling, F.R.C.S., 81, Edmund Street. W. Billington, F.R.C.S., 47, Newhall Street. B. J. Ward, F.R.C.S., 141A, Great Charles Street.
Gynaecology... ...	J. T. Hewetson, F.R.C.S., 89, Cornwall Street. S. Lewis Graham, M.B., 51, Newhall Street.
Dermatology... ...	Douglas Heath, M.D., 41, Newhall Street. W. A. Loxton, M.B., 85, Cornwall Street.
Diseases of Children	L. G. Parsons, M.D., 52, Newhall Street.
Ophthalmology ...	Jameson Evans, F.R.C.S., 85, Edmund Street.
Ear and Throat ...	Seymour Jones, F.R.C.S., 93, Cornwall Street.
State Medicine ...	John Robertson, M.D., Council House. T. S. Higgins, D.P.H., Council House.
Dental	John Humphreys, M.D.S., 61, Newhall Street. H. Humphreys, M.B., B.Ch., 61, Newhall Street.
Radiology	J. Hall-Edwards, L.R.C.P., 103, Newhall Street. J. R. Ratcliffe, M.B., Wake Green Road, Moseley.
Veterinary Medicine.	Lawton Sedgwick, Broad Street, Birmingham.

The Honorary Secretary of the Pathological Museum is Mr. A. W. Nuthall, F.R.C.S., 89, Cornwall Street, Birmingham.

There will be a series of specimens to illustrate the following special subjects:

(*a*) The degenerations and complications of fibroid tumours of the uterus.
(*b*) Osteo-arthritis and rheumatoid arthritis.
(*c*) Granulomatous formations in tertiary visceral syphilis, including hereditary syphilis.
(*d*) The inter-relation between human and bovine tuberculosis.
(*e*) The pathology of glaucoma.
(*f*) Malignant growths of the gastro-intestinal tract removed by operation, with final results.
(*g*) Simple and malignant tumours of the testis.
(*h*) Hypernephromata.
(*i*) Radiograms illustrating — Osteo-arthritis and rheumatoid arthritis; abnormal and pathological conditions of the abdominal viscera; early pulmonary tuberculosis.
(*k*) Pyloric obstruction in children.
(*l*) Diseases of the middle ear.
(*m*) Diseases of the pancreas.

By kind permission of Mr. Shattock and Dr. Keith, of the Royal College of Surgeons, a selection of the specimens prepared by the workers on the Royal Commission on Tuberculosis will be available for exhibition in the division of the Museum devoted to the inter-relation between human and bovine tuberculosis.

The Museum will be open from 10 a.m. to 5 p.m. on each day, and notice of special demonstrations given by the honorary curator at convenient times will be posted on the notice board in the Reception Room and on the doors of the Museum. Arrangements have been made to place on exhibition in the Museum a number of rare old medical books in the possession of the library of the university. These will be in the charge of Mr. Cope, the university librarian.

THE SATURDAY EXCURSIONS.

Warwick and Leamington.

The invitation of the Warwick and Leamington Division will be extended to 300 persons. The party will leave Snow Hill Station about 9.15 a.m., arriving at Warwick half an hour later. The party will visit the Castle, Leycester Hospital, St. Mary's Church, and other interesting parts of Warwick, and then proceed by special trams to Leamington, where lunch will be provided by the Mayor and Corporation in the Town Hall at 1.30. This will be followed by an inspection of the Pump Room, and later by tea and a concert by the band of the Gordon Highlanders in the garden.

Stratford-on-Avon.

The local members of the profession have invited a party of 150 to visit Stratford-on-Avon. The party, which will leave Snow Hill Station about 9.30, and arrive at Stratford about 10 o'clock, will visit the Parish Church, Shakespeare's Birthplace and Museum, and Anne Hathaway's Cottage. After lunch a matinée performance of one of Shakespeare's plays will probably be given at the Memorial Theatre. Golf, tennis, and boating will also be possible. An extension of this excursion, limited to 50, will be taken on to Broadway, where they will be shown round the ancient houses by Dr. Standring and other local medical men. Tea will be arranged at the Old Priory, where the party will be welcomed by the well-known artist, Mr. F. D. Millet.

Droitwich.

A party not exceeding 200 in number will leave Snow Hill Station about 9.25 a.m., arriving at Droitwich at 10.14. The bathing establishment will first be visited, and an opportunity afforded to visitors of indulging in a brine bath. Afterwards a luncheon will be given by the Corbet Trustees, and in the afternoon a drive through the surrounding country will be arranged.

Malvern and Worcester.

A party limited to 50 persons will leave by the same train as the Droitwich excursion and arrive at Malvern at 10.43. After a drive through places of interest they will be entertained to lunch by the local medical men, and will leave at 2.2 p.m. for Worcester, where they will be met by the local medical men, who will show them the various places of interest. Evensong at the cathedral may be attended, and afterwards tea will be provided.

Hereford.

The party, limited to 50, will leave Snow Hill Station at 9.25 a.m., arriving at Hereford at 11.21 a.m. The party will be met at Hereford by members of the local profession, and, after being shown some of the sights of the city, will be entertained at lunch at the Town Hall, at 1 p.m., and at 2.30 p.m. they will start on a motor drive up the Wye Valley. Tea will be served at the Scour Rock.

NOTES.

Stratford-on-Avon.

THE trustees and guardians of Shakespeare's birthplace, the governors of the Memorial Theatre and of the grammar school, and the vicar of the parish, invite the members of the British Medical Association to view the various places of interest in their custody. Free admission will be granted at any time during the week of the meeting to members of the British Medical Association on showing their card of membership.

Church Stretton.

Mr. N. Hay Forbes, F.R.C.S.Edin. (Druminnor, Church Stretton), writes: The excursions to Warwick, Leamington, Stratford-on-Avon, Droitwich, Malvern, Worcester and Hereford organized by the Excursions Committee will afford members of our Association an enjoyable opportunity of visiting both useful spas and historically interesting towns in the Midlands, but for any members who may wish to visit one of the most valuable, as well as one of the most picturesquely beautiful, of our inland climatic health resorts I venture to suggest a motor ride (50 miles) from the capital of the Midlands, through Dudley and Bridgnorth, to Church Stretton, the "Highlands of England," where at altitudes varying from 613 feet to close on 1,700 feet above above sea level, amidst pine-wooded hills

wild mountainous moorland, romantic glens, and babbling brooks, they can enjoy a short "nature cure" of cool hill breezes, with a ramble over the haunt of the red grouse and curlew, or a good round on links 1,100 feet above sea level, followed by the "cup that cheers but not inebriates," and a pleasant return journey to Birmingham by way of Much Wenlock to inspect King Edward's County Memorial Sanatorium for tuberculosis, reaching their destination shortly before the usual dinner hour.

Should a small party desire to visit Church Stretton, the local members of the profession, including myself, would be glad to have the names of intending visitors soon, and I think I may say, on my own initiative, that we shall all extend a hearty welcome to all.

GOLF.

MEMBERS attending the Annual Meeting will find that the local committee has not been behindhand in catering for the devotees of the royal and ancient game. Practically all the clubs in the neighbourhood have generously placed their courses at the disposal of the local executive, but in one or two cases Saturday afternoons have been excluded. On presentation of their card of membership visitors to the meeting will be considered members of the club for the day and freed of all green fees. Although there is no first-class course in the district, there are a number which fall little short of that exalted standard, such as Sandwell Park, Olton, Handsworth, Sutton Coldfield, King's Norton, Harborne, Little Aston, and Moseley. Further afield are Malvern and Leamington. The links at Malvern, charmingly situated at the foot of the beautiful Malvern Hills, are among the oldest in England, and known by name or repute to most golfers. Sunday play is allowed, without caddies, at nearly all the clubs. There is no play at Malvern on Sundays, and at Leamington only after mid-day.

Match.

On Wednesday, July 26th, a match, twenty-five a side, is being arranged at Little Aston between the visitors to the meeting and the Birmingham Medical Golfing Society. The Little Aston course is situated about nine miles from Birmingham, and about ten minutes' walk from Streetly Station on the Midland Railway; it is, however, hoped that sufficient motor cars will be available to convey players in the match from the Grand Hotel to the club house. The course is rather a new one, but will be found a good test of golf. It is formed out of a deer park once belonging to the well-known Staffordshire family of Parker-Jervis. Mr. J. B. Clarke, of Little Aston Hall, which adjoins the course, has kindly undertaken to provide tea at his house for the players. Members wishing to play in the match should send their names, together with their handicaps, to Dr. Thomas Sansome, Sandwell House, West Bromwich.

The Ulster Cup Competition.

The Ulster Cup, presented by the Ulster members in 1909, will be played for as usual on the Friday of the Annual Meeting. The play is against bogie. It will take place on the course of the Handsworth Club, about three and a half miles from the Birmingham Town Hall, and about one mile from Handsworth Wood Station; it can also be reached by tram from the Roebuck Inn, eked out by cab for about a quarter of an hour at a fare of 1s. 6d. It is hoped to arrange for a motor omnibus to run at intervals of about one hour from the Grand Hotel to the club house. A special prize has been offered by Mr. Saunders, the captain of the club, in connexion with this competition. Mr. C. A. Palmer, well known as the runner-up for the amateur championship a few years ago, has kindly offered to entertain the competitors to tea at his house, which adjoins the course. The Handsworth course is about 5,650 yards in length, the soil is light and springy, the greens are excellent, but a little fast in dry weather; there is an abundance of bunkers most artfully placed to catch a bad shot; but the player who keeps straight and hits a fair ball will be sure of finding a good lie, and get the reward of accurate play.

Further details of the match and of the Ulster Cup Competition will be posted in the reception room at the town hall, and information will be given as to the means of reaching the various links.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

ANNUAL GENERAL MEETING.

Notice is hereby given that the 1911 Annual General Meeting of the British Medical Association will be held in the Midland Institute, Birmingham, on Tuesday, July 25th, 1911, at Two o'clock in the Afternoon.

ANNUAL REPRESENTATIVE MEETING.

Also, notice is hereby given that the 1911 Annual Representative Meeting will be held in the Midland Institute, Birmingham, on Friday, July 21st, 1911 (and following days as required), at Ten o'clock in the Forenoon.

BY ORDER OF THE COUNCIL,

GUY ELLISTON,
Financial Secretary and Business Manager.

J. SMITH WHITAKER,
Medical Secretary.

BRITISH MEDICAL ASSOCIATION.

ANNUAL SUBSCRIPTION.

Those Members who have not already paid their Subscriptions for the current year are requested to forward to 429, Strand, London, a Cheque or Post Office Order for 25s. in favour of the British Medical Association, crossed London County and Westminster Bank. Members joining as from July 1st should forward 12s. 6d.

GUY ELLISTON,
Financial Secretary and Business Manager.
429, Strand, London.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for candidates for election as Members of Council by Grouped Representatives for the year 1911–12 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting, on Monday, July 24th, 1911. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (1) for Nomination by a Division, and (2) for Nomination by a Representative of a Division included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,

J. SMITH WHITAKER,
Medical Secretary.

Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BORDER COUNTIES BRANCH:

THE forty-fourth annual general meeting of the Border Counties Branch, British Medical Association, was held in the County Station Hotel, Carlisle, on Friday, June 30th.

Confirmation of Minutes.—The minutes of the previous meeting were read, approved, and signed by the Chairman.

Report of Branch Council.—The CHAIRMAN submitted the report of the Branch Council. Dr. CRERAR moved the adoption of the report, and Dr. GRAHAM seconded the motion, which was unanimously agreed to.

Autumn Meeting.—It was agreed that the autumn meeting be held in Whitehaven, that the spring meeting be held in Moffat, and that the annual meeting be as usual held in Carlisle.

Election of Officers.—The following office-bearers were elected: Dr. Huskie, Moffat, to be President; Dr. Crerar, Maryport, to be President-elect; Dr. Bird, Past-President; Dr. G. R. Livingston, Secretary and Treasurer. The following six members were elected to serve on the Branch Council: Dr. Farquharson, Dr. Hill of Carlisle, Dr. Edington (Penrith), Dr. Martin, Dr. Kerr, Dr. Robson of Dumfries.

Auditors.—Dr. Easterbrook and Dr. Robson were appointed auditors.

Associate Member.—Dr. Syme was elected an associate member.

Installation of New President.—Dr. BIRD then vacated the chair, and the new President, Dr. HUSKIE, gave an address entitled "Some Aspects of Spa Treatment, with Special Reference to Moffat."

National Insurance Bill.—A short discussion afterwards took place on "State Insurance."

SCOTTISH DIVISION.

THE annual general meeting of this Division was held in Dumfries and Galloway Royal Infirmary on June 9th. Sixteen members were present. Dr. EASTERBROOK, Vice-President, was in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were passed.

Apologies for Non-attendance.—Apologies for unavoidable absence were read from seven members.

Executive Committee's Report.—The meeting considered the Executive Committee's report for the past year. The Committee had met five times during the year, and had taken action regarding several matters of local interest affecting the practitioners. The National Insurance Bill now before Parliament had also received their close attention. The report, along with the financial statement, was approved.

Election of Office-bearers.—The meeting then proceeded to the election of office-bearers for the ensuing year. The following were elected: *Chairman*, Dr. Easterbrook; *Vice-Chairman*, Dr. Rodger; *Honorary Secretary and Treasurer*, Dr. Raeburn; *Representatives on Branch Council*, Drs. Easterbrook, Maxwell Ross, and Scott; *Ordinary Members of Committee*, Drs. Sanders, Livingston, Cowan, and Robson; *Representative at Representative Meeting*, Dr. Rodger.

Special Representative Meeting.

The next item on the agenda was Dr. RODGER'S report on the Representative Meeting which he had attended in London. He gave a short summary of the proceedings and explained how the meeting came to the decision to recommend the profession to insist on six conditions as essential if they were to accept duty under the Act. These six conditions were in the hands of the members.

The meeting then considered these six conditions in order (see SUPPLEMENT, July 1st, p. 14)).

Speaking to the first, Dr. MAXWELL ROSS said this was not so vital as some of the other points, and advised the profession to concentrate their efforts on obtaining the more vital ones. Dr. BRYSON said he considered this an essentially vital point. Drs. KERR, CLARK, ROBSON, and EASTERBROOK all spoke. Dr. BELL then moved:

> That we adhere to the £2 limit.

Dr. KERR seconded. There being no counter motion this was carried.

The second and third conditions were approved unanimously.

Dr. BRYSON moved that the fourth condition should read

> That the method of remuneration for medical practitioners be uniform throughout the country, preferably on the principle of capitation grants, which must be adequate.

Dr. SCOTT seconded. This was carried unanimously.

Dr. CLARK moved that the following be added to the fifth condition:

> Including extra remuneration for mileage, consultations, operations, fractures, night visits, and administration of anaesthetics.

Dr. SANDERS seconded. This was carried unanimously.

The sixth condition was approved unanimously. The general resolution was approved.

EAST YORK AND NORTH LINCOLN BRANCH.

THE fifty-fifth annual meeting was held at the Royal Station Hotel, Hull, on Thursday, June 15th. The retiring President, Dr. E. M. HAINWORTH, was in the chair, and there was a very large attendance of both members and non-members of the Branch.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Annual Report of Council.—The Council's annual report and the Treasurer's financial statement were received and passed.

Election of Officers.—The following were appointed officers for the session 1911–12: *President*, Dr. H. D. Johns; *President-elect*, W. J. L. Ffrench, Esq.; *Vice-Presidents*, Dr. J. M. Wilson and Dr. J. MacNidder; *Honorary Secretary and Treasurer*, Dr. E. Turton.

Vote of Thanks to Retiring President.—The President, Dr. H. D. JOHNS, then took the chair, and proposed a vote of thanks to the retiring President, Dr. E. M. Hainworth, which was duly carried. Dr. HAINWORTH responded.

President's Address.—The PRESIDENT then read a very interesting address on "The Influence of Mind on Matter in Medicine." A hearty vote of thanks to the President was carried with acclamation.

Special Representative Meeting.—The Representatives of the East York and North Lincoln Divisions, Dr. MACNIDDER, then reported on the Special Meeting of the Representatives held on May 31st and June 1st, to discuss the Chancellor of the Exchequer's National Insurance Bill. A long and interesting discussion ensued on the policy of the Association laid down at this meeting. The resolutions published in the SUPPLEMENT of July 1st, p. 1 were carried.

EDINBURGH BRANCH:

SOUTH-EASTERN COUNTIES DIVISION.

THE annual meeting was held at the Railway Hotel, Boswells, on Wednesday, June 21st; Dr. OLIVER in the chair.

Election of Officers.—The following office-bearers were appointed: *Chairman*, Dr. Oliver; *Vice-Chairman*, Dr. Muir; *Secretary and Treasurer*, Dr. Jeffrey; *Representative on Branch Council*, Dr. Cullen; *Representative at Representative Meeting*, Dr. Blair; *Executive Committee*, Drs. Luke, Cullen, Somerville, Young, Carlyle-Johnstone, and Davidson.

The late Dr. Rutherford.—The CHAIRMAN referred to the loss sustained by the Branch and the profession generally by the death of Dr. Rutherford, and the Honorary Secretary was instructed to write conveying the sympathy of the Division to Mrs. Rutherford.

National Insurance Bill.—The REPRESENTATIVE then read his report of the Special Representative Meeting, and the members were firmly of opinion that the policy of the Association with reference to the National Insurance Bill should be supported.

Referendum and Postal Vote.—The principle of a referendum and postal vote was approved of, and the

present favoured the motion of the Exeter Division making the necessary number one-tenth instead of one-fifth.

Motion by Dr. Haddon.—A motion by Dr. HADDON—

That the Division is opposed to changing the constitution of the British Medical Association, or using any of its funds or property for the individual benefit of any member, and, in case the constitution is changed, pledges itself along with the other members who may have the same views to claim the funds and continue to work under the old constitution.

—failed to find a seconder.

Steps to Increase Membership.—Dr. OLIVER then drew attention to the fact that twenty-one practitioners in the Division were non-members of the Association, and steps were taken to urge upon them the necessity for joining the Association in view of the momentous changes which were imminent.

FIFE BRANCH.

THE ninth annual meeting of the Branch was held at the Station Hotel, Kirkcaldy, on Thursday, June 15th. There was an unusually large attendance, nearly sixty being present, members and non-members alike, the latter having also been invited to the meeting. Dr. T. G. Nasmyth, Edinburgh; Drs. Haig, Vice-President, and Taylor, Honorary Secretary, of the Perth Branch; and Colonel Sterrar, Kirkcaldy, were also present. Dr. W. B. Dow, L.L.D., Dunfermline, President of the Branch, occupied the chair.

Apologies for Non-attendance.—The HONORARY SECRETARY intimated apologies for absence from Drs. Macdonald (Leven), Turnbull, W. R. Nasmyth, Watson and Orr (Tayport), also from Dr. J. R. Hamilton (Hawick), member of the Central Council, and from the Honorary Secretaries of the Stirling, Dundee, and Edinburgh Branches, all of whom had been invited to the meeting.

Confirmation of Minutes.—The minutes of the last annual meeting of June 17th, 1910, and of the ordinary meeting April 13th were read and approved.

Installation of New President.—The President then vacated the chair in favour of Dr. Craig, who now becomes President of the Branch for the ensuing year. Dr. CRAIG then took the chair and moved a very hearty vote of thanks to Dr. Dow for his services as President during the last three years, and for the great interest which he had taken in the affairs of the Association. Dr. Dow now becomes a Past President and a member of the Branch Council.

Officers and Council.—On the motion of Dr. MCINTOSH, Dr. Orr (Tayport) was elected President-elect for the current year. Dr. CRAWFORD moved, and it was agreed, that Drs. Dickson (Lochgelly) and Tuke be elected members of Branch Council in room of Drs. Mackenzie and Macdonald (Cupar), who retire by rotation according to the rules. The other members of Branch Council were re-elected, namely: Drs. Caskie, McIntosh, Douglas, Kirk, and Anderson. Dr. Aitken, who has been a Past President and member of Branch Council for the past five years, now retires according to the rules; he was heartily thanked for his services, on the motion of Dr. KING. On the motion of the PRESIDENT, Dr. R. Balfour Graham was re-elected Honorary Secretary and Treasurer, and was thanked for his past services.

Report of Branch Council.—The report by the Branch Council showed that the funds at the end of the financial year stood at £7 15s. 5d. credit on the ordinary account, and 16s. 4d. credit on the special account. The Branch Council had held six ordinary meetings and had elected forty-five new members—a record. The roll of members now stood at 110, including that day's admissions, and was only eight or ten short of the total number of general practitioners in the county. The Branch Council expressed gratification at the great increase of membership, which augured well for the estimation in which the Association was held, as likely to bind the profession together, in view of the inroads upon its rights and privileges. The HONORARY SECRETARY reported that he had been asked to renominate, along with two others, Dr. Hamilton (Hawick) as member of the Central Council to represent the Edinburgh and Fife Branches, and this had been done, no other nomination having been made. Important meetings had been held in connection with the National Insurance Bill, the first being at Perth on April 13th, and it was satisfactory to find that the action then taken up by the Branch with regard to certain questions was practically that now prevailing in the whole Association. The meeting held at Kirkcaldy of members and non-members on May 18th was the largest and most enthusiastic meeting of medical men ever held in Fife, and the intention of the meeting to take up a firm position and raise a defence fund for the protection of any doctors who might suffer by the provisions of the bill was very fully realized. The defence fund raised at that meeting and subsequently amounted to nearly £5,000. Special minutes of this meeting and of subsequent committee meetings had been kept by Dr. Elliot Dickson, convener of the Colliery Surgeons' Committee, who also had acted as secretary of that and the Defence Committee, and the Branch Council desired to put on record their hearty thanks to him for his services, and to express the hope that he would continue to act in the same capacity until matters concerning the National Insurance Bill have been settled. The Honorary Secretary also desired to thank Dr. Dickson for relieving him of the secretarial work of this committee during his late absence from duty through illness. The Branch Council proposed that the Defence Committee be continued as follows: Drs. Craig (President), Dow, Anderson, McIntosh, Selkirk, Tuke, Crawford, Dickson, and Graham (*ex officio*). The meeting then formally approved of the report of the Branch Council.

Expression of Condolence with Sir Robert Finlay.—The HONORARY SECRETARY reported that he had, in the name of the Branch, sent a telegram of sympathy to Sir Robert Finlay on the occasion of the sudden death of Lady Finlay, and had had a reply of grateful thanks.

Report of Representative.—Dr. Dow then submitted an account of his attendance at the Representative Meetings held at London in connexion with the National Insurance Bill, and was heartily thanked for all his services in this connexion. He intimated that, as a result of the recent postcard poll of the profession, he had ascertained that nearly 16,000 doctors had up to date signified their approval of the position taken up by the Association regarding the bill. Dr. Dow was nominated for re-election as the Representative at Representative Meetings, but declined, as he could not undertake such arduous duties again, at the same time thanking the Branch for their confidence in him.

Election of Representative at Representative Meetings.—Dr. T. G. Nasmyth was then elected Representative of the Branch at Representative Meetings, and he willingly accepted office. The business of the Representative Meetings to be held next month being too voluminous to consider seriatim, it was left to the Representative to use his own discretion regarding the same, but as it was probable that the consideration of the National Insurance Bill would overshadow all other matters, the Branch confidently left this matter also in the hands of the Representative, as he was fully aware of their views.

National Insurance Bill.—The National Insurance Bill was discussed (see SUPPLEMENT, July 1st, p. 12.)

Votes of Thanks.—Votes of thanks were accorded to Dr. Dickson and the Chairman for their services, and this closed a harmonious and enthusiastic meeting.

Tea.—The members afterwards had tea together.

GLASGOW AND WEST OF SCOTLAND BRANCH.

A MEETING of this Branch was held in the Western Infirmary, Glasgow, on June 15th. At the commencement of the proceedings the chair was taken by Dr. J. W. MARSHALL (the retiring President), who said: "We are met on a very important occasion, and I am glad that there is such a good turn-out. It was intended that we should have a large demonstration, and in these parlous times it seems as if the medical body politic wanted most looking after, so we are to have a discussion on the Insurance Bill. We must ask your indulgence for a short time till we get through the ordinary business of the annual meeting. The Secretary will read the minutes."

Minutes.—Dr. MACFARLANE (Honorary Secretary) proposed that the minutes as printed in the circular calling the meeting be held as read. This was agreed to.

Apologies for Non-attendance.—Apologies were intimated from Sir Donald MacAlister, Mr. E. Wason, M.P., Mr. H. J. McKinder, M.P., Mr. Harry Hope, M.P., Dr. Yellowlees, Dr. Walker Downie, Dr. Barr Pollock, Dr. McKay, and others.

Honorary Secretary's Report.—Dr. WISHART KERR said: "I have great pleasure in moving the adoption of this report, and in doing so I beg to say that I think we are greatly indebted to Dr. Macfarlane for the trouble he has taken in drawing it up." Dr. CARLYLE seconded, and the motion was agreed to.

Treasurer's Report.—The adoption of this report was moved by Dr. GRANT (Blantyre), and seconded by Dr. WALKER (Pollokshaws), and duly adopted.

Election of Officers.—Dr. J. N. MARSHALL said: "I have pleasure in proposing as president for the ensuing year Dr. W. L. Muir. He has for a long time taken a prominent part in the proceedings of the Association, and knows all the rules and regulations, and I am sure he will make a most excellent president." Dr. E. DUNCAN seconded, and Dr. MUIR then took the chair. He said: "This is a position which I almost never expected to fill, but on this present momentous occasion, which greatly affects the whole of the practitioners, I feel peculiarly honoured in being in this position to-day. I am not going to delay the meeting because we have a lot of work to get through, but simply as an individual I thank you. I have been a general medical practitioner for the last forty-five years, and on their behalf I thank you for having elected me to this position." The CHAIRMAN then moved seriatim the following appointments:—*President-elect*, Dr. Semple Young; *Vice-Presidents*, Dr. J. N. Marshall, Professor Stockman; *Honorary Secretary*, Dr. William D. Macfarlane, jun.; *Honorary Treasurer*, Dr. J. P. Duncan.

National Insurance Bill.—The meeting then proceeded to discuss the National Insurance Bill (see SUPPLEMENT, July 1st, p. 9).

DUMBARTONSHIRE AND ARGYLLSHIRE DIVISION.

THE annual business meeting of this Division was held on Friday, May 26th, in the Crown Restaurant, Dumbarton. Dr. J. EWING HUNTER, President, occupied the chair, and nine members and one non-member were present.

Apologies for Non-attendance.—The SECRETARY intimated a number of apologies for absence.

Confirmation of Minutes.—The minutes were read and approved.

Draft Rules of Ethical Procedure.—A communication from the Central Office of the Association, on draft rules governing procedure in ethical matters of a Division not itself a Branch, was considered. The rules were approved of generally, detailed criticism being postponed until the final draft is received.

Affiliation of Outside Bodies.—A communication from the Central Office on this subject was considered, and was approved unanimously.

Metric System.—A report on the adoption of the metric system of weights and measures by medical practitioners in prescribing and dispensing was considered. On this subject there was considerable diversity of opinion. The members ultimately approved of the scheme on condition that in the event of its adoption only those qualifying after that date should be compelled to use the metric system, while its use with practitioners already in practice should be optional. It was decided not to approach the pharmacists on the subject meantime.

Referendum and Postal Vote.—It was unanimously decided to answer the questions submitted as follows:

Question 1.—Yes. If one-tenth of the constituencies and one-tenth of the membership of the Association is adopted instead of one-fifth in each case as stated.

Question 2.—No. The restriction suggested is unworkable, and would simply mean that many members would be disqualified. Membership should be the only qualification necessary for taking part in the referendum by postal vote.

Question 3 (I and II).—Yes.

Secretary's Report.—Dr. WM. SEMPLE YOUNG reported that this had been the best year in the history of the Division and that the membership was higher than at any previous time. Much useful and practical work had been done. As one result of the action taken by the Division, the Row Parish School Board had acceded to the request of the members and were now paying 1s. for each medical certificate granted in the case of scholars who were unable to attend school on account of illness. In Helensburgh a lodge medical officership became vacant during the session and several local members of the Division were asked to stand as candidates. As the terms offered were not considered adequate, the matter was brought before the Division, and it was agreed unanimously that no member would accept any lodge appointment at the terms offered in this instance. All the members acted loyally in this matter, but, unfortunately, one practitioner in town (although the decision of the Division had been communicated to him) accepted the appointment at the terms offered. As this practitioner is not a member of the British Medical Association, the Division could not prevent his doing so.

Election of Office-bearers.—The following were appointed unanimously: *President*, Dr. J. Ewing Hunter (Millig, Helensburgh); *Vice-President*, Dr. J. Wilson (Ashville, Dumbarton); *Honorary Secretary*, Dr. Wm. Semple Young (Millfield, Helensburgh); *Representative at Representative Meetings*, Dr. E. H. Cramb (Ellyer Holm, Radnor Park, Clydebank); *Representatives on Branch Council*, Dr. E. H. Cramb (Radnor Park, Clydebank) and Dr. A. D. McLachlan (Valeview, Dumbarton); *Executive Committee*, the above office-bearers along with Dr. W. Little (Dumbarton) and Dr. J. R. F. Cullen (Alexandria).

GLASGOW EASTERN DIVISION.

THE annual meeting of this Division was held in Bellgrove Hall on June 7th. Dr. MALCOLM BLACK, Chairman of the Division, presided, and eighteen members were present.

Confirmation of Minutes.—The minutes of the last meeting were read, approved, and signed by the CHAIRMAN.

Apologies for Non-attendance.—Apologies for absence were intimated from Drs. John Patrick and A. C. Campbell.

Election of Officers.—Office-bearers for 1911–12 were elected as follows: *Chairman*, W. J. H. Sinclair, M.B.; *Vice-Chairman*, Hugh A. McLean, M.B.; *Honorary Secretary and Treasurer*, William Bryce, M.D.; *Representatives on Branch Council*, William L. Muir, L.R.C.P., and William Bryce, M.D.; *Executive Committee*, Malcolm Black, M.D., P. S. Buchanan, M.B., James Craig, L.R.C.P., Joseph Green, M.B., Alexander Johnston, M.D., John Patrick, M.B., Robert Scott, M.B., Miller Semple, M.B., and Robert McC. Service, M.D.

Honorary Secretary's Report.—The HONORARY SECRETARY submitted his annual report, which showed that, com mencing the year with a membership of 76, 23 member had been added, while 8 had been lost (3 by death and by change of residence), leaving the membership at th end of the year at 91, a net gain of 15, which wa considered very satisfactory.

Special Representative Meeting.—The report on th Special Representative Meeting held in London on May 31s and June 1st was submitted by Dr. WM. L. MUIR, who gav a most interesting account of the deliberations, and receive the unanimous thanks of the meeting therefor.

Annual Representative Meeting.—Notices of motion fo the Annual Representative Meeting were considere seriatim, and the Representative instructed as to his actio towards these.

Referendum and Postal Vote.—The report of the Counc on the Referendum and postal vote was next discussed, an the questions submitted to Divisions (SUPPLEMENT, Apr 29th, 1911) considered, which were answered—Nos. 1 and in the affirmative and No. 2 in the negative.

Glasgow Parish Council and its Medical Officers.—TH SECRETARY read correspondence with a member regardi the action of Glasgow Parish Council in dismissing one its medical officers. The finding of the Executive Co mittee declining to interfere in the matter was put from t chair, and homologated by the meeting.

LANARKSHIRE DIVISION.

THE annual meeting of the Lanarkshire Division was h on June 15th, at 2 o'clock. Dr. BRUCE GOFF (Bothwe Chairman of the Division, presided, and there were pres Drs. John Goff, John Marshall, John Fotheringham, Rob Paterson, Robert Robertson, John McKenzie, Hugh Mil J. Murray Young, John A. Watt, A. C. Barron, J. Livingstone Loudon.

Confirmation of Minutes.—The minutes of the meeting were read, and, having been approved by members, were signed by the Chairman.

Accounts.—The SECRETARY submitted the statement accounts for the year ended December 31st, 1910, at wh date there were 78 members on the roll of the Divis

The sum of £5 14s. had been received from the Branch Treasurer. The expenditure was £1 0s. 6d., leaving a balance of £4 13s. 6d., which had been remitted to the Branch Treasurer.

Election of Office-bearers.—The CHAIRMAN having vacated the chair, the following elections were made: *Chairman*, Dr. Bruce Goff (Bothwell); *Vice-Chairman*, Dr. Robertson (Motherwell); *Representative to Representative Meetings*, Dr. Bruce Goff (Bothwell); *Representatives to Branch Council*, Dr. John Goff (Bothwell) and Dr. Livingstone Loudon (Hamilton); *Executive Committee*, Dr. J. T. Wilson (County Buildings, Hamilton), Dr. Macphail (Whifflet), Dr. McNay (Larkhall), Dr. Paterson (Law, Carluke), Dr. McKenzie (Douglas), together with the Chairman, Representatives to Branch Council, and Secretary and Vice-Chairman *ex-officio; Secretary and Treasurer*, Dr. Livingstone Loudon (Hamilton).

GLOUCESTERSHIRE BRANCH.

THE annual meeting of the Branch was held at the Royal Infirmary, Gloucester, at 6 p.m. on May 18th. The PRESIDENT was in the chair, and thirty-six members present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The officers for session 1911–12 were declared elected as follows:—*President*, Mr. G. A. Peake; *Council*, Dr. W. Ancrum, Dr. Bramwell, Mr. Buckell, Dr. Carter, Dr. Clarke, Dr. Cox, Dr. Davies (Stroud), Mr. T. S. Ellis, Mr. Howell, Dr. Kirkland, Dr. Knight, Dr. Soutar, with Dr. Buchanan and Dr. Macartney from Forest of Dean Section, and Dr. Grosvenor, ex-President; *Scrutineers*, Dr. Ancrum and Mr. Ellis; *Auditors*, Dr. Dent and Mr. Peake. *Ethical Committee*, Mr. Buckell, Mr. Ellis, Dr. Fowler, Dr. Soutar, Dr. E. T. Wilson; *Secretary*, Dr. D. E. Finlay.

Annual Report.

The annual report was taken as read and passed. The following is a summary:

Membership.—The membership on December 31st, 1909, was 137. Increases: New members, 8; through change of address, 7; total additions, 15; aggregate, 152. Losses: Deaths, 0; resignations, 3; through change of address, 16; arrears, 1; total deductions, 20. Net membership on December 31st, 1910, 132.

Report of Proceedings.—(*a*) Meetings: Meetings held during the year, 9; meetings at which scientific or clinical matters were discussed, 8; meetings at which medico-political, ethical, or kindred matters were discussed, 4; social functions, 8; average attendance at meetings, 28.3. Executive Committee or Branch Council meetings, 10; average attendance, 6.9. (*b*) Notes of any special questions of local interest dealt with (for example, local medical appointments, matters of public health, contract practice, etc.). The following non-scientific matters were amongst those discussed: Model rules for nursing associations. Granting of certificates to parents for children unfit to attend school. Inspection and treatment of school children found defective. Insurance fees. Bill to amend coroners' law. Remuneration for instruction to aid detachments. Business of Representative Meeting.

Financial Statement.—The following is the financial statement for the year ending December 31st, 1910:

1910.		£ s. d.	1910.		£ s. d.
Aug. 10	Balance ...	8 2 2	May 2	J. Bellows...	3 8 0
	Remittance, Head Office	25 16 0	,, 2	Self... ...	1 8 2
			July 11	J. Bellows...	3 14 2
			Nov. 14	,, ...	1 7 0
			Dec. 7	Self... ...	1 0 0
				Balance ...	23 0 10
		£33 18 2			£33 18 2

Summary of expenses for year ending December 31st, 1910:

	£ s. d.
Printing and stationery	8 12 1
Postage	2 5 3
	£10 17 4

Audited and found correct, C. BRAINE-HARTNELL, G. A. PEAKE,
W. W. GROSVENOR, President.
DOUGLAS E. FINLAY, Hon. Sec. and Treasurer.
March 13th, 1911.

Nomination for Central Council.—The Branch nominated Dr. Herbert Jones of Hereford for member on Central Council.

Address.—Dr. ARCHIBALD GARROD, F.R.S., gave an address, entitled, Where Chemistry and Medicine Meet: A general discussion on chemistry in its bearings upon medicine, where it can and where it cannot help, with corrections of some widespread misconceptions. The address was published in the JOURNAL of June 17th, p. 1413.

Vote of Thanks.—A vote of thanks was proposed by Dr. T. S. ELLIS, seconded by Dr. PRUEN, and unanimously carried. Dr. GARROD replied.

Dinner.—Twenty-seven members afterwards sat down to dinner at the Northgate Mansions.

SPECIAL MEETING.

A special meeting was held on May 25th at the Royal Infirmary, Gloucester, at 6.45 p.m. The PRESIDENT was in the chair, and seventy medical men present, including fifty-six members.

National Insurance Bill.—Dr. BRAINE-HARTNELL opened a discussion on the National Insurance Bill, which was continued by Dr. MACARTNEY, Dr. COLLINS, Dr. WALLER, Dr. MELLISH, Dr. PRUEN, Dr. HUTTON, Dr. DAVIES, Dr. BLAKENEY, Dr. HOOKER, Dr. BOND, Dr. CARLYON, and the SECRETARY. The resolutions published in the SUPPLEMENT of June 24th, p. 480, were passed.

Referendum and Postal Vote.—The report of Council on referendum and postal vote was discussed, and the three questions asked were answered in the affirmative.

LANCASHIRE AND CHESHIRE BRANCH:

BOLTON DIVISION.

THE annual meeting was held at the Bolton Infirmary on June 9th. Dr. FLITCROFT was in the chair, and there were present: Drs. Bernfeld, Gray, Falconer, Laslett, Mowat, Wood, Young, Thompson, Rolland, J. M. Thornley, Mallett, Mothersole, Pickering, Jefferies, Cosgrave, J. D. Marshall, and O'Neill.

Confirmation of Minutes.—The minutes of the last annual meeting were read and approved.

Election of Officers.—The following were appointed office-bearers for ensuing year: *Chairman*, Dr. T. E. Flitcroft; *Vice-Chairman*, Dr. Mothersole; *Representatives on Branch Council*, Dr. T. E. Flitcroft, Dr. C. Macfie; *Honorary Secretary and Treasurer:* Dr. T. O'Neill; *Ordinary Members of Committee*, Dr. Wood, Dr. T. G. Laslett, Dr. J. D. Marshall, Dr. J. L. Falconer, Dr. Jefferies, Dr. J. M. Thornley; *Auditors*, Dr. J. Young, Dr. J. H. Hall.

Annual Report of Executive Committee.—This was read, received, and adopted.

Invitation to Lancashire and Cheshire Branch.—The following resolutions were carried:

Dr. JEFFERIES proposed, Dr. MOTHERSOLE seconded:

That the Lancashire and Cheshire Branch be invited to hold its annual meeting in Bolton in 1912 or 1913 as circumstances permit, and
That Dr. Flitcroft be invited to be President, and
That Dr. Jefferies be invited to convey the invitation of this Division at the next Council meeting of Branch.

National Insurance Bill.—Dr. YOUNG moved:

That a deputation be appointed to wait upon the local members of Parliament to urge upon them the views of the profession as stated by the British Medical Association.

Dr. GRAY seconded.

Dr. MALLETT moved, and it was carried:

That Drs. Flitcroft, Young, and O'Neill be appointed to the deputation.

Special Representative Meeting.—The CHAIRMAN then gave his experiences as Representative at the meeting in London with Mr. Lloyd George. The keen interest of the members present in the Insurance Bill was manifested by many questions put to the Chairman as to the way in which the Chancellor had met the various points to be raised at that meeting. Several discussions followed.

Votes of Thanks.—At the termination of the meeting a vote of thanks was given to the Chairman, and another to the retiring Honorary Secretary.

ST. HELENS AND WARRINGTON DIVISIONS.

A JOINT meeting of these Divisions was held at the infirmary, Warrington, on Tuesday, June 13th. Dr. BOWDEN was in the chair, and there were present Drs. Bassett (Representative), Mouncey, Langdale, Bower, Burrowes, Peacocke, Thorpe, Bennett, Jago, Naden, Law, Robinson, Binns, Fox, Hodgkinson, Edwards, Hutchinson (Jno.), Mercer, McKenzie, Geary, D. H. Anderson, Sutherland, Tinsley, Burt, Liston, Bracknell, and Murray.

Election of Representative.—The SECRETARIES of the two Divisions reported that the only nomination received for Representative was that of Dr. Bassett, St. Helens, and that they had therefore declared him elected.

National Insurance Bill.—The Representative was requested to support the policy of the Association (see SUPPLEMENT, June 24th, p. 481). The Representative was instructed that the meeting supported the pledge not to undertake any work under the scheme unless it was satisfactory to the British Medical Association.

Medical Prescribing by Lay Press.—The Representative was instructed to support the suggested resolution.

Support of Unqualified Practitioners.—The Representative was instructed to act as he thought proper.

Medical Treatment of School Children.—The Representative was instructed to support the proposed resolution.

Death Certification (Leigh Division).—The Representative was instructed to vote against the proposed resolution.

METROPOLITAN COUNTIES BRANCH.

THE fifty-ninth annual meeting of the Branch was held on Friday, June 30th, at 4.30 p.m., in the Council Chamber of the Association, 429, Strand, W.C., fifty-five members being present. Dr. LAURISTON E. SHAW, President, was in the chair.

Confirmation of Minutes.—Dr. W. GRIFFITH, one of the Honorary Secretaries, read the minutes of the last annual meeting, held at 429, Strand, on June 23rd, 1910, which were approved and signed as correct.

Election of Officers.—The following report of the election of new officers was read: The Branch Council has to report that the following members have been elected to the various offices of the Branch for the year 1911–12: *President-elect*, Dr. G. E. Haslip; *Vice-Presidents*, Dr. F. J. Allan, Dr. J. Ford Anderson, Dr. Walter Culver James, Dr. C. H. Wise; *Honorary Treasurer*, Dr. Lauriston E. Shaw; *Honorary Secretaries*, Dr. E. W. Goodall, Dr. W. Griffith.

Annual Reports.—The annual report of the Branch Council and financial statement, as also the annual report of the Representatives of the Branch on the Central Council, were then received.

Alteration of Rules.—The CHAIRMAN moved the following, which was carried:

> That the rules of the Branch be amended so as to provide that the President and Honorary Secretaries of the Branch shall be *ex officio* members of all Committees of the Branch and Council.

Moved by Dr. H. J. MACEVOY, seconded by Dr. CORAM JAMES, and agreed:

> That Rule 12 of the Metropolitan Counties Branch Rules dealing with representation of the Divisions on the Branch Council be amended by inserting the words "or Deputy Representative at the choice of the Division," after the words "the Representative of the Division at the Representative Meeting."

Moved by Dr. E. W. GOODALL, seconded by Dr. POTTINGER ELDRED:

> (*c*) That this Branch adopts the rule known as Rule Z, as follows:
>
> RULE Z.—(*a*) In every case in which the Branch Council shall, after due inquiry in accordance with the rules of the Branch, have passed a resolution declaring that in the opinion of the Branch Council the conduct of any medical practitioner or practitioners, whether by contravention of the rules of the Branch or otherwise, is detrimental to the honour and interests of the medical profession, it shall be the duty of the Ethical Committee of the Branch to submit a report of the whole facts of each particular case to the Central Ethical Committee, and, subject to the approval of the said committee, or, if the opinion of the said committee be adverse, subject to the approval of a three-fourths majority of those present and voting in a special meeting of the Branch Council convened to consider the comments of the Central Ethical Committee, to cause such resolution to be brought directly to the knowledge of every member of the Branch, by means of a notice in the form appended hereto, which notice it shall be the duty of the Honorary Secretary of the Branch to authenticate by his signature.
>
> (*b*) In any case in which the Branch Council shall, at the time of, or subsequently to, the adoption of a resolution of the nature contemplated by paragraph (*a*) of this rule, have also resolved that, in the opinion of the Branch Council, it is desirable that such resolution shall be brought officially to the notice of any specified Division or Branch of the Association, it shall be the duty of the Ethical Committee of the Branch to submit to the Central Ethical Committee a statement of this fact and of the reasons for which such notification is desired, and, subject to the approval of the said Central Ethical Committee, to cause a copy of the said resolution to be transmitted by the Honorary Secretary of the Branch to the Honorary Secretary of the Division or Branch so specified.

[FORM OF NOTICE REFERRED TO IN PARAGRAPH (*a*)]:—

BRITISH MEDICAL ASSOCIATION.
METROPOLITAN COUNTIES BRANCH.
(PRIVATE AND CONFIDENTIAL.)
NOTICE.

In pursuance of Rule Z of the Metropolitan Counties Branch Notice is hereby given by the Ethical Committee of the said Branch that at a general meeting of the Branch Council held at on the day of , a resolution in the following terms was duly passed:

That in the opinion of the Branch Council the conduct of Dr. of is (in contravention of the Rules of the Branch) detrimental to the honour and interests of the Medical Profession, within the meaning of the Rule(s).....*

Signed by order of the Ethical Committee of the Branch Council of the British Medical Association.

Honorary Secretary.

* Delete words in ( ) if not required.

(NOTE.—The Central Ethical Committee desires to draw the attention of Branches and Divisions to the necessity of Notices such as the above being circulated *in sealed envelopes.*)

Whereupon an amendment was moved by Dr. OPPENHEIMER, seconded by Dr. MACEVOY:

> That the motion be referred to the Branch Council for further consideration and report.

After discussion, it was moved by Dr. BECKETT-OVERY, seconded by Dr. SOUTHCOMBE, and agreed, that the question be now put. Dr. Oppenheimer's amendment was then put and lost. The CHAIRMAN then put Dr. Goodall's motion, which he declared to be carried.

Induction of New President.—The PRESIDENT said he had much pleasure in asking Mr. Betham Robinson to take the chair as President of the Branch. He assured Mr. Robinson that if he received from the members of the Branch the same kindness and consideration that he had his year of office would be a very happy one. Mr. Betham Robinson thereupon took the chair.

Vote of Thanks.—A hearty vote of thanks was accorded the retiring officers.

PRESIDENT'S ADDRESS.

Mr. BETHAM ROBINSON read his address, entitled "The Branch and Its Work." After a few introductory observations he said:

In selecting a subject on which to address you my choice has been determined by this question that has been put to me many times by even members of our Branch. What good does the Association, and this Branch in particular, effect? On first thoughts it seems almost a superfluity that an answer is required, but it is not so, for those of us behind the scenes must be cognizant that as far as our Branch is concerned a great deal of the Council and Committee work does not become public property, and hence it cannot be fully estimated. Some account of our efforts may not, then, be out of place.

We are here to-day at the fifty-ninth annual meeting of our Branch having been founded in 1852. This was twelve years after the formation of the Provincial Medical and Surgical Association at Worcester and after several other Branches had been started. This shortly preceded the alteration of the title to its present one, the British Medical Association. Being metropolitan in position our Branch seems soon to have become an important force in the Association. In 1862 the annual meeting was held in London for the first time. In 1864 a Parliamentary Bill Committee was established by this Branch, which in 18[illegible] with the addition of representatives of other Branch

ame the Parliamentary Bills Committee of the sociation.

Without going into any further particulars of the Branch its early days, I will now pass on to the period when ecame a member of your Branch Council. A personal erience, as one of your officers since 1891, has made me miliar with most of the Branch's work since that date. w it is only possible to make reference to some of the stions that have occupied the Branch's attention. ong the first—and it was a very important one—was consideration of the Gresham University scheme for better provision of a degree for the London medical lent. This, as you know, came to nought, and was owed later, in 1896, by another Commission to deal h the degrees at the University of London. The out- e of this was the university as at present constituted, , although considerable improvement was effected, yet main defects remain, and we still lack the machinery ive a degree in London on the same terms as is done in numerous provincial universities that have arisen ng the past few years. Let us hope that the Com- ion now sitting will evolve some scheme by which this acle will disappear.

1894, at the initiative of Sir Victor Horsley, a com- ee was appointed to consider the suppression of un- ified practice; their report was the nucleus of the ciation's defence scheme, brought forward at the al meeting at Carlisle in 1896, and which subsequently before the Branch in that form. Another important ion considered was the relation between the profession nedical aid associations.

e reconstitution of the Association carried out in 1902 ltered materially the work and activity of our Branch. if not the most important, change at the reconstitu- was the disappearance of the unattached member, on January 1st, 1903, had the option of remaining in Branch member or of resigning. The natural result s was a considerable increase in our membership, our ers rising from 1,050 to nearly 2,600; about this level remained until the stimulus of the annual meeting in n caused a further rise to over 3,000. Recently, from ciation and sympathy with the good work being done e Association against the National Insurance Bill, more have come into our ranks, so that our member- now over 3,500, a satisfactory progress which we will continue until our Branch claims the majority professional brethren in its area. With this aim of our Divisions are just embarking on a more al appeal to their non-members, but it must not be en that each individual member can probably se the more powerful influence.

work of our Branch, as you know, is conducted in l meeting by its Divisions and by the Branch l, and in particular by its committees. The ry Annual Meeting, at which we are to-day led, has to deal with its own specific and any y business, and brings our members on a common m. Since the reconstitution it has on few occasions ecessary to summon a special general meeting; r, two have been required for confirmation of new and another for the consideration of the new . This does not mean that the opinion of the in general is not efficiently obtained, for it may be through other channels. As seen recently at the called under other auspices on the National ce Bill, our metropolitan position enabled us to ur opinion there as effectively as at a Branch meeting. And again, through our Divisions, we w a much better and efficient means of learning the a much larger number. By Branch Rule 21 the f reference by the Branch Council to the Divisions pt of a request for a special meeting ought to make l general Branch meeting a necessity very rarely. ivisions at the reconstitution took the place of our Societies. These, it may be remembered, were umber, and comprised an area rather different to he present Branch. In them the work was almost of a scientific nature. Their privileges were very d; they had no freedom of action apart from the of the Branch Council, and there their voice was om their limited representation. Any ethical was absolutely ruled out from discussion by the ting laws of the Branch. The present Divisions, their successors, now form the primary units of the Association, having their own rules and managing their own affairs, but dependent on the Branch Council for their finances. More than this, they have a voice at the Representative Meeting, and it was the institution of this in particular that necessitated the formation of a much larger number of Divisions than the existing societies. Thirteen Divisions were definitely organized in April and May, 1903, but a rearrangement in 1904 became necessary, and the separation of Marylebone and Westminster, among other changes, brought the number to fifteen. About two years ago the Norwood Division of the South-Eastern Branch joined us, and subsequently from it the Greenwich Division has recently been formed, bringing our total up to seventeen.

Although the Division is the working unit of the Association, it has for some time been felt that this grouping is too wide to get into personal touch with the members. Accordingly, our Branch Organization Committee has in hand the splitting of Divisions into wards, and these have already been instituted in Tottenham. Through the medium of these smaller groups it is hoped that there will be for working purposes a closer linking of the members in that area and much time saved, and also that more influence may be brought to bear on the non-members, and so strengthen the Association.

There still remain two most important sections of our organization—the Branch Council and its committees. The amount of work that has been done and is being done by them, I think I can say without contradiction, is large in quantity and of great value. The Branch Council, upon which all the Divisions have representatives in proportion to their total membership, is a very active assembly, meeting monthly. To it all committees report, and their resolutions are subjected to the Council's criticism and vote and disposed of accordingly. Resolutions from Divisions and private members' motions also constitute a fair proportion of the agenda. The Council is an important channel through which the Branch makes known its wishes to the Central Council and its committees or sets in motion the machinery in defence of any encroachment of our rights.

The Branch's committees are the latest developments of its activity, and have now become indispensable to a thorough mastery and consideration of the many problems before the Council. Prior to the reconstitution there was only one Standing Committee, the Ethical, appointed first in 1897, and this existed alone until 1905, when two more were added—the Emergency and Medico-Political. On the proposal of the Hampstead Division, the Council in 1906 assented to the creation of a Medical Charities Committee. Soon followed the Finance Committee, and during the past two years the Organization, Contract Practice, and School Children Committees have been found necessary. In all we have now eight Branch committees, and most of them have ample business referred for their consideration. Of their work I now propose to touch on a few points. The Ethical Committee, mindful of its object to maintain the honour and interests of the profession, has had on occasion to investigate cases of alleged ethical misconduct, but, considering the size of our Branch, these alleged breaches have been proportionally few in number. The responsibility of such a committee, with interests often so critical, is weighty, and its judgements must be based upon rigid rules. Your committee has been recently employed in drafting these, which will soon be submitted for your approval. At the reconstitution the financing of the Divisions was left in the hands of the Branch Council. Before very long the unequal rate of expenditure in the Divisions and the application for grants exceeding their capitation allowance made it inevitable that a finance committee should be appointed to report to and advise the Council. The committee drew up and the Council adopted certain rules of procedure, according to which the funds are now distributed. In a large Branch like ours, with its numerous Divisions and active Council and committees, the expenses are naturally heavy, so much so that of late difficulty has been experienced in keeping an even balance between an increasing expenditure and a limited income. A limited income must cause some restriction of our work, but the importance of our undertakings clearly forbids that that should be so. Just to give an idea of our increasing

expenses, I will submit the actual figures derived from the balance sheets since I became your treasurer at the reconstitution in 1903. During the past two years, owing to our possession of a balance, which has now become non-existent, we have received a reduced contribution from the Capitation Grants Subcommittee, so in estimating our balance of income and expenditure I have taken the full capitation grant to which the Branch would be entitled, based on the figures of membership.

In 1903, with a capitation grant of £516 14s. 6d., the expenses were £202 16s. 1d.; with a gradual increase of the grant each year and a marked increase in expenditure we find that in 1907 the grant is £554 2s. 10d., and our expenses £501 10s. 11d. In 1910 we have turned the scale, and our expenses being £667 1s. 7d., the full possible income of £617 8s. is exceeded by £50. There is little likelihood that our expenses this year will be reduced, so the subject requires our serious attention. The numerous Divisions and Branch Council and Committees cost much more money because they are doing much more work, but this cannot be done without the necessary funds. How can the difficulty be got over? In the first place, by an increased membership. Our recent additions will help somewhat, and, as our numbers grow, we have more possible available funds to use for the common good. Secondly, by exercising economy, without at the same time impairing efficiency. Without being thought unduly critical, expenditure might be lessened considerably over printing, especially if a large part of it were issued from a central office. This matter I feel is worth consideration, especially by Divisions with the institution of their several wards. Another point I would impress has reference to our financial dependence on the Association's Grants Subcommittee. This body, according to the present ruling, determines the amount of a Branch's grant, and it no longer holds good that the full capitation amount will be paid over. This Branch requires liberal treatment for the reason that a good deal of expense is incurred in dealing with subjects which are not purely local, but affect a much wider sphere of the Association.

The Medico-Political Committee, Medical Charities Committee, the Contract Practice Committee, and the School Children Committee, have all had to consider since their institution questions of marked interest to our profession, but at the present time our attention is more focussed on the last.

With the inspection of school children it followed as a necessary sequel that those found defective should have treatment, and those responsible for its provision should obtain the same from a private practitioner, or, if too poor, and not dealt with through the Poor Law, through some special channel. The Education Committee of the London County Council then determined to provide this through the voluntary hospital, a non-State-aided and charitable institution, and, unfortunately, several hospitals entered into the bargain.

The School Children Committee is now actively engaged in trying to circumvent the continuance of this irregular arrangement, and we view with satisfaction the prospective failure of the scheme. What is the alternative? To fall into line with the expressed wish of the Association and establish a school medical service with centres for treatment. These clinics have already been successfully established in the Norwood, Hampstead, and Wandsworth Divisions, and offer a good example for their general adoption. As in these cases, the local profession should control and appoint to the service, and upon them will rest the obligation of maintenance of a high standard of efficiency.

I have reviewed the work of the Branch sufficiently to prove that it has played and is playing an important part for the good of the profession, and it can offer substantial inducements for others to join our Association. If it does not suffice, the strong attitude at present being taken by the Association to counteract the undesirable conditions in the National Insurance Bill should forcibly bring it home to them that at such a crisis union is strength, and that if we are to emerge victorious from a struggle that is vital to the future welfare of our profession, we can only do so by presenting a united front.

All must be pleased to see that there is the prospect of strong combination such as has never occurred before, and for which we have the organization of our Association to thank. We can all help, and we will, and I trust that during my year of office it will be recorded that the fession was able to throw off the threatened yoke and contract practice, should it still continue, was establi on a basis both just and dignified.

The usual votes of thanks were passed and the me terminated.

CHELSEA DIVISION.

THE annual meeting was held at the Chelsea Town on June 27th.

Confirmation of Minutes.—The minutes of the previous meetings were read and confirmed.

Election of Officers.—The following were elected of for the ensuing year:—*Chairman:* Dr. Young was u mously re-elected, on the proposition of Dr. HAMI seconded by Dr. BONNEY. *Vice-Chairman:* Dr. Fle was proposed by Dr. BONNEY and seconded by Dr. COL Carried *nemine contradicente. Honorary Secretary Treasurer:* Dr. Gallard was proposed by Dr. FLE and seconded by Dr. BONNEY. Carried *nemine co dicente. Executive Committee:* In addition to the C man and Secretary, the following were appointed Bedford, Bonney, Campbell Boyd, Butler, Coltart, Fle Hamilton, Lee, E. W. Lewis, Millar, Simon, Spaull, and Williams. *Representatives on Branch Cou* Drs. Young, Fletcher, and Gallard.

Letter from the Watford Division.—A letter was from the Watford Division, submitting a resolution co ing greater facilities for obtaining the opinion of me of Divisions on questions affecting the general intere the Association or of the profession, and asking f support of our Representative at the next Represen Meeting. It was decided not to do so, and the lette ordered to be laid on the table.

Letter from the Medical Secretary.—It was deci postpone the discussion of the proposed new ru procedure and ethics, also that of the metric syst applied to dispensing.

Referendum and Postal Vote.—The questions sub to Divisions relating thereto were answered as follow

1. That provision should be made in the regulations em ing not less than one-tenth of the constituencies hav aggregate membership of not less than one-tenth of the m ship of the Association to compel a referendum to be tak
2. That the postal referendum should be unrestricted.
3. That the Council should not be empowered to dela on the decisions of the Representative Body in order to the opinions of the Divisions thereon.

Letters from other Divisions.—Letters from the Division on the above subject, and from the West and Halifax Divisions on the National Insurance Bil ordered to be laid on the table.

National Insurance Bill.—The National Insuran was discussed (see SUPPLEMENT, July 8th, p. 54).

Treatment of School Children.—Letters were rea the Education Department of the London County making a proposal for the formation of a school c Fulham. Dr. JACKSON said that, although this mat not concern him, he thought the Division ought t some action, and he moved that a provisional comm four be appointed to conduct further negotiations w London County Council and report to the Division was carried, and the following were appointed—n Drs. Jackson, Wells, Tonkin, and Fletcher.

Correspondence Relative to a Resolution.—Dr. asked if any further correspondence had taken pl tween the Editor of the JOURNAL and their Se regarding the non-insertion of a resolution passed Division on February 21st last. The SECRETARY re the negative.

MIDLAND BRANCH.

THE annual meeting of this Branch was held at D June 15th, when 94 members were present. The n of the Branch were entertained at luncheon by t sident, Mr. E. Collier Green, at the Midland Hotel.

The meeting was held at 3 p.m. at the Royal In with the PRESIDENT in the chair.

Confirmation of Minutes.—The minutes of t meeting were read and confirmed.

Vote of Thanks to Dr. Brooke.—A vote of thanks Brooke for his services during his year of office wa by Mr. GREEN. This was carried by acclamation.

nual Report.—The annual report of the Council was The Council stated that the Branch membership 552 as compared with 550 last year.

tional Insurance Bill.—The PRESIDENT, after a few ductory remarks, opened a discussion on the National ance Bill (see SUPPLEMENT, July 1st, p. 20).

te of Thanks to President.—The meeting closed with arty vote of thanks to the President for his able ss and for his lavish hospitality.

nual Dinner.—The annual dinner, which was held at Midland Hotel and was well attended, was a most ssful gathering.

NORTH OF ENGLAND BRANCH:

NEWCASTLE-ON-TYNE DIVISION.

annual meeting of this Division was held on June

tion of Officers.—The following were elected officers year: *Chairman*, James Don, M.D., Newcastle-on-; *Vice-Chairman*, A. Smith, M.D., Whickham; *ary Secretary*, T. G. Ouston, F.R.C.S., 1, Saville Newcastle; *Representative at Representative Meet-*. W. Smith, M.D., Balgonie House, Ryton-on-Tyne; *entatives on Branch Council*, A. Campbell, M.B., gger, Esq., J. Don, M.D., J. McCracken, M.D.; rrison, M.D., F.R.C.S., W. G. Richardson, M.B., S., W. L. Ruxton, M.B., A. Smith, M.D., J. Smith,

al Indemnity Fund.—The meeting was largely d, and the following resolution was passed:

he formation of a central indemnity fund is desirable.

vision did not deem it advisable to start a local ity fund.

NORTH NORTHUMBERLAND DIVISION.

nual meeting was held at the Infirmary, Alnwick, lay, June 30th. There were present Drs. Dey, Watson, Forrest, McEwen, Welsh, and Burman. took the chair.

mation of Minutes.—The minutes of the last were read and confirmed.

pies for Non-attendance.—Apologies for absence eived from Drs. Badcock, Mackay, Maclagan, and

n of Officers.—The following officers were elected ensuing year: *Chairman*, Dr. Macaskie (Bam- *Vice-Chairman*, Dr. R. A. Welsh (Felton); *Secre-* C. Clark Burman (Alnwick); *Representatives on Council*, Drs. Maclagan and Robson; *Executive ee*, Dr. Moyes (Broomhill), Dr. Neill (Wooler); Dr. (Belford).

ury Secretary's Report.—Dr. DEY having vacated r in favour of the new Vice-Chairman, the Y read his annual report, and regretted he had to the loss of one member by death, of five by rom the Division, and one by resignation, while l only been one new member. He hoped that n would see their way to join the Association, ng at present six men in the Division in actual till "outside the fold." He invited members to nfluence to bring them in. Four ordinary meet- een held with an average attendance of seven. al social meeting at Bamburgh was attended bers and their friends.

Fund.—On the motion of Dr. DEY, seconded by N, it was decided to form a Defence Fund.

Social Meeting.—The annual social meeting was o be held at Ford about the end of August if y arrangements could be made.

H LANCASHIRE AND SOUTH WEST-MORLAND BRANCH.

l meeting was held in Lancaster on Wednesday, at 3.45 p.m.; Dr. H. OLDHAM (Morecambe) chair. There were sixty-five present.

of Officers.—The following being the only s for the respective posts, were duly elected: *lect*, D. Blair (Lancaster); *Vice-President*, el (Barrow); *Treasurer*, W. D. Barrow (Lan- *retary*, A. S. Barling (Lancaster). The SEC- orted that the following had been elected members of the Branch Council by the several Divisions: *Furness Division*, A. F. Rutherford and R. H. Fothergill; *Kendal Division*, P. F. Sturridge and J. Graham; *Lancaster Division*, J. Aitken and W. H. Coupland.

National Insurance Bill.—Dr. F. E. DANIEL and Dr. D. BLAIR then addressed the meeting on the National Insurance Bill, and gave an account of the proceedings of the Special Representative Meeting. On the motion of Dr. H. F. OLDHAM, seconded by Dr. P. F. MANNIX, the resolutions published in the SUPPLEMENT of July 8th, p. 57, were passed.

SOUTH-EASTERN BRANCH:

ASHFORD DIVISION.

THE annual meeting of this Division took place at the Old Grammar School on June 30th, at 5 p.m., Dr. WILKS in the chair. There were present Drs. Bentley, Hardwick, Hinde, Littledale, and Sills, Messrs. Ballard, Coke, Colville, Doughty, Hick, Vernon, and Waite.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The following officers were elected for the ensuing year: *President*, Mr. F. Coke; *Vice-President*, Mr. Hick; *Secretary*, Mr. Vernon; *Executive Committee*, Dr. Bentley and Mr. Colville were elected members of the Executive Committee.

Accounts.—The accounts for the past year were presented by the SECRETARY and passed.

National Insurance Bill.—The National Insurance Bill was then considered (see SUPPLEMENT, July 8th, p. 55).

EASTBOURNE DIVISION.

A MEETING was held in the Technical Institute, Eastbourne, on Thursday, June 15th, at 8.15 p.m. Mr. A. C. ROBERTS was in the chair, and twenty-one members and four non-members were present.

Apologies for Non-attendance.—Apologies for non-attendance were read from Drs. L. Cane and H. S. Gabbett.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Medical Treatment of School Children.—The scheme of which particulars were published in the SUPPLEMENT of April 9th, p. 173, was discussed. The minutes of the subcommittee, containing a report of their negotiations with the Education Committee of the county borough of Eastbourne, were received and adopted. The scheme as amended having been accepted by this Division and Town Council, only awaits the sanction of the Board of Education before coming into force, and embodies the following provisions:

1. That the rule of the school medical officer requesting the parents of children requiring medical treatment to apply to their own medical attendant should continue.
2. That in the case of necessitous parents—that is to say, parents unable, in the opinion of the school medical officer, to pay for such medical attendance, except in cases of children who are being provided for by the Poor Law Authority, the child to be attended by a medical practitioner selected by the parent from a list of names furnished by the Eastbourne Division of the British Medical Association, and every such medical practitioner so selected shall be paid fees according to the subjoined scale of remuneration (under 4).
3. That where such last-named medical practitioner is of opinion that the case is one which ought to be treated in a hospital, and so recommends, no fees for the treatment of such child shall be payable by the Local Education Authority.
4. That where such medical practitioner attends the case, either in the home of the child or in his surgery, fees be paid to him by the Local Education Authority according to the following scale, namely:

Nasal obstructions, adenoids, and enlarged tonsils, £1 1s. per case requiring operation; 10s. 6d. per case not requiring operation. Attendance being limited to four per case.

Ringworm, £1 11s. 6d. per case for actino-therapy treatment.

Administration of anaesthetics, 10s. 6d. per case.

It was agreed (*a*) that as the Local Education Authority had already made arrangements with Mr. A. Hallidie, ophthalmic surgeon, no scale should be fixed for refractions; and (*b*) that as the school medical officer had already received the sanction of the Board of Education for treating cases of suppurating ears and ringworm, these should continue to be dealt with by him and his staff, except in cases of ringworm where actino-therapy is prescribed.

Referendum and Postal Vote.—Communications from Exeter and Watford-cum-Harrow Divisions, containing representations thereon were read and ordered to lie on the table. After considering the report of the Council, and discussing the pros and cons of the merits of the alternative proposals submitted on the various questions, it was decided to send an expression of opinion in the form of the following replies:

Question 1. Answer, No. Carried unanimously, twenty-one members present and voting.
Question 2. Answer, No. Carried by twenty to one.
Question 3 (*a*). Answer, Yes. Carried unanimously.
Question 3 (*b*). Yes. Carried unanimously.

National Insurance Bill.—The National Insurance Bill was discussed (see SUPPLEMENT, July 1st, p. 21).

SEVENOAKS DIVISION.

A GENERAL meeting was held on July 1st at Sevenoaks.

Election of Officers.—The following gentlemen were elected to the offices indicated for the ensuing year: *Chairman*, Dr. C. J. Walker (Ightham); *Vice-Chairman*, Dr. Isaac Newton (Tonbridge); *Committee*, Drs. Cardell, Skerry, and Ireland; *Honorary Secretary*, Dr. P. A. Mansfield (Sevenoaks); *Representative at Representative Meetings*, Dr. Tennyson Smith (Orpington); *Representative at Branch Council*, Dr. O. D. Marriott (Sevenoaks).

National Insurance Bill.—After the election of officers the meeting was addressed by the Representative, Dr. TENNYSON SMITH, on the subject of the Insurance Bill (see SUPPLEMENT, July 8th, p. 55).

Vote of Thanks.—A vote of thanks to Dr. Tennyson Smith and to the Chairman closed the proceedings.

SOUTH-EASTERN OF IRELAND BRANCH.

AN ordinary meeting was held in the Town Hall, Clonmel, on June 21st, at 12 o'clock noon. Dr. J. POWER, M.B. (President), was in the chair. Other members present were: Drs. R. R. O'Brien, Laffan, R. B. Carey, P. I. O'Brien, J. W. H. Jellett, and J. Quirke (Honorary Secretary).

Confirmation of Minutes.—The minutes of the last meeting were read, approved, and signed by the Chairman.

Apologies for Non-attendance.—Letters of apology for unavoidable absence were read from Drs. Oakshott, Currey, Cummins, Ryan, and Walker.

National Insurance Bill.—The National Insurance Bill was discussed and the resolutions published in the SUPPLEMENT of July 1st, p. 14, were passed unanimously.

Vote of Thanks.—It was proposed by Dr. CAREY, and seconded by Dr. JELLETT:

That we, the members of the South-Eastern of Ireland Branch of the British Medical Association, desire to express our thanks to the Corporation for their kindness in granting us the use of the Town Hall for our meetings, and that a copy of our resolution be conveyed to the Corporation.

New Member.—Dr. P. I. O'Brien was elected a member of the Branch. This concluded the business of the meeting.

Luncheon.—The members lunched together at the Ormonde Hotel, Clonmel.

SOUTHERN BRANCH:

JERSEY DIVISION.

THE quarterly general meeting of this Division was held on June 27th, Dr. A. N. SYMONS, Chairman, presiding.

Confirmation of Minutes.—The minutes of the last quarterly meeting were read and confirmed.

Uterine Fibroid preventing Parturition.—Mr. HIND contributed a highly interesting account of the case of a woman aged 47, who had been the subject of this complication, for the relief of which he performed abdominal section with removal of uterus, child, and tumour.

Draft Rules Governing Procedure in Ethical Matters.—The consideration of the draft rules was introduced by Dr. VOISIN. After some discussion it was resolved that the rules be approved.

Report on Metric System.—Dr. WYNNE WALKER opened the discussion on this report. In the result, no decision on the question was arrived at, and it was resolved that the report be laid on the table.

Referendum and Postal Vote.—The discussion w opened by the SECRETARY. The replies to the spec questions of the Council were given as follows: (1) Agr to, with the substitution of one-tenth for one-fifth. (2) general postal vote preferred. (3) and (4) In affirmative.

National Insurance Bill.—The SECRETARY read a pa entitled, Remarks on the Present Medical Position Relation to the National Insurance Bill (see SUPPLEME July 8th, p. 57).

WINCHESTER DIVISION.

THE annual meeting of this Division was held at " Castle," Winchester, on Tuesday, June 27th, at 3.30 p Dr. HOYLE, Chairman, presided, and there were pres Drs. Lyster, Swindale, Royds, Gange, Todd, Bet Williams, Ahrens, Worth, Ritchie, Roberts, Boding Melville, Tullis, Wace, Coates, Burgess, Way, Ada Maturin, McWilliam, Coleclough, England, Hemm Bevan, Hodgson, Oliver, Payne, Harman, Godwin.

Confirmation of Minutes.—The minutes of the meeting were read and confirmed.

Apologies for Non-attendance.—Letters of apology non-attendance were read from Dr. Briscoe (Alt Dr. Jollye (Alresford), Dr. Whittindale (Bishops Waltha Dr. Davison (Odiham), Dr. Stirling (Fleet).

Letters.—Letters from the Aldershot Medical Soci the West Dorset Division, the Salisbury Division, and Medical Secretary of the Association were read.

Election of Officers for 1911 and 1912.—The follo were elected officers for the ensuing year: *Chair* H. C. Williams, M.B. (Alton); *Vice-Chairman*, J. C. H M.B. (Upham); *Honorary Secretary and Treasurer*, H Godwin, M.B., F.R.C.S. (Winchester); *Representa* R. A. Lyster, M.D. (Winchester); *Representatives Branch Council*, H. C. Williams, M.B. (Alton), E Ritchie, M.D. (Chandlersford); *Executive Comm* G. F. A. England, M.D. (Winchester), W. A. Harman, (Winchester), F. W. Jollye, M.D. (Alresford), J. L. Li stone, M.D. (Hursley), J. Lindsay, M.R.C.S. (Alders T. H. Davison, M.D. (Odiham).

Guarantee Funds.—It was resolved:

That the Secretary ascertain from the head quarter offi information relating to guarantee funds, and that not same be sent to each member.

Rule 6 of Branch Rules.—It was resolved:

That the Executive Committee be asked to look up Rul Branch Rules, and adopt the rule when selectin officers.

National Insurance Bill.—The National Insurance was discussed, and the resolutions published in SUPPLEMENT of July 8th, p. 55, were unanimously agre

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SOUTH WALES AND MONMOUTHSHIRE BRA

SOUTH-WEST WALES DIVISION.

THE annual meeting of the Division was held at the Counties Asylum, Carmarthen, on June 7th. There thirty-three members and eight non-members pr The CHAIRMAN of the Division, Dr. J. Edgar P. D Llanelly, presided.

Confirmation of Minutes.—The minutes of th meeting were read and confirmed.

Report of Executive Committee.—The annual re the Executive Committee was presented and appro by the meeting.

Election of Officers.—The following were elected for the ensuing year: *Chairman*, Dr. J. Edgar P. (re-elected); *Vice-Chairman*, Dr. Arthur Hughes, A ford (re-elected); *Secretary and Treasurer*, Dr. D. R. Ammanford (re-elected); *Executive Committee*, Dr. Bowen-Jones (Carmarthen), Dr. Evan Evans (Llanell D. Arthur Hughes (Ammanford), Dr. C. D. Mathias (T Dr. Thos. Morgan (Llandovery), Dr. D. Phillips dilo), Dr. R. G. Price (Carmarthen), Dr. Saml. W (Llanelly), Dr. Richard Hopkin (Llangadock), Dr. Brigstocke (Haverfordwest), Dr. D. G. Lloyd (Ne Emlyn), Dr. D. Lewis Williams (Ferryside), and, *ex* Drs. J. Edgar P. Davies, D. J. Williams, Owen Wi the *Secretary*, D. R. Price; *Representatives on the Council*, Drs. J. Edgar Davies, Bowen-Jones, and Williams; *Representatives on Branch Contract Committee*, Drs. D. J. Williams, Evan Evans, an

Williams; *Representative for the Birmingham Meeting*, Dr. D. R. Price.

Visit to Asylum Wards.—The members were taken ound the wards by Dr. John Richards, Superintendent of he Joint Counties Asylum, and several interesting cases of eneral paralysis of the insane were shown.

Luncheon.—All present were entertained to an excellent unch and tea by Dr. John Richards. After lunch the HAIRMAN proposed the health of "Our Host." The toast as heartily received, and drunk with musical honours. r. RICHARDS responded, and expressed his pleasure at aving a meeting of the Division at the Joint Counties sylum.

National Insurance Bill.—The CHAIRMAN opened a dis- ssion on the bill. Nearly all present took part, and everal resolutions were passed. It was resolved to send ese to the Medical Secretary, all members of Parliament the Division, and to every practitioner in the Division.

WEST SOMERSET BRANCH.

HE sixty-ninth annual meeting was held at the London otel, Taunton, on Friday, June 30th, Dr. MAIDLOW in the air. Fifty per cent. of the members of the Branch and o visitors were present.

Confirmation of Minutes.—The minutes of the last eting were read and signed.

Election of Officers.—The following were elected officers the ensuing year: *President-elect*, Dr. C. B. Stewart, B., of Huntspill; *Honorary Secretary and Treasurer*, . C. Farrant; *Deputy Representative*, Mr. Verrall. ssrs. T. H. Ollerhead, R. A. Wilson, Gomez, and orhead were elected to fill the vacancies in the ncil.

Ethical Committee.—The Council was elected as the ical Committee of the Branch.

Ethical Rules.—Dr. MACDONALD proposed, and Mr. LINS seconded, that the Ethical Rules and Rule Z, as wn up by the Association, be adopted by the Branch.

Installation of New President.—Dr. MAIDLOW then intro- ed the new President for the year, Mr. Winckworth, then took the chair.

Congratulations to Dr. Macdonald.—The PRESIDENT, re calling on Dr. J. A. Macdonald to address the ting, congratulated him, on behalf the Branch, on being ed a member of the General Medical Council.

National Insurance Bill.—The National Insurance Bill discussed (see SUPPLEMENT, July 8th, p. 55).

Luncheon.—The business of the meeting being con- ed, an adjournment was made to luncheon, to which y-nine sat down. After luncheon, the President ed all present to the tennis club, where a very able afternoon was spent.

YORKSHIRE BRANCH:
HALIFAX DIVISION.

CIAL meeting of this Division was held on June 7th, nsider the matters arising out of the Special Repre- tive Meeting in connexion with the National Insur- Bill. There were forty-four members present, and CAULAY was in the chair.

Confirmation of Minutes.—The minutes of the last ng were read and confirmed.

Special Representative Meeting.—Dr. DRURY gave a brief nt of the proceedings of the Special Representative ng. He afterwards dealt separately with the chief upon which the Representatives stated the pro- should insist. On the question of the income limit a week, the members agreed that it was too high. ew workmen, it was said, in an industrial town like earned £2 a week, while in the thriving industrial ips and villages outside the borough the majority rkmen did not earn anything like 30s. a week. it was recognized that living was cheaper here than don, yet these patients paid their bills comfort- A £2 limit would include 96 per cent. of their s, who would be insured under the scheme. tend these at Mr. Lloyd George's contract something near 6s. per annum would be ruinous practitioners whose whole practice would then of club patients. That being the case, there was no wonder that a very strong local feeling existed against any payment on a capitation basis for attendance on such patients. The bill was supposed to be for the poor and necessitous, but it would practically include the bulk of the patients from whom their incomes were now drawn. The meeting was agreed that the only hope of the profession obtaining any fair treatment lay in supporting the British Medical Association and sinking all minor differences, but at the same time it was hoped that the Association would see fit to urge a lower income limit than £2 a week if work had to be done under this scheme. This point was considered vital to the interests of doctors in the district. The resolution, published in the SUPPLEMENT of June 17th, p. 451, was proposed by Dr. PRIESTLEY LEECH, seconded by Dr. HUNT, and carried unanimously. It was also decided to send a copy of the resolution to the local members of Parliament.

Proposed Special Meeting.—It was decided to ask the Secretary of the Branch to call a special meeting, open to all medical practitioners in the area of the Branch, to discuss the National Insurance Bill.

CAPE OF GOOD HOPE (EASTERN PROVINCE) BRANCH.

A CLINICAL meeting of this Branch was held at the Grahamstown Asylum, on April 28th, at 8.15 p.m., Dr. DRU DRURY was in the chair, and there were present Drs. A. Cowper, R. C. Mullins, W. E. Reid, and R. T. Harrison, and Dr. Evans acting locumtenent for Dr. Forster.

Cases.—Dr. COWPER showed several cases of early general paralysis of the insane and demonstrated the points of interest with regard to each; he also showed several cases of insanity following alcoholism; these were divided into two groups, the first showing the insanity in its early stages, the second showing cases bordering on the final stages. Owing to the lateness of the hour Dr. Cowper's paper had to be postponed to a later date.

Confirmation of Minutes.—The minutes of the business meetings of December 8th and of the annual meeting held on February 7th were read and confirmed.

Honorary Members.—Drs. J. Louw, W. Robertson, and A. Collins were re-elected honorary members for 1911; Professor G. Corey Rhodes, V.C., was elected an honorary member for 1911; Mr. C. Collis was not re-elected, as he had left the town.

Auditors.—Drs. Dru Drury and G. FitzGerald were elected auditors for 1911.

South African Committee.—*Re* amendments to rules of the South African Committee the members were unanimously of opinion that matters of appeal should be referred to the Central Committee as heretofore and not to a referendum as proposed by the Border Branch.

Votes of Thanks.—A vote of thanks was passed to Dr. Cowper for his hospitality and for the interesting evening he had provided. A vote of thanks was passed to Dr. Bell Walker, Bedford, Cape Colony, for gift of pathological specimen with notes thereon.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.
LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and blue books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—A special meeting will be held at the Board Room of the Altrincham Hospital on Tuesday, July 18th, at 4.45 p.m. Tea will be provided at 4.30 p.m. Business: (1) To consider the latest reports from the Medico-Political Committee *re* the Insur-

ance Bill. (2) Instructions to the Representative for the Annual Representative Meeting to be held on July 21st. (3) To start a local guarantee fund.—H. G. COOPER, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: GREENWICH DIVISION.—A meeting will be held at St. John's Church Room (close to Lewisham Road Station) on Wednesday, July 19th, at 4 p.m., to consider: (1) The special report of the Council in respect of the National Insurance Bill, and to give instructions to the Representative attending the Annual Representative Meeting. (2) Any other business. All medical practitioners are cordially invited to be present.—LAWRENCE F. HEMMANS, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—A general meeting of the Division will be held at the Rooms of the Medical Society of London, 11, Chandos Street, W., on Wednesday, July 19th, at 5 o'clock p.m. Agenda: (1) Minutes. (2) Questions. (3) Letters. (4) To elect an additional representative on the Branch Council (nominated by the Executive Committee—Mr. L. A. Bidwell). (5) Matters referred to the Divisions: (*a*) An important report on the present position of the National Insurance Bill, which will be sent out from the Central Office shortly; (*b*) list of nominations by the Divisions for the General Medical Council; (*c*) Supplementary Report of Council (BRITISH MEDICAL JOURNAL SUPPLEMENT, July 8th): (*d*) referendum and postal vote (SUPPLEMENT, April 29th); (*e*) Affiliation of outside bodies (ibid.). (6) Any other business.—N. BISHOP HARMAN, Honorary Secretary, 108, Harley Street, W.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—A meeting of all practitioners in the two boroughs has been summoned by the St. Pancras and Islington Division on Wednesday, July 19th, at 9.15 p.m. at the Midland Grand Hotel, N.W., to consider the special report of the Central Council in respect of the National Insurance Bill, and to instruct the Representative at the Representative Meetings thereon.—A. BROWN, Honorary Secretary.

NORTH WALES BRANCH.—The sixty-second annual meeting of the Branch will be held at the Guild Hall, Conway, on Tuesday, July 18th, at 2 p.m. Agenda: (1) To read the minutes of the last meeting. (2) To read correspondence. (3) To introduce the President-elect. (4) To receive the report of the Branch Council. (5) To elect President for 1912-13. (6) To elect Honorary Secretary. (7) To report election of members on the Branch Council. (8) To select places for the intermediate and annual meetings for 1912. The President will deliver his address. Discussion of the National Insurance Bill—Dr. Lauriston Shaw, Mr. F. C. Larkin, and Mr. J. Smith Whitaker (Medical Secretary of the Association) will take part. The following papers will be read:—Dr. Harold Nuttall: Radioscopy of the Atonic Stomach and its Electrical Treatment. Dr. Emyr O. Price: A Case of Femoral Aneurysm Treated by Ligature of the External Iliac. Dr. Percy Marsh and Mr. R. Craig Dun: A Case of Congenital Pyloric Stenosis in an Infant; Posterior Gastro-enterostomy; Recovery. Dr. R. J. M. Buchanan: The Vaccine Treatment of Rheumatic Fever and Chorea. Mr. K. W. Monsarrat: Specimens of New Growths of the Kidney. Mr. G. P. Newbolt: Traumatic Aneurysm of the Dorsalis Pedis. Dr. O. T. Williams: Fat Concretions in the Intestine which Simulate Gall Stones (with specimens). Dr. J. Lloyd Roberts (Liverpool): Sex Incidence of Tuberculosis in Wales. Dr. W. B. Warrington: The Treatment of Syphilis of the Nervous System, Tabes, and General Paralysis of the Insane by Mercury and Salvarsan. Dinner at the Castle Hotel at 6 p.m.; tickets, 5s. The Branch Council will meet at 1.45 p.m.—H. JONES ROBERTS, Honorary Secretary, Penygroes, S.O.

PERTHSHIRE BRANCH.—A special meeting of the Perthshire Branch will be held in the Royal Infirmary, Perth, this day (Friday), July 14th, at 3.30 p.m. Business: To instruct Representative.—W. A. TAYLOR, ALEX. TROTTER, Joint Honorary Secretaries.

SOUTH-EASTERN BRANCH: BROMLEY DIVISION.—A meeting of this Division will be held at the Public Health Offices, Beckenham, on Monday, July 17th, at 8.30 p.m., Dr. Yolland, Vice-Chairman, in the chair. All medical practitioners resident in the area of the Division are urgently requested to attend. Agenda: The National Insurance Bill.—A. TENNYSON SMITH, Honorary Secretary.

SOUTH-EASTERN BRANCH: DARTFORD DIVISION.—A most important meeting of this Division, to which all medical men are invited, will be held at the Bull Hotel, Dartford, on Tuesday, July 18th, at 3 p.m. It is very essential that all medical men residing in the Division should be present. Agenda: (1) Minutes of last meeting. (2) Report of deputation. (3) Special report of Central Council *re* National Insurance Bill. (4) Report on Direct Representatives to General Medical Council. (5) Agenda of Representative Meeting. (6) Any other business.—H. CHISHOLM WILL, Honorary Secretary.

Naval and Military Appointment

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiral
Fleet Surgeon J. W. W. STANTON to the *Vivid*, additional, for
Colossus, July 5th, and on commissioning, undated; Fleet Surg
L. KILROY to Plymouth Hospital, July 5th; Fleet Surgeon B.
PARISH to the *President*, additional, for London Royal Ma
Recruiting Head Quarters, temporary, July 5th; Fleet Surgeon
HILL, M.V.O., to the *Dryad*, additional, for the Navigation Sch
July 24th; Staff Surgeon E. F. ELLIS for the *Wildfire*, for the R
Naval Barracks, and for Sheerness Dockyard, June 29th; Staff Surg
A. DAVIDSON, M.B., to the *Cormorant*, additional, for Gibraltar
pital and for dockyard duties, July 5th; Staff Surgeon T. H. VICE
to the *Africa*, additional, for the Nore Subdivision of the Home F
July 5th; Staff Surgeon G. ROSS, M.B., to the *Victory*, July 1
Surgeon L. C. ROWAN-ROBINSON, M.B., to the *Victory*, additio
for disposal, July 5th; Surgeon P. M. RIVAZ, M.B., to Devon
Dockyard, July 5th; Surgeon J. S. AUSTIN, M.B., to the *Vic*
additional, for physical training course, August 1st; Surgeon
SCOTT to Chatham Hospital, July 5th; Fleet Surgeon G. A. WAT
M.D., to the *President*, additional, for duty at Yarmouth Hos
for twenty-one days, from July 10th; Staff Surgeon R. L. JONES t
Vivid, additional, for disposal, June 29th, and to the Royal Ma
Division at Plymouth, July 17th; Staff Surgeon L. M. MORRIS t
Vivid, additional, for disposal, July 17th; Staff Surgeon T. W. My
M.D., to Sheerness Dockyard and Naval Barracks, July 6th; Su
E. R. TOWNSEND to the *Victory*, additional, for disposal, July 6th.

ROYAL ARMY MEDICAL CORPS.

EXCHANGES.

The charge for inserting notices respecting Exchanges in the Medical Department is 3s. 6d., which should be forwarded in St or Post Office Order with the notice, not later than Wednesday mo in order to ensure insertion in the current issue.

MAJOR, R.A.M.C., due for foreign service trooping season 1912-13, w to exchange to India. Terms even.—Apply to "Spero," c.o. M Holt and Co., 3, Whitehall Place, London, S.W.

MAJOR, R.A.M.C., due for service in North India in November, w to exchange to remain at home.—Address, No. 3749, BR MEDICAL JOURNAL Office, 429, Strand, W.C.

MAJOR, R.A.M.C., desirous of doing Indian tour of two years inst a full five-year one.—Please communicate Gayton, Newport, I

SPECIAL RESERVE.

LIEUTENANT P. S. VICKERMAN, M.B., is confirmed in his rank was appointed on probation, March 2nd.

ARMY MEDICAL SERVICE.

COLONEL L. E. ANDERSON, who is serving India as Principal M Officer, Allahbad and Fyzabad Brigades, has been appointed Pri Medical Officer, Bareilly, Garhwal and Dehra Dun Brigade Colonel M. W. KERIN, C.B., appoined Principal Medical Officer, S (Meerut) Division, vice Colonel F. B. Maclean, retired.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL R. B. ROE is promoted to be Colonel, from 30th. Appointed Surgeon, October 1st, 1881; he became Lieut Colonel, October 1st, 1901.

Lieutenant-Colonel J. CRIMMIN, V.C., C.I.E., is appointed to o as Principal Medical Officer, Kohat Brigade, from May 7th.

Colonel A. M. CROFTS, C.I.E., is appointed Principal Medical 2nd (Rawal Pindi) Division.

SPECIAL RESERVE OF OFFICERS.

SURGEON-LIEUTENANT-COLONEL DUNCAN MCFADYEN, 3rd Battal Queen's Own Cameron Highlanders, relinquishes his comm retaining his rank and uniform, June 3rd.

TERRITORIAL FORCE.

INFANTRY.

SURGEON LIEUTENANT-COLONEL AND HONORARY SURGEON-C G. W. BRAMWELL resigns his commission, June 10th; he ret rank and uniform.

ROYAL ARMY MEDICAL CORPS.

South-Eastern Mounted Brigade Field Ambulance.—Jos RYAN, M.B., to be Lieutenant, February 1st.

Second South Midland Mounted Brigade Field Ambu Lieutenant D. W. A. BULL, M.B., resigns his commission, June

Third North Midland Field Ambulance.—Lieutenant A. E. M.B., from the list of officers attached to units other than units, to be Lieutenant, ceasing to serve with No. 18 Field Am R.A.M.C., Special Reserve, April 5th.

First Wessex Field Ambulance.—LANGFORD G. DAVIES, M.B Lieutenant, March 13th.

Attached to Units other than Medical Units.—Lieutenant WILLIAM NETTLE resigns his commission, retaining his r uniform, June 10th; Lieutenant J. E. PHILLIPS resigns his com June 10th.

Second Wessex Field Ambulance, Royal Army Medical Lieutenant ROBERT BURNET, M.B., from the 3rd East La Field Ambulance, Royal Army Medical Corps, to be Lie May 10th.

First Northern General Hospital, Royal Army Medical FREDERICK G. ARMSTRONG, M.B. (late Lieutenant, 1st North Field Ambulance, Royal Army Medical Corps), to be May 12th.

Third Western General Hospital, Royal Army Medical Surgeon-Captain FRANCIS GRIFFITH THOMAS, from the 1s (Howitzer) Brigade, Royal Field Artillery, to be Captain services will be available on mobilization, July 5th.

For Attachment to Units other than Medical Units.—I BOLUS, M.B., to be Lieutenant, June 1st.

COLONIAL MEDICAL SERVICES.

E following changes have been notified by the Colonial Office:

WEST AFRICAN MEDICAL STAFF.

Retirements.—W. J. B. CARTER, Medical Officer, Gold Coast. W. H. W. RACHAN, C.M.G., P.M.O. Southern Nigeria, retires on pension. S. W. OMPSTONE, C.M.G., P.M.O. Northern Nigeria, retires on pension.
Promotion.—W. H. LANGLEY, C.M.G., F.R.C.S., L.R.C.P.Irel., P.M.O. Gold Coast, to be P.M.O. Southern Nigeria.
New appointment.—W. M. WOODS, L.R.C.S., L.R.C.P., L.M.Irel., L.M.Livpl., has been selected for appointment as a Medical Officer Southern Nigeria.

OTHER COLONIES AND PROTECTORATES.

iss C. E. ANDERSON, M.B., Ch.B.Aberd., L.M.Irel., D.T.M.Livpl., been selected for appointment as Medical Officer in Charge of the y Havelock Hospital for Women and Children, Colombo, Ceylon.
P. COCKIN, M.B., B.C.Cantab., District Medical Officer, Nicosia, rus, has been selected for appointment as Resident Surgeon of the ny Hospital and Bacteriologist, Grenada, West Indies.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

venty-seven of the largest English towns 9,211 births and 3,623 is were registered during the week ending Saturday, July 1st. The al rate of mortality in these towns, which had been 12.2, 12.2, and the three preceding weeks, rose to 11.7 per 1,000 in the week notice. In London the death-rate did not exceed 11.1 per 1,000, st 11.5, 11.2, and 10.6 in the three previous weeks. Among the ty-six other large towns the death-rates ranged from 3.1 in sey, 4.6 in Bournemouth, 6.9 in Northampton, and 7.0 in ton and in Southampton, to 16.3 in South Shields, 16.6 in bury, 17.6 in Sunderland, 17.7 in Great Yarmouth, and 19.8 in dl. Measles caused a death-rate of 1.2 in Wigan and in , and 2.8 in Great Yarmouth, and whooping-cough of 1.4 in rland, and 2.2 in Bootle. The mortality from scarlet fever, diph-, and enteric fever showed no marked excess in any of the large , and no fatal case of small-pox was registered during the week. 3,623 deaths from all causes in the seventy-seven towns, the of 29 were not certified either by a registered medical practi-or by a coroner after inquest, and included 10 in Birmingham, verpool, and 2 in Bootle. The number of scarlet fever patients treatment in the Metropolitan Asylums Hospitals and the London Hospital, which had been 1,141, 1,207, and 1,223 at the end of the preceding weeks, was 1,226 on Saturday, July 1st; 163 new cases mitted during the week, against 152, 190, and 159 in the three ng weeks.

venty-seven of the largest English towns, 8,169 births and 3,715 were registered during the week ending Saturday, July 8th. nual rate of mortality in these towns, which had been 12.2, 11.3, 7 per 1,000 in the three preceding weeks, increased to 12.0 per the week under notice. In London the death-rate did not 11.0 per 1,000, as against 11.2, 10.6, and 11.1 in the three previous Among the seventy-six other large towns the death-rates from 4.6 in Bournemouth, 5.6 in Aston Manor, 6.9 in North-, 7.0 in King's Norton, and 7.1 in Leyton, to 15.8 in Walsall, 17.1 ley, 17.6 in Liverpool, 18.4 in Stoke-on-Trent, and 19.4 in Tyne-Measles caused a death-rate of 1.4 in Bolton, 1.6 in Wolver-n, and 2.8 in Great Yarmouth; diphtheria of 1.1 in Stoke-t; and diarrhoea and enteritis (of children under 2 years 1.4 in Liverpool, and 1.9 in Merthyr Tydfil. The mortality carlet fever, whooping-cough, and enteric fever showed ked excess in any of the large towns. A fatal case of x was registered in Wallasey, but none in any other of the seven towns. Of the 3,715 deaths registered in the seventy-wns, the causes of 25 were not certified either by a registered practitioner or by a coroner after inquest, and included 6 in ham, 5 in Liverpool, and 2 each in Stoke-on-Trent, Leicester, shead. The number of scarlet fever patients under treat-the Metropolitan Asylums Hospitals and the London Fever which had been 1,207, 1,223, and 1,226 at the end of the three weeks, had further increased to 1,264 at the end of the week tice; 191 new cases were admitted during the week, against nd 163 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

f the principal Scottish towns 945 births and 467 deaths were during the week ending Saturday, July 1st. The annual rtality in these towns, which had been 14.2 and 13.3 per 1,000 preceding weeks, rose to 14.2 per 1,000 in the week under d was 2.5 per 1,000 above the mean rate during the same the large English towns. Among the several towns the es ranged from 10.2 in Aberdeen and 11.6 in Leith to 16.0 in 17.4 in Dundee. The mortality from the principal epidemic veraged 1.9 per 1,000, and was highest in Glasgow and Perth. aths from all causes registered in Glasgow included 13 from cough, 11 from measles, 6 (of infants under 2 years of age) rhoea, 3 from diphtheria, and 1 from scarlet fever. Two m whooping-cough were recorded in Edinburgh, and 3 in and 2 deaths from measles and 2 from diphtheria in Perth. of the principal Scottish towns 885 births and 477 deaths were during the week ending Saturday, July 8th. The annual ctality in these towns, which had been 13.3 and 14.2 per 1,000 preceding weeks, further increased to 14.6 in the week under was 2.6 per 1,000 above the mean rate during the same he large English towns. Among the several Scottish towns ates ranged from 8.7 in Perth and 9.3 in Aberdeen to 16.2 in nd 19.4 in Greenock. The mortality from the principal iseases averaged 1.5 per 1,000, and was highest in Greenock w. The 244 deaths from all causes registered in Glasgow from measles, 9 from whooping-cough, 5 from diphtheria, ildren under 2 years of age) from diarrhoea and enteritis. s from measles were recorded in Edinburgh; 2 from scarlet ndee; 2 from whooping-cough in Greenock; and 1 from Paisley.

HEALTH OF IRISH TOWNS.

week ending Saturday, July 8th, 556 births and 312 deaths red in the twenty-two principal urban districts of Ireland, 836 births and 374 deaths in the preceding period. The h-rate in these districts, which had been 15.9, 13.5, and 17.0 he preceding weeks, fell to 14.2 per 1,000 in the week under notice, this figure being 2.2 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 13.9 and 12.4 respectively, those in other districts ranging from 6.6 in Queenstown and 8.4 in Drogheda to 31.7 in Tralee and 36.4 in Wexford, while Cork stood at 15.8, Londonderry at 8.9, Limerick at 16.3, and Waterford at 28.5. The zymotic death-rate in the twenty-two districts averaged 1.0 per 1,000, or the same as in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.
BEDFORD COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.
BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £70 per annum.
BODMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.
BOOTLE BOROUGH HOSPITAL.—Second House-Surgeon. Salary, £80 per annum.
BURNLEY: VICTORIA HOSPITAL.—Junior House-Surgeon. Salary at the rate of £80 per annum.
CARDIFF UNION.—Assistant Medical Officer for the Workhouse. Salary, £150 per annum.
CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—Assistant Surgeon.
CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £70 per annum.
COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.
DERBY: DERBYSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum.
DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.
DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.
ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon. Salary, £72 per annum.
FRENCH HOSPITAL, Shaftesbury Avenue, W.C.—Second Resident Medical Officer. Salary, £50 per annum.
GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—(1) Resident Medical Officer; salary, £200. (2) House-Physician; honorarium, 30 guineas for six months.
HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Surgeon; (2) House-Physician. Salary, £30 for six months and £2 10s. washing allowance each.
LONDON HOSPITAL, E.—Six Honorary Dental Surgeons.
LONDON LOCK HOSPITAL.—(1) House-Surgeon; salary, £100 per annum. (2) Assistant House-Surgeon; salary, £60 to £80 per annum.
LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—(1) Resident Medical Officer. (2) Assistant House-Surgeon (non-resident). Salary at the rate of £120 and £105 per annum respectively.
MANCHESTER: COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary, £150 per annum, increasing to £250, with further increase to £350 on promotion.
NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Anatomy.
NORTHUMBERLAND HOUSE, Finsbury Park, N.—Assistant Medical Officer. Salary commencing at £130 per annum.
NORWICH: NORFOLK AND NORWICH HOSPITAL.—(1) Two House-Surgeons; salary, £80 per annum each. (2) Casualty Officer; salary, £60 per annum.
NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.
NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.
NOTTINGHAM PARISH WORKHOUSE INFIRMARY.—Resident Assistant Medical Officer. Salary, £130 per annum.
PRESTON ROYAL INFIRMARY.—Junior House-Surgeon (male). Salary at the rate of £60 per annum.
ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon (male). Salary, £80 per annum.
ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary at the rate of £50 per annum.
ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Honorary Surgeon.
ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.
SALISBURY: FISHERTON HOUSE ASYLUM.—Assistant Medical Officer. Salary, £150 per annum.
SALISBURY INFIRMARY.—Assistant House-Surgeon. Salary, £50 per annum.
SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon. (2) Assistant House-Physician. Salary, £60 per annum each.
SHROPSHIRE EDUCATION COMMITTEE.—Medical Inspector. Salary, £250 per annum, rising to £300.
SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.
SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £100 per annum.

SOUTHEND-ON-SEA BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary, £250 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—(1) House-Physician. (2) House-Surgeon. Appointments for six months. Salary, £40. (3) Anaesthetist. Salary, £37 16s. per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WEST RIDING ASYLUM, Wadsley.—Fifth Assistant Medical Officer (male). Salary, £140 per annum, rising to £160.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Terms, £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Bexhill (Sussex), Creetown (Kirkcudbright), Wigton (Cumberland).

APPOINTMENTS.

BARTLETT, C. E., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Tintern District, co. Monmouth.

LAWSON, G. G., M.B., Ch.B.Vict., Certifying Factory Surgeon for the Hebden Bridge District, co. Yorks.

THOMSON, George, L.D.S.Eng., Honorary Dental Surgeon to the Royal Hospital for Diseases of the Chest.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

BILLINGTON.—At 31, Frederick Road, Edgbaston, Birmingham, on July 2nd, the wife of William Billington, M.S.Lond., F.R.C.S., a daughter.

HARDENBERG.—On July 6th, at Duffield House, Watford, the wife of E. F. H. Hardenberg, M.B., M.R.C.S., L.R.C.P., of a son.

JULER.—On July 9th, at 24, Cavendish Square, W., the wife of F. A. Juler, F.R.C.S., of a daughter.

KEELING.—On July 7th, at Atteborough, Norfolk, the wife of G. S. Keeling, M.D., a son.

ROBERTS.—On June 3rd, at Sion Hill, Garstang, the wife of Henry Roberts, M.D.Brux., M.R.C.S., L.R.C.P.Lond., of a daughter.

DEATH.

BROWN.—On July 1st, on ss. *Napo*, at Iquitos, River Amazon, Charles Martin Brown, M.B.Durh., fifth son of John Brown, M.D., Bacup, aged 26 years.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Tracheoscopy, etc. Friday, 3.45 p.m., Clinical Pathology.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m., Cases from the Wards.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day will be given as follow: Monday, *Ante-partum* Haemorrhage; Tuesday, Discharges: their Nature and Diagnostic Significance; Wednesday, the Prevention of Rickets; Thursday, Diseases of Bones.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operation Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient. Wednesday, 2.30 p.m., Medical Out-patient, Skin and Eye Clinics; *X* Rays. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W. Daily arrangements, Medical and Surgical Clinics, *X* Rays, and Operations at 2 p.m. daily. Monday, Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday, Gynaecological Operations, 10 a.m.; Demonstration of Minor Surgery, 11 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday, Diseases of Children, 10 a.m.; Gynaecological Demonstration, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday, Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday, Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday, Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Lectures at 5 p.m. on Monday, Tuesday, and Wednesday.

RECENT PUBLICATIONS.

On the East Coast, by Percy Lindley, issued by the Great Eastern Railway Company, and can be obtained from the Superintendent of the Line, Liverpool Street Station, E.C.

A gaily illustrated pamphlet, giving an account of the Anglian watering places, and the Broads, and devoting special attention to the less-known district between Cromer, Hunstanton, and the Broads.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
JULY.	
14 FRIDAY ..	PERTHSHIRE BRANCH, Special Meeting, Royal Infirmary, Perth, 3.30 p.m.
15 SATURDAY ..	
16 Sunday ..	
17 MONDAY ..	BROMLEY DIVISION, *South-Eastern Branch*, Public Health Offices, Beckenham, 8.30 p.m.
18 TUESDAY ..	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, Special Meeting, Board Room, Altrincham Hospital, 4.45 p.m.; tea, 4.30 p.m. DARTFORD DIVISION, *South-Eastern Branch*, Bull Hotel, Dartford, 3 p.m. NORTH WALES BRANCH, Guild Hall, Conway, 2 p.m.; Branch Council, 1.45 p.m.; Dinner, Castle Hotel, 6 p.m.
19 WEDNESDAY	GREENWICH DIVISION, *Metropolitan Counties Branch*, St. John's Church Room (close to Lewisham Road Station), 4 p.m. MARYLEBONE DIVISION, *Metropolitan Counties Branch*, Rooms of the Medical Society of London, 11, Chandos Street, W., 5 p.m. ST. PANCRAS AND ISLINGTON DIVISION, *Metropolitan Counties Branch*, Midland Grand Hotel, 9.15 p.m.
20 THURSDAY ..	
21 FRIDAY ..	ANNUAL REPRESENTATIVE MEET Midland Institute, Birmingh 10 a.m.
22 SATURDAY ..	ANNUAL REPRESENTATIVE MEET Midland Institute, Birmingh 9 a.m.
23 Sunday ..	
24 MONDAY ..	CENTRAL COUNCIL, 9.30 a.m. ANNUAL REPRESENTATIVE MEET 10 a.m.
25 TUESDAY ..	ANNUAL MEETING (*see detailed gramme, pp. 133 to 147*). ANNUAL REPRESENTATIVE MEET 9.30 a.m. ANNUAL GENERAL MEETING, 2 p.m.
26 WEDNESDAY	ANNUAL MEETING (*see detailed gramme, pp. 133 to 147*). CENTRAL COUNCIL, 9.30 a.m.
27 THURSDAY ..	ANNUAL MEETING (*see detailed gramme, pp. 133 to 147*).
28 FRIDAY ..	ANNUAL MEETING (*see detailed gramme, pp. 133 to 147*).
29 SATURDAY ..	
30 Sunday ..	
31 MONDAY ..	

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 22ND, 1911.

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Association Intelligence.

PROCEEDINGS OF COUNCIL.

A MEETING of the Council was held at 429, Strand, London, W.C., on Wednesday afternoon, July 5th, 1911.

Present:

Dr. J. A. MACDONALD, Taunton, Chairman of Council, in the Chair.

Sir HENRY T. BUTLIN, Bart., P.R.C.S., D.C.L., LL.D., London, President,

Professor ROBERT SAUNDBY, M.D., LL.D., Birmingham, President-Elect.

Dr. EWEN J. MACLEAN, Cardiff, Chairman of Representative Meetings.

Dr. EDMUND OWEN, LL.D., London, Past Chairman of Council.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Surg.-Gen. ROBERT BENTHAM, R.N. (ret.), London (Royal Navy Medical Service)
Dr. R. C. BUIST, Dundee
Dr. W. A. CARLINE, Lincoln
Dr. ANDREW CLARK, D.Sc., K.H.S., London
Dr. M. DEWAR, Edinburgh
Dr. E. J. DOMVILLE, Exeter
Dr. J. E. EDDISON, Leeds
Dr. DAVID EWART, Chichester, New Zealand Branch
Dr. J. HENRY EWART, Eastbourne
Mr. C. E. S. FLEMMING, Bradford-on-Avon
Mr. T. W. H. GARSTANG, Altrincham
Dr. E. W. GOODALL, London
Dr. W. GOSSE, Sittingbourne
Dr. T. D. GREENLEES, London, Cape of Good Hope, Eastern, Western, and Border Branches
Dr. Major GREENWOOD, London
Dr. J. R. HAMILTON, Hawick, N.B.
Sir VICTOR HORSLEY, F.R.S., London
Mr. R. J. JOHNSTONE, Belfast
Mr. HERBERT JONES, Hereford
Colonel C. H. JOUBERT DE LA FERTÉ, I.M.S., Weybridge
Dr. F. W. KIDD, Dublin
Mr. F. C. LARKIN, Liverpool
Dr. JOHN MACDONALD, South Shields
Dr. D. J. MACKINTOSH, M.V.O., Glasgow
Dr. C. G. DRUMMOND MORIER, London, South Australian and West Australian Branches
Dr. FRANK M. POPE, Leicester
Dr. A. J. RICE-OXLEY, London
Dr. H. JONES ROBERTS, Penygroes
Dr. CECIL E. SHAW, Belfast
Dr. LAURISTON E. SHAW, London
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Mr. T. JENNER VERRALL, Bath
Dr. DENNIS WALSHE, Graigue
Professor A. H. WHITE, Dublin
Mr. D. J. WILLIAMS, Llanelly

APOLOGIES.

Letters of apology for non-attendance were read from Dr. Grant Andrew, Mr. Hugh Ker, Dr. Livingston, Mr. Albert Lucas, Dr. Munro Moir, Dr. Nicholson and Mr. Straton.

RESIGNATION OF MEMBERSHIP OF COUNCIL.

A letter from Surgeon-General W. R. Browne, C.I.E., I.M.S., was read, intimating that, owing to ill-health, he resigned his seat on the Council, and on the Naval and Military Committee. Surgeon-General Browne represented on the Council the Indian Medical Service, and his resignation was accepted with general regret.

SIR HENRY TRENTHAM BUTLIN, BART.

The CHAIRMAN tendered to Sir Henry Butlin the hearty congratulations of the Council upon the honour he had

received from His Majesty the King. The congratulations were heartily endorsed by the CHAIRMAN OF REPRESENTATIVE MEETINGS and Mr. EDMUND OWEN.

FINANCE COMMITTEE.

The TREASURER presented the Minutes of the Finance Committee of June 28th, 1911.

Accounts for the Quarter.

The accounts for the period ended June 10th, 1911, amounting to £11,925 1s. 1d., were approved, and the Treasurer empowered to pay those remaining unpaid, amounting to £3,051 5s. 9d.

ORGANIZATION COMMITTEE.

The CHAIRMAN (Mr. Larkin) presented the Quarterly Report of the Organization Committee.

Standing Orders of Council.

The Standing Orders submitted by the Organization Committee were duly adopted.

Grants to Branches in United Kingdom.

Grants to Branches in the United Kingdom in respect of the year 1911 were authorized as follows :

(A) *Branches of More than One Division.*

Branch.	Grant Recommended. At the rate of per head.	Amount.
	s. d.	£ s. d.
Birmingham	4 0	112 8 0
Border Counties	4 0	29 0 0
East Anglian	2 0	45 8 0
Edinburgh	2 0	43 4 0
Leinster	2 0	28 2 0
Metropolitan Counties	4 0	654 8 0
Midland	1 0	27 6 0
North Wales	1 0	10 1 0
South-Eastern of Ireland	2 0	5 16 0
Southern	4 0	88 0 0
South Midland	2 0	26 12 0
South Wales and Monmouthshire	4 0	115 4 0
South-Western	4 0	94 4 0
Ulster	2 0	39 16 0
Worcestershire and Herefordshire	4 0	28 0 0
Yorkshire	2 0	91 14 0
(B) *Branches of One Division.*		
Cambridge and Huntingdon	3 0	22 16 0
Fife	4 0	18 16 0
Gloucestershire	1 0	6 12 0
Northern Counties of Scotland	1 6	8 11 0

No Grant is made for the present, in respect of the year 1911, to any of the following Branches, which had in their possession on December 31st, 1910, balances, including balances in the hands of Divisions, equal to over 5s. per head of their Membership.

(*a*) Branches of more than one Division :

Aberdeen, Dorset and West Hants, East York and North Lincoln, Lancashire and Cheshire, Munster, Oxford and Reading, South-Eastern, Staffordshire.

(*b*) Branches of one Division :

Dundee, Perth, Stirling, West Somerset.

Referendum and Postal Vote.

A draft Report to be submitted to the Representative Body on the question of the Referendum and Postal Vote was approved by the Council in the form in which it has already been circulated to the Divisions.

JOURNAL COMMITTEE.

The CHAIRMAN (Dr. Buist) presented the Quarterly Report of the Committee.

Press Arrangements.

The Council approved of the regulations governing the press arrangements at an Annual Meeting of the Association.

Head Office Staff.

The Council expressed its appreciation of the way in which the composing staff had responded to the calls made upon them during the last few weeks consequent upon large JOURNALS and SUPPLEMENTS which it had been necessary to publish. Further, the CHAIRMAN, in submitting the Motion, drew attention to the way in which the whole of the Clerical Staff had worked in the interests of the Association at a time of great pressure and strain.

SCIENCE COMMITTEE.

The CHAIRMAN (Dr. Pope) presented the Quarterly Report of the Science Committee.

Middlemore Prize.

The Middlemore Prize, founded by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded from time to time by the Council of the British Medical Association for the best Essay or Work on any subject in the department of Ophthalmic Medicine or Surgery, consisting of a cheque for £50 and an illuminated certificate, was awarded to Dr. Charles Walter Gordon Bryan for his essay on "Serum and Vaccine Therapy in connexion with Diseases of the Eye." The presentation will be made at the Birmingham Meeting.

CENTRAL ETHICAL COMMITTEE.

The CHAIRMAN (Dr. Lauriston E. Shaw) presented the Quarterly Report of the Central Ethical Committee.

Answers to Questions on Medical Matters in the Lay Press.

The Council adopted the Report on the subject of answers to questions on medical matters in the lay press, and decided to recommend to the Representative Body that the practice of medical men taking charge of columns in which answers to correspondents on medical questions are printed is highly detrimental to the public interest, and most improper from a professional point of view.

Medical Men giving Information respecting Patients to Insurance Companies without Patient's Consent.

A letter on the question of medical men giving information to insurance companies respecting patients without first obtaining the patient's consent was approved, and instructions given for the letter to be forwarded to Honorary Secretaries of Divisions for transmission to all Members of the Association.

Position of Practitioners Examining on behalf of Interested Persons.

The Council approved of a Report to the Representative Body on the position of practitioners examining on behalf of interested persons.

Relations of the Association to Homoeopaths.

The Council approved the Report to the Representative Body on the relations of the British Medical Association to Homoeopaths.

Vote of Thanks to Medical Secretary.

The Council recorded its high appreciation of the capable way in which the Medical Secretary presented on behalf of the Association the penal cases before the General Medical Council at its May Session.

MEDICO-POLITICAL COMMITTEE.

The CHAIRMAN (Mr. Verrall) presented the Quarterly Report of the Medico-Political Committee.

Reduced Telephone Service Rates for Medical Men.

The Medico-Political Committee was authorized to make representations to the Postmaster-General in favour of concessions being extended to members of the medical profession concerning telephone service rates.

Patent Medicines.

In view of the Home Secretary's recent statement with regard to patent medicines, the Medico-Political Committee was authorized to prepare evidence for presentation to the Home Secretary's Departmental Committee or Royal Commission on this subject, and to act in co-operation with any other body interested in the question.

Spiritual Healing.

The Council approved the Report to the Representative Body on Spiritual Healing.

Care and Control of the Feeble-minded.

The Council referred the question of the "Care and Control of the Feeble-minded" to the consideration of the Medico-Political Committee, with instructions to report forthwith to the Representative Meeting, if possible.

IRISH COMMITTEE.

The CHAIRMAN (Mr. Johnstone) presented the Quarterly Report of the Irish Committee, which was approved.

COMMITTEE ON TREATMENT OF FRACTURES.

Sir VICTOR HORSLEY presented the Report of the Committee on the Treatment of Fractures, which was approved.

STATE SICKNESS INSURANCE COMMITTEE.

The CHAIRMAN OF REPRESENTATIVE MEETINGS presented the Report of the State Sickness Insurance Committee.

Report of Council to Annual Representative Meeting.

The Council authorized the State Sickness Insurance Committee to submit to the Annual Representative Meeting, as part of the Supplementary Report of the Council, such report of events in connexion with the Insurance Bill occurring after the Meeting of Council as the Committee might deem desirable, and to circulate to the Divisions any questions upon which it might appear important that the opinions of the Divisions should be ascertained prior to the Representative Meeting.

Income Limit with Respect to Maternity Benefit.

It was decided to postpone the proposing of any amendment to the National Insurance Bill to give effect to that part of Minute 55 of the Special Representative Meeting which refers to "Maternity" benefit, pending further consideration of the subject by the Annual Representative Meeting.

Central and Local Guarantee Funds.

It was decided to institute a Central Fund, to be called the "Insurance Defence Fund of the British Medical Association," to be applied to the following purposes:

(i) Administrative expenses incurred in giving effect to the policy of the Association and otherwise maintaining the interests of the medical profession with respect to the National Insurance Bill.

(ii) Compensation or assistance to members of the profession whom, in the opinion of the authorized Committee or Committees entrusted with the administration of the Fund, it is to the interests of the profession to compensate or support.

The Council approved the following regulations with egard to the Fund:

The Fund will be under the control of the Central ouncil, assisted by such local Committees as the Council nay recognize for the purpose.

The Fund may be supported by guarantees, of which a xed proportion may be called up when required for dministrative purposes, and the remainder when required or purposes of compensation.

The Council shall have power to make grants from the und to Local Defence Funds which may be established nder conditions approved by the Council, for the same eneral objects for which this Fund is instituted.

Provision shall be made for allowing a subscriber to state hether his subscription is to remain entirely in the hands the Council for the purposes of the Central Fund or hether part of his subscription is intended to be handed er to the Local Defence Fund.

It was decided to urge each Division to consider the visability of instituting a Local Defence Fund to be plied within a defined area to the same general objects those for which the Central Fund is established.

STANDING JOINT COMMITTEE OF THE ASSOCIATION AND THE BRITISH PHARMACEUTICAL CONFERENCE.

The CHAIRMAN (Dr. J. H. Taylor) presented the Report the Standing Joint Committee of the British Medical sociation and the British Pharmaceutical Conference, hich after amendment was adopted.

CANDIDATES.

The four Candidates whose names had been given on the ice convening the Meeting were duly elected Members he Association.

COUNCIL ELECTION.

n instruction was given to the Organization Committee consider whether in the case of conjoined Branches notice of the receipt of nominations should not be given by publication in the JOURNAL or letter to the Branch Secretaries or otherwise, some time before the voting papers are issued, in order that each Branch may have an opportunity of considering the matter and taking such action as it may see fit.

ANNUAL MEETING, 1912.

The Council considered an invitation from the Liverpool Divisions to hold the Annual Meeting in 1912 in that city.

The Council decided to recommend the Representative Body to accept the invitation, and to fix the time of the meeting for July 19th to July 27th.

The Council decided to nominate as the President-elect Sir James Barr, LL.D., M.D., F.R.C.P.

SUPPLEMENTARY REPORT OF COUNCIL.

The Supplementary Report of the Council was approved, subject to amendment by the Chairman in accordance with the decisions of the above Meeting of Council, and such verbal amendments as are necessary.

Association Notices.

ANNUAL GENERAL MEETING.

Notice is hereby given that the 1911 Annual General Meeting of the British Medical Association will be held in the Midland Institute, Birmingham, on Tuesday, July 25th, 1911, at Two o'clock in the Afternoon.

BY ORDER OF THE COUNCIL,
GUY ELLISTON,
Financial Secretary and Business Manager.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and blue books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for candidates for election as Members of Council by Grouped Representatives for the year 1911–12 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting, on Monday, July 24th, 1911. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (1) for Nomination by a Division, and (2) for Nomination by a Representative of a Division included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,

L. SMITH WHITAKER,
Medical Secretary.

THE SEVENTY-NINTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM,

JULY 25TH TO 28TH, 1911.

President:
Sir HENRY BUTLIN, Bart., Pres.R.C.S., D.C.L., LL.D., Consulting Surgeon, St. Bartholomew's Hospital, London.

President-elect:
Professor ROBERT SAUNDBY, M.D., LL.D., F.R.C.P., Professor of Medicine, University of Birmingham, and Physician, Birmingham General Hospital.

Past-President:
Sir WILLIAM WHITLA, M.D., LL.D., Professor of Materia Medica, Queen's College, Belfast.

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Treasurer:
EDWIN RAYNER, M.D.Lond., F.R.C.S., Consulting Surgeon, Stockport Infirmary, Stockport.

The Seventy-ninth Annual Meeting of the British Medical Association will be held in Birmingham in July, 1911 The President's Address will be delivered on Tuesday, July 25th, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 21st, 1911.

PROGRAMME OF BUSINESS.

The Address in Medicine will be delivered by BYROM BRAMWELL, M.D.Edin., President of the Royal College of Physicians of Edinburgh, Senior Ordinary Physician,, Edinburgh Royal Infirmary.

The Address in Surgery will be delivered by Professor JORDAN LLOYD, M.S., F.R.C.S., Surgeon, Queen's Hospital, Birmingham.

THE SECTIONS.

The scientific business of the meeting will be conducted in sixteen Sections, which will meet on Wednesday, July 26th, Thursday, July 27th, and Friday, July 28th.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

The following sixteen Sections have been authorized by the Council:

ANATOMY AND PHYSIOLOGY.

President: Professor THOMAS H. BRYCE, M.A., M.D., Glasgow.

Vice-Presidents: Professor EDMOND WILLIAM WACE CARLIER, M.D., Birmingham; Professor PETER THOMPSON, M.D., Birmingham; ALEXANDER LOW, M.B., Aberdeen.

Honorary Secretaries: DAVID FRASER HARRIS, M.D., University, Birmingham; THOMAS YEATES, M.B., University, Birmingham; JOHN ERNEST SULLIVAN FRAZER, Anatomical Department, King's College, W.C.

The following programme has been arranged:

Wednesday, July 26th.—Joint debate with the Section of Therapeutics and Dietetics. To be opened by Professor CHITTENDEN.

Thursday, July 27th:

CARLIER, Professor Wace, M.D. Notes on Some Effects of Iso-Osmotic Solutions of Certain Salts on Frog's Muscle.
GRAHAM, Lewis, M.D. Notes and Demonstrations on an Achondroplasic Skeleton.
ANDERSON, Professor Richard, M.A. On Variation, with Special Reference to Muscle.
RADFORD, Miss. Demonstration on Reconstruction Models of Ferret's Brain and Pharynx.
GOOD, J. P., M.D. Demonstration of Models Illustrating Spina Bifida in a Ferret.
WILKIE, D. P. D., F.R.C.P.E. The Existence of Valves in the Gastric Veins of Man.
YEATES, Thomas, M.B. (*a*) Notes on Strengthening Plates Used in the Reconstruction Method. (*b*) Demonstration of Embryo Ferrets Cut *in Utero*.

Friday, July 28th:

CARLIER, Professor Wace, M.D. Notes on the Physiology of Some of the Allyl Compounds.
HAYCRAFT, Professor J. Berry, M.D., D.Sc. The Colour-Blind Margin of the Blind Spot.
EDRIDGE-GREEN, F. W., M.D. On Tetra-Chromatic Vision.
HARRIS, D. Fraser, M.D., D.Sc. Some Physiological Aspects of Mine Rescue Apparatus.
HAIG, A., M.D. Some Factors of the Circulation Admitting of Easy Measurement.
WOODWARD, Chad, F.R.C.S., F.R.C.S.E. Observations on the Nutrient Foramina of Fibulae in Man and Apes.
DUCKWORTH, W. L. H., M.A. Natural Repair of Fractures, as shown in Skeletons of Anthropoid Apes.
WHITNALL, S. E. Exhibit: Dissections Illustrating Some Points in the Anatomy of the Orbit.

DERMATOLOGY.

President: JAMES GALLOWAY, M.D., London.

Vice-Presidents: JAS. H. SEQUEIRA, M.D., F.R.C.P., London; HORATIO GEORGE ADAMSON, M.D., London; E. GILBERT SMITH, F.R.C.S., Birmingham.

Honorary Secretaries: A. DOUGLAS HEATH, M.D., 41, Newhall Street, Birmingham; R. CRANSTON LOW, M.B., 6, Castle Terrace, Edinburgh; W. ARTHUR LOXTON, F.R.C.S., 85, Cornwall Street, Birmingham; ARCHIBALD M. HENRY GRAY, M.D., F.R.C.S., 30, New Cavendish Street, London, W.

The following is the programme arranged for this Section:

Wednesday, July 26th.

9.30 a.m. Demonstration of Cases.

10 a.m. Discussion on "The Vascular Disorders of the Skin, and their Relationship to other Morbid States." To be opened by Dr. T. COLCOTT FOX, followed by Sir William Osler, Sir Malcolm Morris, Dr. Leo Bürger (New York), Dr. J. J. Pringle, Dr. Gilchrist (Baltimore), Dr. Alfred Eddowes, Dr. Leslie Roberts, and others.

Dr. COLCOTT FOX will introduce the discussion by a summary of the etiology and pathogeny of the three great symptomatic groups of eruptions in which the blood vessels are specially involved, namely, the erythemata, purpura, and some phases of urticaria. The evidence for the toxaemic production of lupus erythematosus will then be considered.

Thursday, July 27th.

Joint Meeting with the Section of Therapeutics to discuss "Recent Developments in the Recognition and Treatment of Syphilis." To be opened by Mr. J. ERNEST LANE, followed by Majors T. W. Gibbard and H. C. French, R.A.M.C., Dr. Otto Grünbaum, Captain L. W. Harrison, R.A.M.C., Dr. G. H. Lancashire, Mr. J. E. R. McDonagh, Drs. J. C. McWalter, George Pernet, R. Schuster (Aix-la-Chapelle), Stopford Taylor, and others.

In opening the discussion, Mr. ERNEST LANE will deal mainly with recent advances in the treatment of syphilis, and with the present position of salvarsan as a therapeutic agent. The early claims that salvarsan was a cure for syphilis have hardly been justified, and a large number of relapses are recorded after treatment by injections of this preparation, so that a large number of observers only regard it as a valuable adjunct to mercurial treatment. Its effects on many of the manifestations of syphilis are remarkable for their rapidity, so that as a prophylactic agent it must be of great value from its power to control the early and highly contagious manifestations of the disease. Intramuscular injections of salvarsan are now for the most part abandoned on account of the resulting pain, and intravenous injections are now mainly relied upon. These are not absolutely free from danger, and should only be practised by those who are well versed in the technique. The results of military surgeons will probably compare favourably with those of the civilian in this as in other methods of treatment, as the soldier has the advantage of healthy and hygienic surroundings, and of a close supervision, which cannot be the case with hospital patients.

Friday, July 28th.

9.30 a.m. Demonstration of Cases.

10 a.m. Papers:

ADAMSON, Dr. H. G. Case of Sporotrichosis.
GALLOWAY, Dr. James. Degenerative Changes in the Blood Vessels and their Effects on the Skin.
LANCASHIRE, Dr. G. H.
LOW, Dr. Cranston. Specimens from a Case of Sporotrichosis.
TAYLOR, Dr. Stopford. Some Practical Observations on the Treatment of Eczema.
TOMKINSON, Dr. Goodwin. Pruritus Vulvae.
And others.

DISEASES OF CHILDREN.

President: OTTO JACKSON KAUFFMANN, M.D., Birmingham.

Vice-Presidents: WALTER ROSS JORDAN, M.D., Birmingham; GEORGE HEATON, F.R.C.S., Birmingham; JOHN DOUGLAS STANLEY, M.D., Birmingham; Miss ANN ELIZABETH CLARK, M.D., Birmingham.

Honorary Secretaries: JAMES EDWARD HILL SAWYER, M.D., 93, Cornwall Street, Birmingham; SEYMOUR GILBERT DARLING, M.S., 81, Edmund Street, Birmingham; REGINALD HY. MILLER, 53, Queen Anne Street, London, W.

The following programme has been arranged:

Wednesday, July 26th.—Discussion on the Diagnosis, Prognosis, and Treatment of Tuberculous Peritonitis. To be opened by Dr. H. D. ROLLESTON, F.R.C.P., and Mr. G. A. WRIGHT, F.R.C.S., followed by Messrs. C. L. Macalister, Douglas Drew, Parry Morgan, Edmund Cautley, and others.

The following is an abstract of Dr. H. D. ROLLESTON'S paper: The designation "tuberculous peritonitis" includes various degrees of intra-abdominal infection with the tubercle bacillus, and the features of the disease, and especially the prognosis, vary according as the infection falls mainly on the peritoneum or involves the glands or the intestines as well. As statistics usually apply to all forms of abdominal tuberculosis in which the peritoneum shares, their value is much impaired. *Diagnosis:* In some cases the disease may be latent or only become manifest by causing a hernia. Though the onset is usually considered to be insidious, it is acute in probably one-third of the cases, and may then imitate appendicitis or even more acute conditions. Diagnosis is naturally most difficult in the early stages, and in the rare instances in which the disease attacks children within the first twelve months of life, in whom other forms of gastro-intestinal disturbance may simulate it. The ascitic form must be distinguished from the ascites of cirrhosis and of sarcoma, comparatively rare conditions, and from that of polyorrhomenitis. Jaundice and enlarged cutaneous veins on the abdomen are in favour of cirrhosis. Help may, of course, be obtained from tuberculin tests and examination of the fluid. Encysted tuberculous peritonitis must be differentiated from various tumours and cysts. Attention is drawn to the tympanitic form. *Prognosis:* This is good in the ascitic form, bad in widespread abdominal tuberculosis, in mixed infections, in cases with much pyrexia, and in the presence of advancing tuberculosis elsewhere. In children prognosis is better than in adults; probably this is in part due to the greater incidence of more extensive tuberculosis; for example, of Fallopian tubes, or of hepatic cirrhosis in adults. *Treatment:* The importance of proper hygiene and treatment for tuberculosis in general is emphasized. The old problem of medical *versus* operative treatment is discussed; and in connexion with the *ratiouale* of laparotomy the question how often removable tuberculous foci are found in children is raised. Medical treatment is referred to, and also treatment by *x* rays. Lastly, the effects of vaccine treatment is put forward for discussion.

The following are the headings under which Mr. G. A. WRIGHT will treat the same subject from the surgical standpoint:

(1) Diagnosis from other varieties of peritonitis, pneumococcal, gonococcal, and allied forms, and from peritonitis due to infection by various pyogenic organisms, also from traumatic inflammations, enteritis, and mechanical obstruction; (2) the importance of the family and personal history; (3) the forms of tuberculous peritonitis (*a*) ascitic, (*b*) dry (plastic), (*c*) miliary, (*d*) localized; (4) involvement of lymphatic glands; (5) prognosis of the different varieties as to life, and as to subsequent troubles, faecal fistula, etc.; (6) treatment, (*a*) general, (*b*) laparotomy, (*c*) opening local collections, (*d*) plastic operations, (*e*) tuberculin.

Papers:

HUME, Dr. W. E. General Oedema following Gastro-enteritis in Children.
PARSONS, Dr. Leonard. Infantilism Associated with Chronic Interstitial Nephritis.
GRAY, H. Tyrrell, F.R.C.S. Spinal Anaesthesia in Children.

Thursday, July 27th.—(1) Demonstration (9 to 9.45 a.m.), of the use of Plaster of Paris in the Mechanical Treatment of Spinal Caries, by Mr. H. J. GAUVAIN. (2) Discussion on the Diagnosis and Treatment of Chronic Pulmonary Affections of Children: To be opened by Dr. SAMUEL WEST, followed by Drs. Clive Riviere, C. P. Lapage, H. Vogt (Strassburg), Parry Morgan, Hugh Thursfield, J. E. H. Sawyer, and others.

The following is a syllabus of the remarks to be made by Dr. SAMUEL WEST in opening the discussion:

Tuberculous pulmonary affections in children are usually acute. *Phthisis* is rare; so, too, is *haemoptysis;* but both may occur even in infants. *Tuberculous pleurisy* is much less frequent than tuberculous peritonitis. *Tuberculous mediastinal and bronchial glands* rarely lead to pulmonary lesions, unless they communicate with a bronchus, and then the mischief excited is acute. They are a frequent cause of spasmodic dyspnoea, often called asthma. True *spasmodic asthma* is rare. *Stridor* and *dyspnoea* of in-

definite cause should always raise the question of foreign body, in the diagnosis of which the *x* rays might help. *Child-crowing* and *laryngismus stridulus bronchitis* is generally acute. What is called chronic bronchitis is often merely recurrent acute attacks. Chronic bronchitis as met with in the adult is rare. *Emphysema* as the result of bronchitis or violent coughing is a transient over-distension. Permanent compensatory emphysema would often be more correctly described as hypertrophy. Genuine atrophic emphysema is rare. It is of nutritional and not mechanical origin, and may be started by some acute disease, such as pneumonia. *Collapse* is common in infants, because of their feeble muscular power and the want of rigidity in the chest walls. Very slight obstruction in the air tubes may thus lead to marked inspiratory recession and widespread collapse. Collapse becomes less common as age advances. In obstruction to the air tubes the air in the corresponding vesicles is rapidly absorbed, and that under a negative pressure sufficient to cause dilatation of the adjacent vesicles, or, even when the collapse is extensive, to produce considerable displacement of the organs in the mediastinum. When the lungs are compressed the collapse is most marked in the parts immediately adjacent, as in pleuritic effusion. When the movements of the diaphragm are interfered with, as in great abdominal distension, and in reflex inhibition or actual paralysis, the collapse of the lower parts of the lungs is extensive and of grave import. *Bronchiectasis and bronchiolectasis* in the acute form is common in acute bronchitis. In the chronic form it is associated with fibrosis of the lung. The peculiar condition described as "turtle lung" is often preceded by a febrile attack like pneumonia, but its cause is often obscure. It is sometimes simulated by extensive collapse. *Treatment* must be on the same general lines as in the adult. Prevention is better and easier than cure. If the risks of the acute affection be past, recovery is easier and more complete in children than in adults. In many chronic conditions the mischief is done and the lesion irremovable, so that treatment must be systematic and general. Affections of the mediastinal glands are often overlooked; yet, if recognized and treated on general lines, much relief may be given.

Papers:

VOGT, Dr. H. (Strassburg). Disturbances arising from milk feeding in children after the first year.
FITZWILLIAMS, D. C. L., F.R.C.S. Nervous Influence in the Causation of Angeiomata.
BARNES, Frank, F.R.C.S. The Open Incision in Congenital Dislocation of the Hip.

Friday, July 28th, 9 a.m.—Demonstration of scoliosis by Mr. Paul Roth at 9 a.m.

Papers:

BATTEN, Dr. F. S. The Epidemiology of Acute Poliomyelitis.
STOELTZNER, Professor, of Halle. Oxypathy and Uric Acid.
ROTH, Paul B., F.R.C.S. Report upon 1,000 Cases of Scoliosis.
MILNE, Dr. Robert. Measles: Its Treatment and Prevention.
GOYDER, F. W., F.R.C.S. Modifications of Owen's Operation for Hare-lip.

ELECTRO-THERAPEUTICS AND RADIOLOGY.

President: HUGH WALSHAM, M.D., London.

Vice-Presidents: ASTLEY VAVASOUR CLARKE, M.D., Leicester; W. DEANE BUTCHER, M.R.C.S., London; JOHN ALFRED CODD, M.D., Wolverhampton.

Honorary Secretaries: FRANKLIN EMRYS-JONES, L.M.S.S.A., 103, Newhall Street, Birmingham; GEORGE HARRISON ORTON, M.D., 67, Upper Berkeley Street, London, W.

The following programme has been arranged:

Wednesday, July 26th, 10 a.m. to 1 p.m.

PRESIDENT: Introductory remarks.
Sir OLIVER LODGE: On the Conveyance of Electricity through Solids, Liquids, and Gases, and the production of Radiation.
Dr. LEWIS-JONES: To open a discussion with demonstration on Ionic Medication and the Theory of Ions.

The following is an abstract of Dr. LEWIS-JONES's paper:

As our knowledge progresses we begin to recognize that the effects of electricity on the human body fall into line as chemical or physical actions. The chemical are mainly ionic, the physical mainly thermal. The electric shock is due to the sudden displacement of ions in the nerve trunk or nerve endings. The sting of the constant current is due to the slow displacement of ions, and, indeed, the sensations of the constant current can be altered by altering the solutions with which the electrodes are moistened. An example of an ion whose penetration produces slight pain is the salicylic ion, while the ion of carbonic acid is one which causes severe pain at the electrode from which it is entering the skin. All this has been clearly established by the writings of Professor S. Leduc. The vexed question of the absence of shock or sensation when the large currents of the high-frequency apparatus are used is also explicable upon this theory of ionic displacement. With the very brief impulses of high frequency the ions are displaced so slightly as to be incapable of stimulating the tissues; and it is important to note that d'Arsonval long ago showed that ordinary alternating dynamo currents produced less and less effect as their wave lengths were reduced, and he gave the figure of 30,000 per second as the speed at which sensation disappeared. It is probable that the wave length which is just too short to stimulate is not the same for all nerves; sensory effects seem to require rather longer waves than motor phenomena. With high-frequency currents the ionic effects have disappeared, and nothing is left, that we know of, except the thermal effect. This may be the sole agent in producing the therapeutic results of high frequency, and, if so, it leads us to hope that in the near future the employment of much more powerful apparatus and of larger currents may give better results from high-frequency applications.

Dr. THURSTAN HOLLAND: Calcareous Abdominal Glands.
Dr. FRED. BAILEY: Fractures Undiagnosable except on *X*-ray Examination (illustrated by lantern slides).

Thursday, July 27th, 10 am. to 1 p.m.

Sir VICTOR HORSLEY and Dr. FINZI: A Note on the Action of Filtered Radium applied directly to the Brain.
Mr. DEANE BUTCHER: To open a discussion on the Therapeutics of Radium. The following among others have expressed a wish to join in the discussion: Dr. Dawson Turner, Dr. Sequeira, Dr. Abraham, Dr. Robert Knox, Dr. Finzi, Dr. Armstrong.

The following is a syllabus of Mr. DEANE BUTCHER's paper:

The active agent, filtration, applicator, quantity; the action of radium irradiation on the nerve-endings in the suppression of pain and itching; the haemostatic effect; the stimulation of epithelial growth and of fibrous tissue; action on rodent ulcer, on superficial epithelioma of the integument, warts, naevi, eczema, psoriasis; the introduction of radium into the cavity of new growths by Abbe's method; Harel's method of the electrical introduction of radium ions; the *rationale* of radium and *x*-ray irradiation; the theory of auto-immunization; radium in gynaecology and in diseases of the rectum, oesophagus, and bladder; the use of radium emanation; the replacement of radium by thorium.

Professor WERTHEIM SALOMONSON: A Modified Form of Benoist's Penetrometer.
Dr. REGINALD MORTON: The *X*-ray Treatment of Malignant Disease.
Dr. IRONSIDE BRUCE: Pyelography and the use of Collargol in the Diagnosis of Diseases of the Urinary Tract.

Thursday, July 27th, 2 p.m. to 3 p.m.

Mr. WM. ARMSTRONG: Radium Water Therapy.
Dr. SAUBERMANN: Demonstration of the Latest Apparatus for the Making of Radio-active Water, and Suitable Apparatus for Inhalation.

Friday, July 28th, 10 a.m. to 1 p.m.

Mr. HALL-EDWARDS: Will open a discussion on the *X*-Ray Treatment of Ringworm.

The following is a syllabus of the paper with which Mr. HALL-EDWARDS will open the discussion:

The disease more common than generally accepted. Old methods of treatment lengthy and uncertain. The *pros* and *cons* of *x*-ray treatment. The best methods of applying the *x* rays. Condition of tube most suitable for treatment. Measurement of the dose. Advantages of *x*-ray treatment. Dangers, and how to avoid them. Treatment after epilation.

Dr. NAGELSCHMIDT: The Diathermic Treatment of Circulatory Disorders. Demonstration: A New Condensator Couch.

Dr. KNOBEL: The Differences in the Appearance of Phthisical Chests, as shown by *X* Rays before and after Open-air Treatment.

Dr. HERNAMAN-JOHNSON: The Treatment of Certain Diseases of the Alimentary Tract by *X* Rays, combined with the Internal Administration of Metallic Silver.

LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

President: FRANK MARSH, F.R.C.S., Birmingham.

Vice-Presidents: FREDERICK WALTER FOXCROFT, M.D., Birmingham; WILLIAM LAMB, M.D., Birmingham; ATWOOD THORNE, M.B., London.

Honorary Secretaries: WILFRED GLEGG, M.D., 85, Cornwall Street, Birmingham; BERTRAND SEYMOUR JONES, F.R.C.S., 93, Cornwall Street, Birmingham; WILLIAM GUTHRIE PORTER, F.R.C.S., 16, Manor Place, Edinburgh.

The following subjects have been selected for special discussion:

Wednesday, July 26th, 10 a.m.—Treatment of Laryngeal Tuberculosis. To be opened by Dr. DUNDAS GRANT and Dr. WATSON-WILLIAMS.

The following are synopses of their papers:

Dr. DUNDAS GRANT (not yet received).

Dr. P. WATSON-WILLIAMS: (1) Briefly historical. (2) Reference to the pathogenesis of tuberculous affections of the larynx, and the differentiation of clinical varieties; their prognostic import from the therapeutic standpoint. (3) General treatment; the effects of climate, altitude; the value of sanatorium methods; the tuberculins, etc. (4) Local therapy—for example, submucous injections, galvano-cauterization, applications of lactic acid, curette-ment, and other surgical measures; their indications, scope, and limitations. (5) Survey of our present position n the treatment of tuberculous affections of the larynx.

Thursday, July 27th, 10 a.m.—Treatment of Chronic Adhesive Processes in the Middle Ear: To be opened by Mr. MACLEOD YEARSLEY and Dr. FREY with papers, of which the following are abstracts:

Mr. MACLEOD YEARSLEY, F.R.C.S.: Magnitude of the subject. The conditions to be discussed must be limited to post-suppurative and post-catarrhal processes. Importance of accurate diagnosis, which is dependent upon the careful consideration of three factors — symptoms, results of physical examination, and the evidences afforded by careful functional testing. Value of regular inflation and nasal treatment, especially with regard to Rosenmüller's fossae. Prophylaxis the treatment of the future. In well-established cases of deafness from chronic adhesive middle ear processes, how far are we justified in recommending nasal operative treatment? What are the values of such adjuncts to treatment as oto-massage, applications of hot air, and various intratympanic injections? Electrical treatment after the method of Urbantschitsch. The use of iosinamin, or its derivative fibrolysin, is disappointing. The operative methods of treatment include mobilization of the malleus, incision of the posterior fold, tenotomy of the tensor tympani and stapedius muscles, exploratory tympanotomy, the division of adhesions, removal of portions of the membrana tympani, and ossiculectomy. Some of these are useful. The value of ossiculectomy is doubtful; possibly the operation is unjustifiable. Whatever method of treatment, non-operative or operative, is employed, a considerable number of cases remain unrelieved. For these, two courses are open—lip-reading, or the use of an artificial aid to hearing. As regards the latter, there is room for valuable research. There is much to be done in the investigation of the relative uses of electrical aids, combinations of telephone and microphone; but such investigation requires the co-operation of the expert electrician and the otologist.

Dr. FREY: (1) Difficulties arising from loose terminology in present use. (2) A plea for the distinction of otosclerosis from chronic adhesive process, and for more correct reports and better diagnosis by contributors. (3) Definitions of the term "chronic catarrhal adhesive process." (4) A cursory account of the etiology of the disease. (5) Discussion and comparison of various methods of treatment under the following headings: (*a*) Prophylactic measures; (*b*) local—mechanical, electrical; (*c*) constitutional; (*d*) operative. (6) Summary of the chief points in treatment.

Friday, July 28th, 10 a.m.—The Diagnosis and Treatment of Conditions in the Accessory Nasal Sinuses giving rise to Oculo-Orbital Symptoms. To be opened by Professor Onodi and Dr. Bronner, of whose papers the following are abstracts:

Professor ONODI: (1) Oculo-orbital symptoms in manifest and latent accessory sinus disease. (2) The diagnostic value of central scotoma, enlargement of the blind spot, narrowing of the field of vision, the ophthalmoscopic appearances, the unilateral symptoms, etc. (3) Indications for treatment in the individual manifest accessory sinus diseases. (4) Further treatment in latent accessory sinus disease by bleeding and relief of pressure. (5) Post-operative visual disturbances and blindness.

Dr. ADOLPH BRONNER: The commonest affections of the accessory nasal sinuses giving rise to oculo-orbital symptoms are: (1) Empyema, following rhinitis, often due to scarlet fever, measles, influenza, erysipelas, typhoid, etc. (2) Diseases of the bone, secondary to empyema, due to syphilis or tuberculosis. (3) Growths. (4) Wounds. There are often congenital defects of the bone which facilitate spread of disease from one sinus to the other, or to the brain and orbit. Transillumination and *x* rays are useful for diagnosis, especially the latter in case of frontal sinus disease. *X*-ray treatment should be tried in some cases. In cases of syphilis energetic treatment is necessary: Mercurial inunctions, very large doses of potass. iodide with decoctum sarsae co., and if necessary "606. In tuberculous cases inject tuberculin. Try Moro test. Vaccine (if possible autogenous) or serum treatment should be tried in all severe cases. In many cases several of the accessory nasal sinuses are involved, and treatment of one sinus alone is useless. (1) Empyema of maxillary antrum. Most reliable method of diagnosis to wash out the antrum through nares. Bad smell and taste often the only symptoms. Treat by making large opening through the nares, and often also through the canine fossa. Remove diseased teeth or dental cysts. As all, even the most trivial, nasal operations can give rise to severe local and general affections, the patient should always remain in bed, and be watched for a few days. If there is a growth of the maxillary antrum, or much diseased bone (tuberculosis), the upper jaw should be removed. These operations are most successful. If the orbit is affected there is generally phlegmonous cellulitis due to thrombosis of the veins. Also consequent cavernous sinus disease, and thrombosis of the central retinal veins. Often conjunctivitis, mucocele, asthenopia. (2) Empyema frontal sinus. Pain over the frontal sinus may also be due to disease of the maxillary antrum. If the frontal sinus is affected, the pain is more severe and intermittent. Upper or inner wall of orbit often painful on pressure. If the orbit is affected (caries, cellulitis), Killian's or even a more extensive operation (Watson-Williams) should be performed, as in most cases the anterior ethmoidal cells are also diseased. If there is optic neuritis, or cerebral symptoms, the posterior wall of the frontal sinus should be opened up, and the brain exposed. In some cases the frontal sinus extends backwards as far as the optic foramen. If the symptoms are not urgent it is always advisable to try intranasal treatment first, removing part of the middle turbinate and any small recurrent polypi at intervals of a few days, to get free drainage. There is always a danger of disease of diploë after the external operation on the frontal sinus. Periostitis of the orbit with consequent cellulitis is more common than primary cellulitis. In cases of hydrops of the sinus a less extensive operation suffices. (3) Empyema of ethmoidal cells. There is often pain on pressure on the inner wall of the orbit with crackly noise. Periostitis of the orbit is often mistaken for disease of the lacrymal sac. Operate intranasally, and, if necessary, extranasally. Make large incision extending below lacrymal sac. If there is meningitis due to disease of the cribriform plate or upper wall of orbit, also expose and drain these parts thoroughly. Remove sarcoma of the ethmoid (not uncommon) extranasally (Moure, Watson-Williams). (4) Empyema sphenoidal sinus. Often there are no symptoms. In all cases of obscure retrobulbar neuritis, slight optic neuritis (unilateral), meningitis, the

sphenoidal sinuses should be carefully examined and explored. Size of sinus varies very much; one side often overlaps the other. Posterior ethmoidal cells also frequently involved, as they often overlap the sphenoidal sinus. Very important because of position of optic nerve. Optic neuritis and retrobulbar neuritis due to pressure or to perineuritis or toxins. Central scotoma due to congestion of veins of optic nerve or toxins. Meningitis and cavernous sinusitis more frequent than disease of orbit. Often cerebral and extradural abscess. Caries of sella turcica or growth of pituitary body. Paralysis of ocular muscles frequent. Anterior and also lower wall should be removed thoroughly. Small opening often closes up. In most cases necessary to remove middle turbinate first. In cases of growth or extensive bone disease, try to remove extranasally (Jansen, Moure). Importance of semicanalis ethmoidealis (Onodi). If several of the accessory sinuses are involved and the symptoms are urgent, operate on all the cavities at once through the maxillary antrum (Jansen); (maxillary antrum and sphenoidal sinus are often only separated by thin bone), or through frontal sinus, removing lower wall, or from the front (Moure, Watson-Williams, Lowe), or each cavity separately.

MEDICAL SOCIOLOGY.

INCLUDING MEDICAL INSPECTION OF SCHOOL CHILDREN, HOSPITAL ADMINISTRATION, AND CONTRACT PRACTICE.

President: GEORGE REID, M.D., Stafford.

Vice-Presidents: MATTHEW HALLWRIGHT, M.R.C.S., Birmingham; MATTHEW ARDEN MESSITER, M.R.C.S., Dudley; HENRY WILLIAM ARMIT, M.R.C.S., London.

Honorary Secretaries: JAMES NEAL, M.R.C.S., 610, Coventry Road, Small Heath, Birmingham; GEORGE AUGUSTUS AUDEN, M.D., Solihull, Birmingham; JAMES PEARSE, M.D., 28, St. George's Terrace, Trowbridge.

The following programme has been arranged:

A. Discussion on Medical Aspects of the Poor Law Question, with special reference to State Insurance and the provision of better medical attendance on the poorer members of the community by (*a*) whole-time medical officers, (*b*) provident dispensaries and other forms of contract practice, (*c*) private medical practitioners. To be opened by Mr. J. Smith Whitaker, Medical Secretary.

The following are synopses of some of the papers contributory to the discussion.

1. *State Insurance* (Dr. J. H. TAYLOR).—Starting with the principle affirmed by the British Medical Association that, if certain conditions are fulfilled, the inclusion of medical benefits in a State sickness insurance scheme is desirable, the paper will discuss how the medical profession should meet the position if, as seems not improbable, some of these conditions are not granted by amendments to the National Insurance Bill now before Parliament.

2. *State Insurance* (Dr. MICHAEL DEWAR).—The exclusion of the destitute and indigent from a national medical service. This class ought to be attended to by a reformed Poor Law system. Difficulties of providing for the class immediately above the paupers, those who up to the present time have been the recipients of voluntary medical charity. A possible way out of the difficulty. For the better wage-earning class there must be a wage limit. The wage limit proposed too high. A probable redundancy to Budget for ordinary and institutional treatment for persons up to £160 a year limit. Reasons for opinion. Provisional scheme for affording such treatment up to the £160 limit. Question as to the best way in which the work can be carried out in the interests of the public, the State, and the medical profession: (1) By whole-time medical officers; reasons against such proposal. (2) By provident dispensaries; reasons against proposal. (3) By an extension of contract practice under the friendly societies; reasons against proposal. (4) By private medical practitioners—the only feasible and practicable solution of the difficulty; discussion of methods.

3. *State Insurance* (Dr. P. R. COOPER): (1) Need of broad and comprehensive view of whole subject by medical men; reasons which have led to introduction of present Insurance Bill; general reception of the measure. (2) General principles of insurance; objects of State scheme; chief defects of bill; systems in vogue in other countries. (3) Relations of medical profession to Government scheme; co-operation of profession essential to its working—it is a truism that "best interests of public and of profession are identical," and it has been admitted in principle, even by the Chancellor himself, that no medical service under a national scheme of insurance can be an enduring success which does not afford satisfactory and honourable conditions of service and equitable terms of remuneration to the medical men employed. (4) Regarding conditions of service, medical men are practically unanimous on the following points: (*a*) Refusal of friendly society control; (*b*) granting of fair representation of medical men on all controlling bodies; (*c*) freedom of choice of doctor by patient, and vice versa; (*d*) strenuous resistance to imposition of conditions which approach to sweating and slavery, and which would inevitably gravely injure the present status of the profession and its capacity for doing good work and for advancing medical science, besides seriously tending to exclude from its ranks the best men in the future. Reasons for insisting upon all these points. (5) Regarding methods and terms of remuneration, all are agreed that payment should be adequate for services rendered, but there is some difference of opinion as to what is adequate, and as to how it should be paid—that is, per visit, per head, etc. No payment can be adequate which does not yield a fair fee per unit of work done—that is, if payment be by capitation it must when worked out as $\frac{\text{total capitation fees received}}{\text{total visits paid}}$ yield a fair fee per unit. The present proposals of the Chancellor work out at about 6d. per unit of work done, and this makes no allowance for "extras." (*a*) Payment according to work done upon an agreed tariff of fees the preferable and more equitable plan. Objections to the method considered and answered; great advantages of the method shown; a sliding scale of fees necessary for the better-to-do classes. (*b*) Payment by capitation fee shown to be pernicious in principle and to have failed signally in practice in almost every instance (vide Contract Practice Report, BRITISH MEDICAL JOURNAL, Poor Law Commission Reports, etc.). Payment per capita necessarily involves question of wage limit; reasons for insisting on wage limit and other fatal objections to capitation system. (6) Compromise suggested, namely, (*a*) a retaining fee of 5s. per head per annum from each beneficiary, which entitles the latter to two free medical consultations or overhaulings per annum, and (*b*) a small fee per ordinary visit or attendance, with special fees for "extras." All medicines, dressings, appliances, vaccines, *x*-ray and laboratory examinations, etc., to be paid for separately out of the insurance fund. A wage limit and a sliding scale of fees would still, of course, be necessary. A portion of the doctor's fee should be paid by the patient, or out of a savings or deposit fund contributed to by the patient. (7) The attitude of the medical profession towards the National Insurance Bill and the policy of the British Medical Association in regard to the measure (*a*) before it becomes law and (*b*) afterwards. (8) Need for stronger union amongst members of the profession, both for maintaining a high ideal of professional honour and usefulness, and for protecting our calling from the destructive inroads of rash and ill-considered legislation, which, however good in intention, may be fraught with grave danger to the community.

4. *The Future Position of the Poor Law Medical Officer* (Dr. A. E. LARKING).—The paper will show that the Poor Law medical officer is probably a doomed individual, whose work will be taken away from him by the State under the National Insurance or other bill.

5. *The Importance of Maintaining the Independence of the General Practitioner* (Dr. FLEMMING).—The position and value of the general practitioner as regards the State, the patient, science, and the medical profession. How these are affected by his independence. The effect of interfering with his independence. Cannot be compared with the medical officer of health, who deals with units and not with human individuals. The sum of the influence of several independent medical practitioners compared with the influence of a body of State servants. The practitioner's immediate and primary concern with the patient is treatment and not prevention. The influence with the patient of the private practitioner as opposed to that of the official. The enervating influence of officialdom and the want of stimulus of constant competition not to

erest of the patient. Official tendency to routine thods and schools of thought are opposed to progress of nce, or at least do not help progress, and are a drance to originality. The commands and prizes in a te service go to diligence and duty, and not to originality science. Individuality and character would have no ne, and the profession would in status come to be on a l with any other Government service.

The State Distrust of the Profession (Dr. F. WYNNE). hat there is such a distrust can be demonstrated, and the main factor in the troubles which constantly arise ween the public and the profession. *Evidences of its stence:* The attitude towards the profession of all ies representative of various sections of the public—for mple, executives of clubs, friendly societies, insurance panies, hospitals, boards of guardians, municipal ncils, and Parliament. Instances of the effect of this tude in various disputes and in speeches by public men—example, Lloyd George and John Burns. Its effect on slation in the past, as seen in the Midwives Act, fication of Births Act, and the Death Registration Sir W. Collins's statement that there was an ression in the House that the profession was "out for " *Causes of its Existence:* The revolt of the pro- on against exploitation. A disunited and sentimental- profession has been thoroughly appreciated by public. The peculiar nature of our services renders it ally impossible to refuse them. This fact has been to cheat the profession of its just rights, and its own usy and disunion have completed its serfdom. The ern general practitioner is the successor of the old ician with the gold-headed cane and of the shop- ing apothecary. But the conditions of neither are ble to him, hence the disorganization of a profession h has attempted to combine these incompatible func- and at the same time to acquire and administer rn medical science. As long as the doctor consented a beast of burden the public assured him that he ged to a noble profession, but the instant he asks for the same public declares in horror that he is "de- ing his pound of flesh." It is this distrust which rise to the difficulty between ourselves and the nment in connexion with the State insurance scheme. is now no doubt that the majority of the profession, all events of this Association, wishes to get rid of the act system, to be paid in proportion to the services ly rendered. It is equally certain that the Govern- do not intend to grant this. Their refusal is not on ounds of greater direct cost. Fees could be arranged scale to obviate this. It is distrust of the profession. the belief that under the contract system the profes- ould have an interest in discouraging malingering, under a system of payment for work done they have an interest in encouraging it. They cannot ve of any higher ethical standard actuating men who so long been enslaved. Our aim must be to convert strust into confidence, but before we can be trusted st be feared. If the profession now accepts a con- ce and an enormous development of the contract under State patronage it will give its sanction to a that contains the seeds of corruption and decay. ct practice is doomed, and any attempt so set it on again will succeed only in demonstrating its rotten- The break-up of the present scheme which will will then inevitably lead to the reorganization of the profession on the basis of a State medical service. f that were, as some think, the ideal solution, to ch it via some forty years in the wilderness of con- ractice is a wasteful and stupid proceeding. If this tion fails to modify the Government proposals they become law, it should be its policy to render nworkable on any terms but its own.

State Medical Service (Dr. F. G. LEYTON).—In this will be suggested that what is required is a State l Service, having at its head a Minister of Public of Cabinet rank; that the service should be l by national funds, and be manned by whole-time y salaried officers, and these should automatically from junior posts upwards, provided they continue mpetent. The latter point would be determined by bjection to a periodical and otherwise practical examination. The scheme would include a single f entry to the medical profession.

B. Discussion on Hospital Reform as affected by the National Insurance Bill, to be opened by Dr. LAURISTON SHAW in a paper of which the following is an abstract:

Details and programme of reform must be in abeyance until the Act is passed. General principles should be carefully considered at once to enable the interests of the reform movement to be safeguarded: First, in Committee stage of the bill; secondly, during the negotiations that must follow the passing of the Act. The chief aim of reform should be to *define the scope and improve the character* of the service to be rendered by the hospital. The provision on an insurance basis of *ordinary medical treatment* for all workers by the bill concentrates attention on the *extraordinary* character of hospital treatment. The *economic* scope of hospital work becomes much more easily defined, especially in view of the income limit of those receiving "medical benefit," which will be insisted on by the profession. The *professional* scope of hospital work is greatly simplified. Ordinary medical attendance being otherwise satisfactorily secured, the hospital must provide only *consultative* assistance. *Hospital reform* of the future will consist, not in providing checks to keep out unsuitable cases, but in providing attractions to bring in suitable cases. The two classes of hospital reformers will be voluntary hospital-enders and voluntary hospital-menders. The enders are those who desire the municipalization of all *institutional* treatment. The menders are those who believe in the voluntary system and intend to perpetuate it. The menders must so reform the hospital that it will attract medical men responsible for domiciliary treatment to desire its consultative assistance; that it will satisfy the philanthropist that it provides something different from and superior to that provided by the State; that it will satisfy the patient with its service without making him dissatisfied with the service of his ordinary attendant. Hospital reform must maintain a voluntary institution, approved of by the subscriber, by the doctor who works inside it and the doctor who works outside it, and by the patient. It must promote the treatment of the sick, the advancement of science, and the education of the student, the practitioner, and the teacher of medicine.

The following are abstracts of some other papers contributory to this discussion:

1. Mr. J. COURTNEY BUCHANAN (Secretary of the Metropolitan Hospital, London): The paper suggests that hospital reform should be directed to preserve the voluntary system unimpaired, and maintain the hospitals as a supplementary service to any service under any State or municipal authority for the following three purposes: (1) Consultation: To provide consultative and special treatment for the most grievous forms of disease. (2) Education: To raise the general standard of all medical education. (3) Scientific research: To advance and facilitate scientific research. With regard to out-patients, at all events, the National Insurance Bill completely changes the position and prospects of the voluntary hospitals. The future of the hospitals will largely depend on the attitude of the medical profession towards the Government in connexion with the bill, for it is conceivable that, without strong action by the British Medical Association, there might be sufficient doctors in London (though not in the country) who would accept the terms of the bill as at present drafted, and leave the hospitals to deal with all or most of the cases which are difficult or expensive to treat. It will be suggested that patients ought not to be free to attend at the hospitals until they have been examined by their own doctors, and it is suggested that institutions on provident principles, such as those laid down in the Majority Report of the recent Royal Commission on the Poor Laws and Relief of Distress, should be grouped around the hospitals as the venue for the medical provision under the Insurance Bill. The voluntary hospitals would then bear the same relation to the provident institutions and other medical service, including the Poor Law infirmaries (which are existing State hospitals) provided for the general use of the poorer classes, that consultants bear to general practitioners in the case of the well-to-do. The organizing work of the almoner's department of the hospital should be fully developed: (i) To assist patients to render the benefit received at the hospital of permanent service;

and (ii) to bring the hospital into co-operation with outside charitable agencies, and into co-ordination with the Public Health Service to arrest and prevent disease. In order to avoid further confusion in the already complex local administration with borough councils, sanitary committees, health committees, etc., it is submitted that consideration of the medical sections of the reports of the recent Royal Commission on the Poor Laws and Relief of Distress should be taken *pari passu* with consideration of the National Insurance Bill. To maintain the voluntary system the whole service should be controlled by a central council with advisory and supervisory powers, such as are now exercised by the King's Fund. A central council with definite powers in relation to the hospitals would also be of value as a trained and experienced body for such public inspection and control as it may be found necessary to extend to voluntary hospitals which receive money from the "approved societies" for the treatment of patients, or grants-in-aid from the State for the erection of new buildings, for medical education, and scientific research.

2. Mr. NEVILLE CHAMBERLAIN (Birmingham): Hospital out-patient departments under present conditions. Their defects from the point of view of the hospitals, of the medical profession, and of the patients. The failure of the remedies hitherto proposed. Experiments in Birmingham. The remedy must come from without and not from within the hospitals. The ideal system of medical relief. Provident dispensaries. The difficulties that retard or prevent success. Free dispensaries and Hospital Saturday funds. Their effect on provident dispensaries. The trend of modern legislation. Can our voluntary institutions withstand it? The National Insurance Bill; its effect, if passed, on hospitals, provident dispensaries, and general medical practitioners. Conclusions as the probable future of voluntary hospitals.

3. Dr. E. D. KIRBY (Birmingham): Hospital reform in Birmingham complicated by the fact that people are allowed to subscribe to the medical charities for their own benefit, converting them into provident institutions; the foundation of the general dispensary; its progress and present condition; the influence of the Hospital Saturday movement; the injury to the public, the friendly societies, and the profession.

4. Mr. PENROSE WILLIAMS (Bridgwater).—The paper refers only to hospitals officered by general practitioners; questions of out-patients and subscribers' notes materially aided by National Insurance Bill. All hospitals will cease to be alternatives to club and parish sources of medical aid. All hospitals will take their proper place—institutions for *special* treatment only. A necessary corollary that work must be subdivided and staff "specialize" and further necessity for increase of staff—in fact, as many as possible, instead of a few—with great benefit of general combination and union in local profession.

C. Discussion on the treatment of school children, with special reference to (*a*) school clinics, (*b*) reference to private medical practitioners, (*c*) reference to the Poor Law, (*d*) medical certificates to justify absence from school.

MEDICINE.

President: ALFRED HENRY CARTER, M.D., M.Sc., F.R.C.P., Professor of Medicine, University of Birmingham.

Vice-Presidents: HENRY MALET, M.D., Wolverhampton; THEODORE STACEY WILSON, M.D., Birmingham; WILLIAM HUNTER, M.D., London.

Honorary Secretaries: ARTHUR STANLEY BARNES, M.D., 141, Great Charles Street, Birmingham; JOSEPH GEORGE EMANUEL, M.D., 47, Newhall Street, Birmingham; EDWARD TURTON, M.D., 1, Albion Street, Hull; HAROLD PRITCHARD, M.D., 55, Harley Street, London, W.

The following subjects have been selected for discussion:

Wednesday, July 26th.—Asthma, its Varieties and Treatment:—To be opened by Dr. GEORGE ALEXANDER GIBSON, D.Sc., F.R.C.P., with a paper of which the following is a syllabus:

Physiological Bases for Classification.—(1) Mechanical arrangements for aëration of blood. Upper air passages: Vascular and nervous supply. Erectile tissues. Protective or defensive mechanism. Lower air passages: Larger tubes with little muscular tissue; smaller tubes with much muscular tissue. Distribution of cilia. (2) Nervous mechanism of respiration: Afferent tracts. Centres. Efferent tracts. Control of higher centres.—*Theories to Account for Asthmatic Paroxysm.*—Spasm—bron tubes; inspiratory muscles. Paresis—bronchials. V motor neurosis—hyperaemia of bronchial tubes. A catarrh—bronchial tubes. Microbic infection—bron tubes.—*Varieties of Paroxysmal Dyspnoea.*—(A) Neur (1) Respiratory—Nasal, laryngeal, bronchial; (2) Dige Faucial, pharyngeal, gastro-intestinal; (3) Renal; Pelvic. (B) Toxic: (1) Diabetic; (2) Uraemic; (3) C otic.—*Consequences of Asthma.*—Emphysema of l sclerosis of vessels; dilatation of heart.—*Treatmen Asthma.*—Basis of management: Watch over digestion assimilation; circulation and excretion; obviate r irritation and bronchial catarrh. Details of managem Climatic, dietetic, medicinal.

Thursday, July 27th.—Obscure Cases of Fever wit Physical Signs:—To be opened by Dr. WILLIAM H WHITE, F.R.C.P.

The following is a synopsis of Dr. HALE WHITE'S pa

In considering a diagnosis of fever without phy signs, non-morbid causes which may affect the tem ture record must be remembered. Even a few comp tively simple chemical bodies have the property of cau pyrexia. So too, sometimes, has an excess of ca hydrate food. The effect of the nervous system on perature is not sufficiently appreciated. Fracture of spine in the cervical region will lead to it, and damag the corpus striatum also leads to considerable pyr Hysterical pyrexia also occurs. The importance examining the blood in pyrexia is very considerable, examination of the cerebro-spinal fluid is often of help. An explanation of the pyrexia may be found i urine, even though free from albumen, blood, or c Malignant disease is often overlooked as a cause of r temperature, and cirrhosis of the liver leads to errors; probably most errors are made by overlooking the pres of small collections of pus. Malignant endocarditis is shown to be a fertile source of errors, and this and l tuberculosis and typhoid fever are discussed.

Friday, July 28th.—Papers.

WILSON, Dr. Stacey. Colon Dyspepsia.
STANLEY, Dr. Douglas. Lung Syphilis.
BRADSHAW, Dr. T. R. A Recent Case of Albumosuria, Demonstrations of the Reactions of the Urine.
RAW, Dr. Nathan. Direct Tuberculous Infection of the I from the Lymph Glands of the Neck, with a Record Cases.
EWART, Dr. Demonstration of a Method for the Clinical Carbonic Acid Gas.
DALLY, Dr. Halls. The Clinical Determination of Pressure by Means of Pachon's Sphygmo-oscillometer.
TYSON, Dr. W. J. Mania following Pneumonia.
PRICE, Dr. F. W. Recent Advances in Cardiac Therapeut
JENNINGS, Dr. Oscar. Treatment of Morphinism.

NEUROLOGY AND PSYCHOLOGICAL MEDICI

President: EDWIN GOODALL, M.D., Whitchurch, Ca

Vice-Presidents: JAMES WILLIAM RUSSELL, M.D., mingham; CUTHBERT S. MORRISON, L.R.C.P., L.R Hereford; JAMES CRAIG, M.D., Dublin.

Honorary Secretaries: SAMUEL ALEXANDER KI WILSON, M.B., 63, Wimpole Street, London, W.; BEN HENRY SHAW, M.B., County Asylum, Stafford.

The following subjects have been selected for s discussion:

Wednesday, July 26th.—The Different Types of seminated Sclerosis. To be opened by Professo OPPENHEIM (Berlin), followed by Drs. Risien Ru Farquhar Buzzard, F. E. Batten, Judson Bury, Midelton, R. T. Williamson, and J. MacCormac.

The following is a synopsis of Professor H. OPPENH paper:

In the course of the last two decades a variety of ing types of disseminated sclerosis have taken the pl the classical form of the disease. These can be clas from several points of view, of which the best is th their localization. By this conception is meant, hov only their clinical localization. In this way we with three or four main varieties, with numerous varieties:

I. The spinal type.
II. The cerebral type.
III. The cerebro-spinal type.
IV. The optic or ocular type.

Spinal Types. A. Localization according to level: Dorsal variety; (2) cervical variety; (3) lumbo-sacral sacral variety; (4) mixed varieties. Discussion on and (3).—B. Localization according to the nature of functional disturbance, that is, according to the area cted on transverse section: (1) Spastic variety (lateral rosis type); (2) spastic-ataxic variety (combined terior and lateral sclerosis type); (3) ataxic variety sterior column degeneration type — pseudo-tabes rotica); (4) atrophic variety (poliomyelitis type); amyotrophic-spastic variety (amyotrophic lateral rosis type); (6) syringomyelic variety; (7) transverse elitis variety.—II. *Cerebral Types.* A. Cerebral type he strict sense, with localization of the lesions in the brum and corpus callosum: (1) Hemiplegic variety; seudo-bulbar paralysis variety; (3) dementia sclerotica. Basal type (not sharply differentiated from A). Pontobulbar type. D. Cerebellar type.—III. *The bro-spinal Type*, including the typical classical cases. *. Optic or Ocular Types.* The objection may be made these represent not so much different types as rent forms of the commencement of the disease. The ification, however, is justified by the fact that these ring modes of onset may persist without change for s. The disease usually runs its course in stages, and region first affected often provides a *locus minoris tentiae*, so that the disease returns with renewed lence on the same area or areas.

ursday, July 27th.—Trauma in Relation to Nervous Mental Affections. To be opened by Dr. F. W. MOTT, S., followed by Drs. F. E. Batten, Bond, Judson Bury, uhar Buzzard, Maurice Craig, Hyslop, Robert Jones, J. Midelton, Oswald, Nathan Raw, Risien Russell, tleworth, and Percy Smith.

e following is a syllabus of Dr. Mott's opening paper: The medico-legal importance of distinguishing between and coincidence of head injury in relation to nervous nental disease; also of recognizing that head injuries ot infrequently the result of nervous and mental ses. Typical illustrative cases. 2. Head injuries ng (*a*) fracture, (*b*) haemorrhage, (*c*) localized meningo- halitis, resulting in organic brain diseases, neuroses, psychoses. 3. Head injuries causing "commotio ri," followed by neuroses, psychoses, and organic disease, for example, general paralysis. 4. Head es as (1) a direct cause, (2) an exciting factor, accelerating factor in nervous and mental disease. al illustrative cases. 5. Asylum statistics of head in relation to general paralysis and traumatic sy. 6. The value of the examination of the blood erebro-spinal fluid cytologically and by Wassermann's on.

lay, July 28th—Papers:

E, Henry, M.B. The Significance of some Confusional es.
P, T. B., M.D. Phrenasthenia.
EAD, Winifred, L.R.C.P. The Wassermann Reaction in Blood and Cerebro-spinal Fluid in Insanity and Examina- of the Spinal Fluid.
S, Dr. Mackenzie. Blood Pressure, etc., in Mental Dis- rs.
ON, D. G., M.D. Progress during the Past Year as to graduate Training and the Granting of a Diploma in hiatry.
M. D., B.Sc., M.R.C.S. A Case of Obsession and Hysteria ted by the Freud Psycho-analytic Method.
RD, R. V., M.Sc., Ph.D. The Need for Chemistry in the stigation of Mental Disease.
, Dr. The Pathological Changes found in the Nervous m Forty-nine Years after Birth in an Unusual Case of trical Paralysis.

bers have been invited to contribute any preparations, ens or drawings, or any instruments or apparatus ning to the work of the Section, which have been ed by themselves, and the Committee of the Section de arrangements to form a special exhibit of such .

OBSTETRICS AND GYNAECOLOGY.

ident: Professor EDWARD MALINS, M.D., Birming-

Presidents: CHRISTOPHER MARTIN, F.R.C.S., Bir- m; CUTHBERT LOCKYER, M.D., London; NATHANIEL BREWIS, M.B., Edinburgh; FREDERICK EDGE, M.D., hampton.

Honorary Secretaries: SMALLWOOD SAVAGE, F.R.C.S., 133, Edmund Street, Birmingham; JOHN THOMAS HEWETSON, M.D., 89, Cornwall Street, Birmingham; HAROLD BECKWITH WHITEHOUSE, M.S., 52, Newhall Street, Birmingham; HARRY BECKETT-OVERY, M.D., 40, Harley Street, London, W.

The following two subjects have been selected for discussion:

Wednesday, July 26th.—(1) The Pathology and Treatment of Asphyxia Neonatorum. To be opened by Sir FRANCIS CHAMPNEYS, Bart. The following will take part in the discussion: Drs. Swayne, Handfield Jones, Herbert Spencer, Hellier, A. W. Russell, Thomas Wilson, Gemmell, Hubert Roberts, and Sir Halliday Croom.

The following is a syllabus of the remarks to be made by Sir FRANCIS CHAMPNEYS:

Cause of the first breath: (*a*) Predisposing; (*b*) exciting. *Two stages of asphyxia:* (*a*) Blue; (*b*) pale. *Treatment:* Artificial respiration. *Objects:* (1) Removal of foreign bodies; (2) procuring of patency of air passages; (3) excitation of circulation; (4) ventilation of lungs. *Methods* of artificial respiration: (*a*) Silvester; (*b*) Schultze; (*c*) direct inflation; (*d*) rhythmical tongue traction (Laborde). *Summary of treatment.*

Thursday, July 27th.—(2) The Present Position of Vaginal Operations in relation to the Uterus and its Adnexa. To be opened by Professor STRASSMANN (Berlin), followed by Mrs. Scharlieb, and Drs. Swayne, Herbert Spencer, Amand Routh, Hellier, J. F. Jordan, Purslow, A. W. Russell, Thomas Wilson, Lloyd Roberts, John Campbell, Stanmore Bishop, C. Newnham, G. Scott Carmichael, Mr. R. J. Johnstone, and others.

The following is a synopsis of Professor STRASSMANN'S paper:

Laparotomy in gynaecological diseases is not such a necessity at present as in former times, because: (1) The old enormous tumours are not so frequent as formerly. (2) Diseased appendages from inflammation are no longer so often removed. (3) The vaginal operation has won a great sphere for itself. *A general view of the organs* by the vaginal operation is much more easily attained than by laparotomy. *The narrow space for the vaginal operation* can be overcome by means of additional incisions, anterior flap incisions, and the simplification of instruments. Definition of the indications for the anterior or a posterior vaginal incision. The importance of the easy *drainage* secured. *The method of vesico-fixation*, especially favoured by the author, will be described. The possibility of the formation of haematoma behind the flap will be mentioned, and the ease of the post-operative treatment emphasized. Great value is attached to the vaginal exploratory incision. *In displacements of the uterus*, the indications for laparotomy, ventrifixations and Alexander's operation, will be defined. When *appendicitis* is suspected, in spite of the possibility of operating by the vagina (Ott's speculum), laparotomy is to be preferred. Laparotomy for *prolapse* is never necessary. Retroflexions, which require repair of the cervix and perineum, are best operated on by the vagina with fixation in the majority of cases. The vaginal operation *for tumours* requires an extensive differential diagnosis, and hospitals without a special gynaecologist will always prefer laparotomy; but, in spite of its more difficult technique, the vaginal route is safer. *Myomas* should only be removed by laparotomy when they are larger than the head of a newborn child. Multiple myomas can be removed vaginally. At the most, one-fifth of the operative cases require laparotomy. *Tubal pregnancy* is easier to remove vaginally the earlier the time of pregnancy and the more recent the rupture. *Haematoceles* should always be incised vaginally. In *carcinoma* of the body of the uterus the vaginal route should be chosen. Perforation and injuries of the uterus can be dealt with through the vagina. The vaginal cicatrices have no importance in later deliveries. Post-operative cystitis is shown to be very frequently only a paresis of the bladder, and to occur also after the abdominal operation for myomas or carcinoma.

Papers:

TWEEDY, Dr. Hastings. The Cause and Cure of Eclampsia.
ROBERTS, Dr. Hubert. On Eclampsia occurring in Labour in a girl aged 12. Recovery of Mother and Child.
WILSON, Dr. Thomas. Dysmenorrhoea due to very small Fibroids.

PURSLOW, Dr. False Elephantiasis of Vulva. Notes of case, with specimens and photographs.
STARK, Dr. Nigel. The Dangers of Fibromyomata of the Uterus in the Later Years of Life.
CAMERON, Dr. S. Uterine Adenomyomata.

The committee has arranged for a section of the Pathological Museum to be specially set aside for the exhibition of specimens, microscopic slides, photographs, etc., relating to the degenerations and complications of fibromyomata of the uterus. In addition the committee is willing to receive other specimens of interest.

ODONTOLOGY.

President: Professor FRANK EARLE HUXLEY, M.D.S. Birm., M.R.C.S.

Vice-Presidents: HENRY WATSON TURNER, M.R.C.S., L.D.S., London; CHARLES EDWARD WALLIS, M.R.C.S., L.D.S., London.

Honorary Secretaries: PERCY THOMAS NADEN, L.M.S.S.A., L.D.S., 22, Temple Row, Birmingham; JOHN HERBERT GIBBS, F.R.C.S., L.D.S., 12, Coates Crescent, Edinburgh.

The following is the programme arranged:

Subject for Special Discussion: The Teeth in Relation to Public Health. To be opened by Sir VICTOR HORSLEY, F.R.S., the discussion being taken under the following headings:

Wednesday, July 26th: (1) School Dentistry and Conservative Dental Treatment generally from the Physician's standpoint. To be opened by Dr. R. J. ERSKINE YOUNG. (2) Dentistry and the Public. To be opened by Mr. CYRIL HOWKINS. (3) Some Points in the Bacteriology of the Toothbrush. To be opened by Mr. HERBERT SMALE and Dr. CARMALT JONES.

Friday, July 28th: (4) Prevention of Caries from a Public Health Standpoint. To be opened by Dr. JAMES WHEATLEY. (5) The Abuse of Sweetmeats. To be opened by Mr. A. HOPEWELL-SMITH. (6) Infant Feeding. To be opened by Mr. C. E. WALLIS. (7) The Bread Question. To be opened by Dr. SIM WALLACE. (In the discussion on this day the Section of State Medicine and Industrial Diseases will take part.)

In addition to this discussion, Mr. A. W. WELLINGS and Mr. C. W. RANDALL will on Wednesday show and describe a case of Hypertrophy of Gingival and Alveolar Margins associated with Pyorrhoea.

On Thursday, July 27th, the following communications will be made:

TURNER, Mr. J. G. On the Pathology of Retained Teeth—that is, of teeth remaining unerupted beyond the normal age.
WALLACE, Dr. W. On the Incidence and Natural Arrest of Caries.
WELLINGS, Mr. A. W. Demonstration of two interesting Abnormalities of Dental Tissues.

On Thursday also a visit will be paid to the Odontological Museum, where a discourse entitled Scientific Value of an Odontological Museum, will be delivered by Mr. JOHN HUMPHREYS, Professor of Dental Anatomy and Physiology.

The following are synopses of the opening papers of the discussion:

1. Dr. ERSKINE YOUNG.—Present position of school dentistry in England; school clinics in various towns; dental clinic in Liverpool under Liverpool Education Committee; object aimed at, school clinics; need for education of the public and the press. Question of school dental treatment a national question; expense of clinics and how met; effect of rates; State aided or rate aided; attitude of medical profession towards dental disease and dentistry; hopeless ignorance of lay patients; education of latter by medical practitioners; preventive medicine and its effects on national health. Ultimate effects of school dentistry in this direction. Importance of same.

2. Mr. CYRIL HOWKINS.—Necessity of early treatment of dental caries in children; school dental clinics; brief reference to work done; cost, etc., of treatment of the teeth of children who attend primary schools; cost, etc., of dental treatment for working classes.

3. Mr. HERBERT SMALE and Dr. CARMALT JONES.—The toothbrush is septic; experiments demonstrating septic nature based on numbers of bacillary colonies obta from culture; experiments to test value of antiseptic correct this condition; experiments with new t brushes on similar lines; conclusions.

4. Dr. WHEATLEY.—Not received.

5. Mr. HOPEWELL-SMITH.—The main feature in short contribution to one aspect of the study of etiology of dental caries is the account which with certain original experiments carried out *in* These have been undertaken to ascertain whether, in what ways, the oral secretions are altered in nature, chemical reactions, and amounts by the u sweetmeats; to compute the reactionary variations bet the salivas of immunized and non-immunized pers and to determine whether typical sweetmeats place interstitial surfaces, in artificially prepared cavities, on the free surfaces of human teeth, produce caries o enamel or dentine. The "abuse of sweetmeats" i mouth implies dental destruction by mechanical, chem and bacteriological means. The classification, constitu and relative solubilities of the commoner sweetmeat briefly described, and those which appear to be har and harmless noted.

6. Mr. C. E. WALLIS.—Feeding of infants at pr time most unsatisfactory owing to outside occupati mothers, ignorance and apathy of parents, mat inability, etc.; influence upon teeth and jaws, prevale caries in temporary dentition, consequent oral sepsi its sequela. Suggestion for amelioration — Legisl little or no use; education of parents by lantern lect "parents' evenings"; advantages of local health soc and health visitors; general principles of infant feedi be taught in all schools.

7. Dr. SIM WALLACE.—The chemical composition o tooth plays no part in the initiation or inducti dental caries. The chemical composition and microscopical structure of the tooth is always tically the same, no matter what the foods may been during the formation of the tooth. The en of the temporary teeth is completely formed the sixth month, and the nutritive constituents of do not play any part in the development of these The only way in which bread affects the teeth is, o one hand, for the bad by lodging unduly in the crevi or between the teeth, thus giving rise to acid ferment and, on the other hand, for good by its detergent during mastication. Experiments indicate that th no appreciable difference in the rate of fermentati different kinds of bread when equal amounts a corporated with equal numbers of bacteria. The dete effect of bread and its consequent antagonism to caries is due to its physical qualities alone. The detergent form of bread is crust, and the crusts of standard, and stone-milled bread are all practically e efficient in cleansing the teeth and corresponding preventing the onset of caries. Next in efficacy i way is toasted bread of any variety, and least effect all is untoasted bread without crust, especially when Bread and marmalade is liable to be markedly harm the teeth, except when other foods are taken counteract the harmfulness. So, too, bread soak milk tends to leave the mouth dirty and disposed to fermentation by robbing the bread of the det qualities it otherwise does possess, and should o recommended as a staple article of diet, or associate with other equally non-detergent foods, if the desire see the teeth dirty, the gums inflamed, and the food charged with obnoxious bacteria each time the child a meal.

OPHTHALMOLOGY.

President: HENRY EALES, M.R.C.S., Birmingham.

Vice-Presidents: EDWARD WILLIAM WOOD WHITE, Birmingham; HENRY SECKER WALKER, F.R.C.S., JOHN GRAY CLEGG, M.D., Manchester.

Honorary Secretaries: ROBERT JAMES COULTER, Bryn Ivor, 11, Clytha Park Road, Newport, Mon. JAMESON EVANS, M.D., 85, Edmund Street, Birmin WILFRID ALLPORT, F.R.C.S.Edin., 95, Cornwall Birmingham; ARTHUR WILLIAM ORMOND, F.R.C Devonshire Place, London, W.

following programme has been arranged:

lnesday, July 26th.—Discussion on the Operative ment of Glaucoma. To be opened by Professor TLEY SMITH.

ers:

T, Major R. H. Simple Trephining for the Relief of comatous Conditions.
, Dr. J. Gray. Observations on Trephining the Sclera.
RSON, Dr. Thomson. The Comparative Anatomy of the ry Region.

rsday, July 27th.—Discussion on the Etiology, osis, and Treatment of Concomitant Squint and phoria, to be opened by Mr. Claud Worth.

ers:

R, Dr. T. Harrison. A New Operation for Extirpation of acrymal Sac.
CK, Dr. W. B. Inglis. The Treatment of Chronic yocystitis.
AFT, Professor J. Berry. The Colour Blind Margin of the l Spot.

lay, July 28th.—Papers:

MANN, Dr. K. The Eyesight of Sailors.
ELL, Dr. L. J. C. A Report on the Use of Carbon Dioxide in Ophthalmic Work.
RD, Dr. Amy. Extraction of Lens in its Capsule.
N, Mr. N. Bishop. The Blind and the 1911 Census.
LLAN, Dr. H. Egyptian Ophthalmic Hospitals.
N, Mr. N. Bishop. A New Photometer for the Use of ol Doctors (Exhibit).

following, among others, will take part in the discus- Messrs. C. Devereux Marshall, H. H. B. Cunningham, rrison Butler, Thomson Henderson, A. B. Cridland, . Herbert.

PATHOLOGY.

ident: Professor ROBERT FRASER CALDER LEITH, Birmingham.

-Presidents: JAMES HUGH THURSFIELD, M.D., London; ES JAMES LEWIS, M.D., Birmingham; WALTER D'ESTE , M.D., London.

orary Secretaries: WILLIAM HY. WYNN, M.D., 41, ll Street, Birmingham; LEONARD GEORGE JOSEPH Y, M.D., 141, Great Charles Street, Birmingham; N GLENDINING, F.R.C.S., 7, Devonshire Place, London.

following programme has been arranged:

nesday, July 26th.—Discussion on Hypersensitive- its various manifestations, especially in relation to , vaccines, and tuberculin. To be opened by LTER D'ESTE EMERY and Professor CHARLES RICHET, d by Drs. Scott, Riviere, Goodall, Woodhead, Grün- Ritchie, Miller.

following is a syllabus of Dr. W. D'ESTE EMERY's (1) Historical introduction; (2) description of the henomena, and definition of term; (3) conditions for rrence, and the question as to its occurrence, with ces other than antigens; (4) the more complicated ena—passive anaphylaxis, antianaphylaxis, etc.; outline of some of the more important theories to t for the phenomena; (6) the rôle to be attributed phylaxis in the evolution of disease, especially in dosis; and (7) its significance in immunity and in generally.

following is an abstract of Professor RICHET's paper: he penetration into the blood of a heterogeneous ve) albumen—that is, of one not altered by digestive es—produces a special state of hypersensibility to ne albumen; this is anaphylaxia. (2) Anaphylaxia stive channels (or in other words alimentary ana- ia) is due to some ingested albumens not having been ntly elaborated by the digestive juices. (3) The lactic state can only be explained by the presence lood of a special non-toxic substance, but capable of with antigen, an extremely toxic one. This non- ubstance is toxogenin. Its presence is proved by at on mixing the blood of an anaphylactic animal ne antigen one obtains a substance that is imme- toxic. (4) Once toxogenin has been formed in the t disappears from it only very slowly, if even it does appear, so that the anaphylactic state continues for months, or perhaps years. (5) The presence in the f a special toxogenin allows one to make for certain diseases a diagnosis by anaphylaxis, but this requires scientific investigation, for up to the present the cases in which anaphylactic diagnosis is rigorous (as with tuberculin) are not numerous, but one may suppose that this method will be perfected. (6) One can combat the anaphylactic state by injections, repeated at frequent intervals, of very small quantities of antigen (antianaphylaxia). (7) All subsequent injections of serum or of antigen may produce serious accidents, if the second injection is made more than ten days after the first. (8) Anaphylactic accidents affect the nervous system especially, for example, cardiac, vasomotor, and respiratory. (9) "Idiosyncrasy" of the older writers can be explained in great part by previous anaphylaxis, in part by previously acquired immunities, and partly also by the inheritance of the anaphylaxes and immunities of their parents. (10) Anaphylaxia and immunity are not antagonistic. In many cases immunity and anaphylaxia march side by side after the injection of an antigen.

Thursday, July 27th.—Discussion on the Pathogenic Action of *Bacillus coli*. To be opened by Dr. H. D. ROLLESTON, followed by Drs. Woodhead and Hunt.

The following is an abstract of Dr. Rolleston's paper:

It would no doubt be desirable to confine attention to the typical *Bacillus coli communis* of the Escherich group, and as far as possible to exclude the intermediate group comprising *B. enteritidis* and the paracolon and paratyphoid organisms, but this is hardly possible at the present time. Infections with the intermediate group, however, will not be specially considered. The *B. coli* is widely distributed, rapidly invades the body after death, may outgrow and crowd out other micro-organisms, and, further, anaërobic cultivations have not always been carried out in cases in which *B. coli* have been grown; it is therefore fully recognized that great caution must be exercised in deciding that the *B. coli* present in any case are pathogenic. These qualifications and the ease with which contamination may occur are so familiar that there is perhaps a risk that the pathogenic effect of *B. coli* may sometimes be overlooked, and an infection regarded as a contamination. Criterions for estimating the importance of *B. coli* in the tissues and discharges, and the limitations of agglutination and the opsonic index, are mentioned. The question of the importance of a mixed infection and symbiosis of *B. coli* and other organisms, as in enteric fever, is put forward for discussion. The clinical features of the reaction of the human body to the various forms of infection with *B. coli* are discussed; and it is pointed out that, whereas high fever seems to be a prominent feature, experimental intoxication with the endotoxin of the organism causes a marked fall of temperature (Vaughan). Rigors may occur in clinical infections, and the endotoxin has been found to cause convulsions. Haemorrhagic inflammation may be set up by virulent infections with *B. coli*, but not by the endotoxin; this is compatible with Vaughan's statement that the cultures of *B. coli* contain a haemolytic body, which is quite distinct from the endotoxin. Acute *coli* infections show a fair leucocytosis. The chronicity of urinary infections with a special tendency to exacerbations and their resistance to treatment are notable. In connexion with general haemic infection with *B. coli* mention is made of three groups of cases—namely, (*a*) those somewhat resembling typhoid fever; (*b*) cases of pyaemia with metastatic abscesses, which, however, are much rarer than in haemic infections with streptococci, staphylococci, and pneumococci; and (*c*) cases of terminal infection. Discussion is invited on the frequency with which septicaemia, due to *B. coli*, occurs in fatal peritonitis and appendicitis; from Libman's blood cultures it appears to be very rare. The portals of entry are given. Reference is made to Adami's view of the bearing of subinfection with *B. coli* on the etiology of pernicious anaemia, haemochromatosis, and hepatic cirrhosis. Metchnikoff's contention that indol and phenol produced by *B. coli* cause visceral lesions and arterio-sclerosis are mentioned, and reference is made to the production of arterio-sclerosis by injections of cultures of *B. coli* (Studzinski). Various local infections with *B. coli* are mentioned; special attention is paid to infections of the urinary tract, and the modes of infection in this condition—namely, ascending, transparietal, and descending or haemic are discussed. The influence of the reaction

of the urine is considered, and the explanation of the beneficial influence of rendering the urine alkaline put forward for discussion.

Friday, July 28th.—Papers.

RAW, Dr. Nathan. Human and Bovine Tuberculosis.
GRÜNBAUM, Professor A. S., and Dr. Helen G. GRÜNBAUM. Post-operative Drowning.
FINDLAY, Dr. Leonard. The Etiology of Pulmonary Anthra osis (an experimental study).
PHILLIPS, Dr. Montague, and Associate Professor E. GLYNN. The Comparative Value of Certain Microscopical Methods of Demonstrating *Spirochaeta pallida*.
GLYNN, Associate Professor E. A Case of Cirrhosis, Adenoma, and Carcinoma of the Liver.
MILLS, Mr. Percival, F.R.C.S. The Action of Radium on Healthy Tissues.
RIDGE, Dr. Cases of Chorion Epithelioma without obvious Primary Lesions.

Arrangements have been made for the exhibition in the Pathological Museum of specimens illustrating the work of the Section. Members wishing to exhibit specimens or photographs should communicate with Dr. Leonard Mackey, 141, Great Charles Street, Birmingham, Secretary of the Pathological Museum.

STATE MEDICINE AND INDUSTRIAL DISEASES.

President: Professor ALFRED BOSTOCK HILL, M.D., Birmingham.

Vice-Presidents: JOHN ROBERTSON, M.D., Birmingham; ERNEST HUGH SNELL, M.D., Coventry; SIDNEY BARWISE, M.D., Duffield, Derbyshire; MABYN READ, M.D., Worcester; EDWARD WILBERFORCE GOODALL, M.D., London.

Honorary Secretaries: ROBERT ARTHUR LYSTER, M.D., The Castle, Winchester; THOMAS SHADICK HIGGINS, M.B., Health Department, Council House, Birmingham; ARTHUR DOUGLAS COWBURN, M.D., 31, Barkston Gardens, London.

The following programme has been arranged:

Wednesday, July 26th.—Discussion on the Administrative Control of Tuberculosis, under the following headings:

1. *Notification.* To be opened by Dr. ROBERTSON (Birmingham).

The following is a summary of Dr. ROBERTSON'S paper:

Experience has demonstrated that there is now no valid objection to compulsory notification of tuberculosis of the lung, provided (*a*) proper steps are taken to safeguard the patient from being dealt with on the same lines as persons suffering from acute infectious diseases, and (*b*) that machinery exists to enable value to be obtained from the notification. Compulsory notification is of value in protecting the medical man from prosecution, and in enabling measures to be taken against the disease. Since sanatorium and tuberculin treatment has become available for the masses of the people notification is of real value to individuals. Voluntary notification is probably as effective as compulsory if the machinery is good. In Birmingham we probably get a higher percentage of cases notified than in Sheffield. Both forms of notification have this defect—namely, that they bring cases of tuberculosis of the lung to light in too advanced condition to enable really good results to be obtained. It is, therefore, necessary not only to have notification, but to have home visitation on the lines suggested by Dr. Philip of Edinburgh.

2. *Sanatoriums.* To be opened by Dr. A. E. LYSTER (Chelmsford).

The following is a syllabus of Dr. LYSTER'S paper:

The need for unification. Present chaotic condition of medical services, provided respectively by public health authorities, guardians, and voluntary agencies. Position of county councils. To these bodies it is proposed to add yet another in the shape of a "Local Health Committee" under the Insurance Bill, possessing public health powers similar to those already possessed by county councils. Unsatisfactory character of work done by small district councils. Need for increased powers of supervision by county councils. Desirability of unification of medical services. Method of unification: (1) By unification of offices. (2) By unification of authority. Real unification can only be effected by the latter process, unification of offices being merely a unification in name and no reality.

3. *Dispensary and Domiciliary Treatment.* To be op by Dr. PHILIP (Edinburgh), followed by Drs. C Wilkinson, Killick Millard, Mearns Fraser, and others.

The following is a syllabus of Dr. R. W. PH remarks:

Far-reaching significance of tuberculosis to the munity. Large outlook necessary. Tuberculosis a fective disease. Conditions and limits of infecti Tuberculosis an endemic disease. "Tuberculous n Tuberculosis most protean in clinical manifestation (tion, symptomatology). The tuberculosis seedling an full-grown tree. Tuberculosis more frequent tha generally supposed. A great devitalizing influence i community. The *raison d'être* of the tuberculosis pensary. Tuberculosis must be searched for. The i tion must be diagnosed early. Not sufficient to wait cases present themselves. Cases must be classified w view to treatment. Cases must be distributed for t ment. Many cases suitably treated at home. Stu home environment and of household. The tubercu dispensary in action: Inquiry bureau. Receiving h Centre of diagnosis and direction. Centre of home t ment, general and special (tuberculin). Clearing h Connecting link (nodus) of tuberculosis agencies—hos sanatorium, colony. Storehouse of facts and stati Relation to Public Health Department. Notifica Relation to Charity Organization Society and other agencies. Qualifications of the dispensary medical o Cost of tuberculosis dispensary. Results, imme ultimate.

Paper:

WYNNE, Dr. F. E. (Leigh, Lancs). Domestic Hot-water Su as a Factor in the Production of Lead Poisoning.

Thursday, July 27th.—Discussion on the Need a Unified Public Health Service. To be opene Dr. R. A. LYSTER (Hampshire), followed by Drs. Kaye (West Riding), A. W. Gilchrist, T. W. B (Wallasey), A. H. Bygott (Barking), and others. A cussion on Disease Carriers. To be opened by DAVIES (Bristol), followed by Drs. Goodall, Leding Caiger, Paterson, and others.

The following is a synopsis of Dr. DAVIES'S paper:

Carriers: Administrative Methods.—The difficulti dealing with chronic carriers in regard to typhoid and diphtheria is enhanced by the marked intermit of the condition. Investigation as to its existence s be commenced during convalescence, before discharge hospital. In the case of typhoid fever two or three ro examinations at intervals of urine and faeces ought made in every case. This is useful in two ways: it definite indication as to cases needing after-superv and gives opportunities for commencement of treatme a time when it may be of service to the patient. hospitals should make suitable arrangements for sec the necessary determinations. In the majority of hos at the present time typhoid convalescents are disch on clinical symptoms alone. The bacteriological m simplifies the after-supervision of cases; those g positive indications must, of course, be kept under a tinuous supervision as possible, and others who deal food supplies should be advised to submit to peri examination. It is doubtful whether it is advisab warn employers, or only in very exceptional cases. case of diphtheria, bacteriological control over con cence and before discharge is more generally observed amount of after-control necessary in cases showing p or doubtful forms varies according to circumstance must be more stringent in the case of school childre example, than of adults engaged in ordinary occupa The variation in type of different strains may bacteriological examination and restriction over conta one time immaterial, at another highly necessary.

Friday, July 28th.—(1) Discussion on Disease, Indu or otherwise, as a subject for Claim for Damages or pensation at Law. To be opened by Dr. KNOCKER, fol by Drs. Collie, Cowburn, and others. (2) Joint disc

the Odontological Section (see Programme for Friday
nat Section). (3) Paper: Dr. EDGINTON, Industrial
ase in Birmingham.

ie following are the headings of Dr. DOUGLAS
CKER's paper: (1) On an insurance policy; (2) breach
ntract causing disease; (3) negligence causing disease;
Workmen's Compensation Act; (5) industrial insurance.
. COLLIE will treat the same subject under the following
ings:

Examinations (7742) as to general fitness of candidates
ublic services. Standard of fitness required. Varies
nature of proposed occupation. Analysis of causes of
tion. Notes upon tests for eyesight and colour-
ness. Cyclical albumen. Diabetes. Dental caries.
Examinations (7073) of sick employees. Analysis
ing incidence of certain diseases. Need for systematic
inations at stated intervals during illness. Personal
nce of the medical examiner. Accident cases.
ysis showing incidence of certain injuries. Notes
pain in the back. Malingering. Return to work
d be gradual after serious illness. III. Medico-legal
inations (2185). Origin of traumatic neuroses. In-
ce of litigation upon claimants. Medical man in the
ss-box.

Visits.

Thursday, at 2.30 p.m., there will be a visit to the
ge Disposal Works. The Tame and Rea Drainage
I invite 150 visitors to visit and inspect the Sewage
sal Works, and to tea at the conclusion of the inspec-
which Mr. Watson, Engineer to the Board, has kindly
ated to direct. These works are the largest biological
lation in the world, there being upwards of 50 acres
colation beds. Application for tickets for this visit
l be made to Dr. T. Shadick Higgins, The Council
, Birmingham.

proposed visit to the Yardley Road Sanatorium,
usly announced, has since been cancelled owing to
currence of some cases of small-pox.

SURGERY.

ident: Sir THOMAS FREDERICK CHAVASSE, F.R.C.S.,
ngham.

-Presidents: WILLIAM DUNNETT SPANTON, F.R.C.S.,
y; WILLIAM FREDERICK HASLAM, F.R.C.S., Birming-
JAMES THOMAS JACKMAN MORRISON, F.R.C.S., Bir-
am; EDWARD DEANESLY, F.R.C.S., Wolverhampton;
WALLACE, C.M.G., F.R.C.S.Edin., Edinburgh.

orary Secretaries: LEONARD PARKER GAMGEE,
S., 95, Cornwall Street, Birmingham; CHARLES
R KINAHAN BALL, M.D., 22, Lower Fitzwilliam Street,
; CHARLES ALBERT LEEDHAM-GREEN, F.R.C.S., 9,
ll Street, Birmingham; JOHN HOWELL EVANS,
S., 25, Berkeley Square, London.

following subjects have been selected for discussion:

he Treatment of General Septic Peritonitis. To
ned by Mr. J. RUTHERFORD MORISON, to be followed
fessor Koch (Groningen), and Messrs. Hubert J.
on, G. P. Newbolt, Damer Harrisson, W. F.
eley, F. M. Caird, Albert E. Morison, J. Grant
r, W. de C. Wheeler, E. Scott Carmichael, Gilbert
, Douglas Drew, W. J. Greer, Philip Turner, Harold
on, J. Crawford Renton, Cuthbert Wallace, A. S.
, W. Morley Willis, H. J. Waring, Garrett Wright,
s P. Childe.

following is an epitome of Mr. J. RUTHERFORD
N's paper:

cause of septic general peritonitis is invasion of the
eal cavity by pyogenic organisms through some
hannel. The terminations of septic peritonitis are
ne terminations as of inflammation elsewhere, and
ermined more by the circulatory disturbances pro-
han by any specific microbic action. Knowledge of
dition of the general and local circulation is of more
nce in prognosis and treatment than of the name
rganism producing the mischief. The chief factor
marked improvement in results comes from an
diagnosis of the cause and more prompt treatment
al septic peritonitis. Perforation of the vermiform appendix, of gastric and of duodenal ulcers are the chief causes of infection, and all of them, as a rule, are easy of diagnosis. If the focus of infection can be removed or excluded from the peritoneal cavity early enough, the fatal progress of general septic peritonitis is arrested. (Statistical proof.) The special and only reason for operation in general septic peritonitis is to deal with the infecting focus. All other indications for operation are those for abscess elsewhere in the body. Though early operation is the treatment of an overwhelming majority of cases of septic peritonitis, in some it may be a serious mistake. It is likely to be so when the infective focus cannot be removed —for example, pneumococcal and gonococcal peritonitis. It may also be so after the infective focus has been shut off by a "natural cure." Operation: Maintain body heat. Central straight or lateral oblique incision as nearly over focus of infection as possible. No rough manipulations or unnecessary exposure of viscera. After removal of the focus, recovery depends upon the reaction of the peritoneum. Diffused extravasated contents should be washed out if little or no gross evidence of peritonitis exist. Washing out and drainage may prevent residual subdiaphragmatic and pelvic abscesses. In the after-treatment the greatest advance has been "proctoclysis."

2. The Technique of Wound Treatment. To be opened by Mr. ALEXIS THOMSON (Edinburgh), followed by Professor Koch (Groningen), and Messrs. Hubert J. Paterson, G. P. Newbolt, Damer Harrisson, Albert E. Morison, W. de C. Wheeler, Gilbert Barling, C. Leedham-Green, Douglas Drew, Harold H. B. Macleod, J. Crawford Renton, Cuthbert Wallace, A. S. Barling, W. Morley Willis, T. S. Ellis.

The following is a synopsis of Mr. THOMSON's paper:

The author looks on the technique of a wound as a bacteriological problem. The tissues play an important but only a secondary part, the first and main essential being to prevent the entrance into the wound of pathogenic organisms. The principles of Listerism have never altered and probably never will alter. The means of carrying them out are always changing, and will probably continue to change. Two attitudes to be avoided: on the one hand, that of adopting every new device simply because it is new, and on the other believing one's results to be so good that they cannot possibly be improved upon. Technique a means to an end, not an end in itself. Knowledge and skill required for carrying out the Listerian principles. The surgeon should be a trained bacteriologist, for he practises bacteriology every time he operates. Every surgical clinic should be associated directly or indirectly with a bacteriological laboratory. Everything in the operating theatre should be subjected to culture and other tests, and no method of sterilization should be regarded as exempt from this. Difficulties to be contended with in teaching hospitals where undergraduates and nurses have to be trained. The technique in cases where the skin is intact and where it is broken. Methods of sterilization. Their reliability as regards instruments, dressings, clothing, ligature materials, etc. Uncertainty regarding skin of patient and hands of surgeon. Methods. The glove question. Conservation or stimulation of phagocytic power of tissues. Methods of operating, vaccines, serums.

Friday, July 28th.—Papers:

WILKIE, D. P. D., F.R.C.S. Some Functions and Surgical Uses of the Omentum.
PATERSON, Hubert J., M.C. Appendicitis without Physical Signs.
DUNHILL, T. P., M.D. Partial Thyroidectomy under Local Anaesthesia, with Special Reference to Exophthalmic Goitre.
LEEDHAM-GREEN, C., F.R.C.S. An Inquiry into the Value of the Sterilization of the Skin by Iodine.
NEWBOLT, G. P., F.R.C.S. Tuberculous Mesenteric Glands.
BERRY, James, F.R.C.S. A Further Series of Cases of Cleft Palate Treated by Operation.
MORISON, Albert E., F.R.C.S. Three Cases of Hypernephroma.
WHEELER, W. de C., F.R.C.S. Two Cases of Abdominal Aneurysm Treated by Operation.
DREW, Douglas, F.R.C.S. Rupture of the Popliteal Artery and Vein. Diffuse Haematoma.
GREER, W. J., F.R.C.S. Fibromatous Tumours of the Mesentery.
MACLENNAN, Alexander, M.B., C.M. Fracture of Scaphoid Bone.
HILL, G. W. A Plea for the Employment of the Gastroscope by Gastric Experts.

THERAPEUTICS, INCLUDING DIETETICS.

President: Sir ROBERT M. SIMON, M.D., Birmingham.

Vice-Presidents: PAUL MORGAN CHAPMAN, M.D., Hereford; THOMAS SYDNEY SHORT, M.D., Birmingham; HENRY WILLOUGHBY GARDNER, M.D., Shrewsbury.

Honorary Secretaries: WILLIAM ALEXANDER POTTS, M.D., 118, Hagley Road, Birmingham; ALEXANDER BRYCE, M.D., "St. Kilda," Anderton Park Road, Moseley, Birmingham; HECTOR CHARLES CAMERON, M.D., 6, St. Thomas's Street, London.

The following is the provisional programme:

Wednesday, July 26th.—Joint discussion with the Section of Anatomy and Physiology on the Merits of a Relatively Low Protein Diet. To be opened by Dr. CHITTENDEN, followed by Lieutenant-Colonel Melville, Sir James Barr, Drs. Woods Hutchinson, Robert Hutchison, W. H. Thompson, W. Russell, Chalmers Watson, Arthur Luff, Alexander Haig, A. C. F. Rabagliati, J. Haddon, and A. B. Olsen.

The following is a syllabus of Dr. CHITTENDEN's paper:

(1) Dietetics as a part of the physiology of nutrition is entitled to the same careful and thorough study as any other branch of biological science, while the opinions and theories connected therewith should be formulated upon evidence that is both comprehensive and reliable. It is a fair argument that the quantity of food consumed daily should be proportional to the needs of the body. In order to avoid excess or deficiency, it is important to ascertain what the real needs of the body for food are; how much food is needed by the average man under ordinary conditions of life to repair tissue waste, and to furnish fuel for the required energy. It is not the part of wisdom to accept unquestioningly dietary standards based simply upon the everyday habits of mankind under the assumption that because civilized people make a practice of eating daily a certain amount of food, that quantity must represent the real needs of the body. (2) Various data are presented tending to show that the ordinary conception of the protein requirement of man is an exaggerated one. A large number of data recently collected among the American people indicates that many people at least, apparently in health and vigour, and with ordinary resistance to disease, do live at a much lower level of nitrogen metabolism than the ordinary accepted standards call for. Additional experiments just completed corroborate the view that normal individuals are able to maintain their usual condition of health, with, indeed, more or less improvement, on relatively small amounts of protein food. Bio-chemical study of these individuals shows that their metabolism is unimpaired. The partition of urinary nitrogen, etc., is in nowise disturbed. Utilization of the nitrogen of the food, as well as the fat, is maintained at the proper level on a relatively low protein diet. (4) Various data from State institutions are in harmony with the view of the adequacy of a relatively low protein diet. (5) Brief discussion of the results presented by other investigators in the study of protein metabolism, as the people of Bengal, leads to the conclusion that the alleged bad effects of low protein intake are not to be associated with the quantity of nitrogen, but with other factors, such as the character of the food, involving its availability, etc. An attempt is made to show the necessity of a ration that is well balanced—one in which the various physiological factors are given due consideration. Nitrogen and calories by no means constitute the only elements to be considered in a so-called standard dietary. Distinction is to be drawn between the needs of a growing organism and the needs of an adult who has attained his growth. The need of protein per kilogram of body weight in the two cases must be different. Experimental data, however, show that even in the early periods of growth the protein of the food constitutes a surprisingly small part of the diet of the suckling infant. The fully-developed man, having an abundance of fat and carbohydrate in a readily available form to meet the energy requirements of his body, can, it is believed, live with perfect health on a few grams of nitrogen per day. To serve its full purpose in the economy, however, man's food must be in a form readily assimilable, free from a large excess of indigestible material.

Thursday, July 27th.—Discussion on Recent D ments in the Recognition and Treatment of Syph conjunction with the Section of Dermatology). opened by Mr. J. ERNEST LANE, followed by Majors Gibbard and H. C. French, Captain L. W. Harris Drs. Otto Grünbaum, G. H. Lancashire, J. E. R. McD J. C. McWalter, Leslie Roberts, Stopford Taylo others.

(The syllabus of Mr. Lane's paper is printed und Section of Dermatology, p. 165.)

Friday, July 28th.—Discussion on the Scope of I and Normal Serum in Treatment. To be opened T. J. HORDER, followed by Dr. E. C. Hort, E. W. G Foord Caiger, and others.

The following is a syllabus of Dr. HORDER's paper

The difficulty of the subject is due largely to n correlation between results of laboratory experimen clinical observations. Scope of normal serum mig enlarged. Its use as control against the use of "sp serums. Properties of normal serum. Normal se treatment of certain infective conditions. Scope mune serum, antitoxic and bactericidal. Neglect of administration following introduction of vaccine t unjustifiable. Value of immune serums at outset of infections. High grades of immunity essential to s Univalent and polyvalent serums. A reversion t valent antistreptococcus serum in *S. pyogenes* infe Results.

Paper:

MUTHU, C., M.D. The Treatment of Pulmonary Tube by Continuous Inhalation.

TROPICAL MEDICINE.

President: Sir FRANCIS LOVELL, K.C.M.G., F. London.

Vice-Presidents: ANDREW BALFOUR, M.D., Kha ROBERT THOMSON LEIPER, M.B., Eltham; ARTE BAGSHAWE, M.B., Rickmansworth.

Honorary Secretaries: LEONARD G. PARSONS, 52, Newhall Street, Birmingham; HENRY CURTIS, F. 59, Harley Street, London, W.; K. S. WISE, M.B B.Sc.Lond., D.P.H., Royal Societies Club, 63, St. J Street, London, S.W.

The following subjects have been selected for disc

Wednesday, July 26th, 10 a.m.—Plague—in its En logical and Epidemiological Aspects. To be ope Dr. C. J. MARTIN, F.R.S.

Thursday, July 27th, 10 a.m.—Yellow Fever on th Coast of Africa. To be opened by Dr. J. W. W. STE Director of the Incorporated Liverpool School of T Medicine.

Friday, July 28th, 10 a.m.—Sanitation of Villag Small Towns in the Tropics, with Special Refere Efficacy and Cheapness. To be opened by Professo RITCHIE SIMPSON, C.M.G.

Papers:

BALFOUR, Dr. Andrew, Khartoum. The Rôle of the "I Granule" in Certain Protozoal Diseases (illustrated by scopical specimens and living ticks).

YORKE, Dr. W., Director, Runcorn Research Labo Mechanism of Production of Suppression of Urine in water Fever.

COLE, Dr. H. P., Mobile, Alabama. Transfusion in Pella

BAYON, Dr. H., London. Demonstration of Specimens to the Culture of the Leprosy Bacillus.

FOREIGN GUESTS.

THE following foreign guests have accepted invitat take part in the work of the Sections:

Therapeutics.—Dr. Russell H. Chittenden, Yale Uni Newhaven, Connecticut.

Electro-Therapeutics.—Professor Haenish, Hambur Frantz Nagelschmidt, Berlin.

Laryngology.—Dr. Frey, Vienna; Professor Onodi, Bu

Children.—Professor Stoeltzner, Halle; Dr. Vogt, dozent, University of Strassburg.

Obstetrics.—Dr. Paul Strassmann, Berlin.

Neurology.—Professor Oppenheim, Königin Augustast Berlin, W.

Dermatology.—Dr. Leo Burger, Mount Sinai Hospital, New York.

Professor F. Koch (Groningen), Professor Gilchrist (Baltimore), Dr. Schuster (Aachen), Professor Dock (the University of Louisiana, New Orleans), and Professor Hofrath M. von Lenhossek (Budapest), have also accepted invitations.

ACADEMIC DRESS.

It is requested that academic dress or uniform should be worn at the Religious Services, the President's Address, the Lord Mayor's Reception, and the Degree Congregation of the University.

RECEPTION OF LADIES.

A committee of ladies, with the Lady Mayoress as president, has been formed to supervise the reception of the ladies accompanying members to the meeting. The Ladies' Reception Room will be situated in the east wing of University College, Edmund Street. Members of the committee will be in attendance daily to give any information.

THE REPRESENTATIVE BODY.—VISIT TO DROITWICH.

The local medical practitioners invite a party of 50 or 60 Representatives to attend an At Home at the Salters Hall, Droitwich, on Saturday evening, July 22nd, and the proprietors of a number of hotels and boarding houses in the town have offered to entertain the party for the week-end, July 22nd to July 24th. Representatives wishing to avail themselves of this offer are requested to communicate with Dr. Wilkinson, Droitwich, Worcestershire, as soon as possible.

SECRETARIES OF DIVISIONS.

The dinner of the Secretaries of Divisions and Branches will be held on Monday, July 24th, at 7 p.m., at the Grand Hotel, and will be followed by the Annual Conference.

UNIVERSITY OF BIRMINGHAM.

Special Degree Congregation.

A special degree congregation will be held at the University Buildings, Bournbrook, on Thursday, July 27th, at 3.30 p.m. Afterwards visitors will be shown over the new University Buildings, and opportunities will be afforded for small parties to visit the Chamberlain tower, from which a fine view of the surrounding country is obtained. Tea will be served during the afternoon. The University can be reached by trams starting from Navigation Street, and special arrangements will be made on this occasion for the convenience of members.

THE EXHIBITION.

The Exhibition of Surgical Instruments, Drugs, and Foods will be opened in the Bingley Hall on July 25th by the President-Elect, who will be accompanied by the President and the Lord Mayor of Birmingham. It is hoped that all members attending Birmingham will make a point of visiting the exhibition some time during the meeting.

The Bingley Hall is within easy access, but for the convenience of members the Wolseley Tool and Motor Car Company, Limited, of Adderley Park, Birmingham, have kindly placed at their disposal motor cars to run between the Reception Room and the Bingley Hall. The Exhibition will be open daily from the Tuesday to the Friday, from 9 a.m. to 6 p.m.

NOTIFICATION OF ATTENDANCE: RAILWAY TICKETS.

ALL members of the British Medical Association who purpose to attend the Annual Meeting in Birmingham, including those resident in Birmingham, are requested to at once fill up, if they have not already done so, the form of "notification of attendance" published last week in the advertisement pages (pp. 7, 8, 9, and 10).

If the form is filled up and returned to the address shown, a voucher or vouchers will be issued from the Central Offices, 429, Strand, giving the right to the special terms that have been arranged with the railway companies.

On presentation of these vouchers the companies will issue return tickets at a single fare and a quarter, available from July 20th to August 1st, both dates inclusive.

Railway Facilities.

For the convenience of those members residing within a radius of 50 miles of Birmingham, and who desire to travel backward and forward each day, arrangements have been made with the railway companies to issue from Birmingham return tickets at a *single fare and a quarter on presentation, at the time of booking, of the member's card.*

The railway vouchers issued from the head office should be used for the first journey to and the last journey from Birmingham.

Honorary Local Treasurer—

J. T. J. MORRISON, Esq., F.R.C.S.,
54, Newhall Street, Birmingham.

Honorary Local Secretaries—

ALBERT LUCAS, Esq., F.R.C.S.,
9, Easy Row, Birmingham.

JOHN FURNEAUX JORDAN, Esq., M.B., F.R.C.S.,
9, Newhall Street, Birmingham.

W. TRACY LYDALL, Esq., M.D.Brux.,
Greswolde House, Yardly, Worc.

A. W. NUTHALL, Esq., F.R.C.S.,
89, Cornwall Street, Birmingham.

PROGRAMME.

The following has been settled as the Time Table for the Birmingham Meeting:

FRIDAY, JULY 21ST, 1911.

10 A.M.—Annual Representative Meeting.

7.30 P.M.—Dinner of Representatives and Council.

SATURDAY, JULY 22ND.

9 A.M.—Representative Meeting.

MONDAY, JULY 24TH.

9.30 A.M.—Council Meeting.

10 A.M.—Representative Meeting.

7 P.M.—Secretaries' Conference and Dinner.

TUESDAY, JULY 25TH.

9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.

9.30 A.M.—Representative Meeting.

2 P.M.—Annual General Meeting.

3.30 P.M.—Religious Services.

4 P.M.—Garden parties by Sir Oliver and Lady Lodge, and Professor and Mrs. Saundby.

8.30 P.M.—Adjourned General Meeting; President's Address.

10 P.M.—After the address the Birmingham and District General Medical Practitioners' Union will give a smoking concert in the Drill Hall.

WEDNESDAY, JULY 26th.

9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.

9.30 A.M.—Council Meeting.

10 A.M. to 1 P.M.—Sectional Meetings.

12.30 P.M.—Address in Medicine.

2 P.M.—Golf match at Little Aston.

2 P.M.—Excursion to Lichfield. The local members of the profession invite a party of 100 to visit Lichfield, where they will have an opportunity of seeing the statue of King Edward VII, the local museum, the Boswell statue in Market Place, Johnson's birthplace and museum, Bridgeman's sculpture works; and of attending evensong at the Cathedral at 4 p.m. The Very Rev. the Dean of Lichfield has kindly offered personally to conduct the Cathedral party and to show the visitors things not usually seen. The Mayor will receive the visitors at the Guildhall at 5 p.m., when the Corporation insignia and plate will be displayed and tea provided.

WEDNESDAY, July 26th (*continued*).

3.30 P.M.—Garden party at Bournville.

3.30 P.M.—Garden party by Professor and Mrs. Gilbert Barling.

8.30 P.M.—Reception at the Council House by the Lord Mayor and Lady Mayoress.

THURSDAY, JULY 27TH.

8 A.M.—National Temperance League Breakfast.

9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.

10 A.M. to 1 P.M.—Sectional Meetings.

12.30 P.M.—Address in Surgery.

1.50 P.M.—Excursion to Studley Castle Horticultural College. The Countess of Warwick, foundress of the college, and Dr. Lillias Hamilton, the warden, will receive a party of members at the Horticultural College for Women at Studley Castle. The students will show parties round the gardens, market houses, and orchards, and a pastoral play will be performed in the shrubbery.

3.30 P.M.—University of Birmingham; Special Degree Congregation. To be followed by an inspection of the new buildings.

3.30 P.M.—Matinée at Picture House, limited to 800.

7.30 P.M.—Annual Dinner.

8.30 P.M.—Special performance of *The Fantasticks*, by Harcourt Williams and Company, at the Theatre Royal.

FRIDAY, JULY 28TH.

9 A.M.—Council Meeting.

9 A.M.—Exhibition of Surgical Instruments, Drugs, and Foods.

10 A.M. to 1 P.M.—Sectional Meetings.

Golf competition at Handsworth.

1.40 P.M.—Excursion to Coventry. In the afternoon a party will visit Coventry, and will be shown the Daimler Works or the Rover Works, St. Mary's Hall, and St. Michael's Church. Afterwards they will be entertained at a garden party by Colonel Wyley, at the Charterhouse.

3.30 P.M.—Garden party by Mr. and Mrs. Frank Marsh at Aston Hall and Park.

3.30 P.M.—Garden party by Dr. and Mrs. Stacey Wilson, at Wydrington.

8.30 P.M.—Reception at the Botanical Gardens, Edgbaston.

SATURDAY, JULY 29TH.

Excursions.

Tickets admitting to entertainments and excursions are not allotted in advance. Members should make inquiries when registering their names at the Reception Room in Birmingham.

PATHOLOGICAL MUSEUM.

A PATHOLOGICAL MUSEUM has been organized in connexion with the meeting in the Pathological and Brewing Laboratories of the University College, Edmund Street, and it is hoped it will be open to visitors on Monday, July 24th.

The Museum will serve the purpose of displaying those specimens which are required to illustrate papers read in the Sections, and it is also intended to present collections or series of specimens of subjects of prominent interest.

The Museum is divided into sections and each section has been placed under an honorary secretary and curator.

Medicine	L. G. J. Mackey, M.D., 141A, Great Charles Street.
	Sholto Douglas, M.B., The University, Edmund Street.
Surgery	Seymour Barling, F.R.C.S., 81, Edmund Street.
	W. Billington, F.R.C.S., 47, Newhall Street.
	B. J. Ward, F.R.C.S., 141A, Great Charles Street.
Gynaecology	J. T. Hewetson, F.R.C.S., 89, Cornwall Street.
	S. Lewis Graham, M.B., 51, Newhall Street.
Dermatology	Douglas Heath, M.D., 41, Newhall Street.
	W. A. Loxton, M.B., 85, Cornwall Street.
Diseases of Children	L. G. Parsons, M.D., 52, Newhall Street.
Ophthalmology ...	Jameson Evans, F.R.C.S., 85, Edmund Street.
Ear and Throat ...	Seymour Jones, F.R.C.S., 93, Cornwall Street.
State Medicine ...	John Robertson, M.D., Council House.
	T. S. Higgins, D.P.H., Council House.
Dental	John Humphreys, M.D.S., 61, Newhall Street.
	H. Humphreys, M.B., B.Ch., 61, Newhall Street.
Radiology	J. Hall-Edwards, L.R.C.P., 103, Newhall Street.
	J. R. Ratcliffe, M.B., Wake Green Road, Moseley.
Veterinary Medicine.	Lawton Sedgwick, Broad Street, Birmingham.

The Honorary Secretary of the Pathological Museum is Mr. A. W. Nuthall, F.R.C.S., 89, Cornwall Street, Birmingham.

There will be a series of specimens to illustrate the following special subjects:

(*a*) The degenerations and complications of fibroid tumours of the uterus.

(*b*) Osteo-arthritis and rheumatoid arthritis.

(*c*) Granulomatous formations in tertiary visceral syphilis, including hereditary syphilis.

(*d*) The inter-relation between human and bovine tuberculosis.

(*e*) The pathology of glaucoma.

(*f*) Malignant growths of the gastro-intestinal tract removed by operation, with final results.

(*g*) Simple and malignant tumours of the testis.

(*h*) Hypernephromata.

(*i*) Radiograms illustrating — Osteo-arthritis and rheumatoid arthritis; abnormal and pathological conditions of the abdominal viscera; early pulmonary tuberculosis.

(*k*) Pyloric obstruction in children.

(*l*) Diseases of the middle ear.

(*m*) Diseases of the pancreas.

The Museum will be open from 10 a.m. to 5 p.m. on each day, and notice of special demonstrations given by the honorary curator at convenient times will be posted on the notice board in the Reception Room and on the doors of the Museum. Arrangements have been made to place on exhibition in the Museum a number of rare old medical books in the possession of the library of the university. These will be in the charge of Mr. Cope, the university librarian.

THE SATURDAY EXCURSIONS.

Warwick and Leamington.

The invitation of the Warwick and Leamington Division will be extended to 300 persons. The party will leave Snow Hill Station about 9.30 a.m., arriving at Warwick at 9.55. The party will visit the Castle, Leycester Hospital, St. Mary's Church, and other interesting parts of Warwick, and then proceed by special trams to Leamington, where lunch will be provided by the Mayor and Corporation in the Town Hall at 1.30. This will be followed by an inspection of the Pump Room, and later by tea and a concert by the band of the Gordon Highlanders in the garden.

Stratford-on-Avon.

The local members of the profession have invited a party of 150 to visit Stratford-on-Avon. The party, which will leave Snow Hill Station at 9.40 a.m., and arrive at Stratford at 10.28, will visit the Parish Church, Shakespeare's Birthplace and Museum, and Anne Hathaway's Cottage. After lunch a matinée performance of one of Shakespeare's plays will probably be given at the Memorial Theatre. Golf, tennis, and boating will also be possible. An extension of this excursion, limited to 50, will be taken on to Broadway, where they will be shown round the ancient houses by Dr. Standring and other local medical men. Tea will be arranged at the Old Priory, where the party will be welcomed by the well-known artist, Mr. F. D. Millet.

Droitwich.

A party not exceeding 200 in number will leave Snow Hill Station about 9.25 a.m., arriving at Droitwich at 0.14. The bathing establishment will first be visited, nd an opportunity afforded to visitors of indulging in a rine bath. Afterwards a luncheon will be given by the orbet Trustees, and in the afternoon a drive through the rrounding country will be arranged.

Malvern and Worcester.

A party limited to 50 persons will leave by the same train s the Droitwich excursion and arrive at Malvern at 10.43. fter a drive through places of interest they will be enter-ined to lunch by the local medical men, and will leave t 2.2 p.m. for Worcester, where they will be met by the ocal medical men, who will show them the various places f interest. Evensong at the cathedral may be attended, nd afterwards tea will be provided.

Hereford.

The party, limited to 50, will leave Snow Hill Station 9.25 a.m., arriving at Hereford at 11.21 a.m. The party ill be met at Hereford by members of the local profession, nd, after being shown some of the sights of the city, will e entertained at lunch at the Town Hall, at 1 p.m., and 2.30 p.m. they will start on a motor drive up the Wye alley. Tea will be served at the Scour Rock.

NOTES.

Stratford-on-Avon.

HE trustees and guardians of Shakespeare's birthplace, ie governors of the Memorial Theatre and of the grammar hool, and the vicar of the parish, invite the members of the itish Medical Association to view the various places of terest in their custody. Free admission will be granted any time during the week of the meeting to members of e British Medical Association on showing their card of embership.

Church Stretton.

Mr. N. Hay Forbes, F.R.C.S.Edin. (Druminnor, Church retton), writes: The excursions to Warwick, Leaming-n, Stratford-on-Avon, Droitwich, Malvern, Worcester, nd Hereford organized by the Excursions Committee will ford members of our Association an enjoyable opportunity visiting both useful spas and historically interesting wns in the Midlands, but for any members who may wish visit one of the most valuable, as well as one of the ost picturesquely beautiful, of our inland climatic health sorts I venture to suggest a motor ride (50 miles) from e capital of the Midlands, through Dudley and Bridg-rth, to Church Stretton, the "Highlands of England," here at altitudes varying from 613 feet to close on 700 feet above above sea level, amidst pine-wooded hills, ld mountainous moorland, romantic glens, and babbling ooks, they can enjoy a short "nature cure" of cool hill eezes, with a ramble over the haunt of the red grouse d curlew, or a good round on links 1,100 feet above sea vel, followed by the "cup that cheers but not inebriates," d a pleasant return journey to Birmingham by way of ach Wenlock to inspect King Edward's County Memorial natorium for tuberculosis, reaching their destination ortly before the usual dinner hour.

Should a small party desire to visit Church Stretton, the al members of the profession, including myself, would glad to have the names of intending visitors soon, and I ink I may say, on my own initiative, that we shall all tend a hearty welcome to all.

Open-air School at Uffculme.

An open-air school, with accommodation for 120 children, in course of erection at Uffculme, King's Heath. The ildings, which are now nearing completion, will be open inspection by members of the British Medical Associa-n and others interested on the afternoon of Wednesday, ly 26th (from 2 to 3.30 p.m.). The Medical Superin-ident of the Birmingham Education Committee will be sent to explain details of the buildings. Uffculme may reached from Birmingham:

By train (Midland Railway) from New Street to King's ath Station. The site of the school is one m nute's walk m the station.

2. By tram from Navigation Street to King's Heath. (Trams marked King's Heath and Alcester Lanes End.) The entrance to the school is about a couple of hundred yards beyond the 1½d. stage.

For the convenience of those members who desire to attend the Garden Party at Bournville on the same afternoon, arrangements are being made for conveyances to be in waiting.

It will be necessary for members who intend to visit the open-air school and afterwards to make use of these conveyances to send notice of their intention to Dr. G. A. Auden, Education Offices, Edmund Street, Birmingham.

GOLF.

MEMBERS attending the Annual Meeting will find that the local committee has not been behindhand in catering for the devotees of the royal and ancient game. Practically all the clubs in the neighbourhood have generously placed their courses at the disposal of the local executive, but in one or two cases Saturday afternoons have been excluded. On presentation of their card of membership visitors to the meeting will be considered members of the club for the day and freed of all green fees. Although there is no first-class course in the district, there are a number which fall little short of that exalted standard, such as Sandwell Park, Olton, Handsworth, Sutton Coldfield, King's Norton, Harborne, Little Aston, and Moseley. Further afield are Malvern and Leamington. The links at Malvern, charmingly situated at the foot of the beautiful Malvern Hills, are among the oldest in England, and known by name or repute to most golfers. Sunday play is allowed, without caddies, at nearly all the clubs. There is no play at Malvern on Sundays, and at Leamington only after mid-day.

Match.

On Wednesday, July 26th, a match, twenty-five a side, is being arranged at Little Aston between the visitors to the meeting and the Birmingham Medical Golfing Society. The Little Aston course is situated about nine miles from Birmingham, and about ten minutes' walk from Streetly Station on the Midland Railway; it is, however, hoped that sufficient motor cars will be available to convey players in the match from the Grand Hotel to the club house. The course is rather a new one, but will be found a good test of golf. It is formed out of a deer park once belonging to the well-known Staffordshire family of Parker-Jervis. Mr. J. B. Clarke, of Little Aston Hall, which adjoins the course, has kindly undertaken to provide tea at his house for the players. Members wishing to play in the match should send their names, together with their handicaps, to Dr. Thomas Sansome, Sandwell House, West Bromwich.

The Ulster Cup Competition.

The Ulster Cup, presented by the Ulster members in 1909, will be played for as usual on the Friday of the Annual Meeting. The play is against bogie. It will take place on the course of the Handsworth Club, about three and a half miles from the Birmingham Town Hall, and about one mile from Handsworth Wood Station; it can also be reached by tram from the Roebuck Inn, eked out by cab for about a quarter of an hour at a fare of 1s. 6d. It is hoped to arrange for a motor omnibus to run at intervals of about one hour from the Grand Hotel to the club house. A special prize has been offered by Mr. Saunders, the captain of the club, in connexion with this competition. Mr. C. A. Palmer, well known as the runner-up for the amateur championship a few years ago, has kindly offered to entertain the competitors to tea at his house, which adjoins the course. The Handsworth course is about 5,650 yards in length, the soil is light and springy, the greens are excellent, but a little fast in dry weather; there is an abundance of bunkers most artfully placed to catch a bad shot; but the player who keeps straight and hits a fair ball will be sure of finding a good lie, and get the reward of accurate play.

Further details of the match and of the Ulster Cup Competition will be posted in the reception room at the town hall, and information will be given as to the means of reaching the various links.

Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

DORSET AND WEST HANTS BRANCH.

A MEETING of this Branch was held in Ringwood on Wednesday, July 12th, the PRESIDENT (Dr. Whittingdale) in the chair. Among those present were Dr. Frank Fowler (Vice-President), Dr. Davison (Honorary Secretary), Mr. Good, Mr. Marriner, Dr. MacDonald, Mr. Decimus Curme, Mr. Charles J. Marsh, Mr. C. H. Watts Parkinson, Dr. Denton Johns, Mr. Midelton, Dr. G. Edwards, Dr. Vincent Milner, Mr. Bushman, Mr. Willans, Mr. Girling, Dr. Hyla Greves, Mr. Cressy, Mr. Jeffrey Gott, Mr. Mahomed, Dr. A. Humphrey Davy, Dr. Sanderson Wells, Dr. Johnson Smyth, and Mr. T. MacCarthy, Vice-President.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apology for Non-attendance.—Mr. C. H. WATTS PARKINSON apologized for the absence of Dr. Le Fleming.

Resignation of Honorary Secretary.—A letter was read from the Honorary Secretary announcing the resignation of his office.

New Members.—The following candidates were elected members of the Association: John Harmer Drew, Clovelly, Parkstone Road, Poole, M.D., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond.; Henry Holroyd, Redmire, Branksome Park, Bournemouth, M.B., B.S.Lond., D.P.H., R.C.P. and S.Lond.; Charles James Cressy, Ringwood, Hants, M.R.C.S.Eng., L.R.C.P.Lond.; John Kingdon Frost, 40, High Street, Dorchester, M.D.Durham, M.R.C.S.Eng. L.S.A.Lond., D.P.H.Cantab.; Henry Granger, Musgrave, Christchurch Road, Bournemouth, M.R.C.S.Eng., L.R.C.P. Lond.; Sydney John Haylock, Balsham, Clifton Road, Southbourne, Bournemouth, M.R.C.S.Eng., L.R.C.P.Lond., Geoffrey Colley March, Abbotsbury, Dorset, M.R.C.S.Eng.; L.R.C.P.Lond.; Norman Lloyd Richards, Lyme Regis, Dorset, M.R.C.S.Eng., L.R.C.P.Lond.; H. J. Cooper, Belmont, Lyme Regis, Dorset, M.R.C.S.Eng., L.R.C.P.Lond.

Autumn Meeting.—On the motion of Dr. P. W. MACDONALD, seconded by Dr. E. HYLA GREVES, it was decided that the autumn meeting should be held in Blandford.

Muscular Rheumatism.—Dr. FRANK FOWLER opened a discussion on muscular rheumatism. The PRESIDENT, Dr. GREVES, Dr. DENTON JOHNS, Dr. JOHNSON SMYTH, Mr. MIDELTON, Mr. MARSH, Dr. HUMPHREY DAVY, Mr. PARKINSON, and Mr. MAHOMED joined in the discussion that followed the able introductory paper. Dr. FOWLER replied.

Congratulations of President.—Mr. CHARLES J. MARSH proposed that the hearty congratulations of the Branch be offered to the President on the successful result to him of the recent law suit connected with Sherborne School. This was seconded by Dr. GREVES, and supported by Dr. GUY EDWARDS, who has a son at Sherborne School. The motion was adopted by acclamation. Dr. WHITTINGDALE in a feeling speech acknowledged the congratulations of the members assembled.

National Insurance Bill.—The National Insurance Bill, now before Parliament, was exhaustively discussed. (See SUPPLEMENT, p. 193.)

Luncheon.—Previous to the meeting the members and their friends luncheoned at the Crown Hotel.

LEINSTER BRANCH:

DUBLIN DIVISION.

A GENERAL meeting of the Division was held in the Royal College of Physicians, Dublin, on July 12th, Dr. O'CARROLL in the chair, and twelve other members present.

National Insurance Bill.—The HONORARY SECRETARY read the report of the negotiations which had been going on between the State Sickness Insurance Committee and the Chancellor of the Exchequer, and other correspondence relating to the National Insurance Bill which had been received from the Medical Secretary of the British Medical Association. After a prolonged discussion, in which all those present joined, the resolutions (published in the SUPPLEMENT, p. 190) were proposed by Dr. R. J. ROWLETTE, and seconded by Dr. DELAHOYDE.

Election of Representative. — Dr. Delahoyde was unanimously selected as Representative on the Representative Body.

METROPOLITAN COUNTIES BRANCH:

STRATFORD DIVISION.

THE annual general meeting of this Division was held in the West Ham Hospital on Thursday, June 29th, at 9 p.m., Dr. DAYUS in the chair. About thirty members were present.

Confirmation of Minutes.—The minutes of the previous meeting and of the special meeting of all the medical men within the area, called to consider the State Insurance Bill, were read and adopted.

A considerable amount of correspondence having been dealt with, Dr. PERCY ROSE presented a report on the Special Representative Meeting and a discussion ensued.

School Clinic.—Dr. TOLAND reported the result of the negotiations—as far as they had gone—with the London County Council in regard to the establishment of a school clinic in the Bow and Bromley and Poplar districts of the Division.

Election of Officers.—The office-bearers for the ensuing year were elected as follows: *Chairman*, Dr. C. Sanders; *Vice-Chairman*, Dr. F. H. Dayus; *Honorary Secretary*, Dr. P. J. S. Nicoll; *Representative at Representative Meetings*, Dr. Percy Rose; *Representatives on Branch Council*, Dr. Hay and Mr. Couzens, Drs. P. Rose and Nicoll (*ex officio*); *Executive Committee*, Drs. Black, Beadles, Collins, Challans, Hume, W. H. F. Oxley, Randall, Steen, Taylor, and Toland.

General Medical Council.—Drs. Langley Browne and Latimer were nominated for the General Medical Council.

WATFORD AND HARROW DIVISION.

THE annual meeting of this Division was held at the Gaylon Rooms, Harrow, on July 3rd. Dr. LAMBERT was in the chair, and there was a good attendance, including Mr. Arnold Ward, M.P. for West Herts.

Confirmation of Minutes.—The minutes were read and confirmed.

Representative on Branch Council.—Dr. Pennefather was re-elected.

Representative in Representative Meetings.—Dr. Williams was reappointed.

National Insurance Bill.—A long and interesting discussion took place. (See SUPPLEMENT, p. 191.)

Election of Officers.—The SECRETARY reported the result of the elections as follows: *Chairman*, Dr. C. Herbert Hall; *Vice-Chairman*, Dr. A. H. Williams; *Honorary Secretary*, Dr. Sidney Bontor. The Committee was re-elected.

Letters from Exeter and Halifax Divisions.—Letters from the Exeter Division and the Halifax Division were read and considered.

SOUTH MIDLAND BRANCH:

BUCKINGHAMSHIRE DIVISION.

A MEETING of this Division was held at the Royal Bucks Hospital on Tuesday, July 18th, at 3 p.m. In the absence of the Chairman and Vice-Chairman, Dr. KENNISH was voted to the chair. There were present: Drs. Long, Magrath, England, Drake, Spencer-Pearson, Durran, Baker, Hardwicke, Morrison, Richards, A. H. Turner, Gardner, Parrot, Woollerton, Cooke, Smith-Wynne, Kerr, Craig, MacFarland, Rose, Perrin, Buxton, Deyns, Larking, P. Stedman, and Bradbrook.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Reynolds, E. O. Turner, Graham, Shaw, West, Wheeler, Benson, Eagles, Colonel B. Giles, Drs. Vaisey, Meers, Clarke-Cohen, Churchill, and Davies.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Letters.—Letters from the Medical Secretary were read.

Direct Representatives on General Medical Council.—It was decided to support Drs. Langley Browne, Latimer, and Ryle, as Direct Representatives on the General Medical Council.

National Insurance Bill.—The SECRETARY reported that all the practitioners had signed the undertaking except

two; one of these had, however, signed the memorial and guaranteed £5 to the Defence Fund. It was decided to give the money guaranteed to the Central Defence Fund and not to form a local fund. The total guaranteed up to the present was £180. It was reported that the two Members of Parliament who had been waited upon were favourable to the demands of the members.

Dr. Humphry Wheeler's Resolutions. — Resolutions standing in the name of Dr. Humphry Wheeler were not discussed, as it was felt that they were best left in the hands of the Representative.

Vote of Thanks.—A hearty vote of thanks was passed unanimously to the Board of the Royal Bucks Hospital for the use of the Board Room for the meetings of the Division.

STAFFORDSHIRE BRANCH.

THE thirty-eighth annual meeting of the Branch was held at the North Stafford Hotel, Stoke-on-Trent, on June 29th. There were thirty-nine members present.

Confirmation of Minutes.—The minutes of the last annual meeting were read, approved, and signed.

Installation of New President.—The chair was taken by the retiring PRESIDENT (Dr. J. A. Codd), who, having introduced the new PRESIDENT (Mr. W. D. Spanton), retired in his favour.

Vote of Thanks to Retiring President.—On the motion of the PRESIDENT (Mr. Spanton), seconded by Dr. MACTIER, a very hearty vote of thanks was accorded to the retiring President, Dr. Codd, for his services in the chair during the last year.

Library.—Resolutions establishing a library in the northern portion of the Branch were moved by the PRESIDENT, seconded by Dr. CODD, and passed.

Report of Council.—The report of the Council, as recorded in the minutes of the annual council meeting on May 30th, was approved; as also was the financial statement in the council minutes of March 2nd.

Election of Officers.—The following officers nominated by the council were elected: *President-elect*, F. H. Marson, M.D. (Stafford); *General Secretary*, Harold Hartley, F.R.C.S. (Stoke-on-Trent); *Treasurer*, Dr. J. Clare Hanley).

Next Annual Meeting.—It was decided to hold the next annual meeting at Stafford.

Vote of Thanks to late Secretary.—On the motion of Dr. CODD, seconded by Dr. KING ALCOCK, a very cordial vote of thanks was proposed to Dr. Petgrave Johnson for his very valuable and efficient service as Secretary since October 31, 1901, and carried with acclamation.

Address by the President.—Mr. W. D. SPANTON then delivered his address, entitled "Sir Astley Cooper—as a Surgeon." On the motion of Dr. RIDLEY BAILEY, seconded by Dr. LOWE, a cordial vote of thanks was accorded to the President for his address.

Dinner.—The meeting was followed by a dinner, at which thirty-three members and guests were present.

NORTH STAFFORDSHIRE DIVISION.

A MEETING of this Division was held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, July 6th. Dr. RUSSELL took the chair, and forty-eight medical practitioners were present, members and non-members being invited to attend the meeting.

Annual Representative Meeting.—After the minutes and correspondence had been read, explanations were given by the CHAIRMAN of matters to be brought before the next Representative Meeting, and consideration was postponed until the meeting to be held on July 20th.

National Insurance Bill.—Reports were then received from the various deputations which had been appointed to wait on the several members of Parliament in the Division area in respect to the proposals of the British Medical Association in regard to the National Insurance Bill. The resolutions published in the SUPPLEMENT, p. 192, were unanimously passed.

YORKSHIRE BRANCH.

THE annual meeting of the Yorkshire Branch was held at the Albert Hall, Leeds, on Wednesday, June 28th. Mr. PYE-SMITH presided.

COUNCIL MEETING.

Confirmation of Minutes.—The minutes of the last (annual) meeting were read and adopted.

Driffield Dispute.—The comments of the Central Council on this matter (see SUPPLEMENT, BRITISH MEDICAL JOURNAL, May 27th, p. 267) were discussed, and the following resolution, proposed by Mr. PYE-SMITH and seconded by Dr. SWANSON, was adopted:

> The Council of the Yorkshire Branch of the British Medical Association regrets that the Council of the Association has thought fit to animadvert, in the annual report of the Council, on the conduct of the Yorkshire Branch and the York Division.
>
> In the opinion of the Yorkshire Branch Council the statement of the case in paragraphs 73 and 74 of the report is misleadingly incomplete, and it regards the insinuation conveyed by the latter part of paragraph 75 as being unjustifiable.
>
> The matter referred to was a dispute occurring in the area of the East York Division three years ago. It has been in the hands of that Division, the East York and North Lincoln Branch, and the Central Ethical Committee ever since, and the responsibility for failure to attain a satisfactory conclusion rests with them.
>
> The Yorkshire Branch Council, though at no time asked for advice on the case, obtained last year for the then Chairman of the Council all the information asked for, and carefully considered this year the request of the Central Ethical Committee to help in the initiation, for the second time, of a conference. The grounds for its declining to do so were communicated at the time to the Chairman of the Central Ethical Committee.
>
> The position taken by the Yorkshire Branch Council has been that of loyalty to the constitution of the Association as regards especially the autonomy of Branches and Divisions (By-law XI), and of resistance to what appeared to be a policy of coercion.
>
> The Yorkshire Branch Council considers that the honour and interests of the profession may be better served than by attempting to press on a Division, against its deliberate judgement and decision, any such refusal of professional recognition to any legally qualified and registered medical practitioner.

Proposed Transfers.—The proposed transfer of Chapeltown from the Barnsley to the Sheffield Division was approved of. The proposed transfer of one member from Darlington to Harrogate, and of three members from Barnsley to Wakefield, was not sanctioned, as it was not in accordance with Rule 4 of the Association.

BRANCH MEETING.

Election of Officers.—Dr. CHURTON (Leeds) was elected President, and took the chair. A resolution of thanks to Mr. Pye-Smith was passed, and he was elected a permanent Vice-President. Dr. Gibson (Harrogate) was elected President-elect; and Dr. Bronner was re-elected Honorary Secretary and Treasurer.

Annual Report.—The annual report stated that during the year three meetings had been held—at Wakefield, Sheffield, and Barnsley. The average attendance was thirty-eight; 73 new members had been added—53 by election and 20 by change of address. There had been a decrease of 53, making a net increase of 20. The Branch began the year with a balance in hand of £141 10s. 6d.; receipts £132 9s., bank interest £2 16s. 1d., grants to Divisions £89 18s., Branch expenses £24 3s. 1d., balance in hand £162 4s. 6d. At the March meeting the Driffield dispute was mentioned, but it was decided not to interfere. At the annual meeting, held at Sheffield, Mr. Pye-Smith was elected President. It was decided to hold the next annual meeting at Leeds, and Dr. Churton was elected President-elect. At that meeting a resolution was passed expressing regret that there was no reference to the postal referendum in the new Articles of Association. At the autumn meeting the question of fees for medical men called to cases of accident by the West Riding police was discussed, and Dr. Eddison was requested to see the Chairman of the West Riding Joint Committee on the matter. The question of defective school children was also raised, and it was decided to form a committee, consisting of one representative from each Division, to discuss the matter, and to report to the Branch. The Council suggested that the next annual meeting should be held at Harrogate, and that Dr. Gibson be elected President-elect.

Postponement of President's Address.—By the courtesy of Dr. Churton, the President's address was postponed until the autumn meeting of the Branch.

National Insurance Bill.—The National Insurance Bill was discussed at a special meeting summoned by the Branch (see SUPPLEMENT, July 8th, p. 57).

National Insurance.

GENERAL MEDICAL COUNCIL.

ON May 24th the General Medical Council appointed a committee representative of England and Wales, Scotland, and Ireland, with the President, Sir Donald MacAlister, K.C.B., as chairman, to consider the provisions of the National Insurance Bill, and on May 27th the Council adopted a report, which was at once forwarded to the Chancellor of the Exchequer (SUPPLEMENT, June 3rd, page 338). On June 13th the Chancellor of the Exchequer returned a considered reply (SUPPLEMENT, June 24th, page 474).

On July 12th, after another meeting of the special committee, the following letter was addressed to the Chancellor of the Exchequer:

Dear Sir,—With reference to your letter of June 13th, the Committee of the General Medical Council desire me to express their acknowledgements for your courteous reply to the communication concerning the National Insurance Bill which was addressed to you on behalf of the Council.

The Committee recognize fully the value of the assurances you have given of your personal agreement with a number of the Council's recommendations; but they deem it their duty to urge the necessity of introducing into the bill certain explicit amendments, for the purpose of giving legislative effect to the intentions and desires you express.

I am accordingly instructed to invite your favourable consideration to the following suggestions and explanations, and to inquire whether amendments in the sense indicated will be proposed in Parliament at the instance of the Government. The headings refer to those of your reply and of the Council's report.

1. (*a*). *Insurance Commissioners.*

Following the wording of Clause 43 (5) of the Bill, add at the end of Clause 41 (1) the words:

"; but so that one at least of the Commissioners so appointed shall be a duly qualified medical practitioner."

1. (*b*). *Advisory Committee.*

In Clause 42, after the words "consisting of" insert the words:

"duly qualified medical practitioners,"

1 (*c*). *Local Health Committees.*

Under Clause 42 (5), it may happen that not more than two medical practitioners are appointed on a Health Committee of twenty-two. Having regard to the important functions of the Committee in relation to "medical benefit," it appears desirable that provision for a more adequate representation should be made.

2. *Approved Societies.*

From facts within its knowledge, some of which are set forth in the reports enclosed herewith for your information,* the Council is convinced that the conditions of practice under the control of various associations, which purport to supply "medical aid" to the public, are in general adverse to the highest efficiency of the practitioners employed, and therefore to the welfare of their patients.

The Council thinks it imperative in the public interest that these conditions should not be reproduced in a national scheme for the administration of "medical benefit." It must therefore press strongly for an amendment of Clause 14 which will have the effect of placing such administration under the exclusive control of the local Health Committees and the Insurance Commissioners.

Thus in Clause 13 (1), lines 25, 26, the words:

"and, subject . . . medical benefit,"

and in Clause 14 (1) the words:

"approved society and"

should be deleted.

As regards "maternity benefit," the Committee understand from your reply that this is not considered to be of the nature of "medical benefit," but rather as a form of "sickness benefit," applicable to the case of a woman disabled from her ordinary employment on account of her confinement.

If this view is correct, the Committee fail to see that any provision is made for the attendance of a medical practitioner or midwife at and after confinement in the case of an insured woman. Clause 8 (6) excludes the recipient of "maternity benefit" not only from "sickness benefit" but from "medical benefit."

Referring to paragraph 7 of your reply, "maternity benefit" is there treated as equivalent to "sickness benefit in times of confinement"; or in the words of Clause 8 (*c*), it is a payment of thirty shillings to insured women "whilst rendered unfit to provide their own maintenance" during four weeks after childbirth. Some form of "medical treatment and attendance" must clearly be provided as well as ordinary maintenance in such cases. It appears, therefore, to follow that in Clause 8 (6), to which you refer us, the words, "or medical benefit" should be deleted.

3. *Free Choice: Maternity Benefit.*—The Committee desire to be assured that in making "arrangements" with duly qualified medical practitioners under Clause 14 (1), the local Health Committees will have instructions, subject in each case to the approval of the Insurance Commissioners (1) to form a panel, including all practitioners of good standing who are willing to act within a given district, (2) to allow an insured person to choose (say annually) the practitioner on the panel who is to attend him, (3) to provide specially (for example, by an arrangement with a hospital, as hereinafter suggested) for consultations or serious operations where these are necessary, (4) to provide specially for the treatment of maternity cases, whether attended by a practitioner or a midwife.

In order to make it clearer that the "arrangements" in question shall be submitted to the Insurance Commissioners before they are confirmed, the Committee desire that Clause 14 (1) should be altered so as to read as follows:

For the purpose of administering medical benefit, every local Health Committee shall, subject to the approval of the Insurance Commissioners, make arrangements with duly qualified medical practitioners for insured persons to receive attendance and treatment from such practitioners.

The Committee agree with you as to the exclusion of members of the profession who may show themselves unfit for the performance of a very responsible public duty; and they would point out that the Council takes a grave view of such misconduct, and is accustomed to exercise its disciplinary authority in cases of the kind.

4. *Voluntary Hospitals.*—The resources of voluntary hospitals are likely to be diminished by the operation of the National Insurance Scheme. Many of them depend largely on regular contributions from employers and from workmen. There is reason to apprehend that, in view of the weekly insurance payments to be made by both classes, these regular contributions may cease to be paid to the hospitals; they will in large measure be diverted to the Insurance Fund. On the other hand, the demand on the hospitals—for the highly skilled treatment provided in their wards by means of the gratuitous service of eminent physicians and surgeons, for the trained nursing that is necessary in cases of grave illness or operation, and for the provision of costly appliances and apparatus—will remain as at present. In many cases the "domiciliary treatment" of insured persons must be supplemented by treatment in the hospital ward, if they are to have a fair chance of recovering their health and resuming their payments to the Insurance Fund.

In Clause 15 provision is made whereby local Health Committees may make arrangements, to the satisfaction of the Insurance Commissioners, for subsidizing sanatoriums or other similar institutions, apparently on the ground that such institutions have a claim on the Fund in respect of the treatment therein of insured persons. In the view of the Council the voluntary hospitals have the same claim, and should be dealt with in the same manner. Under Clause 17 it is left to an "approved society" "to grant such subscriptions and donations as it may think fit to hospitals and other charitable institutions." The society may impose such conditions in respect of its subscription or donation as it thinks fit, but no reference of the conditions to the Insurance Commissioners is prescribed.

The service rendered by the voluntary hospitals concerns the whole population, insured and uninsured, and the Council is apprehensive that their efficiency may be impaired, if they are constrained for financial reasons to accept the conditions laid down by "approved societies,

* The two reports forwarded to the Chancellor of the Exchequer were those of the Medical Aid Association's Committee of the General Medical Council published as Appendix XII and Appendix IX to the Minutes of the Council for 1893 and 1899 respectively.

subject to no review by the Insurance Commissioners or the Advisory Committee.

In Clause 12 (1) the "sickness disablement or maternity benefit" of an insured person without dependents, who is an inmate of a hospital supported by charity, is paid to the local Health Committee—not to the hospital in which the patient receives both maintenance and medical benefit. If the insured person is in a sanatorium the local Health Committee makes an "arrangement" with the institution to meet the cost: if the person is in a hospital it makes no such "arrangement." The result may be that a hospital whose funds are already depleted owing to the establishment of the Insurance Fund, may at the same time be called on to bear the expense of "benefits" which the Insurance Fund has undertaken to provide.

The Council is strongly of opinion that in the interest not of the insured alone, but of the whole community, which is largely indebted to the voluntary hospitals for the training of medical men and for the improvement of medical knowledge and skill, it is both equitable and prudent to minimize the danger to which these institutions are exposed under the present provisions of the Bill. They should therefore be included under a clause similar to Clause 15 (1), and if need be omitted from Clause 17 as it stands. The local Health Committees should, in other words, be empowered to make arrangements, to the satisfaction of the Insurance Commissioners, with hospitals for the treatment of insured persons therein. As regards the question of the inspection and approval of voluntary hospitals, which is alluded to in your reply, it may be pointed out that the administrators of the Hospital Sunday, King Edward, and other similar Funds throughout the country, take steps to satisfy themselves of the efficiency of the institutions to which they make grants, and that no well-conducted hospital objects to visitation and inspection by competent persons for such a purpose.

5. *Supply of Drugs, etc.*

On the assumption that the administration of "medical benefit" is to be in the hands of the local Health Committees, the purpose of the Council under this heading would be fulfilled if the first sentence of Clause 14 (1) were altered so as to read as follows:

> Every Committee shall also, subject to the approval of the Insurance Commissioners, make arrangements with duly qualified pharmacists for the supply of proper and sufficient drugs and medicines and surgical requisites to insured persons.

Seeing that injuries, accidents, and surgical disorders are as likely to disable the insured as affections requiring treatment by drugs alone, it seems obvious that provision should be made for the supply of the ordinary materials that are necessary in such cases. By entrusting the supply and dispensing of medicines, etc., to qualified pharmacists, who are subject to the provisions of the Pharmacy Acts, the maintenance of official standards of quality and purity would be insured.

6. *Consultations and Operations*, and 7, *Sickness Benefit during Lying-in.*

The points raised under these headings have already been dealt with above.

8. *Ireland.*

The Committee recognize that the conditions in Ireland differ in certain respects from those in England and Wales and in Scotland. But they are satisfied that the general considerations which they have ventured to lay before you in the foregoing paragraphs are no less applicable to Ireland than to the rest of the United Kingdom. In the case both of "deposit contributors" and of other insured persons, it is eminently desirable that a panel, consisting of practitioners who are willing to act, should be provided in Ireland as elsewhere, and that the medical service of the insured should be distinguished from the medical service under the Poor Law.

I am, Yours very faithfully,
DONALD MACALISTER,
President.

The following reply has been received from the Chancellor of the Exchequer:

Treasury Chambers, Whitehall, S.W.,
13th July, 1911.

Dear Sir,

I am desired by the Chancellor of the Exchequer to acknowledge the receipt of your letter of the 12th instant on behalf of the Committee of the General Medical Council, offering suggestions for the amendment of the National Insurance Bill, which shall receive careful consideration.

Yours faithfully,
R. G. HAWTREY.

Principal Sir Donald MacAlister, K.C.B.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AT a special meeting of the College on July 13th, the President, Sir Thomas Barlow, in the chair, the following report with appendix of the Committee appointed to consider the National Insurance Bill was adopted after prolonged discussion, and it was resolved to forward a copy of the appendix to the Chancellor of the Exchequer, along with a covering letter enclosing a copy of the report.

REPORT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

(1) *Contract Practice.*

The College views with great apprehension the prospect that all medical treatment of insured persons under this Bill should be based entirely upon the contract system, and passed the following resolution unanimously:

> The Royal College of Physicians is of opinion that a system of per capita contract practice among the industrial classes, if it should become universal, as appears to be contemplated throughout the working clauses of the National Insurance Bill, will lower the standard of medical practice, and would prove in this way injurious to the Public and to the Profession.

(2) *The representation of the medical profession upon boards administering the Act* (*Clauses 41, 42, 43*).

Alterations should be made providing that not less than one-fourth of the Insurance Commissioners shall be registered under the Medical Act; that the Profession shall be represented upon the Advisory Committee; and that the medical practitioners upon the panel in each district shall be represented upon the local Health Committee by not less than two registered practitioners.

(3) *The administration of medical and maternity benefits* (*Clauses 13, 14, 16, and 21*).

These benefits should be administered by the local Health Committees and not by approved societies.

(4) *Limitation of the income of those entitled to medical benefit* (*Clause 8*).

A clause should be added providing that:—No insured person shall be entitled to medical benefit who is in receipt of an income larger than that which shall appear just to the local Health Committee. (*Clause 1.*)

Also that *voluntary* contributors having an annual income larger than that which would entitle *employed* contributors employed otherwise than by manual labour to the receipt of medical benefits shall not receive such benefits.

(5) *The choice of doctor* (*Clause 14 (1)*).

The following clause should be substituted for the first part of the clause of the Bill dealing with the administration of medical benefits:

> Every local Health Committee shall for the purpose of administering medical benefits, make to the satisfaction of the Insurance Commissioners arrangements for each insured person to receive attendance and treatment from a registered medical practitioner, selected by the insured person from a list of registered medical practitioners approved by the local Health Committee, subject to the consent of the practitioner selected.
>
> The local panel of practitioners shall be open to all registered medical practitioners in the prescribed area who apply to be placed upon it.

(6) *The dispensing of medicines* (*Clause 14*).

Provision should be made:

> That the Insurance Commissioners shall sanction the dispensing of medicines by medical practitioners in towns, as well as in the country, when the circumstances are such as to make it expedient to do so;
>
> For the supply of proper surgical dressings and appliances;
>
> That steps should be taken to ensure that the drugs and medicines are of the standard required by the *British Pharmacopoeia*;
>
> That in all cases the dispensing of prescriptions is carried out by qualified persons;
>
> For the supply of drugs and appliances needed in case of emergency.

(7) *Special medical services* (*Clause 8*).

The existing Schedule for extra payments under the Poor Law is so extremely scanty that it hardly affords any guide for drawing up one for the remuneration of doctors under the Insurance Bill.

The only fees specifically allowed under the Poor Law are those for fractures and dislocations of the limbs, strangulated hernia, and amputations.

Upon consideration, the College is of opinion that the schedule for special medical services should be framed by the Advisory Committees and the local Health Committees, the varying nature of the conditions under which services requiring special payment would have to be performed rendering it difficult, if not impossible, to draw up a schedule which would be equally applicable to all districts. Operations, the treatment of cases requiring several visits in the twenty-four hours, examination of persons for certification as insane, consultations and similar special services, should obviously be specially paid for.

In whatever form payment is made it appears only just and right that in addition the distance that the medical man has to go should be considered, and that an allowance be made for each mile which has to be travelled, as is now done in the case of public vaccinators under the Poor Law.

(8) *Disease or disablement caused by misconduct* (*Clause 13* (*4*)).

These cases, which must be included in any scheme of State insurance, are not at the present time usually admitted to club benefits; it is necessary, therefore, that the general medical remuneration should be higher if they are to be included.

(9) *Sanatorium benefit.*

In regard to tuberculous disease the National Insurance Bill in its present form provides for only a limited class of cases, and that a large proportion cannot be dealt with by what is described as "sanatorium" treatment. The College is aware that the bill also provides for other than tuberculous patients, but the conditions sought for are specially applicable to the latter, which need therefore only be considered here. To make the bill effective provision would have to be made for the following classes of cases:

CLASS I.—CASES SUITABLE FOR "SANATORIUM TREATMENT" PROPER.

(*a*) *Closed Tuberculosis* in which bones or glands or internal organs are involved.

[Cases requiring surgical treatment would probably be temporarily received into hospitals.]

(*b*) *Early and incipient cases of pulmonary tuberculosis* capable of improvement or arrest.

(*c*) *Certain other cases* that would derive *temporary benefit* from hygienic instruction.

CLASS II.—UNDER "SANATORIUM BENEFITS" other arrangements should be included for such cases as are unsuitable for more formal institutions.

(*a*) Many *village cases* of *more advanced Pulmonary Tuberculosis* which might be dealt with in cheap shelters or in well-adapted shelter homes, and many cases *in towns* which would be unavoidably confined to their own rooms.

In either case properly secured sanitary, nursing, and medical supervision would be necessary, the continuance of benefits to depend on the continued obedience to the instructions of doctors and nurses.

(*b*) *In special homes for advanced cases*, or (*c*) in properly adapted portions of already existing institutions for advanced cases.

CLASS III.—SPECIAL OR GENERAL HOSPITALS will receive certain early and acute cases for purposes of diagnosis and treatment, previous to their being drafted into one or other of the above institutions.

If these recommendations are accepted it follows that "*sanatorium benefits*" should be enlarged to include the provision of shelters and other requirements for the hygienic treatment of cases of Pulmonary Tuberculosis outside any special Institution, and should also be extended to include *sick allowance* for cases treated in other places than in sanatoriums, provided certain hygienic conditions laid down are observed. The clauses of the bill concerned—namely, § 8. 1 (*b*); § 12. 1 and 2; § 13. 1 and § 15. 1—should be amended in the above sense.

§ 8. 1 (*b*) should be amended to include the treatment in Sanatoriums of cases suffering from *Tuberculosis likely to recover*, or from such *other diseases* as the Local Government Board with the approval of the Treasury may appoint; and the treatment of patients suffering from *advanced Pulmonary Tuberculosis* in other institutions and places (in this Act called Sanatorium Benefit).

The College draws attention to the great importance of keeping the medical practitioner throughout the country interested in and in educational touch with the clinical aspects, diagnosis, and treatment of tuberculous disease. With this object in view the College advises:

(i) That all *village group shelters* and all other *Sanatorium treatment*, except in the larger Institutions connected with counties, cities or large boroughs, should be *medically administered by Practitioners* selected from the district in which such Sanatoriums are situated or in which advanced cases included under Class II reside.

(ii) That the *clinical laboratories* of Health Departments, for diagnosis, etc., should be within touch of all local Institutions.

(iii) That *research* should be confined to a few special central hospitals, or to large sanatoriums attached to counties, cities, or boroughs.

(iv) That *information* with regard to the most recent advances in treatment, diagnosis, and pathology should be distributed from such research centre to each sanatorium, practitioner, or medical officer.

The College is of opinion that *special remuneration* will be required for the attendance of medical men upon these cases and for the additional district and institutional nurses requisite.

(10) *The powers and duties of local Health Committees* require to be more definitely described in order that they should not clash with (those of) the existing Sanitary Authorities (Clause 44).

APPENDIX.

The following are the actual Amendments of the Clauses of the National Insurance Bill recommended by the College:

PAGE 2.—Clause 1, after line 20, insert, "provided also that Voluntary Contributors having an annual income larger than that which would entitle Employed Contributors employed otherwise than by way of manual labour to the receipt of medical benefits, shall not receive such benefits."

PAGE 6.—Clause 8, line 4. In connexion with this portion of Clause 8 schedules for Special Medical Services not mentioned in the bill should be provided by the local Health Committees.

PAGE 13.—Clause 13, line 25, delete from "and" to "benefit," line 26.

The object of the omission of these words is to prevent an approved society administering medical benefits.

Line 29, the words "medical, maternity and" should be inserted before the word "sanatorium," and "s" added to "benefit."

PAGE 14.—Clause 13. Note to be appended to line 26.

Altered as in Section (8) of full Report.

PAGE 14.—Clause 1, line 32, to read as follows:

Every local Health Committee shall for the purpose of administering medical benefits, make to the satisfaction of the Insurance Commissioners, arrangements for each insured person to receive attendance and treatment from a registered Medical Practitioner selected by the insured person from a list of registered Medical Practitioners approved by the local Health Committee, subject to the consent of the Practitioner selected.

The local panel of Practitioners shall be open to all registered Medical Practitioners who apply to be placed upon it.

Line 37, omit the words "Society or" after "such."

PAGE 15.—Clause 14, line 3, omit the words "situate in a rural district."

Line 4, add "due provision being made as to drugs and appliances needed in cases of emergency."

The object of these alterations is to enable practitioners to dispense their own medicine, if it is from any cause desirable for them to do so, and to provide for emergencies.

PAGE 15.—Line 5 to 15. Omitted if Clause 14, Sections 1 and 2, are satisfactorily amended.

PAGE 16.—Clause 16, line 17, omit from "the" to the end of line 18.

PAGE 16.—Line 21, omit from "by" to end of line 22.

The object of the omission of these words is to prevent an approved Society administering maternity benefits.

PAGE 19.—Clause 21, line 8, after "benefits" insert the words "other than medical and maternity."

Line 28, the same words to be inserted after "benefits."

PAGE 35.—Clause 41, line 16, after "Commissioners" insert "of whom not less than one-fourth shall be registered under the Medical Act."

PAGE 36.—Clause 42, line 3, after "Societies" insert "of the medical profession."

This is to ensure the presence of registered Medical Practitioners on the Insurance Commission and the Advisory Committee.

PAGE 37.—Clause 43, line 11, for "duly qualified" read "registered."

Line 12, after "Practitioners" insert "nominated by the panel."

PAGE 37, Clause 44:—

The powers and duties of the local Health Committees require to be more definitely described in order that they should not clash with the existing Sanitary Authorities.

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE Royal College of Surgeons of Edinburgh has addressed to members of Parliament a circular letter, transmitting a memorandum on the National Insurance Bill. The circular letter and memorandum are as follows:

Letter Addressed to Members of Parliament.

Edinburgh, July 14th, 1911.

Sir,

NATIONAL INSURANCE BILL.

In the name and by the authority of the Royal College of Surgeons of Edinburgh we beg to submit the enclosed memorandum, for which we ask your careful consideration. It has been drawn up by a committee of the College, and we would most earnestly express the hope that you will be good enough to support any amendments which will give effect in the Bill to all or any of the recommendations referred to in the memorandum.

While this College has deeply at heart the interests of the whole body of medical men practising in the United Kingdom, and in particular those of its Fellows and Licentiates, the College has a very special association with the Edinburgh School of Medicine and with its great hospital. There is reason to fear that under the present Bill, should it become law, these various interests would be seriously affected, to the detriment of each of them, as well as to the detriment of the public.

The members of the medical profession are very willing to do all that they can to help the really poor, but they believe that this could be done better under a scheme which would not disturb the existing relations between the public and the profession.

We are, Sir,
Yours faithfully,
GEORGE A. BERRY,
President.
R. MCKENZIE JOHNSTON,
Secretary.

Royal College of Surgeons of Edinburgh.

MEMORANDUM ON NATIONAL INSURANCE BILL.

The Royal College of Surgeons has on two occasions pressed upon the Government the necessity for delay in proceeding with this Bill—a delay which should allow a full consideration of its terms, and which should also afford time for suitable representation to be made thereon. Time has but strengthened the belief that this delay is not merely advisable, but absolutely essential if grave injustice is not to be done to our profession as well as to those of the public for whose special benefit the Bill is designed.

It is not necessary to recapitulate the objections to the medical aspects of the measure, which have been so forcibly stated at innumerable meetings throughout the country, and with which the Committee are in general agreement.

There is a general consensus of opinion in the profession that the Bill as it at present stands requires at the least to be amended on the following lines:

1. That (*a*) the Insurance Commission, (*b*) the Advisory Committee, and (*c*) every local Health Committee should include an adequate representation of duly qualified medical practitioners.
2. That "medical benefit" and "maternity benefit" should be administered by the local Health Committees, and not by "approved societies."
3. That in respect of the administration of "medical benefit," and "maternity benefit," the arrangements with "duly qualified medical practitioners," made by the local Health Committees, should be such as to admit of free choice on the part of the insured person of the medical practitioner to be employed, subject to the consent of the medical practitioner selected.
4. That adequate remuneration should be assured to medical men for their services, due regard being given to the circumstances under which the work is performed, and the nature of it.
5. That in "maternity cases" attended by a midwife, the local Health Committee should be empowered to pay for the attendance of a medical practitioner should such attendance be called for by the midwife in accordance with the rules governing her practice.
6. That in respect of the provision to be made for "the supply of proper and sufficient drugs and medicines" under Clause 14 (2), the supply of proper surgical dressings and appliances should be included; and, further, that steps should be taken to insure that the drugs and medicines are of the standard required by the *British Pharmacopoeia*, and that the dispensing of prescriptions is carried out by qualified persons under the Pharmacy Acts.
7. That provision should be made in the Bill to limit "medical and maternity benefits" to persons whose income from all sources does not exceed an average of £2 per week.

To these a further stipulation should certainly be added—namely, that the medical member of the Insurance Commission should in no case hold office for longer than ten years, as otherwise he would tend to lose touch with the conditions of professional work.

It must be obvious that the medical benefits cannot be satisfactorily provided without the cordial co-operation of a large body of medical men. In spite of this admitted fact the Bill was drafted and presented to Parliament without any conference with those who are materially affected by it, and who have the widest knowledge of what is required. It has been assumed that a large body of medical men were ready to give up their professional freedom, and to accept a position regarding which they were never consulted, and the necessity for which has never been proved.

The profession is at a great disadvantage in suggesting amendments. It has too readily been assumed that the scheme for medical benefits proposed under the Bill is the one and only possible method by which an effective medical service can be provided. It is suggested that a better scheme might easily be evolved, in consultation with the medical profession—a scheme which would meet the reasonable views of that profession, while providing a real and satisfactory public service for those who genuinely require it.

The profession is practically unanimous in holding that the conditions above mentioned are essential to the present Bill as it stands, but it should be clearly understood that even if such emendations were accepted *in toto*, a large proportion of the profession would still regard the Bill as an oppressive measure interfering with the professional life and freedom of the medical practitioner in a way in which no other profession is interfered with. It is therefore desirable that, if the Bill as a whole cannot be delayed, *the medical benefit part should be withdrawn*. A well-matured scheme could then be produced next session, after consultation with the profession which has the widest knowledge of the conditions of life among the poor during sickness.

Signed for the Committee,
GEORGE A. BERRY, President.
R. MCKENZIE JOHNSTON, Secretary.

Edinburgh, July 12th, 1911.

Copies of the circular letter and memorandum have been sent to all Fellows and Licentiates of the College, with a letter from the President and Secretary asking co-operation in the following manner:

1. That you firmly resist the passing of the bill in its present form.
2. That you write to or interview your own member of Parliament on the same lines.
3. That you use your influence with any other members of Parliament with whom you are personally acquainted.

The letter, which is signed by the President and Secretary, concludes as follows:

It is only by standing firm and putting pressure upon Parliament in every possible manner that we can hope to check this legislative measure, which threatens to interfere with our professional freedom.

HOSPITALS.

General Views.

A MEETING of the representatives of charitable organizations was held at Denison House, Westminster, on July 17th, to consider the effect of the National Insurance Bill upon hospitals, homes, and dispensaries, and upon institutions in which industrial employment is provided for the treatment and training of beneficiaries. Lord SANDERSON, G.C.B., who presided, said that a good many of those present would have preferred a less ambitious and less indiscriminate measure, and one more carefully adapted to the classes in need of assistance.

Mr. ALFRED LYTTELTON, M.P., who moved the first resolution, said that it seemed obvious that while additional work would be laid upon the hospitals, their means for meeting it would be diminished. He moved that the bill should be amended so as to provide:

That hospitals and dispensaries and other charitable institutions or societies by which services are rendered to the assured should receive the actual cost of the expenditure they have incurred for such services, under conditions that will preserve the independence of the voluntary charitable institutions concerned.

Mr. E. W. MORRIS, Secretary of the London Hospital, who seconded the resolution, said that the bill would affect the hospitals disastrously. In the first place the hospitals would have to pay for the insurance of their employees who, nevertheless, if they became ill were treated in the hospital and paid their full salary all the time. This alone would cost the London Hospital from £850 to £900 a year. It was, of course, on the income side that the hospitals would suffer most, since it was difficult to see why a man should subscribe money for doing work which the State was going to do. Those who knew most of hospitals would be most desirous that they should not be nationalized.

Mr. W. WEST, Chairman of St. George's Hospital, said that he calculated that the voluntary hospitals would be called upon to pay between £20,000 and £30,000 a year for the insurance of their employees who were already treated in the hospital. He added that it would, in his opinion, be a national calamity if the voluntary system were done away with.

Mr. C. W. THIES, Secretary of the Royal Free Hospital, believed that the effect of the bill upon some of the provincial hospitals would be still more serious than upon those in London. It would be impossible for the workmen in the Midlands and the North, if they had to pay as much as 4d. a week under the bill, to continue to give 2d. or 3d. to the hospitals.

Sir WILLIAM CHANCE, Chairman of the Central Poor Law Conference, said that the existing homes for the feeble-minded could not be carried on under the bill. A home with 100 inmates would be taxed to the extent of £150 a year.

After Mr. PERCY GATES had said that the bill, if passed in its present form, would be a great disaster for the provident dispensaries, the resolution was carried unanimously.

We have received from Sir Henry Burdett a letter, in the course of which he states that a study of the bill in relation to financial questions has led him to the opinion that if the bill be passed as it stands, the whole hospital system as it exists to-day may be crippled and deprived of much of its usefulness without the creation of any means to take its place. In an article reprinted from the *Hospital* of July 15th, which Sir Henry Burdett encloses, it is urged that clauses 8 and 15 require amendment, and that clause 17 should be deleted, and provision made for the payment *pro rata* by the State or local authority for the cost of any work which the passing of the Insurance Bill may cast upon the voluntary hospitals. The article continues as follows:

Clause 17 should be deleted because it is quite certain that the managers of no well-managed voluntary hospital can accept subscriptions or donations from an approved society, for that would mean that for a relatively insignificant payment its members would consider themselves entitled to demand and have all the hospital care without further payment each year, which they might require. . . .

Some hospital managers seem to fear that a *pro rata* payment for the work actually required of the voluntary hospital by the State will injure the voluntary principle. . . . If the voluntary hospitals were to consent to accept doles or grants from the State—that is to say, a definite sum per annum without any regard to the work which they might do directly for the State—then their independence would undoubtedly be affected adversely. . . . On the other hand, if the managers of all the hospitals combine in defence of their rights at this important crisis in their history, and demand from the Government a *pro rata* payment for every insured patient for whom the State requires hospital care, the voluntary principle will be in no sense injured, because a rearrangement of the existing buildings and a strict classification of the patients will effectually prevent any such danger.

Metropolitan Hospital Saturday Fund.

The Board of Delegates of the Hospital Saturday Fund has issued a memorandum stating that between 80 and 90 per cent. of the Fund's income is derived from classes who would be insured under the bill, while the remainder is contributed by firms whose employees receive benefits, yet the scheme of the bill would, particularly at the outset, cover the work done by the Fund to a very small extent only. The board therefore asks the Chancellor of the Exchequer to provide that contributions should be made to the hospitals, either by subscriptions from the approved societies, or by payments for work done on behalf of the insured persons, in such a way that the voluntary system is not interfered with. With regard to dispensaries, the board suggested that grants similar to those now given by the Fund should be made, and that local Health Committees should be empowered to make minimum grants to the existing sanatoriums and other institutions for consumptives.

London Hospital.

At a special meeting of the medical staff of the London Hospital, held on July 14th, the extent to which the proposed bill would affect the profession as a whole, and especially men in general practice, was considered, and the staff unanimously agreed to support the memorial of the British Medical Association. A statement to this effect has been signed on behalf of the staff by the senior physician (Dr. Francis Warner), the senior surgeon (Sir Frederic Eve), and the chairman of the council (Sir Bertrand Dawson).

The effect that the bill was likely to have on hospitals was also considered, and the staff adopted resolutions which they have requested the chairman of the hospital to bring to the notice of the Chancellor of the Exchequer.

Irish Hospitals.

The Committee of the Cork Hospital has passed the following resolution:

That this meeting is of opinion that joint action on the part of the hospitals of Ireland should be taken immediately to bring under the notice of the Chancellor of the Exchequer the injury likely to be inflicted on Irish hospitals unless the provisions of the Insurance Bill be modified as regards these institutions, and that we express our willingness to act with any central body in Ireland which is prepared to take this subject up.

The resolution has been brought before the boards of governors of several of the Dublin hospitals, and steps are being taken to appoint a joint hospitals committee to consider the bill.

King Edward's Hospital Fund for London.

The Executive Committee of King Edward's Hospital Fund for London recently appointed a subcommittee to inquire into the probable effect of the National Insurance Bill upon the hospitals receiving grants from the Fund. The subcommittee ascertained the views of thirty-two of

the principal hospitals in London, and drew up a report thereon. Upon receiving this report the Executive Committee agreed upon the following statement, which represents an abstract of the views of these hospitals or their secretaries. The divergent nature of the replies made it evident that any statement as to the probable effect of the bill must be largely speculative.

Statement.

As the bill now stands the insurance scheme does not apply to certain classes, nor, in the earlier years of its operation, to the families and dependents of the insured. One of the largest of the hospitals estimates that between 60 per cent. and 70 per cent. of the persons now treated in that hospital will be unaffected by the bill. It further appears from the replies that the balance of opinion amongst these hospitals inclines in the following directions:

1. That as regards the number of in-patients it is anticipated that the effect, if any, will be rather to increase the total numbers, even though the proportion of the tuberculous cases may be eventually reduced.
2. That as regards out-patients it is anticipated that a different class of out-patient may have to be dealt with, and that the effect on numbers, if any, will be towards reduction.
3. That there is widespread apprehension that the contributions from employers and employed will be reduced.
4. That Clause 15, "Administration of sanatorium benefit," will not, it is thought, have any considerable effect in the relief of general hospitals.
5. That Clause 17, "Power to approved societies to subscribe to hospitals," etc., is not thought likely to operate beneficially if such contribution is optional, and, if compulsory, there is some apprehension lest this might lead to intervention in management.
6. That while complete statistics are not available as to the numbers of members of friendly societies who at present enjoy the benefits of hospital treatment, it appears that a considerable proportion of adult male patients at these hospitals are members of friendly societies or clubs; but that little contribution to these hospitals is at present received from such societies.

The Executive Committee would point out that while under Clause 8, as amended, the bill purports to confer on insured persons full medical treatment and attendance, including medicines and surgical appliances, the only means for supplying such benefits in non-tuberculous cases—apart from optional contributions of approved societies to hospitals and charitable institutions (Clause 17)—appears to be by arrangements made with individual medical practitioners—(Clause 14 (1)).

The Executive Committee, having given due regard to the replies received from the hospitals, shares the opinion generally held that under such arrangements the utilization of hospitals for more serious cases is not likely to diminish, and may, not improbably, increase, with corresponding effect on expenditure; and that the bill in its present form will tend rather to the reduction than to the augmentation of the hospital's revenue.

LONDON COUNTY COUNCIL.

Adjourned Discussion.

DISCUSSION of the reports summarized in the SUPPLEMENTS to the BRITISH MEDICAL JOURNAL, July 8th, p. 59, and July 15th, p. 115, dealing with the probable effects of the National Insurance Bill upon local administration in London, was opened at a special meeting of the London County Council on July 17th. Very little progress was made, however, opposing parties on the Council ever since the matter was introduced having displayed more anxiety to manœuvre for tactical advantages in a political sense than to devote to the local government aspects of the bill the attention which their importance undoubtedly merits. When the reports of the committees were first introduced on July 1st, an attempt was made to pledge the Council to warm support of the principles of the bill, whereupon those who did not feel called upon to commit themselves to this extent talked out the motion. The next week, when the attempt was renewed, the adjournment of the debate was moved and carried. Those who wanted the Council to approve of the principles of the bill retorted by requisitioning a special meeting under standing orders. By way of retaliating on them, however, the adjournment of the special meeting was carried just after a two-hours' discussion of the general principles of the bill had concluded, and when the Council was coming to close grips with the real question affecting it, namely, the interposition in the scheme of local government of a new authority for public health. We apologize for intruding these petty squabbles upon the notice of our readers, but incidents of this kind are responsible for much delay in the settlement of important questions coming before the London County Council, probably the most vehemently partisan municipal body in the country.

The contending parties having at length found agreement by deciding to approve of the "general objects" instead of the "general principles" of the bill, Mr. R. C. K. ENSOR moved an amendment directed to securing that the powers and duties of the local Health Committee for London should be entrusted to the Council, acting through a committee, provided that on the committee representation should be given to approved societies and deposit contributors, so, however, that members of the Council should form a majority, and that the management and maintenance, as well as the provision, of sanatoriums should be entrusted to the Council.

Mr. Ensor said that the Chancellor of the Exchequer, when approached on June 27th by the local councils of England, explained that it was impossible to make the councils the authorities for administering the bill because the money was not raised from the rates. It would be national money, or money obtained from employers or employed, and as there was said to be no rate contribution (though the statement seemed open to doubt) the councils were held to be not entitled to administer. In answer to that argument it might be pointed out that the council at present administered the great sum of money voted nationally for old age pensions. That work was given to the Council not because it contributed but because it was felt to be desirable that the Act should be administered locally. By introducing the principle of co-option any outside assistance necessary could be secured. The very system he described was applied by the bill to another part of the kingdom. Mr. Lloyd George had recognized as fit bodies to administer the Act the whole of the Irish county councils. Why should not English county councils have the same power? The great objection to having an independent authority set up was that the officials of the new and of existing bodies were brought into no sort of relation. To set up large rival staffs of officials, with some special inducements provided by the bill to set them quarrelling, was very undesirable. Under the bill the medical officer of health for London and the medical officers of the borough councils were placed in no official relation with the proposed local Health Committee. There was an extraordinary provision by which the medical officer of health for the County Council might attend meetings of the local Health Committee if asked to do so, and might give the committee the benefit of his knowledge, but it was quite clear he could not undertake any investigation or set in operation the Council's public health machinery without the leave of the Council. Unless the local Health Committee became a committee of the Council, it was quite impossible for the Council's public health staff to act as the servants of the committee. If the new committee was to perform well the work that the Chancellor placed upon it—much of it calling for considerable activity—it was clear that the committee would require a staff which would do identically the same work as was done by the Council's Public Health Committee. That identity was even more marked in London because the County Council stood in an advisory relation to the sanitary authorities, which was just the position the new committee was intended to hold. Such an arrangement must lead to overlapping. Again, local authorities were to provide sanatoriums, to administer sanatorium benefit, to decide who among 500,000 or 600,000 people were to be sent to the sanatoriums, but who was to manage the sanatoriums was left absolutely unsettled. It seemed clear they must be managed by the authority that provided them, and that authority must have the right to say who was and who was not to go to them. The parallel case of the Asylums Committee, which managed the London County Council asylums, and the boards of guardians, which sent patients to them, had this practical difference: every lunatic that the guardians were responsible for was entitled to be sent to the asylums maintained by the Council. No one suggested, however, that sufficient sanatoriums were to be provided so that all the consumptives might be sent to

them at once. They must be selected and could only be selected on certain principles, and the medical staff which settled those principles ought to be the medical staff which managed the sanatoriums. Were early cases to be concentrated upon with a view to recovery, or were late cases, with a view to segregation of particularly dangerous sources of infection? These were two distinct policies, and to have one authority deciding the question and another administering the sanatoriums, where alone the knowledge was obtainable on which the decision ought to be taken, was anomalous. He looked forward to seeing the County Council administer this work, bringing to bear all the public health experience it had at its disposal.

At this stage the adjournment of the debate was moved and carried, and the Council rose.

ASSOCIATION TO ADVOCATE NATIONAL CONTRIBUTORY INSURANCE.

THE Association to Advocate National Contributory Insurance, which has an influential committee with Lord Avebury as its president and Sir Edward Brabrook as chairman, has issued a memorandum advocating such drastic alterations of the National Insurance Bill as would completely alter its character. The principal objections urged against the Government scheme are that the approved friendly societies would be mere Government agencies, while those societies that were not approved would be doomed to extinction; that the medical profession would be dependent on the officials of the approved societies; that the deposit contributors would not have insurance in the true sense; and that women and several classes of workers are treated inequitably. It is also stated that the annual cost of the disablement benefit will probably be three times as much as is provided in the actuarial estimate, and that various other expenses have not been sufficiently allowed for, while malingering is likely to be the cause of great loss. Strong comments are made on the bureaucratic powers of the Commissioners, and it is pointed out that no scheme of insurance providing for temporary sickness and permanent disablement by the same machinery has hitherto existed in any country, while the separation of the two which exists in Germany is still maintained by the recent Consolidation Act. It is claimed that the German invalidity insurance has worked satisfactorily, but there have been many complaints about the sickness insurance, owing chiefly to two causes—first, friction with the medical profession, and secondly, the fact that the numerous appointments are determined to a large extent by political considerations, the funds being almost entirely in the hands of the Social Democratic Party, while the attempt in the Consolidation Act to prevent this abuse is likely to give rise to great difficulties. It is admitted that after the introduction of old age pensions, State-supported invalidity insurance is almost a necessity, as it is illogical to provide for permanent infirmity due to old age and to leave untouched permanent infirmity due to other causes. At the same time there is not the same necessity to provide compulsorily for sickness of a temporary character, provision for which could better be made by the friendly societies. A scheme for State invalidity insurance alone is then outlined, and it is claimed that if provision for temporary sickness were omitted from the State scheme and left to the friendly societies, the following beneficial results would ensue:

(1) The friendly societies would remain as they are with improved financial position. (2) No difficulty would arise as regards the medical profession. (3) All workers would be secured against disablement, not merely those who could find admittance to an approved society, and all on equitable terms. (4) Every insured worker would get an old age pension at 70 without any disqualification. (5) The cost to the State would be reduced. (6) The scheme would be more easily introduced, and the machinery less complicated; and (7) The danger of malingering would be lessened, as temporary sickness can be more easily simulated than permanent disablement.

With regard to the second of these points, relating to the medical profession, it is of course obvious that if medical benefit were left out of the National Insurance Bill entirely there would be less difficulty between the State and the profession, but the difficulties between the friendly societies and the profession would still remain, and probably in an accentuated form. The profession has become so thoroughly dissatisfied with the character of the medical service under the friendly societies that it is almost doubtful whether even the present friendly society medical service, much less a service on a greatly extended scale, will ever again be workable; and in any case the profession will infinitely prefer to give medical attendance under State control rather than under that of the friendly societies under any conceivable conditions. This most important fact seems to have been entirely overlooked by the Association to Advocate National Contributory Insurance.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE Council of the London and Counties Medical Protection Society has issued a circular letter to its members, embodying a request that the recipient should use his influence with his parliamentary representative to secure for the medical profession the following points:

1. That medical attendance be limited to compulsory contributors whose total income does not exceed £2 a week.
2. That the appointment and control of the medical officers and the administration of medical benefits be exclusively in the hands of the local Health Committee.
3. That two-fifths of the Insurance Commissioners shall be medical men.
4. That the principle be adopted of a wide panel of medical men in each district, including all registered practitioners willing to serve, from whom, subject to the consent of the practitioners selected, the insured person may choose his medical adviser.
5. That this council are strongly of the opinion that contract work is disadvantageous to the public and unfair to the medical profession; but should a Health Committee under the bill decide on the adoption of a contract rate for a county the capitation fee should in no case be less than 8s., to include only ordinary medical attendance.
6. That Clause 42 of the National Insurance Bill be altered so as to include in the Advisory Committee medical men representing those employed under the Act.

A further circular letter containing a copy of the above six paragraphs has been forwarded also to members of Parliament.

NATIONAL INSURANCE IN GERMANY.

AT the joint meeting of the Aerzte-Vereins-Bund and the Leipziger Verband, held at Stuttgart on June 22nd and 24th, there was a very animated discussion of the amending Act of the German National Insurance law, chiefly centreing around the raising of the wage limit from £100 to £125 per annum, which is regarded by the medical profession in Germany as the most serious blow to their interests, threatening in some districts to put an end to private practice. It is interesting, however, to see that our German colleagues recognize that the crucial point is the arrangements that may be made with the local committees, and the principal resolution passed at the meeting was the following:

> That the meeting instructs the Business Committee to establish a central contract office for the revision of all insurance doctors (*Kassenarzt*) contracts,

and an urgent appeal was made to all German doctors to abstain in future from concluding any direct contracts with the committee.

They see that the altered law terminates all existing contracts, and they are ready to seize on this opportunity to improve their position. They are no longer a disunited feeble body, but one strong enough to carry out a general strike should their reasonable demands be resisted. It is an interesting object lesson, and should make our legislators pause before they imitate the German Parliament by trying to secure votes at the expense of the medical profession.

E. H. writes:

I fancy that, in common with myself, many members of the profession have been under the delusion that the German Imperial Insurance scheme has been a success. If so, let me direct their attention to a letter in the *Spectator* of June 17th, and a review in that of July 1st, of a pamphlet by Geheimrath v. Friedensburg, late President of the chief Imperial Insurance Commission. They ought to be read by every one who has a vote. They are the most damning indictment of

the whole system from one who has had the most extensive experience of it. Wholesale demoralization, pauperization, malingering, litigation, and fraud have been its chief results, in his opinion. It is difficult to exaggerate the gravity of all Herr Friedensburg alleges, but those of us who have had experience of cases under the Workmen's Compensation Act will easily understand what is now likely to happen on a much larger scale. The principle of compulsory insurance is admirable, but the difficulties of keeping it as a purely business matter, and not let it degenerate into a charity when the State steps in, are incalculable. In these matters, when the State comes in at the door responsibility flies out of the window—that at least seems to have been the experience in Germany, though Bismarck had a clean sheet to write on.

IRELAND.

REPORT BY THE NATIONALIST PARTY.

AT a meeting of the Irish Nationalist Party held at the House of Commons on July 12th under the presidency of Mr. J. REDMOND, when forty-eight members were present, the following report of a committee appointed to consider the National Insurance Bill was submitted:

1. That there should be separate Irish Insurance Commissioners, involving separate administration and a separate Irish Insurance Fund.

2. That as regards the whole of Ireland, medical benefits should be eliminated from the bill.

[The reason for this proposal is, of course, obvious—namely, that there is already in Ireland a system of medical relief for the poor which is, generally speaking, efficient, and is paid for chiefly out of the rates.]

3. That, as the greater part of the workers in Ireland who are covered by the bill come under Class 1 of Hazard, that is to say, are the class amongst whom the least sickness prevails, a smaller contribution by employers and employed ought to suffice for the benefits provided by the bill.

4. That it is hardly desirable that home industries should not have any burden placed upon them, and, accordingly, that home workers should be excluded from the operation of the bill.

5. That migratory labourers, such as small farmers, who go from the West of Ireland to England and Scotland for the harvest, and casual labourers, should be also excluded from the operation of the bill in Ireland.

6. That no persons working for their parents or other persons liable to maintain them should be compulsorily insurable.

[This is an extension of the application of a principle recognized by the bill already, and is considered just and expedient in the case of all sons and daughters and other relatives who work for their parents or persons liable to maintain them, and who receive no wages.]

7. That, as an alternative to the exclusion of domestic servants, the Committee consider that the proposal that has been suggested for domestic servants in Great Britain might be applied to Ireland. In this proposal domestic servants will be insured at a greatly reduced rate for all purposes except sickness benefit, and the employer will be under contract to pay the wages during temporary sickness.

8. That the Health Committees proposed to be constituted should consist of representatives of the county councils, including the councils of county boroughs of the insured members, of the representatives of the local sanitary authorities, of the approved societies, and of other persons whom the county councils might consider proper to put upon these bodies.

9. That the *minimum* limit of membership for an approved society in Ireland should be fixed at 500.

10. That refuge homes, known in Ireland mostly as Magdalen asylums, should be exempted.

11. That the scheme of unemployment insurance should be limited in its operation in Ireland to the county boroughs, with power to the workers in the specified trades resident in any urban district or township to apply to the Insurance Commissioners, through the urban council or town commissioners of the district, to have the district brought under the scheme.

12. That special provision should be introduced in the Act in the interest of small industries.

13. That the savings effected by all the foregoing changes should be credited to the Irish Insurance Fund.

If these changes are made there will be such a reduction in the rate of contribution, both of employers and employed, as will make the scheme one which, as a whole, will confer great benefits both on employer and employed.

In addition to the points mentioned there are several others, especially in regard to friendly societies and trades bodies, which have come under consideration, and with which we intend to deal.

The Committee unanimously adopted the following resolution:

> That we adopt the report of the Committee, and request the Committee to continue its labours and to proceed forthwith to draft amendments on the lines indicated in the report.

MEDICAL GRADUATES OF DUBLIN UNIVERSITY.

At the recent meeting of medical graduates of Dublin University, a committee was appointed to draw up a statement making recommendations for submission to members of Parliament in reference to the National Insurance Bill. This committee has now issued a document, in which emphasis is laid in the first place on the fact that the meeting of medical graduates condemned the medical clauses of the bill as unnecessary in and unsuitable to the conditions of Ireland. The reasons for this decision are summarized under three headings:

1. In Ireland the principle of contract practice has never been accepted, and the graduates of Dublin University now object to having a system of which they do not approve forced on them and on their patients.
2. At least one-seventh of the entire population of Ireland already receives medical relief under the Poor Law system, and in consequence the need for medical benefits in Ireland is small.
3. The class of people eligible to insure in Ireland would be so large in proportion to the entire population that private practice would be so reduced as to render it impossible in thinly-populated districts for private practitioners to make a living.

Recognizing, however, that in spite of the protest of the meeting the bill may be applied to the United Kingdom as a whole, the Committee, as directed, deemed the amendments considered essential to permit of any possibility of successful working of the Act.

The following suggestions are made:

1. *Income Limit for those Entitled to Medical Benefit.*—A total income limit of £2 a week in England, and in Ireland £1 10s. a week in the large towns and £1 a week in the country, is suggested. The town limit is suggested for Ireland owing to the fact that wages are lower and living cheaper than in England. A wage limit of £160 would admit the great bulk of the middle class of employed persons in Irish country towns, and would therefore make private practice practically disappear.

2. *Free choice* of doctor by patient, subject to consent of the doctor to act, is recommended in order to maintain the satisfactory relations that at present exist between doctor and patient. If free choice is not permitted the bill threatens immediate ruin in Ireland to those practitioners who are not selected for work under the bill.

3. Medical and maternity benefits to be administered by local Health Committees. In Ireland there is little experience of friendly societies, but here as well as in England there has been profound dissatisfaction with their working. They are unable to appreciate the care required by sick people, or the education and skill required to give that care, and are only anxious to cut rates as low as possible.

4. *Medical remuneration* to be what the profession considers adequate. This is stated to be necessary to protect individual men from being crushed by being dealt with singly, and to anticipate the possibility of "blacklegs" accepting unremunerative employment to the great detriment of those entitled to receive medical benefits; mileage allowances, allowances for consultations, operations, etc., are considered necessary, and it is urged that rates and fees should be subject to adjustment from time to time.

5. *Adequate medical representation* among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committee is urged, and, further, that medical members of committees should have the standing of representatives of the profession of the district, and not of expert advisers to the committees. Medical men accepting employment under the bill should be eligible to act on the local Health Committees. Local medical committees should have statutory recognition.

6. It is pointed out that at present the voluntary hospitals receive aid both from employers and employed, and that when these classes are directly taxed for medical relief they are unlikely to continue to subscribe to the hospitals. It is urged, in consequence, that when insured persons are sent to voluntary hospitals for treatment the cost of their maintenance should be borne by the State. The hospitals have no objection to reasonable inspection. At present inspection and supervision by such funds as the King Edward Fund and the Hospital Sunday Fund is regularly carried out.

7. By Section 50, Subsection 6, the power is given to local Health Committees in Ireland to make use of the services of "officers of local authorities in connexion with the administration of benefits administered by the com-

mittees, and those officers shall perform the duties so assigned to them, and shall in respect thereof be entitled to the remuneration fixed by the rules." The following subsection (7) imposes on "the medical officer of health of each dispensary district" (that is, the dispensary medical officer) the duty of attending "deposit contributors," for "such yearly sum as may be prescribed."

In neither case has a medical officer any voice in fixing his remuneration, or in bargaining therefor. In one case he is compelled directly by the Act to perform certain duties; in the other it is in the power of the Health Committee to compel him. If these clauses remain, it would be impossible for private practitioners to bargain for work under the Act, as the Health Committees would have mandatory powers over dispensary medical officers, who would have no option except to resign their present appointments or accept employment at any rates the Health Committees might choose. There seems to be no reason why compulsory powers should be conferred in Ireland which are not to be conferred in England.

GUARDIANS' VIEW OF EFFECT ON POOR LAW SYSTEM.

At the last weekly meeting of the North Dublin Board of Guardians the following resolution was proposed and seconded:

> That in the event of the compulsory Insurance Bill being applied to Ireland, and thereby securing at the expense of the ratepayers (employed and employers) another medical service, medicines, etc., the board believes that the number of doctors employed under the Poor Law system can be greatly reduced. With a view to carrying out this policy of preventing overlapping and wasteful expenditure, the position vacated by Dr. McAuley's promotion be filled temporarily for one year, such temporary position to be advertised for. Conditions as to salary, duties, etc., to be as per scale and regulations already in existence in regard to permanent dispensary doctors in our employment. And that any decision at variance with this recommendation be rescinded.

After some discussion the further consideration of the resolution was postponed for three weeks, but its introduction shows the attitude which boards of guardians may be inclined to adopt if the Insurance Bill is passed. Dispensary medical officers should take careful note of the resolution.

MEETINGS OF THE PROFESSION.

DUBLIN.

A GENERAL meeting of the Dublin Division of the British Medical Association was held at the Royal College of Physicians of Ireland on July 12th, Dr. O'CARROLL in the chair.

The HONORARY SECRETARY made a statement as to the information with regard to the proceedings of the State Sickness Insurance Committee and other matters touching the National Insurance Bill which had been received from the Medical Secretary of the British Medical Association.

After a prolonged discussion the following resolutions, proposed by Dr. R. J. ROWLETTE, and seconded by Dr. DELAHOYDE, were carried:

> That the Dublin Division of the Leinster Branch of the British Medical Association, representing the medical profession in Dublin, request the members of Parliament for the City, County, and University of Dublin, to press for amendment of the National Insurance Bill on the following lines which have been agreed upon by the Conjoint Committee of the British Medical Association and Irish Medical Association, namely:
>
> 1. A total income limit of £2 a week for those entitled to medical benefit.
> 2. Free choice of doctor by patient, subject to consent of doctor to act.
> 3. Medical and maternity benefits to be administered by local Health Committees and not by friendly societies.
> 4. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee.
> 5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.
> 6. (*a*) That at least one-fourth of the committee be medical practitioners, and statutory recognition of a local Medical Committee representing the profession in the district of each Health Committee; and (*b*) that a Special Insurance Commission by instituted for Ireland.
>
> That this resolution be sent to the members of Parliament for the City, County, and University of Dublin.

EDINBURGH.

A COMBINED meeting of all the Divisions of the Edinburgh Branch of the British Medical Association was held on Saturday afternoon, July 15th, in the hall of the Students' Union, Dr. HAMILTON (Hawick) presiding. The meeting was called for the purpose of receiving the special report of the Central Council on the National Insurance Bill. A number of apologies for absence were read, including one from Sir Robert Finlay, M.P., who wrote that he entirely agreed with the attitude of the Association, and would do all in his power to have the necessary amendments carried. The CHAIRMAN said the principle of the bill had been accepted by the Association, and by all parties in the State—but there had been great disappointment with its provisions. There was a matter which seemed to be misunderstood by the public—that was that the profession were unanimous in their determination to stand shoulder to shoulder in every honourable cause that was likely to secure to them justice. There would be no strike as generally understood, but on the bill becoming law without their just claims being conceded, then they would continue to do their work as they were doing it now. They would do no work under the bill at bill rates—they would charge for certificates of inability to work and everything else on their usual terms, and things would go on with them as if no bill existed. The public would pay the Government for medical attendance, which they would only receive by paying doctors as well. He trusted the public clearly appreciated what their position and what the doctors' position would be under those conditions. Dr. DEWAR (Edinburgh) reported that the guarantee fund for the district amounted to £4,067.

Dr. PLAYFAIR (Edinburgh) moved the following resolution, which was carried:

> That this meeting of medical practitioners residing in Edinburgh Branch area heartily approve and support the policy of the British Medical Association on the National Insurance Bill, and hope that every practitioner will at once write to his or her parliamentary representative expressing the determination not to accept office under the bill unless its provisions are amended to the satisfaction of the Association, and that a large guarantee fund be locally raised to meet any contingency which may arise.

The following question, which has been submitted by the Council to the Divisions, was placed before the meeting:

> Is the Division of opinion that an amendment of the bill is desirable which would make it possible for the medical benefits to take the form of a contribution from the Insurance Fund to the cost of medical attendance given to an insured person under a private arrangement entered into by him with a medical practitioner, upon such terms as may be agreed upon between them?

Approval of the question was moved, but after discussion the previous question was moved and adopted unanimously.

ABERDEEN.

A MEETING of the Aberdeen Division was held in the Medico-Chirurgical Society's Hall, 29, King Street, on Thursday, July 6th, at 8.30 p.m. Dr. JOHN GORDON, President, occupied the chair, and there was a large attendance of members. The minutes of the last meeting were read and approved of. Thereafter the meeting considered the amendments to the National Insurance Bill desired by the British Medical Association. These were generally approved by the meeting. Strong support was indicated for persistence in the retention of the income limit clause, and Dr. WESTLAND moved and Dr. ANNE MERCER WATSON seconded the following resolution:

> That this Division of the Association, having been made aware of the concessions of the Chancellor of the Exchequer in relation to medical benefits, desires to reiterate its firm adhesion to the resolutions of the British Medical Association.

This was passed unanimously. The first alternative amendment of Clause 43 was unanimously adopted. The question of a defence fund was considered and a deputation appointed to interview local members of Parliament.

The SECRETARIES read a report on the number of signatures received to the undertaking and memorial sent out by the Association, in which it was stated, in the area covered by the Division, only ten medical men in practice had failed to return Circular A signed, and as none of these had written refusing to sign, it was expected that they would all come into line soon.

BROMLEY.

A MEETING of the Bromley Division was held at the Public Health Offices, Beckenham, on Monday, July 17th, at 8.30 p.m.; Dr. SCOTT, President-elect of the South-Eastern Branch, occupied the chair. The following members and guests were present: Messrs. H. J. Ilott, J. Gray Duncanson, Cyril Ilott, Clements, Daukes, Stewart Adkins, Grant-Wilson, Cogswell, Scott, Douse, St. John, Lewis, J. J. Redfern (Croydon Division), C. H. Willock (Honorary Secretary, Croydon Division), P. N. Randall, Strong, Giddings, Trapnell, and Tennyson Smith (Honorary Secretary).

Letters of apology were received from Dr. Stilwell (Chairman of Division), Drs. Yolland, Bailey, and Price, who were unable to attend the meeting.

Dr. TENNYSON SMITH, the Representative of the Division, at the request of the CHAIRMAN, gave a short summary of the proceedings of the Special Representative Meetings and of the policy of the Association regarding the National Insurance Bill, which policy he felt sure the members of the Division would adhere to. He also spoke regarding the conference that the deputation sent by the Divisions of Bromley, Dartford, and Sevenoaks had had with local and university members of Parliament, of the local guarantee defence fund, and brought before the notice of the members the special report of Council regarding parliamentary action with respect to cardinal points of policy. He explained the new suggested subsection to Clause 14, and hoped that that subsection would receive most careful consideration, as it departed in many ways from cardinal point No. 1 of the policy of the Association. He added that he hoped that the proposed subsection would not be approved by the Division.

The PRESIDENT-ELECT proposed, Dr. ILOTT seconded, and it was unanimously carried:

That the Division is of opinion that such an amendment of the bill as suggested in paragraph 7 of the special report is not desirable, and that the Representative be instructed to vote against it.

Drs. WILLOCK, DUNCANSON, and REDFERN all spoke against the amendment.

It was proposed by Dr. TENNYSON SMITH, seconded by Dr. ILOTT, and carried unanimously:

That, in the opinion of this Division, the principle laid down in cardinal point No. 1 of the policy of the Association, as determined at the Special Representative Meeting, be not departed from.

Proposed by the CHAIRMAN, seconded by Dr. LEWIS, and carried unanimously:

That this meeting of the Bromley Division, having heard the proposals of the Representative Body, cordially supports them, and, further, in the event of the Government not incorporating these principles in their bill, the members do pledge themselves jointly and severally not to take any office under the Act.

The HONORARY SECRETARY informed the meeting that 4 per cent of the members of the profession residing within the area of the Division had signed the "Undering." He proposed, Dr. GIDDINGS seconded, and it was carried:

That the number of members of the profession resident and practising within the area of the Division, and the names and addresses of those who had signed the undertaking, be published in the local lay press.

The Local Defence Guarantee Fund was explained by the CHAIRMAN, who proposed that a fund be at once started in the Division. Dr. TENNYSON SMITH seconded. Carried unanimously. It was proposed by the HONORARY SECRETARY and seconded by Dr. LEWIS that Dr. Scott be appointed honorary secretary and treasurer of the fund, which was carried unanimously.

The CHAIRMAN proposed a vote of thanks to Drs. Willock and Redfern, who had so kindly come over from Croydon to attend the meeting.

A vote of thanks to Dr. Scott for occupying the chair terminated the meeting.

STREATHAM.

AT a meeting of medical men resident in the ward of Streatham held on June 16th, the following resolutions were unanimously passed:

1. An income limit of £2 a week, or such less sum as may be determined by the local Medical Committee, for those entitled to medical benefit.
2. Free choice of doctor by patient, subject to consent of doctor to act.
3. Medical and maternity benefits to be administered by local Health Committees, and not by friendly societies.
4. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed, and other conditions of service.
6. Adequate medical representation by general practitioners in active practice among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committees, and statutory recognition of a local Medical Committee representative of the profession practising in the district of each Health Committee.

Since the above meeting the following resolution has been signed by sixty-four registered medical practitioners resident in the ward of Streatham; only one has refused to sign:

Resolution.

We, the medical practitioners in the ward of Streatham, do solemnly declare that we will accept no appointment and no terms under the National Insurance Bill without the consent either of the local Medical Committee or of the British Medical Association as represented by the Divisional Committee, the Branch Council, or a Central Committee specially appointed to adjudicate in such matters.

WATFORD AND HARROW.

AT the annual meeting of the Watford and Harrow Division of the British Medical Association held on July 3rd, a long and interesting discussion on the National Insurance Bill took place, and Mr. Arnold Ward, M.P. for West Herts, who was present, received the explanation of the views of the Division and of the policy of the British Medical Association with much sympathy, but declined to give any pledge as to his action until the opinion of his leader in the House (Mr. Balfour) had been expressed.

Drs. Humphry, Pennefather, and Williams were appointed a deputation to interview the other members of Parliament representing the Division.

The sections of the Division having already met at Watford and at Harrow to consider the policy of the British Medical Association and passed resolutions in the terms of that policy, it was proposed by Dr. PENNEFATHER, seconded by Dr. EDWARDS, and carried:

That this meeting confirm the resolutions already adopted by the sections.

With regard to the following, which had been passed at the meeting of the Watford section, it was resolved that it should not be adopted by the Division:

That this meeting disapproves of the constitution of the local Health Committees set out in the National Insurance Bill, as constituting a new health authority.

The amendments to the bill proposed by the British Medical Association were considered and approved.

Dr. PENNEFATHER proposed, Dr. BLUETT seconded, and it was carried:

That this Division views with regret the amendment to Clause 8, page 8, line 14, of which Dr. Addison has given notice, and requests him to withdraw it in favour of that proposed by the British Medical Association, namely, to add to paragraph (7) of Clause 8:

(*g*) To medical benefits who is in receipt of an average income from all sources exceeding £2 per week.

Guarantee Fund.—Dr. WILLIAMS proposed, Dr. PENNEFATHER seconded, and it was carried:

That a local guarantee fund be formed for this Division for the purpose of providing pecuniary compensation for medical practitioners who may suffer financial loss by reason of their giving up contract appointments at the instigation of the British Medical Association.

That this local fund be primarily for use in the Division, and that the Executive Committee of the Division be constituted the Advisory Committee for dealing with it.

But that no money be paid out from this fund unless a vote in favour of such payment has been passed at

a general meeting of the Division, and that none of the money subscribed to the fund shall be allocated to the Central Guarantee Fund without the consent of the individual subscribers.

That non-membership of the British Medical Association be no bar to receiving assistance from this fund.

It was then proposed by Dr. PENNEFATHER, seconded by Dr. BLUETT, and carried:

That this resolution be printed and sent to every member of the profession in the Division, accompanied by an application for subscription and a form of guarantee for signature and a list of preliminary subscriptions.

The subscriptions promised by those present amounted to nearly £300.

CROYDON.

AT a meeting of the Croydon Division of the British Medical Association, held at the Greyhound Hotel on July 14th, under the chairmanship of Dr. W. GRIPPER, it was proposed by Dr. SCUDAMORE, seconded by Dr. NICHOLLS, and carried unanimously:

That the question referred to the Division, as to whether it is possible for the medical benefits to take the form of a contribution from the Insurance Fund to the cost of medical attendance given to an insured person, under a private arrangement entered into by him with a medical practitioner upon such terms as may be agreed upon between them, be emphatically answered in the negative; and at the same time the Division gives its ready support to the six cardinal conclusions arrived at by the Representative Meeting.

The local emergency fund was approved of and its commencement confirmed. Fifty-one members were present.

GUILDFORD.

AT a mass meeting of all members of the profession held at Guildford on July 7th, when fifty-three were present, the following resolutions were proposed and carried unanimously:

Proposed by Dr. BIRD:

That this mass meeting of medical men resident in Western Surrey is absolutely and entirely opposed to the National Insurance Bill as at present drafted, the terms of which it considers injurious to the public interest and grossly unfair to the medical profession.

Proposed by Dr. MITCHELL:

That we, the registered medical practitioners in the Guildford, Chertsey, and part of Epsom Parliamentary Divisions, declare our entire approval of the amendments to the National Insurance Bill suggested by the British Medical Association, and framed in order to secure, without concessions, the six points defined in the policy of the Association and annexed to this resolution.

Proposed by Dr. MORSHEAD:

That the members of Parliament for the Guildford, Chertsey, and Epsom Divisions be each asked to receive a deputation who would present the amendments, and, if necessary, explain or discuss the principles involved.

Proposed by Dr. BUTLER:

That we hereby undertake that in the event of the National Insurance Bill becoming law, we will not enter into any agreement for giving medical attendance and treatment to persons insured under the bill, excepting such as shall be satisfactory to the medical profession, and in accordance with the declared policy of the British Medical Association; and that we will enter into such agrement only through a local medical committee representative of the medical profession in the district in which we practise, and will not enter into any individual or separate agreement with any approved society or other body for the treatment of such persons, and that this undertaking be passed round and signed by all present, and be forwarded for signature to those not present.

Proposed by Dr. WEAVER:

That a report of the preceding resolutions be presented by the deputation to the members of Parliament of the Guildford, Chertsey, and Epsom Divisions, and also be sent to the press.

PLYMOUTH.

AT the annual meeting of the Plymouth Division of the British Medical Association, held on May 29th, Dr. HOGARTH CLAY proposed a resolution to the effect that as the National Insurance Bill as constituted was inimical to the public and insulting to the profession they should have nothing to do with it. The resolution was carried unanimously.

MANCHESTER.

AT a general meeting of the Manchester (South) Division of the British Medical Association held on July 17th, a letter was read from the Joint Committee of Manchester and Salford containing the two following resolutions passed by that committee:

1. That a guarantee fund be raised for Manchester and Salford in connexion with the National Insurance Bill.
2. That the Joint Committee are willing, with the consent and co-operation of the Divisions, to undertake the raising and administering of such a fund.

On the motion of Dr. COTTERILL, seconded by Dr. R. RHODES, it was resolved:

That the offer of the Joint Committee be accepted.

The special report of Council on the National Insurance Bill to Annual Representative Meeting was considered in detail in association with the amendments of the Chancellor printed in the BRITISH MEDICAL JOURNAL of July 15th, pp. 129, and it was the strong feeling of the meeting that though the Council had made praiseworthy efforts to obtain satisfaction from the Government with regard to the profession's demands, nevertheless the negotiations had signally failed to obtain any of them in substance.

The Representative was therefore instructed to approve up to a certain point the Council's attempt to obtain amendment of the National Insurance Bill, but beyond this point it was very strongly felt that the action of the Council did not proceed far enough in the following instances:

(1) The income limit should have included maternity as well as medical benefits.

(2) The free choice of doctor by patient should also have included equal freedom of rejection of the patient by the doctor. This freedom is annulled by the Chancellor's amendment—Clause 14, Section 2, Subsection ("d").

(3) Representation of the medical profession in the administration of the service is unsatisfactory and inadequate, and the meeting unanimously agreed that Clause C of the Recommendations of the Council should read in accordance with our pledge, namely, "That the Representative Body reaffirm that persons whose average income from all sources exceeds £2 per week shall be excluded from medical and maternity benefits under the bill, and demands that the bill be so amended for this purpose."

It was felt that, so far as the administration of medical benefits by local Health Committees and not by approved societies was concerned, the Council had done its utmost by obtaining the co-operation of several members of Parliament to introduce amendments to that effect; but with regard to maternity benefits the Division agreed to support Minute 55 of the Special Representative Meeting, namely, "That provision be made for the exclusion from . . . maternity benefits of persons whose average income from all sources exceeds £2 per week."

It was then resolved (with only one dissentient):

That seeing the Government has not acceded to the just demands formulated by the British Medical Association, this Division is of opinion that the Representative Meeting should again call upon the Government to postpone dealing with the medical benefits in Committee of the House until terms satisfactory to the profession have been arranged, and, failing such undertaking by the Government, should decline to continue negotiations with the object of amending the bill.

With regard to the question of the desirability of making it possible for medical benefits to take the form of a contribution from the Insurance Fund to the cost of medical attendance given to an insured person, the Representative was instructed to give a direct negative.

So strong was the feeling of the Division on this matter, after giving due heed to the Chancellor's amendment—Clause 14, Section 2, subsection (*d*), together with its subsequent provisory clause—that the Representative was instructed to discountenance absolutely any amendment by the Representative Meeting which might request the Council to send the subject to the Divisions for further consideration. It was felt that the scheme would in time place the whole of general practice under the control of the local Health Committees, subject to the regulations made by the Insurance Commissioners.

NORTH STAFFORDSHIRE.

AT a meeting called by the North Staffordshire Division on July 6th, at which forty-eight members and non-members of the British Medical Association were present.

reports were received from various deputations which had been appointed to wait on the several members of Parliament in the Division area in respect to the proposals of the British Medical Association in regard to the National Insurance Bill, and the following resolutions were unanimously adopted:

That no one is entitled to medical benefit who is in receipt of an average income from all sources exceeding £2 per week.
That medical and maternity benefits be administered by local Health Committees, and not by friendly societies.
That there must be adequate remuneration for medical attendance, and that the remuneration mentioned in the memorandum of the Chancellor of the Exchequer is wholly inadequate.
That there should be free choice of doctor by patient, subject to the consent of the doctor to act.
That there should be adequate medical representation on all committees dealing with medical benefits.
That medical practitioners pledge themselves to be loyal to one another and to abide by the policy of the Association.
That the North Staffordshire Division shall at once form a Guarantee Defence Fund, in view of the probable necessity of fighting the National Insurance Bill at present before Parliament.

BURNLEY.

AT a meeting called by the Burnley Division of the British Medical Association on July 18th the following resolutions were carried:

That this meeting of the profession of Burnley and district begs to point out to the Council of the British Medical Association that the members of the profession are desirous of co-operating in any well-devised scheme for giving medical aid to the deserving poor, as they have always heretofore done privately in connexion with the working of charitable institutions; that they consider that the National Insurance Bill is intended to include an unnecessary number of recipients of help.
That the wage limit of £2 adopted at the meeting of Representatives is much too high in any industrial centre where many others of a family are earners; nevertheless, the members of the profession in this district have sunk their individual grievances, and with one exception only have pledged themselves to support the six principles put forward by the meeting of Representatives and the consequential amendments drawn up by the Council, as published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of June 24th, and this they have done in order that a perfectly unanimous opposition of the whole of the profession might be given to the vicious proposals in the bill.
That the members of the profession in this district regret to find that, according to the special report issued July 17th, compromise has been made in regard to the free choice of doctor, a proviso of the Chancellor's having been accepted.

The meeting urged that, if this proviso were persisted in, it would introduce disunion into the profession, and expressed regret that the Council had promised to give way on the question of medical representation on the local Health Committees. It was pointed out that the Association's amendment demanded one-fourth of the representation, whereas the Chancellor's amendment, to which the Council had assented, provided for a representation which might only be three out of a committee of twelve to twenty-four members.

In reference to the income limit of £2, the profession was amazed to find that the deputation to the Chancellor was listening to an alternative amendment which the Government might be induced to accept. They considered that such a proposition should have been spurned immediately it was made, since its adoption would mean, eventually, lowering of medical fees. The meeting therefore demanded that the Council should adhere to the strict letter of each of the principles and amendments by which it secured the pledges of the profession, as to do otherwise could only bring disunion into the profession, with subsequent bondage, misery, and financial loss.

PORTSMOUTH.

AT the annual general meeting of the Southern Branch of the British Medical Association, held at Portsmouth on July 5th, the following resolution, proposed by Mr. C. P. CHILDE (President) and seconded by Mr. LUCKHAM, was carried unanimously:

That the Branch urge all members of Parliament representing constituences in its area to support the amendments to the National Insurance Bill suggested by the British Medical Association.

DORSET AND WEST HANTS.

AT the meeting of the Dorset and West Hants Branch of the British Medical Association, held at Ringwood on July 12th, the National Insurance Bill now before Parliament was exhaustively discussed by Dr. WHITTINGDALE (President), Mr. T. MACCARTHY, Mr. MAHOMED, Mr. PARKINSON, Dr. JOHNSON SMYTH, Mr. WILLANS, Surgeon-Lieutenant-Colonel DECIMUS CURME, Mr. MARSH, Dr. FOWLER, Dr. SANDERSON WELLS, and a resolution was unanimously adopted approving of the action taken by the Council of the British Medical Association in reference to the bill, and urging strict adherence to the proposal which fixes the maximum wage limit of insurers at £2 per week. It was further decided that a copy of this resolution should be sent to the public press and to all members of Parliament for constituencies within the area of the Branch.

BUCKINGHAM.

AT a meeting of the Buckinghamshire Division of the British Medical Association, held on July 18th, the SECRETARY reported that all the practitioners had signed the undertaking except two; one of these had, however, signed the memorial and guaranteed £5 to the defence fund.

The special report of the Council was discussed by Drs. KENNISH, A. H. TURNER, BRADBROOK, ROSE, LONG, DURRAN, BUXTON, BAKER, GARDNER, DEYNS, and LARKING. It was finally decided to answer the question as follows:

That the answer be "No," and that the Council be explicitly informed that the Division adhere to the income limit of £2 a week to which they are pledged, and they claim the freedom they have always had with regard to any persons who are above that limit, whether insured or not.

This was carried by a large majority, only four voting in favour of "contracting out."

BOSTON AND SPALDING.

AT a special meeting of the Boston and Spalding Division of the British Medical Association, held on June 16th, the National Insurance Bill was discussed. Dr. SOUTH presided, and 34 members and non-members of the Association were present.

The SECRETARY read a letter from Mr. C. Harvey Dixon, M.P., regretting his inability to attend, and asking that the meeting would indicate by resolution amendments he might bring forward in the House of Commons, and assuring the meeting of his whole-hearted support. The six resolutions adopted by the Special Representative Meeting (SUPPLEMENT, June 10th, p. 404) were carried, and the general resolution was adopted as follows:

In view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

On the motion of Dr. MASON, seconded by Dr. WHITE, it was resolved:

That the medical profession opposes absolutely the principle of national contract practice.

WORCESTER AND HEREFORD.

AT the annual meeting of the Worcestershire and Herefordshire Branch of the British Medical Association, held on June 8th, it was announced that 116 members had signed the undertaking, and that £460 had been guaranteed by the members present towards the Defence Fund of the Branch. (The fund amounted on July 16th to £1,156.)

NORTH SUFFOLK.

AT a meeting of the North Suffolk Division of the British Medical Association, held at Lowestoft on June 22nd, the amendments to the National Insurance Bill drawn up by the special committee of the Council of the British Medical Association were discussed and agreed to, and a deputation was appointed to interview the member of Parliament for the division, and lay before him the proposed amendments to the bill.

At a further meeting, held on July 18th, the replies of Sir Edmund Beauchamp, M.P. for North Suffolk, to the deputation which waited upon him on June 24th were read.

The special report of the Council to the Representative Meeting concerning the National Insurance Bill was discussed, and the Representative requested to vote in the affirmative to the question submitted to the Division, with the proviso that the recommendation of the Council regarding the £2 income limit be reaffirmed.

NORTHAMPTON.

AT a meeting of the Northampton Division of the British Medical Association, held on July 13th, to which all the members in the area of the Division were invited, the CHAIRMAN gave a brief report of the action the Executive Committee of the Division had already taken in connexion with the National Insurance Bill. He also stated that arrangements had been made to interview members of Parliament, and that a Guarantee Fund had been started. Out of 162 medical men in the Division, 145 had already signed the undertaking. The names of those who had not signed were gone through seriatim, and it was found that three were retired from practice and two were members of the Public Health Service. It was also reported that certain members of Parliament had been interviewed, but with no definite result, as they refused to pledge themselves to any points raised.

CORRESPONDENCE.

OUR PUBLIC DUTY.

DR. W. GORDON (Exeter): There are two ideas which public and profession alike will do well to grasp as quickly as possible, namely:

1. That any legislation, however beneficent its intention, which proves injurious to the well-being of the medical profession, will, in the long run, prove injurious to the general well-being of the nation, and

2. That the only entirely competent adviser of the nation in matters of medical legislation is the medical profession.

Of these two, the second involves the recognition of an immense responsibility resting on the profession at the present moment, and also of an apparent embarrassment. It is clearly the duty of the profession to point out to the public the first of these two considerations, yet, unfortunately, we cannot pose in this as an unprejudiced adviser, because our own interests are involved. Still, there can be no question that the duty involved should override the personal embarrassment, and that the present danger should be explained in the authoritative manner which the public has a right to look for.

Indications are not wanting that the profession, even amidst the confusion created by the way in which the present bill has been introduced and hurried forward, is beginning to perceive the responsibility and to rise to it. It is being pointed out that an undue extension of contract practice is neither good for the profession nor for the public, and the Association has indicated that depletion of the profession and lowering of its individual efficiency are possible consequences of unsatisfactory conditions being ignorantly passed into law.

But as yet no sufficiently authoritative and categorical statement has been put before the public of the evident effects of the unsatisfactory proposals. And herein lies an error alike in principle and in tactics. If from want of courage or from want of perception the profession fails to point out clearly and authoritatively to the country the fact that in injuring the delicate mechanism of its own medical protection it will gravely injure itself, the public will have every right hereafter to accuse the profession of having neglected what is in reality a great national duty.

The victory which we are about to win by simple and wholly justifiable refusal to serve under preposterous conditions, unaccompanied by this recognition of our national responsibility, will be as unsatisfactory as it is certain. But this same certain victory, accompanied by a lucid public statement of the great public evils which must flow from the acceptance of such conditions, and by an authoritative denunciation of proposals which imperil the national well-being, will not merely settle the present controversy in our favour, but will promote a better mutual understanding between the public and ourselves.

Let us hope that some such authoritative pronouncement will be shortly forthcoming.

THE LENGTH AND DEPTH OF THE NET.

Dr. A. B. DALGETTY (Liff, Dundee) writes: I took the trouble to go back over my books for the past four years. I took out the names of all those that would be likely to come under the new scheme, with the fees actually received for medicine supplied, and also a few small fees for operations. The result was that my income from each of them amounted exactly to 10s. per annum. This is a sum considerably higher than any that has been proposed by the Chancellor of the Exchequer. I have looked round my district to see how many private patients would be left me if the £160 limit is adhered to. As far as can be seen, only two clergymen and about a dozen farmers would escape being swept into the insurance net. There is another danger which I firmly believe will follow in the wake of this scheme; it is, that our bad debts will be increased rather than diminished. There is at present a considerable number of people, not always the poorest, from whom it is most difficult to get any fee. Now, suppose that the head of one such family has paid his contribution for a year, but has not been ill himself, but that his wife has had a severe illness, and has required a good deal of attention. The doctor's bill is sent in, and what says the husband? "Oh, I have paid in my 4d. a week, I have not been ill; the doctor is paid to attend me, he has done nothing for it, let him pay himself out of that." Do not let us sign our name to a blank cheque, which is to be filled in afterwards by Health Committees and others.

FAMILY INCOMES.

Dr. JAMES I. HALSTEAD (Burnley) in the course of a letter dealing mainly with this subject writes: Some of your readers would like more precision *re* the £2 per week wage limit for medical and surgical benefits under the quasi-national insurance proposal. Is the £2 per week a household wage limit or an individual wage limit? There are hundreds of thousands of houses (some villas, others hovels, according to the character of the individual occupiers), owned or rented by working families of four, five, or more members, in the great industries of the country, as cotton, wool, iron, coal, steel, shipbuilding, and engineering generally, into which, where the individual wage might not reach £2, as a mechanic 30s., or a girl weaver 30s., yet the combined weekly household wages reach £5 to £10 per week. It is, therefore, important from the point of view of the interests of the medical man's own family to see that his time, energy, to say nothing of his capital, is not wasted for a pauperizing return on families who can very well make provision for any necessary medical or surgical attention that may be required at any time. But apart from his own interest and that of his family, it is important to see that the benefits of any proposal requiring his services really reach the people who stand in need of them. It is galling to see a foreman of a great shipbuilding yard enjoying a salary of £350 per annum attending daily for dressing at a hospital by a hard worked house-surgeon and half a dozen medical men within a stone's throw. Is it not ridiculous to have to attend, as many of your readers do, Justices of the Peace, large employers of labour, farmers of 1,000 acres, etc., at little more than pauper rates just because they happened to have joined a friendly society in their less flourishing days?

LOCAL AUTHORITIES AND INCREASED EXPENDITURE.

Dr. J. SHAW LYTTLE (Cilfynydd, Pontypridd) writes: I have been hoping to see an announcement that a mass meeting of the profession would be held in Birmingham during the Annual Meeting. Mr. Lloyd George now threatens us with 8,000 paid and pensioned State doctors, and it seems to me that it would be an opportune time for us to indicate to the Chancellor that this bogey does not frighten us, and to repeat, with no uncertain voice, that we shall not undertake the medical work under the terms as made known up to the present time.

The resolution passed in the House of Commons on July 6th evidently precludes any further money being voted for the purposes of this bill. I have continually stated that I did not believe local authorities would be willing to add to the rates by paying for any part of the medical attend-

ance for those who are well able to provide it for themselves (the resolution referred to states one-half excess expenditure), and on the 8th inst. the Glamorgan Chamber of Agriculture passed a resolution to the effect that:

It objected to increasing the heavy burdens of local taxation by charging to local rates any of the expenditure involved in working the provision of the measure, etc.

This, I think, is an effective answer to those who believe local authorities will make up the deficiency in special districts.

THE IMPORTANCE OF ADEQUATE RATES.

Mr. W. J. FOSTER, F.R.C.S. (Reading), writes: The sooner the profession realize that the Government intend converting them into an insurance company the better.

It only remains to act in the same way as the insurance companies did when the Workmen's Compensation Act passed. They had less knowledge of what was an adequate premium than even we have. Their actuaries went into the matter and ascertained what was a paying premium, and they are doing very well.

It only remains for us to employ some insurance actuaries with some medical accountants to arrive at what is a proper premium and we can insure under the terms of the bill at a profit. Obviously if the £2 a week limit is accepted the premium will be comparatively low. If the £160 limit is enforced a higher premium will be necessary.

The vital point is an adequate premium, which can be ascertained and will pay us.

PROCEEDINGS IN PARLIAMENT.

COMMITTEE STAGE.

ON Monday, July 17th, after the 11 o'clock rule was suspended by a majority of 75, the Committee stage of the bill was resumed at the point which had been reached on the previous Wednesday—namely Clause 8, 1 (*c*).

Clause 8.—Rates and Conditions of Benefit.

(1) The benefits conferred by this part of this Act upon insured persons are:

(*a*) Medical treatment and attendance, including the provision of proper and sufficient medicines (in this Act called "medical benefit");

(*b*) Treatment in sanatoriums or other institutions when suffering from tuberculosis, or such other diseases as the Local Government Board with the approval of the Treasury may appoint (in this Act called "sanatorium benefit");

(*c*) Weekly payment whilst rendered unfit to provide their own maintenance by some specific disease or by bodily or mental disablement, commencing from the fourth day after notice thereof is given, and continuing for a period not exceeding twenty-six weeks (in this Act called "sickness benefit");

(*d*) In the case of the disease or disablement continuing after the determination of sickness benefit, weekly payments so long as so rendered unfit by the disease or disablement (in this Act called "disablement benefit");

(*e*) Payment in the case of the confinement of the wife of an insured person, who is not herself an insured person, or of a woman who is an insured person, of a sum of *thirty shillings* (in this Act called "maternity benefit");

(*f*) In the case of persons entitled under any scheme made in accordance with this part of this Act to any of the further benefits mentioned in Part II of the Fourth Schedule to this Act (in this Act called "additional benefits") such of those benefits as may be distributable under that scheme.

(2) Subject to the provisions of this part of this Act, the rates of sickness benefit and disablement benefit to which insured persons are entitled shall be the rates specified in Part I of the Fourth Schedule to this Act.

(3) The right to sickness benefit and disablement benefit shall not commence before the insured person attains the age of 16, and shall cease on his attaining the age of 70; but, save as aforesaid, the right to benefits (other than additional benefits) shall continue throughout life.

(4) Except with the consent of the society or committee administering the benefit, no insured person shall be entitled to any benefit during any period when he is resident either temporarily or permanently outside the British Islands, or to medical benefit during any period when he is resident outside the United Kingdom.

(5) Where an insured person, having been in receipt of sickness benefit, recovers from the disease or disablement in respect of which he receives such benefit, any subsequent disease or disablement, or a recurrence of the same disease or disablement, shall be deemed to be a continuation of the previous disease or disablement, unless in the meanwhile a period, continuous or discontinuous, of at least twelve months has elapsed, and at least fifty weekly contributions have been paid by or in respect of him:

Provided that the benefit in respect of such subsequent or recurrent disease or disablement shall not commence to be payable before the date at which it would, apart from this provision, have commenced.

(6) Where a woman is herself entitled to maternity benefit she shall not be entitled to sickness benefit, disablement benefit, or medical benefit at and for a period of four weeks after her confinement.

Sickness Benefit.

Mr. Lees Smith moved to omit the word "weekly" before payments at the beginning of the subsection, and the amendment was accepted without a division, and the word "periodical" substituted on the motion of the Chancellor of the Exchequer.

Mr. A. Henderson then moved an amendment to provide that payment of the benefit should not be solely contingent upon notice of disablement having been previously given, and benefit might commence from a date prior to the receipt of notice of disablement. Friendly societies found that very often when a man was taken suddenly ill his wife in the confusion forgot for two or three days to give the notice of his illness.

The Chancellor of the Exchequer said he was disposed to agree that the insertion of the amendment would be an improvement. The important thing was that notice of the disablement must be given, and, if notice were given, he thought the computation of the benefit might be from the date of the illness. What he wanted to guard against was that so soon as a person got a cold in the head he should not run to the friendly society and ask for his 10s. or 15s. He did not think the moment a man got a little sneeze he ought to go to a system of national insurance and say, "Give me my ten shillings." On the other hand, some men would wait until their illness developed into something serious, and they ought not to be penalized because they had behaved well to the fund. Therefore he suggested this amendment should be inserted, and that the benefit should commence, not from the fourth day after notice had been given, but from the fourth day of the illness.

Mr. Austen Chamberlain argued that the benefit ought to date back to the time when the man stopped work. Mr. Lloyd George said the man must be disabled from working, and there must be a doctor's certificate. Mr. Goulding called attention to an amendment of his to substitute the "first" day after notice of illness had been given instead of waiting till the "fourth" day. The practice adopted under the Workmen's Compensation Act ought to be followed.

The Chancellor of the Exchequer said he had looked at the amendment which the hon. gentleman had placed on the paper, and had been disposed at first to accept it. He had regarded it as a way out of the difficulty, but the general opinion was that in practice it had worked badly, and had led to loitering. A man knowing that, if he could remain ill until the fourth day, he would receive payment for four days was not likely to hurry back on the fourth day and so get nothing. It was true that friendly societies paid from the first day, but they would infinitely prefer the system which was now proposed. There were many other ways in which they could spend the money which might be saved. He would much rather find the two-ninths to extend the benefits to women than give the extra three days' pay to a man who had a short illness.

In answer to Mr. Worthington Evans, who said the proposed new system would create many difficulties, the Chancellor replied that the money was there, and he thought might be applied to a better purpose. It would be far better to use it to extend sanatorium benefits to women and children than to apply it to relieving cases of trivial illness. After further debate,

Mr. Barnes said that it would be a serious matter to take away three days' sick allowance from a large number of poor people whose wages were only just sufficient, and no more, to meet the necessities of life. He appealed to the Chancellor of the Exchequer to reconsider his position. It did not matter a brass farthing to members of friendly societies and trade unions, who would be paid in the event of sickness, but it was a matter of some moment to the societies, because the majority of cases of sickness were of short duration, and they would not receive the relief of

one-sixth under the bill. To get back to the first day might encourage a good deal of trifling illness, and he suggested that either the discussion should be left over or that the second or third day should be substituted.

Mr. George Roberts urged that the practice of friendly societies, most of whom paid from the first day's illness, should be adhered to.

Mr. Wyndham said the friendly societies attached the greatest importance to this amendment. An open meeting had unanimously adopted it. The Chancellor of the Exchequer would not deny that it was in the interest of friendly societies to stop malingering, and did he think he was going to succeed better than the societies? It was said that members of friendly societies would not lose because their societies would continue to pay them from the first day; but if the Government put on friendly societies, not in one, but in six or seven cases, the obligation of finding out of their funds something the bill did not find, they did encroach very largely on the financial stability of the societies.

Mr. McKenna said the right hon. gentleman opposite had dwelt on a unanimous vote in favour of payment from the first day. He confessed that if he had attended that meeting as a member of a friendly society he should have voted in the same way. If it had been stated to the meeting, "Here is £600,000. You cannot increase it. It is coming out of money part of which you have provided yourselves. Do you wish that money to be spent in paying you from the first day of sickness or in giving you some other form of benefit"?—if the matter had been so stated, he did not think the vote would have been quite so unanimous. He did not think it could be disputed that the tendency of payment back from the first day was to encourage malingering. Therefore he maintained it was better, if they could, to devise some means of paying the money in a benefit that would not encourage malingering.

Mr. Neilson supported the amendment, and Mr. T. H. Thomas, who also supported the amendment, said in his experience the employers dealt very effectively with malingerers, who hesitated before taking a day off for fear of dismissal. After several speeches,

Mr. Snowden said that cases of malingering in the friendly societies were very exceptional, and yet it was proposed by the Government to penalize the vast majority of honest persons for a few that were dishonest. It had also been said on behalf of the Government that there was only a certain amount of money available, and that if the money was taken one way it could not be had in another. He did not agree with that contention. What they had to do was to make the bill as good as it could possibly be made; and if it were the sense of the House that certain things which cost money should be embodied in the bill it was the business of the Government to recommit the financial resolution of the bill in order to meet the wishes of the House.

Mr. McKenna said later that he thought it had been clearly shown that payment from the first day of sickness tended to malingering. He found they could not leave the matter for final decision on Report. It would be possible to recommit the bill if it was found that the alternative benefits were not satisfactory. He therefore asked the Committee to accept Mr. Henderson's amendment on the understanding that they could, if necessary, recommit the bill in order to adopt the form proposed by Mr. Goulding.

Mr. Forster objected it was not easier to settle a problem by postponing all the difficulties. The great majority of workmen wished that benefits should begin from the first day of sickness, and that point should be settled at once.

Dr. Addison said he hoped the Government would not give way on this point. While there was a good deal in what was said as to the hardship at the beginning of a serious illness, the disadvantages were so enormous and the demand on the fund would be so great that he thought it would mean the bankruptcy of the fund. He believed that if they were to make it possible that a man alleged to be suffering from influenza could claim a week's pay from the beginning of his illness the Act would be unworkable. The benefit which this proposal would confer on the community was not to be compared with other advantages of a more permanent character, and he hoped they would not consent to burden the fund with such a charge.

Dr. Esmonde said that any practical man knew that numbers of bona fide working people in this country would not come on to the funds until they were obliged to do so, and that it was this delay which often led to serious illness. His experience was that malingering took place, not at the beginning, but at the end of illness. The serious illness which often followed from working on three or four days would be a great drawback, not only to the man and his family, but to the funds.

Mr. Austen Chamberlain, admitting the inconvenience of discussing two amendments together, said it would be still more inconvenient to discuss three, and he hoped the third point raised would be allowed to stand over until the other two amendments were cleared from the paper. He was quite ready to accept the amendment of the hon. member for Barnard Castle, and he should support the amendment of the hon. member for Worcester.

The Chancellor of the Exchequer thought it well to put the point of view of the Government. The reason he suggested a discussion on the two amendments was that he looked upon the proposal of his hon. friend as undoubtedly an extension of benefits, and he thought it desirable before the extension was accepted that the Committee should take cognizance of the situation as a whole. It was an important decision the Committee was about to come to. It did not merely affect four days; it affected a very important amendment he saw his way to introduce effecting another benefit, and he wanted the Committee to realize what they were doing. The Committee had to come to a conclusion as to the form in which they would take the extended benefit. They were about to decide whether they would now incorporate in the bill at this stage a provision for sick pay for small trivial illnesses extending over two or three days. This would be a very important modification of the bill. He had consulted the actuaries, and this was a matter of £560,000. His proposal was that the whole of this should be applied to the purpose of extending the benefit of treatment for consumption to women and children; and when they came to Clause 34 there would be some modification to be made in regard to those who, having come on to the fund, as working women, married and got off the fund. The offer of his right hon. friend still held good, and if it should be discovered that the Government had not carried out their undertaking, then the bill should be recommitted to raise this identical question. In the view of the Government the benefit they offered was infinitely better, but it was for the Committee to decide.

The words "of which notice had been given" were then inserted, and Mr. Goulding moved to leave out "fourth" and insert "first." On a division the amendment was rejected by 190 to 150. Some consequential alterations were agreed to.

Disablement Benefit.

Mr. J. F. Hope moved a new provision to give disablement allowance to all persons shown to be unable to earn one-third of the amount earned by fit persons.

The Chancellor said the rule ought to be that laid down by friendly societies—practical total incapacity. The incapacity might not be absolute. Some such occupation as knitting might still be possible. The amendment was by leave withdrawn.

Maternity Benefit.

Sir A. Boscawen then moved an amendment with the object of providing that where maternity benefit was given there should be also some medical benefit. This was an amendment of the bill which could be reasonably granted by the Chancellor of the Exchequer. The bill at present did not go far enough. It simply said, roughly, that 30s. was to be allowed but was not to be handed to the woman, and it proposed nothing at all in the way of medical benefit. In maternity cases the benefit should be substantial benefit.

The Chancellor of the Exchequer said the maternity benefit conferred by the bill was not small. There was only one friendly society which had undertaken maternity benefit, and that only accepted men with 24s. a week or more. It had the pick of the working classes, and charged 8d. a week. The Government scheme proposed to extend the maternity benefit to millions of people, and would cost about £1,500,000 a year. He could not accept this amendment, but at a later stage he would deal with the case of hardship where both husband and wife were insured. The wife made her contribution, and was entitled to the full

benefit for her money, but as the bill now stood she was deprived of that full value because her husband was insured. What he would propose was that in cases of that kind the maternity benefit should be transferred from the women's fund to the men's fund. In addition to that maternity benefit the woman would get her 7s. 6d. a week sick pay. The hon. member's amendment, which provided for medical benefit in addition to maternity benefit, involved great complications with the doctors. Every doctor would say that he would not attend maternity cases for 10s., and if they paid a guinea for each case the additional cost would be over £1,000,000. That was a very serious additional charge, and he was not prepared to undertake it at this stage. The 30s. maternity benefit was intended to cover the doctor's expenses. If in addition to the 30s. they were to give medical benefit, how would the hon. member cover the doctor's expenses?

Sir A. G. Boscawen said he would deal with these cases in exactly the same way as the Chancellor of the Exchequer proposed to do, in placing the maternity benefit on the men's fund.

The Chancellor of the Exchequer said in that case the men's surplus, which was about £1,500,000, would be reduced to about £400,000. He could not do that. The real grievance had been met by the proposal that where both husband and wife were insured the benefit should be £3 instead of 30s.

Mr. Keir Hardie said that if the Chancellor of the Exchequer's concession were only to apply to those working women who were themselves insured, and had a husband working and paying into the fund, it was a very small concession indeed. It could only apply to a very limited number of women. The widow who was confined of a child after her husband's death stood much more in need of the sick pay in addition to the maternity benefit than the woman whose husband was working.

The Chancellor of the Exchequer was understood to say that the Government proposed that the maternity benefit in that case should be limited for a certain period after the death of the husband.

Mr. Keir Hardie said he also had in mind the case of the woman whose husband was alive but unable to work, and there was the further case of the woman whose husband, though not sick, had been unemployed for such a length of time as to put him out of benefit. Were these cases to be ruled out from sick benefit? He hoped the Chancellor of the Exchequer would say that they should be included in the concession. Could the surplus of £1,500,000 to which the right hon. gentleman had referred be applied to a better purpose? If, however, the Chancellor of the Exchequer required more money for this purpose, he suggested that there should be a rearrangement of the benefits proposed to be given under the bill to young persons.

Mr. Hills said he was not at all sure that the Chancellor of the Exchequer was making the best use of this money, and when they came to discuss the amendment he had foreshadowed he should ask him to devote it to another purpose.

After some further debate the amendment was rejected by a majority of 78. Mr. Booth then moved to extend "the maternity benefit to the daughter, sister, or mother of an insured person, as well as his wife," but the amendment was not pressed.

Age Limit.

Mr. Lees Smith then moved to omit subsection (3) and to substitute:

(3) In the case of insured persons who have attained the age of 70 the right to sickness benefit, disablement benefit, and additional benefits shall cease.

He said he thought the case would be met if, as in the case of young persons, benefits were allowed of 5s. a week for sickness and disablement in the case of boys and 4s. a week in the case of girls. He estimated the cost of giving disablement benefit to boys and girls at £4,000 a year, and that sickness benefit would entail an expenditure of £182,000 a year. These sums, however, would not be an expense to the Exchequer; they would merely diminish the sum set aside as a sinking fund to wipe out the reserve values.

Mr. McKenna, on behalf of the Chancellor of the Exchequer, accepted the amendment. The original subsection was omitted; and on the question that the subsection moved by Mr. Lees Smith stand part of the bill,

Mr. Keir Hardie moved to omit the words "and additional benefits." He said that if aged persons receiving pensions lost sick and disablement pay there was no reason why they should not receive certain additional benefits.

Mr. Ramsay Macdonald (Leicester, Lab.) said that additional benefits were acquired by insurance before the age of 70 and assigned to individuals as a part of private property.

Mr. McKenna said that it seemed almost harsh to oppose any argument against a proposal of this sort, that appeared so eminently reasonable, but the actuarial calculation had been based on the cessation of additional benefits at the age of 70. He understood, however, that the amendment would not add very much to the expenditure, and the Government were willing to accept it. (Hear, hear.)

The Subsection was amended accordingly.

Dr. Addison moved a further amendment to insert after "seventy" the words "except that a person in receipt of sickness or disablement benefit on attaining that age, who is not qualified to receive a pension of 5s. a week under the Old Age Pensions Act, 1908, shall continue to be entitled to disablement benefit of such amount as will, together with the pension, if any, to which he may be entitled, amount to 5s. a week." The effect of the amendment would be that a person receiving an old age pension of 1s. a week might obtain a pension and disablement benefit amounting together to 5s.

Mr. McKenna opposed this, and it was by leave withdrawn.

Mr. J. F. Hope moved to add to Subsection (3), "but this shall not apply to those insured persons under the Act who are not eligible for relief under the Old Age Pensions Act." He drew attention to the cases of technical criminals and persons of British nationality who had gone abroad. It was, he contended, hard that they should fall between the two stools of the Old Age Pensions Act and this Act.

Mr. McKenna contended that it was not desirable to benefit these persons at the expense of others.

After further debate the Committee divided, and the amendment was rejected by a majority of 96.

Insured Persons Resident Abroad.

Dr. Addison moved to amend Subsection 4 by making it read, "No insured person shall be entitled to any benefit during any period when he is resident either temporarily or permanently outside the British Islands, or to medical benefit during any period when he is resident outside the United Kingdom; provided that if a person is temporarily resident in the Isle of Man or the Channel Islands he shall, whilst so resident, be entitled to benefits other than medical benefit, and that if with the consent of the society or committee by which the benefit is administered a person is temporarily resident outside the United Kingdom elsewhere than in the Isle of Man or the Channel Islands, the society or committee may allow him whilst so resident to continue to receive sickness or disablement benefit."

Mr. McKenna intimated that the Government would accept the amendment.

A good deal of discussion followed, but eventually Dr. Addison's amendment to Subsection 4 was passed.

Mr. Lansbury then moved, and it was accepted, to add to the fourth subsection:

And that a person resident out of the United Kingdom shall not be disentitled to maternity benefit in respect of the confinement of his wife, if his wife at the time of her confinement is resident in the United Kingdom.

Repeated Illness.

On the motion of Mr. H. W. Forster, it was agreed to strike out the words "continuous or discontinuous" in the fifth subsection, which defines the period of disease or disablement entitling the insured person to benefit. If a period of twelve months intervenes between one attack and another it is not to be considered as being a continuation of the same disease.

The amendment was agreed to.

Mr. Worthington Evans moved to omit the following proviso from subsection (5):

Provided that the benefit in respect of such subsequent or recurrent disease or disablement shall not commence to be

payable before the date at which it would, apart from this provision, have commenced.

The Chancellor of the Exchequer said the waiting period implied in the words was the three days after notice which the Committee had already discussed.

The Committee divided:

For the amendment	...	...	144
Against	...	...	194
Majority against	...	...	—50

Maternity Benefit to Insured Women.

Lord H. Cavendish-Bentinck moved to omit the sixth subsection and to insert in its place, "Notwithstanding anything in this part of this Act, no woman who is herself entitled to maternity benefit shall thereby be disqualified from receiving in addition such sickness, disablement, sanatorium, medical, or other benefit to which she is otherwise entitled under this Act."

The Chancellor of the Exchequer said the Government could not possibly accept this amendment. An insured person would be entitled to sanatorium benefit under any conditions, so that in that respect the amendment was unnecessary. The sum of 30s. was intended to cover the medical benefit, and it allowed the patient to enter into her own bargain with the doctor. The only case, he thought, which this class of insured person had against the bill was that, although there was a double insurance, they only got single benefit, but he had already promised to provide for that case. He could not move his amendment, however, unless the noble lord withdrew his. What he proposed was that, where a woman who was an insured person was also the wife of an insured person, she should be entitled to maternity benefit, and that would be put to the man's account. That amendment would come at a later stage, but he proposed at this stage that such a person should be entitled, not merely to maternity benefit, but also to full sick pay. That meant that she would get 30s. maternity benefit, which would cover the medical benefit. She would then be free to pay her own doctor, or, if she preferred, a nurse or a midwife. In addition to that, she would be entitled to sick pay, 7s. 6d. a week. He understood that on the whole that met the general wish of the Committee.

Lord H. Cavendish-Bentinck asked leave to withdraw his amendment.

In reply to Mr. H. W. Forster,

The Chancellor of the Exchequer said the form of the amendment he should propose was: "Provided that this subsection shall not affect the right of such a woman, if married, to sickness benefit during such period."

Mr. W. Rutherford pointed out that that did not cover the case of a posthumous child.

The Chancellor of the Exchequer said that he would accept any amendment that would cover that case.

The amendment was by leave withdrawn.

Mr. C. Bathurst moved an amendment to limit the exclusion of a woman entitled to maternity benefit from sickness, disablement, or medical benefit for a period of four weeks after her confinement, to illness in respect of or consequent upon her confinement.

The amendment was accepted subject to reconsideration of its form on report.

The Chancellor of the Exchequer moved to add at the end of the subsection the words: "Provided that this subsection shall not affect the right of such a woman, if married, to sickness benefit during such period."

Mr. Hills said that the worst way in which to apply that part of the fund which was to be set apart for the benefit of women would be to pay a double maternity benefit, for that was what the right hon. gentleman's proposal amounted to. The medical benefit should run with the other benefit, because at the beginning of each year the woman entered into a contract with the friendly society for the whole year. When the wife of an insured man was a wage-earner there would be help given where it was less needed, and a premium would be put on married women going out to work for wages. He appealed to the Chancellor of the Exchequer to use the fund so that there would be an inducement to married women to stay at home.

Mr. MacCallum Scott considered that the Chancellor of the Exchequer had not gone far enough to satisfy the just claims of women. The concession applied only to married women, and left out of account altogether that most pitiful class of women—those who had the misfortune to be the mothers of illegitimate children. Such women should, in virtue of their insurance premiums, be entitled to full sick pay, disablement pay, and medical benefit.

Mr. Keir Hardie moved to leave out the words "if married." He knew of no reason why unmarried women should be penalized in this respect any more than their married sisters. Maternity benefit came from the men's fund. If the woman were not married, there was still a man somewhere, who was presumably paying into that fund, responsible for the child. There was nothing wrong in paying the unmarried women the same maternity benefit as was paid to her married sister, and the sickness benefit was hers by right, because she was paying for it.

The Attorney-General said the Government could not accept this amendment. In the case of a married woman, if she were an employed contributor, she would have dependents, and the benefit would be going to those dependent upon her earnings. There was no reason for omitting the words "if married."

Mr. Ramsay Macdonald said a woman who was an insured person, whether she was married or not, was entitled to maternity benefit under Subsection 3 of Clause 8. The whole theory of the sickness benefit was that a man's wages were to be replaced by the 10s. a week which he would receive, and the same thing applied to the 7s. 6d. which was to be given to women. They had no right to subject an illegitimate child to the pains and penalties which were proposed.

The Chancellor of the Exchequer said the very essence of insurance against sickness was that maternity could not be treated as ordinary sickness. Under the age of 40 the sickness which might be expected was on the average just one week in each year. If they treated maternity as ordinary sickness, there would be four weeks added in a great many cases, and that would affect the statistics on which the sickness was calculated at one week. That would bankrupt any concern as an insurance proposition. The reason why the Government were prepared to concede the demand of a married woman whose husband was also insured was because they were entitled to claim and had paid for it. They had a double claim and a single benefit. It was true that they had gone further and had framed the amendment in such a way as to give a double benefit to a married woman whose husband was not insured. There were many cases where the married woman was the wage-earner of the family. Although as an insurable proposition she was not entitled to the double benefit, there was a claim because they wanted something in the nature of subsistence for the family. That was not the case of a single woman who had a child. She had a legal claim, and in ninety-nine cases out of a hundred enforced her remedy. They had not an unlimited fund, and it was necessary to remind the Committee again and again that they had to decide not so much the merits of an individual as the comparative merits, and among so many comparative claims for the distribution of benefits this was not the most urgent one, having regard to the condition of the law, and therefore he hoped that the hon. member for Merthyr, having been met more than half way by the Government, would be satisfied with the progress he had made.

After considerable discussion Mr. Keir Hardie's amendment was rejected by a majority of 112.

Initial Medical Benefit.

As regards initial medical benefit, on Subclause 7, Mr. Douglas Hall moved an amendment providing that medical benefit during the first six months after the commencement of the Act shall be extended to members entitled to benefit in an approved society at the date of the commencement of the Act.

The Chancellor of the Exchequer resisted the amendment, on the grounds that the provision of this benefit would not at the outside cost the friendly societies one-tenth of the amount that the Government was giving them under the bill.

After discussion, and in reply to questions, the Chancellor of the Exchequer stated that as the only element that was difficult to calculate from the actuarial point of view was that of subsection (*d*) of section 7, providing that no insured person shall be entitled "to sickness benefit in respect

of any disease or disablement which commenced during the 26 weeks, or to disablement benefits in respect of any disease or disablement which commenced during the 104 weeks next following his entry into insurance," he proposed to cut it out altogether. He trusted that that was sufficiently drastic to meet the views of the hon. member for Colchester. He did not wish to press the Committee too hard, and if there was anything of substance in subsection (*e*) he would not take it that night.

In the course of further discussion, the Chancellor of the Exchequer suggested that provision should be made at a later stage for the societies to submit a provisional scheme to the Registrar of Friendly Societies for the payment of medical, sickness, disablement, and maternity benefits during the period of interregnum.

Mr. Worthington Evans and Sir A. Griffith Boscawen both expressed the opinion that the proposal of the Chancellor of the Exchequer was unsatisfactory.

The amendment was negatived.

Mr. Worthington Evans moved to reduce from twenty-six weeks to thirteen weeks the waiting period before a person who enters into insurance shall become entitled to sickness benefit.

The Chancellor of the Exchequer said that there must be a waiting period during which a man should contribute towards his insurance. In Germany the period was considerably longer than that proposed in the bill.

The majority against the amendment was 82.

Captain Morrison-Bell moved to reduce the waiting period before payment of disablement benefit from 104 to 52 weeks.

The Chancellor of the Exchequer said that there must be a substantial waiting period before they could guarantee a permanent disablement pension of 5s. a week for the rest of a man's life. In Germany 200 payments were required; the bill compromised by requiring payments for practically two years.

The amendment was rejected by a majority of 77.

Mr. Worthington Evans moved to omit paragraph (*d*) of the same clause. The motion was agreed to, and Mr. Bridgeman having formally moved to omit paragraph (*e*), progress was reported.

On Tuesday the Committee resumed the consideration of Clause 8, on a motion by Mr. Bridgeman to leave out paragraph (*e*) subsection 7. The Chancellor accepted the amendment as the paragraph was now unnecessary owing to an amendment which he had accepted.

After some conversation, Mr. Austen Chamberlain said the amendment referred to by the Chancellor was intended to include Scottish agricultural labourers, domestic servants, hospital nurses, and others. As he understood, it would not cover the whole of the cases which were included in this subsection. Let them consider the case of an employer and his servant who might be entitled to contract themselves out of the Act under the amendment which the right hon. gentleman had promised, but who did not care to do so. Was the Chancellor of the Exchequer prepared simply to withdraw this subsection with regard to their case, and to leave the servant in such circumstances to receive the full benefit insured for under the Act, although the servant was in receipt of board and lodging from the employer? He thought the full benefit ought to be allowed. The employer and servant had paid for it.

The Chancellor of the Exchequer said his intention was to take this out altogether, and if there were cases which would not be covered by his amendment, the employee would be entitled to her pay notwithstanding the fact that she received board and lodging.

The amendment was then agreed to.

Sir C. Henry moved to amend paragraph (*f*) of subsection 7 by leaving out the words relating to the payment of fifty-two contributions in the case of a voluntary contributor.

The Chancellor of the Exchequer resisted the amendment, which he described as a bad business proposition, and the amendment was withdrawn.

Mr. Lees Smith moved to leave out the last four lines of the clause which, after providing that the benefits payable to insured persons under this part of the Act should be extended in such manner as Parliament might hereafter determine, said: "But in determining the distribution of such extended benefits amongst the persons who become entitled thereto, regard shall be had to the claims or special considerations of persons who have entered into insurance at an early age." The last four lines were quite unnecessary, and they could not tie the hands of a Parliament sixteen years hence. (Hear, hear.)

The Chancellor of the Exchequer said he agreed that these words could not have any binding force, and he could not resist the amendment.

The amendment was at once agreed to.

On the question that Clause 8 as amended stand part of the bill,

Mr. Amery said the Chancellor of the Exchequer, with the sympathy of the House, had undertaken a great campaign against tuberculosis, but, he submitted, there was another national scourge which, directly or indirectly, caused almost as great mortality, and more harm to the physique and health of the nation. He referred to the scourge of syphilis, which was the underlying cause of other diseases, and which was not being cured, especially in the less wealthy classes. Apart from the obvious reasons why sufferers did not always have recourse to proper treatment, there was the fact that treatment was both long and expensive, and that in a large number of cases the poorer classes, after having the first symptoms relieved, went away and carried the disease to others. Experience had shown that where the disease was regularly treated, as it had been in the army, there had been most satisfactory results, the sickness and mortality having been reduced by 50 per cent. in the last decade. The essential thing was that the treatment should be cheap, accessible, and of such a character that the victims would have confidence in it. He did not ask the Chancellor to put aside a large sum of money to deal with this problem, but he hoped a certain amount of money would be devoted to experimental work to find out how the disease could best be treated. The only objection to systematic and national treatment was that it would be in some measure condoning a vice. He did not think the House could possibly sustain an objection of that kind.

Mr. McKenna said he wished to thank the hon. member for the interesting speech in which he had called attention to this disagreeable topic. There was power to deal with such other diseases as the Local Government Board and the Treasury might think fit, and he had no doubt that they would give the views of the hon. member careful consideration.

The clause as amended was agreed to.

Clause 9.—Reduced Rates of Benefit in Certain Cases.

1. In the case of insured persons who are under the age of 21 years and unmarried, sickness benefit and disablement benefit shall be at the reduced rates specified in Table B in Part I of the Fourth Schedule to this Act.

2. The rates of sickness and disablement benefits may in any case, and shall in all cases where the rate of sickness benefit or disablement benefit (as the case may be) exceeds two-thirds of the usual rate of wages or other remuneration earned by insured persons, be reduced to such an extent as the society or committee administering the benefit, with the consent of the Insurance Commissioners, determines; but where such reduction is made provision shall be made by the society or committee, with the like consent, for the grant of one or more additional benefits of a value equivalent to such reduction.

3. Sickness benefit shall be reduced in accordance with Table C in Part I of the Fourth Schedule to this Act in the case of any insured person who is over 50 years of age at the date of any claim by him for such benefit and has not then paid at least 500 weekly contributions.

4. In the case of every person over the age of 16 years who, not having been previously insured under this part of this Act, becomes an employed contributor subsequently to the expiration of one year from the commencement of this Act, the rate of sickness benefit and maternity benefit to which he is entitled shall (unless he proves that his time since he attained the age of 16 has been spent in a school or college, or otherwise in the completion of his education, or unless he undertakes himself to pay the difference between the voluntary rate and the employed rate, or pays to the Insurance Commissioners, to be credited to the society, such capital sum as will be sufficient to secure him benefits at the full rate) be such reduced rate as may be fixed in accordance with tables to be prepared by the Insurance Commissioners, but not in any case less than 5s. a week for sickness benefit or 15s. for maternity benefit:

Provided that if at any time subsequently such person would become entitled to sickness benefit at a higher rate if he were treated as having become an employed contributor as from the time when he attained the age of 16, or as from the expiration of one year after the commencement of this Act, whichever date may be the later, and as being in arrear for all contributions

which, had he become an employed contributor at that date, would have been payable in respect of him between that date and the date when he actually became an employed contributor, he shall, if he so elects, be entitled to be so treated.

Mr. G. Locker Lampson moved an amendment substituting 18 for 21 as the age for the reduced benefit. He said it was most unfair that young men who had to pay their full contribution, even though their wages were below the limit at which the contribution of their elders was reduced, should be deprived of the full benefit of the Act. They had to pay a large contribution in order to provide a reserve fund for the older members. They were being penalized in three ways, for they had to pay a larger contribution than their circumstances warranted, they received less than their fair share of the benefits, and the employer had not to pay part of their contribution if their wages fell below a certain limit. There was a margin of 2s. 3d. for every person entering at the age of 16. The expense of the amendment would be 6d., so there would still be a margin of 1s. 9d. profit.

Mr. McKenna said no actuary could certify a scheme as sound unless there was a certain percentage of margin for sickness benefit. That margin was estimated for the first year. Supposing, when the scheme had been in operation for a year or two, it was found that the actuaries' margin of security had not been called upon, the money would not be thrown away, but would be available for investment, and need not be accumulated from year to year, with the result that the additional benefits could then be paid. If the hon. gentleman asked them to spend the margin of security at once, he was asking the actuaries to certify a scheme as sound under conditions that they could not accept. It must not be assumed that what appeared in the actuaries' report as margin was available for expenditure in the first year. If the Committee insisted upon the full rates at 18 instead of 21, there would be an immediate absorption for men only of £230,000, so that it would follow that it would be no longer open to them to consider whether they should pay sick benefit from the first day instead of the fourth, as no sufficient money would be left. If they did not insist on that change in the bill, the question of sick benefit would still be left open.

Mr. Forster asked whether it was still open to consider the payment of sick benefit on the first day. The Committee divided on that yesterday, and decided to make the payments begin on the fourth day.

The Chancellor of the Exchequer said that his right hon. friend had only repeated what he said yesterday, that if the £560,000 that would be in hand was not expended in other ways by the amendments the Government would propose, he would recommit the bill to reopen the question of sick payment.

Mr. J. Samuel said that there were in the large towns scores of young men between 18 and 20 who paid from 12s. to 15s. for their lodgings. They paid 4d. a week under the bill for insurance, and if they were ill and were off work for three or four weeks they would under the schedule receive only 5s. a week, so that it was evident that they would be getting weekly into debt. It was essential that they should be entitled to 10s. a week. Several of the additional benefits named in the schedule could be set aside in favour of a sum of money for these young men, and if the right hon. gentleman would favourably consider the proposition the bill would be much more popular with them, and they would be encouraged to continue to pay their contributions.

Mr. Wyndham thought the Committee would be ill advised if it departed from the practice of the friendly societies in matters which deeply affected the working classes. At the present moment a benefit of 14s. a week could be received for six months by persons much younger than 21, and the bill contemplated a standard of 5s. a week for persons under 21. He assumed it was contemplated that the friendly societies should make up the difference out of their special or reserve funds. He submitted it would be wiser for the Committee to accept the views of the friendly societies on these matters. If he was right in supposing that the friendly societies would be asked to make up to their members the difference between their standard and the standard in the bill, their financial position was being imperilled. He contended that the Committee could not decide whether they ought to depart from the standard of the societies until they had examined the clauses later on and gauged their effect on the societies.

The Chancellor of the Exchequer said the decision to which the Committee would come affected the finances not of the Treasury but of the friendly societies. If the amendment were adopted it would eat very seriously into the available margin which it was very important societies should have before embarking on an enterprise of this kind. If the Committee would consider this question as if it were a board of management framing not a National Insurance Bill but a great insurance scheme for the running of which it would be financially responsible, he thought it would consider it a little more impartially. He wanted the Committee to realize what it was doing. There was a margin beyond which no actuary would approve any scheme at all; that was a margin of 20 per cent. If this proposal did not wipe out the whole of that margin, it went very near it. It would cut the margin right down to the bone, and beyond that nothing could be done which any actuary would ever accept responsibility for. The proposal was that boys and girls from 18 and onwards should get exactly the same benefit as those who had the responsibility of maintaining a family. Was that really desirable? They should consider the period when the money would be most useful to the insured person, and it would be infinitely more valuable to these young people later on in life. It was true there were boys and girls who had the responsibility of maintaining a family, mothers and sisters. He agreed there might be a case for giving them special benefits, and if the Committee would say that, provided there were dependants, these young people should be treated exactly as married persons, he would not have a word to say against it. He placed the whole responsibility on the Committee, but he would earnestly suggest that the proposal should be confined to cases in which there were dependants.

Mr. Austen Chamberlain pointed out that the Committee could not treat the matter as if it were of a commercial character, because people were forced to come into this scheme whether they liked it or not. He would be prepared to accept the Chancellor of the Exchequer's proposal if the disablement benefit payable to women were fixed at the rate of 5s. instead of 4s. a week.

Several other speakers supported this view, and the Chancellor of the Exchequer thought there was a good deal to be said for increasing the disablement benefit in such cases as were referred to by the right hon. gentleman. He would be prepared, if the amendment were accepted, to add at the end: "Provided that where any such person over 18 and a member of an approved society proves that one or more members of his family are wholly or mainly dependent upon him, the society shall dispense with such reduction." That would probably meet the case.

Mr. Snowden did not think the amendment foreshadowed by the Chancellor of the Exchequer would be entirely satisfactory. It would be nothing more or less than a piece of State charity to a certain section. It was not a business proposition. Between the ages of 18 and 21 was a critical period when the physical condition of young people required all the sustenance possible. The crux of the matter was that 5s. a week was not sufficient to maintain a sick person between the ages of 18 and 21. If a medical attendant ordered an extra bottle of cod-liver oil that would run away with the greater part of the money.

The Chancellor of the Exchequer said that would be paid for in addition.

Mr. Snowden was glad to know that cod-liver oil would be considered medicine. Would port wine be so considered? ("No, no," and laughter.) Because he held that 10s. a week was not too much for the benefit of a young person he would support the amendment.

The Committee then divided, and the amendment was rejected by a majority of 46.

Mr. C. Bathurst moved to insert after the word "unmarried," in Subsection 1, the words "or married, if in the opinion of the local Health Committee they were physically or mentally unfit for marriage." He said the Committee here had an opportunity of beginning the process of restricting the multiplication of the unfit.

The Attorney-General (Sir Rufus Isaacs) could not accept the amendment. Under it the local Health Committee would apparently sit as a sort of tribunal before which

ople intending to marry must submit themselves to be estioned and examined.

The amendment was rejected without a division.

The Chancellor of the Exchequer moved the insertion the following words after Subsection 1: "Provided that here any such person over the age of 18 and a member an approved society proves that one or more members his family are wholly or mainly dependent upon him, e society shall dispense with such reduction."

At the suggestion of Mr. Ramsay Macdonald, the age as altered from 18 to 16, and with this modification the endment was agreed to.

Mr. Worthington Evans moved to leave out Subction (2). He said that where a person's wages were ss than 15s. a week a benefit reduced below two-thirds the wages might be very inadequate. Take the case of man who earned only 12s. a week. Two-thirds of his ages would be only 8s. There seemed to him no sufficient ason why the sickness benefit should be reduced. If s. was the proper amount of benefit, then 10s. should be ade the minimum. That was the view taken by the anchester Unity of Oddfellows.

The Chancellor of the Exchequer said he thought this is a matter entirely for the friendly societies themselves deal with. It did not affect the National Exchequer at , because the National Exchequer had got to pay twoaths of 10s. in one form or another. He could not agree the subsection being struck out, but he was prepared to cept an amendment making it optional whether the duction should be made.

Mr. J. Thomas hoped the Chancellor would delete the ole clause. It made no difference to the funds, but it l make a difference to the individual. Experience had own that the men who made the best provision against kness were the least likely to malinger. If they left decision to the friendly societies, there would be a nptation to compete against each other by offering ter benefits.

Sir A. Cripps said a man who was compelled to pay a tain sum to insure against sickness ought to obtain the l benefit. It was much harder for an agricultural ourer earning 15s. a week to pay the flat rate than for a n earning 30s., and it would be most unfair to give the n earning 30s. a week a larger benefit.

Mr. Bathurst put in a strong plea on behalf of the icultural labourer, and Mr. Cawley pointed out that the country living and rent amounted to less than in ns.

Mr. Austen Chamberlain said that it might be true that entirely different scale of benefit would be properly licable to agricultural labourers and people living in the ntry, because the circumstances there were different, that would be a reason for recasting the bill from top ottom, and altering not only the rate of payment, but t of contribution. The Chancellor of the Exchequer l, for better or worse, decided that every wage-earner uld pay the same premium. It must be evident to the vernment that there was in the minds of agricultur- a feeling of injustice on this subject which it was the first importance they should remove. He recoged the truth of what was said by defenders of the eme that in some way or another an equivalent was be given for that withheld in sickness pay, but, ing the agricultural labourers generally, they would er to have the sickness pay instead of the promised ivalent.

Mr. McKenna denied that it was proposed to fine or alize the agricultural labourer. The meaning of the clause was simply this, that an approved society or a mittee was given power—nothing more—in any case which the sick benefit would exceed two-thirds of the es to pay only two-thirds of the wages in sick benefit to pay the difference in some other form. The actuarial ue of the amount held in hand could be worked out at uch a week in diminution of contributions. All the did was to give the friendly societies a power in the inistration of the Act. It gave them no more than dom, and did not impose any obligation on them, or fine penalize or take away anything from the contributor. hoped his hon. friends below the gangway would not nisled by the arguments which had been adduced.

Mr. Duke (Exeter) contended that the clause was a direct alty on poverty, and was a proposal for preventing malingering among those earning less than 15s. a week. After some other criticisms,

The Chancellor of the Exchequer said, in reply to Mr. Duke, that an option would be left to the society. He was quite sure that agricultural labourers would take enough interest in the affairs of their societies to determine by their votes the action of the managers. His proposal simply gave the power to the societies to introduce a proviso by way of safeguarding themselves against malingering. Then every one who joined did so with the full knowledge of what would happen. He agreed that on the whole the present societies would probably not adopt this proviso, but at the same time he could not quite understand that societies would be formed with this safeguard. It was suggested that there should be an unlimited power of reduction. His proposal was that the reduction should be confined to this case, and that it should be optional.

Mr. H. W. Forster thought the amendment suggested by the Chancellor of the Exchequer made the subsection worthless. He entertained a very strong objection to placing in the hands of any body of men the power to vary contracts into which they had entered.

After several other speakers had criticized the Chancellor's proposal, Mr. J. W. Wilson said the amount of irritation which was likely to be caused would be very serious, while the effect of the clause in stopping malingering would be slight. In view of the misunderstanding which there would be and the irritation which would be caused the game was not worth the candle. The Chancellor of the Exchequer should withdraw the clause, for the judgement of the House was against him.

Mr. Ramsay Macdonald appealed to the right hon. gentleman to reconsider the matter. When the clause appeared originally in a compulsory form the Labour Party gave notice to move its omission; but when the right hon. gentleman made it optional there seemed to be no harm in it. The debate, however, showed that the clause in its most innocent form would be subject to egregious misrepresentation. Even as it now stood it did not say specifically that the subsection was to be put into operation in respect of persons proved guilty of malingering. One speaker after another had placed upon the clause a meaning which it did not bear, and he recommended the right hon. gentleman to withdraw it.

The Chancellor of the Exchequer said he was in the unfortunate position of having to defend unpopular proposals because he thought they would conduce to the soundness of the scheme. He was certain that the experience of years would justify every proposal of this kind, although to-day it was discovered to be unpopular. It was a popular thing for an hon. member to tell his constituents that he voted for increased benefits and expenditure, but that position was not worthy of a great assembly fashioning a scheme dealing with 25 millions sterling. He knew how his action was misrepresented and distorted because he defended points which hon. members knew in their hearts to be proper safeguards and guarantees for the working of the bill. Hon. members could throw away one safeguard after another and invite their constituents to see what they had done; but they would not be thanked a few years hence when the societies became bankrupt and had to reduce benefits and ask the House to impose additional taxes. He could not help it if the Committee unanimously wished to throw away this safeguard; he had done his duty. It was not a safeguard to the Exchequer. Working men were not exempt from the weaknesses and defects of human nature, and the working man knew that there were men of his own class who would "sponge" upon funds of this kind. To say that there were not was not to act in a straightforward manner to the working classes. There was malingering under the Workmen's Compensation Act and in friendly societies. If these things were to be used for political purposes, and if hon. members on that side of the House would not really face what would be the temporary obloquy of defending things of this kind, it would be impossible for him and for the Government to get through a scheme which in their hearts they felt, after consulting the best opinion in the country, to be a sound scheme financially. He should not trouble the Committee with a division—he should simply let the question be put and then accept the position.

The Committee divided, and the numbers were:

For the amendment	...	...	149
Against	...	...	223
Majority against	...	...	—74

The announcement of the result of the division was greeted with prolonged Ministerial cheers.

Mr. Snowden moved to omit Subsection (3).

Mr. McKenna said that a man of 50, to obtain from a friendly society the benefits the bill gave him, would have to pay 1s. a week. If the amendment were accepted the man of 50 would be getting for 9d., to which he contributed only 4d., the equivalent of a weekly contribution of 1s. 1d. There must come a moment when the advantage to the senior contributors stopped, for the line must be drawn somewhere. The additional charge would fall upon the other contributors. Was it fair to ask those other contributors who were getting less than the older men to forego their comparatively small advantage in order to give the older men this additional benefit?

Mr. H. W. Forster said he knew many people who had not the slightest notion that benefit was going to be reduced to 7s. a week when the claimant was over 50, and he thought the Chancellor of the Exchequer's references to the younger men bearing the burden of the older had caused a great deal of misconception.

The Chancellor of the Exchequer said the intention of the Government was accurately interpreted by an amendment put down by the right hon. gentleman the member for East Worcester, and they proposed to meet the point not exactly in his words, but in those which the Attorney-General would propose.

The amendment was by leave withdrawn.

The Attorney-General then moved to insert words to restrict the operation of the subsection to the case of an insured person who becomes an employed contributor within a year after the commencement of the Act. This was an addition to the amendment standing in the name of the right hon. member for East Worcestershire (Mr. Austen Chamberlain).

Mr. Forster asked for an assurance that voluntary contributors would be covered by the Government's proposal.

The Chancellor of the Exchequer replied that there would be no reduction in the case of a voluntary contributor, because such a man would have paid the full rate.

Mr. J. F. Hope wished to know what would be the position of the man of 48 years of age, who would not be able to pay 500 contributions before he was 66. What would become of him in the interval?

The Chancellor of the Exchequer said such a man would not be affected by the proposal.

The amendment was agreed to.

An amendment moved by Mr. S. Walsh to leave out the words "and maternity benefit" in Subsection 4 was accepted by the Chancellor of the Exchequer and agreed to.

An amendment moved by Mr. Lees Smith, extending exemption from the operation of the subsection to persons who have spent their time since the age of 16 "in indentured apprenticeship or otherwise under instruction without wages" was also accepted by the Chancellor of the Exchequer and agreed to.

The clause, as amended, was agreed to, and progress was reported.

Clause 10.—Reduced Rates of Benefit where Contributors are in Arrears.

On Wednesday the Committee considered Clause 10, which is as follows:

(1) Where an insured person being a member of an approved society is in arrear to an amount greater than thirteen contributions a year on the average since his entry into insurance, his right to benefits under this part of this Act shall be suspended, and at the expiration of the next succeeding calendar year any sums credited to the society in respect of him, calculated in the prescribed manner, shall, if his right to benefits still continues to be suspended, be transferred to such account and dealt with in such manner as may be prescribed:

Provided that if at any time after such suspension he again becomes employed within the meaning of this part of this Act he shall be entitled to benefits at such rate, after the lapse of such time and after the payment of such number of contributions, as would have been applicable to his case had he not previously been an insured person; but if he so elects at any time the rate of benefits shall be such rate as he would entitled to were the period from the time of his original en into insurance taken as a whole.

(2) Where an employed contributor claiming sickness ben is at the date of such claim in arrears, but the arrears are l than as aforesaid, then the rate of sickness benefit shall reduced to a sum not less than 5s. a week, or the time wh sickness benefit commences deferred, proportionately to t amount of arrears in accordance with the table in the Fi Schedule to this Act.

(3) Where a voluntary contributor is in arrears he shall liable to such reduction or suspension of benefits as may prescribed.

(4) In calculating arrears of contributions, no account shall taken of any arrears accruing—

(*a*) During any period when the person in question has be or but for this or the two next succeeding sections of t Act would have been, in receipt of sickness benefit or d ablement benefit; or

(*b*) In the case of a woman who, being an insured person herself entitled to maternity benefit, during two wee before and four weeks after her confinement; or

(*c*) During the first twelve months after the commencement this Act; or

(*d*) During any period when the contributor (if an employ contributor) is under the age of 16 years;

but, save as aforesaid, contributions shall be deemed to be pa able in respect of every week from the date of entry in insurance.

(5) Where an insured person has paid any arrears of contrib tions payable by or in respect of him which accrued during t calendar year current at the date of payment and the previo calendar year, together with interest thereon at the rate 3 per cent. per annum from the respective dates on which t contributions accrued due and the date of payment, he shall treated for the purposes of this section as if the arrears so pa had never become due:

Provided that if such person is at the date of payment or su sequently within one month thereafter becomes unfit to provi for his own maintenance through disease or disablement, shall for the purposes of this section be deemed to be still arrear in respect of the amount so paid until after the expi tion of one month from the date of his recovery from su disease or disablement.

Mr. Lansbury moved to amend Subsection (1) of t clause so that where an insured person was in arrears an amount greater than thirteen contributions a year the average since his entry into insurance he should st have the right to "medical benefit, sanatorium benefit, a maternity benefit," and his right to these benefits shou not be suspended by his being in arrears. He moved t insertion of words to effect that object. As the State w putting up a large sum of money for the public treatme of disease generally, the worst thing the State could was to allow a person to go only half cured. It was t worst thing that could happen to allow sickness a disease to go untreated. As the clause stood the insur person was liable to lose the benefits through a lapse. H agreed there must be some period fixed when arrea would disqualify, but he was not willing that thirte weeks should disqualify.

The Chancellor of the Exchequer said he wanted th hon. member to treat this matter purely as an insuran proposition. He was glad that the hon. member for Bo and Bromley realized there must be a limit fixed arrears, and from that point of view he was prepared meet his hon. friend. He was going to suggest to h hon. friend that thirteen weeks should remain as th period in respect of sickness or disablement arrears, bu that the insured person should be entitled to medica benefit up to 50 per cent. arrears—that was, twenty-si weeks in all. That was infinitely more liberal than th treatment granted by any friendly society in the worl Thirteen weeks would be the limit for sickness pay, but s long as a man was only twenty-six weeks in arrear h would be entitled to medical benefit, sanatorium benefi and maternity benefit. If the hon. member would with draw his amendment the Government would propose a amendment to meet that case.

Mr. Austen Chamberlain said it was impossible fo the members of the House of Commons to discuss an criticize such proposals if sprung upon them suddenl at the very last moment. He rose to renew a protes he had made many times before as to the injury don to the House as a deliberative assembly by what wa now the settled practice of the Government of neve putting their amendments down on the notice paper. I was not fair to the House of Commons. The Governmen were dealing with a most complicated measure—one o which they were prepared to accept an unusual number

changes—but they habitually never gave the House any notice of their intentions. Under these circumstances it was impossible for members of the Opposition to accept any responsibility for what was being done. He requested the Chancellor of the Exchequer to tell the House what amount of money he was giving away by this amendment and from where it would be taken. Would the Chancellor also lay on the table a paper showing the total effect of all the various alterations and amendments he had accepted and what they would cost?

The Chancellor of the Exchequer said this was not a Government amendment at all. It was an amendment which appeared on the paper in the name of the hon. member for Bow and Bromley. The hon. member admitted there must be a limit to arrears. It was not always possible for the Government to say beforehand, and without hearing the arguments, what amendments they would accept. This was an amendment proposed by a gentleman who was not a member of the Government party. In fact, on this bill he was the leader of the Opposition. He could not say how much the amendment would cost, but it would not be very much. He would see that as soon as possible a paper was circulated showing the cost of the amendments which had been accepted.

Mr. Austen Chamberlain said he thought that was very necessary, for there was undoubtedly considerable disquiet spreading among experts as to the cost of the amendments. The Committee did not know what were the amendments which the Government proposed to make, and the Chancellor should arrange to take them into his confidence as soon as possible.

Sir H. Craik asked whether the effect of the amendment would not be to reduce the amount available for medical benefit.

The Chancellor of the Exchequer said he did not think the cost of the amendment would be more than a portion of a farthing in each case.

Mr. Lansbury said he wished to make his position clear. He believed it would be better to have a public health service controlled by the State, but his object was to get as much as possible for the people.

The amendment was agreed to.

The Attorney-General moved a consequential amendment providing that where an insured person was in arrears to an amount greater than twenty-six contributions a year on the average his right to medical and sanatorium benefit should be suspended.

This was agreed to.

Mr. Worthington Evans then moved the omission of the words, "and at the expiration of the next succeeding calendar year any sums credited to the society in respect of him, calculated in the prescribed manner, shall, if his right to benefits still continues to be suspended, be transferred to such account and dealt with in such manner as may be prescribed." He said his objections to the words were that the sum would be transferred to an account of which the committee had no knowledge, and that a man would forfeit his rights. If afterwards he wished to come into the scheme again he would have to do so as a new member and would lose the benefit of his previous contributions. The man would have to wait in some cases six months for medical benefit, in all cases six months for sickness benefit, and two years for disablement benefit.

Mr. McKenna said that the Government sympathized with the hon. gentleman's object, and proposed to accept the amendment standing in the name of the hon. member for Rushcliffe which would meet the grievance that there was no definition in the bill of the purpose for which this reserve was to be used.

The amendment was by leave withdrawn.

Mr. G. Locker Lampson rose to move the omission of the words "calculated in the prescribed manner." He said that the clause provided that the sums accruing to the society from the suspension of benefits owing to arrears should be "transferred to such account and dealt with in such a manner as may be prescribed." He desired to substitute for this that the sums should accrue to the advantage of the society.

The Chancellor of the Exchequer said that the point was dealt with in the amendment of the hon. member for Rushcliffe, which the Government would accept.

Mr. Locker Lampson then moved, with the consent of Mr. Leif Jones, the words carrying the sum accruing "for the benefit of the society or any other society to which he may subsequently be transferred." This was agreed to.

After some drafting amendments standing in the name of Mr. Leif Jones had been agreed to,

Mr. G. Locker Lampson moved to insert the following proviso at the end of Subsection 2: "Provided that if on the average of the three previous years the amount of unemployment in respect of the persons insured in any approved society has not exceeded $2\frac{6}{10}$ weeks per insured person per annum, the Insurance Commissioners may suspend the provisions of this subsection with regard to an approved society on its application for suspension." He said he had that morning been speaking to the actuary of the Manchester Unity, who was very anxious that this amendment should be made. The Government actuaries assumed that two and a half weeks on the average per year would be lost by every member of an approved society through unemployment; but that was not really the case with a good many societies.

The Chancellor of the Exchequer said he had listened with surprise to the assertion that the friendly societies disapproved of this clause. He did not know where the hon. member obtained that notion. Could the hon. member point to a single friendly society which gave anything like the advantage that would be given by this clause up to a maximum of thirteen weeks for unemployment? Certainly the Manchester Unity did not. It was true that they "sent round the hat" in order to enable members who were in arrears during unemployment to pay their subscriptions; but, in spite of that, 250,000 persons kept passing out annually, partly because they were in arrears—very largely from unemployment. The bill proposed, for the first time, to allow something like 25 per cent. of arrears without disqualifying a man as a member of a friendly society, and allowed him to be in arrears for a period without any reduction of benefits. In Germany a man in arrears twice in succession would lose all rights in the society. A very liberal attempt was made in the clause to meet the difficulty of unemployment. He was sure that the amendment did not suggest the best method of dealing with the matter. It was of no use to give the Commissioners power to make good arrears at the end of three years, which might be good or bad years. The question was one for the societies to decide, subject to the approval of the Commissioners. He did not object to additional benefits being offered by societies or indulgences being extended under approved conditions, and only when the societies discovered that they had sufficient funds. To embody the proposal in the clause would be a very great mistake.

The amendment was by leave withdrawn.

On the motion of Mr. Worthington Evans, Section 3 was amended to read, "Where a voluntary contributor is in arrear he shall be liable to such proportionate reduction of benefits as may be prescribed."

On the motion of Mr. Lees Smith, the wording of subsection 4 was amended by the omission of the words "or the two next succeeding sections of this Act" and the insertion of the words "section or any other provision of the Act disentitling a person to such benefit."

Mr. Lees Smith moved to amend Subsection (*c*) in Section 4 to make it clear that in the case of a child borne by the wife after the death of her husband the maternity grant should be paid. He moved to insert the words after "confinement," "or in the case of maternity benefit payable in respect of the posthumous child of an insured person, during the period subsequent to the father's death."

Mr. McKenna agreed with the objebt, and, subject to a drafting alteration later,

The amendment was inserted.

On the motion of Mr. Lees Smith, an amendment was agreed to excluding the voluntary contributor from the advantage conferred by Subsection (*c*).

Mr. G. Locker Lampson moved an amendment extending the operation of Subsection (*c*) to "any period within the second twelve months after the commencement of this Act during which the insured person is disabled after having exhausted his sickness benefit under the Act."

Mr. McKenna said that naturally everybody would desire to make the bill more favourable if money were at their disposal for the purpose. He did not think, however, that this was a case in which the Government could make an additional exception.

After some further discussion the amendment was withdrawn.

Mr. Snowden moved an amendment to section (4) providing that in calculating arrears of contributions, no account should be taken of any arrears accruing "during any period when the insured person was involuntarily out of work." He said that if the bill remained as it stood hundreds of thousands of workmen, after two or three years, would be permanently suspended from benefit.

The Attorney-General said that if this amendment were accepted an employed contributor who had paid for one week and then fell out of employment would be entitled to benefit thereafter for ever. He did not think the hon. member intended that result, and he would not therefore confine his criticism to the exact wording of the amendment. The hon. member, however, had left out of consideration the considerable and unusual benefits given by the bill to the man who was out of work and in arrears. In the first place, his contribution was not deducted for the time he was receiving sick benefit and was not counted as an arrear against him. When dealing with arrears, the bill said that so long as the period was less than one month he lost no benefit. Further, after even thirteen weeks of arrears all that he lost was the sickness and disablement benefit. He continued to get medical, sanatorium, and maternity benefits until the period of arrears was twenty-six weeks.

After several speeches from the Labour members for the amendment, and speeches against it by Mr. A. Chamberlain and the Chancellor, it was rejected by a majority of 210.

Mr. Lees Smith moved to leave out the words in subsection 5 "or in respect of." The point he desired to raise was the burden placed upon the contributor to pay up the employer's arrears as well as his own before he could be reinstated in the fund. He contended that in many cases this was an impossible burden. He confessed that there were difficulties in the way of the amendment, but the case was so exceptional that he contended the money should be found by means of a State grant. His calculation was that the cost would be £300,000, of which sum the State would be asked to contribute a half.

The Chancellor of the Exchequer urged in reply that it was impossible for the State to bear this burden. It was outside the scope of the resolution, and he would not take the responsibility of altering it for the purpose suggested by the amendment. The proposal was utterly impracticable, and it was certainly important that the bill should not be an encouragement to thriftlessness. The amendment set up elaborate machinery which would have that object. Was the Government to set up umpires and referees to decide in each case of a contributor in arrear whether he was to be let off the payment of 2d. a week? The £150,000 would certainly all go in setting up these courts to decide in individual cases. The State had to get its money somewhere, mainly from taxation, and if the amendment were carried the whole of the proposed burden would be cast on the shoulders of the steady members of friendly societies.

Mr. Sherwell urged that the Chancellor of the Exchequer had misunderstood the object and the spirit of the amendment. The right hon. gentleman himself had created much expectation in the public mind, and especially among the poor and destitute, which he feared might be doomed to disappointment when the measure came into operation. The amendment simply called attention to a grave and fatal deficiency in regard to unskilled and irregular labourers.

Mr. Snowden said that if the amendment were not accepted a very considerable proportion of the working classes would be constantly going on and coming off the insurance fund and never getting any of its benefits.

Mr. W. Peel said many of those in seasonal trades ought to be exempted from the bill, but if that could not be they were being done a great injustice.

Mr. Harwood said this bill was really an aristocratic bill. It was a bill for helping those who had already done well for themselves, and for not doing fairly by those who most needed help. They were told this concession could not be made; it must be made.

Mr. Rowntree said hitherto he had supported the Chancellor of the Exchequer, but he felt now that in the case of those earning under 15s. a week it was extremely difficult to justify this proposal.

The Chancellor of the Exchequer said he would ha been very glad to accept the amendment if he was n bound to consider the business side of the proposal. T suggestion he had made was that the approved societ themselves should be empowered to deal with hard cas If the approved societies liked to give relief in these ca he would consent to any amendment enabling them to so, but the moment a statutory right was given it mea that advantage would be taken of it by those w ought not to receive the advantage. The societ knew these cases, and he thought they might be left them.

Mr. A. Chamberlain and Mr. Ramsay Macdonald f lowed, the latter refusing to accept the Chancellor's su gestion. Mr. J. M. Henderson supported the Chancello position, which was criticized by Mr. Worthington Eva and Mr. Keir Hardie.

The Chancellor of the Exchequer then submitted a for of amendment embodying the proposals which he h previously made, and said the Government would be p pared to accept this as a substitute for the amendme under discussion if the latter were not carried. Amendme after amendment was put forward, each entailing additio expense, and if the cost of all these little amen ments were added together £1,500,000 would be add to the expense already incurred. He was not speaking the proposal to reduce contributions, or of a propos relating to married women, which would entail a cost £2,500,000. The Government had their cash limitatio in this matter, and his hon. friends must realize that they carried the amendment to a division it might me not merely a defeat of the Government, but the defeat the bill.

The Committee divided and the amendment was reject by a majority of 47.

Mr. Worthington Evans moved the omission of t words "which accrued during the calendar year cu rent at the date of payment and the previous calend year."

The amendment was negatived.

Mr. J. F. Hope moved to leave out the provision for t payment of 3 per cent. in Section 5.

The Attorney-General accepted the amendment, and t words were omitted.

Mr. Joynson-Hicks moved to leave out the words " subsequently within one month thereafter becomes." seemed a little hard that, when a man had saved up l money and got rid of his arrears and was in perfect healt because in a few weeks he was stricken with accident illness he should forfeit his benefit.

Mr. McKenna agreed that the amendment would ma no great inroad on the fund, but it was one of the necessa securities against improper charges. A man who kne sickness was coming upon him would be strongly tempt to pay up arrears in order to receive the full amount benefit. Payment of arrears must be bona fide and not anticipation of sickness.

Eventually the amendment was, by leave, withdraw and

Mr. Gill moved another amendment providing that t time for which an insured person who had paid arrea might, under the proviso to subsection 5, be still deemed be in arrear should be until after the expiration of o month "from the date of such payment" instead of "fro the date of his recovery from such disease or disablement

Mr. McKenna accepted the amendment.

The amendment was agreed to.

On the motion of Mr. McKenna, a new subsection come at the end of the clause was agreed to. It provid that "any approved society may, if it thinks fit, excu any part of the arrears which may have accrued by in respect of any member, not exceeding such part would have been payable by the employer had t member been in his employment, and in such ca the amount of arrears of that member shall be reduc accordingly."

On the question that the clause as amended stand pa of the bill, it was carried by a majority of 133.

Clause 11.—Contributors Entitled to Compensation or Damages.

The Committee then proceeded to debate Clause which deals with the Workmen's Compensation Act.

QUESTIONS IN PARLIAMENT.

Representation of Medical Profession.

Mr. Sandys asked how many representatives of the edical profession are to be included amongst the Insurnce Commissioners, on the Advisory Committee, and on ie local Health Committees respectively; and whether it as intended under the National Insurance Bill to sanction ie appointment of local Medical Committees, with powers act in conjunction with local Health Committees for ie purpose of making suitable arrangements in connexion ith the administration of medical benefits. Mr. Hobhouse id that the Insurance Commissioners would be an execuve, not a representative, body, but the Chancellor of the xchequer intended that at least one of their number ould be a medical man. The medical profession would rtainly be represented on the Advisory Committee, but e precise number of representatives could not be settled til the numbers of the committee and the other classes persons to be represented had been decided. The local alth Committee must, under the proposals of the bill, clude at least two qualified medical practitioners.

Health Committees.

Mr. Hastings Duncan asked the Chancellor of the chequer whether Health Committees appointed under use 14 of the National Insurance Bill to administer dical benefit might include medical men practising moeopathy in their list of qualified medical practiners. The Chancellor of the Exchequer said that the swer was in the affirmative.

Compensation to Medical Men.

Ir. Gibbs asked the Chancellor of the Exchequer ether he would be willing to favourably consider an endment to the National Insurance Bill providing for compensation of such medical men as shall be able to ve financial loss owing to the operation of the Act. Hobhouse, in reply, said that the Chancellor of the hequer anticipated that the operation of the National lth Insurance would cause financial gain rather than to medical men.

Doctors Practising in Same Area.

r. Harry Lawson asked whether rules would be made issued either by the Treasury or the Local Governt Board in regard to the division of medical practice between doctors contracting under the National rance Bill in the same area in regard to the number atients, especially those with chronic illness and in rd to the distance from the doctor's house for visiting oses, in regard to night calls, having in view the ent custom and scale of fees. Mr. Hobhouse said the er was in the negative.

Herbal Practitioners.

. Pointer asked whether "duly-qualified herbal pracners" would be allowed to practise under the terms of National Insurance Bill in cases where the insured n preferred their services to those of the ordinary cal practitioner. Mr. Hobhouse replied that no prac-ter who had one or other of the qualifications enuted in connexion with the Medical Acts would be out by the terms of the bill.

Treatment of Tuberculosis.

. James Parker asked whether, in view of the power to the Local Government Board to utilize any Poor institution for the purpose of the provision of sanans and other institutions for the treatment of tubercuor such other diseases, under Section 47 of the National ance Bill, clauses would be inserted in the Act to ard the interests of officers in such manner as was ded in Section 120 of the Local Government Act, and Sections 28 of the City of London (Union of es) Act, 1907. Mr. Hobhouse replied that no such was given by Clause 47 which enabled the Local nment Board to make grants for the provision of riums where required.

Sanatorium Benefit.

Rowntree asked the Chancellor of the Exchequer if ld say what was intended to be covered by the word ent in Clause 15 (administration of sanatorium benefit) use (1), of the National Insurance Bill. Mr. Lloyd George replied that this word should be interpreted by reference to the definition of the sanatorium benefit which the House of Commons adopted on July 12th.

Hospital Nurses.

Sir Samuel Scott asked the Chancellor of the Exchequer whether pupil nurses in hospitals would come under Part I (a) of the first schedule of the National Insurance Bill; and, if so, whether hospitals would be liable for both employer's and employed's contributions. Mr. Lloyd George said that pupil nurses under a contract of service or apprenticeship would come under Part I (a) of the first schedule. If no wages were paid the hospital was responsible for the employee's as well as the employer's contribution. This question was under consideration.

Nourishment and Appliances for Invalids.

Mr. Cooper asked whether, in the case of an insured person requiring and being ordered nourishing diet, such as milk, beef-tea, wine, etc., or simple appliances such as bandages and trusses, arrangements would be made for their supply; and whether they would be a proper charge on the National Insurance Fund. Mr. Hobhouse said that simple appliances could be supplied as part of medical benefit, but articles of diet could not. In this respect the National Health Insurance would conform to the ordinary practice of friendly societies.

Maternity Orders.

Mr. Crooks asked the President of the Local Government Board whether he could obtain for the information of the House the number of maternity orders giving the right to free attendance by a medical man from the various hospitals maintained by voluntary contributions in London. Mr. Burns said he understood that in the year 1909, 5,134 confinements occurred in London in lying-in hospitals, and 24,873 in connexion with free hospital maternity charities at home. Total, 30,007. Assuming one birth to a confinement, this implied that about 25.4 per cent. of the total births in London were gratuitously attended in connexion with these charities. Mr. Crooks then asked the number of maternity orders issued by the several boards of guardians—(1) in London, (2) in the provinces, (3) in Wales—differentiating between institution and home attendance of the medical officer. Mr. Burns replied that, according to the latest returns, 3,125 cases were admitted to maternity wards of London workhouses and infirmaries during the year 1910. The number of midwifery orders given to district medical officers was 1,265, and to midwifery nurses appointed by guardians 329. He was not able to give the corresponding figures for the rest of the country.

Medical Aid Societies.

Mr. Pointer asked the Chancellor of the Exchequer whether he had considered the case of the medical aid societies at work in various parts of the country, which engaged, paid, and controlled a medical practitioner of their own, who prescribed for and attended the members of the society, using the medicines and drugs purchased by the society; and whether they would be affected by the National Insurance Bill, and, if so, how, and, if adversely, what provision he intended to make to enable them to continue their work. Mr. Hobhouse said that a medical aid society which was prepared so to extend its operations as to administer all the benefits provided under the National Health Insurance could become an approved society. Under the proposals of the bill a society which desired to confine its activities within the existing limits could readily make such arrangements with the approved societies through which its members were insured to enable it to continue to administer their medical benefit and to receive the funds available for that purpose out of their contributions.

Laundry Workers.

In reply to Major White, the Chancellor of the Exchequer said that representations from the Federation of Laundry Associations had been received. It was not practicable to have different scales of contribution for different industries. It might be pointed out that as regarded the employer the contribution became a charge on the whole industry, as all employers alike paid; whilst, if the employees of the trade were particularly healthy, they would be able to enjoy additional benefits if they

formed an approved society of their own, as it was open to them to do.

In answer to a further question by Captain Faber as regards contributions and benefits and the excess of contributions for this healthy trade, Mr. Lloyd George said that he had received a communication from the Federation of Laundry Associations in which this estimate of the sickness rate was adopted. But he knew no reason why laundry work should be healthier than other occupations, and it was quite impossible to judge of the value of the estimates in the absence of information as to the ages of the persons concerned and other particulars. In order to contribute £37 a laundrywoman would have to contribute in respect of 2,960 weeks, or nearly fifty-seven years, without allowing anything for periods of sickness and unemployment. Only a person enjoying very exceptional health could possibly draw so small a sum as £37 on account of benefits over so long a period.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 8,102 births and 3,650 deaths were registered during the week ending Saturday last, July 15th. The annual rate of mortality in these towns, which had been 11.3, 11.7, and 12.0 in the three preceding weeks, declined to 11.8 per 1,000 in the week under notice. In London the death-rate was equal to 11.3 per 1,000, against 10.6, 11.1, and 11.0 in the three previous weeks. Among the seventy-six other large towns the death-rates last week ranged from 3.8 in York, 5.5 in Hornsey, 6.0 in Willesden, 6.2 in Walthamstow, and 6.3 in Huddersfield, to 18.1 in Aston Manor, 18.7 in Bury, 19.3 in Sunderland, 19.5 in Plymouth, and 19.6 in West Hartlepool. Measles caused a death-rate of 1.4 in Plymouth, 1.9 in Great Yarmouth, and 2.7 in Wolverhampton; diphtheria of 1.8 in Gateshead; and diarrhoea and enteritis (of children under 2 years of age) of 1.3 in Liverpool and in Merthyr Tydfil, 1.5 in Bootle and 1.7 in Southampton and in Rhondda. The mortality from scarlet fever, whooping-cough and enteric fever showed no marked excess in any of the large towns. One fatal case of small-pox was registered in Birmingham, but none in any other of the seventy-seven towns. Of the 3,650 deaths registered during the week, the causes of 27 were not certified either by a registered medical practitioner or by a coroner after inquest, and included 7 in Liverpool, 5 in Birmingham, and 3 in Stoke-on-Trent. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,223, 1,226, and 1,264 at the end of the three preceding weeks, had further increased to 1,345 at the end of the week under notice; 204 new cases were admitted during the week, against 159, 163, and 191 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the principal Scottish towns 820 births and 488 deaths were registered during the week ending Saturday, July 15th. The annual rate of mortality in these towns, which had been 14.2 and 14.6 per 1,000 in the two preceding weeks, further rose to 14.9 in the week under notice, and was 3.1 per 1,000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates ranged from 9.1 in Leith and 11.7 in Dundee to 17.3 in Greenock and 18.9 in Edinburgh. The mortality from the principal epidemic diseases averaged 1.7 per 1,000, and was highest in Edinburgh and in Perth. The 213 deaths from all causes registered in Glasgow included 12 from whooping-cough, 6 (of children under 2 years of age) from diarrhoea and enteritis, 5 from measles, 3 from diphtheria, 1 from enteric fever, and 1 from scarlet fever. Eight deaths from whooping-cough and 2 from scarlet fever were recorded in Edinburgh, and 2 from scarlet fever in Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, July 15th, 581 births and 369 deaths were registered in the twenty-two principal urban districts of Ireland, as against 556 births and 312 deaths in the preceding period. The annual death-rate in these districts, which had been 13.5, 17.0, and 14.2 per 1,000 in the preceding weeks, rose to 16.7 per 1,000 in the week under notice, this figure being 4.9 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 20.9 and 16.6 respectively, those in other districts ranging from 4.2 in Drogheda and 5.0 in Kilkenny to 22.9 in Newtownards and 26.7 in Portadown, while Cork stood at 11.6, Londonderry at 19.2, Limerick at 10.9, and Waterford at 5.7. The zymotic death-rate in the twenty-two districts averaged 1.6 per 1,000, as against 1.0 in the preceding week.

Hospitals and Asylums.

NORTH WIMBLEDON COTTAGE HOSPITAL.

FROM the forty-first annual report of this institution it appears that 274 patients were admitted during the year, while 14 remained in hospital on January 1st, 1910, making a total of 288 patients, 104 males and 184 females. Ten patients died, and 20 remained in hospital at the end of the year; the average number resident daily was 16.5. The total number of hospital days was 6,027, giving an average residence of 20.9 days to each patient. The average cost per patient was £3 2s. 7d. The average cost per patient per week was £1 0s. 11d. Twenty-five persons received treatment as out-patients in the course of the year, involving 180 attendances. Grateful acknowledgement was made of grants of £50 from King Edward's Hospital Fu £61 6s. 8d. from the Hospital Sunday Fund, and £38 from t Hospital Saturday Fund. The hospital is in course of rec struction.

SURREY COUNTY ASYLUMS.

Brookwood.

DURING the year 1910 this asylum lost the valued services two of its medical staff. In September Dr. Barton retired af 36 years' service, leaving, however, many permanent records his zealous activities as medical superintendent. Earlier in t year Dr. H. N. Cappe, senior assistant medical officer, with years' service at this asylum, contracted septicaemia, eviden as the result of infection in the *post-mortem* room, and died, the great regret of all, one month later.

The annual report for 1910 is submitted by Dr. J. A. Low the new Medical Superintendent, who shows that on January 1 1910, there were 1,032 patients in the asylum, and on the last d of the year 1,110. The total cases under care during the y numbered 1,315, and the average number daily resident 1,0 During the year 283 were admitted, of whom 250 were first a 33 not-first admissions. In 97 the attacks were first attac within three, and in 36 more within twelve months of adm sion; in 52 not-first attacks within twelve months; in whether first attacks or not, the illness was of more than twe months' duration, while 24 were congenital cases, and in 23 duration of illness was unknown. The total admissions w classified, according to their respective forms of mental disord into: Mania of all kinds, 67; melancholia of all kinds, senile and terminal dementia, 28; delusional insanity general paralysis, 10; epileptic insanity, 25; primary dementia confusional insanity, 5; and congenital or infantile defect, As to probable causation, alcohol was assigned in 35, or 12.3 cent., syphilis in 12, influenza in 3, and tubercle in 8; epile in 25 and brain lesions in 4; critical periods in 49; childbi in 5; various bodily affections in 15; bodily trauma in 1, a mental stress in 49; whilst in 57 no cause could be assign An insane heredity was ascertained in 79, or 27 per cent., a mental instability was returned as cause in 23 more. Dur the year 75 were discharged as recovered, giving a recovery-r on the admissions of 32.89 per cent.; also 22 as relieved, n 36 as not improved. During the year 72 died, giving a dea rate on the average numbers resident of 6.77 per cent. T deaths were due in 20 to nervous diseases, including 18 dea from general paralysis; in 5 to diseases of the heart and blo vessels; in 15 to kidney diseases; in 2 to ulcerative colit in 1 to bronchopneumonia; and in the remainder to gene diseases, including 8 from senile decay, and 13, or almost 17 cent. of the total deaths, from tuberculosis. The general hea throughout the year was described by Dr. Lowry as very go and there was only one serious casualty.

Netherne.

The annual report of the Medical Superintendent, Dr. F. Gayton, for the year 1910 shows that on January 1st of that ye there were 626 patients in the asylum, and on the last day of t year 754. The total cases under care during the year number 890, and the average number daily resident 675. During t year 264 were admitted, of whom 257 were first admissions. 83 the attacks were first attacks within three, and in 25 mo within twelve months of admission; in 26 not-first attac within twelve months; in 75, whether first attacks or not, t illness was of more than twelve months' duration on admissio and in the remainder the illness was either of congenital orig (43) or of unknown duration (6). The total admissions we classified according to the forms of mental disorder int Mania of all kinds, 46; melancholia of all kinds, 57; senile a terminal dementia, 31; delusional insanity, 33; general par lysis, 5; epileptic insanity, 13; primary dementia, 29; alternati insanity and confusional insanity, 1 each; and congenital infantile defect, 43. Concerning probable causation, alcoh was assigned in 21, or less than 8 per cent., syphilis in influenza in 5, and other toxins in 3; critical periods in 3 childbirth, etc., in 13; epilepsy and brain lesions in 16; vario bodily affections in 3; bodily trauma in 4, and mental stress 48; whilst in 90 no cause could be assigned. An insane heredi was ascertained in 58, and congenital mental defect not amou ing to imbecility existed in 2 more. During the year 44 we discharged as recovered, giving a recovery-rate on the admi sions of 27.38 per cent., also 10 as relieved and 21 as not i proved. During the year 61 died, giving a death-rate on t average numbers resident of 9.03 per cent. The deaths we due in 22 to nervous diseases, including 10 from general par lysis; in 11 to diseases of the heart and blood vessels; in 2 diarrhoea; in 1 to Bright's disease; in 1 to fracture of skull violence; in 1 to asphyxia by strangulation, and in the remai ing 23 to general diseases, including 13 from senile decay, and or 11.7 per cent. of the total deaths, from tuberculosis, exce 1 death from pleurisy. With regard to the 2 deaths from vi lence mentioned above, in 1 a patient was pushed by anoth patient in an airing court, sustaining a fracture of the base the skull from which he died a few hours later. The aggress was tried for manslaughter and committed to Broadmoor to detained during His Majesty's pleasure. The second was a ca of suicide by a female patient not formerly regarded as suicida The patient was found in bed, already dead for some time, wi a piece of string tied tightly round her neck. The gener health of the remainder during the year was good, and there do not appear to have been any serious non-fatal casualties.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Surgeon G. O. M. DICKINSON, M.B., to the *Victory*, additional, for disposal, July 13th; Fleet Surgeon C. J. MANSFIELD, M.V.O., M.B., to the *Impregnable*, July 26th; Fleet Surgeon H. F. ILIEWICZ, M.B., to the *Indomitable*, July 26th; Surgeon J. S. ORWIN, M.D., to the *Clio*, July 11th; Staff Surgeon R. KENNEDY, M.B., to the *Sphinx*, July 12th; Surgeon J. E. JOHNSTON, M.B., to the *Ringdove*, on commissioning, undated.

ARMY MEDICAL SERVICE.

COLONEL R. I. D. HACKETT, M.D., who is serving in India as Principal Medical Officer, Kurrachee Brigade, has been appointed Principal Medical Officer, Abbottabad and Sialkote Brigades.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel H. L. E. WHITE is placed on retired pay, July 3rd. His commissions are thus dated: Surgeon, March 6th, 1880; Surgeon-Major, March 6th, 1892; Lieutenant-Colonel, March 6th, 1900. He served with the Chitral Relief Force in 1895, receiving a medal with clasp.

Major H. B. G. WALTON, who is serving in India, is appointed Specialist in Advanced Operative Surgery, Seventh (Meerut) Division, from April 26th.

Major F. J. MORGAN is promoted to be Lieutenant-Colonel, vice F. F. J. JENCKEN, M.B., promoted May 12th. Lieutenant-Colonel Morgan was appointed Surgeon-Captain, February 5th, 1887, and Major, February 5th, 1899. He served in the South African war in 1900–2, and was present in operations in Cape Colony, in the Orange Free State (actions at Paardeberg, Poplar Grove, Karee Siding, Vet River, and Zand River), and the Transvaal (actions near Johannesburg and Pretoria); he was mentioned in dispatches and received the Queen's medal with three clasps and the King's medal with two clasps.

Major W. H. HORROCKS, M.B., is promoted to be Lieutenant-Colonel, vice R. P. Bond, retired, May 19th. Lieutenant-Colonel Horrocks's previous commissions were dated: Surgeon-Captain, February 5th, 1887; Major, February 5th, 1899.

Major C. H. HALE, D.S.O., is also promoted to be Lieutenant-Colonel, vice W. B. Thomson, retired, June 7th. Lieutenant-Colonel Hale was appointed Surgeon-Captain, February 5th, 1887, and Major, February 5th, 1899. He was present in operations in South Africa in 1896, for which he was mentioned in dispatches and appointed D.S.O. He was also in the South African war in 1901–2, was present in operations in Orange River Colony and Cape Colony, and received the Queen's medal with four clasps.

Major H. C. THURSTON, C.M.G., also is promoted to be Lieutenant-Colonel, vice F. H. Treherne, C.M.G., promoted June 13th. Lieutenant-Colonel Thurston was appointed Surgeon-Captain, February 5th, 1887; Major, February 5th, 1899. He served with the Wuntho Field Force in Burma in 1891, receiving a medal with clasp. He was also in the South African war in 1899–1902, being present at the relief of Kimberley, and in operations in the Orange Free State (action at Paardeberg, Poplar Grove, Karee Siding, and Zand River), in the Transvaal (actions near Johannesburg, Pretoria, Diamond Hill, Reit Viel, and Belfast), and Cape Colony (action near Colesberg). He was mentioned in dispatches, appointed C.M.G., and received the Queen's medal with five clasps and the King's medal with two clasps.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL J. M. MACLAREN, M.B., Bengal, retires from the service from June 24th. He was appointed Surgeon, April 2nd, 1881, and became Lieutenant-Colonel, April 2nd, 1901. He served with the Sudan Expedition in 1885, and was present at the action of Haskeen, and in the operations at Tamai, receiving a medal with clasp and the Khedive's bronze star.

Lieutenant-Colonel R. B. ROE, Principal Medical Officer, Abbottabad and Sialkote Brigades, has been appointed Principal Medical Officer, Kurrachee Brigade.

Major A. E. BERRY, M.B., is appointed Specialist in Ophthalmology, Fifth (Mhow) Division, with effect from June 5th.

Major T. A. GRANGER, M.B., is appointed Secretary to the Principal Medical Officer, His Majesty's Forces in India, from May 22nd.

Colonel H. HENDLEY, M.D., has been appointed Principal Medical Officer, Sirhind and Jullundur Brigades, vice Colonel A. M. Crofts, C.I.E., promoted.

Lieutenant-Colonel A. STREET, M.B.Cantab., F.R.C.S., is appointed Senior Surgeon, Jamsetjee Jejeebhoy Hospital and Professor of Surgery and Clinical Operative Surgery, Grant Medical College.

Major T. S. NOVIS, F.R.C.S., is appointed Second Surgeon, Jamsetjee Jejeebhoy Hospital, and Presidency Surgeon, First District, and Professor of Anatomy and Curator of the Museum, Grant Medical College.

Colonel WILLIAM O'HARA has retired from the service, from June 7th. He entered the Madras Medical Department as Assistant Surgeon, September 30th, 1874, and became Colonel, May 28th, 1906.

The promotion to be Colonel of Lieutenant-Colonel H. HENDLEY, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the approval of the King.

The promotion of Major T. S. NOVIS, notified in the *London Gazette* of September 2nd, 1910, is antedated from July 27th, 1910, to January 31, 1910.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

MAJOR E. C. THOMPSON, M.B., relinquishes his commission, July 15th.

Lieutenant (on probation) E. A. GREGG resigns his commission, July 8th.

Lieutenant J. J. M. SHAW, M.B., is confirmed in his rank.

Cadet Private HUBERT COX, from the Birmingham University Contingent, Officers Training Corps, to be Lieutenant (on probation), June 2nd.

Cadet Sergeant PHILIP N. BUTTON, from the University of London Contingent, Officers' Training Corps, to be Lieutenant (on probation), June 19th.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second Eastern General Hospital.—Majors E. F. MAYNARD, M.D., and J. PALEY, M.D., to be Lieutenant-Colonels, May 21st. Captains H. BUSHNELL, M.D., and W. A. BOWRING, F.R.C.S., to be Majors, May 21st. Captain W. D. CALVERT resigns his commission, July 8th.

Attached to Units other than Medical Units.—Major JAMES MALPAS resigns his commission, July 8th; he retains his rank and uniform.

For Attachment to Units other than Medical Units.—GEORGE B. BRAND, M.B., to be Lieutenant, May 15th.

Yorkshire Mounted Brigade Field Ambulance.—THOMAS E. LISTER, M.B., to be Lieutenant, June 1st.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ABERDEEN: KINGSEAT ASYLUM.—Assistant Medical Officer. Salary commencing £120 per annum.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—House-Surgeon (male). Honorarium, £100 per annum,

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—(1) Junior House-Surgeon; salary, £70 per annum, (2) Locumtenent; remuneration, 3 guineas weekly.

BODMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL. — House-Physician, male. Salary, £80 per annum.

BURNLEY: VICTORIA HOSPITAL.—Junior House-Surgeon. Salary at the rate of £80 per annum.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

CANTERBURY BOROUGH ASYLUM. — Assistant Medical Officer (male). Salary to commence, £140 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—Assistant Surgeon.

CHESHIRE COUNTY ASYLUM, Parkside,—Junior Assistant Medical Officer. Salary, £150 per annum, rising to £170.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £70 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.— House-Physician, Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL. — Assistant House-Surgeon. Salary at the rate of £50 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DUMFRIES: CRICHTON ROYAL INSTITUTION.—Pathologist and Clinical Pathologist. Salary, £250 per annum.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL. — House-Surgeon. Salary, £72 per annum.

FULHAM ANTITUBERCULOSIS DISPENSARY.—Medical Officer, non-resident. Commencing salary, £250.

GLENLIVET PARISH COUNCIL.—Medical Officer for the District. Salary, £45 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL. — Resident Medical Officer. Salary, £100 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House-Physician. Honorarium, 30 guineas for six months.

KINGUSSIE: GRAMPIAN SANATORIUM FOR TUBERCULOSIS.—Resident Physician. Salary, £100 per annum.

LEICESTER INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House-Surgeon. Salary, £100 per annum.

LOUGHBOROUGH AND DISTRICT HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

MANCHESTER SCHOOLS FOR MOTHERS.— Honorary Medical Officer to the Openshaw Branch,

METROPOLITAN HOSPITAL, Kingsland Road, N.E. — Assistant House-Surgeon. Salary at the rate of £40 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—(1) Honorary Physician. (2) Pathologist and Registrar. Honorarium, £75 per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Anatomy.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Surgeon. Salary, £80 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM PARISH WORKHOUSE INFIRMARY.—Resident Assistant Medical Officer. Salary, £130 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL. — House-Physician (male). Salary at the rate of £75 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham.—Junior House-Physician, Salary, £50 per annum,

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon (male). Salary, £80 per annum.

ST. PANCRAS UNION.—Assistant Medical Superintendent of the South Infirmary, and Assistant Medical Officer of the Workhouse. Salary, £135 per annum.

SANITARY INSPECTORS' EXAMINATION BOARD. — Four Examiners, of whom Two must be Medical Officers of Health.

SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon, (2) Assistant House-Physician. Salary, £60 per annum each.

SOMERSET AND BATH ASYLUM, Cotford. — Assistant Medical Officer. Salary, £140 per annum, rising to £160.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House-Surgeon. Salary at the rate of £60 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Physician. Salary, £75 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £70 per annum.

THROAT HOSPITAL, Golden Square, W.—Surgical Registrar.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—(1) House-Physician. (2) House-Surgeon. Appointments for six months. Salary, £40. (3) Anaesthetist. Salary, £37 16s. per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WEST HARTLEPOOL: CAMERON HOSPITAL. — House-Surgeon. Salary, £100 per annum,

WESTMINSTER GENERAL DISPENSARY. — Resident Medical Officer. Salary £120 per annum.

WESTMINSTER HOSPITAL, S.W.—Assistant House-Surgeon.

WINDSOR: KING EDWARD VII HOSPITAL. — House-Surgeon. Salary, £110 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Terms, £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL,—House-Surgeon. Salary, £80 per annum.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment: Glastonbury (Somerset).

APPOINTMENTS.

BLACKSTONE, C., E. M.R.C.S., L.R.C.P., Medical Officer of Health of the Ringwood Rural District.

CHILD, S., M.B., B.C.Camb., Medical Officer of Health of the Horsham Rural District.

DAVIES, A. O., L.R.C.P. and S.Edin., Medical Officer of the Machynlleth Union Workhouse.

FOX, S. C. Gundry, M.R.C.S., L.R.C.P.Lond., Senior Medical Officer, Perak, Federated Malay States, Medical Service, vice S. H. R. Lucy, M.R.C.S., L.R.C.P., promoted.

GILFILLAN, S. J., M.B., C.M.Edin., Medical Superintendent of Colney Hatch Asylum of the London County Council, vice Dr. W. J. Seward, retired.

GILMOUR, P. G., M.R.C.S., L.R.C.P., District Medical Officer of the Great Yarmouth Union, and Medical Officer of Children's Homes.

GRAY-MAITLAND, V., M.R.C.S., L.R.C.P., Medical Officer of Health of Borough of Nuneaton.

ODELL, William, M.D., F.R.C.S., Honorary Consulting Physician to the Western Hospital for Consumption, Torquay.

PAUL, J. E., M.D.Lond., M.R.C.S., L.R.C.P., Honorary Physician to Western Hospital, Torquay.

SYKES, A. W., M.D., D.Sc., F.R.C.S., M.R.C.P., Half-time Assistant Medical Officer in the Education Department of the London County Council Service.

VENNING, J. A., M.B., B.C.Cantab., District Medical Officer of the Woodstock Union.

WALLIS, B., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Helston District, co. Cornwall.

WHALLEY, Edgar, M.R.C.S.Eng., L.R.C.P.Lond., Medical Officer of Health to the Rural District of Leeds.

WILCOCKSON, G. M., L.R.C.P. and S.Edin., L.F.P.S.Glasg., Public Vaccinator for Guildford.

WINCKWORTH, W. B., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Taunton District, co. Somerset.

EDINBURGH ROYAL INFIRMARY.—The following gentlemen have b reappointed for a further period of five years: Dr. R. W. Phil Ordinary Physician; Dr. Norman Walker, Physician for Disea of the Skin; Mr. Charles W. Cathcart, Ordinary Surgeon; J. J. Malcolm Farquharson, Surgeon to the Ear and Throat Depa ment; Dr. Harry Rainy, Assistant Physician; Dr. R. Cranst Low, Assistant Physician for Diseases of the Skin; Mr. J. Dowden, Assistant Surgeon; Dr. J. S. Fraser, Assistant Surge to the Ear and Throat Department.

Dr. W. T. Ritchie has been appointed an Assistant Physician five years. Dr. Dawson Turner has been appointed Extra Medi Electrician; Dr. W. Hope Fowler, Medical Electrician; and Archibald Mackenzie, Junior Medical Electrician.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, a Deaths is 3s. 6d., which sum should be forwarded in Post Of Orders or stamps with the notice not later than Wednesday morn in order to ensure insertion in the current issue.

MARRIAGES.

JORDAN—BRUMLEU.—On July 12th, at Holy Trinity Church, Sidc by the Rev. J. Foster Lepine, Alfred Charles Jordan, M.D., of Weymouth Street, W., third son of the late Albert Jordan, Bowden, Cheshire, to Christina, third daughter of the late Char Brumleu, of Mossbank, Sidcup.

OAKLEY—BROMLEY.—At Great Nest Church, Salop, on July 12th, 19 by the Vicar, the Rev. F. J. Stanley, George Gardner Oakl M.R.C.S.Eng., L.R.C.P.Lond., eldest son of Dr. J. Oakley, J. Holly House, Halifax, to Mary Gardner Bromley, second daugh of Richard Bromley, Esq., Felton Butler, near Shrewsbury.—" home," Holly House, Halifax, September 5th, 6th, and 7th.

DEATH.

GRIFFIN.—July 15th, at Bloxham, Oxon., Innes Griffin, M.R.C. L.S.A., aged 63 years. For many years Medical Officer of Hea for Banbury.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Ro W.C.—Lectures: Tuesday, 3.45 p.m., Anaesthet Friday, 3.45 p.m., Mouth and Teeth.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W Medical and Surgical Clinics, *X* Rays, and Operatio 2 p.m. daily. Monday, Gynaecology, 10 a.m.; E 2 p.m. Tuesday, Gynaecological Operations, 10 a.m Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. We nesday, Diseases of Children, 10 a.m.; Throat, No and Ear Operations, 10 a.m.; Eye, 2 p.m. Thursda Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday, Gynae logical Operations, 10 a.m.; Throat, Nose, and E 2 p.m.; Skin, 2 p.m. Saturday, Diseases of Childre 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m Eye, 10 a.m.

PUBLISHERS' ANNOUNCEMENTS.

DR. RAYMOND CRAWFURD has written a historical treatise the disease called the "King's Evil," which will be publish this week by the Oxford University Press. The volume conta a number of curious illustrations.

Messrs. Cassell and Co. are about to publish a work entitl *Diseases of the Nose and Throat* (including the Trachea Oesophagus), by Dr. StClair Thomson, Professor of Laryngolo in King's College, London.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
JULY.	
21 FRIDAY ..	ANNUAL REPRESENTATIVE MEETING, Midland Institute, Birmingham, 10 a.m.
22 SATURDAY ..	ANNUAL REPRESENTATIVE MEETING, Midland Institute, Birmingham, 9 a.m.
23 Sunday ..	
24 MONDAY ..	CENTRAL COUNCIL, 9.30 a.m. ANNUAL REPRESENTATIVE MEETING, 10 a.m.
25 TUESDAY ..	ANNUAL MEETING (*see detailed Programme, pp. 164 to 179*). ANNUAL REPRESENTATIVE MEETING, 9.30 a.m. ANNUAL GENERAL MEETING, 2 p.m.
26 WEDNESDAY	ANNUAL MEETING (*see detailed Programme, pp. 164 to 179*). CENTRAL COUNCIL, 9.30 a.m.

Date.	Meetings to be Held.
JULY (*continued*).	
27 THURSDAY ..	ANNUAL MEETING (*see detailed Programme, pp. 164 to 179*).
28 FRIDAY ..	ANNUAL MEETING (*see detailed Programme, pp. 164 to 179*).
29 SATURDAY ..	
30 Sunday ..	
31 MONDAY ..	
AUGUST.	
1 TUESDAY ..	
2 WEDNESDAY	
3 THURSDAY ..	
4 FRIDAY ..	
5 SATURDAY ..	

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SUPPLEMENT
TO THE
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SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

BIRMINGHAM, 1911.

ANNUAL REPRESENTATIVE MEETING.

Friday, July 21st.

Dr. E. J. MACLEAN (Chairman of Representative Meetings) in the Chair.

THE Annual Representative Meeting was opened at the Midland Institute, Birmingham, at 10 a.m., on Friday, July 21st, 1911. The chair was taken by Dr. MACLEAN, Chairman of Representative Meetings.

RECEPTION BY THE LORD MAYOR OF BIRMINGHAM AND PRESIDENT-ELECT.

The CHAIRMAN introduced the Lord Mayor of Birmingham.

The LORD MAYOR OF BIRMINGHAM (Alderman W. H. Bowater), who was received with acclamation, said: It is my very pleasing duty, as chief citizen, to welcome the British Medical Association to our city. It is twenty-one years since you favoured us with a visit. A great deal has happened in regard to your profession during that time, and a great deal has happened to our city. I hope that those of you who were with us twenty-one years ago will see that there has been a marked improvement in many directions in connexion with our city affairs. Had you waited another month or two we should have been a city of nearly 900,000 inhabitants. Our death-rate is not much more than half what it was the last time you were here, and you will be pleased to know that the attention given by our authorities to public health has resulted in such a desirable result. I am very pleased that the affairs of your Association as an association are progressing so favourably. Your numbers a year ago were some 21,000, and just recently on account of the cry of "wolf"—whether it was genuine or not I will not say—between 3,000 and 4,000 medical men who in the past thought that they were safe enough wandering about outside your fold hastened to come within your gates. Birmingham as a city is a fitting centre for your deliberations concerning that State Insurance Bill which is of such vital importance to your well-being. We recently had a conference here of one of the largest friendly societies; those present at that conference studied this bill from their point of view, you will consider it from yours; but I can assure you that in Birmingham, which is proud of her medical school and the means of teaching and examining here, you will have a sympathetic community attending to the reports of your deliberations. We realize that there is no profession which gives more of its services gratuitously to the relief of the sick poor than the medical profession as a whole, and certainly that part of the profession which is in our city. But that is no reason why greater demands should be made upon your profession. You will be backed up by the public opinion of the Midlands in asking for a living wage for yourselves. If there is one profession that is poorly paid it is the medical profession. We know that many calls are made upon you in your own private practices as well as in voluntary honorary services in hospitals. I am glad that a little time ago your Association protested against, and I might say prevented, an abuse of your services at the hospitals by having the medical inspection of school children thrust upon you. Locally we have not been guilty of that. We realize that to turn all the school children into the out-patient departments of voluntary hospitals to obtain the honorary services of physicians and surgeons was not an adequate way of meeting a public need. The city of Birmingham engaged the services of twenty-five or twenty-six medical gentlemen in the administration of its affairs; and whilst unfortunately a large number of those are engaged at our different mental hospitals, yet the greater proportion of them are directly concerned in the public health of this city. I again wish to welcome you to our city, and I trust your deliberations will be to the advantage of the profession, because I am quite positive that the improvement of your profession will redound very much to the advantage of the community at large. The Reception Committee have made preparations for your social, I will not say amusement, but enjoyment. I think that you will do well to have a little relaxation by taking advantage of some of the excursions and parties that have been provided for you.

The CHAIRMAN OF REPRESENTATIVE MEETINGS: Before I respond to the very kind words of the Lord Mayor I will call upon the President-elect, Professor Saundby, to welcome the meeting on behalf of the practitioners of the district generally.

Professor SAUNDBY: I wish to address a few words of welcome on behalf of the local medical profession, who for the fifth time are delighted to see the British Medical Association assemble in this city. As we have been reminded, twenty-one years have elapsed since your last meeting in Birmingham. On that occasion I had the pleasure of being the senior Local Secretary, and it seems to me to be only the other day; yet a great deal of water has run through the mill since that time, and Birmingham, when one looks at it, is now a very different place in every way, particularly medically and academically, since that time. It is true that we held then our principal Sectional Meetings in what was then called Masons' College, that General Meetings were held in the same room as that in which we are now assembled, and that the Town Hall was then the reception room, as it will be next week, and I hope it will be found as convenient as it was twenty-one years ago. Birmingham is really the home of the Association. For many years it was the seat of its Government; the Secretary lived there, and all the principal meetings were held there for the first thirty or forty years of its existence. Birmingham feels almost a sense of proprietorship in the Association, and the members could not come to any place where the medical profession look upon the Association with greater sympathy or who were more delighted to welcome them. In conclusion, I wish to express in the warmest way the feeling of welcome which is shared by every member of the medical profession.

The CHAIRMAN OF REPRESENTATIVE MEETINGS: My Lord Mayor, Professor Saundby, on behalf of the Representative Body I wish to express our great indebtedness to you for the very kind welcome you have extended to the meeting. The Lord Mayor has very properly referred to the intimate connexion there is between the history of the Association and Birmingham, and I think this will be a very fitting opportunity to tender to his Lordship our very hearty congratulations at the high and distinguished position which he holds in respect of the chief magistracy of Greater Birmingham. Reference has been made to the relationship existing between the history of Birmingham and this Association, and it has been very properly pointed out that Birmingham has had a great deal to do with the infancy of the Association. Then, again, at certain intervals we have paid visits to Birmingham, marking periods of increased age and influence, our adolescence, then our coming of age, and now we have come again at a time when I think I may say that the Association is in the strength of its manhood. There can be no doubt that the strength of the Association is going to be tested very thoroughly, and the future of the profession will depend on whether or not it stands the test. In this connexion I am particularly grateful to the Lord Mayor when he says that we have with us public opinion. We are deeply convinced that if we dissociate our aims from public opinion our chances of success are to that extent proportionately diminished, and therefore we are very grateful for the assurance that we are working in a cause which has public sympathy, and which we believe has the public weal as its basis. To Professor Saundby, our much esteemed President-elect, we tender our grateful thanks for his welcome. We recognize in him a President whom we shall be grateful and happy to meet on other, and, I trust, many occasions.

RETURN OF REPRESENTATIVES.

The return of the election of Representatives of Divisions for the year 1911–12 was received, approved, and entered on the Minutes.

The notices of appointment of substitutes for Representatives under By-Law 32 were received, approved, and entered on the Minutes.

ORDER OF BUSINESS.

The CHAIRMAN proposed, in view of the importance of the matter, that the Insurance Bill business be taken at the earliest possible moment. A large number of Amendments sent up by the Divisions had been sent up in such a form as to require very careful attention, without, of course, in any way altering their sense, to bring them into accord with the Standing Orders. Further, very important Amendments had been placed on the Order paper of the House of Commons on behalf of the Government which it would be necessary to print and circulate among Representatives, so that they should be fully aware of all matters relating to the Insurance Bill. He proposed, therefore, that the Insurance Bill business should be taken as early as possible on the following day (Saturday).

The proposal was agreed to.

STANDING ORDERS.

The CHAIRMAN moved:

That the Standing Orders adopted at the last Annual Meeting be adopted as the Standing Orders of this Meeting, subject to such Amendments as the Meeting may decide.

Dr. HELME (Central Division, Manchester) asked permission, on a point of procedure, to point out that, under the Standing Orders, Section 3, in the matter of attendance, the duties might be divided between a Representative and a possible Deputy Representative. It had occurred to his Division that it was sometimes impossible to get a Representative to attend for the whole time of the Representative Meeting if it lasted over four or five days, and his Division suggested that it should be possible for a Representative to attend on the first two or three days, then retire and ask a deputy to take on his duty. The By-laws provided that the Representative must attend during the whole time of the meeting; and he was requested by his Division to ask for a ruling from the Chair, so that, if an alteration in the By-laws was necessary, due notice could be given to bring the matter before the Representative Body.

The CHAIRMAN ruled that the matter was out of order, due notice not having been given; and as it practically meant an alteration of the By-laws, it would be for Dr. Helme's Division to bring the matter up at the Annual Meeting after having given due notice.

DR. J. A. MACDONALD.

The CHAIRMAN then called upon Dr. Macdonald, and said that against Dr. Macdonald's wish it was only due to him that the meeting should have the pleasure of congratulating Dr. Macdonald upon the honour he was about to receive at the hands of the Birmingham University.

Dr. MACDONALD (Chairman of Council) said he was quite conscious that the honour that was going to be conferred upon him by the Birmingham University of Honorary LL.D. was entirely owing to his official position as representing the Association. He, however, highly appreciated the honour, and assured the meeting that their appreciation of the honour conferred upon him added lustre to it in his eyes.

ELECTION OF SERVICE MEMBERS OF COUNCIL.

Mr. LARKIN (Chairman of Organization Committee) moved, and it was agreed:

That in future one Member only be nominated by the Council for election as a Member of Council to represent each Service, provision being made under the Standing Orders of the Representative Body, whereby any Member of that Body may nominate a Member of the Association for election, to represent any of the three Services.

METHODS OF VOTING.

Mr. LARKIN moved:

Method of Voting in Association Elections.

That the following Recommendation of Council be adopted (paragraph 37 of Annual Report):

(1) That the following elections be conducted on the Transferable Vote system:
Members of Council—
(*a*) By Branches within the United Kingdom by Voting Paper.
(*b*) By grouped Representatives.
(*c*) By the Representatives as a whole (Four Members).
(*d*) By the Representatives as a whole, (Three Service Members).
Officers—
Elected by the Representative Body—
(*a*) President.
(*b*) Chairman of Representative Meetings.
(*c*) Deputy-Chairman of Representative Meetings.
(*d*) Treasurer.
Elected by the Council—
(*e*) Chairman of Council.

(2) That the following elections be conducted on the present basis—namely, that those candidates, up to the number to be elected, who receive the greatest number of votes be declared elected:
Members of Committees by the Representative Meeting.
Members of Committees by the Council.

(3) That the following elections be conducted in such manner as the Bodies concerned may think fit:
Representatives in Representative Meetings by Divisions.
Officers of Branches.
Members of Branch Councils.
Officers of Divisions.
Members of Executive Committees of Divisions.

Mr. Larkin explained that the Council last year was instructed to consider to what elections in the Association the method of the transferable vote was applicable, and, following the instructions given, the Council submitted the list contained in the Motion. The Motion was agreed to.

Dr. R. W. HENRY (Leicester and Rutland) moved as a Rider:

That the mode of election prescribed in Standing Order III, 16, relative to the election of twelve Members of Council by Grouped Representatives under By-law 41 (c) be by card vote.

He said that the present method tended to the multiplication of small Divisions rather than the encouragement of large ones.

Dr. W. DOUGLAS (Maidstone, Rochester, and Chatham) thought the matter must be left to the judgement of the Organization Committee to a large extent. He considered that it was desirable not to have conjoint representation.

Major R. H. ELLIOTT (Madras and South India) said that he had been asked to bring before the meeting the fact that the Madras Branch was so absolutely and totally separate from any other that it was impossible for one man to represent other Branches. In Madras he had less correspondence with members of the Ceylon Branch than he had with medical men in London and elsewhere.

Dr. GOODALL said that he should vote against the Rider because he thought it was desirable to have a number of small constituencies. In a card vote one very large constituency might swamp all the rest. He thought that it was very much better to leave the thing as it stood at present. He was one of those who looked forward to the time when some of the large constituencies would be still further split up.

After a short discussion the Rider was lost.

Mr. LARKIN moved:

That the following Recommendation of Council be adopted (paragraph 39 of Annual Report):
That provision be made by Standing Order for names being taken, when desired, of those in Representative Meetings voting for and against any motion for which a two-thirds majority is required.

The CHAIRMAN said if this was agreed to it would mean that a consequential Amendment would be drafted to carry out the principle set forth in the Motion.

Dr. TODD (Sunderland) asked whether the carrying out of the Recommendation would not entail the expenditure of a great deal of extra trouble and time. He strongly advised the meeting not to vote in favour of the Motion.

Mr. LARKIN said that the adoption of the proposal would only empower the meeting to take the names if it felt inclined to do so. It would not mean wasting time, unless the meeting wanted to waste time.

The Motion was carried.

The CHAIRMAN stated that the consequential Amendment which he had referred to would be drafted.

The CHAIRMAN OF REPRESENTATIVE MEETINGS moved the adoption of the revised Standing Orders. The changes were consequential on decisions already made, having regard to the altered status of the Representative Meeting, which was a point they ought to have in mind. They were now known as the Representative Body of the Association. In addition to their other duties they had now the responsible duty of electing the President of the Association, the Treasurer, the Vice-Presidents, and the

honorary members of the Association. They had further the very important duty of examining the balance sheet of the Association.

ELECTION OF MR. CHAMBERLAIN AS HONORARY MEMBER.

The CHAIRMAN OF REPRESENTATIVE MEETINGS moved:

That in accordance with By-law 8, the Right Hon. Joseph Chamberlain, M.P., Member of His Majesty's Privy Council, be elected an Honorary Member of the British Medical Association, in recognition of his eminent services in promoting the systematic study of tropical diseases. (Applause.)

Dr. Maclean said that the reception given to the Resolution by the members assured him that he had no need to exercise any powers of persuasion that he might have in favour of it. It was, however, fitting that it should not be passed by as a mere matter of form, but that due and proper consideration should be given to the contents of it. It was not for them as the Representative Body of the Association to enter largely into matters that concerned political distinctions, but it was for them to claim the common heritage of their nation in recognizing in the Right Hon. Joseph Chamberlain a citizen of Birmingham and a statesman of superb ability and energies who had served well and done well for his country. Mr. Chamberlain's career included, before his tenure of office as Colonial Secretary, a term of office in the Local Government Board in the year 1886, and the intimate relation into which officials of that Board were brought with members of their profession might very well have inspired Mr. Chamberlain with an earnest sympathy with the objects, desires, and ambitions of the medical profession, which in due course found fruit in the years 1895 to 1903, during that very distinguished reign of Mr. Chamberlain at the Colonial Office. During that time Mr. Chamberlain took a very prominent part in the foundation of the London School of Tropical Medicine, and there was ample reason for saying that the great progress in the study of that department of medicine which followed from the institution and the conduct of that school had conferred very great benefits upon the tropical parts of the British empire and upon the world at large. It was a point that should be borne in mind in these critical days that Mr. Chamberlain was a statesman who had the insight and the foresight to recognize that to get the best out of a man it was necessary that the conditions of his work and his emoluments should be fair and such as to stimulate him to put forth his best efforts. Perhaps if the statesmen of the present day would realize that in a larger measure, they would have greater prospect of holding out similar substantial benefits to the people of the old country.

The Motion was carried by acclamation.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said he had great pleasure in declaring the Right Hon. Joseph Chamberlain an Honorary Member of the British Medical Association.

ANNUAL REPORTS OF COUNCIL.

The Annual Report of the Council (SUPPLEMENT, May 27th) and the Supplementary Report of the Council (SUPPLEMENT, July 8th) were received.

The CHAIRMAN OF COUNCIL (Dr. J. A. Macdonald) said that the Annual Meeting of the Association in London was remarkable in several points: one was the great increase in the membership of the Association at the time; another was that it was presided over by Mr. Butlin, and since the Report was issued His Majesty had conferred upon Sir Henry Butlin the dignity of a baronetcy. The Council took it upon itself to congratulate Sir Henry Butlin upon the honour conferred upon him, and now asked the meeting to concur in congratulating him. The meeting to-day would probably be one of the most momentous meetings of the Association. Either the exigencies of parliamentary life, or possibly the position of the Ministers in charge of it, had led to the National Insurance Bill being sent through the Commons at a rate that did not conduce to proper consideration. That had come doubly hard upon the medical profession, because it was not an easy matter to get a scattered population such as theirs together quickly to discuss a matter and to give it the careful consideration it required. The result was that at head quarters they had been put into a very difficult position indeed. He was not making any appeal *ad misericordiam* to the Members of the Association, but he put the fact before them to consider. Intentionally or unintentionally, the Government had put it into their hands to make or mar the profession. He appealed to the meeting to deal with the matter in—he would not a say a statesmanlike fashion, because he was not fond of that fashion—but from a common-sense point of view. Each Member of the British Medical Association had as good a right to his opinion as any other, and he appealed to them to exercise what he had described as their common sense to look at the matter, not from a narrow point of view, and above all not from a political point of view, as that would mean utter ruin, but from the public point of view, and make the very best of the situation; if the matter were not handled properly it would bring about infinite trouble and probably ruin. The Insurance Bill would be discussed by the meeting to-morrow, and he hoped the meeting would take his remarks as coming from a man who was as little likely as anybody to give up anything which had to do with the profession. He urged them not to come to a hurried decision, but to see that they worked for the good of the profession at large, and not for any one particular little scheme of their own. He moved the adoption of the first ten paragraphs of the Report of Council and this was agreed to.

FINANCE.

The TREASURER (Dr. Rayner), who was received with applause, then brought up the financial statement for the year. Referring to the expenditure on Committees, he pointed out that the benefits of that expenditure were not confined to Members of the Association, but were shared by those who contributed nothing towards the cost of obtaining those benefits. Last year the Association had a considerable balance arising out of its Exhibition in London; he did not expect the amount could be maintained this year. The estimates of Receipts and Expenditure for 1911 had been very carefully made, and it had been estimated that there would be a surplus of £300; but that estimate was made some months ago. A very large expenditure on account of the National Insurance Bill had been incurred. It had to be remembered also that a considerable number of the new Members would pay only half the subscription. It was therefore possible, and he thought quite probable, that there would be a deficit next year, because while the Association was fighting the question on the National Insurance Bill, it was no use spoiling the ship for a ha'porth of tar. (Cheers.) The Association had already spent a good deal of money, and he was not going to lose that money for the sake of saving a few pounds in the future. The Association would win in the long run if its members stuck together.

Dr. A. C. FARQUHARSON (Bishop Auckland, Durham) asked whether in the statement of finance any consideration was given to the fact that there were certain sums in the hands of the Branches. Did the statement include those sums as an asset?

The TREASURER said that it did not; those sums were quite apart from the funds of the Association.

Dr. A. C. FARQUHARSON said that he observed that five Branches had made no return at all, and asked whether any reason had been given for the lack of returns.

The TREASURER said that the Chairman of the Organization Committee would be able to answer that question later.

Dr. DOUGLAS said that he had been asked by his Division to express a hope that the Council would see its way to prosecute with continued and even greater vigour the campaign against Secret Remedies. There was a considerable amount of new matter to be added, and he wished to suggest that new matter should be published in a separate form, so that those who had the old matter could buy the new only.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said that while Dr. Douglas's remarks had a financial bearing, the essence of his suggestion would come more properly under the heading of a subsequent report dealing with the subject.

The part of the Report of Council referring to finance was then agreed to.

ORGANIZATION COMMITTEE.

Dr. MACDONALD (Chairman of Council) said that the membership of the Association now was slightly over 24,000. The increase for the year was 3,400. The normal yearly increase was about 400. It would be seen that the members of the profession who had been outside the Association were beginning to recognize that they ought to belong to it if they were going to get their affairs carried out properly. He hoped that this fact would dawn upon them still more, and that the whole of the members of the profession would come into the Association. He then referred to the brief obituary notices in the report. It was, he said, unfortunately a long one, and contained the names of men who would be remembered as distinguished members of the Representative Body and of the Council. He would refer to one or two of them. At the head of the list there was a very distinguished Irish doctor—Dr. Lombe Atthill—who would be very sadly missed by the members of the profession in Ireland. Then there was Dr. Caverhill, whom some of the older Members of the Representative Body would well remember as a Representative of Edinburgh. Again, there was Sir Constantine Holman—a man whose name was so well known throughout the profession. Then there was Mr. Horrocks, who was a Representative at the meeting for many years from Yorkshire. As to Dr. Macan, he was quite certain that the Members heard of his death with the greatest regret, for he was a man whom they always liked to see and hear at the meeting. The name of another Member—Dr. McManus—was perhaps one which a great many of the younger members of the meeting would not recognize very well, but those of an older generation recognized in him one of the most distinguished members of the Body. Another name in the list was that of Dr. Joseph Nelson, one of his (the speaker's) teachers. The names in the list were, as he said before, names which they were very sorry to see in the obituary list, and they were the names of men who would be very sadly missed in the profession.

Articles and By-laws of the Present Company.

Mr. LARKIN moved that the paragraph of the Report referring to this subject be approved. The counsel to the Board of Trade had suggested certain alterations in the By-laws to bring them more into accord with the spirit of the views held by the Board upon the Companies Acts, but an assurance had been given to the Board that these alterations would be carried out later, and the Board had waived its objections for the time.

The paragraph was approved.

New Company.

Mr. LARKIN said that the position at the present time with regard to the new Company was that the Memorandum had gone in to the Board of Trade, and the Board of Trade counsel had considered it in the usual routine way, and had made certain alterations in it. As the result of interviews with the Comptroller of the Board of Trade there was good reason to hope that the difficulties would be removed.

Procedure of Election of Members of Council.

On the motion of Mr. LARKIN that paragraph of the Report relating to the procedure for election of Members of Council was approved.

Affiliation of Outside Bodies.

The Meeting then considered the following Report of Council on the Affiliation of Outside Bodies.

REPORT.

1. The Council has considered the following instruction of the Annual Representative Meeting, 1909 :—

Minute 199.—That it be an instruction to the Council to consider and report to the Divisions on the question of making such arrangements as will allow of the affiliation to this Association of Associations of Medical Men in certain Public Services, and of other Medical Societies.

2. In the opinion of the Council the only kind of affiliation of the Bodies referred to in the instruction which would be compatible with the constitution of the Association would be that they should cease to exist as independent bodies; that those of their Members who are not at present Members of the Association, should be induced to join the Association; and that the Association should make suitable arrangements for carrying out, through its Central Executive, or through Branches or Divisions, as the case might require, the work at present done by those Societies.

3. In consideration of the possibility and desirability of such absorption, distinction must be made between Local Medical Societies, which are open to include in their membership any Local Practitioner, whatever the nature of his professional work, whom the Society considers suitable for election, and the Societies, not usually confined to any area less than that of one of the countries of the United Kingdom, which are formed with the special object of promoting the interests of Members of the profession who occupy some special position such as that of Medical Officer of Health, Poor Law Medical Officer, &c., and whose membership is confined, as a rule, to persons occupying such special positions.

Local Medical Societies.

4. As regards the absorption of Local Medical Societies in the Divisions, it has been pointed out repeatedly and consistently, since the reorganization of the Association in 1902, that the Divisions of the Association are capable of carrying out any kind of work which can be done by any Local Medical Society; that they can also, through their organic connexion with the Central Organization of the British Medical Association, do some kinds of work better than any purely local Society; that they can undertake some work which purely local Societies could not carry out at all; and that in view of such considerations, the continued separate existence of local Medical Societies causes a waste of energy and of money, and so far from furthering the interests of the profession is often an actual hindrance to the efforts of the Association to promote those interests.

Societies Representative of Special Interests.

5. Considering the other branch of the subject of reference, namely, the desirability and practicability of absorption by the Association of Societies devoted to the furtherance of the interests of special classes of medical practitioners, the Council is satisfied by the inquiries made through the Organization Committee that such absorption would be resisted by the executive bodies of most if not all of such Societies; that it could only be carried through, therefore, in the case of any single Society, if a very large proportion of the active members were satisfied that their interests demanded such a change; and that there is not the evidence of the existence of such a desire, which would certainly be forthcoming if the desire were experienced.

6. Looking at the matter from the standpoint purely of the Association, the absorption of any such Society as is under consideration would certainly entail upon the Association the duty of making arrangements for watching specially the interests of the section of the profession whose interests that Society had previously promoted, and such an undertaking might involve the Association in a difficult conflict between its duty to the profession generally and its duty to the special class in question.

7. The Association has repeatedly received applications from Societies representative of special interests to support them in their efforts for the maintenance of those interests. Such support has been readily accorded in so far as it was considered to be consistent with the general interests of the profession, and successful results have been achieved through such co-operation. Every object can possibly be accomplished in this way, which the absorption of such Societies by the Association could be expected to bring about.

8. The Council is therefore of opinion that while the absorption of local Medical Societies by the Divisions is desirable in the interests of the profession, and should be brought about as opportunity arises, it is, on the other hand, undesirable for the Association to absorb existing Societies devoted to the protection of the interests of special sections of the profession, and attempts at such absorption would probably fail.

On the motion of the CHAIRMAN OF REPRESENTATIVE MEETINGS the Report was adopted by the requisite two-thirds majority.

On the motion of Mr. LARKIN the Supplementary Report of Council under heading "Organization" was approved.

On the motion to approve the remainder of the Annual Report of Council under the heading "Organization," Dr. BROWN (Rochdale) moved as a Rider:

That the Council be instructed to consider and report as to the desirability of so amending the Regulations as to provide that membership of the British Medical Association should not necessarily imply subscribing to the BRITISH MEDICAL JOURNAL, and an alternative subscription should be provided, fixed at a figure which will cover the share of the working expenses of the Association which Members would pay who under this scheme would not subscribe to the JOURNAL.

He said that since he came into the meeting he had been told that he had brought his "annual chicken" from the Rochdale Division. He might point out that only about 56 per cent. of the medical profession in the area of the Rochdale Division were Members of the Association. There were quite a number of medical men there who were in partnership, or had their sons with them; and they thought it would be desirable, if they did not require the JOURNAL, they should simply contribute towards the cost of the Association's work; and in that way a larger number might be induced to join the Association. From the Report it would be seen that 19s. 7d. represented the working expenses of the Association; while the JOURNAL cost only 5s. 5d. He suggested that the Council should consider at this critical stage in the history of the Association that the membership subscription should be £1 or £1 1s., and that 25s. should include the JOURNAL.

Dr. ROBERTSON (Glasgow, Southern) said he had been instructed by his Division to support the Motion.

Dr. MUIR (Glasgow) said that he had been instructed by his Division to oppose the Rider.

The TREASURER hoped the meeting would reject Dr. Brown's Rider. The JOURNAL contained a SUPPLEMENT which kept Members informed as to the progress of the work of the Association. If there were any gentlemen who did not want the JOURNAL and did not care how the work was going on he was very sorry for them.

Mr. LARKIN said that the amount at stake was a miserable 1¼d. a week. The mere fact of having a JOURNAL sent to the house was not the whole advantage derived from it; the Association gained immensely in prestige and importance by having a JOURNAL of its own. It could not conduct scientific Annual Meetings if it did not publish them; and the JOURNAL was the cheapest way in which that could be done. If the Association tried to carry on its affairs without a JOURNAL it would have to advertise in other papers or issue in circulars everything it wished to bring to the notice of the members. He hoped the "Rochdale Chicken" would this time be killed.

The Rider was put to the Meeting and lost by a large majority, and the CHAIRMAN observed that he thought the chicken was dead.

Transfer of Members.

The CHAIRMAN held the following Rider by the New Zealand Branch,

> That no Member of the Association be allowed to transfer from one Division to another unless such transfer is applied for in writing by the Secretary of the Division he is leaving,

out of order, but suggested the following modification:

> That the Council be instructed to report as to the desirability of so amending the regulations as to provide that no Member of the Association be allowed to transfer from one Division to another unless such transfer is applied for in writing by the Secretary of the Division in which he is living.

Dr. GREENLEES (South Africa) accepted the suggestion on behalf of Dr. Savage, and in moving the Rider said that in New Zealand complaints were occasionally received that medical men came out to the Colony from England without any credentials from the Branches to which they had belonged. The desire was that Members going to a Colony should have some sort of formal introduction from the Secretary of the Branch.

Dr. POPE thought this would be tantamount to a re-election of the Member. The Member had been elected by the original Branch, after nomination by two Members of the Branch in which he was living. The Rider was unnecessarily harsh. In New Zealand and Australia it would not happen very often that a man would go from England and start a practice, but in England medical men were moving about every day.

Mr. BISHOP HARMAN (Marylebone) stated that in his Division with 700 Members it would be absolutely impossible to work any such proposition. The secretaries' duties in all the Divisions were heavy, and it would be unreasonable to expect the secretary to fill up a form which after all would in his opinion be only waste paper.

Dr. GREENLESS said he was instructed to bring the matter before the Representative Meeting and to state that it received support from the Branches in South Africa.

Dr. CATTLEY (Scarborough and York) thought the secretaries of the Branches had quite sufficient to do already, and that the responsibility of recommending to oth Branches or to other Divisions men of whom they kne nothing was too great; in fact they might possibly becon involved in libel actions. He hoped the Committee wou reject the proposition.

Dr. HELME (Manchester) wished to support the first pa of the proposition, namely, that it should be handed ov to the Council for careful consideration, so that anything it which would be useful to the Colonies might be in intr duced while leaving home Members free. It was a matt the Council should go into fully.

Dr. WILKINSON (Victoria) supported the Rider. In t Colonies very great difficulty was sometimes felt wit regard to men who came out with no introduction, and t Branch might be practically compelled to elect men w would not have been elected if the facts were known. H thought it would be a great help if the men who came o could bring some sort of credential with them from the particular Branch. The Rider in the form in which stood merely referred the matter to the Council to loo into. The Council could find out from the Coloni Branches what the difficulties were, and would have som kind of resolution to put before the next meeting.

Dr. TEMPLE SMITH (Queensland) supported, and t Motion was agreed to.

The Supplementary Report of Council, under headi "Organization," was approved.

BRITISH MEDICAL JOURNAL.

Dr. BUIST, in presenting the part of the Report of t Council which referred to the BRITISH MEDICAL JOURNA said that he felt sure that the meeting would allow him express the indebtedness of the Association to the sta of the JOURNAL for the way in which they had borne t stress of the past year. (Hear, hear.) The Representati Body had always taken a very active interest in the affai of the JOURNAL, and from time to time suggestions we made which were extremely interesting and valuable, b he was quite sure that the Representative Body did n wish in any way to take over the responsibility for t management of the JOURNAL, but to leave it to those w were appointed. That was the motive which dictated t Report of the Council upon the two Resolutions that we referred to it for consideration last year, and which we the basis of Recommendation (i), which he then moved a follows:

> (i) That the Representative Body express the opinion tha while it must clearly always be the object of thos responsible for the conduct of the JOURNAL to maintai harmony between the Editorial utterances and the polic of the Association, and that there should be such co-oper tion between the Departments of the Association as ma be necessary to secure that object, it is undesirable to la down specific provisions such as were suggested by th Kensington Division.

The Motion was carried by the necessary two-third majority. The next Recommendation—

> (ii) That it is inadvisable to adopt the policy of the Chelse Division as indicated in Minute 74 (a) of the Representativ Body held in London—

referred to the suggestion of putting a disclaimer at th head of every page. He was sure that the Meeting di not wish those responsible for the conduct of the JOURNA to disclaim responsibility for what appeared in its pages.

The Motion was carried.

The next Motion, referring to advertisements in th JOURNAL, was approved:

> 54. In reference to the following Resolution of the Represen tative Meeting, namely:
>
> 55. That the Council be instructed to consider th advisability of excluding from the use of the advertise ment columns of the JOURNAL as well as from th Students' Number of the JOURNAL, those bodies whos conduct is detrimental to the interests of the Britis Medical Association,
>
> the Council reports that exclusion from the columns of th BRITISH MEDICAL JOURNAL of advertisements which it i not considered to be to the interest of the profession t publish has been for several years the practice of th Council, approved from time to time by the Representativ Body. As regards the future, the Council considers i preferable to deal with individual cases upon their merit as they arise, without the adoption by the Representativ Body of any general declaratory resolution or rule.

On the next paragraph, which referred to the letter fro the National British Women's Temperance Association a

o the publication of advertisements of certain prepara-ions containing drugs and alcohol, the reply the Council roposed to send contained the phrase "that the Council lid not consider it necessary to take action." That was ot absolutely accurate, because action had been taken, nd therefore he proposed that the words should be "that he Council did not consider it necessary to take any special' action." This was agreed to.

The CHAIRMAN stated that a notice of Motion had been eceived from Dr. Douglas, but suggested that the proposi-ion could best be made in the following form:

That the Council be requested to continue the examination of secret remedies, and to again publish the result in book form.

The Motion was carried, and the remainder of the nnual Report of Council on the BRITISH MEDICAL OURNAL was approved.

SCIENCE.

Dr. POPE moved that the Annual Report of Council under eading "Science" as follows be approved.

THE LIBRARY.

(a) Additions to the Library.

63. For the past four years, pending the rebuilding of the remises and the rehousing of the books, few additions have een made to the Library, but during the course of the present ear the Council, after reviewing the requirements of the ibrary, both as regards renewals and additions, has added any new books, and has authorized subscription to new eriodicals. The Association is again indebted to many authors nd publishers for the gift of books to the Library.

(b) Lending Department.

64. The Lending Department, which was inaugurated last ear, has been used and appreciated by a considerable number members, but it is probable that the existence of this epartment is not known so widely as the Council would wish. nstructions have therefore been given that a standing notice reference to it shall appear in the BRITISH MEDICAL JOURNAL ch week. A list of the periodicals, transactions, monographs, c., which are available can be had free on application to the brarian. A further list of some 3,000 volumes, which it has en decided to add to the Lending Department, is not yet ady, but will, it is hoped, be available during the course of e present year.

(c) Grants of Duplicate Books.

65. During the year duplicate volumes have been presented the following Division and Branch Libraries: Scarborough, ersey and Alderney, Leigh, and the Perth Branch. visions or Branches which have established libraries or are oposing to establish them may find many volumes which ould be useful to them in the Duplicate List, which will be rnished on application.

THE THERAPEUTIC COMMITTEE.

66. For a considerable number of years a Committee called e Therapeutic Committee has been appointed by the Council. e reference to the Committee in recent years has been as llows:

(i.) To furnish Members of the Association with information regarding new remedies.

(ii.) To institute the definite investigation—experimental, clinical, or statistical—of new remedies.

(iii.) To make suggestions for the revision of the *British Pharmacopoeia.*

Shortly before the Annual Meeting, 1910, the Committee dertook important researches towards the expenses of which Council voted a grant of £200. A report of the result of se researches so far as then known will be included in the pplementary Report of the Council.

67. The question of the status of the Therapeutic Committee s been taken into consideration, and in accordance with the neral principle that the Science Committee constituted der the By-laws should exercise a general supervision over the science work of the Association, has decided to constitute Therapeutic Committee in future as a Subcommittee of the ence Committee. This change has the concurrence of the mbers of the present Therapeutic Committee.

68. The Council has accordingly given a standing instruction t the Science Committee shall appoint at the commencement of each year a Standing Subcommittee whose duty will to promote, supervise, or direct research in Pharmacology Therapeutics.

SPECIAL COMMITTEE ON TREATMENT OF SIMPLE FRACTURES.

69. The following Recommendation was made by the Section Surgery at the London Meeting:

That the Council of the British Medical Association be recommended to appoint a Committee to inquire into and report on the ultimate results obtained in the treatment of Simple Fractures, with or without operation.

he Council has appointed a Committee, as recommended, the Committee has decided to limit its inquiry to Simple Fractures of the long bones which have occurred within the years 1906-10. A request has been made to surgical registrars, surgeons to large hospitals, and to the profession generally, for access to records and patients.

MIDDLEMORE PRIZE.

7. The Middlemore Prize has been awarded to Dr. Charles Walter Gordon Bryan for his essay on "Serum and Vaccine Therapy in connexion with Diseases of the Eye."

This prize, which takes the form of an illuminated certificate and a cheque value £50, was instituted by the late Richard Middlemore, F.R.C.S., of Birmingham, who conveyed to the Association in trust the sum of £500, and directed that the interest on this sum should be devoted to a prize for the best essay on any subject which the Council might select in any department of Ophthalmic Medicine or Surgery.

Treatment by Vaccines, etc.

Dr. STAVELEY DICK (Manchester, North) moved the following Rider:

That the reference to the Science Committee mentioned in paragraph 68 of the Annual Report should specifically indicate the desirability of inquiry into, and of periodic reports upon, experimental and clinical methods of inducing active or passive immunity, more especially by means of bacterial vaccines, immune serums, and regulated auto-inoculation.

Dr. Dick said that it was not necessary to insist upon the importance of the subject. He brought forward the Rider because it appeared to him to touch the everyday work of every general practitioner in the country, and in the second place it was a subject which was making such rapid progress that it was very difficult for men to keep up with events. It might be some good to the men who took the JOURNAL and read it. That was certainly one matter in which the JOURNAL might be of real value to the members of the Association.

Dr. FULTON (Nottingham) seconded.

Dr. POPE stated that without in the least wanting to belittle the desirability of such work, he wanted to make an explanation. The Therapeutic Committee was originally appointed to investigate new remedies, to standardize new remedies, and to make suggestions for the revision of the *British Pharmacopoeia.* In order to do this the Therapeutic Committee was composed largely of professors of therapeutics and pharmacology. The Therapeutic Committee had a number of investigations in hand, and it was desirable to retain the services of its members for the completion of these researches. But the members of that committee were not the persons to whom the investigation of vaccines would naturally be referred. He thought the work would be very much better done by special research, and it was, in fact, one of the subjects for which grants were given; it had not been lost sight of. If the mover and the seconder approved, he would promise on behalf of the Science Committee that it would not be lost sight of, and if necessary the appointment of another committee to deal with it would be recommended. He did not think it would be even advantageous to enlarge the committee by putting on it pathologists, because there would be two different bodies; he thought it would be dealt with better separately.

Dr. HELME suggested that the Science Committee should endeavour to appoint a special subcommittee of men who understood the work.

With regard to the award of the Middlemore Prize, Dr. POPE thought it was particularly appropriate that Dr. Saundby should give away the Middlemore Prize this year, for it was instituted mainly through his endeavours. Mr. Middlemore was a very old patient and friend of Dr. Saundby, and had asked him what he could do that would be useful to the Association. He suffered from disease of the eye, and this prize was instituted. This year the prize had been given for vaccine treatment for diseases of the eye, the successful essay being of exceptional merit. He therefore had pleasure in moving "That the Supplementary Report of the Council under heading 'Science' be approved," and this was agreed to.

MEDICAL ETHICS.

Definition of Term "Consultant."

The CHAIRMAN OF THE CENTRAL ETHICAL COMMITTEE (Dr. Lauriston Shaw) moved that the following recommendation of the Council be approved:

That the definition of the term "consultant" contained in the Report on Ethics of Consultation be not altered.

He said this practically constituted a statement by the Ethical Committee that they could not see their way to make the alteration of definition which had been pressed upon them very firmly by one of the Divisions. The Ethical Committee thought that the object that that Division had to secure would be best served by a modification of the regulations with regard to those who were called in by interested persons other than the patient himself.

Dr. STOCKS (Manchester South) said that while his Division was not at all satisfied with the decision of the Ethical Committee on the specific point which was put to them which gave rise to that discussion, yet with the new rules that Dr. Lauriston Shaw had referred to that difficulty could not arise again; consequently on behalf of his Division he accepted the position.

The Motion was agreed to.

Legal Position of Warning Notice.

On a Motion to approve the remainder of the Annual Report of Council under the heading of "Medical Ethics,"

Dr. OPPENHEIMER (Hampstead) moved as a Rider:

> That it be an instruction to the Central Council, before finally drafting the Rules to be laid before the Representative Body, to take counsel's opinion as to the legal liability of the Association under the law of libel and the law of conspiracy as to publishing a notice branding as contrary to the honour and interests of the profession the conduct of a non-member who acts in contravention of the interests of the Association.

He said the Hampstead Division had all along questioned the policy of enforcing what were called "branding" Rules with regard to the non-members of the Association. He submitted that they ought to have the best advice as to the legal position of the Association if it passed such a rule.

Dr. ROBERT GORDON (Sheffield) seconded the Rider.

The CHAIRMAN OF COUNCIL said that the matter had been extremely carefully considered for years by the Association. They were quite aware of the delicacy of the situation that was created by the rule, but considered that it was necessary to have some such power in their hands, and deliberately took up that position knowing what the difficulty was. He hoped that the Representative Body would not accept Dr. Oppenheimer's proposal.

The SOLICITOR (Mr. Hempson) said that no counsel could give the advice the Motion asked for. Counsel could not gauge the risks of the law of libel and slander. The matter rested in the hands of a jury; the jury were directed by the judge. The system in force had been in operation now for seven years, and the risks incident to it had never been blinked.

The Rider was put and lost.

Reference of certain Ethical Cases Direct to Branch Councils.

Mr. RUSSELL COOMBE said he had been instructed by the Exeter Division to move the following Rider:

> That it is desirable that any *pro forma* Ethical Rules formulated for adoption by the Divisions generally should give power to the Chairman and Secretary of a Division to refer direct to the Branch Council any ethical matter concerning any individual Member of the Division which, in their opinion, it would be detrimental to the interests of the Association to allow to be dealt with locally by the Division in question.

The Rider was the outcome of considerable experience in the South-Western Branch.

The CHAIRMAN OF THE CENTRAL ETHICAL COMMITTEE hoped the Representative Meeting would not accept the Rider. Any such Rider might jeopardize any legal proceedings with regard to the expulsion of members. Quite apart from that, it was surely a good plan, if there was ill feeling and difficulty in the Division, that it should face the position.

Dr. TODD (Sunderland) suggested that Mr. Russell Coombe should alter the wording of his Rider so that the matter should be left to the Executive Committee of the Division.

Mr. RUSSELL COOMBE accepted the suggestion.

Dr. MUIR (Glasgow Eastern) opposed the Rider. He thought it would be unwise to tamper with the powers of Divisions.

Dr. F. E. WYNNE (Leigh and Wigan) supported th Rider.

The CHAIRMAN OF COUNCIL said that at the presen moment there was before the Divisions a set of mode revised ethical rules; and he thought if the matter wa dealt with now it would prejudice to some extent th consideration of those rules, and he suggested that th matter be referred to the Council for consideration rathe than that any action should be taken at the present time.

The Motion, "That the matter should be referred to th Council," was seconded by Dr. LANGDON DOWN and agree to.

Medical Prescribing in Lay Papers.

Dr. LAURISTON SHAW (Chairman of Ethical Committee presented the following Report of Council with regard t the answers to questions on medical matters in the la papers:

Report.

The attention of the Council has been drawn from time t time to the long-established and growing practice of lay news papers publishing a column called "Health Hints," "Medica Answers," or some similar title, in which they profess t give medical advice and prescribe treatment to individua correspondents.

2. In many cases it is asserted that the questions are answere by a medical practitioner, sometimes called "A West-En Doctor of High Standing," or "An M.D.," and it is known t the Council that the statement that a qualified practitioner i employed is certainly true in some instances.

3. A request has been received from a local professiona organization that the Central Ethical Committee woul express its opinion as to the propriety of medical men actin on behalf of newspapers in this manner, and attention is calle to the Resolution already placed upon the Agenda of the Annua Representative Meeting, on behalf of the Birmingham Centra Division.

4. The Council finds that it is a subject on which n definite pronouncement has been made by the Association, an therefore desires to submit the matter for the consideration o the Representative Body.

5. The Central Ethical Committee has been in communica tion with the medical writer of one of these columns, a membe of the Association, who while expressing his desire to act i accordance with the wishes of the Association, states his pe sonal belief (i) that the continuance of such columns in the la press is to the public advantage; (ii) that if medical men do no conduct these columns they will certainly be carried on b laymen whose advice will be less valuable: (iii) that if thes questions are answered by a medical man he will use a wis discretion, will recommend the consultation of a private prac titioner whenever he thinks a neglect to do so would be danger ous, and will discourage the consultation of quacks and th employment of quack remedies and apparatus.

6. It has been suggested that, instead of condemning entirel any association by a medical practitioner with such columns some attempt should be made to regulate them. Thus it ha been proposed that advice should only be given on points o personal hygiene and diet, no prescription for therapeutic pre parations of any sort being given, or, again, that therapeuti prescriptions should be restricted to external applications.

7. On the other hand, it is contended that the basis of such columns is that advice is given and treatment prescribed fo patients who have not been seen by the medical adviser. The medical man has to rely upon the patient's description of his ailment or upon his statement of his former medical attendant's diagnosis, both of which are obviously untrustworthy.

8. This fact causes the public using such columns to run great risk of improper treatment.

9. Such improper treatment may itself be harmful, and in many cases it may cause serious danger by postponing proper treatment.

10. This system induces people to think that, if it is possible for medical men to treat patients without seeing them it is also possible for unqualified persons to do so, and this gives encouragement to one of the most cruel methods of quackery.

11. The fact that these columns might, if removed from medical control, be carried on by laymen with less satisfactory results to the correspondents is no excuse for the profession giving countenance to what, even if less dangerous, is still highly unsatisfactory and fraught with great risk to the community.

12. Such a modified plan as has been suggested in paragraph 6 would still involve interference with the treatment prescribed by other practitioners, and would, in any case, be undesirable, as the prescription, with insufficient knowledge of the case, of hygienic measures, does not differ in principle from that of material remedies.

Recommendation.

That the Council recommend to the Representative Body:

> That the practice of medical men taking charge of columns in which answers to correspondents on medical questions are printed is highly detrimental to the public interest, and most improper from a professional point of view.

He said that the Ethical Committee desired the meeting to express its opinion that it was highly detrimental to

the public interest and most improper from a professional point of view that medical men should treat patients without seeing them. He moved the recommendation of the Report.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said that, with the permission of the meeting, Dr. Neal (Birmingham, Central Division) withdrew the following amendment:

That it is ethically improper for medical practitioners to prescribe treatment for individuals through the correspondence columns of the lay press.

The Motion was carried with the two-thirds majority required.

Dr. NEAL (Birmingham, Central Division) then moved, as a Rider:

That the Council of the Association be instructed to take such action as may seem desirable to suppress the practice.

He said that whilst his Division welcomed the expression of opinion by the Central Ethical Committee, it hoped that some further steps would be taken in order to put a stop to the practice which the meeting had now condemned.

The Rider was agreed to.

Reports to Insurance Companies.

Dr. LAURISTON SHAW moved:

That in the paragraph of the Supplementary Report of Council relating to the question of medical men giving information respecting patients to insurance companies without patients' consent be approved.

He said that the Ethical Committee had received representations upon this matter from the Bradford Division. It was now proposed that the Council should be allowed to circularize all the other Divisions, in order that they also might be warned.

The Motion was agreed to by the requisite two-thirds majority.

Dr. LAURISTON SHAW moved that the remainder of the Report of Council on this subject be approved. The medical profession was being employed in many ways, perfectly properly, to safeguard the pecuniary interests of private individuals and public bodies, and in that work not only were the duties of medical men increased, but their responsibilities and dangers also. In these circumstances it seemed to the Ethical Committee important that the relations between the doctor, who might be called the inspector looking after the pecuniary interests of some body or of some private individual, and the medical attendant should be carefully considered. At the last meeting a draft provisional set of rules were submitted for consideration. Since then those rules had been before the Ethical Committee with suggestions from many Divisions for amendment. The rules had been amended by the Ethical Committee where it thought proper, and were now submitted to the meeting for its consideration and approval. He did not think it was necessary for him to take the memorandum, but as these rules might ultimately become the reason for instituting ethical proceedings against a member of the Association, it was desirable that they should be taken seriatim.

Rules 1, 2, and 3, were moved and agreed to as follows:

1. Except as hereinafter mentioned, the Medical Inspector should give the Medical Attendant such notice of the date, time, and purpose of his visit as will afford reasonable opportunity for the Medical Attendant to be present should he or the patient so desire.

   The exceptions are—

   (*a*) When circumstances justify a surprise visit.

   (*b*) When circumstances necessitate a visit within a period which does not afford time for notification.

   (*c*) Where the Medical Inspector, after due inquiry made, has no information as to whether the patient is under medical care.

   When the Medical Inspector has availed himself of any of the above exceptions, it shall be his duty to inform the Medical Attendant, if any, of the fact of his visit, and the reasons for his action.

2. The Medical Attendant must not put any unnecessary difficulties in the way of fixing a time convenient to both practitioners.

3. If the Medical Attendant fails to appear at the time agreed upon, the Medical Inspector may proceed with his examination forthwith.

Rule 4 was then moved:

4. The Medical Inspector must not, without the consent of the Medical Attendant, do anything in the course of his examination which involves active interference with the treatment of the case.

Mr. BISHOP HARMAN (Marylebone) considered that Rule 4 made it absolutely impossible for an inspector to obtain a satisfactory examination of a patient. There would be no possibility of determining from the inspector's point of view whether there was a fracture or not, and in his opinion the rules ought to contain some sort of provision to meet this.

Dr. SWAIN (Norwood) moved that the word "unnecessary" be substituted for the word "active."

Mr. BISHOP HARMAN (Marylebone) seconded.

Dr. GREENLEES (South Africa) opposed. It was certain the medical inspector could not do anything to a patient without the consent of the medical attendant. If the medical attendant and the patient put undue obstacles in the way of the examination, the person aggrieved could go to the court and get an order, and the court would say, "If you will not allow this man to be examined you cannot get compensation." It was not for the doctor to say.

Dr. LAURISTON SHAW urged the meeting not to adopt the Amendment. In his opinion it would be difficult to get a definition of the term "unnecessary." No medical attendant would allow any form of interference which would be detrimental either to his patient's pecuniary interests or his patient's professional interests. The medical attendant had to consider whether the interference would jeopardize the patient's life or health and whether it would jeopardize his financial position under the Compensation Act, or whatever it might be. He thought they might leave it to the medical attendant.

Dr. TODD (Sunderland) asked if there was any reason for using the word "active." He thought it would be quite comprehensive if the word were deleted, and therefore proposed its omission.

Dr. F. J. BAILDON (Southport) seconded.

Dr. LAURISTON SHAW hoped that the meeting would not delete the word "active." Every word in the rule had had been most carefully considered. Almost everything done in the patient's room might interfere in some sense with the treatment of the patient. They must not make it impossible for the inspector to even enter the room. The deletion of the word "active" would be going too far.

Dr. A. C. FARQUHARSON said that the meaning given to the word "interference" was not of great importance. What was in the mind of the Committee was damaging interference, and if damaging interference occurred the patient would have his remedy at law.

Dr. TODD (Sunderland) withdrew his Motion after having heard the remarks of Dr. Lauriston Shaw.

Dr. H. OPPENHEIMER (Hampstead) moved as an Amendment the substitution of the words "against his will" for "without the consent of." The Amendment was not seconded, and Rule 4 was adopted.

Rules 5 and 6 were agreed to as follows:

5. Where the Medical Attendant fails to communicate with the Medical Inspector, the Medical Inspector shall, at his discretion, and subject to the consent of the patient, make any examination he may consider necessary.

6. The Medical Inspector must not make any comments to the patient which are of the nature of criticisms of, or reflections upon, the treatment, nor must he express, without the concurrence of the Medical Attendant, any opinion to the patient as to the etiology, diagnosis, or prognosis of the case. His duty is strictly confined to examining into such matters as are necessary for the purpose of his report, and reporting to his employer, and to his employer only, his conclusions from such examination.

Paragraph 11 (Relation of the Association to Homoeopaths) of the Supplementary Report of Council was approved, as was the remainder of the Supplementary Report of Council under heading "Medical Ethics."

MEDICO-POLITICAL COMMITTEE.

Medical Inspection and Treatment of School Children.

On the motion of Mr. VERRALL the recommendation of Council that paragraph 3 (i) (relating to salaries) of the Report on Medical Inspection of School Children and Treatment of those found Defective, approved by the Annual Representative Meeting, 1909, was adopted in the amended form.

Mr. VERRALL moved:

That the memorandum of reasons in favour of the employment of private practitioners for the treatment of school children found upon medical inspection to be defective be approved.

Mr. HARMAN asked what was meant by "private practitioner." In certain London districts it was claimed that the treatment should be by the local general practitioners. If that was what was meant by the Motion it was not stated. It was not true that local general medical practitioners would be more able to do certain classes of work—for instance, the examination of children's eyes and the prescription of spectacles—than private practitioners who were specialists in that department. Again, in one of the principal operations upon children—the removal of adenoids and tonsils—no one would contend that the general medical practitioner was more able to perform that operation than a private practitioner doing eye, ear, and throat work. This should be made clear, as the demand was that the treatment of school children should be absolutely in the hands of the local general medical practitioner, to the prohibition of the specialist.

Mr. VERRALL said the term "private practitioner" was used as distinguished from men holding whole-time appointments. It did not include specialists. If the last speaker would read the memorandum he would see that it did not include the specialist at all. There was a special paragraph as to the appointment of specialists.

Mr. N. BISHOP HARMAN said the paragraph that referred to the specialist did not refer to the routine treatment.

Mr. VERRALL said it would be made quite clear if there was any doubt about it.

Dr. TODD said the Association had laid it down that treatment should be kept entirely distinct from inspection. He had had to draw the attention of the central authority to an advertisement appearing in the last issue of the JOURNAL asking for a man to give his services, not only for inspection, but in connexion with the treatment of refraction cases, at a salary of £150 a year. He would like to ask what was the policy of the Association, and if it was right and proper for one Division to break away from that policy.

Sir VICTOR HORSLEY said if such an advertisement had appeared in the JOURNAL it was obviously a slip on the part of those who supervised the advertisements, because this question as to the treatment of refraction by the inspector was a matter as to which the Association had been in correspondence with the Education Board. When the Association's deputations went to the Medical Officer of the Board of Education, Sir George Newman, it found that he was really the source of the trouble. The question arose with the education authority of Pontypridd. Sir George Newman, when he was challenged on the fact that refraction could only be cured by systematic observation during several years, replied that he did not call that treatment. When the deputation asked him what he did call it, he said he called it continued inspection. They wanted to put a stop to this continued inspection, and it was very essential, after what had just fallen from Dr. Todd, that this point should be cleared up. He hoped that the point raised by Dr. Todd would be accepted by the Medico-Political Committee.

Mr. VERRALL said he could not identify the case on the spur of the moment. It would certainly be looked into.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said he thought it would be the wish of the meeting that the matter should be investigated.

Dr. HENRY (Leicester and Rutland) said with reference to a similar situation in Leicestershire fifteen months ago the county council decided that their medical officer should employ two assistants to undertake inspection and the refraction work in all cases where the children were found to have defective sight. The medical officers who were appointed said they had not done sufficient refraction work to consider themselves qualified, and the county council gave them a grant of £5 each to get some further experience in the treatment of refraction. What happened was, as one might expect, that after a short time one of the gentlemen who received the £5 migrated and took up another appointment, so that they were now advertising for another man to do the work. He (Dr. Henry) had been in active correspondence with Sir George Newman, but it could not be said that a prescription given for refraction was not to be regarded as treatment.

Dr. F. G. SWAYNE (Norwood) said it seemed to him that the policy of the Association should be that those who inspected children should not treat them. At Norwood when appointing a staff, that was made an absolute rule.

The Motion was adopted.

Dr. JOHNSON SMYTH said he had been desired by h Division to ask whether gentlemen who were appointed whole-time medical officers for the inspection and trea ment of children were free in any way to indulge private practice.

Mr. VERRALL said he took it that the definition of whole-time medical officer was a man who gave his who time.

Terms of Employment of Whole-time Officers for t Treatment of School Children.

Mr. VERRALL proposed the acceptance of the Report Council as follows:

5. The Association has already expressed the opinion that th same officers should not be engaged in the work of bo inspection and treatment.

6. As regards remuneration, the scale of payment alread suggested for the case of school medical officers engaged in th duty of inspection would appear to be equally applicable to th case of treatment. The question is simply one of the prop remuneration for the whole of the time of a medical practition of a certain professional standing.

7. The Council recommends:

That as regards remuneration of whole-time medic officers engaged in the treatment of school children, th scale already approved by the Association for scho medical officers engaged in inspection should be applie namely that for junior or assistant officers the sala should not be less than £250 per annum, and that f more experienced officers the salary should not be le than £500 per annum. These sums to be understood exclusive of travelling expenses, clerical assistanc postage, etc. Also that in any appointments of this kin provision should be made that the salaries of both office should raise automatically.

The Motion was carried by the requisite two-thir majority.

Appointment of Specialists for Treatment of School Children.

On the motion of Mr. VERRALL, the Report of Counc was approved as follows, subject to correction of wording

8. Medical practitioners who occupy the position of exper may be employed in connexion with the treatment of scho children in two ways—namely, first, to give a second opinio or expert treatment in a case in which the part-time or whol time school medical officer considers such a second opinion further treatment desirable; or, secondly, in large urban are whole-time experts may possibly be employed to deal with cas of special difficulty. It is obvious that such an officer could on be appointed in a district of sufficient population to furnish large number of exceptional cases.

9. The Council recommends that the following be approve as the policy of the Association in this matter:—

(*a*) That in the treatment of school children specialis should usually be employed, not as whole-time officers, b as consultants, called on "ad hoc" for the treatment individual cases of special difficulty, and paid the fees f such treatment on an agreed scale.

(*b*) That where the employment of specialists as whol time officers is known to be contemplated by the educati authority, and the local profession considers this not to required by the circumstances of the case, representatio should be made accordingly.

Pathologists.

On the Motion of Mr. VERRALL, the following Recom mendation of Council was adopted:

That inquiry having been made into the conditions of servi of pathologists and bacteriologists attached to public instit tions, the Representative Body is of opinion that su inquiry has revealed no general grievance, and that th variety of the conditions under which such appointmen are held renders it difficult and undesirable to make an suggestions of general application.

The remainder of the Annual Report of Council und heading "Medico-Political" was then approved.

Treatment by School Medical Officers.

Dr. MACTIER moved as a Rider:

That while admitting the right of the School Medical Offic or his Assistants to supervise the treatment of childre found defective on inspection, the Representative Body co siders that the treatment of these children by the Scho Medical Officer or his Assistants, when whole-time officer is contrary to the interests of the profession and of th children, and should therefore be opposed.

He said that inspection and treatment should be separate. In Wolverhampton it was proposed to appoint an Assistant Inspector of Schools to do not only refraction but also ear, throat, and skin cases; in fact, he was expected to do anything, and he was to get the salary of an Assistant Inspector.

Dr. JAMES METCALFE (Bradford) was strongly in favour of the Rider.

Dr. POPE proposed that the words down to the word "inspection" be omitted.

This proposal was seconded by Dr. A. H. WILLIAMS (Watford and Harrow).

Dr. TAYLOR (Salford) said he had been instructed to support the Motion if the first part of it were slightly modified. He was instructed to move:

> That the words "or his Assistants" should be left out.

Dr. NEAL supported the proposal of Dr. Pope.

Dr. HELME asked whether the position would be met by the suggestion that the Motion should read, "while not desiring to interfere with any necessary inspection," or "with the duties of inspection of the School Medical Officer."

Sir VICTOR HORSLEY hoped Dr. Pope would modify his Amendment or withdraw it, because it was very essential, in the interest of the children and in conformity with the Statute, that the three lines at the beginning of the paragraph should be retained. It was necessary that the wording should be altered. It was the duty of the School Medical Officer to report to his authority on the treatment the children had received and its results—that was to say, he had to report statistically; but he ought not in any way to criticize the treatment. The Education Authority were entitled by the Statute to have such a report, and he suggested that the words "to supervise," which were open to misinterpretation, should be elided, and that the words "to report upon" should be inserted.

Dr. WYNNE hoped nothing would be done which would drive the medical officers out of the Association. It was absolutely essential for those who had duties to perform to the Health Committees to have some supervision over the treatment. He would be the last to say anything derogatory of general practitioners, among whom he was until very recently numbered, but it was necessary to look at the facts of the case. If the Amendment could be so drafted as to leave the School Medical Officer reasonable power, he would have no objection.

Dr. POPE adhered to his amendment.

Dr. DOUGLAS hoped the suggestion of Dr. Helme would be accepted; it would give all the power that was necessary.

Dr. R. A. LYSTER (Winchester) asked the mover of the Rider to explain what the intention of his Division was, whether it was referring to publicly provided treatment, or to treatment obtained in an ordinary private way.

Dr. H. C. MACTIER (South Staffordshire) said that his Division was referring to public funds.

The Amendment proposed by Dr. POPE was then carried.

When the amended form was put as a substantive motion, Dr. HELME proposed, as an Amendment, that the Rider should read as follows:

> That, while not desiring to interfere with any necessary inspection and report by the School Medical Officer, the Representative Body considers,

and so on.

This Motion was seconded by Dr. HARRIS (Birkenhead).

Dr. POPE said he considered this proposal entirely unnecessary and gratuitous.

Dr. OWEN FOWLER (Croydon) said the first part of the Amendment distinctly mentioned the medical officer, and therefore left out his assistant; that was a very important omission.

Dr. FARQUHARSON thought the word "or" was used in the sense of "and," and suggested that the mover and seconder should substitute "and" for "or."

The Motion was put and carried by 67 votes to 45.

On the Rider being put in an amended form as a substantive Resolution, Dr. TREASURE (Cardiff) proposed an Amendment as follows:

> That this Representative Meeting considers that the duties of School Medical Officers and their assistants should be confined to necessary inspection and report, and that the treatment of those children found to be defective should not be undertaken by them.

The School Medical Officers should be confined to their proper duty of inspection and prevented from undertaking treatment or being exploited by county councils and other bodies who were desirous of making them undertake treatment.

Dr. HELME seconded the Amendment.

The CHAIRMAN put Dr. Treasure's amendment as a substantive motion, and it was carried unanimously.

The CHAIRMAN remarked that the Bromley Division had another Rider in the following form:

> That it be an instruction to the Council to approach through Branches and Divisions the committee and medical staffs of all general and cottage hospitals requesting them not to treat school children found upon medical inspection to be defective.

Sir VICTOR HORSLEY suggested leaving out the words "Branches and." He had found that in the Metropolitan Branch Council it was a source of great confusion and trouble. The Council had written to several hospitals in London on the point, but it ought to have been done not through a Branch but through the Division.

Dr. TENNYSON SMITH said that he could not agree to the omission of the words "Branches and."

Mr. RUSSELL COOMBE suggested the insertion of the words "in their areas."

Dr. TENNYSON SMITH accepted the insertion of the words "in their areas" after "the general and cottage hospitals."

Sir VICTOR HORSLEY moved as an Amendment to leave out the words "Branches and."

Dr. BUIST seconded.

The CHAIRMAN stated that as proposed by Sir Victor Horsley and seconded by Dr. Buist the Rider would read:

> That it be an instruction to the Council to approach through Divisions the committee and medical staffs of all general and cottage hospitals in their areas requesting them not to treat school children found upon medical inspection to be defective.

Dr. TENNYSON SMITH sincerely hoped that the Rider as suggested by him and the wording suggested by him would be carried, first of all because it embodied one of the very excellent principles or Resolutions that were passed at the Belfast Meeting. It was the keystone of their position in their contentions with local education authorities. Charity meant charity, not at the expense of the hospital, but at the expense of the medical staff of the hospital. It was not necessary for him to explain why that was unfair to the medical staff and to the general medical practitioner. During last year, owing to the energy of the Secretary of the South-Eastern Branch, the question had received careful consideration, and the Kent Education Authority had been approached; 50 per cent. of the cases certified to be defective had been treated, and out of that 50 per cent. 49 per cent. had been treated at the hospitals. The Education Authority's contention was that it had not power to authorize a rate for treatment. It was recognized that it had not the power, but could apply for power if it wished. The Kent Committee had written to all the hospitals in Kent, both the general hospitals and the cottage hospitals, and the cottage hospitals almost unanimously had decided to stop treatment. The general hospitals, on the other hand, refused, but by-and-by, when it was found that the proportion of cases treated had been reduced to 5 or 10 per cent., it would be necessary to apply to the general practitioner. The Local Education Authority of Bromley had applied twice to the hospitals to take on treatment, and both applications had been refused. At Eastbourne, where he believed the same thing had taken place, power had been given to the Education Authority to arrange for treatment by local medical practitioners. He did not think the words "Branches and" should be left out. Judging by what had taken place in his own Branch, which had given the greatest possible support and good grants to carry on the work, he thought it was absolutely essential that the Branches should be included.

Dr. STARLING (Tunbridge Wells) said that none of the Education Authorities so far had shown any tendency to carry out the policy laid down till they were absolutely compelled to do so. When the Educational Authorities found that the local hospital refused to carry

out the treatment of the children, then, and not till then, did they begin to contemplate making any arrangements for it. For that reason he supported the original Rider, and wished the Central Council to take the suggested step. He thought it was wise to co-ordinate the Branches with the Divisions in this work. As Secretary to the South-Eastern Branch he had learnt the value of the co-ordination of the work of the different Divisions. There were some Divisions which embraced not merely one or two boroughs in their areas, but had a large district under the jurisdiction of the county council. In those areas he thought it most important for the Divisions to have the Branch Council at their back to help, strengthen, and advise them. The Branch Council and the Division to which he belonged were carrying on a campaign with regard to the National Insurance Bill, and felt that until that was settled they could not carry on this other campaign with the vigour they would like; when that matter had been decided in their favour, as it would be, they would then have much greater power and prestige. He was quite convinced, if the Council would take action in the matter and help the Branches and Divisions to co-operate and bring in a little outside pressure to tighten up their work, it would be a great help to the Association generally.

Sir VICTOR HORSLEY said the Rider in principle must be carried because it expressed the policy of the Association. It was what they had been doing in the Metropolitan Counties Branch for the last three years. It was suggested that if the Division acted through a Branch it would conduce to better work in the district. That, however, was not the experience of the Metropolitan Counties Branch. In his Division a direct request from the Central Council would be more effective. Every Division ought to possess autonomic power under the constitution, and if it exercised that power it would have more power than the Divisions had at present. He thought it would be much better for the Association if the letter went straight from the Council to the Divisions. The other subordinate points that had been mentioned did not press; there was no difficulty with regard to the finance, and as to Dr. Starling's remark that two great public matters could not be attended to at one time he differed entirely. It was essential to attend to these two public matters at the same time; in his opinion the school question was as important as sick insurance.

Dr. F. POPE was certain that local hospitals would listen with far more attention to a circular from people they knew than to one signed by medical men residing in four or five neighbouring towns. It seemed to be proposed to put school children on a different footing to the rest of the population. If a child had a tuberculous elbow was it not to go to the hospital for treatment? The Motion as it stood would exclude such cases, and it would also exclude cases of chronic hip disease. Every child over the age of 4 was, in fact, a school child. As the matter stood it seemed to throw the onus of deciding who should be treated on an individual member of the medical staff, and something should be done to remove that impression.

Dr. ROBERTSON said that when hospitals were spoken of it was not the medical staff so much as the managers of the hospital. The medical staff had no right to question the patients as to what their position was; their duty was to treat the patient and not to inquire into his circumstances. If a letter were to be sent to the hospitals he wanted it stated definitely whether it was to the managers or the medical staff.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said the Amendment was that the words "Branches and" be omitted from the Rider.

The Amendment was put to the meeting and lost.

The CHAIRMAN OF REPRESENTATIVE MEETINGS put the Motion as a substantive motion, and it was agreed to.

Dr. HENRY said, arising out of the adoption of the last two resolutions, he would like to ask the Chairman of the Ethical Committee first as to the position of a school officer who continued to give treatment in spite of the Association.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said the Chairman of the Ethical Committee would prefer to have notice of the question.

Mr. N. BISHOP HARMAN (Marylebone) said that the proposal left the greatest sinners untouched, and moved that the special hospitals should be included in the Rider.

The Motion was seconded and agreed to, and the Motion, as amended, was then carried as a substantive Motion by the requisite two-thirds majority.

Certificates under Workmen's Compensation Act.

Dr. F. E. WYNNE (Leigh and Wigan) moved as a Rider:

> That in cases arising under the Workmen's Compensation Act the minimum fee for the initial examination and report shall be £1 1s.

He said he thought this matter was practically non-contentious. In his district the practitioners used to get a guinea, but the fees had been reduced a great deal by various insurance companies—from one guinea to half a guinea, and even down to half-a-crown; and in certain cases, owing to the acceptance of the ordinary club certificate, to what was really sixpence in some cases. Those whom he represented wanted the meeting to establish it as the policy of the Association that no Member should give his services in this matter at a lower fee than one guinea.

Dr. DARLING hoped the meeting would not accept the Motion in its present form; cases differed very much. In theory, the suggestion was right; but there were many cases where it was no hardship upon a medical man to do the work for half a guinea.

Dr. TODD said that at the last Annual Representative Meeting he moved that the matter should be referred back. The subject was very important, and he held that the meeting should not pass a Resolution which it knew could not be carried out. He suggested that the matter should be left to the Divisions to deal with, because they were the best judges of what the fees should be.

Mr. W. J. GREER (Monmouthshire) said that if the Motion was passed it would affect many medical men who were wholly employed by large insurance companies to visit a large number of workmen; such medical men would be wholly excluded, and the proposal became absolutely impracticable.

Dr. KEAY asked what would be the position of factory surgeons in the event of the Motion being carried.

Dr. OWEN FOWLER (Croydon) said the Rider should be divided so as to make a distinction between the different cases. Private practitioners acting for insurance companies should be paid a fee of one guinea and no less.

Dr. A. C. FARQUHARSON (Bishop Auckland and Durham) supported the remarks which had fallen from his friend Dr. Todd. He regarded a rule of the Association as something akin to a law, and the Rider went too far.

Dr. H. E. HOWELL (Cleveland) asked whether Dr. Wynne would accept the word "should" instead of "shall" in the last line of the Motion.

The CHAIRMAN OF REPRESENTATIVE MEETINGS stated, in reply to Dr. FOTHERGILL, that due notice had been given.

Mr. FLEMMING said it was almost impossible to fix any fee acceptable everywhere and to all parties; and, on the other hand, it was very difficult for medical men to claim a higher fee than had been customary in the district unless they knew they had the support of other medical men in the district. He suggested as an Amendment:

> That there should be a minimum fee fixed by each Division for examination and report in cases arising under the Workmen's Compensation Act.

Dr. TODD seconded.

Dr. HERBERT JONES asked in what position factory surgeons would be placed if either the Rider or Mr. Flemming's Motion were carried.

Dr. TODD said the Motion referred to the Workmen's Compensation Act, and not to the Factory Surgeons Act.

Dr. HERBERT JONES said the factory surgeons were for certain purposes under the Workmen's Compensation Act.

Dr. A. C. MAYO (East Norfolk and North Suffolk) asked whether it was desirable that the meeting should spend time in fixing fees higher than those which medical men had been accustomed to receive. It would be a dangerous precedent to fix fees for any particular work.

Dr. T. FORT (Oldham) said that factory surgeons had already protested many times against the fees granted by the Home Office, but to no good purpose.

The CHAIRMAN OF COUNCIL wished to put this case to Mr. Flemming. Supposing there were two Divisions

bordering on each other in which the minimum fee stood at different amounts; a doctor might go from one Division to the other, in which case was it proposed that his fee should be fixed by the place where he went to examine his patient?

Mr. FLEMMING said he assumed it would be fixed by the Division in which he was practising.

Dr. OPPENHEIMER thought the circumstances as to insurance were very much the same all over the country.

The CHAIRMAN OF REPRESENTATIVE MEETINGS then put the Amendment, which he declared lost—47 voting in favour and 49 against.

Dr. TODD then moved as an Amendment that the amount be 10s. 6d. instead of a guinea.

The TREASURER seconded this amendment. He was quite in favour of having a fee of one guinea, but he was quite certain that it could not be obtained except in very exceptional cases. He thought half a guinea would be satisfactory to medical men.

Dr. TODD suggested that the words should be "at least half a guinea."

Dr. DARLING said that half a guinea and one guinea had already been accepted as the proper fees. Last year the meeting accepted the Council's Report recommending that they should seek for these fees in their Divisions, and his Division had succeeded in establishing it. If it went out from that meeting that they were content to take half a guinea, the insurance companies would say, "You send us a letter saying you will not act under one guinea in the patient's own house, and here is a statement that it should be half a guinea."

The CHAIRMAN OF REPRESENTATIVE MEETINGS said Dr. Darling had referred to a very important matter. Personally, without reference to the Minutes, he could not answer the question, but if it were the fact that they had already agreed on one guinea it would very considerably modify the matter.

Dr. TAYLOR said that the last Representative Meeting referred the matter back to the Council for consideration and report.

Dr. WYNNE said the Resolution last year was not with regard to the subject of the present Rider, but was a similar proposition with regard to the staffs of hospitals.

The matter was referred to the Council.

Death Certification.

Dr. WYNNE (Leigh) moved a Rider:

> That in the opinion of this meeting it is expedient that uniform action be taken with regard to inserting the duration of disease on death certificates for insurance purposes, and that it be referred to the Council to consider what such action should be.

In all the districts where industrial insurance was carried out on a very large scale there was an extremely corrupt system which the directors of the companies repudiated nominally, though the agents were undoubtedly encouraged to follow it. What they did was to look for an old lady with chronic bronchitis, and then to look for a niece or a daughter and induce her to insure the old lady, who in due time was gathered to her fathers. The niece or daughter applied to the insurance agent for the money, and she was told that she had made misrepresentations on the application form, and that she was liable to get into trouble. The insurance agent pointed out to the doctor that he had not put any duration of time on the certificate. It was a system of exploiting the working classes which it was felt should not be encouraged by the medical profession. The majority of his brother practitioners refused to insert any duration limit on the death certificate.

Dr. MUIR (Glasgow) looked upon the Rider as absolutely unworkable. No medical practitioner had any right to put down the duration of illness unless he had attended the patient from the beginning. He had no right to make a guess at it, and in filling up the Registrar-General's report for forty years he had never filled in the duration of illness. He could not be compelled to do it, and he never would do it. The medical practitioner should simply say that he had seen the patient from a certain date and that the patient died at another date.

Dr. NEAL said he was in considerable difficulty with regard to this Rider owing to the introduction of the words "death certificate for insurance purposes." The only death certificate that he was in the habit of giving was the ordinary statutory one which was not used for insurance purposes. It was the copy of their certificate that was used for insurance purposes.

Dr. WYNNE said he would delete the words "for insurance purposes." He should like the Rider to cover both the statutory death certificate and the certificate mentioned by Dr. Neal. He suggested that the words should be "statutory death certificate or."

Dr. NEAL said he understood that the Rider of the Leigh Division was intended to apply to the ordinary death certificates which they were compelled by law to provide gratuitously to their patients, and, that being so, his Division was of opinion that it would be inexpedient for the Representative Body to attempt to impose any restrictions upon the way in which those certificates should be filled up. Certain duties were imposed on medical men by the State, and they had no option but to comply with them. He was instructed to oppose the Rider.

Dr. HELME said he strongly opposed the position assumed by Dr. Neal. They were not compelled to fill in the number of days, weeks, or months, and it was a dangerous thing to do. He once did it himself and regretted it; he had to make a statutory declaration before a sheriff that he had inadvertently put in "three months" instead of "three years."

The CHAIRMAN thought it would clear the air if he read the Rider in the form in which it now stood:

> That in the opinion of this meeting it is expedient that uniform action be taken with regard to inserting the duration of the disease on statutory death certificates or death certificates for insurance purposes, and that it be referred to the Council to consider what such action should be.

The Rider was put to the meeting and carried by 70 votes to 35.

On the Rider being put as a substantive Motion, Dr. TREASURE (Cardiff) proposed an Amendment which, he thought, went a little further than the Rider:

> That in the opinion of this meeting it is inexpedient to state the duration of illness on death certificates.

This matter had been discussed in his own Division, and the strong opinion was expressed that if the State wanted the duration of illness stated in the certificate it should pay for it.

Dr. KEAY seconded. He could not understand why any medical man should ever put the duration of disease in a death certificate; if the Government or an insurance company felt the lack of this information they should agree to decent terms with the medical profession.

Mr. LARKIN (Liverpool, Western) had an Amendment to the same effect from his Division.

The CHAIRMAN hoped the meeting understood that the Amendment, if passed, would practically replace the Rider which had just been adopted.

Dr. W. J. DURANT (Consett and Gateshead) thought that as at present worded the Amendment might lead to some misunderstanding; it might be held to refer only to statutory death certificates. It should be made plain that the meeting expressed the opinion that the duration of disease should not be stated in any death certificate.

Mr. N. BISHOP HARMAN (Marylebone) was of opinion that the meeting had already agreed to refer the matter to the Council.

Dr. LANGDON-DOWN said it appeared to him that the Rider as now amended was so materially different from the Rider originally sent out to the Divisions that it would not be proper that it should become straightaway a declaration of policy of the Association. The Rider simply proposed to refer the matter to the Council, and now it was proposed not to refer it to the Council but to decide it offhand.

The Amendment was carried, and referred to the Council to consider what action should be taken.

Increased Duty on Alcohol.

Mr. JACKSON (Plymouth) said that he had been asked by his Division to bring the following matter before the meeting:

> That in the opinion of this meeting it is an act of injustice and against public policy that an increased tax should be levied on alcohol which is used for the purpose of preparing tinctures, etc., and that the Council of the Association be instructed to take steps to bring the matter under the notice of the Chancellor of the Exchequer.

The increased price of alcohol, he said, materially affected not only chemists but also medical men who dispensed their own drugs. He understood that the Pharmaceutical Society had made some effort to get a reduction on alcohol used purely for drugs, but it had not, he thought, been properly backed up by the Association. The Chancellor of the Exchequer had referred the Pharmaceutical Society to the Customs, but the Customs objected to any change which would give them any further trouble, although it would be possible to appoint officers who could see that the alcohol was used for proper purposes.

Dr. MUIR opposed the Rider on the ground that it was not practical politics. The meeting could not possibly get it carried into effect, and therefore there was no use talking about it.

Sir VICTOR HORSLEY inquired if it was competent to ask Mr. Jackson to withdraw his Rider, because as it stood it would suggest that the Association was in favour of maintaining the antiquated and bad system of tinctures. Moreover, the Rider took no notice of the fact that alcohol used in the manufacture of drugs was not taxed in the same way as alcohol sold retail. Therefore, in his opinion, they would be doing a double evil towards the community.

Mr. JACKSON stated that he could not withdraw his Rider.

Dr. W. HAIG (Perth) said it would be a waste of time to discuss at any length a matter which seemed to be more properly one for the Pharmaceutical Council. The Association had already enough upon its hands, and it would be a pity to trouble the Council with a matter like this at such a time.

Mr. JACKSON said it had been stated that the practice was an archaic one; but he had it on good authority that there were many drugs that could not be extracted properly without alcohol.

Sir VICTOR HORSLEY said that was not his point.

Mr. JACKSON said that even under the Insurance Bill in remote country districts dispensing would still have to be allowed, so that many medical men would still be affected.

The CHAIRMAN stated that the Motion would require a two-thirds majority.

The Motion was put to the meeting and lost.

Powers of Royal College of Physicians of London.

Mr. JACKSON moved:

> That the Council of the British Medical Association be instructed to take such steps as they may deem suitable to induce the Royal College of Physicians of London to exercise the powers they undoubtedly possess against persons who are practising medicine, surgery, or midwifery illegally.

He believed that the matter had been brought before the General Medical Council and had been referred to a committee, which had shelved the question.

Dr. BUIST hoped the meeting would not pass the Rider; it was contrary to the policy of the British Medical Association. Why should they waste their efforts in endeavouring to tinker with a mediaeval guild like the Royal College of Physicians?

Dr. J. H. TAYLOR said that if the Royal College of Physicians exerted all the power it had it would barely touch the fringe of the matter. He hoped they would not spend time in tinkering with so important a subject.

The CHAIRMAN OF REPRESENTATIVE MEETINGS stated that a two-thirds majority was required to pass the Motion.

The Motion was put to the meeting and was lost.

Dr. JACKSON then moved:

> That the Council be instructed to petition the General Medical Council to take such steps as they may consider suitable to induce the Royal College of Physicians, London, to carry out the duties imposed on them by their Charters.

It was stated by the CHAIRMAN that the Motion required a two-thirds majority.

The Motion was put to the meeting and was lost.

Parliamentary Representation.

Dr. FLETCHER (Chelsea) moved:

> That this meeting recognizes the necessity of converting the British Medical Association into a union of Medical Practitioners with parliamentary representation when necessary, and requests the Council of the British Medical Association to ascertain the wishes of Members in the United Kingdom by Referendum at the earliest possible date.

He said that if this Rider was passed all the deliberations of the Association would be of some use; but if it was not passed they would all end in smoke. Absolute unity in the profession was essential. Individualism was another name for self-interest. The medical profession must form one homogeneous whole. It was proposed that they should pool their interests and their funds. The union proposed could be formed by mutual consent, with no alteration of the constitution of the Association, and the Association would be thereby strengthened. The proposal was to put two men in Parliament at a reasonable income, one for each side.

Dr. MUIR (Glasgow) asked whether it was not stated by the Solicitor at the last meeting that the Association had no power, and that it would never get power, to use any of its money for subsidizing Members of Parliament.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said that Dr. Muir had answered his own question correctly.

Dr. OPPENHEIMER (Hampstead) opposed the Motion as a protest against the time of the meeting being wasted over matters which were quite beyond the region of practical politics.

Dr. METCALFE proposed to leave out the words "converting the British Medical Association into a union of Medical Practitioners with"; and also the words "where necessary." He thought parliamentary representation would be one of the greatest boons possible to the profession. If it had parliamentary representation such as the National Union of Teachers, the chemists and other bodies had, it would stand in an infinitely better position than it did at present with regard to the National Insurance Bill.

In reply to Dr. EWART (Eastbourne), the CHAIRMAN OF THE ORGANIZATION COMMITTEE said that it would be necessary to dissolve the old Association and make a new entirely new one if the Rider were carried. He believed that time was being wasted by the matter being brought forward.

The CHAIRMAN OF REPRESENTATIVE MEETINGS stated that this Motion required a two-thirds majority.

The Motion was put to the Meeting and lost.

PROPOSED MEDICAL FEDERATION.

The following Motion was then brought forward by Dr. PARKER (Bristol):

1. That the following Resolution to which 345 medical men have given their signatures, representing 96 per cent. of those in the Bristol Division, be acted on by the British Medical Association.

   Resolution.

   That this meeting of Medical Practitioners practising in Bristol and the surrounding districts urges the Central Council of the British Medical Association to take immediate steps to organize the whole profession as a medical federation on the definite lines of trades unionism and declares its readiness, if called upon, to submit to a levy, the levy to be available for the compensation of Medical Practitioners who, during a crisis, are liable to pecuniary loss.

   As a Medical Practitioner within the Bristol district I am willing, if called upon, to give my loyal support to any measures taken by the British Medical Association in accordance with the above Resolution.
2. That the Association proceed immediately to form a federation of medical men united for the purpose of guaranteeing them against pecuniary loss directly due to the action of the federation.
3. That meanwhile the Association continue to collect voluntary subscription towards the Central Fund.

The CHAIRMAN OF REPRESENTATIVE MEETINGS put it to the meeting that there was a very general feeling throughout the profession that this matter should receive full consideration. From various quarters there had been received questions dealing with the possibility of at any rate establishing a union, as was said, on trade union lines.

Dr. PARKER said that in Bristol it was felt that the Association was in for a fight, but that it had no military chest. The object was first of all to ensure the unity of the whole

profession, and, secondly, to obtain sufficient funds. Under its present Articles the British Medical Association could not do these things. They had asked for a federation of the whole profession carried out by the British Medical Association. They did not want to have only 24,000 men included, but the whole 40,000, and if the words "trade union" were objected to they could have any words that smelt better. They simply wanted to have the definite rules of trade unionism. They knew what they wanted, and in Bristol they did not mind using the term. Then they wanted levies. The British Medical Association could not order compulsory levies. The subscription to the proposed federation would rise, say, from £1 every year to a maximum limit of £2 or £3. Compensation was absolutely necessary in a big fight. If they went to club doctors and people whose bread and cheese depended upon it, they would tell them that their entire position depended on this question of compensation. The next point was, Who were the possible blacklegs? Some of them might be the drinkers, the broken down men, the men with no character, but the majority of them would be men who were suffering from extreme poverty. If a large compensation fund was formed they could put up with a very large class of potential blacklegs. He feared that the £100,000 which the Association hoped to collect, with a pledge of £5 a member, would not go far in the way of compensation. He was told that trade unions, on the strength of a guaranteed annual subscription, were able to get say a quarter or half a million sterling at a time to carry out a strike. That was the key to the position. He would be very glad if the meeting would approve of such a scheme and send a deputation to lay it before the Council. He asked them now to approve of the principle of a federation to include in some way the whole of the profession, a federation that could raise practically unlimited sums of money for carrying on this war.

The CHAIRMAN OF REPRESENTATIVE MEETINGS wished to put a point to Dr. Parker before the debate was continued. He understood when he attended the meeting at Bristol that the subject matter of this motion was going to be moved in the form of a recommendation to the Council to consider the matter. That, of course, was perfectly in order, but it would be out of order if the Representative Body was now invited to express a binding opinion upon a very important matter which had certainly not been before the Divisions as a whole. He would therefore ask Dr. Parker whether he would be willing to conform to the method of bringing the Motion into order by putting it into that form, namely, that it be referred to the Council to consider the matter and report at the earliest possible date.

Dr. PARKER said that would meet his wishes, provided it were carried out as rapidly as possible.

Dr. OPPENHEIMER moved as an Amendment that the Council be instructed to ascertain the opinions of the Divisions on this point.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said the Council would be bound to do so.

Mr. JACKSON (Plymouth) said that he had advocated a scheme of this nature for a great many years.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said the form in which the matter was now before the meeting was that it be referred to the Council to consider the subject of the Motion and to consult the Divisions thereon.

Dr. JOHNSON SMYTH had great pleasure in supporting the proposal. In Bournemouth they had anticipated this matter, and had already formed, under the auspices of the Division, a medical practitioners' union. They intended to collect a guarantee fund of £10,000.

Dr. NASMYTH (who was received with applause as the representative of the Fife Branch) said that without the formation of any trade union, without any threat of striking, in a few days the Fifeshire Medical Association had raised a guarantee fund of £5,000, and without any difficulty they could raise another £5,000. Therefore he did not think it right to say that this Association had not the power to raise the money. He would propose that there should be no question of a trade union being formed.

Dr. DEWAR, in seconding, said that this was a question which the profession all over the country were taking up. In Edinburgh, in the course of one single afternoon, a guarantee fund of over £2,000 was raised; during the next two days it reached £4,500, and was still going on. They hoped to raise £10,000, and they hoped that this federation which was spoken of would not take place, but that the union of the profession should continue to be carried out through the British Medical Association. If a separate federation was established it would weaken the position of the Association before Parliament.

The CHAIRMAN OF REPRESENTATIVE MEETINGS wished to point out before the debate proceeded that, as a matter of fact, the amendment proposed by Dr. Nasmyth amounted to a direct negative.

The CHAIRMAN OF COUNCIL hoped that the proposal of the Bristol Division would not be carried out. He hoped that the Representative Meeting would not even go so far as to refer it to the Council for consideration. He had pointed out that morning that the tendency there was at the present time to dissipate their powers was going to do them more harm than any good that could be done in the way of collecting money. They had worked for ten years to concentrate the power of the British Medical Association. He hoped that the Association was not at the present day going to start a new organization, which, notwithstanding whatever might be said, would be in opposition to the Association. The proper step to take was that adopted by Fife and Edinburgh, where in the name of the British Medical Association the funds required had been collected. He hoped they would continue to act as the British Medical Association, and raise their money voluntarily. He trusted that the meeting would declare against even going so far as asking the Council to consider the formation of any new federation.

Dr. FOTHERGILL (Folkestone and Dover) said he was glad that the Chairman had spoken as he had, but he wished that he had concluded by asking Dr. Parker to withdraw. The central committee was doing all that was required. No doubt they were a trades union, but he deprecated the use of labels. The Association had 24,000 members and within a few weeks got 18,000 signatures. What more was wanted? The central committee was proposing a levy of 5s. to help the fight.

Dr. PARKER said he was not in a position to withdraw. If the Association were able to do all this he was very glad; but could it provide half a million of money? If it could he had nothing more to say. Could it bring in 95 per cent. of the whole profession of the country?

Dr. HELME said if they could not get the money voluntarily they could not get the men to agree to a levy.

Sir VICTOR HORSLEY wished to make a further appeal to Dr. Parker to withdraw. At the present time not only was the Association in negotiation with the Board of Trade on its constitution, and therefore it was most inexpedient to pass a resolution of this kind; but also they hoped that the negation of the rights of a majority which were included in the Osborne judgement would be reversed, and when that was reversed they would then be in a position as an Association to carry out what Dr. Parker was now proposing. He quite agreed with those who said that they could get all that was necessary voluntarily, and he quite agreed with Dr. Macdonald in deprecating the formation of any other society.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said there was a very general feeling from all quarters that Dr. Parker should withdraw. He might say that he knew full well the very intense feeling in the Bristol Division on this matter, as he had had the privilege of attending its meeting. If Dr. Parker would withdraw, he was quite sure that the meeting would support him in any report that he gave to his Division that the matter had been presented by him to the meeting in a thoroughly able, satisfactory, and fair manner.

Dr. PARKER said that he would accede to the Chairman's suggestion and withdraw.

DEPUTY CHAIRMAN.

The CHAIRMAN stated, in reply to a question put to him earlier in the day, that he had made inquiries in the proper quarter, and had been advised that Mr. Verrall as a Deputy Representative was not eligible for nomination for the Vice-Chair of the meeting.

The Representative Body adjourned at 6.30 p.m.

Saturday, July 22nd.

Dr. E. J. MACLEAN (Chairman of Representative Meetings) in the Chair.

CONFIRMATION OF MINUTES.

THE minutes of the meeting of July 21st were confirmed.

SPIRITUAL HEALING.

The CHAIRMAN OF THE MEDICO-POLITICAL COMMITTEE (Mr. Verrall) brought up the Report submitted by the Council on spiritual healing, and moved its adoption (SUPPLEMENT, July 15th, p. 125).

Dr. HELME (Manchester, Central) moved:

That expression of opinion be postponed pending the receipt of replies from Divisions.

This was seconded by Dr. DOUGLAS and carried.

The Motion was then put as a substantive motion and agreed to as follows:

That the report on spiritual healing submitted by the Council be approved, and that expression of opinion be postponed pending the receipt of replies from Divisions.

CARE AND CONTROL OF THE FEEBLE-MINDED.

On the Motion of Mr. VERRALL the paragraph (16) of the Supplementary Report of the Council (SUPPLEMENT, July 8th, p. 70), referring to a communication which had been received from the Manchester and Salford Sanitary Association requesting the support of the British Medical Association in representations to the Government, was approved. The paragraph referred to stated that as the suggestions went into matters which the British Medical Association had not previously considered, the Council had given instructions for a special report on the subject to be made to the Representative Meeting by the Medico-Political Committee.

Mr. VERRALL also moved, as incidental to the above, that approval should be given to the Report, which was as follows:

REPORT.

1. In 1906 the Annual Representative Meeting at London considered and approved two Special Reports (see Appendix A) dealing with amendment of the Lunacy Acts, and more particularly with the provision for unconfirmed cases of mental disease, and for cases of Habitual Inebriety and Drug Habit.

2. In 1907 the Annual Representative Meeting at Exeter considered and approved the statement of evidence (see Appendix B) submitted on behalf of the Association to the Royal Commission on the Care and Control of the Feeble-minded. The Report of the Royal Commission was issued in 1908, and on August 31st, 1909, the Association was represented on a deputation to the Home Secretary to urge the necessity of early legislation to give effect to this Report.

3. The Manchester and Salford Sanitary Association has requested the support of the Association for a Memorial in which certain specific provisions are urged upon the attention of the Home Secretary for inclusion in the Bill which is understood to be in preparation.

These Recommendations are as follows:

1. Power of compulsory committal for detention in certified residential schools, or other training establishments, institutions, or colonies, of feeble-minded children when necessary.
2. Adequate Government grants for such residential schools and training institutions, etc.
3. That the Education (Defective and Epileptic Children) Act, 1899, be made compulsory instead of permissive, as at present.
4. The extension of the age up to which feeble-minded children can legally be detained on a further renewable certificate.
5. That it be rendered obligatory on County Councils to provide suitable homes, institutions, or colonies for the reception of mentally defectives after training.

4. The Council, while in sympathy with the aims of the Manchester and Salford Sanitary Association, defers expressing an opinion on the definite Recommendations of that body until the complete policy of the British Medical Association can be laid before the Home Secretary, and recommends that instructions be given to this effect.

The Council recommends:

That it be an instruction to the Council to prepare for presentation to the Home Secretary a statement of the whole policy of the Association with regard to the Amendment of the Lunacy Laws and the care and control of the feeble-minded.

Sir VICTOR HORSLEY expressed regret that the Report did not go further, and contain a definite expression of opinion which the meeting could have adopted.

The CHAIRMAN OF THE COMMITTEE held that it would have been premature for the Committee to adopt this course, and eventually the recommendation with which the Report concluded was agreed to.

The meeting then approved the remainder of the Supplementary Report.

CO-OPERATION OF DIVISIONS IN ETHICAL CASES.

Dr. CATTLEY (Scarborough and York) stated that he had been instructed by the York Division to oppose the confirmation of the last paragraph of the Council's Report under this heading. The York Division considered this paragraph a severe impeachment of the honour of every member of the Division, and felt justified in strenuously resisting any attempt at coercion.

Dr. MACNIDDER (East York) hoped that the paragraph would be retained as it stood in the Report.

Dr. LAURISTON SHAW (Chairman of the Central Ethical Committee) asked the meeting to support the view of the Committee, regretting that certain action was not taken by the Division and Branch in question. It was considered highly undesirable that a Division or Branch should refuse to discuss a matter of this sort with its neighbouring Divisions or Branches. The Ethical Committee said that there were differences of opinion, and thought they might be settled by open meeting and discussion, and endeavoured to arrange a conference but the York Division declined to send a Representative and later on the Yorkshire Branch declined to help in the initiation of a local conference. The Ethical Committee felt that the success of the Association depended on the loyal determination of the Divisions and Branches to meet each other in friendly conference.

Dr. JAMES METCALFE (Bradford) strongly supported the Ethical Committee in the action it had taken. There had been a good deal of correspondence and discussion on the question, but the vital point was that a man, in consequence of trying to raise the status of his appointment, eventually lost it altogether. The matter had been brought before the Yorkshire Branch Council, and it would not take action because it said that it had not any legal power; he, however, felt sure that if a little gentle pressure had been brought to bear, the York Division would have considered the matter in a conciliatory manner.

Dr. OPPENHEIMER thought that the authority of the Divisions should be recognized, and in his opinion each Division was entitled to act by itself.

Dr. EDDISON said he did not think the Yorkshire Branch would mind if the Representative Meeting passed the strongest motion it thought proper to pass. The Association must either be governed from a central office or the members of the Association must govern themselves. To attack the York Division because it had unanimously come to a conclusion seemed to him to be a mistake unless the meeting meant that Divisions were not to govern themselves. It had been said that the Motion was in consequence of the York Division refusing to go to a conference. What was the use of the Yorkshire Branch Council sending men to a conference when the York men would not confer?

Dr. LAURISTON SHAW emphasized the fact that what the Ethical Committee expressed its regret at, so far as the Yorkshire Branch was concerned, was that in the later stages of the controversy the Branch did not endeavour to secure a conference.

The Motion to approve the paragraph was then put to the meeting and agreed to.

RULE Z.

The CHAIRMAN OF REPRESENTATIVE MEETINGS stated that there was a Rider by the East York Division, proposed by Dr. MACNIDDER, and seconded by Dr. WALTER BROWN:

That the following suggestions be referred to the Council for consideration—namely, that when a Resolution under Rule Z has been passed by a Division or Branch and finally ratified by the Central Council, it shall become automatically operative over the whole of the Association.

The Rider was put to the meeting and carried.

NATIONAL INSURANCE BILL.

On the motion of Dr. MACDONALD (Chairman of Council) the first Special Report of Council as to the National Insurance Bill was received. He then moved:

That the letter of the Council to the Chancellor of the Exchequer, dated July 11th, 1911, be received.

This was agreed to.

The CHAIRMAN said that this letter, as it was of importance, would be read *in extenso*.

The letter was read by Dr. MACDONALD accordingly. It was as follows:

July 11th, 1911.

Sir,

The Council of the British Medical Association has received the Report of the interviews which you kindly accorded to a deputation from the Association on June 26th and 27th, and has carefully considered certain important questions arising out of those interviews.

2. It is noted with gratification that you are satisfied as to the desirability of including in the National Insurance Bill specific provisions, such as the Association has suggested, (i) for securing free choice of doctor by patient, (ii) for securing the inclusion among the Insurance Commissioners and the Advisory Committee of medical practitioners who have had personal experience of practice among the classes from whom the insured are chiefly drawn, (iii) for increasing the medical members of each local Health Committee to at least three, and providing that two of that number shall be directly elected by the local profession, and (iv) for securing that a local Medical Committee, recognized by the Insurance Commissioners as representative of the medical profession in the area of each local Health Committee, shall have a statutory right to be consulted by the local Health Committees on questions of medical employment.

3. The Council regrets that as yet you do not see your way definitely to propose on behalf of the Government that the administration of medical and maternity benefits shall be placed, like that of sanatorium benefits, in the hands of the local Health Committees, but is glad to learn that such amendments proposed by private members will be left to the House and will have the advantage of your personal support.

4. On the question of the income limit for medical benefits, which the profession generally attaches the greatest importance, the Council has learnt with much regret that you still find yourself unable to hold out any prospect of accepting such amendments as the Association has put forward. In whatever form the Bill may be passed, it appears, from the information in possession of the Council, to be certain that Members of the Profession generally will not in fact enter into arrangements with local Health Committees, or other bodies constituted under the Bill, in respect of the treatment of persons whose income exceeds 160 per week. There is evidence indeed of a growing feeling in the profession that the income limit proposed by the Association is too high, and that if the Bill were passed in its present form a large number would decline to enter into arrangements for attendance under the Bill for those whose income exceeds 30s. The resentment steadily increases against Parliamentary interference with private practice to an extent which is regarded as unnecessary for the fulfilment of the declared objects of the Bill, and if the Council, as representing the Association, were to entertain any suggestion of compromise upon this point its action would undoubtedly be repudiated by the profession.

5. The suggestion, which the Council is informed was discussed between the deputation and yourself, of a possible method of securing the objects of the profession which would avoid interference with private practice, while not excluding any class from enjoyment of medical benefits, could not be accepted by the Council as an alternative to the insertion in the Bill of a definite income limit. The Council recognizes, however, that such a proposition, which has not, up to the present, been considered by the Association or the profession, might possibly be regarded by them as advantageous in increasing the elasticity of the organization of the medical service of the insured.

6. The Council has decided, therefore, to include a reference to this suggestion in a Report which is about to be placed before the Divisions in preparation for the Annual Representative Meeting to be held at Birmingham on July 21st and following days, and to place the arguments, for and against it, plainly before the profession. A copy of the Report will be forwarded for your information, in order that you may see at once the light in which the matter is being submitted.

7. I am instructed to express the earnest hope of the Council that it may be found practicable for the consideration in Committee of the House of Commons of those Clauses of the Bill which specially affect the medical profession, namely, parts of Clauses 8, 13, and 14, and consequential provisions, to be deferred until the profession shall have had an opportunity of reconsidering the position in the light of the new suggestion above mentioned.

8. The circumstances are so exceptional that they may be regarded, the Council trusts, as justifying this suggestion. Much of the difficulty experienced by members of the profession with respect to the Bill has undoubtedly arisen from the fact that they have felt unable, in the very short interval which has elapsed since the introduction of the Bill, to appreciate, in all its bearings, a matter at once so intricate and of such vital importance to themselves as the readjustment of the conditions of medical practice in this country which must follow the enactment of the National Insurance Bill in its present form. If the Bill were carried in its present form there could be no prospect that competent members of the profession would enter into arrangements with the bodies constituted under the Bill for attendance upon the insured, in sufficient numbers to provide anything like an adequate service. The only means of avoiding a deadlock in this respect after the enactment of the Bill lies in the adoption of such amendments as will enable the Insurance Commissioners, and the other bodies constituted under the Bill, to make arrangements which medical practitioners will be prepared in sufficient numbers to accept. The Council of the Association, and the Association itself, have not such a mandate from the profession generally as would justify them in making any statement as to the likelihood of the Amendment now under consideration satisfying the profession. They submit, therefore, for your consideration that the exigencies of the case demand postponement of the medical clauses for the short period necessary to enable some reliable statement to be made as to the views of the profession upon this new suggestion.

9. The Council will spare no effort to bring the matter under the notice of the profession generally with every expedition, and hopes that in the Annual Representative Meeting, to be held at Birmingham on July 21st and following days, such an expression of opinion may be elicited as will place the matter beyond further doubt.

I am, Sir,

Your obedient Servant,

(Signed) J. SMITH WHITAKER,
Medical Secretary.

The Right. Hon. D. Lloyd George, M.P.,
Chancellor of the Exchequer.

The CHAIRMAN OF COUNCIL said in face of that letter he did not think any one could accuse the Council of giving the profession away.

Dr. OPPENHEIMER (Hampstead) asked if an official reply had been received to the letter.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said the letter had been acknowledged.

The CHAIRMAN of COUNCIL moved that the supplementary report issued by the State Sickness Insurance Committee be received, and the MEDICAL SECRETARY read the report, which was as follows:

SUPPLEMENTARY REPORT BY THE STATE SICKNESS INSURANCE COMMITTEE TO THE REPRESENTATIVE BODY ON THE PRESENT POSITION WITH RESPECT TO THE NATIONAL INSURANCE BILL.

INTRODUCTORY.

1. Pursuant to instructions of the Council, the State Sickness Insurance Committee met on Monday, July 17th, for the purpose of considering the present position with respect to the National Insurance Bill, in order that a Report of the progress of events up to the latest possible date should be placed before the Representative Body. Copies of this Report are issued also to Honorary Secretaries for the information of any Meetings of Divisions held on the 19th or 20th.

QUESTION OF AMENDMENTS TO THE BILL.

2. Since the issue of the last Report important further information has been obtained as to the effect of Amendments already promised by the Government, or under consideration.

FREE CHOICE OF DOCTOR.

3. Concerning the free choice of doctor by patient, the attention of the Chancellor of the Exchequer has been

drawn to the fact that the amendment placed by him on the Order Paper would secure free choice of doctor by patient for those only of the insured whose medical benefit was administered by local Health Committees. These would be, it is true, the majority of the insured, but the Committee was of opinion that the Amendment ought to be so framed that, in the event of any administration of medical benefits being left in the hands of societies, the principle of free choice of doctor should apply to those of the insured whose benefit was so administered as well as to the others. The Chancellor of the Exchequer has acceded to representations made to him to this effect, and has undertaken that an amended form of his amendment meeting the views of the profession on this point shall be placed on the Order Paper in the course of the present week.

LOCAL MEDICAL COMMITTEES.

4. The Chancellor has also promised to place on the Order Paper this week an Amendment securing the recognition in each district of a local Medical Committee, representative of the local medical profession, as a body which must be consulted by the local Health Committee on questions of arrangements with medical practitioners for attendance upon the insured, and also upon other matters connected with the administration of the insurance fund.

MEDICAL ATTENDANCE ON THE INSURED UNDER PRIVATE ARRANGEMENTS.

5. The Committee regrets to find that many members of the profession have misunderstood the Report issued on July 13th, especially with respect to the sense in which the Amendment referred to at the foot of page 3 of that Report was quoted. It has evidently not been observed that that Amendment was cited merely as an illustration of the kind of Amendment which was under consideration. Some Members have read the Report as indicating that the form of Amendment quoted had been approved by the Council as one that might be acceptable to the profession. This is not the case. No approval has been given to that Amendment on behalf of the Association, either by the Council or in any other way. The question submitted to the Divisions was not the approval of that Amendment, but the approval or otherwise of the three Recommendations on page 7 of the Report, together with the question stated at the foot of that page. The Committee regrets if through the wording of the Report Members have been led into this misunderstanding.

The question of the form of Amendment which might conceivably meet the views of the profession was, in fact, under consideration at the time of issue of the Report, and an important point of doubt has now been cleared up. At a meeting held on July 10th the Committee considered whether under such a form of Amendment as was quoted at the end of page 3, it would be possible for an insured person, even though his income should be above the income limit laid down by the profession, to insist that the local Health Committee should provide him with medical attendance under an arrangement made by them. If the Amendment had this effect it would not, of course, meet the requirements of the profession, and instructions were given for the point to be inquired into.

6. It having been ascertained that the Amendment in question, when read in conjunction with other provisions of the Bill, would have the effect of enabling an insured person to insist upon having medical attendance and treatment provided for him, the point has been brought under the notice of the Chancellor of the Exchequer. Assurances have now been obtained that if the profession approve the principle of insured persons whose income is above the agreed income limit receiving their medical benefit in the form of a contribution to the cost of their attendance, the Amendment will be so framed that a person whose income is above the limit shall not have any legal right under the Bill to obtain his benefit otherwise than in that form.

7. In view of the difficulties which a large Body, such as the Representative Meeting, necessarily experiences in dealing with the actual drafting of an Amendment, the Committee has come to the conclusion that it is preferable that the discussion in the Representative Meeting (and in any Division Meetings held between the time of issue of this Report and the Meeting) should be devoted to the consideration of questions of principle and not to the terms of possible amendments. The Representative Body is recommended to give a clear statement of its views for the guidance of the Council, and to leave to the Council the duty of securing, under expert legal advice, the form of Amendment which is best calculated to give effect to those views.

THE £2 INCOME LIMIT.

8. It appears to the Committee that the first question for consideration will be as to the relation of any such Amendment as is now under consideration to the definite £2 income limit. As stated in the Report already issued, the Council has no doubt that the decision on this point will be that the income limit of £2 per week already laid down by the Association and approved by the profession must be adhered to in any event. The Committee assumes, therefore, in what follows, that it will be decided by the Representative Body that any such Amendment as is now under consideration is not alternative to the definite income limit, but is supplementary to, or a means of obtaining the acceptance of, that limit.

9. The new question before the Association involves consideration of the following points:

(i) That "medical benefit" should be defined in the Bill as meaning *either* medical attendance and treatment with medicines, etc., *or* a contribution to the cost thereof.

(ii) That either the £2 limit should be specified in the Bill or provision made for the recognition of such a limit by the authorities under the Bill.

(iii) That an insured person whose income exceeds such limit should not be entitled to obtain his medical benefit in the form of provision of medical attendance and treatment by the local Health Committee or approved society, but should be required to take it in the form of a contribution to the cost of his attendance under such private arrangements as he may make with his own doctor.

(iv) That it should, therefore, be provided in the agreements made by local Health Committees (or approved societies) with Medical Practitioners for giving attendance and treatment to the insured, that no person whose income exceeds the statutory or locally agreed limit shall be entitled to attendance under such agreement.

(v) That a medical practitioner, an insured person, the local Health Committee, or the local Medical Committee, should have the power to challenge the right of any insured person whose income they have reason to believe exceeds the income limit locally agreed, to obtain attendance and treatment under such agreement.

10. Taking into account the provision which the Chancellor of the Exchequer has agreed to as to the recognition of local Medical Committees in each area the practical working of such provisions would be as follows:

(*a*) At some period after the commencement of the Act the local Health Committee would draw up a form of agreement to be entered into between themselves and those medical practitioners who agreed to enter into arrangements for the treatment of insured persons. This form of agreement would have to be submitted for the consideration of the local Medical Committee before any action was taken upon it, and would contain a provision that it applied to those persons only whose average income from all sources was below a certain amount stated.

(*b*) If a limit of £2 were fixed in the Bill, this would of course be the limit named in the agreement. If no limit were fixed in the Bill, the limit named in the agreement would be such sum not exceeding £2 per week, as the local Medical Committee and the local Health Committee could agree upon. If an agreement could not be arrived it, the local profession would refuse to enter into arrangements for attendance upon the insured. It would practically be in the power of the local profession, if united, to fix such an amount as they thought suitable.

(*c*) Persons whose income exceeded the limit would be required to make their own arrangements for medical attendance.

(*d*) It would also be possible for an insured person whose income was below the income limit to obtain his attendance by private arrangements with a doctor of his own choice, and to receive his benefit as a contribution to the cost of such attendance, if he preferred, and if the doctor was willing to attend him on such terms.

(*e*) Those patients who were thus excluded, whether by the operation of the income limit or by their own desire, from the scope of the arrangements made by the local Health Committee, would doubtless usually obtain their attendance as private patients of doctors. It would also be open to them, however, if members of the profession agreed, to be attended under contract arrangements. This would permit, as the Council has already pointed out, the continuance of existing

colliery and works appointments on present lines, if the terms of such appointments were satisfactory to the profession.

11. An important question of policy arising in this connexion is whether, if the profession approved such an amendment, they should press for the income limit demanded by the profession to be fixed in the Bill. It has already been pointed out by the Council that while, if Parliament could be induced to fix a £2 income limit, it would avoid the necessity for further united action by the profession on this point, it would at the same time preclude the profession from fixing lower limits in the districts in which they desired so to do.

12. If a limit were not fixed in the bill, the profession would, of course, still remain united upon the principle that no person above the £2 limit already agreed upon should be attended anywhere under arrangements made by the local Health Committees or approved societies. That question would not be left open to local option, but would remain part of the national policy of the Association. It would at the same time, however, be possible in these circumstances for the profession, in any district in which they considered a lower limit desirable, to enforce such lower limit with the support of the Association and the profession elsewhere.

13. With this explanation, the Committee submits the points stated in paragraph 9 for the consideration of the Representative Body.

FREE CHOICE OF DOCTOR: NEW POINTS.

14. It remains to allude to two points in the Amendments as to free choice of doctor which have been put down by the Chancellor. These are paragraph (*d*) and the proviso at the end.

Amendment Placed by the Chancellor of the Exchequer on the Order Paper of the House of Commons.

Clause 14, page 14, line 34, leave out from "practitioners" to end of line 36, and insert "in accordance with regulations made by the Insurance Commissioners."

(2) The regulations made by the Insurance Commissioners shall provide for the arrangements made being subject to the approval of the Insurance Commissioners and being such as to secure that insured persons shall receive adequate medical attendance and treatment from the medical practitioners with whom arrangements are so made, and shall require the adoption by every local Health Committee of such system as will secure—

(*a*) the preparation and publication of lists of medical practitioners who have agreed to attend and treat insured persons whose medical benefit is administered by the committee and resident within the area to which the list relates;

(*b*) a right on the part of any duly qualified Medical Practitioner who is desirous of being included in any such list as aforesaid of being so included, except in cases where the Insurance Commissioners, after inquiry, are satisfied that his inclusion or continuance in the list would be prejudicial to the efficiency of the medical service of the insured;

(*c*) a right on the part of any insured person of selecting from the appropriate list the practitioner by whom he wishes to be attended and treated, and, subject to the consent of the practitioner so selected, of being attended and treated by him;

(*d*) the distribution amongst the several practitioners whose names are on the lists of the insured persons who after due notice have failed to make any selection, or who have been refused by the practitioner whom they have selected;

Provided that if the Insurance Commissioners are satisfied that the practitioners included in any list are not such as to secure an adequate medical service in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area, and authorize the Committee to make such other arrangements as the Commissioners may approve.

15. Inquiries have been received as to the practical effect of paragraph (*d*). The object of this clause is to provide for the case, which was dealt with both in the Report placed before the Annual Representative Meeting at the Guildhall, and in the Report issued to the Divisions in March, namely, that in any insurance medical service the free choice of doctor by patient is made subject to the willingness of the doctor selected by the patient to attend him. There must be some provision for the case of those patients whom possibly no doctor may desire to attend, on account of frequency of illness or troublesomeness in other respects. The provision is to the effect that the arrangements made by the local Health Committee for giving free choice of doctor must be such as to secure distribution among the local doctors of those patients who have not applied to be put on any doctor's list, or whom no doctor has shown himself willing to attend. The machinery for this purpose would no doubt be left in each district for the local Medical Committee to arrange, upon such lines as would satisfy the local Health Committee and Insurance Commissioners that every insured person in the district would in fact receive efficient attendance from some doctor.

16. The object of the proviso at the conclusion of the free choice of doctor Amendment, is, as stated in the Report issued on July 13th, to give the local Health Committee some remedy in the case of the doctors who are willing to enter into an agreement in any district for attendance upon the insured not being sufficient to provide an adequate service. If the Amendment were without this proviso and there were a dispute in any district, it might happen that the great majority of the profession refused to enter into arrangements. In such a case the Amendment, without the proviso, would have the effect of compelling the local Health Committee to put on their list any practitioners who might think proper to apply. These might not be such as to furnish a satisfactory service, and power is reserved in the proviso for the Commissioners to make other arrangements. They might for example attempt to institute in such district a whole-time service. In practice, such an attempt could not succeed if the profession in the district were united and had the support of the profession elsewhere. The attempt could only succeed in a case in which the action of the local profession was so unreasonable in the opinion of the profession elsewhere that the latter could not support them in their action.

Present Clause 14 of the Bill.

14. *Administration of Medical Benefit.*—(1) Every approved society and local Health Committee shall for the purpose of administering medical benefit make arrangements with duly qualified medical practitioners for insured persons to receive attendance and treatment to the satisfaction of the Insurance Commissioners from such practitioners.

(2) Every such society or committee shall also make provision for the supply of proper and sufficient drugs and medicines to insured persons, and no arrangement shall be made with a medical practitioner under which he is bound or agrees to provide drugs or medicine for any insured person at an inclusive fee, without the consent of the Insurance Commissioners, which consent they shall not give unless the circumstances of any locality situate in a rural district are such as to make it expedient to do so.

(3) An approved society may enter into an agreement with the local Health Committee for the administration of medical benefit among such of the members of the society entitled thereto as may be resident in the county or county borough for which the Committee is established; and on any such agreement being made the Committee shall take over such administration and there shall in each year be paid out of moneys credited to the society such sum in respect of every member of the society entitled to the benefit and resident in the county or county borough as may be agreed between the society and the Committee.

(4) If in any year the amount payable to a local Health Committee in respect of all persons for the administration of whose medical benefit it is responsible is insufficient to meet the estimated expenditure thereon, the Committee may, through the Insurance Commissioners, transmit to the Treasury and to the council of the county or county borough an account showing the amount so payable and the estimated expenditure, and the Treasury and the county council or the council of the county borough shall, if satisfied that the amounts so payable and the proposed expenditure are reasonable and proper in the circumstances, sanction the expenditure.

(5) The Treasury and the council of the county or county borough sanctioning any such expenditure as aforesaid shall thereupon each be liable to make good, *in the case of the Treasury out of moneys provided by Parliament*, and in the case of the council of a county or county borough out of the county fund or borough fund or borough rate, as the case may be, *one-half* of any sums expended by the local Health Committee on medical benefit in the course of the year in excess of the amounts so payable to the local Health Committee as aforesaid.

It was resolved that the document be received.

On the motion of the CHAIRMAN OF REPRESENTATIVE MEETINGS, the Representative Body resolved unanimously to go into Committee for the consideration of the National Insurance Bill, and Mr. Verrall was voted to the chair.

Monday, July 24th.

OFFICERS OF THE REPRESENTATIVE BODY.

CHAIRMANSHIP.

The CHAIRMAN OF REPRESENTATIVE MEETINGS: Gentlemen, as regards the Chairmanship of this meeting, I have to intimate that there was only one nomination. (Cheers.) The nomination is in respect of the Chairman for last year. I wish to say that I very deeply appreciate this

expression of your continued confidence in your Chairman during this very critical time in the history of our Association. I should like further to say that I am under no misapprehension as to the status and the duties of this important post. I have had the experience of the last twelve months, and more particularly the experience of the last three months, to remove any doubt from my mind, if doubt there was at any time, as to the fact that this post is no sinecure. I am not prepared to deny that the occupancy of this post has called for and has received sacrifices of time and opportunities, and if you will permit me further to speak in regard to the status of this post, I would put in this way my conception of it: it is that, in regard to the ship of the Association, it is for you, gentlemen, who own the ship and who charge her with the cargo, to set the course and the compass; and it is for me, as in honour and trust bound, in turn with your other officers, to be on the watch or at the wheel. Gentlemen, I thank you very much.

The CHAIRMAN OF COUNCIL (Dr. Macdonald): Mr. Chairman, I should like to have the opportunity of personally congratulating you upon again being appointed to this chair, and I would also like to congratulate the meeting upon having such a capable Chairman as Dr. Maclean. As a good many of you know, I have a fairly good experience of what the work means. I think that if a great many of the members of this body knew what it means to act as Chairman in this business—the amount of work which you do not see, but which is absolutely essential to the carrying on of this business—probably you would be very lenient indeed with regard to any slight failings which you may find in him. I think I may congratulate the Association upon having such a man as Dr. Maclean to continue in the office of Chairman of Representative Meetings. (Cheers.)

DEPUTY CHAIRMANSHIP.

The CHAIRMAN OF REPRESENTATIVE MEETINGS: As regards the Deputy Chairmanship of the meeting, gentlemen, you have elected Dr. R. C. Buist. I will take the opportunity of tendering my congratulations both to Dr. Buist and to you upon his election. I would ask you to note the position into which you are gradually developing. You have put a Scotsman into the Chair and you have put a Scotsman into the Deputy Chair, and we consider the Chairman of Council is more Scottish than Irish (laughter). I only say that, under the circumstances, it is well and proper that you should have regard, in relation to those three officers, to what was called in one of our debates "the process of continued inspection."

Dr. R. C. BUIST: Mr. Chairman and gentlemen, I can only express my personal thanks to the meeting for the honour they have done me; if there is any further source of gratification it is in realizing that amongst the candidates for the office the meeting had a choice of such capable men to manage its business. I think there is nothing upon which I can congratulate the meeting more than upon the fact that it had such a choice of men who are all of them worthy of this honour.

REPRESENTATIVES OF THE SERVICES ON THE COUNCIL.

The CHAIRMAN OF REPRESENTATIVE MEETINGS announced that no further nominations having been received for representatives of the services on the Council, the following had been elected: For the Royal Navy Medical Service, Inspector-General R. Bentham, R.N.; in respect of the Army Medical Service, Lieutenant-Colonel Harris; and in respect of the Indian Medical Service, Surgeon-General Greany.

ANNUAL MEETING, LIVERPOOL, 1912.

Next Annual Representative Meeting.

The CHAIRMAN OF COUNCIL informed the meeting that the Council had fixed the next Annual Representative Meeting to be held at Liverpool. He moved: "That the next Annual Representative Meeting, 1912, be held at Liverpool, and commence on Friday, July 19th, 1912," and this was agreed to.

Election of Officers.

The CHAIRMAN OF COUNCIL said he had great pleasu in proposing:

That Sir James Barr, M.D., LL.D., F.R.C.P., be nominat President-elect of the Association.

Sir James Barr had been one of the most strenuou workers for the Association for many years; he was f some time Honorary Secretary of the Lancashire an Cheshire Branch, a very energetic Branch, which ha carried on the work of the Association well. Sir Jame was also one of the Honorary Local Secretaries when th Annual Meeting last met in Liverpool, and he wa for many years a Member of the Council of the Associa tion. He was therefore in every way very eminentl fitted to occupy the position of President of the Associatio Sir James Barr was a prominent man who took a definit position in public affairs; he was a strong man who coul assert his position, and he would certainly add dignity t the office.

The CHAIRMAN OF REPRESENTATIVE MEETINGS put th Motion to the meeting, and it was unanimously agreed to

The Representative Meeting then went into Committee

During its deliberations Sir JAMES BARR entered th hall and was received with loud and continued applaus He said he was very much touched by the kind appr ciation he had received, and also by the warm receptio with which he believed his name was received when men tioned as President-elect of their great Association. H begged to tender his thanks, not merely on his own behal but on behalf of the great city which he represented, an to say that everything would be done to make the nex Annual Meeting a great success. He (Sir James Barr was ably assisted by some of the best men in the Britis Medical Association, and therefore there was no reason i the world why the meeting at Liverpool should not b a great success, and he hoped by next summer th troublous times now being experienced would have passe away.

NATIONAL INSURANCE BILL.

The meeting then resumed the consideration of th National Insurance Bill in Committee, and Mr. VERRAL took the chair.

SPECIAL REPRESENTATIVE MEETING.

Monday, July 24th.

Dr. MACLEAN (Chairman of Representative Meetings) i the Chair.

A SPECIAL Representative Meeting was held at th Midland Institute, Birmingham, on Monday, July 24t Dr. MACLEAN (Chairman of Representative Meetings) i the chair.

The meeting was summoned for the consideration o the alterations of By-laws proposed by the Council, o which notice was given in the SUPPLEMENT to the JOURNA of June 24th, 1911, p. 487. The alterations were sub mitted seriatim to the meeting by the CHAIRMAN OF TH ORGANIZATION COMMITTEE (Mr. Larkin), and were approve without emendation.

CONFIRMATION OF MINUTES.

At the adjournment of the Representative Meetin (sitting in Committee) the Minutes of the Special Repre sentative Meeting were brought up by the CHAIRMA (Dr. Maclean) and taken as read and confirmed.

ADJOURNED REPRESENTATIVE MEETING.

Tuesday, July 25th.

Dr. MACLEAN (Chairman of Representative Meetings) i the Chair.

MEMBERS OF COMMITTEES.

THE CHAIRMAN OF REPRESENTATIVE MEETINGS announce the election of Members of Committees as follows:

Finance Committee: Mr. J. H. Ewart (Eastbourne), Dr R. L. Langdon-Down (Richmond), Dr. David Lawso (Dundee), Dr. Milner Moore (Coventry).

Journal Committee: Dr. R. C. Buist (Dundee), Dr. C. J Whitby (Bath), Dr. F. E. Wynne (Leigh, Wigan).

Hospitals Committee: Mr. N. Bishop Harman (Marylebone), Dr. David Blair (Lancaster), Dr. J. H. Keay (Greenwich), Dr. H. C. Mactier (South Staffordshire), Dr. G. Parker (Bristol), Dr. F. G. Swayne (Norwood).

Naval and Military Committee.—Mr. Russell Coombe (Exeter), Dr. A. C. Mayo (South Norfolk).

Colonial Committee.—Dr. Greenlees (Border Branch, Cape of Good Hope), Dr. Powell Evans (Wandsworth).

ANNUAL MEETING, LIVERPOOL, 1912.

The CHAIRMAN OF REPRESENTATIVE MEETINGS read the following letter from Sir James Barr, President-elect, 1912:

Kindly convey to the Representative Meeting my best thanks for the honour they have conferred upon me, and assure them that in Liverpool our best endeavours will be to make the meeting of the British Medical Association in 1912 a memorable one, not surpassed by any one that has preceded it.

ANNUAL GENERAL MEETING.

FIRST SESSION.

THE seventy-ninth Annual General Meeting of the British Medical Association was held at the Midland Institute, Birmingham, on the afternoon of Tuesday, July 25th, 1911.

The chair was taken by the President, Sir HENRY BUTLIN, Bart., P.R.C.S., D.C.L., LL.D.

The Minutes of the last Annual General Meeting were read and confirmed.

The PRESIDENT, who on rising was received with loud applause, said: Ladies and Gentlemen, it is now my duty—and a very pleasant duty it is—to introduce my successor, and to put around his neck this badge of the Association. I say it is my pleasant duty; but, on the other hand, I am obliged to admit that it is with a sigh of regret that I give up the Presidency of this Association. (Cheers.) It would be with very much greater regret were it not that I hand on the duties of the office to one who is thoroughly worthy to be the President. I am really almost happy in the fact that I precede him, and have not to succeed him. Dr. Saundby, Professor Saundby, for you are both, I have to congratulate you upon the honour which has been conferred upon you. I may tell you that my own experience is this: I have received honours of various kinds, from my profession largely, and quite recently from the State (cheers), and I tell you that I believe that I owe that honour to the insistence of my profession. I do not believe it would have been offered to me if it had not been that you had all made up your minds that I should have it. (Cheers.) What I would like to say is, that this presidency has a particular flavour about it; it is really one of the most desirable professional compliments which could be paid to any man, because it shows that he enjoys the full confidence and the esteem of all his fellow practitioners in and around the district in which he lives. (Cheers.) When we are speaking, as we are now, in what is, I believe, the second city in the kingdom, it is a thing to be proud of that a man should have been chosen from all his profession as worthy to be the President of this Association. I cannot remember in all the years I have known the Association one single instance in which a man upon whose character there rested the very smallest stain being elected President of this Association. Now, Dr. Saundby, I will do myself the honour of placing this badge round your neck. Let me tell you that every time I have worn it in the course of the past year it has been to me a pride and a pleasure. I hand it over to you with the assurance that you will feel exactly as I have done about it, that it is the pleasantest and most delightful adornment which any member of our profession can wear. (Cheers.)

Sir Henry Butlin then vacated the chair, which was occupied by the new President, Professor Saundby.

The PRESIDENT, who was received with long-continued applause, said: Sir Henry Butlin, Ladies and Gentlemen,—You will not expect me to make a long speech upon this occasion; you will hear enough of me to-night in that way. All I have to do just now is to thank Sir Henry Butlin for the peculiarly graceful and kind way in which he has transferred his office to me, and to thank you for the very appreciative way in which you have received his remarks and welcomed me to the chair.

Professor MORRISON: Professor Saundby, the pleasant duty has been assigned to me, on behalf of your many medical friends in this locality, of asking your acceptance of a personal memento of to-day's investiture in the form of a replica of the presidential medallion. With this souvenir, Dr. Saundby, we most cordially offer our felicitations on your elevation to the highest position in the British Medical Association; and we also wish to express the fervent hope that you may live many happy years in which to look back with pleasure upon to-day's proceedings, and with satisfaction upon what, we confidently expect, will be a very successful and memorable year of office. Dr. Saundby, as an old personal friend and colleague, I hand you this memento with very sincere pleasure. (Cheers.)

The PRESIDENT: Professor Morrison, Sir Henry Butlin, and Ladies and Gentlemen,—I cannot tell you how touched I am by this gratifying token of your esteem. This memento will always be prized by me, and will, I hope, be prized by my family after I have gone, as some testimony to this event to-day. Again I thank you for the very kind way in which you made this presentation.

The President then called upon Dr. Bruce Goff.

Dr. BRUCE GOFF: Mr. Chairman, Ladies and Gentlemen,—I feel honoured in being allowed to perform one of the most pleasing duties that has fallen to my lot. The gentleman who has just left the chair, and one whom it has pleased His Majesty to honour, Sir Henry Butlin, needs no eulogy from me. The older members of this Association have known him for years, too many years I am afraid, and they have all found him during the various offices which he has occupied, from that of being an ordinary Member of the Association to being a Councillor, from that to being Treasurer, an office that he held with such acceptance that he was asked to retain it for a second period—they, under those circumstances, have always found him one of the most genial, one of the kindest, one of the most courteous men that they could possibly come into contact with. To all of you now he has been known for some years—at any rate, for the last two or three years—as President-elect and as President of this Association, and you all know the energy he has displayed in doing all he possibly could for the benefit of his profession. None of you, unless you have been associated with him and know exactly what he has done, have the slightest idea of the amount of work that he has overtaken in the various offices that he has occupied during so many past years. I call upon you now, gentlemen, to give him a most hearty vote of thanks, and in these terms:

That the warmest thanks of the Association be given to Sir Henry Trentham Butlin, Bart., President R.C.S., D.C.L., LL.D., for the distinguished services he has rendered to the Association and the medical profession during his year of office.

Professor MORRISON: Mr. President, Ladies and Gentlemen,—To be permitted to second this Resolution is a genuine gratification, because it enables me to express my great respect and admiration for Sir Henry Butlin as a man and as the foremost leader of the medical profession. Those who have had the privilege of personal relations with the retiring President have appreciated the scrupulous fairness and courtesy which marked all his proceedings, and they have felt the charm of the unaffected kindliness and modesty which he cannot help showing on every occasion, because those qualities are native to his character. We claim for Sir Henry Butlin, as the President of the English College of Surgeons, the great honour of being one of a very small number of Presidents of any Royal College who have been called to the eminent position which belongs to the chief office in the republic of medicine, which our Association is within the British Empire, and we deem it a happy chance that he has held and adorned two great Presidentships concurrently, and that in the same year he has also received the dignity which the King has been pleased to confer upon him with general acclamation. Sir Henry Butlin's services to the Association throughout his professional life have been most honourably crowned by a year of untiring diligence in fulfilling the heavy obligations which must fall upon a man called to serve as the titular chief of the greatest scientific medical society in the world. Twenty-one years ago Sir Henry Butlin, on this platform, made a speech which he has probably forgotten, and he may be surprised to hear that it is still remembered by at least one admirer. In acknowledging his election as

Treasurer, Mr. Henry Butlin, as he then was, said that he had not sought the office, but he was bound to accept it unless a worse thing should befall him. I do not profess to know what he meant by that cryptic statement, and if I may say so with all respect, I doubt if Sir Henry Butlin himself knows. But he will agree that a worse thing to have befallen him would have been the loss of the satisfaction he now has in knowing that the recollection of the time and strength he has given to our affairs for many years, and especially given in the most generous measure during the past year, is preserved in our minds and will continue to be so preserved. It is Sir Henry's fortune to live in a centre of population which is sometimes called a city—the propriety of that title has been the subject of debate. In Birmingham, which is undoubtedly a real city, and in fact the greatest real city in the land, we are given to understand that the head of the professional administration in London must have unusual firmness of character and devotedness to the interests of the general body of the profession, if he is going to identify himself conspicuously with the British Medical Association. That and nothing less is precisely what Sir Henry Butlin has done. His manly courage and loyalty has helped to hold the flag high, and at the moment when he retires from the Presidency we wish to assure him that the vote that we are now about to pass in this General Meeting, which represents some 25,000 members of a great fraternity, is meant to be the vehicle of conveying to him the esteem, and more than the esteem, of the entire Association. (Loud applause.)

The PRESIDENT: Gentlemen, I think I am correct in saying that you carry this vote with acclamation.

Sir HENRY BUTLIN: Mr. President and Gentlemen—I knew, Bruce Goff, that you would let yourself go. I was sure, knowing you all these years as my old friend, that you would be very complimentary; but I did not expect that Professor Morrison was going to be quite so complimentary as he was. Now, I am not going to make a speech, because, to tell you the truth, my mind for the last few days has been so centred upon the incoming President, that I clean forgot there would be a vote of thanks to me, and I have not got a speech ready; but I will tell you this before I sit down. You talk of what I have done for the Association. Just listen to what I did for the Council of the College of Surgeons. It is about a year ago. One of my colleagues on the Council was talking to me at my house, and he said, "Well, Butlin, there is one thing you have done, you have raised the tone of the Council." Well, I was awfully pleased, and I thought of those nice little notices which were sent to the widow of a past Member of the Council, and which will be sent to Lady Butlin, and I thought that upon it there would be, "He raised the tone of the Council." I sat in my chair, and I verily believed that I blushed all over, and I thought of all my colleagues, and said, "Well, perhaps some of them"—"Oh," he said, "I did not mean that," and referring to my deafness, he said, "What you have done, Butlin, is, you have made them all speak louder." (Laughter and loud applause.) This story is of such levity that I should not have dared to tell it before this assembly had I still been President, but, having cast my skin, I now reveal myself in my natural aspect. I thank you all most heartily. I do not know how to thank you enough for the goodwill and respect which you have shown to me for the past year.

AUDITORS.

The TREASURER moved that Messrs. Price, Waterhouse, and Co. be appointed Auditors of the Association for the ensuing year at a remuneration of 100 guineas.

The CHAIRMAN OF COUNCIL, seconding the motion, tendered the congratulations of the Council to the President-elect.

The motion having been carried, the meeting adjourned till 8.30 the same evening.

ADJOURNED ANNUAL GENERAL MEETING.

THE adjourned Annual General Meeting of the British Medical Association was held at the University, Bournbrook, on Tuesday evening, July 25th.

The PRESIDENT (Dr. Saundby) took the chair at 8.30 p.m.

INTRODUCTION OF FOREIGN GUESTS AND DELEGATES FROM THE OVER-SEAS DOMINIONS.

The following foreign guests and delegates from over-sea Branches were presented:

Foreign Guests.

Dr. Bottcher, Wiesbaden; Dr. Russell H. Chittenden, Yale University, Newhaven, Connecticut; Professor Dock, New Orleans; Dr. Frey, Vienna; Dr. Gilchrist, Baltimore; Professor F. Koch, Groningen; Dr. Frantz Nagelschmidt, Berlin: Professor Onodi, Budapest; Professor Oppenheim, Berlin; Dr. Saubermann, Berlin; Dr. R. Schuster, Aachen; Professor Stoeltzner, Halle; Dr. Paul Strassmann, Berlin; Dr. Vogt, Privatdozent, University of Strassburg; Dr. Wertheim Salomonson, Amsterdam.

Delegates from Oversea Branches.

Professor Ferguson, Dunedin; Professor Reeve, Toronto; Professor Colquhoun, New Zealand; Dr. Fraser, Malaya; Dr. Dowding, Gibraltar; Dr. Bruce Bays, Eastern Province, Cape Colony; Dr. Wilson, Cape Town; Dr. Greenlees, Border Branch South Africa; Dr. Watkins, Griqualand West, South Africa; Dr. A. J. Chalmers, Ceylon; Dr. Smyth, Natal; Dr. Gabites, New Zealand; Dr. John K. Richards, Ballarat, Victoria, Australia; Professor Ryerson, University of Toronto.

THE RIGHT HON. JOSEPH CHAMBERLAIN.

The PRESIDENT said the next business was one of special interest to them as citizens of Birmingham. It was an attempt on the part of the British Medical Association to convey its sense of the respect, affection, and esteem felt for their fellow-citizen, the Right Hon. Joseph Chamberlain. (Loud applause.) Mr. Chamberlain was well known to the people of Birmingham. When he (Professor Saundby) first knew him he was Mayor of the City, but since then he had distinguished the town of Birmingham by becoming one of the most eminent statesmen of the day. He was appointed Colonial Secretary some fifteen years ago; he did an immense amount of work for the glory of the Empire, and there had not been such a Colonial Minister since the days of Chatham. Mr. Chamberlain had earned for himself an undying reputation for the work he did in drawing closer the links between the mother country and the colonies. In addition to this—and it was a matter which made them as members of the medical profession and of a great medical Association especially wishful to show honour to him—Mr. Chamberlain had recognized the enormous amount of damage which was being done by tropical diseases, diseases the study of which was at that time in its infancy, and he did his best, and that best was a very great effort to promote the study of tropical diseases. It was due to Mr. Chamberlain that so great an impetus was given to the study of tropical diseases in this and other civilized countries, and they as a medical profession knew it was to him they owed this departure for good. (Hear, hear.) Now in London and in Liverpool there were excellent schools of tropical disease, and the reason why they had not got one in Birmingham was not because they did not think it would do good, but because they had no material on which they could initiate and establish such a school. They would have wished, if it were possible, that Mr. Chamberlain should have been present to hear what they had to say about him, and to receive the certificate of honorary membership which had been conferred upon him by the British Medical Association. (Loud applause.) The roll of Honorary Members of the Association was not long; it contained only the names of a small number of distinguished men. It was therefore no ordinary compliment that they were paying him in asking him to accept this testimony of their Association to his work. The certificate was in the following terms:

> At the Annual Meeting of the British Medical Association held in Birmingham, July, 1911, the following Resolution was carried unanimously:
>
> That the Right Hon. Joseph Chamberlain, member of His Majesty's Privy Council, be and is hereby elected an Honorary Member of the British Medical Association, in recognition of his eminent services in promoting the systematic study of tropical diseases.

In the absence of Mr. Chamberlain, whose state of health unhappily prevented his taking part in such

gatherings as this, they had pleasure in accepting as his deputy his son, Mr. Neville Chamberlain, whose interest in medical matters had been manifested very strongly during the last few years. (Applause.) It was with the greatest pleasure that he (Dr. Saundby) handed this certificate to Mr. Neville Chamberlain, and asked him to convey it to his honoured father with the expression of their deepest respect and admiration. (Loud applause.)

Mr. NEVILLE CHAMBERLAIN thanked Dr. Saundby on behalf of his father for the very kind and touching words in which he had spoken of the services which Mr. Chamberlain had rendered in regard to tropical medicine. In his absence, which no one regretted more than himself, he had desired him (Mr. Neville Chamberlain) to attend on his behalf to receive the certificate and to express to them his deep appreciation of the compliment paid to him. As had been said, it was no ordinary compliment. Mr. Chamberlain had ever regarded with peculiar satisfaction his work in connexion with the founding of the London School of Tropical Medicine. The certain benefit which had been, and would continue to be, conferred upon humanity by medical science always appealed strongly to his energy. And so, when his father was Colonial Secretary, and that subject was painfully impressed upon his mind by the terrible mortality amongst the British residents in South Africa, he was not only ready but anxious to follow out the ideas which he had previously held, and to do his best to promote some kind of medical research into those tropical diseases which, up till then, had been so little studied. The result was the founding of the School of Tropical Medicine. The result which had been achieved by the London and Liverpool schools and other schools following in their footsteps had far exceeded even his father's most sanguine anticipations. (Loud applause.) They had opened up a new field of medical science, and, like irrigation in the desert, they had added new tracts to civilization. He assured them that this certificate would be a source of gratification to his father, who, unlike many other pioneers, had been fortunate to see his own work recognized in his lifetime. (Loud applause.)

PRESENTATION OF THE MIDDLEMORE PRIZE.

The PRESIDENT said that the Middlemore Prize was founded by the late Mr. Middlemore, a citizen of Birmingham, one of the founders of the Birmingham Eye Hospital, and for many years Surgeon to that institution. Mr. Middlemore was anxious to do what he could to promote the study of the special department of surgery in which he was so interested; and he gave a considerable sum of money to the British Medical Association with which to found a prize. The original intention was to give every second or third year a prize of £50 to encourage the production of a paper, a sort of retrospect of the work done in that department. That did not prove quite a success; it was difficult to get men to do work which was so dull as merely grouping together other people's ideas. He (the President) therefore went to Mr. Middlemore some years ago and asked him if he would permit an alteration of the trust deed so as to give the Council of the British Medical Association a freer hand in awarding it. Mr. Middlemore, with the great sense of liberality that always characterized him, willingly assented to this, and an alteration in the trust deed was made. Since then the prize had been given as a recognition of the best work done in the department during the period which had elapsed since the last award. On this occasion the award, which consisted of a cheque for £50 and a certificate, had been made to Mr. Charles Walter Gordon Bryan, M.R.C.S., L.R.C.P., in recognition of his essay on Serum and Vaccine Therapy in Connexion with Diseases of the Eye. (Loud applause.)

Mr. Bryan then ascended the platform, and

The PRESIDENT said: It is with great pleasure I hand you this certificate and this cheque for £50 as the Middlemore Prize for the year 1911, in recognition of the admirable work which you have done in ophthalmology. (Loud applause.)

PRESIDENT'S ADDRESS.

The PRESIDENT then delivered his Presidential Address, which is published in full at page 197.

At the conclusion of the address Dr. BYROM BRAMWELL proposed a vote of thanks to Professor Saundby. Dr. Bramwell said that he had the privilege of knowing Professor Saundby for a long period of years, of watching his career, and of being intimately acquainted with him; and, when he heard that the British Medical Association was meeting in Birmingham, he naturally concluded, considering the very distinguished position Professor Saundby had taken as a provincial physician and scientist, and the great amount of time and work he had devoted through many years to the British Medical Association, that he would be honoured by being asked to occupy the distinguished position which he occupied that night. (Loud applause.) All would agree with him that they had listened with very great pleasure to an interesting and most able address. He was glad Professor Saundby had touched upon the National Insurance Bill, club practice, and other associated subjects, and that they had, by the applause which they gave to the various points he had made with reference to those subjects, signified their appreciation and agreement with the ideas he had expressed. This was not the time and place for him to express an opinion upon or to debate those debatable subjects, and therefore he simply proposed:

> That the best thanks of the Association be given to Professor Saundby for his able and interesting address.

(Loud applause.)

Dr. OTTO J. KAUFFMANN (Birmingham) seconded the motion. He would like to add his personal tribute to Professor Saundby and his admiration for the very able address which he had given. When Dr. Saundby was elected to the office of President every medical man in Birmingham felt that no better representative of their profession could be found to fill the position which he now held. Many doctors were indebted to Professor Saundby for kindnesses received, and he (Dr. Kauffmann) had himself abundantly benefited from his helpfulness. The address which he had delivered was of peculiar interest to the medical profession; the subject was one which particularly agitated the profession at the present time, and he thought that the subject was a well-nigh inevitable one for the presidential address. Dr. Saundby had not said one word too much on it. Professor Saundby had had peculiar opportunities, not only in Birmingham, but as a member of the General Medical Council, and on a Committee specially appointed to consider this bill, of thoroughly sounding the matter, and what he had said was not only appropriate but just. Especially was this so in regard to the hospitals. Dr. Kauffmann foresaw many difficulties which the hospitals would have to encounter in the future. He could not see that their position or efficiency would be in any way improved if the Insurance Bill was passed in its present form, more especially in the extended sense in which it was proposed to apply it.

The CHAIRMAN OF COUNCIL (Dr. Macdonald) then put the resolution to the meeting, and it was carried with acclamation. Dr. Macdonald said that he had much pleasure in conveying to Dr. Saundby the best thanks of the Association for the admirable address he had given. Personally, as Chairman of the Council of the Association, he might say how gladly they had received him in the distinguished office which he had taken up that day; they looked forward from this, his inaugural address, to a most successful year of office. It was an office that would require a great deal of tact in dealing with the subjects which would arise, but he was sure that in Dr. Saundby's hands the interests of the Association would be well taken care of.

The PRESIDENT, in reply, said that after the length at which he had addressed them they would not expect a speech from him, but it was due to Dr. Macdonald and the mover and seconder of the vote of thanks that he should thank them most heartily for the way in which the resolution had been placed before the meeting, and the meeting for the manner in which it had been received. It was a great honour to him to be allowed to address them on this occasion, and he hoped that what he had said would reach a wider public than those present at the meeting, and that it might show the public the feeling in the medical profession that any increase of contract practice would cause the greatest injury to the profession and to the public.

The proceedings then terminated.

Wednesday, July 26th.

ADDRESS IN MEDICINE.

THE Annual General Meeting resumed on Wednesday, at 12.30 p.m., to hear the Address in Medicine, which was delivered by Dr. BYROM BRAMWELL. The PRESIDENT (Professor Saundby) occupied the chair. The address is published at page 201.

The PRESIDENT was sure all present had listened with the greatest pleasure to Dr. Byrom Bramwell's address, and would agree that he could not have selected a better subject. All medical practitioners knew the educative influence of their mistakes, that their education was most complete when they had had opportunities of discussing their mistakes, and that perhaps the misfortune of many members of the medical profession was that they had not found out their mistakes. It was a common jibe that their mistakes were buried; but the mistakes of those who practised in hospitals and went to the *post-mortem* room were not buried until after they had been discovered. They had the opportunity there of finding out whether they were right or wrong, and it was because of that practice that those who worked in hospitals had an opportunity of continuing their education throughout the whole of their lives. It was not his business to make a speech. He would call upon Dr. Eddison, Consulting Physician to the Leeds Infirmary, to move a vote of thanks to Dr. Byrom Bramwell for his admirable address.

Dr. EDDISON thought the meeting would admit that the world seemed to be full of mistakes. Even Governments might make mistakes, and legislators certainly might make mistakes. Indeed, he thought that even Professor Saundby had made a slight mistake in calling upon him (the speaker) to have the honour of proposing the vote of thanks. However, the speaker held himself excused because twenty-one years ago he did exactly the same thing in exactly the same place. He did it very badly, because partly he was full of emotion and interest and desired to express his admiration for the civic patriotism which manifested itself in that great city, and he wished to say how much he appreciated what Birmingham men had done, and especially what Birmingham men in the profession, as well as the general citizens of the place, had done. But no mistake had been made when Dr. Byrom Bramwell had been chosen to deliver the address. It was a singular pleasure to him, twenty-one years after his last appearance on the platform, to find on it two old friends, one presiding and the other giving one of the most suggestive addresses he had ever heard. Those of them who had never known Dr. Byrom Bramwell would perhaps now understand why it was he held the position he did in the hearts of his colleagues and his friends. (Loud applause.) When he said he was one of Dr. Byrom Bramwell's pupils, he knew Dr. Byrom Bramwell would say, "That is another mistake of Eddison's." (Laughter.) But Dr. Byrom Bramwell's pupils were all over the world; everybody who read his work knew that they were learning from the work of a man who did what Huxley described as the best work of all, and that was to stand sometimes with your face to the altar pursuing your researches, doing really valuable work and then combining that with that art, which Huxley possessed in such a marvellous degree, of being able to turn round to the audience and expounding to them what he knew. That was what Dr. Byrom Bramwell had been able to do. He was a great researcher, he was a great clinical teacher, and, as had been seen that day, he was a great expounder of his views. (Loud applause.)

Dr. LAURISTON SHAW, Physician to Guy's Hospital, seconded the vote of thanks, which was put and carried with acclamation.

Dr. BYROM BRAMWELL, in responding, thanked the meeting most sincerely for the way in which they had listened to him, and for their vote of thanks.

GENERAL MEDICAL COUNCIL.

Selection of Candidates for Election as Direct Representatives for England and Wales.

A MEETING was held in the Midland Institute on Tuesday, July 25th, 1911, of the Representatives of the Divisions of the British Medical Association in England and Wales for the purpose of selecting three candidates for election as Direct Representatives of the medical practioners in England and Wales on the General Medical Council.

The CHAIRMAN OF REPRESENTATIVE MEETINGS occupied the chair.

Dr. MACLEAN subsequently announced that the following gentlemen had been selected: Dr. Langley Browne, Mr. Verrall, and Dr. Latimer.

Dr. Langley Browne and Dr. Latimer are the retiring Representatives; the third vacancy, as was explained last week, is due to the fact that under the provisions of the Medical Act, 1886, the Privy Council has, on the representation of the General Medical Council, sanctioned a fourth Representative for England and Wales.

OPENING OF EXHIBITION BY THE LORD MAYOR OF BIRMINGHAM.

THE Annual Exhibition of Surgical Instruments, Drugs, and Foods, in the Bingley Hall, was opened by the Lord Mayor of Birmingham on July 25th. Professor Saundby (President-elect), Sir Henry Trentham Butlin (President), Professor Morrison, and a large company were present. The opening was preceded by an inspection of the exhibits.

Sir HENRY BUTLIN, addressing the Lord Mayor, said that whilst it had been the custom of the British Medical Association for a good number of years past to hold an exhibition in connexion with the meetings of the Association, in the past there had been no formal opening, and the present was the first occasion of the kind. The Committee of the Annual Meeting had this year decided that there should be a formal opening, and it was only natural that they should ask the Lord Mayor to undertake the duty.

The LORD MAYOR said that it was only fitting that the members of the medical profession should give public recognition to the exhibition by attending its formal opening. Such an exhibition stimulated manufacturing chemists, surgical instrument makers, and other manufacturers, whose goods were to be seen there. The knowledge that they would have to face the ordeal of close inspection by medical men, and constant competition one with the other, must stimulate them, and be to the advantage of the quality of the goods that they were concerned with. Whilst at the present day less physic was used than in years gone by, drugs were certainly better prepared, and great improvement had taken place in the last twenty years in the more accurate standardization of different preparations. Much might be done in that direction in the future, but he thought pharmacists might be congratulated on the advance which had been made. In that connexion it must be remembered that there was nowadays less need for medicine. Physical exercise, the application of electricity, and many other forms of new treatment, were taking the place of drugs, and it made him think of what Addison said: "Physic for the most part is nothing else than the substitute of exercise and temperance." Many forms by which physical exercise could be indulged in were on exhibition, and he could see no form of alcoholic drink displayed, and therefore the exhibition made for both physical exercise and temperance. With regard to surgical appliances, in common with the other departments, most of the leading makers were represented. Whilst it was not the appliances and instruments so much as the man who used them which was of importance, yet a skilful man was none the worse for having good tools. He thought every member of the medical profession would derive benefit by going round the exhibition and seeing the new and up-to-date appliances on exhibition and observing the very careful preparation of drugs. He was very pleased with the exhibition, both from what he had seen and from what he had heard from those qualified to judge, and it gave him great pleasure to declare it open.

Professor SAUNDBY proposed a hearty vote of thanks to the Lord Mayor. This was seconded by Professor MORRISON, and carried by acclamation amidst loud applause.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, 28th, and 29th, 1911.

EXHIBITION

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[FIRST NOTICE.]

WE commence in this issue our usual notice of the collection of modern surgical instruments, drugs, foods, books, and other accessories to practice which yearly takes place under the heading of the Annual Exhibition. It was held in the Bingley Hall, and may be said at once to have been fully on a par with its many predecessors. The number of different stalls was over a hundred, and there seemed to be plenty of space for the display of products and apparatus, and plenty of room for visitors. In addition to the main hall, the building had a number of annexes, which allowed of excellent arrangements being made for luncheon and tea purposes, and for exhibitors to transact any business they might have to get through in a quiet writing room. There was also a reading room where visitors could study at their leisure the literature offered them by exhibitors. The building, in short, though designed for a very different purpose, lent itself admirably to the object for which it was used on this occasion. Bingley Hall, it may be noted, lies but a very short distance from the Town Hall, where the general reception room was situated, and from the University Buildings, in which the Sections held their meetings, and by way of further facilitating the flow of visitors the officers of the Association concerned had thoughtfully made arrangements with the Wolseley Motor Car Company for the use of a fleet of cars which travelled backwards and forwards between the exhibition and the buildings in question. A further feature this year was the official-opening of the exhibition. The real opening took place promptly at 9 a.m., at which hour almost all exhibitors had arranged their stalls according to their wishes, and about 11 o'clock the President of the Association, accompanied by the Lord Mayor of Birmingham and by the President-elect, made a tour of the stalls, and subsequently invited the Lord Mayor to declare the exhibition open. As for the accounts of different stalls which now follow, it should be observed that no intentional selection has been exercised in the matter of those which shall be noticed first; the accounts appear simply in the order in which they happen to have been completed.

SIEMENS BROTHERS AND COMPANY, LIMITED (Caxton House, Westminster). The combination principle in electro-therapeutics, which has already been demonstrated in various "universal" machines for conveying different forms of current in treatment, found quite a new and interesting application in the exhibit of Siemens Brothers and Company, Limited, Caxton House, Westminster, S.W. This took the form of an instrument called the *Oscillothermex*, combining diathermic, high-frequency, *x*-ray treatment by oscillatory discharges of the electrical current. It is little more than a year since the apparatus for diathermy, or for sending great heat into the tissues without the risk of contact with the dangerous pressures of the supply circuit was brought out, and in the new arrangement it was shown linked up with a Tesla coil for high frequency work, and with an *x*-ray tube stand, the cathode of the tube being connected with the upper end of the coil. From the point of view of *x*-ray theory, as well as of practice, the apparatus had an interest, since it represented perhaps the first really successful establishment of electrical oscillations as a means of working *x*-ray tubes. We understand that the Wien method of quenched sparks, used in the Telefunken wireless telegraphy system, has made this possible. The tube is intended primarily for *x*-ray therapy, but screen work of a simple kind can be carried out. As to the high frequency function of the apparatus, this, it is claimed, has an advantage over the more ordinary form, because not only is a strictly asymmetrical wave of alternating current employed, but an increased effect is brought about owing to the larger number of sparks which are produced. The Oscillothermex can be connected directly to the alternating current supply, or, through a small rotary converter, to a supply of direct current. Other exhibits at this stand included the newest patterns respectively of an induction coil for instantaneous radiography, a universal apparatus for electro-medical purposes, and a switch table. There were also on view the *Skiafix* for *x*-ray localization, which we noticed at the last exhibition, a set of dental instruments made of tantalum, and a display of radium salts and radio-active earths, with applicators and other requisites for radium therapy. Messrs. Siemens also exhibited, under the name of Kontrastin, a substitute for bismuth in the form of zirconium oxide. This ural test meal drug is said to be much more opaque than bismuth carbonate for *x*-ray purposes, to be unaffected by acid, and to have no injurious action on the system.

HARRY BROOK (34, Illingworth Road, Halifax). We were glad to have another opportunity of inspecting the work of this firm, whose exhibit on this occasion bore the title "Palliations of Disfigurements of the Face." The articles shown were reproductions of artificial features made by the firm for the patients of various medical men, and in almost every case an attempt was made by plaster models, photographs, and other means to bring home to the visitor the precise nature of the deformity which it had been attempted to remove and the difficulties which had had to be overcome. The essential structure of the restorations is thin aluminium; hence they are light, readily kept clean, and not easily destroyed. The average weight of a nose would, we gathered, be about 2 drachms, or sufficiently light for it to be retained securely in place chiefly by the accuracy with which it fits on such projections as there may be on the underlying natural surface. When otherwise complete the features are enamelled by some process so as to match the skin colour of the individual for whom they are intended. As for the success of these restorations, this can only be judged by examination of each individual case; but taking them as they stood they seemed to us very ingeniously constructed, and that the more moderate-sized restorations would certainly enable the wearer to pass muster anywhere in the sense that the fact that one of his features was artificial might easily pass undetected at table as well as in the street. Whether the original defect would be equally unnoticeable after very large restorations, such as those occasionally needed when some accident has resulted in the destruction of a large proportion of the face, we are not certain. Probably the immobility of the features when an eye, cheek, nose, and chin were all included might attract attention. But even then the outcome would still seem likely to be comparatively satisfactory, and at least as good as could presumably be expected. The firm, therefore, as we suggested last year, is certainly one to be borne in mind.

The DENVER CHEMICAL COMPANY (St. Anne's Road, Bow, E.). This New York firm exhibited as usual only one of its products, namely, *Antiphlogistine*, a substance which has acquired for itself an excellent repute, and which has been, and still is, being freely imitated, but not successfully. During the last four years there have been additional indications for its use, since it is now admittedly right, in dealing with many inflammatory conditions, to aim at facilitating phagocytosis by bringing to the affected locality an increased amount of blood serum. In short, the reason of the value of the old-fashioned poultice has been learnt, and in effect it is as a scientifically compounded, easily used, and enduring kind of poultice that Antiphlogistine may be regarded. In appearance it is a thin grey paste, entirely free from odour, and capable of being spread out into adherent layers of any thickness. It is composed, the firm states, of pure levigated clay, with the addition of pure glycerine and some iodide salts, together with minute quantities of boric and salicylic acids, as also of peppermint, gaultheria, and eucalyptus oils.

With this composition it is easy to understand that it does not dry up, and that when spread about ½ in. thick and covered with a layer of lint or cotton-wool it keeps hot and moist for from twelve to thirty-six hours and can then be peeled off and replaced. This is a strong point in its favour, for the patient is not, as in the case of linseed poultice or fomentation treatment, perpetually worried by the need for fresh applications. The manfacturers claim that it acts reflexly and also by a process of dialysis, and that it is decidedly anodyne, and we must admit that we do not know of any better way of applying moist heat in a cleanly comfortable form. In any case, we are acquainted with independent medical men of wide experience who regard Antiphlogistine as of great utility in general practice, when dealing either with deep-seated or superficial inflammatory disorders or with states of congestion in which moist heat would seem likely to be of utility.

WALTON AND CURTIS (190, Broadhurst Gardens, West Hampstead, N.W.). This firm of surgical appliance manufacturers had an exhibit of a limited character, but one which included several comparative novelties. One of these was a device named the Hydrostatic Cupper and Aspirator which has been made for Dr. Macnaughton Jones. It is intended to facilitate the emptying of abscesses and other cavities, and the working model showed that it is easy to manage, and will secure any degree of minus pressure desired from minus 4 oz. to minus 4 lb. The hosiery for the benefit of persons who suffer from varicose veins, and sold under the title of *Walcur*, also present good points, lowness of price being amongst them. A third exhibit was the Curtis Abdominal Support, which thoroughly merits attention, as it differs altogether from ordinary abdominal supports. The underlying idea is that of a double truss; in short, it suggests a double truss with an unusually large back plate. But what appears to be a back plate is really the front or abdominal part of the support, and consists of two triangular pieces of aluminium hinged together at their bases. From their apices on each side start two springs which end posteriorly in two pads resting on either side of the vertical column at the junction of the sacral and lumbar regions. The size of the anterior pad or pads is made to vary with that of the abdomen which it is to support, and their precise shape can be altered so as to make them cover in a single or double inguinal hernia if it exists. In the ordinary shape they would naturally cover over a ventral or umbilical hernia. The strength of the springs can also be altered according to the amount of pressure it is desired to exercise on the abdominal wall or according to the weight to be supported in cases of pendulous belly. A further good point is that the direction of the pressure can be altered by varying the attachment of the springs to the front plate. The two anterior pads are kept in place by a strap between them, but otherwise the support is entirely self-adjusting, and exercises no pressure whatever on the hips. It is thus comfortable to wear, and as easy to apply as to remove. It also seems safe to assume that in view of the materials of which it is constructed the *Curtis Abdominal Support* would remain in effective order for longer than ordinary appliances of like purpose. It seems, therefore, worth bearing in mind by those having patients in need for one or other reason of some such adjunct to the resistance of the abdominal muscles.

J. AND A. CHURCHILL (7, Great Marlborough Street, London). Apparently the special endeavour of this well-known firm of medical and scientific book publishers was to prove to visitors at Birmingham the great attention that it pays to modern methods of book production. If so, it was certainly successful, for some of the samples of its recent publications received much praise. A case in point is the volume on *Diseases of the Skin*, by Dr. J. H. Sequeira of the London Hospital; it contains some forty plates in colour, in addition to a very large number of illustrations in black and white. In connexion with it were shown the various stages through which the half-tone blocks had been prepared, as also specimens of the esparto grass used in the manufacture of the art paper specially manufactured for the volume. It is to be noted that all the coloured illustrations in the book were reproduced from photographs taken direct from the patient. The illustrations in *A Manual of Gynaecology*, by T. W. Eden—a book which since its issue a few months ago has been very well received—may also be regarded as exceptionally good in point both of original design and of execution; they number as many as 291. Besides these new works a good many standard books were on view, these including a seventh edition of Dr. Galabin's *Practice of Midwifery*, in the publication of which Dr. Blacker is associated as editor with the original author; a ninth edition of Goodhart and Still's *Diseases of Children;* a sixth edition of Taylor's classic volume on *Medical Jurisprudence*, for which Dr. J. F. Smith is now responsible; Turner and Stewart's *Textbook of Nervous Diseases;* and Spencer and Gask's *Practice of Surgery*, the two latter being almost as notable for their illustrations as the two specifically mentioned in this connexion. There were also on view some copies of the publication with the fortunes of which this firm has been associated for nearly seventy years—namely, the *Medical Directory*. It seems that the introduction into the current volume of information on British and continental health resorts has been much appreciated. The attention of visitors was also directed by pamphlets to the approaching publication of a new and enlarged edition of the *Practice of Medicine*, by F. Taylor; of the *System of Treatment*, which has been compiled by a large number of authors under the editorship of Dr. A. Latham and Mr. T. Crisp English; and of *Who's Who in Science*.

FASSETT AND JOHNSON (86, Clerkenwell Road, London). This firm is the representative of several pharmaceutical and other manufacturers, some of whom bear well-known names. Among them are Messrs. Seabury and Johnson, who, many years ago, came into note for the excellence of their plasters, but are almost equally well known now for their surgical dressings and accessories. Their gauzes are put up in a wood-wool fibre container and folded therein in such fashion that a part may be removed without interfering with the aseptic condition of the remainder. This container is unbreakable, light and compact, and offers many advantages. Also worth noting are *Seabury's Emergency Ligatures*. They consist of a length of ligature threaded to a gold-plated needle, enclosed in a glass tube. They should prove a specially useful possession to those who do not often have occasion to do surgical work. The *Sanitary Cuspidores*, which have been brought out by the same firm, also seem likely to prove popular. The actual recipient of the sputa is a watertight paper vessel which can be removed from its holder and burnt, a fresh one being inserted in its place. Another firm which figured on the same stall was the A. C. Barnes Company, which showed *Ovoferrin*, an organic iron compound, and *Argyrol*, which is regarded by some surgeons as quite the best silver salt available in cases of conjunctivitis either in adults or young children, and as possessing the power of both lessening the discharge and relieving pain. Another preparation shown was *Californian Syrup of Figs*, which is prepared by an American firm of that name and appears to have been long popular in the United States as a safe and painless aperient, suitable for use in children and adults whose intestinal canal is easily irritated. Also shown was *Emol-Keleet*, a dusting powder esteemed to possess mildly astringent and sedative properties, which is now fairly well known in connexion with the treatment of sensitive and inflamed conditions of the skin, whatever their cause. Finally should be mentioned *Ernal Bath Salts*, a preparation which presents a ready means of producing pleasantly effervescent baths, and *Thermogene* wool, an excellent means of securing warmth and slight counter-irritation in cases of rheumatism and allied conditions.

The LIVERPOOL LINT COMPANY (Mark Street Mills, Liverpool). The stall of this wholesale firm attracted, as usual, a good deal of attention, for the different forms of dressing to be seen were numerous. One of them was *Vulnoplast*, with which we have had considerable experience, and which we regard as one of the most practical forms of ready-made dressing yet produced. It is a gauze tissue impregnated with a choice of various well-recognized antiseptics and very easy to use, since all that is required is to cut off a piece the desired size and place it over the cleansed wound, which is thereby and at once efficiently dressed. No bandaging is required, because the dressing

has a backing of adhesive plaster. Another excellent product is *Impermiette*, a substitute for rubber or other waterproof material, of which we have a high opinion; it keeps well in the hottest weather, and is not affected by chloroform or carbolic acid in 5 per cent. solution. In the heavier qualities it makes very good bed sheets. Another speciality of the firm is *Splint Padding*, which can be obtained either in compressed or natural form, and in either case when laid on the splint makes a thick, soft pad. It is composed of a mixture of carbolized tow, absorbent cotton-wool, and other fabrics, and is very easily handled. The firm also showed absorbent wool between layers of gauze, in three qualities and weights; a series of body belts and underclothing specially designed for those who perspire freely; and, finally, an array of compressed bandages, lint, wool, and other aids to dressings of various kinds. The latter we especially mention, as it is mainly this firm, we believe, that medical men have to thank for the greatly improved form in which lint, bandages, and other dressing materials are now to be obtained; but little by little the old bulky dressings disappeared, and in their place we have attractive little packets so small that enough lint and bandages to dress several cases can be carried about with ease.

RONUK, LIMITED, Sanitary Polish Manufacturers (Portslade, Brighton). By way of showing what effect may be expected from the use of Ronuk—the sanitary polish from which the firm derives its name—there was exhibited on the stall of this company a series of small model floors in oak, teak, maple, pitch pine, deal, and Jarrah, the hard Australian wood, of which much has recently been heard. They may be presumed to have proved interesting to members who are in any way responsible for new hospital buildings in the course of erection, or for old buildings whose floors are in an unsatisfactory condition. The polish itself was also shown in two forms, a concentrated paste and a liquid, as well as a Ronuk Stain for colouring and hardening the surface of ordinary deal flooring, and various accessories. The preparation of a floor for the application of *Ronuk* is of a rather more elaborate nature than that required with common stains and varnishes, but the effect obtained is certainly superior. Once polished the appearance of the floors is easily preserved by the brushes which the firm supplies in various weights, according to the special requirements of the case—heavy brushes for places with a wide extent of uncovered floor, and others of a lighter kind for domestic use. While there is no difficulty in keeping floors prepared with Ronuk in good order, it may be pointed out that, in addition to undertaking the original preparation of floors, the firm also contracts for their annual maintenance, and that, though they may not know it, most people must be practically acquainted with this polish, since it is used not only in hospitals, but in a great number of public institutions, such as the National and Tate Galleries, and countless private houses, hotels, and restaurants. That it gives general satisfaction is evident from the numerous official testimonials which the firm has received. The firm also manufactures a sanitary polish which is intended for application to linoleum; without making it slippery, it makes it bright and increases its durability.

LIEBIG'S EXTRACT OF MEAT COMPANY (4, Lloyd's Avenue, London, E.C.). Among the points which render this company of interest is the fact that its original preparation, Liebig's Extract of Meat, was not only the first meat extract ever put on the market, but one of the earliest of the ever-increasing number of preparations which make their way from Germany. Originally prepared under the direction of a man who in his time was a well-known, almost famous chemist, Justus von Liebig, it is now brought out under the aegis of Sir Henry Roscoe, who acts as the firm's scientific adviser. But the product, which is a pure beef extract, entirely free from fat, has now not only changed its place of manufacture but also its name, since it has been known for some few years past as *Lemco*, a word made up of the initials of the company. It has long been familiar in every household, and we recently noted, when reading a bacteriological paper, that it is apparently equally familiar in the laboratory. Another important preparation of the firm is Oxo, a somewhat younger claimant to popularity, but now almost equally well known to every one. It is a compound of meat extract and meat fibre with the addition of flavouring matters, and long personal experience proves that, on addition to it of a sufficiency of hot water, a stimulating and exceedingly pleasant drink with a full beef-broth flavour results. The same preparation is also put up in a form specially intended for sick-room use. This is called *Nursing Oxo*, and is somewhat stronger than ordinary Oxo. Its special point, however, is that all flavouring agents are omitted in order that whatever condiments are deemed desirable may be added in the sick room, according to the varying tastes of invalids. But also of some interest in medical connexions are the penny tablets of beef extract known as *Bifti*. They are intended for use either in the sick room or for ordinary domestic purposes. They render possible the immediate preparation of a very good soup, and, being both portable and cheap, they ought to be, and we believe are, popular with those who engage in district nursing and allied work. There were likewise shown Fray Bentos Ox Tongues, corned beef, and a delicately seasoned Fray Bentos Ox-tongue Soup.

THE CELLULAR CLOTHING COMPANY (72, Fore Street, London, E.C.). This firm is the manufacturer of the tissue known as *Aertex*, one which has been imitated during the past ten years with a freedom strongly indicative of the popularity and probable value of the fabric. This year the firm endeavoured to secure special attention for *Aertex sheeting* and for red yarn or non-actinic underclothing. We tried this sheeting a year or two ago, and found that weight for weight it provided considerably more protection than ordinary sheets, and we deemed them likely to prove useful in the sick room in dealing with patients who, whether from fancy or otherwise, are unable to sleep when covered with a due amount of ordinary bedclothing. We understand, however, that they were brought out originally with a view to their use at sea and in damp climates. No doubt they would play a useful part in such directions, and it is not surprising, moreover, to hear that they are being used in the treatment of patients who suffer from night-sweats. As for the *non-actinic underclothing*, the name is justified by the introduction into the fabric of red-dyed threads. It was brought out for the use of residents in hot climates, being designed to protect them from the effects of direct sunlight by cutting off the actinic rays. We felt some doubt as to whether its good points would be appreciated, and are glad to find that it is being considerably used. The ordinary fabric of the firm is almost too well known to require description. It consists of a fine meshwork of small cells, which allows evaporation from the surface of the body to proceed slowly and steadily, but at the same time prevents the body heat escaping too rapidly, the net result being that the body is protected from chill by a layer of naturally-warmed and dry air in the interstices of the tissue. This is a sound conception of the principles on which a covering for the body should be built, and we have found that the underclothing made of this material can be comfortably worn both in winter and summer, that it washes well and does not shrink, and lasts considerably longer than a merino or other fabric of ordinary make and of corresponding power of protection.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and blue books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

National Insurance.

MEETINGS OF THE PROFESSION.

THE MIDLANDS.

On June 15th a meeting of members of the profession resident in Birmingham, Warwickshire, Worcestershire, and Staffordshire, called by the British Medical Association, was held at Birmingham to discuss the National Insurance Bill. The following account of the proceedings is based on a report which appeared in the *Birmingham Post* of June 16th. The meeting was presided over by Professor J. T. J. Morrison, who said the bill opened the first chapter of a new volume in the relations between medicine and the public; the next volume might begin with the appointment of a Minister of Health to preside over a Medical Department; and it was possible that the exponents of medicine more than any other distinctive class would find the conditions of their calling deeply modified. It behoved them as guardians of an ancient profession to watch with the closest possible vigilance the trend of events, and to be prepared to act promptly and firmly whenever the need for such action came. The Government's bill touched all branches of the profession. General practitioners were confronted with the extension of contract practice and with an immediate drop in the saleable value of their practices. Salaried medical officers would be affected by the new health authorities to be set up in the form of Health Committees, and by the establishment of State institutions for consumption and other diseases. The position of hospital staffs could not remain as at present if subsidies out of public funds were to be paid to what were now medical charities, and teachers and directors in medical schools had good grounds to expect a decline in the entry of medical students from all quarters of the kingdom. From other sources there were the clearest indications that the medical profession were thoroughly awake to the critical change which threatened them, and they must present a solid phalanx strong enough to make an impression on the Government.

Professor Jordan Lloyd moved:

> That, whilst approving the main objects of the bill, and being desirous of co-operating for their attainment, nevertheless, in view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

He was present that afternoon not as a politician, but as a member of a profession whose interests were deeply concerned, and a profession which, he thought, almost for the first time, had shown itself to be in deadly earnest. He was present at the Town Hall on June 10th, when the Chancellor of the Exchequer addressed a large meeting there. He went to the meeting with an open mind to hear the father of the measure speak on its behalf. He was sorry to note the way in which the Chancellor of the Exchequer handled the measure he came down to discuss. The Chancellor began by saying he had come to discuss the principles of the bill—principles which affected the national health. He (the speaker) took it that all present would be in favour of a measure which had for its object advantage to the national health. Surely every doctor in the country had before him every hour of his life the great question, not only of individual health, but of public health. The Chancellor of the Exchequer told them he had devoted three years of labour, research, consultation, and continuous thought to this proposal. He had no doubt the Chancellor had devoted that very long time to great advantage; but he had not made himself efficient. He had yet much to learn in connexion with this question. Great as he might be as a politician, he was certainly not master of the whole of the details of the question, nor even of the great principles which were involved and concerned it. He thought the Chancellor had been ill-informed upon the great questions which appealed most to, and affected most, the great body of the medical profession. He thought so much of Mr. Lloyd George—much more, probably, than some of those present did—as to feel that had he known, or did he know at the moment, the effect of the measure on the large body of the medical practitioners, his personal views would be very materially altered. But the Chancellor was in deadly earnest in this matter, and he had said he was amazed to think they wanted so long to consider it, and were unable to make up their minds at once. It did not take them long to make up their minds. It did not take three years for the members of the medical profession to see the—should he say—unfair side of the bill, and they commenced at once to call attention to what they considered was unfair. This was a matter in which they must be united. They must stand together strongly and firmly, and ultimately they would win.

Dr. Thomas Wilson, who seconded the motion, said he was sure every man and woman in Great Britain sympathized with Mr. Lloyd George in trying to improve the conditions of life of the submerged, or half-submerged, fifteen millions, whose problem he was now attacking. But the revolution he proposed with the National Insurance Bill was one which affected the profession very practically. An Act of Parliament might administer such a blow to their profession from which it could not recover for a generation. Therefore, when a bill was brought forward which affected them as this one did it behoved them to examine its proposals with extreme care. They had to see whether the proposals were likely to degrade their profession or not. They had to see to it that no hasty legislation should interfere with the proper and healthy conditions under which they did their work. They must persuade Parliament on matters which affected them, and in order to do this they must have time. Therefore, he had great pleasure in seconding the motion.

The motion was carried unanimously.

Professor Gilbert Barling moved the next resolution:

> That this meeting emphatically supports the policy of the British Medical Association in demanding—(1) an income limit of £2 a week for those entitled to medical benefit; (2) free choice of doctor by patient, subject to consent by doctor to act; (3) medical and maternity benefits to be administered by local Health Committees, and not by friendly societies; (4) the method of remuneration of medical practitioners adopted by the local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee; (5) medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service; and (6) adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committee, and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee.

As it stood the bill was vital to the medical profession in a way that it was to no other part of the community. It jeopardized the livelihood of many of them, it threatened to place many under a control that would be intolerable, and it would prevent suitable men from joining their ranks. They were bound to scrutinize the details of the bill, and when they did so they were unable to accept the optimistic views of the Chancellor of the Exchequer. They did not share the optimistic views of Mr. Lloyd George as to the effect of his provisions in the bill for medical service, and he thought many of them did not accept other optimistic views the Chancellor held upon the magnificent results to be obtained by the sanatoriums for consumptives. He wished they were true, but Mr. Lloyd George had not got the sanction of the medical profession for the views he put forward in regard to this matter, nor had he their sanction for the views he advanced relative to the voluntary hospitals in this country as compared with the State-aided hospitals in Germany. There was too much optimism in the whole matter. The resolution proposed was truly democratic, for it had been arrived at by the Divisions of the British Medical Association scattered throughout the whole country. With regard to the first clause they said that a £2 limit would meet all they wanted. People who paid income tax could look after themselves. When they came to the voluntarily insured person, whose means might be

unlimited, it was scandalous he should be pampered in such a way. Why could that person not do as he had done in the past and pay a reasonable doctor's bill? A doctor's income at the present time was often very spare. He had to spend many years in getting his qualifications, and his work was often very hard and disagreeable in its incidents and its hours. The effect of this bill, however, would be to deter people from joining the profession, and, as it was, he pointed out, the entries to the profession, in spite of a growing population, had decreased by 40 per cent. in less than twenty years. If the entries continued to decline at that rate there would soon not be sufficient qualified men to meet the requirements for medical attendance. The resolution he proposed had the unanimous support of the profession, and if the bill were passed in anything like its present form the doctors necessary to work it would not be forthcoming. If their wishes were met in a churlish or halting spirit the best men would not be available, and internal bickering would prevent the success of the scheme. It had been said that it was the fate of minorities to suffer. They were a very small minority of the people in these islands, but they had a right to appeal to the memory of their past services to the community. It could not be said they had shirked their part in the past in helping those who were unable to help themselves in sickness or distress, and they now asked the community to see that no further burden was placed upon the profession by requiring them to do work under conditions which would be distasteful to a degree.

Dr. LANGLEY BROWNE (West Bromwich), in seconding, said he felt absolutely certain that if the profession stuck together they would have their way and the Chancellor of the Exchequer would not have his.

Dr. RADCLIFFE (Birmingham), in supporting, said the medical profession had the bill in their hands, and by passing the resolution they could bring about a state of paralysis in regard to medical treatment throughout the whole of the Midlands.

The resolution was carried.

Dr. HAROLD MASON (Leamington), who described the bill as absolutely unworkable when viewed in a professional light, then moved:

> That this meeting pledges itself to support this programme, and to decline service on any terms that have not been accepted by the British Medical Association.

Dr. J. ORTON (Coventry) seconded the resolution, which was carried.

MANCHESTER.

A GENERAL meeting of the Manchester (West) Division was held on July 19th. Dr. PROWSE occupied the chair. There was an attendance of twenty-three.

A letter from the Chancellor of the Exchequer was read acknowledging receipt of resolutions passed at the meeting of the Division on June 16th. The deputations which had been appointed to wait on the local members of Parliament reported the results of their interviews. The six demands of the British Medical Association had been discussed with the members, but none of them would pledge themselves to the £2 per week clause. Various questions to be brought up at the Representative Meeting were then considered, and the Representative of the Division was instructed how to vote in regard to each of them.

Dr. T. A. HELME addressed the meeting with regard to the income limit in the Insurance Bill.

It was resolved to approve the action taken by the Council to secure amendment of the bill in accordance with the policy of the Association as regards (1) the income limit for medical benefits; (2) the free choice of doctor by patient; (3) administration of medical and maternity benefits by local Health Committees and not by approved societies; (4) representation of the medical profession in the administration of the service. It was also resolved to approve the action of the Council in not pressing for amendments to the bill as the means of securing the demands of the profession with respect to the method and amount of medical remuneration under the bill.

As regards free choice of doctors, it was recommended that the Representatives should ask for the annulment of the amendments proposed by Mr. Lloyd George.

On the motion of Dr. SCANLON, seconded by Dr. NICHOL, the following resolution was carried unanimously:

> Seeing that the Government has not acceded to the just demands of the British Medical Association as set forth in its six points, this Division is of opinion that the Representative Meeting (1) should unwaveringly adhere to the declared policy of the Association, and again call upon the Government to postpone dealing with the medical benefits in the Committee of the House until arrangements satisfactory to the profession and in accordance with the declared policy of the British Medical Association have been made; (2) and, failing such undertaking by the Government, should decline to continue negotiations with the object of amending the bill; (3) and, further, should inform the Government that in accordance with our pledge we will not enter into any agreement for giving medical attendance to persons insured under the bill unless the bill be amended on the lines laid down in the declared policy of the British Medical Association, an integral and essential part of such policy being the introduction into the bill of a clause providing that those whose total income from all sources exceeds £2 per week shall be excluded from *all medical benefits*.

It was unanimously decided that the practitioners of this district should pledge themselves not to attend such persons under any insurance scheme (approved societies or local Health Committees).

It was decided to give a direct negative to the question submitted by the Council as to whether it is desirable to make it possible for the medical benefits to take the form of a contribution from the insurance fund towards the cost of medical attendance privately arranged.

A letter from the Joint Committee was read with regard to the formation of a guarantee fund, and it was resolved to support the fund.

BOOTLE (LIVERPOOL).

AT a special meeting of the Liverpool (Bootle) Division of the British Medical Association, held on July 19th, the SECRETARY reported that a deputation from the Division had waited upon the Hon. Arthur Stanley, M.P., at the Constitutional Club, Litherland, on the evening of July 12th, and had duly impressed upon him the determination of the profession to resist to the utmost the objectionable features of the National Insurance Bill.

Mr. LARKIN, the Secretary of the Lancashire and Cheshire Branch, also reported that a deputation of ten, representing the combined Divisions of Liverpool and Birkenhead, had waited upon the local members of Parliament at Westminster, when similar representations were enforced. Mr. Larkin further addressed the meeting on various aspects of the bill from the medical standpoint, and indicated how in many ways the bill had been modified and made more tolerable to the profession through the intervention of the British Medical Association, including the exclusion of all persons having incomes of £160 from the scope of the bill, the free choice of doctor by the insured, support by the Government of the control of the medical arrangements and administration by the local Health Committees, and increased representation of the profession thereon; also the formation of local medical committees which would have official recognition and would be consulted by the Health Committee in all matters concerning the administration of the medical benefits under the bill.

Dr. GORDON LITTLE criticized the suggested composition of the Health Committees, and thought that outside and independent men of high standing would fulfil the functions of such a body with greater efficiency and impartiality, as they would be free from local prejudice and influence.

The meeting instructed the Representative, Dr. Waters, on the business of the Representative Meetings.

SOUTHPORT.

AT a special meeting of the Southport Division, to which all members of the profession resident within the area had been invited, held on July 18th, the National Insurance Bill was discussed. The SECRETARY reported an interview which a deputation consisting of Drs. Littler, Baildon, and himself had had with the local members of Parliament, Major White, Lord Balcarres, and the Hon. A. Stanley, and subsequent correspondence with them. He also reported that, as the result of a canvass, 108 out of 144 members of the profession resident in Southport had

signed the undertaking and memorial issued by the Association, and another had promised to do so. Of those who had not signed the undertaking and memorial, 17 had signed a local pledge, couched in similar terms to the undertaking, and issued previously, 4 were abroad and could not be reached, 7 had not answered, four of them being absent from home, and only 2 were in practice in the Division, 7 others had declined to sign, but of these only two, or at most three are in practice, and will not take contract practice.

The Secretary also reported that he had received £24, instalments of subscriptions or payments in full from 86 subscribers to the fund, who guaranteed £1 each, and one who guaranteed £5.

A letter from the Medical Secretary, dated July 8th, addressed to the Secretary, was read, also the Special Report of Council to Annual Representative Meeting. The question submitted to Divisions at the end of the Report formed the chief subject of discussion. The principle of adhering strictly to the £2 wage limit was generally affirmed, and it was finally carried unanimously:

> That this meeting is of opinion that an amendment of the bill is *not* desirable which would make it possible for the medical benefits to take the form of a contribution from the insurance fund to the cost of medical attendance given to an insured person, under a private arrangement entered into by him with a medical practitioner, upon such terms as may be agreed upon between them.

The CHAIRMAN drew attention to the proviso which the Chancellor of the Exchequer had thought it necessary to insert in the amendment respecting free choice of doctor, and after some discussion it was resolved unanimously:

> That this meeting views with suspicion and disapproval the proviso inserted by Mr. Lloyd George to cover the possible case of the number of doctors in any district willing to enter into arrangements for attendance on the insured being so small as not to afford in the opinion of the Commissioners an adequate service, in that case for the local Health Committee to be free to organize a service in some other way.

HALIFAX.

A SPECIAL meeting of medical practitioners within the area of the Halifax Division of the British Medical Association was held on July 19th, for the discussion of the Special Report of the Council on the National Insurance Bill.

The SECRETARY reported that out of 110 medical practitioners in the Division only 2 had not signed the undertaking.

The members strongly objected to Mr. Lloyd George's proviso contained in Section 2 of the report. It was a strike-breaking clause, and would be used to break down organized resistance and to lower fees; as such they refused to submit to it.

It was agreed that the profession was not going to be adequately represented on the local Health Committees, and there was no reason why the medical profession, alone of all the bodies concerned, should have a representative chosen for them by the Insurance Commissioners. It ought to be in a position to appoint all its representatives.

The powers of the local Medical Committee came in for criticism. It might only be a consultative body, with no power to see that its suggestions were carried out by the local Health Committee or the Insurance Commissioners. Its recommendations would be worthless in face of Mr. Lloyd George's proviso.

On the question of the income limit the members reaffirmed the opinion they formerly expressed, and they still thought 30s. a week ought to be the limit. The country members said even that was too high.

With Subsection (1) of Section 5 the members agreed that such penalties were iniquitous.

On the question of medical attendance of insured under private arrangements, some doubt was expressed as to whether the sums set aside for medical benefits were intended to accumulate or not.

As to the question to Divisions, the answer was that, as this Division reads the question, the amendment is in consonance with its views of payment for work done, with the proviso that the benefits ought to be paid direct to the doctor.

The frequent coupling of approved societies and local Health Committees, even in the amendments to the bill, did not look like freedom from friendly society control. Provision should also be made in the bill to provide that all arrangements between the medical men and approved societies or the local Health Committees should only be made through the local medical committees. The members here reaffirmed their intention of having nothing to do with contract practice in any shape or form.

MARYLEBONE.

AT a general meeting of the Marylebone Division of the British Medical Association held on July 19th, under the presidency of Sir FREDERIC S. EVE, the several reports regarding the National Insurance Bill were discussed.

(*a*) The four recommendations of the Council were approved, except in so far as Clause 17 was affected. On that clause, which affects the use or subsidy of voluntary hospitals, Sir VICTOR HORSLEY proposed and Dr. C. O. HAWTHORNE seconded a rider:

> That in the opinion of this Division an amendment of the bill in accordance with Minute No. 77 of the Special Representative Meeting held in London should be prepared at once and placed before the House of Commons.

Dr. LAURISTON SHAW objected to the rider. He said the committee that had this work in hand did not see its way to take action under Minute 77, because it recognized that the Association had set out six definite claims which they were pressing vigorously, and during that effort it was bad practice to start other lines of policy; it would minimize their insistence upon the essential points for which they strove.

Mr. WALTER EDMUNDS supported Dr. Shaw.

Mr. E. A. DORRELL agreed with the rider.

Sir FREDERIC EVE objected to the rider, for it tended to jeopardize the existence of the voluntary hospitals. He did not think it was impossible to devise a method of using the existing charities with justice to their expenditure and the claims of the staffs of those institutions. He thought the suggestion of the General Medical Council upon this point good.

Mr. BISHOP HARMAN asked if the words in the rider "acquire . . . buildings" did not apply to existing hospitals which might be used in whole or part under definite arrangement by the Health Committees.

Sir VICTOR HORSLEY replied that the objections to the rider arose from a misunderstanding of its effect. It did not prevent the State from making use of existing institutions. The State subsidized voluntary hospitals now in the treatment of paupers, but the rider would prevent the present abuse of mixing charity and business. Insurance was business and not charity, and its logical necessities should be carried through in proper order, then there would be no sweating of hospital staffs by requiring them to do State work unpaid. The rider authorized the Health Committees to make such arrangements that would be just both to the insured and the doctor. This matter had a most definite place in the six points insisted upon by the Association. At the moment the Association proposed the excision of Clause 17; they could not do this without submitting a reasonable scheme to replace it.

The rider was agreed to.

(*b*) Similarly Sir VICTOR HORSLEY moved and Dr. PERCY SPURGIN seconded a rider:

> That Minute 76 of the Special Representative Meeting be acted upon.

(*c*) On the question submitted to the Divisions with regard to the taking of medical benefit pay in part payment for professional work, a motion to answer the question in the affirmative was proposed, but it failed to find a seconder.

(*d*) The recommendations of the Council regarding the Referendum were approved.

(*e*) Other matters were left to the discretion of the Representative.

TOTTENHAM.

AT a meeting of the Tottenham Division of the Metropolitan Counties Branch, held on July 18th, the HONORARY SECRETARY reported that within the last month all of the 310 medical men in North Middlesex had been canvassed except 29. Arrangements were being made to complete the canvass within the week, and he anticipated at the

most only two refusals to sign the Association's undertaking—one of these being a medical officer of health. He also reported that the five members of Parliament in North Middlesex had been interviewed at the House of Commons by deputations from the Division, and that two had since tabled amendments to the bill, including an amendment in respect to the income limit of £2.

The Special Report of the Central Council on the bill was then considered at length, when the following resolutions were passed unanimously and the Division's Representative instructed accordingly:

That this Division, while agreeing that the Government's amendment with regard to the representation of the profession upon the local Health Committees is an improvement upon the proposals of the bill as originally drafted, is still of opinion that the representation so provided for is not adequate, and that no proportion of less than one-third should be considered adequate.

2. That this Division is of opinion that a local Health Committee shall include in its panel of medical men any medical practitioner who lives within a radius of four miles, regardless of county or other boundary, should such practitioner require it to do so.
3. That this Division approves the proposed new subsection of Clause 14, which will secure to any insured person the option of receiving from a local Health Committee a contribution towards the cost of medical attendance, in lieu of accepting their arrangements for providing such attendance; but is strongly of opinion that no such amendment should be accepted by the profession as satisfactory unless it is accompanied by the imposition of an income limit of 30s. a week, above which no insured person shall be entitled to claim medical attendance under any arrangements entered into with local Health Committees or approved societies.
4. That this Division is of opinion that it should be permissible for any registered medical practitioners, or insured person, or the local Health Committee, or the local committee of registered medical practitioners, to challenge the eligibility of any insured person to participate in the medical benefit conferred by the bill.
5. That this Division strongly protests against the inclusion of married women as eligible for medical benefits.

Resolution to be Sent to Members of Parliament.

The following resolution was then passed, and the Honorary Secretary instructed to send a copy to every member of Parliament representing any portion of the Division:

That this meeting of medical practitioners unanimously urges every member of Parliament representing any portion of the area contained in the Tottenham Division of the British Medical Association to give his personal support to such amendments of the Insurance Bill as have been put down by Dr. Addison, Dr. Hillier, and Mr. G. Barnes, for the purpose of securing that the administration of medical and maternity benefits shall be in the hands of the local Health Committees, and not in those of approved societies.

FOLKESTONE, DOVER, AND ASHFORD.

AT a meeting of the Folkestone, Dover, and Ashford contituencies, held on July 20th, the HONORARY SECRETARY nnounced that every doctor in the district, whether nembers of the Association or not, had signed the underaking and memorial on the National Insurance Bill.

The question submitted by the Council concerning an mendment of the National Insurance Bill was carried manimously.

STIRLING.

T a general meeting of the Stirling Branch of the British Iedical Association, held at Larbert on July 18th, the ECRETARY reported that the pledge formulated by the ranch at the last meeting in connexion with the National nsurance Bill had been signed by every practitioner ithin the area of the Branch—107 in number. Of this umber 94 are engaged in general practice, and 81 of the 4 are members of the Association. The Secretary also eported that the guarantee for the Local Defence Fund nounted to £1,365. Five subscribers guaranteed £5 each, guaranteed £10 each, and 65 guaranteed £20 each. The eeting was called to answer the question submitted by e Council of the Association: "Is the Division of opinion at an amendment of the bill . . . agreed upon between em?" The meeting decided to answer the question in e negative, and to reaffirm adherence to the original come limit of £2 a week for medical benefit and freedom om control by the friendly societies.

THE TUBERCULOSIS CONFERENCE AND NATIONAL INSURANCE.

AT the final meeting of this conference, held on July 21st, Dr. W. LESLIE MACKENZIE, Medical Member of the Local Government Board, Scotland, expressed thanks for the amendment of the definition of "sanatorium benefits," which would include the provision of tuberculosis dispensaries. The fact that the central authority must be satisfied with the administration and construction of sanatoriums was an important consequence, but it was an essential condition of administration. The essence of good administration was to treat each case on its merits, and that might not be "early," "middle," or "late," but a little of all three according to the method of examination or of accidents of personal history. This matter had a bearing on the question whether the local authorities should have the last word in deciding whether a case was suitable for a sanatorium or not. It was to the commercial interest of a sanatorium to maintain a low case death-rate. Whether it was to their interest to do this by rigid selection of cases was a fine point for casuistry. He found it difficult to understand why, if a local Health Committee had an arrangement with a sanatorium to treat cases, that the sanatorium should have the title to refuse admission. When the problem was not selected cases but the treatment of all cases of the disease, no arrangement was satisfactory which made rejection possible but did not provide also for rejected cases. He suggested that the managers of sanatoriums might become the expert advisers of a local authority for public health or the local Health Committee. In order to avoid all these artificial causes of disagreement the public health authorities should be made fully responsible for all forms of tuberculosis, as was practically and legally the case both in Scotland and England as well as in Ireland, and these authorities should be required to provide suitable accommodation for every variety and stage of the disease. The adequacy of the grant to be made under the bill for institutions would depend on whether it was to be regarded as the only sum available for building or simply as a grant in aid to the local authorities. The detailed expenditure of this enormous sum must be carefully husbanded. The administrative mind had hitherto been fixed almost entirely on phthisis, or tuberculosis of the lungs. It was time to end this exclusiveness and to listen to the surgeons. What relative place tuberculosis other than tuberculosis of the lungs should occupy in sanatorium benefit was a point for discussion. The statement of the Chancellor of the Exchequer that he was prepared to make an annual grant of two and a half million pounds for maintenance if local authorities were prepared to undertake the treatment of tuberculous dependents of insured persons was an enormous concession, which would go a long way towards enabling public health authorities to shoulder the whole burden of tuberculosis. It was not progress to attempt to treat tuberculosis in any of its forms in houses of one or two rooms. Home supervision reached its limit there, and became simply an occupation for the warm-hearted amateur anxious "to do something."

Economic Cost of Tuberculosis.

Mr. WALDORF ASTOR, M.P., said that the cost of sanatorium treatment, provided that only suitable cases were selected, would be repaid over and over again without taking into account the indirect benefits for the influence which discharged patients had on the habits of living in their family and neighbourhood. Dr. Newsholme estimated the annual loss of wages in England and Wales caused by tuberculosis at over one million pounds, and the annual loss in productive power was estimated at over nine and a half millions. These and other figures demonstrated the extent of the monetary loss inflicted on the community by tuberculosis. The great point was that a beginning had been made; the State had taken a step that could never be retraced towards the extermination of the scourge that levied so terrible a toll on the lives and resources and happiness of every class of the community.

Mr. ERNEST J. SCHUSTER, LL.B., in a paper entitled "Will National Health Insurance Ensure National Health?" said that there was no magic in the word "sanatorium." Not every building called by that name was a fit place for

the reception of consumptives, and, moreover, the treatment of the patients was as important as the construction and the site of the building. It was important that on all these matters the authorities to whom the management of the funds was entrusted should have the most competent advice, and that they should not be tied down to any preconceived notion in favour of any particular method. He criticized the lack of compulsion to send patients to sanatoriums, the absence of any right to convalescent treatment, the vagueness of the bill in relation to the support of hospitals, district nurses, and research. The system of free choice of doctors was as objectionable as the contract system, as it gave the best chance to the worst man. The same type of man who, under the contract system, would have curried favour with the contracting committees would, under the system of free choice, curry favour with his patients. It would be better to dispense with medical benefit altogether and increase the sick pay. The proposed measures regulating the general conditions of public health, with the exception of those relating to inquiries in cases of excessive sickness, were of very problematical value, and their adoption would create an expectation which would probably not be fulfilled. The measures affecting the insured persons individually would not benefit national health to any appreciable extent unless they were largely supplemented by voluntary agencies.

The Use of Existing Accommodation.

Dr. NATHAN RAW said that Mr. Lloyd George had completely revolutionized the aspect of the problem of how to deal with tuberculosis. He suggested the use of institutions no longer required for the purpose of which they were constructed for the treatment of tuberculosis, such as small-pox hospitals, country and town workhouses, portions of fever hospitals, and other institutions which by the progress of sanitation rendered their use unnecessary. The Insurance Bill would in a very few years produce an enormous diminution of those members of the working classes at present treated in Poor Law institutions, so that a very large amount of existing Poor Law accommodation would be liberated, and might be utilized for the treatment of consumption amongst the working classes. The institutional treatment of the disease must be organized and carried out with the greatest care and consideration. The institutions should be divided into four divisions: (1) Sanatoriums for the cure of early cases; (2) farm and industrial institutions for the arrest of the disease; (3) sanatoriums for advanced and hopeless cases; (4) sanatoriums for children and open-air schools. It was urgently necessary that legislative powers must be obtained for the compulsory removal of cases which, in the opinion of the medical officer of health, were a danger to others. The chief reason why the death-rate in England from consumption had been so largely reduced during the last fifty years was due in a great measure to the fact that so many advanced cases had been isolated in Poor Law institutions. He suggested that a certain number of beds in each general voluntary hospital throughout the country should be set apart for tuberculous patients.

After-Care.

Dr. C. S. LOCH, Secretary of the Charity Organization Society, said that both before-care and after-care were necessary. There should be in connexion with the dispensary a group of co-operating and assisting friends, brought into association on charity organization lines. A large sum was to be contributed under the bill for sanatoriums, but there was no suitable means suggested for doing what was necessary to utilize the sanatoriums property from the point of view of the family needs and requirements in long and continuous illness. Some provision should be made for the before and after care of the cases, unless, *sub silentio*, they were to be left to charity.

Dr. H. W. MCCONNEL said an after-care committee could do much to control and influence patients who were reluctant to take advice and slack in carrying out the lessons learnt. There was a great danger in sanatoriums supported by State funds that the individuality of the workers would be hampered and checked, that private interest and work would be superseded by officialism, which would not only be more expensive but less effective. The working patient scheme, by which patients were employed in and about the sanatoriums for a small wage, would be hampered. These difficulties could be removed by working the State-pai sanatoriums through the existing machinery, and so kee ing its individuality; and by freeing all working patien whose work was part of their treatment from the action the bill.

THE HOSPITALS AND THE BILL.

ON July 25th Mr. Lloyd George received a deputatio from the British Hospitals Association, the Centra Hospitals Council of London, and the Hospital Satu day Fund for London. The deputation, it was explaine was the outcome of a recent conference attended by repre sentatives of 200 hospitals, who came to the conclusio that the voluntary hospitals were likely to be jeopardize very largely in their work by the bill.

Sir WILLIAM COBBETT, Chairman of the Mancheste Royal Infirmary, said that it was the universal opinion the administrators of hospitals in the provinces that th effect of the bill would be that the contributions of th workmen would cease and that the contributions of th employers would be very largely reduced. He gave case of various hospitals which were almost entirely supporte by the workpeople and their employers. They suggeste that the treatment of insured persons in the hospital ough to be made a benefit and placed approximately on the sam footing as the treatment of consumptives in sanatoriums.

Mr. CHARLES LUPTON (Leeds) said that they estimate that a third of their out-patients might be insured unde the bill, and they would still have to deal with th remainder. The out-patient department did not reall injure the doctors, because few people who had sufficien money to pay for their treatment were prepared to wai for three or four hours before they could get attendance.

Mr. SYDNEY HOLLAND, representing the London Hospita said it was absolutely essential that the hospitals shoul not be hurt, because they were the only places where an progress was made in medicine, and where poor peopl could be treated for a very serious illness. The bill wa all very well for people with illnesses which were no serious.

Sir SAVILE CROSSLEY said that the Hospital Saturda Fund was strongly in favour of the maintenance of th voluntary system. The work done by that and simila funds should be made known to the Health Committee which were to be appointed.

Mr. LLOYD GEORGE, replying to the deputation, said I thought they were labouring under apprehensions whic would not be justified by the results. In future the work ing classes would pay less in as far as the friendly societie were concerned than they had hitherto done. The bi would relieve them of anything between 6d. and 1s. month. He did not believe that employers would neglec their duty towards the hospitals because they were bein called upon to make contributions for sickness among thei employees. He was told three years ago that no mor money would come to the hospitals, and they wer now told that there was an end of the hospitals an of charity. But after the momentary agitation passe people would do their duty towards those institution in the same way that they had done in the pas The hospitals of this country were an essential part o the machinery of civilization. Though he did not wish t indicate at the present moment what would have to b done, he was perfectly clear in his own mind that n country could possibly allow a hospital to be close because it was short of money. If, however, he were t indicate the way at the present moment, it would cer tainly be a more effective way of stopping subscription than anything in that bill. In Germany the hospita system had developed, grown, and strengthened sinc their Insurance Bill was brought in, because it educate public opinion as to the need for hospitals and as to th important part they played in healing, and that was mor important to hospitals than almost anything which the could imagine in order to induce people to subscribe t them. Sir William Cobbett had suggested that ther should be some contribution from the Insurance Fund t the work which hospitals would be rendering toward insured persons. They had given power in the bil to approved societies to contribute. The deputatio would probably say that that was not sufficient but the remedy was very largely in their own hands

Mr. Sydney Holland had said that two of the classes which largely used the hospitals were the discontented patient who was not satisfied with his doctor, and the discontented doctor who sent his patient to the hospital. Surely, if the first class of person was insured, they had no right to come, while the doctors should be told that the hospital could not possibly undertake to take a burden off their shoulders. Mr. Holland had complained that they had not legislated for the hospitals; but that was because they believed in the voluntary system and wanted it to continue. If they legislated for the hospitals, there would be bound to be a certain amount of Government control over their work. The hospitals were in a position to say, "We cannot take you unless you are prepared to meet us. We are free contracting parties." The suggestion had been made whether in certain cases the sick pay should not in some form or other be a subscription to the hospital itself. That was worth considering, and it would undoubtedly very greatly improve the financial position of the hospital. He was prepared to meet them in one suggestion that had been made. Where the hospital undertook to pay the wages of a nurse during the time she was ill and to undertake the medical attendance upon her, the Government would be prepared to reduce the charge by the amount of the sick pay. He believed that that would be a reduction of about 2d. a week, but he was obtaining actuarial advice. That would apply to all employees who had a firm contract. Further, if they were attending to the sick persons themselves, there was no reason why they should not get whatever sum of money was set aside for medical attendance. He urged them to come to some arrangement with the medical profession. He had had as much trouble with the doctors as he really wanted. If they could come to an arrangement with the medical men it would be much easier for him afterwards. But directly he came to an arrangement with one particular section he offended another, and got no support from the former, who by that time would have found a fresh grievance. It was a difficult business, but they were really trying to do their best for the national health. They were raising enormous sums of money for the purpose. Everybody agreed that it must be done, but the moment that they attempted to do it everybody had their own individual grievances and raised difficulties. He was not complaining of that, but he would be glad to find out where the 15 millions of money were supposed to be going. He had not discovered anybody yet who was to receive it. Everybody said that they were to be worse off than before; but that could not be the case, and he would be much obliged if it were possible for them to talk the matter over with the medical profession, and then come to him with some sort of arrangement with regard to those cases which came to the hospitals and were taken off the hands of the doctors. In conclusion, Mr. Lloyd George promised to consider very carefully the suggestions they had made, and hoped to be able to meet their views on some of them.

PROCEEDINGS IN PARLIAMENT.

COMMITTEE STAGE.

THE Committee had an all-night sitting on Clause 11, which came on for consideration at 10 o'clock on Wednesday, and was added to the bill at 5 o'clock on Thursday morning, July 20th.

Clause 11.—Provisions in the Case of Contributors Entitled to Compensation or Damages.

The clause is as follows:

(1) Where an insured person has received or recovered or is entitled to receive or recover, whether from his employer or any other person, any compensation or damages under the Workmen's Compensation Act, 1906, or any scheme certified thereunder, or under the Employers' Liability Act, 1880, or at common law, in respect of any injury or disease, the following provisions shall apply:

(*a*) No sickness benefit or disablement benefit shall be paid to such person in any case where any weekly sum or the weekly value of any lump sum paid or payable in respect of any such compensation or damages is equal to or greater than the benefit otherwise payable to such person, and where any such weekly sum or the weekly value of any such lump sum is less than the benefit in question, such part only of the benefit shall be paid as, together with the weekly sum or the weekly value of the lump sum, will be equal to the benefit;

(*b*) The weekly value of any such lump sum as aforesaid may be determined by the society or committee by which the sickness and disablement benefits payable to such person are administered—

(*c*) No person entitled to any such compensation as aforesaid from his employer shall, except with the consent of his society or committee by which the sickness and disablement benefits payable to such persons are administered, enter into any agreement to accept any lump sum in respect thereof, and any agreement entered into without such consent shall be null and void:

(*d*) Nothing in this section shall affect the right of an employer to redeem a weekly payment by payment of a lump sum in any case where he is entitled to do so under the Workmen's Compensation Act, 1906, but where he exercises such right he shall, within three days thereafter, send to the Insurance Commissioners, or to the society or committee concerned, notice in writing of such redemption, giving particulars as to the amount of the lump sum and of the application thereof:

(*e*) Where an insured person is entitled to any such compensation or damages as aforesaid and refuses or neglects to take proceedings to enforce his claim, it shall be lawful for the society or committee concerned, either at its own expense, to take in the name and on behalf of such person such proceedings, in which case any compensation or damages recovered shall be held by the society or committee as trustee for the insured person, or to withhold payment of any benefit to which apart from this section such person would be entitled.

(2) Nothing in this section shall prevent the society or committee paying to an insured person entitled to such compensation damages benefit by way of advance pending the settlement of his claim for compensation or damages, and any advance so made shall, without prejudice to any other method of recovery, be recoverable by deductions from or suspension of any benefits which may subsequently become payable to such person.

Sir G. Doughty moved to postpone the clause, as it injuriously affected those who are insured under the Workmen's Compensation Act. Mr. T. Ward, Mr. Stephen Walsh, and others supported the postponement, and then Mr. Lloyd George said the postponement was defended as helping to facilitate the progress of the bill. It was suggested that in addition to insurance for sickness and invalidity another bill should be added, insuring against compensation. It would be quite out of order. The getting of the bill as it was had not been very easy. If he were to add on to it a gigantic scheme of insurance for compensation for accidents as well he could not see any prospect of getting away this side of Christmas at any rate. It is said, "You have taken over the doctors, and ought to take over the solicitors." "Set solicitors to catch solicitors." He thought one profession at a time was enough. It was all he could undertake.

The postponement was rejected by a majority of 73. Mr. Joynson-Hicks then moved to leave out "whether" in Subsection I and associated with it the words "or any other person." Mr. McKenna argued that the amendment was out of place, and the points raised should come on later. On a division the amendment was rejected by a majority of 81. Mr. Tyson Wilson then moved to leave out paragraph (a), on the ground that the clause would place persons who met with accidents and recovered compensation in a great deal worse position than they were at present. They now received sick pay from their societies, but this clause would deprive them of sick benefit under the bill. Mr. McKenna said that he thought he could show that the proposal would not rob the contributor of what he had paid. According to the actuaries' report the amount of saving, not to the Government—for it would not affect the Government one penny—but to the funds of the society secured by this amendment, was one-tenth of the total amount of sick pay. The Committee had to solve this problem. There was a certain amount of money to be distributed by the society. With this clause in the bill the society could afford to pay 10s. a week sick benefit. Strike out this clause and the funds of the society would only permit of their paying 9s. per week sick benefit. If he were to use the language of the hon. gentleman, he should say he was proposing to rob the beneficiaries under this bill of 1s. per week sick benefit. Of course, he said no such thing. What was meant by this amendment was to keep the sick benefit at 10s. and yet knock out this paragraph. The hon. member could not do both. He had to take his choice. If he carried his amendment and knocked out this paragraph the effect would be to reduce the sick benefit to 9s. Why did not the Government do that? They thought it preferable to keep the general rate of sick benefit at 10s., and not to pay the benefit in cases contemplated under this

clause. The object of the bill was to keep the home together, to provide for a man who was sick and had no other means of subsistence.

Sir G. Doughty, Mr. Gill, and others condemned the paragraph, and in answer to Mr. A. Chamberlain Mr. Lloyd George said that the whole of the actuarial calculations had been based upon that. The actuaries reckoned that this made a difference of about 10 per cent. As a matter of fact the growing burden on the friendly societies during the last few years, especially on account of sickness, was, in the judgement of the actuaries and those who advised them, very largely due to the fact that there was double payment, which made a difference of 10 per cent. If the amendment were carried it would mean a reduction of 10 per cent. on the benefits under the bill.

To the argument that malingering would be encouraged if the paragraph were omitted, Dr. Chapple said malingering might be divided into two classes—the detected malingering and the undetected malingering; the detected must be very small, and the undetected very large. The undetected malingering must be very extensive from the very nature of the case. A man complained to a doctor that he had a pain in his back and could not work. There was no possible way of detecting whether that man was malingering. No examination by doctors would absolutely prove that that man had not a pain in his back, and when there was doubt the patient must be given the benefit of that doubt. If the doctor signed a paper and said the man was unfit to work he was risking the funds, but if he said the man was malingering he was running a very great risk also; so that in all cases of doubt the man got the benefit of it, and it was the unanimous view of medical men that there was an enormous amount of malingering which they could not detect. Malingering was the enemy of the friendly societies. The best guarantee against malingering was to show that it did not pay. If a man got twice the amount while idle that he would earn while at work, there was a strong inducement for him to be idle. It was wise to put in every safeguard possible against malingering, and it did not mean that members of friendly societies would malinger because such safeguards were put in. A great many members of friendly societies were so conscientious and so sensitive that they continued to work when they were really ill, and in that way a great deal of injury was done. For this they did not require any safeguard, but for those who did malinger it was essential.

After several other speeches the Committee rejected the amendment by a majority of 75.

An amendment was then made by which in Subsection 1, paragraph (*a*), the words "in respect of any such injury or disease," were inserted after the word "person."

Sir G. Doughty moved an amendment to provide that in the case of share fishermen who are insured persons and have been rendered unfit by accident, sickness, and disablement, benefit should be paid as in the case of ordinary sickness.

The Attorney-General submitted that there was no difficulty in the case of share fishermen, because approved societies would not reject them in the respect that they did not come under the Workmen's Compensation Act. The amendment, moreover, would not effect the object by reason of the financial resolution.

Mr. Austen Chamberlain questioned very much whether the societies would take a man who was a 10 per cent. worse risk than the common rate risk. A real case of hardship had been disclosed, and the Government ought not to shelter themselves behind the financial resolution.

The debate was continued by Mr. Cave (Surrey, Kingston, Opp.), Mr. Booth, and Mr. Annan Bryce.

The amendment was rejected by a majority of 98.

Mr. E. Davies moved the omission of paragraph (*c*) and the insertion of a new paragraph in the following terms: "Any compensation payable as aforesaid to any person from his employer shall be paid in the county court, and be subject to the order of the county court judge."

The amendment was agreed to.

The Attorney-General moved an amendment in manuscript recasting paragraph (*d*), the substance of which, he said, was that an agreement might be made as to the amount of compensation, but when it was notice of the agreement was to be given to the registrar in order that he might say whether the terms were adequate, and afterwards to the society or committee concerned.

In the course of discussion upon this amendment,

Mr. Ramsay Macdonald said the amendment might be of considerable importance, and they ought to have proper time to consider it carefully. He hoped the Chancellor would allow the Committee to report progress with that object.

The Chancellor of the Exchequer said he hoped the Committee would conclude Clause 11.

The Attorney-General said he was prepared to alter the amendment if it was thought that that was necessary in the interests of trade unions.

Mr. Walsh urged that further consideration should be given to this clause. The interests of hundreds of thousands of persons were affected in a serious degree by this amendment, and as they had not the words before them he hoped the Chancellor of the Exchequer would consent to report progress now so that they might be able to judge of the exact bearing of the amendment. Many of them had been in attendance for fifteen hours. (Hear, hear.)

The Chancellor of the Exchequer thought they were not asking anything unreasonable in suggesting that they should proceed with the consideration of the clause. The Attorney-General had already intimated that the Government were prepared to leave out the words which it was thought would prejudice the position of trades unions, and there would be an opportunity to consider the rest of the amendment before the report stage.

Mr. Ramsay Macdonald said they were very suspicious of the whole of this clause, and exceedingly suspicious of an amendment which was technical and which they had not had sufficient time very seriously to consider. But inasmuch as the particular words to which they took great exception were to be deleted from the amendment, he was personally willing to go on with the consideration of the clause.

The amendment, amended in the manner proposed by the Attorney-General, was agreed to.

Mr. Joynson-Hicks moved the omission of subsection (*e*) on the ground that it invited approved societies to take up cases which were not good enough for the workman to take up.

The Chancellor of the Exchequer said a workman might prefer to obtain his compensation from the friendly society rather than from his employer, and some such clause as this was necessary to protect the societies. Without some safeguard of that kind the bill might be used to relieve employers of their liability.

In the course of the discussion,

The Chancellor of the Exchequer said what he was endeavouring to secure by this clause was that approved societies should have the same freedom and the same right to take action as was now exercised by trade unions as a matter of policy and rule.

Mr. A. Henderson expressed the view that if the clause went through as it stood they would be doing something which would encourage litigation. The Chancellor of the Exchequer was in effect inciting the approved societies to enter into competition with the trade unions in what had always been regarded as their legitimate function in bringing actions under the Workmen's Compensation Act.

The debate was continued by Mr. A. C. Edwards, Mr. J. H. Thomas, and Mr. Clynes.

The Committee divided, and there voted:

For the amendment	44
Against	101
Majority against...	—57

Mr. J. F. Hope moved an amendment providing that the expense of the legal proceedings should be deducted from the amount of compensation.

The Chancellor of the Exchequer said this was the very opposite to what he had been repeatedly urged to do. He had promised to accept an amendment providing that the societies should be made responsible for the costs.

The amendment was rejected by a majority of 95.

Sir E. Cornwall moved an amendment providing that in the event of the society or committee failing in the proceedings they should be responsible for the costs of the proceedings as if they were claiming on their own account.

The amendment was agreed to.

On the question that the clause as amended stand part of the bill,

Mr. J. H. Thomas moved the rejection of the clause.

The motion was supported by Mr. Lansbury, Mr. A. Smith, Mr. Pointer, and Mr. Ramsay Macdonald, who said that if amendments which they regarded as fundamental were constantly rejected the point would soon be reached when they would have to consider whether they could continue to support the bill. They objected to the intention and the consequences of Clause 11, and they were determined to make a most emphatic protest against its inclusion in the bill.

The Chancellor of the Exchequer, in reply, repeated the reasons why the Government felt themselves bound to adhere to the clause. One main reason was that they were advised that the effect of the double insurance would be undoubtedly injurious to the interests of the friendly societies. The Government could only see their way to raising a certain sum of money, and the whole point was what was the best thing to do with the means at their disposal? The question for the members of the Labour Party was whether they would spend the money in giving double benefits to those who were receiving compensation, or whether they would strengthen other parts of the bill that were at present weak. If the workmen really wanted this double benefit they could do it quite easily. It would merely mean a small increase in the payments to their own society—he estimated the extra contribution would not exceed one-halfpenny or one penny. He reminded the Labour Party that they had wrung some very considerable concessions from the hard-hearted Treasury, but they really could not have everything their own way—not in this world. Let them be satisfied with what they had got and be fair. This bill was an immense advance on anything the working classes had had before, and would, he believed, strengthen their power. Referring, in conclusion, to the ominous tone of the remarks of the leader of the Labour Party, the right hon. gentleman said that if hon. members rejected this bill, it was a responsibility he would not care to share with them.

Mr. Jowett said it was all a question of money, and surely the Chancellor of the Exchequer had not raided all the hen-roosts.

Mr. Keir Hardie said they had endeavoured to smooth the way for the bill. There was an element of the organized working classes who distrusted the bill, and that distrust would be deepened when this clause was understood. He regarded the reduction of the sick benefit as better than the proposal in the clause.

The amendment was rejected by a majority of 76, and progress was then reported.

QUESTIONS IN PARLIAMENT.

Sanatorium Benefit.

MR. ROWNTREE asked the Chancellor of the Exchequer if he could say what was intended to be covered by the word "treatment" in Clause 15, line 40, of the National Insurance Bill.

Mr. Lloyd George: This word should be interpreted by reference to the definition of the sanatorium benefit which the House of Commons adopted on the 12th inst.

Hospital Nurses.

Sir Samuel Scott asked the Chancellor of the Exchequer whether pupil nurses in hospitals would come under Part I (a) of the First Schedule of the National Insurance Bill; and, if so, whether hospitals would be liable for both employer's and employed's contributions.

Mr. Lloyd George: Pupil nurses under a contract of service or apprenticeship will come under Part I (a) of the First Schedule. If no wages are paid the hospital is responsible for the employee's as well as the employer's contributions. This question is under consideration.

Arrears for Sickness Insurance.

Mr. Snowden asked if, under the national insurance scheme, the arrears for sickness insurance for both the workman and the employer which have accumulated during a period of unemployment are to be charged as arrears against the workman, and if he will be required to pay both his own and employer's arrears of contribution; if so, what method will be adopted for collecting the arrears when employment is resumed; and will the arrears be deducted from wages by regular weekly deductions?

Mr. Illingworth: A workman is not required to pay arrears of contributions, but if the total arrears from the time he first became insured amount to an average of four weeks per annum over the whole period he suffers a reduction of benefits. If the arrears amount to thirteen weeks per annum he is suspended from benefits. If, in order to avoid these consequences, he desires to pay off all or part of these arrears, he must pay off the employer's portion of the contributions as well as his own. The two concluding portions of the question do not arise.

Maternity Benefits.

Mr. Worthington Evans asked whether a member of a friendly society granting a 30s. maternity benefit would, if he continued to subscribe for such benefit, be also entitled to receive the 30s. maternity benefit under the National Insurance Bill; and whether the limitation that sickness benefits should not exceed the total wages would interfere with the additional 30s. maternity benefit if the sickness benefits already assured equalled the wages.

Mr. Illingworth: The right of an insured person to receive maternity benefit under the National Health Insurance will be unaffected by his having effected an insurance for an additional maternity benefit outside the national scheme. The limitation of sickness benefits to total wages does not apply to maternity benefit.

Medical Practitioners and Chemists.

Mr. Houston asked the Chancellor of the Exchequer whether he was aware that in most of the Continental countries it is illegal for medical practitioners to dispense and for chemists to prescribe; and whether he proposes to adopt the Continental system in the National Insurance Bill.

Mr. Hobhouse: I do not think an amendment of the law in the direction suggested would be in place in an Insurance Bill.

Registered Friendly Societies.

Mr. Hobhouse stated, in answer to a question put by Mr. Mount, that it appears that there are fifty societies of between 10,000 and 5,000 members, fifty-five of between 5,000 and 3,000, and approximately 6,150 under 3,000.

Sickness Insurance in Germany.

Mr. Houston asked the Chancellor of the Exchequer whether he had any official information as to the effect of the Sickness Insurance Act of Germany upon the interests of German doctors owing to the small pay or fees they received under it, and showing that the medical treatment given to the insured was thereby prejudicially affected; and, if so, whether he would publish the same; and, if not, whether he would arrange for a Commission of British doctors to be sent to Germany to inquire into, and report upon, the working of the Insurance Act in that country.

Mr. Hobhouse: The German sickness insurance societies have had their own disputes with the doctor, and as a result are now paying higher fees than formerly; but there is no evidence to show that the medical treatment given to the insured is now unsatisfactory. No doubt the medical service is most efficient where the sickness societies and the doctor are satisfied with the contracts under which it is given.

CENTRAL MIDWIVES BOARD.

THE Central Midwives Board at its meeting on July 20th had under consideration the National Insurance Bill, so far as it affects the practice of midwives, and adopted the following memorandum, to be submitted to the Chancellor of the Exchequer, as embodying the views of the Board on the National Insurance Bill:

The Midwives Act of 1902 was passed in the interests of the mothers and infants of England; this Act recognizes midwives as an important body directly concerned with the safety of pregnant, parturient, and lying-in women and their infants.

The results of their work during nearly ten years past are shown in the reduced maternal mortality, as appears from the statistics of the Registrar-General.

In the Insurance Bill now before Parliament the midwife is ignored.

The Central Midwives Board urges that this position, which it can hardly believe is intentional, should be so modified in the bill that free choice should be given to mothers whether they wish to be attended by a medical practitioner or by a midwife.

It is desirable that the position of midwives under the bill should be recognized and defined, and their duties in respect of maternity benefits distinguished from those of the medical profession.

In our opinion it would be in the interests of the public health that a representative of the Central Midwives Board, as a statutory body, should be upon the Advisory Committee (Clause 42); also that midwives should be represented upon local Health Committees (Clause 43 (5)).

It would be advantageous that any rules or regulations of a general character relating to maternity benefits should be submitted to the Central Midwives Board for consideration, this body having been constituted the authority in charge of the regulation of the practice of midwives and having a wide experience thereon.

MEDICO-LEGAL SOCIETY.

AT the annual dinner of the Medico-Legal Society held on July 20th, Sir JOHN TWEEDY in the chair, Mr. RIGBY SWIFT, M.P., who proposed the toast of the society, said everybody admitted that if the Insurance Bill was to be a success it must have the co-operation of the doctors, and that the doctors would co-operate provided they got terms just and fair to themselves. Terms must be put into the bill to secure that the profession would retain its independence and be properly remunerated. Sir JOHN TWEEDY, in reply, said that a great many medical men seriously believed that if the Insurance Bill passed in its present form a large part of the medical profession would cease to have any occupation. The medical profession had abolished small-pox, malarial fever, and other parasitic diseases. Typhoid was rapidly going, and those domestic diseases which formed the staple of the old-fashioned practitioner's income were rapidly disappearing. Their battle to-day was with consumption.

ROYAL SANITARY INSTITUTE.

STATE INSURANCE AND TUBERCULOSIS.

AT the annual congress of the Royal Sanitary Institute held this week at Belfast, Dr. LOUIS C. PARKES (London) delivered a lecture on The Prevention of Tuberculosis as a National Task. He said that the proposal which might be considered as holding the field was that outlined in the National Insurance Bill. As proposed in the bill, it seemed certain that there would in many places be much friction and antagonism between local Health Committees and the sanitary authorities. It would probably tend to promote harmonious action between all parties concerned if, as the result of local inquiry, a Government inspector was able to report that, in his opinion, excessive sickness was primarily due, not to any defaults or omissions on the part of existing local health authorities or of employers or owners of property, but to conditions which had been bequeathed by previous generations, and for which the poverty of the district and the pressure of the rates made it extremely difficult to find a practicable remedy. With such a verdict there should be a power given to the Treasury to make advances of funds at an extremely low rate of interest, so that the necessary improvements could be at once undertaken. Although antituberculosis dispenpensaries were not mentioned in the bill as one of the objects to which the State could contribute, it seemed highly desirable that these should at least rank *pari passu* with open-air sanatoriums as indispensable factors in the prevention of consumption. It should also be remembered that the national measures advocated for freeing the population from tuberculosis were those which were best adapted to improve the general health of the people and raise the resisting powers to the invasion of tubercle.

MEDICAL OFFICERS OF HEALTH SUPERANNUATION BILL.

MEMORANDUM.

THE object of this Bill is to enable medical officers of health by definite contributions from their salaries to provide themselves with superannuation allowances as a provision for old age and in case of permanent infirmity. Statutory provision of a similar nature has been already made for Poor Law medical officers by the Poor Law Officers Superannuation Act 1896 and for the officers of asylums by the Asylums Officers Superannuation Act 1909.

A BILL to provide for Superannuation Allowances to Medical Officers of Health employed by Local Authorities and for contributions towards such allowances by those Officers; and to make other relative provisions.

BE IT ENACTED by the King's most Excellent Majesty by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled and by the authority of the same as follows:

SUPERANNUATION.

Title of Officers of Health to Superannuation Allowances.

1. Subject to the provisions of this Act every officer of health appointed by a local authority whether before or after the commencement of this Act who either (1) shall complete an aggregate service of thirty-five years or (2) shall become incapable of discharging the duties of his office with efficiency by reason of permanent infirmity of mind or body not arising from his own misconduct or (3) shall attain the full age of *sixty years*, shall be entitled on resigning or otherwise ceasing to hold his office to receive during life a superannuation allowance according to the scale laid down in this Act.

Where an officer of health has attained the age of *sixty-five years* and the local authority under whom he shall then hold office are of opinion that it would be expedient in the interests of the public service that he should cease to hold office it shall be competent for that local authority to require him to retire upon payment to him of the superannuation allowance to which he may be entitled under this Act.

By what Authority a Superannuation Allowance is to be Payable

2. A superannuation allowance under this Act shall be payable—

(1) In any case where the whole or any part of the salary of the officer of health is paid by a county council or by the town council of a county borough, by the county or town council in question;

(2) In any other case, by the local authority under whom the officer of health holds office at the time of his retirement;

Provided that where an officer of health has previously served as officer of health under some other local authority and in due course becomes entitled to a superannuation allowance the local authority by whom his allowance is payable shall be entitled to call upon the local authorities who would have been liable to pay him an allowance under this Act if he had been entitled thereto and had retired at any previous time and they shall contribute a proportionate part of the supperannuation allowance to such officer reckoned according to the service and pay of such officer during his service with each authority and the said proportionate part shall be settled by agreement between the local authorities or in default of agreement by the Local Government Board.

Scale of Superannuation Allowances.

3. An officer of health who has served for *ten years* but less than *eleven years* shall be entitled to an annual allowance equal to *fifteen-sixtieths* of the average amount of his salary or emoluments during the *five years* ending on the quarter day which immediately precedes the day on which he ceases to hold offices

With the addition of *one-sixtieth* of such average amount for every additional completed year of service until the

completion of a period of service of *thirty-five years* when a maximum allowance of *forty-sixtieths* shall be granted.

Reckoning Service.

4. All service by an officer of health under any local authority shall be aggregated and reckoned, whether the service has been continuous or not and whether his whole time has been devoted to the service or not.

Power to add a Number of Years in Certain Cases.

5. A local authority liable under this Act for a superannuation allowance in computing the amount of that allowance may, in consideration of peculiar professional qualifications or of special circumstances, with the consent of the Local Government Board, add a number of years not exceeding *ten* to the number of years which the officer to receive the allowance has actually served in the aggregate.

Case of Subsequent Appointment.

6. Where an officer of health in receipt of a superannuation allowance under this Act is appointed to any office by any local authority the allowance shall cease to be paid so long as he continues to hold that office if the salary and emoluments thereof are equal to or in excess of the amount of such allowance; if they are not, then, so long as he holds that office, only so much of such allowance shall be paid as will make up the deficiency; and, on the officer of health ceasing to hold that office, he shall be entitled to receive again the annual amount of his superannuation allowance under this Act, less the amount of any superannuation allowance to which he shall be entitled in connexion with that office.

Forfeiture for Fraud, etc.

7. Any officer of health who is removed by a local authority with the consent of the Local Government Board, or by that Board, or resigns office in consequence of any offence of a fraudulent character, or of grave misconduct, shall forfeit all claim to any superannuation allowance under this Act in respect of his previous service.

Return of Contributions and Power to Grant Gratuities in Certain Cases.

8. An officer of health who has not become entitled to a superannuation allowance and who loses his office by reason of bodily injury not caused by his own default or any other cause whatever, other than his own misconduct or voluntary resignation, shall be entitled to receive from the local authority by whom his superannuation allowance if he were entitled thereto would be payable, a sum equal to the amount of all his contributions under this Act, but if he claims under this section and subsequently obtains a fresh office as an officer of health he shall not be entitled to reckon his service before obtaining the fresh office towards the superannuation allowance under this Act unless upon obtaining the fresh office he pays the sum so received to the local authority liable for the superannuation allowance in respect of the fresh office. In any such case of loss of office as aforesaid the local authority by whom his superannuation allowance would be payable as aforesaid may also, if they see fit, grant to the officer a gratuity not exceeding twice the amount of his salary during the year ending on the quarter day which immediately precedes the day on which he ceases to hold his office.

Gratuity in Case of Death.

9. Where an officer of health dies, after he has served five years or upwards, whilst still in service, the local authority by whom his superannuation allowance, if he were entitled thereto, would be payable may grant to his legal personal representatives a gratuity equal to the annual salary and emoluments of his office.

Notice of Proposed Grants.

10. At least *one month's* notice in writing shall be given to every member of a local authority of the time at which any proposal to add a number of years to the number of years which an officer of health has actually served or of any proposal to grant a gratuity under this Act will be considered, but an accidental omission to give notice to any such member shall not invalidate any proceeding under this Act.

Allowances not Assignable.

11. Every superannuation allowance granted under this Act shall be payable to or in trust for the officer of health entitled thereto, and shall not be assignable or chargeable with his debts or other liabilities.

Annual Returns to Local Government Board.

12. Every local authority by whom a superannuation allowance or gratuity is payable under this Act shall make annually to the Local Government Board in the form and at the time prescribed by the Board a return of all superannuation allowances and gratuities paid by them under this Act during the preceding year with such particulars as to the names and ages of the recipients and otherwise as the Board shall require.

CONTRIBUTION.

Obligation to Contribute.

13. Subject to the provisions of this Act every officer of health shall contribute annually for the purposes of this Act a percentage amount of his salary according to the scale laid down by this Act, the amount to be from time to time deducted from his salary.

Scale of Contributions.

14. The percentage amounts to be deducted annually for the purposes of this Act shall be as follows (that is to say):

In the case of officers with less than *five years'* service at or appointed after the commencement of this Act *two per centum* of the salary for each year;

In the case of officers with more than *five* and less than *fifteen years'* service at the commencement of this Act *two and a half per centum* of the salary for each year;

In the case of officers with more than *fifteen years'* service at the commencement of this Act *three per centum* of the salary for each year.

MISCELLANEOUS.

Existing Officers.

15. Any officer of health not appointed or reappointed after the commencement of this Act may at any time within *three months* after the commencement of this Act signify in writing to the local authority under whom he holds office his intention not to avail himself of the provisions of this Act as to superannuation and contribution and in that event it shall not be obligatory on him notwithstanding anything in this Act contained to make any contributions or submit to any deduction from his salary under this Act, nor shall he be entitled to receive any superannuation allowance gratuity or other benefit under this Act.

Contracting Out.

16. The provisions of this Act shall, subject to the last preceding section, apply to every officer of health appointed or reappointed after the commencement of this Act notwithstanding any contract to the contrary made before or after the commencement of this Act.

Power of Local Government Board to decide Questions.

17. The Local Government Board may if they think fit determine any question which may arise between a local authority and an officer of health, and which may be referred to them by either party as to the right to or the amount of superannuation allowance or return of contributions of that office under this Act and the decision of the Local Government Board shall be binding and conclusive.

Exemption of Authorities making Adequate Provision.

18. (1) This Act shall not apply to any local Authority as to which the Local Government Board shall certify that it has before the passing of this Act made and continues to make adequate provision for the *superannuation* of Medical Officers of Health.

(2) The Local Government Board may at any time revoke certificates under this section and may grant a certificate for a limited period only.

(3) On the expiration or revocation of any such certificate this Act shall apply to the local Authority in question as if this Act had then first come into operation.

(4) This section shall not exempt a local Authority from the obligation to contribute a proportionate part of a superannuation allowance to the authority by whom the allowance is payable.

Definition.

54 & 55 Vict. c. 76.

19. In this Act the expression "Officer of Health" means a medical officer of health and any deputy or assistant medical officer of health appointed under the Public Health Acts or the Public Health (London) Act 1891.

Short Title and Extent of Act.

20. This Act may be cited as the Medical Officers of Health Superannuation Act 1910 and shall not extend to Scotland or Ireland.

Commencement of Act.

21. This Act shall come into operation on the twenty-ninth day of September One thousand nine hundred and ten.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at Caxton House, Westminster, on July 20th, with Sir FRANCIS CHAMPNEYS in the chair.

MEDICAL HELP FOR CHILD.

Dr. G. E. HERMAN moved:

That it is expedient to act upon the following resolution: A midwife will be deemed to have discharged the duty imposed upon her by Rule E 20 (5) if, after having filled up the form of sending for medical help and handed it to the parent or friend, she advises the parents either to (*a*) ask a registered medical practitioner to come to the child, (*b*) send the child to a registered medical practitioner, or (*c*) send the child to a hospital, according to the circumstances of each case.

The rule referred to provides that medical help must be sent for "in the case of the child, when there is any abnormality or other complication, such as injuries received during birth, any malformation or deformity in a child that seems likely to live, dangerous feebleness, inflammation of, or discharge from, the eyes however slight, serious skin eruptions, inflammation about the navel."

The CHAIRMAN said that at a recent penal meeting of the Board he was asked if a midwife was complying with the rules if she sent a child to the doctor. His answer was that she was not; but, thinking it over, he came to the conclusion that the midwife was complying with the rules. In Liverpool, for instance, there was a good eye hospital, and in the case of ophthalmia neonatorum he thought a midwife would be doing right in sending the child to such a hospital. The midwife must, however, not fail to notify the Local Supervising Authority, and to fill up the form for summoning medical help. He added that his remarks must be taken as information for the Board and not in support of the resolution proposed by Dr. Herman.

Mr. PARKER YOUNG said that the midwife might get into difficulties if she sent a child to the doctor instead of having the child first seen by a doctor, and then acting on the advice given.

After the CHAIRMAN had pointed out that in the circumstances the child's interest were safeguarded, Dr. HERMAN agreed to withdraw his resolution.

TRAINING OF MIDWIFE.

A letter was considered from Dr. COMYNS BERKELEY, Obstetric Physician, Middlesex Hospital, on behalf of the Weekly Board of the hospital, with regard to a complaint made by a certified midwife of the inadequacy of the training given at the hospital. The further consideration of the matter was adjourned in order to afford an opportunity to members of the Board to visit the Middlesex Hospital, and observe the methods of training adopted at that institution.

The Practice of Midwives.

A letter was considered from the Clerk of the Notts County Council as to the difficulty experienced in securing the conviction of uncertified women for practising contrary to the provisions of Section 1 (2) of the Midwives Act, 1902.

The Board decided it be suggested to the Local Supervising Authority:

(*a*) That an opportunity be taken of appealing to the High Court from any decision of a petty sessional court, holding, as a matter of law, that in the absence of proof by the prosecution that the uncertified woman attending a midwifery case has been engaged beforehand the case becomes one of emergency within the meaning of Section 1 (2) of the Midwives Act, 1902. (*b*) That the Local Supervising Authority should itself report direct to the General Medical Council any case in which in their opinion a medical practitioner has been guilty of "covering."

Citation of Midwives.

A letter was considered from the Town Clerk of Sheffield as to the Board's procedure on the citation of midwives against whom prima facie cases have been found by local supervising authorities.

The Board decided that the Town Clerk of Sheffield be informed that the meetings of the Board are open to representatives of the press who have received permission to attend, and that the citation of women against whom local supervising authorities have found prima facie cases of malpractice, negligence, or misconduct is a part of the Board's proceedings; that the responsibility of publishing any particular item of business transacted at the meeting rests with the press; and that the Board is not prepared to alter its procedure nor to argue the case further.

[For a memorandum on the Insurance Bill, see p. 243.]

Hospitals and Asylums.

BELFAST EYE, EAR, AND THROAT HOSPITAL.

THE annual meeting of this institution was held at the Hospital, Great Victoria Street, on May 2nd. The chair was occupied by the Vice-Chancellor of the Queen's University. Dr. J. Walton Browne presented the medical report, which showed that 2,728 new cases had been seen in the out-patient department, and 146 in the wards, which constituted an increase of 583 over the previous year. The operation room had been remodelled, and was now thoroughly up to date. Mr. H. H. B. Cunningham continued to act as their senior clinical assistant, and Mr. Wyclif McCreedy had been appointed second clinical assistant. The report was adopted. The new draft rules for the management of the institution were formally adopted, and a committee elected for next year.

COUNTY AND CITY OF WORCESTER LUNATIC ASYLUM, POWICK.

THE annual report for the year 1910 of Dr. G. M. P. Braine-Hartnell, medical superintendent, shows that on January 1st of that year there were 933 patients in the asylum, and on the last day of the year 992. The total cases under care during the year numbered 1,122, and the average number daily resident 957. During the year 189 were admitted, of whom 151 were direct and 38 indirect admissions. Considering only the direct admissions, these may be grouped according to the duration of disorder as follows: In 72 the attacks were first attacks within three and in 20 more within twelve months of admission; in 17 not-first attacks within three months, and also in 3 more in whom it was not known whether the attacks were first or not; in 11 the duration was unknown, and in the remaining 28 the illness was of more than twelve months' duration, including 9 congenital cases. The direct admissions were classified, according to the forms of mental disorder, into: Mania of all kinds, 87; recent and recurrent melancholia, 34; senile and secondary dementia, 27; insanity with epilepsy, 10; delusional insanity, 6; general paralysis, 4; less common forms, 8; and congenital or infantile defect, 13. As to probable causation, alcohol was assigned in 21, or just under 14 per cent., syphilis in 2, and influenza in 2; critical periods in 15; child-bearing in 5; diseases of the nervous system in 21 (epilepsy 16); other bodily affections in 3; bodily trauma in 3, and mental stress in 15. An insane heredity was ascertained in only 9, and a neurotic heredity in 1, whilst in 59 no cause could be assigned owing to defective history. During the year 40 were discharged as recovered, giving a recovery-rate on the direct admissions of 26.5 per cent., or of recoveries in and on the direct admissions of 25.8 per cent.; also 10 were discharged as relieved, and 17 as not improved. During the year also 63 died, giving a death-rate on the average numbers resident of 6.6 per cent., as compared with the average for this asylum of 10.2 per cent. The deaths were due in 8 to nervous diseases, including only 4 from general paralysis; in 10 to diseases of the heart and blood vessels; in 3 to respiratory diseases; in 7 to Bright's disease; and in the remainder to general diseases, including 15, or almost 24 per cent. of the total deaths, from tuberculous diseases, and 15 from senile decay. There were six serious non-fatal accidents during the year, all accidentally caused by blows from fellow-patients. The general health was very good throughout the year.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 8,144 births and 3,751 deaths were registered during the week ending Saturday last, July 22nd. The annual rate of mortality in these towns, which had been 11.7, 12.0, and 11.8 per 1,000 in the three preceding weeks, rose to 12.1 per 1,000 in the week under notice. In London the death-rate did not exceed 11.4 per 1,000, against 11.1, 11.0, and 11.3 in the three previous weeks. Among the seventy-six other large towns, the death-rates ranged from 3.2 in Burton-on-Trent, 4.5 in Devonport, 4.9 in Hornsey, 5.1 in Smethwick, and 5.3 in Tottenham, to 16.8 in West Bromwich and in Tynemouth, 17.3 in Liverpool, 18 6 in Swansea, and 19.5 in Dewsbury. Diarrhoea and enteritis (of children under 2 years of age) caused a death-rate of 2.7 in Liverpool and in St. Helens, 2.9 in Dewsbury, 3.0 in West Bromwich and in Bootle, and 3.6 in Birkenhead. The mortality from the other epidemic diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 3,751 deaths registered in the seventy-seven towns last week the causes of 32 were not certified either by a registered medical practitioner or by a coroner after inquest, and included 7 in Birmingham, 5 in Manchester, and 2 each in London, Liverpool, Warrington, Bury, and Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,226, 1,264, and 1,345 at the end of the three preceding weeks, further rose to 1,358 at the end of the week under notice; 199 new cases were admitted during the week, against 163, 191, and 204 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the principal Scottish towns 838 births and 457 deaths were registered during the week ending Saturday, July 22nd. The annual rate of mortality in these towns, which had been 14.6 and 14.9 per 1,000 in the two preceding weeks, declined to 13.9 in the week under notice, but was 1.8 per 1,000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates ranged from 8.6 in Paisley and 10.2 in Aberdeen to 15.9 in Glasgow and 17.4 in Perth. The mortality from the principal epidemic diseases averaged 1.9 per 1,000, and was highest in Glasgow and Perth. The 239 deaths from all causes registered in Glasgow included 16 (of children under 2 years of age) from diarrhoea and enteritis, 10 from whooping-cough, 5 from measles, 3 from scarlet fever, 2 from enteric fever, and 2 from diphtheria. Three deaths from measles and 3 from whooping-cough were recorded in Edinburgh, and 2 deaths from whooping-cough in Dundee.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON J. K. ROBINSON, M.B., has been placed on the retired list at his own request, July 18th. He was appointed Surgeon, February 11th, 1891; Staff Surgeon, February 11th, 1899; and Fleet Surgeon, February 11th, 1907.

The following appointments have been made at the Admiralty: Fleet Surgeon E. C. WARD, M.D., and Staff Surgeon C. E. C. STANFORD, M.B., to the *New Zealand*, on recommissioning, August 1st; Fleet Surgeon J. H. STENHOUSE, M.B., and Surgeon A. T. RIVERS to the *King Edward VII*, on recommissioning, August 1st; Fleet Surgeon F. J. A. DALTON to the *Prince George*, on recommissioning, August 1st; Fleet Surgeon E. C. CRIDLAND, M.B., to the *Illustrious*, on recommissioning, August 5th; Fleet Surgeon J. D. HUGHES, to the *Devonshire*, August 5th; Fleet Surgeon E. T. P. EAMES and Surgeon M. C. MASON to the *Gibraltar*, August 5th, and to the *Cambrian*, on recommissioning, undated; Staff Surgeon K. H. JONES, M.B., to the *Irresistible*, on recommissioning, August 1st; Staff Surgeon C. C. MACMILLAN, M.B., D.S.O., to the *Gibraltar*, August 5th, and to the *Pyramus*, on recommissioning, undated; Staff Surgeon G. TAYLOR, M.B., to the *Naiad*, August 5th; Staff Surgeon W. H. DAW to the *Isis*, on recommissioning, July 25th; Staff Surgeon C. B. FAIRBANK to the *Flora*, on recommissioning, undated; Staff Surgeon T. H. VICKERS and Surgeon A. H. JOY to the *King Edward VII*, additional, on transfer of flag, undated; Staff Surgeon J. H. LIGHTFOOT to the *Crescent*, August 5th, and to the *Psyche*, on recommissioning, undated; Staff Surgeon G. E. DUNCAN to the *Crescent*, August 5th, and to the *Pioneer*, on recommissioning, undated; Surgeon P. F. MINETT to the *Vivid*, additional for disposal, July 24th; Surgeon F. G. WILSON, M.B., to the *Colossus*, on commissioning, undated; Surgeon C. ROSS, M.B., to the *Pembroke*, additional for disposal, July 24th, and to the Royal Naval Hospital, Chatham, on the *Colossus* commissioning, undated; Surgeon G. H. S. MILLN, M.B., and H. B. GERMAN to the *New Zealand*, additional, on transfer of flag, undated; Surgeon J. A. THOMPSON, M.B., to the *Hercules*, on completing; Surgeon H. H. ORMSBY, M.B., to the *Crescent*, August 5th, and to the *Flora*, on recommissioning, undated; Fleet Surgeon T. W. PHILIP, M.B., to Chatham Hospital, July 30th; Surgeon A. S. BRADLEY, M.B., to the *Victory*, additional for disposal, undated; Surgeon W. MEARNS, M.B., to the *Teal*, July 21st; Fleet Surgeon E. C. CRIDLAND, M.B., to the *Irresistible*, on recommissioning, August 1st; Staff Surgeon H. H. GILL to the *Caesar*, July 22nd; Staff Surgeon K. H. JONES, M.B., to the *Africa*, August 1st; Staff Surgeon E. S. TUCK to the *Illustrious*, on recommissioning, August 5th.

Fleet Surgeon J. H. BEATTIE has been placed on the retired list, July 24th. His commissions are thus dated: Surgeon, February 26th, 1881; Staff Surgeon, February 26th, 1893; and Fleet Surgeon, February 26th, 1897. During the Egyptian war in 1882 he was Surgeon of the *Don*, and received a medal and the Khedive's bronze star; in 1890 he served with the Naval Brigade in the punitive expedition against the Sultan of Vitu, in East Africa, receiving a medal with clasp.

ROYAL ARMY MEDICAL CORPS.

EXCHANGES.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in Stamps or Post Office Order with the notice, not later than Wednesday morning in order to ensure insertion in the current issue.

MAJOR, R.A.M.C., is willing to exchange to India (only) for a full tour of service. Replies should be addressed to No. 4000, BRITISH MEDICAL JOURNAL Office, 429, Strand, London.

INDIAN MEDICAL SERVICE.

SURGEON-GENERAL P. H. BENSON, M.B., retires from the service, from July 26th. He entered the Madras Medical Department as an Assistant Surgeon, March 31st, 1874, and became Surgeon-General, April 1st, 1908.

Captain R. A. LLOYD, M.B., is recognized as Specialist in the Prevention of Disease and appointed to the charge of the Brigade Laboratory in Bannu, from March 10th.

The promotion to be Colonel of Lieutenant-Colonel R. B. ROE, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the Royal approval.

Lieutenant-Colonel J. W. RODGERS, Bengal, has retired from the service, from July 5th. He was appointed Surgeon, April 2nd, 1881, and became Lieutenant-Colonel, April 2nd, 1901. His war record includes—the Hazara Expedition, 1888 (medal with clasp); the Chitral Relief Force, 1895 (medal with clasp); and the operations in Somaliland in 1903–4, when he was Senior Medical Officer from July 16th, 1903 (medal with clasp).

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

First Home Counties Field Ambulance.—Lieutenant ARTHUR T. FALWASSER, to be Captain, June 12th.

First Lowland Field Ambulance.—NEIL MACINNES, M.B., to be Lieutenant, June 19th.

Third North Midland Field Ambulance.—Lieutenant P. W. TURNOR resigns his commission, July 22nd.

Third South Midland Field Ambulance.—CHARLES E. K. HERAPATH, M.B., to be Lieutenant, April 1st.

First Northumbrian Field Ambulance.—JOHN HARE, M.B. (late Cadet Lance-Corporal, Durham University Contingent, Senior Division, Officers' Training Corps), to be Lieutenant. (To be supernumerary, May 27th.)

Yorkshire Mounted Brigade Field Ambulance.—Major W. K. CLAYTON to be Lieutenant-Colonel, January 1st, 1911.

Second West Riding Field Ambulance.—Major W. McG. YOUNG, M.D., to be Lieutenant-Colonel, April 1st, 1911.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during June, 1911:

	FROM	TO
Colonel S. C. B. Robinson	Peshawar	Cherat.
Lieut.-Col. C. T. Blackwell, M.D.	Madras	Rangoon.
,, R. G. Hanley, M.B.	—	Bloemfontein.
,, R. W. Wright	Shoeburyness	Chatham.
,, J. F. Donegan	Parkhurst	Woolwich.
Major C. J. Healy, M.B.	Fermoy	Kilworth Cp.
,, R. C. Lewis	Pembroke Dk.	Chapel Bay.
,, K. B. Barnett, M.B., F.R.C.S.I.	Eastbourne	Shorncliffe.
,, P. J. Probyn, D.S.O., M.B.	Hong Kong.	Belfast Dist.
,, W. E. Hudleston	Portsmouth	Parkhurst.
,, H. G. F. Stallard	Roorkee	Simla.
,, W. H. S. Nickerson, V.C., M.B.	Rawal Pindi	Cherat.
,, A. Chopping	Peshawar	,,
Captain W. Bennett, M.B.	Calcutta	Naini Tal.
,, L. L. G. Thorpe	Netley	Shipton.
,, W. S. Crosthwait	Fermoy	Moore Park Camp.
,, F. E. Rowan-Robinson, M.B.	Northampton	Colchester.
,, W. Davis	Bareilly	Secunderabad.
,, C. G. Thomson	Ambala	Scottish Comd.
,, H. W. Long, M.B.	London	West Africa.
,, J. McKenzie, M.B.	London	Pirbright.
,, F. W. W. Dawson, M.B.	Dublin	Ticknock Camp.
,, G. W. G. Hughes	Egyptian Army	N. Command.
,, L. Bousfield, M.D.	Devonport	Honiton Camp.
,, A. L. Otway, M.B.	Belfast	Finner Camp.
,, W. F. H. Vaughan	Parkhurst	Cosham.
,, D. P. Johnstone	Ross Camp	Brackenbir Moor.
,, J. H. Campbell, M.B.	W. Command.	Ross Camp.
,, R. H. L. Cordner	Rawal Pindi	Bulford.
,, K. A. C. Doig	Hilsea	Mudeford Camp.
,, A. W. Gater	Kilworth Camp	Fermoy.
,, C. J. Coppinger, M.B.	Aldershot	Irish Comd.
,, F. E. Roberts	Edinburgh	Stobs.
,, R. K. White	Buttervant	Tipperary.
,, C. W. O'Brien	Dublin	Kilbride Camp.
,, R. E. Humfrey, M.B.	Nasirabad	Jhansi.
,, W. G. Maydon	Fort George	Glasgow.
,, G. Ormrod, M.B.	Londonderry	Magilligan Cp.
,, C. F. White, M.B.	Jubbulpore	Jhansi.
,, H. E. Gotelee	Holywood	Mosney Camp.
,, C. T. Edmunds	Peshawar	Cherat.
,, D. T. MacCarthy, M.B.	Agra	Lucknow.
,, G. F. Dawson	Delhi	Meerut.
,, F. J. Stuart, M.B.	Meerut	Fyzabad.
,, J. F. Grant, M.B.	Lucknow	Allahabad.
Lieutenant A. L. Stevenson, M.B.	Bangalore	Nowshera.
,, F. M. Hewson	Karachi	Quetta.
,, T. S. Eves, M.B.	Lucknow	Agra.
,, A. T. J. McCreery, M.B.	Khandalla	Mhow.
,, W. H. O'Riordan	York	Whitley Bay.
,, P. S. Tomlinson	Fargo Camp	Tidworth.
,, O. W. McSheehy, M.B.	Devonport	Willsworthy Camp.
,, M. J Williamson, M.B.	Tidworth	Sling Plantation Camp.
,, J. J. D. Roche, M.B.	Belfast	Dunree Camp.
,, J. R. Hill, M.B.	Manchester	Conway.
,, A. S. M. Winder, M.B.	Curragh	Maryboro' Heath Camp.
,, J. R. Yourell, M.B.	Belfast	Athlone.
,, R. M. Davies, M.B.	Chatham	Landguard.
,, R. C. G. M. Kinkead, M.B.	Cork	Ballincollig.
,, E. C. Stoney, M.B.	Bury St. Edmunds	Colchester.
,, V. P. Hutchinson	Netley	Rolleston Cmp.
,, C. Robb, M.B.	Kilbride	Curragh.
,, J. K. Gaunt, M.B.	Limerick	Cork.
,, L. F. K. Way	Reading	Hilsea.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ASHTON-UNDER-LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

BEDFORD COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

BIRMINGHAM GENERAL HOSPITAL.—House-Physician. Salary, £50 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer. Salary, £160 per annum.

BUCKINGHAM: COUNTY EDUATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum.

BUXTON: THE DEVONSHIRE HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Salary to commence, £140 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

DUMFRIES: CRICHTON ROYAL INSTITUTION.—Pathologist and Clinical Pathologist. Salary, £250 per annum.

GLENLIVET PARISH COUNCIL.—Medical Officer for the District. Salary, £45 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—(1) House-Surgeon. Salary, £100 per annum. (2) Assistant House-Surgeon. Salary, £75 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—(1) Resident Medical Officer. Salary, £120 per annum. (2) Assistant House-Surgeon (non-resident). Honorarium at the rate of £105 per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—Honorary Assistant Anaesthetist.

LOUGHBOROUGH AND DISTRICT HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon. Salary, £100 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Surgical Officer. Salary, £35 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Surgeon. Salary, £80 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon (male). Salary, £80 per annum.

OCHILTREE PARISH COUNCIL, Ayrshire.—Poor Law Medical Officer. Salary, £40 per annum.

PRESTWICH COUNTY ASYLUM.—Locumtenent. Salary, £4 4s. per week.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Junior House-Physician. Salary, £50 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, N.E.—House-Surgeon. Salary at the rate of £80 per annum.

ST. GEORGE'S UNION INFIRMARY, Fulham Road, S.W.—Second Assistant Medical Officer. Salary, £130 per annum.

ST. PANCRAS UNION.—Senior Assistant Medical Superintendent of Infirmary and Senior Assistant Medical Officer of Workhouse. Combined salary at the rate of £135 per annum.

SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon. (2) Assistant House-Physician. Salary, £60 per annum each.

SHREWSBURY: SALOP AND WENLOCK ASYLUM.—Junior Male Assistant Medical Officer. Salary, £150 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—(1) House-Physician. Salary, £100 per annum. (2) Junior House-Surgeon. Salary, £60 per annum.

THROAT HOSPITAL, Golden Square, W.—Surgical Registrar.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WEST HAM UNION WORKHOUSE.—First Assistant (Resident, male) Medical Officer. Salary, £150 per annum.

WESTMINSTER HOSPITAL, Westminster, S.W.—(1) Assistant House-Surgeon. (2) Resident Obstetric Assistant.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Salary, £80 per annum.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Third Assistant Medical Officer. Salary, £140 per annum, rising to £160.

APPOINTMENTS.

BARKER, G. L., M.R.C.S., L.R.C.P., District Medical Officer of the Bourne Union.

BARTON, G. H., L.R.C.P.Edin., M.R.C.S.Eng., Certifying Factory Surgeon for the Market Rasen District, co. Lincoln.

BEAM, A. R., M.D.Edin., M.B., B.Ch.Edin., Assistant Medical Officer of the St. George's Union Infirmary.

BUNBURY, E. G., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Helston Union.

CHENNELLS, E. P., M.B.Lond., District Medical Officer of the Croydon Union.

DAWNAY, A. H. Payan, F.R.C.S., Ophthalmic Surgeon to Out-patients at the Great Northern Central Hospital.

DUKERS, B. W., L.R.C.P., L.R.C.S.Edin., District Medical Officer of the Glanford Brigg Union.

GEMMELL, R. H., M.B., C.M.Glasg., Certifying Factory Surgeon for the New Cumnock District, co. Ayr.

HIGSON, R. W., M.B., Ch.B.Vict.Manch., District Medical Officer of the Bolton Union.

JONES, O. C., M.R.C.S., L.R.C.P., District Medical Officer of the St. Thomas's Union.

KISCH, Harold A., M.B., B.S.Lond., F.R.C.S., Assistant Surgeon of the Royal Ear Hospital.

MIDDLEBROOKE, H. E., L.M.S.S.A.Lond., Medical Officer of Health of Claypole Rural District.

MOORE, F. Craven, M.D., M.Sc., F.R.C.P., Honorary Assistant Physician to the Manchester Royal Infirmary.

MOORE, R. M., B.A.Cantab., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health of the Borough of Malmesbury and District Medical Officer of the Malmesbury Union.

RAE, C. G., L.R.C.P., L.R.C.S.Edin., Certifying Factory Surgeon for the Wick District, co. Caithness.

RAYNER, H. H., M.B., B.Ch.Vict., F.R.C.S.Eng., Honorary Assistant Surgeon to the Manchester Royal Infirmary.

SANCTUARY, T., M.D.Edin., L.R.C.P., L.R.C.S., Medical Officer of Health of the Driffield Rural District.

SINCLAIR, F. W., M.A.Edin., M.B., C.M., Certifying Factory Surgeon for the South Shields District, co. Durham.

STOKES, K. H., M.B., M.R.C.S., L.R.C.P., District Medical Officer of the Battle Union.

SYRETT, E. F., M.D.Durh., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Harwich District, co. Essex.

TAYLOR, R. T., M.R.C.S., L.R.C.P.Lond., Medical Officer of the Holborn Union Workhouse.

WALKER, T. E., M.D.Liverp., M.B., Ch.B., District Medical Officer of the Newark Union.

WOOLFENDEN, H. F., M.D.Liverp., F.R.C.S.Eng., Honorary Assistant Surgeon to the Liverpool Royal Infirmary.

WORMALD, T. L., M.D., B.Hy., D.P.H.Durh., Medical Officer and Public Vaccinator to the Darlington Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

MCKEAN.—On July 22nd, at West View, Ledbury, Herefordshire, the wife of G. Bartley McKean, M.B., B.S.Lond., F.R.C.S.Edin., of a son.

MCLAREN.—At Marandellas, Rhodesia, on June 24th, the wife of Dr. Thomas D. McLaren, of a daughter.

MARRIAGES.

ALDRIDGE—THORPE.—On July 19th, at St. Cuthbert's Church, West Hampstead, N.W., by the Rev. W. J. Watkins, Vicar, assisted by the Rev. H. Lee, M.A., Rector of Bratton St. Maur, Somerset, cousin of the bridegroom, Charles Braxton Mooring Aldridge, M.A.Camb., M.R.C.S.Eng., L.R.C.P.Lond., fourth son of the late Henry Mooring Aldridge, J.P., of Bournemouth, to Edith Mary, second daughter of Charles Stuart Thorpe, of Brondesbury, N.W.

BROOK—LAMB.—On Thursday, July 20th, at St. Luke's Church, Finchley, by the Rev. S. W. Howe, M.A., Vicar, S. Stanley Brook, M.R.C.S., L.R.C.P., youngest son of Samuel Brook, of Sanderstead, Surrey, to Constance Maud Lamb, youngest daughter of William John Lamb, of Hornsey, East Yorks.

FORSTER—MACLURE.—At Stanley Dalry, Ayrshire, on July 5th, by Rev. J. L. Fyfe, James Forster, M.B., C.M., Conisbourgh, Yorkshire, to Anna McCreath, eldest daughter of Robert Maclure.

PEARSON—KNOWLES.—On July 22nd, at the Church of the Most Precious Blood, Edmonton, N., by the Rev. Father E. Howell, C.SS.R., Clarence Henry Pearson, son of Alfred John Pearson, late of St. John's Wood, to Beatrice Mary Knowles, M.D., B.S.Lond., second daughter of the late Thomas Knowles, of Bolton. Indian papers please copy.

DEATH.

STILES.—On July 19th, at Spalding, Lincolnshire, Henry Tournay Stiles, M.D.St.And., J.P. Holland Division, Lincolnshire, aged 83 years.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday, Gynaecology, 10 a.m.; Eye, 2 p.m. Tuesday, Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday, Diseases of Children, 10 am.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday, Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday, Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday, Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 am; Eye, 10 a.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 5TH, 1911.

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SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

BIRMINGHAM, 1911.

ADJOURNED REPRESENTATIVE MEETING.

(Concluded from p. 229.)

Tuesday, July 25th.

Dr. MACLEAN (Chairman of Representative Meetings) in the Chair.

PUBLIC HEALTH AND POOR LAW.

THE paragraphs of the Report of Council on Public Health having been received, the CHAIRMAN OF THE PUBLIC HEALTH COMMITTEE (Mr. Domville) moved the following Recommendation:

> That, in the general interests of Public Health and of the Medical Profession, it is desirable (i) that Medical Officers of Health should, as a rule (and without prejudice to those at present holding part-time appointments), be required to devote their whole time to official duties; (ii) that all Medical Officers of Health should be adequately paid, districts being grouped where necessary to make this practicable; (iii) that all Medical Officers of Health should be admitted to participation in a Government Superannuation Scheme; and (iv) that all Medical Officers of Health should be protected, in the proper discharge of their duties, against capricious dismissal or reduction of salaries.

The Council hoped that the amended form in which the Recommendation now appeared as an expression of the opinion of the Association would commend itself to those who felt themselves aggrieved by the form in which the Minute had previously appeared. Every care had been taken to show that, while the Association was of opinion that there was an actual tendency in favour of the whole-time Medical Officer of Health in certain districts, yet it was anxious to guard the interests of those part-time men at present holding appointments; and in every respect where interference was asked for, that the interests of those officers would be respected.

Dr. TODD (Sunderland) inquired what power the Association had to uphold the rights of such officers supposing they were going to be turned out by the local authority. The Recommendation seemed to be simply a pious opinion.

Mr. DOMVILLE replied that the Association could use its ordinary method of giving support—that was to say, by acting with the assistance of the local Division. If the Division did not help, the Association was powerless, but if the practitioners in any Division would hold together and help in the matter, every effort was made to assist the Division in any contest there might be with the local authority.

Dr. LANGDON-DOWN (Richmond) said that, as the Representative of the Division which brought this matter to the notice of the Representative Meeting last year, he ought to say a very few words on the subject. Although he had not had the opportunity of consulting his Division since this amended Minute was issued to the Divisions, he thought he might take upon himself the responsibility of saying what he believed members would wish him to say, namely, that the Council had really satisfied all the essential points that had been before the meeting when the rescission of the Minute was moved last year.

Dr. POWELL EVANS (Wandsworth) moved that:

> In view of the last Memorandum of the Local Government Board, this motion be referred back to the Council for the purpose of the provision of a definition of "official duties."

He understood that since that Amendment was set down the Local Government Board had issued an Order allowing part-time medical officers to take other appoint-

ments, which would help to increase their emoluments, and the Division had instructed him to oppose that amended form, and to ask the Council to give a definition of official duties.

Dr. TODD seconded.

Mr. DOMVILLE suggested that there was no reason why the term "official duties" should not be as far as possible defined by the Council. It was well recognized that there was a considerable amount of difference of opinion as to what were and what were not official duties. He thought the best course would be to pass the Recommendation and refer the suggestion which had been made for a definition of "official duties" to the Council.

The mover of the Amendment agreed, and the Motion was carried.

Mr. DOMVILLE said that in another Recommendation part-time appointments were defined and other statements of principle made. He moved the adoption of the Recommendations as follows:

A. That the term "part-time appointments," occurring in the following Resolution of the Annual Representative Meeting, 1910, be understood as meaning appointments the holder of which is permitted to engage in private practice.

Minute 317 (b).—That the following motion be referred to the Council:

(*b*) That in every form of public medical service the system of part-time appointments (other than those of medical officers of health) of medical practitioners should be maintained as far as such appointments can be made consistently with the requirement of the services, and that all public medical officers should be protected in carrying out their duties, should be secured from capricious dismissal or reduction of salary, and should be allowed to participate in any superannuation scheme approved by the Local Government Board.

B. That the following statements of principle be approved:

(i) That all public medical officers should be protected in carrying out their duties.

(ii) That all public medical officers should be secured from capricious dismissal or reduction of salary.

(iii) That all public medical officers should be allowed to participate in any superannuation scheme approved by the Local Government Board or other public authority.

(iv) That in every form of public medical service (other than that of medical officers of health) the system of part-time appointments of medical practitioners should be maintained as far as such appointments can be made consistently with the requirements of the service.

(v) That when the appointment of any medical officer is determined without any reflection upon his method of performance of his duty, and he is not entitled to any pension, he should have compensation as suggested by the Poor Law Officers' Superannuation Act, 1896—namely, a gratuity not exceeding two years' salary.

Mr. Domville further informed the meeting that the Medical Officers of Health (Superannuation) Bill approved by the Annual Representative Meeting, 1910, had been introduced into the House of Commons on July 20th by Dr. Hillier, was read the first time on July 23rd, and was ordered to be read a second time on July 28th. The bill was therefore now before the public, and was brought to the notice of the Local Government Board.

Dr. NEAL asked whether in paragraph (iv) it was intended that the system of part-time appointments should include such an appointment as that of public vaccinator. His Division was of opinion that it was very desirable that such an appointment should be held by a part-time man.

Mr. DOMVILLE said that it applied to public vaccinators, whereupon Dr. NEAL moved an Amendment to exclude public vaccinators. The object, he said, was to preclude public vaccinators from being engaged also in private practice. His Division thought it very undesirable that a practitioner in a certain district engaged in general practice should also be compelled by law to visit the patients of other doctors in his official capacity as public vaccinator.

The Amendment was seconded by Dr. LYSTER, but when put to the meeting it was lost.

In reply to Dr. HENRY, the CHAIRMAN OF REPRESENTATIVE MEETINGS said that paragraph (iv) did not include school medical inspectors.

Dr. HENRY moved that they should be included, as he considered that they ought to be whole-time officers.

The Amendment having been seconded by Dr. WOOD,

Mr. DOMVILLE said that it was part of the policy of the Association at all times to discourage the association of inspection and treatment.

The Amendment was lost.

In reply to Dr. FOTHERGILL, Mr. DOMVILLE said that under existing conditions the Poor Law medical officers were part-time officers, and it was part of the duty of the Association to maintain them in that position.

Dr. TREASURE said that the Cardiff Division, which he represented, thought that the gratuity mentioned was ridiculously small, and desired him to call attention to the matter. He would like to know whether there was any special reason for wording the recommendation as it was.

Mr. DOMVILLE said the reason was that the Council was bound to have regard to the previous action of the Legislature in the Poor Law Officers' Superannuation Act, as it was felt that there was no better guide than that. If there were any hope of obtaining better terms from any local authority, it was open to the local medical man to do his best with his own authority.

The Recommendations were then agreed to.

On the Motion to adopt the remainder of the Report,

Dr. HERBERT JONES called attention to the paragraph of the Report dealing with action taken with regard to Public Health and Poor Law appointments during the year. He desired to point out certain difficulties in connexion with warning notices. What happened was that the Secretary or Chairman of a Division asked that a certain post should be put upon the warning list, and loyal members of the Association did not apply for the appointment; but one or more disloyal members of the profession might apply and be appointed, and after the appointment was made nothing else happened. That being so, it appeared to him that the Association was discredited. He did not propose to move any amendment, but he thought it would be sufficient if the Council or the Public Health Committee considered whether some action should not be taken to get rid of a very serious blot in the procedure.

Dr. KEAY was glad that Dr. Jones had called attention to the matter, because the present position was an impossible one.

Sir VICTOR HORSLEY said that the fault did not lie with the Council, but with the Divisions which had not adopted Rule Z. Nothing could be done by the Central Executive of the Association unless a Division had adopted that Rule.

Dr. WILLIAMS asked what could be done after Rule Z had been adopted. His Division had adopted Rule Z, and had tried to put it in force, without much success.

The following Resolution was moved by Dr. HERBERT JONES and adopted:

That the attention of the Council be drawn to the manner in which the machinery of the Association in connexion with disputes often fails.

Dr. TODD (Sunderland) asked whether it was right for the JOURNAL to accept an advertisement which was altogether antagonistic to the policy of the Association, and by so doing to put other Divisions and other Branches who were acting loyally, or trying to act loyally, by the policy of the Association, into a most invidious position.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said there was a very thorough method of scrutinizing the advertisements sent up to the JOURNAL, but if the details were not sufficiently suggestive of a departure from the policy of the Association, as he understood was the case with the advertisement Dr. Todd had in mind, an advertisement might slip through.

The Motion that the remainder of the Report be approved was then agreed to.

HOSPITALS COMMITTEE.

Dr. LAURISTON SHAW, in the absence of the Chairman, Dr. Ker, through illness, moved the approval of the paragraphs of the Annual Report of Council under heading "Hospitals."

Dr. FOTHERGILL drew attention to the fact that the subject of fees for certificates under the Workmen's Compensation Acts, which had been in hand for some two years, was stated to be still under consideration; he thought the Committee might move more quickly.

The Chairman said a note would be made of what Dr. Fothergill had said.

NAVAL AND MILITARY.

On the Motion of the Chairman of Representative Meetings the following Recommendation of Council was agreed to:

> That the Officers elected at the Annual Representative Meeting, 1911, to represent on the Council the Royal Navy Medical Service, the Army Medical Service, and the Indian Medical Service, be appointed to serve for a period of three years in each case.

The remainder of the Annual Report of Council under heading "Naval and Military," and the Supplementary Report of Council under the same heading were approved.

SCOTLAND.

Dr. Buist, in the absence of the Chairman of the Scottish Committee, moved that the Annual Report of Council under heading "Scotland" be approved, and this was agreed to.

IRELAND.

On the Motion of Dr. Darling the Annual Report of Council under heading "Ireland," and the Supplementary Report under the same heading were approved.

BRANCHES OUTSIDE THE UNITED KINGDOM.

On the motion of the Chairman of Representative Meetings, the Annual Report of Council under heading "Branches Outside the United Kingdom," was approved.

INSTITUTION OF POST-GRADUATE COURSES AND OF DIPLOMA IN PSYCHOLOGY.

Dr. D. G. Thomson (Mid-Norfolk) moved that the following paragraph of the Report of Council be referred back for further consideration:

> The Council has considered the following resolution of the Section of Psychological Medicine and Neurology:
>
> > That this meeting of the Section of Psychological Medicine and Neurology assembled at the Annual Meeting of the British Medical Association in London, 1910, believing that it would tend to advance our knowledge of the pathology and treatment of mental diseases, strongly approves of and recommends the institution of a post-graduate course of curriculum and a diploma in Psychology, and further that this Resolution be brought before the Council of the British Medical Association.
>
> The Council concurs in the opinion of the Section of Pyschological Medicine concerning the desirability of the institution of post-graduate courses in Psychology and Neurology, but regards the institution of any special diploma in these subjects as unnecessary and inadvisable.

The Council had approved of the post-graduate training part of the Resolution, but not of the granting of a diploma after training. The only argument that he had heard urged against the granting of a diploma, either by the Medico-Psychological Association or any other body that had considered the matter, was that there should be no multiplication of diplomas. He agreed with this in a general way, but he contended that the present subject was an exception. Since the Resolution was sent from the Section to the Council several of the universities had established a post-graduate training in psychiatry, and instituted a diploma. The movement was therefore going on, and he hoped that the matter would be referred back to the Council.

Dr. Langdon-Down (Richmond), who seconded, pointed out that since the Report was made a special Lunacy Subcommittee had been appointed, which would be qualified to draw up a Report and present it to the Council,

The meeting agreed that the paragraph should be referred back.

TIME PROGRAMME OF REPRESENTATIVE MEETINGS.

On the Motion of Dr. Goodall (City) the following Rider was adopted:

> That it be referred to the Council to consider and report upon the time programme of the Representative Body, and especially upon the question of the interference with business caused by the official religious services, the week-end excursions, and other social arrangements.

GENERAL APPROVAL OF REPORTS OF COUNCIL.

The Chairman of Representative Meetings moved that, subject to the Amendments and Resolutions adopted by the meeting with reference thereto, the Annual Report of Council be approved as a whole.

This was agreed to.

At this stage the proceedings were adjourned in order to enable Representatives to attend the Church Services.

CARE OF THE FEEBLE-MINDED.

When the meeting was resumed, the Chairman of Representative Meetings said a notice of motion had been received from Sir Victor Horsley, seconded by Dr. Flemming, as a Rider in respect of a portion of the Council's Report to the effect—

> That in regard to the Report on the subject of the care and control of the feeble-minded the Council be empowered to take action on behalf of the Association in respect of the proposals of the Manchester and Salford Division.

The Rider was put to the meeting and agreed to.

COMMITTEES.

The Chairman of Representative Meetings announced the result of the elections as follows:

Organization Committee: Mr. Russell Coombe, Dr. Garstang, Dr. Metcalfe.
Central Ethical Committee: Dr. Bateman, Dr. Bruce Goff, Dr. Keay, Dr. Langdon-Down, Dr. Neal, and Mr. Straton.
Medico-Political Committee: Dr. Dewar, Dr. Fothergill, Mr. Greer, Dr. Wallace Henry, Dr. Taylor, and Dr. Todd.
Public Health Committee: Dr. Cameron, Dr. Lyster, and Dr. Pringle.

(The result of the election of the Finance, Journal, Hospitals, Naval and Military, and Colonial Committees was reported in the Supplement of July 29th, p. 228.)

VOTE OF THANKS TO LOCAL COMMITTEE.

The Chairman of Council said that he had the very greatest pleasure in proposing:

> That the best thanks of the meeting be tendered to the Local Committee for the arrangements they have made for the comfort and entertainment of the Representative Body.

A good Executive Committee at headquarters could make things very comfortable for the Representatives and certainly the Committee at Birmingham had made things very comfortable.

Mr. Verrall said that he had the greatest possible pleasure in seconding the motion.

The Chairman of Representative Meetings wished to add his tribute to what had fallen from the Chairman of Council and Mr. Verrall.

Dr. J. Neal (Birmingham Central) briefly returned thanks on behalf of the Local Committee.

VOTE OF THANKS TO CHAIRMAN.

Dr. Treasure (Cardiff) moved a vote of thanks to the Chairman of Representative Meetings for his able conduct in the chair, and desired to acknowledge the unfailing tact and courtesy with which he had dealt with the proceedings and the geniality he had displayed in the discharge of his onerous and, at some times, very exacting duties. The Chairman had passed through the ordeal with infinite credit, and the success of the meeting was due to him.

Dr. Keay (Greenwich), in seconding, paid a tribute to the unwearying and self-denying labour which Dr. Maclean had undertaken for the good of his profession. It was not merely for the good of the Association, but for the medical profession wherever they were.

The Motion was carried by acclamation, the members rising in their places and cheering loudly.

The Chairman of Representative Meetings, in response, said he was sure Members present would believe him when he said that the present was one of the proudest moments in his life. He would not deny that the work at times had been extremely exacting and extremely anxious, and it had required a very strenuous effort on his part very often to get through it. But he felt that he had been supported by the good-will of the members of the committees and of the members of the Representative Body in carrying out his duties. He was very deeply grateful for the kind award of thanks which they had just given. In that connexion he thought it was only fitting that he should refer the Representative Meeting to the point that the success attained—and there had been

a very marked measure of success—was due not to himself or the Chairmen of Committees only. That was, of course, a very important factor; but it was not the basic factor, and he said to the meeting that it would not have been obtained if it had not been for the unwearying devotion and loyalty of the Medical Secretary and his staff. (Loud applause.) He (Dr. Maclean) said advisedly "and his staff." (Renewed applause.) He was sure the Medical Secretary would be the first to mention that fact in close connexion with his own efforts. Time after time the Chairman of Council and he (Dr. Maclean) had remarked to each other the sense of devotion to the cause of the profession which permeated the whole of the staff at head quarters, and it was absolutely extraordinary. (Renewed applause.) It was not only the Medical Secretary, but the Financial Secretary, the Editor, and all their staff, from the highest down to the office-boy—every one of them. They were conscious that they were fighting with success in view. He repeated that the success the meeting had obtained, and the success the Association was going to obtain, were referable in a very large measure to the devotion shown.

The proceedings then terminated.

ADJOURNED ANNUAL GENERAL MEETING.

ADDRESS IN SURGERY.

MR. JORDAN LLOYD, M.S., F.R.C.S., Surgeon, Queen's Hospital, Birmingham, delivered the Address in Surgery at the Midland Institute on Thursday, July 27th. Professor SAUNDBY (the President) occupied the chair. The address was published in the BRITISH MEDICAL JOURNAL, July 29th (p. 206).

At the conclusion of the address, Dr. MACDONALD (Chairman of Council) tendered the apologies of the President and Lord Ilkeston, who had been obliged to leave before the conclusion of the address by reason of having to attend another meeting in an official capacity.

Mr. C. J. BOND (Leicester) said he esteemed it a great privilege, and it gave him great pleasure, to propose a very hearty vote of thanks to Mr. Jordan Lloyd for his excellent address. In listening to the long list of the services which distinguished surgeons of Birmingham had rendered to surgery in the past, one could not help feeling that there need be no detraction from the admiration of those services because the conclusions at which they had arrived had to be revised in the light of more recent knowledge. The subsequent light which caused revision of those conclusions was of two kinds: First, the increased growth of pathological knowledge—and it was as they improved their pathological knowledge that they became really great surgeons; and, secondly, the absolute adherence that must be always given to the truth, especially in that mass of operative work to which Mr. Jordan Lloyd had alluded as experimental surgery. It was only as adherence was given most successfully to the truth in attitude of mind, in results, and in recording results in order to prevent posterity falling into error, that the study of experimental surgery would be advanced. The address which they had just listened to had been full of ripe experience and of wise advice, not only to them as surgeons, but as men and women; and he was sure from what they knew of Mr. Jordan Lloyd's work, and what they knew of his character, that the position of surgery in Birmingham was safe in his hands. He had the greatest pleasure in moving a very hearty vote of thanks to Mr. Jordan Lloyd for his wise and weighty address. (Loud applause.)

Mr. SPENCER (London) said that when Mr. Jordan Lloyd spoke to him yesterday the first phrase he used was, "Do not attend the Address in Surgery." His reply was, "I am quite certain that that is the one thing I am going to attend," and he said so for the reason that he was sure it would be of high originality and given by a native of a town distinguished for the highly sceptic attitude which it had towards the advance of knowledge. To walk round the town and see, for instance, the number of churches and the number of political halls in which it was necessary, at any rate, to come to political agreement showed that the atmosphere of the town was one of high scepticism. (Laughter.) A statue outside to Priestley commemorated one of the famous men of the eighteenth century, and one of the leaders through whom ultimately, owing to his contributions to the advancement of chemistry, anaesthetics were arrived at. Mr. Jordan Lloyd had mentioned Lawson Tait, a statue of whom, no doubt, when the Association again met in Birmingham, would be found added to the statues of other distinguished persons which had been set up in Birmingham. It was to be hoped that that would be so. If Lawson Tait's life had not been fully brought to the notice of the profession it would be well for some distinguished surgeon in Birmingham to collect its details and to put on record the life of Lawson Tait. That would do away with a great deal of harmful tradition, and clear away the dross and let the merits of that life shine out to posterity. Mr. Jordan Lloyd had mentioned many points with regard to present times as to which people might differ. There was the great point, for instance, whether patients should be brought into hospitals at enormous expense or whether some surgery in which minor conditions were involved might not be performed in the patient's own home or in hospitals near the patient's abode. Mr. Jordan Lloyd had also referred to the question of exploration and surgical experiment, and had mentioned such questions as the newer proposals for aneurysm, for the exploration of the chest in injuries, and other matters which were floating in the minds of surgeons. The whole address would bear the most careful scrutiny and reading, the later parts as well as the earlier.

Dr. MACDONALD put the Motion that:

> The best thanks of the Association be accorded to Professor Jordan Lloyd for his able and instructive Address in Surgery delivered before the Association in Birmingham on the occasion of the Seventy-ninth Annual Meeting.

The Motion was carried with acclamation.

Mr. JORDAN LLOYD, in response, thanked those present for the patient way they had listened to him. Their silence had given him enthusiasm, but he hoped he had not become too enthusiastic over his subject. If he had, it must be put down to an inborn and inbred fault of his own. For himself, he was a great lover of the enthusiastic. He liked enthusiasm in all things. He had no desire, and it was not his intention, to endeavour to foist upon his audience as true, statements he might make through his making them as enthusiastically as he could. He had endeavoured to do the best he could, and was very grateful for the way in which his address had been received, and he was particularly grateful to his friends, Mr. Bond and Mr. Spencer, for the kindly words with which they had proposed and seconded the vote of thanks. (Applause.)

ANNUAL DINNER.

THE Annual Dinner of the British Medical Association was held at the Grand Hotel, Birmingham, on July 27th. Some 250 guests were present, among them being the Lord Bishop of Birmingham, Mr. Neville Chamberlain, Mr. J. T. Middlemore, M.P., and the Lord Mayor of Birmingham.

The toasts of "His Majesty the King" and "The Queen, Queen Alexandra, the Prince of Wales, and other members of the Royal Family," were proposed by the PRESIDENT.

The British Medical Association,

The BISHOP OF BIRMINGHAM said: Mr. President, my Lord Mayor, Ladies and Gentlemen—and may I be allowed to express my satisfaction at having the opportunity of saying "ladies and gentlemen"—if you are like me at this time of the year, you will be sufficiently tired of talking to look forward with no little satisfaction to the month which may be called "the blessed month of silence"—for all of us except the politicians. But, as we have not yet entirely reached August, we are not yet entitled to keep silence, and under these circumstances it is to me a very great pleasure and a very great honour to be allowed to propose the toast of this wonderful Association. It was wonderful indeed in its original inception. I believe originally the British Medical Association was intended purely to serve the interests and to promote the progress of medical science, but the exigencies of the situation have required that it should come now to devote an appreciable part of its energies to protecting

the interests and the position of the medical profession. I think this is a point of view from which the clergy and the doctors ought to be able to sympathize with one another. To both of our professions there are entrusted elements of human interest which we believe to be the profoundest and deepest elements in human life, but we are both of us subject to a great deal of public criticism. I notice that it was complained by a speaker in one of your discussions that the State distrusted the doctors. The clergy often say the same thing. (Laughter.) We ought, I say, to sympathize with one another for this reason, that we both have to assume the disagreeable part of maintaining the interests of our profession when both professions profoundly believe what they ought to do is to maintain the deepest interests of the nation and the humanity which we desire to serve. So, I venture to think, there ought to be from this point of view a great deal of sympathy between the clerical and medical professions, and for my part, speaking as a clergyman, I trust that I shall never be slow to express, as I am certainly not slow to feel, the profoundest reverence for the great profession which you gentlemen represent. I do not know whether I may say that it has always been a certain grief to me that there was a particular sentence in the Old Testament which appeared to speak disparagingly of the medical profession. It is in Ecclesiasticus, and the sentence runs: "He that sinneth against his Maker shall fall into the hands of the physician"—(laughter)—which clearly implies that that was one of the greatest misfortunes which could befall a man. You will be very glad to hear that the original Hebrew book of the Ecclesiasticus has recently been discovered, and that it entirely clears up that mistake, because it now runs: "He that sinneth against his Maker will behave arrogantly before his physician"—(renewed laughter)—implying, as you see, that depth of insolence to your profession to which it can be supposed that human nature will sink. I trust that our profession will in its own way be always conspicuous in serving the interests of yours, but at the same time I regret to observe a suggestion which I read in the newspapers to-day that it should be demanded of us and of ministers of all sorts and kinds in England that we should have a Health Sunday. I regret that suggestion, and I hope the demand will not be made, partly because, if I may say so, I rather distrust the capacity of my cloth to deal with the subject if we were let loose for a whole Sunday, and partly also because, as you would know if you were in my position, there are such abundant claims made upon us for special Sundays, that I feel quite sure very shortly we shall have to make claim to one religious Sunday in the year. (Laughter.) Speaking quite seriously, I do desire from my heart to wish, as well as to propose, the health, in the deepest sense of the word, of the profession which is making so gallant and world-wide a fight against disease. I am sure that we of the general public need a most thorough awakening to the fact that the highest view of disease is to treat it as an enemy which invades human life, and which can be, and ought to be, repulsed. If that is not the whole truth, it is a very large part of it, and I think it requires a little effort of thought to realize how great a transformation in the attitude of the great mass of men and women is required if we are to get rid of that most disastrous acquiescence in disease which pervades almost all strata of human society and almost all nations. We clergy constantly go into houses where some one has died, and we are told in a phrase that is intended to be pious that it has "pleased God to take" So-and-so. We may know something about the case; we may know that the man died because he had totally misused his vital powers through drunkenness, or whatever it may have been, so that it would be much truer to say, "It pleased him to take himself out of human life." Or it may have been that we allowed him to be born, and to be brought up, and to work under conditions which made healthy human life impossible; so that it would be truer to say, "It pleased us to send him off." There are some old words which always live in my memory as being profoundly true: "Never did any human misery arise of itself." That is a profoundly true sentiment. I believe that there is nothing which is actually of greater importance than that we should awake the conscience of man to the fact that the great mass of disease which weakens and degrades human life is evitable—is to be resisted, and can be put down. There is only one other thing I would venture to say. I think there is nothing of more urgent importance for our general view of human life, and for the application of the various sciences which make up the great healing art in human life, than that we should know with something more of accuracy what is due to nature and what is due to nurture. I think it is distressing when, with my outside sort of ignorance, I attempt to study books which deal with this sort of subject, to find how very little at the present moment we appear accurately to know as to the relative position of heredity and surroundings. I do think that we want great application of the human mind—especially of the human mind of those whom this great Association represents—to give us ordinary people, or social reformers, a greater and clearer lead on this most momentous subject. I suppose there are in this, as in other matters, extremes which are to be avoided. I sometimes have read an interesting journal called the *Mendelian* which cannot be accused of moderation on this subject. Its view of your profession is, I think, precisely Clough's representation of the Sixth Commandment—"Thou shalt not kill, but need'st not strive furiously to keep alive." I think that represents and does not parody the view of the *Mendelian* of what is to be expected of your profession. Still I deprecate that view. I trust the noble and heroic determination to keep alive every human being as long as you possibly can will be maintained as the aspiration and the intention of your profession. But without going to extremes, or, indeed without going at all into the region which trenches upon extremes, I fancy we can all, without further investigation, see clearly enough to demand that public opinion should be awakened sufficiently to produce speedily and without delay upon the Statute Books a law which shall embody what I believe are the conclusions of all the Commissions with regard to the treatment of the feeble-minded, and I can conceive really nothing in social legislation which is more peremptory and more ripe for immediate attention. (Applause.) Ladies and gentlemen, I believe that your Association was early and from its beginning centred in Birmingham. I believe it has gone on from the time of its existence down to this day in a career of constantly growing influence and usefulness. I suppose that this power and influence have never been more conspicuous than at this moment, and, speaking as a citizen of Birmingham—and I do not know that we are particularly conspicuous for any exaggerated sort of humility here (laughter)—I am delighted that you should have seen fit at this great moment in your history to come back to your cradle to renew your strength, and, speaking for Birmingham, I think that nothing could be assigned to me which would give me greater satisfaction, or which I should feel a greater honour, than to have the privilege which is now entrusted to me of proposing the toast, which in its deepest meaning is of such importance, of "The British Medical Association," which I do indeed propose with the heartiest feeling of goodwill, and I associate with it the name of Dr. Ewen J. Maclean. I beg to propose the toast of "The British Medical Association." (Loud applause.)

Dr. EWEN J. MACLEAN: Mr. President, my Lord Bishop, my Lord Mayor, Ladies and Gentlemen,—I desire to express to the Lord Bishop, on behalf of the Association, our deep indebtedness for the very kind, glowing, hearty references he has made to our Association. I thank him in particular for what I venture to term the text of his address, which, if I understand it aright, I take to be, "He who behaveth arrogantly before his physician sinneth against the law." I hope I have not inadvertently transposed the sentence, but I think, having such a text treated by so high an authority, we may face our round of duties at home with a renewed hope and vigour. I thank the Lord Bishop, too, for that high conception of the duties of our profession and our Association, and which in glowing and eloquent terms he has put before us. I take it that we are all apt to come to earth even in that exalted profession of which the Lord Bishop is so distinguished an ornament. We have to come to earth by meeting the commonplace, and, indeed, we have as an Association and as a profession been sharply reminded of late that we have to cease star-gazing, and look to it to defend the very essentials of existence. It takes, we are told, a declaration of war

to demonstrate to the nation that there is such a thing as an army, and it has taken a crisis of no uncommon kind to demonstrate to the nation that there is such a thing as the British Medical Association. (Applause.) Indeed it has come as a surprise to many members of the profession that we exist in the form in which we at present do exist. It has been said that an illustrious statesman made a great mistake when he forgot Goschen, and I fancy certain of the powers that be have made something, at all events, of a mistake in tactics in that they have forgotten the British Medical Association. (Applause.) When I refer to the present form of our Association I mean more particularly to suggest a comparison with so short a time as eight or nine years ago when we were practically formless and void; there were certain minds which had insight and foresight and recognized, under conditions of great difficulty, the form and the possibilities of the mechanism of our great Association. I am glad to say that those men are still with us. We have men with us still who formed practically the larger part of that reformation committee. When I mention such names as Horsley, Macdonald, Cox, and last but not least, Smith Whitaker (applause), then you will believe me when I say that these men are the men who laboured, and we are to-day entering into their labours. They are not aged seers. They are like another distinguished character in another sphere, "still running," and still going stronger, if possible, than ever. My Lord Bishop referred to the fact that this locality is intimately connected with the development and origin of our Association. That is perfectly correct. Our Association first saw the light in a small house in the city of Worcester in the year 1832. It had then a membership of 50. To-day, eighty years later, we have a membership of 25,000. The increase in the course of years of something like 500 per cent. in respect of a going concern is, I think, a proposition that even greater Birmingham may take a note of. But, indeed, Birmingham, whether in its earlier stages or in its later developments, has been intimately associated with the Association, as is shown by the one fact that five times our annual meeting has been held in this great city at an average interval of twenty years. Birmingham has contributed to the Association some magnificent men. While Sir Willoughby Wade was one of our champions years ago, we have with us to-night Lord Ilkeston; and need I mention our popular President for the year, Professor Saundby? (Applause.) We take this opportunity as an Association of wishing him happiness and success in that office in this most critical year of our existence. I am sure, too, that this meeting will not permit me to pass on without mentioning the name of the man who has done great things for us, and that is Langley Browne. (Applause.) The Association to-day is faced with a problem more urgent and important than has ever occurred in its history. I refer to the scheme which is set forth in the bill which has been introduced and in part debated before the House of Commons. The Association has by resolution affirmed and reaffirmed that in its opinion the objective of that bill is desirable and is beneficent, but on examination we find that under the conditions of the bill the profession is asked to bear the weight of the scheme—the profession is asked to be the Atlas of the whole scheme—and if the conditions are not such as to enable the profession to do its duties properly, having regard to its responsibilities to itself and the nation, then the scheme as a whole breaks down. Our policy has been directed to securing such conditions as will ensure that we shall have a fair chance to sustain our own self-respect and reputation, and to serve our country after the fashion and in the degrce that we have the right to expect we should be permitted to do. We have had great difficulties to contend with. We have, for the first time as a united body, come in contact with the great political machine of the country. The sense of newness in respect of that machine has, in the mind of some of us, comparatively worn off. We have nevertheless learnt to be very cautious, and only to believe that we have things when we hold them. We have had to resist certain suggestions, or more than suggestions, from various quarters. We have steadily kept to the line of our policy. We have resisted suggestions which would have the effect of either embarrassing or supporting the Government of the day. We have steadily conceived it to be our duty to listen to none of these things, and to stick to what we conceive to be our duty in respect of the profession represent, and I am bound to say that we have ma substantial progress. I am in a position to-night to s that progress is hourly being advanced, and I doubt n that if we are united and if we stand together as common sense we should and as we are implored, not on by the various medical bodies, but as we are implored the various lay bodies in the country to do—if we w only stand together and insist upon the granting of o reasonable demands, the time I do believe will come wh we shall be able to enter upon our duties upon such co ditions and under such terms as will enable us to do o part as doctors and as citizens of this great countr (Enthusiastic applause.)

The City of Birmingham.

Mr. L. S. AMERY, M.P., said: Mr. President, my Lord Ladies and Gentlemen,—In proposing the toast of th great city of Birmingham, I do not propose to make lengthy speech in any sense commensurate with th greatness of the city. I remember some years ag attending a lunch at a certain city in the far north-west Canada, on which occasion I listened to a speech of ov an hour's duration on the past, present, and future of th city from its oldest and most prominent inhabitant. might mention that the city was two years old, and hope soon to reach three figures in respect of populatio (Laughter.) If I made my speech in respect Birmingham on anything of that scale, I should be guil not only of arrogance towards my physicians but intolerable cruelty, which I fancy would be soon cut sho by some resourceful anaesthetist. I will therefore spa you any account of the great industries of this city, of i great university, of its public buildings, or of its municip life. If I know anything of the city and its authoriti I fancy that task has already been done for me. Nor w I say anything to you about the great past of Birminghar But it is difficult to speak about Birmingham to an audience without some allusion at least to one who ma be called the second founder of the city—I mean M Chamberlain. (Applause.) I venture to think that suc an allusion is all the more appropriate in addressing a audience of medical men when we remember what ha been done both here in Birmingham and in the wor outside for the advancement of medical science and publ health by Mr. Chamberlain. I am referring not only his work in the reconstruction of this city, but to h work in the foundation of the university here. I kno most of you will have in mind the help that his insigh his zeal, and his generosity have given in the past to th study of tropical disease. We meet at a time when th question both of public health and of the positio of the great medical profession is before the countr more than at any other time. I will not ente into any discussion of that great and bulky measure whic is before the House of Commons. Nearly as it concern many here, it concerns the poor long-suffering member Parliament more, and I have to look forward to man weeks of study of the measure. I know from what ha just fallen from the last speaker's lips that there has bee a strong feeling in the medical profession about the effe of that measure upon themselves. I think there are man too, in your profession who doubt whether the particul way in which the problem has been attacked is the mo scientific method of dealing with this great question public health. Many doubt whether the motto of doctorin in abundance on the "cheap" is the right solution of th problem. But whatever else happens, this bill has th immense value of bringing this problem before the countr and the profession. What we have to face is that publ opinion is now realizing that the question of health is n an individual, but a national and public question; that th life of the individual affects the health of his fellow countryman, and is in turn affected by the healt of his fellow men and the environment in which h lives. That brings home to the medical professio the great task upon which they are engaged, an forces the Association to consider how the takin up of this national duty in co-operation with th State can be done without lowering the standard ideals of the profession as they are held before us. (Hea hear.) It also means a work not only for the nation authorities, but for the civic authorities throughout th

country—a work in which this city has played a prominent part. I believe the question of bricks and mortar has been discussed at some of your conferences in connexion with the question of sanatoriums. There is, however, another question of bricks and mortar perhaps even more important than the question of building sanatoriums—I mean the question of bricks and mortar to make decent homes for the people of this country; the question of preventing evils rather than curing them. I need not follow the Bishop of Birmingham in the eloquent words with which he emphasized the need for public action to deal with the question of the feeble-minded, nor need I follow him into that debatable ground as to how much illness can be dealt with by improving the environment in which our people live, and how much is due to hereditary causes which can be only dealt with in other ways. At any rate we say this: If you eliminate one factor and if you put the environment of our citizens on a healthy plane, you will be in a much better position to deal effectively with the other. As I said, Birmingham has played a leading part in this country in the past. She is now called upon to play an even greater part in the future. She has become a city greater in population than any other in this country with the one exception of the metropolis. She has taken to herself in a confident and broad spirit a mighty task, and in that task I venture to think Birmingham will not fail. It is indeed a great task when you consider what the responsibility is which is entrusted to the men who have the government of this great city. In this year we have had as visitors amongst us the Prime Ministers of the great dominions beyond the seas. It is interesting to remember that Birmingham counts as many people, or greater Birmingham will count as many people almost as the people of New Zealand, and three or four times as many as the people of the oldest colony, Newfoundland. It means the work is a great and national one that lies before those who deal with the government of Birmingham and for those who are under the benignant and beneficent sway of the Lord Mayor here, to whom I look with peculiar feelings of affection and gratitude, because it was he who, in his official capacity, had the task of first declaring me Member of Parliament for this great city, and in gratitude for that I shall always look with pleasure and gratitude upon my Lord Mayor, and hope that his own prosperity will continue, that his shadow will not grow less, and that he will remain great just as Birmingham will ever remain great. (Laughter and applause.)

The LORD MAYOR, responding, said: Mr. President, Ladies and Gentlemen,—When I came into the room and sat down, I noticed, to my more or less surprise, that I was down to speak. I did not ask the President how it was I had not been told beforehand. I asked him that a few days ago on another occasion. He told me a little tale about a Lord O'Hagan, who complained to the chairman at a dinner, when he was called upon to respond to "The House of Lords," that he had not been told beforehand. The chairman said: "Well, if we told the speakers beforehand, they would go on all night." I presume that was in his mind about me. I was in this room a little while ago at a dinner, and a speaker, who saw his name on the list, said: "What on earth shall I speak about?" and I said: "Speak about three minutes." (Laughter.) Mr. Amery spoke about greater Birmingham, and the great changes which that accession of area and population would bring about in the administration of public affairs. We are equal to the demands made upon us. I attended a committee the other day, and there was a proposal to appoint three new medical officers to the city, and then they followed with a resolution to provide a new cemetery. (Laughter.) I am not saying it was cause and effect. (Renewed laughter.) Birmingham, I think, has held its own in regard to medical education. Many great changes have taken place in your profession since the Medical Act of 1858. Birmingham has done more than its share in the direction of helping ladies and gentlemen preparing to enter your profession to obtain proper education. In the old days we had the Sydenham College, and about the time of the passing of that Act, thanks to Mr. Cox, Queen's College, with the School of Medicine, was established in this city. Later it was transferred to the Mason University College, and for some years it has been one of the leading faculties of the Birmingham University. This university holds examinations and grants degrees, degrees that we claim—and I do not think we are particularly boastful in so claiming—hold their own in comparison with those of any other degree-granting bodies. I was on the committee of our infirmary, and going round the wards it was my duty to see if any of the patients had complaints. I saw a patient—an old lady—in a bed, and I was told that hers was a very interesting case. I quite know it means interesting to doctors, and not to the patients. The physician had got some ten or twelve students with him round this bed, and was talking to them. I was passing round, when the poor patient looked somewhat inquiringly at me, and I said, "Have you any complaints?" She said, "I wish you would send this lot of doctors away." I said, "Why?" She said, "There are so many, you know. I should prefer to die what you might call a natural death." (Renewed laughter.) I was once present when a little operation was about to be performed, and there was one of your profession there who would be called by Mr. Amery an anaesthetist, but the patient called him an "amethyst." That was Dr. McCardie, and, as Lord Ilkeston whispers to me, he is a jewel in any case. (Laughter.) The anaesthetist said to the patient, who exhibited some little signs of nervousness, "Do not worry or trouble. You will know nothing of what we are doing." He said, "Shan't I?" Then he pulled his purse out and began fumbling with his money, and the doctors said, "You can give us the fee afterwards." He said, "No, if I don't know what you are going to do, I will count my money first." (Laughter.) Not only at our medical schools do we try to give instruction to the medical students, but in our elementary schools we try to teach them enough to carry out your directions. We were a few days ago examining a class to see that instruction had been efficiently given. We said to one bright boy, "What is the spine?" He said, "It is a chain of bones running up and down your back. Your head sits on one end and you sit on the other." (Renewed laughter.) I was on the Bench a few months ago, and a woman had summoned her husband for assault. I said, "Well, did he knock you about much?" She said, "Yes, sir; he struck me on the head, and I have had disciples in it." Of course, you never smile when you are on the Bench, and I said, "Oh, have you been to the doctor?" She said, "Yes, here is his note." When I saw it I found that "disciples" really meant "erysipelas." (Laughter.) I sometimes think doctors might be more explicit in directions to the patients and the patients' friends. I well remember the case of one leading doctor who told a poor woman whose husband was very ill with some cardiac affection, "Now you must give him this medicine in a recumbent posture." When he had gone she went to a neighbour and asked if she could lend her a recumbent posture. The neighbour said, "I have not got one. I have not had an illness in our house for years, but if you go to the schoolmaster's wife, she used to be a nurse, and perhaps she will have one." When she went to this so-called old nurse and asked for a recumbent posture, she said, "Well, I used to have one, but I lent it so many times that they broke the handle off, but I have an old mug if that will do." (Laughter.) That only goes to show how careful you should be. You should suffer fools gladly, and speak according to the intelligence of the patient's friends. I wish to thank Mr. Amery for the kind words he spoke of Birmingham. I trust that it will continue to deserve the eulogistic terms he used. Your President and our esteemed citizen, Professor Saundby—(Hear, hear)—tells me that thirty-five years ago he had heard so much of Birmingham as a school for medicine that he came down to fill the post of pathologist at our General Hospital, and thought he would come for twelve months for the learning he could get, and then he would go elsewhere to use it. He has been here for thirty-three years, and I think his example will tempt other men to come here. We are all pleased to see Lord Ilkeston in his old home of Birmingham. There are many changes brought about by the whirligig of time. I knew a time when Lord Ilkeston was one of the highest and most esteemed of the medical profession, and now he is a lord. (Laughter.) I do not know whether we ought to congratulate him or condole with him, but, whichever of the two he would like the better, we will extend to him, at any rate, our welcome, and we are honoured by his visit. I can only repeat how pleased the City of Birmingham has been that you

have favoured us with this visit at this conference, and I hope you have had opportunities for social conference, and that time for recreation and pleasure which so seldom falls to the lot of a busy doctor. (Loud applause.)

The Guests.

Professor BARLING said: Mr. President, my Lord, Ladies and Gentlemen,—I know no more agreeable task that could be imposed upon any one than that which has fallen to me. It is not only that I feel personally honoured by being asked to propose the toast of "Our Guests," but apart from the honour it is a very great pleasure to undertake this task. We have amongst our guests to-night some old friends and some new ones, and we give the most sincere welcome to both classes, and we hope eventually that we shall call our new friends also our old ones. Some of our guests have already, we hope, realized by our welcome at the University how very greatly we appreciate their presence, and that we wish to do them honour. We wish to acknowledge not only their own eminence and the great work they have done, but as some of them come from foreign countries, some from the United States, and some from the Dominions beyond the seas, we hope they will tell their friends at home that in giving them honorary degrees we do so not only to honour them personally but with the heartiest good feeling towards those nationalities whom they represent. Mr. President, the lengthy list of guests makes it impossible that I should refer to every one of them individually, and if there are some names I do not mention they must not take it that we have them not in our memory and that we are not extremely glad to see them. But there are a few I must mention personally. That I should say anything to welcome the Lord Mayor to Birmingham I am sure in your opinion is quite unnecessary. If he had done nothing else but speak to us to-night as he has done, we should say he is the best of good fellows. (Applause.) When it was first proposed to hold this meeting in Birmingham, we approached him for his assistance to make our meeting a success, and I need hardly say that he promised to do everything in his power, and he has more than kept his word. (Applause.) He and the Lady Mayoress have entered into the work of our committees in the most ardent spirit. They have given us their assistance, and those of you who were at the Council house last night know how graciously they received us in their municipal home, and for that we thank them most warmly. (Applause.) The Lord Mayor of Birmingham is in his second year of office, and if I were a prophet I should say we should have him here for another year, and we hope he will have health and strength to carry through the very arduous duties of his office for a third year. Now I am in a little difficulty because amongst the list of guests given me is Lord Ilkeston. I thought he was one of ourselves; but whether he is one of ourselves or is a guest we welcome him back very warmly indeed to this old centre of his activities. There are some doctors who go to the House of Commons who, whatever their success as politicians may be, were not perhaps distinguished as doctors; but I can say this of Lord Ilkeston, that he was a great physician before he became a politician. He has successfully combined the two characters, and there is only one regret we have, and that is that he is no longer in the House of Commons. I know what passes through some of your minds. You may have heard that there will be a number of peers created. Well, if the flood comes, Lord Ilkeston was there before the flood. Like Noah he will be there, but he was there before. But that is not the reason that we regret he is in the House of Lords. We all regret he is not in the House of Commons, because we know he is a statesman and would have held statesmanlike views upon the bill which interests us more than anything else at the present time. He has that practical acquaintance with the affairs of medical life which would have made him a tower of strength in supporting what we regard as our just demands. I do not know what the House of Lords, if there is one, will do with the Insurance Bill when it comes to them, but we look to him, at all events, to guide their debates, to strengthen the bill where it wants strengthening and to see that justice is done to us. Then we have as guests the Lord Bishop of Birmingham and Sir Oliver Lodge. (Applause.) You may say why do I not take them separately. It is for this reason: in my opinion, by different roads they have arrived, I am sure, at very much the same point upon many subjects which interest us deeply. My Lord Bishop and Sir Oliver Lodge, we may not always agree with you, and if we differ from you we are probably wrong.

Sir OLIVER LODGE: I hope so. (Laughter.)

Professor BARLING: We respect you highly for your lofty ideals, for your devotion to the welfare of the public at large, and for the self-sacrificing spirit in which you have given yourselves to your duties. We welcome Sir John Holder, not only as a personal friend, but those of us who are interested in hospital life in Birmingham know it was due to him that we have such a magnificent hospital as the General Hospital, in which some of us are so proud to work. There are various ways of promoting a thing, but he did it in two ways: he helped us most generously with his purse—very few knew how generously—and he did more than that—he gave that strenuous personal assistance which made the thing a success. (Applause.) I have only now to mention some other names which I cannot possibly pass over. There is Professor Strassmann of Berlin, whom we welcome for himself as a great gynaecologist and obstetrician. We welcome him not only for his work, but for his own personality which is so charming, and we welcome him as representing the other great Anglo-Saxon community of Germany. (Applause.) We have our little differences, but we hope they may pass over, and that we may always have the most cordial relations with that country in which we see so much to admire, and I think to imitate. We have with us also Mr. Middlemore, one of our members of Parliament. It must be known to some of you that Mr. Middlemore is the nephew of the founder of the Middlemore Prize which was given the other night at the meeting when the President gave his address. He has been associated with Birmingham greatly to the advantage of Birmingham, and especially to the advantage of its art gallery here. We welcome him as the member of Parliament for the City and we admire the strenuous way in which he discharges his duties. He has taken a great interest in the affairs of the navy of this country—the navy which we do not perhaps talk about much among ourselves, but which we regard with deepest affection as our great protector, and which enables us to carry on our lives in peace, and we insist with him that it shall be capable of carrying out its great duties. (Applause.) As I have said, the other guests are so numerous that I cannot mention them all; but I hope they will feel we welcome their presence at our table to-night in the warmest possible manner. We are gratified with their presence at our meetings, and we welcome also the assistance they have given us in our discussions. The toast is "The Guests," and I couple with that the name of Professor Strassmann and Mr. Middlemore. (Applause.)

Professor STRASSMANN: Mr. President, my Lord Mayor, Ladies and Gentlemen, and Colleagues of the British Medical Association,—I feel deeply honoured by the privilege which I have of answering the toast in the name of the foreign guests, and I must apologize that perhaps in my answer you hear a foreign accent. I hope I can give, despite the accent, from my heart all the hearty thanks and wishes I feel. (Applause.) Whoever comes over to Great Britain knows that he finds there hospitality, but nobody knows what a hospitality it is or how to find words for it. We have first the hospitality in the houses of our friends here. It has been quite impossible for me to spend more than a sovereign since I have been here. I know the English proverb, "An Englishman's house is his castle," but it is not a true one, for these houses are palaces for the foreigners. Then I find your houses are full of flowers and you have your beautiful garden, which I am sorry to say we miss very much in the desert city of Berlin. I did not expect to find such beautiful flowers as you have in your gardens, and I shall never forget them. How can we return thanks for the reception and the museum we found in the Mansion House, surrounded by the pictures of Burne-Jones and by the old china from Worcester and of Wedgwood which we collect? Coming over here from a foreign country, a man will not only study your medicine, but he will learn something about English life. The English life with the wise division between work and rest should

be an example to all other nations not to work too much—(laughter)—but to play and win nervous and mental force by playing in fresh air and having a sense of freedom that must be admired, not only by a foreigner but all doctors who come here. I think a foreign country could never be learnt and recognized through a newspaper. If one only reads newspapers, whilst one gets news quickly one does not get a deep knowledge. There are other things from which the life of the nation must be learnt. I confess I learnt in the last two years much of your life out of three volumes. They were the *Letters of Queen Victoria*, which I have read from the first letter to the last. In those lines I found the common sense of the English nation often spoken. This is not my first visit to Birmingham. I came as a post-graduate in 1892 to see some work done by Lawson Tait, and I saw another town to what I see now. The railway is more than doubled. I find a university, and now we hear that already a greater Birmingham is in the making. What shall we find twenty years later? I thank you for myself and for the other guests for what my colleagues and the citizens of Birmingham have done. I have only one word more. You may be sure that the sores which the medical profession now has are also felt by your professional brethren on the Continent and in other parts of the world. I thank you, and I say, "Floreat Birmingham!"

Mr. Middlemore, M.P., said: Mr. President, my Lord Bishop, and my friends,—My forbears have been in this city for a great many generations, and I thank you on behalf of all our guests who do not speak for themselves for this delightful entertainment. I thank you, for it has taken me away, at any rate for one night, from the atmosphere of politics, and I could almost imagine, as I was listening to the beautiful speeches in this assembly, that I saw Mr. Asquith and Mr. Balfour, Mr. Redmond and Mr. Bottomley, and the Lord Advocate lying down in peace and with no sense of any other politics than what each creature, however beautiful, may carry within himself. That is all I have to say, or, at any rate, all my time permits me to say. I give you most cordial and warm thanks for the delightful hospitality of this evening. (Applause.)

The President.

Mr. Neville Chamberlain, proposing the toast of "The President," said: Mr. President, my Lords, Ladies and Gentlemen,—I think I perceive upon the faces of such of the company as are still present that strained look which is generally noticeable about this period of the evening, when another speaker gets up and a fervent prayer is uttered that he may see fit to curtail his eloquence. Fortunately, my task is not one which need detain you very long, because I am certain you are already anxious and ready to show respect to the President by drinking his health as soon as I will allow it. Of the scientific and professional attainments which render Professor Saundby so distinguished an occupant of the position which he fills, I do not propose to deal. They are as well known to you as they are to me. You are by your special knowledge and training able to appreciate them better than any layman can, but your President has other qualities no less rare which appeal to medical man and layman alike, and those who, like myself, have had the privilege of meeting him and working with him for a great many years have learnt to value highly his courage, his absolute sincerity, his straightforwardness, and his great quickness to seize a point, whether it be the strong point of a friend or the weak point of an enemy. Those are qualities which would be valuable in any man, but they are especially valuable, and I might almost say they are necessities, for the President of the British Medical Association in this crisis in your fortunes. I remember that a friend of mine once asked an American Civil War leader what he thought of Grant as a general, and the reply was, "Well, sir, there had to be a lot of killing, and Grant was the man to do it." Now I trust there will not have to be a lot of killing during the next twelve months, but I am quite certain that whatever calls may be made on Professor Saundby's services he will be entirely equal to the occasion. (Loud cheers, followed by the singing of "For he's a jolly good fellow.")

Professor Saundby, responding to the toast, said: My Lords and Gentlemen,—I appreciate very highly the way in which this toast has been proposed by my friend, Mr. Neville Chamberlain, and drunk by you. I know I am only here as a figure-head—("No, no")—and that I am representing those who have worked for this meeting and made it the success which I think, at this stage of our proceedings, we may claim it to be. I know how much of it has been due to the work of others who have acted as secretaries, the senior local secretary, Mr. Lucas, and the various chairmen of committees who have done so much to promote this success. Every one has worked in the kindest and most cordial way. It was a great honour and a great compliment to me to be asked to rejoin the Association in order to take this post of President. I had, owing to circumstances, left the Association, but the reason was simply this—that I was a member of the General Medical Council, and it was thought desirable that members of the General Medical Council should not continue to be members of the British Medical Association owing to the fact that we were sometimes judges in cases in which the British Medical Association might appear as a party. For that reason I retired, and I rejoined the Association in order to accept this position when it was put before me by my friends here. I feel it was the highest compliment ever paid me to ask me to take the post under those circumstances. I was delighted to do it. I feel most deeply grateful to my friends in Birmingham who conferred this honour upon me, and I am most deeply grateful to you for the kind way in which you have drunk this toast. (Loud applause.)

UNIVERSITY OF BIRMINGHAM.

Special Congregation for the Granting of Honorary Degrees.

On Thursday, July 27th, a special degree congregation was held in the Great Hall at Birmingham University at Bournbrook, when the honorary degree of Doctor of Laws was conferred upon

Dr. Byrom Bramwell, M.D., Edinburgh.
The Right Hon. John Burns, M.P.
Dr. Russell Henry Chittenden, Conn., U.S.A.
Sir Francis Henry Lovell, C.M.G., F.R.C.S.
Dr. James Alexander Macdonald (Chairman of Council, British Medical Association).
Professor Hermann Oppenheim, Berlin.
Dr. Richard Andrews Reeve, Toronto.
Professor Paul Strassmann, Berlin.
Dr. German Sims Woodhead, Cambridge.

The recipients of degrees having taken their seats at the foot of the steps leading to the platform, the procession entered the hall in the following order:

The Mace-bearer, Mr. S. B. McLaren (Bedell), Dr. Line, Dr. Cargin, Dr. Beazley, Mr. Whitehouse, Mr. Seymour Barling, Mr. Lucas, Dr. Sawyer, Dr. Lloyd Owen, Dr. Douglas Stanley, Dr. Short, Mr. Sedgwick, Mr. Edwards, Mr. Shearing, Mr. Grove, Mr. Fournier, Dr. Douglas, Mr. Wall, Dr. Harris, Dr. Wynn, Mr. Stock, Mr. Nuthall, Mr. Broscomb, Mr. Purser, Mr. Levy, Mr. Kipps, Dr. McCombie, Dr. Findlay, Mr. Hudson, Dr. Thomas Wilson, Dr. Hewetson, Mr. Porter, Dr. Potts, Dr. Greenwood, Dr. Lyster, Dr. Evans, Mr. Bennett, Dr. Coole Kneale, Mr. Heaton, Mr. Huxley, Mr. Madin, Mr. Humphreys, Miss Hollings, Dr. Wodehouse, Dr. Coghill, Professor Martineau, Professor Gamble, Professor West, Professor Dixon, Professor Carlier, Professor Morrison, Professor Priestley Smith, Professor Muirhead, Professor Burstall, Professor Malins, Professor Sonnenschein, Professor Lapworth, Professor Bostock Hill, Sir James Smith, Sir John Holder, Bart., Mr. Neville Chamberlain, Mr. Councillor Ellaway, Miss Fry, Dr. Rowland Hill, Mr. J. T. Homer, Mr. Joseph James, Mrs. Wilson King, Professor Leith, Alderman J. H. Lloyd, Mr. Hume C. Pinsent, Mr. Maurice Pollack, the Dean of the Faculty of Medicine (Professor Barling), the Vice-Principal (Professor Heath), the Principal (Sir Oliver Lodge), the Pro-Vice-Chancellor (Alderman F. C. Clayton), the Lord Mayor (Alderman Bowater), and the Vice-Chancellor (Alderman C. G. Beale).

The Vice-Chancellor prefaced the declaration that the congregation was open by saying that he had had the pleasure of sitting on that platform as a guest of the

British Medical Association on the occasion of the delivery of the inaugural address by the President. That afternoon he had the pleasure of standing there as a host to welcome the British Medical Association to the university, and to express the pleasure that it had given his colleagues on the Council if in any way they had been able to contribute to the comfort of the members of the Association and efficiency of their meeting by placing some of the university rooms at their disposal. That week the Association had paid a great compliment to the university's Chancellor in electing him an Honorary Member of the Association. The Association had recognized that forceful initiative with which Birmingham was so familiar, and it was an honour and a pleasure that at a special congregation called for the university it was possible in some way to return the compliment by inviting distinguished visitors to receive the Honorary Degree of the University. It was the best the university had to offer, and its acceptance was an honour to the university. It was over twenty years ago since the last visit of the Association to Birmingham. That twenty years had seen great changes, but none more remarkable perhaps than the initiation and the rapid growth of the university. In a few weeks' time, and almost before the recollection of the visit of the British Medical Association had begun to fade, a momentous change was going to take place in Birmingham. Its acreage would be about double its population, and it would be very largely increased. Birmingham had taken the momentous step, having succeeded in persuading Parliament that it was the right thing to do, of enlarging its boundaries, and in that the city had had the encouragement and assistance of the President of the Local Government Board. In time to come the city would be a very different one in outward aspect, and larger in acreage and in population. He hoped that his successors would invite posterity not to measure the city's efforts by the number of its acres, but by the methods in which the acreage had been developed—not by the size of its population, but by the improvement in the conditions of the population. (Hear, hear.) To attain that ideal they looked in no small measure to the assistance of the medical profession, and he could only say, "Give us all the assistance you can, and visit us again as soon as possible." He declared the congregation open.

The nominees for the conferment of the Honorary Degree were presented in alphabetical order, and the VICE-CHANCELLOR made the following observations:

The President of the Royal College of Physicians of Edinburgh, Physician to the Royal Edinburgh Infirmary, Lecturer on Medicine in the Extra Academical School of Medicine, and Reader of the Address in Medicine at the present meeting of the British Medical Association, Dr. Bramwell is the author of many splendid works on medical subjects, in particular of a monumental *Atlas of Clinical Medicine*, which have made his name known all over the world, and will perpetuate his memory. An indefatigable worker, a brilliant clinical teacher, and one of the best known and esteemed physicians in the British Islands, I present for the Honorary Degree of Doctor of Laws, Byrom Bramwell.

The City of Birmingham has for many years believed strongly in local self-government and strenuous civic administration. Recently it has assumed enlarged responsibility, and in this expansion it gratefully acknowledges the assistance and high encouragement it has received from the President of the Local Government Board—a man who, during his term of office, has consistently shown active and practical and powerful sympathy with the struggling period of more than one expanding or federating municipal enterprise; while the future housing of many a community will benefit by his energetic insistence on foresight in planning and thoroughness in drains. We of the university, closely connected as we are with the city, wish to join in expressing to him our cordial good feeling and gratitude. Fortunately the present occasion gives to this feeling an opportunity of expression quite apart from any kind of political or social controversy. For the Medical Faculty represented to the Senate that in his capacity as head of the department which is concerned with the sanitary administration of this country, the member for Battersea has constantly co-operated with the medical profession in their efforts to improve public health, and has given his powerful assistance to those municipalities which are trying to ameliorate the sanitary conditions of the areas under their control. A man of exceptional vigour, and of health both in mind and body, which he devotes without stint to the service of the community, I have the gratification of presenting for the Honorary Degree of Doctor of Laws, the Right Hon. John Burns.

The presence of Dr. Chittenden in our midst enables us to offer a welcome to a Representative of our great kindred across the seas, with whom we are on terms of the most affectionate alliance—strengthened as it is, or as we trust it soon will be, by a permanent treaty of arbitration dealing with any and every difficulty such as may sometimes arise even between close friends. Dr. Chittenden is Professor of Physiological Chemistry at Yale, and Director of the Sheffield Scientific School of Yale University, where his researches have led him to advocate a much less plentiful diet than is usually found to give satisfaction. He was for ten years President of the American Physiological Society. He is already Doctor of Philosophy and Doctor of Science, and is well known as the author of important works on the physiology of nutrition which have been based on researches to which he has devoted the labour of many years. He has come to Birmingham by invitation to open a discussion in the Section of Therapeutics, which has attracted much interest. Professor Chittenden is welcome as a distinguished representative of American university teachers, and we are honoured by enrolling his name on the list of our honorary graduates. I present to you, for the degree of Doctor of Laws, Russell Henry Chittenden.

Among all the movements of our time fraught with benefit for the human race, surely the conquest of the broad belt of the earth from the diseases which ran riot there, and the fitting for white habitation of those sun-favoured regions, is among the most promising. We do not forget that our Chancellor has exerted himself to promote the activity of officers of the Crown in this direction, and to-day we have the pleasure of welcoming one of the enthusiastic pioneers in this endeavour. Sir Francis Lovell, Bart., C.M.G., Fellow of the Royal College of Surgeons, has held high office in our Colonies, especially in the West Indies, and has been entrusted with various missions on sanitary questions for the Colonial Office. He served his country first in the then deadly district of Sierra Leone, and subsequently was for many years Chief Medical Officer and President of the General Board of Health and Member of the Council of the Government—first of Mauritius and then of Trinidad and Tobago. His active services abroad lasted from the early Seventies into the present century, and now continue during his holidays, for he devotes his well-earned leisure to the promotion of the study of those diseases which render tropical climates fatal to Europeans and cause a high rate of mortality among the native populations. As Dean of the London School of Tropical Medicine, and as President of the Section of Tropical Diseases at this meeting of the British Medical Association, I have special pleasure in presenting Francis Henry Lovell.

James Alexander Macdonald is Doctor of Medicine of the Royal University of Ireland and Physician to the Taunton and Somerset Hospital. He is the Chairman of Council of the British Medical Association, and was for three years Chairman of the Representative Meeting of that body. He is also a member of the General Medical Council, in which he sits as a Direct Representative of the Medical Profession. His work in the Association, and the important offices he has so ably filled, mark him out for the distinction which the university desires to confer upon him. For the Honorary Degree of Doctor of Laws I present to you James Alexander Macdonald.

The University rejoices at the opportunity of welcoming on this occasion many representatives of foreign nations, with all of which we cordially desire to be not only at peace, but to be linked by ties of friendship and mutual effort—all harmoniously working together for the increase of civilization and the welfare of the human race. Two of these representatives I shall have the honour of presenting on this occasion. Dr. Oppenheim, Doctor of Medicine and Titular Professor of the University of Berlin, is a neurologist of great distinction and the author of many important books on his subject. He has opened a discussion in the Section of Neurology at this meeting. His reputation extends all over the world and is of the highest kind. He is the author of a textbook which has been translated into

many languages, and is accepted as a standard work. His standing and repute as a scientific physician are such that no honour we can confer can enhance his dignity. I present for our Honorary Degree, Hermann Oppenheim.

Of the self-governing Dominions of the Crown we welcome a representative in Dr. R. A. Reeve, Bachelor of Arts, Doctor of Medicine, who is Professor of Ophthalmology in the University of Toronto, and was for many years Dean of the Faculty of Medicine there. He enjoys a wide reputation in Canada as a specialist in diseases of the eye, and the position he occupies is sufficiently attested by his having been elected President when the Association met in Toronto in 1906. As a distinguished representative of the Dominion of Canada the university is proud to add his name to its roll of graduates. I present to you Richard Andrews Reeve.

In the person of the eminent surgeon, Dr. Strassmann, we recognize another representative of a great and friendly nation, and to him the introductory remarks prefixed at the presentation of our honorary graduate, Dr. Oppenheim, equally apply. Dr. Strassmann is Titular Professor and Assistant to the Chair of Obstetrics and Gynaecology in the University of Berlin, the author of many monographs on various subjects in his department, and an accomplished operating surgeon. He is visiting Birmingham by invitation to take part in the proceedings of the Section of Obstetrics and Gynaecology, in which he has this morning opened a discussion. The university welcomes him as a shining example of sterling ability in his branch of practice, and empowers me to present for the Honorary Degree of Doctor of Laws, Paul Strassmann.

The Professor of Pathology in the University of Cambridge is a friend of many of us, and a man regarded with affection wherever he is known, whether in Edinburgh, in Cambridge, or in Birmingham; for Sims Woodhead is no stranger to this university, which he has indeed served in the capacity of an External Examiner. He is an M.D. of Edinburgh, the editor of the *Journal of Pathology*, the author of a *Manual of Practical Pathology*, and for some years was superintendent of a research laboratory in Edinburgh University. Moreover, he is a member of the Royal Commission on Tuberculosis, and has carried out an enormous amount of experimental research in connexion with that subject. Little of this work is known to the public, and the university is glad to recognize it by enrolling among its Honorary Graduates the name of German Sims Woodhead.

The congregation was then declared closed.

THE PATHOLOGICAL MUSEUM.

A BRIEF notice of the Museum was given in last week's JOURNAL, treating of the general idea of the whole, but the collection was deserving of a more detailed description. This can best be done by taking each of the subsections in turn, and as each and every section was equally deserving of praise the order of the catalogue will be followed. This catalogue itself will form a valuable addition to one's library, and no pains have been spared to make it a useful clinico-pathological record of a variety of diseases rarely seen collected together in one exhibition.

This year's exhibition was certainly no mean follower of last year's gigantic effort in the Imperial Institute, and we would remind those members who neglect to make time to visit this annual collection that their loss is a great one.

We ourselves, after spending several afternoons in close application, by no means exhausted its interest, and it was with regret that we were forced to tear ourselves away.

To the secretaries and curators of the subsections our thanks are due for much assistance in drawing up the following report, and especially to those who gave up their time to demonstrating the specimens under their individual care; though all are equally deserving of mention we cannot refrain from again thanking Mr. A. W. Nuthall, the honorary secretary of the entire Museum, and also Dr. Emily Morris, who at all times was available and ready to describe in detail the specimens from Cambridge, illustrating their special research on rheumatoid or osteo-arthritis.

MEDICAL DIVISION.

Honorary Curators, Drs. Leonard Mackey and Sholto Douglas.

The Committee for the Study of Special Diseases, Cambridge, sent a large and unique collection of specimens illustrating the morbid changes found in the joints of cases of so-called rheumatoid or osteo-arthritis and chronic gout. These included radiograms, casts, specimens mounted in glycerine and gelatine, and macerated bones. The specimens, corresponding skiagrams taken before maceration, and casts of the joints were instructively arranged side by side wherever possible.

The two groups of cases of rheumatoid arthritis—atrophic and hypertrophic—in which bony and cartilaginous changes are found were well illustrated in a number of specimens.

Specimens presented by Dr. Jordan (Birmingham) showed very advanced changes of the atrophic type in almost all the joints, these changes being in a marked degree atrophy, loss of cartilage, dislocations, bony ankylosis, and the formation of false joints. Other specimens showed complete bony ankylosis of both elbow-joints with atrophy of the bones, similar changes in the knee and hip joints, and a foot with marked atrophy, ankylosis, and dislocation.

The hypertrophic variety of disease—the so-called "osteo-arthritis" of many writers—was illustrated in all stages, including slight lipping around the condyles of a knee-joint (spec. 142), fibrillations, and "velvety appearance" of cartilages (spec. 131, Dr. Thackeray, St. Pancras), and well-marked advanced hypertrophic changes, with eburnation of the bones and formation of osteophytes, one very fine specimen of the monarticular type being represented by the hip-joint.

Two spinal columns were macerated to show lipping and osteophytic outgrowths, with ankylosis of some of the vertebrae.

Of peculiar interest were some specimens of Egyptian bones supposed to date 2,000 or more years B.C., which showed hypertrophy, osteophytes, and eburnation, the typical appearances of hypertrophic rheumatoid arthritis of the present day.

Amongst some fine specimens of gouty joints were the phalanges from a case of rheumatoid arthritis, with a good deposit of urates, without any history of gout, though this, we think, is not uncommon in *post-mortem* room experience; also a hip-joint from a case of chronic gout showing changes indistinguishable from those of hypertrophic rheumatoid arthritis. Dr. Ellis (East Dulwich) had presented a rare specimen showing tophaceous deposit on the vocal cord, together with a radiogram of the same, and also specimens beautifully demonstrating dense uratic deposits distending the prepatellar bursa and in the left index finger. Dr. Keats (Camberwell) was responsible for specimens illustrating the uratic deposits in a contracted granular kidney and in the pyramids of a second kidney.

Numerous lantern and *x*-ray slides were included in this Cambridge section, and as accidental comparisons three specimens of Charcot's knee, and some of hypertrophic primary osteo-arthropathy. After examining the plans of the new research hospital which were on view we can only hope that this good work will soon bear fruit.

Another noteworthy collection included some nineteen specimens of diseases of the pancreas, for the most part sent by Leeds University School of Medicine (Professor Grünbaum), and here were gathered and well preserved in almost natural colours advanced pancreatic lithiasis, acute pancreatitis, haemorrhagic pancreatitis, fat necrosis associated with these disorders, and numerous growths of this viscus. Here, as elsewhere, the clinical histories enhanced the value of these rare specimens.

Equally impressive was the fine collection of visceral syphilis drawn from the Museum of the University of Birmingham, amongst which must be specially mentioned two specimens of syphilis of the lungs, a gummatous myocarditis, ulceration of the intestines, and a syphilitic stricture of the rectum the like of which we have only once seen equalled. From the Birmingham Museum came also a honeycombed tuberculous tumour of the lung strangely simulating actinomycosis, and two rare specimens of infective endocarditis affecting respectively the pulmonary orifice in a woman aged 25, and the tricuspid orifice, the latter secondary to an iliac abscess.

We had not an opportunity of witnessing a demonstration of the Hill-Herchell gastroscope, but we did admire the water-colour drawings of gastric conditions as seen by the electric operation gastroscope, lent by Dr. D. P. S. Wilkie (Edinburgh), demonstrating, *inter alia*, the healing of acute ulcers in animals' stomachs. Birmingham added to the section of joints rare specimens of syphilitic and haemophilic arthritis, the latter with very long synovial fringes.

Diseases of Children.

Honorary Curator, Dr. Leonard Parsons.

In this section specimens were collected to illustrate certain conditions of clinical interest. A series showing some causes of jaundice in children, included a case of congenital obliteration of the bile ducts in a child aged 6 months and some specimens of cirrhosis of the liver—the syphilitic variety and the still more interesting and less commonly recognized variety of multilobular cirrhosis—the typical "hobnail" or "gin-drinker's" liver, from patients aged 9, 14, and 12 respectively—cases which, however, are now sufficiently numerous to upset, once and for all, the fallacious hypothesis that this type of cirrhosis is of alcoholic origin (Drs. Leonard Parsons and Emanuel). The intense fatty degeneration associated with acid intoxication was well shown in a specimen by Dr. Kauffmann (Birmingham), which was histologically indistinguishable from a specimen of delayed chloroform poisoning shown by Dr. Parsons. Actinomycosis in a child aged 6 (Dr. Saundby) resulted in an enormous increase in the liver (74 oz.), and an uncommon specimen of granuloma was a large tuberculoma as big as a walnut in the left lobe of the liver (Dr. Miller, Birmingham).

Some specimens of splenomegaly in childhood included the lymphomata of Hodgkin's disease (Dr. Miller) and a spleen from the case of tuberculosis of the liver which to the naked eye simulated Hodgkin's disease, though as proof of its true nature was exhibited the guinea-pig which had died of tuberculosis resulting from experimental inoculation from this case. A spleen weighing 15 oz. (Dr. Kauffmann) from a boy aged 7 was associated with multilobular cirrhosis of the liver.

Some fine specimens of heart disease included infective endocarditis, a rare condition of pericarditis associated with post-basal (meningococcal) meningitis (Dr. Parsons), tuberculous pericarditis (Dr. Douglas Stanley), osteosarcoma of the heart secondary to the femur in a girl aged 15 (Dr. J. E. H. Sawyer), a so-called "congenital" mitral stenosis with greatly enlarged left auricle, and a pretty specimen from a case of chorea showing recent mitral vegetations (Dr. Douglas Stanley).

Several specimens from cases of acute leucocythaemia demonstrated well-marked haemorrhages in the various viscera.

Casts and specimens from cases of congenital fetal goître (Mr. Hewetson, Birmingham) were placed alongside some hygromata of the neck, and here also was an instructive specimen of a false aneurysm of internal carotid which had fatally simulated a retropharyngeal abscess in a boy aged 5.

Diffuse sarcoma of the cord and brain in a child aged 2 was illustrated by several specimens, and multiple cerebral thrombosis in a child aged 9 months was apparently due to inherited syphilis (Dr. Stanley Barnes). There were several examples of tuberculoma and other tumours of the brain, and a brain from a case of chorea showed extensive haemorrhages.

Amongst an interesting series demonstrating the varieties of pulmonary tuberculosis in children was one specimen showing the often-ignored tuberculous affection of the "bifurcation gland" in a boy aged 2½ years (Dr. Leonard Mackey), and a larynx from a child aged 9 months, the seat of extensive ulceration.

Two other important specimens must be mentioned—namely, cases of fatal pyelonephrites of *B. coli* origin in children, aged 3½ months and 7½ months (Dr. John Thomson, Edinburgh), with a detailed clinical history appended, to form a valuable account of this modern disease.

Granular kidneys, weighing only ¼ oz. each, from a child aged 6 years, served to illustrate Dr. Parsons's paper on infantilism associated with chronic interstitial nephritis.

Hypertrophic pyloric stenosis was well represented by a large series of specimens lent by Dr. John Thomson (Edinburgh), and from Great Ormond Street Hospital had come a series of cases of suprarenal carcinoma in children, with some metastases in the calvarium and lungs.

Professor Mott and Dr. Hume showed a series of histological preparations from a case of amaurotic family idiocy.

Surgical Division.

Honorary Curators, Messrs. Seymour Barling, William Billington, and Bernard Ward.

It is difficult to know how to describe the magnificent collection in this section and impossible to enumerate all the exhibitors or do justice to the exhibits. To find over fifty examples of hypernephromata collected in one spot was a great and pleasing surprise, and we can promise ourselves many interesting references to the detailed histories in the catalogue. These showed tumours of all sizes, some minute and localized to the kidney, others large and invading the surrounding tissues; some had been removed by operation, and we note that in a few there were, up to the present, no recurrences; others had been found in the *post-mortem* room. And all were beautifully preserved in their natural colours.

Interspersed amongst these were such curios as lipomata of the kidney and an example of lipo-leio-myoma (St. George's Hospital) and numerous examples of sarcomata in childhood, both of the kidney and the adrenal, and a good collection of kidneys showing various cystic diseases, amongst which we noted two examples of general cystic disease from patients aged 43.

Another large group of specimens was made up of malignant growths of the gastro-intestinal tract removed by operation, with the final results recorded. This attempt to work out the after-histories of cases of malignant disease which pass through the surgeon's hands is specially noteworthy, and an innovation that we hope to see repeated in future years, though we know from attempts at such how difficult it often is in hospital work to follow patients far from the doors after their discharge.

Hyperplastic tuberculosis of the caecum (three specimens, Professor Morison, Newcastle-on-Tyne) closely simulated malignant growths, and there were malignant growths from every part of the intestinal tract. In several cases of carcinoma of the caecum and colon the patients are recorded as "well twelve and fifteen months after excision."

A specimen of ulcerative colitis with hypertrophy of the colon had been diagnosed as cancer of the rectum and removed by operation (Mr. Gilbert Barling).

A specimen of columnar carcinoma of the rectum was associated with numerous polypi, some innocent and some malignant, but the patient is well (thirteen months after the operation).

Several examples of gastric ulcers which had been successfully excised, and one equally successful endothelioma of the stomach, deserve mention. Also an intussusception with a lumbricoid worm (Mr. Lucas); another due to a large obstructing fibromyoma, and a specimen of idiopathic dilatation of the sigmoid, excised from a boy aged 12.

Diseases of the appendix were represented by simple cysts, a large mucocele found at autopsy (St. George's Hospital), several intussuscepted appendices, and an example each of carcinoma and sarcoma of that viscus (Mr. Garett Wright).

There were some good specimens of affections of the breasts, including several of tuberculosis, one of actinomycosis, or rather streptotrichosis (which had been obtained in pure culture from the pus), and several of Paget's disease of the nipple (Birmingham).

Amongst the series of testicles collected to illustrate simple and malignant growths of that viscus were several embryomata, but we failed to find an example of that rare and strange disease "chorion-epithelioma" of the testicle.

Finally, in this section we noted a fine collection of coloured illustrations of certain affections of the tongue (Henry Curtis, London).

Gynaecological Section.

Honorary Curator, Dr. Lewis Graham.

Quite one of the best sections of the museum was that devoted to obstetrics and gynaecology. This had been most ably collected and arranged by Dr. J. T. Hewetson,

with the assistance of Dr. Lewis Graham. The exhibits had for their first object the display of fibromyomata, their complications and degenerations. Secondly, there was a series of miscellaneous specimens; and, lastly, Professor Strassmann had again brought over from Berlin a highly instructive group illustrating his various cases which have been submitted to vaginal instead of the more usual abdominal operation. As illustrative of what he has accomplished was an ovarian cyst which held seven pints of fluid together with uterus and opposite appendages, removed by this route.

Among the 177 fibromyomata, there was an interesting series showing a complicating pregnancy, in which many of the fibroids were also necrobiotic. There were two large fibroids, one weighing 56 lb. and the other 26 lb., removed by Dr. Thomas Wilson and Dr. Hewetson respectively with complete success. Dr. Fletcher Shaw (Manchester) sent a beautiful collection of macroscopic sections permanently mounted to illustrate degenerations of fibroids, including several partly and completely calcified. So, too, the loan from the Sheffield University easily won laurels for preparation and mounting with a series of various fibromyomata. A rare exhibit was that by Dr. James Miller, in which definite tuberculous caseation has occurred in a fibroid from a patient dying of generalized tuberculosis. This section cannot be left without specific allusion to Dr. Cuthbert Lockyer's loan from his private collection of some seventy odd specimens which form a most ample and instructive lesson in fibromyomatous changes and complications.

Among the specimens other than fibroids there were series of uterine adenomyomata, of sarcomata, and also some excellent specimens of vesicular mole and chorion-epithelioma. One specimen showed a vesicular mole with a fetus (Mr. Christopher Martin).

Mr. Whitehouse exhibited a series illustrative of the stages seen in tubal gestation. There were also some specimens of epithelioma following leucoplakia of the vulva. Two specimens of tubercle of cervix uteri (Dr. Hewetson, Birmingham) are sufficiently rare to be specially noted.

Mr. Douglas Drew lent a probably unique exhibit of a uterus, Fallopian tube, and genital gland removed from a hernial sac of a patient with a penis, cord, and apparently a testicle on the other side. Another curiosity is a pregnant uterus successfully removed by Mr. Rutherford Morrison, which contains about 4 in. of broken crochet hook which the patient had inserted to procure abortion.

It is almost invidious to mention individual exhibitors, but excellent specimens were also received from Drs. Russell Andrews, Tennison Collins, Gemmell, Furneaux Jordan, Malins, Purslow, and Smallwood Savage, and a large collection from St. Mary's Hospital, Manchester.

We feel that this section of the museum, with its 270 specimens, is one of the best ever shown by the British Medical Association in obstetrics and gynaecology.

Embryology Section.

Honorary Curator, Dr. Thomas Yeates.

The specimens in this section gave the casual observer but little idea of the enormous amount of work their preparation had entailed. For the most part they consisted of "reconstruction models" of the brain and head, and of a ferret reconstructed after G. Born's method, at a magnification of 50 diameters, in the Anatomical Department of the Birmingham University by Dr. Yeates and Dr. G. P. Good.

There were also some fine dissections by Dr. S. E. Whitnall, illustrating some points in the anatomy of the orbit.

Dermatological Section.

Honorary Curators, Drs. Douglas Heath and Dr. W. A. Loxton.

This section was particularly interesting because of the extraordinary fine collection of lifelike wax models of skin diseases. Many of these we have seen in previous annual museums, but we cannot see them too often, and we cannot but appreciate the fact that they are made in this country.

One set was made by Dr. Cranston Low and Miss Rae at the Royal Infirmary, Edinburgh, and the other by Drs. Stopford Taylor and Mackenna of Liverpool. Especially noteworthy amongst Dr. Low's collection was a cast of an arm, the seat of sporotrichosis, a disease now attracting much attention from its resemblance on the one hand to syphilitic and on the other to tuberculous affections of the skin. Drs. James Ritchie and Low also showed the life-history of sporotrichosis, in part by means of cultures, hanging-drop preparations, histological preparations of the disease experimentally produced in rabbits and naturally occurring in man, and by numerous illustrations. These specimens ought to assist in a better appreciation of this affection, the recognition of which has been so tardy in this country.

A number of water-colour drawings included some fine examples of syphilitic lesions. Dr. P. J. Thomson (Brussels) also lent some excellent photographs, and Mr. Gilbert Smith (Birmingham) a series illustrating rare skin diseases observed by himself, Radcliffe Crocker, and others.

Dr. Wm. Griffiths (London) contributed a number of culture plates and slides of the bottle and acne bacilli, and of favus; and Dr. Heath a large selection of photographs from the Skin Department of the General Hospital, Birmingham.

Ear and Throat Section.

Honorary Curator, Mr. Seymour Jones.

A curious feature of this section was a large number of tonsils to illustrate removal with the guillotine, and if these were to be taken as an index of the daily work in this department we can only suppose that the school children in Birmingham are well cared for.

A second series illustrated some varieties of tonsils, and a third showed the results of infective processes, whilst the whole was rendered complete by a series demonstrating some anatomical points. The tonsil has at least been well investigated, and we congratulate Drs. Samuel Whillis and Pybus on their exhiblt.

Section of State Medicine.

Honorary Curators, Drs. Robertson and T. G. Higgins.

The State Medicine Section of the Museum consisted of about sixty specimens and eighty photographs and photomicrographs. Of the specimens, Dr. Nathan Raw, of Liverpool, contributed twelve examples of tuberculosis in animals, and also cultures of the human and bovine types of the *B. tuberculosis* and of the bacillus of avian tuberculosis. The other specimens were examples of animal parasites and of pathological conditions in food animals, contributed by the Health Department of the City of Birmingham (Dr. John Robertson) and the Pathological Museum of the University of Birmingham (Professor Leith). Of the photographs, Dr. J. Bell, of Hong Kong, contributed a series of pictures illustrating certain animal parasitic diseases common in China, the bulk of the photographs being of the parasites themselves and their ova. The other photographs were from the Health Department, and were mainly illustrative of diseases in food animals. They included (*inter alia*) photographs of Johne's disease, sarcosporidial disease, and *Onchocerca gibsoni*.

Dr. Fraser (Institute for Medical Research, Federated Malay States) sent a collection of rice samples dealing with recent researches into the etiology of beri-beri. Photomicrographs of sputum picked up from the Birmingham pavements showed numerous tubercle bacilli. Amongst the parasitic diseases we specially noted a specimen of hydatid cyst in the human ovary. Other specimens of note were a pig's heart the seat of valvular verrucose endocarditis (swine erysipelas), the vegetations being of very large size; two specimens of fat necrosis in the perirenal fat of a sheep and the mesentery of a pig respectively; a sarcomatous kidney of an ox; and a beautiful example of chloroma in a pig's kidney, with the green colour of the tumour very well preserved.

Odontological Section.

Honorary Curators, Messrs. J. Humphreys and H. Humphreys.

The Odontological Section of the Museum was arranged to specially illustrate two principal branches of dental diseases—the pathology of retained teeth and pyorrhoea

alveolaris. The first series of specimens was a valuable and unique collection of jaws showing retained teeth *in situ*, selected from the Royal College of Surgeons Museum by Mr. J. G. Turner, who read a paper on the subject before the meeting. In 7 of the specimens the retained teeth were canines, in 6 third molars, and in the remaining 2 an upper incisor and lower premolar respectively. Nearly all the specimens showed rarefying or productive inflammation of the bone and dental tissues, thus giving evidence in favour of Mr. Turner's contention that retained teeth give rise to no symptoms until infection of the tooth-sac has occurred. Perhaps the most striking specimen was a jaw showing retained lower third molars lying entirely within the ascending ramus of the mandible. On the right side eruption into the sigmoid notch was taking place. This specimen was a valuable piece of pathological evidence on the normal development of the mandible, in which, while tissue is added to the posterior surface of the ascending ramus and condyle, formed bone is continually being removed from the anterior margin to make room for the eruption of the molars.

The morbid anatomy of pyorrhoea alveolaris was the second special feature of this section. Mr. J. F. Colyer lent a series of lantern slides showing jaws of man and other mammals (chiefly herbivora) affected by this disease. The atrophy of the alveolar process and progressive loosening of the teeth were well shown.

Mr. A. Hopewell-Smith showed a series of photomicrographs illustrating the patho-histology of the disease, an aspect on which little work has hitherto been done. The photographs were of sections taken through the dental and alveolar tissues of affected human jaws, and were extremely instructive. Perhaps the most notable feature was the great enlargement of the apical space and deeper portions of the bony tooth socket at a stage when the atrophy of the free edge of the alveolar process showed but little progress. It is this observation that leads the investigator to throw the weight of his evidence into the scale of opinion that pyorrhoea alveolaris is not a progressive gingivitis, but depends on a primary atrophy of bone. Mr. F. E. Huxley lent some specimens showing the morbid anatomy of various dental conditions, and the Dental Museum lent some interesting odontomes, among them 40 denticles from a compound follicular odontome.

SECTION OF RADIOLOGY, ELECTRO-THERAPEUTICS AND RADIUM.

Honorary Curators, Drs. Hall-Edwards and J. R. Ratcliffe.

This section was devoted to the illustration of three main subjects, namely: (*a*) Abnormal and pathological conditions of the abdominal viscera, (*b*) osteo-arthritis and rheumatoid arthritis, and (*c*) early pulmonary phthisis. There were some fine radiograms showing bismuth meals in cases of dilated oesophagus and stricture of oesophagus and also in gastric ulcer, and an interesting experimental series of radiographs of kittens fed on bismuth meals. Also many examples of hour-glass stomach and one demonstrating clearly a prolapsed transverse colon containing a bismuth meal (Thurstan Holland, Liverpool). Dr. Holland also sent some radiographs of kidney stones illustrating various methods of short exposures.

Amongst numerous renal, vesical, and ureteral calculi was an instructive picture of a calcareous gland in the line of the ureter, up which a catheter had been passed, and another showing phleboliths outside the ureteral bougie. (Hall-Edwards), and a specimen of a ureter largely distended with pus and calcareous material, probably tuberculosis. The prints and transparencies of osteo-arthritis were very good, as were also many illustrating diseases of bone. Specially interesting was a print from a case of osteo-myelitis of the humerus (Hall-Edwards).

Charcot's disease was well illustrated in several sections of the Museum, and we have already mentioned the specimens in the other sections. Here were exhibited prints of the disease affecting the hip, the knee, and the shoulder joint, and clearly demonstrating both the hypertrophic and the atrophic variety of disease.

Dr. Gilbert Scott contributed, amongst other specimens, one of an oxycephalic skull and another showing cervical ribs.

Infantilism, gigantism, and acromegaly were all represented by radiograms by Hall-Edwards. There were specimens from hydatid disease of lung (Dr. Herchel Harris, Sydney), and from malignant growth in lung, and a special exhibit to illustrate pulmonary tuberculosis. Dr. Knobel's (Belbroughton) specimens showed shadows of apical diseased cavities, effusions, and valuable illustrations from the same cases of phthisis at varying intervals after treatment. Professor Albers-Schönberg (Hamburg) had a specially fine series of transparencies from cases of early tuberculosis. Dr. Sinclair Tousey (New York) exhibited a large series of radiographs from dental cases. The effects of *x*-ray treatment were shown by numerous serial photographs from cases, and one interesting series showed the result of *x* rays on a case of Hodgkin's disease, and the total disappearance, judging from the shadow, of a mass of glands in the mediastinum. Another was from a rodent ulcer in a man aged 74, which had healed at first with *x* rays, but, breaking down again, refused to respond to the same treatment.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

CAMBRIDGE AND HUNTINGDON BRANCH.

THE annual meeting was held at St. Neots on Wednesday, July 12th. Professor G. SIMS WOODHEAD, President, presided at the general business meeting held at the Cross Keys Hotel at 12.30 p.m. There were over forty members present.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Balance Sheet.—The balance sheet was presented and adopted.

Election of Officers. — Professor G. Sims Woodhead vacated the chair to Dr. E. J. CROSS, the President-elect. Dr. LATHAM proposed, and Dr. WOOLLETT seconded, that the annual meeting of 1912 be held in Wisbech, and that the members in Wisbech be asked to nominate one of their number for the Presidency. This was carried. Dr. H. B. Roderick was re-elected Honorary Secretary and Treasurer. The SECRETARY announced the election of Dr. B. H. Nicholson, of Colchester, as Representative on the Council of the Association. The Secretary announced that Dr. J. C. W. Graham had been re-elected Representative for Representative Meetings at a special meeting of the Branch held in Cambridge on Wednesday, July 5th, for that purpose. The following were elected members of the Branch Council: Dr. Joseph Griffiths, Dr. Apthorpe Webb, Dr. J. R. Garrood, Dr. B. E. Fordyce.

Letter from Dr. B. H. Nicholson. — The HONORARY SECRETARY read a letter from Dr. B. H. Nicholson, expressing his regret at being unable to be present at the annual meeting, and conveying his thanks to the members for their support in voting for him at the recent Council election.

Bradford Rules.—The question of adopting the "Bradford Rules," or Rule "Z," was referred to the Council for consideration.

National Insurance Bill.—It was decided to hold a special meeting at the University Arms, Cambridge, on Wednesday, July 19th, at 2.30 p.m., to discuss the special report issued by the Council of the Association.

Luncheon.—At 1.30 p.m., at the kind invitation of the President, over fifty members sat down to lunch in the Assembly Rooms. The following toasts were drunk: "The King," proposed by the PRESIDENT; "The President," proposed by Dr. LATHAM; "The Visitors," proposed by Sir CLIFFORD ALLBUTT.

President's Address.—At 3 p.m. the members reassembled at the Cross Keys Hotel for the Presidential address, "Some Notes on the Territorial Medical Service." Dr. CROSS dealt in a most comprehensive manner with the whole subject, which was new to most of those present.

At Home.—From 4 to 6 p.m. the President and Mrs. Cross were "at home" to members and their wives and lady friends in the grounds of Hall Place, kindly lent by Mr. D. Bowyer. Here Sergeant-Major Canterbury and Sergeant Clayton had pitched an operating tent and displayed the medical and surgical equipment of a field ambulance.

EAST ANGLIAN BRANCH:

NORTH SUFFOLK DIVISION.

A MEETING of members of the medical profession residing in the area of the North Suffolk Division was held at the Lowestoft Hospital on June 22nd. There was a good attendance.

Election of Officers.—The election of officers for the ensuing year resulted as follows: *Chairman*, Dr. Ransome; *Vice-Chairman*, Dr. Bell; *Honorary Treasurer and Secretary*, Dr. Tyson; *Representative on Branch Council*, Dr. Evans; *Representative at Representative Meetings*, Dr. Mayo; *Executive Committee*, Drs. Berry, Helsham, Marshall, Worthington, and Evans.

National Insurance Bill.—The amendments to the State Insurance Bill drawn up by the Special Committee of the Council of the British Medical Association were then discussed (see SUPPLEMENT, July 22nd, p. 193).

A further meeting of the profession in the area of the Division was held at the Lowestoft Hospital on Tuesday, July 18th.

National Insurance Bill.—A report of the proceedings in relation to the National Insurance Bill was published in the SUPPLEMENT of July 22nd, p. 193.

Guarantee Fund.—It was decided to postpone the consideration of the formation of a Guarantee Fund.

Direct Representatives on General Medical Council.—The Representative was instructed to vote for three gentlemen as Direct Representatives for England and Wales on the General Medical Council.

SOUTH SUFFOLK DIVISION.

THE annual meeting of the South Suffolk Division was held at the Crown and Anchor Hotel, Ipswich, on Thursday, June 29th, Dr. BROOKS in the chair.

Special Representative Meeting.—Dr. HAVELL (Representative) made a report on the result of the Special Representative Meeting held in London, and stated that the special resolution of this Division urging the Representatives to approach the General Medical Council with a view to getting them to adopt regulations making it infamous conduct from a professional point of view to accept fees below a certain minimum, was ruled out of order.

Election of Officers.—The following were elected officers for the year 1911–12: *Chairman*, J. Staddon; *Vice-Chairman*, W. Redpath; *Secretary and Treasurer*, J. Gutch; *Representatives on Branch Council*, G. S. Elliston and E. L. Rowe; *Representative at Representative Meetings*, A. M. N. Pringle; *Executive*, Drs. Brogden, Havell, Heath, J. Hossack, Mahon, and Rowe.

National Insurance Bill.—The SECRETARY made a report on the progress of the canvass in the Division on the National Insurance Bill, and stated that only two men in the whole Division had declined to sign the memorial. Deputations were arranged to members of Parliament for the Division.

Guarantee Fund.—The question of the Guarantee Fund was considered, but no resolution passed.

LANCASHIRE AND CHESHIRE BRANCH:

MANCHESTER SOUTH DIVISION.

A GENERAL meeting of this Division was held on Monday, July 17th, at 4 p.m., in Fallowfield. Dr. GRANT DAVIE presided. There were also present Drs. Ashcroft, Boyd, Brown, Byers, Cotterill, Dickey, Edlin, Gregory, Goodfellow, Godson, Hacking, Crichton-Hood, Holt, Howe, Morton, Mitchell, Russen Rhodes, Stocks, Salter, Stowell, Steinthal, Whitworth.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Correspondence.—Letters were read from the members of Parliament representing the different areas of the Division, in answer to a letter addressed by the Division to each.

Supplementary Report of Council.—The Supplementary Report of Council (SUPPLEMENT, July 8th, p. 68) was considered by the meeting, and the Representative was instructed in the opinion of the Division on the subjects referred to therein; on other matters not discussed the meeting wished the Representative to use his own discretion.

Direct Representatives on General Medical Council.—The Representative was instructed to support the candidature of Dr. Browne, Dr. Latimer, and Dr. Ferguson.

Guarantee Fund.—A letter on this subject was read from the Manchester and Salford Joint Committee. The resolutions published in the SUPPLEMENT, July 22nd, p. 192, were passed.

SOUTHPORT DIVISION.

A SPECIAL meeting of this Division, to which all members of the profession resident in the Division had been invited, was held at the Temperance Institute on July 18th. Dr. LITTLER was in the chair, and there were present Drs. Ashworth, Baildon, Mewburn Brown, Campbell, Corkhill, Russell Cairns, Dall, Woolmer Davies, Harris, Hare, Molyneux, Mackay Maccall, Pinkerton, Reid, Speirs, Pridie, Sykes, Voigt, and Walker, members of the Association, and Drs. Wm. Davies and Henderson non-members.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

National Insurance Bill.—(See SUPPLEMENT, July 29th, p. 237.)

Other Matters Referred to Divisions.—It was decided that as there was not adequate time for the consideration of the numerous matters referred to in the Supplementary Report of Council contained in the SUPPLEMENT of July 8th, also for the consideration of the various matters referred to Divisions published in the SUPPLEMENT of April 29th, and which had been adjourned from the Annual Meeting in May, all these subjects should be left to the Representative to deal with at his discretion at the Representative Meeting.

Candidates for the General Medical Council.—The list of nominated candidates was submitted and two names were selected for which the Representative was instructed to vote, the choice of the third being left for his decision at the Representative Meeting.

METROPOLITAN COUNTIES BRANCH:

MARYLEBONE DIVISION.

A GENERAL meeting of the Division was held on Wednesday, July 19th, at 5 p.m., at 11, Chandos Street, W., Sir FREDERIC S. EVE in the chair. Eighteen members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

National Insurance Bill.—The HONORARY SECRETARY reported what steps had been taken to give effect to the six resolutions upon the National Insurance Bill passed at the annual general meeting.

Additional Representative on Branch Council.—Mr. L. A. BIDWELL was elected an additional Representative of the Division on the Branch Council, and the nomination by the Executive Committee of Dr. F. J. SMITH as an official candidate for election to the General Medical Council confirmed.

Matters Referred to the Division.—(1) Nominations for official candidates for election to the General Medical Council were considered and the Representative instructed thereon. (2) The several reports submitted for consideration regarding the National Insurance Bill were discussed (SUPPLEMENT, July 29th, p. 238).

TOTTENHAM DIVISION.

THE seventh ordinary meeting of this Division was held on July 18th, 1911, at the Hornsey Council Schools, Woodstock Road, Finsbury Park. Dr. H. B. BRACKENBURY was in the chair. Thirty-eight members and two visitors were present.

Confirmation of Minutes.—The minutes of the last meeting (June 13th), taken as read, were signed as correct.

Election of Direct Representatives on the General Medical Council.—Dr. J. R. Fuller, the Division's Representative, was instructed to support the nomination of three general practitioners from the list of names circulated.

National Insurance Bill.—This was discussed, and the resolutions published in the SUPPLEMENT of July 29th, p. 238, passed unanimously.

MIDLAND BRANCH:

BOSTON AND SPALDING DIVISION.

A SPECIAL meeting was held at the White Hart Hotel on June 16th, at 3 p.m. Dr. SOUTH was in the chair, and thirty members and non-members were present.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Apologies for Non-attendance.—Apologies for non-attendance were received from many men residing within the Division. The SECRETARY read a letter from Mr. C. Harvey Dixon, M.P., in which the latter regretted his inability to attend the meeting. He asked that the meeting would pass resolutions for him to bring forward in the House of Commons, and assured the Division of his whole-hearted support.

National Insurance Bill.—The National Insurance Bill was discussed (see SUPPLEMENT, July 22nd, p. 193).

Letter from Dr. Latimer.—Dr. MANN read a letter from Dr. Latimer, of Swansea, in which the latter asked for the support of the Division in his candidature for a seat on the General Medical Council as a Direct Representative of the Association. He also included in this letter the name of his colleague, Dr. Langley Browne, of West Bromwich. It was resolved unanimously to nominate these gentlemen.

Votes of Thanks.—Votes of thanks to the Chairman and Secretary concluded the meeting.

Tea.—Several members had tea in the hotel afterwards.

OXFORD AND READING BRANCH.

A MEETING was held on June 30th of the Oxford and Reading Branch at the Radcliffe Infirmary.

Congratulations to Sir William Osler.—It was proposed by Dr. TURRELL (the Chairman), and seconded by Dr. COLLIER:

> That hearty congratulations be sent to Sir William and Lady Osler on their receiving the Coronation honour.

The proposal was passed by acclamation.

Treasurer's Report.—The Treasurer's report was read and adopted.

Maidenhead Division.—It was proposed by Mr. DREW, and seconded by Dr. DICKSON:

> That this meeting of the Oxford and Reading Branch calls upon the members of the Maidenhead Division to organize and appoint a chairman, secretary, and council to voice their interests at this critical time in the affairs of the medical profession and to facilitate the general work of the Division.

The motion was carried.

Election of Officers.—The following were elected officers for the ensuing year: *Honorary Secretary*, Dr. Duigan; *Treasurer*, Dr. Freeman.

Honorary Secretary of Maidenhead Division.—Dr. Jaggers, of Bourne End, was elected Honorary Secretary for the Maidenhead Division.

Guarantee Fund.—A resolution was passed establishing a local guarantee fund under the control of a local committee to be elected. A sum of over £1,000 was at once forthcoming.

SOUTH-EASTERN BRANCH:

FOLKESTONE, DOVER AND ASHFORD DIVISIONS.

A MEETING of the Folkestone, Dover and Ashford constituency was held at Hotel Wampach, Folkestone, on Thursday, July 20th, at 8.30 p.m. The following members were present: Drs. Wainwright, Woods, Osborne, Palk, Dyson, Chambers, Calverley, Perry, Dodd, Barrett, Easter, Menzies, Gilbert, Cambell.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

National Insurance Bill.—The National Insurance Bill was discussed (see SUPPLEMENT, July 29th, p. 239).

Deputy Representative.—Dr. Fothergill was elected as Deputy Representative for Representative Meeting.

SOUTHERN BRANCH.

THE annual general meeting of this Branch was held on Wednesday, July 5th, at the Town Hall, Portsmouth. Mr. L. S. LUCKHAM (President) was in the chair, and seventy-two other members were present.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Major and Bentlif (Jersey), Drs. Ord and Straton (Salisbury), Drs. England, Lyster, Briscoe, and Godwin (Winchester).

Alteration of Rule.—Rule 7, Part 2, was altered in accordance with the advertisements inserted in the JOURNAL, and the notice in the summons to the meeting.

Letter from Dr. Lyster.—A letter from Dr. Lyster referring to the case of Flux *v.* Clayton was read to the meeting, and the matter was deferred for further information.

Balance Sheet.—The balance sheet was adopted, on the motion of Dr. MUMBY, seconded by Dr. HALL.

Election of Officers.—The scrutineers reported that the result of their examination of the voting papers was that the officers nominated by the Council were duly elected.

Votes for Epsom College.—The HONORARY TREASURER reported the appropriation of the votes allotted to the Branch for the subscription at the last annual meeting to Epsom College. He also referred to the present financial condition of the Branch.

New Members.—The number of members of this Branch was stated to be 447, and there were 39 new members elected at the council meeting that day. The deaths of Drs. Claremont, Case, Applebe, Griffiths, Pedley, and Wilks were announced.

Report of Council.—The Council's report referred to (*a*) negotiations with the Oxford and Reading and South-Eastern Branches with reference to the member of Council elected by grouped representatives; (*b*) correspondence with the central offices as to Referendum expenses; (*c*) the testimonial from the Branch to Dr. J. Ward Cousins; (*d*) correspondence with members of Parliament as to Sir William Collins's bill; (*e*) to the dispute between the Isle of Wight County Council and Dr. J. A. Gibson; (*f*) to the question of hospital treatment of school children; (*g*) and to the action of the council on the question of nursing associations.

Installation of New President.—Mr. LUCKHAM then vacated the chair, which was taken by the new PRESIDENT, Mr. C. P. Childe (Southsea), who began by proposing a vote of thanks to the retiring President. This was seconded by Dr. PRESTON (Ryde), and carried by acclamation.

President's Address.—After Mr. LUCKHAM had responded, Mr. CHILDE delivered his Presidential Address. He alluded to the losses by death which the Branch had sustained during the past year, and then to the startling increase in the number of members brought about by the National Insurance Bill. He strongly advocated the policy of the Association, and urged the necessity of unity, pointing out that every class of practitioner would be adversely affected. He then went on to discuss "Some Latter-day Intrusions of the Surgeon on the Abdomen." At the close of a most interesting address a vote of thanks was proposed by Dr. WADE and seconded by Mr. LUCKHAM.

Vote of Thanks.—The PRESIDENT moved a vote of thanks to the Mayor for kindly lending the rooms for the meeting and luncheon in the Town Hall. This was carried with much enthusiasm.

National Insurance Bill.—A resolution on the National Insurance Bill was carried unanimously (see SUPPLEMENT, July 22nd, p. 193).

Luncheon.—After the meeting a luncheon took place in the Banqueting Room of the Town Hall by invitation of the incoming President, about eighty members accepting his hospitality, the Mayor of Portsmouth being also a guest. His Worship distributed Coronation souvenirs and medals to the guests.

Collection for Epsom College.—During luncheon a collection for Epsom College was made; this amounted to £12 10s. 6d.

Excursions.—After luncheon the members divided into two parties, one, under the direction of Dr. Colt, visiting H.M.S. *Revenge*, and the other, conducted by Fleet Surgeon Whitelegge, R.N., visiting the Gunnery School on Whale Island. The members are indebted for these privileges to

the Admiral-Superintendent of the Dockyard and to the Captain of H.M.S. *Excellent*.

Garden Party.—After the excursions Mr. and Mrs. Childe entertained the members, their wives, and several other guests at a garden party at the Queen's Hotel, Southsea.

SOUTH-WESTERN BRANCH.

Plymouth Division.

The annual meeting of this Division was held in the Medical Society's Rooms, Plymouth, May 29th, 1911. Eighteen members were present.

Election of Officers.—Dr. E. L. Fox having resigned the chair, Mr. Jaques, F.R.C.S., was elected to the position; the other offices were filled thus: Dr. Soltau (*Vice-chair*); E. J. Donbavand (*Honorary Secretary*); *Members of Branch Council*, Dr. Jaques, Dr. Soltau, Dr. Lander, Dr. Musgrave, and Honorary Secretary. *Executive Council*, the Chairman, Vice-Chairman, Members of Branch Council, with Drs. Moir, McCulloch, Cooke, Pethybridge and Jackson.

Matters Referred to Division.—Matters referred to Divisions were fully considered and the Representative duly instructed thereon.

National Insurance Bill.—At the instigation of Dr. Hogarth Clay, the Division carried unanimously, that as the National Insurance Bill, as constituted, was inimical to the public and insulting to the profession, we should have nothing to do with it (see Supplement, July 22nd, p. 192).

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.

The annual Branch meeting was held at St. Peter's Churchhouse, Hereford, on Thursday, June 8th. Thirty-five members were present, Dr. John Steed, President, in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Election of Officers.—On the proposition of Dr. J. Steed, seconded by Dr. Holbeche, Mr. C. S. Morrison was unanimously elected President, 1912–13 (President-elect). Mr. Herbert Jones proposed and Dr. Cowen seconded that Mr. C. S. Morrison be re-elected Honorary Secretary and Treasurer of the Branch. Carried unanimously.

Report of Branch Council.—The Honorary Secretary read the Council's report on the affairs of the Branch and presented the annual financial statement. The Council *inter alia* drew the attention of members to the unsatisfactory provisions in the National Insurance Bill, which formed a climax to the many Acts of Parliament already in operation requiring undue sacrifices from medical practitioners, and urged upon the members to stand pledged to oppose the bill unless and until the bill was modified to meet the reasonable and moderate requests put forward on their behalf by the British Medical Association. The Council also invited members of the Branch to start a defence fund, and concluded their report with the observation—"the larger the fund the greater will be our security to face the crisis." The President moved that the report be received and adopted; this was seconded by Mr. Herbert Jones. Several members spoke in support of the suggestions put forward in the report, and on the motion being put from the chair, was unanimously carried (see Supplement, July 22nd, p. 193).

Proposed Trade Union.—The motion formulated by Dr. Bertram Addenbrooke—that the medical profession form themselves into a trade union to protect efficiently their livelihood—was, on the suggestion of the President, deferred for discussion until and after Mr. Colen Legge's paper had been read.

Installation of New President.—This concluded the business of the meeting, and in the retiring President, Dr. J. Steed, the members of the Branch recognized that they had enjoyed during his year of office the advantages springing from a genial personality and a staunch and loyal supporter of the best traditions of the local profession. Dr. Steed having vacated the chair, he introduced Mr. S. Colen Legge as President for the ensuing year. Mr. Legge having thanked the members for the honourable office he had been asked to accept invited Dr. R. Fortescue Fox to read his paper on Medical Hydrology in Nervous Disorders.

Medical Hydrology in Nervous Disorders.—Dr. Fox, having shortly entered a plea for a wider study and more general application of hydrotherapeutics in general practice, drew attention to the difference and correlation of climatology and balneology. In France, Germany, Austria, Italy, Spain, and America medical hydrology was a rapidly growing science, and treatment by means of water and of waters was becoming an essential part of general therapeutics. The association of climates with that of baths and waters was not only an important factor in treatment but largely controlled the special features distinguishing individual spas. Altitude was also another important question, and both British and foreign spas fortunately enjoyed a great variety of climates and in the selection of a health resort the climate may be the determining factor; in this connexion he named Buxton, Harrogate, and Llandrindod, all of which also have a suitable medium altitude. Strathpeffer, although on a lower sea-level, had the compensating advantage of a more northern latitude, and all the foregoing afforded appropriate conditions for the treatment of circulatory disorders. The important effects of thermal and cold baths on the peripheral and central nervous systems were closely traced through their manifold reactions—sedative or stimulating—and appropriate treatment suggested for neurasthenic ailments and functional neuroses, joint and intestinal affections and cases of high arterial tension. The importance of plus or minus applications of heat in waters, whether internally or externally used, was explained, and the processes of profound tissue changes involved by the treatment duly emphasized. The indications and contraindications of subthermal, hyperthermal, and cold douche baths were given, and the value and use of various medicinal springs described. Attention was drawn to the remarkable effect produced by certain springs. The effect could not be accounted for by their chemical constitution, but were supposed to be dependent on the colloidal state of their dissolved ingredients, which exercised on tissue changes probably the action of a ferment. Radio-activitity in mineral waters was touched upon, and Gastein, Plombières, and Buxton named as examples. In conclusion, Dr. Fox expressed the hope that in the near future our resources for treating functional neuroses would advance with our more accurate knowledge of medical hydrology. Mr. N. Hay Forbes (Church Stretton), who at the special invitation of the Branch was present to discuss Dr. Fox's paper, acknowledged the advantage of combining climate with "water cure," but at Church Stretton he had experienced very satisfactory results accruing in certain class of cases chiefly from the influence of climate on health. Mr. Forbes then more fully detailed his experiences at Church Stretton. Mr. Colen Legge, having shortly remarked on the useful character of the paper Dr. Forbes had treated the Branch to, invited a cordial vote of thanks to Dr. Forbes. This was given by acclamation. Dr. Forbes suitably replied.

National Insurance Scheme.—Mr. Colen Legge read a short paper, On the the National Insurance Scheme as it will Affect a General Practitioner. A spirited and interesting discussion followed, the paper being taken as an introduction to the motion of Dr. Bertram Addenbrooke to form the profession into a trade union, the motion being seconded by Mr. Gostling. Messrs. Herbert Jones, C. S. Morrison, H. Neville Crowe, H. Finlay, A. McMichael, J. W. Miller, H. Williams, E. S. Robinson, J. Stead, and T. S. Shepherd expressed their dissent with Dr. Addenbrooke's motion, which they considered in the existing circumstances most inopportune. and likely to have results far different to those Dr. Addenbrooke had at heart. The division of forces would be the weakening of the whole unit, and self-destructive in operation. Dr. Addenbrooke, in acknowledging the active opposition the British Medical Association was offering to the Insurance Bill, and the formation of a Defence Fund that day, with the approval of Mr. Gostling, asked leave to withdraw his motion, which was allowed.

Communications.—Dr. Thomas Hincks read notes on an unusual case of hydatid cystic abscess situated in the buttock of a married female, aged 32. Specimens of the hydatids removed were exhibited, and numbered 125 in all. Dr. Addenbrooke related the case of a tumour over the left shoulder blade, taken for a lipoma, which was ultimately found to be a hydatid cyst. Dr. Hincks having been thanked for his paper, the meeting terminated.

National Insurance.

MEETINGS OF THE PROFESSION.

CHELSEA.

A MEETING of the Chelsea Division of the British Medical Association was held at the Fulham Town Hall on July 18th, Dr. YOUNG in the chair. The minutes of the last meeting were read and confirmed. Letters were read from the Preston and Brighton Divisions *re* the National Insurance Bill. Although the meeting approved of the general terms of the resolutions passed by the latter Division, it was considered that it would be better to adhere to the original six amendments to the bill as demanded by the Special Representative Meeting.

It was also considered that the suggestions contained in a letter from Dr. E. R. Fothergill on the same subject were unnecessary if medical men signed the undertaking which had been circulated.

Deputation to the Local Members of Parliament.—Dr. FLETCHER stated that Mr. Hoare, M.P. for Chelsea, had expressed himself in entire sympathy with the amendments to the bill which they demanded, and further promised to support all of them.

The Right. Hon. W. Hayes Fisher, M.P. for Fulham, whilst expressing his sympathy, declined to pledge himself to support their principal amendments, and told them that their only hope lay in their own united action. The following resolution was carried:

> That T. J. G. Hoare, Esq., M.P. for Chelsea, be thanked for receiving the deputation and for his unconditional promise to support all the amendments to the National Insurance Bill which were demanded by the Chelsea Division of the British Medical Association.

Also:

> That the Right Hon. W. Hayes Fisher, M.P. for Fulham, be thanked for receiving the deputation, but that the Chelsea Division of the British Medical Association noted with regret that he would not pledge himself to support the amendments to the National Insurance Bill which they demanded.

Report of Executive Committee.—The HONORARY SECRETARY said that the canvass of the Chelsea part of the Division was not yet complete, but that in Fulham and West Kensington all but two or three men in general practice had signed the undertaking.

Special Report of the Council to Representative Body.—A lengthy discussion thereon terminated in a consideration of the following question:

> Is the Division of opinion that an amendment of the bill is desirable which would make it possible for the medical benefits to take the form of a contribution from the Insurance Fund to the cost of medical attendance given to an insured person, under a private arrangement entered into by him with a medical practitioner, upon such terms as may be agreed upon between them?

By a unanimous vote, an emphatic negative was given to this question, and the Representative was instructed to vote for the six amendments to the bill as originally passed at the last Representative Meeting.

Guarantee Fund.—It was decided to raise money from the members of the Division to send to the Central Fund

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HAMPSTEAD.

A MEETING, to which all members of the medical profession resident in the area of the Hampstead Division were invited, took place on July 19th, at 8.30 p.m., at the Central Library, Arkwright Road, to consider the Special Report of the Council to the Annual Representative Meeting on the results of the deputation to the Chancellor of the Exchequer. Dr. OAKLEY was in the chair, and fifty-three members of the profession were present. The minutes of the last meeting, having appeared in the JOURNAL, were taken as read. Apologies for non-attendance were received from Drs. Smith Whitaker, Cunnington, Benthall, Owst, Claude Taylor, Frazer Nash, Alice BROWN, Howard Green, and Thomas Wilson. Letters were read from Mr. Fletcher, M.P. (Hampstead), and Mr. Mallaby-Deeley (Harrow), expressing their intention to support the amendments put forward by the British Medical Association.

Amendments of the National Insurance Bill.

The CHAIRMAN made a few remarks on the Chancellor's proviso *re* free choice of doctor, and on the question of contracting out, and then called upon Dr. Ford Anderson to discuss these points more fully, and to give a short account of the present position of the bill.

Dr. FORD ANDERSON explained the reasons given for the insertion of the proviso at the end of Clause 14, but thought it would have a very bad effect. He also pointed out that the new subsection proposed to be added to Clause 14 was intended to make it compulsory, not a voluntary arrangement for those whose income was above a certain sum to receive their medical benefits under the bill in form of a contribution towards the cost of medical attendance.

Dr. PERCY EVANS expressed the opinion that the proviso would sanction the employment of "blacklegs."

A resolution was moved by Dr. ERIC L. PRITCHARD, seconded by Dr. STAFFORD ARCHER, and carried unanimously:

> That Mr. Lloyd George's proviso be not accepted.

Discussion then followed on the "contracting out" question, in which Drs. KINGSFORD, LEWIS GLOVER, DORRELL, CARSON SMYTH, ERIC L. PRITCHARD, WARE, MACEVOY, WINSLOW HALL, and DOBBIE joined.

The question was then put to the meeting:

> Is the Division of opinion that an amendment of the bill is desirable which would make it possible for the medical benefits to take the form of a contribution from the Insurance Fund to the cost of medical attendance given to an insured person, under a private arrangement entered into by him with a medical practitioner, upon such terms as may be agreed upon between them?

It was unanimously agreed that the answer be given in the negative.

A resolution was proposed by Dr. KINGSFORD, seconded by Dr. ERIC L. PRITCHARD, and carried unanimously:

> That a deputation be sent to Sir Philip Magnus asking him to amend his amedment as follows: "That the maximum £2 limit should be specified in the bill, or such less sum as may be agreed upon by the local Health Committee and the local Medical Committee."

Dr. PRITCHARD pointed out that both as taxpayers and doctors they had a right to object to any one with an income of over £2 a week being included in the bill. Drs. Macevoy, Pritchard, and Percy Evans were chosen to form the deputation. An amendment by Dr. WINSLOW HALL proposing a scale of fees for those whose income was above the £2 limit was ruled out of order.

Guarantee Funds.

The question of a central or local guarantee fund was discussed. The majority were in favour of a central fund only. Several non-members as well as members put down their names as willing to subscribe to the fund.

NORWOOD.

A MEETING of the Norwood Division of the British Medical Association was held at Willoughby Hall, West Norwood, on Monday, July 17th, at 8.30 p.m., Dr. S. WELCH, of West Norwood, in the chair. Twenty-one members and one visitor were present.

The minutes of the previous meeting were read and confirmed.

A report on work done in connexion with the National Insurance Bill was read by the HONORARY SECRETARY briefly as follows:

Meetings of Executive Committee...	7
Meetings of profession to consider original report of Council	2
Meetings of profession to consider bill	2
Deputations to members of Parliament	6

Canvass of profession for undertaking and memorial had resulted in 220 signatures and 6 refusals to date.

Dr. ECCLES moved and Dr. CAZENOVE seconded:

> That the report be received and adopted, and that a vote of thanks be accorded to the Executive Committee.

This was carried *nemine contradicente*.

Dr. BATTEN moved, and Dr. GREENLEES seconded:

That this Division cordially supports the six points of the British Medical Association programme, and earnestly hopes that none of them will be modified or given up.

Dr. SIMMONDS moved, and Dr. E. F. S. GREEN seconded:

That medical benefits be only admissible at figures which would thoroughly secure that no diminution of the present income of the profession from the corresponding class of patients would result.

The amendment was lost, and the original motion carried *nemine contradicente*.

Report of Council.

With regard to the report of Council, it was resolved, on the motion of Dr. HOWARD, seconded by Dr. SWAYNE:

That this Division does not consider the amendment to Clause 14 submitted by the Council meets the demands of the medical profession, and proposes that any amendments shall embody some such mode of procedure as the following:

The local Health Committee, after consultation with the local Medical Committees, and with the sanction of the Insurance Commissioners, shall fix upon a wage limit within their area, which limit shall not exceed £2 per week from all sources. All insured persons above this limit shall contract out for medical benefits. The proof of income shall be a declaration carrying legal penalties for falsification, signed by the insured person, stating that the average income is or is not over the wage limit.

FINCHLEY.

A MEETING of members of the medical profession resident in Finchley and its neighbourhood was held on July 21st at the District Council Offices, Church End, Finchley, under the auspices of the Hampstead Division of the British Medical Association, to discuss the National Insurance Bill and to consider the advisability of forming a Finchley Ward. Dr. OAKLEY was in the chair, and eighteen members of the profession were present.

Dr. HICKS explained that Finchley members felt geographically isolated from Hampstead, but that if meetings could be held at a convenient local centre he had no doubt many more would be able to attend. He then spoke of the urgent need for united action on the part of the profession in reference to the National Insurance Bill. Dr. Hicks referred to the Chancellor's concessions and amiability at the Special Representative Meeting, followed immediately by his Birmingham speech. He also spoke of the amendments put forward or allowed to be put forward by the Chancellor, and of the illusory nature of some of his concessions, especially those in regard to the formation of Medical Committees and local Health Committees. The local Health Committees would always be able to overrule the local Medical Committees.

Dr. FORD ANDERSON gave a short account of the action of the British Medical Association in regard to the bill. He referred to the Chancellor's fervid Celtic oratory on introducing the bill, which, taken in conjunction with the general idea of the bill, had aroused much sympathy. Next came the critical stage, which had now passed into the stage of opposition. He then spoke one by one of the resolutions passed by the British Medical Association. The question of the method and amount of remuneration was purposely left open by those resolutions. The amount could not be settled till it was known what the work was. He thought the concessions in regard to medical representation on the committees was not quite so minute as Dr. Hicks had supposed. Dr. Hicks had fixed upon the weak point—the fact that the local Medical Committee not being a statutory committee, the local Health Committee would not be obliged to follow its advice. The local Health Committee would, however, have three medical members, two appointed locally and one by the Insurance Commissioners. There would also be at least one medical practitioner familiar with practice among the classes from which the insured were drawn among the Insurance Commissioners and on the Advisory Committee. Mr. Lloyd George had agreed to free choice of doctors subject to the power of the Insurance Commissioners, on the recommendation of the local Health Committee (and it was hoped of the local Medical Committee), to remove any unsuitable man from the list. It was still doubtful, however, how Mr. Lloyd George meant to deal with the friendly societies in regard to free choice. But the medical profession had no doubt as to its own intentions in the matter. Mr. Lloyd George's proviso as to securing an adequate medical service left an alarming loophole. At the mass meeting of the profession the £2 limit had been accepted, although many Divisions thought it should have been lower. Agricultural districts were up in arms on this point. But the Chancellor remained firm in his opinion that any other limit than the income-tax limit was administratively and politically impossible. The Chancellor's new subclause to Clause 14 was intended as a concession. It might to some extent relieve those who demanded a lower wage limit. But it would merely transfer the arena of fight from the House of Commons to the districts. The medical profession saw no reason why a statutory wage limit should not be fixed.

Dr. OAKLEY then put the question referred to the Divisions. As in the case of the larger meeting at Hampstead, the answer was in the negative. The meeting then voted unanimously in favour of the resolution passed at the Hampstead meeting.

Guarantee Funds.

A vote was then taken whether the Guarantee Fund should be central or local. The majority decided in favour of a central fund for the present.

Formation of Finchley Ward.

Those present were asked to say whether a Finchley Ward should be formed as part of the Hampstead Division or of the Tottenham Division. Thirteen voted in favour of its being part of the Hampstead Division and one in favour of Tottenham. The resolution, proposed by Dr. HICKS and seconded by Dr. ORR,

That a Finchley Ward of the Hampstead Division be formed,

was then put and carried unanimously.

ISLINGTON AND ST. PANCRAS.

A MEETING of all practitioners in Islington and St. Pancras was held on July 19th at the Midland Grand Hotel, to consider especially the Special Report of the Council of the British Medical Association in respect of the National Insurance Bill. Dr. BASIL G. MORISON, Chairman of the Division, presided, and there was a large attendance.

The Chairman informed the meeting that all members of Parliament in the eight constituencies of the two boroughs had received deputations, and that 85 per cent. of the practitioners in the area had signed the undertaking and memorial of the Association; that further steps would be forthwith taken to secure the signatures of those outstanding. He then described to the meeting the nature and purpose of the Council's Special Report, and invited free discussion thereon. A number of those present spoke, and Dr. R. M. BEATON concluded an able speech by moving a resolution instructing the Division's Representative that the Division insisted that payment under the Insurance Act should be by work done, and not by capitation or other system. The resolution on being put to the meeting was carried unanimously.

The CHAIRMAN then put the question contained in the Special Report, and it was resolved to answer it thus:

Yes; but this provision (namely, contribution towards cost of medical attendance under private arrangement) shall not apply to the case of persons whose average weekly earnings from all sources is more than £2 per week. Such persons shall be excluded from medical benefits under the bill.

A vote of thanks to the Chairman was carried by acclamation.

LAMBETH.

A MEETING of the medical profession resident and practising in the area of the Lambeth Division of the British Medical Association was held at Camberwell Town Hall on June 21st, when 110 doctors were present.

Messrs. HAMMAND FRASER, ATKINSON, HERBERT TAYLOR, BOON, MATCHAM, and CAPES addressed the meeting, each speaking on one of the six points which embody the policy of the British Medical Association regarding the National Insurance Bill.

A very animated discussion then took place. Messrs. G. J. WILSON, A. J. COOKE, and W. PARTRIDGE thought that

the policy of the Association was satisfactory so far as it went, but complained that it did not go far enough. Dr. Harvey Norton agreed with the principles of the bill, and thought that if the profession was united and took a common stand satisfactory terms could be made.

The six cardinal points were then put to the meeting and were carried unanimously, except Point (5), suggesting that the remuneration should be what the profession considers adequate, in which case there was one dissentient.

Seven subcommittees were then formed to safeguard the interests of the profession in the following areas: (1) Brixton, (2) Kennington, (3) Dulwich, (4) Peckham and North Camberwell, (5) Bermondsey and Rotherhithe, (6) Walworth and Newington, (7) Southwark and North Lambeth.

The meeting terminated with a vote of thanks to the borough council for the use of the hall.

These subcommittees have since proved a great success in bringing the local profession closer together, and through them an extremely efficient canvass has been instituted.

GLASGOW.

A joint meeting of the members of the Scottish Midland and Western Medical Association and the Fifeshire Association of Colliery Surgeons was held at the Central Station Hotel, Glasgow, on July 13th, to consider the National Insurance Bill as it affected doctors of collieries and public works. The meeting was attended by Drs. C. Crawford, T. Steele, S. Martyn, J. Livingston Loudon, J. Murray Young, John Goff, William MacEwan, Alex. M. Easterbrook, James Muir, John Lithgow, W. R. Willis, W. G. Macpherson, Robert Thomson, William Craig, Bruce Goff, John Beveridge, James Kirkland, D. Elliot Dickson, John Morrison, John Joss, G. M. Crawford, Charles Stewart, John Young, James Robertson, James Adam.

Dr. Bruce Goff (Bothwell) was called to the chair. After reading the circular calling the meeting, Dr. Crawford, Secretary to the Scottish Midland and Western Medical Association, detailed the steps which had been taken by his association to obtain modification of the bill in regard to attendance on wives and children for which no provision had been made. A deputation had been appointed to wait on the Chancellor of the Exchequer, but after repeated applications he had declined to receive it, although expressing sympathy with the objects of the association, and promising to safeguard the position of colliery surgeons.

After some discussion as to the desirability of forming a Scottish Colliery Surgeons' Association, it was resolved to form an executive committee consisting of two representatives from each of the principal mining counties.

The following gentlemen were nominated and elected:

Lanarkshire. — Dr. Macpherson, Bothwell; Dr. Mackay, Larkhall.

Ayrshire.—Dr, Beveridge, Hurlford; Dr. Charles Stewart, Auchinleck.

Fifeshire.—Dr. Craig, Cowdenbeath; Dr. Dickson, Lochgelly.

Stirlingshire.—Dr. Joss, Denny; Dr. Morrison, Bannockburn.

Midlothian.—Dr. Easterbrook, Gorebridge; Dr. A. D. R. Thomson, Musselburgh.

East Lothian.—Dr. MacEwan, Prestonpans; Dr. Steganovitch, Tranent.

West Lothian.—Dr. Alexander Scott, Buxburn; Dr. J. C. Rossie, Bathgate.

Clackmannan.—Dr. Robertson, Clackmannan; Dr. Lowe, Alloa.

It was resolved to intimate to the Medical Secretary, British Medical Association, that this meeting, representative of the various mining counties, had been held, and a representative committee as above detailed had been appointed to consider carefully the interests of colliery and public works surgeons.

A vote of thanks to the Chairman concluded the proceedings.

IRELAND.

Every week brings further protests against the State Insurance Bill, clearly demonstrating how unsuitable it is to the needs of Ireland, and making it more and more evident that, not radical amendment as was first suggested, but exclusion of Ireland from the working of the Act, is what is really wanted. In the Dublin daily papers this week there have been several letters pointing out that the railway clerks not only will not benefit by the bill but will actually be penalized by it. At present the railway companies, as a rule, pay their clerks when sick full wages for unrestricted periods, whereas under the bill these clerks will only receive half-pay during sickness, and this only for a limited time. Some two months ago a "vigilance committee," consisting of representatives of the stationmasters and clerks on the different railways in Ireland, was formed for the purpose of looking after their interests as affected by the proposed National Insurance Bill, and they are at present working to secure total exemption for the salaried employees from the compulsory provisions of the bill.

A meeting of the staff of the Irish Railway Clearing House, held on July 21st for the purpose of discussing the bill, was well attended.

The Chairman gave a synopsis of the bill so far as it concerned railway clerks. He pointed out that under the clauses of the bill the staff of the Irish Clearing House, as well as the clerical staffs of the various Irish railways, would be compelled to contribute to a fund out of which they would obtain an amount during a period of sickness totally inadequate to their needs. So far as he was aware, members of the staff who were in receipt of a salary exempting them from the provisions of the bill would also be seriously affected, as the companies would in all probability cease to pay any salaries during illness, as heretofore, if they were compelled to contribute to the State fund.

A committee was formed for the purpose of taking whatever action might be necessary to secure exemption.

The Chairman of the Irish Railway Clearing House has, on behalf of that institution, addressed a letter to the Chancellor of the Exchequer, pointing out the above facts. In the letter it is urged that the contribution proposed for both employers and employees in Ireland is excessive and disproportionate to the rate of wages existing and the benefits likely to accrue to the employees. The letter suggests that, considering the varied interests involved, the circumstances fully justify the fixing of the contribution in Ireland at a rate not exceeding one-half that proposed to be paid in England.

MANCHESTER.

An ordinary meeting of the Manchester (Central) Division of the British Medical Association was held at 14, St. John Street, on July 17th, Professor Murray in the chair.

After discussion of the Special Report of the Council to the Annual Representative Meeting, the recommendations of Council were individually considered. The following resolutions on the recommendations were unanimously approved:

A1. The meeting was of the opinion that it could not fully approve the action of the Council in so far as it related to any negotiations in reference to the substitution of the contribution towards the cost of medical attendance for free medical attendance as medical benefit for any of the insured.

The meeting was of the opinion that the Council should have taken steps to exclude those whose income was over £2 from maternity as well as medical benefit.

A2. The meeting is not satisfied with the results of Council's action *re* free choice. It considers that no arrangement is satisfactory which does not secure the right on part of doctor to refuse medical attendance.

This right is definitely withheld by the terms of the Chancellor's amendment to Clause 14.

A3. This meeting approves action of Council in placing amendment to secure the administration of medical and maternity benefit shall be by the local Health Committees and not by approved societies.

A4. The meeting is of the opinion that the suggested medical representation is inadequate and unsatisfactory.

B. The Council's action approved.

C. The meeting is of the opinion that this clause does not express the meaning of the principle adopted by the Representative Meeting, namely, that provision should be made for exclusion from medical and maternity benefit of persons whose average income from all sources exceeds £2 per week.

The meeting held that the £2 income limit shall exclude from medical benefit in any form, and that this limit must be included in the bill.

The following resolution was unanimously adopted:

Seeing that the Government has not acceded to the just demands of the British Medical Association, as formulated in its declared policy, namely:

A. To insist unitedly upon:

1. An income limit of £2 a week for those entitled to medical benefit.
2. Free choice of doctor by patient, subject to consent of doctor to act.
3. Medical and maternity benefits to be administered by local Health Committees and not by friendly societies.
4. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.
6. Adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committees; and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee.

B. And to urge the Government to postpone dealing with the medical benefits under the bill until a satisfactory arrangement should have been arrived at with the medical profession.

This Division is of opinion that the Representative Meeting—

A. Should unwaveringly adhere to the declared policy of the Association, and again call upon the Government to postpone dealing with the medical benefits in Committee of the House until arrangements satisfactory to the profession and in accordance with the declared policy of the British Medical Association have been made.

B. And, failing such undertaking by the Government, should decline to continue negotiations with the object of amending the bill.

In regard to the question submitted to the Divisions the meeting unanimously decided to answer in the direct negative.

The letter of July 14th from the Secretaries of the Joint Committee with reference to the Guarantee Fund was read, and it was unanimously resolved to accept the proposal, but to await details of the full scheme before approving of it.

At a meeting of the Northern Association of Medical Women, held in Manchester on July 15th, Miss IVENS, M.S., in the chair, the following resolutions were unanimously adopted:

1. That this association fully endorses the action of the British Medical Association with regard to the Insurance Bill, and pledges itself to support its recommendations.
2. That the British Medical Association be asked to urge that at least one woman be on the Advisory Committee.

LANCASTER.

AT a full meeting of the Lancaster Division of the British Medical Association, held on July 19th at the Royal Infirmary, Lancaster, the following resolutions were passed unanimously:

1. That the Lancaster Division is emphatically of opinion that an amendment of the bill is highly undesirable which would make it possible for the medical benefits to take the form of a contribution from the Insurance Fund to the cost of medical attendance given to an insured person, under a private arrangement entered into by him with a medical practitioner, upon such terms as may be agreed upon between them.
2. That the Lancaster Division reaffirms its adherence to the six cardinal points of policy of the Association. Moreover, it emphasizes the fact that every member of this Division reaffirms the principle that persons whose average income from all sources exceeds £2 per week should not be able to claim, under the bill, medical attendance under any arrangement made by practitioners with local Health Committees, or other bodies constituted under the Bill; and they refuse to work under the bill if this amendment according to the policy of the Association is not granted.

BURY.

A GENERAL meeting of the Bury Division of the British Medical Association was held on July 18th. Dr. JAMES HOLMES occupied the chair, and twenty-one members were present.

The SECRETARY reported that the list of signatures to the local pledge was now complete, and that for the British Medical Association undertaking 71 out of 74 signatures had been received, the others being easily accounted for. He also stated that he had been in communication with the local members of Parliament with regard to the British Medical Association amendments.

The leaders of deputations reported on the interviews they had had with members of Parliament.

Some discussion took place on the question of allowing private arrangements between doctors and insured persons, but it was evident that the amendment proposed was not clear. It was decided that the Representative should be allowed to use his discretion in regard to the general business of the meeting, but it was resolved (with one dissentient) that the terms of the British Medical Association should be considered the irreducible minimum, and that no compromise could be accepted.

The SECRETARY asked that in accordance with the pledge a levy of 5s. per member should be made to pay local expenses.

TYNESIDE.

A GENERAL meeting of the Tyneside Division of the British Medical Association was held at North Shields on July 26th. Present: Drs. WILKINSON (in the chair), Adams, Muirhead, Martin, Campbell, Gunn, Craig, Stephens, and Fraser. The following resolutions were passed:

1. That we support the Central Guarantee Fund, and recommend all our members to do so.
2. That in the opinion of this Division the amount of the guarantee asked for is inadequate.
3. That the following resolution be sent to the British Medical Association as a recommendation, and a request made that the Association effect the organization of such union, namely:

   That this Division is of opinion that the time has now arrived when the medical practitioners of the United Kingdom should form a National Medical Union, based on the principles of modern trades unions.

The SECRETARY reported that out of sixty-four practitioners resident in the Division, sixty-three had signed the undertaking.

CAMBRIDGE AND HUNTINGDON.

A SPECIAL meeting of the Cambridge and Huntingdon Branch of the British Medical Association was held at the University Arms, Cambridge, on July 19th, to consider the Special Report of the Council of the Association to the Annual Representative Meeting. The PRESIDENT, Dr. E. J. Cross, of St. Neots, was in the chair. There were 78 members present. The minutes of the special meetings of May 26th and July 5th were read and confirmed. The President then called upon Dr. Joseph Griffiths to preside over the discussion of the report. Sections 1, 2, and 3, were approved after some discussion. It was suggested that each insured person under the bill should make a declaration stating his average total income as at present demanded for income tax.

The following resolutions were passed unanimously:

1. That the £2 limit shall be universal and shall be definitely stated in the bill.
2. That no medical attendance or treatment shall be given under the bill to any insured person in receipt of a total average income of more than £2 per week.
3. That no insured person with an average income of £2 per week or any less sum shall be allowed to contract out of the bill.
4. That unemployed married women shall be excluded from the medical benefits under the scheme.

The recommendations of the Council were carried *nemine contradicente*.

It was decided (*a*) that the formation of a Defence Committee be left to the Branch Council. (*b*) That a local defence fund be raised. (*c*) That part of the individual subscriptions to the defence fund be earmarked for local needs.

SALISBURY.

AT a meeting of the members of the Salisbury Division of the British Medical Association, held at the Infirmary, Salisbury, on July 18th, the Special Report of the Council to the Representative Body concerning the National Insurance Bill was discussed, and the following question referred to the Division considered:

> Is the Division of opinion that an amendment of the bill is desirable which would make it possible for the medical benefits to take the form of a contribution from the Insurance Fund to the cost of medical attendance given to an insured person, under a private arrangement entered into by him with a medical practitioner, upon such terms as may be agreed upon between them?

On the motion of Mr. MARSH, seconded by Mr. ENSOR, it was decided that the question be answered in the affirmative. Nine voted for the resolution, five not voting.

The supplementary report of the Committee to the Representative Body, published in the SUPPLEMENT of the BRITISH MEDICAL JOURNAL of July 8th, 1911, was agreed to by the meeting.

It was proposed by Dr. GOULD, seconded by Dr. RUTTER, that the members of the Division be asked to guarantee subscriptions to (1) Central Fund, (2) Local Defence Fund.

The resolution was carried unanimously.

The members present promised to guarantee £5 to the Central Fund and £20 to the Local Defence Fund.

WEST CORNWALL.

MEETINGS of medical men practising in West Cornwall were held, under the auspices of the West Cornwall Division of the British Medical Association, at Penzance and Truro on July 18th, over forty being present.

The HONORARY SECRETARY reported the results of the delegations to the members of Parliament for the Western constituencies: Drs. A. E. Permewan (Redruth), F. Chown (Townshend), and M. R. Taylor (Helston), who interviewed Mr. F. D. Acland, M.P. for the Mining Division of Camborne at Redruth, were able to show him the injustice of the income tax limit, and he agreed to ask the Chancellor of the Exchequer to exclude non-manual labourers earning over £2 a week. The deputation assured him that this only met their case very partially. He appeared to be favourably disposed to the profession's wishes on the subject of friendly society control. On July 10th and 11th Drs. Houghton (Falmouth), Edwards (Penzance), and Taylor (Helston) saw Sir Clifford Cory (Cornwall, St. Ives), and Messrs. Hay Morgan (Truro) and Goldman (Penryn and Falmouth) at the House of Commons. These members of Parliament all seemed very favourably disposed to the views of the profession, and the deputation was able to clear up many points that had been difficult of understanding from a lay point of view. The Honorary Secretary reported that a "whip round" of 2s. a head from all men in practice in the Division would cover the deputations' expenses. This amount was paid by all present, and the Honorary Secretary was instructed to apply for the rest in his next circular letter.

The circular letter of the Medical Secretary of July 8th was read, explaining the position to that date, together with the Special Report of the Council. The meetings unanimously expressed the hope that there would be no weakening in any way on the part of the executive; and instructions to this effect were sent to Mr. Russell Coombe, the Representative on the Representative Body.

With regard to the questions of guarantee funds, the resolutions passed on July 4th were talked over, and it was decided to ask all men practising in the Divisional area to agree to guarantee a sum of five guineas, of which two guineas should be earmarked as a "local" Defence Fund, and the rest sent to the Central Fund.

The Honorary Secretary was instructed to send a report of these resolutions to all medical men in the Divisional area, with a printed post-card for their reply.

PROCEEDINGS IN PARLIAMENT.

COMMITTEE STAGE.

The Position of Hospitals.

ON Monday last the House went into Committee on Clause 12, as follows:

(1) No payment shall be made in respect of sickness disablement or maternity benefit to any insured person during any period when he is an inmate of any workhouse, hospital, asylum, or infirmary, supported by any public authority or out of any public funds or by a charity, or of a sanatorium or similar institution established under this Part of this Act.

(2) During such period as aforesaid any such benefit which would otherwise have been payable to such person—

(*a*) shall be paid to or applied in whole or in part for the relief or maintenance of his dependants (if any) in such manner as the society or committee by which the benefit is administered think fit; or

(*b*) if such person is an inmate of a sanatorium or similar institution in which he is receiving treatment in accordance with the provisions of this Part of this Act, and has no dependants, shall be paid to the local Health Committee towards the general purposes thereof.

(3) For the purpose of this section, the expression "dependants" shall include such of the following members of the insured person's family as are wholly or in part dependent upon the earnings of such person at the time when he became an inmate of any such institution as aforesaid, that is to say, his or her wife or husband, father, mother, grandfather, grandmother, stepfather, stepmother, son, daughter, grandson, granddaughter, stepson, stepdaughter, brother, sister, half-brother, half-sister.

(4) The society or committee by which the sickness disablement or maternity benefit of any insured persons is administered, may enter into any agreement with the proper officers or authorities of any convalescent home or sanatorium, admission to which is conditional on the payment of the whole or any part not less than *one half* of the cost of maintenance for the payment thereto of any sickness disablement, or maternity benefit which would, apart from this section, be payable to or in respect of any such person who becomes an imate of such home, during any period for which he remains an inmate.

Mr. Sherwell moved several amendments to make the first subsection read:

> No payment shall be made on account of sickness disablement or maternity benefit, to or in respect of any person during any period when the person to or in respect of whom the benefit is payable is an inmate of any workhouse, hospital, asylum, or infirmary, supported by any public authority or out of any public funds or by a charity, or of a sanatorium or similar institution established under this part of the Act.

The Chancellor of the Exchequer accepted the amendments, and they were agreed to.

Mr. Pollock moved the omission of the words "or by charity" in order to obtain from the Chancellor of the Exchequer an explanation of the amendments he proposed to insert dealing with charities.

Mr. Austen Chamberlain said the Chancellor of the Exchequer had said in reply to deputations that the House should be encouraged by the example of Germany, which ought to dispel their fears that misfortune or injury would happen to the hospitals by the passage of the bill. Mr. Chamberlain said that he was under the impression that the great bulk of the German hospitals were largely maintained out of public funds, and were only to a small extent dependent on private subscriptions and donations. He did not think, therefore, that the example of Germany gave any guidance as to what would happen in this country. Our voluntary hospital system was old-established, of slow growth and of gradual development, and largely encouraged by private effort in recent years. It must be clear that institutions which were dependent on voluntary subscriptions of workers and employers could not expect to receive equal sums in future when the State taxed both workmen and employers in order to provide that which hitherto the workman had to provide for himself. The hospitals could not expect to receive the same amount of support from the public in future. The effect would differ in the case of different institutions, and very likely in different parts of the country. An estimate made with regard to forty-four hospitals in the Midland counties was to the effect that the difference to them would be that over 50 per cent. of their entire income would be adversely affected by the bill, while in the case of individual hospitals within the area the proportion so affected would be 75, 80, and 90 per cent. These institutions had difficulty in keeping open the number of their beds and of getting new subscribers, while the tendency was for subscriptions and legacies to fall off. He was not surprised, therefore, that the managers viewed their prospects under the bill with something

like dismay. Apart from the beneficent work done by these hospitals, it should be borne in mind that they were training institutions in medicine and surgery. There was point, therefore, in the suggestion that where an insured person became an inmate of one of these institutions supported or partly supported by voluntary contributions, then, if he had no dependants, the whole of the money due to him as sick pay should go towards his maintenance in the hospital. If, however, the man had dependants the money should be divided between the hospital and them. There was another alternative. The Chancellor of the Exchequer had reserved a lump sum of the contributions of the insured which he proposed to pay for treatment in sanatoriums. He doubted whether this was the best way to spend so large a sum. It would be fair to take a portion of the money now to be allocated to sanatoriums and to allocate it to hospitals whose need and efficiency were proved by some impartial central authority, say by such a committee and regulations as were framed for the administration of grants to university colleges. That, he thought, would encourage local support and not stifle it, and would put these institutions on a secure basis. The only other plan was that for each man who was sent to hospital for treatment there should be a payment out of the National Insurance Fund. It was possible that a certain number of cases which ought never to go to hospital at all, being competent to find for themselves the treatment they required, would be eliminated, but when all these people were insured, and had a small *per capita* contribution for payment of the medical officer who was giving them medical treatment, the tendency in any case of a serious or prolonged kind would necessarily be to send such a case to hospital. The Hospital Saturday and Sunday Funds and the subscription lists would all be adversely affected. When both employers and employed were taxed in order to secure medical treatment they could not be expected to maintain their voluntary subscriptions at the same rate as in the past. He was informed by those who undertook the thankless task of collecting subscriptions that it was increasingly difficult to fill the places of old subscribers, and under this bill they thought it would be absolutely impossible to do so. The amendment put down by the Chancellor was wholly inadequate for the protection of the hospitals, because whether they got more depended on whether the insured person had any dependants of any kind. The fund, in the interests of the institutions, of the medical profession, and the progress of medical science, should make adequate provision for the work the hospitals would be called upon to perform.

The Chancellor of the Exchequer said he did not think there was any real justification for the fears of a good many of those who were engaged in hospital work, and he thought the amendment of which he had given notice would dispel those fears. The first thing that would happen under the bill would be that hundreds of thousands of patients would be transferred from the charge of the hospitals to the charge of the fund. In the case of the London Hospital, he was informed that the out-patients were not drawn from the class who would naturally resort to parochial relief, and at the other end of the scale the hospital did not undertake the cases of those who in the judgement of the hospital authorities could afford to pay the doctors themselves. They were drawn from the class of low-paid labour, or those who, having family charges, could not pay the ordinary medical charges. That was the very class that would be met by the Insurance Bill. Every one of these would be entitled to a doctor under the bill. It was true they might prefer the hospital doctor, but in that case the hospital authorities would be entitled to say, Are you insured? That would relieve the hospitals of a large part of the burden. Then there was the relief in respect of the very heavy charge on the hospitals in connexion with tuberculous disease—a charge that was out of all proportion to the number of patients. The hospitals were taking rather too one-sided a view; they were only looking at the increased charges, at the possible diminution of subscribers; they were not looking at the diminution of charges on the other side and the new sources of revenue opened up. As to the other point, he did not see why the workmen should subscribe less in future. The subscriptions in the main came from those who were members either of friendly societies or of works clubs, because although friendly societies did give a man some sort of medical treatment, they did not make any provision for hospital treatment. Accident treatment was outside the ordinary medical treatment provided by the friendly societies. Therefore, friendly societies had got to make some effort to provide hospital treatment in addition to ordinary medical treatment. The same thing applied to works clubs. The men paid 3d. or 4d. a week, generally 4d., for the family doctor, but they collected an extra 1d. for the hospital. Under this bill the man who was paying 6d. would in future pay 4d. for benefits. They would pay less in the future, and there was no reason why the man who was now paying the extra 1d. towards the hospitals when he was paying for medical treatment should pay less in future towards the hospitals because he was a member of a friendly society. On the contrary, there was every reason why he should pay more. The same thing applied to those who were in works clubs. In most works, in addition to helping to keep up the hospitals, they had a works doctor. There was one reason for that. In cases of accident they had to resort to hospitals, and they had to make provision for operations which could not very well be performed in a man's own home. They were paying that now in addition to medical treatment, and the same thing would happen in the future, with this difference, that the man would have to pay less to his friendly society and therefore would have more to give to the hospital. It was said that as the employer was paying something for the first time that he was not paying before, and therefore he would subscribe less. He did not think he would. That line of argument was always put forward in this connexion, but it never worked out in that way. He would take the case of a bill piloted through the House by the right hon. gentleman's distinguished relative, that dealing with workmen's compensation. Under that bill enormous charges were cast on the employers, especially those who owned collieries. Many colliery owners at one time firmly believed that the measure meant ruin to them. He could well understand their feelings because it increased for the moment their charges very considerably. They said it would damage the infirmaries, but he did not believe there was a single colliery infirmary throughout the kingdom which received a smaller contribution from a colliery proprietor since that bill became law, although since that time employers had paid hundreds and thousands a year in respect of the working of that measure. So that really there was no danger that the employers this time would not discharge what they regarded as a very fair obligation to their workmen by subscribing in the future to hospitals. As to the new sources of revenue, the first was the subscription by the approved societies. He thought that should extend to the local Health Committees as well. He thought they also should be subscribers. Of course there was no power of compulsory levy. Still the power of subscription in itself would be valuable. If the hospital funds were going down, and if there was a danger of a hospital being closed, or any number of beds being closed or not being used, it would be in the interests of the societies in that district to subscribe. He attached much greater importance to the amendment of the Government than the right hon. gentleman did with regard to the payment of the sick pay of those who had no dependants to the hospital. It meant in the case of the vast majority of bachelors who happened to go into hospital 10s. a week would be paid for the first three months. It meant in respect of others who went to hospitals that there would be a considerable contribution to the funds of the hospital, and this was a new source of revenue which the hospitals had never been able to look to before. The right hon. gentleman said that even in the case of those who had got dependants a certain contribution ought to be levied. He had got quite an open mind upon that subject, and he would rather express no opinion upon it until they came to the amendment. The arrangement in Germany was that whenever a man went to the hospital a certain contribution came from the sick fund. In Germany half went to the hospital. He thought those who were in charge of the hospitals were exaggerating the danger. Certainly they were overlooking the diminution of charges, and they were at the same time overlooking the possible new sources of revenue. Therefore there was no real reason to suppose that the hospitals would be worse off. On the contrary, he thought they would be very much better off than in the past; above

all, for this reason, that everything was to be gained by exciting a new interest in national health. For the first time they were organizing the national health; they got 15 or 16 millions of people who joined societies for considering the best method of promoting national health, and hospitals which were an essential part of any system for promoting national health must necessarily improve their position by this new interest which was thus excited.

Mr. Lawson thought the Chancellor of the Exchequer was very greatly under-rating the hospital grievance. The State was forcing far more work on voluntary hospitals for which it refused to pay. Under the bill as it stood the voluntary system would become, he verily believed, impossible. The right hon. gentleman said there was no reason to believe that the resources of the hospitals would be diminished. That was not the opinion of the King's Fund. Their view was that funds would be considerably diminished. The London Hospital had reason to fear that employers would reduce their subscriptions, and it was unlikely that an amount equal to the present contributions of the workers would come out of the fund. The subscriptions of friendly societies would not help much, judging from the London Hospital, which out of £85,000 only received £50 from such societies. Only 36 per cent. of the out-patients would come within the bill. In the matter of in-patients and serious cases he was convinced that the work of the hospitals would be enormously increased. The number of operations would be vastly increased from the increased care given to the health of the people. The general practitioner would refer all difficult cases to the nearest hospital, and the fact that they were going to increase the area of medical attendance so largely and to bring it more closely to the detailed health of the people made it certain that the expenses thrown on the hospitals would be increased, and they provided no means to meet them. He recommended that for work done payment should be made to the hospitals. They should make it obligatory on the Health Committee to pay for the work done and adjust the burden as between them and the general practitioner.

Mr. J. Samuel defended the clause, which was criticized by Mr. Cassel and Captain Clive.

Mr. Lansbury declared that a stipulation that payment should be made for treatment in an infectious hospital would be a distinctly retrograde step. As regards general hospitals, they could only have public money if they were under public control.

After Mr. Hume Williams and Mr. O'Grady had spoken,

Mr. Lyttelton said that the view of hospital experts was without exception that their finances would be seriously depleted. He could not think that the small men would make the contributions to the hospitals that they had been in the habit of doing. On the other hand, if they placed upon the doctors the burden of attending to more patients than they properly could attend to, the inevitable tendency would be to shunt upon the hospitals some of the patients whom, but for that, they would have attended to themselves. Therefore, while the hospital revenue would be diminished, the services rendered by them would be increased. He thought the most sensible arrangement would be to submit for the decision of some impartial authority what proportion of the payment the hospitals should receive and what proportion the man's relatives should receive.

Sir Robert Finlay said there was one aspect of the necessity of securing hospitals from injury that he desired to emphasize. Not only did the voluntary hospitals bring the highest possible medical and surgical care to the service of the poorest man, but they were great medical and surgical schools, and anything that diminished their efficiency would inflict a severe blow upon medicine and medical science in this country. It was the unanimous opinion of those familiar with the working of hospitals that the bill most seriously prejudiced them.

The Attorney-General (Sir Rufus Isaacs): Not unanimous.

Sir R. Finlay: Very nearly unanimous. It was believed that while the work of the hospitals would be augmented their subscriptions would be diminished, and the position would lead to the consideration of the question whether it was not necessary to subsidize these great institutions out of public funds. There was a certain vague optimism about the observations of the Chancellor of the Exchequer, who seemed to think that all would come right; but he wished he had said something more solid in the direction of removing the apprehensions entertained.

After some remarks from Mr. Hamar Greenwood, Sir Henry Craik said that the discussion had wandered far from the amendment. If an insured person when ill was dealt with not by a public fund but by a public charity, and by the voluntary labours of the medical men who attended the hospital, it was reasonable to contend that his insurance money should be disposed of fairly between himself and the voluntary hospitals.

Mr. Baird said a patient received a great deal more than medical attendance in a hospital; he received all that sickness benefit was designed to pay for if he were at at home. If a patient were a ratepayer he contributed towards the cost of rate-supported institutions; and if he were an inmate of a hospital supported by voluntary subscriptions surely it was right that he should contribute to its support according to his means. To place voluntarily supported hospitals under municipal control would take away their distinctive character, and would be a step which had been proved to be undesirable in other cases. He believed that the amendment was desired by every one of the hospitals, and it had the support of the Manchester Unity of Oddfellows.

Mr. Peto urged the Committee to consider to what extent the subscriptions to hospitals and convalescent homes would fall off if the amendment was not adopted. After some explanatory remarks on the best way of altering the words so as to remove doubts, when the next amendment came on, Mr. Pollock withdrew his amendment. The Attorney-General moved to insert after "charity" the words "or by voluntary subscription," and these words were inserted.

Mr. Austen Chamberlain then moved an amendment providing that any such benefit which would otherwise be payable to such person shall,

> If he be an inmate or patient of a hospital or institution supported wholly or partly by voluntary subscriptions, be divided between that hospital or institution and his dependants (if any) in such proportions as the local Health Committee may determine.

He said this amendment would express the general feeling of the Committee in the debate which had just taken place. Mr. J. Samuel, who had opposed this idea, had said there were no such things as general hospitals and had seemed to think that the ordinary working man had no need for a hospital unless he had met with an accident. There were, however, numerous medical cases in which a working man's prospects of recovery depended on the skill with which he was nursed. It had been argued also that there were no such things as voluntary hospitals because workmen contributed to their maintenance; but that could not be accepted.

After a brisk altercation between Mr. Chamberlain and the Labour members, which arose in consequence of a remark on canvassing by foremen,

Dr. Addison expressed the hope that the Committee would not agree to take money for the sake of the hospitals from the dependants of persons in hospitals. All were agreed that it was urgently necessary to maintain hospitals in a proper manner. If a man had no dependants there could be no serious objection to the money going to the hospital; if he had the case was different, for the main purpose of the bill was that the dependants should be prevented from becoming impoverished during the sickness of the bread-winner. The hospitals were entitled to be paid for the services they rendered to the insured person, and the only question was where the money was to come from. As soon as the scheme became established it would be necessary to organize proper standing arrangements between hospitals and the insurance scheme. At present the bill contained no permanent arrangement for properly contributing to the hospitals, the funds at the disposal of the Health Committee were car-marked for maternity, medical and sanatorium benefit, and he thought that an organization working through the local Health Committee was a proper way to deal with the hospital part of the scheme. It was impossible to have an insurance scheme without institutions attached for the treatment of in-patients. The amendment suggested that the money should come from the sick benefit of the insured person, but nothing could be more deplorable than to mix up

business with charity. There could be no question that very soon after the scheme was established there would be a great addition to the in-patient work of hospitals, although there would be some relief to the out-patient department; a large number of people went there who were perfectly well able to pay for themselves, they were a burden to the hospitals and a nuisance to the deserving poor, who were kept much longer than they ought to be. It would be a good thing for the hospitals themselves if this evil was abated. He could not agree that the establishment of a system of inspection would remove the abuse in the out-patient department of any large general hospital; it was easy to pick out a considerable number of persons who had slipped through the very wide mesh of the sieve provided by inspection, and it was almost impossible to sift with justice; but when domiciliary treatment was established under the scheme they would be sorted out to a great extent; but, so far as in-patients were concerned, there must be an increase in the work of the hospitals almost at once. A large number of cases would be diagnosed at an earlier stage, and treatment would therefore be called for at an earlier period. Many cases which were now not treated at all and were curable only by operation would, when the fund became established, be sent into the hospitals as soon as possible to be treated, and the pressure upon the wards would be very much greater. He felt confident that it would be imperative to establish under proper health authorities standing relations between the existing hospitals—for example, the existing Poor Law infirmaries brought up to date, and devoted to their proper use. This meant that a great problem of how properly to finance the hospitals and dispensaries to bring them into working relation to the scheme would have to be faced. The proposal to extract from the dependants of insured persons some small portion of their sick pay for this purpose was not an adequate way of dealing with the question.

After further discussion, Mr. Keir Hardie said that the position of the friendly society members was going to be worsened if this amendment were added to a clause already sufficiently vicious. The working classes in industrial centres were the main supporters of hospitals. There were districts like Sheffield where every working man employed in the big works paid a penny a week; in the mining districts the contribution was usually a shilling a year. Anything from 60 to 75 per cent. of the total income of these so-called charitable and voluntary institutions came from the working classes. The working man was a member of a friendly society, and was also paying a penny a week to a hospital. If he met with an accident he was not only to be deprived of part of his sick pay, but that part was to be paid over to the institution towards which he had been paying. He agreed that funds might be required to maintain hospitals in the future to a greater extent and in a higher degree of efficiency, but they ought not to come out of the working man's sick pay.

Mr. Lawson said he was inclined to agree that the amendment was not a satisfactory way of meeting the hospital difficulty. What was wanted was to establish true and vital relations between this scheme and the hospitals, and money must be found; but he did not think it was a satisfactory way to take it out of the sick pay of the working man.

The Attorney-General said that it seemed to be agreed that something must be done with regard to the hospitals, and that some provision should be made to meet any possible deficiency, but the Government could not accept the right hon. gentleman's amendment. He was impressed with two views against it. The first was that the Committee would hesitate long before it would consent to take the insurance benefits from a man's dependants and pay it to the hospital, which had hitherto not been in receipt of such a payment. He could understand that if a case were made that the Government were taking away something from the hospitals which they had been hitherto receiving, it might be argued that the working man should make it up. But they were not taking away a contribution the working man had made. The view of the Government was that the working man would have to pay less for his benefits under the bill, and therefore would have more money out of which to contribute to hospitals. The second point was that the amendment gave the allocation of the proportion of this fund between the assured person and the hospital to the local Health Committee; but what had become of the friendly societies? Why should they be deprived of the right to determine how much they should pay? There was ample room for arriving at some agreement on this question. In the Chancellor of the Exchequer's amendment they had a clear scheme by which the hospitals would get a benefit which hitherto they had never had, but not at the expense of those who were waiting in a man's home.

Dr. Hillier said that Dr. Addison had completely demolished the argument of the Chancellor of the Exchequer to the effect that the burden on the hospitals would be light: it was quite clear that the effect would be precisely the contrary. There would be a great increase in the number of in-patients, and it was the in-patients that involved the hospitals in great expense. He thought that the subject would be better dealt with by way of an amendment to Clause 17. He did not think that the sanatorium movement would relieve the hospitals to the extent the Chancellor of the Exchequer hoped, whereas he felt confident that the revenue of the hospitals would be diminished, and he believed that when once the principle of State intervention was introduced people who had previously supported the voluntary principle would think twice before they continued their subscriptions.

Mr. Austen Chamberlain did not agree that his amendment would bear the interpretation placed on it; but in view of the discussion he asked leave to withdraw, and the amendment was withdrawn.

Mr. Chiozza Money moved to omit from subsection (*a*) the words "in whole or in part." He urged that the benefit of 10s. a week for thirteen weeks, which was the highest allowed by the bill, should go wholly to the dependants.

The hon. member was speaking at 8.15, when the proceedings were interrupted, and the House resumed for the consideration of private business.

Later on, Mr. Chiozza Money said they ought not to differentiate between cases of serious and trivial illness.

The Attorney-General said there were cases where a man contributed two or three shillings a week to the support of a relative, and there could be no object in saying that the whole of the 10s. a week should go to that relative.

The amendment was negatived.

Mr. Cassel moved to insert after the word "administered" the words "after consultation whenever possible with such person."

The Attorney-General accepted the amendment, which was agreed to.

Mr. Cassel moved to leave out paragraph (*b*) in order to insert another paragraph providing that in the case of a deposit contributor, whether an inmate of a sanatorium, hospital, or infirmary, any remaining balance of the 10s. should not be given to the general fund, but carried to the credit of his account in the Post Office.

The Attorney-General said the amendment would more properly arise on the Chancellor of the Exchequer's amendment which was coming on as to the disposition of the 10s. in the case of a person who was an inmate of a hospital or infirmary and had no dependants.

Mr. Worthington Evans said the clause was unfair to the deposit contributor. It took money from a man who could little afford it and placed it to the credit of the local Health Committee.

Mr. Austen Chamberlain asked what was to happen to any balance over and above the immediate needs of a man who was a deposit contributor. The deposit contributor had only such money as was placed to his credit, and he did not think they ought to take away his money because he had no need of it for the moment.

The Chancellor of the Exchequer said he thought there was something in what the right hon. gentleman opposite had said and that there was a grievance. He did not think this amendment was the way to deal with it. The amendment of which he himself had given notice must be recast in order to meet the point. He hoped the amendment under discussion would be withdrawn.

The amendment was, by leave, withdrawn.

The Chancellor of the Exchequer moved the following new paragraph to come at the end of Subsection (2):

(*c*) If such person is an inmate of a hospital or infirmary supported by charity and has no dependants, shall, if an agree-

ment for the purpose has been made with the hospital or infirmary, be paid in whole or in part according to such agreement towards the maintenance of such person in the hospital or infirmary;

Provided that in the case of a married woman or widow who is entitled to sickness benefit in addition to maternity benefit no part of the maternity benefit shall be paid or applied for the relief or maintenance of her dependants, but may be paid to the hospital or infirmary of which she is an inmate as aforesaid in like manner as if she had no dependants.

He said he had been much impressed by what the right hon. member for East Worcestershire had said, and on the face of it it looked as though an injustice had been done to the depositor contributor. He would like to have a little time to consider the point, and would therefore move to report progress.

Progress was reported, and the House adjourned at five minutes past 11 o'clock.

On Tuesday, after the eleven o'clock rule had been suspended, the Committee resumed the consideration of Clause 12. The Chancellor of the Exchequer had moved the insertion of words to follow Subsection (2). He now asked leave to withdraw the amendment in order to move it in an amended form. He had looked into the point raised by Mr. Cassel, K.C., who, he thought, was right with regard to Post Office contributors. During the time such a contributor was in a sanatorium his funds would be exhausted, and when he came out not quite recovered there would be nothing to draw upon. That would not be the case where a man was not a member of an approved society, and he therefore proposed to add at the end of Subsection (*b*) "unless such person is not a member of an approved society."

The amendment was withdrawn.

The Chancellor of the Exchequer then moved, in a slightly different form, the amendment which he had withdrawn:

(*c*) If such person, being a member of an approved society, is an inmate of a hospital or infirmary supported by charity or by voluntary subscriptions and has no dependants, shall, if an agreement for the purpose has been made between the society or committee and the hospital or infirmary, be paid in whole or in part, according to such agreement, towards the maintenance of such person in the hospital or infirmary:

Provided that in the case of a married woman or widow who is entitled to sickness benefit, in addition to maternity benefit, no part of the sum which would otherwise be payable on account of the maternity benefit shall be paid or applied for the relief or maintenance of her dependants, but may be paid to the hospital or infirmary of which she is an inmate as aforesaid, in like manner as if she had no dependants.

Mr. Austen Chamberlain moved the insertion of the words "or convalescent home" in the amendment after the word "hospital."

The amendment to the amendment was agreed to.

Mr. J. Ward moved to insert, after the word "infirmary," "with the authority of such person." He thought a man who was forced to pay contributions in order to obtain the benefit under the Act ought to have a voice in the disposal of the benefit.

The Chancellor of the Exchequer hoped the amendment would not be pressed, because the effect of it would be to make nugatory the whole of the Government amendment. Where a man had no dependants and became the inmate of a hospital it was but fair that the whole or a portion of the benefit to which he was entitled should go to the institution.

Mr. J. Samuel pressed the Chancellor of the Exchequer to reconsider his decision. He maintained that where a working man had been from his early youth or manhood a contributor to the support of a hospital there was no legitimate ground for curtailing his rights to the enjoyment of the benefits.

Mr. Joynson-Hicks, Mr. Leach, aud Mr. Sanderson criticized the amendments of the Chancellor, and

Mr. S. Walsh cited the case of the Royal Albert Edward Infirmary at Wigan, which supplied the needs of a population of 40,000, and for the support of which a deduction was made every week from every colliery worker in the district. There was no compulsion, yet there was not a man, woman, or young person but would scorn to refuse to pay their 1d. a week. They might have been paying for twenty or twenty-five years, yet under the proposal they might find themselves deprived, at the very time they needed them most, of the benefits to which they were entitled. The Chancellor had not taken that kind of case into consideration. That an unquestioned right should be taken away from the voluntary contributors he had referred to without their having a voice in the matter would be a very serious thing indeed.

Several other speakers, including Mr. P. Williams, Mr. Wyndham, Mr. W. McLaren, and Sir H. Davies, supported the amendment of Mr. Ward, while it was opposed by Mr. Bathurst, Mr. McCallum Scott, and others. On a division Mr. Ward's amendment was rejected by a majority of 135.

Mr. S. Walsh moved an amendment which he said would give the people who were continuous contributors to such institutions the right to be omitted from the conditions the Committee had been discussing.

The Chancellor of the Exchequer, as a point of order, objected to this, saying it was substantially the same issue as the Committee had decided, and which would be met by the same set of arguments.

The Chairman agreed it raised the same point.

After a dispute as to the amendment being in order it was finally negatived.

On the motion of Mr. Austen Chamberlain the words "convalescent home" were inserted in conjunction with hospital or infirmary.

Mr. Austen Chamberlain said that the problem was extremely difficult, and the solution proposed by the Chancellor of the Exchequer was not wholly successful. Though friendly societies, he thought, had very little to complain of under the Chancellor of the Exchequer's amendment, because no agreement could be made without their assent, those who took the view that this money was the property of the insured person were not satisfied. He did not understand the attitude which they took up towards sanatoriums. If a man who had no dependants had an indefeasible right to receive sick pay, although provided with treatment, board, lodging, nursing, and all he required in the hospital, had he not the same right if in a sanatorium? The only circumstances in which the hospital received money were when a man had no dependants, and the society, having the option between using money which would have been payable to dependants for the general purposes of the society or for the benefit of the hospital, chose, by arrangement made beforehand, to pay the money to the hospital. He was afraid the society would seldom make this choice. He was quite certain no voluntary hospital largely dependent on annual sources of supply could count with safety on this amendment to make good the gap which might arise in their funds through the operation of the bill. If the Chancellor of the Exchequer thought it desirable to pursue the amendment he would vote with him, but he was driven to the conclusion that it was not adequate to the needs of the hospitals. The Government might well consider whether the whole question could not be better and more adequately dealt with in another way. Under Clause 15 it was the duty of local Health Committees to make arrangements with institutions for the provision and administration of sanatorium benefit. He had been forced to the conclusion that in the case of compulsorily insured people hospital benefit as well as sanatorium benefit ought to be provided. Hospital benefit, like sanatorium benefit under Clause 15, ought to be a charge upon the general fund, and it should be the duty of the local Health Committee or other responsible people to arrange for provision for insured persons when they could not be adequately dealt with in their homes and needed hospital treatment.

The Chancellor of the Exchequer did not think the present position of the hospitals by any means satisfactory. It seemed to him very undesirable that they should be dependent on the precarious kind of income on which they had now to rely in order to carry on operations which were essential to the well-being of the community. But he did not think it was desirable to attempt to deal generally and thoroughly with the position of hospitals in this bill. It was better that this experiment should proceed with as little interference with the hospitals as possible. In the meantime experience would be gained by a series of organizations dealing with public health and interested in the well-being of the hospitals, and they would eventually be prepared either to take steps themselves or to advise the Government for the time being what steps ought to be taken if Government intervention was found desirable. If the Government now gave a very large share of these

funds to the hospitals, that would certainly involve some measure of control. That was undesirable, unless they were prepared to take upon themselves the whole responsibility. He thought on the whole it was wiser to interfere as little as possible with the hospitals. If the hospitals were seriously injured in their finances by the operations of the bill, then it would be for the Government to find a remedy some way or another.

Sir R. Baker was afraid that those who had been in the habit of subscribing to hospitals would think the hospitals were getting something out of this bill and would not go on subscribing.

Mr. Lyttelton agreed with the Chancellor of the Exchequer that it would be most dangerous to take away the voluntary character of hospitals. The effect of this bill would be to increase the obligations of hospitals and to diminish their revenues. One of the results of this bill would be to force upon hospitals still further specialization. Hospitals would eventually be placed in what he thought was their true position—to act as the consultants and operators of the poor. Many cases now went to hospitals that could well be dealt with by general practitioners; some day admittance to hospital would be gained only after a general practitioner had certified the case was one requiring to be dealt with by specialists.

The amendment as amended was then agreed to.

Mr. Cassel moved an amendment to provide that where a man who had paid for a 10s. benefit went into hospital, and 5s. only was required for his dependants, that the balance of the 10s. might be devoted to necessaries or comforts for the sick man himself.

The Attorney-General said he thought a case had been made out, and if the hon. and learned member would withdraw his amendment he would deal with the point on the report stage.

The amendment was by leave withdrawn.

Mr. Snowden moved an amendment providing that the clause should apply to any person ordinarily dependent, wholly or in part, upon the insured person, whether such dependant was a relative by blood or by marriage or not.

The Attorney-General said he would deal with the point in an amendment of his own, and, after further conversation, the amendment was withdrawn.

The Attorney-General then moved the amendment which he had promised, which substituted for Subsection 3 the words:

For the purposes of this section the expression dependants shall include such persons as the approved society or the local Health Committee may determine to be wholly or in part dependent on the earnings of any such inmate of any such institution as aforesaid.

Mr. Keir Hardie pressed for an assurance that the illegitimate child would have the same legal right to pursue his claim in a Court of law as the legitimate child.

The Attorney-General said that the point had been carefully considered, and he assured the hon. member that there was no doubt about it. The question of legitimacy or illegitimacy was not raised by the amendment he had moved.

Sir A. Cripps, Mr. Duke, and others raised difficulties about the definition of dependants, and finally the amendment was amended by the substitution of the words "shall ascertain" for "may determine," and as amended was then agreed to.

The Attorney-General then moved to omit Subsection 4 of the clause, and this was agreed to, and Clause 12 as amended was added to the bill.

Administration of Benefits.

On Clause 13, which was as follows:

1. Sickness benefit, disablement benefit, and maternity benefit, and, subject to the provisions of the next succeeding section, medical benefit, shall be administered, in the case of insured persons who are members of an approved society, by and through the society, and in other cases by and through the local Health Committees; sanatorium benefits shall in all cases be administered by and through local Health Committees.

2. Subject to the provisions of this Part of this Act, an approved society may, with the consent of the Insurance Commissioners, provide for the application of its existing rules or make new rules with regard to the manner and time of paying or distributing and mode of calculating benefits, suspension of benefits, notices and proof of disease or disablement, behaviour during disease or disablement, and the visiting of sick or disabled persons, and for the infliction and enforcement of penalties (whether by way of fines or suspension of benefits or otherwise) in the case of any member being an insured person who is guilty of any breach of any such rule, or of any imposition or attempted imposition in respect of any benefit under this Part of this Act, and may from time to time with the like consent alter or repeal any such rules; but—

(*a*) no fine imposed under any such rule shall exceed *ten shillings*, or, in the case of repeated breaches of rules, *twenty shillings*;

(*b*) no such rule shall provide for the suspension of any benefit for a period exceeding one year;

(*c*) every such rule relating to the visiting of insured persons shall provide that women shall not be visited otherwise than by women;

(*d*) every such rule relating to behaviour during disease or disablement shall be in the prescribed form.

3. The local Health Committee shall, subject to the approval of the Insurance Commissioners, make rules in respect of any of the matters mentioned in the last preceding subsection for the purpose of regulating the payment or distribution of benefits administered by the committee:

Provided that no such rule relating to anything to be done by, to, or through the Post Office shall be made without the consent of the Postmaster-General.

4. Where, under any such rule as aforesaid, payment of sickness or disablement benefit is suspended on the ground that the disease or disablement has been caused by the misconduct of the person claiming the benefit, such persons shall nevertheless continue to be entitled to medical benefit.

5. Where under any Act regulating the constitution of an approved society the rules of the society are required to be registered, any rules approved under this section by the Insurance Commissioners shall forthwith be registered, but till so registered shall have effect as if they had been duly registered.

Mr. W. Pearce moved to omit from the first line of the clause the words "disablement benefit." He thought that under the clause the poorest of the poor would have very little chance of receiving disablement benefit; but their chance would be improved if the administration of that benefit were transferred from approved societies and Health Committees to the Insurance Commissioners.

The Attorney-General failed to understand how the amendment would improve the position of those for whom the hon. member pleaded, though it would help friendly societies. If the work were entrusted to the central Commission there would have to be an army of Government inspectors looking about to see whether the persons receiving it were entitled to disablement benefit or not, instead of leaving this to the approved societies.

The amendment was negatived.

Question of Friendly Society Control.

Dr. Addison moved an amendment which, with a consequential amendment, made paragraph 1 of the clause read as follows:

13 (1). Sickness benefit, disablement benefit, and maternity benefit shall be administered in the case of insured persons who are members of an approved society, by and through the society, and in other cases by and through the local Health Committee; medical benefit and sanatorium benefit shall in all cases be administered by and through local Health Committees.

The effect of the amendments, he said, would be to transfer the administration of the medical benefit to the local Health Committee. Under this bill something like ten millions of people will become insured persons, and it will be necessary to devise machinery for the administration of their benefit. As a matter of fact, when this bill is in full operation there will probably not be more than one and a half millions of adult males left outside the scope of the bill throughout the whole country. It is perfectly obvious, therefore, that the effect of the bill upon the practice of medicine and surgery in the whole country will be most profound. It will, as a matter of fact, entirely transform the conditions of general medical practice from one end of the country to the other. And the ultimate effect not only upon the medical profession, which is merely incidental, but the ultimate effect upon the public health and also upon the future of this country and the welfare of future generations will largely depend on the machinery provided in this bill for administering this benefit. There would be no justification for such a bill at all were it not for the general belief that by united effort a great amount of disease might be prevented. If machinery could be devised which would prevent people becoming sick the sick funds would benefit greatly. As the bill stands unamended the medical benefit with regard to Post Office contributors would be administered by the local Health Committee, but it might be possible, though not at all likely, that under the bill as it stands the medical benefit for thirteen and a half millions

of insured persons would be administered by the various approved societies to be recognized under the bill. This meant that in any county or county borough there would be a considerable number, seven or eight or a dozen, perhaps, different approved societies, dividing societies, friendly societies, industrial societies, and so forth, in addition to the local Health Committee, all administering medical benefit. Between those different societies in any one county or county borough there would at times undoubtedly be various jealousies and friction. There would certainly, so far as this particular department of their work was concerned, be no common ideal, no common purpose, and no definite mode of co-operation amongst them to obtain the same ends. They would in themselves have no definite standing relation to all the other machinery for promoting public health. They would have, as they stand, no definite relation to the machinery for increasing the sanitation of dwellings and for educating the people in these matters. All these things and all this machinery would be entirely outside the operations of these various societies in any one district. Could an effective machinery for bringing to bear upon the whole domestic and living interests of the mass of the insured persons, all the forces which the State possesses to improve their health, be obtained in this way? If the administration of the medical benefit under this bill were to be entrusted to this machinery within a very short time the whole bill and the whole interests of the scheme would be involved in confusion and disaster. He desired most earnestly to say that in moving this amendment he was not in the least seeking to throw stones at friendly societies. He believed their interests should be promoted, and that would best be done by the method suggested in the amendment. It would develop machinery which would prevent there being so great a drain on their sick funds. With regard to what was called club practice, the actual facts should be looked in the face. Neither the Majority Report nor the Minority Report of the Royal Commission on the Poor Laws could say anything very good for the methods and ideals of so-called club practice. This is what the Minority Report says:

> The contracts between medical men and the clubs so extensively made by the organised friendly societies for the medical attendance of their members are constantly producing strain and friction in the relations between societies and the local practitioners whom they employ, breaking at intervals into open warfare. The doctors allege that the remuneration allowed to them is so insufficient as hardly to cover expenses, while many persons of substantial means take advantage of society membership. We need not consider these mutual recriminations except in so far as they reveal conditions inherently inimical to the cure and prevention of disease.

If that was anything like true, the extension to the whole country, to practically all the industrial population, of a system which in itself was inherently inimical to the prevention of disease could only fail. The report issued some years ago by the British Medical Association of an inquiry into contract practice showed that 167,405 attendances were paid for at the rate of 10½d. What really happened was that during a man's surgery hours he had a large number of club patients waiting, and they could of necessity receive only a small amount of attention each. If he was to earn a sufficient living he could not possibly give to each individual the detailed care and attention which are really necessary. Many cases were not diagnosed as to their real character as soon as they might be with advantage, and in many cases the treatment of necessity in consequence of the very small amount of time available for each case was insufficient. He did not seek to blame either party, but that was the actual fact. Throughout the whole country there had been for some years past a series of strifes between the club doctors and the clubs. No doubt sometimes one had been at fault, sometimes the other. In any case, it was manifest that it would be a highly dangerous experiment to apply to practically the whole population such a system as heretofore had been accompanied by constant strife. The great objection which medical men entertained against contract practice was that they found that there was something in it which was against, not only their own interests, but their ideal of work. The fact remained that at the present time the great majority of the medical practitioners of the country had declared that they could not work on club practice lines in connexion with this bill. Notwithstanding that, if it were really for the best interests of the community, it would be right to go on with it. But it was a material consideration to which the Committee would give full attention. As a matter of fact, in the county of Leicester every medical man had signed that declaration. There must be some reason, and it was that the essential character of club practice work was against the development, either of the best treatment or of preventive measures. In order to prevent disease in connexion with any one case it was necessary to consider the case in connexion with its environment, to look at the man's house, and to see his family. The whole conditions collateral to the case had to be gone into. When people were crowding into a surgery and being seen at a very rapid rate, all these considerations were necessarily outside. This defect was inherent in the present system. It lost sight in the main of a person's environment, which it was necessary to consider most carefully if preventive measures were to be adopted. The best type of private practice did not do that; the whole family considerations are gone into by the practitioner. The system had made it possible for clubs to beat down the doctor in the matter of price. Cheap labour was admittedly bad, even it it was of a merely mechanical kind, or of a type that could be controlled. But cheap labour when it was professional, which nobody could control, which was essentially a personal matter, was surely worse than any other kind of cheap labour. Any system which encouraged or placed a premium upon the employment of cheap professional labour was essentially bad, because it did not meet that which was the very first demand of any person who was ill, who always demanded the best possible advice. There was another reason: No man engaged in club practice on these lines had any time to think for himself. A man carrying on an extensive club practice had no time for research or for independent inquiry. Yet the whole advance, not only of this scheme but of public health, depended upon this being encouraged. There had been a very striking fall, not only in adult mortality but in disease amongst young persons, and indeed amongst all classes, coincident with and mainly dating from the development of modern pathology. This development had gradually worked its way into the public mind and influenced the daily life of large masses of the people, and was accompanied by a corresponding fall in the mortality. Another consideration was that if this administration were to be placed in the hands of great numbers of societies up and down the country—with these conditions inherently attached to this type of practice—it would mean that the best type of man would not take it up. It would mean that the medical practice of four-fifths of the population was not such as to attract the best men. The result of that would be that in the course of a generation there would be a serious depression of the whole standard of the medical profession, but the success of this scheme depended upon an efficient service. The desire was that the insured persons should receive adequate treatment at as early a moment as possible of their disease. The diagnosis should be as accurate as possible, so that they should not be a charge upon the sick funds any longer than could be helped. The friendly societies said: "If you are going to place the administration of the medical benefit in the hands of the local Health Committees, we want to know where our liabilities end." That was quite right and proper, but they went on to say, "We shall want control over our doctors." It was urged the other day as against this amendment that it would put an end to all sorts of consultations between the societies and their doctors over the different patients. As a matter of fact, very few men care to discuss the details of their individual cases with outside persons. It was a very delicate, even a very private, matter; and patients naturally objected to their cases being canvassed, even among other medical men, and more so amongst laymen. In the bill as it stood the three chief ingredients of control over the doctors by the societies would be removed. The first was that there would not be free choice. Something like 9,000,000 people who had not hitherto been members of friendly societies would be brought into the scheme. That mass of people must have the right of choice of their medical attendants within reasonable limits. As a matter of fact, the people would demand that they should be able to choose their medical attendant just as much as medical

men will also desire this, and he was quite sure that the House would not desire to deprive reputable practitioners of their clientèle by any Act of Parliament when they were dealing fairly by them, so that free choice of doctor must of necessity come with this great measure. The next ingredient of control, namely, payment, was also removed by the bill. The bill laid it down that the Insurance Commissioners would approve this, that, and the other. Not only would they approve payment, but also conditions of employment, so that the societies would not be able to choose the medical men; they would not be able to decide what the payment should be; and they would not be able to decide upon the conditions of the medical man's employment. After these three things had been removed from their control under the bill, what was there left to control? The underlying motive, of course, for the suggestion of control over the doctor was a very right and proper one. It was not that they suspected the doctor of doing anything wrong. It was that they might control malingering; but it would be quite impossible by this bill to adopt any machinery that would make it easier to malinger than it was at present. Two classes of people might be called in to prevent malingering—the insured person and the medical men. At the present time in any average club it was obviously to the interest of members themselves to prevent malingering. It would still be so under this bill. There were no particular means at present in operation which brought in the interest of the whole of the medical profession in the locality to prevent malingering. If the whole administration were in the hands of the local Health Committee, there would be set up, no doubt, local Medical Committees. If the administration of medical benefit were in the hands of the local Health Committee and a medical man on the panel of doctors were proved to have encouraged malingering, he stood to lose his whole livelihood! It would then become much more dangerous for a man to encourage malingering. Not only so, but the interest of all the other medical men on the panel was directed to the same end. For it was quite evident if any one were so unscrupulous as to seek to attract to himself patients by being lax in signing certificates, it would be to the interest of every medical man on the panel to check him doing so. If the whole administration were in the hands of one committee, both those conditions would be provided for. It would be then just as much the interest of the medical men on the panel to prevent malingering in the whole district as it would be to the interest of the individual insured persons. If the whole administration were concentrated in the hands of the local Health Committee, that body would be able to take a view over the whole field of public health in that locality. It would be in touch both with sickness records and with the domestic conditions of the insured in the locality. It would be in touch with that machinery provided for giving better sanitation, for looking into the conditions of factories and employment, so far as they were incidental to the prevention of disease. The local Health Committees would before very long become more closely linked up with all other sanitary authorities in any area. They would come into close co-operation with the educational machinery, for example. It would be to their interest to see that the inspection and treatment of school children was carried on in their locality effectively, because it would mean that the charge on the funds as these children grew up would be so much less. Not only so, but these authorities which would at once have charge of sanatoriums would before very long have all institutional treatment of all sorts under their control. More than that, all insured persons in the area would gradually become increasingly alive to the fact that it was their interest to promote the activity of sanitary administration and of sanitary laws in that locality. In deciding upon the mode of administration of the medical benefits, the bill must be so moulded that it would dovetail in with the existing organizations of the country for the promotion of health, with the Local Government Board machinery for dealing with it, with the machinery of the Board of Education for dealing with children, and at the other end of life with the Old Age Pensions Act. This bill must necessarily be so devised that it would fit in and work with these great and beneficent Acts.

Mr. Forster said he had been the first member of the House to suggest this method of settling the difficulty between the approved societies and the doctors. He had heard in one quarter that the Chancellor of the Exchequer was going to accept the amendment, and in another that he was only going to accept it if the Committee compelled him to do so. This was a matter on which hon. members ought to be left free to vote as they liked. It was a difficulty which had to be settled, for unless the goodwill and co-operation of the doctors were secured the bill would be of no use to anybody. He could not see that the amendment would injure the friendly societies. It might be said that the friendly societies would not be able to control the doctors, but the general wish of the Committee was that there should be a free choice of doctors. The main object in view was the prevention and cure of sickness, and that would be aided by the proposal of the hon. member.

Mr. Glyn-Jones supported the amendment because he believed that unless the control of medical benefits was transferred to the Health Committees the bill would be unworkable. The transfer ought to be made in the interests of insured persons. The Health Committee would have control of sanatorium benefits and also of the medical benefits of all who were not members of approved societies.

Sir P. Magnus supported the amendment, and expressed a hope that the Chancellor of the Exchequer would accept it as an improvement upon the bill. The medical profession were unanimous in asking that the medical benefit should be administered by the Health Committees instead of by the committees of the friendly societies. Unless the doctors entered with a whole heart in their desire to co-operate in carrying out the scheme it would become largely inoperative. He trusted there might be no division on the amendment, which he heartily supported.

Dr. Esmonde, who also supported the amendment, said that the House had come to a point where it had to make a decision which would determine whether the medical profession was going to throw itself heart and soul into the working of the bill, whether it would altogether repudiate it, or whether it would undertake it in a half-hearted way; the medical profession had spoken clearly upon the subject.

Sir R. Finlay also expressed the earnest hope that the Chancellor of the Exchequer would see that it was essential to enlist the cordial co-operation of the doctors if the medical benefits were to be properly administered.

Sir A. B. Markham and Mr. T. Ward opposed the amendment, and while the latter was speaking the committee was interrupted for private bills. When the committee resumed Mr. Sandys said that the fact that many members of the medical profession were strongly opposed to friendly society control, and that it would be impossible to make the bill a success without the hearty co-operation of that profession, ought to command the greatest consideration for the amendment. The question of remuneration did not come into this discussion, but it might be said that while friendly society practice had not been remunerative to doctors, it had not been satisfactory to patients. The society doctor was called in to give a certificate, and often the patient preferred to be treated by another doctor. The difficulties of this character would increase under this insurance scheme. The administration by societies could not be said to be satisfactory. If the amendment were pressed to a division he would support it in the division.

Mr. Cecil Harmsworth thought scant justice had been done to the great friendly societies, and spoke of the medical institutes which existed in connexion with them. He appealed to the Government to safeguard the institutes in the bill.

Sir H. Craik thought the process of dovetailing the medical institutes into the scheme might very well be carried out without interfering with the purpose of the amendment. The fact that the local Health Committee would be a public body meant permanency, public respect, and a just tribunal in cases of dispute. The doctors desired—and he thought it a fair, reasonable, and just claim—that they should be brought into immediate contact with the State, that there should be no intermediary in the shape of any private body, however praiseworthy its efforts. The doctors desired to be brought into immediate contact with a public and statutory body to which they could look for maintaining the standard which they

thought was necessary for the public health. He was convinced that they were not seeking any personal or professional advantage, but members of the medical profession in all kinds of practice were convinced that only by placing the administration of medical benefits in the hands of a public body could security be obtained for the public health.

Sir A. Mond opposed the amendment.

Mr. Barnes supported the amendment, not simply because it was put forward by the doctors or in any spirit of disparagement of the great friendly societies. He rather deprecated the tone imported into the discussion by the doctors, and it might be well to remind them that while they numbered 20,000 or 30,000, only 10,000 would be required for the purposes of the bill. Now that a great scheme of national health was about to be set up, machinery capable of development ought to be established, and to leave the doctors under the control of competing and conflicting authorities was inconsistent with that object.

Mr. Sanderson asked the hon. members who had spoken against the amendment, Did they desire the bill to become law or not? If they did so desire, they must vote for the amendment—(Hon. members: "Why?")—for the reason that the success of the bill depended on the loyal support of the medical profession. If the amendment were not adopted, there would be continuous friction in the administration of the Act. The amendment did not hurt the friendly societies in any way, nor would insured persons be required to pay more.

Mr. G. Thorne said that if they were to have a national system properly and smoothly worked, it could only be done if they could secure the co-operation of the doctors.

Dr. Hillier said if it were true, as Mr. Barnes had hinted, that the doctors had formed a trade union, they had done so only under the pressure of the dire necessity of the bill. When all the circumstances were considered, the doctors had met the bill in a spirit of great moderation. As they were called upon to enter into contracts, was it unreasonable for them to ask that the authorities with whom they made those contracts should be representative and central authorities, and not scattered bodies with no guarantee of uniform practice? There was no doubt that in the broader interests both of friendly societies and doctors it was desirable that the amendment should be carried.

Mr. G. Roberts (Norwich) said that medical men had scrambled for friendly society practice, and that whatever ills prevailed were largely the creation of the doctors themselves. He believed that the medical men were not disinterested, but were looking out, as they were perfectly justified in doing, for private advantage; but the scheme was doomed to failure unless it secured their co-operation, and they had united to assert that except under certain conditions they would not co-operate. That was the central new fact which friendly societies must recognize, and their claim to have full control in the matter could no longer be sustained. On the other hand, he hoped to receive from the Chancellor of the Exchequer an assurance that the medical institutions which friendly societies had co-operated to establish and equip were not to be destroyed.

The Chancellor of the Exchequer said the Government up to the present had deliberately refrained from taking any part in the discussion because of the pledges given on their behalf that this matter, so far as they were concerned, might be discussed as an open question. It was a matter that did not affect fundamentally the fabric of the bill, and there had been considerable divergence of opinion on both sides of the House, less on the other side than on the Government side. He indicated his opinion some time ago, on the second reading, that the suggestion that the arrangements for medical benefit should be in the hands of the Health Committees was a valuable one, but it was the kind of proposal that could not be carried unless there was something like unanimity on both sides of the House. He had not taken part in the debate because he wished to satisfy himself that there was that feeling, and any one who had listened to the debate could come to no other conclusion, although there had been able speeches made against it, than that there was an overwhelming feeling in favour of making the change proposed by Dr. Addison. He thought the proposal had been discussed too much as if it were a dispute between friendly societies and doctors. It really was nothing of the kind; it was a bigger, more important, wider matter than that from the point of view of national health, and if it had been no more than a dispute between societies and doctors he would not have taken the interest in it he did. That was what had tempted him to take the view that it would be a desirable change to effect. He thought it would be in the interest of friendly societies that the change should be effected. He would not criticize friendly societies; the work they had done in the past had been of incalculable benefit to millions of the working classes. For generations they were the only bodies providing anything in the nature of adequate medical attendance for the working classes who were not prepared to resort to charity or the parish. Having regard to the means at their disposal, their work had been a great triumph of organization. No doubt there had been cases where payment had not been fully adequate, but medical practitioners had in some cases been as much to blame for that as friendly societies. He had heard of cases where medical men were prepared to take the whole of the work of a friendly society at a lower figure than had been already accepted by their brethren. When competition of that kind existed it was idle to blame the friendly societies. The medical profession were just as much to blame as the societies—in many cases more to blame. Reference had been made to the change of conditions. The expense of medical attendance was going up, and the standard of medical attendance would improve. The separation of drugs from medical attendance would in itself increase the charge. In the past there was a suspicion that in many cases drugs of the most expensive kind had not been supplied when they might have been useful. In future they would be supplied. There would be no inducement to a medical man not to prescribe them. This, of course, would largely increase the cost. The free choice of doctors would also to a certain extent increase the charge. No man who could afford a free choice would have a doctor designated for him by a society, and there was every reason why the working classes should have the same advantage in that respect as any other class of the community. That meant in the long run a more costly medical service. In addition health was being organized on a national basis. Medical benefit was being organized on a national basis. That would probably conduce to increased cost. There was another reason why friendly societies would do well to consider before they pressed their demands to retain medical benefit. They would introduce for the first time in this bill a new element into sick and medical benefit. Friendly societies with the trade unionists covered six millions. There were nine millions still to come in. New societies would be formed and the vast majority of them, he predicted, would hand over the medical benefit to the local Health Committee. It would be a better business proposition for them. Medical benefit was a thing of which the cost could not be estimated. All that was known was that its tendency would be to go up. Therefore an arrangement with the local Health Committee would have the advantage of getting rid of an increasing charge on a limited fund. If the friendly societies in future undertook the cost of medical benefit, which would increase, it would inevitably involve their having to make an additional levy, or decrease their other benefits. It would be to their interest to part with this charge and to hand it over to the local Health Committee. If that were done, the excess of medical benefit would in future have to be divided between the rates and taxes. If the friendly societies insisted upon retaining it, they would enter into competition with societies which would have limited their medical benefits, and, when the time of excess came, would be drawing upon the rates and taxes to make up the excess. He could not imagine that it would be to the interests of the friendly societies to continue their present system after they had got this scheme, which must involve an increased charge for medical benefit. The interest of the community was to get the best doctoring, and if there were a little extravagance it would be off-set by the saving of human life and the increased human efficiency and energy. There was another reason why it was to the interest of the community as a whole to do this. The local Health Committees, however composed—and whatever changes the Government might propose in their constitution would not be to the detriment of the represen-

tation of the friendly societies and the Post Office contributors—would have full cognizance of all the conditions of public health, and would have to report on them to the county council, and might have to take steps to enforce them. Was it not infinitely better that they should have at their command all the medical profession in each particular district? After all, the doctors attending on the members of the societies were more or less responsible to the local Health Committee, and the experience of their reports became the experience of the local Health Committee. Would not that make the committee a more valuable body from the point of view of public health? It was the old word co-ordination. He was sure that it was better in the interests of the general community, of the members, and of the friendly societies, that these new bodies, representing 15,000,000 members of the societies, should also have the control of medical benefits. Mr. Markham had raised the important point of the works doctor, who was not merely the doctor for the subscribing members but a family doctor as well. He thought that the hon. member would find that he was in a position to satisfy his friends although this amendment was accepted. There was an amendment on the paper to recognize these societies, and all that would be necessary would be that the local Health Committee should have the power to attend to its members through these works doctors. The local Health Committee had not the right to nominate the doctors, but it would have to make arrangements that particular doctors should serve members who demanded their services. If a doctor on the panel behaved in such a way as to encourage malingering the committee would have the right to strike him off the panel.

Mr. G. Roberts asked how the situation would be affected by the fact that some of these institutions had their own own drug departments.

The Chancellor of the Exchequer said that the principle of keeping drugs separate must be insisted on. The proposal would necessitate a certain readjustment of finance. Up to the present there had been no figure given of the amount of medical benefit. There was nothing in the bill to prevent the whole of the £24,000,000 going to the doctors except the common sense of the community. Now there must be some sort of basis on which to adjust the amount which the societies would have to contribute for medical benefit, otherwise the local Health Committee might say that it would make a levy of 10s. per member. He had a suggestion for dealing with the point, but he had not been able to put it on the paper before this amendment had been accepted. He thought there ought to be an agreement between the Health Committee and the friendly societies, and, failing that, the Commissioners should decide. The amount fixed would be handed over to the local Health Committee, and if there was any charge in excess of that it should be obtained from the county council and the Treasury, or an impartial tribunal should decide what further amount should be paid by the local Health Committee. The question had been amply debated, and he expressed a hope that the Committee would now come to a decision. The arguments had been advanced with great fairness and ability.

Mr. Austen Chamberlain said it was necessary for the Committee to understand what had been pointed out by the Chancellor of the Exchequer when he said that the medical benefit would be an increasingly onerous charge. If there was a deficit it would have to be made good by the ratepayer and the taxpayer. That was a very grave financial issue which must be considered shortly. While supporting the course recommended by his hon. friend and the Chancellor of the Exchequer, he put in this financial caveat, and begged the Committee to be careful what they were doing with regard to additional liabilities imposed on the taxpayer or the ratepayer, with a view to relieving approved societies of expenses on their funds and setting free those funds for purposes which were not of the first necessity.

There were cries of "Agreed," but a division was challenged by a few members on the Ministerial side below the gangway. The Committee divided, and there voted:

For the amendment	...	...	387
Against	...	...	15
Majority ...	...	...	372

The announcement of the figures was received with much laughter.

Mr. G. Greenwood moved to add after paragraph (*d*) of subsection 2 the words: "No such rule shall prescribe any penalty, nor shall any insured person be subject to any penalty, whether by suspension of benefit or otherwise, on account of the refusal by any such person to submit to a surgical operation, or vaccination, or inoculation of any kind."

The Chancellor of the Exchequer accepted the amendment.

Dr. Hillier said that a provision under which a man who was brought into contact with small-pox refused to be vaccinated, contrary to the advice of his medical attendant and of the local medical officer of health, and contracted small-pox through his own folly, should be entitled to benefits under the bill would be absurd.

The Chancellor of the Exchequer had doubted whether the amendment was needed, but the speech of the hon. member showed that it was necessary to make the matter clear. The hon. member suggested that although a man who objected was not obliged by law to be vaccinated, this bill should be utilized for the purpose of depriving such a man of benefits if he refused to be vaccinated.

Dr. Addison said the Chancellor of the Exchequer had an unanswerable case in regard to vaccination because the law allowed conscientious objection, but he hoped the right hon. gentleman would consider before he allowed refusal to submit to a surgical operation or inoculation to stand in the way of what might be to the advantage of the patient and of the fund.

Mr. Forster said there was strong ground under the law for allowing refusal of vaccination, but there might be good reason why a man should be required for his own health to submit to a surgical operation.

The Chancellor of the Exchequer said that after careful consideration he had come to the conclusion that a man ought not to be deprived of his benefit because he had deliberately decided not to undergo an operation in which he would risk his life. Operations were very debatable ground. A rich man would certainly not incur such a risk without taking the precaution of obtaining the advice of more than one doctor.

Mr. Austen Chamberlain and Sir H. Norman having spoken,

Dr. Esmonde said he could mention hundreds of cases where the refusal to undergo a trivial operation would result in a man being permanently on the funds.

Mr. Duke make a suggestion as to a short proviso which should be added enabling minor operations to be performed.

The Chancellor of the Exchequer said that he was in general agreement as to the major operations which endangered life; and as to the minor operations there was a great deal to be said for his view also. It was difficult, however, to define a minor operation. There was a difference between the Workmen's Compensation Act and this scheme. The one involved a continued liability on the employer, but under the bill it was a question of insurance to which the men had contributed money. At the same time, he was ready to consider the question of minor operations, but he could not accept the responsibility of adopting words without further consideration. He felt strongly against compelling any workman to submit himself to be "cut up" ("Oh! oh!), and it was of vital importance that he should not impose a penalty on a workman if he refused to run the risk of a serious operation. He would, however, consider the question between now and the Report stage with the view of finding a form of words to meet the case.

Mr. Pointer said he had a very serious cut upon his right thumb, and the doctors wanted to amputate that thumb. He withstood the doctors, and his thumb was now as good as ever it was. The same thing happened to his father.

The amendment was agreed to.

The clause as amended was added to the bill.

Progress was reported, and the House adjourned at 12.40.

Administration of Medical Benefits.

The Committee began on Clause 14, which stood as follows:

(1) Every approved society and local Health Committee shall for the purpose of administering medical benefit make arrangements with duly qualified medical practitioners for insured persons to receive attendance and treatment to the satisfaction of the Insurance Commissioners from such practitioners.

(2) Every such society or committee shall also make provision for the supply of proper and sufficient drugs and medicines to insured persons, and no arrangement shall be made with a medical practitioner under which he is bound or agrees to provide drugs or medicine for any insured person at an inclusive fee without the consent of the Insurance Commissioners, which consent they shall not give unless the circumstances of any locality situate in a rural district are such as to make it expedient to do so.

(3) An approved society may enter into an agreement with the local Health Committee for the administration of medical benefit among such of the members of the society entitled thereto as may be resident in the county or county borough for which the committee is established; and on any such agreement being made the committee shall take over such administration, and there shall in each year be paid out of moneys credited to the society such sum in respect of every member of the society entitled to the benefit and resident in the county or county borough as may be agreed between the society and the committee.

(4) If in any year the amount payable to a local Health Committee in respect of all persons for the administration of whose medical benefit it is responsible is insufficient to meet the estimated expenditure thereon, the committe may, through the Insurance Commissioners, transmit to the Treasury and to the council of the county or county borough an account showing the amount so payable and the estimated expenditure, and the Treasury and the county council or the council of the county borough shall, if satisfied that the amounts so payable and the proposed expenditure are reasonable and proper in the circumstances, sanction the expenditure.

(5) The Treasury and the council of the county or county borough sanctioning any such expenditure as aforesaid shall thereupon each be liable to make good, *in the case of the Treasury out of moneys provided by Parliament*, and in the case of the council of a county or county borough out of the county fund or borough fund or borough rate, as the case may be, *one-half* of any sums expended by the local Health Committee on medical benefit in the course of the year in excess of the amounts so payable to the local Health Committee as aforesaid.

On the motion of the Chancellor of the Exchequer, the words "approved society and" in line 1 were omitted.

Incomes Below £104.

Sir Philip Mangus moved to amend the clause by inserting words to make Subsection (1) begin:

> Every local Health Committee shall, for the purpose of administering medical benefit "in respect of insured persons whose income from all sources does not exceed £104 a year," make arrangements with duly qualified medical practitioners.

This amendment, he said, was one on which the whole of the medical profession were absolutely agreed. If this amendment fixing a limit of income for these insured persons were carried, the doctors were willing loyally to co-operate with the Chancellor of the Exchequer in giving effect to the provisions in this bill. The medical profession had put this income limit in the forefront of their requirements, and he hoped this amendment would be as favourably considered as the amendment last night moved by the hon. member for Hoxton. The amendment did not interfere in any way with the principle or structure of the measure, and it would not increase the cost to the contributors. He believed the medical benefits might be reduced if the wage limit were inserted, for there was every probability that the payments made by approved societies would be less than under the bill. The amendment proposed that persons whose income was between £104 and £160 a year should receive a money payment in lieu of medical attendance, and that persons whose income was below £104 a year might, if they preferred it, receive a sum of money in lieu of medical attendance. Those who received this lump sum would have to make their own arrangements with the doctors. The bill as it stood proposed to extend medical treatment under contract to all insured persons. At present there were six million people receiving medical benefit by contract, but that would be extended to nine million people more. Experience had shown that the contract system was not wholly satisfactory and had not been entirely successful. In certain cases it was necessary, but it was not the best system for the cure of illness or the prevention of disease. The whole of the medical profession was of opinion that, if possible, payment according to services rendered should be substituted for medical attendance under the contract system. The amendment would act as a sort of brake on the sudden extension of the contract system. They were often told that in Germany this system operated very well. The Chancellor of the Exchequer must have had the German system in his mind when he framed the bill, but if he had investigated the matter fully he would have found that there were loud complaints against the German system; all things made in Germany were not necessarily good. If the amendment were agreed to, there would be no necessity for the doctors to combine to secure better terms. He considered that they should proceed tentatively with this great experiment, and, while excluding none of the poorer classes from the contract system, should make it possible for those who preferred, and in most cases could afford to do so, to make their own arrangements with the medical profession. It must not be supposed that the doctors in advocating this important change were influenced wholly by selfish considerations. This was not true. There were many doctors who would be absolutely ruined as the bill stood. He had received many piteous letters from doctors stating that they would be absolutely ruined if the bill as it stood became law. In one city returning three Radical members to Parliament he had been told that out of 214 doctors 198 had refused to co-operate unless such an amendment as this was introduced in the bill. What most concerned the medical men was the injury which the great extension of the contract system would exert on their status, the character of their practice, and the effect on the insured persons who would be treated by them, as well as on the progress of medical science and the general position of hospitals. This bill affected more than was supposed the future of the hospitals, and it would be regrettable if the voluntary system connected with the hospitals had to be given up as had been the case in Germany. He did not suggest the absolute substitution of payment for services for payment by contract. The medical profession did not agree that such a substitution would be advantageous. But while the doctor was able to combine private practice with club practice the contract system was at least faulty, and it would be intolerable if the contract system were to occupy the whole time of the doctor. In that case the doctor would have no leisure. He would get no opportunity of keeping himself abreast of the application of science to his practice; he would have no chance of rising in his profession. Hence the value of the amendment, which would have the effect of restricting the application of the contract system. While the system might work well when confined to narrow limits, it became injurious to the doctors and to those whom they were called upon to treat when it was extended to the length contemplated by the bill. The main objection urged against this proposal was the difficulty of enforcing the £2 limit; but he maintained that there would be no difficulty in ascertaining whether a person's income was over or under £2 a week. Every person claiming medical treatment would have to show the local Health Committee that his income was under £2 a week. But the medical profession had stated that it was not desirous of insisting in every individual case on this limit, or that any inquisitorial investigation should be made. It would be sufficient for them if the principle were recognized that the right to claim medical treatment belonged to those only whose incomes were under £2. There were certain districts where the £2 limit might be considered too high for workmen, and particularly for the agricultural labourers earning less than £2 a week, and who, with a characteristic spirit of independence, would prefer to pay their doctor for his attendances. But as long as the £2 limit was recognized as the dividing line, and the larger the amount of elasticity left in the bill, the better it would be for all concerned. Having gone as far as he had done to meet the views of the medical profession, the Chancellor of the Exchequer would be rendering a great service to medical practice generally if he accepted the amendment. He would at once bring all the doctors into line with him, and they would co-operate with him in giving effect to the provisions of the bill. Surely it was better in the interests of the bill to accept a provision which all members of the medical profession were agreed

in asking, and to which they attached the greatest possible importance.

The Chancellor of the Exchequer hoped the Committee would fully realize what the amendment meant. It meant that all those who were earning above £2 a week would be excluded from the arrangements for medical benefits provided by the bill.

Sir Philip Magnus: It does not exclude them from medical benefits.

The Chancellor of the Exchequer: I say it excludes them from the benefits of the medical arrangements. It meant that in districts where from times whereof the memory of man runneth not to the contrary all medical arrangements of the industrial population had been on contract terms; in future they would be ruled out, in so far as national insurance was concerned, from the benefits.

Mr. Cave: The amendments taken together come to this—that in these cases existing arrangements will go on and insured persons will receive from the fund an equivalent sum sufficient to pay the doctor.

The Chancellor of the Exchequer: Surely the hon. and learned gentleman cannot mean that? Does he mean that where you have, say, a mining club, and the miners pay by contract, that in future they will pay no more although they earn over £2. (Some dissent.) Then I do not understand what the amendment means. Either they will pay the same, less, or more.

Sir Philip Magnus: They will pay the same. They will make their own arrangements.

The Chancellor of the Exchequer submitted that the meaning of the amendment was that where there were arrangements in mining and textile districts whereby men earning 30s., 35s., £2, or £2 10s. a week entered into a contract with their medical man to receive medical attendance, if the societies became approved societies under this bill, they would cease to receive the benefits of that contract. (Cries of "No.") He had thought the whole meaning of the agitation was this—that it was not fair to call on the doctor for 6s. a year to cure men who were receiving over £2 a week. This was an amendment to deprive people who were earning over £2 of the services of the doctor on contract terms. ("No.") If it did not mean that, what on earth did it mean? What would happen in that case? There were districts where it was the tradition that the medical practice was a contract practice. Those were districts in which men, especially in good times, earned more than £2 a week. In a report of the British Medical Association a doctor practising in a mining district, where the miners certainly earned more than £2 weekly in good times, protested against an amendment of this kind on the ground that the men were accustomed to subscribing regularly in order to obtain the services of a doctor, and had a horror of doctors' bills. That medical practitioner declared that the proposal embodied in the amendment would not be operative. A man might be earning £2 a week at one time, and immediately afterwards, owing perhaps to a falling-off in trade, his wages might drop below that standard. Would the man be entitled then to the benefit of the club doctor? He assumed that would be so. Such an in-and-out arrangement would be ridiculous. The £160 limit applied to another branch in which there would not be similar fluctuations and in which there would be an annual income limit. In the cases to which he was referring there might be fluctuations from week to week, and a man might be entitled to the services of the club doctor at a time when he did not need them, and then when earning over £2 a week he might become ill and he would not be entitled to those services. Such an arrangement was perfectly preposterous.

Sir Philip Magnus said the right hon. gentleman must know that he was using a sophistical argument.

The Chancellor of the Exchequer said the hon. gentleman appeared to be annoyed at the exposure of the preposterous character of the amendment. In certain districts contract practice was almost universal, and in other districts with an industrial population that system did not exist. From the point of view of the medical profession this was a thoroughly bad amendment. There were counties in which a man earning £2 a week was a very exceptional person, and a limit of £2 would not be of the slightest use to the doctors there. Those were districts in which there was no contract practice or very little, and in which men earning 25s. or 30s. a week paid their doctors on the fee system. It must be remembered also that a wage of £2 a week in one district was equivalent to only 30s. in another. A man earning 30s. weekly in a rural district was better off than a man earning £2 a week in London. The £2 limit, therefore, was artificial. In Lancashire there were doctors who told him that they would not undertake practice on the contract system at any price. The amendment of the hon. member for Hoxton would be applicable there. The first agitation was for a £2 limit; then a compromise was suggested, and the medical profession said, "We will have the £2 limit and the compromise as well where we can get it." If the objects of the champions of the medical profession were to place their friends in a position which would entitle them to no sympathy from any reasonable man, that was the action which they would adopt.

Sir Gilbert Parker said the amendment mentioned £104 a year. A man might earn £3 a week for a certain period and £2 or £1 a week at another time; but for a year the total sum which he earned might not exceed £104.

The Chancellor of the Exchequer said that was a different matter. The £2 limit must be a compulsory limit everywhere, and it was said that in addition to that there should be an optional limit which might be 25s. or 30s. weekly. It was of that he was complaining. If the doctors would declare themselves willing to consider local conditions and to allow arrangements to be made between themselves and the local Health Committee which would take into consideration the customs of the neighbourhood, they could set up a rough-and-ready limit which, although it could not be enforced very strictly in any neighbourhood, would suit the doctors very much better, because arrangements could be made and enforced by the local Health Committee. The £2 limit would be of no use in many districts, for he did not suppose that in many rural areas it would be possible to find 5 per cent. of the workmen earning £2 weekly. Under the arrangement which he suggested the medical profession would have the guarantee of the local Health Committee of payment in respect of that portion of the population which could not pay fees. The doctors would be better off in those circumstances. At present they lost heavily in bad debts. He had never heard of a case in which a doctor refused to attend a man because he was poor. (Hear, hear.) When he met the British Medical Association he mentioned bad debts, and one of the doctors present said that bad debts represented 40 per cent. of the accounts in his books. In future, under the bill, while it was true that doctors would not get their fees, they would get payment at the rate of 4s. or 5s., or whatever might be the amount arranged, instead of a large proportion of bad debts. In regard to people who could pay a doctor's fees and did pay them now, if the amendment of the hon. member for Hoxton were accepted a futile £2 limit would not be imposed, but a rough-and-ready line agreed upon between the medical profession and the local Health Committee could be enforced. In those cases in which doctors declined to attend that class of people except upon the old system, the local Health Committee ought to set aside the 5s. or 6s. weekly, or whatever the sum might be, and the insured man, when ill, would pay his doctor's fees and draw upon the reserve for that purpose. There would be another advantage in that. There was not only a local, there was a personal option. Many doctors would not take contract practice on any terms. In Germany, he was informed, there were doctors who would not work under the insurance scheme, and that was probably true in this country of what might be called the "better-class" doctors. A workman might say, "I prefer the services of this medical man," but unless there was a personal option of this kind he would have to be content with somebody who would work on contract terms. With the name on the panel a man might have his own doctor, drawing on the reserve for the objects of the bill. There would be advantage to doctor and workman, a widening of the scope of selection; and he suggested to those who had the interests of doctors at heart and the interests of national health that it would be far better to have an elastic system of that kind than a rigid rule; it would be far better in rural districts, where the £2 limit would be no good at all. A free and open system would work admirably. The £2 limit could not be arrived at; it fluctuated from season to season and even from week to week. Then

a man earning 30s. a week might have savings. A doctor knew pretty well what means a man had, but there was no machinery to find out who got £104 a year, and, he appealed to hon. members, would not an elastic system be better than a rigid limit? It would enable doctors to carry on their private practice and would help them to get their bills paid. It would enable the workman to secure the services of a special medical adviser, even though that medical adviser refused to work on contract terms. The amendment of the hon. member for Hoxton met the realities of the case. A fixed artificial limit would suit neither doctor nor patient, and would not be in the interest of national health.

Sir R. Finlay had no desire to argue on the amendment solely from the point of view of the doctors; it affected them most seriously, but it also affected the public, and he had hoped to satisfy the Chancellor of the Exchequer that in the public interest the amendment ought to be accepted. The right hon. gentleman repeated two arguments with variations throughout his speech, that a fixed limit would be of no use in many districts, for there were many districts where the £2 limit would be too high, and he put it to the Committee as if the choice were between £104 and no limit at all. What was wanted was a discretion in the Health Committee. Existing arrangements would go on, but the man who desired to take advantage of this arrangement would have the help of a money equivalent instead of relief of the kind the bill proposed. In the opening of his speech the Chancellor of the Exchequer said the object was to take away medical benefit from those who had more than £104 a year.

The Chancellor of the Exchequer: No.

Sir R. Finlay said it was qualified later, and he accepted the assurance that the right hon. gentleman did not mean it.

The Chancellor of the Exchequer said what he did say was that where a man was now receiving medical attendance under contract, he would not command that attendance under that contract in future.

Sir R. Finlay said that was not the point he was dealing with. They knew the right hon. gentleman's intention, but for a master of language his words were singularly ill-chosen. The object of the amendment was not to deprive men with more than £104 a year of medical benefit, but to give them the benefit in another and preferable shape. Instead of getting it in kind under the contract system, they would get the money contribution, helping them to make their own arrangements with their doctors. This was an arrangement which, in the interest of insured persons, ought to be accepted. The contract system in medical practice had been universally condemned by experience, and it was a great flaw in the bill that it proposed to supersede the system of private practice as between doctor and patient by a universal system of contract in regard to all persons with incomes up to £160. The object of the amendment was to restrict the area of the contract system. That system did not give good results; it was bad in its effects on doctor and patient. Many medical men would not take contract practice, so there was a limited choice, and not such good men as could be obtained on ordinary professional terms. The contract system had a bad effect on the relations of doctor and patient. The patient was apt to think he could treat the doctor as his servant, send for him unreasonably, and demand his services whenever he thought fit. On the other hand, the fee system prevented unreasonable demands and secured for the patient the best of his medical adviser's skill and attention. The only good contract system he had heard of was in China. The Emperor of China had a staff of physicians who were paid by salary, but if the Emperor fell ill the salaries stopped and did not begin again till his Majesty recovered. No doubt the contract system was necessary in the case of poor patients in this country, but there was no good reason for applying it forcibly to classes who could and did pay. A large part of the income of the ordinary medical practitioner was derived from persons whose incomes were under £160 a year. Why should the Goverment disturb the existing system in the case of incomes of between £100 and £160? Let them leave it to go on as it was and give the insured person a money contribution which would help him to make his own arrangements. It might be that there were districts where the limit of £104 was too high, but these cases might be met by the introduction of a discretionary element. He hoped the Chancellor of the Exchequer would accept the amendment.

Mr. Gill said the amendment would be inquisitorial, and would exclude a large number of artisans. He called attention to the fact that a man who earned £2 a week at one time might earn less at another; and pointed out that the value of money varied in different parts of the country. Wages of £2 a week in London were not equal to more than 30s. a week in some other places. Then a man earning £2 a week who had a large family might be really much worse off than another man who only earned 30s. The agitation which had taken place amongst the doctors showed what could be done by combination, and was a splendid example of the trade union movement. While he wished the doctors to be adequately paid, he could not vote for ruling out a great mass of the working classes from this bill. He objected to the amendment, and believed the Labour Party would vote against it.

Sir Alfred Cripps pleaded for the acceptance of the amendment, and Sir A. Markham opposed it.

Mr. George Roberts, speaking of his own experience of the contract system, repudiated the statement that doctors employed under that system scamped their work, and he expressed the belief that the medical men in the rural districts would be benefited by the Government scheme. He also contended that it was inequitable to look only at the rate of weekly wages received by workmen. In his view wages should be looked at from the point of view of how they covered the whole of the liabilities attached to living and not merely the weekly needs. Weekly wages, for example, had not the equivalent ratio of value among the classes of workmen who received a little higher pay because of their arduous occupations and the shorter range of their active life as they had among workmen engaged in less trying work. In his view, therefore, the amendment would cause a grave injustice to large groups of working men, while being unjust in its incidence.

Sir Gilbert Parker had great doubts about the amendment, and counselled its withdrawal in favour of Dr. Addison's proposal coming on later.

Dr. Esmonde urged that if they cut out of the medical man's private practice persons having from £2 to £3 a week, he would have to recoup himself somewhere, and he would require a larger capitation grant from every one, whether receiving over or under £2 a week. That meant that they would be penalizing the poorest and the most deserving portion of the community.

Sir H. Craik, dealing with some of the arguments against the proposal, could not accept the view that local option was desirable. The difficulties in the way of local option were very great. The profession as a whole were anxious to avoid a fight in every particular case, and an acrimonious debate in every parish in the country. He was most anxious that the bill should work well for the labouring classes, but it would not work well for them if they were left to the tender mercies of those who were prepared to undertake this sweated contract practice. The Chancellor, he complained, had not fairly represented the position of those who supported the amendment, for they did not desire to take away a single benefit that now existed. The opinion of the medical profession was united in a desire that the question should not be fought out in each district, but that Parliament should give a fair indication of the limit of wage of those receiving benefits under the bill.

After some remarks in favour of the amendment by Mr. Boyton, it was negatived without a division.

Dr. Hillier moved to substitute "registered" for "duly qualified."

The Attorney-General said that the term "duly qualified" would only apply to registered practitioners.

The amendment was by leave withdrawn.

Mr. Pointer then moved to include "duly qualified certificated herbal practitioners." No doubt the people who believed in the herbal system of medicine were in a minority, but they were a considerable number, and, bearing in mind the remarks of the Chancellor of the Exchequer that they could not expect the best results when a man was under the treatment of some one in whom he had no faith, he submitted that this was a case for further consideration. Under the Medical Act of 1858 herbalists were not allowed to minister to members of friendly societies, but that membership was a voluntary

matter, and members knew on joining that the medical practitioner was the person to whom they had to go for medical benefits. Under the bill there would be no option, although a man might prefer the herbal treatment.

Mr. McKenna said he did not think the hon. gentleman could seriously expect the Government to accept this amendment. (Some Labour cries of "Why not?") The Chancellor of the Exchequer had already stated that he proposed to take into favourable consideration the later amendment of the hon. member for Hoxton, which provided that a person might make his own arrangements for receiving medical attendance and treatment. If he made his own arrangements he would receive the full amount to which he would be entitled under the head of medical benefit, and if he desired, in pursuance of making his own arrangements, to spend his money on a duly qualified herbalist, he would be at liberty to do so, and the herbal practitioner would be entitled to receive precisely the same benefit as any other medical practitioner.

The amendment was negatived.

The Free Choice of Doctors.

The Chancellor of the Exchequer then moved to omit from Subsection (1) of the clause, after "practitioners," the words "for insured persons to receive attendance and treatment to the satisfaction of the Insurance Commissioners from such practitioners"; and to insert:

in accordance with regulations made by the Insurance Commissioners.

(2) The regulations made by the Insurance Commissioners shall provide for the arrangements made being subject to the approval of the Insurance Commissioners and being such as to secure that insured persons shall, save as hereinafter provided, receive adequate medical attendance and treatment from the medical practitioners with whom arrangements are so made, and shall require the adoption by every local Health Committee of such system as will secure:

(*a*) The preparation and publication of lists of medical practitioners who have agreed to attend and treat insured persons whose medical benefit is administered by the Committee and resident within the area to which the list relates;

(*b*) A right on the part of any duly qualified medical practitioner who is desirous of being included in any such list as aforesaid of being so included, except in cases where the Insurance Commissioners, after such inquiry as may be prescribed, are satisfied that his inclusion or continuance in the list would be prejudicial to the efficiency of the medical service of the insured;

(*c*) A right on the part of any insured person of selecting from the appropriate list the practitioner by whom he wishes to be attended and treated, and, subject to the consent of the practitioner so selected, of being attended and treated by him;

(*d*) The distribution amongst and, so far as practicable, under arrangements made by, the several practitioners whose names are on the lists of the insured persons who after due notice have failed to make any selection, or who have been refused by the practitioner whom they have selected:

Provided that if the Insurance Commissioners are satisfied after inquiry that the practitioners included in any list are not such as to secure an adequate medical service in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area, and authorize the Committee to make such other arrangements as the Commissioners may approve.

He said that in order to meet some amendments to his amendment which appeared on the paper he proposed to make a few alterations in his amendment, and then move it in its altered form. For instance, it was suggested that the Insurance Commissioners should not have the right to exclude from the panel any duly qualified medical practitioners because they had certain theories in regard to medicine or surgery. He agreed that that was not a matter which concerned the Insurance Commissioners; and that every man who was a duly qualified medical practitioner should have a legal right to appear on the list. But he thought the Insurance Commissioners should have the right of inquiry into the conduct of a doctor after he had been placed in the list. A doctor, for instance, might be tempted to be so lenient as to encourage malingering in order to increase his practice. He therefore altered paragraph (b) so that it should read, after "included":

But where the Insurance Commissioners, after such inquiry as may be prescribed, are satisfied that his continuance in the list would be prejudicial to the efficiency of the medical service of the insured, they may remove his name from the list.

The doctor, of course, would be heard in his defence.

Mr. Boyton asked whether there would be an appeal.

The Chancellor of the Exchequer said he did not think it would be necessary to allow an appeal. The Insurance Commissioners would be perfectly impartial. Probably they would appoint some one to hold an inquiry, and the report would be submitted to them for decision. That would be in the nature of an appeal. It had also been pointed out by the friendly societies that if an insured person had the right to change his doctor constantly the doctors might fall entirely into the hands of malingerers. He thought some check should be placed on that, and therefore he inserted in paragraph (*c*), after "selecting," the words "at such period as may be prescribed."

The amendment, thus altered, was then put from the Chair.

Mr. Forster said the right hon. gentleman's amendment would make a great improvement in the bill. He hoped, however, that an appeal from the decisions of the Insurance Commissioners under paragraph (*b*) would be allowed. If a doctor were struck off the list it would mean the complete loss of his livelihood. That was too great a power to put into the hands of Government officials without appeal. Every doctor in such circumstances was entitled to have the protection of an appeal to a court of law.

Mr. Lough and Sir Gilbert Parker expressed approval of the changes, and Mr. Cassel proposed to amend paragraph (*a*) of the amendment so as to provide that the doctors on the lists need not be resident in the area to which the lists related.

The Chancellor accepted the amendment to the amendment, and it was agreed to.

Mr. Cassel next moved to insert a provision at the end of subsection (*b*) that every refusal by the Insurance Commissioners to include or continue any practitioner in the list should be subject to an appeal in the High Court. He said that almost everything that mattered to a man in life was here at stake.

Sir Gilbert Parker supported the amendment.

The Chancellor of the Exchequer could not accept the amendment. If the amendment were carried it might involve bringing fifty or a hundred witnesses to London, and no one would be able to tell when the case would come on. His arrangement was really a much fairer one than the procedure by which at the present time a man might be found guilty of infamous conduct and deprived of the whole of his professional position by the medical profession. Infallibility could not be expected either in a judge or a Government official. But the point was, Which of the two methods of inquiry was the one more conducive to fair play to the practitioner and to the efficiency of the insurance fund? He was willing to consider whether it was desirable to have any form of appeal, but appeal to the High Court would be the worst method.

Sir R. Finlay asked what form of inquiry was contemplated.

The Chancellor of the Exchequer said the suggestion he had made was that the Insurance Commissioners should appoint some one to inquire and report to them. The doctor would then have a second chance before the Commissioners.

Sir R. Finlay: Can you not give an appeal upon the material on which the Commissioners themselves adjudicated to a judge with medical assessors?

Mr. Lawson: Would not the right hon. gentleman consult the medical profession before the Report stage? The first thing is that the profession should be satisfied that the tribunal is a fair and just one.

The Chancellor of the Exchequer replied that he had already done so. He would consider the suggestion of the right hon. and learned member for Edinburgh and St. Andrews Universities and any others.

The amendment was withdrawn, and the amendment proposed by the Chancellor of the Exchequer, as amended, was agreed to.

Income Limit.

Dr. Addison then moved to add at the end of the above amendment the following subsection:

"The regulations made by the Insurance Commissioners shall authorize the local Health Committee by which medical benefit is administered to require any persons whose income exceeds a limit to be fixed by them, and to allow any other persons, in lieu of receiving medical benefit under such arrangements as aforesaid, to make their own arrangements for receiving medical attendance and treatment (including

medicines and appliances), and in such case the committee shall, subject to the regulations, contribute from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment (including medicines and appliances) for such persons sums not exceeding in the aggregate the amounts which the committee would otherwise have expended in providing medical benefit for them." He disclaimed any intention to exalt the medical profession or on its behalf to dictate terms. In regard to the question of an income limit, a number of medical men had made representations which, no doubt, were not altogether warranted. He hoped the committee would credit the medical profession with a sincere intention to have the medical service placed upon a sound basis, and to have the matter dealt with fairly. Some doctors had said, quite unnecessarily, that they would be ruined by the passing of the bill. Such representations had often arisen from the lack of a full knowledge of the provisions of the measure. The fact had been overlooked that doctors would be paid in respect of people who were well, and that they would have fewer bad debts. Some of the alarm caused by the bill was unwarranted; nevertheless there was a genuine feeling of alarm, and it was said quite truly that if persons who were now attended as private and fee-paying patients were to be dealt with in future as insured persons upon a uniform basis the incomes of their medical attendants would be diminished. He thought the principle of local option was preferable to the arrangement which had been suggested earlier in the sitting. A number of medical men would have those who had been their private patients become insured persons. That would happen in various districts in which different conditions prevailed, and he thought that the people who should be consulted in order that an equitable arrangement might be arrived at were those on the spot. If medical practitioners were deprived of all fee-paying patients, they would have to demand a higher capitation rate in respect of the lower-paid workers. The amendment would permit a continuance of existing arrangements, and would have the advantage of introducing elasticity into a system which was necessarily experimental. It would also form a basis upon which might be established within a few years an equitable and satisfactory system of both work and payment.

Mr. Chiozza Money viewed the amendment with some apprehension, and advised the addition of the words "with the consent of the approved society concerned," and that there should be a limit of income to £104 a year.

Mr. Snowden and Sir A. Markham spoke in opposition to the amendment.

The House divided, and there were—

For the amendment	271
Against	41
Majority for	238

Mr. Cecil Harmsworth moved the following provision:

> The regulations may provide that, in the case of persons who are receiving medical attendance and treatment under any system or through any organization existing at the time of the passing of this Act and approved by the local Health Committee and Insurance Commissioners, such medical attendance and treatment may be treated as, or as part of, their medical benefit under this part of this Act, and may provide for the committee contributing towards the expenses thereof the whole or any part of the sums which would be contributed in the case of persons who have made their own arrangements as aforesaid.

He said he understood that the qualification "existing at the time of the passing of this Act" and the words "and Insurance Commissioners," which did not appear in the amendment as he put it on the paper, would render it more acceptable. The object of the amendment was to safeguard the interests of the great medical institutes established by friendly societies, to which he had drawn attention during the previous day's debate.

Mr. McKenna: We accept it.

The amendment was agreed to.

Chemists and the Supply of Medicines.

Mr. Glyn-Jones moved an amendment in continuance of the above, providing that the supply shall be "in accordance with regulations made by the Insurance Commissioners, which shall provide for the arrangements made being subject to the approval of the Insurance Commissioners, and being such as to enable insured persons to obtain from any person with whom arrangements have been made such drugs, medicines, and appliances as may be ordered by the medical practitioner by whom they are attended, and shall require the adoption by every local Health Committee of such a system as will secure:

> (*a*) The preparation and publication of lists of persons, firms, and bodies corporate who have agreed to supply drugs, medicines, and appliances to insured persons whose medical benefit is administered by the committee, according to such scale of prices as may be fixed by the committee:
>
> (*b*) A right on the part of any properly qualified person who is desirous of being included in any such list as aforesaid, of being so included, except in cases where the Insurance Commissioners after inquiry are satisfied that his inclusion or continuance in such list would be prejudicial to the efficiency of the service.
>
> Provided that—
>
> (i) If the Insurance Commissioners are satisfied that the scale of prices fixed by the committee is reasonable, but that the persons, firms, or bodies corporate included in any list are not such as to secure an adequate and convenient supply of drugs, medicines, and appliances in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area and authorize the committee to make such other arrangements as the Commissioners may approve.

Mr. McKenna said that the Government accepted the amendment. It was quite recognized by the Committee that it merely applied to those who dispensed medicines, the same principle that applied to the doctors, and he believed that it would receive general support.

The amendment was agreed to subject to verbal alteration at a later stage.

Mr. Peto moved to omit the words "or agrees" in the second subsection of the clause, in order not to preclude any agreement between the Health Committee and a doctor to allow him still to continue a dispensary. He thought that to make it absolutely illegal for a Health Committee to make any arrangement whatever would be to tie their hands unnecessarily.

Mr. McKenna did not think that the amendment raised a matter of great importance. The clause said that no arrangement should be made under which a doctor was bound to provide, and if he agreed to provide he presumed he would be bound. However, if the hon. gentleman would withdraw his amendment, the question should be considered.

The amendment was by leave withdrawn.

Mr. Glyn-Jones moved to leave out the words "at an inclusive fee." He said it was quite obvious that the only way an agreement could be made with a doctor was *per capita*, or on an inclusive basis. No arrangement could be made whereby he should be paid for the drugs he used, seeing that he was the only person who knew what drugs were used.

Mr. Austen Chamberlain said he imagined that the general principle on which they were proceeding was that they should not, unless it was absolutely necessary for the working of the bill, disturb the present right of arrangement. He did not think the hon. member was carrying out that principle in his amendment.

Mr. Peto said he regarded these qualifying words as of the greatest importance, and if they were cut out it would entirely alter the whole of the clause. It would be a great misfortune, he thought, if the hands of those who would have to administer the Act were tied in the manner suggested by the hon. member for Stepney.

The Attorney-General said the effect of leaving out the words would be to carry out what had always been the expressed intention of the Government—namely, that they should separate the functions of the doctor and the dispensing chemist. It would not in any way prevent the doctor from being able to supply medicine when there were special circumstances affecting the locality. There might be circumstances which rendered it necessary for the doctor to dispense medicine, and permission to do so was given by the subsequent words of the subsection, subject to the consent of the Insurance Commissioners. The Government proposed to omit from the subsection the words "situate in a rural district," so as to make the right, in such cases, general.

The amendment was agreed to.

Mr. Glyn-Jones moved to insert a subsection requiring that the regulations should prohibit arrangements for the

supply of drugs and medicines being made with persons other than persons, firms, or bodies corporate entitled to carry on the business of a chemist and druggist under the provisions of the Poisons and Pharmacy Act, 1908, who undertake that all medicines supplied by them to insured persons shall be dispensed either by a registered pharmacist or by a person who, for seven years immediately prior to the passing of the bill, has acted as a dispenser to a duly qualified medical practitioner or a public institution.

Dr. Hillier moved to insert after the expression "registered pharmacist" the words "or by a certified assistant apothecary under the Apothecaries Act, 1815."

Mr. Glyn-Jones hoped the amendment would not be accepted. If a new qualification were to be provided for dispensers it should not be done by a tiny amendment of this kind.

Dr. Hillier denied that his amendment introduced any new qualification for dispensers. It was designed to prevent the disqualification of 7,000 or 8,000 men who were qualified to dispense at present.

The Chancellor of the Exchequer said the Government could not accept the amendment without more prolonged consideration. It was not the desire of the Government to prevent any one earning their living, and if it turned out that any dispensers were cut out by the bill, the Government would accept an amendment to restore them to their present position.

Dr. Hillier accepted the undertaking of the Chancellor of the Exchequer.

The amendment to the amendment was by leave withdrawn.

On the motion of Mr. J. W. Wilson it was resolved to substitute three for seven years as the qualifying period.

The amendment as amended was agreed to.

Consequential Amendments.

The Chancellor of the Exchequer then moved a series of amendments to the subsection, which were, he explained, consequential upon the arrangement agreed upon at the previous sitting.

The new third subsection, according to these alterations now made in it, would read:

> There shall in each year be paid to the local Health Committee for each county or county borough out of moneys credited to a society which has members resident in the county or county borough such sum in respect of the medical benefit for every such member as in default of agreement may be determined by the Insurance Commissioners.

Sir A. Cripps moved to omit Subsection 4. His objection to this part of the clause was that with Subsection 5 it provided that any deficiency in the amount payable to the local Health Committee was to be found half by the Treasury and half from the rates. In such a matter as national insurance there should be no possibility in any circumstances of placing any charge at all on the rates. To go back to the report of the Royal Commission, the real principle was that national matters should be a charge on the national Exchequer. If they put a charge on the rates as opposed to the Exchequer, two-thirds of the wealth of the country escaped contribution altogether.

The Chancellor of the Exchequer said this subsection did not impose upon the ratepayers a charge which they did not bear at the present moment. The Majority Report of the Royal Commission found that at least one-half of the total cost of pauperism was attributable to sickness. This, then, was not a new charge. On the contrary, it was a charge on the ratepayers at the present moment which ran into millions. It was an increasing charge, and had it not been for this bill it would have increased by hundreds of thousands each year.

Sir A. Cripps: The right hon. gentleman is misrepresenting what I said. I drafted most of that report, and a scheme of national insurance has nothing whatever to do with what we reported on there.

The Chancellor of the Exchequer objected that that was an interruption not to correct a misrepresentation but to argue the point. If the hon. member drafted the report it was very curious that he should now have ignored its most significant feature. That was the great and growing charge which sickness was placing upon the rates of the country. Moreover, this was the first time that a Chancellor of the Exchequer had proposed that any portion of this charge should be placed upon the Treasury. He was finding £6,000,000 for purposes the cost of which hitherto had been borne by the rates; and apart from that he had not the slightest doubt that the bill would mean a considerable relief to the ratepayers by closing some of the workhouses. The hon. gentleman wished to cut out Subsection 4, and if he succeeded would the ratepayers thank him for that? It was common ground that the incidence of rates was not satisfactory, and the Government hoped to cure that. He was undertaking heavy responsibilities now which relieved the ratepayers, and all these matters could not be dealt with at one time. Meantime the hon. member, as a representative of the ratepayers, would accept the responsibility of refusing the offer of the Exchequer. If the ratepayers approved of this the ratepayers would show much less intelligence than they had shown in the past.

Mr. Hayes Fisher was glad to find the ratepayers had found a champion who knew more about the incidence of local rating than any other member. The interests of ratepayers had been neglected in the past because they had no direct representation in the House. There had never been a Chancellor of the Exchequer against whom the ratepayers more needed protection.

Mr. Ellis Griffith said the power of the local Health Committee under the clause was merely one of transmission to the Treasury and county council. They had no power to levy a rate. The county council need not pay the money unless they were satisfied that the expenditure was reasonable and proper.

Mr. Crooks said that the champions of the ratepayers would always be rate-savers instead of life-savers. This bill, by providing the best possible medical attendance for working men, would save the ratepayers much expenditure.

Mr. Austen Chamberlain said no one could be surprised that those who took a special interest in rating should protest against the Government's action.

The Chancellor of the Exchequer said it was inaccurate to say that he was adding to the burdens of the ratepayers by the bill. On the contrary, he was relieving the ratepayers enormously, for at present they were the only persons who were bearing the burdens of all public sickness, and he was now bringing in the Exchequer as a partner.

After further discussion the Committee divided and the amendment was rejected by a majority of 67.

The Chancellor of the Exchequer moved an amendment which would make the latter part of Subsection 4 read: "And the Treasury and the county council, or the council of the county borough, may, if they think fit, and if satisfied that the amounts so payable and the proposed expenditure are reasonable and proper in the circumstances, sanction the expenditure."

The amendment was agreed to.

Capitation Rate.

Dr. Esmonde moved a new subsection providing "that no Health Committee shall contract with any medical practitioner for a less fee than 8s. 6d. per insured person per year." He presumed that in the great majority of cases there would be a capitation fee. If they allowed the local Health Committee to pay a less sum than 8s. 6d. he was absolutely certain that they would rob the working man of the country of the best medical attendance.

The Chancellor of the Exchequer said this was a most extraordinary demand, and one which had never been put forward before. There were many rural districts at present where the limit was half a crown. That was unreasonable. The hon. member was asking them to raise the minimum from half a crown to 8s. 6d. Suggestions had been invited from the medical profession in regard to the fee to be fixed, and in the vast majority of cases 6s. or under had been suggested. In only about 30 cases had they been asked for as much as 8s. 6d.

The discussion was continued by Mr. Barlow, Mr. W. Rutherford, Mr. Newman, and Mr. Peto.

Mr. G. Roberts resented the implication which, he said, had been made that the friendly societies had sweated the medical profession.

Mr. F. Hall considered that it was absolutely necessary that the House should impose a minimum charge.

Dr. Addison said the British Medical Association had asked the House not to fix a minimum fee. The hon. member who had moved the amendment was not acting in the interests of the medical profession.

Sir F. Banbury thought the House must give the local Health Committees some guidance.

Sir R. Baker was afraid the whole bill would break down in many districts unless some guidance were given to the Health Committees.

The amendment was negatived, and the clause was added to the bill.

Sanatorium Benefit.

The House then proceeded to consider Clause 15 (Administration of Sanatorium Benefit). After a brief discussion the clause was agreed to, and the House adjourned at 2.20 a.m. on Thursday morning.

QUESTIONS IN PARLIAMENT.

Poor Law Officials (Compensation).

SIR HARRY SAMUEL asked the Chancellor of the Exchequer whether he was aware that it was anticipated that the operation of the National Insurance Bill would have an important bearing upon the number of persons who now seek medical and other relief, and that consequently a lesser number of relieving officers and other Poor Law officials would be required; and whether it was the intention of the Government to insert clauses in the bill to provide compensation for officers whose interests might be affected, in such manner as was provided in Section 120 of the Local Government Act, 1888, and Section 28 of the City of London (Union of Parishes) Act, 1907. The Financial Secretary to the Treasury said that he was glad that the hon. member realized that the ultimate effect of the bill would be an important relief to the ratepayer. But this effect would, of course, be gradual, and, having regard to the normal growth of population and of the standard of care for paupers, it was not anticipated that such reduction of establishments as took place would outstrip the regular wastage through death and superannuation among the officers employed.

Order of Procedure in Committee.

Sir Randolf Baker asked the Chancellor of the Exchequer whether he proposed to take the schedules of the Insurance Bill relating to invalidity before the unemployment portion of the bill or after it. Mr. Hobhouse said the schedules would in the ordinary course be taken after the portions of the bill dealing with unemployment and with general matters. But he would consider the matter.

Dispensaries.

Lord Charles Beresford asked whether it was intended under the National Insurance Bill to allow friendly societies to open dispensaries; and whether all dispensing would be done by qualified pharmacists. Mr. Hobhouse said that it was desirable to secure the best system for the supply of medicines. Consequently no one method of supply should be expressly excluded. All dispensing would be done by qualified persons.

Medical Treatment.

Sir Walter Menzies asked the Chancellor of the Exchequer whether he proposed to make any provision in the National Insurance Bill, or the regulations to be made thereunder, which would enable any insured person who conscientiously objected to ordinary or orthodox medical treatment to obtain such other forms of medical treatment as they might desire. Mr. Hobhouse said that under the amendments put on the paper by his right hon. friend any person would be able to obtain medical treatment from any duly qualified medical man, however unorthodox his methods.

Homoeopathy and Dispensing.

Sir Henry Kimber asked the Chancellor of the Exchequer whether members of the medical profession who have supported the principle and practice of homoeopathy will be equally eligible with other members of the profession to work under the National Insurance Bill; and whether a registered practitioner, homoeopath or not, will have the right to dispense his own medicines if he wishes to do so. Mr. Lloyd George: The answer to the first part of the question is in the affirmative. The intention is as far as possible to separate dispensing from doctoring.

Friendly Societies and the Doctors.

Lord Charles Beresford asked, with reference to Clause 14 of the National Insurance Bill, whether friendly societies are to have control of the medical practitioners? Mr. Lloyd George: The reply is in the negative.

Domestic Servants.

Sir Henry Kimber asked whether domestic servants form the largest class of those who will be compelled to insure under the National Insurance Bill, and whether, in view of the proportion of these persons who are young and healthy lives and are cared for by their employers in sickness, the estimates upon which the actuaries have made their calculations comprise any and what allowance for the gain to the fund from the above facts, and, if not, whether large accretions are expected during the earlier years in the building up of the fund; and whether the Chancellor will place on the paper for early consideration the form of clause or amendment he proposes respecting domestic servants. Mr. Lloyd George: I am aware that domestic servants form a large class among those to be compulsorily insured. In these, as in all other cases, the contributions during the young and healthy years are needed to provide against increasing sickness in the later years. Apart from the amendment which I propose to put on the paper respecting persons who receive sick pay as a condition of their employment, domestic servants would no doubt accumulate larger surpluses for additional benefits than persons who are not supported by their employers during sickness.

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE SECOND QUARTER OF 1911.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

In the accompanying table will be found summarized the vital statistics of the City of London and of the metropolitan boroughs, based upon the Registrar-General's returns for the second quarter of the year. The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided. The 28,430 births registered in London during the quarter under notice were equal to an annual rate of 25.2 per 1,000 of the population, estimated from the unrevised returns of the recent census at 4,522,628 persons in the middle of the year; in the corresponding quarter of the ten preceding years the birth-rate averaged 28.0 per 1,000. The lowest birth-rates recorded last quarter were 13.7 in the City of Westminster, 15.1 in Hampstead, 18.1 in Kensington, 19.2 in Paddington, 19.3 in Chelsea, and 19.4 in Stoke Newington; among the highest rates were 31.0 in Bethnal Green, 31.5 in Shoreditch, 33.2 in Stepney, and 37.7 in Finsbury.

During last quarter the deaths of 14,873 persons belonging to London were registered, equal to an annual rate of 13.2 per 1,000, the average rate in the second quarter of the ten preceding years being 14.6 per 1,000. The lowest death-rates last quarter were 9.7 in Lewisham, 9.8 in Hampstead, 10.7 in Wandsworth, 11.1 in Woolwich, and 11.7 in Stoke Newington; the highest rates were 15.4 in Holborn, 15.9 in Bermondsey, 16.0 in Finsbury and in Poplar, and 17.3 in Shoreditch.

The 14,873 deaths from all causes included 1,443 which were referred to the principal infectious diseases; of these, 1 resulted from small-pox, 690 from measles, 43 from scarlet fever, 123 from diphtheria, 359 from whooping-cough, 16 from enteric fever, and 211 (among children under 2 years of age) from diarrhoea and enteritis. The deaths from diphtheria slightly exceeded the average number for the corresponding period of the five preceding years, but those from each of the other diseases showed a decline. The lowest death-rates from these diseases in the aggregate were recorded in Hampstead, Holborn, the City of London, Lewisham, and Woolwich; the highest rates in Hammersmith, Hackney, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey. The greatest proportional mortality from measles was recorded in Hackney, Shoreditch, Bethnal Green, Stepney, and Poplar; from scarlet fever in Hammersmith, Holborn, the City of London, Poplar, Deptford, and Woolwich; from diphtheria in Hammersmith, Finsbury, Shoreditch, Bethnal Green, Bermondsey, and Greenwich; from whooping-cough in Paddington, Kensington, Hammersmith, Southwark, and Bermondsey; and from diarrhoea and enteritis (among children under 2 years of age) in Hammersmith, Fulham, Chelsea, St. Marylebone, the City of London, and Shoreditch. The 16 deaths from enteric fever included 3 in Wandsworth, 2 in the City of Westminster, and 2 in Lambeth; the fatal case of small-pox belonged to Poplar.

During the quarter under notice the deaths from phthisis among London residents numbered 1,436, and were equal to an annual death-rate of 1.27 per 1,000, the average rate for the corresponding period of the ten preceding years being 1.38 per 1,000. The death-rates from this disease last quarter ranged from 0.56 in Hampstead, 0.71 in Stoke Newington, 0.74 in Lewisham, 0.75 in Greenwich, 0.91 in Wandsworth, and 0.99 in Deptford, to 1.72 in Southwark, 1.76 in Stepney, 1.88 in Holborn, 1.94 in Bethnal Green, 1.95 in Shoreditch, 2.06 in Finsbury, and 2.47 in the City of London.

Analysis of the Vital Statisics of the Metropolitan Boroughs and of the City of London after Distribution of Deaths occurring in Public Institutions during the Second Quarter of 1911.

BOROUGHS.	Estimated Population middle of 1911.†	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Infectious Diseases.	Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Enteric Fever.	Diarrhoea and Enteritis (Under 2 Years).	Phthisis.	Deaths of Children Under 1 Year of Age to 1,000 Registered Births.
COUNTY OF LONDON	4,522,628	28,430	14,873	25.2	13.2	1.28	1,443	1	690	43	123	359	16	211	1,436	89
Paddington	142,541	692	447	19.2	12.6	1.35	48	—	16	2	—	21	—	9	41	111
Kensington	172,296	778	534	18.1	12.4	1.02	44	—	10	—	1	24	—	9	43	114
Hammersmith	121,837	671	436	22.1	14.4	1.55	47	—	12	2	5	15	1	12	37	127
Fulham	153,726	975	466	25.4	12.2	1.18	45	—	21	1	5	8	—	10	47	86
Chelsea	66,218	318	227	19.3	13.7	0.96	16	—	8	1	—	2	—	5	22	53
City of Westminster ...	159,709	547	479	13.7	12.0	0.81	32	—	9	—	4	16	2	1	47	102
*St. Marylebone ...	117,844	1,103	417	37.5	14.2	1.42	42	—	20	—	3	11	—	8	37	52
Hampstead	85,599	322	210	15.1	9.8	0.42	9	—	4	—	2	1	—	2	12	62
St. Pancras	218,031	1,282	731	23.2	13.4	1.02	55	—	20	3	8	18	—	6	79	82
Islington	327,234	1,918	1,066	23.5	13.1	1.14	92	—	34	4	7	26	1	20	102	99
Stoke Newington ...	50,669	245	148	19.4	11.7	1.11	14	—	8	—	1	4	—	1	9	78
*Hackney	222,674	1,400	738	25.2	13.3	1.54	86	—	59	3	3	15	1	5	71	79
*Holborn	49,084	304	189	24.9	15.4	0.65	8	—	2	3	—	1	1	1	23	72
*Finsbury	87,639	824	349	37.7	16.0	1.37	30	—	14	1	4	6	—	5	45	84
City of London	19,475	112	72	23.1	14.8	0.62	3	—	—	1	—	—	—	2	12	63
Shoreditch	111,284	873	479	31.5	17.3	1.95	54	—	22	1	6	11	—	14	54	128
Bethnal Green	128,247	991	490	31.0	15.3	2.07	66	—	39	1	6	13	—	7	62	98
*Stepney	279,560	2,311	1,069	33.2	15.3	2.40	168	—	124	3	10	13	1	17	123	104
Poplar	162,290	1,153	647	28.5	16.0	2.29	93	1	69	3	4	9	1	6	42	107
Southwark	191,595	1,338	732	28.0	15.3	1.17	61	—	24	—	4	22	1	10	82	95
Bermondsey	125,840	907	498	28.9	15.9	1.63	51	—	15	1	5	25	—	5	49	118
*Lambeth	298,032	2,152	951	28.9	12.8	1.16	79	—	29	3	9	24	2	12	95	73
Battersea	167,765	1,079	502	25.8	12.0	0.81	34	—	14	2	6	7	—	5	58	83
Wandsworth	313,389	1,656	834	21.2	10.7	1.50	117	—	59	1	11	25	3	18	71	84
Camberwell	261,407	1,560	791	23.9	12.1	0.89	58	—	27	—	5	19	—	7	67	73
Deptford	109,475	730	355	26.8	13.0	1.24	34	—	11	2	3	12	1	5	27	84
Greenwich	95,982	617	289	25.8	12.1	0.88	21	—	8	1	4	4	—	4	18	81
Lewisham	161,677	857	391	21.3	9.7	0.43	18	—	5	2	3	5	1	2	30	68
Woolwich	121,509	715	336	23.6	11.1	0.60	18	—	7	2	4	2	—	3	31	55

* No correction is made for births in lying-in institutions; the boroughs principally affected are marked thus (*).
† Calculated from the unrevised returns of the recent census.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 89 per 1,000, the average rate in the ten preceding second quarters being 105 per 1,000. Among the boroughs in which the lowest rates were recorded were Chelsea, Hampstead, the City of London, Lewisham, and Woolwich, while the highest rates were recorded in Paddington, Kensington, Hammersmith, Shoreditch, and Bermondsey.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 7,921 births and 4,210 deaths were registered during the week ending Saturday last, July 29th. The annual rate of mortality in these towns, which had been 12.0, 11.8, and 12.1 per 1,000 in the three preceding weeks, further rose to 13.6 per 1,000 in the week under notice. In London the death-rate was equal to 13.7 per 1,000 against 11.0, 11.3, and 11.4 in the three previous weeks. Among the seventy-six other large towns the death-rates ranged from 6.5 in West Hartlepool, 6.8 in Hornsey, 6.9 in Reading, 7.0 in Stockton-on-Tees, and 7.7 in King's Norton to 18.1 in Wigan, 19.1 in Wolverhampton, 19.2 in Liverpool, 19.5 in Stoke-on-Trent, and 20.8 in Bootle. Measles caused a death-rate of 2.7 in Wolverhampton; whooping-cough of 1.1 in Wolverhampton and in Cardiff and 1.7 in Sunderland; diphtheria of 1.6 in Blackburn; and diarrhoea and enteritis (of children under 2 years of age), of 3.7 in Birmingham, in Bootle, and in Cardiff, 3.9 in Dewsbury, 4.4 in Birkenhead, 4.8 in St. Helens, and 5.8 in Wigan. The mortality from enteric fever and from scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 4,210 deaths registered in the seventy-seven towns last week, the causes of 28, or 0.7 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Birmingham, 4 in Liverpool, 3 in South Shields, 2 in Handsworth (Staffs), and 2 in Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,264, 1,345, and 1,358 at the end of the three preceding weeks, further rose to 1,412 at the end of the week under notice; 209 new cases were admitted during the week, against 191, 204, and 199 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the principal Scottish towns 835 births and 488 deaths were registered during the week ending Saturday, July 29th. The annual rate of mortality in these towns, which had been 14.9 and 13.9 per 1,000 in the two preceding weeks, rose again to 14.9 in the week under notice, and was 1.3 per 1,000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates ranged from 9.9 in Aberdeen and 11.7 in Paisley to 16.2 in Leith and 22.2 in Greenock. The mortality from the principal epidemic diseases averaged 2.2 per 1,000, and was highest in Greenock and in Perth. The 231 deaths from all causes registered in Glasgow last week included 17 (of children under 2 years of age) from diarrhoea and enteritis, 12 from whooping-cough, 3 from measles, 2 from diphtheria, 1 from scarlet fever, and 1 from enteric fever. Six deaths from infantile diarrhoea and 2 from whooping-cough were registered in Edinburgh; 3 deaths from infantile diarrhoea in Leith and 4 in Greenock; 2 deaths from diphtheria in Perth; and 1 death from small-pox in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 22nd, 767 births and 371 deaths were registered in the twenty-two principal urban districts of Ireland, as against 581 births and 369 deaths in the preceding period. The annual death-rate in these districts, which had been 17.0, 14.2 and 16.7 per 1,000 in the preceding weeks, rose to 16.8 per 1,000 in the week under notice, this figure being 4.7 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 19.8 and 16.3 respectively, those in other districts ranging from 4.4 in Portadown and 5.2 in Armagh to 20.4 in Limerick and 22.8 in Wexford, while Cork stood at 12.9, Londonderry at 19.2, and Waterford at 19.0. The zymotic death-rate in the twenty-two districts averaged 2.4 per 1,000 as against 1.6 in the preceding week.

During the week ending Saturday, July 29th, 654 births and 362 deaths were registered in the twenty-two principal urban districts of Ireland, as against 767 births and 371 deaths in the preceding period. The annual death-rate in these districts, which had been 14.2, 16.7, and 16.8 per 1,000 in the preceding weeks, fell to 16.4 per 1,000 in the week under notice, this figure being 2.8 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 22.5 and 14.2 respectively, those in other districts ranging from 4.4 in Portadown and 4.7 in Sligo to 26.2 in Newry, while Cork stood at 16.3, Londonderry at 11.5, Limerick at 13.6, and Waterford at 15.2. The zymotic death-rate in the twenty-two districts averaged 3.9 per 1,000, as against 2.4 in the preceding week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Surgeon R. H. St. B. E. Hughes to the *Pembroke*, additional, for disposal, August 1st; Staff Surgeon F. E. Bolton, to the *Hindustan*, July 29th; Surgeon A. V. J. Richardson, M.B., to Chatham Hospital, July 29th.

ROYAL ARMY MEDICAL CORPS.

EXCHANGES.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in Stamps or Post Office Order with the notice, not later than Wednesday morning in order to ensure insertion in the current issue.

Captain, R.A.M.C., posted to Malta this trooping season, wishes to exchange to India.—Replies should be addressed, Captain Rogers Spike Island, Queenstown.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Captain G. F. Sheehan, who is serving in India, is appointed Specialist in Mental Science, Northern Army, from May 13th.

ARMY MEDICAL RESERVE.

Lieutenant W. G. H. Cable, to be Captain, July 1st.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ASHTON-UNDER-LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—Male House-Surgeon. Salary, £100 per annum, increasing to £120.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BIRMINGHAM: ROYAL ORTHOPAEDIC AND SPINAL HOSPITAL.—Clinical Assistant and Assistant Anaesthetist. Honorarium, £25.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer. Salary, £160 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Salary to commence at £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary, £90 per annum each.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

CHELTENHAM EYE, EAR, AND THROAT FREE HOSPITAL.—House-Surgeon. Salary, £200 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon. Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Senior House-Surgeon; salary, £120 per annum. (2) Junior House-Surgeon; salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon, Salary, £75 per annum.

DUMFRIES: CRICHTON ROYAL INSTITUTION.—Pathologist and Clinical Pathologist. Initial salary, £250 per annum.

GLASGOW UNIVERSITY.—(1) St. Mungo (Notman) Chair of Pathology. (2) Muirhead Chair of Obstetrics and Gynaecology. (3) Muirhead Chair of Medicine. (4) St. Mungo Chair of Surgery.

GLASGOW: WESTERN INFIRMARY.—Lecturer on Clinical Methods for the new Clinical Laboratory, Salary, £400.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—(1) House-Surgeon; salary, £100 per annum. (2) Assistant House-Surgeon; salary, £75 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

LEICESTER EDUCATION COMMITTEE.—Male Assistant School Medical Officer. Salary, £250 per annum.

LONDON SCHOOL OF MEDICINE FOR WOMEN, Hunter Street, W.C.—Mabel Webb Research Scholarship, value £30.

LONDON THROAT HOSPITAL, Great Portland Street, W.—Honorary Assistant Anaesthetist.

LOUGHBOROUGH AND DISTRICT HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon. Salary, £100 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium. Salary, £100 per annum.

MANCHESTER ROYAL INFIRMARY.—(1) Medical Officer for Out-patient and Accidents. (2) Assistant Medical Officer to the Convalescent Hospital, Cheadle. Salary, £100 and £80 per annum respectively.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL.—Honorary Surgeon.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £100 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £100 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

PRESTWICH COUNTY ASYLUM.—Locumtenent. Salary, £4 4s. per week.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Junior House-Physician. Salary, £50 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon (male). Salary, £80 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £125 per annum.

ST. PANCRAS UNION.—Senior Assistant Medical Superintendent of the South Infirmary, and Senior Assistant Medical Officer of the Workhouse. Salary, £135 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £120 per annum.

SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon. (2) Assistant House-Physician. Salary, £60 per annum each.

SHREWSBURY: SALOP AND WENLOCK ASYLUM.—Junior Male Assistant Medical Officer. Salary, £150 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—(1) House-Physician; salary, £100 per annum. (2) Junior House-Surgeon; salary, £60 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Physician. Salary, £75 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £70 per annum.

TOXTETH PARK WORKHOUSE AND INFIRMARY.—Assistant Resident Female Medical Officer. Salary, £160 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WEST HAM UNION WORKHOUSE.—First Assistant (Resident, male) Medical Officer. Salary, £150 per annum.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Salary, £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Matlock (co. Derby), Killaloe (co. Clare), Charlbury (co. Oxford).

APPOINTMENTS.

BUTLER, T. Harrison, M.A., M.D.Oxon., M.R.C.S., L.R.C.P., School Oculist to the Coventry Education Committee.

CREAN, F. S., M.B., M.R.C.S., Clinical Assistant to the Chelsea Hospital for Women.

LIVINGSTONE, T. H., M.D., F.R.C.S.Edin., Honorary Surgeon, Children's Hospital, Newcastle-on-Tyne.

STEADMAN, F. St. J., D.P.H., L.R.C.P., M.R.C.S., L.D.S., Dental Surgeon to Queen Mary's Hospital for Children, Carshalton, Surrey.

VILVANDRÉ, Geo., M.R.C.S., Clinical Assistant to the Chelsea Hospital for Women.

LONDON HOSPITAL.—The following have been appointed Dental Surgeons: Harold Chapman, L.D.S., D.D.S.Penn.; F. M. Farmer, L.D.S.; George Northcroft, L.D.S., D.D.S.Mich.; G. Paton Pollitt, L.D.S., D.D.S.Penn.; Evelyn Sprawson, M.R.C.S., L.R.C.P., L.D.S.; J. Sim Wallace, M.D., D.Sc.Glasg., L.D.S.

MANCHESTER ROYAL INFIRMARY.—The following appointments have been made:

Honorary Consulting Physician: Graham Steell, M.D.Edin., F.R.C.P.Lond.
Honorary Consulting Surgeon: G. A. Wright, F.R.C.S.
Honorary Physician: R. T. Williamson, M.D.Lond., F.R.C.P.Lond.
Honorary Surgeon: J. Howson Ray, F.R.C.S.Eng.
House-Physician: J. C. Brentnall, M.R.C.S., L.R.C.P.
Anaesthetists: The following were reappointed—Mr. Edward Moir, L.S.A.Lond., Mr. E. Falkner Hill, M.B., Ch.B.Vict., Mr. G. Jefferson, F.R.C.S.Eng.
Assistant Director of the Clinical Laboratory: A. Ramsbottom, M.D.Vict.Manch., D.P.H.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

MARRIAGE.

PRYCE-MORRIS—CRUMP.—On July 26th, at S. Cynfrans Church, Llysfaen, N. Wales, by the Rev. E. Spink, Vicar of Leek, Staffs, assisted by the Rev. D. Lewis, Rector of the parish, Mr. T. H. Pryce-Morris, M.R.C.S., L.R.C.P., of Newcastle, Staffs, only son of Mr. and Mrs. Pryce-Morris, of Halesworth, Suffolk, to Kathleen, eldest daughter of the Rev. Prebendary and Mrs. Crump, of Voryn Isa, Old Colwyn, N. Wales, and Hartshill Chase, Stoke-on-Trent.

DEATHS.

FERGUS.—At Farkastad, Cape Colony, on July 6th, John Fergus, M.D., aged 56. Greatly beloved.

HAMER.—On July 26th, at The Square, Tyldesley, near Manchester, Harry Hamer, M.B., Ch.B., B.Sc.Vict., aged 40 years.

OUSTON.—On August 1st, at 1, Saville Place, Newcastle-upon-Tyne, from pneumonia, Thomas George Ouston, F.R.C.S., aged 42.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Daily arrangements—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Tuesday, Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday, Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Lecture, Clinical Pathology, 12.15 p.m.; Eye 2 p.m.; Gynaecology, 2 p.m. Thursday, Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday, Gynaecological Operations, 10 a.m.; Gynaecological Demonstration, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday, Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m. on Tuesday and Friday.

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SUPPLEMENT
TO THE
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National Insurance.

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COMMITTEE STAGE.

Friendly Society Medical Institutes.

IN the report of the proceedings of the House of Commons in Committee on August 2nd, published in the SUPPLEMENT of the JOURNAL of August 5th, p. 284, it was stated that an amendment moved by Mr. Cecil Harmsworth had been accepted by Mr. McKenna on behalf of the Government; the amendment was as follows:

> The regulations may provide that, in the case of persons who are receiving medical attendance and treatment under any system or through any organization existing at the time of the passing of this Act and approved by the local Health Committee and Insurance Commissioners, such medical attendance and treatment may be treated as, or as part of, their medical benefit under this part of this Act, and may provide for the committee contributing towards the expenses thereof the whole or any part of the sums which would be contributed in the case of persons who have made their own arrangements as aforesaid.

We were not then in possession of the full report of the discussion which took place, but as points of considerable importance to the profession were raised we now give a report of the proceedings. The subclause as originally placed on the order paper did not contain the words "existing at the time of the passing of this Act," nor those requiring the approval of the Insurance Commissioners.

In the brief discussion on the subclause moved by Dr. Addison, accepted by Mr. Lloyd George, and added to the bill immediately before Mr. Harmsworth's amendment came on, Mr. Lloyd George had stated, in reply to Sir A. Markham, that he was prepared to accept Dr. Addison's amendment and also the amendment by Mr. Harmsworth, which protected the existing rights of everybody. Sir A. Markham expressed the opinion that Mr. Harmsworth's amendment would apply only to members of societies who were to-day members, and that existing societies which had a certain membership to-day would not be entitled to increase their membership or to continue their membership.

Mr. Lloyd George: That is not so; it means not existing members of organizations, but existing organizations.

Sir A. Markham did not think that Mr. Harmsworth's amendment, with the additional words, would carry out that intention.

Mr. Lloyd George said that the matter was clear, and quoted the words "any organization existing at the time of the passing of this Act."

Sir A. Markham thought that applied only to workmen's institutions and clubs, not to existing friendly societies, and he asked Mr. Lloyd George to say whether it did or not.

Mr. Lloyd George replied: "It deals with any existing organization."

Mr. Harmsworth, in moving his new subclause, stated that, as originally drafted, it had received the approval of one of the largest friendly societies—the Manchester Unity—and he did not think that the words which had been inserted would, in the opinion of that society, make any difference. The object was to safeguard the interests of the medical institutes which had been established by friendly societies in many towns up and down the country, including Birmingham, Cambridge, Cheltenham, Gainsborough, Kidderminster, Leicester, Lincoln, Northampton, Nottingham, Luton, Plymouth, Tunbridge Wells, and York. In all there were thirty such institutes, possessing buildings of a substantial character, and administering precisely the kind of medical benefit which the Chancellor of the Exchequer had in view. Many members of friendly societies felt a great deal of anxiety in regard to these institutions under the bill, for without some such clause as he had proposed they would be placed in serious jeopardy. The clause also applied to those large medical associations

which were connected with the various industrial enterprises. The institutes had cost a great deal of money, and a large part of the reserve funds of some of the friendly societies was invested in them. They carried on the business of administering medical benefit, and they paid their medical officers to the satisfaction of those gentlemen.

Mr. McKenna, having accepted the amendment on the part of the Government, Mr. Sandys asked what would be the actual value of the contribution. He concluded that it would be the amount which the local Health Committee would otherwise have expended in providing medical benefit—that was to say, supposing a man who was above the income limit at which he was entitled to receive medical benefit were sick for six months, he would, as a matter of fact, be entitled to receive only the 6s. or 8s. which the Health Committee would have paid to the doctor under ordinary conditions for his medical attendance.

Mr. McKenna said that the amount would be the same as would ordinarily be paid, *per capita*, to the doctors, but that amount was not yet settled.

Mr. J. H. Thomas said that in his constituency (Derby) there was an association which had been in existence for upwards of thirty years; practically all the friendly societies in the town subscribed to it, and by that means provided medical benefit for the whole of their members. The subclause would allow that institution to continue, but there was this difficulty—that at present the members were allowed to make provision not only for themselves, but, as in practically the whole of the institutions of this kind in the country, they were allowed also to make provision on a reduced scale for their wives and families. Under the subclause it seemed that these institutions would not be allowed to continue to do this. At the present time the institutes not only engaged and paid doctors, but engaged dispensers and supplied the whole of the medicine.

Mr. Leif Jones thought it would be exceedingly undesirable to do anything to destroy these valuable institutions, which really managed medical benefit quite admirably. He thought doctors would admit that it was far better than the ordinary club practice, and in a great measure solved the very difficult problem of securing medical benefit for the workers of the country. He objected to the insertion of the words "existing at the time of the passing of the Act," and moved their elision with the object of allowing medical institutes to grow up in other towns where at present they did not exist.

Mr. Harmsworth having explained that his subclause as it stood was an agreed amendment, Mr. Leif Jones, though he thought the addition a mistake, agreed to withdraw his amendment.

Mr. Butcher asked whether under the subclause a medical institute formed by the friendly societies now existing would be able not only to employ a doctor, but to dispense the medicines the doctor ordered, and, further, what amount per head would be paid over to these medical societies.

Mr. McKenna said that both points would be dealt with subsequently.

Mr. Hodge: Yesterday, while another amendment was being discussed, Sir A. Markham directed attention to cases where in large public works there is not only an institute of this character, but to the fact that a deduction is made from wages in respect of the service obtained by the workmen. That service includes medical attendance and medicines for the whole family. I am afraid that under this amendment that is not covered.

Mr. McKenna was understood to say that it was covered.

Mr. Hodge: If that be so, the point I am seeking to make is met. If after consideration it is found that the point is not met, I would ask the right hon. gentleman to make it good on the Report stage.

Mr. McKenna: Certainly. The hon. member will see that there is on the paper an amendment of which the hon. member for Hoxton (Dr. Addison) had given notice. That was withdrawn, and a wider amendment accepted.

Mr. G. Roberts said he had some doubts whether the words actually covered what was desired—namely, the right of medical institutes, not only to provide medical benefits, but also to maintain departments for dispensing drugs. In his constituency (Norwich) there was such an institution, which had paid a medical man a reasonable salary, and was quite free from the charge of sweating.

Mr. Pollock said that he believed that about 240,000 persons were served by these institutions, and he preferred the use of the word "shall" instead of "may" to safeguard their position. He asked the Government to undertake that on Clause 44, and perhaps also in other parts of the bill, power would be given to the Health Committees in respect of the duty imposed upon them of carrying out this subclause.

Sir A. Mond hoped that "shall" would be substituted for "may." He asked what was the exact meaning of the word "organization," which did not appear to have been used in any other clause of the bill. The great friendly societies were much concerned, and wanted to know whether they were covered by this subclause in the same way as members of workers' clubs were stated to be covered. Would the member of a friendly society be able to continue his present method of payment on behalf of himself and his family, and would he receive the same amount of medical contribution? That was a question to which he desired an answer on behalf of the large friendly societies.

Mr. McKenna said that the word "organization" was chosen as the widest word to include all the societies.

Mr. Millar said that he was glad to have the assurance of the Government that the subclause would cover the case of medical benefit associations in connexion with large works. He had received a great number of representations from his own constituency (Lanarkshire, N.E.) in connexion with collieries and steel works. The chief advantage which accrued was that the workers received benefit from such associations for their wives and children. The associations could only exist through the contributions made by the young unmarried men towards their funds.

Mr. Baird wished to protest against the withdrawal of Mr. Leif Jones's amendment, and appealed to Mr. McKenna to say whether it was the intention of the Government to include future organizations, or was the subclause intended to apply only to organizations now in existence?

Mr. McKenna said that the subclause was limited to such organizations as now existed. While fully admitting the importance of the point raised, it was necessary for the Government to take into consideration various interests concerned, and the subclause was generally accepted outside as reasonable, and had, in fact, been accepted by all parties concerned.

In reply to Mr. Sanderson, Mr. McKenna said that the word "shall" could be substituted for "may."

After Mr. Gardner had pointed out that there was an extraordinary difference between this subclause and others with regard to the provision made for medical attendance and treatment, the subclause was added to the bill.

The subclause standing in the name of Dr. Addison, which was replaced by that moved by Mr. Harmsworth, was as follows:

(iii) The regulations may provide that, in the case of persons employed in a trade or industry who are entitled to medical attendance and treatment under an arrangement existing at the time of the passing of this Act, such medical attendance and treatment may be treated as, or as part of, their medical benefit under this Part of this Act, and may provide for the committee contributing towards the expenses thereof the whole or any part of the sums which would be contributed in the case of persons who had made their own arrangements.

Administration of Sanatorium Benefits.

In the early hours of Thursday, August 3rd (between 1 and 2 a.m.), the fifteenth clause was reached. It runs as follows:

(1) For the purpose of administering sanatorium benefit local Health Committees shall make arrangements, to the satisfaction of the Insurance Commissioners, with persons or local authorities having the management of a sanatoria or other similar institutions approved by the Local Government Board for the treatment therein of insured persons entitled to sanatorium benefit under this part of this Act.

(2) The sums available for defraying the expenses of sanatorium treatment in each year shall be—

(*a*) One shilling and threepence in respect of each insured person resident in the county or county borough payable out of the funds out of which benefits are payable under this part of this Act;

(*b*) One penny in respect of each such person payable out of moneys provided by Parliament:

Provided that the Insurance Commissioners may retain the whole or any part of the sums so payable out of moneys provided by Parliament for the purposes of research.

(3) An insured person shall not be entitled to sanatorium benefit unless the local Health Committee considers the case one suitable for sanatorium treatment.

In reply to Mr. W. H. Forster, who inquired how far it was proposed to proceed with the bill,

Mr. Lloyd George said: I confess I thought it was possible to get as far as Clause 18 to-night, but I have made some inquiries and find there is rather a disposition not to go, at any rate, further than Clause 15. I understand there will not be many amendments in order on this clause as most involve a charge. I therefore suggest that we get to the end of Clause 15, provided we get Clause 16 and 17 on Friday without the suspension of the five o'clock rule.

Mr. Forster accepted this as a fair arrangement, and then Mr. McKenna moved in Subsection (1), after the word "Commissioners" ["to the satisfaction of the Insurance Commissioners"], to insert:

(*a*) With a view to providing treatment for insured persons suffering from tuberculosis or any other such disease as aforesaid in sanatoria and other institutions.

Mr. Forster pointed out that in the hurry of the proceedings it ought not to be forgotten that the question of assistance to hospitals was held over till this clause, and it was desirable to know whether assistance would be given to hospitals in the same way as to sanatoriums.

Mr. McKenna said that the question would come on when Clause 47 was reached.

The amendment was then agreed to.

Mr. Forster then moved in Subsection (1) to leave out the word "a" ["management of a sanatoria"]. This was agreed to. The word "similar" in the next line was also left out.

Mr. McKenna then moved, in Subsection (1) to leave out the words "for the treatment therein of insured persons entitled to sanatorium benefit under this part of this Act," and to insert instead thereof the words, "and

(*b*) with a view to providing treatment for such persons otherwise than in sanatoria or other institutions, with persons and local authorities undertaking such treatment in a manner approved by the Local Government Board, which treatment (including the appointment of officers for the purpose) it shall be lawful for a local authority, if so authorized by the Local Government Board, to undertake."

A long discussion followed on the position of sanatoriums built by Poor Law guardians and the undesirability of associating the Poor Law with treatment under the bill.

Mr. Lansbury moved to amend the amendment by inserting after "authorities" in the second line the words, "other than Poor Law authorities."

This amendment was eventually accepted, and the amendment as amended added to the bill.

After some conversation on the provision of equal accommodation for women as for men, raised by Mr. Lansbury, an amendment to this effect was dropped, and Mr. D. Davies moved to leave out the word "treatment" ["The sums available for defraying the expenses of sanatorium treatment"] and insert instead thereof the word "benefit."

This amendment was accepted.

Mr. Lloyd George then moved in Subsection (3) to leave out the word "considers" ["the local Health Committee considers"], and to insert instead thereof the word "recommends."

Further amendments made:

Leave out the words "one suitable" ["considers the case one suitable"].

Leave out the words "sanatorium treatment" ["considers the case suitable for sanatorium treatment"] and insert instead thereof the words "such benefit."

At end of Clause add—

(4) A local Health Committee may, out of the sums available for defraying the expenses of sanatorium treatment, defray in whole or in part the expenses of the conveyance of an insured person to or from any sanatorium or institution to which he may be sent for treatment therein, or may make advances for the purpose.

After these amendments had passed, on the motion that Clause 15 as amended stand part of the bill, Mr. Jowett said that under the clause the Poor Law authority could be utilized in connexion with sanatoriums. That, he held, would be most objectionable to the poorer classes, and he opposed the clause

The clause was agreed to after a division had been challenged.

Progress was then reported, and the House adjourned at 20 minutes past 2 o'clock.

Maternity Benefit.

On Friday, August 4th, the House went into Committee on Clause 16, which is as follows:

(1) Where the mother of the child is herself an insured person, maternity benefit shall be treated as a benefit for her, and shall be administered by the approved society of which she is a member, or if she is not a member of any society by the local Health Committee; if she is not herself an insured person, the benefit shall be treated as a benefit for her husband, and shall be administered by the approved society of which he is a member, or if he is not a member of any such society by the local Health Committee, and shall be payable in respect of a posthumous child.

(2) The money payable by way of maternity benefit shall be expended in such manner as may be prescribed, and no payment shall be made by way of maternity benefit if the mother of the child has failed to comply with such conditions as may be prescribed.

On the motion of the Chancellor of the Exchequer, the words "and is not the wife of an insured person" were inserted after the word "person."

Mr. Cassel, for Captain Jessel, moved to insert the words "in cash or otherwise" after the word "administered."

This was agreed to, with a consequential amendment after the next use of the word "administered."

The Chancellor of the Exchequer moved to substitute the words "in any other case" for the words "if she is not herself an insured person."

This was agreed to, subject to revised drafting.

Mr. Lees Smith moved to insert at the end of the first subsection:

(2) The mother shall decide whether she shall be attended by a duly certified midwife or by a duly qualified medical practitioner, and any payment in cash shall be made direct to her.

The Chancellor of the Exchequer accepted the proposal that the mother should have the right to choose between midwife and doctor, but that would come in as a proviso to the clause. The second proposal was quite different, and his view was that the society should make its own rules.

After some discussion the amendment was withdrawn.

On the motion of Mr. Barnes the following proviso was agreed to:

Provided always that the mother shall decide whether she shall be attended by a registered medical practitioner or by a duly certified midwife, and shall have free choice in the selection of such practitioner or midwife.

On the motion of Mr. Cassel, Subsection 2 was then admitted.

On the question that the clause as amended stand part of the bill,

Mr. Forster drew attention to the hardship which he contended would be done to the wife of a depository contributor who had paid her contributions up to the time of marriage, but subsequently received no maternity benefit, because her husband's deposit had been exhausted by illness of his own.

Sir A. Mond hoped the Government would take care that the anomaly did not appear in the bill of providing for the aid of a medical practitioner if the midwife needed it without seeing that there were any funds out of which he could be paid.

After some conversation as to procedure,

Mr. Lloyd George explained that his intention was to make a statement as to the position in regard to outstanding questions and the views of the Government. His idea was to invite hon. members to direct their attention to various outstanding questions during the recess, and to stimulate suggestions which would assist the Government in coming to a right conclusion.

Mr. Forster, referring to a conversation which the Chancellor of the Exchequer had had with him on the subject of procedure the day before, said he had pointed out that in a matter of that kind the representatives of the Opposition could not bind their supporters beforehand. But the Opposition he believed had no wish to prevent the right hon. gentleman making his statement.

Mr. Barnes expressed dissent from the view that the societies were likely to act unfairly towards women.

The Chancellor of the Exchequer pointed out that the general feeling of the House had been that the admission of this benefit should be left to the approved societies.

Mr. Peto urged that the attention of the Government should be given to the two important points which had been raised. The first related to women who had been insured and who afterwards married a Post Office contributor, whose payments had run out, and who was left without means to pay for the maternity benefit. The second point was the calling in of a doctor in a case of urgency, and how he was to be paid.

Mr. Lansbury also urged that means should be taken to see that these women obtained medical attendance at the time of maternity. The public health authority should be the authority to pay the doctor who was called in.

Mr. McKenna expressed sympathy on the part of the Government with the suggestion, but at this stage it was impossible to suggest a form of amendment to carry the suggestion out.

The clause was then agreed to.

Societies and their Subscriptions.

The Committee then considered Clause 17, which is as follows:

> It shall be lawful for an approved society to grant such subscriptions or donations as it may think fit to hospitals and other charitable institutions, or for the support of district nurses, and to appoint nurses for the purpose of visiting insured persons who are members of the society, and any sums so expended shall be treated as expenditure on such benefits under this part of this Act as may be prescribed.

Mr. McKenna moved amendments providing that nurses might be appointed for the purpose of visiting "and nursing" insured persons, and omitting the words "who are members of the society."

The amendments were agreed to, and the clause as amended was added to the bill.

GENERAL REVIEW BY MR. LLOYD GEORGE.

The Chancellor of the Exchequer then moved to report progress, and, speaking in a conversational tone, said that the House had spent twelve days discussing amendments in Committee, and he thought that the progress which had been made had been very satisfactory on the whole.

The House and the Bill.

The debates for the most part had been non-controversial in character, and the Committee as a whole had responded to the invitation of the Government to take a share in moulding the character of the bill. In introducing the measure he gave that invitation to hon. members, and he had repeated the invitation since. He had made it clear that as far as those in charge of the bill were concerned their intention was to use parliamentary machinery as little as possible except where finance was concerned, and where the responsibility of the Government was primary. The Government's intention was to adhere to the wishes of the House in every respect and to invite their assistance to fashion, alter, and construct the bill. That invitation had been very fairly and generously accepted by all parties in the House. No doubt there had been some difficulties and some controversies. These were inevitable, and the Government had often to give way. He did not object to that, for he thought that the alterations which had been made had improved the bill, and that the suggestions made by critics inside and outside the House had been helpful in strengthening the measure. He expressed a hope that this attitude might continue to the end, for it would be the means of enabling all parties in the nation to have a share in moulding the scheme—a consideration of importance when the people and the Government were engaged in moulding a measure of this kind. It was important that they should have a bill with which every one was fairly satisfied, and as all parties had made their contribution towards improving the scheme he thought it was bound to be a much better law in the end, and to work more smoothly.

The Principles Decided.

The main outlines of the scheme having been accepted, he reminded the Committee of the points that had been decided. First of all, it had been decided that they should proceed on the basis of compulsion. That principle had been accepted by all parties. It had also been decided substantially that the scheme should universally apply to the industrial classes of the country, and that the voluntary part of the scheme should apply to all those who wished to enjoy the advantages of the bill within a certain limit. It had also been decided that the bill should be contributory, and the proportion of the State contribution had been fixed. The distribution of the balance between the employer and the employed had not yet been settled, but this would be done in the schedule. In the main the machinery of the measure had been accepted, and it had been decided by the House that the bill should be worked, not by the State, but through the agency of friendly and kindred societies. The benefits had also been defined; in some important respects they had been extended. They had extended sanatorium treatment within the limits of their resources to women and children of insured persons. He thought that this was a valuable extension. It would involve an additional charge on the State, and he would be glad to do his best to meet it. They had also extended the treatment of tuberculous cases not merely to sanatoriums but to other methods of treating the disease. They had practically committed themselves to a national campaign against consumption; and that was a very important alteration in the bill.

The Friendly Societies.

What were the difficulties with which they had been confronted? Judging by the volume of criticism in the country and in the press, the first great difficulty was with regard to the societies which should be allowed to assist in the administration of the scheme. The idea at first was that it was to be confined to existing friendly societies or to societies organized in the same way. An impression was abroad that the great industrial insurance societies should not be allowed to assist in the administration of the scheme even after they conformed in their organization to the principles which had been laid down as being essential to the acceptance of societies as approved societies. That difficulty had been overcome. He believed the general desire was that every society conforming with the conditions laid down should be allowed to assist as an agency in the administration of the fund. The friendly societies and the trade unions between them nominally covered about six millions of members, but members of trade unions were also members of friendly societies; and it was impossible to estimate the number of duplicates. But he was sure that the existing societies did not cover more than four and a half millions of the industrial population. There were ten millions who were not members of friendly societies, and for whom there was no provision of this kind in days of sickness. It was felt that it would be impossible for the friendly societies, however admirable their organization might be, to absorb and assimilate such an enormous multitude of members as would be cast upon them within six months of the passing of the bill unless they got the assistance of every society which was prepared to come in. The Government had placed amendments on the paper, and there had been no challenge, to make it possible for all societies which were prepared to conform with the conditions laid down to assist in the administration of the scheme. This removed one of the great difficulties in administering the bill. The second great difficulty was that relating to the medical profession. He thought it might be said that substantially it had been met by the amendments which, during the course of the last few days, had been carried and incorporated in the bill.

The Case of Women.

What were the other difficulties? The first difficulty was that of the women contributors. Some severe criticism had been passed on the scheme, which was not altogether justified, owing to the fact that the women contributors passed out of the benefits of the fund the moment they married, and that they only enjoyed the right of re-entry into the scheme when they became widows. But the Government had consented to consider proposals which would enable married women who had been contributors to continue their contributions for modified benefits during the time of marriage. He hoped that whatever scheme was accepted by the House the right of re-entry into the scheme on full terms would not be excluded. The House should consider, however, what women contributors were allowed. They were allowed medical benefits when sick. But as to sick pay, he submitted this consideration. In

the case of a married woman not employed there was not the same check as on men, and it might be disastrous to a society if they allowed women to come in on full sick pay except when they were in institutions. That was a suggestion which had been put before him by some of the deputations representing organized women's labour. They suggested that sick pay should be given to married women where they had been sent to the hospital, because it was a complete check on malingering. In addition to that it was a justifiable demand, because in that case a woman would have to be engaged to look after the household, and it was desirable sick pay should be paid in these cases in order to find some one to take charge of the household. It might be suggested, therefore, that married women should be entitled to sanatorium and medical benefit, and should be entitled to sick pay while treated in an institution, and that they might be allowed to continue their membership of a society on a reduced scale of contribution while receiving these modified benefits. This was a very real difficulty and one which called for the sympathy of every member of the House. At the same time he thought it would be a mistake for them to overlook the obstacles in the way of arriving at a satisfactory solution. The members of the Post Office fund would presumably be those who were rejected by the friendly societies on one of two grounds. One was the ground that upon medical examination no society would accept the responsibility of insuring them against sickness. In the main these were tuberculous cases, and every case of tuberculosis was a very serious charge on the society. The average case of ordinary sickness meant sick pay for about three weeks, a month, or six weeks, but a tuberculous case almost invariably led to 58 weeks' sick pay on the average—at least so he was assured by the friendly societies. That was a charge of so serious a character that friendly societies would not accept cases of that character, if it were known at the time that a man claiming entry was suffering from advanced tuberculosis. Therefore these poor people would be excluded at first from the full benefits of the scheme, and would have to join the Post Office fund.

The Case of the Wastrel.

Then there was the second case. It was always assumed that the Post Office contributors would be entirely composed of persons who were rejected on medical grounds by the friendly societies. That was not the case. There were many people who were rejected by friendly societies because they would not have them. After all, those societies were working men's clubs, and there were cases where no working man's club would accept a certain type of man. They would not associate with him; they regarded him as a wastrel. An exceptional State subsidy for the Post Office contributor meant not only an exceptional subsidy for the poor fellow rejected on medical grounds—it meant an exceptional State subsidy in many cases for the wastrel whom no society would accept. He therefore wanted the Committee to bear that in mind, and not allow themselves to be carried away too much by quite legitimate sympathy into doing something which would encourage the most thriftless class of the community, and that class which had the least right to the sympathy and financial support of the State. The class which was rejected on medical grounds would diminish year by year. It would be practically confined to the first few years of the scheme. For this reason, that it was only during the first few years that they had men who came in at all ages, and tuberculous diseases and other diseases hardly developed before the age of 16. Therefore after the first few years there would be few cases excluded on medical grounds, but there would be a considerable number excluded on the ground that the applicant was a man whom no society would include among its members. He would be the sort of man who was always in arrear.

An Encouragement to Thrift.

As a matter of fact he did not think the Committee and the public generally had realized the extent to which this scheme was an encouragement to thrift. The introduction of the principle of payment of arrears was in itself a guarantee that the society would scrutinize very carefully the character and general demeanour and conduct of a man before they allowed him to come in. If he were of the wastrel type, and only worked for a few weeks and then went off, he would always be in arrear, and the society would be responsible for a certain percentage of his arrears before he could get any benefit. A society would therefore look very carefully at that type of man before they allowed him to come in. He did not think that was at all a bad thing, because the society would scan the man very carefully to see whether he was likely to be a constant charge upon the fund or whether he was likely to be a faithful and loyal contributor. Therefore, when they came to the Post Office contributor, he asked the Committee and the public to consider whether it was desirable for the State to contribute a larger share than was now proposed. It might involve a larger contribution towards not merely the man who was medically unsound, but also a growing contribution towards the man who was not industrious, but thriftless and a wastrel. If there was a larger contribution from the State funds to the Post Office contributor—and he put this for consideration and as food for reflection—that would be an encouragement for a man to join the Post Office fund against the friendly society. Even a good life would join the Post Office fund, because if he joined a friendly society he would only get two-ninths, whereas if he joined the Post Office fund he would get more. That would be a distinct discouragement to join the friendly societies and trade unions, and on the other hand it would be a distinct encouragement to join the Post Office scheme. They really wanted this to be a system that would be worked by the voluntary societies, and it would be a great mistake from that point of view to increase the subsidy to the Post Office contributor.

A Census of the Physically Unsound.

There was one advantage in the Post Office part of the scheme which was pointed out to him the other day. It did not exactly create the problem, but it concentrated the problem. It would enable the State to discover what the problem really was in the course of a few years. They would get to know all the men who were fairly sound. What would happen would be this: In the course of the first year or two of the working of the scheme they would be able to discover the number of people in this country who were so physically unsound that they could not even pass a physical examination by a doctor. They would find out for the whole community the number of people rejected on physical and medical grounds exactly as they did now in the case of the army. There would be a record. They would know how many hundreds or thousands of people there were who could not enter a doctor's consulting room without his knowing there was something wrong with them. They would know the numbers of people in the country who could not even face the glance of the doctor without his knowing there was something wrong with them. He hoped the doctor's certificate would be also able to say the ground for rejection. They would thus have a medical examination of practically the whole nation, and they would be able to say that two, three, or four hundred thousand people had been rejected on the ground that they were suffering from tuberculous disease. That would be a very useful thing when they came to deal with the problem of the future. After all, this was only a contribution to the problem of the Poor Law. Whichever party was in power they would have to deal with that great problem, and this would assist enormously in discovering the nature and character of the problem in a way that had never been discovered before. There was a much larger problem outside the Poor Law, and one which deserved far greater consideration and sympathy at the hands of the House of Commons—the case of the man who struggled to the last against what he considered the contamination of the touch of pauperism. They would discover that by means of this principle of segregation whereby the friendly societies absorbed all the fairly healthy members of the community and segregated and set apart all those who were physically unfit, or unfit for other reasons, to take their place in the great army of industry. By those great recruiting agencies they would find out who were not fit to be enrolled.

The Suggested Levy on the Societies.

The suggestion had been made that one method of dealing with the Post Office contributor would be that

there should be a levy on the surplus of the societies. He was not going to express any opinion, but simply to indicate what he hoped members would reflect upon and consider. It was said there was a real danger that the society would pick out the very best lives, that the medical examination would become a real one in some societies, and that all the worst lives would be excluded, and that those societies would have enormous surpluses simply because they had been selfish enough not to take their share in bearing the general burden. He did not think there was much danger of that being universal. The competition that was promoted by the bill would be fatal to it. After all, every society would be anxious to get plenty of members. They liked to boast of the increase of their members and to record it in their annual report. There was nothing that hurt them more than to issue a report showing that their numbers had gone down, and he was depending very largely upon that to prevent these societies being too greedy and too selfish in the way they chose their lives. He did not think they would do it. What was much more likely was that they might have societies formed in connexion with religious denominations where the conditions would be more healthy, where the discipline exerted on the members conduced to healthier lives. They had certain societies of that kind now. Some of them were established in connexion with Church of England and Nonconformist denominations. He had looked at their reports, and it was wonderful how much they did and the benefits they could distribute at a very small charge. That was very largely due to the fact that the conditions which were imposed upon them by the discipline of the denominations was undoubtedly conducive to keeping a man off the sick list. These, he thought, were the only societies where they would probably find an aggregation of picked lives; but that was not serious enough to affect the general actuarial average. The real competitors would be the friendly societies, the collecting societies, the industrial societies, and the trade unions. The vast majority of contributors would be divided between these great societies, and then they would get a sort of picked societies which would be able to show a great surplus. But the mere conditions of their membership would make it impossible for them to gather all the picked lives of the community within their four walls. He was not at all afraid of that.

Not a Final Experiment.

But it had been suggested that power ought to be given where there was a large surplus to levy a contribution of 10, 20, or 30 per cent. on that surplus and pay it to the Post Office fund. He would like the Committee to consider that very carefully before they came to a conclusion about it, because what it might mean was that they would be levying a contribution not only upon good management, but also upon good lives—he did not mean good lives physically, but thrifty, industrial lives—for the benefit of those who had not conformed to the conditions which made health possible. If the Committee considered this very carefully, he was not so sure that they would not come to the conclusion which he came to after a good deal of reflection and thought, and after considering it for weeks and months with his colleagues, with the aid of very valuable advisers, that, on the whole, the best thing was to start the experiment in this way. No one suggested that this was going to be a final experiment. They must begin somewhere; and what would happen was that they would find out faults and weaknesses in the system as they went along, and he should not be a bit surprised if the greatest weaknesses of all would be those which had never appeared in the speeches of any member. They would come out in the experience of those who managed the societies, which would have a membership of 15 millions of people. Therefore, he again suggested that it might be a far better thing to begin the experiment in this way.

The Sanatorium Benefits.

These poor people would be better off than they ever were before. At any rate, under this scheme they would get 9d. for every 4d. they put by. They would get more than that, and this was invaluable: Most of those who deserved sympathy amongst them would be tuberculous patients. He did not think they would get many rejected as regarded health except the tuberculous people. There were certain diseases which were very bad from the point of view of industrial insurance, but thoroughly good from the point of view of sick pay societies. Take heart disease or a disease of that kind. The disease which was worst from the point of view of a sick pay society was tuberculosis, which might go on for weeks and weeks, and not one which came to a sudden termination. These poor people, therefore, would in the main be tuberculous patients, and they would derive this benefit from the bill. They would get the whole benefit of sanatoriums, not of their 1s. alone, but of all the shillings that were paid in by the whole of the 15 millions of people. In addition to that, there was a larger State contribution to sanatoriums than towards the general benefits of the scheme, and there was the additional benefit that the State was undertaking half the excess provided the local authorities would take the other half. As a matter of fact, the local authorities had undertaken much more than that now, and he was perfectly certain that the vast majority of them would be found pressing the State for an additional grant in a very short time. They would be entitled to remain in these sanatoriums, and to remain there without any deduction from their pay. That was a very important consideration. They would thus be infinitely better off than they were now. If they broke down now they had nothing but the charity of their associates or, what they considered still more degrading, charity from the parish. They had got this now between them and destitution and, what they regarded with still greater horror, pauperism. This was a great improvement, and he suggested it was well worth while for the Committee and the public generally to allow the experiment to be tried in this form for at least a few years. If they found out that they could do something more for them it would be so much easier for them to do it when they knew what the problem really was.

Constitution of Local Health Committees.

He came to the only other point which he could think of as a great outstanding point, and he was dealing purely with essentials of the scheme. This was the Local Health Committees and their constitution. In his view, whatever happened, the local Health Committee ought to be representative of the majority of the people. This was more incumbent than ever now that they had transferred the medical aid to local Health Committees. What did that mean? There was £1,000,000 for sanatorium benefit. There would now be another £4,000,000, very nearly £4,500,000, of medical aid transferred to these committees. It was true that existing institutions were excepted, but his own opinion was that they would not wish for very long to take over medical aid, and that gradually they would find it to their interest to transfer it. They must contemplate the whole of the medical aid being transferred. At any rate, a very substantial part would be, and so they would begin by their having four or five millions of money to administer. This came from the contributions of the members of approved societies and of Post Office contributors, and they could not transfer the administration of a fund which was contributed by these 15 million people to representatives of the ratepayers. That was not representation with taxation. The taxation was of the members of these societies, and if the administration was handed over to another corporation who had no responsibility for the fund there was the temptation that they would spend it rather to relieve the rates than the condition of the members of the societies. He did not say that to relieve the rates was a bad thing, but he did not think it was right to levy contributions from workmen and from employers for the purpose of relieving the rates of the community. Incidentally, no doubt, they would relieve the rates, but the first consideration was the spending of the money for the purpose of benefiting the 15 million people who came under the scheme. They ought to have the dominant and deciding and final voice in the way in which the money ought to be expended. The hon. member for Durham, he knew, would like to hand over the whole thing to the county councils. That, he thought, would be a very dangerous thing to do. He thought that the approved friendly societies, the trade unions, and the new societies that would come in, who found the money, were the people who ought to have the final voice in the matter. It was not merely money. The health of their members depended upon them, and they ought to have the final voice as to

who the doctors were to be and how the doctoring was to be done. He believed that county councils ought to be represented, and under one of the clauses a county council, if it contributed anything, had a right to make terms as to its representation. A county council might say they would only contribute if they got increased representation. That was a matter of bargain between the local Health Committee and the county council, and at any rate the local Health Committee would get something in return for the increased representation.

The Guarantee of Sick Pay.

Those in the main were the questions outstanding. (An hon. member: "What about women?") Yes, another outstanding question was how to deal with domestic servants, those who bargained, as in the case of the agricultural labourer, to have a guarantee of sick pay by the terms of their employment, those engaged in the mercantile marine, and clerks who received pay throughout sickness. There was the same general principle in all those cases, and no doubt there were others which would occur to members of the committee. The general principle was this, that a guarantee was now a condition of their employment, that sick pay or the equivalent of sick pay, or something better, should be provided for them in case of sickness. In the case of clerks they would get something better than the benefits in the bill during sickness. Disablement was not provided for in any service he knew of, except in very exceptional cases. If a clerk who was paid by the year was suffering from temporary sickness, his employer went on paying his wages as a rule, and that rendered it unnecessary that there should be any provision in his case for thirteen weeks' temporary sickness. The same would apply to the domestic servant. She was not discharged, and continued to get her board and her wages. The clerk, the domestic servant, and the agricultural labourer received from their employers something which was already provided for by the contract of service. He thought that was a position very difficult to meet without altering the bill. He had already made his suggestion on that, and now that they would have two or three months to reflect on it, he invited the Committee to consider the best way of carrying it out, or to consider some alternative which might be preferable. His suggestion was that where there was a contract of service which provided for the equivalent of the benefits of the bill during temporary sickness, or something better, they should exclude that class altogether from temporary sickness pay, and simply provide for them medical attendance, disablement benefit, and sanatorium benefit. There were very few cases in which medical attendance was guaranteed. Sailors were guaranteed up to a certain point, so long as they were on a voyage, but there was no provision for them when they landed. Therefore he thought it was desirable that in the case of sailors, domestic servants, clerks, and agricultural labourers medical benefit should be provided. If medical benefit was cut out it would make a difference of about three-halfpence, but he did not think any other classes should be excluded from medical benefit under the bill; in fact he was perfectly certain that there would be sore disappointment on their part if they thought they were. It would be a very serious thing for agricultural labourers with wages of from 15s. to 16s. a week, although those wages were guaranteed during sickness, to find themselves confronted with a medical bill of about £10. It might cripple them for the rest of their days. Many a man had been so completely disheartened by having to save in order to pay off a medical bill that he almost gave it up in absolute despair. He thought, therefore, there ought to be a State guarantee for the medical service in all these cases.

Shipowners' Views.

He had the pleasure the other day of meeting a very able deputation of the shipowners of this country, and he had the advantage, which he had often enjoyed, of receiving the advice and assistance of Sir Norman Hill, who was one of the ablest advisers on any industry in this country, and he was now utilizing his very resourceful brain in finding some means of dealing with the case of the sailors. It was a very difficult case, because though by his contract of service the sailor was doctored, more or less efficiently, during the time he was on board ship, and even during the time he was in a foreign port, still there were gaps in his service. He was not like a domestic servant or an agricultural labourer who was engaged all the year round; he might be ashore for three weeks or a month. If he was not exactly in the same position as the others, there was no provision for him during that period. That was a difficulty which was inherent in the service of the sailor, therefore, it was a very difficult case to deal with. He was not sure that the method which was applicable to the other cases would altogether exhaust the possibilities of dealing with the case of the sailor; but on that he thought the House might fairly trust the suggestion which would emanate from the shipowners of this country, who were quite willing to make provision, who had met him very fairly, who recognized that the case of sailors must be provided for in case of disablement, and who had never tried to get out of the liability at all, but had acted in a manner highly creditable to that great industry.

Approved Societies.

He understood that an hon. member wanted him to consider the case of members of an approved society. That certainly was a case he had got to consider. Here, again, he must ask hon. members not to be rushed away altogether by the natural sympathy that they had with little societies. There was a great deal of sentiment attaching to them which was very creditable to everybody, but they had often proved a trap. He remembered in his own little village they had a society which was now no more; it went on paying for a certain time, then they found, not having any actuarial advice, that they gradually became insolvent, and people who had been paying in all their lives, when they reached old age, found that there was nothing for them. The right hon. gentleman the member for the Strand reminded the House not long ago of the hundreds of societies all over the country which became insolvent. It was not that they were badly managed; it was very often inherent in the nature of the case. They could not get the best advice, they could not afford it to begin with, and not merely that, but there might be an epidemic in a district. There were some cases which made such a draw upon the funds of the society that it became bankrupt, and had nothing to fall back upon. Then, again, it depended so much upon the individual secretary or chairman. If there was a good secretary it might work out all right. If a society happened to fall upon a bad one, it was bankrupt in a very short time before anybody knew it. He came to the Committee and he showed everybody that never were things in such a flourishing condition, and probably for the very reason that he was paying out more money than anybody did before. (Laughter.) He adduced that as proof of the improved business that was going on.

Grouping of Small Societies.

That was really what happened in these societies, and unless they were federated and had something to fall back upon, and unless they had got the supervision which came from the checking of one society by another, very often they ended in complete insolvency and disappointed the hopes of those who had depended upon them. (Hear, hear.) He again appealed to the members of the Committee not to do a thing which was merely popular for the moment, and which would turn out to be very bad in the long run. Let them consider what was the best thing in the interests of the members of those societies themselves. He had had the very admirable suggestion made to him that there should be some sort of county pool in those cases, so that, at any rate in so far as a single county was concerned, they should back each other up; otherwise a society might become insolvent in one district because of an epidemic of typhoid fever or diphtheria, or for some other reason, while all the other societies enjoyed a magnificent surplus because they had not been visited by that epidemic. Perhaps it might be possible in some sort of way, without mentioning numbers at all, to get a kind of county pool. Here was the suggestion, which he thought was rather a valuable one, that all approved societies which had fewer than 10,000 members, and which carried on business in any county or county borough, should be grouped together for the purpose of valuation; that the provisions of this bill as to the application of the surpluses of branches of societies should apply to such grouped societies as if they were a branch of a single society. That meant that there

should be a separate valuation for each of these societies. It should be made clear at the start that this valuation would have no reference to their present position, because what he was afraid of was that they would run away with the idea that their surpluses were to be collared and distributed to members of other societies. He could not imagine a greater state of ferocious excitement than would be caused by this idea. "What!" they would say, "our society which has gone on since the Flood and flourished is to be compelled to distribute to that miserable little society of that other parish?" There would be great jealousy and indignation. He wanted, therefore, to make clear at the start that this was not to be done, because they knew how difficult it was to get a notion out of the minds of people with regard to this bill. The worst of these vested interests was that they could not get it out of the heads of those concerned in them that they were to pay their 4d. twice over, but when they got to know that they would receive 6d. from the State for each 4d. he expected to get as much correspondence by way of apology as he had had by way of criticism. It was not a proposal which came to him with a view to touching their present surpluses. The surpluses that were to be created under the bill would for the purpose of valuation be treated as a sort of county pool in so far as half of them were concerned. The position which they had now was similar to that of branches of friendly societies. The Foresters and Oddfellows had branches and a centre, and it was an inducement to a branch to manage itself well because it got half. It was an encouragement that the central society was able to average, as it were, the risk over the whole country. What they wanted was to average the risks as between individual parishes and the whole county. He threw out this proposal really by way of suggestion for consideration in the meantime. It would entail no additional expense; they could carry on exactly as they did now. In future, if they had a surplus due to the fact that the health of the community in one particular district was better than in another, they could then help each other. That was the whole principle of this bill, as it was the principle of friendly society management. He had not at all committed himself to this except by way of suggestion.

Difficulties Overcome.

That was all he had to say. He thought they might congratulate themselves on having overcome the greatest difficulty—that of the doctors and the collecting societies, which were so admirably mobilized by his hon. friend the member for Pontefract, who developed his attack very skilfully. They had now come inside and were their allies, and all he could say was that if they were as effective in supporting the bill as they had been in criticizing it they would be very valuable allies indeed. These great difficulties had been overcome, and he could see no great difficulties that they could not overcome in the future. He would have to keep a tight hold upon the purse-strings. He was bound to do that, not only in the interests of the taxpayers of the country, but in the general interest of the whole scheme. There he had been obdurate and stubborn, but he thought he had been reasonable in the main. It was important that that should be done. Within these limits he thought he had adhered scrupulously to the pledge he gave at the start, and had accepted the assistance of the House in all quarters in fashioning and altering the bill in every direction. He had considered every suggestion brought before the Committee, and had received some valuable assistance from members of all parties. He begged to thank them for the assistance they had given, and hoped that at the end they would be able to rejoice together that between them they had produced a scheme that would relieve a vast amount of suffering in this country.

After the Deputy-Chairman had pointed out that the discussion was somewhat irregular,

Mr. Forster said that he hoped the Committee would allow him to take part in this irregular proceeding for a few moments. The right hon. gentleman congratulated himself and the Committee on the fact that they had settled so many of the difficult problems that the bill contained. He wished they had. They had settled, no doubt, the broad principle on which the bill was based—the principle of universal, compulsory, contributory insurance against sickness and disease. That was settled on the second reading and in Committee so far as they had gone. They had settled the various benefits to be conferred under the bill. He hoped that they had settled the differences between the doctors and the friendly societies, although he was not altogether sure that they had been finally disposed of.

Proportion of Contributions.

The right hon. gentleman reminded them that one thing he had not settled was the proportion of contributions to be levied from employers and employed. On the introduction of the bill he pointed out that the Government and the Committee would have to justify the proportion they took from these two partners in the scheme. The settlement of this question had been deferred until they came to the schedules, and he hoped that when they came to its consideration they would be able to settle it in a satisfactory way. The question still remained open, and it would be foolish to blind themselves to the fact that there were differences of opinion as to the proper proportion that these two contributing parties ought to bear. The Chancellor of the Exchequer had referred to a proposal made to him with regard to the numbers of approved societies, and had sketched in brief outline the suggestion that the smaller societies should form a county pool. That was a novel suggestion, and none of them had had time to think it over. It undoubtedly contained the principle, which appealed to him very strongly, of stimulating public feeling. (Hear, hear.) He was greatly in favour of *esprit de corps* and of promoting so far as they could county feeling within the county. It made for the good of everybody who lived in the county. (Hear, hear.) The suggestion, therefore, was worthy of the most careful consideration.

The Position of Women.

The right hon. gentleman referred to the question of women under the bill. He said at once that those sitting on that side who had taken an especial interest in the bill had for some time devoted their attention to this matter and had attempted to find some method within the finance of the bill to give women better treatment than they would receive as it stood. They had not been able so far to complete their inquiries on that point, because it depended very largely on actuarial calculations, but they hoped before long to be able to put down their amendments containing in outline the suggestions they had to make. The proposal the Chancellor of the Exchequer had made opened up a wholly new prospect. It undoubtedly involved a reconstitution of the financial contributions by the Government, and all he could say was that they would consider his proposals very carefully and with a very friendly mind. The right hon. gentleman touched on the question of the deposit contributor. He confessed that the position of that person was one of extreme difficulty. There was an almost irresistible inclination on the part of any one who had followed their proceedings in Committee to give to the deposit contributor something more than his actual contributions entitled him to. The Chancellor of the Exchequer uttered a word of warning in connexion with that, and it was a warning that he would like to second. They had to see to it that this bill was not put on a charitable basis, and that, while they gave full value for the money they called upon the various classes of the population to contribute, and imposed on them the duty of contributing, they should not allow an element of charity to enter into the scheme at any point. They ought to treat this as a matter of business from first to last, and not to look on it with the eyes of charity at all. The right hon. gentleman went on to draw a picture in vivid colours of the inestimable benefits that were going to be conferred by the erection of sanatoriums and the treatment of people in them. When he told them of the vast numbers of people who would derive benefit from a long sojourn in those institutions he began to wonder where the accommodation was going to be found.

The Chancellor of the Exchequer: For the first time we undertake to deal with tuberculosis in other ways as well. I did not confine it to sanatoriums.

Mr. Forster entirely accepted that correction. He did not want to press it unduly, but it was a point which the right hon. gentleman recognized as well as any one else that when the scheme first came into operation there must

of necessity be a shortage of accommodation to contain those who really ought to receive sanatorium treatment. As time went on, as sanatoriums were built and home treatment developed, no doubt a more comforting prospect would open. But they ought to bear in mind in these early days that there could not be that full measure of benefit which they hoped to give later on. The right hon. gentleman had referred to that wide category of persons, seamen and others, to whom in all probability it would be necessary to preserve sanatorium and disablement benefit, and he sympathized with the desire that they should be free from contributions during their periods of service. They would think over the suggestion, and hoped to arrive at a method of treating those people fairly. This would be the last day for discussing the bill in Committee before the autumn, and no doubt members would be glad to have the opportunity to think over questions that lay before them and of what the Committee had done. He knew from correspondence that everything that had been done in Committee had not given satisfaction, and he supposed it would be hopeless to expect universal satisfaction, but he hoped on a review of the position of the various interests affected they would find that while injuring nobody they had benefited a great body of people. He knew that friendly societies felt rather strongly about certain proposals carried through Committee, but he did not believe their position had been injured. The right hon. gentleman had recognized the assistance given to him, and certainly the Opposition had done their utmost to rigidly exclude party feeling and to approach consideration of proposals in the bill from a business point of view. It was not always easy to do this, especially in present circumstances—(Hear, hear)—but they would continue in the endeavour to remove anomalies, to smooth rough edges, and make the bill more workable. Many difficulties were in front of them. The Chancellor of the Exchequer was master of the art of conciliation, and no one could pilot a difficult bill through the House with more success. But many difficulties had been discussed, yet left unsettled, and an interval for quiet, calm reflection was needed for problems involved and interlaced to an extent that was not appreciated when the bill was introduced. They would have welcomed fuller opportunity for examination during the time the bill had been in Committee. The right hon. gentleman told the House that the bill had had three years of arduous, anxious thought, but the Committee had had, in comparison, little time to consider the full meaning and extent of its proposals, and he hoped that between Committee and Report stages ample opportunity would be given for review. When the bill was introduced the Opposition promised co-operation and goodwill in discussion, and had kept that promise. Subject to the right to review what the Committee had done and to judge whether in its final form the bill was one the country ought to accept, the Opposition would continue in the course they had adopted.

The Labour Party.

Mr. G. Roberts said the Labour Party had felt it necessary to criticize some of the provisions in the bill, and on one or two points that criticism had been keen and sustained. In the future they would hold themselves free to offer criticism on the main points to which they entertained objection, but the party believed that the measure was one worthy of acceptance so far as its main principles were concerned, and their main motive was to introduce qualifications that would remove apprehensions, and make the bill acceptable to those they represented. He did not know whether it would be possible to have the seventeen clauses reprinted as amended and circulated among friendly societies and those concerned, in order that between now and the reassembling of the House in the autumn members might have the benefit of opinions upon what had been done. He threw out the suggestion as it had been put to him by leaders of friendly societies. Personally, he was generally in favour of the principle of the bill, and he believed it was perfectly right to adopt the contributory principle; nevertheless, when they reached the schedules it would be necessary to urge the claims of the more poorly paid classes of the community, and he hoped the Chancellor of the Exchequer would not grasp the purse-strings too tightly, but would meet their representations with sympathetic favour. He hoped, in considering the constitution of Health Committees, the principle upon which the bill was founded would be adhered to. The right hon. gentleman was right in the view that those who contributed should have a share in administration, and he was certain that a proposal to hand it over to county councils would cause such friction and arouse such apprehension on the part of trade unions and friendly societies that it would be impossible to carry the scheme any further. The party heartily acknowledged concessions made by the right hon. gentleman in accordance with their representations, and trusted he would favourably consider further suggestions, and especially in reference to the deposit contributors. The Labour Party were anxious to do what they could, consistently with full deliberation on Part I, to get it through as early as possible. They wanted to make certain that Part II was running no risk. The great bulk of the trade unionists desired Part II, and, whatever action the Labour Party took, they would be guided by the wish to get Part II through this session in company with Part I. If they failed to secure Part II, Part I would not be quite acceptable to them. Even if this measure did not realize all the expectations of its most enthusiastic supporters, the motive behind it was a good one and worthy of encouragement. The bill opened a new era.

Mr. Scott-Dickson asked the Chancellor of the Exchequer to give special consideration to the position of the societies in Scotland. The conditions at present laid down in the bill would exclude them nearly all.

The Chancellor of the Exchequer said he would consider the matter.

In answer to a number of questions,

The Chancellor of the Exchequer said the idea was that small societies should federate on the principle of bearing each other's burdens. Small societies should join with other small societies in Scotland and elsewhere in order to meet any exceptional strain thrown upon them. The suggestion was that they should federate by counties or with other societies in the same trade in another county. He would consider the question of numbers later on. He would also consider the suggestion about circulating a printed statement for general information and consideration embodying his views and those by whom he was interviewed or consulted. Though there was a good deal to be said for the suggestion that the bill should be divided and the second part, dealing with unemployment, sent to a Grand Committee, he could do nothing until the view was put before the Prime Minister. In the meantime he should welcome an expression of general views on the point.

Progress was then reported, on the understanding that the consideration of the bill in Committee would not be resumed until after the vacation—that is to say, not before the end of October or beginning of November.

QUESTIONS IN PARLIAMENT.

"Medical Botanists."

MR. JAMES PARKER asked whether a British subject duly qualified in the United States of America to practise the botanic system of medicine under the Medical Act there, and who was now practising in this country, would be entitled to render medical aid under the provisions of the National Insurance Bill. Mr. Illingworth: Such a person would not be a duly qualified medical practitioner unless registered under the Medical Acts; but those Acts entitled persons holding foreign diplomas which were recognized by the General Medical Council as furnishing a sufficient guarantee of the possession of the requisite knowledge and skill to be registered without examination. Mr. James Parker asked whether a person who had undergone a course of study at the Botanic Medical College, Southport, and had obtained a diploma therefrom entitling him to practise the botanic system of medicine, would be considered a duly qualified medical practitioner under the provisions of the National Insurance Bill. Mr. Illingworth: Such a person would not be a duly qualified medical practitioner unless he had passed the examination required by the Medical Acts and been registered under those Acts. Mr. Pointer then asked whether the hon. gentleman was aware that the course of instruction in connexion with the Botanic Medical College at Southport extended over five years, and

that all the subjects which a doctor or medical man was supposed to be versed in were gone through; and in view of the strides that had been made in the departments of medical science, was he prepared to reconsider his decision in view of the facts and circumstances? Mr. Illingworth: No; I do not think that that would be recognized by the General Medical Council. Mr. Pointer: What I want to know is not whether it would be recognized by the General Medical Council, but whether, for the purposes of this bill, the Government could not make further inquiries to see whether, after all, those whom some people do believe to be and refer to as medical men should not be brought within the scope of the bill. Mr. Illingworth: I will convey that to my right hon. friend.

Minimum Benefits.

Mr. Godfrey Locker-Lampson asked the Chancellor of the Exchequer what guarantee an insured person had under the National Insurance Bill that he would receive the minimum benefits for which he was compelled to pay. Mr. Lloyd George: The funds provided by the Bill from the contributions and from the State grant are applicable to the benefits and to the necessary expenses incidental thereto, and to no other purpose. The minimum benefits are the first charge before any additional benefits can be given, and the actuarial calculations show that there is a sufficient margin to secure that the full minimum benefits can be provided in practically all cases. The arrangements for valuation and for the timely dealing with a deficiency will be such as absolutely to secure the members of a society against the loss entailed by financial collapse of the society.

Mr G. Locker-Lampson: Are we to understand that no actual guarantee for minimum benefit will be made? Mr. Lloyd George: There is the guarantee that the funds are more than adequate for the purpose. There is a considerable surplus.

Mr. Worthington-Evans: Is it not the fact that there is no national guarantee or guarantee by the Insurance Commissioners that there will be sufficient, because that depends on good management? Mr. Lloyd George: I have pointed out previously that if there were a guarantee there would be no inducement to good management. The arrangement of the bill is such that there is an inducement to good management on the part of the societies.

Mr. Booth: Is it not a fact that if these managers are to give extra benefits there may be danger? Mr. Lloyd George: Certainly; as my hon. friend knows, I have repeatedly pointed that out in Committee.

Christian Science Employees.

The Marquis of Tullibardine asked whether employers would have to pay contributions for medical and other benefits under the National Insurance Bill for Christian Science employees who would not require the benefits; whether such employees would be bound to pay their contributions towards a scheme which was contrary to their faith; and, if so, whether Christian Science healers would be placed on the local Health Committees, and would generally be treated under the bill as medical men. Mr. Lloyd George: The answer to the first part of the question is in the affirmative. With regard to the second part, I have no official information as to the tenets of the Christian Scientists.

MEETINGS OF THE PROFESSION.

BOLTON.

A general meeting of the Bolton Division was held on July 19th, to consider the Special Report of Council to the Annual Representative Meeting.

All members of the profession within the area were invited. Dr. Flitcroft occupied the chair, and there was an attendance of thirty-eight.

Dr. Young reported the results of the interviews with the local members of Parliament. These results gave only partial satisfaction, particularly as no member would pledge himself to the £2 income limit.

Dr. Thornley, in an able and forcible speech, criticized some of the medical clauses in the bill, pointing out that whereas every trade union in the Kingdom settled its own terms of employment, the medical profession was to be in the intolerable position of having its remuneration fixed by Act of Parliament.

A general discussion on the bill followed, in which fifteen members took part, and as a result, on the motion of Dr. Jefferies, seconded by Dr. Young, the following resolution was carried unanimously:

> That this meeting instruct the Representative to loyally support the amendments to the bill of the British Medical Association, and also the protest which all the members in this district have signed.

With regard to the "Question to Divisions," Dr. Mothersole proposed, and Dr. Thornley seconded, and it was carried unanimously:

> That while supporting generally the amendments of the British Medical Association, we disapprove of contract practice in any form.

THE POSITION OF VOLUNTARY HOSPITALS.

Conference between the British Medical and Hospitals Associations.

On August 4th a conference took place at the offices of the British Medical Association between the Executive Subcommittee of the State Sickness Insurance Committee of the Association and representatives of the British Hospitals Association. The subcommittee was joined by Dr. Lauriston E. Shaw, representing the Hospitals Committee of the British Medical Association. The representatives of the British Hospitals Association who took part in the conference were: Sir Frederic Eve, Mr. Howard Collins, Mr. Charles Lupton, Dr. Mackintosh (Honorary Secretary), Mr. Conrad W. Thies, Mr. A. William West, and Mr. Stewart Johnson.

The conference had before it the following memorial, forwarded by the British Hospitals Association to the Chancellor of the Exchequer:

Memorial to the Chancellor of the Exchequer.

Sir,

We urge that—

1. Any adequate scheme for ensuring medical attendance for the working classes of the kingdom involves the provision of hospital accommodation for persons suffering from accidents or serious or unusual diseases, or standing in need of operative assistance and skilled nursing.
2. The voluntary hospitals of the kingdom are at present supplying this need at an annual cost of nearly £4,000,000, exclusive of interest on the original cost of the hospital buildings.
3. The greater part of these funds are obtained from legacies, donations, or annual subscriptions, to which all classes of the community contribute.
4. All the medical schools of the country are worked in connexion with and depend for their efficiency upon voluntary hospitals, and such medical schools have supplied the only opportunities for training to the physicians and surgeons of the country. Such training has been extremely efficient, and those trained thereby compare favourably with the medical men of any other nation.
5. The voluntary hospitals have hitherto been the chief centres of research and of widening the possibilities of medical and surgical treatment.
6. Many hospitals have already great difficulty in raising funds to meet their annual expenditure, and any reduction of the means at the disposal of the managers of voluntary hospitals will necessitate a corresponding limitation of the work which they can undertake.
7. The National Insurance Bill contains no provision which is calculated to increase the resources of voluntary hospitals, and it is apprehended that if such bill is passed in its present form a large reduction in the contributions of both employers and employed will immediately ensue.
8. The persons insured by the bill will in the future, as they do now, come to voluntary hospitals for treatment in cases of serious and obscure illness and cases requiring surgical treatment.

Your memorialists would, therefore, urge that the benefits to be conferred by the bill should be extended to cover treatment in general or special hospitals, and that arrangements should be made to recoup all such hospitals for the expenses which they may actually incur in the treatment of persons voluntarily or compulsorily insured by the bill.

W. Cobbett,
Chairman of the Subcommittee appointed at a meeting of the British Hospitals Association held on the 2nd day of June, 1911.

Dated the 26th day of June, 1911.

Interview with the Chancellor of the Exchequer.

On July 25th a deputation representing the British Hospitals Association, the Central Hospital Council for London, and the Hospital Saturday Fund had an interview

with Mr. Lloyd George, who was accompanied by the First Lord of the Admiralty, the President of the Local Government Board, and the Attorney-General.

Sir A. HAWORTH, M.P., who introduced the deputation, said that the British Hospitals Association had recently held a meeting attended by representatives of 200 hospitals, and added that the deputation was solely interested in the subject from a philanthropic point of view.

Sir WILLIAM COBBETT, Chairman of the Manchester Royal Infirmary, said that numerous communications had been received from hospitals throughout the country supporting the view that the bill would seriously injure the voluntary hospitals financially; the universal opinion of the administrators of hospitals in the provinces was that the effect of the bill would be that the contributions of the workmen would cease, and those of the employers would be largely reduced. In the case of the Manchester Royal Infirmary, though the large and rich firms might not at first withdraw their subscriptions, the small employers would probably do so at once. In the opinion of the British Hospitals Association, the treatment of the insured persons in the hospitals ought to be made a benefit and placed on the same footing approximately as the treatment of consumptives in sanatoriums.

Mr. LLOYD GEORGE said that one of the complaints of the medical profession was that the hospitals competed with the medical profession.

Mr. CHARLES LUPTON, Chairman of the Leeds General Infirmary, said that the complaint referred chiefly to the out-patient department, which was the least expensive part; from the manager's point of view, it mattered little whether it was closed or kept on. At the Leeds General Infirmary there were about 48,000 new out-patients, of whom one-third might be affected by the bill. At Leeds, by the employment of almoners, an effort was made to prevent trivial cases, cases which ought not to go to the hospitals at all, from attending. The managers of provincial hospitals did not see how they were to keep them going in the same way as in the past, unless the State was prepared under the Insurance Bill to pay for the actual work done for insured persons.

Mr. LLOYD GEORGE interjected the remark that the income of hospitals in Germany had gone up enormously since the introduction of State insurance.

Mr. SYDNEY HOLLAND said that there were no voluntary hospitals in Germany; there were voluntary subscriptions for special purposes.

Mr. LLOYD GEORGE thought that it could not matter to managers of hospitals so long as the income was obtained. The result of a scheme of national health such as that embodied in the bill would be that people would take an organized interest in health and would not be willing to see the hospitals go down.

Sir WILLIAM COBBETT expressed the opinion that the Lancashire working man's view would be that the 4d. covered everything.

Mr. SYDNEY HOLLAND, Chairman of the London Hospital, said that it was absolutely essential that the hospitals should not be injured, because they were the places where progress was made in medicine, and where poor people could be treated in serious illness.

Mr. LLOYD GEORGE observed that there could not be hospitals in every village, and that the bill dealt specifically with consumption, which was a serious illness.

Mr. HOLLAND maintained that the hospitals must continue to deal with all serious cases, and must not be disturbed. Mr. Holland also referred to the point that hospitals would be compelled to insure their nurses and employees, although they were already treated there when ill and provided with medical attendance.

Mr. LDOYD GEORGE said that though this might be true, there was no guarantee that they would be properly treated when they were 50 or 60 years of age.

Mr. HOLLAND replied that when nurses had left the hospitals they would not come within the scope of the bill because they were working independently and were not employed persons; he did not accept the suggestion that when working for a nursing association they were employed by it.

After some further conversation, Mr. LLOYD GEORGE said that the suggestion by Sir WILLIAM COBBETT that the hospitals ought to have credit for the work they did for the nurses while at the hospital was a good one, which he would certainly consider.

Sir SAVILE CROSSLEY, speaking on behalf of the Metropolitan Hospital Saturday Fund, said that it was thirty-seven years old, and had 350,000 subscribers. It was strongly in favour of the maintenance of the voluntary system, but that fund and similar funds would be glad in every way to help the Health Committees.

Mr. LLOYD GEORGE, in a general reply, said that he did not think that there was reasonable ground to apprehend that as the result of the National Insurance scheme the subscriptions to hospitals would be considerably diminished. The bill would relieve the working classes, now members of friendly societies, to the extent of between 6d. or 1s. a month, and he did not believe that employers would neglect their duty towards hospitals because they were called upon to make contributions towards sickness among their employees. There might be a momentary irritation, but after that had passed away people would do their duty to hospitals in the same way as hitherto. Even supposing the fears of the managers were justified by events, the hospital would remain an essential part of the machinery of civilization, and he could not believe that the country would allow a single hospital to be closed. Were he to indicate how this would be prevented, the statement would be a more effective way of stopping subscriptions than anything in the bill. In Germany the hospitals had developed and become stronger since the insurance scheme had come into force, because it educated public opinion as to the need for hospitals. With regard to the suggestion that there should be a contribution from the insurance fund to hospitals to cover the cost of what they were doing for insured persons, he pointed out that the bill gave power to approved societies to contribute. If insured persons applied to hospitals merely because they were discontented with their doctor, they should be told that if they were insured they had no right to go to hospitals. The hospitals were in a position to say, "We cannot treat you unless you are prepared to meet us; we are free contracting parties."

Both Mr. HOLLAND and Sir WILLIAM COBBETT said that hospitals could not refuse patients seriously ill.

Mr. LLOYD GEORGE admitted that the individual could not be refused, but the hospitals would be in a position to insist on help from the approved societies who would receive contributions from the State and compulsory contributions from the employers. He would be glad if the deputation would discuss the matter with the medical profession, and then present him with some sort of arrangement with regard to cases which went to the hospitals and were taken off the hands of the doctors.

Conference.

The conference on August 4th was in part the result of the suggestion contained in the concluding part of Mr. Lloyd George's speech. The conference had before it the following minutes of the Special Representative Meeting and the Annual Representative Meeting respectively as expressing the policy of the British Medical Association in respect of the bill:

That the provision (Clause 17), whereby State remuneration for medical benefits under the National Insurance Scheme may be given through a public charity, should be amended in accordance with the principle of the British Medical Association so as to obtain complete separation of State Medical Service from charity.

That the Council be instructed to prepare the necessary amendments to provide that the local Health Committees should be given any or all of the following powers—namely, to acquire, build, equip, and maintain their own sanatoriums or other buildings.

It also had before it the resolutions passed from time to time by the Representative Body to give expression to the policy of the Association respecting hospital administration and control.

A preliminary discussion took place, during which it was pointed out that the British Medical Association held that gratuitous medical attendance should not be given in hospitals to insured persons. After a full exchange of views the following were appointed a joint subcommittee to prepare business for the consideration of the next meeting of the conference, which is to be held on September 11th:

Representing the British Hospitals Association:
Sir William Cobbett (Manchester),
Mr. H. Collins (Birmingham), and
Mr. Charles Lupton (Leeds),
With Dr. Donald J. Mackintosh as Honorary Secretary of the Hospitals Association.

Representing the British Medical Association:
Dr. E. J. Maclean,
Dr. Lauriston E. Shaw, and
Mr. T. Jenner Verrall,
With the Medical Secretary.

Dublin Hospitals.

A largely attended meeting was held in Dublin on July 31st, at which representatives of most of the Dublin hospitals were present, to consider how the National Insurance Bill may affect the hospitals of Ireland. The following resolutions were adopted, and copies ordered to be sent to the Chancellor of the Exchequer and to all the Irish members of Parliament:

1. That this conference is of opinion that the National Insurance Bill as introduced into Parliament will, if unamended, have an injurious effect on the income of the hospitals of Dublin.
2. That hospitals and dispensaries by which services are rendered to assured persons should receive the actual cost of the expenditure they have incurred for such services under conditions that will preserve the independence of the voluntary charitable institutions concerned.
3. That Clause 15 be amended so as to provide that hospitals and dispensaries should receive the same benefits as sanatoriums.
4. That voluntary hospitals be excluded from contributing under the bill; or, in the alternative, that power be given to the Insurance Commissioners, to pay the contributions of employers in addition to the imperial contributions in the cases of voluntary hospitals out of the funds at their disposal.
5. That in maternity cases treated in hospital wards the allowance be paid directly to the assured person.

Cork Hospitals.

A meeting of delegates from the Cork hospitals was held on July 24th to consider the provisions of the State Insurance Bill. The following resolutions were unanimously passed:

1. That as the National Insurance Bill will shortly become law, and no time is available for calling an All-Ireland Hospital Conference, we, as representing the Cork hospitals, express our opinion that the following amendments should be embodied in the bill: That voluntary hospitals be excluded from contributing under the bill; or, in the alternative, that power be given to the Insurance Commissioners to pay the contributions of employer in addition to the imperial contributions in the cases of voluntary hospitals out of the funds at their disposal.
2. That the power of an approved society under the Act to contribute to voluntary hospitals be made compulsory *pro rata*.
3. That on it being shown to the satisfaction of the Insurance Commissioners that the annual subscriptions to a voluntary hospital have fallen owing to the bill, the Insurance Commissioners have power, out of the funds at their disposal, to contribute to the funds of said hospital by way of compensation.
4. That Section 12 be so amended as to enable the Insurance Commissioners out of the funds at their disposal to contribute to voluntary hospitals for insured patients having dependents; and
5. That this is a non-party bill; copies of this resolution be sent to Mr. John E. Redmond, M.P., Mr. William O'Brien, M.P., and Mr. Lonsdale, M.P., as representing the Irish members of Parliament, and that they be requested to try, in the interests of Irish voluntary hospitals, to have these amendments embodied in the bill.

THE FRIENDLY SOCIETIES.

THE ORIGINAL SCHEME APPROVED BY THE SOCIETIES.

THE *Yorkshire Post* has published a report on the scheme of State insurance as originally drafted in consultation with the friendly societies, prepared by Mr. W. G. Bunn for the information of the Hearts of Oak Benefit Society, and circulated in a limited impression of, it is stated, some 100 copies early in June.

Mr. Bunn, writing as one of the representatives of the society upon the National Conference of Friendly Societies, states that the conferences with the Chancellor commenced in October, 1908. At preliminary interviews, attended only by two or three representatives of the friendly societies, it was suggested by them that the whole of the committee of the National Conference of Friendly Societies should be invited to join in the deliberations with Mr. Lloyd George. The three most important conferences were held on November 17th, December 1st, and December 15th, 1908, and at the last of them a provisional scheme was agreed upon, so far as it then could be, and was thereafter submitted to the actuaries appointed by the Government for the purpose of fixing the rates of contribution. The report of the actuaries was issued in March, 1910, and copies were sent to the representatives of the National Conference Committee, which was invited to meet the Chancellor again. The scheme as originally defined was, Mr. Bunn states, to include much the same class of people as the present scheme, but the benefits suggested and the amounts to be expended on them were as follows:

PROPOSED BENEFITS.

	Men.	Amount Suggested.
(*a*)	Medical attendance and medicine for the contributor in case of illness ...	4s. per year.
(*b*)	A payment in respect of each confinement of a contributor's wife ...	£1.
(*c*)	Contributions towards the building of sanatoriums, and allowances for maintenance of members in such institutions	1s. per year.
(*d*)	Weekly allowances during periods of temporary incapacity through illness (not exceeding twenty-six weeks) ...	10s. per week.
(*e*)	Weekly allowances in respect of permanent invalidity so long as incapacity lasts (beginning when (*d*) ceases) ...	5s. per week.
(*f*)	Provision for Widows.—A weekly allowance to every widow having a child (or children) under 16 dependent upon her, to be continued only until such child (or the youngest of such children) attains the age of 16 ...	5s. per week.
(*g*)	Provision for Orphans.—A weekly allowance to every fatherless child under 16 until attaining that age (whether the mother survives or not)	1s. 6d. per week.

Women.

The same as above, omitting (*b*), (*f*), and (*g*), with the possible addition of the payment of a sum of money upon marriage.

With regard to the machinery, it was at that time proposed that the scheme should be administered entirely through recognized benefit societies, each worker being required to select his society within a specified time after the inauguration of the scheme, or after his attaining the age of 16. The societies were to retain the power of rejecting applicants on certain specified grounds of character, etc., or of specified weakness or disease appearing likely to lead to material and permanent impairment of capacity as a wage earner. Rejected candidates were to be excluded from the scheme of national insurance altogether, and left to the operation of the Poor Law. The employer's contribution, together with the insurer's own contribution when collected by the employer, were to have been paid over to the State by the employer, and the amounts so received by the State, together with the State's share of the contribution representing expenses of administration and the State's share of the actual benefits payable, were to have been paid to the societies monthly.

Mr. Bunn points out that there was considerable difference between the bill as introduced and the original draft, the original intention being that the main object of the scheme should be to meet the poorer section of the working classes, a large proportion of whom, it was hoped, would be able to pay the contribution necessary to provide the minimum benefit of 5s., while it was understood that, should other insurers be in a position to pay a higher rate of contribution, they could assure additional benefits through one or other of the approved societies. The position of an approved society, he concludes, under the old scheme would have been much superior to that under the new.

MEETINGS OF FRIENDLY SOCIETIES.

Oddfellows.

The forty-fifth Annual Legislative Council of the British United Order of Oddfellows was opened at York on August 7th, and was attended by delegates from most of the chief towns in the North of England. The GRAND MASTER criticized the provisions of the National Insurance Bill, and stated that the delegates had passed a resolution to the effect that the bill could not be accepted as satisfactory if dividing societies and industrial societies were accepted as approved societies. The power of friendly societies for good was already crippled, and in a few years societies having invested funds would become extinct.

On the following day the bill was discussed at great length, and eventually, after an amendment had been moved, a resolution was adopted to the effect that the bill would not be acceptable to friendly societies unless the

societies had absolute control of their funds, power to appoint their medical officers, and unless the societies were excluded from the compulsory provision of the scheme.

Foresters.

At the Foresters' High Court, opened at Burton-on-Trent on August 7th, the CHIEF RANGER protested against the action of the House of Commons in taking away the control of the medical benefits from friendly societies and transferring it to local Health Committees. The Chancellor of the Exchequer had too readily accepted allegations made by some medical men; the talk of bondage was pure nonsense. The Court would continue to press for amendments in the interests of the friendly societies.

In the course of the discussion on the following day, Mr. J. L. STEAD, permanent secretary, moved:

> That this High Court of the Ancient Order of Foresters' Friendly Society, representing over a million insured persons, protests against the action of the House of Commons in taking away the right of 3,770 branches of the Order to continue their own arrangements for medical service, and presses for the restoration of Clause 13 to its original form, or, in the alternative, requests the Government to amend the Insurance Bill so that a majority of persons constituting local Health Committees shall be representative of approved societies, and, in the event of the resolution being carried, the Executive Council further suggest that copies be telegraphed forthwith to the Prime Minister, the Chancellor of the Exchequer, Mr. A. J. Balfour, Mr. Ramsay Macdonald, and Mr. John Redmond.

Mr. BOOTH, who seconded the resolution, said that if the medical benefit was to be tampered with, the friendly societies would have nothing to do with the bill. The arguments in favour of the amendment moved by Dr. Addison and accepted by so large a majority of the House of Commons were, first, the objection of the doctors to medical control, and, secondly, the alleged low rate of payment coupled with allegations of sweating. He could not deny that some friendly societies paid at a rate below what the Foresters gave their doctors; but in the case of the Foresters the rate was the result of an amicable arrangement, and was willingly accepted by the doctors. While loth to say anything which might embitter the feeling between the medical profession and friendly societies, he could not refrain from asserting that it was notorious that many members of the medical profession sweated their assistants, and he believed that unless they were prevented by the terms of the bill, doctors under the scheme would hand over their work to assistants. The result of the amendment of Clause 13 would be that the whole of the 3,770 Foresters' branches would at once have to cancel their arrangements with their doctors, and there was no ground for so drastic a change.

In the course of the discussion Mr. MARLOW, parliamentary agent of the Order, said that on the question of the administration of medical benefit the societies had been sold, and the bill as it stood was a danger to the friendly societies.

Several amendments were proposed by members, who considered that the Order ought to have nothing to do with the bill, and a somewhat stormy discussion ensued, but eventually the original resolution was carried.

STATE SICKNESS INSURANCE COMMITTEE.

THE Executive Subcommittee of the State Sickness Insurance Committee, which has been reappointed since the annual meeting for the purpose of continuing action, met on August 4th. The members of the subcommittee are: Dr. E. J. Maclean (Chairman of Representative Meetings), Dr. J. A. Macdonald (Chairman of Council), Mr. C. E. S. Flemming, Dr. E. R. Fothergill, Dr. R. A. Lyster, Dr. J. H. Taylor, and Mr. T. Jenner Verrall.

The subcommittee considered the changes in the position resulting from the amendments of the Insurance Bill adopted by the House of Commons. Regard being had to the fact that the further consideration of the bill in Committee had been postponed until the reassembling of the House after the recess at the end of October, it was considered that no immediate action was called for except on one point—namely, the interpretation and effect of the amendment, moved by Mr. Cecil Harmsworth and accepted by the Government, which enables medical attendance to be obtained under any system or arrangement existing at the time of the passing of the Act, to be treated (subject to the sanction of the local Health Committee and Insurance Commissioners) as part of the medical benefit under the Act. The meaning of the amendment was regarded as in many respects obscure, and it was considered to be open to an interpretation which might practically involve depriving the medical profession of all the protection afforded by the transfer under Clause 13 of the administration of medical benefit to the local Health Committees. Instructions were given for inquiries to be made with a view to clearing up the position in this respect.

CORRESPONDENCE.

VOLUNTARY HOSPITALS.

MR. JOSEPH GRIFFITHS, F.R.C.S., Surgeon to Addenbrooke's Hospital, Cambridge, writes: Honorary medical officers of voluntary hospitals, having spent some of their time and energies in helping the rank and file, should now, in my humble opinion, see to affairs of their own. Time is granted to us and we had better make use of it while we may to discuss the new situation created by the National Insurance Bill. I would suggest that the honorary medical officers of the voluntary hospitals meet together to consider the likely effects upon the work now carried on for the sake of charity, and to make suggestions so as to guide the British Medical Association in its dealings with the Government. The opinion of others equally interested will, I trust, be freely given as soon as possible in the pages of the JOURNAL.

NEED FOR CONTINUED UNION.

Dr. P. R. COOPER (Bowden) writes: The main part of this bill as it affects the medical profession is now through Committee, and in the fact that certain amendments have been carried which grant us (1) freedom from friendly society control, and (2) free choice of doctor, with certain reservations, we are said to have "gained a great victory." It is true we had these two items at the head of our programme, and that another item, namely, adequate medical representation on all the controlling bodies, is also in a fair way of being conceded; but, to my mind, these points, although exceedingly important, were never really in doubt, and the greatest and most fundamental point or principle of all has not been granted, and, as I feared, the bulk of medical practice in this country is, unless a firm stand be now made, going to be converted into cheap contract practice—very little, if at all, better than the rightly detested "club practice" with which we are all only too familiar. How this degradation of our profession is going to benefit "the health of the people" I for one entirely fail to see, whilst I am quite sure that under the new scheme, when it becomes an Act, malingering and shirking will be enormously increased, and the cost to the country for a very doubtful benefit will be immense. Far better, in my opinion, a whole-time National Medical Service, with decent salary, proper hours, proper holidays, time for study and research, sick allowance, and pension, than this prospect of professional slavery and drudgery, where one is on duty for twenty-four hours a day and seven days a week and fifty-two weeks a year, upon terms of pay which diminish in certain proportion to the amount of work one is called upon to do. With all the zeal and unselfishness possible in one's desire to do one's duty to one's patients, I maintain that no man can continue to do his duty at the same high level of keenness and capacity under such conditions. The bargain is altogether too one-sided and unfair; for a strictly limited and fixed payment one binds oneself to attend a certain individual to a practically unlimited extent, the only chance of recouping oneself being by the receipt of capitation fees from some who will not call upon one. My impression is that the people who will not call upon us for some real, feigned, or imagined sickness or injury in the course of a year when they are quite free and even encouraged to do so, will be the *minority* and not the majority, and it will be incumbent upon us to make a thorough examination and probably to prepare a report on each case. What little leisure we now have at the end of a hard day's work will probably have to be spent in writing reports. For all this we are to be paid at a rate which, after expenses of practice are deducted, will certainly not provide a decent living—the Chancellor says 8s. 6d. a head is far too much for us.

This, then, is the victory we have scored! and instead of limiting the operation of the bill to people with

incomes below £104 a year, which to many of us seemed an excessive figure, people with incomes up to £160 are to be compulsorily insured, and others voluntarily, only in these cases we can charge more if we like, but the Government is only liable for the capitation fee locally fixed. It would be interesting to know what proportion of the extra charges we are likely to get. Perhaps my own limited experience may be helpful in this direction. Shortly after starting practice here (about sixteen years ago) I was asked to become medical officer to a branch of one of the oldest and best known friendly societies in the country. I said I would do so under certain conditions. One of these was that if I thought any member whom I was called upon to attend could afford to pay me a proper fee for medical attendance I should send him an account. In three cases where I had reason to believe members were earning good incomes, I sent accounts, and although these were all moderate, none were paid; in each case, however, the member subsequently ceased to subscribe for medical benefits, all three ceased also to be my patients (although they had been well satisfied with my treatment). This is almost certainly what will happen under the Insurance Bill, with free choice of doctor.

I feel, therefore, that the supposed safeguards from the evils of contract practice are no protection at all, and that this bill really fixes the capitation system definitely upon us, unless we make a final, determined, and united stand against it, and insist upon payment per attendance upon an agreed tariff of fees. If we are firm and united we are bound to get it, for under the bill the method and amount of remuneration are at present quite open; but there is no doubt that unless we do hold out now the despicable capitation system will be forced upon us, and those of us who will refuse under any circumstances to submit to its degrading terms will regretfully but surely be compelled to refuse to act under the scheme.

FRIENDLY SOCIETY CONTROL.

TWENTY-ONE YEARS' MEMBER writes: I note that the representatives of various friendly societies are up in arms against the Chancellor of the Exchequer because he has come to learn the reasonableness of some of the grievances of medical men. It seems that these "ancient" orders are no longer to be allowed to own the doctor, body and soul, and to receive 9d. back for every 3d. spent does not seem to satisfy them. They now demand "the dominant and decisive voice on the local Health Committees." Let the British Medical Association insist that as many medical men shall be on the local Health Committees as representatives of friendly societies; it would be a fair arrangement to have a third each, and the remaining third to be chosen from the better educated members of the public.

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and blue books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—The annual social meeting will be held at Ford on Wednesday, August 30th. Members with their wives and friends will assemble at the Castle Gates at 2.30 p.m., when, by the kind permission of Lord Joicey, an inspection of this historic border fortress will be made, after which the school, containing the beautiful frescoes painted by the late Marchioness of Waterford, will be visited, and if time permits the church also. Tea will be served at 5 p.m. Members intending to be present will please communicate with me (giving the number of invited guests) not later than August 27th, to enable arrangements to be made.—C. CLARK BURMAN, Honorary Secretary.

GENERAL MEDICAL COUNCIL.

EXECUTIVE COMMITTEE.

A MEETING of the Executive Committee of the General Medical Council was held on July 24th, the members present being Sir DONALD MACALISTER (President), in the chair, Dr. Norman Moore, Sir John Tuke, Sir Henry Morris, Sir John Moore, Sir David McVail, and Dr. Langley Browne.

The late Mr. H. E. Allen.

The committee expressed their regret at the death of Mr. H. E. Allen, B.A., LL.B., General Registrar, and recorded their high appreciation of the services which he rendered to the Council from the time of his first association with its work in 1887 in the following minute:

Both by his personal character and by his administrative ability he gained the esteem and confidence of all who were brought into relation with him as an executive officer of the Council. Devotion to duty, unfailing courtesy, and skill in management were conspicuous among his many good qualities, and conduced greatly to the efficiency of the office of which he was the head. The memory of his example and influence will long be cherished by those with whom he so ably co-operated.

Acting Registrar.

Mr. Norman Carew King, Assistant Registrar, was appointed Acting Registrar, pending the next meeting of the Council.

The Dominion of Canada.

The receipt of a copy of the Act to amend the Canada Medical Act, which received the assent of the Governor-General on May 19th, 1911, and of a copy of an Act to amend the Newfoundland Medical Act, were recorded. The circumstances connected with the Canadian Act were stated by Dr. McPhail of Montreal in an article published in the JOURNAL on July 1st, p. 30.

CENTRAL MIDWIVES BOARD.

A SPECIAL meeting of the Central Midwives Board was held on July 27th at Caxton House, Westminster, with Sir FRANCIS H. CHAMPNEYS in the chair.

Midwives Struck off the Roll.

The Board considered the following charges amongst others against the midwives whose names are given below, and ordered them to be struck off the Roll.

Amelia Ashton, that being in attendance as a midwife at a confinement she was guilty of negligence and misconduct in that she did not wear a dress of washable material, as required by Rule E 1; she did not take with her the appliances and antiseptics required by Rule E 2; she did not adopt the antiseptic precautions required by Rules E 3 and 7; and she washed the patient in the same water and with the same flannel which she had previously used for washing the baby.

Elizabeth Bell, that being in attendance as a midwife at a confinement, the patient suffering from abdominal swelling and tenderness on March 27th, she did not until 10 p.m. on March 28th explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 19 (4) of the Rules then in force.

Harriet Blowers, that when attending her patients she did not wear a dress of washable material as required by Rule E 1; that she persistently neglected to provide herself with the appliances and antiseptics required by Rule E 2; and that she did not take the temperature of her patients, being unable to use a clinical thermometer.

Mary Denham, that having been enrolled in virtue of having been in bona fide practice as a midwife for a year before the passing of the Midwives Act, 1902, and never having passed the examination of the Central Midwives Board, or any other examination in midwifery, she had nevertheless falsely, and in breach of Rule E 26 of the Rules in force before July 1st, 1911, represented herself on her door-plate, and by means of cards and advertisements, as (*a*) "Certificated Midwife by Examination of the Central Board"; (*b*) "Certificated by Examination Central Midwife Board"; and (*c*) "Certificated Midwife by Examination of Central Board."

Ann Fox, that being in attendance as a midwife at a confinement, the mother being ill, and suffering from retention of urine, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 18 of the Rules then in force.

Harriet Growcott, that she was uncleanly in her person, clothing, and appliances; that she did not take the temperature of her patients, being unable to use a clinical thermometer, and

that she did not keep her Register of Cases as required by Rule E 22 of the Rules in force before July 1st, 1911.

Caroline Amelia Hutt, that being in attendance as a midwife at a confinement, the child suffering from inflammation of the eyes, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 19 (5) of the Rules then in force.

Mary Ann Margaret Hyde, that she had on several occasions employed an uncertified person as her substitute, contrary to the provisions of Section 1 (4) of the Midwives Act, 1902.

Sarah Jane Leach, that being in attendance as a midwife at a confinement, she failed to adopt the antiseptic precautions required by Rules E 3 and 7; and that she failed to give proper attention to the comfort and cleanliness of the child during the puerperium, as required by Rule E 11.

Mary Ann Pickering, that at the Birmingham Assizes on March 21st, 1911, she was convicted of counselling and procuring one Louisa Hillier to attempt to procure abortion, and was thereupon sentenced to eighteen months' imprisonment with hard labour.

Hannah Rhodes, that she cut the patient's perineum with a pair of household scissors without disinfection; she removed the afterbirth by pulling on the cord until it broke, and then by inserting the hand into the patient's uterus; and she did not take the patient's temperature at any time.

Ann Sant, that being in attendance as a midwife at a confinement, she did not attend to the comfort of the patient, nor did she remove soiled and blood-stained linen from her neighbourhood, as required by Rule E 10.

Sarah Stanley, that being in attendance as a midwife at a confinement, the patient being ill on March 30th, suffering from headache and severe abdominal pain, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 19 (4) of the Rules then in force. A registered medical practitioner having been sent for on March 31st, she failed to notify the fact to the Local Supervising Authority as required by Rule E 20 of the Rules then in force.

Ellen Upton, that she was uncleanly in her person, clothing, and house; that when attending a patient she did not wear a dress of washable material as required by Rule E 1; and that she did not possess the appliances or antiseptics required by Rule E 2.

Midwives Censured.

The following midwives were censured after charges against them had been considered: *Elizabeth Jones* and *Annie Walker*.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 8,284 births and 4,940 deaths were registered during the week ending Saturday last, August 5th. The annual rate of mortality in these towns, which had been 11.8, 12.1, and 13.6 per 1,000 in the three preceding weeks, further rose to 15.9 per 1,000 in the week under notice. In London the death-rate was equal to 15.5 per 1,000, against 11.3, 11.4, and 13.7 in the three previous weeks. Among the seventy-six other large towns the death-rates ranged from 7.5 in Tottenham and in Northampton, 8.0 in Stockton-on-Tees, 8.2 in Barrow-in-Furness, and 8.7 in Walthamstow, to 21.3 in West Bromwich and in Middlesbrough, 21.5 in Walsall and in Birmingham, 22.0 in Rhondda, and 23.6 in Aston Manor. Whooping-cough caused a death-rate of 1.0 in Newcastle-on-Tyne, 1.1 in Wolverhampton, 1.4 in Sunderland, 1.6 in West Hartlepool, and 1.7 in Walsall; diphtheria of 1.2 in Blackburn; and diarrhoea and enteritis (of children under 2 years of age) of 7.4 in Bootle, in Newport (Mon.), and in Cardiff, 7.5 in Rhondda, 7.9 in Warrington, 8.2 in Wigan, 8.8 in Birmingham, and 9.0 in Aston Manor. The mortality from measles, scarlet fever, and enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 4,940 deaths from all causes registered in the seventy-seven towns, the causes of 33, or 0.7 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 9 in Birmingham, 5 in Liverpool, 3 in Stoke-on-Trent, and 2 in Manchester, in Sunderland, and in South Shields. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,345, 1,358, and 1,412 at the end of the three preceding weeks, had further risen to 1,433 at the end of the week under notice; 191 new cases were admitted during the week, against 204, 199, and 209 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the principal Scottish towns 866 births and 452 deaths were registered during the week ending Saturday, August 5th. The annual rate of mortality in these towns, which had been 13.9 and 14.9 per 1,000 in the two preceding weeks, declined to 13.8 in the week under notice, and was 2.1 per 1,000 below the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates ranged from 7.3 in Perth and 8.6 in Paisley to 15.4 in Glasgow and 18.7 in Greenock. The mortality from the principal epidemic diseases averaged 1.9 per 1,000, and was highest in Glasgow and Leith. The 232 deaths from all causes registered in Glasgow included 9 from measles, 1 from scarlet fever, 5 from diphtheria, 6 from whooping-cough, 3 from enteric fever, and 14 (of children under 2 years of age) from diarrhoea and enteritis. Five deaths from infantile diarrhoea were recorded in Leith and 3 in Edinburgh, and a fatal case of small-pox was registered in Dundee.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON J. VERDON has been appointed to the *Vivid*, additional, for disposal, August 8th.

ROYAL ARMY MEDICAL CORPS.

EXCHANGES.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in Stamps or Post Office Order with the notice, not later than Wednesday morning in order to ensure insertion in the current issue.

A MAJOR, Royal Army Medical Corps, due to embark for India, *Northern Army*, probably in December, is willing to exchange to *Southern Army* and sail by *earlier* boat on even terms. Replies should be addressed to No. 4190, BRITISH MEDICAL JOURNAL Office, 429, Strand, London, W.C.

ARMY MEDICAL SERVICE.

COLONEL L. G. ANDERSON, who is serving in India, is appointed Principal Medical Officer, Bareilly, Garhwal, and Dehra Dun Brigades.

Colonel R. L. D. HACKETT, M.D., also serving in India, Principal Medical Officer, Kurrachee Brigade, is appointed Principal Medical Officer, Abbottabad and Sialkot Brigades.

ROYAL ARMY MEDICAL CORPS.

The following Lieutenant-Colonels retire on retired pay, July 29th: Sir JOSEPH FAYRER, Bart., M.D., T. H. F. CLARKSON, D. M. SAUNDERS, M.D., and H. W. AUSTIN. Their commissions are thus dated: Lieutenant-Colonels Sir J. Fayrer, Clarkson, and Saunders—Surgeon-Captain, July 28th, 1896; Major, July 28th, 1898; Lieutenant-Colonel, July 28th, 1906. Lieutenant-Colonel Austin—Surgeon-Captain, July 28th, 1896; Major, July 28th, 1898; Lieutenant-Colonel, October 26th, 1906. Lieutenant-Colonel Clarkson served with the Nile expedition in 1898, and was present at the battle of Khartoum (British medal and Egyptian medal with clasp). Lieutenant-Colonel Saunders was in the South African war in 1899–1901 in operations in Cape Colony (Queen's medal with two clasps). Lieutenant-Colonel Austin served at St. Helena during the South African war in 1900–1, and received the Queen's medal.

INDIAN MEDICAL SERVICE.

LIEUTENANT J. W. BARNETT, M.B., is promoted to be Captain, from March 8th. His first appointment bears date February 1st, 1908.

Captain J. H. BURGESS, M.B., is appointed Specialist in Advanced Operative Surgery, 9th (Secunderabad) Division, from May 14th.

Captain A. G. COULLIE, M.B., is appointed Specialist in Advanced Operative Surgery, 3rd (Lahore) Division, from May 18th.

Lieutenant-Colonel J. SMYTH, M.D., is promoted to be Colonel, from June 7th. Appointed to the Madras Medical Department as Assistant Surgeon, October 1st, 1881, he became Lieutenant-Colonel October 1st, 1901. He took part in the Sudan expedition in 1885, and was present at the actions of Hasheen and Tofrek and at the destruction of Tamai, where he was wounded. He has received a medal with two clasps and the Khedive's bronze star.

Colonel H. HENDLEY, Principal Medical Officer Sirhind and Jullundur Brigades, has been appointed Deputy Principal Medical Officer of His Majesty's Forces in India, with effect from August 7th, vice Colonel D. FFRENCH-MULLEN, M.D.

Lieutenant-Colonel R. B. ROE, Principal Medical Officer, Abbottabad and Sialkot Brigades, is appointed Principal Medical Officer, Kurrachee Brigade.

Major A. E. BERRY, M.B., is appointed Specialist in Ophthalmology, 5th (Mhow) Division, from June 5th.

ARMY MEDICAL RESERVE.

LIEUTENANT-COLONEL CECIL EWING resigns his commission, August 2nd.

TERRITORIAL FORCE.

INFANTRY.

SURGEON-LIEUTENANT-COLONEL AND HONORARY SURGEON-COLONEL S. B. MASON, 3rd Battalion Monmouthshire Regiment, resigns his commission, July 29th; he retains his rank and uniform.

ROYAL ARMY MEDICAL CORPS.

Second Home Counties Field Ambulance.—Major D. L. HAMILTON, F.R.C.S.Edin., to be Lieutenant-Colonel, June 17th.

Second London (City of London) Field Ambulance.—Major W. S. SHARPE, M.D., from the 3rd London (City of London) Field Ambulance, to be Major, July 1st.

Second North Midland Field Ambulance.—Lieutenant E. L. JENKINS resigns his commission, July 29th.

For Attachment to Units other than Medical Units.—WILLIAM H. E. STEWART to be Lieutenant, April 14th; ARTHUR E. GLADSTONE to be Lieutenant, May 16th; JOHN B. BATE, M.D., to be Lieutenant, June 17th.

Fifth London Field Ambulance.—Lieutenant W. C. MACAULAY, M.B., to be Captain, June 13th.

Attached to Units other than Medical Units.—Lieutenant F. J. GREEN, M.D., to be Captain, April 11th; Captain E. E. DYER, M.B., to be Major, July 5th.

COLONIAL MEDICAL SERVICES.

THE following changes have been notified by the Colonial Office:

WEST AFRICAN MEDICAL STAFF.

New Appointments.—A. J. M. CRICHTON, M.B., Ch.B.St. Andrews, has been selected for appointment as Medical Officer in Northern Nigeria. A. J. R. O'BRIEN, M.B., Ch.B.Edin., D.P.H., B.Hy.Durh., has been selected for appointment as Medical Officer in Gold Coast.

Retirements.—D. T. H. CROLY, L.R.C.P., L.R.C.S.Edin., L.F.P.S. Glas., Medical Officer, Gold Coast. P. J. GARLAND, C.M.G., L.R.C.S., L.R.C.P.Irel., Deputy Principal Medical Officer, Gold Coast, retires on pension. W. F. ROACH, M.D., M.S.Montreal, L.A.H.Dubl., F.C.S., retires with a gratuity.

OTHER COLONIES AND PROTECTORATES.

R. BURY, L.R.C.P., F.R.C.S.Irel., L.M.Rotunda, has been selected for employment as a Medical Officer in Nyasaland.

SPECIAL RESERVE OF OFFICERS.

CADET PRIVATE VIVIAN R. SMITH, from the Edinburgh University Contingent, Officers' Training Corps, to be Lieutenant (on probation), July 11th.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ASHTON-UNDER-LYNE: DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Senior Male House-Surgeon. Salary, £120 per annum.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BEDFORD COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer. Salary, £130 per annum.

BRISTOL GENERAL HOSPITAL.—House-Physician. Salary, £60 per annum.

BRISTOL GUARDIANS.—Assistant Workhouse Medical Officer. Salary, £100 per annum.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary, £90 per annum each.

CAPE OF GOOD HOPE: LEPER WARDS, Robben Island.—Junior Medical Officer. Salary, £250 per annum, increasing to £300.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

CHELTENHAM EYE, EAR, AND THROAT FREE HOSPITAL.—Assistant Surgeon. Salary, £200 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician. Salary, £80 per annum. (2) House-Surgeon. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

ECCLES AND PATRICROFT HOSPITAL.—House-Surgeon. Salary, £60 per annum.

EDINBURGH HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN AND THE HOSPICE.—Senior and Junior Resident Medical Officers at the Hospital. Honorarium, £25 and £12 per annum respectively. Resident Medical Officer at the Hospice. Honorarium, £25 per annum.

GLASGOW PARISH COUNCIL.—Two Junior Resident Male Assistants for the Eastern and Western District Hospitals. Salary, £100 per annum.

GLASGOW UNIVERSITY.—(1) St. Mungo (Notman) Chair of Pathology. (2) Muirhead Chair of Obstetrics and Gynaecology. (3) Muirhead Chair of Medicine. (4) St. Mungo Chair of Surgery.

GLASGOW: WESTERN INFIRMARY.—Lecturer on Clinical Methods for the New Clinical Laboratory. Salary, £400.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—(1) House-Surgeon; salary, £100 per annum. (2) Assistant House-Surgeon; salary, £75 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Senior House-Surgeon (male). Salary, £120 per annum.

HARTLEPOOLS HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HEMEL HEMPSTED: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

LONDON HOSPITAL DENTAL SCHOOL, E.—(1) Demonstrators. (2) House-Surgeon and Instructor in Dental Mechanics.

LOUGHBOROUGH AND DISTRICT HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £100 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium. Salary, £100 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £80 per annum.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Two House-Surgeons. Honorarium at the rate of £50 per annum.

MIDDLESEX HOSPITAL, W.—(1) Surgeon; (2) Assistant Surgeon.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth.—Junior Assistant Medical Officer (male). Salary, £140 per annum, rising to £160.

NEWCASTLE-UPON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary, £160 per annum, increasing to £180.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon (male). Salary, £90 per annum, increasing to £100.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £100 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL. Casualty House-Surgeon. Salary, £80 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

PORTSMOUTH BOROUGH ASYLUM.—Assistant Medical Officer. Salary, £150 per annum, rising to £200.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum, rising to £60 on appointment as Senior.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—House-Physician. Salary, £110 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £125 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, Covent Garden, W.C.—Junior House-Surgeon. Salary at the rate of £50 per annum.

SHEFFIELD ROYAL HOSPITAL.—(1) Assistant House-Surgeon. (2) Assistant House-Physician. Salary, £60 per annum each.

SHEFFIELD UNIVERSITY.—Junior Demonstrator in Pathology. Salary, £150 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.

SOUTHAMPTON; ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £100 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTERN DISPENSARY.—Junior House-Surgeon (male). Salary, £90 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £70 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Montgomery (Montgomery), Trillick (Co. Tyrone), Ruskington (Lincoln).

APPOINTMENTS.

BUSH, W. H., L.S.A., District Medical Officer of the Wantage Union.

HEY, S., M.R.C.S., L.R.C.P., District Medical Officer of the Ripon Union.

JEFFERSON, W. D., L.R.C.P.Edin., M.R.C.S.Eng., Medical Officer of Health for the City of Ripon.

MESSER, A. W., M.B., C.M.Edin., Certifying Factory Surgeon for the Newburn District, co. Northumberland.

MOORE, R. M., B.A.Cantab., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Malmesbury District, co. Wilts.

ROBERTSON, W., M.B., District Medical Officer of the Stroud Union.

SANDERSON, A. F., M.R.C.S., L.R.C.P., District Medical Officer of the Romford Union.

TATTERSALL, N., M.B., B.S., M.B., Ch.B., House-Physician to the Brompton Hospital for Consumption and Diseases of the Chest.

THOMASON, H. P., M.B., Ch.B.Birm., District Medical Officer of the Meriden Union.

TODD, P. E., M.B., C.M.Edin., District Medical Officer of the Winchester Union.

MCCLURE, Walter St. C., M.R.C.S., L.R.C.P., D.P.H.Lond., Medical Officer of Health to the Withington Committee, Manchester.

MACNALTY, A. S., M.D., B.Ch.Oxon., M.R.C.S.Eng., L.R.C.P.Lond., Medical Registrar to the London Hospital.

MARTIN, Mary E., L.R.C.P. and S.Edin., L.F.P.S.Glasg., L.S.A., Assistant Medical Officer, Bailbrook House, Bath.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

MARRIAGE.

ALLARDICE—LLEWELLYN.—On August 3rd, at Holy Trinity Church, Newcastle-under-Lyme, William Clachan Allardice, M.D., F.R.C.S.E., to Constance Winifred, second daughter of Mr. and Mrs. Llewellyn, of Seabridge, Staffs.

DEATH.

OUSTON.—On August 1st, at 1, Saville Place, Newcastle-upon-Tyne, from pneumonia, Thomas George Ouston, F.R.C.S., aged 42.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Monday, 2 p.m., Pulmonary Diseases. Tuesday, 2 p.m., Disease Giving Rise to Morbid Renal Excretion. Wednesday, 2 p.m., Abdominal Disease. Thursday, 2 p.m., Diseases of the Nervous System. Friday, 2 p.m., Diseases of the Heart.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—The following are the arrangements for next week: Daily arrangements, Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Lecture, Clinical Pathology, 12.15 p.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Gynaecological Demonstration, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday, Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Lectures, at 5 p.m., Tuesday, Wednesday, and Friday.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 19TH, 1911.

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PROCEEDINGS OF COUNCIL.

A MEETING of the Council was held, by kind permission of the Lord Mayor, in the City Council Chamber, Birmingham, on Monday, July 24th, 1911.

Present:

Dr. J. A. MACDONALD, Taunton, Chairman of Council, in the Chair.

Professor ROBERT SAUNDBY, M.D., LL.D., Birmingham, President-Elect.

Dr. EWEN J. MACLEAN, Cardiff, Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Surgeon-General P. H. BENSON, M.B., I.M.S., Walmer (Indian Branches)
Dr. R. C. BUIST, Dundee
Dr. W. A. CARLINE, Lincoln
Mr. ANDREW CLARK, D.Sc., K.H.S., London
Dr. MICHAEL DEWAR, Edinburgh
Mr. E. J. DOMVILLE, Exeter
Dr. J. E. EDDISON, Leeds
Mr. C. E. S. FLEMMING, Bradford-on-Avon
Mr. T. W. H. GARSTANG, Altrincham
Dr. W. GOSSE, Teignmouth
Dr. T. D. GREENLEES, London, Cape of Good Hope, Eastern, Western, and Border Branches
Dr. J. R. HAMILTON, Hawick
Mr. HERBERT JONES, Hereford
Mr. F. C. LARKIN, Liverpool
Mr. ALBERT LUCAS, Birmingham
Dr. JOHN MACDONALD, South Shields
Dr. D. J. MACKINTOSH, M.V.O., Glasgow
Dr. B. H. NICHOLSON, Colchester
Dr. FRANK M. POPE, Leicester
Dr. LAURISTON E. SHAW, London
Mr. C. R. STRATON, Wilton
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Mr. T. JENNER VERRALL, Bath
Mr. D. J. WILLIAMS, Llanelly

APOLOGIES.

Letters of apology for non-attendance were read from Inspector-General Bentham, R.N., Sir Henry Butlin, Dr. David Ewart, Dr. Major Greenwood, Mr. Hugh Ker, Dr. F. W. Kidd, Mr. Edmund Owen, and Dr. Rice-Oxley.

REPRESENTATIVE MEETING.

The CHAIRMAN OF REPRESENTATIVE MEETINGS presented the Minutes of the Representative Meetings held on Friday, July 21st, and Saturday, July 22nd, 1911, which were considered and approved.

REPORTS OF COMMITTEES.

SCIENCE COMMITTEE.

The CHAIRMAN (Dr. Pope) presented the Report of the Science Committee.

Dr. William Nicoll was reappointed Ernest Hart Memorial Scholar for a further period of one year; and Dr. R. T. St. John Brooks, Dr. Alfred J. Clark, and Dr. Alexander P. Mitchell were appointed Research Scholars for a period of one year.

Renewed grants for the promotion of scientific research were made as follows:

	£	s.	d.
Boycott, A. E., B.Sc., M.D.	25	0	0
Farrant, Rupert, F.R.C.S.	10	0	0
Halliburton, Professor W. D., M.D., F.R.S.	25	0	0
Lewis, Thomas, M.D.	30	0	0
Orr, David, M.D.	20	0	0
Ryffel, J. H., B.C.	10	0	0
Wilson, S. A. K., M.A., M.B.	30	0	0
	£150	0	0

New grants for the promotion of scientific research were made as follows:

	£	s.	d.
Barnes, A. E., M.B.)			
King, W. W., M.B.)	10	0	0
Chisolm, R. A., M.B.	20	0	0
Coplans, Myer, M.D.	25	0	0
Cowell, E. M., M.D.	20	0	0
Cushny, Arthur R., M.D., F.R.S. ...	20	0	0
Donaldson, R., M.B.	10	0	0
Flack, Martin, M.B.	20	0	0
Goodhart, Gordon, M.B.	20	0	0
Gray, A. M. H., M.D.	10	0	0
Groves, E. W. Hey, F.R.C.S.	20	0	0
Kennaway, E. L., M.B.	10	0	0
Pembrey, M. S., M.D.	15	0	0
	£200	0	0

IRISH COMMITTEE.

The CHAIRMAN OF COUNCIL presented the Report of the Irish Committee, and the consideration of certain Recommendations were deferred until the next meeting of the Council.

THERAPEUTIC COMMITTEE.

Dr. POPE presented the Report of the Therapeutic Committee.

The Council having decided not to reappoint a Therapeutic Committee, provision was made for the continuance of those investigations not yet completed.

ANNUAL MEETING, 1913.

The Chairman of Council reported that at a full meeting of the Brighton Division, held on July 13th, it was unanimously decided that the Brighton Division offer a cordial invitation to the British Medical Association to hold the Annual Meeting in Brighton from Friday, July 18th, to Saturday, July 26th, 1913, and that in the event of the invitation being accepted, the Division nominated William Ainslie Hollis, M.A., M.D., F.R.C.P., of Brighton, as President-Elect for that year.

The CHAIRMAN OF COUNCIL reported that he had also been in correspondence with the Norwich Division as to a possible invitation from Norwich for that year.

It was resolved to thank the Brighton Division for its kind invitation for the year 1913, and to record the invitation on the minutes for future reference.

CANDIDATES.

The four candidates whose names appeared on the notice convening the Meeting were duly elected Members of the British Medical Association.

SPECIAL MEETING.

A SPECIAL MEETING of the Council was held at the Midland Institute, Birmingham, on Monday evening, July 24th, at 6.30 o'clock.

PRESENT:

The same Members were present as at the morning Meeting, with the addition of Dr. J. Grant Andrew, Mr. J. Henry Ewart, Dr. E. W. Goodall, and Sir Victor Horsley, F.R.S.

MINUTES OF SPECIAL REPRESENTATIVE MEETING.

The Chairman of the Representative Body presented the Minutes of the Special Representative Meeting held at Birmingham the same day, which were considered clause by clause and approved.

A MEETING of the Council was held in the City Council Chamber, Birmingham (by kind permission of the Lord Mayor), on Wednesday, July 26th, 1911.

Present:

Dr. J. A. MACDONALD, Taunton, Chairman of Council, in the Chair.

Professor ROBERT SAUNDBY, M.D., LL.D., Birmingham, President.

Dr. EWEN J. MACLEAN, Cardiff, Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. J. GRANT ANDREW, Glasgow
Surgeon-General P. H. BENSON, M.B., I.M.S., Walmer (Indian Branches)
Dr. R. C. BUIST, Dundee
Dr. W. A. CARLINE, Lincoln
Dr. J. S. DARLING, Lurgan
Dr. MICHAEL DEWAR, Edinburgh
Mr. E. J. DOMVILLE, Exeter
Dr. J. E. EDDISON, Leeds
Mr. J. H. EWART, Eastbourne
Mr. C. E. S. FLEMMING, Bradford-on-Avon
Mr. T. W. H. GARSTANG, Altrincham
Dr. E. W. GOODALL, London
Dr. W. GOSSE, Teignmouth
Dr. T. D. GREENLEES, London (Cape of Good Hope, etc., Branches)
Dr. J. R. HAMILTON, Hawick
Sir VICTOR HORSLEY, F.R.S., London
Dr. R. J. JOHNSTONE, Belfast
Mr. HERBERT JONES, Hereford
Dr. J. H. KEAY, London
Mr. F. C. LARKIN, Liverpool
Mr. ALBERT LUCAS, Birmingham
Dr. D. J. MACKINTOSH, M.V.O., Glasgow
Dr. B. H. NICHOLSON, Colchester
Dr. FRANK M. POPE, Leicester
Dr. LAURISTON E. SHAW, London
Mr. C. R. STRATON, Wilton
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Mr. T. JENNER VERRALL, Bath
Mr. D. J. WILLIAMS, Llanelly

APOLOGIES.

Letters of apology for non-attendance were read from Inspector-General Bentham, R.N., Sir Henry Butlin, Mr. Andrew Clark, Dr. David Ewart, Dr. Major Greenwood, Dr. F. W. Kidd, Dr. John Macdonald, Dr. Rice-Oxley, and Professor A. H. White.

RETURNS OF THE ELECTION OF MEMBERS OF COUNCIL BY THE REPRESENTATIVE MEETING.

(*a*) *Elected by the Groups.*

The CHAIRMAN OF REPRESENTATIVE MEETINGS reported the Returns of the Election by the Representative Meeting of Members of Council as follows: Dr. J. Grant Andrew, Dr. W. A. Carline, Dr. J. Singleton Darling, Dr. Michael Dewar, Mr. C. E. S. Flemming, Mr. T. W. H. Garstang, Dr. E. W. Goodall, Dr. W. Gosse, Dr. J. H. Keay, Dr. John Macdonald, Dr. H. Jones Roberts, and Professor A. H. White.

(*b*) *Service Members.*

Inspector-General Bentham, R.N., Surgeon-General J. P. Greany, I.M.S., Lieutenant-Colonel F. W. H. Davie Harris, R.A.M.C.

(*c*) *Elected Members.*

Dr. R. C. Buist, Mr. Andrew Clark, Dr. E. R. Fothergill, and Mr. T. Jenner Verrall.

MEETINGS OF COUNCIL.

The Council decided that the Quarterly Meetings of Council should be November 1st, January 31st, May 1st, and July 3rd.

REPRESENTATIVE MEETING MINUTES.

The CHAIRMAN OF REPRESENTATIVE MEETINGS presented the Minutes of the Representative Meetings held on Monday, July 24th, and Tuesday, July 25th, 1911, which were considered and approved.

STATE SICKNESS INSURANCE COMMITTEE.

The State Sickness Insurance Committee, with the addition of Dr. Todd of Sunderland, and Dr. Craig of Crowdenbeath, was reappointed until the November Meeting of Council, and the reference to the Committee was continued with authority to take any necessary action in the meantime.

THE LORD MAYOR OF BIRMINGHAM.

A cordial vote of thanks was accorded to the Lord Mayor of Birmingham for placing the Council Room at the disposal of the Association on the occasion of the Seventy-ninth Annual Meeting.

CONSTITUTION OF COMMITTEES, 1911-12.

Pursuant of the following Resolution of Council of July 26th, 1911—

> Resolved: That the Chairman of Council be authorized to arrange for the election of the Council Representatives upon Standing Committees by post, circulating for this purpose the individual nominations and the report of the Election Returns Committee.

—the Chairman issued voting papers to the members of Council, with the following result.

The President, Chairman of Representative Meetings, Chairman of Council, and Treasurer are *ex-officio* members of all committees.

FINANCE COMMITTEE.

The *Ex-officio* Members:

The Chairman of each of the following Committees: Organization, Journal, Science, Medico-Political, and Central Ethical.

Elected by the Annual Representative Meeting:

Mr. J. Henry Ewart, Eastbourne.
Dr. R. L. Langdon-Down, Hampton Wick.
Dr. David Lawson, Banchory, N.B.
Dr. Milner Moore, Coventry.

Elected by the Council:

Dr. W. A. Carline, Lincoln.
Mr. Andrew Clark, Uxbridge.
Mr. E. J. Domville, Exeter.
Sir Victor Horsley, F.R.S., London.

ORGANIZATION COMMITTEE.

The *Ex-officio* Members.

Elected by the Annual Representative Meeting:
Mr. Russell Coombe, Exeter.
Mr. T. W. H. Garstang, Altrincham.
Dr. James Metcalfe, Bradford.

Elected by the Council:
Mr. Andrew Clark, Uxbridge.
Dr. E. W. Goodall, London.
Mr. F. C. Larkin, Liverpool.

JOURNAL COMMITTEE.

The *Ex-officio* Members.

Elected by the Annual Representative Meeting
Dr. R. C. Buist, Dundee.
Dr. C. J. Whitby, Bath.
Dr. F. E. Wynne, Leigh.

Elected by the Council:
Sir Henry T. Butlin, Bart., London.
Mr. Albert Lucas, Birmingham.
Mr. T. Jenner Verrall, Bath.

CENTRAL ETHICAL COMMITTEE.

The *Ex-officio* Members.

Elected by the Annual Representative Meeting:
Dr. A. G. Bateman, London.
Dr. Bruce Goff, Bothwell, N.B.
Dr. J. H. Keay, London.
Dr. R. L. Langdon-Down, Hampton Wick.
Dr. J. Neal, Birmingham.
Mr. C. R. Straton, Wilton.

Elected by the Council:
Dr. J. H. Ewart, Eastbourne.
Dr. W. Gosse, Teignmouth.
Dr. P. G. Lee, Cork.
Dr. Lauriston E. Shaw, London.
Mr. D. J. Williams, Llanelly.

PUBLIC HEALTH COMMITTEE.

The *Ex-officio* Members.

Elected by the Annual Representative Meeting:
Dr. A. G. R. Cameron, Worthing.
Dr. R. A. Lyster, Winchester.
Dr. A. M. N. Pringle, Ipswich.

Elected by the Council:
Mr. E. J. Domville, Exeter.
Mr. Herbert Jones, Hereford.
Dr. J. H. Keay, London.

HOSPITALS COMMITTEE.

The *Ex-officio* Members.

Elected by the Annual Representative Meeting:
Dr. T. Bushby, Liverpool.
Dr. David Blair, Lancaster.
Dr. J. H. Keay, Greenwich.
Dr. H. C. Mactier, Wolverhampton.
Dr. G. Parker, Bristol.
Dr. F. G. Swayne, Norwood.

Elected by the Council:
Dr. David Ewart, Chichester.
Mr. R. J. Johnstone, Belfast.
Colonel Joubert de la Ferté, Weybridge.
Dr. D. J. Mackintosh, M.V.O., Glasgow.
Dr. A. J. Rice-Oxley, London.
Dr. Lauriston E. Shaw, London.

NAVAL AND MILITARY COMMITTEE.

The *Ex-officio* Members:
The Representatives on the Council of the Royal Navy Medical Service, the Army Medical Service, and the Indian Medical Service, namely: Inspector General Robert Bentham, R.N., Lieutenant-Colonel F. W. H. Davie Harris, R.A.M.C., Surgeon-General J. P. Greany, I.M.S., respectively.

Elected by the Annual Representative Meeting:
Lieutenant-Colonel R. H. Coombs, Bedford.
Mr. A. C. Mayo, Great Yarmouth.

Elected by the Council:
Surgeon General P. H. Benson, I.M.S. (ret.), Walmer.
Colonel Joubert de la Ferté, I.M.S., Weybridge.

COLONIAL COMMITTEE.

The *Ex-officio* Members:
The Members of the Council who represent Colonial Branches, viz.: Surgeon-General P. H. Benson, I.M.S., and Dr. David Ewart.

Elected by the Annual Representative Meeting:
Dr. T. D. Greenlees, London.
Mr. D. R. Powell Evans, London.

Elected by the Council:
Mr. Andrew Clark, Uxbridge.
Mr. Edmund Owen, London.

ARRANGEMENTS COMMITTEE.

The *Ex-officio* Members.

Elected by the Council:
Dr. John R. Hamilton, Hawick, N.B.
Mr. F. C. Larkin, Liverpool.
Mr. Albert Lucas, Birmingham.
Dr. F. M. Pope, Leicester.
Dr. Lauriston E. Shaw, London.
Professor A. H. White, Dublin.

(And six Members to be appointed by the local Executive.)

SCIENCE COMMITTEE.

The *Ex-officio* Members.

Elected by the Council:
Professor W. E. Dixon, F.R.S., Cambridge.
Dr. E. W. Goodall, London.
Dr. J. S. Haldane, F.R.S., Oxford.
Mr. F. C. Larkin, Liverpool.
Dr. C. J. Martin, F.R.S., London.
Dr. F. M. Pope, Leicester.
Professor Ralph Stockman, Glasgow.
Professor A. H. White, Dublin.

MEDICO-POLITICAL COMMITTEE.

The *Ex-officio* Members.

Elected by the Annual Representative Meeting:
Dr. Michael Dewar, Edinburgh.
Dr. E. R. Fothergill, Brighton.
Mr. W. J. Greer, Newport (Mon.).
Dr. Wallace Henry, Leicester.
Dr. J. H. Taylor, Salford.
Dr. D. F. Todd, Sunderland.

Elected by the Council:
Mr. C. E. S. Flemming, Bradford-on-Avon.
Mr. T. W. H. Garstang, Altrincham.
Dr. Major Greenwood, London.
Mr. R. J. Johnstone, Belfast.
Mr. C. R. Straton, Wilton.
Mr. T. Jenner Verrall, Bath.

CONTINUATION AND REAPPOINTMENT OF COMMITTEES.

The Fractures and Special Poor Law Reform Committees are continued in office until the November Meeting of the Council with the same references respectively.

Dr. Todd of Sunderland and Dr. Craig of Cowdenbeath were added to the State Sickness Insurance Committee, which was reappointed by the Council on July 26th.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

EAST ANGLIAN BRANCH.

A GENERAL meeting of the above Branch was held at the Norfolk and Norwich Hospital on July 13th, over 100 members being present, in addition to Mr. C. S. Tomes and several other visitors.

Business.—The minutes of the last meeting were read and confirmed, the report of the Council adopted, and the report of the election of officers and also the financial report adopted. The alteration in Rule 7 was agreed to, and it was agreed that the Ethical Rules be referred to the Ethical Committee for consideration. The report of the Council read as follows:

Annual Report.

The Council has the pleasure to report that the Branch is in a prosperous condition. Thirty-four new members have been elected during the year. On April 29th there were 454 members in the Branch, and last year on the same date 440 members, and 44 new members have been elected at the Council meeting to-day. The annual meeting was held at Thetford, under the presidency of Dr. Pembroke Minns. The meeting was largely attended, and was most successful. Luncheon was kindly given by the President and attended by about forty members. Dr. Minns read an address on Notes on Two Cases of Errors in Diagnosis. At the conclusion of the address a hearty vote of thanks was accorded to Dr. Minns, on the proposition of Dr. Slimon. Papers were also read by Dr. Joseph Griffiths, F.R.C.S. (Cambridge), on Fractures of the Ankle and their Treatment. The paper was illustrated by interesting specimens. Dr. H. H. Brown, of Ipswich, read a paper on Appendicitis and Some Points of Interest in Connexion with Operations. Dr. Bernard Batt read a paper on Sudden Death during or Immediately Following Labour.

The Council desires to express its warm thanks to Dr. and Miss Minns for their unbounded hospitality to every one present on the occasion of the annual meeting.

The autumn meeting was held at Hunstanton in September. Papers were read by Mr. D. K. Coutts on Cancer of Stomach, its Early Diagnosis and Treatment. Dr. Crook read a paper on *Ante-partum* Estimation of the Weight of the Fetus, and Mr. Ballance showed specimens of cancer of the uterus.

A special meeting of the Council was held at Ipswich in March, when the reports of the Divisions were considered and capitation grants were fixed. All the Divisions have been energetically at work in connexion with the National Insurance Bill.

The spring meeting was held at Framlingham in April, and interesting papers were read by Mr. Hamilton Ballance on Two Cases of Peptic Ulcer of the Jejunum following Gastro-enterostomy. Dr. Hollis, of Woodbridge, read notes of cases. It was resolved that the annual meeting in 1912 should be held at Brentwood, and that Dr. John Turner, of the Essex County Asylum, should be invited to become President of the Branch in 1912. Dr. Turner has replied in a kind letter accepting the honour.

The report as to the election showed that the following had been elected officers for the year 1911-12: *President*, Dr. Burton-Fanning (Norwich); *President-elect*, Dr. John Turner (Brentwood); *Vice-Presidents*, Dr. G. D. Thomson (Norwich), Dr. W. H. Slimon (Clacton-on-Sea), and Dr. Pembroke Minns (Thetford); *Secretary for Essex*, Dr. B. H. Nicholson (Colchester); *Secretary for Norfolk*, Mr. Hamilton A. Ballance (Norwich); *Secretary for Suffolk*, Dr. J. Gutch (Ipswich); *General Secretary and Treasurer*, Dr. B. H. Nicholson (Colchester).

Luncheon.—The meeting was then adjourned and luncheon taken at the Norfolk and Norwich Hospital at 1.30 p.m., by the kind invitation of the President-elect, Dr. F. W. Burton-Fanning, about 120 members and guests being present. The "Health of the King" was proposed by Dr. BURTON-FANNING. The "Health of Dr. Burton-Fanning" was proposed by Dr. BEVERLEY, and Dr. BURTON-FANNING replied.

The Retiring President.—On resumption of the meeting the new President, Dr. Burton-Fanning, was introduced by the retiring President, Dr. PEMBROKE MINNS, and the following resolution was agreed to unanimously:

> That a hearty vote of thanks be accorded to Dr. Pembroke Minns for the very efficient way in which he has carried out duties pertaining to the office of President of the Branch during the year 1911, and that Dr. Pembroke Minns be hereby elected a Vice-President for three years.

This having been seconded by Dr. CAIE and duly passed, Dr. PEMBROKE MINNS responded, and thanked the members for their kindness during his term of office.

Appointment of Delegate.—On the motion of Mr. BALLANCE, seconded by Dr. MAYO, Dr. Beverley was appointed a delegate to represent the Branch at the International Conference on Tuberculosis to be held at Rome in September.

Division of the Branch.—Dr. THOMSON moved a resolution as to dividing the East Anglian Branch into two branches. The resolution was seconded by Mr. BALLANCE. Dr. GUTCH proposed as an amendment that the subject be deferred to the Divisions for their consideration. On a show of hands 45 voted for the amendment and 48 against, and therefore the resolution moved by Dr. Thomson was carried. It was agreed to refer the matter to a subcommittee composed of the following: Mr. H. A. Ballance, Dr. Nicholson, Dr. Gutch (Branch Secretaries).

The Annual Meeting.—Mr. BALLANCE submitted a letter from the Financial Secretary of the Association, Mr. Guy Elliston, containing a proposal to hold the Annual Meeting of the Association in Norwich in 1913. It was finally agreed that the matter be referred to the Branch Council for further consideration.

National Insurance Bill.—Mr. J. SMITH WHITAKER gave an address on the prospects of the medical profession under the National Insurance Bill, and the paper was discussed by Dr. EDGAR BARNES, Dr. COOPER PATTIN, Dr. CAIE, Dr. MAYO, and Dr. GUTCH; and on the proposition of Dr. DAY, seconded by Sir ALAN REEVE MANBY, a vote of thanks was unanimously accorded Mr. Smith Whitaker for his able address. Mr. SMITH WHITAKER replied.

Tea.—Afternoon tea, to which members were invited to bring ladies, was partaken of at 4.30 p.m. in the grounds of the Norfolk and Norwich Hospital, by the kind invitation of Dr. and Mrs. Burton-Fanning. Instruments, etc., were shown by Messrs. Allen and Hanburys.

GLASGOW AND WEST OF SCOTLAND BRANCH:

DUMBARTONSHIRE AND ARGYLLSHIRE DIVISION.

A GENERAL meeting of the Division was held in Dr. Hunter's house, Millig, Helensburgh, on Thursday, July 20th, when the following members were present: Drs. A. Allan, Jas. Wilson, A. Robertson, and A. D. McLachlan (Dumbarton), Drs. J. McEwan, J. Ewing Hunter, J. Gordon Ingram, and Wm. Semple Young (Helensburgh), Dr. J. R. F. Cullen (Alexandria), and Dr. J. Stirling Robertson (Clydebank). Apologies for absence were received from Drs. Thomson (Kintyre), Edgar (Lochgoilhead), Sutherland (Cardross), McRitchie (Garelochhead), and Cramb (Radnor Park).

Confirmation of Minutes.—The minutes of the annual business meeting were read, confirmed, and signed by the CHAIRMAN (Dr. Hunter).

Deputation.—The SECRETARY reported briefly on the results of the deputation to the members of Parliament in London, and also on the results of the canvass of the profession in the Division.

National Insurance Bill.—The remainder of the meeting was devoted to a discussion on the Insurance Bill, and the SECRETARY read the Special and Supplementary Reports of the Council to the Annual Representative Meeting. It was decided unanimously to adhere to the original points as formulated by the Association. The recommendations submitted were approved, and the question was negatived.

LANCASHIRE AND CHESHIRE BRANCH:

BURY DIVISION.

AT a general meeting of the Division on July 18th, Dr. JAMES HOLMES being in the chair and twenty-one members present, the following officers were elected for the ensuing year: *Chairman*, Dr. James Holmes; *Vice-Chairman*, Dr. Baird; *Representative for Representative Meetings*, Dr. Brown; *Representative on Branch Council*, Dr. Kerr; *Honorary Secretary*, Dr. Turnbull; *Local Secretaries*, Dr. Smith (Radcliffe), Dr. Lawrie (Ramsbottom), Dr. W. M. MacIlraith (Rawtenstall), Dr. Harrison (Haslingden); *Executive Committee*, Dr. Cook, Dr. Cruickshank, Dr. Johnson, Dr. Lucas.

National Insurance Bill.—The National Insurance Bill was discussed (see SUPPLEMENT, August 5th, p. 269).

General Medical Council.—Drs. Ferguson and Browne were nominated by the Division.

MANCHESTER (CENTRAL) DIVISION.

AN ordinary meeting was held at 14, St. John Street, on July 17th. Present: Professor MURRAY (in the chair), Dr. Booth, Dr. Clifford, Dr. Dyson, Dr. Lapage, Dr. Helme,

Dr. Walls, Mr. Burgess, Professor Wright, Mr. Garnett Wright, Mr. Wrigley, and Mr. Rayner.

National Insurance Bill.—A discussion was held on this matter (*see* Supplement, August 5th, p. 268).

General Medical Council.—The Representative was instructed to support the candidature of Drs. Browne, Latimer, and Ferguson.

Election of Central Council.—It was resolved to allow the letter from Drs. Larkin, Garstang, and Taylor of July 4th to lie on the table.

Deputy Representative.—It was unanimously resolved that Dr. Helme be appointed Deputy Representative at the Representative Meeting, and that

> This meeting is of opinion that it is desirable that a Representative who is unable to attend a whole session of the Representative Meeting shall have power to delegate his duties to his accredited deputy for such period as he is unable to attend.

METROPOLITAN COUNTIES BRANCH:

Chelsea Division.

A meeting of this Division was held at the Fulham Town Hall on July 18th, Dr. Young in the chair.

National Insurance Bill.—This matter was discussed (see Supplement, August 5th, p. 266).

Medical Advice in Lay Papers.—On the proposition of Dr. Spaull, the Representative was instructed to support the recommendation of the Council that it should be considered unprofessional conduct on the part of a medical man if he treated patients through the columns of the press.

General Medical Council.—The Representative was instructed to vote for the nomination of Drs. Verrall, Jackson, and Straton as Direct Representatives for England and Wales on the General Medical Council.

Expenses of Representatives.—Dr. Spaull moved, Dr. Butler seconded, and it was carried unanimously:

> (1) That, in the opinion of this Division, not only should the railway fares be paid of the Representatives of Divisions attending Representative Meetings, but that free accommodation should also be provided for them or their reasonable hotel expenses defrayed out of the funds of the Association.
> (2) That a copy of this resolution be sent to the Central Council.

St. Pancras and Islington Division.

A meeting was held on July 19th at the Midland Grand Hotel, Dr. Basil G. Morison in the chair. All practitioners in Islington and St. Pancras had been invited, and there was a large attendance.

National Insurance Bill.—The Special Report of the Council in respect of the National Insurance Bill was considered (see Supplement, August 5th, p. 267).

General Medical Council.—The Representative of the Division was instructed to vote at the Representative Meeting in favour of the nomination as Direct Representatives of the profession in England and Wales of Drs. Langley Browne, Henry Arthur Latimer, and George Jackson.

NORTH OF ENGLAND BRANCH.

A meeting of the Branch Council was held at the Royal Victoria Infirmary, Newcastle-on-Tyne, on Wednesday, July 19th, at 3.45 p.m. Twenty-three members of the Branch Council were present. The President (Dr. Burnett) occupied the chair.

Election of President-elect.—The minutes of the previous meeting having been read and confirmed, Dr. G. B. Morgan, Senior (Sunderland), was elected President-elect for the ensuing year.

Reports.—The Honorary Secretary reported on the dispute at Esh Winning and Waterhouse Collieries. The report was accepted, and the steps taken by him were confirmed. The President presented his report on the special committee which had been appointed to go into the organization of the Branch.

Colliery Surgeons.—The questions of a proposed mass meeting and the report of the meeting of the Branch colliery surgeons were adjourned until the next meeting.

New Members.—Twenty-seven new members were proposed for election, and these were elected *en bloc*.

SOUTHERN BRANCH:

Salisbury Division.

A meeting of the members of this Division was held at the Infirmary, Salisbury, on Tuesday, July 18th. There were present: Drs. L. D. Saunders (Salisbury), in the chair, J. O. Marsh (Amesbury), H. W. Gould (Shaftesbury), W. Hopkins (Whiteparish), Brown (Donhead), Ensor (Tisbury), Blacke (Shaftesbury), Harris (Shaftesbury), W. Gordon (Salisbury), Rutter (Mere), C. R. Straton (Wilton), Ord (Salisbury), Luckham (Salisbury), J. E. Gordon (Honorary Secretary).

Communications.—The minutes of the last meeting having been read and approved, the Secretary read letters from the following Divisions, containing resolutions passed by them on the National Insurance Bill: Preston, West Dorset, Hornsey, Brighton; also letters from Brighton Division advocating candidature of Dr. Ryle for the General Medical Council, and asking the Division to support the nomination of Dr. Rowland Fothergill for election to the Central Council by grouped Representatives. Also a letter from Miss Wilks thanking the members of the Division for sending a wreath on the occasion of her brother's funeral, and for their sympathy and attendance on that occasion.

General Medical Council.—Mr. Luckham moved:

> That this Division approve of the nomination by this Division of Mr. C. R. Straton, of Wilton, as a candidate for election on the General Medical Council, and that the Secretaries of other Divisions be asked to bring the matter to the notice of their Divisions with a view to instructing their Representatives to support the candidature of Mr. Straton at the Annual Representative Meeting.

Mr. March having seconded, the motion was carried with acclamation. It was also resolved to instruct the Divisional Representative to support the nomination of Mr. C. R. Straton, Wilton; Mr. George Jackson, Plymouth; and Mr. T. J. Verrall, Bath.

National Insurance Bill.—This bill was further considered (see Supplement, August 5th, p. 270).

SOUTH MIDLAND BRANCH:

Bedford and Herts Division.

A general meeting of the Division was held at the Bedford County Hospital on July 27th. Present: Dr. Butters (Chairman), Drs. Dixon, Coombs, H. Goldsmith, Ross, Nash, Chillingworth, Sworder, F. S. Lloyd, Lipscomb, Rollings, Macfadyen, Archibald, O'Meara.

National Insurance Bill.—The Secretary read a statement showing the number of active practitioners resident in the area covered by the Division who had signed the Memorandum *re* Insurance Bill; there were only four or five who had not signed. He also read another statement showing the results of the appeal for a guarantee fund, showing up to date promises of £280.

Ethical Question.—The resolution *re* a member accused of aiding an unqualified midwife, which was passed by the Ethical Committee, was approved by the Divisional meeting, and their decision forwarded to the Central Ethical Committee.

Matter Referred to Division.—The question submitted for the consideration of the Division was then discussed. Drs. Rollings, Sworder, Dixon, Coombs, and Ross spoke; and on the proposition of Dr. Ross, seconded by Dr. Sworder, the meeting unanimously voted that the Division does not agree to the question recommended. Dr. Ross proposed that a deputation consisting of the Chairman, Dr. Bone, and the Honorary Secretary, be sent to wait upon the local members of Parliament, but after some discussion the motion was withdrawn.

Northamptonshire Division.

A meeting of the Division was held in the Board Room of the Northants General Hospital on July 13th, at 2.30 p.m. All the medical men in the Division were invited. Dr. Hichens took the chair, and there were forty-nine members and visitors present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

National Insurance Bill.—The Chairman then gave a brief report of the action the Executive Committee of the Division had already taken in connexion with the Insurance Bill (see Supplement, July 22nd, p. 194).

Ethical Matter.—Dr. RELTON then brought up an ethical matter in connexion with the Medical Institute at Rugby, which was referred to the Ethical Committee of the Branch.

Part-time Medical Officers of Health.—Dr. DIGBY WHITE then brought forward the question of part-time medical officers of health in rural and small urban districts, and moved that the Representative of the Division be instructed to oppose the minute which would prohibit the appointment of part-time medical officers of health. This was seconded by Dr. GREENFIELD, and carried *nemine contradicente.*

The meeting then terminated.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

MONMOUTHSHIRE DIVISION.

A SPECIAL meeting of the Division was held in the Savoy Hotel, Newport (Mon.), on Tuesday, July 18th. The CHAIRMAN (Dr. H. C. Bevan) presided, and the attendance numbered twenty-nine.

Apologies for Non-attendance.—Apologies for inability to attend were received from Drs. J. L. Thomas, Haslett, and Coulter.

Confirmation of Minutes.—The minutes of the annual meeting of the Division were read and confirmed.

National Insurance Bill.—The HONORARY SECRETARY reported that all the medical practitioners resident in the county of Monmouth, with six exceptions, had signed the undertaking and memorial circulated by the Association, and that a deputation had waited on Mr. Lewis Haslam, M.P. for the Monmouth Boroughs, on the previous evening, and placed before him the reasons in favour of the points urged by the Association. A deputation was appointed to wait on the Right Hon. Reginald McKenna, M.P. for North Monmouthshire, and Sir Ivor Herbert, M.P. for South Monmouthshire, at the House of Commons on the following day. The Special Report of the Council to the Representative Meeting was discussed, and the proposed new subsection to Clause 14 was unanimously approved. The question of a guarantee fund was discussed, and fuller consideration of it was postponed to the next meeting. It was unanimously resolved:

> That, having regard to the undue and enormous burden which the bill imposes on the medical profession, this meeting considers that, unless it is so modified as to obtain the full approval of the profession, the British Medical Association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom.

Instructions were given that copies of this resolution should be sent to the local press.

Spiritual Healing.—The report of Council on Spiritual Healing was read and approved.

General Medical Council.—The Representative of the Division was authorized to support those candidates whom he might consider the most suitable.

Vote of Thanks.—A hearty vote of thanks was passed to the Representative of the Division (Mr. W. J. Greer) for his services in connexion with the State Insurance Bill.

YORKSHIRE BRANCH:

HALIFAX DIVISION.

A SPECIAL meeting of medical practitioners within the area of the Halifax Division was held on July 19th, for the discussion of the Special Report of the Council on the National Insurance Bill, etc. Some thirty-one members were present, and Dr. MACAULAY presided. The minutes of the previous meeting having been read and confirmed, it was unanimously resolved, on the proposition of Dr. PRIESTLEY LEECH, seconded by Dr. GEORGE HOYLE, supported by Dr. MACAULAY and others, that the Secretary be instructed to convey to the Division's Representative, Dr. Drury, the condolences of the members on his illness, and their wishes for a speedy recovery. Dr. Drury, it was pointed out, had always been a valued Representative, and had worked hard for the Division. Never were his services more needed than at the present time. All hoped he would be soon well enough to help again.

General Medical Council.—A letter was read from the Medical Secretary concerning the election of Direct Representatives for England and Wales on the General Medical Council. The list of candidates was considered, and the Deputy Representative, Dr. Edward Ellis, was directed how to vote at the Representative Meeting.

National Insurance Bill.—Letters were read from other Divisions concerning the National Insurance Bill and other matters to be discussed at the Annual Meeting. The Special Report on the National Insurance Bill was next considered (see SUPPLEMENT, July 29th, p. 238).

HUDDERSFIELD DIVISION.

THE annual meeting was held at the Huddersfield Infirmary on Wednesday evening, July 26th, Mr. NORMAN PORRITT in the chair. There were also present Drs. Walker, Crosland, Chambers, Tansley, Irving, Knaggs, Marshall, Wilson, jun., Cairns, Rattray, Mackenzie, and McCully.

Annual Report.—The minutes of the last meeting having been read and confirmed, the annual report was read and adopted. In this reference was made to the healthy state of the Division, both financially and numerically, and the very gratifying fact was recorded that every member of the profession in the district had signed the pledge sent out from head quarters with reference to the National Insurance Bill.

Election of Officers.—The following were elected for the year 1911–12: *Chairman*, Dr. J. Irving; *Vice-Chairmen*, Dr. W. L. Marshall, Dr. Robt. Trotter; *Honorary Secretary and Treasurer*, Dr. A. L. McCully; *Representative for Representative Meetings*, Dr. J. W. Draper; *Representative on Branch Council*, Dr. F. Knaggs; *Executive Committee*, Drs. Cairns, Chambers, Crosland, Porritt, Pye-Smith, Rowell, Walker, Williams, and Wilson, jun.

Votes of Thanks.—Dr. PORRITT moved, and Dr. KNAGGS seconded, that the best thanks of the Division be accorded to the retiring Secretary, Dr. Rowell, who had held the position since the formation of the Division in 1903. A similar vote of thanks was accorded to the retiring Chairman, Dr. Porritt, on the proposition of Dr. MARSHALL, seconded by Dr. IRVING.

GIBRALTAR BRANCH.

A GENERAL meeting of this Branch was held at the Naval Hospital on May 12th; Dr. P. F. LYONS, President, was in the chair. The following were present: Deputy Inspector-General F. J. Lilly, R.N., Past President; Dr. Oman, Colonel Johnston, P.M.O., R.A.M.C., Colonel S. G. Allen, R.A.M.C., Fleet Surgeons Pickthorn, Miller, and Clift, Staff Surgeons Dickinson and Bolster, Surgeons French, McCutcheon, Rooney, and Ramsay, and Dr. Parsons.

Minutes.—The minutes of the last meeting were taken as read.

Scabies in His Majesty's Navy.—Fleet Surgeon R. MILLER read a paper on this subject. He quoted statistics showing that 4 per cent. of entire loss of service from sickness in the navy was due to scabies. The disease was about twice as common in the navy as it was in the army. The type appeared to be almost peculiar to the services. It was a disease of home waters; 90 per cent. naval and 75 per cent. army cases occurred in the British Isles and their vicinity. The average duration of treatment of the army and navy cases was about ten days, and appeared to be unnecessarily long. The treatments used by foreign Powers were described in detail. The consensus of opinion of many authorities quoted was that one to three days' treatment should suffice to kill the acarus, and that unnecessary loss of service was due to failure to regard the cases as being then non-infectious. Treatment of cases of scabies in association tended to prolong treatment. The author employed a modification of the St. Louis Hospital, Paris, method of treatment, by which absence from duty of his cases had been shortened to three days. It consisted in a prolonged weakly antiseptic hot bath, with plenty of soft and hard soap to make a good lather, gentle drying of the skin and smearing (not rubbing in) of sulphur ointment. This treatment was applied daily for three days, with daily change of clothing and bedding, which were disinfected by steam when possible. He had found no difficulty in dealing with the kits of all naval ratings where steam disinfection was not available. Washable articles were washed after soaking in weak antiseptics. Tunics and trousers should be ironed inside and outside, especially along the seams and inside the pockets. Vlemingek's solution he considered to be rather too strong except for greasy and tough skins.

The actual parasiticide used was not very important, as the principal part of the treatment was the bath, which should never be less than half an hour. The author considered that the infectivity of scabies was much exaggerated, and that to be acquired scabies had practically to be slept with. Many cases were undoubtedly contracted from sleeping in sailors' homes and kindred institutions. He considered that there should be compulsory disinfection of bedding in such places.

Certain Cases Treated by Tuberculin.—Dr. Parsons read a preliminary report on this subject. He said he wished to bring to the notice of members a series of cases tested for tuberculous infection and afterwards treated by tuberculin. There were 49 cases in all—36 males and 13 females, of ages ranging from 14 years to 59 years. Of these 9 were cases that were not either pleurisy or phthisis, but some other tuberculous affection, and 3 more cases that did not react to the test injection, and so were definitely excluded as being tuberculous. Of the remaining 37 cases the tubercle bacillus was discovered in the sputum of 17 (12 males, 5 females); the others had definite physical signs, such as pleurisy, consolidation, or altered breath sounds, and every one reacted typically to the test injections of Koch's old tuberculin, showing that they were infected with tubercle. All these cases had been selected from the out-patient department under his charge at the Colonial Hospital. The cases of surgical tuberculosis had been admitted to his ward from time to time and treated in hospital, and the infective cases of phthisis attended once or twice a week as necessary (on Tuesdays and Fridays) as out-patients to receive their injections of tuberculin. The patients were instructed to use the thermometer, which each one had to buy for himself, and were told to take their temperatures every two hours and write them on a slip of paper and bring them the next time they came up. Those patients with abundant sputum were put on Dr. Lees's inhalations and given Mist. I and Mist. II; those without sputum (very few) were given Mist. I and II.

Mistura I.

Acid. phosph. dil.	...	...	...	...	...	℥ij
Acid. sulph. dil.	...	...	...	...	...	℥j
Cal. chlor.	...	...	...	...	...	℥j
Tr. bellad.	...	...	...	...	...	℥j
Inf. gent.	...	...	...	...	ad	℥vj

M. ℥ (ss) t.d.s. a.c.

Mistura II.

This was an emulsion of ol. morrh. and creosote, liq. calcis, and syr. simplex.

Many patients, unfortunately, were irregular in their attendance, and after coming for a few weeks they were seen no more. Those who had persisted in their treatment had all benefited, some in a very remarkable manner.

So far he had used only four preparations of tuberculin—T.A., P.T.O., T.O.A., and P.T. T.A. was Koch's old tuberculin; P.T.O. was a mild preparation of bovine tuberculin, corresponding to T.O.A., which was human; and P.T. was a very strong preparation of bovine tuberculin, and one which he intended all his cases to have when they could stand it.

He began with either or any preparation, and gradually increased the dose according to the method described by Dr. Camac Wilkinson. His first case began treatment in December, 1910. Only one case had reached the maximum of 1 c.cm. P.T. without reaction, and she had been discharged and advised to come once a year for testing. He then read short notes of a few cases, taking first the one who had had a maximum dose:

Case xxxi.—December 23rd, 1910. J. L., aged 20, female, a Spaniard, teacher in a school at Linea. She was constantly getting colds, and two months ago became quite hoarse and was still hoarse, lost her appetite, and felt generally unwell and was easily tired. Weight, 9 st. 6 lb. Fine râles with harsh breathing at right apex. First stage, clinically: No sputum; reacted positively to 0.001 grain T.A.; temperature 100° F. Being an early case he attempted treatment with T.A., and gave on December 25th 0.005 T.A.; temperature 100° F. Three days later 0.006 T.A., when she had a violent reaction to 104° F. and he changed to P.T.O., giving her 0.4 c.cm. on March 7th; temperature 99° F. Next changed to P.T., and gradually worked her up to 1 c.cm. of pure P.T. on April 4th without reaction. Weight 9 st. 10½ lb., looked well, felt able to do all her work easily. Treatment now stopped and patient told to come once yearly. She had no other treatment but tuberculin.

The following was a wholly different kind of case:

Case i.—D. T., native of Gibraltar, aged 27. Had had a cough for eight years. Abundant sputum, and tubercle bacilli found April 7th, 1910. Her family history was bad. He sent an account of her then condition to Dr. Camac Wilkinson, as this was the first case he proposed treating with tuberculin. This was in April, 1910. Dr. Wilkinson dissuaded him from doing so, as her temperature was 101° F. and pulse 140, saying that mixed infection cases were difficult to treat, and advised him to begin on an early case. Subsequently he had seen Dr. Wilkinson treating cases at his own dispensary in London, and when he returned to Gibraltar he hunted up this woman. He was surprised to see that she had improved considerably under Dr. Lees's inhalations, Mist. I and Mist. II. Her temperature had come down to normal. On January 17th, 1911, he put her on tuberculin treatment. Although her previous improvement was considerable, she improved yet more under tuberculin. She was first put on T.O.A. and reached 1 c.cm. pure on February 21st, but had a rise of temperature, 104.8° F., which dropped to normal a couple of days later and left her feeling better. He changed to P.T. on April 4th, giving her 0.02 P.T., and she got a temperature of 104° F., which fell to normal the next day. She was still under treatment. She now had no cough or sputum, and her capacity for work was much greater.

Case xlvii.—This was interesting from the fact that the man, aged 45, had syphilis twenty-four years ago. He saw Dr. Lyons on February 11th, and was then complaining of a sore throat and huskiness, and wanted to be injected with "606." A Wassermann's reaction proved negative, and he was told he would derive no benefit, but insisted on being injected. The result, as Dr. Lyons told him, was that he got no better. He then came to Dr. Parsons, who tested him with tuberculin on April 11th, and he reacted typically to a dose of 0.005 T.A. He had been put under treatment, and was improving.

Case xlvi.—I. C., aged 44, native of Gibraltar, admitted to the Colonial Hospital, and operated on for ischial abscess on March 3rd. Much pus evacuated. The wound soon granulated and looked clean, but refused to heal. Week after week passed by with hardly any progress, and at last, on April 17th—forty-five days after operation—the author tested him with 0.001 T.A.; no reaction. April 19th, 0.002 T.A.; no reaction beyond a little local swelling. April 23rd, 0.005 T.A.; temperature up to 103.4°, with typical local redness, pain, and oedema. There was now no doubt as to the abscess being tuberculous. Healing began from the first, and in a few days had advanced more than it did in the six weeks previously. On May 9th he got 0.003 T O.A., with no reaction and wound nearly healed.

Dr. Parsons went on to say that he had by him notes of the other cases, which it would be tedious to read. What he would like to impress upon members was the great value of tuberculin, both in diagnosis and treatment and its harmlessness when properly given. Most of these patients had to come from Linea for their injections, and, though some hundreds of injections had been given in the past four months, no untoward incident had occurred, and improvement had been noted in all cases.

Dr. Parsons read for Dr. Gill, who was unable to be present, the following notes of a case:

A. D., a male, a clerk in the Colonial service, was ill in January with acute lobar pneumonia. The illness ran a normal course; there was the usual crisis, and the temperature dropped to normal. Complete resolution was delayed, and a dull area remained. Dr. Parsons was asked to see the case in consultation, and suggested that the patient should be tested with T.A. This was done, and the patient reacted typically. Treatment was continued with T.O.A., and although a maximum dose of this preparation had not yet been reached, the patient's weight had increased from 10 st. 5 lb. in January to 12 st. 11 lb. on May 11th. He had never felt better in his life, and had never before weighed so much.

Representative at Representative Meetings. — Dr. Dowding was elected a Representative in Representative Meetings.

Votes of Thanks.—The meeting closed with the usual votes of thanks.

GRIQUALAND WEST BRANCH.

A meeting was held at the Board Room, Kimberley Hospital, on June 30th, Dr. Symonds in the chair. There were present: Drs. Gadow, Reid, Harris, Roberts, Minter Brown, Stoney, Russell, and Vaughan Jones (Honorary Secretary).

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

New Member.—Dr. S. M. de Kock, of Bloemfontein, made application for membership, and was duly elected.

Representative on Central Council.—Dr. Duncan Greenlees was unanimously appointed to represent the Branch on the Central Council for a further period of three years, and was cordially thanked for his services during the past year.

Scurvy.—Dr. Symonds read a paper on scurvy which aroused considerable discussion, some of the members expressing their conviction of the organismal nature of the disease known locally as scurvy. Dr. Symonds was thanked for his excellent paper, and suitably responded.

Specimens.—Dr. STONEY showed two interesting pathological specimens: one a cyst of the posterior lobe of the pituitary body, the other hydatid disease of the brain.

SOUTH AFRICAN COMMITTEE.

THE first meeting of the South African Committee of the British Medical Association was held in the Board room, Johannesburg Hospital, on June 29th. The following members of Committee were present: Drs. Matthew Hewat, Jasper Anderson, and Julius Petersen (Western Province Branch); Sir Kendal Franks, Drs. McDonald, Troup, and Maynard (Transvaal Branch); Dr. Spencer Wicks (Griqualand West Branch); and Dr. Campbell Watt (Natal Branch).

Election of Officers.—Sir Kendal Franks was unanimously elected President, Dr. Matthew Hewat Vice-President, and Dr. Campbell Watt Honorary Secretary and Treasurer.

Regulations.—The meeting discussed the notes on the regulations forwarded by the Council of the Association. The PRESIDENT held that as the said Council had passed the regulations subject only to the notes it was not competent to discuss the regulations outside those points referred to in the notes. Resolutions were passed on each of the points raised by the Council, and these will be communicated to Branches for their formal approval. A set of by-laws was framed for the purpose of regulating the conduct of business and the duties of office-bearers.

Subscription.—The annual subscription for the purposes of the Committee was fixed at 2s. 6d. per annum per member of each Branch.

Formation of Branches.—With regard to the formation of new South African Branches, it was resolved to ask the Council of the Association to delegate the arrangements connected therewith to this Committee.

Term of Office.—In consideration of the fact that the elections to this Committee were not held simultaneously, and that there had been considerable delay in getting the Committee to work, the meeting resolved that the term of office of this Committee should expire on December 31st, 1913.

Proposed Annual Meeting in South Africa.—The question of the feasibility of inviting the Association to hold its annual meeting in South Africa in 1914 was discussed, and it was resolved that the secretary of the South African Congress, Johannesburg, be requested to place the question on the agenda of the business meeting.

Vote of Thanks.—A vote of thanks was unanimously passed to Dr. Campbell Watt, Honorary Secretary, for the work he did in the formation of the Committee.

Next Meeting.—The next quarterly meeting will be held in Capetown during the last week of September.

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and blue books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—The annual social meeting will be held at Ford on Wednesday, August 30th. Members with their wives and friends will assemble at the Castle Gates at 2.30 p.m., when, by the kind permission of Lord Joicey, an inspection of this historic border fortress will be made, after which the school, containing the beautiful frescoes painted by the late Marchioness of Waterford, will be visited, and if time permits the church also. Tea will be served at 5 p.m. Members intending to be present will please communicate with me (giving the number of invited guests) not later than August 27th, to enable arrangements to be made.—C. CLARK BURMAN, Honorary Secretary.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, 28th, and 29th, 1911.

EXHIBITION

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[SECOND NOTICE.]

MACMILLAN AND CO. (St. Martin's Street, London, E.C.). Many of the books exhibited by this firm of publishers were well calculated to absorb a good deal more attention from visitors than the time at their disposal allowed, the selection of the firm's publications which had been sent down being excellent. Prominent among them was the *System of Medicine* by Sir Clifford Allbutt and Dr. H. D. Rolleston. It is a second edition, the matter in which besides having been revised has been in large part re-written. It has been coming out volume by volume, the recent publication of the eleventh volume completing the issue. This latest volume contains a general index of a most elaborate character. Also shown was the second edition of a work of a somewhat corresponding order, namely, the *System of Gynaecology*, the many contributors to which did their work under the editorship of Sir Clifford Allbutt in conjunction with Drs. W. S. Playfair and T. W. Eden. Another important work shown for the first time was a translation by Miss F. A. Welby from the third edition of Luciani's *Human Physiology*. One or other of the earlier editions has been translated into French, German, and Russian, and in a preface to this English edition Professor Langley of Cambridge expresses some surprise that no English version has appeared earlier. Luciani, he says, describes phenomena with considerable detail, but treats lucidly the broad principles to be deduced from them. It appears, in short, to be a cross between a textbook and a treatise. So far only the first volume has appeared, but Vol. II is in the press, and the remaining two will no doubt be ready shortly. Other works noted were Cuthbert Lockyer's translation of the *Technique of Vagino-Peritoneal Operations*, by Wertheim and Micholitsch; *Disease in Bone and its Detection by the X Rays*, by E. W. H. Shenton; *Modern Methods in the Surgery of Paralyses*, by H. C. Wootton. The firm, it may be noted, has recently brought out a fresh descriptive catalogue of such of its publications as appeal more especially to medical men.

C. OPPEL AND CO. (10 and 12, Milton Street, London, E.C.). The exhibit of this firm was a single article, but one which deserves the same esteem on the part of the younger generation as it long since attained among its elders. The firm is the representative in this country of the Friedrichshall Springs at Saxe Meiningen in Germany. There are probably few natural remedies to the value of which testimony has been paid by an equally large number of distinguished clinicians. Its special characteristic was well described by Sir Henry Thompson many years ago in the following words: "One of the characteristics of this water is that the longer it is taken the smaller is the quantity necessary to effect the purpose. It leaves the patient less constipated after discontinuing it than he was before, and it may be taken habitually without lowering the system. As an occasional aperient and corrector of digestion I know of nothing at all equal to Friedrichshall." It is, in short, a remedy of such long tried value that it would hardly require notice but for the circumstance that in the crush of modern drugs there is a tendency to overlook old and well-tried therapeutic friends, among which Friedrichshall must certainly be counted. The composition of the water is very constant; the portion

of the contained salts per 1,000 parts being as follows: Magnesium sulphate, 6.2; sodium sulphate, 5.2; sodium chloride, 7.9; magnesium chloride, 4.9. There are also present small proportions of lime and potash salts and of magnesium bromide. It is entirely free from suspended matter. In its action it is not drastic, and may usually be taken in ordinary doses for prolonged periods without setting up dyspepsia. Its taste is much on a par with practically all natural mineral waters which have any claim to possession of medicinal properties of the same character. Some persons who dislike its flavour find it comparatively easy to take when milk is added. The commencement of its use in this country dates back not much less than a century, it having been one of the first mineral waters to be imported.

John Weiss and Son (287, Oxford Street, London). The stall of this firm is always especially strong in ophthalmic instruments and appliances, and showed no falling off in this direction at Birmingham. Thus there was a complete set of instruments for the performance of intracapsular extraction of the lens after Major Smith's "Jullundur" method, these being put up in a neat travelling case. Side by side with these may be placed Herbert's scissors and knives for the new glaucoma operation, and several patterns of trephine for operations on the sclerotic, including the one known as Harman's sclerotomy punch. A scotometer, devised by N. C. Ridley, was also shown, and seemed to have definite advantages over many of its earlier rivals. Much the same remark applies to the Jameson Evans epilation forceps, which have long blades serrated at their extremity instead of being left smooth. A further improvement of a minor kind was shown in some test types which were made of celluloid and thus easily washable. A good many tonometers were also on view, one which attracted special attention being that of Macklatoff. Among the lamps we noted a new standard pedestal lamp, which has the advantage of being equally useful for eithe- ophthalmic or laryngological work, a simple and easily worked shutter occluding whichever attachment is not for the moment required. In addition, a portable accumulator attracted attention. It weighs only 4 lb., has a working life on a single charge of twenty-one hours, has attachments for working either a lamp or a cautery, and is relatively inexpensive. The exhibit, however, was not by any means confined to instruments for the ophthalmic specialist, but included many modern appliances for general work—a new vaginal douching sheet, speculum, and vulsellum, all devised by Barlet; the bladder and kidney instruments used by Hurry Fenwick, the osteotomy instruments of Robert Jones, and the tubes and forceps recommended by Lynn Thomas for the performance of prostatectomy are all cases in point.

The Charles H. Phillips Chemical Company (14, Henrietta Street, Covent Garden). As in previous years, this firm confined its exhibits to two of its products, the one being a compound syrup of quinine, the other a fluid magnesia. The former is known as the *Syrup of Phospho-muriate of Quinine Compound*, its strong point being that in its preparation the muriate instead of the sulphate of quinine is used, and phosphates instead of hypophosphites. Hence, the preparation being acid, there is no risk of the contained strychnine being thrown down, as sometimes occurs in the case of hypophosphite syrups. It is a pleasant bitter tonic, not productive of headache, and very stable. The fluid magnesia of the firm is termed *Milk of Magnesia*, this being the registered title of an odourless, white, palatable fluid with the physical appearance of milk. It is hydrated oxide of magnesia, each fluid ounce representing, we understand, magnesium hydrate 24 grains. Under the microscope it is seen to be homogeneous, a fact which supports the firm's statement that their *Milk of Magnesia* is not, as are many magnesia preparations, merely a triturated magnesia suspended by mucilaginous or glycerine solutions. It attributes its special value as a neutralizer of free acids to the fact that it is entirely free from carbonates, and therefore does not give rise to discomforting evolutions of carbonic acid gas. It combines readily with tinctures as well as with iodides and other solutions of salts, and is useful as a suspender of fixed and volatile oils. We have had considerable experience of its use in the diarrhoea of children and in gastric irritability, and consider it an excellent form in which to administer magnesia when indicated in such cases. It may also be substituted for lime water in the modification of cow's milk. Owing to its persistent alkalinity and tastelessness, it forms a good mouth-wash for use at bedtime.

Skeffingtons (49, Ulundi Road, Blackheath, S.E.). This firm some two years ago brought out the *Skeffington Bed Lifter*, a device possessing so many good points that we drew attention to it even before it had been placed upon the market. A long bed-sheet is attached by a simple mechanism to rollers at either end of the bed, and on turning one or both of these the patient can be either lifted right off the mattress or raised to and retained in a sitting position. Several patterns of the device are now available, some of these being intended for use in connexion with one bed only, while others are so fitted that the whole of the patients in any ward can be similarly handled one after another. Another appliance, named the *Anastasia*, lifts the patient in the sheet, as does the Skeffington, but at the same time adjusts under his body a mattress made in sections, so as to give access to any division of the patient's back desired. Three other devices shown this year were all newcomers. One, named the Catharios, consists of two steel supports, one for either side of the bed, and each carrying a short roller. Between these runs a narrow band which is passed under the patient's sacrum. Revolving one roller turns the patient on one side, while turning both lifts his hips clear of the mattress. Another was the *Skeffington Cushion*. It is an oblong inflatable india-rubber bag, which, when flat, is passed under the patient's hips; it is then inflated by a kind of bicycle pump, and raises the patient sufficiently high for a tall bed-pan to be put in position. Finally was shown the *Skeffington Inclinator*, an appliance for elevating either end of a mattress without straining the bed. The elevation attainable is as much as 3 ft. Like all the other appliances of the firm, its use was demonstrated at intervals during the course of the exhibition, and attracted much attention. It seems very likely to win much favour with surgeons, who, after operation on the abdomen and elsewhere, like to keep their patients with the head and body well raised. All the devices of this firm show thorough comprehension of the needs of nursing and great mechanical ingenuity in meeting them.

Virol, Limited (152–156, Old Street, London, E.C.). The preparation from which this firm derives its name made its first appearance some ten years ago, and its history from the beginning would seem to have been one of practically uninterrupted success. It is true that it was very skilfully marketed, but it gained real popularity among medical men in a very short space of time, and from the testimonials, clinical reports, and other evidence in possession of the firm, it is clearly being used with satisfaction in a large number of hospitals and sanatoriums. Like many of its congeners, it was originally put forward as a substitute for cod-liver oil, but seems to have been found also of utility in other conditions than those in which cod-liver oil is commonly administered. Besides being, according to Braithwaite in his *Retrospect*, "easy of administration, digestion, and absorption," and according to Hutchison, in his book on *Food and the Principles of Dietetics*, "an agreeable preparation of very considerable nutritive power," it also possesses a certain value in aiding the utilization of starchy foods. It also appears to be useful in dealing with the summer diarrhoea of infants, and has a distinct reputation as a tissue former in some cases in which adequate nutrition by ordinary foods is not easy to secure. Its constituents, according to the firm, are red and yellow bone marrow, eggs, malt extract and lemon juice. In appearance and consistence it is very much like honey; in taste it resembles toffee. It can be given diluted with either milk or water, or spread on thin slices of bread. The manufacturers claim that it is superior to cod-liver oil in view of its possession of iron-containing albuminoids and phosphates, and a proportion of carbohydrates in addition to fatty matter.

National Insurance.

CORRESPONDENCE.

THE INCOME LIMIT.

Dr. Addison's Amendment.

DR. J. H. TAYLOR (Salford) writes: Will you allow me to explain what appears to me to be the meaning and effect of the amendment which Dr. Addison carried in the House of Commons referring to the income limit? In the first place, the term "contracting out" as applied to this amendment is somewhat misleading; it would better be called a "private practice" amendment, or a provision for enabling private practice to replace contract practice, and I am confident that its possibilities in this direction have not yet been realized by medical men who are opposed to all forms of contract practice.

But, before dealing with the amendment itself, I would remind the profession that the Special Representative Meeting did not decide that the £2 limit must be named in the bill itself. The State Sickness Insurance Committee thought it best to attempt to get it in the bill, and did its best, but was defeated in Parliament without even a division, in spite of the heroic efforts of Sir P. Magnus and his supporters. What, then, was the next step? Was the profession to stand by and sulk, or was it to be called out in a universal strike? To me such an idea is both impracticable and preposterous, simply because I am confident that we can get the £2 limit or even a lower limit in other ways. It is impossible for any fair-minded man not to see the force of the argument that a rigid £2 limit would be unfair in practice. In some country districts 25s. is quite equal to £2 in London, and an unmarried man with no dependants and earning 30s. a week is better able to pay a doctor's bill than a married man with a wife and young children who is earning 45s. a week. Practically every hospital that has an income limit has a provision for mitigating the rigidity of the limit to meet such cases, and to refuse to acknowledge this would be to invite a public odium that the best organized profession could never resist.

The next step, then, for the profession will be to fight for an income limit, shorn of an unfair rigidity, to be set up in the regulations under the bill. But it is imperative to note that this would have been impossible, after the defeat of Sir P. Magnus's amendment, unless Dr. Addison's amendment had been passed, seeing that without this latter amendment the local Health Committee would have been legally bound to make its own arrangements for medical attendance for every insured person, and would not have been at liberty to take any account of incomes at all. The fight for an income limit in the regulations would not be a local fight, but would be backed up by the whole force of the profession. I would suggest that 30s. should be taken as a mean limit, with modifications to suit individual cases, but with £2 as a maximum, and if we may judge by the tenor of the Chancellor's speech in Parliament, there would be less probability of opposition to such an elastic limit in the regulations than there was to the rigid limit in the bill.

But even if the Insurance Commissioners refused to insert a limit in the regulations and left it entirely to the local Health Committees, why should we be afraid of what are wrongly called local struggles? With the profession organized as it is now, there will be no such thing as a strictly local struggle. A local Medical Committee will only have to satisfy the general Association that its demands are right, and the whole resources of the Association will be at its disposal, especially to prevent the importation of blacklegs. Local disputes will inevitably arise as to the method of payment and the amount of fees, and in every case the income limit would be balanced against the amount of fees, so that the higher the income limit is the higher the contract rate must be. But the same professional union that is necessary to fight about fees will at the same time be fighting for the income limit, and I am confident that the possibility of varying the income limit locally will afford a first-rate weapon with which to fight the question of fees. Besides, it must be remembered that the interests of the local Health Committees will be very different from the interests of present managers of clubs. The committee will have no interest in sweating the profession or refusing any reasonable income limit, and it is quite wrong to assume that the local Health Committee will, as a matter of course, oppose the local Medical Committee, which will always be able to appeal to the Insurance Commissioners.

Suppose, then, that in any district a 30s. limit were fixed: the local Health Committee would then, according to Dr. Addison's amendment, require any insured person whose income was over 30s., if he needed a doctor, to engage one privately. Any arrangement between such a person and the doctor whom he chose would be private in every sense of the word. The doctor would charge any fee he thought fit and would attend as much or as little as he chose, and the Health Committee would have no right to interfere in any way whatever between the doctor and the patient. The doctor would have no responsibility to the committee nor the committee to the doctor. The provision in the amendment that the committee should allow the patient a contribution towards the cost of his private doctor is simply to enable the committee to discharge its legal liability to the patient and is absolutely no concern of the doctor. It is, of course, important that the doctor should not attempt to stipulate what allowance the committee shall make to the patient or how it shall be made, as that might give the committee an opening for interference. If the patient is to be purely a private patient the doctor must look to the patient alone for his fee, quite irrespective of what the committee allows to the patient. Thus, in such a case the contract system would be entirely replaced by purely private practice.

A somewhat curious objection has been made that this will lead to undercutting among the doctors, and that persons thus excluded from contract attendance will choose that doctor who charges the least or that they will try to form clubs of their own. But surely this would apply equally to a £2 limit in the bill, and especially if those having over £2 were excluded from medical benefit altogether. It seems to me reasonable to expect that a person who has no allowance at all from the insurance towards his bills would be far more likely to choose a cheap doctor than the person who is receiving a contribution towards his bill. There is absolutely no cure for undercutting among medical men except what may be called the trades union method of a mutual bond not to work for less than a standard wage. The local Medical Committee will be a first-rate instrument for drawing up a standard scale of fees, and it could make any doctor's position on the panel extremely uncomfortable if he did anything in the nature of undercutting.

Another case to which Dr. Addison's amendment would specially apply is in that of places such as Burnley and other towns in Lancashire where the profession has a strong objection to any form of contract practice. Without the amendment the bill would have stereotyped a form of contract practice which, though immeasurably superior to that of the friendly societies, would still have involved a capitation system. But with this amendment, the contract system may be escaped altogether. If the profession in Burnley is united, it can say, "We refuse all contract rates and we will only treat insured persons as private patients." There might be some demur from the insured themselves, but if the profession stood firm the local Health Committee would probably be glad to escape all further difficulty with the profession by taking advantage of this amendment and doing what it would be legally authorized to do, that is, leaving the insured to make their own private arrangements and allowing them a contribution towards their private bills. The committee would thus have fulfilled all its responsibility to the insured, and Mr. Lloyd George himself specially mentioned this case of the Lancashire towns as being covered by this amendment.

But the amendment goes even further, for it allows not merely local but personal option. If an insured person, for instance, has a preference for a particular doctor, who refused to attend him at contract rates, the patient would,

if this amendment had not been carried, have been compelled either to choose another doctor on the panel or to pay his favourite doctor's fees out of his own pocket, forfeiting altogethor the medical benefit for which he had contributed. But with this amendment the Health Committee is empowered, altogether irrespective of the patient's income, to make such a patient an allowance towards his favourite doctor's bill, and there is little doubt that such an allowance would induce many people to engage privately a doctor who refused altogether to accept any contract rate.

In every way, then, Dr. Addison's amendment offers the most positive assistance towards doing away with the contract system, and replacing it with private practice to an extent which the profession will have in its own hands. To refuse to accept it because it does not specifically mention the £2 limit, though it offers every facility for obtaining it, would seem to me to be the most short-sighted policy. The profession has simply to stick to the pledge that it has signed which involves a refusal to attend at contract rates any insured person whose income exceeds £2 a week. With this amendment, and keeping strictly to our pledge, we are now at liberty to make an elastic income limit of 30s. as the mean, with £2 as the maximum. In face of such a pledge, now that this amendment gives the local Health Committee an alternative way of discharging its responsibility to the insured, no committee would have any interest in opposing such an elastic income limit, especially as any opposition would involve the payment of a higher capitation fee.

Friendly Society Institutes.

One Interested Member, B.M.A., writes: Your editorial in the Journal of August 12th regarding "Friendly Society Institutes" will, I trust, be pondered over by every member of the profession. There is no doubt whatever in the minds of officials of these institutes that they will become recognized by the local Health Committees, and will continue, for they will take care that the local Health Committees shall be under their domination numerically. They think, however, that no new ones can come into existence. My humble belief is that these views did not arise from a study of the bill, but were rather given to them on authority, and so sure are they of it that they are not worrying about the outcome. There is every reason, therefore, to regard the Harmsworth amendment as deliberately planned, with the connivance of the framers of the bill, to render nugatory the apparent gain by the medical profession. I sincerely hope my surmise is incorrect, but I think I am somewhat in a position to take a good guess. The battle is not yet over, and as military metaphors seem popular just now, I venture to suggest that only a skirmish or two, and nothing final, has been the outcome so far. Eternal vigilance is the price of liberty. Let the sentinels on the watch tower—the State Sickness Insurance Committee of the British Medical Association—be sustained and reinforced, for the camp is still in danger, and—dare I say it?—perhaps the bill.

Not out of the Wood.

Dr. Harford Edwards (Markyate, near Dunstable) writes: I observe that certain newspapers are talking of the "medical victory," etc. I fail to see where we have gained anything of any particular value at present. I have no doubt that what one must call our opponents—the Government and its newspapers—would like to persuade us that we have, but I shall be very much surprised if we get much—unless we copy the trades unions. A mere question of justice will not count, and apparently an efficient medical service is not a desideratum. Mr. Lloyd George has throughout treated the profession with very thinly-veiled contempt, and unless we unite and continue united and decline to be put off with trivial concessions, we shall have gained nothing. I understand that the British Medical Association forms were not sent to many hospital students. Surely, if this is so, it is an important omission.*

* The circulars ssued by the British Medical Association were sent, we understand, to every registered medical practitioner in the United Kingdom whose address could be ascertained.

IRELAND.

Dublin Hospitals.

The very serious view of the probably injurious effect of the State Insurance Bill on the Dublin hospitals that is taken by the Board of Superintendence of these hospitals may be gathered from the following extract from their fifty-third annual report laid before Parliament this week:

> Hitherto the public have looked on the labouring man disabled for work as a fit object for charity. They have subscribed and left legacies to hospitals because it was known that through the wards of the hospitals and the special dispensaries attached to them lay the smoothest, shortest, and most economical road to recovery. It is unlikely, should the State arrange for the care of the labouring classes when incapacitated by sickness, that the charitably inclined will continue to subscribe to the same extent. Now, there is no doubt that for the maintenance of hospitals the system of voluntary aid, supplemented by State aid, yields the best and most economical results. By it the services of men of the highest standing are put within easy reach of the poor, both in the wards and in the dispensaries. We think this system is in danger, and that if it is once allowed to collapse it may not be possible to reconstitute it. This would be a serious thing for the poor, a serious thing for the progress of science, a serious thing for the taxpayer, and for the training of gentlemen for medical service. The practice of medicine is advancing by specialization. Each class of disease has its department in a hospital. It is not too much to say that a club doctor, responsible for the health of a large number of workpeople, will, in a great majority of the cases, have to call on the hospitals or their dispensaries for help. On what terms will this be given? If the voluntary aid system is abolished, it must mean a suitable remuneration for all medical service. We are of opinion that a system on such a foundation would not work as well or as economically as does the present one.

Finance of the Scheme.

The *Irish Industrial Journal* has calculated that about 1,200,000 people in Ireland would be affected by the compulsory provisions of the bill. About one million of these are men, so the contribution from Ireland would average but a fraction below 7d. a week, or 30s. a year, for each employee. This means that Ireland must find annually one and three-quarter millions sterling. The census returns showed that the number of sick and infirm of all kinds was 68,862; excluding those suffering from permanent diseases, consisting chiefly of lunatics, blind, deaf and dumb, already provided for by State, there remained 35,588 temporarily diseased, distributed as follows:

At own homes	14,884
Infirmaries and hospitals	5,071
Workhouse hospitals	15,633

This showed that the largest class was already accommodated at the public expense in the union hospitals, institutions not confined to declared paupers, but open to all. Those returned as being in infirmaries and hospitals were paying patients in private institutions, which abounded in Dublin and other parts of Ireland. There remained, therefore, about 15,000 laid up at home, and they represented cases for which Mr. Lloyd George proposes to tax Ireland to the extent of one and three-quarter millions a year. At the highest they would only cost the Government £400,000 a year. Even if it were supposed that the whole 35,000 invalids were thrown on the funds the maximum benefits at 10s. a week would only amount to one million a year. As the total cost of Poor Law relief already amounted to that sum, the strain on Ireland would be doubled, and the Chancellor stood to make a huge surplus out of Ireland, and there was nothing in the bill to indicate what would become of the surplus, so that it would remain with the Treasury. It was natural for Ireland to object to a scheme which will ultimately draw millions from the country and cannot return more than half that sum.

THE FRIENDLY SOCIETIES.

At a special meeting of delegates of the Hearts of Oak Friendly Society held last week, a second report of a special subcommittee on the National Insurance Bill was submitted. The chairman said that the most serious matter affecting the society had been the attitude of the doctors. He described the proposal for an income limit of £2 per week as monstrous. The subclause giving the local Health Committees the power to fix the limit in

different districts was really worse than the original demand, for the committee might fix it at a lower figure, and at different figures in different localities; it was, he considered, an outrageous proposal. Eventually the following resolution was unanimously adopted:

> That this delegate board, bearing in view the fact that Parliament has decided that the medical benefit shall in all cases be administered by the local Health Committees, this board press for such amendments of the bill as will secure that the approved societies shall have a majority of representatives on the Health Committees.

QUESTIONS IN PARLIAMENT.

Government Ordnance Factory Employees.

MR. NEWMAN asked whether an employee at a Government ordnance factory who, by way of sick pay, medical attendance, and gratuity on discharge, drew benefit approximately equal to those proposed under the National Insurance Bill, but whose wages had been reduced by a certain sum weekly as a set-off for grant of such benefit, would either at the option of the War Office or himself, be held to fall within exception (*b*) of Part II of the First Schedule of the bill. Mr. Lloyd George said that it would appear that the employee would be within the exception, but, of course, the decision in such a case would rest with the Insurance Commissioners. He thought it would be a mistake to issue regulations at present.

Minimum Benefits.

Mr. Godfrey Locker-Lampson asked whether the term "minimum benefits" employed in connexion with the benefits set out under Clause 8 of the National Insurance Bill was a misnomer; whether these so-called minimum benefits were reducible under the operation of Clause 31, and would in certain eventualities not be paid; and whether the term "average benefits" would describe them more accurately. Mr. Lloyd George said that having regard to the amount of margin allowed by the actuaries, he hoped that the occurrence of a deficiency would be quite exceptional. Moreover, a society which, through gross mismanagement or for any other reason, had incurred a deficiency, had the option of meeting it by a levy instead of by a reduction of benefits. The term "average benefits" would be very misleading, since there was every reason to suppose that the average benefits would substantially exceed those which had been termed the minimum. He did not think it correct to say that in an appreciable number of cases a good deal less than the minimum benefits would be paid; in the vast majority of cases considerably more than the minimum benefits would be paid. He believed, after consultation with the actuaries, that it was perfectly safe to say that.

Army Officers.

In reply to Major Stanley, Mr. Lloyd George said that officers in the army who had no private means and whose pay was less than £160 per annum would not be compulsorily insured under the National Insurance Bill.

The Marquess of Tullibardine asked whether, seeing that officers at out stations were already entitled to ½d. per diem for medical attendance, they would be allowed to have full benefit for supply of medicine at ½d. per week, thus making up the sum of 4d. as required by the bill. Mr. Lloyd George said that he would rather consider the question when they came to the clause dealing with the army, and asked for notice.

Elementary School Teachers.

Mr. Bridgeman asked whether elementary school teachers, to whom the Elementary School Teachers' Superannuation Act did not apply, might become insured persons under the National Insurance Bill. Mr. Lloyd George said that teachers to whom paragraph (*c*) of Part II of the First Schedule did not apply would be on the same footing as persons in any other kind of employment. With regard to the provisions of the Elementary School Teachers' Superannuation Act, 1898, he was not at present prepared to make any statement.

Commission Workers.

In reply to Mr. Goldman, Mr. Lloyd George said that exception (*d*) in Part II of the First Schedule only referred to an agent not ordinarily employed by one employer only. A person employed by one company only would not be excluded by reason of this exception from the provisions of the bill. Collecting agents for industrial societies whose income varied from £40 to £100 would be entitled to enjoy the benefits of the Insurance Bill.

Medical Examination (Expenses).

Sir Henry Kimber asked whether an approved society would receive any allowance for the expenses of medical examinations of persons applying for admission as insured persons; and, if so, whether such an allowance would be in addition to the proportion of contributions placed to the credit of each society for management expenses. Mr. Lloyd George said that an approved society would not receive any allowance expressly for this purpose.

Payment of Medical Benefits.

Sir Henry Kimber asked how it was intended that an assured person while away from home for change of air, otherwise than in a convalescent home or similar institution, should receive medical benefits. Mr. Lloyd George said that matter might safely be left to the local Health Committees and other organizations responsible for the administration of medical benefit to arrange.

Sickness Benefit (Syphilis).

Sir H. Kimber asked whether, under Section 13, Subsection 4, an approved society would be allowed to refuse sickness benefit to insured persons suffering from tertiary syphilis which appeared twenty or even forty years after infection—for example, a gumma appearing after a lapse of forty years, and tabes or locomotor ataxy appearing after a lapse of twenty years. Mr. Lloyd George said that matters of this kind would be dealt with in the rules of the society, framed with the consent of its members, and subject to the approval of the Insurance Commissioners.

Administrative Cost.

Sir John Barran asked the Chancellor of the Exchequer whether the administrative cost of the Insurance Bill would be 17 per cent. of the gross revenue; and, if so, seeing that under the present friendly societies the administrative cost was about 4 per cent., whether he would explain the difference between the two figures.

Mr. Lloyd George: I am unable to follow my hon. friend's figures. The sum set apart for administration in the table on page 23 of the Actuaries' Report represents for men 10.2 per cent., and for women 11.5 per cent. of the gross revenue, including 2d. as the equivalent of the State grant towards benefits. If my hon. friend will refer to page 79 of Section XI of the Appendix of the Report of the Chief Registrar of Friendly Societies for 1906 (H.C. 49 of 1907) he will find that the cost of administration for existing friendly societies is 11.9 per cent. of their gross revenue. Of course the total cost of administration will be increased by the expenses of the Insurance Commissioners and other Government departments, but I may point out that if a society can carry on its administration at a less cost than that estimated by the actuaries, the whole of the savings will be available for additional benefits.

Medical Attendance.

Colonel Rawson asked how present members of friendly societies who were over 65, or were in receipt of medical benefit from their society, and did not become insured persons, would be able to continue to receive medical attendance after the bill had passed, seeing that the arrangements with the doctors would now be made by the Health Committees and not by the societies on whom the liability for their sick members rested. Mr. Lloyd George said that the local Health Committees would only intervene in the administration of medical benefit so far as persons insured under the bill were concerned. Those who were insured, but not under the bill, in societies which became approved societies would not be affected.

Hospitals and Asylums.

STAFFORDSHIRE COUNTY ASYLUMS.

Stafford.

The annual report for 1909 of Dr. J. W. Stirling Christie, the Medical Superintendent of this asylum, shows that on January 1st of that year there were 881 patients on the registers and 866 on the last day of the year. The total cases under care during the year numbered 1,089, and the average number daily resident 877. During the year 208 were admitted, of whom 199 were direct admissions. All the above figures show slight decreases on those of the preceding year. Of the direct admissions for 1909, in 106 the attacks were first attacks within three and in 16 more within twelve months of admission; in 39 not-first attacks within twelve months; and in the remainder, with one exception, the attacks were of more than twelve months' duration, including 13 congenital cases. The admissions were classified according to the forms of mental disorder into: Recent mania, 87, chronic mania, 1; recent melancholia, 49, chronic and recurrent melancholia, 3; senile and secondary dementia, 15; general paralysis, 8; insanity with epilepsy, 14; delusional insanity, none; confusional insanity, 9; various less common forms, 8, and congenital defect, 14. As to the etiological factors in the direct admissions, alcohol was assigned in 40, or 20 per cent., syphilis in 6, influenza in 8, and other toxins in 2; diseases of the nervous system in 19; various bodily affections in 11; child-bearing in 10; critical periods in 18; bodily trauma in 4, and mental stress in 58. An insane heredity was ascertained in 53, or 26.6 per cent., a neurotic and an alcoholic heredity in 1 each, and in 3 congenital mental defect not amounting to imbecility was returned as cause. During the year 63 were discharged as recovered, giving a recovery-rate on the direct admissions of 30.28 per cent., and of recoveries in the direct admissions on the direct admissions of 33.71 per cent. Also 36 were discharged as relieved. During the year 124 died, giving a death-rate on the average numbers resident of 13.97 per cent. All the deaths were due to natural causes, being due in 20 to various forms of cerebral disease; in 29 to pulmonary tuberculosis; in 21 to other lung troubles; in 23 to heart disease, and in 12 to senile decay. We see that 30, or over 24 per cent. of the total deaths, were due to tuberculous disease. The general health was good throughout the year; there were no cases of infectious disease, and the serious casualties were few in number.

Cheddleton.

The Committee say that the year 1909 at this asylum was uneventful; the working of the asylum was more comfortably done owing to increased accommodation. Dr. W. T. Menzies, the Medical Superintendent, in his annual report, says that there were vacancies for 195 patients at the beginning of the year, and at the end of the year the vacant beds numbered 79. On January 1st, 1909, there were 843 patients on the register, and on the last day of the year 959. The total cases under care during the year numbered 1,181, and the average number daily resident 910. During the year 338 were admitted, of whom 214 were direct and 124 indirect admissions. As to their character as regards prospect of recovery, Dr. Menzies says that 237 were already chronic cases on admission, and that in only 101, or 29.88 per cent., was recovery probable. Of the direct admissions, in 68 the attacks were first attacks within three and in 21 more within twelve months of admission; in 31 not-first attacks within twelve months, and in 69 the attacks were of more than twelve months' duration, whilst there were also 26 congenital cases. The direct admissions were classified according to the form of mental disorder into: Mania of all kinds, 56; melancholia of all kinds, 51; senile and secondary dementia, 13; systematized delusional insanity, 2; insanity with epilepsy, 20; general paralysis, 16; primary dementia, 11; insanity with grosser brain lesions, 9; less common forms, 10; and congenital defect, 26. As to the probable causation, alcohol was assigned in 48, acquired syphilis in 39, and congenital syphilis in 11, tuberculosis in 25, influenza in 8, and other toxins in 8; nervous diseases in 49 (epilepsy 34); various bodily defects in 94, of which the chief were cardio-vascular degeneration and valvular heart disease; child-bearing in 15, critical periods in 30, bodily trauma in 12, and mental stress in 67. An insane heredity was ascertained in 54, or 25.2 per cent., an epileptic heredity in 16, a neurotic heredity in 54, one of eccentricity in 1, and an alcoholic heredity in no less than 85. The fact that over 23 per cent. of these admissions had either acquired or inherited syphilis, and that over 39 per cent. had an alcoholic heredity are the striking features of this list. During the year 79 were discharged as recovered, giving a recovery-rate on the direct admissions of 36.91 per cent., or of recoveries in and on the direct admissions of 35.05 per cent.; also 19 as relieved and 13 as not improved. During the year 111 died, giving a death-rate of 12.20 per cent. on the average numbers resident. The deaths were due in 21 to nervous diseases, with 14 from general paralysis; in 18 to diseases of the heart and blood vessels; in 13 to chronic Bright's disease; in 1 each to asphyxia and chronic peritonitis; in 12 to senile decay, and in 45 to general diseases, including 22, or 19.8 per cent. of the total deaths, from tuberculous diseases. Dr. Menzies furnishes a special statement of the tuberculosis statistics for the year, showing that 10.65 per cent. of the admissions were diagnosed as exhibiting signs of tuberculous disease; that no less than 75.47 per cent. of the autopsies showed either active or obsolescent tuberculous disease; and that 133 of the patients remaining at the end of the year, or 13.86 per cent., suffered from tuberculous disease.

Burntwood.

In his annual report for 1909 Dr. J. B. Spence, Medical Superintendent of this asylum, alludes to the rather hard case of the asylum officials of Staffordshire with respect to the Asylum Officers' Superannuation Act. Before the passing of this Act Staffordshire officials of the first class already rejoiced in the benefits of a pension scheme which permitted them to retire after twenty-seven years' service with a full two-thirds of their retiring salary and emoluments. Under the new Act they must serve thirty-four years before receiving similar benefits. It is to be earnestly hoped that a number of years sufficient to place them under the favourable conditions which existed before the passing of the new Act may be added in the case of those who joined the service under the former conditions. Passing to the statistics for the year, there were on the asylum register on January 1st 888 patients, and on the last day of the year 868. The apparent decrease for the year was due to the transference, because of overcrowding, of 60 male patients to Cheddleton. The total cases under care during the year numbered 1,182, and the average number daily resident 883. During the year 294 were admitted, as compared with 271 in 1908. Of the admissions, 280 were direct and 14 indirect admissions. In 115 of the direct admissions the attacks were first attacks within three and in 52 more within twelve months of admission; in 41, not-first attacks within twelve months; in 43, whether first or not, the attacks were of more than twelve months' duration; in 6 the duration was unknown, and 20 were congenital cases. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 166; melancholia of all kinds, 34; senile and secondary dementia, 11; insanity with epilepsy, 30; general paralysis, 17; insanity with grosser brain lesions, 2; and congenital defect, 20. As to probable causation, alcohol was assigned in 63, or 22.5 per cent., syphilis in 5, influenza in 8, and specific fevers in 3, nervous diseases in 57 (epilepsy 46), other bodily disorders in 7, child-bearing in 16, critical periods in 33, bodily trauma in 10, and mental stress in 83. An insane heredity was ascertained in 89, or 31.7 per cent., an alcoholic heredity in 18, and of neuroses, epilepsy, or eccentricity in 12, giving a combined neuropathic heredity in 119, or 42.5 per cent. During the year 88 were discharged as recovered, giving a recovery-rate on the direct admissions of 31.42 per cent., or of recoveries in the direct admissions on the direct admissions of 30.0 per cent.; also 90 as relieved and 10 as not improved. During the year 126 died, giving a death-rate on the average numbers resident of 14.26, which is slightly below the average for the last nine years (14.49) at this institution. The deaths were due in 63 to nervous diseases, including 30 from general paralysis, in 12 to diseases of the heart and blood vessels, in 3 to diseases of the lungs, in 9 to senile decay, in 1 to cut throat (inflicted before admission), and in 38 to general diseases, including 26 from tuberculous diseases.

Vital Statistics.

ENGLISH URBAN MORTALITY IN THE SECOND QUARTER OF 1911.

In the accompanying table will be found summarized the vital statistics of seventy-seven of the largest English towns, based upon the Registrar-General's weekly returns for the second quarter of the year. The 105,158 births registered in these towns were equal to an annual rate af 26.1 per 1,000 of the population, estimated from the unrevised results of the recent census at 16,157,797 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates were 27.9, 26.6, and 26.1 per 1,000 respectively. In London the birth-rate last quarter was equal to 25.2 per 1,000, while it averaged 26.5 per 1,000 in the seventy-six other large towns, and ranged from 15.3 in Hastings, 15.6 in Bournemouth, 17.6 in Hornsey, 19.3 in Bradford, 19.4 in Halifax, and 19.7 in Brighton, to 32.0 in West Hartlepool, 32.4 in Gateshead, 32.5 in St. Helens, 32.6 in Middlesbrough, 32.8 in Sunderland, 34.3 in Merthyr Tydfil, and 35.8 in Rhondda.

The 55,649 deaths registered in these towns last quarter were equal to an annual rate of 13.8 per 1,000, the death-rates in the second quarter of the three preceding years having been 13.7, 13.9, and 12.6 per 1,000 respectively. In London the death-rate during the quarter under notice was 13.2 per 1,000; in the seventy-six other large towns it averaged 14.1 per 1,000, and ranged from 8.7 in Reading, 9.1 in Hornsey, 9.6 in King's Norton, 9.7 in East Ham and in Handsworth (Staffs), and 9.8 in Leyton, to 16.1 in South Shields and in Tynemouth, 16.3 in Sunderland, 16.6 in Newcastle-on-Tyne, 16.9 in Stoke-on-Trent, 18.3 in Liverpool, and 19.4 in Middlesbrough.

The 55,649 deaths from all causes included 2 which were referred to small-pox, 2,268 to measles, 236 to scarlet fever, 493 to diphtheria, 1,236 to whooping-cough, 148 to enteric fever, and 836 (among children under 2 years of age) to diarrhoea and enteritis. The 2,268 deaths from measles were equal to an annual rate of 0.56 per 1,000; in London the death-rate from this disease was 0.61 per 1,000, while it averaged 0.54 in the seventy-six other large towns, among which the rates ranged upwards to 1.08 in Great Yarmouth, 1.10 in Manchester, 1.14 in South Shields, 1.31 in Stockton-on-Tees, 1.36 in Plymouth, 1.42 in Devonport, and 1.59 in Rhondda. The 236 fatal cases of scarlet fever corresponded to an annual rate of 0.06 per 1,000; in London the rate was 0.04 per 1,000, while among the seventy-six other towns the highest rates were 0.18 in Rochdale, 0.19 in Stoke-on-Trent, 0.20 in Liverpool, 0.22 in Huddersfield, and 0.34 in Coventry. The 493 deaths from diphtheria corresponded to a rate of 0.12 per 1,000; the death-rate in London from this disease was 0.11 per 1,000, while it averaged 0.13 in the seventy-six other large towns, and ranged upwards to 0.28 in Swansea, 0.29 in Bolton, 0.31 in Croydon, in Salford, and in Gateshead, 0.32 in Reading, and 0.34 in Stoke-on-Trent The 1,236 fatal cases of whooping-cough were equal to an annual rate of 0.31 per 1,000; in London the rate was 0 32 per 1,000, while it averaged 0,30 in the seventy-six other large towns, and ranged upwards to 0.61 in Sunderland, 0.63 in Wigan, 0.67 in Bristol, 0.72 in Burnley and

Analysis of the Vital Statistics of Seventy-seven of the Largest English Towns during the Second Quarter of 1911.

Towns.	Estimated Population middle of 1911.	Births.	Deaths.	Annual rate per 1,000 Living.		Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Enteric Fever.	Diarrhoea and Enteritis (under two years of age).	Deaths of Children under one year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
				Births.	Deaths.									
77 Towns	16,157,797	105,158	55,649	26.1	13.8	2	2,268	236	493	1,236	148	836	96	0.8
76 Provincial Towns	11,635,169	76,728	40,776	26.4	14.1	1	1,578	193	370	877	132	625	99	1.1
London	4,522,628	28,430	14,873	25.2	13.2	1	690	43	123	359	16	211	89	0.1
Croydon	170,451	969	453	22.8	10.7	—	6	2	13	9	2	4	82	—
Willesden	155,253	1,032	414	26.7	10.7	—	33	—	3	23	—	4	71	—
Hornsey	84,916	373	193	17.6	9.1	—	11	—	—	5	—	1	67	—
Tottenham	138,326	955	384	27.7	11.1	—	22	—	2	5	—	—	79	0.3
West Ham	289,646	2,119	919	29.3	12.7	—	76	4	18	23	5	13	80	—
East Ham	134,441	898	326	26.8	9.7	—	24	—	—	1	—	5	68	—
Leyton	125,382	785	305	25.1	9.8	—	18	—	5	4	—	6	68	0.3
Walthamstow	125,334	763	344	24.4	11.0	—	19	—	7	7	1	3	88	—
Hastings	61,036	233	192	15.3	12.6	—	—	1	—	1	—	—	77	1.6
Brighton	131,444	646	383	19.7	11.7	—	—	4	3	4	—	1	60	—
Portsmouth	232,221	1,387	677	24.0	11.7	—	3	6	5	14	4	9	83	0.3
Bournemouth	79,150	308	196	15.6	9.9	—	—	—	—	2	—	2	55	1.0
Southampton	119,394	716	403	24.1	13.5	—	5	5	5	4	—	8	89	—
Reading	75,289	405	163	21.6	8.7	—	5	1	6	3	2	—	47	1.2
Northampton	90,152	518	262	23.0	11.7	—	—	—	6	1	—	2	79	—
Ipswich	74,122	469	221	25.4	12.0	—	—	—	2	2	—	2	81	—
Great Yarmouth	55,920	326	176	23.4	12.6	—	15	—	1	3	—	3	83	—
Norwich	121,682	715	358	23.6	11.8	—	—	2	5	7	2	2	92	0.3
Plymouth	112,152	632	439	22.6	15.7	—	38	—	2	—	1	3	98	—
Devonport	81,975	507	276	24.8	13.5	—	29	—	4	2	6	7	91	—
Bristol	357,509	1,997	1,301	22.4	14.6	—	88	5	5	60	1	10	117	0.1
Stoke-on-Trent	235,049	1,871	991	31.9	16.9	—	46	11	20	26	6	20	141	1.8
Burton-on-Trent	48,222	246	130	20.5	10.8	—	1	—	—	3	—	3	61	0.8
Wolverhampton	95,362	619	337	26.0	14.2	—	1	—	—	2	—	7	94	0.3
Walsall	92,273	702	292	30.5	12.7	—	4	—	2	2	1	4	103	1.0
Handsworth	69,010	384	167	22.3	9.7	—	9	—	—	1	—	2	78	1.8
West Bromwich	68,424	503	249	29.5	14.6	—	10	—	—	—	1	11	99	0.8
Birmingham	526,030	3,773	2,002	28.8	15.3	—	82	15	15	18	2	55	112	3.3
King's Norton	81,764	460	196	22.6	9.6	—	15	1	2	1	—	1	78	2.6
Smethwick	71,085	535	229	30.2	12.9	—	13	3	—	4	1	2	95	0.9
Aston Manor	74,985	507	245	27.1	13.1	—	10	1	1	2	—	3	112	—
Coventry	107,287	781	312	29.2	11.7	—	11	9	3	11	1	2	92	2.2
Leicester	227,634	1,359	691	23.9	12.2	—	31	1	3	10	1	6	82	1.4
Grimsby	74,951	522	208	27.9	11.1	—	9	—	—	1	1	3	71	0.5
Nottingham	260,447	1,707	998	26.3	15.4	—	10	1	2	21	6	12	110	0.6
Derby	123,648	786	428	25.5	13.9	—	16	1	7	13	2	2	107	—
Stockport	109,090	659	369	24.2	13.6	—	9	2	1	4	3	7	111	0.3
Birkenhead	131,330	991	449	30.3	13.7	—	10	—	7	5	2	9	79	0.7
Wallasey	79,137	436	235	22.1	11.9	—	—	1	1	—	—	1	67	1.3
Liverpool	747,627	5,598	3,405	30.0	18.3	—	121	37	15	96	6	37	116	2.2
Bootle	70,122	481	257	27.5	14.7	1	10	1	1	8	1	5	87	5.8
St. Helens	96,870	786	377	32.5	15.6	—	15	4	2	2	2	5	99	2.9
Wigan	89,340	631	335	28.3	15.0	—	17	1	4	14	4	9	117	0.3
Warrington	72,376	491	251	27.2	13.9	—	3	—	2	16	—	6	100	4.0
Bolton	181,202	1,090	581	24.1	12.9	—	14	5	13	5	5	8	91	0.9
Bury	58,665	305	190	20.9	13.0	—	2	2	—	1	—	2	138	1.6
Manchester	716,166	4,813	2,844	27.0	15.9	—	197	9	23	57	9	48	112	0.5
Salford	231,641	1,602	850	27.7	14.7	—	33	4	18	15	6	13	94	0.5
Oldham	147,751	889	569	24.1	15.4	—	8	—	1	—	3	11	88	—
Rochdale	91,645	485	306	21.2	13.4	—	4	4	1	7	1	2	97	2.9
Burnley	106,569	637	401	24.0	15.1	—	3	—	7	19	1	10	144	3.2
Blackburn	133,160	708	518	21.3	15.6	—	6	—	7	26	2	9	145	1.5
Preston	117,216	744	446	25.5	15.3	—	2	3	5	5	6	3	109	0.2
Barrow-in-Furness	63,930	459	185	28.8	11.6	—	1	—	4	4	—	3	83	4.3
Huddersfield	108,144	574	395	21.3	14.7	—	11	6	3	7	—	3	87	0.8
Halifax	101,471	491	391	19.4	15.5	—	3	3	2	14	3	3	96	1.3
Bradford	288,723	1,390	971	19.3	13.5	—	5	—	9	27	6	8	89	0.1
Leeds	445,983	2,732	1,573	24.6	14.1	—	29	11	27	44	1	15	96	0.1
Dewsbury	53,411	288	198	21.6	14.9	—	6	1	2	4	—	—	97	—
Sheffield	455,793	3,221	1,536	28.3	13.5	—	91	3	7	16	5	25	92	1.0
Rotherham	62,711	481	222	30.8	14.2	—	12	—	1	1	5	6	91	1.4
York	82,407	471	246	22.9	12.0	—	—	2	2	9	—	4	76	—
Hull	278,968	2,075	954	29.8	13.7	—	37	3	3	41	3	16	97	0.7
Middlesbrough	105,124	855	509	32.6	19.4	—	23	2	7	27	1	15	125	—
Stockton-on-Tees	52,175	414	207	31.8	15.9	—	17	2	1	6	—	—	99	1.0
West Hartlepool	63,965	510	239	32.0	15.0	—	—	—	2	7	—	4	116	1.7
Sunderland	151,289	1,237	616	32.8	16.3	—	28	3	4	23	1	7	104	1.9
South Shields	108,844	840	438	31.0	16.1	—	31	—	—	4	—	5	110	2.5
Gateshead	117,104	945	437	32.4	15.0	—	29	—	9	7	—	2	104	7.1
Newcastle-on-Tyne	267,162	1,851	1,109	27.8	16.6	—	48	3	5	48	2	8	114	0.6
Tynemouth	59,008	434	237	29.5	16.1	—	1	—	—	6	1	3	90	2.1
Newport (Mon.)	84,111	549	244	26.2	11.6	—	8	—	3	1	1	1	84	0.8
Cardiff	182,729	1,169	547	25.7	12.0	—	1	4	7	9	1	11	81	—
Rhondda	153,775	1,374	523	35.8	13.6	—	61	3	5	2	4	17	116	0.6
Merthyr Tydfil	81,293	695	320	34.3	15.8	—	7	1	4	2	1	11	122	0.3
Swansea	115,176	819	436	28.5	15.2	—	15	—	8	3	—	5	106	0.7

NOTE.—The publication of the aggregate deaths from the principal infectious diseases and of the rates of mortality therefrom has been discontinued in the Registrar-General's weekly return; these two columns are therefore omitted from the above table.

in Newcastle-on-Tyne, 0.78 in Blackburn, 0.89 in Warrington, and 1.03 in Middlesbrough. The 148 deaths referred to enteric fever were equal to a rate of 0.04 per 1,000; in London the death-rate from this disease was only 0.01 per 1,000, while among the seventy-six other large towns the highest rates were 0.11 in Reading, in Stockport, and in Bolton, 0.12 in Halifax, 0.18 in Wigan, 0.21 in Preston, 0.29 in Devonport, and 0.32 in Rotherham. The 836 deaths from diarrhoea and enteritis (among children under 2 years of age) were equal to an annual rate of 0.21 per 1,000; in London the mortality from this cause was equal to a rate of 0.19 per 1,000; among the seventy-six other large towns the rate averaged 0.22, and ranged upwards to 0.40 in Wigan, 0.42 in Birmingham, 0.44 in Rhondda, 0.47 in Liverpool, 0.54 in Merthyr Tydfil, 0.57 in Middlesbrough, and 0.64 in West Bromwich. The 2 deaths from small-pox belonged respectively to London and Bootle.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 96 per 1,000 last quarter, against 100, 101, and 96 in the corresponding quarters of the three preceding years. In London the rate of infant mortality during the quarter under notice was 89 per 1,000, while it averaged 99 in the seventy-six other large towns. and ranged from 47 in Reading, 55 in Bournemouth, 60 in Brighton, 61 in Burton-on-Trent, and 67 in Hornsey and in Wallasey, to 122 in Merthyr Tydfil, 125 in Middlesbrough, 138 in Bury, 141 in Stoke-on-Trent, 144 in Burnley, and 145 in Blackburn.

The causes of 449, or 0.8 per cent., of the deaths in the seventy-seven towns last quarter were not certified either by a registered medical practitioner or by a coroner. The highest proportions per cent. of uncertified deaths were 3.2 in Burnley, 3.3 in Birmingham, 4.0 in Warrington, 4.3 in Barrow-in-Furness, 5.8 in Bootle, and 7.1 in Gateshead.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 7,072 births and 5,770 deaths were registered during the week ending Saturday last, August 12th. The annual rate of mortality in these towns, which had been 12.1, 13.6, and 15.9 per 1,000 in the three preceding weeks, further rose to 18.6 per 1,000 in the week under notice. In London the death-rate was equal to 18.7, against 11.4, 13.7, and 15.5 per 1,000 in the three preceding weeks. Among the seventy-six other large towns the death-rates last week ranged from 7.3 in Barrow-in-Furness, 8.0 in Stockton-on-Tees, 8.9 in King's Norton, 9.2 in Bournemouth, and 9.5 in York to 26.4 in Aston Manor, 28.0 in Stoke-on-Trent and in St. Helens, 29.7 in West Bromwich, and 38.1 in Dewsbury. Measles caused a death-rate of 1.6 in Wolverhampton, and diarrhoea and enteritis (of children under 2 years of age) of 11.7 in Wigan and in Dewsbury, 12.2 in West Bromwich, 12.4 in West Ham, 13.1 in Stoke-on-Trent, 14.0 in St. Helens, and 16.0 in Aston Manor. The mortality from the remaining epidemic diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 5,770 deaths registered in the seventy-seven towns, the causes of 26, or 0.5 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Birmingham, 4 in Liverpool, and 2 in Grimsby, The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,358, 1,412, and 1,433 at the end of the three preceding weeks, further rose to 1,442 at the end of the week under notice; 159 new cases were admitted during the week against 199, 209, and 191 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the principal Scottish towns 793 births and 471 deaths were registered during the week ending Saturday, August 12th. The annual rate of mortality in these towns, which had been 14.9 and 13.8 per 1,000 in the two preceding weeks, rose to 14.4 in the week under notice, but was 4.2 per 1,000 below the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates last week ranged from 12.2 in Edinburgh and 12.5 in Aberdeen to 16.0 in Perth and 21.5 in Greenock. The mortality from the principal epidemic diseases averaged 3.0 per 1 000, being highest in Glasgow and Greenock. The 229 deaths from all causes registered in Glasgow included 1 from enteric fever, 4 from measles, 1 from scarlet fever, 5 from whooping-cough, 2 from diphtheria, and 42 (of children under 2 years of age) from diarrhoea and enteritis. Four deaths from infantile diarrhoea were recorded in Edinburgh and 6 in Greenock; 3 deaths from measles in Aberdeen and 3 in Leith; 3 deaths from whooping-cough in Paisley; and 1 death from small-pox in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 5th, 594 births and 371 deaths were registered in the twenty-two principal urban districts of Ireland, as against 654 births and 362 deaths in the preceding period. The annual death-rate in these districts, which had been 16.7, 16.8, and 16.4 per 1,000 in the three preceding weeks, rose to 16.8 per 1,000 in the week under notice, this figure being 0.9 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 18.9 and 16.6 respectively, those in other districts ranging from 6.9 in Armagh and 7.9 in Galway to 21.4 in Lisburn and 22.9 in Newtownards, while Cork stood at 15.6, Londonderry at 19.2, Limerick at 12.2, and Waterford at 17.1. The zymotic death-rate in the twenty-two districts averaged 3.8 per 1,000 as against 3.9 in the preceding week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Staff Surgeon H. R. H. Denny to the *Carnarvon*, August 9th; Staff Surgeon E. Folliott to the *Amethyst*, on recommissioning, undated; Surgeon J. G. Dawson, M.B., to the *Devonshire*, August 9th; Surgeon A. Scott, M.B., to the *Andromeda*, August 9th; Surgeon C. F. Willes to the *Glory*, August 9th; Surgeon G. J. Carr to the *Albion*, August 9th.

ARMY MEDICAL SERVICE.

Royal Army Medical Corps.

Majors R. J. D. Hall, C. E. G. Stalkartt, M.D., C. J. Healy, M.B., and T. J. Lenehan, M.B., are placed on retired pay, dated July 28th. Major Hall was appointed Surgeon-Captain, July 28th, 1896; and Major, July 28th, 1898. Majors Stalkartt, Healy, and Lenehan were appointed Surgeon-Captain, July 28th, 1891, and Major, July 28th, 1893. Their war records include: Major Stalkartt—South African war, 1900, including actions at Paardeberg and Karee Siding (Queen's medal with two clasps). Major Healy—North-West Frontier of India campaign in 1897–8 (medal with clasp); Tirah Expeditionary Force, 1897–8 (clasp); South African war, 1901–2 (Queen's medal with three clasps).

Major F. J. Wade-Brown also retires on retired pay, July 29th. Appointed Surgeon-Captain, July 28th, 1891, he became Major, July 28th, 1903. He was in the South African war in 1899–1902, being present in operations in Orange River and Cape Colonies (Queen's medal with two clasps and King's medal with two clasps).

The following Lieutenants are confirmed in their rank: C. M. Finny, M.B., J. D. Kidd, M.B., W. S. R. Steven, M.B., Gordon Wilson, M.B., E. G. S. Cane, F. A. Robinson, M.B., W. A. Frost, M.B., Douglas Reynolds, M.B., C. D. K. Seaver, W. T. Graham, M.B., Walter Bisset, M.B., W. L. E. Fretz, M.B., Patrick Hayes, M.B. They were appointed on probation, January 27th, 1911.

Captain F. J. Stuart, M.B., who is serving in India, is recognized as Specialist in the Prevention of Disease, and is appointed to the charge of the Brigade Laboratory at Fyzabad, from May 22nd.

Captain G. F. Dawson, M.B., also serving in India, is appointed Specialist in Dermatology, from May 17th.

Lieutenant-Colonel G. W. Brazier-Creagh, C.M.G., retires on retired pay, August 2nd. He entered the service as Surgeon, July 30th, 1881; became Surgeon-Major, July 30th, 1893; and Lieutenant-Colonel, July 30th, 1901. He served in the South African war in 1899–1902, and was present at the relief of Ladysmith, in the actions of Colenso, Spion Kop, Vaal Kranz, the Tugela Heights, and Pieters Hill; he was also in operations in the Transvaal, in Natal (including the action at Laing's Nek), in the Orange River Colony, and on the Zululand Frontier of Natal; he was several times mentioned in dispatches, appointed a Companion of the Order of St. Michael and St. George, and granted the Queen's medal with six clasps and the King's medal with two clasps.

Lieutenant-Colonel Daniel Hennessy, M.D., also retires on retired pay, August 2nd. His commissions were thus dated: Surgeon-Captain, July 28th, 1886; Major, July 28th, 1898; and Lieutenant-Colonel, July 28th, 1906. He took part in the operations in Zululand in 1888.

Major B. H. Scott is promoted to be Lieutenant-Colonel, vice J. R. Forrest, retired, June 21st. Lieutenant-Colonel Scott entered as Surgeon-Captain, February 5th, 1887, and was made Major, February 5th, 1899. He was present with the Chitral Relief Force in 1895 (medal with clasp), and with the Karene expedition during the operations in Sierra Leone in 1898–9, when he was severely wounded (medal with clasp).

Brevet Lieutenant-Colonel O. R. A. Julian, C.M.G., also becomes Lieutenant-Colonel, vice B. H. Scott, supernumerary to the establishment, June 21st. Lieutenant-Colonel Julian's commissions are contemporaneous with those of Lieutenant-Colonel Scott. In 1899–1902, during the South African war, he was present in operations in Natal (actions at Talana and Lombard's Kop), in the defence of Ladysmith, in operations in the Transvaal, again in Natal (action at Laing's Nek), and again in the Transvaal (actions at Belfast and Lydenberg); he was mentioned in dispatches, nominated C.M.G., and received the Queen's medal with four clasps and the King's medal with two clasps. He was afterwards in operations in the Zakka Khel country, on the North-West Frontier of India, and was present in engagements at Matta and Kargha; he was mentioned in dispatches, awarded the Brevet of Lieutenant-Colonel, and received a medal with clasp.

Major E. A. Burnside is also promoted to be Lieutenant-Colonel, vice H. L. E. White, retired, July 3rd. Lieutenant-Colonel Burnside's previous commissions also bear date: Surgeon-Captain, February 5th, 1887, and Major, February 5th, 1899. He served in the South African war in 1899–1902, and was in operations in Natal, including the actions at Elandslaagte, Rietfontein, and Lombard's Kop, at the defence of Ladysmith, and in subsequent operations in Natal, the Transvaal, and Orange River Colony; he has received the Queen's medal with four clasps and the King's medal with two clasps.

The following Captains are promoted to be Majors, dated July 27th: W. A. Woodside, L. F. F. Winslow, O. W. A. Elsner, A. A. Seeds, M.D., H. S. Anderson, L. N. LLoyd, D.S.O., T. C. MacKenzie, D.S.O., E. P. Connolly, J. H. R. Bond, and H. H. Norman. Their previous commissions are dated: Lieutenant, July 27th, 1899; Captain July 27th, 1902. All these officers served in various phases of th South African war of 1899–1902, receiving awards as follows: Major Woodside, the Queen's medal with four clasps and the King's medal with two clasps; Major Winslow, the Queen's medal with three clasps; Major Elsner, the Queen's medal with five clasps and the King's medal with two clasps; Major Seeds, the Queen's medal with three clasps and the King's medal with clasp; Major Anderson, the Queen's medal with four clasps and the King's medal with two clasps; Major LLoyd, Queen's medal with seven clasps and Distinguished Service Order; Major MacKenzie, Queen's medal with two clasps, King's medal with two clasps, and Distinguished Service Order; Major Connolly, the Queen's medal with five clasps and the King's medal with two clasps; Major Bond, the Queen's medal with six clasps and the King's medal with two clasps; Major Norman, the Queen's medal with three clasps and the King's medal with two clasps. In addition to the above, Major MacKenzie served in the Sudan in 1908, receiving a medal with clasp, and Major Connolly took part in the Thibet Expedition in 1903–4, receiving a medal with clasp.

The undermentioned Majors to be Lieutenant-Colonels, dated July 29th: Thomas McCulloch, M.B., vice Sir J. Fayrer, Bart., retired; John Ritchie, M.B., vice T. H. F. Clarkson, retired; Stuart Macdonald, M.B., vice D. M. Saunders, retired; M. P. C. Holt, D.S.O., vice H. W. Austin, retired. Their previous commissions, which were simultaneous, are thus dated: Surgeon-Captain, February 5th, 1887; Major, February 5th, 1899. Their war records include: Lieutenant-Colonel McCulloch—China, 1900 (mentioned in dispatches, medal). Lieutenant-Colonel Ritchie—operations in Sierra Leone and on the Gold Coast, West Africa, in 1898–9 (medal with two clasps), and numerous operations and engagements during the South African war, 1900–2 (Queen's medal with four clasps and King's medal with two clasps). Lieutenant-Colonel Macdonald—with Tirah Expeditionary Field Force, North-West Frontier of India, 1897–8 (medal with two clasps). Lieutenant-Colonel Holt—South African war, 1900–2, including the defence of Ladysmith and various actions (mentioned in dispatches, appointed D.S.O., and granted the Queen's medal with three clasps and the King's medal with two clasps).

Majors W. L. Gray, M.B., and E. G. Browne are also promoted to be Lieutenant-Colonels, August 2nd, the former vice G. W. Brazier-Creagh, retired, the latter vice D. Hennessy, retired. Their earlier commissions are also dated: Surgeon-Captain, February 5th, 1887; Major, February 5th, 1899. Both these officers were with the Chitral Relief Force in 1895, receiving a medal with clasp. Lieutenant-Colonel Gray was also in the South African war in 1900–1, was mentioned in dispatches, and received the Queen's medal with three clasps.

Lieutenant (on probation) H. G. Monteith, from the Seconded List,

is restored to the establishment, July 29th, on which day he was appointed on probation.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL W. B. BANNERMAN is appointed Brevet Colonel, from January 1st, 1911. He served in the Burmese campaign in 1895-9, receiving a medal with two clasps.

Lieutenant-Colonel H. F. CLEVELAND is also appointed Brevet Colonel. He was in the campaign on the North-West Frontier of India in 1897-8 (medal with two clasps), and in the China war in 1900 (medal).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

CADET CORPORAL CHARLES C. JONES, M.B., from the University of Birmingham Contingent, Officers' Training Corps, to be Lieutenant (on probation), July 22nd.

TERRITORIAL FORCE.

INFANTRY.

Fourth Battalion Loyal North Lancashire Regiment.—Surgeon-Captain J. W. RIGBY resigns his commission, retaining his rank and uniform, August 12th.

ROYAL ARMY MEDICAL CORPS.

First South-Western Mounted Brigade Field Ambulance.—Major G. R. SWINHOE, whose resignation was announced in the *London Gazette* of August 10th, 1909, is permitted to retain his rank and uniform.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BEDFORD COUNTY HOSPITAL.—House-Physician. Salary £80 per annum.

BETHLEM HOSPITAL, Lambeth Road, S.E. — Locumtenent, Honorarium, 4 guineas a week.

BETHNAL GREEN INFIRMARY. — Assistant Medical Officer. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £70 per annum.

BRISTOL GENERAL HOSPITAL.—House-Physician. Salary, £60 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Salary to commence, £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—House-Surgeon. Salary, £90 per annum.

CARLISLE: CUMBERLAND INFIRMARY. — Resident Medical Officer (male), to act as House-Physician and House-Surgeon for six months each. Salary at the rate of £80 and £100 per annum respectively.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary, £80 per annum each.

CROYDON GENERAL HOSPITAL.—(1) Senior House-Surgeon; (2) Junior House-Surgeon. Salary, £105 and £60 per annum respectively.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

ECCLES AND PATRICROFT HOSPITAL.—House-Surgeon. Salary, £60 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—(1) House-Surgeon; salary, £100 per annum. (2) Assistant House-Surgeon; salary, £75 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—(1) Senior House-Surgeon (male); salary, £120 per annum. (2) Third House-Surgeon (male); salary, £80 per annum,

HARTLEPOOLS HOSPITAL. — House-Surgeon. Salary, £100 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.—Resident Medical Officer. Salary at the rate of £60 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Three House-Surgeons. (2) Two House-Physicians. Salary at the rate of £60 per annum.

LIVERPOOL UNIVERSITY.—Chair of Pathology. Salary not less than £600 per annum.

LONDON UNIVERSITY.—Graham Scholarship in Pathology. Value, £200 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon. Salary, £100 per annum,

MANCHESTER: ANCOATS HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

MANCHESTER CHILDREN'S HOSPITAL.—(1) Visiting Surgeon; salary, £100 per annum. (2) Male Resident Medical Officer; salary for first six months £40, and for second six months £50.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary, £60 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £80 per annum.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth. — Junior Assistant Medical Officer (male). Salary, £140 per annum, rising to £160.

NEWCASTLE-UPON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary, £160 per annum, increasing to £180.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon (male). Salary, £90 per annum, increasing to £100.

NOTTINGHAM GENERAL DISPENSARY. — Assistant Resident Surgeon (male). Salary, £160 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL. Casualty House-Surgeon. Salary, £80 per annum.

PRESCOT UNION.—Resident Assistant Medical Officer. Salary, £120 per annum.

PRESTON ROYAL INFIRMARY.—Junior House Surgeon (male). Salary at the rate of £60 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum, rising to £60 on appointment as Senior.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, N.E.—House-Surgeon. Salary at the rate of £80 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £125 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, Covent Garden, W.C.—Junior House-Surgeon. Salary at the rate of £50 per annum.

SHEFFIELD UNIVERSITY.—Junior Demonstrator in Pathology. Salary, £150 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £100 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £90 per annum.

SUNDERLAND: ROYAL INFIRMARY.—Male House-Physician. Salary at the rate of £80 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House Physicians. (2) Three House-Surgeons.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Senior House-Surgeon. Salary, £120 per annum.

APPOINTMENTS.

EMRYS-JONES, Franklin, B.A.Cantab., L.M.S.S.A., *X*-ray Expert to the Coventry School Clinic.

EVANS, T., M.R.C.S., L.R.C.P., Medical Officer of Health of the Borough of Swansea.

HALL-EDWARDS, John, L.R.C.P.Edin., L.M., *X*-ray Expert to the Coventry School Clinic.

HALPIN, R. Edgar, L.D.S., Dentist to the Coventry School Clinic.

HOWARD, T., M.B., B.Ch.R.U.I., Medical Officer of Health of the Weymouth Port Sanitary Authority.

MACLENNAN, Alex., M.B., C M., Consulting Surgeon to the East Coast Railway Companies for the Glasgow District.

NEWSHOLME, H. P., M.B.Oxon., D.P.H., M.R.C.P., B.Sc.Lond., Resident Medical Officer to the Brighton Borough Fever Hospital.

ROBINSON, J. E., M.B., B.S.Lond., Medical Officer of Health of the County of Dorset.

WHITTINGTON, T. H., M.R.C.S., L.R.C.P., Second Resident Assistant Medical Officer of the St. Marylebone Union Infirmary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

BERNSTEIN.—On August 12th, at 43, Queen Anne Street, W., to Dr. and Mrs. Julius Bernstein—a daughter.

MADDISON.—On August 12th, at 123, Stamford Hill, London, N., the wife of T. W. Maddison, M.B., M.R.C.S., of a daughter.

DEATH.

RUSSELL.—On August 10th, at the Lawn, Lincoln, Agnes Catherine, wife of Dr. A. P. Russell.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Clinical Pathology, 12.15 p.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, Demonstration, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Lectures at 5 p.m., Tuesday, Wednesday, and Thursday.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. WILLIAM GREEN AND SONS, of Edinburgh, announce the publication of a volume, entitled *A Quinquennium of Medicine and Surgery, 1906 to 1911*, intended to serve as a guide to such new methods of treatment introduced during the five years as are likely to remain as permanent additions to our resources for treating disease. The volume, which has been edited by Dr. J. W. Ballantyne, contains 1,252 articles, arranged in alphabetical order. All the more important have been written by specialists, and the editor's effort has been to include every new medical term originated during the period.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 26TH, 1911.

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Meetings of Branches & Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BALUCHISTAN BRANCH.

AT a meeting on June 30th, Dr. H. T. HOLLAND intimated that owing to pressure of other duties it would be necessary for him to resign the Honorary Secretaryship of the Branch. In consequence it was decided to combine the offices of Honorary Treasurer and Honorary Secretary, and on the motion of Major BLISS, R.A.M.C., seconded by Captain SPONG, R.A.M.C., the joint office was filled by the appointment of Captain R. A. Chambers, I.M.S.

CAPE OF GOOD HOPE—EASTERN PROVINCE BRANCH.

AN ordinary meeting of the Branch was held on July 7th, Dr. E. G. DRU DRURY, President, in the chair.

Minutes.—The minutes of the meeting on April 28th having been read and confirmed, letters of apology for absence were read from Drs. G. E. FitzGerald and W. E. Reid, as well as communications from the Kimberley Branch and the New Zealand Branch.

Colonial Medical Council.—The minutes of the Colonial Medical Council were laid on the table, and Dr. A. LEA read a paper entitled "Some Cases Illustrating the Relation of Ophthalmology to Medicine and the Assistance Afforded by an Examination of the Eyes to Diagnosis." All joined in the subsequent discussion. Dr. Lea received a unanimous vote of thanks, and on the suggestion of the PRESIDENT agreed to send his paper to the Editor of the *South African Record*, with a view to its publication.

CONNAUGHT BRANCH:
MID-CONNAUGHT DIVISION.

A MEETING was held at Claremorris on July 18th. Present, Drs. C. J. O'L. MAGUIRE (Chairman), J. A. Hanrahan, M. B. Costello, R. J. Kelly, A. Birmingham, E. C. Mulligan, and R. Bodkin Mahon (Honorary Secretary).

National Insurance Bill.—Letters and telegrams of apology for non-attendance having been read, the resolutions adopted by the mass meeting of Irish doctors in Dublin on June 30th were adopted after discussion. A rider was added qualifying Resolution IV, to the effect that the meeting pledged itself to resist the bill if unsatisfactory to the profession, on condition that the whole profession in Ireland was actively organized to act in concert.

MIDLAND BRANCH:
BOSTON AND SPALDING DIVISION.

A SPECIAL meeting of the medical men residing in the above Division was held at the White Hart Hotel, Boston, on July 19th at 4.15 p.m. Present: Dr. SOUTH (in the chair), Drs. Allan, Barker, Biggs, Collins, Husband, Jacobsen, Mason, Miller, Morris, Pilcher, Reckitt, Rendall, Spilsbury, Tate, Fred. Walker, and Wilson.

Confirmation of Minutes.—The minutes were first read, confirmed, and signed.

Apologies for Non-attendance.—Regrets at non-attendance were received from many members and non-members.

National Insurance Bill.—With this was taken No. 4 of Agenda, Instructions to Representative.

Recommendations of Council.—Dr. MILLER proposed and Dr. SPILSBURY seconded that these be adopted. Carried unanimously.

Questions to Divisions.—Should medical benefits take the form of a contribution from Insurance Fund to cost of medical attendance, etc.? This was fully discussed and the Secretary was instructed to write to the Representative and ask him how the money would be paid in the event of there being no medical attendance.

£2 a Week Limit.—The Secretary was requested to desire the Representative to endeavour to get this limit lowered for the Boston and Spalding district. The following resolution was proposed by Dr. WILSON and seconded by Dr. RENDALL:

> That our Representative be asked to inquire whether for our Divisional area a lower wage limit than £2 a week—say £1 10s.—could be arranged.

(This is asked because agricultural workers live under cheaper conditions than the man earning £2 a week in the town.) Carried unanimously.

Formation of Local Defence Fund.—After some discussion Dr. HUSBAND proposed and Dr. WILSON seconded that no local defence fund be formed, but contribution be made to the Central Defence Fund. Carried unanimously. Dr. MILLER proposed and Dr. COLLINS seconded that the Secretary write to each medical man in the Division asking him to subscribe £1 1s. to the Central Fund and guarantee up to £5 5s. Carried unanimously. Each medical man present promised to subscribe £1 1s. and guarantee up to £5 5s.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, 28th, and 29th, 1911.

EXHIBITION

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[THIRD NOTICE.]

BURROUGHS WELLCOME AND COMPANY (Snow Hill Buildings, London, E.C.). The operations of this firm cover so wide a field that it is never possible to give a satisfactory account of its exhibit within the short space at our disposal. Among those operations is the growing of medicinal plants at the "Wellcome" Materia Medica Farm, and a fine collection of these was a prominent feature on the stall. The farm is under the superintendence of experts, whose object is to select and maintain the strains of each plant best suited for medicinal purposes. Several examples of the work done in the research laboratories of the firm were also on view, among them being *Epinine*, a synthetic substance, chemically resembling the active principle of the suprarenal gland except for the absence of the alcoholic hydroxyl group of the latter, and resembling it in physiological action except for the fact that the rise of blood pressure is more prolonged. This, and the fact that it is more stable, seem to be the principal reasons for putting it on the market. It was shown as an alcoholic 1 per cent. solution enclosed in 10 c.cm. and 25 c.cm. bottles, and also in hermetically sealed "Vaporole" containers. Another product of the same department was *Lodal*, the salt prepared by the oxidation of laudanosine, which in its physiological action appears to be related to hydrastinine and cotarnine. It is stated to have been used with advantage in cases of uterine haemorrhage. Other products having a special action on the uterus were Ernutin, Ergotoxin, and Tyramine. The first name appears to represent all the active therapeutic principles of Ergot, and the other two each a different alkaloid derived from it, both possessed of a power of raising blood pressure and stimulating uterine contraction. Taken together, they illustrate the modern preference for standardized preparations of active principles in place of variable extracts. The various products of animal origin shown both in tabloid and vaporole form included a pituitary extract prepared from the posterior lobe. The firm also showed a series of serums, vaccines, and tuberculins prepared under the direct supervision of the bacteriologists engaged in the Wellcome Physiological Research Laboratories. Among them we noted a *Concentrated diphtheria antitoxin* which has been recently introduced. It contains as many as 1,000 antitoxin units in 1 c.cm. or less of fluid. This concentration is stated to be effected by the introduction of a new technique which utilizes salt precipitation and eliminates inert proteins. The very convenient tabloid and soloid equipments of the firm for use on special occasions are already well known; they included the tabloid medicine chest, the physician's emergency case, soloid blood test and bacteriological cases, and several other outfits well adapted for the requirements of the specialist as well as of the general practitioner and also for use during expeditions and lengthy journeys.

G. H. ZEAL (82, Turnbull Street, London, E.C.). This firm of thermometer makers has put in an appearance at all exhibitions of late years, so, despite the fact that it does its work on a wholesale basis, its name is well known to most medical practitioners. The clinical thermometers which it makes are of all forms, and suited to all tastes, special attention being paid in all of them to legibility of scale, rapidity of registration, and permanency of lettering. It is, perhaps, not generally known that the scales of the cheaper kind of thermometers to be found on the market tend to become inaccurate, owing to contraction of the glass; all the thermometers of this firm, whatever their price, are made from what is known as "normal" glass, and are, it is claimed, free from the defect in question. One of the most attractive of its products is the *Repello Clinical Thermometer*, in which the trouble and risk of getting down the mercury into the bulb is entirely eliminated. At its upper end the tube has a flattened bulb made of elastic glass, and hence the mercury can be reset simply by finger pressure. The instrument looks fragile, but is really no more readily broken than is an ordinary thermometer. One particular make of it has a duplex bulb, which renders it highly sensitive and an unusually rapid recorder. Another good specimen is the *Broad Index Thermometer*. Instead of a magnifying front it has an extra broad thread of mercury, and is very easy to read. It is also flattened at the sides, and thus will not roll off the table when laid down incautiously. A further favourite is the *Aseptic Clinical Thermometer*, which fits like a stopper into a scaled outer glass case. Its convenience lies in the fact that a temperature can be taken without the patient knowing the degree recorded; while the thermometer itself, having a perfectly smooth exterior, can be maintained in a truly aseptic condition by keeping the scaled case half filled with some antiseptic fluid. We were also shown a model of quite a new departure in the way of thermometer cases; it is one which, when ready for sale, will provide for every thermometer very much the same advantages as the Repello.

KEEN, ROBINSON, AND CO. (Denmark Street, St. George's-in-the-East, London, E.). The exhibits of this firm were Colman's Mustard, Robinson's Patent Groats, and Robinson's Patent Barley, all three being products which may be regarded as classics among special food preparations. Taken together, they have been familiar by name or otherwise to many generations, Colman's Mustard, in particular, having been prepared under the same name, we believe, for upwards of 150 years. It was shown in three guises—as ordinary mustard powder, as *Colman's Sinapisms*, and as *Medical Mustard Bran*. Each of them is an excellent preparation, constant in strength and easy to use. The special object of the bran is for use as a kind of poultice in lumbago or any condition in which moist warmth and prolonged but very mild counter-irritation is required. It fulfils these aims very well, taking up large quantities of water and being both cleanly and comfortable. As for the two other mustard preparations, nothing in the progress of science has undermined the wisdom of their use on suitable occasions, whatever may be said of other ancient remedies of the domestic order. The use of mustard, in short, as a counter-irritant and reflex alterative of the circulation in deep-seated organs seems to be well founded, and there is much, too, to be said in favour of that old-fashioned way of dealing with a chill which consisted in immersing the feet in a tub of hot water and mustard, swallowing some pleasant-flavoured hot posset, and jumping into a well-warmed bed. As for the two cereal preparations, Robinson's Patent Barley is a flour prepared, we are informed, from the finest Scottish barley. It offers, as is well known, a very suitable means of preparing barley water, a fluid which, when flavoured with lemon juice or other agent, has long been used in the sick room, and also by many persons as a substitute for plain water at meals. It may also be used as a diluent of milk for babies and young people, and during the recent hot weather was stated to have jumped into great popularity at the clubs. It seems as if it must be very economical to use, for according to Dr. Bostock Hill, the analyst to the county in which Coventry lies, the quantity required is only about one-eighth of that necessary when ordinary pearl barley is employed. The Patent Groats have also long since become familiar. They are derived from Scottish-grown oats, and make most palatable gruel with the help of milk. Such gruel is a form of food which, in dealing with children after weaning, with convalescents, and with nursing mothers, might well be used with greater frequency than has been the case of late years.

CEREBOS, LIMITED (3, Maiden Lane, London, E.C.). There are a good many differences between Cerebos and other table salts, but one of them only becomes obvious upon chemical analysis. This is the presence of phosphates

which are intentionally added in sufficient quantity to represent about 4 per cent. of the whole. The object of their addition is double; they help to keep the finished product in a dry condition, and they are regarded by the firm as dietetically useful, inasmuch as they replace the phosphates which are initially present in cereals and many other food constituents, but which are destroyed in the course of their preparation for consumption. The point is of interest, as it would seem to indicate that the firm foresaw a good many years ago one at least of the various grounds on which "refined" flours have recently been attacked, and the use of "standard" flour advocated. It is also the presence of phosphates and their presumed value in the maintenance of nerve tissues that seemingly account for the firm's choice of a name for its product. In any case there is no doubt that the use of *Cerebos salt* offers considerable advantages, as it is never lumpy and remarkably clean, these being the two main points at which the firm seems to aim. In the interest of both it has long advised the use of the "salt pourers," which have become almost identified with this particular salt. The head quarters of the company are in the county of Durham, close to the coast, the brine from which the sodium chloride constituent of Cerebros salt is derived, being drawn from borings 1,000 ft. deep. The whole process of evaporation, crystallization, crushing, addition of phosphates, weighing, and packing is conducted, we were informed, by machinery which ensures that the salt is never touched by hand or otherwise exposed to contamination. Actuality was given to the exhibit by some specimens of the rock salt strata reached by the company's boring tubes, of the brine lying in its interstices, and of the salt itself in different stage of manufacture from large crystals to the very fine powder ready for insertion into a ourer.]

Fairchild Brothers and Foster (Bath House, Holborn Viaduct). This firm, which has made its reputation by its skill in the productions of aids to digestion, had a comprehensive display of preparations of this character, some being old friends and others new comers. Among the latter was *Hormonadin*, which is understood to be a glycolytic extract of pancreas containing all its soluble principles but free from the enzymes, trypsin, amylopsin, and lipase. It is a sterile fluid containing 25 per cent. of glycerine, and free from alcohol, which aims at providing the internal secretion of the pancreas for therapeutic use in certain disorders of metabolism attributed to faulty pancreas action. Also comparatively new was the preparation known as *Holadin*, which, we were informed, is an extract of the pancreas representing all its constituents, and believed to be specially strong in amylolytic and lipolytic enzymes. The same preparation also figured as *Holadin Bile Salts*, the latter being represented by the taurocholate and glycocholate of soda. They are put up in capsules, of which one is to be taken three or four hours after meals. Among the older preparations we noted pepsencia, zymine, diazyme, peptogenic milk powder, and ecithin both as a glycerole and as an elixir. Of these, *Zymine* is a white powder representing all the active principles of the pancreas gland, diazyme being an extract of the same order, but in fluid form. As for the *Peptogenic Milk Powder*, this has long since found favour as a means of converting cow's milk into a solution corresponding in chemical constitution to human milk. Also worth noting seemed *Enzymol*, an external application for the dissolution of sloughs and granulations by digestion, and *Pinemose*, a ready prepared rectal nutrient.

Jeyes' Sanitary Compound Company (64, Cannon Street, London, E.C.). The stall of this firm was entirely taken up by preparations containing Cyllin, now a well known antiseptic, which originated, we believe, in a suggestion thrown out by Sir Lauder Brunton in his Croonian lecture on the relation between chemical structure and physiological action. The special claim made for it is that, in spite of its great bactericidal power, it is relatively non-toxic. Indeed, the firm guarantees that it is at least ten times less toxic than carbolic acid. As this disinfectant lends itself readily to a great number of different purposes, it was shown in numerous forms—as *Cyllin-medical*, which has a Rideal-Walker coefficient of 20; as a *Cyllin Liquid Soap* for use before operating; as *Cyllin Sanitary Powder*, guaranteed to have three times the bactericidal strength of the strongest carbolic acid powder commonly sold, and as an ordinary household disinfectant. It was also shown as a Cyllin Tooth Powder, in pastilles for use in sore throat, as an inhalant, and in perles for internal administration. Other forms in which it appeared were as a surgical soap, guaranteed, like the liquid soap, to be equal in power to 50 per cent. pure carbolic acid; as a grease-free lubricant for use during labour; as combined with lanolin for use in eczema, pruritus, and other skin disorders; and in combination with lint, wool, gauze, for dressing purposes. Also worth noting, perhaps, are Cyllinettes, these being ordinary sanitary towels impregnated with 5 per cent. cyllin. Samples of all these products and literature relating to their use and efficacy can be obtained on application by any medical man.

The Apollinaris Company (4, Stratford Place, London, W.). The most distinctly medicinal of the four exhibits of this company was its *Apenta* water, which is bottled from springs near Budapest. It contains a certain amount of lithium, but depends for its therapeutic value mainly on the contained sulphates of sodium and magnesium, the latter predominating. It is, in short, a typical Hungarian water of the *Bitterwasser* class. Its strong point is the uniformity of its constitution, and it has won high praise as an aperient water from several Continental authorities, such as Liebreich, Baccelli, Lancereaux of Paris, and Rosenstein of Leyden. The other exhibits were two forms of *Johannis* water and the water from which the company derives its name. Hitherto this has been esteemed mainly on the ground that as a well aërated and very pure water it is admirably suited for table purposes; but recently its claims to be regarded as an active member of the earthy alkaline class have been emphasized on the strength of some reports as to its properties submitted to the Prussian Government in connexion with the question of its admission to the rank of a spring of public utility under the German law of 1909. The water is bottled by the firm at the spring itself, and can be obtained both in glass and stone bottles. The larger glass bottles contain about 40 per cent. more than an ordinary siphon, so thus purchased the water is relatively very cheap. The stone bottles are especially suited for use where all the water is not expected to be drunk forthwith. Patent stoppers of a rather ingenious character are supplied with them, and enable the water of an opened bottle to be kept in a pleasant, sparkling condition throughout a long evening, even in an overheated room. The second water mentioned, *Johannis*, is a sparkling table water drawn from springs near Neiderselters, Rhenish Prussia. It is heavily charged with natural carbonic acid, and has a fresh, pleasant taste, and mixes well with wine and water. While well adapted for drinking purposes, it is believed to be specially suited to those who suffer from dyspepsia and gouty disorders. In order, however, to give it a definite therapeutic value the proprietors of the spring also bottle it under the name of *Johannis Lithia*, adding to each bottle a small quantity of lithium carbonate.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

North of England Branch: North Northumberland Division.—The annual social meeting will be held at Ford on Wednesday, August 30th. Members with their wives and friends will assemble at the Castle Gates at 2.30 p.m., when, by the kind permission of Lord Joicey, an inspection of this historic border fortress will be made, after which the school, containing the beautiful frescoes painted by the late Marchioness of Waterford, will be visited, and if time permits the church also. Tea will be served at 5 p.m. Members intending to be present will please communicate with me (giving the number of invited guests) not later than August 27th, to enable arrangements to be made.—C. Clark-Burman, Honorary Secretary.

National Insurance.

CORRESPONDENCE.

The Income Limit: Dr. Addison's Amendment.

Dr. Major Greenwood writes: I cannot agree with Dr. Taylor's panegyric on the above amendment. Without Mr. Cecil Harmsworth's addition it may be readily admitted it was a considerable improvement to the bill. But what good it contained has been more or less neutralized by that addition, and the present state of affairs strongly supports the view, almost unanimously held by the profession, that an income limit of £2 a week should be fixed by the bill.

I do not consider Dr. Taylor is accurate in stating that the Special Representative Meeting in London did not insist that this income limit should be in the bill. M. 82 of the minutes of that meeting distinctly states as the first item of the policy of the Association, that there should be a fixed income limit of £2 a week. Items 2 and 3 have already been fixed in the bill. I was present at that meeting, and clearly understood that both the "income limit" and "choice of doctor" was to be fixed in the bill, and still regard the former as the most important stipulation of the profession. No doubt this limit is useless in many parts of the country, but I contend that such a statutory fixing of the income limit of the medical beneficiaries would at least protect a large part of our present private practice, whereas, without it, nearly the whole is threatened.

In my opinion, the greater part of the profession regard this bill as an evil. Without discussing the goodness, or otherwise, of the principle on which it is based, this particular bill tends to do us more harm than good, and we would rather be without it. If it is a necessary evil, and there are public reasons for inflicting this evil upon us, it is not unnatural that we should ask to have the evil minimized, and this can best be effected by a statutory income limit. Already a statutory income limit of £160 per annum has been fixed, and its reduction from £160 to £100 a year is not a preposterous demand.

In the present state of public affairs it does not seem impossible that the bill may be dropped. The friendly societies are not likely to consent to some of the amendments already obtained by the profession, and it must not be forgotten that they, if they choose, can destroy the bill as effectually as we can. Under these circumstances the outlook is by no means certain, and it is quite within the chapter of accidents that the profession may not be compelled to take upon them a burden that, for the most part, they cordially detest.

Negotiations and Strikes.

Dr. Athelstane Nobbs (Putney) writes: The very recent strike of dockers, lightermen, carters, railway men, and their allies must have set the minds of our profession thinking, especially, I might say, with regard to the threatened *impasse* which might have occurred during the negotiations between our Executive and the Government in the matter of the Insurance Bill. That no *impasse* actually did occur was, I firmly believe, due to the fact that the principals concerned were highly educated men, and furthermore because the bill in question was, and is still, under consideration and has not yet been made statutory.

On various occasions our Association has been likened unto a trades union. As a matter of argument, it is readily conceivable that after the Insurance Bill has passed into law, which in all probability it will (even if considerably modified), our profession may be called upon to express its opinion, adversely possibly, on some matter of dispute. At present the question, fortunately, is only hypothetical and at most one of anticipation; but suppose that, to use the popular word, we "struck" now and refused our sanction to work with the Government or the friendly societies, or, in other words, to give our services to the public, no opprobrium could attach to us, for we are as yet in the strong position of being able to say that they, the public, had not been inconvenienced by our action, on the homely principle that one cannot miss what one has never had.

I only submit my humble but, as I conceive it, timely suggestion that whatever steps may be taken before the final agreement as between ourselves and the Government be signed, so to speak, no possible chance should ever be permitted of any one ever placing us in the same category—or pillory, for that matter—as that of those fellow-citizens of ours who by their action have alienated the sympathy of, and have inconvenienced, the great public, who, after all, is their employer. We as a profession are non-political, and therefore have no interest in the question as such; but from an ethical point of view it would, I am sure, be interesting to be in a position to ascertain what must be the feelings of the majority of the present Government at the action of the strikers—their constituents, probably, to a man. Let the deliberations, therefore, of our Association be directed to one end—namely, to a solid, unalterable, and unmistakable understanding, one not to be distorted by the Parliamentary lawyer or the penny-a-liner, one which will leave no flaw in our armament after the bill has become law, and therefore one which will preclude the possibility of any Cassius of a neighbour saying, "*Et tu, Brute!*"

Progressive Extension.

Dr. Henry M. Harrison (Dublin) writes: Can our profession, through the British Medical Association, get a guarantee from the State that the medical sections of the National Insurance Bill are not to be made "progressive," in the sense that more persons will be brought under the compulsory or optional sections of the scheme later on? It appears to me, and many of my profession in Ireland, that, even if the demands of the Association had been granted in full, that this Government—or, if not, certainly some future one—would be left at liberty to extend the scheme so as to embrace a much larger section of the public, and thus render our £2 income limit useless; and, moreover, that the harder we worked to make Mr. Lloyd George's scheme a success the more inducement there would be to the present or some future Government to extend it as above indicated. I would suggest that Mr. Lloyd George be asked to make a public statement dealing directly with this point. A system of payment for "work done," or the formation of a whole-time medical service would doubtless limit the desire of the Government on the one hand, and the public on the other hand, to extend the sick benefits to those in receipt of incomes enabling them to pay our very small fees; and the reasons why these two systems would do this deserves the serious consideration of those members of our profession who are in favour of the "capitation fee" system. Who is to attend an "urgent call" in the unavoidable and temporary absence of the patient's regular doctor; who is to pay the temporary man, and at what rate is he to be paid? Will not the new class of patients coming under the scheme, backed by the friendly societies, demand a limitation to the number of patients on a doctor's list "in order that adequate time may be given to the requirements of each insured person"? The onus of providing prompt attention to possible calls, whether urgent or otherwise, lies on the doctor under the "capitation fee" form of contract, and whenever this form of limitation is discussed there will be no ambiguity in the mind of the public or the local Health Committees as to the amount of work required by a given number of insured patients.

Mode of Remuneration.

Mr. H. Lonsdale Hands, L.M.S.S.A.Lond. (London, N.), writes: I have been carefully considering the various points with regard to this bill, and although theoretically it may be very interesting, I do not quite see how it can work practically. Now, if a secretary of a benefit club calls on me and offers me a club at, say, 4s. a year for each male member, he introduces into my practice a lot of new club patients, whose relations may also become my private patients, whereas, according to the proposed Act, it would be equivalent to a secretary asking me to take over a non-existing club to be composed of members who are already my private patients. There are besides innumerable other difficulties which space does not permit me to mention.

I think the whole problem would be solved by the State taking over the insurance, receiving the subscriptions, and paying the medical men according to the amount of work done, namely, under the £2 limit 2s. 6d. a visit and medicine and 1s. 6d. advice and medicine, and perhaps a little more for those receiving between £2 and £3. This plan would be satisfactory to the medical men, to the patients themselves, and I am certain that financially the State would not suffer.

Dr. E. A. Lermitte (Palmer's Green, N.) writes: The further consideration of the National Insurance Bill having been deferred till next October, it behoves us to inquire how we stand up to the present in relation to that bill.

The speech of the Chancellor, reported in the Supplement, gives us food for reflection. He states that the demands of the doctors have been met. I should like to inquire what authority he has for saying so. The first plank in the Association's policy was a £2 a week wage limit. This has not been granted, the only concession in this respect being that the income of those Post Office contributors who are not workers in receipt of weekly wages has been restricted to £160 a year.

Then the Chancellor tells us that one of the first advantages accruing from the bill will be the medical examination of "practically the whole nation." It is estimated that the number of persons who will be able to avail themselves of the scarcely-concealed charity of the medical profession under the bill is 15 millions. How, then, comes it that the remainder of the 48 millions are to be medically examined? This surely savours of a return to the original idea of insurance regardless of income, and it does not seem as if the Chancellor has got that idea out of his head. If all the nation is going to be medically examined to discover "how many hundreds or thousands of people there were who could not enter a doctor's consulting room without his knowing there was something wrong with them," pray, what is going to be paid for rejecting these enormous numbers from the elysium of the friendly societies?

Surely the profession is not going to be further stranded with the work of compiling all these statistics gratuitously!

Another concession granted is that the medical benefit is to be administered by the local Health Committees. But is not this the same thing as the friendly societies, since these bodies are to be composed of representatives of approved societes, "who ought to have the dominant and deciding and final voice in the way the money ought to be expended"?

The medical representation promised on these committees is too insignificant to merit notice.

A question that is very frequently asked is, "Is the Association going to accept these so-called concessions, or are our leaders going to stand by the undertaking we have all signed, and be content with nothing less?" An authoritative pronouncement on this point is absolutely essential to keep the ranks closed at this moment "if there is not to be the least suspicion of wavering or disunion," which "will spell irretrievable disaster."

Dr. E. B. Hazleton, (Sheffield), writes: The amendments by Dr. Addison and Mr. Cecil Harmsworth will in practice simply work out as follows: Supposing the capitation fee for any locality be 6s. a head, members of friendly societies, medical aid associations, etc., will draw this amount and then provide for their own medical attendance on the 4s. sweating contract system.

Old Tonbridge Boy writes: The fixing of the wage limit and the capitation grant are to be in the hands of the Local Health Committees, which means to any one who has had to deal with boards of guardians, etc., that the limit will be raised as high as possible and the grant will be as low as possible. Mr. Lloyd George scouted the idea of 8s. 6d. The Chancellor is using Napoleonic tactics and cutting us up in sections. The Association should insist that a maximum wage limit and a minimum capitation grant be inserted in the bill; if not we will form a trades union and call out not only the club doctors, but, as Dr. Brooks of Swansea so manfully proposes, the staffs of all the hospitals.

IRELAND.

Meeting of Dispensary Doctors.

A meeting of dispensary doctors in Tipperary was held on August 12th in Thurles. It was numerously attended, and letters of apology were read from many who were unavoidably absent. The Insurance Bill, in so far as it is likely to affect the future position of the Irish dispensary doctors, was discussed, and the following resolutions were unanimously adopted:

1. That we, the dispensary doctors of the county Tipperary, being also members of the British and Irish Medical Associations, are in complete agreement with the action of both the above Associations; but, in view of the changed situation caused by the amendment suggested by the Select Committee of the Irish party, we wish that careful consideration should be given to our position, our work, without further increase, being out of proportion to the remuneration received hitherto, and that we invite the Joint Committee of both the British and Irish Associations to take immediate steps to safeguard our interests in the direction indicated in the following resolution:
2. That we, the dispensary medical officers of the county Tipperary, view with alarm the amendment to the Insurance Bill suggested by the Select Committee of the Irish party proposing to delete the "medical benefits" while retaining the "sickness benefits," thus throwing on us an enormous amount of extra work without any corresponding remuneration; and that we urge on the Conjoint Committee of the British Medical and Irish Medical Associations to have this very serious grievance brought before Parliament in a manner most efficient to provide a remedy.
3. That we, the dispensary medical officers of the county Tipperary, being, moreover, convinced that the Irish party has not realized the serious hardship which the Select Committee's proposal, as above referred to, is sure to inflict on dispensary doctors, desire to call emphatically their attention to the fact that, should the suggested amendment be placed on the Statute Book, our medical work will be enormously increased without any provision being made for a proportionate remuneration.

It was ordered that copies of the above resolutions should be sent to the Joint Committee of the Irish and British Medical Associations, to the Local Government Board, to the Select Committee of the Irish Party, to the county members of Parliament, and to the press.

Irish Nurses' Association.

The Irish Nurses' Association has appointed a Standing Committee to deal with the National Insurance Bill as it affects the nursing profession. Meetings of this committee to protect the interests of Irish nurses will be held every Wednesday until some arrangement has been come to with regard to the amendments necessary.

THE FRIENDLY SOCIETIES.

The Grand Master of the Independent Order of Oddfellows (Manchester Unity), speaking at a meeting at Chorlton, after the unveiling of a tablet at the chief offices of the Order recording its centenary, referred at length to the National Insurance Bill. He said that the bill had placed the friendly societies in a position which they felt acutely, inasmuch as their integrity and future prosperity were affected. It was, he said, a libel upon the friendly societies to charge them with sweating the doctors, with whom their relations had been in many senses of the most satisfactory character, and generally exceedingly happy. He hoped that during the months to elapse before Parliament reassembled Members of Parliament would carefully consider the matter. If the societies were left in the position they now occupied, there would be a deep sense of grievance in the hearts of most friendly society men.

The Deputy Grand Master said that the bill, if passed with the amendments accepted or put down by the Chancellor of the Exchequer, would practically destroy the friendly societies. For every vote possessed by the doctors 200 were possessed by friendly society members, and he believed they would be used when the day of retribution came to show the indignation aroused.

Mr. C. T. Needham, M.P. for South-West Manchester, said that he did not believe the bill would damage friendly societies. He approved the principle of compulsory insurance, which was one of the central facts of the bill. It was the duty of Parliament so to shape the measure that it would do no harm to friendly societies.

QUESTIONS IN PARLIAMENT.

Sick Benefits.

MR. BOOTH asked the Chancellor of the Exchequer if his attention had been called to a statement at a meeting of delegates of the Hearts of Oak Society that the Government were reconsidering their position on the question of granting sick benefits under the Insurance Bill from the first day of sickness; and, seeing that such a change would endanger the finances of any approved society, and that the friendly societies could usefully supplement the benefits under the bill by voluntarily adding such as met a public want, if he would say if the funds set free by the bill would be ample to grant such a benefit as the one aforesaid, and many other benefits to be decided upon by the members of the various friendly societies. Mr. Lloyd George: I am aware of no reason for departing from the position taken up by His Majesty's Government when this question was before the House. I think the funds of friendly societies set free by the operation of the bill should be ample to enable them not only to give sick pay from the first day to their existing members, but in most cases also to continue any other privileges which are not included in the minimum benefits, but which are at present enjoyed by their members.

Mr. Snowden: Am I to assume from the right hon. gentleman's reply that he does not accept the statement in the hon member's question that the change would endanger the finances of any approved society? Mr. Lloyd George: No. Mr. Snowden: Did not the right hon. gentleman say that the finances of an approved society would be quite ample to give this additional benefit? Mr. Lloyd George: They can only grant the additional benefits if on valuation at the end of three years they find there is a surplus.

Mr. Kellaway: What about the alternative benefits promised to take the place of the payment for the first three days? Mr. Lloyd George: That is a totally different thing. I agree that there should be certain benefits in substitution of these three days, but even after allowing for that I agree there will be a very considerable surplus for this purpose. Mr. Kellaway: Have the Government closed their mind on that point? Are they quite satisfied that the alternative measure will satisfy the societies? Mr. Lloyd George: You have to take a wider view than that. If the societies are not satisfied they can use the money for that purpose if they like.

Benefit to Workmen.

Mr. Hamersley asked the Chancellor of the Exchequer whether his attention had been called to a statement that the National Insurance Bill in a nutshell was giving the working man 9d. for 4d.; and whether it was with his authority or knowledge that a statement to this effect was being circulated in the constituencies by means of leaflets. Mr. Lloyd George: I have more than once made a statement to this effect myself, but I know nothing of the leaflets to which the hon. member refers.

Agricultural Labourers.

In reply to Mr. Charles Bathurst, Mr. McKinnon Wood stated that the proposed new clause providing for an alternative method of insurance for agricultural labourers, promised during the debate on Clause 4 of the bill, was not yet ready, but gave an undertaking that the amendment should be circulated to members of the House during the recess.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

SURGEON A. C. W. NEWPORT has been appointed to the *Royal Arthur*, August 19th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN A. E. HAMERTON, D.S.O., is seconded for service under the Colonial Office, July 20th.

Major L. F. SMITH, M.B., who is serving in India, is recognized as Specialist in the Prevention of Disease, and is appointed to the charge of the Brigade Laboratory at Nowshera, from April 18th.

The name of Major LANGFORD N. LLOYD, D.S.O., is as now described, and not as stated in the *Gazette* of August 4th.

The undermentioned Lieutenants to be Captains, dated August 4th: JOHN JAMES, M.B., ALFRED C. H. SUHR, M.B., JOHN E. ELLCOME, GERALD J. KEANE, M.D., HAROLD H. BLAKE, M.B., ROBERT M. DICKSON, M.B., FRANK WORTHINGTON, M.B., FREDERICK H. BRADLEY, M.B., ALEXANDER L. STEVENSON, M.B., BERNARD VARVILL, JOSEPH W. HOUSTON, M.B., ARTHUR SHEPHERD, M.B., WILFRED J. DUNN, M.B., FRANK B. DALGLIESH, MALCOLM LECKIE, SPENCER G. WALKER, M.B., CHARLES E. L. HARDING, M.B., FALKINER M. HEWSON, ARTHUR L. FOSTER, CLAUDE M. RIGBY, ALAN G. WELLS, ALEXANDER E. G. FRASER, WALTER H. S. BURNEY, THOMAS S. EVES, M.B., LEO MURPHY, ARTHUR H. T. DAVIS, JOHN S. MCCOMBE, M.B., WILLIAM J. TOBIN, CAMPBELL MCQUEEN, ROBERT O'KELLY. Their first appointment bears date February 4th, 1908.

ROYAL ARMY MEDICAL CORPS.

EXCHANGES.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in Stamps or Post Office Order with the notice, not later than Wednesday morning in order to ensure insertion in the current issue.

A MAJOR, Royal Army Medical Corps, due to embark for India, *Northern Army*, probably in December, is willing to exchange to *Southern Army* and sail by *earlier* boat on even terms. Replies should be addressed to No. 5400, BRITISH MEDICAL JOURNAL Office, 429, Strand, London, W.C.

INDIAN MEDICAL SERVICE.

CAPTAIN S. R. CHRISTOPHERS is appointed Brevet Major, from January 1st, 1911. He has no war record in the Army Lists.

The retirement from the service of Surgeon-General P. H. BENSON and Lieutenant-Colonel J. F. MACLAREN, both of which announcements have already appeared in the BRITISH MEDICAL JOURNAL, has received the approval of the King.

Major T. B. KELLY will carry on the current duties of Principal Medical Officer, Derajat and Bannu Brigades, during the absence of Colonel Grant on leave.

Lieutenant-Colonel B. B. GRAYFOOT, M.B., assumed the duties of Officiating Principal Medical Officer, 5th (Mhow) Division, on July 13th.

Lieutenant-Colonel and Brevet-Colonel W. B. BANNERMAN, M.D., is promoted to be Surgeon-General, from July 26th. He joined the Madras Medical Department as Surgeon, September 29th, 1883, and was made Lieutenant-Colonel, September 29th, 1903, and Brevet-Colonel, January 1st, 1911. He served with the Burmese Expedition in 1885–9, receiving a medal with two clasps.

The following Majors are promoted to be Lieutenant-Colonels from July 28th: B. H. DEARE, B. C. OLDHAM, R. BIRD, C.I.E., M.D., F.R.C.S., S. B. SMITH, G. H. FROST, M.B., E. WILKINSON, F.R.C.S., G. F. W. EWENS, M.D., C. DUER, M.B., F.R.C.S., H. S. WOOD, M.B., T. W. IRVINE, M.B., J. ENTRICAN, M.B., W. G. PRIDMORE, M.B., C. DONOVAN, M.D., J. PENNY, D. H. MCD. GRAVES. Their first appointment bears date July 28th, 1891; that of Major, July 28th, 1903. The Army Lists include the following: Lieutenant-Colonel Deare was in the campaign on the North-West Frontier of India in 1897–98 (medal with two clasps), and with the Tirah Expeditionary Force (clasp). Lieutenant-Colonel Oldham, North-West Frontier of India campaign, 1897–8 (medal with clasp). Lieutenant-Colonel Smith, Chitral Relief Force, 1895 (medal with clasp), and Waziristan Expedition, North West Frontier of India, 1901–2 (clasp). Lieutenant-Colonel Frost, South African war, 1899–1901 (Queen's medal with five clasps). Lieutenant-Colonel Irvine, China, 1900 (medal). Lieutenant-Colonel Entrican, Burma, 1889–92 (medal with clasp), and China, 1900 (medal). Lieutenant-Colonel Pridmore, Burma, 1892, with the Tashon Column. Lieutenant-Colonel Donovan, Tirah Expeditionary Force, 1897–8 (medal with two clasps). Lieutenant-Colonel Penny, Burma, 1892–3 (medal with clasp).

The undermentioned Captains are promoted to be Majors, from July 27th: W. E. MCKECHNIE, M.B., H. D. PEILE, D. H. F. COWIN, W. H. TUCKER, C. S. LOWSON, M.B., D. N. ANDERSON, N. M. CHAUDHURI, M.B., A. C. MACGILCHRIST, M.B., J. W. D. MEGAW, M.B., C. M. GOODBODY, R. STEEN, M.B., F. F. ELWES, M.B., E. A. C. MATTHEWS, M.B., L. P. STEPHEN, M.B., L. GILBERT, M.B., T. G. N. STOKES, M.B., H. M. MACKENZIE, M.B., W. O'S. MURPHY, M.B., C. C. MURISON. The previous commissions of Majors M'Kechnie to Chaudhuri are dated: Lieutenant, July 27th, 1899; Captain, July 27th, 1902; those of Majors MacGilchrist to Murison: Lieutenant, January 27th, 1900; Captain, January 27th, 1903. The following are from the Army Lists: Major McKechnie, China, 1900 (medal); North-West Frontier of India, 1908, in the Mohmand country. Major Peile, Waziristan, North-West Frontier of India, 1901–2 (slightly wounded, mentioned in dispatches, medal with clasp). Majors Anderson, MacGilchrist, and Megaw, China, 1900 (medal). Major Goodbody, Waziristan, North-West Frontier of India, 1901–2 (medal with clasp). Major Steen, Waziristan, North-West Frontier of India, 1901–2 (medal with clasp); Tibet, 1903–4 (medal). Major Elwes, China, 1900 (medal with clasp). Major Mathews, North-West Frontier of India, 1908, in the Mohmand country. Major Murison, Somaliland, 1902–4 (medal with clasp).

Lieutenant-Colonel C. N. C. WIMBERLEY, M.B., is appointed Staff Officer, Medical Mobilization Stores, 6th (Poona) Division.

Captain K. W. MACKENZIE is appointed Specialist in Midwifery and Diseases of Women and Children, 5th (Mhow) Division, from July 10th.

Vital Statistics.

EPIDEMIC MORTALITY IN LONDON.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

THE accompanying diagram shows the prevalence of the principal epidemic diseases during the second quarter of the year; the fluctuations of each disease and its relative fatality compared with the average in the corresponding periods of recent years can thus be readily seen.

Small-pox.—One fatal case of this disease was recorded last quarter in Poplar; sixteen small-pox patients were admitted into the Metropolitan Asylums Hospitals during the quarter, but none remained under treatment at the end of June.

Measles.—The deaths from this disease, which had been 351, 844, and 1,581 in the three preceding quarters, declined again last quarter to 690, but were slightly in excess of the corrected average number in the corresponding period of the five preceding years. Among the several metropolitan boroughs this disease was proportionally most fatal in Hackney, Shoreditch, Bethnal Green, Stepney and Poplar.

DEATHS FROM EPIDEMIC DISEASES IN LONDON DURING THE SECOND QUARTER OF 1911.

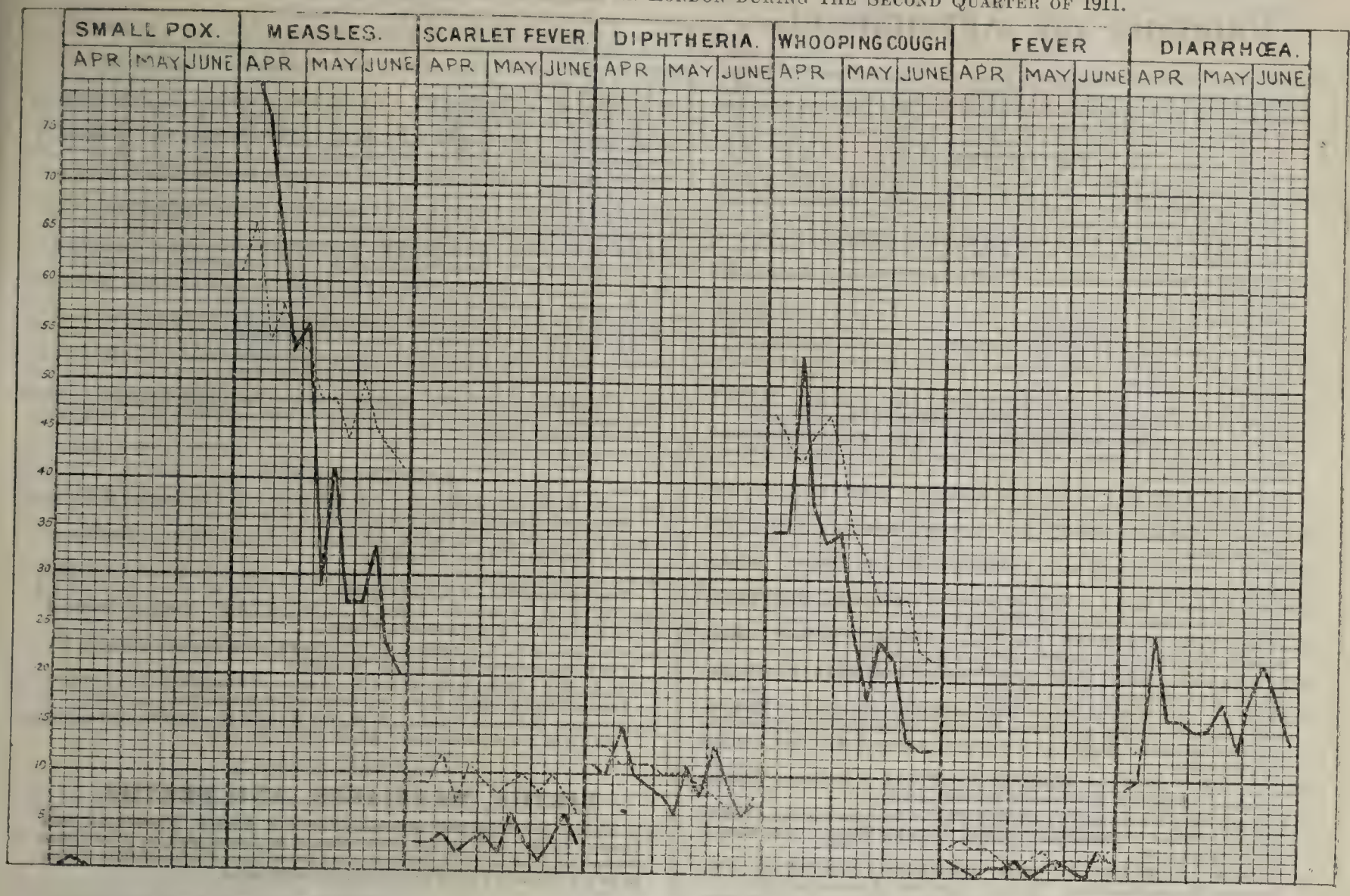

NOTE.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding weeks of the five preceding years, 1906–10. Under the heading "Diarrhoea" are given the deaths from diarrhoea and enteritis among children under 2 years of age; the corrected average number of these deaths is not available.

Scarlet Fever.—The fatal cases of scarlet fever, which had been 50, 41, and 43 in the three preceding quarters, were again 43 last quarter, and were 73 fewer than the corrected average number in the five preceding second quarters. The greatest proportional mortality from this disease was recorded in Hammersmith, Holborn, the City of London, Poplar, Deptford, and Woolwich. The Metropolitan Asylums Hospitals contained 1,206 scarlet fever patients at the end of last quarter, against 1,630, 1,574, and 1,012 at the end of the three preceding quarters; 1,957 new cases were admitted during the quarter, against 2,387, 2,448, and 1,706 in the three preceding quarters.

Diphtheria.—The deaths from diphtheria, which had been 91, 145, and 170 in the three preceding quarters, declined again last quarter to 123, and were slightly below the corrected average number. The highest death-rates from this disease last quarter were shown in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Bermondsey, and Greenwich. The number of diphtheria patients admitted into the Metropolitan Asylums Hospitals last quarter was 1,298, against 1,152, 1,386, and 1,446 in the three preceding quarters; 771 cases remained under treatment at the end of the quarter, against 746, 827, and 881 at the end of the three preceding quarters.

Whooping-cough.—The fatal cases of whooping-cough, which had been 200, 132, and 425 in the three preceding quarters, declined again last quarter to 359, and were 105 below the corrected average number in the corresponding period of the five preceding years. This disease was proportionally most fatal last quarter in Paddington, Kensington, Hammersmith, Southwark, and Bermondsey.

Enteric Fever.—The deaths referred to enteric fever, which had been 85 and 28 in the two preceding quarters, further declined last quarter to 16, and were equal to only one-half of the corrected average number. These 16 deaths included 3 in Wandsworth, 2 in the City of Westminster, and 2 in Lambeth. The Metropolitan Asylums Hospitals contained 33 enteric fever patients at the end of last quarter, against 141, 88, and 32 at the end of the three preceding quarters; 71 new cases were admitted during the quarter, against 227 and 73 in the two preceding quarters.

Diarrhœa.—The deaths from diarrhoea and enteritis among children under 2 years of age, which had numbered 210 in the preceding quarter, were 211 during the three months under notice. The greatest proportional mortality from this cause was recorded in Hammersmith, Fulham, Chelsea, St. Marylebone, the City of London, and Shoreditch.

In conclusion, it may be stated the lowest death-dates from these epidemic diseases in the aggregate were regarded in Hampstead, Holborn, the City of London, Lewisham, and Woolwich; and the highest rates in Hammersmith, Hackney, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey. The deaths in London last quarter from these diseases (excluding diarrhoea) were 12.2 per cent. below the average.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 8,250 births and 6,473 deaths were registered during the week ending Saturday last, August 19th. The annual rate of mortality in these towns, which had been 13.6, 15.9, and 18.6 per 1,000 in the three preceding weeks, further rose to 20.9 per 1,000 in the week under notice. In London the death-rate was equal to 19.1, against 13.7, 15.5, and 18.7 per 1,000 in the three preceding weeks. Among the seventy-six other large towns the death-rates last week ranged from 9.6 in King's Norton, 10.5 in Bournemouth, and 11.1 in Hornsey and in Hastings, to 31.5 in Wigan, 32.6 in Stoke-on-Trent, and 33,4 in Grimsby and in Bolton. Measles caused a death-rate of 2.2 in Bootle, diphtheria of 1.5 in Coventry, and diarrhoea and enteritis (of children under 2 years of age) of 15.1 in Stoke-on-Trent, 16.9 in Wigan, 17.0 in Bolton, 17.4 in Aston Manor, and 23.7 in Grimsby. The mortality from the remaining epidemic diseases showed no marked excess in any of the towns and no fatal case of small-pox was recorded during the week. Of the 6,473 deaths registered in the seventy-seven towns, the causes of 36, or 0.6 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Birmingham, 4 in Liverpool and 3 each in Manchester and in Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, and the London Fever Hospital, which had been 1,412, 1,433 and 1,442 at the end of the three preceding weeks, fell again to 1,388 at the end of the week under notice: 149 new cases were admitted during the week against 209, 191 and 159 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the principal Scottish towns 816 births and 465 deaths were registered during the week ending Saturday, August 19th. The annual rate of mortality in these towns, which had been 13.8 and 14.4 in the two preceding weeks, fell to 14.2 in the week under notice, and was 6.7 per 1,000 below the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates last week ranged from 8.7 in Perth and 9.6 in Aberdeen to 16.4 in Glasgow and 18.7 in Greenock. The mortality from the principal epidemic diseases averaged 3.0 per 1,000, being highest in Leith and Greenock. The 247 deaths from all cases registered in Glasgow included 1 from enteric fever, 4 from measles, 3 from scarlet fever, 3 from whooping-cough, 1 from diphtheria, and 45 of children under 2 years of age from diarrhoea and enteritis. Eight deaths from infantile diarrhoea were recorded in Greenock and 4 in Paisley; 2 deaths from measles in Leith, and 2 from whooping-cough in Edinburgh.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 12th, 595 births and 377 deaths were registered in the twenty-two principal urban districts of Ireland, as against 594 births and 371 deaths in the preceding period. The annual death-rate in these districts, which had been 16.8, 16.4, and 16.8 per 1,000 in the three preceding weeks, rose to 17.1 per 1,000 in the week under notice, this figure being 1.5 per 1,000 lower than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 20.7 and 16.3 respectively, those in other districts ranging from 4.2 in Drogheda and 5.3 in Tralee to 34.3 in Newtownards and 39.7 in Kilkenny, while Cork stood at 9.5, Londonderry at 11.5, Limerick at 13.6, and Waterford at 20.9. The zymotic death-rate in the twenty-two districts averaged 5.4 per 1,000, as against 3.8 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ASHTON-UNDER-LYNE: DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

BEDFORD COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £70 per annum.

BIRMINGHAM: THE QUEEN'S HOSPITAL.—House-Physician and Obstetric and Ophthalmic House-Surgeon. Salary at the rate of £50 each per annum.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BRADFORD ROYAL INFIRMARY.—(1) Male House-Physician; salary, £100 per annum. (2) Two Male House-Surgeons; salary, £100 per annum.

BRIGHTON: THE ROYAL SUSSEX COUNTY HOSPITAL.—House-Physician (male). Salary, £100 per annum.

BRISTOL GENERAL HOSPITAL.—House-Physician. Salary, £80 per annum.

BRISTOL UNION.—Assistant Workhouse Medical Officer. Salary, £100 per annum.

BURY ST. EDMUNDS: WEST SUFFOLK GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Commencing salary, £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—House-Physician. Salary, £90 per annum.

CARLISLE: CUMBERLAND INFIRMARY.—Resident Medical Officer (male), to act as House-Physician and House-Surgeon for six months each. Salary at the rate of £80 and £100 per annum respectively.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

FLINTSHIRE EDUCATION COMMITTEE.—Assistant to the County Medical Officer of Health and School Medical Officer. Joint Salary, £250 per annum.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL.—Two Indoor House-Surgeons, Three Outdoor House-Surgeons for Obstetrical Department, and Indoor House-Surgeon for Gynaecological Dapartment.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—(1) House-Surgeon; salary, £100 per annum. (2) Assistant House-Surgeon; salary, £75 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—(1) Second House-Surgeon (male); salary, £100 per annum. (2) Third House-Surgeon (male); salary, £80 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £50 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KING EDWARD MEMORIAL HOSPITAL, Ealing, W.—House-Surgeon. Salary at the rate of £80 per annum.

KINGSEAT ASYLUM.—Assistant Medical Officer. Commencing salary, £120 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Three House-Surgeons. (2) Two House-Physicians. Salary at the rate of £60 per annum.

LIVERPOOL UNIVERSITY.—Chair of Pathology. Salary not less than £600 per annum.

LONDON UNIVERSITY.—Graham Scholarship in Pathology. Value, £200 per annum.

LONG EATON URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £100 per annum.

MACCLESFIELD GENERAL INFIRMARY,—Senior House-Surgeon. Salary, £100 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

MANCHESTER CHILDREN'S HOSPITAL.—(1) Visiting Surgeon; salary, £100 per annum. (2) Male Resident Medical Officer; salary for first six months £40, and for second six months £50.

MULLINGAR DISTRICT LUNATIC ASYLUM.—Resident Assistant Medical Officer. Salary, £112 10s. per annum.

NEWCASTLE-ON-TYNE: HOSPITAL FOR SICK CHILDREN.—Honorary Assistant Surgeon.

NEWCASTLE THROAT, NOSE, AND EAR HOSPITAL.—Honorary Surgeon.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum,

PRESTON ROYAL INFIRMARY.—(1) Senior House-Surgeon (male); salary, £80 per annum. (2) Junior House-Surgeon (male); salary at the rate of £60 per annum.

PRESTWICH COUNTY ASYLUM.—Assistant Medical Officer. Commencing salary, £150 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, N.E.—House-Surgeon. Salary at the rate of £80 per annum.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—House-Surgeon. Salary, £110 per annum.

ST. PANCRAS UNION.—Senior Assistant Medical Superintendent of Infirmary and Senior Assistant Medical Officer of Workhouse. Joint salary at the rate of £135 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

SALFORD ROYAL HOSPITAL.—(1) Casualty House-Surgeon; salary at the rate of £50 per annum. (2) Junior House-Surgeon; salary at the rate of £50 per annum. (3) Honorary Anaesthetist.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £60 per annum.

SHEFFIELD UNIVERSITY.—Junior Demonstrator in Pathology. Salary, £150 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon (male). Salary, £70 per annum.

STAFFORD COUNTY ASYLUM.—Assistant Medical Officer (male). Salary, £150 per annum.

SUNDERLAND: ROYAL INFIRMARY.—Male House-Physician. Salary at the rate of £80 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £70 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House-Physicians. (2) Three House-Surgeons.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment: Biggleswade (Bedfordshire).

APPOINTMENTS.

BENSON, E. G. D., L.R.C.P., L.R.C S.Edin., D.P H.Durh., Medical Officer of Health of the Tanfield Urban District.

CASE, H. M., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health of the Fareham Urban District.

HAWKS, F. S. L.M.S.S A.Lond., Certifying Factory Surgeon for the Wigton District, co. Cumberland.

IVES, W. F. H., L.R.C.P., L.R.C.P., L.R.C.S.Edin., District Medical Officer of the Southampton Union.

LAWRIE, D., M.B., C.M.Glasg., D.P.H., Certifying Factory Surgeon for the Glastonbury District, co. Somerset.

LEVY, A., B.A., M.D., C.M., F.R.C.S., Assistant Surgeon to the Central London Ophthalmic Hospital, Gray's Inn Road, W.C.

MATHIESON, D. M., M.D.Edin., M.B., Ch.B., D.P.H., Medical Officer of Health of the County Borough of South Shields.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTH.

HOWE.—On August 17th, at Haddenham, Cambs., the wife of Dr. C. W. Howe, of a son,

MARRIAGE.

MEAD—EVERILL.—On the 16th August, at St. John's, Paddington, W., Guy Harvey Mead, M.R.C.S., L.R.C.P., of Eckington, Sheffield, youngest son of H. T. Harvey Mead, M.R.C.S., L.S.A., of Christchurch, Hampshire, to Elsie, fourth daughter of the late Nash Everill, of Lansdowne, Worcester.

DEATH.

JEAFFRESON.—On August 17th, at Framlingham, George Edwards Jeaffreson, J.P., M.R.C.S., L.S.A., aged 76, son of the late Wm. Jeaffreson, F.R.C.S., of Framlingham.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Monday, 2 p.m., Pulmonary Diseases. Tuesday, 2 p.m., Disease Giving Rise to Morbid Renal Excretion. Wednesday, 2 p.m., Abdominal Disease. Thursday, 2 p.m., Diseases of the Nervous System. Friday, 2 p.m., Diseases of the Heart.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday, Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Clinical Pathology, 12.15 p.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Demonstration. 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Lectures at 5 p.m., Tuesday and Friday.

INSTRUMENTS, CATALOGUES, ETC.

WE have received from Messrs. W. Watson and Sons, Limited (313, High Holborn, W.C.), the 1911-12 edition of their price list of electro-medical apparatus. The appliances catalogued have a very wide range, and include several types of induction coils, some of which are specially built for instantaneous work, together with interrupters, *x*-ray tubes, intensifying screens, protective devices, tube stands, and fluoroscopes. In addition to this more familiar armament, there are instruments for treatment by the newer methods, such as diathermy, ionic medication, and carbon dioxide snow, and we notice that this firm deals also in the new radio-active material, meso-thorium, the chemical properties of which are so similar to those of radium.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

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ROYAL NAVY MEDICAL SERVICE.

NEW REGULATIONS.

THE following Circular Letter (No. 24) has been issued, bearing date "Admiralty, August 11th, 1911":

CIRCULAR LETTER.

My Lords Commissioners of the Admiralty, having had under consideration the recommendations of a committee appointed to inquire into the Naval Medical Service, have approved of the changes in the organization and conditions of service of this Branch of the Royal Navy as set forth below, to take effect where not already in operation from July 1st, 1911, except as may be otherwise specified in this letter.

The recommendations adopted are enumerated for the general information of the Fleet. Individual action has been taken as required, and the necessary alterations in the King's Regulations and Admiralty Instructions will be made in due course.

I.—MEDICAL OFFICERS.

TITLES.

The titles Surgeon-General Royal Navy and Deputy Surgeon-General Royal Navy to be substituted for Inspector-General of Hospitals and Fleets and Deputy Inspector-General of Hospitals and Fleets.

The change of Titles is not to apply to Officers retired prior to July 1st, 1911.

PAY AND ALLOWANCES.

(*a*) *Full Pay.*—The following scale of full pay for Naval Medical Officers is to be substituted for the scale now in force:

Scale of Full Pay for Medical Officers, R.N.

	s.	£	s.	d.	
Surgeon on entry	14 a day	255	10	0	a year.
After 2 years	15 ,,	273	15	0	,,
,, 4 ,,	17 ,,	310	5	0	,,
,, 6 ,,	18 ,,	328	10	0	,,
Staff Surgeon	20 ,,	365	0	0	,,
After 2 years	21 ,,	383	5	0	,,
,, 4 ,,	24 ,,	438	0	0	,,
,, 6 ,,	25 ,,	456	5	0	,,
Fleet Surgeon	27 ,,	492	15	0	,,
After 2 years	28 ,,	511	0	0	,,
,, 4 ,,	30 ,,	547	10	0	,,
,, 6 ,,	31 ,,	565	15	0	,,
,, 8 ,,	33 ,,	602	5	0	,,
,, 10 ,,	35 ,,	638	15	0	,,
Deputy Surgeon-General	45 ,,	821	5	0	,,
Surgeon-General (salary)		1,300	0	0	,,

As the rate of 36s. a day for Fleet Surgeons after 12 years' service in that rank will be discontinued, Officers of the Medical Branch now on the Active List will be permitted to elect for either the new or the old scale of full pay. Election of the new scale will involve acceptance of the new regulations for compulsory retirement on page 330, and, except as provided herein, for promotion. Officers drawing the 36s. rate of pay will continue to receive it during the remainder of their service in the rank. All Medical Officers now on the Active List must signify in writing to the Secretary of the Admiralty before January 1st, 1912, whether they elect the new or the old scale.

(*b*) *Charge Pay.*—(i) Charge pay at the rate of 3s. 6d. a day to be granted to the senior Medical Officers of all seagoing ships with complements of over 650.

(ii) The charge pay granted to the Medical Officers in charge of certain Hospitals and Sick quarters to be extended also to the Fleet and Staff Surgeons in charge of the Royal Marine Infirmary at Deal, and the Royal Naval Sick quarters at Shotley. The Medical Officers in charge of these Establishments to receive charge pay at the rates allowed under the existing scale—namely, 5s. a day, or 2s. 6d. a day, as the case may be.

(iii) The Deputy Surgeons-General in charge of Sections, and the Fleet Surgeons in charge of Sections at the Royal Naval Hospitals at Chatham, Portsmouth, and Devonport to be granted charge pay at the following rates:

Deputy Surgeons-General, 5s. a day.
Fleet Surgeons, 2s. 6d. a day.

(*c*) *Salaries of Medical Department of Admiralty.*—The emoluments of the Medical Director-General, Deputy Director-General, and Assistants to be increased as follows:

Medical Director-General—*Salary*	£1,700 to be raised to £1,800.
Deputy Director-General—*Full pay and allowances*	£919 to be raised to a salary of £1,100.
Assistants to Director-General—*Full pay and allowances*	£650 (average) to be raised to a salary of £750.

(*d*) *Flag Allowance.*—The proviso in Article 1401 of the King's Regulations and Admiralty Instructions that the grant of the allowance of 2s. 6d. a day to the Medical Officers of ships bearing the flag or broad pendant of a Flag Officer or Commodore not in command of a Station shall be "at the discretion of the Admiralty" is withdrawn.

TRAINING AND POST-GRADUATE INSTRUCTION.

(*a*) *Establishment of a Naval Medical School.*

It is considered essential for the scientific development of the Naval Medical Service that it shall possess a School of Medical Instruction and Research situated in the vicinity of London, where it will be in touch with the principal Civil Medical Schools, and with the Army Medical School at Millbank. It has been decided therefore to establish a Naval Medical School at the Royal Naval College, Greenwich, in close proximity to the "Dreadnought" Seamen's Hospital and the London School of Tropical Medicine, and in a position therefore to carry out its educational and scientific work in close connexion with those establishments.

There are already in existence at Greenwich excellent

chemical and physical laboratories, and the additional laboratories required for medical research will be provided in the College buildings and furnished with the necessary equipment and scientific apparatus.

The undermentioned Officers will be specially appointed to the Naval Medical School as the nucleus of Instructional Staff:

A Professor of Bacteriology and Clinical Pathology } Fleet Surgeon with special allowance of £150 a year.
A Professor of Hygiene ... Ditto.

The latter will reside in the College and be in charge of the studies of Naval Medical Officers undergoing courses at Greenwich and will receive an extra allowance of £50 a year for this duty.

When the structural alterations in that part of the building which has been selected for the purpose have been completed and the school is ready for use, a proportion of the instructional work now carried out at Haslar will be transferred to Greenwich, and such of the Instructional Staff and equipment as may be considered advisable will be removed to that establishment. It is not proposed, however, that the laboratory at Haslar shall be dismantled. A certain amount of instructional work must still be carried out at that establishment, and at least one Medical Officer will be retained there for the instruction of Acting Surgeons, with an allowance of £150 a year for this duty as at present. It is intended that the hygienic and clinical pathological work required in connexion with the ordinary routine of the Naval Hospitals at the three Home Ports shall be undertaken by members of the Hospital Staff in the local laboratories without extra remuneration.

(b) Course for Naval Surgeons on Entry.

Certain alterations have already been made on the recommendation of the Naval Medical Committee in the regulations for the selection and examination of candidates for Naval Surgeon.

The course of instruction after entry has been lengthened from four to six months, and the subjects of study have been rearranged. Candidates at the entry examination are appointed Acting Surgeons, and at the conclusion of the six months' course they are examined in the subjects studied, and those who pass are granted commissions as Surgeons Royal Navy, their position on the list being determined by the combined result of the two examinations.

An Officer who fails to pass a satisfactory examination at the conclusion of the entry course is given a second trial, and if he again fails his services are dispensed with.

When the Medical School at Greenwich is opened the first two months of the course will be passed at that establishment, this period being devoted to the study of Tropical Medicine, Bacteriology and Clinical Pathology, Hygiene and Skiagraphy. The remaining four months will be passed at Haslar as at present.

(c) Post-Graduate Instruction.

In future the Post-Graduate instruction of Naval Medical Officers will consist of two distinct courses:

(i) A six months' course prior to advancement to Staff Surgeon;
(ii) A second course of three months' duration for Officers of not less than 14 years' seniority.

Course (i), which is compulsory for all Surgeons, will be followed by an examination before the Medical Examining Board in London, the successful passing of which will be a qualification for promotion to the rank of Staff Surgeon. The course is to be taken when a Surgeon has between $4\frac{1}{2}$ and $6\frac{1}{2}$ years' seniority, and as near the date when the latter period is completed as the exigencies of the Service admit. The courses will take place twice a year.

The subjects of study and examination will be:

Compulsory:
(*a*) Clinical Medicine and Clinical Surgery.
(*b*) Operative Surgery.
(*c*) Anaesthetics (practical).
(*d*) Ophthalmology.
(*e*) Clinical Pathology.
(*f*) Hygiene.

Optional:
(*g*) Bacteriology.
(*h*) Throat, Nose, and Ear Diseases.
(*i*) Skiagraphy.

Instruction in Bacteriology and Clinical Pathology, Hygiene and Skiagraphy will be given at the Naval Medical School, the remaining subjects will be studied at the "Dreadnought" Hospital and other Civil Hospitals in London as may be arranged from time to time by the Medical Director-General of the Navy.

The Surgeons going through the course will be accommodated at the Royal Naval College, Greenwich, and will be under the general control of the President. Their instruction throughout will be under the immediate supervision of the Professor of Hygiene appointed in charge of studies.

Course (ii) is designed to afford Senior Officers the opportunity of refreshing their general knowledge of Surgery and Medicine and of making themselves familiar with modern improvements. There will not be any fixed syllabus of instruction or examination, but arrangements will be made in each case by the Medical Officer in charge of studies at Greenwich to meet individual requirements, and a report will be made by this Officer to the Medical Director-General at the close of the course. The Officers attending this second course will also be accommodated at Greenwich.

PROMOTION.

Except as provided for under the regulations for accelerated promotion specified below, no alteration has been made in the periods for advancement to Fleet and Staff Surgeon, and the rank of Staff Surgeon will continue to be granted in the ordinary course after eight years as Surgeon and the rank of Fleet Surgeon after eight years as Staff Surgeon, subject to their Lordships' approval in each case and to the following qualifications:

For the rank of Staff Surgeon an Officer must—
(i) have served 3 years at sea;
(ii) have passed the qualifying examination referred to in *c* (i) under the heading Post-Graduate instruction;
(iii) be recommended for advancement to Staff Surgeon by the Medical Director-General.

For the rank of Fleet Surgeon a Staff Surgeon must—
(i) have served 3 years at sea in that rank, or 5 years at sea in the ranks of Staff Surgeon and Surgeon combined;
(ii) be recommended for advancement to Fleet Surgeon by the Medical Director-General;
(iii) never have declined service except for reasons which are accepted as satisfactory by the Lords Commissioners of the Admiralty.

Special promotions to the ranks of Staff and Fleet Surgeon may be made at their Lordships' discretion for distinguished service or conspicuous professional merit as under existing regulations, but promotions for gallantry in action will not be limited to any specific number.

The grant of earlier promotion to Staff Surgeon to Surgeons who before entry have held the post of Resident Medical or Surgical Officer to a recognized Civil Hospital will be discontinued and the following system of accelerated promotion to Staff Surgeon will be substituted:

Certificates will be granted to Surgeons at the qualifying examination for Staff Surgeon according to the following scale of marks:

50 per cent. of marks for a pass.
75 ,, ,, a first-class certificate.
85 ,, ,, a special certificate.

An Officer obtaining a first-class certificate will be eligible for an advance of 12 months' seniority.

An Officer obtaining a special certificate will be eligible for an advance of 18 months' seniority.

Accelerated promotion will not be granted on examination results alone, and an Officer must also be recommended as deserving of advancement. It will be open to their Lordships to reduce the amount of seniority allowed if considered advisable by the Medical Director-General.

In introducing this system of accelerated promotion care will be taken to safeguard the interests of Medical Officers now on the list who have already passed the examination.

A Surgeon who fails to obtain a pass will be allowed a second trial, but will not be granted accelerated promotion on the results of the second examination. Should an Officer fail to pass at the second attempt he will be compulsorily retired on attaining 8 years' seniority, with such gratuity as the Admiralty may see fit to grant, but not exceeding £500.

Promotions to Surgeon-General and Deputy Surgeon-General will be made strictly by selection, and will be confined to Officers who have proved themselves to be fitted both professionally and administratively for these ranks. For advancement to Deputy Surgeon-General 2 years' sea service in the rank of Fleet Surgeon will be

required, or 5 years' combined service at sea in the ranks of Fleet and Staff Surgeon.

Officers now on the list who may be unable for Service reasons to complete the qualifying periods of sea service for advancement to the rank above may be exempted at their Lordships' discretion.

MISCELLANEOUS.

The Principal Medical Officer of a Fleet.—The Medical Officer of the Senior Flag Ship of a Fleet is to be recognized as the Principal Medical Officer of that Fleet. He will be appointed on the Staff of the Commander-in-Chief and wear an aiguillette. He will act as the Commander-in-Chief's principal adviser on all medical and sanitary matters connected with the Fleet, and it will be his province to report to the Admiralty periodically upon the arrangements for the treatment of the sick, the sanitary conditions, and the state of the medical appliances in the various ships; also to supervise and report upon the arrangements for the treatment and transport of wounded, the instruction given in first aid, and others matters as he may be directed. He will have direct access to the Commander-in-Chief, and be in a position to propose for his consideration any measures likely to conduce to the efficiency of the medical organization of the Fleet, and he will be directly responsible to the Commander-in-Chief for keeping him informed on these matters generally.

Reports on Medical Officers.—The periodical reports on Medical Officers serving in a Fleet are to be referred by the Commander-in-Chief to the Medical Officer of the Flag Ship for his opinion of the Officers' professional conduct and ability. Similarly the reports on Medical Officers of Stationary Ships and Naval Establishments are to be referred to the Surgen-General or Deputy Surgeon-General of the Hospital at the port for independent report.

Voluntary Classes at the Home Ports.—Voluntary courses of instruction of about six weeks' duration are to be formally established at the Naval Hospitals at the three Home Ports for the benefit of Medical Officers of Ships and Naval Establishments at these ports, and every facility is to be offorded to such Officers (especially those at the Naval Barracks) for the study and practice of bacteriology. clinical pathology, skiagraphy, etc., in the Hospital Laboratories, a report from the Surgeon-General of the Hospital being transmitted to the Admiralty through the Commander-in-Chief at the close of each course.

Medical Libraries.—A small medical library of a value not exceeding £10 will be supplied to each ship carrying a Medical Officer.

II.—SICK BERTH STAFF.

ENTRY AND TRAINING.

A knowledge of decimals, proportion, and percentage has been included in the qualifications for entry as Probationary Sick Berth Attendant.

2. The course of training for Probationary Sick Berth Attendants has been extended from six months to twelve months, this period to include the time devoted to setting up drill, etc. The training of the Probationers, previously limited to Portsmouth and Devonport, has been extended to Chatham.

3. An examination is to be instituted for the Chief Petty Officer grade of Chief Sick Berth Steward. The examinations for all grades will be standardized and carried out in future at the three Home Hospitals acting as examination centres, with the exception that the examination for second Sick Berth Steward may be held also at Malta Hospital.

4. Special courses of instruction have been instituted at the Naval Hospitals for the qualification of Sick Berth ratings for duty as Operating Room Attendants and Laboratory Attendants, and arrangements have been made for completing the number required.

5. As the absence of any information respecting the qualifications of Sick Berth ratings for Nursing work must operate against their chances of obtaining employment in civil life when they leave the Naval Service, it has been decided that a certificate of general knowledge of Nursing shall be granted to a Sick Berth Attendant on completion of his first three years' service, further certificates being granted later to men who qualify in Massage or in other special subjects, and to those who have done duty in Lunatic Wards and can be thoroughly recommended as attendants on lunatics.

PAY AND ALLOWANCES.

No alteration is made in the scale of substantive pay for the Sick Berth Staff, except that to compensate Sick Berth Attendants for the loss occasioned by the extension of the Probationers' Course to 12 months, the pay of Sick Berth Attendants "after training" is increased from 1s. 8d. to 1s. 9d.

2. The following rates of extra remuneration are approved:

Operating Room Attendant (*vide Section 4 of Entry and Training*)	When employed,	6d. a day.
Laboratory Attendant (*vide Section 4 of Entry and Training*)	,,	6d. ,,
Men on duty in Zymotic Wards of Naval Hospitals and Sick Quarters	,,	6d. ,,
Attendants in Lunatic Wards of Naval Hospitals and Sick Quarters	,,	4d. ,,
*Allowance for dispensing duties to Sick Berth Staff employed as Dispensers at the smaller Naval Hospitals and Sick Quarters, and to all Chief Sick Berth Stewards, Sick Berth Stewards, and Second Sick Berth Stewards afloat	,,	2d. ,,

3. The number of allowances for Massage has been increased from 24 to 38 and the amount reduced from 1s. a day to 6d. a day for men qualifying in future. When payments or credits of this allowance at the higher rate are made a statement should appear on the ledger in every case that the men concerned qualified before July 1st, 1911.

HEAD WARDMASTERS.

The Scale of Pension for Head Wardmasters has been assimilated to that in force for Artificer Engineers.

The numbers of these Warrant Officers are being increased from 4 to 8 by the addition of a Head Wardmaster for Portland and Gibraltar, and two for Hospital Ships.

The records of eligible candidates for the rank to be kept at the Medical Department of the Admiralty, and reports of their qualifications and recommendations are to be forwarded half-yearly to the Medical Director-General of the Navy.

ADVANCEMENT OF RATINGS.

As it is desirable that Sick Berth Ratings shall be able to reach the grade of Chief Petty Officer before the age of 32, the age qualification at present prescribed for advancement to Chief Sick Berth Steward is abolished, and the character qualification reduced from 14 to 7 years V.G. Having regard to the limited number of promotions possible to Chief Sick Berth Steward, the intention is that advancements to that grade shall be made strictly by selection from the list of Sick Berth Stewards eligible. It is intended also that advancement to the ratings of Sick Berth Steward and Second Sick Berth Steward shall be subject to the Medical Officers under whom the men have served certifying that they are satisfied from actual experience that the candidates, who are otherwise eligible, are suitable professionally for such advancement.

To ensure that the right men are selected for Chief Sick Berth Steward, and that only men who are fit in all respects for Sick Berth Steward and Second Sick Berth Steward are advanced to those ratings, it is essential that the records of services at the R.N. Dépôts shall contain full particulars of qualifications, recommendations, etc.

To provide for this an amended form of report on Sick Berth ratings is being drawn up, to be used in the place of Form S 507 in the case of this Branch, and my Lords desire that the attention of the Medical Officers of the Fleet may be directed to the importance of this return being punctually rendered, with all details conscientiously filled in, in the interests not only of the individual but also of the efficiency of the Naval Medical Service.

UNIFORM.

(*a*) Head Wardmasters to be distinguished by a stripe of red cloth similar to the purple stripe worn by Artificer Engineers. This decision has already been given effect to.

(*b*) During employment in Hospital wards white trousers to be worn by Chief Sick Berth Stewards or Sick Berth Stewards, and white tunic and trousers by Second Sick Berth Stewards and Sick Berth Attendants. The supply and washing will be free of cost to the men.

(*c*) Men qualified for special duties, *i.e.*, Masseurs, Operating Room Attendants, and Laboratory Attendants, to wear a distinctive badge on the arm.

III.—QUEEN ALEXANDRA'S ROYAL NAVAL NURSING SERVICE.

An intermediate rank to be established between Head Sister and Nursing Sister, with the title of "Superintending Sister." The Superintending Sisters to be seven in number, and to hold the appointments of Senior Sisters at Gibraltar, Malta, Hong Kong and Portland Naval Hospitals, and Second Sister at the Naval Hospitals at Chatham, Haslar and Plymouth.

(ii) Superintending Sisters to be promoted by selection from the list of Nursing Sisters and Head Sisters to be promoted in like manner from the lists of Superintending Sisters and Nursing Sisters.

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* The institution of this allowance does not relieve the Medical Officer of his responsibility for the correct issue and use of all drugs under Clause 5 of Article 1326 of the King's Regulations and Admiralty Instructions.

(iii) The Staff of Nursing Sisters at the three Home Hospitals to be augmented, involving an increase of ten in the total number of Nursing Sisters hitherto allowed.

(iv) The following improved scale of pay to be introduced:

	£	£ s.	£
Nursing Sisters, on entry ...	40	... 2 10 a year	... 45
,, ,, after three years ...	50	... 5 0 ,,	... 65
Superintending Sisters ...	70	... 5 0 ,,	... 100
Head Sisters	130	... 10 0 ,,	... 160

(v) Several minor improvements have been introduced in the regulations governing the entry, probation, seniority, resignation, and pensions of members of Queen Alexandra's Royal Naval Nursing Service. The rules governing the number of Maid Servants allowed have been slightly modified, and changes have been made in the Uniform of Naval Nursing Sisters.

IV.—NAVAL HOSPITALS.

After careful consideration of the staffs of the three Home Hospitals, and their distribution of work, my Lords have arrived at the following conclusions:

(*a*) The numbers employed on Nursing Duties are inadequate;

(*b*) It is undesirable that extraneous duties, such as cooking, cleaning of sick berth quarters, hospital corridors, windows, etc., and the work of messengers, telephone attendants and others, shall continue to be performed by the Sick Berth Staff.

(*c*) Too great a use is made of convalescent patients for Nursing and general duty to make up for deficiency of staff.

Fresh complements have therefore been drawn up for these three Hospitals. In fixing the numbers the Sick Berth Staff required for purely nursing duties have been kept distinct from those required for disciplinary, administrative and other special duties, and calculated on a scale proportionate to the numbers of bed cases and others under treatment. Provision has also been made for the cooking and cleaning work to be carried out by a staff of Ship's Cook ratings and civilian labourers, thus setting free the Sick Berth Staff for their proper duties. Apart from this extraneous staff, the revised complements of the three Home Hospitals entail the addition of 43 Sick Berth ratings to the authorized number of that Branch.

It has also been decided that, to provide for requirements of extra Nursing Staff in epidemics of sickness or other emergencies, 25 Supernumerary Sick Berth ratings shall be borne in each of these Hospitals, involving a further increase in the number of the Sick Berth Branch of 75 ratings.

As these additional ratings will have to be recruited and trained, the revised complements of the three Home Hospitals can only be worked to gradually.

V.—RESERVES AND ORGANISATION OF WAR.

The numbers of Sick Berth ratings to be drafted to H.M. Ships on Mobilization for War, the War complements of the Hospitals and Naval Establishments and the requirements of Active Service ratings and Reserve Nursing Sisters and the procedure for their distribution have been worked out on definite principles.

(*a*) *Reserve of Medical Officers.*—In view of the requirements of Medical Officers in War it is essential that a reliable Reserve of Naval Medical Officers shall be formed, and it is considered that this can best be effected by extending the enrolment of R.N.V.R. Surgeons attached to the respective R.N.V.R. Divisions. With this object a revised scheme for the enrolment and training of these Officers has been drawn up, the regulations for which are given in the Appendix to this letter. In addition to the formation of this Reserve the Regulations for the entry of Temporary Surgeons in time of war or emergency contained in Article XIXA. of the King's Regulations are to remain in force.

(*b*) *Royal Naval Auxiliary Sick Berth Reserve.*—In place of a single course of seven days in a man-of-war or Naval Hospital, R.N. Sick Berth Reservists will be allowed, should they desire it, an annual course of training of a week's duration, to be held alternately in a Hospital and a ship if the man is in Class A. or Class B., and in a Hospital only if in Class C. or Class D.

(*c*) *Reserve of Nursing Sisters.*—The requirements of extra Naval Nursing Sisters in War will best be met not by enrolling individual ladies in a Reserve but by entering into arrangements with certain of the principal Civil Hospitals for the supply of a fixed number of Nurses whenever required, the selection of the Nurses being carried out by the Hospital Authorities themselves when the emergency arises.

The necessary procedure has been arranged with the Civil Hospitals, and the following regulations have been approved:

(*a*) The Reserve Nurses to be supplied on joining with the Uniform of a Naval Nursing Sister and a gratuity of £5 to meet initial expenses, but Nurses who so desire will be permitted to wear the Uniform of their respective Hospitals:

(*b*) The pay of the Reserve Nursing Sisters to be at the rate of £45 a year and a gratuity of £5 for every six months or portion of six months employed to be granted at the conclusion of their service:

(*c*) A donation of £3 for each Nurse supplied to be granted to the Hospitals to compensate for the inconvenience which will be caused by the removal of a portion of their staffs:

(*d*) In other respects the conditions of Service of these Nurses will be the same generally as are prescribed by the Regulations for Queen Alexandra's Royal Naval Nursing Service.

APPENDIX.

REGULATIONS FOR THE APPOINTMENT, TRAINING, ETC., OF MEDICAL OFFICERS, R.N.V.R.

1. *Total Number of Officers.*—The total number of Medical Officers in the Royal Naval Volunteer Reserve (exclusive of "Supernumerary" Officers, *see* para. 2) to be 150, composed of:

8 Fleet Surgeons.
22 Staff Surgeons.
120 Surgeons.

2. *Supernumerary Officers.*—In addition to the above numbers, certain Officers may be retained in the lists as "Supernumerary" under the following conditions; their names will be shown in the Navy List in italics:

3. *Conditions of Entry.*—Candidates for entry must:

(*a*) not be over 32 years of age;

(*b*) be registered under the Medical Act in force as qualified to practise Medicine and Surgery in Great Britain and Ireland;

(*c*) be of pure European descent, and the son either of natural-born British subjects, or of parents naturalized in the United Kingdom.

A candidate for entry should apply to the Secretary of the Admiralty. If his application is accepted, he will be enrolled in the Reserve with the rank of Surgeon.

4. *Qualifications for Promotion.*—Surgeons who have completed eight years' service as Surgeon, have embarked for training twice during the eight years, and have been through two 14-day courses at a Naval Hospital, will be eligible for advancement to the rank of Staff Surgeon; Staff Surgeons who have completed eight years' service in that rank will be eligible for promotion to the rank of Fleet Surgeon.

5. *Selection for Promotion.*—Promotion to the ranks of Staff Surgeon and Fleet Surgeon will be made to the Admiralty, as requisite to fill vacancies in the higher ranks, the promotion being by seniority tempered with selection.

6. "*Supernumerary*" *Surgeons and Staff Surgeons.*—Surgeons who complete eight years' service, and who, though eligible for promotion to Staff Surgeon, have not been advanced, may, at the discretion of the Admiralty, be retained on the Surgeons' List as "Supernumerary" (*see* paragraph 2). After completing eight years as "Supernumerary" (*i.e.* 16 years in all), they will be eligible to retire with the rank of Staff Surgeon, but may, at the discretion of the Admiralty, remain for another four years as "Supernumerary" on the Surgeons' List, in order to complete the 20 years' service required for the Volunteer Decoration. Retirement after completion of 20 years' service will be compulsory.

Staff Surgeons who complete eight years' service in that rank, and who have not been advanced, may, at the discretion of the Admiralty, be retained on the Staff Surgeons' List as "Supernumerary," and may remain on that List until they complete 20 years' service in the Royal Naval Volunteer Reserve. "Supernumerary" Staff Surgeons who complete 20 years in the Royal Naval Volunteer Reserve will be placed on the retired list, and will be eligible for the rank of Fleet Surgeon at the discretion of the Admiralty.

"Supernumerary" Surgeons and "Supernumerary" Staff Surgeons will be eligible for promotion to fill vacancies on the Staff Surgeons' and Fleet Surgeons' List.

7. *Retirement.*—(*a*) Surgeons who attain eight years' seniority without qualifying for promotion will be placed on the retired list.

(*b*) "Supernumerary" Surgeons (paragraph 6) (except those promoted to Staff Surgeon, will be retired compulsorily after 20 years' service in the Royal Naval Volunteer Reserve, but may retire at any time at their option (16 years' service being necessary to qualify for retired rank of Staff Surgeon).

(*c*) Staff Surgeons (including "Supernumerary" Staff Surgeons) may retire at any time at their option; but will be compulsorily retired on attaining 20 years' service in the Royal Naval Volunteer Reserve (except those promoted to Fleet Surgeon). Staff Surgeons who complete 20 years' total service before retirement will be eligible for the retired rank of Fleet Surgeon.

(*d*) Fleet Surgeons may retire at any time at their option, but will be compulsorily retired on attaining the age of 52.

8. *Resignation.*—Officers who are not eligible for retirement under paragraph 7 will (when not called out) be permitted to resign their commissions.

9. *Association with R.N.V.R. Divisions.*—Officers (except "Supernumerary" Surgeons and "Supernumerary" Staff Surgeons) will, as far as practicable, be attached to the Royal

Naval Volunteer Reserve Divisions or Outlying Companies, and in such cases will be eligible to earn the Capitation and Special Capitation Allowance for such Division or Company under the conditions laid down in the Royal Naval Volunteer Reserve Regulations (one of which conditions is attendance at Annual Inspection).

In cases where it is not practicable for an Officer to be attached to a Division or Company he will be shown as "unattached," and no Capitation or special Capitation allowance will be payable for him. All "Supernumerary" Surgeons and Staff Surgeons will be "unattached."

10. *Training in Peace.*—Surgeons R.N.V.R. will be required to undergo the following courses of training:—

Training Afloat in one of H.M. Ships.

Once in first four years' service and once in second four years' service as Surgeon, at an interval of not less than two years. The period of training will be from 14 to 28 days (at Officer's option), and the course of instruction will be in:

(1) The arrangements for the treatment of wounded in action.
(2) The keeping and rendering of accounts and returns.
(3) The victualling of the sick.
(4) The method of sending patients to hospital.

Hospital Course at a Naval Hospital.

Once in the first four years' service and once in second four years' service at an interval of not less than two years. The period of course will be 14 days, and will embrace instruction in:

(1) The routine of work.
(2) The admission and discharge of patients.
(3) The dieting of hospital patients.
(4) The examination of recruits.
(5) The method of keeping and rendering returns.

"Supernumerary" Surgeons, Staff Surgeons, "Supernumerary" Staff Surgeons and Fleet Surgeons will not be eligible to undergo further training.

11. *Pay, etc., during Peace Training.*—While under training as above Surgeons R.N.V.R. will be paid as follows:

Training Afloat.

Surgeons under two years' seniority	...	14s.	per diem.
,, of ,, ,,	...	15s.	,,
,, ,, four ,, ,,	...	17s.	,,
,, ,, six ,, ,,	...	18s.	,,

Hospital Course.

Pay as above and also Hospital Allowance at the usual Naval Rate.

Officers will travel between their place of residence and H.M. Ship or Hospital at the public expense under the Regulations as laid down for Naval Medical Officers of equivalent rank.

12. *Uniform.*—Officers before going through a course of training will be required to provide themselves with the following uniform:

No. 4 Frock Coat and No. 5 "Undress"	Frock coat. Undress coat (monkey jacket.) Morning waistcoat. Trousers, plain, blue. White trousers, during summer months. Cap (and cap covers from 1st May to 30th September). Sword and undress belt.
No. 7 "Mess Undress"	Jacket. Evening waistcoat (blue). Trousers, plain, blue.

An allowance of £20 in aid of outfit will be granted to Surgeons on their completing their first course of training afloat or their first Hospital course. In the event of an Officer resigning within three years he is liable to refund the allowance paid to him.

13. *Capitation Allowances.*—A capitation allowance at the rate of 50s. annually will be granted for each Medical Officer who is attached to a Division or Outlying Company (*see* paragraph 9) under the conditions laid down in the Royal Naval Volunteer Reserve Regulations, and is payable to the Division or Company concerned.

A special allowance at the rate of 30s. annually will be similarly granted for each "attached" Surgeon, Staff or Fleet Surgeon, who has completed both a course of training afloat and a Hospital course.

14. *Service when "called out."*—Whenever the Admiralty call out the Naval Volunteers, or any of them, for actual service, they will be liable to serve either ashore or afloat, as may be directed by the Admiralty, and anywhere the Admiralty may have need of their services, with the understanding that those services shall, as far as practicable, be confined to Home waters and the Mediterranean.

(2) As far as possible Fleet and Staff Surgeons and "Supernumerary" Surgeons, if required, would be utilised for shore appointments only.

15. *Pay when "called out."*—When called out, Medical Officers to be paid as follows:

Surgeons under two years' seniority	...	14s. + 8s. per diem (Special Allowance).
Surgeons of two years' seniority	... ...	15s. + 7s. ,, ,, ,,
Surgeons of four years' seniority	... ...	17s. + 5s. ,, ,, ,,
Surgeons of six years' seniority	... ...	18s. + 5s. ,, ,, ,,
Staff Surgeons under two years' seniority	...	20s. + 5s. per diem (Special Allowance).
Staff Surgeons of two years' seniority	...	21s. + 5s. ,, ,, ,,
Staff Surgeons of four years' seniority	...	24s. + 5s. ,, ,, ,,
Staff Surgeons of six years' seniority	...	25s. + 5s. ,, ,, ,,
Fleet Surgeons under two years' seniority	...	27s. + 5s. ,, ,, ,,
Fleet Surgeons of two years' seniority	...	28s. + 5s. ,, ,, ,,
Fleet Surgeons of four years' seniority	...	30s. + 5s. ,, ,, ,,
Fleet Surgeons of six years' seniority	...	31s. + 5s. ,, ,, ,,
Fleet Surgeons of eight years' seniority	...	33s. + 5s. ,, ,, ,,
Fleet Surgeons of ten years' seniority	...	35s. + 5s. ,, ,, ,,

together with Hospital, Lodging, and other Allowances, under the same conditions, and at same rates as, those payable to Naval Medical Officers.

16. *Pensions for Wounds.*—Officers who may receive hurts or wounds whilst on Active Service in the Royal Navy, or whilst undergoing training, will receive the same pensions and allowances as those to which Officers in the Royal Navy of corresponding rank would be entitled in similar circumstances.

17. *Pensions for Widows and Children.*—Widows and children (if any) of Officers who may be killed in action, or die from accident resulting from the performance of their duty, will receive the same Pensions and Compassionate Allowances as the widows and children of Naval Officers of corresponding rank would be entitled to in similar circumstances.

18. When selecting Medical Practitioners for appointment as Surgeons and Agents or similar posts, the Admiralty will give preference to candidates who hold commissions in the Royal Naval Volunteer Reserve.

SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, 28th, and 29th, 1911.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[FOURTH NOTICE.]

LIEBIG'S EXTRACT OF MEAT COMPANY (4, Lloyd's Avenue, London, E.C.). Of the various preparations of this firm, those which appeal more particularly to medical men are Lemco, Oxo, and Bifti. The former is, under another name, the preparation on which the firm originally founded its repute, the word Lemco being made up of the initials of the company's name. It is a pure beef extract, entirely free from fat, and, as is well known, lends itself readily to the preparation of beef teas. As for Oxo, though a somewhat younger claimant to popularity, it is now an almost equally familiar preparation to everyone. It is a compound of meat extract and meat fibre with the addition of flavouring matters, and long personal experience proves that on addition to it of a sufficiency of hot water there results a stimulating and exceedingly pleasant drink, with a full beef broth flavour. It is also put up in a form specially intended for use in the sick room, called *Nursing Oxo*. This is somewhat stronger than ordinary Oxo, but its special point is that in its manufacture all flavouring agents are omitted in order that it may be flavoured in the sick room according to the varying tastes of invalids. Ordinary Oxo, it may be noted, can now be obtained in concentrated solid cubes, as well as in the familiar pots. Bifti is the name given to small penny tablets of beef extract which are intended either for use in the sick room or for ordinary domestic use. With their assistance it is easy to prepare forthwith a very good soup, and they should be a boon to those engaged in district nursing and other corresponding

work. There were also shown Fraybentos Ox Tongue, Corned Beef, and a delicately seasoned Fraybentos Ox-tongue Soup, ready for immediate use. These various products are manufactured in the Argentine and at Fraybentos, in the State of Uruguay, where the firm possesses several million acres of land and maintains a standing stock of over 300,000 cattle. The extracts come over in bulk, and after analysis and final treatment are then potted and placed on the market. This part of the work is done, we understand, under the general control of the scientific adviser of the firm, Sir Henry Roscoe.

INGRAM AND ROYLE (East Paul's Wharf, Upper Thames Street, E.C.). This firm, which has branches in Liverpool and Bristol, are importers of practically all known natural mineral waters, and are the official agents of a very large number of Continental and other spas. Naturally it could not show samples of all of them, but its selection included many that are well known, and one or two comparatively newcomers. Among the former we place Hunyadi Janos, Carlsbad, Contrexéville, Evian, and Vichy, and among the latter water from the Deux Reines spring at Aix-les-Bains and Insalus. The former has been described by Professor Roux of Lyons as microbiologically one of the purest of medicinal waters, and Insalus, while not unsuitable for use as a table water, seems also to be gaining a repute in the treatment of uric acid troubles. Another water shown was Geisshübler, which enjoys immense popularity as a table water in the more eastern parts of Europe. Such flavour as it has is quite pleasant, and its effervescence is natural. It deserves, in short, to be much better known in this country than it is. A certain proportion of the natural mineral waters were shown concentrated in a form adaptable for transport, so that those who have become habituated to their use or who have been advised to take them may carry them about with them while travelling. In this connexion, possibly, the most important instance is the Natural Carlsbad Sprudel Salt, which is prepared at the spring itself. The use of this qualification "natural" is worth noting, because this salt has been widely imitated, and in many cases when Carlsbad Sprudel Salt alone is prescribed the patient receives an artificial preparation which is not what the physician intended him to have. The firm has recently brought out a new edition of a kind of catalogue of all natural waters which it first prepared some years ago. It is entitled "Natural Minerals: Their Properties and Uses." Copies can be obtained on application, and may be found useful by many practitioners, since the booklet contains either a complete analysis of each water or other information as to its chemical constitution, brief information as to the locality in which the spring rises, and a statement of the purposes for which use of the water has been advocated.

REBMAN LIMITED (129, Shaftesbury Avenue, W.). As has been the case in previous years, the stall of this firm of book publishers was specially strong in atlases. Among those shown were a *Portfolio of Dermochromes* by Jacobi, in its third edition, and a very handsome volume entitled *An Atlas of Typical Operations in Surgery* by Bockenheimer and Frohse. Also on view were specimens of the *Archives of Rontgen Ray and Allied Phenomena*, which appears monthly and holds an excellent position among those who devote their attention especially to *x*-ray work or the radium treatment. The *Principles of Anatomy*, by W. Cuthbert Morton, deals more specifically with the abdomen proper. It presents a series of plates which by disposition in various ways enable the contents of the abdomen to be studied individually and in relation to each other. They are intended to give assistance both to students and in connexion with clinical and operative work. The exhibit also included several books dealing with the modern treatment of syphilis, one of them being a translation of Wechselmann's work on the *Treatment of Syphilis and Salvarsan*, another being a second edition, brought duly up to date, of a compilation of various published observations of work in the same direction, by Dr. Johannes Bresler of Lubeck. Its title is *The Treatment of Syphilis by the Ehrlich-Hata Remedy*, and its translator is Dr. M. D. Eder. A third was a work on the *Experimental Chemotherapy of Spirillosis*, including syphilis, relapsing fever and framboesia, by Professor Ehrlich and S. Hata.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

SOUTH-EASTERN (IRELAND) BRANCH.—A meeting of this Branch, as also a meeting of the Branch Council and the local Division, will be held at the Adelphi Hotel, Waterford, on Wednesday, September 6th, at 3.30 o'clock. Agenda: (1) Minutes of last meeting. (2) Letters of apology. (3) Correspondence. (4) To receive report of our Representative at Representative Meeting, Birmingham. (5) Any other business.—J. QUIRKE, Honorary Secretary, Piltown.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

SURGEON G. O. M. DICKENSON, M.B., is promoted to be Staff Surgeon, August 23rd. He entered as Surgeon, May 23rd, 1904.

The following appointments have been made at the Admiralty: Staff Surgeon F. E. ANLEY to the *Sappho*, for the voyage out to Port Said, September 5th, and to the *Philomel*, on recommissioning, undated; Surgeon A. S. BRADLEY, M.B., to the *Excellent*, additional, for the *Grafton*, September 5th; Staff Surgeon P. T. SUTCLIFFE, M.B., to the *President*, additional, for the *Falmouth*, August 22nd, and on commissioning, undated; Staff Surgeon W. E. GRIBBELL to the *Defiance*, August 22nd; Surgeons A. D. C. CUMMINS and G. CARLISLE to the *Victory*, additional, for disposal, August 22nd; Surgeon L. C. ROWAN-ROBINSON, M.B., to Gibraltar Hospital, August 24th.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL J. W. RODGERS is permitted to retire from the service from July 5th. He joined the Bengal Medical Department as Surgeon, April 2nd, 1881, and became Lieutenant-Colonel, April 2nd, 1901. His war record includes: The Hazara Expedition, 1888 (medal with clasp); the Chitral Relief Force, 1895 (medal with clasp); and the operations in Somaliland in 1903–4, as Senior Medical Officer from July 16th, 1903 (medal with clasp).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT J. O. HAMILTON, M.B., is confirmed in his rank.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second Northumbrian Field Ambulance.—The following Lieutenants are promoted to be Captains from the dates specified: D. V. HAIG, M.D., July 30th; D. L. FISHER, M.B., July 31st; G. G. FARQUHAR, M.B., F.R.C.S.Eng., August 1st.

First Northern General Hospital.—Captain W. E. M. EDE, M.D., resigns his commission, August 19th.

Attached to Units other than Medical Units.—Lieutenant C. J. I. KRUMBHOLZ, M.B., to be Captain, April 21st; ROBERT DONALD to be Lieutenant, July 28th; Captain GEORGE WILSON, M.B., to be Major, May 1st. Captain ALBERT HILTON to be Major, July 12th.

For Attachment to Units other than Medical Units.—MANLEY L. BRIMBLECOMBE to be Lieutenant, May 11th; Lieutenant PERCY MOXEY, from the Third South Midland Field Ambulance, to be Lieutenant, August 21st.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during July:

	FROM	TO
Colonel M. W. Kerin, C.B.	Bareilly ...	Mussoorie.
,, L. E. Anderson	Allahabad ...	Bareilly.
,, W. G. Birrell, M.B.	Woolwich ...	Dover.
Lieut.-Col. A. L. F. Bate	Rawal Pindi....	Kuldana.
Major T. McCulloch, M.B.	Mandalay ...	Calcutta.
,, J. Ritchie, M.B.	Multan... ...	Dalhousie.
,, C. A. Stone, M.D.	Cosham ...	Parkhurst.
,, F. J. W. Porter, D.S.O.	,, ...	Lodmoor Camp.
,, E. C. Anderson, D.S.O.	Kuldana ...	Rawal Pindi.
,, L. P. More, M.B.	Rawal Pindi ...	S. Command.
,, R. C. Lewis	Chapel Bay ...	Carnarvon Camp.
,, G. T. K. Maurice	Bulford ...	Tidworth.
,, P. J. Probyn, D.S.O., M.B. ...	Hong Kong ...	Londonderry.
,, W. E. Hudleston	Parkhurst ...	Portsmouth.
,, G. B. Carter, M.B.	Rangoon ...	Maymyo.
,, P. H. Collingwood	Devonport ...	Exeter.
,, F. J. Brakenridge...	R.A.M. Coll. ...	S. Command.
Captain W. Bennett, M.B.	Naini Tal ...	Calcutta.
,, A. E. Hamerton, D.S.O. ...	London ...	Nyassaland.
,, L. L. G. Thorpe...	Shipton ...	West Down South.
,, W. S. Crosthwait	Moore Park Cp.	Fermoy.
,, J. H. Brunskill, M.B.	R.A.M. Coll. ...	Dublin Dist.
,, A. J. Hull...	,, ,, ...	London.
,, F. E. Rowan-Robinson, M.B.	Colchester ...	Norwich.
,, P. G. Hyde, M.B.	Dublin... ...	Rathmore Cp.
,, C. G. Thomson	—	Edinburgh.
,, P. Davidson, D.S.O., M.B. ...	R.A.M.Coll. ...	Aldershot.
,, R. L. V. Foster, M.B.... ...	,, ,, ...	Devonport District.
,, J. W. S. Seccombe	Jhansi	Nasirabad.
,, S. M. W. Meadows	R.A.M.Coll. ...	Tidworth Dist.
,, D. S. Skelton	,, ,, ...	N. Command.
,, J. G. Bell, M.B.	,, ,, ...	Seaforth.
,, F. W. W. Dawson, M.B. ...	Ticknock Cmp.	Dublin.
,, J. E. H. Gatt, M.D.	Allahabad ...	Benares.
,, A. E. B. Wood, M.B.	R.A.M.Coll. ...	Woolwich.
,, J. C. G. Carmichael, M.B. ...	,, ,, ...	Manchester.
,, R. H. Bridges	,, ,, ...	Netley.

		FROM	TO
Captain	J. A. W. Webster	R.A.M. Coll.	Cork District.
,,	F. C. Lambert	,, ,,	Liverpool.
,,	J. B. Meldon, M.B.	,, ,,	Shorncliffe.
,,	R. C. Wilmot	,, ,,	Portsmouth District.
,,	H. B. Kelly, M.B.	,, ,,	Dublin Dist.
,,	E. M. Pennefather	,, ,,	,, ,,
,,	B. H. V. Dunbar, M.D.	,, ,,	,, ,,
,,	J. M. M. Crawford, F.R.C.S.I.	,, ,,	Colchester.
,,	C. Bramhall	,, ,,	Woolwich.
,,	H. T. Stack, M.B.	,, ,,	Belfast Dist.
,,	B. G. Patch	,, ,,	N. Command.
,,	G. W. G. Hughes	Egypt. Army	York.
,,	A. C. H. Gray, M.B.	R.A.M. Coll.	Belfast Dist.
,,	D. P. Watson, M.B.	Lancaster	Barrow-in-Furness.
,,	T. S. Dudding	R.A.M. Coll.	Colchester.
,,	R. H. MacNicol, M.B.	,, ,,	,,
,,	H. H. J. Fawcett	,, ,,	Netley.
,,	S. L. Pallant	,, ,,	,,
,,	C. R. Sylvester-Bradley	,, ,,	Portsmouth District.
,,	S. E. Lewis, M.B.	,, ,,	Devonport District.
,,	P. J. Hanafin	,, ,,	Dublin Dist.
,,	J. D. Richmond, M.B.	,, ,,	Scottish Comd.
,,	E. M. Glanvill, M.B.	,, ,,	N. Command.
,,	W. MacD. MacDowall	,, ,,	Aldershot.
,,	T. J. Wright	,, ,,	,,
,,	F. J. Turner	,, ,,	,,
,,	E. C. Whitehead, M.B.	,, ,,	Scottish Comd.
,,	R. B. Hole, M.B.	,, ,,	Portsmouth District.
,,	W. Wiley, M.B.	,, ,,	Dover.
,,	H. Harding, M.B.	,, ,,	N. Comd.
,,	M. F. Grant	,, ,,	Aldershot.
,,	M. D. Ahern	,, ,,	Chatham.
,,	R. J. Cahill, M.B.	Curragh	Oranmore Camp.
,,	A. S. Arthur, M.B.	Edinburgh	Inverness.
,,	H. C. Winckworth	R.A.M. Coll.	Aldershot.
,,	P. A. Lloyd Jones, M.B.	Limerick	Nenagh Camp.
,,	R. J. B. Buchanan	R.A.M. Coll.	Portsmouth District.
,,	C. J. Coppinger, M.B.	India	Limerick.
,,	C. W. O'Brien	Kilbride Camp	Dublin.
,,	G. Ormrod, M.B.	Magilligan Camp	Belvoir Camp.
,,	H. H. A. Emerson, M.B.	R.A.M. Coll.	Cork District.
,,	A. M. Rose, M.B.	,, ,,	Aldershot.
,,	P. Farrant	,, ,,	Tidworth Dist.
,,	C. J. Wyatt, M.B.	,, ,,	Chatham.
,,	M. G. Dill, M.D.	,, ,,	Scottish Command.
,,	A. C. Elliott, M.B.	Rawal Pindi	Campbellpore.
,,	J. B. Hanafin, F.R.C.S.I.	Dehra Dun	Khyra-Gali.
,,	C. P. O'Brien-Butler	Belgaum	Poona.
Lieutenant	A. L. Foster	Rawal Pindi	Kalabagh.
,,	C. G. Sherlock, M.D.	,, ,,	Lahore.
,,	P. S. Tomlinson	Tidworth	Wedgenock Park.
,,	G. P. Taylor, M.B.	Glasgow	Irvine.
,,	A. W. Bevis	Chatham	Maidstone.
,,	R. H. Nolan	Rawal Pindi	Barian.
,,	H. V. Stanley, M.B.	Dublin	Kilbride C'mp.
,,	C. Robb, M.B.	Curragh	Donard Camp.
,,	T. J. Hallinan, M.B.	Cork	Kinsale.
,,	G. O. Chambers	York	Moor Laws Camp.
,,	J. K. Gaunt, M.B.	Cork	Limerick.

The following Lieutenants, appointed on probation January 27th, have been stationed as under: C. M. Finny, M.B., J. D. Kidd, M.B., E. G. S. Cane, F. A. Robinson, M.B., D. Reynolds, M.B., and C. D. K. Seaver. Irish Command; W. S. R. Steven, M.B., and W. Bisset, M.B., E. Command; G. Wilson, M.B., W. L. E. Fretz, M.B., and P. Hayes, M.B., Aldershot; W. A. Frost, M.B., and W. T. Graham, M.B., S. Command.

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

THE Registrar-General has just issued his return relating to the births and deaths in the second quarter of the year, and to the marriages during the three months ending March last. The marriage-rate during that period was equal to 10.0 per 1,000, against an average rate of 11.4 per 1,000 in the corresponding quarter of the ten preceding years.

The 225,777 births registered in England and Wales during the quarter under notice were equal to an annual rate of 25.0 per 1,000 of the population, provisionally estimated from the results of the recent census at 36,168,750 persons in the middle of the year; the birth-rate last quarter was 3.0 per 1,000 below the mean rate for the ten preceding second quarters, and is the lowest rate recorded in the corresponding period of any year since civil registration was established. The birth-rates in the several counties ranged from 18.6 in Sussex, 19.9 in Somersetshire, 20.2 in Berkshire, 20.4 in Cornwall, and 20.6 in Hertfordshire and in Devonshire, to 28.8 in Staffordshire, 28.9 in Carmarthenshire, 29.3 in Nottinghamshire, 29.8 in Monmouthshire, 31.3 in Glamorganshire, and 32.9 in Durham. In seventy-seven of the largest towns, including London, the birth-rate last quarter averaged 26.1 per 1,000; in London the rate was 25.2 per 1,000, while among the other towns it ranged from 15.3 in Hastings, 15.6 in Bournemouth, 17.6 in Hornsey, 19.3 in Bradford, 19.4 in Halifax, and 19.7 in Brighton, to 32.4 in Gateshead, 32.5 in St. Helens, 32.6 in Middlesbrough, 32.8 in Sunderland, 34.3 in Merthyr Tydfil, and 35.8 in Rhondda.

The excess of births over deaths during the quarter was 105,793, against 111,987 and 119,161 in the corresponding quarters of the two preceding years. From a return issued by the Board of Trade it appears that the passenger movement between the United Kingdom and places outside Europe resulted in a net balance outward of 49,685 English passengers, 1,163 Welsh, 24,680 Scottish, and 9,646 Irish, while there was a net balance inward of 9,820 British Colonial passengers and of 3,975 foreigners.

During the three months under notice the deaths of 119,984 persons were registered, equal to an annual rate of 13.3 per 1,000, or 1.3 per 1,000 less than the average rate in the corresponding quarter of the ten preceding years. The lowest county death-rates last quarter were 10.1 in Middlesex, 10.4 in Essex, 10.5 in Buckinghamshire, 11.0 in Hertfordshire, and 11.1 in Northamptonshire; the highest rates were 15.0 in Herefordshire, in Durham, and in Northumberland, 15.1 in Lancashire, 15.2 in Cumberland, 16.0 in Denbighshire, 16.2 in Carnarvonshire, and 16.3 in the North Riding of Yorkshire. In seventy-seven of the largest towns the corrected death-rate averaged 14.7 per 1,000; in 136 smaller towns the rate was 13.0 per 1,000, while in the remainder of the country it averaged 12.3 per 1,000. The crude death-rates in the seventy towns ranged from 8.7 in Reading, 9.1 in Hornsey, 9.6 in King's Norton, 9.7 in East Ham and in Handsworth (Staffs), and 9.8 in Leyton, to 16.1 in South Shields and in Tynemouth, 16.3 in Sunderland, 16.6 in Newcastle-on-Tyne, 16.9 in Stoke-on-Trent, 18.3 in Liverpool, and 19.4 in Middlesbrough; in London the death-rate was 13.2 per 1,000.

The 119,984 deaths from all causes last quarter included 9,721 which were referred to the principal infectious diseases; of these, 4,154 were attributed to measles, 2,365 to whooping-cough, 1,500 to diarrhoea and enteritis (among children under 2 years of age), 936 to diphtheria, 403 to scarlet fever, 350 to enteric fever, 9 to small-pox, 3 to typhus, and 1 to pyrexia of uncertain origin.

The rate of infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births was equal to 91 per 1,000, or 15 per 1,000 below the average rate in the ten preceding second quarters. Among the several counties the rates ranged from 51 in Buckinghamshire, 57 in Oxfordshire, 59 in Berkshire, and 62 in Hertfordshire and in Bedfordshire, to 105 in Derbyshire, 107 in Lancashire, 110 in Durham and in Denbighshire, and 112 in Cumberland. In seventy-seven of the largest towns the rate of infant mortality last quarter averaged 96 per 1,000, and ranged from 47 in Reading, 55 in Bournemouth, 60 in Brighton, 61 in Burton-on-Trent, and 67 in Hornsey and in Wallasey, to 138 in Bury, 141 in Stoke-on-Trent, 144 in Burnley, and 145 in Blackburn; in London the rate was 89 per 1,000.

The death-rate among persons aged from 1 to 65 years was at the rate of 7.6 per 1,000 of the population estimated to be living at this group of ages: in the seventy-seven large towns the death-rate at this age-group averaged 8.4 per 1,000, and ranged from 4.5 in Reading, 4.8 in Bournemouth, 5.0 in Handsworth (Staffs) and in King's Norton, and 5.2 in Hornsey, to 10.4 in St. Helens and in Tynemouth, 10.6 in Dewsbury, 11.8 in Liverpool, and 12.7 in Middlesbrough.

Among persons aged 65 years and upwards the rate of mortality last quarter was 85.2 per 1,000; in the seventy-seven towns the death-rate at this period averaged 93.2 per 1,000, and ranged from 59.1 in Leyton, 60.9 in Coventry, 65.7 in Newport (Mon.), and 69.2 in Dewsbury, to 119.4 in West Hartlepool, 123.8 in Newcastle-on-Tyne, and 126.8 in Middlesbrough and in South Shields.

The mean temperature of the air last quarter was above the average; the rainfall in London showed but little variation from the average, but over the country generally it was deficient; the duration of bright sunshine was everywhere in excess of the average.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 8,073 births and 6,568 deaths were registered during the week ending Saturday last, August 26th. The annual rate of mortality in these towns, which had been 15.9, 18.6, and 20.9 per 1,000 in the three preceding weeks, further rose to 21.2 per 1,000 in the week under notice. In London the death-rate was equal to 19.0, against 15.5, 18.7, and 19.1 per 1,000 in the three preceding weeks. Among the seventy-six other large towns the death-rates last week ranged from 9.8 in Hornsey, 11.3 in Handsworth (Staffs) and in Halifax, and 11.8 in Reading to 33.9 in St. Helens, 35.2 in Smethwick, 37 9 in Stoke-on-Trent, and 38.2 in Rotherham. Measles caused a death-rate of 1.6 in Wolverhampton; whooping-cough of 2.4 in West Hartlepool; and diarrhoeal diseases of 15.8 in Rotherham, 17.6 in Burnley, 17.8 in St. Helens, 18.9 in Stoke-on-Trent, and 20.7 in Rhondda. The mortality from the remaining epidemic diseases showed no marked excess in any of the towns, and no fatal case of small-pox was recorded in any town. Of the 6,568 deaths registered in the seventy-seven towns the causes of 39, or 0.6 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Liverpool and 4 each in Stoke-on-Trent and in Birmingham. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,433, 1,442, and 1,388 at the end of the three preceding weeks, further fell to 1,352 at the end of the week under notice; 132 new cases were admitted during the week, against 191, 159, and 149 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 815 births and 509 deaths were registered during the week ending Saturday, August 26th. The annual rate of mortality in these towns, which had been 14.4 and 14.2 in the two preceding weeks, rose to 15.5 in the week under notice, and was 5.7 per 1,000 below the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates last week ranged from 10.2 in Perth and 12.4 in Edinburgh to 16.8 in Dundee and 17.3 in Aberdeen. The mortality from the principal epidemic diseases averaged 3.5 per 1,000, being highest in Glasgow and Dundee. The 251 deaths from all causes registered in Glasgow included 2 from enteric fever, 3 from measles, 6 from whooping-cough, 5 from diphtheria, and 40 of children under 2 years of age from diarrhoea and enteritis. Fifteen deaths from infantile diarrhoea were recorded in Dundee, 5 in Aberdeen, 4 in Edinburgh, 4 in Paisley, and 3 in Greenock. Two fatal cases of whooping-cough were registered in Edinburgh.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, August 19th, 614 births and 427 deaths were registered in the twenty-two principal urban districts of Ireland, as against 595 births and 377 deaths in the preceding period. The annual death-rate in these districts, which had been 16.4, 16.8 and 17.1 per 1,000 in the preceding weeks, rose to 19.4 per 1,000 in the week under notice, this figure being 1.5 per 1,000 lower than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 25.1 and 18.8 respectively, those in other districts ranging from 4.2 in Drogheda and 4.7 in Sligo to 36.7 in Ballymena, while Cork stood at 12.9, Londonderry at 16.6, Limerick at 10.9, and Waterford at 22.8. The zymotic death-rate in the twenty-two districts averaged 5.2 as against 5.4 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ASHTON-UNDER-LYNE: DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

BEDFORD COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £70 per annum.

BIRMINGHAM: THE QUEEN'S HOSPITAL.—House-Physician and Obstetric and Ophthalmic House-Surgeon. Salary at the rate of £50 each per annum.

BRADFORD ROYAL INFIRMARY.—(1) Male House-Physician; salary, £100 per annum. (2) Two Male House-Surgeons; salary, £100 per annum.

BRECON: BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House-Surgeon (male). Salary, £120 per annum.

BRISTOL GENERAL HOSPITAL.—House-Physician. Salary, £80 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Commencing salary, £140 per annum.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Clinical Assistant.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—(1) House-Surgeon (male): salary, £125 per annum. (2) Assistant House-Surgeon; salary at the rate of £75 per annum.

DUBLIN: ROYAL VICTORIA EYE AND EAR HOSPITAL.—House-Surgeon. Salary, £40 per annum.

DUDLEY: THE GUEST HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

EDINBURGH HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN AND THE HOSPICE.—(1) Senior Resident Medical Officer. (2) Junior Resident Medical Officer. (3) Resident Medical Officer at the Hospice. Honorarium of £25, £12, and £25 per annum respectively.

FLINTSHIRE EDUCATION COMMITTEE.—Assistant to the County Medical Officer of Health and School Medical Officer. Joint salary, £250 per annum.

GLOUCESTER: THE GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeoncy (male). Salary at the rate of £80 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—(1) Resident Medical Officer, (2) Two House-Physicians, (3) Two House-Surgeons. Salary, (1) £120 per annum, (2) and (3) at the rate of £40 each per annum.

GREENWICH UNION.—Junior Assistant Medical Officer of the Infirmary and Workhouse. Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—(1) Senior House-Surgeon (male); salary, £100 per annum. (2) Assistant House-Surgeon (male); salary at the rate of £50 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KENSINGTON POSTAL SUBDISTRICT.—Medical Officer. Emoluments, £68 per annum.

LEEDS GENERAL INFIRMARY.—House-Physician.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer. Salary, £120 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Three House-Surgeons. (2) Two House-Physicians. Salary at the rate of £60 per annum.

LIVERPOOL UNIVERSITY.—Chair of Pathology. Salary not less than £600 per annum.

LONG EATON URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £100 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon. Salary, £100 per annum.

MANCHESTER CHILDREN'S HOSPITAL.—(1) Visiting Surgeon; salary, £100 per annum. (2) Male Resident Medical Officer; salary for first six months £40, and for second six months £50.

METROPOLITAN WATER BOARD.—Junior Chemical Assistant. Salary, £150 per annum.

MULLINGAR DISTRICT LUNATIC ASYLUM.—Resident Assistant Medical Officer. Salary, £112 10s. per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

PETERBOROUGH INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Physician (male). Salary, £75 per annum.

PRESTON ROYAL INFIRMARY.—Senior House-Surgeon (male). Salary, £80 per annum.

PRESTWICH COUNTY ASYLUM.—Assistant Medical Officer. Commencing salary, £150 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary at the rate of £50 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

SALFORD ROYAL HOSPITAL.—(1) Casualty House-Surgeon; salary at the rate of £50 per annum. (2) Junior House-Surgeon; salary at the rate of £50 per annum.

SHEPHERD'S BUSH POSTAL SUBDISTRICT.—Medical Officer. Emoluments, £35 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £90 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon (male). Salary, £70 per annum.

STAFFORD COUNTY ASYLUM.—Assistant Medical Officer (male). Salary, £150 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

SUNDERLAND: ROYAL INFIRMARY.—Male House-Physician. Salary at the rate of £80 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £70 per annum.

WALSALL AND DISTRICT HOSPITAL.—House-Physician and Casualty Officer. Salary, £80 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WEST HAM UNION.—Fourth Assistant Resident Medical Officer (male) of the Infirmary. Salary, £120 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House-Physicians. (2) Three House-Surgeons.

WINDSOR: KING EDWARD VII HOSPITAL.—House-Surgeon. Salary, £130 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Overton (Flintshire).

APPOINTMENTS.

PEET, J. H., L.R.C.P., L.R.C.S.Edin., District Medical Officer of the Guildford Union.

SMITH, B. W., F.R.C.S.Eng., M.B.Lond., Medical Officer of Health of the Gainsborough Rural District.

STEWART, G. I. T., M.A., B.Sc., M.B., C.M., D.P.H.Aberd., F.R.C.S.Eng., Medical Officer of Health for the County of East Suffolk.

WATSON, H., M.B., Ch.B.Aberd., District Medical Officer of the Norwich Union.

WILSON, J., M.D., L.F.P.S.Glasg., Medical Officer of Health for the Lanchester Rural District.

WITT, C., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer of the Lewisham Union Infirmary.

CHESHIRE COUNTY ASYLUM, Parkside.—The following appointments have been made:

Senior Assistant Medical Officer: Cormac, H. Dove, M.B., M.S. Madras.

Second Assistant Medical Officer: Parkin, G. G., M.B., Ch.B.Vict.

Third Assistant Medical Officer: Petrie, Gavin E., M.B., Ch.B.Aberd.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

MARRIAGE.

RORKE—MUIR.—In Glasgow, on the 23rd ult., by the Rev. K. D. McLaren, Cadzow, assisted by the Rev. George Blair, M.A., Quarter, William Wilson Rorke, M.B., Ch.B., Leytonstone, Essex, to Margaret Muir, M.B., Ch.B., elder daughter of Mr. and Mrs. Muir, Woodland View, Hamilton.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

EDINBURGH SEPTEMBER POST-GRADUATE COURSE.—The following are the arrangements for next week: 9 a.m., Medical Anatomy (daily), and Surgical Anatomy (daily); 10 a.m., Neurology (daily); 11 a.m., Surgical Clinic (daily); Medical Clinic (Tuesday and Thursday); Dermatology (Monday, Wednesday, and Friday); Ear, Nose, and Throat (Monday, Wednesday, and Thursday); 12 a.m., Surgical Clinic (Monday, Wednesday, and Friday); Medical Clinic (Tuesday and Thursday); Ophthalmology (Tuesday and Thursday); 2 p.m., Morbid Anatomy (daily); 3.30 p.m., Pathological Histology (daily); 5 p.m., Surgical Pathology (daily); 6.15 p.m., Gynaecological Pathology (Monday, Wednesday, and Friday); 8 p.m., Ophthalmoscopy (Monday, Wednesday, and Thursday).

LONDON HOSPITAL MEDICAL COLLEGE, E.—Monday, 2 p.m., Pulmonary Diseases. Tuesday, 2 p.m., Disease Giving Rise to Morbid Renal Excretion. Wednesday, 2 p.m., Abdominal Disease. Thursday, 2 p.m., Diseases of the Nervous System. Friday, 2 p.m., Diseases of the Heart.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Daily arrangements: Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m.

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SUPPLEMENT
TO THE
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LONDON: SATURDAY, SEPTEMBER 9TH, 1911.

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SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, 28th, and 29th, 1911.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[FIFTH NOTICE.]

REINER AND KEELER (9, Vere Street, Cavendish Square, W.). The exhibit of this firm made special appeal to the ophthalmologist, practically all the appliances shown being for his benefit. Among them was a box of trial lenses of a very convenient order, since each lens found a place in a solid block of wood instead of in a rack, and was thus well separated from its neighbours and easily removable. Lenses above the strength of 6 D were separately disposed in drawers at each side of the lower part of the case. Another exhibit was a working model of a fundoscope which virtually amounts to an electric ophthalmoscope combined with a telescope. The field secured by it is equal to about 40°, which is, of course, higher than that given by an ordinary ophthalmoscope. Also shown were a useful kind of pedestal lamp for ophthalmic work, and a very delicate instrument for testing the accurate centering of lenses. The various appliances designed by Edridge-Green for colour testing were also on view, and, in addition, some samples of the stereoscopic pictures for the training of the fusion sense in children, which are known as Cunningham's. Other exhibits worth mentioning were some lenses for the benefit of cases of extreme myopia, which were of an equally tinted colour throughout, some especially light combined lenses also for high errors, and the firm's solid ground bifocal lenses.

ANDERSON AND DODDS (11, Broad Street Corner, Birmingham). This well-known Midland firm of surgical manufacturers had upon view a fairly complete assortment of the surgical appliances produced by it, and several of them were of an exceptionally attractive character. Among these we place a set of scalpels in a Greig's case. The scalpels themselves were considerably smaller than usual, but nevertheless of a perfectly practical size, and fitted in to a light but strongly made metal case. In view of its portability and the readiness with which it can be sterilized, even in the absence of an ordinary sterilizing appliance, this set should prove popular. Another novelty was a *Watch-spring Pessary Introducer*, made after the design of Dr. Spriggs. Its primary intention seems to be to relieve the fingers of the necessity of compressing round pessaries during their introduction, and while it should certainly effect this object it should also render the accurate placing of such pessaries easier, and enable all undesired stretching of the parts to be avoided. An all-glass hypodermic syringe named the *Sterando Hypodermic Syringe*, which was also shown, seemed thoroughly well made, and is being put on the market at a remarkably low price. Finally may be mentioned a self-weighing machine, which had attached to its front a mirror in which the weight recorded can be read, and a device which the firm has brought out to facilitate the use of elastic thigh stockings. Woven into the side is a firm band of sufficient thickness to keep the stockings in place and yet produce no undesirable pressure.

JOHN WRIGHT AND SONS (Publishers, Bristol). As usual, this West of England firm of book publishers and printers had plenty to show in the way of new books, new editions, and various devices for facilitating both the acquirements of knowledge and its practice. The admirable papier maché casts prepared under the direction of Mr. C. W. Cathcart for teaching anatomy, to which we drew attention last year, were also on view. There are now some twenty-three sets relating to different parts of the body. Among the new books we noticed *An Introduction to Surgery*, by Professor Rutherford Morison, which contains 146 illustrations in the text and five coloured plates; one edition is very usefully interleaved for notes. Other new books shown were *The New Physiology in Surgical and General Practice*, by Rendle Short, of Bristol, who attempts in it to gather together what recent developments in physiology are most likely to be of value in diagnosis and treatment; and *The Deaf Child*, a manual for teachers and school doctors, by Dr. J. K. Love, whose object has been to place the study of deafness in children on a scientific footing and to offer a clinical basis for the application of educational methods. We also noted a fifth edition of that well-known book, *Pye's Surgical Handicraft;* its present editor, Mr. Clayton Greene, besides enlarging its scope, appears largely to have rewritten its text, and has brought up the number of illustrations, many of which are entirely

new, to over 300. A translation by Mr. Dickie from the sixth and revised edition of Lejars's *Urgent Surgery* likewise attracted notice, as well as a book entitled *Medical Diseases in Children*, by R. Miller, of the Paddington Green Children's Hospital. It is intended for general practitioners, includes a section on feeding, and is freely illustrated. There were also shown some samples of the "Golden Rule" series, which now numbers eighteen booklets of vest-pocket size, each by a different author and each containing what such author regards as rules never to be forgotten in respect of the condition with which he deals. In addition to these and many other textbooks and treatises there was a large exhibit of the clinical charts, educational diagrams, case books, and medical account books with which the name of the firm is so familiar, and also some copies of that very useful year book of treatment and record of medical and surgical progress known as the *Medical Annual*.

Spencer, Heath and George (52, Goswell Road, London, E.C.). To those who take a special interest in exercise as applied either to the preservation of health or to the rectification of physical defects and functional disorders, the exhibit of this firm must have been most attractive. Since the firm is a manufacturer of all forms of gymnastic apparatus, probably most visitors must have been acquainted already with some one or other of its products, while those who have had occasion to visit the various physical treatment departments instituted in several hospitals in London during the last few years must have seen several at least of its more specifically medical devices in actual use. They include, apart from high and low plinths and methods of measuring chest capacity and the strength of different muscles, a stationary cycle exerciser, a medical combination apparatus, and the Sargent combination pulley-weight machine. The former has adjustable pedals and has been recommended by surgeons as a means of dealing with joints stiffened by rheumatism or other cause, while the Medical Combination Apparatus represents an appliance offering facilities for the use, under the surgeon's own supervision, of a variety of remedial exercises. The Sargent Combination Machine includes several more or less familiar devices in one machine. Thus there are weights to pull from below upwards, from above downwards, or horizontally, a back board, foot exercisers, and a rowing machine. All the machines shown were thoroughly well made and designed, with a view to their easy installation in private houses if desired.

Cadbury Bros. (Bournville, Birmingham). In addition to affording members of the Association an opportunity of examining for themselves the admirably hygienic conditions under which its manufactures are produced, this firm had a stall in the exhibition on which were to be found samples of its Cocoa Essence, its Dairy Milk Chocolate, and Bournville Chocolate. They are all so well known that we need merely note that as chocolate and cocoa manufacturers this firm does something more than hold its own, despite competition of the most active order, and that so far as chocolate is to be regarded as a sweetmeat all needs would seem to be met by the Bournville chocolate which in point of flavour is comparable with the most expensive foreign brands. Swiss manufacturers it has met on their own ground, so to speak, by the production of *Dairy Milk Chocolate*, a very good specimen of this particular class of chocolate, which many people prefer, either on account of its characteristic flavour or owing to the superior dietetic value which it is believed to possess. The *Cocoa Essence* of the firm, it need scarcely be said, has long since been accepted as one of the best preparations of cocoa on the market. It is undoubtedly of high value as a combined beverage and food, and, apart from its intrinsic value in these respects, it is rendered acceptable to many persons who as a rule are not fond of cocoa by its freedom from added sugar and absence of grittiness in solution. The firm is also, we believe, the producer of another cocoa essence known as Bournville, though we did not observe any samples of it on the stall. It is rather sweeter than the Cocoa Essence, and with many people a greater favourite. All the products of this firm are entitled to a distinct place in scientific dietetics, and may be written down as long since having attained it.

J. Nesbit-Evans and Co. (Floodgate Street, Birmingham). As last year, the exhibits of this firm proved very attractive. Occupying two stalls, they covered fairly completely the whole range of hospital furniture, beds and appliances for use in connexion therewith predominating. The wire mattress used by the firm is known as the *anti-sagging mattress*, and has been very carefully thought out. In addition to the ordinary curved springs at foot and head common to most wire mattresses, it has a further series of curved springs in the middle, just where support is most required. The bedsteads themselves are also very well designed, the desiderata in beds which are to be used by invalids of various orders, by children, and by the insane, having been for the most part anticipated. The *Balcony bedstead* is a case in point, as by the movement of a very simple lever at the foot the bed is at once made as freely movable as an ambulance. Examples of this bed have recently been supplied, we understand, to the Glasgow Western Infirmary, the Sheffield Royal Infirmary, and other institutions which have had occasion to overhaul their ward equipment. A cot for children, made on similar principles, has special means for preventing the occupant releasing the side rails. The use of wooden blocks for raising either the head or the foot of a bed is always troublesome and a little risky, but on the patent *Bed inclining stand* of this firm any bed will rest quite firmly. Some of these supports have an attachment for a pulley block and weight for use in cases of fracture. All the appliances of this firm are well worth examination by those charged either with the first equipment of new hospitals or with the bringing up to date of the ward furniture of older institutions.

Callard and Co. (74, Regent Street, London, W.). The novel feature of the exhibit of this firm at Birmingham was *Avarin* powder, which has been brought out as a remedy for constipation. The firm calls it a food, partly perhaps because its constitution affords it a certain nutritive value, but chiefly no doubt because the active component is not a drug in the ordinary sense of the word; this is agar-agar, which has been claimed to have a useful action when constipation is due to lack of bulk and moisture in the intestinal contents. In this preparation the agar-agar, usually not very easy to administer, is in very fine powder admixed with a soluble carbohydrate, and the two together readily dissolve in warm water, and present neither taste nor smell. Clinical experience of its use may prove interesting. The other exhibits were more in keeping with the well-founded reputation of the firm as a manufacturer of articles of diet for diabetics to whom starches or sugars are forbidden. Biscuits practically free both from starch and sugar, and cakes and marmalades, jams, and beverages, almost if not absolutely sugarless, were all upon view, and for the most part proved excellent to eat. Two starchless breads were also shown. One of these was a brown bread named Cellulon; when cut into thin slices and buttered, it is an excellent bread for use with fish and the like, and those eating it would, we think, be unlikely to detect that it was not ordinary brown bread. Nevertheless the contained carbohydrates, according to the analyses supplied, are considerably less than 2 per cent., while the hydrocarbons and albuminoids are as high as 18 per cent. and 19 per cent. respectively. The Prolacto Bread, on the other hand, is white, and in texture and appearance has a greater resemblance to ordinary bread than the vast majority of its congeners. Moreover, in respect of palatability, it will be a surprise to those who are only acquainted with earlier endeavours to produce starchless bread. Nevertheless, despite its close resemblance to ordinary bread in other ways, the carbohydrates are stated to be well under 1 per cent., the albuminoids being nearly 34 per cent., and the fat a little over 17 per cent.

Feltoe and Smith (25, Augustus Street, Regent's Park, London, N.W.). This firm is the proprietor of two brands of lime juice and lemon squash, known respectively as "Specialité Lime Juice Cordial" and "Cloudy Lemon Squash," both of which are manufactured by the firm itself. The Lime Juice Cordial is guaranteed by the firm to be entirely free from foreign material, and is certainly, when mixed with water, an extremely pleasant and

refreshing beverage. It is believed by the manufacturers to be as free from alcohol as any beverage can be. The Cloudy Lemon Squash is considered by the firm to be the nearest approach to freshly-squeezed lemon that has yet been produced; it is, in fact, stated to be nothing but pure lemon juice, from which the pulpy portions have been removed and to which lump sugar has been added. The firm also showed some lemon squash crystals from which lemonade of excellent flavour can be prepared rapidly and at very small cost.

T. Holland and Son (46, South Audley Street, London, W.). Under the guidance of various surgeons this firm has long made a study of the best kind of foot gear for the use of those suffering from various morbid conditions of the feet. Apart from special devices such as instep supports, toe posts, and the like, it makes, when desired, boots with a prolonged heel on the inner side, and a stiffening of leather carried up over the ankle to enable more natural movement to be secured by those whose condition of flat-foot cannot otherwise be effectually relieved. One of its special devices, known as the *Instep Arch Sock, or Supporter*, has undergone, we fancy, several modifications during the history of its existence, and one or other of them has been so largely used at various hospitals and elsewhere that probably it is already well known by name to most members of the medical profession. In its latest form it consists of a thin leather moulded sole, which can be worn in any boot and does not shift about, since it corresponds precisely to the interior length of the boot. To the under part of this sole are attached one or more springs, so adjusted as to bring the upward pressure immediately under that part of the astragalus which is unsupported by the os calcis. The springs vary in number, as different cases require different degrees of upward pressure. The elasticity of the support afforded is a great point in its favour, and after a few days they appear to be worn with entire comfort. The firm also specializes in the making of boots to fit feet which have been deformed by ill-cut, too short, or too narrow boots in the past, and are thus the seat of hammer-toe, corns, or bunions. Its efforts in this direction are especially worth noting, as in turning out boots of this class the firm bears in mind that it is desirable to secure neatness in a boot as well as to cut it on strictly anatomical principles.

Horlick's Malted Milk Company (Slough, Bucks).—In one way or another the preparation of this firm has become fairly familiar to most people, at any rate by name, and in respect of many of its uses it enjoys a popularity which is by no means unmerited. It is a dry powder, derived, we understand, from malted wheat and milk, and dried cow's milk, and, according to an analysis by Holt, contains 8.7 per cent. fat, 16.3 per cent. proteid, 3.8 per cent. inorganic salts, and some 68 per cent. soluble carbohydrates in the form of dextrine, lactose and maltose. It is put up in bottles, and if kept closely corked remains good in our experience for an indefinite period. Its preparation for use entails very little trouble; the desired quantity is rubbed up into a paste with a little milk or water, and is then at once ready for use on the addition of whatever quantity of hot water or cold water it is desired to add. In view of the ease and rapidity of its preparation, the nature of its contents, the variety of ways in which it can be taken, it is certainly entitled to be regarded as a very convenient food preparation for invalids. It is also well suited for use by adults who are not invalids, and can be taken as a warm "night-cap" for the sleepless at bedtime, or as a cool long drink during hot weather by shaking it up with soda water by those who have either no time or no appetite for an ordinary meal. It is in such connexions that our own acquaintance of it is most extensive, but it appears also to be largely used as a food for infants, and its claims to consideration in this connexion may be regarded as quite on a par with those of its rivals. For its use in this way the firm has prepared a special bottle, which has some good points as a feeder, being easily kept clean, and being furnished with a special valve to allow of the admission of an even supply of air. Horlick's Malted Milk is also put up in tablet form, some of these having the natural malty flavour of the product itself, and others being flavoured with chocolate.

Claudius Ash, Sons, and Co. (12, Broad Street, Golden Square, London). The name of this firm, as also its products, has been familiar to many generations of dental surgeons, and of late years it has attained a repute among anaesthetists likewise. Its exhibit at Birmingham appealed to both these classes, there being, apart from various mouth openers, gags, and forceps, a comprehensive display of anaesthetic apparatus. This included the firm's gas apparatus, and one for the simultaneous use both of gas and oxygen, as well as the device of Coleman for using the nasal tract as a means of securing anaesthesia, and several methods of giving ethyl chloride in a sequence. Also shown were several local anaesthetics, hypodermic syringes for use in connexion with the same, some special aprons for operator and patient, and an emergency outfit.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

NORTH OF ENGLAND BRANCH:

Durham Division.

A meeting of the Durham Division was held at the Royal County Hotel, Durham, on Friday, August 25th. Dr. H. Smith was called to the chair.

Insurance Bill.—The Honorary Secretary of the Branch (Dr. Todd) explained the reason for calling the meeting and pointed out that the Central Organization Committee was most anxious to have all the Divisions thoroughly organized and in working order, with active members of the profession in office, so that they could be prepared for any emergency. He also explained the keen fight which the Association had made and the many amendments which it had been able to bring forward in connexion with the National Insurance Bill, and pointed out that only through the organization of the British Medical Association was it possible for the members of the medical profession to grapple successfully with such legislation as the bill which was at present before the House of Commons.

Federation of the Profession.—The Branch Honorary Secretary also reported that there was a movement on foot at present to bring all the colliery surgeons and similar contract practitioners into line, so that in the future, instead of having to fight individual battles for recognized rates of payment, it would be done collectively and from the head quarters of the Association, acting as a federation of the members of the medical profession.

Election of Officers.—Dr. H. Smith was unanimously elected Chairman of the Division; Dr. Denholm, junior, was elected Honorary Secretary; and the following were elected as the Executive Committee of the Division: Dr. Plummer, Dr. Oliver, Dr. French, and Dr. Pain, the Honorary Secretary and Chairman being *ex officio* members.

Rules.—Rule "Z" of the Bradford rules was adopted, as also were rules for management of the Division.

Dispute.—The Honorary Secretary of the Branch reported the position of the dispute at Esh Winning, which was discussed, and it was unanimously resolved that no members of the Association should meet the practitioner who was opposing Dr. French in that area, and that he should be referred to the Ethical Committee of the Branch.

Vote of Thanks.—Dr. Todd was thanked for the services which he had rendered in connexion with the meeting.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

North of England Branch.—The annual meeting of the North of England Branch will be held at the Grand Hotel, Sunderland, on September 14th at 2 p.m.—David F. Todd, Honorary Secretary and Treasurer, Beech House, Sunderland.

MEMBERS ELECTED TO THE BRITISH MEDICAL ASSOCIATION

(MAY 16TH TO JULY 5TH, 1911).

(FIRST LIST.)

BY THE COUNCIL.

Ferguson, George Edward, Captain R.A.M.C., M.R.C.S., L.R.C.P.
Horne, John Howard, Lieutenant, I.M.S., M.B., Ch.B.
Pearson, John Sydney, M.R.C.S., L.R.C.P., c.o. P.M.O., Sierra Leone, West Africa
Pickthorn, Edward Butler, Fleet Surgeon R.N., M.R.C.S., L.R.C.P.

BY BRANCH COUNCILS.

Aberdeen Branch.

Anderson, W., M.B., 2, Fountainhall Road, Aberdeen
Byres, W. J., M.D., 167, Great Western Road, Aberdeen
Cameron, Charles, M.B., 30, West High Street, Inverurie
Crarer, G. P., M.B., The Braes, Turriff
Galloway, J. C., M.D., Castle Street, Banff
McDonald, C. A., M.B., 60, Union Row, Aberdeen
McWalter, Wm., M.B., Bay View, H.M. Prison, Peterhead
Munro, J. M., M.B., Maryville, Tarves
Murray, A. B., M.B., Seafield House, Banff
Niven, A. S., M.D., Towie Cottage, Turriff
Presslie, Alex., M.B., 1, Rubislaw Place, Aberdeen
Stephen, J. H., M.B., Back Path, Banff

Baluchistan Branch.

Gaster, S., Esq., C.M.S. Hospital, Quetta

Birmingham Branch.

Aitken, R. W., M.B., Dispensary, Ladywood, Birmingham
Allen, R. G., Esq., Red Hill, Coventry Road, South Yardley, Birmingham
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Bekenn, J. J., Esq., 277, Monument Road, Birmingham
Bernstein, Moses, Esq., 11, Charlotte Road, Edgbaston
Billington, S. G., M.B., Queen's Hospital, Birmingham
Blyth, Henry, M.B., General Dispensary, Union Street, Birmingham
Boswell, N. A., M.B., Queen's Hospital, Birmingham
Box, W. F., M.B., Bridge House, Stratford-on-Avon
Breen, M., Esq., 23, Adelaide Street, Birmingham
Brown, Alfred, M.D., Mount Pleasant, Wootton Wawen
Bushnell, P. C., Esq., White House, Inkberrow
Clarke, R. E., M.B., General Dispensary, Bury Street, Lozells, Birmingham
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Craig, G. W., Esq., 14, Summer Hill Terrace, Parade, Birmingham
Creak, A. B., Esq., Balholm, King's Heath, Birmingham
Cusack, W. H., M.B., City Hospital, Birmingham
Darlington, H. E., Esq. 13, Hall Road, Handsworth
Davidson, W. Y., M.B., 380, High Street, Smethwick, Birmingham
Eales, W. H. F., Esq., Eye Hospital, Church Street, Birmingham
East, E. C., Esq., Westholme, Shenstone Road, City Road, Birmingham
Ellis, F. W., F.R.C.S., 3, Maple Road, Bournville
Esslemont, A. I., M.B., 1, High Street, Deritend, Birmingham
Evans, H. A., M.B., 80, Abbey Street, Nuneaton
Fairley, Helen W. S., L.R.C.P.E., Oaklands, Gravelly Hill, Birmingham
Feast, F. B., M.B., 526, Coventry Road, Birmingham
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Goodwin, B. G., Esq., University Club, Birmingham
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Green, Reginald, M.D., Rimside, Northfield
Handfield-Jones, C. R., M.D., Laneborough, Leamington
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Houghton, W. C., M.B., The Crossways, Hall Green, Birmingham
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Johnson, Claude, M.B., Rock Mount, King's Heath, Birmingham
Jones, E. W., M.B., Walmer House, Aldridge
Jones, W. H., Esq., 359, Bristol Road, Edgbaston
Jordan, J. B., Esq., Queen's Hospital, Birmingham
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Laughton, J. A., Esq., General Dispensary, Small Heath
Line, W. H., M.D., 144, Hockley Hill, Birmingham
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McDonnell, E. T., M.D., Clent, Stourbridge
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Norris, B. S., Esq., 3, Birchfield Road, Aston, Birmingham
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Pratt, E. C., Esq., Raglan Road, Smethwick
Prendergast, W. J., M.B., Hollymoor, Northfield
Prosser, A. B., M.B., 250, Brearley Street, Birmingham
Pugh, S. H., M.B., The Infirmary, Birmingham
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Revely, J. S., M.D., 159, Birchfield Road, Birmingham
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Smith, G. J., M.D., 560, Bearwood Road, Smethwick, Birmingham
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Spring, D. M., M.B., 54, Frederick Road, Edgbaston
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Masson, J., M.D., 24, Ormskirk Street, St. Helens
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Mellor, J., Esq., 8, Bolton Road, Bury
Pochin, F. L., M.D., 8, Manchester Road, Oldham
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Rothwell, W. E., M.B., The Wylde, Bury
Salter, S. C., Esq., 394, Dickenson Road, Longsight
Scarr, George, M.B., Beech House, Radcliffe
Stevenson, John, M.B., Sunny Bank House, Cornholme, Todmorden
Sutherland, D. P., M.B., Consumption Hospital, Bowdon
Unsworth, G., M.B., 16, Deane Road, Bolton
Unsworth, J., M.B., 38, North Road, St. Helens
Valentine, R. W., M.B., 76, Lancaster Place, Blackburn
Walker, J. T., M.B., 445, City Road, Manchester
Wallace, G., M.B., 107, Arundel Avenue, Liverpool
Williams, A. M., Esq., Holly Bank, Bury Lancashire
Wilson, D. A., M.B., Shirley House, Hyde
Wright, J. Farrall, Esq., 46, Derby Street, Bolton
Young, A. J., Esq., Duntrune, Whitefield Manchester

INSURANCE BILL.

BRIGHTON DIVISION OF THE BRITISH MEDICAL ASSOCIATION MEDICAL PRACTITIONERS' DEFENCE FUND.

AT a general meeting of medical practitioners resident in the area of the Brighton Division, held on June 15th, it was resolved that a local fund should be started to enable the profession successfully to combat the attack upon their interests which the clauses of the National Insurance Bill relating to medical benefits appear to threaten. The establishment of this fund was entrusted to the Executive Committee of the Division. The rules have been very carefully revised, and have been approved by the Solicitor to the Association. The Executive Committee of the Brighton Division has recently issued the following circular to every registered medical practitioner residing in the area:

In whatever form the Insurance Bill finally becomes law, it is now certain that most important questions relating to the administration of medical benefits, the remuneration and method of remuneration of medical practitioners, and the fixation of a local wage limit will have to be settled between the Local Health Committees set up by the Act and the local medical profession. These questions will be entirely matters of bargaining and negotiation, and unless the medical profession in each locality is fully equipped and ready for the fray, serious damage may be done. The Act will confer certain rather vague and indefinite powers upon Local Medical Committees which will have to be elected by the local medical practitioners. The course of action and the authority of these Medical Committees and the ultimate issue of the negotiations between the Local Health Committees and the Local Medical Committees will depend almost entirely upon the support given to the Medical Committees by the local profession. It is clear that a united local profession will be able to insist upon fair dealing and reasonable terms of service, whilst a disorganized and ununited profession will receive the scantiest consideration.

It is impossible to forecast what dangers and perils the future will bring, and therefore a large latitude must be given to the Executive Committee when interpreting rules for the conduct and operation for the Defence Fund. The Committee is anxious, however, to make it quite clear that the fund is to be essentially a fighting fund to prevent injury to the interests of the medical profession, to secure unanimity of action, and to prevent the individual bargaining and underselling which has hitherto so disastrously prevailed in the field of contract practice.

The Committee has adopted the following rules:

RULES OF THE BRIGHTON DIVISION MEDICAL PRACTITIONERS' DEFENCE FUND.

1. The fund shall be called the Brighton Division Medical Practitioners' Defence Fund. Contributions shall be made either (1) by guarantee or (2) by subscription. The fund shall be administered by and under the direction of the Executive Committee of the Brighton Division of the British Medical Association, together with such members as may be co-opted under Rule 7, hereinafter referred to as the Committee.

2. The objects of the fund shall be:

(A) To indemnify, to such an extent as the funds at the disposal of the Committee may permit, and as the Committee may think desirable, medical practitioners resident in the area of the Brighton Division for loss incurred either by refusal to undertake service under the Insurance Act or for loss of friendly society and similar appointments, in all cases where such refusal to act shall in the opinion of the Committee have been occasioned solely by reason of the medical practitioner concerned having complied with the wishes and directions of the Division.

(B) To provide financial assistance to medical practitioners resident in the area of the Division who shall have been proved to have suffered financial loss by reason of the operation of the provisions of the Insurance Act.

(C) To assist in defraying expenses incurred by the Division in defending the interests of practitioners as affected by the provisions of the Insurance Bill.

(D) To further the general interests of the profession in such way as may be considered necessary or desirable in the present crisis.

3. No indemnity shall be payable to any medical practitioner unless a formal application for advice shall have been made by him in writing to the Committee giving all necessary details and information before refusing service under the Act or resigning appointments: nor unless a formal certificate shall have been issued by the Committee authorizing such action.

4. No application for compensation or financial assistance shall be considered from any medical practitioner who has not on or before October 15th, 1911, either guaranteed or subscribed to the fund a sum equal to at least 25 per cent. of his gross annual club income; or if not holding contract appointments has not guaranteed or subscribed a sum of at least £10.

5. Every application for financial assistance shall be judged strictly on its individual merits and the decision of the Committee shall be final.

6. No application of any kind shall be considered from any medical practitioner who has not returned to the Divisional Secretary duly signed on or before October 15th, 1911, the form of declaration issued by the British Medical Association on June 21st, 1911.

7. The Committee shall co-opt and add to its number for the purposes of the fund not more than six or less than three additional members who must be guarantors or subscribers. The Committee shall elect its own officers.

8. For expenses of administration the Committee of the Fund shall have power to make a levy or levies from the guarantors, the total amount of which shall not exceed one pound per head. No further levy shall be made except by a resolution of the Committee confirmed by a two-thirds majority of guarantors present and voting at a general meeting of which seven clear days' notice shall have been given to each guarantor.

9. No alteration shall be made in these rules except by a resolution of the Committee confirmed by a two-thirds majority of all guarantors present and voting at a general meeting, of which seven full days' notice shall have been given to each guarantor.

These rules were adopted by the Committee at a meeting on August 16th, and have been circulated with a letter in which the Honorary Secretary of the Division stated that at a meeting of the Committee on August 23rd he was authorized to call for a first levy of 5s. for administrative expenses in accordance with Rule 8, and invites each recipient to sign the following:

FORM OF GUARANTEE.

I agree to the foregoing rules, and as a contribution to and for the purposes of the Defence Fund, I hereby guarantee the sum of £.....

Dated this *day of* *1911.*

(Signed)..... SIXPENNY STAMP. .....

Address .....

I enclose *for 5s., being the amount of the first levy called in by the Committee for administrative expenses in accordance with Rule 8.*

Dated this *day of* *1911.*

(Signed).....

Address .....

The administration of the Fund is directed by the Executive Committee of the Brighton Division of the British Medical Association with the following co-opted members: Dr. Hobhouse (Chairman of the Defence Fund Committee), Dr. W. Ainslie Hollis (Treasurer of the Fund), and Dr. Jacomb Hood.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Fleet Surgeon J. H. PEAD, M.B., and Surgeon L. L. GREIG, M.B., to the *Cumberland*, on recommissioning, September 5th; Fleet Surgeon J. E. H. PHILLIPS to the *Superb*, September 5th; Staff Surgeon J. G. PEEBLES, M.B., to the *Dido*, on recommissioning, September 5th; Staff Surgeon H. HUNT to the *Endymion*, September 5th; Surgeon R. F. MACMAHON to the *Pembroke*, additional, for disposal, September 1st; Staff Surgeon R. W. B. HALL to the *Sirius*, for the voyage out and home, September 12th; Surgeon G. MOIR to the *Pembroke*, additional, for disposal, September 5th; Fleet Surgeon G. A. WATERS, M.D., to the *Excellent*, September 8th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL S. R. WILLS retires on retired pay, August 30th. His commissions are thus dated; Surgeon, May 30th, 1885; Surgeon-Major, May 30th, 1897; and Lieutenant-Colonel, May 30th, 1905. He served with the Hazara Expedition in 1891 (medal with clasp); with the Tirah Expeditionary Force, on the North-West Frontier of India, in 1897–8 (medal with two clasps); and in the South African war in 1899–1902, being present at the relief of Ladysmith, in the actions at Spion Kop, Vaal Kranz, and the Tugela Heights, and in subsequent operations in the Transvaal (Queen's medal with four clasps, and King's medal with two clasps).

The undermentioned to be Lieutenants (on probation), dated July 28th: BASIL H. H. SPENCE, M.B., WILLIAM B. LAIRD, DOUGLAS W. BRUCE, M.B., HERBERT S. BLACKMORE, EDWARD S. CALTHROP, M.B., LEONARD BUCKLEY, M.B., Lieutenant FRANCIS R. B. SKRIMSHIRE (from the 4th Battalion the Hampshire Regiment), RICHARD T. VIVIAN, THOMAS E. OSMOND, ERNEST C. DEANE, STANLEY P. SYKES, M.B., ROBERT DAVIDSON, M.B., EDWARD G. H. COWEN, M.B., EDWARD B. ALLNUTT, JAMES M. ELLIOTT, M.B., HARRY C. TODD, M.B., MAURICE DRUMMOND, ALEXANDER G. J. MACILWAINE, WILLIAM STEWART, M.B., FRANK S. TAMPLIN, IVOR R. HUDLESTON, ARTHUR S. HEALE, ARTHUR J. O. WIGMORE, HENRY J. G. WELLS, M.B., Lieutenant WILLIAM L. WEBSTER, M.B. (from the Royal Army Medical Corps, Special Reserve).

The undermentioned Lieutenants (on probation) are seconded under the provisions of Article 300, Royal Warrant for Pay and Promotion, 1909, dated July 28th: WILLIAM B. LAIRD, FRANCIS R. B. SKRIMSHIRE, THOMAS E. OSMOND. EDWARD B. ALLNUTT, HARRY C. TODD, M.B.

Major J. C. MORGAN to be Lieutenant-Colonel, vice S. R. Wills, retired, August 30th. Lieutenant-Colonel Morgan was appointed Surgeon-Captain, February 5th, 1887, and Major, February 5th, 1899. He served with the Zhob Valley Expedition in 1890, and in the campaign on the North-West Frontier of India in 1897–8 with the Tirah Expeditionary Force as Staff Surgeon at Head Quarters; he was mentioned in dispatches and received a medal with two clasps.

ROYAL ARMY MEDICAL CORPS.

EXCHANGES.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in Stamps or Post Office Order with the notice, not later than Wednesday morning in order to ensure insertion in the current issue.

A MAJOR R.A.M.C., due for India this trooping season, wishes to exchange to remain at home. Please state terms for full tour abroad, or for part tour, to No. 5750, BRITISH MEDICAL JOURNAL.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

THE following are appointed Lieutenants (on probation): Cadet Lance-Corporal CHARLES H. CARLTON, from the University of Oxford Contingent, Officers' Training Corps, July 31st; Cadet Corporal D'ARCY POWER, from the University of London Contingent, Officers' Training Corps, August 7th.

Lieutenant ALEXANDER C. MCKILLOP, M.B., resigns his commission, dated September 6th, 1911.

The following Lieutenants are confirmed in their rank: ARTHUR H. HABGOOD, ALEXANDER C. COURT, M.B., CLARENCE E. GREESON, M.B., JOHN P. CHARNOCK, M.B., WILLIAM CRYMBLE, LAURENCE M. ROUTH, SYDNEY J. HIGGINS, ROBERT H. NOLAN, M.B., LEONARD W. O. TAYLOR, M.B., REGINALD FISHER, M.B., JOHN H. C. GRENE, M.B., HAROLD F. VELLACOTT.

TERRITORIAL FORCE.

YEOMANRY.

SURGEON-LIEUTENANT W. T. ROWE, M.D., Nottinghamshire (South Nottinghamshire Hussars) Yeomanry, to be Surgeon-Captain, July 27th.

ROYAL ARMY MEDICAL CORPS.

First London (City of London) Field Ambulance, Royal Army Medical Corps.—Captains C. A. LEES and P. G. A. BOTT, M.B., F.R.C.S. Edin., resign their commissions, September 6th. HANS C. SWERTZ to be Lieutenant, September 6th.

Fifth Southern General Hospital, Royal Army Medical Corps.—Major J. R. S. ROBERTSON, M.B., to be Lieutenant-Colonel, May 1st. Captain T. A. M. FORDE, to be Major, May 1st.

For Attachment to Units other than Medical Units.—JOHN W. BELL to be Lieutenant, July 18th.

Attached to Units other than Medical Units.—Captain R. H. GILBERT-BRUCE resigns his commission, September 6th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 8,146 births and 6,368 deaths were registered during the week ending Saturday last, September 2nd. The annual rate of mortality in these towns, which had increased from 18.6 to 21.2 in the three preceding weeks fell to 20.6 per 1,000 in the week under notice. In London the death-rate did not exceed 17.6 per 1,000, against 18.7, 19.1, and 19.0 in the three previous weeks. Among the seventy-six other large towns the death-rates last week ranged from 10.4 in Northampton, 11.4 in Barrow-in-Furness, 11.6 in Leyton, 11.9 in Croydon, and 12.1 in Handsworth (Staffs), to 29.5 in Hull, 29.8 in Wigan, 31.4 in Bolton, 33.8 in Burnley, and 36.8 in Stoke-on-Trent. Enteric fever caused a death-rate of 1.8 in Wigan; measles of 1.7 in Bolton; whooping-cough of 1.3 in Preston, and 1.4 in Aston Manor; diphtheria of 1.2 in Birkenhead; and diarrhoea and enteritis (of children under 2 years of age) of 15.3 in Bolton, 16.0 in Grimsby, 16.4 in Bootle, 16.6 in Burnley, and 21.3 in Stoke-on-Trent. The mortality from scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 6,368 deaths registered in the seventy-seven towns last week the causes of 35, or 0.5 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Liverpool, 3 in Birmingham, and 3 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,442, 1,388, and 1,352 at the end of the three preceding weeks, further fell to 1,327 at the end of the week under notice; 168 new cases were admitted during the week, against 159, 149, and 132 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 752 births and 564 deaths were registered during the week ending Saturday, September 2nd. The annual rate of mortality in these towns, which had been 14.2 and 15.5 in the two preceding weeks, rose again to 17.2 per 1,000 in the week under notice, but was 3.4 per 1,000 below the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates last week ranged from 13.4 in Aberdeen and 15.4 in Edinburgh to 20.1 in Leith and 20.3 in Perth. The mortality from the principal epidemic diseases averaged 4.1 per 1,000, being highest in Glasgow and Perth. The 271 deaths from all causes registered in Glasgow included 60 of children under 2 years from diarrhoea and enteritis, 3 from whooping-cough, 2 from measles, 1 from enteric fever, and 1 from diphtheria. Four deaths from whooping-cough and 8 from infantile diarrhoeal diseases were recorded in Edinburgh; 3 deaths from whooping-cough in Aberdeen; 2 deaths from diphtheria in Leith and 2 in Perth; and 9 deaths from infantile diarrhoea in Dundee, 6 in Greenock, 6 in Perth, and 4 in Paisley.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, August 26th, 623 births and 426 deaths were registered in the twenty-two principal urban districts of Ireland, as against 614 births and 427 deaths in the preceding period. The annual death-rate in these districts, which had been 16.8, 17.1, and 19.4 per 1,000 in the three preceding weeks, fell to 19.3 per 1,000 in the week under notice, this figure being 1.9 per 1,000 lower than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 20.1 and 17.8 respectively, those in other districts ranging from 4.2 in Drogheda and 5.0 in Kilkenny to 42.0 in Sligo and 74.4 in Newtownards, while Cork stood at 19.1, Londonderry at 14.1, Limerick at 25.8, and Waterford at 13.3. The zymotic death-rate in the twenty-two districts averaged 6.1 per 1,000, as against 5.2 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ASHTON-UNDER-LYNE: DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Senior House-Surgeon. Salary, £120 per annum.

AYR DISTRICT ASYLUM.—Junior Assistant Medical Officer. Salary, £120 per annum.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BEDFORD COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

BIRMINGHAM GENERAL HOSPITAL.—Dental Surgeon. Honorarium of £50 per annum.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer and Resident Surgical Officer. Salary, £80 each per annum.

BODMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £140 per annum.

BRADFORD ROYAL INFIRMARY.—Male House-Physician. Salary £100 per annum.

BRECON: BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House-Surgeon (male). Salary, £120 per annum.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN.—House-Surgeon. Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—(1) House Surgeon. Salary, £100 per annum. (2) Resident Casualty Officer. Salary at the rate of £50 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male) Commencing salary, £140 per annum.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £70 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—(1) House-Surgeon (male); salary, £125 per annum. (2) Assistant House-Surgeon; salary at the rate of £75 per annum.

DUNFERMLINE: THE CARNEGIE DUNFERMLINE TRUST.—Assistant Medical Officer. Salary at the rate of £250 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL. House-Physician and Assistant House-Surgeon. Salary at the rate of £60 each per annum.

GLOUCESTER: THE GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeoncy (male). Salary at the rate of £80 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Resident Medical Officer. Salary, £120 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—House-Physician. Salary at the rate of £70 per annum.

HASTINGS: ST. LEONARDS AND EAST SUSSEX HOSPITAL.—(1) Senior House Surgeon (male). Salary, £100 per annum. (2) Assistant House Surgeon (male). Salary, £50 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HOLBORN UNION INFIRMARY.—Second Assistant Medical Officer. Salary, £80 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.—Resident Medical Officer. Salary at the rate of £60 per annum.

KING EDWARD MEMORIAL HOSPITAL, Ealing, W.—House-Surgeon Salary at the rate of £80 per annum.

LEAMINGTON: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LEICESTER: BOROUGH LUNATIC ASYLUM.—Medical Superintendent. Salary, £800 per annum.

LEICESTER INFIRMARY.—House-Physician. Salary at the rate of £100 per annum.

LEITH HOSPITAL.—Out-door Visiting Physician. Salary at the rate of £100 per annum.

LEWES DISPENSARY AND INFIRMARY AND VICTORIA HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer. Salary, £120 per annum.

LIVERPOOL DISPENSARIES.—(1) Head Surgeon. Salary, £170 per annum. (2) Assistant Surgeon. Salary, £100 per annum.

LONDON HOSPITAL DENTAL SCHOOL. — (1) Demonstrators; (2) House-Surgeon; (3) Instructors in Dental Mechanics.

MANCHESTER: HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer. Salary, £100 per annum.

MARGARET STREET HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Margaret Street, W.—(1) Honorary Physician; (2) Honorary Dental Surgeon.

MIDDLESBROUGH NORTH RIDING INFIRMARY. — Assistant House-Surgeon (male). Salary, £75 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—(1) Senior House-Surgeon. Salary, £100 per annum. (2) Junior House-Surgeon. Salary, £80 per annum.

NOTTINGHAM GENERAL DISPENSARY. — Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

PETERBOROUGH INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

PRESCOT UNION.—Resident Assistant Medical Officer. Salary, £120 per annum.

ROCHDALE INFIRMARY. — Senior House-Surgeon. Salary, £100 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary at the rate of £50 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £50 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon (male). Salary, £70 per annum.

STAFFORD: STAFFORDSHIRE COUNTY ASYLUM. — Assistant Medical Officer (male). Commencing salary, £150 per annum.

STEYNING UNION.—District Medical Officer and Public Vaccinator. Salary, £60 per annum.

STOCKPORT INFIRMARY.—Junior House-Surgeon (Male). Salary, £80 per annum.

TAUNTON AND SOMERSET HOSPITAL. — Resident Assistant House-Surgeon. Salary at the rate of £70 per annum.

THE CANCER HOSPITAL (FREE), Fulham Road, S.W.—House-Surgeon. Salary, £70 per annum.

THE QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, N.E.—House-Surgeon. Salary at the rate of £80 per annum.

THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—House-Physician. Salary at the rate of £60 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Resident Medical Officer for Out-patient Department. Salary at the rate of £60 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House-Physician. Salary, £75 per annum.

WEST HAM UNION.—Fourth Assistant Resident Medical Officer (male) of the Infirmary. Salary, £120 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment: Slaithwaite (Yorkshire, West Riding).

APPOINTMENTS.

ARNOTT, A. H, M.B., Ch B.Glasg., Assistant Medical Officer of the Birmingham Union Infirmary.

CARRUTHERS, W. D., M.R.C.S., L.R.C.P., D.P.H,Birm., Medical Officer of Health for the Whittington and Newbold Urban District.

COOK, A., M.D.Glasg., F.R.C.S.Edin., Medical Officer of Health for the Annfield Plain Urban District.

FARQUHARSON, D. P. M., M.B., C.M.Edin., D.P.H., Medical Officer of Health for the Radcliffe Urban District.

HERON, DAVID, F.R.C S.Ed., Senior Ophthalmic Surgeon of the British Ophthalmic Hospital, Jerusalem.

LIVINGSTONE, T. H., M.D., F.R.C.S.Ed., Honorary Surgeon to the Newcastle-on-Tyne Throat, Nose, and Ear Hospital,

MAGUIRE, C. E, M. D.Aberd., Senior Resident Medical Officer, Auckland Hospital, New Zealand.

PHILLIPS, P. C., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Ongar Union.

ROBINSON, J. E., M.B., B.S.Lond., D.P.H., Medical Officer of Health for the County of Dorset,

MANCHESTER ROYAL INFIRMARY.—The following appointments have been made:

Assistant Surgical Officer: Buckley, J. P., F.R.C.S.

Medical Officer at the Central Branch: Hutchinson, R. C., M.B., Ch.B.Vict.

Assistant Medical Officer at the Barnes Convalescent Hospital: Stirling, Wm., M.B., Ch.B.Vict.

House-Physicians: Holmes, A. H., M.B., Ch.B.Vict.; Briercliffe, R., M.B., Ch.B.Vict.; Sawdon, G. E., M.B., Ch.B.Vict.

Senior House-Surgeons: Gow, J., M.B., Ch.B.Vict.; Cocker, J. F., M.B., Ch.B.Vict.

Junior House-Surgeons: Sneath, W. A., M.B., Ch.B.Vict.; Grey, E., M.B., Ch.B.Vict.; Moritz, M., M.B., Ch.B.Vict.

Qualified Clinical Assistant: May, Miss M., M.B., Ch.B.Vict.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

SEDGWICK.—August 31st, 1911, at Eslaforde, Doncaster Road, Rotherham, the wife of G. H. Sedgwick, M.R.C.S., L.R.C.P., of a daughter.

WATSON.—On August 30th, at 2, Ripon Road, Harrogate, the wife of William Bertram Watson, M.D., of a daughter.

WELSH.—At Castle Douglas. N.B., on September 4th, the wife of D. Charles Welsh, M.B., Ch.B., of a daughter.

MARRIAGES.

BRUCE—OWEN.—On August 31st, at St. Michael's, Playden, Sussex, by the Rev. J. Casper Lintott, Harold Wilson Bruce, M.D., to Ethel Madeline, second daughter of the late Frank Owen, of Rye.

DOUGLAS—WHITTING.—On September 5th, at the Church of St. Guthlac, Branston-by-Belvoir, by the Rev. D. W. Peregrine, B.A., Rector of the parish, uncle of the bridegroom, James Sholto Cameron Douglas, M.A., B.M., B.Ch.Oxon., Lecturer in Pathology in the University of Birmingham, elder son of Claude Douglas, F.R.C.S., of Leicester, to Mary Victoire Emily Whitting, younger daughter of the late Richard Brice, Solicitor of Burnham, Somersetshire, and of Mrs. Richard Brice of Leamington Spa.

McMILLAN—BIGGAM.—On September 6th, at St. Peter's Church, Upper Gornal, by the Rev. W. A. H. Lewis, B.A., vicar, Alexander M. McMillan, M.B., Ch.B., son of the late Captain John McMillan, to Ella, eldest daughter of John Biggam, M.A., M.D., Upper Gornal. At home, St. James's Street, Lower Gornal, October 10th, 11th, and 12th.

ROBERTS—NICHOLSON.—August 31st, at St. Michael's Church, Hoveringham, Notts, by Rev. J. E. Kent, M.A., Chaplain to Royal Army Medical Corps, Territorial, and Rev. A. M. Y. Bailey, M.A, (vicar), Charles Roberts, F.R.C.S., to Ethel, second daughter of Arthur Nicholson, of Burnside, Hoveringham. At home, Ravensbourne, Victoria Park, Manchester, October 24th, 25th, 26th.

DEATHS.

CANE.—On Saturday, September 2nd, at St. Oswald's, Meads, Eastbourne, Leonard Cane, M.D., aged 63, late of the Mansion House, Peterborough. Cremation at Golders Green on Wednesday, September 6th, at 2.30 p.m.

FORRESTER.—At Lewisham, Dharmsala, Kangra District, Punjab, India, on the night of August 6th, 1911, from embolism, Amy Louisa, the dearly loved wife of W. Forrester, M.R.C.S., L.R.C.P., civil surgeon, and youngest child of the late Dr. A. Priest, of Waltham Abbey, Essex. "Lead kindly light."

IN MEMORIAM,

LAW.—In tenderly loving memory of my beloved husband, W. T. Law, M.D., who died at Bournemouth in the early morning of September 6th, 1910.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Monday, 2 p.m., Pulmonary Diseases. Tuesday, 2 p.m., Disease Giving Rise to Morbid Renal Excretion. Wednesday, 2 p.m., Abdominal Disease. Thursday, 2 p.m., Diseases of the Nervous System. Friday, 2 p.m., Diseases of the Heart.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following Clinical Demonstrations have been arranged for next week at 4 p.m. each day: Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Eye.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Daily arrangements: Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 16TH, 1911.

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SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, 28th, and 29th, 1911.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[SIXTH NOTICE.]

BUXTON THERMAL MINERAL WATER STATION. The authorities of this inland health resort had a stall at Birmingham chiefly devoted to the interests of what is practically a new enterprise on their part. This is the sale of Buxton water in a bottled form; the main object in view is to secure the use of the water for table purposes; so far the effort has proved even unexpectedly successful. The spring used is that arising at the bottom of St. Ann's well. Indications of the general advantages with which Nature has supplied Buxton were also afforded by the stall while we were informed by the official in charge that the number of different treatments of a hydropathic order available at the bathing establishment has now been brought up to over eighty. The latest additions include arrangements for "Greville" hot air and "Miramond" treatment. This spa therefore being fully up to date in all directions feels confident that it will at least hold its own despite its many rivals abroad and at home.

A. WULFING AND COMPANY (12, Chenies Street, London, W.). Of the three exhibits of this firm the most important was Albulactin, a preparation which when first brought out a few years ago, seemed to us decidedly worth attention. Its point of interest is that it is not an addition to the multiplicity of infant foods constantly being pressed on the notice of medical men, but a preparation which in theory, at any rate, represents quite a new departure. It has been known for many years that the proteid of milk is composite, but comparatively little attention has been paid to this fact, and practically no use could be made of the knowledge very easily until a method of isolating lact-albumin, as distinct from casein, in a soluble form had been devised. This having been effected some three or four years ago in Germany, experiments were undertaken to test the physiological value of the product in relation to infants. The points of special importance in this connexion are that in cow's milk the proportion of lactalbumin to casein is very small, whereas in human milk it is large; hence it follows that the more cow's milk is diluted, the greater is the difference between cow's milk and human milk in respect of lactalbumin contents. This is the difficulty that is claimed to be overcome by the preparation. One is often indisposed, for reasons which have been fully stated in the reports of the German Medical Press Association, to attach much weight to German reports on new preparations, but in this particular instance their style seemed to entitle them to unusual respect. Summed up they indicated that by the use of Albulactin the lactalbumin contents of diluted cow's milk could be made identical with that of human milk and that this was of definite value in facilitating assimilation of the milk and in securing absence of intestinal disorders in artificially reared children. The only point on which we can ourselves speak is in respect of the curd formed: it very closely resembles that of human milk. But we are aware that the preparation has been used extensively for many months past at one of the large children's hospitals in London, and have seen a paper in which an English physician of high repute in connexion with diseases of children speaks very definitely of the value of Albulactin as the result of practical tests. The other exhibits of the firm were Sanatogen and Formamint, both of which are too well known to require description.

BRAND AND CO. (Mayfair Works, 74–84, South Lambeth Road, Vauxhall, S.W.). This firm had upon view a fairly complete collection of its dietetic specialities, the majority being products too long and favourably known to require detailed description. One specially useful preparation is *Brand's Meat Juice*, which is simply the liquid obtained by pressure from, we understand, British-grown beef. In our experience a teaspoonful of this liquid in a wineglassful of cold water makes a very stimulating beverage, and if the flat bottles in which it is vended are corked with a scorched pledget of cotton wool it keeps good for many days. According to an analysis which we have seen, it contains 30 per cent. of beef extractives and 10 per cent. of mineral matter, chiefly in the form of soluble phosphates and common salt. About the earliest product of the firm, Concentrated Beef Tea, is still vended in its original form, in the sausage-like skin in which it has been familiar to several generations of medical men. The firm's

Essence of Beef is put up in round glass pots, corresponding preparations of chicken, mutton, and veal being vended in the same style. Of the same general character, and specially intended for hospital use, is the firm's Beef Broth; like the similar preparations of mutton, chicken, and game, it is really a jelly which can be eaten with a spoon or turned into a fluid to be drunk. Also useful at times are the firm's Beef Tea Tabules, since they can be carried about in the pocket, and with the help of a little hot water can be converted into beef tea at a moment's notice. Another speciality of value is *Brand's Fever Food*, a mixture of meat essence, yolk of egg, and fresh cream. It sounds a curious combination, but it is certainly palatable, and appears to have been carefully thought out on scientific lines. It is intended more particularly for use in the tropics, but should be useful anywhere. We also noted *Glaxo*, a dried milk, which figured very creditably in a trial of a number of artificial foods for infants which was undertaken on a large scale at Sheffield some three years ago.

THE SACCHARIN CORPORATION, LIMITED (10, Arthur Street West, London, E.C.). This firm, which has long been well known in connexion with novocain, brought out last year a preparation of quite a different order, named Pergonal, and confined its exhibit to this drug, to novocain, and to some tablets for the immediate preparation of normal saline. Each of the latter, on solution in half a pint of sterilized water, suffices to form a physiological saline solution with a concentration of 0.8. As for *Pergonal*, this is a solid compound of hydrogen peroxide and boric acid, in the form of a white freely soluble powder. The relative proportions, we understand, are respectively 12 per cent. and 22 per cent. It was brought out in order to permit of hydrogen peroxide being stored unchanged for any length of time, and yet ready for the rapid preparation for a hydrogen peroxide solution of any desired strength whenever required. It appears to fulfil this purpose excellently, and as the therapeutic use of hydrogen peroxide has increased of late years, the preparation is thoroughly worth noting. It is also put up in the form of mouth pastilles, for use in the course of an oral toilette. As for Novocain, this is almost too well known now to require description. It is a drug of definite chemical composition, whose value as a local anaesthetic is hardly open to dispute, while its claims to be regarded as the best drug for use in spinal anaesthesia have been strongly advocated. The choice of a drug for this purpose is a point on which every employer of spinal anaesthesia has his own opinion. From a pharmacological standpoint the claims of the principal competitors were reviewed at considerable length in a report to the Therapeutic Committee of the British Medical Association by Dr. C. N. le Brocq, which will be found in our issue for March 27th, 1909. This investigator concluded that novocain was the most satisfactory of the seven drugs with which he experimented, its anaesthetic action being equal to that of cocaine, while its toxicity and irritating effect on the tissues was much smaller. He also showed that it dissolved very readily, even in cold water, and formed a neutral solution which could be boiled without alteration of its effects. It is also compatible with suprarenalin and with strychnine, points of some importance in spinal anaesthesia. It was shown at Birmingham in solutions of various strengths and also in tablets containing suprarenin borate and novocain in due proportion for use in dental surgery.

THEINHARDT'S FOOD COMPANY (6, Catherine Court, Trinity Square, London, E.C.). The exhibits of this firm were two foods, to both of which we drew attention at the date now several years ago when they were introduced from Germany, where they had been well known for a long time. The one is known as Infantina and the other as Hygiama. The former is intended for infants, from birth until 2 years of age, and the latter for children and adults, either in health or sickness, and neither of them is costly. *Infantina*, or Theinhardt's Infant Food, contains, it appears, 16.1 proteins, 5.0 fat, 53.6 soluble carbohydrates, 16.7 insoluble carbohydrates, and 3.4 salts. The composition of *Hygiama* is of corresponding character, but the proteins and fats are higher and the carbohydrates lower. In each case the salts represent rather over 1 per cent. of phosphoric acid. Both are intended for use with milk, and the Hygiama is flavoured with cocoa. Both preparations are made, we were informed, from dextrinized cereals, with the addition of dried cow's milk, lactose, and ordinary sugar. The makers claim that by varying the proportion of Infantina, milk, and water a food can be prepared more closely resembling in composition and digestibility human milk than any other infant's food. It is also suggested that if Infantina is prepared with rice water instead of milk it makes an excellent food for use during attacks of infantile diarrhoea, in which the use of milk is contraindicated. Personal experience with Hygiama goes to show that a pleasant beverage can be prepared from it with little trouble, and that it can be turned into a variety of dishes. The firm, we understand, is prepared to supply any medical man who desires to try its preparations with a sufficient quantity of either of them to gain a thorough knowledge of their value.

W. GAYMER AND SONS (Attleborough, Norfolk). There is a popular theory that, while apple trees will grow anywhere, only those growing on certain soils will produce apples from which any satisfactory cyder can be produced. Some support for this belief is offered by the fact that, with one exception, all the counties with a reputation for cyder are contiguous, and in one part of England—namely, the west. The notable exception is Norfolk, in which county the firm represented by Messrs. Gaymer and Sons has been carrying on the manufacture of cyder for the past two hundred years. Until some four years ago it did not concern itself much with markets outside the eastern counties, but it is now a serious competitor to cyder makers throughout the country. This cyder can be obtained both in bottles and in barrels, and in both cases a strong point is that the firm is able to secure year by year a cyder of closely corresponding character. It is failure in this respect in the cyder trade as a whole which in the past has helped to diminish the popularity of cyder as a beverage. Messrs. Gaymer's bottled brands number some half dozen, and there is much to be said in their favour from an economic and dietetic standpoint. In flavour each of the brands differs, as do champagnes, from extra dry to sweet. It is, indeed, with champagne that one or two of the brands may quite well be compared, while chemically their alcoholic contents vary according to the brand from what in temperance circles are commonly classed as non-alcoholic drinks to about 7 or 8 per cent. In respect of their dietetic value there is a good deal of evidence to show that cyder is a better drink for persons of rheumatic and uric acid tendency, as well as for large meat eaters, than either wine or beer. This is possibly due to the presence of malic acid in cyder.

ILIFFE AND SONS, LIMITED (22, North Street, London, E.C.). This firm is the proprietor of the *Autocar*, one of the earliest journals devoted to the automobile industry, and now presumably well known to all users of automobile vehicles, since it deals with the subject on very comprehensive lines. Its exhibit at Birmingham consisted of an issue of the *Autocar* containing features of special interest to medical men, and of a number of miscellaneous publications, either compiled from its columns or prepared specially. Among them were the *Autocar Handbook*, which treats of the management and upkeep of modern cars, *Faults and How to Find Them*, a book intended specially for those who are either total novices or comparatively inexpert, and the *Autocar Sectional Map* for touring purposes. The special issue of the *Autocar*, to which reference has been made, appeared on July 22nd, but reprints of the parts relating to the medical use of cars have been made. One of them would be worth obtaining by any one who is contemplating the question of changing a horse-drawn carriage for an automobile, for he would find therein a considerable number of records by individual doctors of their experiences of the precise cost of using vehicles of different kinds.

ALEXANDER RIDDLE AND CO. (36 and 38, Commercial Street, E.C.). Most medical men who visited the exhibition at Birmingham were probably already familiar with one at least of the two exhibits of this firm, which is the manufacturer of *Stower's Lime Juice Cordial*. The lime is not a very easy fruit to handle, but the firm has been

engaged in dealing with it for over forty years, and has long since learnt how to bottle its juice in a thoroughly satisfactory fashion. About some bottled lime juices there is a certain musty flavour which many people find very objectionable, but from defect of this character this particular preparation is entirely free. It presents the true flavour of the fresh lime and much of its bouquet, and mixed either with soda water or with plain water Stower's Lime Juice Cordial is certainly entitled to be regarded as a very pleasant beverage for either the healthy or the sick and feverish. An analysis of its contents undertaken some years ago showed no acid except citric acid, and there is every reason to believe that it is not only free from contamination, but contains no addition beyond the necessary sugar. Clinically, lime juice has long since been proved to be of value in the prevention and treatment of scurvy, and on the basis of this fact it seems not unreasonable to assume that when properly preserved, as in this preparation, the juice of limes contributes to the blood an unknown something which, whatever it may be, is missing from it in this and probably many other morbid conditions. In any case there are many who believe that in feverish disorders, as well as in dealing with rheumatic and gouty persons, lime juice is of definite therapeutic value. The second of the two products shown by the firm was *Stower's Clarified Lemon Squash*, one which lends itself with attractive ease to the preparation of lemonade. Its manufacturers state that nothing enters into its composition except the juice of the finest Messina lemons and refined lump sugar, and that the latter, both in the lemon squash and in the lime juice cordial, is during manufacture converted by a special process into pure glucose.

G. VAN ABBOTT AND SONS (Baden Place, Crosby Row, London, S.E.). The majority of the exhibits of this firm at Birmingham were probably familiar to those among the visitors who take an interest in diabetic and other allied preparations. In these gluten and almond flour are the chief constituents, and the firm, we believe, is the only one in the United Kingdom which depends on its own efforts for its gluten. Their exhibit included almond bread, gluten bread, almond biscuits and flour, gluten semolina, bran cocoa-nut, and several other varieties of biscuits, all these, as well as a number of other preparations such as soups, jellies, and glycerine jujubes, being approximately free from either starch or sugar. The bread of the firm is soft, and hence, like bread intended for ordinary consumption, will only keep good for three or four days; but the biscuits retain their quality and flavour for any length of time if kept in a moderately dry place. Two or three varieties of the latter are worth special mention; for instance, Medolia biscuits, which, in addition to their starch and sugar free composition, are unusually cheap, and thus well suited for use in hospitals at which diabetic patients are under treatment. Another biscuit worth special note is termed "Kalos," it having been introduced for the benefit not of diabetics but of those who are struggling with obesity. A third instance is a biscuit of a different order—namely, a hypophosphite of lime biscuit intended for the use of delicate children or of adults suffering from nervous depression. Many of the preparations of this firm are decidedly palatable, and all deservedly enjoy a good reputation among dietetic specialists.

WIDENMANN, BROICHER, AND CO. (33, Lime Street, London, E.C.). This firm is the representative of Messrs. Zimmer and Co., of Frankfort-on-Main, some of whose preparations, and more especially Validol and Euquinine, have been favourably known in this country for a good many years. The former is a compound of valerianic acid and menthol which was originally brought out as a nerve sedative suitable for use in cases in which valerian is commonly used, but soon began to obtain a certain repute as a preventive of train and sea sickness. The circumstances of sea voyages, whether short or long, vary so greatly that it is never possible to speak with much assurance as to the value of any remedy praised in this connexion; but the amount of testimony in favour of *Validol* is considerable, and we have recently seen some which is of an impressive character. It can be obtained in tablets, as gelatine perles and other forms, but seems most commonly used as a liquid. A corresponding drug, known as Validol Camphoratum, seems to be favoured by many dentists as a local anaesthetic. As for *Euquinine*, this is an ethyl-carbonate of quinine, and being practically tasteless lends itself well to the treatment of small children, more especially as in the hands of many practitioners it has proved itself an effective substitute for quinine sulphate. Another preparation of the firm which has obtained a good deal of favour is *Allosan;* it is stated to be an allophanic acid ester of santalol, and to possess all the powers of that drug in the treatment of gonorrhoea. One justification of its existence lies in the fact that, being an odourless solid, it can be made up in tablets which can be carried about in the pocket, and taken whenever desired without attracting attention. Other salts shown were Eustenin (the name representing the double salt theobromine sodio-iodine sodium), which some physicians appear to have found useful in dealing with arteriosclerosis; and Urosin, which is a quinate of lithia stated to have the power of converting uric acid into hippuric acid. Finally may be mentioned Dymal, a derivative of salicin, introduced a few years ago as a powder for application to open wounds, and as fulfilling much the same purposes as iodoform, but being free from smell and non-poisonous.

PHILIP HARRIS AND CO. (Edmund Street, Birmingham). A good many well-devised surgical and other appliances were shown by this firm, all of them being of its own manufacture. Perhaps the most novel was the operating table which was described in our issue for July 22nd by Mr. B. J. Ward of Birmingham, on whose suggestion it was made. It is entirely of metal, but nevertheless comparatively light, a fact which, since the table is intended for use away from the surgeon's ordinary working environment, is one of importance. It also packs very neatly, and is thus easily portable in a motor or other vehicle, and can be got ready for use very rapidly. A further point worth noting in this connexion is that there are no loose parts to get lost or left behind. In respect of its merits when ready for use it seems to supply, despite its portability, practically all the advantages of the more ordinary kinds of fixed operation tables, positions such as the Trendelenburg being readily obtained even when the patient is on the table. It is also very rigid and of convenient height. In short, it is a table thoroughly worth note by those who do many operations away from home or hospital and thus require a table of this order. Another good appliance shown by the firm was the carbon dioxide snow apparatus made on the suggestion of Dr. Hall Edwards. The collector is attached by a plug connexion to the cylinder of CO_2 which is in use and there is thus no waste of gas, and the snow as it forms is compressed into a hard cone, the point of which can be readily cut down to the required size.

THE MIOL MANUFACTURING COMPANY (82, Southwark Bridge Road, S.E.). The product from which this company takes its name is an oleo-maltose compound which made its appearance some six or seven years ago as a substitute for cod-liver oil, and for this or other use seems to command a steady sale. It is a homogeneous mixture of palatable taste which is stated to be readily taken both by children and adults, and to cause neither nausea nor gastric irritability. Since its first introduction some albumen, we understand, has been added to it, so we cannot state what its precise composition now is. At the time, however, that we analysed it, we found that it contained 22 per cent. olive oil, 0.04 per cent. nitrogen, which would represent 2.5 per cent. protein, and 47 per cent. of reducing sugars, calculated as maltose. Free phosphorus was also found to exist, and also iodine in combination; while, tested with starch, it showed good diastatic power. The addition of albumen would not alter its constitution unfavourably, so the preparation would seem worth trying in cases in which a combination of cod-liver oil with iodine and phosphorus would be indicated, but cannot be taken owing to its objectionable flavour. By way of facilitating its use, the firm supplies a teaspoon with a capacity of exactly 1 drachm and a handle so long that it will reach the bottom of all bottles in which miol is vended. It is made of aluminium, and thus, if wiped dry after use, always keeps its lustre. It is supplied gratis, we understand, to all purchasers of miol. The latter, it should be added, can now be obtained with a

certain proportion of guaiacol added, so as to make it still more adapted to the treatment of phthisical cases. The firm states that in this particular form miol has met with considerable favour among medical men at health resorts, and that in respect of ordinary miol it is in possession of a large number of reports regarding its clinical value, the originals of which it is prepared to show to any medical man who may be interested.

THE DOWSING RADIANT HEAT COMPANY (24, Budge Row, Cannon Street, London, E.C.). All the devices of this firm have one common object—namely, the application of luminous heat rays to the whole body or parts thereof. It is claimed that a large number of these rays penetrate the body, produce rapid sudation, greatly increase metabolism, and at the same time almost immediately relieve any pain that may exist. The principal appliance is a kind of bed which is now so familiar an object in most hydropathic institutions that it scarcely requires detailed description. In its general form it is a broad couch surrounded by electric lamps and provided with a cover. The latter is divided into two parts, each side being separately removable so as to allow of the result of treatment being observed from time to time. The lamps are carried on a strong framework, all wires being well insulated and kept clear of the patient and nurse. It is claimed that in this bed practically the whole of the patient's body is submitted to light and heat rays simultaneously. Smaller appliances were shown for treating the hands and feet, as also for localizing the rays on any special organ or other part of the body. On the stand was to be seen a long list of branches showing over one hundred places in England and abroad where this light treatment can be obtained, the chief of them being in York Place, Baker Street. All of these institutions, we understand, are under direct medical supervision.

NESTLÉ AND ANGLO-SWISS CONDENSED MILK COMPANY (6 and 8, Eastcheap, London). What difference Mr. Burns's Milk Bill is going to make still remains to be seen, and meantime there is plenty of room for the products of this firm. The oldest of them, *Nestlé's Swiss Milk*, established its reputation at least thirty years ago, and has retained it unblemished up to the present date. We have had long experience of its use both at home and abroad, and have often found it a much more desirable substitute for human milk than the cow's milk commonly obtainable at dairies. A strong point in its favour is the absence of variation in its quality, and in spite of the number of dried milks now on the market, and the improvement in the milk trade as a whole which it is to be hoped will be witnessed in the early future, the demand for Nestlé's seems likely to continue. The unsweetened condensed milk sold under the name of *Viking Milk* was put upon the market at a considerably later date, but may likewise be regarded as having attained the position of a classic among milk foods. Most people, too, are probably acquainted with *Milo Food*, at any rate by name; it is intended both for the use of infants and invalids. The other brands of milk shown included Milkmaid Condensed Milk and Ideal Unsweetened Milk. Some chocolates were also on view, one being a chocolate prepared by the firm itself, Nestlé's Milk Chocolate, and another the first of the milk chocolates to appear—namely, Peter's Swiss Milk Chocolate. An assortment of Kohler's bonbons and chocolate were also shown. Though we have mentioned them as sweetmeats, all these articles have a strong claim to be regarded as dietetic preparations, for they are useful in dealing both with children and invalids, and with adults, as an addition to or temporary substitute for other food.

SLACK AND BROWNLOW (Abbey Hey, Gorton, Manchester). This is a firm of filter makers whose appliances, though made entirely in England, are constructed on the same general principles as are Pasteur filters; in other words, the filtering medium is porous porcelain thrown into the form of hollow cylinders or candles. The advantage of filters of this kind is that when the candles are kept clean and in good order and have initially been soundly constructed of material sufficiently dense in character they supply thoroughly sterilized water. On the other hand, the ordinary user is somewhat apt to believe that they can be used with quite foul water for an unlimited period without risk of bacteria growing through their interstices, and he thus often uses water which is not what he believes it to be, namely, thoroughly pure. In their general make the firm's filters vary according to the precise purpose for which they are to be used—whether, for instance, the filter is to be attached to the main supply of a house for filtration of water under pressure, or for filtration of water at ordinary atmospheric pressure in the pantry or on the table. An appliance which would seem very likely to repay attention is a hospital sterilizer for use in the operating room; it has a thermometer attached and provides water of any temperature desired. The exhibit also included a filter which has a compartment for the insertion of ice to keep the water cool, and a bulb of loose textured porcelain filled with crystals of potassium permanganate, which is intended to be placed in a lavatory cistern. Its use is to impregnate the water with an amount of this salt varying according to the length of the intervals elapsing between the times the cistern is emptied.

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BOMBAY BRANCH.

THE first annual meeting of this Branch was held in the University Library on Thursday, April 27th, at 5.45 p.m., when Lieutenant-Colonel L. F. CHILDE, I.M.S., occupied the chair. The following members were also present: Drs. Sorab Nariman, K. R. Dalal, M. P. Kerrawalla, H. N. Anklesaria, De Monte, Major Evans, I.M.S., Major Marjoribanks, I.M.S., Major Novis, I.M.S., Drs. P. A. Dalal, Engineer, Vazifdar, Heerjee Dadysett, B. Gonsalves, C. Fernandes, A. P. Bacha, J. B. Mama, and the Honorary Secretary and Treasurer, Dr. D. R. Bardi.

Confirmation of Minutes.—The minutes of the last ordinary meeting were read, confirmed, and signed by the CHAIRMAN.

Election of Office-Bearers.—The result of the voting for the office-bearers and the Branch Council, according to Rules 5, 6, and 9, was declared as follows: *President*, The Hon. Surgeon-General H. W. Stevenson, I.M.S.; *Vice-Presidents*, Lieutenant-Colonel L. F. Childe, I.M.S., Sorab K. Nariman, M.D.; *Honorary Secretary and Treasurer*, D. R. Bardi, F.R.C.S.I; *Members*, R. Row, M.D., D.Sc., Major S. Evans, I.M.S., Major E. Gordon Tucker, I.M.S., H. J. Dadysett, L.R.C.P. and S., Sorab K. Engineer, M.R.C.P.Ed., Miss A. M. Benson, M.D.

Report of Council.

The following report was presented:

The Bombay Branch of the British Medical Association, recognized in 1889, remained practically inactive, except for a solitary meeting in 1907, and existed only in name till a few members arranged to call together the members and discuss the future of the Branch. This was done on September 26th, 1908, when Captain Gordon Tucker, I.M.S., who had charge of the funds, called a meeting in the University Library. At this meeting it was resolved that the Surgeon-General with the Government of Bombay, and the Principal of the Grant Medical College be appointed President and Senior Vice-President respectively, and that Dr. Sorab Nariman be the other Vice-President. Dr. D. R. Bardi was appointed Honorary Secretary and Treasurer, and the following were elected to form the Branch Council with the above office-bearers: Lieutenant-Colonel M. A. T. Collie, I.M.S., Lieutenant-Colonel L. F. Childe, I.M.S., Dr. R. Row, M.D., D.Sc.Lond., Major S. Evans, I.M.S., Dr. H. J. Dadysett, L.R.C.P. and S.Edin, Dr. Sorab K. Engineer, M.R.C.P.Edin.

During the period under report certain changes occurred in the council, due to the transfer, etc., of the members. The report is for the period of two and a quarter years, and was delayed on account of the delay in passing the

rules, which were not considered earlier on account of the question of registration, which took up a lot of time. Two meetings were held in 1908, five in 1909, and six in 1910, besides the two meetings of the profession under the auspices of the Branch for the consideration of the question of registration of medical practitioners, and several committee meetings as well as meetings of the council.

The average attendance at the ordinary meetings has increased from 5 or 6 to over 15, and both the meetings of the profession were crowded.

Papers etc., Read and Discussed.—(1) Dr. R. Row read the inaugural paper on serum treatment in tuberculosis. (2) Dr. Sorab Engineer read notes of cases showing the relation of syphilis to phthisis pulmonalis. (3) Dr. F. N. Kapadia read notes on a case of Landry's palsy. (4) Dr. Jal R. Vakil read notes on a case of acute rheumatism, with severe heart complications and paralysis, ending in perfect recovery. (5) Dr. M. P. Kerrawalla read a paper on milk factor in infant mortality. (6) Dr. H. J. Dadysett read a paper on a plea for early operation in cancer, with cases. (7) Major E. F. Gordon Tucker, I.M.S., read a paper on yellow fever, India's future danger, Dr. Charles Bentley showing the stegomyia specimens. (8) Miss J. B. Engineer, L.R.C.P. and S.Ed., read a paper on the relation of chorea to rheumatism, with notes of cases. (9) Dr. Sorab Engineer read a paper on serum treatment of plague, and this was supplemented by the remarks of Dr. N. H. Choksy, who related the latest results of the researches of the Plague Commission. (10) Dr. H. J. Dadysett showed many new and recent instruments and apparatuses for ear, throat, and nose diseases.

The Branch Council takes this opportunity of thanking all these members for their interesting papers, and hopes that many others will follow this example and read papers and show interesting cases.

The Branch Council has pleasure in informing the members that their efforts in connexion with the question of registration of qualified medical practitioners have so far been quite successful, and that their efforts will be crowned with success in the very near future. During the discussion of this question many side questions were raised both in our meetings and in those of the profession, and appeals were made to the Central Council, which has, after a careful consideration, approved of the action of the Branch Council in each case.

The second thing of note during the period under report is the passing of the rules for the Branch, and the Council notes with great satisfaction the co-operation of the members in facilitating the same. The rules have been approved by the Central Council, and will be now printed and circulated. We might congratulate ourselves, as ours is the first Branch out of the United Kingdom which has passed its rules and has considered such an important question as that of the registration of medical men within two years of its real existence.

The number of members of the Branch has increased from 68 (in 1908) to 201 with the beginning of this year (1911).

We subscribed Rs.50 towards the funds of the Bombay Medical Congress, and our Secretary, who was our representative, was given a place on the Subcommittee.

With this report the Council begs leave to retire this day, and congratulates the Branch on its choice of the Council for the new year.

The following acted as our Representatives in Representative Meetings of the Association: Major E. F. Gordon Tucker, I.M.S. (1909–10), Lieutenant-Colonel L. F. Childe (1910–11); Dr. R. Row and Lieutenant-Colonel H. P. Dimmock, I.M.S., acted as substitutes for Lieutenant-Colonel Childe, I.M.S.

The Report of Council as well as the statement of accounts were received and adopted by the meeting, on the motion of Dr. M. P. KERRAWALLA, seconded by Dr. B. GONSALVES.

Representative at Representative Meetings.—On the motion of Dr. SORAB ENGINEER, seconded by Dr. SORAB NARIMAN, Lieutenant-Colonel H. P. Dimmock, I.M.S., was appointed Representative in Representative Meetings of the Association for 1911–12.

Votes of Thanks.—Lieutenant-Colonel L. F. CHILDE, I.M.S., on the conclusion of the business of the meeting, remarked that the Branch had done very good work, and after complimenting the Honorary Secretary for the zeal and energy displayed in his work, moved that he be accorded a hearty vote of thanks. This was seconded by Major EVANS, I.M.S., and carried unanimously. The HONORARY SECRETARY suitably responded, and after the customary vote to the Chair the meeting was dissolved.

GIBRALTAR BRANCH.

A GENERAL meeting of this Branch was held on September 4th, at 4 p.m., by kind permission of Deputy Surgeon-General T. J. Lilly, R.N., at the Naval Hospital. All the medical men in the ships in the harbour were invited to join in contributing to the meeting. After tea at Dr. Lilly's house those present adjourned to one of the large day rooms, and the proceedings began.

The PRESIDENT (Dr. P. F. Lyons) took the chair, and there were present: Deputy Surgeon-General T. J. Lilly, R.N.; Colonel H. H. Johnstone, R.A.M.C.; Fleet Surgeons J. Andrews (H.M.S. *Exmouth*), O. W. Andrews (H.M.S. *Bacchante*), J. T. Hall (H.M.S. *Duncan*), Mowatt (H.M.S. *Swiftsure*), and Vizard (H.M.S. *Queen*); Staff Surgeons Bastian (H.M.S. *Bacchante*), and A. Davidson and Rooney (Royal Naval Hospital); Surgeons Fairley (H.M.S. *Aboukir*), Malcolm (H.M.S. *Hussar*), Grimwade (H.M.S. *Exmouth*), Hadwen (H.M.S. *Cornwallis*), P. D. Ramsay (Royal Naval Hospital), and Loughlin (H.M.S. *Triumph*). Dr. L. H. Gill and Dr. L. D. Parsons also attended.

Confirmation of Minutes.—The minutes of the last meeting were read.

Angio-neurotic Oedema.—Dr. PARSONS showed a case of angio-neurotic oedema for diagnosis.

Salvarsan in Syphilis.—Dr. LYONS showed the following case of tertiary syphilis treated by "606." The following are notes of the case:

A woman, aged 35 years, was infected nine years before, and for the past four years was bedridden and unable to walk. She had been treated with mercurial injections and various medicines internally till she was tired of taking them. On coming to Dr. Lyons her condition was as follows: Half of the nose was ulcerated away; the inner angle of the left eye was scarred and ulcerated; all the forehead and part of scalp was scarred and ulcerated; right elbow with large deep ulcer; on the right shoulder there was a large scar; on the left elbow a large scar and a large ulcer on the left forearm. The right knee was contracted and ulcerated; both legs a mass of ulcerations and scabs all down anterior part. There was perforation of the soft palate, and the uvula was ulcerated away.

On March 21st, 1911, she received an injection of 0.6 gr. "606" in the buttock.

March 22nd. Patient passed a good night; temperature 98.6°. Hardly any pain at site of injection and no inflammation.

March 23rd. Temperature normal. Patient says she feels well, ulcers healing and much cleaner looking.

Her condition went on improving, and in about a week everything had healed; she was able to straighten her right leg and to get out of bed and walk a little. Since then she has continuously improved and has put on weight and has made a marvellous recovery. She had no other treatment but "606."

Members present expressed themselves as very much impressed with this case. The large clean scars on legs, knees, elbows, face, etc., were clearly visible, giving one some idea as to what a dreadful state the patient was in before treatment.

Fleet Surgeon MOWAT showed a case in a man treated by "606" with excellent results. He also showed a case of haemorrhage into the vitreous or retina in a bluejacket, the cause of which could not be ascertained.

Fleet Surgeon O. W. ANDREWS, of the *Bacchante*, then read a paper on "606," and showed 7 cases treated by himself.

Tuberculin in Diagnosis.—Dr. PARSONS made some remarks on this subject. This brought a very successful meeting to a close.

Votes of Thanks.—Votes of thanks were passed to Dr. Lilly for his kind hospitality and to those who read papers or showed cases.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Braintree on Thursday, October 26th. Members wishing to read papers or to show specimens or cases should communicate at once with the Secretary, Dr. B. H. NICHOLSON, East Lodge, Colchester.

INSURANCE BILL.

BRIGHTON DIVISION OF THE BRITISH MEDICAL ASSOCIATION MEDICAL PRACTITIONERS' DEFENCE FUND.

NESTOR writes: I see in the SUPPLEMENT of September 9th that the Brighton practitioners have instituted a defence fund. I note that in Clause 4 a practitioner holding club appointments is to guarantee a sum equal to at least 25 per cent. of his gross annual club income; those not holding such appointments to guarantee at least £10. I do not know how many doctors hold club appointments in such a fashionable resort as Brighton, nor do I understand this unequal guarantee. Whatever the effect may be upon the profession as a whole when this bill is passed, it is quite certain that the men who hold the club appointments will be the Immediate sufferers should it be found necessary for them to resign their club appointments. In fact these latter, in most country practices, form a very valuable asset, both from a capital as well as an income value. Surely, then, it is the duty of men who do not hold club appointments to see that the sacrifice of their brethren should not be left uncompensated. It would seem to me, if there be any difference in the amount of the guarantee, it is those who do not hold these appointments who should subscribe the larger sum. Better still, all should guarantee a minimum sum of the same value. Such as are able to afford it should give more. It is the club doctors who can make or mar this bill, but I hardly think any other Division would introduce such a flagrant inequality as is contained in the clause already referred to.

MR. HARMSWORTH'S AMENDMENT.

H. D. writes: As the acceptance of Mr. Cecil Harmsworth's amendment is a contradiction to Dr. Addison's amendment, as will be found in the working, would it not be as well to try and prevail on the author of the bill to accept some way out of his difficulties—he is clearly trying to conciliate two classes, the medical profession and the friendly societies, so far with poor success? It seems to me the only way to do it is to throw the whole body of doctors open to clubs by paying medical men for work done per scale. If the expense is a formidable objection a modification of the same idea would be to compel clubs to pay medical men for work done per scale and to compel clubs to form a fund for such a purpose by, in the first instance, a levy of 4s. a member per year. Should the fund so started be insufficient for the purpose, a fresh levy on the members could be made to meet the deficit. The prospect of a fresh levy, which would be a varying sum, would prove a great check on the clubs and members going to the doctor too freely.

I, with a great many others, will rejoice to see our profession stripped of the contract system. The first to benefit by any change of this kind would be the club members themselves, as it provides them with a real choice of doctor, for they can consult which doctor they fancy provided he accepts the scale fees. Under this system medical men will at once begin to take an intelligent interest in club work, and the best men will get the most work. This is as it should be, in everybody's interests.

THE INSURANCE BILL AND THE PUBLIC.

Dr. WM. EARDLEY (Goole) writes: I read with interest but also with surprise the article in the *Nineteenth Century* of July, which was reviewed in the BRITISH MEDICAL JOURNAL of September 2nd. The article, as it seemed to me, was a misstatement of our position so misleading to the public as to call for an answer from some medical man knowing the facts and able to state them. Hence we may be glad to see the *Nineteenth Century* of this month (September) contains an article by Professor Lindsay of Belfast entitled The Ethics of Medical Practice, in which the writer ably, briefly, and impartially states the truth in regard to the medical profession, disproving the charges brought against it.

Written in language which the laity can understand, Professor Lindsay's article is in the main a reply to that in the July magazine, and may well convince any but the most ignorant and bigoted of the following facts: that, so far from being "actuated only by the most sordid motives," the medical profession is at bottom essentially altruistic; no other profession does so much unpaid work; doctors generally are not mere self-seekers, but high-minded, public-spirited men, concerned at least as much with promoting the welfare and health of the public as with filling their own pockets; we do not blow our own trumpets, "the medical profession is intolerant of self-advertisement," but we yield to none in our desire to help the poor, a desire put into practice by almost every doctor every day; and finally, thanks to the energies of medical men, to the spirit and performance of present-day medical science, this is pre-eminently the age, not of mere quackery and humbug, but of preventive medicine.

The extraordinary suggestion that the medical profession is "parasitic upon diseased persons" is too silly to do much harm. As well say the legal profession is "parasitic" upon the rogueries, or the Church "parasitic" upon the sins, of mankind. Such language exceeds the bounds of common sense.

"The art of medicine needs no apology," as Professor Lindsay observes. "Its triumphs are written on the page of history, and shine nowhere more brilliantly than in the records of the last few decades."

He concludes with a passage from R. L. Stevenson, which may encourage us when we feel disheartened even by unjust criticism:

> There are men and classes of men that stand above the common herd—the soldier, the sailor, and the shepherd not unfrequently, the artist rarely, the physician almost as a rule. He is the flower (such as it is) of our civilization. . . . Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tried by a hundred secrets; tact, tried by a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sick-room, and often enough, though not so often as he wishes, brings healing.

The verdict of Stevenson may well be allowed to outweigh that of a writer who attacks, disparages, and misrepresents his own profession.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON J. L. THOMAS has been placed on the retired list, with the rank of Deputy Surgeon-General, September 3rd. He was the senior Fleet Surgeon in the Royal Navy, having been appointed Surgeon, February 11th, 1884; Staff Surgeon, February 11th, 1896; and Fleet Surgeon, November 9th, 1896. He was Surgeon of *Temeraire* (Flag) Mediterranean, and attached to torpedo boat flotilla during the blockade of Greek ports by the International Fleet (1886). Surgeon in charge of *Britannia* (Cadets' School), and mentioned to their Lordships for introducing and conducting classes on "First Aid." Especial mention by their Lordships for medical services rendered during an epidemic of yellow fever (November, 1891, to February, 1892), whilst Surgeon of the Naval Hospital, Jamaica. Surgeon of *Porpoise* during the China-Japan war, 1894-95, and witnessed the surgical treatment of the Japanese wounded immediately after the Yalu naval action; present at the storming and fall of Port Arthur (November, 1894), and at the bombardment and capitulation of Wei-hai-Wei (February, 1895): landed at Chefoo in charge of a native hospital there, and received their Lordships' thanks for services performed to the wounded Chinese soldiers and sailors; favourably noted by the Admiralty for this service; bestowed by the Imperial Chinese Government (through the British Minister, Peking) with the Grand Order of the Double Dragon of China of the First Division, 3rd Class; P.M.O. of the Naval Brigade in the advance with the Allied Forces towards Peking; present in the actions on the route Tientsin to Peking and Relief of the Legations (1900), (mentioned in dispatches, promoted to Fleet-Surgeon, medal with clasp).

The following appointments have been made at the Admiralty: Fleet Surgeon J. C. FERGUSON, M.B., and Surgeon A. C. W. NEWPORT to the *Jupiter*, on its becoming the parent ship, September 1st; Fleet

Surgeon A. KIDD to the *Glory*, September 7th; Surgeon E. R. TOWNEND to the *Donegal*, September 7th; Fleet Surgeons J. D. HUGHES, J. MCELWEE, M.D., G. T. BISHOP, and L. T. REID; Staff Surgeons E. FOLLIOTT, A. J. LAURIE, J. VERDON, L. M. MORRIS, R. H. ATKINS, M.B., and M. W. IREDELL, and Surgeons W. R. HARRISON, R. F. MACMAHON, G. H. S. MILLN, M.B., A. D. C. CUMMINS, G. MOIR, and J. MCCUTCHEON, all to the *President*, additional, for Civil Hospital Course, to join the Royal Naval College, October 2nd; Fleet Surgeon E. R. D. FASKEN, to the *Devonshire*, October 2nd; Fleet Surgeon A. X. LAVERTINE to the *Terrible*, October 2nd; Fleet Surgeon E. A. SHAW, M.B., to the *Antrim*, October 2nd; Fleet Surgeon B. F. PARISH to the *Actaeon*, October 2nd; Staff Surgeon E. D. J. O'MALLEY to the *Amethyst*, October 2nd; Surgeon A. R. DAVIDSON, M.B., to the *Indefatigable*, October 2nd; Surgeon R. H. ST. B. E. HUGHES to the *New Zealand*, additional, for the Portsmouth Subdivision of the Home Fleet, October 2nd; Surgeon J. D. KEIR to the *Venerable*, October 2nd; Surgeon G. W. M. CUSTANCE to the *Pembroke*, additional, for disposal, undated, and for Chatham Hospital, October 2nd; Staff Surgeon W. E. MATHEW to the *Forth*, September 13th; Staff Surgeon J. R. L. PAGE to Devonport Dockyard, September 28th; Staff Surgeon G. C. C. ROSS, M.B., to the *Vivid*, additional, for disposal, September 28th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN H. H. KIDDLE is placed temporarily on the half-pay list on account of ill health, September 2nd. He was appointed Lieutenant, Indian Medical Service, September 1st, 1902, and Captain, September 1st, 1905; he was transferred to the Royal Army Medical Corps, December 18th, 1907.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL P. HEHIR, M.D., assumed charge as Officiating Principal Medical Officer, Burma Division, on August 1st.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Attached to Units other than Medical Units.—Lieutenant JOHN LEACH, M.B., to be Captain, May 18th, 1911. Major W. C. BEATLEY, M.D., resigns his commission, retaining his rank and uniform, September 9th.

COLONIAL MEDICAL SERVICES.

THE following changes have been notified by the Colonial Office:

WEST AFRICAN MEDICAL STAFF.

Retirement.—J. B. H. DAVSON, M.R.C.S.Eng., L.R.C.P.Lond., Senior Medical Officer, Sierra Leone, retires on pension.

Promotions.—J. P. FAGAN, F.R.C.S., L.R.C.P., L.M.Irel., D.P.H.Dub., Deputy Principal Medical Officer, Northern Nigeria, to be Principal Medical Officer, Northern Nigeria. F. G. HOPKINS, M.D., B.Ch.Dub., Deputy Principal Medical Officer, Southern Nigeria, to be Principal Medical Officer, Gold Coast. F. MANNING, L.R.C.S., L.R.C P.Irel., Senior Medical Officer, Northern Nigeria, to be Deputy Principal Medical Officer, Northern Nigeria. E. H. TWEEDY, L.R.C S., L.R.C.P., L.M.Irel., Provincial Medical Officer, Northern Territories of the Gold Coast, to be Deputy Principal Medical Officer, Gold Coast.

Reappointments.—R. H. BRIERLEY, L.R.C P., L.R.C.S.Edin., L.F.P.S.Glas., D.P.H., formerly a Medical Officer in Southern Nigeria, has been reappointed to the staff.

Death.—H. G. LEWER, L.R.C.S., L.R.C.P.Edin., L.F.P.S.Glas., Medical Officer, Northern Nigeria.

New Appointments.—The following gentlemen have been selected for appointment to the staff:—L. W. DAVIES, M.D., Ch.B.Edin., Northern Nigeria. J. B ALEXANDER, M.B., Ch.B.Edin., D.P.H.Cantab., Gold Coast.

OTHER COLONIES AND PROTECTORATES.

W. H. BOMFORD, L.R.C S., L.R.C.P.Irel., has been selected for appointment as a Medical Officer in Fiji. W PARSONS, M.R.C.S.Eng., L.R.C.P Lond., has been selected for appointment as Medical Officer in charge of the Quarantine Station at Singapore E. SUTCLIFFE, M.R.C.S.Eng., L.R.C.P.Lond., has been selected for appointment as a Supernumerary Medical Officer in the Leeward Islands.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 7,750 births and 5,889 deaths were registered during the week ending Saturday last, September 9th. The annual rate of mortality in these towns, which had been 20.9, 21.2, and 20.6 per 1,000 in the three preceding weeks, fell last week to 19.0 per 1,000. In London the death-rate last week did not exceed 17.4 per 1,000, against 19.1, 19.0, and 17.6 in the three previous weeks. Among the seventy-six other large towns the death-rates last week ranged from 9.4 in Hastings, 10.6 in Barrow-in-Furness, 11.2 in Wallasey, 11.8 in Derby and in Halifax, and 12.2 in Croydon to 26.5 in Hull, 27.9 in Liverpool and in Burnley, 28.5 in Aston Manor, 28.6 in Stoke-on-Trent, and 33.1 in Sunderland. Enteric fever caused a death-rate of 1.2 in Birkenhead and 1.8 in Wigan; measles of 2.2 in Wolverhampton; diphtheria of 1.5 in Coventry; and diarrhoea and enteritis (of children under 2 years of age) of 10.8 in St. Helens, 10.9 in Stoke-on-Trent, 11.8 in Aston Manor, 13.2 in Grimsby, 13.5 in Merthyr Tydfil, and 13.7 in Burnley. The mortality from whooping-cough and scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 5,889 deaths in the seventy-seven towns last week, the causes of 24, or 0.4 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Liverpool, 4 in Birmingham, and 2 in London. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,388, 1,352, and 1,327 at the end of the three preceding weeks, rose to 1,349 at the end of the week under notice; 217 new cases were admitted during the week, against 149, 132, and 168 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 758 births and 536 deaths were registered during the week ending Saturday last, September 9th. The annual rate of mortality in these towns, which had been 15.5 and 17.2 in the two preceding weeks, declined to 16.4 in the week under notice and was 2.6 per 1,000 below the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates last week ranged from 11.1 in Paisley and 12.2 in Edinburgh to 19.4 in Greenock and 20.1 in Aberdeen. The mortality from the principal epidemic diseases averaged 3.2 per 1,000, and was highest in Dundee and Perth. The 262 deaths from all causes registered in Glasgow included 40 (of children under 2 years of age) from diarrhoea and enteritis, 4 from whooping-cough, 3 from diphtheria, 2 from measles, and 1 from enteric fever. Twelve deaths from infantile diarrhoea were recorded in Dundee, 4 in Aberdeen, 3 in Greenock, and 3 in Perth; 2 deaths from scarlet fever in Aberdeen; and 2 deaths from diphtheria in Dundee and 2 in Leith.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 2nd, 609 births and 462 deaths were registered in the twenty-two principal urban districts of Ireland, as against 623 births and 426 deaths in the preceding period. The annual death-rate in these districts, which had been 17.1, 19.4, and 19.3 per 1,000 in the three preceding weeks, rose to 21.0 per 1,000 in the week under notice, this figure being 0.4 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 25.8 and 18.6 respectively, those in other districts ranging from 4.2 in Drogheda and 4.4 in Newry to 49.6 in Kilkenny and 57.2 in Newtownards, while Cork stood at 24.5, Londonderry at 12.8, Limerick at 17.7, and Waterford at 9.5. The zymotic death-rate in the twenty-two districts averaged 6.9 per 1,000, as against 6.1 in the preceding week.

During the week ending Saturday, September 9th, 598 births and 487 deaths were registered in the twenty-two principal urban districts of Ireland, as against 609 births and 462 deaths in the preceding period. The annual death-rate in these districts, which had been 19.4, 19.3, and 21.0 per 1,000 in the three preceding weeks, rose to 22.1 per 1,000 in the week under notice, this figure being 3.1 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 27.1 and 19.7 respectively, those in other districts ranging from 3.9 in Galway and 4.2 in Drogheda to 27.5 in Armagh and 31.9 in Wexford, while Cork stood at 25.2, Londonderry at 16.6, Limerick at 17.7, and Waterford at 26.6. The zymotic death-rate in the twenty-two districts averaged 5.9 per 1,000 as against 6.9 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BEDFORD COUNTY HOSPITAL.—(1) House-Physician. Salary, £80 per annum. (2) Male Assistant House-Surgeon. Salary, £80 per annum.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—Male House-Surgeon. Honorarium, £100 per annum.

BODMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £140 per annum.

BRISTOL ROYAL INFIRMARY.—(1) House-Surgeon. Salary, £100 per annum. (2) Resident Casualty Officer. Salary at the rate of £50 per annum.

BRITISH LYING-IN HOSPITAL, Endell Street, W.C.—(1) Resident Medical Officer. Salary at the rate of £50 per annum. (2) Physicians to Out-patients.

CANCER HOSPITAL (FREE), Fulham Road, S.W.—House-Surgeon. Salary, £70 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £70 per annum.

COUNTY OF LONDON.—Medical Officer of Health. Salary commencing at £1,250 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—(1) House-Surgeon (male); salary, £125 per annum. (2) Assistant House-Surgeon; salary at the rate of £75 per annum.

DUNDEE: UNIVERSITY COLLEGE.—Assistant in the Department of Physiology. Salary, £150 per annum.

DUNFERMLINE: THE CARNEGIE DUNFERMLINE TRUST.—Assistant Medical Officer. Salary at the rate of £250 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House-Surgeon (male). Salary at the rate of £75 per annum.

EDINBURGH SCHOOL BOARD.—Assistant Medical Officer. Salary at the rate of £250 per annum.

EDMONTON UNION.—Second Assistant Medical Officer (male) at the Infirmary. Salary, £120 per annum.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon (male). Salary, £72 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—House-Physician and Assistant House-Surgeon. Salary at the rate of £60 each per annum.

GLASGOW ROYAL ASYLUM.—Junior Assistant Physician. Salary at the rate of £150 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—House-Physician. Salary at the rate of £70 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—House-Surgeon and Assistant House-Surgeon (males). Salary, £100 and £50 per annum respectively.

HOLBORN UNION.—Public Vaccinator for the Clerkenwell District.

INVERNESS DISTRICT ASYLUM.—Junior Assistant Physician (male). Salary, £120 per annum.

LEAMINGTON: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LEEDS MATERNITY HOSPITAL.—Vacancy on the Honorary Staff.

LEICESTER: BOROUGH LUNATIC ASYLUM. — Medical Superintendent. Salary, £800 per annum.

LEICESTER ISOLATION HOSPITAL.—Resident Medical Officer. Salary, £150 per annum.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Gardens, S.W. — Assistant Bacteriologist. Salary, £250 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—Honorary Assistant Surgeon.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY. — Resident House-Surgeon. Salary, £100 per annum.

MANCHESTER CORPORATION.—Assistant Medical Officer at the Baguley Sanatorium. Salary, £100 per annum.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer. Salary, £150 per annum.

MARGARET STREET HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Margaret Street, W.—(1) Honorary Physician; (2) Honorary Dental Surgeon.

MELROSE: ROXBURGH DISTRICT ASYLUM.—Assistant Medical Officer. Salary, £160 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.— Assistant House-Surgeon (male). Salary at the rate of £75 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary, £160 for first year, increasing to £180.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House-Surgeon. Salary, £60 per annum.

NOTTINGHAM GENERAL DISPENSARY. — Assistant Resident Surgeon (male). Salary, £160 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £150 per annum, rising to £250.

PRESTON ROYAL INFIRMARY.—Senior House-Surgeon (male). Salary at the rate of £80 per annum,

PRETORIA LUNATIC ASYLUM.—Junior Medical Officer. Salary, £350 per annum, rising to £400.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL. Marylebone Road, N.W.—Resident Medical Officer for Out-patient Department. Salary at the rate of £60 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, N.E.—House-Surgeon. Salary at the rate of £80 per annum.

READING: BERKSHIRE EDUCATION COMMITTEE.—Assistant Medical Inspector of Schools. Salary, £300 per annum.

ROCHDALE INFIRMARY.—Senior House-Surgeon. Salary, £100 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary at the rate of £50 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W. — Resident House-Surgeon. Salary at the rate of £100 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, Waterloo Road, S.E.—Honorary Dental Surgeon.

ST. MARY'S HOSPITAL, Paddington, W.—Surgeon in charge of Out-patients.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £50 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon (male). Salary, £70 per annum.

STOCKPORT INFIRMARY.—Junior House-Surgeon (male). Salary, £80 per annum.

TAUNTON AND SOMERSET HOSPITAL. — Resident Assistant House-Surgeon. Salary at the rate of £70 per annum.

WALSALL AND DISTRICT HOSPITAL. — House-Physician and Casualty Officer. Salary, £80 per annum.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Beverley, Yorkshire, East Riding; Crossabeg, co. Wexford; and Whitehouse, co. Antrim.

APPOINTMENTS.

ALLANSON, H. E., M.B., Ch.B.Vict Manch., Resident Assistant Medical Officer of the Salford Union Infirmary.

AMBROSE, E. Q., L.R.C.P., L.R.C.S.Edin.. District Medical Officer of the Whitechapel Union.

BEDDOW, J., M.R.C.S., L.R.C P.Lond., District Medical Officer of the Tiverton Union.

BOULTON, Arthur, M.R.C.S., L.R.C.P., D.P.H.Eng., Medical Officer of Health for the Urban District of Horncastle.

BROWN, R., M.R.C.S., L.R.C P.Lond., District Medical Officer of the Hackney Union.

DOWNES, T. W. H., M.R.C.S., L.R C.P Lond., District and Workhouse Medical Officer of the Ludlow Union.

DUPRÉ, W. H., M R.C.S., L.R.C.P., House-Surgeon to the Kent and Canterbury Hospital.

GLENNY, Elliott T., M.B, B.S.Lond., M.R.C.S., L.R.C.P.Lond., Visiting Medical Officer to the Ferrotamba Mining Company, Apurimac, Peru.

GRIFFITH, G. R., M.B., C.M.Glasg., Medical Officer of Health of the Port of Carnarvon.

HARRIS, D. Fraser, B.Sc.Lond., M.D.Glas., Professor of Physiology in the Dalhousie University, Halifax, Nova Scotia.

HARTIGAN, J., L.A.H.Irel., Assistant Medical Officer of the Nottingham Union Infirmary.

HIBBERT, W. L., M.R.C.S., L.R.C.P.Lond., Assistant Resident Medical Superintendent of the Lewisham Infirmary.

HOLMES, P. J., L R C.P I., L.R.C.S.I., L.M, Certifying Factory Surgeon for the Killaloe District, co Clare.

HOSEGOOD, S., M.R.C.S Eng., L.S A., Certifying Factory Surgeon for the Swinton District, co. Lancaster.

IVES, W. F. H., L.R.C.P., L.R.C.S.Edin., L.F.P.S.Glas., District Medical Officer of the Southampton Union.

KIRK, T. D., M.D, M Ch., L.S.A., Certifying Factory Surgeon for the Montgomery District, co. Montgomery and Salop.

LAWRENCE, W. B., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer of the Cardiff Union Workhouse.

MERCER, R. H., M.B., Ch.B.Vict.Manch., District Medical Officer of the Pewsey Union.

MILBURN, O. Le F., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Biggleswade Union.

MOXON, H. W., B.A.Cantab., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Matlock District, co. Clare.

STEVENS, B. C., M.D.Durh., F.R.C.S.Edin., D.P.H.Oxon., Medical Officer of Health and School Medical Officer to the Burgh of Hartlepool.

STEVENSON, C. K., M.B., Ch.B.Glas., Assistant Medical Officer of the Edmonton Union Infirmary.

WHELAN, J. B. B., M.D.Durh., Certifying Factory Surgeon for the Ruskington District, co. Lincoln.

WHITEHOUSE, William Henry, M.D., B.S.Durh., D.P.H.Edin., Medical Officer of Health for Deptford.

WHITTINGTON, T. H., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer of the St. Marylebone Union Infirmary.

WILLCOX, J. W. J., M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Wells Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

HODDER.—On the 13th inst., at 21, Foregate Street, Stafford, to Dr. A. E. and Mrs. Hodder (née Mary Haddon) a son, stillborn.

POWELL.—On September 8th, at 2, Gloucester Road, Bristol, the wife of John Joseph Powell, M.D., of a son.

MARRIAGES.

EVANS—SMITHSON.—On September 6th, at St. Catharine's Church, Barmby Moor, East Yorkshire, by the Rev. A. A. R. Gill, Vicar of Market Weighton, assisted by the Rev. W. D. Wood Rees, Vicar of Barmby Moor, Dr. Alexander Evans, of Market Weighton, East Yorkshire, to Martha Elizabeth (Lily) Smithson, youngest daughter of Francis Smithson, Esq., of Dolman House, Pocklington, East Yorkshire.

FOLEY—JOYCE.—On September 6th, at the Pro-Cathedral, Dublin, by the Rev. M. Conroy, P.P., Lisdoonvarna (uncle of the bride), assisted by the Rev. Father MacArdle, S.J., Galway, Rev. Father McDonagh, Oughterard, and Rev. Father Fitzgerald, O.S.F., Dublin, Dr. C. H. Foley, of Ardrahan, co. Galway, to Ina, daughter to John H. Joyce, Oughterard, co. Galway.

DEATH.

PETTIFER.—On August 23rd, at Weymouth, Edmund Henry Pettifer, M.R.C.S., late of 32, Newington Green, London, aged 83. R.I.P.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

EDINBURGH SEPTEMBER POST-GRADUATE COURSE.—The second fortnight of this course commences at 9 a.m. on Monday, and continues daily throughout the week. It includes classes on errors of refraction, surgical anatomy, infant feeding, histological methods, *x*-ray work, gynaecology, general surgery, general medicine, dermatology, otology rhinology and laryngology, ophthalmology, obstetrics, bacteriology, haematology, fevers, and a lecture on some subject of current medical or surgical interest.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Monday, 2 p.m., Pulmonary Diseases. Tuesday, 2 p.m., Disease Giving Rise to Morbid Renal Excretion. Wednesday, 2 p.m., Abdominal Disease. Thursday, 2 p.m., Diseases of the Nervous System. Friday, 2 p.m., Diseases of the Heart.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following Clinical Demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical: Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 23RD, 1911.

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Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

LANCASHIRE AND CHESHIRE BRANCH:

ALTRINCHAM DIVISION.

A SPECIAL meeting of the Division was held on Tuesday, July 18th, at the Board Room of the Altrincham Hospital. Tea was provided at 4.30. Dr. ADOLPHE RENSHAW took the chair at 4.45 p.m. There were present: Drs. Luckman, Aspinwall Renshaw, Garstang, Robinson, Lyon, Hassall, Duncan, Turner, H. G. Cooper, G. H. Smith, Doonan, Gough, Anderson, Haward, Fennell, P. R. Cooper, Leak, C. J. Renshaw, MacLaren, Tattersall, Savatard, and one visitor, Dr. Israel Renshaw.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Boycott, Gore, Fennell, Hislop, Clarke, and McCloghry.

Report of Member of Council.—The CHAIRMAN called on Dr. Garstang to give the latest account of the Insurance Bill. After a detailed account, Dr. GARSTANG proposed the following resolution:

> That this meeting of the Altrincham Division fails to discover any advantage to the medical profession in the clause at the foot of page 3 of Document R 10, and, in reply to the question submitted at the foot of page 7 of the same, strongly disapproves of the amendment suggested unless accompanied by another definite amendment creating an income limit (see paragraph 8, page 4), and is of opinion that if the latter be obtained the former is superfluous and unnecessary; and begs the Representative Meeting to stand firm in the demand for an income limit.

This resolution was seconded by Dr. P. R. COOPER, and carried unanimously. It was also suggested and carried that the resolution be forwarded at once to the Central Council. Dr. ROBINSON then moved a resolution:

> That, having regard to the undue and enormous burden which the bill imposes on the medical profession, this meeting considers that unless it is so modified as to obtain the fullest approval of the profession, the British Medical Association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom.

This was seconded by Dr. P. R. COOPER. Drs. LUCKMAN, DOONAN, LEAK, and H. G. COOPER spoke in support of the resolution. Drs. SAVATARD and HAWARD spoke against the resolution, expressing a fear that the result would be the municipalities taking over control of the hospitals. Dr. TURNER asked whether the resolution meant that patients in the hospitals would be neglected. On being put to the meeting, 18 voted for and only 2 against the resolution.

A further resolution, proposed by Dr. ADOLPHE RENSHAW and seconded by Dr. FENNELL,

> That these resolutions be sent to the press,

was carried by a large majority.

Interviews with M.P.s.—Dr. ADOLPHE RENSHAW reported on the interview with Mr. Kebty-Fletcher, M.P. for Altrincham. Dr. HASSALL reported on the interview with Mr. Brunner, M.P. for Northwich. Dr. FENNELL read a letter from Mr. Sykes, M.P. for Knutsford.

Election of Direct Representatives on the General Medical Council.—The meeting selected Drs. Browne, Jackson, and Latimer from the list of nominations as the members for support by the Representative at the Representative Meeting.

Local Guarantee Fund.—This question was left over for the committee to consider and arrange details.

Instruction to Representative.—Dr. P. R. COOPER then moved the following resolution as an instruction for the Representative at the Representative Meeting:

> That this Division is of opinion that the Government should be asked to delay dealing with the medical benefits portion of the Insurance Bill until a satisfactory understanding has been arrived at with the medical profession, and that, unless the Government will agree to this, the British Medical Association should cease further negotiations for the present and the medical profession should refuse *en bloc* to act under its provisions, if enacted.

This was seconded by Dr. ROBINSON and carried unanimously.

[This report was received from the Honorary Secretary, Dr. H. G. Cooper, on Monday, September 18th.]

SOUTH-EASTERN OF IRELAND BRANCH.

AN ordinary meeting of this Branch was held at the Adelphi Hotel, Waterford, on September 6th, at 3.30 p.m. Dr. JOSEPH POWER was in the chair. There were also present: Drs. Mackesy, Morris, Jellett, Mary Strangman, C. E. James, Laffan, and Quirke, Honorary Secretary.

Insurance Bill.—The Insurance Bill was freely discussed, and, after a lengthened debate, the following resolutions were passed unanimously. Proposed by Dr. LAFFAN and seconded by Dr. JELLETT:

> That we adhere to our April resolution, that this bill would be destructive to Ireland and our profession, and that it ought to be opposed.

Proposed by Dr. POWER and seconded by Dr. MORRIS:

> But in case medical benefits are to be administered under the Poor Law and monetary benefits under the Insurance Bill, arrangements for payments for extra services acceptable to the local Branch of the British Medical Association or the Irish Medical Association must be made; but where both benefits are to be administered by the Insurance Bill, the same regulations to obtain in Great Britain and Ireland.

Luncheon.—Before the meeting the members lunched together at the Adelphi Hotel.

SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, 28th, and 29th, 1911.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[SEVENTH NOTICE.]

H. K. LEWIS (136, Gower Street, London, W.C.). Since the exhibition at South Kensington last year this firm of medical publishers has made considerable additions to its lists, and several of these, as well as new editions of some old friends, were on view at Birmingham. Among them was *Medical Diagnosis*, by Mitchell Stevens, of Cardiff, which contains upwards of 170 illustrations, several of them coloured, and has been exceedingly well reviewed. Another was *The Care of Infants and Young Children in Health*, a book of a very practical order, by Dr. Mildred Burgess, which has been placed on the requisition list of the London County Council for use in the evening schools; others were *Essays and Clinical Studies*, being a collection by Dr. F. G. Crookshank of papers which he has published at various dates; *Sinus Thrombosis and Abscess of the Brain*, by J. Wyllie, with some appendices on lumbar puncture and other related subjects, and *An Index of Dermatological Literature*, by Dr. Winkelried. Notable among the new editions of standard works was the fifth edition of *Diseases of the Lungs and Pleura*, by Sir R. Douglas Powell. On this occasion he has had as a collaborator Dr. P. Horton-Smith Hartley, and the book, in which appear many new illustrations and a large number of plates, has been thoroughly revised. We also noted that the books on hygiene and public health by Parkes and Kenwood together and on public health laboratory work by Kenwood alone, maintain their popularity, the former being now in its fourth and the latter in its fifth edition; a second and enlarged edition of A. C. Cooper's book on *Sexual Disabilities* was likewise shown, as also a similar edition of the emergency guide for police surgeons, by Graham Grant, which is now called *Practical Forensic Medicine*. As is well known, another branch of this firm's work is the maintenance of a circulating library of medical and scientific books, and of this a catalogue, with various supplements bringing it up to date, was to be seen on the stall. Further evidence of the energy of the firm was supplied by a considerable array of case-books, charts, diagrams, loose-leaf diaries, and its own combined day book and ledger; as also by a collection of portraits of medical celebrities and the *Atlas of Clinical Medicine* and other examples of the works it has brought out on behalf of the New Sydenham Society.

A. AND M. ZIMMERMANN (3, Lloyd's Avenue, London, E.C.). This firm is agent for several well-known foreign pharmaceutical manufacturers. Among them are Messrs. Schering, whose preparations, apart from Urotropine, Piperazin, and other well-known drugs such as Beta-Eucain Lactate, now include several practical newcomers. One of them is Atophan, the trade name given to a chinolin-carbonic acid derivative. It is, according to some elaborate records published in the *Deut. Arch. f. klin. Med.* and other periodicals, an exceptionally powerful eliminant of uric acid. A second is Hegonon, an organic preparation of silver put forward as exhibiting no caustic action, but as having an excellent effect in the treatment of gonorrhoea. A third, named Arthigon, is designed to meet the same needs, but is itself an aqueous emulsion of killed gonococci, intended to be used as a vaccine. A fourth is named Hormonol, and, according to Unger and others, is an effective remedy in chronic constipation and internal paralysis; it is given subcutaneously. Some of Messrs. Kalle and Company's preparations were also shown. These include Biebrich Scarlet R, which has been considerably used abroad for the promotion of the growth of epithelium over wound surfaces; Medicinal Amidoazotoluol, a remedy with similar properties, but regarded as being quicker in action; and the two forms of tuberculin advocated by Carl Spengler and Rosenbach respectively. The former is known as I. K., letters which stand for the German words *Immun Körper*. It is based upon the view that the red blood cells, not blood serum, are the true site of the deposit of antituberculous bodies. and the preparation is a solution of the dissolved red blood cells of artificially immunized sheep. Also shown were a series of organo-therapeutic preparations of the firm of von Poehl of St. Petersburg, which included Sperminum, and several other extracts from male and female genital organs. Another firm represented was Messrs. H. Finzelberg, who showed several diastasic preparations, while Messrs. Zimmermann exhibited on their own account reagents for the Wassermann reaction, which are stated to be tested by Professor Wassermann himself, and independently examined by Dr. Mier.

BOVRIL, LIMITED (152 and 156, Old Street, London, E.C.). This firm prepares a good many concentrated and other foods, but limited its exhibit at Birmingham to only two of them—namely, Bovril and Invalid Bovril. Of the former little need be said beyond stating that its popularity is quite easy to understand, since with some hot water and a tin of some of this speciality to hand nothing is easier to prepare than a cup of pleasantly flavoured and stimulating soup or broth. In addition, it appears just to conclude that this soup is of real value in nutrition, apart from the ordinary effects on appetite of meat extracts, in view of the results of certain Dublin experiments on the value of meat extracts, in which this particular variety thereof is understood to have been used. As for its chemical composition, this, according to an analysis by Allen, is as follows: Insoluble proteins and meat fibre, 8.5 per cent.; soluble proteins and gelatine, 3.8 per cent.; meat bases, 12 per cent.; non-nitrogenous extracted matters, 19.7 per cent.; mineral substances, 17.8 per cent. It is, in fact, a meat extract *plus* albumen and fibrin. The latter two ingredients are, we have been informed, separately prepared from fresh meat and are then blended with what may be called the beef-tea part of the final product. As for Invalid Bovril, this is very much the same preparation, but somewhat more concentrated and free from anything in the way of seasoning. This is an advantage in the sick-room, as anything required in the way of pepper and salt can be added in just such quantity as happens to suit any individual patient's taste. It is a preparation deservedly in favour at a very large number of hospitals and other public institutions.

THE HOLBORN SURGICAL INSTRUMENT COMPANY (26, Thavies Inn, Holborn Circus, E.C.). This firm has always proved itself prompt to appreciate the surgical tendencies of the day, and on this occasion made a special exhibit of appliances for use in connexion with salvarsan treatment. It included the Military outfit, this being the apparatus used at the Rochester Row Hospital, where so much valuable salvarsan work has been done; Dr. H. W. Bayly's appliance, and those respectively used by Schreiber of Heidelberg, Grünbaum of the London Hospital, and Weintraud of Wiesbaden. In a general way they all closely resemble one another, but present minor differences, the probable value of which can only be appreciated by examining the appliances side by side. In some of them are used the Holborn ratchet clip, which has the advantage of making it possible to regulate the flow of any liquid by the use of one hand only. The Military outfit in particular, which is of quite moderate price, includes this clip, a Weintraud needle, and also the Bayly container, the latter providing for the injection being kept at suitable warmth. The firm also began to specialize some two or three years ago in appliances for Bier's hyperaemic treatment, and its exhibit included all the various glass devices by which hyperaemia is secured by submitting the affected part to minus pressure, and also those for the production of hyperaemia by hot air. The chambers intended for this purpose — Holborn Hot-Air Chambers—vary somewhat in shape and size, according to the part which they are initially designed to treat, and vary correspondingly in price. But they can none of them be called expensive, and they are certainly well made. Inexpensiveness, indeed, is one of the noteworthy features

of the appliances of this firm, some of whose outfits—such as the £25 prize set of surgical instruments, and the Rotunda set of midwifery instruments, mentioned with approval by Tweedy and Wrench in their book of *Practical Midwifery*—have long been favourably known.

THE ANGLO-AMERICAN PHARMACEUTICAL COMPANY (Chichester Chambers, 83, Chancery Lane, W.C.). On this occasion the exhibit of this firm was confined to preparations sold under the name of Huxley. Many of them have been popular favourites for a considerable time, especially, perhaps, the firm's series of glycero-phosphates, which are stated to be non-fermentable and to throw down no deposit. One preparation of this order is an attractive-looking ruby-coloured syrup, containing salts of formic acid, which has been introduced in view of the alleged power of this acid to prevent the formation or counteract the action of fatigue products. In other preparations the glycero-phosphates are combined respectively with haemoglobin, pepsin, and red bone marrow. Specially to be noted are the tablets named Nascent Glycero-Phosphate Triturate. In these the glycero-phosphate element is present in potential form, the various factors each remaining separate until the tablets are swallowed; freshness of the compound salts, a point on the importance of which some authorities lay much stress, is thus fully ensured. Other Huxley preparations shown were Plasma Dusting Powder, which contains, we understand, zinc oleate, boric acid, and a percentage of salol. It is a fragrant fine powder, which seems well suited either for the ordinary purpose of powders, or as a dry dressing in erythematous conditions. A Menthol and Winter Green Cream prepared by the same firm is a pleasant-smelling, non-greasy ointment for the alleviation of rheumatic pains, while Betul-ol is a liniment containing menthol and methyl salicylate, and intended for the treatment of more deep-seated pain by absorption through the skin. Other preparations shown were Huxley's Proteid Food, which is stated to contain 51 per cent. of protein derived from milk, and also certain organic phosphorus-containing compounds and potential glycero-phosphates. Some small gelatine perles containing natural oil of winter green were also on view. Under the name of Colchi-sal they have already become fairly well known. Each is understood to contain $\frac{1}{250}$ grain of Colchicine, while the winter green factor is stated to be equal therapeutically to sodium salicylate, 5 grains.

A. WANDER, Ph.D. (3, Leonard Street, City Road, London, E.C.). This firm is the manufacturer of several dietetic preparations, one of them being *Ovaltine*, a form of food to which we drew attention when first it was put upon the market. It is stated by the firm to be composed of malt extract, dried milk, and eggs, and to contain active lecithin, which, as a phosphorus-containing nitrogenous substance produced in the animal organism, is of high importance in the treatment of malnutrition. An analysis which we made bore out these statements as to its composition, lecithin being found to exist in a free state, since it could be extracted from the food merely by the action of solvents, while the amount of fat and protein present was considerable. The food is a dry granular powder, resembling chocolate in appearance, and can be taken either spread on bread or as a liquid, by mixing it with warm water or milk and water. In the latter form it is a palatable beverage, with the general taste of malt extract and cocoa. From its composition it may be regarded as entitled to a good place among the artificial foods esteemed of value in various morbid conditions, and it appears to enjoy special favour in several foreign sanatoriums where overfeeding of the tuberculous is undertaken. Another preparation shown was *Wander Malt Extract* in combination with iron iodide. This is a dry extract, which looks and tastes somewhat like "brown" sugar; the same product can be obtained without any admixture and is easy to take, and appears to have a normal degree of diastasic power. The amount of salt contained in the iodide combination is said to be $2\frac{1}{2}$ grains of pure iodide of iron to each tablespoon of the powder. Another exhibit was *Formitrol Pastilles;* their special point is the slowness of their solution, a decided advantage when throat medication is in question, and that as each pastille is covered with a wrapper of tinfoil they can be stored without loss of strength. Each is stated to contain the equivalent of $\frac{1}{6}$ grain of formaldehyde.

MELLIN'S FOOD (Stafford Street, Peckham). The ordinary preparation of this firm is now so well known that this year special attention of visitors was more particularly directed to a pamphlet entitled "Dainty Diet," by which the firm shows how *Mellin's Food* may be employed as the basis of many dishes which are both appetizing and nutritious to adults in a delicate state of health. Prominence was also given to a Baby's Balance, by the provision of which the firm has recognized the need for systematically recording the progress of an infant's weight, whatever the food on which it is being nourished. Also shown was a chocolate in which a proportion of the cane sugar commonly used is replaced by Mellin's Food, the idea being to increase its nutritive value and decrease the tendency of chocolate to produce thirst. It is a smooth eating product of excellent flavour. A corresponding idea would seem to underlie *Mellin's Food Biscuits*, which are a mixture of Mellin's Food and ordinary wheat. An analysis which we have seen shows them to contain 10 per cent. of fat and 41 per cent. of soluble carbohydrates. They are of a very pleasant flavour, and a useful half-way house between ordinary and predigested foods. To the feeding-bottle of the firm we drew attention as one of marked excellence some eight years ago, since which time it has become familiar in many nurseries. All lettering and dose directions are on the outside of the bottle and its interior absolutely smooth; it is, therefore, readily kept clean. Another preparation which still remains in favour is Lacto, a blend of fresh milk and malted barley digested together until the starchy matters have been completely transformed and the caseinogen so modified as to be incapable of clotting. It is then evaporated to dryness, the resulting product revealing 18 per cent. proteins, 14 per cent. fats, and 59 per cent. sugar, together with over 4 per cent. mineral matter containing phosphates. Added to warm water it forms a fluid with the appearance, but free from the flavour, of milk, which many people dislike. It was originally devised for use in tropical countries, where cow's milk is an impossibility or at a premium, but is also well suited for use elsewhere, either as a substitute for milk which is temporarily under suspicion or as a light fluid meal at any time.

MESSRS. SALT AND SON (5–6, Cherry Street, Birmingham). The name of this firm has long been favourably known in connexion with abdominal belts, orthopaedic boots, and other appliances for the relief or rectification of various physical defects, and its exhibit at Birmingham gave a good idea of its work. An instance in point is its Patent Varus Boot, since it secures due eversion of the front of the foot in a very simple fashion. Practically it is a boot in three parts—a back "upper," which is first laced round ankle and heel, and a front upper, which embraces the rest of the tarsus and metatarsus, and, having been got into position, is then drawn with the contained foot into line with the sole. It is then kept in place—that is, slightly over-everted—by two straps, one connected with the outer side of the ankle, and the other with the front of the sole. When applied the boot is by no means unsightly, and but little over the weight of an ordinary boot. It has met with a good deal of approval from sundry surgeons, and is certainly worth examination. The firm's appliance for dropped kidney—namely, Salt's Patent Kidney Belt—was also on view. It is to be noted that the idea underlying it—one which has certainly proved its merits—has within the last eighteen months been applied to some corsets for the use of women sufferers from floating kidney. They enable such patients to secure the general advantages of corsets with the additional advantage of effective kidney support. Also on view were some well-made artificial legs and the trusses of the firm, which are of celluloid, and readily adjustable, and an inhaler of the pattern devised and used by McCardie. The facepiece is fitted with expiratory valves, and the sponge chamber is also valved and reversible. In addition to other advantages this inhaler is considered to work specially economically in regard to the amount of anaesthetic required. Another device shown was Saltair Cautery Resistance, which enables a medical man to use for electro-cautery purposes the accumulator from his automobile. For the benefit of

patients who require to be measured or fitted the firm maintains an office in London—3, Holles Street, Cavendish Square.

The County Chemical Company (Chemico Works, Bradford Street, Birmingham). The county to which reference is made in the title of this firm is presumably Warwickshire, for its head quarters are in Birmingham, and it appears to be very well known in that city and the surrounding country as well as further afield for certain of its motor-car accessories. Among those shown were a variety of vulcanizers ranging in capacity from the small portable vulcanizer to complete workshop plants. Side by side with these were shown some Reliance Patches introduced as a substitute for roadside patching. The claim made for them is that they adhere firmly, however hot the tyre may grow in use. Another exhibit was Vasoleum, put forward as embodying the advantages of oil and grease, and hence as being an ideal lubricant. The various paint, metal, and other beautifiers known under the name of Chemico were also shown. They include a Hood Renovator, this being a new preparation to which the firm attaches importance, and designed for the cleaning and preservation of Cape cart hoods. Also was shown the G. B. Driplamp motor carbide, this firm, it appears, having been the inventor of coated carbide, and owning a special method of eliminating all dust and foreign material from the raw article.

The British Organo-therapy Company (Carlton House, Lower Regent Street, S.W.). This firm showed two products, one being named Lymphoid Compound, and the other Lymph-serum, and both are stated to be supplied only to the medical profession or on presentation of a prescription signed by a medical man. The first named, which is put up in capsules and intended for oral administration, is stated to contain extracts from the lymphatic glands, testes, brain and spinal cord, and the glycero-phosphates of iron, sodium, and calcium. Aloin is also added if desired. The lymph-serum, on the other hand, contains only orchitic fluid, together with extracts from the lymphatic glands, spinal cord, and brain. Both are sent out with the word "Lowenthal" attached, this being the name of an American medical man who was originally responsible for their prescription, and who in a paper of which copies are supplied states that the formulae were worked out on the basis of his experience while in charge of an asylum. He also indicates that the general source of his inspiration was the work of Brown-Séquard and other more or less well known men. It is claimed for these products that they are of much value in nervous-mental conditions arising either from cell degeneration or imperfect metabolism, and the firm is in possession of a certain number of statements by medical practitioners in this country testifying to their value in the treatment of a variety of conditions, ranging from neurasthenia at one end to locomotor ataxy at the other.

Radium, Limited (4, Albert Square, Manchester). The exhibit of this firm made special appeal to those who have been attracted by records of the therapeutic results ascribed to the use of radium emanation, a subject on which one or two papers have recently appeared in our own columns. One of the appliances shown was stated to render water radio-active to any degree desired, and to be specially suitable for use in hospitals, hydropathic and other institutions where a certain number of patients are daily treated. Another was an apparatus for the simultaneous inhalation of radium emanation and oxygen, while a fountain distributor shown was designed to throw out into the atmosphere of an ordinary room a certain proportion of radium emanation for any period desired. Also shown was some radio-active mud or earth, which is intended for prolonged local application as a kind of poultice, but which is not apparently a natural product.

The Dependence Incubator Company (Cambridge Street, Birmingham). This is a Midland firm whose original enterprise would seem to have been to provide for the needs of those engaged in poultry rearing; for some time past, however, it has extended its work in other directions. The products shown on the occasion of the exhibition were of two distinct varieties, one being an attractive collection of motor lamps and other automobile accessories which in the firm's experience are specially suited to the needs of medical men, and the other a variety of biological incubators. In the construction of the latter the firm is understood to have aimed at producing them at as low a price as is compatible with efficiency and durability in order to meet the needs of private practitioners who indulge in bacteriological work or of students making researches in embryology. We had no opportunity of testing them, but they seemed to be well made. Also shown were some sterilizing ovens and an incubator called the Baby Nurse, which is designed to meet the needs of those who have a premature infant on their hands.

Siebert, Anthony, and Co. (6, Fann Street, Aldersgate Street, London, E.C.). This firm is the wholesale agent for the sale in Great Britain and the Colonies of some tablets prepared from the salts which result on evaporation of the water supplied by the Karl Spring at Mergentheim. This, one of the less well known mineral water resorts in Southern Germany, is situated in Würtemberg. The Karl Spring supplies a well-aërated water, in which the sulphates of magnesium and sodium and sodium chloride are the predominant salts. Its general effect is aperient, and as special indications for its use are regarded obesity, subacute rheumatism, faulty metabolism including functional diabetes, a tendency to gall stone, neuralgia, and more particularly the various disorders aggregated on the Continent under the title of "arthritism," and known in this country by various terms, such as rheumatoid arthritis and rheumatic gout. It is claimed that if use of the dried salts is accompanied by attention to diet the general good effects of Mergentheim water itself are obtainable, and that, in particular, the tablets are of direct utility in the cure of chronic constipation.

Hawksley and Son (357, Oxford Street, London, W.C.). This firm has long been noted for its successful realization of the notions of scientific workers and for the extreme accuracy of its manufacture of physiological and other like appliances. Its exhibit at Birmingham was fairly representative of most branches of work of this order, but was especially strong in blood-pressure instruments and electric and other aids for the deaf. The great difference of opinion that exists as to the best way of avoiding pitfalls in blood-pressure estimation was evidenced by the number of different instruments on view—twenty in all. They included practically all those which have received approval from other than their authors, and also the useful modification suggested by Dr. Alison Glover for applying a Dudgeon or Richardson sphygmograph to the wrist: the sphygmograph is simply clamped on, and can be accurately and easily adjusted. A compact modification of the Riva-Rocci machine sphygmometer was also shown. The usual tube and mercury were enclosed in a neat wooden case measuring only $14\frac{1}{2}$ by $1\frac{3}{4}$ in.; around this the armlet may be wrapped and the whole appliance easily carried about in an ordinary bag. It is known as the Portable Mercurial Manometer. The Martin instrument has also been modified on somewhat corresponding lines. Also of a portable character is the Oliver Manometer, which, in addition to compactness, obviates the occasional inaccuracy of reading due to variations of temperature by the provision of a vacuum chamber, and arranges for observation of both systolic and diastolic pressure by an auditory tambour. It has also attached, for the benefit of those whose hearing is not quite perfect, a visual tube. The collection of hearing instruments included practically all the known appliances made on the telephone principle, and also many of the simple sound-collecting tubes in the development of which this firm has done such good work. The Bowles's stethoscope, described by Cabot in his *Physical Diagnosis* as "far superior to any stethoscope with which I am acquainted," was also on view. So, too, were a series of arch supports and bunion springs, and specimens of the "Stative" used by Sir Victor Horsley in securing immobility of the head during operations on the brain.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—The autumn meeting will be held in Blandford, on Wednesday, October 18th. Members wishing to read papers, show cases, or exhibit specimens, etc., should communicate with the undersigned not later than Thursday, October 5th.—JAMES DAVISON, Honorary Secretary (*pro tem.*), "Streateplace," Bournemouth.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Braintree on Thursday, October 26th. Members wishing to read papers or to show specimens or cases should communicate at once with the Secretary, Dr. B. H. NICHOLSON, East Lodge, Colchester.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—A general meeting of the Division will be held at Knutsford at 4.30 p.m. on Wednesday, October 11th.—H. G. COOPER, Honorary Secretary.

MIDLAND BRANCH: LEICESTER AND RUTLAND DIVISION.—A meeting of the Division will be held at the Leicester Infirmary on Wednesday, September 27th, at 4.15 p.m. Agenda: Minutes of the previous meeting; Discussion on Summer Diarrhoea:—(1) Introductory, Dr. C. K. Millard; (2) Pathology and Bacteriology, Dr. Clare; (3) Symptoms, Mr. Wills; (4) Treatment, Dr. Pike; matters concerning the National Insurance Bill; any other business.—R. WALLACE HENRY, Honorary Secretary, 6, Market Street, Leicester.

INSURANCE BILL.

MANCHESTER UNITY OF ODDFELLOWS AND THE NATIONAL INSURANCE BILL.

A MANIFESTO has just been issued on the National Insurance Bill by the Grand Master and Board of Directors of the Manchester Unity of Oddfellows which sets out at length various objections entertained by the society against the present provisions of the bill relating to approved societies. With the greater part of the manifesto it is not within our province to deal, but the paragraphs which specially affect the medical profession are as follows:

> The power of friendly societies of making their own arrangements to secure efficient medical treatment to their members is taken away. They will to a great extent be deprived of the right to settle disputes and remedy grievances. . . .
>
> The association existing between medical officers and lodges will be destroyed. Members will have no voice or vote in this matter, and there is a risk that the societies will be unable to make any provision for the medical treatment of chronic sick members and for members over 65 years of age. It is of vital importance to the welfare of the societies that they should be allowed to continue to make arrangements with duly qualified medical practitioners,

It is evident, from the above, that the amendments to Clauses 13 and 14, which have already been passed in the House of Commons, and which transfer the administration of medical benefit to the local Health Committees, and provide for free choice of doctor, will not be allowed to stand without further strong opposition from the societies. The manifesto takes no account of Mr. Harmsworth's amendment, which so strongly favours existing medical institutions, and the Manchester Unity will evidently not be content unless the societies are statutorily enabled not only to retain what they call "control" over their medical officers, but are further enabled to "control" the whole of the medical service for the insured. In the view of the society, the whole medical problem seems to turn on the question of their retaining this control, and it is a matter for regret that no account is taken of the fact that the medical service now contemplated under the bill cannot fail to be an enormous improvement, as far as the health of the people is concerned, over any service that the societies have ever yet been able to organize. It is almost needless to repeat that the policy of the British Medical Association, fully endorsed by the whole profession, is unalterably opposed to the pretensions of the Manchester Unity as regards the medical service.

SIR EDWARD BRABROOK AND THE NATIONAL INSURANCE BILL.

In a letter to the *Times* of September 16th Sir Edward Brabrook quotes a highly eulogistic article on the Insurance Bill which appears in the *Bulletin* of the International Committee of Social Assurances, now in conference at Dresden, but he adds that the appreciation of the bill only adds weight to the appeal for more time to study it in all its details. Especially does he see difficulties in the part of the bill relating to temporary sickness. He admits that though invalidity insurance seems by general consent to be a matter for State intervention and an almost necessary supplement to the Old Age Pensions Act, on the contrary he, for one, doubts the competence of the State to interfere with sickness insurance without doing harm, and he "would rather see the friendly societies left to continue the good work in which they have long been engaged." He considers the provisions for the "approval" of societies to be specially objectionable, as the State cannot give its approval to societies that it does not manage, and it is a sentence of death to those societies which are not approved, as it compels their members to leave them and go to rival societies for the principal part of the benefit they desire to insure. He concludes:

> If the bill provides, as I understand that it does, for the complete separation of the assurance to which the State contributes upon terms which the bill prescribes from any other business that may be transacted by the bodies who accept those terms, the machinery of approval would seem to be unnecessary, for the State would be concerned only to secure the due fulfilment of those terms by those bodies and not with that other business.

In dealing with the question of "approval" Sir Edward Brabrook is on ground with which he is perfectly familiar, and in his desire to see sickness insurance left to the friendly societies he is simply repeating the opinion expressed in the recent memorandum of the Association to Advocate National Contributory Insurance, which has an influential committee, Sir Edward Brabrook being its chairman. It must, of course, be evident that to leave the friendly societies to continue their sickness insurance involves a continuance of their present medical club system, and it is a matter for surprise that anything of the sort should be advocated by Sir Edward Brabrook. If a satisfactory medical service for the working classes is to be obtained, the sooner the present club system is ended the better.

IRISH MEDICAL ASSOCIATION.

The Committee of Council of the Irish Medical Association have issued the following circular to the county secretaries of the association:

> Dear Sir,—In the event of Ireland being excluded from the medical benefits of the bill, the Committee of Council consider it desirable that the dispensary medical officers should meet and discuss the following:
>
> 1. How the bill will affect them as dispensary medical officers.
> 2. The desirability of approaching members of Parliament, either personally or through mutual friends, to point out the injurious effect the bill, if amended as proposed, would have upon them.
> 3. To appoint two delegates to attend a meeting of dispensary medical officers to be held in Dublin during the first week in October (the date suggested being October 4th).
>
> The Committee of Council will be much obliged if you will kindly call a meeting of all the dispensary medical officers in your county (whether members of this association or not), and send me the names and addresses of the two delegates, in order that I may notify them of the date, place, and hour of the Dublin meeting.
>
> It would also assist me if you would send me a copy of any resolutions passed by your meeting.—Yours faithfully,
>
> C. HEMSLEY GICK, Secretary.

SOUTH-EASTERN COUNTIES DIVISION OF THE EDINBURGH BRANCH.

A meeting of this Division was held in the house of Dr. Fairfax, Innerleithen, on the afternoon of September 13th, specially to consider the effect the National Insurance Bill would have, were it to come into law, upon the practitioners in the district.

Dr. MACLEAN, Chairman of Representative Meetings, was present to hear the views of the practitioners, and to explain points in the bill upon which different views were held.

Dr. OLIVER, St. Boswells, the Chairman of the Division, in a few words pointed out the present position of the bill with its amendments, and was of opinion that the bill was now more unsatisfactory than ever, as the Chancellor in trying to evade one serious defect had accepted a more

dangerous one, and one he felt certain would be ruinous to the practitioners on the Borders.

Dr. Carlyle Johnstone, of Melrose, was sure that the effect of Dr. Addison's and Mr. C. B. Harmsworth's amendments simply meant a constant guerilla warfare in the counties, and unless there was a minimum *per capita* sum fixed the profession would be robbed at every turn. He pointed out how inadequate the medical representation was on the Health Committee, at the best only one-fifth and on the larger committees one-tenth.

Dr. Maclean explained the composition of the Health Committees, and endeavoured to show the risk of fixing a minimum amount *per capita* in the bill. He had hitherto been unaware that there was so much contract practice in Scotland, but freely admitted that the effect of the bill, if it became law, would be more seriously felt in Scotland than in England.

Dr. J. R. Hamilton, of Hawick, explained what he considered the only fair way of arranging the question of mileage, without which, as he pointed out, it would be impossible to carry on country work. Mileage should be calculated from the nearest medical practitioner's residence or surgery.

Dr. Cullen, of St. Boswells, considered the whole bill as one of inextricable confusion. The proof of this was that those who were known to have studied it most seemed to understand it least. He could not suggest a better mileage system than that proposed; only it meant the breaking up of practices and nullifying the free choice of doctor.

The members present generally expressed themselves more opposed to the bill in its present form than before being amended.

Dr. Maclean promised to consider carefully the expressed opinions of those present, and to do his utmost to bring the matter before the Scottish members of Parliament at the earliest opportunity.

The President expressed the gratitude of the Division to Dr. Maclean for giving them this opportunity of meeting him, and for so freely discussing and so ably explaining some of the more complicated clauses of the bill.

Dr. Fairfax was heartily thanked for his hospitality to to the members.

The Friendly Societies' Medical Alliance and the Insurance Bill.

At a special conference of the Friendly Societies' Medical Alliance, held at Luton on September 16th, a strong protest was made against the action of the Government and the House of Commons in taking away the power of friendly societies to make their own arrangements for medical attendanee on their members, and a resolution was passed objecting to any wage limit being imposed on members of the alliance. It was decided to press for an amendment to alter the area of operations of the local Health Committees from the county area to that of the sanitary authorities and to provide for representation on the committees of friendly society organizations that provide medical attendance for insured persons. The conference further protested against the local Health Committees being empowered to fix the amount of capitation grants for medical attendance, and urged that a maximum capitation fee should be named in the bill. A resolution was also passed demanding that Clauses 13 and 14 should be reconsidered by the House of Commons. In the course of the meeting it was announced that Mr. Lloyd George had proposed to meet early in October a joint conference, consisting of six representatives of the British Medical Association, six of the National Friendly Society Conference, and two of the Medical Alliance. It was resolved to urge that the Medical Alliance should be represented equally with the two other bodies, and that Mr. Lloyd George be requested to seek information before the report stage of the bill from medical men who had been engaged in the work of medical associations and friendly societies. The conference was said to be representative of friendly society medical associations with a membership of about 300,000.

The Minimum Wage.

Dr. J. Ellis Crisp (Corsham, Wilts) writes: In spite of all the discussion which has taken place concerning the Insurance Bill, I have not yet heard anything definite as to what our *minimum* wage should be in the event, as seems probable, of compulsory contract work. Surely this is a matter which should be settled without delay. From all quarters I gather the impression that we shall have to be still content with the rate that obtained fifty years ago—namely, 4s. per annum per member. The confusion of mind which exists among general practitioners regarding the amendments which have been introduced in the House of Commons leads me to think that we shall be tricked, and that we shall be condemned by law to attend all and sundry at a rate which will remove anxiety from the mind of the Chancellor of the Exchequer, but at the same time will drive the general practitioner into the gutter. Take up what paper I will, the general idea seems to centre round 4s. a year. Are we going to accept that, or are we not? Now is the time to decide what is the very least we will take in the event of enforced contract work, and the amount should be definitely stated in the House of Commons by our representatives. I am strongly in favour of payment for work done, but in the event of our being driven to a contract, I suggest a minimum and clear capitation fee of 10s., exceptional circumstances to carry with them an increased fee. We are being exploited by the Government courteously but none the less surely. They think that with our reticence and dislike of publicity they have no reason to fear from us an outburst such as that exhibited by the railway men. I think so too, but at the same time I trust we shall assume an attitude which will convince the public that a "fee" which we have hitherto been willing to accept as a charitable one can no longer be regarded as adequate compensation for services rendered. We have an article to sell, and we know the value of it. Shall we accept the Government's valuation, or shall we paraffin our children's heads and send them to a cheaper school?

The Thraldom of Club Practice.

Physician and Surgeon writes: Some doubt seems to have arisen in the minds of many as to the National Insurance Bill ever becoming law. Should the bill be thrown out, there are not a few practitioners who will none the less confidently and ardently look to their Association in the hope and belief that the latter will not cease to exert all and every means in their power or at their disposal to fight the clubs to a finish in order to release from thraldom those unfortunate doctors who are fated to minister for a pittance to the members of societies whose wealth has increased out of all proportion to the fees which were accepted from them by medical men in a spirit of charity when first those societies were started. I myself am connected with one of those societies, by which I am assigned some 1,400 patients at 4s. per head per annum. For this I must supply them with everything except trusses, artificial limbs, and false teeth. During the winter of 1907–8 I supplied these men alone with 10,000 bottles of medicine, and the average fee for consultation or visit worked out at a fraction of a penny. I have written several times to their committee, saying that it is impossible for me to employ and pay for the latest methods of diagnosis and treatment in connexion with their members, except in the most serious cases, for the amount they pay me. In reply I am assured that the committee realize that my demands are reasonable, but that "they do not see their way to comply with them." There are many others in the same boat. What are we to do? We look to the Association for help and guidance.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Fleet Surgeon R. Miller, M.B., to the *Pembroke*, for the Royal Naval Barracks, September 26th; Fleet Surgeon W. A. Whitelegge, M.D., to the *London*, September 26th; Staff Surgeon A. La T. Darley, to the *Victory*, additional, for disposal, undated.

ARMY MEDICAL SERVICE.

Royal Army Medical Corps.

Captain H. H. J. Fawcett has been appointed Adjutant to the Home Counties Division, Territorial Force, R.A.M.C. School of Instruction.

Captain J. M. H. Conway has been appointed Adjutant, West Riding Division, Territorial Force, R.A.M.C. School of Instruction.

INDIAN MEDICAL SERVICE.

The promotion of Lieutenant-Colonel and Brevet Colonel W. B. Bannerman, M.D., to be Surgeon-General, dated July 26th, and which has been already announced in the British Medical Journal, has received the approval of the King.

His Majesty has also sanctioned the following promotions, all of which have already appeared in the BRITISH MEDICAL JOURNAL:—Majors to be Lieutenant-Colonels, dated July 28th: BENJAMIN H. DEARE, BENJAMIN C. OLDHAM, ROBERT BIRD, C.I E., SIDNEY B. SMITH, GEORGE H. FROST, EDMUND WILKINSON, GEORGE F. W. EWENS, CHARLES DUER, HENRY S. WOOD, THOMAS W. IRVINE, JAMES ENTRICAN, WALTER G. PRIDMORE, CHARLES DONOVAN, JEREMIAH PENNY, DOUGLAS H. McD. GRAVES. Captains to be Majors, dated July 27th: WILLIAM E. McKECHNIE, HARRY D. PEILE, DOUGLAS H. F. COWIN, WILLIAM H. TUCKER, CHARLES S. LOWSON, DUGALD N. ANDERSON, NATH M. CHAUDHURI, ARCHIBALD C. MACGILCHRIST, JOHN W. D. MEGAW, CECIL M. GOODBODY, ROBERT STEEN, FREDERICK F. ELWES, ERNEST A. C. MATTHEWS, LESSEL P. STEPHEN, LEONARD GILBERT, THOMAS G. N. STOKES, HARRY M. MACKENZIE, WILLIAM O'S. MURPHY, CECIL C. MURISON.

The King has likewise approved of the admission of the undermentioned gentlemen to the Indian Medical Service as Lieutenants on probation, dated July 29th: JOHN A. SINTON, M.B., DENIS F. MURPHY, M.B., EDWARD R. ARMSTRONG, M.B., CHARLES J. STOCKER, M.B., ERIC E. DOYLE, CYRIL M. PLUMPTRE, ARCHIBALD W. DUNCAN, EDWARD A. PENNY, M.B., GEORGE B. HARLAND, M.B., LEON F. BRANDENBOURG, M.B., JOHN E. SCUDAMORE, HENRY L. BARKER, M.B.

The commissions of the following Lieutenants on probation have been confirmed with effect from January 28th, 1911: JOHN SCOTT, M.B., ALISTER R. S. ALEXANDER, M.B., KANWAR I. SINGH, M.B., FREDERICK W. HAY, M.B., GEORGE TATE, SIDNEY M. HEPWORTH, M.B., HARRY S. CORMACK, M.B., GEORGE S. BROCK, M.B., KRISHNAN G. PANDALAI, M.B., M.S., JOHN F. HENRY MORGAN, JYOTI LAL SEN, M.B., CHARLES A. WOOD, M B.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 7,423 births and 5,290 deaths were registered during the week ending Saturday last, September 16th. The annual rate of mortality in these towns, which had been 21.2, 20.6, and 19.0 per 1,000 in the three preceding weeks, further declined last week to 17.1 per 1,000. In London the annual death-rate last week did not exceed 15.3 per 1,000, against 19.0, 17.6, and 17.4 in the three previous weeks. Among the seventy-six other large towns, the death-rates ranged from 5.1 in King's Norton, 6.8 in Handsworth (Staffs), 8.0 in Hornsey, 9.7 in Reading, and 9.8 in Ipswich to 24.2 in Liverpool and in St. Helens, 24.8 in Sunderland, 24.9 in Burton-on-Trent, 26.0 in Bootle, and 26.8 in South Shields. Whooping-cough caused a death-rate of 2.1 in Sunderland and 2.2 in Burton-on-Trent, and diarrhoea and enteritis (of children under 2 years of age) of 8.9 in Bootle and in Preston, 9.0 in Hull, in West Hartlepool, and in Sunderland, 9.1 in Stoke-on-Trent, and 9.8 in Burnley. The mortality from the remaining epidemic diseases was remarkably low, and showed no marked excess in any of the large towns; no case of small-pox was registered during the week. Of the 5,290 deaths in the seventy-seven towns last week the causes of 26, or 0.5 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 4 in Birmingham, 3 in Liverpool, and 2 each in London, Blackburn, and Sunderland. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,352, 1,327, and 1,349 at the end of the three preceding weeks, rose again to 1,454 at the end of the week under notice; 264 new cases were admitted during the week, against 132, 168, and 217 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 744 births and 516 deaths were registered during the week ending Saturday last, September 16th. The annual rate of mortality in these towns, which had been 17.2 and 16.4 in the two preceding weeks, declined to 15.7 in the week under notice, and was 1.4 per 1,000 below the mean rate during the same period in large English towns. Among the several Scottish towns, the death-rate last week ranged from 9.1 in Leith and 9.9 in Paisley to 18.3 in Dundee and 21.8 in Perth. The mortality from the principal epidemic diseases averaged 3.2 per 1,000, and was highest in Dundee and Perth. The 263 deaths from all causes registered in Glasgow included 2 from measles, 1 from scarlet fever, 6 from whooping-cough, 8 from diphtheria, and 34 (of children under 2 years of age) from diarrhoeal diseases. Seven deaths from infantile diarrhoeal diseases were recorded in Edinburgh, 14 in Dundee, 4 in Aberdeen, 4 in Greenock, and 3 in Perth.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 16th, 592 births and 428 deaths were registered in the twenty-two principal urban districts of Ireland, as against 598 births and 487 deaths in the preceding period. The annual death-rate in these districts, which had been 19.3, 21.0, and 22.1 per 1,000 in the three preceding weeks, fell to 19.4 per 1,000 in the week under notice, this figure being 2.3 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 23.2 and 16.5 respectively, those in other districts ranging from 4.0 in Dundalk and 4.7 in Sligo to 34.3 in Newtownards and 43.0 in Lurgan, while Cork stood at 19.7, Londonderry at 11.5, Limerick at 20.4, and Waterford at 20.9. The zymotic death-rate in the twenty-two districts averaged 6.1 per 1,000, as against 5.9 in the preceding week.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ALL SAINTS HOSPITAL FOR OUT-PATIENTS, Buxton Street. E.—Vacancy on Honorary Medical Staff.

BEDFORD COUNTY HOSPITAL.—Male Assistant House-Surgeon. Salary, £80 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior Resident House-Surgeon (male). Salary, £100 per annum and fees.

BODMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £140 per annum.

BRADFORD ROYAL INFIRMARY.—Male House-Physician. Salary, £100 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Two Assistant House-Surgeons, one for the Septic Block (males). Salary, £80 per annum each.

BRISTOL CITY AND COUNTY.—Assistant Workhouse Medical Officer.

BRISTOL ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BRITISH LYING-IN HOSPITAL, Endell Street, W.C.—Physicians to Out-patients.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90.

CANCER HOSPITAL (FREE), Fulham Road, S.W.—House-Surgeon. Salary, £70 per annum.

CAPETOWN: SOMERSET HOUSE.—Two Assistant Medical Officers. Salary, £200 per annum each.

CHARTHAM: KENT COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £192 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Clinical Assistant.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

CROYDON GENERAL HOSPITAL.—Junior House-Surgeon. Salary, at the rate of £60 per annum.

DERBY BOROUGH ASYLUM.—Assistant Medical Officer. Salary, £140 per annum, rising to £160.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Second Medical Officer (male). Salary at the rate of £40 per annum.

EDINBURGH HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN AND THE HOSPICE.—(1) Junior Resident Medical Officer at the Hospital. (2) Resident Medical Officer at the Hospice. Honorarium, £12 and £25 per annum respectively.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon (male). Salary, £72 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road, S.E.—Ten qualified Clinical Assistants.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—(1) House-Physician. (2) Assistant House-Surgeon. Salary at the rate of £60 per annum each.

GRIMSBY AND DISTRICT HOSPITAL.—Locumtenent for two months. Salary, £4 4s. per week.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

INVERNESS DISTRICT ASYLUM.—Junior Assistant Physician (male). Salary, £120 per annum.

KING'S COLLEGE HOSPITAL, W.C.—Sambrooke Surgical Registrar.

LEAMINGTON: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LEEDS GENERAL DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Gardens, S W.—Assistant Bacteriologist, Salary, £250 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—Honorary Assistant Surgeon.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL INFIRMARY.—Surgical Registrar. Salary, £70 per annum.

MELROSE: ROXBURGH DISTRICT ASYLUM.—Assistant Medical Officer. Salary, £160 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary, £160 for first year, increasing to £180.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £150 per annum, rising to £250.

PRESTWICK: COUNTY ASYLUM.—Pathologist and Assistant Medical Officer. Salary, £200 per annum, increasing to £250.

REDHILL: EARLSWOOD ASYLUM.—Junior Assistant Medical Officer. Salary, £150 per annum.

ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, Waterloo Road, S.E.—Honorary Dental Surgeon.

SALFORD ROYAL HOSPITAL.—Casualty House-Surgeon (male). Salary at the rate of £50 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SEAMEN'S HOSPITAL SOCIETY.—Two House-Physicians and two House-Surgeons at the Dreadnought Hospital, Greenwich. Salary at the rate of £50 per annum each.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £100 per annum.

SOUTH MANCHESTER TOWNSHIP.—Third Assistant Resident Medical Officer at the Workhouse Hospitals, Withington. Salary, £100 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon (male). Salary, £70 per annum.

SOUTHWARK UNION, S.E.—Assistant (male) Medical Officer at the Infirmary, Each Dulwich Grove. Salary, £120 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—House-Surgeon. Salary, £100 per annum.

THROAT HOSPITAL, Golden Square, W.—(1) Resident House-Surgeon, salary £75 per annum; (2) Honorary Assistant Registrar.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Clinical Assistants to Out-patients. (2) Three Non-Resident Assistant House-Surgeons.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment; Dunsallon (co. Tyrone).

APPOINTMENTS.

ALLANSON, H. E., M.B., B.S.Vict., Assistant Medical Officer of the Salford Union Infirmary.

COOMBS, H. M. McC., M.R.C.S., L.R.C.P.Lond., Second Resident Assistant Medical Officer of the St. George's Union Infirmary.

HENDERSON, W. E., M.B., Ch.B.Aberd., Medical Officer of Health of the County of Westmorland.

MITCHELL, G. B., M.B., C.M.Edin., District Medical Officer of the Whitby Union.

MULLIGAN, M. J. G., M.B., District Medical Officer of the Pontypool Union.

PIMBLETT, C., M.B., Ch.B.Vict., Medical Officer of the Preston Union Home for Boys.

SKRIMSHIRE, H. F., M.R.C.S., L.R.C.P., District Medical Officer of the Walsingham Union.

STEWART, A. G., M.B., Resident Assistant Medical Officer f the Paddington Union Infirmary and Workhouse.

TODD, F. E., M.B., C.M.Edin., District Medical Officer of the Andover Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

MARRIAGE.

WILKINSON—BINNINGTON.—On the 14th inst., at Dalton Holme, Beverley, William John Wilkinson, M.R.C.S., L.R.C.P., eldest son of the late T. N. Wilkinson, Esq., F.R.C.S., of Lincoln, and Mrs. Wilkinson, 8, Culmington Road, Ealing, to Norah, second daughter of T. Binnington, Esq., of Dalton Holme, Yorks.

DEATH.

GROGONO.—On September 11th, at Witham Lodge, Romford Road, Stratford, Walter Atkins Grogono, M.R.C.S., aged 62 years.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Monday, 2 p.m., Pulmonary Diseases. Tuesday, 2 p.m., Disease Giving Rise to Morbid Renal Excretion. Wednesday, 2 p.m., Abdominal Disease. Thursday, 2 p.m., Diseases of the Nervous System. Friday, 2 p.m., Diseases of the Heart.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Ear, Nose, and Throat.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. BAILLIÈRE, TINDALL, AND COX announce the early publication of a new (eighth) edition of Mr. Carless's *Manual of Surgery*. Many of the older illustrations have been redrawn, and coloured plates by Dr. d'Este Emery have been introduced. The same publishers announce that a second impression of 2,000 copies of the English translation of Professor Dieulafoy's *Manual de pathologie interne* (Textbook of Medicine) is nearly exhausted, and that a further third impression will shortly be ready.

New editions of Sir Malcolm Morris's *Diseases of the Skin*, Sir Arthur Whitelegge and Sir George Newman's *Hygiene and Public Health*, and Sir Frederick Treves's *Surgical Applied Anatomy*, revised by Professor Keith, are announced for publication by Messrs. Cassell in September. The same firm will issue *A Manual of Physics for Medical Students*, by Mr. Hugh C. H. Candy, based upon the late Mr. Frederick Page's *Elements of Physics*.

Mr. Heinemann announces, under the title of The Modern Criminal Science Series translations of some of the most interesting volumes by Continental writers on different phases of crime and criminality. The first four to appear will be *Criminal Psychology*, by Hans Gross; *Modern Theories of Criminality*, by C. Bernaldo de Quiros; *Crime, its Cause and Remedies*, by Cesare Lombroso; and *Criminal Sociology*, by Enrico Ferri.

Mr. Heinemann also announces a series of *Little Books About Old Furniture*, edited by J. P. Blake and A. E. Reveirs-Hopkins. Its object is to give descriptions of such pieces of old furniture as are within the means of modest collectors, and which a man of small means can hope to pick up for his home.

The same publisher also announces a book, entitled, *Animal Life in South Africa*, by Major Stevenson-Hamilton, Warden of the Transvaal Game Reserves. The work will contain maps and many illustrations. The author planned Colonel Roosevelt's trip, and assisted him in his African journey, and the Ex-President of the United States contributes a preface to the volume.

RECENT PUBLICATIONS.

The Dental Directory, 1911. London. 1911. John Bale, Son and Danielsson. Pp. 200. (Price 2s. 6d. net.)

A volume of pocket book size compiled from official sources, and containing both alphabetical and topographical lists of all British registered dental practitioners resident in the United Kingdom, the adjacent isles, the Colonies, and abroad. The information also records the dates of their qualifications and the schools at which they were educated. In addition are supplied sundry notes as to dental hospitals and schools, publications, societies, and sundry points of allied interest.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
SEPTEMBER.	
24 Sunday ..	
25 MONDAY ..	
26 TUESDAY ..	LONDON: Public Health Committee, 3.30 p.m.
27 WEDNESDAY	LONDON: State Sickness Insurance Committee, 2 p.m. LONDON: South-Eastern Branch Council, 3 p.m.
28 THURSDAY ..	
29 FRIDAY ..	
30 SATURDAY ..	
OCTOBER.	
1 Sunday ..	
2 MONDAY ..	
3 TUESDAY ..	

Date.	Meetings to be Held.
OCTOBER *(continued).*	
4 WEDNESDAY	LONDON: Journal Committee, 10 a.m.
5 THURSDAY ..	
6 FRIDAY ..	
7 SATURDAY ..	
8 Sunday ..	
9 MONDAY ..	
10 TUESDAY ..	
11 WEDNESDAY	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Knutsford. EAST ANGLIAN BRANCH, Autumn Meeting, Braintree.
12 THURSDAY ..	
13 FRIDAY ..	
14 SATURDAY ..	

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Reports
TO
THE SCIENCE COMMITTEE.

I.

BY WILLIAM NICOLL, M.D.

(Ernest Hart Memorial Scholar).

1. Ankylostoma Anæmia.

A DOZEN dogs have been infected with the worm in various degrees. Five of those died at an early stage, in most cases apparently from pneumonia. An effort was made to infect cats and monkeys. Young cats were found to be readily susceptible, but they rapidly succumbed. Only two survived, but, although an examination of their fæces showed a considerable number of ova, they did not display any marked signs of anæmia. The hæmoglobin never fell below 70 per cent. of normal, nor was there any rise in the eosinophil leucocytes beyond 22 per cent. (The normal in the cat is 13 per cent.) Attempts were made to push infection, but without avail, and in a short time the cats lost their original infection, as was evidenced by the absence of ova in the fæces. One of these cats was killed six months later, and no worms were found in its intestine. The monkeys, both of which were about two years old, did not at any time show signs of infection, although they were fed daily for two months with large numbers of living larvæ.

Preliminary blood-volume estimations by Welcker's method have been performed on half a dozen cats and dogs. A large number of blood examinations have been made on dogs in various stages of infection. In uninfected dogs the hæmoglobin was found to vary from 80 to 100 per cent., the erythrocytes 7 to 9 millions per c. m., and the leucocytes 14 to 24 thousands, of which 1 to 12 per cent. were eosinophils. In one dog showing marked signs of infection the hæmoglobin fell from 86 per cent. to 48 per cent. in a month, and the eosinophils increased from 4 per cent. to 15 per cent. In infected dogs showing no marked signs of illness the hæmoglobin was not greatly reduced, nor the eosinophils much increased. From my figures there is no evidence to show that the presence of a moderate number of ankylostomes in the intestine of the cat or the dog gives rise to any appreciable degree of eosinophilia. It may be noted here that it is rare to find a cat or a dog free from some form of intestinal worm.

In the early stages of infection melæna is constantly present, and this may persist for a considerable time. When, however, the infection is of old standing and no new worms are introduced it entirely disappears. In the dogs which died in an early stage a considerable amount of blood was found in the intestine.

The period of infection with the dog ankylostomes is much shorter than in the case of the human form. In the latter it is usually seven to ten weeks from the administration of larvæ till the appearance of ova in the fæces; in the former it is always less than five weeks. In one case it was seventeen days; in this case the ova were perfectly formed, developed into larvæ in two days, and were used to produce renewed infection.

2. Flies as Carriers of Infection.

Part of this work has been published in the form of a report to the Local Government Board (New Series, No. 53). It deals with the part played by flies in the dispersal of the eggs of parasitic worms. The following is a summary of the conclusions arrived at :—

The observations serve to confirm the results of previous workers, in particular those of Grassi and Calandruccio, and from them certain general conclusions may be drawn, with the reserve that they require corroboration from observations under natural conditions.

The well-known habit of the house-fly of feeding in turn upon excremental matter and human foodstuffs, taken in conjunction with the fact that the spread of infection with parasitic worms depends in a large number of cases upon the dissemination of egg-laden excrement, constitutes a strong reason for suspecting the house-fly of aiding in the spread of such infection. Flies feed readily upon infective material, and even upon evacuated worms.

Flies may convey eggs from excrement to food, and they may do so in two ways—on the external surface of their body and in their intestine.

The latter mode is practicable only in certain cases, where the eggs are of small size (under ·05 mm. in diameter). On the external surface eggs of larger size (up to ·09 mm. in the experiments) may be conveyed.

Eggs adhering to the external surface are usually got rid of by the fly within a short time, but those which are taken into the intestine may remain there for two days or longer.

Eggs which are conveyed in either of these ways may remain alive and subsequently cause infection. There are only certain worms in the dissemination of the eggs of which flies are likely to play an important part. This is determined in the individual cases by the nature of the parasite's life history and the resisting powers of its eggs.

Material containing eggs of parasites, and in particular ripe segments of tapeworms, may remain a source of infection through flies for as long as two weeks. The eggs of numerous parasitic worms have been shown experimentally to be capable of being carried by *Musca domestica*. No Trematode parasites have as yet been experimented with.

The observations of Stiles that the larval fly can ingest Ascarid eggs and pass them on to the adult fly lacks confirmation.

A paper dealing with the varieties of *coli* and other bacteria associated naturally with flies is about to be published. It represents the result of a detailed bacteriological examination of about 150 flies from various localities.

Very little is known with regard to the natural bacterial flora of the fly or the conditions which influence it. Usually the fly's intestine contains a considerable number of *coli* like (lactose fermenting) bacilli, together with a smaller number of non-lactose fermenting bacilli and varying numbers of cocci. Aerobic spore-bearing bacteria are fairly common. The occurrence of obligatory anaerobes was not investigated. The number of different varieties of organism which I have been able to isolate amounts to nearly fifty. What part of this flora actually lives and multiplies on or within the fly and what part is simply passing through along with its food is a point which it seems worth while to determine. My experiments, although not extensive enough to permit any definite conclusion, suggest that the majority of organisms commonly associated with flies belong to the latter category. When flies are fed for any length of time on sterile material they gradually lose the bulk of these organisms. In particular, the organisms which grow best on bile-salt media often entirely disappear, and frequently only spore-bearing bacteria remain. Some non-sporing bacilli, however, seem to find a favourable nidus in the intestine of the fly under certain conditions. Amongst these may be mentioned Morgan's bacillus No. 1, and *B. paratyphosus B.*, both of which have been on more than one occasion found in almost pure culture in the intestine. Another slow lactose-fermenting organism was also found to persist for a considerable time.

A special study of the lactose-fermenting bacilli has been made, and the lines laid down by MacConkey have been closely followed. MacConkey's work has indicated that a large number of varieties of *B. coli* exist in various excremental matters, but that the number is not nearly so large as might be expected from the variety of tests employed in identification. It has also shown that a certain correlation, not very marked, exists between the bacterial flora and the source of the excremental matter. It is possible that, with fuller knowledge on the subject, we might be able to determine the source of a fæcal contamination by detailed examination of the varieties of colon bacteria according to MacConkey's method.

Of the thirty-six varieties of colon bacteria listed by MacConkey, twenty-two have been met with in my examination of the house-fly. Five additional varieties have been met with, but only on isolated occasions. There was no preponderance of any of MacConkey's four groups. Of the individual varieties, by far the most common were *B. coli communis* and MacConkey's *No. 71*. These represented about a third of all the bacilli isolated. In MacConkey's investigations they accounted for nearly one-half. The next in order of frequency were *No. 102*, *B. Grünthal*, and *No. 7*. Of these only the second was found at all frequently by MacConkey. The others do not appear to be characteristic of excremental matter. In MacConkey's list eight varieties are much more common than any others in human fæces. Each of these eight varieties was isolated more than once from flies. They all, with one exception, occur in the fæces of other animals, although in some instances by no means so frequently. The exception is *B. lactis ærogenes*, which was found by MacConkey only in human excrement and in cheese. According to MacConkey these eight varieties account for over 90 per cent. of all lactose fermenting bacilli found in human fæces, and 80 per cent in animal fæces. In flies they do not include more than 60 per cent.

Judging by the character of the lactose fermenting bacilli, therefore, the bacterial flora of the house fly, although showing a preponderance of fæcal forms, is not of an exclusively fæcal nature. Many of the varieties apparently owe their origin to other sources. This conclusion is what might have been expected from what we know of the habits of the house fly.

The lactose fermenting bacilli outnumbered the non-lactose, non-gelatine liquefying forms in the proportion of about 3 to 1. The only member of the latter group of suspected pathogenicity was Morgan's No. 1 bacillus, which was met with in flies on several occasions.

A series of experiments was undertaken to investigate the relation of typhoid bacilli to flies. The latter were fed on (1) broth-cultures of typhoid bacilli, (2) fæces from typhoid carriers, (3) normal fæces inoculated with typhoid bacilli. In the first instance the experiments served to confirm the results of Graham Smith. Flies are found to harbour typhoid bacilli for about six days after being fed on a pure culture. The bacilli disappear from the external surface within two days. With inoculated normal fæces typhoid bacilli were found in considerable number in the fly's intestine after four days. With fæces from typhoid carriers, however, only occasionally and with difficulty could typhoid bacilli be demonstrated in the intestine of the fly, and never for longer than two days. The fæces used generally contained a considerable number of typhoid bacilli. There seems every reason to believe, therefore, that the typhoid bacillus does not grow and multiply within the intestine of the fly, but that it is gradually killed off. The length of time after which it may be recovered from the fly seems to depend on the number of bacilli introduced. It has to be remembered, however, that when only a small number of bacilli are introduced, as in typhoid carrier fæces, the difficulty of detecting their presence by ordinary methods is greatly increased.

In one of the experiments with typhoid-carrier fæces a bacillus was recovered in almost pure culture from the legs and intestine of one of the flies, and this bacillus was identified as *B. paratyphosus B.*, a diagnosis which was fully confirmed by Dr. F. A. Bainbridge. It was again recovered in almost pure culture from the intestine of a second fly from the same experiment, and this after a period of fourteen days from the beginning of the experiment. The same bacillus could not be recovered from the fæces on which the flies were fed, nor was it present in the fæces of the same person on three subsequent examinations. The flies must therefore have acquired their infection naturally, before the start of the experiment. The source of infection could not be discovered. The flies in this case had carried the bacilli in their intestine in large numbers for a period of at least fourteen days. This seems to suggest that *B. paratyphosus B.* may grow or at least survive in the intestine of the fly for a considerable period. Experiments to determine this point have been begun, but have not as yet been carried to any length.

3. Investigation of the Bacterial Flora of Cockroaches.

The suggestion was made by Dr. Niven of Manchester, that the cockroach might play some part in the spread of the summer diarrhœa of children, and on that account it was thought that an investigation of the bacteria occurring in cockroaches might be of interest and value. With that view an effort was made last summer to obtain some of these insects from houses in which cases of summer diarrhœa had occurred the previous year. A great number could not be obtained from these particular houses, but many were got in other houses. The investigation followed the same lines as in the case of flies, and the same methods were adopted. Attention was directed mainly in the first instance to the lactose fermenting bacilli.

The numbers are too small to permit of any conclusions, but they indicate a predominance of organisms belonging to Group IV. (MacConkey) and a variety of Groups II. and III. The most frequent variety was *No. 109* (MacConkey's list), and after that *B. lactis ærogenes*, *B. coli mutabilis*, and *No. 7*; *B. coli communis*, and *No. 71* were less numerous, and only accounted for 15 per cent. of the total. The above six organisms included 60 to 70 per cent. of the total varieties isolated. The flora is therefore apparently somewhat different from that of flies, and is less fæcal in character.

The only organism of suspected pathogenicity met with was Morgan's *No. 1* bacillus, which occurred fairly frequently. A number of other non-lactose, non-gelatine bacilli were met with, but they appeared to be of no particular interest. It is hoped to extend this investigation during the present summer.

4. On the length of life of the Rat Flea (Ceratophyllus fasciatus) apart from its host.

The transference of infection from a dead animal to another animal may under certain circumstances be dependent on the length of time for which a flea can live apart from its host. This factor may enter to some extent into the spread of plague epizootics amongst rats. The observations which I have made here were first suggested by the result of clearing out cages in which flea-infested rats had died. It was noticed that if the contents of the cage, consisting of sawdust, peat, and fæces, were allowed to remain undisturbed a large number of fleas were still present at the end of a month. The cage was thereupon observed for a further period. At the end of the second month the fleas were still numerous. But at the end of three months they were very much fewer. On some days during this month no fleas could be seen at all, but during the course of the next month a few were present. The observations were continued for a further month, during which

a few fleas still remained, but they were last seen a few days after the end of the fifth month. The cage was kept for another three months, but no fleas were seen. The total length of time during which fleas were observed was 156 days (September 14, 1910—February 17, 1911). A similar experiment was started on December 5, 1910. Fleas were still quite numerous in January and February. Their numbers were reduced during March and April, and very few were present in May, in the course of which month they entirely disappeared, the last day on which they were seen being May 12. This experiment therefore lasted 158 days. A third experiment has now been in progress for over four months.

Experiments were also conducted with fleas isolated in flasks and kept under various conditions. On November 7 a dozen fleas were removed from a dead rat and enclosed in an empty glass capsule. They were almost all dead after twenty-four hours, but one lived on till December 17, a period of forty days. A similar experiment was started on January 17 and continued till February 11, a period of twenty-five days. Other experiments during January and February gave sixteen and twenty-two days. The average length of life in the last three experiments was 7, 6·9, and 11 days respectively. Experiments in which the flask was closed with a moist plug gave results of 13 and 8 days, with averages of 4·8 and 4·3 days. Experiments during June gave for the longest period 5, 4, 8, 11, 4, 10, 5, 11, 8, 7 days, with averages of 3·3, 3·8, 6·1, 6·3, 2·4, 3·8, 2·7, 5·5, 4·5, 3·8. Various modifications of environment have been made, such as exposure to light, shade, or darkness, presence of moisture, heat, presence of bran, bread, fæces, etc., but no very consistent results have been obtained in any particular direction. The length of life, however, was notably greater during the winter than during the summer. During moderately hot weather fleas do not seem to be able to live much more than a week apart from their host, but in winter they may live four to six weeks.

The first series of experiments shows that material containing fleas may remain infested for as long as five months.

It is extremely unlikely that any of the original fleas remain at the end of that time. The development of a flea takes about four to six weeks, so that the fleas remaining at the end of five months are possibly the third generation.

5. A Second Cysticercoid in the Rat Flea.

A second cysticercoid was discovered in the rat flea and described in the Proceedings of the Zoological Society. It differs from the first in possessing a crown of twenty-three spines, and it bears a strong resemblance to *Hymenolepis murina*, a tapeworm of the rat. This tapeworm has been believed to spend its cysticercoid stage in the rat itself, the condition being unusual. The discovery of a cysticercoid so closely resembling this tapeworm suggests that it may pass its larval stage *occasionally* in fleas. It is quite possible, however, that the cysticercoid belongs to some other hitherto unknown species of tapeworm, closely resembling *Hymenolepis murina*. The cysticercoid is extremely rare in the flea, and attempts to discover a corresponding tapeworm in the rat were unsuccessful. *Hymenolepis murina* was not found.

Another unarmed tapeworm resembling *Hymenolepis diminuta*, but much smaller, was found in the rat. From some experiments it was suspected that this species had no intermediate host, but further confirmation of this was not forthcoming.

6. Unique pathological condition in a Hare.

A hare from the plague-infected district of Suffolk was sent in for examination, the manner of its death being suspicious. It was found to be free from plague, but a curious condition of the liver attracted attention. In it numerous small whitish nodules were seen. They were of various sizes and evidently indications of calcareous degeneration. The appearance presented a certain resemblance to the later stages of coccidiosis as frequently seen in rabbits. On dissection, however, the condition was found to be due to parasitic nematode worms, which were coiled up inside the calcareous nodules and were themselves in various stages of degeneration. No living specimens were seen, and the worms were so complexly coiled that they could not be dissected out entire. An enormous number of eggs were found, and these were of a peculiar shape, indicating that the worm belonged to the sub-family *Trichurinæ*. The eggs bore some resemblance to those of *Trichocephalus*, having a double shell and an aperture at each pole closed by a gelatinous button. From the fragments of worm that were extricated it was confirmed that the worm was probably a species of *Trichosoma* or some closely allied genus.

No previous record exists of such a condition in the hare or rabbit, but a similar condition is known in rats in India and Australia, although there is no mention of its having been met with in this country. Existing descriptions of this parasite are not very complete, so that it is impossible to say whether this in the hare is the same as occurs in the rat. Attempts are being made to develop the eggs and to infect rabbits and rats.

This hare, in addition, had a heavy infection with the nematode *Trichostrongylus retortæformis*, a slight intestinal infection of coccidiosis, and numerous small patches of calcareous degeneration in the intestine and appendix. It also showed signs of recent parturition, followed by a septic condition of the uterus. Death appears to have been due more likely to septicæmia than to the diseased condition of the liver.

An account of this case is being published in the Proceedings of the Zoological Society.

II.

By W. J. PENFOLD, M.B., C.M.Edin.

Research Scholar).

Bacterial Variation.

The subject of research, namely, "bacterial variation," is of high importance, because virulence and toxin-producing power are so variable in bacteria that a complete elucidation of the laws of bacterial variation is urgently called for. The fermenting properties of bacteria have been studied chiefly in this research, as these are easily followed and controlled; moreover, these tests have considerable importance in themselves, as they are greatly used in classification and identification. It seems probable that all the properties of bacteria will vary in a manner analogous to variations of their fermentation characters.

If this research were attempted in the case of virulence it would involve an enormous number of animal experiments in order to make the results trustworthy.

Enclosed you will find a brief report of the work I have been doing in the immediate past, a detailed account of which I shall shortly forward to you.

PART I.

Variations in Gas producing power of Intestinal Organisms.

In February of this year I published experiments made with *B. coli Esch.*, *B. enteritidis* (Gaertner), and *B. Grunthal*, showing that limitation and abolition of certain gas-forming powers of these organisms were brought about by their growth on chloracetic acid agar, and further that in the case of *B. Grunthal* resistance to this medium was associated with such limitation or abolition. A copy of this paper has been forwarded to you.

New strains produced.

These experiments have been continued, and I have been able to select out a strain of *B. coli Esch.* unable to produce gas, as tested by the Durham tube method, from any sugar except isodulcite, while the formerly described modified *B. coli* still produced some gas from five out of nine sugars. This new strain, however, still produced gas from all the alcohols corresponding to the above sugars it fermented, but less than the normal strain from which it was derived. The diminution of gas from mannite in this case was equal to 30 per cent. of the normal when tested by the Durham tube method and 50 per cent. when tested in Theobald Smith's tubes.

I have further obtained a *B. enteritidis* of Gaertner giving no gas from glucose or maltose, though a fair yield on alcohols.

Two strains of *B. paratyphosus B.* have readily yielded to the same methods of selection and given rise to strains fermenting glucose, galactose and maltose, without gas, but giving gas on alcohols.

B. paratyphosus A., *B. acidi lactici* and *B. lactis Aerogenes* have been treated in the same way, but have not yet given rise to strains producing no gas on sugars.

I have made a large number of observations to determine the connection between chloracetic acid resistance on the part of these organisms and their inability to produce gas from glucose. The connection is a very variable one.

Colonies of many different intestinal organisms show great diversity of size on chloracetic acid agar plates of pure cultures, some colonies being very tiny and some very large. These large colonies in all the different strains I have examined are much poorer gas producers than the small colonies. This can most satisfactorily be shown by dealing with the average of a fairly large number of colonies.

The production of variant strains not giving gas from sugars.

It appears that the variants are most easily obtained not by successive platings on chloracetic acid agar, but by testing a large number of the large colonies got from first plates of the organisms on this medium. These plates ought to be inoculated five to ten days before picking off the colonies, since during the latter period of growth of these colonies their gas producing power diminishes markedly, but even after ten days only a varying proportion of the big colonies have entirely lost the power to produce gas on glucose.

Chloracetic acid resistance is very variable as between the various elements of a culture in the case of all the beforementioned strains. As an illustration, I have found, when a series of plates of chloracetic acid agar were each inoculated with a standard loop of a twenty-four hours broth culture of *B. coli Esch.*, the following results were given. This is only one instance of a result frequently repeated :—

Strength of plate in chloracetic acid.		Result after three day's incubation.
·01% of Sodium salt of acid	=	Innumerable colonies of uniform size except from crowding
·05%	,,	= Marked variability in size of colonies, some big, some very little.
·1%	,,	= 24 big colonies, a few small ones
·2%	,,	= 3 big colonies, no small ones
·3%	,,	= 1 big colony ,,
·4%	,,	= 2 big colonies ,,
·5%	,,	= 5 big colonies ,,
·6%	,,	= 2 big colonies ,,

Here we see some elements extraordinarily resistant to this medium, as compared with the great bulk of the culture.

B. Gaertner gives a somewhat different picture, usually showing big and little colonies on all the plates from ·1 per cent. up to ·9 per cent. chloracetic acid. These evidences of individual susceptibility amongst the different members of the cultures show that this factor must be taken into account in any complete treatment of the subject of bacterial inhibition. I have examined this resistance on the part of some members of the culture to determine if it was general for other agents or not, by comparing cultures of chloracetic acid resistant organisms and ordinary normal cultures of the same strain. I have found them of similar resistance to carbolic and formaldehyde, so that the resistance is a specific hardihood to this agent rather than general robustness of some individuals. The extraordinary ease with which resistant races can be selected out and the specificity of such resistance have an important bearing on theoretical medicine in so far as treatment by antiseptic and inhibiting agents is concerned. It tends to show that a combined treatment by different antiseptics is always a more likely means of cure than the use of one agent to which all the micro-organisms in the host are not equally susceptible. For example, it is surely inadvisable to use an agent singly which, while exterminating almost entirely the specific organisms of a disease, still leaves a few over to produce a new and resistant strain. The endeavour should rather be to use more than one such agent simultaneously, since the great reduction of numbers by one agent allows much less probability of great variability in the few remaining organisms to the second agent, and consequently the combined treatment is almost bound to be more effective. In the case of syphilis, for example, the combined treatment by organic arsenic and mercury should, on theoretical grounds, probably be more effective than the arsenical preparation alone.

PART II.

The specificity of bacterial mutation.

R. Müller has put forward recently a claim that bacterial mutation processes are highly specific in so far as they are found to occur when bacteria are grown on carbohydrate-containing media; and, moreover, that these mutation processes form a very valuable addition to our methods of identifying and classifying micro-organisms.

He supports his view by two important pieces of evidence that I have submitted to considerable examination and believe to be true.

(1) The behaviour of *B. typhosus* when grown on isodulcite agar.

(2) The effect of raffinose in agar, causing *B. paratyphoid B.* strains to produce papillæ on the colonies, while the *B. Aertryck* does not do so. These two strains are only separated by absorption-agglutination tests, but by no other cultural tests than the above-mentioned mutation test. I have examined thirty strains belonging to this group obtained from Dr. Bainbridge, and have found that the claim was valid in all but two cases, one, *B. paratyphosus B.* strain, growing with smooth colonies, and one, *B. Aertryck* strain, with papillated colonies. Considering the closeness of the strains to one another, this shows the test to have a high specific value.

If the papillæ formation on the colonies of different organisms on agar containing different carbohydrates is a specific property, it seems permissible to identify a series of organisms by papillæ-formation on, say, lactose agar, on the expectation that such strains would show a specific relationship amongst themselves. This I have done. I have collected from human fæces mainly, twenty-four organisms which all grew on lactose agar plates with papillated colonies. These organisms, when classified on the plan advocated by MacConkey two years ago, show no less than sixteen varieties. So we are bound to believe either that some of these mutation processes are not in the least specific or that the classification of the lactose fermenters of the fæces recognised by MacConkey is not based on true specific differences. I prefer the former conclusion—that the lactose mutation processes have no specific value for these intestinal bacteria.

An account of these twenty-four strains is almost complete, and will be forwarded to you shortly.

The general results of my whole research tend to show :—

(1) That many fermentation tests are exceedingly stable, others are easily changed; these latter on that account, however, do not immediately lose their value, since this instability, in many cases at least, is very characteristic of definite bacterial species. It is, therefore, quite unwarranted to condemn these tests as a whole, but the value of each individual test must be determined for each and every species. Examination of old *B. typhosus* strains which have been cultivated in the laboratory for many years show identical fermentation properties with those strains isolated at the present time, except in the case of glycerin, where some irregularity occurs.

(2) *The permanence of a new character.* All the new characters which I have obtained readily by selection processes show great tendency to remain; where, however, long continued selection has been necessary the character tends to disappear.

(3) The generalisation that characters are more easily lost than gained does not hold apparently in the selective processes I have studied.

(4) These selective processes undoubtedly can be quite well applied to every bacterial character which has been adequately studied, and strains selected showing all types of differences from the original strain.

(5) Recent work of different observers has suggested that simultaneous selections in many different directions may occur (an idea denied by careful observers in the older literature of the subject), with the result that bacterial species are convertible in laboratory experiments one into another. This subject has been dealt with by Horrocks recently, and requires further examination.

III.

By J. H. RYFFEL.

(*Grantee*, £5.)

Formation, Excretion and Oxidation of Lactic Acid.

Observations on the production of lactic acid in man have been continued.

Muscular Activity.

Moderate activity of a small group of muscles, such as those of the forearm, causes a more than two-fold increase of the lactic acid of the blood in the corresponding veins.

When muscular activity is sufficiently general and sufficiently violent, lactic acid appears in quantity in the urine—*e.g.*, 0·9 Gm. lactic acid in the urine collected for forty-five minutes during and after running for 5½ minutes. The acidity of the urine is increased; the mineral acidity becomes negative: the ammonia ratio is slightly but definitely raised.

When respiration is not impeded, inhalation of oxygen before, after and for brief intervals during a period of running lasting three to four minutes, does not alter appreciably the excretion of lactic acid in the urine. The slight increase in the oxygen of the arterial blood so produced does not, therefore, cause any marked increase in the rate of destruction of lactic acid in the body. The oxygen may, however, very well have a small effect, as an increased diuresis was noticed with oxygen. Diuresis increases the lactic acid in the urine for a given amount of exercise, and would thus mark the effect of slightly increased destruction.

Pathological Lactic Acid.

Lactic acid in the urine is increased in diabetes. In cardiac failure and in pneumonia no increased excretion has yet been observed.

Oxidation of Lactic Acid.

The primary oxidation products of lactic acid in vitro are acetaldehyde and pyruvic acid. The relative quantities of these two substances vary according to the method of oxidation employed. Thus the yield of pyruvic acid is high and that of acetaldehyde low with hydrogen peroxide and ferrous iron, while with permanganate and sulphuric acid that of acetaldehyde is high and that of pyruvic acid low. Further oxidation of lactic acid with hydrogen peroxide and ferrous iron is complicated. Acetic acid is obtained in considerable quantity.

Pyruvic acid gives a characteristic blue colour reaction with nitroprusside, ammonia and ammonium sulphate, by means of which its presence can be detected in sour milk and in the urine after violent exercise. This acid could not be detected in fatigued surviving frogs' muscles, so that it would appear to be formed in the body from lactic acid by oxidation.

(To be continued.)

Meetings of Branches & Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

NORTH OF ENGLAND BRANCH.

THE annual meeting of the North of England Branch was held at the Grand Hotel, Sunderland, on Thursday, September 14th.

Luncheon.—Luncheon took place at 1 o'clock at the Grand Hotel, Sunderland. Over seventy members were present, the honorary officials of the Branch being guests of the President-elect, Dr. G. B. Morgan, senior, Sunderland.

Business Meeting.—At 2 p.m. the business meeting was held. Over 100 members were present.

Organization and Working of Branch.

The PRESIDENT (Dr. Burnett, Saltburn) read the report drawn up by the subcommittee which had been appointed to go into the work and organization of the Branch, and which was as follows:

The Special Subcommittee appointed to inquire into the organization and working of the North of England Branch, after careful investigation and inquiry into the records of the Branch, find as follows:

1. That the Branch is constituted and worked as laid down by the rules and regulations of the British Medical Association.

2. That some of the Divisions as originally drawn out have not been a success, as shown by the records of their work.

3. That the Durham and Northumberland committees were elected annually by the Branch Council up to 1907, but that in 1908 these committees were not elected. We find they were in error in not doing so, as in a minute of a general meeting held at South Shields in 1904 the following resolution was carried, namely:

> That the Branch Council at its first meeting after the annual meeting of the Branch shall appoint a committee whose duties shall be the protection of the members resident in the county of Northumberland and in the city and county of Newcastle-on-Tyne who are engaged in colliery and other forms of contract practice, and the consideration of any other similar matter which may be referred to it from time to time by the Branch Council. This committee shall be known as the Northumberland Committee, and shall be responsible to the Branch Council, to which it shall report from time to time.

4. That at a special meeting of the Branch held at Newcastle on June 14th, 1905, the following resolution was carried—namely:

> That a committee to be called the Durham Committee be formed, such committee to be elected by the Branch Council annually.

5. We find that reports were sent in by these committees up to June, 1908, after which time no record of any reports appear in the minutes.

The question of the Durham and Northumberland committees was on the agenda at the Branch Council meeting on November 6th, 1908. The President (Mr. A. E. Morison) made a long statement about these committees, and the Honorary Secretary (Dr. Smurthwaite) stated that no names had been submitted for election to these committees. The President and Dr. Todd were appointed to wait upon Messrs. Graham and Shepherd and Mr. Garford Drury.

6. That on February 26th, 1909, the Honorary Secretary (Dr. Smurthwaite) reported that he had received no further communication from the Durham and Northumberland committees, and that as he did not know the names of these committees he could not submit them for election.

We have considered very carefully whether we should recommend the appointment of these two committees as heretofore, or whether we should take this opportunity of recommending any other course which we consider may be a more up-to-date and workable arrangement, and which may at the same time rouse some interest in the ulterior workings of the Branch, and stir up to a sense of their responsibilities those Divisions which have taken no active interest in the affairs appertaining to the welfare of the medical profession.

The Special Subcommittee therefore make the following recommendations:

1. That the Durham and Northumberland committees be not continued on the same lines, for any committee of the Branch on contract practice should be representative of all the Divisions, and that cannot be said of the late Durham and Northumberland committees.

2. That Messrs. Graham and Shepherd be paid the sum of £21, and Mr. Garford Drury the sum of £10 10s.

3. That a committee of the Branch Council be appointed to deal with contract practice.

4. That a committee of the Branch Council be appointed to deal with the organization of the Branch, and that the other standing committees of the Branch be continued—namely, Ethical, Defence Fund, and Finance.

5. That the Branch Council have power to co-opt on these committees any member of the Branch who has particular knowledge of the subject to be dealt with by these committees.

6. That the Rules of the Branch should be remodelled and brought up to date, so as to include (*a*) Constitutional Rules; (*b*) Ethical Rules; (*c*) Contract Practice Rules and scale of fees as recommended by the Branch.

7. That each member of the Branch should be supplied with a copy of these Rules.

8. That the third class travelling expenses of the members of the Branch Council and of its subcommittees should be defrayed out of the funds of the Branch.

9. That a record of attendances of each member of the Branch Council and committees be inserted in the annual report.

10. That in future, when necessary to employ a solicitor, he be paid for services rendered.

11. That a rearrangement of the Divisions be made so as to give a larger number of Representatives to the Branch at the Annual Representative Meeting.

(Signed) E. J. BURNETT,
President.

A discussion took place, but, as arrangements had been made by the Sunderland Division to entertain the visitors, it was moved by Dr. MODLIN, seconded by Dr. ALLISON, and resolved:

That the business be adjourned to a special meeting of the Branch, to be held the first week in October at Newcastle-on-Tyne.

Installation of New President.—The PRESIDENT then introduced Dr. Morgan, the President for the year, to the meeting. Dr. MORGAN, on taking the chair, said he would reserve any remarks which he had to make until the adjourned meeting in October.

Vote of Thanks to the Retiring President. — Mr. RUTHERFORD MORISON moved that a very hearty vote of thanks be given to the retiring President (Dr Burnett) for the able services he had rendered to the Branch during his year of office, and pointed out the great amount of time Dr. Burnett had devoted to his duties, having to travel from the extreme boundary of the Branch to attend the meetings, and he was sure all the members highly appreciated the services he had rendered. This was carried by acclamation. Dr. BURNETT briefly responded, and said he had only missed attending one meeting during his year of office, and that he had done his best to help on the work of the Association, and, as they were aware, it had been a most anxious year owing to the Government springing upon them the Invalidity Insurance Bill; but happily, by the great efforts made by all the officials of the Association, both honorary and otherwise, they had been able to secure many amendments to the bill, and hoped still further to safeguard the interests of the profession, but it was only by continued and combined action on the part of all the members of the profession that they could possibly hope to attain the many alterations in the bill which would make it acceptable and workable so far as they were concerned. The meeting then adjourned.

Excursions, etc.—A party of the members proceeded up the River Wear in motor launches, and partook of tea at the Wearside Golf Club. Another party of the members went by train to the Wearside Golf Club, where a most interesting competition took place, followed by light refreshments. The weather was perfect, and all the members present thoroughly enjoyed themselves.

NORTH WALES BRANCH.

THE annual meeting of the Branch was held at the Guild Hall, Conway, on Tuesday, July 18th, at 2 p.m. Mr. O. WYNNE GRIFFITH (Pwllheli), the President, was in the chair, and seventy members attended.

Confirmation of Minutes.—The minutes of the last meeting were confirmed and signed.

Correspondence—The HONORARY SECRETARY read a letter from Sir Henry T. Butlin, Bart., acknowledging the vote of congratulation sent to him by the Branch Council on behalf of the North Wales Branch on the honour conferred upon him by His Majesty the King, and regretting his inability to accept the Council's invitation to attend the annual meeting and dinner. Letters were read from Mr. Smith Whitaker (Medical Secretary) and Dr. Cox (Deputy Medical Secretary) regretting their inability, owing to pressure of engagements, to accept the Council's invitation to attend the meeting. Several members of the Branch had also written expressing regret at non-attendance.

Introduction of President-elect.—The PRESIDENT introduced the President-elect, Mr. EVAN WILLIAMS, of Bala, who took the chair, and proposed a hearty vote of thanks to the retiring President for his services during the past year, which was carried unanimously.

Report of Branch Council.—The HONORARY SECRETARY read the annual report of the Branch Council, which was approved and adopted.

Election of Officers.—The following were unanimously elected: *President*, Dr. Hugh Jones (Dolgelly); *Honorary Secretary*, Dr. H. Jones Roberts (Penygroes) re-elected; *Representatives on the Branch Council*, Drs. H. Drinkwater, E. D. Evans, D. Lloyd, E. Moss, John Evans, R. Arthur Prichard, Emyr O. Price, J. R. Prytherch, Hugh Jones, Richard Jones, and J. W. Rowlands.

Places of Meeting for 1912.—It was decided to hold the spring meeting at Wrexham and the annual meeting at Barmouth.

President's Address.—The PRESIDENT delivered his address, taking as his subject, "Some Reforms, Medical and Social, for Combating Disease." On the proposal of Dr. R. ARTHUR PRICHARD (Conway), seconded by Dr. JOHN ROBERTS (Menai Bridge), a vote of thanks was accorded to the President for his able, interesting, and timely address.

National Insurance Bill.—Dr. LAURISTON SHAW, President of the Metropolitan Counties Branch, who attended at the invitation of the Branch Council, and who was very warmly received, addressed the meeting on the National Insurance Bill. Dr. Lauriston Shaw dwelt upon the policy adopted by the Association with regard to the bill, and gave a detailed account of the action taken by the executive of the Association in carrying out that policy. Mr. F. CHARLES LARKIN of Liverpool, who also attended at the invitation of the Council, followed with a speech full of enthusiasm, urging upon every individual member loyally to support the policy of the British Medical Association. The following members joined in the discussion: Drs. E. LLOYD OWEN, EMYR O. PRICE, J. R. PRYTHERCH, HUGH JONES, J. W. ROWLANDS, RICHARD OWEN, R. T. EDWARDS, H. DRINKWATER, J. BRADLEY HUGHES, O. WYNNE GRIFFITH, and the HONORARY SECRETARY. The representatives of the several Divisions were instructed to vote in the affirmative on the question submitted to Divisions—namely:

That an amendment of the bill is desirable which would make it possible for the medical benefits to take the form of a contribution from the Insurance Fund to the cost of medical attendance given to an insured person under a private arrangement to be entered into by him with a medical practitioner upon such terms as may be agreed upon between them.

General Medical Council Election.—The Representatives were instructed to support the candidature of Dr. Latimer at the Representative Meeting.

Papers.—Owing to the time taken up in the discussion of the National Insurance Bill, the papers on the agenda were postponed.

Votes of Thanks.—A very cordial vote of thanks was passed to Dr. Lauriston Shaw and Mr. Larkin for their readiness in responding to the invitation to attend the meeting, and for the able manner in which they had dealt with the provisions of the National Insurance Bill and the policy of the Association in respect thereto. The meeting felt that it had been enlightened on many points, and that the exact position of affairs up to the present had been learnt. A vote of thanks was also accorded to the Mayor and Corporation of Conway for their kindness in allowing the use of the Guild Hall for holding the meeting, and to Dr. R. Arthur Prichard for his assistance in arranging the meeting.

Dinner.—After the meeting the members dined together at the Castle Hotel, the Mayor of Conway, Dr. Lauriston Shaw, and Mr. Larkin being amongst the guests.

SOUTHERN BRANCH:

PORTSMOUTH DIVISION.

A MEETING of the Division was held at 5, Pembroke Road, Portsmouth, on September 20th, at 4.30 p.m., to which all members of the medical profession residing in the town and surrounding districts had been invited. There were twenty-seven members and visitors present. Dr. D. A. SHEAHAN, Chairman of the Division, presided.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Insurance Bill.—The CHAIRMAN congratulated the meeting on there being such a good attendance, notwithstanding the fact that they had been able to have only a few hours' notice. He then read a copy of a circular which had been received by a medical officer to a Lodge of Oddfellows, Manchester Unity. After some discussion, Dr. L. MAYBURY moved and Dr. JEANS seconded:

That a copy of the circular be sent to the Medical Secretary of the British Medical Association for advice and instruction.

The ACTING HONORARY SECRETARY explained that he had already done so, but had not received a reply at the time of the meeting. Dr. JAMES GREEN moved and Dr. JEANS seconded:

That a written reply be given in a form of words to be afterwards determined on, and not viva voce.

This was carried unanimously. After further discussion Dr. LEON moved and Dr. L. MAYBURY seconded:

That the form of reply recommended by this meeting be as follows:

As the whole question of the relations between the medical profession and friendly societies is under consideration by the British Medical Association, I regret that I am unable to give a definite answer to your circular at the present time.

This was carried *nemine contradicente*, one not voting. Dr. DALE WOOD moved and Dr. L. MAYBURY seconded:

That a copy of the form of reply recommended by this meeting be sent to all medical practitioners residing in this Division.

This was carried unanimously.

I.O.O.F., Kent Unity.—The CHAIRMAN read a letter which Dr. James Green had received. In the course of the discussion the general opinion was expressed that Dr. Green should act as he thought best in the matter.

The meeting then terminated.

ULSTER BRANCH.

THE annual general meeting was held on June 15th, in the Medical Institute, Belfast, Dr. WILLIAM CALWELL, President, in the chair.

Confirmation of Minutes.—The minutes of the previous annual meeting were read and signed as correct.

Report of Council.—The report of Council stated that two meetings had been held since the last ordinary meeting of the Branch. At these the Council had considered the annual report and had made the following grants to Divisions: Belfast, 9d. per head; Portadown and West Down, 1s. 6d.; Londonderry, 1s. 6d. per head. There had been 21 new members elected.

Annual Report and Statement of Accounts.—The annual report, which had been circulated along with the notice of meeting, was read by the Honorary Secretary, Mr. R. J. Johnstone. It stated that four ordinary meetings had been held during the year. Twenty new members had been elected, leaving the membership of the Branch, after allowing for losses by death and change of address, at 404. The Irish Committee, on which the Branch had four representatives, had been actively engaged in securing the support of the profession for the merging of the Poor Law medical officers in a national medical service. Under the united auspices of the Branch and of the Ulster Medical Society, a large and enthusiastic meeting of medical men had been held to consider the National Insurance Bill, and resolutions calling for amendments in the interests of the profession had been unanimously carried. The balance in hand at the end of the year was £62. This report was unanimously adopted, on the motion of the HONORARY SECRETARY, seconded by Dr. J. S. DARLING (Lurgan).

Election of Office-bearers for 1911–12.—The following were unanimously elected: *President*, Dr. J. G. Cooke (Londonderry); *Treasurer*, Dr. J. S. Darling (Lurgan); *Secretary*, Mr. R. J. Johnstone (Belfast); *Representatives on Irish Committee*, Dr. J. G. Cooke and Dr. A. G. Robb.

National Insurance Bill.—The SECRETARY gave an account of the measures which are being taken at present to ascertain the mind of the profession on this bill and to give effect to its wishes. The members were strongly urged to sign and return to the Medical Secretary the post-cards giving in their adhesion to the programme of the Association, and to induce their friends and acquaintances to do likewise. A general discussion followed, and the subjoined resolutions were finally carried unanimously.

1. That the Ulster Branch of the British Medical Association warmly protests against any distinction being made under the State Insurance Bill between Irish medical practitioners and their brethren in Great Britain, believing as they do that the interests of all are indissolubly bound together in the present crisis.
2. That a committee of the Branch be formed, consisting of the members of Council and such other members as the President and Secretary may decide to summon, with power to add to their number, this committee to meet at once and to decide on any steps which they may consider necessary to protect the interests of the profession.

Cast of Oesophagus Expelled after Swallowing Hydrochloric Acid.—The PRESIDENT (Dr. Calwell) showed this interesting specimen, and gave the history from the patient from whom it came.

Removal of Rectum for Carcinoma.—Mr. FULLERTON described the various methods of removing the rectum for carcinoma. Formerly he had been content to deal with the disease by the perineal route or by the dorsal method, with removal of the coccyx or part of the sacrum, as suggested by Kraske. In recent years he had been opening the abdomen in all cases in order to free the rectum and pelvic colon from above, tying the superior haemorrhoidal artery as near to its origin as possible, so as to allow of the pelvic colon being brought down to the anal canal and stitched in that position. This gave the patient control. He described in detail the method as he had adopted it in several cases. The chief drawback to this method was the tendency of the lower part of the pelvic colon to slough. This method was also more liable to be followed by recurrence than the more extensive operation which involved the removal of the anus, rectum, and part of the pelvic colon, and the formation of an artificial anus in the iliac region. The last method appeared to be the most satisfactory in the present state of knowledge of rectal surgery. He showed several specimens illustrating the portions removed.

Persistent Albuminuria.—Mr. FULLERTON also described a case of albuminuria which had lasted for fifteen years. The patient was a lady aged about 35. The albumen varied from day to day and at different times of the day. The patient's general health was fairly good, and there were none of the usual signs of Bright's disease. The ureteral catheter disclosed the fact that the albumen was present on the right side only. There were also a few pus cells in the specimen from the right ureter. The right kidney was somewhat prolapsed, and there was some pain in the right renal region. The right kidney was exposed, and in the pelvis he found a stone about the size of a marble, consisting of a central portion of oxalate of calcium and a thick shell of phosphates. The albumen had almost disappeared since the stone was removed and the kidney fixed to the external arcuate ligament.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—The autumn meeting will be held in Blandford, on Wednesday, October 18th. Members wishing to read papers, show cases, or exhibit specimens, etc., should communicate with the undersigned not later than Thursday, October 5th.—JAMES DAVISON, Honorary Secretary (*pro tem.*), "Streateplace," Bournemouth.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Braintree on Thursday, October 26th. Members wishing to read papers or to show specimens or cases should communicate at once with the Secretary, Dr. B. H. NICHOLSON, East Lodge, Colchester.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—A general meeting of the Division will be held at Knutsford at 4.30 p.m. on Wednesday, October 11th.—H. G. COOPER, Honorary Secretary.

NORTH OF ENGLAND BRANCH.—The adjourned meeting of this Branch will be held at the Royal Victoria Infirmary, Newcastle-on-Tyne, on Friday, October 6th, at 3.30 p.m.—DAVID F. TODD, Honorary Secretary.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—A meeting of this Division will be held at the Golden Lion Hotel, Dolgelley, on Thursday, October 5th, at 2 p.m. Members having papers to read, cases to show, or any other business to bring before the meeting are requested to communicate at once with the Honorary Secretary, HENRY GLADSTONE JONES, Plas Gwilym, Criccieth.

SOUTH MIDLAND BRANCH.—A meeting of this Branch will be held at Springfield House, Bedford (the residence of Dr. Bower), at 2.30 o'clock on Thursday, October 12th, under the presidency of Dr. Clement Dukes, of Rugby. Dr. Maurice Craig (of Guy's Hospital) will read a paper on "Nerve Exhaustion and its Treatment."—E. HARRIES-JONES, Honorary Secretary.

MEMBERS ELECTED TO THE BRITISH MEDICAL ASSOCIATION

(MAY 16TH TO JULY 5TH, 1911).

(SECOND LIST.)

Gloucestershire Branch.

Hancock, Mary D., L.R.C.P., Shire Hall, Gloucester
Hughes, Leslie E., Esq., Cotswold Lodge, Cirencester
Liston, W. L., M.D., Hereford House, Tewkesbury
Taylor, W. A., M.B., Royal Infirmary, Gloucester
Turner, A. F., Esq., Newton House, Tewkesbury
White, E., M.B., Royal Infirmary, Gloucester

Metropolitan Counties Branch.

Adam, Stanley Denovan, Esq., 31, Fernhead Road, Harrow Road, W.
Alston, William Evelyn, M.D., 108, Denmark Hill, S.E.
Ambrose, Alfred Parker, Esq., 27, South Side, Clapham Common, S.W.
Ambrose, Arthur Joseph, Esq., 69, Queen's Road, Dalston, N.E.
Anderson-Bruce, George Alex. Robert, M.B., 53, Middle Lane, N.
Anderson, Charles Ernest, Esq., Woodbury High Road, S. Woodford
Anderson, Matthew John Beevor, Esq., 24, Cedars Road, Clapham Common, S.W.
Arthur, Joseph Hugh, M.D., 65, High Street, Shadwell, E.
Ashley, Herbert Ernest, Esq., 190, Chobham Road, Stratford, E.
Atkins, Thomas Edward, Esq., 11, Stanley Parade, Ealing Road, Wembley
Atkinson, Ambrose, Esq., Park View, Green Lanes, Harringay, N.
Attwater, Harry Lawrence, M.B., The College, Guy's Hospital, S.E.
Avery, John, Esq., 279, Katherine Road, Forest Gate, E.
Badcock, Charles Halford, Esq., 140, Croxted Road, Dulwich, S.E.
Baillie, Francis, M.B., 510, High Road, Leytonstone, N.E.
Balderton, Robert, M.B., 17, Westbourne Road, Forest Hill, S.E.
Baly, Arthur Lionel, Esq., Lambeth Infirmary
Barbour, Gavin, M.B., "Rowallan," Dulwich Village, S.E.
Barker, Chesman, M.B., Edendale, Church End, Finchley, N.
Barker, Ella Mabel, M.B., 5, Frognal, Hampstead, N.W.
Barker, Percy Duckworth, Esq., 8, Kensington Park Road, W.
Barker, Robert Sidney, M.B., Western Hospital, Fulham, S.W.
Barnett, Frank Septimus, Esq., 12, Belmont Hill, Lewisham, S.E.
Barnett, John Edward Sewell, F.R.C.S., 48, Queen's Road, Kingston-on-Thames
Barragry, Patrick, M.D., 150, Junction Road, N.
Barrett, Alfred Keppel, Esq., 5, Bedford Gardens, W.
Barrie, John, M.D., 75, Bedford Road, Clapham, S.W.
Bartlett, Bertram Friend, Esq., 10, Gloucester Terrace, S.W.
Barton, William Edwin, M.D., 31, Ambleside Avenue, Streatham, S.W.
Bayly, Hugh Wansey, Esq., 36, Motcomb Street, Belgrave Square, S.W.
Begg, Henry, M.B., 1, Gaisford Street, Kentish Town, N.W.
Begley, John Francis, M.B., 144, Barking Road, Canning Town, E.
Bell, William, Esq., 2, Grosvenor Gardens, Cricklewood, N.W.
Bell, William Jarvis, M.B., "Luton House," Grove Lane, Champion Hill, S.E.
Bence, Frederick Robert, Esq., 226, Goswell Road, E.C.
Berry, William Arthur, M.B., St. Mary's Infirmary, Highgate Hill, N.
Bickford, Nicholas Seymour, Esq., Cromwell House, Haydon Park Road, Wimbledon
Bindley, Philip, M.B., 26, Putney Common, S.W.
Binns, John Braybrook, Esq., Morley House, Bruce Road, Bow, E.
Birdwood, Roger Alan, M.D., Park Hospital, Hither Green, S.E.
Bishop, Charles Thompson, M.B., 2, Vernon Square, W.C.
Blake, Stuart Ryall, Esq., 407, Katherine Road, Forest Gate, E.
Blok, Moses, Esq., 140, Green Lanes, Clissold Park, N.
Bouck, John Augustus, Esq., 1, Albert Bridge Road, Battersea, S.W.
Bousfield, Arthur, M.D., Tudor Lodge, Hornsey Lane, N.
Brabyn, George Walter, Esq., 22, Queen's Road, Wimbledon
Bradford, Anthony Bouchier, M.D., 14, Henrietta Street, W.
Brenchley, Algernon Dutton, M.D., 97, Denmark Hill, S.E.
Bridger, Adolphus Edward, M.D., Foley Lodge, Langham Street, W.
Brooks, R. T. St. J., M.B., Lister Institute, Chelsea Gardens, S.W.
Brooks, William Harrison, Esq., 509, New Cross Road, S.E.
Brown, Alice Evangeline, L.R.C.P., L.R.C.S., M.D.Brux., 10, Upper Park Road, Hampstead, N.W.
Browne, Charles Haines, Derley Road, Ponder's End
Browne, Robert Andrew, Esq., 97, Revelstoke Road, Wimbledon Park, S.W.
Bulger, Michael Joseph, M.D., 145, Seven Sisters Road, N.
Burges, Richard, Esq., 12, Rosebery Road, Muswell Hill, N.
Burney, Charles Dudley Francis, Esq., 327, New Cross Road, S.E.
Burrows, Wilfrid Edgcumbe, M.B., 302, High Street, Manor Park, E.
Burton, Charles George, Esq., 268, Hertford Road, Edmonton, N.
Butler, Alban, Esq., 11, Park Court, Clapham, S.W.
Butler, Arthur George, M.B., 229, Beckenham Road, Penge
Caley, Frederick Goodman, M.B., Great Northern Central Hospital, N.
Campbell, Dugald, M.B., 57, Josephine Avenue, Brixton Hill, S.W.
Campbell, Duncan McDougall Lochnell, Esq., 14, Emanuel Avenue, Acton, W.
Cardale, Henry Jasper, M.B., 41, Glengall Road, Cubitt Town, E.
Casey, Joseph, Esq., 39, Dockhead, S.E.
Cathcart, Samuel Earle, Esq., Greenfield, Highgate, N.
Cato, Charles Stanley, Esq., 91, Church Road, Upper Norwood, S.E.
Charpentier, Ambrose Edward Lea, M.D., 60, High Street, Uxbridge
Chatelain, Victor Albert, M.B., 8, Aberdour Gardens, Green Lane, Goodmayes
Chatterton, Edgar, Esq., 74, Bishop's Road, W.
Chetwood, Thomas, M.B., 79, New North Road, N.
Churchill, James Henry, Esq., Crawford House, Wembley
Clay, James Duncan, Esq., 20, St. Asaph Road, Brockley, S.E.
Clayton, John Cecil, Esq., 66, Brondesbury Park, N.W.
Close, John Basil, Esq., 121, Grove Road, Holloway, N.
Cockell, Frederick Edgar, Esq., 62, Forest Road, Dalston, N.E.
Coffey, Patrick, Esq., Coombe Bury, Kingston Hill, S.W.
Cohen, Eveline Rosette, M.B., 5, Hatton Garden, E.C.
Cohen, George, M.B., 461, Green Lanes, N.
Coleman, Andrew Leslie Edmund Filmer, M.B., Queen's Hospital, Hackney Road, N.E.
Coles, Charles St. Arnaud, Esq., Roseneath, St. Mary's Crescent, Osterley Park
Collingridge, William Rex, Esq., Ashley, Aldenham Road, Bushey
Collins, Frank, Esq., Sproxton, Wanstead
Comber, Charles Thomas Thornton, M.D., 27, Rushey Green, Catford, S.E.
Comyn, Arthur Fitzwilliam, M.B., 35, Murillo Road, Lee, S.E.
Constable, John Cecil, Esq., 123, Kennington Park Road, S.E.
Constable, Joseph James C., M.D., 123, Kennington Park Road, S.E.
Corner, Frank, Esq., The Manor House, Poplar, E.
Cotter, Patrick Gallagher, M.D., 57, Caledonian Road, N.
Coventon, Albert William Duncan, F.R.C.S., Minchenden Lodge, Southgate, N.
Cow, Douglas Vernon, M.D., Ryecroft, Streatham Common, S.W.
Cowen, George, M.D., Dunurlin, New Malden
Cox, Thomas Percy, Esq., 60, Cambridge Gardens, North Kensington, W.
Crabb, Robert Lawson, M.B., University College Hospital, W.C.
Craig, Samuel Horner, Esq., 124, Stroud Green Road, N.
Crampton, Harold Percy, M.D., 7, Frognal, Hampstead, N.W.
Crichton, George, M.D., 114, Lexham Gardens, W.
Crowley, Michael, M.B., 31, Shepherd's Bush Road, W.
Crowther, William Edward Todewyk, M.B., Bolingbroke Hospital, Wandsworth, S.W.
Cummings, William Gordon, M.B., 286, Uxbridge Road, W.
D'Albon, Mark, Esq., 37, St. Lawrence Road, Kensington, W.
Darke, Sydney John, M.B., 31, Lampton Road, Hounslow
Davey, Arthur Tonkin, Esq., 2, Eastwood Road, Ilford
Davidson, James Alexander, M.D., 22, Campbell Road, Hanwell, W.
Davies, John Stanley, M.B., 316, Queen's Road, New Cross, S.E.
Davis, Haldinstein David, F.R.C.S., 9, Portman Street, W.
Davis, Kenneth James Acton, Esq., Julian Hill, Harrow
Davis, William, Esq., 16, St. John's Wood Road, N.W.
De Brent, Harold John, Esq., 33, Victoria Road, Clapham, S.W.
De Gruyther, Eustace Julian, Esq., 621, Seven Sisters Road, Tottenham, N.
Denslow, Le Grand Norton, Esq., 76, Wimpole Street, W.
Dent, Louis William, Esq., Lindal, South Woodford
D'Esterre, William Henry Daniel Patrick, M.D., 20, Farquhar Road, Upper Norwood, S.E.
Dixon, Henry George, Esq., 105, East Road, City Road, N.
Dodd, Noel, Esq., 1003, Forest Road, Walthamstow
Donald, William Gordon, M.B., 67, Hoe Street, Walthamstow
Drake, Leslie Alexander, M.B., Cliftonville, Manor Park, E.
Dudfield, Reginald, M.B., 19, Blomfield Road, Maida Vale, W.
Duncan, Archibald Wallace, M.B., St. Mary's Hospital, W.
Dunkley, Edward Vincent, M.D., 14, Sumner Place, S.W.
Dunlop, William, M.B., Newlyn, Hornsey Lane, N.
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SEVENTY-NINTH ANNUAL MEETING
OF THE
British Medical Association.

Held in Birmingham on July 21st, 22nd, 24th, 25th, 26th, 27th, 28th, and 29th, 1911.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[EIGHTH NOTICE.]

C. O. HOEFFTCKE, LIMITED (21, Woodstock Street, Oxford Street, London, W.). Orthopaedic appliances of all kinds are produced by this firm, but what may be regarded as its speciality is the production of splints to enable persons with fractures to walk about during treatment, even if the fractures are those of the lower limbs. Its work in this direction is markedly successful, and evidence of this was included among the firm's display at Birmingham. There were, for instance, photographs and skiagrams of patients under the care of well-known surgeons, which showed the appliances in use and the fractures which they continued to maintain in good apposition despite the fact that the patients were practically using the injured limb. The principle underlying the construction of these splints is also applied to instruments for the treatment of tuberculous joints, especially the hip-joint, without detention in bed. The weight of the body when the lower limb is in question is transmitted straight from the tuber ischii to the ground, and restoration of the limb to the normal length in the case of fractures and abolition of contact between the acetabulum and the head of the femur in cases of hip disease is secured by counter-extension, which likewise has the tuber ischii as its starting-point. Another successful appliance in which the same principle also plays a part is the firm's artificial leg for use after high amputation. Other good instances of the firm's work are its splint for correcting that displacement of the tibia backwards which is so frequent a consequence of tuberculosis of the knee-joint, and its appliance for gradually straightening the knee when the leg has become flexed on the thigh. In both these the correct position is brought about by steel-bar traction. A further department of the firm's work is the making of its corsets for lateral curvature and appliances for spinal caries, and examples of these were shown. They include devices for securing and maintaining the highest degree of extension naturally available in any given case, and beds moulded precisely to fit the patient's outline, and thus to enable extension to be continued.

W. A. WHARRAM (115-117, Vicar Lane, Leeds). This well-known Yorkshire firm of wholesale druggists and chemists had a good display of pharmaceutical preparations and sundries for the surgery. Its display indicated that it specializes in respect of the needs of those who carry on dispensing practices and desire to economize both in their outlay on surgery work and in the amount of shelf space that shall be absorbed by it. Amongst the preparations we specially noted were a large series of concentrated tinctures and a compound syrup of hypophosphites, a preparation stated to be neutral and which gives a flocculent precipitate, immediately disappearing on shaking, a linctus of heroin hydrochloride, and a liquor of bismuth and pepsin. Also shown were a number of concentrated mixtures, and among them an alkaline mixture containing the lactates of bismuth and magnesia, together with peppermint and hydrocyanic acid.

CHARLES HEARSON AND CO. (235, Regent Street, London, W.). To those who have ever done research work the annual display of this firm is of unfailing attraction, for all forms of incubators, centrifuges, and shakers are shown, and most of them are in actual operation. All the incubators shown were as well constructed as designed, and, unless intended for some special purpose, could be regulated to remain at any temperature desired from 0° C. up to 65° C., thanks to the substitution of the firm's capsule for the old thermostatic bar. There was also shown at work this year an important addition to the choice of incubators, this being a new patent anhydric electric incubator, which represents what appears to be an entirely successful effort to overcome the difficulty of electric heating of incubators. The same method of heating can now be used in connexion with the firm's drying ovens and sterilizers, the heat then obtainable being anything from 37° C. to 175° C. Another new product shown was a refrigerating incubator which is guaranteed to remain at a constant temperature of 0° C. In its general appearance it resembles the other incubators of the firm, but is stated to consume far less ice than is generally necessary. Several forms of incubator for use in connexion with the Wassermann reaction were also on view, and included one so arranged that the progress of reactions could be examined without removal of specimens. There was also one heated by electricity in which the specimens could be examined under the microscope while kept at a temperature of 37°. Many of the centrifuges of the firm were also shown at work, as also were the electric shakers. One of the latter is known as the Winchester Quart Shaker, and is so arranged that the necessary electric supply can be taken from any ordinary light current. It has extra trays to take small bottles and test tubes, and works very noiselessly. Another centrifuge shown at work was stated to give as many as 9,000 revolutions a minute, and to be intended for working with colloids. This, however, seems to be by no means the highest speed that the firm has proved able to obtain; and it has even in preparation, we understand, a centrifuge which will work up to 25,000 revolutions. There has recently been issued by the firm a new catalogue containing specific details of these new appliances, and it is well worth study.

ARMOUR AND CO. (Atlantic House, Holborn Viaduct, E.C.). The pharmaceutical work of this firm lies principally in the direction of organo-therapeutic preparations and digestive enzymes, the display of the latter including pepsine by itself in many different forms, and also in combination with lactic acid and pancreatin. The group was also represented in *Elixir of enzymes*, which is put forward as containing all the more active digestive principles, and might possibly be found a useful *chasse-café* by those who live well but not too wisely. To the firm's long list of glandular preparations, which includes extracts of practically all the recognized tissues of this order, has now been added a desiccated preparation of the pituitary body, the anterior lobe being used. Suprarenalin, a preparation for which the firm has been well known for several years, was shown in several different forms. The 1 in 1,000 solution can now be obtained in a bottle with a stopper constructed so as to facilitate the further dilution of the fluid for hypodermic use; in the ointment form it is put up in collapsible tubes with a well-shaped nozzle for use in cases of haemorrhoids. Of a somewhat allied order to the glandular extracts was *Glyco-lecithin*, this being an emulsion of freshly isolated lecithin put forward as a nerve stimulant, capable of promoting nutrition in the various neuroses, and also in tuberculous or anaemic patients. Another preparation which appears to find favour in the treatment of anaemia is the firm's extract of red bone marrow, which is stated to be of definite strength, and is certainly palatable. A preparation of a quite different order was *Vigoral*, this being a semi-solid beef extract, intended to provide a ready means of preparing hot or cold bouillon. Judging from the number of hospitals and institutions to which it seems to be supplied, it is presumably an economic preparation to use. Finally worth noting is the firm's powder for the preparation of junket, which is put up in containers with a stopper hollowed out so as to serve as a measure of quantity to be used.

JOHN WRIGHT AND CO. (19 and 21, Queen Victoria Street, E.C.). This firm had upon view a number of appliances designed to facilitate the use of gas for heating rooms and the provision of hot water in private houses, hospitals, and elsewhere. The fireplaces shown were of various types, and several of them reproduced with much success the cheerful appearance of an ordinary grate. Their generic term is the Eureka Grate, and they were all fitted with what is known as the Thermo Fire Front.

This is stated to secure considerably economy in gas consumption, but a stronger point still seemed to us to be that, despite the amount of heat thrown out, there was a good draught up the flue, and the smell commonly caused by gas fires was not detectable. The hot water appliances of the firm are known as the "Sun." They appeared to be easy to use, the gas consumption being controlled by a patent thermostat valve. These appliances again were of various forms, according to the special use to be made of them and the situation in which they are to be erected. Both the hot water appliances and grates of the firm seem certainly likely to repay examination by those who live in flats, as also by the authorities of institutions in which halls and large rooms require to be kept both well ventilated and adequately warmed.

MESSRS. MEYER AND MELTZER (71, Great Portland Street, W.). Instruments and appliances for ear, nose, and throat work, including pharyngoscopy, figured largely on the stall of this firm, which may be regarded indeed as specializing therein. Among other things of this kind was an improved gastro-oesophagoscope designed by Drs. William Hill and George Herschell. In using it an inflating oesophagogastroscope attached to a Bruening's hand lamp is passed under direct vision into the stomach, which is then inflated and explored under direct vision; this done a periscope is passed through the tube and the entire stomach wall inspected by indirect vision. The amount of work which this instrument makes possible has been demonstrated by Dr. William Hill on many occasions and formed the starting point of a paper read by him in one of the Sections at the meeting. Prominent among the ear instruments was one named Hackett's magneto-pneumatic oto-masseur, a more or less self-explanatory title defining an instrument whose special purpose is to enable an exact record of dosage to be kept and the treatment to be varied between compression massage and suction massage. The tonsillar enucleation instruments included those of Tilley and Dan McKenzie, while among the guillotines we noted that of Hugh Jones; it is a simply constructed, very effective appliance, presenting several advantages, and well worth examination by those who have not yet made their choice. We were also much attracted by the Lynn Thomas needles which, though they allow of very rapid threading, secure the silk or catgut in such fashion that it cannot unintentionally be withdrawn from the eye. Another exhibit which may be mentioned in the same connexion was the twin gastro-enterostomy forceps, designed by Mr. Bilton Pollard, whose object is to prevent any lateral or vertical play during the process of suturing and afterwards to allow of the forceps being removed without any disturbance of the sutures. Other attractive appliances shown were the Clifford-Wall uterine dilators, these providing several different sizes on each dilator, and the Haig chest-piece for stethoscopy. The aim of its deviser has been to secure a truly parabolic internal surface, and thus eliminate the irregular reflection of sound vibrations which commonly interfere with the effectiveness of binaural stethoscopes. It is not claimed that this appliance increases the positive amount of sound heard, but that whatever sound is heard is of a much purer character than usual. Those who are not satisfied with their stethoscopes should examine this chest-piece.

OPPENHEIMER, SON AND CO. (179, Queen Victoria Street, E.C.). Probably every one is acquainted with the bi-palatinoids of this firm, and its Pulverettes seem to be attaining equal favour. The term represents small spheres of dry powder in a coating so thin that, when pressed between the finger and thumb, it cracks like an eggshell and the powder is released. This being the case, it is obvious that this sugar coating can only take a few moments to dissolve when the spheres are swallowed, and that the contained drugs will then be at once ready for absorption. These Pulverettes, in short, certainly present advantages over compressed tablets and ordinary coated pills. In the same connexion may be mentioned Lavettes, these being small tinfoil tablets which on pressure burst open and release an adequate supply of powdered toilet soap. They are an hygienic advance likely to be appreciated by those who prefer to be independent of chance supplies of soap when visiting patients. Another new introduction are Devule Developers. These are gelatine envelopes containing the developer proper and the alkali in separate divisions. On tearing them open and stirring them in water a fresh solution and developer is at once to hand. They should be useful to medical men who only occasionally dabble in photography. The Automatic Oxygen Generator and the Oxygen Inhalator also attracted attention. In each case oxygen is produced at atmospheric temperature by introducing into the appliance one or more cubes of "sodox." One or other of them should be found useful by medical men who live at a distance from towns where cylinders of oxygen can be secured. Among preparations of a more strictly pharmaceutical order we noted Liquor Gastrorube, a new preparation of bismuth and pepsin, whose special point is its acidity, and Ung. Zoleas, an ointment for the treatment of gouty and other forms of dry eczema. It contains zinc, mercury, and oleic acid. A palatable preparation named Roboleine, which contains malt, red bone marrow, and hypophosphites; and Drop Flavours may also be mentioned in this connexion. The latter are a series of concentrated solutions, one drop of any of which will both flavour and tint 1 oz. of any medicine. The only remaining exhibit that we have space to mention is the firm's sea-water plasma; it is sea water collected with aseptic precautions 200 miles from land, and put up after due dilution in aseptules containing either 100, 50, or 30 c.cm.

W. H. SAUNDERS COMPANY (9, Henrietta Street, Covent Garden, W.C.). The exhibit of this Anglo-American firm of medical book publishers was remarkable for the large number of excellently illustrated works which it included. Mumford's *Practice of Surgery* is a case in point, while less freely but well illustrated were the three large volumes entitled *Treatment;* it is a work of the encyclopaedia order, brought out under the editorship of Drs. J. H. Musser and A. O. Kelly, who are respectively Professor of Clinical Medicine in the University of Pennsylvania and Assistant Professor of Medicine in the same university. The articles are by as many as seventy-eight contributors, and though the majority are American workers in medicine and surgery they most of them bear names well known in this country; some of the English contributors are Sir Lauder Brunton, Sir Clifford Allbutt, Mr. Clinton Dent, and Mr. B. G. A. Moynihan. The *Collected Papers of the Mayo Clinic*, a volume of 668 pages and 226 illustrations, were also shown, the authors being the two Mayo Brothers and their associates at St. Mary's Hospital, Rochester. Other well illustrated new works were *Practical Cystoscopy*, by Paul M. Pilcher of Long Island, and *Diagnostic and Therapeutic Technic*, by A. S. Morrow, a useful handbook to the performance of the more ordinary manœuvres involved in medical and surgical work, to which we recently drew attention. There were also a number of new editions of books which have long since attracted a wide circle of readers. Among them were a sixth edition of Stelwagon's *Diseases of the Skin*, which now includes some 300 black and white illustrations and some 34 coloured and half-tone plates; a fourth edition of *The Practice of Gynaecology*, by W. Easterly Ashton, a book in which the illustrations average nearly one to every page, and a sixth edition of the book on *Modern Surgery*, by J. C. Da Costa, Professor of Surgery, Jefferson Medical College, Philadelphia. There were also shown *Medical Diagnosis*, by J. M. Anders and Napoleon Boston; *Studies in Cardiac Pathology*, an admirably illustrated volume of 235 pages, by G. W. Norris, of Philadelphia; *The Anatomic Histological Processes of Bright's Disease*, by H. Oertel, of the Russell Sage Institute of Pathology, New York; *The Spirochaetes*, a small volume by Dr. Cecil Bosanquet, and *What to Eat, and Why*, by G. Carroll Smith, of Boston.

MESSRS. SOUTHALL BROS. AND BARCLAY, LIMITED (19, 20, 21, Lower Priory, Birmingham). There was considerable originality in the fashion adopted by this firm for making use of the space at its disposal. It has been established in the Midlands for practically a hundred years, and its more distinctive products are already so well known that its chief endeavour was to show the materials from which they are prepared and the stages through which they pass in manufacture. The display, in short, was a sort of annexe to what was shown to those able to

take advantage of the hospitality of this firm and visit one of its principal mills on July 29th. An account of what was then seen will be found in our issue for August 5th. The items on view at the exhibition itself included a model of the lint machine patented by the firm as far back as 1849, and a certain number of samples of finished dressings in the way of gauzes, bandages, and lint. Another branch of the firm's work was also represented by a special display of the sanitary towels and accouchement sheets with which its name is associated. Also on view were some typical examples of the work done in its chemical laboratories, among them being some good specimens of resublimed sulphur, sodium sulphate, potassium sulphate, acetanilid, and scales of iron citrate and other "fine drugs." In addition, there were a variety of the standardized tinctures, elixirs, glyceroles, and syrups also prepared in these laboratories, while from time to time throughout the day demonstrations were given of the use of the firm's carbon dioxide snow apparatus. Likewise shown were samples of what seems to be more or less of a new departure in the firm's work. This is Vitafer, which has been brought out as a tonic food, and is stated to have the following composition: Milk proteins, 88.5 per cent.; milk fat, 2.0 per cent.; milk salts, 4.0 per cent.; calcium glycero-phosphate, 2.2 per cent; magnesium glycero-phosphate, 2.2 per cent.; sodium glycero-phosphate, 1.1 per cent. It was displayed both in the finished form and at certain stages of its manufacture.

DROITWICH SPA. Many of those who visited Birmingham had an opportunity of examining for themselves the therapeutic possibilities of this health resort and the arrangements of its bathing establishment, since it was one of the places to which excursions were made on the last day of the week of the meeting. The authorities, however, had also taken a stall at the exhibition and made an attempt to illustrate thereon some of the outstanding features of the resort. As a spa it is in some degree unique, for, with the exception of a somewhat rough-and-ready watering place in the Inn valley in the Tyrol, no other health resort in Europe is endowed with a spring of the same character. The principal mineral constituent is sodium chloride, which is present in a proportion exceeding that even in the Red Sea. It is, in short, a natural and very strong brine, presenting obvious possibilities in a therapeutic direction; advantage of them began to be taken at quite an early period, but until some seven or eight years ago the arrangements to this end were hardly in keeping with like arrangements elsewhere. Now, however, full provision has been made both for the skilled use of the water and for the comfortable accommodation of invalids, and as a consequence an annually increasing number of sufferers from various forms of rheumatism, neurasthenia, anaemia, and other disorders susceptible of successful balneological treatment are now resorting to this spa. Its topographical position affords it considerable protection from cold winds, and the rainfall in the district is fairly low, and hence the baths are open throughout the year. The most recent enlargement of the bathing establishments was completed some two years ago, and a fairly full description of what the place now has to offer was published in our issue of June 15th, 1909.

JAMES WOOLLEY, SONS, AND CO., LIMITED (Manchester). The needs of general practitioners have been very thoroughly studied by this northern firm, and it meets them with distinct success both on the pharmaceutical and surgical sides of its work. The display this year included two practically new preparations—Jecovol and Valkasa. The former, as the name suggests, is a cod-liver oil preparation, the oil being emulsified by the yolk of egg, and glycero-phosphates added. As for Valkasa, this is a milk preparation brought forward as a nerve food. It contains, we understand, 95 per cent. of casein and 5 per cent. glycero-phosphates. Among the older preparations we noted the firm's Sanitary Rose Powder, which thoroughly deserves the reputation it has held for a period approaching thirty years. Consisting mainly of a very finely powdered boracic acid, and being entirely soluble, it is excellent for all purposes for which dusting powders are commonly used, and it is in particular favour, we know, with a good many nurses who practise massage largely. Another preparation, Sol. Sodae Phenatis, we have found very useful in the treatment of spongy gums, and as a mouth-wash for habitual use at bedtime. Some tabellae of the same name contain in addition red gum and eucalyptus oil, and are said to be of service in post-nasal catarrh, relaxed sore throat, and some forms of dyspepsia. Another useful pharmaceutical preparation shown was Ung. Resorcini Co., a pleasant smelling homogeneous ointment containing bismuth and birch tar as well as resorcin. Among the surgical appliances appeared some excellent sprays for nasal, post-nasal, and laryngeal purposes, made, it appears, on the suggestion of Dr. E. D. Scott-Heylinger. Their strong point is the exceedingly small quantity of liquid with which they work effectively. Solutions of various drugs of a kind suitable to the purposes for which these sprays are intended are issued with them. Also shown were a number of well-made ambulance cases intended for motor-car users and the like. They are all sold under the name of Boval, a term which for some ten years past has been also applied to a series of trusses with a pad freely adjustable in all directions, while the term "Victoria" covers some well-devised midwifery and allied outfits.

E. A. BROOKE WILLIAMS (8, Henrietta Street, Covent Garden, London, W.C.). This firm of medical booksellers had upon view an excellent selection of modern works, including a large proportion of all the textbooks and treatises which have gained favour among practitioners in various departments of medicine and surgery. A good point in the selection was the catholicity displayed, the works of foreign writers of authority receiving a requisite degree of attention.

PARKE, DAVIS AND CO. (Beak Street, Regent Street, W.). There were, as usual, a good many attractive items among the exhibits of this firm. They showed, for instance, Oculets, this term representing a series of thin discs, each containing a suitable dose of some drug used in ophthalmic surgery. They are so small and readily soluble that the action of the contained drug can be secured simply by placing one of them in the conjunctival sac, while, if a collyrium be preferred, a solution can promptly be prepared from them with the help of a few drops of water. Another attractive exhibit was a hypodermic case not larger than a small cigarette case; while the array of sterilized gauzes, compressed bandages, and medicated wools put up in airtight glass jars also drew attention. As usual, in the way of vaccines and glandular preparations the firm had a good deal to show, among them being thyroidectin, the antithesis of thyroid extract, prepared from the blood of thyroidectomized sheep, and some capsules each containing 5 grains of the desiccated yellow bodies (corpora lutea) of the ovarian gland. The latter are held to be of proved value in nervous disorders of ovarian origin, especially those occurring after the production of an artificial menopause. The vaccines shown were those prepared in the laboratory of St. Mary's Hospital, under the supervision of Sir Almroth Wright. The latest of them is Parodontal streptococcus vaccine. It will be remembered that Mr. Kenneth Goadby has had at times a good deal to say in favour of treatment of pyorrhoea alveolaris by such a vaccine. Two special preparations for the treatment of mucous inflammation in the nose and urethral tract respectively were also shown, the first being Inhalone, an ointment containing phenol, menthol, and eucalyptol, put up in collapsible tubes, and intended for the painting of the nares. The second was a series of small, slowly melting bougies containing a percentage of Nargol, which is stated to be a compound of silver and nucleinic acid, and free from irritating properties, but markedly germicidal. Also shown was Palol, a preparation introduced for the treatment of malnutrition. It contains gaduol, an alcoholic extract of cod-liver oil in addition to malt extract and the glycero-phosphates of calcium and sodium. Finally may be mentioned the firm's solution of quinine and urea hydrochloride, which is supplied in hermetically-sealed ampoules for the production of anaesthesia; such anaesthesia is stated to be persistent in character, and the drug seems to be inexpensive.

INSURANCE BILL.

CONFERENCE OF FRIENDLY SOCIETIES.

A MEETING of the Committee of the National Conference of Friendly Societies was held in Manchester on September 21st to consider, among other matters, the Insurance Bill. The meeting was presided over by Mr. R. W. Moffrey, Past Grand Master of the Manchester Unity of Oddfellows, and lasted upwards of five hours. Special attention was given to the amendments which have been already passed by the House of Commons, and it was decided to ask the Chancellor of the Exchequer to recommit Clause 14 with a view to restoring the right of the friendly societies to elect their own doctors; or, if this were not done, there was to be a demand that the societies should have a majority on the local Health Committees, as it was stated that the societies would have practically the whole of the responsibility. Several members of Parliament have amendments on the Order Paper designed to hand over the duties of the local Health Committees to county or county borough councils, and the committee expressed a strong opposition to this proposal, in this respect being apparently in accord with the policy of the British Medical Association. Dealing with sickness benefit, Clause 8 of the bill, as it stood at first, provided that sick pay should commence from the fourth day after notice was given. This has been amended to make it the fourth day after the sickness commences, but the friendly societies evidently think that sick pay should commence from the first day of illness. Mr. Lloyd George in Parliament expressed himself opposed to this last proposal on the ground that it would lead to malingering, but the committee was unanimously in favour of it. On Clause 18, which deals with the conditions for approval of societies, the Chancellor has several amendments on the Order Paper intended to facilitate the approval of collecting and industrial insurance societies, one especially allowing a society to establish a separate section, which may, on fulfilling the conditions, be approved apart from the society itself. The committee was stoutly opposed to this, which, it thought, gave the collecting and industrial societies a preferential treatment, and it was resolved to ask that the clause should be left as it stands.

Clause 21 makes it necessary for societies as a condition of being approved that they shall, under certain conditions, establish local committees, but the Chancellor has put down an amendment which removes this necessity where arrangements have been made that the local Health Committee shall administer the medical benefit for the members of such society. This was intended specially to enable societies, like the Hearts of Oak, which have no local committees to become approved societies without establishing local committees, on condition that they voluntarily hand over their medical benefit to the local Health Committee. In view of the amendment already made to Clause 13, by which all medical benefit is to be in the hands of the local Health Committee, it might at first sight appear that this amendment to Clause 21 requires modification, but the complications introduced by Mr. Harmsworth's amendment to Clause 14 make the question altogether doubtful. In any case the committee at Manchester raised strong objections to the Chancellor's amendment to Clause 21.

The committee was also opposed to the proposal to hand over for the benefit of deposit contributors any part of a surplus created by the societies. This apparently refers to an amendment put down by Mr. Ramsay Macdonald, to the effect that one-half of such surplus "shall be taken by the Insurance Commissioners and paid to the credit of deposit contributors who have been rejected from membership of an approved society." It was announced that the Chancellor had promised to give favourable consideration to various other suggestions of the National Conference of Friendly Societies.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 7,781 births and 5,266 deaths were registered during the week ending Saturday last, September 23rd. The annual rate of mortality in these towns, which had been 20.6, 19.0, and 17.1 per 1,000 in the three preceding weeks, further fell to 17.0 per 1,000 in the week under notice. In London the death-rate did not exceed 15.6 per 1,000 against, 17.6, 17.4, and 15.3 in the three previous weeks. Among the seventy-six other large towns, the death-rates last week ranged from 5.3 in Handsworth (Staffs), 6.1 in Hornsey, 8.3 in King's Norton, 10.2 in Tottenham, and 10.4 in Leyton and in Reading to 23.8 in Middlesbrough, 24.5 in Gateshead, 25.7 in Liverpool, 26.9 in Burnley, and 30.0 in Stockton-on-Tees. Enteric fever caused a death-rate of 1.6 in St. Helens; whooping-cough of 1.4 in Sunderland and 2.7 in Bury; and diarrhoea and enteritis (of children under 2 years of age) of 9.9 in Hull, 10.0 in Stockton-on-Tees, 10.3 in Burnley, 10.4 in Swansea, and 11.4 in Middlesbrough. The mortality from measles, scarlet fever, and diphtheria showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. Of the 5,266 deaths registered in the seventy-seven towns last week, the causes of 32, or 0.6 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest, and included 4 in Birmingham, and 2 each in London, Liverpool, St. Helens, Manchester, Salford, and Preston. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,327, 1,349, and 1,454 at the end of the three preceding weeks, had further increased to 1,532 on Saturday last; 240 new cases were admitted during the week, against 168, 217, and 264 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 835 births and 547 deaths were registered during the week ending Saturday last, September 23rd. The annual rate of mortality in these towns, which had been 16.4 and 15.7 per 1,000 in the two preceding weeks, rose to 16.7 in the week under notice, but was 0.3 per 1,000 below the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates last week ranged from 13.0 in Paisley and 14.6 in Greenock to 19.0 in Dundee and 20.3 in Perth. The mortality from the principal epidemic diseases averaged 2.9 per 1,000, and was highest in Glasgow, Aberdeen, and Dundee. The 266 deaths from all causes registered in Glasgow last week included 3 from enteric fever, 5 from measles, 3 from scarlet fever, 3 from whooping-cough, 2 from diphtheria, and 32 (of children under 2 years of age) from diarrhoea and enteritis. Nine deaths from infantile diarrhoeal diseases were recorded in Edinburgh, 11 in Dundee, and 3 in Aberdeen; and 5 deaths from whooping-cough in Aberdeen and 3 in Dundee.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 23rd, 514 births and 444 deaths were registered in the twenty-two principal urban districts of Ireland, as against 592 births and 428 deaths in the preceding period. The annual death-rate in these districts, which had been 21.0, 22.1, and 19.4 per 1,000 in the three preceding weeks, rose to 21.1 per 1,000 in the week under notice, this figure being 3.1 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 22.6 and 20.2 respectively, those in other districts ranging from 4.4 in Newry and 4.7 in Sligo to 27.8 in Dundalk and 28.6 in Newtownards, while Cork stood at 19.7, Londonderry at 12.8, Limerick at 23.1, and Waterford at 24.7. The zymotic death-rate in the twenty-two districts averaged 5.5 per 1,000 as against 6.1 in the preceding week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Deputy Surgeon-General GEORGE WELCH to Gibraltar Hospital, vice Deputy Inspector-General F. J. Lilly, October 1st; Surgeon J. G. BANSON, M.D., to the *Vivid*, additional, for disposal, September 12th; Fleet Surgeon R. HILL, M.V.O., and Surgeon J. C. BRINGAN, M.B., to the *Medina*, on commissioning, October 10th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

THE following Captains are promoted to be Majors, dated August 17th: F. S. IRVINE, M.B., F. G. RICHARDS, E. B. KNOX, M.D., J. MATTHEWS, and P. S. O'REILLY. Their first appointment bears date November 17th, 1899; that of Captain November 17th, 1902. All these officers served in the South African war in 1899–1902, receiving the following: Majors Irvine, Richards, and O'Reilly, the Queen's medal with four clasps and the King's medal with two clasps; Major Knox, the Queen's medal with seven clasps; Major Matthews, the Queen's medal with three clasps and the King's medal with two clasps.

Major G. ST. C. THOM, M.B., who is serving in India, is appointed Staff Officer, Medical Mobilization Stores, 2nd (Rawal Pindi) Division, from July 16th.

Captains A. M. MACLAUGHLIN, M.B., J. A. HARTIGAN, M.B., J. F. MARTIN, M.B., E. MCDONNELL, M.B., and A. H. SAFFORD, M.B., are also promoted to be Majors, dated September 4th. Their previous commissions are dated: Lieutenant, December 4th, 1899; Captain, December 4th, 1902. Their war records embrace the South African war in 1899–1902, their medals and clasps being: Majors MacLaughlin, Hartigan, McDonnell, and Safford, the Queen's medal with three clasps and the King's medal with two clasps; Major Martin, the Queen's medal with four clasps and the King's medal with two clasps.

Captain F. H. NOKE retires on retired pay, September 20th. He joined the department as a Lieutenant, January 30th, 1904, and was made Captain July 30th, 1907.

INDIAN MEDICAL SERVICE.

MAJOR T. B. KELLY is appointed Specialist in Ophthalmology, from July 11th.

Lieutenant H. STOTT, M.B., is appointed Specialist in Midwifery and Diseases of Women and Children, Burma Division, from July 7th.

Major T. A. GRANGER, M.B., to be Secretary to the Principal Medical Officer, H.M.'s Forces in India, vice Brevet-Colonel H. F. Cleveland, May 22nd.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT R. MCC. LINNELL is confirmed in his rank.

HENRY M. BUCHANAN, M.B., to be Lieutenant (on probation), August 10th.

Lieutenant J. R. R. TRIST is confirmed in his rank.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during August:

	FROM	TO
Colonel R. I. D. Hackett, M.D.	... Karachi	... Abbottabad.
Lieut.-Col. W. H. Starr	... Shwebo	... Lichfield.
,, H. Cocks, M.B. ...	... Woolwich	... Shorncliffe.
Major O. L. Robinson	... Kirkee ...	... Poona.
,, E. C. Anderson, D.S.O. ...	... Rawal Pindi ...	Karachi.
,, L. P. More, M.B.	... —	... Portland.
,, G. St. C. Thom, M.B. ...	... Sabathu	... Murree.
,, H. E. Staddon	... Dover ...	... Chichester.
,, A. H. Waring	... Portland	... Gosport.
,, P. H. Collingwood ...	... Exeter ...	... Devonport.
,, J. S. Gallie	... Ahmednagar...	Tower of Lond.
,, F. J. Brakenridge... ...	... R.A.M.C. Coll.	Oxford.
Captain F. P. Lauder	... Aldershot	... Cork District.
,, G. Baillie, M.B.	... —	London Dist.
,, W. S. Crosthwait ...	... Fermoy	... Moore Park Camp.
,, P. G. Hyde, M.B. ...	... Rathmore Cp.	Dublin.
,, R. L. V. Foster, M.B. ...	... R.A.M. Coll. ...	Bodmin.
,, D. S. Skelton	... ,, ,, ...	York.
,, J. E. H. Gatt, M.D. ...	... Benares ...	Allahabad.
,, R. C. Wilmot	... Portsmouth District	Colchester.
,, C. W. Holden	... Tientsin ...	Shan-Hai-Kuan.
,, E. M. Pennefather ...	... Dublin Dist. ...	Cork District.
,, G. H. J. Brown, M.B. ...	... Strensall ...	Rhayader Cp.
,, B. H. V. Dunbar, M.D.	... Dublin Dist. ...	Belfast Dist.
,, H. T. Stack, M.B. ...	... R.A.M. Coll. ...	Londonderry.
,, B. G. Patch	... ,, ,, ...	York.
,, D. P. Watson, M.B. ...	... Barrow-in-Furness	Shrewsbury.
,, J. E. Powell	... —	Rhayader Cp.
,, C. R. Sylvester-Bradley	... R.A.M. Coll. ...	Cosham.
,, J. D. Richmond, M.B.	... ,, ,, ...	Edinburgh.
,, E. M. Glanvill, M.B. ...	... ,, ,, ...	York.
,, M. C. Wetherell, M.D...	... Curragh ...	Maryborough Heath.
,, L. Bousfield, M.D. ...	... Honiton Camp	Devonport.
,, E. C. Whitehead, M.B.	... R.A.M. Coll. ...	Edinburgh.
,, R. B. Hole, M.B. ...	... ,, ,, ...	Hilsea.
,, H. Harding, M.B. ...	... ,, ,, ...	York.
,, D. P. Johnstone ...	... Brackenbir Moor	Manchester.
,, A. A. Meaden	... Fermoy ...	Kilworth.
,, H. B. Connell	... —	Irish Commd.
,, E. J. H. Luxmoore ...	... Dover	Canterbury.
,, K. A. C. Doig	... Mudeford Cp.	Cosham.
,, R. J. B. Buchanan ...	... R.A.M. Coll. ...	,,
,, R. G. Meredith, M.B. ...	... Totley Camp...	Sheffield.
,, R. K. White	... Tipperary ...	Kinsale.
,, C. W. O'Brien	... Dublin ...	Kilbride.
,, G. H. Richard	... Londonderry...	Finner Camp.
,, G. Ormrod, M.B. ...	... Belvoir Camp..	Londonderry.
,, H. E. Gotelee	... Mosney Camp .	Mullingar.
,, P. Sampson	... Sialkot... ...	Upper Topa.
,, M. G. Dill, M.D.... ...	... R.A.M. Coll. ...	Edinburgh.
,, W. I. Thompson, M.B.	... Lucknow ...	Cawnpore.
,, A. H. Jacob	... Rawal Pindi ...	Campbellpore.
,, A. E. B. Jones, M.D. ...	... Maymyo ...	Mandalay.
,, F. M. Hewson	... Quetta	Karachi.
,, A. G. Wells	... Lahore... ...	Multan.
,, A. H. T. Davis	... Dehra Dun ...	Secunderabad.
Lieutenant G. H. Stack, M.B. ...	... —	London Dist.
,, W. H. O'Riordan ...	... Whitley Bay ...	York.
,, F. W. M. Cunningham, M.D.	Curragh ...	Donard Camp.
,, A. W. Bevis	... Maidstone ...	Chatham.
,, O. W. McSheehy, M.B. ...	Willsworthy Camp	Okehampton.
,, M. J. Williamson, M.B. ...	Sling Plantation Camp	Cardiff.
,, J. J. D. Roche, M.B. ...	Dunree Camp..	Londonderry.
,, A. S M. Winder, M.B. ...	Maryboro Heath Camp	Curragh.
,, H. V. Stanley, M.B. ...	Kilbride Camp	Dublin.
,, E. C. Stoney, M.B.... ...	Colchester ...	Gt. Yarmouth.
,, J. Gilmour, M.B., F.R.C.S. Edin.	Devonport ...	Cardiff.
,, C. Robb, M.B.	Donard Camp..	Curragh.
,, E. L. Fyffe, M.B.	Cork	Ballincollig.
,, T. J. Hallinan, M.B. ...	Kinsale ...	Cork.
,, G. O. Chambers	Moor Laws Camp	York.
,, J. K. Gaunt, M.B.... ...	Limerick ...	Nenagh.
,, L. F. K. Way...	Hilsea	Cosham.
,, C. M. Finny, M.B.... ...	—	Dublin Dist.
,, J. D. Kidd, M.B.	—	,,
,, W. S. R. Steven, M.B. ...	—	Woolwich.
,, E. G. S. Cane	—	Dublin Dist.
,, F. A. Robinson, M.B. ...	—	,,
,, D. Reynolds, M.B. ...	—	Cork District.
,, C. D. K. Seaver	—	,,
,, W. Bisset, M.B.	—	Woolwich.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BEDFORD COUNTY HOSPITAL.—Male Assistant House-Surgeon. Salary, £80 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior Resident House-Surgeon (male). Salary, £100 per annum and fees.

BIRMINGHAM CITY FEVER HOSPITAL, Little Bromwich.—Medical Superintendent. Salary, £250 per annum.

BIRMINGHAM EDUCATION COMMITTEE.—Medical Officer. Salary, £250 per annum.

BIRMINGHAM UNIVERSITY.—Lecturer in Physiological Department. Stipend, £150 per annum.

BODMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £140 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House-Surgeons (male). Salary at the rate of £75 per annum.

BRADFORD ROYAL INFIRMARY.—Male House-Physician. Salary at the rate of £100 per annum.

BRIGHTON: CHICHESTER HOSPITAL.—Resident House-Physician (woman).

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Two Assistant House-Surgeons, one for the Septic Block (males). Salary, £80 per annum each.

BRISTOL ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BURSLEM: HAYWOOD HOSPITAL.—Resident Medical Officer (female). Salary, £100 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90 after six months.

CAMBERWELL PROVIDENT DISPENSARY.—Two vacancies on the Medical Staff.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Second House-Surgeon. Salary, £80 per annum.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CARSHALTON: QUEEN MARY'S HOSPITAL FOR CHILDREN.—Two Assistant Medical Officers. Salary, £150 per annum, rising to £180.

CHARTHAM: KENT COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £192 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—(1) House-Surgeon. Salary, £125 for first year, rising to £150. (2) Assistant House-Surgeon. Salary at the rate of £75 per annum.

DOWNPATRICK: DOWN DISTRICT LUNATIC ASYLUM.—Junior Male Assistant Medical Officer. Salary, £130 per annum, rising to £150.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Second Medical Officer (male). Salary at the rate of £40 per annum.

EDINBURGH HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN AND THE HOSPICE.—(1) Junior Resident Medical Officer at the Hospital. (2) Resident Medical Officer at the Hospice. Honorarium, £12 and £25 per annum respectively.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon (male). Salary, £72 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—(1) House-Physician. (2) Assistant House-Surgeon. Salary at the rate of £60 per annum each.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Medical Officer in Charge of *X*-Ray and Electrical Department. Honorarium, 25 guineas per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £60 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Assistant Casualty Medical Officer. Salary, £30 for six months and £2 10s. washing allowance.

HULL: ROYAL INFIRMARY.—Two Casualty House-Surgeons. Salary at the rate of £60 per annum for six months' appointment or £80 per annum for twelve months.

LEEDS GENERAL INFIRMARY.—Resident Medical Officer (male). Salary, £150 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—Honorary Assistant Surgeon.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary at the rate of £160 per annum.

MELROSE: ROXBURGH DISTRICT ASYLUM.—Assistant Medical Officer. Salary, £160 per annum.

MONTREAL: CHILDREN'S MEMORIAL HOSPITAL.—Medical Superintendent. Salary, 500 dols. per annum.

NEWCASTLE THROAT, NOSE, AND EAR HOSPITAL.—Two Honorary Assistant Surgeons.

NEWCASTLE-UPON-TYNE ROYAL VICTORIA INFIRMARY.—(1) Three House-Physicians. (2) Four House-Surgeons. (3) Accident-Room House-Surgeon. (4) House-Surgeon to Aural and Ophthalmic Departments. (5) House-Surgeon to Skin and Gynaecological Departments. (6) House-Surgeon to Out-patients.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House-Surgeon. Salary, £60 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—(1) House-Physician. (2) House-Surgeon. Salary at the rate of £52 10s. per annum each.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Gynaecologist to In-patients and Out-patients.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant Surgeon.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Physician (male). Salary at the rate of £75 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Resident Medical Officer for Out-patient Department. Salary at the rate of £60 per annum.

REDHILL: EARLSWOOD ASYLUM.—Junior Assistant Medical Officer. Salary, £150 per annum.

ROYAL EAR HOSPITAL, Soho, W.—(1) House-Surgeon. Honorarium, £40 per annum. (2) Assistant Surgeon.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) Male House-Physician. (2) Male House-Surgeon. (3) Female House-Physician. (4) Female House-Surgeon.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—(1) Resident Medical Officer. Salary at the rate of £120 per annum. (2) Clinical Assistant.

SALFORD ROYAL HOSPITAL.—Casualty House-Surgeon (male). Salary at the rate of £50 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SEAMEN'S HOSPITAL SOCIETY, Dreadnought Hospital, Greenwich.—(1) Two House-Physicians and two House-Surgeons. Salary at the rate of £50 per annum each. (2) Honorary Anaesthetist.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £100 per annum.

SOUTHWARK UNION, S.E.—Assistant (male) Medical Officer at the Infirmary, Each Dulwich Grove. Salary, £120 per annum.

STOCKPORT INFIRMARY.—Junior House-Surgeon (male). Salary, £80 per annum.

THROAT HOSPITAL, Golden Square, W.—(1) Resident House-Surgeon. Salary, £75 per annum. (2) Honorary Assistant Registrar.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WESTMINSTER HOSPITAL, S.W.—Assistant House-Physician.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Caldicot, co. Monmouth; Cardiff, co. Glamorgan; Portumna, co. Galway.

APPOINTMENTS.

ANKLESARIA, H. N., F.R.C.S.Edin., an Examiner in Surgery to the University of Bombay.

BOULTON, A., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health of the Horncastle Urban District.

CROLY, H. P., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Charlbury District, co. Oxford.

DAVIDSON, G., M.B., Second Assistant Medical Officer at the Paddington Infirmary and Workhouse.

DOBSON, J. R. B., M.R.C.S., L.R.C.P., House-Physician at the Royal Hospital for Diseases of the Chest, City Road.

DYKES, A. L., M.B., Junior Resident Assistant Medical Officer of the St. Pancras Union Infirmary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

GIUSEPPI.—On September 24th, 1911, at Felixstowe, the wife of Paul L. Giuseppi, M.D.Lond., F.R.C.S.Eng., of a son.

HANDLEY.—On September 23rd, at 12, New Cavendish Street, W., to Mr. and Mrs. Sampson Handley, a son.

SALTER.—On the 21st inst., at 118, Hamilton Road, Longsight, Manchester, the wife of S. Colley Salter, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

BULL—EDWARDS.—On September 26th, at St. Michael's Church, Handsworth, by the Rev. J. Youlden Johnson, Edwin George Bull, M.B.Edin., of Sparkhill, Birmingham, to Laura Rebecca, younger daughter of the late William Thomas Edwards. No cards.

GLAISTER—SOWERBY.—On September 19th, at St. Marylebone Parish Church, John Norman, only son of the late John Glaister, M.D., to Irene Mary Scargill, only daughter of James Bryant Sowerby, F.L.S.

DIARY FOR THE WEEK.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, 4.15 p.m.—Opening Address, Mr. B. G. A. Moynihan: A Surgical View of Dyspepsia. Election of Members.

ROYAL SOCIETY OF MEDICINE:

OBSTETRICAL AND GYNAECOLOGICAL SECTION, 11, Chandos Street, W., 8 p.m.—Exhibition of Specimens: Dr. Maxwell: Unruptured Tubal Gestation at the Fourth Month. Dr. Malcolm: Large Fibro-cystic Tumour of the Perineum. Dr. McCann: (1) Soft Fibroma of the Pelvic Connective Tissue forming a large Perineal Tumour; (2) Haematometra and Haematosalpinx associated with Absence of the Vagina. Dr. Macnaughton-Jones: Some Rare Books presented by Professor Klein of Munich. 9 p.m., Inaugural Address by the President, Dr. Amand Routh.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Methods of Examination; Friday, 3.30 p.m., The Labyrinth Tests in Practice.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Monday, 2 p.m., Pulmonary Diseases. Tuesday, 2 p.m., Disease Giving Rise to Morbid Renal Excretion. Wednesday, 2 p.m., Abdominal Disease. Thursday, 2 p.m., Diseases of the Nervous System. Friday, 2 p.m., Diseases of the Heart.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday. Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, Phthisis in Relation to Life Assurance; Tuesday, General Paralysis in the Insane: Wednesday, Certifiable Lunacy; Thursday, The Treatment of Ulcerative Colitis.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m.

RECENT PUBLICATIONS.

The Girl's School Year Book. Issued under the direction of the Editors of *Public Schools Year Book.* London: The Year Book Press. (Cr. 8vo, pp. 606. 2s. 6d.)

This, the sixth issue, appears as the official book of reference of the Association of Head Mistresses. It deals with the year beginning April, 1911, and contains much information useful to parents.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
1 Sunday ..	
2 MONDAY ..	
3 TUESDAY ..	
4 WEDNESDAY	LONDON: Journal Committee, 10 a.m.
5 THURSDAY ..	SOUTH CARNARVON AND MERIONETH DIVISION, *North Wales Branch*, Golden Lion Hotel, Dolgelly, 2 p.m.
6 FRIDAY ..	LONDON: Central Ethical Committee, 2 p.m. NORTH OF ENGLAND BRANCH, Adjourned Meeting, Royal Victoria Infirmary, Newcastle-on-Tyne, 3.30 p.m.
7 SATURDAY ..	LONDON: Science Committee, 11.30 a.m.
8 Sunday ..	
9 MONDAY ..	
10 TUESDAY ..	
OCTOBER *(continued).*	
11 WEDNESDAY	ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Knutsford. EAST ANGLIAN BRANCH, Autumn Meeting, Braintree.
12 THURSDAY ..	SOUTH MIDLAND BRANCH, Springfield House, Bedford, 2.30 p.m.
13 FRIDAY ..	
14 SATURDAY ..	
15 Sunday ..	
16 MONDAY ..	
17 TUESDAY ..	LONDON: Organization Committee, 2.30 p.m.
18 WEDNESDAY	DORSET AND WEST HANTS BRANCH, Autumn Meeting, Blandford.
19 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 7TH, 1911.

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Reports
TO
THE SCIENCE COMMITTEE.

IV.

HAROLD ACKROYD, M.D.
(Research Scholar.)

Purin Metabolism.

Since June last I have continued my investigations on purin metabolism. Perfusion experiments on rabbits have been carried out on the same lines as those already reported on dogs. The results arrived at show that when uric acid solution is perfused through a rabbit's liver the greater part of the uric acid is destroyed and is converted quantitatively into allantoin, 87 to 100 per cent. of the uric acid destroyed being recovered in that form. It seems most unlikely that a rabbit's liver produces any other substance except allantoin from uric acid, or that any of the allantoin so produced is further destroyed. This work has been sent for publication to the *Biochemical Journal*.

The quantity of allantoin excreted by man is generally agreed to be very small (10 to 15 Mgs. per diem), and this amount is not increased by the ingestion of large quantities of uric acid precursors, nor is it absent from the urine when the diet consists of milk and vegetables, while the greater part of allantoin given to man by the mouth can be recovered in the urine. It therefore seemed possible that the allantoin found in human urine might occur preformed in the food. Investigations of certain food materials have therefore been made, and small quantities of allantoin found to be present in milk, bread, peas, and French beans, while none was found in eggs, bananas, or rhubarb; moreover, no relation was found to exist between the amount of purin substances and allantoin present in these foods. It seems possible, therefore, that man does not convert uric acid into allantoin in the course of metabolism, therein differing from all other classes of mammals which have been investigated. This work has been published in the *Biochemical Journal*, v. 5, p. 400.

It has been clearly proved that the animal organism can convert caffein and theobromine into lower methylated xanthins, but considerable doubt exists as to whether this process is carried as far as the production of xanthin itself. In recent times Schittenhelm has found that caffein administered to dogs increases the allantoin excretion; this increase he regards as derived from xanthin produced from complete demethylation of the caffein. It might equally be due to drug action on the endogenous production of allantoin. The point is of some importance, since if the methylated purins are completely demethylated in the animal organism they would be inadmissible in any diet the object of which is to diminish the intake of uric acid precursors. Work is now being carried out to investigate this point; the results so far obtained seem to show that in rabbits the liver is not the organ in which demethylation of caffein takes place. Neither theobromine, purin bases precipitated by copper bisulphite, uric acid nor allantoin were produced from caffein in two hours' perfusion, but 87 per cent. of the caffein was recovered unchanged in the pure state. The work is being continued with other organs.

V.

CHARLES BOLTON, D.Sc., M.D., F.R.C.P.
(Research Scholar.)

Pathology of Gastric Ulcer.

I have continued my investigations with regard to the connection between acute and chronic gastric ulcer, and a detailed statement of the cases will be published later. My investigations have shown that, although acute ulcers of obviously infective origin are multiple in 61 per cent. of cases, simple acute ulcer as ordinarily found in medical practice is single in probably over 70 per cent. of cases. This figure closely agrees with that usually given for chronic ulcer. I have found that scars are to be seen in at least half the cases of such acute ulcers. They are very liable to be missed unless a special method of examination is employed. The scars indicate that acute ulcers tend to recur in the same individual, and usually heal up rapidly, as in animals. I have also found that acute ulcers heal readily, although profuse hæmorrhage is occurring from them and giving rise to profound anæmia. Although acute ulcer is found with almost equal frequency at any spot along the small curvature, scars more commonly affect the cardiac than the pyloric end. It is possible, therefore, that acute ulcer heals better at the cardiac than the pyloric end of the stomach, but this is not a certain fact, as these ulcers may not always have the same origin. The most important point which I have elucidated is the fact that some of these acute ulcers do not heal as they normally do, but extend. I have traced out the method of such extension. The extension commences by the destruction of the surrounding mucous membrane, which always shows evidence of marked gastritis. The submucous coat is then destroyed by sloughing, and the muscular coat exposed. The spreading edge is therefore sloping and terraced. When spreading stops, the submucous tissue at the edge undergoes inflammatory thickening, and the edge of the ulcer becomes raised and hard; at a later stage the thickening affects all the coats.

The mucous membrane of the edge then becomes overlapping by the separation of sloughs from the sides of the ulcer, and considerable undermining may occur. The edge may be thickened and undermined all round, or one edge may be terraced and spreading. Such an appearance is

characteristic also of chronic ulcer, and, in short, the acute spreading ulcer becomes a chronic ulcer.

I have succeeded in producing gastric ulcer in the monkey by the injection of a serum formed by immunising the goat with the gastric cells of the monkey, but have failed to do so by injection of a human gastrotoxin. The mode of healing of ulcer in the monkey is being worked out.

VI.

W. D. HALLIBURTON, M.D., F.R.S.

Physiological Activity of the Choroid Plexuses.

Professor Halliburton, who has carried out the work in conjunction with Professor W. E. Dixon, reports that they published preliminary statements of results in the proceedings of the Physiological Society, and the transactions of the International Physiological Congress (September, 1910), and in a paper in the Quarterly Journal of Experimental Physiology (Vol. III., December, 1910). The work has opened up a number of questions in relation to the cerebral circulation and formation and destiny of the cerebro-spinal fluid, at which they are continuing to work. Among the results hitherto obtained, the following may be mentioned, viz.: (1) The injection of an extract of the choroid plexuses (choroid gland) produces on intravenous injection an increase in the flow of cerebro-spinal fluid. (2) This action is abolished by atropine. (3) The effect of increasing the cerebro-spinal pressure beyond the arterial pressure is to destroy the activity of the respiratory centre, the vagus centre, and the vaso-motor centre in the order named. When the pressure is reduced these centres resume activity in the opposite order. (4) Adrenaline produces no constriction of the cerebral blood-vessels.

VII.

BENJAMIN MOORE, D.Sc., M.R.C.S., L.R.C.P.

Report on Work under Scientific Grant.

(i.) Excretion of degradation products of hæmoglobin after destruction of red blood corpuscles.

(ii.) Preparation and action of organic compounds of antimony with a view to use in treatment of diseases due to animal blood parasites.

(i.) It has been shown that after extensive hæmolysis a large percentage of urobilin is carried off by excretion by the intestine. This form of excretion may be as important as the urinary excretion and in diseases accompanied by destruction of erythrocytes it is indicated that the fæces should be studied for urobilin excretion.

(ii.) Antimony compounds have been prepared by the action of antimony and brom-benzene in presence of magnesium, with the idea of obtaining bodies of analogous action to atoxyl and salvarsen in the case of the organic arsenical compounds. Three such aromatic derivatives have been obtained and tested upon trypanosome infected animals. The parasites have been driven from the blood, but recurrences have appeared later. The compounds also showed the local irritating action of the antimonial derivatives. Antimony has also been introduced into the camphene and camphor nuclei, but great difficulty has been experienced in freeing the compounds from adherent inorganic antimony. The compounds are effective against trypanosomes, but this portion of the work is not yet completed.

VIII.

S. A. K. WILSON, M.B., Ch.B.

(University College, London.)

Anatomy and Physiology of Corpus Striatum.

With the help of Sir Victor Horsley, who has kindly performed operations for me, I have experimented on twenty rhesus and two cats. The operations have in every case been electrolytic lesions in the corpus striatum on one or other side, coupled with excitation experiments on the same. In addition, the condition of the motor cortex relative to lesions of the corpus striatum has been investigated. In each instance the animal has been allowed to live about three weeks, and has then been killed under chloroform. The brain of each has been prepared, cut in serial section, stained by Marchi's method for degenerated fibres, and examined by myself.

In more than 75 per cent. of my animals the results obtained have been satisfactory from the special point of view of the research.

I have determined :—

The course of the fibres of the constituent zones of the lenticular nucleus;

The origin of the great bulk of the fibres leaving the putamen;

The origin and course of the great bulk of the strio-thalamic fibres;

Connections between the lenticular nucleus and the sub-thalamic region, and the relation of the ansa lenticularis to the same.

Physiologically, very little results, except from a negative standpoint. I can say definitely that small lesions of the corpus striatum give rise to no motor symptoms whatever. Secondly, the corpus striatum when excited electrically does not give rise to any constant and easily recognisable motor phenomenon.

Sir Victor Horsley is anxious that our experiments should continue, as there are several important points on which my research is just beginning to throw light.

In particular, it is desirable to establish more definitely :—

Whether any fibres pass from the internal capsule to the corpus striatum or *vice versâ*.

Whether the lenticular nucleus is definitely connected with the red nucleus.

Whether any fibres from the motor or other cortex enter the corpus striatum.

Sir Victor Horsley proposes that a communication on the results obtained up to date should be given by us to the Physiological Society in autumn or winter.

IX.

DAVID ORR, M.D.

Toxins and the Spinal Cord.

A paper by Dr. Orr and Dr. Rous on the histological evidence that toxins reach the spinal cord *via* the spinal roots; "with special reference to plasma cells," was published in the *Review of Neurology and Psychiatry* (December, 1910), by permission of the Association, since when experiments have been conducted towards tracing the paths taken by the ascending lymph stream of the nerves when it reaches the cord and membranes. The results of experiment show, so far, that on reaching the dura mater the major part of the lymph passes into the epidural tissue. This is shown by the reaction to the toxins experimentally introduced. A certain proportion of lymph passes into the spinal cord, and the reaction here is not so marked as in the case of the dura. The adventitia of the vessels shows the same changes as observed in the peripheral nerves and lesions of the nerve cells and neuroglia are met with. In some experiments organisms have been seen to pass along the spinal roots as far as the dura mater.

X.

R. CRANSTON LOW, M.B., Ch.B., F.R.C.P.

Ringworm.

In February of this year the results of an investigation into the various forms of ringworm, &c., occurring in fungus diseases of the finger-nails, were published. Further research is still being carried out on ringworm and favus to ascertain the different varieties of fungus which occur in Edinburgh and district, and the relative frequency of their occurrence.

XI.

M. S. PEMBREY, M.S.

Physiological Action of Tetrahydro-B-naphthylamine.

In conjunction with Mr. N. Mutch, a research has been carried out upon the physiological action of Tetrahydro-B-naphthylamine. The rise of temperature produced by this drug has been investigated especially, and the results show that the hyperthermia is associated with increased muscular activity and respiratory exchange. The full paper will appear in the next number of the *Journal of Physiology*.

Other experiments upon the influence of a hot moist atmosphere upon man are in progress.

(To be continued.)

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FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[CONCLUDING NOTICE.]

BRADY AND MARTIN (Northumberland Road, Newcastle-on-Tyne). This firm seems to have been founded some sixty years ago by a man of sufficient eminence to have won admission to the Royal Society, while of its present managing directors two are respectively an F.R.S.Edin., and an M.A., M.D. of the University of Durham. It might naturally be expected, therefore, that its work would be done upon thoroughly scientific lines, and this is undoubtedly the case. Its exhibit at Birmingham covered the work of most of its departments, but was largely devoted to bringing into relief the methods which it adopts in securing the chemical purity of its products and an accurate knowledge of their physiological strength. The firm, indeed, seem to have been one of the first to prepare physiologically standardized drugs on a commercial scale. Products of this order were represented by Epinephrin and kymograph tracings illustrating the methods used in standardizing it. Epinephrin, it is to be noted, was the term originally used by Abel in 1897 in describing the vaso-constrictor element in suprarenal capsules. Tinctures of digitalis of squills and of strophanthus similarly standardized were also shown. Other branches of the firm's work were represented by Petrosal, a fluid paraffin which, being of a lower specific gravity than that described in the *British Pharmacopoeia*, the firm considers more suitable for use with atomisers. Also shown were tablets and triturates of thyroid extract, in which connexion it may be noted that the firm in 1891 made for Dr. George Murray the preparation of the thyroid gland with which he did his pioneer work on this subject. The firm is also a maker of scientific appliances, surgical instruments, and surgery necessaries, but limited its display to a few items such as outfits for salvarsan treatment, a variety of sprays, and a meter for enabling *x*-ray observers to determine the precise range of supination possessed by any forearm. There were also shown some convenient cabinets for the storage of dressings. They are known as the Be Ready Caddies, and seemed to us to be admirably suited to the needs of practitioners who have many patients to deal with in their surgeries.

SAVORY AND MOORE, LIMITED (143, New Bond Street, W.). This year special prominence was given to two of this firm's preparations, one of them being Savory's Magnesia Compound, a pleasantly-flavoured carminative. It is entirely free, we were informed, both from calcined magnesia and from sugar, and should, therefore, be found a desirable preparation to use whenever a pure hydroxide of magnesia is indicated. The other was a Fructole of red bone-marrow and glycero-phosphates. The term "fructole" was introduced by the firm a few years ago to indicate "syrup" in which the sugar ingredients has been replaced by glycerine, while in the particular instance in question the composition of the fructole resembles that of the old Parrish's Chemical Food, plus a glycerine extract of red bone-marrow. There is, however, a further important difference, namely, that the iron and lime are combined with glycero-phosphoric, not crude phosphoric acid. Another preparation with a somewhat similar name, but of quite different composition was Fructolax, an agreeably-flavoured jelly, representing, we understand, a petroleum derivative put forward as a mechanical laxative specially suited for children and delicate persons. Also shown was Savory's Food for Infants, which is too well known to need description. It may be pointed out, however, that it is neither a dried-milk food nor a predigested food, but one designed for use with fresh milk. Equally well known, too, must be the firm's Pancreatic Emulsion. The display also included some medicated gelatine discs, for use in ophthalmic surgery, and some specimens of the gelatine lamels which it introduced many years ago. They are thin soluble sheets marked in squares, each square representing a definite quantity of some drug of well-assured value. Any dose which it may be desired to administer can be cut off and given floating in water or in solution. As they are eminently portable, remain in good condition for an indefinite period, and the dose used can be varied at will, they seemed to present distinct advantages over tablets and pills. Also shown was Ortol, which appears to offer an easy means of determining whether enzymes are present in milk or whether they have been killed off by boiling or by ill-conducted pasteurization or the use of preservatives.

C. J. HEWLETT AND SONS (35–42, Charlotte Street, E.C.). The operations of this firm of wholesale druggists, chemists, and instrument makers cover fairly well the whole field of medical and surgical work, while it pays special attention in addition to the requirements of those who conduct dispensing practices. Indeed, in the latter connexion its name must have been familiar to a good many generations of such medical men, while the repute of several of its special preparations is probably even wider. Among these are Mist. Pepsinae Co. c. Bismutho, Liquor Ergotae

Purif., and Liquor Santal Flav. c. Buchu. The first named has been freely imitated but rarely, if ever, with entire success, and has remained in favour for some twenty-five years. Since it is both an effective and distinctly "elegant" preparation, as well as convenient to handle, it seems likely to continue to be popular so long as bismuth and dyspepsia remain associated terms. As for liquor ergotae purif., this is one of the earliest of physiologically standardized extracts of ergot, and as such has for very many years enjoyed the confidence of accoucheurs. Besides these familiar preparations the display included several concentrated liquors, mixtures, and tinctures for dispensing purposes, as well as pills, powders, capsules, and compressed tablets. Among the surgery appliances prominence was given to a series of sprays sold, according to the size of the vapour produced and their specific purposes, under such terms as "Nebulique," "Vapolique," "Gradulique," and a well-devised urine-testing case known as the "Compactum." A few surgical instruments were also shown, one of them being a form of perineal crutch devised by Mr. Herbert Tanner, which has the advantage of simplicity of construction and of being readily portable; a catheter for female cases made on the suggestion of Dr. A. Campbell Stark, and a cervix cupper designed by Dr. Alexander Duke.

J. Reynolds and Company, Limited (Albert Flour Mills, Gloucester). This is a well-known firm of millers which, at a date long before the crusade on behalf of standard bread, seems to have appreciated the probable superior nutritive value of wholemeal and other kindred flours, and from quite an early period in its history began to include the preparation of breads and biscuits of this order among its other enterprises. Its exhibit at Birmingham consisted of a digestive wheat meal, for which it was awarded a gold medal many years ago, biscuits and bread made from this flour, and of corresponding flour and bread of the kind now known as "standard." It also had a display intended to afford some idea of the various kinds of wheats available and of the process which they undergo during milling. It included samples of so-called refuse grain and mill samples of bran, sharps, and germ.

Reynolds and Branson (13, Briggate, Leeds). Many items of much interest were included in the exhibits of this Yorkshire firm of surgical instrument makers and wholesale chemists. There were to be seen, for instance, a model of a couch for *x*-ray examination presenting a multiplicity of easily attained movements, and many special appliances for facilitating clinical laboratory work, and complete outfits for examination of all kinds. Indeed, for its success in devising such appliances the firm has had a distinct reputation for many years past, the Dimmock and Branson Chrometer and the Rystos Purinmeter being instances in point. Prominent on the present occasion were some very complete outfits for the use of salvarsan. They are usually sent out, we understand, in charge of a trained assistant, who prepares the appliance for its use by the medical man who proposes to administer this remedy. Other apparatus shown were one for the administration of oxygen reinforced by the presence of 3 per cent. alcoholic vapour, for the preparation and application of carbon dioxide snow, and for the administration of saline infusions. The first-named presented several novel points in structure and seemed likely to prove distinctly useful in practice. The display also included a large number of ordinary surgical instruments in the way of knives, forceps, and retractors, all of them, we were informed, being hand-forged. We also noted a series of boxes intended for the storing of dressings and for their transport in "emergency" and other like bags. The material used seemed to be a tough, thin celluloid sufficiently transparent for the nature of the contained dressing to be distinguished before opening the box. The exhibits, however, were not confined to surgical and laboratory appliances, there being also an extensive display of pharmaceutical preparations. These included a series of physiologically standardized drugs, some aërated waters prepared without sugar, a non-greasy soft ointment known as Cremor Bismuth Subgallate, which is regarded as being specially indicated in all forms of pruritus; and a Liquor Thyroidei, each 100 minims of which was stated to represent one gland, and anaesthetics of all kinds.

The Hoffmann-La Roche Chemical Works, Limited (7 and 8, Idol Lane, E.C.). The isolation of alkaloids is one of the principal occupations of this firm and to this fact attention was drawn, as on some previous occasions, by the exhibition of several large vases of such products. Two of them, each representing a comparatively enormous quantity, contained, we understand, strychnine and caffeine respectively. Among the other exhibits those of chief interest perhaps were Omnopon and Digalen. The special claim made for the former is that although suitable for administration per cutem and capable of being boiled it represents the whole of the alkaloids of opium, and that the combined action of these is necessarily superior to that of any single one of them. It may also be given of course by the mouth, and on this account is supplied in tablets as well as in powders and ampoules. In addition it is stated not to produce gastric disturbance and to have already proved its value in the conditions commonly treated by opiates, and also as a precedent to anaesthesia with the same object as, but instead of, morphine-scopolamine. Experience of its use seems to have been chiefly acquired so far on the Continent, where it is known as Pantopon. As for Digalen, we have drawn attention to this on a previous occasion. It is an amorphous digitoxine isolated by Cloetta of Basle, and being a perfectly soluble drug susceptible of precise dosage, it is undoubtedly of interest. Clinically the claims made for it are that in addition to being prompt in action it is not cumulative while its administration is unaccompanied by gastric disturbances. Other drugs shown were Airol, Thiocol, and Thigenol. The first named is an organic iodine compound of bismuth and gallic acid in the form of a powder intended for dusting purposes; it is stated to have proved of marked value in such connexions, thanks to its pronounced astringent and absorbent action. As for Thiocol, this, according to the researches of Tavel of Berne, would appear to exercise considerable bactericidal power over *B. tuberculi*, while Thigenol is an organic sulphur compound devoid of odour. It is freely soluble and also mixes readily with any ointment base and is thus in view of its comparative inexpensiveness considered likely to prove popular in hospital and private practice as an antiseptic in dealing with gynaecological and dermatological conditions. Abroad, indeed, it seems already to be regarded with favour. It is also stated to have marked antipruritic properties and in the form of an ointment to be indicated in cases of pruritus ani.

Sanitas Company, Limited (Locksley Street, Limehouse, E.C.). This firm has for many years ceased to deal solely with the fragrant, if not very powerful, antiseptic from which it derives its name, and its output now covers the whole field of disinfectant work, its products including some of the strongest antiseptics available. It still, of course, manufactures "Sanitas" largely, both for its original purpose and for incorporation in various toilet preparations, but from a medical point of view its powerful bactericides are perhaps of more interest. They are three in number, one being Sanitas Bactox, intended for use with ordinarily soft water; Sanitas Okol, which is suitable for use with hard water and is stated to act efficiently even in the presence of sea water; and Sanitas Sypol. The carbolic coefficient of the two former is stated to be as high as 20, while Sanitas Sypol is intended for surgical use. The following are the principal claims made for it: It possesses at least four times the germicidal power of phenol; it forms on dilution with soft or distilled water a bright and perfectly transparent solution; when used, as it generally is, in a strength of from 1 in 160 to 1 in 200, it produces slipperiness neither of the hands nor of the instruments, and it has no corrosive action on either one or the other. It is also stated that, while its carbolic coefficient is 4 by the Rideal-Walker test, it is not less than 2 when submitted to the more trying Martin and Chick test used at the Lister Institute, and that the latter is a higher coefficient than is afforded by some disinfectants which on the Rideal-Walker test equal 20. The rest of the display included Kingzett's Patent H_2O_2; the Bactox Vaporizer, which appears to be favoured by some practitioners in dealing with whooping-cough; some well devised sulphur candle and disinfectant atomizers; and a fragrant bath preparation named Sanitas Bathol

which under its previous name, Sanitas Oil, has already won favour.

F. ASH AND COMPANY (113 and 115, Edmund Street, Birmingham). This Midland firm of surgical instrument makers was only able to secure a stall at the exhibition at the very last moment, so its display hardly did justice to the merits of its manufactures. Its own premises, however, were not far off, so probably a proportion of those who visited the exhibition took advantage of the opportunity of paying a visit likewise to the head quarters of the firm. In any case they are likely to have carried off a good impression, as the comparatively few instruments shown were all good in point of design and workmanship, and were thus of an attractive character.

WYLEYS, LIMITED (Coventry). Pharmaceutical preparations of all kinds were shown by this well-known Midland firm, though products intended to facilitate the work of general practitioners who conduct dispensing practices somewhat predominated. Among the latter may be placed three series of tinctures—standardized, concentrated, and non-alcoholic, the latter being prepared with glycerine. Besides being free from alcohol, they seem to be less expensive than are ordinary tinctures, and these are both points in their favour. It appears, however, that not all crude drugs yield up their virtues on glycerine treatment, and the firm limits its output in this direction to glycerine tinctures which can be regarded as the full equivalent of alcoholic tinctures in respect of active constituents. The existence of these tinctures should not be overlooked, since it is often of advantage to avoid the use of alcohol, even in medicine. To the firm's Wylettes we have drawn attention on several occasions; they are neat little glass capsules packed in boxes of half a dozen, each containing 1 c.cm. of a sterilized liquid intended for hypodermic use, and representing a suitable dose of some active drug, such as mercury succinamide with cocaine, salicylarsenate of mercury, soluble arsenate of iron, and adrenalin and cocaine. The liquors of the firm also attracted notice, one useful example being Liquor Viburni Co., a sedative for use in uterine cases, while the firm's method of dispensing ointment for ophthalmic use again won admiration. The ointments are sent out in tubes closed by wooden caps, these being conveniently shaped for the direct application of the ointment to the eye by drawing down the eyelid and gently squeezing the tube. Other specialities of the firm are Tropels and Bitropels these being capsules, some containing pastes or liquors, others powders kept apart by an internal division. In the same connexion may be mentioned Photopels, a term representing a series of reagents for photographic work put up in suitable quantities in somewhat similar style. There were also shown some antiseptic jellies for hand and instrument preparation before midwifery examinations and on other like occasions, some friction cakes of solified liniments, and a variety of syrups and gelatin and pearl-coated pills.

WASSMUTH SANUM COMPANY (5, Sloane Street, London, S.W.). The exhibit of this firm consisted of an antiseptic (Liquor matrii chloro-borosi) put forward as being specially suitable for inhalation purposes, and of a portable form of Wassmuth's inhalation apparatus which can be used to secure saturation of the air with any of the ordinary drugs used in connexion with inhalation treatment. In effect the appliance does a very large scale what is done on a very small one by the various atomizers sold under different names for use in rhinology and laryngology. All alike reduce liquids to more or less invisible vapour-like spray by atmospheric pressure. In the case of the Wassmuth apparatus the atomizing pressure is brought about by steam, and it appears to be possible by its aid to keep the atmosphere of a room of considerable size saturated with a mist of the liquid in use for any period desired, without alteration of its temperature. The larger apparatus, of which the portable form shown was a modification, is in use at a large number of institutions on the Continent, where inhalation treatment is in vogue, and, since corresponding treatment seems to be growing in favour in this country, there would seem to be a future for the portable form of the appliance. In any case it will quite repay examination, for an atomizer so powerful offers decided advantages.

MRS. ELINOR TEMPLE (care of Marshall and Snellgrove, Oxford Street, London). This lady, whose agent is the firm mentioned, is the maker of what are known as the Elinor Temple Gold Model Corsets, and comparatively recently has brought out a modification of them for use during pregnancy. The ordinary corsets seem to be constructed on very sound lines, while in the Maternité form they present additional points of novelty of structure. In the first place they cannot ride out of place, and while providing plenty of room for breathing both in front and at the back, they also afford a considerable amount of support to the walls of the abdomen. They are sent out provided with what is called a "carrying arrangement"; this is intended for use during the later months, and is adjustable according to the stage of the pregnancy, and takes the place of the abdominal belts which have been devised for the same purpose. Evidence of the satisfaction of a good many medical men whose patients have had practical experience of their use is forthcoming, and for this reason, as also in view of their structure, we regard these corsets as thoroughly worth examination by those who have cases of pregnancy among the upper classes on their hands. Among the specific claims made for them are that they render possible the wearing of an ordinary evening dress right up to the last, and that owing to the absence of overstrain of muscles patients who have worn Elinor Temple Maternité corsets are able to dispense with any kind of binder during the lying-in period.

FROWDE AND HODDER AND STOUGHTON (Oxford University Press and 20, Warwick Square, London, E.C.). The exhibit of this combined firm covered the majority of the medical and surgical textbooks and treatises brought out by it, and included some advance copies of several works which were not at the moment ready for actual publication. A case in point is *Fevers*, a comparatively brief but still comprehensive work for students and practitioners. Its author is Dr. C. Claude Buchanan Ker, Medical Superintendent of the City Hospital, Edinburgh, who has already brought out a book on a somewhat corresponding subject. Others were a new edition of *Physiology*, by Dr. Willoughby Lyle, of King's College, and a similar edition of *Emergencies of General Practice*, a carefully prepared and very useful handbook on this subject by Sargent and Russell. The elaborate and excellently illustrated *System of Operative Surgery* brought out by the firm is now complete, and was also shown. Its editor is Mr. F. F. Burghard, and his collaborators include a dozen or more of the best known surgeons of the day. Other works to which attention was directed, though some of them were not actually ready for sale, were *Clinical Surgery*, this being a new edition of C. B. Lockwood's well-known clinical lectures on surgery; a *Handbook for Nurses*, by Hey Groves and Brickdale, which deals with anatomy and physiology, as well as with surgery and medicine; and a new and practically rewritten edition of *Tubercle of the Bones and Joints*, by Sir Watson Cheyne. The exhibit naturally also included specimens of most of the well-known Oxford medical manuals and the firm's almost equally popular monographs on special subjects; while recent or entirely new editions were also shown of many other textbooks and manuals of established repute. Among those we noted *Practical Obstetrics*, by Hastings Tweedy and Wrench; and *Practical Inorganic Chemistry* and an *Introduction to Practicdl Inorganic Chemistry*, both by A. M. Kellas. Also shown were the two first volumes of the third edition of the *Manual of Surgery*, by Alexis Thomson of Edinburgh.

THE BAYER COMPANY (19, St. Dunstan's Hill, E.C.). So many successful synthetic preparations stand to the credit of this firm that its exhibit is always of interest. Apart from Phenacetin, both Veronal and Aspirin are cases in point, while Protargol is perhaps entitled to be mentioned in the same connexion, since it has gained a fairly well established position in the treatment of conjunctivitis and

gonorrhoea. One or two practically new preparations of the same general order were shown this year, one of them being Adalin, a derivative of urea combined with bromine, which is put forward as a safe and efficient sedative and hypnotic. Another was Gynoval, a derivative of valerian, and intended to meet much the same indications; the special point about it is that it is stated when given in 4 minim capsules after meals it is effective and well borne by even very sensitive patients. A third comparatively new preparation was Sophol, this being an organic silver compound, which is claimed to be an effective bactericide, and yet to be entirely unirritating in solution. An account based upon an extensive experience of its use as a preventive of ophthalmia neonatorum appeared in the *Ophthalmoscope* a month before the meeting (June issue). Another preparation shown was Spirosal—this, too, being a comparatively new comer. It is a salicylic acid preparation intended for external use, and is stated to have proved highly efficient in dealing with such disorders as sciatica, lumbago, and others which are vaguely classed as rheumatic. Before use it is best to dilute it with twice the quantity of rectified spirits. A modification of Veronal, called Veronal Sodium, was also among the products displayed. From a therapeutic point of view it is not claimed to represent any improvement on the older preparation, but there are wider opportunities for its convenient use, since it is freely soluble in cold water. Also shown was Guycose, an 8 per cent. solution of calcium guaiacolsulphonate in liquid somatose. The theory of its composition is that the form in which the guaiacol constituent is present enables this often disturbing drug to be taken readily, that the inclusion of calcium in the compound aids fibrosis in tuberculous conditions, and that the use of somatose—a beef preparation of established repute—as a vehicle, gives the preparation an additional value. Judging by some reports which have been published as to its use, these theoretic anticipations would seem to have been borne out in practice.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

BOMBAY BRANCH.

A meeting of the Branch was held in the Sir Cowasjee Jehangier University Convocation Hall on June 29th, 1911, Dr. Sorab Nariman, M.D., Vice-President, in the chair, and the following members being present: Lieutenant-Colonel Ashton Street, I.M.S., Major T. S. Novis, I.M.S., Dr. A. Powell, Major Marjoribanks, I.M.S., Drs. B. P. Karani, Andeen, and De Monte, Major S. C. Evans, I.M.S., Dr. (Miss) Engineer, M.D., Lieutenant-Colonel Dalal, I.M.S. (ret.), Drs. Vatve, Mhaskar, A. P. Cama, R. Row, S. P. Mistry, P. A. Dalal, N. J. Vazifdar, M. P. Kerawalla, and Sorab K. Engineer, Major E. F. Gordon-Tucker, I.M.S., Drs. J. B. Mama, C, Fernandes, and D. R. Bardi (Honorary Secretary). Before the meeting began Major S. C. Evans, I.M.S., entertained the members to tea.

Minutes.—The minutes of the last meeeting were read, confirmed, and signed by the Chairman.

Paper.—Dr. R. Row read a paper on the limitations of the house-fly in acting as a possible transmitter in Oriental sore of Cambay, an experimental study. The paper was illustrated with diagrams drawn on the board and by microscopical specimens. In the discussion which followed Major E. F. Gordon-Tucker, I.M.S., Lieutenant-Colonel Street, I.M.S., Dr. A. Powell, and others took part. Dr. Row having briefly replied on points raised in the discussion, a hearty vote of thanks was passed to him for his valuable and interesting contribution (see Journal, p. 828.)

Specimens.—Major E. F. Gordon-Tucker, I.M.S., showed an endothelioma he had removed from the inner side of the forearm; Dr. A. Powell, a peculiar specimen of intestines removed during the necropsy on a case sent to him for examination.

Vote of Thanks.—After a vote of thanks to Major and Dr. Powell the meeting was dissolved.

MIDLAND BRANCH:

Leicester and Rutland Division.

A meeting of the Division was held at the Leicester Infirmary on Wednesday, September 27th, at 4.15 o'clock. Present, Dr. Tibbles in the chair and thirty-eight members.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Summer Diarrhoea.—A discussion on summer diarrhoea was introduced by Dr. C. K. Millard. Dr. Clare dealt with the pathology and bacteriology, Dr. Wills with the symptoms, and Dr. Pike with the treatment thereof. Drs. Tibbles, Stracey, Pope, Beresford, Johnston, Sevestre, Harrison, Crosby, and Higgs also spoke. Drs. Millard and Clare briefly replied.

Insurance Bill.—The Secretary in speaking on the present position of the National Insurance Bill referred to the circular issued by the Manchester Unity of Oddfellows, and the answer to it suggested by the Central Office; he dealt with the Guarantee Fund, and urged the members not to relax their efforts to secure the alterations in the bill which the Association was demanding.

JAMAICA BRANCH.

A meeting of the Jamaica Branch of the British Medical Association was held at the Public Hospital on August 16th. Dr. G. C. Henderson, the President, was in the chair, and there were also present: Drs. G. F. Da Costa, J. R. McCrindle, J. A. Allwood, F. F. U. Brown, C. H. B. Armstrong, Hopetoun Bond, A. McDonald, M. Grabham, Hon. Dr. J. E. Ker (Superintendent Medical Officer), C. A. H. Thomson, P. M. Ragg, A. A. Ayton, L. O. Crosswell, R. S. Turton, C. Gideon, E. Gideon, Major Barrow, R.A.M.C., Captain Sidgewick, R.A.M.C., Captain Field, R.A.M.C., Dr. St. Cyr, and Dr. H. H. Scott, Government Bacteriologist.

Vaccines and Vaccine Therapy.—The President, after explaining that it was the first meeting of the Branch for a considerable period, called on Dr. H. H. Scott to read his paper on some general remarks upon vaccines and vaccine therapy, their use and abuse in practice. Dr. Scott said that by the term "vaccine" was formerly implied an attenuated, living, infectious body. Owing originally to the experiments of Pasteur, they had learnt to work systematically with such vaccines, and to employ them for prophylactic immunization, and thus to avert, at least in part, such dangerous diseases as anthrax, blackwater, hog cholera, chicken cholera, and others. Antirabic treatment formed, as it were, a stepping stone to prophylactic processes, in that it was able during the latent incubation period to suppress the disease in course of development by prophylactic immunization. The next fact, and one of greater significance, was that associated with the names of Pfeiffer and Kolle, who found that in many infectious diseases immunity against the active organism could be obtained by means of dead bacteria. In typhoid, cholera, plague, for example, a preventive vaccination with killed bacteria had found practical application, and vaccine therapy, strictly so-called, was bound up with the question of active immunization. He went on to deal with the principles of vaccine therapy, giving a brief statement of the properties of opsonins, and how the vaccine should be administered. Major Barrow spoke on typhoid vaccine, and Drs. Turton, Ayton, Crosswell, and Allwood put questions to Dr. Scott on points arising in his paper.

Cases.—Dr. C. H. Thomson read notes on (1) a case of removal of the prostate in a man aged 85; good recovery; specimen shown; weight 6 oz. 1 drachm. (2) A case of vesical calculus; weight 3 oz. 2½ drachms; specimen shown; phosphatic in layers. (3) Two cases of beri-beri in Chinese recently arrived in the island; one of the moist and the other the dry variety. (4) A case of gonorrhoeal septicaemia; gonococci in the blood; abscesses in lung.

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will he held at 2 o'clock in the afternoon of Wednesday, November 1st, in the Council Room at 429, Strand, London, W.C.

By Order,

GUY ELLISTON,

Financial Secretary and Business Manager.

October 5th, 1911.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—The autumn meeting will be held in Blandford, on Wednesday, October 18th.—JAMES DAVISON, Honorary Secretary (*pro tem.*), "Streateplace," Bournemouth.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Braintree on Thursday, October 26th. Members wishing to read papers or to show specimens or cases should communicate at once with the Secretary, Dr. B. H. NICHOLSON, East Lodge, Colchester.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—A general meeting (general) will be held on Wednesday, October 11th, at Knutsford. Dr. and Mrs. G. H. Smith, Princes Street, Knutsford, have kindly invited all members to afternoon tea at 4.30 p.m. prompt. The general meeting will be held at 5 p.m. at the Master's house, Union Infirmary, Knutsford. 7 p.m., dinner (those intending to be present are requested to communicate with the Honorary Secretary at once). Agenda: (1) Minutes, Annual Meeting, June 1st. (2) Minutes, Special Meeting, July 18th. (3) Apologies for absence. (4) Minutes, Committee Meetings 70 and 71. (5) Representatives' Reports (*a*) Representative Meeting; (*b*) Branch Representative). (6) Chairman's Report *re* Action in Sale Area with regard to Friendly Societies; (7) Medical Secretary's Communications *re* Insurance Bill. (8) Matters referred to Divisions (D 24). !) Honorary Secretary's Report. (10) Any other urgent business. — H. G. COOPER, Honorary Secretary, Foye, Altrincham.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION. — The next meeting of the Division will be held at the London Hospital, Whitechapel Road, E., on Friday, October 13th, at 4 o'clock, when Dr. J. H. Sequeira, F.R.C.P., will give a demonstration upon cases from the skin department. — A. G. SOUTHCOMBE, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—The Division will meet on Friday, October 13th, at 8.30 p.m., at the Hampstead Central Library, Arkwright Road, N.W. (close to Finchley Road Station, L. and N.W.), to consider the present position of the National Insurance Bill.—M. L. DOBBIE, Honorary Secretary.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—A meeting will be held on Thursday, October 12th, at the Blue Bell Hotel, Belford, at 2.30 p.m. Business: (1) Defence Fund. (2) Appointment of Collector. (3) Discussion on Placenta Praevia. (4) Any other business.—C. CLARK BURMAN, Honorary Secretary, Alnwick.

SOUTH-EASTERN BRANCH: GUILDFORD DIVISION.—A meeting of the Division will be held at the Royal Surrey County Hospital on Friday, October 13th, 1911, at 4.15 p.m. Agenda: (1) Minutes. (2) National Insurance Bill—(*a*) To consider the formation of a Local Defence Fund; (*b*) to discuss the provision of medical treatment in the event of the profession being forced (in accordance with their undertaking) to refuse work under the bill if and when it becomes law. (3) The question of fees under the Midwives Act. Letter from the Guildford Board of Guardians. Tea will be provided at 4 o'clock. The agenda is an important one, and it is hoped members will do their utmost to attend and to introduce their professional friends. The meeting will be followed by a dinner at the Lion Hotel at 6.30. Tickets 6s. each, exclusive of wines.—CECIL P. LANKESTER, Honorary Secretary, Rectory Place, Guildford.

SOUTH MIDLAND BRANCH.—A meeting of this Branch will be held at Springfield House, Bedford (the residence of Dr. Bower), at 2.30 o'clock on Thursday, October 12th, under the presidency of Dr. Clement Dukes, of Rugby. Dr. Maurice Craig (of Guy's Hospital) will read a paper on "Nerve Exhaustion and its Treatment."—E. HARRIES-JONES, Honorary Secretary.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—A meeting of the Division will take place on Tuesday, October 17th, at 3 p.m., at the Royal Bucks Hospital, Aylesbury. The annual dinner will be held at the Crown Hotel at 6 p.m., after the meeting. There will be a demonstration of cases by the staff of the hospital. Agenda will be sent before meeting. Members wishing to bring any matter forward or propose any resolution will please notify me before Monday, October 9th.—A. E. LARKING, Honorary Secretary, Buckingham.

INSURANCE BILL.

CONFERENCE OF THE BRITISH HOSPITALS ASSOCIATION.

THE second annual conference of the British Hospitals Association was held in Manchester on Thursday and Friday, September 28th and 29th. The objects of the association are to consider all matters connected with hospital management, to take measures to further any decisions arrived at, and to give opportunities for acquiring knowledge of hospital administration both lay and medical. The meetings were held in the Lord Mayor's parlour at the Town Hall, and, after a few words of welcome from the LORD MAYOR, Sir WILLIAM COBBETT, Chairman of the Manchester Infirmary Board, was elected to the chair.

Chairman's Address.

In his opening address the CHAIRMAN said the association had done no mean work in placing forcibly before the public and the Government the views with which the hospitals regarded the National Insurance Bill. The effect of the bill would be in the main financial. Medical men were not agreed as to the extent to which the work of the out-patient departments would be curtailed by the bill, but it seemed safe to assume that it might be diminished to some extent, but not enormously. It had been urged that the work of the in-patient department would be greatly increased, but he was not able to find any foundation for that argument, and thought it would remain much as at present, but at any rate it might be taken for granted that, generally speaking, the bill would not diminish the work of the hospitals. The normal tendency of their expenditure was to increase, and this would continue, not as the effect of the bill, but from causes existing at present. The conference had to consider how the bill would affect the finances of the hospitals. The Chancellor of the Exchequer had stated that the bill designedly left the hospitals alone, but he overlooked the fact that it tapped and diverted two of the sources from which the hospitals derived their support. The Chancellor proposed for an allied purpose to tax the working man and the employer on whom the hospitals largely relied for their yearly income, and it must be common business knowledge that people who had to pay compulsorily would not also pay voluntarily for objects closely allied. The Chancellor quoted the Workmen's Compensation Act as not having injured the hospitals, but the fact was that the hospitals had suffered, though they had not been crippled, by that Act, as their subscriptions and donations had fallen off on that account. The views of Mr. Lloyd George showed him to be merely an optimist without any business argument for his belief as to the non-injurious effects of the bill on the hospitals, and opposed to his view was the opinion of practically all experts in the country, who believed it would have a serious and injurious effect on their finances. If that were so, was it not reasonable for them to ask that some precautionary provision should be inserted in the bill, so that the hospitals should not be crippled and left to the tender mercies of some Government to pass an Act for State support? The Association had proposed that the bill should be amended so that voluntary hospitals should receive proper payment in respect of each in-patient treated. They did not ask Government to help them out of its funds, but simply that they should not be left to chance, but should be compensated if they actually suffered loss, and it would be a misnomer to call that State aid.

The Insurance Bill and the Hospitals.

Mr. CHARLES LUPTON, Chairman of the General Infirmary, Leeds, then gave a paper on the effect of the Insurance Bill on hospitals. He said that though the friendly societies and the doctors had taken up most of the discussion on the bill, he agreed with the chairman that the hospital question was of great importance, and that it would be with great difficulty that the hospitals would keep up their subscriptions. The Chancellor had promised that any loss of income should be made up, but that did not cover the whole matter, as the hospitals would be affected in other ways as well as in money matters. This country was probably as well supplied

with hospitals as any in the world, not, perhaps, in the number of the hospitals, but in the high level of their practice. Many foreign hospitals were good for the doctors only, as the patients were not treated as human beings, but only as objects for science to work with. The large voluntary hospitals were not confined in their operations to a district as were the Poor Law infirmaries, and they ought to oppose their being municipalized. The Leeds Infirmary, for instance, took all the bad cases of Yorkshire, but if the hospitals were municipally subsidized and controlled, the tendency would be to close them to people living outside the municipality, and in that case he failed to see how such help was to reach people who lived in the remote villages. He saw no difficulty in different localities supplying themselves with hospitals for minor complaints or particular diseases, but the great hospitals fulfilled a national need and should be helped out of the national exchequer, and it was not so much for them as for the Government to devise some plan to safeguard them.

Dr. D. J. Mackintosh, Superintendent of the Glasgow Western Infirmary, said that the Chancellor thought that their association was under a misapprehension as to the effect of the bill on the hospitals, and that the country would not allow a single hospital to be closed. The bill only provided for domiciliary medical attendance, but it was evident that when patients needed proper nursing and attendance for operations they would have to go to hospitals. Speaking of the remuneration of the medical staffs, it must be remembered that in the teaching hospitals the staffs often received the students' fees, and some staffs did not want to be paid, but, in his opinion, every man should be paid for his services. If the bill were passed in its present form the hospitals would be rendered inefficient both for curative purposes and as teaching schools, but it might be so amended as to prove a tower of strength to the voluntary principle. It might also have the effect of checking existing abuses of the voluntary system by preventing any one whose income was above the insurance limit from gaining free admission to voluntary hospitals, and by providing that the Insurance Commissioners should defray the cost of treatment of each person admitted. The matter was in the hands of the hospitals themselves. They could ask every applicant for admission if he were insured and, if so, they could demand payment and tell the Government that they would not take the burden off the shoulders of the insurance. Clause 17 was not enough, as it left subscriptions of approved societies optional, and there should be a proper fund for the purpose. It might involve some Government control, but they were not afraid of inspection. He preferred that the bill should be amended rather than destroyed. Their association agreed in many points with the British Medical Association, and he held that the hospitals should receive enough not only for administration but for suitable fees for their doctors. Why should the doctors be paid for inspection under the Education Acts and not for treatment under the bill? There was a disposition on the part of the hospital managers to "wait and see," which was a most dangerous course. They ought either to try to persuade the Government to amend the bill so as to safeguard the hospitals and to render them more efficient and less liable to abuse or else let them declare that the voluntary hospitals had outlived their usefulness, and that the State was prepared to take them over.

Mr. H. J. Collins, House Governor of the General Hospital, Birmingham, said it seemed difficult to conceive that an Act of Parliament should only make provision for domiciliary medical attendance, seeing that the majority of the serious cases in towns and cities were treated in hospitals. They had no desire for either State aid or State control, but they had no objection to State inspection. Their association was not concerned with the doctors, as the British Medical Association was quite strong enough to look after them. They were not opposed to the bill, but asked for its extension. Some of them felt that the provision for tuberculosis was unduly large, but in any case their suggestion was that the work now carried on by the voluntary hospitals should be provided for; and he would suggest that hospital treatment should be made into a benefit under the bill. The hospitals could then continue to do the valued work they had done in the past, but probably with greater success, because they would be relieved of the minor cases that would be provided for otherwise.

Mr. J. C. Buchanan, Secretary of the Metropolitan Hospital, London, said the difficulty of collecting money for the hospitals increased yearly, and it would be wrong, and would perhaps land them in disaster, to run any risk of loss of income such as was threatened without trying to make some provision beforehand. He agreed that a compulsory State insurance under which patients had a choice of doctor would provide a far more efficient medical service than the service recommended by either the Majority or the Minority of the Poor Law Commissioners. He trusted that a scheme would be worked out that would define the function of the voluntary hospitals in relation to other agencies for medical relief, whether State, municipal, or voluntary. Hitherto patients had been able to go to the hospitals whenever they liked, and we ought, in the interests of the doctors in general practice, to pu additional difficulties in the way of patients receiving treatment at hospitals rather than from the doctors. He suggested that insurance centres in the areas of the local Health Committees should be established where the doctors could see the patients if they chose. If the British Medical Association had not worked beforehand in anticipation of the Insurance Bill the medical profession could not have achieved so much success with Mr. Lloyd George. The function of the hospitals was to act as consultants to the poor, to provide special treatment, to raise the standard of medical education, and to advance scientific research; and he suggested that the British Hospitals Association should combine with the British Medical Association, as two of the best informed and most representative bodies, to draw up a scheme which would define the work that the hospitals should do, and thus assist the Government in its expressed intention to maintain the voluntary system.

In the discussion that followed the reading of the papers, Sir Henry Burdett said he was strongly in favour of the bill, but more time was needed for its consideration. The task undertaken by Mr. Lloyd George had been tackled in a masterly way, and he should understand that the association was with him in trying to lessen the burden of sickness for the working classes. But if the bill was passed as it was, it would result in the death of the voluntary hospital. In these hospitals the patients were men and women, not mere cases, and their welfare was the first consideration; but to substitute State hospitals, where the patients were mere numbers and cases and not men and women, would be a great peril and a bitter wrong. The hospitals needed £10,000,000 to £15,000,000 a year for their support, and it would need a rate increase of 8s. 6d. per head of population if the voluntary hospitals were to become State hospitals. What he desired was that Clause 15, which provided for sanatorium benefit, should be altered so as to provide for hospital benefit, and they might leave the details to the Commissioners. He wanted an expression that they stood by the voluntary principle but would conduct their hospitals as a business, and if the State asked them to take State patients, the State should be prepared to pay them *pro rata* the cost of the cases, and at the same time give something for the remuneration of the medical men.

Mr. J. Cowley, of the Victoria Infirmary, Northwich, said that in the Northwich Hospital, 75 per cent. of the work was done voluntarily by the local practitioners, but he understood that in future the doctors would want to be paid for their work. This would increase the difficulty, and possibly force on State control. He disagreed with the memorial which the association presented to the Government because it only asked for payment of the cost actually incurred, and he thought that payment of the doctors was bound to follow.

Luncheon, Etc.

At the close of the discussion the delegates were entertained at luncheon by the boards of management of the united hospitals of Manchester and Salford. They afterwards went, on the invitation of the directors of the Manchester Ship Canal, to the Manchester Docks, and thence by steamer along the Canal to Barton Bridge and back. In the evening there was a reception by the Lord Mayor and Lady Mayoress at the Town Hall.

Resolution.

The conference resumed its sittings the next day, and the following resolution was moved formally by Dr. D. J. MACKINTOSH:

> That this Association of Hospital Managers and Administrators is convinced that the National Insurance Bill, if passed in its present form, will seriously prejudice hospitals all over the country, not only financially but in their relation to the medical profession, and unites in calling on the Government so to amend the bill that the continued existence of voluntary hospitals may be safeguarded financially, and their efficiency as curative institutions and schools of medicine may be maintained and developed.

In seconding this motion Sir HENRY BURDETT said that the *Manchester Guardian* was under a misapprehension when it said in its leading article that the association had a proposal to debar patients whose incomes were above the insurance limit from treatment at any voluntary hospital. That point had not been dealt with, and if it came up it would only be because the bill would lead to a reorganization of the present system of hospital relief, and in that way the position of the class to which the *Guardian* referred would then be found to be better so far as hospital treatment was concerned than it is to-day. Some of the best authorities estimated that 10 million people would come under the bill, and as a large number of them would demand hospital treatment the Government should provide hospital benefit as well as sanatorium benefit, which was not a cure for tuberculosis, but only a palliative. It was not known how long sanatorium cure would last, but it could not endure. He hoped scientific developments would provide a cure for tuberculosis which would replace sanatoriums, and if great care was not taken at the beginning large sums of money might be sunk in sanatoriums which in twenty years might be left unoccupied.

The resolution was carried unanimously.

Hospital Saturday and Sunday Funds.

Mr. CHARLES HOPKINSON then read a paper on the distribution of Hospital Saturday and Sunday Funds. He said that the principles of the distribution should be to interpret the wishes of the donors and also to apply the fund so as to produce the maximum effect in the relief of disease. To meet the probable wishes of the donors, the committees should take into account efficiency and economy of management, the amount of work done, the poverty of the hospital, and if possible the fund should be divided in proportion to the subscription lists of the various hospitals. The ideal system was that of the King Edward's Fund in London, where the hospitals were inspected by competent lay and medical inspectors and all the hospitals compelled to keep their accounts on a recognised system, facilitating comparison. He suggested that standard rates of cost for each class of patients should be worked out by their association, and then the amount of work be taken as the basis of distribution of the fund. Thus no advantage would be gained by extravagance, and to stimulate economy there might be deductions from grants where the standard cost had been exceeded. As tentative figures, he suggested the following scale: Child's bed or convalescent's bed, 18s. a week; in-patient's bed, 25s.; operations with anaesthetics, each £1; out-patients, including medicines, 2s. 6d.; out-patient accident cases, 2s.; and home-patients, 2s. He was sorry that in Manchester and Salford they would not find a good example of distribution. We did not encourage efficiency, but did encourage extravagance in management by taking gross expenditure as a factor instead of work done. We paid no attention to equipment and made no attempt to prevent overlapping. The principal hospital, which did one-third of the whole work, was limited to one-fourth of the fund. The gross expenditure of each hospital was taken and from that was deducted the aggregate receipts from invested funds and all other sources, and so a nominal deficiency was arrived at in proportion to which the funds were distributed, limiting the amount for any one hospital to one-fourth of the fund. Thus, no regard was paid to income from subscriptions, legacies, or large donations, so that it is quite conceivable that a hospital should be saving money and yet receiving substantial grants. On this system the old infirmary was at one time receiving grants and investing money annually, but now, in its enlarged and modern hospital, it shows, according to the Sunday Fund accounts, a deficiency of more than one-third of the whole deficiency of the hospitals assisted, and yet is only allowed to receive one quarter of the fund. This was a direct inducement to close some of its wards and to refrain from increasing its facilities for serving the sick and injured poor.

Representation of Medical Staffs on Hospital Boards.

Dr. ERNEST REYNOLDS, Chairman of the Medical Board of the Royal Infirmary, read a paper on the representation of honorary medical staffs on the boards of management of voluntary hospitals. He thought that the purely business affairs should be in the hands of the lay members and should be left alone by the medical men. The representatives of the staff should be few and in a minority, and retired members of the staffs should not be representatives. The representatives should not serve over two years in succession, and their function should be to advise or explain matters relating to the well-being of the patients or the teaching of students.

Election of Officers.

After the reading of the papers the conference proceeded to the election of officers, and Mr. A. W. West, of St. George's Hospital, London, was elected chairman of the council, Dr. D. J. Mackintosh was re-elected honorary secretary, and Mr. Conrad W. Thies and Mr. E. Stewart Johnson were re-elected honorary treasurers. It was announced that the Association had been invited to hold its conference next year at Birmingham.

During the afternoon nearly all the hospitals of Manchester and Salford were open for the inspection of the delegates, many of whom availed themselves of the privilege.

Hospitals and Asylums.

WORCESTERSHIRE ASYLUM, BARNSLEY HALL, BROMSGROVE.

AT this asylum, of which Dr. Percy T. Hughes is medical superintendent, there were 505 inmates on January 1st, 1910, and 528 on the last day of the year. The total cases during the year numbered 676, and the average number daily resident 532. During the year 171 were admitted, of whom 142 were direct admissions and 29 transfers. Dr. Hughes notes in his report that more than one-third of the first attack cases had shown symptoms of mental disorder for twelve months or more before being sent to the asylum for treatment, and we see from the statistical tables that of the direct admissions in only 36 were the attacks first attacks within three months, and in 24 within twelve months of admission; in 26 not-first attacks within twelve months, and in the remainder, including 14 congenital cases and 3 in whom the duration was unknown, the illness was of more than twelve months duration on admission.

The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 22; recent and chronic melancholia, 32; senile and secondary dementia, 34; primary dementia, 15; insanity with epilepsy, 10; general paralysis, 6; delusional insanity, 9; and congenital or infantile defect, 14. The proportion of unfavourable cases, both as regards duration of disorder on admission and type of mental disease, was therefore very high.

As to probable causation, in the direct admissions alcohol was assigned in 21, or just under 15 per cent., syphilis in 15, and other toxins in 9, critical periods in 54, childbearing in 9, physiological defects and errors in 14, diseases of the nervous system in 39 (epilepsy in 14), various bodily affections in 94, bodily trauma in 17, and mental stress in 52. As a matter of fact, bodily disorders of various kinds were found to be present in the majority of the cases admitted. Also an insane heredity was ascertained in 36, and epileptic heredity in 10, a neurotic heredity in 9, an alcoholic heredity in 28, and one of eccentricity in 7. Not allowing for overlapping, these figures show a total sum of hereditary neuropathic factors in 110, or over 77 per cent.

During the year 30 were discharged as recovered, giving a recovery-rate on the direct admissions of 21.1 per cent., or of recoveries in the direct admissions on the direct admissions of 20.4 per cent. These unusually low recovery-rates require a note of explanation. This is supplied by Dr. Hughes. From the first, he says, he has endeavoured to discharge as recovered only those cases in whom the mental state had progressed to complete recovery in the true sense of the word. "I consider it to be altogether misleading," he says, "to discharge under the heading of 'recovered' those patients in whom the acute attack has caused obvious permanent mental impairment and those in whom congenital mental deficiency is evident and forms the basis of the acute symptoms. For this reason the recovery-rate may appear to be low in comparison with other recovery-rates, which include such cases as I have mentioned, and even, in some instances, such an incurable and eventually fatal condition as general paralysis of the insane." The point raised by Dr. Hughes

is of considerable importance to the statistician, and until a common agreement is arrived at—a very difficult matter—statistics of recovery-rates collected from a wide area including the returns of many observers cannot be considered accurate. What constitutes obvious mental impairment will vary with different observers, and the result will be only a rough estimate. Dr. Hughes's reference to cases of congenital mental deficiency also raises a nice point for controversy. The congenitally deficient are particularly prone to recurrent and often brief psychoses. For these attacks they may require certification and asylum treatment. They recover, however, often as facilely as they relapse, and though they have obviously not recovered from the congenital basis of the acute symptoms, they have undoubtedly recovered from the illness which necessitated their certification as insane. There are here, manifestly, two entirely different points of view—one legal and practical and the other scientific and theoretical. From the legal and practical point of view such patients have recovered when their acute symptoms have passed away. From the scientific point of view they have not recovered truly, for their acute symptoms were merely the temporary accentuation of a lifelong abnormal constitution. How these dissimilar interests are to be reconciled we do not suggest, but it may be pointed out that Dr. Hughes evidently puts his theory into practice, for we note that since the opening of the asylum in 1907 only 101 have been discharged as recovered, and of these only 4 are known to have relapsed. During the year, however, 36 were discharged as relieved, and 16 as not improved; 66 died, giving a death-rate of 12.4 per cent., calculated on the average number resident. All deaths were from natural causes, with one exception, that of a quiet imbecile boy who committed suicide by hanging. Dr. Hughes says that in 12 deaths (or 18 per cent.) tuberculosis was a principal or contributory cause, but that, with one exception, signs of tuberculous infection existed on admission, or were revealed to have existed for a long time at the autopsy.

The general health was very good throughout the year; and major non-fatal cases were few in number.

KESTEVEN COUNTY ASYLUM.

The annual report of Dr. J. A. Ewan, the Medical Superintendent of this asylum, shows that on January 1st, 1910, there were 423 patients on the registers and on the last day of the year 448. The total cases under care during the year numbered 501 and the average number daily resident 430. During the year 78 were admitted, of whom 71 were direct admissions. Of these, in 27 the attacks were first attacks within three and in 17 more within twelve months of admission; in 14 not-first attacks within twelve months; and in the remainder the attacks were of more than twelve months' duration on admission, including 4 congenital cases.

The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 14; melancholia of all kinds, 12; senile and secondary dementia, 11; delusional insanity, 11; general paralysis, 8; epileptic insanity, 3; various less common forms, 7; and congenital defect, 5. As probable cause alcohol was assigned in only 3, syphilis in 6, and influenza in 6; diseases of the nervous system in 12, including epilepsy in 8; various bodily affections in 4; privation and starvation in 3; critical periods in 25; bodily trauma in 4; and mental stress in 17. An insane heredity was ascertained in 33, or over 46 per cent.; a neurotic heredity in 4 and an alcoholic heredity in 1; whilst congenital mental defect not amounting to imbecility existed in 11.

During the year 18 were discharged as recovered, giving a recovery-rate on the direct admissions and of recoveries in and on the direct admissions of 25.35 per cent.; also 5 as relieved and 1 as not improved.

During the year 29 died, giving a death-rate on the average numbers resident of 6.74 per cent.

The deaths were due in 10 to nervous diseases, including 5 from general paralysis; in 6 to diseases of the heart and blood vessels; in 3 to bronchitis; in 1 each to senile decay, peritonitis, and suicide; and in 7 to general diseases, with only 4 from tuberculous disease. In the case of the suicide a male patient flung himself in front of a motor car whilst out with a walking party and sustained a severe fracture of the pelvis, from which he died a few days afterwards.

CRICHTON ROYAL INSTITUTION, DUMFRIES.

Reference has been previously made to that part of the annual report of this important asylum relating the results of the inquiries of a committee which visited various clinics and asylums on the Continent. We may here refer to that portion of the report which deals with the work of the institution. The charitable work carried out is considerable. The sum of £1,805 was spent in the course of the year in assisting in the support of the relatives of 80 persons in straitened circumstances, and in other instances patients were admitted at reduced rates. The sum total of the charitable work for the year was well over £4,000.

On January 1st, 1910, there were 832 patients on the register and on December 31st there were 846. The total cases under care during the year numbered 1,00?, and the average number daily resident 837.7. These figures, however, include voluntary boarders, whose number at this institution is steadily increasing. Discounting these, there were 800 patients in the asylum at the beginning of the year; 804 at the end of the year; the total cases under care numbered 940, and the average number daily resident 800.6.

Omitting voluntary boarders, 140 were admitted during the year, of whom 110 were first admissions. Of these latter, in 72 the illness was recent or acute—that is, within six months of admission; in 20 subrecent or subacute—that is, of from six months to two years' duration; and in the remaining 18 the attacks were of more than two years' duration on admission. The first admissions were classified according to the forms of mental disorder into: Mania, 25; melancholia, 23; secondary dementia, 2; primary dementia, 3; delusional insanity, 22; confusional insanity, 10; general paralysis, 6; insanity with epilepsy, 5; less common forms, 6; and congenital or infantile defect, 6. No table of etiological factors is furnished, but Dr. Easterbrook says that, apart from a constitutional predisposition to mental disorder demonstrable in the great majority of the admissions, the exciting causes of the attacks were bodily illness, mental worry, and shock in a preponderance of cases, and next in frequency such individual factors as physical shock, organic brain lesions, want of proper food, and overwork.

During the year 54 were discharged as recovered, giving a recovery-rate on the first admissions of 42.7 per cent., 25 as improved, and 8 as not improved. During the year also 49 died, giving a death-rate on the average numbers resident of 5.8 per cent. The deaths were due in 12 to cerebro-spinal diseases (no deaths from general paralysis); in 9 to diseases of the heart and blood vessels; in 1 to pulmonary thrombosis; in 2 to diseases of the alimentary system; in 1 to goître with cardiac failure, and in the remaining 24 to general diseases, including 9 from tuberculosis.

Apart from 4 mild cases of scarlatina, affecting 2 nurses and 2 patients, the general health was satisfactory. Only 2 serious casualties occurred; in no case was seclusion or restraint employed, and in general the work was carried on as in former years.

Of the three Crichton Fellowships for study and research in psychiatry, only one has been taken up, the two remaining—for pathology and bacteriology, and pathology and chemistry—not having been awarded, for lack of suitable candidates.

THE RETREAT, YORK.

In his annual report for the year 1910, Dr. Bedford Pierce says that during the year the Retreat was practically full, and the average daily number of patients in residence was slightly greater than in any previous year. The income from patients was well maintained, and the assistance given to the poorer members of the Society of Friends continued to be large, about one-third of the patients paying considerably less than their cost.

On January 1st, 1910, there were 176 certified patients and 5 voluntary boarders on the hospital registers, and on the last day of the year 178 certified patients. During the year 46 certified patients and 20 voluntary boarders were admitted, the total number of certified cases under treatment being 222 and the number of voluntary boarders 25.

Confining the following digest to the certified patients, of the 46 admissions, 40 were direct admissions and 6 transfers. Of the direct admissions, in 9 the attacks were first attacks within three and in 4 more within twelve months of admission; in 14 not-first attacks within twelve months, and in 13, including 2 congenital cases, the attacks were of more than twelve months' duration on admission. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 7; melancholia of all kinds, 12; senile and secondary dementia, 3; delusional insanity, 4; less common forms, 12, and congenital defect, 2. As to causation, alcohol was assigned in only 2 and other toxins in 9; various bodily affections in 4; mental stress in 13, and senility in 1. An insane heredity was ascertained in 15 and an alcoholic heredity in 6. During the year 13 were discharged as recovered, 12 as relieved, and 9 as not improved. Also 10 died during the year, giving a death-rate on the average numbers daily resident of 5.6 per cent. The deaths were due in 3 to cerebral haemorrhage, in 2 to senile decay, and in single numbers the remaining 5 deaths were due to general paralysis, to general tuberculosis, to aneurysm of the aorta, to malignant disease of the bowel, and to chronic interstitial nephritis.

The Lunacy Commissioners in their reports comment upon the very good order of this hospital and the efficiency of its administration, but they also allude to the presence of overcrowding on the female side, and the need for further accommodation.

MIDDLESBROUGH COUNTY BOROUGH ASYLUM.

The annual report of Dr. J. W. Geddes, the Medical Superintendent of this asylum, shows that on January 1st, 1910, there were 427 patients inthe asylum, and on the last day of the year 417, giving a decrease for the year of 10. Actually, the Middlesbrough cases fell by 18, for the number of cases chargeable to Middlesbrough at the beginning of the year was 271 and at the end 253. The total cases under care during the year numbered 505, and the average number daily resident 415. During the year 78 were admitted, this being the lowest admission-rate since 1903. Of the total admissions 69 were direct admissions, as compared with 102 for the previous year. Of the direct admissions, in 34 the attacks were first attacks within three, and in 11 more within twelve months of admission; in 15 not-first attacks within twelve months; and in the 9 remaining the illness was of more than twelve months' duration, including 3 congenital cases. As to the forms of mental disorder, the

admissions were classified into—Mania of all kinds, 25; melancholia of all kinds, 8; senile and secondary dementia, 11; delusional insanity, 13; general paralysis, 9; epileptic insanity, 2; less common forms, 7; and congenital defect, 3. General paralysis formed 11.5 per cent. of the direct admissions. Turning to probable causation and considering only the direct admissions, alcohol was assigned in 18, syphilis in 4, and other toxins in 5; critical periods in 7; child-bearing in 4; diseases of the nervous system in 10; other bodily affections in 5; bodily trauma in 11; and mental stress in 8. An insane heredity was ascertained in 7, a neurotic heredity in 2, and one of alcoholism in 3. During the year 25 were discharged as recovered, giving a recovery-rate on the direct admissions of 36.25 per cent., or of recoveries in the direct admissions on the direct admissions of 34.78 per cent.; also 12 were discharged as not improved. During the year 51 died, giving a death-rate on the average numbers resident of 12.28 per cent. The deaths were due in 7 to nervous diseases, including 5 from general paralysis; in 19 to diseases of heart and blood vessels; in 1 to respiratory disease; in 4 to chronic nephritis, in 1 to intestinal obstruction from twigs swallowed by the patient, and in the remainder to general diseases, including 7 from lobar pneumonia, and 10, or 20 per cent., from pulmonary tuberculosis. The general health was good throughout the year, and neither mechanical restraint nor seclusion was enforced in any case.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

SURGEON A. C. W. NEWPORT is promoted to be Staff Surgeon, from November 21st, 1910. His first appointment bears date November 21st, 1902.

The following appointments have been made at the Admiralty: Fleet Surgeon J. A. L. CAMPBELL to the *Carnarvon*, September 27th; Fleet Surgeon T. C. MEIKLE, M.B., to the *Dryad*, October 10th; Surgeon A. B. MARSH to Haslar Hospital, October 10th; Surgeon H. E. PERKINS to the *Hibernia*, October 10th; Fleet Surgeon E. J. FINCH, M.D., to the *President*, additional, for the Royal Marine Recruiting Headquarters, London, October 9th; Fleet Surgeon A. H. L. COX to the *Blake*, October 9th; Fleet Surgeon E. R. D. FASKEN to the *Achilles*, October 9th; Fleet Surgeon T. T. JEANS, M.B., to the *Yarmouth*, temporarily, undated; Staff Surgeon J. WHELAN to the *Doris*, on recommissioning, undated; Surgeon R. N. W. W. BIDDULPH to the *Pembroke*, additional, for disposal, on the *Doris* paying off, undated.

ARMY MEDICAL SERVICE.

COLONEL ALFRED PETERKIN, M.B., is placed on retired pay, October 2nd. He entered the service as Surgeon, July 31st, 1880; became Surgeon Major, July 31st, 1892; Lieutenant-Colonel, July 31st, 1900; and Colonel, April 11th, 1908. He was in the Transvaal campaign in 1881, and in the South African war in 1902, being present in operations in the Transvaal, the Orange River Colony, and Cape Colony, and receiving the Queen's medal with four clasps.

Lieutenant-Colonel H. J. BARRATT, from the Royal Army Medical Corps, to be Colonel, vice A. Peterkin, October 2nd. Colonel Barratt was appointed Surgeon-Captain, February 4th, 1882; became Surgeon-Major, February 4th, 1894; and Lieutenant-Colonel, February 4th, 1902. He served in the South African war in 1899–1902, when he was present at the relief of Kimberley, in operations in Orange River Colony (actions at Paardeberg, Poplar Grove, Dreifontein, and Karee Siding), in Cape Colony (action at Colesberg. and Principal Medical Officer No. 9 General Hospital), in the Transvaal, and again in Orange River Colony. He was granted the Queen's medal with four clasps.

ROYAL ARMY MEDICAL CORPS.

MAJOR H. I. POCOCK is promoted to be Lieutenant-Colonel, vice H. J. Barratt, promoted, October 2nd. He joined the department as Surgeon-Captain, February 5th, 1887, and was made Major, February 5th, 1899. He has no war record in the Army Lists.

Major E. McK. WILLIAMS retires on retired pay, October 4th. His first appointment bears date January 31st, 1891; that of Major, January 31st, 1903. He was with the Chitral Relief Force in 1895, receiving a medal with clasp.

INDIAN MEDICAL SERVICE.

COLONEL J. SMYTH, M.D., Officiating Principal Medical Officer, Secunderabad Brigade, is appointed Honorary Surgeon on the personal staff of the Governor-General of India from July 27th.

The King has approved of the undermentioned officers of the Indian Medical Service who entered it by exchange from the Royal Army Medical Corps. being antedated as follows: Captain H. G. S. WEBB, from March 1st, 1906, to September 1st, 1905; Captain A. McNEIGHT, from July 31st, 1908, to January 31st, 1908; Captain W. S. NEALOR, from July 31st, 1908, to January 31st, 1908.

Captain H. G. S. WEBB is recognized as a Specialist in the Prevention of Disease, and is appointed to the charge of the Brigade Laboratory, Jubbulpore, from August 3rd.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN C. R. TICHBORNE resigns his commission, October 4th.

Lieutenants W. R. GARDNER, V. R. SMITH, and P. T. PRIESTLEY are confirmed in their rank.

TERRITORIAL FORCE.

HONOURABLE ARTILLERY COMPANY.

SURGEON-MAJOR E. H. MYDDELTON-GAVEY retires into the Veteran Company, with permission to retain his rank and uniform, October 4th.

YEOMANRY.

Royal East Kent (the Duke of Connaught's Own Mounted Rifles) Yeomanry.—Surgeon-Lieutenant C. T. FOX to be Surgeon-Captain, August 26th.

ROYAL ENGINEERS.

Second London Divisional Engineers. Royal Engineers.—Surgeon-Major W. H. BOURKE, M.D., resigns his commission, retaining his rank and uniform, October 4th.

ROYAL ARMY MEDICAL CORPS.

First Home Counties Field Ambulance, Royal Army Medical Corps.—Lieutenant S. W. MILNER resigns his commission, October 5th.

First London (City of London) Field Ambulance, Royal Army Medical Corps.—Lieutenant ARTHUR D. J. B. WILLIAMS, from the List of Officers attached to Units other than Medical Units, to be Lieutenant, September 7th.

Second Eastern General Hospital, Royal Army Medical Corps.—HUGH N. FLETCHER, F.R.C.S.Edin., to be Captain, October 4th; FREDERICK A. S. HUTCHINSON, M.D., to be Captain, October 4th.

For Attachment to Units other than Medical Units.—HORACE G. L. HAYNES (late Cadet Sergeant, Cambridge University Contingent, Senior Division, Officers' Training Corps) to be Lieutenant, June 18th.

Attached to Units other than Medical Units.—Captain C. E. GODDARD, M.D., from the 1st London (City of London) Sanitary Company, Royal Army Medical Corps, to be Major, July 3rd. Captain G. R. F. STILWELL, M.B., and Lieutenant H. P. S. DEVITT resign their commissions, October 4th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 7,528 births and 4,804 deaths were registered during the week ending Saturday last, September 30th. The annual rate of mortality in these towns, which had been 19.0, 17.1, and 17.0 per 1,000 in the three preceding weeks, further fell to 15.5 per 1,000 in the week under notice. In London the death-rate was equal to 15.6 per 1,000 against 17.4, 15.3, and 15.6 in the three previous weeks. Among the seventy-six other large towns, the death-rates last week ranged from 5.7 in King's Norton, 8.0 in Hornsey, 8.3 in Devonport, 8.9 in Croydon, and 9.0 in Tottenham and in Barrow-in-Furness, to 22.2 in Stoke-on-Trent, 22.5 in Dewsbury, 24.9 in Bury, 25.8 in St. Helens, and 28.3 in Walsall. Whooping-cough caused a death-rate of 1.7 in Walsall and 2.1 in Sunderland, and diarrhoea and enteritis (of children under 2 years of age) of 6.2 in Tynemouth, 6.5 in West Hartlepool, 6.6 in Smethwick, 6.8 in Walsall, and 7.5 in Rotherham. The mortality from the remaining epidemic diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 30, or 0.6 per cent. of the total deaths registered in the seventy-seven towns last week were not certified either by a registered medical practitioner or by a coroner after inquest, and included 9 in Liverpool, 5 in Birmingham, and 3 in Gateshead. The number of scarlet-fever patients under treatment in the Metropolitan Asylums Hospital and the London Fever Hospital, which had been 1,349, 1,454, and 1,532 at the end of the three preceding weeks, further rose to 1,666 on Saturday last; 333 new cases were admitted during the week, against 217, 264, and 240 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 798 births and 499 deaths were registered during the week ending Saturday last, September 30th. The annual rate of mortality in these towns, which had been 15.7 and 16.7 per 1,000 in the two preceding weeks, declined to 15.2 in the week under notice, and was 0.3 per 1,000 below the mean rate during the same period in the large English towns. Among the several towns the death-rates last week ranged from 13 0 in Paisley and 13.4 in Aberdeen to 17.2 in Edinburgh and 19.0 in Dundee. The mortality from the principal infectious diseases averaged 2.4 per 1,000, and was highest in Greenock and Perth. The 215 deaths from all causes registered in Glasgow included 1 from enteric fever, 1 from measles, 2 from scarlet fever, 3 from whooping-cough, 5 from diphtheria, and 23 (of children under 2 years of age) from diarrhoeal diseases. Three deaths from whooping-cough, 2 from diphtheria, and 6 from infantile diarrhoea were recorded in Edinburgh; 9 deaths from infantile diarrhoea in Dundee, and 4 in Greenock; and 2 deaths from diphtheria in Aberdeen and 2 in Perth.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 30th, 669 births and 396 deaths were registered in the twenty-two principal urban districts of Ireland, as against 514 births and 444 deaths in the preceding period. The annual death-rate in these districts, which had been 22.1, 19.4, and 20.1 per 1,000 in the three preceding weeks, fell to 18.0 per 1,000 in the week under notice, this figure being 2.5 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 19.9 and 16.9 respectively, those in other districts ranging from 4.3 in Lurgan and 4.6 in Ballymena to 23.1 in Limerick and 35.4 in Galway, while Cork stood at 22.5, Londonderry at 19.2, and Waterford at 11.4. The zymotic death-rate in the twenty-two districts averaged 4.3 per 1,000 as against 5.5 in the preceding period.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BATH: EASTERN DISPENSARY.—Resident Medical Practitioner. Salary, £130 per annum.

BIRMINGHAM CITY FEVER HOSPITAL, Little Bromwich.—Medical Superintendent. Salary, £250 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—One Obstetric and one Ophthalmic House-Surgeon. Salary at the rate of £50 per annum each.

BODMIN: CORNWALL COUNTY ASYLUM. — Third Assistant Medical Officer (male). Salary, £140 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W. — Two House-Surgeons (male). Salary at the rate of £75 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY. — Resident Medical Officer for the Northern Branch. Salary, £160 per annum.

BRIGHTON: CHICHESTER HOSPITAL. — Resident House-Physician (woman).

BURSLEM: HAYWOOD HOSPITAL. — Resident Medical Officer (female). Salary, £100 per annum.

BURY INFIRMARY. — Junior House-Surgeon. Salary, £80 per annum, increasing to £90.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL. — Second House-Surgeon. Salary, £80 per annum.

CHESTER CITY.—Assistant Medical Officer of Health. Salary, £250 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL. — House-Physician. Salary, £80 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL. — House-Surgeon. Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Two Junior House-Surgeons (male). (2) Three House-Surgeons (Resident). Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL. — Assistant House-Surgeon. Salary at the rate of £75 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—(1) House-Physician. (2) Assistant House-Surgeon. Salary at the rate of £60 per annum each.

GLASGOW DISTRICT MENTAL HOSPITAL, LENZIE. — Junior Assistant Medical Officer. Salary commencing at £125 per annum.

HACKNEY UNION.—Medical Superintendent of the Homerton Infirmary. Salary, £500 per annum, increasing to £600.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Surgeon to Out-patients.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. — Assistant Casualty Medical Officer. Salary, £30 for six months and £2 10s. washing allowance.

HULL: ROYAL INFIRMARY. — Two Casualty House-Surgeons. Salary at the rate of £60 per annum for six months' appointment or £80 per annum for twelve months.

INVERNESS DISTRICT ASYLUM.—Junior Assistant Physician (male). Salary, £140 per annum.

LEEDS GENERAL INFIRMARY. — (1) Resident Medical Officer (male). Salary, £150 per annum. (2) Resident Obstetric Officer. (3) Two House-Physicians. (4) Three House-Surgeons. (5) Resident Medical Officer for the Ida and Robert Arthington Hospitals. Honorarium, £30 for six months.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E. — (1) House-Physician. (2) House-Surgeon. (3) Assistant House-Physician. (4) Assistant House-Surgeon. (5) Ophthalmic Surgeon. Salary at the rate of £60 per annum for (1) and (2) and £40 per annum for (3) and (4).

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House-Surgeon. Salary, £60 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

OLDHAM UNION.—Assistant Medical Officer of the Workhouse.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant Surgeon.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.— (1) Senior House-Physician. (2) Senior House-Surgeon. (3) Junior House-Physician. (4) Junior House-Surgeon. Salary for (1) and (2), £75 per annum; and for (3) and (4), £50 per annum

READING: ROYAL BERKSHIRE HOSPITAL.—(1) House-Physician; (2) Second House-Surgeon. Salary, £80 and £60 per annum respectively.

REDHILL: EARLSWOOD ASYLUM. — Junior Assistant Medical Officer. Salary, £150 per anuum.

ROXBURGH DISTRICT ASYLUM, Melrose. — Assistant Medical Officer. Salary £160 per annum.

ROYAL DENTAL HOSPITAL, Leicester Square, W.C.—Clinical Pathologist and Demonstrator of Bacteriology.

ROYAL EAR HOSPITAL, Soho, W.—(1) House-Surgeon (non-resident); honorarium, £40 per annum. (2) Assistant Surgeon.

ROYAL EYE HOSPITAL, Southwark, S.E. — (1) House-Surgeon. Salary at the rate of 50 guineas per annum. (2) Clinical Assistants.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) Male House-Physician. (2) Male House-Surgeon. (3) Female House-Physician. (4) Female House-Surgeon.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Resident Medical Officer. Salary at the rate of £120 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Honorary Dental Surgeon.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

SHEFFIELD: ROYAL INFIRMARY.—Two Junior Resident Medical Officers. Salary, £60 per annum.

STOCKPORT INFIRMARY.—Junior House-Surgeon (male). Salary, £80 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

TOTTENHAM EDUCATION COMMITTEE.—Ophthalmic Surgeon. Standing fee, £25 per annum *plus* 2s. 6d. for each scholar examined and prescribed for.

WADSLEY: SOUTH YORKSHIRE PAUPER LUNATIC ASYLUM.—Medical Superintendent. Salary, £750 per annum.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WHITTINGHAM COUNTY ASYLUM.—Patholoigist and Assistant Medical Officer. Salary, £200 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEON. — The Chief Inspector of Factories announces the following vacant appointment: Christchurch (Hampshire).

APPOINTMENTS.

BEANE, R. L., M.R.C.S., L.R.C.P., District Medical Officer of the Shardlow Union.

BURFIELD, J., M.B., B.S.Lond., F.R.C.S., Honorary Assistant Surgeon to the Norfolk and Norwich Hospital, vice D. K. Coutts, M.B., B.S.Lond., deceased.

GREVES, E. Hyla, M.D.Edin., M.R.C.P.Lond., Honorary Physician to the National Sanatorium for Diseases of the Chest, Bournemouth.

HILLIER, S., M.D.Edin., Medical Officer of Health of the East Stow and Thedwastre Rural District.

HUNTER, C. S., L.R.C.P.and S.Edin., Certifying Factory Surgeon for the Carnoustic District, co. Forfar.

JERVIS, J. J., M.B., Senior Resident Assistant Medical Officer of the St. Pancras Union Infirmary.

LATHAM, C. H., M.B., B.S.Lond., District Medical Officer of the Shardlow Union.

LAWRY, R. C., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health of the Borough of Penzance.

LEVIN, Joseph J., M.B., Ch.B., Obstetric Assistant at the Ladies' Charity and Lying-in Hospital, Liverpool.

LITTLE, H. N., B.S.Camb., M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer of the Greenwich Union Infirmary.

MCCULLOCH, J., M.R.C.S.Eng., Certifying Factory Surgeon for the Bexhill-on-Sea District, co. Sussex.

MIDDLEWEEK, Frederick Francis, L.R.C.P., L.R.C.S.Ed., L.F.P.S. Glas., Honorary Director of Mechano-Therapeutics and Massage, West End Hospital for Nervous Diseases.

MILLIGAN, E. H. M., M.D., Q.U.I., Medical Officer of Health of the Long Eaton Urban District.

MILLER, J., M.B., C.M.Aberd., Medical Officer of Health of the Seghill Urban District.

MORETON, R., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Overton District, co. Flint, and Medical Officer of Health for the Overton Rural District.

MUNRO, H. Lennox, M.D.Edin., District Medical Officer and Public Vaccinator of the Beverley Union.

NORMAN, E. E., M.B., B.S.Durh., Medical Officer of Health of the Hebburn Urban District.

PARSONS, H. C., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health of the Borough of Great Torrington.

STEWART, A. G., M.B., B.S., Assistant Medical Officer of the Paddington Union Infirmary and Workhouse.

STOTT, W. H., L.R.C.P.and S.Edin., District Medical Officer of the Sleaford Union.

VARTAN, C. S., M.B., Ch.B.Edin., District Medical Officer of the Shardlow Union.

WALKER, C. F., M.D.Lond.(State Med.), B.S.Lond., D.P.H.Vict., M.R.C.S.Eng., L.R.C.P.Lond., B.A., R.U.I., Resident Medical Officer at the Leicester Isolation Hospital.

WELSH, R. C., M.B., C.M.Edin., Certifying Factory Surgeon for the Biggleswade District, co. Bedford.

WIGGINS, W. D., M.R.C.S., L.R.C.P., Medical Superintendent of the Greenwich Union Infirmary.

WOODBURN, W. H., M.R.C.S., L.R.C.P., District Medical Officer of the Flaxton Out-Relief Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTH.

WHEATON.—On September 25th, 1911, at 17, Rastell Avenue, Streatham Hill, S.W., the wife of S. W. Wheaton, M.D., F.R.C.P., of a daughter.

MARRIAGES.

BYRNE—SMYLIE. — On September 30th, at Prestwich, Manchester, Joseph A. Byrne, L.M.S.S.A.Lond., elder son of Jas. P. Byrne, of Salford, to Eva, elder daughter of the late Jas. Smylie and Mrs. Smylie, of Brambletye, Prestwich Park. At Home November 8th and 11th, Whytecote, Youlgreave, Derbyshire.

DOWNES — TAYLOR. — On September 26th, at the Parish Church, Ilminster, Harold Downes, M.B., of Ilminster, to Harriet, daughter of Joseph Taylor, West Combe, Somerset.

FOWLER—CANT.—At 8, Midmar Drive, Edinburgh, on September 29th, William Hope Fowler, M.B., Ch.B., F.R.C.S.E., to Julia, youngest daughter of the late James Cant, Ore Bridge, Thornton. At home, 8, Midmar Drive, November 7th, 8th, 9th, and 10th.

DEATHS.

HARDING.—On September 27th, at Osman House, 118, Cromwell Road, Montpelier, Bristol, John Alfred Harding, M.R.C.S., L.R.C.P., L.S.A., aged 84 years.

STOPFORD-TAYLOR. — On September 29th, at Standishgate, Meols Drive, West Kirby, in her 54th year. Ann Alice, the wife of Dr. Stopford-Taylor, of West Kirby and 26, Rodney Street, Liverpool.

THACKER.—On September 24th, 1911, at a private nursing home in Dublin, Robert Christie Thacker, Major, R.A.M.C. (retired), from heart failure after a short illness.

RECENT PUBLICATIONS.

The Life-History, Function, and Inflammation of the Appendix. By Edred M. Corner, M.A., M.C., F.R.C.S. London. 1911. John Bale, Sons, and Danielsson. (Cr. 8vo, pp. 23. Price 1s.)

A reprint of an address on the subject delivered before the Clinical Society of Manchester last January. The author associates the prevalence of appendicitis with the introduction of American methods of flour rolling, and thinks that the appendix might be removed with advantage much more often than it is, particularly in middle life.

Triumphs and Wonders of Modern Chemistry. By Geoffrey Martin, B.Sc.Lond., M.Sc.Bristol, Ph.D.Rostock. London: Sampson, Marston and Co. 1911. (Crown 8vo, pp. 358. Price 7s. 6d.)

A well-illustrated description, in language comparatively free from technical terms, of more or less recent discoveries by chemists and physicists, and their bearing on everyday life. The account of oxygen includes descriptions of Hill's and other oxygen apparatus for use in mines. An excellent book for those whose knowledge of chemistry is somewhat out of date, or to put into the hands of young people in the hope of awakening an interest in science.

DIARY FOR THE WEEK.

WEDNESDAY.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor Road, S.W., 5 p.m.—Business: (1) President's Address; (2) The New Bullet, by Major E. M. Pilcher, D.S.O., R.A.M.C.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF CLINICAL MEDICINE, 15, Cavendish Square, W., 8.30 p.m.—(1) Exhibition of Cases; (2) Paper: Dr. A. Gregor and Dr. Hopper: A Series of Cases of Acute Anterior Poliomyelitis

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION.—Wednesday, 4 p.m., Lecture on Anaphylaxis and Its Relation to Disorders of the Thoracic Viscera.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday and Friday, 3.45 p.m., Accessory Sinuses.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday. Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Monday, 3.15 p.m., Cirrhosis of the Liver; Tuesday, 4.30 p.m., Anaesthetics.

MANCHESTER: ANCOAT'S HOSPITAL POST-GRADUATE CLINIC.—Thursday, 4.15 p.m., Urinary Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, Convulsions in Infants and Young Children; Tuesday, Paralyses which are Apparent at the Time of Birth; Wednesday, The Relationships between Neurasthenia and Insanity; Thursday, Enucleation of the Tonsils.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Diagnosis and Treatment of Meningitis. Friday, 3.30 p.m., Tumours of the Pons.

ST. JOHN'S HOSPITAL, Leicester Square, W.C.—Thursday, 6 p.m., Chesterfield Lecture, Erythema.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—The following are the arrangements for next week: Daily arrangements, Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. Monday: Surgical Registrar, 10 a.m.; Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Lectures at 5 p.m.: Monday, Suppurative Diseases in Connexion with the Anal Canal; Tuesday, The Common Varieties of Insanity; Wednesday, The Use of Solid Carbon Dioxide; Thursday, Practical Surgery (Lecture I); Friday, Clinical Lecture (Urinary Surgery).

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
7 SATURDAY ..	LONDON: Science Committee, 11.30 a.m.
8 Sunday ..	
9 MONDAY ..	
10 TUESDAY ..	
11 WEDNESDAY	LONDON: Medico-Political Committee, 2 p.m. ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Knutsford; Tea, 4.30 p.m. General Meeting, Master's House, Union Infirmary, 5 p.m.; Dinner, 7 p.m.
12 THURSDAY ..	SOUTH MIDLAND BRANCH, Springfield House, Bedford, 2.30 p.m. NORTH NORTHUMBERLAND DIVISION, *North of England Branch*, Blue Bell Hotel, Belford, 2.30 p.m.
13 FRIDAY ..	CITY DIVISION, *Metropolitan Counties Branch*, London Hospital, Whitechapel Road, E., 4 p.m. GUILDFORD DIVISION, *South-Eastern Branch*, Royal Surrey County Hospital, 4.15 p.m.; Tea, 4 p.m.; Dinner, Lion Hotel, 6.30 p.m. HAMPSTEAD DIVISION, *Metropolitan Counties Branch*, Hampstead Central Library, Arkwright Road, N.W., 8.30 p.m.
14 SATURDAY ..	

Date.	Meetings to be Held.
OCTOBER *(continued).*	
15 Sunday ..	
16 MONDAY ..	
17 TUESDAY ..	LONDON: Organization Committee, 2.30 p.m. BUCKINGHAMSHIRE DIVISION, *South Midland Branch*, Royal Bucks Hospital, Aylesbury, 3 p.m.; Annual Dinner, Crown Hotel, 6 p.m.
18 WEDNESDAY	DORSET AND WEST HANTS BRANCH, Autumn Meeting, Blandford.
19 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m.
20 FRIDAY ..	
21 SATURDAY ..	
22 Sunday ..	
23 MONDAY ..	
24 TUESDAY ..	
25 WEDNESDAY	LONDON: Finance Committee, 2.30 p.m.
26 THURSDAY ..	EAST ANGLIAN BRANCH, Autumn Meeting, Braintree.
27 FRIDAY ..	
28 SATURDAY ..	
29 Sunday ..	
30 MONDAY ..	

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

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THE NATIONAL INSURANCE BILL.

CONFERENCE WITH THE CHANCELLOR OF THE EXCHEQUER.

THE conference to which the Chancellor of the Exchequer had, as already announced, invited representatives of the British Medical Association and of the friendly societies began at the Treasury offices on Monday, October 9th. Mr. Lloyd George was accompanied by the departmental officials concerned with the bill. The British Medical Association was represented by Dr. E. J. Maclean (Cardiff), Chairman of Representative Meetings and Chairman of the State Sickness Insurance Committee; Dr. J. A. Macdonald, Chairman of Council; Dr. Michael Dewar (Edinburgh), Dr. James Pearse (Trowbridge), Dr. J. H. Taylor (Salford), and the Medical Secretary. The representatives of the friendly societies were as follows:

National Conference of Friendly Societies.—Mr. Robert W. Moffrey (Manchester), president of the National Conference; Mr. Walter Davis (Manchester), vice-president; Mr. J. McNicol (Manchester), secretary.

Mr. W. Marlowe (Parliamentary agent and Parliamentary agent for the Ancient Order of Foresters).

Mr. J. Lister Stead (Leicester), permanent secretary, Ancient Order of Foresters.

Councillor A. H. Warren (London), Grand Master Manchester Unity of Oddfellows.

Mr. Richardson Campbell, permanent secretary Rechabites.

Friendly Societies' Alliance.—Mr. Samuel Pride (Luton), trustee of the Friendly Societies' Medical Alliance; Mr. Charles Yarrow (Luton), president.

Mr. C. W. Burnes (secretary) was present for the Hearts of Oak Benefit Society, while representing the dividing societies was Mr. Rockliffe, secretary of the National Deposit Society.

The conference lasted two hours and a half, and was then adjourned until Monday, October 16th. No statement was made to the press on behalf of the Chancellor of the Exchequer, and, as he desired the proceedings to be considered private, the representatives of the British Medical Association did not feel in a position to give any intimation of the tone or tendency of the discussion. The Press Association, however, supplied the following account of the proceedings, which was published in the *Times* and other papers:

At the suggestion of the Chancellor, Mr. MOFFREY, on behalf of the friendly societies, first submitted their objections to Clause 14 as it now stood. In doing so he reported the result of the circularizing by the Manchester Unity of the medical officers of that order, inquiring whether they were prepared to continue their present arrangements with the lodges if the Insurance Bill became law. A small majority were apparently not in favour of that course.

The first objection raised by Mr. Moffrey had reference to the fixing by the Health Committees of the income limit for those who should be entitled to medical benefits under the bill. The second objection was that if Clause 14 remained as at present existing members of friendly societies who were over 65 years of age and those not of that age who were chronic invalids would be debarred from medical benefit, and the societies desired an arrangement made by which they could continue to give to those members medical benefits as at present. They further asked that they should have the right to form local medical associations such as those already existing in certain towns, and they desired an assurance that the medical profession would not endeavour to ostracize the doctors engaged by such associations. The societies also asked that the member, or the insured person, in the bill should be entitled to have the personal attendance of the doctor he desired, and not to be forced to accept in certain cases the services of an assistant engaged by the doctor.

After Mr. Moffrey had explained the reasons for their objections, Mr. SMITH WHITAKER, on behalf of the British Medical Association, explained their views on the points which had been raised. After this a general discussion took place, the effect of which was to narrow down the differences to the point as to what arrangement was possible to preserve to those over 65, and those permanently invalided, who were already in the friendly societies, their existing right to receive medical benefit from those societies.

Ultimately it was suggested by Mr. SMITH WHITAKER that the friendly societies should submit in writing what they desired the medical profession to undertake, and the conference adjourned until Monday, when the case of the Medical Association will be considered.

The Press Association was informed after the conference that a basis had been reached upon which it was thought a satisfactory settlement could be arranged between the medical profession and the friendly societies on the questions raised.

A statement was issued to the press on October 10th by the Medical Secretary, and appeared in the *Times* of October 11th in the following form:

The Medical Secretary of the British Medical Association made the following statement yesterday to a representative of the Central News with reference to the conference at the Treasury on Monday regarding the Insurance Bill:

The representatives of the British Medical Association who, at the Chancellor of the Exchequer's invitation, took part in the conference on Monday with representatives of friendly societies, accept no responsibility for the statement of proceedings of that conference which has been issued to the press. The statement was issued without their knowledge or consent, and is, they consider, in several respects inaccurate and misleading. With reference especially to the statement appearing in some papers to the effect that "a basis of settlement was reached," they feel it to be due to themselves and to the many members of the medical profession who are following this matter with anxious concern, to make the matter clear.

The medical representatives in the conference spared no pains to make plain to all present, first, that they had no authority to enter into an arrangement of any kind; and secondly, that they could hold out no expectation of any departure by the medical profession from the six cardinal points of its policy as already declared. If, on the other hand, the difficulties which the friendly societies experienced in meeting the views of the medical profession (which appeared to be largely, if not entirely, due to misconception of what the profession proposed) could be met by arrangements consistent with those six cardinal points, the medical delegates would duly submit any suggestions for the consideration of the profession.

With reference to the statement that the case of the "Medical Association" will be considered at an adjourned conference

Monday, it was stated that this refers to medical associations formed by friendly societies.

In connexion with this matter the Chairman of Representative Meetings and the Chairman of Council desire that the following statement should be placed before the members of the Association:

The publication by the Press Association of a statement with reference to the proceedings at the conference, convened by the Chancellor of the Exchequer, of representatives of the medical profession and of the friendly societies is not the only instance in which statements have appeared, while the Insurance Bill was before the country, suggesting that an "understanding" or a "settlement" or an "arrangement" had been arrived at with the medical profession. Those who are familiar with the enterprising methods of the press of this country realize how such reports get into circulation and how little reliance can be placed upon them. They know how on occasion an ingenious reporter will build up a statement even upon the bare fact that a reply to his questions is refused.

Since, however, statements of the kind referred to have been widely printed in the daily press, it seems desirable to recall to the memory of readers what the exact position at the present moment is.

The position is that the chief demands of the Association with respect to the Insurance Bill were summed up at the beginning of June in the six cardinal points which are familiar to all readers of the JOURNAL. These cardinal points were expressly approved by an overwhelming majority of the profession, and it became the duty of the Council, and of those entrusted by the Council with executive responsibility in the matter, to take every means in their power to secure that the policy of the profession thus declared should be duly carried into effect. Various tactical questions inevitably arose as to the best means of securing this end—such as, for example, the question of the points upon which it was necessary to seek amendments of the bill and the nature of these amendments.

A full report on the whole matter was placed before the Annual Representative Meeting, and action was taken subsequently by the Council to give effect to the instructions of that meeting. Some points have already been dealt with in Committee of the House of Commons; other points are awaiting consideration in Committee. The Representative Meeting gave instructions that on the completion of the Committee stage of the bill in the House, a report on the position should be issued to the profession and a Special Representative Meeting convened to decide what attitude the Association should advise the profession to take with regard to the bill as amended in Committee.

The further action to be taken with regard to the bill will be dictated by the instructions of that meeting. At the present stage conferences, whether with the Government, with friendly societies, or with any other bodies concerned, can only have the object of making more plain, if necessary, the position of the profession, which it is evident is still not fully realized, of seeking to diminish opposition to the demands of the profession, and of collecting information as to the attitude of others concerned which may be duly placed before the profession and the Special Representative Meeting.

In the meantime, members of the Association and of the profession generally may rest assured that those acting on the behalf of the profession can and will take no action in its name to modify in any way the policy which has been laid down, and that even as regards the broader questions of tactics, that is, of the means to be adopted to secure the achievement of the profession's demands, members generally will be given full opportunity of declaring their views before any decisive action is taken.

TREASURY CONFERENCE WITH OTHER FRIENDLY SOCIETIES.

IT is announced that Mr. Lloyd George has invited representatives of the various friendly societies, collecting societies, industrial insurance companies, dividing societies, deposit societies, and trade unions to a conference to be held at the Treasury on Thursday, October 19th, to adjust the differences which have arisen between the various societies as to the conditions under which they could become approved societies under the Insurance Bill.

NOTTINGHAM DIVISION.

AT a meeting of the Nottingham Division held on October 4th at the Medical Rooms, St. James Street, Dr. A. Fulton in the chair, the letter issued by the Manchester Unity to medical officers of the society was discussed, and it was resolved to request all those who had received such letter to reply in the following manner:

Dear Sir,

In reply to your circular letter of September 12th, I may say that I am in full accord with the policy of the British Medical Association with reference to Clause 14 of the Bill.

I have already pledged myself to abide thereby.

I am,

Yours faithfully,

.....

To the Grand Master,
Manchester Unity Friendly Society,
St. Stephen's House,
Westminster.

A report was presented as to the organization of the local profession which showed that a very large proportion had signed the Undertaking, and that the local guarantee fund was being well supported.

TOTTENHAM DIVISION.

AT a meeting of the Barnet Ward of the Tottenham Division, held on October 3rd, at 53, Wood Street, High Barnet, the present state of the National Insurance Bill was discussed, and the following resolution was passed unanimously:

1. That Dr. Addison's amendment to Clause 14, Subsection 1, may be considered satisfactory, with the additional proviso that the maximum income limit to be fixed by the local Health Committees shall not exceed £104 per annum.
2. That Mr. Cecil Harmsworth's amendment to the same is in direct opposition to the principal requirements laid down by the British Medical Association, and, if retained in the bill, will necessitate the refusal on the part of the medical profession to work under the scheme.
3. That this meeting considers the bill as it stands at present contradictory, unworkable, and absolutely unacceptable to the medical profession, and that it urges upon the representatives of the profession to stand firm in insisting upon the bill being amended to meet their requirements as laid down in the first instance.

THE NATIONAL INSURANCE BILL AND ITS PROBABLE EFFECTS UPON THE VOLUNTARY HOSPITALS.*

BY D. J. MACKINTOSH, M.B., M.V.O., F.R.S.EDIN.,
MEDICAL SUPERINTENDENT, WESTERN INFIRMARY, GLASGOW.

THE Chancellor of the Exchequer was good enough to receive a deputation from this association in July last. A report of that interview was sent to every member, and to practically every hospital, in the kingdom. The Chancellor stated that he was glad to meet those competent to speak on behalf of the hospitals of the country, but he thought they were labouring under misapprehensions which they would find would not be justified by the results. He considered that

the hospitals of the country were essentially a part of the machinery of civilization, and he could not imagine any country allowing a single hospital to be closed. No Government could allow a single hospital to be closed.

It has been said that the principles underlying the National Insurance Bill are to be purchased by a great united and national effort for our vast working population—efficient medical attendance when sickness comes, proper medicine, suitable surgical appliances, and proper nursing.

How is this to be accomplished? The bill makes provision for domiciliary treatment, but no provision whatever is made for institutional treatment beyond providing sanatoriums for the treatment of tuberculous cases. That being so, it is evident that when an insured person requires a serious surgical operation performed, or requires treatment by a specialist and skilled nursing, he must seek admission to a voluntary hospital. Is it reasonable that a bill should be presented to Parliament which does not

* Read at the Conference of the British Hospitals Association held in Manchester, September 28th and 29th.

make provision for the carrying of it out in all its details? The question must be considered in all its aspects.

How are the voluntary hospitals to be maintained if the funds which are at present available for their upkeep are diverted into another channel? Can the bill be amended in such a way as to permit of the voluntary hospitals being maintained in their present state of efficiency without becoming State institutions?

I am not alone in the belief that if the bill is passed in its present form, the voluntary hospitals will suffer so seriously as to render them inefficient, both as curative institutions and teaching schools. If the impression goes abroad that the voluntary hospitals may soon be taken over by the State, those who have it in their hearts to leave legacies to these institutions will hesitate, unless some authoritative pronouncement is made *now* which will dispel such an impression. If, on the other hand, a guarantee is given that in future no one will be treated in a voluntary hospital who can receive efficient treatment outside, or who is in a position to pay for such treatment, instead of hesitating or withholding their benefactions, they will be encouraged rather to increase their subscriptions and donations, having the full assurance that the best use will be made of their money. Who ever heard of any one leaving a legacy to a parochial or State-supported hospital? The voluntary hospitals cannot be done without, and provided they are properly administered and financed, they will remain.

The National Insurance Bill, instead of having mischievous results, as has been suggested in some quarters, might be so amended as to prove a tower of strength to the voluntary principle, and encourage that spirit of philanthropy and Christian brotherhood which has been the pride of this country for many generations. It might also have the effect of preventing any abuse which may at present exist in the working out of the voluntary system. It may be asked, "How can this be brought about?" First, by the Insurance Bill being so amended as to prevent any one gaining admission to the free beds of a voluntary hospital whose income is over the insurance limit; and, second, by making provision in the bill for the Insurance Commissioners defraying the cost of treatment of each insured person admitted to hospital.

The question of remuneration of the medical staff has been frequently referred to, but the practice in different parts of the country is materially affected by the local conditions, and this is a matter which, in my opinion, can be adjusted to the satisfaction of the medical staffs of voluntary hospitals. If the medical staff is to be paid by the hospital, the question of their remuneration as medical officers to the institution must be considered from a broader standpoint than the mere pecuniary return which they might receive as medical officers. Take, for instance, the case of a teaching school, where the senior surgeons and physicians receive in cash the whole of their clinical fees, amounting in some cases to over £300 per annum, *plus* the honorarium of £50. This cannot be taken as a standard for every voluntary hospital. We are all aware that in many county hospitals the medical officers have no opportunity of ever getting fees from students, nor are they granted any honorarium. This is a matter which might be adjusted, for I am aware that in some large teaching schools the voluntary staff are of opinion that it is highly undesirable that the honorary staff should receive payment for their service to the patients, but they naturally reserve their final judgement of the case until we know more of the working and consequences of the proposed National Insurance Bill. Personally, I hold the opinion that every man should be paid for his services, either directly or indirectly, but it must be evident to every one that no final decision can be arrived at regarding this point until we really know whether the State proposes to make all hospitals State institutions, or whether the present voluntary system is to be continued and developed.

Reference has been made to the disposition on the part of hospital managers and administrators to lie low and do nothing for the present, but to wait and see. In my opinion this is a most dangerous course to pursue. The alternative, ladies and gentlemen, is to try by every possible means in our power to persuade the Government to make such amendments on the bill as will not only safeguard the voluntary hospitals, but render them more and more efficient, and, at the same time, less liable to abuse; or let them declare at once that the voluntary hospitals are no longer required, that they have outlived their usefulness, and that the State is prepared to take them over, finance them, and see them carried on. There is no middle course.

It has been suggested that when the bill becomes law the hospitals will be unable to refuse any work which may be thrust upon them. If the bill becomes law in its present form the voluntary hospital will very soon cease to exist. Why should gentlemen who are at the head of large businesses and professional men with large practices devote their time and attention to the management and working of the voluntary hospitals if they are no longer required? Up till now they have done what they could to administer the funds which have been generously donated for the benefit of the sick poor above the pauper class who required hospital treatment. I do not know that even the most advanced politician will dare to say that they have failed. But if the Government and House of Commons decide that this work can be better done, more economically carried out, and more progress can be made under a State system of control, why should these gentlemen continue to give their time voluntarily any longer?

These are large questions, and cannot be decided hurriedly. The Chancellor of the Exchequer came very near the point when he suggested to the deputation which met him, that the remedy for any hospital abuse was very largely in their own hands. He pointed out that if the approved societies and Health Committees did not contribute a sufficient sum to retain the efficiency of the hospitals they were quite entitled to ask any applicant for admission the simple question, "Are you insured?" If they are insured, they have no right to be admitted to the hospitals without the hospitals receiving an adequate sum for their treatment. But, further, it should be borne in mind that if unsuitable patients are sent by doctors who are paid by the Insurance Commissioners, they also should be told that the hospitals will not take the burden off their shoulders. So long as the voluntary system continues, the voluntary hospitals will be in a position to say to the Insurance Commissioners, We cannot take patients unless you are prepared to meet us; we are free contracting parties. It is all very well to say that the bill as amended has made it lawful for approved societies and Health Committees to subscribe to hospitals; that is not enough. Nothing will be satisfactory until the bill is so amended as to make it compulsory for the Insurance Commissioners to contribute to the hospital a sufficient sum to recoup them, not only for the hospital outlay, but for the payment of the staff, bearing in mind that they are really in receipt of funds both from the employer and the employee to overtake this work.

The suggestion which the Chancellor made that this might mean a certain amount of Government control over the work of the hospitals need not trouble us, for voluntary hospitals as they exist to-day have nothing to fear from inspection.

We are all aware that many of the voluntary hospitals are in great straits for funds, and the National Insurance Bill will increase their difficulty of finding funds to meet their annual expenditure. It has been stated that when the Employers' Liability Act came into force hospital managers feared that it would seriously affect subscriptions from employers and employees. It had a certain effect, but no one with a knowledge of the working of the voluntary system took an exaggerated view of the situation, or would compare it for a moment with the certain consequences of the National Insurance Bill as at present framed. I am not aware that such an extreme view was ever taken by any one who had a knowledge of hospital finance. They only regarded it as the thin end of the wedge; but now, if the same policy is to be driven home in a more exaggerated form by the passing of the National Insurance Bill, how can they hesitate or have any doubt about the ultimate effect of such legislation?

I do not view the National Insurance Bill from the destructive side which some people do. I would prefer to seize the opportunity of having it amended in such a way as would make it possible for any one to receive treatment in a voluntary hospital who is above the pauper class and is not in a position to pay for efficient treatment outside. Nothing would do more to encourage the philanthropists

who have in the past left large sums for the endowment of beds in memory of deceased relatives, for the improvement of buildings and equipment, and assisting in the maintenance of hospitals not only as curative institutions, but as teaching schools and centres of medical research. I say it would encourage these benefactors to increase their gifts rather than withhold them, as they will have the full assurance that the bill will protect the institutions to which they have given their money from any possible abuse by those who are able to pay for treatment outside. What we want more than anything at the present time is that all voluntary hospitals should be agreed on this vital point, and I believe that in no way could this be carried out more efficiently or more effectively than by having a system of Government inspection.

The question of the relationship of the hospitals to the State was dealt with in an able paper by Dr. M'Walter at the Public Health Congress held this year. He pointed out that if a man was a pauper public money may be spent in treating him in a Poor Law hospital; if a man was sick from an infectious disease, public money could also be spent in curing him; but no institutional treatment is provided in the bill for the working man with a small income who is unable to pay the fees of a nursing home and a specialist when he suffers from an ailment which it is impossible to treat efficiently in his own home. There is no place for him unless he seeks admission to a voluntary hospital. Why should any bill be passed which would tend to withdraw a single penny from the funds of the voluntary hospitals? The National Insurance Bill makes no provision whatever for institutional treatment, with the exception I have mentioned. No one can deny the absolute necessity of institutional treatment in certain cases, and I think it is premature to interfere in any way with the funds of the voluntary hospitals until the whole question of the Poor Law has been satisfactorily settled, as any interference of this kind might possibly, although unintentionally, wreck the voluntary principle. Those of us who are familiar with the administration of hospitals in large centres know very well that a certain amount of overlapping at present occurs, and I venture to suggest that in all large centres there should be a clear understanding between all hospitals that when a man is in receipt of parochial relief or has no fixed residence and means of support, he should at once be sent to the parochial hospital, and they should be compelled to take him in; and, further, I would suggest that a record should be kept in each centre which would make it impossible for any patient simply to go from one hospital to another, or from one dispensary to another. In this way, full use could be made of the hospital beds which at present exist, much more good could be accomplished, and overlapping and abuse of charity would be effectively checked.

Things cannot always proceed on the old lines, but that does not necessarily mean that the present system of dealing with the hospital question should be abolished simply because there are defects in detail.

I would like to refer in a word to the probable effect of the National Insurance Bill on the working of the out-patient departments of our voluntary hospitals.

The British Medical Association desires to co-operate with the British Hospitals Association in endeavouring to carry out certain reforms which the National Insurance Bill has brought into greater prominence, and if we are agreed on the principles, their application would soon become universal. With the exception of accidents and urgent cases, the out-patient department of every voluntary hospital should be restricted to the treatment of patients who are not in a position to pay for adequate treatment outside, and who are, from a hospital point of view, suitable for treatment in a charitable institution. Recent legislation makes it all the more necessary for the managers of voluntary hospitals to take united action to prevent their institutions being used for the treatment of patients who should have the treatment supplied by the Poor Law service, or by the State. I would suggest that when a patient has been seen and ordered treatment which can only be efficiently carried out in an institution, by either a School Board medical officer, an insurance doctor, or any one paid by the Poor Law or the State, the hospital should receive adequate payment for each case treated, sufficient to recoup the hospital for its outlay, and pay the medical officer such honorarium or salary as may be agreed upon. Take, for instance, the treatment of school children. Why should the School Board medical officer refer children to a charitable institution whom he finds on medical inspection to be defective? It would be quite possible to come to some arrangement that the out-patient department of voluntary hospitals might be used for a certain portion of the day for the treatment of these cases, when they would not mix with the ordinary out-patients at all, but that would require to be carried out on a sound business principle. The hospital should receive an adequate sum for the use of these buildings, and the medical officer who carries out the work should be paid for his services. Why should the Education Department pay medical men to examine school children and insist on the parents having certain treatment which cannot be carried out in their own homes? When we come to consider the treatment of insured persons under the proposed National Insurance Bill, we will find the same difficulty. No insured person should be treated in the out-patient department of a voluntary hospital unless he has a private note, or is introduced personally by an insurance practitioner who is in attendance, and in such a case, after the consultation, he should be referred back to the same medical attendant with an expression of the opinion of the hospital physician or surgeon on the patient's condition. In this way the number of cases attending our out-patient department would be reduced. The medical men outside will be paid for attending to those cases, and a record of such insured person sent to the out-patient department should be forwarded to the Insurance Commissioners. But it must be borne in mind that while the medical men who will serve under the insurance scheme are supposed to give all the domiciliary treatment which is necessary, they are not supposed to undertake the work which can only be done in hospital; in fact, their contract does not include this. That being so, it is quite evident that if the bill becomes law, while the out-patient department will be relieved of a number of trivial cases and cases which at present are considered by some people quite unsuitable for the out-patient department of a hospital, the number of patients seeking admission to the wards of the hospital will tend to increase rather than decrease, and, unless the Insurance Bill is amended so as to secure the necessary funds for the upkeep of these hospitals, no scheme of national insurance will be complete or satisfactory until proper facilities are provided for hospital treatment. We are told that £17,000,000 a year is to be subscribed by employers and taxpayers. Out of this total sum the workman is to be provided with medical attendance without being compelled to resort to the Poor Law doctor. What about his wife and family? Are they to be left to charity and be sent to the voluntary hospitals? It must be borne in mind that hospital treatment is not only necessary for the man himself, but also for his wife and children, and, with the exception of the 30s. which comes under the maternity benefit, no hospital provision is made for his family. If the bill were amended in the direction I have indicated, the public would have the assurance that the financial position of the voluntary hospitals would be safeguarded, and many of the difficulties which I have incidentally referred to would be avoided. I would, therefore, urge on hospital managers to leave no stone unturned until the question of hospital treatment for the poor above the pauper class receives more consideration from the Government and the House of Commons. We have come to a crisis in the history of the voluntary principle. The increasing burden which is rapidly being thrust on the finances of all our voluntary institutions is a most serious matter, and I fear a National Insurance Bill, instead of relieving this increasing burden, if passed in its present form, will tend materially to increase it. I do not suggest for a moment that this is the intention of the promoters of the bill—far from it—but I believe that in their endeavours to blot out existing abuses they do not fully appreciate the difficulties which the managers of voluntary hospitals experienced in the past of obtaining funds sufficient to carry on the voluntary hospitals. Why should we not co-operate with the British Medical Association and formulate a scheme which would demonstrate clearly to the member of Parliament for every district where there is a voluntary hospital that unless he can submit to his constituents an incontrovertible argument against the continuation of the voluntary principle, he should pledge

himself to support any reasonable amendments which will not only maintain the voluntary hospitals in their present state of efficiency, but keep them all up to date as the centres of the most advanced methods of medical treatment and research.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

METROPOLITAN COUNTIES BRANCH: GREENWICH DIVISION.

Deputation to the Miller Hospital.

On Friday, October 6th, the Board of Management of the Miller Hospital received a deputation representing the Greenwich Division in order to discuss:

1. The Medical Treatment of School Children.
2. The Out-patient Department of the Miller Hospital.

The deputation consisted of Drs. Cox, Crabbe, Gooding, Hemmans and Keay.

The deputation drew attention to the following points:

1. *The Medical Treatment of School Children.*

The British Medical Association is strongly opposed to the reference of school children found upon inspection to be defective to public medical charities for treatment, for the following reasons:

(*a*) Hospitals were erected and supported by benefactors who desired to provide the poor with medical treatment; they were not intended to be made use of by the State for a national purpose, nor by the London County Council, with the sole idea of saving the ratepayer's pocket.

(*b*) The oft-repeated argument—that children sent to hospitals obtained the best possible treatment at the hands of the leading London specialists, and therefore it was the Council's duty to provide the very best that could be obtained for public money—was a fallacy. The result of sending a large number of children to the out-patient department was that the work had to be done under high pressure, and the actual specialist in charge of the department saw an extremely small proportion of the total number of children sent, the majority of whom were treated by clinical assistants and house-surgeons. Many men in general practice have held similar appointments as clinical assistants, etc., and are, therefore, quite capable of giving the children the same skill and attention as they would receive in hospital.

(*c*) By the sending of large numbers of patients to be treated at the hospitals the work of the general practitioner is seriously and very unfairly interfered with; parents are thereby encouraged to take other members of the family to hospital for free treatment.

(*d*) The Association is of opinion that the work should be carried out at medical treatment centres, by those among the local practitioners who are able and willing, for a reasonable remuneration, to do the work. By this method the work would be divided amongst a large number acting in rotation, instead of being in the hands of a limited number.

A scheme for the establishment of such a centre for Lewisham has been sanctioned by the London County Council.

The Miller Hospital authorities were strongly urged to consider the advisability of declining to enter into any arrangement with the London County Council for the treatment of school children, as this would enable the medical practitioners of Greenwich and Deptford to establish a medical treatment centre in this locality.

2. *The Out-patient Department of the Miller Hospital.*

(*a*) The letter system leads to considerable abuse, letters being often given to persons who were not suitable objects of charity.

(*b*) The suggested appointment of an almoner was an inefficient remedy, for such an official would have to depend to a large extent upon the unsupported statements of the patients themselves.

(*c*) The only real remedy would be the establishment of a rule that no patient would be received for treatment (other than emergency cases) except on the recommendation of a local practitioner.

During the discussion which followed various questions put by members of the board were answered, and the Chairman then promised the deputation that the matter should have their careful consideration, at the same time assuring them that the board was most anxious to do everything possible to avoid any friction or ill feeling between the local practitioners and the Miller Hospital.

The deputation, having thanked the board for their courteous reception, then withdrew.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

COUNCIL MEETING.

A meeting of the Council will he held at 2 o'clock in the afternoon of Wednesday, November 1st, in the Council Room at 429, Strand, London, W.C.

By Order,

Guy Elliston,
Financial Secretary and Business Manager.

October 5th, 1911.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

Lending Department.

A list of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

Birmingham Branch: Central Division.—A general meeting will be held at the Medical Institute, Edmund Street, on Wednesday, November 8th, at 4 p.m. Business: To receive the Report of the Representative, etc.—W. Tracy Lydall, B. C. R. Aldren, Honorary Secretaries.

Border Counties Branch: English Division.—A meeting of the Division will be held at Penrith on Friday, October 27th, at 3.30 p.m. Executive Committee will meet at 3.15 p.m.—Full particulars in future notice.—Jas. R. S. Anderson, Honorary Secretary.

Dorset and West Hants Branch.—The autumn meeting will be held in Blandford, on Wednesday, October 18th.—James Davison, Honorary Secretary (*pro tem.*), "Streateplace," Bournemouth.

East Anglian Branch.—The autumn meeting will be held at Braintree on Thursday, October 26th. Members wishing to read papers or to show specimens or cases should communicate at once with the Secretary, Dr. B. H. Nicholson, East Lodge, Colchester.

Lancashire and Cheshire Branch: Wigan Division.—A general meeting will be held on Thursday, October 19th, at the Royal Hotel, Wigan, at 8.30 p.m., to hear the annual report of Dr. F. E. Wynne, Representative of the Wigan and Leigh Divisions at the Annual General Meeting of the Association, held in Birmingham in July last, and for other urgent business.—Maurice G. McElligott, F.R.C.S.Irel., Honorary Secretary, Wigan.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—The next meeting of the Westminster Division will be held on Thursday, October 26th, at 8.30 p.m., at the Criterion Restaurant, Harvey Hilliard, Esq., M.R.C.S., L.R.C.P., in the chair. Agenda: 7.30, the members will dine together (evening dress optional, price of dinner 5s.); 8.30, formal Association business; 9 p.m., Cinematograph Demonstration of Living Micro-Organisms, including Sleeping Sickness, *Spirochaeta pallida*, and the influence of "606" upon it. A short lecture will be given on the organisms shown. Any member of the medical profession will be welcome to the demonstration, but it is hoped that they will also attend the dinner, tickets for which will be gladly sent by the undersigned.—J. HOWELL EVANS, F.R.C.S., Honorary Secretary, 25, Berkeley Square, W.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—The autumn meeting of the Branch will be held at Nairn on Saturday, October 21st. Full particulars will be sent each member by circular.—J. MUNRO MOIR, Honorary Secretary, Inverness.

SOUTH-EASTERN BRANCH: FOLKESTONE DIVISION.—A combined meeting of the Folkestone Medical Society and of the East Kent Division will be held at the Royal Victoria Hospital, Folkestone, on Thursday, November 2nd, at 3.30 p.m. All members of the South-Eastern Branch are invited to attend and introduce professional friends. Agenda: (1) Minutes. (2) A paper will be read by Dr. F. W. Price on Diseases of the Heart, with lantern demonstration. (3) Other business.—P. VERNON DODD, Honorary Secretary.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—A meeting of the Division will take place on Tuesday, October 17th, at 3 p.m., at the Royal Bucks Hospital, Aylesbury. The annual dinner will be held at the Crown Hotel at 6 p.m., after the meeting. There will be a demonstration of cases by the staff of the hospital. Agenda will be sent before meeting.—A. E. LARKING, Honorary Secretary, Buckingham.

SOUTH-WESTERN BRANCH.—The autumn intermediate meeting of the Branch will be held at Prince's Hall, Princess Square, Plymouth, on Tuesday, October 24th, at 4 p.m. In view of the importance and urgency of the points affecting the medical profession which have been raised by the National Insurance Bill, the Council feel they have been fortunate in having been able to arrange for an address on this subject, to be given by Mr. J. Smith Whitaker, the Medical Secretary of the Association. A full attendance is specially urged on members on this occasion. Non-members are also cordially invited to be present.—RUSSELL COOMBE, 5, Barnfield Crescent, Exeter, Honorary Secretary.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Staff Surgeon G. C. C. Ross, M.B., to the *President*, additional, for the *Maine*, October 10th; Surgeon R. CONNELL, M.B., to the *President*, additional, for three months' special course of study at West London Hospital, October 10th, and to Plymouth Hospital, as Anaesthetist and Radiographer on completion of the course, January 10th, 1912; Surgeon J. MCCUTCHEON, M.B., to Chatham Hospital, as Anaethetist and Radiographer on completion of his course of study, January 2nd, 1912; Fleet Surgeon T. T. JEANS, M.B., to the *Vivid*, additional, for the *Dartmouth*, for trials, October 14th, and to the *Dartmouth*, temporary, on commissioning, undated.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

MAJOR A. O. B. WROUGHTON, from the half-pay list, is restored to the establishment, September 20th. He was placed on the half-pay list on account of ill-health, March 20th, 1911.

Captain E. S. WORTHINGTON, M.V.O., has been struck off the strength of the London District to take up the appointment of Medical Officer on the staff of the Duke of Connaught, newly appointed Governor-General of Canada.

INDIAN MEDICAL SERVICE.

THE undermentioned officers, appointed on probation January 28th last, having completed their courses at the Royal Army Medical College and at Aldershot, are finally admitted to the service, and their commissions will bear date from January 28th, 1911: J. SCOTT, M.B., A. R. S. ALEXANDER, M.B., F. W. HAY, M.B., S. M. HEPWORTH, M.B., H. S. CORMACK, M.B., G. TATE, G. S. BROCK, M.B., J. F. H. MORGAN, C. A. WOOD, M.B.

Lieutenant-Colonel J. L. VAN GEZZEL, M.B., Madras, is permitted to retire from the service, from July 9th. He was appointed Assistant-Surgeon, October 2nd, 1880, and became Lieutenant-Colonel, October 2nd, 1900.

Captain G. C. L. KERANS is appointed Specialist in Ophthalmology, 8th (Lucknow) Division, from August 3rd.

TERRITORIAL FORCE.

INFANTRY.

Fourth Battalion Welsh Infantry.—Surgeon-Lieutenant W. R. G. WILLIAMS, M.B., to be Surgeon-Captain, July 30th.

Fourth Battalion Oxfordshire and Buckinghamshire Light Infantry.—Surgeon-Major J. O. SANKEY retires, under the conditions of paragraph 116 of the Territorial Force Regulations, October 7th; he retains his rank and uniform.

ROYAL ARMY MEDICAL CORPS.

First Western General Hospital.—Captain R. C. DUN, M.B., F.R.C.S. Eng., resigns his commission, October 7th.

Eastern Mounted Brigade Field Ambulance, Royal Army Medical Corps.—Lieutenant OLIVER SMITHSON resigns his commission, October 11th.

Fifth London Field Ambulance, Royal Army Medical Corps.—JOHN P. GRAINGER to be Lieutenant, September 23rd.

Third North Midland Field Ambulance, Royal Army Medical Corps.—Major H. H. C. DENT, M.B., F.R.C.S., to be Lieutenant-Colonel, September 5th.

First Welsh. Field Ambulance, Royal Army Medical Corps.—Lieutenant JOHN O'SULLIVAN to be Captain, June 19th.

For Attachment to Units other than Medical Units.—ROBERT C. DUN, M.B., F.R.C.S.Eng., (late Captain, 1st Western General Hospital), to be Lieutenant, October 7th; Surgeon-Captain WILLIAM R. E. WILLIAMS, from the 4th Battalion, The Welsh Regiment, to be Captain, October 11th.

Attached to Units other than Medical Units.—Captain DAVID WALKER to be Major, July 27th. Lieutenant D. A. HUGHES to be Captain (to remain supernumerary), July 28th. Captains HERBERT MEGGITT, A. H. PIRIE, M.B., and JOHN FORBES, M.B., resign their commissions, October 7th. Captain G. H. GOLDSMITH, M.D., resigns his commission, October 11th.

TERRITORIAL DECORATION.

THE King has conferred the Territorial Decoration upon the undermentioned officers of the Royal Army Medical Corps (Territorial Force): Lieutenant-Colonel A. K. CHALMERS, M.D., Sanitary Officer of the Lowland Territorial Division; Major ROBERT RANNIE, M.B., attached to the 7th (Deeside Highland) Battalion, the Gordon Highlanders; Major W. A. ATKINSON, M.D., attached to the 21st (County of London) Battalion, the London Regiment (First Surrey Rifles); Major W. M. HAMILTON, M.D., attached to the 7th Battalion the Lancashire Fusiliers; Major C. T. GRIFFITHS (Retired List); Captain R. T. FERGUSON, M.D. (Retired List).

VOLUNTEER OFFICERS' DECORATION.

THE Volunteer Officers' Decoration has been conferred upon Lieutenant-Colonel G. S. WOODHEAD, M.D., Sanitary Service, Royal Army Medical Corps (Territorial Force).

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 7,557 births and 4,707 deaths were registered during the week ending Saturday last, October 7th. The annual rate of mortality in these towns, which had been 17.1, 17.0, and 15.5 in the three preceding weeks, further declined to 15.2 per 1,000 in the week under notice. In London the death-rate was equal to 15.0 per 1,000, against 15.3, 15.6, and 15.6 in the three previous weeks. Among the seventy-six other large towns, the death-rates last week ranged from 6.4 in Devonport, 8.3 in King's Norton, 8.7 in Willesden, in Burton-in-Trent, and in Coventry, 9.0 in Reading, and 9.4 in Gateshead, to 20.6 in Burnley, 21.2 in Oldham and in Barrow-in-Furness, 21.6 in Bootle and in Wigan, and 23.9 in Tynemouth. Enteric fever caused a death-rate of 1.4 in Grimsby and in Huddersfield; whooping-cough of 2.1 in Derby; diphtheria of 1.3 in Preston; and diarrhoea and enteritis (of children under 2 years of age) of 4.5 in Walsall, 5.0 in Warrington, 5.1 in Stoke-on-Trent, and 6.9 in Burnley. The mortality from measles and scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 27, or 0.6 per cent. of the total deaths registered in the seventy-seven towns last week were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Liverpool, 3 in Birmingham, and 2 each in Manchester, Sheffield, Hull, and Tynemouth. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,454, 2,532, and 1,666 at the end of the three preceding weeks, had further risen to 1,793 on Saturday last; 293 new cases were admitted during the week, against 264, 240, and 333 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 825 births and 490 deaths were registered during the week ending Saturday last, October 7th. The annual rate of mortality in these towns, which had been 16.7 and 15.2 per 1,000 in the two preceding weeks further declined to 14.9 per 1,000 in the week under notice, and was 0.3 below the mean rate during the same period in the 77 large English towns. Among the several Scottish towns the death-rates last week ranged from 11.6 in Leith and 12.3 in Paisley to 15.4 in Edinburgh and 19.0 in Dundee. The mortality from the principal infectious diseases averaged 1.8 per 1,000, and was highest in Aberdeen and in Perth. The 224 deaths from all causes registered in Glasgow included 1 from enteric fever, 2 from measles, 4 from scarlet fever, 2 from whooping-cough, 4 from diphtheria, and 11 from infantile diarrhoeal diseases. Two deaths from scarlet fever were recorded in Edinburgh and 2 in Aberdeen; 2 deaths from diphtheria in Perth, and 7 deaths from infantile diarrhoea in Dundee and 4 in Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, October 7th, 565 births and 431 deaths were registered in the twenty-two principal urban districts of Ireland, as against 669 births and 396 deaths in the preceding period. The annual death-rate in these districts, which had been 19.4, 20.1, and 18.0 per 1,000 in the three preceding weeks, rose to 19.6 per 1,000 in the week under notice, this figure being 4.4 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 22.1 and 17.3 respectively, those in other districts ranging from 6.9 in Armagh and 7 7 in Londonderry to 37.8 in Drogheda and 40.6 in Clonmel, while Cork stood at 25.2, Limerick at 20.4, and Waterford at 19.0. The zymotic death-rate in the twenty-two districts averaged 3.7 per 1,000 as against 4.3 in the preceding period.

Hospitals and Asylums.

BELFAST DISTRICT ASYLUM.

Dr. Graham, the Medical Superintendent, has lately issued his annual report for 1910. At the close of the year there were in the asylum 563 males and 655 females; 125 and 154 females had been admitted during the year; 57 males and 56 females had died, and 55 males and 88 females had been discharged. These numbers are practically the same as those for 1909. Dr. Graham again calls attention to the causes of insanity as revealed by these statistics; chief among them are heredity, unhygienic environment, faulty early training, the abuse of alcohol, and violation of physiological law, sometimes wilful, more frequently through ignorance. Modern psychiatry has made special advances in the discovery and valuation of these enemies of mental health. "The abnormal man," Dr. Graham says, "will cease to be such a common figure when the popular intelligence thoroughly grasps the forces of which he is the inevitable product." The crusade against tuberculosis, the medical inspection and supervision of school children, and legislation providing for a course of instruction in hygiene, and the care of health in all public elementary schools, all will have a valuable effect on the mental health of the future generation. The report of the Inspectors of Lunacy gives high praise to the condition of both old and new asylums. The villas are being built and opened at Purdysburn; the Roman Catholic and Protestant churches have been dedicated and are now in use, and the new institution promises to be one of the best equipped and most up-to-date asylums. The total expenditure works out at the low net capitation of £20 10s. per annum.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BATTERSEA DISPENSARY FOR PREVENTION OF TUBERCULOSIS.—Medical Officer. Salary commencing £250 per annum

BIRMINGHAM: GENERAL HOSPITAL.—Two House-Surgeons. Salary for first three months at the rate of £40 per annum, and for following six months £50 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—One Obstetric and one Ophthalmic House-Surgeon. Salary at the rate of £50 per annum each.

BODMIN: CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer (male). Salary, £140 per annum.

BRIGHTON: CHICHESTER HOSPITAL.—Resident House-Physician (woman).

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House-Surgeon. Salary, £75 per annum.

CARDIFF INFIRMARY.—House-Surgeon for the Ophthalmic and Ear and Throat Departments. Honorarium £30 on completion of six months' service.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—House-Physician and Junior House-Surgeon (males). Salary, each at the rate of £90 per annum, increasing to £100 after six months.

DENBIGH: DENBIGHSHIRE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—(1) House-Physician. (2) Assistant House-Surgeon. Salary at the rate of £60 per annum each.

GLASGOW DISTRICT MENTAL HOSPITAL, Lenzie,—Junior Assistant Medical Officer. Salary commencing at £125 per annum.

GLOUCESTER COUNTY ASYLUM.—Male Assistant Medical Officer. Salary, £150 per annum, rising to £180.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Surgeon to Out-patients.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary, £70 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Assistant Casualty Medical Officer. Salary, £30 for six months and £2 10s. washing allowance.

HUDDERSFIELD ROYAL INFIRMARY.—Male Junior Assistant House-Surgeon. Salary, £60 per annum.

HULL: ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment or £80 per annum for twelve months.

INVERNESS DISTRICT ASYLUM.—Junior Assistant Physician (male). Salary, £140 per annum.

LEEDS GENERAL INFIRMARY.—(1) Resident Medical Officer; salary, £150 per annum. (2) Resident Obstetric Officer. (3) Two House-Physicians. (4) Three House-Surgeons. (5) Resident Medical Officer for the Ida and Robert Arthington Hospitals; honorarium, £30 for six months.

LEICESTER INFIRMARY.—House-Surgeon. (1) Salary at the rate of £120 per annum. (2) Assistant House-Surgeon. Salary at the rate of £80 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—Honorary Assistant Surgeon.

LIVERPOOL: HOSPITAL FOR WOMEN.—House-Surgeon.

LIVERPOOL ROYAL INFIRMARY.—Honorary Surgeon to the Lock Hospital.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £80 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £100 per annum.

MELROSE: ROXBURGH DISTRICT ASYLUM.—Assistant Medical Officer. Salary, £160 per annum.

MIDDLESEX HOSPITAL, W.—Resident Medical Officer. Salary to commence £200 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

OLDHAM UNION.—Assistant Medical Officer of the Workhouse.

POPLAR HOSPITAL FOR ACCIDENTS, E.—Senior House-Surgeon. Salary, £135 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Physician (male). Salary, £75 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—(1) Senior House-Physician. (2) Senior House-Surgeon. (3) Junior House-Physician. (4) Junior House-Surgeon. Salary for (1) and (2), £75 per annum; and for (3) and (4), £50 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) House-Physician; (2) Second House-Surgeon. Salary, £80 and £60 per annum respectively.

ROYAL EAR HOSPITAL, Soho, W.—House-Surgeon (non-resident). Honorarium, £40 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Honorary Dental Surgeon.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—(1) Honorary Surgeon; (2) Resident Medical Officer. Salary, £150 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Casualty Physician. Salary, £75 per annum.

SHEFFIELD: ROYAL INFIRMARY.—Two Junior Resident Medical Officers. Salary, £60 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £82 per annum.

STOCKPORT INFIRMARY.—Junior House-Surgeon (male). Salary, £80 per annum.

SURREY COUNTY COUNCIL EDUCATION COMMITTEE.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

THREE COUNTIES ASYLUM, near Hitchin.—Junior Assistant Medical Officer. Salary, £150 per annum, rising to £200.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Physician (male). Salary, £100 per annum.

WESTERN GENERAL DISPENSARY, Marylebone Road, N.W.—Honorary Ophthalmic Surgeon.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Clonavaddy (co. Tyrone), Stornoway (co. Ross and Cromarty.)

APPOINTMENTS.

Browning, Carl H., M.D., University Lecturer in Clinical Pathology and Director of the Clinical Research Laboratory of the University of Glasgow.

D'Erf Wheeler, Percy, M.D., F.R.C.S.E., L.R.C.P.Lond., Medical Superintendent of the Deptford Medical Mission.

Downes, Harold, M.B., C.M.Edin., L.R.C.P., L.R.C.S.E., Medical Officer of Health Ilminster Urban District.

Feldman, W. M., M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., Honorary Consulting Physician to Stepney Jewish Schools.

Moore, Sydenham F., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., House-Surgeon to the Warneford, Leamington and South Warwickshire General Hospital, Leamington Spa.

Pybus, Frederick C., M.S.Durh., F.R.C.S., Assistant Surgeon to the Hospital for Sick Children, Newcastle-on-Tyne.

Chelsea Hospital for Women, Fulham Road, S.W.—The following have been appointed Clinical Assistants:

M. W. Cohen, M.B., B.A., A. R. Littlejohn, M.R.C.S., L.R.C.P., D.P.H., H. T. Rossiter, M.R.C.S., L.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

Barendt.—On October 4th, 1911, at 65, Rodney Street, Liverpool W., the wife of Frank H. Barendt, M.D.Lond., F.R.C.S.Eng., of a son.

Ward.—On October 2nd, at Coleshill Terrace, Llanelly, to Dr. and Mrs. Ward, a daughter.

MARRIAGE.

Rowlands—Dowding.—On October 4th, at the Church of All Saints, Walton, West Pembrokeshire, by the Rector, the Rev. A. T. Woodman Dowding, M.A., brother of the bride, assisted by the Rev. F. Watson, M.A., the Rev. Percy Rowlands, M.A. (late R.N.), Choir Chaplain Ripon Cathedral, to Selina Mary Woodman, only daughter of Dr. and Mrs. Woodman Dowding, of Algeciras.

DEATHS.

Highet.—At Brow Top, Workington, on the 9th instant, John Highet, M.D. (M.O.H. Workington), in his sixtieth year.

Young.—At Shieldaig, Ross-shire, on October 3rd, after a long illness, William Bernard Young, M.B., C.M., late Applecross, aged 62 years.

DIARY FOR THE WEEK.

MONDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Mr. Shattock: Specimens illustrating Necrosis.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

THERAPEUTICAL AND PHARMACOLOGICAL SECTION, 15, Cavendish Square, W., 4.30 p.m.—(1) Presidential Address: Dr. W. E. Dixon, F.R.S. (2) Paper: Dr. P. P. Laidlaw: Laburnum Poisoning.

PATHOLOGICAL SECTION, 15, Cavendish Square, W., 8.30 p.m.—Communications: (1) Dr. A. Leitch: Carcinoma of the Uterus in a Rabbit. (2) Drs. Poynton and Paine: The Experimental Production of Appendicitis by Intravenous Inoculation of a Diplococcus; (3) Dr. J B. Cleland: On an Organism isolated from an Abscess in the Neck of a Bullock. Demonstration: Dr. P. Cole: The Muci-carmine Staining Method.

WEDNESDAY.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 4 p.m.—Harveian Oration by Dr. C. Theodore Williams, M.V.O.

THURSDAY.

OPHTHALMOLOGICAL SOCIETY, 11, Chandos Street, Cavendish Square, W.—8 p.m., Card Specimen. 8.30 p.m., (1) Introductory Address by the President. (2) Papers:—Mr. E. Nettleship: A New Case of Hereditary Night-blindness. Mr. J. S. Manson: A Case of Hereditary Cataract.

ROYAL SOCIETY OF MEDICINE:

DERMATOLOGICAL SECTION, 11, Chandos Street, W., 5 p.m.—Demonstration of Cases.

FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Keith: Specimens rarely added to the Museum which illustrate the Pathological Lesions and Clinical Appearances of Acromegaly.

ROYAL SOCIETY OF MEDICINE:

ELECTRO-THERAPEUTICAL SECTION, 15, Cavendish Square, W., 8.30 p.m.—Presidential Address by Mr. Archibald D. Reid.

OTOLOGICAL SECTION, 11, Chandos Street, W., 5 p.m.—(1) Presidential Address: Dr. W. Milligan. (2) Exhibition of Cases.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Paper:—Dr. A. G. Bagshawe: Recent Additions to our Knowledge of Sleeping Sickness.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday and Friday, 3.45 p.m., Pharynx and Naso-pharynx.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.: Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday. Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Wednesday, 3.30 p.m., Hints on the Routine Examination of the Eyes; Thursday, 4.30 p.m., Caecostomy.

MANCHESTER: ANCOATS HOSPITAL POST-GRADUATE CLINIC, Thursday, 4.15 p.m.—The Treatment of Heart Disease.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, Internal Strangulation; Tuesday, Some Points in the Diagnosis and Treatment of Intranasal Suppuration; Wednesday, The Early Diagnosis of Pulmonary Tuberculosis; Thursday, Induction of Premature Labour.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Clinical Lecture. Friday, 3.30 p.m., Oculo-motor Paralysis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations. Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient. Wednesday, 2.30 p.m., Medical Out-patient; Skin and Eye Clinics; *X* Rays. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient; 4.30 p.m., Lecture: The Late Complications of Peritonitis. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday, Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Children, 10 a.m.: Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m. daily.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
16 MONDAY ..	LONDON: Naval and Military Committee, 4 p.m.
17 TUESDAY ..	LONDON: Organization Committee, 2.30 p.m. BUCKINGHAMSHIRE DIVISION, *South Midland Branch*, Royal Bucks Hospital, Aylesbury, 3 p.m.; Annual Dinner, Crown Hotel, 6 p.m.
18 WEDNESDAY	DORSET AND WEST HANTS BRANCH, Autumn Meeting, Blandford.
19 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4.30 p.m. WIGAN DIVISION, *Lancashire and Cheshire Branch*, General Meeting, Royal Hotel, Wigan, 8.30 p.m.
20 FRIDAY ..	
21 SATURDAY ..	NORTHERN COUNTIES OF SCOTLAND BRANCH, Autumn Meeting, Nairn.
22 Sunday ..	
23 MONDAY ..	
24 TUESDAY ..	SOUTH-WESTERN BRANCH, Prince's Hall, Princess Square, Plymouth, 4 p.m.
25 WEDNESDAY	LONDON: Finance Committee, 2.30 p.m.

Date.	Meetings to be Held.
OCTOBER *(continued).*	
26 THURSDAY ..	WESTMINSTER DIVISION, *Metropolitan Counties Branch*, Criterion Restaurant; Dinner, 7.30 p.m.; Association Business, 8.30 p.m.; Cinematograph Demonstration, 9 p.m. EAST ANGLIAN BRANCH, Autumn Meeting, Braintree.
27 FRIDAY ..	ENGLISH DIVISION, *Border Counties Branch*, Penrith, 3.30 p.m.; Executive Committee, 3.15 p.m.
28 SATURDAY ..	
29 Sunday ..	
30 MONDAY ..	
31 TUESDAY ..	
NOVEMBER.	
1 WEDNESDAY	**London: Central Council, 2 p.m.** RICHMOND DIVISION, *Metropolitan Counties Branch*, Annual Dinner, Richmond.
2 THURSDAY ..	FOLKESTONE DIVISION, *South-Eastern Branch*, Combined Meeting of Folkestone Medical Society and East Kent Division, Royal Victoria Hospital, Folkestone, 3.30 p.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 21ST, 1911.

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Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

EDINBURGH BRANCH:

SOUTHERN DIVISION.

A GENERAL meeting was held in the Students' Union, Teviot Place, Edinburgh, on Friday, October 13th, at 8.15 p.m. There was a fair attendance, the meeting being presided over by the CHAIRMAN, Dr. Lundie.

Report of Representative.—Dr. MICHAEL DEWAR (Representative to Representative Meetings) presented his report, which dealt largely with the Insurance Bill and the attitude towards it of the Representative Meeting. He also gave details of the interviews between the Chancellor and the British Medical Association deputies, and of the representatives of the friendly societies. Dr. Dewar was cordially thanked for his report.

Proposed Union of Edinburgh Divisions.—The proposed motion for the union of the three Edinburgh Divisions, postponed from the last annual meeting, was then dealt with. It was agreed *nemine contradicente* that the Southern Division should unite with the North-Eastern and North-Western Divisions of the Edinburgh Branch to form one Edinburgh Division. Other business was deferred until the three Divisions had an opportunity of holding a combined meeting.

METROPOLITAN COUNTIES BRANCH:

CITY DIVISION.

THE inaugural meeting of the session was held by invitation at the London Hospital, on Friday, October 13th, at 4 p.m.; thirty-five members and friends were present.

Cases of Skin Diseases.—Tea having been served in the Board Room, the following series of cases was shown by Dr. J. H. SEQUEIRA, Physician to the Skin and Photo-therapy Departments of the hospital: (1) Urticaria pigmentosa; (2) leprosy (anaesthetic); (3) mycosis fungoides; (4) erythema iris; (5) keloid, extensive, from burns, atrophying under *x*-ray treatment; (6) exfoliative dermatitis; (7) macrocheilia, lymphatic drainage by subcutaneous threads; (8) carcinoma of leg; (9) rodent ulcer, 3 cases, illustrating results of treatment; (10) cases of syphilis, congenital and tertiary, treated by salvarsan. Dr. Sequeira commented upon and explained various features of the cases as shown, and replied to many questions.

Salvarsan.—Finally, a demonstration was given of the intravenous injection of salvarsan, 250 c.cm. being passed into the median basilic vein (under pressure of air filtered through cotton-wool from ordinary rubber spray bellows). Dr. SEQUEIRA gave an account of the method employed at the London Hospital, and how the adverse factors attending the treatment had been successively eliminated. Special emphasis was laid upon the necessity of non-acidity in the solution and for redistillation of the water. Since this was adopted the febrile reaction had not been noticed. The demonstration was followed with great interest by those present.

Vote of Thanks.—Upon the invitation of the CHAIRMAN, Dr. CUTHBERT DIXON moved a vote of thanks to Dr. Sequeira for his demonstration and to the Hospital Committee for its hospitality, and referred to the painstaking assiduity required in preparing so interesting and instructive a series of cases, and to the able manner in which they had been presented. In seconding, Dr. DAVID ROSS referred to the recent publication of Dr. Sequeira's work on *Diseases of the Skin*, and its general acceptance at once as a standard classic. The vote of thanks was carried by acclamation. In acknowledging the vote Dr. SEQUEIRA expressed his great pleasure in meeting the members of the Division annually, and extended an invitation to repeat the demonstration next year, and, on behalf of the Hospital Committee, said that the opportunity of the local profession meeting at the hospital was always welcomed by them. The meeting closed at 5.30 p.m.

NORTH OF ENGLAND BRANCH:

NORTH NORTHUMBERLAND DIVISION.

AN ordinary meeting was held at Belford on October 12th, Dr. WELSH (Felton) was in the chair. There were also present: Drs. Mackay, Purves, Robson, Moyes, Neill, Burrow, Philipson, Macdonald, and Burman.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed by the CHAIRMAN.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Macaskie, Main, McEwen, and Day.

Central Defence Fund.—The SECRETARY brought up the question of the Defence Fund, which at the last meeting had been left in his hands to arrange as to details, and after discussion it was resolved and carried unanimously:

1. That each member of the Division forward the sum of £1, through the Secretary, to the Central Defence Fund of the Association; this to be considered the contribution of the Division to this Fund.

(Proposed by Dr. ROBSON and seconded by Dr. PURVES.)

2. That each member shall guarantee a sum hereafter to be fixed, for a period of time hereafter also to be fixed, to constitute a local defence fund, and that the proceeds of such contributions shall be expended *in the Division* as occasion requires.

(Proposed by Dr. MACKAY and seconded by Dr. MACDONALD.)

3. That the amount guaranteed by each member be not less than 10s. per week for not less than eight weeks.

(Proposed by Dr. MACKAY and seconded by Dr. MACDONALD.)

It was also proposed and carried that copies of these resolutions be sent to every medical practitioner in the Division.

Collection of Accounts.—The appointment of a solicitor for the purpose of collecting accounts, etc., for the Division was next proceeded with, and, the names of several gentlemen having been proposed, on the motion of Dr. ROBSON, seconded by Dr. BARROW, Mr. Harold J. Hardy, solicitor, of the firm of Hindmarsh and Hardy, Alnwick, was appointed.

Treatment of Placenta Praevia.—A discussion on the treatment of placenta praevia was opened by the SECRETARY, who read a short paper on the subject, and most of the members took part in the discussion and contributed interesting experiences on the treatment of this affection.

Tea.—The members subsequently had tea together.

SOUTH-EASTERN BRANCH:

BRIGHTON DIVISION.

A SPECIAL meeting of this Division was held on Wednesday October 11th, at the Dispensary, Queen's Road, Dr. RYLE in the chair. Thirty-six members were present at the meeting.

New Rules and Standing Orders.—The new rules and standing orders for Division meetings were discussed and passed with a few slight amendments. The Division unanimously adopted the Bradford Rules and Rule Z as rules of procedure in ethical cases, pending the consideration of new ethical rules by the Association.

Election of Officers.—In accordance with the new Division rules, Dr. Ryding Marsh was appointed as Chairman-elect, and Dr. Burchell as Assistant Secretary. Three new members were elected to the Executive Committee, in accordance with Rule 9, which provides that at least four of the elected members of the Executive Committee shall reside outside the boroughs of Brighton and Hove. It is felt that this is a step which will ensure the adequate representation of the country districts on the committee and will greatly add to the efficiency of the Division. Great difficulty has been experienced in the past in securing the interest and co-operation of the county members, and it is hoped that in the future an increasing number of them will make an effort to attend the Division meetings. These are held in the afternoon at 4.30 p.m., this time being chosen specially as being likely to suit members residing at a distance.

Appointment of Standing Committees.—The Division also appointed two standing committees—an Ethical Committee, consisting of six members elected by ballot; a Medico-Political Committee, consisting of six *ex officio* and six elected members. These committees will hold office until the next annual meeting of the Division. Members of the Brighton Division are invited to bring all questions arising in the course of their professional work to the notice of the Secretary. Questions in dispute between practitioners are best settled in the first instance by reference to an independent medical man, who may be one of the members of the Ethical Committee acting in his private capacity. Should this not be satisfactory, the matter can be referred to the Ethical Committee, who will proceed strictly in accordance with the rules laid down for procedure in ethical cases. Cases arising in connexion with appointments to friendly societies, public services, or hospitals, can be dealt with by the Medico-Political Committee, who will investigate all such matters and report to the Division meetings.

SOUTHERN BRANCH:

JERSEY DIVISION.

THE quarterly meeting of this Division was held on Wednesday, October 11th, Dr. A. N. SYMONS, Chairman, presiding.

Confirmation of Minutes.—The minutes of the previous quarterly meeting, as also of the special meeting on July 1st, were read and confirmed.

Report of Council on "Spiritual Healing."—The discussion on this report was opened by Dr. WYNNE WALKER, who subsequently moved:

That the report be approved, and that the thanks of the Division are due to the subcommittee responsible for the report for the care and completeness with which, under manifest difficulties, the inquiry has been conducted.

This was carried unanimously.

Report of the Committee of the Southern Branch on District Nurses.—The consideration of this report was opened by Dr. VOISIN, who moved:

That the report be approved, with the thanks of the Division to the Branch Committee for its inquiry and report.

This was carried unanimously.

Paper.—Dr. MAJOR read a paper entitled, "The Position and Duty of Medical Men in Cases of Suspected Chronic Poisoning." A discussion followed.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

MONMOUTHSHIRE DIVISION.

A MEETING of this Division was held at the Asylum, Abergavenny, on October 5th. The CHAIRMAN, Dr. H. C. Bevan, presided, and the following members were also present: Drs. W. D. Steel, Greer, Morrell Thomas, E. B. Hughes, J. L. Thomas, Basset, Elworthy, J. D. O'Sullivan, Richards, E. Y. Steele, Nelis, Gratte, Glendinning, Cowie, Ryan, A. H. James, N. R. Phillips, T. Donovan, Mills, Tresawna; and R. J. Coulter and S. Hamilton, Honorary Secretaries, also Dr. J. A. Brown.

Apologies for Non-attendance.—Letters of apology for inability to attend were received from Drs. Haslett and Hayles.

Confirmation of Minutes.—The minutes of the preceding meeting were read and confirmed. Arising out of the minutes it was reported: (1) That with one exception all the members of the profession who had been approached had signed the undertaking *re* the National Insurance Bill. (2) That the deputation appointed at the preceding meeting had interviewed the Right Hon. Reginald McKenna, M.P., and Sir Ivor Herbert, M.P., and received satisfactory assurances with regard to the points submitted to them in accordance with the policy of the Association.

Report of Representative at Annual Representative Meeting.—Mr. GREER submitted his report on the business transacted at the Annual Representative Meeting at Birmingham.

National Insurance Bill.—After a prolonged discussion on this subject the following resolutions were carried *nemine contradicente*:

1. That this meeting of the Division instructs its officials to take such steps as are in their power to get the Harmsworth amendment repealed or amended.
2. That this meeting is strongly opposed to the introduction of any schemes managed by workmen's committees to control medical practice in collieries or works.
3. That the Executive Committee be instructed to take steps forthwith to form a local defence fund.

Clinical Demonstration.—Dr. N. R. PHILLIPS demonstrated a series of cases illustrating the various stages of general paralysis of the insane.

Votes of Thanks.—Dr. BEVAN being obliged to leave, Dr. E. Y. STEELE was voted to the chair, and very hearty votes of thanks were passed to Dr. Phillips for his very interesting demonstration and to Dr. Glendinning for his kindness in allowing the meeting to be held in the asylum and in entertaining the members to tea.

SOUTH-WESTERN BRANCH:

EAST CORNWALL DIVISION.

A MEETING of the Division was held at Liskeard on October 12th. Dr. NETTLE (Chairman) presided, and there were ten members present.

Ethical Rules.—The ethical rules forwarded by the Secretary of the South-Western Branch were read and adopted.

Local Defence Fund.—The subject of rules for the conduct and operation of the local defence fund was next discussed, and it was decided that when the central authorities of the Association had devised a set of rules for the purpose they be considered. Meanwhile the Division should not adopt any special rules.

National Insurance Bill.—The Honorary Secretary was authorized to send a notice to each member of the Division asking him to forward a sum of 5s. to meet the extra expenses which have been incurred by the Division in organizing the opposition to the National Insurance Bill up to the present.

YORKSHIRE BRANCH:

BRADFORD DIVISION.

THE Division held the inaugural meeting of the session on Wednesday, October 11th, at 8.30 p.m.

Dinner.—Previous to the meeting the new CHAIRMAN (Mr. G. H. Oliver) very kindly entertained to dinner at the Great Northern Hotel, Bradford, the officers, past Chairmen, and other members of the committees. The dinner was in every way a great success, and paved the way to a most excellent meeting.

Chairman's Address.—The CHAIRMAN gave an inaugural address on the History of Spectacles. It is no exaggeration to say that this was one of the most learned and interesting disquisitions that has ever been given to a Bradford medical society. It was a revelation to most members that so much could be said on such an apparently simple topic. It is hoped that the profession of the country may at an early period have the pleasure of reading *in extenso* Mr. Oliver's admirable paper.

St. Luke's Day.—It was decided to accept the invitation of the Vicar of Bradford to a service on St. Luke's Day, Sunday, October 22nd, at the Bradford parish church, and it is hoped that as many members of the medical profession as possible will respond to the call.

Supper and Smoking Concert.—Another function to aid in bringing the medical profession together was the decision to hold a supper and smoking concert on Wednesday, November 15th.

National Insurance Bill.—Some further discussion of the Insurance Bill took place, but of course it was considered necessary to wait for future developments before taking any very decided action.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

COUNCIL MEETING.

A MEETING of the Council will be held at 2 o'clock in the afternoon of Wednesday, November 1st, in the Council Room at 429, Strand, London, W.C.

By Order,

GUY ELLISTON,

Financial Secretary and Business Manager.

October 5th, 1911.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A general meeting will be held at the Medical Institute, Edmund Street, on Wednesday, November 8th, at 4 p.m. Business: To receive the Report of the Representative, etc.—W. TRACY LYDALL, B. C. R. ALDREN, Honorary Secretaries.

BORDER COUNTIES BRANCH: ENGLISH DIVISION.—A meeting of the Division will be held at Penrith on Friday, October 27th, at 3.30 p.m. Executive Committee will meet at 3.15 p.m.—Full particulars in future notice.—JAS. R. S. ANDERSON, Honorary Secretary.

EAST ANGLIAN BRANCH.—The autumn meeting will be held at Braintree on Thursday, October 26th. Members wishing to read papers or to show specimens or cases should communicate at once with the Secretary, Dr. B. H. NICHOLSON, East Lodge, Colchester.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The next meeting of the Division (a clinical evening) will be held at Manor Lodge, Upper Clapton (by invitation of Dr. C. F. Hadfield), on Thursday, November 9th, at 9.30. The Honorary Secretary will be pleased to receive notices from members intending to show cases or read papers. Professional friends are welcomed at all meetings.—A. G. SOUTHCOMBE, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—The next meeting of the Westminster Division will be held on Thursday, October 26th, at 8.30 p.m., at the Criterion Restaurant, Harvey Hilliard, Esq., M.R.C.S., L.R.C.P., in the chair. Agenda: 7.30, the members will dine together (evening dress optional, price of dinner 5s.); 8.30, formal Association business; 9 p.m., Cinematograph Demonstration of Living Micro-Organisms, including Sleeping Sickness, *Spirochaeta pallida*, and the influence of "606" upon it. A short lecture will be given on the organisms shown. Any member of the medical profession will be welcome to the demonstration, but it is hoped that they will also attend the dinner, tickets for which will be gladly sent by the undersigned.—J. HOWELL EVANS, F.R.C.S., Honorary Secretary, 25, Berkeley Square, W.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—The autumn meeting of the Branch will be held at Nairn on Saturday, October 21st.—J. MUNRO MOIR, Honorary Secretary, Inverness.

SOUTH-EASTERN BRANCH: FOLKESTONE DIVISION.—A combined meeting of the Folkestone Medical Society and of the East Kent Division will be held at the Royal Victoria Hospital, Folkestone, on Thursday, November 2nd, at 3.30 p.m. All members of the South-Eastern Branch are invited to attend and introduce professional friends. Agenda: (1) Minutes. (2) A paper will be read by Dr. F. W. Price on Diseases of the Heart, with lantern demonstration. (3) Other business.—P. VERNON DODD, Honorary Secretary.

SOUTH-WESTERN BRANCH.—The autumn intermediate meeting of the Branch will be held at Prince's Hall, Princess Square, Plymouth, on Tuesday, October 24th, at 4 p.m. In view of the importance and urgency of the points affecting the medical profession which have been raised by the National Insurance Bill, the Council feel they have been fortunate in having been able to arrange for an address on this subject, to be given by Mr. J. Smith Whitaker, the Medical Secretary of the Association. A full attendance is specially urged on members on this occasion. Non-members are also cordially invited to be present.—RUSSELL COOMBE, 5, Barnfield Crescent, Exeter, Honorary Secretary.

THE NATIONAL INSURANCE BILL.

MEETINGS OF THE PROFESSION.

THE following meetings to consider the present position of the profession with regard to the National Insurance Bill have been arranged, and will be addressed either by the Medical Secretary or the Deputy Medical Secretary:

October 24th.	Plymouth: Meeting of the South-Western Branch and local profession.
October 26th.	Darlington: Meeting of the Darlington Division and neighbouring Divisions in South Durham and North Yorkshire.
October 26th.	Meeting of the Richmond and Wandsworth Divisions (to be addressed by the Deputy Medical Secretary) at Wandsworth.
October 27th.	Glasgow and West of Scotland Branch, Glasgow.
October 28th.	General meeting of the Scottish Branches and Scottish medical profession at Edinburgh.
November 2nd.	Joint meeting of the Blackpool, Blackburn, and Preston Divisions at Preston.
November 3rd.	Meeting at Manchester of the local Divisions.
November 4th.	Meeting of the Bolton, Bury, and Rochdale Divisions at Bury.
November 7th.	Meeting of the Greenwich, Lambeth, and Norwood Divisions at Camberwell.

MEETING OF MEDICAL PRACTITIONERS IN SCOTLAND.

A MEETING to which all members of the profession resident in Scotland have been invited will be held in the Students' Union Hall, Edinburgh, on October 28th, at 3.30 p.m. The object of the meeting is to discuss the present situation of the Insurance Bill. The meeting will be addressed by Dr. J. A. Macdonald, LL.D., Chairman of Council, British Medical Association, and by Mr. J. Smith Whitaker, Medical Secretary.

ATTITUDE OF THE FRIENDLY SOCIETIES.

THE annual meeting of the National Conference of Friendly Societies, held in Edinburgh on October 12th and the following days, was attended by 105 delegates from the sixty-six societies on the roll; ten were unrepresented. On the motion of Mr. J. LISTER STEAD, Permanent Secretary of the Ancient Order of Foresters, the following resolution as to the minimum demands of the society was adopted:

> That this National Conference of Friendly Societies, representing over 4,000,000 benefit members of friendly societies in the United Kingdom, accepts the main principles of the National Insurance Bill, but declares that the bill will not be satisfactory unless the following principal requirements are met:
>
> (1) That approved societies shall be constituted on the basis of self-management by the members.
>
> (2) That the administration of the medical benefit shall be vested in approved societies, or, at their option, through the local Health Committees. That arrangements shall be made to ensure medical attendance for all existing members of friendly societies who are excluded from the State scheme on the same terms and conditions as those members who become insured persons under the bill.
>
> (3) That approved societies shall have a majority of representatives on the local Health Committee.
>
> (4) That sickness benefit be given from the first (instead of the fourth) day of the illness.
>
> (5) That the members' own contribution be paid over to approved societies and be invested by them.
>
> (6) That the proposals to use portions of the surpluses of approved societies for the benefit of deposit contributors be strongly opposed, and if such contributors need help, the State to make special grants to contributors refused by approved societies.
>
> (7) That the powers of local Medical Committees should be advisory only.
>
> (8) That the powers proposed to be given to the local Health Committees shall not be transferred to existing county or borough authorities.
>
> (9) That persons in receipt of incomes exceeding £160 per annum be allowed to become voluntary contributors to an approved society; such persons not to be entitled to the Government subsidy but to be entitled to take part in the management of the society.

The resolution was discussed at some length, and the form given above is that in which it was finally adopted after amendment.

The conference also resolved by 48 to 38 that, should the minimum demands as specified above not be accepted by Parliament, the societies be recommended to refuse to assist in administering the Act.

A motion from the Manchester Warehousemen's and Clerks' Provident Association to the following effect was lost:

> The conference, while agreeing with the main principles of the bill, considers that, on account of the deep and far-reaching nature of the scheme, further time ought to be given to allow the country to become more fully acquainted with the various clauses and their effect on the national life as a whole and upon friendly societies in particular, and urges upon the Government the advisability of deferring the final discussion of the bill for twelve months.

PAYMENT FOR ATTENDANCES.

Dr. HARRY GREY (Bristol), who thinks that the contract system should be ended and not mended, and wishes to appeal to the executive of the Association to test the feelings of the Divisions on the subject, writes: "Let us ask boldly for the total prohibition of the capitation system, a system condemned by every investigator, and see whether there exists one member of Parliament willing to defend it. This point conceded, there would remain only the fixing of an adequate fee for the services required. Here, again, the fighting ground is more advantageous, for it has been found impossible to convince either Parliament or the public that a capitation grant of 6s. is ridiculous, while that same Parliament and public, accustomed to pay fees, need no argument to be convinced that a doctor cannot do justice to his patients on 1s. 6d. a visit."

FRIENDLY SOCIETY MANAGEMENT.

G. C. C. (London) makes the following observations in illustration of the contention that it would be impossible to give to any friendly society or association of working men the control of medical treatment:

> A young man went back to work too soon after an attack of influenza. He had a nervous breakdown, neurasthenia, as we now call it, which means the same thing. After some months he recovered, and has been at work for three years. Then again he broke down, and the summer holiday did not restore him. He remembered that he belonged to a friendly society, so he went "on his club." There was the reason also that several convalescent homes are open to the club members, either free or at small cost.
>
> Now, the essential treatment of neurasthenia is immediate and complete change of surroundings—mental and social, as well as a physical change of climate. But by some wooden rules of the club this was all forbidden, and he was kept in idleness for three weeks. He could not even take a day's excursion into the country near London, which would have been so useful, lest the special inspector should find him "out."
>
> He was sent to a convalescent home finely situated in well-kept grounds. But no patient may handle a spade or a rake to while away the monotony, or to gain a little healthy exercise. There is no system of physical exercise, so essential to men who in their various occupations of necessity exercise but some of their sets of muscles, nor any attempt at chest expansion, although many—this man among them—lead sedentary lives.
>
> About a hundred yards away is a beach available for sea bathing. My friend should have had a daily dip, but the sea did not find him once, and I doubt if he had any bath at all. The men were sent out by the dozen or the score to walk for an hour or two, and they went and returned like a flock of goats or of sheep. No one went with them to point out the features of the places they visited. All was dull, drab monotony. You could see them slouching along.
>
> After a fortnight the man returned home, and has gone to one of the very few homes available at moderate cost, and I hear good accounts of him. But nearly two months of his life have been wasted, and his situation is filled up. He told me there were several patients suffering from neurasthenia at the seaside home.

He considers, however, that the friendly societies could do many useful things, such as providing splints on loan, or obtaining spectacles, or a wooden leg on credit, the patients paying by small instalments.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at Caxton House, Westminster, on October 12th, with Sir FRANCIS CHAMPNEYS in the chair.

Fee for Doctor called in by Midwife.

A letter was considered from Adeline Margaret Taylor, a midwife, as to a letter received by her from the Honorary Secretary of the Enfield Medico-Ethical Society informing her that the society had unanimously agreed that a midwife calling in a medical practitioner in any stage of a confinement must guarantee a fee of not less than a guinea and a half, and that the case must be taken over entirely by the doctor. The SECRETARY reported that he had forwarded a copy of the letter of the Enfield Medico-

Ethical Society to the Privy Council, and the reply of the Clerk of the Council was considered.

The Board decided that a copy of Sir Almeric FitzRoy's letter be sent to Adeline Margaret Taylor, accompanied by the letter from the Secretary, with which the correspondence printed below concludes. The Board, however, expressed regret that the Government had not yet made provision in such cases.

The following is a copy of the correspondence in this matter:

[Copy.]

Ponders End,
July 25th, 1911.

To Mr. Duncan,
Secretary,
Central Midwives Board.

Sir,—This afternoon I received enclosed letter, and I have taken the liberty of forwarding it on to you, to ask you what course I am to take.

Neither my sister, Emma Taylor, or myself as midwives, can guarantee that that fee stated can be paid. We are dependant on our cases for our living and the majority of people here are very poor, scarcely able to pay our fee, which is 10/6, let alone an extra 31/6 for dr.

I spoke to one of the local drs. here this evening, and he told me that it was owing to the State's Bill coming in, and he also said that even if I were to send for him he could please himself if he would come to my aid or not.

What I should like to know Mr. Duncan is—is the woman then to be left without medical help (perhaps to die) even after I have done my best and complied with the rules of the C.M.B. in sending for medical help?

I should esteem it a great favour for a reply from you, and beg to remain,

Sir, yours faithfully,
(Signed) Adeline M. Taylor.

[Copy.]

Enfield Medico-Ethical Society.

25th July, 1911.

Madam,—At a meeting of the above Society it was unanimously agreed if a certified midwife practising in this district called in a medical man in any stage of a confinement, that the midwife must guarantee a fee of not less than a Guinea-and-a-half, and that the case be taken over entirely by the Doctor.

Yours faithfully,
(Signed) Hon. Sec.

Miss A. M. Taylor.

[Copy.]

Privy Council Office,
London, S.W.,
31st July, 1911.

Sir,—Referring to your letter of the 28th instant, enclosing a copy of a letter from Miss A. M. Taylor, a certified midwife, together with a copy of a letter addressed to Miss Taylor by the Enfield Medico-Ethical Society demanding guarantees in the matter of the fees of medical men in the Enfield District who may be called in in cases of necessity, I have to observe that the medical interests of the Society in question appear to be more prominent than its ethical pretensions, and that, in my opinion, the correspondence discloses a most improper imposition on the midwife, and one which it is her duty to ignore.

I am. Sir,
Your obedient servant,
(Signed) Almeric FitzRoy.

The Secretary,
Central Midwives Board.

Central Midwives Board.

October 12th, 1911.

Madam,—Your letter of July 25th, and the letter received by you from the Honorary Secretary of the Enfield Medico-Ethical Society informing you that the Society had unanimously agreed that a midwife calling in a medical practitioner in any stage of a confinement must guarantee a fee of not less than a guinea and a half, and that the case must be taken over entirely by the doctor, were considered by the Board at a Meeting held to-day.

I am directed to point out that the Board has no control over the medical profession, and consequently has no power to deal with the resolution of the Enfield Medico-Ethical Society.

The proper course for you to adopt is to perform your duty in accordance with the directions laid down in the rules of the Board. By so doing you will discharge the liability that attaches to you, and should anything untoward happen as the result of the refusal of medical assistance the responsibility will not rest upon you.

As stated in my letter of July 28th, copies of your letter and of that of the Enfield Medico-Ethical Society were forwarded to the Privy Council. I now enclose a copy of a letter received in reply from the Clerk of the Council.

I am to add that the Board regrets that the Government has not made provision for such cases.

Yours faithfully,
(Signed) G. W. Duncan,
Secretary.

Miss A. M. Taylor.

Uncertified Women.

A letter was considered from the Deputy Clerk of the Council transmitting a copy of a letter addressed to the Home Secretary by Mr. A. Shaw of Bromyard with regard to the case of an uncertified woman practising as a midwife. The Board directed that it be pointed out to the Clerk of the Council that the Board had no jurisdiction over uncertified women, and that the duty of prosecuting them for a breach of Section 1 of the Midwives Act devolves on the Local Supervising Authority under Section 13 of the Act.

Laying out a Dead Body.

A letter was considered from the Town Clerk of St. Helens inquiring as to the power of the Local Supervising Authority to make a rule prohibiting a midwife from laying out a dead body. The Board directed that inquiry be made of the Privy Council as to the power of the Local Supervising Authority to frame a rule as indicated by Rule E 17 (*b*).

Temperature Chart for Midwives.

A letter was considered from the Medical Officer of Health for Bradford suggesting that the Board should prescribe a temperature chart for the use of midwives. A letter was considered from Miss Wooldridge, one of the inspectors of midwives for Staffordshire, on the same subject. The Board decided to inform the Medical Officer of Health for Bradford that it did not propose to prescribe a temperature chart, suitable books for the purpose being already in circulation, and that Miss Wooldridge be informed that the temperature should not be entered in the register, but in a separate book, as directed by the Local Supervising Authority.

Epilepsy and Midwives.

A discussion took place on a letter from a teaching institution asking if the training of an epileptic candidate for midwifery should be continued. The Board expressed the opinion that a woman subject to epileptic fits is not fit to practise as a midwife.

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE THIRD QUARTER OF 1911.

In the accompanying table will be found summarized the vital statistics of the metropolitan boroughs and of the City of London based upon the Registrar-General's returns for the third quarter of the year. The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided. The 28,056 births registered in London during the three months under notice were equal to an annual rate of 24.9 per 1,000 of the population, estimated at 4,522,628 persons in the middle of the year; in the corresponding quarter of the ten preceding years the birth-rate averaged 27.4 per 1,000. The birth-rates last quarter ranged from 12.3 in Hampstead, 12.8 in the City of Westminster, 17.0 in Kensington, 18.2 in Chelsea, 20.1 in Paddington, and 20.2 in the City of London, to 29.4 in Poplar and in Southwark, 29.6 in Bermondsey, 29.7 in Bethnal Green, 30.0 in Shoreditch, 32.8 in Stepney, and 37.9 in Finsbury.

During last quarter the deaths of 17,431 London residents were registered, equal to an annual rate of 15.5 per 1,000, against an average rate of 13.9 per 1,000 in the third quarters of the ten preceding years. The lowest death-rates last quarter were 8.8 in Hampstead, 11.4 in Stoke Newington, 12.1 in the City of Westminster, 12.2 in Wandsworth, 12.3 in Lewisham, 12.7 in Paddington, and 12.8 in Woolwich; and the highest rates 19.1 in Southwark, 19.9 in Bermondsey, 20.1 in Bethnal Green, 20.4 in Finsbury, 20.9 in Poplar, and 21.3 in Shoreditch.

The 17,431 deaths from all causes included 4,847 which were referred to the principal infectious diseases; of these, 159 resulted from measles, 41 from scarlet fever, 129 from diphtheria, 165 from whooping-cough, 43 from enteric fever, and 4,310 (among children under 2 years of age) from diarrhoea and enteritis. The deaths from measles, scarlet fever, whooping-cough, and enteric fever were below the average, but those from diphtheria and from diarrhoeal diseases were in excess. The lowest death-rates from these diseases in the aggregate were recorded in the City of Westminster, St. Marylebone, Hampstead, Stoke Newington, Holborn, and the City of London; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Greenwich. The greatest proportional mortality from measles was recorded in Chelsea, Shoreditch, Bethnal Green, Stepney, Southwark, and Greenwich; from scarlet fever in Fulham, St. Marylebone, Islington, Stoke Newington, Finsbury, and Southwark; from diphtheria in Hampstead, St. Pancras, Islington, Finsbury, Southwark, Greenwich, and Lewisham; from whooping-cough in St. Pancras, Stoke Newington, Hackney, Finsbury, Bethnal Green, Deptford, and Greenwich; from enteric fever in Paddington, Hammersmith, St. Pancras, Finsbury, Bermondsey, Camberwell, and Greenwich; and from diarrhoea and enteritis (among children under 2 years of age) in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey.

During the quarter under notice the deaths from phthisis among London residents numbered 1,358, and were equal to an annual death-rate of 1.20 per 1,000, the average rate for the corresponding quarter in

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Deaths occurring in Public Institutions during the Third Quarter of 1911.

Boroughs.	Estimated Population middle of 1911.†	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Infectious Diseases.	Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Enteric Fever.	Diarrhoea and Enteritis (Under 2 Years).	Phthisis.	Deaths of Children Under 1 Year of Age to 1,000 Registered Births.
COUNTY OF LONDON	4,522,628	28,056	17,431	24.9	15.5	4.30	4,847	—	159	41	129	165	43	4,310	1,358	203
Paddington	142,541	713	452	20.1	12.7	2.98	106	—	4	—	1	1	3	97	48	199
Kensington	172,296	731	578	17.0	13.5	2.77	119	—	1	—	2	6	—	110	38	196
Hammersmith ...	121,837	700	484	23.0	15.9	4.90	149	—	—	—	5	5	2	137	33	230
Fulham	153,726	1,031	617	26.9	16.1	5.21	200	—	4	3	4	3	4	182	56	225
Chelsea	66,218	301	254	18.2	15.4	2.96	49	—	4	—	2	1	—	42	16	196
City of Westminster ...	159,709	508	483	12.8	12.1	1.50	59	—	3	—	2	5	1	48	46	173
*St. Marylebone ...	117,844	937	400	31.9	13.6	2.34	69	—	1	3	2	5	—	58	34	93
Hampstead	85,599	262	187	12.3	8.8	1.32	28	—	4	—	7	—	—	17	12	118
St. Pancras	218,031	1,279	815	23.5	15.0	3.67	199	—	1	2	12	12	3	169	76	180
Islington	327,234	1,928	1,233	23.6	15.1	4.16	339	—	7	8	14	11	4	295	88	211
Stoke Newington ...	50,669	268	144	21.2	11.4	2.46	31	—	2	1	—	3	—	25	16	138
*Hackney	222,674	1,278	768	23.0	13.8	3.33	185	—	3	2	4	13	2	161	73	172
*Holborn	49,084	307	174	25.1	14.2	2.53	31	—	1	—	1	1	—	28	24	130
*Finsbury	87,639	828	445	37.9	20.4	6.41	140	—	2	2	5	5	5	121	35	198
City of London	19,475	98	69	20.2	14.2	1.65	8	—	—	—	—	—	—	8	6	92
Shoreditch	111,284	831	591	30.0	21.3	7.13	198	—	13	1	4	4	—	176	49	266
Bethnal Green ...	128,247	949	642	29.7	20.1	7.44	238	—	16	—	3	8	—	211	41	255
*Stepney	279,560	2,283	1,311	32.8	18.8	6.17	430	—	36	2	4	8	1	379	115	223
Poplar	162,290	1,191	847	29.4	20.9	7.52	305	—	5	3	5	7	2	283	58	273
Southwark	191,595	1,406	911	29.4	19.1	6.05	289	—	16	4	9	6	2	252	66	250
Bermondsey	125,840	928	625	29.6	19.9	5.87	184	—	3	1	3	6	2	169	55	231
*Lambeth	298,032	2,052	1,136	27.6	15.3	4.08	303	—	6	—	11	13	2	271	79	172
Battersea	167,765	1,030	617	24.6	14.8	4.37	183	—	5	1	—	5	1	171	40	217
Wandsworth	313,389	1,716	950	22.0	12.2	3.00	234	—	2	2	4	12	3	211	64	188
Camberwell	261,407	1,617	936	24.8	14.4	3.90	254	—	—	3	8	9	4	230	81	174
Deptford	109,475	726	457	26.6	16.7	5.69	155	—	1	1	4	8	—	141	35	251
Greenwich	98,982	588	421	24.6	17.6	6.31	151	—	14	—	5	7	2	123	24	241
Lewisham	161,677	880	495	21.8	12.3	2.94	119	—	1	1	8	1	—	108	21	182
Woolwich	121,509	690	389	22.8	12.8	3.03	92	—	4	1	—	—	—	87	29	170

* No correction is made for births in lying-in institutions; the boroughs principally affected are marked thus (*).
† Calculated from the unrevised returns of the recent census.

the ten preceding years being 1.27 per 1,000. The death-rates from this disease last quarter ranged from 0.52 in Lewisham, 0.56 in Hampstead, 0.82 in Wandsworth, 0.88 in Kensington, 0.96 in Battersea and in Woolwich, and 0.97 in Chelsea, to 1.46 in Fulham, 1.60 in Finsbury, 1.65 in Stepney, 1.75 in Bermondsey, 1.77 in Shoreditch, and 1.96 in Holborn.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 203 per 1,000, the average rate in the ten preceding third quarters being 148 per 1,000. Among the boroughs in which the lowest rates were recorded were Hampstead, Stoke Newington, Holborn, and the City of London, while the highest rates were recorded in Shoreditch, Bethnal Green, Poplar, Southwark, Deptford, and Greenwich.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 7,671 births and 4,633 deaths were registered during the week ending Saturday last, October 14th. The annual rate of mortality in these towns, which had been 17.0, 15.5, and 15.2 in the three preceding weeks, further declined to 15.0 per 1,000 in the week under notice. In London the death-rate was equal to 15.4 per 1,000, against 15.6, 15.6, and 15.0 in the three previous weeks. Among the seventy-six other large towns the death-rates last week ranged from 6.5 in Burton-on-Trent, 6.8 in Handsworth (Staffs), 7.0 in King's Norton, 8.3 in Walthamstow, and 8.4 in Willesden, to 18.7 in South Shields, 19.5 in Dewsbury, 19.6 in Bury, in Hull, and in Sunderland, and 23.3 in Oldham. Enteric fever caused a death-rate of 3.2 in St. Helens; measles of 3.8 in Wolverhampton; whooping-cough of 1.7 in Sunderland and 2.0 in Stockton-on-Tees; diphtheria of 1.3 in Norwich and 2.0 in Dewsbury; and diarrhoea and enteritis (of children under 2 years of age) of 2.5 in Oldham, 2.7 in Swansea, 3.3 in West Hartlepool, 3.4 in Burnley, and 3.5 in Wigan. The mortality from scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 43, or 0.9 per cent., of the total deaths registered in the seventy-seven towns last week were not certified either by a registered medical practitioner or by a coroner after inquest, and included 11 in Liverpool, 7 in Birmingham, and 3 in South Shields. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,532, 1,666, and 1,793 at the end of the three preceding weeks, had further risen to 1,966 on Saturday last; 355 new cases were admitted during the week, against 240, 333, and 293 in the three previous weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the largest Scottish towns 829 births and 538 deaths were registered during the week ending Saturday last, October 14th. The annual rate of mortality in these towns, which had been 15.2 and 14.9 per 1,000 in the two preceding weeks, rose to 16.4 last week, and was 1.4 per 1,000 above the mean rate during the same period in the seventy-seven large English towns. Among the several Scottish towns the death-rates last week ranged from 10.2 in Perth and 11.2 in Aberdeen to 16.1 in Dundee and 18.7 in Glasgow. The mortality from the principal epidemic diseases averaged 2.3 per 1,000, and was highest in Glasgow and Dundee. The 281 deaths from all causes registered in Glasgow last week included 1 from enteric fever, 4 from measles, 5 from scarlet fever, 6 from whooping-cough, 8 from diphtheria, and 21 from infantile diarrhoea. Two deaths from scarlet fever were recorded in Paisley; 2 from diphtheria in Dundee; and 7 from infantile diarrhoea in Dundee and 4 in Edinburgh.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeon W. W. Pryn is promoted to be Deputy Surgeon-General, from October 12th. His previous commissions are dated: Surgeon, February 18th, 1886; Fleet Surgeon, February 18th, 1902.

Acting Surgeons Roger A. Rankine, M.B., Vernon L. Matthews, Adrian C. Paterson, William L. Cowardin, Quintin H. Richardson, Herbert White, and Leonard A. Moncrieff, M.B., have been confirmed in the rank of Surgeon in His Majesty's Fleet, with seniority of May 19th, 1911.

Fleet Surgeon J. Sugrue, M.D., is placed on the retired list, from October 9th. He was appointed Surgeon, February 26th, 1884, and Fleet Surgeon, February 26th, 1900.

The following appointments have been made at the Admiralty: Staff Surgeon W. H. Pope to the *Sapphire*, on recommissioning, undated; Staff Surgeon H. J. Chater to the *Attentive*, on commissioning, October 31st; Surgeon G. Carlisle to the *Vernon*, additional, for the *Furious*, October 31st; Staff Surgeon R. H. Mornement to the *Weymouth*, on commissioning, undated; Staff Surgeon H. L. Geoghegan, M.D., to the *Eclipse*, on recommissioning, undated.

ARMY MEDICAL SERVICE.

Royal Army Medical Corps.

Captain D. De C. O'Grady, who is serving in India, has been appointed Specialist in Dermatology, 1st (Peshawar) Division, from September 9th.

INDIAN MEDICAL SERVICE.

Captain M. H. Thornley is promoted to be Major, from July 27th. Appointed Lieutenant, January 27th, 1900, he was made Captain January 27th, 1903. He served on the North-West Frontier of India, Waziristan, in 1901–2, receiving a medal with clasp.

Hospitals and Asylums.

LEBANON HOSPITAL FOR THE INSANE, ASFÛRIYEH, BEYROUT.

The annual report of Dr. Watson Smith, the Medical Superintendent and Director of the Lebanon Hospital for the Insane at Asfûriyeh for the year ended March 31st, 1911, shows that there were 78 patients in the asylum on April 1st, 1910, and 96 at the end of twelve months. The total number of cases under care during the year was 185. All of these numbers show increases on those of the previous year, and during the year 107 were admitted as compared with 101 admitted during the previous twelve months. The admissions, many of whom came from far distant places, were of various religious persuasions—Greeks, Maronites, Moslems, Jews, Druses, Roman Catholics,

and Protestants. They were classified according to the severa forms of mental disorder into: Recent mania, 23, and chronic and recurrent mania, 3; recent melancholia, 20; secondary dementia, 6; dementia praecox, 21; general paralysis, 7; hysteria, 12; delusional insanity, 4; alternating insanity and epilepsy, 3 each; and congenital defect, 5.

It will be observed that the general paralytics composed about the same proportion of the admissions that they do in England and Wales. As to causation, alcohol was assigned in 7, syphilis in 7, and specific fevers in 3; epilepsy and hysteria in 14; various bodily affections in 9; mental stress in 20; and critical periods in 16. An insane heredity was only ascertained in 4. During the year 30 were discharged as recovered, 17 as relieved, and 35 as not improved. Also 17 died during the year, the deaths being due to general paralysis (3), phthisis (2), heart disease (1), and exhaustion from mania (1).

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BATH: EASTERN DISPENSARY.—Resident Medical Practitioner. Salary, £130 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House-Surgeon. Salary, £80 per annum.

BIRMINGHAM CITY ASYLUM, Winson Green.—Junior Assistant Medical Officer (male). Salary, £150 per annum.

BIRMINGHAM: EAR AND THROAT HOSPITAL.—House-Surgeon. Salary at the rate of £70 per annum.

BRIGHTON: CHICHESTER HOSPITAL.—Resident House-Physician (woman). Small honorarium.

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House-Surgeon. Salary, £75 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90 after six months.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

CARDIFF INFIRMARY.—House-Surgeon for the Ophthalmic and Ear and Throat Departments. Honorarium, £30 on completion of six months' service.

DENBIGH: DENBIGHSHIRE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House-Physician. Salary at the rate of £60 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—(1) House-Physician; (2) Assistant House-Surgeon. Salary at the rate of £60 per annum each.

FERMANAGH COUNTY HOSPITAL, Enniskillen.—House-Surgeon (male). Salary, £72 per annum.

GLOUCESTER COUNTY ASYLUM.—Male Assistant Medical Officer. Salary, £150 per annum, rising to £180.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Assistant Casualty Medical Officer. Salary, £30 for six months and £2 10s. washing allowance.

HUDDERSFIELD ROYAL INFIRMARY.—Male Junior Assistant House-Surgeon. Salary, £60 per annum.

HULL: ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

LANARK COUNTY.—Resident Physician Superintendent of the Middle Ward Isolation Hospital, Motherwell. Salary commencing at £200 per annum.

LEICESTER INFIRMARY.—House-Surgeon. Salary at the rate of £120 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—Honorary Assistant Surgeon.

LONDON COUNTY ASYLUM, Claybury.—Junior Assistant Medical Officer. Salary at the rate of £170 per annum.

MANCHESTER CITY.—Medical Officer in connexion with the Notification of Phthisis. Salary, £250 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £100 per annum.

MELROSE: ROXBURGH DISTRICT ASYLUM.—Assistant Medical Officer. Salary, £160 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) House-Physician; (2) House-Surgeon; (3) Assistant House-Physician; (4) Assistant House-Surgeon. Salary at the rate of £60 per annum for (1) and (2), and £40 per annum for (3) and (4).

MIDDLESEX COUNTY ASYLUM, Napsbury.—Assistant Medical Officer. Salary commencing at £160 per annum.

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

OLDHAM UNION.—Assistant Medical Officer of the Workhouse.

POPLAR AND DISTRICT SICK ASYLUM.—Third Assistant Medical Officer for the Sick Asylum, Bromley. Salary, £120 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, E.—Senior House-Surgeon. Salary, £135 per annum.

PUBLIC DISPENSARY, 122, Drury Lane, W.C.—Resident Medical Officer. Salary, £105 per annum

RICHMOND, SURREY: ROYAL HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

ROCHDALE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Honorary Dental Surgeon.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—(1) Honorary Surgeon; (2) Resident Medical Officer. Salary, £150 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

SHEFFIELD: ROYAL INFIRMARY.—Two Junior Resident Medical Officers. Salary, £60 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £82 per annum, and £5 honorarium after six months' approved service.

STOCKPORT INFIRMARY.—Junior House-Surgeon (male). Salary, £80 per annum.

SURREY COUNTY COUNCIL EDUCATION COMMITTEE.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

WALSALL AND DISTRICT HOSPITAL.—House-Physician and Casualty Officer. Salary, £80 per annum.

WESTERN GENERAL DISPENSARY, Marylebone Road, N.W.—(1) Honorary Ophthalmic Surgeon. (2) Junior House-Surgeon; salary, £80 per annum.

WESTMINSTER HOSPITAL, S.W.—Assistant House-Physician.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WIGAN; ROYAL ALBERT EDWARD INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Ramsgate (Kent), Weston-super-Mare (Somersetshire), Workington (Cumberland).

APPOINTMENTS.

BLAXLAND, Jasper, M.S.Lond., F.R.C.S.Eng., Consulting Surgeon to the Swaffham Cottage Hospital.

DEWAR, Allan, M.R.C.S.Eng., L.R.C.P.Lond., Senior House-Surgeon of the Royal Albert Hospital, Devonport.

DUPONT, G. H., M.D.Edin., Medical Officer of Health of the Twickenham Urban District.

HALPIN, G., M.D.Dub., District Medical Officer of the Wokingham Union.

HARDENBERG, E. J. F., M.R.C.S.Eng., L.R.C.P.Lond., Surgeon to the "N" Division, Metropolitan Police, Chingford.

HILLIER, S., M.D.Edin., Medical Officer of Health of the Stowmarket Urban District.

JOHNSON, Alfred E., M.B., B.Ch.Vict., F.R.C.S., Assistant Surgeon to Middlesex Hospital.

KELLOCK, T. H., M.A., M.D., M.C., F.R.C.S., Fourth Surgeon at the Middlesex Hospital.

WHEELER, H. Q. O., L.R.C.P., L.R.C.S.Irel., Senior House-Surgeon to the Borough Hospital, Birkenhead.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—The following have been elected Clinical Assistants: Dr. Bates, Dr. W. R. Cooper, Major J. C. Holdich-Leicester, I.M.S., Captain H. Warwick Illins, I.M.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

MARRIAGE.

PEARSON—BURTON.—On the 14th, J. Sidney Pearson, M.A., M.D., B.C.Cantab., etc., of 25, New Cavendish Street, W., to Marjorie Dennis Burton, eldest daughter of Mrs. E. L. Burton, Westmoor, Bishop's Stortford.

DEATHS.

HARGRAVE.—October 16th, at London Hospital, from pneumonia, Donald Herbert Hargrave, aged 19 years, the eldest son of Herbert J. Hargrave, M.B., C.M., of 32, Spital Square, Bishopsgate, E.

THOM.—George Thom, M.R.C.S., of 1, Clarendon Terrace, Devonport, died suddenly, October 8th.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Paper:—Mr. Herbert Tilley: Acute and Chronic Suppuration of the Accessory Sinuses, the Etiology, Diagnosis, and Treatment, from the Point of View of the General Physician and Surgeon. Illustrated by Cases and the Epidiascope.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Mr. Shattock: Specimens illustrating Cysts.

ROYAL SOCIETY OF MEDICINE:

ODONTOLOGICAL SECTION, at 15, Cavendish Square, W., 8 p.m.—Casual Communications:—Mr. Hopewell-Smith: The Presence of Blood Vessels in the Enamel Organ of the Kangaroo. Paper:—Mr. J. G. Turner: Some Unusual Pathological Conditions of the Mouth. Presidential Address by Mr. H. Lloyd Williams.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

MEDICAL SECTION, at 15, Cavendish Square, W., 5.30 p.m.—Paper:—Dr. S. T. Pruen (Cheltenham): Slight Strokes.

WEDNESDAY.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, E.C., 9 p.m.—(1) Presidential Address by Dr. Hingston Fox. (2) Paper: Dr. Fortescue Fox, on Cases Illustrating the Use of Venesection.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

NEUROLOGICAL SECTION, at 15, Cavendish Square, W., 8.30 p.m.—Presidential Address:—Dr. F. W. Mott, F.R.S.: The Inborn Factors of Nervous and Mental Diseases.

FRIDAY.

KING'S COLLEGE HOSPITAL MEDICAL SOCIETY W.C., 8.20 p.m.—Clinical Meeting.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Keith: Specimens illustrating the Surgical Anatomy and Pathological Forms of Hernia.

ROYAL SOCIETY OF MEDICINE:

SECTION FOR THE STUDY OF DISEASE IN CHILDREN, at 11, Chandos Street, W., 4.30 p.m.—Exhibition of Cases. Paper:—Mr. Sydney Stephenson: On Cases of Night-Blindness with Peculiar Conjunctival Changes in Children.

BALNEOLOGICAL AND CLIMATOLOGICAL SECTION, at 15, Cavendish Square, W., 6 p.m.—Presidential Address:—Dr. G. H. Thompson (Buxton): Baths and Climate in Relation to Spa Treatment; Some Reflections and Suggestions.

EPIDEMIOLOGICAL SECTION, at 15, Cavendish Square, W., 8.30 p.m.—Paper:—Dr. R. Farrar: Plague in Manchuria.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Larynx. Friday, 3 p.m., Inaugural Lecture, The Influence of the Upper Air Tract on Respiration. Illustrated by lantern slides.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m., The Value of Auscultatory Percussion.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements, Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday: Skin, at noon and 4 p.m., Tuesday, and noon, Friday. Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Tuesday, 4.30, Anaesthetics; Friday, 2.15, Pleural Effusion.

MANCHESTER: ANCOATS HOSPITAL POST-GRADUATE CLINIC.—Thursday, 4.45 p.m., Differential Diagnosis of Chronic Lesions of the Tongue.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. will be given each day as follows: Monday, Rashes in Children; Tuesday, Internal Ophthalmoplegias; Wednesday, The Nature and Treatment of Certain Forms of Indigestion (with demonstration); Thursday, Principles of Treatment in Infective Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., General Paralysis of the Insane. Friday, 3.30 p.m., Neurasthenia.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.: Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m. daily.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
21 SATURDAY ..	NORTHERN COUNTIES OF SCOTLAND BRANCH, Autumn Meeting, Nairn.
22 Sunday ..	
23 MONDAY ..	
24 TUESDAY ..	LONDON: Hospitals Committee, 2.30 p.m. SOUTH-WESTERN BRANCH and Local Profession, Prince's Hall, Princess Square, Plymouth, 4 p.m. (National Insurance Bill).
25 WEDNESDAY	LONDON: State Sickness Insurance Committee, 10 a.m. LONDON: Finance Committee, 2.30 p.m. LONDON: Arrangements (Joint) Committee, 4 p.m.
26 THURSDAY ..	WANDSWORTH: Meeting of Richmond and Wandsworth Divisions (National Insurance Bill). DARLINGTON; Meeting of Darlington Division and neighbouring Divisions of North Yorkshire and South Durham (National Insurance Bill). WESTMINSTER DIVISION, *Metropolitan Counties Branch*, Criterion Restaurant; Dinner, 7.30 p.m.; Association Business, 8.30 p.m.; Cinematograph Demonstration, 9 p.m. EAST ANGLIAN BRANCH, Autumn Meeting, Braintree.
27 FRIDAY ..	GLASGOW: Meeting of Glasgow and West of Scotland Branch (National Insurance Bill). ENGLISH DIVISION, *Border Counties Branch*, Penrith, 3.30 p.m.; Executive Committee, 3.15 p.m.
28 SATURDAY ..	EDINBURGH: Meeting of Scottish Medical Practitioners, Students' Union Hall, 3.30 p.m. (Insurance Bill).
29 Sunday ..	
30 MONDAY ..	
31 TUESDAY ..	

Date.	Meetings to be Held.
NOVEMBER.	
1 WEDNESDAY	**London: Central Council, 2 p.m.** RICHMOND DIVISION, *Metropolitan Counties Branch*, Annual Dinner, Richmond.
2 THURSDAY ..	PRESTON: Joint Meeting of Blackpool, Blackburn, and Preston Divisions (National Insurance Bill). FOLKESTONE DIVISION, *South-Eastern Branch*, Combined Meeting of Folkestone Medical Society and East Kent Division, Royal Victoria Hospital, Folkestone, 3.30 p.m.
3 FRIDAY ..	MANCHESTER: Meeting of Local Divisions (National Insurance Bill).
4 SATURDAY ..	BURY: Joint Meeting of Bolton, Bury, and Rochdale Divisions (National Insurance Bill).
5 Sunday ..	
6 MONDAY ..	
7 TUESDAY ..	CAMBERWELL: Joint Meeting of Greenwich, Lambeth, and Norwood Divisions (National Insurance Bill).
8 WEDNESDAY	CENTRAL DIVISION, *Birmingham Branch*, General Meeting, Medical Institute, Edmund Street, 4 p.m.
9 THURSDAY ..	CITY DIVISION, *Metropolitan Counties Branch*, Manor Lodge, Upper Clapton, 9.30 p.m.
10 FRIDAY ..	
11 SATURDAY ..	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	
15 WEDNESDAY	

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SUPPLEMENT
TO THE
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Reports
TO
THE SCIENCE COMMITTEE.

XII.
INFECTIVE METHAEMOGLOBINAEMIA.*

By A. E. BOYCOTT, M.D.,
Lecturer on Pathology, Guy's Hospital.
(From the Pathological Department, Guy's Hospital.)

METHAEMOGLOBINAEMIA in man is well known as the result of poisoning with aniline, nitrites and allied bodies, chlorates, acetanilide, etc. There is also on record a series of cases in which a condition of marked lividity and cyanosis, with an abnormal brown pigment in the blood, has prevailed for more or less prolonged periods without any definite demonstrable cause.[1] All these cases were at one time described as methaemoglobinaemia, but since the recognition of sulphaemoglobin[2] the majority have been found to be due to that substance, and examples of the true cryptogenetic methaemoglobinaemia must be regarded as being decidedly rare. Most of the cases of chronic lividity with brown blood are associated with either diarrhoea or constipation, but there is no definite etiological justification for the term "enterogenous cyanosis," which is sometimes used,[3] nor can the discovery of *B. coli* in a blood culture on one occasion in a single case be considered an altogether satisfactory ground for labelling them "microbic cyanosis."[4] Though aniline poisoning in man causes real methaemoglobinaemia, and in rabbits sometimes leads to the appearance in the blood of a brown pigment which cannot be clearly distinguished from sulphaemoglobin,[5] there seems to be no good reason for grouping the two conditions together, and it is desirable that they should be distinguished according to the nature of the abnormal pigment which may be present without prejudicing the still unsolved question of their etiology.

In May, 1910, in the course of some experiments involving the examination of the blood of rats, several animals were met with in which the blood was chocolate-coloured instead of red, and in the course of the next nine months ten well-marked cases were met with among rather more than a thousand rats which were used in the laboratory. The brown colour of the blood proved to be due to the presence of methaemoglobin. The abnormal pigment showed an absorption band in the red corresponding in position (625–640) to that of ferricyanide methaemoglobin. In the presence of any considerable quantity of oxyhaemoglobin, this band is alone visible; it remained unaltered on saturation with carbon monoxide, and immediately disappeared on reduction. It was, therefore, certainly not due to sulphaemoglobin, in which the conspicuous band in the red lies more blueward (615–630), moves further blueward on shaking up with carbonic oxide, and is, for some time at any rate, unaltered by the addition of reducing agents.

The presence of methaemoglobin (or any other brown pigment) in blood is best ascertained by examining a sample in the ordinary way with the Gowers-Haldane haemoglobinometer. Very small quantities, such as would yield no abnormal appearances on spectroscopic examination, may be detected after saturation with carbon monoxide, since the full pink tint of the pure CO haemoglobin of the haemoglobinometer standard will not be realized. In examining such blood it is best first to saturate with CO, and, owing to the possible presence of cyanogen compounds in illuminating gas, it is better to use pure CO rather than coal gas, and so avoid any chance of the formation of cyanmethaemoglobin.[6] The degree by which the sample is brown as compared with the pink of the standard solution gives one a rough idea of the relative amounts of haemoglobin and methaemoglobin which are present. If a grain or two of sodium hydrosulphite ($Na_2S_2O_4$) are then added, the methaemoglobin is at once reduced to haemoglobin, and this converted to CO haemoglobin; the correct percentage of haemoglobin is thus readily ascertained. If after reduction the full pink tint of the standard cannot be obtained after repeated saturation with CO, it may be assumed that some brown pigment other than methaemoglobin (for example, sulphaemoglobin) is present.

The relative quantities of methaemoglobin and haemoglobin present are best ascertained by: (1) making a haemoglobinometer determination after reduction as outlined above; (2) determining directly the oxygen capacity of the blood after saturation with air in a sample of about 1 c.cm. by the ferricyanide method in the small Barcroft-Haldane-Brodie[7] apparatus. Thus in one case the haemoglobinometer reading was 64 per cent., from which it follows that the oxygen capacity of the haemoglobin *plus* the oxygen capacity of the methaemoglobin, if it were converted to haemoglobin, was $\frac{64 \times 18.5}{100} = 11.84$ c.cm. per cent. In the same blood the actual oxygen capacity (that is, the

* Towards the expenses of this research grants were made by the British Medical Association and by the Royal Society.

oxygen capacity of the haemoglobin by itself) was found by direct measurement to be 5.34 c.cm. per cent. Hence 55 per cent. of all the haemoglobin was converted into methaemoglobin.

In a case of average severity about half the haemoglobin was found to be changed, 68 per cent. being the highest figure observed. Owing to the reducing activity of the blood, complete conversion would appear to be impossible, the amount changed at any time being the result of a balance between methaemoglobin formation and methaemoglobin reduction. After death all trace of methaemoglobin quickly disappears, in some cases within an hour, and the condition can therefore be diagnosed with certainty only if the blood be examined during life. In all cases the methaemoglobin was entirely contained within the corpuscles, none being present in the plasma or serum.

Besides their brown blood, the affected rats always showed large, firm spleens and livers with abundant focal necroses. From the spleen was constantly obtained in pure culture an organism which on examination by cultural and serological methods proved to be identical with the original strain of the *Bacillus enteritidis* of Gaertner.[8] Inoculation of fresh rats with appropriate doses of these strains gave rise to a general illness associated with methaemoglobinaemia, and presenting all the features of the natural disease. Inoculation with five other strains of Gaertner's bacillus (two from spontaneous rat epidemics, two from human sources, and one from a natural epidemic among guinea-pigs) also caused methaemoglobinaemia in a proportion of the inoculated animals either before or, in the case of old and relatively avirulent strains, after passage through rats. Inocula of material obtained from infected animals or from cultures of the bacillus gave, after filtration through Berkefeld filters, entirely negative results.

In Gaertner infection in man methaemoglobinaemia does not appear to have been noted, though it is recorded as an inconstant feature in the heterogeneous groups known as Winckel's and Buhl's diseases,[9] which appear to be severe general bacterial infections of one kind or another. Animals other than rats have, in my experience, also failed to develop methaemoglobinaemia in sequence to inoculation with Gaertner's bacillus, a series of experiments with rabbits, guinea-pigs, and mice all yielding negative results.

Methaemoglobinaemia is not, however, a general feature of bacillary infection in the rat. Other organisms of the Gaertner group (*B. suipestifer* and *B. Aertryck*, paratyphoid A, paratyphoid B) do not cause this change in the blood, nor is it found in pneumococcus infections, though this last organism is well known as being extremely active in converting haemoglobin into methaemoglobin *in vitro*.

Immunization experiments confirmed the conclusion that the methaemoglobinaemia was caused by Gaertner infection. Preliminary vaccination with killed cultures of strains derived from infected rats were ineffective, but small doses of a less virulent strain of Gaertner's bacillus efficiently protected the animals against subsequent inoculation with the more active rat strains.

Methaemoglobinaemia is not a constant feature of Gaertner infection in rats. Experimental animals which receive such large doses that they die within twenty-four or forty-eight hours hardly ever show any brownness in their blood, and never more than a trace. Some animals also pass through an artificial infection and recover without developing methaemoglobinaemia. The same evidently holds good in nature, for along with the cases of methaemoglobinaemia a number of other animals were found which yielded Gaertner's bacillus on spleen culture. Some of these were obviously ill; some showed no signs of illness, but had large spleens and necrotic livers; others, again, appeared, both during life and after death, to be normal. In one case an apparently normal wild rat was found infected. Since these scattered cases of Gaertner infection occurred sporadically among the constantly changing population of our animal house, and since they were found among animals from various sources immediately on arrival at the laboratory, there are reasons for thinking that tame white rats may form an important reservoir of Gaertner's bacillus in this country. Spontaneous epidemics among both tame and wild rats,[10] as well as among guinea-pigs,[11] have been recorded.

A certain number of animals among the spontaneous cases, as well as those artificially inoculated, showed a marked degree of anaemia, the total amount of haemoglobin being reduced to as little as a third of the quantity proper for a normal rat of corresponding weight. More constantly there was an increase in the blood volume amounting to 50 or even 100 per cent.[12] In the presence of methaemoglobinaemia most of the animals were, in effect, anaemic, since about half their haemoglobin had been rendered useless for oxygen-carrying purposes. In no case was any evidence obtained of a compensatory production of extra haemoglobin; polycythaemia has been noted in man in chronic poisoning with acetanilide and similar substances, though it is not known whether this represents a real over-production of haemoglobin or a concentration of the blood. Control experiments with rats infected with organisms similar to Gaertner's bacillus which do not cause methamoglobinaemia appear to show that the anaemia and plethora are connected with infection rather than with methaemoglobin. It is interesting to note, however, that to some extent anaemia may be compensatory to methaemoglobinaemia. It has been shown that the blood during active blood formation uses up oxygen a good deal faster than normal blood, and that this increase in reducing power is associated with the presence in the circulating blood of polychromasic, nucleated and other immature forms of red cells.[13] These were found abundantly in many of the cases under discussion, and their presence may be presumed to have limited in some degree the proportionate formation of methaemoglobin.

Experiments designed to elucidate the mechanism whereby Gaertner infection causes methaemoglobinaemia have led for the most part to negative results. Bacilli, extracts of infected animals, etc., appear to have no characteristic action on rats' blood. It has, however, been ascertained that the fresh liver of affected rats is particularly active in producing methaemoglobin. This suggests some etiological significance for the liver necrosis which has been noted above. The condition is not due to nitrite poisoning.[14]

The symptoms shown are partly those of severe general illness, with more or less profuse, and generally blood-stained, diarrhoea, and partly those due to methaemoglobinaemia and shortage of oxygen. In albino rats the appearance of the animal is characteristic, especially if healthy animals are placed side by side for comparison. The ears, nose, tail, and feet are pale, livid, and cyanosed, and the whole body looks more or less blue; the eyes look pale and brownish instead of a bright clear red. On exertion, and in severe cases at rest, there is obvious dyspnoea which, in the rat, takes the form of slow, deep heaving respirations.

I am much indebted to Professor Bainbridge, Dr. Eyre, and Dr. O'Brien for Gaertner cultures from various sources.

SUMMARY.

The spontaneous occurrence and experimental production of methaemoglobinaemia in rats due to infection with Gaertner's bacillus is described.

REFERENCES.

[1] G. A. Gibson and C. C. Douglas, *Lancet*, 1906, vol. ii, p. 72; *Quart. Journ. Med.*, vol. i, 1907, p. 29; S. West and T. W. Clarke, *Lancet*, 1907, vol. i, p. 272; A. E. Russell, *Trans. Path. Soc. Lond.*, vol. lviii, 1907, p. 177; W. E. Wynter, *Proc. Roy. Soc. Med.*, vol. i, 1908, Clinical Section, pp. 48, 197; T. W. Clarke and R. M. Curtis, *Medical Record*, vol. lxxviii, 1910, p. 987. [2] T. W. Clarke and W. H. Hurtley, *Journ. Physiol.*, vol. xxxvi, 1907, p. 62. [3] For example, A. E. Garrod in Allbutt and Rolleston's *System*, vol. v, 1909, p. 838. [4] G. A. Gibson and C. C. Douglas, *Lancet*, 1906, vol. ii, p. 72. [5] C. Price Jones and A. E. Boycott, *Guy's Hospital Reports*, vol. lxiii, 1909, p. 313. [6] J. S. Haldane, *Journ. Physiol.*, vol. xxv, 1900, p. 230; A. S. Grünbaum, ibid., vol. xxxvi, 1907, *Proceedings*, p. 4. [7] *Journ. Physiol.*, vol. xxviii, 1902, p. 232: the present much improved form may be obtained from F. P. Rittershaus, 47, Gray's Inn Road, W.C. [8] See F. A. Bainbridge, *Journ. Path. Bact.*, vol. xiii, 1909, p. 443. [9] Knöpfelmacher in Pfaundler and Schlossmann's *Hand. d. Kinderheilkunde*, vol. i, 1910, p. 386; Röthler, *Deut. med. Woch.*, 1911, p. 545. [10] A. E. Boycott and F. A. Bainbridge, *Journ. Path. Bact.*, vol. xiii, 1909, p. 342. [11] F. A. Bainbridge and R. A. O'Brien, *Journ. Path. Bact.*, vol. xvi, 1911, p 145. [12] R. A. Chisolm, *Journ. Path. Bact.*, vol. xv, 1911, p. 358. [13] Morawitz and Pratt, *Muench. med. Woch.*, vol. lv, 1908, p. 1817: *Schmiedeberg's Archiv*, vol. lx, 1909, p. 298; C. G. Douglas, *Journ. Physiol.*, vol. xxxix, 1910, p. 453. [14] G. A. Gibson and C. C. Douglas found nitrite in the blood in their case, *Lancet*, 1906, vol. ii, p. 72; the blood changes in nitrite poisoning are, however, not the same as in infective methaemoglobinaemia: see J. S. Haldane, R. H. Makgill, and A. E. Mavrogordato, *Journ. Physiol.*, vol. xxv, 1897, p. 171, and R. Emmerich, A. A. Hymans, van den Bergh, and A. Grutterink, *Berl. klin. Woch.*, 1909, pp. 2008, 2229, and 1910, pp. 779 and 1320.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the Journal.*]*

ABERDEEN BRANCH.

The annual meeting of this Branch was held in the Medico-Chirurgical Society's Hall, 29, King Street, on Saturday, October 14th, at 11.45 a.m. Dr. John Gordon (President) occupied the chair, and there was a good attendance of members.

Confirmation of Minutes.—The minutes of the summer meeting, which was held at Elgin in conjunction with the Northern Counties of Scotland Branch on June 10th, were read and approved. The minutes of the mass meeting held on June 15th in connexion with the National Insurance Bill were held as read and approved, having been previously published.

National Insurance Bill.—The President briefly sketched the present position of the National Insurance Bill in its relations to the medical profession, and stated that every practitioner in Aberdeenshire and Banffshire had signed the undertaking and memorial sent out by the Council of the Association, that only one practitioner in Kincardineshire had so far declined to sign, and one practitioner and two or three consultants in the city were in the same position. He hoped that soon complete solidarity would be obtained in the area of the Branch in support of the Association's policy. The President then submitted a resolution:

> That the Branch reaffirms its absolute adherence to the six points of the policy propounded and placed before the profession by the British Medical Association, and pledges itself to use every means in its power to secure the enforcement of that policy, to endeavour to obtain greater support for the Insurance Defence Funds, to convey its thanks to the Council of the Association for the efforts it has already made to protect the interests of the profession in this matter, and to declare its confidence in the Council to use every endeavour in the future for this object.

This resolution was carried unanimously.

Report of Council.—The Council reported that seven general meetings had been held during the year, including the annual meeting, summer meeting, and a mass meeting in connexion with the National Insurance Bill, and the attendance at all meetings showed a decided improvement on previous years. The Council met ten times, and a considerable increase in the membership of the Branch was reported.

Treasurer's Report.—The Treasurer's report, which had been circulated among the members, was held as read and approved.

Election of Officers.—The following office-bearers were then elected for the ensuing year: *President*, Dr. C. C. Greig (Fyvie); *President-elect*, Dr. Thos. Milne (Aberdeen); *Vice-Presidents*, Dr. Patrick Mitchell (Old Rayne), Dr. John Gordon (Aberdeen); *Treasurer*, Dr. J. R. Levack (10, Golden Square, Aberdeen); *Secretaries*, Dr. Thos. Fraser (45, Elmbank Terrace, Aberdeen), Dr. Fredk. Smith (207, South-Western Road, Aberdeen); *Council:* Town—Dr. G. Williamson, Dr. J. F. Christie, Dr. J. D. Wyness; Country—Dr. Cockburn (Old Meldrum), Dr. Oliphant (Bucksburn), Dr. Cruickshank (Stonehaven); Orkney—Dr. Sinclair (Kirkwall); Shetland—Dr. Robertson (Lerwick). Dr. David Lawson (Nordrach-on-Dee, Banchory), was unanimously elected Representative to the Representative Meeting.

Summer Meeting, 1912.—The arrangements for the summer meeting, 1912, were remitted to the Council.

Clinical Meeting.—In connexion with the annual meeting, a clinical meeting, which was well attended, was held at the Royal Infirmary and Royal Hospital for Sick Children, commencing at 9 a.m.

Cases.—Dr. Ashley Mackintosh showed a case of pseudo-hypertrophic muscular paralysis, two cases of muscular dystrophy, a case of anterior poliomyelitis in an adult, and two cases of anterior poliomyelitis in children; Dr. G. M. Edmond showed cases of phthisis treated by tuberculin injections and by dioradin, case of bronchiectasis, liver case, and one of muscular dystrophy; Professor Finlay showed two cardiac cases and one of pernicious anaemia; Dr. A. M. Brown, in the absence of Dr. Lister, demonstrated the method of tuberculin injection followed in the out-patient department; Mr. Gray showed cases of sarcoma treated by Coley's fluid, cases after gastrectomy and colectomy (shown last year), and cases after ovarian grafting and a series of plated fractures; Mr. Scott Riddell showed a recurrent case of carcinoma mammae, cystic goître, abdominal tumour, liver case, and a series of fracture cases; Mr. G. H. Colt showed an interesting case of trigeminal neuralgia. At the Royal Hospital for Sick Children Dr. McKerron showed cases of tuberculous peritonitis, chorea, anterior poliomyelitis, and a case after treatment with sea-water plasma; Mr. Gray showed a series of cases illustrating regeneration of bone, the treatment of hip-joint cases, and spinal disease.

Dinner.—The annual dinner was held in the Grand Hotel, Aberdeen, on Friday, October 13th, at 7.45 p.m. Dr. John Gordon (President) occupied the chair; including guests, the company numbered forty-five. Among the guests were Professor Finlay (Aberdeen), Colonel Woodhouse, P.M.O. Scottish Command (Edinburgh), and Dr. Mackintosh (Kirkcaldy). Apologies were intimated from Presidents and Secretaries of neighbouring Branches. After covers were removed the Chairman proposed "The King"; and thereafter the toast of "The Imperial Forces," which was responded to by Colonel Woodhouse; Professor Finlay proposed "The Association," and Dr. Gordon replied; Dr. Rorie (Cults) proposed "The Guests," to which Dr. Mackintosh (Kirkcaldy) and Dr. Calder (Aberdeen University) replied. Dr. G. M. Duncan proposed the health of "The Chairman." An excellent musical programme was submitted during the evening, taken part in by Drs. Thomson, Rorie, Munro, Tarves, Robertson, J. F. Christie, H. M. W. Gray, Fraser, and Smith Dr. W. R. Pirie rendered excellent service as accompanist

BIRMINGHAM BRANCH.

The first ordinary meeting of the Branch was held in the Medical Institute on Thursday, October 12th, at 3.30 p.m. Professor Morrison (the President) was in the chair, and thirty-one members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read, confirmed, and signed.

President's Address.—The President delivered his inaugural address on Aspects of Medicine as a Profession, which was published in the Journal of October 14th. A vote of thanks to the President for his interesting and valuable address was moved by Dr. Thomas Wilson, seconded by Dr. Atkinson, and carried unanimously.

FIFE BRANCH.

A large and enthusiastic meeting of the members and non-members within the area of the Fife Branch was held at the Station Hotel, Kirkcaldy, on October 6th, immediately after the meeting of the Fifeshire Medical Association. Dr. Craig, President of the Branch, occupied the chair. The Honorary Secretary explained that the Fifeshire Medical Association had very kindly agreed to the meeting taking place in the room engaged by them for their meeting that day.

National Insurance Bill.—The Honorary Secretary also referred to the suggestion from the Fife Branch Defence Committee that a conjoint meeting of Scottish Branches should be held in a suitable centre for the consideration of the general situation in connexion with the Insurance Bill. He further informed the meeting that he had, as a member of the Scottish Committee, brought the matter officially before that committee, with a request that they arrange for a meeting or meetings to be held, if possible, before Parliament reassembles, and that Mr. Smith Whitaker be asked to come up and address the meeting. He also gave some information as to the "undertakings," and stated that these had been very largely signed by both members and non-members throughout the Branch area, and that as a result of a further circularization of every practitioner in the area a large accession of new members had been secured. The Medical Secretary had been kept posted up, as requested by him, with all necessary information regarding friendly societies, the attitude of members,

defence fund, etc., preparatory to the conference between the friendly societies, a committee of the Association, and the Chancellor of the Exchequer, to be held on October 9th. The PRESIDENT then gave a summary of the situation regarding the bill and an account of his attendance at a meeting of the Insurance Bill Committee, of which he is a member, and he spoke strongly of union in the ranks being absolutely necessary in order to gain their just and reasonable demands. With regard to the Fife Branch Defence Fund, which now amounted to nearly £5,000, Dr. DUKE moved:

> That every subscriber to that fund should be asked to earmark £10 of his guarantee to that fund as his contribution to the Central Defence Fund, and that this be intimated to the General Secretary upon the form provided for that purpose which had been issued to all the members of the Branch from head quarters, and should accompany this by the first instalment of his contribution, as also requested from head quarters.

The motion was unanimously agreed to. Dr. DICKSON, as a member of the Scottish Colliery Surgeons Committee, explained what had taken place at meetings of that committee, and said that the interests of colliery surgeons as affected by the bill were to be considered at a National Conference of Colliery Surgeons to be held shortly. A discussion took place upon the general situation, and it was unanimously and enthusiastically agreed that this meeting pledges itself and advises every medical practitioner to support the six cardinal points of the Association's position regarding the Insurance Bill; and the HONORARY SECRETARY suggested, and it was heartily approved, that he should send a telegram to the Medical Secretary as to the finding of the meeting in view of the conference on October 9th.

Vote of Thanks to Chairman.—A hearty vote of thanks to the Chairman terminated the proceedings.

Dinner.—A large number of members thereafter dined together at the annual dinner of the Fife Medical Association along with invited guests of the latter. Next day the Honorary Secretary telegraphed to head quarters in the following terms:

> Large and enthusiastic meeting Fife Branch members and non-members held yesterday. Unanimously opposed to friendly society control and Harmsworth amendment, and decline to act under the bill unless free choice of doctor and adequate remuneration.
>
> BALFOUR GRAHAM,
> *Honorary Secretary.*

The following telegram was received in reply:

> Many thanks gratifying assurance of support in view Conference Monday.
>
> WHITAKER.

GLASGOW AND WEST OF SCOTLAND BRANCH:

GLASGOW EASTERN DIVISION.

A MEETING of the Division was held in Bellgrove Hall on Tuesday, October 3rd, at 9 p.m. Dr. W. J. H. SINCLAIR, Chairman of the Division, presided, and twenty-one members were present.

Confirmation of Minutes.—The minutes of meetings held on June 7th and 30th were read, approved, and signed by the Chairman.

Election of Representative on Branch Council.—Dr. Muir having been appointed President of the Branch, Dr. Sinclair was unanimously elected to fill the vacancy in the representation to the Branch Council caused thereby.

Annual Representative Meeting.

Dr. W. L. MUIR submitted his report on the Annual Representative Meeting at Birmingham in July. The points to which he specially referred were:

(*a*) The question of parliamentary representation. This he opposed, and the Representative Body decided not to proceed with it.

(*b*) Duration of illness on death certificates. This he likewise opposed, on the ground that only in a small proportion of cases could the question be answered correctly, and for the further reason that the query was not official. He reported that after discussion the matter had been referred to the Council to consider what action should be taken.

(*c*) The National Insurance Bill.

After Dr. Muir had answered several questions, on the motion of the CHAIRMAN he was accorded the unanimous thanks of the meeting for his very lucid and interesting report.

National Insurance Bill.—The SECRETARY read a very complete report on the present position of the National Insurance Bill, which had been compiled by the Medical Secretary, and which was much appreciated by the meeting. A communication was also read regarding the efforts which were being made by the friendly societies to gain control of the medical benefits under the bill.

Medical Defence Fund.—On the motion of Dr. JAMES DUNLOP, seconded by Dr. ALEXANDER JOHNSTON, it was unanimously agreed that no local fund be raised, but that all subscriptions be sent to the Central Fund.

Draft Ethical Rules.—Draft rules governing procedure in ethical matters of a Division not in itself a Branch were considered seriatim and cordially approved by the meeting.

Lunacy Bill.—Dr. THOMAS RUSSELL gave notice of motion to call attention at the next meeting to the Lunacy Bill.

LANCASHIRE AND CHESHIRE BRANCH:

ALTRINCHAM DIVISION.

THE fifty-sixth meeting of the Altrincham Division was held at Knutsford on Wednesday, October 11th. Members were invited to afternoon tea with Dr. and Mrs. G. H. Smith at 4.30. The meeting was held at the Union Master's House at 5 p.m. Dr. ADOLPHE RENSHAW was in the chair, and there were present: Drs. Lyon, Manwaring-White, Melville, Haward, Smallhorn, Gough, Savatard, C. E. Smith, Cross, Lees, Luckman, Fennell, G. H. Smith, Anderson, Aspinall, Renshaw, and H. G. Cooper.

Confirmation of Minutes.—The minutes of the annual meeting (June 1st) were ordered to be signed as correct by the meeting. The HONORARY SECRETARY read the minutes of the special meeting of July 18th, and the meeting authorized the Chairman to sign as correct.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Charles Renshaw, Clarke, Martin Hughes, Garstang, Boycott, Cox, Leech, G. W. Smith, Fennell (sen.), Thompson, Turner, Tattersall, Woodyatt, Doonan, Duncan, and P. R. Cooper.

Reports of Committee.—The reports of the seventieth and seventy-first committee meetings were read. The CHAIRMAN next reported on the action being taken in the Sale area with regard to the fees for club practice. A resolution was proposed by Dr. G. H. SMITH and seconded by Dr. LUCKMAN:

> That the Division gives every support to the member in his present action.

This was unanimously carried by the meeting.

National Insurance Bill.—The HONORARY SECRETARY read various communications and documents from the Medical Secretary. After some discussion Dr. GOUGH proposed and Dr. MANWARING-WHITE seconded the following resolution:

> That this Division views with much apprehension the ambiguous amendments described in document R. 35, and expresses its unanimous wish that the original five fundamental requirements of the British Medical Association policy be insisted upon without any amendments.

This was carried unanimously. Dr. HAWARD then proposed the following resolution:

> That the Division views with alarm the Harmsworth amendment in so far as it is contrary to the policy of the British Medical Association.

Dr. G. H. SMITH seconded the resolution, which was carried unanimously.

Votes of Thanks.—The meeting terminated with votes of thanks to Dr. and Mrs. G. H. Smith, and to the Bucklow Board of Guardians for the use of the room.

MANCHESTER (SOUTH) DIVISION.

A MEETING of this Division was held at the Holy Innocents' Schoolroom, Fallowfield, on Wednesday, October 11th, at 3.45 p.m. Dr. GRANT DAVIE presided. There were also present: Drs. Booth, Boyd, Chevers, Edlin, Godson, Holt, Howe, Heathcote, Hopkinson, Crichton-Hood, MacGregor, Morton, Mitchell, Russen Rhodes, Sarjant, Senior, Sawers Scott, Stocks, Stawell.

Dr. Sawers Scott.—Dr. GRANT DAVIE said they were all pleased to see Dr. Sawers Scott once more, and wished, in

the name of the Division, to congratulate him on his recovery after his recent severe accident.

Confirmation of Minutes.—The minutes of the last meeting (July 17th) were read and confirmed.

Apologies for Non-attendance.—Drs. Salter and Goodfellow wrote regretting their inability to be present.

National Insurance Bill.—Dr. Grant Davie gave a very clear review of the position in relation to the National Insurance Bill, and again urged upon all members to do everything in their power to support the policy and strengthen the position of the Association in the coming struggle.

Guarantee Fund.—The meeting formally approved and adopted the recommendation of the Joint Committee—namely to earmark one-fifth of members' total guarantee for local and four-fifths for central purposes.

Amalgamation of the Manchester and Salford Divisions.—Dr. Edlin proposed and Dr. Senior seconded:

> That this meeting approves of the suggested amalgamation of the Divisions of Manchester and Salford into one Division, provided that the autonomy of the Divisions be preserved in relation to social and scientific meetings.

The proviso was proposed by Dr. Hopkinson and accepted by Dr. Edlin. Dr. Sawers Scott proposed and Dr. Russen Rhodes seconded:

> That before uniting the five Divisions of Manchester and Salford into a single Division the Conjoint Committee be desired to seek legal powers for itself and to secure the rearrangement of the present Division areas.

Dr. Scott's proposal was lost by 2 to 16 votes. Dr. Edlin's motion, on being put to the meeting, was carried by 16 votes to 2.

Manchester (West) Division.

At a meeting of this Division held on September 29th, Dr. Prowse occupied the chair, and twenty-three other members were present.

National Insurance Bill.—The meeting was occupied with a discussion on a resolution from the Stretford Medical Society to the following effect:

> That this meeting of members of the West Manchester Division of the British Medical Association expresses acute dissatisfaction with the provisions made for medical attendance in the National Insurance Bill, and considers that the British Medical Association has not carried out the policy to which it asked its members to pledge themselves, especially with regard to the wage limit.

Dr. Wheeler Hart complained that no written acknowledgement of this resolution had been received by the Stretford Medical Society from the Secretaries of the Division. Dr. Prowse explained that telephone communications had been made to several members of that society in regard to the above resolution. Speeches criticizing the policy of the British Medical Association in regard to the National Insurance Bill were made by Drs. Westwood, Lund, Hart, Brassey Brierley, and Fairclough. The general tenour of these speeches was an allegation against the central authorities of deplorable weakness in the fight over the bill, and particularly of not sticking to their guns in the matter of the £2 limit. Dr. J. H. Taylor, of the Central Council of the Association, then gave a detailed account of the policy of the Association in regard to the bill, and replied to the criticisms of the previous speakers. At the conclusion of Dr. Taylor's speech, the resolution of the Stretford Medical Society was unanimously withdrawn.

A Personal Explanation.—Dr. Brown then volunteered a personal explanation of a letter which had appeared in the local press.

At a meeting of this Division held on October 10th Dr. Prowse occupied the chair, and eighteen other members were present.

Proposed Amalgamation of Divisions and Guarantee Fund.—A letter from the Joint Committee of the Manchester and Salford Divisions was read, suggesting that the five Divisions in the district should be amalgamated into one; and also calling attention to the guarantee fund in connexion with the Insurance Bill, suggesting a personal canvass, and recommending that all guarantees should be sent direct to the Medical Secretary in London and that the guarantors be advised to earmark one-fifth of their guarantee for local purposes. The following resolution was passed unanimously:

> That this Division approves of the suggested amalgamation of the five Divisions of Manchester and Salford into one Division, and of the formation of district committees representative of the present divisional areas.

Several members stated that they had not yet received guarantee forms. The Secretaries were therefore instructed to obtain more forms and distribute them. A subcommittee of seven was then appointed to draw up a scheme to further the interests of the guarantee fund. Some letters from the Medical Secretary of the British Medical Association having been read, the following resolution was carried unanimously:

> That this meeting of the West Manchester Division of the British Medical Association expresses its pleasure at the firm attitude adopted by the central organization to liberate medical officers from friendly society control, and pledges itself to do all in its power to support this action.

Letter from Dr. John Brown.—A letter was read from Dr. John Brown complaining of suppression of correspondence in the columns of the British Medical Journal. The Secretary read a letter which he had received from the Chairman of Council of the Association replying to the criticisms.

Wigan Division.

A largely attended meeting of this Division was held at Wigan, on Thursday, October 19th, Dr. Luther Cooke in the chair.

Annual Representative Meeting.—Dr. Wynne (Representative on the Representative Body of the Wigan and Leigh Divisions) read his report, for which he was cordially thanked.

National Insurance Bill.—The following resolution was carried with enthusiasm and unanimity:

> That we strongly approve and support the six points formulated by the Special Representative Meeting of May 31st and June 1st with reference to the National Insurance Bill, and disapprove of any compromise which does not carry out the policy expressed therein.

Guarantee Fund.—The meeting expressed the opinion that each member of the Division should guarantee £5 or more to the Indemnity Fund; and a resolution calling for an immediate levy of an instalment of 5s. upon every member of the Division was unanimously carried.

SOUTH-EASTERN BRANCH:

Eastbourne Division.

A meeting was held at the Technical Institute, Eastbourne, on Tuesday, October 10th, at 8.30 p.m., Dr. K. Frazer in the chair, and eighteen members were present.

Apology for Non-attendance.—Dr. W. J. C. Merry apologized for absence.

Confirmation of Minutes.—The minutes of last meeting were read and confirmed.

Ethical Rules.—The following rules were proposed and unanimously adopted:

(*a*) That, pending the consideration of the new model ethical rules to be submitted to the Divisions by the Central Ethical Committee, the rules of the Bradford Division and Rule Z be and are hereby adopted.
(*b*) That each member be notified of the terms of the foregoing resolution and furnished with a copy of the adopted rules.

National Insurance Bill and Insurance Defence Fund.—The following resolutions were proposed and unanimously adopted:

(*a*) That, as the formation of a local Defence Fund is considered unnecessary, members desiring to contribute are requested to send the amount of their guarantees direct to the Central Insurance Defence Fund of the British Medical Association.
(*b*) That the Honorary Secretary notify members accordingly and take steps to ascertain the proportion of members in the area who respond.

SOUTH MIDLAND BRANCH:

Buckinghamshire Division.

A meeting of this Division was held at the Royal Bucks Hospital on October 17th. Dr. E. O. Turner, the Chairman of the Division, presided. There were also present:

Drs. Baker, Benson, Bradbrook, Eagles, England, F. A. Cooke, Gardner, Graham, Hardwicke, Kennish, Larking, Macfarland, Morrison, Perrin, Rose, Stedman, West, and Shaw. Mr. James Berry attended as a visitor. Total, 20.

Clinical Cases.—The first part of the meeting was of a clinical nature. Mr. JAMES BERRY demonstrated a tumour of the thyroid gland. Dr. WEST showed two very interesting cases—one of acute encephalitis and poliomyelitis, and the other of successful gastro-enterostomy for pyloric obstruction. Dr. H. ROSE showed 7 cases—two being patients who had had an operation for extrauterine fetation and twisted ovarian cyst, one a case of necrosis of the shaft of the radius in which new bone had quite replaced that necrosed, a case of alopecia, mitral stenosis, and one of anomalous rise of temperature believed to be due to tuberculous glands in the mediastinum. Dr. PERRIN showed a case of actinomycosis of the side of the neck.

Annual Representative Meeting.—The Representative, Dr. BRADBROOK, gave an account of the Annual Meeting at Birmingham, and a very hearty vote of thanks was accorded to him for his services.

National Insurance Bill.—Dr. LARKING gave a short summary of the present position of the profession with regard to the Insurance Bill, and read letters from the Medical Secretary on the subject. A discussion ensued, in which Drs. STEDMAN, ROSE, GARDNER, GRAHAM, and BENSON took part.

Dinner.—The members dined at the Crown Hotel after the meeting.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will be held at 2 o'clock in the afternoon of Wednesday, November 1st, in the Council Room at 429, Strand, London, W.C.

By Order,

GUY ELLISTON,
Financial Secretary and Business Manager.

October 5th, 1911.

NOTICE OF CHANGES OF DESIGNATION OF DIVISIONS.

THE following changes have been made in accordance with the Regulations of the Association, and take effect from the publication of this notice:

Walthamstow Division.

That the Walthamstow Division shall henceforth be designated the "South-West Essex Division."

Tottenham Division.

That the Tottenham Division shall henceforth be designated the "North Middlesex Division."

NOTICE OF CHANGE OF BOUNDARIES OF DIVISIONS.

Edinburgh Division.

THE following changes have been made in accordance with the Regulations of the Association, and take effect from the date of this notice:

That the North-East Edinburgh, North-West Edinburgh, and South Edinburgh Divisions, at present three separate Divisions of the Edinburgh Branch, be amalgamated into one Division, to be known as the Edinburgh Division.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A general meeting will be held at the Medical Institute, Edmund Street, on Wednesday, November 8th, at 4 p.m. Business: To receive the Report of the Representative, etc.—W. TRACY LYDALL, B. C. R. ALDREN, Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The next meeting of the Division (a clinical evening) will be held at Manor Lodge, Upper Clapton (by invitation of Dr. C. F. Hadfield), on Thursday, November 9th, at 9.30. The Honorary Secretary will be pleased to receive notices from members intending to show cases or read papers. Professional friends are welcomed at all meetings.—A. G. SOUTHCOMBE, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—The first meeting of the session will be held at the Kensington Town Hall, on Tuesday, November 14th, at 4 p.m. Mr. Smith Whitaker, the Medical Secretary, will address the meeting on the National Insurance Bill. Agenda: (1) Minutes of the previous meeting. (2) Report of the School Children Committee as to the negotiations which are being carried on with the London County Council. (3) The Chairman will make a statement as to an ethical matter affecting the Division. (4) National Insurance Bill. Steps will be proposed by which the Division may be more fully organized to meet any situation that may arise. Any member who is willing to assist in canvassing those members of the profession who have not already given their adhesion to the Association's programme are requested to communicate with one of the undersigned immediately. It is of the greatest importance that the profession should know exactly the actual proposals of the bill as it undergoes various changes in Committee, and we therefore trust members will make a point of being present at this meeting.—H. BECKETT-OVERY, HERBERT TANNER, Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH: LAMBETH, GREENWICH AND NORWOOD DIVISIONS.—A combined meeting of the Lambeth, Greenwich, and Norwood Divisions will be held at the Camberwell Town Hall, on Tuesday, November 7th, at 4 p.m., J. C. V. Denning, Esq., in the chair. Mr. J. Smith Whitaker, Medical Secretary of the British Medical Association, will be present, and will address the meeting upon: The Present Position of the Association with Regard to the National Insurance Bill. Mr. Smith Whitaker will reply in his opening address to any questions of which he has received notice (at 429, Strand) before Saturday, November 4th, and will also answer any questions which may be put at the meeting. Members are requested to invite any non-members in their neighbourhood to attend the meeting.—J. H. CLATWORTHY, Honorary Secretary, Lambeth Division, 145, Denmark Hill, S.E.; L. F. HEMMANS, Honorary Secretary, Greenwich Division, 9, Lewisham Park, S.E.; J. A. HOWARD, Honorary Secretary, Norwood Division, 115, Church Road, Upper Norwood, S.E.

SOUTH-EASTERN BRANCH: FOLKESTONE DIVISION.—A combined meeting of the Folkestone Medical Society and of the East Kent Division will be held at the Royal Victoria Hospital, Folkestone, on Thursday, November 2nd, at 3.30 p.m. All members of the South-Eastern Branch are invited to attend and introduce professional friends. Agenda: (1) Minutes. (2) A paper will be read by Dr. F. W. Price on Diseases of the Heart, with lantern demonstration. (3) Other business.—P. VERNON DODD, Honorary Secretary.

SOUTH-EASTERN BRANCH: REIGATE DIVISION.—The autumn meeting of the Reigate Division will be held at the White Hart Hotel, Reigate, on Thursday, November 2nd, 1911, at 8.30 p.m. Agenda: (1) To elect a chairman. (2) The minutes of the last meeting. (3) Dr. Palmer's report on the Annual Meeting at Birmingham. (4) Report on the present position of the National Insurance Bill. (5) To consider a code of ethical rules for the Division. (6) Any other business. Owing to the death of the Chairman there will be no dinner this year. All members of the profession residing in the Division are invited to attend this meeting.—JOHN G. OGLE, Honorary Secretary, Tower House, Reigate.

General Medical Council.

ELECTION OF DIRECT REPRESENTATIVES.

THE ASSOCIATION'S CANDIDATES.

To further the candidature of the following gentlemen—namely, Dr. H. W. Langley Browne, Dr. H. A. Latimer, and Mr. T. Jenner Verrall—who have been selected by the Representative Meeting as candidates who shall receive the support of the Association at the ensuing Election of Direct Representatives for England and Wales on the General Medical Council, a communication has been addressed to Members of Council, Members of Central Committees, Presidents and Honorary Secretaries of Branches, Chairmen and Honorary Secretaries of Divisions, and Representatives in Representative Meetings, asking them to indicate their willingness to support these candidates.

Up to the present promises of support have been received from the following:—

Alcock, Reginald, M.B., F.R.C.S.E., Hon. Sec. N. Staffs. Division, B.M.A., Hanley.

Aldred, Bertram Cecil Robert, M.B., Ch.B.Ed., Birmingham, Hon. Sec. Birmingham Central Division, B.M.A.

Anderson, Louisa Garrett, B.S., M.D.Lond., London, Member State Sickness Insurance Committee, B.M.A.

Averill, Charles, M.D.Durh., B.S., M.R.C.S.Eng., Macclesfield, Chairman, Stockport, Macclesfield, and E. Ches. Division, B.M.A.

Baildon, Francis Joseph, M.B., C.M.Edin., Southport, Representative Southport Division, B.M.A.

Ballance, Hamilton Ashley, M.S.Lond., M.D.Lond., Norwich, Branch Sec. and Chairman Norwich Division, B.M.A.

Ballingall, George Anderson, M.D.Brux., M.R.C.S., L.R.C.P.Lond., St. Leonards-on-Sea, Chairman Hastings Division, B.M.A.

Barendt, Frank Hugh, M.D.Lond., F.R.C.S.Eng., Liverpool, Hon. Sec. Liverpool Central Division, B.M.A.

Barnes, John Arthur Percival, M.R.C.S., L.R.C.P.Lond., London, Hon. Sec. N. Middlesex Division, B.M.A.

Barr, Sir James, LL.D., M.D.Glasg., F.R.C.P.Lond., F.R.S.E., Liverpool, President-elect and Member Council, B.M.A.

Bassett, Frank Pickering, L.R.C.P. and S.Edin., L.F.P.S. Glasg., St. Helens, Representative St. Helens and Warrington Divisions, B.M.A.

Bateman, Alfred George, M.B., C.M.Aberd., London, Member State Sickness Insurance Committee, B.M.A.

Baxter, Stephen Edward, M.R.C.S., L.R.C.P.Lond., Wellingborough, Representative Northamptonshire Division, B.M.A.

Beaumont, William Mardon, M.R.C.S.Eng., L.S.A., Bath, Hon. Sec. Bath and Bristol Branch, B.M.A.

Beckett-Overy, Harry, M.D.Edin., Ch.B., F.R.C.S.Eng., London, Hon. Sec. and Representative Kensington Division, B.M.A.

Benham, Charles Henry, M.D.Lond., M.R.C.P.Lond., M.R.C.S.Eng., Brighton, Hon. Sec. Brighton Division, B.M.A.

Bentham, Robert, Inspector-General, R.N.(retd.), L.R.C.P. and S.Edin., London, Member Central Council and Naval and Military Committee.

Bevan, Henry Crook, L.R.C.P.Lond., M.R.C.S.Eng., Blaina, Chairman Monmouthshire Division, B.M.A.

Bird, Gerald Francis, M.B., B.C.Camb., M.R.C.S., L.R.C.P. Lond., Godalming, Representative Guildford Division, B.M.A.

*Bishop, John Ramsay, M.R.C.S., L.R.C.P.Lond., Stalybridge, Hon. Sec. Birkenhead Division, B.M.A.

Blagden, John James, M.R.C.S., L.R.C.P.Lond., Chester, Hon. Sec. Chester and Crewe Division, B.M.A.

Blair, David, M.D., C.M., Lancaster, Hon. Sec. and Representative Lancaster Division, B.M.A.

Bond, Eleanor Cecilia, M.D.Brux., L.S.A., Bournemouth, Hon. Sec. Bournemouth Division, B.M.A.

Bontor, Sidney Algernon, M.D.Durh., M.R.C.S., L.R.C.P. Lond., Great Berkhamsted, Hon. Sec. Watford and Harrow Division, B.M.A.

Bowden, Ernest Edward, M.R.C.S.Eng., L.S.A., Warrington, Chairman Warrington Division, B.M.A.

Brackenbury, Henry B., M.R.C.S., L.R.C.P.Lond., London, Chairman North Middlesex Division.

Bradbrook, William, M.R.C.S.Eng., L.S.A., Bletchley, Representative Buckinghamshire Division, B.M.A.

Bridger, Sydney, M.R.C.S., L.R.C.P.Lond., Southend-on-Sea, Chairman S. Essex Division, B.M.A.

Bronner, Adolph, M.D.Heidelb., M.R.C.S.Eng., Bradford, Hon. Sec. Yorkshire Branch, B.M.A.

Brownlee, James, M.D.Edin., Ch.B., Middlesbrough, Hon. Sec. Cleveland Division, B.M.A.

Brydon, John, F.R.C.S.Edin., L.R.C.P.Edin., Stockton-on-Tees, Hon. Sec. Stockton Division, B.M.A.

Buchan, John James, M.D.Glasg., Ch.B., D.P.H.Camb., St. Helens, Hon. Sec. St. Helens Division, B.M.A.

Burchell, Ernest, M.R.C.S., L.R.C.P.Lond., Brighton, Hon. Sec. Brighton Division, B.M.A.

Burman, Charles Clark, L.R.C.P. and S.Edin., Alnwick, Hon. Sec. N. Northumberland Division, B.M.A.

Burnett, Ernest J., M.B., C.M.Edin., M.R.C.P.Edin., Saltburn, President N. of England Branch, B.M.A.

Bushnell, Frank George, M.D.Lond., B.S., D.P.H.Camb., Brighton, Representative Brighton Division, B.M.A.

Butlin, Sir Henry T., Bart., D.C.L., LL.D., President R.C.S., London, Past-President and Member of Council, B.M.A.

Butters, George, M.B., C.M.Edin., Kempston, Chairman Beds. and Herts. Division, B.M.A.

Buttery, George Bosomworth, L.R.C.P.Edin. and L.M., L.F.P.S.Glasg., Oldbury, Chairman West Bromwich Division, B.M.A.

Cameron, Allan Gordon Russell, M.B., B.S.Durh., D.P.H. Camb., Representative, Horsham, Chichester, and Worthing Divisions, B.M.A., Worthing.

Chater, John Samuel, M.D.Lond., M.R.C.S., L.R.C.P.Lond., Lincoln, Hon. Sec. Lincoln Division, B.M.A.

Childe, Charles Plumley, F.R.C.S.Eng., M.R.C.P.Edin., Branch President, Southern Branch, and Hon. Sec. Portsmouth Division, Southsea.

Clark, Andrew, F.R.C.S.Eng., Uxbridge, Member Central Council and Colonial Committee, B.M.A.

Clarke, Edward Albert, M.R.C.S.Eng., L.S.A., Dukinfield, Representative Ashton-under-Lyne and Glossop Divisions, B.M.A.

Clarke, Henry Hugh Rose, M.R.C.S., L.R.C.P.Lond., Stourbridge, Chairman Dudley Division, B.M.A.

Clatworthy, John Hunter, M.D.Lond., London, Hon. Sec. Lambeth Division, B.M.A.

Clogg, Herbert Sherwell, M.S.Lond., F.R.C.S.Eng., London, Member Fractures Committee, B.M.A.

Cockill, William Baron, M.D.Durh., M.R.C.S.Eng., Kendal, President North Lancashire and South Westmorland Branch, B.M.A., Chairman Kendal Division.

Cole, Thomas Edwyn Cecil, M.D., B.Ch., M.R.C.P.Lond., Leamington, Hon. Sec. Warwick and Leamington Division, B.M.A.

Collings, Charles D'Auvergne, M.D., M.R.C.S.Eng., Guernsey, Chairman Alderney and Guernsey Division, B.M.A.

Coombe, Russell, F.R.C.S.Eng., Exeter, Hon. Sec., S.W. Branch, Representative Exeter and West Cornwall Divisions, B.M.A.

Coombs, Rowland Hill, M.D.Durh., M.R.C.S.Eng., Bedford, Representative Bedford and Herts Division, B.M.A.

Cooper, Harry Gordon, M.B., B.C., Altrincham, Hon. Sec. Altrincham Division, B.M.A.

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Parke, Charles James, M.R.C.S.Eng., L.S.A., London, Chairman Greenwich Division.

Pearse, Edward Mountjoy, M.R.C.S., L.R.C.P.Lond., Hon. Sec. East Cornwall Division.
Pearse, James, M.D., C.M.Edin., Trowbridge, Hon. Sec. and Representative Trowbridge Division, Member State Sickness Insurance Committee.
Pendred, Vaughan, M.D.Durh., F.R.C.S.Eng., Coventry, Hon. Sec. Coventry Division.
Pope, Frank Montague, M.D., F.R.C.P.Lond., M.R.C.S. Eng., Leicester, Member of Council, Member of Arrangements and Science Committees.
Potts, George, F.R.C.S., L.R.C.P.Edin., Maidstone, Hon. Sec. Maidstone Division.
Prebble, Philip, M.B., C.M.Aberdeen, Blackburn, Representative Blackburn Division.
Price, David Rees, M.C., C.M.Edin., Ammanford, Hon. Sec. and Representative South-West Wales Division.
Pringle, Arthur Maxwell Nicholson, M.B., C.M.Edin., D.P.H.Camb., Ipswich, Representative South Suffolk Division, Member of Public Health Committee.
Prout, William Thomas, C.M.G., M.B., C.M.Edin., Liverpool, Chairman and Representative Liverpool (Western) Division.
Prowse, John Skardon, M.B., B.C., L.S.A., Manchester, Chairman Manchester (West) Division.
Puckle, Selwyn Hale, M.B., C.M.Edin., Salop, President Shropshire and Mid-Wales Branch.
Purves, Robert Black, M.B., C.M.Edin., F.R.C.S.Edin., Lincoln, Chairman Lincoln Division.
Quick, Hamilton Ernest, M.B., B.S., F.R.C.S.Eng., Swansea, Hon. Sec. Swansea Division.
Radcliffe, Frank, M.D.Vict., Ch.B., Oldham, Hon. Sec. Oldham Division.
Ransome, Gilbert Holland, M.R.C.S., L.R.C.P.Lond., Bungay, Chairman North Suffolk Division.
Raven, Hugh Melville, M.R.C.S., L.R.C.P.Lond., Broadstairs, Hon. Sec. Isle of Thanet Division.
Rayner, Edwin, M.D.Lond., F.R.C.S.Eng., Stockport, Treasurer, Member of Council.
Rayner, Herbert Henry, F.R.C.S.Eng., M.B., Manchester, Hon. Sec. Manchester (Central) Division.
Reid, James, M.B., C.M.Edin., St. Helens, Chairman St. Helens Division.
Renny, Eustace George, M.R.C.S., L.R.C.P.Lond., Colchester, Chairman North-East Essex Division.
Rice-Oxley, Alfred James, M.D.Durh., M.R.C.P.Lond., London, Member of Council, Member of Hospitals Committee.
Richardson, Richard I., M.B., C.M.Edin., Liverpool, Chairman Liverpool (Northern) Division.
Roberts, Hugh Jones, M.D.Durh., F.R.C.S.Edin., Penygroes, Member of Council.
Robinson, Henry Betham, M.D.Lond., M.S., F.R.C.S.Eng., London, President Metropolitan Counties Branch.
Robinson, Henry James, M.R.C.S., L.R.C.P.Lond., Burnley, Chairman Burnley Division.
Roderick, Henry Buckley, M.D., B.C., D.P.H.Lond., Cambridge, Hon. Sec. Cambridge and Huntingdon Branch.
Rogers, Arthur Anderson, M.R.C.S., L.R.C.P.Lond., Woolston, Chairman Southampton Division.
Roper, Arthur Charles, F.R.C.S., L.R.C.P.Edin., Exeter, President South-Western Branch.
Roper, Herbert J., M.R.C.S.Eng., L.R.C.P.Lond., Leeds, Chairman Leeds Division.
Rose, Percy, L.R.C.P.Lond., London, Representative Stratford Division, Member State Sickness Insurance Committee.
Russell, John, M.B., C.M., Burslem, Chairman and Representative North Staffordshire Division.
Ryle, Reginald John, M.D., M.R.C.S.Eng., Brighton, Chairman Brighton Division.
Sankey, Julius Ivor, L.R.C.P.Lond., M.R.C.S.Eng., Great Yarmouth, Hon. Sec. East Norfolk Division.
Sansome, Thomas, jun., M.R.C.S., L.R.C.P.Lond., West Bromwich, Hon. Sec. and Representative West Bromwich Division.
Sargent, Percy, M.B., B.C.Camb., F.R.C.S.Eng., London, Member of Fractures Committee.
Saundby, Robert, LL.D., M.D.Edin., C.M., F.R.C.P.Lond., Lond., Birmingham, President of the Association.
Sayres, A. W. Fortescue, M.D.Brux., M.R.C.S., D.P.H., Exeter, Hon. Sec. Exeter Division.
Scanlon, Leonard Edmund, M.R.C.S., L.R.C.P.Lond., Manchester, Hon. Sec. W. Manchester Division.
Secretan, Walter Bernard, M.B.Lond., F.R.C.S.Eng., Reading, Representative Maidenhead and Reading Divisions.
Shaw, George Hedley, M.B., Ch.B.Vict., Leigh, Hon. Sec. Leigh Division.
Shaw, Lauriston E., M.D.Lond., F.R.C.P.Lond., F.R.C.S., London, Member of Council, Chairman Central Ethical Committee, Chairman Hospitals Committee, Member Arrangements, Poor Law, and State Sickness Insurance Committees.
Sheahan, Deins A., M.D., R.U.I., M.Ch., Portsmouth, Chairman Portsmouth Division.
Simpson, Walter Samuel, M.R.C.P.Edin., M.R.C.S.Eng., Worthing, Chairman Chichester and Worthing Division.
Smith, Alfred Tennyson, M.D., C.M.Aberd., Orpington, Hon. Sec. and Representative Bromley Division.
Smith, James Wilkie, M.D., C.M.Edin., Ryton-on-Tyne, Representative Hexham and Newcastle-on-Tyne Divisions.
Smyth, William Johnson, M.D.Edin., C.M., Bournemouth, Representative Bournemouth Division.
Snell, Ernest Hugh, M.D., M.R.C.S., D.P.H.Camb., Coventry, Chairman Coventry Division.
Somerset, William Ralph, M.B., Ch.B.Edin., Wolverhampton, Chairman South Staffordshire Division.
South, Richard Ernest Edward, M.R.C.S., L.R.C.P.Lond., Boston, Chairman Boston and Spalding Division.
Spanton, William Dunnett, F.R.C.S.Eng., L.S.A., Hanley, President Staffordshire Branch.
Stack, Edward Churchill, L.R.C.P.I., F.R.C.S.I., Burton-on-Trent, Chairman Mid-Staffordshire Division.
Starling, Edwin Alfred, M.B., M.Ch., L.R.C.P.Lond., M.R.C.S.Eng., Tunbridge Wells, Hon. Sec. South-Eastern Branch, Representative Tunbridge Wells Division.
Starling, Hubert John, M.D.Lond., M.R.C.S., D.P.H.Camb., Norwich, Representative Norwich Division.
Steel, William, M.B., C.M.Glasg., Middlesbrough, Chairman Cleveland Division.
Steen, Robert Hunter, M.D.Lond., Dartford, Chairman Dartford Division.
Stewart, Charles Ravenscourt, M.B., B.S.Durh., D.P.H., Gateshead, Hon. Sec. and Representative Gateshead Division.
Still, George Cardno, M.B., C.M.Aberd., Twickenham, Chairman Richmond Division.
Stilwell, George Robert Farris, M.B.Lond., M.R.C.S., L.S.A., Beckenham, Chairman Bromley Division.
Straton, Charles Robert, F.R.C.S., L.R.C.P.Edin., Salisbury, Representative Salisbury Division, Member of Council, Member of Central Ethical, Medico-Political, Poor Law, and State Sickness Insurance Committees.
Stretton, John Lionel, L.R.C.P.Lond., M.R.C.S.Eng., Kidderminster, Chairman Worcester Division.
Sturridge, Peter Frederick, L.R.C.P.Edin., M.R.C.S.Eng., Kendal, Hon. Sec. Kendal Division.
Taylor, James Henry, M.B., Ch.B.Vict., Salford, Hon. Sec. and Representative Salford Division, Member of Council, Member of Medico-Political, Poor Law and State Sickness Insurance Committees.
Taylor, Lot Albert, L.R.C.P.Edin., M.R.C.S.Eng., D.P.H., Brierley Hill, Hon. Sec. Dudley Division, Representative Dudley and Bromsgrove Divisions.
Thomas, Augustus William, L.R.C.P. and S.Edin., Swaffham, Representative West Norfolk Division.
Thomas, Frank G., M.B., B.C., Swansea, Chairman Swansea Division.
Thomas, J. Raglan, M.D.Lond., M.R.C.S.Eng., D.P.H. Camb., Exeter, Member Territorial Forces Committee.
Thompson, Charles, M.R.C.S., L.R.C.P.Lond., Burton-on-Trent, Hon. Sec. Mid-Staffordshire Division.
Thomson, David George, M.D., C.M.Edin., Norwich, Hon. Sec. and Representative Mid-Norfolk Division.
Thomson, Frederick George, M.D.Lond., Bath, Hon. Sec. Bath Division.
Thorne, May, M.D.Brux., F.R.C.S.I., London, Member State Sickness Insurance Committee.
Tibbles, John Thomas, LL.D., M.D., D.C.L., M.R.C.S.Eng., Melton Mowbray, Chairman Leicester and Rutland Division.
Tisdall, John Joseph, L.R.C.P. and S.Edin., Liverpool, Hon. Sec. Liverpool Northern Division.
Tredinnick, Ernest, L.R.C.P.Edin., M.R.C.S.Eng., Salop, Representative Shropshire and Mid-Wales Branch.
Turnbull, James Cameron, M.D., Ch.B.Glas., Bury, Hon. Sec. Bury Division.
Turner, Edgar Olive, M.B.Lond., M.R.C.S., Great Missenden, Chairman Buckinghamshire Division.
Tyson, Wilson, M.B., M.R.C.S., L.R.C.P.Lond., Lowestoft, Hon. Sec. North Suffolk Division.
Urwick, Reginald Henry, M.D., B.C., M.R.C.S., Shrewsbury, Hon. Sec. Shropshire and Mid Wales Branch.
Verdon-Roe, Spencer, M.B., B.C., M.R.C.S., L.R.C.P.Lond., London, Hon. Sec. Wandsworth Division.
Vernon, Claude Martin, M.R.C.S., L.R.C.P.Lond., D.P.H. Camb., Ashford, Hon. Sec. Ashford Division.
Vernon, Mark Henry Hubert, L.R.C.P.Lond., M.R.C.S.Eng., Horsham, Chairman Horsham Division.
Vickers, John, M.R.C.S., L.R.C.P.Lond., Great Yarmouth, Chairman East Norfolk Division.
Wainwright, Lennox, M.D.Brux., M.R.C.S.Lond., Folkestone, Chairman Folkestone Division.
Walker, Ernest George Agars, M.R.C.S.Eng., L.R.C.P. Lond., Ightham, Chairman Sevenoaks Division.
Walker, John Frederick, M.B.Lond., M.R.C.S., L.R.C.P. Lond., Southend-on-Sea, Honorary Secretary and Representative South-Essex Division.
Walker, John William, L.R.C.P.Lond., M.R.C.S.Eng., Wakefield, Chairman Wakefield, Pontefract, and Castleford Division.
Walker, Joseph, M.R.C.S.Eng., L.S.A., Liverpool, Hon. Sec. Liverpool (Bootle) Division.
Waters, Henry, M.B., C.M.Edin., Liverpool, Chairman and Representative Liverpool (Bootle) Division.
Weichert, Charles John, M.R.C.S., L.R.C.P.Lond., Pontypridd, Hon. Sec. N. Glamorgan and Brecknock Division.
Whitby, Charles Joseph, M.D.Camb., Bath, Representative Bath Division.
Whittingdale, John Flasby L., M.B., M.R.C.S.Eng., Sherborne, President Dorset and West Hants Branch.

Whyte, John, L.R.C.P., L.R.C.S.Edin., L.F.P.S.Glas., South Shields, Chairman South Shields Division.
Wilkinson, Auburn, M.D.Durh., M.S., Tynemouth, Chairman Tyneside Division.
Wilks, George, M.B., M.C., M.R.C.S.Eng., Ashford, President South-Eastern Branch.
Will, Henry Chisholm, M.R.C.S., L.R.C.P.Lond., Sidcup, Hon. Sec. and Representative Dartford Division.
Willan, Robert Joseph, M.S.Durh., F.R.C.S.Eng., Newcastle-on-Tyne, Hon. Sec. Newcastle-on-Tyne Division.
Williams, Alfred Henry, M.D.Edin., C.M., Harrow, Representative Watford and Harrow Division, Member State Sickness Insurance Committee.
Williams, David James, F.R.C.S.Eng., Llanelly, Member of Council, Member of Central Ethical Committee.
Williams, Henry Currer, M.B., B.C.Camb., M.R.C.S., Alton, Chairman Winchester Division.
Willock, Edward Hulse, M.R.C.S., L.R.C.P.Lond., Croydon, Hon. Sec. Croydon Division.
Wilson, Alex. Garrick, M.C.Camb., M.B., F.R.C.S.Eng., Sheffield, Honorary Secretary Sheffield Division.
Wilson, Claude, M.D.Edin., C.M., Tunbridge Wells, Chairman Tunbridge Wells Division.
Winckworth, Wadham Bruce, M.R.C.S., L.R.C.P.Lond., Taunton, President West Somerset Branch.
Wood, Arthur, M.B., B.C.Cantab., M.R.C.S., Hereford, Hon. Sec. and Representative Hereford Division.
Wood, Charles, M.R.C.S.Eng., L.S.A., Dover, Chairman Dover Division.
Worswick, Frederic Henry, M.D.Brux., M.R.C.P.Edin., Manchester, Representative W. Manchester Division.
Young, James, M.B., B.Ch., London, Chairman Chelsea Division.
Young, Ralph, M.D., M.R.C.S.Eng., Royton, Oldham, Representative Oldham Division.

THE NATIONAL INSURANCE BILL.

THE POSITION OF THE BRITISH MEDICAL ASSOCIATION.

The following statement, made by Mr. Smith Whitaker, Medical Secretary of the British Medical Association, was published in the *Times* of October 24th:

"The last Representative Meeting of the Association decided that when the bill had passed through Committee a report on the bill as amended should be circulated, and a Special Representative Meeting should be held to consider what the attitude of the profession should be. This meeting will take place before the Report stage is reached. The question will then have to be considered whether the bill now meets the views of the profession as regards the income limit, and, if not, whether we shall be content to let it go as it now stands. The Representative Meeting will also have to say what they think of Mr. Harmsworth's amendment as affecting the two cardinal principles of administration of medical benefit by the local Health Committee and the free choice of a doctor by patients. The effect of the amendment is to permit medical attendance and treatment given through any system or organization existing at the time of the passing of the Act to be charged as medical benefit under the bill. It is not clear from the amendment that the insured person would be allowed any option as to whether he took his benefit in this form. It would appear to be possible for a society of which he was a member to require him to take it in that form under penalty of forfeiting the other benefits to which he might be entitled. And, of course, the medical profession thinks that this tends to the perpetuation of an undesirable form of contract practice. There is a very strong feeling upon this point, and it is possible that an attempt will be made to delete this provision or get it amended on the Report stage.

"There are some parts of the bill which have still to be discussed in Committee in which we are closely interested. On the questions of the composition of the various administrative bodies and the statutory recognition of the local Medical Committees the Chancellor of the Exchequer has put down an amendment which we believe would generally meet the views of the profession. The fate of this amendment, however, might very largely affect the attitude of the profession on the points that have already been considered. That is to say, the meeting will consider the bill as a whole, and not any particular clauses of it.

"We want to make it perfectly clear that on all these points we are concerned not merely with what is to be included in the text of the bill, but with the arrangements when the bill has become law. For instance, on the question of the income limit, it may be taken for granted that the profession will decline to enter into arrangements [with the Insurance authorities] for the attendance of persons whose income exceeds £2 a week, whatever the provisions of the bill may be."

The words in brackets appear to have been accidentally omitted from the statement in the *Times*.

FRIENDLY SOCIETY DEMONSTRATION.

A large demonstration of friendly society representatives was held in the Albert Hall, London, on October 19th to discuss the National Insurance Bill. Its result may be summed up by saying that the opposition to the bill has broken down, and the societies are now pledged to support the bill provided that the concessions promised by the Government are embodied. At the beginning of the meeting it was evident that a strong minority was altogether opposed to the bill, but as the various concessions were from time to time announced the opposition gradually became weaker, and at last, with somewhat unexpected suddenness, a resolution was carried, though by no means unanimously, to co-operate with the Government scheme. The hall, which is the largest in London, was crowded with delegates from all parts of the country, representing 33 of the leading societies, with a membership of 2,648,000 and total funds of nearly £36,000,000.

Mr. A. H. Warren, Grand Master of the Manchester Unity presided, and in his opening address said they were not met in hostility to the Government, nor were they antagonistic to any scheme for bettering the social conditions of the industrial population. On the contrary, if the Government scheme was to be the abounding benefit promised, the societies should be right in the front of this measure. They had no mandate to wreck the bill and no authority to demand its withdrawal. They were charged to seek amendments, and there was evidence that their demands would be met in certain directions. Their representatives had spent the whole of that day at the Treasury in conference, and they came to that meeting with a degree of satisfaction they did not entertain that morning. He said that an unfortunate error had crept into the press as to their conference at Edinburgh. There was a resolution to oppose the bill, but that was defeated by 48 votes to 38, and the resolution that was actually carried by 80 to 5 was to advise the societies to refuse to administer the Act only in the event of not obtaining their amendments.

The Date of Sickness Payment.

The first resolution put before the meeting dealt with the date of the commencement of sickness pay. The bill provides that it shall commence from the fourth day, but the resolution demanded that the established custom of the societies should be continued, and that "provision should be made in the bill for the payment of sickness benefit from and including the first day of sickness." The value of the difference is put down by the Chancellor at about £560,000. The Chairman said the Chancellor proposed to give the full benefit of the £560,000, but not payment from the first day. At this announcement there were cries of "Oh" and "Shame," and the Chairman then explained that the Chancellor proposed to pay from the first day in cases of recurring sickness within the twelve months, but only from the fourth day on the first occasion, but in lieu of payment from the first day he promised to give the £560,000 in this way: Where sickness is for two weeks, 3s. additional benefit for those two weeks; where sickness extends to four weeks, 2s. per week extra; and where it extends to six weeks, 1s. 6d. per week extra for the six weeks. The resolution was carried with only one dissentient.

The Medical Arrangements.

Mr. T. Barnes, Past Grand Master, Manchester Unity, moved:

> That this meeting emphatically protests against the misrepresentation made regarding friendly societies, to the effect that they have tyrannized over their medical officers, such being entirely opposed to facts, and affirms that the relationship generally has been of the most cordial and satisfactory character; it therefore demands that the friendly societies shall be allowed to make their own arrangements with the medical profession as hitherto; and, further, calls for the deletion of the provision in the National Insurance Bill empowering local Health Committees to fix an income limit beyond which insured persons will be debarred from medical benefit under the bill.

He said that the societies had been slandered in regard to the engagement of medical officers. It was a very singular thing to speak about sweating when the person engaged at a fixed rate was a perfectly free agent, and if not pleased with the terms might give up the position. Had they not learnt that medical gentlemen attached a real market value to friendly

society practice? In spite of the pressure brought to bear upon upon them, numerous doctors who had served the societies well had stated that they desired no alteration in the existing conditions. If it were desirable to have a universal scheme, why interfere with the domestic arrangements which had been so satisfactory to all concerned? They must protect themselves against irritating and exasperating interferences with the self-government of the societies.

Mr. J. STANTON, High Deputy Ruler, Independent Order of Rechabites, who seconded, said that they quite realized the difficulties of the Chancellor of the Exchequer and his earnest desire and splendid efforts to overcome difficulties. They might not as friendly societies get all they wanted, but they had been told that their claims were receiving a sympathetic consideration. They wanted to make doctors their allies, but they did consider the doctors' demands had been pressed most unduly and very harshly. The societies were out to secure the privileges of co-operation for themselves in connexion with their medical institutions. Negotiations were still pending, and they felt that night that, while they were taking a firm stand, they should not at that stage enter further upon details which might involve the issue.

The resolution was carried by an overwhelming majority, only a few voting against it.

Collecting and Dividing Societies.

The next resolution, which was carried with many dissentients, demanded that collecting and dividing societies should only become approved societies on conditions applicable to friendly societies, namely, that they should make satisfactory provisions for absolute government by the insured members.

The Local Health Committees.

Mr. W. MARLOW, Parliamentary agent, Ancient Order of Foresters, moved:

> That this meeting emphatically protests against the proposal to transfer the functions of the local Health Committees to county, borough, or other authorities, and as seven-ninths of the cost of medical and other benefits, which it is proposed that the local Health Committees shall administer, will have to be provided by members of the approved societies, demands that the approved societies shall have a clear majority of representatives upon such committees, and, further, that a committee be so constituted in every borough, metropolitan borough, and urban district.

He asked what was to happen to the men over 65, and the men who were permanently on the sick funds of the societies, and could never get inside the bill because they were not workers? It was, on their account, essential that the Health Committees should consist of a majority of approved society members. There was an insidious movement on the part of the borough and other councils to prevent the proposed Health Committees being formed, and to relegate the duties to the present Health Committees. But they had that day got from the Chancellor of the Exchequer the assurance that he would welcome every effort to promote the Health Committees on their own lines, and to stop the other people from poking their noses into their business.

Mr. W. J. WIGHTMAN, Grand Scribe, Sons of Temperance, seconded, and maintained that the men who were providing seven-ninths of the income were paying the piper, and they ought to call the tune on the local Health Committees.

The motion was carried with one dissentient.

Disposal of Surpluses.

Mr. W. A. PLATT, High Chief Ruler, Independent Order of Rechabites, moved:

> That this meeting places the utmost importance upon the following matters, as being necessary for the preservation of existing friendly societies, namely:
>
> (*a*) That the surpluses accruing under the National Insurance Bill shall remain under the control of the societies creating them.
>
> (*b*) That the contributions of members deducted by employers from wages shall be returned periodically to the approved societies, which shall have the right of investment of all such moneys.
>
> (*c*) That all "schemes" under Clause 55 of the bill shall be so framed as to ensure the preservation of existing societies, with full protection for all members not insured the bill.

It was announced that Mr. Lloyd George had agreed to embody in the bill these three points, and the resolution was carried unanimously.

The last resolution on the agenda recommended that the societies should consider the desirability of refusing to administer the Act in the event of their demands not receiving the favourable consideration of Parliament. At this time hundreds of people were leaving the hall assuming that this would be formally carried, but the chairman said that he had to announce that nine out of their eleven demands had been granted by Mr. Lloyd George. The tenth, which was the question of the doctors, was still under consideration. The eleventh was in regard to the alternative benefit instead of the first day's sick pay, and the Chancellor had offered something which he called an equivalent for it. Under these circumstances the last resolution on the agenda had been recast.

Mr. G. L. LINGSTROM, Provincial Corresponding Secretary, Manchester Unity, then moved the following substituted resolution:

> The Committee of the National Conference of Friendly Societies having had a prolonged interview with the Chancellor of the Exchequer on the subject of the minimum demands put forward at the Edinburgh Conference, and having expressed themselves satisfied that the alterations in the bill now promised by the Chancellor of the Exchequer will meet the reasonable and just demands of friendly societies, this meeting will recommend, on the enactment of the measure in accordance with this assurance, its acceptance by the friendly societies. (Some cries of "No.")
>
> And, further, this meeting appreciates the conciliatory attitude of the Chancellor of the Exchequer (cries of "No") in endeavouring to reconcile the difficulties existing between the friendly societies and the various interests concerned under the bill.

He said he would far rather have moved the resolution on the paper. The friendly societies did not ask for the bill, and it was not the bill given to Mr. Barnes last year under the pledge of secrecy. They had yet to hear why an alteration was made without consulting the executive. Whatever they might feel about that, if the bill were amended so that it would not hurt friendly societies, they would help to the uttermost to carry it out loyally. The latter part of the resolution referring to the conciliatory attitude of the Chancellor was received with some derisive cries; but Mr. Lingstrom said that, whether they agreed with the Chancellor or not, he had done more than any other Minister to bring them together.

On being put to the meeting a large number of hands were held up against it; but, amid a scene of excitement, the CHAIRMAN declared it to be carried.

DR. EDWIN SMITH, Barrister-at-Law, Lecturer on Forensic Medicine at St. Thomas's Hospital, writes: The promoters of the National Insurance Bill seem to have decided that the simplest way to deal with the medical profession is to ignore its claims; the bill is to be rushed through Parliament, and the Government will take its chance of finding sufficient medical men to make a start with the work.

Unfortunately, the profession has missed a great opportunity of refusing absolutely to recognize the contract system; but we can save the situation even now if we will only name our terms and stick to them.

The people are promised adequate medical attendance under the bill. Now, no professional man should be expected, except as an act of charity, to see a patient and supply drugs for less than half a crown each visit or consultation. If we take eight as the average number of visits and consultations per annum for each person, £1 a year would be the corresponding remuneration. If, then, there must be a capitation fee, let us fix it at twenty shillings, and not a penny less. "Absurd on the face of it" will be the reply. Quite so; in other words, the Act can only be worked as a colossal charity financed by ourselves. We can also refuse to give way on the £2 a week income limit. If we adhere resolutely to these two demands, the bill will, it is true, be unworkable, but the responsibility will not rest with us.

PAYMENT FOR ATTENDANCES.

Dr. ERNEST C. HADLEY (Birmingham) writes: With Dr. Harry Gray of Bristol and many more, I feel very strongly that the contract system of medical practice should be ended and not mended. I feel with him that the executive of the Association should not keep this policy so much in the background, since the abolition of contract practice is essentially the policy of the British Medical Association—or, must I say, was the policy until the present crisis.

Briefly, some reasons for so strongly urging this policy are:

1. It is only human nature that medical men who only get paid for work which they do, will obviously do that work better in their own (and, what is more important from the Chancellor's point of view) in their patients' interests, than those who are paid by contract, and who naturally do as little work as possible, and that at the least expense to themselves.
2. The difficult question of fixing the wage limit need no longer be a bone of contention, for if adequate minimum fees are fixed for services rendered, we as a profession can afford to agree to a higher wage limit—say, up to £3 a week; and, moreover, if the fees are arranged upon a sliding scale varying with the income of the patient, we could then allow a still higher wage limit, if not even an unlimited one.
3. The profession have got an opportunity now, which perhaps it will never have again, of once and for all shaking itself free

from the bondage of *all* clubs and all contract systems of payment; this surely is not an opportunity which it can afford to miss.

4. We as a profession should, as a result of the adoption of this policy, once more regain our independence of thought and action, which is in the interests of the advance of medical sciences in this country.

5. We have a lesson to learn from the experience of our German brethren. Surely we are not ourselves voluntarily going through the troublous times which they have experienced during the past few years, but rather benefit by their experience by starting where they have found themselves compelled to finish—namely, at this policy of payment for work done.

Upon conversing with some of the prominent leaders of the Association in Birmingham upon this policy, the objection at once raised is that we cannot expect the Chancellor to agree to it because it would be impossible for him to budget for the payment of fees under such a system, as at first at all events they could not be even approximately estimated. But why, if the Chancellor is not prepared to take the risk of the cost of his own Insurance Bill, should the medical profession be expected to take it? The chemists cannot and will not take any such risk.

There are many other points in favour of this policy of payment of fees for work done which can be made, especially with regard to the effect which it would have upon the work of the suggested Health Committees, and the relation of the doctors to the bodies there represented, which would take up too much space to be here discussed.

Calm before a Storm.

G. P. writes: Calm and peaceful has been the last few weeks in the medical profession. The Journals have returned to their learned articles on "606." What does this calm mean? Is it the old somnolence and apathy which has proved so fatal to the medical man in the past—Heaven forbid!—or is it the feeling of confidence and thankfulness arising from the fact that the profession may leave everything in the hands of the British Medical Association? Let us trust it is the latter.

Much may be done in every village and town to assist in fighting the crisis which threatens the profession. We are admirably led by the British Medical Association; but can their efforts secure adequate representation of the profession on the local Health Committees? If there is failure in this respect, we have in front of us a guerilla war that will be long, bitter, and tedious, requiring courage, determination, and, above all, cohesion amongst our forces. Let us all prepare for this at once by adopting the following:

1. See that all our colleagues have joined the British Medical Association.

2. Form at once, if there be not one already, a local medical society, working hand and glove with the district Branch of the British Medical Association, but ready to tackle all purely local and minor medical matters.

3. Promote good fellowship with all medical colleagues, especially "would-be blacklegs."

4. Let every one know that the profession is united at last, and determined to frustrate the wiles not only of enterprising politicians but also those of so-called philanthropists and charitable bodies who in every town make endless attempts to exploit our profession.

No time should be lost. Let us trust our leaders, but at the same time help in the closing up of the rank and file by encouraging the downhearted and pessimistic.

CENTRAL MIDWIVES BOARD.

Fee for Doctor Called in by Midwife.

We have received from Dr. R. Haldane Cook, Honorary Secretary of the Enfield Medico-Ethical Society, the following copy of a letter which has been sent to Sir Almeric FitzRoy in reply to the communication from him addressed to the Central Midwives Board, which was published in the Supplement last week, p. 404:

[Copy.]

Enfield,
23rd October, 1911.

Sir,

My society has asked me to remind you of a communication which you sent recently to the Central Midwives Board concerning Miss A. M. Taylor, a midwife, in which you adverted rather severely on the action of the Enfield Medico-Ethical Society in sending a circular letter to the midwives of this district. There is no doubt that grave censure is well merited in some quarter for the present situation as created by the Midwives Act in most poor districts, and the Central Midwives Board, in its letter of October 12th, "regrets that the Government has not made provision for such cases."

You will probably agree that no work better deserves payment than that of a doctor called by a midwife to conduct a difficult labour. A summons in the night to a slum bedroom, to spend possibly two or three hours in hard physical labour, involving a high degree of responsibility, is not a welcome invitation.

The doctors in poor districts are always poor men, and the probability of their obtaining a fee for the services in question may be gauged from Miss Taylor's letter.

One would think that the average person would be enraged that a doctor, called to give aid under these circumstances, and by sentiments of humanity compelled to give it, should actually in most cases receive no payment whatever. A fee which public opinion would consider adequate is never obtained.

You may say—Yes, I agree that doctors should be paid; but that gives your society no justification for your demand that the midwife should undertake the responsibility of seeing that your fee is paid. Our reply is, that our action in sending the circular is fully justified by its results. The medical profession has tried for years to obtain payment from the local boards of guardians, which have the statutory power to make it in such cases. The indignant cry of a solitary midwife, calling out before she is hurt, at once echoes in the Privy Council!

I am, Sir,
Yours faithfully,

Honorary Secretary, Enfield Medico-Ethical Society.

Sir Almeric Wm. FitzRoy, K.C.V.O.,
Clerk to the Privy Council.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 7,574 births and 4,450 deaths were registered during the week ending Saturday last, October 21st. The annual rate of mortality in these towns, which had been 15.5, 15.2, and 14.9 per 1,000 in the three preceding weeks, further fell to 14.4 per 1,000 in the week under notice. In London the death-rate was equal to 14.3 per 1.000, against 15.6, 15.0, and 15.4 in the three previous weeks. Among the seventy-six other large towns, the death-rates last week ranged from 6.8 in Hornsey, 7.0 in Grimsby, 8.3 in Coventry, 9.6 in Merthyr Tydfil, and 9.7 in Willesden, to 20.8 in Wolverhampton, 21.5 in Dewsbury, 21.6 in Bootle, 22.2 in Bury, and 22.7 in Sunderland. Enteric fever caused a death-rate of 1.9 in Hull; measles of 4.4 in Wolverhampton; and diarrhoea and enteritis (of children under 2 years of age) of 2.2 in Bootle, in St. Helens, and in Warrington, and 2.5 in York. The mortality from the remaining epidemic diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 39, or 0.9 per cent. of the total deaths registered in the seventy-seven towns, were not certified either by a registered medical practitioner or by a coroner after inquest, and included 10 in Birmingham, 9 in Liverpool, and 2 each in Portsmouth, Leicester, St. Helens, Hull, and Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,666, 1,793, and 1,966 at the end of the three preceding weeks, had further risen to 2,106 on Saturday last; 344 new cases were admitted during the week, against 333, 293, and 355 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the largest Scottish towns 819 births and 513 deaths were registered during the week ending Saturday last, October 21st. The annual rate of mortality in these towns, which had been 14.9 and 16.4 in the two preceding weeks, declined to 15.7 last week, but was 1.3 per 1,000 above the mean rate during the same period in the seventy-seven large English towns. Among the several Scottish towns the death-rates last weeks ranged from 11.6 in Perth and 14.0 in Edinburgh to 16.8 in Leith and 17.0 in Glasgow. The mortality from the principal epidemic diseases averaged 1.4 per 1,000, and was highest in Aberdeen and Greenock. The 255 deaths from all causes registered in Glasgow last week included 1 from enteric fever, 7 from measles, 2 from scarlet fever, 3 from whooping-cough, 2 from diphtheria, and 7 (of children under 2 years of age) from diarrhoea and enteritis. Two deaths from measles and 2 from scarlet fever were recorded in Aberdeen, 2 from scarlet fever in Greenock, and from infantile diarrhoea, 5 in Dundee, 3 in Edinburgh, and 2 in Greenock.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, October 14th, 584 births and 425 deaths were registered in the twenty-two principal urban districts of Ireland, as against 565 births and 431 deaths in the preceding period. The annual death-rate in these districts, which had been 20.1, 18.0, and 19.6 per 1,000 in the three preceding weeks, fell to 19.3 per 1,000 in the week under notice, this figure being 4.3 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 21.7 and 15.9 respectively, those in other districts ranging from 5.3 in Tralee and 7.9 in Dundalk to 30.4 in Clonmel and 36.4 in Wexford, while Cork stood at 25.2, Londonderry at 15.3, Limerick at 16 3, and Waterford at 26.6. The zymotic death-rate in the twenty-two districts averaged 3.4 per 1,000, as against 3.7 in the preceding period.

During the week ending Saturday, October 21st, 540 births and 409 deaths were registered in the twenty-two principal urban districts of Ireland, as against 584 births and 425 deaths in the preceding period. The annual death-rate in these districts, which had been 18.0, 19.6, and 19.3 per 1,000 in the three preceding weeks, fell to 18.6 per 1,000 in the week under notice, this figure being 4.2 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 20.0 and 17.0 respectively, those in other districts ranging from 4.3 in Lisburn and 5.1 in Clonmel to 31.9 in Wexford and 44.6 in Kilkenny, while Cork stood at 26.5, Londonderry at 8.9, Limerick at 20.4, and Waterford at 26.6. The zymotic death-rate in the twenty-two districts averaged 2.1 per 1,000, as against 3.4 in the preceding period.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Fleet Surgeon F. A. CAPPS to Haulbowline Hospital, November 15th; Staff Surgeon H. HUSKINSON, M.B., to the *Boadicea*, November 15th; Staff Surgeon C. C. MACMILLAN, D.S.O., M.B, to the *Pegasus*, on commissioning, October 27th; Fleet Surgeon H. H. PEARSE and Surgeon A. H. JOY, M.B., to the *Royal Arthur*, October 28th, and to the *Kent*, on recommissioning, undated; Staff Surgeon R. W. B. HALL to the *Victory*, additional, for disposal, October 21st.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

CAPTAINS T. E. FIELDING, M.B., C. H. STRATON, J. M. CUTHBERT, M.B., and R. T. BROWN, M.D., are promoted to be Majors, October 25th. Their previous appointments are dated: Lieutenant, April 25th, 1900; Captains, April 25th, 1903. Major Fielding was in the South African war in 1900–2, and was present in operations in the Transvaal, in Orange River Colony, Cape Colony, again in the Transvaal, and on the Zululand frontier of Natal; he was twice mentioned in dispatches and received the Queen's medal with three clasps and the King's medal with two clasps. The other officers cited have no war record in the Army Lists.

Captain H. O. M. BEADNELL is placed temporarily on the half-pay list on account of ill-health, October 17th. He was appointed Lieutenant, July 30th, 1904, and Captain, January 30th, 1908.

Captain A. D. FRASER, M.D., from the seconded list, is restored to the establishment, October 24th. He was seconded for service as Medical Officer, Uganda, February 6th, 1908.

Major H. O. B. BROWNE-MASON, who is serving in India, is appointed Specialist in Dermatology, 6th (Poona) Division, from August 16th.

Captain F. J. STUART, M.B., also serving in India, is appointed Specialist in Dermatology, 7th (Meerut) Division, from August 19th.

INDIAN MEDICAL SERVICE.

THE following Lieutenants are promoted to be Captains, from August 1st: A. C. MUNRO, M.B., A. G. TRESIDDER, M.B., G. G. JOLLY, M.B., A. A. C. MCNEILL, M.B., R. L. GAMLEN, M.B., G. F. GRAHAM, M.B., T. D. MURISON, J. J. H. NELSON, M.B., E. S. PHIPSON, M.B., F. F. S. SMITH, M.B., A. J. SYMES, M.B., T. C. BOYD. Their first appointment bears date August 1st, 1908.

TERRITORIAL FORCE.

INFANTRY.

SURGEON-CAPTAIN J. B. YEOMAN, M.D., 4th Battalion Cheshire Regiment, resigns his commission, October 21st.

ROYAL ARMY MEDICAL CORPS.

Third West Lancashire Field Ambulance.—Undermentioned officers to be Captains, October 1st: Lieutenant AUGUSTUS A. W. MERRICK, F.R.C.S.Ire, Lieutenant ERNEST KNIGHT, M.B., Lieutenant NORMAN S. JEFFREY, M.B.

First London (City of London) Field Ambulance. — Lieutenant EDWARD L. ROWSE, M.D., to be Captain, October 1st.

Second Welsh Field Ambulance.—ARTHUR C. DEVEREUX, M.B., to be Lieutenant, July 11th.

Third South Midland Field Ambulance.—Lieutenants JAMES S. MATHER, M.B., and T. A. GREEN, M.D., to be Captains, October 1st.

First Northumbrian Field Ambulance.—Lieutenant J. M. GOVER to be Captain, October 1st.

Attached to Units other than Medical Units.—Lieutenant F. W. BURN, M.B., to be Captain, July 3rd. Captain JAMES ANDREW, M.B., resigns his commission, October 21st. Captain T. A. SELLAR, M.B., to be Major, August 29th. Captain DAVID WESTWOOD, M.B., resigns his commission, October 25th.

For Attachment to Units other than Medical Units.—Lieutenant HENRY ROBINSON, M.D., from the London Mounted Brigade Field Ambulance, to be Lieutenant, September 21st.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during September:

		FROM		TO
Colonel	H. J. R. Moberly	Bangalore	...	Ootacamund.
Lieut.-Col.	R. Kirkpatrick, C.M.G., M.D.	Devonport	...	Egypt.
,,	H. M. Sloggett	Aldershot	...	Malta.
,,	W. A. Morris	Cawnpore	...	Allahabad.
,,	A. A. Sutton, D.S.O. ...	—		West Africa.
,,	C. J. MacDonald, M.D. ...	Fermoy	...	Tientsin.
,,	R. W. Wright	Chatham	...	India.
,,	J. C. Morgan	Dublin ...	...	Glasgow.
,,	H. L. Battersby (ret. pay)	Bodmin	...	Ipswich.
Major	L. Way	Cosham	...	Golden Hill.
,,	F. J. W. Porter, D.S.O.	LodmoorCamp		Cosham.
,,	F. W. Begbie	Tidworth	...	Colchester.
,,	E. M. Morphew	Roorkee	...	Ranikhet.
,,	L. P. More, M.B.	Portland	...	Portsmouth.
,,	R. C. Lewis	Carnarvon Camp		Pembroke Dock.
,,	N. Marder	Cosham	...	Portland.
,,	H. E. Staddon	Chichester	...	Shorncliffe.
,,	R. J. Blackham	Peshawar	...	Cherat.
,,	H. G. F. Stallard	Simla ...	...	,,
,,	W. H. S. Nickerson, V.C., M.B.	Cherat ...	...	Rawal Pindi.
,,	H. B. G. Walton	Mussoorie	...	Bareilly.
,,	J. W. Leake	—	...	W. Africa.
,,	J. G. Gill	Peshawar	...	Secunderabad.
,,	A. L. A. Webb	—	...	W. Africa.
,,	C. R. Evans	York ...	...	Malta.
,,	L. F. F. Winslow	Strensall	..	Sheffield.
,,	H. S. Anderson	Buttevant	...	Moore Park Camp.
,,	B. F. Zimmerman (ret. pay) ...	Topsham	...	Lancaster.
,,	J. F. Burke (ret. pay)	Lancaster	...	Penally.
Captain	F. P. Lauder	Aldershot	...	Cork.
,,	L. L. G. Thorpe	West Down South		Netley.
,,	W. S. Crosthwait	Moore Park Camp		Fermoy.
,,	W. J. Waters	Crown Hill	...	N. China.
,,	R. B. Black, M.B.	R.A.M. Coll.	...	Egypt. Army.
,,	J. H. Brunskill, M.B.	,,	...	Curragh.
,,	S. B. Smith, M.D.	Dublin ...	...	Belfast.
,,	J. S. Bostock, M.B.	Aldershot	...	India.
,,	D. L. Harding, F.R.C.S.I. ...	Belfast ...	...	Athlone.
,,	T. J. Potter	Jamaica	...	London Dist.
,,	W. Davis	Secunderabad		Bareilly.
,,	W. F. Tyndale, C.M.G., M.B.	Dublin ...	...	Devonport.
,,	R. L. V. Foster, M.B.	Bodmin ...		,,
,,	S. M. W. Meadows	Tidworth	...	Oxford.
,,	D. S. Skelton	York ...	...	Strensall.
,,	J. A. W. Webster	R.A.M. Coll.	...	Fermoy.
,,	E. M. Pennefather	,,		Buttevant.
,,	T. E. Harty	Woolwich	...	Guildford.
,,	A. C. H. Gray, M.B.	Belfast ...	...	Dublin.
,,	D. P. Watson, M.B.	Shrewsbury	...	Preston.
,,	P. J. Hanafin	R.A.M. Coll.	...	Dublin.
,,	J. D. Richmond, M.B.	Edinburgh	...	Piershill.
,,	M. C. Wetherell, M.D. ...	Maryborough Heath		Curragh.
,,	W. MacD. MacDowall ...	Aldershot	...	Ewshott.
,,	L. Bousfield, M.D.	Devonport	...	Crown Hill.
,,	A. L. Otway, M.B.	Finner Camp	...	Belfast.
,,	R. B. Hole, M.B.	Hilsea ...	...	Cosham.
,,	J. A. Turnbull	Ayr ...	...	Edinburgh.
,,	D. P. Johnstone	Manchester	...	Wrexham.
,,	R. J. Cahill, M.B.	Oranmore Camp		Curragh.
,,	J. H. Campbell, M.B.	Ross Camp	...	Warrington.
,,	E. J. H. Luxmoore	Canterbury	...	Dover.
,,	K. A. C. Doig	Cosham	...	Hilsea.
,,	P. A. Lloyd Jones, M.B. ...	Nenagh Camp		Kinsale.
,,	J. St. A. Maughan	Tidworth	...	Parkhouse Camp.
,,	J. P. Lynch	Lydd ...	...	Shorncliffe.
,,	F. E. Roberts	Stobs ...	...	Edinburgh.
,,	R. K. White	Kinsale	...	Fermoy.
,,	J. E. Hoar	Ballykinler Camp		Belfast.
,,	G. H. Richard	Finner Camp		Londonderry.
,,	G. Ormrod, M.B.	Londonderry	...	Belfast.
,,	H. H. A. Emerson, M.B. ...	R.A.M. Coll.	...	Clonmell.
,,	P. Farrant	Tidworth	...	Sling Plantation Camp.
,,	H. E. Gotelee	Mullingar	...	Holywood.
,,	M. G. Dill, M.D.	Edinburgh	...	Ayr.
,,	T. W. Brown	Kamptee	...	Jhansi
,,	W. I. Thompson, M.B. ...	Cawnpore	...	Lucknow.
,,	D. T. MacCarthy, M.B. ...	Lucknow	...	Cawnpore.
,,	E. J. Kavanagh, M.B. ...	Ranikhet	...	Bareilly.
,,	A. H. Jacob	Campbellpore		Rawal Pindi.
,,	H. Gibson	Jhansi ...	...	Kamptee.
,,	A. Hendry, M.B.	Indore ...	...	Mhow.
,,	W. H. S. Burney	Curragh	...	Birr.
Lieutenant	W. G. Wright, M.B. ...	Netley ...	...	Gibraltar.
,,	H. S. Ranken, M.B. ...	London	...	Egypt. Army.
,,	P. S. Tomlinson	Wedgenock Park		Tidworth.
,,	F. W. M. Cunningham, M.D.	Donard Camp		Curragh.
,,	A. D. Stirling, M.B. ...	Piershill	...	Egypt.
,,	E. C. Lambkin, M.B. ...	Caterham	...	Hong Kong.
,,	O. W. McSheehy, M.B. ...	Okehampton	...	Taunton.
,,	M. J. Williamson, M.B. ...	Cardiff ...	...	Hamilton Camp.
,,	J. J. D. Roche, M.B. ...	Londonderry	..	Gibraltar.
,,	J. R. Hill, M.B.	Conway	...	Lancaster.
,,	J. R. Yourell, M.B. ...	Athlone	...	India.
,,	R. Gale, M.B.	Pirbright	...	London.
,,	A. G. Jones, M.B.	Larkhill Camp		Tidworth.
,,	T. H. Dickson, M.B. ...	Dublin ...	...	Galway.
,,	R. M. Davies, M.B. ...	Landguard	...	Chatham.
,,	E. C. Stoney, M.B. ...	Gt. Yarmouth		Colchester.
,,	V. P. Hutchinson	Rolleston Cp.		Netley.
,,	E. L. Fyffe, M.B.	Ballincollig	...	Queenstown.
,,	T. J. Hallinan, M.B. ...	Cork ...	...	Youghal.
,,	J. K. Gaunt, M.B.	Nenagh	...	Lisnagar Cmp.
,,	C. M. Finny, M.B.	Dublin Dist.	...	Curragh.
,,	J. D. Kidd, M.B.	,,		,,
,,	E. G. S. Cane	,,		,,
,,	F. A. Robinson, M.B. ...	,,		,,
,,	D. Reynolds, M.B. ...	—		Cork.
,,	C. D. K. Seaver	—		,,
,,	W. T. Graham, M.B. ...	—		Tidworth.

Lieutenant H. W. AUSTIN, retired pay, and Lieutenant-Colonel E. DAVIS, retired pay, have been placed in medical charge of troops at Fort Stamford and Jersey respectively.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BARNSLEY: BECKETT HOSPITAL. — Second House-Surgeon. Salary, £80 per annum.

BATH ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Resident Medical Officer (male). Salary at the rate of £60 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House-Surgeon. Salary, £80 per annum.

BRIGHTON: CHICHESTER HOSPITAL.—Resident House-Physician (woman). Small honorarium.

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House-Surgeon. Salary, £75 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary £80 per annum, increasing to £90 after six months.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

DENBIGH: DENBIGHSHIRE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DONCASTER: ROYAL INFIRMARY AND DISPENSARY.—(1) Senior House-Surgeon. (2) Assistant House-Surgeon, Salary, £90 and £60 per annum respectively.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—(1) Assistant Surgeon, (2) Second Medical Officer to Casualty Department (male); salary at the rate of £40 per annum.

FERMANAGH COUNTY HOSPITAL, Enniskillen.—House-Surgeon (male). Salary, £72 per annum.

GLASGOW UNIVERSITY.—Additional Examiner for degrees in Medicine, in (*a*) Medical Jurisprudence and Public Health, and (*b*) Midwifery.

HOLT, NORFOLK: GRESHAM SCHOOL.—Medical Officer. Salary, £250 per annum.

HUDDERSFIELD ROYAL INFIRMARY.—Male Junior Assistant House-Surgeon. Salary, £60 per annum.

HULL: ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

JARROW-ON-TYNE: PALMER MEMORIAL HOSPITAL.—House-Surgeon (male). Salary commencing at £170 per annum.

LEEDS PUBLIC DISPENSARY.—Honorary Physician.

LEEDS UNIVERSITY.—(1) Medical Tutor at the General Infirmary; salary, £125 per annum. (2) Medical Registrar at the General Infirmary; honorarium, £25 per annum.

LISCARD: WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LIVERPOOL CANCER RESEARCH LABORATORY.—Additional Assistant. Commencing salary, £150 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—Honorary Assistant Surgeon.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant Resident Medical Officer. Honorarium at the rate of £50 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £100 per annum.

MIDDLESEX COUNTY ASYLUM, Napsbury.—Assistant Medical Officer. Salary commencing at £160 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead, N.W.—(1) Honorary Radiographer. (2) Honorary Dental Surgeon.

NEWCASTLE-ON-TYNE HOSPITAL FOR SICK CHILDREN.—Honorary Assistant Physician,

NORWICH; JENNY LIND INFIRMARY FOR CHILDREN.—Lady Resident Medical Officer. Salary, £50 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—Clinical Assistant.

POPLAR AND DISTRICT SICK ASYLUM.—Third Assistant Medical Officer for the Sick Asylum, Bromley. Salary, £120 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Surgeon-in-Charge of Out-patient Department.

ROCHDALE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Dental Surgeon.

ST. MARY'S HOSPITAL, Paddington, W.—Casualty Physician. Salary, £75 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES.—Red Lion Square, W.C.—Clinical Assistant.

SALFORD ROYAL HOSPITAL.—Honorary Dentist.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—Senior Resident Medical Officer. Salary, £120 per annum.

WALSALL AND DISTRICT HOSPITAL.—House-Physician and Casualty Officer. Salary, £80 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Dumfries (Dumfriesshire), Tottenham (Middlesex).

APPOINTMENTS.

HUMPHREYS, C. E., M.R.C.S.Eng., L.S.A., Medical Officer of Health of the County of Montgomery.

MADDEN, G., M.B., Ch.B., R.U.I., District Medical Officer of the Islington Union.

MARTIN, Antony A., M.D.Lond., B.S., D.P.H., Honorary Medical Officer to the Eastbourne Hospital (Princess Alice Memorial).

NORRIS, A. H., M.R.C.S., L.R.C.P., D.P.H., Assistant School Medical Officer for Berkshire.

PEARSON, D. C., M.B., B.Ch.Dub., District Medical Officer of the Dewsbury Union.

HAMPSTEAD GENERAL HOSPITAL.—The following appointments have been made:—

Fenwick, W. Stephen, M.S., M.B., B.Sc.Lond, F.R.C.S.Eng., Surgeon to Out-patients.
Greenwood, A. Atkins, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Medical Officer for *X*-ray and Electrical Department.
Shinnie, A. J., M.B., Ch.B., House-Surgeon.
Stuart, A. M., M.R.C.S, L.R.C.P., House-Physician.

LEEDS GENERAL INFIRMARY.—The following appointments have been made:—

House-Physician to Dr. Barrs: Harold F. Renton, M.B., B.S.Lond.
House-Surgeon to Mr. Litlewood: E. T. Willans, M.R.C.S., L.R.C.P.
House-Surgeon to Mr. Knaggs: C. G. K. Sharpe, M.B., Ch.B.Leeds.
House-Surgeon to Mr. Moynihan: E. T. Tatlow, B.A., M.D., B.Ch.Dub.
Resident Obstetric Officer: T. Evans, M.B., B.S.Lond.
Resident Medical Officer to the Convalescent Homes at Cookridge: E. R. Flint, M.B., Ch.B.Leeds.

ROYAL FREE HOSPITAL.—The following appointments have been made:—

House Physicians (Male): Mr. J. H. Cumming, M.R.C.S., L.R.C.P.; (Female): Miss M. Scott, M.B., B.S.
House-Surgeons (Male): Mr. R. E. Porter, M.R.C.S., L.R.C.P.; (Female): Miss M. D. Thackrah, M.B., B.S.
Assistant Anaesthetist: Miss M. Rawlins, M.B., B.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

CUMBERLEGE.—On October 18th, at 1, Ninian Road, Roath Park, Cardiff, to Madeleine Sydney and Gilbert Iliffe Cumberlege, M.D., B.S., a daughter.

FRANKLIN.—At 2, Freilands Road, Bromley, Kent, the wife of J. Curtis Franklin, West African Medical Staff, of a son.

JENKINS.—On October 22nd, at Kiltenan, Llandaff, to Dr. and Mrs. H. S. Jenkins, of Sianfu, Shensi, N. China, a son.

KER.—On October 20th, at Otterburn, Northumberland, the wife of William Percival Ker, M.R.C.S. and L.R.C.P.Lond., of a daughter.

MARRIAGES.

BREWER—KILBURN.—On October 17th, at St. Luke's, Kidderpore Avenue, Hampstead, by the Rev. Dr. Willoughby, William Kenneth Brewer, M.R.C.S. and L.R.C.P., of 547, Finchley Road, N.W., to Mildred Magner, youngest daughter of the late Charles Kilburn, Esq., of Hampstead, and of Mrs. Kilburn, 15, Welch Road, Hampstead.

UNDERWOOD—HANDS.—On October 18th, at St. James's, Edgbaston, Birmingham, by the Hon. the Rev. J. G. Adderley, M.A., assisted by the Rev. Canon Reader-Smith, Arthur Cressee Underwood, M.R.C.S. and L.R.C.P., youngest son of the late William Elphinstone Underwood, I.C.S., and the late Mrs. Underwood, of Wynaad, Madras Pres., India, to Hilda Ruth, the youngest daughter of Mr. and Mrs. Alfred C. Hands, of Llanrwst, Pakenham Road, Edgbaston.

DEATH.

SIMPSON.—At 52, Queen Street, Edinburgh, on 25th inst., Dame Margaret Stewart Barbour, wife of Emeritus Professor Sir Alexander Russell Simpson, M.D. No flowers, by request.

DIARY FOR THE WEEK.

MONDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Mr. Shattock. Specimens illustrating Results of Inflammation.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, 4.15 p.m.—Agenda: Exhibition of Cases. Election of Members.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East. S.W., 5 p.m.—Bradshaw Lecture by Dr. Graham Steell on Intrathoracic Tumours and Aneurysms regarded from the Clinical Standpoint.

ROYAL SOCIETY, Burlington House, W.—The following are among the probable papers:—Sir W. de W. Abney, K.C.B., F.R.S.: Colour Blindness and the Trichromatic Theory of Colour Vision. Part III, Incomplete Colour Blindness. A. F. Hayden and W. P. Morgan: An Inquiry into the Influence of the Constituents of a Bacterial Emulsion on the Opsonic Index. Colonel Sir David Bruce, C.B., F.R.S.: The Morphology of *Trypanosoma gambiense* (Dutton and Todd). A. H. Caulfeild: Factors in the Interpretation of the Inhibitive and Fixation Serum Reactions in Pulmonary Tuberculosis. A. H. Caulfeild: Preliminary Report upon the Injection of Rabbits with Protein-free (tuberculo) Antigen and Antigen-serum Mixtures.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

LARYNGOLOGICAL SECTION, 11, Chandos Street, W., 5 p.m.—Demonstration of Cases and Specimens

OBSTETRICAL AND GYNAECOLOGICAL SECTION, 11, Chandos Street, W., 8 p.m.—(1) Demonstration of Cases and Specimens. (2) Short Communication:—Dr. T. Copeland Savage (Auckland, N.Z.): A Case of Full-term Extrauterine Gestation; Laparotomy during Spurious Labour; Recovery of Mother with Living Child.

SECTION OF ANAESTHETICS, 15, Cavendish Square, W., 8.30 p.m.—Short Communications:—Dr. W. J. McCardie: Notes on Cases showing some of the After-effects of Chloroform. Dr. J. F. W. Silk: Case of Pleurisy and Bronchitis after Open Ether. Mr. Rowland Collum: Notes on a Troublesome Dental Case. Mr. Bellamy Gardner: The Use of a Mouth Prop and Tongue Clip as a System of Anaesthesia.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, 8 p.m.—Clinical Evening.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Nose; Friday, 3.30 p.m., Some Points in Chronic Middle-ear Suppuration.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m., Asthma and Nasal Disease.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday. Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Wednesday, 2.15, Acute Abdominal Pain; Thursday, 4.30 p.m., The Diagnosis of Upper Abdominal Lesions.

MANCHESTER: ANCOATS HOSPITAL POST-GRADUATE CLINIC.—Thursday, 4.15 p.m., The Medical Aspects of Gall Stones.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C. — The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, On Some Nervous Affections of the Pharynx and Larynx, including Functional Aphonia; Tuesday, Unusual and Excessive Haemorrhage at Puberty and the Menopause; Wednesday, The General Medical Treatment of Early Cases of Insanity; Thursday, Treatment of Middle-ear Disease by Hot Medicated Air.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C. — Tuesday, 3.30 p.m., Peripheral Mechanism of Sound Perception. Friday, 3.30 p.m., Cases from the Ward.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear. Tuesday, 10 a.m., Medical Out-patient Clinic, 2.30 p.m., Operations. Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient. 4.30 p.m. Special Demonstration of selected Skin Cases. Wednesday, 2.30 p.m., Medical Out-patient; Skin and Eye Clinics; *X* Rays. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics 2 p.m., *X* Rays 2 p.m., Operations 2 p.m. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m; Eye, 10 a.m. Special Lectures at 5 p.m. daily.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. P. BLAKISTON'S SON AND CO. announce the publication of a fifth edition of a *Manual of Pathology, Including Bacteriology*, by W. M. Late Coplin, M.D., Professor of Pathology, Jefferson Medical College; and of a third edition of *Modern Dental Materia Medica, Pharmacology and Therapeutics*, by J. P. Buckley, Ph.G., D.D.S., Professor and Head of the Department of Materia Medica, Pharmacology and Therapeutics, and formerly Director of the Chemical Laboratories, Chicago College of Dental Surgery.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
28 SATURDAY ..	EDINBURGH: Meeting of Scottish Medical Practitioners, Students' Union Hall, 3.30 p.m. (Insurance Bill).
29 Sunday ..	
30 MONDAY ..	
31 TUESDAY ..	
NOVEMBER.	
1 WEDNESDAY	**London: Central Council, 2 p.m.** RICHMOND DIVISION, *Metropolitan Counties Branch*, Annual Dinner, Richmond.
2 THURSDAY ..	PRESTON: Joint Meeting of Blackpool, Blackburn, and Preston Divisions (National Insurance Bill). FOLKESTONE DIVISION, *South-Eastern Branch*, Combined Meeting of Folkestone Medical Society and East Kent Division, Royal Victoria Hospital, Folkestone, 3.30 p.m. REIGATE DIVISION, *South-Eastern Branch*, Autumn Meeting, White Hart Hotel, Reigate, 8.30 p.m.
3 FRIDAY ..	MANCHESTER: Meeting of Local Divisions (National Insurance Bill).
4 SATURDAY ..	BURY: Joint Meeting of Bolton, Bury, and Rochdale Divisions (National Insurance Bill).
5 Sunday ..	
6 MONDAY ..	
7 TUESDAY ..	CAMBERWELL: Joint Meeting of Greenwich, Lambeth, and Norwood Divisions (National Insurance Bill), Camberwell Town Hall, 4 p.m.
8 WEDNESDAY	CENTRAL DIVISION, *Birmingham Branch*, General Meeting, Medical Institute, Edmund Street, 4 p.m.

Date.	Meetings to be Held.
NOVEMBER *(continued)*.	
9 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m. CITY DIVISION, *Metropolitan Counties Branch*, Manor Lodge, Upper Clapton, 9.30 p.m.
10 FRIDAY ..	
11 SATURDAY ..	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	KENSINGTON DIVISION, *Metropolitan Counties Branch*, Kensington Town Hall, 4 p.m.
15 WEDNESDAY	
16 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4 p.m.
17 FRIDAY ..	
18 SATURDAY ..	
19 Sunday ..	
20 MONDAY ..	
21 TUESDAY ..	
22 WEDNESDAY	RICHMOND DIVISION, *Metropolitan Counties Branch*, Richmond, 8.30 p.m.
23 THURSDAY ..	WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, Grove Hall, Wanstead, 4 p.m.
24 FRIDAY ..	BIRMINGHAM BRANCH, Pathological and Clinical Section, Medical Institute, Edmund Street, 8 p.m.
25 SATURDAY ..	
26 Sunday ..	
27 MONDAY ..	

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SUPPLEMENT
TO THE
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British Medical Association.

SPECIAL REPRESENTATIVE MEETING.

Notice is hereby given that a Special Representative Meeting of the Association will be held in London on one or other of the following alternative dates, namely, Tuesday, November 21st; Thursday, November 23rd; Tuesday, November 28th; Thursday, November 30th; Tuesday, December 5th; Thursday, December 7th; Tuesday, December 12th; or Thursday, December 14th, 1911, at 10 o'clock in the forenoon, for the purpose of receiving and considering a Report prepared by the Council of the Association, in accordance with Minute 200 of the Annual Representative Meeting, held at Birmingham on July 21st, 1911, and following days, and for the purpose of passing resolutions arising therefrom or in reference thereto.

Minute 200 of the Annual Representative Meeting, 1911, referred to in the foregoing Notice, is as follows:

Minute 200.—Resolved: That the Council be instructed, immediately upon completion of the Committee stage of the Insurance Bill, to issue to the Divisions a Report on the position ofthe profession under the Bill as amended, and to convene as soon thereafter as practicable a Special Representative Meeting to consider the matter.

BY ORDER OF THE CHAIRMAN OF REPRESENTATIVE MEETINGS,

GUY ELLISTON,
Financial Secretary and Business Manager.

J. SMITH WHITAKER,
Medical Secretary.

November 1st, 1911.

NOTE.—The necessity for mentioning alternative dates in the above form of notice arises from the fact that the Special Representative Meeting must, in order to fulfil the objects for which it is convened, be held after the completion of the Committee stage of the consideration of the Insurance Bill in the House of Commons, and before the commencement of the Report stage, a date which cannot be definitely foretold. On the other hand it is necessary, under the By-laws of the Association, that the notice of the meeting should have appeared in the JOURNAL at least fourteen days before the date on which it is held.

The Council regrets the inconvenience to which the members of the Representative Meeting may thus be put, but which is found in the present circumstances to be unavoidable.

(Signed) EWEN J. MACLEAN,
Chairman of Representative Meetings.

NATIONAL INSURANCE BILL.

REPORT OF COUNCIL TO THE DIVISIONS.

THE Council has carefully considered the instructions of the Annual Representative Meeting, 1911, with respect to the National Insurance Bill, and has taken all possible action to give effect to those instructions.

Among the instructions was the following Minute:

> 200. Resolved: That the Council be instructed, immediately upon the completion of the Committee stage of the Insurance Bill, to issue to the Divisions a report on the position of the profession under the Bill as amended, and to convene as soon thereafter as practicable a Special Representative Meeting to consider the matter.

Inasmuch as the consideration of the Bill in Committee of the House of Commons is still proceeding, the Council is not yet in a position to issue a report in accordance with the above instructions. Such a report will be issued by the State Sickness Insurance Committee on behalf of the Council immediately upon the completion of the Committee stage, and special arrangements are being made in order that this may be considered by the Divisions, and a Special Representative Meeting held to deal with the matter under their instructions, in time for the decisions of that meeting to be communicated to the Government before the commencement of the Report stage. In view of the fact that the interval between the close of the Committee stage and the commencement of the Report stage will probably be very short, the Divisions must unavoidably be asked to deal with the matter on very short notice.

In the meantime the Council thinks well to issue to the Divisions a report descriptive of the action that has been taken to give effect to the instructions of the Annual Representative Meeting held at Birmingham, and to further generally the policy formulated in the six points stated by the Special Representative Meeting, to which the profession generally have given their adhesion. Such a narrative will, it is hoped, be of assistance to the members in arriving at their decision upon the bill as a whole when the further report of the Council, to be issued as above stated, is in their hands. The Council would, however, urge the Divisions and members to postpone arriving at decisions on the subject until the very important matters that have still to be considered by the House of Commons as affecting the medical profession are decided and all the facts are before them by which their decision should be influenced.

Present Position of Clauses in Bill which Specially Affect Profession.

Of the six points stated in the manifesto issued to the profession on June 3rd, 1911, three—namely, the Income Limit for Medical Attendance, the Administration of Medical Benefits by the local Health Committees and not by approved Societies, and the Free Choice of Doctor by Patient—have already been dealt with by the House of Commons. The questions of representation of the medical profession among the Insurance Commissioners, in the Central Advisory Committee and in the local Health Committee, and of the statutory recognition of a local Medical Committee as a body to be consulted on questions of medical employment, arise upon clauses that have still to be considered by the House. The questions of method and amount of remuneration are still left open, as desired by the profession, and there is no reason to anticipate the adoption of amendments of a hostile character upon these two points.

Income Limit.

Concerning the matters that have already been dealt with by the House of Commons, it is convenient to take first the subject of the income limit for medical attendance.

The Annual Representative Meeting instructed the Council to press for a definite limit of £2 per week to be fixed in the bill, and if their efforts in this direction should be unsuccessful to take every possible means to secure the power of enforcing this as a maximum limit, with provision for lower limits to be fixed in districts in which they were more suitable to local conditions. The meeting also approved of the principle that persons who, through the operation of the income limit were excluded from obtaining their medical benefits through arrangements made by the local Health Committees should be allowed to receive, as a contribution towards the cost of their medical attendance obtained under arrangements made by themselves, an amount not exceeding the cost of provision of medical benefit for the rest of the insured.

To give effect to these instructions representations were accordingly made, immediately after the Annual Representative Meeting, to the Chancellor of the Exchequer, who, however, still declared himself unable on behalf of the Government to agree to the fixation of a definite maximum income limit in the bill. Steps were thereupon taken to secure that amendments giving effect to the views of the profession as declared by the Annual Representative Meeting should be moved by private members, and assistance was rendered in this matter especially by Sir Philip Magnus, Sir Henry Craik, and Sir Robert Finlay, K.C. The following amendments were moved on August 2nd, 1911, by Sir Philip Magnus, who was supported by the other gentlemen named:

1. In Clause 14, Subclause 1, which originally read as follows:

14 (1) Every approved society and local Health Committee shall for the purpose of administering medical benefit make arrangements with duly qualified medical practitioners for insured persons to receive attendance and treatment to the satisfaction of the Insurance Commissioners from such practitioners.

In line 3, after "benefit," insert "in respect of insured persons whose income from all sources does not exceed one hundred and four pounds a year."

The Subclause as amended reading as follows:

14 (1). Every approved society and local Health Committee shall for the purpose of administering medical benefit in respect of insured persons whose income from all sources does not exceed one hundred and four pounds a year make arrangements with duly qualified practitioners for insured persons to receive attendance and treatment to the satisfaction of the Insurance Commissioners from such practitioners.

2. Insert the following new subclauses:

(3) Every insured person whose income from all sources exceeds one hundred and four pounds a year and who has become entitled to medical benefit shall be entitled in lieu of medical attendance and treatment (including medicines), to receive an equivalent pecuniary allowance towards the expenses of medical attendance and treatment (including medicines) to be calculated and paid to or for him in accordance with regulations made by the Insurance Commissioners, and any insured person whose income from all sources does not exceed one hundred and four pounds a year and who has become entitled to medical benefit shall be entitled to elect in lieu of medical attendance and treatment (including medicines) to receive such equivalent pecuniary allowance as above mentioned.

(4) For the purposes of this Section the income of an insured person shall be deemed to exceed one hundred and four pounds a year if his income during the calendar year preceding the date when he becomes entitled to medical benefit exceeded that sum, and any question as to the amount of such income shall be determined by the local Health Committee.

Although the course of the debate was unfavourable, the amendment was not withdrawn, but it was negatived by the House without a division.

Thereupon Dr. Addison moved the following amendment, which, although equally objected to with Sir Philip Magnus's amendments by the section of the House most strongly opposed to the recognition of an income limit, was accepted by the Government and carried by a majority of 271 to 41.

(3) The regulations made by the Insurance Commissioners shall authorize the local Health Committee by which medical benefit is administered, to require any persons whose income exceeds a limit to be fixed by them, and to allow any other persons, in lieu of receiving medical benefit under such arrangements as aforesaid, to make their own arrangements for receiving medical attendance and treatment (including medicines and appliances), and in such case the Committee shall, subject to the regulations, contribute from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment (including medicines and appliances) for such persons sums not exceeding in the aggregate the amounts which the Committee would otherwise have expended in providing medical benefit for them.

This amendment appears to the Council to be in accordance with the decisions of the Annual Representative Meeting upon the subject, except as regards the definite statutory fixation of the maximum income limit. It will be open for the Association and the profession, if they think proper, again to press for the fixation of a statutory maximum in the bill at the Report stage if this should be deemed advisable, and this is one of the questions which will arise for the consideration of the Divisions and the Special Representative Meeting when they have before them the complete bill as amended in Committee. A full statement of the considerations that will need to be taken into account in this connexion will be placed before the Divisions in the report to be then issued by the Council.

Administration of Medical Benefits by Local Health Committee and Free Choice of Doctor by Patient.

The two subjects referred to in the heading of this paragraph are conveniently considered together as bearing closely upon one another. The House of Commons carried on August 1st, by a majority of 387 to 15, an amendment moved by Dr. Addison, by which the administration of medical benefits as regards all the insured was placed uniformly in the hands of the local Health Committees, and not, as previously proposed, in the hands of the approved societies as regards the members of those societies. On August 2nd an amendment, moved by the Chancellor of the Exchequer, in terms which had previously been approved in substance by the Representative Meeting of the Association, was carried *nemine contradicente*. These decisions of principle in favour of the views that have been put forward by the medical profession were, however, seriously affected in their application by the adoption of an amendment proposed by Mr. Cecil Harmsworth in the following terms:

The Regulations may provide that in the case of persons who are receiving medical attendance and treatment under any system or through any organization existing at the time of

the passing of this Act, and approved by the local Health Committee and the Insurance Commissioners, such medical attendance and treatment may be treated as, or as part of, their medical benefit under this Part of this Act, and may provide for the Committee contributing towards the expenses thereof the whole or any part of the sums which would be contributed in the case of persons who have made their own arrangements as aforesaid.

Although the interpretation of this amendment is in some respects doubtful, it was considered by the Committee dealing with the matter on behalf of the Council that it would facilitate the perpetuation of some of the most objectionable forms of contract practice. Representations were immediately made to the Chancellor of the Exchequer to this effect, and he promised to take them into consideration. He indicated, however, that in his view it would be best for the subject to be discussed in a conference with himself in which representatives both of the medical profession and of the friendly societies should take part. An invitation was received accordingly for representatives of the British Medical Association to take part in such conference. This invitation was accepted, and the Chairman of Representative Meetings, the Chairman of Council, Dr. Michael Dewar, Dr. James Pearse, Dr. J. H. Taylor, and the Medical Secretary were appointed to represent the Association therein. In the Conference, which took place on October 16th, it was made clear by the representatives of the profession that they had not authority to enter into any agreement on behalf of the Association or the profession, but could only state the views of the profession, hear what was put forward by those taking part in the conference, and report in due course to those whom they represented.

Suggestions were made which it was thought possible would obviate certain difficulties anticipated by the friendly societies without infringing the cardinal points that had been laid down on behalf of the medical profession. These were to be elaborated in the form of definite proposals for amendment of the bill, the text of which has not yet been settled, but which will be placed before the Divisions as soon as practicable. The Council believes that when the Divisions have the opportunity of considering these proposals they will recognize that they do not conflict with the cardinal principles laid down, although the expediency of agreeing to them would be a matter for careful consideration.

Position of Colliery and Works Surgeons: Position of Hospitals.

As affecting the operation of the part of the bill which has already been considered in Committee of the House of Commons it remains to be said, first, that the special position of colliery surgeons and works doctors as affected by the bill is receiving most careful consideration. Steps have been taken to arrange for the holding of a national conference of colliery surgeons, and afterwards of a conference between representatives of the colliery surgeons and the State Sickness Insurance Committee. Secondly, representations have been received from the British Hospitals Association concerning the position of the voluntary hospitals and their relation to the medical profession as affected by the Insurance Bill, and instructions have been given by the Council for a special report on this aspect of the matter to be prepared by the Hospitals Committee and State Sickness Insurance Committee and placed before the Divisions.

In accordance with the instructions of the Annual Representative Meeting, representations are also being made to the Government on the subjects of:

(i) The difficulty in providing for the cost of medical benefit which may arise from the provision of Clause 14, Subclauses 7 and 8, under which any deficiency can only be met by the Treasury and the county council acting jointly, but not by either of these bodies without the consent of the other;

(ii) As to the necessity of wider powers being given to the local Health Committees as regards provision of institutional treatment;

(iii) As to the question of compensation for loss in the value of practices; and

(iv) As to the procedure for a proper investigation before the name of a medical practitioner is removed from the panel of the local Health Committee.

As regards the portion of the bill which has not yet been considered in Committee, amendments are already on the Order Paper in the name of the Government which comply with the undertaking given by the Chancellor of the Exchequer on these matters in July, and the terms of which were approved by the Annual Representative Meeting. From this report it will be clear to the Divisions, as it is clear to the Council, that the profession cannot afford in any way to slacken its efforts to perfect its organization with reference to this matter. On the contrary, it must be expected that the need for that organization will arise even more definitely and vitally after the bill becomes law than at the present time. Every effort is being made by the Council to complete the organization, with special reference to inducing the comparatively few practitioners who have not yet signed the undertaking of the profession to do so, and also to secure guarantees and subscriptions for the Central and Local Insurance Defence Funds.

While not deprecating the continuance of the local funds which have already been formed, the Council is of opinion that it would be unwise for Divisions which have not already instituted special local funds to do so. In the opinion of the Council such Divisions can best assist the work at the present stage by securing guarantees and subscriptions to the Central Fund.

MEETINGS OF THE PROFESSION.

Edinburgh.

A national meeting of the medical profession of Scotland was held in the Students' Union, Edinburgh, on Saturday afternoon, October 28th, to further consider the policy to be adopted with regard to the Insurance Bill.

Sir William Turner, who presided, said: As chairman, the Executive have thought that I ought to say a few words as introductory to the proceedings. In the first place, I wish to state that I feel highly honoured by being asked to preside on such a memorable occasion as this, to meet—I speak now not officially, but as a member of the profession of medicine—(Applause)—to meet my professional brethren on an occasion when it is most important that the profession should speak with one voice. (Applause.) I am old enough to have taken a part in many matters connected with prospective legislation bearing on the profession of medicine. On these occasions the proposed legislation has been, if I may say so, sectional, appertaining to some particular branch or branches of our great profession; but on this occasion the legislation that is proposed is no longer sectional—it applies to the whole profession. (Applause.) It strikes at the root of the relation of the medical profession to the public and at the relation of the practitioner to his patient—(Applause)—and undoubtedly there may arise out of it great difficulties in connexion with the relation of one practitioner to another. In my long experience I know of nothing which has on any previous occasion taken the aspect of this bill that is now under consideration. It has struck deep into the minds of all of us, and if I may refer to one or two points in connexion with it, it has evoked a depth and intensity of feeling, a unity of thought, a community of purpose, and a resolution to see that the profession is not to be wronged. (Applause.) Look for one moment at what has happened during the last few months since this bill was tabled. The whole profession, from Presidents of the Royal Colleges to the humblest practitioner in the most remote part of our country, have felt that this was a bill that could not be allowed to become an Act of Parliament without strong remonstrances on their part and an effort to put the bill into such a position that those evils which they anticipate—and which, I venture to say, they rightly anticipate—be done away with. (Applause.) In order that the bill may be properly met there have been meetings in various parts of the country, meetings which have exhibited an extraordinary unanimity of opinion; and in consequence of these meetings efforts have been made to bring before the Chancellor of the Exchequer (the parent of the bill) the opinions of the profession as enunciated at these meetings. Representative men from Scotland have gone to London, have met corresponding representative men belonging to London and England generally, and they have had interviews with the Chancellor and have placed the opinions of these meetings before him for his consideration. Two of these gentlemen are with us to-day—namely, Dr. Macdonald and Dr. Smith Whitaker, both of them holding important positions in connexion with the British Medical Association.

They have come to address us, to give us some idea of what the present position of the bill is, and, if I may say so to them, to state how they have upheld the duty which has been entrusted to them, and to give a good account of their stewardship. (Applause.) Judging from the public prints, I am aware that various concessions which the profession have asked for—I do not say the whole of them—but various concessions, we are given to understand, have been conceded in principle, and to some extent at least have been embodied in amendments. But now I speak from some little knowledge of affairs connected with my own profession, and I venture to say to you, gentlemen, that questions are often conceded in principle, but when these questions have reached the stage of the formal precise language of a bill on the way to become an Act of Parliament the phraseology of the bill and the phraseology of certain amendments which have been introduced into it require to be most carefully considered. (Applause.) I have known cases in which, with the concession of a principle, this principle has been so obscured, so clouded in amendments and detail, that it has been lost. (Applause.) Now, it is our business, and the business of those who represent us in their conferences with the Government authorities, to see that those principles which are conceded, or which we believe to be conceded, are not lost. (Applause.) I believe, from what I know of the medical profession in Scotland, that the profession here has made up its mind that it is going to stand to fight. (Applause.) I shall say no more, but will, as I am requested in the programme which has been put into my hands, ask Dr. Smith Whitaker to address us.

Dr. Smith Whitaker, Medical Secretary of the British Medical Association, said that within the next few weeks decisions of the gravest moment affecting the profession and its whole future would have to be taken. Indignation had been aroused by the way in which the bill had been drafted, and the spirit in which it had been handled in some quarters, but the immediate duty was to consider how the policy deliberately arrived at by the profession was to be carried into effect. Though the direct voting power of the profession was very limited, its indirect political power had been shown to be very great; that power was due to an appreciation by the Government and Parliament of the fact that the members of the profession retained in their hands after the bill became law their power as free men to shape the terms on which the profession would be prepared to enter into agreement for giving its services. If the bill passed, invitations would have to be addressed by the local Health Committees to members of the profession to enter into an agreement for giving attendance to persons insured under the Act, and it was then that the real power of the profession would be manifest. It had been said in same quarters that on the question of the income limit the British Medical Association had given way, compromised, or made concessions. These suggestions could not be justified. The profession with regard to the income limit stood exactly where it stood when the resolution to enforce the limit was adopted, but the question whether it had any prospect of inducing Parliament to put the limit into the bill was one of tactics which would have to be very carefully considered by the profession. In its present amended form the bill left the door open for enforcing the £2 limit throughout the country, and that could be done if the profession adhered to its policy. Dr. Whitaker then gave a sketch of the action taken by the British Medical Association both before the bill was introduced and since. Referring to the question of payment by capitation fee or for attendance, he said that it was open for the authorities under the bill, if they thought proper, to establish a universal system of payment for attendance. The question whether the authorities would do so or not would depend entirely upon the action taken by the profession. It must always be remembered that the fight would not end if and when the bill became law—that would only be the beginning of the struggle. The local Health Committees would have to draw up agreements defining the terms of employment of any medical man under the bill, and would be required to consult the local Medical Committees on all such questions, and the profession would then have to exert its influence, the local members of the profession having the whole combined force of the profession and the Association to support them. Very strong representations had been made to Parliament by the committee of the Association as to the Harmsworth amendment, which, it was pointed out, might be so interpreted as to take away everything to which Parliament had agreed in satisfaction of the requirements of the profession. It was largely owing to that representation that Mr. Lloyd George had held the conference at the Treasury which was attended by the friendly societies. At that conference it had been clearly stated again and again that the representatives of the British Medical Association were unable to enter into any bargain or agreement, but attended merely to state the position of the profession, to hear what the other side had to say, and to report to the Association in due course. The friendly societies were anxious not only to maintain the Harmsworth amendment, but to omit from the bill provisions that had been introduced in response to the requirements of the profession. It was pointed out at the conference that the Harmsworth amendment deprived members of friendly societies of the free choice of doctor which the rest of the insured would enjoy; the representatives of the friendly societies present had recognized the force of that contention, but had laid stress on the difficulty they foresaw in providing for their aged and infirm members, who would not be eligible to take advantage of the Insurance Scheme, but for whom the societies were under an obligation to provide medical benefit. This was a matter upon which the decision of the profession would be asked, and a report dealing fully with the whole position would shortly be issued by the Association to the profession.

Dr. Gordon (Aberdeen) moved the following resolution:

> That this meeting of Scottish medical practitioners reaffirms its absolute adherence to the six points of the policy propounded and placed before the profession by the British Medical Association, and pledges itself to use every means in its power to secure the enforcement of that policy. The meeting appeals to all practitioners in Scotland to support liberally by their subscriptions the Insurance Defence Funds which are being formed for the purpose of carrying on this fight, and for recouping, so far as possible, those practitioners who may incur any loss through their loyal adherence to the policy of the Association.

The resolution, which was seconded by Dr. Hamilton (Hawick), was unanimously agreed to.

Dr. Haig (Perth) moved the following resolution:

> The meeting thanks the Council of the British Medical Association for the efforts it has already made under the direction of the Association to protect the interests of the profession in this vital matter, and declares its confidence in the Council to use every endeavour in the future for this object.

Dr. James Carmichael (Edinburgh) seconded the resolution, which was unanimously agreed to.

Dr. J. A. Macdonald, Chairman of Council of the British Medical Association, briefly acknowledged the vote of confidence passed to the Council. As Chairman he could say that the work of the Council during the past year and a half had not been easy of accomplishment. The Council was the executive body charged to carry out the resolutions placed in its hands by the governing body of the Association at the Representative Meetings. A certain discretion was left to the Council on some points as to how matters should be carried through, but this really increased the difficulty of the task the Council had to discharge. He could assure the meeting that the Council would spare no trouble or time in trying to merit in the future approval similar to that expressed in the resolution. He desired to emphasize the point that the profession's one and only power was in combination. The bill might be amended in this or that direction, but the real strength of the profession would be shown when the regulations were drawn up and agreements had to be made. If the profession was united then it could insist on determining the character of the regulations under which it would work. There was no doubt that the practice of many men in the country would be unfavourably affected by the bill, and the Association was raising a fund to compensate those who incurred loss in this way. Local funds had been started in some of the Branches and Divisions, but a central fund was essential to carry on the campaign. Up to the present the campaign had cost the British Medical Association something like £4,000, and he appealed for contributions to the central fund.

A vote of thanks to the Chairman brought the proceedings of the meeting to a conclusion.

AMENDED CLAUSES.

The following is the text of Clauses 43 and 44—local Health Committees—showing the original text and the amendments which the Chancellor of the Exchequer has placed on the Order Papers of the House of Commons. The words proposed to be omitted are placed in square brackets, and those proposed to be inserted are printed in italics:

Local Health Committees.

43. Appointment of Local Health Committees.—(1) A local Health Committee shall be constituted for every county and county borough.

(2) Such number of the members of the committee as the Insurance Commissioners, having regard to the circumstances of each case, determine, but in no case less than [nine] *twelve* or more than [eighteen] *twenty-four* shall be appointed—

(*a*) As to one-third thereof (which shall consist wholly or in part of members of the local sanitary authorities) by the county council or the council of the county borough:

(*b*) As to one-third thereof by such approved societies as have members resident in the county or county borough who are insured persons, or if such societies cannot agree upon the appointment, by the Insurance Commissioners:

(*c*) As to the remaining one-third thereof by any association of deposit contributors resident in the county or county borough which may have been formed under regulations made for that purpose by the Insurance Commissioners; provided, that if no such association has been formed, such one-third shall, subject to the approval of the Insurance Commissioners, be appointed by the other members of the committee, or in default by the Insurance Commissioners, from amongst, so far as practicable, such deposit contributors as aforesaid.

(3) Any members appointed by the Insurance Commissioners under paragraph (*b*) of the last preceding subsection shall be appointed from among insured persons resident in the county or county borough who are members of approved societies, and in making such appointments regard shall be had to the desirability of securing that, so far as practicable, this representation of the several societies should correspond to the number of such insured persons who are members thereof.

(4) The Insurance Commissioners may, in any case where it may be desirable to do so, by regulations vary the proportions in which the county council or borough council, the approved societies, and the deposit contributors respectively are entitled to appoint members of the committee, but any such regulations shall be laid before Parliament as soon as may be after they are made.

(5) *Of* the remaining members of the committee, [not exceeding] *who shall not exceed* in number one-fourth of the members appointed in manner aforesaid, *two shall be elected in manner provided by regulations made by the Insurance Commissioners, either by an association of the duly qualified medical practitioners resident in the county or county borough which may have been formed for the purpose under such regulations, or, if no such association has been formed, by such medical practitioners and others, of whom one at least shall be a duly qualified medical practitioner*, shall be appointed by the Insurance Commissioners, [but so that at least two of the members so appointed shall be duly qualified medical practitioners.]

(6) The Insurance Commissioners may make regulations as to the appointment, quorum, term of office, and proceedings generally, of the committee, and the use by the committee, with or without payment, of any offices of a local authority, *but subject to the consent of such authority*, and any such regulations may provide for the appointment of auxiliary committees [consisting wholly or partially of members of the committee], and for the powers and duties of any such auxiliary committee.

(7) Any local Health Committee may, and shall if so required by the Insurance Commissioners, combine with any one or more other local Health Committees for all or any of the purposes of this Part of this Act, and where they so combine the provisions of this Part of this Act shall apply with such necessary adaptations as may be prescribed.

44. Powers and duties of local Health Committees.—(1) The local Health Committee of a county or county borough shall, in addition to the other powers and duties imposed or conferred on it by this Part of this Act, have the following powers and duties:

(1) It shall [consider generally the needs of the county or county borough with regard to all questions of public health, and may make such reports and recommendations] *make such reports as to the health of insured persons within the county or county borough as the Insurance Commissioners, after consultation with the Local Government Board, may prescribe, and shall furnish to them such statistical and other returns as they may require, and may make to them such other reports on the health of such persons and the conditions affecting the same, and may make such suggestions* with regard thereto as it may think fit, *and the Insurance Commissioners shall forward to the councils of the counties, boroughs (including metropolitan boroughs), and urban and rural districts which appear to them to be affected by or interested in any such reports, returns, or suggestions, copies of such reports, returns, or suggestions;*

(2) It shall make such provision for the giving of lectures and the publication of information on questions relating to health as it thinks necessary or desirable. *It shall keep proper books and accounts in the prescribed form, and shall, when required, submit such accounts to audit by auditors appointed by the Treasury;*

(2) For the purpose of assisting local Health Committees in the exercise and performance of their powers and duties under this Part of this Act [the] *and with a view of to promoting co-operation between such committees and the councils of counties, county boroughs, and county districts, any* medical officer of health [for the county or county borough] may, at the request of [the committee,] *a local Health Committee and with the consent of the council by whom he is appointed*, attend meetings of this committee and give such advice and assistance as is in his power.

Local Medical Committee.

The following is the text of the new clause of which the Chancellor of the Exchequer has given notice:

Where a local medical committee has been formed for any county or county borough, and the Insurance Commissioners are satisfied that such committee is representative of the duly qualified medical practitioners resident in the county or county borough, they shall recognize such committee, and where a local medical committee has been so recognized it shall, subject to regulations made by the Insurance Commissioners, be consulted by the local Health Committee on all general questions affecting the administration of medical benefit, including the arrangements made with medical practitioners giving attendance and treatment to insured persons, and shall perform such other duties and shall exercise such powers as may be determined by the Insurance Commissioners.

University of St. Andrews.

At a meeting of the University Court of the University of St. Andrews on October 21st the following resolution was adopted:

> The Court considered the question of the National Insurance Bill in its relations to the interests of the medical graduates of the university. The Court expressed its sympathy with the following propositions, namely: (1) That the patient should have free choice of his own doctor; (2) that the doctor should be free from the control of the friendly societies; (3) that the financial interests of the hospitals and infirmaries of the country should be safeguarded in the measure; and directed that a copy of the minute be transmitted to the Chancellor of the Exchequer.

Mr. Munro Ferguson dissented from this resolution on the ground that the Court should not take any part in the dispute.

What is Domiciliary Attendance?

Dr. J. H. Keay (Greenwich) writes: I do not suppose that the nation will be long satisfied with the fact that, apart from sanatoriums, the Insurance Bill provides merely for domiciliary and only in a vague and uncertain way for institutional attendance. As this has been the expressed intention of the Chancellor, the question naturally arises, What is to be regarded as domiciliary attendance? The general impression seems to be that it is limited to attendance in a patient's house or a doctor's surgery.

Is this impression correct? If, for the convenience of the public, medical men on the panel combine to give attendance at a centre, as in school clinics, is this domiciliary or institutional?

It is now many years since clinics of this kind were established under the insurance system in the large centres of population in Germany, specialists being placed on the panel and payment made from the insurance funds. There is no mistaking the fact that even in general practice in this country there is an increasing tendency to specialism. It is quite true that we have not yet moved so far in this country as in Germany, where about one-third of those on the panel are specialists. The trend is, however, in the same direction, and in an Insurance Bill I do not think it should be absolutely ignored. While attendance is given, as at present, only a few hours daily in a doctor's surgery, the general practitioner cannot possibly compete with out-patient departments; and it is not easy to see how, even by any means, overcrowding can be avoided. Grant, however, that clinics of the kind to which I have referred were established, it would, I am convinced, go far towards the solution of the hospital question. Were a large proportion of the insured to be attended in this way, there would be no difficulty in making out-patient departments purely consultative. There would no longer be the overcrowding and weary waiting—evils which are now recognized not only by medical men but by most hospital managers. In clinics which I have personally visited in Germany, I have seen the insured walk straight into the building, present his card to the clerk by whom he was at once referred to the proper department. There was no waste of time, lounging, or hanging about. The aspect was that of an ordinary business house. My question, then, is: Does any one know any reason why, in the interests of all concerned, a provision of this sort should not be inserted in the bill?

It may seem somewhat bad form for any one on the State Insurance Committee of the British Medical Association to give expression to his personal opinions in the JOURNAL. My only excuse is that this bill is being so hurried on that if the mind of the profession be not quickly ascertained, it may be too late.

THE BASES OF PAYMENT FOR MEDICAL ATTENDANCE.

Dr. H. F. DEVIS (Chairman, Bristol Division, British Medical Association) writes: In a few weeks' time the special meeting of the Representatives will be held to consider and decide questions that are perhaps the most momentous of any that have yet been submitted to any body or class in this country—questions, not merely of theoretical or forensic interest, nor merely of tactical importance, but which intimately affect the freedom and even the very life of a large majority of the practitioners in this kingdom.

I have no fear that the Representatives will underrate their responsibility—my opinion of their earnestness and good faith is far too high; but I have very grave fears lest, in one or two particulars at least, the instructions with which the Representatives come armed be not sufficiently definite, and based on insufficient knowledge.

Many and important things have happened since the July meeting, not the least of which is the strong and rapid growth of opinion in favour of the per attendance system of payment and against the contract system. Of great importance also is the strike of the German insurance doctors in favour of a per attendance payment. The foreshadowed composition of the local Health Committees, and the attitude towards us of the friendly societies, are also important factors, throwing a new light on the future working of the bill under contract terms. Compromise with the Chancellor on the six-point programme condemns us to a perpetual and universal contract practice. It is a mere verbal quibble to say that per attendance payment is possible under the six-point policy, when we know at the same time that the Chancellor has set aside a definite amount for medical provisions, thus refusing the insurance risk. Even the highly improbable acceptance of the six-point policy condemns us to the same conditions.

Before this irrevocable step is taken I plead for a new referendum, in order that the Representatives may come to the meeting with definite instructions on the clear issue—payment per attendance *v.* payment *per capita*.

I strongly protest against the March report being taken as either accurate or sufficient for to-day, and against the verdict of July being final to-day.

LOCAL HEALTH COMMITTEES AND MEDICAL FEES.

Dr. H. WHICHELLO (Tattenhall) writes: There seems to be a pessimistic impression amongst the profession that unless we are all loyal to the last man we shall be beaten. But the power of the sympathetic strike is so enormous that even a considerable percentage of disloyal members need not frighten us. For instance, if in my village conditions below the minimum rates of the Association are forced upon me I should appeal to the Association to "call out" all the other doctors in my county. They would need no strike pay, for they would continue to attend the people as private patients, and the county committee, being unable to provide them with doctors, would have to fulfil its contract by repaying the bill against the doctors' receipt, whose fees, therefore, would be absolutely safe. In fact, nothing would suit the profession better than a general strike in the busiest time next winter. Against individual clubs the sympathetic strike is useless, which shows the enormous importance of getting everything into the hands of the county committees. Even the holders of club appointments will gain by this, as the higher fees we shall exact will make up for any loss of numbers. The county committees will have no real hold on us till they make it pay us better to work for them than be on strike. The work of the general practitioner is to be enormously increased by the Act, and locumtenents and assistants will go to famine prices. Under these circumstances the Government can no more force down our remuneration than sit on bayonets.

ATTENDANCE TO BE GIVEN.

LIMITATION writes: Some time ago I wrote a letter drawing attention to some points of vital interest to those of the profession who have to accept work under the Insurance Bill. At the time this letter was crushed out, probably as dealing with details instead of principles. As the bill draws nearer, however, it is details which must make our lives a burden or otherwise, and it is high time that the profession considered them.

It seems to me that if we are unable to obtain "payment for work done"—the plan which experience has proved to be the best for both patient and doctor—it is time we decided how much we are going to give for our 4s. or 5s. a year remuneration. Are we to be at the beck and call of every tradesman, be he sick or well, drunk or sober, at any hour of the day or night that he chooses to demand our attendance, under penalty of appearing before a public committee to answer for any delay or refusal? Are we to furnish him with certificates when he (or any other component of the insurance machinery) shall demand them—though such certificates may land us into litigation and lead to heavy damages if sufficient time is not taken to thoroughly examine each individual each time he demands one and to keep written records of his condition? Are we to keep all the books which the red tape of a Government department can devise without any remuneration?

To my mind such a state of things would be intolerable, and yet it is evidently what the Chancellor leads the tradesmen to expect.

It is for us, however, to say whether we are going to accept the position of "general servant" offered us. We are at the parting of the ways. Poverty and degrading servitude on our left, independence and respect on our right.

The present moment is undoubtedly the ideal time for ending the degrading contract system. But if we must have a contract system, let us take care that all the odium of it does not fall on us. Let us, at least, limit the service by the limit of the subscription. Much the best suggestion is that we should limit it by the amount of work done—say to two free visits or three free consultations per annum. This attendance, if not given in one year, might be placed to the subscriber's credit for a future year. He might also be allowed so many extra visits at a reduced rate. Under such a system the subscriber would value the attendance of his doctor, and would benefit to a greater extent by the advice given. Few appreciate what

they obtain for nothing. When a hospital resident I often found out-patients value the opinion of a "sixpenny doctor" more highly than that of a hospital surgeon. Limitation might also be introduced in the time of day during which free visits were required. Let an insured person "demanding" a visit be compelled to give the doctor due notice of such visit before 10 a.m. This would cut out all night work and all emergency work, neither of which should be included in the cheap doctoring. As for certificates, if a copy of a registrar of deaths is worth 3s. 6d., although the writer has no further responsibility, surely a medical certificate, if required, is worth at least as much. If the societies think otherwise, let them do without it. Let us also stipulate for such a fee for each "return" we may be asked to give of our insurance patients as will adequately pay us for the booking required to supply Government statistics.

No one, I think, could say that these demands are unreasonable; they are also quite realizable. If the threat, however, of a "whole-time service" was carried out, it would not injure private practice to such an extent as a general unlimited contract service must. The "service man" would not find his way into the paying part of our practice; whereas, if you allow "free choice of doctors," you remove the patient's chief objection to a club and you must attend your own private patients at contract prices.

Dr. William B. Bennett (Liverpool) writes: Dr. R. M. Russell is wrong in thinking the general practitioner has to give up dispensing when the Insurance Bill becomes law, though it is true he must not dispense for his insured patients, and, no doubt, this prohibition will eventually lead to giving prescriptions to all.

I quite agree that the different prescriptions a patient obtains for 4s. a year will be used for other members of the family, and so, whether we dispense or not, we shall lose a great many private fees, and soon be glad to take the women and children for the same miserable capitation fee.

The chemists have obtained all they asked for, and will occupy a more important position in the eyes of the public, since they alone are to be trusted to dispense: the doctor's business is to diagnose and prescribe, but the chemist is still permitted to do both.

I do not think the average patient capable of copying a prescription. If we agree and are united, we can easily prevent abuse of our insurance prescriptions, and can also get a guinea capitation fee. If we cannot do both, we had better refuse to do the work.

Dr. R. Bradley (Bentham) writes: I heartily endorse all that Dr. Russell said in his letter, and am astonished that the matter has not received more serious attention from the Association. Giving of prescriptions and the doing away with home dispensing have been answerable for much of the poverty existing amongst us. It has become the practice for most people to store up prescriptions for various complaints which they not only have repeated time after time, often to their own detriment, but which they lend to their friends. Thus one suffering from some incipient illness is induced to try Sir Somebody's prescription, and thus puts off till too late seeking suitable medical treatment. A brief medical attendance is the result and death ensues. Nowadays it is quite common when a general practitioner is called in for the patient to produce a bundle of prescriptions from "eminent specialists" and for him to be asked which of them he thinks most suitable. Innumerable instances of loss could be given—I will only give two. My predecessor had given a prescription of iron and aloes for chlorosis, for which he was paid 2s. 6d. To my knowledge that prescription was repeated time after time by the chemist, for which he obtained 2s. per bottle. Altogether he made from 30s. to £2; not only that, but the prescription, becoming celebrated, was added to the chemist's repertoire, and he made much further profit out of it. Again, I once had a patient who suffered from neuralgic attacks, for which I had to treat him frequently, but, unluckily for me, on one occasion I gave him a prescription containing antipyrin, which at that time had only just been introduced. Some time after he happened to meet me, and said, "Doctor, that prescription you gave me last has done me more good than anything I ever had before, and, what's more, it's cured so many besides me." He had been lending it about. I never saw him again. But why are we to be debarred from dispensing by the Insurance Act? Is it as a sop to the chemists to gain their votes? I think the Chancellor hinted —thus have we been insulted—that it was to ensure that the patient had good drugs. Certainly the insured might be dubious as to whether the doctor could afford, out of the proposed sweated fee, to supply good medicine. If he were a knave, a doctor might be tempted to use bad drugs, but he would have to be a fool as well, for obviously when working by contract it would be to the doctor's interest to supply the best drugs with a view to getting his patient well as soon as possible. Not so, however, if the chemist supplied the drugs; he would have no such incentive. On the contrary, his object would be to supply as much medicine as possible, and he might, unless very narrowly watched, supply stale and inert drugs, to the discredit of the doctor who prescribed them. Dispensing for the insured by chemists would not always be to the interests of the insured, for, apart from the temptation to supply inferior medicines, many patients have a mania for drugs, and it would be only too easy for the doctor to gratify that craving if he only had to write a prescription. The cost to the country would be enormous, for doctors would not study even such economy as could be quite well exercised without harm to the patient. A doctor who dispenses can be trusted to exercise economy, inasmuch as whilst it is to his interest to see that nothing is wasted, it is equally to his interest to get his patients well and off his hands as soon as possible. Thus it appears to be neither to the interests of the doctors, nor their patients, and certainly not to the taxpayer, that doctors should be precluded from dispensing under the Insurance Act. Why, then, should we be deprived of our rights to dispense?

Dr. John Brown (Bacup) writes: It will be a mistake if the medical profession gives up dispensing should the Insurance Bill become law. Dispensing entails some work, but the advantages to the patients and the satisfaction to the doctors more than compensate for the trouble. We know the proper drugs have been given, and patients have the fullest confidence that everything is satisfactory. Physicians' prescriptions are greatly abused; often they are given to other people. Also many cases of urgency by night could not be attended to, especially in small towns and country villages. Doctors have their own run of drugs and keep them in stock. Some doctors have drugs that are very rarely ever used by chemists in small towns. Some prescriptions give our patient's case away. There would be strong objection to going to a local chemist to have the prescription dispensed.

Dispensing and the Insurance Bill.

Dr. F. L. Nicholls (Cambridge), writes: Dr. Russell (p. 1139) shows the folly of giving prescriptions. Might not a similar statement be made in regard to contract work? A tradesman paying 1s. a quarter has a facial eruption and is supplied by me with an ointment. On passing his shop I remark to him on his child having a similar eruption. "Yes," he replied, "I have been using some of *my* ointment for him." On my remarking, "You should not do that," he looked up in astonishment and then, as it appeared suddenly to dawn upon him, he said, "I beg your pardon, sir." Is this likely to be a solitary case? Comment is needless.

Dr. George Crichton (London) writes: At the annual meeting of the London and Counties Medical Protection Society, a large proportion of whose members engage in contract practice, the question of dispensing was brought forward. It was decided unanimously to accept the proposal of the bill that the doctor should be paid only for medical or surgical attendance, and that the supply of medicines should be a separate thing. However, there seemed to be a general consensus of opinion that it should be possible or permissible for the doctor himself to dispense and not a pharmaceutical chemist only. Arrangements to this effect would, I suppose, be worked out by the Health Committee. A limit of cost would be necessary as drugs and their various preparations vary enormously in this respect. This would probably average 3d. to 5d. or 6d., exclusive of the penny, as at present, for the bottle.

The prescription in ordinary course would go to the chemist and be retained by him till settling up on quarter day, and then handed over to the Health or Medical Committee. It would be impossible to do away with contract practice all at once. The National Deposit Friendly Society has shown that payment by visit is not impossible, and I believe it is somewhat of a success in London.

Dr. S. HAMILTON SHAW (Liverpool) writes: I have read with great interest the remarks made by Dr. Edwin Smith published in the SUPPLEMENT of the last issue of the BRITISH MEDICAL JOURNAL *re* the contract system.

If only the profession had been as united and as well organized prior to the bill being introduced as it is now, no doubt the matter as to payment to medical men would have been settled immediately, for had the profession been firm and unanimous at the commencement and declared definitely that on no account would a capitation fee be accepted, but only a reasonable though adequate fee for actual work done, then Mr. Lloyd George would either have had to submit to these terms or withdraw the bill. He would have had no option in the matter, as the scheme is obviously unworkable without the aid of a large and competent staff of medical men.

In my opinion it is not yet too late to act in the manner suggested, and, even at the eleventh hour, these terms could be obtained; this, however, could only be brought about now by calling a special meeting of each Branch, and each member of such binding himself not to accept a capitation fee, but only adequate remuneration for actual services rendered; this decision would then be forwarded by the respective honorary secretaries to the central committee, and would, no doubt, meet with their cordial approval and support.

It is gratifying indeed to see how solid and firm the profession has shown itself in Scotland. One may safely say that they are, almost to a man, firmly united, and are one and all fully determined to hold to the six cardinal points. A similar unity is all that is required by the medical men throughout the country to insist on the payment of an adequate fee for actual work done in lieu of the capitation grant.

There is yet time, but only just, to bring about the desired result. I sincerely trust that the honorary secretaries and members of the various Branches will see their way clear to convene special meetings and act in the manner suggested.

May I take this opportunity of thoroughly endorsing all that Dr. R. M. Russell states in his letter *re* the dispensing by medical men of their own prescriptions?

During the number of years I have been in practice I have found that my patients much prefer to have their medicines supplied direct from my own surgery. I have also frequently noticed the gross abuse of written prescriptions being handed about from one party to another where the complaint is, or is thought to be, similar to the one prescribed for in the first instance; this is also the experience related to me by my medical friends.

May I ask why the dispensing should be separated? From what I gather from chemists in various quarters, they are by no means anxious to take over the work for the miserable pittance offered, and in some instances I know of chemists who will have nothing to do whatever with the scheme as it stands at present. I most earnestly hope that this appeal to the profession will have the effect of bringing about a determined final stand, which must surely be crowned with success.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

LENDING DEPARTMENT.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Hospitals and Asylums.

KENT COUNTY ASYLUMS.

Barming Heath.

THE annual report of Dr. H. Wolseley Lewis, the Medical Superintendent, shows that on January 1st, 1910, there were 1,614 patients in residence, and on the last day of the year, 1,629. The total accommodation of the asylum is for 1,721, and though from this it might appear that the accommodation was sufficient, there were as a matter of fact 31 male patients in excess at the time of the report, and 123 vacancies for females. The total cases under care during the year numbered 2,019 and the average number daily resident 1,627. During the year 405 were admitted, of whom 378 were direct and 27 indirect admissions. Of the direct admissions, in 114 the attacks were first attacks within three and in 54 more within twelve months of admission; in 92 not-first attacks within twelve months and also in 5 in whom it was not known whether the attacks were first or not; in 73 the attacks were of more than twelve months' duration on admission and 40 more were congenital cases. The direct admissions were classified according to the forms of mental disorder into: Mania of all kinds, 62; melancholia of all kinds, 136; senile and secondary dementia, 37; insanity with epilepsy, 28; general paralysis, 27; delusional insanity, 21; primary dementia, 10; confusional insanity, 8; less common forms, 7; and congenital defect, 42. As to probable causation, alcohol was assigned in 33, or less than 9 per cent., syphilis in 21, influenza in 27, and other toxins in 9; diseases of the nervous system in 68, including epilepsy in 38; critical periods in 85; child-bearing in 14; bodily trauma in 26, and mental stress in 112. An insane heredity was ascertained in 144, or over 37 per cent., an alcoholic heredity in 39, a neurotic heredity in 6, and an epileptic heredity in 2. During the year 132 were discharged as recovered, giving a recovery-rate on the direct admissions of 34.6 per cent., or of recoveries in and on the direct admissions of 33.0 per cent.; also 22 as relieved and 29 as not improved. Concerning the recoveries Dr. Lewis mentions that 65.1 per cent. recovered within a year from their admission; that in 65.1 per cent. the form of disease was either recent mania or recent melancholia, and that 50 per cent. of those recovered had a neuropathic history. During the year 207 died, giving a death-rate on the average numbers resident of 12.7 per cent. The chief causes of death were general paralysis (in 13.5 per cent.), heart disease (in 16.4 per cent.), phthisis (17.3 per cent.), dysentery (5.3 per cent.), and senile decay (11.1 per cent.). If all forms of tuberculous disease be taken into account, however, the proportion of such to total deaths amounted to 22.2 per cent. Phthisis, Dr. Lewis says, is very prevalent at this asylum, although the phthisis-rate in the county of Kent is not abnormally high. Dr. Lewis therefore is segregating the tuberculous patients as far as is possible, and taking special precautions to prevent the infection of others. There were 28 cases of dysentery, with a mortality of 39.2 per cent.

Chartham.

From the annual report of Dr. G. C. FitzGerald, the Medical Superintendent of this asylum, we see that on January 1st, 1910, there were 1,024 patients in the asylum, and on the last day of the year there were 1,011. The total cases under care during the year was 1,248, and the average number daily resident 1,014. During the year 224 were admitted, of whom 216 were direct admissions. Of these, in 83 the attacks were first attacks within three, and in 44 more within twelve months of admission; in 36 not-first attacks within twelve months, as also in 2 more of doubtful history; in 36 the attacks were of more than twelve months' duration on admission, and 16 more were congenital cases. The direct admissions were classified according to the forms of mental disorder into: Recent mania, 58, chronic and recurrent, 24; recent melancholia, 30, chronic and recurrent, 9; senile and secondary dementia, 23; general paralysis, 17; epileptic insanity, 11; primary dementia, 11; delusional insanity and insanity with gross brain lesions, 7 each; confusional insanity, 3, and congenital defect, 16. As to probable causation, alcohol was assigned in 26, or 12 per cent., syphilis in 4, influenza in 6, and other toxins in 4; diseases of the nervous system in 22, including epilepsy in 14; critical periods in 41; privation and starvation in 12; bodily trauma in 6, and mental stress in 83. An insane heredity was ascertained in 60, or just under 30 per cent., an epileptic heredity in 10, and an alcoholic heredity in 9. During the year 72 were discharged as recovered, giving a recovery-rate on the direct admissions of 33.3 per cent., 11 as relieved, and 16 as not improved. During the year also 138 died, giving a death-rate on the average numbers resident of 13.3 per cent. The deaths were due in 28 to diseases of the nervous system, including 12 from general paralysis; in 18 to diseases of the respiratory system; in 15 to diseases of the heart and blood vessels; in 6 to diseases of the digestive or genito-urinary system; in 22 to senile decay; in 2 to accident or violence, and in 47 to general diseases, including 32, or over 23 per cent. of the total deaths, from tuberculous diseases. In each of the cases of death from accident or violence, both general paralytics, an inquest was held and verdicts returned in accordance with the medical evidence.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

DORSET AND WEST HANTS BRANCH.

The autumn meeting of this Branch was held in the Town Hall, Blandford, Dorset, on Wednesday, October 18th, at 3.15 p.m., the President (Dr. Whittingdale) in the chair. The following members were present; Dr. James Davison (Honorary Secretary), Dr. Frank Fowler (Vice-President), Mr. Thomas MacCarthy (Vice-President), Dr. P. W. MacDonald, Dr. Meggison, Dr. Eleanor Bond, Dr. Ramsay, Dr. Johnson Smyth, Dr. Clift, Dr. Denton Johns, Dr. Saberton, Mr. Flower, Mr. G. Williamson Daniell, Mr. Belben, Mr. Spooner, Mr. Mahomed, Mr. C. H. Watts Parkinson, Mr. Watts-Silvester, Mr. Charles J. Marsh, Mr. Marriner, Mr. Bushman, Mr. G. H. S. Daniell, Mr. Norman Flower, Mr. Adam, Mr. Williams, Mr. Le Fleming, and Mr. W. H. Dodd.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

National Insurance Bill.—In answer to questions arising out of the minutes, the Honorary Secretary reported that in accordance with instructions received at the last meeting he had forwarded the special resolutions adopted by the Branch at Ringwood on the National Insurance Bill not only to the Central Council of the Association in London, whose action in reference to that bill the resolution cordially supported, but he had sent it also to the chief London daily newspapers and to all the papers published within the area of the Branch. Most of the papers, both London and provincial, had published the resolution, and some had written short articles on it. The Honorary Secretary also stated that, acting further on his instructions, he had posted the resolution, under a covering letter, to the members of Parliament for all constituencies in the districts covered by the Branch area, and that he had received sympathetic acknowledgements and promises of help from Captain the Hon. Frederick Guest, M.P., Junior Lord of the Treasury, Mr. H. Page Croft, M.P., Mr. W. F. Perkins, M.P., Colonel R. Williams, V.D., M.P., Mr. A. V. Hambro, M.P., and Sir Randolph L. Baker, Bart., M.P.

Apologies for Non-attendance.—Letters of apology for nen-attendance, etc., were read from Mr. Decimus Curme, Mr. Bernard Scott, Dr. Hyla Greves, and Mr. Unwin.

Fees for Instruction in First Aid, etc.—The Honorary Secretary read to the meeting a communication he had received from the Medical Secretary of the Association on the subject of fees to be paid to medical men for teaching subjects connected with public health, such as nursing, first aid to the injured, etc. In this letter attention was directed to the fee adopted by the London County Council of one guinea for each lecture, as one which appears suitable for general adoption. The subject matter of this communication was further elucidated by remarks from Dr. Eleanor Bond, Mr. Le Fleming, and Mr. Norman Flower.

Expenditure for Opposition to Charter.—Another letter from the Association Medical Secretary was read, in which the attention of the Branch was drawn to certain resolutions of the Central Council in reference to alleged illegal expenditure on the part of some Branches in connexion with their opposition to the Council's late application to His Majesty's Privy Council for a Royal Charter of Incorporation for the British Medical Association. With reference to this communication, the Branch, though affected, took no action.

New Member.—The Honorary Secretary announced that at a meeting of the Branch Council held that afternoon in an adjoining room, Herbert George Rickman, of Durweston, Blandford, M.R.C.S.Eng., L.R.C.P.Lond., was elected a member of the British Medical Association.

Election of Officers.—On the motion of Mr. C. H. Watts Parkinson, seconded by Dr. P. W. MacDonald, F. W. Ramsay, Surgeon, Royal Victoria and West Hants Hospital, Bournemouth, was elected President of the Branch for 1912. Dr. B. W. N. Gowering, of Dorchester, on the motion of the President, seconded by Dr. P. W. MacDonald; and Dr. F. C. Bottomley, of Boscombe, on the motion of Mr. Mahomed, seconded by Mr. Marsh, were elected Vice-Presidents for 1912. Dr. P. W. MacDonald proposed that Dr. Frank Fowler, of Bournemouth, be elected Honorary Secretary and Treasurer, in succession to Dr. James Davison, who had resigned. This was seconded by Dr. Johnson Smyth, and carried unanimously.

Spring Meeting.—It was proposed by the President and carried by acclamation that the spring meeting of 1912 be held in Bournemouth.

Fibroid Tumours in Pregnancy.—A discussion was introduced by Mr. Thomas MacCarthy, Vice-President, on "Fibroid Tumours in Pregnancy, illustrated by a case of Red Degeneration." The President, Mr. Le Fleming, Mr. Mahomed, Mr. Ramsay, and Mr. Belben joined in the discussion that followed Mr. MacCarthy's interesting, unique, and highly instructive communication. Mr. MacCarthy suitably replied to the various gentlemen who spoke on his paper.

Guardians and Medical Officers.—Mr. C. H. Watts Parkinson drew the attention of the members present to a report of a somewhat alarming nature that had recently reached him, namely, that the guardians of a certain union within the Branch area had served notices of dismissal on their medical officers. Some members confirmed this report, and the President acknowledged that he had been the recipient of such a notice, but, inasmuch as the guardians alluded to had acted *ultra vires*, he, for one, had taken no notice of the document.

Golden Wedding of Mr. Williamson Daniell.—Mr. Parkinson, addressing the President in a brief but feeling speech, informed him and the members of the Branch that an important and memorable event in the life-history of one of their members was that day being celebrated in Blandford. He alluded to the golden wedding of Mr. George Williamson Daniell. Mr. Daniell, he said, was one of the oldest and most repected members of the Association, a founder and Past-President of that Branch, and one who, in its earlier years, did much to promote its success. The Branch, he was sure, would wish to take its proper place in honouring, and in offering their hearty congratulations to their old friend and distinguished Past-President and Mrs. Daniell on this auspicious occasion. Mr. Parkinson concluded by moving the following resolution:

> That this meeting of the members of the Dorset and West Hants Branch of the British Medical Association desire to offer their hearty congratulations to Mr. and Mrs. George Williamson Daniell on this the occasion of their golden wedding, and hope that they may long be spared to us in health and happiness, and the love and respect of all who know them.

This was seconded by Dr. P. W. MacDonald in a warm and appreciative speech, during which he cordially endorsed all that Mr. Parkinson had said. This resolution was carried unanimously and enthusiastically. The Honorary Secretary was directed to record it on the minutes, and to send a copy of it to Mr. Daniell.

Vote of Thanks.—A very cordial vote of thanks was awarded, on the initiative of the President, to Mr. and Mrs. Daniell for their kind hospitality in entertaining the party to afternoon tea at the termination of the meeting.

Luncheon.—Previous to the meeting the members and their friends luncheoned together at the Crown Hotel, Blandford.

GLOUCESTERSHIRE BRANCH.

A general meeting of the Branch was held at the Royal Infirmary, Gloucester, on October 19th, at 7 p.m., the President in the chair and twenty members present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Cases and Notes.—Dr. Scott, of Painswick, showed a case of pseudo-hypertrophic paralysis, which was discussed by the President, Mr. Coode, and Dr. Pruen. Dr. Finlay showed a cretin. Dr. Wayland Ancrum gave notes on a case of cystic kidney, which was discussed by Mr. Coode, Dr. Finlay, and Dr. Carter. Mr. Cuthbert showed several interesting specimens of kidney disease.

Medical School Certificates.—After a discussion in which Dr. Finlay, Dr. Martin, the President, Mr. Coode, Dr. Scott, Dr. Ashley, Dr. Ancrum, and Dr. Soutar took part,

it was resolved not to accept the proposals for payment for medical certificates given to elementary school children offered by the County Council, and the following committee was elected to report on the subject to the Branch: Mr. Coode, Dr. Ellis, jun., Dr. Meyricke-Jones, Dr. Scott, and Dr. Finlay.

Election of Member of Council.—On the proposal of Mr. HOWELL, seconded by Mr. CUTHBERT, Dr. Johns (Cheltenham) was elected member of Council in place of Dr. H. Bramwell, resigned.

Proposals as to Increase of Powers of Association.—Dr. HERBERT JONES brought forward the following agenda, to be discussed at a meeting of the Hereford Division on October 27th:

To consider the desirability of increasing the powers of the Association in order to enable it
1. To raise a compulsory levy.
2. To indemnify menaced members against loss arising from acting in accordance with the requirements of the Association.
3. To enforce an indemnity from members who act in opposition to the requirements of the Association.

The feeling of the meeting was against all three points raised.

Dinner.—The members dined together after the meeting, at the Wellington Hotel.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL (BOOTLE) DIVISION.

A MEETING of the members of this Division was held at the Masonic Hall, Bootle, on October 25th, at 4 p.m., Dr. SUMNER, and afterwards Dr. WATERS, presiding.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Proposed Amalgamation of Local Divisions.—A discussion took place on the question of the advisability of the amalgamation of the local Divisions, when it was resolved, on the proposition of Dr. SUMNER, seconded by Dr. DUNN:

That in the opinion of this Division the amalgamation of the local Divisions is desirable, and the Secretary is hereby empowered to take the necessary steps to amalgamate this Division with any or all of the other local Divisions.

Several members who were unable to attend the meeting intimated to the Secretary their agreement with the proposed amalgamation of local Divisions; and a member living in Ormskirk wrote that a more central place of meeting would be more convenient for the members residing in that town, and was in favour of amalgamation.

Annual Representative Meeting.—Dr. WATERS reported to the meeting some impressions of the annual and Representative Meetings of the Association at Birmingham, noting especially the increase in the membership and the very satisfactory state of the finances of the Association. Adverting to the attitude of the Representative Meeting towards the National Insurance Bill, he noted the unanimous decision of the meeting to uphold the policy of the Association in its determination to adhere to the points already defined.

Vote of Thanks.—On the proposition of Dr. DUNN, seconded by Dr. SUMNER, a cordial vote of thanks was accorded to Dr. Waters for his interesting report.

WIGAN DIVISION.

National Insurance Bill.—The Honorary Secretary desires to acknowledge the receipt of money orders or cheques for the first call on the guarantors of the General Indemnity Fund from the following members, and trusts that they will regard this acknowledgement as a receipt for the amount which they have forwarded: Drs. Angior (2), Ainscow, Berry (2), Benson, Blair, Bullough, Campbell, Cobban, Cooke, France, Fraser, Foulds, Girdwood, Hutchinson, Latham, Matheson, Readman, Rees, Williams, and McElligott (Honorary Secretary).

METROPOLITAN COUNTIES BRANCH:

LAMBETH DIVISION.

Special Meeting.

A SPECIAL meeting was held in the Court Room of Guy's Hospital on Thursday, October 26th, at 4 p.m., Dr. J. V. C. DENNING in the chair. Twenty-eight members were present.

Revised Model Rules.—The Revised Model Rules were considered, the following alterations from the old Model Rules having been made:

In Rule (5), that a treasurer should be elected in addition to serve as an officer of the Division.
In Rule 10, giving the Executive Committee power to fill casual vacancies among the Executive.

Dr. GRANT proposed, and Dr. ESLER seconded, that these rules be adopted by the Division. The motion was carried unanimously.

Bradford Rules.—The Bradford Rules were then considered. Mr. LAYTON proposed that these rules be not adopted, urging that they were too stringent and that they would make the profession too much of a trades union. The motion failed to find a seconder. Dr. MICHAEL then proposed that the Bradford Rules be adopted by the Division, urging that the only hope for the profession was to form a trades union, owing to the position it was placed in by the National Insurance Bill. Dr. GRANT seconded the motion. Dr. JAYNES supported the motion, saying that, in his opinion, the rules could not be too stringent. The HONORARY SECRETARY pointed out that, in his opinion, the honest and straightforward man had nothing to fear from these rules. The motion was carried, only two members voting against it. Rule Z was then considered. Dr. GEO. STODDART moved and Dr. SAINT-CEDD seconded the motion:

That the rule be adopted by the Division.

The motion was carried *nemine contradicente*. Dr. MICHAEL then proposed that, in addition, the members' names affected by the above rules should be printed in the JOURNAL, but, on the representation of the HONORARY SECRETARY that an opportunity would be given later to amend these rules, Dr. MICHAEL, with permission, withdrew his motion.

The special meeting then terminated.

Ordinary Meeting.

An ordinary meeting was then held, Dr. J.V. C. DENNING being in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Recent Work on Syphilis.—Dr. JOHN EYRE, Bacteriologist to the hospital, then gave an extremely interesting demonstration on the recent work in the diagnosis and treatment of syphilis. He related the difficulties at first experienced in finding the spirochaete of syphilis; how first the examination of the film with a dark background rendered the task easier, and then how the method of staining the film with Indian ink rendered the task comparatively easy. He then lucidly explained and gave a demonstration of the Wassermann reaction. Finally he gave a demonstration of the treatment of syphilis by "606" exactly as it was done on the operating table or at the bedside. He related how the injections were at first made into the muscles or under the skin, and the bad effects resulting therefrom. He also told how the bad effects often experienced—vomiting and pyrexia—might be avoided, and he emphasized the need for the greatest aseptic precautions. Dr. Eyre then answered numerous questions which were put to him.

Votes of Thanks.—Dr. JAYNES then proposed a vote of thanks to Dr. Eyre for his very able and interesting demonstration. This was seconded by Dr. MICHAEL and carried unanimously. The meeting then terminated with a vote of thanks to the Governors of the Hospital for granting the use of the Court Room for the purposes of the meetings, and also for the very hospitable way they had entertained the Division to tea.

WESTMINSTER DIVISION.

A MEETING of the Division was held on Thursday, October 26th, at the Criterion Restaurant, W. There were seventy-five present.

Dinner.—The business and scientific parts of the meeting were preceded by a dinner. Dr. HARVEY HILLIARD (Chairman of the Division) presided. There were fifty-six members and their guests present at dinner.

Annual Representative Meeting.—After the minutes, correspondence, and the report of the Executive Committee were received, the CHAIRMAN deferred the report of the

Representative to the Representative Meeting to the next meeting of the Division.

Notice of Motion.—Dr. Bernard O'Connor gave notice that at the next meeting he would bring forward a motion, a copy of which had already been sent to every member of the Division. The proposition that an expression of opinion on this motion should be taken by post-card vote, was negatived.

Cinematograph Demonstrations of Living Micro-organisms.—Dr. Milner-Adams made a few remarks introductory to the demonstration. Previous to each subject and during the projection on the screen he gave short explanations of the various stages and processes. The following subjects were illustrated by Pathé Frères: Intestinal infusoria and bacteria, *Spirochaeta pallida* and "606," agglutination, sleeping sickness, and relapsing fever.

SOUTH-WESTERN BRANCH.

Meeting of Council.

A meeting of the Branch Council was held at Plymouth on October 24th.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

New Member.—Mr. Vincent Whitgreave, of Helston, was elected a member of the Association.

Alteration of Rules.—The alterations in the rules rendered necessary to comply with the altered by-laws with reference to the requirement of the Branch of two signatures for any candidate for election were considered and approved for submission to a special meeting of the Branch to be called to adopt them.

Draft Ethical Rules.—The draft report of the suggestions the Branch Council desired to recommend to the Branch on the draft Branch ethical rules recently sent down from the Central Ethical Committee was considered and approved for submission to the general meeting of the Branch.

Place of Annual Meeting.—The place of the annual meeting of the Branch in 1913 was considered, and it was decided to place the following in order as the most suitable: Torquay, Teignmouth, Exmouth.

Circular from Hampstead Division.—A circular from the Hampstead Division with reference to the action of that Division in regard to the National Insurance Bill was read and, being considered quite unnecessary, was ordered to be allowed to lie on the table.

Branch Meeting.

The autumn intermediate meeting of the Branch was held at Plymouth on October 24th, Mr. A. C. Roper, the President of the Branch, being in the chair. Seventy-one members of the Branch and ten non-members were present.

National Insurance Bill.—Formal business having been dealt with, Dr. Alfred Cox, Deputy Medical Secretary of the Association, delivered an address on the National Insurance Bill. He first referred to the action of the Association with regard to contract practice and the report on the same. He then detailed the work that had been done at the two Representative Meetings of this year and in Parliament, and discussed fully the effect of the various amendments, and more especially that known as the Harmsworth amendment, on the position of medical practice under the bill. He subsequently dealt with the guarantee fund, and pointed out that the fund raised had only reached its present amount largely through the bigger contributions—for example, those of 100, 50, and 25 guineas—made by practitioners of the consulting type—in other words, those who were the least likely to be affected by the bill. He pointed out that of the subscription of 25s. a year which members made to the Association, probably only about 4s. in the year was available for strictly fighting purposes, and contrasted the contributions, namely, about 6d. per week per man made by some trade unionists for purely fighting and defensive purposes, quite apart from sickness or out of work benefits; after emphasizing the fact that contributions such as these were equivalent to an eightieth part of the income of the contributors, he asked whether any medical man could for a moment suggest that 4s. a year could be looked upon as an eightieth part of the average professional income. He finally reminded his audience that the real hard work and fighting would have to be done after the passage of the bill, and that if medical men were to carry this matter to a successful issue, those of the Association who were primarily interested therein would have to be prepared to make far larger contributions, and even sacrifices, if the organization which was necessary to achieve success for the profession was to be successfully put into operation. A considerable number of questions arising out of the address were then asked, and answered by Dr. Cox.

Vote of Thanks.—A vote of thanks to Dr. Cox for the clear and helpful address which he had given was passed, several members expressing their great pleasure that points which had hitherto been obscure to them had now been cleared up.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Birmingham Branch: Central Division.—A general meeting will be held at the Medical Institute, Edmund Street, on Wednesday, November 8th, at 4 p.m. Business: To receive the Report of the Representative, etc.—W. Tracy Lydall, B. C. R. Aldren, Honorary Secretaries.

Border Counties Branch.—The autumn meeting of this Branch will be held at Whitehaven on Friday, November 17th. Members who wish to read papers, show specimens, etc., at this meeting are requested to communicate with the Secretary. Full details will be issued shortly.—George R. Livingston, Honorary Secretary.

Metropolitan Counties Branch: City Division.—The next meeting of the Division (a clinical evening) will be held at Manor Lodge, Upper Clapton (by invitation of Dr. C. F. Hadfield), on Thursday, November 9th, at 9.30. The Honorary Secretary will be pleased to receive notices from members intending to show cases or read papers. Professional friends are welcomed at all meetings.—A. G. Southcombe, Honorary Secretary.

Metropolitan Counties Branch: Kensington Division.—The first meeting of the session will be held at the Kensington Town Hall, on Tuesday, November 14th, at 4 p.m. Mr. Smith Whitaker, the Medical Secretary, will address the meeting on the National Insurance Bill. Agenda: (1) Minutes of the previous meeting. (2) Report of the School Children Committee as to the negotiations which are being carried on with the London County Council. (3) The Chairman will make a statement as to an ethical matter affecting the Division. (4) National Insurance Bill. Steps will be proposed by which the Division may be more fully organized to meet any situation that may arise. Any member who is willing to assist in canvassing those members of the profession who have not already given their adhesion to the Association's programme are requested to communicate with one of the undersigned immediately. It is of the greatest importance that the profession should know exactly the actual proposals of the bill as it undergoes various changes in Committee, and we therefore trust members will make a point of being present at this meeting.—H. Beckett-Overy, Herbert Tanner, Honorary Secretaries.

Metropolitan Counties Branch: Lambeth, Greenwich, and Norwood Divisions.—A combined meeting of the Lambeth, Greenwich, and Norwood Divisions will be held at the Camberwell Town Hall, on Tuesday, November 7th, at 4 p.m., J. C. V. Denning, Esq., in the chair. Mr. J. Smith Whitaker, Medical Secretary of the British Medical Association, will be present, and will address the meeting upon: The Present Position of the Association with Regard to the National Insurance Bill. Mr. Smith Whitaker will reply in his opening address to any questions of which he has received notice (at 429, Strand) before Saturday, November 4th, and will also answer any questions which may be put at the meeting. Members are requested to invite any non-members in their neighbourhood to attend the meeting.—J. H. Clatworthy, Honorary Secretary, Lambeth Division, 145, Denmark Hill, S.E.; L. F. Hemmans, Honorary Secretary, Greenwich Division, 9, Lewisham Park, S.E.; J. A. Howard, Honorary Secretary, Norwood Division, 115, Church Road, Upper Norwood, S.E.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—A general meeting of the Division will be held at the rooms of the Medical Society of London, 11, Chandos Street, W., on Friday, November 10th, at 5 o'clock p.m. Agenda: (1) Minutes. (2) Questions. (3) Letters. (4) To receive the report of the Representative in the Representative Meetings, July, 1911, with particular reference to resolutions on: (*a*) The Insurance Bill; (*b*) Spiritual Healing Report; (*c*) New By-law on Representation at Representative Meetings; (*d*) New Ethical Rules. (5) Any other business.—N. BISHOP HARMAN, Honorary Secretary, 108, Harley Street, W.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—The next meeting will be held on Thursday, November 9th, at the Criterion Restaurant, Piccadilly, W., at 5 p.m.—J. HOWELL EVANS, Honorary Secretary.

MIDLAND BRANCH: LEICESTER AND RUTLAND DIVISION.—A meeting of the Division will be held on Wednesday, November 8th, at the Leicester Infirmary, at 4.15 o'clock. An address will be given by Dr. H. Langley Browne, candidate for the General Medical Council at the forthcoming election. Subject: "Do we do any work on the General Medical Council?" Members are asked to note that the following gentlemen are receiving the support of the Association at the election, namely: Dr. H. Langley Browne, Dr. H. Latimer, and Mr. T. J. Verrall, and are asked to support them by their influence and votes.—R. WALLACE HENRY, Honorary Secretary.

YORKSHIRE BRANCH.—The next meeting of the Branch will be held at the Station Hotel, York, on Wednesday, November 22nd, at 4 p.m. Members intending to read papers, propose resolutions, show specimens or cases, or to propose new members are requested to communicate at once with the Secretary. Members will dine together at 6.30 p.m.—ADOLPH BRONNER, Honorary Secretary.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: Fleet Surgeon H. CLIFT and Surgeon J. D. KEIR to the *Venerable*, on recommissioning, October 31st; Surgeon P. B. EGAN to the *Halcyon*, additional, for the *Skylark* on recommissioning, October 31st; Fleet Surgeon R. H. NICHOLSON to the *Pembroke*, additional, for East London Recruiting District and Medical Charge of Naval Store Depôt at West Indian Docks, November 1st; Fleet Surgeon F. H. M. STAR to the *Terpsichore*, for the Royal Naval College, November 1st; Fleet Surgeon A. F. HARPER to the *President*, additional, for Deptford Victualling Yard, November 1st; Staff Surgeon J. C. ROWAN, M.B., to the *Leander*, and for duty with torpedo boat destroyers, November 1st; Surgeon E. L. MARKHAM, M.B., and A. S. PATERSON, M.B., to the *Pembroke*, for disposal, November 1st; Surgeon P. F. MINETT to the *Juno*, November 7th; Surgeon P. D. MACI. CAMPBELL to the *Pelorus*, for the voyage out, November 7th, and on recommissioning, undated.

ARMY MEDICAL SERVICE.

COLONEL H. J. R. MOBERLY is placed on retired pay, October 26th. His commissions are thus dated: Surgeon, February 5th, 1881; Surgeon-Major, February 5th, 1893; Lieutenant-Colonel, February 5th, 1901; and Colonel, July 1st, 1909. He served in the South African war in 1899–1902, and was present in the advance on Kimberley, in the action at Belmont, Enslin, Modder River, and Magersfontein, in operation in the Orange Free State (in actions at Poplar Grove, Driefontein, Vet River, and Zand River), in the Transvaal (actions near Johannesburg, at Pretoria, Diamond Hill), in Natal, again in the Transvaal (action at Belfast), in the Orange River Colony, and at Cape Colony; he was mentioned in dispatches, and received the Queen's medal with six clasps and the King's medal with two clasps.

Lieutenant-Colonel H. O. TREVOR, from the Royal Army Medical Corps, to be Colonel, vice H. J. R. Moberly, October 26th. Colonel Trevor was appointed Surgeon, February 4th, 1882; Surgeon-Major, February 4th, 1894; and Lieutenant-Colonel, February 4th, 1902. He was in the Burmese campaign in 1885–7, receiving a medal with clasp, and in the South African war of 1899–1902, for which he has the Queen's medal with clasp and the King's medal with two clasps.

ROYAL ARMY MEDICAL CORPS.

Major C. R. ELLIOTT, M.D., to be Lieutenant-Colonel, vice H. O. Trevor, October 26th. Lieutenant-Colonel Elliott's first appointment bears date February 5th, 1887; that of Major, February 5th, 1899.

Lieutenant-Colonel A. A. SUTTON, D.S.O., has been appointed Senior Medical Officer at Sierra Leone, vice Major W. J. Taylor, M.B.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN E. C. BARTHOLOMEW resigns his commission, October 21st.

Lieutenant J. FRASER is confirmed in his rank.

ROYAL ARMY MEDICAL CORPS APPOINTMENTS IN INDIA.

THE following officers have been selected to command station hospitals at division and brigade head quarters:—Northern Army: Lieutenant-Colonel T. Daly, Peshawur; Major L. F. Smith, M.B., Nowshera; Lieutenant-Colonel A. E. Tate, Rawal Pindi; Lieutenant-Colonel H. J. Fletcher, M.B., Sialkot; Major E. M. Hassard, Lahore Cantonments; Lieutenant-Colonel G. F. H. Marks, M.D., Ferozepore; Lieutenant-Colonel E. G. Browne, Jullundur; Lieutenant-Colonel H. Carr, M.D., Umballa; Lieutenant-Colonel E. H. L. Lynden-Bell, M.B., Meerut; Lieutenant-Colonel S. C. Philson, Bareilly; Lieutenant-Colonel H. N. Thompson, D.S.O., M.B., Lucknow; Lieutenant-Colonel R. W. Wright, Fyzabad; Lieutenant-Colonel J. S. Davidson, M.B., Allahabad; Major F. Smith, D.S.O., Calcutta. Southern Army: Lieutenant-Colonel F. W. C. Jones, M.B., Quetta; Major E. C. Anderson, D.S.O., Karachi; Lieutenant-Colonel C. H. Hale, D.S.O., Mhow; Major C. W. R. Healey, Nasirabad; Lieutenant-Colonel R. J. Geddes, D.S.O., M.B., Jubbulpore; Major C. R. Elliott, M.D., Jhansi; Lieutenant-Colonel R. H. Penton, D.S.O., Poona; Lieutenant-Colonel A. T. I. Lilly, Belgaum; Lieutenant-Colonel C. W. Reilly, Colaba; Major J. Girvin, Ahmednagar; Lieutenant-Colonel J. S. Green, M.B., Bangalore; Lieutenant-Colonel C. A. Lane, M.B., Madras; Lieutenant-Colonel G. G. Adams, Secunderabad; Lieutenant-Colonel C. E. Nichol, D.S.O., M.B., Maymyo; Lieutenant-Colonel C. T. Blackwell, M.B., Belgaum.

The following will command station hospitals at hill stations:—Northern Army: Major H. I. Pocock, Murree; Lieutenant-Colonel J. Ritchie, M.B., Dalhousie; Major S. H. Withers, M.B., Dagshai; Captain P. C. T. Davy, M.B., Jutogh; Lieutenant-Colonel M. P. C. Holt, D.S.O., Kasauli; Major G. J. A. Ormsby, M.D., Landour; Lieutenant-Colonel G. H. Barefoot, Ranikhet; Major H. Herrick, Naini Tal; Major W. Hallaran, M.B., Chakrata; Major J. D. Alexander, M.B., Darjeeling; Major G. M. Goldsmith, Lebong. Southern Army: Major E. W. Slaytor, M.B., Mount Abu; Major A. G. Thompson, M.B., Pachmarhi; Major J. C. Connor, M.B., Wellington.

ADEN RELIEFS.

THE following are the Aden reliefs of Royal Army Medical Corps officers: Lieutenant-Colonel H. H. Brown, M.B., 2nd (Rawal Pindi) Division, vice Lieutenant-Colonel R. L. R. Macleod, M.B., sailing by the transport *Plassy* on November 9th from Bombay; Captain R. L. Argles, 3rd (Lahore) Division, vice Major T. H. J. C. Goodwin, D.S.O., sailing by the *Plassy* on November 9th; Captain G. de la Cour, M.B., 9th (Secunderabad) Division, vice Captain A. D. O'Carroll, M.B., sailing by the *Dongola* on February 23rd from Bombay; Captain A. Dawson, M.B., 9th (Secunderabad) Division, for charge of the Brigade Laboratory, vice Captain E. W. Powell, sailing by the *Plassy*; Captain J. W. L. Scott, 4th (Quetta) Division, vice Captain G. W. W. Ware, M.B., sailing by the *Plassy*. Major W. P. Gwynn and Captain J. A. Bennett, M.B., will be detailed for embarkation duty at Karachi and Bombay respectively.

Vital Statistics.

ENGLISH URBAN MORTALITY IN THE THIRD QUARTER OF 1911.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

IN the accompanying table will be found summarized the vital statistics of seventy-seven of the largest English towns, based upon the Registrar-General's weekly returns for the third quarter of the year. The 102,643 births registered in these towns last quarter were equal to an annual rate of 25.5 per 1,000 of the population, estimated at 16,157,797 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates were 26.9, 25.3, and 24.7 per 1,000 respectively. In London the birth-rate during the quarter under notice was equal to 24.9 per 1,000, while it averaged 25.7 in the seventy-six other large towns, and ranged from 15.8 in Bournemouth, 16.0 in Hastings, 17.9 in Hornsey, 18.3 in Halifax, 18.5 in Huddersfield, 18.6 in Bradford, and 19.9 in Brighton, to 29.6 in Liverpool and in Middlesbrough, 30.1 in Bootle, 31.3 in Stoke-on-Trent, 32.7 in Merthyr Tydfil, 34.7 in St. Helens, and 35.3 in Rhondda.

The 66,687 deaths registered in these towns during the three months were equal to an annual rate of 16.6 per 1,000, the death-rates in the third quarters of the three preceding years being 13.9, 12.4, and 12.3 per 1,000. In London the death-rate last quarter was 15.5 per 1,000; in the seventy-six other large towns the mean-rate was 17.0 per 1,000, the lowest rates being 9.3 in Hornsey, 9.9 in King's Norton, 10.2 in Handsworth (Staffs), 11.2 in Barrow-in-Furness, 11.3 in Bournemouth, 11.4 in Leyton, and 11.9 in Reading; and the highest rates 20.4 in Wigan and in Hull, 20.5 in Bolton, 21.0 in St. Helens, 21.6 in Burnley, 22.6 in Liverpool, and 24.7 in Stoke-on-Trent.

The 66,687 deaths from all causes included 2 which were referred to small-pox, 619 to measles, 212 to scarlet fever, 488 to diphtheria, 720 to whooping-cough, 265 to enteric fever, and 17,530 (among children under 2 years of age) to diarrhoea and enteritis. The 619 deaths from measles were equal to an annual rate of 0.15 per 1,000; in London the death-rate from this disease was 0.14 per 1.000, while among the other towns the rates ranged upwards to 0.43 in Nottingham, 0.46 in Bootle, 0.53 in West Bromwich, 0.57 in Great Yarmouth, 0.73 in Bolton, and 1.39 in Wolverhampton. The 212 fatal cases of scarlet fever were equal to an annual rate of 0.05 per 1,000; in London the scarlet fever death-rate was 0.04 per 1,000, while among the other towns the highest rates were 0.20 in Norwich and in Stoke-on-Trent, 0.21 in Aston Manor, 0.27 in Preston, 0.30 in Newcastle-on-Tyne, and 0.37 in Coventry. The 488 deaths from diphtheria corresponded to an annual rate of 0.12 per 1,000; in London the mortality from this disease was 0.11 per 1,000, while among the other towns the rates ranged upwards to 0.26 in Walthamstow, Coventry, and Newcastle-on-Tyne, 0.35 in Portsmouth, 0.36 in Halifax and Blackburn, 0.38 in Swansea, and 0.41 in Stoke-on-Trent. The 720 fatal cases of whooping-cough were equal to an annual rate of 0.18 per 1,000; in London the rate was 0.15 per 1,000, while among the other towns it ranged upwards to 0.41 in St. Helens, Bury, and Tynemouth, 0.42 in Hull, 0.54 in Stockton-on-Tees, 0.55 in Cardiff, 0.57 in Walsall, 0.69 in West Hartlepool, and 1.03 in Sunderland. The 265 deaths from enteric fever were equal to an annual rate of 0.07 per 1,000; in London the death-rate from this disease was 0.04 per 1,000, while among the other large towns the highest rates were 0.20 in Devonport and Bolton, 0.23 in Rhondda, 0.29 in St. Helens and in Hull, 0.37 in Grimsby, 0.38 in Dewsbury, and 0.45 in Wigan. The 17,530 deaths from diarrhoea and enteritis were equal to an annual rate of 4.35 per 1,000 living at all ages; in London the death-rate from this cause was 3.82 per 1,000, while among the other towns diarrhoeal diseases were proportionally most fatal in Stoke-on-Trent, Aston Manor, Grimsby, St. Helens, Wigan, Bolton, Burnley, Hull, and Rhondda. Of the two fatal cases of small-pox, one belonged to Birmingham and one to Wallasey.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births was equal to 225 per

Analysis of the Vital Statistics of Seventy-seven of the Largest English Towns during the Third Quarter of 1911.

Towns.	Estimated Population middle of 1911.	Births.	Deaths.	Annual rate per 1,000 Living.		Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Enteric Fever.	Diarrhoea and Enteritis (under two years of age).	Deaths of Children under one year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
				Births.	Deaths.									
77 Towns	16,157,797	102,643	66,687	25.5	16.6	2	619	212	488	720	265	17,530	225	0.6
76 Provincial Towns	11,635,169	74,586	49,256	25.7	17.0	2	460	171	359	555	222	13,220	234	0.8
London	4,522,628	28,057	17,431	24.9	15.5	—	159	41	129	165	43	4,310	203	0.1
Croydon	170,451	978	517	23.0	12.2	—	8	1	4	6	—	115	161	—
Willesden	155,253	953	494	24.6	12.8	—	—	1	2	2	—	170	226	0.4
Hornsey	84,916	379	197	17.9	9.3	—	—	—	3	4	—	31	132	—
Tottenham	138,326	941	460	27.3	13.3	—	2	1	2	5	—	138	193	—
West Ham	289,646	2,121	1,266	29.4	17.5	—	3	1	11	4	9	444	240	0.2
East Ham	134,441	852	488	25.4	14.6	—	9	—	5	4	1	171	224	0.2
Leyton	125,382	798	355	25.5	11.4	—	3	2	2	3	1	84	159	—
Walthamstow	125,334	759	385	24.3	12.3	—	1	2	8	3	—	100	183	0.3
Hastings	61,036	243	184	16.0	12.1	—	3	1	—	—	—	35	185	—
Brighton	131,444	651	455	19.9	13.9	—	—	—	1	4	1	77	149	—
Portsmouth	232,221	1,476	923	25.5	15.9	—	1	1	20	9	11	249	221	0.3
Bournemouth	79,150	311	222	15.8	11.3	—	4	—	2	—	—	37	167	0.5
Southampton	119,394	744	495	25.0	16.6	—	2	—	6	5	1	125	220	—
Reading	75,289	399	223	21.3	11.9	—	2	—	—	1	1	33	145	4.0
Northampton	90,152	450	319	20.0	14.2	—	—	—	—	—	4	96	213	0.9
Ipswich	74,122	422	243	22.8	13.1	—	—	—	2	—	—	59	175	—
Great Yarmouth	55,920	378	229	27.1	16.4	—	8	—	—	1	—	49	201	—
Norwich	121,682	679	432	22.4	14.2	—	4	6	7	—	1	91	187	—
Plymouth	112,152	670	470	24.0	16.8	—	8	—	2	—	1	99	237	—
Devonport	81,975	490	256	23.9	12.5	—	2	1	1	—	4	56	171	—
Bristol	357,509	2,002	1,350	22.5	15.1	—	15	5	15	10	8	299	211	—
Stoke-on-Trent	235,049	1,836	1,448	31.3	24.7	—	20	12	24	7	7	510	374	1.5
Burton-on-Trent	48,222	278	188	23.1	15.6	—	—	1	—	4	—	36	198	1.1
Wolverhampton	95,362	602	434	25.3	18.3	—	33	2	3	6	—	112	216	—
Walsall	92,273	661	452	28.7	19.6	—	8	—	3	13	1	136	256	—
Handsworth	69,010	365	176	21.2	10.2	—	1	2	2	—	—	26	104	1.1
West Bromwich	68,424	488	312	28.6	18.3	—	9	1	—	1	1	87	219	1.9
Birmingham	526,030	3,656	2,387	27.9	18.2	1	2	16	12	15	5	715	269	2.9
King's Norton	81,764	483	201	23.7	9.9	—	2	2	1	1	—	55	155	1.0
Smethwick	71,085	440	287	24.8	16.2	—	3	—	1	—	—	74	243	—
Aston Manor	74,985	498	351	26.6	18.8	—	—	4	1	6	2	138	339	0.3
Coventry	107,287	728	367	27.2	13.7	—	1	10	7	4	—	59	132	2.7
Leicester	227,634	1,314	764	23.2	13.5	—	2	1	1	12	2	177	206	0.8
Grimsby	74,951	541	341	29.0	18.2	—	—	—	2	—	7	137	294	2.1
Nottingham	260,447	1,588	1,148	24.5	17.7	—	28	1	5	4	5	337	287	0.2
Derby	123,648	701	430	22.7	14.0	—	2	—	1	4	—	73	174	—
Stockport	109,090	627	497	23.1	18.3	—	7	1	—	1	2	156	303	0.4
Birkenhead	131,330	939	590	28.7	18.0	—	—	1	7	11	5	178	229	0.7
Wallasey	79,137	463	257	23.5	13.0	1	2	—	—	3	—	74	207	0.4
Liverpool	747,627	5,518	4,211	29.6	22.6	—	52	27	35	45	12	1,203	254	1.4
Bootle	70,122	527	342	30.1	19.6	—	8	1	1	7	—	107	233	1.5
St. Helens	96,870	839	507	34.7	21.0	—	—	2	2	10	7	177	250	2.5
Wigan	89,340	531	455	23.8	20.4	—	3	1	1	9	10	165	365	—
Warrington	72,376	494	295	27.4	16.3	—	1	—	3	2	1	92	227	2.4
Bolton	181,202	1,013	926	22.4	20.5	—	33	6	5	3	9	301	331	0.3
Bury	58,665	310	255	21.2	17.4	—	1	1	1	6	—	48	203	2.0
Manchester	716,166	4,709	3,348	26.4	18.8	—	62	6	12	31	10	898	240	0.5
Salford	231,641	1,615	1,083	28.0	18.8	—	24	3	12	8	3	276	237	0.3
Oldham	147,751	876	659	23.8	17.9	—	5	—	1	4	—	178	240	0.2
Rochdale	91,645	463	334	20.3	14.6	—	1	1	2	3	—	78	216	0.9
Burnley	106,569	648	573	24.4	21.6	—	4	2	1	5	2	199	352	1.0
Blackburn	133,160	701	553	21.1	16.7	—	—	2	12	7	1	161	288	1.1
Preston	117,216	668	510	22.9	17.5	—	—	8	5	8	4	140	275	1.4
Barrow-in-Furness	63,930	402	179	25.2	11.2	—	—	1	2	3	2	27	124	2.8
Huddersfield	108,144	500	416	18.5	15.4	—	—	3	4	1	1	76	234	0.5
Halifax	101,471	463	378	18.3	14.9	—	1	—	9	3	2	46	192	0.3
Bradford	288,723	1,336	1,096	18.6	15.2	—	4	4	9	11	13	164	219	0.3
Leeds	445,983	2,561	2,010	23.0	18.1	—	10	10	22	32	7	496	273	0.1
Dewsbury	53,411	283	269	21.3	20.2	—	—	1	—	3	5	58	276	—
Sheffield	455,793	3,170	1,755	27.9	15.4	—	9	5	9	15	5	441	194	0.8
Rotherham	62,711	439	277	28.1	17.7	—	1	1	—	1	2	94	253	1.1
York	82,407	488	259	23.8	12.6	—	—	—	—	1	2	53	168	—
Hull	278,968	1,996	1,421	28.7	20.4	—	5	—	1	29	20	477	278	0.2
Middlesbrough	105,124	777	436	29.6	16.6	—	3	—	4	8	4	93	190	0.2
Stockton-on-Tees	52,175	367	194	28.2	14.9	—	2	—	1	7	2	48	180	—
West Hartlepool	63,965	451	267	28.3	16.7	—	—	—	2	11	1	72	171	—
Sunderland	151,289	1,078	721	28.6	19.1	—	6	1	3	39	2	140	212	1.7
South Shields	108,844	804	516	29.0	18.6	—	7	—	1	7	—	129	251	2.5
Gateshead	117,104	856	480	29.3	16.4	—	2	—	6	8	—	117	181	2.9
Newcastle-on-Tyne	267,162	1,722	1,014	25.9	15.2	—	8	2	17	26	1	186	166	0.4
Tynemouth	59,008	423	245	28.8	16.7	—	—	—	—	6	1	35	191	0.4
Newport (Mon.)	84,111	582	316	27.8	15.1	—	6	1	—	4	1	79	198	—
Cardiff	182,729	1,219	752	26.8	16.5	—	2	2	1	25	2	208	251	0.1
Rhondda	153,775	1,352	745	35.3	19.4	—	2	4	1	5	9	286	288	0.3
Merthyr Tydfil	81,293	663	374	32.7	18.5	—	—	—	—	1	1	121	259	0.5
Swansea	115,176	838	492	29.2	17.1	—	3	—	11	8	—	113	199	0.6

NOTE.—The publication of the aggregate deaths from the principal infectious diseases and of the rates of mortality therefrom has been discontinued in the Registrar-General's weekly return; these two columns are therefore omitted from the above table.

1,000 last quarter, against 145, 119, and 112 in the corresponding quarters of the three preceding years. In London the rate of infant mortality last quarter was 203 per 1,000, while it averaged 234 in the seventy-six other large towns, and ranged from 104 in Handsworth (Staffs), 124 in Barrow-in-Furness, 132 in Hornsey and in Coventry, 145 in Reading, and 149 in Brighton, to 303 in Stockport, 331 in Bolton, 339 in Aston Manor, 352 in Burnley, 365 in Wigan, and 374 in Stoke-on-Trent.

The causes of 396, or 0.6 per cent., of the deaths in the seventy-seven towns last quarter were not certified either by a registered medical practitioner or by a coroner. The highest proportions per cent. of uncertified deaths were 2.5 in South Shields, 2.6 in St. Helens, 2.7 in Coventry, 2.8 in Barrow-in-Furness, 2.9 in Birmingham and in Gateshead, and 4.0 in Reading.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 7,449 births and 4,128 deaths were registered during the week ending Saturday last, October 28th. The annual rate of mortality in these towns, which had been 15.2, 14.9, and 14.4 per 1,000 in the three preceding weeks, further fell to 13.3 per 1,000 in the week under notice. In London the death-rate last week did not exceed 13.1 per 1,000, against 15.0, 15.4, and 14.3 in the three previous weeks. Among the seventy-six other large towns, the death-rate ranged from 4.5 in Handsworth (Staffs) and in King's Norton, 6.8 in Hastings, 7.5 in Northampton, and 7.9 in Birkenhead to 17.9 in West Hartlepool, 18.5 in Dewsbury, 18.7 in Wigan and in Oldham, 18.9 in Hull, and 21.3 in Middlesbrough. Enteric fever caused a death-rate of 1.7 in Northampton; measles of 1.3 in Norwich, 2.4 in Burnley, and 3.3 in Wolverhampton; and diarrhoea and enteritis (of children under 2 years of age) of 1.7 in Rhondda, 2.0 in Burnley, 2.7 in St. Helens, and 4.1 in Wigan. The mortality from scarlet fever, diphtheria, and whooping-cough showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 30, or 0.7 per cent., of the total deaths registered in the seventy-seven towns, were not certified either by a registered medical practitioner or by a coroner after inquest, and included 7 in Birmingham, 6 in Liverpool, 3 in Sheffield, 2 in Stoke-on-Trent, and 2 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,793, 1,966, and 2,106 at the end of the three preceding weeks, had further risen to 2,180 on Saturday last; 297 new cases were admitted during the week, against 293, 355, and 344 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the largest Scottish towns, 771 births and 548 deaths were registered during the week ended Saturday last, October 28th. The annual rate of mortality in these towns, which had been 16.4 and 15.7 per 1,000 in the two preceding weeks, rose to 16.7 in the week under notice, and was 3.4 per 1,000 above the mean rate during the same period in the seventy-seven large English towns. Among the several Scottish towns the death-rates last week ranged from 8.3 in Greenock and 13.1 in Perth to 18.6 in Glasgow and 19.4 in Leith. The mortality from the principal epidemic diseases averaged 1.6 per 1,000, and was highest in Perth and Aberdeen. The 279 deaths from all causes registered in Glasgow included 12 from infantile diarrhoea, 5 from diphtheria, 4 from measles, 3 from scarlet fever, 2 from whooping-cough, and 1 from enteric fever. Four deaths from infantile diarrhoea were recorded in Dundee, 8 from measles, and 2 from scarlet fever in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, October 28th, 524 births and 377 deaths were registered in the twenty-two principal urban districts of Ireland, as against 540 births and 409 deaths in the preceding period. The annual death-rate in these districts, which had been 19.6, 19.3, and 18.6 per 1,000 in the three preceding weeks, fell to 17.1 per 1,000 in the week under notice, this figure being 4.8 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 18.0 and 16.7 respectively, those in other districts ranging from 4.2 in Drogheda and 6.6 in Queenstown to 34.7 in Kilkenny and 37.0 in Tralee, while Cork stood at 22.5, Londonderry at 8.9, Limerick at 12.2, and Waterford at 9.5. The zymotic death-rate in the twenty-two districts averaged 2.1 per 1,000, or the same as in the preceding period.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BARNSLEY: BECKETT HOSPITAL.—Second House-Surgeon. Salary, £80 per annum.

BATH ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Resident Medical Officer (male). Salary at the rate of £60 per annum.

BIRMINGHAM EDUCATION COMMITTEE.—Medical Officer. Salary £260 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90 after six months.

CROYDON UNION.—(1) Assistant Medical Superintendent of the Infirmary and Assistant Medical Officer of the Workhouse and Children's Home; salary, £140 per annum. (2) Non-resident Female Dispenser and Medical Superintendent's Clerk; salary, £75 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DONCASTER: ROYAL INFIRMARY AND DISPENSARY.—(1) Senior House-Surgeon. (2) Assistant House-Surgeon. Salary, £90 and £60 per annum respectively.

DUNDEE DISTRICT ASYLUM.—Junior Resident Medical Officer. Salary, £110 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—(1) Assistant Surgeon. (2) Second Medical Officer to Casualty Department (male); salary at the rate of £40 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House-Physician. Salary at the rate of £60 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—House-Surgeon. Salary at the rate of £40 per annum.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

ILFORD URBAN DISTRICT COUNCIL.—Assistant Medical Officer of Health, etc. Salary, £250 per annum, increasing to £300.

ITALIAN HOSPITAL, Queen Square, W.C.—House-Surgeon. Salary at the rate of £60 per annum.

JARROW-ON-TYNE: PALMER MEMORIAL HOSPITAL.—House-Surgeon (male). Salary commencing at £170 per annum.

KILBURN DISPENSARY, Kilburn Park Road, N.W.—(1) Honorary Medical Officer. (2) Honorary Dentist. (3) Dispenser; salary, £60.

LEICESTER INFIRMARY.—Honorary Surgeon.

LEITH HOSPITAL.—Pathologist.

LISCARD: WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Resident Medical Officer. Salary, £250 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant Resident Medical Officer. Honorarium at the rate of £50 per annum.

LONDON UNIVERSITY.—(1) Four Examiners in Medicine; (2) Four Examiners in Surgery; (3) Two Examiners in Pathology; (4) Two Examiners in Mental Diseases and Psychology; (5) Two Examiners in General Biology. (1) to (4) are for the higher examinations for medical degrees, and (5) is for the first examination for medical degrees.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Honorary Assistant Physician.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead, N.W.—(1) Honorary Radiographer. (2) Honorary Dental Surgeon.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House-Surgeon. Salary, £60 per annum.

NORWICH: JENNY LIND INFIRMARY FOR CHILDREN.—Lady Resident Medical Officer. Salary, £50 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—Pathologist. Salary, £100 per annum.

PORTSMOUTH PARISH.—Second Assistant Resident Medical Officer for the Workhouse, Workhouse Infirmary, and Children's Home. Salary, £120 per annum, rising to £150.

RADIUM INSTITUTE, Riding House Street, W.—Assistant to the Medical Superintendent. Salary, £250 per annum.

RICHMOND ROYAL HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

ROYAL EAR HOSPITAL, Soho, W.—Honorary Assistant Anaesthetist.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Dental Surgeon.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer. Salary, £80 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House-Surgeon (male). Salary, £80 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Physician (male). Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—Senior Resident Medical Officer. Salary, £120 per annum.

WALSALL AND DISTRICT HOSPITAL.—House-Physician and Casualty Officer. Salary, £80 per annum.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.—Clinical Pathologist. Salary, £50 per annum.

WHITTINGHAM: COUNTY ASYLUM.—Pathologist and Assistant Medical Officer. Salary commencing £200 per annum, increasing to £250.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

WREXHAM INFIRMARY.—Resident Medical Officer. Salary, £100 per annum.

APPOINTMENTS.

BRAINE-HARTNELL, Christopher, F.R.C.S.Edin., Honorary Surgeon to the Cheltenham General Hospital.

BRAZIL, W. H., M.D.Lond., D.P.H.Camb., Surgeon for the Coventry District to the London and North Western Railway Company.

BURROUGHS, W. J., M.R.C.S., L.R.C.P., District Medical Officer of the St. Pancras Union.

BUTLER, Rhoda H., M.D., B.S.Lond., Honorary Visiting Physician, Leeds Maternity Hospital.

CAMPBELL, Roderick Alan, M.D.Edin., Assistant Physician, Crichton Royal Institution, Dumfries.

CHARLES, C. P., M.R.C.S., L.R.C.P., District Medical Officer of the Hitchin Union.

CLAYTON-GREENE, W. H., F.R.C.S., Surgeon to St. Mary's Hospital, Paddington, W.

CHILD, W. N., M.A.Cantab., M.R.C.S., L.R.C.P., Resident Medical Officer to the British Lying-in Hospital.

COPE, V. Z., M.S., F.R.C.S., Surgeon in Charge of Out-patients at St. Mary's Hospital, Paddington, W.

Haulton, J. L., M.R.C.S., L.R.C.P.Lond., Clinical Assistant to the Nose, Throat, and Ear Department, Royal Hospital, Sheffield.

Hedley, John Prescott, M.A., M.B., M.C.Cantab., F.R.C.S., M.R.C.P., Physician to Out-patients at the British Lying-in Hospital.

Hey, Wilson H., M.B., Ch.B.Vict., F.R.C.S.Eng., Visiting Surgeon to the Manchester Children's Hospital, and Medical Superintendent to the Christie Cancer Hospital, Manchester.

Hutchinson, James Randal, M.D., D.P.H., Medical Inspector under the Local Government Board.

Johnstone, J. E. St. G., M.B., B.Ch.Dub., District Medical Officer of the Gloucester Union.

McCulloch, James, M.R.C.S.Eng., Certifying Factory Surgeon for the Bexhill-on-Sea District, co. Sussex.

Milligan, E. H. M., M.D., Q.U.I., Certifying Factory Surgeon for the Long Eaton District, co. Derby.

Morrison, Professor J. T. J., M.A., M.B.Camb., F.R.C.S., Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 22.

Munro, Hugh Lennox, M.D.Edin., Certifying Factory Surgeon for the Beverley District, co. York.

O'Connor, S. Valentine, L.A.H.Dub., Certifying Factory Surgeon for the Crossabeg District, co. Wexford.

Rattray, P., M.B., C.M.Edin., Certifying Factory Surgeon for the Sluithwaite District, co. Yorks, West Riding.

Reid, R., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Whitehouse District, co. Antrim.

Taylor, Arthur L., M.B., B.Sc., Assistant Medical Officer to the Derby Borough Asylum.

Tebbutt, Hamilton, B.A., M.B.Sydney, Clinical Pathologist and Demonstrator of Bacteriology at the Royal Dental Hospital, Leicester Square, W.C.

Peile, W. H., M.D., D.P.H., Medical Officer of Health of the Sidmouth, S. Devon, Urban District.

Wallis, B., M.R.C.S., L.R.C.P., District and Workhouse Medical Officer of the Helston Union.

Wilson, N., M.A., B.C.Camb., Medical Officer of the Sherborne Urban District.

Edinburgh Royal Infirmary.—The following appointments were made on October 23rd:—

Clinical Assistants: W. S. Johnston, M.B., Ch.B., to Dr. J. Malcolm Farquharson; D. Murray Lyon, M.B., Ch.B., to Dr. Chalmers Watson, in the Medical Waiting Room,

Resident Surgeon: J. K. Hamilton, M.B., Ch.B., to Surgical Out-patient Department, under Mr. Scott Carmichael.

Manchester Royal Infirmary.—The following appointments have been made:

Resident Surgical Officer: Howard Buck, F.R.C.S.Eng.
Assistant Surgical Officer (Out-patient Department): W. H. Hey, F.R.C.S.Eng.
Sixth Anaesthetist: Graham M. Benton, M.B., Ch.B.Vict.
Central Branch Medical Officer (reappointment): Cecil Hibbert, F.R.C.S.Edin.
House-Physician: C. G. Brentnall, M.B., Ch.B.Vict.
Surgical Registrar: John Morley, F.R.C.S.Eng.

University College Hospital, W.C.—The following appointments have been made:

House-Surgeons: W. C. Fowler, M.B., B.S.; G. C. Chubb, M.R.C.S., L.R.C.P.
House-Physicians: H. Darling, M.B., B.S., M.R.C.S., L.R.C.P.; A. C. S. Courts, M.B., B.S.Lond.; C. E. Shattock, M.B., B.S., M.R.C.S., L.R.C.P.
Obstetric Assistant: G. G. Alderson, M.B., B.C., M.R.C.S., L.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

Wood.—On October 26th, at The Moat, Penshurst, Kent, the wife of W. Charrington Wood, M.D.Lond., F.R.C.S.Eng., of a son.

MARRIAGE.

White—Mawe.—On November 1st, at All Souls, Langham Place, Clifford White, M.D., of New Cavendish Street, to Elaine Maud, daughter of the late Francis Walford Mawe, of Charters Towers, Queensland.

DEATHS.

Baly.—On October 20th, suddenly, of acute gastritis (syncope), at "Avondale," Westward Ho, Price P. Baly (Surgeon), son of the late Joseph S. Baly, M.R.C.S., L.S.A., F.L.S., of Warwick, aged 49 years.

Pullin.—On October 26th, 1911, at Abernethy House, Sidmouth, Thomas H. S. Pullin, M.D., F.R.C.S.Edin., aged 87 years. No flowers by request. Foreign papers please copy.

Stanley-Smith.—On October 25th, at 68, Wimpole Street, Cavendish Square, peacefully, after a short illness, E. Stanley-Smith, M.D., M.R.C.P., aged 59 years. Funeral at Kensal Green, at 3.30, on Saturday, October 28th. Friends please accept this, the only, intimation.

DIARY FOR THE WEEK.

TUESDAY.

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C., 5 p.m.—Hunterian Lecture by Professor H. C. French: Recent Developments in the Recognition, Treatment, and Prophylaxis of Syphilis.

Royal Society of Medicine:

Pathological Section, Laboratory Meeting, Lister Institute, 8.30 p.m.—Dr. Bayon: (1) Demonstration of Organisms from Cases of Leprosy; (2) Attempts to Differentiate Various Acid-fast Organisms by Complement-fixation and Animal Tests. Professor E. A. Minchin: Demonstration of Intracellular Phase of *T. lewisi* in the Stomach of the Flea. Drs. Funk and Cooper: Demonstration on Pigeon Beri-beri. Dr. Funk: The Cause and Cure of Beri-beri. Drs. H. C. Ross and Cropper: Demonstration of Division Figures in Lymphocytes. Dr. E. H. Ross: The Developmental Cycle of the Lymphocytozoon of the Guinea-pig (Kurloff's Body). Dr. Henderson-Smith: The Immunization of Rabbits with Varying Doses of Typhoid Vaccine. Dr. Priestley: An Attempt to Differentiate the Diphtheroid Group of Organisms. And other Papers and Demonstrations.

WEDNESDAY.

Hunterian Society, Metropolitan Hospital, N., 4 p.m.—Clinical Meeting.

United Services Medical Society, Royal Army Medical College, Grosvenor Road, S.W., 5 p.m.—Paper:—Lieutenant-Colonel H. E. R. James, C.B., and Major C. E. Pollock, R.A.M.C.: Medical Arrangements in the Field, with Special Reference to the Functions of the Clearing Hospital.

THURSDAY.

Ophthalmological Society, 11, Chandos Street, Cavendish Square, W.—8 p.m., Card Specimens. Mr. Foster Moore: Bilateral Angioma of Retina. 8.30 p.m.—Papers:—(1) Professor Straub, of Amsterdam: The Pathology of Dust-like Opacities in the Vitreous Body and of Descemet Dots. (2) Mr. Arthur Ormond: Ocular Conditions found in Mongolian Idiots.

FRIDAY.

King's College Hospital Medical Society, 8.20 p.m.—Paper: Chorion-epithelioma, by P. B. Ridge, M.B., B.Ch.

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C., 5 p.m.—Hunterian Lecture by Professor H. C. French: Recent Developments in the Recognition, Treatment, and Prophylaxis of Syphilis.

Royal Society of Medicine:

Clinical Section, 15, Cavendish Square, W., 8.30 p.m.—(1) Demonstration of Cases and Specimens. (2) Paper:—Professor Rogers: The Treatment of Cholera by the Intravenous Infusion of Hypertonic Saline Solution.

POST-GRADUATE COURSES AND LECTURES.

Central London Throat and Ear Hospital, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Ear; Friday, 3.45 p.m., Ear.

London School of Clinical Medicine, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Monday, 2.15, Empyema; Tuesday, 4.30, Ocular and Visual Signs and Symptoms in Nervous Disease.

Medical Graduates' College and Polyclinic, 22, Chenies Street, W.C.—The following Clinical Demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Nose, Ear, and Throat. Lectures at 5 15 p.m. will be given as follow: Monday, The Treatment of Advanced Uterine Carcinoma; Tuesday, Femoral Hernia; Wednesday, Rheumatism of the Heart; Thursday, Tuberculosis of the Bronchial Glands.

National Hospital for the Paralysed and Epileptic, Queen Square, W.C.—Tuesday, 3.30 p.m., Muscular Atrophy. Friday, 3.30 p.m., Trigeminal Neuralgia.

North-East London Post-Graduate College, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics: 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations. Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient; 4.30 p.m., Lecture: The Etiology, Pathology, and Bio-chemistry of Malignant Disease. Wednesday, 2.30 p.m., Medical Out-patient; Skin and Eye Clinics; *X* Rays. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient; 4.30 p.m., Lecture: The Conjunctiva in Health and Disease.

West London Post-Graduate College, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Lecture: Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Lecture: Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin. 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m. daily.

PUBLISHERS' ANNOUNCEMENTS.

Messrs. J. and A. Churchill are about to issue the second edition of *A Short Practice of Medicine*, by Dr. R. A. Fleming; considerable additions and alterations have been made in the book. The same firm will shortly publish a second edition of *Essentials of Surface Anatomy*, by Mr. Charles R. Whittaker,

with twelve coloured plates; a new book, entitled *The Tobacco Habit, its History and Pathology: a Study in Birth-rates—Smokers Compared with Non-smokers*, by Dr. H. H. Tidswell; *Cocoa and Chocolate: its Chemistry and Manufacture*, by Mr. R. Whymper.

Messrs. P. Blakiston's Son and Co. announce the publication of the following books: A new edition of *Medical Jurisprudence and Toxicology: a Textbook for Medical and Legal Practitioners and Students*, by John J. Reese, M.D., formerly Professor of the Principles and Practice of Medical Jurisprudence, including Toxicology, in the University of Pennsylvania; the edition is revised and edited by Dr. D. J. McCarthy, Professor of Medical Jurisprudence in the University of Pennsylvania. A fifth edition of *Electro-Analysis*, by Edgar F. Smith, M.A., Ph.D., Sc.D., Professor of Chemistry, University of Pennsylvania.

G. P. Putnam's Sons announce a book entitled *The New Italy: a Discussion of its Political and Social Conditions*, by Signor Federico Garlanda, which contains a sharp attack upon the Italian Government. Readers of the book subscribed for the presentation of the volume to every one of the 508 Deputies in the Italian Parliament. The same firm are about to publish the forty-fifth volume in *The Heroes of the Nations* Series, edited by Mr. Davis of Balliol; this volume has been prepared by Miss Ruth Putnam, and deals with *William the Silent, Prince of Orange, and the Revolt of the Netherlands*. Messrs. Putnam also announce new editions of Mr. James Allen's *Above Life's Turmoil*, and *The Mastery of Destiny*.

Messrs. Chatto and Windus are about to publish a work on the cancer problem, entitled *The Enzyme Treatment of Cancer*, by John Beard, D.Sc. It sets forth the author's theory of the origin and nature of cancer, and is said to contain not only a definite statement of the enzyme treatment, but particulars of a well-authenticated case in which the treatment has been used with complete success.

RECENT PUBLICATIONS.

How to Speak in Public. By Grenville Kleiser, formerly Instructor in Elocution at Yale University. Seventh edition. New York and London: Funk and Wagnells and Co. (Post 8vo, pp. 544. Price 1.25 dol.

The work of a teacher of elocution in New York, giving a full account of the method of instruction he follows, with specimens for recitation. It appears that Mr. Kleiser recommends a first course of fifty lessons, and a second or advanced course of the like number.

The Care of the Baby. By J. P. Crozer Griffith, M.D. Fifth edition. 1911. London: W. P. Saunders Company. (Crown 8vo, pp. 455. 6s. 6d. net.)

A thoroughly revised edition of a book which has been popular in America for the past sixteen years. Its author, who is physician to several children's hospitals in Philadelphia, takes a wide view of the scope of his subject, and supplies information not only regarding the rearing of infants, but also in respect of domestic nursing, the management of the common disorders of childhood, and first aid to the sick and injured. The volume includes some appendices containing information on the subject of milk preparation of rather an elaborate character, as many as seventeen formulae being furnished.

The Prevention of Dental Caries. By J. Sim Wallace, D.Sc., M.D., L.D.S. 1911. London: The Office of the *Dental Record*, Newman Street, W. (Royal 8vo, pp. 45. Price 1s. 6d.)

The object of this pamphlet is apparently not to set forth any new views, but to bring together as a compact whole those which Dr. Sim Wallace and other modern students of dental decay and its prevention have frequently expressed during the past few years. Since comparatively few medical men are at present thoroughly versed in the subject, and information regarding it is scattered, the task was worth performing, and seems to have been well carried out.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
NOVEMBER.	
4 SATURDAY ..	BURY: Joint Meeting of Bolton, Bury, and Rochdale Divisions (National Insurance Bill).
5 Sunday ..	
6 MONDAY ..	
7 TUESDAY ..	CAMBERWELL: Joint Meeting of Greenwich, Lambeth, and Norwood Divisions (National Insurance Bill), Camberwell Town Hall, 4 p.m.
8 WEDNESDAY	CENTRAL DIVISION, *Birmingham Branch*, General Meeting, Medical Institute, Edmund Street, 4 p.m. LEICESTER AND RUTLAND DIVISION, *Midland Branch*, Leicester Infirmary, 4.15 p.m.
9 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m. WESTMINSTER DIVISION, *Metropolitan Counties Branch*, Criterion Restaurant, Piccadilly, W., 5 p.m. CITY DIVISION, *Metropolitan Counties Branch*, Manor Lodge, Upper Clapton, 9.30 p.m.
10 FRIDAY ..	MARYLEBONE DIVISION, *Metropolitan Counties Branch*, General Meeting, Rooms of the Medical Society of London, 11, Chandos Street, W., 5 p.m.
11 SATURDAY ..	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	KENSINGTON DIVISION, *Metropolitan Counties Branch*, Kensington Town Hall, 4 p.m.
15 WEDNESDAY	

Date.	Meetings to be Held.
NOVEMBER *(continued).*	
16 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4 p.m.
17 FRIDAY ..	BORDER COUNTIES BRANCH, Autumn Meeting, Whitehaven.
18 SATURDAY ..	
19 Sunday ..	
20 MONDAY ..	
21 TUESDAY ..	
22 WEDNESDAY	YORKSHIRE BRANCH, Station Hotel, York, 4 p.m.; Dinner, 6.30 p.m. RICHMOND DIVISION, *Metropolitan Counties Branch*, Richmond, 8.30 p.m.
23 THURSDAY ..	WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, Grove Hall, Wanstead, 4 p.m.
24 FRIDAY ..	BIRMINGHAM BRANCH, Pathological and Clinical Section, Medical Institute, Edmund Street, 8 p.m.
25 SATURDAY ..	
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	
29 WEDNESDAY	
30 THURSDAY ..	
DECEMBER.	
1 FRIDAY ..	
2 SATURDAY ..	
3 Sunday ..	
4 MONDAY ..	

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

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NATIONAL INSURANCE BILL.

DEBATE IN COMMITTEE.

Married Women.

ON Thursday, November 2nd, the sixth allotted day, Clause 34 was considered in Committee. The proposals of the clause were much altered by the introduction of a scheme mainly the product of the work of a committee of members of both sides of the House, under the chairmanship of Mr. Lees Smith, who had worked in conjunction with Mr. Brook, the actuary, and with representatives of women's organizations. As the clause originally stood an insured woman on marriage passed out of insurance unless continuing to be employed, but had the privilege of re-entry on widowhood as if no interval had elapsed, obtaining the full benefit of the reserve value appropriate to her age.

The clause, as amended, provides a scheme on these lines:

On marriage a woman who has previously been insured will have her surrender value treated in this way: One-third is set aside to provide the reserve necessary to enable her to re-enter for full benefits if she should become a widow, and the other two-thirds is available for extra grants during marriage, as her society may decide; but not in the form of a dowry *on* marriage. Thus a woman may make use of it in a time of special sickness, childbirth, and so on.

The important new departure is that such a woman, although she is no longer an "employed" person under the terms of the bill, may continue her insurance during marriage by paying a premium of 3d. per week, to which the State will add 1d. The benefits she will obtain under this insurance are medical benefit, sickness benefit at the rate of 5s. per week for thirteen weeks and disablement benefit at the rate of 3s. per week. According to the actuaries' statement, a liberal margin is provided. This is probably a very necessary precaution, as the insurance of non-employed married women is, with small exceptions, a distinct experiment. It is more than likely that the medical profession, for example, may require a higher scale of payment for such cases than they would be content with in the case of an employed contributor. The clause as amended was finally agreed to without a division. Clause 35, which sets out the terms on which aliens may come into the scheme of insurance, occupied the remainder of the sitting.

Naval, Military, and other Crown Servants: National Insurance Fund.

On Tuesday, November 7th, the seventh allotted day, the whole sitting was devoted to the consideration of Clause 36, and the proposal of the Chancellor of the Exchequer for insuring soldiers and sailors. The alterations were of great importance from the point of view of the services, but were not of special medical interest. Briefly, they consisted in the establishment of a scheme whereby soldiers and sailors might continue their membership of a society during their term of service and might be able to join one on good terms afterwards. The State as employer contributing 1½d. per week and the man 1½d. per week, the contribution of the State in connexion with insurance corresponding to its quota in the case of other insured persons. At the end of his service the man would have the reserve value appropriate to his age credited to him so as to enable him to continue his membership of a society on as good terms as other persons. Clause 37, containing provisions for the application to other persons in the service of the Crown, was carried without amendment.

Clause 38 was withdrawn on the motion of the Chancellor of the Exchequer. In this clause it was laid down that in the case of a young person under 16 a sum not exceeding 4s. 8d. in the case of boys, or 4s. 6d. in the case of girls, should be certified to their society in one year. With the provision of sick pay, in addition to the medical and sanatorium benefit as provided in the bill as amended, the sum was clearly insufficient; and for this reason, as well as from the fact that a special scheme is to be set up with respect to the medical treatment of school children, the clause became insufficient and inappropriate. Clause 39, dealing with the National Health Insurance Fund, was added with little amendment; and Clause 40, relating to reserve values, was added, with small amendment, ~~under~~ the guillotine clause.

Representation of the Medical Profession.

Clauses 41 and 42, which set up the Insurance Commissioners and the Advisory Committee respectively, were added to the bill under the same circumstances.

The amendments recommended to the Chancellor of the Exchequer by the British Medical Association were embodied in Clause 41 on the motion of the Chancellor, which was amended by the addition of these words to the first subsection: "and of the Commissioners so appointed one at least shall be a duly qualified medical practitioner who has had personal experience of general practice."

In the same way medical representation on the Advisory Committee was secured by adding to the words which secure representation on the committee of associations of employers, and of approved societies, the following amendment: "of duly qualified medical practitioners who have had experience in general practice." Clause 42 as amended stands as follows:

The Insurance Commissioners shall as soon as may be after the passing of this Act appoint an Advisory Committee for the purpose of giving the Insurance Commissioners advice and assistance in connexion with the making and altering of regulations under this Part of this Act, consisting of representatives of associations of employers and approved societies, of duly qualified medical practitioners who have personal experience of general practice, and of such other persons as the Commissioners may appoint, of whom two at least shall be women.

The addition of the words securing representation to women was moved by the Chancellor after those relating to the representation of the medical profession.

Local Health Committees.

The whole of the sitting on Wednesday, November 8th, was occupied in discussing this important part of the bill, and very material alterations were made. Clause 43 stood as follows in the bill as originally introduced:

Local Health Committees.

43. *Appointment of local Health Committees.*—(1) A local Health Committee shall be constituted for every county and county borough.

(2) Such number of the members of the committee as the Insurance Commissioners, having regard to the circumstances of each case, determine, but in no case less than nine or more than eighteen, shall be appointed:

(*a*) As to one-third thereof (which shall consist wholly or in part of members of the local sanitary authorities) by the county council or the council of the county borough;

(*b*) As to one-third thereof by such approved societies as have members resident in the county or county borough who are insured persons, or, if such societies cannot agree upon the appointment, by the Insurance Commissioners;

(*c*) As to the remaining one-third thereof by any association of deposit contributors resident in the county or county borough which may have been formed under regulations made for that purpose by the Insurance Commissioners; provided, that if no such association has been formed, such one-third shall, subject to the approval of the Insurance Commissioners, be appointed by the other members of the committee, or in default by the Insurance Commissioners, from amongst, so far as practicable, such deposit contributors as aforesaid.

(3) Any members appointed by the Insurance Commissioners under paragraph (*b*) of the last preceding subsection shall be appointed from among insured persons resident in the county or county borough who are members of approved societies, and in making such appointments regard shall be had to the desirability of securing that, so far as practicable, this representation of the several societies should correspond to the number of such insured persons who are members thereof.

(4) The Insurance Commissioners may, in any case where it may be desirable to do so, by regulations vary the proportions in which the county council or borough council, the approved societies, and the deposit contributors respectively are entitled to appoint members of the committee, but any such regulations shall be laid before Parliament as soon as may be after they are made.

(5) The remaining members of the committee, not exceeding n number one-fourth of the members appointed in manner aforesaid, shall be appointed by the Insurance Commissioners, but so that at least two of the members so appointed shall be duly qualified medical practitioners.

(6) The Insurance Commissioners may make regulations as to the appointment, quorum, term of office, and proceedings generally, of the committee, and the use by the committee, with or without payment, of any offices of a local authority, and any such regulations may provide for the appointment of auxiliary committees consisting wholly or partially of members of the committee, and for the powers and duties of any such auxiliary committee.

(7) Any local Health Committee may, and shall, if so required by the Insurance Commissioners, combine with any one or more other local Health Committees for all or any of the purposes of this Part of this Act, and where they so combine the provisions of this Part of this Act shall apply with such necessary adaptations may be prescribed.

The consideration of the alterations proposed by the Government was preceded by a discussion arising out of an amendment by Sir Alfred Cripps, the effect of which was to identify the local Health Committees under the bill with the existing Health and Sanitary Committees of counties or county boroughs. In replying to this discussion, the Chancellor of the Exchequer announced that he was prepared so to amend Clauses 44 and 46 that the local Health, now called Insurance, Committees' work should not overlap that of the existing statutory Health Committees, but should be confined to insurance duties, except that he maintained the provisions of the bill which enable the local Insurance Committee to make representations to local authorities, the Local Government Board, in connexion with sanitation and other cognate matters existing in their own area. He also announced that the name of the Committee would be altered so that it should be known as the "local Insurance Committee."

Constitution of the Committee.

Sir Philip Magnus moved an amendment fixing the minimum number of members of the local Insurance (Health) Committees at 15 and the maximum at 30. He did this, he said, in order to restore the amendment of the Chancellor of the Exchequer to the terms in which he understood it was placed upon the paper some few days earlier. He protested strongly against the action of the Chancellor of the Exchequer in placing so complicated an amendment as that referring to the constitution of the Health Committees on the paper so late as 2 o'clock on the previous day. The discussion which had already taken place on the clause showed how important an element the Health Committees would be in the administration of the bill, so that their constitution and duties were matters of the greatest importance to the House and to the country. The entire constitution of the Health Committees had been changed within the previous twenty-four hours, and members had had no opportunity of consulting their friends or the various interests concerned. Under the amendment, as it had been, he understood, accepted by the Chancellor of the Exchequer, the medical members of the Health Committees would have been 3 out of a maximum of 30, it was now reduced without consultation to 3 out of a maximum of 80. He felt that the members of the medical profession would regard that as nothing less than a betrayal of their interest. It was very desirable that there should be a larger proportion of medical members, having regard to some of the duties which it was understood the Health Committees were likely to be called upon to discharge. Sir Philip

Local Health (Insurance) Committees, as Now Constituted.

MINIMUM (40).		MAXIMUM (80).	
*Insured Persons:**			
Approved Societies and Deposit Contributors in proportion to their relative numbers	24	... ...	48
Other Bodies:			
Councils of Counties and County Boroughs (including 2 women) 8	10	(Including 2 women)... 16	18
Medical Practitioners 2		 2	
Insurance Commissioners (including 1 Medical Practitioner and 2 women)	6	(Including 2 women and at least 1 Medical Practitioner)...	14

* Where any part of the cost of medical benefit or sanatorium benefit is defrayed by the Council of the County or County Borough, the Insurance Commissioners may increase the representation of the Council, and make a corresponding diminution in the representation of the insured persons.

Magnus, who was frequently interrupted by the Deputy Chairman (Mr. Maclean), on the ground that he was only entitled to discuss the question of numbers, claimed the right to refer to the amendment of the Chancellor of the Exchequer, on the grounds that the House had already spent five hours of the limited time at its disposal for the discussion of three of the most important clauses of the bill in dealing with about two lines out of about five pages. If he was not to be allowed to refer to the amendment later on the paper no opportunity of doing so could recur while the bill was passing through Committee. Under these circumstances he could not help feeling that the debate was almost a farce so far as enabling the Committee fully to discuss the important provisions of the clauses.

The Attorney-General said it had become apparent that it would be necessary to increase the number of members of the local Insurance Committee, owing to the increased responsibility thrown upon it, and instanced, in particular, the administration of medical benefits. Whilst unable to accept Sir Philip Magnus's amendment, he recognized that the question of the composition or the relative proportions of the representatives of the various interests concerned must form a subject for further consideration.

Sir Robert Finlay said that the increase seemed to be simply a part of the arrangement under another name for handing back the control of the medical arrangements to the friendly societies from whom it had been withdrawn.

The amendment was rejected by 193 to 42, a majority of 151.

The Chancellor of the Exchequer moved to leave out all the words in Subsection 2 after "shall be appointed" to the end of Subsection 5, and to insert:

Constitution of Local Insurance Committees.

In such manner as may be prescribed by regulations of the Insurance Commissioners, so as to secure representation of the insured persons resident in the county or county borough who are members of approved societies, and who are deposit contributors in proportion, as nearly as may be, to their respective numbers; and the regulations so made shall provide for conferring on the approved societies which have members resident in the county or county borough the power of appointing the representatives of such members, and, where an association of the deposit contributors resident in the county or county borough has been formed under such regulations as aforesaid, for conferring on such association the power of appointing the representatives of the deposit contributors.

Of the remaining members of the committee, who shall not exceed two-thirds of the number of members appointed in manner aforesaid, one half shall be appointed by the council of the county or county borough, two shall be elected in manner provided by regulations made by the Insurance Commissioners, either by an association of duly qualified medical practitioners resident in the county or county borough which may have been formed for that purpose under such regulations, or if no such association has been formed by such practitioners, and the others shall be appointed by the Insurance Commissioners.

Provided that the members appointed by the council of the county or county borough shall consist wholly, or in part, of members of the local sanitary authorities, and two at least shall be women, and of the members appointed by the Insurance Commissioners one at least shall be a duly qualified medical practitioner, and two at least shall be women.

The Insurance Commissioners may, where any part of the cost of medical benefit or sanatorium benefit is defrayed by the council of the county or county borough, increase the representation of the council, and make a corresponding diminution in the representation of the insured persons.

Under the revised proposals of the Chancellor of the Exchequer, which he explained were due to the more complex work thrown on the local Insurance Committee under the bill as amended, and to the fact that it would be responsible for the administration of all the medical benefit, the numbers of the Committee were thus greatly enlarged. Under the bill as amended, the minimum number of the Committee will be forty and the maximum eighty. Of these, the minimum number of the representatives of insured persons will be not less than twenty-four in the first case and not more than forty-eight in the last case.

Sir Robert Finlay complained that an amendment which so seriously remodelled the clause should have been moved in the House within so short a time before the guillotine would fall upon the discussion of this and two other clauses. The amendment had a most serious aspect in regard to the medical profession. The Chancellor had never told medical men that such a change was going to be made in the constitution of the Committee; whereas medical men were to have had 2 out of 22, they were now, out of the new maximum of 80, entitled necessarily only to 3. The Chancellor of the Exchequer seemed to have made his peace with the friendly societies at the expense of the medical profession.

Dr. Addison said that the representatives of the medical profession quite appreciated the fact that, under the altered circumstances of the bill, particularly in view of the amendment to Clause 13 whereby the administration of medical benefit was placed in the hands of the local Insurance Committee, the representatives of insured persons were entitled to a majority of the Committee. The medical profession, he said, relied not so much on voting strength on the Committee as upon being satisfied that their case would be properly stated and adequately represented on the local Insurance (Health) Committee. The enlargement of the committee clearly introduced a new factor into its constitution, and whilst the amendment of the Chancellor of the Exchequer provided that at least three medical men should be on the committee, two of whom should be elected by the medical practitioners of the district, he could not say, without further consideration, whether the representatives of the medical profession would be satisfied that their membership under the bill as amended was adequate, and he asked the Chancellor of the Exchequer to leave the matter open so that representations might be made to him between the present time and the Report stage of the bill.

After Mr. Glyn-Jones had urged that an experienced pharmacist should be elected on the Insurance, Advisory, and local Insurance Committees, and Mr. Hicks-Beach that representatives of urban boards of guardians should be placed on the local Insurance Committees, the closure came into force and the Government amendment was inserted, all others being ruled out. Under the same closure provisions Clause 44, defining the powers and duties of local Health Committees, with amendments proposed by the Chancellor of the Exchequer, was added to the bill, as was also Clause 45, dealing with income and accounts of such committees.

In addition, under the closure an important amendment of the Chancellor of the Exchequer, providing that Auxiliary Committees should be set up within the area of a local Insurance Committee under conditions to be determined by the Insurance Commissioners, was inserted without discussion. The clause is as follows:

Auxiliary Committees.

Provided that the regulations so made shall require the local Health Committee of every county (except in cases where, owing to special circumstances, the Commissioners consider it unnecessary) within six months after the commencement of this Act to prepare and submit for approval to the Commissioners a scheme for the appointment of an auxiliary committee for the county and prescribing the area to be assigned to each such committee, and in particular the scheme shall provide for the appointment of an auxiliary committee for each borough (including the City of London and a metropolitan borough) within the county having a population of not less than ten thousand, and for each urban district within the county with a population of twenty thousand, unless the local Health Committee consider it expedient in the case of any such borough or urban district that there should not be a separate auxiliary committee for the borough or urban district, or that any adjoining areas should be grouped with such borough or urban district for the purpose of the appointment of an auxiliary committee.

[This clause is correctly printed, and if lotteries were not illegal we should be disposed to offer a prize for the best solution of its meaning.]

QUESTIONS IN PARLIAMENT.

Treatment of School Children.

CONSIDERABLE interest attaches to the announcement of the Chancellor of the Exchequer that he is working out a scheme, in consultation with the officers of the Board of Education, whereby assistance may be given this session to local educational authorities in the treatment of disease amongst school children. It is suggested that the help to local educational authorities will take the form of a *per capita* grant for treatment undertaken on approved lines.

A further announcement of great importance was made, in reply to Mr. Sherwell, with regard to legislative measures dealing with the problem raised by the class of persons who prove to be uninsurable. The Chancellor's statement to Mr. Sherwell was as follows: "He wants a

statutory guarantee on the face of the Act of Parliament that this Parliament will not separate without facing the problem when it comes on. That guarantee the Government is perfectly willing to agree to."

Woman Commissioner.

In reply to Lord Henry Cavendish Bentinck, who inquired whether in view of the fact that the interests of several million women would be affected by the new insurance scheme and in view of the power granted to the Insurance Commissioners assurances could be given that at least one woman commissioner would be appointed, Mr. McKinnon Wood said it had always been the intention of the Chancellor of the Exchequer that a woman commissioner should be appointed.

Medical Benefit.

Mr. Amery asked in what manner the medical benefit, due to the end of the current year, would be administered in the case of a deposit contributor who after suspension from sick benefit had become an inmate of a workhouse infirmary.

Mr. McKinnon Wood said the local Health Committee would place the services of a doctor at the disposal of any insured person who was for the time being entitled to medical benefit.

Mr. Amery further asked would not a person in that case already receive medical attendance gratis from the workhouse authorities?

Mr. McKinnon Wood replied that probably he would.

Mr. Amery then asked in that case what advantage would medical benefit be, and would the value of the medical benefit given to the individual be credited to the Post Office fund in general?

Mr. McKinnon Wood replied that he thought it would be credited to the Post Office fund in general. The individual was receiving medical treatment in another form under the Poor Law.

Mr. Sandys, on November 1st, asked the Chancellor of the Exchequer what would be the position under the National Insurance Bill of a local provident medical association providing medical attendance for about 1,600 members resident in the district at a small weekly payment.

Mr. Lloyd George said: I refer the hon. member to Clause 14 (4), which makes provision for utilizing such associations in certain circumstances for the purposes of medical benefit under the bill.

Voluntary Hospitals.

Mr. Samuel Roberts asked if the Chancellor of the Exchequer had received a copy of a joint resolution passed by the boards of management of the four voluntary medical hospitals in the city of Sheffield, calling upon the Government so to amend the National Insurance Bill that the continued existence of voluntary hospitals might be safeguarded financially, and their efficiency as curative institutions and schools of medicine might be maintained and developed; and whether he proposed to take any and what steps to safeguard the interests concerned?

The Financial Secretary to the Treasury replied that the answer to the first part of the question was in the affirmative. As regards the latter part he would refer the hon. member to the debate that took place on Clause 12 on July 31st.

Mr. Samuel Roberts said that supposing that notwithstanding any contributions made to these institutions by the authorities in charge of the benefits, there was still a deficiency, would the hon. gentleman take into consideration the desirability of giving these institutions power to make application to the State for assistance?

Mr. McKinnon Wood said he could not promise to go beyond what was provided by the clause as it stood.

Remuneration of Doctors.

Mr. Harry Hope asked whether doctors in popular holiday resorts would receive remuneration for attending persons insured under the National Insurance Bill who were on holiday in such places?

Mr. McKinnon Wood said the question would be one to be dealt with by the regulations to be drawn up under Clause 14.

Unregistered Practitioners.

Sir Walter Menzies asked the Chancellor of the Exchequer whether he could see his way to introduce a clause in the National Insurance Bill providing that insured persons who had lost faith in, or who had conscientious objections to, orthodox medical treatment, might be allowed to consult unregistered medical practitioners, such as herbalists, etc., if they so desired, and would such unregistered practitioner be allowed on the panel for a district.

Mr. Lloyd George said he would refer the member to the provisions of Clause 14 (3) of the bill as amended in Committee. As regards the second question the answer was in the negative.

Irish Dispensary Medical Officers.

Sir John Lonsdale asked the Chancellor of the Exchequer if he was aware that under the existing rules of the Local Government Board for Ireland dispensary medical officers were prohibited from employing assistants; and whether, having regard to the additional work which would be thrown upon these officials under the provisions of the National Insurance Bill as applied to Ireland, he intended to make provision for removing the prohibition referred to.

Mr. Lloyd George, in reply, said he was aware that officers employed under the Poor Law were prohibited by the Local Government Board for Ireland from entrusting their duties to deputies, but he did not understand why the member apprehended so great an increase in their work as a result of the Insurance Bill.

Country Surgeries.

Mr. Pretyman asked the Chancellor of the Exchequer whether the surgery of a country doctor required to dispense under the National Insurance Bill would become liable to inspection under the provisions of the Food and Drugs Act.

Mr. Lloyd George said there was nothing in the Insurance Bill to alter the existing position of doctors' dispensaries in that respect.

MEETINGS OF THE PROFESSION.

HAMPSTEAD.

A MEETING of members of the medical profession resident in the Hampstead district was held on October 13th under the auspices of the Hampstead Division of the British Medical Association. The purpose of the meeting was to consider the present position of the National Insurance Bill, and members engaged in contract practice were specially invited. Apologies for absence were received from Drs. Lock, Benthall, and Jessop.

Dr. ADAM OAKLEY, who occupied the chair, briefly reviewed the campaign work which had been done in the Division since the early part of the year. Two previous meetings, open to the local profession, had been held, and these had been followed by a systematic canvass of all the practitioners of the district with a view to securing their support for the policy recommended by the Council of the British Medical Association and also their assent to an undertaking, which was unanimously agreed upon, not to accept office under the National Insurance scheme unless the modifications demanded by the Association were accepted by the Government. He added that the Finchley members had expressed a wish to form a ward of the Hampstead Division, and his motion that the formation of the Finchley Ward be cordially approved was passed unanimously.

Mr. SMITH WHITAKER, Medical Secretary of the British Medical Association, who was called upon by the Chairman, said that many important decisions had yet to be made before the Insurance Bill passed the House of Commons. When it had passed through the Committee stage it would be necessary to determine what amendments should be pressed for on the Report stage, particularly the advisability of making a further attempt to obtain the statutory £2 income limit, and the deletion or profound modification of the Harmsworth amendment. In a review of the course of events with regard to the insurance scheme he observed that the first of the six points adopted by the Special Representative Meeting on June 1st, and set forth in the circular letter issued by the Association on June 3rd

required an income limit of £2 per week for those entitled to medical benefits. In that connexion he drew attention to the following resolution carried at the same time:

> That the Council be instructed to consider what points in the policy of the Association should be secured if possible, by specific provisions in the bill, and what points should be kept open to be determined by the Insurance Commissioners; and to report to the Divisions at the earliest opportunity.

The profession had been asked to support the general principle underlying its attitude in the event of the bill becoming law. The point as to whether the £2 limit should be fixed in the bill itself was expressly left for the decision of the Council. There was nothing in the circular about the £2 limit being put in the bill. The pronouncement was that the members of the profession united themselves to secure a maximum £2 income limit. Even though the bill became law as it stood, that would remain their declared policy. The Annual Representative Meeting at Birmingham had displayed an attitude favourable towards the proposal that persons who were attended privately and whose income exceeded £2 per week should be allowed to draw upon the insurance scheme to a certain extent for the purpose of paying their doctor's bill. The meeting also considered the advisability of allowing people who were below the income limit to get their attendance privately if they preferred, instead of going to one of the doctors on the panel and getting it under the Act. The argument in favour of the uniform limit was that in such a case the matter could be dealt with by the collective action of the whole profession. A variable limit, on the other hand, suggested itself because of the varying cost of living in different parts of the country. In the wild parts of Wales, for example, £2 per week would be wealth; in London it would be comparative poverty. The Representative Meeting thought the best plan would be to make £2 the maximum limit, but to allow it to be lowered in any district in which the local profession considered it to be too high. The feeling of that meeting was also in favour of the limit being made statutory. The Representative Meeting instructed the Council to do its best to get a £2 statutory limit fixed in the bill, but if this were impossible, then to take other means within its power to enforce the limit. The Council had accordingly made every effort to have the limit fixed in the bill, but had been unsuccessful. He did not know on what grounds that was described as a compromise. Two very important points had been won—the free choice of doctor and the freedom from friendly society control. The amendment providing free choice of doctor was moved by the Chancellor of the Exchequer, and carried subject to a proviso that if in any district the Insurance Commissioners were satisfied that the arrangements under the panel were not such as to provide an efficient medical service, some other arrangement might be instituted. The operation of these points had been seriously affected by the so-called Harmsworth amendment, and the Divisions would have to consider their position with regard to it. As to a medical strike, with the best will in the world, they could not strike against an employer that did not exist, and there was no employer under this bill at present. The real question was, How could the medical profession carry into effect the main points of its policy? They would in due course receive from the Council of the Association an official account of its stewardship, and he asked them to reserve their judgement upon a piece of work which at present was only half done.

Dr. H. Oppenheimer could not agree with what Mr. Smith Whitaker had said with regard to the £2 limit. It was distinctly laid down at the meetings of the local profession and of the Divisions all over the country—at least it was clearly understood if not expressed in terms—that so far as the provision of medical attendance was concerned the £2 income limit should be the alternative statutory limit to the income tax limit. He was sorry to find this point of view not pressed forward by the Council. What would happen if the bill passed without the inclusion of any £2 limit? Fifty local Health Committees might lay down the £2 limit, and two or three others, perhaps in remote districts, the 50s. limit or the income tax limit. The proviso was probably inevitable, and because it was inevitable there was double reason that the £2 limit should be definitely fixed in the bill.

Dr. J. Ford Anderson, while admitting that the work which had been done by the Central Office was deserving of gratitude, thought there had been rather too much lobbying. To take a concrete instance, Dr. Addison's amendment was debated at the Central Office before it was brought forward, and he was sure that Dr. Addison would now feel aggrieved if the profession were to decide that they could not accept his amendment. The speaker had been assured on several occasions that it would not do to press the income limit in the present temper of Parliament. But how was Parliament to know that they demanded an income limit if they did not go on telling them? They should take a leaf out of the book of the friendly societies and definitely formulate the demands they would not swerve from. This would be better than supporting amendments which were really alternatives. If the contracting-out clauses were intended as an alternative to the income limit he did not think it would serve their purposes at all. Bereft of the statutory limit, the Act would be a failure so far as they were concerned. For nearly twenty years, Dr. Anderson said, he had worked in contract practice, the contract containing the proviso that people above a certain wage limit were not to be members of that particular provident dispensary. During those twenty years it happened not more than twice that a member voluntarily retired on the ground of increased income. None were dismissed, because the doctor did not complain. The same thing would happen under the insurance scheme. According to the rules, the well-to-do patient must be challenged by the local Health or Medical Committees or by the doctor, but he could not conceive of any one moving in the matter unless the doctor did so, and the doctor would not do it. Therefore it would be a dead letter, and for the trifling sum they received they would have to attend anybody under the income-tax limit. If the profession were called upon to give medical attendance at reduced rates they had the right to demand an income limit.

Dr. W. W. Stocker asked how the local Health Committees were going to deal with "blacklegs." One such in a community of twenty other doctors might cause all the others to give way. He did not believe in a too strong adherence to the statutory £2 limit. Public opinion would be against them, particularly the tremendous labour vote, owing to the benefits which the working men above that limit expected to receive. What the profession ought to do was to ensure as far as possible the medical working of the Act should be in the nature of private practice, and to stop the "wretched contract practice." Surely they had more faith in their patients and in their own personality than to fear that their patients were going to leave then?

Dr. Eric L. Pritchard disagreed with Dr. Stocker, and urged the importance of fixing the £2 wage limit in the bill. Even this when it was accepted by the profession was regarded as being really too high.

Dr. Percy Evans also pleaded for the statutory £2 limit, and hoped that this point would be made clear to the public.

Mr. Dorrell pointed out that if local option were once accepted, the whole force of the profession could not so well and effectively be brought to bear upon a local disagreement. They must decide when the bill went through what they were going to do and stand by it.

Dr. E. T. A. Smith, speaking out of his experience of the colliery districts in the North, said that medical men among certain classes of the industrial population would find great difficulty in being paid at all unless they were paid by contract.

Mr. E. E. Ware could not help thinking that when Chancellor of the Exchequer drafted his bill he was opinion that doctors as a profession were dissentient among themselves, and that any fear of united action on their part might be disregarded. When their union became manifest it occurred to him to try and upset it by "frills and bits of embroidery." The speaker pleaded for the continuance of professional union. The £2 limit was a point of most vital importance. He believed that those who signed the guarantee papers in connexion with the appeal for funds did so on the understanding that the £2 limit would remain unaltered, and that they would withdraw their signatures if they thought that that, or any one of the six conditions, was to be discounted.

Mr. C. W. CUNNINGTON asked Mr. Whitaker for a frank opinion as to whether there was any chance of getting the £2 limit statutorily fixed.

The lateness of the hour (11 p.m.) precluded Mr. SMITH WHITAKER from making other than a brief reply. He agreed with Mr. Ware that the fundamental thing was to keep a united profession together for the time of real struggle. If they thought it wise to press again at the Report stage that the £2 limit should be statutorily fixed, by all means let them do so. But it was not within their power to compel Parliament, and he assumed that if, upon the bill becoming law, there was no statutory £2 limit, the profession would adhere to their undertaking to sign no contract that did not contain such a provision. This was not a strike. The medical man did not refuse to treat the cases that came to him. He simply refused to enter into a contract with the local Health Committee except upon these terms. The speaker thought Dr. Ford Anderson's criticism was made under a misapprehension. The official amendment of the Association that was put before the House of Commons was the one in the name of Sir Philip Magnus. As to Dr. Addison's amendment, its sponsor had been warned all through, and understood perfectly well, that it did not represent their views with regard to the income limit. Sir Philip Magnus's amendment represented the policy of the Association. Upon the question of adequate medical remuneration, the speaker pointed out that there was no ground for assuming that the profession would work at reduced rates. It was perfectly open to them to fix their own rate, and if they were united they would obtain it. The matter of actual payment could not arise before November, 1912, and in the interval it would be necessary for the Government to bring in another Budget. This point of remuneration must be pressed home immediately the bill became law.

The following resolutions were then moved from the chair and carried without a dissentient :

1. That this meeting of the medical profession in Hampstead reasserts the six principles formulated by the Special Representative Meeting of May 31st and June 1st. It strongly disapproves of any compromise which does not fully carry out the policy expressed therein.
2. That a copy of this resolution be sent to the Council of the Association and to the Honorary Secretaries of other Divisions.

The meeting separated after according a hearty vote of thanks to Mr. Smith Whitaker.

MANCHESTER.

A MEETING of medical practitioners of Manchester and Salford was held on Friday, November 3rd, in the Memorial Hall, Manchester, specially to hear an address by Mr. J. Smith Whitaker, Medical Secretary of the British Medical Association, on the position of the profession with regard to the Insurance Bill at the present time. The meeting was arranged by the Joint Committee of the Manchester and Salford Divisions, invitations being sent out to all practitioners of Manchester and Salford, and there was an attendance of abo ut 400.

Dr. T. ARTHUR HELME, who was in the chair, opened the meeting with the following remarks: A few months ago I had the honour of presiding over a meeting similar to this, when it was recognized that there had arisen an acute crisis in the history of the profession of medicine. What no one had dreamed of as being possible had actually happened, namely, a Minister of the Crown had had the audacity to produce a bill which profoundly affected the future of the profession and the national health, not only without consulting the profession, but with studied and consider ed refusal of their offer to advise and help. To-day that crisis is, if anything, more acute, for we are approaching the climax. I have been somewhat weighed down of late by the sense of the great responsibility which attaches to each individual member of the profession, for in your hands rest the fate and future of our profession. It is in full recognition of this responsibility that I have accepted the invitation of your committee to occupy the chair at this meeting, and I desire to express my appreciation of their kindness. You are not here to listen to a formal address from me, indeed I have not come prepared, for since the notice of this meeting has been issued, my time has been very fully occupied with the telephone and correspondence from many parts of the kingdom. I am not going to burden you with that correspondence, but in justice to myself I must allude to one letter which I have received. In this letter the writer, with whom I have worked side by side for many years in medical politics, in his usual frank, if brutal, manner, asks me, "Are *you* a traitor to the cause?" Gentlemen, I have not answered that letter, and I am willing to leave the question to the verdict of my peers. I stand to-day on the same platform as that on which I stood when I last had the honour of addressing you. I stand on the six cardinal points to which we have honourably pledged ourselves. It is on this basis that I take the chair to-day in order that I may make an appeal to you, for, as I said at first, I feel that a heavy responsibility is placed upon each individual member of our profession. The first of the six cardinal points deals with the £2 limit; I have made careful inquiries, and I know no one who has abandoned that point—we stand to the £2 limit. (Voice: "Or less.") Yes, or less. But there is in this district, at any rate, a very sharp division on the policy by which that limit can best be attained. Many of us think the proper course is by means of an attack by a united profession upon the Government; others prefer the method of a series of local fights between the local profession and the local Health Committee. Each of us is entitled to his opinion; I hold mine, and I think I am right. The future will show. But what I above all want to say is this: Whatever may be our individual opinions as to policy on matters of small detail, let us be united as a profession in all matters of principle and fight together the common enemy, for disunion to-day would be fatal. In the next fortnight, gentlemen, a heavy responsibility rests upon you individually; it is not the Council, it is not the officials of our Association, upon whom the responsibility rests, but upon each individual member. During the next fortnight it will be our duty to make every sacrifice in order that we may fully consider the details of the Government bill, that we may be able without fear or favour to record our individual vote in our Divisional meetings. I myself am driven to this conclusion: Under the bill as it now stands, the great bulk of professional work will be done by members of our profession under the direct control of the local Health Committees on which the insured will have a two-thirds majority—that is, the working classes, members of friendly societies, and others. If the bill becomes law in this form I can see no other end—I shall be glad if Mr. Smith Whittaker will show me differently this afternoon—than that the profession of medicine will be degraded and the interests of the profession and of the public will be seriously imperilled or impaired. I would therefore urge each individual present to-day to recognize his individual responsibility, and take his part in the Divisional meetings which must soon be held. I have now much pleasure in calling upon Mr. Smith Whittaker to address you. He is no stranger from London, but has practical knowledge of medical practice in these parts, and I am sure his address will contain matter of the deepest interest and importance.

Dr. WHITAKER described at length the negotiations that have taken place between the Chancellor of the Exchequer and the British Medical Association, and explained the various amendments of the bill which have been passed affecting the profession. He showed how the Council of the Association had attempted and was still attempting to carry out the resolutions of the Special and the Annual Representative Meetings, and expressed a hope that medical men would take no notice of press reports which implied that the representatives of the Association had agreed to modifications or compromises on any single decision of the Representative Body. At present the only possible course for the Council was to state to the Government in unmistakable words what the profession required, to obtain as far as possible amendments of the bill that would carry out those requirements, and to report to the forthcoming Representative Meeting[1] the replies of the Government. On the question of the income limit the policy of the Association was quite unaltered. It had not up to the present been found possible to get the £2 limit named in the bill itself, but the bill left the door open for enforcing the £2 limit throughout the whole country, and that could be done if the profession were united in its demand. The position with regard to the Harmsworth

[1] See SUPPLEMENT, November 4th, p. 425.

amendment was fully explained in the special report of the Council to the Divisions, which appeared in the Supplement to the British Medical Journal of November 4th, p. 425. Mr. Whitaker laid special stress on the fact that the profession would only be at the beginning of the struggle when the bill became law, and then, even more than at present, complete union in the profession would be absolutely necessary. At present they could only negotiate, but the time for practically carrying their resolutions into action, as distinct from negotiations, would be when the local Health Committees invited medical men to enter into agreements for giving medical attendance and treatment to insured persons, and he hoped that those who now talked most noisily would not fail when it came to action, as had sometimes been the case. The idea of leaving local Divisions to fight out their own battles with their own local Health Committees was not to be entertained for one moment. It would be possible, if the profession so decided, that the Council should draw up the general terms and conditions for the whole country in accordance with the decisions of the Representative Body, naming a maximum income limit, and it could be arranged that no agreements with local Health Committees should be signed anywhere until they were accepted everywhere. In that way every district would have the whole combined force of the profession and the Association to support it.

At the close of Mr. Whitaker's address a number of questions were asked and answered, and the following resolution was proposed by the Chairman, seconded by Dr. J. H. Taylor, and carried unanimously:

> That this meeting affirms its unwavering adherence to the declared policy of the British Medical Association (including the six cardinal points) in relation to the National Insurance Bill, declines to accept any amendment that would defeat the objects of that policy, and is resolved to refuse any arrangements for medical attendance and treatment which do not comply with that policy and afford adequate remuneration.

CORRESPONDENCE.

The Method of Payment.

Dr. James Kennedy (Birmingham) writes: As a "G.P." who rejoined the "B.M.A." at the birth of the Insurance Bill, I wish to say that a great number of general practitioners think that the British Medical Association should take a ballot of the profession as to which system they will consent to work under, namely, payment per attendance, or *per capita*, and take the verdict of the poll to Mr. Lloyd George.

This will squash any suspicion by the rank and file of a leaning towards the Government capitation system by the leaders of the Association acting for us in this matter, and give the profession the lead now required again since the big meetings last summer. Mr. Lloyd George would no doubt say that we should wreck his bill. Very well then, we reply, You did not consult the profession before you introduced it, and we therefore accept no responsibility for your mistakes, and decline the work you offer with thanks.

Another matter of very deep importance is soon coming. Many of us under the bill will totally lose valuable appointments, and I believe the State Sickness Insurance Committee would be failing in their duty to the rank and file (which I do not believe possible) if they fail to obtain a Government guarantee for compensation for the loss of works and public appointments (not clubs) which will be wiped out.

There is also the sale value of a practice before and *after* the bill to be reckoned in assessing compensation damages—hundreds of practices up and down the country must go to the wall under the present clauses of the Act.

On the question of dispensing, as a general practitioner I consider it should be optional in the bill, the doctor to receive the extra grant for the same should he feel inclined to continue it.

I am a little surprised, as are other men with whom I have talked, that our leaders have not made the two important points (from a rank and file view), namely, *compensation* and *dispensing*, planks in their interviews with the Chancellor. It is the knowledge (if we can have it) that such is so, that will make us as steady as a British infantry square *after* the Act passes.

Dr. Patrick McGinn (Newport, Mon.) writes: I have read with great interest the letter of Dr. H. F. Devis, and I agree with him that the six-point programme will mean nothing less than universal contract practice. His suggestion for a new referendum ought to be put before the Divisions and supported. Let us insist on payment per attendance and have done with this quibbling and begging from the Chancellor of the Exchequer. I hope that the medical profession will seriously consult its best interests and have another referendum on the *one point only*—payment per attendance or payment *per capita*.

Dr. J. P. Wightman (York) writes: I cordially agree with Dr. S. H. Shaw that all honorary secretaries of Branches should at once convene meetings at which delegates should be instructed about the manner of remuneration which the medical profession would be willing to accept.

That the pernicious payment by capitation fee should be absolutely vetoed, and that members should at these meetings pledge themselves only to act with the arrangement of payment per attendance. There is a widespread feeling amongst the public that the medical profession is satisfied and willing to act.

It is, therefore, a matter of both expediency and duty that it should be widely known that this is not so, and that in the future no stone may be cast at us because we refrained from stating our views until the "bargaining" time came.

Dr. R. Mills Hall (Enfield) writes: We are told that it is in the power of the Health Committee to arrange for payment for work done. But who is going to pay? Mr. Lloyd George told the representatives plainly at their meeting that it could not be done. What will happen when the bills are sent in and the Health Committees are told that there is not enough money to pay them?

A resolution was unanimously passed at a meeting of members at Finsbury Park asking that a referendum should be taken to find out who were in favour of payment for work done or otherwise. Has this been done? I sincerely trust that members of the Association will be hoodwinked no longer. We are now at a serious crisis. We are all going to have contract practice (at absurdly low fees) or we are going to get a living wage.

If Mr. Lloyd George says, with reference to payment for work done, that it cannot be entertained, then let us be done with the bill altogether. Ten shillings a head will not make it worth while, let alone the lower figures mentioned.

We have now only a few weeks in front of us to end or mend this bill. Mr. Lloyd George can always scrape a million or two together when he wants it. Let him now do so and pay us a living wage—namely, payment for work done. If not, let us refuse to have anything further to do with a bill which is not of our seeking. If the Chancellor wants to do a good turn to the poor, let him make a start with the poor doctor and not at our expense.

Dr. James March (Atherton, near Manchester) writes: Week after week one has read letters in the Journal from members who give reasons why the Insurance Bill is impossible for us. Week after week the contract system is decried and held up (deservedly) to contumely. In vain does one look for any single argument in favour of the bill. Yet we stick religiously to our six articles of faith which embrace contract work, and we say that if we cannot have these we shall strike. But why wait?

We know the bill cannot be worked without our help. We are told that we hold the monopoly of a commodity. Why do we not demand our own price for that commodity? Since our articles of faith were first suggested much water has flowed under the bridge. Our suggestions have been refused, and the Chancellor has insulted the whole of the profession and flouted our representatives.

Why not withdraw our present demands and send an ultimatum to the effect that we will not work under the contract system at any price?

We need have no fear of public opinion (the public are laughing at us now), as the public does not want the bill. Could not the Association take a referendum of its

members (answers to be made by return of post, as time is valuable), the plain, unvarnished question being: "Are you in favour of contract practice under the bill or not?"

I (with tears in my voice, *à la* Lloyd George) am "prepared to stand or fall" with the majority.

Dr. D. V. Haig (Darlington) writes: I wish to endorse the letter from Dr. H. F. Devis in last week's issue. It is perfectly obvious that the Chancellor of the Exchequer intends that under the State insurance scheme medical attendance is to be paid for on the "contract" system. I quite agree with Dr. Devis that it is a mere quibble to say that by the six-point policy payment per attendance can be obtained in localities where the practitioners prefer it. Unless we take a much firmer and more definite stand we shall all be forced into a general acceptance of a vast State club system.

This Division in June unanimously passed and sent up a resolution urging the Council to take a referendum of the whole profession on this point. I wish to add my voice to plead with Dr. Devis for a referendum at once, before it is too late, so that our Representatives may be sent this clear message:

"We absolutely refuse to take any work which involves the acceptance of 'contract' terms of payment."

I am perfectly sure that a referendum would show that the great majority of practitioners would endorse this.

Dr. A. W. S. Curties and T. W. Tetley (Burwash, Sussex) write: We, two members of the British Medical Association, would like to give expression to our views upon the bill, and which we know are shared by hundreds of our professional brethren. We feel very strongly that the Association have made a grave tactical error in accepting the principle of payment *per capita*. Surely it has always been the endeavour of the Association to raise the status of the profession and to abolish the abuses of contract practice. We believe that the bill could only be made workable and acceptable to the profession by a system of payment for work done only. Surely if Mr. George admits he is unable to raise the money for the payment for services rendered, it is tantamount to admitting that he is sweating the profession; and why should we be sweated at the bidding of Mr. Lloyd George? We feel convinced that it is not too late even now for the profession to say honestly, "We will have none of it" unless paid for work done.

*** We may direct our correspondents' attention to the following words in the paragraph in the report of Council to Divisions, headed "Present Position of Clauses in Bill which Specially Affect Profession," on page 426 of the Supplement of November 4th:

> The questions of method and amount of remuneration are still left open, as desired by the profession, and there is no reason to anticipate the adoption of amendments of a hostile character upon these two points.

The Association has not accepted the principle of payment *per capita*. There is, perhaps, a little confusion on the point, because the bill provides:

> (6) There shall in each year be paid to the local Health Committee for each county or county borough, out of moneys credited to a society which has members resident in the county or county borough, such sum in respect of the medical benefit for every such member as, in default of agreement, may be determined by the Insurance Commissioners.

That is to say, the moneys paid *to* the Health Committee will be at the capitation rate, but it does not necessarily follow that payments made *by* it shall be *per capita*.

Dispensing under the Insurance Bill.

Dr. W. J. writes: I think the retention of dispensing optional, or otherwise, ought to be made a seventh item in the national programme. I know that many profess their indifference to it, or have an idea that it savours of trade to dispense, but the profession places itself at a great disadvantage by giving up dispensing. Let the chemists keep the preparation and compounding of medicines, by all means, but general practitioners should retain the actual dispensing and should do it themselves. One can make up a bottle whilst writing a prescription. One might as well prescribe a hypodermic injection or send a prescription for an operation to be done by the instrument maker. Again, prescribers lose familiarity with drugs, as can be frequently seen from the prescriptions of consultants. The inconvenience and waste of time to the patient and friends is very great when after getting a prescription, they have a further journey and another wait before getting the medicine prescribed. Whatever may be done in Scotland and abroad, the English system seems the best both for patient and doctor. What would be a great and real relief would be to do away with the time wasted in keeping books and accounts.

Dr. John Simpson (Belfast) writes: I am glad to see that Dr. R. M. Russell has raised the question of dispensing under the Insurance Bill. I believe that after the absolute wage limit it is the most important matter for the profession propounded in the bill. Dr. Russell gives one very cogent reason for not writing prescriptions, and I must say the abuse is much more extensive than he mentions, as they are often given outside the family to friends and acquaintances. I know, also, that many people prefer the doctor to make up his own medicine. I think that the profession should insist that this question should be left optional with every practitioner to compound his own medicines if he wishes to do so.

Dr. D. Fenton (Witton, Blackburn) writes: Unless the medical profession safeguards itself, there is undoubtedly great risk that its members will lose considerably by the giving of prescriptions. I would suggest that, under the rules and regulations which will be drawn up for the working of the Insurance Bill when it becomes law, a chemist found guilty of dispensing a prescription for any person other than the one for whom it was written should be liable to be struck off the panel. It should also be made an offence for a chemist to "repeat" a prescription without the authority of the medical man who wrote it.

Dr. Ernest C. Hadley (Birmingham) writes: Few medical men are fond of dispensing, neither is it, strictly speaking, their work; nevertheless, I think that the only conditions upon which the medical profession should allow the dispensing of medicines to be taken out of their hands under the National Insurance Bill are:

1. That pharmacists are penalized for unqualified practice—for example, counter prescribing; the unskilful or any tinkering with surgical wounds, beyond first aid, in case of emergency only; and the giving of any sort of advice or treatment for symptoms which patients in their ignorance are apt to describe to them upon entering their shops, etc.
2. That those pharmacists who undertake dispensing under the National Insurance Bill shall be prohibited from selling any patent medicines (this to include any proprietary medicine which does not bear legibly printed upon its label its *exact* composition), or abortifacients of any sort which are now asked for over the counter and openly sold as "Female Pills," "Diachylon," etc.
3. That the pharmacists under the bill shall not be allowed to repeat any prescription without a written order from the patient's medical attendant instructing him to do so.

Dispensing: Panels in Adjoining Districts.

Rusticus writes: In case the Insurance Bill passes in its present form (1) as regards the prohibition of dispensing by medical men, what provision is to be made for practitioners and their patients who live some miles away from the usual country-town chemist? (2) Also, is the non-resident medical man—say, from a town—to put his name down on the list for any country district he may fancy he would like some patients in?

*** (1) The paragraph of Clause 14, as amended, which affects the first point, is as follows:

> (i) If the Insurance Commissioners are satisfied that the scale of prices fixed by the Committee is reasonable, but that the persons, firms, or bodies corporate included in any list are not such as to secure an adequate and convenient supply of drugs, medicines, and appliances in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area and authorize the committeee to make such other arrangements as the Commissioners may approve:
>
> (ii) The regulations shall prohibit an arrangement being made with a medical practitioner under which he is bound or agrees to provide drugs or medicine for any insured person without the consent of the Insurance Commissioners, which consent they shall not give unless the circumstances of any locality are such as to make it expedient to do so:
>
> (iii) Subject to the foregoing provision as to dispensing by a medical practitioner, the regulations shall prohibit arrangements for the supply of drugs and medicines being made with persons other than persons, firms, or bodies corporate entitled to carry on the business of a chemist and druggist under the provisions of the Poisons and Pharmacy Act, 1908, who undertake that all medicines supplied by them to insured persons shall be dispensed either by a registered pharmacist or by a person, who, for three years immediately prior to the passing of this Act, has acted as a dispenser to a duly qualified medical practitioner or a public institution.

The provision giving the Insurance Commissioners power to approve of dispensing by medical practitioners is, no doubt, designed to meet the circumstances of such localities as those indicated by our correspondent.

(2) Clause 14 lays down that the local Health Committee must adopt a system to secure *inter alia*:

(*a*) The preparation and publication of lists of medical practitioners who have agreed to attend and treat insured persons whose medical benefit is administered by the committee within the area to which the list relates.

(*b*) A right on the part of any duly qualified medical practitioner who is desirous of being included in any such list as aforesaid of being so included. . . .

Nowhere else in the bill, so far as we can see, is there anything to restrict the medical panel of a district to the medical practitioners residing within it. This would be a subject to be dealt with by the Regulations to be made under the bill, as it is unlikely that a medical man would wish to travel more than a certain distance for the amount of remuneration locally agreed upon: it is improbable that a medical man at any great distance would wish to be upon the panel of another district. At the same time, it might be found convenient and proper to put the names of medical men residing near the boundary of two districts upon the panels of both.

The Sick Doctor.

Dr. J. Hunter P. Paton (St. Andrews) writes: May I draw the attention of the Association to a point which, so far as I know, has not been considered in connexion with the Insurance Bill?

No provision is made for the case of injury, sickness, or death of the medical man who may accept duty under the bill. During total disablement he must provide a locumtenent at a salary of £4 4s. per week and his board. Putting the latter at £2 2s. (not an extravagant estimate), the expenditure would be at the rate of £327 12s. per annum. To meet this expenditure 1,638 contributors at 4s. would be necessary. Other expenses, such as house rent, carriages, horses, etc., would still have to be met, and in addition the sick man would have to live.

It seems to me that this matter is one of vital importance, and could hardly be opposed in debate by the party in charge of the bill, who hold that every man is entitled to a living wage in health or in sickness.

A Minister of Public Health.

Dr. F. G. Bushnell, the Representative of the Brighton Division of the British Medical Association, has drawn up a memorandum entitled, "The Lesson of the National Insurance Bill," in the course of which he makes the following observations with regard to the need for a Minister of Public Health:

The National Insurance Bill teaches both the public and the medical profession a practical lesson, for it illustrates at once the strength of our present position and our weakness. The bill would, of course, be non-existent if it were not for the long labours and bitter experience of our profession in the past; and its success in principle is really assured from the value attached to our services by the public. In its vitally medical details it fails so far utterly and in all ways, as it was presented to the Special Representative Meeting of the British Medical Association. This meeting, which reflects and voices more truly than ever the views and hopes and ambitions of the profession, saw at once that a crisis had arisen. Not only was it seen that professional prospects and financial security were at stake, but it was obvious that there was a lack of any true scheme of medical organization, especially as to treatment, in its details, that was nothing short of astounding to our minds. We were all cordially and unitedly in favour of the principles, we all wanted to help and strengthen the bill, but we all as unitedly disapproved of its medical details so far, indeed, as we could discern them. The question at once arises, "How is it possible for a Medical Bill (for what else is insurance against sickness) to be so crudely presented?" Again, "How is it that a bill, which had the approval of the Cabinet, can be universally disapproved of in essential details by those through whose agency it must ultimately be carried into effect?"

The British Medical Association could prepare, and is in part preparing, a scheme of domiciliary and institutional medical and surgical treatment on a national scale which would remedy the deficiencies that now exist, and would supply the wants that the bill is designed for. The Association can discriminate between what is admittedly public health in the accepted sense of the term and what is insurance against sickness in the functions of its proposed committees, and it could co-ordinate the whole in the hands of a representative National Health or Medical Department. At present there is a complication both of functions and finance in the insurance against sickness and public health aspects of the scheme. In fact, the Special Representative Meeting and the Brighton Division of the British Medical Association recommended such a National Medical Department.

We recognize the splendid and whole-hearted manner in which the author of the bill is learning his subject by personal interview with those whom it concerns, but the time has arrived when it should be impossible for any Minister of State in charge of such a bill to make eloquent and impassioned speeches on the national health, and to be ignorant of the practice and experience on which it depends. Such a bill should be brought forward by a person trained in our profession and with Ministerial and Cabinet status. How then is it that such a bill was not presented to Parliament by a doctor? Emphatically it is not because we were unready or unable or unwilling to define our views and give expert advice before the bill was launched on the country, but simply because it was not thought worth the Government's while to consult us! At numerous representative medical meetings and international congresses in England, in the Dominions, and abroad, the creation of Ministers of Public Health of high and expert status has been advised in order that they may organize the work of the national health in all its branches; and this development has the full approval and support of the British Medical Association and similar great medical associations and bodies of medical men in other countries. This is a fact, and is not so well realized as it ought to be on all sides. It has been said that we as a profession are incapable of evolving a leader with the necessary qualities for broad medical statesmanship. What evidence is there of this? None at all. A medical bureaucrat as Minister has been conjured up, but he may be dismissed from our vision as a fantasy. The names of those of our profession who have distinguished themselves in public work are such as to give confidence at once that they have the national welfare deeply at heart, while not being afraid to defend their own fair treatment and proper interest . . . .

In this country only does it appear to be thought that a scientific training denudes a man of general capability and statesmanship! It is certain that events are moving steadily to a common-sense view that such anachronisms must cease; and this bill will be a valuable stimulus to progress on the right lines. What a vista the appointment of such an expert Minister, with a portfolio of Public Health, opens up? Who could deal more capably with the heartless and pauperizing mass of quackery that preys on the public than an Imperial Minister of Public Health? Who could better regulate in accordance with the views of the medical profession the ever-increasing number of public medical appointments, correcting the undue value of social, political, or financial influence therein, raising the status of professional qualifications and avoiding the menace of political jobbery? Imagine the medical bureaucrats that might be appointed as Insurance Commissioners, as medical inspectors, etc., hide-bound and unsympathetic, if political influence is allowed free play!

There is a vast field of work in the future for such a medical administrator, who would play a part in home, imperial, and international progress of the most practical utility to the humblest and the highest in the community, and such an administration should be in the name of reason in the hands of a member of our profession, and his appointment should be pressed for by the Association. In the Second Chamber also there is a great need for active medical members. . . .

HOSPITALS.

At a meeting of the British Hospitals Association, held at St. George's Hospital, London, on November 2nd, the following resolution was adopted and is being forwarded to the boards of managers of hospitals, with a request that, if the resolution be approved, the boards would send a copy to all members of Parliament in their district:

> That the British Hospitals Association again affirms its unanimous opinion that the National Insurance Bill is incomplete unless it provides for the hospital treatment which insured persons must have if their medical needs are to be covered by the bill.

IRELAND.

Irish Women's Committee.

The Irish Women's Committee for the consideration of the National State Insurance Bill has drawn up a series of proposed amendments, and has forwarded a list of them to each of the Irish members of Parliament. The following suggestions contained in the list are of interest to the medical profession:

1. That at least one nurse shall be included on each Advisory Committee and local Health Committee.
2. That on the panel of doctors lady doctors should be included.
3. That in regard to nurses, that in respect of sickness or disablement, whether accidental or constitutional, which may be received or contracted during temporary or permanent employment in any hospital, infirmary, asylum, or sanatorium, nurses shall be continued as free inmates of such hospitals or other institutions, during the necessary treatment, and receive the usual benefit money per week.

Superannuation of Existing Poor Law Medical Officers.

The following clause has been drafted by representatives of the Irish Medical Association for insertion, if accepted, in the Insurance Bill. It is intended to safeguard the

interests of those dispensary medical officers who might be compelled to resign their posts owing to their inability to perform the extra work thrown upon them if the bill should become law:

Every existing Poor Law medical officer who has over twenty-five years' service irrespective of age, and is certified as being unable to undertake or continue to do the extra work imposed upon him by this Act, shall be entitled to retire on a superannuation allowance based upon his salary and emoluments on the scale adopted in His Majesty's Civil Service.

SCOTTISH AMENDMENTS.

Deputation to Secretary for Scotland.

A deputation consisting of representatives from the County Councils Association of Scotland, the Convention of Royal Burghs, and the cities of Glasgow, Edinburgh, Aberdeen, and Dundee, and the burgh of Partick had an interview with Lord Pentland at the Scottish office on November 1st. The proceedings were private, but a statement was issued to the press to the following effect:

Amongst the points which the deputation brought to the notice of the Secretary for Scotland was the constitution of the Health Committees, on which it was urged that the local authorities should obtain a majority of the membership as the committee would have certain powers to call upon the rates. It was also urged that power should be given to form the smaller committees into combinations. The deputation desired that Scotland should be excluded from the operation of the terms of the clause as to excessive sickness, as they thought that the existing local health machinery in Scotland could be more conveniently adapted to meet the ends which the clause had in view. The deputation proposed that their amendments should be made on the Scottish clause.

The deputation, it was added, found that the Scottish Office and the Scottish Local Government Board were in the main in sympathy with their views, but Lord Pentland said that necessarily they had to act in conjunction with the Chancellor of the Exchequer, who had not yet come to close quarters with the questions with which the deputation were dealing. When the time came the Scottish Office would be ready to bring their views forward, as they had indeed already done in part. The Scottish Office indicated that in so far as they had any definite views on the matter they were practically in agreement with those of the deputation.

The deputation were very much encouraged by the reception which the Scottish Office gave their proposals, and hoped the result would be favourable to their wishes. They regarded Scotland to be in a special position in health matters, which very largely affected the insurance question. In Scotland there was a very complete system of public health authorities up to the Local Government Board which could very easily fit into the scheme and more effectively attain the end in view than by the provisions of the bill, which, without their amendments, they thought objectionable.

Meetings of Branches and Divisions.

EAST ANGLIAN BRANCH.

General Meeting.

The general meeting of this Branch was held on October 26th.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Draft Ethical Rules.—The draft rules governing ethical procedure were considered and approved, with the exception of one or two clerical errors.

Paper.—Dr. Penry Rowland (Colchester) read a paper on some evils of the classification of disease. The paper was discussed by the President (Dr. Burton-Fanning) and Dr. Young, and Dr. Rowland replied.

Autumn Meeting.

The autumn meeting of the Branch was held at Braintree on Thursday, October 26th.

Election of Officers.—The following gentlemen were elected members by the Council: R. W. Chalmers, M.B., Norwich; J. K. Howlett, L.R.C.P. and S., East Dereham; J. P. Middleton, M.D., Stalham; S. Slade, M.R.C.S., Nayland; D. Thomson, L.R.C.S. and P., Gorleston. The following were elected to form the Ethical Committee for 1911–12: The President of the Branch, Dr. Burton-Fanning; the General Secretary of the Branch, Dr. B. H. Nicholson; Dr. Barnes, Dr. Brogden, Mr. Ballance, Dr. Cardy Bluck, Dr. Caie, Dr. Gutch, Dr. Mayo, Dr. Tyson, Dr. Thomas, Dr. Thomson, Dr. Young, Dr. Hinnell.

Place of Spring Meeting.—It was agreed to hold the spring meeting at East Dereham.

South-Eastern Essex Division.

The annual general meeting was held on October 24th, at the Palace Hotel, Southend-on-Sea. In the unavoidable absence of the Chairman (Dr. Budger), the chair was taken by Dr. Victor Hodgson.

Election of Officers.—The following were duly elected as officers for the coming year: *Chairman*, Dr. J. B. Maxwell; *Vice-Chairman*, Dr. A. C. Lewis; *Honorary Secretary*, Dr. J. F. Walker; *Representatives on Branch Council*, Drs. Poole and J. F. Walker; *Committee*, Drs. Adams, Bridger, Silva Jones, Marsh, and Wragg.

Annual Dinner.—The annual dinner was held immediately after the meeting, and was attended by thirty-four members and friends.

LANCASHIRE AND CHESHIRE BRANCH:

Preston, Blackpool, Lancaster, and Blackburn Divisions.

On Thursday, November 2nd, a meeting of the Preston Division, combined with the Blackpool, Lancaster, and Blackburn Divisions, was held at Preston.

National Insurance Bill.—Dr. Cox, Deputy Medical Secretary, in the unavoidable absence of Mr. Smith Whitaker, addressed the meeting on the present position of the medical portion of the National Insurance Bill. He was heard by almost 200 members of the profession with great interest, after which Dr. T. W. H. Garstang, one of the Representatives of the Lancashire and Cheshire Branch, shortly addressed the meeting, and Dr. Cox replied to considerably over forty questions.

Vote of Thanks.—On the motion of Dr. A. P. Mooney seconded by Dr. W. H. Irvin Sellars, Dr. Cox was very cordially thanked for his able address and for the thorough manner in which he answered the numerous questions. In his reply to this vote of thanks, Dr. Cox warned the Divisions that their fight was only just beginning, and that it depended very largely on themselves and their *esprit de corps* what terms were ultimately arranged. He concluded by making an urgent call for every member of the profession to join the British Medical Association—the only representative body it had.

NORTHERN COUNTIES OF SCOTLAND BRANCH.

A meeting of this Branch was held at Nairn on Saturday, October 21st, Dr. Sellar (Aberlour) in the chair. The following members were present: Drs. Duguid (Buckie), Cruickshank (Nairn), Cameron (Nairn), J. W. Mackenzie (Inverness), Johns (Nairn), Sutter (Nairn), Wilson (Nairn), MacFadyen, jun. (Inverness), Bruce (Dingwall), Lindsay (Ardersier), F. M. Mackenzie (Inverness), Lee (Nairn), Stephen (Elgin), Adam (Dingwall), H. S. MacDonald (Inverness), and Munro Moir (Inverness).

Apologies for Non-attendance.—Apologies were received from Drs. Kaye (Strathpeffer), Pender Smith (Dingwall), Duncan (Strathpeffer), Miller (Fort William), etc.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

National Insurance Bill.—Dr. Burdie Cruickshank (Representative at Representative Meetings) gave an account of the meeting in Birmingham, with special reference to the National Insurance Bill, and, after some discussion, it was resolved again to express adherence to the resolution embodying the six points adopted by the Special Representative Meeting in May last.

Central and Local Defence Fund.—It was resolved to circularize all medical men in the area of the Branch, non-members of the Association as well as members, urging them to subscribe to either the Central or Local Defence Fund.

Paper.—Dr. Bruce (Dingwall) read a paper on Fracture through the Lower Epiphyses of the Humerus and its Treatment.

OXFORD AND READING BRANCH.

Oxford Division.

A general meeting of this Division took place on October 27th, at 3.15 p.m., in the Radcliffe Infirmary, Oxford. Mr. M. Style (Moreton-in-Marsh) presided as Chairman, and fifty members were present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Guarantee Fund.—Mr. Drew proposed:

That a subcommittee be appointed to consider the method of administrating the local guarantee fund, and to report back to a special general meeting.

This was seconded by Dr. Caudwell, and passed *nemine contradicente.* The following seven members were elected to serve on this committee, with power to add to their number: Mr. Winkfield, Dr. Collin, Mr. Drew, Mr. Style, Dr. Duigan, Dr. Turrell, and Dr. Caudwell.

National Insurance Bill.—The following resolution was proposed by Dr. Turrell, seconded by Dr. Collin, and carried *nemine contradicente:*

That this meeting of the Oxford Division, having regard to Mr. Lloyd George's speech of October 21st, wishes to draw attention to the danger of the medical profession being inadequately represented on the Public Health Committees; and strongly urges the importance of not allowing the control of these committees to pass into the hands of the insured members.

The Secretary was instructed to send a copy of this resolution up to the Insurance Committee of the British Medical Association.

Home Treatment of Milk.—Dr. Collin read a short paper on the home treatment of milk. His main contention was that boiling or pasteurizing milk was unnecessary if strict cleanliness could be insisted on in milking, and also in dairies and in retailing the milk. Tuberculosis could be prevented by the test-inoculation of cows. The objections to boiling milk were: (1) The expense and trouble; (2) the alteration in taste; (3) its constipating properties; (4) its lessening in nutritional value; (5) its tendency to cause scurvy, as demonstrated in America. These objections did not hold in pasteurized milk, but the process was one requiring care and skill in technique. Dr. Collin quoted reports and figures to show that the dangers of transmitting scarlet fever, typhoid, and diphtheria by unboiled milk were very small. He advocated the use of unboiled milk, except in times of epidemic and in hot summer weather. In the discussion which followed, Mr. Whitelocke said he preferred to hand by the recommendation of the 1900 Commission to boil all milk for domestic use, and considered that the addition of barley water to boiled milk made it a very suitable food for infants. Dr. Turrell spoke of the opposition to Mr. Burns's projected Milk Bill, and advocated the adoption of the Sunderland scheme, which provided dairies with certificates from a municipal milk committee. Dr. Duigan drew attention to the dangers of fresh milk supplied in the usual insanitary way during hot weather, and thought the use of the better brands of condensed milk (cream-containing) would be preferable. Dr. O'Kelly drew a lurid picture of insanitary cowhouses. Dr. Morton said a distinction should be made between fresh milk and boiled milk, the latter being dead tissue and therefore more apt to undergo putrefactive changes in the intestines.

Injuries of Knee-joint.—Mr. Whitelocke read a paper on injuries of and about the knee-joint. He dealt with wounds, contusions, and strains, special fractures, etc., of the patella, and avulsion of the tubercle of the tibia, and also with rupture of the extensor apparatus and dislocation of the internal semilunar cartilage. The chief lines of treatment he advocated included rest, with elastic pressure, early voluntary movements, and massage. Passive movements in an early stage of injury he deprecated, as leading to pain and increased thickening of the injured structures. For transverse fracture of the patella he used catgut, which retained the fragments in accurate apposition and got good bony union. Mr. Bevers criticized the use of catgut, and preferred wiring. He also drew attention to the difficulties in diagnosing dislocation of semilunar cartilage, the unsatisfactory after-history of cases after operation, 20 per cent. having recurrence, and 50 per cent. suffering from pain and disability. Mr. Whitelocke, in reply, said he had had none of these recurrences in his cases after operation. The chief diagnostic points of loose cartilage were sudden pain and slight locking of the joint in young subjects.

Ionic Medication in General Practice.—Dr. Turrell gave an account of the method of ionic medication in cases to be met with in general practice. He briefly explained the theory and technique, and recorded the results of a series of cases he had had under this treatment. These included cases of localized rheumatism, gout, rheumatoid arthritis, facial neuralgia, hepatic neuralgia, lumbago, strains, etc. Cases of advanced or deep-seated arthritic disease required prolonged treatment; others, where the lesion was recent or more superficial, gave the most striking and immediate results. He advocated large leaden plate terminals, which could be moulded round the affected part, with several layers of towelling, steeped in the solution which was being used, placed round the part beneath the lead. This was connected up with a pantostat, and a current of from 20 to 80 milliampères was used. The most useful solutions were those of 2 per cent. sodium salicylate and 2 per cent. sodium chloride, the sclerolytic effect of the latter being specially useful. He finally demonstrated the apparatus on a patient with rheumatoid arthritis of knee-joint.

SOUTH-EASTERN BRANCH:

Guildford Division.

A meeting of this Division was held at the Royal Surrey County Hospital on Friday, October 13th. Dr. Kingsford presided, and twenty-three members and three visitors were present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Bradford Rules.—Dr. Hope Walker gave notice that at the next meeting he would propose a resolution adopting the Bradford Rules and Rule "Z" for procedure in ethical cases for this Division.

Annual Meeting of Branch.—A resolution was then proposed, seconded, and carried unanimously inviting the South-Eastern Branch to hold the annual meeting of the Branch in 1913 at Guildford.

Local Defence Fund.—Dr. Pearse proposed and Dr. Leathes seconded that a local defence fund for the Guildford Division be formed, and this was carried unanimously It was then proposed that a committee be appointed to manage the defence fund and to consider rules for its distribution and use, and report to the next general meeting. This committee was later chosen to consist of the Chairman, the Secretary, and two others, with power to add to their number.

National Insurance Bill.—Dr. Mitchell then introduced the question of the provision of medical attendance in the event of the profession having to refuse to work under the bill if and when it should become law, and he thought there should be some scheme formulated under which the medical treatment of the classes affected could be satisfactorily arranged; he therefore proposed that:

A committee to consider and formulate a scheme for the provision of medical treatment (in case the profession had to refuse work under the proposed bill) be appointed; that we should lay down a reference for this committee to deal with and report on; and that the committee should include Drs. Kingsford and Lankester.

Dr. Leathes seconded this, and it was carried unanimously. The following additional members were then elected: Drs. Mitchell, Bond, Pearce and Pain.

Fees under Midwives Act.—The subject of fees under the Midwives Act was then discussed, and the Secretary read a letter from the Guildford Board of Guardians offering a uniform fee of one guinea for all attendance on a summons by a midwife to a case of urgency under this Act. Dr. Mitchell proposed and Dr. Bird seconded that:

We adhere to our former resolution of December 2nd, 1910, and consider the fee offered by the Guardians of the Guildford Union in their circular letter of September, 1911, quite inadequate. Further, we must reserve to ourselves the right to refuse, if we think fit, to attend cases when summoned by midwives under the Act of 1902.

Reigate Division.

The autumn meeting of this Division was held at the White Hart Hotel on Thursday, November 2nd, at 8.30 p.m. Twenty members were present, including Dr. Owen Fowler of Croydon.

Election of Chairman.—Dr. Hewetson was unanimously elected Chairman in the place of the late Dr. Rawlings.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

The late Dr. Rawlings.—A letter from the Honorary Secretary on behalf of the Division to Miss Rawlings was

read, expressing the grief of the members at their loss and their sympathy with his family, and informing her of the resolution passed at the last meeting, and that the Division would be represented at the funeral. A letter from Miss Rawlings in reply was read, conveying the thanks of the family to the Division.

Annual Representative Meeting.—Dr. PALMER delivered his report on the annual meeting at Birmingham, and Dr. HEWETSON proposed a vote of thanks to Dr. Palmer for acting as the Representative of the Division, and for giving so able an account of the Representative Meeting. This was seconded by Dr. BLAKENEY and carried unanimously.

National Insurance Bill.—The HONORARY SECRETARY gave a report on the present position of the National Insurance Bill, which led to an animated discussion, and the following resolutions were eventually carried *nemine contradicente:*

1. That this meeting of the medical profession in Reigate reasserts the six principles formulated by the Special Representative Meetings of May 31st and June 1st. It strongly disapproves of any compromise which does not fully carry out the policy expressed therein.
2. That the maximum £2 wage limit should be specified in the bill, or such less sum as may be agreed upon by the local Health Committee and the local Medical Committee.
3. That the Reigate Division urges upon the Council the necessity of formulating the minimum claims and requirements of the Association with regard to the working of the National Insurance Bill, and of declaring definitely that unless these claims and requirements are conceded the members of the Association will decline to accept service under the bill.
4. That a copy of the above resolutions be sent to the Council of the Association.

The Ethical Rules.—The Bradford Rules and Rule Z were, after discussion, unanimously accepted, pending the adoption of the new ethical rules formulated by the Central Ethical Committee, a draft of which was distributed to the members for comments, criticisms, and suggestions.

Proposed Royal Commission on Quackery.—A pamphlet by Mr. Henry Sewill entitled, "Quackery," was put before the meeting, and after discussion the following resolution was unanimously adopted:

> That the attention of the Division having been drawn to Mr. Sewill's able pamphlet on Quackery, it wishes to direct the notice of honorary secretaries of the Divisions in the South-Eastern Branch to the pamphlet, and requests that they will do their utmost to further the object, namely, the appointment of a Royal Commission.

Vote of Thanks to Chairman.—The meeting terminated with a cordial vote of thanks to the Chairman.

SOUTHERN BRANCH:

PORTSMOUTH DIVISION.

A CLINICAL meeting was held on October 18th. Dr. SHEAHAN, Chairman, presided, and twenty-one members were present.

Clinical Cases.—Dr. BEVERLEY BIRD showed a case of traumatic myositis ossificans in the neighbourhood of the elbow-joint, with *x*-ray plate. Dr. LEON showed a case of extensive venous thrombosis in the neck in a syphilitic subject with high blood pressure. Mr. RIDOUT showed a case of hernia cerebri into the meatus of a child, following on an operation for intracranial suppuration. Mr. CHILDE showed a case in which acute cholecystitis had occurred in a girl aged 13, and in whom nine gall stones were removed.

Caesarean Section.—Mr. CHILDE read an account of six cases of Caesarean section, and discussed the indications for its performance.

Specimens. — Dr. KIRKNESS showed a specimen of anencephalic monster associated with spina bifida.

SOUTH-WESTERN BRANCH:

WEST CORNWALL DIVISION.

MEETINGS of the above Division were held at Redruth Hospital on October 17th, and at St. Austell on October 19th, at which twenty-seven medical men were present. Dr. J. W. Haughton, Chairman, and the Honorary Secretary were present at both meetings.

Draft Ethical Rules.—The report of the subcommittee appointed in September, 1910, to consider draft Ethical Rules was considered. The meeting unanimously decided to adopt the "Model Ethical Rules" to the end of Rule 7 (with the exception of the lines, "or if in the opinion. . . Committee" (lines 11–14), in Rule 7.

Executive Committee.—The following members were elected as an Executive Committee, which shall also act as an Ethical Committee and a committee for management of the Local Defence Fund: Drs. Symons (Penzance), Edwards (Penzance), F. Hichens (Redruth), Permewan (Redruth), Haughton (Falmouth), Chown (Townshend), Gilchrist (St. Austell), Goldie (Tywardreath), Whitworth (St. Agnes), Shaw (St. Austell), Sharp (Truro), Taylor (Helston).

Local Defence Fund.—The question of rules for management of the Local Defence Fund was discussed, and the Executive Committee was instructed to draw up rules for consideration at the next meeting. The HONORARY SECRETARY reported that he had sent cards and stamped addressed envelopes to all medical men in the Division, asking (1) the amount of their guarantee to the Central and Local Defence Fund; and (2) the nature of their reply to the Oddfellows circular. Of 99 men in practice, only 69 had troubled to return the information asked for.

National Insurance Bill.—The following resolution, brought forward by Dr. WHITGREAVE, was passed at both meetings:

> That in the opinion of the medical practitioners present, Clause 14, §§ 2, prohibiting doctors from supplying medicine, should be deleted from the bill.

Association Notices.

SPECIAL REPRESENTATIVE MEETING.

Notice is hereby given that a Special Representative Meeting of the Association will be held in London on one or other of the following alternative dates, namely, Tuesday, November 21st; Thursday, November 23rd; Tuesday, November 28th; Thursday, November 30th; Tuesday, December 5th; Thursday, December 7th; Tuesday, December 12th; or Thursday, December 14th, 1911, at 10 o'clock in the forenoon, for the purpose of receiving and considering a Report prepared by the Council of the Association, in accordance with Minute 200 of the Annual Representative Meeting, held at Birmingham on July 21st, 1911, and following days, and for the purpose of passing resolutions arising therefrom or in reference thereto.

Minute 200 of the Annual Representative Meeting, 1911, referred to in the foregoing Notice, is as follows:

> *Minute 200.*—Resolved: That the Council be instructed, immediately upon completion of the Committee stage of the Insurance Bill, to issue to the Divisions a Report on the position of the profession under the Bill as amended, and to convene as soon thereafter as practicable a Special Representative Meeting to consider the matter.

BY ORDER OF THE CHAIRMAN OF REPRESENTATIVE MEETINGS,

GUY ELLISTON,
Financial Secretary and Business Manager.

J. SMITH WHITAKER,
Medical Secretary.

November 1st, 1911.

NOTE.—The necessity for mentioning alternative dates in the above form of notice arises from the fact that the Special Representative Meeting must, in order to fulfil the

objects for which it is convened, be held after the completion of the Committee stage of the consideration of the Insurance Bill in the House of Commons, and before the commencement of the Report stage, a date which cannot be definitely foretold. On the other hand it is necessary, under the By-laws of the Association, that the notice of the meeting should have appeared in the Journal at least fourteen days before the date on which it is held.

The Council regrets the inconvenience to which the members of the Representative Meeting may thus be put, but which is found in the present circumstances to be unavoidable.

(Signed) Ewen J. Maclean,
Chairman of Representative Meetings.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A list of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

Border Counties Branch.—The autumn meeting of this Branch will be held at Whitehaven on Friday, November 17th. Members who wish to read papers, show specimens, etc., at this meeting are requested to communicate with the Secretary. Full details will be issued shortly.—George R. Livingston, Honorary Secretary.

Lancashire and Cheshire Branch.—A meeting of the Branch Council will be held on Wednesday, November 15th, at 4.30 p.m., at Onward Buildings, Deansgate, Manchester.—F. Charles Larkin, Branch Secretary, Liverpool.

Metropolitan Counties Branch: Kensington Division.—The first meeting of the session will be held at the Kensington Town Hall, on Tuesday, November 14th, at 4 p.m. Mr. Smith Whitaker, the Medical Secretary, will address the meeting on the National Insurance Bill. Agenda: (1) Minutes of the previous meeting. (2) Report of the School Children Committee as to the negotiations which are being carried on with the London County Council. (3) The Chairman will make a statement as to an ethical matter affecting the Division. (4) National Insurance Bill. Steps will be proposed by which the Division may be more fully organized to meet any situation that may arise. Any member who is willing to assist in canvassing those members of the profession who have not already given their adhesion to the Association's programme are requested to communicate with one of the undersigned immediately. It is of the greatest importance that the profession should know exactly the actual proposals of the bill as it undergoes various changes in Committee, and we therefore trust members will make a point of being present at this meeting.—H. Beckett-Overy, Herbert Tanner, Honorary Secretaries.

South-Eastern Branch: Isle of Thanet Division.—The next meeting of this Division will be held at the Royal Sea Bathing Hospital, Margate, on Tuesday, November 14th, at 4 p.m., W. R. Brunton, M.B., in the chair. Agenda: (1) To consider the adoption of certain ethical rules by the Division known as the Bradford Rules and Rule Z. (2) To consider the formation of a local defence fund in relation to the National Insurance Bill and the support of the Central Defence Fund of the Association. (3) Any other business. Tea will be served during the meeting. All members of the Association are invited to attend these meetings and to introduce professional friends.—Hugh M. Raven, Honorary Divisional Secretary.

South Midland Branch: Northamptonshire Division.—A meeting of the Division will be held in the Board Room of the Northampton General Hospital on Thursday, November 16th, at 2.30. The meeting will be addressed by Dr. Cox, Deputy Medical Secretary to the British Medical Association on The Present and Prospective Position of the Medical Profession with regard to the National Insurance Bill. The meeting is a very important one, and it is hoped all will make an effort to attend. The meeting will be preceded by a luncheon at Franklin's Restaurant, Guildhall Road, at 1.30. Those wishing to have luncheon should inform the Honorary Secretary two days beforehand.—P. S. Hichens, 47, Sheep Street, Northampton, Honorary Secretary.

Yorkshire Branch.—The next meeting of the Branch will be held at the Station Hotel, York, on Wednesday, November 22nd, at 4 p.m. Members intending to read papers, propose resolutions, show specimens or cases, or to propose new members are requested to communicate at once with the Secretary. Members will dine together at 6.30 p.m.—Adolph Bronner, Honorary Secretary.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns 8,061 births and 4,182 deaths were registered during the week ending Saturday last, November 4th. The annual rate of mortality in these towns, which had been 14.9, 14.4, and 13.3 per 1,000 in the three preceding weeks, rose to 13.5 per 1,000 in the week under notice. In London the death-rate last week was equal to 13.1, against 15.4, 14.3, and 13.1 per 1,000 in the three preceding weeks. Among the seventy-six other large towns the death-rates last week ranged from 4.5 in Devonport, 6.4 in King's Norton, 6.8 in Hornsey and in Dewsbury, and 7.5 in Leyton and in Northampton, to 18.0 in Stockton-on-Tees, 19.3 in Middlesbrough, 20.5 in Great Yarmouth, 20.6 in West Bromwich, and 20.8 in Bootle. Measles caused a death-rate of 1.5 in Burnley; diphtheria of 1.3 in Preston and 1.4 in Reading; and diarrhoea and enteritis (of children under 2 years of age) of 1.6 in Birkenhead and in West Hartlepool, 1.7 in Walsall, 2.0 in Stockton-on-Tees, and 2.9 in Warrington. The mortality from enteric fever, scarlet fever, and whooping-cough showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 24, or 0.6 per cent., of the total deaths registered in the seventy-seven towns were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Liverpool, 2 in Birmingham, 2 in Bootle, and 2 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,966, 2,106, and 2,180 at the end of the three preceding weeks, had further risen to 2,189 on Saturday last; 269 new cases were admitted during the week against 355, 344, and 297 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the largest Scottish towns 793 births and 538 deaths were registered during the week ended Saturday last, November 4th. The annual rate of mortality in these towns, which had been 15.7 and 16.7 per 1,000 in the two preceding weeks, declined to 16.4 in the week under notice, but was 2.9 per 1,000 above the mean rate during the same period in the seventy-seven large English towns. Among the several Scottish towns the death-rates last week ranged from 9.3 in Paisley and 13.2 in Greenock to 18.0 in Dundee and 18.3 in Glasgow. The mortality from the principal infectious diseases averaged 1.4 per 1,000, and was highest in Aberdeen and Perth. The 275 deaths from all causes registered in Glasgow included 8 from measles, 6 from diphtheria, 5 from infantile diarrhoea, 4 from whooping-cough, and 2 from scarlet fever. Six deaths from measles were recorded in Aberdeen, and 3 from infantile diarrhoea in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 4th, 586 births and 378 deaths were registered in the twenty-two principal urban districts of Ireland, as against 524 births and 377 deaths in the preceding period. The annual death-rate in these districts, which had been 19.3, 18.6, and 17.1 per 1,000 in the three preceding weeks, remained at 17.1 per 1,000 in the week under notice, this figure being 3.6 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 20.4 and 15.1 respectively, those in other districts ranging from 4.3 in Lurgan and 4.7 in Sligo to 22.9 in Ballymena and 31.9 in Wexford, while Cork stood at 22.5, Londonderry at 19.2, Limerick at 17.7, and Waterford at 19.0. The zymotic death-rate in the twenty-two districts averaged 1.8 per 1,000, as against 2.1 in the preceding period.

EPIDEMIC MORTALITY IN LONDON.

[Specially Reported for the "British Medical Journal."]

The accompanying diagram shows the prevalence of the principal epidemic diseases during the third quarter of the year; the fluctuations of each disease and its relative fatality compared with the average in the corresponding periods of recent years can thus be readily seen, except that in the case of diarrhoea and enteritis among children under 2 years of age the average mortality is not available.

Small-pox.—No death from small-pox was registered last quarter, and no case of this disease was admitted to the Metropolitan Asylums Hospitals during that period.

Measles.—The fatal cases of measles, which had been 844, 1,581, and 690 in the three preceding quarters, further declined to 159 in the quarter under notice, and were 134 below the corrected average for the corresponding period of the five preceding years. This disease was proportionately most fatal in Chelsea, Shoreditch, Bethnal Green, Stepney, Southwark, and Greenwich.

Scarlet Fever.—The deaths from scarlet fever, which had been 43 in each of the two preceding quarters, decreased to 41 last quarter, and were 60 fewer than the corrected average number. Among the several metropolitan boroughs scarlet fever showed the greatest proportional mortality last quarter in Fulham, St. Marylebone, Islington, Stoke Newington, Finsbury, and Southwark. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 1,012 and 1,206 at the end of the two preceding quarters, had further increased to 1,656 at the end of last quarter; 2,638 new cases were admitted during the quarter, against 1,706 and 1,957 in the two preceding quarters.

Diphtheria.—The fatal cases of diphtheria, which had been 145, 170, and 123 in the three preceding quarters, rose again to 129 last quarter, and were slightly in excess of the corrected average number. This disease was proportionally most fatal in Hampstead, St. Pancras,

DEATHS FROM EPIDEMIC DISEASES IN LONDON DURING THE THIRD QUARTER OF 1911.

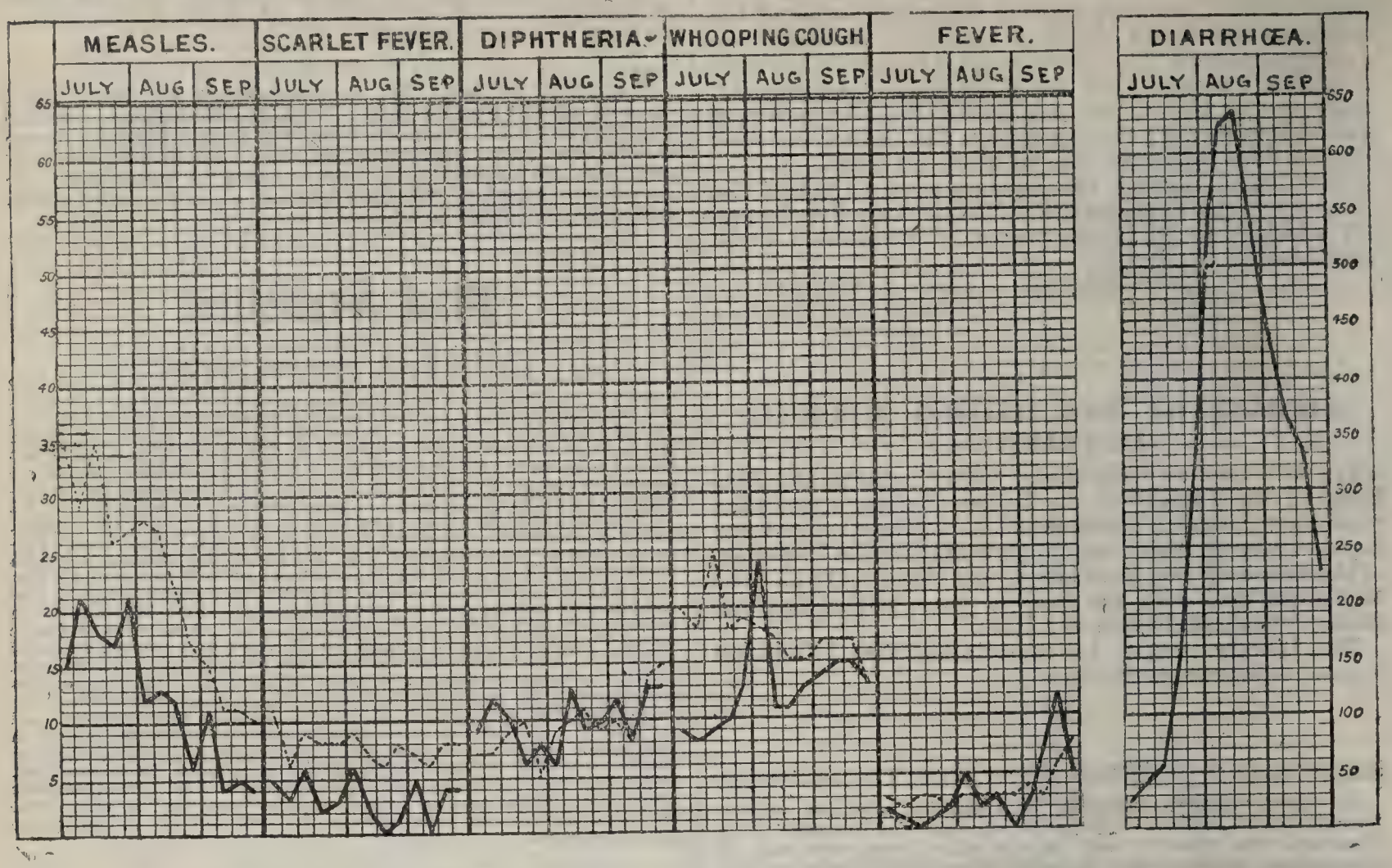

NOTE.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding weeks of the five preceding years, 1906–10. Under the heading "Diarrhoea" are given the deaths from diarrhoea and enteritis among children under 2 years of age; the corrected average number of these deaths is not available.

Islington, Finsbury, Southwark, Greenwich, and Lewisham. The Metropolitan Asylums Hospitals contained 892 diphtheria patients at the end of last quarter, against 881 and 771 at the end of the two preceding quarters; 1,456 new cases were admitted during the quarter, against 1,446 and 1,298 in the two preceding quarters.

Whooping-cough.—The deaths from whooping-cough, which had been 132, 425, and 359 in the three preceding quarters, declined again last quarter to 165, and were 63 below the corrected average number. The greatest proportional mortality from this disease was recorded last quarter in St. Pancras, Stoke Newington, Hackney, Finsbury, Bethnal Green, Deptford, and Greenwich.

Enteric Fever.—The fatal cases of enteric fever, which had been 85, 28, and 16, in the three preceding quarters, rose again last quarter to 43, but were slightly below the corrected average number. This disease was proportionally most fatal in Paddington, Hammersmith, St. Pancras, Finsbury, Bermondsey, Camberwell, and Greenwich. There were 155 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last quarter, against 32 and 33 at the end of the two preceding quarters; 237 new cases were admitted during the quarter, against 73 and 71 in the two preceding quarters.

Diarrhoea.—In place of the total deaths from diarrhoea, which were formerly given in the Registrar-General's weekly returns, the figures given since the beginning of the year relate to deaths from diarrhoea and enteritis among children under 2 years of age. These deaths amounted to no fewer than 4,311 during the quarter under notice, the greatest proportional mortality from this cause being recorded in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey.

In conclusion it may be stated that the lowest death-rates from these epidemic diseases in the aggregate were recorded in the City of Westminster, St. Marylebone, Hampstead, Stoke Newington, Holborn, and the City of London; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Greenwich.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON W. E. HOME, M.D., has been placed on the retired list at his own request, November 1st. He was appointed Surgeon, August 20th, 1885, and Fleet Surgeon, August 20th, 1901. Whilst Surgeon of the *Swallow* he landed with the Naval Brigade at Vitu, Zanzibar, to punish a robber chief, Fumo Omari, for acts of treachery, receiving a medal with clasp. He was Staff Surgeon of the *Jelunga*, hired transport, during the China war in 1900, and received a medal.

The following appointments have been made at the Admiralty: Surgeon C. D. BELL, M.B., to the *Victory*, additional (to be lent to the *Vernon*, temporarily), November 1st; Staff Surgeon W. L. MARTIN to the *President*, additional, for temporary service in the Medical Department at the Admiralty, October 31st; Surgeon E. M. BROWNE, lent to Shotley Training Establishment, October 30th; Surgeon P. F. MINETT to the *Lord Nelson*, November 7th; Surgeon J. H. MCDOWALL, M.B., to the *Pelorus*, November 7th, and to the *Perseus* on recommissioning, undated.

ARMY MEDICAL SERVICE.

COLONEL R. H. FORMAN, M.B., is placed on retired pay, November 2nd. He was appointed Surgeon, March 6th, 1880; Surgeon-Major, March 6th, 1892; Lieutenant-Colonel, March 6th, 1900; and Colonel, January 8th, 1906.

Lieutenant-Colonel A. F. RUSSELL, C.M.G., M.B., from the Royal Army Medical Corps, to be Colonel, vice R. H Forman, M.B., November 1st. Colonel Russell's previous commissions are dated: Surgeon, February 4th, 1882; Surgeon-Major, February 4th, 1894; Lieutenant-Colonel, February 4th, 1902. He served in the South African war in 1899–1902, and was present in the advance on Kimberley, including actions at Belmont (slightly wounded), Modder River, and Magersfontein; he was Adjutant, 3rd Battalion Grenadier Guards, March 23rd, 1900, to February, 1901, and from March, 1902, to May 31st, 1902, in the interval acting as Chief Staff Officer to Colonel Crabbe's Column; he was in operations in the Orange Free State (actions at Poplar Grove, Dreifontein, Vet River, and Zand River), in the Transvaal (actions at Johannesburg, Pretoria, Diamond Hill, and Belfast), and in Cape Colony; he was twice mentioned in dispatches, awarded the brevet of Major, and granted the Queen's medal with six clasps and the King's medal with two clasps.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel T. W. O'H. HAMILTON, C.M.G., M.B., retires on retired pay, November 4th. His commissions bear date: Surgeon, February 3rd, 1883; Surgeon-Major, February 3rd, 1895; and Lieutenant-Colonel, February 3rd, 1903. He was in the South African war in 1899–1902, and was at the relief of Kimberley, in operations in the Orange Free State (actions at Paardeberg, Poplar Grove, Dreifontein, and Zand River), in the Transvaal (actions near Johannesburg, Pretoria, Diamond Hill, and Belfast), and in Cape Colony (actions at Colesberg); he was mentioned in dispatches, appointed C.M.G., and granted the Queen's medal with six clasps and the King's medal with two clasps.

Major C. A. YOUNG to be Lieutenant-Colonel, vice A. F. Russell, C.M.G., M.B., November 2nd. Lieutenant-Colonel Young entered the service as Surgeon-Captain, February 5th, 1887, and became Major, February 5th, 1899. He served in the Burmese campaign in 1892 with the Irrawaddy Column, receiving a medal with clasp.

Major J. W. BULLEN, M.D., to be Lieutenant-Colonel, vice C. A. Young, supernumerary, November 2nd. Lieutenant-Colonel Bullen joined on February 5th, 1887, and was made Major, February 5th, 1899.

Major B. J. INNISS also is promoted to be Lieutenant-Colonel, vice J. Will, supernumerary. November 2nd. Lieutenant-Colonel Inniss's commissions are contemporaneous with those of Lieutenant-Colonel Bullen. Lieutenant-Colonel Inniss served in the Burmese campaign in 1891 with the Wuntho Field Force, receiving a medal with clasp; he was also in the North-West Frontier of India campaign in 1897–8 with the Tirah Expeditionary Force, and was granted a medal with clasp.

Major G. B. CARTER, M.B., retires, receiving a gratuity, November 8th. His commissions are dated: Surgeon-Lieutenant, January 28th, 1898; Captain, January 28th, 1901; Major, October 28th, 1909.

TERRITORIAL FORCE.

STAFF.

THE following officers of the Royal Army Medical Corps have been appointed Staff Officers to Administrative Medical Officers of Territorial Divisions: Major G. T. RAWNSLEY, March 1st, 1911; Major W. D. ERSKINE, M.B., March 1st, 1911; Lieutenant-Colonel JAMES WILL, M.B., April 1st, 1911; Major C. A. YOUNG, April 1st, 1911; Captain D. O. HYDE, M.B., April 1st. [Their appointments are to the following Divisions: Major Rawnsley, East Lancashire Division; Major Erskine, Lowland Division; Lieutenant-Colonel Will, Northumbrian Division; Major Young, Welsh Division; Captain Hyde, West Riding Division.]

Royal Army Medical Corps.

Lieutenant A. E. Hodder, M.B., 3rd North Midland Field Ambulance, to be Captain, March 24th, 1911.

COLONIAL MEDICAL SERVICES.

The following changes have been notified by the Colonial Office:

West African Medical Staff.

New Appointments.—The following gentlemen have been selected for appointment to the staff:—E. C. Braithwaite, M.B., B.S.Durh., M.R.C.S.Eng., L.R.C.P.Lond., B.Hy., D.P.H.Durh., Southern Nigeria. B. J. Courtney, M.D., B.Ch.Edin., Northern Nigeria. H. R. M. Ferguson, M.B., Ch.B., B.A.O.Dub., Southern Nigeria.

Promotions.—J. A. Clough, M.B.Lond., L.S.A.Lond., Medical Officer, Southern Nigeria, to be a Senior Medical Officer, Gold Coast. J. W. Collett, L.R.C.S., L.R.C.P.Edin., L.F.P.S.Glas., Medical Officer, Southern Nigeria, to be Senior Medical Officer, Sierra Leone. C. F. Watson, M.R.C.S.Eng., L.R.C.P.Lond., D.P.H.Irel., Medical Officer, Northern Nigeria, to be a Senior Medical Officer, Northern Nigeria. W. H. A. Gordon-Hall, M.B., C.M.Edin., Medical Officer, Northern Nigeria, to be a Senior Medical Officer, Northern Nigeria.

Resignation.—E. Slack, M.B., B.C.Cantab., Medical Officer, Gold Coast.

Retirement.—C. S. Thompson, M.B., B.S.Durh., Medical Officer, Southern Nigeria.

Transfer.—A. G. Eldred, M.R.C.S.Eng., L.R.C.P.Lond., Medical Officer, Gold Coast, has been transferred to the Nyasaland Protectorate.

Other Colonies and Protectorates.

A. Barber, M.R.C.S.Eng., L.R.C.P.Lond., M.B., B.S., D.P.H.Lond., has been selected for appointment as a Medical Officer in the Straits Settlements. G. E. Craig, M.B., B.Ch., B.A.O.Dubl., has been selected for appointment as a Medical Officer in British Guiana. F. W. Falconer, M.B., Ch.B., D.P.H.Aberd., L.M.Rotunda, has been selected for appointment as a House-Surgeon in the Federated Malay States. A. Mathieson, M.B., Ch.B.Edin., D.P.H.Cantab., has been selected for appointment as a Medical Officer in the Straits Settlements. R. F. Priestley, M.R.C.S.Eng., L.R.C.P.Lond., M.B., B.C.Cantab., has been selected for appointment as a Medical Officer with the work of a House-Surgeon in the Straits Settlements. S. P. Proctor, M.B., Ch.B.Edin., has been selected for appointment as a Supernumerary Medical Officer in Trinidad. C. J. Smith, M.B., Ch.B.Edin., F.R.C.S.Edin., has been selected for appointment as a House-Surgeon in the Federated Malay States.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ARROCHAR PARISH.—Medical Officer. Salary, £75 per annum.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BARNSLEY: BECKETT HOSPITAL.—Second House-Surgeon. Salary, £80 per annum.

BIRMINGHAM CITY FEVER HOSPITAL.—Assistant Resident Medical Officer. Salary, £120 per annum.

BIRMINGHAM UNIVERSITY.—Lectureship in Mental Diseases.

BRIGHTON: ROYAL ALEXANDER HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary at the rate of £80 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90 after six months.

CAMBRIDGE: COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £160 per annum, rising to £200.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

DUBLIN: ROYAL HOSPITAL FOR INCURABLES, Donnybrook.—Visiting Medical Officer.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GATESHEAD EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum.

GLASGOW UNIVERSITY.—An additional Examiner for Degrees in Medicine in (*a*) Medical Jurisprudence and Public Health, (*b*) Midwifery.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House-Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Physician to Out-patients; (2) Surgeon to Out-patients; (3) Medical Registrar, honorarium £127 10s. a year; (4) House-Surgeon, salary, £30 for six months and £2 10s. washing allowance.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

ITALIAN HOSPITAL, Queen Square, W.C.—House-Surgeon. Salary at the rate of £60 per annum.

LISCARD: WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Resident Medical Officer. Salary, £250 per annum.

LONDON HOSPITAL, E.—House Anaesthetist in the Dental School. Honorarium, £40.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, Hunter Street, W.C.—Demonstrator in Anatomy.

LONDON UNIVERSITY.—(1) Four Examiners in Medicine; (2) Four Examiners in Surgery; (3) Two Examiners in Pathology; (4) Two Examiners in Mental Diseases and Psychology: (5) Two Examiners in General Biology. (1) to (4) are for the higher examinations for medical degrees, and (5) is for the first examination for medical degrees.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

PARK HOSPITAL FOR CHILDREN, Hither Green, S.E.—Assistant Medical Officer. Salary, £150 per annum, rising to £180.

PORTSMOUTH ROYAL HOSPITAL.—House-Physician (male). Salary, £75 per annum.

ROYAL EAR HOSPITAL, Soho, W.—Honorary Assistant Anaesthetist.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Dental Surgeon.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—Clinical Assistants.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistant.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House-Surgeon (male). Salary, £80 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £60 per annum.

STAFFORDSHIRE: COUNTY ASYLUM, Burntwood.—Assistant Medical Officer. Salary, £150 per annum, rising to £200.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

WALSALL AND DISTRICT HOSPITAL.—House-Physician and Casualty Officer. Salary, £80 per annum.

WEST HARTLEPOOL.—House-Surgeon. Salary, £120 per annum.

WEST LONDON HOSPITAL, Hammersmith, W.—House-Physician for six months.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Horbury (Yorkshire, West Riding), Llandovery (Carmarthenshire), Urlingford (co. Kilkenny).

APPOINTMENTS.

Buck, Howard, M.B., Ch.B.Vict., F.R.C.S.Eng., Resident Surgical Officer to the Manchester Royal Infirmary.

Chalmers, James, M.D., C.M.Glasg., Honorary Physician to the Children's Hospital in connexion with the Royal Infirmary, Sunderland.

Costello, J. M. A., M.B., B.S.R.U.I., District Medical Officer of the Cardiff Union.

Cruickshank, John, M.B., Ch.B.Glas., Pathologist and Clinical Pathologist, Crichton Royal Institution, Dumfries.

De Nyssen, P. J., L.R.C.P., M.R.C.S., District Medical Officer of the Blything Union.

Downing, C., L.R.C.P., M.R.C.S., Certifying Factory Surgeon for the Cardiff District, co. Glamorgan.

Downes, H., M.B., C.M.Edin., Medical Officer of Health of the Ilminster Urban District.

Pisani, L. J., F.R.C.S., Ophthalmic Surgeon to the Metropolitan Hospital, London.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTH.

Brooke.—On October 9th, at Singapore, the wife of Dr. G. E. Brooke, of a son.

MARRIAGES.

Babington—Goslin.—October 25th, at St. Saviour's Church, Walton Street, London, S.W., by the Rev. H. Hodgson, Vicar of Swanmore, Hants, assisted by the Rev. G. Edmundson, Vicar, Captain J. W. H. Babington, I.M.S., son of Humphrey Babington, of Greenfort, Fahan, co. Donegal, to Kathleen Margaret, eldest daughter of the late Lieutenant-Colonel Goslin and Mrs. Goslin, of Ballinaskea, co. Meath.

Davidson—MacKenzie.—At Gortin Presbyterian Church, co. Tyrone, on 4th inst., Dr. Norman G. W. Davidson, Huelva, Spain, to Mary Scott MacKenzie, M.A., younger daughter of John Mackenzie, Esq., Doraville, Newtonstewart, co. Tyrone, Ireland.

DEATHS.

Lindsay.—On November 1st, 1911, at Melbourne House, Aldershot, James Murray Lindsay, M.D., F.R.C.P., F.R.C.S., L.S.A., late Superintendent Derby County Asylum, aged 78. No flowers by request.

Millington.—On November 5th, at The Clevelands, Northampton, William Millington, M.D., M.R.C.P., in his 91st year.

Sudlow.—On October 30th, at Penton House, Stoke-on-Trent, Marion, beloved wife of George Wray Sudlow. M.B., B.S., M.R.C.S., L.R.C.P., and elder daughter of James W. Shovelton Carholme, Ellesmere Park, Eccles, aged 28 years.

In Memoriam.

Clutton.—In memory of Henry Hugh Clutton, F.R.C.S., of 2, Portland Place, who passed away November 9th, 1909, aged 59.

DIARY FOR THE WEEK.

MONDAY.

Medical Society of London, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Discussion on the Differential Diagnosis of Syphilis and Parasyphilis of the Nervous System. To be introduced by Dr. F. W. Mott, F.R.S., followed by Sir David Ferrier, F.R.S., Sir Victor Horsley, F.R.S., Dr. G. H. Savage, Dr. Risien Russell, Dr. T. B. Hyslop, Major French, R.A.M.C., Dr. Farquhar Buzzard, and Mr. Alexander Fleming.

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C., 5 p.m.—Hunterian Lecture, by Sir Henry T. Butlin, Bart.: *Unicellula Cancri*: the Parasite of Cancer.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

SURGICAL SECTION, 15, Cavendish Square, W., 5.30 p.m.—(1) Opening Remarks by the President. (2) Papers:—Dr. Ringrose Gore: Case of Caries of Frontal Bone and Intracranial Abscess due to *B. typhosus* Eleven Years after Attack of Typhoid. Mr. H. Betham Robinson: Extraperitoneal Rupture of the Bladder without Fracture of the Pelvis. Mr. L. A. Dunn: Retrograde Enteric Intussusception.

WEDNESDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Hunterian Lecture, by Sir Henry T. Butlin, Bart.: *Unicellula Cancri:* the Parasite of Cancer.

THURSDAY.

ROYAL SOCIETY, Burlington House, W.—List of Probable Papers:—Professor W. M. Thornton: The Influence of Ionized Air on Bacteria. S. G. Paine: The Permeability of the Yeast Cell. Dr. T. G. Brown: The Intrinsic Factors in the Act of Progression in the Mammal. G. A. Buckmaster and J. A. Gardner: Ventilation of the Lung during Chloroform Narcosis. Dr. J. L. Jona: The Refractive Indices of the Eye Media of Some Australian Animals.

ROYAL SOCIETY OF MEDICINE:

DERMATOLOGICAL SECTION, 11, Chandos Street, W.—5 p.m., Ordinary Meeting, Cases and Specimens. 8.30 p.m., Special Meeting (at 15, Cavendish Square, W.): Discussion on Eczematoid Ringworm of the Extremities and Groin. To be opened by Dr. A. Whitfield, followed by Dr. Sabouraud of Paris.

FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Hunterian Lecture, by Professor R. H. Paramore: The Intra-abdomino-pelvic Pressure in Man.

ROYAL SOCIETY OF MEDICINE:

ELECTRO-THERAPEUTICAL SECTION, 11, Chandos Street, W., 8.30 p.m.—Paper:—Dr. Alfred C. Jordan: Radiography in Intestinal Stasis (with lantern illustration). Dr. C. J. Morton: *X*-ray Prognosis in Fractures (illustrated by lantern slides).

OTOLOGICAL SECTION, 11, Chandos Street, W., 5 p.m.—Cases and Specimens.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures:—Tuesday, 3.45 p.m.: Tracheoscopy. Friday, 3.45 p.m.: Clinical Pathology.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m.: Streptotrichosis of the Lung and Pleura.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat, at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Tuesday, 2.15 p.m., Thrombosis and Embolism; Wednesday, 3.30 p.m., Colour Blindness and Colour Defects, their Varieties and Importance, and the Methods of Detection; Thursday, 4.40 p.m., Nervous Manifestations in Children and their Treatment.

MANCHESTER: ANCOATS HOSPITAL.—Post-graduate Clinic: Thursday, 4.15 p.m., Colitis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week, at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures, at 5.15 p.m. each day, will be given as follows: Monday, *X*-ray Examination as an Aid to Diagnosis (continued). Tuesday, Jejunal and Gastro-jejunal Ulcers. Wednesday, to Show Cases. Thursday, The Differential Diagnosis of Paraplegia (with lantern demonstration).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday and Friday, 3.30 p.m.: Cases from the Wards.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics: 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear. Tuesday, 2.30 p.m., Operations; Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient; 4.30 p.m., Lecture: Graphic Methods of Studying Heart Disease. Wednesday, 2 p.m., Throat Operations; 2.30 p.m., Medical Out-patient; Skin and Eye Clinics: *X* Rays; 5.30 p.m., Eye Operations. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient; 4.30 p.m., Address by Sir James Crichton-Browne on Nerves and Nervousness. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
NOVEMBER.	
12 Sunday ..	
13 MONDAY ..	
14 TUESDAY ..	KENSINGTON DIVISION, *Metropolitan Counties Branch*, Kensington Town Hall, 4 p.m. ISLE OF THANET DIVISION, *South-Eastern Branch*, Royal Sea Bathing Hospital, Margate, 4 p.m.
15 WEDNESDAY	LANCASHIRE AND CHESHIRE BRANCH, Meeting of Branch Council, Onward Buildings, Deansgate, Manchester, 4.30 p.m.
16 THURSDAY ..	NORTHAMPTONSHIRE DIVISION, *South Midland Branch*, Board Room, Northampton General Hospital, 2.30 p.m.; Luncheon, Franklin's Restaurant, Guildhall Road, 1.30 p.m. LONDON: Metropolitan Counties Branch Council, 4 p.m.
17 FRIDAY ..	BORDER COUNTIES BRANCH, Autumn Meeting, Whitehaven.
18 SATURDAY ..	
19 Sunday ..	

Date.	Meetings to be Held.
NOVEMBER *(continued).*	
20 MONDAY ..	
21 TUESDAY ..	
22 WEDNESDAY	**London: Special Meeting of Council, 2 p.m.** *(Probably.)* YORKSHIRE BRANCH, Station Hotel York, 4 p.m.; Dinner, 6.30 p.m. RICHMOND DIVISION, *Metropolitan Counties Branch*, Richmond, 8.30 p.m.
23 THURSDAY ..	WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, Grove Hall, Wanstead, 4 p.m.
24 FRIDAY ..	BIRMINGHAM BRANCH, Pathological and Clinical Section, Medical Institute, Edmund Street, 8 p.m.
25 SATURDAY ..	
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY .. OR 30 THURSDAY ..	**Special Representative Meeting.** *(Probably.)*

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 18TH, 1911.

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SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he belongs.

BY ORDER.

NATIONAL INSURANCE BILL

As Amended in Committee of the House of Commons, With text of new Government Clauses and Government Amendments of Schedules 1 to 5.

NOTE.

In respect of Clauses 1 to 17 and 43 to 44, inclusive, the differences between these Clauses of the Bill as read the first time and as amended in Committee are shown in the print. The words in small type and between square brackets were omitted in Committee. The words in italics were introduced in Committee.

In respect of Clauses 18 to 42 and 45 to 58 inclusive, the print consists of the text of the Bill as amended in Committee.

Part II. of the Bill relating to Unemployment Insurance, referred to Standing Committee B of the House of Commons (which held its first meeting on November 2nd and has not concluded its procedings), has not been printed here.

Part III. of the Bill is printed as originally introduced.

Schedules 1 to 5 are printed so as to show amendments of which the Government has given notice.

A

BILL

TO

Provide for Insurance against Loss of Health and for the Prevention and cure of Sickness and for Insurance against Unemployment, and for purposes incidental thereto.

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

PART I.

National Health Insurance.

Insured Persons.

Insured persons.

1.—(1) Subject to the provisions of this Act, all persons who are employed within the meaning of this Part of this Act shall be, and any persons who are not so employed but who possess the qualifications hereinafter mentioned may be, insured in manner provided in this Part of this Act, and all persons so insured (in this Act called "insured persons") shall be entitled in the manner and subject to the conditions provided in this Act to the benefits in respect of health insurance and prevention of sickness conferred by this Part of this Act.

(2) The persons employed within the meaning of this Part of this Act (in this Act referred to as "employed contributors") shall include all persons of either sex, whether British subjects or not, who are engaged in any of the employments specified in Part I. of the First Schedule to this Act, not being employments specified in Part II. of that schedule:

Provided that the Insurance Commissioners hereinafter constituted may, with the approval of the Treasury, by [regulations,] *a special order made in manner hereinafter provided*, provide for including amongst the persons employed within the meaning of this Part of this Act any persons engaged in any of the excepted employments specified in Part II. of the said schedule.

(3) The persons not employed within the meaning of this Part of this Act who are entitled to become insured persons include all persons who either—

(*a*) are engaged in some regular occupation and are wholly or mainly dependent for their livelihood on the earnings derived by them from that occupation; or

(*b*) have been employed contributors for a period of five years or upwards;

and the persons possessing such qualifications who become insured persons are in this Act referred to as voluntary contributors: *Provided always that no person shall be entitled to become an insured person under the provisions of this subsection whose total income from all sources exceeds one hundred and sixty pounds*:

Provided that where a person who has been a voluntary contributor for five years or upwards ceases to possess such qualifications as aforesaid he shall not by reason thereof be disentitled to continue to be insured under this Part of this Act.

(4) *Except as hereinafter provided*, nothing in this section shall require or authorise a person over the age of sixty-five years not previously insured under this Part of this Act to become so insured.

Exemptions.

2.—(1) Where any person employed within the meaning of this Part of this Act proves that he is [not as a rule employed for more than thirty-nine weeks in a year and is] either—

(*a*) in receipt of any pension or income of the annual value of twenty-six pounds or upwards not dependent upon his personal exertions; or

(*b*) ordinarily dependent upon some other person,

he shall be entitled to a certificate exempting him from the liability to become or to continue to be insured under this Part of this Act.

(2) All claims for exemption shall be made to, and certificates of exemption granted by, the Insurance Commissioners in the prescribed manner: Provided that the regulations of the Insurance Commissioners may provide for claims under this section being made to, and certificates granted by, approved societies and local Insurance Committees hereinafter constituted.

Contributions.

Contributions by insured persons, employers, and the Treasury.

3. Except as otherwise provided by this Act, the funds for providing the benefits conferred by this Part of this Act and defraying the expenses of the administration of those benefits shall be derived as to seven-ninths (or, in the case of women, three-fourths) thereof from contributions made by or in respect of such contributors by themselves or their employers, and as to the remaining two-ninths (or, in the case of women, one-quarter) thereof from moneys provided by Parliament.

Rates and rules for contributions by employed contributors and their employers.

4.—(1) The contributions payable in respect of employed contributors shall be at the rate specified in [Part I. of] the Second Schedule to this Act (hereinafter referred to as the employed rate), and shall comprise contributions by the contributors and contributions by their employers at the rates specified in [that Part of] that schedule, and shall be payable at weekly or other prescribed intervals.

(2) The employer shall, in the first instance, pay both the contributions payable by himself (in this Act referred to as the employer's contributions), and also on behalf of the employed contributor the contributions payable by such contributor, and shall be entitled to recover from the contributor by deduction from his wages or otherwise the amount of the contributions so paid by him on behalf of the contributor in accordance with the rules set out in the Third Schedule to this Act.

[(3) An employed contributor who is temporarily unemployed shall not, whilst so unemployed, be under any obligation to pay any contributions which if he were employed would be payable in respect of him, but nothing in this section shall prevent such a contributor paying such contributions for the purpose of avoiding falling into arrear.]

(3) Contributions in respect of employed contributors shall cease to be payable on their attaining the age of seventy.

(4) The employer of a person who though employed within the meaning of this Part of this Act is not insured under this Part of this Act by reason either—

(*a*) that not having previously been insured, he has become employed within the meaning of this Act after attaining the age of sixty-five; or

(*b*) that he has obtained *and still holds* a certificate of exemption under this Act:

shall be liable to pay the like contributions as would have been payable as employer's contributions if such person had been an employed contributor, and such contributions shall be carried to such account and dealt with in such manner as may be prescribed.

Rates and rules for contributions by voluntary contributors.

5.—(1) The contributions payable by voluntary contributors shall be at the rate appropriate to their age at the date of their entry into insurance ascertained in accordance with a table to be prepared by the Insurance Commissioners (hereinafter referred to as the voluntary rate) and shall be paid by the voluntary contributors at weekly or other prescribed intervals:

Provided that—

(*a*) In the case of a person who comes into insurance within six months after the commencement of this Act, the voluntary rate shall, if he is below the age of forty-five at the date of coming into insurance, be the same as the employed rate, and if he is above that age, be such rate, ascertained according to a table to be prepared by the Insurance Commissioners, as, having regard to his age at that date, will be sufficient to cover seven-ninths, or in the case of a woman three-fourths, of the benefits conferred by this Part of the Act;

(*b*) Where a person, having been an employed contributor for five years or upwards, becomes a voluntary contributor the rate of contribution payable by him shall continue to be the employed rate.

(2) Contributions by voluntary contributors shall cease to be payable on their attaining the age of seventy.

Change from voluntary rate to employed rate and vice versa.

6.—(1) Where an insured person has become a member of an approved society as a voluntary contributor, the rate of contributions payable in respect of him shall notwithstanding that he becomes employed within the meaning of this Part of this Act, remain the voluntary rate, unless at any time after becoming so employed he gives notice in the prescribed manner of his wish to be transferred to the employed rate.

(2) Where he gives such notice the rate payable in respect of him shall be the employed rate, but in such case the rate of sickness benefit payable in respect of him shall be such reduced rate as would have been payable had he not previously been insured, subject to such allowance as may according to

tables prepared by the Insurance Commissioners represent the value at that time of the contributions previously paid by him.

(3) Where he does not give such notice, and until he does so, the contributions payable by his employer in respect of him during any period of employment within the meaning of this Part of this Act shall be the same as if he had been transferred to the employed rate, and the contributions so paid by the employer shall be treated as in part satisfaction of the contributions at the voluntary rate payable by the contributor, and if the contributor fails to pay the balance he shall be deemed to be in arrear to that extent.

(4) Where an employed contributor within five years from his entry into insurance ceases to be employed within the meaning of this Part of this Act and becomes a voluntary contributor, he shall be deemed to be in arrear, as from the date when he became a voluntary contributor, to the amount of the difference between the aggregate contributions paid in respect of him as an employed contributor and the aggregate of the contributions which would have been payable by him had he originally become a voluntary contributor, and the difference between any reserve value which is credited to the approved society of which he is a member in respect of him and the reserve value (if any) which would have been credited to that society in respect of him had he originally become a voluntary contributor shall be cancelled.

Power to make regulations for the payment of contributions.

7. Subject to the provisions of this Act, the Insurance Commissioners may make regulations providing for any matters incidental to the payment and collection of contributions payable under this Act, and in particular for—

(*a*) payment of contributions by means of adhesive or other stamps affixed to or impressed upon books or cards, and regulating the manner, times, and conditions in, at and under which such stamps are to be affixed or impressed;

(*b*) the entry in or upon books or cards of particulars of contributions paid and benefits distributed in the case of the insured persons to whom such books or cards belong;

(*c*) the issue, sale, custody, or delivery up of books or cards and the replacement of books or cards which have been lost, destroyed, or defaced.

BENEFITS.

Rates and conditions of benefit.

8.—(1) *Subject to the provisions of this Act* the benefits conferred by this Part of this Act upon insured persons are—

(*a*) Medical treatment and attendance, including the provision of proper and sufficient medicines *and such medical and surgical appliances as may be prescribed by regulations to be made by the Insurance Commissioners* (in this Act called "medical benefit");

(*b*) Treatment in sanatoria or other institutions *or otherwise* when suffering from tuberculosis, or such other diseases as the Local Government Board with the approval of the Treasury may appoint (in this Act called "sanatorium benefit"):

(*c*) [Weekly] *Periodical* payments whilst rendered unfit to provide their own maintenance by some specific disease or by bodily or mental disablement, *of which notice has been given*, commencing from the fourth day after [notice thereof is given], *being so rendered unfit* and continuing for a period not exceeding twenty-six weeks (in this Act called "sickness benefit");

(*d*) In the case of the disease or disablement continuing after the determination of sickness benefit, [weekly] *periodical* payments so long as so rendered unfit by the disease or disablement (in this Act called "disablement benefit");

(*e*) Payment in the case of the confinement of the wife of an insured person, who is not herself an insured person, or of a woman who is an insured person, of a sum of thirty shillings (in this Act called "maternity benefit");

(*f*) In the case of persons entitled under [any scheme made in accordance with] this Part of this Act to any of the further benefits mentioned in Part II. of the Fourth Schedule to this Act (in this Act called "additional benefits") such of those benefits as [may be distributable under that scheme] *they may themselves be entitled to.*

(2) Subject to the provisions of this Part of this Act, the rates of sickness benefit and disablement benefit to which insured persons are entitled shall be the rates specified in Part I. of the Fourth Schedule to this Act.

[(3) The right to sickness benefit and disablement benefit shall not commence before the insured person attains the age of sixteen and shall cease on his attaining the age of seventy, but, save as aforesaid, the right to benefits (other than additional benefits) shall continue throughout life.]

(3) *In the case of insured persons who have attained the age of seventy, the right to sickness benefit and disablement benefit shall cease.*

(4) [Except with the consent of the society or committee administering the benefit.] No insured person shall be entitled to any benefit during any period when he is resident either temporarily or permanently

outside the British Islands, [or to medical benefit during any period when he is resident outside the United Kingdom].

Provided that if a person is temporarily resident in the Isle of Man or the Channel Islands he shall, whilst so resident, be entitled to benefits other than medical benefit, and that if with the consent of the society or committee by which the benefit is administered, a person is temporarily resident outside the United Kingdom elsewhere than in the Isle of Man or the Channel Islands, the society or committee may allow him, whilst so resident, to continue to receive sickness or disablement benefit, and that a person resident out of the United Kingdom shall not be disentitled to maternity benefit in respect of the confinement of his wife, if his wife at the time of her confinement is resident in the United Kingdom.

(5) Where an insured person, having been in receipt of sickness benefit, recovers from the disease or disablement in respect of which he receives such benefit, any subsequent disease or disablement, or a recurrence of the same disease or disablement, shall be deemed to be a continuation of the previous disease or disablement, unless in the meanwhile a period [continuous or discontinuous,] of at least twelve months has elapsed, and at least fifty weekly contributions have been paid by or in respect of him :

Provided that the benefit in respect of such subsequent or recurrent disease or disablement shall not commence to be payable before the date at which it would, apart from this provision, have commenced.

(6) Where a woman is herself entitled to maternity benefit she shall not be entitled to sickness benefit, disablement benefit, or medical benefit *in respect of or consequent upon her confinement* at and for a period of four weeks after her confinement :

Provided that this subsection shall not affect the right of such a woman if married or, if being a widow, she is confined of a posthumous child, to sickness benefit or disablement benefit during such period.

(7) Notwithstanding anything in this Part of this Act, no insured person shall be entitled—

(*a*) to medical benefit during the first six months after the commencement of this Act ;

(*b*) to sickness benefit unless and until twenty-six weeks have elapsed since his entry into insurance, and at least twenty-six contributions have been paid by or in respect of him ;

(*c*) to disablement benefit unless and until one hundred and four weeks have elapsed since his entry into insurance, and at least one hundred and four contributions have been paid by or in respect of him ;

[(*d*) to sickness benefit in respect of any disease or disablement which commenced during the twenty-six weeks, or to disablement benefits in respect of any disease or disablement which commenced during the one hundred and four weeks, next following his entry into insurance ;]

[(*e*) to sickness benefit or disablement benefit during any period when he is provided with board and lodging by his employer ;]

(*d*) to maternity benefit unless and until twenty-six, or in the case of a voluntary contributor fifty-two weeks have elapsed since his entry into insurance, and at least twenty-six, or in the case of a voluntary contributor fifty-two, contributions have been paid by or in respect of him.

(8) As soon as a sum has been accumulated by investment sufficient to provide interest at three per cent. per annum on the amounts then standing to the credit of all approved societies the benefits payable to insured persons under this Part of this Act shall be extended in such manner as Parliament may determine, [but in determining the distribution of such extended benefits amongst the persons who become entitled thereto regard shall be had to the claims or special considerations of persons who have entered into insurance at an early age.]

Reduced rates of benefit in certain cases.

9.—(1) In the case of insured persons who are under the age of twenty-one years and unmarried, sickness benefit and disablement benefit shall be at the reduced rates specified in Table B. in Part I. of the Fourth Schedule to this Act :

Provided that where any such person, being over the age of sixteen and a member of an approved society, proves that one or more members of his family are wholly or mainly dependent upon him, the society shall dispense with such reduction.

(2) The rates of sickness and disablement benefits *provided under this Act* may in any case, [and shall in all cases] where the rate of sickness benefit or disablement benefit (as the case may be) exceeds two-thirds of the usual rate of wages or other remuneration earned by insured persons, be reduced to such an extent as the society or committee administering the benefit, with the consent of the Insurance Commissioners, determines ; but where such reduction is made provision shall be made by the society or committee, with the like consent, for the grant of one or more additional benefits of a value equivalent to such reduction.

(3) Sickness benefit shall be reduced in accordance with Table C. in Part I. of the Fourth Schedule to this Act in the case of any insured person who [is] *becomes an employed contributor within one year after the commencement of this Act, and is at the date of so becoming an employed contributor* over fifty years of age [at the date of any claim by him for such benefit] and has not *at the date of any claim by him for such benefit* [then] paid at least five hundred weekly contributions.

(4) In the case of every person over the age of sixteen years who, not having been previously insured

under this Part of this Act, becomes an employed contributor subsequently to the expiration of one year from the commencement of this Act, the rate of sickness benefit [and maternity benefit] to which he is entitled shall (unless he proves that his time since he attained the age of sixteen has been spent in a school or college, *in indentured apprenticeship or otherwise under instruction without wages* or otherwise in the completion of his education, or unless he undertakes himself to pay the difference between the voluntary rate and the employed rate, or pays to the Insurance Commissioners, to be credited to the Society, such capital sum as will be sufficient to secure him benefits at the full rate) be such reduced rate as may be fixed in accordance with tables to be prepared by the Insurance Commissioners, but not in any case less than five shillings a week for sickness benefit [or fifteen shillings for maternity benefit]:

Provided that if at any time subsequently such person would become entitled to sickness benefit at a higher rate if he were treated as having become an employed contributor as from the time when he attained the age of sixteen, or as from the expiration of one year after the commencement of this Act, whichever date may be the later, and as being in arrear for all contributions which, had he become an employed contributor at that date, would have been payable in respect of him between that date and the date when he actually became an employed contributor, he shall, if he so elects, be entitled to be so treated.

Reduced rates of benefits where contributions are in arrear.

10.—(1) Where an insured person being a member of an approved society is in arrear to an amount greater than thirteen contributions a year on the average since his entry into insurance, his right to benefits under this Part of this Act *other than medical benefit, sanatorium benefit, and maternity benefit* shall be suspended, *and where he is in arrears to an amount greater than twenty-six contributions a year on the average since his entry into insurance his right to medical benefit, sanatorium benefit, and maternity benefit shall be suspended,* and at the expiration of the next succeeding calendar year any sums credited to the Society in respect of him, calculated in the prescribed manner, shall, if his right to benefits still continues to be suspended, *be carried to such account for the benefit of the Society or any other society to which he may subsequently* be transferred [to such account] and dealt with in such manner as may be prescribed:

Provided that if at any time after such suspension he [again] becomes employed within the meaning of this Part of this Act he shall be entitled to benefits at such rate, after the lapse of such time and after the payment of such number of contributions, as would have been applicable to his case had he not previously been an insured person, but if he so elects at any time the [rate of] benefits *to which he is entitled* shall be such [rate] as he would be entitled to, were the period from the time of his original entry into insurance taken as a whole.

(2) Where an employed contributor claiming sickness benefit is at the date of such claim in arrears but the arrears are less than as aforesaid, then the rate of sickness benefit shall be reduced to a sum not less than five shillings a week, or the time when sickness benefit commences deferred, proportionately to the amount of arrears in accordance with the Table in the Fifth Schedule to this Act.

(3) Where a voluntary contributor is in arrears he shall be liable to such *proportionate* reduction [or suspension] of benefits as may be prescribed.

(4) In calculating arrears of contributions, no account shall be taken of any arrears accruing—

(*a*) during any period when the person in question has been, or but for this [or the two next succeeding sections of this Act] *section or any other provision of the Act disentitling a person to such benefit* would have been, in receipt of sickness benefit or disablement benefit; or

(*b*) in the case of a woman who, being an insured person, is herself entitled to maternity benefit, during two weeks before and four weeks after her confinement, *or in the case of maternity benefit payable in respect of the posthumous child of an insured person, during the period subsequent to the father's death; or*

(*c*) *in the case of an employed contributor* during the first twelve months after the commencement of this Act; or

(*d*) during any period when the contributor (if an employed contributor) is under the age of sixteen years;

but, save as aforesaid, contributions shall be deemed to be payable in respect of every week from the date of entry into insurance.

(5) Where an insured person has paid any arrears of contributions payable by or in respect of him which accrued during the calendar year current at the date of payment and the previous calendar year, [together with interest thereon at the rate of three per cent. per annum from the respective dates on which the contributions accrued due and the date of payment], he shall be treated for the purposes of this section as if the arrears so paid had never become due;

Provided that if such person is at the date of payment or subsequently within one month thereafter becomes unfit to provide for his own maintenance through disease or disablement, he shall for the purposes of this section be deemed to be still in arrear in respect of the amount so paid until after the expiration of one month from the date of [his recovery from such disease or disablement] *such payment.*

(6) *Any approved society may, if they think fit, excuse any part of the arrears which may have accrued*

due by or in respect of any member not exceeding such part as would have been payable by the employer had the member been in his employment, and in such case the amount of the arrears of that member shall be reduced accordingly.

Provisions in the case of contributors entitled to compensation or damages.

11.—(1) Where an insured person has received or recovered or is entitled to receive or recover, whether from his employer or any other person, any compensation or damages under the Workmen's Compensation Act, 1906, or any scheme certified thereunder, or under the Employers' Liability Act, 1880, or at common law in respect of any injury or disease, the following provisions shall apply:—

(*a*) No sickness benefit or disablement benefit shall be paid to such person *in respect of any such injury or disease* in any case where any weekly sum or the weekly value of any lump sum paid or payable in respect of any such compensation or damages is equal to or greater than the benefit otherwise payable to such person, and where any such weekly sum or the weekly value of any such lump sum is less than the benefit in question, such part only of the benefit shall be paid as, together with the weekly sum or the weekly value of the lump sum, will be equal to the benefit:

(*b*) The weekly value of any such lump sum as aforesaid may be determined by the society or committee by which the sickness and disablement benefits payable to such person are administered:

[(*c*) No person entitled to any such compensation as aforesaid from his employer shall, except with the consent of the society or committee by which the sickness and disablement benefits payable to such persons are administered, enter into any agreement to accept any lump sum in respect thereof, and any agreement entered into without such consent shall be null and void:]

(*c*) *Where an agreement is made as to the amount of such compensation as aforesaid, or as to the redemption of a weekly payment by a lump sum under the Workmen's Compensation Act*, 1906, *the employer shall, within three days thereafter, send to the Insurance Commissioners, or to the society or committee concerned, notice in writing of such agreement giving the prescribed particulars thereof, and proviso* (d) *to paragraph* (9) *of the Second Schedule of the Workmen's Compensation Act*, 1906 (*which relates to the powers of registrars of county courts to refuse to record memoranda of agreements and to refer the matter to the judge*) *shall, in cases where the workman is an insured person, apply to agreements as to the amount of compensation, in like manner as to agreements as to the redemption of weekly payments by lump sums:*

[(*d*) Nothing in this section shall affect the right of an employer to redeem a weekly payment by payment of a lump sum in any case where he is entitled to do so under the Workmen's Compensation Act, 1906, but where he exercises such right he shall, within three days thereafter, send to the Insurance Commissioners, or to the society or committee concerned, notice in writing of such redemption, giving particulars as to the amount of the lump sum and of the application thereof:]

(*e*) Where an insured person is entitled to any such compensation or damages as aforesaid and refuses or neglects to take proceedings to enforce his claim, it shall be lawful for the society or committee concerned, either at its own expense, to take in the name and on behalf of such person such proceedings, in which case any compensation or damages recovered shall be held by the society or committee as trustee for the insured person, or to withhold payment of any benefit to which apart from this section such person would be entitled. *In the event of the society or committee concerned taking proceedings as aforesaid, and failing in the proceedings, they shall be responsible for the costs of the proceedings as if they were claiming on their own account.*

(2) Nothing in this section shall prevent the society or committee paying to an insured person entitled to such compensation damages benefit by way of advance pending the settlement of his claim for compensation or damages, and any advance so made shall, without prejudice to any other method of recovery, be recoverable by deductions from or suspension of any benefits which may subsequently become payable to such person.

Provisions in the case of contributors who are inmates of hospitals, &c.

12.—(1) No payment shall be made *on account* [in respect] of sickness, disablement or maternity benefit to *or in respect of* any [insured] person during any period when *the person* [he] *to or in respect of whom the benefit is payable* is an inmate of any workhouse, hospital, asylum, or infirmary, supported by any public authority or out of any public funds or by a charity, *or voluntary subscriptions*, or of a sanatorium or similar institution [established] *approved* under this Part of this Act.

(2) During such period as aforesaid [any such benefit] *the sum* which would otherwise have been payable *on account of any such benefit* to *or in respect of* such person—

(*a*) shall be paid to or applied in whole or in part for the relief or maintenance of his dependants (if any) in such manner as the society or committee by which the benefit is administered, *after consultation whenever possible with such person*, think fit; or

(*b*) if such person is an inmate of a sanatorium or similar institution in which he is receiving treatment in accordance with the provisions of this Part of this Act, and has no dependants, shall be paid to the local Insurance Committee towards the general purposes thereof, *unless such person is not a member of an approved society; or*

(c) *if such person, being a member of an approved society, is an inmate of a hospital, convalescent home, or infirmary supported by charity or by voluntary subscriptions and has no dependants, shall, if an agreement for the purpose has been made between the society or committee and the hospital, convalescent home, or infirmary, be paid, in whole or in part, according to such agreement, towards the maintenance of such person in the hospital, convalescent home, or infirmary:*

Provided that in the case of a married woman or widow who is entitled to sickness benefit in addition to maternity benefit, no part of the sum which would otherwise be payable on account of maternity benefit shall be paid or applied for the relief or maintenance of her dependants, but such sum may be paid to the hospital, convalescent home, or infirmary of which she is an inmate as aforesaid in like manner as if she had no dependants.

(3) For the purpose of this section, the expression "dependants" shall include such *persons as the approved society or local Insurance Committee shall ascertain to be wholly or in part dependent upon the earnings of such inmate of any such institution as aforesaid.* [of the following members of the insured person's family as are wholly or in part dependent upon the earnings of such person at the time when he became an inmate of any such institution as aforesaid, that is to say, his or her wife or husband, father, mother, grandfather, grandmother, step father, step mother, son, daughter, grandson, granddaughter, step son, step daughter, brother, sister, half brother, half sister.]

[(4) The society or committee by which the sickness disablement or maternity benefit of any insured persons is administered, may enter into any agreement with the proper officers or authorities of any convalescent home or sanatorium, admission to which is conditional on the payment of the whole or any part not less than one half of the cost of maintenance, for the payment thereto of any sickness disablement or maternity benefit which would, apart from this section, be payable to or in respect of any such person who becomes an inmate of such home, during any period for which he remains an inmate.]

ADMINISTRATION OF BENEFITS.

Benefits to be administered by approved societies or the local Health Committee

13.—(1) Sickness benefit, disablement benefit, and maternity benefit [and, subject to the provisions of the next succeeding section, medical benefit,] shall be administered, in the case of insured persons who are members of an approved society, by and through the society, and other cases by and through the local Insurance Committees; *medical and* sanatorium benefits shall in all cases be administered by and through local Insurance Committees.

(2) Subject to the provisions of this Part of this Act, an approved society may with the consent of the Insurance Commissioners, provide for the application of its existing rules or make new rules with regard to the manner and time of paying or distributing and mode of calculating benefits, suspension of benefits, notices and proof of disease or disablement, behaviour during disease or disablement, and the visiting of sick or disabled persons, and for the infliction and enforcement of penalties (whether by way of fines or suspension of benefits or otherwise) in the case of any member being an insured person who is guilty of any breach of any such rule, or of any imposition or attempted imposition in respect of any benefit under this Part of this Act, and may from time to time with the like consent alter or repeal any such rules; but—

(a) no fine imposed under any such rule shall exceed ten shillings or, in the case of repeated breaches of rules, twenty shillings;

(b) no such rule shall provide for the suspension of any benefit for a period exceeding one year;

(c) every such rule relating to the visiting of insured persons shall provide that women shall not be visited otherwise than by women;

(d) every such rule relating to behaviour during disease or disablement shall be in the prescribed form;

(e) *No such rule shall prescribe any penalty, nor shall any insured person be subject to any penalty, whether by suspension of benefit or otherwise, on account of the refusal by any such person to submit to a surgical operation, or vaccination or inoculation of any kind;*

(f) *No such rule shall provide for withholding maternity benefit from the wife of an insured person except the said wife has herself been guilty of breach of such, or attempted imposition as aforesaid.*

(3) The local Insurance Committee shall, subject to the approval of the Insurance Commissioners, make rules in respect of any of the matters mentioned in the last preceding subsection for the purpose of regulating the payment or distribution of benefits administered by the committee:

Provided that no such rule relating to anything to be done by, to, or through the Post Office shall be made without the consent of the Postmaster General.

(4) Where under any such rule as aforesaid, payment of sickness or disablement benefit is suspended on the ground that the disease or disablement has been caused by the misconduct of the person claiming the benefit, such person shall nevertheless continue to be entitled to medical benefit.

(5) Where under any Act regulating the constitution of an approved society the rules of the society are required to be registered, any rules approved under this section by the Insurance Commissioners shall forthwith be registered, but till so registered shall have effect as if they had been duly registered.

Administration of medical benefit.

14.—(1) Every [approved society and] local Insurance Committee shall for the purpose of administering medical benefit make arrangements with duly qualified medical practitioners [for insured persons to receive attendance and treatment to the satisfaction of] in accordance with regulations made by the Insurance Commissioners [from such practitioners].

(2) *The regulations made by the Insurance Commissioners shall provide for the arrangements made being subject to the approval of the Insurance Commissioners and being such as to secure that insured persons shall, save as hereinafter provided, receive adequate medical attendance and treatment from the medical practitioners with whom arrangements are so made, and shall require the adoption by every local Insurance Committee of such system as will secure—*

(a) the preparation and publication of lists of medical practitioners who have agreed to attend and treat insured persons whose medical benefit is administered by the committee within the area to which the list relates ;

(b) a right on the part of any duly qualified medical practitioner who is desirous of being included in any such list as aforesaid of being so included, but where the Insurance Commissioners, after such inquiry as may be prescribed, are satisfied that his continuance in the list would be prejudicial to the efficiency of the medical service of the insured, they may remove his name from the list ;

(c) a right on the part of any insured person of selecting, at such periods as may be prescribed, from the appropriate list the practitioner by whom he wishes to be attended and treated, and, subject to the consent of the practitioner so selected, of being attended and treated by him ;

(d) the distribution amongst and, so far as practicable, under arrangements made by the several practitioners whose names are on the lists of the insured persons who, after due notice, have failed to make any selection, or who have been refused by the practitioner whom they have selected :

Provided that if the Insurance Commissioners are satisfied, after inquiry, that the practitioners included in any list are not such as to secure an adequate medical service in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area, and authorise the Committee to make such other arrangements as the Commissioners may approve.

(3) *The regulations made by the Insurance Commissioners shall authorise the local Insurance Committee by which medical benefit is administered to require any persons whose income exceeds a limit to be fixed by them, and to allow any other persons, in lieu of receiving medical benefit under such arrangements as aforesaid, to make their own arrangements for receiving medical attendance and treatment (including medicines and appliances), and in such case the Committee shall, subject to the regulations, contribute from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment (including medicines and appliances) for such persons sums not exceeding in the aggregate the amounts which the Committee would otherwise have expended in providing medical benefit for them.*

(4) *The regulations may provide that, in the case of persons who are receiving medical attendance and treatment under any system or through any organisation existing at the time of the passing of this Act, and approved by the local Insurance Committee and the Insurance Commissioners, such medical attendance and treatment may be treated as, or as part of, their medical benefit under this Part of this Act, and may provide for the Committee contributing towards the expenses thereof the whole or any part of the sums which would be contributed in the case of persons who have made their own arrangements as aforesaid.*

[2] (5) Every such [society or] committee shall also make provision for the supply of proper and sufficient drugs and medicines to insured persons, *in accordance with regulations made by the Insurance Commissioners, which shall provide for the arrangements made being subject to the approval of the Insurance Commissioners, and being such as to enable insured persons to obtain from any persons with whom arrangements have been made such drugs, medicines, and appliances as may be ordered by the medical practitioner by whom they are attended, and shall require the adoption by every local Insurance Committee of such a system as will secure—*

(a) The preparation and publication of lists of persons, firms, and bodies corporate who have agreed to supply drugs, medicines, and appliances to insured persons whose medical benefit is administered by the Committee, according to such scale of prices as may be fixed by the Committee ;

(b) A right on the part of any properly qualified person who is desirous of being included in any such list as aforesaid, of being so included, except in cases where the Insurance Commissioners after inquiry are satisfied that his inclusion or continuance in such list would be prejudicial to the efficiency of the service :

Provided that—

(i) If the Insurance Commissioners are satisfied that the scale of prices fixed by the Committee is reasonable, but that the persons, firms, or bodies corporate included in any list are not such as to secure an adequate and convenient supply of drugs, medicines, and appliances in any area, they may dispense with the necessity of the adoption of such system as aforesaid as respects that area and authorise the committee to make such other arrangements as the Commissioners may approve ;

(ii) The regulations shall prohibit an arrangement being made with a medical practitioner under which he is bound or agrees to provide drugs or medicine for any insured person without the consent of the

Insurance Commissioners, which consent they shall not give unless the circumstances of any locality are such as to make it expedient to do so ;

(*iii*) *Subject to the foregoing provision as to dispensing by a medical practitioner, the regulations shall prohibit arrangements for the supply of drugs and medicines being made with persons other than persons, firms, or bodies corporate entitled to carry on the business of a chemist and druggist under the provisions of the Poisons and Pharmacy Act,* 1908, *who undertake that all medicines supplied by them to insured persons shall be dispensed either by a registered pharmacist or by a person who, for three years immediately prior to the passing of this Act, has acted as a dispenser to a duly qualified medical practitioner or a public institution.*

(6) *There shall in each year be paid to the local Insurance Committee for each county or county borough out of moneys credited to a society which has members resident in the county or county borough such sum in respect of the medical benefit for every such member as, in default of agreement, may be determined by the Insurance Commissioners.*

[and no arrangement shall be made with a medical practitioner under which he is bound or agrees to provide drugs or medicine for any insured person at an inclusive fee, without the consent of the Insurance Commissioners, which consent they shall not give unless the circumstances of any locality situate in a rural district are such as to make it expedient to do so.

(3) An approved society may enter into an agreement with the local Health Committee for the administration of medical benefit among such of the members of the society entitled thereto as may be resident in the county or county borough for which the committee is established ; and on any such agreement being made the committee shall take over such administration and there shall in each year be paid out of moneys credited to the society such sum in respect of every member of the society entitled to the benefit and resident in the county or county borough as may be agreed between the society and the committee.]

(7) If in any year the amount payable to a local Insurance Committee in respect of all persons for the administration of whose medical benefit it is responsible is insufficient to meet the estimated expenditure thereon, the Committee may, through the Insurance Commissioners, transmit to the Treasury and to the council of the county or county borough an account showing the amount so payable and the estimated expenditure, and the Treasury and the county council or the council of the county borough *may if they think fit and* [shall] if satisfied that the amounts so payable and the proposed expenditure are reasonable and proper in the circumstances sanction the expenditure.

(8) The Treasury and the council of the county or county borough sanctioning any such expenditure as aforesaid shall thereupon each be liable to make good, in the case of the Treasury out of moneys provided by Parliament, and in the case of the council of a county or county borough out of the county fund or borough fund or borough rate, as the case may be, one half of any sums *so sanctioned by them and* expended by the local Insurance Committee on medical benefit in the course of the year in excess of the amounts so payable to the local Insurance Committee as aforesaid.

Administration of sanatorium benefit.

15.—(1) For the purpose of administering sanatorium benefit local Insurance Committees shall make arrangements, to the satisfaction of the Insurance Commissioners :—

(*a*) *with a view to providing treatment for insured persons suffering from tuberculosis or any other such disease as aforesaid in sanatoria and other institutions, with persons or local authorities having the management of sanatoria or other institutions approved by the Local Government Board ; and*

(*b*) *with a view to providing treatment for such persons otherwise than in sanatoria or other institutions, with persons and local authorities other than poor law authorities undertaking such treatment in a manner approved by the Local Government Board, which treatment (including the appointment of officers for the purpose) it shall be lawful for a local authority, if so authorised by the Local Government Board, to undertake.*

[with persons or local authorities having the management of sanatoria or other similar institutions approved by the Local Government Board for the treatment therein of insured persons entitled to sanatorium benefit under this Part of this Act.]

(2) The sums available for defraying the expenses of sanatorium *benefit* [treatment] in each year shall be—

(*a*) one shilling and threepence in respect of each insured person resident in the county or county borough payable out of the funds out of which benefits are payable under this Part of this Act ;

(*b*) one penny in respect of each such person payable out of moneys provided by Parliament :

Provided that the Insurance Commissioners may retain the whole or any part of the sums so payable out of moneys provided by Parliament for the purposes of research.

(3) An insured person shall not be entitled to sanatorium benefit unless the local Insurance Committee *recommends* [considers] the case [one suitable] for [sanatorium treatment] *such benefit.*

(4) *A local Insurance Committee may, out of the sums available for defraying the expenses of sanatorium treatment, defray in whole or in part the expenses of the conveyance of an insured person to or from any sanatorium or institution to which he may be sent for treatment therein, or may make advances for the purpose*

Administration of maternity benefit.

16.—(1) Where the mother of the child is herself an insured person, *and is not the wife of an insured person*, maternity benefit shall be treated as a benefit for her and shall be administered *in cash or otherwise* by the approved society of which she is a member, or if she is not a member of any society by the local Insurance Committee; *in any other case* [if she is not herself an insured person] the benefit shall be treated as a benefit for her husband and shall be administered *in cash or otherwise* by the approved society of which he is a member, or if he is not a member of any such society by the local Insurance Committee, and shall be payable in respect of a posthumous child.

(2) *Provided always that the mother shall decide whether she shall be attended by a registered medical practitioner or by a duly certified midwife, and shall have free choice in the selection of such practitioner or midwife.*

[(2) The money payable by way of maternity benefit shall be expended in such manner as may be prescribed, and no payment shall be made by way of maternity benefit if the mother of the child has failed to comply with such conditions as may be prescribed.]

Power to approved societies to subscribe to hospitals, &c.

17.—It shall be lawful for an approved society *or local Insurance Committee* to grant such subscriptions or donations as it may think fit to hospitals and other charitable institutions, or for the support of district nurses, and to appoint nurses for the purpose of visiting *and nursing* insured persons, [who are members of the society,] and any sums so expended shall be treated as expenditure on such benefits under this Part of this Act as may be prescribed.

Approved Societies.

Conditions for the approval of approved societies.

18.—(1) Any society, that is to say, any body of persons, corporate or unincorporate (not being a branch of another such body), registered or established under any Act of Parliament, or by Royal Charter, or if not so registered or established, having a constitution which is in accordance with regulations prescribed by the Insurance Commissioners which complies with the requirements of this Act relating to approved societies, may be approved by the Insurance Commissioners, and if so approved shall be an approved society for the purposes of this Part of this Act:

Provided that where any society establishes for the purposes of this Part of this Act a separate section consisting of insured persons, whether with or without honorary members not being insured persons, and so constituted as to comply with the requirements of this Act relating to approved societies, such separate section may be approved by the Insurance Commissioners, and if so approved shall be an approved society, and the provisions of this Part of this Act relating to approved societies shall apply only to such separate section of the society.

(2) No society shall receive the approval of the Insurance Commissioners unless it satisfies the following conditions:—

(i) It must not be a society carried on for profit;

(ii) Its constitution must provide to the satisfaction of the Insurance Commissioners for its affairs being subject to the absolute control of its members being insured persons or, if the rules of the society so provide, of its members whether insured persons or not, including provision for the election and removal of the committee of management or other governing body of the society, in the case of a society whose affairs are managed by delegates elected by members by such delegates, and in other cases in such manner as will secure absolute control by its members.

(3) Applications for approval under this section may be made and approval granted at any time before or after the commencement of this Act, and the Insurance Commissioners may grant approval either unconditionally or subject to the condition of the society taking within such time as the Commissioners may allow such steps as may be necessary to make the society comply with the requirements of this Act relating to approved societies.

Special provisions for employers' superannuation funds, &c.

19.—(1) Where a society consists of persons entitled to rights in a provident fund or any similar fund established for the benefit of persons employed by one or more employers, the society may be approved:

Provided that its constitution provides that the election of all the committees, representatives, and officers elected by the workmen shall be by ballot notwithstanding that the employer is entitled to representation on the committee or other body administering the fund, to an extent not exceeding one quarter of the total number of the body, if the employer, in addition to the employer's contributions payable by him under this Part of this Act, is responsible for the solvency of the fund or for the benefits payable thereout, or is liable to pay a substantial part of, or to make substantial contributions to, or substantially to supplement, the benefits payable out of the fund:

Provided that no such society as aforesaid shall be approved unless by its constitution it is prohibited so far as concerns the benefits under this Part of this Act from refusing to allow a member to transfer to another approved society, and from refusing to allow a member who is discharged from or leaves the

employment of the employer and is unable to obtain admission to another approved society on account of the state of his health to continue a member:

Provided also that no such society shall be approved if the employer makes membership of such society a condition of employment.

(2) Where, for the purpose of enabling any such society to become an approved society, it is necessary to make any alteration in the existing rules or constitution of the society which it is not competent for the society under its existing constitution to make a scheme for the purpose may be submitted for the approval of the Insurance Commissioners.

(3) Where such a scheme has been approved by the Insurance Commissioners, the Act or deed constituting the society shall have effect subject to the provisions of the scheme, but the Insurance Commissioners shall not approve any such scheme unless they are satisfied that the members of the society have been given an opportunity of voting by ballot thereon, and that the scheme makes proper provision for safeguarding existing rights and interests.

Security to be given by approved societies.

20.—(1) Every approved society and every society desirous of becoming an approved society shall give such security as the Insurance Commissioners may consider sufficient to provide against any malversation or misappropriation by officers of the society of any funds coming to their hands under this Part of this Act, and in determining the amount of the security to be required the Commissioners shall have regard to the amount of the funds so coming into their hands: Provided that no security shall be required from any society which proves to the Insurance Commissioners that the only funds coming into the hands of the society under this Part of this Act are such funds as are required for reimbursing to the society sums previously expended by the society under this Part of this Act.

(2) In the case of an approved society with branches having insured persons among their members, security shall be given in respect of each such branch by the society.

(3) The Insurance Commissioners may from time to time vary the amount of security to be given or maintained by an approved society as may be thought proper, and where security is given by the deposit of securities the society which made the deposit may, with the consent of the Insurance Commissioners, substitute other securities for the securities for the time being deposited.

(4) Any dividends or interest arising from securities deposited by an approved society under this section shall be paid to the society.

Approved societies to provide for local administraton, &c.

21.—(1) Every approved society shall make proper provision by rules to the satisfaction of the Insurance Commissioners for the government of the society, and if a society with branches—

(*a*) for the government of the society and its branches;

(*b*) for the determination of disputes arising between the society and any branch thereof, or between one such branch and another;

(*c*) for the administration of benefits by the branches as respects insured persons who are members of such branches;

(*d*) for the keeping of proper books of account by the branches in any case where separate accounts are usually kept by those branches;

(*e*) for depriving of or suspending from the right of administering benefits under this Part of this Act any branch which is guilty of maladministration of those benefits, and for providing in such a case for their administration by the society or otherwise.

(2) Every approved society and every branch thereof, shall comply with any regulations made by the Insurance Commissioners as to the place in which meetings are to be held and those regulations may provide for the use for such meetings, with or without payment, of any offices or other buildings occupied by or in connexion with a labour exchange or under the control of a Government Department or belonging to or under the management of a local authority, but subject to the consent of such local authority or of such Government Department.

Secessions, &c.

22.—(1) No branch of an approved society having insured persons among its members shall be entitled to secede or withdraw from the society without the consent of the Insurance Commissioners; but such consent shall not be given unless the seceding or withdrawing branch complies with the conditions of approval requisite in the case of approved societies, and on any such consent being given the branch shall be subject in all respects to the provisions and requirements of this Part of this Act relating to approved societies.

(2) An approved society or a branch thereof shall not be dissolved without the sanction of the Insurance Commissioners, and any such dissolution, so far as it affects members who are insured persons, shall be carried out in the prescribed manner.

(3) No branch of an approved society shall be expelled from the society unless proper provision is made to the satisfaction of the Insurance Office with respect to any members of the branch who are injured persons.

(4) This section shall have effect notwithstanding anything contained in any Act regulating the constitution of the society.

Withdrawal of approval.

23. Where an approved society fails to comply with any of the provisions or requirements of this Part of this Act relating to approved societies, or is convicted of any offence under any Act regulating the constitution of the society or under any other Act, the Insurance Commissioners may withdraw their approval, and thereupon the society shall cease to be an approved society and the Insurance Commissioners shall make such provision as they may consider necessary with respect to members of the society who are insured persons.

Membership of Approved Societies and Transfer of Members.

Admission of insured persons to membership in approved societies.

24.—(1) Subject to the provisions of this Act, any insured person and any person desirous of becoming an insured person may apply to an approved society for membership therein.

(2) An approved society shall be entitled, in accordance with its rules, to admit or reject any such applicant, or to expel any of its members being insured persons; provided that no such application shall be refused solely on the ground of the age of the applicant, and that the applicant may for the purposes of this Part of this Act be admitted as a member of a society notwithstanding anything in any other Act limiting the age for admission to societies of that class.

Transfer from one approved society to another.

25.—(1) If an insured person, being a member of an approved society, ceases to be a member of that society, whether voluntarily or by expulsion, and becomes a member of another approved society, there shall be transferred to such other society in respect of such person a sum representing the liability under this Part of this Act of the first-mentioned society in respect of him (in this Act called "transfer value") calculated in accordance with tables to be prepared by the Insurance Commissioners.

(2) This section shall apply to transfers from one branch of an approved society to another branch of the same or any society in like manner as it applies to transfers from one society to another society.

Transfers to foreign and colonial societies.

26.—(1) If an insured person ceases to be permanently resident in the United Kingdom and becomes a member of any society or institution established in a British possession or foreign country, of a kind similar to an approved society, which is approved by the Insurance Commissioners, or of any branch established outside the United Kingdom of an approved society, the transfer value of such person, or, in the case of a deposit contributor, the amount standing to his credit in the Post Office fund, shall be paid to such society or institution or branch; but no such payment shall be made unless the Insurance Commissioners are satisfied that the society, institution, or branch in question gives corresponding rights to any of its members becoming resident in the United Kingdom.

(2) Where an arrangement has been made with the Government of any British possession or with the Government of any foreign State, whereby insured persons may be transferred to a society or institution established in the British possession or foreign State similar to an approved society or the Post Office fund, and members of any such society or institution may be transferred to approved societies or to the Post Office fund, it shall be lawful for the Insurance Commissioners to make such arrangements as may be necessary for any such transfer as aforesaid, and for the determination of the amount to be transferred in any such case, and of the rights to which any person transferred is to be entitled; so however that nothing in this section shall affect the rights of a society under this Part of this Act to refuse applications for membership.

Prohibition against double insurance.

27. A person shall not be or attempt to become a member for the purposes of this Part of this Act of more than one approved society at the same time, or, being a deposit contributor to, become at the same time a member for the purposes of this Part of this Act, of an approved society, but nothing in this Act shall prevent any person who is a member of an approved society or a deposit contributor under this Part of this Act becoming a member of the same or any other society independently of this Act, or affect the right of an approved society to reject or expel from membership any person not being an insured person, or the rights or liabilities of an approved society or of any member thereof arising otherwise than under this Part of this Act; and, subject to the provisions of this Part of this Act, all rules made by an approved society or any branch thereof shall remain and be of the same force and effect as though this Act had not been passed.

ACCOUNTS: VALUATIONS: SURPLUS AND DEFICIT.

28.—(1) Every approved society and every branch of an approved society must—

Approved societies to keep proper accounts

(*a*) Keep its books and accounts under this Part of this Act separate from all other books and accounts of the society or branch, and in such form as may be prescribed by the Insurance Commissioners, and, when required, submit them to audit by auditors to be appointed by the Treasury;

(*b*) Submit to have its assets and liabilities under this Part of this Act valued in accordance with the provisions of this Part of this Act;

(*c*) In the event of a surplus or deficiency being shown upon any such valuation, comply with the provisions relating to surpluses and deficiencies hereinafter contained;

(*d*) Render such returns as the Insurance Commissioners may prescribe.

(2) Regulations made under this section shall provide for a separate account being kept showing the amount expended on administration, and for limiting the amount which may be carried to that account out of the contributions under this Part of this Act, and for requiring any deficiency in such account (if not otherwise defrayed) to be met forthwith by a special levy.

(3) The provisions of this Part of this Act relating to accounts audit, valuation and returns shall as respects the transactions of any approved society or branch thereof under this Part of this Act be substituted for such of the provisions of any Act regulating the constitution of the society or branch as deal with the like matters.

(4) In the case of a society or branch transacting other business besides that of insurance business under this Part of this Act, all funds and credits of the society or branch under this Part of this Act shall be as absolutely the security of the members for the purposes of this Act as if they belonged to a society or branch carrying on no other business than such insurance business, and shall not be liable for any contracts of the society or branch for which they would not have been liable had the business of the society or branch been only that of such insurance, and shall not be applied directly or indirectly for any purposes other than those of insurance business under this Part of this Act.

Where a separate section of a society has been established and such separate section is an approved society under this Part of this Act, the expression "society" in this subsection means the society of which the separate section has been established and not the separate section.

29.—(1) A valuation of the assets and liabilities arising under this Part of this Act of every approved society and of every branch of an approved society shall be made by a valuer to be appointed by or with the approval of the Treasury at the expiration of every three years dating from the commencement of this Act, or at such other times as the Insurance Commissioners appoint.

Valuations of approved societies.

(2) Every such valuation shall be made on such basis as may be prescribed:

Provided that it shall be assumed for the purposes of such valuation that the approved society or branch is liable to pay the proportion of the benefits administered by the society, and of the cost of the administration of those benefits which is payable out of the contributions payable by or in respect of the members, that is to say, seven-ninths, or in the case of women three-fourths of such benefits and cost.

30.—(1) If upon any such valuation a surplus (certified by the valuer to be disposable) is found, the following provisions shall apply:—

Surplus.

(*a*) If the society is a society with branches, any surplus in the central fund of the society, including any surplus transferred from the branches to the society under the provisions of this section, shall, subject to the provisions of the next succeeding section of this Act, be applied in the first instance in making good any deficiency shown by any of its branches:

(*b*) Subject as aforesaid, the society may submit to the Insurance Commissioners a scheme for distributing out of such surplus any one or more additional benefits among insured persons who are members thereof, and upon any such scheme being sanctioned by the Insurance Commissioners the society may distribute such additional benefit or benefits in accordance with the provisions thereof, or the society, if a society with branches, may in lieu of submitting such a scheme distribute the balance of the surplus, after making good deficiencies as aforesaid, amongst such of its branches as have a balance in proportion to the amounts of such surpluses, and in such case the sum so apportioned to a branch shall be treated as an addition to the disposable surplus of that branch.

(*c*) If on the valuation of a branch of an approved society a surplus is shown in respect of such branch, there shall be transferred to the central body or other central authority of the society of which it is a branch one half of the surplus, and the branch may itself, or through the society, submit to the Insurance Commissioners a scheme for distributing out of the remaining one half of such surplus, together with any such addition as aforesaid, any one or more additional benefits, and upon

any such scheme being sanctioned by the Insurance Commissioners, the branch may distribute such additional benefit or benefits in accordance with the provisions thereof :

(*d*) If at any time after a scheme submitted by a society has been so sanctioned as aforesaid there is found to be a deficiency in the funds of the society or of any of its branches which the society is required to make good, or if at any time after a scheme submitted by or on behalf of a branch has been so sanctioned as aforesaid there has been found to be a deficiency in the funds of the branch, no additional benefits shall be distributed under the scheme until such deficiency is extinguished and a surplus shown.

(2) A scheme made under this section may prescribe the conditions to be complied with as respects any additional benefit conferred by the scheme, and every such scheme shall so far as practicable provide for the reduction, suspension, or deprivation of the additional benefits conferred by the scheme in the case of members who are in arrears, and may make a corresponding reduction in the amount to which such members are to be deemed to be in arrears for the purpose of reckoning the rate of sickness benefit.

(3) No surplus and no part of any surplus shall be applied for the purpose of paying any benefits payable on death or any benefits other than one or more of the additional benefits specified in Part II. of the Fourth Schedule to this Act.

Deficit.

31.—(1) If upon any such valuation a deficiency is found, the following provisions shall apply :—

(*a*) If the deficiency is shown by a branch of an approved society, it shall, in the first place, so far as possible, be made good out of any surplus in the hands of the central body or other central authority of the society :

Provided that the society may, if it is satisfied that the deficiency is due to any maladministration on the part of the branch in question, with the consent of the Insurance Commissioners, refuse to make good the deficiency or any part thereof out of such surplus :

(*b*) Subject as aforesaid, every deficiency shall be made good in accordance with a scheme for that purpose to be prepared by the society and submitted to the Insurance Commissioners for their sanction ; such a scheme shall provide for making good the deficiency, within a period of three years from the date at which the valuation was made, in any one or more of the following ways :—

(i) By compulsory levy upon members of the society or branch being insured persons ;

(ii) By reducing the rate of sickness benefit ;

(iii) By deferring the day as from which sickness benefit becomes payable ;

(iv) By reducing the first or the second period of thirteen weeks during which sickness benefit is payable, or both such periods ;

(v) By increasing the period which is required by this Part of this Act to elapse between two periods of disease or disablement to prevent the one being treated as continuation of the other, and on the sanction of the Insurance Commissioners being given to the scheme the society shall proceed to make good the deficiency in accordance therewith :

(*c*) Payment of the amount of any compulsory levy made in accordance with a scheme sanctioned under this section may be enforced in such manner as may be provided by the rules of the society ; and where those rules so provide it shall be lawful for the society in the case of any member to enforce payment of the amount of the levy by giving notice in the prescribed manner to the employer of such member requiring him to pay the amount of the levy, and upon such notice being given such amount shall be payable as if it were part of the contribution to be made by the employer on behalf of the member, and all the provisions of this Part of this Act relating to the payment of such contributions and the recovery thereof from members shall apply accordingly :

(*d*) If a member chargeable with a levy falls into arrears his arrears shall reckon as though the total sum thereof, inclusive of the levy, consisted of weekly sums of the premium payable by him had no levy been made :

(*e*) If within six months after the declaration of a deficiency, or where an enquiry as to excessive sickness is pending under this Part of this Act, such longer period as the Insurance Commissioners determine, such scheme as aforesaid has not been submitted to and approved by the Insurance Commissioners, or if at any time thereafter it appears to the Insurance Commissioners that the society or branch to which the scheme relates is not enforcing the provisions of the scheme, the Insurance Commissioners may take over the administration of the affairs of the society or branch under this Part of this Act, and shall as soon as possible thereafter take such steps as they may think necessary to make good the deficiency by any or all of the methods mentioned in paragraph (*b*) of this section, and for that purpose they shall be entitled to exercise all or any of the powers given to the society by this Part of this Act :

(*f*) The Insurance Commissioners after taking over the administration of the affairs of any society or branch shall within a reasonable time, not exceeding three years, make arrangements for the restoration to the society or branch of its powers of self-government or, failing that, for the transfer of the members of the society or branch, being insured persons, to other approved societies or branches or to the Post Office fund:

(*g*) Any question or dispute arising between the Insurance Commissioners and the society in respect of the amount of the deficiency, or as to the adequacy of any scheme proposed for making it good, shall be decided by an independent valuer to be appointed by the Lord Chief Justice:

(*h*) A scheme made under this section shall not affect any person who becomes a member of the society after the date as at which the valuation was made, or any member over seventy years of age:

(*i*) Any member of the society or branch, being an insured person, who is transferred to another society or to another branch of the same or any other society before the deficiency is made good, shall be liable to any levy or reduction of benefits which may be made in respect of such deficiency in like manner in all respect as if he had not ceased to be a member.

(2) Any member liable to a levy payable at intervals may relieve himself of the liability thereto, and a member subject to a diminution of benefits by virtue of any such scheme may, with the consent of the society, acquire a right to undiminished benefits on payment to the Insurance Commissioners of the capitalised value of the levy or diminution of benefits, as the case may be, ascertained in the prescribed manner.

DEPOSIT ASSURANCE.

Provisions as to deposit contributors.

32. Until the first day of January nineteen hundred and fifteen, the following provisions shall apply in the case of insured persons (in this Act referred to as deposit contributors) who have not joined an approved society within the prescribed time, or who, having been members of an approved society, have been expelled or have resigned therefrom and have not joined another approved society:—

(*a*) Contributions by or in respect of a deposit contributor shall be credited to a special fund to be called the Post Office fund:

(*b*) The sums required for the payment of any sickness, disablement, or maternity benefit payable to a deposit contributor, except so far as they are payable out of moneys provided by Parliament, shall be paid out of the money standing to his credit in the Post Office fund, and his right to benefits under this Part of this Act shall be suspended on the sums standing to his credit in that fund being exhausted, except that his right to medical benefit and sanatorium benefit shall continue until the expiration of the then current year, and that the Local Insurance Committee, if it has funds available for the purpose and thinks fit so to do, may allow him to continue to receive medical benefit or sanatorium benefit or both such benefits after the expiration of such year.

(*c*) Such sum as may be prescribed shall in each year be payable in respect of each deposit contributor towards the expenses incurred by the Local Insurance Committee in the administration of benefits:

(*d*) Such sum as the Local Insurance Committee may, with the consent of the Insurance Commissioners, determine shall in each year be payable in respect of each deposit contributor for the purposes of the cost of medical benefit:

(*e*) The sums payable in respect of a deposit contributor for the purposes of medical benefit and sanatorium benefit, and towards the expenses of administration, shall, except so far as they are payable out of moneys provided by Parliament, be deducted at the commencement of each year from the amount standing to his credit in the Post Office fund:

(*f*) The amount standing in the Post Office fund to the credit of any deposit contributor shall, upon his dying, be forfeited.

Transfer from approved society to deposit insurance and vice versa.

33.—(1) If an insured person, being a member of an approved society, ceases to be a member of that society, whether voluntarily or by expulsion, and fails to become a member of another approved society, then—

(*a*) if he becomes a deposit contributor, his transfer value shall be carried to his credit in the Post Office fund: Provided that if a reserve value is credited to the society in respect of him, that reserve value shall be cancelled and the difference between the transfer value and the reserve value shall be carried to the credit of the deposit contributor;

(*b*) if he does not become a deposit contributor, his transfer value shall be carried to such account and dealt with in such manner as may be prescribed.

(2) If an assured person who is a deposit contributor subsequently becomes a member of an approved society for the purposes of this Part of this Act, there shall be transferred to the society the amount standing to his credit in the Post Office fund:

Provided that—

(*a*) if that amount exceeds the value of the contributions paid by or in respect of him estimated on the assumption that he had been a member of an approved society since his entry into insurance,

the excess shall not be transferred to the society but shall be carried to the credit of the Post Office fund;

(*b*) if that amount is less than such value the insured person shall be treated as being in arrear to the amount of the deficiency.

PROVISIONS AS TO SPECIAL CLASSES OF INSURED PERSONS.

Special provisions with respect to married women.

34.—(1) Where a woman who, having before marriage been an insured person, marries, she shall be suspended from receiving the ordinary benefits under this Part of this Act until the death of her husband, and if she is a member of an approved society one-third of her transfer value shall be carried to a separate account called the married women's suspense account, but if at any time after the death of her husband she again becomes employed within the meaning of this Part of this Act, the period between her marriage and the expiration of one month from death of her husband shall be disregarded for the purpose of reckoning arrears, and there shall be transferred from the married women's suspense account to the society of which she is a member the proper reserve value calculated according to tables to be prepared by the Insurance Commissioners:

Provided that where a woman who, having been employed within the meaning of thisP art of this Act before marriage, proves that she continues to be so employed after marriage, she shall not be so suspended so long as she continues to be so employed, and that where a married woman so suspended from the ordinary benefits becomes employed within the meaning of this Act before such death, contributions shall thereupon again become payable in respect of her, and she shall cease to be suspended from receiving the ordinary benefits, but, subject to regulations made by the Insurance Commissioners, she shall for the purposes of those benefits be treated as if she had not previously been an insured person.

(2) Where a married woman being a member of an approved society is so suspended from the ordinary benefits as aforesaid, she may, if she so elects within one month after such suspension, or, subject to the consent of the society, after the expiration of that month, and notwithstanding that she is not engaged in any regular occupation, become whilst so suspended a voluntary contributor, subject to the following modifications, but not otherwise:—

(*a*) The rate of contributions payable by her shall be threepence a week;

(*b*) The benefits to which she shall be entitled shall be—

(i) medical benefit; and

(ii) sickness benefit and disablement benefit at the rates and subject to the conditions specified in Table D. of Part I. of the Fourth Schedule to this Act;

(*c*) No part of her contributions shall be retained by the Insurance Commissioners for the purpose of discharging their liabilities to approved societies in respect of the reserve values created under this Act:

Provided that where a married woman elects not to become such a voluntary contributor she shall be ntitled to have a sum equal to the remaining two-thirds of her transfer value applied in accordance vith regulations of the Insurance Commissioners towards the payment of any of the benefits specified n Part III. of the Fourth Schedule to this Act until the same is exhausted, except that where a reserve alue was credited to the society in respect of such woman at the date of her entrance into insurance so uch of such sum as aforesaid as may be prescribed shall not be so applied but shall be written off the mount of the reserve values credited to the society.

(3) Where the husband of a married woman who has been so suspended from ordinary benefits as foresaid and who is a member of an approved society dies, she may, if she is qualified to become a oluntary contributor, and elects to do so within one month after the death of her husband, become an dinary voluntary contributor paying contributions at the rate which would have been applicable to e case had she become such a contributor at the date of her entry into insurance:

Provided that she may, whether or not so qualified, if she so elects within one month after the death her husband, continue to be or become a voluntary contributor on the same terms and subject to the me conditions as above provided as respects married women.

In either such case there shall be transferred from the married women's suspense account to the society proper reserve value calculated as aforesaid.

4) Where a married woman who was at the date of her marriage a deposit contributor is by virtue of s section suspended from the ordinary benefits under this Part of this Act, two-thirds of the sum standing her credit in the Post Office fund shall be applied in accordance with the regulations of the Insurance mmissioners towards the payment of any of the benefits specified in Part III. of the Fourth Schedule his Act until the same is exhausted.

5) Where a woman who was a married woman living with and supported by her husband at the com- cement of this Act at any time subsequently either before or within one year after the death of her

husband becomes an employed contributor and a member of an approved society, she shall be entitled to full benefits notwithstanding that at the time of so becoming she is over the age of sixteen.

(6) Where any arrears of contributions have accrued due in respect of a married woman during coverture such arrears shall, on the death of her husband, be disregarded and she shall be thenceforth entitled to benefits as if such arrears had never accrued due.

(7) Except as provided by this section a married woman shall not be entitled to become a voluntary contributor, and if a woman is before marriage a voluntary contributor she shall on marriage not be entitled to continue to be such a contributor.

(8) If a woman, whilst a voluntary contributor at such reduced rates of benefit as are provided by this section, becomes employed within the meaning of this Part of this Act she shall be entitled to a certificate (to be granted in manner hereinbefore provided) exempting her from liability to become an employed contributor so, however, that such exemption shall not exempt the employer from his liability to pay contributions in respect of her, or deprive him of his right to recover such part of those contributions as is payable on her behalf, but of each weekly contribution so paid by the employer threepence shall be treated as her contribution as a voluntary contributor and the balance shall be applied for her benefit in such manner as the society may determine.

(9) If at any time the married women's suspense account is insufficient to meet the liabilities imposed on it by this section the deficiency shall be made good out of the sums retained by the Insurance Commissioners for discharging their liabilities in respect of the reserve values created by this Act.

(10) Transfer value for the purposes of this section shall be calculated in such manner as the Insurance Commissioners may prescribe.

(11) Where a deficiency has been found in respect of the society or branch of which a woman is a member at a valuation previous to the time when she became suspended from ordinary benefits under this Part of this Act, and that deficiency has not been made good at that time of her marriage, or where a woman is in arrears at that time, such adjustments in the sums transferred to the married women's suspense account, and the balance of her transfer value, and in the rates of benefit to which she is entitled under this section, shall be made as the Insurance Commissioners may prescribe.

(12) Save as aforesaid, the provisions of this Part of this Act shall apply to a woman who has been married, both during and after coverture, in like manner as if she had never been married.

(13) This section shall apply in the case of a woman whose marriage has been dissolved or annulled, or who has for a period of not less than two years been actually separated from or deserted by her husband, as if her husband had died at the date at which such dissolution or annulment took effect, or, as the case may require, at the expiration of such period of two years.

Special provisions as to aliens.

35.—(1) This Part of this Act shall apply to persons over the age of sixteen at the date of entry into insurance who are not British subjects, subject to the following modifications :—

(*a*) No such person shall be qualified to become a member of an approved society for the purposes of this Part of this Act ;

(*b*) No part of the benefits to which such persons may become entitled shall be paid out of moneys provided by Parliament ;

(*c*) The rate of sickness, disablement, and maternity benefit shall be reduced, in the case of men, to seven-ninths, or in the case of women to three-quarters, of the rate to which they would otherwise be entitled under this Part of this Act ;

(*d*) No part of the sums payable in respect of such persons for medical benefit and sanatorium benefit or towards the expenses of administration of benefits shall in the case of such persons be paid out of moneys provided by Parliament ;

Provided that any such person may become a member of an approved society on the terms and subject to the conditions hereinafter mentioned, and in such case the following provisions shall have effect :—

(i) The contributions payable by or in respect of such person shall be credited to the society ;

(ii) The society shall in each year pay to the Local Insurance Committee the sums payable in respect of such person for medical benefit and sanatorium benefit ;

(iii) The rate and conditions of sickness benefit, and disablement benefit, and maternity benefit shall be such as may be determined by the benefit society ;

(iv) Such person shall not be deemed to have joined an approved society for the purposes of this Part of this Act relating to reserve values, and no part of the contributions of such person shall be retained by the Insurance Commissioners towards the discharge of their liabilities in respect of reserve values.

(2) This section shall not apply to any person who, on the fourth day of May nineteen hundred and

eleven, was a member of a society which shall become an approved society and has been resident for five years in the United Kingdom.

(3) For the purposes of this section a woman who, having been a British subject before marriage, has ceased to be a British subject by reason of marriage with a person not being a British subject, shall not be subject to the provisions of this section if her husband is dead, or the marriage has been dissolved or annulled, or she has for a period of not less than two years been actually separated from or deserted by her husband.

(4) This section shall not apply to any person who is transferred to an approved society or the Post Office fund in pursuance of an arrangement with the Government of any foreign State.

Special provisions with regard to persons in the naval and military service of the Crown.

36.—(1) For the purpose of providing seamen, marines, and soldiers with such benefits during their term of service and after their return to civil life as are hereinafter in this section mentioned there shall be deducted from the pay of every seaman and marine within the meaning of The Naval and Marine Pay and Pensions Act, 1865, and of every soldier of the regular forces, soldiers of His Majesty's Indian forces, who are natives of India, the Royal Malta Artillery, and native soldiers of any regiment raised outside the United Kingdom the sum of one penny halfpenny a week, and there shall be contributed by the Admiralty and the Army Council respectively out of moneys provided by Parliament for Army and Navy services in respect of every such seaman, marine, and soldier who has joined an approved society in the manner hereafter mentioned the sum of one penny halfpenny per week and in respect of every such other seaman, marine, and soldier such sum per week as may be prescribed: Provided that no deduction shall be made from the pay of a seaman, marine, or soldier who has completed the period of his first engagement and has re-engaged for pension unless he so elects within the prescribed time, and that no contribution shall be made by the Admiralty or Army Council in respect of any week in respect of which such a deduction is not made.

(2) A seaman, marine or soldier—

(*a*) who was at the date of his entry or enlistment an insured person and had joined and was at that date a member of an approved society; or

(*b*) who within six months from the date of his entry or enlistment or, in the case of a seaman, marine, or soldier serving at the commencement of this Act, within six months after the commencement of this Act, or within such longer period as may be prescribed, joins an approved society for the purposes of this Part of this Act;

shall for the purposes of this Part of this Act be treated as if he were an employed contributor, subject until his discharge to the following modifications:—

(i) The employed rate shall be three pence, and the deductions made from his pay and the contributions made in respect of him by the Admiralty or Army Council shall be treated as the contributions paid in respect of him;

(ii) He shall not be entitled under this Part of this Act to medical benefit, sanatorium benefit, sickness benefit, or disablement benefit;

(iii) Maternity benefit shall be payable notwithstanding that both he and his wife are resident outside the United Kingdom at the date of the confinement, and the society may arrange with the Admiralty or Army Council for the administration of the benefit through the Admiralty or Army Council;

(iv) The sum to be retained out of each weekly contribution by the Insurance Commissioners towards the discharge of their liabilities in respect of reserve values shall be one penny, and the remaining five-ninths of a penny shall be paid out of the Navy and Army insurance fund hereinafter constituted.

(3) With respect to seamen, marines, and soldiers who have not joined an approved society as aforesaid the following provisions shall have effect:—

(*a*) The sums so deducted and the contributions so made as aforesaid in respect of such men shall be paid into the national health insurance fund, and out of such sums there shall be retained by the Insurance Commissioners towards discharging their liabilities in respect of the reserve values created under this Part of this Act the like amount as if such men were members of approved societies, and the balance shall be credited to a special fund to be called the Navy and Army insurance fund;

(*b*) There shall also be paid into the Navy and Army insurance fund in each year out of moneys provided by Parliament a sum equal to two-ninths of the amount, calculated in the prescribed manner, which would have been payable in that year in respect of medical sanatorium sickness and disablement benefits (including expenses of administration) had all seamen, marines, and soldiers from whose pay deductions are made under this section been members of approved societies and entitled to such benefits as employed contributors;

(*c*) The weekly contributions to be made by the Admiralty and Army Council in respect of such men shall be such as may from time to time be required to keep the Navy and Army insurance fund solvent;

(*d*) If any such man was at the date of his entry or enlistment a deposit contributor he shall, for the purpose of dealings with the sum standing to his credit in the Post Office fund, be treated as if the Navy and Army insurance fund had been an approved society, and he had at the date of his entry or enlistment become a member of that society;

(*e*) In the case of a seaman, marine, or soldier serving at the commencement of this Act there shall be credited to the Navy and Army insurance fund such reserve value as would have been credited to an approved society had he at that date become a member of the society as an employed contributor. Provided that no such reserve value shall be credited to that fund if at the date aforesaid he had re-engaged for pension, unless he elects to have deductions made from his pay or unless, not having so elected, he becomes on discharge entitled to benefits payable out of that fund as hereinafter mentioned;

(*f*) Every such man shall, until discharged, be entitled to maternity benefit payable out of the Navy and Army insurance fund, and shall be entitled to such benefit notwithstanding that both he and his wife are at the date of the confinement resident outside the United Kingdom, and the benefit shall be administered by the Admiralty and Army Council either directly or through local Insurance Committees.

(*g*) On the discharge of a seaman, marine, or soldier, from whose pay deductions have been made and continue to be made up to the date of his discharge, there shall be debited to the Navy and Army insurance fund and if he becomes a member of an approved society within the prescribed time from his discharge there shall be credited to that society, or if he does not become a member of such a society within the prescribed time from his discharge there shall, unless he becomes entitled to benefits out of the Navy and Army insurance fund as hereinafter mentioned, be carried to his credit in the Post Office fund the transfer value which would have been payable in respect of him had he been a member of an approved society during his period of service, and in the latter case the reserve value, if any, credited to the Navy and Army investment fund in respect of him shall be cancelled;

(*h*) A man discharged from service as a seaman, marine, or soldier who proves that the state of his health is such that he cannot obtain admission to an approved society may, if he so elects, on making applications to the Insurance Commissioners in the prescribed manner and within three months of his discharge, or such longer time as may be prescribed, become, subject to regulations made by the Insurance Commissioners after consultation with the Admiralty and Army Council, entitled to benefits (other than additional benefits) provided under this Part of this Act at the full rate, the cost of which benefits shall be payable out of the Navy and Army insurance fund, and such benefits shall be administered by local Insurance Committees or otherwise in such manner as may be prescribed by such regulations as aforesaid, and any contributions paid under this Part of this Act by or in respect of him shall be paid into that fund;

Provided that—

(i) no deduction from benefits shall be made on account of any pension to which a man may be entitled;

(ii) the rate of sickness benefit shall be reduced, in the case of a man who entered into insurance after the age of sixteen or who is in arrears, to the like extent as it would be reduced in the case of an employed contributor who is a member of an approved society who entered into insurance at the like age or who is in arrears to the like extent, so however that the rate of sickness benefit shall in no case be reduced below five shillings a week;

(iii.) there shall in each year be repaid to the special fund, out of moneys provided by Parliament, a sum equal to two-ninths of the amount expended out of the fund on such benefits as aforesaid, including the expenses of administration.

(4) In the application of this Part of this Act to a man who is or has been a seaman, marine, or soldier, and to whom this section applies—

(i) the date of his entry or enlistment as a seaman, marine, or soldier, or, if he was serving at the commencement of this Act, the date of that commencement shall, unless he was an insured person at the date of his entry or enlistment, be treated as the date of his entry into insurance;

(ii) deductions from pay, with the corresponding contributions made by the Admiralty and Army Council, shall be treated as payments of contributions at the employed rate for the purpose of reckoning the number of contributions made in respect of him, arrears, and transfer value, and for the purpose of qualifications for becoming a voluntary contributor.

(5) Discharge shall in the case of a seaman, marine, or soldier who on the completion of any term of service is transferred to a reserve include such transfer.

(6) The foregoing provisions of this section shall, subject to such adaptation and modifications as may be prescribed, apply to men belonging to the Naval Reserves when employed on service during war or

any emergency and to men of the Army Reserve when called out on permanent service and to men of the Territorial Force when called out on embodiment, but, except as aforesaid, shall not apply to any such men.

(7) Where a man of the Naval Reserves, the Army Reserve, or the Territorial Force is being trained and is in receipt of pay out of the moneys provided by Parliament for Navy or Army services, he shall, for the purposes of this Part of this Act, be deemed whilst so engaged to be in the employment of the Crown.

Application to other persons in the service of the Crown.

37. This Part of this Act shall apply to persons employed by or under the Crown, other than those with respect to whom special provision is made by this Part of this Act, in like manner as if the employer were a private person:

Provided that, in the case of a person employed in the private service of the Crown, the head of the department of the Royal Household in which he is employed shall be deemed to be his employer.

Application to young persons under sixteen.

38. [Omitted on the motion of the Chancellor of the Exchequer.]

Financial Provisions.

National Health Insurance Fund.

39.—(1) All sums received in respect of contributions under this Part of this Act and all sums paid out of moneys provided by Parliament under this Part of this Act in respect of the benefits thereunder and the expenses of administration of such benefits shall be paid into a fund, to be called the National Health Insurance Fund, under the control and management of the Insurance Commissioners, and the sums required to meet expenditure properly incurred by approved societies and local Health Committees for the purposes of the benefits administered by them and the administration of such benefits shall be paid out of that fund.

(2) The sums payable to the said fund out of moneys provided by Parliament shall be paid in such manner and at such times as the Treasury may determine.

(3) The Insurance Commissioners shall ascertain periodically what sums standing in the Insurance Fund to the credit of the several societies and of the Post Office fund and of the Navy and Army insurance fund are available for investment and the amount so ascertained shall, so far as not required under the provisions of this Part of this Act to be paid over to societies for investment, or to be retained for investment on their behalf, or for the discharge of liabilities of societies, be carried to a separate account, called the Investment Account, and shall be paid over to the National Debt Commissioners and by them invested in accordance with regulations made by the Treasury in any securities which are for the time being authorised by Parliament as investments for Savings Banks funds, but those Commissioners shall in making the investments give preference to stock or bonds issued under the provisions of the Acts relating to borrowing for raising capital for the purposes of the local loans funds where the purpose for which such capital is required is the making of advances for the purposes of the Housing of the Working Classes Acts, 1890 to 1909.

(4) There shall be credited to the Post Office fund and to the Navy and Army insurance fund interest at the prescribed rate per annum on the sums from time to time standing to the credit of those funds in the investment account.

(5) The accounts of the National Health Insurance Fund shall be audited in such manner as the Treasury may direct.

(6) The National Debt Commissioners shall present to Parliament annually an account of the securities in which moneys forming part of the said fund are for the time being invested.

Reserve values.

40.—(1) The Insurance Commissioners shall cause tables to be prepared showing, in cases in which such provision is necessary, the capital sums (in this part of the Act referred to as "reserve values") which it is necessary to provide in respect of members entering into insurance at ages above the age of sixteen to meet the estimated loss (if any) arising through the acceptance of such persons as members upon the terms and conditions as regards contributions and benefits prescribed by this Act.

(2) On a person above the age of sixteen joining an approved society there shall be credited to the society the reserve value (if any) appropriate to such persons in accordance with such tables.

The sums so credited to a society in respect of reserve values shall carry interest at the rate of three per centum per annum.

(3) Out of each weekly contribution paid by or in respect of an insured person who is a member of an approved society in the preceding three months there shall be retained by the Insurance Commissioners a sum of *one penny and five ninths* (or in the case of women *one penny halfpenny*), and the amounts so retained shall, together with any other moneys available for the purpose, be applied in manner provided

by this Act towards discharging the liabilities of the Insurance Commissioners to approved societies in respect of the reserve values created by this section.

(4) The Insurance Commissioners shall periodically apportion amongst the several societies the sums retained by them and the sums, if any, otherwise available for the discharge of such liabilities as aforesaid in proportion to the amount of reserve values for the time being credited to the several societies, and shall credit to each society the amount so apportioned, and any balance of the sums so credited to a society, after providing for interest on the reserve values for the time being credited to the society, shall be written off the amount of the reserve values so credited.

INSURANCE COMMISSIONERS: ADVISORY COMMITTEE.

Constitution of Insurance Commissioners, appointment of inspectors, &c.

41.—(1) As soon as may be after the passing of this Act there shall be constituted for the purposes of this Part of this Act Commissioners (to be called the Insurance Commissioners), with a central office in London, and with such branch offices as the Treasury may think fit, and the Commissioners shall be appointed by the Treasury, and of the Commissioners so appointed one at least shall be a duly qualified medical practitioner who has had personal experience of general practice.*

(2) The Insurance Commissioners may appoint such officers, inspectors, referees, and servants, for the purposes of this Part of this Act as the Commissioners, subject to the approval of the Treasury as to number, may determine, and there shall be paid out of moneys provided by Parliament to the Commissioners and to such officers, inspectors, referees, and servants, such salaries or remuneration as the Treasury may determine; and any expenses incurred by the Treasury or the Commissioners in carrying this Part of this Act into effect, to such extent as the Treasury may sanction, shall be defrayed out of moneys provided by Parliament.

(3) The Insurance Commissioners may empower any such inspector to exercise in respect of any approved society or any branch of an approved society all or any of the powers given by section seventy-six of the Friendly Societies Act, 1896, to an inspector appointed thereunder:

Provided, that any complaint or report as to any such branch as aforesaid made by an inspector under this subsection shall be communicated to the central body or other central authority of the society.

Appointment of advisory Committee.

42. The Insurance Commissioners shall as soon as may be after the passing of this Act appoint an Advisory Committee for the purpose of giving the Insurance Commissioners advice and assistance in connection with the making and altering of regulations under this Part of this Act, consisting of representatives of associations of employers and approved societies, of duly qualified medical practitioners who have personal experience of general practice, and of such other persons as the Commissioners may appoint, of whom two at least shall be women.

[Clauses 43 and 44, showing original text and amendments adopted.]

INSURANCE COMMITTEES.†

Appointment of local Insurance Committee.

43.—(1) A local Insurance Committee shall be constituted for every county and county borough.

(2) Such number of the members of the committee as the Insurance Commissioners, having regard to the circumstances of each case, determine, but in no case less than [nine] *twenty-four* or more than [eighteen] *forty-eight* shall be appointed.

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*In reply to Lord Henry Cavendish Bentinck, who inquired whether in view of the fact that the interests of several million women would be affected by the new insurance scheme and in view of the power granted to the Insurance Commissioners assurances could be given that at least one woman commissioner would be appointed, Mr. McKinnon Wood said it had always been the intention of the Chancellor of the Exchequer that a woman commissioner should be appointed.

†On November 8th, Mr. Lees Smith suggested that the name "local health committee" should be changed to "local insurance committee," whereupon the Attorney-General made the following observations: "There is a difficulty in accepting the Amendment at this stage, because we have passed many Clauses in which the local health committees are referred to; but I think it would be the general wish of the Committee that I should make some statement as to the intention of the Government. The form of carrying out that intention may be discussed hereafter. It may have to be done by a series of Amendments on report, or there may be some shorter way. In substance the Government take the view that, on the whole, it would be better to leave out the word 'health' and insert the word 'insurance.' They also think it would be better to leave out the word 'local.' One of the reasons for thinking it would be better to do that is that we are proposing to set up auxiliary committees, and there would be a considerable danger of those auxiliary committees being called the local insurance committees. In order to avoid confusion it would be better to use the term 'insurance committee,' which would doubtless become coupled with the name of the particular place; for instance, the Cardiff insurance committee, or whatever it might be. That would be a convenient form of dealing with the matter, and I think it would be in accordance with the views of Members of the Committee."

[(*a*) As to one third thereof (which shall consist wholly or in part of members of the local sanitary authorities) by the county council or the council of the county borough:

(*b*) As to one third thereof by such approved societies as have members resident in the county or county borough who are insured persons, or, if such societies cannot agree upon the appointment, by the Insurance Commissioners:

(*c*) As to the remaining one third thereof by any association of deposit contributors resident in the county or county borough which may have been formed under regulations made for that purpose by the Insurance Commissioners; provided that if no such association has been formed, such one third shall, subject to the approval of the Insurance Commissioners, be appointed by the other members of the committee, or in default by the Insurance Commissioners, from amongst, so far as practicable, such deposit contributors as aforesaid.

(3) Any members appointed by the Insurance Commissioners under paragrapph (*b*) of the last preceding subsection shall be appointed from among insured persons resident in the county or county borough who are members of approved societies, and in making such appointments regard shall be had to the desirability of securing that, so far as practicable, this representation of the several societies should correspond to the number of such insured persons who are members thereof.]

in such manner as may be prescribed by regulations of the Insurance Commissioners, so as to secure representation of the insured persons resident in the county or county borough who are members of approved societies, and who are deposit contributors in proportion, as nearly as may be, to their respective numbers; and the regulations so made shall provide for conferring on the approved societies which have members resident in the county or county borough the power of appointing the representatives of such members and, where an association of the deposit contributors resident in the county or county borough has been formed under such regulations as aforesaid, for conferring on such association the power of appointing the representatives of the deposit contributors.

(3) *Of the remaining members of the committee, who shall not exceed two-thirds of the number of members appointed in the manner aforesaid, one half shall be appointed by the council of the county or county borough, two shall be elected in manner provided by regulations made by the Insurance Commissioners, either by any association of duly qualified medical practitioners resident in the county or county borough which may have been formed for that purpose under such regulations, or if no such association has been formed by such practitioners, and the others shall be appointed by the Insurance Commissioners.*

[The remaining members of the committee, not exceeding in number one fourth of the members appointed in manner aforesaid, shall be]

Provided that the members appointed by the council of the county or county borough shall consist wholly or in part of members of the local sanitary authorities and two at least shall be women, and of the members appointed by the Insurance Commissioners [but so that] *one* at least [two of the members so appointed] shall be *a* duly qualified medical practitioner [practitioners] *and two at least shall be women.*

(4) The Insurance Commissioners may [in any case where it may be desirable to do so, by regulations vary the proportions in which the county council or borough council, the approved societies, and the deposit contributors respectively are entitled to appoint members of the committee, but any such regulations shall be laid before Parliament as soon as may be after they are made] *where any part of the cost of medical benefit or sanatorium benefit is defrayed by the council of the county or county borough, increase the representation of the council and make a corresponding diminution in the representation of the insured persons.*

(5) The Insurance Commissioners may make regulations as to the appointment, quorum, term of office, and proceedings generally, of the committee, and *the employment of officers and the provision of offices by the committee, including* the use by the committee, with or without payment, of any offices of a local authority, *but subject to the consent of such authority,* and any such regulations may provide for the appointment of auxiliary committees, [consisting wholly or partially of members of the committee] and for the powers and duties of any such auxiliary committee:

Provided that the regulations so made shall require the local Insurance Committee of every county (except in cases where, owing to special circumstances, the Commissioners consider it unnecessary) within six months after the commencement of this Act to prepare and submit for approval to the Commissioners a scheme for the appointment of an auxiliary committee for the county and prescribing the area to be assigned to each such committee, and in particular the scheme shall provide for the appointment of an auxiliary committee for each borough (including the City of London and a metropolitan borough) within the county having a population of not less than ten thousand, and for each urban district within the county with a population of twenty thousand, unless the local Insurance Committee consider it expedient in the case of any such borough or urban district that there should not be a separate auxiliary committee for the borough or urban district, or that any adjoining areas should be grouped with such borough or urban district for the purpose of the appointment of an auxiliary committee.

(6) Any local Insurance Committee may, and shall if so required by the Insurance Commissioners, combine with any one or more other local Insurance Committees for all or any of the purposes of this Part of this Act, and where they so combine the provisions of this Part of this Act shall apply with such necessary adaptations as may be prescribed.

Powers and duties of local Health Committees.

44.—(1) The local Insurance Committee of a county or county borough shall, in addition to the other powers and duties imposed or conferred on it by this Part of this Act, have the following powers and duties:—

(1) It shall [consider generally the needs of the county or county borough with regard to all questions of public health, and may make such reports and recommendations with regard thereto as it may think fit] *make such reports as to the health of insured persons within the county or county borough as the Insurance Commissioners, after consultation with the Local Government Board, may prescribe, and shall furnish to them such statistical and other returns as they may require, and may make to them such other reports on the health of such persons and the conditions affecting the same, and may make such suggestions with regard thereto as it may think fit, and the Insurance Commissioners shall forward to the councils of the counties, boroughs (including metropolitan boroughs), and urban and rural districts, which appear to them to be affected by or interested in any such reports, returns, or suggestions, copies of such reports, returns, and suggestions, and the reports and returns so made shall include such reports and returns as will enable an analysis and classification to be made of the persons who are deposit contributors ;*

(2) It shall make such provision for the giving of lectures and the publication of information on questions relating to health as it thinks necessary or desirable ;

*(3) *It shall keep* proper books and accounts [shall be kept] in the prescribed form [by the local Insurance Committee] and shall, when required, [be submitted] *submit such accounts* to [an] audit by auditors [to be] appointed by the Treasury [and shall render to the Insurance Commissioners such returns as may be prescribed].

(2) For the purpose of assisting local insurance committees in the exercise and performance of their powers and duties under this Part of this Act, *and with a view to promoting co-operation between such committees and the councils of counties, county boroughs, and county districts, any* [the] medical officer of health [for the county or county borough] may, at the request of [the] *a local Insurance* Committee *and with the consent of the council by whom he is appointed*, attend meetings of this committee and give such advice and assistance as is in his power.

Local medical committee.

Mr. Chancellor of the Exchequer has given notice as follows:

After Clause 44, insert the following Clause :—

Where a local medical committee has been formed for any county or county borough, and the Insurance Commissioners are satisfied that such committee is representative of the duly qualified medical practitioners resident in the county or county borough they shall recognise such committee, and where a local medical committee has been so recognised it shall, subject to regulations made by the Insurance Commissioners, be consulted by the local Insurance Committee on all general questions affecting the administration of medical benefit, including the arrangements made with medical practitioners giving attendance and treatment to insured persons, and shall perform such other duties, and shall exercise such powers as may be determined by the Insurance Commissioners.

[Clauses 45 to 58 inclusive, as amended in Committee.]

Income.

45.—(1) All sums available for sanatorium benefit in a county or county borough, and all sums payable in respect of deposit contributors so resident for the purposes of medical benefit and administrative expenses in any year, shall be paid or credited to the local Insurance Committee at the commencement of that year.

(2) There shall also be paid to the local Insurance Committee in every year by each approved society having members who are insured persons resident in the county or county borough, in respect of each such member, the sum of one penny towards the administrative expenses of the Committee :

Provided that if the special circumstances of any county are such that the Insurance Commissioners consider that the travelling expenses of the members of the committee should be repaid to them by the committee, the Insurance Commissioners may authorise such repayment, and in such case may increase the said sum of one penny to such sum, not exceeding two pence, as they may determine.

(4) It shall be lawful for any local authority, out of any fund or rate out of which the expenses of the authority are payable, to subscribe such sums as it may think fit towards the general purposes of the local Insurance Committee.

EXCESSIVE SICKNESS.

Power to approved societies and local Insurance Committees to demand inquiries into causes of excessive sickness, &c.

46.—(1) Where it is alleged by the Insurance Commissioners or by any approved society or local Insurance Committee that the sickness which has taken place among any insured persons, being, in the case where the allegation is made by a society or committee, persons for the administration of whose sickness and disablement benefits the society or committee is responsible, is excessive, and that such excess is due to the conditions or nature of employment of such persons, or to bad housing or insanitary conditions in any locality, or to a defective or contaminated water supply, or to the neglect on the part of any person or authority to observe or enforce the provisions of any Act relating to the health of workers in factories, workshops, mines, quarries, or other industries, or relating to public health, or the housing of the working classes, or any regulations made under any such Act, or to observe or enforce any public health precautions, the Commissioners or the society or committee making such allegation

*Subsection 3 of Clause 44 was originally Subsection 4 of Clause 45.

may send to the person or authority alleged to be in default a claim for the payment of the amount or any extra expenditure alleged to have been incurred by reason of such cause as aforesaid, and if the Commissioners, society, or committee and such person or authority fail to arrive at any agreement on the subject may apply to the Secretary of State or the Local Government Board, as the case may require, for an inquiry, and thereupon the Secretary of State or Local Government Board may appoint a competent person to hold an inquiry.

(2) If upon such inquiry being held it is proved to the satisfaction of the persons holding the inquiry that the amount of such sickness has

(i) during a period of not less than three years before the date of the inquiry; or

(ii) if there has been an outbreak of any epidemic, endemic, or infectious disease during any less period; been in excess of the average expectation of sickness by more than ten per cent., and that such excess was in whole or in part due to any such cause as aforesaid, the amount of any extra expenditure found by the person holding the inquiry to have been incurred under this Part of this Act by any societies or committees where the allegation is made by the Insurance Commissioners, or if the allegation is made by a society or committee by the society or committee in question by reason of such cause, shall be ordered by him to be made good in accordance with the following provisions:—

(*a*) Where the excess of such part thereof as aforesaid is due to the conditions or nature of the employment or to any neglect on the part of any employer to observe or enforce any such Act or regulation as aforesaid, it shall be made good by the employer;

(*b*) Where such excess or such part thereof as aforesaid is due to bad housing or insanitary conditions in the locality, or to any neglect on the part of any local authority to observe or enforce any such Act or regulation as aforesaid, it shall be made good by such local authority as appears to the person holding the inquiry to have been in default, or if due to the insanitary condition of any particular premises shall be made good by the owner or occupier of the premises who is proved to the satisfaction of the person holding the inquiry to be responsible;

(*c*) Where the excess or such part thereof as aforesaid is due to an insufficient or contaminated water supply, it shall be made good by the local authority or company by which the water is supplied, or which having imposed upon it the duty of affording a water supply has refused or neglected to do so, unless the local authority or company prove that such insufficiency or contamination was not due to any default on the part of the authority or company, but arose from circumstances over which it had no control.

(3) Where any such inquiry as aforesaid is held in respect of bad housing or insanitary conditions in any locality, it shall be lawful for the local authority to serve notice upon the owner or occupier of any premises which are the subject-matter of the inquiry, and where it is proved that such a notice has been served and that any such extra expense as aforesaid, or any part thereof, has been caused by the act or default of such owner or occupier, the person holding the inquiry may order the owner or occupier to repay to the local authority the amount of the extra expenditure or part thereof which has been so caused.

(4) For the purpose of this section the average expectation of sickness shall be calculated in accordance with the tables prepared by the Insurance Commissioners for the purpose of valuations under this Part of this Act, but any excessive sickness attributable to any disease or disablement which is or is due to any disease or injury in respect of which damages or compensation are payable under The Employers' Liability Act, 1880, or The Workmen's Compensation Act, 1906, or at common law, shall not be taken into account.

(5) The Insurance Commissioners shall make regulations as to the procedure on inquiries under this section, and a person holding an inquiry under this section shall have all such powers as an inspector of the Local Government Board has for the purposes of an inquiry under the Public Health Acts, and shall have power to order how and by what parties costs, including such expenses as the Secretary of State or Local Government Board may certify to have been incurred by them, are to be paid, and an order made by such person under this section may by leave of the High Court be enforced in the same manner as a judgment or order of the Court to the same effect:

Provided that a society or committee shall not be ordered to pay the costs of the other party to the inquiry if the person holding the inquiry certifies that the demand for an inquiry was reasonable under the circumstances, and when he so certifies the Treasury may repay to the society or committee the whole or any part of the costs incurred by it.

(6) Without prejudice to any other method of recovery, any sum ordered under this section to be paid by a local authority may, in accordance with the regulations of the Local Government Board with the approval of the Treasury, be paid out of the Local Taxation Account and deducted from any sums payable either directly or indirectly out of that account to the local authority.

(7) For the purposes of this section any expenditure on any benefit administered by a local Insurance

Committee shall be deemed to be expenditure of that committee, but any sums ordered to be paid to any such committee under this section to meet extra expenditure on sickness benefit or disablement benefit shall be dealt with for the benefit of deposit contributors in accordance with regulations made by the Insurance Commissioners.

(8) Where under this section any sum is ordered to be paid to the Insurance Commissioners, the Insurance Commissioners shall apply the same in discharge of any expenses incurred by the Commissioners in connection with the inquiry and shall distribute the balance amongst the societies and committees which appear to the Commissioners to have incurred extra expense on account of the excessive sickness in such proportion as the Commissioners think just.

SUPPLEMENTARY PROVISIONS.

Erection of sanatoria, &c.

47.—(1) If under any other Act of the present Session any sum is made available for the purposes of the provision of sanatoria and other institutions for the treatment of tuberculosis or such other diseases as the Local Government Board with the approval of the Treasury may appoint, such sum shall be distributed by the Local Government Board with the consent of the Treasury in making grants for those purposes.

(2) If any such grant is made to a county council, the Local Government Board may authorise the county council to provide any such institution, and where so authorised the county council shall have power to erect such buildings, and to manage and maintain the institution, and for that purpose to enter into agreements and make arrangements with local Insurance Committees and other authorities and persons, and to do all such things as may be necessary for the purposes aforesaid, and any expenses of the county council, so far as not defrayed out of the grant, shall be defrayed out of the county fund as expenses for general county purposes or, if the order of the Local Government Board so directs, as expenses for special county purposes charged on such part of the county as may be provided by the order.

(3) For the purpose of facilitating co-operation amongst county councils, county borough councils, and other local authorities for the provision of such sanatoria and other institutions as aforesaid, the Local Government Board may by order make such provisions as appear to them necessary or expedient by the constitution of joint committees, joint boards, or otherwise, for the joint exercise by such councils and authorities of their powers in relation thereto, and any such order may provide how, in what proportions, and out of what funds or rates the expenses of providing such institutions, so far as they are not defrayed out of grants under this section, are to be defrayed, and may contain such consequential, incidental, and supplemental provisions as may appear necessary for the purposes of the order, and an order so made shall be binding and conclusive in respect of the matters to which it relates.

(4) A local Insurance Committee may, with the consent of the Insurance Commissioners, enter into agreements with any person or authority that, in consideration of such person or authority providing treatment in a sanatorium or other institution or otherwise for persons recommended by the committee for sanatorium benefit, the committee will contribute out of the funds available for sanatorium benefit towards the maintenance of the institution or provision of such treatment such annual or other payment, and, subject to such conditions and for such period as may be agreed, and any such agreement shall be binding on the committee and their successors, and any sums payable by the committee thereunder may be paid by the Insurance Commissioners and deducted from the sums payable to the committee for the purposes of sanatorium benefit.

Power to Insurance Office to make regulations, &c.

48. The Insurance Commissioners may make regulations for any of the purposes for which regulations may be made under this Part of this Act or the Schedules therein referred to, and for prescribing anything which under this Act or any such Schedules is to be prescribed, and generally for carrying this Act into effect, and any regulations so made shall have effect as if enacted in this Act.

Provided that if an Address is presented to His Majesty by either House of Parliament within the next subsequent twenty-one days on which that House has sat next after any such regulation is laid before it praying that the regulation may be annulled, His Majesty in Council may annul the regulation, and it shall thenceforth be void, but without prejudice to the validity of anything previously done thereunder.

Determination of questions by Insurance Office.

49. If any question arises—

(*a*) as to whether a person is liable to become insured under this Part of this Act as being a person employed within the meaning of this Act; or

(*b*) as to the rate of contributions payable by or in respect of any insured person; or

(*c*) as to the rates of contributions payable in respect of an employed contributor by the employer and the contributor respectively;

the question shall be determined by the Insurance Commissioners, in accordance with regulations made by them for the purpose. Provided that—

(i) if any person feels aggrieved by the decision of the Insurance Commissioners on any question arising under paragraph (*a*), he may appeal therefrom to the county court, with a further right of appeal

upon any question of law to such judge of the High Court as may be selected for the purpose by the Lord Chancellor and the decision of that judge shall be final;

(ii) the regulations of the Insurance Commissioners may provide for questions under paragraph (*b*) being determined, in the case of any person who is or is about to become a member of an approved society, by the society.

Disputes.

50.—(1) Every dispute between—

(*a*) An approved society or a branch thereof and an insured person who is a member of such society or branch or any person claiming through him;

(*b*) An approved society or branch thereof, and any person who has ceased to be a member for the purposes of this Part of this Act of such society or branch, or any person claiming through him;

(*c*) An approved society and any branch thereof;

(*d*) Any two or more branches of an approved society,

relating to anything done or omitted by such person, society, or branch (as the case may be) under this Part of this Act or any regulation made thereunder, shall be decided in accordance with the rules of the society, but any party to such dispute may in such cases and in such manner as may be prescribed appeal from such decision to the Insurance Commissioners.

(2) Every dispute between a deposit contributor and the local Insurance Committee, relating to anything done or omitted by such contributor or the local Insurance Committee under this Act, or any regulation made hereunder, shall be decided in the prescribed manner by the Insurance Commissioners

(3) The Insurance Commissioners may authorise referees appointed by it to decide any appeal or dispute submitted to the Insurance Commissioners under this section.

(4) The Insurance Commissioners may make regulations as to the procedure on any such appeal or dispute, and such regulations may apply any of the provisions of The Arbitration Act, 1889, but, except so far as it may be so applied, The Arbitration Act, 1889, shall not apply to proceedings under this section, and any decision given by the Insurance Commissioners or a referee under this section shall be final and conclusive.

[51. The Chancellor of the Exchequer had given notice of an Amendment to this Clause. When the Clause was called on in committee the Chairman said the "suggested Amendment constitutes a new clause, therefore at this stage the Clause in the Bill ought to be negatived and a new Clause proposed hereafter." The Clause was accordingly negatived at this stage, but as proposed to be amended by the Chancellor of the Exchequer, will read as follows:—

(1) Where the medical practitioner attending on any insured person in receipt of sickness benefit certifies that the levying of any distress or execution upon any goods or chattels belonging to such insured person and being on premises occupied by him, or the taking of any proceedings in ejectment or for the recovery of any rent or to enforce any judgment in ejectment against such person, would endanger his life, it shall not be lawful during any period named in the certificate for any person to levy any such distress or execution or to take any such proceedings or to enforce any such judgment against the insured person.

Provided that, if any person desirous of levying such distress or execution or taking such proceedings or enforcing such judgment disputes the accuracy of the certificate, he may apply to the registrar of the county court, who, if he is of opinion that the certificate should be cancelled or modified, may make an order cancelling or modifying it, and any such order shall not be subject to appeal.

(2) A certificate granted for the purpose of this section shall continue in force for one week or such less period as may be named in the certificate, but may be renewed from time to time, for any period not exceeding one week, up to but not beyond the expiration of three months from the date of the grant of the original certificate.

Provided that a certificate shall not be renewed beyond the expiration of one month from such date if on demand being made by the person desirous of levying such distress or execution, or taking such proceedings, or enforcing such judgment proper security is not given for payment of rent thereafter to become due from the insured person or the amount of the judgment debt, as the case may be, and any dispute as to the sufficiency of the security shall be determined by the registrar of the county court.

(3) If any person knowingly levies or attempts to levy any such distress or execution or takes any such proceedings or enforces or attempts to enforce any such judgment in contravention of this section he shall be liable on summary conviction to a fine not exceeding *fifty pounds*.

(4) It shall be lawful for the judge of the county court upon an application made on behalf of the insured person ex parte for that purpose, from time to time to extend the period during which the provisions of the last preceding subsection are to be applicable, upon being satisfied that the levying of any such distress or execution or the taking of any such proceedings or the enforcement of any such judgment would endanger the life of the insured person, and any order granting such extension shall not be subject to appeal:

Provided that such period shall not be extended for more than twelve months from the date when the right to levy the distress or execution or to take the proceedings or enforce the judgment arose, unless proper security be given for payment of the rent thereafter to become due from the insured person, or the amount of the judgment debt, as the case may be.]

Offences.

52.—(1) If for the purpose of obtaining any benefit or payment under this Part of this Act, either for himself or for any other person, any person knowingly makes any false statement or false representation, he shall be liable on summary conviction to imprisonment for a term not exceeding three months with or without hard labour.

(2) If any employer has failed to pay any contributions which under this Part of this Act he is liable to pay in respect of an employed contributor, or if any such employer or insured person, or any other

person, is guilty of any other contravention of or non-compliance with any of the requirements of this Act or the regulations made thereunder in respect of which no special penalty is provided, he shall for each offence be liable on summary conviction to a fine not exceeding ten pounds and, where the offence is failure or neglect on the part of the employer to make any such contributions, to pay to the Insurance Commissioners a sum equal to the amount of the contributions which he has so failed or neglected to pay, which sum when paid shall be treated as a payment in satisfation of such contributions:

Provided that no person shall be liable to any penalty in respect of any matter if he has acted in conformity with any decision in respect thereto by the Insurance Commissioners.

Civil proceedings against employer for neglecting to pay contributions.

53.—(1) Where an employer has failed or neglected to pay any contributions which under this Part of this Act he is liable to pay in respect of a person being a member of an approved society in his employment, and by reason thereof that person has been deprived in whole or in part of his right to any benefits which would otherwise have been payable to him, he shall be entitled to take proceedings against the employer for the value of the right of which he has been so deprived, and in any such proceedings the employer may be ordered to pay to the Insurance Commissioners a sum equal to the value so ascertained, which sum when paid shall be carried to the credit of the society of which such person is a member, and thereupon such person shall thenceforth be entitled to receive from the society benefits at the same rate as he would have been entitled to had the contributions been properly paid, together with the difference between the amount of the benefits (if any) he has actually received and the benefits he would have received had the contributions been properly paid.

(2) Proceedings may be taken under either this or the last preceding section notwithstanding that proceedings have also been taken under the other section in respect of the same failure or neglect to pay contributions.

Repayment of benefits improperly paid.

54. If it is found at any time that a person has been in receipt of any payment or benefit under this Part of this Act without being lawfully entitled thereto he, or in the case of his death his personal representatives, shall be liable to repay to the Insurance Commissioners the amount of such payment or benefit, and any such amount may be recovered as a debt due to the Crown and when so recovered shall be carried to the credit of the society of which such person was a member or, if he was not a member of any approved society, of the Post Office Fund.

Provisions as to application of existing funds of friendly societies.

55.—(1) Every registered friendly society which becomes an approved society under this Part of this Act and which provides benefits similar to those conferred by this Part of this Act shall submit to the Registrar of Friendly Societies a scheme for continuing, abolishing, reducing, or altering such benefits as respects members who become insured persons and for continuing, abolishing, or reducing the contributions of such members so, however, that the combined effect of the alteration of the benefits and contributions shall not prejudicially affect the solvency of the society, and, if the scheme shows on an actuarial valuation that, owing to the alterations in the benefits and contributions effected by the scheme, any part of the existing funds of the society is set free as not being required to meet the liabilities of the society, the scheme shall provide for the application of the part of the funds so set free in any one or more of the following ways:—

(*a*) towards the cost of the provision of other or increased benefits payable by the society independently of this Part of this Act to existing members whether insured persons or not;

(*b*) in reduction of the contributions payable by such members in respect of the benefits payable by the society independently of this Part of this Act;

(*c*) towards the payment of contributions payable by such of its members under this Part of this Act as are entitled and elect to receive benefits under this Part of this Act through the society.

(2) This section shall apply to branches of registered societies in like manner as to societies: Provided that a society with branches may, if it so desires, submit a scheme applicable to all its branches and it shall be competent for the society to provide by its scheme for the application of the whole or any part of any sums so set free towards the discharge of any deficiencies in the other branches which may be found to exist on such actuarial valuation as aforesaid.

(3) Any scheme adopted by a society or branch of a society by a vote of the members taken in accordance with its rules and when confirmed by the registrar shall be deemed to be incorporated in the registered rules of the society or branch and may be altered accordingly, so, however, that no alteration shall be inconsistent with the provisions of this section.

(4) This section shall apply to seamen, marines, and soldiers, from whose pay deductions are made under this Part of this Act as if they were insured persons.

(5) This section shall come into operation on the passing of this Act.

Provisions as to existing superannuation funds.

56. Where at the passing of this Act a provident fund or any similar fund has been established for the benefit of the persons employed by one or more employers the provisions of the last foregoing section shall apply with the necessary adaptations, and

with this modification that where under the Act or deed establishing the fund any sum is payable by the employer towards benefits secured by the Act or deed, and those benefits include benefits similar to those conferred by this Part of this Act, the scheme may provide for allowing the employer to deduct from any contributions payable by him under the Act or deed towards benefits of a nature similar to those under this Part of this Act an amount not exceeding the amount of the employer's contributions payable by him under this Part of this Act.

Power to remove difficulties.

57. If any difficulty arises with respect to the constitution of local Insurance Committees, or the advisory committee, or otherwise in bringing into operation this Part of this Act, the Insurance Commissioners, with the consent of the Treasury, may by order make any appointment and do anything which appears to them necessary or expedient for the establishment of such committees and for bringing this Part of this Act into operation, and any such order may modify the provisions of this Act so far as may appear necessary or expedient for carrying the order into effect:

Provided that the Insurance Commissioners shall not exercise the powers conferred by this section after the first day of January, nineteen hundred and fourteen.

Application to Scotland.

58. This Part of this Act in its application to Scotland shall be subject to the following modifications:—

(1) For the purpose of carrying this Part of this Act into effect in Scotland there shall be constituted, as soon as may be after the passing of this Act, Commissioners for Scotland (to be called the Scottish Insurance Commissioners) with a central office in Edinburgh, and with such branch offices in Scotland as the Treasury may think fit, and the Scottish Insurance Commissioners shall be appointed by the Treasury, and may appoint such officers, inspectors, referees, and servants for the purposes aforesaid as the Scottish Insurance Commissioners, subject to the approval of the Treasury, may determine, and the provisions of this Part of this Act with respect to the payment of the salaries and remuneration of the Insurance Commissioners, and the officers, inspectors, referees, and servants appointed by them, and with respect to the payment of the expenses incurred by the Treasury or the Insurance Commissioners in carrying this Part of this Act into effect shall, with the necessary modifications, apply to the payment of the salaries and remuneration of the Scottish Insurance Commissioners and the officers, inspectors, referees, and servants appointed by them and to the payment of expenses incurred by the Treasury or the Scottish Insurance Commissioners in carrying this Part of this Act into effect in Scotland, and for the purpose aforesaid the Scottish Insurance Commissioners, and the officers, inspectors, referees, and servants appointed by them shall respectively have all the like powers and duties as are by the foregoing provisions of this Act conferred and imposed on the Insurance Commissioners and the officers, inspectors, referees, and servants appointed by them, and references in those provisions to the Insurance Commissioners shall be construed as references to the Scottish Insurance Commissioners;

(2) All sums received in respect of contributions in Scotland under this Part of this Act, and all sums paid out of moneys provided by Parliament in respect of benefits under this Part of this Act which are administered in Scotland, and the expenses of administration of such benefits shall be paid into a fund to be called the Scottish National Health Insurance Fund, under the control and management of the Scottish Insurance Commissioners, and the sums required to meet expenditure properly incurred by approved societies and local Insurance Committees for the purposes of the benefits administered by them in Scotland, and the administration of such benefits shall be paid out of that fund, and the foregoing provisions of this Act, with respect to the National Health Insurance Fund, shall, with the necessary modifications, apply to the Scottish National Health Insurance Fund accordingly:

(3) Joint regulations to be made by the Insurance Commissioners and the Scottish Insurance Commissioners, with the approval of the Treasury, shall provide for the preparation on a uniform basis of the tables to be prepared by the respective Commissioners, and for the making of all necessary adjustments and settlements of accounts in cases of insured persons removing from Scotland to England or Ireland or from England or Ireland to Scotland, as the case may be, both as between the National Health Insurance Fund and the Scottish or Irish National Insurance Fund and as between approved societies and branches and otherwise in respect of such cases, and for the transfer of sums from one fund or account to another;

(4) The expression "Local Government Board" means the Local Government Board for Scotland (in this section referred to as the Board): Provided that as regards the making of regulations respecting sums payable out of the Local Taxation (Scotland) Account the said expression means the Secretary for Scotland; the expression "Local Taxation Account" means the Local Taxation (Scotland) Account; and the expression "inspector of the Local Government Board" includes a person acting under section seven or section eight of the Public Health (Scotland) Act, 1897;

(5) The expression "county borough" means a burgh or police burgh within the meaning of The Local Government (Scotland) Act, 1889 (in this section referred to as the Act of 1889), containing within the police boundaries thereof according to the census of nineteen hundred and eleven a population of twenty thousand or upwards, and all other burghs and police burghs shall, for the purposes of this Part of this

Act, be held to be within the county, and unless already represented on the county council shall, for the purposes of this Part of this Act, be represented thereon as may be determined by the Secretary for Scotland.

(6) Except in this section, reference to a county and the county council thereof shall, as regards—

(*a*) the counties of Kinross and Clackmannan;

(*b*) the counties of Elgin and Nairn; and

(*c*) the counties of Peebles and Selkirk;

be construed in each case as references respectively to a combination of the two recited counties and to a joint committee of the county councils thereof which shall from time to time be appointed subject to the provisions of section seventy-six of the Act of 1889:

(7) No person shall be qualified for appointment as member of a local Insurance Committee by a county or town council unless he is a member of a local authority within the county under The Public Health (Scotland) Act, 1897, or of the town council, as the case may be; but this requirement shall not apply to women if women so qualified are not available;

(8) Before submitting for approval a scheme prescribing areas to be assigned to auxiliary committees the local Insurance Committee of a county shall consult with the county council, or any committee thereof appointed for the purpose, and shall consider any representation received from them;

(9) Where, owing to sparseness of population, difficulties of communication, or other special circumstances, they consider it desirable, a local Insurance Committee shall have power, with the consent of the Scottish Insurance Commissioners, to modify or suspend any benefits for the administration of which they are responsible; but where such modification or suspension takes place provision shall be made by the Committee, with the like consent, for the increase of other benefits or the grant of one or more additional benefits to an amount equivalent to the value of the modification or suspension;

(10)(*a*) If it appears to any county council that, having regard to the number of employed contributors resident in the county who are not members of any society approved under the foregoing provisions of this Act, it is desirable that steps should be taken for the establishment under the council of an approved society for the county (in this section referred to as a county society) the council may at any time before the expiration of one year from the commencement of this Act submit to the Insurance Commissioners a scheme for the establishment of a county society;

(*b*) The scheme may provide for—

(i) the representation of the council on the committee of management of the society;

(ii) the appointment of officers and sub-committees;

(iii) the delegation of powers to sub-committees;

(iv) the giving of security by means of a charge upon the general purposes rate or otherwise;

(v) the restriction of membership to insured persons resident in the county not being members of any other approved society;

(vi) the reduction of benefits below the minimum rates fixed by this Part of this Act; and

(vii) such other matters as may appear necessary, and in particular such further modifications of the provisions of this Part of this Act with respect to approved societies as may be required for the purpose of adapting those provisions to the case of a county society;

(*c*) Where such a scheme has been approved by the Insurance Commissioners, the provisions of the scheme shall have effect notwithstanding anything to the contrary in this Part of this Act; and, subject to these provisions, the county society shall be an approved society for all the purposes of this Part of this Act;

(*d*) A county council desirous of submitting a scheme under this section may at any time after the passing of this Act take such steps as appear necessary with a view to ascertaining what insured persons resident in the county are eligible and willing to become members of the proposed county society, and generally for the formation of the society.

(11) Expenses incurred by a county council under this Part of this Act shall be defrayed out of the general purposes rate; provided that, notwithstanding anything contained in the Act of 1889, the ratepayers of a police burgh shall not be assessed by the county council for any such expenses unless the police burgh is, for the purposes of this Part of this Act, held to be within the county; and provided further that with respect to every burgh within the meaning of the Act of 1889, which is, for the purposes of this Act, held to be within the county, sub-section three and sub-section four of section sixty, and section sixty-six, of the Act of 1889, shall, so far as applicable, have effect as if such expenses were expenditure therein mentioned;

(12) Expenses incurred by a town council under this Part of this Act (whether under requisition

from the county council or otherwise) shall be defrayed out of the public health general assessment, but shall not be reckoned in any calculation as to the statutory limit of that assessment; and references to the borough fund or borough rate shall be construed accordingly:

(13) The expression "borough" and the expression "urban district" mean burgh or police burgh within the meaning of the Act of 1889, and the expressions "rural district" and "council of a rural district," unless inconsistent with the context, mean respectively a district of a county within the meaning of the said Act and the district committee thereof;

(14) The expression "Lord Chief Justice," in reference to questions or disputes arising between the Insurance Office and a society whose head office or principal place of business is in Scotland, means the Lord President of the Court of Session;

(15) The expression "county court" means the sheriff court; and in lieu of an appeal from the county court upon any question of law there shall be substituted an appeal from the sheriff upon any question of law in terms of sub-section (17) (*b*) of the Second Schedule to The Workmen's Compensation Act, 1906; provided that the decision of either division of the Court of Session on such appeal shall be final;

(16) The expression "workhouse" means poorhouse; "coverture" means marriage; "levy any distress or execution upon" means use any diligence in respect of; "ejectment" means removing; "amount of judgment debt" means amount decerned for; "Public Health Acts" means the Public Health (Scotland) Acts; and "High Court" means Court of Session.

Application to Ireland.

59. The discussion of this Clause was not complete at the time we went to press, but the Chancellor of the Exchequer has given notice to insert the following words:

(7) *An insured person in Ireland shall not be entitled to medical benefit under this Part of this Act, and the provisions with respect to medical benefit shall not apply;*

Provided that medical benefit for an insured person being a member of an approved society shall be deemed to be included amongst the additional benefits specified in Part II. of the Fourth Schedule to this Act.

PART II.

PART II. OF THE BILL REFERRING TO UNEMPLOYMENT INSURANCE IS NOT REPRODUCED.

PART III. (as originally introduced).

GENERAL.

Provisions as to stamps.

82. Stamps required for the purposes of this Act shall be prepared and issued in such manner as the Commissioners of Inland Revenue with the consent of the Treasury may direct, who may provide for applying, with the necessary adaptations, as respects such stamps, all or any of the provisions (including penal provisions) of the Stamp Duties Management Act, 1891, as amended by any subsequent Act, and section sixty-five of the Post Office Act, 1908, and may with the consent of the Postmaster-General provide for the sale of such stamps through the Post Office.

Outdoor relief.

83. In granting outdoor relief to a person in receipt of or entitled to receive any benefit under this Act, a board of guardians in England shall not take into consideration any such benefit, except so far as such benefit exceeds *five shillings* a week.

Priority of claims for contributions due by bankrupt employers.

84.—(1) There shall be included among the debts which under section one of the Preferential Payments in Bankruptcy Act, 1888, and section two hundred and nine of the Companies (Consolidation) Act, 1908, are, in the distribution of the property of a bankrupt and in the distribution of the assets of a company being wound up, to be paid in priority to all other debts, all contributions payable under this Act by the bankrupt or the company in respect of employed contributors, workmen in an insured trade during the four months before the date of the receiving order, or, as the case may be, the commencement of the winding up, and those Acts shall have effect accordingly.

(2) In the case of the winding up of a company within the meaning of the Stannaries Act, 1887, such contributions as aforesaid shall, if payable in respect of a miner, have the like priority as is conferred on wages of miners by section nine of that Act, and that section shall have effect accordingly.

(3) This section shall not apply where a company is wound up voluntarily merely for the purposes of reconstruction or of amalgamation with another company.

(4) In the application of this section to Scotland a reference to section three of the Bankruptcy (Scotland) Act, 1875, shall be substituted for the reference to section one of the Preferential Payments in Bankruptcy Act, 1888.

(5) In the application of this section to Ireland a reference to section four of the Preferential Payments in Bankruptcy (Ireland) Act, 1889, shall be substituted for the reference to section one of the Preferential Payments in Bankruptcy Act, 1888; and any reference to a bankrupt shall include a reference to an arranging debtor; and the reference to the receiving order shall be construed as a reference to the order of adjudication in the case of a bankrupt, or to the filing of the petition for arrangement in the case of an arranging debtor:

Benefits to be inalienable.

85. Every assignment of, or charge on, and every agreement to assign or charge, any of the benefits conferred by this Act shall be void and on the bankruptcy of any person entitled to any such benefit, the benefit shall not pass to any trustee or other person acting on behalf of his creditors.

Powers of inspectors.

86.—(1) An inspector appointed under this Act shall, for the purposes of the execution of this Act, have power to do all or any of the following things, namely:—

(*a*) to enter at all reasonable times any premises or place where he has reasonable grounds for supposing that any employed contributors or workmen in an insured trade are employed;

(*b*) to make such examination and inquiry as may be necessary for ascertaining whether the provisions of this Act are complied with in any such premises or place;

(*c*) to examine, either alone or in the presence of any other person, as he thinks fit, with respect to any matters under this Act, every person whom he finds in any such premises or place, or whom he has reasonable cause to believe to be or to have been an employed contributor or workman in an insured trade, and to require every such person to be so examined, and to sign a declaration of the truth of the matters in respect of which he is so examined;

(*d*) to exercise such other powers as may be necessary for carrying this Act into effect.

(2) The occupier of any such premises or place and any other person employing any employed contributor or workman in an insured trade, and the servants and agents of any such occupier or other person, and any employed contributor or workman in an insured trade shall furnish to any inspector all such information and shall produce for inspection all such registers, books, cards, and other documents as the inspector may reasonably require.

(3) If any person wilfully delays or obstructs an inspector in the exercise of any power under this section or fails to give such information or to produce such documents as aforesaid, or conceals or prevents or attempts to conceal or prevent any person from appearing before or being examined by an inspector, he shall be liable on summary conviction to a fine not exceeding *five pounds*:

Provided that no one shall be required under this section to answer any question or give any evidence tending to incriminate himself.

(4) Where any such premises or place are liable to be inspected by inspectors or other officers, or are under the control, of some other Government department, the Insurance Commissioners or Board of Trade may make arrangements with that other Government department for any of the powers and duties of inspectors under this section being carried out by inspectors or other officers of such other Government department, and where such an arrangement is made such inspectors and officers shall have all the powers of an inspector under this section.

Short title and commencement.

87. This Act may be cited as the National Insurance Act, 1911, and shall, save as otherwise expressly provided by this Act, come into operation on the *first day of May nineteen hundred and twelve*.

SCHEDULES.

FIRST SCHEDULE.

Part I.

Employments within the Meaning of Part I. of this Act relating to Health Insurance.

(*a*) Employment in the United Kingdom, or on any ship registered in the United Kingdom, or on any other British ship or vessel of which the owner, or (if there is more than one owner) the managing owner or manager, resides or has his principal place of business in the United Kingdom, under any contract of service or apprenticeship, written or oral, whether expressed or implied, and whether paid by the employer or some other person, and whether under one or more employers, and whether paid by time or by the piece or without any money payment.

(*b*) Employment as an outworker in such classes of work as may for the time being be specified in any special Order made under Part VI. of the Factory and Workshop Act, 1901.

(*c*) Employment in the United Kingdom in plying for hire with any vehicle or vessel the use of which is obtained from the owner thereof under any contract of bailment (or in Scotland any contract of letting to hire) in consideration of the payment of a fixed sum or a share in the earnings or otherwise in which case the owner shall for the purposes of Part I. of this Act be deemed to be the employer.

Part II.

Exceptions.

(*a*) Employment in the naval or military service of the Crown, including service in Officers' Training Corps, but excluding service in the Naval Reserves, the Army Reserve, and the Territorial Force except when called out on actual service or on permanent service or on embodiment.

(*b*) Employment under the Crown or any local or other public authority where the Insurance Commissioners certify that the terms of the employment are such as to secure provision in respect of sickness and disablement on the whole not less favourable than the corresponding benefits conferred by Part I. of this Act.

(*c*) *Employment as a clerk or otherwise in the service of a railway or other company, when the Insurance Commissioners certify that the terms of employment are such as to secure provision in respect of sickness or disablement, on the whole, not less favourable than the corresponding benefits conferred by Part I. of this Act, and the person so employed is a member of a superannuation fund established by Act of Parliament for the benefit of persons in such employment.*

(*c*) Employment as a teacher to whom the Elementary School Teachers Superannuation Act, 1898, or a scheme under section fourteen of the Education (Scotland) Act, 1908, or the National School Teachers (Ireland) Act, 1878, applies.

(*d*) Employment as an agent [not ordinarily engaged in any other regular employment] paid by commission or fees or a share in the profits, or partly in one and partly in another such ways, [and not being ordinarily] *where such agent is not ordinarily engaged in any other regular employment and is not wholly or mainly* employed by one employer only.

(*e*) Employment in respect of which no wages or other money payment is made where the employer is the occupier of an agricultural holding [the annual value of which as assessed for the purposes of Schedule A. of the Income Tax Acts is less than *twenty pounds*] or where the employer is the parent of, or person liable to maintain, the person employed [and that person is under the age of sixteen].

(*f*) Employment otherwise than by way of manual labour and at a regular salary or other fixed rate of remuneration exceeding *one hundred and sixty pounds* a year.

(*g*) Employment of a casual nature otherwise than for the purposes of the employer's trade or business, and otherwise than for the purposes of any game or recreation where the persons employed are engaged or paid through a club, and in such case the club shall be deemed to be the employer.

SECOND SCHEDULE.

Rates of Contribution under Part I. of this Act relating to Health Insurance.

Employed Rate.

In the case of men	7d. a week.
„ „ women	6d. „

Contributions by Employers and Employed Contributors.

To be paid by the Contributor	Men, 4d. a week. Women, 3d. „
„ „ Employer	3d. „

In the case of Employed Contributors of either sex over the age of 21 whose wages or other remuneration do not exceed 2s. 6d. a day and [who are not provided with] *such remuneration does not include the provision of* board and lodging by their employer, the following shall be the rates of contribution :—

Where the *rate of* wages or other remuneration [do] *does* not exceed 1s. 6d. a day—

	A week.
To be paid by the Employer	For men, 6d. „ women, 4d.
„ „ [Contributor] *out of moneys provided by Parliament*	1d.

Where the *rate of* wages or other remuneration [do] *does* not exceed 2*s.* a day—

	A week.
To be paid by the Employer	For men, 5d. „ women. 4d.
„ „ Contributor	2d.
To be paid out of moneys provided by Parliament	1*d.*

Where the *rate of* wages or other remuneration [do] *does* not exceed 2s. 6d. a day—

To be paid by the Employer	For men, 4d. „ women, 3d.
„ „ Contributor	3d.

Part II.

Employed Rate in Ireland.

In the case of men	5½*d. a week.*
„ „ women	4½*d.* „

Contributions by Employers and Employed Contributors.

To be paid by the Contributor — *Men,*	3*d. a week.*
— *Women,*	2*d.* „
„ „ Employer	2½*d.* „

In the case of Employed Contributors of either sex over the age of 21 *whose wages or other remuneration do not exceed* 2*s.* 6*d. a day and who are not provided with board and lodging by their employer, the following shall be the rates of contribution :—*

Where the rate of wages or other remuneration does not exceed 1*s.* 6*d. a day—*

	A week.
To be paid by the Employer — *For men,*	4½*d.*
— *„ women*	3½*d.*
„ out of money provided by Parliament	1*d.*

When the rate of wages or other remuneration does not exceed 2*s. a day—*

	A week.
To be paid by the Employer — *For men,*	4*d.*
— *„ women*	3*d.*
„ „ Contributor	½*d.*
„ out of moneys provided by Parliament	1*d.*

THIRD SCHEDULE.

RULES AS TO PAYMENT AND RECOVERY OF CONTRIBUTIONS PAID BY EMPLOYERS ON BEHALF OF EMPLOYED CONTRIBUTORS UNDER PART I. OF THIS ACT RELATING TO HEALTH INSURANCE.

(1) The employer shall, except as hereinafter provided, be entitled to recover from the employed contributor the amount of any contributions paid by him on behalf of the employed contributor.

(2) Except where the employed contributor does not receive any wages or other remuneration from the employer, the amounts so recoverable shall notwithstanding the provisions of any Act relating to truck or any contract to the contrary, be recoverable by means of deductions from the wages or other remuneration, and not otherwise ; but no such deductions may be made from any wages or remuneration other than such as are paid in respect of the period or part of the period in respect of which the contribution is payable, or in excess of the sum which represents the amount of the contributions for the period in respect of which the wages or other remuneration are paid.

(3) Where a contribution paid by the employer on behalf of an employed contributor is not recoverable by means of deductions as aforesaid, it shall (without prejudice to any other means of recovery) be recoverable summarily as a civil debt, but no such contribution shall be recoverable unless proceedings for the purpose are instituted within three months from the date when the contribution was payable.

(4) Where the contributor is employed by more than one employer in any calendar week, the first person employing him in that week or such other employer as may be prescribed shall be deemed to be the employer for the purposes of the provisions of Part I. of this Act relating to the payment of contributions and of this Schedule.

(5) Regulations of the Insurance Commissioners may provide that in any cases or any classes of cases where employed contributors work under the general control and management of some person other than their immediate employer, such person shall, for the purposes of the provisions of Part I. of this Act relating to the payment of contributions and of this Schedule, be treated as the employer, and may provide for allowing him to deduct the amount of any contributions which he may become liable to pay from any sums payable by him to the immediate employer, and for enabling the immediate employer to recover from the employed contributors the like sums and in the like manner as if he were liable to pay the contributions.

(6) Where the contributor is not paid wages or other money payments by his employer or any other person, the employer shall be liable to pay the contributions payable both by himself and the contributor, and shall not be entitled to recover any part thereof from the contributor.

(7) Notwithstanding any contract to the contrary, the employer shall not be entitled to deduct from the wages of or otherwise to recover from the contributor the employers' contribution.

(8) Any sum deducted by any employer from wages or other remuneration under this Schedule shall be deemed to have been entrusted to him for the purpose of paying the contribution in respect of which it was deducted.

FOURTH SCHEDULE.

Benefits under Part I. of this Act relating to Health Insurance.

Part I.

Rates of Benefits.

Table A.—*Ordinary Rates.*

Sickness benefit: *for men the sum of* 10*s. a week throughout the whole period of twenty-six weeks; for women the sum of* 7*s.* 6*d. a week throughout the whole period of twenty-six weeks, or at the option of the society* during the first thirteen weeks the sum of 10s. a week for men, and the sum of 7s. 6d. for women for the second thirteen weeks, 5s. a week for men and women alike *together with*—

In the case of men either—

The sum of 2*s.* 6*d. a week for the first two weeks.*

Or the sum of 2*s. a week for the first four weeks.*

Or the sum of 1*s.* 6*d. a week for the first six weeks.*

And in the case of women either—

The sum of 2*s. a week for the first two weeks.*

Or the sum of 1*s.* 6*d. a week for the first four weeks.*

Or the sum of 1*s. a week for the first six weeks.*

Disablement benefit: the sum of 5s. a week for men and women alike. *Where any such option as aforesaid has been exercised by a society it shall not be lawful for the society to exercise a new option until after the next subsequent valuation of the society and an option must be exercised as respects all the members of a society.*

Table B.—*Reduced Rates in the case of Young Persons.*

Sickness Benefit— for males, the sum of [5s. a week throughout the whole period of twenty-six weeks.] 6*s. a week during the first thirteen weeks and the sum of* 5*s. a week during the second thirteen weeks.*

for females, the sum of [4s. a week throughout the whole period of twenty-six weeks.] 5*s. a week for the first thirteen weeks and the sum of* 4*s. a week for the second thirteen weeks.*

Disablement Benefit—for females, the sum of 4s. a week.

Table C.—Reduced Rates for Persons over Fifty in certain cases.

Where the insured person is over 50 and under 60—

For men, the sum of 7s. a week during the first thirteen weeks, and 5s. a week during the second thirteen weeks.

For women, the sum of 6s. a week [during the first thirteen weeks and 5s. a week during the second thirteen weeks.] *throughout the whole period of twenty-six weeks.*

Where the insured person is over 60—

For both men and women the sum of [5*s.* a week throughout the whole period of twenty-six weeks.] 6*s. a week for the first thirteen weeks and* 5*s. a week during the second thirteen weeks.*

Part II.

Additional Benefits.

(1) Medical treatment and attendance for any persons dependent upon the labour of a member.

(2) An increase of sickness benefit or disablement benefit in the case either of all members of the society or of such of them as have any children or any specified number of children wholly or in part dependent upon them.

(3) Payment of sickness benefit during the second thirteen weeks of disease or disablement at the same rate as during the first thirteen weeks thereof, or from the first, second, or third day after notice of disease or disablement.

(4) An increase of maternity benefit.

(5) Allowances to a member during convalescence from some disease or disablement in respect of which sickness benefit or disablement benefit has been payable.

(6) The building or leasing of premises suitable for convalescent homes and the maintenance of such homes.

(7) An addition to old age pensions payable under the Old Age Pensions Act, 1908; or the payment of old age pensions at an earlier age than seventy years with an option to the person entitled to take in lieu of such earlier payment a proportionately increased pension at a later age.

(8) Payments to members who are in want or distress.

(9) Payments for the personal use of a member who, by reason of being an inmate of a hospital or other institution, is not in receipt of sickness benefit or disablement benefit.

Part III.

Benefits for Married Women who do not become voluntary contributors at reduced rates.

Payment of the sum of 5s. a week on confinement during a period not exceeding four weeks on any one occasion.

Payment of the sum of 5s. a week during any period of distress, subject to the discretion of the society or committee administering the benefit.

Mr. Cassel,—

Schedule 4, page 73, line 36, at end, add,—

(10) *Such other benefits not being death or burial benefits as the Insurance Commissioners may approve.*

Mr. Jowett,—

Schedule 4, page 73, line 36, at end, add,—

(10) *Defraying the cost of giving lectures and publishing information on questions relating to health.*

FIFTH SCHEDULE

Reduction or Postponement of Sickness Benefit and where Contributions are in Arrear.

Table.

(1) Where the Arrears amount to		(2) Rates of Sickness Benefit during first Thirteen Weeks.	
		Men.	Women.
		s. d.	s. d.
4 contributions a year on average		9 6	7 3
5	,, ,, ,,	9 0	7 0
6	,, ,, ,,	8 6	6 9
7	,, ,, ,,	8 0	6 6
8	,, ,, ,,	7 6	6 3
9	,, ,, ,,	7 0	6 0
10	,, ,, ,,	6 6	5 9
11	,, ,, ,,	6 0	5 6
12	,, ,, ,,	5 6	5 3
13	,, ,, ,,	5 0	5 0
For both Men and Women.		5s. 0d., commencing 5th day after notice.	
		,, ,, 6th ,, ,,	
		,, ,, 7th ,, ,,	
		,, ,, 8th ,, ,,	
		,, ,, 9th ,, ,,	
		,, ,, 10th ,, ,,	
		,, ,, 11th ,, ,,	
		,, ,, 12th ,, ,,	
		,, ,, 13th ,, ,,	
		,, ,, 14th ,, ,,	

Notes.

Where the insured person is by virtue of any of the provisions of Part I. of this Act, other than those relating to arrears, entitled to sickness benefit at a rate lower than the full rate, this Table shall have effect as if the entries in the first column were so shifted down that the first entry therein was set opposite the entry in the second column next below the entry specifying the rate of sickness benefit to which the insured person is entitled.

When the rate of sickness benefit during the first thirteen weeks to which the insured person is entitled is by virtue of any of the provisions of this Act, other than those relating to arrears, less than 5s. a week, this Table shall have effect as if such lower rate were therein substituted for the rate of 5s. a week.

SIXTH SCHEDULE.

This schedule contains a list of insured trades for the purposes of Part II. of this Act relating to Unemployment Insurance.

SEVENTH SCHEDULE.

This schedule contains the rates and periods of Unemployment Benefit.

EIGHTH SCHEDULE.

The schedule contains the amount of contributions for the purposes of Part II. of this Act relating to Unemployment Insurance.

NINTH SCHEDULE.

The schedule contains provisions of the Factory and Workshop Act, 1901, applied to Special Orders made under Part II. of this Act relating to Unemployment Insurance.

NEW GOVERNMENT CLAUSES.

The following are among the new clauses to be proposed by the Government :—

Local medical committee. This clause is printed in its proper place in the Bill.

Pooling arrangements in the case of small societies. (1) Subject to the provisions of this section all approved societies which at the date of any valuation have less than five thousand insured persons as members shall for the purposes of valuation :—

(*a*) if they have joined an association formed under this section, be associated with the other societies in the same association ; and

(*b*) if they have not joined any such association, be grouped together according to the localities in which they carry on business.

(2) Any such societies admission to which is confined to persons following any particular trades or industries, or to persons of any other particular class which may be prescribed, may, with the consent of the Insurance Commissioners, form for the purposes of this section an association with a central financial committee, provided that the aggregate number of insured persons who are members of the associated societies is not less than five thousand, and the conditions on which a society shall be entitled to join or having joined to secede from an association shall be such as may be prescribed.

(3) Any such society which has not joined any such association as aforesaid, and which carries on business in any county or county borough, shall, for the purposes of this section, be grouped with the other unassociated societies carrying on business in the same county or county borough.

(4) The provisions of this part of this Act as to the application of surpluses of branches of societies with branches shall apply to such associated and grouped societies as if all the societies in any association or group were branches of a single society, subject to the following modifications :—

(*a*) A reference to central financial committee or the local Health Committee for the county or county borough shall, as the case may require, be substituted for the reference to the central authority of the society ;

(*b*) If after applying the sums received from such of the associated or grouped societies as have deficiencies any balance remains in the hands of the central financial committee or the local Health Committee, the committee shall distribute that balance amongst such of the associated or grouped societies as had surpluses in proportion to the amounts of such surpluses, and the sum so apportioned to a society shall be treated as an addition to the moiety of the disposable surplus retained by the society.

(5) For the purposes of this section a society shall be deemed to carry on business only in the county or county borough in which its registered office or other principal place of business is situate.

Provided that where of the insured persons who are members of a grouped society at the date of any valuation more than one hundred or more than one-sixth reside in some county or county borough other than that in which the registered office or other principal place of business is situate the proper pro-

portion of any surplus or deficiency of the society shall, if application for the purpose is made by any of the local Health Committees concerned, be apportioned to the local Health Committee of that other county or county borough, such proportion to be determined, in default of agreement between the local Health Committees concerned, by the Insurance Commissioners.

(6) The Insurance Commissioners may exempt from this section any society consisting of persons entitled to rights in a superannuation or other fund established for the benefit of the persons employed by one or more employers, and this section shall not apply to any society to which such an exemption has been granted.

(7) Except so far as relates to the power of refusing to make good in whole or in part a deficiency due to maladministration on the part of any society, nothing in this section shall be construed as conferring on any central financial committee or local Health Committee any powers of control over the administration of associated or grouped societies.

Page 34, after Clause 40, insert the following Clause :—

Transactions between the Insurance Commissioners and societies.

(1) The Insurance Commissioners shall, subject to the approval of the Treasury, make regulations with respect to crediting and debiting to the several societies sums received and paid by the Insurance Commissioners on behalf of or to societies and as to the payments to be made by and to the Commissioners to and by societies, and those regulations shall, amongst other things—

(*a*) provide for crediting to each society the contributions paid by or in respect of the members of the society after deducting the amounts retained thereout for discharging the liabilities of the Insurance Commissioners in respect of reserve values ;

(*b*) require the Insurance Commissioners, on carrying any sum to the credit of an approved society in the investment account, to pay over to the society for investment, or, at the request of the society, to retain for investment on behalf of the society, four-sevenths, or, so far as the sums are attributable to women, one-half, of the amount so credited to the society ;

(*c*) provide for crediting to each society interest at the prescribed rate per annum on the sums for the time being standing to the credit of the society in the investment account ;

(*d*) provide for the discharge of debit balances in such manner as the Insurance Commissioners determine either by the reduction of the reserve values credited to the society or out of the proceeds of the realisation of securities held by the society or by the Commissioners on behalf of the society, and out of the sums standing to the credit of the society in the investment account proportionately ;

Provided that, in the case of any society which gives notice to that effect to the Insurance Commissioners, no part of the sums carried to credit of the society in the investment account shall be paid over to the society or retained by the Commissioners for investment on its behalf, but the whole amount shall remain to the credit of the society in the investment account, and in such case the regulations made under the foregoing provisions shall apply to the society subject to the prescribed modifications.

(2) Every approved society shall invest any sums paid to the society for investment, and shall for the purpose have power to invest in any securities in which trustees are for the time being by law empowered to invest trust funds, or in any other securities for the time being approved by the Insurance Commissioners.

(3) Where at the request of a society the Insurance Commissioners instead of paying over any sum to the society retain such sum for investment on behalf of the society, they shall invest such sum in accordance with the directions of the society in any securities in which the society might have invested it had it been paid over to the society, and shall from time to time vary such investments in accordance with the like directions, and shall pay over to the society all sums received by way of interest or dividend on the investments held by them on behalf of the society.

(4) Every approved society shall apply the sums received by way of interest or dividend on investments held by the society or by the Insurance Commissioners on behalf of the society towards the cost of the benefits under this Part of this Act of the members of the society and the cost of the administration of those benefits, or otherwise, as the Insurance Commissioners may prescribe.

Page 24, after Clause 31, insert the following Clause :—

Special provisions with regard to societies organised according to districts, &c.

(1) Where a society with branches is so organised that the branches in different geographical areas are grouped together for the purposes of this section, the branches in any such area may, if and to such extent as the rules of the society so provide, and if the number of members of the branches in the area exceeds five thousand, be treated for the purposes of the provisions of this Part of this Act relating to valuations, surpluses, and deficiencies as if they formed a separate society.

(2) The rules of any society with branches may provide for the branches reinsuring with the society their liabilities in respect of any of the benefits under this Part of this Act, or if the society is so organised as aforesaid for such reinsurance either with the society or with the group.

To move the following Clauses :—

Power to extend sanatorium benefit to dependants.

(1) The local Health Committee for any county or county borough may, if they think fit, extend sanatorium benefit to the dependants of the insured persons resident in the county, any part of the county, or in the county borough, or any class of such dependants, and in such case the arrangements to be made by the committee shall include arrangements for the treatment of such dependants, and the sums available for sanatorium benefit shall be applicable for the purposes.

(2) If in any year the amount available for defraying the expenses of sanatorium benefit is insufficient to meet the estimated expenditure on sanatorium benefit for insured persons and such dependants the local Health Committee may, through the Insurance Commissioners, transmit to the Treasury and the council of the county or county borough an account showing the estimated expenditure for the purpose and the amount of the sums available for defraying the expenses of sanatorium benefit, and the Treasury and council may sanction such expenditure.

(3) The Treasury and the council of the county or county borough sanctioning such expenditure as aforesaid shall thereupon each be liable to make good, in the case of the Treasury out of moneys provided by Parliament, and in the case of the council of the county or county borough out of the county fund or borough fund or borough rate, as the case may be, one-half of any sums so sanctioned by them and expended by the local Health Committee on sanatorium benefit for insured persons and their dependants in the course of the year in excess of the amount available for defraying the expenses of the committee on sanatorium benefit.

Provisions as to men over sixty-five at commencement of Act.

(1) If any person who is over the age of sixty-five and under the age of seventy at the commencement of this Act is employed within the meaning of this Part of this Act, the like contribution shall, until he reaches the age of seventy, be payable by his employer in respect of him as in the case of employed contributors, and the provisions of this Part of this Act relating to the payments of contributions and the recovery thereof shall apply accordingly.

(2) For every weekly contribution made by or in respect of such a man there shall be contributed out of moneys provided by Parliament the sum of two pence.

(3) If such a person becomes a member of an approved society for the purposes of this section all contributions payable in respect of him under this section (including contributions out of moneys provided by Parliament) shall be credited to the society, and he shall become entitled to such benefits as the society may determine, but no reserve value shall be credited to the society in respect of him and no part of the contributions payable in respect of him shall be retained by the Insurance Commissioners towards the discharge of their liabilities in respect of reserve values.

(4) If such a person does not become a member of an approved society as aforesaid he shall become a deposit contributor, and accordingly all contributions payable in respect of him (including contributions out of moneys provided by Parliament) shall be carried to his credit in the Post Office fund, but the benefits to which he becomes entitled shall be such as may be determined by the local Health Committee.

(5) No part of the cost of benefits under this section shall be payable out of moneys provided by Parliament.

To move the following Clause :—

Exclusion from insurance of persons under sixteen.

It shall not be lawful for any person under the age of sixteen to become an insured person, and no such person howsoever employed shall be deemed to be employed within the meaning of this Part of this Act.

To move the following Clauses :—

Special provisions where employer liable to pay wages during sickness.

(1) The Insurance Commissioners may from time to time make special orders specifying any classes of employment in which a custom prevails according to which the persons employed receive full remuneration during periods of disease or disablement, and where the custom is confined to certain localities the order shall also specify the localities in which the custom prevails, and, subject to the provisions of this section, the order may contain such incidental, supplemental, and consequential provisions as appear necessary for adapting the other provisions of this Part of this Act to cases under this section.

(2) It shall be lawful for any employer who employs persons in any class of employment specified in any such order, within the locality (if the custom is confined to certain localities) so specified, to give to the Insurance Commissioners the prescribed notice, and thereupon the employer shall, as respects all such persons, be subject to the liabilities, and this Part of this Act shall apply in respect of all such persons, subject to the modifications hereinafter mentioned.

(3) The employer shall be liable to pay full remuneration to every such person during any period or periods not exceeding six weeks in the aggregate in any one year during which such person may be suffering from any disease or disablement commencing while such person is in his employment, notwithstanding that such person may have left his employment before the expiration of that time.

Provided that if any such person is engaged for a term of not less than six months certain, the employer shall be liable to pay full remuneration during any period of disease or disablement lasting less than six weeks, and for the first six weeks of any period of disease or disablement lasting more than six weeks, notwithstanding that the aggregate exceeds six weeks, but where any such period extends beyond the term of the engagement, he shall not be liable to make any payment in respect of any part thereof after the expiration of such term.

(4) This Part of this Act shall apply in respect of persons so employed as aforesaid, subject to the following modifications :—

(*a*) Sickness benefit shall not be payable in respect of any period during which full remuneration is payable by the employer under this section, but, for the purpose of calculating the rate and duration thereof, shall be deemed to have been paid for six weeks before the date as from which it becomes actually payable ;

(*b*) The employed rate shall be reduced by two pence (or where the employed contributor is a woman, one penny halfpenny) ;

(*c*) The weekly contributions payable by the employer shall be reduced by one penny (or where the employed contributor is a woman, one halfpenny), and the weekly contributions payable by the employed contributor shall be reduced by one penny.

(*d*) There shall be credited to the approved society of which any such person is a member, or, if he is a deposit contributor, to his account in the Post Office fund, the difference between the amount of contributions at such reduced rate actually paid in respect of him and the amount which would have been paid if those contributions had been at the full rate, and the amount of that difference shall be treated as having been expended on sickness benefit ;

(*e*) Contributions shall not be payable in respect of any period of disease or disablement during which full remuneration is payable under this section if the prescribed notice has been given ;

(*f*) The rules of an approved society or local Health Committee as to notices and proof of disease and disablement may extend to periods of disease and disablement during which full remuneration is payable under this section.

(5) Where a person on ceasing to be so employed becomes temporarily unemployed paragraphs (*b*) and (*d*) of the last foregoing sub-section shall continue to apply in respect of him, and sickness benefit shall not be payable in respect of the first six weeks of any period of disease or disablement, commencing after he ceased to be so employed, but for the purpose of calculating the rate and duration thereof shall be deemed to have been paid during those six weeks, and notwithstanding anything in this Part of this Act a disease or disablement shall not for the purposes of sickness benefit be treated as a continuation of a previous disease or disablement unless the medical practitioner attending him certifies that it in fact is so.

(6) Where such a person as aforesaid ceases to be employed within the meaning of this Part of this Act, and is entitled to become a voluntary contributor paying contributions at the employed rate, paragraphs (*b*) and (*d*) of sub-section (4) shall, if he becomes a voluntary contributor, continue to apply in respect of him, and sickness benefit shall not be payable in respect of the first six weeks of any period of disease or disablement commencing after he became a voluntary contributor, but, for the purpose of calculating the rate and duration thereof, shall be deemed to have been paid during those six weeks, and notwithstanding anything in this Part of this Act a disease or disablement shall not, for the purposes of sickness benefit, be treated as a continuation of a previous disease or disablement unless the medical practitioner attending him certifies that it in fact is so.

Provided that if any such person at any time wishes to become an ordinary voluntary contributor, he may become such after the payment of twenty-six weekly contributions at the full rate, or if the society of which he is a member consents after the payment of such less number of such contributions as the society may appoint.

(7) Where any employers wish to avail themselves of the provisions of this section as respects the persons employed by them in a class of employment, or in a locality in which no such custom as aforesaid exists, they may apply to the Insurance Commissioners, and the Commissioners, if, after ascertaining the views of the persons so employed, they think fit, may make a special order extending the provisions of this section as respects the applicants to the class of employment or locality mentioned in the application as if it were a class of employment or locality in which such a custom as aforesaid prevailed.

(8) Any question as to whether an employer is entitled to avail himself of the provisions of this section as respects any persons employed by him shall be determined by the local Health Committee, subject to appeal to the Insurance Commissioners.

(9) The payment of contributions purporting to be at the reduced rate authorised by this section as respects any persons employed by an employer in any class of employment, shall be conclusive evidence that he is as respects those persons and all other persons employed by him in the same class of employment in the same locality under the liability imposed by this section.

(10) An employer who has given such notice as aforesaid may, by giving three months' previous notice to the local Health Committee, withdraw his notice as from the commencement of the next calendar year, and in such case as from that date this section shall cease to apply in respect of the persons employed by him in the class of employment to which the notice of withdrawal relates.

(11) None of the provisions of this section shall apply as respects any person employed at a rate of remuneration which is less than the rate of sickness benefit during the first thirteen weeks applicable to his case.

Power of councils of boroughs and districts to contribute to certain expenditure on medical and sanatorium benefits.

The council of any borough or urban or rural district may agree with the council of the county in which the borough or district is situate to repay to the latter council the whole or any part of the sums payable by that council in accordance with the provisions of this Part of this Act towards the excess expenditure on medical or sanatorium benefits so far as such excess is properly attributable to the borough or district, and any sums payable by the council of the borough or district in pursuance of such an agreement shall be payable in the case of a borough out of the borough fund or borough rate, and in any other case as part of the general expenses incurred by the council in the execution of the Public Health Acts.

Power of societies to undertake business under Part I.

It shall be lawful for any body of persons, corporate or unincorporate, established before the passing of this Act which is desirous of transacting insurance business under this Part of this Act, notwithstanding anything in the provisions of the Acts under which it is established or registerred or carried on, or of its memorandum or articles of association, rules, or other instrument governing its constitution or defining its objects, to do all such acts and things (including the establishment of a separate section as aforesaid) as may be necessary for the purpose of enabling the body to undertake the transaction of such business.

(2) This section shall come into operation on the passing of this Act.

Powers of the Local Government Board.

(1) The Local Government Board may, for the purposes of their powers and duties under this Part of this Act, hold such local inquiries and investigations as they may think fit, and the Board and their inspectors shall have for the purposes of such an inquiry the same powers as they respectively have for the purposes of an inquiry under The Public Health Act, 1875, and the expenses incurred by the Board in respect of such inquiries and other proceedings under this Part of this Act (including the salary of any inspector or officer of the Board engaged in the inquiry or proceedings, not exceeding three guineas a day) shall be paid by such authorities and persons and out of such funds and rates as the Board may by order direct, and the Board may certify the amount of the expenses so incurred, and any sum so certified and directed by the Board to be paid by the authority or person shall be a debt from that authority or person to the Crown. Provided that this provision shall not apply to inquiries with respect to responsibility for excessive sickness.

(2) Any approval given by the Local Government Board under this Part of this Act may be given for such term, and subject to such conditions, as the Board may think fit, and the Board shall have power to withdraw any approval which they have given.

(3) The Local Government Board may make it a condition of any approval to be given, or grant of money to be made under this Part of this Act, that the Board shall have such powers of inspection as may be agreed.

Special provisions as to seasonal trades.

Where it is proved to the satisfaction of the Insurance Commissioners that a trade or business carried on by any employers is of a seasonal nature and subject to periodical fluctuation, and those employers systematically employ persons throughout the year and work short time during the season when the trade or business is depressed, the Insurance Commissioners may make special order decreasing, as respects such persons, the employed rate of the contributions payable by the employers and contributors to such extent and for such period in the year as may be specified in the order, and increasing such rate of contributions to a corresponding extent and for a corresponding period during the remainder of the year, and the order may contain such incidental, supplemental, and consequential provisions as may appear necessary for adapting the other provisions of this Part of this Act to cases under this section.

Page 4, after Clause 4, insert the following Clause :—

Part payment of contributions by the State in the case of low paid labour.

In the case of employed contributors over the age of twenty-one whose wages or other remuneration do not exceed two shillings a day, and such remuneration does not include the provision of board and lodging by their employer, there shall be paid out of moneys provided by Parliament towards contributions payable in respect of them the sum of one penny per week in manner provided by the Second Schedule to this Act.

Special provisions as to inmates of charitable homes, &c.

(1) Where the managers of any institution carried on for charitable or reformatory purposes prove that the persons who are inmates of and supported by the institution receive benefits and medical attendance when sick, the Insurance Commissioners may grant a certificate of exemption to those managers, and where such a certificate of exemption is granted any such inmates who are employed by the managers of the institution shall not in respect of such employment be deemed to be employed within the meaning of this Part of this Act ;

Provided that it shall be a condition of such exemption that the managers shall be liable to pay in respect of any such inmate who, having been an inmate of the institution for more than six months, leaves the institution, the following sums:—

(*a*) In the case of a person who was at the time of entering the institution below the age of sixteen, such capital sum as will be sufficient to secure him benefits under this Part of this Act at the full rate;

(*b*) In the case of a person who was at the time of entering the institution of the age of sixteen or upwards, and who was at that time an insured person and a member of an approved society, a sum equal to the value of the contributions which, apart from this section, would have been payable in respect of him during the time he was in the institution, calculated in the prescribed manner.

(2) Every such inmate as aforesaid shall, if he was an insured person before entering the institution, be suspended from benefits whilst he is such an inmate, and if he was at such time a member of an approved society and has been an inmate of the institution for a period exceeding six months the time during which he is in the institution shall be disregarded for the purpose of reckoning arrears.

Interpretation.

For the purposes of this Part of this Act—

The expression "branch," in relation to a society, shall not include any branch of the society which is not itself separately registered;

A person whose normal occupation is employment within the meaning of this Part of this Act shall for the purpose of reckoning the number and rate of contributions be deemed to continue to be an employed contributor notwithstanding that he is temporarily unemployed, but if such period of unemployment extends beyond twelve months, he shall not continue to be an employed contributor unless the approved society of which he is a member or, if he is not a member of such a society, the local Health Committee is satisfied that his unemployment is due to inability to obtain employment, and is not due to any change in his normal occupation;

The suspension of a member of an approved society from benefits under this Part of this Act shall not be deemed to deprive the member of his membership;

The expression "county" means administrative county;

The Scilly Isles shall be deemed to be a county and the council of those Isles the council of a county, but the local Health Committee for the Scilly Isles shall be constituted in such manner as the Insurance Commissioners prescribe.

Protection against distress and execution in certain cases.

(1) Where the medical practitioner attending on any insured person in receipt of sickness benefit certifies that the levying of any distress or execution upon any goods or chattels belonging to such insured person and being on premises occupied by him, or the taking of any proceedings in ejectment or for the recovery of any rent or to enforce any judgment in ejectment against such person, would endanger his life, it shall not be lawful during any period named in the certificate for any person to levy any such distress or execution or to take any such proceedings or to enforce any such judgment against the insured person:

Provided that, if any person desirous of levying such distress or execution or taking such proceedings or enforcing such judgment disputes the accuracy of the certificate, he may apply to the registrar of the county court, who, if he is of opinion that the certificate should be cancelled or modified, may make an order cancelling or modifying it, and any such order shall not be subject to appeal.

(2) A certificate granted for the purpose of this section shall continue in force for one week or such less period as may be named in the certificate, but may be renewed from time to time for any period not exceeding one week, up to but not beyond the expiration of three months from the date of the grant of the original certificate:

Provided that the protection confirmed by this section beyond the expiration of one month from such date if on demand being made by the person desirous of levying such distress or execution, or taking such proceedings, or enforcing such judgment proper security is not given for payment of rent thereafter to become due from the insured person or the amount of the judgment debt, as the case may be, and any dispute as to the sufficiency of the security shall be determined by the registrar of the county court.

(3) If any person knowingly levies or attempts to levy any such distress or execution or takes any such proceedings or enforces or attempts to enforce any such judgment in contravention of this section, he shall be liable on summary conviction to a fine not exceeding fifty pounds.

Establishment of Commissioners for Wales.

Joint committee of Commissioners.

(1) There shall be constituted as soon as may be after the passing of this Act, in accordance with regulations to be made by the Treasury, a joint committee of the several bodies of Commissioners appointed for the purposes of this Part of this Act, consisting of such members of each such body selected in such manner as may be provided by the regulations and of a chairman to be appointed by the Treasury.

(2) The joint committee may make such financial adjustments as may be necessary between the various funds, and shall exercise and perform such powers and duties of the several Commissioners under this Part of this Act as may be provided by such regulations.

(3) Regulations made by the Treasury under this section shall be laid before Parliament as soon as may be after they are made, but if an Address is presented to His Majesty by either House of Parliament within the next subsequent twenty-one days on which that House has sat next after any such regulation is laid before it, praying that the regulation may be annulled, His Majesty in Council may annul the regulation and it shall thenceforth be void, but without prejudice to the validity of anything previously done thereunder.

Establishment of Commissioners for Wales.

(1) For the purpose of carrying this Part of this Act into effect in Wales there shall be constituted, as soon as may be after the passing of this Act, Commissioners for Wales (to be called the Welsh Insurance Commissioners) with a central office in such town in Wales as the Treasury may determine, and with such branch offices in Wales as the Treasury may think fit, and the Welsh Insurance Commissioners shall be appointed by the Treasury, and may appoint such officers, inspectors, referees, and servants for the purposes aforesaid as the Welsh Insurance Commissioners, subject to the approval of the Treasury, may determine, and the provisions of this part of this Act with respect to the payment of the salaries and remuneration of the Insurance Commissioners, and the officers, inspectors, referees, and servants appointed by them, and with respect to the payment of the expenses incurred by the Treasury or the Insurance Commissioners in carrying this Part of this Act into effect shall, with the necessary modifications, apply to the payment of the salaries and remuneration of the Welsh Insurance Commissioners and the officers, inspectors, referees, and servants appointed by them and to the payment of expenses incurred by the Treasury or the Welsh Insurance Commissioners in carrying this Part of this Act into effect in Wales, and for the purpose aforesaid the Welsh Insurance Commissioners, and the officers, inspectors, referees, and servants appointed by them, shall respectively have all the like powers and duties as are by the foregoing provisions of this Act conferred and imposed on the Insurance Commissioners and the officers, inspectors, referees, and servants appointed by them, and references in those provisions to the Insurance Commissioners shall be construed as references to the Welsh Insurance Commissioners;

(2) All sums received in respect of contributions in Wales under this Part of this Act, and all sums paid out of moneys provided by Parliament in respect of benefits under this Part of this Act which are administered in Wales, and the expenses of administration of such benefits shall be paid into a fund to be called the Welsh National Health Insurance Fund, under the control and management of the Welsh Insurance Commissioners, and the sums required to meet expenditure properly incurred by approved societies and local Health Committees for the purposes of the benefits administered by them in Wales, and the administration of such benefits shall be paid out of that fund, and the foregoing provisions of this Act, with respect to the National Health Insurance Fund, shall, with the necessary modifications, apply to the Welsh National Health Insurance Fund accordingly;

(3) Joint regulations to be made by the Insurance Commissioners and the Welsh Insurance Commissioners, with the approval of the Treasury, shall provide for the preparation on a uniform basis of the tables to be prepared by the respective Commissioners, and for the making of all necessary adjustments and settlements of accounts in cases of insured persons removing from Wales to England or Scotland or Ireland, or from England or Scotland or Ireland to Wales, as the case may be, both as between the National Health Insurance Fund and the Scottish or Irish or Welsh National Insurance Fund and as between approved societies and branches and otherwise in respect of such cases, and for the transfer of sums from one fund or account to another.

(4) For the purposes of this section Monmouthshire shall be deemed to form part of Wales.

PROCEEDINGS IN PARLIAMENT.

DEBATE IN COMMITTEE.

TIME TABLE.

THE Committee stage will end on Tuesday, November 21st, and it is expected that the Report stage will commence on Monday, the 27th, or on Tuesday, the 28th. The third reading will probably be taken on Tuesday, December 5th, and the bill may possibly reach the House of Lords on the following day.

THURSDAY, NOVEMBER 9TH.

Excessive Sickness.

Clause 46 occupied the time of the sitting until 7.30, the time at which under the Closure resolution the consideration of the clause was brought to a conclusion.

The provisions of this clause have given rise to much controversy, and mark a novel and important departure from existing practice. Under it either the Insurance Commissioners, an approved society, or a local Insurance Committee may take proceedings against a local health authority, the owners of factories or of house property, and obtain monetary compensation in cases where it can be established that excessive sickness is due to neglect on the part of those proceeded against.

The clause as amended is as follows, the amending words added in Committee being printed in italics:

CLAUSE 46.—(Power to Approved Societies and Local Health Committees to Demand Inquiries into Causes of Excessive Sickness, etc.)

(1) Where it is alleged by *the Insurance Commissioners*, any approved society or local Health Committee that the sickness which has taken place among *any* insured persons *being, in the case where allegation is made by the society or committee, persons* for the administration of whose sickness and disablement benefits the society or committee is responsible, is excessive, and that such excess is due to the conditions or nature of employment of such persons, or to bad housing or insanitary conditions in any locality, or to a defective or contaminated water supply, or to the neglect on the part of any person or authority to observe or enforce the provisions of any Act relating to the health of workers in factories, workshops, mines, quarries, or other industries, or relating to public health, or the housing of the working classes, or any regulations made under any such Act, or to observe or enforce any public health precautions, the society or committee making such allegation may *send to the person or authority alleged to be in default a claim for the payment of the amount of any extra expenditure alleged to have been incurred by reason of such cause as aforesaid, and if the Commissioners, society, or committee and such person or authority fail to arrive at any agreement on the subject may* apply to the Secretary of State or the Local Government Board, as the case may require, for an inquiry, and thereupon the Secretary of State or Local Government Board may appoint a competent person to hold an inquiry.

(2) If upon such inquiry being held it *is proved to the satisfaction of* the person holding the inquiry that the amount of such sickness has—

(i) during a period of not less than three years before the date of the inquiry; or

(ii) if there has been an outbreak of any epidemic, endemic, or infectious disease during any less period;

been in excess of the average expectation of sickness by more than 10 per cent., and that such excess was in whole or in part due to any such cause as aforesaid, the amount of any extra expenditure found by the person holding the inquiry to have been incurred under this Part of this Act *by any societies or committees where the allegation is made by the Insurance Commissioners, or if the allegation is made by a society or committee* by the society or committee in question by reason of such cause shall be ordered by him to be made good in accordance with the following provisions:—

(*a*) Where the excess or such part thereof as aforesaid is due to the conditions or nature of the employment or to any neglect on the part of any employer to observe or enforce any such Act or regulation as aforesaid, it shall be made good by the employer:

(*b*) Where such excess or such part thereof as aforesaid is due to bad housing or insanitary conditions in the locality, or to any neglect on the part of any local authority to observe or enforce any such Act or regulation as aforesaid, it shall be made good by such local authority as appears to the person holding the inquiry to have been in default, *or if due to the insanitary condition of any particular premises shall be made good by the owner or occupier of the premises who is proved to the satisfaction of the person holding the inquiry to be responsible.*

(*c*) Where the excess or such part thereof as aforesaid is due to an insufficient or contaminated water supply, it shall be made good by the local authority or company by which the water is supplied, or which, having imposed upon it the duty of affording a water supply, has refused or neglected to do so, *unless the local authority or company prove that such insufficiency or contamination was not due to any default on the part of the authority or company, but arose from circumstances over which it had no control.*

(3) Where any such inquiry as aforesaid is held in respect of bad housing or insanitary conditions in any locality, it shall be lawful for the local authority to serve notice upon the owner or occupier of any premises which are the subject matter of the inquiry, and where it is proved that such a notice has been served and that any such extra expense as aforesaid, or any part thereof, has been caused by the act or default of such owner or occupier, the persons holding the inquiry may order the owner or occupier to repay to the local authority the amount of the extra expenditure or part thereof which has been so caused.

(4) For the purpose of this section the average expectation of sickness shall be calculated in accordance with the tables prepared by the Insurance Commissioners for the purpose of valuations under this part of this Act, but any excessive sickness attributable to any disease or disablement which is or is due to any disease or injury in respect of which damages or compensation are payable under the Employers' Liability Act, 1880, or the Workmen's Compensation Act, 1906, or at common law, shall not be taken into account.

(5) *The Insurance Commissioners shall make regulations as to the procedure on inquiries under this Section, and* a person holding an inquiry under this Section shall have all such powers as an inspector of the Local Government Board has for the purposes of an inquiry under the Public Health Acts, and shall have power to order how and by what parties costs, including such expenses as the Secretary of State or Local Government Board may certify to have been incurred by them, are to be paid, and an order made by such person under this section may by leave of the High Court be enforced in the same manner as a judgement or order of the Court to the same effect:

Provided that a society or committee shall not be ordered to pay the costs of the other party to the inquiry if the person holding the inquiry certifies that the demand for an inquiry was reasonable under the circumstances, and when he so certifies the Treasury may repay to the society or committee the whole or any part of the costs incurred by it.

(6) Without prejudice to any other method of recovery, any sum ordered under this Section to be paid by a local authority may, in accordance with the regulations of the Local Government Board with the approval of the Treasury, be paid out of the Local Taxation Account and deducted from any sums payable either directly or indirectly out of that account to the local authority.

(7) For the purposes of this Section any expenditure on any benefit administered by a local Health Committee shall be deemed to be expenditure of that Committee, but any sums ordered to be paid to any such Committee under this Section to meet extra expenditure on sickness benefit or disablement benefit shall be dealt with for the benefit of deposit contributors in accordance with regulations made by the Insurance Commissioners.

(8) *Where under this Section any sum is ordered to be paid to the Insurance Commissioners, the Insurance Commissioners shall apply the same in discharge of any expenses incurred by the Commissioners in connexion with the inquiry, and shall distribute the balance amongst the societies and committees which appear to the Commissioners to have incurred extra expense on account of the excessive sickness in such proportion as the Commissioners think just.*

The points raised in favour of the clause were that the existing powers of the Local Government Board to proceed against neglectful sanitary authorities by mandamus are to a great extent useless; that it would strengthen the hands of medical officers of health in cases where they had not security of tenure and held only part-time appointments and were often handicapped in many respects thereby in their dealings with local councils; and that it would give power to aggrieved parties to obtain damages where they could establish their case, and furnish a much-needed stimulus to promote a proper administration of the existing Public Health and Housing Acts. On the other hand, it was urged that it would involve approved societies and Insurance Committees in interference in matters upon which they were not fully informed, which were not their concern, and in needless and considerable expense, besides leading to bad relations between them and the local councils, whilst the good administration of the sanatorium benefit and the prevention of disease required as a primary condition cordial co-operation between them. In addition to this, it was contended that it was rarely possible to establish responsibility for blame, and that to obtain an equitable basis for defining excessive sickness would prove in practice to be wellnigh impossible.

Mr. Forster moved that it should only come into operation "after two valuations by approved societies have been made under this Part of the Act." He said: It raises a question which I think we ought to discuss before we

discuss the clause in detail. The Committee will recollect the whole of the operation of this clause, be it good or be it bad, depends upon the average expectation of sickness. All the inquiries that will be made will go to ascertain whether or not there is an excessive sickness exceeding the average expectation. It is only in those cases where the average is exceeded by a certain margin that any consequences will ensue. There is no such thing as an average expectation of sickness as far as we are able to ascertain at the present time. The effect of the amendment will be this: The clause, when it is passed, will be held in suspense until two valuations have been made. It will be held in suspense for six years, in the course of which we shall have experience of the working of the scheme as a whole, and at the end of which we shall have figures at our command upon which we can say with definiteness and accuracy what is really the average expectation of sickness. What is to be the average rate upon which the machinery of this clause is to be set in motion? I have seen some very interesting figures which go to show how impossible it would be with our present limited knowledge to lay down any figures as to the average expectation of sickness. I will only quote one or two. I take the percentage of consumptives. The deaths from consumption out of the total deaths in the case of chemical manufacturers is 9 per cent., and in the case of tin miners 38 per cent. Those, of course, are the deaths, and I do not doubt the total cases of illness would bear some corresponding ratio to them, but I say you have nothing on which you can base the average expectation. I can base a whole series of other figures relating to other trades and occupations, but I think it is common knowledge you cannot base any expectation from the figures relating to a particular trade. You have got no figures available for the country as a whole. You have got no figures available from the experience of the society, because up till now the societies have dealt only with good lives, and they have rejected any one whose condition was not satisfactory. You cannot base the average expectation of people whom you are going to bring into insurance on the experience of the friendly societies. Why do I suggest this bill should be kept in suspense until two valuations have been made? I do it for this reason. In the course of the six years there will have been accumulated a great mass of figures absolutely reliable—figures relating to the country as a whole, to each particular county, to each part of the county, and to each particular trade or industry; and upon these figures you will be able to make up your mind whether you are going to base your average expectation of a particular locality, on the average expectation of the country as a whole, or on the expectation of a particular society or a particular industry which might be affected. I say, finally, you have no right to go to any person or any authority and tell them to take proceedings which would entail such serious consequences as will be entailed under this clause with either false or faulty figures.

Mr. Lloyd George: But what does this amendment mean? It means the postponement of the operation of this clause for eight years. The first valuation is to take place three years from the commencement of the Act, and therefore it will be six years from the commencement of the Act before the valuations as a basis of comparison will have been made. You will have to wait for a full year after that before you can bring the clause into operation, and, therefore, practically the minimum period of years within which you can get the clause into working order will be eight years. Surely if the effect of the clause will be to strengthen the action of the authorities in purging the land of slums and insanitary property, the sooner it comes into operation the better. May I point out that we are now in many places able to tell whether there is a larger number of deaths or sickness in a particular neighbourhood owing to an epidemic? We have those figures at our disposal at the present moment. I hold the clause will have a very useful effect in improving the sanitary conditions of this country, and therefore I beg to oppose the amendment.

Sir Griffith-Boscawen, Mr. Leif Jones, Mr. Cassel, Mr. Bathurst, and Mr. Harwood joined in the discussion, and the amendment was by leave withdrawn.

Sir A. Cripps moved to omit the approved societies and Insurance Committees from being powers under the clauses. On this amendment a general debate on the clause took place. Sir A. Cripps said: I wish to limit my objection to giving these powers to approved societies or local Health Committees. The powers given in the clause are of a far-reaching character. They not only refer to the conditions and nature of employment of the persons affected, or to bad housing or insanitary conditions, but they really relate to every duty thrown upon any local authority by any statutory power dealing with questions of this character, so that without any limitation, if this clause should pass in its present form, the new committees or the approved societies would have the power of interference in all the duties now carried out by the various local authorities regarding questions of health or sanitation. The question is whether that is desirable or not; I think it is very undesirable. The Insurance Committees, as constituted, should carry out their insurance powers and duties in such a way as if they were limited to those duties and powers. They are not constituted from the point of view of local administration or local government. Their constitution has been settled by Clause 43, and, of course, it is quite clear that, as regards their constitution, they are not in any sense representative of the bodies as regards questions of this kind. I think it is desirable to limit their powers, but what is the position of those whom they may attack? They may attack under this clause all the self-governing authorities on matters of health and matters of sanitation. They may attack them on very indefinite grounds. You are giving to a body really constituted for different purposes extraordinarily wide powers to interfere with matters of local government. That is very unwise. You are giving these powers in respect of matters where at present there is ample remedy, and the difficulty arises from the multiplicity rather than the want of remedies. Lastly, if you look at the Health Committees themselves, I think their legitimate business is less likely to be properly performed by adding duties of this kind for which they are not properly constituted, and as regards the local authorities, you do not improve efficiency of administration by giving too large powers of outside interference.

Mr. Lloyd George made a full statement of the views of the Government on the matter, and quoted a large number of instances of neglect of their duty by local authorities, as recorded in Reports of the Local Government Board. He said: We discussed these powers yesterday, but we could not very well, upon Clauses 43 and 44, put in the case of the Government, and therefore, by the leave of the Committee, I will put the case of the Government on the point on which the hon. and learned gentleman has challenged us now. First of all, he objects to the powers given to the Health Committee and the societies. He asserts that it is a general interference in the matters of health with the existing powers of existing authorities. In the second place, he says the powers are sufficient now under existing Acts. Is that a fair statement?

Sir A. Cripps: Perfectly fair.

Mr. Lloyd George: These are the propositions which I propose to traverse. I am very glad to hear from the hon. and learned gentleman that he does not object to the principle of the clause as a whole, but wants to make amendments to it, and I rather gather that is the position taken up by the hon. gentleman (Mr. Forster) and the hon. member (Mr. Cassel). There is no proposal here to interfere with local authorities in any way, except that which is already enshrined—or, I think, embalmed is a better word—in Acts of Parliament, because most of them are mummies. They are not exercised, there is no life in them; they are pure dust, and they only have the form and the features of life. There is none of the spirit and the soul in any of these powers. That is the reason why we propose that we should have some powers of this kind in order not to interfere with local authorities, but I accept the word of the hon. member (Mr. Harwood) to wind them up. There are no new powers here. The only change is that organizations which are created by this Act are to have powers conferred upon them of setting the law in motion, and that you are going to alter the remedy by resorting to the old common law method of obtaining redress in a court by pecuniary damages. The hon. and learned gentleman says, "Why do not you resort to the existing powers of the law? They are quite adequate." They may or may not be adequate for the

purpose of enforcing the law, but the money which is lost to a society owing to the neglect of a local authority or of a householder or an employer to carry out Acts of Parliament cannot be covered by any satisfactory method. That is all we do. We set up here machinery, not for interfering with the local authorities, but to enable the societies which are damnified by the inaction, the illegal action or the neglect of authorities, owners, or employers, to carry out the provision of the law to recover compensation for the loss they have sustained. I again say there is no new principle, and there is no rival authority. If an individual suffered wrong from either a local authority or a neighbour either due to defective drains, to leaky roofs, or to anything which impairs or imperils the health, or even to anything which offends his nostrils, he can obtain pecuniary damages in a court of law, but if a society suffers damages to the extent of thousands a year owing to the same cause there is no remedy at all in law. All we propose is that the old common law right which is enshrined in the law of England shall also be extended to these societies. It is as old as the law of this land. It is given to individuals. Why should you not give it to a corporation of workmen to protect their rights, so that where their rights are trampled upon, where they suffer in health and in pocket they should be able to recover by some single process of law from those who are responsible for the loss? That is not a new principle. It is a very old one. It is as old as this House and the other. I should like to show later on how societies suffer financially owing to neglect of the sanitary laws of this country, and how now they are completely stripped of any remedy. I will give one or two cases later on. What are the main complaints of these societies with regard to those extra causes of ill health which add to their pecuniary benefit? Bad drainage, bad water supply, bad housing, factories and workshops not in accordance with the conditions of the law, and the offenders are local authorities and private individuals. We have had years of Public Health Acts in this country; we have had Local Government inquiries without number; we have had recommendations of medical officers of health and of inspectors of the Local Government Board. I shall be able to prove that they are absolutely helpless in hundreds of cases, and have been for years, not because the Local Government Board has neglected its duty. On the contrary, any one who peruses their report will see how very concerned they have been about this for years. It is purely because they are armed with the clumsiest, rustiest weapon in the whole armoury of British law—the mandamus, a perfectly worthless weapon. I will read an extract from the chief medical officer of the Local Government Board in his review of the year 1909. He says:

> A story of neglect of elementary sanitary work outstands in a large proportion of the current reports by medical inspectors of the Board on local sanitary circumstances. A not inconsiderable number of the smaller towns and urban districts and many of the rural districts, which have within their area portions presenting urban characteristics, are characterised by continuance, more or less, of the filth nuisances which were fairly general fifty years ago, but which has since then been abolished in the larger and better governed towns.

If any one will go through these reports he will find that there are local authorities by the score which never prosecute offenders against the Public Health Acts, which keep no records of and never even investigate insanitary conditions, which have no sanitary committee, which systematically refuse to carry out the recommendations of their sanitary officials, which have in force neither by-laws nor adoptive Acts, and which neglect to apply such by-laws and Acts when adopted. The individual has no remedy at all, and I will also point out that the remedy of the Local Government Board is of no account. Why? Because there is only one thing they can do, and that was to imprison the whole of the members of the councils. They could do it by mandamus. Whether they ought to do it or not is another matter. At any rate, there ought to be a remedy short of that, because Government departments are very reluctant to take the step against members who are acting on councils without fee or reward, of bringing them before the court and sending them to prison. It is a most difficult thing, and I have no doubt hon. members who have considered the question of mandamus realize that this is by no means an easy matter. That the Local Government Board should bring the process of mandamus into operation is practically to say that there is no remedy at all. I take another case in order to show you how it affects the societies. This is the case of Lincoln. The clause will be of enormous value to the Local Government Board. Instead of threatening to issue a mandamus, they will be able to say to a local authority, "Well, if there is an epidemic, you will be mulcted in damages." The clause will be a help to county councils, who have general supervision over health all over the country. It will be of enormous benefit to the medical officers of health, who are practically powerless. All they can do is to expose the evils.

An hon. member: The London County Council has.

Mr. Lloyd George: They have only the same defaulting powers I have already described, and those are very inadequate powers, otherwise why should the Local Government Board for thirty or forty years have had to go through the process of warning councils and nothing happens? It will help the medical officers of counties enormously. Their position is a very difficult one. They have often to report upon insanitary conditions when the proprietors of the properties are strongly represented on these councils. I had a letter last week from a medical officer of health who gave his name and address. He says to me, "It is as much as my place is worth to report faithfully on the conditions prevailing." We do not propose for this particular provision to introduce any novel principle. We simply resort to the old principles which are enshrined in the common law of this land, and we want to make effective the powers already possessed. We want to give them a more efficient sanction. We want to make insanitary property and neglect of public duties unremunerative. Slackness, inefficiency, and the callous greed of certain individuals are responsible for the loss of more lives in Britain than has almost ever been inflicted on us by the fiercest wars in our history. Phthisis and enteric rheumatism fill thousands of wretched homes in this country with death and despair. What do we propose to do? We propose to arm the workman with an effective weapon to defend his home, and to defend his children from the diseases inflicted through the insanitary conditions of their dwelling. I am told that we must not arm them because it will interfere with the authorities who are responsible. If an individual breaks the law, and if, through his breach of the law, he inflicts damage upon his neighbours, why is it an interference with his liberty and prerogative to have a local inquiry into his conduct, and that he should be mulcted in damages by way of compensation? Why should we not do so in the case of the local authorities and with the owners of slum property? It is one of the oldest maxims of English law, and one of the most honoured, that there is no wrong without a remedy. It is because, when I was investigating this problem, I discovered a great wrong for which there was no remedy that I had this clause inserted in the bill, and I now confidently recommend it to this House.

Mr. Jowett: The Chancellor of the Exchequer's indictment against the present conditions is a true bill. There is no answer to the charge. The only question it seems to me that there can be in the mind of any member of the Committee is whether the remedy proposed by this provision is the right one. I am one of those who believe that the remedy is not the right remedy. First of all, let us just consider the nature of the trouble, and let us examine the class of case quoted by the Chancellor of the Exchequer. For the most part I noted, as he reads the extracts, that they referred to small urban district councils. There are one or two exceptions. What is the trouble with regard to those urban district councils? The trouble there is just the trouble which is felt by large municipalities very often; first, the personnel of the council, and, secondly, the lack of means to do the work that needs to be done. But the crux of the whole question is money. We may pass Housing Acts, we have done so for England times without number, but as long as no change is made in this respect there will be nothing done. Neither the provisions proposed in this bill nor any other provision that can be invented, other than assisting and encouraging the local authorities by giving them the help which we can and ought to give and have given in Ireland, will accomplish the purpose we are seeking to serve by this measure

Mr. Lyttelton, replying on the debate, summed up the case against the clause. He said: I am in entire agreement with the last speaker, that the real question is, What is the best remedy for the state of facts here and there which we all regret and deplore? We all regret that there are certain local authorities who, partly because of the unpopularity of the task, and partly for other reasons, do not enforce the provisions of the Housing Acts as we should all wish them to be enforced. A certain remedy has been provided for this state of affairs in the Housing and Town Planning Act, although it does not go a very long way; but, so far as it goes, I am confident that it is a far better method of getting what is desired done than the machinery set up by the present bill. Consider for a moment what the situation is. Nothing can be worse in the interests of housing—which, I believe, is, almost without exception, the greatest question in the country—than that you should set up antagonism between the local authorities and any other body. If they do not do their duty, which very seldom happens, it is necessary, of course, that there should be some authority over them. But who ought that authority to be? Manifestly the Local Government Board. You will only create friction which you will bitterly regret if, instead of investing in the Local Government Board the authority for the more complete performance of these duties, you set up an authority which does not and cannot command the respect which the Local Government Board commands, and as to which members of the local authority will say, "Here are people that are no better than ourselves, and who, indeed, have infinitely less experience of this matter than we have; why should we be vexed, oppressed, and harassed by such as these, seeing that we do our duty when we can? And, moreover, if we do not do our duty, there is the Local Government Board, which is the proper authority to enforce the remedy."

Mr. Masterman replied, and the clause as amended was finally added without a division.

Erection of Sanatoriums.

Clause 47 deals with the £1,500,000 provided in the Finance Bill for distribution in aid of the provision of sanatoriums and other institutions for the treatment of tuberculosis. It should be noted also that under this clause provision may be made for any kind of institution and for any disease at the appointment of the Local Government Board, and that, as amended, it enables the grants to be used for maintenance, and, moreover, empowers an Insurance Committee to make arrangements on approved lines with the governing authorities of any institution. Without any amendment of the Act further Government grants may be used to assist, for example, in hospital, dispensary, or other special treatment of disease, as the sphere of operations may be extended by the Local Government Board with the approval of the Treasury.

Clause 47.—(Erection of Sanatoria, etc.)

(1) If under any other Act of the present Session any sum is made available for the purposes of the provision of sanatoria and other institutions for the treatment of tuberculosis or such other diseases as the Local Government Board with the approval of the Treasury may appoint, such sum shall be distributed by the Local Government Board with the consent of the Treasury in making grants for those purposes.

(2) If any such grant is made to a county council, the Local Government Board may authorize the county council to provide any such institution, and where so authorized the county council shall have power to erect such buildings *and to manage and maintain the institution, and for that purpose to enter into agreements and make arrangements with local Health Committees and other authorities and persons*, and to do all such things as may be necessary for the *purposes aforesaid*, and any expenses of the county council, so far as not defrayed out of the grant, shall be defrayed out of the county fund *as expenses for general county purposes, or if the order of the Local Government Board so directs as expenses for special county purposes charged on such part of the county as may be provided by the order.*

(3) For the purpose of facilitating co-operation amongst county councils, county borough councils, and other local authorities for the provision of such sanatoria and other institutions as aforesaid, the Local Government Board may by order make such provisions as appear to them necessary or expedient by the constitution of joint committees, joint boards, or otherwise, for the joint exercise by such councils and authorities of their powers in relation thereto, and any such order may provide how, in what proportions, and out of what funds or rates the expenses of providing such institutions, so far as they are not defrayed out of grants under this Section, are to be defrayed, and may contain such consequential, incidental, and supplemental provisions as may appear necessary for the purposes of the order, and an order so made shall be binding and conclusive in respect of the matters to which it relates.

(4) *A local health committee may, with the consent of the Insurance Commissioners, enter into agreements with any person or authority that, in consideration of such person or authority providing treatment in a sanatorium or other institution or otherwise for persons recommended by the committee for sanatorium benefit, the committee will contribute out of the funds available for sanatorium benefit towards the maintenance of the institution or provision of such treatment, such annual or other payment, and, subject to such conditions and for such period as may be agreed, and any such agreement shall be binding on the committee and their successors, and any sums payable by the committee thereunder may be paid by the Insurance Commissioners and deducted from the sums payable to the committee for the purposes of sanatorium benefit.*

Dr. Addison raised a discussion on the administrative situation that would be created by the bill as amended. He pointed out that a local Insurance Committee was under a statutory obligation to furnish sanatorium benefit in the form required for insured persons under its authority, and that the Insurance Commission, on the advice of its Advisory Committee, would probably wish to arrange for a general plan of treatment and supervision at home, in dispensaries, shelters, sanatoriums, farm colonies, and so forth, but that as the bill stood both they and the local Committees might find themselves in a very difficult position. A local Health Authority might not be willing to furnish what was required, or in the form required, and the scheme of grants by the Local Government Board might lead to confusion and conflict with the scheme of the Insurance Commissioners, who would be attached to another Government Department (the Treasury).

Mr. Sherwell similarly referred to the administrative difficulties which attached to the duplication of authorities as provided under the bill.

The clause as amended was added to the bill after a short discussion, but it tended to strengthen the conviction which many members have expressed, that the inevitable result of the Insurance Bill will be to increase the need for a consolidation of all the health services of the country into one administrative unit (a Ministry of Health).

Power to Insurance Office to make Regulations, etc.

Clause 48, which empowers the Insurance Commissioners to make regulations, and Clause 49, which concerns the determination of questions by the Insurance Office, with Clause 50, which deals with disputes, were added to the bill after short discussion.

Clause 52, relating to offences; Clause 53, which concerns civil proceedings against an employer for non-payment of contributions; and Clause 54, which gives power to exact repayment of benefits improperly paid, were added under the Closure resolution without amendment.

Distress, Execution, etc., Illegal in certain Cases.

Clause 51 was withdrawn under the ruling of the Chairman that the amendments as put on the paper by the Chancellor of the Exchequer constituted a new clause, and it was therefore postponed to the days allotted for the consideration of the new clauses.

As the clause originally stood it was illegal to levy any distress or execution upon the goods of any insured person during the receipt of sick pay, or for fourteen days afterwards, or to take any proceedings in ejectment or for the recovery of rent, etc.

It was felt that this left the way open to a great deal of imposition, and made it possible for either a tenant or a sub-tenant to make the receipt of sick pay an excuse for the non-payment of rent, even in cases where they might be well able to pay it.

The clause as amended limited the clause to those cases in which a medical certificate was obtained that ejectment might be dangerous to life and limited the duration of a certificate to a week.

The clause originally stood as follows:

Clause 51.—(Distress, Execution, etc., to be Illegal in Certain Cases.)

(1) It shall not be lawful during any period when an insured person is in receipt of sickness benefit, or during the fourteen days immediately following that period, for any person to levy any distress or execution upon any goods or chattels belonging to such injured person and being on premises occupied by him, or to take any proceedings in ejectment or for the recovery of any rent or to enforce any judgement in ejectment against

such insured person; and any person levying or attempting to levy any such distress or execution, or enforcing or attempting to enforce any such *judgement*, shall be liable on summary conviction to a fine not exceeding fifty pounds.

(2) It shall be lawful for the judge of the county court, upon an application made on behalf of the insured person *ex parte* for that purpose, from time to time to extend the period during which the provisions of the last preceding subsection are to be applicable, upon being satisfied that the levying of any such distress or execution or the taking of any such proceedings or the enforcement of any such judgement would endanger the life of the insured person, and any order granting such extension shall not be subject to appeal:

Provided that such period shall not be extended for more than twelve months from the date when the right to levy the distress or execution or to take the proceedings or enforce the judgement arose, unless proper security be given for payment of the rent thereafter to become due from the insured person, or the amount of the judgement debt, as the case may be.

The Chancellor proposed to miss out the words in the first subsection down to and including the word "judgement," and to insert the following:

(1) Where the medical practitioner attending on any insured person in recept of sickness benefit certifies that the levying of any distress or execution upon any goods or chattels belonging to such insured person and being on premises occupied by him, or the taking of any proceedings in ejectment or for the recovery of any rent or to enforce any judgement in the ejectment against such person, would endanger his life, it shall not be lawful during any period named in the certificate for any person to levy any such distress or execution or to take any such proceedings or to enforce any such judgement against the insured person.

Provided that, if any person desirous of levying such distress or execution or taking such proceedings or enforcing such judgement disputes the accuracy of the certificate, he may apply to the registrar of the county court, who, if he is of opinion that the certificate should be cancelled or modified may make an order cancelling or modifying it, and any such order shall not be subject to appeal.

(2) A certificate granted for the purpose of this section shall continue in force for one week or such less period as may be named in the certificate, but may be renewed from time to time for any period not exceeding one week, up to but not beyond the expiration of three months from the date of the grant of the original certificate.

Provided that a certificate shall not be renewed beyond the expiration of one month from such date if on demand being made by the person desirous of levying such distress or execution, or taking such proceedings, or enforcing such judgement proper security is not given for payment or rent thereafter to become due from the insured person or the amount of the judgement debt, as the case may be, and any dispute as to the sufficiency of the security shall be determined by the registrar of the county court.

(3) If any person knowingly levies or attempts to levy any such distress or execution or takes any such proceedings or enforces or attempts to enforce any such judgment in contravention of this section, he.

The Chairman said that the suggested amendment constituted a new clause: therefore at this stage the clause in the bill ought to be negatived, and a new clause proposed hereafter; and this course was followed.

On Friday, November 10th, the House resumed the discussion of the bill at 12 noon on Clause 55; this contains the provisions relating to the application of the existing funds of friendly societies which will be released from reserve under the operation of the Insurance Bill, and amendments were inserted securing to members the control of the funds they have contributed.

Clause 56, which relates to the disposition of existing superannuation funds, was added with small amendment without debate.

The discussion on the important Clause 57 occupied the remainder of the sitting.

CLAUSE 57.—(Power to Remove Difficulties).

If any difficulty arises with respect to the constitution of local Health Committees or the Advisory Committee, or otherwise in bringing into operation this Part of this Act, the Insurance Commissioners, with the consent of the Treasury, may by order make any appointment and do anything which appears to them necessary or expedient for the establishment of such committees and for bringing this part of this Act into operation, and any such order may modify the provisions of this Act so far as may appear necessary or expedient for carrying the order into effect.

Mr. C. Bathurst moved that it should only be operative for six months after the commencement of the Act. This amendment was rejected by 148 votes to 69, and later on an amendment by the Chancellor of the Exchequer was inserted at the end of the Clause to limit the Clause to January 1st, 1914, in these words as follows:

> Provided that the Insurance Commissioners shall not exercise the above powers after the first day of January nineteen hundred and fourteen.

The Clause was added to the bill on a division by 150 votes to 65.

Scotland.

On Monday, November 13th, the working day was given to Clause 58, which deals with the application of Part I to Scotland. The scheme was practically a new one, and had been put on the order paper on Friday night, and Mr. Scott Dickson pointed out that Scottish members had had no opportunity of considering it, or of consulting those who alone could advise them on technical matters. Appeals were made on all sides for more time to consider and discuss so important a scheme, but the Chancellor was obdurate, and after four hours had been spent in discussing the propriety of establishing a separate board of Insurance Commissioners for Scotland and its constitution, the amendment in reference to this was carried by 171 to 89. Later, Mr. J. M. Henderson made an appeal to the Government to give power to the Local Government Board for Scotland, with the consent of the Insurance Commissioners, to prescribe such modifications in the provisions of the bill dealing with the benefits conferred on insured persons as might be necessary in certain counties or boroughs. This, he said, was necessary; if the Act was to be carried out with justice and fairness throughout the country, the contributions and benefits for the agricultural portion of the bill must be amended. The Chancellor said that if he was told that the Scottish agricultural labourer would rather have 6s. than 10s. a week, that he did not want medical benefits, was not clamouring for maternity benefit, and that all he wanted was sanatorium and disability benefit; he would like to hear from the Scottish members generally before the Report stage. In the meantime he was willing to place the services of the Government actuaries at the disposal of the Scottish members. Other Scottish members urged that the crofting parishes were in a peculiar position, and appealed to the Chancellor to give them special consideration. Mr. Lloyd George replied that he believed the amendments enabled the Commissioners to do this, but if it was found they did not he would be ready to introduce words to do so. Finally the Government amendments were all agreed to—that is to say, as we understand it, Clause 58 now stands as printed in the SUPPLEMENT. After money resolutions relating to finance had been agreed to and reported to the House, the discussion was shortly afterwards adjourned.

Ireland.

On Tuesday, November 14th, the House commenced the consideration of Clause 59, dealing with the application of Part I to Ireland. The Government amendment, of which notice had been given, constituted practically a new scheme. Mr. W. O'Brien moved that the Act should not come into operation until May 1st, 1914, and a prolonged discussion took place, in which the general operation of the scheme came under review. Mr. O'Brien's amendment was rejected by 47 to 242.

The Chancellor of the Exchequer moved an amendment constituting Insurance Commissioners for Ireland to be appointed by the Treasury with power to themselves to appoint officers, inspectors, referees, and servants; providing for the establishment of an Irish National Insurance Fund under the control and management of the Irish Commissioners, for the making of joint regulations by the Insurance Commissioners and the Irish Commissioners to provide for the preparation of tables on a uniform basis and for the making of adjustments on removals from Great Britain to Ireland and vice versa, and for extending a right to exemption to an Irish migratory labourer.

Mr. H. W. Foster proposed that the inspectors, referees, and others to be appointed by the Irish Commissioners should have passed the necessary test at the hands of the Civil Service Commissioners in accordance with the Order in Council of January, 1910. The Chancellor of the Exchequer objected that if this were adopted for Ireland it would have to be made applicable to all the other parts of the United Kingdom, and he did not

think the Civil Service Commissioners would be as good judges as the Insurance Commissioners of whether a man would be an efficient administrator for the purposes of insurance. The amendment was withdrawn, and Mr. W. O'Brien then moved an amendment to provide that no society whose rights of initiation or rules confine membership thereof to persons of a particular religion, and whose meetings, signs, and passwords are of a secret character, which led to a discussion of the Orange Society and the Hibernian Society. The amendment was rejected by a majority of 158, and the amendment proposed by the Chancellor was agreed to, and progress was then reported.

The debate was resumed on Wednesday, and, on the motion of the Chancellor of the Exchequer to insert an amendment providing that an insured person in Ireland shall not be entitled to medical benefit, a discussion arose in the course of which Mr. H. W. Foster said he understood that medical benefits were omitted because there was throughout Ireland a network of dispensaries; but it had been suggested to him that some people considered that those who drew benefit from the dispensaries received the brand of pauperism. The friendly society movement had covered very little ground in Ireland, and strict and ruthless economy was essential if the Irish societies were to remain solvent.

The Chief Secretary for Ireland, in describing the dispensary system in Ireland, stated that there were 810 doctors retained under the Medical Charities Acts for the purpose of affording free medical attendance and relief to the poorer classes. The average income of a dispensary doctor for attending persons either at the dispensary or at their homes for nothing, and for supplying them free with medicines and surgical appliances, might be said to be between £160 and £170 a year. That probably included £20 which he received as medical officer of health. There was nothing in their contract of service which prevented them from engaging in private practice. There was no feeling that the system was a declining or dying one; on the contrary, the number of cases increased every year, although the population did not increase. Last year 479,644 cases were attended at the dispensaries, and 163,115 at the patients' homes. The cost of the system, which was divided about equally between the local taxation fund and the poor rates, was last year £193,153. He did not think it could fairly be said that the taint of pauperism in any way attached to the use of the dispensary tickets. He shared the regret that the medical benefits had been struck out of the bill. He thought public opinion in Ireland had already veered round on the question, and he was hopeful that as time went on the dispensary system might be reinforced and strengthened, and the salaries of these doctors largely increased, by their being able, by some reasonable provision, to come under the Act and its benefits.

Dr. Addison thought that the defence of the amendment was rather half-hearted, as it was based on the assumption that public opinion in Ireland was not ripe for the inclusion of medical benefits. He hoped that the House sometimes legislated a little in advance of public opinion. The present system of relief could not be defended as adequate and was not directed in the least to the prevention of disease, on which the solvency and success of this fund depended. There was nothing whatever in the scheme which would secure for the insured person in Ireland adequate medical attendance. He believed that the most potent influence in the improvement in public health in England and Scotland would be that the whole interest of the societies would be to secure the best possible medical attendance for their members in order to get them off the sick fund. The ultimate success of the scheme depended on the development of preventive medicine, and if they separated medical benefit from it there would be no machinery for the promotion of the prevention of disease. He sincerely hoped that the statement of the Chief Secretary that this defect in the scheme would soon be remedied would prove a correct anticipation, and that every effort would be made before the third reading to incorporate a scheme of medical benefit.

Mr. T. M. Healy said that, so far as he was concerned, until these amendments were placed on the paper on Thursday last, he had never heard the form they were to take. What chance, then, had there been of making Irish opinion acquainted with the fact that what was the kernel in the bill for England was being taken out of it when Ireland was concerned? Of the six heads of blessing under the bill one had disappeared, and why was it that it had been elected to decapitate the first and principal one—medical treatment? The reason was plain. If they had deprived Ireland of either of the other benefits, there was no system in the country that would have supplied it. What would be the effect of the bill in its present form? Take the case of an ordinary tradesman who was a Post Office contributor. If he fell ill, how was he going to get his medical benefit? He was too proud to send for the dispensary doctor. He had to employ a doctor, and the doctor must visit him, diagnose his case, provide him with medicine, and write out a certificate. What was that going to cost? The doctor's fee might easily amount to the whole of the Post Office benefits. But in the case of the poor man entitled to dispensary relief, were they going to place upon the dispensary doctors the burden of giving certificates for nothing? If so, they would have a strike of doctors. If not, who was going to pay the increase in their salaries? It would not be the Treasury, but the Irish ratepayers.

The Chancellor of the Exchequer: The Irish ratepayer will not pay doctors.

Mr. T. M. Healy: We are improving under criticism. The right hon. gentleman has now stated that he is going to make a grant to the rates.

The Chancellor of the Exchequer said the payment was provided for in the provision made for management expenses in the bill.

Mr. Maurice Healy asked whether it would be possible to give urban districts the option of coming into the bill for medical benefits.

The Chancellor of the Exchequer said the question whether Ireland should be included in the bill or not turned upon the question whether Ireland wanted to be included, and it was because there was a strong feeling among the working classes in Ireland in favour of coming in that Ireland was included. He regretted to leave out medical benefit, but that was done purely in deference to the wishes of Irish members and their constituents. If there was now a strong desire that the subject should be reconsidered, if there was a feeling that medical benefit for Ireland should be incorporated, the Government would not insist. The question was what bargain could be made with the doctors. He had not found that a better bargain could be made with Irish doctors than with English doctors. Now they in many cases got 4s., and he was advised that 6s. might be taken as the financial basis for the bill. But the doctors demanded a sum which was financially impossible. He had made arrangements with the medical profession in this country, but he had found in Ireland the same demand as had been made by the Medical Association—8s. 6d. for each individual—and financially that was quite impossible. It was true that afterwards, when it was discovered that medical benefit possibly might not be included, a more reasonable spirit prevailed in the financial aspect of the question, and if there was now the desire to include medical benefits for Ireland and the medical profession acquiesced, he would not resist the recommittal of the bill for the purpose. But he did not think it would be possible under 1½d. contribution; a 1d. meant 4s. and 1½d., 6s. It was a question of bargain with the doctors. To give an option, such as was suggested by Mr. M. Healy, would lead to hopeless confusion, one man being on a higher scale than his neighbour. He thought that eventually Ireland would come in for medical benefits; workmen would probably join societies and would make additional voluntary subscriptions for medical benefits. Some societies would impose the additional contribution while others would not. They would not get the benefit of the employers' contribution, and eventually the Government would be asked to amend the bill and impose the additional 1½d.

Sir J. Lonsdale (Armagh, Mid.) asked whether, in view of the additional work which would be thrown upon them, dispensary doctors in Ireland would be allowed to employ an assistant. At present under the Local Government Act they were not allowed to do so.

The Chancellor of the Exchequer said that was entirely a matter for arrangement between the local Health Committees and the societies and their doctors.

Dr. Esmonde (Tipperary, N.) said he was sorry they had not been able to include the medical benefit in the bill. In

Ireland seven men out of every ten who would come under the bill were already provided with medical attendance. The demand made by the Irish medical men for 8s. 6d. was not reasonable, but a reasonable sum should be paid to the medical men, and a small capitation grant to the dispensary doctors.

Mr. Power (Waterford, E.) said it was not true that the relief given by the dispensaries and Poor Law authorities had been abused. He knew of many cases where people had refused to apply for relief free because they could afford to pay for it.

Mr. Lardner (Monaghan, N.) said the demands of the doctors in Ireland for medical benefit under this bill were extortionate and oppressive. They asked for a minimum fee of 8s. 6d. for medical attendance alone, and a mileage of 1s. a mile for every mile from the doctor's residence to the patient's house.

Mr. Chambers (Belfast) regarded the dispensary system in Ireland as a very unsatisfactory substitute for the medical benefits which would be provided in this country. There were 810 dispensary doctors in Ireland, which on the acreage of the country gave an average to each dispensary district of 25,728 acres. That was not satisfactory. He approved of the bill, but he wished it to be put into the shape which would be best for Ireland.

The amendment was agreed to.

The discussion of Parts I and III of the bill, with the exception of the new clauses, was thus concluded.

A report of the discussion of the new clauses, put down for Thursday, must be deferred.

The two last allotted days which are to be given to Schedules 1 to 5 and to any other matter to bring the Committee stage to a conclusion are, Mr. Asquith stated on Wednesday, in reply to Sir P. Magnus, to be Monday and Tuesday next, November 20th and 21st. Arrangements, he added, will be made to have the full bill circulated at the earliest possible moment on the completion of the Committee Stage.

QUESTIONS IN PARLIAMENT.

Representation of Midwives.

Dr. Addison asked the Chancellor of the Exchequer whether it was his intention that at least one of the women members of the Advisory Committee to the Insurance Commissioners should be a registered midwife.

The Chancellor of the Exchequer replied that the answer was in the affirmative.

Salary of Hospital Staff.

Sir Philip Magnus asked whether a physician or surgeon in receipt of a salary on account of his services to a hospital of £50 a year, but whose professional income exceeds £1,000 a year, came under the compulsory insurance clauses of the National Insurance Bill.

Mr. McKinnon Wood replied that the answer was in the negative.

MEETINGS OF THE PROFESSION.

LAMBETH.

A combined meeting of the Greenwich, Norwood, and Lambeth Divisions was held at the Camberwell Town Hall on November 7th at 4 p.m. J. C. V. Denning, Esq., was in the chair, and 180 medical men were present.

Dr. Alfred Cox, the Deputy Medical Secretary of the Association, in the unavoidable absence of the Medical Secretary, was called upon to address the meeting on the present position of the Association with regard to the National Insurance Bill. Dr. Cox first dealt with those practitioners who believed that the Association should have refused to have anything to do with the bill, and pointed out that, in view of the answers of the Divisions to the questions put to them last March, and of the decision of the Special Representative Meeting in May last, such an attitude was impossible, as the Association had declared its willingness to co-operate with the Government with regard to the National Insurance Bill on certain conditions. These conditions were known as the six cardinal points of the Association. He then analysed the bill as introduced and as it now stands in relation to each of these six points, and showed that the profession by its active propaganda had very materially altered the bill to the advantage both of the public and of the profession. Dealing with those members who believed that the profession should only undertake work in connexion with the system if the payment were by attendance and not by capitation fee, he pointed out that the opinion of the Association was acutely divided on this question, and that any attempt to force one method to the exclusion of the other upon all members of the Association would be bitterly resented, and would split the Association from top to bottom. The Association had adopted the only statesmanlike policy, which was to place its full force at the disposal of each district to obtain that method of remuneration which was approved by the majority of the local practitioners. The possibility of doing this was left open under the bill as it now stood. As regards the amount of remuneration, the Association had always said, "We cannot tell you our terms until we know what we are expected to do." This could not be known in detail until the regulations were drafted after the bill was passed. In the meantime, the Association had contented itself with telling Parliament that it would insist upon the terms being adequate, and warning the Chancellor of the Exchequer that the figures which he had used and on which the actuarial conclusions had been based would prove quite inadequate. He then dealt with two points which were causing a good deal of uneasiness—the income limit and the Harmsworth amendment. As to the former, he said the profession was enormously indebted to Sir Philip Magnus, Sir Henry Craik, and Sir Robert Finlay, who had strenuously advocated in Parliament the insertion of the £2 maxim limit, and had done this in face of great difficulties. The amendment of Sir Philip Magnus to insert the £2 limit in the bill had been allowed to be defeated without division, as our Parliamentary friends felt certain it would be badly beaten, and were of opinion that the result of a division might be damaging to the rest of our campaign. It was open to the profession to press for the insertion of this amendment on the Report stage. Whether this should be done or not was a matter of tactics. It was pretty certain that Parliament would not consent to its insertion. The profession might, however, wish to press for it as evidence of its future determination to insist on this limit, and this was a point upon which the Divisions would shortly have to instruct their Representatives. Whether it was put in the bill or not, he took it that the policy of the Association remained unchanged; they were determined to insist upon a maximum income limit of £2 in every district, with a lower limit where such was thought desirable. The Harmsworth amendment raised points of great importance. As it stood it seemed to allow medical aid institutes, and even any friendly society club to go on as at present, but at the conference with the Chancellor of the Exchequer and the friendly societies the former had stated that every man must be given free choice as to whether he preferred a doctor on the panel or would rather join an institute, and that on no account would any institute be allowed to make any profit out of the provision of medical benefit. The institutes or associations must be approved by the local Insurance Committee and by the Insurance Commissioners as providing proper medical attendance, and the money paid to them for the medical benefit they provided for the insured persons must actually be spent for that purpose, and for that purpose only. That is to say, that after deducting ordinary practice expenses the rest of the money must be paid to the doctor. The Association had been promised that the Harmsworth amendment should be so amended as to make these points clear, and was waiting for the promised amendment before it advised its members on their future action. It was evident that this was a point which needed careful watching; but the Association, which had been fighting so strenuously for free choice of doctor, could not logically object to the patient choosing the doctor of a friendly society institute, if it were made clear that he did so of his own free will, preferring the institute doctor to any other on the panel and it was made clear that the institute could not undersell the other medical practitioners. Dr. Cox mentioned that the friendly societies at the conference had asked that the case of certain of their present members who were excluded from the bill should be favourably considered—namely, those who were over 65 years of age and those who from

reasons of health could not become employed. It was suggested that if the friendly societies dropped their attempt to reverse the decision of Parliament on free choice of doctor and the transference of the control of medical benefit to the local Insurance Committee from the hands of the individual approved societies as originally intended, the profession might agree that these two classes of existing members should be attended at the same rate as those who came under the bill. Dr. Cox thought that these were hard cases which he felt sure the profession would consider favourably. Dr. Cox concluded by pointing out how the Association had been forced into adopting trade-union methods, and would be compelled to do so still more in the future, and went on to make a comparison of the financial sacrifices made by trades unions in defence of their principles with those made by the medical profession, much to the advantage of the former. It was obvious that if the profession were in earnest it would be compelled to find much more money for fighting and defensive purposes, and he urged the claim of the Insurance Defence Fund upon all present.

Questions were asked by Drs. Burgess, Serrell Cooke, Mackeith, and Capes, and were answered by Dr. Cox.

The following resolutions, proposed by Dr. Batten, were carried with applause:

That this meeting of medical practitioners considers that the object of the National Insurance Bill to improve the health of the industrial poor and to provide proper medical attendance for them can only be secured by the cheerful co-operation of the whole of the medical profession.

That this meeting thanks Dr. Cox for coming and giving such a lucid and succinct account of the position as regards the bill; thanks the Council of the Association for what it has already done, and pledges itself to support the Association in every way to prevent the continuation and extension of underpaid contract practice, which can only be detrimental and degrading both to the sick poor and to the medical profession.

The meeting terminated with a vote of thanks to the Chairman and to the Borough Council for having granted the use of the Town Hall for the meeting.

SOUTH-EASTERN OF IRELAND BRANCH.

At a special meeting of the South-Eastern of Ireland Branch of the British Medical Association, held at Waterford on November 3rd, the following resolution was passed unanimously:

The South-Eastern of Ireland Branch of the British Medical Association, having considered the result of the conference between the Chancellor of the Exchequer and the deputation of the Irish medical profession, from which we understand that medical benefits will not be thrust upon the country contrary to the wishes of its Parliamentary representatives—both Unionist and Nationalist—hereby call upon both sections to abandon their opposition to the inclusion of such benefits, and further call on the British Medical Association to take immediate steps to ensure that the unanimous decision arrived at in London at the Special Representative Meeting, and accepted by Mr. Lloyd George, should not be departed from—namely, that the administration of this measure, financial and otherwise, should be the same in Great Britain and Ireland in respect of friendly societies.

We further assert that there is no ground for the statement that medical benefits are eliminated from the bill at the instance of the medical profession, and we are also of opinion that it is most unfair to apply to insured persons a system of medical relief which carries with it a stigma of pauperism.

BROUGHTON.

At a meeting of the Broughton Medical Union, held on November 9th, the following resolution was carried unanimously:

That the Broughton Medical Union reaffirms its unwavering adherence to the declared policy of the British Medical Association, including the six cardinal points of that policy, in relation to the National Insurance Bill; declines to accept any amendments that would defeat the objects of that policy; and is resolved to refuse any arrangements for medical attendance and treatment which do not comply with that policy.

MEETINGS TO BE HELD.

Fife.

A meeting of members and non-members of the British Medical Association arranged by the Fife Branch will be held in the Station Hotel, Kirkcaldy, on Tuesday, November 21st, at 3 p.m., to consider the report about to be issued by the Central Council of the British Medical Association on the National Insurance Bill.

Hampstead.

A meeting of the local profession organized by the Hampstead Division will be held in the Lecture Room of the Hampstead Conservatoire on Tuesday, November 21st, at 8.30 p.m., to consider the present position of the bill.

Marylebone.

A general meeting of the Marylebone Division will be held in the rooms of the Medical Society of London, 11, Chandos Street, W., on Tuesday, November 21st, at 8 p.m., when the report of the Central Council of the British Medical Association on the amended National Insurance Bill will be considered.

Lancashire and Cheshire.

A mass meeting of the medical profession in Lancashire and Cheshire will be held this day (Saturday, November 18th), at 3.30 p.m., in the Midland Hotel, Manchester, to discuss the medical clauses of the National Insurance Bill, and to support the British Medical Association in pressing for the six cardinal points by passing a resolution stating that as at present framed the bill does not embody the demands of the medical profession, that it is unworkable, and is dangerous to the public health. All members of the profession in Lancashire and Cheshire are earnestly requested to attend. The chair will be taken by Mr. G. A. Wright, F.R.C.S.

North Northumberland.

A special meeting of the North Northumberland Division will be held at the Infirmary, Alnwick, on Tuesday, November 21st, at 3.30 p.m., for the purpose of considering the report of the Council on the National Insurance Bill, and instructing our Representative at the Special Representative Meeting to be held in London on November 23rd.

South-West Essex.

A special meeting of the South-West Essex Division, to which all members of the profession residing within its area are invited, will be held on Tuesday next, at 4.30 p.m. at the Wesleyan Church School (corner of James Lane), High Road, Leyton, to consider the report of the Central Council of the British Medical Association on the National Insurance Bill in its amended form.

CORRESPONDENCE.

Dr. W. B. Crawford Treasure (Cardiff) writes: Truly the fight is only just beginning! Let us take stock of our position. After months of strenuous toil, innumerable meetings, conferences, and many interviews, we find ourselves as far off the attainment of our cardinal points of policy as ever, while the struggle for equitable terms of remuneration has not even been approached. In spite of many soft speeches and repeated assurances we find ourselves still under the domination of the friendly societies, though under a new guise. The composition of the Insurance Committees on which we have strenuously fought for adequate representation, is even more unfavourable to our interests than at first. Of what use will three representatives be on a committee of eighty members? we were better off with one in twenty-two, as at first arranged.

Take the free choice of doctor: this, though conceded in form, is virtually undermined so seriously by the Harmsworth amendment as to be of doubtful value.

The income limit has been absolutely refused, and the only concession granted—that of taking the medical benefit in the form of a contribution to the cost of medical attendance—is one which will necessitate the most watchful attention to be of any service at all.

The most serious matter, however, to my mind, is the virtual retention of the friendly society domination in the composition of the Insurance Committees. They may have

twenty-four direct representatives in a council of eighty, and doubtless with the help of their organizations will secure even more than that among the members to be appointed by the other interests.

What, then, is to be done? To my mind, the proceedings in Parliament afford us a valuable object lesson as to what our power will be in the Insurance Committees. The absolute impotence of our medical representatives in Parliament, valiantly as they have acquitted themselves, shows us that on all matters of policy we shall be hopelessly outweighted and outvoted. My present feeling is that we should absolutely decline to accept nomination on these committees.

We must not allow ourselves to be frightened by the prospect of the appointment of whole-time medical officers in the event of our declining to work the Act under degrading terms. The thing is not so easy as it seems. With a united profession it would be by no means easy to obtain enough whole-time men to carry on the work in the big towns and industrial centres even, while in the sparsely populated country districts it would be still more more difficult to obtain sufficient men. But there must be no wavering; we possess powers of discipline in our Association potent enough to give pause to possible blacklegs, and their position would not be altogether a bed of roses.

Much, however, may yet be accomplished by resolute action on the Report stage of the bill. Parliaments may make laws, but they cannot coerce a whole profession any more than they can a nation. The smug complacency of the friendly societies—justified, perhaps, by recent events—may yet receive a rude shock. Even though we possess but a trifling voting power—and votes seem to be the only considerations which sway Ministers—we can yet achieve the only aim which we have in view—to obtain fair conditions of work and remuneration. We ask no more and we will be satisfied with no less.

Dr. A. George Bateman (London) writes: The negotiations which the British Medical Association have been carrying on with the Chancellor of the Exchequer during the year have not yielded, apparently, any beneficial result. With the single exception of "choice of doctors" none of the demands of the profession have been acceded to or incorporated in the bill as drafted at present; and, indeed, so far as proportional representation on the Insurance Committees is concerned, the position is worse now than ever, and we are left to the tender mercies of the insurance societies owing to our limited representation. I cannot but feel that we have made a grave mistake in agreeing to the principles of the bill, which from the first showed clearly that, if carried out, it would necessitate great interference with the existing relations between patients and practitioners, and lead to a serious extension of contract practice, which for many years past we have endeavoured to destroy, or at the least to minimize. It was apparent to many of us that to attempt to compromise with the Chancellor was a confession of weakness on our part; and to negotiate, a waste of time and money. Compromise under the conditions of relative strength of the parties concerned in the negotiations would appear to have had as a result that which was obtained by a husband in the old story. A man was heard quarrelling with his wife, he insisting upon residing in town, and she equally insistent upon moving to the country. Later a friend who knew the cause of the quarrel met the husband, and, on asking him how the matter was ended, received the reply: "Oh! we compromised the matter." On being pressed as to the nature of the compromise the reply was given; "We are taking a house in the country as soon as possible"—a method of compromise which illustrated forcibly on which side the victory lay. I cannot see why the Representative Meeting should not proclaim with no uncertain voice that the profession will have nothing more to do with the bill. It is quite clear to me that 6s. is estimated by the Government as the amount to be earmarked for cost of medical benefits, one-third of which would go to the chemists and druggists. The balance of 4s. is, therefore, the amount which the present Government considers is reasonable and proper pay for the skilled medical attendance. If medical men are foolish enough to accept these terms and to enter into contracts of this nature, thereby binding themselves body and soul to starvation wages which would not be accepted by a scavenger (taking the unlimited hours of work to be given into consideration), the sooner will the profession be brought down to the level of the poorest possible trade, and its "workmen" be in the position of white slaves. The war is now for the rank and file of the profession—as the persons most seriously affected—to wage; and it is high time that all negotiations (so-called) be broken off, and a firm and unyielding decision arrived at. It is puerile to suggest that the monetary question is not decided, as it has been left to the local Insurance Committees to settle; what favourable settlement can we hope to get when our representatives on such committees are in the proportion of 3 to 80? We have been, I fear, outgeneralled in this battle from the first, and it now remains for the general practitioners themselves to concentrate and entrench their position, and to make it clear by issued proclamation that nothing will induce them to take any part in the operation of any insurance bill as long as its foundation rests upon contract practice and the exploitation of a learned profession. It is easy for the Government to give 9d. for 4d., or even 1d., if the medical attendance is to be at the expense of our profession; this is a method of vicarious charity. The bill should be renamed as one for the "Production of Pauper Practitioners."

It is difficult to discover what we have gained from the enormous expense to which the Association has been put, and for the great personal trouble and inconvenience caused to our able executive officers. So much "sack" to a pennyworth of bread is apparently the result. In the future the majority, should the bill come into operation, will have to sup on "caud kale." I am an old member of the Association now, and, as far as my limited brain powers have permitted, have supported it by pen and voice in every way possible; but I must confess to very great disappointment at the result, so far, of the battle which has been waged during this year, and feel acutely the position in which the medical profession has been placed by this muddling legislation. The bill as it stands at present has taken from us any control, and the insurance societies have regained that which at one time they appeared to have lost. We can gain nothing by any further debates in the House of Commons; the guillotine—the beloved engine of all revolutionary bodies—is at work daily. No one, not even its State parent, can make this bill intelligible or workable now.

It is for the medical profession to decline, once and for all, to have any part in the operation of such a bill. It cannot be worked without our active co-operation, and we should at once absolutely refuse to accept any contract under it. I am writing as a practitioner, and not as an official of any society or association.

Dr. William Elder (Leith) writes: The discussion on the Insurance Bill in Committee of the Commons has now reached a stage when it is possible to have a fair idea as to its bearing on the future of the medical profession, and it is the duty of each member carefully to consider what the attitude of the profession through the British Medical Association ought to be towards the bill as a whole. Unless the whole action of the Association during the past summer and autumn has merely been a huge bit of bluffing, there is only one course open to the profession when the members come to decide at the forthcoming meetings what their attitude is to be. There should be no uncertainty about it.

The course of the discussion in the Commons has gradually revealed to us that not only have our requests not been acceded to, but the arranging of the different clauses has, on the whole, made the bill very little less objectionable, if at all, than it was. As I understand the attitude of the profession as expressed at their meetings, a complete granting of our six points was an absolute essential of their agreeing to act under the bill at all. I trust that if that decision is still adhered to at the Branch meetings the Council will not only officially inform the Chancellor, but will see to it that one of the Members of Parliament who have all along helped our cause, such as Sir R. Finlay or Sir P. Magnus, be authorized to state definitely to the House of Commons what the decision is. Unless we have been bluffing, there can only be one

decision. We asked for six essential points. Have *any* of these been granted in full?

I notice it is usually assumed that the free choice of doctor and freedom from friendly society control have been given. In the case of both the concession has only been given in part. The free choice of doctor has been seriously negatived, especially in some districts, by the addition of the Harmsworth amendment to the bill, and the freedom from friendly society control has gained us very little, seeing that by the Chancellor's amendments giving the constitution of the local Health (now Insurance) Committees, the majority of such committees, twenty-four out of forty and forty eight out of eighty of the members are to be chosen by the approved societies and deposit contributors in proportion according to their numbers.

Whereas as first drafted the medical profession had to have three members on this committee out of twenty-two, it may now have three members out of forty or out of eighty, as the case may be. It matters, I think, very little to us whether you call the committee a Health Committee, an Insurance Committee, or a Friendly Society Committee, the important point is that the friendly or approved societies will, as a rule, control the committee. Whether the Chancellor will please us as to the statutory recognition of a local Medical Committee will be seen when he comes to propose his clause in the House.

As for the £2 limit, I think a large majority of the profession have considered that that was the most important demand of all. That has not been conceded, but a proviso has been introduced whereby a limit may be fixed locally. I ask what chance there is of the introduction of a limit locally when we see what the composition of the local Insurance Committees is to be? It has been by taking advantage of the local frictions, and especially the local necessities of medical men in the past, that the friendly societies have been able to make such satisfactory bargains for themselves and such poor bargains for their medical officers.

The same argument applies to the fixing of the remuneration to the medical man per capita, or for each visit. Is it likely that the profession will be much more successful than it has been in the past, seeing that the Chancellor's ideas of reasonable remuneration differ so markedly from those of medical men? I am afraid not; but there is one thing that will now tell in our favour, and that is that we have the Central Organization (the British Medical Association) at our backs, and in this connexion it is absolutely necessary that we all stick together, and that no part of the country agrees to accept terms under this or any modified Act until satisfactory terms have been arranged for all the country. I am one who believes that this could only be satisfactorily arranged by not only having the £2 limit fixed in the bill, but also the method and minimum amount of the remuneration for the whole country also fixed in the bill. Any differences to suit local conditions, such as fees for distance, etc., could be arranged locally. That would have got rid of much of the friction that is bound to arise if and when the Act comes into force. What is likely to happen if the profession declines to work under the Act when it is passed? If we are firmly unanimous our work will just go on as before, but it is not only not likely, but would be quite incomprehensible that a Government which, after spending nearly a whole session on a bill, allowed that bill after it became an Act to become a dead letter, simply because it declined to make adequate provision for reasonable remuneration and proper safeguarding of the rights of an honourable and beneficent profession.

Dr. G. R. Williams (Kensington, W.) writes: My object in addressing you is to add my voice to that of others who say, "The crucial point of an income limit having been rejected by the House of Commons, a quite futile substitute for it having been inserted in the bill, is it too late for the medical profession to declare that they can give Mr. Lloyd George no further assistance, and refuse to work under the bill on any contract system?" I am sure this attitude would meet with wide support by members of the Association. Let us take up this position without delay, and Mr. Lloyd George will speedily realize the situation. I do not think the consequences of this bill to the profession have been fully thought out. It simply means spoliation and degradation.

Dr. C. K. Toland (Bow, E.) writes: Steps should be taken without any delay to bring waverers into line. This can easily be done. Let there be prepared *up to date lists* of the medical practitioners in each Division, and mark those who have signed the undertaking. Then let each Division arrange a personal canvass of those who have not signed, and in a week we will be in a position to know who is for us and who against. Further, we must get hold of the newly qualified. Each school of medicine is turning out quarterly a number of qualified practitioners. Let steps be taken to get these into line also; then when we have the whole profession pledged to our cause, Parliament can pass amendments and reject others to its heart's content, but we, a united profession, when it comes to putting the Act into force, can dictate terms to the Government.

H. N. E. writes: I note you say, "If this bill becomes law . . . the profession will have again to consider it." May I ask what we have to consider that we have not already considered, and unanimously decided? In my opinion, and in that of all brother members whom I have spoken to, the matter, so far as we are concerned, is settled. Our very moderate demands have not been granted, and we are "out of it." Surely that is the position, and why not let it be known to all whom it may concern.

Mr. Robert J. Farman, L.M.S.S.A. (Kennington Lane, S.E.) writes: I desire to lay before the profession a proposition which is not meant to be antagonistic to the work done by our leaders, but, rather, an addition to it. I think it will be seen that the point I wish to make seems to be in danger of being lost to sight.

The fighting, so far, has been on the question of control, but I think we ought now, if not already too late, to ask, and in no uncertain voice, the following questions:

1. *What is it that will be required of us under the Act?* Contracts vary in different parts of the country. In some parts of the Midlands a sum of 1s. per lunar month is deducted from the earnings of all adult colliery employees, and this pays for all medical and surgical attendance on the employee, and, where he is married, on his wife and children under 16 years of age, but does not include midwifery, which is paid for extra at 10s. 6d. per case. In the valleys of South Wales the system of poundage is in vogue, and sums of 2d., or in some cases 3d., are deducted from every 20s. earned by colliery employees, and these sums pay for all attendance, including midwifery. The ordinary friendly society benefit is too well known to require description. What will be the benefit under the Act?

2. *What shall we be paid for it?* This question must be divided into—(*a*) By whom will the amount be paid? (*b*) To whom will it be paid? As to the main question, we are told that we must wait and bargain with local Insurance Committees. As to this, I say, Heaven alone can help the profession if we do not make our stand now. At present our paymasters are our private patients and contract employers, be they Poor Law bodies, collieries, works, friendly societies, or the like. Who will they be in the future? Under the Act we, in working-class practices, will have no private patients after two or three years, when the benefits have been extended to women and children, and under the Harmsworth amendment we shall still have just as many contract employers.

(*b*) To whom is the money to be paid? At present we receive the whole of the contract earnings and supply the whole benefit, including drugs. In the future drugs and the doctor are to be divorced. Let me show how this will work under a per capita arrangement: It is necessary to understand that a certain sum per head will be allowed, and this sum—whether it be 2s. or 20s., or the alleged 6s. of Mr. Lloyd George—will have to cover the entire cost of the medical benefit—namely, attendance and medicine. Now, taking an ordinary medical case, what will happen is this: The doctor is called in, and he will diagnose the disease, give clinical advice, and write a prescription. The prescription will be taken to a chemist, who has already bargained that he shall be paid for his drugs, with an additional 1d. or 2d. per bottle for his work of dispensing. This part of the medical benefit, that is, the supply of drugs, thus becoming an unknown quantity so far as cost is concerned, and may depend in great measure on economical

prescribing. Let us assume that the sum of 6s. per annum per capita has been fixed—and here let me repeat that whether it is 6s. or 16s. does not affect the principle of my contention—then in a working class practice of 2,000 men, women, and children we may in the first year of the Act assume that there will be 400 insured persons, of whom 50 will come under the doctor's care and require two bottles of medicine each. Allow that the chemist charges 1s. per bottle for drugs and 2d. for dispensing there will be a chemist's bill of £5 16s. 8d. to be paid out of a total of £120, leaving £114 3s. 4d. for the doctor. This refers to a normal year, but take such a season as 1888–9; there will be 200 under the doctor, requiring six bottles of medicine each. The chemist's bill will then be £70 and £50 left for the doctor, who will have done twelve times as much work as in the normal year. Surely this is absurd, and yet it is what is proposed.

Even admitting that the British Medical Association in 1905 did issue a report saying that some sort of contract practice is inevitable and allowing that, so far as the principle is concerned, their hands are tied, their report would not be stultified if they declined to proceed in this matter until satisfactory pecuniary arrangements have been made.

The Method of Payment.

Dr. Ernest D. Pineo (Langford, Somerset) writes: As the bill progresses through Parliament it is obvious that what the House and the country require and ought to obtain is the very best done in the very best way. Four and a half million pounds among 15 millions of insured (6s. a head) cannot possibly provide for consultations, operations, *x*-ray photographs, bacteriological examinations, the preparation of antitoxins and methods which must, and rightly ought to, become larger and larger factors in the fight against disease as time goes on.

If our profession will only look at the question from a large point of view, and decide what is best for the nation as a whole, they must be convinced that payment for work done will remove nearly all the present drawbacks to the scheme as at present drafted. For example, the hospitals (which sooner or later must become largely State-aided) will get their adequate remuneration for the work they do.

The adoption of the proposal in the bill that the question of method of payment should be shelved, to be fought out not by the whole profession against the Government but by the local Medical Committees with the local Insurance Committees, will be absolutely disastrous to us, and through us the nation at large. If we accept the proposal we shall be defeated section by section—surely a fatal policy to pursue. Let every member of the British Medical Association make it his own business to see that in the forthcoming meetings of the Divisions that clear and binding instructions are given to his Representative to press at the Representative Meeting, to take place immediately the Committee stage is completed, for an absolute ultimatum to the Government that we will work by payment for work done and under *no* other circumstances. Our six-point policy, if carried out, could have only led to the perpetuation of all the worse phases of contract practice.

Dr. J. Charles (Stanley, co. Durham) writes: The correspondence column of the Supplement for the past few weeks bears witness to a recrudescence of the "anti-contract" agitation as regards the method of payment under the Insurance Bill, and it has also been reflected in the addresses issued to the profession by certain aspirants to honours in the forthcoming election of members to the General Medical Council.

All this, to my mind, is very regrettable. It is too late in the day now to place this issue before the profession, and to attempt to do so by a referendum or in any other way will only lead to dissension in our ranks and militate against the united efforts of the profession in fighting to secure its rights under the bill.

The chief concern of the profession as regards the financial aspects of the bill is not with the *method* of payment but with the *adequacy* of payment for the work we shall be called upon to do under the National Insurance scheme. *Adequacy of payment*, I submit, can be as securely safeguarded by a contract system as by the method which demands "payment for work done." In the former case it is simply a question of the "per capita" rate paid.

The tirade against the "contract system" of payment is ill judged, and the arguments advanced against it as a system of practice for the most part irrelevant. In a word, they are based mainly on the faults and defects of contract practice as it has hitherto been known to the profession—that is, "sweated labour," "domination of the friendly societies," etc. Remove these objectionable features from contract practice and you take from it practically all that has made it in past years the bugbear of the profession.

But given a system of contract practice which secures for us adequate payment for work done, which is stripped of that galling thraldom of the friendly societies, and in which is preserved the freedom, liberty, and independence of private practice, surely these should be given to those who desire it the option of working under this system in preference to one in which a "tariff of rates for work done" is the essential feature.

The defects of "contract practice" are not inherent in the system itself, and there is nothing, on the other hand, in a system which demands "payment for work done" which raises it either ethically or economically to a position of pre-eminence. Provided the "contract" is fair and just, and the financial basis such as to secure satisfactory remuneration for the services rendered, there is nothing derogatory to the profession in its adoption.

That a system of practice worked on such "contract lines" is possible I am convinced from a long experience of contract practice, and that it is procurable under the National Insurance Act I am also convinced, if only the profession acts unitedly and faces the problem in a determined yet reasonable spirit.

There is one fundamental difference between contract practice as the profession has known it hitherto and the system which will obtain under the Act. In the former case the "contract" as regards medical attendance was between combinations (friendly societies, clubs, etc.) and the individual practitioner; under the new State system the contract, apart from its financial conditions (which will be a matter for "collective bargaining"), will be essentially an agreement between the individual insured and his doctor. This is the outcome of "free choice of doctor (and patient)," which both the Government and the profession have rightly adopted as a fundamental condition of the relationship under the Act.

There will necessarily be a certain amount of Government, and doubtless perhaps society, control and supervision, but this is inseparable from the working of the Act, no matter what "method of payment" is adopted.

Preserving as it does the individual liberty of the insured and the doctor, except in their financial relations, the State system of contract practice will differ entirely from contract practice as the profession has known it in the past, and will be divested of most of its objectionable features. Under the bill the "method of payment" is left open, and will be a matter for arrangement between the Insurance Committees and the profession locally. Do not let us, therefore, bind ourselves to any one method of payment, but in districts where a "contract system" is preferred leave it to the profession, acting in unison, to insist on a system which will secure complete liberty and independence for both doctor and patient, and on a "capitation fee" which in the aggregate will afford adequate remuneration for the total services rendered.

Dr. J. N. Marshall (late President Glasgow and West of Scotland Branch) writes: The Editor's rejoinder to those correspondents who advocate the principle of payment for work done, seems to me so unsatisfactory that I am tempted to add my protest.

As I understand it, a large number of medical men wish the Association now to adopt an active policy of opposition to contract work by capitation grant. Many things have occurred since June, particularly the failure to obtain a wage limit in the bill, to make the adoption of this policy desirable. Whether a majority of medical men are in favour of this policy must be determined by some sort of

referendum, but every one must see that if action is to be taken at all it must be taken at once, else the bill will go through Parliament, the Chancellor understanding that doctors will accept his contract work.

It is useless to refer to a statement by the Council "The question of method and amount of remuneration are still left open as desired by the profession," for although that may have been the desire of the profession six months ago, it may not be their desire now. The principle of opposition to contract practice is one which will appeal to all medical men who wish to see the best work done for working men under the Insurance Bill, and who wish justice done to themselves. It will also have the sympathy of a large proportion of the intelligent public, who are naturally guided in their opinion by what has been said by some of the best known men in our profession, notably by the present President of the Association.

If there are difficulties in the financial working of "payment for work done," there are still more difficulties got rid of by the adoption of that method. The problems of income limit, mileage, night work, migratory workmen, operations and anaesthetics, and institutional treatment would all be simplified. That the method is practicable is proved by its having been in use by numerous friendly societies, and by the Government itself in the case of some of its servants.

Dr. H. F. Devis (Bristol) writes: "Payment for attendance" is an empty phrase unless it carries with it the principle of the insurers taking the insurance risk. This is what the Chancellor has refused. With a limited payment, whether "per capita or per attendance," the doctors take the risk. This risk we should at once, and for all time, refuse. In case the Council does not see its way in the matter of a new referendum on the mode of payment, I appeal to every Division to instruct its Representative to bear the message to the special meeting, that the profession refuses to work under the National Insurance Bill *unless provision is made in the bill for payment per attendance on the basis of the insurers taking the insurance risk.*

Mr. David Roxburgh, M.B. (London, W.), writes: A considerable number of your most interesting correspondents have drawn attention to the undesirability of the contract system, and strongly urge that the profession should now make a stand for payment for work done on an approved scale of fees. Might I be permitted to point out that such an arrangement will not be to the advantage of the doctors if the bill attains the great object that the Chancellor of the Exchequer has in view—namely, the reduction of the sickness rate of the community? His object, as I understand it, is to make it the interest of the doctors to put their heads together to reduce the sickness rate, and to insure that if they do they will not thereby suffer financially.

Dr. Joseph Jones (Leigh, Lancs.) writes: "Limitation" is undoubtedly right in saying that "it is details which must make our lives a burden or otherwise."

Before the mass meeting in Manchester I wrote to our Branch Secretary urging the importance of insisting on payment for work done, which would remove most of the six points of difference between us and the Chancellor of the Exchequer. I was advised that it was vital to stick together on matters of broad principle, and leave details to be settled later. I am convinced that this policy is mistaken, but there is yet time to remedy it.

If we accept a contract rate, we are in for a much worse time than many doctors seem to be aware. I have heard it stated that when the women and children come in, there will be £750 a year for every medical man, and no dispensing. This seems tempting, but I wonder how many men can satisfy 2,500 aggravated club patients, for that is what it means. These patients will not be satisfied with such attendance as we at present give to our private patients, for they will find that everything they want from the chemist's can be got free of charge, if they only take the precaution to make us prescribe it, and no one who knows them can doubt that they will take the most ruthless advantage of this privilege. No longer will they buy castor-oil, glycerine, gripe water, "oil-of-almonds-and-syrup-of-violets," magnesia, or corn-paint at the chemist's for themselves. They will demand attention from us, and the prescription of these or similar drugs, which at present they use, and are quite capable of using at their own discretion. There are not wanting those who will ask us to prescribe for them such things as nit ointment and small-tooth combs, on the grounds that they are for use in diseased conditions. Any one who doubts this had better cultivate the acquaintance of the pharmaceutical profession, whose members could open his eyes very wide indeed. And how could we refuse to do these things? The conditions will be very much worse than even the present club arrangements.

And what about those men who have taken up some speciality, such as sight testing, *x*-ray work, or operative surgery? On a contract basis a patient will be entitled to demand the best that each man can give, irrespectively of the time and energy it takes. No contract rate, at whatever rate, can be just that does not give us a time limit. Are our future proprietors likely to allow us this?

The only just basis is payment for work done. The Association can get this for us if it demands it and we stick together. If the Association fails in this, it will, in my opinion, have betrayed us to our enemy. The Leigh Division has adopted this principle, as others have done. It has been asked what safeguard there will be against unnecessary attendance under this method of payment. A reasonable answer is to ask what safeguards the medical profession would have against excessive demands under a contract rate.

I strongly urge the Association to make this a vital point. Our fate lies in our own hands. If we accept a contract rate, we shall have bitter cause to curse our foolishness in entering a state which, in spite of the money, will be a state of slavery, and nothing but slavery.

Dr. J. Price Williams (Swinton, Manchester), writes: The advocates of "payment for work done" seem to have had matters all their own way lately, and many of them appear to think that a large majority of the profession is in favour of that method of payment. I have good reason to doubt this, and would point out that the question has not yet been adequately discussed at meetings. Some of your correspondents appear to think that attendance on this system would not be "contract practice," but surely we shall not be at liberty to charge what we like for the various items of attendance; we shall "contract" to supply the items at a price agreed upon for each. Others apparently consider that payment per capita under the bill would merely be a perpetuation and extension of the old "club" system, with all its evils, failing to realize the difference that free choice of doctor will make. The terms "payment for work done" and "payment per attendance" seem to be used as synonyms, but they do not imply the same thing, since we must admit that all "attendance" is not necessarily "work." The desire to be paid for work actually done is strictly rational, and the distaste for accepting payment for work not done is in accordance with the highest ethical principles; and in a perfect world with an inexhaustible money chest the system of "payment for work done" would be ideal from every point of view. Unfortunately, the world is hardly likely to be perfect by the time this bill comes into operation, and even if the national money chest is inexhaustible, the men who keep the keys suffer from an incurable leaning towards economy, and insist on estimating the cost of everything they buy.

I fancy some of the advocates of this method of payment believe that under it the man who does the best work and the most work will receive the most pay, but such is certainly not the case. Setting aside the question of honour or honesty, there are degrees of competence; and highly-competent Dr. A. might cure a case of typhoid with twenty visits, where slightly less competent Dr. B. would require twenty-five, and Dr. C. perhaps thirty; and the pay received for the same work (namely, curing the patient) would be in inverse proportion to the competence and skill of the worker. Dr. D., no more competent than

they, but endowed with an elastic conscience, might "earn" as much as the three put together from the same case. Moreover, as the patient would not have to pay the bill, he would not give Dr. A. any more credit than Dr. C., or perhaps even Dr. D., if the latter "managed" well. Under the capitation system these four gentlemen would each receive the same fee, but the more competent would be the better paid for the energy expended, and as a general rule the more competent men would be pretty sure to get more patients and fees than the less competent; and earn their fees more easily.

Others of your correspondents take it for granted that a capitation fee must necessarily be small and inadequate, and appear to think that we shall easily secure an adequate fee per item. Why? We shall have to hold together and fight for adequate remuneration on either system, and to my mind the difficulty of securing an adequate per capita fee will be much less than that of securing adequate per item fees, because our paymasters can estimate the cost of the former but not of the latter. I believe, too, we shall agree amongst ourselves more readily as to what is a proper capitation fee than we shall over the various item fees; and what is still more important, when after a few years' trial an attempt is made (as it almost certainly will be) to reduce our fees, we shall be much more likely to be united and resist firmly under the capitation system than under the per item system. This is a point well worthy of careful consideration, but space forbids me to argue it now.

Whatever system we may decide to work upon we may be quite sure that our paymasters, after a few years, when they have the necessary data, will estimate medical attendance at so much a head, and if they find that this is an increasing figure, they will probably hand us over a lump sum for each district and tell us to pay ourselves out of it on any system we like. I understand that this was done in either France or Germany, but cannot give particulars. The effects of that would be too fearful to contemplate under a "per attendance" system.

Do the advocates of payment per item really appreciate the amount of book-keeping involved necessarily in this system? We shall have to keep and send in detailed accounts, and probably have to get our accounts checked in some way by our patients—a very dignified proceeding. Under a capitation system we should be able to estimate our own incomes pretty accurately beforehand, and should be saved from some of the anxieties attendant on "bad" years and from some of the fluctuations which would occur under the other system. With free choice of doctor and an adequate capitation fee I feel that we shall be pretty secure from exploitation, and that even the wage limit is of very little consequence, and that what we ought to do is to decide as soon as possible what would be adequate, and then hold together and refuse to take a farthing less.

Dr. Jno. Brown (Bacup) writes: "All is not well" with the National Insurance Bill in regard to the medical part of it. Mr. Lloyd George cannot or will not *accede* to put the £2 income limit in the bill. To accept local option is most unsatisfactory. We must not recede from our minimum proposals. In fact we ought at once to withdraw them. I am confident the majority of the medical profession will not work under the proposed conditions of medical service, they will prefer to retain their present freedom how they shall conduct their practices. To be under the control of friendly societies, the State or local Health Committees, would be most intolerable. The Government know that "club" practice is banned by the majority of the medical profession. We know too well what club and contract practice mean in regard to the present system as it exists in friendly societies, Poor Law, Police and Post Office services. The system is unsatisfactory to doctors and patients. All should have free choice of doctors, and doctors should be paid for actual medical services rendered. This principle is fair to all. It does away with the wage limit and other difficulties. A referendum on payment for work done or the capitation fee ought to be taken. Our opportunity has come and we must do away with the "capitation system." Those holding club and friendly society appointments will, I believe, receive the moral and financial support with any losses they may sustain by giving up their appointments.

Dispensing under the Insurance Bill.

Dr. F. A. L. Burges (Birmingham) writes: In the interests of the profession it is essential we should be permitted to do our own dispensing; it is also necessary in the interests of the patient, for it is the only way to keep our eye on the patient who is not confined to his bed, but still necessary to be under the close observation of his doctor. In an artisan practice, the patient comes to the doctor for medicine often not realizing it is also for his advice—the latter the more often being the most important. If doctors do not dispense, the patient will pay more visits to the chemist and less to the doctor. The worker will be at another disadvantage—he will have to make two journeys instead of one. Here in Birmingham a provident dispensary has been started whereby the doctor gives a prescription to be dispensed at the nearest branch of the Birmingham General Dispensary. As a member of the committee I protested against this and predicted failure. The society has been running about three years; it has about 100 doctors on the staff, and certainly not more than 500 members. This society was started by Mr. Neville Chamberlain with the idea of relieving the congestion of the hospitals. The one great stumbling block has been the separation of consulting and prescribing. The worker leaves his work, often late in the evening, is feeling out of sorts and calls in at his doctor's on his way home—he wants his medicine at once. He will consider it a most vexatious proceeding when given a prescription and told to visit the nearest chemist. I feel very strongly on this point, as also do many more practitioners in this district, and feel bitterly disappointed with the British Medical Association for not being more alive to this question. Perhaps I am writing under an error, and in their private councils the Association may be taking this question up. May they do so before it is too late.

Dr. R. W. Morgan (Gillingham, Dorset) writes: I am sure that 95 per cent. of general practitioners would agree as to the necessity of doing our own dispensing. It is true that in Germany doctors do not make up their own medicines: on the other hand, the German apotheke is a man of a much higher scientific status than the English chemist, and would never dream of indulging in the counter prescribing so often practised here by chemists. There is no doubt that doctors will soon have to fight with their backs to the wall. Mr. Smith Whitaker does not appear to favour a "medical strike against an employer that did not exist." I do not agree. The Government will be our employer, and I am of opinion that a national strike of doctors will be the only means of attaining our ends. As Dr. W. W. Stocker truly remarks, How are we going to deal with "blacklegs?" As he says, one such in a community of twenty other doctors might cause all the others to give way. How, then, to prevent this contingency? Only by treating him as the trade unions would do—leave him absolutely isolated, refuse to consult with him or to help him in any way—to show the public by our actions as to what we consider such an individual to be.

If necessary, the whole of the staffs of the different hospitals should resign their appointments, and the profession to insist upon their reinstatement when matters were settled in the way we should wish them to be. This course of action in itself would soon cause the Government to come to suitable terms.

Then as to compensation funds, both central and local. We should endeavour to find out the minimum amount each individual man should subscribe. A strong compensation fund will do more for the success of our fight than all the talking in the world. Are men prepared to put their hands in their pockets and subscribe generously to these funds? If not, the fight is as good as lost. The Chancellor of the Exchequer evidently counts on getting a sufficient number of men to work his scheme. Medical men are apathetic, but I believe that the majority will agree with me in considering that a national strike of doctors, with proper strike funds, and an efficient treatment of "blacklegs," will be the probable outcome of this iniquitous Act.

MATTERS REFERRED TO DIVISIONS.

AGENDA

OF

SPECIAL REPRESENTATIVE MEETING

TO BE HELD ON

THURSDAY, NOV. 23rd, 1911, at 10.0 a.m.,

and, if necessary, the following day, in the

CONNAUGHT ROOMS,

GREAT QUEEN STREET, LONDON, W.C.

Notice Convening Meeting.

1. Read: Notice convening Meeting, namely:

Notice is hereby given that a Special Representative Meeting of the Association will be held in London on one or other of the following alternate dates, namely, Tuesday, November 21st; Thursday, November 23rd; Tuesday, November 28th; Thursday, November 30th; Tuesday, December 5th; Thursday, December 7th; Tuesday, December 12th; or Thursday, December 14th, 1911, at 10 o'clock in the forenoon, for the purpose of receiving and considering a Report prepared by the Council of the Association, in accordance with Minute 200 of the Annual Representative Meeting held at Birmingham on July 21st, 1911, and following days, and for the purpose of passing resolutions arising therefrom or in reference thereto.

Minute 200 of the Annual Representative Meeting, 1911, referred to in the foregoing notice, is as follows:

Minute 200.—Resolved: That the Council be instructed, immediately upon completion of the Committee stage of the Insurance Bill, to issue to the Divisions a Report on the position of the profession under the Bill as amended, and to convene as soon thereafter as practicable, a Special Representative Meeting to consider the matter.

2. **Motion:** That the Notice convening the Meeting be entered on the Minutes.

Reception of Return of Representatives.

3. Receive: Return of Appointment of Representatives for the year 1910–11, by Constituencies which have previously made no return of Representatives for the year.

Reception of Appointment of Substitutes.

4. Receive: Notice of Appointment of Substitutes for Representatives.

Motion: That the Notice of Appointment of Substitutes for Representatives be entered on the Minutes.

Apologies for Absence.

5. Receive: Intimations of apology for absence.

Order of Business.

6. **Motion:** That the remaining business of the Meeting be considered in the order indicated in the printed Agenda.

National Insurance Bill.

7. **Motion:** That the Special Report of Council prepared pursuant to Minute 200 of the Annual Representative Meeting, 1911, as follows, be received:

Minute 200.—Resolved: That the Council be instructed, immediately upon the completion of the Committee stage of the Insurance Bill, to issue to the Divisions a Report on the position of the profession under the bill as amended, and to convene as soon thereafter as practicable a Special Representative Meeting to consider the matter.

8. **Motion:** That the Report of action taken by the Council to give effect to instructions of the Annual Representative Meeting, 1911, be approved.

9. Consider: Recommendations contained in the Council's Report and Motions and Amendments in reference to such Recommendations.

10. **Motion:** That the remainder of the Report of the Council be approved.

11. Any other competent business.

Confirmation of Minutes.

12. **Motion:** That the Minutes of the Meeting be confirmed for presentation to the Council.

EWEN J. MACLEAN,
Chairman of Representative Meetings.

November 15th, 1911.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH:

CENTRAL DIVISION.

AN ordinary general meeting of this Division was held at the Medical Institute on Wednesday, November 8th, at 4 p.m. Mr. J. F. JORDAN was in the chair, and forty-three other members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read, confirmed, and signed.

Apologies for Non-attendance.—Apologies were received from Drs. Carter and Emmanuel, Professor Morrison, and Dr. Hallwright.

A Local Medical Aid Society. — The HONORARY SECRETARY made a statement as to the present position of the affairs of a local medical aid society, and reported that the matter was still under consideration by the executive.

Annual Representative Meeting.—THE REPRESENTATIVE OF THE DIVISION (Dr. J. Neal) presented his report of the Annual Representative Meeting. It was resolved that the report be received. The report was discussed by the following gentlemen: The CHAIRMAN, Drs. ALDRIDGE, HUSBAND, KNOTT, LYDALL, VOKES, KIRBY, REVELEY, OAKES, POOLER, and KENNEDY, and Mr. LUCAS, and was adopted.

Vote of Thanks to Representative.—A vote of thanks to Dr. Neal for his services was proposed by the CHAIRMAN and seconded by Mr. F. MARSH, and was carried unanimously.

Proposed Walsall Division.—The boundary of the proposed new Walsall Division was considered and agreed to. This concluded the business of the meeting.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL AND BIRKENHEAD COMBINED DIVISIONS.

A MEETING of the Joint Committee of the Liverpool and Birkenhead Combined Divisions was held at the Liverpool Medical Institution on Tuesday, November 7th, at 5 p.m. Dr. TISDALL was in the chair, and twenty others were present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Proposed Amalgamation of Liverpool Divisions.—It was reported that the five Liverpool Divisions had notified the Joint Committee of their desire to amalgamate into one Division. It was resolved:

That the Secretaries of the Divisions, together with the Chairman and Secretary of the Joint Committee, form a subcommittee to draw up provisional rules for the new Division, and to submit the same to the next meeting of the Joint Committee.

Local Defence Fund.—Dr. HEANEY, Treasurer of the Local Defence ("Campaign") Fund, National Insurance Bill, made a statement as to the amount collected and the disbursements made as follows:

Amount received to date	£97	10 0
Expenditure for meetings, printing, postage, etc., and for deputation to the local members of Parliament at Westminster	33	15 1
Balance in hand	£63	14 11

Hospital Abuse Committee.—The CHAIRMAN OF THE HOSPITAL ABUSE COMMITTEE (Dr. Given) reported on the work of the committee since the last meeting. The SECRETARY (Dr. Parkinson) reported that under the in-

structions received from the committee he had interviewed Dr. Moyles, Chairman of the School Inspection Subcommittee of the Liverpool Education Authority, who informed him that arrangements were being made whereby medical practitioners will be, after the end of the current year, invited to undertake the treatment of defective school children. It was resolved:

That the Hospitals Abuse Committee continue its action in the matter.

Medical Treatment of School Children.—Mr. LARKIN reported on the proceedings of the Council of Voluntary Aid, especially with regard to the treatment of school children and the out-patient department of hospitals.

Special Representative Meeting.—The Secretary was instructed to call a special meeting of the Joint Committee to consider the agenda of the Special Representative Meeting to be held in London (National Insurance Bill) as soon as possible after receipt of the agenda, twenty-four hours being considered sufficient notice, and, further, to summon a meeting of the combined Divisions at two days' notice.

Payment of Representatives.—It was proposed by Dr. PARKINSON that steps should be taken to pay the hotel expenses of Representatives in Representative Meeting, either out of Association funds or by voluntary levy. Mr. LARKIN pointed out that the whole question of payment of Representatives and others doing the work of the Association is to be raised on the motion of a Division at the next Annual Representative Meeting, and that the Council is preparing a report on the subject, which will be issued to the Divisions for their consideration with the rest of the business for that meeting. It was decided to let the matter stand over till the report is received.

METROPOLITAN COUNTIES BRANCH:

CHELSEA DIVISION.

A MEETING of the Division was held at the Chelsea Town Hall on October 24th, Dr. YOUNG in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

London County Council and the Treatment of School Children.—The report of the Executive Committee, which had been presented to it by the subcommtttee (consisting of Drs. Campbell Boyd, Fletcher, Lee, and Spaull), was read and its clauses discussed seriatim. Dr. FLETCHER also described the result of his interview with Mr. Turner, representing the London County Council. Eventually the report as amended was received and adopted. The Secretary was instructed to have it printed, and a copy sent to every medical man in the area of the Division. He was also directed to call a meeting in a fortnight for the purpose of electing the committee of medical practitioners who should have the management of the school centre for the first year.

A MEETING of the Division was held at the Fulham Town Hall on November 7th. Dr. YOUNG in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apology for Non-attendance.—A telegram was received from Dr. A. F. Millar apologizing for his absence.

Election of Committee of Management of the Centre for Treatment of School Children in Fulham.—Dr. HAMILTON moved:

That the resolutions which had been circulated with the notices of the meeting be referred back to the committee.

He said that at the meeting of the Division held on October 24th the Secretary was instructed to send a full copy of the proposals which the London County Council had made to them, in addition to their own proposed rules of management, to every practitioner in the area of the Division. How could men be expected to apply for posts on the staff unless they knew the full terms of the appointments? He also took exception to Rule 3, which boycotted those practitioners who were not members of the British Medical Association; and finally criticized the imperfect phraseology of the rules.

Dr. JACKSON was also of opinion that a copy of the detailed proposals of the London County Council should have been sent to every medical man. At the same time, he reminded the meeting that the resolution was not in order, as they had been summoned to "elect a Committee of Management of the School Centre in Fulham,"

The HONORARY SECRETARY explained that he had consulted the Chairman and Dr. Fletcher before circulating the proposed rules of management; and both of them were of opinion that at the meeting held on October 24th instructions were given to circulate the rules only, and not the detailed proposals of the London County Council. As the Division had no rules of procedure, he supposed that any member might without notice propose that any motion passed at a previous meeting should be rescinded.

Dr. JACKSON remarked that if they conducted their business on those lines, a condition of chaos would result.

The CHAIRMAN reminded Dr. Hamilton that this matter had been before the Division for about two years, and that all the members had several opportunities of acquainting themselves with the proposals of the London County Council by attending the meetings; the rules were almost identical with those already adopted by one or two other Divisions in the metropolis. He was entirely at variance with Dr. Hamilton when he contended that they should not confine the staff to members of the Division. The preliminary expenses were borne by the Division; moreover it might be an incentive to outside men to become members.

Dr. BUTLER, whilst sympathizing with some of the objections raised by Dr. Hamilton, thought that the Committee of Management would give the details of the proposals of the London County Council to all the local practitioners when it sent out notices of application for membership of the staff.

Eventually the Committee was appointed as follows: Drs. Erskine, Jackson, Spaull, Wells, and Gallard.

Dr. E. LEWIS moved:

That the Committee should have power to co-opt members.

This was seconded and carried.

Treatment of School Children in Coventry.—Dr. FLETCHER moved:

That the Chelsea Division congratulates the Coventry Division on the occasion of the formation of a centre for the treatment of school children in Coventry, and trusts that as £300 a year is to be the salary of the dentist appointed, no member of the British Medical Association will offer to do his or her share of the medical work for £200 a year, as some have already done in other parts of the Kingdom.

This was seconded and carried *nemine contradicente.*

Congratulations to Lord Mayor.—Dr. SPAULL moved:

That a vote of congratulation be sent to Sir T. Crosby on the occasion of his election as Lord Mayor of London.

This was seconded and carried unanimously.

Dr. Lubbock.—The SECRETARY was instructed to send a letter of sympathy to the wife and children of Dr. Lubbock, a member of the Division, on account of the latter's serious illness.

CITY DIVISION.

A GENERAL meeting was held on Thursday, November 9th, at 9.30 p.m., at Manor Lodge, Upper Clapton, by invitation of Dr. C. F. Hadfield. Dr. GERALD JOHNSTON, Chairman of the Division, presided; thirty members and friends were present.

Apology for Absence.—Dr. Withers Green wrote expressing regret at absence.

Confirmation of Minutes.—The minutes of the meetings of July 18th and October 13th were read, confirmed, and signed.

Correspondence Letters.—Several letters relating to various Divisional matters were read and dealt with.

Congratulations to Lord Mayor.—Dr. FRED. WALLACE moved, and it was unanimously approved:

That a letter of congratulation be sent from the Division to the new Lord Mayor, Sir T. Boor Crosby, M.D., F.R.C.S. Eng., and J.P., upon his accession to the office, and being the first medical man to occupy the position.

Shoreditch Guardians.—It was announced that the Local Government Board had not refused its sanction to the appointment of Dr. O'Sullivan for one year at an inclusive salary of £150.

Ethical Rules.—At 10 o'clock the meeting adjourned, and as a special general meeting proceeded to consider the draft model ethical rules, including the Bradford rules *re* appointments, and Rule Z. These were adopted unanimously and the previous ethical rules were repealed.

It was proposed by Dr. Hunt, and seconded by the Honorary Secretary, that the ordinary meeting be resumed.

Hackney Union Appointments.—Dr. Keenan then introduced the subject of the recent procedure of the Hackney Board of Guardians in proceeding to fill vacancies by electing holders of other districts at a reduced salary, and moved a resolution condemning the acceptance of the posts under such circumstances. Dr. Swan and Major Greenwood supported the resolution. Dr. Reginald Brown explained the matter from the point of view of the district medical officers. Dr. Hunt also opposed the resolution. After a general discussion it was proposed as an amendment by Dr. Goodall and carried:

> That the conditions of appointment and tenure of some of the District Medical Officerships of the Hackney Union be referred for consideration to the Executive Committee, with instructions to report at the earliest possible moment.

It was decided to hold the meeting on November 15th and that those practitioners holding the appointments, in question be invited to attend.

Hackney School Children's Medical Treatment Centre.—Dr. Hunt, Chairman of the Management Committee of the Centre, before moving the report, called upon Dr. David Ross, the Honorary Secretary of the Committee, to read a letter just received from Mr. Blair:

Education Offices,
Victoria Embankment, S.W.,
November 7th, 1911.

Medical Treatment of School Children.

With reference to the proposed establishment of a centre at Hackney for the medical treatment of children attending public elementary schools, I may remind you that the proposal of the Council was subject to the approval of the Board of Education.

I have now to inform you that a letter has been received from the Board to the effect that they do not feel justified at this stage in sanctioning the Council's scheme for the establishment of new medical treatment centres as part of a permanent scheme for the medical treatment of the children of London. It is assumed, however, from the Board's letter that, pending the development of a permanent scheme, they will be willing to consider individual schemes submitted to them to meet pressing needs in particular districts.

It is consequently not possible at present to proceed to an immediate agreement for the establishment of a centre at Hackney, but the appropriate committee of the Council are still considering the matter with the view of deciding whether application shall be made to the Board of Education to this particular scheme.

In the circumstances, therefore, the Committee of Medical Practitioners would not be justified in taking any steps which would commit them financially. It is hoped, however, that they will be able to allow the consideration of the question to remain open until the Committee are in a position to make a further communication to them on the subject.

I am, Sir,
Your obedient Servant,
R. Blair,
Education Officer.

In discussion, regret was expressed that the cessation should have occurred only at so advanced a stage of preparation, and after considerable expense had been incurred by the Division. The following resolution was passed:

> That the Management Committee be retained to await developments, and that a copy of the London County Council letter be sent to the Chairman of the School Children's Committee of the Board.

National Insurance Bill.—The situation created by the rushing of the Insurance Bill through Parliament and the uncertainty of the date of the Special Representative Meeting was then discussed. Dr. Hunt pointed out that adjournment of the present meeting would not meet the case, as fresh business could not be dealt with at an adjourned meeting. After discussion, it was finally resolved:

> That a special general meeting be summoned for November 18th, but to be held on a subsequent date, as may be found advisable.

Vote of Thanks.—A vote of thanks was moved from the Chair to the host for his hospitality that evening. This was carried by acclamation.

Special General Meeting.—The special general meeting summoned for November 18th will be held at a date to be hereafter notified.

Hampstead Division.

A meeting of the Hampstead Division was held on Friday, November 10th, Dr. Oakley in the chair.

Confirmation of Minutes.—The minutes were taken as read and confirmed.

Election of Direct Representatives.—A post-card from the Medical Secretary *re* election of Direct Representatives on the General Medical Council was read.

Problems in Diagnosis of Nervous Diseases.—Dr. Risien Russell read a paper on some important problems in the diagnosis of diseases of the nervous system. He dealt with the many difficulties that arose in the diagnosis of nervous disease and the pitfalls that awaited even the most experienced, and in the course of his paper gave many interesting digests of cases illustrating his points. He first discussed cases in which wrong conclusions might be arrived at owing to fallacies in clinical examination, and in this relation he gave illustrations of ways to obtain the knee-jerk, and showed some slides. Exaggeration of the knee-jerks could be present in functional conditions. He then pointed out the importance of the type of the response obtained when evoking the plantar reflex, and the best position on the sole to obtain the readiest response. The fallacy of testing the pupil reaction by holding a match or candle directly in front of the eyes, and thereby inviting the use of accommodation with its concomitant pupillary contraction, was mentioned. Dr. Risien Russell then discussed cases showing the necessity of paying particular attention to the history of the patient, thereby preventing a wrong diagnosis being made from the physical examination. He mentioned a case of disseminated sclerosis that would have been submitted to operation for tumour of the cord had the patient not given a history of having had diplopia two years before. Sections of the cord showing disseminated sclerosis and tumour of the cord were shown upon the screen, also a section showing subacute combined degeneration of the cord. This disease may be readily mistaken for peripheral neuritis, tabes dorsalis, disseminated sclerosis, or tumour of the cord. Dr. Russell then referred to those cases in which symptoms and physical signs that should be expected to occur happened to be absent—pain in tabes wanting, the abolition of the knee-jerk in tabes wanting etc. He then compared the modern methods of treating tabes as a definitely syphilitic malady with the older tonic methods, and laid stress on the administration of mercury by inunction or injection, and also on the value of salvarsan in early cases of tabes as supplementary to mercurial treatment. In all cases of tabes the ankle-jerk should be tested. Continuing his remarks on the absence of signs and symptoms that should be present, he mentioned the absence of the Argyll Robertson pupil in tabes and the absence of tremor in paralysis agitans and disseminated sclerosis in which there were no knee-jerks —cases in which certain physical signs were evoked that were contrary to the probable diagnosis as deduced from the symptoms. In a case in which the patient presented definite symptoms of disseminated sclerosis on examination of the eyes, choked disc was discovered. Cerebral tumour and disseminated sclerosis produced very similar symptoms, but choked disc was never seen in disseminated sclerosis *per se*. There was the same connexion between disseminated sclerosis and tabes, for the Argyll Robertson pupil was just as rare in disseminated sclerosis, and in this connexion Dr. Russell pointed out the usefulness of the Argyll Robertson pupil in determining the operability of a tumour of the brain. If the tumour had grown to such a size as to cause great pressure upon the third ventricle the Argyll Robertson phenomenon would be present, and its presence was a contraindication to operation. Speaking of symptoms and physical signs which were not expected in the malady under treatment, he mentioned a case of disseminated sclerosis in which pain was so severe that tabes was suggested; also sphincter affections in cases of acute poliomyelitis suggesting acute myelitis. Then there were cases in which certain physical signs were present that were not dependent on the malady from which the patient was suffering, but upon some previous malady. He cited as an instance a case of bullet wound of the brain with absence of arm reflex, abdominal reflexes, knee-jerks deficient, ankle clonus lost on the right side and only just present on the left, and plantar reflex absent; it was discovered that this patient was suffering from early

tabes. He gave as another instance a case of spinal tumour in which there was nystagmus; on inquiry it was discovered that other members of the family suffered from nystagmus from childhood. Then physical signs that ought to be present might be prevented from appearing by previous disease. He cited as an instance a case of progressive muscular atrophy occurring in a patient previously suffering from poliomyelitis; the diagnosis was difficult in virtue of the absence of pyramidal tract signs. Dr. Russell, in conclusion, mentioned the value of the examination of the blood and the cerebro-spinal fluid. The Wassermann reaction might fail, yet the cerebro-spinal fluid might give a positive reaction. He laid stress on the great aid in diagnosis given by lumbar puncture. Dr. CLAUDE TAYLOR asked Dr. Russell kindly to indicate the differences in diagnosis between thrombosis and haemorrhage. Dr. EVANS asked how it was possible to diagnose paralysis agitans without the tremor. Dr. RISIEN RUSSELL replied to both questions.

Vote of Thanks to Dr. Risien Russell.—Dr. PERCY EVANS moved a vote of thanks to Dr. Risien Russell for his interesting paper, and this was seconded by Dr. PICARD and carried unanimously.

MARYLEBONE DIVISION.

A GENERAL meeting of the Division was held at the Rooms of the Medical Society of London, 11, Chandos Street, W., on Friday, November 10th, at 5 p.m., Sir FREDERIC S. EVE in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

The Medical Lord Mayor of London.—A letter from Dr. David Roxburgh suggesting that special action be taken to mark the election of a medical Lord Mayor for the City was, on a motion by Dr. LAURISTON SHAW, seconded by Sir VICTOR HORSLEY, referred to the Executive Committee to consider; they were authorized to approach the Branch Council.

Representative Meetings.—The report of the Representative (Mr. N. Bishop Harman) in the Representative Meetings, July, 1911, was received. A vote of thanks to him for his work was passed.

Report on Spiritual Healing.—On the second reference of the Spiritual Healing Report to the Divisions, the HONORARY SECRETARY reported that a letter had been received from the Medical Secretary stating that the final form of the reissue of this report was under consideration. Dr. FORBES WINSLOW proposed that discussion be postponed.

Draft Ethical Rules.—On the draft of new Ethical Rules, opinion was expressed that in view of the far-reaching consequences that might arise from the application of these rules, a detailed examination was necessary. Dr. LAURISTON SHAW urged that this should be done at once, else their deliberations would be useless. Dr. F. J. SMITH moved, and Mr. ATWOOD THORNE seconded, a resolution:

> That the Draft Rules be issued again to every member of the Division, and that the Executive Committee be called to consider a report on them.

This was carried.

National Insurance Bill.

In regard to the present position of the Insurance Bill, the SECRETARY called attention to the notice in the SUPPLEMENT of a further Representative Meeting in November or December, and the necessity for the preparation of fresh instructions to their Representative.

DR. G. A. HERON moved:

> That this general meeting of the Marylebone Division of the Metropolitan Counties Branch reaffirm the policy epitomized in the six heads formulated by the Representative Meeting held on May 31st and June 1st, 1911.

Dr. Heron thought that, in view of the report of their Representative, these points needed reaffirmation:

1. The fixed income limit of 40s. was a necessity. A limit had its disadvantages, but, on the whole, the advantages of a fixed limit were greater, and met the requirements of most of the profession.

2. Freedom from friendly society control had been held out as a boon by Parliament, but most appeared to forget the importance of the second portion of this proposition, which reserved to the doctor the right to decline to advise any patient so proposing himself.

3. "Medical and maternity benefits to be administered by local Health Committees and not by friendly societies." It seemed now that the friendly societies would be in a clear majority on these Health Committees. Now, there was no point on which the expression of medical practitioners had been clearer or stronger than their declaration that they would not, on any terms, work under control of the friendly societies.

Points 4, 5, 6 of the original six points became, therefore, of the highest importance. These three points secured to the majority of the medical practitioners in every Health Committee district the control of the methods and amount of payment to be given to doctors under the scheme. This, together with their adequate representation among the Insurance Commissioners, on the Central Advisory Committee, and local Health Committees, should make the position reasonably secure, provided there was the establishment of local Medical Committees.

Dr. Heron urged that there should be the right of appeal to the Insurance Commission by the local Medical Committees in case of collision with the local Health Committees—that is, the friendly societies under their new name.

DR. DAVID ROXBURGH seconded the motion, and urged the importance of different methods of pay according to the grade of insured persons. A flat rate might be admitted as inevitable for persons "who had passed the doctor"; but for all others, including mostly "Post Office contributors," fees per visit in the fashion of the National Deposit Friendly Society should be insisted upon.

Mr. MCADAM ECCLES and Dr. STEELE PERKINS joined in the discussion.

Dr. LAURISTON SHAW deprecated the issue of fresh instructions to their Representative until the report of their Central Committee was issued on the completion of the Committee stage of the bill. Then they must have a general meeting. He moved, and Dr. F. J. SMITH seconded, a resolution empowering the Honorary Secretary to call such a meeting, and if necessary with only three days' notice instead of the usual seven days. The resolution was passed unanimously.

MIDLAND BRANCH

LEICESTER AND RUTLAND DIVISION.

A MEETING of the Division was held at the Leicester Infirmary on Wednesday, November 8th, at 4.15 p.m. Dr. TIBBLES was in the chair, and thirty-six members and one visitor were present.

General Medical Council.—An address was delivered by Dr. H. LANGLEY BROWNE, of West Bromwich, on the work of the General Medical Council. On the motion of Dr. ASTLEY V. CLARKE, seconded by Dr. PRATT, a resolution was carried unanimously thanking Dr. Browne for his address and pledging the meeting to support the candidatures of Drs. Browne, Latimer, and Verrall at the forthcoming election of Direct Representatives to the General Medical Council.

SOUTH MIDLAND BRANCH.

THE autumnal meeting of this Branch was held on October 12th, by special permission, at the residence of Dr. Bower, of Bedford. There were fifty-two members present, whom Dr. Bower kindly entertained at luncheon and tea.

Election of Officers.—The following were elected officers for the ensuing year: Dr. E. Cleaton Roberts (Bedford), W. A. Henshaw (Northampton), J. A. Kilpatrick (Creaton Sanatorium, near Northampton), L. O. Fuller (Three Counties Asylum, Hitchin), G. U. Gill (Hatfield, Herts), T. L. Milburn (Biggleswade, Beds), M. Double and W. D. Rose (Luton, Beds).

Rescission of Addendum to By-laws.—It was resolved that the "Addendum to By-laws" should be rescinded, the only qualification for membership to be the signing of the undertaking issued by the British Medical Association in reference to the Insurance Bill.

Address.—An address on nervous exhaustion was delivered by Dr. Maurice Craig.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—A special meeting will be held in the Station Hotel, St. Boswells, on Monday, November 20th, at 3.30 p.m., Dr. Oliver presiding. Business: Consideration of report on National Insurance Bill.—JOHN JEFFREY, Honorary Secretary.

FIFE BRANCH.—A meeting of the local profession will be held at the Station Hotel, Kirkcaldy, on Tuesday, November 21st, at 3 p.m., to consider the report about to be issued by the Central Council on the National Insurance Bill.

LANCASHIRE AND CHESHIRE BRANCH.—The ordinary autumn scientific and clinical meeting of the Branch will be held in Liverpool, probably on December 13th. Members having papers, communications, or exhibits are requested to communicate at once with P. R. COOPER, M.D., The Downs Bawdon, Cheshire.

LANCASHIRE AND CHESHIRE BRANCH.—A scientific and clinical meeting will be held in Liverpool on Wednesday afternoon, January 10th, 1912. Members willing to give short papers or demonstrations, or to show cases or specimens, are asked to communicate early with the Honorary Secretary of the Science Committee, P. R. COOPER, M.D., B.Sc., 8, St. Peter's Square, Manchester.

METROPOLITAN COUNTIES BRANCH: GREENWICH DIVISION.—A meeting of the Division will be held at St. Mark's Presbyterian Church Room, South Street, Greenwich, on Wednesday, November 22nd, at 3 p.m., to consider the report of the Council of the Association on the position of the profession under the Insurance Bill as amended. Members are urged to make a special effort to attend this important meeting.—LAWRENCE F. HEMMANS, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A meeting of the local profession will be held in the Lecture Room, Hampstead Conservatoire, on Tuesday, November 21st, at 8.30 p.m., to consider the present position of the National Insurance Bill.—M. L. DOBBIE, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.—A special meeting will be held at Bethlem Royal Hospital on Tuesday, November 21st, at 4 p.m., subject to the sanction of the authorities, to consider the report of the Council on the National Insurance Bill and to instruct the Representative how to vote thereon at the Special Representative Meeting. The ordinary meeting of the Division will be held at Evelina Hospital, Southwark Bridge Road, on Thursday, November 23rd, at 4 p.m. Agenda: (1) Minutes of the last meeting. (2) Dr. H. C. Corry Mann will read a paper on "The Treatment of Infantile Diarrhoea."—J. H. CLATWORTHY, Honorary Secretary, 145, Denmark Hill, S.E.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—A general meeting of the Division will be held at the Rooms of the Medical Society of London, 11, Chandos Street, W., on Tuesday, November 21st, at 8 p.m. Agenda: (1) Minutes. (2) Questions. (3) Letters. (4) To consider the report of the Central Council on the amended National Insurance Bill (to be issued on November 18th). (5) To instruct the Representative on the foregoing in view of the Special Representative Meeting called for November 23rd. (6) To consider Executive Committee's report on new draft ethical rules. (7) Any other business.—N. BISHOP HARMAN, Honorary Secretary, 108, Harley Street, W.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—A mass meeting of all practitioners resident in the two boroughs will be held in the Venetian Room of the Midland Grand Hotel on Wednesday, November 22nd, at 9 p.m., to consider the report of Council on the National Insurance Bill. Ample accommodation will be provided, and it is hoped there will be a large attendance.—A. BROWN, M.B., 1, Bartholomew Road, N.W.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A special meeting of the Division, to which all members of the profession residing within its area are invited, will be held on Tuesday, November 21st, at 4.30 p.m., at the Wesleyan Church School (corner of James Lane), High Road, Leyton (nearest station, Leyton, Midland Railway). Agenda: (1) Minutes. (2) Correspondence. (3) To consider the report on the National Insurance Bill in its amended form, which will be forwarded to members from the Central Office on or before November 18th. (4) Any other business.—A. POTTINGER ELDRED, Honorary Secretary.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—A special meeting will be held at the Infirmary, Alnwick, on Tuesday, November 21st, at 5.30 p.m., for the purpose of considering the report of the Council on the National Insurance Bill and instructing our Representative at the Special Representative Meeting to be held in London on November 23rd.—C. CLARK BURMAN, Honorary Secretary.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—A special meeting of the Division will be held at the Queen's Hotel, Portmadoc, on Tuesday, November 21st, at 2 p.m. Agenda: To consider the report of the Central Council and instruct the Representative thereon to enable the Representative to attend the Special Representative Meeting to be held in London on the 23rd. Members are requested to make a special effort to attend.—H. GLADSTONE JONES, Honorary Secretary, Plas Gwilym, Criccieth.

SOUTH-EASTERN BRANCH: DARTFORD DIVISION.—A most important meeting of the Division will be held in the Old Town Hall, Woolwich, on Monday, November 20th, at 4 p.m., to decide on the action of the profession *re* the National Insurance Bill. All medical practitioners residing in this Division are very earnestly requested to make an effort to attend. Agenda: (1) Report of Representative *re* Annual Meeting. (2) Report of Central Council *re* National Insurance Bill.—H. CHISHOLM WILL, Honorary Secretary, Sidcup.

SOUTH-EASTERN BRANCH: EASTBOURNE DIVISION.—A meeting of this Division will be held in the Technical Institute, Grove Road, Eastbourne, on Tuesday, November 21st, at 4.30 p.m., to which all non-members residing within the area are cordially invited. Business: (1) Minutes. (2) National Insurance Bill: (*a*) To consider the report of the Council on the bill as amended in Committee of the House of Commons; and (*b*) instruct the Representative accordingly for his guidance at the Special Representative Meeting. (3) Any other business.—WILLIAM MOND SMITH, Honorary Secretary.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—A meeting of the Division will be held on Tuesday next, November 21st, at the Auction Mart, High Wycombe (opposite the station gates) at 2.30 p.m. It is of the greatest importance that every member should be present, as the profession is now asked to instruct the various Representatives as to its views on the Insurance Bill as it leaves the Committee stage. A report from the Central Council will be considered and voted upon. A Special Representative Meeting is to be held in London next week, when future policy will be decided upon. Every medical man in the area of the Division is invited to be present. Any who are unable to attend might express their views in writing, but only those members who attend the meeting can decide the policy of the Association. As many must leave by 5 o'clock, it is most important that the meeting should commence punctually at 2.30.—ARTHUR E. LARKING, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The first general meeting of the session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 23rd. The President, Mr. W. D. Spanton, F.R.C.S., will take the chair at 3.45 p.m. Business: (1) Minutes of the last general meeting. (2) Correspondence. (3) Exhibition of living cases. (4) Papers: (i) Mr. R. H. Dickson: Eye-strain and its Consequences. (ii) Mr. R. Alcock: Iodine only as a dressing for Operation Wounds. (5) Exhibition of Pathological Specimens etc. Dinner, 6.30 p.m.; charge, 5s.—HAROLD HARTLEY, Honorary General Secretary, Stoke-on-Trent.

YORKSHIRE BRANCH.—The next meeting of the Branch will be held at the Station Hotel, York, on Wednesday, November 22nd, at 4 p.m. Members intending to read papers, propose resolutions, show specimens or cases, or to propose new members are requested to communicate at once with the Secretary. Members will dine together at 6.30 p.m.—ADOLPH BRONNER, Honorary Secretary.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON S. H. BURT has been allowed to withdraw from the service with a gratuity, September 18th. He was appointed Surgeon, May 16th, 1894; Staff Surgeon, May 16th, 1902; and Fleet Surgeon, May 16th, 1910.

The following appointments have been made at the Admiralty: Fleet Surgeon H. F. ILIEWICZ, M.B., and Surgeon A. A. SANDERS, M.B., to the *Inflexible*, on transfer of flag, undated; Staff Surgeon A. E. H. SKEY, M.B., and Surgeon C. G. SPRAGUE, to the *Indomitable*, on transfer of flag, undated; Staff Surgeon E. R. L. THOMAS, to the *Victory*, additional, for disposal, November 20th; Fleet Surgeon R. A. FINCH, to the *Neptune*, additional, for service on the staff of the Commander-in-Chief of the Home Fleet; Fleet Surgeon E. H. HODNET DE COURTMACSHERRY, M.D., to the *Hercules*, additional, for service on the staff of the Vice-Admiral Commanding the Second Division of the Home Fleet; Fleet Surgeon J. H. STENHOUSE, M.B., to the *King Edward VII.*, additional, for service on the staff of the Vice-Admiral Commanding the Third and Fourth Divisions of the Home Fleet; Fleet Surgeon J. ANDREWS, M.D., to the *Exmouth*, additional, for service on the staff of the Commander-in-Chief in the Mediterranean; Fleet Surgeon P. B. HANDYSIDE, M.B., to the *Minotaur*, additional, for service on the staff of the Commander-in-Chief, China; Fleet Surgeon V. G. THORPE, to the *Powerful*, additional, for service on the staff of the Commander-in-Chief, Australia; Fleet Surgeon G. A. DREAPER, to the *Hermes*, additional, for service on the staff of the Commander-in-Chief at the Cape; Fleet-Surgeon E. SUTTON, to the *Highflyer*, additional, for service on the staff of the Commander-in-Chief in the East Indies; Fleet Surgeon E. B. PICKTHORN, to the *Prince of Wales*, additional, for service on the staff of the Vice-Admiral Commanding the Atlantic Fleet; Fleet Surgeon C. S. WOODWRIGHT, to the *Leviathan*, additional, for service on the staff of the Rear-Admiral Commanding the Fourth Cruiser Squadron; Fleet Surgeon R. HILL, M.V.O., to the *Medina*, additional, for service on the staff of the Rear-Admiral of the Detached Squadron, all to date November 3rd.

INDIAN MEDICAL SERVICE.

THE King has approved the promotion to be Major of Captain M. H. THORNELY, which has been already announced in the BRITISH MEDICAL JOURNAL.

The Royal sanction has also been given to the promotion to be Captains of the following Lieutenants, which have also been previously announced in the BRITISH MEDICAL JOURNAL: A. C. MUNRO, M.B., A. G. TRESIDDER, M.B., G. G. JOLLY, M.B., A. A. C. MCNEILL, M.B., R. L. GAMLEN, M.B., G. F. GRAHAM, M.B., T. D. MURISON, J. J. H. NELSON, M.B., E. S. PHIPSON, M.B., F. F. S. SMITH, M.B., A. J. SYMES, M.B., T. C. BOYD.

The following, who entered the service August 1st, 1908, are also promoted to be Captains, from August 1st, 1911: RAM N. CHOPRA, M.B., ABDUS S. KHAN, MANECK D. WADIA, SOHRAB S. VAZIFDAR.

Lieutenant-Colonel J. L. VAN GEYZET, M.B., has retired from the service, from July 9th, 1911. He joined the Madras Medical Department as Assistant Surgeon October 2nd, 1880, and became Lieutenant-Colonel October 2nd, 1900.

Captain E. O. THURSTON, M.B., is promoted to be Major, from July 27th. He joined the department as a Lieutenant January 27th, 1900, and was made Captain January 27th, 1903. He was in the China war in 1900, receiving a medal.

Lieutenant-Colonel C. N. BENSLEY, Bengal, is permitted to retire from the service, from November 12th. He was appointed Surgeon September 30th, 1886, and became Lieutenant-Colonel September 30th, 1906.

Lieutenant-Colonel R. BIRD, C.I.E., M.B., Professor of Surgery, Medical College, Calcutta, and *ex-officio* Surgeon to the College Hospital, is placed on special duty with the suite of His Majesty the King-Emperor during the royal visit, from November 27th.

Colonel J. SMYTH, M.D., is appointed Principal Medical Officer, Secunderabad Brigade.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

First London (City of London) Field Ambulance.—Lieutenant EARDLEY L. HOLLAND, M.D., F.R.C.S., resigns his commission, November 11th.

First South Midland Field Ambulance.—To be Captains, October 1st: Lieutenants C. R. LUNN, M.B., W. M. STURROCK, M.B., WILLIAM MCCALL, M.B.

Second South Midland Field Ambulance.—To be Captains, October 1st: Lieutenants W. A. L. HOLLAND, J. H. HOBLING, A. A. HINGSTON.

First Highland Field Ambulance.—Lieutenant JAMES ROBERTSON, M.D., to be Captain, October 14th.

Second Highland Field Ambulance.—Lieutenant J. F. MACINTOSH to be Captain, October 14th.

Third Highland Field Ambulance.—Lieutenants J. M. SMITH, M.B., and J. H. HUNTER, M.B., to be Captains, October 1st.

Third Home Counties Field Ambulance.—Lieutenant T. F. ROCHE, from the List of Officers of the Royal Army Medical Corps attached to Units other than Medical Units, to be Lieutenant, November 15th. Lieutenant E. A. HOUCHIN, from the Second Home Counties Field Ambulance, Royal Army Medical Corps, to be Lieutenant, November 15th.

Second London (City of London) Field Ambulance.—Lieutenant F. R. HUMPHREYS to be Captain, October 1st.

Second North Midland Field Ambulance.—Lieutenant J. R. PLANT resigns his commission, November 15th.

First West Riding Field Ambulance.—Lieutenant JAMES EWING to be Captain, October 1st.

First Welsh Field Ambulance.—Lieutenant JOHN BUCKNER to be Captain, October 1st.

First Scottish General Hospital.—Lieutenant-Colonel J. M. BOOTH, M.D., resigns his commission, retaining his rank and uniform, November 15th.

Attached to Units other than Medical Units.—Lieutenant F. W. K. TOUGH, F.R.C.S., to be Captain, October 1st; Captain D. J. PENNEY, M.B., to be Major, September 20th; Lieutenant W. ST. A. ST. JOHN to be Captain, October 1st; Captain J. B. STEVENS, M.B., to be Major, October 4th. Lieutenant-Colonel W. R. SEWELL, M.D., resigns his commission, retaining his rank and uniform, November 15th. Captain J. S. MACKAY, M.D., also resigns his commission, retaining his rank and uniform, November 15th.

For Attachment to Units other than Medical Units.—THOMAS C. HUNTER, M.D., to be Lieutenant, September 9th; OSKAR TEICHMANN to be Lieutenant, September 16th; Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel C. H. GWYNN, M.D., from 4th Battalion King's (Shropshire Light Infantry), to be Lieutenant-Colonel, with the honorary rank of Surgeon-Colonel, November 11th. Officers of the Royal Army Medical Corps to be Adjutants of Schools of Instruction: Captain H. H. J. FAWCETT, October 19th; Captain F. MCLENNAN, M.B., November 1st; Captain CHARLES BRAMHALL, November 1st; Captain R. N. WOODLEY, November 1st; Captain C. R. SYLVESTER-BRADLEY, November 1st; Captain R. B. HOLE, M.B., November 1st; Captain J. M. M. CRAWFORD, F.R.C.S. (I.), November 1st; Captain M. F. GRANT, November 1st; Captain H. H. A. EMERSON, M.B., November 1st; Captain R. H. BRIDGES, November 1st. JAMES H. MARTIN, M.B., to be Lieutenant, October 17th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 7,900 births and 4,056 deaths were registered during the week ending Saturday last, November 11th. The annual rate of mortality in these towns, which had been 14.4, 13.3, and 13.5 per 1,000 in the three preceding weeks, declined to 13.1 per 1,000 in the week under notice. In London last week the death-rate was equal to 12.8, against 14.3, 13.1, and 13.1 per 1,000 in the three previous weeks. Among the seventy-six other large towns the death-rates last week ranged from 5.0 in Walthamstow, 5.1 in King's Norton, 5.7 in Willesden, 6.2 in Reading, and 7.3 in Norwich, to 18.8 in Liverpool and in Middlesbrough, 19.0 in Swansea, 20.0 in Stockton-on-Tees, 20.7 in Sunderland, and 21.6 in Bootle. Measles caused a death-rate of 1.5 in Tottenham and in West Bromwich, and 1.8 in Bury; whooping-cough of 1.6 in St. Helens; diphtheria of 1.3 in Southampton and in Wallasey, and 1.5 in Handsworth (Staffs); and infantile diarrhoea of 1.4 in Swansea, and 1.7 in Rotherham. The mortality from enteric fever and scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 39, or 1.0 per cent., of the total deaths registered in the seventy-seven towns were not certified either by a registered medical practitioner or by a coroner after inquest, and included 8 in Birmingham, and 4 each in Bootle, Warrington, and South Shields. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,106, 2,180, and 2,189 at the end of the three preceding weeks, had further risen to 2,203 on Saturday last; 292 new cases were admitted during the week, against 344, 297, and 269 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 798 births and 533 deaths were registered during the week ending Saturday last, November 11th. The annual rate of mortality in these towns, which had been 16.7 and 16.4 per 1,000 in the two preceding weeks, slightly fell to 16.3 in the week under notice, but was 3.2 per 1,000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates last week ranged from 12.3 in Paisley and 14.5 in Dundee to 13.1 in Edinburgh and 18.9 in Perth. The mortality from the principal epidemic diseases averaged 1.5 per 1,000, and was highest in Aberdeen and in Perth. The 247 deaths from all causes registered in Glasgow included 4 from measles, 4 from whooping-cough, 8 from diphtheria, and 3 from infantile diarrhoea. Two deaths from whooping-cough and 2 from diphtheria were recorded in Edinburgh; 7 from measles in Aberdeen; 2 from diphtheria in Dundee; and 2 from whooping-cough in Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, November 11th, 631 births and 388 deaths were registered in the twenty-two principal districts of Ireland, as against 586 births and 378 deaths in the preceding period. The annual death-rate in these districts, which had been 18.6, 17.1, and 17.1 per 1,000 in the three preceding weeks, rose to 17.6 per 1,000 in the week under notice, this figure being 4.5 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 22.1 and 15.7 respectively, those in other districts ranging from 3.9 in Galway and 4.6 in Ballymena to 45.8 in Newtownards and 48.0 in Newry, while Cork stood at 19.7, Londonderry at 15.3, Limerick at 8.1, and Waterford at 15.2. The zymotic death-rate in the twenty-two districts averaged 1.5 per 1,000 as against 1.8 in the preceding period.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BARNSLEY: BECKETT HOSPITAL.—Second House-Surgeon. Salary, £100 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House-Surgeon. Salary, £80 per annum.

BIRMINGHAM CITY ASYLUM.—Junior Assistant Medical Officer (male). Salary, £150 per annum.

BODMIN UNION.—Medical Officer and Public Vaccinator. Salary, £85 per annum.

BRENTFORD UNION.—Second Assistant to the Medical Superintendent. Salary, £125 per annum.

BRIDGNORTH AND SOUTH SHROPSHIRE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BRIGHTON: ROYAL ALEXANDER HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary at the rate of £80 per annum.

BRISTOL ROYAL INFIRMARY.—House-Physician. Salary, £100 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum.

CARDIFF: KING EDWARD VII'S HOSPITAL.—Honorary Assistant Anaesthetist.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—(1) Resident House-Surgeon; salary, £50 per annum. (2) Three Registrars. (3) Clinical Assistants.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—House-Surgeon (male) Salary, £50 per annum.

DERBY COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary, £140 per annum.

FLEETWOOD: ROSSALL SCHOOL.—Resident Medical Officer. Salary, £250 per annum, rising to £300.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Physician to Out-patients: (2) Surgeon to Out-patients; (3) Medical Registrar, honorarium £127 10s. a year; (4) House-Surgeon, salary £30 for six months and £2 10s. washing allowance.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITALS.—Vacancy on Honorary Medical Staff.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £75 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Resident Medical Officer. Salary, £250 per annum.

LONDON HOSPITAL, E.—House Anaesthetist in the Dental School. Honorarium, £40.

LONDON LOCK HOSPITAL.—Assistant House-Surgeon. Salary, £80 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Resident Medical Officer. Salary, £120 per annum.

LONDON UNIVERSITY.—(1) Four Examiners in Medicine: (2) Four Examiners in Surgery; (3) Two Examiners in Pathology; (4) Two Examiners in Mental Diseases and Psychology; (5) Two Examiners in General Biology. (1) to (4) are for the higher examinations for medical degrees, and (5) is for the first examination for medical degrees.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

MANCHESTER CHILDREN'S HOSPITAL.—Male Medical Officer for Out-patient Department. Salary, £180 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer. Salary, £100 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

OXFORD UNIVERSITY.—Readership in Pharmacology.

PLAISTOW: MEDICAL MISSION HOSPITAL.—Junior Resident Medical Officer for Dispensary (female).

PORTSMOUTH: BOROUGH MUNICIPAL TUBERCULIN DISPENSARY.—Assistant Medical Officer. Salary, £250 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, N.E.—Surgeon-in-Charge of Out-patient Department for Ear, Nose, and Throat.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester Square, W.C.—Morning House-Anaesthetist. Honorarium, £25 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Clinical Assistants.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House-Surgeon (male). Salary, £80 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £60 per annum.

SUNDERLAND: CHILDREN'S HOSPITAL.—Resident Medical Officer. Salary, £80 per annum.

THROAT HOSPITAL, Golden Square, W.—Honorary Assistant Surgeon.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

WEST LONDON HOSPITAL, Hammersmith, W.—House-Physician for six months.

WIGAN COUNTY BOROUGH.—Medical Officer of Health. Salary, £400 per annum, rising to £500.

WORCESTER: COUNTY AND CITY ASYLUM, Powick.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

APPOINTMENTS.

BUSHNELL, F. G., M.D., B.S., D.P.H., deputy to Dr. S. Child, School Medical Officer to the West Sussex Education Committee.

DONELAN, James, M.B., M.Ch.R.U.I., Laryngologist to London Opera House.

FENWICK, D. E., M.B., Ch.B.New Zealand, Clinical Assistant to the Chelsea Hospital for Women.

HARDENBERG, E. J. F., M.R.C.S.Eng., L.R.C.P.Lond., Medical Officer to the Post Office at Chingford.

HEBBLETHWAITE, S. M., M.D.Lond., M.R.C.P., M.R.C.S., Honorary Clinical Pathologist to the Cheltenham General Hospital.

HILEY, R. Melville, M.R.C.S.Eng., L.R.C.P.Lond., Resident Medical Officer at the Royal Hospital for Diseases of the Chest, City Road, London.

JEFFERISS, Frederick B., F.R.C.S.Edin., M.R.C.S.Eng., L.R.C.P.Lond., Surgeon to St. Bartholomew's Hospital, Rochester.

JOSCELYNE, A. E., M.D.Durh., M.R.C.S., etc., Physician to the Taunton and Somerset Hospital.

MACARTNEY, Duncan, M.D.Glasg., Visiting Surgeon of the Western Infirmary, Glasgow.

MILLAR, D. McF., M.B., C.M.Glasg., B.Hy., D.P.H.Durh., District Medical Officer of the Gateshead Union.

MOLYNEUX, Benjamin A., M.B.Dublin, Assistant Medical Officer, Gloucester County Asylum, Barnwood.

PRIDMORE, John Walter, M.R.C.S., L.R.C.P.Lond., Surgeon and Naval Agent, Ryde, Isle of Wight.

SCOTT, Alex. R. P., M.R.C.S.Eng., L.R.C.P.Lond., Senior House-Physician to the Prince of Wales's General Hospital, Tottenham.

SHARPE, F. A., M.D., D.P.H., Medical Officer of Health and School Medical Officer for the Borough of Chesterfield.

TAWSE, H. Bell, M.B., Ch.B.Aberd., F.R.C.S.Eng., Assistant Surgeon to the Children's Hospital, Nottingham.

THOMSON, W. W. Dalziel, B.A., M.B., B.Ch., B.A.O., Demonstrator in Physiology in the Queen's University of Belfast.

WEAR, Arthur Hyde, M.B., B.S., House-Surgeon to the Royal Infirmary, Glasgow.

WILSON, Frederick P., M.S., M.D.Liverpool, Honorary Surgeon to the Department for Specific Diseases at the Liverpool Royal Infirmary.

WORMOLD, T. L., M.D.Durh., Workhouse and District Medical Officer of the Darlington Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

LAING.—On November 13th, at Husbands Bosworth, Rugby, the wife of G. D. Laing, M.D., of a son.

PATTEN.—November 7th, at 9, Summerfield, Broomhill, Sheffield, the wife of C. J. Patten, M.A., M.D., Sc.D., of a son.

DEATH.

MILLINGTON.—On November 5th, at The Clevelands, Wolverhampton, William Millington, M.D., M.R.C.P., in his 91st year.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. P. BLAKISTON'S SON AND CO. announce the publication of *Microbiology: A Textbook for Students of Agriculture and Domestic Science*. By various writers. Edited by Charles E. Marshall, Professor of Bacteriology and Hygiene, Michigan Agricultural College.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 3.30 p.m.—Adjourned discussion on the Differential Diagnosis of Syphilis and Parasyphilis of the Nervous System. Speakers: Sir Victor Horsley, F.R.S., Dr. Risien Russell, Dr. T. B. Hyslop, Major French, R.A.M.C., Dr. Wilfred Harris, Dr. Farquhar Buzzard, and Mr. A. Fleming.

TUESDAY.

CHELSEA CLINICAL SOCIETY, St. George's Hospital Medical School, 8.30 p.m.—Paper:—Dr. A. G. Buchanan: Psychotherapy.

ROYAL SOCIETY OF MEDICINE:

OBSTETRICAL AND GYNAECOLOGICAL SECTION, 11, Chandos Street, W., 4 p.m.—Discussion on Amenorrhoeal Insanity, opened by Dr. C. T. Ewart. (Joint meeting with the Medico-Psychological Association.)

THERAPEUTICAL AND PHARMACOLOGICAL SECTION, 15, Cavendish Square, W., 4.30 p.m.—Papers:—Dr. F. Ransom: The Effects of Adrenalin. Dr. A. R. Jordan: Urinary Antiseptics.

PATHOLOGICAL SECTION, 15, Cavendish Square, W., 8.30 p.m.—Dr. W. Langdon Brown: The Bundle of His from a case of Heart-block (with specimens and lantern slides). Dr. A. E. Boycott: Sahli's Haemoglobinometer. Dr. H. Priestley: The Differentiation of the Diphtheroid Group of Organisms. Dr. H. R. Dean: Further Experiments on Complement-fixation and Precipitation. Dr. J. Henderson-Smith: Some Experiments on Lysis. Dr. J. C. G. Ledingham: Some Experiments on Phagocytosis regarded as an Adsorption Phenomenon.

WEDNESDAY.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, E.C., 9 p.m.—Papers:—Dr. W. M. Ettles: Some Recent Developments in Ophthalmic Therapeutics. Dr. H. Russell Andrews: Pyelonephritis in Pregnancy. Dr. Langdon Brown: A Brief Appreciation of Hughling Jackson's Work.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, W., 8.30 p.m.—Papers:—(1) Dr. James Taylor: Early Signs and Symptoms of Nervous Disease. (2) Mr. D. C. L. Fitzwilliams: Syphilitic Affections of Bones met with in Childhood.

ROYAL SOCIETY OF MEDICINE:

NEUROLOGICAL SECTION, 15, Cavendish Square, W., 8.30 p.m.—Dr. Boyer: Systematic Examination of the Central Nervous System in a case of Obstetrical Paralysis. Mr. Sydney Mann: Method of Coloring Brains to Demonstrate Cortical Localization and Arterial Supply, for Teaching Purposes. Dr. F. W. Mott, F.R.S.: Colour Photographs of Microscopic Specimens of the Nervous System. Dr. Lind: Experimental Lead Poisoning.

FRIDAY.

KING'S COLLEGE HOSPITAL MEDICAL SOCIETY, 8.20 p.m.—Clinical Meeting.

ROYAL SOCIETY OF MEDICINE:

SECTION OF DISEASES IN CHILDREN, 11, Chandos Street, W., 4.30 p.m.—(1) Cases and Specimens; (2) Papers:—Dr. H. D. Rolleston and Dr. J. B. Molony: Purpura in Acute Infective Diarrhœa of Infants. Mr. D. C. L. Fitzwilliams: Congenital Flexion of the First Interphalangeal Joints of the Fingers.

EPIDEMIOLOGICAL SECTION, 15, Cavendish Square, W., 8.30 p.m.—Paper:—Dr. Sandilands: Small-pox in London, 1885 to 1905.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures:—Tuesday, 3.45 p.m.: Methods of Examination. Friday, 3.45 p.m.: Methods of Examination.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m.: Tuberculosis in its Relation to Injuries and Accidents.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat, at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday; Eye, 11 a.m. Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Tuesday, November 21st, 4.30 p.m., The Meaning of Sphygmomanometric and Spyhgmographic Records; Thursday, November 23rd, 2.15 p.m., Neurotic Dyspepsia.

MANCHESTER: ANCOATS HOSPITAL.—Post-graduate Clinic: Thursday, 4.15 p.m., A Demonstration of Clinical Cases will be given by members of the Honorary Staff.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each Monday, Skin. Tuesday, Medical. Wednesday, Surgical. Thursday, Medical. Friday, Ear, Nose, Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, Hypothyroidism. Tuesday, Protozoan Dysentery at Home and Abroad. Wednesday, Methods of Making an Accurate Prognosis in Renal Disease. Thursday, Pleuritic Effusion: Diagnosis and Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m.: Encephalitis. Friday, 3.30 p.m.: Epilepsy.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales General Hospital, Tottenham, N.—Monday, Clinics: 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear. Tuesday, 2.30 p.m., Operations; Clinics: Surgical, Gynaecological. 3.30 p.m., Medical In-patient; 4.30 p.m., Lecture: Post-anaesthetic Vomiting. Wednesday, 2 p.m., Throat Operations; 2.30 p.m., Medical Out-patient. Skin and Eye Clinics: X Rays; 5.30 p.m., Eye Operations. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient. 3 p.m., Medical In-patient; 4.30 p.m., Special Demonstration of Selected Medical Cases. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical Eye; 3 p.m., Medical In-patient.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W. Medical and Surgical Clinics, X Rays, and Operations 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m. Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m. Gynaecology, 2 p.m. Thursday: Lecture, Practical Medicine, 12.15 p.m; Eye, 2 p.m.; Orthopaedics, 2 p.m.; Friday: Gynaecological Operations, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m. daily.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
	NOVEMBER.
19 Sunday ..	
20 MONDAY ..	SOUTH-EASTERN COUNTIES DIVISION, *Edinburgh Branch*, Special Meeting, Station Hotel, St. Boswells, 3.30 p.m.
	DARTFORD DIVISION, *South-Eastern Branch*, Old Town Hall, Woolwich, 4 p.m.
	SOUTH CARNARVON AND MERIONETH DIVISION, *North Wales Branch*, Queen's Hotel, Portmadoc, 2 p.m. (National Insurance Bill.)
	BUCKINGHAMSHIRE DIVISION, *South Midland Branch*, Auction Mart, High Wycombe, 2.30 p.m. (National Insurance Bill.)
	FIFE BRANCH, Meeting of Profession, Station Hotel, Kirkcaldy, 3 p.m. (National Insurance Bill.)
	NORTH NORTHUMBERLAND DIVISION, *North of England Branch*, Special Meeting, Infirmary, Alnwick, 3.30 p.m. (National Insurance Bill.)
21 TUESDAY ..	LAMBETH DIVISION, *Metropolitan Counties Branch*, Special Meeting, Bethlem Royal Hospital, 4 p.m.
	SOUTH-WEST ESSEX DIVISION, *Metropolitan Counties Branch*, Special Meeting, Wesleyan Church School, High Road, Leyton, 4.30 p.m. (National Insurance Bill.)
	EASTBOURNE DIVISION, *South-Eastern Branch*, Technical Institute, Grove Road, 4.30 p.m.
	MARYLEBONE DIVISION, *Metropolitan Counties Branch*, General Meeting, Rooms of the Medical Society, 11, Chandos Street, W., 8 p.m. (National Insurance Bill.)
	HAMPSTEAD DIVISION, *Metropolitan Counties Branch*, Lecture Room, Hampstead Conservatoire, 8.30 p.m. (National Insurance Bill.)
	NOVEMBER *(continued)*.
22 WEDNESDAY	GREENWICH DIVISION, *Metropolitan Counties Branch*, St. Mark's Presbyterian Church Room, South Street, Greenwich, 3 p.m.
	YORKSHIRE BRANCH, Station Hotel, York, 4 p.m.; Dinner, 6.30 p.m.
	RICHMOND DIVISION, *Metropolitan Counties Branch*, Richmond, 8.30 p.m.
	ST. PANCRAS AND ISLINGTON DIVISION, *Metropolitan Counties Branch*, Venetian Room, Midland Grand Hotel, 9 p.m. (National Insurance Bill.)
23 THURSDAY ..	**Special Representative Meeting**, Connaught Rooms, Great Queen Street, London, W.C., 10 a.m. (National Insurance Bill.)
	STAFFORDSHIRE BRANCH, First General Meeting, North Stafford Hotel, Stoke-on-Trent, 3.45 p.m.; Dinner, 6.30 p.m.
	LAMBETH DIVISION, *Metropolitan Counties Branch*, Evelina Hospital, Southwark Bridge Road, 4 p.m.
	WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, Grove Hall, Wanstead, 4 p.m.
24 FRIDAY ..	BIRMINGHAM BRANCH, Pathological and Clinical Section, Medical Institute, Edmund Street, 8 p.m.
25 SATURDAY ..	
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	
29 WEDNESDAY	BATH AND BRISTOL BRANCH, Bath.
30 THURSDAY ..	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 25TH, 1911.

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SPECIAL REPRESENTATIVE MEETING.

A SPECIAL MEETING of the Representative Body assembled at the Connaught Rooms, London, on Thursday, November 23rd, 1911, Dr. MACLEAN (Chairman of Representative Meetings), and afterwards Dr. BUIST (Deputy Chairman of Representative Meetings), in the chair.

NATIONAL INSURANCE BILL.

The Special Report of the Council on the position of the profession under the bill, as amended in Committee of the House of Commons, prepared pursuant to the instruction of the Annual Representative Meeting, 1911, was received; the report of the action taken by the Council to give effect to the instruction of the Representative Meeting, 1911, was received and the correspondence with the Chancellor of the Exchequer arising out of this report was read; and the report on the action taken by the Council to give effect to the instructions of the Annual Representative Meeting was received and entered on the Minutes.

The following is a copy of the correspondence referred to above:

RECENT CORRESPONDENCE WITH THE CHANCELLOR OF THE EXCHEQUER CONCERNING THE NATIONAL INSURANCE BILL.

Offices of the British Medical Association,
Medical Department,
429, Strand, W.C.,
November 10th, 1911.

Sir,

I enclose herewith Memorandum on certain matters affecting the National Insurance Bill which the British Medical Association desires to bring to the notice of the Government. If it is thought necessary, the Association will be glad to appoint a deputation to wait upon you to explain any matters referred to therein.

I am, Sir,
Your obedient servant,
(Signed) J. SMITH WHITAKER,
Medical Secretary.

The Right Honble. David Lloyd George,
Chancellor of the Exchequer,
The Treasury,
Whitehall, S.W.

BRITISH MEDICAL ASSOCIATION.

MEMORANDUM SUBMITTED TO THE CHANCELLOR OF THE EXCHEQUER ON CERTAIN MATTERS AFFECTING THE NATIONAL INSURANCE BILL.

I. *The Financial Provision for Meeting the Cost of Medical Benefits, with Special Reference to Sub-clauses 7 and 8 of Clauses 14 as amended.*

The British Medical Association desires most respectfully to bring to the notice of the Chancellor of the Exchequer the difficulties in which it appears to the Association that local Health Committees may possibly be placed in making sufficient provision to meet the cost of administration of medical benefits, regards being had to the provisions of Sub-sections 7 and 8 of Section 14 of the Bill as amended in Committee. Under the Bill as at present framed the amount available for defraying the cost of medical benefits will, it is understood, be derived primarily from contributions from the approved societies, in respect of the members of these societies, and from the general fund managed by the Committee itself for the benefit of the Post Office contributories in respect of those contributories. In the event of the sums that can be obtained from these sources proving inadequate, the Committee must apply to the Treasury and the County Council, who may make a grant to which each contributes half, provided that both authorities agree.

The Association would submit that in this way the County Council is enabled to place a veto upon a grant being made by the Treasury; that there is no inducement in the Bill to the County Council to consent to such expenditure; and that, therefore, it is not improbable that in many cases the local Health Committee will be deprived of funds which are recognised by the Treasury to be necessary for the proper discharge of its duties, through the unwillingness of the County Council to contribute.

The Association would most respectfully submit that the discretion of the Treasury ought not thus to be fettered, but power should be given to the Treasury to make such grant as may in the opinion of the Treasury, be necessary to meet the cost of providing adequate medical attendance and treatment for the insured.

It is further submitted that in the event of a grant being made by a County Council, that body will be entitled to receive increased representation in the local Health Committee. The Association would submit that it is undesirable that the balance of representation of various bodies in the local Health Committee should thus be disturbed. The funds administered by that Committee must in any event be derived only to a small extent from the rates, and it is undesirable that the local authority should be empowered to exercise greater influence in, or control over, the proceedings of the Committee than was contemplated in the Bill as originally framed. It is doubtless necessary to secure as far a practicable that the two bodies should work harmoniously together and co-operate in the matter in which they are jointly interested, namely, the general promotion of public health; but in the opinion of the Asssociation the representation proposed to be assigned to the local authority in the Bill as originally framed is sufficient to secure this object. Further representation would tend to an undesirable dual control.

II. *The Question of giving Power to the Local Health Committee to provide Sanatoria.*

The Association desires to draw attention to the difficulties in administration of sanatorium benefit which it foresees through the combined operation of Clauses 15 and 47. The collective effect of these Clauses would appear to be as follows:—

(i.) The sanatorium benefit is to be administered by the local Health Committee, the funds available for this purpose consisting of 1s. 3d. per annum per insured person within its area, derived from the general fund out of which benefits are payable, and 1d. per insured person per annum, derived from moneys provided by Parliament.

(ii.) The local Health Committee is in no case apparently to make direct arrangements for the treatment of insured persons suffering from tuberculosis (or other diseases in respect of which sanatorium benefit may become payable in manner provided by the Act), but must make such arrangements with persons or authorities undertaking such treatment whether in institutions or otherwise.

(iii.) A large sum of money is to be provided by Parliament for the building of additional sanatoria if required, but this sum is to be placed at the disposal not of the local Health Committees but of entirely independent bodies, the County Councils.

It appears to the Association that deadlocks may in this way arise, and that the local Health Committees, acting under the control and direction of the Insurance Commissioners, should be afforded more ample powers for meeting the requirements of insured persons who need the sanatorium benefit. More particularly for this purpose the Association would urge that power should be given to the local Health Committees to build, acquire, equip, and maintain sanatoriums or other buildings subject to such sanction from the Insurance Commissioners, and possibly from the Local Government Board, as may be necessary to ensure that full advantage shall be taken of the accommodation provided by existing institutions before additional institutions are provided. The powers given to the local Health Committees and to the Departments of the Central Government dealing with the matter should be sufficiently wide and at the same time sufficiently guarded to secure the following points:—

(*a*) That there shall be no danger of the treatment of insured persons being delayed, to the detriment of their health, through any deadlocks arising between the local Health Committee on the one hand and the County Council on the other.

(*b*) That economy shall be observed by full use being made of any institutions that may exist for the treatment of insured and uninsured persons alike, so that an institution designed primarily for the accommodation of the insured may be utilised also for the uninsured and *vice versa*.

(*c*) That co-operation between various authorities who own or control institutions shall be facilitated and encouraged.

In making these representations the Association thinks it well to refer to one suggestion which has been put forward as a solution of the problems above suggested, but which, in the opinion of the Association, would be so objectionable on other grounds that it is hoped that it will not be accepted by the Government. That is the proposal that the local Health Committee should be made, for this purpose at all events, a Committee of the County Council. Any such proposal must, in the opinion of the Association, tend to deprive the insured of that reasonable share of control, through their elected representatives, over the administration of the medical and sanatorium benefits which it is desirable in the interests of the smooth working of the Insurance Scheme that they should enjoy.

III. *Compensation to Practitioners for Loss in Value of Practices.*

Since the introduction of the Insurance Bill, many representations have been made to the British Medical Association by medical practitioners who apprehended that the present value of their practices will be greatly injured in the event of the enactment of the Bill. The Association is aware that in the opinion the Chancellor, while there may be a temporary shrinkage in the value of practices before the Insurance Scheme comes into full operation, there is no substantial ground for apprehending a permanent loss, but that, on the contrary, medical incomes will be, in his judgment, enhanced eventually, and on the whole, through the introduction of State Sickness Insurance in the form proposed in the Bill. It appears to the Association that the question whether the apprehensions of the medical profession above mentioned or the more hopeful anticipations of the Chancellor of the Exchequer will be fulfilled must depend to a great extent upon the operation of causes which cannot be definitely foretold until the Bill comes into operation, but which will be under the control of public authorities constituted under the Bill and not of the medical profession. In these circumstances the Association would most respectfully submit that it is reasonable that provision should be made for compensation to those medical practitioners, if any, who may be proved to incur loss in the value of their practices through the operation of the Bill. That loss will be incurred to those who may, for any reason, find it necessary to transfer their practices in the near future appears to be admitted. As regards any more permanent loss, if the anticipations of the Chancellor of the Exchequer are happily fulfilled, no burden would thus fall upon the public funds. If, on the other hand, those anticipations, which have been held out as a reason for which the medical profession

should not oppose the passage of the Bill, should unfortunately not be fulfilled, an equitable claim for compensation would appear to arise.

IV. *Procedure for Enquiry in Cases of Proposed Removal of a Medical Practitioner from the Panel.*

The British Medical Association has considered the question of the procedure to be adopted for making due enquiry before removal of the name of a medical practitioner from the list of those from whom insured persons in any district may make a choice of doctor.

It is noted that in the House of Commons a suggestion was made by Mr. Cassel, K.C., that a doctor removed from the panel by the Insurance Commissioners should have a right of appeal to the High Court. The Association concurs in the opinion expressed by the Chancellor of the Exchequer that this course of procedure would probably not be desired by medical practitioners.

The question was considered by the Representative Body of the Association, who were of opinion that the facts of a complaint should be investigated primarily by the local Medical Committee. It might possibly be thought well to provide that those members of the local Medical Committee who represented the district in which the practitioner in question practised should not serve on the Committee for the purpose of such enquiry.

The enquiry by the Local Medical Committee would not necessarily be final. In a large number of cases, however, if the finding were favourable to the accused practitioner, those who raised the complaint would be content to drop it, and if the finding were adverse to the accused practitioner, he would be satisfied that his interests would not be served by pursuing the matter further, and would be content to withdraw from, or to allow his name to be struck off the list.

Where the finding of the local Medical Committee was not accepted as final by either party the case should, in the opinion of the Association, be referred to a central Medical Court of Appeal, whose decision would be final, and who would report to the Insurance Commissioners. The details of the constitution of such Medical Court of Appeal are not submitted, pending making these suggestions to the Chancellor of the Exchequer on the general principles, but the Association is prepared to make proposals on the subject if the general principles are approved.

Offices of The British Medical Association,
Medical Department,
429, Strand, W.C,
November 15th, 1911.

Sir,

Medical Representation on Local Insurance Committees.

Information received during the last few days shows that great concern has been caused among the medical profession throughout the country by the decision of the House of Commons on Wednesday last greatly to increase the size of the local Insurance Committees, as it is understood that they are to be called, without provision for any corresponding increase in the number of medical members of such Committees. Unless the Government can see its way to meet the profession on this point the prospects of any hearty co-operation of the profession in the working of the Bill must be greatly prejudiced. I am instructed to represent, first, the earnest hope of the Association that the Government will increase the medical representation on the Committees to at least a tenth of the membership of each Committee. It is also hoped that the Government can see its way to promise this concession in time for it to be included in the Report which is to be issued on Friday of this week to every Member of the Association. If the concession could be announced in this Report it would greatly affect the decisions to be arrived at in meetings of the profession to be held on Monday and Tuesday next for the consideration of the Report, by which decisions the Representatives attending the Special Representatative Meeting convened for November 23rd must be governed in determining the future action of the Association.

Questions already submitted on November 10th.

I am also instructed to enquire whether you are yet in a position to give any reply on the subjects of the Memorandum which I had the honour to forward on November 10th, namely, (*a*) as to Supplementary Grants for Medical Benefits being at the discretion of the Treasury only; (*b*) extension of powers of local Insurance Committees to provide Sanatoria and other Institutions; (*c*) compensation to practitioners for loss of practice; and (*d*) the machinery of inquiry before a practitioner's name is removed from the panel. Early information on the last point would be specially valuable for inclusion in the Report above mentioned.

I am, Sir,
Your obedient Servant,
(Signed) J. Smith Whitaker,
Medical Secretary.

The Right Honble. David Lloyd George,
Chancellor of the Exchequer,
The Treasury, Whitehall, S.W.

Offices of The British Medical Association,
Medical Department,
429, Strand, W.C.
November 20th, 1911.

Sir,

I have to express the thanks of the Association for your kindness in consenting to see a few representatives this afternoon as already arranged. While desiring not to trespass unduly on your time, the Council of the Association consider that it might be of great assistance if you would permit advantage to be taken of the opportunity afforded by the reception of this deputation to clear up certain other outstanding points noted in the consideration by the Association of the Bill as amended in Committee up to date, and not previously mentioned in communications to you. You will doubtless appreciate that it takes a little time for Committees of the Association, assembled from various parts of the country, to go through all the amendments effected in the Bill and to perceive the questions which we should desire, if possible, to have cleared up at the Report Stage.

I enclose a short statement of the points on which the deputation will be glad to make representations. For convenience we have included those mentioned in my letters of November 10th and 15th, these, however, being specially indicated so that you will be able to distinguish what is new matter.

I am, Sir,
Your obedient Servant,
(Signed) J. Smith Whitaker,
Medical Secretary.

The Right Hon. David Lloyd George,
Chancellor of the Exchequer.

British Medical Association.

Memorandum.

Matters desired to be raised by the Deputation from the British Medical Association to the Chancellor of the Exchequer on Monday, November 20th.

1. That there be increased medical representation in the County or County Borough Insurance Committees.

2. That if the local Auxiliary Committees to be formed by each County Insurance Committee are to be concerned with the local administration of medical and sanatorium benefits, there should be medical representation as on the County Insurance Committees, and recognition of local Medical Committees similar to that accorded to the local Medical Committees in the area of each County or County Borough Insurance Committees.

3. That there should be the same provision for inclusion of medical members among the Scottish, Irish and Welsh Insurance Commissioners as in the case of the English Commissioners.

4. Amendment of Clause 14, Sub-section 5, so as to restore it, as regards its effect on the medical profession, to its original form, namely, that medical attendance and treatment and drugs and appliances should not be supplied at an inclusive fee, but not to prohibit the Insurance Committee from

arranging with medical practitioners to supply drugs and appliances for those insured persons whom they attend so long as the arrangements are kept entirely separate from those for the provision of attendance and treatment. The amendments of Clause 14, Sub-section 5, proposed are as follows :—

(i.) Clause 14, Sub-section 5, proviso (ii.), page 18, line 8, after word "made" insert "by the local Insurance Committee."

(ii.) Clause 14, Sub-section 5, proviso (ii.). page 18, line 10, after word "person" insert words "at a fee which includes also medical attendance and treatment."

(iii.) Clause 14, Sub-section 5, proviso (ii.), page 18, line 12, delete word "give" and substitute word "withhold."

(iv.) Such words to be inserted as will make clear that the provision of drugs or appliances by a medical practitioner, must be for those insured persons only whom he himself attends.

5. The question raised in section IV. of the letter of November 10th as to the procedure of enquiry in cases of proposed removal of a practitioner from the panel.

6. Question whether it would be possible under the Bill in its present form for a County Insurance Committee or Auxiliary Committee to set up a Sub-Committee composed of representatives of insured persons and representatives of the profession with possibly other members, as a kind of conciliation board for the adjustment of disputes arising between doctors and patients.

7. That if the provisions of the Bill are not already such as to preclude those who are "allowed" under Clause 14, Sub-section (3) to make their own arrangements, from doing so through combinations employing doctors at a lower rate than that locally paid by the Insurance Committee to the doctors on the panel, it should, as much in the public interest as in the interest of the profession, be so amended as to prevent such abuse.

8. The questions raised in Section I. of the Memorandum submitted on November 10th as to the financial provision for meeting the cost of medical benefits.

9. The question raised in Section II of the same Memorandum, as to the necessity of the local Insurance Authorities being permitted to make their own provision as regards building, acquiring, equipping, or maintaining sanatoria or other institutions necessary for treatment of the insured.

10. The question raised in Section III of the same Memorandum as to compensation for loss in the value of practices.

Treasury Chambers,
Whitehall, S.W.
22nd November, 1911.

Sir,

I have to acknowledge your letter of the 10th inst., forwarding on behalf of the British Medical Association a Memorandum respecting certain provisions of the National Insurance Bill, and your further letter and Memorandum of the 20th instant, summarising the questions which were subsequently discussed by representatives of the Association and myself at the House of Commons.

I desire at once to express my thanks for the careful consideration which the Association have given to some of the important problems which arise under the Bill, and for the valuable suggestions which they have made. If there are some cases in which I am unable to follow their advice it is only after carefully reviewing their arguments in the light of certain further considerations which I am bound to have also in mind.

Some of the questions raised in the Memoranda I answered verbally on Monday evening; others will be more properly dealt with by the Insurance Commissioners who will certainly have before them the facts and arguments presented by the Association. As requested by the Deputation, however, I forward the following observations, confirming and to some extent supplementing my verbal answers to those of the questions which affect either the drafting or the interpretation of the present Bill.

1. *Increase of Medical Representation on the County Insurance Committees.*

The reason, if I may say so, for the presence of medical men upon these Committees is not only that they may voice the interests of their profession but also that they may be able to give the Committees skilled advice in matters of health.

The necessity for any increase in their number must vary with the varying size of the different committees, the areas which they serve, and other circumstances. Under the Bill as at present drafted, the Commissioners have full power to nominate a larger number of medical men where circumstances render it expedient, and I am prepared to state definitely that in the case of the larger committees it is the intention to exceed the number which the Bill at present obliges the Commissioners to appoint.

2. *Medical Representation on Local Auxiliary Committees.*

There is full power in the Bill to provide that there shall be medical men on the Auxiliary, as well as on the main, Committees, and there is every intention to make use of this power.

In this connection, a further question was raised by the Deputation of November 20th, as to whether there would be local Medical Committees corresponding to the *Auxiliary*, Insurance Committees as well as to the main one. In reply I desire to point out that under the Bill it would be possible to give local Medical Committees full power to delegate their work to small sub-committees in such a way as to secure the desired object.

3. *Medical Commissioners for Scotland, Ireland and Wales.*

I agree in thinking it desirable that in each case at least one Commissioner shall be a medical practitioner, and will propose an amendment to this effect.

4. *Supply of drugs by the profession.* Clause 14, 5, ii.

I will be ready to propose an amendment to make it clear that the prohibition contained in this Clause does not in any way extend to any arrangements that may be made by individuals, e.g., those who under 14 (3) are making their own arrangements for medical attendance and treatment.

As you have pointed out to me, there are cases in every locality where it will be necessary for the medical practitioner to supply medicines or appliances (*e.g.* in night calls and certain accidents), and when this is so, he should be paid for them. It will be necessary to amend the Clause to meet these and other cases, and perhaps the best course will be to omit all the words after "Insurance Commissioners."

5. *Procedure as to removal of names from panel.*

The provision in the new Clause as to local Medical Committees that they shall "exercise such powers as may be determined by the Insurance Commissioners," was inserted with the definite object of enabling any question affecting professional conduct or credit to be referred in the first instance to representatives of the profession itself. In the great majority of cases doubtless their verdict would be accepted as conclusive, and the Insurance Committee would merely register it. Where, indeed, there was a dispute it would be necessary that the latter committee should consider the case, as the question obviously has other aspects than the professional one. But there can in any case be a further appeal. The appeal might well be for instance to a panel of referees appointed by the Commissioners, but in any case they would be very glad to have the advice of the Association in determining the tribunal, and it is not necessary to make any amendment of the Bill to permit of this being done.

6. Sub-Committees of Insurance Committees *acting as Conciliation Boards.*

The Bill certainly permits the regulations to provide for the committees appointing sub-committees, and there is nothing to prevent these sub-committees from negotiating with similar sub-committees of the local Medical Committees, and reporting to their respective bodies.

7. Medical benefit in the case of those *who are allowed to make their own arrangements.* Clause 14 (3).

The contributions from the funds out of which medical benefit is payable are "*towards* the cost of medical attendance and treatment (including medicines and appliances)," and will not be allowed to be devoted to other objects. The sum must not exceed the amount "which would otherwise have been expended" and if it does not reach that sum, some saving of moneys available for medical benefit will be effected by the Insurance Committees, and not by the individuals or Societies. It would not, therefore, be possible for this clause to be used by a group of persons for the purpose of obtaining outside rates from medical men.

8. *Financial Provision for Medical Benefit.*

I certainly desire that the provision for obtaining extra funds to meet the cost of medical benefit, where the amount available from the Insurance Fund is inadequate, should be real and effective. It is, however, in my opinion essential that any grant from the Treasury should be conditional upon a similar sum being forthcoming from local rates. It would otherwise be clearly impossible to secure real local responsibility for the applications made. The insured persons in every county would inevitably put pressure upon the Insurance Committee to apply for a grant from the national exchequer to be spent on local benefits, especially when they realised that in their own capacity of taxpayers they were contributing to similar grants for other counties. Thus with no effective provision to restrict applications to cases in which the grant was really needed, the effect would necessarily be that they would come in from every quarter; and not only the ultimate, but practically the sole, responsibility for a full investigation into the local needs of each county would fall on the central Department of the Treasury. Moreover, no further money from the rates would then be expected, for an unconditional Treasury grant would actually discourage spontaneous local expenditure.

I cannot agree, however, that under the present provisions the inducement to local authorities is inadequate. An enormous sum is spent each year by these authorities on medical relief, and a very large number of persons whose treatment now falls on the rates will be among insured persons. At least, as regards the deposit contributors, the County Council would feel that in voting money for medical benefit they were providing for people who were otherwise be a charge to the rates. In these circumstances, the prospect of a Treasury grant should be a very real inducement.

With regard to the general question of remuneration fo medical attendance I desire to remind the Association of the two cardinal facts that:—

(*a*) The sum is not limited by any provision of the Bill, but is left for local arrangement, and

(*b*) When such arrangements are being made the profession will have the power of collective bargaining it has never before possessed.

There can be no doubt, in these circumstances, that the profession will be able to secure proper remuneration for extra work upon an adequate scale.

9. *Proposed Powers for Insurance Committees to Build Sanatoria, &c.*

I accept the statement in the Memorandum of the 10th instant as to the combined effect of Clauses 15 and 47 and I concur as to the paramount importance of (*a*) avoiding any deadlock and danger of delay in treatment; (*b*) securing full use of all suitable institutions; and (*c*) affecting co-operation between the authorities concerned. The present provisions were inserted with these objects clearly in mind and will, I hope, be successful in securing them. It must be remembered that many members of local authorities will themselves be members of approved societies, so that the Insurance Committees will in a sense have a practical, though not a formal, representation on the bodies with which they are negotiating. The Million pounds a year in their hands for the purpose should be sufficient to secure that insured persons enter institutions upon proper terms and obtain adequate treatment. Moreover, the necessity imposed on the Committees of making their arrangements with existing authorities should have precisely the effect desired of securing full use of all suitable institutions and co-operation between those who administer them. It is precisely in these respects that the present arrangement is in my opinion far preferable to one which by giving the power of building to Insurance Committees would add another to the many hospital authorities already in existence.

I think I have now dealt with all the points on which the Deputation desired me to make an answer. In conclusion I desire to repeat my thanks to the British Medical Association for the careful and considered advice they have already given me, and to express the hope that they will afford similar assistance in the future in the solution of the many difficult problems which will inevitably arise in the administration of a measure of the scope and magnitude of the National Insurance Bill.

Yours sincerely,
(Signed) D. Lloyd George.

Dr. E. J. Maclean, M.R.C.P.

The meeting then went into Committee to consider the report.

The proceedings at 8 p.m. (the meeting still being in Committee) were adjourned until the following morning at 9.30.

Adjourned Special Representative Meeting.

Dr. Buist (Deputy-Chairman of Representative Meetings) in the chair.

The Meeting continued to deliberate in Committee.

At the conclusion of the Committee stage the Representative Meeting resumed, and the following resolutions were adopted:

RESOLUTIONS.

Insistence on the Six Cardinal Principles.

That the Representative Body declare the determination of the Association to insist upon the arrangements made with medical practitioners for giving attendance and treatment to insured persons being consistent with the six cardinal principles formulated and approved by the Representative Meeting of June 1st, 1911, and confirmed by the Representative Meeting, Birmingham, in July, 1911; and that a copy of this resolution be sent forthwith to the Chancellor of the Exchequer and the Press, and to each Member of Parliament, through both the Head Office and the Honorary Secretaries of Divisions; and that steps be taken to ensure that the Chancellor of the Exchequer be informed of the declaration in the House of Commons itself.

Attendance and Treatment through Existing Organizations (Harmsworth Amendment).

That the Association press for the deletion of Clause 14, Subsection 4.

Aged Persons and Chronic Patients.

That the Representative Body approve of the principle of attendance on the persons named, and on the terms stated, in the following Recommendation:

That the Representative Body agree, on behalf of the Association, that no objection be raised to any member of the profession undertaking to give medical attendance and treatment, on the same terms as to insured persons, to those persons who are members of Friendly Societies at the time of passing of the Act and who are excluded from becoming insured persons because at the commencement of the Act they are over 65 years of age or are unemployed through permanent invalidity.

and

That an amendment, if any, of the Bill to give effect to the substance of the foregoing Recommendation should take the following form:—

Clause 14, page 16, line 23, at end insert as a new paragraph:

(*e*) The provision of medical treatment and attendance including the provision of proper and sufficient medicines, and such medical and surgical appliances as may be prescribed by the regulations to be made by the Insurance Committee, on the same terms as those arranged with respect to insured persons, to members of any Friendly Society which becomes an approved society who were such members at the date of the passing of this Act, and who are not entitled to medical benefit under this part of this Act by reason either that they are over 65 years of age at the date of commencement of this Act or that being subject to permanent disablement at that date they are not qualified to become insured persons. (*Recommendation C.*)

Provision against Acceptance of Lower Rate of Payment than that of Insurance Committees.

That the Committee recommend that, if the provisions of the Bill are not already such as to prevent those who are "allowed," under Subsection 3 of Clause 14, to make their own arrangements, from doing so through any organization at a lower rate of payment to the doctor than that given by the local Insurance Committees to those on the panel, the Bill should, in

the interests of the health of the nation, be so amended to prevent such abuse.

Remuneration of Medical Practitioner.

That the Representative Body state that the amount of 6s. per head per annum upon which the actuarial calculations have been based is inadequate to meet the cost of provision of medical benefit for the insured; and that the inclusion of married women as beneficiaries will necessitate a considerable increase upon the amount per head that was previously necessary.

Local Insurance Committees.

That the Representative Body approve the action of the Council in urging that at least one-tenth of the members of each Insurance Committee be elected by members of the medical profession.

Auxiliary Committees.

That the Representative Body approve of the action of the Council in urging that there be corresponding medical representation in local Auxiliary Committees.

Auxiliary Medical Committees.

That the Representative Body approve of the action of the Council in urging that statutory recognition be given to a local Medical Committee corresponding to each local Auxiliary Committee, with the same powers as are conferred upon the local Medical Committees in the areas of the local Insurance Committees.

Welsh, Scottish and Irish Commissioners.

That the Association press for representation of the profession among the Scottish, Irish and Welsh Insurance Commissioners, by the appointment of one or more practitioners experienced in practice in the respective countries, and for similar representation on the local Insurance Committees of the corresponding countries, such representatives to be elected in the same manner as provided in the case of the English representatives.

Ireland.

That the Association press for the restoration of the medical benefits of the National Insurance Bill in the case of Ireland under the same conditions as in England.

That the Association press for such provision as shall ensure that in the event of medical benefit being provided through friendly societies in Ireland as an additional benefit, the insured persons who are to receive medical attendance and treatment under such arrangements shall be entitled to free choice of doctor under provisions similar to those contained in Subsection (2) of Clause 14 of the Bill.

Institutional Treatment.

That the Association again press the Government to make adequate provision for institutional treatment for insured persons in accordance with the principles of the British Medical Association.

Dispensing.

That the Representative Body approve the action of the Council in pressing for, and urge them to insist on, amendments of Subsection (5) of Clause 14 to protect the right of medical practitioners to undertake the provision of drugs and medical appliances for those insured persons whom they attend, provided that the provision of medical attendance and treatment and the provision of drugs and appliances be not made at an inclusive fee.

Declaration with Regard to Future Action as to the Cardinal Principles.

That in the event of the Insurance Bill becoming law the British Medical Association use every possible means to ensure that no medical practitioner undertake the medical attendance and treatment of insured persons under arrangements that are not absolutely in accordance with the six cardinal principles of the policy of the Association.

The CHAIRMAN OF REPRESENTATIVE MEETINGS (Dr. E. J. Maclean) said: In moving this resolution I very much regret that there has been any atmosphere of suspicion generated as to what it is intended to do in regard to this motion, or what, by the previous resolution passed by this Meeting it was intended or designed to cut out. I feel sure that I need not emphasize to the general average common sense of this Meeting that there is no desire to keep anything back, but rather, on the contrary, that we shall collect the full force of the feeling in the profession, represented as it is in this Representative Meeting, and focus it so that we shall carry out every single point in our programme. In moving this resolution I would say that nothing has been more gratifying to those who have had the responsible duties with which this meeting has charged them within the last few weeks than the evidence that has come to hand unmistakably from all parts of the country that the profession is determined to see that such arrangements as are made shall cover not only their shadow of a chance but their definite prospects of getting every single point of the policy of the Association incorporated in the arrangements made between the Insurance Committees and the ultimate doctors of this country. I say that nothing has been more gratifying; but, on the other hand, nothing would have been more disastrous than for the Association to witness the sitting down and folding of arms by the profession generally in this country. I suggest to this Meeting that our power does not lie essentially in the words incorporated in this bill—our power lies in our union to insist upon what is our reasonable will that our proper demands should be realized, and not only promised, but put definitely into our hands as medical practitioners in this country. If the machinery placed at our disposal is realized, then, reviewing the whole of the points discussed in detail at this meeting, there can be only one reasonable opinion as to this, and that is that, granted that we hold together, we can, if we so resolutely determine, carry out and realize every single point in our policy. The enormous importance of the machinery that is now in our hands is, I venture to suggest, underestimated by some of our members. I can quite understand, because there has been so much rush and so much hurry, that medical men have not fully visualized the scheme which is now contemplated in the amended form of the bill. There is a very natural desire on the part of the profession, where they do not understand the altered prospects of events and affairs, to cling to the ills that they know something of rather than to go to others which they think may be worse, or may be detrimental to their present position. It is, perhaps, inevitable from the novelty of the experience which we are now undergoing as a profession. We have never before had to face and come so closely into contact with the great parliamentary machine. We have never had before to forecast in so wholesale a fashion what is going to be our position under so complex and complicated a measure as the Insurance Bill. I will not detain the Meeting further, but will say this motion is, I believe, one which is honestly and sincerely intended to collect and to focus the strong determination that we all have that, whether it be by means of representation made, or whether, as may possibly be the case, by standing out in part or in whole from working under the bill, whatever it may cost, we will realize our settled and fixed policy. (Loud and continued applause.)

The CHAIRMAN OF COUNCIL (Dr. J. A. Macdonald), in seconding, said: I do not know that there is much left for me to add to what Dr. Maclean has said. There is no doubt it is a very momentous one, and, as he has said, the only possible way in which we can efficiently carry it out is by our union. There is just one word I should like to say. As one who has been in the middle of this thing, both as Chairman of Council, member of the State Sickness Insurance Committee, and member of the Executive Subcommittee of that Committee, I deprecate, on behalf of those bodies, the general air of suspicion there has been as to the bona fides of the way in which the work was being carried out. At the same time, I can quite realize the impatience, the anxiety, and the difficulty medical men have had in various parts of the country in critical conditions which involved their whole liveli-

hood, and in realizing the position those at the head of affairs had to face. We had, luckily for us, more than a year ago gone into the question of this State insurance. If we had not done so by some good prescience we should have been left in a hopeless blank. It is the most complicated bill, probably, which has ever come before the House of Commons, and we had, as a body of men notoriously supposed to be unbusinesslike, to make the best conditions we could on behalf of the profession, in connexion with a bill which it is a disgrace for any business body to put before the House of Commons. (Applause.) I put it to you, and I put it to you in no *ad misericordiam* spirit, that we have done the best that was possible under the circumstances, and we are in no sense ashamed of what we have done. (Hear, hear.) We made no public display—and advisedly we did not do so—of anything we were doing. We kept ourselves, as far as possible, from making any blatant disclosure to the press as to what was going to happen, because, in my opinion, and the opinion of the rest of the Committee and the Council, it is not always noise that suggests strength. I say without fear of contradiction that the Insurance Committee and the Executive Committee of that Committee and the Council have done well, and I suggest to you that this resolution that we are putting before you here comes at the right time and takes the right position to show Mr. Lloyd George and those other gentlemen who are managing this business that the British Medical Association is a force that has to be reckoned with, and we are going to see that our rights are carried out. (Loud and continued applause.)

Later in the proceedings,

The Chairman of Representative Meetings (Dr. Maclean) said: I should like to point out that the question of the acceptance of office in the administrative bodies to be formed under this bill is a very different one from the position contemplated by the resolution. The resolution says that under the arrangements made, if they be unsatisfactory, the Association's powers shall be used to prevent practitioners accepting service under the bill. Now I have another point to make later on, but let me suggest to the Meeting that it should visualize a little bit more what are those arrangements. They are arrangements to be arrived at under the influence of the Insurance Commissioners, by the striking of a bargain between the local Medical Committees and the Insurance Committees, and then, and not till then, do the arrangements become created which it is for the Association to determine whether it shall allow its members to work under or not. The question, therefore, is, if the Meeting were to say that not a single one of its members should accept any kind of official position under this bill, that would really prevent what may be very essentially in the interests of the profession being brought about. I hope the Meeting will pardon me, but I feel that the circumstances are such that it is important that I should make a statement which is somewhat of a personal nature. One speaker has made a reference to certain rumours which, he said, are current in the smoking rooms of London clubs and the smoking room of the House of Commons. I suggest that those kind of rumours are best left to vegetate as they may in the smoking-rooms. (Hear, hear.) I wish to say, because I feel it personally very acutely, and I know it has been used as an argument by men who have not got the essential interests of the Association at heart—(Hear, hear)—that certain of the officials of this Association had been taking advantage, immoral advantage, of their official position to make things easy for the Government, and to give away those interests which have been sacredly entrusted into their hands by the profession of this country. I say that an allegation of that kind is the measure of the man who makes it. (Hear, hear, and loud applause.) If the Meeting will permit me one more personal point, it is this: If the suggestion should come to me to accept any office under this bill, my decision would be irrevocable. I much prefer to stand outside any official position under this bill and fight for the men who have trusted me so long. (Loud and continued applause.) I suggest, further, that the men whom I have had the honour to work with in this matter are entirely to be trusted by the Association, and that the measure of trust which has been reposed in myself and my colleagues in the past shall be the measure of the devotion of our service to the Association in time to come. (Loud applause.)

Organization.

That the Representative Body give preliminary consideration to the organization of the profession for the purpose of protecting their interests under the Insurance Bill.

MEETINGS OF THE PROFESSION.

LANCASHIRE AND CHESHIRE.

A mass meeting of the medical profession of Lancashire and Cheshire was held at the Midland Hotel, Manchester, on Saturday, November 18th, to consider the National Insurance Billl.

The meeting was summoned by a committee consisting of non-members and members of the British Medical Association, and the invitation was to the whole profession of Lancashire and Cheshire. A special invitation was sent to the Lancashire and Cheshire Branch Council, which decided to send out a postcard urging all members of the Branch to attend. The circular calling the meeting said:

> In view of the facts that the Government has entirely failed to satisfy the medical profession in the scheme of medical benefits proposed in the National Insurance Bill, that it has not met the requirements of the British Medical Association; further, that members of Parliament and the public are in ignorance of the universal dissatisfaction existing in the profession and its inability to work under the bill as at present drafted, it has been decided to hold a meeting of the medical practitioners of Lancashire and Cheshire to discuss the present situation.

The chair was taken by Mr. G. A. Wright, F.R.C.S., who said that the Insurance Bill was of absolutely vital interest to many medical men, touched the whole of the medical profession in its corporate and fraternal life, and concerned their patients no less. Although absolutely opposed to the bill as it stood in respect of the way in which it dealt with the medical profession, and therefore to one of its most important elements, he was ready to admit that a satisfactory scheme of compulsory insurance on a contributory basis against the stress due to sickness might be organized. But this bill did not attempt to deal fairly with the question. The author of the bill seemed to say to the medical profession, "Don't ask for guarantees; open your mouths, shut your eyes, and trust me." The medical profession was the essential pith and marrow of the scheme, yet the profession had been slighted. There was much in it about medical benefits, but little about how they were to be provided, and what representation the medical profession had on the Health Committees was vanishing away. Little attention was given in the bill to the different conditions of practice in different localities. The author of the bill had not taken time and had not consulted the medical profession. The meeting was a protest in the name of the whole of the medical profession of Lancashire and Cheshire against the bill, which, as it now stood, was unjust and impracticable, and to support the demands of the British Medical Association for the six cardinal points as a minimum. The meeting demanded that the terms which the British Medical Association had demanded should be embodied and recognized in the bill.

Dr. E. S. Reynolds proposed the following resolution:

> That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession but also dangerous to the public health; therefore this meeting of the medical profession of Lancashire and Cheshire expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

The present scheme, he said, was unworkable, because it could not be worked without the medical profession, and in its present form the medical profession was not going to work it. The bill would ruin many medical men, as it insisted upon cheap contract practice, would lessen the number of entrants to the profession, and lower the social

standing of those who had entered. It would largely destroy the good feeling between patients and doctors and seriously cripple the voluntary work done by hospitals, which, in many cases would have to close their doors. It would destroy modern methods of diagnosis and limit treatment to a bottle of medicine or a prescription. How much microscopic and clinical examination or *x*-ray treatment could be provided for 6s. a year? Cheap medicine was bad, and the scheme, moreover, would create an army of malingerers. Dr. Reynolds said than an amendment had been sent up to omit the words "the profession in declaring its inability" and to substitute "the profession refuses to undertake"; the phrases were, however, synonymous, for to declare inability was merely a polite way of refusing.

Dr. A. FRASER (Harpurhey, Manchester), who seconded the resolution, expressed the opinion that the effect of the bill would be to group all the working-class practice of Lancashire and Cheshire—and there were not many others—into one gigantic club system, with the chief friendly society officials in each district sitting in a solid majority clothed with State authority. If the medical profession generally declined to act under the bill, as the practitioners of Lancashire and Cheshire intended to do, they would go on attending their patients as in the past, and would inflict no hardship on any one. The Government will have guaranteed to each insured person a doctor, and the insured person would insist upon payment; in this way the profession could force the hands of the Government by sitting still.

Dr. T. A. HELME, who supported the resolution, said that the House of Commons seemed to believe that the medical profession was content with the bill, when in truth under the bill as it stood adequate remuneration was impossible, and the conditions of work intolerable. The actuarial calculations ought to be revised, and there ought to be placed at the disposal of each Health Committee a sum equal to 10s. a head of the insured. If the profession declined to work under the bill in its present form the Chancellor of the Exchequer would have three alternatives: (1) Whole-time medical officers, (2) blacklegs, (3) to give medical benefit in the form of a contribution earmarked for the special purpose. If the medical profession remained united this third alternative was the only one possible.

Sir JAMES BARR (Liverpool), who also supported the resolution, said that the profession was greatly indebted to the Council of the British Medical Association for the splendid work it had done on behalf of the profession. He had been opposed to the bill from the first, because he believed it would be injurious to the public, since proper medical attendance could not be given for the money allotted. The bill would be injurious to the public because it would lower the standard of medical education. The unemployment part of the bill, which he believed had been drafted by Mr. Sydney Buxton, was, he thought, actuarially sound, but the part in which the medical profession was concerned was drawn up at random and was bound to end in chaos. It could not be worked in its present form, and the scheme would be bankrupt in a couple of years. After all the benefits promised had been given there would not be even 4s. remaining for the doctor. There was no use making a noise unless prepared to work. When the bill became law the profession must make up its mind not to work under it and stick to that resolution, and before a year was over the bill would have to be amended.

The CHAIRMAN was about to call upon another speaker, when there were loud cries of "Vote," and the resolution on being put to the meeting was carried unanimously.

The meeting was very largely attended, it was estimated that those present numbered over 1,000, and the proceedings throughout were most enthusiastic.

MEETINGS OF DIVISIONS.

We give here brief summaries of resolutions passed with regard to the National Insurance Bill at recent meetings of a number of Divisions. Several other Divisions have held meetings, but we are not yet in possession of official reports of these. To avoid needless repetition the resolution passed at the mass meeting held at Manchester on November 18th (see p. 527, and adopted by several of the Divisions, is hereinafter referred to as the "Manchester Resolution."

Manchester.

At a meeting of the Manchester (South) Division, it was resolved, in view of the altogether inadequate and disappointing results that have been achieved by negotiations hitherto, to instruct the Representative of the Division to oppose further action by the Council or other body of the British Medical Association towards attempting further amendments and to support all proposals defining the attitude of the profession as one of uncompromising opposition and refusal to work the bill. It was further resolved with regard to Recommendation F, that the meeting considered one-tenth representation as totally inadequate; and that the question of the compensation of medical men who may suffer loss of income in their practices after the bill becomes enacted, be brought before the Chancellor with a view to the matter being inserted in the bill.

Lancaster.

The Lancaster Division has adopted the "Manchester Resolution." It also passed the following resolution:

> That this meeting, having regard to the undue and enormous burden which the National Insurance Bill imposes on the medical profession, considers that unless the Bill is so modified as to obtain the fullest approval of the profession the British Medical Association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom, and to all arrangements made for providing medical attendance with friendly societies, medical aid associations, and other similar institutions.

South Carnarvon and Merioneth.

The South Carnarvon and Merioneth Division has adopted the "Manchester Resolution."

Portsmouth.

At a meeting of the Portsmouth Division, held on November 21st, a resolution identical with the "Manchester Resolution" was passed.

North-East Essex.

The North-East Essex Division, in addition to other resolutions, adopted the "Manchester Resolution."

Maidstone.

The Maidstone Division adopted the "Manchester Resolution."

York.

The York Division adopted the "Manchester Resolution."

Furness.

The Furness Division adopted the "Manchester Resolution" with deletion of "satisfactorily" from the second line.

Isle of Wight.

At a meeting of the Isle of Wight Division a resolution identical with the "Manchester Resolution" was passed.

East Norfolk.

At a meeting of the East Norfolk Division the "Manchester Resolution" was adopted.

Nottingham.

At a largely attended meeting of the practitioners of the city and county of Nottingham, held on November 21st, the "Manchester Resolution" was adopted.

Chesterfield.

At a conference held at Chesterfield on November 21st, which was largely attended by practitioners from Alfreton, Pinxton, Dore, Renishaw, Clay Cross, Chesterfield and neighbourhood, the "Manchester Resolution" was unanimously adopted.

Preston.

At a large and representative gathering of members of the medical profession from Preston, Chorley, and district, on November 21st, under the chairmanship of Dr. R. C. Brown, the "Manchester Resolution" was adopted,

with the addition of the word "minimum" before "demands," and the substitution of "absolutely refusing" for "declaring its inability."

West Dorset.

At a very largely attended meeting held at Dorchester on November 23rd, Mr. G. C. Flower in the chair, the "Manchester Resolution" was unanimously adopted. A further resolution was passed *nemine contradicente* that the Council of the Association be asked to cease bartering with the Government, to withdraw the six cardinal points, and to let any further overtures come from the Government. The feeling of the meeting was one of uncompromising hotility to the bill.

Halifax.

At a meeting of the Halifax Division held on November 20th, a resolution substantially identical with the "Manchester Resolution" was passed, but with the addition of the words "reasonable" before "demands of the medical profession," and the substitution of "determination not to undertake" for "inability to undertake." The meeting called upon the Representative Body to instruct the Council of the Association to decline to enter into any arrangements under the bill, and that all further negotiations with a view to the amendments of the bill should be abandoned.

South Staffordshire.

The South Staffordshire Division passed a resolution:

That it be an instruction to Council to press the Government to insert in the National Insurance Bill a clause to the effect that, in case of a dispute between the Medical Committee and the local Insurance Committee, there shall be a right of appeal by the former to the Insurance Commissioners.

North Staffordshire.

At a meeting of the North Staffordshire Division it was resolved not to accept the Harmsworth amendment. A resolution identical with the "Manchester Resolution" was passed. It was also resolved to ask the Council to take steps by means of a personal canvass to induce men who have not already signed the undertaking, etc., to do so at once.

Burnley.

At a meeting of the Burnley Division, held on November 21st, it was resolved:

That as the bill as at present drafted does not meet the demands of the Association, as set forth by Representative Meetings in London and Birmingham, and as representations for its amendment made by the Association have been refused, the Representative Meeting is of opinion that the time for negotiations has passed, and that the Chancellor be at once informed that the bill will not be accepted by the Association.

It was further resolved:

That the Council be instructed to take such steps as may be desirable to organize the profession with a view of preventing any of its members from taking office under the bill.

Southport.

At a meeting of the Southport Division the opinion of those present was embodied in a resolution to the effect that the National Insurance Bill as at present framed does not embody the demands of the profession as defined in the six cardinal points. Not one of these is at present satisfactorily secured. It went on to say that the meeting saw little prospect of obtaining their recognition from Parliament or the local Insurance Committees as appointed under the bill, and it instructed its Representative to urge upon the Representative Meeting a declaration of the inability of the medical profession to undertake the duties assigned to it unless the six points were recognized in such a manner as to secure the fulfilment of their demands.

Rochdale.

At a meeting of the Rochdale Division the following resolution was passed:

As the National Insurance Bill does not satisfy the just demands of the medical profession, as defined in the six cardinal points, and as the amendments suggested by the Council of the Association would, if accepted, fail to meet those demands, this meeting is of opinion that it is useless to press for the suggested amendments, and accordingly instructs the Representative Meeting to call upon all members of the profession to refuse to undertake any duties which the bill proposes to assign to them.

Leigh.

At a meeting of this Division a resolution was passed to the effect that the bill as at present drafted does not secure the protection of medical interests demanded by the Association or efficient medical attendance on the poorer sections of the community. A warning to the Government was added, that in the event of the bill becoming law no member of the Association would co-operate in any capacity in its administration.

Leeds.

At a meeting of this Division it was resolved strongly to urge the British Medical Association to request Sir Philip Magnus or some other representative member of Parliament to make a definite statement in the House of Commons, on the authority of the Council of the British Medical Association, to the effect that the Council will advise its members not to accept any post under the Bill unless the six cardinal points are definitely and unequivocally agreed to.

Newcastle-upon-Tyne.

The Newcastle-upon-Tyne Division has passed a resolution that unless the six cardinal points be fully conceded the members of the profession in the Newcastle-upon-Tyne area will refuse to administer the medical benefits of the National Insurance Bill.

Sunderland.

At a meeting of the Sunderland Division it was resolved:

That it be an instruction to the Council to carry out the resolution submitted by the Bradford Division—namely:

A. That in the event of the administration of the medical benefits under the Insurance Bill not having been entirely removed from the control of approved societies when that bill becomes an Act:

1. Every registered medical practitioner should forthwith be asked to pledge himself to the British Medical Association not to accept on any terms any post offered as medical officer to an approved society.
2. All now holding these or similar appointments should be asked subsequently to place their resignations, as from the date when medical benefits under the Act come into force, in the hands of the British Medical Association, to be sent in by that body when and if found necessary.
3. The central and local defence funds should be used for the purpose of refunding the pecuniary loss, if any, proved to be sustained by a doctor consequent on such resignation.

Cambridge.

A meeting of the Cambridge and Huntingdon Branch was held on November 21st. A very strong feeling was expressed by many present that the Representatives had been somewhat weak in dealing with the question and had not been nearly firm enough in standing up for the six cardinal principles. A proposal to decline to work the bill in its present state, on the lines of the resolution passed in Lancashire, was rejected by a small majority.

Coventry.

The Coventry Division asks for the deletion of the Harmsworth amendment, and instructs the Council that it is a matter of regret that the Association has not yet obtained from the Chancellor of the Exchequer any definition of "Medical Benefits"; and that it is of vital importance before members accept service that a complete definite list of medical extras should be formulated.

Bristol.

The Bristol Division has passed a resolution that the Representative Body instruct the Council to withdraw from negotiations with the Chancellor of the Exchequer, and inform him that since the "six points" have been refused, they now decline to work under any bill in which the Government does not relieve the medical profession of the whole insurance risk.

East Cornwall.

The East Cornwall Division passed a resolution that its Representative should be instructed to press for a denial by the British Medical Association in the public press that Mr. Lloyd George has come to an arrangement with the doctors, as has been stated in the *Times* of November 16th. The Division has adopted the "Manchester Resolution."

Swansea.

The Swansea Division has resolved:

That the Representative Body instruct the Council to send a Referendum to the whole of the medical profession in order to ascertain from each member of the profession whether he is in favour of capitation payment or payment for work done if he accepts service under the National Insurance Bill.

Winchester.

The Winchester Division has passed the following resolutions:

1. That the Representative Meeting should immediately issue an ultimatum to Parliament to the effect that if the six cardinal points demanded by the British Medical Association are not introduced before the bill becomes law the profession will absolutely refuse to have anything to do with the working of the bill.
2. That the Council be requested to arrange at once for a Referendum of the Association in order to ascertain the exact opinions of the members as to whether payment by capitation fees or for work done is preferable.

Kensington.

The Kensington Division has passed a resolution that inasmuch as—

1. The six cardinal points demanded by the British Medical Association on behalf of the profession have not been conceded by the Government;
2. These concessions which have been made are for the most part illusory and unsatisfactory;
3. The provisions of the bill, as it stands after amendment, are unworkable, detrimental to the Public Health, and disastrous to the medical profession:

It is essential that the Chancellor of the Exchequer should be informed, across the floor of the House of Commons itself, that the members of the Association will abide by their pledge to refuse to undertake work under the provisions of the bill if it becomes an Act of Parliament as it stands at present.

Marylebone.

The Marylebone Division passed a resolution:

That, in the opinion of the meeting, it is essential that the Chancellor should be informed, in the House of Commons itself, that unless the six points are conceded in the bill or under the regulations thereof, the seventeen thousand (17,000) members of the Association will abide by their pledge to refuse to undertake work under the provisions of the bill if it becomes law.

Chelsea.

The Chelsea Division has passed a resolution refusing to undertake any duties under the bill as at present framed.

Watford and Harrow.

The Watford and Harrow Division has passed resolutions:

That the Association should continue to press that the words "and which shall in no case exceed £104 per annum" should be inserted in Clause 14, Subsection 3, after the words "fixed by them."

And that the Chancellor of the Exchequer be again warned that unless an amendment to this effect be incorporated in the bill, there will certainly be active opposition from the whole and united medical profession when the Insurance Committees undertake the working out of details for providing medical attendance.

Nottingham.

The Nottingham Division has resolved that the statutory powers of the local Medical Committee be defined in the bill.

Brighton.

The Brighton Division resolved:

That this meeting reaffirms the resolution of the Association that the time has arrived for the appointment of a Minister of Public Health, of expert status and Cabinet rank, at the head of a national health and medical department, with a Medical Council, widely representative in its constitution, to advise him.

Dover.

At a combined meeting of the Dover, Folkestone, Deal, Sandwich, and District Divisions held on November 20th, it was resolved that:

In view of the fact that the Insurance Bill is hopelessly unworkable and unfair to the medical profession, the members of the Dover, Folkestone, Deal, and Sandwich Divisions present at this meeting pledge themselves not to act under the bill, should it pass; and will use every effort to obtain the allegiance to this resolution of *every* medical man in the neighbourhood.

Croydon.

The Croydon Division has resolved:

That no arrangements for attendance on insured persons be completed anywhere until the Association is assured by reports from local Health Committees that terms in conformity with the policy of the Association *in detail* have been agreed to everywhere.

Similar resolutions will probably be moved at meetings of Dartford, Sevenoaks, and Tunbridge Wells Divisions.

Bromley.

The Bromley Division passed the following resolution:

That the Special Representative Meeting reaffirms the Resolution (Minute 189) of the Annual Representative Meeting, and that the Council be instructed to use every effort to obtain insertion of a paragraph in Clause 14, Subsection 3, in terms of that resolution.

North Lincolnshire.

At a very largely-attended meeting of the practitioners of North Lincolnshire held at the Grimsby and District Hospital on November 21st, a resolution was passed unanimously that the Central Council's recommendations for the further amendment of the bill be supported, certain words being added to make them, if possible, more emphatic. The "Manchester Resolution" was also adopted.

Wakefield, Pontefract, and Castleford.

At a meeting held at Wakefield on November 21st and largely attended by medical men practising in Wakefield, Pontefract, Castleford, Doncaster, Goole, and the surrounding districts, the following resolutions were passed unanimously:

1. That this meeting, having fully considered the National Insurance Bill as amended in Committee of the House of Commons, together with the Report of the Council of the British Medical Association thereon, is of opinion that the bill in its amended form does not meet the requirements of the medical profession, is fraught with injustice to medical men, destroys the capital value of practices, is unworkable and dangerous to the public health.
2. That we resolve to affirm our unwavering adhesion to the declared policy of the British Medical Association (including the "six cardinal points" of the policy) in relation to the Insurance Bill.
3. And it is further resolved that in the event of the National Insurance Bill in its present form becoming an Act of Parliament this Division pledges itself to have nothing whatever to do with its practical administration, urges the Representative Meeting to offer it unqualified opposition, and hereby instructs its Representative to vote in accordance with the spirit of these resolutions.

Gateshead and Consett.

At a special meeting held at Gateshead on November 21st, Dr. S. V. Robinson in the chair, the attendance being very large, the unanimous opinion was expressed that the bill as it now stands could never be accepted by the profession. It was almost the unanimous opinion of those present that it was hopeless for the British Medical Association to enter into further negotiations. The Representative was instructed to use his utmost endeavours at the Special Representative Meeting to carry the following resolutions:

1. That in view of the enormous majority of the representatives of the friendly societies on the local Insurance Committee, giving the friendly societies the absolute control over medical benefits, and the fact that only a large capitation fee, which the State could not afford, could cover the inclusion of (1) young persons over 16 years of age; (2) old persons over 50, especially those over 60; (3) all unsound and chronic lives at present refused by all friendly societies; (4) those suffering from acute alcoholism and venereal diseases; (5) woman workers, especially those subsequent to marriage; the British Medical Association is unable to proceed with the bill, and advises the whole profession in England and Scotland to have nothing whatever to do with it.
2. That all medical men holding appointments in connexion with friendly societies, medical aid associations, and all

similar organizations which could be used for the purpose of affording attendance and treatment to insured under the bill, place their resignation of such appointments in the hands of the British Medical Association Council to use them when and how it may deem best.

3. That a letter be sent by the British Medical Association Council to the principal newspapers stating (*a*) the reasons why medical men cannot proceed with the bill; (*b*) that should the Insurance Bill become law no medical man will attend insured persons under the bill as such, but will attend them as ordinary patients.

Glasgow.

A meeting of the Glasgow Eastern Division reaffirmed its adherence to the six cardinal principles, and expressed regret that amendments on many points had not been agreed to by the Chancellor of the Exchequer. It further called on the Council to endeavour to get them agreed to on the report stage, as, failing such amendments, the bill will be unjust to the profession. The Recommendations in the Report of Council were agreed to unanimously.

Edinburgh.

A large and enthusiastic meeting of the members of the Edinburgh Branch (Edinburgh and Leith Division) of the British Medical Association was held on Tuesday evening, November 21st. The special business was to consider the report of the Central Council of the Association on the amended Insurance Bill. The meeting went on till 11 o'clock. The gist of the proceedings was a unanimous determination and agreement that no member of the Branch should take office under the bill unless the six cardinal points formulated by the British Medical Association were made part of the bill. The report of the Central Council was also considered, and the Representatives were instructed.

The Edinburgh and Leith Medical Practitioners' Association met in the Hall of the Royal College of Surgeons on Wednesday evening, when the following resolutions were carried unanimously:

1. That this meeting resolves that no medical practitioner ought to accept office under the National Insurance Bill if passed into law in its present form.
2. That a pledge be given by each medical practitioner in the Edinburgh area that he will not accept office under the bill if it becomes law in its present form.
3. That each medical practitioner in the Edinburgh area binds himself not to accept any kind of appointment under the Insurance Act unless the terms of such appointment have been approved by a local Representative Medical Committee.

Fife.

At a meeting of the Fife Branch resolutions were passed expressing great dissatisfaction with the present medical position under the National Insurance Bill, as the six points had not been granted. The bill was declared to be unworkable. It was recommended that practitioners should undertake no office whatever under the bill until its demands were acceded to.

Dublin.

A meeting of the Dublin Division of the Leinster Branch was held on Monday, November 20th, in the Royal College of Physicians, to consider the report of the Council on the National Insurance Bill as amended in Committee of the House of Commons. The meeting first discussed the question as to whether the members were in favour of the extension of medical benefits to Ireland. After a rather prolonged debate a show of hands proved the existence of a considerable majority in favour of the extension. Professor A. H. White was later chosen as delegate to attend the Special Representative Meeting in London on November 23rd, and the meeting finally approved of the recommendation of the Council of the British Medical Association as printed on pages 18–20 of the recently issued report.

West Croydon and District Medico-Ethical Society.

At a largely attended meeting of this society the following resolution was agreed to unanimously:

That this meeting refuses to act under the Insurance Bill unless the six cardinal points are definitely and emphatically conceded. It further is of opinion that payment *per capita* is absolutely undesirable, and it will only consider the scheme if payment per attendance on satisfactory terms is guaranteed by the local Health Committee. And, further, it is also of opinion that the medical representation on the local Health Committee, as at present suggested, is altogether insufficient.

PROCEEDINGS IN PARLIAMENT.

DEBATE IN COMMITTEE.

THURSDAY, NOVEMBER 16TH.

New Clauses.

THE fourteenth allotted day was devoted under the time table resolution to the discussion of the new clauses. Some of these had formed the subject of discussion and of general agreement in the earlier stages of the debate on the bill, such as the clauses relating to pooling arrangements in the case of small societies; the amended form of Clause 51, which concerns the protection against distress and execution; the clause which sets up the local medical committees in accordance with the representations made by the British Medical Association during the summer; the clause which gives power to local Insurance Committees to extend the sanatorium benefit to dependents of insured persons, as well as those clauses relating to seasonal trades and the inmates of charitable homes.

The greater part of the debate was occupied in the Second Reading and Committee stages of the clause relating to the special cases in which, under existing arrangements or according to custom, the employer is liable to pay wages during sickness. The remainder of the evening was spent on the clause which sets up separate arrangements for those employed in the mercantile marine.

The clause relating to the cases in which employers are liable under their contract, or where it is the custom of the district, to pay wages and maintenance in the case of sickness, as, for example, in the cases of domestic servants, many clerks and employees in institutions and special businesses, substantially amounts to this (SUPPLEMENT, November 18th, 1911, p. 495): Where, for example, in the case of domestic servants maintenance and wages are provided for a minimum of six weeks during the year in case of illness, the employer may, if his arrangements comply with the orders made by the Commissioners, take advantage of the provisions of this clause, whereby in lieu of the provision of maintenance and wages as aforesaid he may obtain a reduction of the premium payable by 2d. per week in the case of male employees, or 1½d. in the case of women. In the case of men, the employer's contribution and the workman's amount of contribution are each reduced by 1d. a week, and in the case of women the employer's contribution is reduced ½d. a week and the servant's by 1d. In the course of the debate it was pointed out that, whilst in the case of good employers servants were, as a rule, very well looked after, 60 per cent. of domestic servants were employed in situations where only one was kept, and that in their cases the need of insurance during short periods of sickness was considerable. Moreover, most servants ultimately married, and in any case commonly changed their situations, and the provisions against disablement and sickness benefits in the case of long standing illness and of sanatorium benefits would be frequently required. In addition to which, under the scheme of insurance for married women as described in the SUPPLEMENT of November 11th, p. 441, the maintenance of insurance before marriage would enable them to obtain extra benefit during their marriage to the amount of two-thirds of their surrender value on marriage, and would entitle them to continue insurance at a diminished premium as arranged; in addition to which it would leave the remaining one-third of their surrender value for re-entry on favourable terms in the case of widowhood.

The clause relating to the mercantile marine, in effect, empowers the Board of Trade to bring about the formation of a society entitled "The Seaman's National Insurance Society" wherein masters, seamen, and apprentices engaged in the sea service or in sea fishing may be enrolled under special conditions, although any of them are entitled to become members of any other approved society. There will be a committee of management of this society on which both masters and seamen will be represented as well as the Insurance Commissioners, and they will make their own arrangements for the distribution of benefits; but it is arranged that membership of the society shall not interfere with any rights to pension otherwise obtained, and, should a seaman on leaving the service be unable to join another approved society, he can continue

his membership in the seamen's society. Under the provision of the Merchant Shipping Act, a seaman receives maintenance and medical treatment, and special arrangements are made for men in service in foreign waters. The seaman's contribution is diminished by 1d., as is also the employer's.

The clause relating to the transactions between the Insurance Commissioners and approved societies deals with financial arrangements, and is of no medical interest.

The clause which enables pooling of the smaller societies to be undertaken within a county or district is designed to secure the preservation of small works' clubs, slate clubs, denominational and other small societies (SUPPLEMENT, November 18th, p. 493).

The new clause substituted for Clause 51 (SUPPLEMENT, November 18th, p. 483), which relates to the restriction upon the levying of distress in cases of sickness of insured persons, is now made to depend upon a medical practitioner giving a certificate that any such proceeding would be dangerous to the life of the patient, and the certificate is not valid for more than one week. It may, however, be renewed weekly, but not for a longer period than three months.

The clause setting up the local Medical Committee was carried like the foregoing three clauses under the closure resolution without a division, and it may be of interest again to quote the terms of this important clause:

Local Medical Committee.—Where a local Medical Committee has been formed for any county or county borough, and the Insurance Commissioners are satisfied that such committee is representative of the duly qualified medical practitioners resident in the county or county borough they shall recognize such committee, and where a local Medical Committee has been so recognized it shall, subject to regulations made by the Insurance Commissioners, be consulted by the local Insurance Committee on all general questions affecting the administration of medical benefit, including the arrangements made with medical practitioners giving attendance and treatment to insured persons, and shall perform such other duties, and shall exercise such powers as may be determined by the Insurance Commissioners.

The new clause which empowers local Insurance Committees to make arrangements for the extension of sanatorium benefit to dependants of insured person (SUPPLEMENT, November 18th, p. 495) will probably prove to be of great interest and importance. According to the definition of "sanatorium benefit" in Clause 8 as being treatment for tuberculosis in sanatoriums "or otherwise," or "for the treatment of such other diseases as the Local Government Board may appoint," this clause may provide a means by which institutional and special treatment of all kinds may ultimately be extended to dependants. In effect, the clause allows a local Insurance Committee, which so desires, to extend the benefit to dependents within the limits of the money available, and if the money coming to it for the sanatorium benefit is not sufficient to meet the requirements, the balance may be obtained in equal parts by contributions from the Treasury and the local authorities. It will be remembered that by Clause 47, as amended, the Treasury grant for providing and maintaining institutions is to be distributed through the machinery of local authorities, or, in special cases, by other associations of public institutions of an approved character.

Another short clause provides that no person under the age of 16 shall become an insured person (SUPPLEMENT, November 18th, p. 495). The intention of this provision is to leave the way open for sickness in the case of children to be dealt with through the education authorities.

Another important clause, moved by the Chancellor of the Exchequer, is that which provides for the exemption of persons employed in charitable institutions, who receive benefits and medical attendance when sick, from the operation of the Act during the period of their employment on such conditions as will enable them when leaving to become a member of an approved society without drawbacks.

Commissioners were also set up for Wales on the lines provided for those for Scotland and Ireland, and a further clause was added providing for the institution of joint committees of the different commissions.

On Monday, November 20th, the fifteenth allotted day, the discussion on the schedules was commenced.

Sir George Doughty moved to insert in First Schedule, Part I, Paragraph (*a*) (see SUPPLEMENT, November 18th, p. 488) the words "or by a share in the profits of the enterprise," so as to make certain that share fishermen would be entitled to participate in the bill. He said that he raised the question mainly to elicit the views of the Government, being anxious that a scheme should be propounded and laid before the Insurance Commissioners into which all the fishermen of the United Kingdom would be entitled to come on fair terms. The Attorney-General admitted the difficulty attaching to the cases of fishermen, whose contracts and terms of service varied very much in different parts of the country, and he undertook that the Insurance Commissioners should be empowered to ascertain the terms and conditions under which the men served in the various localities, and of hearing the views of those engaged in the fishing industry, and be able to decide whether particular localities should be included or excluded, it being understood that exclusion must be accompanied by such conditions as would make certain that their contract of service provided them with equivalent benefits.

Mr. Peel moved to amend paragraph (*b*) by which those employed as outworkers became insured persons under the bill. He contended that the inclusion of outworkers might result in a considerable number of them being thrown out of employment in consequence of the fact that the employer in the case of outworkers whose average wage or remuneration did not exceed 1s. 6d. per day would be required to contribute 5d. in the case of women or 6d. in the case of men. A general discussion ensued as to the whole position of outworkers under the bill. Mr. Lloyd George pointed out that if outworkers were left out altogether it would be putting a premium on home work, which in some districts was the worst form of wage earning and of wage pay. He contended that there was a great deal more sweating among outworkers than in other branches of employment. On the other hand, a good deal of work was carried on in villages that ought to be encouraged, and it was difficult to put it in the same category as work done for wages; in many of these cases the work was done in their spare time at home by women whose husbands were in regular and well-paid employment. Mr. Ramsay Macdonald objected to the exclusion of outworkers from the scheme, and in this he was generally supported by Mr. Worthington Evans and Mr. Austen Chamberlain. The Attorney-General agreed to omit the final words of paragraph (*b*) "in such classes of work as may for the time being be specified in any special order under Part VI or the Factory and Workshops Act, 1901," and he suggested in order to make the matter quite definite that the section should read as follows:

> Employment as an outworker, that is, a person employed by the occupier of a factory or workshop, or by any contractor employed by such occupier in the business of the factory or workshop outside the factory or workshop.

It was finally agreed to leave the words of the subsection to read simply "employment as an outworker," and the Attorney-General arranged to submit further proposals on report with a view to giving effect to the feelings of the Committee. Part I of the schedule was then added to the bill, and the remainder of the discussion was occupied in dealing with Part II of the first schedule, which specifies those classes of workers who are excepted from the bill. Mr. Barnes moved to omit the exception of workers employed under the Crown or by any local or public authority where the Insurance Commissioner certifies that the terms of the employment are such as to secure provision in respect of sickness and disablement on the whole not less favourable than the corresponding benefits conferred by Part I of the bill. After considerable discussion this amendment was withdrawn. An addition to the exceptions provided for in the schedule was made by the insertion of a provision that employment of a clerk or other salaried official in the service of a railway or other statutory company, or of a joint committee of two or more such companies, where the Insurance Commissioners certify that the terms of employment are such as to secure provision in respect of sickness or disablement on the whole not less favourable than the corresponding benefits conferred by Part I of the bill, and that the person so employed is a member of a superannuation fund established by Act of Parliament for the benefit of persons under such employment. The position of railway clerks, of the employees of the South Metropolitan Gas Company who have a scheme of benefit within the works guaranteed by the employers, and other similar organiza-

tions, formed the chief subject of discussion, and Sir Henry Kimber moved to extend the exception so as to cover employment by any company under conditions fulfilling the later requirements of the section. His amendment, however, was negatived by 181 to 96.

Sir Philip Magnus moved to exempt from the operation of the bill teachers in recognized secondary schools, and he stated that he desired at a later stage also to move to exempt teachers in universities and university colleges. He said that what the teachers really wanted was some superannuation scheme for their old age and larger salaries whilst they were at work. In the absence of such a scheme it was the height of folly and a sure indication of incompetent statesmanship to compel persons who did not desire these particular benefits to accept them, involving as they did contributions from themselves as well as from the State. Mr. Pease, President of the Board of Education, resisted the amendment, and offered, if it were withdrawn, to introduce a provision whereby such teachers as could show that they were secure in the conditions of their employment of better arrangements than those provided for in the bill would be excluded.

Mr. Rawlinson said that this would not meet the position; the teachers wanted a proper superannuation scheme and not the provisions of the bill.

Mr. Pease, in concluding the discussion, said that the scheme of superannuation was now under consideration by a committee, and he was not able to go any further with regard to exempting teachers from the bill. The matter had, however, assumed a more definite shape, and he promised to consult with the Chancellor of the Exchequer as to whether it would be possible to introduce words to meet the contention.

Sir Philip Magnus's amendment was finally negatived by a narrow majority of 19.

On Tuesday, the sixteenth allotted day, the remainder of the two days allotted to the discussion of the schedules of the bill was occupied in the discussion of the first schedule, the second, third, fourth and fifth, and the new tenth schedule being passed under the closure resolution. The chief of the amendments in these schedules were consequential on decisions taken upon committee on the clauses of the bill. An important exception, in addition to those already provided in Part II of the first schedule, was provided in the following addition:

> Employment of any class which may be specified in a special order as being of such a nature that it is ordinarily adopted as subsidiary employment only, and not as the principal means of livelihood.

This was adopted in order to except cases wherein chiefly home-workers taking varying amounts of work to fill up their time and add to the family income, or where a person occasionally does small jobs for other persons. Further exception was made in the case of wives of insured persons in the following terms:

> Employment as an outworker where the person so employed is the wife of an insured person and is not wholly or mainly dependent for her livelihood on her earnings in such employment.

An exception was also made in the case of

> a member of a crew of a fishing vessel where the members of such crew are remunerated by shares in the profits or the gross earnings of the working of such vessel in accordance with any custom or practice prevailing at any port if such custom or practice is a custom or practice specified in a special order made for the purpose by the Insurance Commissioners.

This exception was made to carry out the pledge given to Sir George Doughty to meet the case of the share fishermen.

Further exception was also made in the case of a woman employed by her husband, such as, for instance, a woman helping in a shop.

A long debate ensued, which need not concern the medical profession particularly, with regard to a proposal to omit domestic servants from the operations of the bill. As moved by Mr. Hamersley, the terms of the motion were "employment as domestic servants residing with their employers at the option of such servants." Some interesting figures were given in the course of the debate by the Chancellor of the Exchequer with regard to the number of domestic servants who find their way into the in-patient wards of the workhouse infirmaries, and he pointed out that it applied especially to cases which constituted 60 per cent. of the employment of domestic servants, where only one servant was kept. Out of 201 female patients in the Camberwell Infirmary 36 were domestic servants, out of 33 in Hampstead 15 were domestic servants, in Fulham 26 out of 165, in Whitechapel 47 out of 165, and he quoted extracts from the Majority Report from the evidence of a Mr. Steel-Maitland, which dealt with this subject. He said: "In the Majority Report of the Royal Commission the hon. member for East Birmingham (Mr. Steel-Maitland) said:

> It was said to us that an increasing use is made of the workhouse and infirmary for servants employed in West-End flats.

That was written two or three years before this bill was introduced, and I could quote several other cases of the same kind. The hon. member gives cases, the chief of them coming from general servants in small households, because of failure of health, unpalatable food, and heavy work. Here is another passage from his report:

> Several cases were noted by us of single women now in the workhouse who, when in service, had invested considerable sums out of their small wages in the Post Office Savings Bank, and who, by drawing upon these savings, had kept themselves a little longer out of the workhouse.

He further stated that amongst the old men in the workhouse some had been grooms and coachmen in good situations. Then he goes on to say:

> There is no reason why in domestic service pauperism should result, because they are earning good wages. That, however, is not the case with the poor servant class, and especially the general servant. Here the case is different, because they are not getting good wages. A breakdown is not surprising, while the low wages paid make it unlikely that the resulting illness would be treated elsewhere than in the infirmary.

The report is full of passages of that kind, but I do not wish to detain the Committee with them. Here Mr. Steel-Maitland and others have looked into the matter, and they have come to the conclusion that domestic servants too often found their way into the workhouse and the workhouse infirmary, and that even with men servants that was also the case. Look at the Majority Report of the Royal Commission, because it is very remarkable. It says:

> In the main domestic indoor servants are single women who have never possessed a home of their own, and who, when no longer able to maintain themselves, are obliged to seek indoor relief. This is probably the principal cause of the large proportion of indoor pauperism of this class. The proportion of able-bodied women other than wives among indoor female paupers generally was 29 per cent.; amongst domestic indoor servants, 44.8 per cent.; and the proportion in ill health and temporary disablement taken separately is also higher in the servants' class. It is clear from these figures that when overtaken by sickness domestic servants are often driven to apply for relief, the employers being either unwilling or unable to make provision for them."

The amendment was not officially supported by the Opposition, and was eventually rejected by a majority of 146.

It may be interesting to summarize the chief changes in the schedules which are made in the amended bill. The only important change in the second schedule was to define that the pay which the original schedule stated simply at so much a day should be a rate of pay of so much a working day, so as to make it inapplicable in the case of those being offered odd days' work, or portions of days' work, in a casual and irregular way. It should be noted that subsection (g) Part II of the first schedule excludes casual workers. The second part of the second schedule relating to Ireland is on the same lines as that relating to Great Britain, the contributions being rearranged as previously explained to allow of a reduction of contribution of 1½d. a week owing to omission of medical benefit.

The amendments to the third schedule relating to the rules of payments and recovery of contributions paid by employers on behalf of the employed were mainly of an administrative order, but the following additional provision as related to out-workers is of interest:

> The Insurance Commissioners may by regulations provide that in the case of outworkers the contributions to be paid may be determined by reference to the work actually done, instead of by reference to the weeks in which work is done, and any such regulations may apply to all trades or to any specified classes or branches of trades, and may determine the conditions to be complied with by employers who adopt such a system of payment of contributions.

The purpose of this addition was to provide for the cases

where out-workers can hardly be said to be regularly employed in the sense of having a fairly regular amount of work each week, but in which the amount of work varies both with the amount which the employer can give out and which the out-workers may have time and opportunity to do.

Important amendments were made in Schedule 4, which relates to benefits. In the first place, the sick benefit was made to cover the payment of 10s. a week for twenty-six weeks in the case of men, or 7s. 6d. a week for twenty-six weeks in the case of women, instead of thirteen weeks in the original schedule, together with the important addition that 2s. 6d. extra per week should be paid in the case of men where the illness lasted two weeks, 2s. extra per week where it lasted four weeks, and 1s. 6d. extra per week where it lasted six weeks, the corresponding figures in each case being 6d. less in the case of women. This extra payment for illnesses of two, four, or six weeks' duration is provided as a set-off against the commencing payment of benefit for the first three days of sickness, which the Government has consistently declined to provide on the ground that the provisions of the bill were not intended to apply to illnesses of less than three days' duration. Similarly, in the case of young persons, the sickness benefit was increased by 1s. during the first thirteen weeks, and in the other parts of the schedule the benefits for the first thirteen weeks were extended to twenty-six.

An addition to the first part of the second schedule to cover the benefits to be obtained by married women under the clause relating to women's insurance as explained in a previous issue. (Table D.—Rates and conditions for married women.)

In Part II of the second schedule dealing with additional benefits, the second benefits specified in the amended schedule is "the payment of the whole or any part of the cost of dental treatment." Other additional benefits were the payment of pensions or superannuation allowances or the remission of arrears. A new Part III was added to the fourth schedule relating to the benefits for married women who did not become voluntary contributors at reduced rates.

Finally, a new tenth schedule was added to the bill dealing with unemployment benefit relating to the provisions of the Factory and Workshop Act, 1901, as applied to special orders made under Part I of the Insurance Bill.

QUESTIONS IN PARLIAMENT.

Administration of Drugs.

Mr. Morton asked whether, in Clause 14, subsection (5) (*a*) page 14 of the National Insurance Bill as reprinted, the term persons, firms, and bodies corporate would include grocers holding patent medicine licences and at present selling medicines and invalid foods recommended by doctors.

Mr. McKinnon Wood said that by the provisions of Clause 14 (5) (iii) the term would only include persons, firms, or bodies corporate entitled to carry on the business of a chemist and druggist under the provisions of the Poisons and Pharmacy Act, 1908.

Medical Benefit (Ireland).

Mr. William O'Brien asked, for the convenience of Irish members, when the proposed restoration of medical benefit to Ireland, under Clause 59 of the National Insurance Bill, would be under discussion. Mr. McKinnon Wood, who replied, said that, as the Chancellor of the Exchequer stated during the discussion on Clause 59 in Committee, his only reason for proposing the omission of medical benefit in Ireland was that he found that the Irish opinion as a whole desired this alteration. He had received no sufficient evidence that Irish opinion had undergone a change in this respect, and he did not, therefore, as at present advised, propose to ask for the recommittal of the bill for the object indicated.

Mr. W. O'Brien asked if he was to understand that the Chancellor's mind was still an open mind, and that it was according to the extent of the pressure from Ireland he would determine whether or not he would restore the medical benefit.

Mr. John Redmond asked whether the Government were aware that nothing had occurred which had changed the opinion of the majority of Irish representatives in the House that medical benefits should be excluded from the bill in existing circumstances, or to lead them to desire that the matter should be reopened. Mr. McKinnon Wood said that the Chancellor of the Exchequer thought that this was a matter upon which the opinion of the majority of the Irish representatives should be consulted.

Mr. W. O'Brien thereupon asked the Prime Minister whether he would arrange the time-table for the Report stage in such a manner that there would be no danger of the discussion upon Clause 59 being suppressed altogether by the guillotine. The Prime Minister stated that he would consult the Chancellor of the Exchequer on the matter.

Collectors for Doctors.

Mr. Jowett asked the Chancellor of the Exchequer if he was aware of the number of persons employed as collectors for doctors who would be deprived of their employment if the National Insurance Bill was passed by Parliament; whether he would make it an obligation on the part of local Health Committees in arranging their financial relations with medical practitioners and surgeons to arrange also to compensate their collectors for loss of employment; and, if not, whether he intended to leave the collectors referred to without means of support for themselves and their families.

Mr. McKinnon Wood, who replied, said he was afraid he could not undertake on behalf of the Chancellor of the Exchequer to introduce into the bill this additional complication in the relations between the local Health Committees and the doctors.

Medical Representation on Local Insurance Committees.

Mr. Crooks asked the Chancellor of the Exchequer whether medical men sitting as members of the local Health Committees would be allowed to practise under the National Insurance Bill and receive fees for service on attendance upon sick persons. Mr. McKinnon Wood said that membership of a local Health Committee, which was a purely honorary position, would not debar a doctor either from private practice or from attending patients under the insurance scheme. Mr. Lansbury asked if it was thought a wise procedure that medical men should fix their own rate of pay. Mr. McKinnon Wood replied that he did not think they had. Mr. Lansbury asked if it was true that the Health Committees would have the power to say what people should be treated under the bill. Mr. McKinnon Wood said that the Health Committees would not be entirely composed of doctors.

IRELAND.

The following is the text of Clause 59 referring to the application of the Act to Ireland as amended in Committee:

59. *Application to Ireland.*—This Part of this Act, in its application to Ireland, shall be subject to the following modifications:

(1) For the purpose of carrying this Part of this Act into effect in Ireland there shall be constituted, as soon as may be after the passing of this Act, Commissioners for Ireland (to be called the Irish Insurance Commissioners) with a central office in Dublin, and with such branch offices in Ireland as the Treasury may think fit, and the Irish Insurance Commissioners shall be appointed by the Treasury, and may appoint such officers, inspectors, referees, and servants for the purposes aforesaid as the Irish Insurance Commissioners, subject to the approval of the Treasury, may determine, and the provisions of this Part of this Act with respect to the payment of the salaries and remuneration of the Insurance Commissioners and the officers, inspectors, referees, and servants appointed by them, and with respect to the payment of the expenses incurred by the Treasury or the Insurance Commissioners in carrying this Part of this Act into effect shall, with the necessary modifications, apply to the payment of the salaries and remuneration of the Irish Insurance Commissioners and the officers, inspectors, referees, and servants appointed by them and to the payment of expenses incurred by the Treasury or the Irish Insurance Commissioners in carrying this Part of this Act into effect in Ireland, and for the purpose aforesaid the Irish Insurance Commissioners and the officers, inspectors, referees, and servants appointed by them shall respectively have all the like powers and duties as are by the foregoing provisions of this Act conferred and imposed on the Insurance Commissioners and the officers, inspectors, referees, and servants appointed by them, and references in those provisions to the Insurance Commissioners shall be construed as references to the Irish Insurance Commissioners;

(2) All sums received in respect of contributions in Ireland under this Part of this Act and all sums paid out of moneys provided by Parliament in respect of benefits under this Part of this Act which are administered in Ireland, and the expenses of administration of such benefits shall be paid into a fund to be called the Irish National Health Insurance Fund under the control and management of the Irish Insurance Commissioners, and the sums required to meet expenditure properly incurred by approved societies and local Health Committees for the purposes of the benefits administered by them in Ireland, and the administration of such benefits shall be paid out of that fund, and the foregoing provisions of this Act with respect to the National Health Insurance Fund shall with the necessary modifications apply to the Irish National Health Insurance Fund accordingly;

(3) Joint regulations to be made by the Insurance Commissioners and the Irish Insurance Commissioners with the approval of the Treasury shall provide for the preparation on a uniform basis of the tables to be prepared by the respective Commissioners, and for the making of all necessary adjustments and settlements of accounts in cases of insured persons removing from Great Britain to Ireland or from Ireland to Great Britain, both as between the National Insurance Fund and the Irish National Insurance Fund and as between approved societies and branches and otherwise in respect of such cases, and for the transfer of sums from one fund or account to another:

(4) The provisions of this Part of this Act conferring a right to exemption shall extend to any person employed in harvesting or other agricultural work who proves—

(*a*) that he is an Irish migratory labourer, that is to say, a person who, having a permanent home at some place in Ireland, has temporarily removed to some other place in Ireland or to Great Britain for the purpose of obtaining such employment; and

(*b*) that he ordinarily resides at such permanent home for not less than twenty-six weeks in the year and is not employed within the meaning of this Part of this Act whilst so resident:

and any contributions payable by the employer of a person holding a certificate of exemption by virtue of this provision shall be carried by the Irish Insurance Commissioners to such special account and dealt with in such manner as may be prescribed, and if paid in Great Britain shall be transferred to the Irish Insurance Commissioners for that purpose;

(5) Employment in Ireland as an outworker in a class of work specified in any special order made under Part VI of the Factory and Workshop Act, 1901, where the wages or other remuneration derived from the employment are not the principal means of livelihood of the person employed, shall be deemed to be included amongst the excepted employments specified in Part II of the First Schedule to this Act;

(6) The reference to the Lord Chancellor shall be construed as a reference to the Lord Chancellor of Ireland.

The reference to the Lord Chief Justice shall, as respects disputes or questions arising between the Insurance Commissioners and any approved society having its head office or principal place of business in Ireland, be construed as a reference to the Lord Chief Justice of Ireland.

The reference to the Local Government Board as regards the making of regulations with respect to payments out of the local taxation account shall be construed as a reference to the Lord Lieutenant and other references to the Local Government Board shall be construed as references to the Local Government Board for Ireland, and the reference to the Local Taxation Account shall be construed as a reference to the Local Taxation (Ireland) Account;

(7) A reference to the Housing of the Working Classes (Ireland) Acts, 1890 to 1908, shall be substituted for the reference to the Housing of the Working Classes Acts, 1890 to 1909, and a reference to the Public Health (Ireland) Acts, 1878 to 1907, shall be substituted for the reference to the Public Health Acts;

(8) (*a*) If it appears to any county council that, having regard to the number of employed contributors resident in the county who are not members of any society approved under the foregoing provisions of this Act it is desirable that steps should be taken by the council for the establishment of an approved society for the county under the council (in this section referred to as a county society), the council may at any time before the expiration of one year from the commencement of this Act submit to the Insurance Commissioners a scheme for the establishment of a county society;

(*b*) The scheme may provide for—

(i) the representation of the council on the committee of management of the society;

(ii) the appointment of officers and district and other committees by the council;

(iii) the delegation of powers to committees;

(iv) the giving of security by means of a charge upon the county fund or otherwise;

(v) the restriction of membership to insured persons resident in the county not being members of any other approved society;

(vi) the reduction of benefits below the minimum rates fixed by this Part of this Act; and

(vii) such other matters as may appear necessary, and in particular such further modifications of the provisions of this Part of this Act with respect to approved societies as may be required for the purpose of adapting those provisions to the case of a county society;

(*c*) Where such a scheme has been approved by the Insurance Commissioners, the provisions of the scheme shall have effect notwithstanding anything to the contrary in this Part of this Act; and, subject to those provisions, the county society shall be an approved society for all the purposes of this Part of this Act;

(*d*) A county council desirous of submitting a scheme under this section may at any time after the passing of this Act take such steps as appear necessary with a view to ascertaining what insured persons resident in the county are eligible and willing to become members of the proposed county society, and generally for the formation of the society;

(9) The provisions with respect to the appointment of local Health Committees shall have effect subject to the following modifications—namely:

The number of members of a local Health Committee shall be twenty-four, and of that number—

(*a*) twelve shall be appointed in such manner as may be prescribed by regulations of the Irish Insurance Commissioners so as to secure representation of the insured persons resident in the county or county borough who are members of approved societies, and who are deposit contributors in proportion as nearly as may be to their respective numbers, and the regulations so made shall provide for conferring on the approved societies which have members resident in the county or county borough the power of appointing representatives of such members, and where an association of deposit contributors resident in the county or county borough has been formed under such regulations as aforesaid for conferring on such association the power of appointing the representatives of the deposit contributors;

(*b*) eight (of whom at least one shall be a member of a local sanitary authority and at least two shall be women) shall be appointed by the council of the county or county borough; and

(*c*) four (of whom at least two shall be duly qualified medical practitioners) shall be appointed by the Irish Insurance Commissioners;

Provided that the Irish Insurance Commissioners may, where any part of the cost of sanatorium benefit is defrayed by the council of the county or county borough, increase the representation of the council and make a corresponding diminution in the representation of the insured persons;

(10) An insured person in Ireland shall not be entitled to medical benefit under this Part of this Act, and the provisions with respect to medical benefit shall not apply;

Provided that medical benefit for an insured person being a member of an approved society shall be deemed to be included amongst the additional benefits specified in Part II of the Fourth Schedule to this Act;

(11) As respects employed contributors in Ireland, the employed rate shall be at the rate specified in Part II of the Second Schedule to this Act, and the contributions by the contributors and contributions by the employers shall be at the rates specified in Part II instead of the rates specified in Part I of that schedule, and there shall be credited to the society of which any employed contributor in Ireland is a member or, if he is a deposit contributor, to his account in the Post Office fund, the difference between the amount of contributions actually paid by or in respect of him at the rate specified in Part II of the Second Schedule to this Act and the amount which would have been paid if those contributions had been at the rate specified in Part I of that schedule, and the amount of that difference shall be treated as having been expended on benefits and the proper proportion thereof shall accordingly be paid out of moneys provided by Parliament;

(12) The foregoing provisions of this section as to the crediting of differences shall apply in the case of voluntary contributors in Ireland, with the modification that where the voluntary rate is not the same as the employed rate the difference to be credited shall be the difference between the amount of contributions actually paid at the voluntary rate and the amount which would have been paid if the contributor had been a voluntary contributor in Great Britain;

Provided that in the case of a married woman in Ireland becoming a voluntary contributor at reduced rates of benefit under the special provisions with respect to married women, the rate of contributions payable by her shall be one penny halfpenny a week instead of three pence a week, and the difference to be credited shall be one penny halfpenny a week accordingly;

(13) In estimating for the purpose of valuation the liabilities of an approved society having members in Ireland who are insured persons, and in ascertaining the voluntary rate applicable to voluntary contributors in Ireland in cases where that rate is not the same as the employed rate, regard shall be had both to the provisions of this section as to the crediting of differences and to the

proportion of benefits to be paid out of the contributions payable by or in respect of such members or contributors;

(14) Rules of an approved society or local Health Committee under this Part of this Act may provide for the inspection of medical relief registers by officers of the society or committee at all reasonable times and for the furnishing to the society or committee of such medical certificates as may be necessary for the purposes of the administration of the benefits administered by the society or committee and for the payment by the society or committee to duly qualified medical practitioners of such remuneration in respect of the furnishing of those certificates as the Irish Insurance Commissioners may sanction and all payments so made by the society or committee shall be treated as expenses of administering the benefits aforesaid;

(15) If a grant is made to a county council or county borough council out of any sum made available under any other Act of the present Session for the purposes of the provision of sanatoriums and other institutions for the treatment of tuberculosis or such other diseases as the Local Government Board may with the approval of the Treasury appoint, the council may, subject to the sanction of the Local Government Board, exercise for all or any of those purposes the powers given to them by Part II of the Tuberculosis Prevention (Ireland) Act, 1908, in like manner as if those purposes were purposes authorized by that Part of that Act, and any expenses of the council so far as not defrayed out of the grant shall be defrayed in manner provided by that Part of that Act;

(16) For the purposes of proceedings in Ireland under the provisions of this Part of this Act relative to disputes regulations of the Insurance Commissioners may apply all or any of the provisions of the Common Law Procedure (Ireland) Act, 1856, with respect to arbitration.

On the consideration on Thursday, November 16th, of the new clause making special provisions where an employer is liable to pay wages during sickness (SUPPLEMENT, November 18th, p. 495) the word "shall" was substituted for "may" in the first line, and the words "is shown to their satisfaction to prevail" were directed to replace the word "prevails" in the second line. The following was directed to be appended to paragraph 2 of the clause:

Nothing in this section shall relieve any employer of legal liability to pay wages during sickness to any person employed by him in accordance with any established custom.

THE POOR LAW SYSTEM AND THE EXCLUSION OF MEDICAL BENEFIT IN IRELAND.

AT the last weekly meeting of the South Dublin Union Board of Guardians, a telegram was sent to Mr. Lloyd George demanding that the medical benefits of the National Insurance Bill should be made applicable to Ireland, and the following resolution was passed:

That we learn with regret that it is the intention of Parliament to exclude the working and industrial classes of Ireland from the benefits accruing under the medical clauses of the Insurance Bill. The report of the Viceregal Commission, after hearing evidence at almost every Poor Law union in Ireland, from every class of the community, recommended the abolition or complete reform of the workhouse system in Ireland. The Commissioners state that the system is wasteful, extravagant, and unsuitable to the economic requirements of Ireland. This board, having on several occasions acquiesced in, and approved of, the finding of the Viceregal Commissioners, welcomed the introduction and passing into law of the Old Age Pensions Bill as a means to abolish the present Poor Law system. We, therefore, regret to see what are, in our opinion, the most important clauses of the Insurance Bill withdrawn, so far as Ireland is concerned. We, therefore, view the Insurance Bill with the proposed amendment as a half measure to change the Poor Law system, as under it the people seeking medical relief must still declare themselves paupers. The bill as originally introduced provided that each insured person for the sum of 4s. per annum was entitled to medical relief, hospital and sanatorium treatment, whereas, under the proposed amendments, the dispensary medical officer who certifies that the insured person is ill is entitled to 3s. each per annum. We are of opinion that the difference of the saving of the employer and employed is not ample to the results which would ensue to the population by the passing of the bill as originally introduced. The amendments, if passed into law, will place a premium on mendicancy and fraud, thrift and all its accompanying virtues would be discouraged, and all for the purpose of saving 1½d. per week to the employed and employer. The workhouse system would still continue, the high poor-rate would not be abated, and the social condition of the people will not be materially improved.

CORRESPONDENCE.

DR. P. R. COOPER (Bowdon) in the course of a letter in reply to that published on November 18th by Dr. Price Williams writes as follows: Some of Dr. Williams's arguments call for criticism. He says: "I believe we shall agree amongst ourselves more readily as to what is a proper capitation fee than we shall over the various item fees." Now, if one thing is certain, it is that we shall never agree as to what is a proper capitation fee, or at any rate one which we are at all likely ever to get—I note that Dr. Williams himself has no fee to suggest—indeed, a good many of us will not have capitation payment upon any terms. On the other hand, the whole profession is practically agreed that the minimum fee per visit or attendance should be 2s. 6d. (or 2s. at the surgery), and we have no terms of opprobrium too severe for the "sixpenny" or "shilling" doctor, and even Mr. Lloyd George would hardly offer us such fees, yet, the financial basis upon which the bill is constructed actually only admits of a fee of something like 6d. per visit. Dr. Williams cannot see "why a capitation fee must necessarily be small and inadequate" as compared with an item fee. This is surely a matter of common sense. At all events, we see that we are offered a capitation fee of 4s. per annum, and that 7s. 6d. is said to be "out of the question." Now, an extra shilling per capita means probably about a penny per visit, and surely after all, from our point of view, the essential question in regard to remuneration is what do we get per visit or unit of work done. On a capitation basis we shall have to fight hard for every shilling which only represents 1d. per visit, whereas per attendance no Government could for shame offer us so poor a fee as 6d. or 1s. Which would Dr. Williams prefer if he were a cloth salesman, a profit of ½d. per yard or 1s. per piece of, say, 120 yards? This represents the difference between per item and per capita in a nutshell. Dr. Williams thinks that under capitation the more competent man comes off best, because he cures his patients quicker and so has less work to do. If all cases of typhoid, etc., were alike there might be something in this argument; but, as we know, some are mild and need little treatment, others are severe and need a great deal of attention from even the "most competent practitioner." Dr. Williams indeed misses the whole point that this is an insurance bill, and that capitation takes no account of the insurance risks, but throws on us the whole burden of the insurance. As I have repeatedly shown, the harder we work under capitation the less we get. Surely this is not the way to encourage us to do good work, and I venture to assert that the acutest medical man's conscience tends to become blunted by "reward for labour" of this nature.

Dr. Williams's final argument as to the difficulty of bookkeeping under the per attendance system hardly needs considering. It is surely worth a little trouble to maintain our independence and secure that we do receive what we really earn. Under a proper voucher system the difficulties would be reduced to a minimum, and there would be an effectual check upon the accounts; as a matter of fact, most of us would be spared a good deal of our present bookkeeping troubles, and would have much to be thankful for.

It has taken some little time for medical men to realize the insuperable objections to cheap contract practice (and to learn that under any State scheme contract practice must always be of the cheap order), and that the only chance of retaining their independence as practitioners, and securing something like decent and honourable conditions of service and anything like adequate remuneration, is to insist upon payment per attendance—that is, for work actually done.

DR. E. O. JAGO (Carlishead, Manchester) writes: As a practitioner in Lancashire, I was present at the meeting of protest against the National Insurance Bill held at the Midland Hotel, Manchester, last Saturday, November 18th.

I was very pleased to see on the platform so many of the leaders of the profession in the Manchester district, and listened to their inspiriting "die-hard" advice tendered to us general practitioners. We were told that no man who wishes to retain the respect and esteem of his professional colleagues must serve on the proposed panels or assist in any form to carry out the provisions of the

National Insurance Bill unless the six cardinal points demanded by the British Medical Association be conceded. When we hear such advice given to general practitioners by our leaders—the consultant physicians and surgeons—we feel that we have a clear lead given to us. May we then assume that these leaders of the profession are prepared to stand with us, and refuse to consult with, or operate for, any man who takes office or works under the provisions of the bill? Also, will they give their guarantee that they themselves will accept no post whatever under the bill? If we could have such an assurance we should march forward with solid front in opposition to the bill.

Dr. Alexander Stewart (Pendleton) writes: The great work the British Medical Asssciation has done, and is doing, for the profession deserves our deepest gratitude. The power of the profession has never before been made so manifest, nor its influence brought to bear so effectively upon the Legislature. If all we could desire has not been obtained it only remains for the profession to organize itself in every locality in order that the national work of the Association shall be fruitful of good to every practitioner.

Of the "Six Cardinal Points" it seems to me that the most essential are (1) Free choice of doctor, as regards insured persons, and (2) Adequate remuneration, as regards the doctors. It seems safe to predict that the first will be secured universally, and it rests with the profession itself to secure the second; but having attained these the others, not excluding the £2 wage limit, are of secondary importance in comparison.

What is adequate remuneration? It is futile to talk of 4s. or 6s. per capita. The doctor could not do justice to the patient or to himself at either figure if he were to depend on such fees for his living. Does not the Post Office pay 8s. 6d. per annum for each of its servants? Do not the civic authorities pay 9s. for each member of the police force? And the members in both cases are picked lives. Under national insurance all insured persons will not be selected lives—they will include a very large proportion of women (who have a greater need of the doctor than men) and of men who could not "pass the doctor," and both will increase the work of the doctor materially. This increase of work must not be overlooked in estimating the capitation fee. We know the amount of work in the shape of consultations and domicilary visits (including the ordinary work of the general practitioner) that each insured person will require on the average, and the fee per capita that would be adequate is a matter of calculation. The work calls for a fee of 10s., and we can prove from published statistics that we can justly claim this fee.

The thoughtful letters of Dr. J. Price Williams and of others in the Journal of November 18th, and the arguments they use, seem to me conclusive in favour of a capitation fee as the best method of remunerating the doctors under national insurance. A fee of 10s. would provide the doctor with a stable income, and leave him free to give his whole mind and energies to his proper work—the healing of the sick. On the other hand, payment per attendance has the objection that it would not yield a certain income; but the fatal objection to it is that the more sickness that existed amongst the insured members the larger would be the doctor's income, so that it would be against his pecuniary interest to keep the people well. This is a condition the nation could not contemplate with equanimity. Under this system a malingerer would be a "paying" patient whom it would not "pay" the doctor to offend, whereas under the contract system the malingerer and the neurasthenic would be dealt with faithfully. As bearing on this subject the method of remuneration, your short leader in last week's Journal on "Free Choice of Doctor in Germany" is of great practical interest. In that article it is not said that the doctors were paid per attendance, but the inference is that they were, and Professor F. von Müller's quoted evidence closes with this sentence: "The system worked very satisfactorily to the patients, as well as to the physicians." Then immediately follows this sentence, not in inverted commas: "Certain abuses, however, arose, and the medical associations found it necessary to establish supervisory boards from among their own members to put a stop, among other abuses, to unnecessary attendance." Let the thoughtful advocates of payment per attendance ponder these words.

Dr. P. R. Browning (Totton, Hants) writes: As one who recently sought admittance to the British Medical Association in the hope of showing Mr. Lloyd George that the profession maintained at least some semblance of unity, perhaps you will allow me to express my humble but unalterable conviction that there is only one way in which we can deal with this bill if we wish to retain that amount of agreement which exists at present—namely, to have nothing whatever to do with it.

When I signed the six-point manifesto I thought that our consent to serve under the Act was to depend on the statutory enactment of that irreducible, but quite inadequate, minimum. Now I find we are to be let in for endless bickering and chafing with more or less hostile committees throughout the country, the result of which will be confusion worse confounded. The profession in some parts will accept what is rejected in others, thus providing economical committees with illusory precedents to use as fulcra in their bargainings.

Apart from this the financial prospect is sufficient ground for declining to work under the Act. The calculations have been based on the supposition that we are going to accept 6s. a head on the average, and the funds for our payment will work out at that whether we demand payment for "work done" or any other system. There is no provision for extras, and the number of messages which will arrive after the proper hours for receiving them is sure to be prodigious, when the cost of a telegram is all that has to be considered by the sender. Any one who has worked in a scattered country practice knows what it means—"Come at once," six miles or more, and we have to go because about one in every twenty is a matter urgently needing attention.

Those who advocate a capitation fee on the grounds that there will be no books to keep are living in a fool's paradise. They will not have to add up accounts, but can there be any doubt that the Commissioners will require us to keep registers like the Poor Law medical officers, only with an indefinite amount of vexatious detail superadded? Weekly certificates will almost certainly be insisted on, and the State, devoted as it is to all manner of red tape, is not likely to be content with the simple friendly society formulae.

These are only one or two instances of the endless difficulties and distresses we shall incur if we accept this abominable service proposed for us, not sought by us (or anybody else), and hustled through Parliament with monstrous indecency before any of its difficulties could be appreciated, much less provided for.

It is customary for all men to conclude their opinions about this bill by pronouncing some sort of blessing on its "salutary principles." Its author has told us what these are—namely, 9d. for 4d. I quarrel with no man for believing this to be good for the masses, contenting myself with a peremptory denial of any such proposition.

Dr. J. P. Wills (Bexhill-on-Sea) writes: At the present crisis in the history of the medical profession in this country, when, as Mr. Lloyd George says, we have our future in our own hands, no measure which can ensure the solidarity of the members of that profession should be neglected. The danger of actual ruin to the bulk of the profession looms larger and larger, and our anxiety becomes daily more acute. It is true that to the senior men and those more successful the danger is somewhat more remote and indirect, turning on fears of the general degradation of medicine, the ruin of hospitals, and the infinite injury to the public which must accrue if the ill-considered proposals of the Chancellor become law. But the bulk of the general practitioners stand to suffer actual pecuniary ruin. We are trying to safeguard ourselves by an almost universal written undertaking not to accept the terms offered us, and by a fund which shall indemnify those who suffer by such refusal. So far so good.

May I submit that we can go further and safeguard ourselves more perfectly?

There are many junior men of narrow means who have perhaps a wife and small family, and to whom the immediate gain of turning blackleg will be almost irresistible.

I am not going to blame these men. Their position is a terribly hard one, and no doubt the Chancellor counts on this and the cruel pressure of circumstances to overcome their resistance. Can we not strengthen their hands beyond the benefit of the guarantee fund which to many of them may seem sadly remote? I believe we can. There are other men, who, if a defection takes place, will yield with less excuse, on the plea that they will not have other men introduced into their district to compete with them, and so on. And then we shall have a *débâcle*.

I therefore beg leave to suggest that we should do what has been done in Antwerp. That is, that we should all sign a legally binding form undertaking not to accept appointments disapproved by the British Medical Association under a heavy penalty, a penalty say of £100, and £200 for persistence. This in return for the benefits of the guarantee fund and for the mutual agreement. I am advised that this proposal is good in law and that the penalty is recoverable.

Many of us would need no such help to our determination, but I humbly submit that it might save many a man in his hour of sore temptation and prevent that gradual falling away which is the black shadow threatening our future.

Dr. J. BEDDOW (Thorverton, Devon) writes: As to the question of payment, whether per attendance or by capitation fee, opinion appears to be very much divided, judging by the many excellent letters you publish from week to week. Supposing, for the sake of argument, the first method to be the most equitable; it is easy to see that the difficulties against its adoption are very great, especially financially, and evidently the feelings of the Chancellor of the Exchequer—and possibly those of the House of Commons—are strongly against it.

If, then, it becomes a question of capitation, I would like to suggest that it should be carried out on a graduated scale, which it appears to me would be quite feasible, and obviate many of the difficulties and vexations of the income limit. I would suggest that the wage or income limit of those paying a capitation fee of 6s. per annum should be £60, and that an additional 1s. should be paid for every additional £10 of income; thus, those whose income was £80 would pay 8s., or £100 would pay 10s., and so on up to £200 a year, or even beyond if thought expedient.

I dare say others can suggest some modification or improvement of this plan, but it appears to me that the principle is sound and easy to work, and on a more equitable basis than that all should pay the same fee, though one man's income may be more than double that of the other.

Dr. E. T. LARKAM (Manchester) writes: I think those who desire payment by a capitation fee are sufficiently answered by Mr. Lloyd George's statement in Parliament on November 14th, when he said the demand of the Irish Medical Association for a capitation fee of 8s. 6d. was "financially impossible," and that 6s. might be taken as the "financial basis" of the bill; that is, 4s. 6d. for the doctor, and 1s. 6d. for medicines, etc.—truly a princely sum.

Surely the demand for 8s. 6d., exclusive of medicines, etc., is little enough, even to those who wish for this method of perpetuating the hated club system.

I might add that the financing of the scheme is no business of ours. The bill is forced on us, and we demand what we consider is our due, and unless we obtain it we absolutely refuse to work under the bill.

DISPENSING UNDER THE INSURANCE BILL.

Dr. W. BURROUGH COSENS (Dorchester) writes: Dr. F. A. L. Burges and Dr. M. W. Morgan both write "in the interests of the profession it is essential we should be permitted to do our own dispensing." I absolutely disagree. It is time that a patient learnt that a doctor's "do all" is not to supply "a bottle of stuff"; a chemist should dispense and *not prescribe*. A medical man *should prescribe* and *not dispense*, and the latter would add to the dignity of our work and the time at our disposal. I have had no difficulty in finding chemists who would retain my prescriptions and not hand them about.

Dr. SEYMOUR STRITCH (Dublin) writes: I shall be grateful if you will permit me to direct the attention of medical men to the fact that a list is being compiled of medical men who are in favour of having medical benefits included in the Irish Insurance Bill.

I therefore request that all medical men desirous of having medical benefits applied to Ireland will without delay send me their cards or postcards bearing on them their signatures and the words "for medical benefits." When the list is complete it will be forwarded to the Chancellor of the Exchequer as evidence that Irish practitioners approve of the application of medical benefits to this country.

FREE CHOICE OF DOCTOR.

Dr. C. J. W. DIXON (Hawick, N.B.) writes: The principle of "free choice of doctor" is to some of us in particular one of most vital importance. It must be a real "free choice," and not a nugatory one. The House of Commons granted it to us without a division, but the passing of the Harmsworth amendment has cut right across it. So far as I can gather from reading, this amendment can be interpreted to include *any* friendly society—not merely the so-called friendly society institutes and medical aid association, but any friendly society as they exist to-day. That is to say, any friendly society, if it so desires, and the Insurance Commissioners and the Insurance Committee approve, can employ one doctor to attend its own members. The Council of the Association suggest an addition to the subclause as it stands, which, in their opinion, will secure the principle of "free choice"—a principle which, oddly enough, they state on page 14 of their report on the bill to be *universally applied*. Were this so, such an addition would be totally uncalled for. In my judgement the Council's suggested addition will entirely fail in its intended purpose. A friendly society *may*, if the suggestion be adopted, formally ask its members if they do not wish to employ the doctor of the society, but it is certain that the officials will, in the interest of the society—that it has an interest is self-evident from the very existence of the subclause—use all legitimate influence, both with present and prospective members, many of whom will be as clay in the hands of the potter, to induce them to employ the society doctor. In this way the doctors engaged by such friendly societies will have the whole weight of their influence at their backs and will possess a very unfair advantage over their fellow practitioners. In fact, "free choice" will really be non-existent. It appears to me that the Council's suggested addition to the subclause will not meet the case, and that complete deletion of the Harmsworth amendment is the only way by which the principle of "free choice" can be fully restored us. It is towards the attainment of this that we ought to use our utmost endeavours.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH.

THE second ordinary meeting of the Branch was held at the Medical Institute on Thursday, November 9th, 1911. The chair was taken by the PRESIDENT, Professor Morrison, and there were forty-five members present.

Confirmation of Minutes.—The minutes of the previous meeting were read, confirmed, and signed.

Hetero-plastic Ovarian Grafting. — Dr. BECKWITH WHITEHOUSE showed a patient upon whom he had performed hetero-plastic ovarian grafting. The woman, a 12-para, aged 38, was admitted to the General Hospital, Birmingham, in April, 1909, on account of hydatidiform mole. Recurrent and severe haemorrhage, in spite of repeated curettage, rendered a diagnosis of chorion-epithelioma probable, and in August, 1909, total abdominal hysterectomy with removal of both appendages was performed. The operation was followed by a very severe artificial menopause. Marked nervous depression, verging on melancholia, was associated with an exaggerated condition of the symptoms normally associated with the menopause. The symptoms were combated unsuccessfully with bromides, thyroid, ovarian and lutein extracts, and it was then decided to attempt an ovarian graft. The intra-peritoneal method was selected, and an ovary removed

from a woman aged 30, suffering from uterine fibromyoma' was sutured to the peritoneal margins of a button-hole incision between the right external and internal iliac vessels. The patient made a good recovery from the operation, and the nervous depression certainly improved to a marked degree. "Flushes" practically ceased for the first six months after the grafting, but latterly have recurred to a slight extent. The hair ceased to fall, but no new growth took the place of that lost before the operation. The weight had increased, but palpitation and headache were absent. The woman was now in really very good health. This paper was discussed by the President, and by Mr. J. Furneaux Jordan, Dr. Purslow, and Mr. Leedham-Green. Dr. Beckwith Whitehouse replied.

Plastic Operation for Burns.—Mr. Leedham-Green showed a boy upon whom he had performed a plastic operation for extensive burns of the hand. This was discussed by Dr. Heaton White, and Mr. Leedham-Green replied.

Tubal Pregnancy with Fulminating Rupture.—Dr. Purslow showed a specimen: The patient, when two months over her period and feeling perfectly well at the time, engaged in a wordy warfare with another woman. She was frightened, but no blows were struck; during this altercation she was suddenly seized with an intense pain in the abdomen, and fainted. Dr. Southall was called in, and diagnosed ruptured tubal gestation, and Dr. Purslow saw her in consultation shortly afterwards. She was then collapsed, with cold and pale skin, and pulse barely perceptible. As she lived near the hospital she was removed there, and the abdomen opened within two hours of the onset of the symptoms. A large amount of blood was found in the peritoneal cavity, and bleeding was still taking place from the edge of the laceration in the tube. The patient made a good recovery. The specimens shown were the right Fallopian tube, distended in its isthmial portion and presenting a transverse rupture on its upper surface, and an intact ovum, of about eight weeks' development, which was found free among the clots. Attention was drawn to the comparative rarity of fulminating rupture and to the value of an abdominal binder as one means of alleviating shock in the interval before operation. The case was discussed by Mr. J. Furneaux Jordan, and Dr. Purslow replied.

Tumour of Brain.—Dr. Kauffmann showed a specimen of tumour of the brain. This was discussed by Dr. Beatson Hird, and Dr. Kauffmann replied.

Proposed Dinner.—The meeting then resolved itself into "a special meeting," and it was unanimously resolved that Rule 12 be altered so as to read:

> A dinner shall be held early in the session, on a date to be fixed by the Council.

Tests of Intelligence.—The ordinary meeting was then continued, and Dr. Potts read a paper on tests of intelligence, in which he reviewed the methods usually adopted for estimating the mental capacity in congenital defectives, and also in certain forms of insanity. A brief description followed of the principles of the newer systems, such as those of Binet and Abelson, with the results obtained. Finally he reviewed the suggestions of Sherlock and others. The paper was discussed by Dr. Walter R. Jordan and Dr. Auden; Dr. Potts replied.

BOMBAY BRANCH.

A meeting of the members of this Branch was held in the University Library on Thursday, August 24th, at 5.30 p.m. (St. T.), when Dr. Sorab K. Nariman, M.D., occupied the chair. The following members were also present: Drs. L. Date, M. V. Mehta, M. P. Kerrawalla, C. Fernandes, S. P. Mistry, Major T. S. Novis, I.M.S., Miss A. M. Benson, M.D., Major A. Tuke, I.M.S., Drs. H. S. Anklesaria, Sorab K. Engineer, Oke, N. G. Vazifdar, D. Nayak, D. K. Patel, B. P. Karani, K. R. Dalal, A. P. Cama, H. J. F. Dadysett, Wm. Nunan, Lieutenant-Colonel Dalal, I.M.S. (ret.), Drs. R. Row, N. F. Surveyor, G. Andeen, and the Honorary Secretary (Dr. D. R. Bardi).

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed by the Chairman.

New Members.—It was announced that the following members were elected by the Branch Council: Drs. M. N. Parasnis, K. T. Sanjana, J. P. Nicholson, A. B. De Souza, and Major A. Tuke, I.M.S.

Election of President.—It was announced that Colonel R. W. Lyons, I.M.S., was elected by the Branch Council the President of the Branch in place of Surgeon-General H. W. Stevenson, I.M.S., who had gone out of Bombay on leave.

BORDER COUNTIES BRANCH:

Scottish Division.

The autumn meeting of this Division was held in Dumfries and Galloway Royal Infirmary, Dumfries, on Friday, November 3rd. There was a large attendance of members. Dr. Huskie (of Moffat), President of the Branch, was called to the Chair.

Apologies for Non-attendance.—Apologies were read from a few members for their unavoidable absence. After the minutes of the previous meeting were read and passed the business on the agenda was proceeded with.

National Insurance Bill.—The first item was a discussion on "The Bill for State Insurance Against Sickness, and the future attitude of the profession towards this question." Dr. Crerar, of Maryport, who had kindly come for the purpose, opened the discussion. He said it was too late now to discuss general principles, so he would confine himself to the provisions of the bill as they affected medical men. One point that struck him was that no one could tell one day what the bill would be the next. In fact, Mr. Lloyd George seemed to be just one day ahead of his work. He gave several instances where the bill as originally drafted differed entirely from its present form. Then on the questions of wage limit, authority for administering the bill, and freedom of choice of doctor he showed how the so-called concessions were delusions so far as the doctors were concerned. Moreover, medical representation on the Insurance Commission and on the local Health Committee was meagre in the extreme. On the Chairman declaring the debate open, Drs. Robson, Welsh, Livingstone, Rodger, Bell, Sanders, Easterbrook, and Shaw all took part. The unanimous feeling was the medical profession had nothing to hope for from the Legislature; they must depend on themselves. It was moved and carried unanimously:

> That the Scottish Division, Border Counties Branch, British Medical Association, adhere to all of the six points of the undertaking.

Defence Fund.—The next item on the agenda was to determine what steps should be taken in the Division regarding the formation of a defence fund. It was moved and carried that the Executive Committee take up the question.

Vote of Thanks.—A vote of thanks to Dr. Crerar terminated the meeting.

EDINBURGH BRANCH:

South-Eastern Counties Division.

Annual Dinner.—The annual dinner of this Division was held in the Tower Hotel, Hawick, on Wednesday, November 15th. Dr. Oliver, of St. Boswells, occupied the chair, and Dr. Mun, of Selkirk, acted as croupier. There was a large attendance of members and guests.

Insurance Bill.—"The Association" was proposed by Dr. George Gibson (Edinburgh), who, in an eloquent and impressive speech, in referring to the Insurance Bill, urged solid union amongst the profession, and felt certain if that were so justice would be secured. Dr. J. R. Hamilton, of Hawick, with whose name the toast was coupled, appealed to the members of the Division to show their support of the work of the Council by attending and showing an interest in the work of the Division. The Rev. D. Cather (parish minister), in replying for the guests, spoke on the medical aspects of the bill, and emphasized the able and weighty words Dr. George Gibson had addressed to them. No profession or class of men had done more for the poor and suffering than the medical profession had done. But there were great principles of human freedom which they dared not sacrifice even in the interest of the poor and suffering; and it seemed to him at this time that these principles were being gravely imperilled by a Government which with high-handed tyranny was seeking to press-gang a great and free profession into a service whether they liked it or not, and without their own unfettered consent. It was their duty to resist this with all their might, and it was the duty of the laity, who owed so

much to them to stand by them, and to see that they did not fight alone. Mr. JOHN ROBERTS (Selkirk) also addressed the meeting, and said that the Insurance Bill had become so complicated that probably not twenty men in Parliament could now give any clear account of it. It was likely to be wrecked by its own unworkableness, and he believed the medical profession of Scotland might safely rely upon the people to support them in obtaining justice. Drs. HADDON, BANNERMAN, OLIVER HAMILTON, and Mr. G. H. WILSON (Kilmeny), and others, spoke on the Insurance Bill, all advocating unity. Whilst most of the evening was occupied in the discussion of the bill, yet this was occasionally relieved by songs by Drs. MUIR, OLIVER HAMILTON, and Mr. A. R. OLIVER, and altogether a most enjoyable evening was spent.

PERTHSHIRE BRANCH.

A GENERAL meeting was held at 3.30 in the Station Hotel, Perth, on Friday, November 10th; Dr. HAIG, President, was in the chair. There were also present: Drs. Bruce, Burnett, Smith, McEwen, Robertson (Errol), Robertson (Scone), J. Hume, M. Hume, Trotter, Lyell, Liddell, Beattie, McNaughtan, R. Stirling, and Taylor and Bisset. Dr. Michael Dewar (Edinburgh), Dr. Martin Smith (Dundee), Dr. Scott (Broxburn), and Dr. Robertson (Erroll) were present as guests.

Apologies for Non-attendance.—Apologies were read from Drs. Urquhart, Anderson, Edwardes, Paton, Moorhouse and Greig (Stirling Branch), Drs. Buist and Young (Dundee Branch), Dr. C. C. Greig and Dr. Smith (Secretary, Aberdeen Branch), Dr. D. J. McIntosh, Dr. Muir, President, and Dr. Macfarlane, Secretary (Glasgow Branch).

Confirmation of Minutes.—The minutes of the last meeting were read, approved, and signed by the PRESIDENT.

Report of Council.—The report of council stated that three ordinary, six special, and five council meetings were held during the year, as well as a large number of meetings the secretaries attended in regard to payment of fees, for ambulance classes, and the National Insurance Bill.

Treasurer's Report.—The TREASURER reported an increase of expenses in regard to meetings and printing, but reported a balance of £6 2s. 9d.

Red Cross.—Dr. HAIG (Preston) was appointed a co-opted member of the Perthshire executive of the Red Cross Society.

Guarantee Fund.—Dr. TROTTER spoke of the need for this fund, and many speakers made remarks.

President's Address.—The PRESIDENT delivered an address on the remuneration of medical practitioners under the Insurance Bill. After a short introduction, he said: "There is much to be said in favour of a National Medical Service, with its steady income and retiring allowance, raising a man above all worry as to his dependants in case of illness or early death—enabling him to do his duty to the State fearlessly in regard to malingerers—with its system of promotions, giving him scope for his ambition—and, lastly, giving him the joy of working with his brethren in a common cause, instead of, as at present, ploughing his lonely furrow, often in trepidation—if he be an honest fellow—lest he encroach on his neighbour's patch, or, on the other hand—if he be of a mean spirit—blaming his opponent (for such we often call one another) if a patient happens to prefer that opponent to himself. But the time is not ripe for such a national service . . . so we need not further consider that. The two remaining chief possible methods of payment are 'payment by capitation' and 'payment per attendance.' It is between these two methods that our choice will lie when our local Medical Committee meets with the local Health Committee." After considering the administrative arrangements of each method, and very fully stating the advantages and disadvantages of the two systems of payment, Dr. Haig continued: "I would urge that we take a high standpoint, and view this question as affecting our country, and not merely in regard to our livelihood as a profession. It seems to me that there has been a tendency to look too much to our pockets. Undoubtedly that is of the utmost importance, not only for ourselves, but also in the public interest if the profession is to be kept up to a high standard and the best men induced to enter it; but, I maintain, that object can be attained equally well by a system of capitation payment as by payment of fees per attendance. I have always felt that it is an unfortunate thing that the doctor should be dependent for a living on the ailments of his friends—for such should be the relationship of the family doctor and his patient—and that the kindly inquiry, 'How are you all,' should, even jokingly, have the possibility of being considered the expression of a hope for employment! Under capitation payment such feelings would vanish. Let us take the opportunity the bill affords to make a beginning in this direction. The change has already taken place in our Army Medical Department—prevention of disease and teaching of the laws of health being given the first place and tending the sick and injured being a secondary consideration. If there be truth in the idea that 'Thoughts are things,' what an effect should be produced by the minds of 30,000 general practitioners being directed to thoughts of health instead of to thoughts of illness! From what I have seen of the results of the Workmen's Compensation Act I greatly fear the consequences of this National Insurance Bill as regards the moral stamina of some of our people, but let us at least do what we can to establish those sound bodies in which alone sound minds can exist by ranging ourselves alongside those who seek prevention of disease, instead of waiting for people to fall ill—I nearly said like vultures waiting for carrion—but, at least, coming upon the scene, like the proverbial policeman, after the crime has been committed."

Dinner.—After the meeting a complimentary dinner to Dr. Robertson (Errol) was held in the Station Hotel, with Drs. Michael Dewar (Edinburgh), Martin Smith (Dundee), and Dr. Scott (Broxburn) as guests. Dr. Robertson having in July attained fifty years' service in the medical profession, Dr. STIRLING, in a brief speech, proposed his health, and Dr. ROBERTSON briefly replied. Eighteen sat down to dinner, and one of the most enjoyable meetings and dinners of the society was all too soon brought to a close.

SOUTH MIDLAND BRANCH:

NORTHAMPTONSHIRE DIVISION.

ON Thursday, November 16th, a meeting of the Division was held in the Board Room of the Northampton General Hospital, after a luncheon at Franklin's Restaurant. Dr. HICHENS took the chair, and there were present forty-five members and five visitors.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Apologies for Non-attendance.—Apologies for non-attendance were received from Drs. Buszard, Harris, and Arthur.

The Insurance Bill.—Dr. COX, introduced by the CHAIRMAN, gave a lucid and interesting address on the present position of the Insurance Bill and the results of the efforts made by the Association. His address went to show that, though few of the six cardinal points insisted on by the Association had been definitely put in the bill, they had not been defeated, and that the fight was postponed in most cases to one between the local Insurance Committees and the medical profession at a later period. He pointed out that the Addison amendment allowed for an income limit to be set up locally; that the free choice of doctors had been got; that the control of medical benefit had been taken away from the individual friendly societies, though the number of doctors on the local Insurance Committees to which the administration of medical benefit had been transferred—three out of forty members—was quite inadequate; that the method of payment was left open and the amount of remuneration. He pointed out that local Medical Committees could be formed and would have to be consulted. He further pointed out that the Harmsworth amendment did not matter so much as appeared at first sight, as the Chancellor had said that no profit should be made out of the doctor. He gave a special exhortation to thorough local organization of the medical men. Questions were asked and the speech discussed by Drs. TOLPUTT, ELLISTON, DRYLAND, PRETTY, ROBSON, BAXTER, WICKHAM, STEDMAN, WATSON, H. POWELL.

Vote of Thanks.—On the proposition of Dr. CLEMENT DUKES, seconded by Dr. ALLISON, a hearty vote of thanks was accorded to Dr. Cox for his presence and address.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

NOTICE OF CHANGE OF BOUNDARIES OF DIVISIONS.

THE following changes have been made in accordance with the Regulations of the Association, and take effect from the date of this notice:

That the Liverpool (Bootle), Liverpool (Central), Liverpool (Northern), Liverpool (Southern), and Liverpool (Western) Divisions, at present forming five separate Divisions of the Lancashire and Cheshire Branch, be amalgamated into one Division, to be known as the Liverpool Division.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH.—The second ordinary meeting of the session will be held at the Museum, Bath, on Wednesday, November 29th, at 8 o'clock, Dr. G. Parker, President, in the chair. The following communications are expected:—(1) T. Wilson Smith, M.D.: Remarks on a Case of Renal Embolism. (2) F. G. Thomson, M.D.: Considerations of Rheumatoid Arthritis. (3) Forbes Fraser: Note of a Case of Endoneurysmorrhaphy for Inguinal Aneurysm. (4) W. M. Beaumont: Modern Colour Tests in Medical and Surgical Practice. A Council Meeting will be held at 7.55.—W. M. BEAUMONT, NEWMAN NEILD, Honorary Secretaries.

LANCASHIRE AND CHESHIRE BRANCH.—The ordinary autumn scientific and clinical meeting of the Branch will be held in Liverpool, probably on December 13th. Members having papers, communications, or exhibits are requested to communicate at once with P. R. COOPER, M.D., The Downs, Bawdon, Cheshire.

LANCASHIRE AND CHESHIRE BRANCH.—A scientific and clinical meeting will be held in Liverpool on Wednesday afternoon, January 10th, 1912. Members willing to give short papers or demonstrations, or to show cases or specimens, are asked to communicate early with the Honorary Secretary of the Science Committee, P. R. COOPER, M.D., B.Sc., 8, St. Peter's Square, Manchester.

SOUTH-EASTERN BRANCH: ISLE OF THANET DIVISION.—The next meeting of this Division will be held at the Beresford Hotel, Birchington, on Friday, December 1st, at 4.15 p.m., H. E. Worthington, M.R.C.S., L.R.C.P., in the chair. Agenda:—(1) G. S. Bellingham Smith, M.B., F.R.C.S., Obstetric Physician, Guy's Hospital, will read a paper upon *Ante-partum* Haemorrhage. (2) Any other business. Tea will be served during the meeting. All members of the Association are invited to attend these meetings and to introduce professional friends.—HUGH M. RAVEN, Honorary Divisional Secretary, Broadstairs.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Staff Surgeons are promoted to be Fleet Surgeons, dated November 12th: C. H. J. ROBINSON, HAROLD HUSKINSON, M.D., E. S. TUCK, M. P. JONES, A. W. B. LIVESAY, M.B., F.R.C.S.Edin., H. H. GILL, M.B., W. R. TRYTHHALL, J. C. ROWAN, M.B., R. A. ROSS, M.B., M. J. SMITH, M.D., F.R.C.S.I. Their previous commissions are dated Surgeon, November 12th, 1895; Staff Surgeon, November 12th, 1903.

The following appointments have been made at the Admiralty: Fleet Surgeon W. R. TRYTHHALL and Surgeon A. FAIRLEY, M.B., to the *Roxburgh*, undated; Fleet Surgeon F. H. A. CLAYTON, M.D., to the *President*, additional, for three months' course of special study in metropolitan hospitals, November 18th, and to the *Victory*, additional, for Haslar Hospital, February 18th, 1912, and to Haslar Hospital as Instructor of Acting Surgeons, and in charge of Junior Medical Section, undated; Fleet Surgeon A. GASKELL to the *President*, additional, for three months of special study in metropolitan hospitals, November 18th, and to the *President*, additional, for duty as Professor of Hygiene and in charge of studies at the Naval Medical School, Royal Naval College, Greenwich, February 18th, 1912; Fleet Surgeon P. W. BASSETT-SMITH, C.B., to the *President*, additional, for duty as Professor of Clinical Pathology at the Naval Medical School, Royal Naval College, Greenwich, undated; Staff Surgeon R. W. STANISTREET to the *Empress of India*, November 15th; Staff Surgeon W. L. MARTIN to the Medical Department, vice Fleet Surgeon Clayton, November 18th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL J. C. HASLETT, M.D., Half-pay List, is placed on retired pay, November 18th. He was appointed Surgeon, February 4th, 1882; Surgeon-Major, February 4th, 1894; and Lieutenant-Colonel, February 4th, 1902. He was placed on half-pay, January 20th, 1908.

Captains E. W. SIBERRY and B. F. WINGATE are promoted to be Majors, November 17th. They were appointed Lieutenants, November 17th, 1899, and made Captains three years thereafter. Major Siberry was in the South African war in 1899–1902, and was present at the relief of Kimberley, in operations in the Orange Free State, including actions at Paardeberg, Poplar Grove, and Dreifontein, and in operations in Cape Colony; he has received the Queen's medal with four clasps and the King's medal with two clasps. Major Wingate also served in the South African war in 1900–2, being present at the relief of Kimberley, in operations in the Orange Free State (actions at Paardeberg, Poplar Grove, Dreifontein, Vet River, and Zand River), and in various parts of the Transvaal, including the actions at Diamond Hill and Belfast; he was granted the Queen's medal with five clasps and the King's medal with two clasps.

Major ALBERT PEARSE retires on retired pay, November 15th. Appointed Surgeon-Captain, January 31st, 1891, he became Major, January 31st, 1907. He served in the campaign on the North-West Frontier of India in 1897-8 receiving a medal with clasp. During the South African war in 1899–900 he was employed with the hospital ship *Princess of Wales*, and was present in operations in Orange River Colony and Cape Colony; he was mentioned in dispatches and received the Queen's medal with two clasps.

Lieutenant BENJAMIN BIGGAR, M.B., from the Seconded List, is restored to the establishment, October 1st. He was appointed on probation, January 27th, 1911.

The undermentioned officers, who are serving in India, are appointed Specialists as specified: Captain E. V. AYLEN, Dermatology, 2nd (Rawal Pindi) Division, from September 4th; Major B. WATTS, Midwifery and the Diseases of Women and Children, 7th (Meerut) Division, from September 6th; Captain D. DE C. O'GRADY, Dermatology, 1st (Peshawar) Division, from September 9th.

INDIAN MEDICAL SERVICE.

SURGEON-GENERAL A. T. SLOGGETT, C.B., C.M.G., is directed to Delhi, on or about November 20th, to take up his appointment as Principal Medical Officer of the Durbar.

Lieutenant-Colonel E. G. R. WHITCOMBE is permitted to retire from the service from October 27th. He joined the Bombay Medical Department as Surgeon-Captain, January 31st, 1890, and became Lieutenant-Colonel, January 31st, 1911. He took part in the operations in Mekran in 1898, was at the action of Gok Paresh, and was mentioned in dispatches; he was also in the China was in 1900, and was present at the relief of Peking, receiving a medal with clasp.

Lieutenant-Colonel C. N. BENSLEY, Bengal, also retires from the service, from November 12th. He was appointed Surgeon, September 30th, 1886, and Lieutenant-Colonel, September 30th, 1906.

Colonel R. W. S. LYONS, M.D., Principal Medical Officer, Kohat Brigade, is granted combined leave out of India on private affairs from November 17th to May 15th, 1912, the first sixty days being on privilege leave.

The promotion of Captain E. O. THURSTON, M.B., F.R.C.S., to be Major, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the approval of the King.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT HUBERT COX is confirmed in his rank. Cadet Staff Sergeant R. M. BEATH, from the Belfast University Contingent, Officers' Training Corps, to be Lieutenant (on probation), October 25th.

Cadet Lance-Corporal WILLIAM F. MCLEAN, from the Edinburgh University Contingent, Officers Training Corps, to be Lieutenant (on probation), October 3rd.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN J. M. H. CONWAY, F.R.C.S.Ire., to be Adjutant of a School of Instruction, November 1st.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during October:

		FROM	TO
Colonel	F. H. Treherne, F.R.C.S. Edin.	Aldershot ...	... India.
Lieut.-Col.	A. F. Russell, C.M.G., M.B.	Malta ...	... Egypt.
,,	J. J. C. Donnet	Belfast ...	... Singapore.
,,	M. L. Hearn	Dublin ...	... Ceylon.
,,	M. J. Sexton, M.D. ...	,,	South Africa.
,,	F. W. G. Gordon-Hall, M.B.	Glasgow	... Hong Kong.
,,	J. Fallon	Preston	... India.
,,	H. C. Thurston, C.M.G.	Bermuda	... Aldershot.
Major	R. J. Copeland, M.B.	Darjeeling	... Meerut.
,,	L. Way	Golden Hill	... Cosham.
,,	F. Smith, D.S.O.	Murree ...	... Calcutta.
,,	G. S. McLoughlin, D.S.O., M.B.	Chester	... S. Command.
,,	B. Forde, M.B.	Aldershot	... Deepcut.

		FROM	TO
Major	C. W. H. Whitestone, M.B.	Peshawar	Cherat.
,,	E. M. Morphew	Ranikhet	W. Command.
,,	T. H. J. C. Goodwin, D.S.O.	Aden	S. Command.
,,	E. B. Steel, M.B.	Neemuch	Delhi.
,,	H. E. Staddon	Shorncliffe	Dover.
,,	J. V. Forrest, M.B.	Cairo	Khartoum.
,,	E. W. P. V. Marriott	Gibraltar	Dublin.
,,	J. McD. McCarthy, M.B.	Multan	Naini Tal.
,,	W. H. S. Nickerson, V.C., M.B.	Rawal Pindi	Cherat.
,,	S. de C. O'Grady, M.B.	Khartoum	Cairo.
,,	F. J. C. Heffernan, F.R.C.S.Ire.	London	India.
,,	J. G. Gill	Secunderabad	Bangalore.
,,	E. P. Sewell, M.B.	Belfast	Ceylon.
,,	F. Harvey	Devonport	Bodmin.
,,	H. S. Anderson	Moore Park	Buttevant Camp.
,,	L. N. Lloyd, D.S.O.	London	W. Command.
,,	J. A. Hartigan, M.B.	Malta	N. China.
Captain	A. F. Carlyon	Devonport	Mauritius.
,,	F. M. Parry, M.B.	Maidstone	,,
,,	J. H. Robinson	Curragh	India.
,,	F. P. Lauder	Cork	Youghal.
,,	A. D. Jameson	Aldershot	India.
,,	C. E. Fleming, M.B.	Colchester	South Africa.
,,	R. N. Woodley	Bulford	Cardiff.
,,	D. L. Harding, F.R.C.S.I.	Athlone	Belfast.
,,	P. G. Hyde, M.B.	Dublin	Ceylon.
,,	A. McMunn	,,	Hong Kong.
,,	A. J. Williamson, M.B.	Woolwich	Singapore.
,,	E. V. Aylen	Nowshera	Barian.
,,	C. G. Thomson	Edinburgh	R.A.M. Coll.
,,	A. B. Smallman, M.B.	Woolwich	,,
,,	W. F. Ellis	Bradford	,,
,,	J. M. H. Conway, F.R.C.S.I.	Dublin	Leeds.
,,	S. M. W. Meadows	Oxford	Tidworth.
,,	A. E. B. Wood, M.B.	Woolwich	Hong Kong.
,,	R. H. Bridges	Netley	Manchester.
,,	J. A. W. Webster	Fermoy	Cork.
,,	H. B. Kelly, M.B.	Dublin	Curragh.
,,	E. M. Pennefather	Buttevant	Fermoy.
,,	G. H. J. Brown, M.B.	Rhayader Camp	R. A. M. Coll.
,,	B. H. V. Dunbar, M.D.	—	Enniskillen.
,,	D. Ahern	Alexandria	Cairo.
,,	J. M. M. Crawford, F.R.C.S.I.	Colchester	Ipswich.
,,	C. Bramhall	Woolwich	Birmingham.
,,	T. E. Harty	Guildford	R. A. M. Coll.
,,	H. T. Stack, M.B.	Londonderry	Belfast.
,,	D. P. Watson, M.B.	Preston	R. A. M. Coll.
,,	J. E. Powell	Rhayader Camp	Alderney.
,,	F. M. M. Ommanney	Colchester	R. A. M. Coll.
,,	R. H. MacNicol, M.B.	,,	Mill Hill.
,,	H. H. J. Fawcett	Netley	Maidstone.
,,	C. R. Sylvester-Bradley	Cosham	Exeter.
,,	G. A. Kempthorne	Glencorse	R. A. M. Coll.
,,	N. E. Dunkerton	Woolwich	,,
,,	J. D. Richmond, M.B.	Piershill	Inverness.
,,	E. M. Glanvill, M.B.	York	Leeds.
,,	H. C. Hildreth, F.R.C.S.Edin.	Glen Imaal	R. A. M. Coll.
,,	R. T. Collins	Woolwich	,,
,,	A. C. Osburn	Colchester	,,
,,	L. Bousfield, M.D.	Crown Hill	,,
,,	J. H. Douglass, M.D.	Dublin	,,
,,	R. R. Lewis	Aldershot	,,
,,	A. L. Otway, M.B.	Belfast	,,
,,	C. H. Turner	Newbridge	,,
,,	W. F. H. Vaughan	Cosham	,,
,,	R. B. Hole, M.B.	,,	Glasgow.
,,	G. E. Cathcart	Trawsfynydd Camp	R. A. M. Coll.
,,	H. Harding, M.B.	York	Leicester.
,,	J. A. Turnbull	Edinburgh	R. A. M. Coll.
,,	M. F. Grant	Aldershot	London.
,,	D. P. Johnstone	Wrexham	R. A. M. Coll.
,,	E. H. M. Moore	Newport	,,
,,	F. J. Garland, M.B.	Bury	,,
,,	R. J. Cahill, M.B.	Curragh	,,
,,	S. C. Bowle	Winchester	,,
,,	H. B. Connell	—	Dublin.
,,	A. S. Arthur, M.B.	Inverness	R. A. M. Coll.
,,	P. Dwyer, M.B.	Aldershot	,,
,,	H. T. Wilson	Wool Camp	,,
,,	R. C. Hallowes, M.B.	Dundalk	,,
,,	J. H. Campbell, M.B.	Warrington	Bury.
,,	G. A. D. Harvey	Dover	R. A. M. Coll.
,,	M. Sinclair, M.B.	Tralee	,,
,,	A. N. Fraser, M.B.	Glasgow	,,
,,	H. St.M. Carter, M.D.	Aldershot	,,
,,	K. A. C. Doig	Hilsea	,,
,,	P. A. Lloyd Jones, M.B.	Kinsale	,,
,,	J. St.A. Maugham	Parkhouse Camp	,,
,,	L. V. Thurston	Fethard	,,
,,	A. W. Gater	Fermoy	,,
,,	J. P. Lynch	Shorncliffe	,,
,,	R. K. White	Fermoy	,,
,,	E. B. Booth, M.D.	Kildare	,,
,,	E. G. R. Lithgow	Sheerness	,,
,,	J. S. Pascoe	Enniskillen	,,
,,	G. H. Richard	Londonderry	,,
,,	H. H. A. Emerson, M.B.	Clonmel	Limerick.
,,	G. E. Ferguson	Cyprus	S. Command.
,,	P. Farrant	Sling Plantation Camp	Tidworth.
,,	W. McConaghy, M.B.	Tidworth	R. A. M. Coll.
,,	W. C. Nimmo	Chakrata	Meerut.
,,	A. A. Sutcliff, M.B.	Alderney	R. A. M. Coll.
,,	H. E. Gotelee	Holywood	,,
,,	C. T. Edmunds	Cherat	Dehra Dun.
,,	D. De C. O'Grady	Barian	Peshawar.
,,	E. J. Elliot, M.B.	Newcastle	R. A. M. Coll.
,,	D. M. Corbett, M.B.	Dalhousie	Multan.
,,	J. A. Bennett, M.B.	Mhow	Bombay.
,,	A. D. Fraser, M.B.	—	Irish Commd.
,,	J. H. Gurley	Woolwich	R. A. M. Coll.
,,	G. F. Dawson, M.B.	Meerut	Chakrata
Captain	F. J. Stuart, M.B.	Fyzabad	Meerut.
,,	C. A. T. Conyngham, M.D.	Quetta	Dehra Dun.
,,	H. H. Blake, M.B.	Peshawar	Nowshera.
,,	W. H. S. Burney	Birr	Curragh.
Lieutenant	H. Gall	Dagshai	Simla.
,,	A. W. Byrne, M.B.	Dalhousie	Lahore.
,,	G. H. Stack, M.B.	—	Caterham.
,,	S. W. Kyle, M.B.	Jubbulpore	Jhansi.
,,	A. T. J. McCreery, M.B.	Mhow	Indore.
,,	S. S. Dykes, M.B.	Barry Camp	Aberdeen.
,,	W. P. MacArthur, M.B.	Aldershot	Mauritius.
,,	A. D. Stirling, M.B.	Piershill	Alexandria.
,,	G. P. Taylor, M.B.	Irvine	Glasgow.
,,	O. W. McSheehy, M.B.	Taunton	S. Africa.
,,	M. J. Williamson, M.B.	Hamilton Camp	Tidworth.
,,	M. White, M.B.	Bordon	India.
,,	H. F. Joynt, M.B.	Hounslow	S. Africa.
,,	A. S. M. Winder, M.B.	Curragh	India.
,,	P. G. M. Elvery	Cairo	Cyprus.
,,	J. Gilmour, M.B., F.R.C.S.Edin.	Cardiff	Devonport.
,,	E. T. Gaunt, M.B.	Canterbury	Shorncliffe.
,,	T. J. Hallinan, M.B.	Youghal	Limerick.
,,	J. K. Gaunt, M.B	Lisnagar Camp	Fermoy.
,,	L. F. K. Way	Cosham	Hilsea.
,,	C. M. Finny, M.B.	Curragh	Dublin.

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

THE Registrar-General has just issued his return relating to the births and deaths in the third quarter of the year, and to the marriages during the three months ending June last. The marriage-rate during that period was equal to 16.7 per 1000, or 0.2 per 1,000 above the average rate in the corresponding period of the ten preceding years.

The 222,601 births registered in England and Wales during the quarter under notice were equal to an annual rate of 24.4 per 1,000 of the estimated population; the birth-rate last quarter was 2.9 per 1,000 below the average rate for the corresponding period of the ten preceding years, and is the lowest rate recorded in the third quarter of any year since civil registration was established. Among the several counties the birth-rates last quarter ranged from 18.4 in Sussex, 20.0 in Northamptonshire, 20.1 in Berkshire, and 20.2 in Devonshire, in Somersetshire, and in Carnarvonshire, to 26.7 in Northumberland, 26.8 in Carmarthenshire, 27.3 in Nottinghamshire, 27.7 in Staffordshire, 29.9 in Monmouthshire, 30.9 in Durham, and 31.7 in Glamorganshire. In seventy-seven of the largest towns, including London, the birth-rate averaged 25.5 per 1,000; in London the rate was 24.9 in 1,000, while among the other towns the rates ranged from 15.8 in Bournemouth, 16.0 in Hastings, 17.9 in Hornsey, 18.3 in Halifax, 18.5 in Huddersfield, and 18.6 in Bradford, to 30.1 in Bootle, 31.3 in Stoke-on-Trent, 32.7 in Merthyr Tydfil, 34 7 in St. Helens, and 35.3 in Rhondda.

The excess of births over deaths during the quarter was 81,645, against 123,300, 124,054, and 123,022 in the third quarters of the three preceding years. From a return issued by the Board of Trade it appears that the passenger movement between the United Kingdom and places outside Europe resulted in a net balance outward of 80,676 persons of British nationality; the departures among English passengers exceeded the arrivals by 53,907 persons, among Welsh by 1,842, among Scottish by 17,530, and among Irish by 5,403, and among British Colonial passengers by 1,994; the number of aliens departing for places outside Europe exceeded the arrivals by 14,039.

During the three months under notice the deaths of 140,956 persons were registered, equal to an annual rate of 15.5 per 1,000, against an average rate of 13.8 per 1,000 in the ten preceding third quarters. The lowest county death-rates last quarter were 11.4 in Wiltshire, 11.7 in Somersetshire, 11.8 in Berkshire and in Hertfordshire, 11.9 in Shropshire, and 12.1 in Buckinghamshire; the highest rates were 16.7 in the West Riding of Yorkshire, 17.5 in Glamorganshire, 17.6 in the East Riding of Yorkshire, 18.0 in Staffordshire. 18.5 in Lancashire, and 18.6 in Durham. In seventy-seven of the largest towns the corrected death-rate was 17.6 per 1,000; in 136 smaller towns the rate was 15.7 per 1,000, while in the remainder of the country it was 13.6 per 1,000. The crude death-rates ranged in the seventy-seven large towns from 9.3 in Hornsey, 9.9 in King's Norton, 10.2 in Handsworth (Staffs), 11.2 in Barrow-in-Furness, 11.3 in Bournemouth, and 11.4 in Leyton, to 20.4 in Wigan and in Hull, 20.5 in Bolton, 21.0 in St. Helens, 21.6 in Burnley, 22.6 in Liverpool, and 24.7 in Stoke-on-Trent; in London the rate was 15.5 per 1,000.

The 140,956 deaths from all causes last quarter included 36,809 which were referred to the principal epidemic diseases; of these, 31,785 were attributed to diarrhoea and enteritis among children under two years of age, 1,536 to whooping-cough, 1,415 to measles, 987 to diphtheria, 679 to enteric fever, 400 to scarlet fever, 5 to small-pox, 1 to typhus, and 1 to pyrexia of uncertain origin; the mortality from each of these diseases, except diarrhoea, was below the decennial average.

The rate of infant mortality, measured by the proportion of deaths among children under one year of age to registered births was equal to 201 per 1,000, and was 60 per 1,000 above the average for the ten preceding third quarters. Among the several counties the rates of infant mortality last quarter ranged from 68 in Herefordshire, 87 in Shropshire, 99 in Wiltshire, 115 in Somersetshire, 119 in Oxfordshire, and 120 in Suffolk, to 227 in Nottinghamshire, 232 in Staffordshire and in Durham, 233 in Monmouthshire, 240 in Glamorganshire, and 245 in Lancashire. In seventy-seven of the largest towns the rate averaged 225 per 1,000, the lowest rates being 104 in Handsworth (Staffs), 124 in Barrow-in-Furness, 132 in Hornsey and in Coventry, 145 in Reading and 149 in Brighton, and the highest rates 331 in Bolton, 339 in Aston Manor, 352 in Burnley, 365 in Wigan, and 374 in Stoke-on-Trent.

The death-rate among persons aged 1 to 65 years was 7.5 per 1,000 of the population estimated to be living at this group of ages; in the seventy-seven large towns the corresponding rate averaged 8.2 per 1,000, and ranged from 4.2 in King's Norton, 4.6 in Hastings, 5.0 in Hornsey, 5.1 in Leyton, and in Handsworth (Staffs), and 5.2 in Bournemouth, to 10.1 in Walsall and in Wigan, 10.4 in St. Helens, 10.5 in Sunderland, 10.6 in Stoke-on-Trent and in Wolverhampton, and 12,7 in Liverpool.

Among persons aged 65 years and upwards the annual rate of mortality was 75.9 per 1,000 last quarter; in the seventy-seven towns the mortality at this age-group averaged 83.4 per 1,000, and ranged from

57.7 in Ipswich and in King's Norton, 59 3 in York, 59.4 in Hornsey, and 60.2 in Norwich, to 120.6 in Bootle, 123.4 in Burnley, 126.9 in West Hartlepool, 127.7 in Bury, 129.0 in Dewsbury, and 129.1 in Bolton.

The mean temperature of the air last quarter was considerably above the average; the rainfall was everywhere very deficient; and the duration of bright sunshine was largely in excess, being in nearly all districts the highest amount registered during that quarter of the year since the general establishment of recording instruments in 1881.

HEALTH OF ENGLISH TOWNS.

In seventy-seven of the largest English towns, 7,784 births and 4,319 deaths were registered during the week ending Saturday last, November 18th. The annual rate of mortality in these towns, which had been 13.3, 13.5, and 13.1 per 1,000 in the three preceding weeks, rose to 13.9 per 1,000 in the week under notice. In London last week the death-rate did not exceed 13.0 per 1,000, against 13.1, 13.1, and 12.8 in the three previous weeks. Among the seventy-six other large towns the death-rates last week ranged from 6.4 in King's Norton, 6.6 in Wallasey, 7.6 in Burton-on-Trent, 7.7 in Grimsby, and 9.0 in West Hartlepool, to 19.1 in Liverpool and in Gateshead, 19.3 in Middlesbrough, 19.6 in Stockport, 20.0 in Stockton-on-Tees, and 21.4 in Sunderland. Measles caused a death-rate of 1.1 in Wolverhampton and in Oldham, and 2.0 in Salford; whooping-cough of 1.0 in Sunderland and 1.6 in St. Helens; diphtheria of 1.4 in Swansea; and diarrhoea and enteritis (of infants under 2 years of age) of 1.1 in Oldham and 2.1 in Aston Manor. The mortality from enteric fever and from scarlet fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 37, or 0.9 per cent., of the total deaths registered in the seventy-seven towns were not certified either by a registered medical practitioner or by a coroner after inquest, and included 8 in Liverpool, 4 in Gateshead, and 3 each in Birmingham, Preston, and South Shields. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,180, 2,189, and 2,203 at the end of three preceding weeks, had further risen to 2,213 on Saturday last; 291 new cases were admitted during the week, against 297, 269, and 292 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In eight of the largest Scottish towns 770 births and 611 deaths were registered during the week ended Saturday last, November 18th. The annual rate of mortality in these towns, which had been 16.4 and 16.3 per 1,000 in the two preceding weeks, rose to 18.6 in the week under notice, and was 4.7 per 1 000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the annual death-rates last week ranged from 12.3 in Dundee and 12.9 in Leith to 20.8 in Greenock and 21.7 in Aberdeen. The mortality from the principal epidemic diseases averaged 2.0 per 1,000, and was highest in Glasgow and Aberdeen. The 300 deaths from all causes registered in Glasgow included 2 from enteric fever, 9 from measles, 1 from scarlet fever, 2 from whooping-cough, 4 from diphtheria, and 11 from infantile diarrhoea. Sixteen deaths from measles, 2 from scarlet fever, 2 from diphtheria, and 2 from whooping-cough were recorded in Aberdeen, and 4 deaths from infantile diarrhoea in Edinburgh, and 3 in Dundee.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 18th, 529 births and 419 deaths were registered in the twenty-two principal urban districts of Ireland, as against 631 births and 388 deaths in the preceding period. The annual death-rate in these districts, which had been 17.1, 17.1, and 17.6 per 1,000 in the three preceding weeks, rose to 19.0 per 1,000 in the week under notice, this figure being 5.1 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 22.1 and 17.7 respectively, those in other districts ranging from 7.9 in Galway, and 9.5 in Limerick to 25.8 in Lurgan and 25.9 in Cork, while Londonderry stood at 16 6, and Waterford at 13 3. The zymotic death-rate in the twenty-two districts averaged 2.2 per 1,000 as against 1.5 in the preceding period.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ANGLESEY COUNTY COUNCIL.—County Medical Officer of Health, County School Medical Officer and Medical Inspector (combined appointment). Salary, £400 per annum.

BARNSLEY: BECKETT HOSPITAL.—Second House-Surgeon. Salary, £100 per annum.

BATH ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Second Anaesthetist.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House-Surgeon. Salary, £80 per annum.

BIRMINGHAM CORPORATION CITY HOSPITAL.—Assistant Resident Medical Officer. Salary, £120 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £200 per annum.

BRENTFORD UNION.—Second Assistant to the Medical Superintendent. Salary, £125 per annum.

BRIDGNORTH AND SOUTH SHROPSHIRE INFIRMARY.—House-Surgeon, Salary, £100 per annum.

BRISTOL ROYAL INFIRMARY.—House-Physician. Salary, £100 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90.

CARDIFF: KING EDWARD VII'S HOSPITAL.—Honorary Assistant Anaesthetist.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

COLCHESTER EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum.

COSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—House-Surgeon (male). Salary, £50 per annum.

DONCASTER ROYAL INFIRMARY AND DISPENSARY.—(1) Senior House-Surgeon; (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—(1) Physician; (2) Assistant Physician.

FLEETWOOD: ROSSALL SCHOOL.—Resident Medical Officer. Salary, £250 per annum, rising to £300.

FLORENCE NIGHTINGALE HOSPITAL FOR GENTLEWOMEN, Lisson Grove, N.W.—Non-resident House-Surgeon. Salary, £100 per annum.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL.—(1) Two Outdoor House-Surgeons at the Hospital: (2) Outdoor House-Surgeon at the West End Branch.

GLASGOW PARISH COUNCIL.—Resident Junior Male Assistant Medical Officer for Stobhill General Hospital. Salary, £120 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Physician to Out-patients; (2) Surgeon to Out-patients; (3) Medical Registrar, honorarium £127 10s. a year: (4) House-Surgeon, salary £30 for six months and £2 10s. washing allowance.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

ITALIAN HOSPITAL, Queen Square, W.C.—Honorary Assistant Physician (Out-patients).

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITALS.—Vacancy on Honorary Medical Staff.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—(1) Resident Medical Officer; salary, £120 per annum. (2) Surgical Registrar; salary, 40 guineas per annum.

LONDON UNIVERSITY.—(1) Four Examiners in Medicine; (2) Four Examiners in Surgery; (3) Two Examiners in Pathology; (4) Two Examiners in Mental Diseases and Psychology; (5) Two Examiners in General Biology. (1) to (4) are for the higher examinations for medical degrees, and (5) is for the first examination for medical degrees.

MANCHESTER CHILDREN'S HOSPITAL.—Male Medical Officer for the Out-patient Department. Salary, £180 per annum.

MANCHESTER TOWNSHIP.—Junior Resident Assistant Medical Officer of the Workhouse.—Salary, £110 per annum

MIDDLESEX COUNTY ASYLUM, Napsbury.—Assistant Medical Officer. Salary, £180 per annum.

NEWCASTLE-ON-TYNE: HOSPITAL FOR SICK CHILDREN.—(1) Honorary Surgeon; (2) Assistant Physician.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

PLAISTOW: MEDICAL MISSION HOSPITAL.—Junior Resident Medical Officer for Dispensary (female).

PRESTON: COUNTY ASYLUM, Whittingham.—Pathologist and Assistant Medical Officer. Salary, £200 per annum, increasing to £250.

PRESTWICH: COUNTY ASYLUM.—Assistant Medical Officer. Salary, £150 per annum, increasing to £200.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Milroy Lecturer for 1913.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester Square, W.C.—Morning House-Anaesthetist. Honorarium, £25 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—(1) Honorary Ophthalmic Surgeon; (2) Honorary Dental Surgeon.

ST. THOMAS'S HOSPITAL, S.E.—(1) Surgical Registrar; (2) Resident Assistant Physician.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £60 per annum.

SHREWSBURY: COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £170 per annum, rising to £190.

SUNDERLAND: CHILDREN'S HOSPITAL.—Resident Medical Officer. Salary, £80 per annum.

THROAT HOSPITAL, Golden Square, W.—Honorary Assistant Surgeon.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

WAKEFIELD GENERAL HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

WEST LONDON HOSPITAL, Hammersmith, W.—House-Physician for six months.

WEST RIDING ASYLUM, Wadsley.—Fifth Assistant Medical Officer (male). Salary, £140 per annum, rising to £160.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Assistant Honorary Surgeon in the Eye, Ear, and Throat Department.

WORCESTER: COUNTY AND CITY ASYLUM, Powick.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Blaenavon (Monmouthshire), Cullingworth (Yorkshire, West Riding), Exmouth (Devonshire), Sidmouth (Devonshire).

APPOINTMENTS.

JONES, A. Emrys, M.D.Edin., reappointed on the Medical Board of the University of Wales.

LAKE, Norman C., M.B., B.S., B.Sc., Hns. (Anat.)Lond., Demonstrator of Anatomy to the University of London at King's College, London.

MCILROY, A. Louise, M.D., D.Sc., Assistant to the Muirhead Professor of Obstetrics and Gynaecology, University of Glasgow.

PENNINGTON, Drury, M.R.C.S., L.R.C.P., Clinical Assistant to the Samaritan Free Hospital for Women.

SUTHERLAND, D. P., M.B., B.S.Lond., Medical Assistant in connexion with tuberculosis to the Medical Officer of Health for Manchester.

WALLACE, John, M.B., C.M., B.Sc.(Public Health) Edin., Medical Officer of Health to the Weston-super-Mare Urban District Council, vice C. V. Hitchins, M.R.C.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

CLEMENTS.—November 18th, at Middleton-on-the-Wolds, Yorkshire, to Dr. and Mrs. Ernest Clements—a son.

KENT.—At Tong Shan, North China, on November 1st, 1911, to Dr. and Mrs. Hugh Kent—a son.

MARRIAGE.

MACKINNON—ROWELL.—On November 11th, at St. Paul's Church, Upper Norwood, by the Rev. Canon R. B. Ransford, Murdoch Mackinnon, M.D., D.P.H., Medical Registrar (late Medical Superintendent) of Seamen's Hospital, Greenwich, fourth son of John and Marion Mackinnon, of Skye, to Isabella Irvine (Lily), third daughter of the late David Rowell, of Aberdeen and Westminster, and Mrs. Rowell, of Wallington Lodge, Upper Norwood.

DEATH.

SLACKE.—On November 17th, at The Lodge, Uffculme, Devon, George Arthur Slacke, M.R.C.S.Eng., son of the late Thomas Trivett Slacke, of Paington, Devon, aged 64.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8 p.m.—Clinical Exhibition.

ROYAL SOCIETY OF MEDICINE:

ODONTOLOGICAL SECTION, 15, Cavendish Square, W., 8 p.m. —(1) Casual Communications. (2) Paper:—Mr. A. H. Parrott: Local Anaesthesia, with Special Reference to Injection Methods.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

MEDICAL SECTION, 15, Cavendish Square, W., 5.30 p.m.—Papers:—(1) Dr. F. Craven Moore and Dr. H. E. Allanson: The Influence of Certain Accessory Foodstuffs on Gastric Secretion. (2) Dr. Parkes Weber: The Association of Hysteria with Malingering, and the Phylogenetic Aspect of Hysteria as Pathological Exaggeration (or Disorder) of Tertiary (Nervous) Sex Characters.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

LARYNGOLOGICAL SECTION, 11, Chandos Street, W., 4.30 p.m.—Cases and Specimens will be shown by Dr. William Hill, Dr. Jobson Horne, Dr. Kelson, and others.

SECTION OF ANAESTHETICS, 15, Cavendish Square, W., 8.30 p.m.—Paper:—Dr. Dudley Buxton: Crawford W. Long, the Pioneer of Ether Anaesthesia: The Methods of 1842 and 1911.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, 8.30 p.m.—Paper:—Dr. Seymour Taylor: Unrecognized Diphtheria.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures:—Tuesday, 3.45 p.m.: Accessory Sinuses. Friday, 3.30 p.m.: Vaccines.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m., Secondary Infections in Pulmonary Tuberculosis.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively: Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday; Eye, 11 a.m. Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Tuesday, 3.15 p.m., Modern Theories of Heart Disease; Thursday, 4.30 p.m., Surface Anatomy; Friday, 2.15 p.m., Epilepsy and Epileptiform Fits.

MANCHESTER: ANCOATS HOSPITAL.—Post-graduate Clinic: Thursday, 4.15 p.m., Urinary Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week, at 4 p.m. each day: Monday, Skin. Tuesday, Medical. Wednesday, Surgical. Thursday, Surgical. Friday, Eye. Lectures, at 5.15 p.m. each day, will be given as follows: Monday, On Pre-oedema and Nascent Oedema: their Detection and Treatment. Tuesday, Syphilis d'Emblée. Wednesday, The Nature of Hysteria. Thursday, Treatment of Displaced or Injured Semilunar Cartilage of the Knee-joint.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Surgery of the Nervous System.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics; 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear; 3 p.m., Pathological Demonstration. Tuesday, 2.30 p.m., Operations; Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient; 4.30 p.m., Lecture: Surgical Conditions of Antenatal Origin. Wednesday, 2 p.m., Throat Operations; 2.30 p.m., Medical Out-patient; Skin and Eye Clinics: *X* Rays; 3 p.m., Pathological Demonstration; 5.30 p.m., Eye Operations. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient; 4.30 p.m., Demonstration of Selected Cases of Children's Diseases. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient; Pathological Demonstration.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m. daily.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
NOVEMBER.	
25 SATURDAY ..	
26 Sunday ..	
27 MONDAY ..	
28 TUESDAY ..	
29 WEDNESDAY	BATH AND BRISTOL BRANCH, Ordinary Meeting, Museum, Bath, 8 p.m.; Council Meeting, 7.55 p.m.
30 THURSDAY ..	
DECEMBER.	
1 FRIDAY ..	ISLE OF THANET DIVISION, *South-Eastern Branch*, Beresford Hotel, Birchington, 4.15 p.m.
2 SATURDAY ..	
3 Sunday ..	

Date.	Meetings to be Held.
DECEMBER *(continued)*.	
4 MONDAY ..	
5 TUESDAY ..	
6 WEDNESDAY	
7 THURSDAY ..	
8 FRIDAY ..	
9 SATURDAY ..	
10 Sunday ..	
11 MONDAY ..	
12 TUESDAY ..	
13 WEDNESDAY	LANCASHIRE AND CHESHIRE BRANCH, Scientific and Clinical Meeting, Liverpool.
14 THURSDAY ..	WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, Walthamstow Hospital, 4 p.m.
15 FRIDAY ..	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 2ND, 1911.

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National Insurance.

British Medical Association.

LETTER AND MEMORANDUM ADDRESSED TO THE CHANCELLOR OF THE EXCHEQUER.

Offices of the British Medical Association,
429, Strand,
London, W.C.,
November 27th, 1911.

SIR,

By direction of the Council of the British Medical Association I have the honour to submit for your consideration the enclosed statement of conclusions arrived at by the Special Representative Meeting of the Association held on Thursday and Friday of last week, November 23rd and 24th, for the consideration of the National Insurance Bill as amended in Committee of the House of Commons. The Council desires me most respectfully to express the earnest hope that the requests for further amendment of the Bill put forward in this statement may receive your assent, not only in the interest of the medical profession, but also in the public interest, as tending greatly to secure the hearty co-operation of the profession in the working of the medical service which is to provide for the requirements of so great a proportion of the population of this country.

I am directed to add that, in arriving at the conclusions stated in the enclosed Memorandum, the Representative Body of the Association had before it a Report by the Council of action taken since the Annual Representative Meeting, which included reference to the representations that have from time to time been made to yourself since the date of that meeting. A summary was given of the questions raised in the Conference, over which you presided, between representatives of the Friendly Societies and of the medical profession on October 9th and 16th. The letters addressed to you on November 10th, 15th, and 20th, 1911, and your kind reply of November 22nd, were also placed before the Meeting. Inasmuch as certain of the points put forward in the enclosed statement were referred to in that correspondence it is specially desired that it should be made clear that it was after full consideration of that correspondence that the Representative Body decided again to place before you certain of the representations which, as put forward by the Council, you had already considered.

With reference to the subject of Ireland, in view of the fact that the difficulty as regards the giving of medical benefits in that country is understood to arise from the opposition of the section of representatives of Ireland led by Mr. Redmond, and in view of the suggestion made by yourself when you received the deputation on November 2nd, I have been directed to address a letter to Mr. Redmond, a copy of which is enclosed for your information.

Should you desire to see any representatives of the Association with reference to any of the matters referred to in the enclosed Memorandum, I am in a position to arrange for their attendance at short notice.

I have the honour to be, Sir,
Your obedient servant,
(Signed) J. Smith Whitaker,
Medical Secretary.

The Right Hon. David Lloyd George,
Chancellor of the Exchequer,
The Treasury,
Whitehall, S.W.

MEMORANDUM
of
Matters which the Representative Body of the British Medical Association desires most respectfully to submit for the consideration of the Chancellor of the Exchequer with a view to securing such further Amendments of the National Insurance Bill as are desired by the Medical Profession.

The Representative Body desired that in the first place the Chancellor of the Exchequer should be informed of the continued determination of the Association, supported, as they have every reason to believe, by the general body of the medical profession in the United Kingdom, to secure by every means in their power that the arrangements made with medical practitioners for giving attendance and treatment to insured persons shall be consistent with the six cardinal principles formulated and approved by the Representative Meeting of June 1st, 1911, and confirmed by the Representative Meeting, Birmingham, in July, 1911.

Harmsworth Amendment.

Secondly, the amendment of Subsection (4) of Clause 16, which was submitted for the consideration of the profession as the result of the Conference with the Friendly Societies, has been carefully considered. In view, however, of the very strong feeling aroused in the profession by the Harmsworth amendment, which is not allayed by the amendment of that amendment now proposed, it was decided again to urge the Government to delete from the Bill the Subsection in question.

Provision of Medical Attendance to Members of Friendly Societies Debarred from Becoming Insured Persons.

The other proposal which was submitted to the profession as a result of the conference in question—that, namely, of relieving the Friendly Societies of the difficulty in which they are placed as regards the provision of medical attendance and treatment for those of their present members who may be debarred either on the ground of age or on the ground of permanent invalidity from becoming insured persons—was, on the other hand, favourably received, and the Representative Body decided to recommend the profession to accept this principle.

Safeguards as to Medical Attendance being Given at Rates Lower than those Paid by Insurance Committee.

Full consideration was given to the explanation kindly afforded by the letter of the Chancellor of the Exchequer, dated November 22nd, as to the effect of certain provisions of the Bill in precluding those who are allowed under Subsection 3 of Clause 14 to make their own arrangements for the provision of medical attendance from doing so through organizations at rates of remuneration lower than those paid by the local Insurance Committees to medical practitioners who give attendance and treatment under arrangements made by that Committee.

While gratified to learn that the provisions of the Bill would indirectly have the effect stated, the Representative Body feels the matter to be one of such importance as affecting not only the interest of the profession, but also (as it is glad to believe that the Chancellor of the Exchequer recognizes) the public interest, that they urge that some more definite provision should be inserted in order to afford full security against the abuse in question. It is believed that the Chancellor of the Exchequer will recognize that if combinations should make arrangements for the provision of medical attendance which afforded to the practitioners employed lower remuneration than the arrangements made by the Insurance Committee itself, this must, in the ordinary course of events, lead to relative inefficiency of service. Under the provisions to which attention was called by the Chancellor of the Exchequer the check against this would have to be applied by the Insurance Committee, and possibly by the Insurance Commissioners, in an indirect and cumbrous manner. Friction and disputes must inevitably result, and it is desired to urge that it is to the interest of every one to avoid all such difficulties by the simple expedient of stating explicitly what the Association is glad to learn is already the intention of the provisions of the Bill.

Provision for Remuneration.

On the general question of remuneration the Representative Body thinks it right that the Chancellor of the Exchequer should be informed at once of its opinion that the amount of 6s. per head per annum, upon which the actuarial calculations have been based, will prove inadequate to meet the cost of provision of medical benefit for the insured. The Meeting desired also to point out that the admission of unemployed married women to medical benefit will in itself necessitate a considerable increase upon the amount per head that would otherwise have been necessary. The Association had previously recognized that on public grounds, and in the interest of the health of the community, the admission of this section to medical benefit was desirable.

Medical Representation on Insurance Committees.

The Chancellor of the Exchequer's reply on the subject of medical representation on the Insurance Committees was carefully considered and full weight given to the views of the Government stated therein at to the advisability of an increased proportion of members of the medical profession being included by the Insurance Commissioners among those whom they appoint as members of county or county borough Insurance Committees. The reports of medical meetings throughout the country, and the discussion in the Representative Meeting showed, however, the great strength of the feeling which exists in the profession on this subject, and which must have a serious effect in prejudicing the working of the Bill if a definite concession is not made upon the subject. With the possible exception of the question of deletion of Subclause 4 of Clause 14, no point has raised more acute feeling in the profession than the great increase in the size of the Insurance Committees without provision for corresponding increase in the medical element of these Committees. The Association, after fully considering the reply already given by the Chancellor of the Exchequer on this subject, would again urge with all respect that at least one-tenth of the members of each Insurance Committee should be medical practitioners.

The Association, through the Representative Body, confirms the previous action of the Council in urging that if the Auxiliary or District Committees are to administer medical benefit there should be medical representation upon them similar to that given on the County or County Borough Insurance Committees.

With reference to the question of recognition of a local Medical Committee corresponding to each District or Auxiliary Committee, it is noted that it would be possible for a District Committee to recognize a Subcommittee of the local Medical Committee appointed for their district, but it is most respectfully submitted that there may be difficulty in securing such recognition and that friction and disputes might thus arise which would be avoided by a simple addition to Clause 58 of the bill as amended.

Inclusion of Medical Practitioners among Insurance Commisioners and Advisory Committees.

The Representative Body was glad to learn that provision would be made for the inclusion of at least one member of the medical profession among the Insurance Commissioners, for Scotland, among those for Ireland, and among those for Wales.

It is assumed that there will be corresponding provision for the admission of medical members in the Advisory Committees that may be constituted for these countries, corresponding to the English Advisory Committee.

The Representative Body desired further that it should be definitely provided that the local Insurance Committees for Scotland, Ireland, and Wales should include medical practitioners to the same proportion and appointed in the

same manner as in England, and that in so far as this is not already provided in the bill; it be so provided.

Institutional Treatment.

The Representative Body still feels that the inadequacy of the provision for institutional treatment constitutes one of the gravest defects of the Insurance Bill in its public aspects. It is greatly regretted that apart from such institutional treatment as can be given under the head of sanatorium benefit, the Bill leaves the public provision of this most important part of medical treatment to charity and the Poor Law. In full recognition of the replies that have already been received upon this point, it feels it to be its duty upon this, as upon every other occasion, to lay emphasis upon the defectiveness of the scheme in this respect.

Dispensing.

The Representative Body approved the action of the Council in pressing for, and urged them to insist upon, such amendment of Subsection 5, Clause 14, as would fully protect the right of medical practitioners to undertake the provision of drugs and medical appliances for those insured persons whom they attend, subject only to the condition that the provision of medical attendance and treatment, and the provision of drugs and appliances should be the subject of separate arrangements, and not made at an inclusive fee.

Ireland.

On the subject of the Bill as applying to Ireland, the Representative Body had before it a report of the negotiations that had already taken place. It was recognized that the difficulty arose entirely from the attitude of the majority of Irish representatives in Parliament, and, indeed, of that section of the Irish representatives which is led by Mr. Redmond, the Irish Unionist Party being apparently, as indicated by Sir Edward Carson, in agreement with what is understood to be the Chancellor of the Exchequer's personal view as to the desirability of the medical benefits being extended to Ireland.

The Meeting had before it representations from bodies thoroughly representative both of the Irish medical profession in general and of the dispensary doctors in particular, whose position of course presents certain distinctive features. It was clear that the members of the Irish profession are almost, if not entirely, unanimous in demanding that, if the bill applied to Ireland, the medical benefits should apply to that country in the same way as in Great Britain.

In the event of the position of the majority of Irish Representatives still making it impracticable to give the medical benefit, the Council of the Association is instructed to support the Irish profession in pressing for such provision as shall ensure that in the event of medical benefit being provided through friendly societies in Ireland as an additional benefit, the insured persons who are to receive medical attendance and treatment under such arrangements shall be entitled to free choice of doctor under provisions similar to those contained in Subsection (2) of Clause 14 of the Bill.

LETTER ADDRESSED TO THE CHAIRMAN OF THE IRISH NATIONALIST PARTY.

Offices of the British Medical Association,
Medical Department,
429, Strand, London, W.C.,
November 25th, 1911.

SIR,

The following statement of the views of the Irish medical profession on the question of the provision of medical benefit under the National Insurance Bill in Ireland is submitted to you on behalf and by authority of a Joint Committee composed of the Irish Committee of the British Medical Association and the Committee of Council of the Irish Medical Association. That Committee was appointed by a Mass Meeting of the medical profession of Ireland held in Dublin on June 30th, 1911, to act on behalf of the Irish medical profession with regard to all questions arising in connexion with the National Insurance Bill as affecting Ireland.

The conclusions stated herein have been arrived at by the Joint Committee as a result of its careful consideration of the new position created by the decision of the House of Commons in Committee that the portion of the Bill providing medical benefit should not apply to Ireland, and that such benefits should only be given in that country, if at all, as an additional benefit by and through friendly or other approved societies.

In arriving at its decisions, the Joint Committee had before it the decision of a representative body of the Dispensary doctors of Ireland, whose position is, of course, affected in some respects differently from that of other members of the profession. I have authority for stating that the Dispensary doctors, as a body, are now entirely in accord with the rest of the Irish medical profession upon the subject.

Lastly, I am instructed by the Council of the British Medical Association, as representing the medical profession both in the United Kingdom and throughout the British Empire, to state that the conclusions of the Irish Joint Committee were placed before a Special Representative Meeting of the British Medical Association, composed of delegates from all parts of the Empire, held on November 23rd and 24th, 1911, when the Meeting unanimously decided to support the Irish medical profession in its demands. It is desired that I should make plain that the entire force of the medical profession in Great Britain, both pecuniary and in every other way, will be at the disposal of the Irish medical profession for its support in enforcing those demands.

The views which I am thus authorized on behalf of the Irish medical profession and instructed on behalf of the British Medical Association to place before you are the following:

1. That if the National Insurance Bill applies to Ireland at all, the medical benefit should be given in that country on the same terms as in Great Britain.

2. That it is recognized that some adjustment may be necessary in view of the present position of the Irish Dispensary doctors in respect of whom a certain amount of overlapping might otherwise take place. Time may not permit of such arrangements being arrived at and defined in the Insurance Bill, but it is considered that some provision might be inserted in general terms which would make such adjustment possible after the Bill became law, not merely as affecting the terms of the arrangements to be made with medical practitioners under the Insurance Bill, but also as affecting the present terms of appointment of the Dispensary doctors. In the view of the medical profession it is preferable that persons who might thus receive attendance, alternatively, either as insured persons or as dispensary patients, should be attended in the former capacity rather than in the latter, so that the stigma of pauperism may be avoided as far as possible—a stigma which it is inequitable to apply to those who, under the Insurance Bill, will contribute directly to the cost of their medical attendance.

3. Concerning medical remuneration, it is recognized that difficulty has arisen through the demand at one time made that a minimum rate of 8s. 6d. per head per annum should be fixed in the Bill as affecting Ireland. As there has been misunderstanding on this point, I am instructed to make clear that this demand was not suggested by the British Medical Association. On the contrary, the British Medical Association as a body has taken the view that the terms of remuneration could not satisfactorily be fixed, even as regards the definition of a minimum, in the Bill itself. The Irish medical profession, however, took for a time the contrary view of what was desirable in the application of the Bill to that country; and on this, as in all other matters, the British Medical Association thinks it right to be guided by the views of the Irish medical profession on questions which specially affect Ireland. I am now in a position to inform you that the Irish medical profession have come into agreement with the general views of the British Medical Association, and withdraw any demand for a rate to be fixed in the Bill. They recognize that the terms of remuneration must depend entirely on the amount and nature of the work to be done and the other conditions of service; that questions of the greatest importance affecting these could not possibly be defined satisfactorily by statute; and that, therefore, it is impracticable for the terms of remuneration to be satisfactorily defined.

4. Both from the replies received from the Chancellor of the Exchequer to representations made to him directly, and also from the report of the debate in the House of Commons, it seems clear that he personally is convinced that it would be preferable that the medical benefit should apply to Ireland, but that he felt debarred from forcing it upon that country in opposition to the declared views of the majority of its representatives in the House of Commons. It appears further that the opposition in this matter arises solely from that section of the Irish representatives of whom you are the leader, and that if you and the party whom you lead could fortunately be convinced that it was to the interest of the Irish people that medical benefits should be applied to Ireland, there would be no difficulty in securing the necessary amendments to the Bill.

5. In view of the grave defects of the present Irish Dispensary Service, which have been condemned by responsible bodies appointed by the Government to inquire into the matter (notably in the Report of the Vice-Regal Commission), it is earnestly hoped that you will be satisfied as to the practicability, in view of the statements in this letter, and as to the desirability of substituting the scheme of medical benefits advocated herein.

6. If, for any reason, it is not found practicable to extend the medical benefit to Ireland, I am instructed to urge that the provision of medical benefits as an additional benefit by the approved societies in that country should be subject to the condition which is to apply throughout the scheme of provision of medical benefits in Great Britain—namely, that each insured person should have individual free choice of doctor in accordance with the general principles underlying Subsection (2) of Clause 16 of the Bill as amended in Committee. Also, that there should be medical representation in the various administrative bodies constituted under the Bill, as in Great Britain.

Lastly, I have to state that, regard being had to the national importance of the subject of this letter, it is proposed that it should be published in the press generally on Tuesday morning next, in order that the position of the medical profession in the matter may be made clear to Parliament and the public before the Bill, as amended in Committee, is considered by the House of Commons on Report.

If you desire to discuss any point with representatives of the profession before coming to a decision, I have instructions which would enable me to deal with the matter to a certain extent, and I am in a position to arrange for representatives of the Irish Joint Committee to meet you on short notice, if desired.

I am, Sir,
Your obedient servant,
J. SMITH WHITAKER,
Medical Secretary.

John E. Redmond, Esq., M.P.

PROCEEDINGS IN PARLIAMENT.

The Re-numbering of the Clauses.

THE bill as amended consists of 109 clauses. Clause 13 in the old bill, relating to the administration of benefit, becomes Clause 15; that which relates to the administration of medical benefit in particular, previously Clause 14, is now Clause 16. The clauses setting up Insurance Commissioners and defining their powers are now 52 and 53 instead of 41 and 42. The Advisory Committee Clause becomes 54; that constituting the local Insurance (Health) Committee, Clause 55; the duties of these Committees are defined in Clause 56, and the source of their income in Clause 57; the provisions for the setting up of a local Medical Committee are contained in Clause 58. The clause relating to excessive sickness, which was the subject of much controversy in the earlier stages of the bill, becomes Clause 59. The provisions affecting sanatorium benefit are contained in Clause 17, and the extension of it to dependants of insured persons in Clause 18. The building grants for the erection of sanatoriums are now contained in Clause 60. The principal clauses affecting hospitals as distinct from sanatoriums are Nos. 14, 20, and 21, but it must be borne in mind that sanatorium benefit, as defined in Clause 10 (which now takes the place of Clause 8), may cover treatment, on the recommendation of the Local Government Board and the approval of the Treasury, of any disease in any institution.

The numbering will probably again be altered after other new clauses have been added on report.

New Clauses.

In addition to those mentioned in our last issue, certain new clauses in the name of the Chancellor of the Exchequer should be mentioned.

One is that which gives power to any approved society, subject to the consent of the Insurance Commissioners, to vary the relative amounts of the sickness, disablement, and maternity benefits, or any of them, or a part of them, and to apply them to other approved purposes by way of additional benefits. Such schemes may relate to a section of the members of the approved society. The purpose of this amendment is to provide that where sick pay may not be so much required as in other occupations, as in the case of domestic servants, provision may be made in lieu of the whole or part of the sick pay for the establishment of a superannuation or pension fund.

Another clause empowers approved societies to separate the men's from the women's funds. It should be pointed out, however, that in the financial estimates for the bill the maternity benefit is a charge on the men's fund.

Another clause provides machinery whereby, in the case of an insured person becoming a teacher in an elementary school, the amount of his surrender value may be paid by his society to the Board of Education, to be administered under the Elementary School Teachers' Superannuation Act, and for the transfer of sums on the teacher's behalf to the Deferred Annuity Fund.

The Commissioners.

The Chancellor of the Exchequer announced the names of some of the Insurance Commissioners for England, apparently of all save the Medical Commissioner, to the House of Commons, on Tuesday. It has always been understood that the Central Board of Commissioners was to be a small body, and that the Government had accepted the principle that it should contain representatives of the chief interests concerned—the Treasury, the medical profession, and the insured. Sir Robert Morant, who is appointed chairman, has been serving in the Education Department since 1895, and has been Permanent Under Secretary of the Board of Education since 1903; in that office he has earned a great reputation for decision of character and organizing ability. Mr. John Bradbury, C.B., is a Principal Clerk to the Treasury, was educated at Manchester and Oxford, and has been private secretary to the Prime Minister. Miss Mona Wilson, the woman commissioner, is a daughter of a former Archdeacon of Manchester, and has been associated in the investigation of the problems of industrial life with the Right Honourable Charles Booth and Mr. Seebohm Rowntree of York. She is a member, under the Trade Board Act, of the chain-making and paper-box-making trade boards, and served on the Home Office Departmental Committee on Industrial Accidents. Mr. D. J. Shackleton began life as a cotton worker in Lancashire, and became President of the Weavers' Amalgamation and a member of the Council of the Textile Workers' Association. He represented the Clitheroe Division of Lancashire in the House of Commons from 1902 until a year ago, when he was appointed Senior Labour Adviser to the Home Office. Mr. James Lister Stead has been Chief Secretary of the Ancient Order of Foresters since 1897. He also is a North countryman, for he was born in Leeds in 1864. He is a public auditor, was a journalist, took a leading part in the discussion of old age pensions, advocating their establishment on a non-contributory basis; was President, and is now a member of the Committee, of the National Conference of Friendly Societies, and was a member of the informal committee representing the friendly societies consulted by Mr. Lloyd George before the National Insurance Bill was introduced. The Chief Registrar of Friendly Societies will be a member of the Commission *ex officio*. This office has been held since 1904 by Mr. J. D. Stuart Sim, a barrister, who was appointed Assistant Registrar in 1891. The Secretary of the Commission is to be Mr. W. J. Braithwaite, an Assistant Secretary in the Inland Revenue Department, who has assisted the Treasury Parliamentary Counsel (Mr. F. F. Liddell) in the drafting of the bill and the many amendments and new clauses now incorporated in it.

REPORT STAGE.

On Tuesday, November 28th, the greater part of the evening debate was occupied in the discussion of the new clauses empowering societies to vary benefits in certain cases, as already alluded to in these notes. The discussion turned for the greater part on the effect the new clause would have on the insurance of domestic servants. It enabled societies to vary the benefits available out of the moneys provided for sickness, disablement, and maternity benefit, and to submit a scheme for the approval of the Commissioners, out of which, for example, a superannuation might be provided in lieu of the whole or part of the above-mentioned benefits. The scheme to some extent embodies the suggestions made by Mr. Forster and Mr. Worthington Evans last week. It will be noticed, however, that medical and sanatorium benefit could not be varied, and were therefore to be received by each insured person. Mr. Worthington Evans moved to omit "maternity." This amendment was agreed to, so that the power to vary benefits was confined to the money available for sickness and disablement. Mr. Worthington Evans then moved to insert the word "medical," the effect of which would have been that in the case of domestic servants, clerks, and others, who are particularly involved in the new clause, it would have been possible to substitute some other benefit for medical benefit. The Attorney-General resisted the amendment, which was negatived by 209 to 95. It will therefore be understood that under the clause as amended and added to the bill medical benefit in the case of domestic servants is, without exception, a benefit under the bill, and the same applies to the sanatorium and maternity benefit. Two other clauses respecting the transfer value of emigrants who remain members of approved societies, and the provisions with respect to certificated teachers, to which reference has already been made, were added to the bill with slight amendments.

The remainder of the sitting was devoted to a consideration of a House Letting and Rating (Scotland) Bill.

QUESTIONS IN PARLIAMENT.

Fishermen's Medicine Chests.

MR. FELL asked if the medicine chests kept on board fishing boats would, when the National Insurance Act was in force, be supplied to them by the Insurance Committees, so that the crews who would be insured persons, although they were deprived of medical attendance whilst at sea, might yet have the benefit of the drugs and appliances as some return for the payments to be made by them and by their employers under the Act? Mr. Lloyd George said that the bill did not repeal or modify the obligation upon shipowners to supply medicines on board ship. In reply to a further question by Mr. Fell, who asked whether fishermen would get any benefit when away on long voyages, and why they should not at any rate receive medical benefit, Mr. Lloyd George said that the owner was under an obligation to supply them with medical attendance as long as they were on board ship.

ALTERATIONS IN THE BILL.

A SUMMARY of the alterations in the bill as contained in the amendments placed on the order paper for Tuesday and Wednesday, in the name of the Chancellor of the Exchequer, may be interesting as a guide to the changes which are being made in the bill on the Report stage.

Young Persons.

Clause 1 is amended by making the bill apply only to those who are of the age of 16 and upwards, and Clause 2 as inserted in committee is accordingly struck out.

Exemption of Dependent Persons.

Among those who might claim to be exempt from the provisions of the bill (Clause 3) were those who were "ordinarily dependent upon some other person." This has been amended so as to make it clear that the dependence related to livelihood by an alteration of the words "mainly dependent upon some other person for their livelihood."

Definition of Disablement.

The definition of disablement contained in Clause 10, entitling a person to receive sickness or disablement benefit, has been amended by the omission of the word "unfit," and the insertion of the words "incapable of work," so that it applies to those who either by reason of some disease or bodily or mental disablement are rendered incapable of work. The expression "unfit" was deemed to be of too ambiguous a character.

Maternity Benefit.

Subclause 6 of Clause 10, which provided that a woman entitled to maternity benefit shall be excluded from sickness, disablement, or medical benefit for four weeks after her confinement, is now to be amended as follows:

Leave out from "woman," to end of subsection, and insert "confined of a child is herself an insured person, and is a married woman, or, if the child is a posthumous child, a widow, she shall be entitled to sickness benefit or disablement benefit (as the case may be) in respect of her confinement in addition to the maternity benefit to which she or her husband may be entitled, but, save as aforesaid, a woman shall not be entitled to sickness benefit or disablement benefit for a period of four weeks after her confinement unless suffering from disease or disablement not connected directly or indirectly with her confinement.

Medical benefit shall not include any right to medical treatment or attendance in respect of a confinement.

The effect of this amendment is that a woman who having recovered from her confinement contracts some disease or suffers from injury before the expiration of four weeks is not precluded from medical benefit.

Convalescent Homes.

Under Clause 14 convalescent homes are added to those institutions in the case of which sickness, disablement, or maternity benefit shall not be paid to an insured person whilst an inmate, but shall be used for the dependents, or in other ways as provided in the original clause, and an additional amendment empowers a society or committee to use some of the pay to which the insured person will be entitled "in the provision of any surgical appliances required."

Medical Attendance as Additional Benefit.

A very important amendment, which will, we believe, meet with the general approval of the profession, is put down to the first section of Clause 15 (administration of the benefits). It provides that where additional benefits are given, as they may be, for dependents and others, then should they be medical benefits they shall be administered by and through the local Insurance (Health) Committee. The terms of the amendment are as follows:

Additional benefits shall be administered by the society or branch of which the persons entitled thereto are members, except where such benefits are in the nature of medical benefits, in which case they shall be administered by and through the local Insurance (Health) Committees.

Refusal to Submit to Operation.

Considerable discussion arose during the Committee stage of the bill on Paragraph (*c*) of Subclause 2 of Clause 15, which provided that no rule made by a society shall prescribe any penalty, nor shall any insured person be subject to any penalty whether by suspension of benefit or otherwise on account of refusal to submit to a surgical operation, vaccination, or inoculation; it was pointed out at the time that this might operate very unfairly against the members of a society should any member obstinately refuse to undergo some operation, perhaps of a trivial character, which might be necessary to restore his power to work and take him off the sick fund. The words put down in the new amendment are, "unless such refusal in the case of a surgical operation of a minor character is considered by the society, or on appeal to the Insurance Commissionners, to be unreasonable." It would seem that the terms of this amendment still leaves the way open to many difficulties. It will be observed that it is limited to surgical operations, and to those that are of a minor character, whatever "minor" may mean.

Protection for Wife of Malingerer.

A further amendment is introduced which safeguards the wife of an insured person whose husband has been guilty of attempted imposition from being deprived on that account of maternity benefit.

The Harmsworth Subclause.

Subclause (4) of Clause 16 (the Harmsworth amendment) has been amended in accordance with the recommendations of the British Medical Association by the addition of words which make it clear that, whatever regulations are made with regard to existing organizations, they shall secure that no person be deprived of his right to select the duly qualified medical practitioner by whom he wishes to be attended and treated. The sphere of the clause has also been further defined by making it apply to any system or "institution" existing at the time of the passing of the Act instead of to any existing system or "organization."

The subclause now, we believe, reads as follows:

The regulations may provide that, in the case of persons who are receiving medical attendance and treatment under any system or through any institution existing at the time of the passing of this Act, and approved by the local Insurance Committee and the Insurance Commissioners, such medical attendance and treatment may be treated as, or as part of, their medical benefit under this Part of this Act, and may provide for the Committee contributing towards the expenses thereof the whole or any part of the sums which would be contributed in the case of persons who have made their own arrangements as aforesaid, so however, that such regulations shall secure that no person be deprived of his right, if he so elects, of selecting the duly qualified medical practitioner by whom he wishes to be attended and treated in accordance with the foregoing provisions of this section.

Dispensing.

Considerable amendments have been introduced into the portion of the clause relating to the provision of drugs. The medical profession objected to paragraph 2 of Subsection 5, which originally read as follows:

(ii) The regulations shall prohibit an arrangement being made with a medical practitioner under which he is bound or agrees to provide drugs or medicine for any insured person without the consent of the Insurance Commissioners, which consent they shall not give unless the circumstances of any locality are such as to make it expedient to do so.

The objection has been met by the deletion of this paragraph and the substitution of the following:

Except as may be provided by the regulations made by the Insurance Commissioners, no arrangement shall be made with a medical practitioner under which he is bound or agrees to supply drugs or medicines for any insured person.

Supply of Drugs by Chemists.

The amendments of the clause so far as they affect those who supply drugs and medicines have been altered in some respects in consequence of representations made by various traders. In the first place the provisions have been extended beyond the supply of drugs and medicine by the insertion of the words "and prescribed appliances." The expression "qualified person" as relating to those who may go upon the chemists' panel has been omitted, and made to cover any person, firm, or body corporate who is entitled by law and authorized by the committee to supply drugs, medicines, and appliances. This alteration has been introduced by agreement, we believe, with the representatives of the Pharmaceutical Society, so as to enable those who are entitled to supply simple substances, such as, for instance, linseed meal or simple appliances to be enrolled on the panel, whilst Paragraph 3 of Subsection 5 has been very properly amended in consequence of the foregoing alterations to secure that the dispensing of medicines shall only be undertaken by qualified pharmacists or under their direct supervision.

Alternative Arrangements in an Area.

An important amendment has also been introduced in Clause 16, Section 2, as an addition to the provision whereby, if the Commissioners were satisfied in any area that the practitioners included on the list were not such as to secure an adequate medical service, that the local Health Committee may make other arrangements, subject to the approval of the Insurance Commissioners. The amendment on this point reads as follows:

Or the Commissioners may themselves make such arrangements as they think fit or may suspend the right to medical benefit in respect of any insured persons in the area for such period as they think fit and pay to each such person a sum equal to the estimated cost of his medical benefit during that period, and where the Commissioners take any such action themselves they shall retain and apply for the purpose such part of the sums payable to the local Health Committee in respect of medical benefit as may be required.

Aged Persons and Chronic Patients.

The concession made by the British Medical Association with respect to persons who at the time of the passing of the Act are members of approved societies and are aged or infirm, and thereby not entitled to become insured persons, shall be allowed to receive their medical benefit on the same lines as other insured persons, is met by the introduction of a new clause to Subsection 2 of Clause 16. It is in the following terms:

(*e*) The provision of medical attendance and treatment, on the same terms as those arranged with respect to insured persons, to members of any friendly society which becomes an approved society who were such members at the date of the passing of this Act, and who are not entitled to medical benefit under this Part of this Act by reason either that they are of the age of sixty-five or upwards at the date of the commencement of this Act, or that being subject to permanent disablement at that date they are not qualified to become insured persons.

Constitution of Local Committees.

Important amendments have been placed on the order paper by the Chancellor of the Exchequer with regard to the constitution of the local Insurance [Health] Committees in response to the representations made to him by Dr. Addison in the House at the time of the passing of the new Clause 55, and as the result of conferences following the resolutions adopted by the recent meeting of the Representative Body of the British Medical Association. The amendment provides that there shall be one additional medical practitioner on the local Insurance [Health] Committee in the case of the small committees, two additional members in the case where the committee consists of sixty or more, and three additional members where the committee consists of eighty. The minimum number of medical men on the local Insurance [Health] Committee is, accordingly, four in the case of small committees and six in the case of large committees. The Chancellor's amendment provides that these additional medical practitioners shall be appointed by the council of the county or county borough in question. A further amendment, also of an important character, empowers the local Insurance [Health] Committees to appoint not only auxiliary but subcommittees consisting wholly or partly of members of the committee, and the name of the auxiliary committees are changed to district committees. Similarly, in order to facilitate consultation between district committees and local medical committees, the Chancellor has inserted an amendment in Clause 58 relating to local Medical Committees which provides that they may be set up "for any area for which a district committee has been formed." This provision will be likely to prove very serviceable in regard to administration as providing for the institution not only of conciliation committees, but for the recognition of medical committees in the smaller areas.

Administration of Sanatoriums.

With regard to the provision of Clause 60, relating to the erection of sanatoriums, it will be remembered that it was pointed out by Dr. Addison and Mr. Sherwell in the debate that the duplication of the authorities concerned, namely, by the Insurance Commissioners being required to administer the sanatorium benefit and the Local Government Board distributing grants and approving institutions and treatment, overlapping and needless friction might occur. With a view to meeting this objection the Chancellor has given notice to amend Clause 60 by providing that the Treasury, before giving its approval to the schemes proposed by the Local Government Board, shall consult the Insurance Commissioners. Further amendments provide that the money grants available under this clause shall be apportioned between England, Wales, Scotland, and Ireland, in proportion to their respective populations as ascertained in accordance with the returns of the census taken in the year 1911.

National Insurance Commissioners.

The Chancellor of the Exchequer has also placed an amendment on the paper providing that at least one of the commissioners in each case for Scotland, Ireland, and Wales shall be a duly qualified medical practitioner.

Ireland.

An important amendment has also been put down by the Chancellor of the Exchequer with regard to the pro-

visions affecting Ireland. In Section 10 of Clause 75 it was provided that medical benefit might be given by a society as an additional benefit, and the amendment of the Chancellor is an addition to this section and points out "that such medical benefit when provided shall be administered by the local Insurance [Health] Committee in accordance with the provisions of this part of this Act unless the Irish Insurance Commissioners otherwise direct."

Wales.

A further important alteration with regard to the distribution of the money available of the provision of the sanatoriums and other institutions in Wales is contained in two amendments which have been put down by the Chancellor in Clause 76. The first provides that the money which in England is distributed by the Local Government Board shall in Wales be at the disposal of the Insurance Commissioners and is in the following terms:

The powers of the Local Government Board with respect to the distribution of any sum available for the purpose of the provision of sanatoria and other institutions shall, as respects the part thereof apportioned to Wales, be exercised by the Welsh Insurance Commissioners.

It is well known that an important association is being created in Wales, and has already accumulated considerable funds for the treatment of tuberculosis, and the recognition of such an association, and the possibility of its receiving assistance from the scheme, is provided for in the following amendments:

If before or within twelve months after the commencement of this Act there is established for Wales by Royal charter an association for the purpose of providing sanatoria and other institutions for the treatment and prevention of tuberculosis or such other diseases as the Local Government Board, with the approval of the Treasury, may appoint, the Welsh Insurance Commissioners in making and the Treasury in approving grants from any such sum as is in the last preceding subsection mentioned, shall have regard to the provision of such institutions which may have been made, or may be proposed to be made, by the association.

[The fate of all these amendments will be decided, so far as the Report stage in the House of Commons goes, before this issue can be in the hands of readers, but as we have confined attention to Government amendments it is fairly safe to assume that they will be incorporated in the bill.]

SPECIAL REPRESENTATIVE MEETING.

AT the time we go to press it has not been found possible to complete the minutes of the Representative Meeting for publication, but we understand that copies will be forwarded to Divisions early next week. In the meanwhile we are authorized to publish the following resolution, adopted at the instance of the Croydon Division; it may be read as a rider to the resolution headed "Declaration with regard to future action as to the cardinal principles," published on page 526 of the SUPPLEMENT of last week:

That, in order to prevent sectional defeats of the profession through terms having to be arranged locally between local Insurance Committees and the profession, the Council be instructed to take such steps as are necessary with a view to securing:

(*a*) That the local Medical Committees throughout the country be kept in touch with one another through the central office of the Association; and

(*b*) That no arrangements for attendance on insured persons be completed anywhere until the Association is assured by reports from the local Medical Committees that terms in conformity with the policy of the Association in detail have been agreed upon everywhere.

MEETINGS OF THE PROFESSION.

SCOTLAND.

A MEETING of the Fellows and Licentiates of the Royal Faculty of Physicians and Surgeons and of members of the medical profession in the city of Glasgow and district was held in the Faculty Hall on Saturday, November 25th, for the purpose of considering a report by the Council of Faculty on the National Insurance Bill. Dr. JAMES A. ADAMS (President) occupied the chair, and amongst those present were: Sir William Macewen, Professor Glaister, Dr. John Barlow (visitor), Dr. D. N. Knox, and Dr. G. R. Halket. The attendance numbered over 200.

Proportionate Representation.

The CHAIRMAN said that the council considered that it was only right that something should be done to add to the efforts which the British Medical Association and other bodies were making to defend the rights and privileges of the profession. The Insurance Bill had been so juggled with and changed that they really did not know where they were, and they had a dread that they might be jockeyed into a position which would be difficult to get out of if they acquiesced just now. The council had therefore determined to formulate certain resolutions which he would submit to the meeting. The first resolution which he moved in the name of the council was as follows:

That the Insurance Committee should include a representation of duly-qualified medical practitioners to the extent of one-eighth of the total number, and adequate representation on the Auxiliary Committees.

Dr. JOHN BARLOW, in seconding, said that many of the points to which medical men attached importance were left for final decision to the Insurance Committee which would be formed in each county or burgh in Scotland. With every desire to favour the passage of the bill—although he was opposed to contract practice altogether—he thought all were in agreement that a proportion of three medical practitioners out of forty or eighty members, as the case might be, was not adequate representation. The proportion suggested by the council, however, would ensure at any rate that the medical point of view would have a chance of being brought fairly before the non-medical portion of the committees.

In the course of some discussion Dr. M'GREGOR ROBERTSON and Dr. HAMILTON suggested the desirability of discussing the question of approval or non-approval of the principle of the measure before dealing with such details as the resolution embodied, the former contending that the members should first of all be asked to say whether they approved of chaining round the neck of the profession for ever the abominable system of contract practice.

The CHAIRMAN said that, while he agreed very largely with what had been said, he desired the public to recognize that while they made this protest they were doing all in their power in a courteous and tolerant manner to consider the scheme and to do the best they could with a bad bargain.

The resolution was then approved.

Position of Voluntary Hospitals.

The CHAIRMAN then moved the following resolution:

Wherever a voluntary hospital or other charitable institution is used by the Insurance Committee, adequate payment for the maintenance and treatment of the patient shall be made to such voluntary hospital or charitable institution by the Insurance Committee.

Professor GLAISTER, in seconding, said that the contributions of workmen and employers formed practically two-thirds of the whole revenue of the Glasgow hospitals, and were it not for the bequests from which deficiences in annual expenditure were made up the hospitals in Glasgow would be bankrupt. He thought, however, that the voluntary organizations should be continued as long as possible, and he strongly supported the resolution on the ground that if people were to be taxed for the funds under the bill, when they required hospital treatment they should pay the corresponding proportion of the cost which they laid upon the hospital fund, and that fund should come from the local Insurance Committee.

On this recommendation an animated discussion took place, and eventually the meeting refused to accept the proposal. Those present were swayed apparently by the argument that though there would be a diminution probably in the voluntary contributions to charitable institutions, there was reason to fear that if the Insurance Committees were asked to make good the deficit the money would eventually come out of the pocket of the medical practitioner. The third proposal of the Council also did not meet with the approval of the meeting in its original form.

That this meeting is further of opinion that the other recommendations of the British Medical Association not included in the preceding resolutions be adhered to and become the finding of the meeting.

Dr. HALKET seconded, but a modification proposed by Dr. HAMILTON was adopted as follows:

That this meeting is of opinion that the other recommendations contained the six cardinal points of the British Medical Association not included in the preceding resolution should be incorporated in the bill.

Before this motion was approved, Dr. M'GREGOR ROBERTSON submitted the following motion:

That, while this meeting approves of the amendments in detail submitted on behalf of the profession by the British Medical Association, if the bill is passed through more or less in its present form, it does not approve of the method of dealing with the profession which is at the foundation of the medical provisions of the bill.

Medical Contract Practice.

In a speech which met with very general approval, Dr. M'GREGOR ROBERTSON urged that the profession, as a whole was not alive to the probable effects of the bill, which he held would be injurious to the best interests of patient and doctor alike. He complained that in the meetings which had taken place in Glasgow no discussion of the general policy of the bill had been allowed; only details had been discussed. It was not yet too late to enter their protest. He accordingly moved the resolution which, in the event of the bill being forced through Parliament, promised the support of the meeting to secure the "Cardinal Points," but denounced the policy on which the bill was founded.

That while this meeting approves the amendments in details submitted on behalf of the profession by the British Medical Association, if the bill is forced through more or less in its present form, it does not approve of the method of dealing with the medical profession, which is at the foundation of the medical provisions in the bill.

Dr. HAMILTON seconded.

Dr. JOHN DUFF moved as an amendment:

That this meeting, regarding the bill for insurance against loss of health and for the prevention and cure of sickness and for insurance against unemployment as a great and beneficent measure of social reform, in the event of the same becoming an Act of Parliament during the present session, and in expectation that under the supervision of the Insurance Commissioners there will be arranged between the County or County Burgh Health or Insurance Committee and the local Medical Committee such conditions as to work and remuneration as shall secure efficient medical service, recommends the doctors in this city and district to render such services under the Act.

He contended that the measure was a courageous attempt to conserve the health of those who did the world's hard work.

Dr. CHISHOLM seconded the amendment.

On a division Dr. M'Gregor Robertson's motion received the support of a large majority, only twelve voting for the amendment. Dr. M'Gregor's resolution was subsequently put as a substantive motion, and was again carried by a majority against a direct negative by Dr. Barlow.

On the motion of Dr. PERRY, seconded by Dr. DUNCAN, the meeting agreed unanimously to the following resolution:

That in the event of the Insurance Bill becoming law without the amendments recommended by the British Medical Association, this meeting shall endeavour to ensure that no medical practitioner shall submit to the rules under the bill.

The meeting also approved of the following resolution submitted by the CHAIRMAN:

That the foregoing resolutions be forwarded to the General Medical Council, the Prime Minister, the Chancellor of the Exchequer, and the members of Parliament for the City of Glasgow.

IRELAND.

At a meeting of the Conjoint Committee of the British and Irish Medical Associations, held last week, the following resolutions were passed:

This Conjoint Committee approves of the restoration of medical benefit for Ireland, and on behalf of the profession in Ireland are prepared to accept the bill under the same conditions as in Great Britain. We protest against the compulsory imposition of any duties under the Act on the Poor Law medical officers. It should be the object of wise statesmanship to emancipate the industrial classes from the Poor Law with the degrading effects on their *morale* and self-respect that come from charitable relief. Medical benefits administered on the conditions we desire would go far to accomplish this.

We strongly deprecate any suggestions that it is the duty of the profession, either as a whole or by any section of its members, to draft the scheme by which medical benefit may be applied to Ireland. The Irish professions are not more unreasonable than their English brethren, and we are convinced that if the same terms are offered in Ireland as in England they will be accepted. As Irishmen we protest against any attempt to treat Irish doctors with less justice and fairness than English doctors are treated under the bill; we also protest, and if possible more strongly, against the imputation that in making our demands we are actuated by greed, rapacity, or a desire to wreck the Insurance Bill.

This committee offers to afford any assistance in its power in consultation with any members of Parliament or others who in an official capacity are concerned in formulating proposals for the restoration of medical benefits to the bill.

At a meeting of the Cork Board of Guardians, held last week, the following resolution was passed unanimously:

That we, the Cork Board of Guardians, are of opinion that medical benefits for contributors and their families should be provided in the Insurance Bill so far as it applies to Ireland, and that copies of this resolution be sent to every Board of Guardians in Ireland for consideration.

CORRESPONDENCE.

AVERAGE AMOUNT OF ATTENDANCE.

DR. ARTHUR R. F. EXHAM (Market Drayton) writes: The accompanying figures are of importance as bearing upon the National Insurance Bill. They show the average amount of attendance required by each member among from 500 to 850 persons over a period of eighteen years. They will give an idea of the work likely to be required. This is a small town in an agricultural district, with an ordinary healthy population, no slums, and no industries.

They also show the remuneration that we are likely to get. I have calculated on the basis of 4s. per head; if 4s. 6d. is taken the fee per attendance works out at just over 7d. But 1s. 6d. is too little for medicines and medical

Market Drayton Provident Dispensary.

Year (Ends September 29th). I.	Estimated Number of Members. II.	Attendances, including Visits and Consultations at Surgery. III.	Average Number of Attendances per Member. IV.	Fee per Attendance on Basis of 4s. paid by each Member. V.
				Pence.
1887–8	510	2,555	5	9⅗
1888–9	520	3,444	6½	7½–
1889–90	620	4,741	7⅝	6½–
1890–1	636	5,059	8	6
1891–2	716	5,623	7¾	6½+
1892–3	720	5,723	8	6
1893–4	786	5,771	7⅓	6½+
1894–5	830	6,792	8⅛	6 –
1895–6	820	7,486	9⅛	5 –
1896–7	780	6,706	8½	6 –
1897–8	716	6,212	8⅔	6 –
1898–9	713	6,079	8½	6 –
1899–00	675	5,129	7⅝	6½–
1900–1	*630	4,822	7½	6½–
1901–2	*716	4,693	6½	7½–
1902–3	*736	4,054	5½	8½
1903–4	*780	5,518	7	7 –
1904–5	*810	5,449	6½	7½–

EXPLANATORY NOTES.

Col. II.—Members include men, women, and children, all non-selected lives. There are fewer men members. Figures marked * are absolutely accurate; the others are estimated on the same basis. Col. III.—Attendances are approximate; they are, however, always under the actual number, as in a busy time many attendances get omitted, especially as no medicines are dispensed by the surgeons. All medicines are made up by the chemists in the town. Col. IV.—The average number of attendances per year required by each member for eighteen years works out about 7½ (rather less). Col. V.—The average fee per attendance for eighteen years works out a fraction over 6½d.

N.B.—All the members live within one mile from Drayton Parish Church.

appliances, in my judgement. If the attendance should happen to be over a mile distance or more the fee would not pay the cost of the journey.

I hope my medical brethren will study the figures.

DISPENSING.

Dr. R. M. RUSSELL (Goodmayes) writes: I beg to differ from Dr. W. Burrough Cosens. Surely he is inconsistent when he says that dispensing should be abolished in order to add to the dignity of our work. I should rather say let us abolish penny clubs. This would certainly add to the dignity of our profession, and, I think, to accept service under this pernicious Insurance Bill is certainly very *infra dig.* However, I am tired of that word "dignity." Let us drop it and think of something more solid—namely, our incomes. If we abolish dispensing we shall diminish our incomes, as our prescriptions will be repeated for everybody by the chemists, or the patient will keep a copy of the prescription and get it repeated for his wife and children, for whom he ought to pay. It is the commonest of common-sense—a commodity which seems to be very scarce among us, judging by the manner in which we give ourselves away on all occasions. The chemists cannot be controlled. Does Dr. Cosens imagine that he will have as much control over the chemist if this Insurance Bill comes into force as he does now? He says that his prescriptions are not handed about now. This is not my experience, for I, in a case of emergency, wrote a prescription and sent it by the patient to the chemist with whom I had had dealings for many years, and this chemist, who surely ought to have been my friend in this matter, repeated the prescription without referring my patient to me. I have no doubt that I shall never see that patient again for the ailment for which I wrote that prescription, as it is cheaper for him to go to the chemist and get my prescription repeated. Writing prescriptions, telling patients what is in their medicine, and sending them to the chemists for this, that, and the other, encourages self-treatment and reduces our incomes.

The writing of prescriptions is a pernicious habit, and should be given up by consultants and general practitioners alike. Dispensing, or the supervision of it, is necessary for the proper performance of our work, for a doctor who dispenses must have a more practical knowledge of drugs than the doctor who only writes prescriptions. These considerations are surely not beneath our dignity, but to have penny clubs and to be dominated by committees of working men is certainly incompatible with the dignity of any profession.

THE REPRESENTATIVE MEETING.

Dr. H. J. GODWIN (Winchester) writes: I expect there will be many others who like myself will be very disappointed with the result of the Representative Meeting held in London last week. In the first place I cannot understand why a Representative Meeting was held at all, with all its expense, if it was to only again say, "That we are going to adhere to our former policy and stick to our six cardinal points." Surely the Council could have dealt with their recommendations through the Divisions without the expense of a Representative Meeting?

As we have already signed a document binding ourselves not to take work under the bill unless the six cardinal points are satisfactory, and as now two Representative Meetings have declared the same policy, I fail to see the use of spending more money (money that we shall want a great deal more when the bill has gone through) in trying to get further amendments, especially as the Association has up to the present time utterly failed in getting any amendment of any value to the profession carried through Parliament. We are told by Mr. Lloyd George, with regard to the question of remuneration:

(*a*) The sum is not limited by any provision in the bill, but is left for local arrangement.

(*b*) When such arrangements are being made the profession will have the power of collective bargaining it has never before possessed.

Such a statement as this I should have thought would have been quite enough to damn the bill in the eyes of the profession. We are not accustomed to "collective bargaining" any more than we are to "wrangling in the sick room."

When the Payment for Members of Parliament Bill was brought it was curious to note that Mr. Lloyd George fixed the sum at £400 per annum per member, and did not leave members to bargain with their constituents as to the remuneration they should get.

If the British Medical Association accepts this policy of local bargaining I warn all members to take heed, as I am convinced it will mean disunion of the profession. It is both unbusinesslike, undignified, and unprofessional.

In a bill such as the present one—a bill that affects the whole of the medical profession throughout the United Kingdom—we have a right to know how it will affect us financially before the bill becomes law; and the British Medical Association ought to insist that we should know and not continue this "Wait and See" policy.

Dr. JAMES I. HALSTEAD (Burnley) writes: Your readers now see, in spite of innumerable resolutions, in which way things are tending with the onrush of the National Insurance Bill. Public opinion, in the few instances where it has been asked for, is dead against the bill. All manner of societies, such as insurance companies, friendly societies, trades societies, trades unions, co-operative stores, medical aid associations, tea companies, etc., are all falling over each other in their hurry to become approved societies, and offer the boons or benefits which this bill will certainly not do what is claimed for it. These bodies will, of their elect, pack all the local Insurance Committees, and never before will England have seen such local aggregations of insurance parasites, all enjoying a comfortable existence, on the strength of the fear of sickness and death, they have been able to instil into an easily gulled public. Mr. Lloyd George puts the case as clearly as it can be put in his Bath speech. Agents and touts of divers societies will come to your doors and vie with each other in the boons they offer. Circulars will be distributed by the million by the competing societies. Since when have insurance agents become so benevolent? Is it because thousands of insolvent "friendly societies" are to be made solvent at the expense of the middle and lower middle-class income-tax payer? What will the General Medical Council say to the above methods? The medical benefit will, no doubt, receive its fair share of attention from these adepts at advertisement. Money benefits are more or less fixed by the actuaries, but there is no limit to the benefits of the large hearts and consciences of the bulk of the members of the profession. Have the new recruits to the profession no claim for consideration? Full of the best professional ideals, have they to be brought up against the above nightmare of trade competition? Have they to be made but a cheap cog in the horrid, cheap industrial machine which is making this country almost intolerable to live in? There can only be one form of procedure with the Insurance Bill, and that is to have nothing to do with it.

Dr. LACHLAN FRASER, M.S. (Honorary Secretary of the Tyneside Division), writes: At a joint meeting of the South Shields and Tyneside Divisions, held on November 21st, we instructed our Representative to move at the Representative Meeting:

> That the Association will not be satisfied with anything less than the deletion of Clause 14, Subsection 4.

It was the feeling of the meeting that, if this Harmsworth amendment is retained, the profession should refuse to give their services under the Act on any conditions whatever.

Even without this amendment, we shall be under the heel of the friendly societies, who will have a huge majority over our representatives on the Insurance Committee, unless we insist upon that body being smaller and composed of an equal number of medical men and laymen. With the alterations suggested in Recommendations A and F, our position is no better. The suggested remedy of an appeal to the Insurance Commissioners is no remedy at all. One of the Commissioners is to be a medical man with experience of general practice, but, as the bill stands, he may easily be some pliable creature under the protection of the Chancellor of the Exchequer, and he cannot in any case be considered our accredited representative. He should, in our opinion, be directly elected by the profession, and we instructed our Representative accordingly.

The unlimited power of the Insurance Commissioners also seems to us a real cause for anxiety. As the bill stands at present, they can remodel it to any extent, and can take from us any concessions which may be wrung (or apparently wrung) from the Chancellor. We therefore passed a resolution that "in any case we decline to accept service under the National Insurance Act unless and until the powers of the Insurance Commissioners are strictly defined."

It is clear that unless these safeguards are obtained we shall not have secured the six cardinal points for which the Association has held out, and, failing this, I hope the profession will unanimously adopt the resolution which we carried, and "declare its inability to undertake the duties which the bill proposes to assign to it."

Dr. J. Gray Duncanson (Shooter's Hill) writes: A feeling prevails that we are drifting gradually but steadily into the vortex of the Insurance Bill, from which we may emerge to find ourselves degraded as a profession and trammelled as individuals, the playthings of local Insurance Committees and the servants in every sense of the word of the insured public. We are not to be allowed even to dispense our own prescriptions, and we are to be handed over to a system of bartering for the best terms we can secure from the Insurance Committees, on which we, the backbone of the whole scheme, are most inadequately represented, and will be practically voiceless. It appears more and more doubtful if we should negotiate further, but rather declare against having anything to do with the bill in its present form. The British Medical Association has done little to educate the people to our way of thinking; we are too shy to take them into our confidence, and yet they carry in their hearts a strong feeling of justice. The dictum, "Wait and See," is to us fatal; the first blow carries a tremendous moral and physical advantage, and usually means victory. Our hope lies in union, and to the British Medical Association we naturally turn as the best means of securing this; it should be as obligatory for every medical man to belong to it as it is to be registered. In every medical school a senior on the staff should devote one lecture to placing before the students their future duty to the profession, and to explaining the necessity of joining the Association. The minds of these young men are receptive—they have the enthusiasm of youth and their principles are the highest; seized at the psychical moment, what a tremendous force is at once at our command. Having secured all the new members of the profession, and determined on a policy strong and just to ourselves and others, we must stand; nothing can touch us.

Dr. Hugh M. Raven (Broadstairs) writes: May I express the satisfaction I felt in reading the dignified reference which the chairman made at the conclusion of the meeting of Representatives? It must have been very unpleasant for him to refer to the remarks made about the stupid gossip, which has such an ungenerous ring about it. Even in this corner of England the reports of such gossip have been heard, and I cannot but feel that there must have been a widespread plan to sow dissension in our ranks in this way. We must be on our guard against any subtle attempts which may be made to undermine the unity of the profession, which has been so unexpected to others, and which is such a great—I may say, the most important—source of strength to our present position.

Dr. H. Reynolds Brown (Maldon, Essex) writes: The resolution passed by the Mid-Essex Branch at Chelmsford on November 22nd states that it is of opinion that, as the demands of the profession have not been secured, the profession should definitely and finally refuse to work under this or any other Insurance Bill. Curiously enough, this meeting of intelligent and educated men have carefully expressed in the above resolution what, so far as I could gather, they did *not* intend to express. The admission was made by several of them who voted for it that if the six cardinal points were even now conceded they would be prepared to work under the bill. And they did not seem able to understand that the above resolution amounts to a threat—or a recommendation to the profession—*not* to work under the bill however amended.

L. writes: The colliers in Durham each pay weekly the sum of 6d. towards a "fighting fund." Might I suggest that the members of the British Medical Association pay an extra 6d. weekly, which sum could go to a "fighting fund," which, I think, will be sorely needed?

[We have received a large number of other letters on the bill, some of them written before the decisions of the Special Representative Meeting were known to the writers, which we find it quite impossible to insert in this issue. It is intended to deal with them as early as possible—it is hoped next week.]

HOSPITALS.

The Manchester Infirmary.

A circular letter, dealing with the position of voluntary hospitals under the Insurance Bill, has been sent to all members of Parliament for the districts from which the Manchester Royal Infirmary draws its patients. The letter is signed by Sir Wm. Cobbett as chairman of the board of management of the infirmary, and contains the following statement of views of the board:

> The board are strongly of opinion that the Insurance Bill, as it now stands, will seriously affect the financial position of voluntary hospitals and, in consequence, greatly impair both their efficiency and their capacity for good, with the result that insured persons will run grave risks of being deprived of the care and attention in cases of serious illness, which can only be obtained by the sick poor of the non-pauper class in voluntary hospitals. They are strongly of opinion that hospital benefit should be provided by the bill as well as medical and sanatorium benefits. They respectfully urge that this most important matter may receive your earnest consideration, and, if possible, your support in Parliament.

At a meeting of the Central Hospital Council for London, held at St. Thomas's Hospital on November 23rd, the effect upon the voluntary hospitals of the passing of the National Insurance Bill as it stands at present was considered, and it was unanimously agreed:

1. That the effect upon the voluntary hospitals must be to diminish their income very seriously, and consequently to lessen the number of beds they will be able to maintain; as well as gravely to impair their efficiency as curative Institutions, Schools of Medicine, and Training Schools for Nurses.

2. That the National Insurance Bill will be incomplete until it provides for the hospital treatment which insured persons must have if their medical needs are to be covered at all adequately by the bill.

ASSOCIATION OF CERTIFICATED DISPENSERS.

A deputation representing the Society of Apothecaries and the Association of Certificated Dispensers, comprising the following members: Mr. A. Mowbray Upton, Clerk to the Society of Apothecaries; Dr. Gordon Brown, Past Master of the Society (the Lord Mayor was unfortunately unable to be present) for the society, and Mr. Montagu G. Smith, Lewisham Infirmary Chairman, Mr. H. H. Hewitt, Holborn Dispensary, and Mr. F. E. Trayner, Hackney Infirmary, Vice-Chairmen; Miss Ethel Cathcart, Royal Eye Hospital, and Mr. Albert Howell, Honorary Secretary Dalston Dispensary, waited upon the Attorney-General in his private room at the House of Commons on Thursday, November 23rd, in order to urge the adoption of certain amendments to the bill for the purpose of protecting the interests of persons holding the certificate in dispensing. The deputation received the most satisfactory assurances from Sir Rufus Isaacs that the Government had no intention of allowing the provisions of the bill to prejudice the interests of the Society's dispensers, and, while agreeing that Clause 14 as at present amended in committee, was unsatisfactory in this respect, undertook that the measure should be so further amended that these rights were fully protected.

Association Intelligence.

PROCEEDINGS OF COUNCIL.

A MEETING of the Council was held at 429, Strand, London, W.C., on Wednesday, November 1st, 1911, at 2 o'clock in the afternoon.

Present:

Dr. J. A. MACDONALD, LL.D., Taunton, Chairman of Council, in the Chair.
Professor ROBERT SAUNDBY, M.D., LL.D., Birmingham, President.
Sir JAMES BARR, M.D., LL.D., Liverpool, President-Elect.
Dr. EWEN J. MACLEAN, Cardiff, Chairman of Representative Meetings.
Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. J. GRANT ANDREW, Glasgow
Surgeon-General P. H. BENSON, I.M.S., Walmer (Indian Branches)
Inspector-General ROBERT BENTHAM, R.N., London (Royal Navy Medical Service)
Dr. R. C. BUIST, Dundee
Dr. W. A. CARLINE, Lincoln
Mr. ANDREW CLARK, D.Sc., London
Professor HENRY CORBY, M.D., Cork
Dr. J. S. DARLING, Lurgan
Dr. M. DEWAR, Edinburgh
Mr. E. J. DOMVILLE, Exeter
Dr. DAVID EWART, Chichester (New Zealand Branch)
Mr. J. HENRY EWART, Eastbourne
Mr. C. E. S. FLEMMING, Bradford-on-Avon
Mr. T. W. H. GARSTANG, Altrincham
Dr. E. W. GOODALL, London
Dr. JOHN GORDON, Aberdeen
Dr. W. GOSSE, Sittingbourne
Surgeon-General J. P. GREANY, I.M.S., Ealing (Indian Medical Service)
Dr. T. D. GREENLEES, London (Cape of Good Hope, Eastern, Western and Border Branches)
Dr. MAJOR GREENWOOD, London
Dr. J. R. HAMILTON, Hawick, N.B.
Lieutenant-Colonel F. W. H. DAVIE HARRIS, R.A.M.C., Teignmouth (Army Medical Service)
Sir VICTOR HORSLEY, F.R.S., London
Mr. R. J. JOHNSTONE, Belfast
Mr. HERBERT JONES, Hereford
Dr. J. H. KEAY, London
Mr. F. C. LARKIN, Liverpool
Dr. G. R. LIVINGSTON, Dumfries
Mr. ALBERT LUCAS, Birmingham
Dr. JOHN MACDONALD, South Shields
Dr. D. J. MACKINTOSH, M.V.O., Glasgow
Dr. R. B. MAHON, Ballinrobe
Dr. JAMES METCALFE, Bradford
Dr. B. H. NICHOLSON, Colchester
Dr. FRANK M. POPE, Leicester
Dr. A. J. RICE-OXLEY, London
Dr. H. JONES ROBERTS, Penygroes
Dr. LAURISTON E. SHAW, London
Mr. C. R. STRATON, Salisbury
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Mr. T. JENNER VERRALL, Bath
Professor A. H. WHITE, Dublin
Mr. D. J. WILLIAMS, Llanelly

APOLOGIES.

Letters of apology for non-attendance were read from Sir Henry Butlin, Bart., Dr. F. W. Kidd, and Dr. J. E. Eddison.

UNIVERSITY OF WALES.

The CHAIRMAN OF COUNCIL reported that, in response to an invitation from the University of Wales to appoint a representative to serve as a member of the Medical Board of the University, he had nominated Ewen J. Maclean, M.D., M.R.C.P., F.R.S.E.

VACANCY IN COUNCIL.

The CHAIRMAN OF COUNCIL reported that the Chairman of Representative Meetings had appointed Dr. James Metcalfe, of Bradford, to fill the vacancy caused by the resignation of Dr. E. R. Fothergill, consequent on his temporary appointment on the staff of the Association, and on behalf of the Council welcomed Dr. Metcalfe upon his attendance for the first time.

INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.

A communication was read from the Eighth International Congress of Applied Chemistry, asking the Association "to take part in its proceedings" to be held in Washington, September 4th, 1912. Any member desirous of taking part in the proceedings is requested to communicate with the Chairman of Council on the subject.

FINANCE COMMITTEE.

The TREASURER presented the Minutes of the Finance Committee of October 25th, 1911.

IRISH COMMITTEE.

A sum of £100 was voted to the Irish Committee to defray the special expenses of the National Insurance Bill Conjoint Committee for Ireland.

ACCOUNTS.

The accounts for the quarter ending September 30th, 1911, amounting to £21,124 15s. 3d., were approved, and the Treasurer empowered to pay those remaining outstanding, amounting to £6,276 18s. 4d.

ORGANIZATION COMMITTEE.

The CHAIRMAN (Mr. Larkin) presented the Quarterly Report of the Organization Committee.

ELECTION OF MEMBERS OF COUNCIL BY BRANCHES.

The notice of receipt of nominations will be published in the JOURNAL prior to the issue of voting papers.

The following scheme of dates is adopted for the election of Members of Council by Branches in the United Kingdom by voting paper for the year 1912–13:

Announcement of date for receiving nominations to appear in the JOURNAL of ...	May 4th.
Last day for receipt of nominations ...	May 18th.
Publication of list of nominations in the JOURNAL	May 25th.
Date of issue of voting papers from Head Office	June 8th.
Last date for receipt of voting papers at Head Office	June 15th.
Announcement of result in JOURNAL ...	June 29th.

SOUTH AFRICAN COMMITTEE.

In reference to a Resolution that the Secretary of the South African Committee approach the Central Council requesting that the powers contained in the Articles of Association concerning the formation of Branches and Divisions and the delimitation of their areas in South Africa be delegated to this Committee, it was decided to reply in the following terms:

(1) That as a matter of general principle the Council is desirous of delegating to the South African Branches, either individually, or collectively through the South African Committee, all powers in matters affecting those Branches which the Regulations of the Association will permit it to delegate, and that in matters in which the Council cannot thus delegate its authority, it will always pay the utmost regard to the wishes of the Branches expressed individually, or through the South African Committee, according to the nature of the case.

(2) That as regards the specific matters mentioned by the South African Committee, the power of altering the area of Divisions of a Branch outside the United Kingdom rests under the regulations with the Branch. If the Branches choose to place this matter in the hands of the South African Committee there is nothing to hinder them from adopting rules which would have this effect.

(3) That as regards alterations of the boundaries of Branches, this matter at present rests in the power of the Council, and under the regulations could only be delegated, if at all, to the individual Branches: the Council could not delegate the authority directly to the South African Committee. It would be possible, however, for the resolution delegating this authority to the Branches to be so framed that any exercise of it would be subject to the sanction of the South African Committee.

(4) That a draft Resolution of the Council which would achieve this object will be prepared by the Organization Committee, and submitted for the consideration of the South African Committee and the South African Branches before it is definitely adopted.

(5) That any power of altering the areas of the South African Branches referred to in the above Resolution must be subject to this proviso, that it could only affect the present aggregate territory of the South African Branches. Any question of forming Branches to include districts outside that area, or of absorbing any part of that area into existing Branches, must necessarily be referred to the Council in England, because it would affect Members of the Association who are not constituents of the South African Committee, and who, therefore, would have no means of making their views heard, except through the Council.

GRANTS TO BRANCHES.

Glasgow and West of Scotland Branch.

It was decided that no grant be made for the present, in respect of the year 1911, to the Glasgow and West of Scotland Branch, that Branch having reported as in the hands of the Branch as at December 31st, 1910, a balance equal to over 5s. per head of its membership.

Shropshire and Mid-Wales Branch.

Subject to the submission by the Shropshire and Mid-Wales Branch of a report for 1910 containing an acknowledgement that the balance of Association moneys in the hands of the Branch on December 31st, 1910, is a sum not reduced by the items of expenditure unlawfully incurred after due notice had been given, a grant for 1911 of 4s. per member (£27 12s.) was made to the Branch.

Connaught Branch.

A Grant for 1911 of 4s. per member (£9 4s. 0d.) was voted to the Connaught Branch.

North of England Branch.

Grants for 1910 and 1911 respectively of 4s. per member (£285 12s. 0d.) were made to the North of England Branch.

Edinburgh Branch.

A further grant for the current year of 2s. per member (£43 4s. 0d.) was made to the Edinburgh Branch.

CONFERENCE OF SECRETARIES.

It was decided that a Conference of Honorary Secretaries of Divisions and Branches be held in 1912, during the Annual Meeting at Liverpool.

GROUPING OF DIVISIONS AND BRANCHES FOR ELECTION OF REPRESENTATIVES, 1912–13.

The Council decided to group the Divisions in the United Kingdom provisionally for the election of Representatives for the year 1912–13 in the same manner as for the year 1911–12, provided that if any proposals for alterations of the grouping be received on or before November 14th, the grouping of Divisions affected by such proposals shall be postponed until the January Meeting of the Council.

Each Division outside the United Kingdom which has an Honorary Secretary and the necessary organization, is granted separate representation in the Representative Body for the year 1912–13.

JOURNAL COMMITTEE.

The CHAIRMAN (Dr. Buist) presented the Quarterly Report of the Journal Committee.

REPORT OF SPECIAL CHLOROFORM COMMITTEE.

The best thanks of the Association were accorded to Dr. Dudley Buxton for his valuable assistance in editing the Report of the Special Chloroform Committee.

SCIENCE COMMITTEE.

The CHAIRMAN (Dr. Pope) presented the Quarterly Report of the Science Committee.

SUPPLEMENTARY GRANT.

A Grant of £5 6s. 1d. was made to Professor J. M. Beattie to enable him to continue his investigation on the relation of Dust Inhalation and Fibrosis of the Lungs to Pulmonary Tuberculosis.

CENTRAL ETHICAL COMMITTEE.

The CHAIRMAN (Dr. Lauriston E. Shaw) presented the Quarterly Report of the Central Ethical Committee.

VACANCY ON COMMITTEE.

Mr. T. W. H. Garstang was elected a member of the Central Ethical Committee in the stead of Dr. Eddison, resigned.

CASE CONSIDERED UNDER ARTICLES 10 AND 11.

The Council considered and dealt with the case of a member recommended for expulsion.

MEDICO-POLITICAL COMMITTEE.

The CHAIRMAN (Mr. Verrall) presented the Quarterly Report of the Medico-Political Committee.

VACANCY ON COMMITTEE.

Dr. D. G. THOMSON (Thorpe, Norwich) was appointed to fill the vacancy on the Medico-Political Committee caused by the resignation of Dr. Fothergill.

CARE AND CONTROL OF THE FEEBLE-MINDED.

The Special Lunacy Subcommittee of the Medico-Political Committee was empowered to take all necessary action to give effect to the instructions contained in Minutes 123 and 202 of the Annual Representative Meeting, 1911.

PUBLIC HEALTH COMMITTEE.

The CHAIRMAN (Mr. Domville) presented the Quarterly Report of the Public Health Committee.

THE LATE DR. HILLIER, M.P.

The Chairman was requested to convey to the family of the late Dr. Hillier, M.P., an expression of sympathy in their bereavement.

HOSPITALS COMMITTEE.

The CHAIRMAN (Mr. Johnstone) presented the Quarterly Report of the Hospitals Committee.

POSITION OF VOLUNTARY HOSPITALS UNDER THE NATIONAL INSURANCE BILL.

It was referred to the Hospitals Committee and the State Sickness Insurance Committee to prepare a joint Report on the question of the position of voluntary hospitals under the National Insurance Bill with suitable questions for the consideration of the Special Representative Meeting.

NAVAL AND MILITARY COMMITTEE.

Inspector-General BENTHAM presented the Quarterly Report of the Naval and Military Committee, which was approved.

SCOTTISH COMMITTEE.

The CHAIRMAN (Dr. Dewar) presented the Quarterly Report of the Scottish Committee, which was approved.

COMMITTEE ON TREATMENT OF FRACTURES.

Sir VICTOR HORSLEY presented the Report of the Committee on the Treatment of Fractures.

ESTIMATE OF PROBABLE COST OF INQUIRY.

The Council authorized the Fractures Committee to incur in connexion with the inquiry into the results obtained in the treatment of simple fractures with and without operation respectively, an expenditure, additional to the preliminary £100 already authorized by Council, of such sum, not exceeding £357, as may be required for the completion of the inquiry, the total expenditure not to exceed £457 (inclusive of rail fares of members attending Committee meetings).

REAPPOINTMENT OF COMMITTEE.

The Council reappointed the Fractures Committee, to consist of the present members, for the remainder of the Session 1911–12, or until the completion of its reference, and resolved that the reference to the Committee under Minute 347 of Council of October 26th, 1910, be continued.

ARRANGEMENTS COMMITTEE.

The CHAIRMAN of COUNCIL presented the Report of the Arrangements Committee.

SECTIONS AND OFFICERS.

Twenty Sections are being arranged in connexion with the Liverpool Meeting, 1912, namely: Anaesthetics, Anatomy, Bacteriology, Dermatology, Diseases of Children (including Orthopaedics), Electro-Therapeutics, Gynaecology and Obstetrics, Laryngology and Rhinology, Medical Sociology, Medicine; Navy, Army, and Ambulance; Neurology and Psychological Medicine, Ophthalmology, Otology, Pathology, Pharmacology and Therapeutics, Physiology, State Medicine and Industrial Diseases, Surgery, and Tropical Medicine.

ADDRESSES.

It was decided that Dr. George Alexander Gibson, Edinburgh, be invited to deliver the Address in Medicine; and

Mr. Frank Thomas Paul, Liverpool, the Address in Surgery.

PROVISIONAL PROGRAMME.

The following is the provisional time table for the Liverpool Meeting:

FRIDAY, JULY 19TH, 1912.
10 a.m.—Annual Representative Meeting.

SATURDAY, JULY 20TH.
9.30 a.m.—Representative Meeting.

MONDAY, JULY 22ND.
9.30 a.m.—Council Meeting.
10 a.m.—Representative Meeting.
7 p.m.—Secretaries' Conference and Dinner.

TUESDAY, JULY 23RD.
9.30 a.m.—Representative Meeting.
2 p.m.—Annual General Meeting.
8.30 p.m.—Adjourned General Meeting, President's Address.

WEDNESDAY, JULY 24TH.
9 a.m.—Council Meeting.
10 a.m. to 1 p.m.—Sectional Meetings.
12.30 p.m.—Address in Medicine.
3 p.m.—Religious Services.

THURSDAY, JULY 25TH.
10 a.m. to 1 p.m.—Sectional Meetings.
12.30 p.m.—Address in Surgery.
7.30 p.m.—Annual Dinner.

FRIDAY, JULY 26TH.
9 a.m.—Council Meeting.
10 a.m. to 1 p.m.—Sectional Meetings.

SATURDAY, JULY 27TH.
Excursions.

SPECIAL EXECUTIVE ORGANIZATION COMMITTEE.

The CHAIRMAN (Mr. Larkin) presented the Report of the Special Executive Organization Committee.

REAPPOINTMENT OF COMMITTEE.

The Council reappointed the Special Executive Organization Committee, with the same terms of reference.

BRISTOL DIVISION.

A communication from the Bristol Division was referred to the Organization Committee for consideration and report.

STATE SICKNESS INSURANCE COMMITTEE.

The CHAIRMAN OF REPRESENTATIVE MEETINGS presented the Report of the State Sickness Insurance Committee.

INCOME LIMIT.

It was decided that the draft Report of the Council concerning the National Insurance Bill, to be issued to the Divisions prior to the Special Representative Meeting, should contain a clear statement of the action taken by the Council in pursuance of the instruction contained in Minute 184 of the Annual Representative Meeting, 1911, to secure a statutory fixed income limit, and also as to the arguments for and against the Association making a renewed effort to obtain such statutory limit; and that those Divisions which consider that the Association should again press for a statutory fixed income limit be recommended to make representations to that effect to their local members of Parliament.

REPORT TO SPECIAL REPRESENTATIVE MEETING.

It was decided to make arrangements for a Special Representative Meeting to be held in the interval between the completion of the Committee Stage and the commencement of the Report Stage of the consideration of the National Insurance Bill by the House of Commons.

INTERIM REPORT TO DIVISIONS.

An Interim Report was ordered to be issued forthwith to the Divisions stating the action that had been taken to give effect to the instructions of the Annual Representative Meeting, 1911, and explaining the present position as regards those matters in which the medical profession is specially concerned.

CENTRAL INSURANCE DEFENCE FUND.

A further appeal is to be issued to the profession for subscriptions to the Central Insurance Defence Fund.

REAPPOINTMENT OF COMMITTEE.

The present Members of the State Sickness Insurance Committee were reappointed to hold office until the next Quarterly Meeting of Council, and the reference to the Committee was continued with authority to take any necessary action in the meantime.

SIR THOMAS CROSBY.

The Council of the British Medical Association have sent to Sir Thomas Crosby, M.D., F.R.C.S., their hearty good wishes on his election as Lord Mayor of London, and congratulations on being the first medical man to reach that distinguished office.

LORD ILKESTON.

The Council of the British Medical Association having learnt, with much regret, the fact that it had been necessary for Lord Ilkeston to undergo a surgical operation, ordered that a letter should be sent wishing him a speedy and complete recovery.

CANDIDATES.

The nine candidates whose names appeared on the notice convening the Meeting were duly elected Members of the British Medical Association.

ROYAL SANITARY INSTITUTE CONGRESS.

An application from the Royal Sanitary Institute asking the Association to appoint Delegates to their Congress to be held at York, July 29th to August 3rd, 1912, was referred to the Public Health Committee.

BIRMINGHAM MEETING, 1911.

The best thanks of the British Medical Association were accorded to the following, for their assistance and hospitality on the occasion of the Seventy-ninth Annual Meeting of the British Medical Association, held in Birmingham, July, 1911:

The President of the Association and Mrs. Saundby, for the kind hospitality and keen interest evinced by them in everything pertaining to the Meeting.

Mr. Albert Lucas, Mr. J. Furneaux Jordan, Dr. W. Tracy Lydall, and Mr. A. W. Nuthall, the Honorary Local Secretaries, for their devoted labours and close attention to every detail whereby the success of the Meeting was assured.

Professor J. T. J. Morrison, for his valuable assistance as Honorary Treasurer of the Meeting.

The Lord Mayor and Corporation, for the use of the Town Hall.

The Chancellor and Senate, for the use of the University Buildings.

The Chief of the Police, for efficient police arrangements.

Dr. Langley Browne and the Birmingham and District General Medical Practitioners' Union, for arranging a Smoking Concert.

The Committee of the Birmingham Library, for placing the Rooms of the Library at the service of Members.

The Right Rev. the Lord Bishop of Birmingham (Dr. Gore), for his interesting sermon.

The Right Rev. Monsignor Henry Parkinson, D.D., (Rector of Oscott College), for arranging High Mass for the Catholic Members of the Association.

The Lord Mayor, for his hospitality and the keen interest he displayed in the Meeting.

The Lady Mayoress, for kindly acting as President of the Ladies' Committee.

The President and Mrs. Saundby, for their Garden Party.

Mr. and Mrs. Frank Marsh, for Garden Party at Aston Hall and Park.

Dr. and Mrs. Stacey Wilson, for Garden Party at Wydrington.

Professor and Mrs. Gilbert Barling, for Garden Party.

The Countess of Warwick, for entertaining visitors at the Horticultural College for Women at Studley Castle.

Sir Oliver and Lady Lodge, for Garden Party at Mariemont, Edgbaston.

The Chairman, Honorary Secretaries, and Members of all the local Committees, for their indefatigable labours towards the success of the Birmingham Meeting.

The Honorary Secretary of the Pathological Museum, for his arduous duties in arranging the Museum, and the Honorary Curators for their valuable assistance and co-operation in the same direction.

The Birmingham General Hospital and the Queen's Hospital, for the use of their wards for the exhibition of interesting cases.

Drs. Stopford Taylor and B. W. McKenna, of Liverpool, and Dr. Cranston Low, of Edinburgh, for the loan of wax models illustrative of diseases of the skin for the Pathological Museum.

Messrs. Cadbury and Co., for their reception and entertainment at Bournville.

The Wolseley Motor Company, for loan of cars for conveying members to and from the Exhibition.

Mr. R. T. Jupp, and the Directors of "the Picture House," for their reception and entertainment.

To the following, for permitting Members and visitors to inspect their works:

Southall Bros. and Barclay, Ltd.
Metropolitan Amalgamated Railway Carriage and Wagon Company.
John Hardman and Co. (stained glass).
Buttons, Ltd.
F. and C. Osler, Ltd. (china and glass).
Elkington and Co. (electro-plate works).
The Mint.
Electric Supply Department of City of Birmingham.
Wm. Mitchell, Ltd. (pens).
Joseph Gillott and Sons (gilt nibs).
John Mitchell.
Alfred Bird and Sons, Ltd. (custard).
Goodman and Co. (pins).
Belliss and Morcom (engineers).
Wolseley Tool and Motor Car Company, Ltd.
Offices and Works of the Birmingham Daily Mail.
Birmingham Small Arms Factory.
Daimler Motor Company's Works.
Rover Motor Company's Works
Dunlop Rubber Company, Limited.
The Sewage Disposal Works of the Tame and Rea Drainage Board.
Dr. G. A. Auden, for arranging the inspection of an Open Air School in course of erection at King's Heath.

Mr. Christopher Martin, for conducting excursion parties round Lichfield and Stratford-on-Avon.

Dr. H. M. Morgan and the members of the local profession, for their valuable help and co-operation in connexion with the excursion to Lichfield.

Dean of Lichfield, for conducting party over the Cathedral.

Dr. Purslow, for conducting excursion party to Droitwich.

The local members of the medical profession, for organizing the Droitwich excursion and entertaining Representatives—namely, Dr. John Wilkinson, Dr. H. Shirley Jones, Dr. P. A. Roden, Dr. F. H. Foulds, Dr. Cuthbertson.

Viscount Cobham, for entertaining the members to luncheon at Droitwich, and Mr. J. H. Hollyer, the Secretary of the Corbett Estate, for his assistance and co-operation in connexion with the excursion.

Dr. T. E. Cole, Dr. Mason, and the Members of the Warwick and Leamingten Division, for arranging excursion to Warwick and Leamington.

Dr. Orton and Dr. E. Phillips for organizing the Coventry excursion.

Mayor and Corporation of Leamington, for providing luncheon.

Dr. J. J. Cowan and the local members of the medical profession, for organizing the Malvern excursion.

Dr. H. N. Crowe and the local members of the medical profession, for arranging the visit to Worcester.

Canon Wilson, for his architectural address on the occasion of the visit to Worcester.

The Mayor of Hereford, for his reception of the visitors in the Guildhall, Hereford.

Canon Bannister, for conducting party over Hereford Cathedral.

Mr. Herbert Jones, Dr. Arthur Wood, and the local members of the medical profession, for organizing the visit to Hereford.

Dr. J. O. Lane, for presiding over the luncheon in the Guildhall, Hereford.

Sir Joseph Verdin, Bart., for his entertainment at Garnstone Castle, Hereford.

Dr. Bostock Hill, for taking charge of the party on the occasion of the visit to Hereford.

Dr. J. H. Wood and Dr. C. S. Morrison, for making arrangements for the visit to Hereford.

Dr. Latimer Greene and the local members of the medical profession for organizing the excursion to Stratford-on-Avon.

Rev. Canon Melville and Rev. Cornwall Robertson, for explaining and conducting the visitors to places of interest at Stratford-on-Avon.

Dr. C. T. Standing, Dr. W. G. Alexander, for receiving visitors at the Broadway Village, Stratford-on-Avon.

Mr. F. D. Millet, for receiving visitors at the Old Priory, Stratford-on-Avon.

Mr. J. B. Clarke, for hospitality to golfers at Little Aston Hall, and Mr. C. A. Palmer, for entertaining the competitors for the Ulster Golf Cup to tea.

The following Clubs, for arranging playing facilities and extending hospitalities to the golfing members:

Brand Hall, Handsworth, Harborne, Leamington and County, Olton, Castle Bromwich, Walmley, Edgbaston, King's Norton, Sandwell Park, Sutton Coldfield, Little Aston, Moseley, Ladbrook Park.

Midland Counties Lawn Tennis Club for admitting ladies to Tournament held in the Club's ground, Edgbaston Park Road.

The following Clubs for extending Honorary Membership and allowing Members the use of the respective Clubs:

The University, the Union, The Conservative, The Clef.

A SPECIAL MEETING of the Council was held at 429, Strand, London, W.C., on Friday, November 17th, 1911, at 2 o'clock in the afternoon.

Present:

Dr. J. A. MACDONALD, LL.D., Taunton, Chairman of Council, in the Chair.
Professor ROBERT SAUNDBY, M.D., LL.D., Birmingham, President.
Sir JAMES BARR, M.D., LL.D., Liverpool, President-Elect.
Dr. EWEN J. MACLEAN, Cardiff, Chairman of Representative Meetings.
Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. J. GRANT ANDREW, Glasgow
Surgeon-General P. H. BENSON, I.M.S., Walmer (Indian Branches)
Inspector-General ROBERT BENTHAM, R.N., London (Royal Navy Medical Service)
Dr. R. C. BUIST, Dundee
Dr. W. A. CARLINE, Lincoln
Mr. ANDREW CLARK, D.Sc., London
Dr. M. DEWAR, Edinburgh
Dr. DAVID EWART, Chichester (New Zealand Branch)
Mr. J. HENRY EWART, Eastbourne
Mr. C. E. S. FLEMMING, Bradford-on-Avon
Mr. T. W. H. GARSTANG, Altrincham
Dr. E. W. GOODALL, London
Dr. JOHN GORDON, Aberdeen
Dr. W. GOSSE, Sittingbourne
Surgeon-General J. P. GREANY, I.M.S., Ealing (Indian Medical Service)
Dr. MAJOR GREENWOOD, London
Lieutenant-Colonel F. W. H. DAVIE HARRIS, R.A.M.C., Teignmouth (Army Medical Service)
Sir VICTOR HORSLEY, F.R.S., London
Mr. HERBERT JONES, Hereford
Dr. J. H. KEAY, London
Dr. F. W. KIDD, Dublin
Mr. F. C. LARKIN, Liverpool
Dr. G. R. LIVINGSTON, Dumfries
Mr. ALBERT LUCAS, Birmingham
Dr. JOHN MACDONALD, South Shields
Dr. D. J. MACKINTOSH, M.V.O., Glasgow
Dr. JAMES METCALFE, Bradford
Dr. C. G. MORIER, London (Victoria, South and West Australian Branches).
Dr. B. H. NICHOLSON, Colchester
Dr. FRANK M. POPE, Leicester
Dr. A. J. RICE-OXLEY, London
Dr. LAURISTON E. SHAW, London
Mr. C. R. STILATON, Salisbury
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Mr. T. JENNER VERRALL, Bath
Professor A. H. WHITE, Dublin
Mr. D. J. WILLIAMS, Llanelly

NOTICE CONVENING MEETING.

The Secretary read the following notice convening the Meeting:

November 11th, 1911.

Dear Sir,

SPECIAL MEETING OF COUNCIL.

I am instructed by the Chairman of Council to inform you that owing to the stage that the State Sickness Insurance Bill has now reached in Parliament, it has become necessary to hold the Special Meeting of the Council on Friday next, November 17th, at 2 o'clock in the afternoon, to consider the Report of the State Sickness Insurance Committee to be presented to the Divisions.

The Chairman of Council, while regretting the necessity of altering the date, trusts it will be convenient for you to attend.

I am,
Yours faithfully,
GUY ELLISTON,
Financial Secretary and Business Manager.

LETTERS OF APOLOGY.

Letters of apology for non-attendance were read from Sir Henry Butlin, Bart., Mr. E. J. Domville, Dr. J. E. Eddison, Dr. Greenlees, Dr. J. R. Hamilton, and Dr. Jones Roberts.

REPORT OF CONFERENCE OF STATE SICKNESS INSURANCE AND HOSPITALS COMMITTEES CONCERNING THE POSITION OF VOLUNTARY HOSPITALS UNDER NATIONAL INSURANCE BILL.

On the Motion of the CHAIRMAN the suspension of Standing Order 29 was carried by the requisite majority in

order to enable the Council to consider the following Recommendation:

Recommendation.—That with reference to the following Resolution of the Council of November 1st:

> Resolved: That it be referred to the Hospitals Committee and the State Sickness Insurance Committee to prepare a joint Report on the question of the position of voluntary hospitals under the National Insurance Bill with suitable questions for the consideration of the Special Representative Meeting.

the Council, in view of the limited time at the disposal of the Divisions and of the important matters to be considered in that time, do not issue a Report to the Divisions at the present time upon the questions raised by Recommendations 2 and 3 of the Special Report of the Hospitals Committee to the Council of November 1st, 1911.

The Recommendation was put and declared to be carried.

DRAFT REPORT TO DIVISIONS ON THE NATIONAL INSURANCE BILL AS AMENDED IN COMMITTEE OF THE HOUSE OF COMMONS.

The Draft Report was considered clause by clause, and, after emendation, was ordered to be circulated to the Divisions and Members of the Association in the United Kingdom forthwith.

The Council concluded its business at 7.30 p.m.

A SPECIAL MEETING of the Council was held immediately after the conclusion of the business of the Special Representative Meeting in the Connaught Rooms, Great Queen Street, London, W.C., on Friday, November 24th, 1911.

Present:

Dr. J. A. MACDONALD, LL.D., Taunton, Chairman of Council, in the Chair.

Dr. EWEN J. MACLEAN, Cardiff, Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. J. GRANT ANDREW, Glasgow
Inspector-General ROBERT BENTHAM, R.N., London (Royal Navy Medical Service)
Dr. R. C. BUIST, Dundee
Mr. ANDREW CLARK, D.Sc., London
Dr. J. S. DARLING, Lurgan
Dr. M. DEWAR, Edinburgh
Mr. E. J. DOMVILLE, Exeter
Mr. J. HENRY EWART, Eastbourne
Mr. C. E. S. FLEMMING, Bradford-on-Avon
Mr. T. W. H. GARSTANG, Altrincham
Dr. E. W. GOODALL, London
Dr. JOHN GORDON, Aberdeen
Dr. W. GOSSE, Sittingbourne
Surgeon-General J. P. GREANY, I.M.S., Ealing (Indian Medical Service)
Dr. T. D. GREENLEES, London (Cape of Good Hope, Eastern, Western, and Border Branches)
Dr. MAJOR GREENWOOD, London
Dr. J. R. HAMILTON, Hawick
Lieutenant-Colonel F. W. H. DAVIE HARRIS, R.A.M.C., Teignmouth (Army Medical Service)
Sir VICTOR HORSLEY, F.R.S., London
Mr. HERBERT JONES, Hereford
Dr. J. H. KEAY, London
Mr. F. C. LARKIN, Liverpool
Dr. G. R. LIVINGSTON, Dumfries
Dr. JOHN MACDONALD, South Shields
Dr. JAMES METCALFE, Bradford
Dr. FRANK M. POPE, Leicester
Dr. LAURISTON E. SHAW, London
Mr. C. R. STRATON, Salisbury
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Mr. T. JENNER VERRALL, Bath
Mr. D. J. WILLIAMS, Llanelly

LETTERS OF APOLOGY.

Letters of apology for non-attendance were read from Professor Robert Saundby (President), Sir James Barr (President-elect), Sir Henry Butlin, Bart. (Past-President), Dr. Eddison, Mr. Lucas, and Professor White.

MINUTES OF THE SPECIAL REPRESENTATIVE MEETING OF NOVEMBER 23RD AND 24TH, 1911.

The Chairman of Representative Meetings presented the minutes of the Special Representative Meeting held on November 23rd and 24th, which were considered and approved.

NATIONAL INSURANCE BILL, UNDERTAKING.

The time limit for signing the Undertaking by members of the medical profession was extended to December 31st, 1911.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BORDER COUNTIES BRANCH:

ENGLISH DIVISION.

National Insurance Bill.—The medical men resident in this Division area met in Carlisle on Tuesday, November 21st, and unanimously passed the following resolution:

> That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession, as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; therefore, this meeting of the medical profession resident within the area of the English Division of the Border Counties Branch of the British Medical Association expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its refusal to undertake the duties which the bill proposes to assign to it.

CAMBRIDGE AND HUNTINGDON BRANCH.

A SPECIAL meeting of this Branch was held at the University Arms, Cambridge, on Tuesday, November 21st, at 3 p.m., Dr. E. J. CROSS (President) in the chair. There were 75 members and others present.

Confirmation of Minutes.—The minutes of the last special meeting were read and confirmed.

National Insurance Bill.

The SECRETARY announced the figures of the signatories to the Memorial and Undertaking. (The Branch is practically unanimous against the bill, those who have refused to sign doing so on the grounds only that they do not consider the action of the Association against the bill strong enough.)

The PRESIDENT then invited Dr. Fordyce to take the chair during the discussion of the Report of the Council of the Association on the National Insurance Bill, as amended in Committee of the House of Commons.

Dr. FORDYCE made a few introductory remarks and moved the adoption of the resolutions seriatim.

Dr. CROMPTON (Newmarket) thereupon proposed that the Branch adopt the "Lancashire and Cheshire" resolution.

Dr. NICHOLLS (Fulbourn) seconded.

After some discussion for and against the proposition, Dr. JOSEPH GRIFFITHS proposed, as amendment to the Lancashire and Cheshire resolution, that the following be added as a rider to Recommendation L:

> It is the opinion of the Cambridge and Huntingdon Branch that no member of the Association shall undertake the duties of a Medical Commissioner, of a medical member of the Advisory Committee to the Commissioners, of a member of the local Insurance Committee, or a member of the local panel, before a satisfactory arrangement is obtained between the profession and the local Insurance Committee, (1) on the income limit, (2) on the conditions and extent of service required, and (3) on the remuneration for such service.

Dr. CROSS seconded.

Dr. Griffiths's amendment was carried by 33 votes to 20. This was subsequently put to the meeting as a substantive motion, and was carried unanimously.

Dr. GRIFFITHS proposed the following as an instruction to the Representative Body:

Recommendation A. Move to Substitute for Recommendation A.

> No member of the Association shall undertake the office of a whole-time doctor under the National Insurance scheme, under any system or under any organization other than an institution (hospital or sanatorium), when the National Insurance Bill as now drafted becomes law, for such action is contrary to the principle of "free choice of doctor and the right of the doctor to refuse attendance upon a particular insured person."

Dr. GARROOD seconded. This was carried unanimously and adopted.

Recommendations B, C, and D were adopted.

Dr. GRIFFITHS proposed the following amendment to Recommendation E:

Recommendation E. Move to Substitute for Recommendation E.

The Representative Body states emphatically that the sum of 6s. per head per annum, arbitrarily taken by the Treasury as a basis of calculation for medical benefit, is not based upon any reliable data, is contrary to the experience of the entire profession, and is totally inadequate.

Mr. APTHORPE WEBB seconded. The motion was carried unanimously and adopted.

Recommendations F and G were adopted.

Dr. CURL (Ely) proposed that Recommendation H be added to the six cardinal points. Dr. TYLER (Wisbech) seconded. This was carried unanimously and adopted.

Dr. GRIFFITHS proposed the following amendment to Recommendation I:

Recommendation I. Move to Substitute for Recommendation I.

Voluntary hospitals or institutions shall not be subsidized by the local Insurance Committees, but in the case where institutional treatment is needed by the insured adequate payment shall be made (1) for the maintenance of the patient, and (2) for the special medical or surgical service required and rendered.

Dr. NICHOLLS (Fulbourn) seconded. This was carried unanimously and adopted.

Recommendations J, K, and M were adopted.

Minutes 193 and 194 were approved.

Vote of Thanks to Chairman.—Dr. GARROOD proposed a vote of thanks to the Chairman. Dr. APTHORPE WEBB seconded. This was carried with acclamation.

[The short note on this meeting which appeared in the SUPPLEMENT to the JOURNAL of November 25th was, we have since learnt, not official, as we believed it to be when received.]

CONNAUGHT BRANCH.

A SPECIAL general meeting of this Branch was held at Clanmorris, on Tuesday, November 21st, Dr. CONOR MAGUIRE in the chair.

National Insurance Bill.—The recommendations of the Council were read and discussed. Dr. T. B. COSTELLO, the Representative to the Special Representative Meeting, was requested strongly to support the recommendations of the Council, and to move in favour of the reinsertion of the medical benefit clauses to apply to Ireland.

New Members.—Subsequently the Executive Committee met and elected the following members: General W. Johnston Charlton, John P. Moore, M.B., and J. F. Roden.

DORSET AND WEST HANTS BRANCH:

WEST DORSET DIVISION.

National Insurance Bill.—A very largely attended meeting was held at the County Hospital, Dorchester, on Wednesday, November 22nd; Dr. S. C. FLOWER was in the chair. The resolution adopted by the mass meeting held in Manchester on November 18th was put to the meeting and carried unanimously. In addition a resolution was passed *nemine contradicente:*

That the Council of the British Medical Association be asked to cease bargaining with the Government, to withdraw the six cardinal points, and to let any further overtures in the matter of the National Insurance Bill come from the Government.

The feeling of the meeting was one of uncompromising hostility to the provisions of the bill as affecting the medical profession, and the Representative was instructed accordingly.

EAST YORK AND NORTH LINCOLN BRANCH:

NORTH LINCOLN DIVISION.

National Insurance Bill.

A VERY largely attended meeting of the practitioners of North Lincolnshire was held, under the auspices of the British Medical Association, at the Grimsby and District Hospital, on November 21st, "to consider the report of the Central Council of the Association on the National Insurance Bill as amended by the Committee of the House of Commons, and to instruct the Representative of the North Lincolnshire Division as to his attitude at the Special Representative Meeting to be held in London on November 23rd." A resolution was carried unanimously that the Central Council's recommendations for the further amendment of the bill be supported, certain words being added to make them, if possible, more emphatic.

The following resolution was also carried by an overwhelming majority:

That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession but also dangerous to the public health; therefore this meeting of the medical profession of North Lincolnshire expresses its determination, in the event of the bill becoming law, without the six cardinal points being embodied, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

GLASGOW AND WEST OF SCOTLAND BRANCH:

LANARKSHIRE DIVISION.

A SPECIAL meeting of this Division was held at Glasgow on November 21st, at 4 o'clock, for the purpose of instructing the Representative of the Division in view of his attending the Special Representative Meeting in London on November 23rd. There were present: Drs. Bruce Goff, J. L. Loudon, Robert Jack, R. B. Barr, John Harrison, J. Fotheringham, Robert Paterson, J. M. Thomson, David Jones, John H. Mains, John A. Watt, John Goff, W. G. MacPherson, Hugh Miller, J. Marshall, J. M. Young, J. Watson Little, A. C. Rigby, A. G. Wilson, John C. MacKenzie, William Grant, T. D. Newbigging, Thomas P. Grant, A. C. Barron, G. W. Crawford, Laurie White, Laird, and C. Crawford. Dr. BRUCE GOFF (Bothwell) presided.

National Insurance Bill.—The following resolution, moved by Dr. W. G. MACPHERSON (Bothwell), and seconded by Dr. J. MURRAY YOUNG (Hamilton), was, after some emendations by Dr. NEWBIGGING, submitted to the meeting and carried unanimously:

That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable from a medical point of view; therefore, this meeting of the Lanarkshire Division of the British Medical Association expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

Thereafter the Representative, Dr. Bruce Goff, was instructed to convey to the meeting in London the terms of this resolution. The SECRETARY submitted to the meeting copies of two memoranda which had been forwarded to him by the Fifeshire and the Lancashire and Cheshire medical practitioners respectively. He explained that these documents were printed for information only.

Vote of Thanks to Chairman.—This was all the business, and the meeting terminated with a vote of thanks to the Chairman for presiding.

GLOUCESTERSHIRE BRANCH.

A SPECIAL meeting of the Branch, to which members of the Worcester and Hereford Divisions were invited, was held at the Royal Infirmary, Gloucester, on November 9th, at 3.30 p.m. The PRESIDENT, Dr. Grosvenor, was in the chair, and seventy-one present (fifty-four Gloucester members).

National Insurance Bill.—Dr. COX, the Deputy Medical Secretary, in the unavoidable absence of Mr. Smith Whitaker, gave an address on The Present Position of the Profession with regard to the National Insurance Bill. A discussion followed, in which Dr. PRUEN, Dr. MACARTNEY, Mr. BUCKELL, Dr. COX, Dr. CONDER, Dr. MORRISON, Dr. STRETTON, Dr. SHEPHERD, and others took part.

Vote of Thanks to Dr. Cox.—A vote of thanks was passed to Dr. Cox for his address.

A special meeting of the Branch was held at the Royal Infirmary, Gloucester, on November 21st, at 5.30 p.m., Mr. G. A. PEAKE in the chair, and forty-nine medical men present, including forty-four members.

Apologies for Non-attendance.—Apologies for absence were read from Drs. Mayne (Lydney), Carter (Cheltenham), Mackinnon (Cirencester), Pugh (Bream), Awdry (Berkeley), R. Wilson (Nailsworth).

National Iusurance Bill.—After a lengthy discussion, the following motion, proposed by Dr. ARTHUR CARDEW, seconded by Dr. SCOTT, was carried *nemine contradicente*:

> That in the opinion of this meeting the National Insurance Bill, as at present framed, does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession but also dangerous to the public health; therefore this meeting of the medical profession in the area of the Gloucester Branch expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

It was proposed by Dr. Goss, seconded by Mr. BUCKELL, and carried:

> That the Representative be asked to submit a motion or amendment to the Representative Meeting for the deletion from the bill of the Harmsworth amendment.

The Representative was instructed to vote on the Council's Recommendations as follows:

B. If Harmsworth amendment is deleted, vote for B.
C. Vote as for B.
D. Vote for D.
E. Vote for E.
F. To press for one-fifth in place of one-tenth, and if not one-fifth for not less than one-tenth.
G. Vote for G.
H. Vote for H.
I. No instruction.
J. K. To act in accordance with the wishes of the Irish Representatives.
L. Vote for L.
M. Vote for M.

It was proposed by Dr. CONDER, seconded by Dr. MOORE and carried:

> That £2 is the maximum wage limit, and must be inserted in the bill.

Dr. MELLISH urged the necessity of a national strike of doctors as opposed to local strikes. It was proposed by Dr. BRAINE-HARTNELL, seconded, and carried:

> That the first resolution carried at the meeting be sent to the press.

LANCASHIRE AND CHESHIRE BRANCH:

BLACKBURN DIVISION.

A MEETING of this Division was held at the Ambulance Drill Hall, Accrington, on Tuesday, November 21st. Dr. W. RIGBY (Chairman) presided, and there were present: Drs. Prebble, Howard Henry, J. M. Postlethwaite, A. V. Bowen, M. J. Fox, B. Stahlknecht, John Barr, Jos. E. Bowes, O. Trafford Owen, F. G. Haworth, Hy. E. Fox, Reg. W. Townley, S. W. Brook, D. S. C. Reid, R. Y. Aitken, T. Frankish, R. W. Valentine, A. Leigh, Thos. C. Halley, Edw. Johnson, Alex. Cran, Robert Cumming, John Patchett, R. Clegg, J. A. Laycock, A. Greenhalgh, E. A. Field, J. Willett, A. Y. Greenwood, R. A. Shaw, J. D. Buchanan, A. W. Musson, Wm. Geddie, A. C. M. Macrae, G. D. M. Beaton, E. Mitchell, Geo. A. Thompson, John Craig, J. S. W. Nuttall, Riley Cunliffe, J. T. T. Ramsay, Rd. Alcock, W. A. Smith, J. Fenwick, W. Moir, H. C. Lees, S. H. Ryan, H. Armistead, L. T. Lancaster, Maurice Hogan, Thos. Higson, A. E. Townley, J. W. M. Jamieson, J. Foley, T. Ballantyne, J. W. Keighley, Geo. R. Wilson, John Barton, J. Spence Geddie, D. Fenton, W. R. Tough, I. J. Tough, W. Hodgson Ross, A. Gordon Watson, J. Craig, and Alfred Greenwood (Honorary Secretary).

National Insurance Bill.—The agenda of the Special Representative Meeting of the British Medical Association to be held in London on Thursday, November 23rd, was then considered. The Representative, Dr. Prebble, was instructed to vote in favour of Motions 10, 13, 14, 16, 17, 18, 19, 20, 21, and 22. He was instructed to vote against Motions 11 and 12, and to urge that the word "one-tenth" in Motion 15 should be replaced by the word "one-fifth." The general aspect of the National Insurance Bill was then discussed by the meeting, and the following resolution was carried unanimously:

> That we, the members of the Blackburn Division of the British Medical Association, will not work under the National Insurance Bill unless the six cardinal principles formulated and approved by the Representative Meeting of June 1st, 1911, and confirmed by the Representative Meeting at Birmingham in July, 1911, are included in the bill as a minimum.

BLACKPOOL DIVISION.

A GENERAL meeting was held on November 21st, at 7.45 p.m., in Jenkinson's Café, Blackpool. Dr. RHODES was in the chair, and there were present: Drs. Penman, Dunderdale, Stewart, McIntosh, Fearnhead, Barton, Forbes, Crane, Nuttall, McCandlish, Knight, Byers, Pike, Carr, T. Taylor, Baird, Moon, Parkinson, W. A. Smith, Dora Bunting, Edith Johnson, Andrew Taylor, Hill, Richardson, Falconer, Buckley, Gornall, and Rees Jones. The following attended as visitors: Drs. Milligan, Howlin, Wylie, and Day.

Confirmation of Minutes.—Minutes of the general meeting held on June 21st were read, approved, and signed by the Chairman.

Apology for Non-attendance.—Apology for absence was read from Dr. Cartmell.

Correspondence.—Correspondence was read as follows: (1) From Mr. Ashley, M.P., October 5th; (2) from the Medical Secretary, October 7th; (3) from the Honorary Secretary of the Hampstead Division, October 14th; (4) from the Medical Secretary, *re* the election of Direct Representatives on the General Medical Council; (5) from Drs. Prowse, Arnold Jones, and E. B. Leech, containing resolution passed at the mass meeting of Lancashire and Cheshire practitioners at Manchester on November 18th; (6) from Drs. Edward and Falconer relating to the expenses of the above meeting.

Grouping of Divisions for Election of a Representative.—A letter of October 25th, 1911, from the Medical Secretary was read *re* grouping of Divisions for the election of a Representative to meetings of the Representative Body, and it was resolved:

> That the Division agrees to being grouped with the Isle of Man Division for the above purpose.

Representative to Special Representative Meeting.—Resolved that Dr. H. T. Barton be appointed a Deputy Representative to the Special Representative Meeting of November 23rd, 1911.

National Insurance Bill.—The meeting then proceeded to consider in detail the Report of Council to the Divisions on the National Insurance Bill, as amended in Committee of the House of Commons. The discussion was thrown open to the meeting. The following action was taken with regard to the Recommendations at the close of the Report:

A. That the Division objects to the suggested amendment, as it does not remove dangers of abuse under the Harmsworth amendment.
B. To add "provided that payment is adequate."
C. To add "provided that payment is adequate."
To delete "on the same terms . . . insured people."
D. To agree.
E. To delete "while remaining . . . has not yet been defined,"
To add "but that under a system of capitation payment a minimum fee of 10s. be specified in the bill."
F. To agree.
G. To agree.
H. To agree.
I. No action.
J. To add "if the practitioners of Ireland so desire."
K. To agree.
L. To agree.
M. To agree.

Additional Recommendation.—That a £2 income limit be specified in the bill.

Additional Recommendation.—That the following resolution be adopted by the Special Representative Meeting:

> That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health. Therefore this meeting expresses its determination, in the event of the bill becoming law in its present

form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

It was resolved that a copy of the above resolution be forwarded to the local press.

BOLTON DIVISION.

A GENERAL meeting of this Division was held at the Infirmary, on Tuesday, November 21st. Fifty medical men were present.

National Insurance Bill.—Dr. THORNLEY put the following resolution, which was carried:

That it is the opinion of the members of the Bolton Division of the Lancashire and Cheshire Branch of the British Medical Association that the time has arrived when the profession should decline to prolong the negotiation with the Government, and should decline to enter into any arrangements under the bill, and that all further action with a view to the amendment of the bill should be abandoned.

PRESTON DIVISION.

National Insurance Bill.

A LARGE and representative gathering of members of the medical profession from Preston, Chorley, and district, met at the Scientific Society's Rooms, Preston, on November 21st, Dr. R. C. BROWN, Chairman, presiding. The meeting was called to protest against the medical part of the National Insurance Bill.

The CHAIRMAN said they had met once more to emphasize what had been already emphasized in every part of the country—namely, the dissatisfaction of the medical profession with the National Insurance Bill as far as it concerned the doctors. They also met to repeat their determination to refuse to assist in carrying out the provisions of that bill until the six cardinal points had been granted.

Dr. MOONEY submitted the following resolution:

That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; therefore this meeting of the medical profession of Preston and district expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

He observed that he felt some diffidence in submitting it, for if adopted it practically amounted to a declaration on their part that so far as the medical aspects of the Insurance Bill were concerned the Government and the authorities were not to rely on the medical profession for taking any part whatever in their administration. The public, he felt, had a perfect right to know why the medical profession should take up such a position. He reminded them that the bill was introduced without any reference whatever to the feeling held by the members of the medical profession generally; that they were not consulted definitely about it; that all the regulations as to the conduct of medical practice were introduced into the scheme without the consent of those who were intimately effected by them—the profession itself—and they were called upon by Parliament to undertake the administration of an insurance scheme which in many of its features were most repugnant to the best traditions of medical practice. The history of the medical profession was a long-continued record of service freely and ungrudgingly given to people who were in need, and given frequently without the slightest reward. That being the case, they found in the bill as introduced, and as practically complete, that the provision for medical attendance was not limited to the poor and necessitous, but extended to a tremendously large class of the community who were perfectly able to pay for any services rendered. Medical men under the bill were asked to give services under conditions which no other class of the community were called upon to do. They were asked to give their services to those who were well able to pay, and the rate provided under the bill must necessarily, from the amount of money allocated for medical pay, be a sweated one. They had every reason to object to such a proposition. Dr. Mooney proceeded to deal with the six cardinal points outlined at the Manchester meeting, and declared that even the alterations introduced into the bill in regard to the control of the medical service by local men were to a large extent illusory. The medical profession asked for a wage limit, and from their local experience thought they were doing a generous thing when they suggested that a 30s. wage limit per household would enable every individual who was really unable to pay for medical attendance to get it under the Insurance Act. The British Medical Association went further, and put down the limit at £2. That wage limit had not been accepted. Passing on to anticipate some of the objections that would be raised, and the action which Preston would adopt with the whole of the country, Dr. Mooney said he knew they would be told that this was a matter in which the medical profession ought to subordinate their personal interests in the welfare of the country, "We are getting about tired of this pharisaical cant," Dr. Mooney went on amid applause. "So far as we are concerned we shall not be frightened by criticisms of that kind. There is not a man in this room who is not cognizant of the tremendous amount of medical attendance and care given in innumerable cases to people who are not able to afford it, without the slightest hope of expectation of reward. But I say this, if we are going to practise charity we should at least have the right to select the people upon whom we are to practise—(Applause)—and not allow any law-giver to say we shall do it by order. Not only must we be prepared to refuse to act under the Insurance Bill, but we must be prepared to refuse to associate, deal with, or recognize in any way any man who does so act, whether he is an ordinary practitioner or consultant. Our very existence is at stake, and we must be prepared to do our duty." (Loud applause.)

Dr. SELLERS seconded the resolution, which was eventually adopted after discussion, with the addition of the word "minimum" before "demands," and the insertion of "absolutely refusing" in place of "declaring its inability."

SOUTHPORT DIVISION.

National Insurance Bill.

A SPECIAL meeting of the Division, to which all registered practitioners resident in the Division had been invited, was held at the Assembly Room, Cambridge Hall, Southport, on November 20th, to consider the report of the Council of the British Medical Association on the National Insurance Bill, issued on November 18th. There was an attendance of about fifty. Dr. LITTLER occupied the chair, and introduced the subject. Dr. HARRIS moved and Dr. ASHWORTH seconded the following resolution:

That the opinion of this meeting is that the National Insurance Bill as at present framed does not embody the demands of the profession as defined in the six cardinal points, not one of which is at present satisfactorily secured; that it sees little prospect of obtaining their recognition from Parliament or the local Insurance Committees as appointed under the bill, and instructs its Representative to urge upon the Representative Meeting a declaration of the inability of the medical profession to undertake the duties assigned to it unless the six points are recognized in such a manner as to secure the fulfilment of their demands.

Speeches were delivered by Drs. WALKER, RUSSEL, WEAVER, STORRS, PENROSE, HENDERSON, LIMONT, SYKES, REID, MACKAY, LAWSON CAIRNS, and BAILDON. Dr. WEAVER spoke in defence of the bill, and several speakers recognized with appreciation the action of the Council of the British Medical Association in connexion with it. The resolution was carried *nemine contradicente.*

Dr. LIMONT moved the adoption of Recommendation M of the Council—namely:

That the Representative Body give preliminary consideration to the question of organization of the profession for the purpose of protecting its interests under the Insurance Bill if enacted.

This was seconded by Dr. BAILDON, and carried *nemine contradicente.*

Local Defence Fund.—The meeting decided unanimously to send one guinea from the local Defence Fund to Dr. Prowse, of Manchester, towards the expenses incurred in convening the mass meeting of doctors in Lancashire and Cheshire, held in Manchester on November 18th. The SECRETARY announced that ninety practitioners had now subscribed to the fund for defraying expenses of opposition to the bill. The amount promised was £93 5s., and the calls paid to date £24 15s.

WARRINGTON DIVISION.

A MEETING of the Division and other medical practitioners was held at the Infirmary, Warrington, on Tuesday evening, November 21st. Dr. BOWDEN was in the chair, and there were present: Drs. G. W. Joseph (Mayor), J.P., Adams, Langdale, Fox, Naden, J.P., Edwards, Manson, Peacocke, McKee, A. Anderson, Moss, de Jong, Burrowes, Geary, Jago, C. Hutchinson, Mackenzie, Breakell, Binns, G. H. Joseph, Hodgkinson, Taylor, Liston, Hutt, Robinson, Thorp, and Murray.

National Insurance Bill.—After discussion of the report of the Central Council, etc., the following resolution was passed:

> That this Division is of opinion that the provisions of the National Insurance Bill, even as would be amended by the recommendations of the British Medical Association, are absolutely unsatisfactory, and that the medical profession should refuse *en bloc* to act under its provisions.

The Secretary was requested to forward the resolution to the Representative.

A Medical Mayor.—A resolution congratulating the Mayor, Dr. G. W. Joseph, J.P., upon his having been elected for a second time was unanimously passed, and the MAYOR replied thereto.

Ambulance Lectures.—A letter was read from the chief superintendent of the St. John Ambulance Brigade, Warrington, asking the Division to make an exception with regard to the resolution passed last March requiring payment for a course of instruction in ambulance, hygiene, etc. After discussion it was resolved:

> That no exception be made, but that for this year, in order to avoid inconvenience, members of the brigade should be allowed one course of lectures.

Division Dinner.—It was resolved to have a Division dinner.

METROPOLITAN COUNTIES BRANCH:

CHELSEA DIVISION.

A MEETING of the Division was held at the Fulham Town Hall on November 21st, Dr. YOUNG in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Letters.—The following letters were read: (1) From the Lord Mayor of London thanking the Division for its congratulation; (2) from Mrs. Lubbock, thanking the Division for its sympathy with her and her family on account of her husband's illness.

Medical Treatment of School Children.—A letter from the London County Council, dated November 7th, *re* the medical treatment of school children, was read. It was to the following effect:

> With reference to the proposed establishment of a centre at Fulham for the medical treatment of school children attending public elementary schools, I may remind you that the proposal of the Council was subject to the approval of the Board of Education. I have now to inform you that a letter has been received from the Board to the effect that they do not feel justified at this stage in sanctioning the Council's scheme for the establishment of new medical treatment centres as part of the permanent scheme for medical treatment of the children of London. It is assumed, however, from the Board's letter that pending the development of a permanent scheme they will be willing to consider individual schemes submitted to them to meet pressing needs in particular districts. It is consequently not possible at present to proceed to an immediate agreement for the establishment of a centre at Fulham. But the appropriate committee of the Council are still considering the matter with the view of deciding whether application shall be made to the Board of Education for sanction to this particular scheme. In the circumstances, therefore, the Committee of Medical Practitioners would not be justified in taking any steps which would commit them financially. It is hoped, however, that they will be able to allow the consideration of the question to remain open until the committee are in a position to make a further communication to them on the subject.

The SECRETARY stated that he had acknowledged this letter and had remarked on the expense which they had incurred in holding meetings to discuss this matter.

National Insurance Bill.—Resolutions passed by the medical profession of Lancashire and Cheshire, and of South-East Essex, also those to be proposed at meetings of the Reading and City Divisions, were read. The terms of these resolutions were received with applause. Dr. SPAULL addressed the meeting as follows:

Before considering the recommendations which have been submitted by the Council, I beg to move that this Division instruct its Representative to oppose the Insurance Bill as it now stands, *in toto*, at the Representative Meeting to be held next Thursday. The cheerful optimism with which the Council hopes to get the necessary amendments added during the Report stage is astounding, considering how we have been treated during the Committee stage. In June last the British Medical Association formulated six cardinal principles which were to be insisted upon before any medical man would accept office under the bill, and as yet, so far as I can see, none have been conceded to us. (1) Administration of the medical benefits, etc., by the local Health (now called Insurance Committees) and not by approved societies. The Chancellor agreed to this, and in the bill as it now stands the Insurance Committees have full control and approved societies are struck out; but when you turn to the constitution of these committees (see Sect. 43) you will see how we have been fooled. They are simply to be packed by the friendly societies. The whole Committee is to consist of not less than 40 or more than 80; 24 and 48 respectively of these are to be representatives of friendly societies (three-fifths of the whole in each case), and there are to be only 3 representatives of the medical profession—that is, giving a proportion of at most 3 in 40, at the least 3 in 80. Is this adequate representation, which is another of the cardinal principles? I trow not, and as these committees now stand we shall be more under the control of the friendly societies than ever. (2) As to income limit, how can we ever hope to have this fixed at a reasonable limit with the Insurance Committees constituted as they are? (3) Free choice of doctor by patient. This is entirely marred by Sect. 14, Subsect. 4. Here we see the approved societies can keep their own doctors and compel their members to have them. Finally, as practically none of our cardinal principles have been conceded, I beg to move the following resolution:

> That our Representative be instructed to inform the Representative Meeting that this Division refuses to undertake any duties under the Insurance Bill as it is at present constituted.

This was seconded by Dr. BUTLER, supported by Dr. WHITELEY and others, and carried unanimously amidst applause.

The Secretary was instructed to send copies of this resolution to the Medical Secretary of the British Medical Association and to the Central News Agency with a view to its insertion in the principal daily papers. It was decided not to consider the recommendations submitted by the Council.

CITY DIVISION.

A GENERAL meeting was held at the Town Hall, Hackney, on Wednesday, November 22nd, at 4 p.m. Dr. GERALD JOHNSTON, Chairman of the Division, presided. Fifty members signed the attendance roll; many late comers did not sign, the large committee room being inconveniently overcrowded.

Confirmation of Minutes.—The minutes of the meeting, and of the special general meeting on November 9th, having been printed *in extenso* in the SUPPLEMENT of the BRITISH MEDICAL JOURNAL of November 18th, were taken as read.

Apologies for Non-attendance.—Letters of regret at non-attendance, and expressing approval of Dr. M. Greenwood's resolution, were received from Drs. Arthur Davies, F.R.C.P., Wyndham Gittens, and J. G. M. G. Stack.

Correspondence.—The HONORARY SECRETARY read the following letters: (*a*) Letter of acknowledgement and thanks from Sir T. Boor Crosby, Lord Mayor. This was entered on the minutes. (*b*) From the Medical Secretary *re* procedure on adoption of new ethical rules. (*c*) From Dr. Roe, announcing the formation of the Finsbury Medical Society. (*d*) Letters from mass meetings against Insurance Bill in Lancashire and Cheshire, South-East Essex, and Lincoln.

National Insurance Bill.—On proposal of Dr. GOODALL, seconded by Dr. ROE, it was decided to vary the order of business and consider first the instructions to the Representative for the Special Representative Meeting. The meeting then considered the report of the Central Council *re* Insurance Bill. The report to page 18 having been

taken as read and adopted, the meeting discussed seriatim the recommendations. These, with some slight amending, were approved as instructions. Dr. M. GREENWOOD then proposed his resolution, on which there was a full discussion by many present, the general feeling being that the British Medical Association should maintain a very firm negative attitude to the bill as a whole. The resolution, finally approved unanimously, was as follows:

> That, as in the opinion of this Division the concessions of the Chancellor of the Exchequer are unsatisfactory and do not meet the just claims of the profession as set out in the six principles adopted by the Association, the Council be instructed by the Representative Body to request all members of the profession to abstain from contracting with any of the Insurance Committees or other bodies set up under the bill to administer medical benefit until all the said six principles, especially the statutory wage limit of £2 per week, are unreservedly complied with.

It was decided that reports be sent to the press and others embodying the principles of the resolution. It was left to the Honorary Secretary to amend the wording as advisable. Dr. RUSHBROOKE brought forward the question of a renewed canvass of the profession to obtain pledges against taking positions under the bill. This was approved and referred to the Executive Committee. The HONORARY SECRETARY reported that the results of the canvass in July had shown that 95 per cent. of practitioners in the Division area were pledged not to accept service under the bill. Dr. HUNT then moved:

> That in pursuance of these instructions to our Representative, this meeting instructs the Executive Committee as soon as the bill has passed the House of Commons to ask the Branch Council to call a mass meeting of the practitioners resident in the area of the Branch, and urge them to decline to take any office under the Act unless the six points of the British Medical Association, and especially the £2 weekly statutory wage limit, are adopted in the bill, and to get written pledges to this effect.

This was carried. On the motion of Dr. KEENAN, it was then resolved that the consideration of the further business on the agenda be postponed to the next meeting.

The meeting closed at 5.50 p.m.

EALING DIVISION.

A MEETING of this Division, to which all medical men in the Division were invited, was held on Wednesday, November 22nd. Between sixty and seventy attended, and many letters were read from doctors unable to be present but in complete agreement with the proposed resolutions on the agenda.

National Insurance Bill.—The Insurance Report was first discussed. It was proposed by Dr. LOWRY of Brentford and seconded by Dr. JAMES of Ealing:

> That Recommendations A, B, and C be rejected and that the remaining recommendations be accepted.

As an amendment to this Dr. NEIL of Acton moved:

> That the recommendations be not discussed and the resolution on the agenda to be put later be now put to the meeting.

This was agreed to by all present, and the following resolution was moved and carried unanimously:

> That this meeting of the members of the medical profession residing within the area of the Ealing Division of the British Medical Association, do not approve of proceeding with the recommendations submitted to them by the Council of the Association. They hold that the profession should at once express their determination to refuse to undertake any duties under the National Insurance Bill in its present form, inasmuch as it does not satisfy the demands embodied in the six points formulated by the British Medical Association, it is unjust to the profession, and dangerous to the health of the nation.

The following two resolutions were then carried unanimously, and the Representative instructed to bring them before the Representative Meeting:

> *Resolution A.*—That the Ealing Representative be instructed to draw the attention of the Representative Meeting to the fact that, as Clause 1, Section (3), lines 35-37 of the bill now stands, any one who has once been insured for a period of five years can continue to be insured although his income may increase to an unlimited extent.
>
> *Resolution B.*—That the members of this Division much regret that the Council have thought fit to keep the number of those who signed the undertaking to themselves.

Formation of Watch Committee.—The meeting then formed a Committee to act as a "Watch" Committee, and to consider ways and means for the organization of the local profession. Ten doctors were chosen from all parts of the Division, power being given to add to their number.

Paper.—The meeting then concluded with an interesting paper by Dr. G. NEWTON PITT, entitled "Intrathoracic Aneurysm and Growth."

HAMPSTEAD DIVISION.

A MEETING of members of the medical profession resident in the area of the Hampstead Division was held on November 21st at the Hampstead Conservatoire, to consider what action should be taken by the profession with regard to the National Insurance Bill. Seventy-five were present.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Alice Brown, Evelyn Milestone, Ceely, George, Loghlen and Roche.

National Insurance Bill.

Dr. OAKLEY, who occupied the chair, made a brief survey of the position, and read resolutions of protest which had been passed by the Finchley Ward of the Hampstead Division, by a mass meeting of the profession of Lancashire and Cheshire, and by the Reading Division, also a resolution in the same sense to be discussed by the City Division on the following day.

The following resolution, already passed by the committee, was proposed by Dr. PERCY EVANS:

> That this meeting of members of the medical profession residing within the area of the Hampstead Division of the British Medical Association, do not approve of proceeding with the recommendations submitted to them by the Council of the Association. They hold that the profession should at once express their resolve to refuse to undertake any duties under the National Insurance Bill in its present form, inasmuch as it does not satisfy the demands embodied in the six points formulated by the British Medical Association, is unjust to the profession, and is dangerous to the health of the nation.

Dr. Percy Evans thought that a layman, on reading the report of Council to the Divisions on the National Insurance Bill (D 11), would think that the Council was fairly well satisfied with its work, that the profession was on the whole amiably disposed towards the bill, and that the bill was workable. On the other hand, letters in the JOURNAL and in the public press showed that this was far from being the case. Dr. Evans then discussed seriatim how far the six points in the policy of the Association had been met in the Committee stage of the bill. The income limit had not been settled. The local Insurance Committees were not likely to do so with any uniformity. Free choice of doctors was partially settled, but the clubs would still not have free choice. Independence of friendly society control had been carried early in the Committee stage, but had been taken away later by amendments increasing the friendly society representation. The representation of the profession on the various committees could not be considered adequate. The proportion of 3 in 40 or 80 on the local Insurance Committee was simply absurd; they should demand at least one-eighth. The composition of the Auxiliary Committees was not even specified in the bill. The question of remuneration had been too delicately handled by the Council. Recommendation E, stating that the amount on which the actuarial calculation had been based—namely, 6s. per head, was inadequate—was an inadequate and ineffective expression of opinion. The finance of the bill was obviously at fault. Any extra expense incurred was to be shared by the Treasury and the county council. Was it likely they would be willing to do so? Various additions had been made as to the classes of the insured—married women workers, for instance, had been thrown in without much thought as to where the funds were to come from. Since the demands of the profession had been refused, there seemed no good in reiterating them. The only method was to refuse to have anything to do with the bill. It was a bill of compulsion, by which 15 million people were ordered to insure, at the same time being promised ninepence for fourpence. (Cries of "Disgraceful.") It also dictated to the profession how they were to deal with their patients.

Dr. CORAM JAMES seconded the resolution.

Dr. OPPENHEIMER entered a protest against the introduction of political arguments.

Dr. CHURCHILL (Wembley) agreed with Dr. Evans that the profession was insulted by being dictated to as to how it should deal with patients. It would be no more absurd if the medical profession were to dictate to lawyers that they should work for the poor for 4s. per head. The attitude of doctors towards the bill meant no hostility towards the working classes. They were now settling the conditions of medical practice for the practitioners of the future.

The SECRETARY OF THE EALING DIVISION added a few words in favour of the resolution, and read a resolution which was going to be brought forward at a meeting of his Division the following night. He thought it was essential that the maximum £2 limit should be inserted in the bill. He called the attention of the meeting to the absurdity of the proviso at the end of Section 3 of Clause 1 of the bill.

Drs. SCRASE, ERIC L. PRITCHARD, DOBBIE, JESSOP, and BINDLEY also spoke.

Dr. RAWES pointed out that 500 patients at 6s. per head per annum would bring in an income of £150 a year—less than enough to pay the expenses of a motor car.

Amendments to delete or modify the words "dangerous to the health of the nation" were put and lost.

The resolution was then carried unanimously.

A motion was also carried that copies of the resolution be sent at once to the *Times* office and to the Press Association.

LAMBETH DIVISION.

National Insurance Bill.—A special meeting was held at Bethlem Hospital on Wednesday, November 22nd, at 4 p.m., to instruct the Representative how to vote at the Representative Meeting to be held on November 23rd. Mr. J. C. V. DENNING was in the chair, and eighty-two members and twenty visitors were present. The recommendations of the Council were unanimously endorsed, with two exceptions. In Recommendation C, on the motion of Dr. FREMANTLE, seconded by Dr. COOKE, the words

> Or that being subject to permanent disablement at that date they are not qualified to become insured persons

were deleted. Twenty-six voted for and 6 against the motion. In Recommendation F, the meeting was of the opinion that the representation of the profession on the local Health Committees should be one-fifth, and also one-fifth on the auxiliary committees. Dr. PARTRIDGE then proposed the following resolution:

> That in the opinion of this Division the concessions of the Chancellor of the Exchequer are unsatisfactory and do not meet the just claims of the profession as set out in the six points of the programme of the Association, and that the Council be requested to advise all members of the profession to abstain from contracting with any of the local Health Authorities set up under the bill until all the said six points have been unreservedly complied with.

This was seconded by Dr. BOON. Drs. COOKE, MATCHAM, MACKEITH, and others supported the motion; while Messrs. CAPES, STRATTON, and LAYTON spoke against it. The motion was carried, eleven members voting against it.

Vote of Thanks.—The meeting then terminated with a vote of thanks to the authorities at Bethlem Hospital for having granted the use of the large recreation room for the purposes of the meeting.

An ordinary meeting of the Division was held at the Evelina Hospital on Thursday, November 23rd, at 4 p.m. J. C. V. DENNING was in the chair, and eighteen members were present.

Confirmation of Minutes.—The minutes of the meetings held on October 26th and November 22nd were read and confirmed.

Cases.—Dr. H. C. CORRY MANN showed 2 cases: (1) A cretin completely cured with thyroid extract, and also photographs showing her original state; (2) a well-marked case of achondroplasia in a child, showing markedly the comparative shortness of the humerus and femur, the marked pot belly and lordosis.

Treatment of Infantile Diarrhoea.—Dr. MANN then read an interesting paper on the treatment of infantile diarrhoea. He was of opinion that these cases were infectious; he advised early treatment with morphine, combined with bismuth carbonate and sodium bicarbonate, and later using creosote. He advised giving the patients an adequate diet from the beginning, and dwelt on the advantages of citrating the milk, which he used undiluted; he related his experiments showing that even when curds were passed in large quantities the major portion of the fat of the milk was digested. He deprecated the use of calomel, washing out the stomach and colon, and also the use of alcohol. When convalescent, and also during the acute stage, he urged the importance of securing more than the average amount of sleep. An animated discussion followed, in which Messrs. DENNING, NORTON, SCOTT, ATKINSON, ROBERTSON, CAPES, CRIPPS, ST. CEDD, SMITH, and FRASER took part.

Votes of Thanks.—A hearty vote of thanks was unanimously passed to Dr. Mann, and also to the authorities for having so hospitably entertained the Division.

MARYLEBONE DIVISION.

A GENERAL meeting of the Division was held at the rooms of the Medical Society of London, 11, Chandos Street, W., on Tuesday, November 21st, at 8 p.m. Mr. ATWOOD THORNE, Vice-Chairman, presided.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apologies for Non-attendance.—Letters of regret at inability to attend were received from Sir Henry Butlin, Mr. Arbuthnot Lane, Dr. H. B. Robinson, Miss May Thorne, and Dr. H. W. Dimmock.

National Insurance Bill.

The following resolution, of which notice had been given, was moved by Dr. G. A. KERAN and seconded by Mr. MCADAM ECCLES:

> That it be an instruction to the Representative of the Marylebone Division of the Metropolitan Counties Branch of the British Medical Association to move in the Special Representative Meeting on Thursday, November 23rd, the following resolution:
>
> "That, in the opinion of this Special Representative Meeting of the British Medical Association, it is essential that the Chancellor of the Exchequer should be informed in the House of Commons itself that, seeing only one of the six points put forward by the British Medical Association has been introduced fully into the clauses of the National Insurance Bill, the 17,000 members of the Association will abide by their pledge to refuse to undertake contract work under the provisions of the bill if it become an Act of Parliament.

Both mover and seconder spoke in support of the resolution. Dr. LAURISTON SHAW deprecated the taking of this resolution prior to the consideration of the recommendations submitted to the Division by the Council, and moved a resolution that the recommendations be supported.

Dr. C. O. HAWTHORNE, who seconded, said the resolution appealed to one's fiery instincts, but the better way was to support the recommendations of the Council.

The CHAIRMAN held that the proposed amendment was not in order.

Dr. HAWTHORNE thereupon moved, and Dr. DAVID ROXBURGH seconded, an amendment:

> That before voting on the resolution the recommendations of the Council should be examined.

Mr. MCADAM ECCLES said he agreed as to the excellence of the Council's recommendations, but urged the point of the resolution was that the Chancellor of the Exchequer be told of these things in the House of Commons and not merely by letter.

A vote on the amendment gave a tie; the CHAIRMAN gave a casting vote in favour of the resolution.

Dr. LAURISTON SHAW asked the meeting not to vote for the resolution; if it were passed the recommendations were useless.

Alterations in the phrasing of the resolution were suggested by the CHAIRMAN, Dr. DREW, Dr. REECE, Dr. CREASY, and Dr. MONTGOMERY SMITH.

Dr. CLIMSON GREENWOOD moved and Dr. MURRAY LESLIE seconded the amendment of the resolution as follows:

> That in the opinion of this Special Representative Meeting of the British Medical Association it is essential that the Chancellor of the Exchequer should be informed in the House of Commons itself that, unless the six points put forward by the British Medical Association are conceded in the National Insurance Bill or under the regulations thereof, the seventeen thousand (17,000) members of the Association will abide by their pledge to refuse to undertake contract work under the provisions of the bill if it becomes an Act of Parliament.

Mr. McADAM ECCLES said he was prepared to support the amendment.

Dr. HAWTHORNE, Dr. ROXBURGH, and Mr. SPURGIN thought the amendment worse than the original resolution.

The amendment was agreed to, and also the resolution as amended, by large majorities.

The recommendations of the Council were considered seriatim. All were agreed to practically unanimously.

Dr. DAVID ROXBURGH proposed amendments to C, E, and F, but these were not seconded.

Draft Ethical Rules.—The SECRETARY reported that the Executive Committee had considered the first seven rules and were prepared to suggest amendments. Considerable difference of opinion was expressed concerning the rules and the lack of publicity. Dr. SHAW said they were only sent out as a draft so as to elicit suggestions. Mr. J. PARDOE moved and Dr. A. E. GARROD seconded a resolution:

> That the Executive Committee send a copy of the draft rules to each member of the Division, together with their suggested amendments thereto.

Mr. BISHOP HARMAN pointed out that this would entail heavy printing charges, and suggested that a select committee should be appointed or members co-opted to the Executive Committee to do the work. Dr. HAWTHORNE supported the resolution, which was passed.

NORWOOD DIVISION.

A SPECIAL meeting of this Division was held on November 21st, at 8.30 p.m., at the Queen's Hotel, Dr. G. B. BATTEN in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

National Insurance Bill.—The meeting was convened to consider the report of the Council upon the Insurance Bill at the end of the Committee stage, and to instruct the Representative as to the policy of the Division thereon for the Special Representative Meeting. There were fifty-two members present. It was resolved that the report of Council itself be taken as read. The following recommendations were moved:

A. Resolved that: The Norwood Division is strongly opposed to the Harmsworth amendment and demands its deletion from the bill (50 to 2).

B. and C. Resolved that: In the event of the deletion of the Harmsworth amendment from the bill, the friendly society members over 65 years of age and the chronic invalids might be treated on the same terms as insured persons.

D. Agreed.

E. Resolved that: The Representative Body should state emphatically that no less a sum than 8s. 6d. per head per annum without medicines and appliances is adequate to meet the cost of provision of medical benefit for the insured.

F. G. H. Agreed.

I. Resolved that: Pressure should not be put upon the Government to make provision for institutional treatment at present.

J. and K. Resolved that: The provisions as to Ireland should be decided according to the wishes of the profession in Ireland.

L. Agreed.

M. Resolved to add the words: "Especially with regard to the immediate collection of subscriptions towards an adequate guarantee fund."

Guarantee Fund.—It was further resolved that the Honorary Secretary should locally collect guarantees towards the Central Fund.

Vote of Thanks to Chairman.—The meeting closed with a vote of thanks to the Chairman.

ST. PANCRAS AND ISLINGTON DIVISION.

A MASS meeting of practitioners in this area of the Division was held on Wednesday, November 22nd, at the Midland Grand Hotel. Over 200 members of the profession were present.

National Insurance Bill.—The special report of Council was considered, and the Representative (Dr. William Griffith) was instructed to vote for the deletion of the Harmsworth amendment. The following resolution was proposed by Dr. BEATON, and carried with great enthusiasm:

> That unless the six cardinal points are conceded in spirit and in letter the profession will decline to undertake the duties which the bill proposes to assign to it.

Letters.—A number of letters were received respecting inability to attend, and wholly sympathizing with the attitude of the Association.

Vote of Thanks to Chairman.—A vote of thanks to Dr. Basil G. Morison, Chairman of the Division, was carried by acclamation.

SOUTH-WEST ESSEX DIVISION.

A SPECIAL meeting of the Division, to which all medical practitioners residing within its area were invited, was held in the Wesleyan School Room, High Road, Leyton, on November 21st, at 4.30 p.m., for the purpose of considering the report of the Council on the National Insurance Bill in its amended form. There were forty-six practitioners present. Dr. HORNER presided.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Correspondence.—Letters were read (1) from the secretaries of the mass meeting of the medical profession of Lancashire and Cheshire; (2) from Dr. Major Greenwood.

Apologies for Non-attendance.—Apologies for non-attendance were received from Drs. Robert Jones and Harford.

National Insurance Bill.

The special report of the Council was considered. After a long discussion it was proposed by Dr. FRANK COLLINS and seconded by Dr. PANTING:

> That in the opinion of the South-West Essex Division and of those non-members present at a general meeting of the profession within its area the proposals of the Chancellor of the Exchequer are unsatisfactory and do not meet the just claims of the profession as set out in the six points of the programme of the Association, and that the Council be requested to advise all members of the profession to abstain from contracting with any of the local insurance authorities set up under the bill until all the said six points have been unreservedly complied with.

This was carried unanimously.

The Recommendations of the Council were then dealt with seriatim:

Recommendations A, D, E, G, H, I, and M were unanimously agreed to.

Recommendations B and C were agreed to with one dissentient.

Recommendation F. It was proposed by Dr. SCOTT and seconded by Dr. GEORGE COLLINS that the medical representation on local Insurance Committees should be 50 per cent. This was lost by 20 to 18. It was proposed by Dr. NOBLE and seconded by Dr. GEORGE COLLINS that whatever representation the friendly societies had on the local Insurance Committees the medical profession should have an equal representation. This was lost. It was proposed by Dr. DENNING, seconded by Dr. RORKE, and carried with one dissentient, that the words "one-fifth" be substituted for the words "one-tenth" in line 2. It was proposed by Dr. BERRILL, seconded by Dr. DREW HARRIS, that the representation of the insured should not exceed two-fifths of the local Insurance Committee. This was carried with one dissentient.

Recommendations J and K. It was proposed by Dr. WISE, seconded by Dr. NOBLE, and carried unanimously, that the Representative be instructed to hear the views of the Irish Representatives and to support them.

Recommendation L. The Representative was instructed to move as an amendment the following resolution:

> In the opinion of the South-West Essex Division and of those non-members present at a general meeting held within its area, the proposals of the Chancellor of the Exchequer are unsatisfactory and do not meet the just claims of the profession as set out in the six points of the programme of the Association, and that the Council be requested to advise all members of the profession to abstain from contracting with any of the local insurance authorities set up under the bill until all the said six points have been unreservedly complied with.

Deputy Representative.—It was proposed by Dr. PANTING, seconded by Dr. BAILLIE, and carried unanimously:

> That Dr. Shadwell be appointed Deputy Representative in the event of Dr. Robert Jones not being able to attend the Representative Meeting.

The meeting then ended.

STRATFORD DIVISION.

National Insurance Bill.

A SPECIAL meeting of the Stratford Division was held on Tuesday, November 21st, at the West Ham Hospital, for the purpose of instructing the Representative as to the recommendations of the Council for the Special Representative Meeting of November 23rd. The recommenda-

tions were all approved of generally, with the exception of Recommendation A, which was deleted.

An additional recommendation was carried as follows:

That Clause 14, 2 *b*, be amended as follows: Add after "list," "and such practitioners shall have the right to appeal to a medical court of appeal upon which general practitioners are represented."

The following resolution, proposed from the chair, was carried:

That this bill, as at present framed, does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association, and that the amount of 6s. per head per annum upon which the actuarial calculations have been based is quite inadequate to meet the cost of provision of medical benefit for the insured. This Division is therefore of opinion that the medical profession should resolutely refuse to take service under the bill uuless it is amended in accordance with their requirements.

The following resolution was also carried:

That this Division asks its Representative at the coming Representative Meeting to urge the necessity of taking a postal vote or referendum of all members of the profession as to whether they prefer the contract system or payment for work done.

MIDLAND BRANCH:

DERBY DIVISION.

National Insurance Bill.

A LARGELY attended conference to discuss the provisions of the National Insurance Bill was held at Chesterfield on November 22nd. Practitioners from Alfreton, Pinxton, Dore, Renishaw, Clay Cross, Chesterfield, and neighbourhood were present, and, after lengthy discussion, the following resolution was unanimously passed:

That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession, as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but dangerous to the public health; and that therefore this meeting of the medical profession expresses its determination, in the event of the bill becoming law in its present form, to join with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

NORTH OF ENGLAND BRANCH:

GATESHEAD AND CONSETT DIVISION.

A special meeting of this Division was held in the Gateshead Dispensary on Tuesday, November 21st, Dr. S. V. ROBINSON in the chair.

National Insurance Bill.—The meeting was called for the purpose of discussing the Insurance Bill, as amended in the House of Commons. It was the unanimous opinion of one of the largest meetings of the Division held in Gateshead that the bill, as it now stands, could never be accepted by the profession. A very keen and animated discussion of the British Medical Association's recommendations took place. It was the almost unanimous feeling of those present that the bill was so bad that it was hopeless for the British Medical Association to enter into further negotiations. The meeting instructed the Representative to use his utmost endeavours at the forthcoming Special Representative Meeting to carry resolutions bearing on the bill. [These resolutions were published in the SUPPLEMENT for November 25th, pp. 530, 531.]

NORTH NORTHUMBERLAND DIVISION.

A SPECIAL meeting was held on November 21st at the Alnwick Infirmary, to consider the report of the Council on the National Insurance Bill. There were present Drs. Day and Neill of Wooler, Dr. Badcock of Floddon Lodge, Drs. McEwen, Crowley, Purves, and Burman of Alnwick, Dr. Mackay of Berwick, Dr. Macaskie of Bamburgh, Dr. Longbridge of Amble, Dr. Welsh of Felton, and Dr. Macdonald of Belford. Dr. Rutherford of Norham was present as a visitor.

Installation of Chairman.—Dr. MACASKIE took the chair, and thanked the members for having elected him Chairman. He stated his willingness to do everything he could in the interest of the Division.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed by the Chairman.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Robson, Burrow, Waterson, Scobie, and Maclagan. The following letter to the Secretary from Dr. Burrow was read:

Thorncroft,
Alnwick,
November 20th, 1911.

Dear Dr. Burman,

I am sorry I shall be unable to attend the meeting tomorrow.

My personal feeling as to the Insurance Bill is to have nothing whatever to do with it.

The profession have been played with by the Government, and we have not got what we consider the six elementary points demanded.

As a Health Committee may consist of 80 members, 26 of which will be members of friendly societies and 3 only of medical men, the latter will be under friendly society control.

Also the income limit of £104 per annum has not been *inserted in the bill.*

I feel sure that if the profession undertake service under the bill it will lead to the most degrading type of contract practice, and the life of a general practitioner will be nothing less than slavery.

The Lancashire and Cheshire meeting seem to have quite decided on their stand against the bill.

If the profession wish to break it up as far as the medical part is concerned for *ever*, now is the opportunity which will probably never occur again.

Yours sincerely,
J. BURROW.

The CHAIRMAN then introduced the subject for discussion, making a few judicious remarks, urging the members to stand together and loyally support the policy of the Association.

An animated discussion followed, in which most of the members took part, and the feeling was strongly manifest that the profession had not received at the hands of the Chancellor of the Exchequer the consideration it desired and deserved if the bill was to be satisfactorily worked. In closing the discussion the CHAIRMAN remarked:

The literature which has been sent out in reference to the National Insurance Bill is, as you know, very voluminous, and not easy to analyse. It is, however, absolutely necessary for us clearly to understand what our present position is as arranged for us by the Central Council in its conferences with the Government. In consequence of the Council's exertions it is now possible for the Insurance Commissioners and local Insurance Committees to make arrangements with us which would be consistent with all our original demands; and when the time comes later on for us to make our terms with the local authorities it will be our own fault if, backed up as we shall be by the British Medical Association, we do not either obtain from them the fair treatment we demand, or definitely refuse to act at all until our terms are granted. Those terms, I take it, can be obtained in any district if the medical men in it, through the local Medical Committees or our own Divisions, are bent upon unity of purpose. You will notice that the local Insurance Committee [Cl. 14 (2–30)] has power to fix the wage limit and to allow persons over a certain limit to make private arrangements for medical attendance. I take it that whether this bill becomes law or another bill is introduced later, we are all determined to insist upon the arrangements made with medical practitioners for giving attendance and treatment to insured persons being consistent with the six cardinal principles formulated and approved by the Representative Meeting held on June 1st, 1911, and confirmed at Birmingham in July last. I feel that we are working at present very much in the dark, for we do not know the scope of our future duties and the method and mode of payment for them. But assuming that we get to that stage when we are approached by the local Insurance Committees, it is evident that it is at this point that we must see that our weapons and armour are in the very pink of condition. If we make concessions then we shall practically sell our rights to local influence and prejudice, and be under the dominion of the contract system. Then is the time to be absolutely firm, and to remember that in our local conflicts we shall have the full force of the profession and the British Medical Association behind us. Let us at that time conduct our proceedings by committee, and never individually, on purely business lines and having done this, let us hold together as one man

Some exclaim, "Let us wash our hands entirely of this bill, and say that we shall have none of it." I do not think this is a right course to pursue, for by doing so we would alienate the best public sympathy. But what we should do is to wait for the declaration of terms, and then, standing firm, say exactly what we are prepared to do, and what remuneration we are prepared to take. In some districts medical men favour a per capita arrangement for payment, in others payment for work done. There is in the profession a sharp division of opinion on this point, and each side must be allowed a free hand in the matter without wishing to coerce the other. Let me remind you that the Association has intimated to Parliament that whatever arrangements are arrived at the terms must be adequate, and in order to make them adequate the Chancellor must be prepared to find a good deal more money than he has proposed to do. Only let the Government understand that the profession is determined to have fair terms for service, or will stand aloof and do nothing to make the bill a success, and medical men will be able to dictate what is reasonable and just. One of our most important duties is to instruct our Representatives as to action to be taken in reference to the £2 limit. I am quite sure that the policy of the Association to adhere to this limit, or a lower one where practicable, will be insisted upon by this Division. We do not like the bill, and we do not want it; but if the Government are determined to carry it through, it will be our duty as a profession to see that we do not fall into line until the terms of our ultimatum are granted. Therefore there must be no wavering and no weakness, but *all the time* a resolute, steady support of the British Medical Association from every Division in the country.

On the motion of Dr. MACKAY, seconded by Dr. LONGBRIDGE, and carried *nemine contradicente*, the following resolution was adopted, and the Secretary ordered to send it to the Representative of the Division to be presented to the Representative Meeting:

> Unless the National Insurance Bill is so amended before it passes the House of Commons as to satisfy the demands of the medical profession as laid down in the six cardinal principles formulated and approved by the British Medical Association, we refuse absolutely to enter into any agreement for giving medical attendance or treatment to persons insured under the bill.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

LANCASTER DIVISION.

National Insurance Bill.

AT a crowded meeting of this Division, held on November 20th, the two following resolutions were carried by acclamation:

1. That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; therefore this meeting expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.
2. That this meeting, having regard to the undue and enormous burden which the National Insurance Bill imposes on the medical profession, considers that unless the bill is so modified as to obtain the fullest approval of the profession, the British Medical Association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom, and to all arrangements made for providing medical attendance with friendly societies, medical aid associations, and other similar institutions.

Guarantee Fund.—Every member present guaranteed a sum towards the funds of the Association to fight the bill.

NORTH WALES BRANCH:

SOUTH CARNARVON AND MERIONETH DIVISION.

THE autumn meeting of this Division was held at the Golden Lion Hotel, Dolgelly, on Thursday, October 5th. Dr. H. R. GRIFFITH occupied the chair. Eleven members were present.

Apologies for Non-attendance.—The SECRETARY read a number of apologies for absence.

Confirmation of Minutes.—The minutes were read and approved.

Local Defence Fund and Insurance Bill.—The local defence fund and State Insurance Bill were discussed, with an intimation to all members to sign the undertaking and memorial in connexion with the National Insurance Bill, if not done already.

School Inspection in Welsh Counties.—Dr. R. T. EDWARDS, Medical Officer of Health, Merionethshire, read a paper on School Inspection in Welsh Counties. A discussion followed, in which Dr. MYLES (Dolgelly), Dr. R. ROBERTS (Festiniog), Dr. HUGH JONES (Dolgelly), Dr. JONES (Llanidloes), and Dr. COX (Llanbedr) took part. Dr. EDWARDS replied. Dr. WILLIAMS (Bala) proposed, and Dr. WILLIAMS (Barmouth) seconded, a vote of thanks to Dr. Edwards for his excellent paper. It was resolved that copies of the paper be sent to the Merioneth County Council for consideration.

The late Dr. Walter Williams.—A vote of sympathy was passed upon the death of the late Dr. Walter Williams (Portmadoc). The Secretary was requested to write to his widow conveying the feeling of the meeting.

Next Ordinary Meeting.—It was decided to hold the next ordinary meeting at Barmouth.

OXFORD AND READING BRANCH:

OXFORD DIVISION.

A SPECIAL general meeting of this Division was held on November 28th at the Radcliffe Infirmary, Oxford, at 3 p.m. Mr. STYLE presided as Chairman, and over seventy members attended.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apologies for Non-attendance.—The Secretary acknowledged the receipt of several letters of regret from members who were unable to be present; these all expressed hostility to the National Insurance Bill in its present form.

National Insurance Bill.—The CHAIRMAN then dealt with the six cardinal points insisted on by the Association, and with the recommendations published in the Council's report.

The following resolutions were proposed and carried *nemine contradicente:*

1. That this meeting considers that there is grave danger to the unity of action of the profession in relegating the vital question of income limit to the various Health Committees for settlement; and urges that the Association demand a statutory fixation of the maximum income limit at £2 per week (£104 per annum). And that this meeting is further of opinion that if this demand is not complied with, the medical profession should refuse to work under the bill.

Dr. TURRELL, in proposing this resolution, pointed out that the income limit was the most important clause in the bill, and that there was practical unanimity in the profession as to the £2 maximum limit. Unless there was statutory fixation, the profession ran a risk of being defeated in detail when the matter was left to be settled by the Health Committees. By the unanimous vote of the meeting the Secretary was instructed to telegraph the resolution up to the Chairman of the Representative Meeting that evening.

2. Recommendation A.—It was proposed by Dr. HIGGS, seconded by Dr. WILLSON, and carried *nemine contradicente:*

> That unless the Harmsworth amendment be deleted, this meeting unites with the profession in refusing to work under the bill.

3. Recommendation F.—Proposed by Dr. RIVERS WILLSON, seconded by Dr. CAUDWELL, and carried *nemine contradicente:*

> That this meeting does not approve of Recommendation F, as it considers that the proportion of one-tenth is utterly inadequate.

4. A further resolution in connexion with Recommendation F. was proposed by Dr. DUIGAN, seconded by Dr. TURRELL, and carried *nemine contradicente:*

> That with a view to reducing the preponderating voting power on the Health Committees of the friendly societies and insured members, it is desirable that their representation be reduced from three-fifths to two-fifths, while that of the county councils be increased from one-fifth to two-fifths; the remaining one-fifth being chosen from the medical profession and Insurance Commissioners.

5. Finally the "Manchester Resolution" was proposed by the CHAIRMAN, seconded by Dr. TURRELL, and carried *nemine contradicente.*

SHROPSHIRE AND MID-WALES BRANCH.

National Insurance Bill.—A special meeting of this Branch was held at the Salop Infirmary, on Tuesday, November 21st, at 3 p.m., to consider the National Insurance Bill. The PRESIDENT (Dr. A. Exham) was in the chair, and sixty-seven members were present. The following resolution was unanimously carried:

> That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association: that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; therefore this meeting of the medical profession of Shropshire and Mid-Wales expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declining to undertake the duties which the bill proposes to assign to it.

SOUTH-EASTERN BRANCH:

ASHFORD DIVISION.

National Insurance Bill.

A SPECIAL meeting of the Division was held at Ashford on November 21st to consider the Council's report on the National Insurance Bill as amended in the House of Commons, and to instruct its Representative what action to take at the Special Representative Meeting. Twelve members were present. Mr. W. H. F. COKE, F.R.C.S., was in the chair. Mr. Bradbury, the Representative of the Division, was present.

After a discussion, in which nearly all present joined, Mr. HICK proposed and Mr. COLVILLE seconded the "Manchester Resolution."

This was carried unanimously.

The Secretary was requested to send printed copies to all members of the Division asking them to sign and return them to him.

Central Guarantee Fund.—The SECRETARY reported that in answer to his circular most of the members had replied, guaranteeing £5 towards the Central Guarantee Fund.

BRIGHTON DIVISION.

AN ordinary meeting of the Brighton Division was held on Tuesday, November 21st, Dr. RYLE in the chair. Fifty-nine members were present.

Brighton Division Defence Fund.—The report of the Brighton Division Defence Fund was read by the TREASURER, who informed the meeting that the total amount of the guarantee fund now reached £2,670 6s., and the balance in the bank resulting from the first levy of 5s. per head, less expenses, was £20 15s. 5d.

National Insurance Bill.—The report of the Medico-Political Committee was read by the CHAIRMAN, Dr. Parry, and discussed, and the Secretary was directed to send to head quarters the following official resolution and amendments from the Brighton Division to be placed on the agenda of the Representative Meeting.

On report D 11, paragraph 53, p. 18:

Motion 7.—That in districts where arrangements for domiciliary medical attendance on the capitation basis are made by the local Insurance Committee, the payment to doctors for women and children should be at an increased rate.

Amendments.

To 10 (Recommendation A), lines 15–17, omit from "no person" to "of selecting," and substitute "such person shall select."

To 14 (E), line 7, before "inadequate" insert "totally."

To 15 (F) line 2, omit "one-tenth," and substitute "one-fifth"; line 4, omit "adequate" and substitute "similar."

To 19 (J), at end, "if in accordance with the ascertained wishes of the profession in Ireland."

To 21 (L), line 7, after "1911" insert "and failing this, the Representative Body recommend that the profession be advised to refuse to take service under the bill."

To 21, at end, "and to the press."

BROMLEY DIVISION.

A GENERAL meeting of this Division was held at the Bell Hotel, Bromley, on Wednesday, November 8th, at 8.30 p.m., Dr. STILWELL (Chairman) in the chair. The following were present: Drs. and Messrs. Stilwell (Chairman), Scott (President-elect South-Eastern Branch), Cogswell, Yolland, Bailey, St. John, H. I. Ilott, Cyril Ilott, Freeman Douse, Codd. Hewlett, and Tennyson Smith (Honorary Secretary).

Annual Report.—The annual report, showing an increase in the number of members of the Division, was read. "The increase," it is stated, "is due mainly to the fact that two most important subjects have been before the local medical profession during the last twelve months—for example, medical treatment of school children and the National Insurance Bill." Six meetings of the Division, seven Executive Committee meetings, and one joint clinical meeting with the Bromley Medical Society have been held during the year. The report was received and approved.

Local Guarantee Defence Fund.—Dr. SCOTT spoke regarding the local guarantee defence fund, and stated that £680 had already been guaranteed. That amount he did not consider satisfactory, and proposed that the matter be referred to the Executive Committee for immediate attention. This was carried unanimously.

Ethical Rules.—It was unanimously resolved that Ethical Rules be adopted by the Division. The Bradford Ethical Rules (including Rule Z) were then discussed seriatim and carried unanimously.

Ethical Committee.—The Executive Committee was appointed the Ethical Committee for the ensuing year.

Bromley Union Infirmary.—The appointment of a medical officer of the Bromley Union Infirmary and Workhouse was discussed, and the Honorary Secretary was instructed to write at once to the Central Ethical Committee on the matter.

Annual Representative Meeting.—Dr. TENNYSON SMITH, Representative for Bromley and Sevenoaks constituency, gave a report of the work done at the last Representative Meeting.

Insurance Bill.—A discussion followed regarding the National Insurance Bill. The REPRESENTATIVE pointed out that a Special Report of the Council would be issued at a near date, and that a special meeting of the Division would be held prior to the Special Representative Meeting. No resolutions were, therefore, arrived at by the members.

DARTFORD DIVISION.

A LARGE and enthusiastic meeting of this Division was held at the Old Town Hall, Woolwich, on Monday, November 20th, at 4 p.m., Dr. STEEN in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Ethical Rules.—It was resolved:

> That a copy of certain rules known as "the Bradford Rules" and "Rule Z" be issued to every member in the Division, requesting their opinion on them, and that the Executive prepare a report with a view to their adoption by the Division.

Annual Representative Meeting.—The Representative, Dr. WILL, gave a short report of the proceedings of the meetings at Birmingham. Dr. STEEN expressed the thanks of the Division.

Special Report on National Insurance Bill.—The recommendations were considered. Several amendments were carried unanimously, and the Representative was instructed to submit amendments to the Special Representative Meeting. The recommendations D, G, H, I, J, K, L, M, were unanimously adopted without amendment. The meeting also resolved and passed with enthusiasm the following resolution:

> That this meeting of medical practitioners in the Dartford Division reaffirm the resolution passed at the meeting held at Dartford on July 18th, 1911, that the only system of remuneration which will be acceptable under the National Insurance Bill is one of payment by fee for services rendered.

Vote of Thanks.—A vote of thanks to the members of the Woolwich Medico-Chirurgical Society for providing hospitality to the members was carried with acclamation. Dr. COWIE replied, and the meeting adjourned.

DOVER, FOLKESTONE, DEAL, SANDWICH AND DISTRICT DIVISIONS.

A MEETING of the combined Divisions of Dover, Folkestone, Deal, Sandwich and District was held on November 20th, at the Grand Hotel, Dover. Dr. WOOD, Chairman, presided, and there were present: Drs. Agnes Oswald,

Brunyate, Hulke, Howden, Hulke, Wilgress, Baylor, Palk, Powell Hughes, A. B. Hughes, Kerswell, McDougall, Young, Best, White, Wood, Graham Richardson, Adamson, Hay Coghlan, Anderson, Day, Baird, and Osborn.

Apologies for Non-attendance.—Letters of regret and apology for absence were read from Dr. Robinson, M.O.H., Dr. Stone, Dr. Mason, and Dr. Ord.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

National Insurance Bill.—On considering the Special Report of the Council to Divisions prior to the Special Representative Meeting on this bill, in opening the discussion on Recommendation A, Dr. White proposed:

> That this meeting discuss none of these resolutions.

He made this proposal on the grounds that the six cardinal points had *not* been met, but merely shelved by the Government, to be fought out locally between the local medical men and the Insurance Committees.

Dr. Baylor seconded this, which was passed unanimously.

Dr. Howden proposed the following:

> In view of the fact that the Insurance Bill is hopelessly unworkable and unfair to the medical profession, the members of the Dover, Folkestone, Deal, and Sandwich Divisions present at this meeting pledge themselves not to act under the bill should it pass, and will use every effort to obtain the allegiance to this resolution of *every* medical man in the neighbourhood.

Dr. Osborn seconded this, which, after a long discussion, in which Major Palk, I.M.S., Dr. F. B. Hulke, Dr. A. B. Hulke, Major Baylor, and others joined, the meeting passed with acclamation.

Midwives and Practitioners.—Dr. Graham stated that after attendance given a midwife he failed to obtain the fee from Mr. E. C. Carder, Secretary to the Board of Guardians for Dover. As other boards paid these fees he moved:

> That the Secretary write Mr. Carder stating the facts and asking him to receive a deputation from the Division consisting of Dr. Wood, Chairman, and Drs. Howden, Adamson, Graham, and Best.

This was passed.

Colliery Practice.—Dr. Graham moved that the following resolution be approved:

> That as the Executive of the Division has satisfied itself that the present arrangements as regards remuneration for colliery contract work (which have been disapproved by the Division) can only be terminated by a six months' notice given on January 1st, 1912, the Executive be instructed to satisfy itself within seven days of January 1st, 1912, that such notice has been given.

Dr. Howden, a member of the Executive, seconded this, which was passed *nemine contradicente.*

Hospital Staff.—Dr. Howden then mentioned that the hospital out-patient department would be in great probability much crowded in the event of general practitioners refusing to attend insured members. He moved:

> That in the opinion of this meeting members who are on the honorary staff of any hospital should intimate to their committee that they will not agree to render gratuitous service in the hospital to people who are insured under the bill.

After some discussion the resolution was passed by the meeting.

This terminated the proceedings.

Folkestone Division.

A combined meeting of the East Kent Divisions and of the Folkestone Medical Society was held on Thursday, November 2nd, at the Royal Victoria Hospital, Folkestone, at 3.30 p.m. The following members were present: Drs. F. W. Price, Lewis, Eastes, Campbell, Hodges, Wainwright, Calverley, John Hackney, Evans, Bradbury, Boyd-Wallis, Barrett, Wood, Chambers, Dodd, Palk, Packman, Pinhorn, Wilgress, Goddard.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apologies for Non-attendance.—A letter was read from Dr. Wilks, Chairman of the South-Eastern Branch, regretting his inability to attend.

Paper.—Dr. F. W. Price read a very interesting paper on diseases of the heart, with demonstration. Drs. Eastes, Lewis, Wainwright, Calverley, and Campbell took part in the discussion which followed.

National Insurance Bill.—A deputation of the medical practitioners of Folkestone and district waited on Mr. Ronald McNeill, member of Parliament for St. Augustines, Canterbury, on November 9th. The following were the members of the deputation: Wainwright, Dodd, Packman, Evans, Eastes, Davis, Barrett, and Pridmore. Mr. Ronald McNeill promised to help the medical profession as far as he could with regard to the six principles formulated by the Special Representative Meetings of May 31st and June 1st, 1911.

Guildford Division.

A general meeting of the Guildford Division was held at the Royal Surrey County Hospital on Wednesday, November 22nd. Dr. Kingsford (Chairman of the Division) presided, and there were thirty-four members and four visitors present.

Confirmation of Minutes.—The minutes of the previous meeting were confirmed.

Special Defence Fund.—The report of the Special Defence Fund Committee was read, and after some minor alterations was formally approved. The following members, in addition to the Secretary, were elected on the Administrative Committee of the fund: Drs. Bird, Kingsford, Lyndon, Potts, and Weaver.

Appointment of Deputy Representative.—Dr. Kingsford proposed and Dr. Bond seconded that Mr. Cecil Lankester be appointed Deputy Representative at the Special Representative Meeting on November 23rd in the place of Dr. Thorne Thorne, who was unable to attend.

National Insurance Bill.

The consideration of the Report of Council, already circulated, was then proceeded with, and the Chairman briefly referred to the two courses now open to the profession. They had either to wait until the bill became law and then fight for what still remained ungranted of their minium demands or now to refuse to have anything more to do with the bill. After some discussion Dr. Bond proposed and Dr. Sells seconded:

> That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; therefore this meeting of the medical profession of Western Surrey expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

This was carried unanimously.

Dr. Bond proposed, and Dr. Leathes seconded:

> That copies of this resolution be sent to the London and local press, and that it be immediately wired to the central office of the Association.

This was carried unanimously.

The recommendations of the report were then considered in detail, and instructions were given to the Deputy Representative thereon.

The report of the Special Committee on the Provision of Medical Treatment in the event of the bill not becoming law was then read and approved.

Ethical Rules.—Dr. Hope Walker proposed, and Dr. Lyndon seconded:

> That the code of rules of procedure in ethical cases known as "The Bradford Rules" and "Rule Z" be adopted for this Division.

Dr. Bond proposed, and Dr. Bird seconded:

> That the words in the second line of paragraph F, "except in circumstances of great urgency," be omitted.

The amendment was lost, and the resolution was carried *nemine contradicente.*

Local Defence Fund.—The following are the rules of the Local Defence Fund:

1. *Title.*—"The Guildford Division Insurance Defence Fund."
2. *Objects.*—(i) To provide for administrative expenses incurred by the Guildford Division in giving effect to the policy of the British Medical Association, or otherwise maintaining the interests of the medical profession with respect to the National Insurance Bill.

(ii) To provide compensation or assistance to members of the profession whom, in the opinion of the authorized committee

entrusted with the administration of the fund, it is to the interest of the profession to compensate or support.

3. *Administration* shall be by a committee to number six members, who shall hold office for two years and shall include the Secretary of the Division—the remaining members to be elected by the Division, and to be representative of its principal districts. The committee shall have power to add to its numbers. Four shall form a quorum.

4. *Control.*—The fund shall be under the control of the committee, who shall act as trustees thereof, and shall appoint from their number a secretary and two treasurers. Payments out of the fund shall be made by cheque signed by both treasurers.

5. *Funds.*—The fund shall be supported by guarantees.

(*a*) An application shall be forwarded to every medical man in the Division to contribute to this Guarantee Fund, and each shall be urged to make his guarantee as liberal as his income will allow.

(*b*) The committee shall have power to make a small levy or levies on the guarantors to meet administrative expenses of the fund.

(*c*) For purposes of compensation the committee shall have power to propose a levy which shall be a definite proportion of each amount guaranteed.

(*d*) No levy for purposes of compensation shall be made by the committee until it has been confirmed by a two-thirds majority of a meeting of guarantors, of which seven clear days' notice shall have been given.

The committee shall also have power, with the consent of the guarantors, to make contributions from the fund to the Central Insurance Defence Fund of the British Medical Association.

6. *Compensation.*

(*a*) No application for compensation shall be considered from any practitioner who has not, on or before January 1st, 1912, duly signed the Form of Undertaking issued by the British Medical Association on June 21st, 1911, or in the event of a newcomer commencing practice within the boundaries of the Division who, after having these rules brought to his notice in writing by the Secretary of the Division, has not signed the undertaking within one month.

(*b*) Every application for compensation must be made in writing to the Secretary of the Defence Fund Committee, and the committee shall have power to recommend or refuse a grant for compensation, and there shall be no appeal to any other body, but any applicant feeling himself aggrieved by the decision of the committee shall have the right to appear before the committee in person and state his case.

(*c*) Applicants for compensation must prove to the satisfaction of the committee that any loss they have sustained has been directly owing to action they have taken in pursuance of their undertaking.

7. *Rules.*—No alteration shall be made in these rules except by a resolution passed by not less than two-thirds majority of all guarantors present and voting at a general meeting, of which seven full days' notice shall have been given to each guarantor.

SOUTHERN BRANCH:

PORTSMOUTH DIVISION.

A MEETING was held on November 21st. Dr. D. A. SHEAHAN (Chairman) presided, and sixty-four members were present.

National Insurance Bill.—The report of the Council to Divisions on the National Insurance Bill as amended in Committee of the House of Commons was fully considered, and the recommendations A to M were carried *nemine contradicente*. It was resolved unanimously:

Notwithstanding recommendation E, that our representative be instructed that should payment be made by capitation and not for work done, a capitation fee of 10s. 6d. as a minimum be inserted in the bill.

It was resolved unanimously:

That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession but also dangerous to the public health; therefore the members of the medical profession of Portsmouth express their determination in the event of the bill becoming law in its present form to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

WINCHESTER DIVISION.

National Insurance Bill.—At a crowded meeting of this Division, held at Winchester on Tuesday, November 21st, the following resolution was unanimously passed:

That this meeting of the Winchester Division of the British Medical Association regrets that the Association has been unsuccessful in persuading Parliament to accede to its demands in regard to the National Insurance Bill. The bill still being unworkable from a medical point of view, they have this day instructed their Representative to bring the following resolution before the Representative Meeting on Thursday, November 23rd, 1911.

"That the Representative Meeting should immediately issue an ultimatum to Parliament to the effect that if the six cardinal points demanded by the British Medical Association are not introduced into the Insurance Bill before the bill becomes law the members of the Association will absolutely refuse to have anything to do with the working of the bill."

The following resolution was also unanimously carried:

That the British Medical Association do immediately obtain a Referendum of all its members on the following: Should remuneration in an insurance bill be (1) by capitation, or (2) by payment per attendance?

SOUTH MIDLAND BRANCH:

BEDFORD AND HERTS DIVISION.

A GENERAL meeting of this Division was held at the Bedford County Hospital on Friday, November 10th. Dr. BUTTERS was in the chair, and there were present: Drs. Coombs, Street, Hartley, O'Meara, Parbury, Dixon, Bone, Ross, and Harvey Goldsmith.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apology for Non-attendance.—A letter of regret at inability to attend was read from Dr. Lipscomb.

Communication from Northamptonshire Division.—A communication from Dr. Hichens (Northamptonshire Division) was read, inviting members to a meeting to be addressed by Dr. Cox. It was agreed that the invitation be printed and sent to all members of the Division.

Grouping of Divisions.—A resolution on this subject has already been agreed to.

Election of Direct Representatives.—It was resolved:

That all members of the Division should vote for the candidates put forward by the Association.

Draft Rules.—It was proposed by Dr. COOMBS and seconded by Dr. BONE:

That the Executive Committee be requested to consider the matter, and report thereon to the next general meeting.

It was proposed by Dr. BONE and seconded by Dr. Ross:

That application be made to the Association to supply each member of the Division with a copy of D 24.

Metric System.—It was proposed by Dr. G. H. GOLDSMITH and seconded by Dr. Ross:

That D 26 should lie on the table.

Ophthalmia Neonatorum.—After a discussion on this subject, in which Drs. BUTTERS, COOMBS, STREET, DIXON, BONE, PARBURY, and GOLDSMITH took part, it was proposed by Dr. COOMBS and seconded by Dr. HARTLEY:

That the Honorary Secretary be requested to point out to the various Health Authorities working in the area covered by the Division the desirability of notifying this disease, and supplying adequate accommodation for treatment where necessary.

The late Dr. Savory.—It was proposed by Dr. DIXON, seconded by Dr. Ross, and resolved:

That the Honorary Secretary should be requested to write a letter of sympathy with Mrs. Savory on behalf of the members of the Division.

A special meeting was held at Bedford County Hospital on Monday, November 20th. Dr. BUTTERS was in the chair, and there were present: Drs. Bone, Cheese, Dixon, Chillingworth, Gilford, Macfadyen, de Vine, Birks, Collins, W. Sharpin, W. G. Nash, Stanbury Phillips, Edwards, Rollings, Brooks, Killiam Roberts, O'Meara, Sworder, Coombs, Hartley, Perram, Bower, and Ross.

Mass Meeting of Profession of Lancashire and Cheshire.—A communication from Drs. Prowse, Jones, and Lush *re* the resolution adopted by a mass meeting of the medical profession of Lancashire and Cheshire *re* National Insurance Bill was read.

Apologies for Non-attendance.—Letters of apology for absence were read from Drs. McClure, Lipscomb, Harvey, Goldsmith, Clarke, and Edwards.

National Insurance Bill.—The CHAIRMAN then read an account of the attitude of medical practitioners of

Fifeshire towards the National Insurance Bill, which indicated their dissatisfaction as the bill now stood, and their intention not to work it in the event of its becoming law in its present form. Dr. Butters then called upon Dr. Bone to give a summary of the present position of the medical profession in respect to the National Insurance Bill. Dr. BONE pointed out that with regard to the income limit they had secured the principle of income limit. With regard to the question of the free choice of doctor, that at first this was secured, and that by Mr. Harmsworth's amendment it was taken away; that the questions of the method and amount of remuneration were still in abeyance; that the medical representation on local Health Committees was three in a minimum of forty, and also three in a maximum of eighty; that in the Insurance Committee they had one representative, on the Advisory Committee "some," the number not being determined. He pointed out that they had lost ground on the question of medical representation on local Health Committees, the original proportion of medical to lay members being 3 to 20. The question raised was discussed by Drs. MACFADYEN, COOMBS, COLLINS, SWORDER, BONE, CHEESE, HARTLEY, STANBURY PHILLIPS, and Ross. It was proposed by Dr. BONE and seconded by Dr. Ross:

> That we instruct our Representative to support the Council in its recommendations, particularly A, D, E, F, and M (D 12), but that we request him not to support the recommendations B and C unless the other recommendations are adopted.

This was carried *nemine contradicente*. Dr. COOMBS suggested that each medical member of the Health Committee should be empowered to send a deputy to the committee in the event of such medical member being unable to attend. It was thought, however, that if the resolution of the Council that the proportion of medical to lay members should be as 1 in 10 were adopted, this difficulty would be met. Drs. NASH, COLLINS, and DIXON discussed the proposal. It was proposed by Dr. SWORDER, and seconded by Dr. Ross:

> That the sense of the meeting be taken as to our unanimity in refusing to work the bill should it become law in its present condition.

Drs. BONE and BOWER having spoken in favour of the resolution, the CHAIRMAN put the resolution to the meeting, and it was carried unanimously.

Vote of Thanks to Dr. Bone.—Dr. BOWER proposed a vote of thanks to Dr. BONE for the trouble he had taken in preparing the notes for the opening of the discussion. This was seconded by Dr. COOMBS and carried unanimously.

BUCKINGHAMSHIRE DIVISION.

A MEETING of the Division was held on Tuesday, November 21st, at High Wycombe at the rooms of the Auction Mart, at 2.30 p.m. Twenty-five medical men were present. Dr. E. O. TURNER was in the chair. The others present were: Drs. Baker, Bannerman, Benson, Bell, Bradbrook, F. A. Cooke, Durran, Dickson, England, Fleck, Hardwicke, Henderson, R. A. Hobbs, Larking, Long, Morrison, Eva Meredith, L. Reynolds, Stedman, Shaw, Stathers, A. H. Turner, Wheeler, and Wills.

Apologies for Non-attendance.—Apologies and letters were received from Drs. Buxton, Gardner, T. E. Hobbs, Kennish, Magrath, Perrin, Pocock, Rose, and Vaisey.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Communications from Other Divisions.—Communications were read from the profession at Manchester and also from the Burnley Division.

National Insurance Bill.

The report to Divisions on the National Insurance Bill as amended in Committee was discussed. Dr. E. O. TURNER introduced the subject and read extracts from a letter of Dr. Bateman in the SUPPLEMENT to the JOURNAL of November 18th, and also from the speeches of Mr. Lloyd George. He suggested that as our six points had not been granted they should refuse to act under the bill.

Dr. HUMPHREY WHEELER thought it would be unwise to reject the bill totally. He brought forward his resolution in favour of payment for work done, and read a letter by him published in the *Lancet*.

At the suggestion of the SECRETARY the discussion on the resolution was deferred.

Dr. BRADBROOK then spoke on the various recommendations, and remarked on the apparent lack of conviction on the part of the Council, and thought they wanted their backs stiffened.

The meeting agreed to all the recommendations except F. In this they considered that a tenth was not enough representation on the Insurance Committee. A proposition that it be one-eighth was lost (7 voting in favour). It was carried (14 voting in favour) that it should be one-fourth.

It was resolved that the members of Parliament for the Division should be asked to support the amendments to the bill asked for by the British Medical Association.

Dr. DURRAN proposed a resolution on the same lines as the Manchester one, and agreed to substitute this for his own. He said that the six points had not been agreed to. The insured were in large majority on the committees, and could do as they liked, and no doctor knowing the composition of those committees would dare to complain to them. Loss of dispensing would tend to spread to private practice, and tend to loss of income to a very great extent. Dr. Cox had stated at Northampton that in Scotland there was no dispensing, and the doctors liked it. This was quite untrue, as the persons who reaped the benefits were the chemists, who were very well off, and the doctors very poor. It was a wanton insult to accuse the profession of being tempted to give cheap drugs. Chemists were much more likely to do this. It was all very well, he said, for officials of the Association to give advice, but after we had come to a decision it was their duty to carry out our wishes. As doctors were compelled to keep a lot of servants and gardeners and such like, the tax would oppress them very heavily.

Dr. A. H. TURNER seconded, and the Manchester Resolution was carried unanimously.

Dr. WHEELER then proposed his resolution:

> That this meeting of the Bucks Division of the British Medical Association pledges itself to support the Council on the lines laid down in the recommendations as amended, and instructs its Representative to oppose any extension of contract work at capitation fees. It further considers that attendance, at any rate on the insured members of approved societies, should be paid for by fee for work done.

This caused a good deal of discussion, the meeting being about equally divided.

Dr. REYNOLDS, in seconding, said he had altered his views, and was now in favour of payment for work done. If they were to receive a capitation fee of 6s. a year and 1s. 6d. was to go for medicine to the chemist, it would be most unfair, as this was 25 per cent. of the whole, and his experience was that 5 per cent. was ample to allow for drugs. Unselected lives would be a burden to them.

Dr. LARKING spoke in favour of a capitation basis, as it was quite easy to estimate the sickness-rate, and the amount of book-keeping would be a serious matter in the other method. Patients could be visited as often as the doctors liked, whereas in the "per attendance" method they should be accused of running up a bill. An adequate fee of 8s. 6d. or 10s. a head would be the most satisfactory method.

Dr. E. O. TURNER favoured capitation methods.

Dr. BENSON said that in his opinion the resolution was out of order as the Division had already voted on the question.

The CHAIRMAN ruled it in order.

Dr. DURRAN spoke in favour of the "National Deposit Friendly Society" system; also Drs. HENDERSON and FLECK. Dr. Fleck, although favouring payment per attendance, said that he had heard it said that improved sanitation and less sick-rate might perhaps make it wiser for the profession to accept capitation fees.

Eventually the voting was—

For payment for work done	...	...	...	13
For payment by capitation	...	...	...	11

It was proposed that the views of the meeting be communicated to the local M.P.'s and to the press.

Tea.—Tea was provided by the members residing at High Wycombe.

NORTHAMPTONSHIRE DIVISION.

MEETING of the Division was held at Kerr House, orthampton, at 2.30, on November 21st. Dr. HICHENS as in the chair, and twenty-two members were present.

Confirmation of Minutes.—The minutes of the preceding meeting were read and confirmed.

National Insurance Bill.—After some general discussion on the inadvisability of having anything to do with the Insurance Bill unless it was amended so as to include the six points insisted on by the Association, the recommendations forwarded from head quarters were considered seriatim and were passed with a few slight amendments, which the Representative, Dr. Baxter, undertook to bring forward at the Representative Meeting in London.

Guarantee Fund.—On the proposition of Mr. ODGERS, seconded by Dr. COOKE, it was agreed that in the circular letter to be issued concerning a Divisional Guarantee Fund, that a portion be set aside for the Central Fund and that this portion be not more than one-tenth.

Vote of Thanks to Chairman.—Dr. BUSZARD proposed, and Dr. ARTHUR seconded, a vote of thanks to the Chairman, and the members present then had tea.

IN the report of the autumnal meeting of this Branch, which appeared in the JOURNAL of November 18th, the list of newly elected members was, by an error for which we must express regret, placed under the heading "Election of Officers." The paragraph should read as follows:

New Members.—The following were elected members: Drs. Kilpatrick (Creaton, Northampton), Henshaw (Northampton), Fuller (Three Counties Asylum, Hitchin), Milburn (Biggleswade), Doubble (Luton), Rose (Luton Cleaton Roberts (Bedford).

SOUTH-WESTERN BRANCH:

EXETER DIVISION.

A MEETING was held on November 21st at the Royal Devon and Exeter Hospital, Exeter. Mr. E. J. DOMVILLE was in the chair, and fifty medical men were present.

National Insurance Bill.

The following resolution was proposed by Dr. GORDON, seconded by Dr. BRADFORD, and carried *nemine contradicente:*

> That this meeting strongly disapproves of the National Insurance Bill now before Parliament, as likely to prove injurious to the country and to the medical profession, and urges the profession to refuse to work under it, should it become law

The following are the reasons on which this resolution is based: The Insurance Bill bears upon its face unmistakable evidence of culpable—almost incredible—carelessness in its preparation, even of want of obvious necessary and easy inquiry. It has been hurried through Committee for no sufficient reason, without adequate amendment, in spite of misgivings on all sides and of the utmost uncertainty as to its ultimate effects. It is thus a highly speculative and dangerous tampering with so vital a matter as that of the national health. Under its provisions the medical profession of these islands (which, without State aid, has made itself, by the labours of three centuries, the foremost and most efficient of national medical services in the world) will be subjected to extensive State interference, yet without adequate representation on its administrative committees (in which the majority may be formed from the very societies which have been found incompetent in the past) with no guarantee of adequate remuneration—indeed, with every indication of the reverse—and with the inclusion of classes of patients who have no reasonable claim to such treatment. Moreover, in view of the highly discreditable manner in which the preparation of the bill was kept secret from the medical profession, of the unworthy ministerial references to the profession during the bill's discussion, and the strikingly small result of the weightiest representations by the profession, medical men can have no expectation either of justice or wisdom in its after-administration. Not only does the bill endanger the continuance of a sufficient and efficient national medical service by possibly rendering the profession distasteful to able men, but it also imperils the future maintenance of the existing high standard of medical training and the progress of medical research in this country by its effects on hospitals. In short the bill is not unlikely to prove, in law, in the highest degree pernicious. It is, therefore, most desirable for the profession, not merely in just and necessary defence of the interests of those dependent upon it, but as the real and responsible guardian of the nation's health, to refuse to serve under it.

It was proposed by Dr. FORTESCUE SAYRES, seconded by Dr. MAURY DEAS, and carried unanimously, that:

> The Harmsworth clause must be deleted.

PLYMOUTH DIVISION.

A MEETING of this Division was held in the Medical Society's rooms, Plymouth, Tuesday, November 21st, at 4 p.m. Thirty-seven members present. Mr. JAQUES, F.R.C.S. (the Chairman of the Division), presided.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Draft Ethical Rules.—A draft code of ethical rules as revised by the Central Ethical Committee was adopted for use, until such time as the Council should reissue them in a final and uniform code applicable to the whole of the Association.

Defence Fund.—The result of the inquiry made as to members' response to the Defence Fund Circular not appearing to be satisfactory, on the motion of Dr. NOY SCOTT, seconded by Dr. COOKE, the formation of a Local Defence Fund was deferred, but members were requested to send their guarantees to the Central Defence Fund.

National Insurance Bill.—The various Recommendations contained in the Council's Report *re* national insurance were fully considered, and the Representative was instructed as to the matters before the Representative Meeting on November 23rd. A special instruction given on the motion of Dr. MCCULLOCH was:

> That the regulations as applied to local Medical Committees should be clearly defined, so as to make it incumbent on the local Insurance Committee to make arrangements for remuneration of those on the Medical Panel, through the local Medical Committees and not with individual practitioners.

Finally, the meeting unanimously endorsed with enthusiasm the resolution forwarded from the Manchester meeting.

STAFFORDSHIRE BRANCH:

MID-STAFFORDSHIRE DIVISION.

THE ninth annual general meeting of the Division was held at Stafford on November 22nd. Dr. E. C. STACK, Chairman, presided, and there were present: Drs. Blumer, Bull, Cookson, Freer, Gray, Hodder, Hosgood, Hutchinson, Lowe (W. G.), A. F. Miller, McVittie, Mitchell, Nock, C. Reid, Stranaghan, Swales, Thompson.

Confirmation of Minutes.—The CHAIRMAN, having read the notice convening the meeting and apologies for non-attendance from Messrs. Marshall and Sparrow, called on the Secretary to read the minutes of the last meeting.

Schemes for Working the Division.—Arising out of the minutes there was some discussion as to the best means of overcoming the difficulties of working the Division, due to its geographical situation, and on the proposal of Dr. BLUMER, seconded by Dr. COOKSON, it was unanimously resolved:

> That the question be considered by a special meeting called for the purpose at some future date or at the next general meeting; and that the Secretary prepare (1) a scheme for working the Division by means of local subcommittees, (2) a scheme for the abolition of the Division as a unit and its absorption in the appropriate neighbouring Divisions.

Retirement of Chairman and Honorary Secretary.—The CHAIRMAN and HONORARY SECRETARY announced their wish to retire from their offices, and the thanks of the Division were accorded to them for their services.

Election of Officers.—The following were then elected officers: *Chairman*, Dr. Cookson (Stafford); *Vice-Chairman*, Dr. Rowland (Lichfield); *Honorary Secretary*, Dr. Hodder (Stafford); *Executive Committee*, the above with Messrs. J. F. Fernie, McVittie, Hutchinson, and Stack; *Standing Ethical Committee*, the Executive Committee as above; *Representatives on Council of the Branch*, Messrs. Blumer, W. G. Lowe, and G. Reid; *Representative for Annual Representative Meeting*, Dr. Holford.

National Insurance Bill.—The meeting then considered in detail the Report of Council and Recommendations in regard to Insurance [D 11]. The Deputy Representative, Dr. Blumer, was directed to support all the recommendations of Council with the exception of J and K, and to be guided by the attitude of the Irish representatives in his

vote as to them. The following resolution, proposed by Dr. NOCK and seconded by Dr. MCVITTIE, was carried with enthusiastic unanimity:

> That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; therefore this meeting of the Mid-Staffordshire Division of the British Medical Association expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

Defence Fund.—The question of a local defence fund was then raised. As it appeared that members were contributing to the Central Fund and earmarking portions for local purposes, no action was taken.

This concluded the meeting.

YORKSHIRE BRANCH.

A MEETING of the Yorkshire Branch was held at York on Wednesday, November 22nd. The council met at 3 o'clock, Dr. CHURTON (President) in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and passed.

New Members.—Thirty-one new members were elected.

Transfer of Division.—The transfer of Althorpe from the Yorkshire to the North Lincolnshire Branch was agreed to.

Proposed Formation of New Division.—The suggested formation of a new Division at Mexborough was considered and was agreed to, subject to the approval of the Sheffield and Barnsley Divisions.

GENERAL MEETING.

The general meeting was held at 4 p.m., when forty-six members were present.

National Insurance Bill.—The following resolution was proposed by Dr. EDDISON, seconded by Dr. BLACK, and carried unanimously:

> That this meeting of the Yorkshire Branch of the British Medical Association records its opinion that the Insurance Bill, if passed into law, will be injurious to the public welfare; and, further, it strongly advises all members of the profession to have nothing to do with the working of the bill in its present form.

Investigation of Heart Diseases.—Dr. T. WARDROP GRIFFITH (Leeds) gave a lantern demonstration in illustration of some of the graphic methods of investigating diseases of the heart. Beginning with a description of the usual characters of the venous pulse, as shown by tracings taken from the jugular, the causation of the various waves was discussed, and attention was called to the considerable amount of variation which was to be noted within physiological limits. The relationship which exists between the "third sound of the heart" and the occurrence of a well-marked wave in the jugular pulse—namely, that described by Hirschfelder and G. A. Gibson—was commented upon, and a case was mentioned in which the disappearance of the third sound was found to be associated with the disappearance of the wave in question, which had been singularly well marked during the time the third sound had been present. Slides were shown to demonstrate the delay in conduction from auricle to ventricle which is sometimes met with, and the stimulating effect of atropine on conduction was shown. The different varieties of the extrasystole were discussed. The occurrence of the pulsus bigeminus due to the rhythmical occurrence of extrasystoles was then explained and a contrast drawn with cases of true pulsus alternans. Tracings of the true pulsus alternans were then shown, and it was mentioned that most of the patients had justified the gravity of the prognosis which the presence of this sign had determined. One exception of a striking character was mentioned—a woman who had albuminuria and was admitted to the infirmary with cardiac failure, had dyspnoea and a well-marked pulsus alternans. She improved greatly, but the pulsus alternans was present when she was last examined shortly before she went out. She had been recently seen, and was found to be remarkably well; she had been confined seven weeks previously of her eighth child, and though she had suffered considerable privations since leaving the infirmary, all her dyspnoea had gone and the pulse tracings did not show a trace of the alternans character. The subject of auricular fibrillation was then discussed, and tracings were shown to demonstrate the effects of digitalis in such cases, and especially its tendency to determine the occurrence of coupled beats, the second of which very often fails to reach the wrist. In this way an erroneous impression might be got, by simply feeling the pulse, as to the amount of slowing of the cardiac action which had been brought about by the digitalis, and it might be discontinued when its further use might be beneficial.

Intracranial Tumours.—Dr. ARTHUR HALL (Sheffield) made some remarks on intracranial tumours, and showed numerous lantern slides of specimens and cases to illustrate the points referred to. He called attention to the comparative frequency with which one or other of the three cardinal signs of intracranial tumour was absent for a long time or during the whole course of the disease. Severe headache might appear early or not till quite late, or not at all. This did not necessarily depend upon the size of the tumour or its rate of growth. He urged the importance of early operation in any case offering the least hope of relief, seeing the grave and hopeless outlook if left to itself. However certain the diagnosis might be as to the locality of the tumour, there were a great many points about which it must be always a matter of uncertainty until the skull was opened, when occasionally what had been feared to be an inoperable tumour might turn out to be a cyst, the evacuation of which was an easy matter, or the tumour itself might be quite readily removable. Unfortunately the reverse was most commonly the case. Cerebral surgery must always be comparatively disappointing in its percentage of cures, but it would never advance as it should if cases were left unoperated upon until they had extended beyond all hope of removal.

Cases, Exhibits, etc.—Amongst other cases illustrated was one of bilateral Jacksonian epilepsy, occurring first in one leg, then in the other, due to a tumour involving both paracentral lobes. Mr. HUGHES (York) showed a case of ostitis fibrosa of the humerus, with skiagrams, microscopical sections, etc., and intussusception removed from an infant; end-to-end anastomosis; recovery. Dr. ROWLING (Leeds) showed an apparatus for administering the vapours of ether and chloroform with oxygen, either separately or in any proportion and in (approximately) known percentages, for surgical anaesthesia, and explained the use of the same. Dr. STOKES (Leeds) showed a sterilizable midwifery case, and said that the need for reform in midwives' bags was urgent, both from the physician's and patient's standpoint. Leather bags should be condemned, and metal cases take their place. The case shown consisted of an aluminium tray and copper sterilizer, in a waterproof canvas cover, which will have a longer and cleaner life than a bag. Details and dimensions can be had from Messrs. Reynolds and Branson, Leeds.

Dinner.—After the meeting, eleven members dined together at the Station Hotel.

HALIFAX DIVISION.

A SPECIAL meeting of the Division was held at the Imperial Café on Monday, November 20th, at 8.30 p.m. Dr. J. CROSSLEY WRIGHT was in the chair, and fifty other members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read, confirmed, and signed. Arising out of the minutes a letter was read from Dr. Drury. He was again congratulated on his recovery from his severe illness.

Letter of Condolence.—On the proposition of Dr. DRURY, seconded by Dr. WEST SYMES, J.P., it was resolved that the Secretary send a letter of condolence to the widow of the late Dr. W. C. F. Smith, and to his son, Dr. T. Taylor Smith.

Apologies for Non-attendance.—Apologies were received from Drs. Jones, Lund Pollard, and Sykes.

Halifax and District Nursing Association.—The action of the committee in appointing Drs. Drury, Hodgson, and Macaulay to serve on the council of the Nursing Association was confirmed by the meeting. The model rules of

the British Medical Association have been incorporated in the rules of the Nursing Association.

Halifax and District Friendly Societies Council.—A request was read from the secretary of the council asking for one of the members to address them on "State insurance from the doctor's standpoint." Dr. Drury was chosen, and consented to address the council.

National Insurance Bill.—The Report of the Council to Divisions on the National Insurance Bill as amended in Committee of the House of Commons was considered. Dr. Drury was instructed as to the attitude he should take at the Special Representative Meeting when the recommendations came up for consideration.

Resolutions.—Dr. CROSSLEY WRIGHT moved, Dr. R. N. DENNING, J.P., seconded, and it was unanimously approved:

1. That this meeting of the Representative Body does not confirm the opinion of the Council expressed on lines 12 and 13, page 5, of the Report of Council D 11.
2. That this meeting of the Representative Body is of the opinion that the efforts and negotiations of the Council to secure alterations and concessions in the Act such as would give proper effect to the six suggested points as formulated at the Representative Meeting on June 1st have failed.

Dr. PRIESTLEY LEECH proposed, Dr. MARSHALL seconded, and it was approved unanimously:

That, in the opinion of this meeting of the Halifax Division of the British Medical Association, the National Insurance Bill as at present framed does not satisfactorily embody the reasonable demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; therefore this Division expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole profession in declaring its determination not to undertake the duties which the bill proposes to assign to it.

Dr. PRIESTLEY LEECH proposed, Dr. ASPINALL MARSDEN seconded, and it was unanimously approved:

That this meeting of the Halifax Division of the British Medical Association calls upon the Representative Body to instruct the Council of the Association to decline to enter into any arrangements under the bill, and that all further negotiations with a view to the amendment of the bill should be abandoned.

The Secretary was ordered to send an account of the meeting to the Press.

Payment of Representatives.—Dr. ROBINSON proposed and Dr. MORTON (Halifax) seconded:

That a levy of 2s. 6d. per member be made from time to time to defray the hotel and other expenses of our Representative in Representative Meeting, and that the fund be kept in a separate banking account.

This was carried unanimously.

HARROGATE DIVISION.

National Insurance Bill.—At a meeting of the Division, held at the Harrogate Infirmary on November 21st, the following resolution was unanimously carried:

In view of the fact that the Chancellor of the Exchequer and the Government have ignored the six cardinal points repeatedly laid before them by the British Medical Association, the Harrogate Division is of the strong opinion that the Association should, without further delay, inform the Chancellor of the Exchequer that its members unanimously refuse to undertake any of the duties assigned to them under the bill.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

National Insurance Bill.—At a meeting held on Tuesday, November 21st, at the Clayton Hospital, Wakefield, and largely attended by medical men practising in Wakefield, Pontefract, Castleford, Doncaster, Goole, and the surrounding districts, the Insurance Bill and the report of the Council thereon were discussed. The resolutions published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of November 25th, p. 530, were passed unanimously.

GIBRALTAR BRANCH.

A GENERAL meeting was held at the Colonial Hospital on Saturday, November 11th, at 4 p.m. Owing to the fact that the Fleet was detained at Tetuan for battle practice and did not return as was expected, there was an unusually small attendance. The following were present: Dr. P. F. LYONS, President, in the chair; Dr. W. W. Dowding, Vice-President; Deputy-Surgeon-General Welch, R.N.; Colonel H. H. Johnstone, A.M.S.; Staff Surgeons Rowan-Robinson, R.N., and Davidson, R.N.; Dr. N. Oman; Fleet Surgeon Foote, R.N.(ret.), and Dr. Parsons. The members were entertained to tea by the President (Dr. Lyons), and then the business of the meeting began.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Report of Annual Meeting.—Dr. DOWDING read a most interesting account of his experiences at the annual meeting in Birmingham.

Tuberculin in Tuberculous Infection.—Dr. PARSONS showed several cases of tuberculous infection treated with tuberculin in high doses, and a general discussion on the subject took place. The cases included one of lupus of the nose, one of glands in the groin, one of glands in the neck, one of laryngitis, and two of advanced phthisis. One case of asthma suspected to be tuberculous and which failed to react to a dose 0.01 T.A. given twice, was also shown as illustrating the fact that every case tested did not react.

Votes of Thanks.—Votes of thanks to the President for his hospitality, to Dr. Dowding for his paper, and to Dr. Parsons for showing cases, brought a very successful meeting to a close.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

NOTICE OF CHANGE OF BOUNDARIES OF DIVISIONS.

THE following change has been made in accordance with the Regulations of the Association, and takes effect from the date of this notice:

North Middlesex and St. Pancras and Islington Divisions.

That the common boundary of the North Middlesex and St. Pancras and Islington Divisions be altered so as to correspond with the boundary of the Metropolitan Boroughs of Islington and St. Pancras.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—A scientific and clinical meeting will be held in Liverpool on Wednesday afternoon, January 10th, 1912. Members willing to give short papers or demonstrations, or to show cases or specimens, are asked to communicate early with the Honorary Secretary of the Science Committee, P. R. COOPER, M.D., B.Sc., 8, St. Peter's Square, Manchester.

NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.—A scientific meeting will be held at the Royal Victoria Infirmary on Friday, December 15th. 3.15–3.45, Dr. Napier Burnett: Complications of Labour. 3.45–4.15, Professor Sir Thos. Oliver: Phthisis in Miners. 4.15–4.30, tea. 4.30–5.0, Dr. T. Beattie: Practical Points in the Sanatorium Treatment of Tubercle. 5.0–5.30, Mr. G. Grey Turner: Gall Stone Disease with Jaundice. 5.30–6.0, Mr. J. W. Heslop: Surgery of the Veins.—R. J. WILLAN, Honorary Secretary, 25, Ellison Place, Newcastle-upon-Tyne.

GENERAL COUNCIL

OF

MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1911.

Tuesday, November 28th, 1911.

Sir Donald MacAlister, K.C.B., President, in the Chair.

The ninety-fourth session of the General Council of Medical Education and Registration began at the offices of the Council, 299, Oxford Street, on Tuesday, November 28th, at 2 p.m.

New Member.

Dr. Caton introduced Mr. Rutherfoord John Pye-Smith, M.S., F.R.C.S., who has been appointed Representative of the University of Sheffield for a period of three years from October 27th, 1911.

PRESIDENT'S ADDRESS.

The President delivered the following address:

The late General Registrar.

Gentlemen,

We miss to-day, with deep regret, the familiar and ever-helpful presence of our General Registrar, Mr. H. E. Allen. The news of his sudden death, on July 10th, brought a sense of personal loss to every member of the Council. For thirty-three years he had been associated with its work, and had performed the important duties assigned to him with assiduity and skill. Of those who constituted the Council when he entered its service not one is now with us, and only four remain of those who took part in his first appointment as General Registrar. His great experience in all that related to the Council's business, his fidelity in carrying out its decisions, and his unsparing efforts to promote the efficiency of its administration, were constantly and gratefully recognized by successive Presidents, Treasurers, and other members of the Council. His courteous bearing, and his readiness to be of service, impressed all who sought his aid, whether officially or privately. The spontaneous tributes paid to his memory by those within and without the Council, whom he had thus assisted and befriended, testify to the warm regard in which he was held. The Executive Committee, which naturally had special opportunities of estimating his character and abilities, has placed on the minutes an expression of its appreciation, which the Council as a whole will doubtless endorse with sympathy.

In accordance with the Standing Orders the Executive Committee met in July, and appointed the Assistant Secretary, Mr. Norman Carew King, to perform temporarily the duties of Registrar. With the loyal help of the other members of the staff, Mr. King, as Acting Registrar, has since carried on the regular operations of the office. To these has been added the onerous and responsible work connected with the recent general election of direct representatives, undertaken on behalf of the English Branch Council. As President I have paid frequent visits to the Office during the recess, and I have assured myself, as I am now pleased to assure the Council, that its administrative business has been conducted with great efficiency and economy under Mr. King's direction, and that its interests have suffered no detriment during the vacancy in the Registrarship.

Changes in the Council.

Certain changes in the membership of the Council have been intimated as actual or imminent. Dr. Cocking, the first member appointed by the University of Sheffield, whose ill health prevented him, to our regret, from attending last session, has resigned his seat. In his place the University sends Mr. R. J. Pye-Smith, its Emeritus Professor of Surgery. He bears a name that is honourably associated with the profession of medicine, and in particular with the rise and progress of the Sheffield Medical School. Dr. Finlay is about to resign the Regius Chair of Medicine in the University of Aberdeen, and will retire from the Council next month. Happily he will continue during the present session to afford us the benefit of his sound and sober counsel, in relation especially to the work of the Penal Cases and Examination Committees, to which during the past ten years he has rendered much good service. It is announced that his successor is Professor Theodore Cash, F.R.S., whose eminence as an investigator in the domain of rational therapeutics will ensure him a welcome. The election of a representative by the registered practitioners of Scotland has resulted in the return of Dr. Norman Walker unopposed. This notable token of approval and confidence, on the part of his professional brethren in Scotland, will give much satisfaction to his colleagues on the Council. In England Dr. Langley Browne and Dr. Latimer have been re-elected, by large majorities, for a further term of five years. The Council is to be congratulated on thus retaining the services of two members who have, in the past, so ably contributed to its practical efficiency. In pursuance of a recent Order in Council, an additional representative was elected at the same time, to hold office from the beginning of January. The new member is Mr. T. J. Verrall, and the election shows that he holds a high place in the favour of his fellow-practitioners. He has taken an active part in medical organization, and is conversant with the public questions which at present engage professional attention. His experience will enable him to contribute a valuable element to our discussions.

The late Sir Samuel Wilks.

Before turning to topics other than personal, let me mention the passing of one of the most eminent of our former members, the late Sir Samuel Wilks. He sat with us as the representative of the University of London for nine years, during which he was at the height of his fame as a scientific physician. His strong individuality, his sententious wisdom, and his downright sincerity of purpose, made an abiding impression on those who then were privileged to work with him.

The National Insurance Bill.

The progress through Parliament of the National Insurance Bill has been watched by your Committee with close attention, and occasionally with some perplexity. The proposals for its amendment, which you adopted at the last session, were duly communicated to the Government through the Lord President; and they were also advocated at personal interviews with the Chancellor of the Exchequer and other Officers of the Treasury. The correspondence with the Chancellor which ensued has been made public at his request, and is in your possession. The Chancellor indicated his personal agreement with most of the Council's recommendations, and promised that they should have his favourable consideration when the Bill came to be amended in Committee of the House of Commons. Copies of the Bill, as amended in Committee, have now been placed before you, in order that you may judge of the extent to which effect has been given to your suggestions. The Committee in charge of the subject will report on it during the present session of the Council; but in the meantime it may be convenient if I indicate in a few words the position which appears to have been reached.

Administrative Bodies.

It is now provided that of the Insurance Commissioners for England "one at least shall be a duly qualified medical practitioner who has had personal experience of general practice." The Advisory Committee, appointed for the purpose of giving the Insurance Commissioners advice and assistance in connexion with the making and altering of regulations, is by law to include duly qualified medical practitioners.

The local Health Committee (otherwise called the Insurance Committee) of a district may now consist of from forty to eighty members. Of these two are to be elected by the medical practitioners of the district, and at least one other member is to be a practitioner appointed by the Insurance Commissioners. It was pointed out by your Committee that, in the Bill as originally framed, it might happen that not more than two practitioners were appointed on a Local Committee of twenty-two. It will be observed that under the new provisions it is possible that a Local Committee of eighty may not include more than three medical practitioners. The Insurance Com-

missioners have power to appoint a larger number, if they think fit; but they are not obliged to do so. The Council will have to consider whether the minimum proportion prescribed by the Bill can be described as adequate.

Administration of Medical Benefit.

A very satisfactory change in the Bill has been made in respect of the administration of "medical benefits." It is now provided that "medical and sanatorium benefits shall in all cases be administered by and through local Health Committees." If this provision stood alone it would fully meet the request which was strongly urged by the Council—namely, that the administration of medical benefits by "approved societies" should be eliminated from the scheme of the Bill. But a clause, subsequently introduced, modifies to some extent the universal application of the principle thus laid down. The clause referred to admits "medical attendance and treatment," supplied under an existing system or organization, to recognition and subsidy as "medical benefit" under the general scheme. This arrangement may prove to have a far-reaching application. As it appears likely to perpetuate the undesirable features of systems of "medical aid," already pronounced by the Council to be detrimental to professional efficiency, and therefore to the public welfare, it should not receive any sanction from us.

The regulations respecting "medical benefit" to be made by the Local Committee, with the approval of the Insurance Commissioners, are to be so framed as to provide for the establishment of a list of practitioners willing to act under the scheme, for the choice by an insured patient of the practitioner who is to attend him, and for the supply of medicines and appliances by properly qualified pharmacists. The importance of these points, which seem to have been overlooked in the original Bill, was pressed upon the Government by your Committee. It is satisfactory to find that they have received due attention in the amended Bill. But it must be kept in mind that these and many other questions, on whose satisfactory solution the successful working of the scheme will depend, are to a large extent transferred from the domain of statutory enactment to that of local administrative regulation. For this reason it is of the highest importance that the various authorities concerned, both in framing and in carrying out the local regulations, should have ample facilities for obtaining counsel and assistance from medical practitioners of experience.

Hospital Treatment.

On the important question of the hospital treatment of insured persons some steps have been taken to amend the Bill in the sense desired by the Council. There is still, however, much ground for the fear that the stability of many of the Clinical Hospitals will be endangered by the operation of the scheme, even in its present form. The efficiency of these institutions, in which medical students receive their practical training in the diagnosis and treatment of disease, is a matter of deep concern to this Council. It is our simple duty, in the public interest, to continue to urge upon the Government the importance of ensuring that their efficiency shall not be impaired.

Maternity Benefit.

With reference to the somewhat obscure subject of "maternity benefit," which is to be administered either by an "approved society" or by the Local Committee, it is now arranged that the mother shall herself select the medical practitioner or midwife who is to attend her. I have been informed that a further amendment is contemplated, whereby the fee of a practitioner who is called to attend a case initially under the charge of a midwife will be chargeable on the funds of the body administering the "maternity benefit." This amendment, if adopted, may help to remove a defect which has seriously marred the working of the Midwives Act.

National Commissioners.

It remains to add that bodies of Insurance Commissioners, distinct from the Commissioners for England, are to be established for Scotland, Ireland, and Wales respectively. It is not expressly provided that these bodies, or the Advisory Committees which will presumably be appointed to assist them, shall include any medical practitioners. This may be an oversight, but it should be made good before the Bill passes into law.

Ireland.

In the case of Ireland "medical benefit" is for the present excluded from the purview of the general scheme. Whether the members of the Branch Council for Ireland will view this exclusion with apprehension or with relief I am not in a position to state. In a sense, however, it disposes for the present of the point raised by the Council, namely, that the Irish Poor Law Medical Service should be kept separate from the medical service of the insured part of the population.

OTHER PARLIAMENTARY BILLS.

The attention of Parliament has been so completely preoccupied since we last met that no steps have yet been taken to bring before it proposals relating to the Administration of Anaesthetics, the Restriction of Unqualified Practice, or the Registration of Diplomas in Tropical Medicine. As a result of recent judicial decisions, it has become notorious that the law, with regard to the assumption by unqualified persons of misleading designations in dentistry, is seriously defective, and ought in the interest of the public to be amended forthwith. The inquiries I have made on behalf of the Council as to the prospects of legislation on any of these matters in the coming session of Parliament have yielded little ground for hopeful expectation. The Council can only continue to press on the attention of the Government Departments concerned the gravity of the existing conditions and the necessity of providing a remedy.

THE PHARMACOPOEIA.

The Pharmacopoeia Committee has undertaken the duty of preparing a revised text of the *British Pharmacopoeia* with a view to a new issue. It has appointed as Editors Professor Tirard, of King's College, London, and Professor Greenish, of the Pharmaceutical Society of Great Britain. Each of these gentlemen has taken an important part in the preliminary inquiries, which have been for some years in progress under the direction of the Pharmacopoeia Committee itself, and of the Committee of Reference in Pharmacy nominated by the Pharmaceutical Societies of Great Britain and of Ireland. They are at present engaged in arranging the abundant materials, bearing on the subject of revision, which have been accumulated by the Committee since the last issue of the *Pharmacopoeia* and its Addendum, and they will therefrom prepare a first draft of successive sections of the new issue for the consideration of the Committee. The Committee will from time to time report as to the progress made; but some considerable interval must elapse before the complete work is ready for submission to the Council.

INSPECTION OF DENTAL EXAMINATIONS.

The Inspection of the various qualifying Examinations in Dentistry and Dental Surgery has been carried out during the past year by Mr. A. S. Underwood. His official Reports, with the observations thereon made by the Qualifying Bodies, and a Report on the result of the cycle of Inspections by the Dental Education and Examination Committee, will probably be placed before you at the present session.

PUBLIC HEALTH DIPLOMAS.

The memoranda received from the several Universities and Colleges on the subject of Public Health Diplomas, with special reference to recent proposals for altering the educational and other conditions under which these are now conferred, will be communicated by the Public Health Committee. The Council will thus have at its disposal the materials necessary for a considered judgement on the proposals in question.

PROBABLE DURATION OF THE SESSION.

So far as I can estimate from the documents before me, the other matters which fall to be dealt with on this occasion, though important in themselves, are not likely to require a prolonged sitting of the Council.

On the motion of Dr. LITTLE, seconded by Dr. NORMAN MOORE, the President was thanked for his lucid and luminous address, and it was entered on the minutes.

On the proposition of Dr. NORMAN MOORE, seconded by Mr. MORRIS, it was agreed that the Council should adjourn at 4 o'clock to enable certain committees to prepare their reports.

STATISTICS.

The following tables were received, entered on the minutes, and referred to the Examination Committee for its consideration, and thanks were returned to the Director-General of the Royal Navy and the Under Secretary of State for India:

(*a*) Table showing results of competition held in May, 1911, for vacancies in the Naval Medical Service: There were 12 candidates, of whom 9 passed for vacancies. Of those who passed 8 held the diplomas of the Conjoint Board in England and 1 of these was also a graduate of the University of London. The other successful candidate was a graduate of the University of St. Andrews. Of the unsuccessful candidates 1 held the diplomas of the Conjoint Board in Ireland, 1 was a graduate of the University of Dublin, and 1 held the diplomas of the Conjoint Board in England. Two of the candidates—1 who passed and 1 who did not—were marked for bad spelling.

(*b*) Table showing results of competition held in July, 1911, for commissions in the Indian Medical Service. There were 25 candidates, of whom 12 passed for vacancies and 8 were found qualified but were unsuccessful. Four were rejected, of whom 3 were found deficient in general knowledge and failed to obtain half of the total marks required to qualify; 2 of these were graduates of the University of Edinburgh and 1 held the diplomas of the Conjoint Board in Scotland. The other candidate who was rejected failed in pathology and bacteriology; he was a graduate of the University of St. Andrews. Of the candidates who passed for vacancies 6 held the diplomas of the Conjoint Board in England; of these 1 was a graduate of Cambridge, 2 of London, and 1 of Madras. Of the other candidates passed for vacancies 2 were graduates of the National University of Ireland, 2 of London, and 1 of Liverpool, and 1 held the diplomas of the Conjoint Board in Scotland.

APOTHECARIES' SOCIETY OF LONDON.

On the motion of Mr. NORTON, seconded by Dr. NORMAN MOORE, Mr. Vincent Warren Low, F.R.C.S., was appointed Assistant Examiner in Surgery to the Apothecaries' Society of London, in the place of Mr. Stansfield Collier, who had retired.

GENERAL REGISTRAR.

The Council went into camera, and, on resuming, the PRESIDENT announced that the Council had appointed Mr. Norman King General Registrar.

RESTORATION OF NAMES.

The PRESIDENT also announced that the Council had directed the General Registrar to restore to the *Dental Register* the names of Walter Clifford, Ruby Edward Clifford, Isard Clifford, and Stanley Clifford.

DISCIPLINARY CASES.

The Case of Arthur William Wilson.

The Council then proceeded to the consideration, adjourned from May 24th, 1911, of the case of Arthur William Wilson, registered as of 102, Tufnell Park Road, N., M.B., Mast. Surg. 1887, Univ. Edin., who had been summoned to appear before the Council on the following charge, as formulated by the Council's Solicitor:

That you have knowingly and wilfully on various occasions assisted one Arthur Jacobs, of Jacobs and Clark, 156, High Street, Camden Town, a person not recognized as a dentist, in carrying on practice as a dentist, by administering anaesthetics on his behalf to persons coming to him for treatment. And that in relation thereto you have been guilty of infamous conduct in a professional aspect.

The complainants were the Society of British Dentists.

At the conclusion of the proceedings of May 24th, 1911, the Council, while finding the facts proved, did not proceed to pronounce judgement, but postponed it to the next session of the Council, when Dr. Wilson was notified that he would be required to attend and to produce evidence as to good conduct in the interval.

Mr. LEES (solicitor for Dr. Wilson) read a statutory declaration and letters as to the conduct of Dr. Wilson.

Mr. G. R. MATHEWS informed the Council that the Society of British Dentists had every reason to think Dr. Wilson had carried out his undertaking.

Strangers and parties were directed to withdraw. On readmission, the PRESIDENT said:

Mr. Arthur William Wilson, I have to inform you that the Council, having taken into account the evidence which you produced and the assurances which you have given, has not seen fit to direct the Registrar to erase your name from the *Medical Register*.

The Sandow Curative Institute.

The Council then proceeded to the consideration, adjourned from May 26th, of the cases of James Robertson Wallace, now registered as of 68, Jermyn Street, London, S.W., M.B., Mast. Surg., 1885, Univ. Edin., and Charles Edward Trimble, now registered as of 68, Bute Street, Treherbert, Glamorgan, Lic. R. Coll. Phys. Edin. 1898, Lic. R. Coll. Surg. 1898, Lic. Fac. Phys. Surg., Glasg., 1898, who had severally been summoned to appear before the Council on the following charge, as formulated by the Council's Solicitor:

That you have associated yourself in your professional capacity with an institution, termed the Sandow Curative Institute, which systematically advertises for the purpose of procuring patients who are to receive, either by correspondence or by attendance at the said institute, treatment for disease under the personal direction of Eugen Sandow, who is not a registered medical practitioner, and that you have approved of and acquiesced in such advertising. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the British Medical Association.

The PRESIDENT reminded Dr. Trimble that the facts had been found proved by the Council and the consideration adjourned to give him an opportunity of reconsidering his position and producing evidence as to his conduct in the interval.

Dr. TRIMBLE said he was not represented, but had forwarded a statutory declaration by himself and one by Dr. Hinde, of Treherbert, Glamorgan, in whose service he (Dr. Trimble) now was, and had been as assistant since August 4th last. These declarations having been read, Dr. TRIMBLE informed the Council that he ceased to be connected with the Sandow Curative Institute in April last, and had had nothing to do with it since.

Mr. SMITH WHITAKER, in reply to the PRESIDENT, had nothing further to bring before the Council on behalf of the British Medical Association.

Strangers and the parties were directed to withdraw; on readmission, the PRESIDENT announced the judgement of the Council as follows:

I have to inform you, Mr. Trimble, that, in view of the evidence which you have tendered as to your conduct in the interval, the Council does not see fit to direct the Registrar to erase your name from the *Medical Register*.

The Council then proceeded with the consideration of the case of Mr. James Robertson Wallace, adjourned from May 26th, 1911.[1] At the conclusion of the proceedings on May 26th, 1911, the following decision of the Council was announced by the PRESIDENT:

Mr. James Robertson Wallace, I have to inform you that the facts alleged against you in the notice of inquiry have been proved to the satisfaction of the Council, but that the Council, in order to give you an opportunity to reconsider your position, has postponed judgement in your case till the next session, when you will be required to be present and to produce evidence as to your conduct in the interval.

Lord Robert Cecil, K.C., M.P., appeared for Mr. Wallace.

Mr. Smith Whitaker, assisted by Mr. Hempson, solicitor, appeared for the complainants, the British Medical Association.

Lord ROBERT CECIL objected to the evidence of a Mr. Pilkington, which was put in within seven days of the hearing in this case contrary to the Standing Orders of the Council. He pointed out that even if the Council now refused to receive this declaration, it had already been put before them, and they could not disabuse their minds of the impression made by it.

Mr. SMITH WHITAKER said he was invited by the Solicitor to the Council to put the declaration in.

Lord ROBERT CECIL said that made it worse, because it was put in on the invitation of one of the officials of the Council.

The PRESIDENT said the Council would consider the objection *in camera*.

[1] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, June 3rd, 1911, p. 384 et seq.

Strangers and parties were directed to withdraw. On readmission,

Mr. BODKIN, the Legal Assessor, stated that the Council had decided that the evidence of F. G. Pilkington, submitted by the complainants and objected to by Lord Robert Cecil, could not properly be received or considered by the Council under Standing Orders 14, Rule 13. The members of the Council would therefore disregard completely and entirely the declaration objected to.

Lord ROBERT CECIL wished formally to reserve any rights he might have to object to the proceedings elsewhere. He then briefly reminded the Council of the charge, and complained that the real nature of it was only to be gathered by studying the previous decisions of the Council and endeavouring to arrive at some common principle underlying them. There seemed to be no opportunity for a practitioner obtaining beforehand any advice as to what was or was not infamous conduct in a professional respect. That was only peculiar to this profession, because in other professions it was easy to ascertain what the disciplinary body would regard as infamous conduct, but which in this profession was left entirely at large. Under these circumstances his client was put in a difficult position. Lord Robert Cecil then read a statutory declaration by Mr. Robertson Wallace, stating that he was still associated with the Sandow Institute. The institute now did not advertise the cure of disease or for the purpose of procuring patients. Mr. Robertson Wallace had absolute control and direction of the institute. He accepted full responsibility for everything that was done at the institute now. Lord Robert Cecil submitted that the two grounds of complaint were entirely removed; there was now no advertising and no treatment by an unregistered person. He submitted that Mr. Wallace had done his best to comply with the direction of the Council, and he was now doing nothing which could be an offence under any circumstances. Lord Robert Cecil concluded by appealing to the Council to treat the matter entirely without prejudice.

In reply to the LEGAL ASSESSOR, Lord ROBERT CECIL said he put in the declaration by Mr. Robertson Wallace, but did not propose to call him to verify the same or to submit to cross-examination. After some discussion Mr. ROBERTSON WALLACE entered the witness-box.

Cross-examined by Mr. SMITH WHITAKER, he said there had been since the last hearing before the Council a change in the practice at the Sandow Institute. He now personally saw all the patients and prescribed the line of treatment when the exercises began. Mr. Sandow occasionally saw cases, but accepted no responsibility for their treatment. The institute was now carried on on these lines, he (Mr. Robertson Wallace) being entirely responsible for the medical treatment.

Lord ROBERT CECIL did not desire to re-examine.

Mr. WHITAKER submitted that the charge of infamous conduct had been dealt with six months ago. The facts had then been found proved. The question now was, What had been the nature of the practitioner's conduct since then? Mr. Whitaker submitted that the fact was that since the date of the last hearing Mr. Wallace had continued to be employed by the body by which he was previously employed. He submitted to the Council that the respondent practitioner had continued in the employment of the institution or association which was condemned by the Council at the last hearing. Mr. Wallace had, no doubt, altered the nature of his relation to that institution in certain respects, in order to bring himself as closely as possible within the lines of correct conduct, but the fact remained that for the past six months, by his own declaration, he had continued to be associated with an institution his previous association with which had been condemned by the Council in May.

Strangers and parties were directed to withdraw; on readmission the PRESIDENT announced the decision of the Council as follows:

Mr. Wallace, the Council are not satisfied with the evidence as to your conduct which you have produced to-day. They have accordingly decided to give a further opportunity of producing more satisfactory evidence regarding your professional conduct; such evidence ought to be testified to by medical practitioners or other persons of position who may be acquainted with your practice and conduct in the interval. With this object they have again postponed judgement on your case until the next session of the Council.

CENTRAL MIDWIVES BOARD.

A SPECIAL meeting of the Central Midwives Board was held on November 14th at Caxton House, Westminster, with Sir FRANCIS H. CHAMPNEYS in the chair.

Midwives Struck Off the Roll.

The Board considered the following charges, amongst others, against the midwives whose names are given below and ordered them to be struck off the Roll:

Jane Blatherwick, that at the assizes held at Liverpool on July 1st, 1911, she was convicted of performing an illegal operation with intent to procure abortion, and was thereupon sentenced to seven years' penal servitude.

Priscilla Briscoe, that when attending her patients she did not wear a clean dress of washable material that can be boiled, as required by Rule E 1; that she did not take with her to a confinement the appliances or antiseptics required by Rule E 2; and that she did not keep her register of cases as required by Rule E 23.

Mary Ann Cornfield, that being in attendance as a midwife at a confinement she was guilty of negligence, in that the patient's perineum being seriously ruptured, she did not explain that the case was one in which the attendance of a registered medical practitioner was required; nor did she hand to the husband or nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 20 (3).

Mary Ann Jackson, that being in attendance as a midwife at a confinement, the child suffering from inflammation of the eye from birth, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 19 (5) of the rules then in force.

Charlotte Plenty, that she was uncleanly in her person and appliances, that she did not possess the appliances and antiseptics required by Rule E 2, and that she did not take the temperature of her patients, being unable to use a clinical thermometer.

Annie Marian Sadler alias *Palmer*, that at the Central Criminal Court on July 5th, 1911, she was convicted on her confession of performing an illegal operation with intent to procure abortion, and was thereupon sentenced to five years' penal servitude.

Elizabeth Ellen Watkins, that having been suspended from practice by the Executive Officer of the Local Supervising Authority for a week from Tuesday, July 4th, 1911, on the ground of having attended a case of puerperal fever, she nevertheless attended as a midwife at a confinement and delivered the patient of a child on Friday, July 7th, 1911, without having undergone disinfection as required by Rule E 5.

Elizabeth Webb, that being in attendance as a midwife at a confinement, the child suffering from inflammation of the eyes on the third day, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 20 (5).

Midwives Censured.

The following midwives were censured after charges against them had been considered: *Sarah Coulson* and *Caroline Fanny Wyatt*.

Midwife Cautioned.

Annie Jane Maud Webb was cautioned after charges against her had been considered.

An adjourned special meeting of the Central Midwives Board was held on November 16th at Caxton House, Westminster, with Sir FRANCIS H. CHAMPNEYS in the chair.

Midwives Struck Off the Roll.

Emily Flitton, that being in attendance as a midwife at a confinement, the child suffering from inflammation of the eyes on May 13th, she did not until May 16th explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 19 (5) of the rules then in force.

Emma Holmes, that being in attendance as a midwife at a confinement, the patient suffering from haemorrhage after the delivery, she did not explain that the case was one in which the attendance of a registered medical practitioner was required; nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately for-

warded to the medical practitioner as required by Rule E 19 (4) of the rules then in force.

Alice Matthews, that she did not take with her to a confinement the appliances and antiseptics required by Rule E 2; that she did not employ the antiseptic precautions required by Rules E 3 and 7; and that she did not take the temperature of her patients, being unable to use a clinical thermometer.

Rebecca Robinson, that being in attendance as a midwife at a confinement, a registered medical practitioner having been sent for on her advice, she did not notify the fact to the local supervising authority, as required by Rules E 20 and 21 of the rules then in force; she did not enter the case in her register, as required by Rule E 22 of the rules then in force.

Emily Sturt, that being in attendance as a midwife at a confinement, she did not take with her the appliances and antiseptics required by Rule E 2; she did not take the patient's temperature at any time.

Mary Taylor, that being in attendance as a midwife at a confinement she neglected to attend to the comfort of the patient at the confinement and during the lying-in; the child having died before the attendance of a registered medical practitioner, she did not notify the fact to the local supervising authority as required by Rule E 20 of the rules then in force.

Sarah May Walkling, that being in attendance as a midwife at a confinement, the case being one of twins and the first presentation being abnormal, she did not explain that the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 19 (3) of the rules then in force.

Ellen Florence Ward, that she is uncleanly in her person and clothing; that her house is uncleanly and insanitary; and that when attending a confinement she did not wear a dress of washable material, as required by Rule E 1.

Emma Willingham, that she was uncleanly and did not wear a dress of washable material; that she did not possess the appliances or adopt the antiseptic precautions required by the rules; and that she did not keep her register of cases as required.

Midwives Censured.

The following midwives were censured after charges against them had been considered: *Harriet Sarah Eckersall* and *Annie Maud Hodder*.

A meeting of the Central Midwives Board was held at Caxton House, Westminster, on November 23rd, with Sir FRANCIS CHAMPNEYS in the Chair.

Laying out a Dead Body.

The following letter was considered from the Clerk of the Privy Council as to the power of the Local Supervising Authority to make a rule prohibiting a midwife from laying out a dead body:

Privy Council Office, October 19th, 1911.

To the Secretary,
Central Midwives Board.

Sir,—Referring to your letter of the 13th instant enclosing a copy of a letter from the Town Clerk of St. Helens as to the power of the Local Supervising Authority to make a rule prohibiting a midwife from laying out a dead body, I have to point out, for the information of the Central Midwives Board, that it is not suggested that the Local Supervising Authority has any authority under the Midwives Act, 1902, to make such a rule, but that Rule E 17 (b) of the Board's Rules, as finally drawn, was intended to save any right possessed by the Councils of Counties or County Boroughs under their General Statutory Powers to make a rule on the subject, it being better that there should be a general rule in the matter, rather than that it should be left to the discretion of the Authority in particular cases.

I am, Sir, Your Obedient Servant,
(Signed) ALMERIC FITZROY,
The Clerk of the Council.

The Board directed that a copy of the letter from the Clerk of the Council be forwarded to the Town Clerk of St. Helens.

Notification of Stillbirth.

A letter was considered from the Superintendent of the Gloucester District Nurses' Home, inquiring as to whether a midwife should undertake a case when she believes it would be better for the patient to engage a doctor, and as to her duty to notify a stillbirth when engaged as a maternity nurse under a doctor.

The Board decided that the reply be: (*a*) That the question of whether a midwife should undertake a case or not is outside the Rules, and must be decided by the exercise of the ordinary judgement of a prudent midwife. (*b*) That a midwife acting as a maternity nurse under the direction of a qualified medical practitioner is not bound to notify a stillbirth under Rule E 21.

Standard of Training.

A letter was considered from Dr. W. E. Fothergill, of Manchester, one of the Board's examiners, as to lengthening and raising the standard of training, together with a letter from Dr. E. Sergeant, County Medical Officer for Lancashire, to the same effect.

The Board decided that the letters of Dr. Fothergill and Dr. Sergeant be noted for consideration at the next revision of the rules.

Illiterate Midwives.

A letter was considered from Dr. J. M. Cowie, M.O.H. Burton-on-Trent, inquiring as to the course to be adopted with regard to midwives who can neither read nor write, or who are incapable of learning to take or record pulse and temperature.

The Board directed that it be pointed out to Dr. J. M. Cowie that it lies with the local supervising authority to take action in the first instance against midwives who are unable to comply with the Rules of the Board, and that the Board would deal with any midwife against whom the authority had found a *prima facie* case of malpractice, negligence, or misconduct.

Disinfection.

A letter was read from the Superintendent of the Cornwall County Nursing Association inquiring whether a midwife may attend maternity cases and nurse cases of enteric fever at the same time.

The Board decided that the Superintendent of the Cornwall County Nursing Association be referred to Rule E 5, which runs as follows:

> Whenever a midwife has been in attendance upon a patient suffering from puerperal fevers, or from any other illness supposed to be infectious, she must disinfect herself and all her instruments and other appliances, to the satisfaction of the Local Supervising Authority, and must have her clothing thoroughly disinfected before going to another labour. Unless otherwise directed by the Local Supervising Authority, all washable clothing should be boiled, and other clothing should be sent to be disinfected by the Local Sanitary Authority.

Time of Quarantine.

A letter was considered from the Clerk of the Aberdare Urban District Council forwarding a copy of a resolution passed by the Council expressing the opinion that a period of twenty-four hours is too short a quarantine for a midwife who has been attending on virulent cases of puerperal fever.

The Board directed that the attention of the Clerk of the Aberdare Urban District Council be called to the terms of Rule F 2, which prescribes the procedure in cases where it is found necessary to suspend a midwife for a longer period than twenty-four hours.

Training of Midwives.

A letter from Dr. Comyns Berkeley, Obstetric Physician, Middlesex Hospital, on behalf of the Weekly Board of the Hospital, with regard to a complaint made by a certified midwife of the inadequacy of the training given at the hospital, was considered, and the Board decided that all further action be left in the hands of the Chairman.

Hospitals and Asylums.

STAFFORDSHIRE COUNTY ASYLUMS.

Stafford.

THE annual report for the year 1910 of Dr. J. W. Stirling Christie, the Medical Superintendent of Stafford Asylum, shows that on January 1st, 1910, there were 866 patients on the registers, and on the last day of the year 872. The total cases under care during the year numbered 1,107, and the average number daily resident 874. During the year 241 were admitted, of whom 202 were direct, and 39 indirect admissions. Of the direct admissions, in 105 the attacks were first attacks within three, and in 38 more within twelve months of admission; in 22 not-first attacks within twelve months, also in 4 more in whom it was unknown whether the attacks were first or not; and in the remaining 33 the attacks were of more than twelve months' duration, including 11 congenital cases. The direct admissions were classified according to the forms of mental disorder into: Recent mania, 80; chronic, 1; recent melancholia, 46; senile and secondary dementia, 25; insanity with

epilepsy, 16; confusional insanity, 7; general paralysis, only 2; delusional insanity, 5; congenital defect, 9; and various less common forms, 11. The high proportion of cases of recent mania is unusual. As to causation, and still considering only the direct admissions, alcohol was assigned in 25, or 12.3 per cent.; syphilis in 2, and other toxins in 12; diseases of the nervous system, including epilepsy, in 23; various bodily affections, of which cardio-vascular degeneration was the chief, in 21; critical periods in 30; child-bearing in 8; physiological errors in 11; bodily trauma in 13; and mental stress in 53. An insane heredity was ascertained in 54, a neurotic heredity in 3, and an alcoholic heredity in 1, giving a total neuropathic heredity in 58, or under 29 per cent. During the year 64 were discharged as recovered, giving a recovery-rate on the direct admissions of 26.55 per cent., or of recoveries in and on the direct admissions of 33.11 per cent.; also 70 as relieved and 6 as not improved. Also during the year 101 died, giving a death-rate on the average number daily resident of 11.55 per cent. The deaths were due in 27 to diseases of the nervous system, including in this category deaths from cerebral softening, haemorrhage, and abscess; in 16 to diseases of the heart and blood vessels; in 7 to diseases of the respiratory organs; in 4 to chronic kidney disease, and in the remainder to general diseases, including 4 from pneumonia, 12 from senile decay, and 28, or no less than 27.7 per cent. of the total deaths, from tuberculous diseases.

Burntwood.

Dr. J. B. Spence, the Medical Superintendent of this asylum, says that overcrowding was felt during the year 1910. It is anticipated, however, that the transference of Handsworth to Birmingham with the consequent alteration in the chargeability of many cases at present housed in Staffordshire asylums, will relieve the congestion. On January 1st, 1910, there were 858 patients on the registers, and on the last day of the year 908, being 26 in excess of the provided accommodation. The total cases under care during the year numbered 1,149 and the average number daily resident 889. During the year 281 were admitted, of whom 267 were direct and 14 indirect admissions. Of the direct admissions, in 94 the attacks were first attacks within three and in 50 more within twelve months of admission; in 48 not-first attacks within twelve months; and in the remainder the attacks were either of more than twelve months (46), or of unknown duration (3), or congenital cases (26). The direct admissions were classified according to the forms of mental disorder into: Recent mania, 157; chronic and recurrent mania, 18; recent melancholia, 20; chronic melancholia, 3; senile and secondary dementia, 16; insanity with epilepsy, 21; general paralysis, 1; less common forms of insanity, 5; and congenital defect, 26. As to probable causation in the direct admissions, alcohol was assigned in 55, or over 20 per cent., syphilis in 3, and influenza in 4; diseases of the nervous system in 48, including epilepsy in 37; other bodily affections in 7; childbearing in 15; critical periods in 49; bodily trauma in 7, and mental stress in 75. An insane heredity was ascertained in 82, an epileptic heredity in 4, a neurotic heredity in 2, and an alcoholic heredity in 31, giving a total neuropathic heredity in 119, or 44.5 per cent. During the year 71 were discharged as recovered, giving a recovery-rate on the direct admissions of 25.26 per cent., or of recoveries in and on the direct admissions of 24.71 per cent.; also 80 as relieved and 6 as not improved. During the year also 84 died, giving a death-rate on the average number daily resident of 9.44 per cent. These deaths were due in 43 to diseases of the nervous system, including 17 from general paralysis, 11 from diseases of the heart and blood vessels, 1 from pleurisy, 1 from chronic Bright's disease, 8 from senile decay, and the remainder from general diseases, including 16, or 19 per cent. of the total deaths, from pulmonary tuberculosis. Notwithstanding the over-crowding, the general health was not unsatisfactory, considering the class of patient sent to this asylum.

Cheddleton.

The annual report of Dr. W. F. Menzies, Medical Superintendent of this asylum, shows that on January 1st, 1910, there were 959 patients on the registers and on the last day of the year 1,020. The total cases under care during the year numbered 1,228, and the average number daily resident 977. During the year 269 were admitted, of whom 205 were direct and 64 indirect admissions. Of the direct admissions, in 62 the attacks were of less than three and in 42 of less than twelve months' duration; in 35 not-first attacks within twelve months; and in all the remainder, including 13 congenital cases, the attacks were of more than twelve months' duration on admission. The direct admissions were classified according to the forms of mental disorder into: Recent mania, 21; chronic and recurrent mania, 22; recent melancholia, 47; chronic and recurrent melancholia, 14; senile and secondary dementia, 6; general paralysis of the insane, 33; insanity with epilepsy, 18; primary dementia, 17: less common forms, 13; congenital defect, 13, and not insane, 1. Concerning the probable causation of the disorder in the direct admissions, alcohol was assigned in 50, or roughly 25 per cent., syphilis in 50 (the large number of general paralytics in the admissions will be remembered), tuberculosis in 18, influenza in 7, and other toxins in 11; diseases of the nervous system in 32 (epilepsy 24); other bodily affections in 45; critical periods in 28; child-bearing in 16; bodily trauma in 9, and mental stress in 60. An insane heredity was ascertained in 66, an epileptic heredity in 12, a neurotic heredity in 8, an heredity of eccentricity in 2 and of alcoholism in no less than 51, or 25 per cent., of the whole. During the year 57 were discharged as recovered, giving a recovery-rate on the direct admissions of 27.8 per cent., or of recoveries in and on the direct admissions of 27.32 per cent., also 14 as relieved and 12 as not improved. During the year 125 died, giving a death-rate on the average number resident of 12.81 per cent. The deaths were due in 26 to diseases of the nervous system, including 13 from general paralysis; in 13 to diseases of the heart and blood vessels; in 1 to congestion of lung; in 3 to diseases of the digestive system; in 7 to chronic Bright's disease; in 6 to various local and general conditions; in 1 to accident, and in the remainder to general diseases, including 32, or over 25 per cent. of the total deaths, from tuberculosis, and in 15 to dysentery. Actually there were 73 cases of dysentery at this asylum during the year, and Dr. Menzies says that there can be little doubt that the type of dysentery at Cheddleton is gradually acquiring increased virulence. In 1909 there were 45 cases, of whom 7 died, as against 73 with 15 deaths for 1910; also for the first time evidence of subacute or chronic colitis insufficient to cause death appeared in the year 1910 in 7 further *post-mortem* examinations. The aperient treatment as employed at Wakefield Asylum was tried during 1910 at Cheddleton without avail.

WEST SUSSEX COUNTY ASYLUM, CHICHESTER.

THE annual report of Dr. Harold Andrew Kidd, the Medical Superintendent of this asylum, shows that on January 1st, 1910, there were 766 patients on the registers, and 777 on the last day of the year. The total cases under care during the year numbered 920, and the average number daily resident 763. During the year 154 were admitted, of whom 137 were direct admissions, 15 transfers, and 2 statutory readmissions. Of the direct admissions, in 37 the attacks were first attacks within three, and in 24 more within twelve, months of admission; in 26 not-first attacks within twelve months, and in all the remainder, with the exception of one in whom the history was defective, but including 5 congenital cases, the attacks were of more than twelve months' duration on admission. So far as duration of disorder is concerned, therefore, the admissions as a whole were not of a favourable character, though Dr. Kidd says that the female admissions were encouraging. Of the whole 154, in only 33 was recovery deemed probable. The direct admissions were classified according to the various forms of mental disorder into: Recent mania, 29; chronic and recurrent, 11; senile and secondary dementia, 13; general paralysis, 12; delusional insanity, 5; insanity with epilepsy, 3; confusional insanity, 1; and congenital defect, 5. As to the causation of the illness in the admissions, the following principal factors are mentioned by Dr. Kidd:—Alcohol in 20, and as direct cause in 7, syphilis in 11, cardio-vascular degeneration and heart disease in 8, epilepsy in 7, childbirth in 5, senility in 17, critical periods in 23 and mental stress in 13, whilst heredity influences were ascertained in 62, or 39.74 per cent. During the year 42 were discharged as recovered, giving a recovery-rate on the direct admissions of 30.43 per cent., also 11 as relieved and 10 as not improved. During the year also 80 died, giving a death-rate on the average numbers resident of 10.48 per cent. Of these deaths, 29 were due to diseases of the nervous system, including 18 from general paralysis, in 7 to diseases of the heart and blood vessels, in 11 to respiratory diseases, in 2 to diseases of the alimentary tract, in 8 to senile decay, in 1 to suicide by swallowing boiling water, and in 22 to general diseases, including 17, or over 21 per cent. of the total deaths, from pulmonary tuberculosis. The general health throughout the year is described in the report as excellent; no infectious disease occurred, with the solitary exception of a case of colitis as a recurrent attack.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

DEPUTY SURGEON-GENERAL J. O'BRIEN WILLIAMS, M.D., is placed on the retired list, with the rank of Surgeon-General, November 28th. His commissions are thus dated: Surgeon, March 30th, 1878; Staff Surgeon, March 30th, 1890; Fleet Surgeon, November 16th, 1894; Deputy Surgeon-General, January 25th, 1903. He was Surgeon of the *Albacore* at Suakin during Osman Digna's operations against it in 1887-8, and received the thanks of the Egyptian Government for his valuable services, placed voluntarily at the disposal of the Senior Medical Officer of the Egyptian Army, and for his action in assisting to dress the wounded after the action of March 4th, 1888.

The undermentioned Surgeons have been been promoted to the rank of Staff-Surgeon, dated November 23rd: WALTER P. YETTS, THOMAS D. LIDDLE, M.B., NORMAN S MEIKLEJOHN, WILLIAM P. HINGSTON, REGINALD H. ST. B. E. HUGHES, FREDERICK M. V. SMITH, ARTHUR H. S. RICHARDSON, GEORGE H. S. MILLN, M.B., EDWARD B. KENNY, M.B., ARTHUR R. SCHOFIELD, M.B., FRANCIS J. GOWANS, M.B., EVELYN R. TOWNSEND, JAMES C. BRINGAN, M.B., GUY L. BUCKERIDGE, ARTHUR D. C. CUMMINS, THOMAS W. JEFFERY. PALMER D. RAMSAY, EDWARD P. G. CAUSTON, B.A., GEORGE D. WALSH, JAMES E. JOHNSTON, M.B., B.A., BERTRAM RALEIGH BICKFORD. All these officers entered as Surgeons, November 23rd, 1903.

The following appointments have been made at the Admiralty: H. B. BEATTY, to the *Diana*, on commissioning, November 30th; Surgeon P. D. RAMSAY, to the *Ringdove*, November 21st; Surgeon J. B.

JOHNSTON, M.B., to the *Mutine*, additional, November 21st, and on re-commissioning, undated; Surgeon G. CARLISLE, to the *Drake*, on commissioning, November 30th.

ARMY MEDICAL SERVICE.

COLONEL SIR DAVID BRUCE, Knt., C.B., F.R.S., M.B., is seconded for service under the Colonial Office, November 9th.

Lieutenant-Colonel W. W. PIKE, D.S.O., from the Royal Army Medical Corps, to be Colonel, vice Sir D. Bruce, Knt., C.B., F.R.S., M.B., seconded, November 9th. Colonel Pike's previous commissions are thus dated: Surgeon, February 4th, 1882; Surgeon-Major, February 4th, 1894; Lieutenant-Colonel, February 4th, 1902. He served in the South African war in 1899–1902, and was present at the relief of Kimberley and in operations in the Orange Free State (actions at Paardeberg, Poplar Grove, and Dreifontein), the Transvaal and Cape Colony; he was twice mentioned in dispatches, appointed D.S.O., and granted the Queen's medal with five clasps and the King's medal with two clasps.

ROYAL ARMY MEDICAL CORPS.

MAJOR DAVID HARVEY, M.B., is seconded for service under the Colonial Office, November 9th.

INDIAN MEDICAL SERVICE.

MAJOR F. F. ELWES, M.D., is appointed Surgeon to the Governor of Madras.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT C. H. CARLTON is confirmed in his rank.

OFFICERS' TRAINING CORPS.

LIEUTENANT W. D. STURROCK, M.D., Oxford University Contingent, Senior Division, to become Captain, October 26th.

Second Lieutenant G. D. ELLIS, Liverpool Institute Contingent, Junior Division, to be Lieutenant, October 13th.

TERRITORIAL FORCE.

YEOMANRY.

SURGEON-LIEUTENANT HAMILTON DRUMMOND, M.B., Northumberland (Hussars), resigns his commission, November 25th.

INFANTRY.

SURGEON-CAPTAIN G. H. E. BERENN, 5th and 6th Battalion Royal Warwickshire Regiment, resigns his commission, November 25th.

First West Lancashire Field Ambulance.—The undermentioned officers to be Captains (October 1st): Lieutenant JOHN E. W. MACFALL, M.D.; Lieutenant RICHARD S. TAYLOR, M.B., F.R.C.S.Edin.; Lieutenant ADAM P. H. SIMPSON.

Second West Lancashire Field Ambulance. — Undermentioned officers to be Captains (October 1st): Lieutenant CHARLES S. BREBNER, M.D.; Lieutenant WALTER L. HAWKSLEY, M.B.; Lieutenant WILLIAM MACDONALD, M.B.

Second Northumbrian Field Ambulance.—Lieutenant JAMES D. SINCLAIR, M.B., to be Captain, October 1st.

Third West Riding Field Ambulance.—Undermentioned officers to be Captains: Lieutenant JOHN W. STOKES, October 1st; Lieutenant JAMES MACKINNON, October 1st; Lieutenant ERNEST F. FINCH, October 6th; Lieutenant CHARLES G. MURRAY, October 10th; Lieutenant EDWARD F. SKINNER, October 11th.

Third Wessex Field Ambulance.—Lieutenant JOHN A. SWINDALE resigns his commission, November 25th.

Second Scottish General Hospital.—Major ROBERT W. PHILIP, M.D., to be Lieutenant-Colonel, September 15th. Captain FRANCIS D. BOYD, C.M.G., M.D., to be Major, September 15th. JOHN W. SIMPSON, M.D., to be Captain, September 15th.

Attached to Units other than Medical Units.—Major and Hon. Surgeon-Lieutenant-Colonel DUNCAN STEWART resigns his commission, and retains his rank and uniform, November 25th.

For Attachment to Units other than Medical Units.—GEOFFREY B. FLEMING, M.B., to be Lieutenant, September 22nd.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns, 7,463 births and 4,388 deaths were registered during the week ending Saturday last, November 25th. The annual rate of mortality in these towns, which had been 13.5 13.1, and 13.9 per 1,000 in the three preceding weeks, rose again to 14.2 per 1,000 in the week under notice. In London last week the death-rate was equal to 13 2 per 1,000, against 13.1 12.8, and 13.0 in the three previous weeks. Among the seventy-six other large towns the death-rates last week ranged from 4.9 in Hornsey, 6 2 in Newport (Mon.), 6.6 in Wallasey, 7.3 in Barrow-in-Furness, and 7.6 in Reading, to 19.2 in Liverpool and in South Shields, 19.3 in Wigan, 20.1 in Burnley, 20.6 in West Bromwich, and 22.0 in Stockton-on-Tees. Measles caused a death-rate of 1.6 in Wolverhampton, 2.0 in Burnley, and 2.3 in West Bromwich, and infantile diarrhœa of 1.1 in Oldham and in Cardiff. The mortality from the remaining epidemic diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 33, or 0.8 per cent., of the total deaths registered in the seventy-seven towns were not certified either by a registered medical practitioner or by a coroner after inquest, and included 7 in Birmingham, 6 in Liverpool, 5 in London, 3 in South Shields, and 3 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,189, 2,203, and 2,213 at the end of the three preceding weeks, declined to 2,166 on Saturday last; 203 new cases were admitted during the week, against 269, 292, and 291 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 767 births and 548 deaths were registered during the week ending Saturday last, November 25th. The annual rate of mortality in these towns, which had been 16.3 and 18.6 per 1,000 in the two preceding weeks, declined to 16,7 in the week under notice, but was 2.5 per 1.000 above the mean rate during the same period in the large English towns Among the several Scottish towns the annual death-rates last week ranged from 10.3 in Leith and 10.5 in Paisley to 18.8 in Glasgow and in Aberdeen. The mortality from the principal epidemic diseases averaged 1.9 per 1,000, and was highest in Greenock and Aberdeen. The 282 deaths from all causes registered in Glasgow included 2 which were referred to enteric fever, 1 to typhus, 7 to measles, 3 to scarlet fever, 4 to whooping-cough, 4 to diphtheria, and 4 to infantile diarrhœa. Four deaths from infantile diarrhœa were recorded in Edinburgh, 3 in Dundee, and 2 in Greenock; 14 deaths from measles in Aberdeen and 2 in Greenock; 2 deaths from diphtheria in Dundee; and 2 from whooping-cough in Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, November 25th, 534 births and 396 deaths were registered in the twenty-two principal urban districts of Ireland, as against 529 births and 419 deaths in the preceding period. The annual death-rate in these districts, which had been 17.1, 17.6, and 19.0 per 1,000 in the three preceding weeks, fell to 18.0 per 1,000 in the week under notice, this figure being 3.8 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 20.3 and 17.3 respectively, those in other districts ranging from 4.7 in Sligo and 5.1 in Londonderry to 34.7 in Kilkenny and 34.9 in Newry, while Cork stood at 17.7, Limerick at 10.9, and Waterford at 15.2. The zymotic death-rate in the twenty-two districts averaged 2.0 per 1,000, as against 2.2 in the preceding period.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ANGLESEY COUNTY COUNCIL.—County Medical Officer of Health, County School Medical Officer and Medical Inspector (combined appointment). Salary, £400 per annum.

BARNSLEY: BECKETT HOSPITAL. — Second House-Surgeon. Salary, £100 per annum.

BATH: EASTERN DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

BATH ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BENGAL: CHARTERIS HOSPITAL, Kalimpong.—Lady Missionary Doctor.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £200 per annum and £30 cab allowance.

BRIDGNORTH AND SOUTH SHROPSHIRE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY. — Resident Medical Officer for the Northern Branch. Salary, £160 per annum.

BRISLINGTON HOUSE PRIVATE ASYLUM, near Bristol.—Junior Resident Medical Officer. Salary, £140 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

CANTERBURY: CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer. Salary to commence, £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Resident Medical Officer. Salary, £90 per annum.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CROYDON GENERAL HOSPITAL.—Member of Honorary Medical Staff.

DONCASTER: ROYAL INFIRMARY AND DISPENSARY.—(1) Senior House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

EAST SUSSEX COUNTY ASYLUM, Hellingly.—Assistant Medical Officer (male). Salary, £160 per annum.

FLORENCE NIGHTINGALE HOSPITAL FOR GENTLEWOMEN, Lisson Grove, N.W.—Non-resident House-Surgeon. Salary, £100 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

GUISBOROUGH UNION.—District Medical Officer and Public Vaccinator. Salary and fees, £66 per annum.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer (lady). Salary, £150 per annum, rising to £200.

HÔPITAL FRANÇAIS, Shaftesbury Avenue, W.C.—Resident Medical Officer. Salary, £100 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W. — House-Physician. Honorarium, 20 guineas for four months.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

ITALIAN HOSPITAL, Queen Square, W.C.—Honorary Assistant Physician to Out-patients.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITALS.—Vacancy on Honorary Medical Staff.

LEICESTER INFIRMARY.—Honorary Assistant Surgeon.

LINCOLN COUNTY HOSPITAL. — Junior Male House-Surgeon Salary at the rate of £75 per annum.

LIVERPOOL: DENTAL HOSPITAL AND UNIVERSITY OF LIVERPOOL CLINICAL SCHOOL.—Honorary Anaesthetist.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Surgical Registrar. Salary, 40 guineas per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary, £60 per annum.

MIDDLESEX COUNTY ASYLUM, Napsbury.—Assistant Medical Officer. Salary, £180 per annum.

MULLINGAR DISTRICT LUNATIC ASYLUM.—Resident Medical Superintendent. Salary, £400 per annum, increasing to £600.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

ROYAL EAR HOSPITAL, Soho, W.—Honorary Visiting Physician.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, ETC., City Road, E.C.—House-Surgeon. Salary, £80 per annum.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston Road, N.W.—Honorary Physician.

SALFORD UNION INFIRMARY.—Senior Assistant Medical Officer. Salary, £130 per annum, increasing to £150.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £60 per annum.

SHEFFIELD UNION HOSPITAL.—Resident Medical Officer. Salary, £375 per annum with partly furnished apartments to a married man, and £300 per annum with furnished apartments to a single man.

SHREWSBURY: COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £170 per annum, rising to £190.

SUNDERLAND ROYAL INFIRMARY.—Male Junior House-Physician. Salary at the rate of £80 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £75 per annum.

THROAT HOSPITAL, Golden Square, W.—Honorary Assistant Surgeon.

WAKEFIELD GENERAL HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

WEST RIDING ASYLUM, Wadsley.—Fifth Assistant Medical Officer (male). Salary, £140 per annum, rising to £160.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Assistant Honorary Surgeon in the Eye, Ear, and Throat Department.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Chatham (Kent), Kingsbridge (Devonshire), Longtown (Cumberland).

APPOINTMENTS.

ARNOTT, A. H., M.B., Resident Assistant Medical Officer of the Birmingham Union Infirmary.

BAKER, H. R. Popham, M.R.C.S., L.R.C.P., House-Surgeon to the Cossham Memorial Hospital, Kingswood, Bristol.

BANNERMAN, Jas., M.B.Edin., Medical Officer to the Stanhope and Weardale Joint Isolation Hospital.

BEATTIE, J. A., M.B., Senior Resident Assistant Medical Superintendent of the St. Pancras Union Infirmary.

CONDY, Edgar M., M.B., B.Ch., R.U.I., Certifying Factory Surgeon for the Clonvaddy District, co. Tyrone.

COOPER, F. W., L.R.C.P. and S.Edin., L.F.P.S.Glasg., Certifying Factory Surgeon for the Trillick District, co. Tyrone.

CRAIG, D., M.B., Second Resident Assistant Medical Officer of the Holborn Union Infirmary.

CRESSWELL, F. P. S., M.B., B.S.Lond., F.R.C.S., Medical Referee under the Workmen's Compensation Act for County Court Circuits Nos. 24, 30, and 31.

DOWNING, C., L.R.C.P., M.R.C.S., Certifying Factory Surgeon for the Cardiff District, co. Glamorgan.

GALBRAITH, Thomas, M.B., Honorary Vaccine Therapist to St. John's Hospital for Diseases of the Skin, Leicester Square, W.C.

HENDERSON, Robert G., M.A., M.B., Ch.B.Aberd., F.R.C.S.Edin., Assistant Surgeon (late Honorary Pathologist) to the Oldham Royal Infirmary.

MCEWEN, J. D., M.B., Ch.B.Edin., House-Physician and Casualty Officer of the Walsall and District Hospital.

MACRAE, D. F., M.B., Assistant Medical Officer of the Liverpool Union Hospital and Workhouse.

ORTON, G. Harrison, M.A., M.D.Cantab., Honorary Radiographer to the Mount Vernon Hospital for Consumption, vice Dr. Pirie, resigned.

PEDLER, H. C. G., M.R.C.S., L.R.C.P., House-Physician to University College Hospital.

PIM, J. H., L.R.C.P. and S.Irel., Workhouse and District Medical Officer of the Sleaford Union.

PINTO-LEITE, Hubert, M.R.C.S.Eng., L.R.C.P.Lond., B.A.Cantab., Assistant Anaesthetist to the London Throat Hospital, Great Portland Street, W.

RAW, Stanley, M.D., B.S.Durh., F.R.C.S.Edin., Honorary Surgeon to the Children's Hospital in connexion with the Sunderland Royal Infirmary.

STEPHEN, David, M.B., Assistant Medical Officer of the Lincoln Mental Hospital.

VAUGHAN, R. G., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Caldicott District, co. Monmouth.

WHELAN, J. B. B., M.D.Dubl., District Medical Officer of the Sleaford Union.

WILLAN, R. J., M.S., F.R.C.S.Eng., Demonstrator of Surgical Pathology to the University of Durham College of Medicine, Newcastle-upon-Tyne.

MANCHESTER ROYAL INFIRMARY.—The following appointments have been made:

Assistant Medical Officer: A. Ramsbottom, M.D., M.R.C.P. (reappointed).

Accident Room House-Surgeon: T. T. Higgins, M.B., Ch.B.Vict., M.R.C.S., L.R.C.P.

House-Physicians: J. B. Scott, M.B., Ch.B.Vict.; G. K. Thompson, M.B., Ch.B.Vict.

Senior House-Surgeons: J. R. Rigg, M.B., Ch.B.Vict.; W. A. Sneath, M.B., Ch.B.Vict.

Junior House-Surgeons: S. B. Radley, M.B., Ch.B.Vict.; W. H. Kauntze, M.B., Ch.B.Vict.

House-Surgeon to Special Departments: F. H. Diggle, M.B., Ch.B.Vict.

Cancer Research Officer: Wm. J. Reid, M.A., B.Sc., M.B., Ch.B. Aberd.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

HUGHES.—On November 26th, at Barnsley Hall, Bromsgrove, Worcestershire, to Dr. and Mrs. Percy T. Hughes, a daughter.

MATHESON.—On 13th November, at "Kintail," 47, Butler Road, Harrow, to F. M. Matheson, M.R.C.S., L.R.C.P., and Mrs. Matheson, a son.

MARRIAGES.

JOHNSON—MACRAE.—On November 23rd, at the Parish Church of St. Mark, Bilton, Rugby, by the Rector, Rev. W. Assheton, assisted by Rev. H. Gunson, Chaplain to Middlesex Hospital, Alfred Edward Johnson, F.R.C.S., Assistant Surgeon to the Middlesex Hospital, second son of the late Dr. Samuel Johnson, of Stoke-on-Trent, to Cecilia Flora MacRae, only daughter of the late Douglas Gordon MacRae, of Collingsbourne, Norbiton, Surrey.

YATES—THOMPSON.—On November 28th, at S. Mary Abbots, S. Kensington, by the Rev. J. R. Yates, M.A. (brother of the bridegroom), Rector of Abbey Hey, Manchester, Thomas Preston Yates, M.R.C.S.Eng., L.R.C.P.Lond., of Abbey Hey, son of the late John Yates, of Chorley, to Muriel Collis Thompson, B.Sc., elder daughter of William J. Thompson, of S. Kensington.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. BAILLIÈRE, TINDALL, AND COX announce that they have been authorized by the Department of Education of the Sudan Government to publish the Fourth Report of the Wellcome Tropical Research Laboratories, Khartoum. The Third Report was issued in 1908. The Fourth Report, which is in three volumes, contains facts, observations, and discoveries brought to light during the last few years, and the actual record at first hand of new contributions on the solution of problems of deep and world-wide importance. *Volume A (Medical)* represents the research and routine work of the bacteriological section, and contains papers on the work of Sleeping Sickness and Kala-azar Commissions. Its special features include a paper on the fallacies and puzzles met with in blood examinations in the tropics and elsewhere. *Volume B (General Science)* deals with chemistry, entomology, ornithology, certain Arachnida of the Sudan, protozoology, geology, anthropology, sociology, and sanitary engineering, etc. The third volume is a *Second Review of Some Recent Advances in Tropical Medicine, etc.* It summarizes the most important recent discoveries in tropical medicine, etc., and covers the most important journals and books in English, German, Spanish, Portuguese, and Italian. The edition is limited.

RECENT PUBLICATIONS.

Appendicitis: When Should One Operate? By Julius Baumgärtner Translated from the Second German Edition by Amy M. Mander; revised by L. Martindale, M.D. London and Leipzig: T. Fisher Unwin. 1910. (Cr. 8vo, pp. 64, illus. 32. 1s.)

A translation of the second edition of a pamphlet reviewed in the BRITISH MEDICAL JOURNAL on February 16th, 1907.

DIARY FOR THE WEEK.

TUESDAY.

ROENTGEN SOCIETY.—General Meeting, Institution of Electrical Engineers, Victoria Embankment, W.C., 8.15 p.m.—Paper:—Professor W. H. Bragge, M.A., F.R.S.: The Energy of the X Ray.

ROYAL SOCIETY OF MEDICINE:

PATHOLOGICAL SECTION: Laboratory Meeting, Laboratories of the Imperial Cancer Research Fund, Victoria Embankment, 8.30 p.m.—Dr. J. A. Murray: (1) Relative Frequency of Cancer of the Mammae in Mice of Cancerous and Non-cancerous Ancestry; (2) Results of Inoculating a Mixed Emulsion of Spontaneous Tumours into the Mice providing them; (3) Results of Operative Treatment of Carcinoma Mammae in the Mouse; (4) Tumours showing Multiple Differentiations—Metaplasia. Dr. B. R. G. Russell: (1) The Reaction of Animals to Tumour Parenchymata of Various Types of Growth; (2) Failure to obtain Evidence for Passive Immunity against the Inoculation of Cancer. Dr. W. H. Woglom: (1) The Curves of Resistance to the Implantation of Carcinoma as Induced by Normal and Tumour Tissue respectively; (2) The Histology of the Site of Inoculation of

Carcinoma in Normal and Resistant Rats; (3) Resistance Induced Subcutaneously to the Implantation of Cancer is Effective against Implantation into Internal Organs. Dr. E. F. Bashford: (1) The Modes of Growth and the Relative Rates of Growth of Eighty-five Propagable Tumour Strains; (2) The Experimental Test of the Validity of the Assumption of a Differential of Avidity as Explanatory of Tumour Growth; (3) The Variability of Tumour Cells during Propagation.

WEDNESDAY.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, E.C., 9 p.m.—Clinical and Pathological Evening.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Bradshaw Lecture by Mr. R. Clement Lucas, F.R.C.S.: Some Points in Heredity.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, 4.15 p.m.—Agenda: Clinical Cases. Election of Members.

ROYAL SOCIETY, Burlington House, W.—The following are among the probable papers:—Dr. Leonard Hill, F.R.S., and M. Flack: The Physiological Influence of Ozone. H. R. Dean: On the Factors Concerned in Agglutination. Professor Georges Dreyer and W. Ray: Further Experiments upon the Blood Volume of Mammals and its Relation to the Surface Area of the Body. G. W. Ellis and J. A. Gardner: The Origin and Destiny of Cholesterol in the Animal Organism. Part VIII: On the Cholesterol Content of the Liver of Rabbits under various Diets and during Inanition.

ROYAL SOCIETY OF MEDICINE:

OBSTETRICAL AND GYNAECOLOGICAL SECTION, 11, Chandos Street, W., 8 p.m.—Specimens:—Dr. Hedley: Cervix Adherent to Posterior Vaginal Wall. Dr. Earris: Solid Malignant Growth of Ovary. Dr. Macnaughton-Jones: (1) Section of Carcinoma of Vulva; (2) Cyst Growing from Remains of a Resected Ovary. Dr. Walter Tate: Extrauterine Gestation: Death of Fetus Near Term: Removal of entire Sac three months later. Dr. Whitehouse: Ruptured four months' Gestation in Rudimentary Horn of Bicornuate Uterus. Dr. Maxwell: Chorion-angioma of Uterus. Dr. Herman: A Dissection of the Pelvic Fascia. Short Communications:—Dr. Maxwell: Sequel to a Case of Cystic Degeneration of Chorion. Dr. Eardley Holland: Case of Ovarian Pregnancy. Dr. Whitehouse: Cases of Primary Carcinoma of Female Urethra.

FRIDAY.

KING'S COLLEGE MEDICAL SOCIETY, 8.20 p.m.—Paper: The Principles of Swedish Treatment, by Edward Clayton, M.B.

ROYAL SOCIETY OF MEDICINE:

CLINICAL SECTION, 15, Cavendish Square, W., 8.30 p.m.—Cases will be shown by Dr. J. Fawcett, Mr. Raymond Johnson, and others.

WIMBLEDON AND DISTRICT MEDICAL SOCIETY, Johnston's Rooms, 6, Broadway, Wimbledon, 9 p.m.—Paper: Modern Methods of Treating Tuberculosis, with special reference to Pulmonary Tuberculosis and Tuberculins, by R. W. Allen, M.D.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures:—Tuesday, 3.45 p.m.: Pharynx and Naso-pharynx. Friday, 3.45 p.m.: Pharynx and Naso-pharynx.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., Wednesday, 4 p.m.—Some Clinical Effects of Tuberculin.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.: Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday; Eye, 11 a.m. Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lecture: Tuesday, 4.30 p.m., Abdominal Anatomy.

MANCHESTER: ANCOATS HOSPITAL.—Post-graduate Clinic: Thursday, 4.15 p.m., Malaria.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C. The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Eye. Lectures, at 5.15 p.m. each day, will be given as follows:—Monday: The Diagnosis of Organic Nervous Lesions. Tuesday: Syphilis d'Emblée. Wednesday: The Solution of Calculi in the Urinary Passages without Operation. Thursday: Some Disorders of the Liver and their Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m.: Treatment of Muscular Paralysis. Friday, 3.30 p.m.: Apoplexy.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics: 10 a.m., Surgical Out-patient: 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear; 3 p.m., Demonstration on Clinical and General Pathology. Tuesday, 2.30 p.m., Operations; Clinics: Surgical, Gynaecology; 3.30 p.m., Medical In-patient; 4.30 p.m., Lecture: Pessaries. Wednesday, 2 p.m., Throat Operations; 2.30 p.m., Medical Out-patient; Skin and Eye Clinics: X Rays; 3 p.m., Pathological Demonstration; 5.30 p.m., Eye Operations. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient; Pathological Demonstration.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—The following are the arrangements for next week:—Medical and Surgical Clinics, 2 p.m.; X Rays, 2 p.m.; Operations, 2 p.m. daily. Monday: Surgical Registrar, 10 a.m.; Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday, Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Surgical Registrar, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.: Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Medical Registrar, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Lectures, at 5 p.m.:—Monday: Gastro-enterostomy for Gastric and Duodenal Ulcer. Tuesday: Clinical, Lecture I. Wednesday: Practical Medicine, Lecture V. Thursday: Practical Surgery, Lecture V. Friday: Administration of Anaesthetics.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
DECEMBER.	
2 SATURDAY ..	LONDON: Special Meeting of Finance Committee, 10 a.m. London: Special Meeting of Central Council, 12 noon.
3 Sunday ..	
4 MONDAY ..	
5 TUESDAY ..	
6 WEDNESDAY	
7 THURSDAY ..	
8 FRIDAY ..	
9 SATURDAY ..	
10 Sunday ..	
11 MONDAY ..	
12 TUESDAY ..	
13 WEDNESDAY	
14 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m. WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, Walthamstow Hospital, 4 p.m.
15 FRIDAY ..	NEWCASTLE-ON-TYNE DIVISION, *North of England Branch*, Scientific Meeting, Royal Victoria Infirmary, 3.15 p.m. to 6 p.m.
16 SATURDAY ..	
17 Sunday ..	
18 MONDAY ..	
19 TUESDAY ..	
20 WEDNESDAY	RICHMOND DIVISION. *Metropolitan Counties Branch*, Richmond, 8.30 p.m.
21 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4 p.m.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 9TH, 1911.

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National Insurance.

Association Intelligence.

SPECIAL MEETING OF COUNCIL.

A SPECIAL Meeting of the Council was held at 429, Strand, London, W.C., on Saturday, December 2nd, 1911, at 12 o'clock noon.

Present:

Dr. J. A. MACDONALD, LL.D., Taunton, Chairman of Council, in the Chair.

Professor ROBERT SAUNDBY, M.D., LL.D., Birmingham, President.

Dr. EWEN J. MACLEAN, Cardiff, Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Surgeon-General P. H. BENSON, I.M.S., Walmer (Indian Branches)
Inspector-General ROBERT BENTHAM, R.N., London (Royal Navy Medical Service)
Dr. R. C. BUIST, Dundee
Dr. W. A. CARLINE, Lincoln
Mr. ANDREW CLARK, D.Sc., London
Dr. J. S. DARLING, Lurgan
Dr. M. DEWAR, Edinburgh
Mr. E. J. DOMVILLE, Exeter
Mr. J. HENRY EWART, Eastbourne
Mr. C. E. S. FLEMMING, Bradford-on-Avon
Dr. E. W. GOODALL, London
Dr. JOHN GORDON, Aberdeen
Surgeon-General J. P. GREANY, I.M.S., Ealing (Indian Medical Service)
Dr. T. D. GREENLEES, London (Cape of Good Hope Branches)
Dr. MAJOR GREENWOOD, London
Dr. J. R. HAMILTON, Hawick
Lieutenant-Colonel F. W. H. DAVIE HARRIS, R.A.M.C., Teignmouth (Army Medical Service)
Sir VICTOR HORSLEY, F.R.S., London
Mr. R. J. JOHNSTONE, Belfast
Mr. HERBERT JONES, Hereford
Dr. J. H. KEAY, London
Mr. F. C. LARKIN, Liverpool
Dr. G. R. LIVINGSTON, Dumfries
Mr. ALBERT LUCAS, Birmingham
Dr. JOHN MACDONALD, South Shields
Dr. JAMES METCALFE, Bradford
Dr. C. G. MORIER, London (Victoria, South and West Australian Branches)
Dr. B. H. NICHOLSON, Colchester
Dr. A. J. RICE-OXLEY, London
Dr. LAURISTON E. SHAW, London
Mr. C. R. STRATON, Salisbury
Dr. J. H. TAYLOR, Salford
Dr. D. F. TODD, Sunderland
Mr. T. JENNER VERRALL, Bath
Professor A. H. WHITE, Dublin
Mr. D. J. WILLIAMS, Llanelly.

THE NATIONAL INSURANCE BILL.

The Financial Secretary read the notice, dated November 28th, 1911, summoning a Special Meeting of the Council to be held at 429, Strand, on Saturday, December 2nd, at 12 o'clock noon, "to consider a Report from the Chairman of Representative Meetings as to inquiries addressed to him verbally by the Chancellor of the Exchequer respecting the most suitable person to appoint as Medical Insurance Commissioner for England, who, it is understood, may possibly be appointed as Deputy Chairman of the Insurance Commission, and to consider any matters arising therefrom."

Apologies for Absence.

Apologies for absence had been received from Sir Henry Butlin, Bart., Dr. J. Grant Andrew, Sir James Barr, Dr. J. E. Eddison, Dr. David Ewart, Mr. T. W. H. Garstang, Dr. F. W. Kidd, Dr. D. J. Mackintosh, Dr. R. B. Mahon, Dr. F. M. Pope, and Dr. H. Jones Roberts.

The CHAIRMAN OF COUNCIL said that the Medical Secretary had asked permission to make a personal statement to the Council.

The MEDICAL SECRETARY said: I thank you for giving me the opportunity of saying a few words. In the first place, when this offer was made to me, I felt that a matter that affected not only me personally, but in my official capacity necessarily affected the profession, could not be dealt with by me. In the second place, I want to say as sincerely as possible to the Council that if this rested merely on personal grounds, I should have the greatest hesitation in deciding as to my course, and I venture to

hope that no one should, out of any kindness of feeling for myself or any regard for my supposed interests, take this into account. I do most sincerely hope that this matter will be looked at solely from the point of view of the interests of the profession.

The MEDICAL SECRETARY then withdrew.

The CHAIRMAN OF COUNCIL said that, as the matter arose out of a personal communication from the Chancellor of the Exchequer to Dr. Maclean, he would ask him to make a statement and propose a resolution.

The CHAIRMAN OF REPRESENTATIVE MEETINGS said that the position in general as created by the action of Parliament on the one hand, and by the action of the Representative Body on the other, could be stated in a few words. In considering this very critical question, the attitude of the Representative Body should be clearly recognized. It had deliberately put aside a suggestion that it should call upon the profession throughout the whole country to stand out from service under the bill under any conditions, and elected that its policy in regard to the bill should be to insist by every means in the power of the Association upon realizing in the ultimate arrangements between the practitioners and the Insurance Commissioners that every single point of the Association's policy should be represented, and really represented. The Representative Body came to this momentous decision on the understanding that the present efficient organization as an Association should be not only maintained, but perfected; that point should be borne carefully in mind by the Council in considering the possible effect upon the organization of the Association in the decision of the main question before the Council. The Representative Meeting, both incidentally and directly, expressed the opinion that the ultimate form of the arrangements to be arrived at, if they were arrived at, between practitioners and the Insurance Commission would be very considerably modified by the medical representation upon the bodies under the Insurance Bill, upon the Advisory Committee, upon the local Insurance Committees, and with special emphasis upon the representation of medical interests and the contention for those interests by the local Medical Committees. The view of the Representative Body was that these would be the outward and visible signs of the definite and unalterable determination of the great body of the profession at large that the points in their policy should be realized. Dr. Maclean then said that the present form of the offer made by the Prime Minister to the Medical Secretary was contained in a letter from the Prime Minister's Private Secretary, which with the Medical Secretary's reply, he read as follows:

10, Downing Street,
November 30th, 1911.

Dear Sir,—I have been desired by the Prime Minister to invite you to accept the position as Deputy-Chairman of the Commission which has been set up by the National Insurance Bill. The post is a non-pensionable one, and the salary £1,500 per annum, and the appointment is for a period of five years. I am to add that Mr. Asquith will be gratified if you see your way to accept the appointment.—I am, yours faithfully,

VAUGHAN NASH.

To that the Medical Secretary replied:

Dear Sir,—I am greatly honoured by the offer made to me by the Prime Minister as stated in your letter received this morning. The Prime Minister is already aware, I think, of the circumstances which make it necessary for me to consult the Council of the British Medical Association before I could accept the position offered. This however, I shall have the opportunity of doing to-morrow morning, and I hope to be able to give a definite answer to-morrow afternoon. Would it be of any advantage for the reply to reach you to-morrow afternoon rather than Monday morning? If so, please let me know, and state what address it should be sent to.—Yours faithfully,

J. SMITH WHITAKER.

With regard to his personal share in the matter, Dr. Maclean said that when the members of the Association deputed for that purpose waited on the Chancellor of the Exchequer on November 20th, they placed before him certain recommendations from the Insurance Committee of the Association. When the deputation was withdrawing the Chancellor of the Exchequer asked him (Dr. Maclean) to remain, and in the course of a private conversation intimated that he had already put the name of Mr. Smith Whitaker before the Prime Minister to act as one of the Insurance Commissioners. Dr. Maclean expressed the opinion to the Chancellor of the Exchequer that the Medical Secretary was a man of administrative capacity, whose breadth and sweep of view were quite outstanding, but at once pointed out the immediate difficulties which would arise in the event of Mr. Whitaker accepting that appointment. He told the Chancellor that he anticipated that a considerable amount of feeling would be expressed by a considerable number of members, and that it was possible that the conditions of service as a Commissioner might not be altogether preferential on purely personal grounds to the Medical Secretary. The Chancellor of the Exchequer appeared to agree, and Dr. Maclean left with the impression that in all probability the matter would not arise again. Dr. Maclean added that immediately afterwards he put the whole position fully before the Medical Secretary, who agreed that the question of his acceptance of the offer did not arise at that time. The matter remained in abeyance until seven days later—that is to say, November 27th. On that day, Dr. Maclean said, he was engaged in business in the Central Office when an urgent message came to the Medical Secretary from the Prime Minister's private secretary asking him to attend at once and have an interview. The interview proved to be with the Chancellor of the Exchequer, and later in the day Dr. Maclean met the Chancellor of the Exchequer, who was accompanied by the Attorney-General and Mr. Masterman. Dr. Maclean found that Mr. Whitaker had answered in the same sense as on the previous occasion, adding that he thought that on the whole it would be wise that the matter should be referred to the Council of the Association. The Chancellor of the Exchequer's first question was, "Will you take the responsibility of advising the Medical Secretary not to accept this offer?" Dr. Maclean replied that he was not prepared to take that responsibility, and suggested that a Special Meeting of the Council should be summoned to consider the position. Having concluded this statement of his personal action in the matter, Dr. Maclean asked the Council to consider the alternative prospects. If the Medical Secretary remained with the Association it would be an immense relief to him personally. There would, furthermore, be the prospect that the Medical Secretary in his service for the Association would have the added prestige of a man who had been offered an important Government appointment, and having considered all things in connexion with that offer he had declined to accept it. On the other hand the Council would be faced with the question as to who would be appointed the Medical Commissioner. The reference by the Chancellor of the Exchequer to the Association included a request that in the event of the Council not feeling it its duty to permit the Medical Secretary to accept this appointment, three or four other names might be mentioned to him from which he might, if he thought proper, make a choice; but it was quite understood that in the event of an appointment other than the Medical Secretary being made to this important post, it did not carry with it of necessity the Deputy Chairmanship of the Commission. It had been plainly intimated that whilst the Commissioner who would be appointed failing the Medical Secretary would have some knowledge or experience of general practice, his selection would, from the necessity of the case, very largely depend on his knowledge and proved capacity for administrative work. It would be wise for the Council to bear that in mind as a possible alternative to the appointment of the Medical Secretary. On the other hand, he asked the Council to consider what the position would be if the Council gave its permission. It would have to deal with a decided expression of opinion by gentlemen who had proved their capacity for expressing their feelings, but personally he believed that there was an answer which would satisfy, at all events, the preponderating common sense and business appreciation of members. Coming nearer home, the Council would also have to consider the selection of a successor to the Medical Secretary. He was confident that the pressure and the demand for a lead of the right kind, the pressure and the demand for an efficient organization which would come from every single member of the profession in this country would be such as to create an occasion, which occasion would find its man. If the Council gave permission to the Medical Secretary to accept this post, the profession would have a man on the Central Commission whose mind and whose con-

victions were saturated and imbued with the policy and with the interest of the profession at large. The Insurance Bill, if it became an Act, was merely the harbinger of future development in the direction of the establishment of a Ministry of Public Health. There could be no sort of doubt that that department would be largely staffed from the proved and efficient Commissioners now appointed under the Insurance Bill. That was a point the Council should take into consideration; if the Council now permitted a man like the Medical Secretary to accept this important post, the position of the profession would be better not only as regards the present, but as regards the future, and the interest of the profession would be served in the best sense of the term. Subject to Sir Victor Horsley's correction, he suggested that fibres of decussation were not altogether a loss, for there was no doubt that it would be a substantial gain in the general common sense appreciation of a critical problem. He concluded by moving:

> That the Council recommends the acceptance of the Prime Minister's offer to the Medical Secretary of the Deputy Chairmanship of the Commissioners to be constituted under the National Insurance Bill.

The PRESIDENT OF THE ASSOCIATION, in seconding, said that he was sure every member of the Council felt the great responsibility placed upon it by being asked to decide this question. It is, he continued, one on which I have made up my mind as to the right course to take. I have no hesitation whatever in recommending that course to the Council and to the members of the Association. Let us look at it in another way. Suppose, instead of Mr. Smith Whitaker having been offered this definite appointment, we had been asked to tell the Prime Minister what men of the profession we should best like to see in the place of Deputy Chairman of the Board of Insurance Commissioners. Had it been put that way, is there any one else we could think of who would be more likely to serve the interests of the profession in that important post than Mr. Smith Whitaker? That is the way in which I look at it. I think that the Insurance Bill is fraught with great difficulty and danger to the medical profession in more ways than one; but if those injurious effects can be in any way minimized, surely it would be by having in such an important position as Deputy Chairman of that Board a man whom we can trust and a man who, we know, thoroughly understands our view of the question. Therefore, I feel it is a mitigation of the misfortune—and I think it is a misfortune that this bill should have been forced upon the country—that we are able to see Mr. Smith Whitaker in that position. I should have no hesitation in defending this course before the profession anywhere, and if necessary I should take the same position strongly in any meeting of the profession either in London, Birmingham, or elsewhere. I think the profession will, when it comes to think over it, think this a piece of good fortune, and not a misfortune. Undoubtedly, so far as the Association is concerned, we shall have to submit to the loss of a most efficient organizer and administrator. His place, we do not deny, will be difficult to fill up; but still he is only part of the organization which will still exist, and I think we may hope that as in the past we have been able to replace very efficient officers of the Association by others equally efficient, so we may hope to find one who will take Mr. Smith Whitaker's place and serve the Association as he has done. I do not think it is necessary to say much about the position of Mr. Smith Whitaker, except that we must all feel that he could not have behaved better than he has. I saw him a couple of days ago, when he told me about this; and I am certain that he is absolutely sincere in placing his interests entirely in the hands of the Council. If it is thought in the interests of the profession and the interests of the Association that it is not desirable that he should accept this post I am sure he will accept that decision in the most loyal manner. But it is for the Council to consider it apart altogether from his interests. I am sure he would wish to do what is really best for the whole profession, and it is because I think it is the best thing for the profession that I have much pleasure in seconding this motion.

The CHAIRMAN OF COUNCIL said that Dr. Major Greenwood had sent in an amendment, but it did not come within the motion. If the motion before the Council should be rejected, then the matter of the Government's second request, to nominate members for the position of Commissioner, would come before the Council, and Dr. Major Greenwood's amendment would come in.

Dr. MAJOR GREENWOOD (London) asked the Chairman whether Dr. Maclean, at the time he seconded the resolution before the Representative Body that no member of the profession should take office under the bill, was aware that the Chancellor of the Exchequer was likely to propose that Mr. Smith Whitaker should be a Commissioner.

Dr. MACLEAN replied that at that time he was under the impression that the question of appointing the Medical Secretary to the post had been disposed of. At that time the declension of the Medical Secretary to accept the offer controlled the position.

Dr. DARLING observed that the motion contained the words "without the consent of the Association."

The CHAIRMAN OF COUNCIL then read a letter he had received from Sir James Barr, President-elect, as follows:

> I have received communications this morning respecting the appointment of an Insurance Commissioner, and I have been thinking the matter carefully over, and I feel inclined to recommend Dr. Smith Whitaker to accept the post. From our point of view I do not know that we could get a better man for the office, and if he be not appointed it is very probable that some one who will be objectionable to the Association will get the post. I feel confident that a great many people will accuse him of unworthy motives, and say that he has been working for his own ends throughout, but still he and we must be prepared to face such obloquy, and I think in recommending him to accept the post I am doing so in the interest of the whole Association. I do not intend to be present at the meeting tomorrow, but you can exercise your own discretion as to whether you put my views before the Council or not. Of course the attitude of the British Medical Association towards the Insurance Bill will not be altered no matter who is appointed Commissioner.

Dr. MAJOR GREENWOOD regarded the matter as a very serious one to the Association. When he first received the communication he had not been surprised that the offer had been made to the Medical Secretary, because, as soon as it was announced that Mr. Stead, a representative of the friendly societies, had been made a Commissioner, he anticipated that a similar offer would be made to the medical profession. Although the friendly societies might be pleased that Mr. Stead had accepted the offer, he was very doubtful whether the profession generally would be at all pleased that the Medical Secretary should accept the post. There was, he thought, a stronger feeling about the matter than the Council imagined. The bill was unpopular with a large majority of members throughout the country; the unpopularity was no doubt due to the bad way in which the medical claims had been met by the Government, but that the feeling existed could not be doubted. He feared that if the Executive of the Association seemed to be assisting the Chancellor of the Exchequer by appointing one of the chief administrative officers under the bill, the confidence of the profession in its leadership would be undermined. He agreed with everything that had been said as to Mr. Smith Whitaker's capabilities, and that there was no one more capable of filling the position of Medical Commissioner. Nevertheless, he thought the Council could not permit him to accept the position, although he was probably the best man for it. At the Representative Meeting Dr. Maclean had condemned certain remarks and insinuations, but if Mr. Whitaker were permitted to accept the position these remarks and insinuations would increase tenfold. When the resolution which Dr. Maclean seconded was proposed the first thought of all those present was in favour of it; it was on second thoughts that opinion changed. Had the meeting supposed that there was any suggestion that the Medical Secretary should be appointed to this office, he questioned whether there would have been a majority in support of what the Council was now asked to do. There were many members of the profession who paid little attention to the facts of the case, and did not know what the Council and its Committee had done, but they constituted the rank and file of the army that would have to fight, and it was to that army, and not to the Medical Commissioner, that the Council had to look. The personality of the Medical Commissioner was not a very essential matter to the profession, for he would have to give no preferential treatment to the

profession. His position would be judicial; he would have to act with regard to the public as well as to the profession, and would be only one against four. The Council should be above any suspicion, and he believed that if Mr. Smith Whitaker's acceptance of the appointment was sanctioned there would be ground for suspicion which would be taken up all over the country, and which would make the profession not stronger in the fight which was coming, but weaker.

Dr. J. H. TAYLOR (Salford) supported the resolution most heartily. When the suggestion of Mr. Whitaker's appointment first came to his knowledge he had first felt that if the Council agreed it would incur much obloquy; but, however that might be, that was not the principal matter for the Council to look at. There was, perhaps, no member of the Council except Dr. Maclean and the Chairman who had more to do with the negotiations than himself in conjunction with Mr. Smith Whitaker, and he was prepared to state anywhere that there was not a shadow of foundation for any suspicion that Mr. Whitaker had been working for his own ends—in fact, he was astonished that the offer had been made to Mr. Whitaker, remembering the numerous occasions on which Mr. Whitaker had placed the views of the Association before the Chancellor of the Exchequer in the strongest light, mincing no words, and working for the profession with all his heart and soul. But the offer had been made, and its acceptance would put the Association in a strong position; as to the choice of the man there could be no two opinions in the Council of the Association.

Dr. METCALFE (Bradford) said that at the Representative Meeting he had spoken for a great body of members in the West Riding of Yorkshire who no doubt felt that it would be infinitely better for the profession if the bill did not become an Act; but when he found that the great majority of the Representative Meeting was in favour of the profession doing what it was asked to do under the bill, he recognized that fact, and now felt that he was bound to be guided by that fact. Knowing the Association since its reconstitution well, and knowing Mr. Whitaker well, he thought it would be absurd to suggest that any suspicion of his integrity and uprightness was justified. Whether Mr. Whitaker accepted the position or not, the determination of the Association to make the best terms possible under the bill would not be altered. To have a man of Mr. Whitaker's knowledge and ability on the Board of the Insurance Commissioners would be of the greatest use. Personally Mr. Whitaker was in harmony with the views of the profession, knew what it desired, and what it was just for it to have; believing this, Dr. Metcalfe said he gave his support to the resolution.

Dr. TODD (Sunderland) said that while he yielded to no man in admiration for Mr. Whitaker, he agreed with some of the remarks which Dr. Major Greenwood had made. It was easy for members of the Council who knew Mr. Whitaker as a man, his individuality, his integrity, and how all his acts were for the benefit of the profession, to decide; but it was difficult for members of the Council to bring all these facts to bear on the minds of their constituents and to convince them that the proposal before the Council was the best course in the interests of the profession. He found that the members of the Executive Committee of the Council of the Branch which he represented looked upon the Chancellor of the Exchequer's proposal as a bribe. He had, of course, been able to assure the Committee that so far as the leaders of the Association were concerned, and as far as the Council was concerned, and as far as the officials of the Association were concerned, they were to a man loyal to the rank and file of the profession, and would not by any act or deed betray them in any way. If he was convinced that the six cardinal points had been formally and sufficiently guaranteed, and that the profession was safe under the bill, if it became law, then he would absolutely agree that Mr. Smith Whitaker should accept the offer of Deputy Chairman of the Commission; but the profession was not satisfied, as was very well shown by the excitement that arose when it was stated in the press that the Chancellor of the Exchequer had satisfied both friendly societies and the medical profession. It was desirable to have time to educate the profession, and he desired to ask the Chairman of the Representative Meetings whether there was any possibility of putting off a decision until the members of the Council had been able to consult meetings of their constituents.

Dr. MACLEAN replied that the Government was particularly anxious to have an answer that day.

Dr. TODD, while admitting that this closed the door for consulting constituents, held that that was not a manner in which the Association should be treated. While he accepted Dr. Maclean's statement that he considered the offer made on November 20th had ceased to be open, he thought that if the fact that the question of appointing Mr. Smith Whitaker had been stated to the Representative Body the feeling of the meeting might have found an entirely different expression. The Council had to be convinced that it was taking the right course, and had, moreover, to consider whether it was wise to lose Mr. Whitaker's services at this most critical moment in the history of the Association. There were many members in Lancashire and Yorkshire, and, judging from what their Representatives had stated, in the metropolitan area also, who did not see eye to eye with all the actions of the Association. These were two of the most populous areas, and the point was one which had to be considered. He trusted that nothing done that day would cause a schism; he remembered that the Association was confronted some twelve years ago with disruption, but time had proved that the Association was solid and growing, and he hoped that the decision of the Council would not cause diminution in the numbers of the Association, but that it would continue to grow and achieve greater things.

Dr. JOHN GORDON (Aberdeen) said that as a Representative of the North of Scotland he thought the crux of the whole position was whether the profession had or had not gained the six cardinal points. If it had not, he thought that no medical man had a right to take any position under the bill. At the same time, it had to be remembered that if the Council did not allow Mr. Whitaker to accept the appointment the chances were that the Government would appoint an official who knew nothing of the interests of the profession, and that would be a great disaster, for the profession wanted a man who knew its work and could sympathize with it and understood its main difficulties. The main and vital point for the profession was that it should have as its representative on the Insurance Commission a man who was a general practitioner; if a mere official was appointed, he thought the medical case would be given away.

Dr. GOODALL (London) said that, while he recognized that no medical man would be more fit than Mr. Whitaker for the position offered, he must oppose Dr. Maclean's motion, but would not let any personal question enter into his argument. If the profession had been satisfied by the alterations in the bill since it was first introduced, it would have been quite right for Mr. Whitaker, or any other member of the Council or Association, to take the post, but as things were he could not agree that it would be a wise step. He would have much preferred that the Government should make the appointment without approaching the Association, for by making the offer the Government had put the Council in a difficult position, and he feared that whoever was appointed would not be at first a *persona grata* to the members of the profession. It was impossible that under the bill as it stood he should not incur odium simply because he was connected with the bill. To sanction Mr. Whitaker's acceptance would tie the hands of the Association in future dealings with the Government in respect of the bill. In agreeing to the withdrawal of the motion made by the Representative of the Cardiff Division at the Representative Meeting, he had personally been thinking of the Advisory Committee, and believed that the Association should have nothing to do with the appointment of the Medical Commissioner. He regretted that the Council had not discussed the matter on a general resolution, which would not have raised a personal question.

Mr. STRATON (Wilton) said that the Council should bear clearly in mind exactly what the proposition was. The Council was not putting Mr. Smith Whitaker forward; the question was whether the Council should stand between Mr. Smith Whitaker and an appointment that was a very great honour and of very great value to his personal interest; it was not a question of nomination by the

Council, but the Council had the power, not under the bill, but under what had already been signed, to refuse Mr. Whitaker permission to accept the appointment. He considered that that power ought to be waived, that it would be better for the profession to have a man who knew the whole details of the work and the objects of the six cardinal principles on the Commission than a man who might possibly be against the Association.

Dr. DEWAR (Edinburgh) said that while it was true that the profession wanted the best man on the Commission and that Mr. Smith Whitaker would be the best man, still, if appointed, he could not act as an advocate of the profession. Since entering the room he had received a telegram from Edinburgh stating that his Division had passed a unanimous resolution against any member accepting any appointment under the bill until the views of the profession had been satisfied, and inquiring whether Mr. Whitaker had signed the Association agreement, and adding that if he set the example of breaking it the result would be disastrous. Yet he sincerely thought that Mr. Smith Whitaker ought to be appointed, and recognized that he would have to justify that opinion with his constituents. He had found it difficult to convince them that the main cardinal principles had been obtained, and that practically there was only one point outstanding, namely, that of remuneration, which could not be settled until the local committees were formed.

Dr. BUIST said that the kernel of the position was that the interest of the public and of the profession were synonymous. He asked the Council to consider whether it was not possible that the Government might have come to the same conclusion; if so, it was obvious that the Government, in suggesting that the Medical Secretary should be appointed, was endeavouring to secure its aim, which was to get the best possible medical advice for the insured persons. Was it not possible to give the Government credit for the attempt to act honestly? It would be disastrous for the profession to say to the public: "We have the best man, but you shall not have his services; we will keep for the profession what the public is entitled to."

Sir VICTOR HORSLEY said that as a Representative of the Metropolitan Counties Branch he was surprised that no facts had been adduced to prove the suggestion that the opinion of the medical profession in London varied from that of the medical profession in many other parts of the kingdom. He submitted that it was not the case, and that in London the sympathy and feelings were exactly the same as those of the rest of the profession. With Dr. Buist he believed the Government was doing its best to get the best man to make a success of the work. The real question before the Council, however, was, would it be acting in the best interests of the profession if it gave the permission asked; he believed it would, and that the course suggested could be justified completely at any meeting of the profession by the simple statement that the bill would be passed in spite of the profession. If it were going through in spite of the profession, if the post of Medical Commissioner were created, then surely the least the profession could do was to give the best man it knew of.

Dr. DARLING (Lurgan) desired to call attention to two points—first, that if Mr. Lloyd George had been determined not to allow the profession to obtain the six cardinal principles, then the last man he would have chosen would have been Mr. Whitaker, because the idea of a bribe to bribe him from his views was out of the question. The second point was that it was only within the last few years that the Government had come to the Association on such matters; that was a great gain, and he asked whether it would be wise to reply to the Government on this occasion, "We will have nothing to do with you."

Dr. FLEMMING (Bradford-on-Avon) said that when the business to be brought before the meeting first came before him he was rather inclined to remember the saying, *Timeo Danaos et dona ferentes*. It was only natural that the Chancellor of the Exchequer should want his bill to succeed and should want the best man to carry the administration out, and that his best chance to carry it through with the profession was to have somebody on the Commission who would put forward its views. But if the Government wanted to get rid of a strong enemy, he thought it would find itself very much mistaken, and that with Mr. Smith Whitaker it would have on the Commission a man who would have a very much greater influence than was perhaps expected. Dr. Gordon had complained that some of the cardinal points had not been settled, and it was, of course, true the questions of wage limit and adequate remuneration had not yet been settled, for they could not be settled until the Act actually came into working. The question the Council should ask itself was, whether the profession was more likely to obtain those points with a man on the Insurance Commission who might know nothing of its wants, and might have no sympathy with the profession, than with a man like Mr. Smith Whitaker, who knew everything that was wanted, and through all his life had done everything to help to attain the desires of the profession.

Dr. RICE-OXLEY (London) said that if the recommendations were adopted by the Council it would be strongly resented in Kensington and Hammersmith, for which he spoke. At the same time he personally felt that Mr. Smith Whitaker would be the right man in the right place, that he was peculiarly fitted to act as Commissioner.

Mr. DOMVILLE said the offer of this post was a personal offer to Mr. Smith Whitaker, who had loyally put himself in the hands of the Council in accordance with the spirit of the undertaking, and he would cap Dr. Flemming's quotation by asking, if Mr. Whitaker were the best man for the post, "Are we going to cut off our nose to spite our face?"

Dr. JOHNSTONE (Belfast) said that the terms of the undertaking were:

> I, the undersigned, hereby undertake that in the event of the National Insurance Bill becoming law, I will not enter into any agreement for giving medical attendance and treatment to persons insured under the bill, excepting such as shall be satisfactory to the medical profession and in accordance with the declared policy of the British Medical Association; and that I will enter into such agreement only through a local Medical Committee, representative of the medical profession in the district in which I practise, and will not enter into any individual or separate agreement with any approved society or other body for the treatment of such persons.

Mr. Smith Whitaker did not come under that at all. His object in rising, however, was to say that he had been rather surprised that every speaker who had spoken against the recommendation of the Chairman of Representative Meetings had expressed his personal approval of the resolution, and the only thing that had kept him back from voting was how he was going to explain it to his constituents. In other words, he knew it was the right thing to do, but he did not know how to explain it to somebody else, thinking that the mass of the profession were harder to persuade than he was himself, and would therefore come to the conclusion that the whole thing was a put-up job. He quite sympathized, for he had spent a great deal of time and taken a great deal of trouble in trying to explain to his constituents the position under the bill. If Mr. Smith Whitaker did not take this position, what was the alternative? It was to select three men and send forward their names as Commissioners. Now, he firmly believed that the members of the Council understood considerably better what the needs of the profession were than any of the outside medical public, so that if the Council wanted to choose the best man to represent the profession it would have to ask three of its own body to permit their names to be suggested, and if one of them was appointed what would the people say then? They would say, "This is what the Council have been working for all along." The suggestion that the Council should not touch the matter at all would be absolutely disastrous and would be the most silly policy possible.

The CHAIRMAN OF COUNCIL said that as Dr. Goodall seemed to feel that he had not taken the best course in dealing with this matter, he desired to state that the amendment by Dr. Major Greenwood was:

> That, while thanking the Chancellor of the Exchequer for the honour, the Council is of opinion that, considering the attitude of the profession throughout the country towards the National Insurance Bill in its present form, it is inadvisable for it to take any part in nominating a Medical Commissioner.

That was not the subject that was before the Council. The subject was the question of the communication that

was made to Dr. Maclean that Mr. Smith Whitaker was going to be offered this position of Deputy Chairman of the Commission, and the question before the Council was whether it should take any steps that would prevent him from accepting that post. The post of Deputy Chairman was offered only to Mr. Smith Whitaker personally. If the Council did not agree to this resolution, and suggested any one else, there was no suggestion that he would be the Deputy Chairman. The Council was bound to face any obloquy that would arise over this thing; it would be due to a failure to understand the position. At the Representative Meeting, when the matter was under discussion, as soon as Mr. Greer made his explanation, and showed how foolish it would be for them to leave this position to be filled by men who might be inimical to their interests, the Representative Meeting at once said the motion must be withdrawn. The same would occur with regard to the Council. When members of the Council put it to their constituents that for the interests of the health of the people at large, for the interests of the profession, for the interests of the Association from every point of view, the best man that could be selected was Mr. Smith Whitaker, he ventured to think the common sense of the profession would be shown, and that there would be no great ultimate effect upon the Association. I have known Mr. Smith Whitaker, Dr. Macdonald continued, for eleven years, and I suppose I have been more intimately associated with him than any member of the profession, and during all those years, in one form or another, there has never been the slightest suggestion to my mind or the slightest idea of self-seeking or disloyalty to the profession.

The CHAIRMAN then put the resolution as follows:

> That the Council recommend the acceptance of the Prime Minister's offer by the Medical Secretary of the Deputy Chairmanship of the Commissioners to be constituted under the National Insurance Bill.

The motion was carried by 38 votes to 3. Dr. MAJOR GREENWOOD requested that his dissent might be recorded.

The following resolutions were adopted, on the motion of the CHAIRMAN OF COUNCIL:

> That the Council, being of opinion that the acceptance by Mr. Whitaker of the invitation from the Prime Minister to accept the Deputy Chairmanship of the Insurance Commission will be advantageous to the medical profession as well as of the public, agrees to release Mr. Whitaker from his engagement at such date as may be necessary, and that the Chairman of Council be authorized to accept his resignation.
>
> That in the event of the appointment being made of the Medical Secretary to this position, Dr. Cox be appointed Acting Medical Secretary pending the filling of the vacancy of Medical Secretary.
>
> That it be referred to the Finance Committee to consider and report to the Council as to the filling up of the vacancy that may occur, and the whole question of the staffing of the Medical Secretary's department.

After discussion of the way in which the decision of the Council should be made public,

Mr. Smith Whitaker was invited to enter, and was informed by the CHAIRMAN OF COUNCIL of the decision of the Council.

Mr. SMITH WHITAKER said: Mr. Chairman and Gentlemen, I thank you for this vote, not because it clears the way to my acceptance of this post. I appreciate the honour the Government has done me in asking me to accept this post, but I appreciate much more that the Council of the Association thinks me worthy of it. I thank you for your vote because I regard it as a vote of confidence, a vote of confidence in the past, that when I have been working for the profession I have not been unworthy of my trust; a vote of confidence in the future, that when I take up this work I shall still be the same man, and I shall still have the same desire to further the interests of the medical profession in the interests of the public. May I say a word as to our future relations in case this appointment takes place? I do not readily assume it will take place. This bill may not go through; many things may happen; but in case I have to take up this responsibility I am sure that we shall be working on different paths, not on divergent paths, you and I; and I know perfectly well that if I am able to exercise any influence for the good of the profession it can only be if the British Medical Association continues to play its part in rallying the profession as a united body. I have to thank you for very many kindnesses in the past; I shall look back on nine years of the kind of happiness which only comes from useful work devoted to what we think can be useful objects. I thank you for giving me the privilege of co-operating with men whom it is a delight to know and an honour to work with, and I thank you for those kindnesses.

PROCEEDINGS IN PARLIAMENT.

THE second allotted day in the report stage (Wednesday, November 29th) was devoted to the discussion of the proposed new clauses.

School Teachers.

The clause setting up special arrangements with regard to teachers in elementary schools occupied a considerable amount of time, but no material amendment was made.

Maternity Benefit.

At a later stage in the debate Mr. Locker-Lampson moved a new clause with respect to the administration of the funds for maternity benefit under which, by a system of reinsurance, it would be possible to distribute the charges evenly, so that a society in a district where there was a high birth-rate did not suffer by the disproportion of the maternity benefit thereby, while one in which there was a low birth-rate would not on that account be specially benefited. The proposal as Mr. Locker-Lampson introduced it was in the following terms:

> For the purpose of the administration of maternity benefit the Insurance Commissioners shall establish a central fund for the reinsurance of expenditure to be incurred upon maternity benefit, and the Insurance Commissioners may recover from every approved society and local Health Committee the due proportion of the cost of such reinsurance.

Mr. Locker-Lampson said that the administration of maternity benefit was provided for in the amended bill in a way which would probably inflict hardships on approved societies. The maternity benefit under the bill was going to be taken in sections; each branch was to provide its own maternity benefit. It was quite true it might reinsure with the society, but the society might possibly be quite a small one restricted to a particular locality. The Government actuaries had based their calculations on a general average birth-rate throughout the country. But the birth-rate varied enormously in counties and even in districts. In Durham, for instance, the birth-rate was 33 per 1,000 of population. In Sussex it was only 19 per 1,000. It was quite clear, therefore, that approved societies and their branches in districts with high birth-rates would be penalized. Those in a district with a low birth-rate would be able to accumulate a substantial surplus in respect of the maternity contribution.

The proposal met with a friendly reception from the House.

The Attorney-General (Sir Rufus Isaacs) said that there was undoubtedly much to be said for the principle involved, but it would be impossible for the Government to accept the proposed new clause. It went a great deal further than would be justifiable. In the first place, it made it compulsory on the Insurance Commissioners to do what was suggested; and, secondly, it involved recovery from the deposit contributors. He did not think that that would be desirable. It was not like an approved society, where they had a totally different scheme and they had real insurance. First of all, then, they would have to limit it to the approved societies, and an amendment had already been introduced in Clause 38 (2) which gave the societies the power.

After some discussion, the clause was read a second time by agreement, and, on the motion of the Attorney-General, amended as follows:

> For the purposes of the administration of maternity benefit, the Insurance Commissioners may, if they think fit, by special order provide for the reinsurance with them of all liabilities of all approved societies in respect of maternity benefits, and the order may provide the method of calculating the premiums to be charged against the several societies in respect of such reinsurance, and may contain such other incidental, consequential, and supplementary provisions as may be necessary for the purpose.

Position of Curates.

A long discussion took place on the position of curates of the Church of England on a new clause introduced by Mr. King, which would have provided that the Ecclesiastical Commissioners for the purposes of the Act should be deemed to be the employer of a curate licenced to officiate in the Church of England. The Law Officers of the Crown as well as the members of the Bar in the Opposition were agreed that as the bill stood at present curates could not be said to be employed under a contract of service as required in the schedule, and were therefore, as the bill stood, not compulsorily employed contributors. A strong feeling, however, was manifested that they should be open to receive the benefits of the Act, and the Solicitor-General expressed himself ready to receive representations from the clergy on the subject, and to extend the schedule so as to include them within its compass if a general desire were expressed to that effect. The clause as proposed by Mr. King was ultimately rejected by 214 votes to 86.

Appointments under the Insurance Commission.

An interesting debate on a proposal by Mr. F. E. Smith to insert a clause providing for the setting up of a committee of five persons, consisting of one representative each from the Treasury, the Home Department, and the Board of Trade, and two from the Local Government Board, which should make all the appointments under the Commission. Mr. F. E. Smith said that he had no desire to comment on the personnel of the Commissioners whose names had been stated to the House. The effect of the proposed clause would be to secure that the very extensive patronage which would be involved if the bill became law should be removed from the control of the Government of the day.

Mr. Lloyd George said that with the general object he was in full sympathy. When new positions were created under a bill of this character, it was very important that there should be no suspicion of anything in the nature of jobbery; but he would point out that the clause proposed was not the most effective way of carrying out his purpose. On the contrary, he thought the Government had taken the best method of securing that the appointments should avoid a political character, and should not be dominated even by the Government of the day. It was necessary that the Commissioners should be appointed on the responsibility of the Government. Officials in future would be appointed, not by the Government, but by the Commissioners, and on their responsibility, and would be their officials. He suggested that it was a far better method than appointing a committee of five, to be nominated by members of the Government, for the purpose of choosing those officials.

Mr. Bonar Law said he did not make any accusation of political motives in making the appointments announced to the House the other day. What it was desired to guard against was the tendency of legislation under the present Government—and perhaps longer still—to create more and more of these officials. It was absolutely necessary that the House of Commons should, on every possible occasion, take such steps as were adequate to secure not only that jobbery did not take place now, and that there was no suspicion of jobbery, but that there never could grow up a "spoils" system, the reward of services rendered to one party or another.

Mr. Lloyd George said that the Commissioners would have to get to work at once when the bill passed, and therefore there must be no unnecessary delay. He understood that the suggestion was that in the course of the next fortnight or three weeks some scheme should be prepared by the Commissioners and laid before the House. He was afraid it was too late to do it in the case of the Scottish and Irish Commissioners. But he thought it a reasonable request that some paper should be laid on the table showing the general principles on which the Commissioners intended to choose their subordinates.

Mr. Snowden thought that there was unanimous agreement that, in making appointments under this scheme, everything in the nature of political patronage and jobbery should be avoided. As a general principle, he thought open competition the best means of filling Civil Service appointments, but recognized that there were occasions and circumstances when it was necessary to depart from that principle. There were offices for which the best men would not be selected by an open competitory examination. But he felt rather alarmed at the statement of the Chancellor of the Exchequer that this immense patronage, down even to the office boys, was to be placed in the hands of the Insurance Commissioners. There would be a number of technical appointments to be made which might be made by the Commissioners; but there must be a very large number of subordinate offices where no special qualifications would be necessary, where, for instance, the work would be of a purely mechanical kind.

Mr. Lloyd George agreed that, as far as clerical appointments were concerned, candidates who had sat for Civil Service examinations should be drawn upon. He thought there had been a little exaggeration in regard to the numbers. Most of the work would be done by the societies themselves.

Minors.

The clause affecting the power of minors who are insured persons to give the necessary equitences under the Act, moved by Mr. Cassel, was accepted and added to the bill.

Ireland.

The latter part of the discussion was occupied by a proposal by Mr. William O'Brien to exclude Ireland from the operations of the bill. It was chiefly concerned with those aspects of the question which have been dealt with in previous issues, and the proposal was ultimately rejected by 216 votes to 38.

Finance.

On Thursday, November 30th, the remainder of the discussion, till the fall of the guillotine at 7.30 p.m., was occupied in the consideration of the proposed new clauses. For the most part they did not cover subjects of medical interest. Mr. Hayes Fisher, however, moved to limit the provision in the bill whereby the county or county borough councils are empowered to defray one-half of any additional cost which may be incurred on account of medical or sanatorium benefit. He proposed that in no case should the charge falling upon the rates exceed $\frac{1}{2}$d. in the pound. The discussion resolved itself mainly into a controversy as to the amount which the bill would save the ratepayers on account of the burdens it would take off the present Poor Law service, and in considering this point it ranged over a very wide field. Mr. Hayes Fisher moved his clause in a speech of considerable force and moderation. It was, however, opposed by the Government and ultimately rejected on a division by 220 votes to 146.

Insurance of Women.

It may be remembered that in explaining Clause 41, which relates to the insurance of married women, we referred to the options which they might exercise either on marriage or on becoming widows, and one important amendment inserted was to the effect that

> (11) Where a woman is a member of an approved society at the time when she is entitled to exercise an option under this section, it shall be the duty of the society to give her full information as to the nature of her rights.

At 7.30 p.m. the Report stage of Part I and the new clauses came to an end. The greater number of the amendments introduced in report were noticed in last week's issue, and no material change was made.

Separate Commissions.

Notwithstanding the advantages which are presented in systems of administration by the setting up of separate commissions for Scotland and Wales as well as Ireland, a considerable amount of adverse criticism has arisen during the past week in connexion with the fact that associated with the separate commissions separate accounts will require to be kept by the different trade unions and approved societies of their members in the different countries, necessitating that whenever a member moves from one country to another he shall have credited to his account in the new branch of what is actually the same society to which he becomes attached a separate transfer value. This will require a very complex and elaborate system of book-keeping in the case of societies or trades where members are in the habit of moving from one part of the country to another, and, it is thought, will prove a very serious inconvenience in the working of the Ac

With a view to protesting against this arrangement, the Labour Party, on Friday, December 1st, divided the House on the proposal to add a paragraph to the first subsection of Clause 60, dealing with the erection of sanatoriums, whereby sums apportioned according to their population should be allotted out of the money available to the different countries. It is said that there is not much likelihood of this provision being deleted from the bill, but it is proposed to give power to the Commissioners whereby a considerable part of the objections can be overcome. It is questionable, however, whether the whole case will be met in this way, and members are by no means satisfied with the provisions of the bill with respect to this matter as they stand at present.

The remainder of the sitting on Friday was devoted to the portion of the bill dealing with unemployment, some of the later clauses being added without discussion.

Birth Certificates.

It may be interesting to give Clause 108 as amended, showing the machinery whereby any person for the purposes of the bill may obtain a copy of their certificate of birth:

Clause 108.—(*Provisions as to Birth Certificates.*)

Where for the purposes of this Act the age of any person is required to be proved by the production of a certificate of birth any person shall, on presenting a written requisition in such form and containing such particulars as may be from time to time prescribed by the Local Government Board for England, Scotland, or Ireland as the case may be, and on payment of a fee of sixpence, be entitled to obtain a certified copy of the entry of the birth of the person with births register under the hand of the registrar or superintendent registrar having the custody thereof, and forms for such requisition shall on request be supplied without any charge by every registrar of births and deaths, and by every superintendent registrar.

Benefits.

The change in the benefits in the first part of the fourth schedule was made by the omission of the provision giving extra pay for the first two, four, or six weeks of sickness in lieu of pay for the first three days as described in a former issue. It has now been decided to extend the sickness benefit to six months instead of three at the rate of 10s. a week to compensate for the non-payment of sickness pay for the first three days. In view of this the special provisions relating to the first six weeks of sickness were withdrawn so as to give the required amount of sick pay during the whole time to which the insured person might be entitled to receive it.

Commencement of the Act.

Clause 109 was amended by substituting July for May, so that the Act will come into operation on the first day of July, 1912, but provision was made whereby His Majesty in Council may, if necessary, postpone the commencement of the operations of the Act until January 1st, 1913, for the purposes of health insurance, or until October 1st, 1912, for the purposes of unemployment insurance.

Conclusion of Report Stage.

On Monday, December 4th, the fifth allotted day, the house was occupied first in considering a proposal by Mr. Joynson-Hicks to the effect that the contribution should be payable on a pounded basis instead of as provided in the schedule in the case of insured persons with a wage less than 15s. a week at a flat rate. The proposal was ultimately rejected by 175 to 105, and the whole of the remainder of the debate was occupied in the discussion on the terms of contribution. At 10.30 p.m. the Report stage of the debate was concluded, and the remainder of the schedules were added to the bill.

Third Reading.

The third reading of the Insurance Bill was taken on Wednesday, December 6th, when the following official Opposition amendment was moved by Mr. H. W. Forster:

> That, while approving the objects of National Insurance, this House is of opinion that under Part I of the bill public funds and individual contributions will not be used to the best advantage of those most closely affected, and that as the bill has been neither adequately discussed in this House nor fully explained to the country, and would in its present form be unequal in its operation, steps should be taken to enable further consideration of Part I to be resumed next session, and in the meanwhile to have the draft regulations published.

Mr. Forster dwelt chiefly on the curtailment of the debate, but, in discussing the powers of the local Health Committees, he said that it appeared that under Subclause (6) of Clause 16 the Insurance Commissioners, if the doctors in any district failed to form a panel, might throw over the whole system and make what other plans they liked; they might, for instance, pay an insured person the sum of 6s. a year and say, "Now you can find your own doctor." Further, the Commissioners might determine the sum payable to the local Health Committee in respect of medical benefit if no agreement had been reached between the local Health Committee and the doctors. Under the financial arrangement of the bill the sum of 6s. a head a year was on the average allowed for medical benefit, but under this part of the scheme there was no guarantee that the allowance for medical benefit would not amount to 10s. or 15s.

Mr. Lloyd George replied for the Government, and later Dr. Addison, who took part in the debate, pointed out that the most material objection under the amendment was that the bill had not been fully explained to the country. "The bill," he continued, "we all recognize does require a great amount of explanation, and I believe that my own profession has been responsible for a great deal of the criticism. They lay down certain points as to which in the main I quite agree with them, but when we come to examine these points and examine the bill as amended, we see that some of them are already in it. For example, the whole of the administration of the medical benefit is now placed in the hands of the Health Committees. In my belief this is the first step in obtaining a unified health service in this country. Then, again, we have provided in the bill that every insured person shall have free choice of medical attendant, and also for medical representation on the Advisory Committees, the Health Committees, the Insurance Commission, and so on. It is also provided that the method of remuneration according to Clause 16 shall be according to the needs and customs of the locality, and we have provided in the bill, not, it is true, precisely in the way demanded, but still we have provided the means by which those who are private patients can still continue on that basis. The British Medical Association held a meeting the other day and came to a resolution which they have asked me to mention to the House; it is: "that the Representative Body declare the determination of the Association to insist upon the arrangements made with medical practitioners for giving attendance and treatment to insured persons being consistent with the six cardinal principles formulated and approved by the Association." But, as a matter of fact, four of these are in the bill now, and I am quite sure that the machinery which the bill has provided will enable the others to be obtained according to the customs and needs of the particular locality. But there was another statement I was asked to make, and I do so with pleasure. We have heard a great deal of what is called a doctors' strike, and I think that perhaps some opprobrium has been cast upon them in consequence. But there is a misunderstanding here. I am quite sure, whatever may be the conditions arising under this bill in connexion with any Health Committee, the medical profession is solidly determined that no sick person shall go without attendance. They will not refuse in any circumstances to attend sick persons. They reserve for themselves the right to work according to conditions of State employment only when they feel them to be good; but, as I have already pointed out, this bill does provide machinery whereby these things can be obtained, and when the noise of the conflict and the heat which prevails at the present time subside, on careful consideration of the bill and when the method of working it comes to appear in the form of regulations, they will fully appreciate that the measure is much better than it is often represented at the present time. I believe myself that this bill provides machinery whereby we can set up the beginnings of a great health service in this country. They have said, also, and I agree with them, that the estimate provided for the cost is insufficient. At the present time minor operations, hospital treatment, and so on, are frankly not dealt with in the bill. The machinery provided in the amended bill makes it possible, without any alteration whatever, except in the grants from the Treasury, to graft on to this bill the machinery necessary for dealing with institutional treatment in every form.

Dr. Addison went on to observe that the grant intended to be made for the treatment of school children was much needed, and concluded by saying that while he recognized that there was some difficulty under the bill, that it needed amendment, and that it did not do all that was desirable for the deposit contributor, he still maintained it was a measure that ought to go on the Statute Book.

Mr. Bonar Law summed up for the Opposition, and after the Prime Minister had replied the House divided, when the amendment was rejected by 320 to 223. On the motion, "That the bill be now read a third time," a division was challenged by Mr. Lansbury and Mr. O'Grady. The Opposition as a body abstained from voting, and the motion was carried by 324 to 21.

It is anticipated that the bill will be read a second time in the House of Lords on Tuesday next, December 12th, and it is not expected that it will be amended in that Chamber.

QUESTIONS IN PARLIAMENT.

Insurance Commissioner.

MR. JOYNSON-HICKS: I beg to ask the Chancellor of the Exchequer a question of which I have given him private notice—namely, whether the report is correct that the Secretary of the British Medical Association has been appointed a member of the Commission; and, if so, when was he first approached?

Mr. Lloyd George: The report is correct. He was approached last week for the first time on the subject. He consulted his Council, and I have a letter from him dated December 2nd, as follows:

> Having consulted the Council, I have been advised by them to accept the post of Deputy Chairman of the Insurance Commission for England offered in your letter of December 1st, and I do so accept on the terms stated in that letter.

Mr. Joynson-Hicks: May I ask whether we may assume that the British Medical Association are satisfied with the provisions of the bill?

Mr. Lloyd George: I should not like to express an opinion on that question. At any rate, the offer was made to the Secretary, and the British Medical Association allowed him to accept the position.

Major Anstruther-Gray: Will any person be appointed to represent Scotland?

Mr. Lloyd George: We shall appoint a medical officer, though, perhaps, not on the same terms. So far as England is concerned, the appointment has been given to one who has experience of this country.

Irish Insurance Commissioners.

On the motion for the adjournment on Wednesday, Mr. McKenna announced that the names of the Commissioners for Ireland were: Mr. Joseph A. Glynn (Chairman of the Galway County Council), to be Chairman; Mr. Walter S. Kinnear (of Dublin), Dr. William Joseph Maguire (of Belfast), and Mrs. Dickie (of the Local Government Board, Dublin). The secretary, Mr. J. Houlihan, was an experienced member of the Upper Division of the Civil Service.

[Dr. Maguire is a graduate of the Royal University of Ireland and a Fellow of the Royal College of Physicians in Ireland. He is physician to the Mater Infirmorum Hospital, Belfast, an examiner in the National University of Ireland, and was at one time Assistant Master of the National Lying-in Hospital, Dublin.]

Highlands and Islands of Scotland.

Mr. Macpherson asked the Lord Advocate whether, in view of the fact that in the Highlands and Islands of Scotland the population was so poor and scattered, he would take steps to provide for the necessity of giving a grant-in-aid to the local Insurance Committee, to be used by them to secure effective enjoyment of all the benefits of the scheme for the insured persons and fair mileage fees for doctors. Mr. Cathcart Wason asked whether he was aware that in many districts in the Highlands and Islands it would be impossible for the Insurance Committees to supplement their resources by the levy of a rate, and that many persons compulsorily insured would be unable to obtain medical attendance or the other benefits provided by the bill; and whether he would take steps to secure a special grant to meet this state of affairs. Mr. McKinnon Wood: The difficulty pointed out had been met to a certain extent by the insertion of Subsection (9) of the Scottish Clause; and the new clause passed on November 28th giving power to vary benefits in certain cases; and, before arriving at any conclusion as to the desirability or otherwise of special grants, it seems necessary to wait for the result of these provisions.

Medical Examination.

Mr. Hunt asked who would pay the fees for the medical examination of persons applying for membership in an approved society? Mr. McKinnon Wood replied that the societies would bear the cost of any medical examination that they might impose.

Disablement Benefit.

Mr. Butcher asked whether, under the National Insurance Bill as amended on Report, an insured person who, owing to age or sickness, became unable to earn more than a half or a third of his or her former remuneration, would receive any disablement benefit; and whether, in order to entitle an insured person to disablement benefit, it was necessary that such persons should be totally incapable of work and of earning wages? Mr. McKinnon Wood said that the interpretation of the words would be left to the friendly societies themselves, and added that the views of the Government on the subject were fully stated in a reply given on July 17th. Mr. Butcher asked whether the provision in the amended bill did not prevent a man who was not earning more than half his former wages from getting disablement benefit? Mr. McKinnon Wood said that there would be nothing to prevent friendly societies from making such arrangements as might seem desirable to them.

Doctors' Dispensers.

Mr. William Peel asked the Chancellor of the Exchequer whether his attention had been drawn to the fact that, under the terms of the National Insurance Bill, doctors' dispensers would be deprived of their livelihood; and whether, in view of the fact that there were a number at present of technically unqualified chemists' assistants, he would do his best, either by way of direction or suggestion to the Insurance Commissioners, or otherwise, that the interest of this deserving class was properly protected under assurance for the dispensing of medicines when the bill came into effect. Mr. McKinnon Wood said that he did not contemplate any great disturbance arising in the means of livelihood of doctors' dispensers, but he would communicate the representations made to the Insurance Commissioners, who would be able to bear the cases mentioned in mind in sanctioning arrangements for medical benefit under the bill. Mr. Goldman inquired whether, in view of the fact that a large number of this deserving class would be thrown out of work, and were not likely to find employment in an already congested trade, the directions to be given to the Insurance Commissioners would be of a nature suggesting compensation, monetary or otherwise. Mr. Speaker said that notice of the question should be given.

Medical Certificates.

Mr. Touche asked whether a certificate from a duly qualified medical practitioner not on the list of an approved society, or on the list published by the local Health Committee, would be accepted by an approved society or a local Health Committee as proof of disease or disablement so as to entitle an insured person to benefits. Mr. McKinnon Wood replied that it was a matter for the societies and committees themselves to determine.

Sanatorium Extensions.

Mr. Goldman asked whether steps would be taken immediately after the passing of the Insurance Bill into law to increase or extend sanatoriums throughout the country to meet the needs of those who would be entitled to immediate sanatorium benefit under the bill; and if he could state the nature of the steps which would be taken. Mr. McKinnon Wood said that the answer to the first part of the question was in the affirmative. The precise nature of the steps to be taken depended upon the Insurance Commissioners and the Local Government Board.

Domestic Servants and Medical Attendance.

Mr. Peto asked whether a domestic servant employed in London but whose home was in the country could, in the case of being sent home for illness by her mistress, com mand the attendance of a doctor in the district of her

home, and whether if she was unwell but not definitely ill she could, as a preventive measure, command the services of a doctor in the district in which her mistress resided. Mr. McKinnon Wood replied that the answer was in the affirmative in each case.

Hospital Inmates.

Mr. Evelyn Cecil asked the Chancellor of the Exchequer whether he was aware that at present, if a man left his lodgings and went into a hospital, he got his sick pay, which was sufficient to enable him to keep on his lodgings while he was in hospital and help him to a convalescent home afterwards, but that, under Clause 14 (*b*) of the National Insurance Bill, if he had no dependent, his sick benefit would go to the local Insurance Committee, so that he had none of this money with which to keep on his lodgings or get to a convalescent home; and whether he proposed to make any amendment to the bill to meet such cases.

Mr. Lloyd George said that the principle of sickness benefit was that it should assist a man to maintain himself and his family while incapacitated by illness. If he was being maintained without expense to himself and had no dependents this principle did not apply. The money thus saved to the committees would be used largely in contributions to hospitals and similar institutions.

THE BRITISH HOSPITALS ASSOCIATION.

A MEETING of the British Hospitals Association, attended by representatives of nearly all the hospitals of the United Kingdom, was held on December 1st at the Westminster Palace Hotel, Victoria Street, S.W., to give further consideration to the provisions of the National Insurance Bill as they affect hospitals and infirmaries. A preliminary meeting was held at St. George's Hospital in June.[1] Mr. A. WILLIAM WEST, Chairman of the Council of the Association, presided, and those on the platform included: Mr. Alfred Lyttelton, K.C., M.P., Canon Henson, Lord Claud Hamilton, M.P., Sir Henry Craik, M.P., Mr. James Boyton, M.P., Sir Henry Burdett, K.C.B., Dr. D. J. Mackintosh (Glasgow), the Secretary of the association, and many members of the council. Amongst the apologies for non-attendance was one from Mr. Harry Lawson, M.P., who intimated that he was detained in the House of Commons watching the interests of hospitals under the bill.

The CHAIRMAN briefly summarized the objections of hospital managers to the Insurance Bill. It must, he said, diminish legacies and donations, which now amounted to about £4,000,000 a year for the whole country. Hospitals already worked on very narrow margins, and a fall of only 6½ per cent. in income, it was estimated, must force many to close down. Medical education and the training of nurses must be hampered if the operations of hospitals were restricted. The Chairman intimated that the meeting would be asked to vote on the following resolutions:

> That the British Hospitals Association again affirms its unanimous opinion that the National Insurance Bill is incomplete unless it provides for the hospital treatment which insured persons must have if their medical needs are to be covered by the bill.
>
> That this meeting records its conviction that hospital treatment, as at present provided, cannot be adequately maintained by the voluntary hospitals if the existing sources of income are seriously diminished, as in the opinion of this meeting they are likely to be, in consequence of the provisions of the National Insurance Bill, and in such case the British Hospitals Association again affirms its unanimous opinion that the National Insurance Bill is incomplete unless it provides for the hospital treatment which insured persons must have if their medical needs are to be covered by the bill.

Mr. ALFRED LYTTELTON, K.C., M.P., in moving the resolutions, urged that the voluntary principle in the treatment of the sick poor had brought about many and singular benefits, and the splendid traditions built up during 150 years should not, without a gallant fight, be lost. The National Insurance Bill had one fundamental principle which was thoroughly sound. It sought—whether it attained was another matter—to deal with disease at the earliest possible stage and to deal with it effectively. But the provision made by the bill must be supplemented for a very long time as regards the more serious classes of illness and disease, and those involving complicated treatment. If a scheme of insurance was to be regarded as a national one it must not cease with the domiciliary visits of the general practitioner. There was a later and enormously important stage, and a higher organization such as was provided already by the hospitals must exist for dealing with the more difficult classes of disease—with operations, chronic heart complaints, cancer, etc. The hospitals, nobody denied, must continue. The training of medical men and of nurses, the great organization for research, the careful recording of statistics of disease and pathology must go on. Mr. Lyttelton added that he held the view, for which he had been criticized by Mr. Sydney Holland, that through the bill the opportunity would be brought before the medical and hospital world for a closer definition, and also, perhaps, a closer delimitation, of the functions of the hospital. When, under the bill, an organization had been set up in addition to the enormous existing means of assistance for the poor, it would be wasteful for the hospitals to continue to treat out-patients to the extent they did at present (applause). The hospitals would gradually come to take, in relation to the poor, the place of the consultant physician and surgeon to the well-to-do. Meanwhile the operations of the bill must bring loss to the hospitals, whose sources of income were tapped by direct taxation. In Parliament the attempt had been made to persuade the Government to provide that some portion of the benefit should be paid to the hospital when the hospital performed the service. The clause dealing with this point, he feared, gave small hope of any considerable subsidy. A contribution by the approved society to the hospital was hedged about by three conditions: (1) There must be an agreement between the hospital and the society; (2) the patient must have no dependents; and (3) he must belong to an approved society. Many patients of the poor class would not belong to the approved societies.

Canon HENSON, who seconded, said he could not find any one who had earned the right to speak on social questions who was not greatly exercised as to the probable, and especially the indirect, consequences of this tremendous measure. Many who were best entitled to speak on these questions had offered criticism of such cogency and importance that no reasonable man could avoid the greatest anxiety as to the result of this large, complicated, and for the most part, unconsidered and undiscussed bill. Its effect upon hospitals was only one, but not an unimportant one, of many indirect consequences. Many of them felt that the Chancellor's proposals would reduce the income, and probably lower the efficiency, of the hospitals, which, as they now existed, were the best hospitals in the world. Furthermore, the voluntary character of the hospitals, on which their exceptional excellence largely depended, would be destroyed. The Insurance Bill would affect hospitals by reason of the expense it would put upon them of insuring their employees; it would diminish that large portion of their support received from voluntary subscriptions, and middle-class subscribers would reduce their contributions on account of the increase in taxation represented by the share of the general public in the cost of the scheme. If State management of hospitals was the outcome of the bill, the large measure of liberty which made for efficiency must be seriously impaired.

Sir HENRY BURDETT urged that the bill took away from the working classes the hospital provision they at present enjoyed and put nothing in its place. The system of hospitals in this country was recognized as being on the whole the best in the world. The bill would inflict such a serious loss of income upon hospitals that half the hospital provision of the country would be taken away. Mr. Lloyd George had told them that their remedy for loss of income was in their own hands, that the hospitals should ask patients, "Are you insured?" and if they were they had no right to go to voluntary hospitals. The insured were thus ineligible for hospital treatment, and the bill if passed would be the most wantonly cruel measure ever placed on the Statute Book. The alternative to the voluntary system was State hospitals, which the Poor Law Commission said would cost 20 millions a year. Another 20 millions would be needed to put the Insurance Bill into operation.

Sir HENRY CRAIK, M.P., said that as the representative of a constituency which contained 5,000 members of the

[1] BRITISH MEDICAL JOURNAL SUPPLEMENT, June 10th, p. 419.

medical profession he had attempted to follow closely the intricacies of the bill. The three classes to whose needs the hospital system naturally adjusted itself—the very poor, the members of friendly societies, and the more well-to-do working men who chose their own doctor and fairly remunerated him—were to be levelled down to one low level under the bill, and their medical treatment was to be covered by a payment of 4s. a year. These people would expect hospital as well as domiciliary treatment in return for their contributions, and would be grievously disappointed. The proper remedy for the difficulties that would arise was the restriction of the medical aid sections of the bill to men earning less than £2 a week. The effect of the present proposals would be to put heavy pressure upon voluntary agencies, leading ultimately to compulsory public control, thus killing out of English life the valuable element of voluntary service.

Colonel ROXBURGH (Western Infirmary, Glasgow) raised the question whether it was advisable to make provision under the bill for the treatment of consumption in sanatoriums—a new and more or less experimental development—and not to provide for the treatment of disease in institutions absolutely necessary and of proved value.

Mr. JAMES BOYTON, M.P. (Marylebone), emphasized the valuable work for the sick poor performed by the consultant physicians and surgeons under the voluntary hospital system.

Some discussion arose as to whether the resolutions as printed above would not commit the meeting to an expression of opinion in favour of State support of hospitals, and ultimately it was agreed, at the suggestion of Major LEVITA, to reverse the resolutions and place the second one first, in order to avoid this implication.

In this form the resolutions were unanimously approved.

CORRESPONDENCE.

AVERAGE AMOUNT OF ATTENDANCE.

MR. WALTER J. O. RAY, M.R.C.S.Eng., L.R.C.P.Lond. (Wimborne), writes: I read with very much interest Dr. Arthur Exham's letter in the SUPPLEMENT for December 2nd, p. 552. Some weeks ago I worked out how a given practice of to-day might fare under the proposed national insurance scheme, and I send it for comparison with his table. Although looked at from somewhat a different point of view, the number of attendances and the amount of remuneration per attendance work out with a certain amount of similarity.

Take a practice returning to-day £800 per annum, of which £700 is private and £100 is club. *Under the bill*, the £100 club and £300 private goes "into the net"; £50 we will place as "extras" under the bill, and £350 remains private.

In order to obtain the £400 gone "into the net" 2,000 insured persons at 4s. per head will be required.

Taking the average of "attendances" at ten a head will bring the number of attendances in the year to 20,000, and this works out at barely 5d. per attendance. This scheme can be altered to fit various practices, but the more the amount of the club work in comparison to the private, the more the number of patients required, the more the number of attendances per annum, and the less the remuneration per attendance.

I was of opinion that placing the average of attendances at ten might be slightly excessive, but taking into consideration that circumstances will alter the case as between doctor and patient, and comparing it with Dr. Exham's table, it appears to be well within the range of possibility. The more I look at the scheme the more convinced I daily become that work under the bill, looking at it from every point of view, will be very dear at any price. I hope the profession as a whole, led by the British Medical Association, will have done with "quibbling," refuse to stoop so low as to "bargain" with the "local Health Committees," and decline to have anything whatever to do with the bill.

MODE AND RATE OF REMUNERATION.

Dr. WILLIAM ESCOMBE (Grimsby) writes: Opposed as the profession is to contract practice, I fear there is no other working alternative. If medical attendance is to be remunerated per visit, the Government would never know their annual liability. What is to hinder a man visiting a serious case three or four times a day, or even remaining all night, and demanding adequate payment? No, Sir, we must accept a contract rate *pro rata* with the "locally fixed" wage limit—namely, £2 at 10s. per head per annum; £1 15s. at 8s.; and £1 5s. at 6s. for attendance on all ordinary ailments and minor operations (without anaesthetic) between 9 a.m. and 8 p.m.; attendance between 8 p.m. and 9 a.m. to be paid per visit; also operations (with anaesthetic), fractures, dislocations, etc., to be paid at a fixed rate.

Why this outburst from the hospitals—their work will be tremendously alleviated—all casual dressings and common out-patient ailments will be provided for outside—the work of the consultants will be rendered easier and more interesting, consisting as it will of cases recommended by medical men for special treatment or diagnosis without the time wasted over trivial and uninteresting ailments—all these points appear to me to be mightily beneficial and not detrimental.

Stick to the motto, "Unity is strength," and we shall all have a happy Christmas and a prosperous New Year for once in a way.

Let the British Medical Association notify all medical clubs that, whatever the fate of the Insurance Bill, the profession will not do work after June 30th, 1912, except under the six cardinal points and the above rates of remuneration.

Dr. B. HALL (Colchester) writes: In securing for the local Medical Committee power to settle the mode and amount of payment, together with control of matters that concern medical men working under the Act, it is clear that the Association has achieved a master stroke. This concession gives us the key of the position, and in my opinion all other points fade into insignificance in comparison with this. It is our Magna Charta.

This being settled, one can discuss calmly matters that will come before the committee, or which will be of general interest in the working of the Act. The main question is mode of payment. Recent investigation has proved conclusively, in my practice, that contract work (clubs and unions) is more remunerative than private practice so-called. The income I derive from a certain number of contract clients is equal to that derived from a much larger number of private clients. Also I discover that my income from private clients is no more this year than it was ten years ago, though my *clientèle* has increased by at least 200. I may say that mine is an ordinary country practice, with a death-rate of 9 per 1,000, and that my lowest visiting fee is 2s. 6d.; but I should add that my surgery club members pay premiums on a sliding scale—that is to say, premiums fixed by myself are decided by considerations of age at entry and value of health. Now, if this discovery of mine is found to have universal application, it seems to me that it ought to have a very important bearing upon the decision as to mode and amount of payment under the Act. Stated generally, I may say that I believe it to be true that, on a sliding scale of premium, 500 insured people, of whatever class, will yield a larger income than 500 private clients of the same class. The larger the number compared the greater the advantage to the contract income. It is not a question of how many visits I have paid to these contract patients as compared to the number paid to private patients, though I do not believe I should find any very great difference. It is a question of total income; visits depend so much upon the visitor. One man will see his confinements every day for a fortnight; another will go three times in the regulation ten days. Personally, I visit club patients more frequently than private patients, because in the former case one is free to exercise one's judgement without dread of being accused of making fees. Naturally, in view of the above discovery, I should be content if the whole of my practice could be conducted on the contract system. For, besides the pecuniary advantage, there is the saving in time occupied in booking, writing bills, receipts, etc. There is twenty times less office work than in the working of my private practice. There are no bad debts, there is no harassing of the poor who can't, nor of the rich who won't pay. The capitation system is perfectly easy to adapt to any class of person—well-to-do, poor, young, aged, healthy, or unsound. It does away almost entirely with the commercial side of medical work, and is calculated to enhance rather than depress the doctor in public esteem. As club doctor he no longer lives upon the misfortunes of his neighbours, and anything that makes for improvement in public health is

to his advantage. He rejoices under a continuously falling sickness-rate, can heartily help in educating the people in matters hygienic; as private practitioner, every ambulance, nursing, or health lecture is another nail in his coffin.

As for the amount of the capitation fee, it seems to me simplest to take the Post Office rate as a basis. Any attempt to arrive at a just figure by calculation of "visits" is futile, since "visit" may mean much or little, often or seldom. In fact, it has the vaguest meaning, and has no relation whatever to value of services rendered. Any method of payment by fee for work done seems out of the question altogether if one remembers that his bill would have to be verified by the patient.

The *per capita* system is said to foster malingering and unreasonable calls. Malingering is quite as frequent *pro rata* amongst insured (accidental insurance) of the middle class as amongst club members, and occurs when there is unemployment, and when sick pay amounts to more than earnings. Unreasonable calls are not unknown amongst private clients, and can only be checked by educating one's *clientèle*.

The club system cannot have broken down, since it is proposed to extend it on such a vast scale. It is the low fee that has degraded the system, and it is competition for the club salary that has brought into action every vice that accompanies ill-paid work. The Act will do away with competition, since the insured has choice of doctor, and the Medical Committee will see that an adequate premium is paid. We have to thank the British Medical Association for this!

Will any practitioner lose anything under the Act? The club doctor may find some of his club members deserting him when free choice comes into operation, and he may find others coming to him. A club member has not more but a little less tendency to change his doctor than the private client because his payments are in advance. All nsurance premiums are supposed to be paid in advance.

The doctor in better-class practice need not lose income if he goes on the panel and arranges with his clients an adequate premium. Four hundred men with salaries of £150 a year would yield more income to their doctor if each paid him a premium of 10s. per annum, than if he had to take his chance of attending, say, fifty of them on our time-honoured system of fee per visit when ill. In any case, the £200 would be a safe salary; he might or might not get an average of £4 each from fifty of them this year, but has he the faintest notion what he might get next year or the year after? One may safely say that the number of sick will grow smaller every year under either system. The one system gives him a certain income paid punctually at quarter day, without any paraphernalia of bills, etc.; and the other decreases gradually and is uncertain in the highest degree, as it depends upon a host of uncontrollable conditions.

Pure consultants, physicians, and surgeons will benefit under the Act, inasmuch as every insured person on becoming a patient will have in thought of a doctor's bill to worry him as heretofore, he is more likely to have the wherewithal to pay for special advice. The very poor will, as they have done hitherto, go to hospitals, and it is obvious that without hospitals at our backs no insurance scheme could succeed. On what ground is it supposed that hospitals would be called upon to receive more sick and lame than they do now? This Act is not going to increase the population. Is it not at least possible that there will be fewer out-patients, since a large percentage now attends hospital because it cannot afford to pay its doctor?

There seems to be a fear that hospital funds will suffer under the operation of the Act. Of the 15,000,000 to be brought under the Act, more than half are already insured in clubs, and contribute to hospital funds. Why should it be supposed that they will cease to contribute; surely they will be in a better position financially under the Act than they are now? Is not the State to contribute 2d. and the employer 3d. towards the weekly 9d.?

It may sound paradoxical, but is it not possible that representation on the Insurance Committee will be better secured with two medical members than it would be with any number short of a majority? Two can voice the opinion of the Medical Committee as well as a dozen, and would not two be less likely to disagree than a dozen? It seems to me this claim for larger representation is a mistake, as in any case it is simply a delegation from the Medical Committee, and cannot voice any opinion that is not held by that committee.

EFFECT OF THE BILL IN COUNTRY DISTRICTS.

Dr. CHAS. W. SMEETON (Hovingham, York) writes: Before this bill becomes law I would call the attention of medical men practising in rural districts to the many different ways in which it will affect them; for, in whatever way it affects the townsman, it is the country doctor, with his definitely limited income and his high working expenses, who stands to lose most seriously by it. Already the decent farm men and working men are in clubs. The rest of his male patients are the country gentlemen, who are few in number, the farmers, and the tradesfolk. Hitherto the farmers and the tradespeople have not been in clubs, or, when they have, have often refused to take advantage of them. Under this bill—taxed for their servants, taxed for themselves—they will have no such scruples, and will to a man claim the doctor's services for 6s. a year. Remember, too, that these men have been accustomed to send for a doctor, at their own time and whenever they wished, paying cheerfully extra fees for night visits and special journeys. The night visits and special journeys will still be demanded; the extra fee will not exist. In the past as one rode home from a midnight call to a man eight miles away, one could say, "Well, there was no need to go, but I have earned an extra fee any way." The long ride will still be in evidence; the fee will be gone.

In country districts such as this—20 miles from any hospital—we have done all the minor and much of the major surgery; nor have we grumbled at our fees. The townsmen will pack all such cases off to the infirmary. We shall still have them to do for 6s. a year.

There are not the number in the country to make up the diminished income. No provision for night calls, no provision for mileage, none for operations; how are we to make a living? I can only believe that the Chancellor has no idea of the proportion our working expenses bear to our income. I believe our work will be doubled and our income diminished. Our work doubled, not by serious or interesting cases, but by the petty ailments, which brought no other consolation than that they helped us to earn a living. Remember, lastly, the big country houses of which many of us have one, two, or three in our practices. A man employing some twenty domestic servants would think he paid little if he contracted for £12 or £15 a year to have his servants attended. For twenty servants we shall now get £6 a year. £2 a week is far too high for the country. A small farmer who has always cheerfully paid his doctor's bill will declare that his weekly income is far less than £2, and who is to prove that it is not? He lives off his farm, and the local committee who is to decide will consist of the very men who are anxious to benefit from the bill.

There is one way, and only one, for country medical men, and that is to refuse to have anything whatever to do with the bill. If we stand together we must win; if a few are weak-kneed all of us will suffer.

DISPENSING.

Dr. R. R. RENTOUL (Liverpool) writes: The present state of the Insurance Bill provides that doctors shall not supply medicines to insured patients. This is, therefore, a proposal to repeal the Medical Acts, the Pharmacy Acts, the Charters of the Colleges of Physicians and Surgeons, and the two Apothecaries Societies. Would it not be much better to enact that any practitioner who wishes to dispense shall do so? How can we wait for medicines to be sent for night work, in poisonings, in confinements or country work, and in urgency cases?

*** Our correspondent, if he refers to the amended paragraph printed in the SUPPLEMENT of last week, p. 550, will see that this is another matter which is left to the decision of the Insurance Commissioners.

IRELAND.

DURING the past week resolutions have been passed in different parts of Ireland in favour of the retention of medical benefits in the bill for Ireland. A public meeting, held in the Antient Concert Rooms, Dublin, was unanimously in favour of the retention, and telegraphed to the Chancellor of the Exchequer to that effect. The Killarney

Urban Council, the Castlerea Board of Guardians, and the Limerick Guardians also discussed the subject, and passed resolutions recommending the inclusion of the medical benefits on behalf of the working classes.

Meetings of Branches and Divisions.

ABERDEEN BRANCH:

ABERDEEN DIVISION.

National Insurance Bill.—A meeting of this Division was held in the Medico-Chirurgical Society's Hall, 29, King Street, Aberdeen, on Wednesday, November 22nd, to consider the Report of the Council on the National Insurance Bill as amended in Committee of the House of Commons. There was a large attendance, over one hundred practitioners being present. Dr. JOHN GORDON, Aberdeen, Vice-President of the Branch, occupied the chair. The CHAIRMAN by way of introduction gave a summary of the amended bill, and discussed the method of procedure the Association should now adopt, arguing strongly in favour of following constitutional methods in fighting the bill through its various stages. Thereafter the meeting considered the recommendations of the Council seriatim. Dr. WESTLAND moved:

> That as Recommendation A is not absolutely official unless associated with Recommendation D, they should be submitted together.

Dr. ANNE MERCER WATSON seconded, and the motion was agreed to. After much discussion, Recommendation B was approved, on the motion of Dr. BEVERIDGE, seconded by Dr. BYRES. Recommendations C, D, and E were approved. With regard to Recommendation F, the meeting was unanimous that the Association should attempt to get more adequate representation on the local Insurance Committee, and Dr. RORIE (Cults) moved that the medical representatives on that committee should number not less than one-fourth. Dr. OGILVIE WILL seconded, and this became the unanimous finding of the meeting. Recommendations G, H, I, J, and K were approved. Recommendation L was approved with much enthusiasm. Recommendation M was also approved.

Defence Fund.—The TREASURER intimated that the Defence Fund now amounted to £734 7s., of which £467 4s. 6d. had been allocated to the local defence fund, and the remainder—£267 2s. 6d.—to the central defence fund. The SECRETARY intimated that every practitioner in Aberdeenshire, Banffshire, Kincardineshire, and Aberdeen City had signed the "undertaking" save two—one in the city and one in the county.

[The Honorary Secretary adds that since the meeting both these practitioners have signed, and the Division is now absolutely unanimous.]

DORSET AND WEST HANTS BRANCH:

BOURNEMOUTH DIVISION.

A CONJOINT meeting of this Division and of the Bournemouth and District Medical Practitioners' Union was held at Bournemouth on Wednesday, November 22nd. The chair was taken by Dr. E. K. LE FLEMING, and there was a large attendance of members.

National Insurance Bill.—It was agreed that the Central Council's recommendations for the further amendment of the bill be supported, and the following resolution, proposed by Dr. HYLA GREVES and seconded by Dr. SNOW, was carried unanimously:

> That we, the members of the Bournemouth Division of the British Medical Association and the Bournemouth and District Medical Practitioners' Union in joint meeting assembled, reaffirm our resolution not to act under the National Insurance Bill unless our minimum demands embraced under the six points formulated by the British Medical Association be incorporated in the bill, and we further instruct our Representative, Dr. Johnson Smyth, to place this resolution before the Representative Meeting.

WEST DORSET DIVISION.

National Insurance Bill.—We are requested to state that at the meeting of this Division held on November 22nd (a report of which was published in the JOURNAL of December 2nd, p. 560) the following resolution was proposed by Mr. W. E. GOOD, seconded by Dr. SANDERSON WELLS, and passed *nemine contradicente*:

> We, the members of the West Dorset Division of the Dorset and West Hants Branch of the British Medical Association, instruct our Representative to inform the Special Representative Meeting on November 23rd that we refuse to undertake the duties which the Insurance Bill in its present form proposes to assign to us, and to request the Special Representative Meeting to ask the Council to cease negotiations with the Government and also to withdraw the six cardinal principles of the Association, and thus oblige the Government in the future to seek from the profession the terms we (the profession) are agreeable to serve under.

EAST ANGLIAN BRANCH:

SOUTH-EAST ESSEX DIVISION.

National Insurance Bill.—At a largely attended meeting of members and non-members held at Southend on Tuesday, November 21st, the "Manchester Resolution" was unanimously carried.

GLASGOW AND WEST OF SCOTLAND BRANCH.

A LARGELY attended meeting of the Branch and practitioners resident in Glasgow and district was held in the Christian Institute, Glasgow, on Friday, December 1st, Dr. W. L. MUIR, President, in the chair.

National Insurance Bill.—Dr. MACGREGOR ROBERTSON proposed, and Dr. J. HAMILTON seconded, a resolution the effect of which was to place the entire management of the medical benefits under the Insurance Bill in the hands of a local Medical Committee, which was to be responsible for the conduct of this part of the bill to the Insurance Committee. Mr. GRANT ANDREW moved the previous question, and this was seconded by Dr. JOHN MORTON. The previous question was carried by a large majority. Professor R. STOCKMAN moved, and Dr. JOHN ADAMS seconded, a resolution approving of the policy of the Association with reference to the Insurance Bill. This was unanimously agreed to, Drs. EBENEZER DUNCAN, WISHART, KERR, and others taking part in the discussion. The CHAIRMAN moved a resolution thanking the Central Council of the Association for their great efforts on behalf of the profession during the controversy which had been occasioned by the bill. This was unanimously agreed to.

METROPOLITAN COUNTIES BRANCH:

GREENWICH DIVISION.

National Insurance Bill.—At a meeting of the Executive Committee held on December 4th the following resolution was passed:

> That the Executive Committee of the Greenwich Division approve the action of the Council of the Association in recommending the acceptance of the Prime Minister's offer to the Medical Secretary of the Deputy Chairmanship of the Commission to be constituted under the National Insurance Bill.

NORTH MIDDLESEX DIVISION.

A MEETING of this Division was held on November 21st, at the Hornsey Council Schools, Finsbury Park. Dr. H. B. BRACKENBURY was in the chair. Over a hundred members of the Division were present.

Confirmation of Minutes.—The minutes of the seventh ordinary meeting of July 18th, having been taken as read, were signed as correct.

Change of Name of Division,—A letter from the Central Organization Committee, dated October 19th, 1911, was read, informing the Division that the change of name of the Division from "Tottenham" to "North Middlesex" had been approved. The change is to take effect from October 28th.

National Insurance Bill.—The consideration and discussion of the Central Council's Special Report with Recommendations was then entered upon; and the Division's Representative was instructed to move at the Representative Meeting to be held on November 23rd as follows:

> On Recommendation A: That unless Subsection (iv) of Clause 16 of the bill be deleted, this Division is of opinion that the Representative Meeting should decline to allow the Association to carry out the medical provisions of the bill.
>
> On Recommendations B, C, and D: That these be agreed to.
>
> On Recommendation E: That Recommendation E be altered to read as follows: That while of opinion that the rate of remuneration of medical practitioners for medical attendance on insured persons and the extent of the services required should

have been fixed in the bill, the Representative Body state emphatically that the amount of 6s. per head per annum, upon which the actuarial calculations have been based, is inadequate to meet the cost of provision of medical benefit for the insured, and that the inclusion of married women as beneficiaries will necessitate a considerable increase upon the amount per head that was previously necessary.

On Recommendation F: That "one-fifth" be substituted for "one-tenth."

On Recommendations G, H, I, J, and K: That these be agreed to.

On Recommendation L: After the words "in July, 1911," to insert: "And that the medical profession will decline to enter into any arrangements under the bill unless the arrangements set out in Recommendations A, D, F, and H, as amended, be inserted.

On Recommendation M: That this be agreed to.

The Division's Representative was also instructed to move the following additional recommendations:

Recommendation N: That the proof of income shall be a declaration, carrying legal penalties for falsification, signed by the insured person, that the average income is under or over the wage limit.

Recommendation O: That all or any of the following, namely, the medical practitioner, the insured person, the local Health Committee, or the local Medical Committee, should have the power to challenge the right of any insured person whose income may be believed to exceed the income limit locally agreed, to obtain attendance and treatment under such agreement.

Recommendation P: That in any complaint made against a medical officer, inquiry shall first be made by the local Medical Committee.

Recommendation Q: That the working expenses of the local Medical Committee, such as travelling expenses, care of premises, etc., shall be provided out of the insurance fund, and not out of the pockets of the medical men.

Recommendation R: That as far as medical benefits is concerned, lines 35, 36, and 37 of Subsection (3) of Clause 1 of the bill as printed in the BRITISH MEDICAL JOURNAL SUPPLEMENT of November 18th, 1911, shall not apply.

The proceedings then terminated.

MIDLAND BRANCH:

BOSTON AND SPALDING DIVISION.

A SPECIAL meeting was held at the White Hart Hotel, Boston, on Wednesday, November 22nd. Dr. SOUTH was in the chair, and thirty-five medical men, six of whom were non-members, were present.

Vote of Condolence.—Before proceeding with the agenda, the CHAIRMAN rose to propose a vote of condolence to Dr. W. E. M. Wright in the terrible loss which he has sustained by the death of his wife. This was adopted in sympathetic silence.

Confirmation of Minutes.—The minutes were then read, confirmed, and signed.

Apologies for Non-attendance.—Regrets at non-attendance were received from ten medical men.

Grouping of Boston and Spalding Division with the Lincoln Division.—The SECRETARY reported that the Division needed only a few more members to enable it to have its own Representative. On this three non-members rose and expressed themselves willing to join—Drs. Power, Sweeten, and Tate. It was decided to leave this matter over for the present.

National Insurance Bill.

The SECRETARY gave a brief outline of the Recommendations (A to M) on the Report of Council on the National Insurance Bill.

Dr. COLLINS proposed and Dr. JACOBSEN seconded:

That these be adopted with the exception of B and C.

This was carried unanimously.

Recommendations B and C were alternative, and after some discussion Dr. JACOBSEN proposed and Dr. MILLER seconded:

That Recommendation C be adopted.

This was carried *nemine contradicente.*

Dr. BARRITT proposed and Dr. BENSON seconded the following resolution arising out of the Council's report:

That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal principles formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; therefore this meeting of the medical profession of the Boston and Spalding Division expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

This was carried *nemine contradicente.*

The Secretary was asked to publish these resolutions in the local press.

The method of remuneration was thoroughly discussed, Dr. FRANK WALKER, in an able speech, supporting the resolution. Other gentlemen — notably Drs. MUNRO, COLLINS, SWEETEN, MILLER, and R. TUXFORD—took part.

Dr. R. TUXFORD proposed and Dr. MASON seconded:

That the method of remuneration be payment per attendance at such fee as fixed by the local Medical Committee, the money to be guaranteed by the Treasury.

This was carried *nemine contradicente.*

Notice of Motion.—Dr. COLLINS gave notice that at the next meeting he would bring up for discussion the subject of juvenile clubs and their rates of pay.

Central Defence Fund.—The SECRETARY called attention to this fund, which was in urgent need of support from all members of the profession. He expected a list from the head office of those who had already contributed, and warned those present that those who had not would shortly receive an appeal.

Vote of Thanks to Chairman.—The usual vote of thanks was tendered to the Chairman for presiding.

Tea.—Sixteen gentlemen had tea in the hotel afterwards.

NORTH OF ENGLAND BRANCH:

BISHOP AUCKLAND DIVISION.

A MEETING of this Division was held at the Wear Valley Hotel, on Tuesday, November 21st. Dr. KANE (the President) occupied the chair, and the following members were present: Dr. Wardle, Dr. A. Mackay, Dr. W. Mackay, Dr. Farquharson, Dr. Caldwell, Dr. Smeddle, Dr. Brown (Shildon), Dr. Brown (Willington), Dr. C. McCullagh, Dr. Hernaman-Johnson, and Dr. Sheedy. Apologies were sent by Dr. Brewis (Willington) and Dr. Ellis (Bishop Auckland).

National Insurance Bill.—The following resolution was carried unanimously:

That the Recommendations of the Council as set forth in Form D 11, pp. 18–20, are approved by this Division, and that the Representative to the special meeting in London, called for November 23rd, be instructed to support the general policy of the British Medical Association as heretofore declared.

NORTH WALES BRANCH:

DENBIGH AND FLINT DIVISION.

A MEETING of the medical practitioners of the counties of Denbigh and Flint was held at Chester on November 21st. There was a large attendance.

National Insurance Bill.—The following resolution was passed unanimously, with instructions that copies of the same be sent to the Prime Minister, the Chancellor of the Exchequer, and to the local members of Parliament:

That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health. Therefore this meeting of the medical profession of Denbighshire and Flintshire expresses its determination, in the event of the bill becoming law in its present form, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it.

OXFORD AND READING BRANCH.

National Insurance Bill.—At a meeting of the Executive Committee of the Oxford Division, held on December 5th, the following resolution was passed:

That this meeting of the Executive Committee of the Oxford Division of the British Medical Association strongly disapproves of the acceptance of the post of Medical Commissioner under the Insurance Bill by any officer of the Association until the "six cardinal points" have been granted by the Government.

The Honorary Secretary, in forwarding this resolution for publication, requests us to add that the Executive Committee quite appreciate the fact that the Medical Secretary did not accept the office of Insurance Commissioner on his own responsibility, and that it considers the reasons given for the Council's advice—as published in the circular—entirely inadequate.

SHROPSHIRE AND MID-WALES BRANCH.

AT a meeting of medical men of Shropshire and Mid-Wales, held on December 5th, Dr. EXHAM in the chair, the following resolutions were passed:

1. That this meeting is of opinion that the provisions of the National Insurance Bill, as finally drafted, do not incorporate the six cardinal points to which the profession unanimously pledged itself. That they do not secure effectual means whereby the practical working of the bill can be carried out in absolute conformity with the principles of these six points. And, therefore, that the Council of the British Medical Association should at once call upon all members of the profession to decline to form a panel, or to undertake any duties, including administrative ones, which the bill proposes to assign to them.
2. This meeting regards with grave suspicion and disapproval the appointment of Mr. Smith Whitaker as Deputy Chairman of the Insurance Commissioners.
3. This meeting expresses its strong disapproval of the action of the Council of the British Medical Association in regard to its method of conducting negotiations with the Government.

Fifty-four medical men were present at the meeting.

SOUTH-EASTERN BRANCH:

ISLE OF THANET DIVISION.

THE forty-seventh meeting of this Division was held at the Royal Sea-Bathing Hospital, Margate, on Tuesday, November 14th. Dr. BRUNTON was in the chair. There were present: Drs. Worthington, Biddle, Woods, Hunt, Sworder, Webb, Tamplin, Archibald, Milton, Heaton, Sawers, Rutherfurd, Street, Nichol, Summershill, Sutcliffe, Raven, Francis, and Moore—twenty in all.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Quackery and Medical Law Reform.—A letter was read from the Secretary of the Reigate Division, enclosing a pamphlet on quackery and medical law reform. Several members notified their desire to be provided with a copy of the pamphlet.

General Medical Council Election.—A letter was read from the Medical Secretary asking for support of the candidature of Drs. Langley Browne, Latimer, and Verrall, on the General Medical Council.

National Insurance Bill.—A letter was read also from the Medical Secretary notifying that a meeting of the Division would be required at an early date to consider a report of the Council after the Insurance Bill had passed the Committee stage of the House of Commons. It was decided to call the meeting for Tuesday, November 21st, at the same time and place.

Ethical Rules.—The CHAIRMAN introduced a discussion upon certain ethical rules known as the Bradford Rules and Rule Z, and suggested that the Division should adopt them. A keen discussion followed, in which most of those present took part; and on the resolution of Dr. NICHOL, seconded by Dr. SUMMERSHILL, the meeting decided to adjourn the discussion till the next meeting to be held in a week's time.

Guarantee Fund.—The HONORARY SECRETARY introduced the subject of the Association's Guarantee Fund in relation to the Insurance Bill, and read the original circular sent round from the Council of the Association early in the summer to all members and to others, and also gave information, as far as he could, on the response to the appeal, and whether a local or a central fund were considered the most important. Dr. SUTCLIFFE proposed and Dr. TAMPLIN seconded the resolution:

> That this Division should do its utmost to support the Central Defence Fund of the British Medical Association.

The Honorary Secretary was instructed to circularize all members of the Division, appealing again for generous support to the fund.

The forty-eighth meeting of the Division was held at the Royal Sea-Bathing Hospital, Margate, on November 21st. Dr. BRUNTON was in the chair. There were also present: Drs. Tamplin, Powell, Webb, Archibald, Thornton, Biddle, Sworder, Treves, Francis, Moore, Chidell, Summershill, Sawers, Rutherfurd, Nichol, Fisk, Hunt, Halstead, Street, Sutcliffe, Styan, Woods, Richards, Worthington, Raven—twenty-six in all.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Letter from Medical Secretary.—A letter was read from the Medical Secretary in answer to several questions on Bradford Rules, response to appeals, etc.

National Insurance Bill.—A resolution on the National Insurance Bill was read from the Lancashire and Cheshire medical practitioners; also from the Dover, Folkestone, Sandwich and Deal Divisions. Dr. BRUNTON, as Chairman, introduced the subject of the Report of the Council on the National Insurance Bill, and spoke on the subject at some length. Many members followed, and on the proposition of Dr. TAMPLIN, seconded by Dr. STREET, the members unanimously decided to support the Recommendations of the Council A to M, and the Honorary Secretary was instructed to inform Dr. Gosse, the Divisional Representative, to that effect. The decision was come to with some enthusiasm and feeling of gratitude to the Council for their efforts on behalf of the profession. It was further decided to ask the Representative to urge that Resolution L should be sent not only to the Chancellor of the Exchequer, but also to all members of Parliament, members of the House of Lords, and to the principal newspapers.

Dr. NICHOL proposed, and Dr. THORNTON seconded, the following proposition, which was carried unanimously:

> That this meeting of the Isle of Thanet Division of the British Medical Association pledges itself to follow the policy of the Association on the question of the National Insurance Bill, provided that that policy includes the six cardinal points of the demands of the profession.

Ethical Rules.—The adjourned discussion of the question of adopting the Ethical Rules known as the "Bradford Rules" and Rule Z, by the Division, was continued, and after some further discussion, in which many members took part, on the motion of Dr. ARCHIBALD, seconded by Dr. BERTRAM THORNTON, the rules were unanimously adopted.

Future Meetings.—The HONORARY SECRETARY gave notice of future meetings and of the annual dinner.

Vote of Thanks to Chairman.—A very hearty vote of thanks was passed to the Chairman.

BRIGHTON, EASTBOURNE, TUNBRIDGE WELLS, AND HASTINGS DIVISIONS.

A CONJOINT meeting of these Divisions was held at the Eversfield Hotel on Wednesday, November 29th.

Tea.—Dr. BALLINGALL, Chairman of the Hastings Division, entertained the members to tea. Thirty-eight attended.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Defence Fund.—Dr. WILLS, of Bexhill, proposed the following resolution:

> That a local fund be formed in the Hastings Division for the defence of the profession against the scheme of medical relief proposed in the Insurance Bill now before the House of Commons.

Mr. FARRANT FRY seconded. After several members had spoken for and against this proposition, the following amendment was proposed by Mr. KAYE-SMITH and seconded by Dr. ALLFREY:

> That this meeting of the Hastings Division do all in its power to further the Central Defence Fund.

The amendment was put first and carried by a large majority. The original resolution was put to the meeting and was rejected.

Paper.—Mr. J. D. MALCOLM then read a paper entitled "Wertheim's Operation for Cancer of the Cervix Uteri." The paper was listened to with marked interest and attention, and several members spoke upon the subject. A cordial vote of thanks was passed to Mr. Malcolm for his address.

Dinner.—The dinner was attended by seventeen members.

CROYDON DIVISION.

AT a meeting held at Croydon on November 21st it was decided unanimously and by acclamation to refuse to accept service under the Insurance Bill as it then stood. The decision was forwarded to the local press and to the Chancellor of the Exchequer.

SOUTHERN BRANCH.

THE half-yearly general meeting of the Branch was held at the South-Western Hotel, Southampton, on November 22nd. Mr. C. P. CHILDE (President) was in the chair, and about sixty other members were present.

Confirmation of Minutes.—The minutes of the last meeting were read and adopted.

Alteration of Rule.—The form of alteration of Rule 7 drawn up by the Medical Secretary was approved.

Epsom College.—The HONORARY SECRETARY announced that the Secretary of Epsom College had acknowledged the receipt of £12 10s. 6d., the amount collected at the annual meeting for that institution. The disposal of the votes resulting was left to the President and Honorary Secretary, on the motion of Dr. LEON, seconded by Dr. HACKMAN.

Grant.—A grant of £10 was made to Dr. Gibson towards the expenses of the defendant in the case of Flux *v.* Clayton, and the cost of printing and postage in connexion with the canvass of members for subscriptions for the same object was also ordered to be paid from the funds of the Branch.

National Insurance Bill.—The HONORARY SECRETARY informed the meeting that he had addressed a circular letter to each of the members of Parliament representing constituencies in the area of the Branch requesting support of the amendments suggested by the British Medical Association. Dr. PRESTON then moved and Mr. H. J. GODWIN seconded a resolution in the terms employed by the Lancashire and Cheshire Branch mass meeting on November 18th. This was carried unanimously.

Vaccines in General Practice.—After the transaction of the business the PRESIDENT introduced Dr. JOHN MATTHEWS, of the department of therapeutic inoculation at St. Mary's Hospital, who delivered an address on Vaccines in General Practice, which was listened to with the utmost attention by the members, several of whom took part in the discussion which followed.

Vote of Thanks.—The PRESIDENT moved a vote of thanks to Dr. Matthews, which was seconded by Dr. HACKMAN and carried with acclamation.

WEST SOMERSET BRANCH.

THE autumn meeting of this Branch was held at the Taunton and Somerset Hospital on Tuesday, November 21st. Mr. W. B. WINCKWORTH, President, was in the chair. Thirty-five members and two visitors were present.

National Insurance Bill.—It was resolved:

That the Branch support all the Recommendations except B, as sent out by the Council, and Dr. J. A. Macdonald should vote for them at the Meeting of Representatives to be held on November 23rd.

That a subscription list to help meet the expenses of the central office and a guarantee fund for the defence fund be started in the Branch, the sums suggested being respectively £1 1s. and £25.

YORKSHIRE BRANCH:

HALIFAX DIVISION.

National Insurance Bill.

AT a meeting of this Division on December 5th the following resolutions were passed:

1. That this meeting of the Halifax Division of the British Medical Association approves and supports the policy of the Association as defined in the resolution of the Representative Meeting on November 25th, which insists that arrangements made with medical practitioners under the Act must be absolutely in accordance with the six cardinal principles previously laid down by the Association.
2. That this meeting of the Halifax Division of the British Medical Association disapproves of the attitude adopted by the Council, which has given rise to much anxiety among medical men and much confusion in the professional and public mind. It declares that not one of the six cardinal points has been really secured. Further, this meeting calls upon the Council to issue to the Divisions, for their guidance, at the earliest possible date, a statement showing how—if at all possible—the six cardinal principles can be secured having regard to the bill as finally drafted, and in view of Mr. Lloyd George's recently repeated declaration that 4s. 6d. per head per annum was the calculated basis for the remuneration of medical practitioners.
3. That this meeting thanks Mr. J. Smith Whitaker for his past services and unselfish devotion to the cause of the medical profession as Medical Secretary of the British Medical Association, and is sorry to lose his valuable services in the present crisis.

NORTH-WEST ESSEX MEDICAL SOCIETY.

AT a meeting at the Central Hall, Stansted, on Monday, November 27th, at 3 p.m., the following resolution was unanimously adopted:

This society (consisting of all the medical men practising in North-West Essex), after due consideration of the National Insurance Bill at the conclusion of the Committee stage in the House of Commons, is of opinion that the bill does not provide an adequate service to the insured on terms satisfactory to the profession, and therefore unanimously resolves that none of its members will undertake any office whatsoever under the bill unless and until the defects are remedied.

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD

LANCASHIRE AND CHESHIRE BRANCH.—A scientific and clinical meeting will be held in Liverpool on Wednesday afternoon, January 10th, 1912. Members willing to give short papers or demonstrations, or to show cases or specimens, are asked to communicate early with the Honorary Secretary of the Science Committee, P. R. COOPER, M.D., B.Sc., 8, St. Peter's Square, Manchester.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A meeting will be held this day (Friday, December 8th), at 8.30 p.m., at the Hampstead Conservatoire, Swiss Cottage, to consider the draft ethical rules and the recent action of the Council.—MINA DOBBIE, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—The second ordinary meeting of this Division will be held on Tuesday, December 12th, at 4.15 p.m., at the Prince of Wales's Hospital, Tottenham; Chairman, Dr. H. B. Brackenbury. Business: (1) Correspondence. (3) Organization of the Division in view of the passage of the National Insurance Bill into law. (3) Any other business.—J. A. PERCIVAL BARNES, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A meeting of the Division will he held at the Walthamstow Hospital, Orford Road, Walthamstow, on Thursday, December 14th, at 4 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) To consider a resolution passed by the Subcommittee for Medical Inspection of the Essex County Education Committee. (4) Paper: "Manifestations of Petit Mal: its Prognosis and Treatment," by H. Morley Fletcher, M.D., F.R.C.P., Assistant Physician, St. Bartholomew's Hospital. (5) Any other business.—A. POTTINGER ELDRED, Honorary Secretary.

NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.—A scientific meeting will be held at the Royal Victoria Infirmary on Friday, December 15th. 3.15–3.45, Dr. Napier Burnett: Complications of Labour. 3.45–4.15, Professor Sir Thos. Oliver: Phthisis in Miners. 4.15–4.30, tea. 4.30–5.0, Dr. T. Beattie: Practical Points in the Sanatorium Treatment of Tubercle. 5.0.–5.30, Mr. G. Grey Turner: Gall-Stone Disease with Jaundice. 5.30–6.0, Mr. J. W. Heslop: Surgery of the Veins.—R. J. WILLAN, Honorary Secretary, 25, Ellison Place, Newcastle-upon-Tyne.

GENERAL COUNCIL

OF

MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1911.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

NATIONAL INSURANCE BILL.

ON the motion of the PRESIDENT, seconded by Dr. LANGLEY BROWNE, a report of the National Insurance Bill Committee was received and entered on the minutes.

The report, after rehearsing the action taken in June and July last,[1] stated that at another interview with the President and the officials of the Treasury certain points raised in connexion with the amendments then under the consideration of the Government were discussed, and continued as follows:

"At a meeting of the committee held on November 29th, 1911, the bill as amended in Committee of the House of Commons was considered. After discussion it was unanimously agreed that, in pursuance of the Council's resolution of May 29th, 1911, the following representations should be made to the Government, with a view to procuring further amendments of the bill on Report:

"I. That, as in the case of the Insurance Commissioners for England, it should be provided by statute that the Insurance Commissioners for Scotland, Ireland, and Wales shall include duly qualified medical practitioners.

"II. That statutory provision should be made for the appointment of Advisory Committees, including therein duly qualified medical practitioners, to assist the Insurance Commissioners in Scotland, Ireland, and Wales respectively.

"III. That, in view of the large increase in the number of members who may now be appointed on local Health Committees, it is urgently necessary that statutory provision should be made for the appointment of a larger number of medical practitioners on each such committee in each division of the kingdom.

"IV. That statutory provision should be made for the appointment of local Medical Committees in the other divisions of the kingdom, including Ireland, corresponding to the provision made by Clause 58 for the appointment of such committees in England.

"V. That Clause 16 (4), in so far as it entrusts the administration of "medical benefits" to existing organizations rather than to the local Health Committee, as contemplated by Clause 16 (1), is not conducive to the efficiency of the medical service of insured persons, and should be deleted from the bill; or at least that its application should be restricted to organizations actually in operation at the date when Clause 16 (4) was introduced into the bill.

"VI. That, notwithstanding the introduction of certain amendments relating to the treatment of insured persons in voluntary hospitals and other charitable institutions, there is ground for apprehension that the national scheme established by the bill may operate so as seriously to impair the financial stability, and therefore the efficiency, of such hospitals and institutions; and that in view of the danger thus apprehended, steps should forthwith be taken by the Government to institute inquiries on this subject, and, if necessary, to propose legislation for the purpose of safeguarding the important interests, educational, scientific and philanthropic, that are involved.

"By request of the Chancellor, these representations were communicated to him on November 30th, 1911."

The PRESIDENT said that the report was very largely a narrative of the steps which had been taken and communications which had passed between the Council and the Government. Almost every stage of it had been made known to members of the Council by circulating a succession of memoranda, so that the Council could keep pace with the successive steps in the negotiations that had taken place. If the essential instructions given by the Council to the Committee were carefully considered the Council would, he thought, agree that most of them appeared to have been accepted. Since then the bill had been in Committee of the House of Commons, and the process of transformation was not even yet at an end, and it was not possible to say whether further changes might not develop which would give the Council occasion to intervene again; for that reason he thought the committee should be continued in order to press for the adoption of the proposals which had already been approved by the Council. A great many amendments had been made on the previous night after the communication sent to the Chancellor of the Exchequer in November. The President said that he had not had an opportunity of seeing these amendments, and could not, therefore, say whether the suggestions made had been embodied or not. It would, in fact, be impossible to know whether they had or not until the bill as amended in the Report stage was printed. A protest had been made against the subclause which continued to existing organizations the right to give medical aid, and to have that medical aid recognized and subsidized, as though it were a regular recognized medical benefit given by the local Health Committee; the Council had suggested that the subclause should either be deleted, or so limited in its scope as to include only certain existing organizations in bona fide operation. It was most desirable that no new vested rights should be allowed to come into existence. In the bill as originally framed there was very grave ground for the Council's suggestion that hospital treatment of insured persons was most inadequately provided for, and practically the only provision now made as to hospital treatment for insured persons was that the approved societies might, if they liked, give subscriptions or donations to hospitals. There was no indication that the local Health Committee, which, as now arranged, was much more responsible than approved societies, might make arrangements for such hospital treatment. The original bill provided that if an insured person was in a hospital and had no dependents his sick benefit went not to himself, but to the local Health Committee to be merged in the general fund. It was pointed out that the hospital was maintaining him and treating him, and that it was not fair that the Insurance Fund should profit by his being so treated. That point was now met to some extent by an amendment which allowed the local Health Committee to make an arrangement by which the sickness benefit might be used to provide payment to the hospitals in respect of his maintenance. In the bill as originally drafted sanatorium benefit was confined to sanatoriums for tuberculosis. But under the bill as amended it would be possible for the local Health Committee to contribute to other sanatoriums or other places for the treatment of tuberculosis or "other diseases." That made it possible for an institution other than a sanatorium to be subsidized by a local Health Committee; but notwithstanding that the Committee felt that the position of voluntary hospitals was still in grave danger; there was the danger of the possible diversion from the hospitals of contributions by the workmen and employers. The best that could be done was to point out that this danger still remained and to ask the Government to make an inquiry, and, if the inquiry proved that the fears of the hospitals were well grounded, to take steps in a supplemental bill to safeguard their interests. The President concluded by moving:

> That the action of the Committee be approved, and that it be requested to continue its efforts in the direction of the improvement of the bill.

Dr. MACDONALD seconded the motion, which was carried.

PUBLIC HEALTH COMMITTEE.

The report of the Public Health Committee for the proposed revision of the regulations for the diploma in public health was received, on the motion of Dr. NORMAN WALKER, seconded by Sir JOHN MOORE.

Report.

The report stated that a letter of inquiry with regard to the changes in the regulations for the diploma in public health proposed in the resolution adopted by the Council on May 29th, 1911, had been sent to all the qualifying

[1] SUPPLEMENT to the BRITISH MEDICAL JOURNAL, June 3rd, p. 336, and July 22nd, p. 182.

bodies and to the three Local Government Boards. The report contained the following analysis of the replies:

With the exception of the Universities of London and Bristol and the National University of Ireland, replies have been received from all the bodies which grant degrees or diplomas in State Medicine.

The Local Government Boards of England, Scotland, and Ireland have each sent communications.

Rule 2.—The majority of the bodies deprecate reduction of the period of time now required to be devoted to laboratory work. (This is nominally six months; but in practice it is—it may be said usually—two terms=five months.) The Scottish Conjoint Board and the University of St. Andrews would accept a less period than six months, provided a minimum attendance of 200 hours is required. The University of Cambridge believes the work might be got through by the more capable men in four months, provided 240 hours' work is insisted upon. The University of Manchester recommends that 200 to 210 hours be spread over a period of six months, and instances candidates who do five hours twice weekly. The Queen's University of Belfast regards 150 hours as sufficient, but dwells on the difficulty of men in practice managing this in three months.

Rule 3. Practical Work under a Medical Officer of Health.—The Committee's suggestion (Note 1, *a*) requiring attendance on sixty working days is almost unanimously approved. Cambridge suggests ninety hours in forty-five days.

No objections are raised to Note 2.

Rule 4. Fevers.—No objection is taken to the Committee's suggestion. Cambridge suggests that fifteen meetings during three months should suffice, provided attention is given to clinical work.

Rule 5.—No objections are taken.

Suggestions.—One or two of the bodies suggest that in the case of candidates who are devoting their whole time to working for the diploma some modification of the "distinct and separate" proviso (Rule 3) might be allowed.

Several bodies suggest that the Council should provide a syllabus of the work in chemistry.

Generally speaking, an equal division of the laboratory time between chemistry and bacteriology is favoured.

Sheffield presses the suggestion formerly made, that the place of chemistry in the examination should be occupied by some more useful practical subject, such as school hygiene.

The report concluded by recommending the Council to adopt the resolutions and rules in the following amended form:

PUBLIC HEALTH.

Resolutions and Rules adopted by the General Medical Council on December 2nd, 1902, May 29th and November 30th, 1903, May 31st, 1904, May 25th and 26th, 1905, May 26th, 1910, and December 1st, 1911, for Diplomas in Public Health.

I.—The Council, having regard to the terms of Section 18 of the Local Government Act, 1888, and of Section 54 of the Local Government (Scotland) Act, 1889, and observing that under those sections special privilege is to be accorded to the holders of the diplomas granted under Section 21 of the Medical Act, 1886, and therein described as diplomas in Sanitary Science, Public Health, or State Medicine, thinks it essential to declare, with regard to its own future action under Section 21 of the Medical Act, 1886, that it will not consider diplomas to "deserve recognition in the *Medical Register*" unless they have been granted under such conditions of education and examination as to ensure (in the judgement of the Council) the possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health; and the Council, in forming its judgement on such conditions of education and examination, will expect the following rules to have been observed:

Rule 1. The curriculum for a diploma in sanitary science, public health, or State medicine shall extend over a period of not less than nine calendar months.

Rule 2. Every candidate for a diploma in Sanitary Science, Public Health, or State Medicine shall have produced satisfac tory evidence that, after obtaining a registrable qualification, which should be registered before admission to examination for the diploma, he has received practical instruction in a laboratory or laboratories, British or foreign, approved by the Licensing Body granting the diploma, in which chemistry, bacteriology, and the pathology of the diseases of animals transmissible to man are taught. The laboratory instruction shall cover a period of not less than four calendar months, and shall include at least 240 hours of practical work, of which not more than one half shall be devoted to practical chemistry. The laboratory course should be so arranged as to lay special stress on practical work which bears most directly on the duties of a medical officer of health.

Rule 3. Every candidate shall have produced satisfactory evidence that, after obtaining a registrable qualification, he has during six months been diligently engaged in acquiring a practical knowledge of the duties, routine and special, of public health administration, under the personal supervision of

(*a*) In England and Wales, the medical officer of health of a county or of a single or combined sanitary district having a population of not less than 50,000, or a medical officer of health devoting his whole time to public health work; or

(*b*) In Scotland, a medical officer of health of a county or counties, or of one or more districts having a population of not less than 30,000; or

(*c*) In Ireland, a medical superintendent officer of health of a district or districts having a population of not less than 30,000; or

(*d*) In the British Dominions outside the United Kingdom, a medical officer of health of a sanitary district having a population of not less than 30,000, who himself holds a registrable diploma in public health; or

(*e*) A medical officer of health who is also a teacher in the department of public health of a recognized medical school; or

(*f*) A sanitary staff officer of the Royal Army Medical Corps having charge of an army corps, district, command, or division recognized for this purpose by the General Medical Council.

(*g*) An assistant medical officer of health of a county or of a single sanitary district having a population of not less than 50,000, provided the medical officer of health of the county or district in question permits the assistant officer to give the necessary instruction and to issue certificates; or

(*h*) That he has himself held for a period of not less than three years an appointment as medical officer of health of a sanitary district within the British Dominions, and having a population of not less than 15,000.

The certificate for this purpose must, except as provided under (*h*), include testimony that the candidate has attended under the supervision of the person certifying on not less than 60 working days.

Provided that if the candidate has—

1. Produced satisfactory evidence that he has attended a course or courses of instruction in sanitary law, vital statistics, epidemiology, school hygiene, and other subjects bearing on public health administration, given by a teacher or teachers in the department of public health of a recognized medical school; or—

2. Produced evidence that he has been a resident medical officer in a hospital for infectious diseases containing not less than 100 beds, during a period of three months—

The period during which he has been engaged in acquiring practical knowledge of his duties under this rule may be reduced to three months, to include an attendance on at least thirty working days.

Rule 4. Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has attended during three months at least twice weekly the practice of a hospital for infectious diseases at which candidate has received instruction in the methods of administration.

1. Methods of administration shall include the methods of dealing with patients at their admission and discharge, as well as in the wards, and the medical superintendence of the hospital generally.

2. In the case of a medical officer of the Royal Army Medical Corps a certificate from a principal medical officer under whom he has served, stating that he has during a period of at least three months been diligently engaged in acquiring a practical knowledge of hospital administration in relation to infectious diseases, may be accepted as evidence under Rule 4.

Rule 5. The examination shall have been conducted by examiners specially qualified; it shall have extended over not less than four days, one of which shall have been devoted to practical work in a laboratory, and one to practical examination in, and reporting on, subjects which fall within the duties of a medical officer of health, including those of a school medical officer.

*** The Rules 2, 3, 4, as to study, shall not apply to medical practitioners registered, or entitled to be registered, on or before January 1st, 1890.

II. The Council shall, from time to time, appoint an inspector or inspectors of examinations in public health, with special instructions to report to the Council whether the examination of each licensing body does or does not afford evidence, on the part of candidates passing such examination, of a distinctively high proficiency, scientific and practical, in each and all the branches of study which concern the public health.

List of the districts and commands that have been recognized by the Council under Rule 3 (*f*):

Aldershot, Salisbury Plain, Southern and South-Eastern, Western, Dublin and Belfast, Cork, Chatham and Woolwich, Home, Eastern, North-Eastern and North-Western, Scottish, Gibraltar Command, Malta Command.

The following Indian Divisions, namely:

1st (Peshawar), 2nd (Rawalpindi), 3rd (Lahore), 5th (Mhow), 6th (Poona), 7th (Meerut), 8th (Lucknow), 9th (Secunderabad), and Burma.

Sir HENRY MORRIS said that there should be no cast-iron regulation with regard to the division of time between chemistry and bacteriology. He proposed the deletion from the proposed Regulations and Rules (Rule 2) of the words "of which not more than one-half shall be devoted to practical chemistry," or else the substitution of some such words as "of which the proportion to be devoted to chemistry and bacteriology respectively be left to the discretion of the teachers."

Sir JOHN MOORE said he could not accept the amendment. He thought it a very fair rule that not more than one-half of the time should be devoted to chemistry.

Dr. NORMAN WALKER seconded.

Sir WILLIAM WHITLA thought the teacher should have power to divide the time. He did not think it possible to make a rule applicable to all cases.

The amendment suggesting deletion of the words "of which not more than one-half shall be devoted to practical chemistry," was lost, and the Resolutions and Rules were adopted.

RECOGNITION OF SECONDARY SCHOOLS.

Dr. NORMAN MOORE moved:

That the report by the Students' Registration Committee on Exceptional Cases be received, entered on the minutes, and approved.

Dr. MACKAY seconded.

Mr. PYE-SMITH said that if the recommendation were adopted it would allow of the first year of the medical curriculum being taken at a secondary school, and thus the five years' curriculum would become a four years' curriculum.

Sir HENRY MORRIS pointed out that there were now two regulations of the Council relative to those who had taken preliminary science courses at a technical science school or college or a polytechnic, or any place recognized by the General Medical Council other than a university or medical school. If this study preceded registration, the Council did not recognize it as forming any part of the five years' curriculum. If it followed registration, the Council allowed a year of such study at such non-medical institution to count as the first year of medical curriculum, and that if these public schools were recognized in pursuance of the decision of the General Medical Council in May last they should be, then the secondary schools would be on precisely the same footing as the technical schools and colleges and the polytechnics were now. Personally he would prefer to allow the preliminary sciences to be studied at secondary schools as well as at other non-medical institutions, and the examination thereinto be passed before entrance at a medical school proper, but he would still like to require the full five years at the medical school after the passing of the examination in the preliminary sciences, as well, of course, as the examination now required in general education. This would, however, be tantamount to an additional year to the curriculum, though he did not propose to act on this personal view of the matter. He intended at the next session in May to bring forward a resolution to the effect that the General Medical Council should issue a recommendation to the several examining bodies that students who had studied at and passed the examination in preliminary sciences from a secondary school, a technical science school or college, a polytechnic, or any other institution, except a medical school or university with a medical faculty, should be allowed to count such study as six months only, not twelve, of the curriculum. Further, if, after such study at a non-medical school or faculty, whether a secondary school or a polytechnic, etc., the examination in preliminary sciences were not passed till three months or less after entering a medical school, a period of four years and nine months at a medical school should be required; if the preliminary scientific examination were not passed till between three and six months after entering a medical school, the whole five years' curriculum should be exacted. If the curriculum were revised, and if it were made the rule that the preliminary scientific examination should be passed before a student entered a medical school, then chemistry in its application to physiology and pathology, and physics as applied, or in relation to physiology, might be studied during the first two years or two and a half years together with anatomy and physiology. He thought there would be ample time for this, and that it would serve a most useful purpose in prolonging the time of study for the final subjects, not only by taking a half year from the three years now generally given up to the preliminary and intermediate subjects, but by getting the students acquainted with chemistry and physics in their application to medicine before they passed into that too short division of two years which was now all that was allotted to the manifold "final" subjects.

Sir CLIFFORD ALLBUTT would be sorry to think that a young man, having passed the examination in the preliminary sciences at a secondary school, should on entering a medical school put aside all study of those subjects. If recognition were given to instruction in secondary schools, and that instruction allowed to count for six months out of the first year of medical studies, why should not universities claim the same privilege of having a portion of the work done during the first years of the university course counted in the curriculum. If the universities followed out the Council's recommendations they must exact from medical students a full five years' curriculum, whereas secondary schools would be allowed six months in connexion with the five years.

The PRESIDENT said the effect of the recommendation was to allow students to be registered as medical students who had begun their studies in chemistry and physics in one of the approved secondary schools. The Council had not yet laid down the period which should be allowed to be deducted from the curriculum in respect of these earlier studies; it remained for the Council to draw up recommendations on that point.

Dr. MACKAY said that the effect of what the Students' Registration Committee had done was to put some ten or a dozen secondary schools exactly in the same position as medical schools. No regulations were suggested with regard to them which differed from those applicable to medical schools. The Council was simply asked to say whether it approved of the schools named by the committee. The schools on the list were among the best in the land, and would do the work in a thoroughly efficient way.

Dr. CATON wished it were possible to delay the recognition of the schools until the matter had been fully discussed.

Dr. NORMAN MOORE said that it had been discussed for ten years. Eventually the report was received, entered on the minutes, and approved.

At the request of Sir HENRY MORRIS the names and numbers were taken, when it appeared there were 30 for and 1 against.

REGISTRATION OF STUDENTS.

Dr. MACKAY, Chairman of the Education Committee, brought up the following report of that committee.

Report.

"On May 23rd, 1911, the following amendment, moved by Dr. Saundby, seconded by Mr. Tomes, was put as a substantive motion and carried:

That the Education Committee be instructed to report to the Council what alterations in the Regulations (10, 11, and 12) for the registration of medical students are necessary to bring them into conformity with the facts and with the powers of the Council.

"In the year 1865 the Council very carefully considered the question of the registration of students, and codified a number of resolutions which had been passed at various dates up to that time. Amongst these resolutions was one adopted on April 10th, 1865 (*Minutes*, vol. iii, p. 226), as follows:

That every medical student shall be registered at the commencement of his professional study, and not until he has passed the preliminary examination.

"The Committee recommend that the following should be substituted for Clauses 10, 11, and 12 above quoted:

I. It is recommended to the Council:

(10) That every medical student should be registered in the manner hereinafter prescribed.

(11) That no medical student should be registered until he has attained the age of sixteen years, has passed a preliminary examination recognized by the General Medical Council, and has produced evidence that he has commenced medical study at a university, or school of medicine, or at a teaching institution recognized by one of the licensing bodies and approved by the Council.

(12) The commencement of the course of professional study recognized by any of the licensing bodies should not be reckoned as dating earlier than fifteen days before the date of registration.

II. That the changes recommended in this report will in the opinion of the committee necessitate a recasting of the resolutions passed by the Council regarding professional education."

Dr. MACKAY said that the Committee proposed to substitute in Clause 11 "Teaching Institution" for "Scientific Institution," in view of the fact that the Council had recognized certain secondary schools as places where medical studies might be commenced, and to replace the imperative "shall" by the permissive "should." This recognized the fact that the Council had no power to enforce the recommendations, as its resolutions were really of the nature of recommendations, and the

phraseology was more compatible with that than that used hitherto. It was felt that it was not wise to make changes of the nature above described solely with reference to preliminary education, but that the Council should, if necessary, set out its recommendations as to other matters in a form more in agreement with its actual powers, and the Education Committee, therefore, asked that the matter should be referred to it for consideration and report next May.

Mr. HODSDON seconded.

Dr. ADYE-CURRAN said there was not a word about preliminary education in the Act of 1858. If the Council went on extending its powers in this way, it would eventually reach down to primary schools, and ultimately finish up with crêches. The Council could make any suggestion it liked to the qualifying bodies as to what they should do, and might depend to a great extent on their loyal acquiescence in its wishes. But the Council had gone far beyond that in this matter, and had by the registration of students put coercion on all bodies to fall into line or otherwise be ostracized.

Dr. SAUNDBY pointed out that the existing regulations were misleading, because it appeared as if the Council had some power to enforce them. An alteration was desirable so that that impression should not be given. This could be effected by prefixing to the regulations, "That it be recommended by the General Medical Council."

This was agreed to, as was also Part I.

On Part II,

Sir HENRY MORRIS expressed the hope that during the interval between now and May the existing regulations would not be issued as instructions to students in the present form, but that alterations would be made in accordance with the decision of the Council.

The PRESIDENT took it that it was left to the Chairman of the Committee and the Registrar to put the regulations in proper form and bring up a complete set next session.

PRELIMINARY EXAMINATION OF THE ROYAL COLLEGES IN IRELAND.

Sir ARTHUR CHANCE, having withdrawn a motion of which he had given notice to appoint Mr. Hannay to inspect and report on the next preliminary examination in general education conducted by the Royal Colleges in Ireland, moved:

> That any "Requirements or Regulations" of this Council regarding the standard in General Education to be observed in Preliminary Examinations which are compulsory on any Irish Examining Body, in the sense that their observance is regarded by the Council as essential for the continued recognition by the Council of the Preliminary Examination of such Irish Examining Body, shall apply equally to all the Irish Preliminary Examinations in General Knowledge recognized by this Council.

The position of the preliminary examination of the Royal Colleges in Ireland was peculiar. They, acting together, formed the only medical body not a university which held a preliminary examination, and they could not escape from this unhappy position. They had made every effort to get a Government body to carry on an examination which would be recognized by and meet all the requirements of the Council, and had failed. A number of gentlemen of the very highest standing in the universities had been appointed, and to them had been handed over the conduct of the examination, and the results of the examination did not come before the colleges except in their final form. They were, therefore, virtually, although not nominally, a university examining body, in so far as the examination was conducted by university men. He hoped the Council would believe that the two colleges were anxious to maintain the standard of medical examination, but their difficulty was that all the other examining bodies in Ireland were either universities or governed by them, and in that way were free from certain trammels imposed by the Examination Committee. All the two colleges asked was to be placed in the same position as regards standard, etc.

Sir JOHN MOORE seconded. It was simply a matter of justice; the Chairman of the Court of Examiners was a distinguished member of Trinity College, Dublin, who had a vast experience of teaching and examination, and the court was made up of representatives of the universities.

Dr. LITTLE did not think a better examination could be held by any university in the three kingdoms. He would be very glad to support the motion, but Sir Arthur Chance could not ask the Council to put the examination on a level with a body whose privileges and rights the Council had not before it.

Sir CHAS. BALL, who also supported the motion, said that the examination was as devoid of interference by the medical profession as any examination recognized in the kingdom, and if it were possible to get an examination conducted by a Government body in Ireland to replace this examination, he felt confident that the College of Surgeons would only be too delighted. They had repeatedly tried to get it but failed, and they were driven to demand that this examination should be continued. As far as it lay in the power of the College of Surgeons—and he was sure the College of Physicians took the same view—their whole idea was to have this an absolutely good, independent and reliable examination.

Dr. SAUNDBY inquired if it were not the fact that this examination received the same treatment already as a university examination.

Dr. MACKAY said it did; no difference was made between them. The Council was asked to do an impossible thing. Complaint was made of something which did not exist, and no injustice could be done to the body in question.

After some further discussion,

Sir DAVID MCVAIL suggested that Sir Arthur Chance should withdraw his motion, as the Council certainly did not intend and would not treat the body he represented unfairly; and this suggestion was accepted.

APOTHECARIES' HALL OF IRELAND.

The Council considered a report by the Examination Committee as to the Final Examination held by the Apothecaries' Hall, Dublin, in July and October, 1911.

The CHAIRMAN OF THE COMMITTEE (Sir David McVail) said the Apothecaries' Hall had sent in papers in medicine and surgery, but not in midwifery. This had occurred before, and he had thought it was owing to a mistake, but now it was repeated he brought the matter to the attention of the Council. The only examination held was a clinical examination, and the examiners in one of the reports said that this was an oral examination as well. It was for the Council to consider whether the written examination should be dropped in any one of the three great subjects—medicine, surgery, and midwifery—and the committee had adopted the following resolution:

> The committee draws the attention of the Council to the absence of any written examination in the subject of midwifery. The committee is of opinion that a paper on this subject should always form part of the examination.

He moved:

> That the report by the Examination Committee be approved, and that the resolution be communicated to the Apothecaries' Hall, Dublin.

Dr. TAYLOR seconded.

Dr. ADYE-CURRAN did not think the Apothecaries' Hall, Dublin, was the only body that adopted the course referred to, but if it were it would be ready to fall into line with the requirements of the Council.

The resolution was agreed to.

DIPLOMAS GRANTED IN INDIA.

On the motion of Sir DAVID MCVAIL, seconded by Dr. MACKAY, it was resolved:

> That the Examination Committee, together with the Chairman of the Education Committee and the Chairman of the Students' Registration Committee, be requested to obtain full information regarding the conditions under which medical certificates or diplomas are granted in India, and to what extent—if any—*pro tanto* recognition of curriculum and examination should be given by licensing bodies in Great Britain and Ireland, and to report to the Council.

RESULTS OF PROFESSIONAL EXAMINATIONS.

On May 23rd, 1911, the Council referred the yearly tables showing the results of professional medical examinations during 1910 to the Examination Committee, and the Chairman of the Committee (Sir David McVail) now brought up the following table (see p. 605), which shows the numbers of passes and rejections at the licensing bodies in the subjects of medicine, surgery, and midwifery, and the percentage of rejections in each subject:

	Medicine.			Surgery.			Midwifery.		
	Passed.	Rejected.	Percentage of Rejected.	Passed.	Rejected.	Percentage of Rejected.	Passed.	Rejected.	Percentage of Rejected.
Conjoint Board of England	336	242	41.8	323	303	48.4	373	179	32.4
Society of Apothecaries, London	36	18	33.3	49	35	41.6	34	19	35.8
University of Oxford	15	7	31.8	15	7	31 8	15	7	31.8
University of Liverpool	11	3	21.4	11	3	21.4	11	3	21.4
University of Leeds	10	3	23	10	3	23	10	3	23
University of Bristol	6	0	0	4	2	33.3	4	2	33.3
Conjoint Board of Scotland	95	103	52	87	127	59.3	89	46	34
University of Edinburgh	204	66	24.4	206	78	27.4	107	23	17.6
University of Aberdeen	40	15	27.2	39	14	26.4	41	12	22.6
University of Glasgow	93	27	22.5	96	17	15	91	11	10.7
University of St. Andrews	10	3	23	10	5	33.3	8	1	11.1
Conjoint Board, Ireland	67	46	40.7	61	67	52.3	62	26	29.5
Apothecaries' Hall, Dublin	8	1	11.1	3	3	50	11	1	8.33
University of Dublin	56	4	6.6	47	14	22.9	45	14	23.7
National University of Ireland	44	25	36.2	43	25	36.7	43	25	36.7
Queen's University, Belfast	23	21	47.7	23	21	47.7	23	21	47.7
University of Cambridge	61	29	32.2	59	38	39.1	56	34	37.7
University of Durham	21	0	0	21	4	16	25	5	16.6
University of London	108	78	41.9	108	78	41.9	108	78	41.9
University of Birmingham	6	7	53.8	6	7	53.8	6	7	53.8
University of Manchester	23	16	41	25	16	39	29	9	23.6

On the recommendation of the committee, the Council decided to ask those bodies that had not answered whether they did or did not examine in operative surgery, ophthalmology, and mental diseases to supply the information in future.

PHARMACOPOEIA COMMITTEE.

On the motion of Sir GEORGE PHILIPSON the report of the Pharmacopoeia Committee was received and entered on the minutes.

The report stated that the number of copies sold in the year beginning November 19th, 1910, was 1,114—a larger number than any recorded for several years past. The stock in hand now numbered 1,439 copies. Dr. Tirard and Professor Greenish had been appointed editors of the new issue of the *Pharmacopoeia*, and were engaged in classifying the materials relating to the revision of the text which had accumulated. They had also submitted an outline of the steps they proposed to take in the preparation of the first draft. The Committee added that it would doubtless be necessary, as on previous occasions, to obtain expert assistance on technical questions from small committees of reference in chemistry and botany. The appointment of such committees had been authorized.

INSPECTION OF DENTAL EXAMINATIONS.

The report by the Dental Education and Examination Committee on the inspection of the qualifying examinations in dentistry held during the year 1911, embodying the report of Mr. A. S. Underwood, M.R.C.S., L.D.S., late Dental Surgeon to King's College Hospital, was presented by the CHAIRMAN, and was received, entered on the minutes, and its recommendations approved. The report stated that the bodies which conferred diplomas or degrees qualifying for registration on the *Dentists Register* were the Universities of Birmingham, Bristol, Dublin, Durham, Leeds, the Victoria Universities of Liverpool and Manchester, the Royal Colleges of Surgeons of England, Edinburgh, and Ireland, and the Royal Faculty of Physicians and Surgeons of Glasgow. The University of London offers a degree in dental surgery, but only in association with the Master of Surgery, and no candidate had as yet presented himself. No examination was held at the University of Durham during the period of inspection, and though the examination of the University of Bristol was not inspected, the Committee had before it information supplied by its Chairman, who had acted as external examiner. In general terms the result of the inspection was satisfactory, and the examinations had been reported as sufficient, and of many the inspector spoke in terms of warm approbation. In various instances he made suggestions towards improvement in matters of detail, and the suggestions had in many instances been accepted by the governing body. The report gave details of the result of the inspection in each case, and concluded with the following general observations:

"In reviewing the whole series of inspected examinations their general uniformity and adequacy is striking, and, except in matters of detail, little appears to require amendment.

"The chief point where differences of practice exist is in the final conference of examiners and in the extent to which the marks originally given are liable to subsequent modification. At the Royal College of Surgeons of Ireland alone there is absolutely no revision of marks once given. At the Royal College of Surgeons of England there is such a revision possible, but it is limited to leniency extended to such as have very nearly attained to a pass mark, whereas in the other bodies it appears, judging from the inspector's reports, to be exercised far more freely, and indeed, in some cases, the report reads as though the revision were extended in an undesirable degree.

"It must be remembered that the mark originally given has had the concurrence of two examiners with the candidate or his paper before them, and was the expression of their deliberate judgement upon his merits.

"The Committee are of opinion that it is not desirable to have a cast-iron rule that under no circumstances can a mark be increased, which might occasionally press hardly upon a candidate who has almost reached the required limit, but that any extension of the practice of revising marks beyond this point must tend to a lowering of the standard.

"Your Committee are of opinion that the clinical part of the examination in dental surgery is of great importance and should be extended so far as is practicable. And in this connexion it may be mentioned that the inspector desires to add to his report his opinion that in marking this section of the examination credit should be given to candidates for gentleness and consideration displayed in their bearing towards the patient.

"Your Committee consider that an oral examination in surgery is a very valuable portion of the examination, and they recommend its inclusion by any of the bodies which do not at present hold it."

DISCIPLINARY CASES.

Alleged False Passport Certificate.

THE Council considered on November 29th the case of John Edwards, registered as of 1, Chadwell Heath Lane, Chadwell, Essex, Lic. Soc. Apoth. Lond. 1893, who had been summoned to appear before the Council on the following charge as formulated by the Council's Solicitor:

That you were on September 5th, 1911, convicted at the Central Criminal Court on your own confession of the following misdemeanour, namely, of having unlawfully and knowingly signed a false declaration of your personal knowledge and belief and thereby enabled one, Reuben George Rittmann, to obtain a passport for travel in a foreign country, for which offence you were fined £25.

Mr. Forrest Fulton, instructed by Elliott and Mallinson, appeared for Mr. Edwards.

The SOLICITOR read the charge. He then read extracts from the depositions before the magistrate.

Mr. FORREST FULTON desired to say at once that Mr. Edwards freely admitted the whole of the facts. He made no reservation, and desired to offer to the Council the great regret which Mr. Edwards felt. This was rather an act of negligence committed in a hasty moment than

deliberate act upon his part which could be conduct infamous in a professional respect. From no point of view could it be suggested that Mr. Edwards ever did, or ever was in a position, to receive any advantage to himself from the course which he adopted. No pecuniary benefit could possibly fall to him. What he did was to oblige a man whom he believed to be a patient of the doctor for whom he was at the time acting. In April of this year Mr. Edwards was acting for Mr. Birrell, who carried on a large practice at Walworth. Mr. Edwards was there in sole control, with the exception of the dispenser. He was dependent upon the dispenser for any knowledge which he might have as to the various patients who attended the surgery from time to time. He had not been there long enough to have any personal knowledge of the people whom Mr. Birrell attended. One night when the surgery was full a man entered and asked Mr. Edwards to sign a paper for him. Mr. Fulton agreed it was always a practice to be deprecated to sign a document without being fully cognizant of what the contents were. But Mr. Edwards agreed to the suggestion made to him, believing that the man Rittman was the son of one of the patients of Mr. Birrell, and without making himself fully acquainted with the contents of the document he appended his signature to it. It was a document which had only just been issued, and was not one with which a medical man could be expected to be familiar. It was not until the summons was served upon him that Mr. Edwards had his attention called to the matter, but as soon as he realized the nature of the offence he took the only course which could be taken by a member of an honourable profession: he made no effort to avoid responsibility, but pleaded guilty and threw himself upon the mercy of the court as he threw himself upon the mercy of the General Medical Council.

Mr. Edwards was called, and in reply to Mr. Forrest Fulton said he was at present resident assistant to Dr. Tuffin, of Gosport. While acting as locumtenent to Dr. Birrell he signed the document in question without reading it, and he wished to express his great regret for having done so.

By Mr. Harper: In addition to signing the declaration he filled in certain parts in his own handwriting, but did it in a mechanical way.

By the Legal Assessor: He had never seen a passport certificate before, and did not know that personal knowledge only would justify his signing it. He received no fee or reward for doing so.

Dr. Tuffin, of Gosport, was called, and testified to Mr. Edwards's professional character. This concluded the case on behalf of the respondent.

Mr. Harper did not wish to reply.

Strangers and the parties were directed to withdraw. On readmission, the President announced the judgement of the Council as follows:

Mr. Edwards, I have to inform you that the Council have found your conviction proved—that the Council takes a grave view of the giving of certificates of an irregular character, but that, having taken into consideration all the facts of your case and the assurances that you have given, the Council has not seen fit to direct the Registrar to erase your name from the *Medical Register*.

Case of George Herbert Fink.

On November 30th the Council considered the case of George Herbert Fink, registered as of Queen's Gate Chambers, 52a, Cromwell Road, South Kensington, London, S.W., Lic. Soc. Apoth. Lond. 1882, Mem. R. Coll. Surg. Eng. 1883, who had been summoned to appear before the Council on the following charge as formulated by the Council's Solicitor:

That you were on November 10, 1911, convicted at the Central Criminal Court of the following felony—namely, of forging a banker's cheque for £11,000 3s. 10d., with intent to defraud, and found guilty but insane, so as not to be responsible according to law, and thereupon ordered to be kept in custody His Majesty's pleasure.

Mr. Bodkin appeared as Legal Assessor to the Council.

Mr. Harper (Solicitor to the Council) read the notice of inquiry which had been served on Major Fink in the asylum, and said the case was a very simple and distressing one. From communications received from the family it appeared that Major Fink in 1886 joined the Indian Medical Service, and was attached to the Bengal Lancers. He worked very hard in malarial and insanitary districts, and served with distinction on the North-West Frontier, for which he received the medal and clasp. In 1900 he was invalided home on furlough, and applied for an extension of it, which was refused. He at once sent in his papers, and retired on a pension of less than £300 a year, whereas if he had remained another three years he would have been entitled to a much larger one as a Lieutenant-Colonel, and his wife also would have been entitled to a pension on his death. The precipitate action of sending in those papers rather indicated the state of his mind then. Since then he had been strange and eccentric, and had an ungovernable temper, and committed acts of violence at home. About 1907 he opened a deposit account with the National Discount Company in the City, and placed there £600, which he drew on from time to time, until finally there was only £11 3s 10d. standing to his credit, which he wished to draw out. In accordance with their custom the bank gave him a cheque drawn by the National Discount Company to order on Major Fink upon the Union of London and Smith's Bank for that amount. The next day Major Fink telephoned to the National Discount Company that he had lost the cheque, and they then arranged for him to come the following morning with regard to issuing a fresh cheque on the usual indemnity. On the same day the manager of the Delhi Bank, London Branch, received this cheque altered from £11 3s. 10d. to £11,000 3s. 10d., together with a letter requiring cash or cheque for the amount. It was said the alteration had been done cleverly, but not in a way to deceive any cashier. They sent the cheque to the National Discount Company, who took the matter up, and prosecuted Major Fink, with the result that he was found insane. The family had consulted Dr. Maurice Craig, who on November 2nd wrote concerning Major Fink's condition to Messrs. Waterhouse and Co.:

As you state, I gave evidence at the Old Bailey regarding the mental state of Major Fink. When I saw him I considered that he was a person of unsound mind, and that he had been for some long period. I further stated I was perfectly prepared to certify him as such. In fact, if what he did can be called a forgery it was done during a state of mental confusion, but, as I daresay you know, what he had done was not likely to deceive anybody. Although he had altered the face of the cheque, he had also written other instructions on the back of it, which showed clearly that he was unsound mentally at the time. He is suffering from delusions of persecution, his illness no doubt having been brought about by active service in India, together with dysentery, malaria, etc. As regards the outlook, it is impossible for me to say that he will not recover, as these exhaustion cases often clear up under enforced rest, but I did not form a hopeful view of his case.

If he (Mr. Harper) might make a suggestion it was obvious Major Fink had no criminal intent in doing what he did, and he had done nothing which could be called infamous conduct in a professional respect, and he did not think it was necessary for the Council to pass upon him the stigma of having done so.

Strangers and the parties were directed to withdraw. On readmission, the President announced the decision of the Council as follows:

The Council, having regard to all the circumstances of the case, does not see fit to direct the Registrar to erase from the *Medical Register* the name of George Herbert Fink.

Divorce Cases.

Two cases in which registered medical practitioners had been co-respondents were heard, and in both cases the name of the practitioner was directed to be erased from the *Medical Register*.

1. The charge against William Dutton Akers, registered as L.S.A., M.R.C.S., L.R.C.P., was to the effect that he had been guilty of infamous conduct in a professional respect in that he had committed adultery with a woman with whom he stood in professional relationship; the Divorce Court had granted a decree, which had been made absolute. Mr. Akers did not appear before the Council, and was not represented.

2. The charge against James Williamson Skelley, registered as L.R.C.P. and S.Ed., L.F.P.S.G., was to the effect that he had been guilty of infamous conduct in a professional respect in that he had abused his position as a medical man by committing adultery with a woman whom he had been attending professionally. The Divorce Court had made a decree.

Mr. Neal, solicitor (Sheffield), who opened the case against Mr. Skelley, said that he had been an assistant at Ecclesfield, near Sheffield, from September, 1905, to June, 1908. In February, 1908, he had in his professional capacity attended the respondent, who was married in March, 1908. In March, 1909, Mr. Skelley returned to Ecclesfield, and at various dates in 1909 and 1910 attended the respondent professionally,

including attendance at her confinement. In September, 1910, Mr. Skelley admitted to the husband that he intended to elope with the respondent, and it was alleged that they had lived at various places as Dr. and Mrs. Skelley. The petition was filed on March 7th, and no appearance being made, a decree was pronounced on June 14th. Mr. Neal called various witnesses to bear out the foregoing facts and put in shorthand notes of the trial.

In reply to Mr. WING, solicitor (Sheffield), who appeared for him, Mr. SKELLEY stated that he had known the respondent before her marriage and had proposed to her on two occasions before he attended her professionally. The respondent was called, and said that she had been unhappy with her husband and had asked Dr. Skelley to take her away; she was now living with him as his wife.

Mr. WING contended that the evidence before the Council went to show that Dr. Skelley had known the lady before her marriage, and had attended her, but that it had not been proved that he had committed adultery *qua* medical man. There was no suggestion that his conduct at Ecclesfield had been in any way improper or immoral. Dr. Skelley did in fact attend her after marriage, and then learnt she was unhappy. Shortly afterwards she herself implored him to take her away. Mr. Wing, in conclusion, suggested that the whole case resolved itself into the question, Did Dr. Skelley commit the adultery complained of in his capacity as medical man?

Mr. NEAL, in reply, contended that a doctor, being found guilty of an offence, could not divest himself of his medical status. An offence committed by a medical man unquestionably was a wrong which militated against his professional honour.

IRREGULAR ISSUE OF CERTIFICATES.

After a session *in camera* it was reported in public session that the Council had resolved to issue the following warning notice as to the irregular issue of certificates which had been prepared by the legal advisers.

WARNING NOTICE.

Preliminary.—The General Medical Council consider that in the interests of the medical profession it is advisable to bring to the notice of its members certain resolutions which have from time to time been adopted as expressing the views of the Council upon certain forms of professional misconduct which have been or may be dealt with as amounting to "infamous conduct in a professional respect" within the meaning of Section 29 of the Medical Act, 1858. The Council, however, wish it to be distinctly understood that these resolutions are not exhaustive of the forms of professional misconduct which may be dealt with by the General Medical Council under their disciplinary powers, and that the Council are not in any way precluded from considering and dealing with any form of professional misconduct outside the scope or precise language of the following resolution:

AS TO THE SIGNING OF CERTIFICATES.

Resolution Adopted on November 30th, 1911.

Whereas registered medical practitioners are in certain cases bound by law to give, or may be from time to time called upon or requested to give, certificates signed by them in their professional capacity, for subsequent use either in courts of justice or for administrative purposes. And whereas such certificates include, amongst others:—

CERTIFICATES:

(*a*) Under any statute relating to births, deaths, or disposal of the dead.
(*b*) Under the Lunacy Acts.
(*c*) Under the Vaccination Acts.
(*d*) Under the Factory Acts.
(*e*) In relation to children or to excusing school attendance.
(*f*) In connexion with sick, benefit, insurance, and friendly societies.
(*g*) In connexion with workmen's compensation.
(*h*) In connexion with naval or merchant shipping.
(*i*) For procuring the issue of Foreign Office passports.
(*j*) For excusing attendance in courts of justice, in the public services, in public offices, or at ordinary employments.

And whereas it has been made to appear to the General Council from time to time that some registered medical practitioners have given and signed untrue, misleading or improper certificates of the above specified or other descriptions.

Now, therefore, the General Medical Council hereby give notice that any registered medical practitioner who shall be shown to have given any untrue, misleading or improper certificate, whether relating to the several matters above specified or otherwise, is liable to be adjudged by them to be guilty of "infamous conduct in a professional respect," and to have his name erased from the *Medical Register* under Section 29 of the Medical Act, 1858.

VOTE OF THANKS TO CHAIRMAN.

Sir HENRY MORRIS moved, Professor FINLAY seconded, and it was resolved:

That the best thanks of the Council be given to the President for his able services in the chair during the present session.

The PRESIDENT expressed his thanks, and the proceedings terminated.

Vacancies and Appointments.

VACANCIES.

ANGLESEY COUNTY COUNCIL.—County Medical Officer of Health, County School Medical Officer, and Medical Inspector (combined appointment). Salary, £400 per annum.

BIRMINGHAM GENERAL HOSPITAL.—Two House-Physicians. Salary at the rate of £50 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Honorarium at the rate of 52 guineas per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House-Surgeon. Salary to commence at £85 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer for the Northern Branch. Salary, £160 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer (male). Salary to commence at £140 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Resident Medical Officer. Salary, £90 per annum.

CENTRAL LONDON SICK ASYLUM DISTRICT.—Assistant Medical Officer at the Asylum, Hendon. Salary, £120 per annum, increasing to £150.

CHORLEY: RAWCLIFFE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

DERBYSHIRE ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) House-Physician. (3) Assistant House-Surgeon. Salary for (1) and (2) £100 per annum, and for (3) £60 per annum.

EAST SUSSEX COUNTY ASYLUM, Hellingly.—Assistant Medical Officer (male). Salary, £160 per annum.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon (male). Salary, £72 per annum.

GOVAN DISTRICT ASYLUM, Hawkhead.—Second Assistant Medical Officer. Salary, £150 per annum, rising to £200.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

GUISBOROUGH UNION.—District Medical Officer and Public Vaccinator. Salary and fees, £66 per annum.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer (lady). Salary, £150 per annum, rising to £200.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

ISLE OF WIGHT UNION.—Medical Officer and Public Vaccinator for the Yarmouth District. Salary, £85 per annum and fees.

LONDON LOCK HOSPITAL.—(1) House-Surgeon to the Female Hospital. (2) House-Surgeon to the Male Hospital. (3) Assistant House-Surgeon to the Female Hospital. Salary for (1) and (2) £100 per annum, and £80 per annum for (3).

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary, £60 per annum.

MANCHESTER TOWNSHIP WORKHOUSE.—Junior Resident Assistant Medical Officer. Salary, £110 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Assistant House-Surgeon (male). Salary, £75 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum, increasing to £140.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—Honorary Physician.

POOLE: CORNELIA HOSPITAL.—Honorary Radiographer.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

ROYAL EAR HOSPITAL, Soho, W.—Honorary Visiting Physician.

ST. BARTHOLOMEW'S HOSPITAL, E.C.—Chief Assistants and Clinical Assistants in the Aural Out-patient Department.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £60 per annum.

SHEFFIELD ROYAL INFIRMARY.—Junior Resident Medical Officer. Salary, £60 per annum.

WALSALL AND DISTRICT HOSPITAL.—Honorary Radiographer.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.—Honorary Assistant Anaesthetist.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Coatbridge (Lanarkshire), Hipperholme (Yorkshire, West Riding), and Westhoughton (Lancashire).

APPOINTMENTS.

BRIDE, T. M., M.D., Honorary Assistant Surgeon to the Manchester Royal Eye Hospital.

BURROUGHS, A. E., M.D.Edin., Honorary Assistant Surgeon to the Eye and Ear Infirmary, Myrtle Street, Liverpool.

LANGMEAD, Frederick, M.D.Lond., Physician to Out-patients, Hospital for Sick Children, Great Ormond Street, W.C.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTH.

DE ZILWA.—On October 16th, 1911, at Taprobane, Ward Place, Cinnamon Gardens, Colombo, Ceylon, the wife of Dr. Lucian Arnold Emmanuel de Zilwa, M.D., B.Sc.Lond., of a daughter.

MARRIAGES.

CARWARDINE—WALKER HALL.—On December 6th, at Christchurch, Clifton, Bristol, by the Rev. C. G. C. Lillingston, Vicar, Thomas Carwardine, M.S., F.R.C.S., Surgeon to the Bristol Royal Infirmary, to May, only daughter of Professor and Mrs. Walker Hall, Linden Gate, Clifton, Bristol.

CHITTY—GWILLIM.—On December 1st, at St. Peter's, Piccadilly, Hubert Chitty, M.S., F.R.C.S., third son of G. W. Chitty, Esq., of Ightham, Kent, to Florence Louise Gwillim, third daughter of the late William Gwillim, Esq., of Ross, Herefordshire.

DEATHS.

BOND.—On December 5th, at his residence, 3, Beaufort Buildings, Gloucester, Francis Thomas Bond, B.A., M.D.Lond., F.R.S.Edin., last surviving child of the late Commander William Francis Bond, R.N., of Weymouth, aged 77 years.

LITHGOW.—On November 26th, at Farnborough, Hants, Harriet Annie Augusta ("Nie"), the beloved wife of Dr. T. G. Lithgow, and elder daughter of the late Colonel the Hon. E. G. Curzon (Curzon-Howe), aged 49. "Until the day break and the shadows flee away."

WESTBY.—On November 9th, at Beaufort West, Cape Colony, Ashley John, M.B., youngest son of the late Canon H. H. J. Westby.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Paper:—Mr. J. D. Malcolm: Some Remarks on 400 Operations involving the Peritoneum, and a Comparison of the Fatal Cases, 3.37 per cent., with those of the Writer's Earliest Work.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

SURGICAL SECTION, 15, Cavendish Square, W., 5.30 p.m.—Short Papers:—The President (Mr. Clinton T. Dent): Case of Intestinal Obstruction following an Ovariotomy 45 years previously. Mr. Robert Jones (Liverpool): Treatment of Claw Foot. Mr. Thomas H. Kellock: The Results of the Operation for Inguinal Hernia in Young Children. Mr. John Murray: Case of Pancreatic Calculus; Stone Removed by Operation. Mr. Walter G. Spencer: Hydrocephalus Internus; Subdural Rupture Causing Hydrocephalus Externus.

WEDNESDAY.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor Road, S.W., 5 p.m.—Paper:—Fleet Surgeon D. J. P. McNabb, R.N.: Hospital Ships and their Functions.

ROYAL SOCIETY OF MEDICINE:

BALNEOLOGICAL AND CLIMATOLOGICAL SECTION, 15, Cavendish Square, W., 5.30 p.m.—Paper:—Dr. G. Monod (Vichy): The Treatment of Gastro-hepatic Dyspepsia at Vichy, Carlsbad, and Cheltenham.

THURSDAY.

NEW LONDON DERMATOLOGICAL SOCIETY, 20, Hanover Square, W., 4.30 p.m.—Clinical Cases.

OPHTHALMOLOGICAL SOCIETY, 11, Chandos Street, Cavendish Square, London, W.—8 p.m., Card Specimens. 8.30 p.m., Papers:—Dr. Thomson Henderson: The Pathogenesis of Choked Disc. Dr. Adolph Bronner: Notes on Three Cases of Ulcer of the Cornea combined with Painful Spasm of the Sphincter Pupillae. Mr. J. Herbert Parsons and Mr. E. K. Martin: The Action of Ultra-Violet Rays upon the Ciliary Body and Lens.

ROYAL SOCIETY OF MEDICINE:

DERMATOLOGICAL SECTION, 11, Chandos Street, W., 5 p.m.—Cases and Specimens.

NEUROLOGICAL SECTION, 15, Cavendish Square, W., 8 p.m.—Clinical Meeting.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF DISEASES OF CHILDREN, 11, Chandos Street, W., 4.30 p.m.—Discussion on The Treatment of Tuberculous Joint Disease in Children, to be opened by Mr. A. H. Tubby: The Relative Advantages of Operative Measures; Sir Anthony Bowlby, C.M.G.: The Results Obtainable without Operation; Dr. A. Butler Harris: The Rôle of Vaccine Therapy.

ELECTRO-THERAPEUTICAL SECTION, 15, Cavendish Square, W., 8.30 p.m.—Clinical Meeting and Demonstration of Skiagrams and of the "Oscillothermex," a Combined Apparatus for Diathermy, High Frequency, and *X*-Ray Treatments.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Major E. D. W. Greig, I.M.S.: Epidemic Dropsy in Calcutta. Dr. Bayon: Preliminary Demonstration of Leprosy Cultures. Dr. H. Stannus Stannus: Pellagra in Nyasaland. Dr. F. M. Sandwith: Pellagra in Thirty Southern States of America.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures:—Tuesday, 3.45 p.m.: Larynx. Friday, 3.45 p.m.: Larynx.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 3.30 p.m.: The Germicide Treatment of Pulmonary Tuberculosis.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday: Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m. Special Lectures: Monday, 3.15 p.m., The Personal Factor in Disease; Tuesday, 4.30 p.m., Recent Researches on the Function of the Hypophysis Cerebri; Wednesday, 2.15 p.m., Pain in the Back.

MANCHESTER: ANCOATS HOSPITAL.—Post-Graduate Clinic: Thursday, 4.15 p.m., Chronic Enlargements of the Testicle.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following Clinical Demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day will be given as follows:—Monday: Complication of Middle-Ear Suppuration. Tuesday: Congenital Heart Disease. Wednesday: Pruritus of the Vulva. Thursday: The Mode of Thought in the Insane.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m.: Paraplegia. Friday, 3.30 p.m.: Cerebellar Disease.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics: 10 a.m., Surgical Out-patient; 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear; 3 p.m., Demonstration on Clinical and General Pathology. Tuesday, 2.30 p.m., Operations; Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient; 4.30 p.m., Lecture: The Tuberculin Treatment of Tuberculosis. Wednesday, 2 p.m., Throat Operations; 2.30 p.m., Medical Out-patient; Skin and Eye Clinics: *X* Rays; 3 p.m., Pathological Demonstration; 5.30 p.m., Eye Operations. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient; 4.30 p.m., Lecture: The Natural Cure of Diseases. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye; 3 p.m., Medical In-patient; Pathological Demonstration.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Pathological Demonstration, 12 noon; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Demonstration of Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Gynaecological Demonstration, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Lecture, Practical Medicine, 12.15 p.m.; Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Lecture, Practical Medicine, 12.15 p.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m. daily.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
DECEMBER.	
10 Sunday ..	
11 MONDAY ..	
12 TUESDAY ..	LONDON: Standing Ethical Subcommittee, 2 p.m. NORTH MIDDLESEX DIVISION, *Metropolitan Counties Branch*, Prince of Wales's Hospital, Tottenham, 9.15 p.m.
13 WEDNESDAY	
14 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m. SOUTH-WEST ESSEX DIVISION, *Metropolitan Counties Branch*, Walthamstow Hospital, Orford Road, 4 p.m. WALTHAMSTOW DIVISION, *Metropolitan Counties Branch*, Walthamstow Hospital, 4 p.m.
15 FRIDAY ..	NEWCASTLE-ON-TYNE DIVISION, *North of England Branch*, Scientific Meeting, Royal Victoria Infirmary, 3.15 p.m. to 6 p.m.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 16TH, 1911.

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National Insurance.

British Medical Association.

LETTER TO THE MEMBERS OF THE HOUSE OF LORDS.

THE following letter was forwarded to every member of the House of Lords on Monday last, in view of the discussions taking place this week in that chamber:

British Medical Association,
Medical Department,
429, Strand, London, W.C.
December 11th, 1911.

MY LORD,

National Insurance Bill.

I am instructed to forward to you on behalf of the British Medical Association a resolution which was unanimously passed by the Representative Body of the Association on Friday, November 24th, 1911. The members of the Representative Body were acting under instructions given to them at meetings of the profession held in all parts of the kingdom the early part of that week. The resolution is as follows:

> That the Representative Body declare the determination of the Association to insist upon the arrangements made with medical practitioners for giving attendance and treatment to insured persons being consistent with the six cardinal principles formulated and approved by the Representative Meeting of June 1st, 1911, and confirmed by the Representative Meeting, Birmingham, in July, 1911.

The six cardinal principles referred to in the above resolution are:

1. That there shall be an income limit of £2 a week for those entitled to medical benefit.
2. That there shall be free choice of doctor by patient subject to the consent of the doctor to act.
3. That the medical benefits should be administered by local Health Committees, not by individual approved societies.
4. That the method of remuneration (that is, by capitation payment or by payment per attendance) of medical practitioners should be in accordance with the preference of the majority of the medical profession in the district.
5. That the medical remuneration should be adequate, having due regard to the duties to be performed, and other conditions of service.
6. That there shall be adequate medical representation on the various bodies set up to administer the Act.

The Insurance Bill was extensively modified in the House of Commons in the direction indicated by the above statements of principle, but in order that they may be more completely carried out the British Medical Association, on behalf of the medical profession, would most respectfully urge that the following further amendments be made:

Income Limit.

First, that instead of the income limit in respect of medical benefit, which the local Health Committees are empowered to fix by Subsection (3) of Clause 15 of the Bill in its present form, being entirely at the discretion of those Committees, it should be provided that such limit shall in no case exceed £104 per annum.[1]

The experience of the profession shows that while there may be differences as to the income limit that would be suitable for the different districts, there is no district in which the income limit above suggested would be too low. Those whose income exceeds £2 per week can everywhere make provision for such medical attendance as will be given under the Insurance Bill without necessity for any help from public funds or abatement of the charges of practitioners. If such persons are included among those for whom the local Health Committee have to provide free medical attendance at the expense of the Insurance Funds, it must result that either a higher rate

[1] For terms of amendment desired see p. 610.

of remuneration will be required by medical practitioners, or that the practitioners will not be adequately remunerated in respect of those persons. The Association urges, therefore, that the necessary amendment of the clause should be made.

Provision of Attendance and Treatment through Institutions.

The medical profession greatly regret the introduction into the Bill in Committee of the House of Commons of Subsection 4 of Clause 15, enabling medical attendance and treatment to be given through institutions existing at the time of the passing of the Act. This provision was avowedly inserted with the object of enabling certain friendly society institutes and similar organizations to be utilized for the attendance and treatment of insured persons, thus defeating the principle of free choice of doctor otherwise agreed to by the House of Commons by a vote of 387 to 15. The last four lines of the subsection as finally amended in the House of Commons do, it is true, secure to a great extent the free choice, but in the opinion of the medical profession the whole subsection, even as amended, is undesirable in the public interest not less than that of the profession and should be deleted.

Medical Representation on local Health Committees.

The medical profession have secured the principle of inclusion of medical members in the local Health Committees which are to administer the medical and sanatorium benefit, but consider that the representation accorded is still not completely satisfactory. The profession are of opinion that the medical members of each Committee should not be less than one-tenth of the total membership. Under Subsection (2) of Clause 58 of the Bill as finally amended in the House of Commons, this would apply only when the number of members of the Committee was 40. The number of medical members would remain four only unless the Committee numbered at least 60, when it would be five, and with 80 there would be six. As 80 is the maximum membership of the Committee the number last mentioned would rarely be reached.[1]

Medical Benefits for Ireland.

Lastly, the Irish medical profession are almost unanimously of opinion that if the Insurance Bill is to apply to Ireland, medical benefit should be administered in that country in the same manner as in England. Under the Bill as finally amended in the House of Commons, medical benefit will only be given in Ireland under exceptional and unsatisfactory conditions. The Association urges that Subsection 9 of Clause 81 should be deleted, the effect of which would be that ordinary provisions of the Bill as regards medical benefit applicable in Great Britain would also apply in Ireland.

The Association is taking steps to bring before the House of Lords the appended amendments which embody the above suggested alterations, and hopes that they will have your support. I shall be glad to furnish any further information on the subject on hearing from you.

I am, my Lord,
Yours faithfully,
ALFRED COX,
Deputy Medical Secretary.

To the Members of the House of Lords.

AMENDMENTS DESIRED

BY THE BRITISH MEDICAL ASSOCIATION ON BEHALF OF THE MEDICAL PROFESSION IN THE BILL AS PASSED BY THE HOUSE OF COMMONS.

1. *Income Limits in respect of Medical Benefits.*

Clause 15, page 19, line 7, after the word "Committee" insert the words "which limit shall in no case exceed £104 per annum."

2. *Provision of Medical Attendance through existing Systems or Institutes.*

Clause 15, page 19, lines 18 to 32 inclusive, leave out Subsection (4).

3. *Number of Medical Members on Health Committees.*

Clause 58, page 70, line 14, leave out all words after "or" and insert "if the total number of the Committee is more than forty-nine and less than sixty, two members, or if the total number of the Committee is more than fifty-nine and less than seventy, three members, or if the total number of the Committee is more than sixty-nine and less than eighty, four members, or if the total number of the Committee is eighty, five members, shall be duly qualified medical practitioners appointed by the council of the county or county borough."

4. *Application of Medical Benefits to Ireland.*

Clause 81, page 98, lines 7 to 19 inclusive, leave out Subsection (9).

[1] See footnote, p. 609.

CIRCULAR LETTER TO REPRESENTATIVES.

THE following communication was sent on December 9th to Representatives of Divisions, to Honorary Secretaries of Divisions and Branches, and to the members of the Council:

9th December, 1911.

DEAR SIR,

National Insurance Bill.

Several requests have been received from Representatives for advice as to the attitude which they should adopt in meetings of their constituents and in exercising their influence among their fellow members with reference to certain matters which are exciting much interest in the Association. We have felt it to be our duty to issue a joint statement to the members of the Representative Body. We feel, as we are sure you will feel, that there never was a time when it was of greater importance for all those who desire the welfare of the profession to make every effort to bring about unity of purpose and unity of action.

The fundamental question upon which the Association has now to decide, is its attitude with regard to the National Insurance Bill, which will in all probability within a very short time become an Act. One of the difficulties of the position is that a considerable section of the members have still not grasped the principles upon which the policy of the Association, as defined by three successive Representative Meetings, has been based. They are now seeking to reopen questions and asking the Association to base its action upon principles that were decided upon last May, and upon which the decision of the Representative Body of May 31st and June 1st has been confirmed after full discussion both in the Annual Meeting and in the meeting recently held.

Dr. Helme, of Manchester, acting, it is understood, on behalf of a number of other practitioners in that district, has issued to the press a manifesto appealing to the profession to refuse to work the Bill on any terms. This has not been at any time the policy of the Association as declared by the Representative Body. It is, of course, quite competent for the Association to change its policy if circumstances had changed to such a degree as to justify that act. Any such decision, however, could obviously only be taken after the most careful deliberation.

The first point we desire to urge upon those to whom this letter is addressed is that they should exert their influence to check the tendency to premature and unconsidered action. A large number of members of the profession evidently do not appreciate the fact that the Insurance Act will not in any event come into operation until July next, and that no practitioner can possibly be called upon to treat any insured person under any arrangements made under the Act before, at the earliest, January 1st, 1913. In these circumstances there can be no possible justification for attempts to rush the profession into hasty decisions.

Representations in accordance with the decisions of the Representative Meeting reported in the BRITISH MEDICAL JOURNAL of December 2nd are being made to the House of Lords with a view to securing further amendments in that House.

Otherwise there can be no necessity for the Association to determine its attitude towards the Insurance Bill for several weeks. In the interval a full report will be issued by the Council, setting forth the action which it has taken since the Special Representative Meeting, and placing before the Divisions an examination of the Insurance Act in the form in which it becomes law, in order that the Divisions may deliberately consider the subject. Probably a Special Representative Meeting will be convened to

onsider the report of the Council and the resolutions of he Divisions.

Certain points may be raised in Division meetings to vhich it is desirable to allude.

The first is the question of the members committing themselves to the policy specially advocated by members in the Manchester District of refusing to work the Bill upon *any* terms, as against the policy of the Association of refusing to work the Bill except upon our *own* terms—namely, in accordance with the six cardinal principles laid down in the decisions of the Representative Meeting. Representatives and members of Council may find it necessary again to point out that, although certain Divisions and certain bodies of members have repeatedly demanded that all the six principles should be specifically embodied *in the Bill*, this has never been the policy of the Association.

In view of this fact it is not legitimate now to ask the Association to refuse to work the Bill on the ground that the six principles are not specifically guaranteed thereunder. The position of the Association is that it will not work the Bill *except on its own terms*, as already defined in the six principles. We venture to believe that the Association will adhere firmly to this policy, which it has maintained during the past six months, and that, just as resolutely as it would reject any proposal to abate any of the six cardinal principles, so it will, with equal resolution, resist the attempt to prejudice the position of the Association by going beyond these principles. We suggest that Representatives can establish fully, therefore, their position in asking their Divisions simply to approve the following Resolutions of the Representative Body, which appear to us to include in the most concise statement possible the whole policy and tactics of the Association with respect to the Bill:

Reaffirmation of Six Cardinal Principles.

Minute 24.—That the Representative Body declare the determination of the Association to insist upon the arrangements made with medical practitioners for giving attendance and treatment to insured persons being consistent with the six cardinal principles formulated and approved by the Representative Meeting, June 1st, 1911, and confirmed by the Representative Meeting, Birmingham, in July, 1911.

Arrangements made under Bill must conform with the Six Cardinal Principles of Association.

Minute 47.—That in the event of the Insurance Bill becoming law, the British Medical Association use every possible means to ensure that no medical practitioner undertake the medical attendance and treatment of insured persons under arrangements that are not absolutely in accordance with the six cardinal principles of the policy of the Association.

Remuneration of Medical Practitioners to be Arranged through Local Medical Committees.

Minute 53.—That in order to prevent sectional defeats of the profession through terms having to be arranged locally between the local Insurance Committees and the profession, the Council be instructed to take such steps as are necessary with a view to securing:

(*a*) That the local Medical Committees throughout the country be kept in touch with one another through the Central Office of the Association; and (*b*) that no arrangements for attendance on insured persons be completed anywhere until the Association is assured by reports from the local Medical Committees that terms in conformity with the policy of the Association in detail have been agreed upon everywhere.

Opinion appears to be divided with respect to the recent action of the Council in recommending Mr. J. Smith Whitaker to accept the Prime Minister's offer of the post of Deputy Chairman of the Insurance Commissioners. The practical question on this point is whether the Council acted rightly or wrongly, and whether, therefore, it ought or ought not to be censured. The constitutional method of dealing with the subject is that, after consideration by the Divisions, it should be discussed, if thought necessary, in a Special Meeting of the Representative Body, which alone has the constitutional authority to sit in judgement on the acts of the Council. The objections to the action of the Council which have been received at this office rest almost entirely on the assumption that the Council ought not to sanction any member of the Association taking any part in the working of the Bill. If the Council had taken this view, it would have been acting in opposition to the definite decision of the Representative Meeting. The policy of the Association is to obtain the enforcement of its cardinal principles as regards the arrangements made under the Bill. To attain this end it had to secure three things—namely, first, that the Bill should be amended as far as possible in accordance with this policy; secondly, to secure that the regulations made under the Bill should be such as would not only make possible but facilitate the attainment of the Association's policy; thirdly, that the arrangements actually made by the insurance authorities for the treatment of insured persons should be in accordance with the six principles.

So far as the terms of the Bill are concerned all possible action has now been taken. If the Bill when enacted were in such a form as to preclude the possibility of the Association attaining the fulfilment of its six cardinal principles, the decisions of the Association would have made it necessary to refuse to take any part in the work of the Bill. But this is not the case. The Bill as now amended definitely secures certain of the points, and makes all others attainable if the profession takes the proper steps to that end.

The next matter requiring attention, apart from keeping up the organization of the profession and preparing for the time when arrangements have to be made, is to see that the regulations made by the Insurance Commissioners are satisfactory to the profession. Looking to the future, the Council acted in the only way open to it by taking the opportunity of securing the appointment as medical member of the Insurance Commission of a man who, by his complete knowledge of the subject, would protect the interests of the profession in the fullest possible way.

We are assured that the Council will in no way be deterred from continuing to perform its duty by the comments made by some members—comments which we believe are based upon a faulty and incomplete view of the real interests of the profession at the present time and in the future.

We are,
Yours faithfully,

EWEN J. MACLEAN,
Chairman of Representative Meetings.
J. A. MACDONALD,
Chairman of Council.

MEMORANDUM TO MEMBERS.

THE following Memorandum was issued to the members of the Association on December 11th:

NATIONAL INSURANCE BILL.

THE MEDICAL PROFESSION AND THE INSURANCE BILL. HOW MUCH HAS BEEN OBTAINED, AND WHAT STILL REMAINS TO BE OBTAINED?

1. On June 1st, 1911, the British Medical Association adopted the following policy with respect to the Insurance Bill, and circularized every member of the profession asking for support of the following six essential principles:

1. An income limit of £2 a week for those entitled to medical benefit.
2. Free choice of doctor by patient, subject to consent of doctor to act.
3. Medical and maternity benefits to be administered by local Health Committees, and not by Friendly Societies.
4. The method of remuneration of medical practitioners adopted by each local Health Committee to be according to the preference of the majority of the medical profession of the district of that Committee.
5. Medical remuneration to be what the profession consider adequate, having due regard to the duties to be performed and other conditions of service.
6. Adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the local Health Committees, and statutory recognition of a local Medical Committee representative of the profession in the district of each Health Committee.

2. On June 15th the members of the profession were asked to pledge themselves, in the event of the Bill becoming law, not to enter into arrangements for the treatment of insured persons on terms inconsistent with the above declared policy of the Association.

3. The Insurance Bill will probably become law within the next fortnight, and the Association and profession have to consider their future action towards it.

4. The policy of the Association as expressed in the above stated six cardinal principles is absolutely unchanged.

5. The Bill by the efforts of the Association has now been so amended that there is no legal barrier against the profession securing the fulfilment of its entire policy.

6. The following principles of the Association have been incorporated in the Bill as it has now left the House of Commons—namely, the free choice of doctor, the administration of medical and sanatorium benefits by the local Health Committee, the representation of the profession on all the administrative bodies established under the Act; the statutory recognition of a committee of the medical profession in each district.

In addition, the essential principle of a wage limit is recognized by Clause 15 (3) in the Bill, the precise amount being fixed by the profession in each district in negotiation with the local Health Committee.

7. The remaining principles of the policy of the Association not dealt with under the Bill are the rate and method of remuneration and the amount of the wage limit. The first of these—the most essential of the principles of the Association—the Representative Body decided should be settled by agreement between the members of the profession in each district and the local Health Committee. As regards the second, it decided that this also if not embodied in the Bill should be fixed by local negotiation.

8. The Association, through the Representative Body, has taken every possible step to secure that in every locality where its assistance is required, the whole resources and strength of the Association shall be used to support the profession in securing the essential principles.

9. If each member of the profession will do his share in this great work he may fully rely upon the organization of the Association being both ready and adequate to secure success.

(Signed) EWEN J. MACLEAN,
Chairman of Representative Meetings.
J. A. MACDONALD,
Chairman of Council.

GENERAL MEDICAL COUNCIL.

THE Chancellor of the Exchequer has addressed the following letter to the President of the General Medical Council in reply to representations made to him on November 30th, as reported on page 601 of the SUPPLEMENT of last week:

[*Copy.*]

Treasury Chambers,
Whitehall, S.W.,
7th December, 1911.

DEAR SIR DONALD,

I am much indebted to you, and to the General Council of Medical Education and Registration, for your letter of the 30th November, and for the valuable suggestions it contains with regard to certain provisions of the National Insurance Bill. I am glad that the Bill in its present form is in substantial agreement with these suggestions, as you will see from the following summary, in which they are dealt with seriatim.

(1) It is now explicitly provided in clauses 74, 75, and 76 (now 80, 81, 82), relating to Scotland, Ireland and Wales respectively, in the Bill as amended in Report, that in each case at least one of the Insurance Commissioners shall, as in England, be a duly qualified medical practitioner.

(2) The provision in the same clauses that the Commissioners for those countries should have all the like powers and duties as are conferred on the Insurance Commissioners includes the appointment by them of an Advisory Committee in each case.

(3) A substantial increase has now been made in the number of medical practitioners on the local Health Committees. Under clause 55 (now 58) as amended besides the two appointed by the profession itself and the minimum of one appointed by the Commissioners on each such committee, the County Council is now bound to appoint one additional medical practitioner in every case, or two where the committee reaches the number of 60, or three where it reaches 80.

(4) The provisions of clause 58 (now 61) constituting local Medical Committees, extend to the other countries as well as to England, such modifications as are required, *e.g.*, in the definitions of area, etc., being secured under the clause relating to the application of the Bill to the particular country. It must be remembered, however, that Ireland stands apart from the other countries because medical benefit is not there provided, and therefore the questions dealt with by local Medical Committees elsewhere do not there arise.

(5) Clause 16 (4) (now 15 (4) is limited to systems institutions existing not when the Act comes into operation but when it is *passed*. Any attempts to take unfa advantage of this section could be frustrated by t power of the Insurance Commissioners and the loc Health Committees to withhold approval.

(6) The relation of the Insurance Bill to Hospitals an other voluntary institutions has been very carefully con sidered; and I am confident that the extreme statement that have been made as to its effect on voluntary subscriptions will not prove to have been justified. If experience should show that the danger is to any extent real and serious the nation may be trusted to see that steps are taken to prevent the efficiency of the hospital system being impaired.

Yours sincerely,
(Signed) D. LLOYD GEORGE.

Sir Donald MacAlister, K.C.B.,
President,
General Council of Medical Education and
Registration of the United Kingdom.

COPY OF A MEMORANDUM EXPLANATORY OF THE BILL.

THE following copy of a Memorandum explanatory of the Bill as passed by the House of Commons, so far as relates to National Health Insurance,[1] has just been issued as a White Paper:

HEALTH INSURANCE SCHEME.

1.—OBJECTS.

THE Bill is intended to effect as wide an insurance as possible of the industrial population against sickness and breakdown. It is also intended to be as far as possible a preventive measure operating to reduce the amount of sickness. Both the Majority and Minority Reports of the Poor Law Commission call special attention to the utter inadequacy of our methods for preventing and curing sickness amongst the industrial classes. This Bill contains several provisions designed to amend this unsatisfactory state of things. In other words, it is, as described in the title, a Bill for "National Health Insurance and the prevention of Sickness," the title "Invalidity Insurance" being by no means a suitable one for English purposes.

The plan differs from the German Scheme of Sickness and Invalidity Insurances in the following respects:—

(1) It is proposed that under proper safeguards the administration of the Fund should be handed over to Societies either already established in this country or hereafter to be founded under the Act. As all deficits due to malingering will have to be borne either in levies or loss of benefits by the members of a defaulting Society, and not by the State or the employer, there is every inducement to economy. Bad management will be promptly and effectively penalized. Good management will be rewarded.

In Germany the system is much more bureaucratic in its management, and does not nearly to the same extent adopt the principle of self-government.

(2) In starting a universal scheme there must necessarily be a very heavy burden during the earlier years of its operation, owing to a large number of persons entering it at an age when their contributions are actuarially inadequate to ensure the benefits guaranteed by the Bill. Unless financial arrangements are made to liquidate the loss so arising, it will fall on future generations of insurers.

The finance of the present scheme will be so arranged that the deficiency inevitable in starting a scheme which includes all ages shall in about 18 years be completely wiped out. At the end of that period the administrators of the funds will be in a position to declare increased benefits, *e.g.*, the reduction of the pension age.

(3) The fact that the superannuation of all persons over 70 is undertaken by the Government in this country, whereas in Germany it is a burden on the contributory scheme, makes an enormous difference in the rates of weekly payments, which suffice under the proposed

[1] London: Published by His Majesty's Stationery Office. To be purchased, either directly or through any bookseller, from Wyman and Sons, Limited, Fetter Lane, E.C., and 32, Abingdon Street, S.W.; or Oliver and Boyd, Tweeddale Court, Edinburgh; or E. Ponsonby, Limited, 116, Grafton Street, Dublin. Printed by Eyre and Spottiswoode, Limited, East Harding Street, E.C., Printers to the King's Most Excellent Majesty. 1911. Price 2d.

scheme to produce higher benefits than those conferred by the German scheme. Moreover, the German Government makes no contribution to the cost of sickness as distinguished from invalidity, whereas the present scheme proposes to pay one-quarter of such cost in the case of women, and two-ninths in the case of men.

(4) There are several other points of difference between this Scheme and the German system, *e.g.*, it is not proposed to adopt the German plan of dividing the industrial population into four classes according to the rate of wages earned—and not, as in Germany, to set up separate machinery for sickness and invalidity. By taking this course, and by the machinery which has been adopted for the collection of contributions, the inconvenience and trouble likely to be caused to employers will be greatly diminished.

There are other points of variation, notably in the measure of control given to the workmen, which will appear later on.

2.—SCOPE OF SCHEME (CLAUSES 1 AND 2).

The Bill will extend to the whole of the United Kingdom.

Insurance will be partly compulsory, partly voluntary.

Compulsory insurance, which will be effected by deduction from wages, will extend to all persons (called "employed contributors") of whatever nationality under contract of service, whether paid by the hour, day, week, month, or year, to include artisans, mechanics, miners, clerks, shop assistants, servants, sailors in the mercantile marine, unpensionable employees of local authorities or railway companies, outworkers (except those specially excluded by an Order of the Commissioners), golf caddies, etc. The compulsory deduction will also include cases of joint employment, *e.g.*, employment in a mine through gangers, the mine owner be made responsible.

Among those to whom the compulsory deduction will not extend are—

(1) Soldiers and sailors, who will be dealt with specially.
(2) Pensionable employees of the Crown or of local authorities, and clerks of railway companies.
(3) Pensionable elementary school teachers.
(4) Agents paid by commission or fees, and employed by more than one employer.
(5) Persons receiving more than 160*l.* a year from their employers by way of salary.
(6) Precarious personal employments, *e.g.*, luggage carriers, not connected with a trade or business.
(7) Subsidiary employment not being the principal means of livelihood.
(8) Wives employed by their husbands and husbands employed by their wives.
(9) Crews of fishing vessels sharing profits.

The Insurance Commissioners will have power by regulations to extend the compulsory deduction from wages to classes of employees included in the excepted classes.

In the case of persons employed for no money wage, or appointed by one person and paid by others, the employer will be made responsible for seeing that the person employed is insured.

The class of persons such as cab-drivers or boatmen, who live by "working" a cab or boat for which they pay the employer, will also be included.

Exemption from deductions from wages will be allowed on request to an employed person (1) in receipt of any pension or income of at least £26 a year not dependent on his personal exertions; (2) ordinarily and mainly dependent for his livelihood upon some other person. The employer will be liable to contribute in such cases.

Inmates of charitable homes who are employed in the homes may be exempted from compulsory insurance, if they are provided with medical attendance and maintenance in sickness. In the case of inmates who leave after being in the home more than six months, the managers must provide for their entering or re-entering into insurance as though contributions and benefits had been paid during their residence.

Voluntary insurance under the Scheme will be permitted to all persons (called "voluntary contributors") not subject to compulsory deductions as above, who (1) are engaged in some regular occupation, and are wholly or mainly dependent for their livelihood upon their earnings therefrom; or (2) have been insured persons for five years or upwards; but persons with an income exceeding £160 a year may not become voluntary contributors.

3.—CONTRIBUTIONS (CLAUSES 3 TO 7).

Persons under 16 do not come into the Scheme of insurance.

Persons over 65 years of age at the commencement of the Act are specially provided for. Contributions will cease at 70.

The rates for employed contributors will, as a rule, be uniform—

For men, 4d. a week, deductible from wages.
For women, 3d. a week, deductible from wages.
For the employer, 3d. a week for both sexes.

The State's contribution will be the payment of two-ninths of the benefits in the case of men, and one-fourth in the case of women. It will not be paid in the case of persons of foreign nationality who have not become naturalised, or who have not belonged to a Society for five years.

These contributions will be subject to a variation in the apportionment as between employer and employee in the case of persons over the age of 21 where the person employed does not receive "board and lodging," as under:

If the wages do not exceed 1s. 6d. a day, the employer is to pay 6d. for men, 5d. for women; the State is to pay 1d. and the employee nothing.
If the wages do not exceed 2s. a day, the employer is to pay 5d. for men, 4d. for women; the employee is to pay 1d. and the State 1d.
If the wages do not exceed 2s. 6d. a day, the employer is to pay 4d. for men, 3d. for women; the employee 3d.
If the wages exceed 2s. 6d. a day, the employer is to pay 3d.; the man 4d., the woman 3d.

Persons who are entitled to insure voluntarily, and who are under the age of 45 at the commencement of the scheme, will be given six months to join the insurance on paying 7d. (if men), 6d. (if women). Such persons if over 45 and persons under 45 joining subsequently to the six months will be required to pay rates increasing according to their ages, in no case less than 7d. (or 6d.).

Transfers from the Class of Employed Persons to the Class of Voluntary Members, and vice versâ.

A difficulty arises for which it is necessary to make rules, owing to the fact that there will be a number of voluntary members liable to pay a higher rate of subscription than the employed rate. Such persons will therefore desire to pose as employed members in order to obtain the benefit of the lower rate; and it is necessary to protect the Societies and the Insurance Funds against such imposition.

The following rules are necessary:

(1) Persons who enter the scheme as employed members will be charged the employed rate and will be allowed to remain at that rate if they remain in employment for a period of five years. When they enter a Society they will be required to furnish evidence that they are regularly employed.
(2) Persons who go into employment, having been previously insured as voluntary members at a higher rate than the employed rate, will not be treated as having become employed members. If, however, they become regularly employed persons, they will be insured as such for what the contributions which they pay, or have paid, are worth.

Collection of Contributions.

Every insured person will have a contribution card, which he will produce to his employer. The employer will affix a stamp, to be obtained from a post office, in payment of the contributions due both from himself and the workman, and will deduct the amount of the latter's contribution from his wages. At the end of the period for which it is current the insured person will take or send the card to his society or, if a deposit contributor, the post office. Regulations regarding the stamping, etc., of cards and the collection of their value by the societies will be issued by the Insurance Commissioners.

The system of collection will be found simple in practice; the Commissioners have power to prescribe a longer period than a week for payment of the contributions, and the convenience of employers and employed will be considered as far as possible. The Commissioners can also sanction other methods of collection.

4.—BENEFITS (CLAUSES 8 TO 13).

The Scheme provides certain minimum benefits; the societies which manage their business prudently will also be able to grant some one or more of certain additional benefits.

The benefits are:—

(*a*) *Medical Benefit.* — Treatment and attendance throughout life for the insured person, and provision of medicines and medical and surgical appliances.
(*b*) *Sanatorium Benefit.*—Treatment in sanatoria or otherwise; such treatment may also be extended to an insured person's family.

(*c*) *Sickness Benefit.*—Normally, 10s. a week (7s. 6d. for women) for 26 weeks from the fourth day of sickness.

(*d*) *Disablement Benefit.*—Normally, 5s. a week from the termination of sick benefit, so long as the disablement lasts.

(*e*) *Maternity Benefit.*—30s. in case of confinement of the wife of an insured person or of a woman who is herself an insured person.

(*f*) *Additional Benefits.*—Certain specified benefits which may be granted as the funds of the society allow.

Benefits (*c*) and (*d*) cease at the age of 70.

The rates of benefit are reduced in the following cases:

(*a*) Under age of 21 and unmarried:

Sickness Benefit.—Males, 6s. a week for first 13 weeks, 5s. a week for second 13 weeks. Females, 5s. a week for first 13 weeks, 4s. a week for second 13 weeks.

Disablement Benefit.—Females, 4s. a week.

(*b*) In the case of a person entering into insurance within one year after the commencement of the Act and over the age of 50 who has not at the time of his claim paid at least 500 weekly contributions, the sickness benefit is reduced to 7s. a week for men and 6s. a week for women for the whole 26 weeks, and if over 60 to 6s. a week for the first 13 weeks and 5s. a week for the second 13 weeks.

(*c*) In the case of persons over 16 entering into insurance more than one year after the commencement of the Act, the sickness benefit is to be reduced according to a table, but not below 5s. a week. Such persons may, however, pay a sum sufficient to entitle them to full benefits, and the reduction does not apply to persons who since the age of 16 have been at school or in apprenticeship.

(*d*) Where the sick or disablement benefit exceeds two-thirds of the usual rate of wages, the benefits may be reduced, but additional benefits of equivalent value will be given. This may be done in other cases.

(*e*) Where an insured person is entitled to compensation or damages for accident under the Workmen's Compensation Act, or otherwise, no sick or disablement benefit will be paid, unless it is greater than the compensation, when the balance only will be paid.

(*f*) Provision is made for reduction and suspension of benefits where contributions are considerably in arrear.

Arrears of contributions are reckoned on the average from the date of entry into insurance. They will not be reckoned (1) for the first year of the operation of the Act, (2) during periods of sickness. Further, an employed contributor is not required to pay his contributions, so far as arrears are counted against him, during periods of unemployment, and if he is in arrear to an extent which makes it advisable for him to make some contribution, he can do this year by year at his convenience.

Thus, if a man has been insured for four years, he may be ill the whole time without incurring any arrears; he may fail to pay contributions for 15 weeks in the four years without suffering any reduction of benefits; he may fail to pay for 52 weeks without being suspended from benefits, and he will then receive benefits in full except sick pay, which will be reduced not below 5s. Only if he is in arrear for two years out of the four will all his benefits be suspended. Moreover, a society may excuse any part of the arrears representing the employer's share of the contribution during periods of unemployment.

Voluntary contributors' arrears will be dealt with specially.

Waiting Period.

Waiting periods have been laid down as follows:—

(*a*) No medical benefit for first six months after commencement of the Act;

(*b*) No sickness benefit for 26 weeks after entry into insurance and 26 contributions paid by or in respect of the insured person;

(*c*) No disablement benefit for 104 weeks after entry into insurance and 104 contributions paid by or in respect of the insured person;

(*d*) No maternity benefit for 26 weeks (voluntary contributors 52 weeks) after entry into insurance and 26 (or 52) contributions by or in respect of the person.

Various Provisions in regard to Benefits.

The sale, transfer, pledging, or assignment of benefits is prohibited.

When a member becomes an inmate of a hospital asylum, infirmary, or workhouse under the charge of any public authority, or of any charity, no money benefit shall be allowed unless he has a wife or children or other relatives dependent upon him for support, when the amount due shall be paid for their relief and maintenance. If he has no dependants, it may be paid towards his maintenance in an institution supported by voluntary subscriptions if an agreement has been made for that purpose.

Sick pay (temporary and permanent) will not be paid except by way of advance to persons entitled to compensation under Act of Parliament or the common law, unless the amount of such compensation is less than the benefit to which the member is entitled, when the difference will be made up. Advances will be recoverable by legal process or deducted from future benefits.

Alternatives have been inserted giving the Societies power (1) to take legal action in support of a member's claim, and (2) to refuse payment of benefit if the person injured does not take action. The Societies will, of course, be liable to costs if they take action and lose the case. If they win the case they will be made trustees of any sum awarded. Also, the consent of the Society has been made necessary for the acceptance of any lump sum in voluntary commutation of a weekly payment, and it has been left to the Societies, subject to appeal, to determine the amount of the set-off from benefits under this Act when a lump sum is paid. Where a lump sum is awarded by the court the award will be communicated to the approved society concerned.

A woman who is herself an insured person may receive sickness benefit in addition to maternity benefit. Medical benefit does not include medical treatment or attendance for confinement.

The Commissioners may, by special order, reinsure the liabilities of all Societies in respect of maternity benefit.

Power is taken to enable the Treasury and councils of counties and county boroughs to make good in equal shares the excess amount expended on medical and sanatorium benefit beyond that payable out of the Insurance Fund, and to enable borough, urban, and rural district councils to agree with county councils for the repayment of their share of the amount so contributed by the latter.

In granting outdoor relief a board of guardians shall not take account of any benefit under this Act, except so far as it exceeds 5s. a week.

The additional benefits will include such benefits as the following:

(1) Free medical attendance for dependants.
(2) Benevolent fund for distressed members.
(3) Granting sick pay from first, second, or third day of sickness; increasing sick pay either in all cases or in the case of married men with large families.
(4) Convalescent allowances in selected or necessary cases. Building and maintaining convalescent homes.
(5) "Pocket money" for men in hospital or convalescent homes, who are being paid for.
(6) Additional invalidity for superannuation benefit, or addition to Old Age Pension. For instance, the Societies might (when their funds permit) begin to grant a pension before 70, with an option to the recipient of taking an increase to his Old Age Pension if he prefers to wait till 70.
(7) An increase of the maternity benefit.
(8) Dental treatment.

5.—ADMINISTRATION OF BENEFITS (CLAUSES 14 TO 21).

Sickness, disablement, and maternity benefits will be administered by the approved societies in the case of their members and by the local Health Committees in other cases. Medical and sanatorium benefits will be administered by the local Health Committees in all cases.

The Bill specifies some of the conditions under which benefits will be payable, the other conditions for the minimum benefits and all conditions for the grant of additional benefits being left to regulations.

In administering benefits, Societies will be required to conform to the conditions contained in the Bill or in regulations made thereunder. Other details may, with the consent of the Commissioners, be provided for by the Societies' existing rules or amended rules.

The rules must provide for—

(i) The manner and time of paying and mode of calculating benefits;
(ii) Infliction of penalties and suspension of benefits;
(iii) Behaviour during sickness, such rule to be in the prescribed form;

(iv) Visiting of the sick members (women to be visited by women); but

(*a*) No fine shall exceed 10s. or 20s. in case of repeated breaches of rule;
(*b*) No suspension for more than a year;
(*c*) No penalty or suspension for refusing operation or vaccination, unless the refusal of a minor operation is considered unreasonable;
(*d*) No suspension of maternity benefit unless the wife herself has been guilty of imposition or breach of rule;
(*e*) Suspension of sickness benefit where the disease is due to misconduct not to involve suspension of medical benefit.

Maternity benefit may be administered in cash or otherwise.

Medical benefit will be administered by the local Health Committees, who will, under regulations of the Insurance Commissioners, draw up lists of qualified medical practitioners and make arrangements with them for giving medical attendance and treatment. Every duly qualified medical practitioner will have a right to be included in the list, and all insured persons will have a right to select their doctor from the list. Persons with an income above a certain limit may be required to make their own arrangements, and the cost of their medical benefit may be contributed towards their medical expenses. Local Health Committees will make arrangements for the supply of medicines and appliances.

The local Health Committees also will make arrangements for sanatorium benefit with sanatoria and other institutions or authorities. The income for this benefit is derived from (1) 1s. 3d. per year per insured person in the county out of the Insurance Fund, and (2) 1d. per such person out of moneys provided by Parliament.

6.—APPROVED SOCIETIES (CLAUSES 22 TO 28).

The working of the Health Insurance Scheme will be carried out mainly through Approved Societies, whose primary functions will be to issue and receive the contribution cards of their members insured under the Act and to administer certain of the benefits on their behalf.

It will be open to any Society which satisfies the conditions to become an Approved Society, and it will not be asked to apply any of its existing funds for the purposes of the new Scheme, even though they have been contributed in respect of benefits now included in that Scheme.

The Act is devised so as to enable the Insurance Commissioners to make the fullest possible use of existing organisations.

All the Friendly Societies and Trades Unions will be able to comply with the conditions. By doing so they will not sacrifice their independence or their right to select members. The Government inspection and supervision to which they will be liable is only devised in the interest of the members themselves to secure the proper administration of the funds, and should strengthen the position of the Managing Committees in well-managed Societies.

The financial position of existing Societies which undertake the administration of the Scheme will be greatly strengthened. They will be credited with fresh reserves in respect of their members who become insured persons. This will reduce the demands on the present reserves, so that the Societies will be in a better position for meeting their remaining liabilities. Moreover, out of the funds set free the Societies will be able to give additional benefits to their present members or to assist them in the payment of their contributions; but the extent to which this can be done will depend in each case upon the degree of the Society's solvency.

Approval may be granted by the Insurance Commissioners to—

(*a*) Any Society (not being a branch) registered or established under any Act of Parliament or Royal Charter.
(*b*) Any Society not being a branch and not so registered or established but having a constitution of such a character as is prescribed by the Insurance Commissioners.
(*c*) A separate section of any Society established by the Society for the purposes of the Act and consisting of insured persons and so constituted as to comply with the requirements of the Act as to Approved Societies.

No Society will be approved—

(1) If it is carried on for profit.
(2) Unless its constitution provides for absolute control of its affairs by its members.

An Approved Society by its existing rules or by new rules must make detailed regulations to the satisfaction of the Insurance Commissioners as to the distribution of benefits and for enforcing the observance of such regulations.

An Approved Society's rules must make proper provision to the satisfaction of the Insurance Commissioners for the government of the Society and its branches.

An Approved Society must give security against malversation of funds by its officers.

An Approved Society must—

(*a*) Keep books and accounts under the Act separate from all other books and accounts and in such form as is prescribed by the Insurance Commissioners and must submit them to a Treasury Audit.
(*b*) Render such returns as are prescribed by the Insurance Commissioners.

A Society approved under this Act may be registered under the Friendly Societies Act, notwithstanding that the contributions are not voluntary.

Every registered Friendly Society which becomes an Approved Society and which provides benefits similar to those conferred by the Act must submit to the Registrar of Friendly Societies a scheme for continuing, abolishing, reducing, or altering such benefits and also the contributions as respects insured members and for dealing with any funds thereby set free as not being required to meet the liabilities of the Society.

An Approved Society or a branch of such Society may be dissolved only with the consent of the Insurance Commissioners, which will be given only if proper provision is made for the members who are insured under the Act.

A branch of an Approved Society may not secede without the consent of the Commissioners unless it makes satisfactory provision for the transfer of its insured members to other branches or Approved Societies.

Approval may be withdrawn from a Society failing to comply with this Act or offending against any other Act.

There are certain special kinds of Societies to which particular provisions apply:—

(1) As stated above, a separate section of a Society may be formed for the purposes of the Act, and such section may be approved as an Approved Society.

(2) A Provident or similar Fund established by one or more employers may become an Approved Society. Its committees must be elected by ballot; its members must be free to transfer to other Societies; and membership must not be a condition of employment.

With reference to the employer's representation in the management of such Funds, the employer is allowed one-fourth representation if he makes himself responsible for the solvency of the fund or contributes substantially towards it.

An existing Provident or similar Fund will be required to submit a scheme for readjusting its benefits, and in certain cases the employer may deduct from his contributions to the fund an amount not exceeding his contributions under the Act.

(3) To assist small Societies which would not have sufficient members to secure a proper average of risks, Societies with less than 5,000 members may combine to form an association with a central financial committee.

Societies which have not so associated, and which at the time of any valuation have less than 5,000 members will be required to join a group of Societies within the same county or county borough, the local Health Committee taking the place of the central financial committee. But Provident Funds substantially supported by the employers may be exempted.

The association or grouping in these cases is solely for the purpose of pooling surpluses and deficiencies, and does not impair the independence of the societies.

(4) Where the branches of a Society are grouped geographically and their total membership exceeds 5,000, they may, subject to the rules of their Society, form a separate group for the purposes of valuation.

7.—MEMBERSHIP OF SOCIETIES (CLAUSES 29 TO 33).

Subject to the provisions of the Bill, membership will be governed by the existing rules of Friendly Societies. A person may not be refused admission solely on account of age. Transfers from one Society to another, and from one branch of a Society to another, will be carried out by the transfer of the amount appropriate to the member's age, according to a table which will be prepared, subject to appropriate deductions in the event of the member being in arrear or the Society being in deficiency. When the member voluntarily leaves his Society, the transfer value will only be paid with the consent of that Society, which must not be unreasonably withheld. A clause has been inserted requiring a Society which expels a member, who is unable to find another Society to take him, to pay over the money appropriate to the member's age.

Expelled members will be given a right to appeal to the Insurance Office Arbitrators.

Provision is made for the transfer at the usual transfer rates of members to similar Colonial or Foreign Societies which grant reciprocal treatment to their own members migrating to this country.

A member of five years' standing becoming permanently resident outside the United Kingdom and not joining a Colonial or Foreign Society may, if his Society approve, receive the benefits independently of the Act, and have transferred to his account as a private member his transfer value, and any reserve value credited to his Society shall then be cancelled.

A member temporarily resident abroad may, with his Society's approval, receive sickness or disablement benefit, and maternity benefit may be issued notwithstanding his absence from the United Kingdom.

Double insurance in the State scheme is provided against, and the same person will not be able to draw both unemployed and sick benefit.

8.—Accounts, Valuations, etc. (Clauses 34 to 40).

Every Society must keep its accounts under the Act separate from all other accounts and in the form prescribed. The accounts will be subject to audit by auditors appointed by the Treasury.

The contributions are calculated to cover management expenses. A separate account must be kept for management expenses, and the Government will contribute its proportion of such expenses.

Valuations.

The assets and liabilities of Societies will be periodically valued by valuers appointed by or with the approval of the Treasury.

Surplus.—If a surplus is found upon a valuation of a Society, which is not a Society with branches nor a branch of an affiliated Society, the Society will be entitled to prepare a scheme for granting one or more of the additional benefits specified in the Act. The consent of the Insurance Office will be necessary before such scheme can be brought into operation.

If the Society has branches, the branches with surpluses contribute one-third of their surpluses to help the branches with deficiences. Deficiency branches are liable to make good without assistance from the surpluses one-quarter of their deficiencies.

These rules also apply to associated or grouped Societies.

Deficiency.—If a deficiency is found, which cannot be made good from surpluses, the Society will be required to prepare a scheme for extinguishing the deficiency. Such a scheme may provide for:

(*a*) A levy upon all members of the Society by increasing contributions.
(*b*) A reduction of the temporary sickness benefit.
(*c*) A postponement of sickness benefit, or an extension of the period of twelve months within which two illnesses must be regarded as continuous.
(*d*) Any other method approved by the Insurance Commissioners.

All such schemes must receive the approval of the Insurance Office.

If within six months after the declaration of a deficit no such action should be taken as may be reasonably expected to make good the deficiency in the affairs of the Society within a period of three years, the Insurance Office is empowered and required to take over the administration of the statutory powers and funds of the Society, and to take steps to recover as quickly as possible the amount of the deficiency by any or all of the methods above indicated. When this course is taken self-government will be restored within a reasonable time, not exceeding three years, or arrangements made for transferring the members to other Societies or the Post Office Fund. Members joining a Society in which a deficiency has been declared after the declaration of the deficit will not be required in any way to make good such deficit. Members leaving a Society in similar circumstances will be charged with their proper proportion of the deficit. Any dispute as to the amount of the deficit or as to the adequacy of the provision proposed for extinguishing it will be decided by an independent referee to be appointed by the Lord Chief Justice in England and Ireland, and the Lord President in Scotland. If a Society is found to be in deficiency at any time after the approval of a scheme for granting additional benefits, payment of such additional benefits will be suspended.

The surpluses and deficiencies of an Association or Group of Societies are similarly dealt with.

The branches of a Society may be grouped in geographical areas for the purpose of valuation.

A Society may keep men's and women's funds separate for the purposes of valuation.

9.—The Post Office Deposit Insurance (Clauses 41 to 42).

Persons liable to the compulsory deduction from wages, who fail to join a Society or who are rejected or expelled by a Society and who cannot get another Society to take them, will be dealt with through the Post Office as collectors of their contributions and the local Health Committee as administrators of benefits. Their names and addresses will be ascertained and the insurance will be conducted as follows:

The cards first issued for the collection of contributions will be made current for a period of probably three months. After that period new cards will be issued free to members through the Societies and to other compulsorily insured persons through the Post Office. A membership book, upon which credit will be given for contributions, will be issued with the card to persons joining the Post Office Insurance, and the contributions will be charged annually with seven-ninths for men and three-quarters for women of the calculated cost for management, medical attendance, and sanatorium. A waiting period of six months must expire before benefits begin to run. If, after the waiting period has expired, a member falls ill, he (or she) will be entitled to medical attendance and to withdraw his (or her) contributions including the employer's share with the addition of two-ninths (or one quarter) from the State's contribution, at the rate of 10s., 7s. 6d., or 5s., etc., a week, as the case may be.

On the death of a deposit contributor four-sevenths (or in the case of a woman one-half) of the amount standing to his credit will be payable to his nominee or representatives.

If a member of a Society becomes a deposit contributor his transfer value will be credited to him in the Post Office Insurance, and if a deposit contributor becomes a member of a Society the amount credited to him in the Post Office Insurance will be transferred to the Society.

The above arrangements in regard to Deposit Contributors hold good till the 1st January, 1915, when they will be open to reconsideration.

10.—Special Classes of Insured Persons (Clauses 43 to 52).

1. *Married Women.*

If insured before marriage a woman on marriage is suspended from the ordinary benefits until the death of her husband (but only while unemployed), and if a member of a Society, one-third of her transfer value is carried to the married women's suspense account. On resuming employment after her husband's death her coverture will be disregarded for arrears, and there will be transferred from such suspense account to her Society the proper reserve value. While so suspended and a member of a Society she may become a voluntary contributor at threepence a week and so entitled to medical benefit and reduced sick and disablement benefit. Failing which, the remaining two-thirds of her transfer value will be applied in paying her five shillings a week for four weeks after confinement and in payments during sickness and distress.

Where a married woman deposit contributor is suspended as aforesaid, two-thirds of the sum credited to her in the Post Office fund will be applied in the same way.

On death of the husband of a woman suspended as aforesaid, and a member of a Society, she may become or continue a voluntary contributor on certain terms.

2. *Aliens.*

In the case of aliens no part of the benefits, with certain exceptions, will be paid by the State, and the rates of sickness, disablement, and maternity benefits will be reduced.

3. *Sailors and Soldiers.*

The men of the Navy, Marines, and Regular Army are in a peculiar position since they receive the equivalent of most of the benefits as one of the conditions of their service. Special arrangements are therefore made for them in the Bill, the general object of which is to place these men when they re-enter civil life in as good a position as if they had been in civilian employment.

It is estimated that rather less than half the normal contribution will be required to provide the deferred benefits

ikely to accrue during later life, consequently the service man is to pay 1½d. a week during his service, and the Admiralty or War Office, as employers, will contribute another 1½d.

Those men in the Navy and Army who are members of Societies at the commencement of the Act or before enlistment will continue their membership during their service, and the contributions paid by and for them will go to their Societies. Also, the Insurance Commissioners will deduct only 1d., instead of 1⅝d., in respect of reserve values, the remaining ⅝d. being found out of the Navy and Army Insurance Fund.

The contributions of men who do not join Societies will be paid into the Navy and Army Insurance Fund, which will also be credited with two-ninths of the estimated benefits which would have been received had the men been in civil life. The Fund will be chargeable with (1) maternity benefit during service of men not members of Societies, (2) transfer values of such men on leaving the service and going to Societies or the Post Office Fund, (3) the balance of ⅝d. required for the reserve values of men who are members of Societies, and (4) the whole of the 1⅝d. for the reserve values of men who are not members of Societies.

The balance of the Navy and Army Insurance Fund will be used for providing the benefits for men who, not being already members of Approved Societies, are unable through ill-health to gain admission to such Societies on discharge. It is felt that such men should not be left entirely to the Post Office Fund, where their right to benefit might become exhausted, because it may be said that on enlistment they were in good health, and may have lost the opportunity of joining an Approved Society through their service. The solvency of the Fund will be guaranteed out of Navy and Army Votes. If a man's health so improves that he is able to enter a Society, his transfer value will be paid from the Fund. The benefits will not be diminished on account of any pension the man may be receiving. The sickness benefit may be reduced on account of arrears, but in no case below 5s. a week. Two-ninths of the benefits will be paid by the State, as in other cases.

Maternity benefit will be issuable during service, whether the man and his wife are at home or abroad, and whether they are married on or off the strength.

4. *Where the Employer is Liable to Pay Wages during Sickness.*

Generally, if the employer makes himself liable to pay full wages for six weeks in certain classes of employment sickness benefit will not be payable for such period and the employed rate will be reduced by 2d. (or in the case of women by 1½d.) and the contributions by the employer will be reduced by 1d. (or in the case of women by ½d.) and the contributions by the employed by 1d.

5. *The Mercantile Marine.*

The first part of the Act is modified as to seamen by the following considerations:

It has been ascertained that a seaman serving in the foreign trades, as distinguished from the coasting and home trades, is on the average absent from the United Kingdom for 42 weeks in the year, and during that period he is already provided by the shipowner, under the Merchant Shipping Acts, with an equivalent of sickness and medical benefits. The payment of the seaman's contribution and the calculation of his arrears is founded on this basis.

The contribution in respect of seamen in the foreign trades is reduced by the equivalent of 2d. The shipowner's proportion of this reduction is to be allowed by reducing his share of the weekly contribution from 3d. to 2d. per man for each week of employment.

The seaman's proportion of the reduction is to be allowed by treating every four weekly contributions paid by him in any calendar year as five such contributions.

No reduction is made in the case of the coasting and home trades.

Medical sickness and disablement benefit will not be given or paid to a seaman for a period during which the shipowner is under the Merchant Shipping Acts liable to defray the expense of medical and surgical treatment and his maintenance.

Foreign seamen are not "employed" within the Act, but the owner is to pay the employer's contributions in respect of them, except where the ship is engaged in regular trade on foreign stations. The Board of Trade will form a Seamen's National Insurance Society for seamen "employed" within the Act, with a representative committee to administer benefits, including pensions.

6. *Persons aged 65 and under 70.*

In the case of such persons the employer will pay the ordinary contributions and the State 2d. per week, and the insured will be entitled to such benefits as his Society or, in the case of deposit contributors, the local Health Committee determine. Reserve values will not be created in favour of such persons.

7. *Seasonal Trades.*

The Insurance Commissioners may make orders reducing contributions during certain periods, and increasing them during corresponding periods.

8. *Inmates of Charitable Homes, &c.*

Exemption from insurance may be granted by the Insurance Commissioners on certain conditions where such inmates receive maintenance and medical attendance.

9. *Certificated Teachers.*

On a teacher in a public elementary school becoming a teacher to whom the Elementary School Teachers (Superannuation) Act, 1898, applies, provision is made for the transfer of the value of contributions to his credit in the Deferred Annuity Fund.

Financial Provisions (Clauses 53–57).

National Insurance Fund.—The Central Funds for each of the three kingdoms and Wales will be under the management and control of the Insurance Commissioners, and will be audited as directed by the Treasury.

Investments.—The provisions dealing with investment may be summarized as follows:—

It is proposed that the Approved Societies should themselves be allowed to invest in trustee securities, four-sevenths in the case of men (one-half in the case of women), of all moneys available for investment.

The amounts which would be available for investment fall under two headings:—

(1) The proportion of the Sinking Fund set up for the purpose of extinguishing the loss occasioned by including persons over the age of sixteen in the Insurance. The first charge upon the Sinking Fund will be the interest payable upon the reserve values which will be created in respect of the older members. The balance will be available for investment; and it is proposed that four-sevenths of it in the case of men (one-half in the case of women) should be invested by the societies in proportion to the amounts severally credited to them of the reserve values remaining unextinguished.

(2) Any balance in hand at the end of each year after current expenses have been paid, and after the Sinking Fund charge, as explained in (1), has been deducted, will belong to the Societies. Each Society will have the right to invest four-sevenths in the case of men, and one-half in the case of women, of its own balance.

It will be observed that Societies will have three alternatives before them with regard to the moneys which they may themselves invest:—

(1) The first is to invest the money themselves. This will be the ordinary course, unless they give notice to the contrary.

(2) The second will be to leave the money with the Commissioners to invest in Government Securities

(3) The third alternative is for Societies to leave the money with the Insurance Commissioners, but to choose their own investments. In this case the Insurance Commissioners will hold the investment on their behalf, the Societies themselves receiving the interest.

Reserve Values: Equalizing Members of Different Ages.

Inasmuch as societies will be allowed to retain their own independence and carry on business in the method to which they are accustomed, some arrangements must be made to equalize the position as between Societies consisting of old or of young members. If there were only one fund and one Society no difficulty would arise. The age-distribution of such a Society would be normal at the commencement, and as it would get its full and proper proportion of new entrants it would remain normal throughout. But as it is, there are over 20,000 Societies and branches with the greatest possible variety in age-distribution. It is not proposed to break up and recon-

stitute these Societies, nor is it desirable or necessary to do so. But it is necessary to put every Society on exactly the same footing:

(1) For the purpose of the State Valuation.

(2) As regards its financial position if it takes the older lives into insurance.

This has been effected in the following way:

Inasmuch as the State is covenanting to pay two-ninths of the benefits for men (one-fourth for women), every Society will necessarily be in a solvent condition if it has seven-ninths for men (three-fourths for women) of the contribution necessary as regards members joining at the age of 16—the age when the insurance commences, and as from which all calculations for the purpose of the insurance have been made. For members joining at any age over 16, Societies in order to be solvent should also hold seven-ninths for men and three-fourths for women, of the reserves appropriate to the members' ages. These reserves they will not, of course, hold at the commencement of the scheme, and it is therefore necessary to create them in the form of a paper debt, at the cost of the whole insurance. This debt will be credited to the various Societies. Debt and interest will be redeemed by the investment of two-ninths for men (one-fourth for women) of the contributions paid by insured persons. In this way every Society is put upon an equal footing of solvency as regards the acceptance of members. If a Society has an age distribution of members which is exactly normal in accordance with the calculation of the Government's actuaries, the reserves credited to it in the form of the paper debt would be paid off by the investment of the two-ninths (and one-fourth) of the contributions. If a Society admits younger members, the excess of their contributions is available to pay the debt credited to a neighbouring Society which admits older members. No one Society, therefore, can get an advantage over another Society by admitting members at the younger or older ages.

The proportion of the contribution which Societies have to surrender is the proportion represented by the Government grant of two-ninths (or one-fourth) of the benefits. It is true, therefore, at the commencement that young persons of 16 years of age in fact get no value from the Government grant—for the Government pays two-ninths (or one-fourth) of the benefits and takes two-ninths (or one-fourth) of the contribution. But for every age over 16 the Society to which every insured person belongs from the commencement receives in the insurance a credit appropriate to his age-risk, and this credit represents the value to him and his employer of the Government insurance. The credit is of course greater at the higher ages, and it is for this reason that a somewhat reduced insurance is given to persons over 50 years of age, and that persons over 65 are specially treated.

It is impossible without great complications under a universal scheme of insurance with a uniform rate of premium to devise a scheme under which every insured person from the commencement would receive exactly equal treatment. Equality of treatment can only be reached when the original deficit due to the inclusion of the older lives has been wiped off. Meanwhile, under the provisions of the Bill the younger generation will receive the full value of their own and the employers' contribution, and it is proposed in the Bill that when the deficit has been wiped off, and it becomes possible to extend the benefits conferred by the insurance, regard in the extension should be had to their ages when they joined the insurance. The effect of these provisions may be summed up as follows. The insurance given will be worth on average 9d. a week for men, 8d. a week for women. In the case of some individuals it is worth rather more. In other cases it is worth rather less. In no case is it worth less than 7d. (6d. for women), the contribution payable jointly by employers and workpeople.

12.—INSURANCE COMMISSIONERS (CLAUSES 56 TO 57).

The Insurance Commissioners are appointed by the Treasury. One at least must be a duly qualified medical practitioner.

The Commissioners may appoint officers, inspectors, etc., whose number and salaries are subject to the approval of the Treasury. A clause provides for the powers of inspectors.

The Commissioners will appoint an Advisory Committee to advise and assist them in making and altering regulations. The Committee will include representatives of associations of employers and approved societies, of the medical profession, and other persons appointed by the Commissioners, of whom at least two will be women.

The Commissioners have power to make all necessary regulations, which must be laid before both Houses of Parliament and may be annulled on an Address being presented by either House within 21 days of the next sitting of the House.

13.—LOCAL HEALTH COMMITTEES (CLAUSES 58 TO 61).

In England and Wales a local Health Committee will be constituted for every county and county borough. It will consist of (*a*) persons representing insured persons who are members of Societies and deposit contributors proportionately; (*b*) persons (of whom two will be women) appointed by the council of the county or county borough; (*c*) two medical practitioners appointed by their colleagues; (*d*) one, two, or three medical practitioners (according to the number of the Committee) appointed by the council of the county or county borough; (*e*) other persons (of whom one will be a medical practitioner and two women) appointed by the Insurance Commissioners.

Provision is made for the appointment of district committees for a county and for large boroughs and urban districts.

In addition to its other powers and duties, a local Health Committee is to make reports as to health. All sums available for sanatorium benefit and for medical benefit and administrative expenses will be credited to the local Health Committee each year, together with 1d. per member annually from societies towards administrative expenses.

14.—EXCESSIVE SICKNESS (CLAUSE 62).

Where excessive sickness in a locality is found to be due to the default of some person or authority a claim may be made against such person or authority for the extra expenditure incurred by reason thereof, and, failing agreement, a public inquiry may be directed by the Home Secretary or the Local Government Board.

15.—SANATORIA (CLAUSE 63).

Provision is made for dealing with any funds available for the erection of sanatoria for the treatment of tuberculosis, etc.

16.—MISCELLANEOUS QUESTIONS (CLAUSES 65 TO 70).

(*a*) *Questions* as to who are insurable persons and as to rates of contributions will be determined by the Commissioners with a right of appeal to a judge.

Disputes will be settled according to the rules of a Society or other regulations, with right of appeal to the Commissioners, who may appoint referees to decide them.

(*b*) *Distress or execution* may not be levied against an insured person on the doctor certifying that it would endanger his life. The certificate must be renewed weekly, and may be disputed by the claimant before the county court. This protection will not last more than one month without a guarantee for the rent or debt, and in no case for more than three months from the date of the original certificate.

(*c*) *Penalties* are imposed on persons falsely obtaining benefits, or the credit of reserve values, and on employers failing to pay contributions due from them.

17.—SCOTLAND, IRELAND AND WALES (CLAUSES 80 TO 83).

Separate Insurance Commissioners will be appointed for Scotland, Ireland, and Wales, with powers and duties similar to those of the central Insurance Commissioners; and there will be separate Health Insurance Funds for each of those countries.

A joint committee of the several bodies of Commissioners will be formed, to deal with financial adjustments, valuations, transfers, etc.

The principal special provisions relating to Scotland are:

(1) Where it seems desirable, owing to sparseness of population or other special cause, to suspend or modify the benefits administered by a local Health Committee, this may be done with the consent of the Scottish Insurance Commissioners, equivalent benefits being substituted.

(2) Where the number of insured persons in a county who are not members of any Approved Society justifies it, and such persons desire it, the county council may submit a scheme for establishing a county society.

In Ireland special provisions are made for—

(1) Exempting from compulsory insurance an Irish migratory labourer employed in harvesting or other agricultural work, in whose case contributions paid in respect of him in Great Britain will be paid to the Irish Insurance Commissioners to be dealt with under their regulations;

(2) Exclusion from compulsory insurance of an outworker whose wages from the employment are not his principal means of livelihood;

(3) The establishment of County Societies similar to those in Scotland;

(4) The number and appointment of members of local Health Committees.

(5) The treatment of medical benefit as an additional benefit only, and a consequent reduction in the rates of contributions.

In the case of Wales it is proposed that the Welsh Insurance Commissioners should take the place of the Local Government Board in dealing with the provision of sanatoria.

16.—DATE (CLAUSE 115).

It is proposed that the scheme should come into operation on the 15th July, 1912; but power is taken to substitute a later date, provided it be not later than the 1st January, 1913.

MEETINGS OF THE PROFESSION.

ALDERSHOT.

AT a meeting of the Aldershot Medical Society, held on December 8th, the following resolutions were unanimously passed, and the Secretary was requested to forward them for insertion in the BRITISH MEDICAL JOURNAL:

That this meeting of the Aldershot Medical Society deeply regrets and strongly disapproves of the action of the Council in recommending Mr. Smith Whitaker's acceptance of the post of Deputy Chairman of the Insurance Commission.

Further, this meeting of the Aldershot Medical Society is of the opinion that Mr. Smith Whitaker should not be entrusted with any further negotiations on behalf of the British Medical Association.

ILFORD.

A REPRESENTATIVE meeting of medical practitioners in the Ilford district was held on December 5th in the Recorder Buildings with the object of securing unity of action, and of determining the main principles which should guide the profession in its work with the National Insurance Scheme in this locality.

After some discussion, a resolution was moved and carried unanimously by the thirty medical men present.

The resolution was to the effect that the meeting form itself into the "Ilford Medical Union" to secure joint action locally, and through the British Medical Association nationally, with the rest of the profession to safeguard the interests of the profession and the health of the public; to endeavour to secure fair rates of remuneration and fair conditions of employment under the National Insurance Scheme.

All the medical men practising in the district, but prevented from attending the meeting, have signified their agreement with the resolution and their intention to join the union.

KEIGHLEY.

AT a meeting of medical practitioners residing in Keighley and the immediate districts, held on December 5th, the following resolution was unanimously adopted:

That the National Insurance Bill as at present framed does not satisfactorily embody the reasonable demands of the medical profession as defined by the British Medical Association; that the scheme is unworkable, detrimental to the medical profession, and dangerous to the public health. Therefore, in the event of the bill becoming law in its present form, we medical practitioners in Keighley and district express our determination to refuse to undertake the duties which the bill proposes to assign to us.

SALFORD.

THE following resolution was carried unanimously at a special meeting of the Salford and Broughton Medical Unions held on December 1st, and was forwarded to members of Parliament for Manchester and Salford:

That the Broughton and Salford Medical Unions, embracing practically all the registered medical practitioners in the County Borough of Salford, earnestly request you to record your vote against the third reading of the National Insurance Bill, as the six cardinal demands of the British Medical Association have not been embodied in the Bill.

The following resolutions were unanimously adopted at a meeting of the same union held on December 5th.

This meeting is of opinion that the provisions of the National Insurance Bill as finally drafted do not incorporate the six cardinal points to which the profession unanimously pledged itself.

That they do not secure effectual means whereby the practical working of the bill can be carried out in absolute conformity with the principles of these six points.

And, therefore, that the Council of the British Medical Association should at once call upon all members of the profession to decline to form a panel or to undertake any duties which the bill proposes to assign to them.

This meeting expresses its strong disapproval of the action of the Council of the British Medical Association, and demands its resignation forthwith.

MEETINGS OF THE PROFESSION TO BE HELD.

LONDON.

DR. FRED. J. SMITH (London) asks us to notify that a meeting of the medical profession will be held at 4 p.m. on Tuesday, December 19th, in the Queen's Hall, Langham Place, W., and that Sir W. Watson Cheyne has consented to take the chair. Dr. Smith adds:

"I would like to explain that this meeting will not concern itself in any formal manner with the recent action of the Council of the British Medical Association; it obviously arises out of that action, but as no possible good could come from discussing that point in public any further, it will be entirely omitted from the meeting, which is intended to be one open to the whole profession, whether members of the British Medical Association or not.

"The object of the meeting will be confined to (1) protesting against the bill in its present form, by a resolution probably on the lines of those which are now being proposed in various centres; (2) strengthening the hands of all associations of medical men which are assisting in the same object.

"It is earnestly hoped that as many medical men as possible throughout the kingdom will do their very best to attend, as the present situation of the profession under the bill as it stands seems to be very critical."

ST. PANCRAS AND ISLINGTON.

A MASS meeting of the profession in the area of this Division will be held in the Venetian Room of the Midland Grand Hotel, N.W., on Wednesday, December 20th, at 9 p.m. Resolutions will be moved to reaffirm the previously stated policy of the profession in this area in regard to the National Insurance Bill.

MANCHESTER.

A MASS meeting of the medical profession, to which medical men from all parts of the country were invited, was summoned to meet, under the chairmanship of Mr. G. A. Wright, F.R.C.S., at the Midland Hotel, Manchester, on the afternoon of Thursday, December 14th. The notice states that resolutions would be proposed calling upon all medical men to take no office under the bill, and to form a temporary union to deal with the situation. As the JOURNAL is finally sent to press on that day, a report of the proceedings of this meeting must be deferred till our next issue.

PROCEEDINGS IN PARLIAMENT.

House of Commons.

Third Reading.

In addition to the extract given in last week's issue from Dr. Addison's speech, a short reference was made by the Chancellor of the Exchequer to medical questions in the following terms:

"Take the question of the doctors, and here I am treading on very delicate ground, strewn with suspicion. I am not going to say that the doctors are satisfied. Still, what has been arranged, at any rate, in the bill enables the process of free bargaining to go on between the local Health Committees, the friendly societies, and the medical men. I defy anybody who undertakes this business to come to any other arrangement in an Act of Parliament. And why? Because the conditions vary in every locality. The system that suits Durham and South Wales is repugnant to Lancashire. There was danger of revolt among the doctors in the mining districts. We have given free choice of doctors. The system which suits part of Lancashire will not suit another part of that county. There is only one thing a Minister can do in any bill dealing with the problem of national health, and that is to allow the local Health Committee to arrange terms suitable to particular districts and suitable to particular individuals. If you were to keep it open, not for twelve months, but for twelve years, you could not come to a better arrangement than that. Therefore, there is no real reason for postponement in that respect."

House of Lords.

Second Reading.

Viscount Haldane introduced the bill on Monday, and generally described the financial arrangements contemplated in the measure, with which our readers are familiar. He made only a brief reference to the position of the medical profession under the bill. The matter would, he said, be dealt with by the local Insurance Committee, and he did not think that the doctors would be worse off than those associated with friendly societies, but on the average would probably be 2s. a head better off.

Lord Lansdowne, in commenting on the bill, made the following remarks in reference to the position of hospitals and medical men: May I say one word with regard to the case of the hospitals? This bill has greatly disturbed and alarmed those who are interested in the voluntary hospitals of this country. (Hear, hear.) I am bound to say it seems to me probable that things will go very hard with them under the bill. They have hitherto received very generous support, and particularly from the working classes themselves. (Hear, hear.) There are many of them who depend largely upon the small weekly subscriptions of the working men, supplemented, no doubt, by a regular subsidy from the firms by whom they are employed. What the managers of these hospitals feel is that, when the men are obliged to provide 4d. for sickness insurance and 2½d. for unemployment insurance, they will hesitate to continue that regular subscription they have been in the habit of paying to the hospital fund, and the same thing, no doubt, will be the case with regard to the subscriptions of the employers. I noticed the other day a statement by Sir Henry Burdett, who has a right to be heard on the subject of voluntary hospitals, that this bill meant what he called the death of voluntary hospitals; that it would have the effect of diminishing their income by one-half, and oblige them to close half the beds which they are at present able to maintain. That is a matter which certainly, to my mind, deserves the consideration of his Majesty's Government. Then there is the case of the doctors. I know that his Majesty's Government have made almost superhuman efforts to propitiate the doctors, and they are quite right. But have they succeeded? I never open my newspaper without seeing a fresh protest from the doctors, and I think we must all feel very great sympathy with them. Doctors with a working-class practice are probably amongst the most hard worked and worst remunerated of our professional men. (Hear, hear.) Some of the points which they have urged have, no doubt, been met, but some are still unsatisfied. The position in which the doctors will find themselves under the bill is, it seems to me, not a very enviable one. They will be at the mercy, on the one hand, of the Health Committees, on which the representatives of the friendly societies are in a majority, and they are also, as I understand the bill, entirely at the mercy of the Insurance Commissioners, who at any moment can strike a medical man off the panel, and thereby ruin his professional prospects. I cannot help thinking that his Majesty's Government, if they desire the bill to work smoothly and successfully, should be at pains to satisfy the doctors on the points which they have raised.

Lord Sandhurst said that he, too, would have welcomed more time for the consideration of the bill, because it not only affected every household, but had to do with the present, and perhaps the future, interests of one of our most learned professions; and, even as it stood at present might have an everlasting effect on the fortunes of some of the charitable institutions. For the last thirty years the speaker had been concerned in the work and management of some of these large charitably supported London hospitals, and when Governor of Bombay, he had under him probably a greater number of medical officers at one time than ever fell to the lot of an administrator, because those were the days of the beginning of the plague.

The Maternity Benefit.

He proposed to speak only on the portion of the bill which had reference to the doctors and of its possible effects on the medical profession and hospitals supported by voluntary contributions. Before doing so, however, he was anxious to call attention to one or two matters connected with the bill, on which the previous speaker had not touched. One was in regard to midwives. Under the Midwives Act, midwives were under penalty to send for a doctor in cases of necessity, and the local supervising authority at present could pay the fee and get the money back from the patient. He would like to know whether some arrangement could not be made so that a society might make arrangements for the reimbursement of the fees paid to the medical man whom the midwife was obliged to call in. Such fee was at present paid by the midwife out of her own pocket or by the guardians.

Then with regard to the deposit contributor. He would like to see some plan put in the bill by which the insurance could be paid in a lump sum. By such means the deposit contributor could assume the position of a person insured by a society, or again, a child could be insured for life or any shorter period by the payment of a lump sum. It was easy to imagine cases in which such procedure would be advantageous and advisable—where people wished to provide for the children of faithful servants, or where an employer wished to provide for the children of his employees, and for those whom societies would not take. The principle involved was one well known to be utilized by ordinary insurance societies, and there would be little trouble in proving the idea he suggested to be financially sound.

Again, he did not think it was mentioned in the bill whether the guardians could take maternity relief into consideration in regard to applicants for indoor relief; would an unmarried woman who was insured be liable to be refused admission to a Poor Law infirmary for confinement on the ground that she was not destitute? This was a matter of very great importance, because if the answer were in the affirmative, such a woman would be worse off than at present.

It also seemed necessary to secure that the maternity benefit paid to the husband should in reality be applied for the benefit of the wife. The matter was not quite clear as it stood. Every one knew that some women were not tended with all the care necessary, and a man of bad character might, it seemed, very easily spend the maternity benefit in drink or on anything else, so he would very much like to see such a possibility abolished.

The Flat Rate.

Continuing, Lord Sandhurst said: I listened with very great interest indeed to what my noble friend said in regard to the medical men. Of course, we all know that they put forward in the first instance six points by the British Medical Association. Four of those points, I think I am correct in saying, are already embodied in the bill, and two others can be met, so far as is consistent under the machinery provided in the bill, provided that the financial requirements are satisfactorily adjusted. There may be difficulties about the arrangements with the doctors

an it may not be easy to get the medical profession all promptly into administrative line, but we may feel confident, I am sure, that while these arrangements are in the course of making, or proceeding to perfection, poor people will not suffer from want of medical attendance. The estimate for the "flat fee" was made on the analogy of what is known as "club practice." At present the medical man dealing with the members of a club treats them at a flat fee of, say, 4s. per annum, but I fear under the working of the bill it will be found that the conditions and results to the medical man may differ very much from those of present club practice. In some respects that is no doubt to be desired, but when the medical man has had his flat fee of 4s., he has also had his practice extended to a number of patients who pay fees per visit. They pay as much as 2s. 6d. or 3s. 6d., and those patients, as a rule, form the bulk of the income of a medical man who has clubs, and practically enable him to take club patients at the flat fee. But now I think it is reasonable to anticipate that, if the bill is a success, the greater number of these private patients will merge themselves into insurance-paying people, with the result that the margin which at present enables a medical man to take in poorer patients at a lower fee will disappear, and his remuneration prove insufficient. But, again, this ordinary domiciliary attendance at 6s. per annum is really only half the story, because, what about the journeys, the special cases—minor operations, adenoids, anaesthetics, and so on? All these special services will be in addition to the ordinary work, which of itself can hardly be properly remunerated at the 6s. per annum. It will follow, therefore, that these special services cannot be properly performed, or performed at all, and recourse must be had to the hospitals now supported by voluntary contributions.

The Hospitals.

To show what this means as regards the work of the general hospitals I can tell you from my own experience that at one of the largest London hospitals in the summer-time it was about two and a half months before a child could get operated on even for adenoids.

Lord Sandhurst then showed that as insurers would be paying for medical attendance they would press for its early receipt, even if that entailed treatment at the hospitals, and if the societies had to pay them sick benefit, not only while actually under treatment, but while awaiting it, the difficulty in obtaining prompt admission to hospital would lead to a cry for increased accommodation.

It was possible, indeed more than likely, that under the bill the work of an out-patient department might diminish, but on the other hand there was, in connexion with the general out-patient department of a large hospital, a variety of special departments provided with the most expensive and up-to-date apparatus, as well as presided over by the best brains that could be found among very distinguished medical men, and the pressure on these departments, instead of diminishing, would, he believed, be considerably increased. But after all, it was not the out-patients, but the in-patients, who were the most costly, and the pressure of the numbers of would-be patients, supplemented by the pressure of the societies, for beds would create a need for increasing existing hospital accommodation. Of course, continued the speaker, it is possible that much may in future be done by dispensaries; they may treat trivial cases, and it may be necessary for them to act as clearing houses for various kinds of maladies. In particular something in the way of a clearing house will, I think, have to be set up in regard to the sanatorium treatment, but, except for taking money from sanatorium benefit for diseases other than tuberculosis, I do not see where any funds are to come from to deal with this matter. Meantime, in default of such clearing-house system, cases of all kinds will, as now, be thrown indiscriminately on the general hospital. Therefore, in spite of the desire expressed by the Chancellor of the Exchequer—and I quite appreciate the tone in which he referred to it—not to bring in the hospital question, I cannot help thinking that it will force itself forward with surprising and increasing insistence after this Act has been in operation for some little time. But while there is no money available, as far as I can see, for setting up dispensaries, or for giving money to hospitals, there is machinery to a certain extent for providing it under Clause 20, and, I think, also under Clause 63. A health committee or a society is empowered by these to subscribe to hospitals; no society however, has funds at its disposal, as I understand, outside those allotted to sanatorium and medical benefit, all of which would be required for these particular purposes, and it can hardly be doubted that no societies will subscribe to other institutions until at least their first triennial valuation shows a surplus.

The liability for the treatment of the sick under the bill seems to me to be tremendous. Under Clause 8 (*b*) we find:

> Treatment in sanatoria or other institutions, or otherwise when suffering from tuberculosis, or such other diseases as the Local Government Board with the approval of the Treasury may appoint.

This may embrace the whole of the pharmacopoeia, the whole gamut of disease and medicine and surgery, and the only hope and refuge, except for the medical officers, who I venture to think are hardly sufficiently remunerated, will be the general hospitals, which are supported now by voluntary contributions.

Lord Sandhurst then added that what made him anxious was that the work of the voluntary hospitals was constantly increasing, and the difficulty of getting hold of funds was increasing also day by day. They were attended and served almost entirely by medical men without any pecuniary reward whatever. Members of the House must know only too well the straits to which hospitals were reduced, from the innumerable circulars and appeals they received daily. He had himself sent out thousands after thousands, and he did not see how their situation was to improve; it was likely to get worse. Employers at present contributed very generously to these institutions, and in some cases workers also. The subscriptions of the latter, made by weekly donations, amounted to many thousands of pounds in the year. But under the bill it would be enacted that for medical relief both the working man and his employer should pay their contributions by another system, and though he did not adopt the figures which had been set out, it had been said that employers would pay seven or eight millions away. In any case the working of the bill would cost employers a great deal.

No doubt certain employers, rich men, and others would continue to support the voluntary hospitals, but they could not be expected to subscribe so largely as before the money which will be required for their own needs. Whatever their legal position might be, no well managed society would give subscriptions to the hospitals unless and until its position in regard to surplus had been proved by a proper valuation; but contributions, half from the rates and half from the Treasury, might be made. There would, however, be unavoidable delays, and in the meantime the position of the hospitals would be more and more serious. It seemed to him really necessary, therefore, that either in this bill, or else in an amending bill brought in at no very distant date, an institution benefit should be introduced and be administered by the committee on the same lines as the sanatorium clauses.

Medical Education.

Continuing, Lord Sandhurst said: There is one more point in connexion with these hospitals which I think should not be lost sight of, especially in view of what appears in the Treasury memorandum, and of what has been said in this House about the prevention of disease. In connexion with these general hospitals, or a great many of these general hospitals, both in London and the country, are the medical schools where lectures and lecture-rooms, and libraries, and all the paraphernalia of medical education are to be found, as well as the material in the wards and in the out-patient departments, for observation and study by the students. But my fear is this, that if these great charities have to any considerable degree in the course of time to shut down in London and the country, medical education will suffer. My noble friend has mentioned it, and pointed it out, and I venture to think that this is really a matter of very real importance, because the real progress of science is bound up with the arrangements which must be made in the Government bill, and we must remember that the success and the solvency of the measure depend upon the prevention of disease, for, unless by advance in science and the promotion of better methods for preventing disease, and also for sanitary measures, and so preventing people getting ill, the drain on sick funds

will not diminish, and only as they diminish, I think, will you manage to make your scheme a success.

Moreover, the success of the bill depends on the service under the bill being such as to attract good men. If the bill merely extends the undesirable condition of the club or contract practice, I think it will mean that in a future generation recruits for the medical profession will be unlikely to come up to the high standard of to-day, and the development of preventive medicine depends on enthusiastic labour and co-operation of the best intelligences.

In the concluding sentences of his speech the speaker repeated that he felt very strongly that the medical charities might suffer, and that he was also anxious about the condition of the doctors.

It was so very easy to interfere with an old system, and possibly to put something up in its place which, however good on paper, one could not by any means be sure would act efficiently. The older system of charitable relief and the hospitals themselves got on extremely well with the Poor Law authorities and kindred institutions of that description, and he would very greatly regret if their usefulness and efficiency were in any way curtailed by this bill. No doubt the imperfections of the bill would be remedied in the course of time, and as new generations grew up that had been accustomed to the intrusion and inquiry which would be necessitated by it, it would be found to be a vast and widespread benefit. They had been told several times that it had taken about twenty-five years in Berlin to get the thing near perfection. That might be an inspiring and cheerful outlook; but, if so, he very much regretted that the House had not been given time to remedy some of the imperfections which the bill —which he sincerely hoped would eventually benefit many people—at present admittedly contained.

The bill was read a second time without a division.

Committee.

On Tuesday, December 12th, the bill was taken in committee for the purpose of altering the title of the "Health Committee" to "Insurance Committee" as had been arranged when the bill left the House of Commons. The alteration of the title of the "Health Committees" to "Insurance Committees" was generally felt to be desirable in order to distinguish them from the health committees which are set up by the local authorities, as well as more precisely to define their function. A number of amendments, chiefly of a drafting character, had been put on the paper by Viscount Haldane, who is in charge of the bill, but only a few of them are of medical interest. In the original bill, if the amount of sickness or disablement benefit exceeded two-thirds of the rate of wages or other remuneration earned by the insured person, the society was required to reduce the benefit to some extent, and to give the amount so taken off in the form of other benefit. This reduction of the sick pay in these cases is made optional under a Government amendment, substituting the word "may" for "shall" in the second subsection of Clause 9. An amendment to Clause 55 enables the Insurance Commissioners, for the purpose of deciding whether any class of employment is employment within the meaning of the Act, to submit the question in a summary manner to the High Court for decision, and the decision of the High Court shall be final.

Scottish Health Committee.

A very important amendment is introduced into the provisions regarding the constitution of the Health Committee in Scotland. As explained in our issue last week the additional representation of medical men on the enlarged Insurance (Health) Committees, as set out in Clause 58 of the bill provided that the extra medical men should be nominated by the county or county borough council, but section 6 of Clause 80 provided that no person, except in the case of women, should be qualified for appointment on an Insurance (Health) Committee for a county of or burgh council in Scotland unless such person were a member of the council in question; this would have rendered inoperative the extended medical representation as arranged for under Clause 58 for England and Wales. This defect has now been remedied by adding to the exception to the rule "medical practitioners qualified as such," thus leaving the councils free in Scotland, as in England, to make their own nominations of medicamen from the practitioners of the district, whether the are members of the county or burgh council or not. A silar amendment had been put down by Lord Sandhu on representations by the British Medical Association.

Definition of Certified Midwife.

Another amendment defines the expression "cerled midwife," as used in the bill, as meaning "any micife possessing such qualifications as may be prescribed."

QUESTIONS IN PARLIAMENT.

Medical Service.

Sir Hildred Carlile asked the Chancellor of he Exchequer, in view of his statement that the provisins for consultations and operations under the Natioal Insurance Bill would be a matter for special arrangemct, who were the parties to this special arrangement; ad whether payments would be made under this head to te hospitals. Mr. McKinnon Wood said that the parties o the arrangement would ordinarily be the local Insuran Committee, the medical profession, and the patient. Th answer to the last part of the question would depend upo the arrangements which were made.

Sir H. Carlile inquired whether the hospitals would nc be consulted in the matter. Mr. McKinnon Wood replie that he said the medical profession. Of course, the medica profession represented the hospitals. Sir H. Carlil dissented.

Sir H. Carlile asked the Chancellor of the Exchequer how he proposed to give effect to his intention that members of the medical profession who had shown themselves unfit for the performance of what would become a very responsible public duty should be prevented from securing work under the National Insurance Bill, and in what way doctors remaining on the *Medical Register* could be regarded as so unfitting themselves. Mr. McKinnon Wood replied that the Insurance Commissioners would have power after due inquiry, in the exercise of their discretion, to remove from the panel the name of any doctor whose continuance thereon would be prejudicial to the efficiency of the medical service. He could hardly be expected to enumerate the various possible causes that might lead the Commissioners to this conclusion, but the Commissioners had power to delegate their duties of inquiry to referees appointed for the purpose, and such referees might be constituted as a court of medical inquiry.

Sir H. Carlile asked if it was to be understood that the doctors still upon the *Medical Register* would be dealt with in this way and removed from the panels. Mr. McKinnon Wood said that a case might conceivably arise. He did not think it was very likely to arise, but in any case the Medical Committee would be able to express an opinion which would, no doubt, have great weight with the Insurance Commissioners. Sir H. Carlile said there was no Medical Committee.

Mr. Mitchell-Thomson inquired if the doctors had any right of appeal. Mr. McKinnon Wood replied: Yes, to the referees.

Insurance Commissioners.

In reply to Lord Alexander Thynne, Mr. Lloyd George said that the Insurance Commissioners would be a Government for the purposes of the Rules Publication Act, 1893, and that it was unnecessary to introduce any amendment to make them so.

Domestic Servants.

Sir C. Kinloch-Cooke asked whether, in the event of a servant electing to leave her situation on account of illness and being away for a month, the employer would be compelled under the National Insurance Bill to pay her a month's wages during her illness as well as the wages of the person who takes her place. Mr. McKinnon Wood said that there was nothing in the Insurance Bill that affected the existing law on the subject.

Sir C. Kinloch-Cooke asked whether the weekly payment of 7s. 6d. in the case of illness would be paid to a female servant if she elected to receive sickness benefits, whether she was in hospital, an infirmary, or at the house where she was employed; whether she would be free to do as she liked with the 7s. 6d., or must she hand it over to the hospital, the infirmary, or the head of the house in

which she was employed; would he explain what was meant by payment of the 7s. 6d. to dependents of the insured person, under what circumstances would this transfer take place, and did dependents mean legal dependents or voluntary dependents; and who was to decide in what proportion the money should be allocated and to whom it should be given. Mr. McKinnon Wood said that the money would not be paid to her if she was in hospital or an infirmary, but it would be so paid if she was in her employer's home, and she would be under no obligation to pay it over to her employer. The circumstances in which the money would be payable to dependents had already been explained. The question whether a person was dependent was a question of fact to be determined by the society or commissioners administering the benefit. The decision as to the last part of the question would rest with such society or committee after consultation, if possible, with the insured person.

Medical Practices.

Mr. Douglas Hall asked the Chancellor of the Exchequer if the Government proposed to take any steps to compensate doctors for the loss many of them would suffer in the price obtainable for the sale of their practices owing to the working of the National Insurance Bill when it came into operation. Mr. Lloyd George said he saw no reason to suppose that the consequences anticipated were likely to occur. On the contrary, the value of most medical practices, especially in industrial areas, must be increased by the operation of the bill.

Administration.

Viscount Wolmer asked the Prime Minister on December 12th whether he intended to appoint a Parliamentary Insurance Minister: and, if not, who would be responsible to Parliament for the administration of the Government's insurance scheme. The Prime Minister replied that the Treasury would be responsible for Part I of the insurance scheme. It might be convenient that he should state that the Joint Committee to be set up under Clause 83 of the bill would consist of a chairman, the four chairmen of the Commissions, Mr. Bradbury, Mr. Smith Whitaker, and the Chief Registrar of Friendly Societies. The present Under Secretary for the Home Office would be chairman, and would reply in the House of Commons in respect of the work of the Joint Committee and of the four Commissions, and Sir Robert Morant would be vice-chairman. The President of the Board of Trade would be responsible for Part II of the Insurance Bill.

Medical Practitioners.

In reply to Mr. Baird, who asked whether a medical practitioner would be allowed under the National Insurance Bill to have his name included among the list of practitioners in more than one area administered by more than one local Health Committee, Mr. Lloyd George said that the answer was in the affirmative.

Dispensers.

Mr. Croft asked the Chancellor of the Exchequer whether qualified compounders and dispensers of medicines of the Royal Army Medical Corps, having businesses of their own, would be allowed to submit their names as eligible to dispense prescriptions under the National Insurance Bill. Mr. Lloyd George, in reply, said that compounders and dispensers of medicines who were qualified under the rules of the Pharmaceutical Society and who had left the Royal Army Medical Corps were eligible to be placed on the lists of dispensers under the National Insurance Bill.

The Basis for Medical Remuneration.

In reply to Mr. Amery, Mr. McKinnon Wood said that the estimated margin of safety on the initial benefits provided by Part I of the National Insurance Bill was 0.42 in the case of men and 0.53 in the case of women a week. This margin was based on the assumption that the medical benefit would be provided at a contract rate of 4s. 6d. a head with drugs at 1s. 6d. a head. To increase the cost of medical benefit to the average rate of 7s. 6d. a head without drugs would in the case of all insured persons cost another ½d. a week, which was practically equivalent to the absorption of the margin. There was no material for calculating the effect of such an increase in the case of those insured persons only whose incomes did not exceed £2 per week.

THE COUNCIL AND THE INSURANCE COMMISSIONERSHIP.

THE decision of the Council on December 2nd to sanction the acceptance by Mr. Smith Whitaker of the offer of the post of Deputy Chairman of the Central Board of Insurance Commissioners which, as it has turned out, carried with it membership of the Joint Committee for the four countries, has excited a great deal of interest, and a considerable number of letters on the subject have been addressed to the Editor for publication. For convenience these have been classified under three heads. In arranging the first, "criticism," no selection has been practised. In the two other classes, those in which the critics are criticized, and those written in support of the Council's action, and especially in the latter, the number received has been so considerable, and, it may be added, some have been so long, that with the other calls for the publication of matter about the Insurance Bill, neither the space at disposal nor the resources of the printing office, which has been constantly working overtime, have sufficed for printing them all.

CRITICISMS.

DR. J. E. EDDISON (Leeds) writes: As a Member of Council for the Yorkshire Branch I should like to say how much I regret that I was not able to attend the meeting on December 2nd. If I had been there I should have voted against the resolution. I do not wish to comment on the acceptance by the Medical Secretary of the post offered to him by the astute Chancellor of the Exchequer. It is entirely the affair of the Medical Secretary, and not ours at all. What puzzles me is why the majority could not be content, at any rate, with setting the official free to do as he chose. It was no business of theirs to "recommend" him to take any particular course. However, they have "recommended" him to do it, and the responsibility rests on them. If it were not so tragic for the Association it would be comic. For what is the position? At hundreds of meetings the members of the Association have been implored to sign declarations that they will not take work under the Act unless certain conditions are agreed to. And now, without the slightest warning, all these men who have signed the declaration see the chief official of the Association "*recommended*" to take a lucrative post under the Act by the very Council itself. I know quite well that the members of the Council are entirely guided by what they believe to be good for the Association; and I have, in common with others, received a letter from the Chairman of the Council and the Chairman of Representative Meetings; but it does not seem to me to help us. They declare that when many of us were under the impression that we were trying to get certain things made actual clauses in the bill we were wrong; and that those who were guiding affairs only meant that they were expressing pious hopes as to what might come in the form of "regulations" after the bill became law. But how long, let me ask, are these hard-working young men, who have signed the declaration, to be expected to wait till they know what conditions these various committees and authorities are going to make? If the conditions are not such as are approved, what then? They at any rate will not have nice posts as Commissioners to step into. And what is there to help them? Most of us thought that no conditions that are merely asked for and not put into the bill will be worth the paper they are printed on unless they are formally promised. And are they? Are these "six principles" promised by any one? If these "principles" had to do only with regulations to be made if the committees decide to make them in the future, what was the good of all the fuss about amending the clauses of the bill?

In this letter we are told that the Association is to use "every possible means" to ensure certain conditions. But what are "possible" means when the members of the profession will be in a minority—a very small minority—on every committee there will be?

All things, in a sense, are possible if you have the power; but surely it is useless talking in this way when we all know that there is no such power in the Act—for Act it will be very soon.

I read in this letter that the "bill now definitely secures 'certain points,'" and "makes all the others 'attainable' if the profession takes the proper steps to that end." But what are the steps, and how can the profession take them when it has no power, and the Act says nothing about giving it power? In this letter we are told that the profession is to "insist" upon certain arrangements being made. But what is the use of anybody "insisting" if they have no power to enforce anything. If the minority at the Council had "insisted" on the 2nd inst. that this resolution ought not to be passed, what good could they have done? I see that near the end of the letter the writers take credit for taking the opportunity of getting a man appointed who would protect the interests of the profession. From what I know of the Medical Secretary I feel sure that he will work for his new chiefs with the same energy and the same devotion that he has worked for the Association. He will, indeed, have no right to do anything else than do his best to carry out the Act. And the Act is dead against the best interests of the profession, to say nothing of the rest of the community.

Sir FREDERICK WALLIS (London) writes: The recent appointment of Mr. J. Smith Whitaker as Deputy Chairman of the Commission set up by the National Insurance Bill has, as might be expected, created considerable feeling. As to the rights or wrongs of the appointment, and whether it was politic or wise for the Council to sanction Mr. Smith Whitaker's acceptance of the appointment, is a matter which is more or less of a sentimental interest. Mr. Smith Whitaker was placed in a difficult position, but it is one, apparently, which he is quite capable of dealing with.

The practical interest which arises out of this matter is as to what real benefits have so far been achieved by the Council in charge of the National Insurance Bill. It is evident from the various letters which have been written and the meetings which have been recently held that many members of the profession are intensely dissatisfied with the state of affairs, and it is evidently generally thought that sufficient advantage has not been taken of the great opportunity which was put into the hands of the profession by the Chancellor when he drafted the bill; and there is nobody who knows more than the Chancellor how great that opportunity was. Whether we are in a position to still take that advantage it is difficult to say, and this appointment has roused a general feeling amongst the profession that all is not as it should be.

Any one reading between the lines cannot but see that the members of the Council, instead of being beware of the utterances of a clever tongue, as I suggested to them months ago in a letter to the BRITISH MEDICAL JOURNAL, have been beguiled, and are now as clay in the potter's hands. To suggest for a moment that the present indefinite state of the various principles involved is satisfactory is far from correct. The bill is full of chaotic promises that everything will be put right *after* the bill is passed, but this is not a state of affairs which will be acceptable to any practical man, and the reasons for it not being acceptable are well set out in a letter written by Dr. F. Deas, published in the *Times* of Monday. The present protest from the North and elsewhere will, I hope, be persisted in, and, if a strong line is taken, the situation may yet be saved, and the position of the profession be improved considerably, but if this chance is not taken advantage of *now* it will never occur again.

Dr. DONALD F. SHEARER, F.R.C.S. (Exeter) writes (December 5th): The action of the Central Council in connexion with the appointment of a Medical Commissioner under the Insurance Bill is, in my opinion, a breach of faith with those who have subscribed to the "Undertaking" and to the Guarantee Fund. Hence I hold myself entirely released from any restraints or responsibilities incurred by my signatures, and free to take any and every position under the bill or Act that comes my way. As a specialist nothing of the sort is likely to happen; but, if this is my view, who am not hit by the bill, what views are those likely to adopt who see a chance that a slice of income will be cut away if they do not hurry up and make terms with the enemy? Thanks to the Council, it is now each for himself and the devil take the hindmost, and the bottom is knocked out of the medical demands for adequate remuneration.

P.S. (December 9th).—You have postponed the publication of this warning in order to enable me to consider the report of the Council meeting. I have nothing to withdraw but something to add. However suitable Mr. Smith Whitaker or any one else may be to fill the post of Medical Commissioner, the action of the Council in giving him permission to accept the post is equivalent to an admission that the medical profession have obtained under the bill, or can obtain under the regulations to be framed, satisfaction of its just demands. Now the actuaries have declared that if the expenditure on medical and sanatorium benefits exceeds 7s. 3d. the success of the scheme is endangered, while under the German system the total actual medical expenditure is 11s. 3d., not including permanent invalids. This difference can only be made good by public charity, gratuitous hospital service, and sweated medical labour. For even the ability of Mr. Smith Whitaker cannot convert 7s. 3d. into 11s. 3d. by means of rules and regulations. Moreover, under the bill the friendly societies possess the power to continue their present medical service, and it is open to any local Health Committee to institute salaried appointments. Medical services, then, cannot be adequately remunerated under this bill which also perpetuates and extends the tyranny of the friendly societies. That the Council should assist in the work of setting this bill in action is a grave betrayal of the trust committed to them, and will be taken to justify any amount of "blacklegism."

Dr. HILDYARD ROGERS (London, W.), in the course of a letter dated December 9th, writes: On December 4th I wrote you a letter concerning the recent betrayal of the profession by the Council of the Association. In that letter I stated that, "Now that the first members of the Association, who had been 'tempted of the Devil,' had with the consent of the Council yielded, it is absolutely absurd to expect martyrdom from the humbler members of the profession, and that I would respectfully advise the Council to hoist the *white flag*." That letter you have returned to me for "reconsideration." This I regard as a deliberate attempt to gag me. How, may I ask, will it be possible to blame in the future any poor starving practitioner who becomes a "blackleg"—Commissioner or otherwise—when he can turn round and point to this cowardly business? And what do the Council mean by defending their action on the ground of the valuable aid that their late secretary can render as a Commissioner? The best man absorbed in a Government department becomes a mere cog in a wheel, and everybody knows that the work can really be done by a clerk at 30s. a week. I for one object to being either betrayed or gagged. The effect of the latter process will be that we shall be driven to discuss matters in the daily press, which, indeed, is already being done—playing with our cards on the table.

Dr. FREDERICK PORTER (Edinburgh) writes: I beg to acknowledge receipt of my returned letter and your note of December 6th. I have perused carefully the full report in the SUPPLEMENT of the proceedings of the special meeting of Council held on December 2nd to consider Mr. Smith Whitaker's appointment, and I beg leave as a member of the British Medical Association to state my opinion regarding it. I am one of those who believe that the fundamental principles of the National Insurance Bill are wrong, and that the bill will have a disastrous moral effect on the people of this country. To state my reasons for this belief would encroach too much on your space; but I beg to state that those principles have never been challenged nor even discussed by any party of the House of Commons. To proceed to the subject of this letter—namely, the appointment of Mr. Smith Whitaker to the Deputy Chairmanship of the Board of Commissioners—I, a humble member of the British Medical Association, who has the prestige and welfare of the profession at heart, agree with the minority of the Council that Mr. Smith Whitaker should not have accepted this appointment at the present stage.

When, might I ask, did the policy of the British Medical Association change, and who gave the Council powers to allow a member to accept office under the National Insurance Act? Do the Council represent the members of the Association? I have always understood that they did, and also, that the Association in a body pledged itself not

to cept any office until the principles of the Association we adopted by Government. Have those principles beadopted? If not, what powers had the Council to adve any member to accept an appointment until these prnciples were adopted? Did the Council in so doing repsent the voice of the British Medical Association? I ink not; and, moreover, I believe that they exceeded thr powers as a Council in advising Mr. Smith Whitaker toccept this appointment without first ascertaining the opion of each member of the Association, or at least the njority of each Branch. I am quite willing to believe tlt Mr. Smith Whitaker is in every respect worthy of ths appointment, but the arguments put forward by the njority—that he should accept this appointment—appear tme to be extraordinary. Why should it be necessary f the Council to accede to the Government's request to ominate members for the position of Commissioners if Jr. Smith Whitaker refused the appointment? Were we ot united as an army, with a definite course of action apped out, and ready to fight until we had gained what e had resolved to gain?

We have not gained what we resolved to gain, and believe that the Council's policy should have been to pprise the Government that it (the Council) had no power o nominate any member for the position of Commissioner, or any other position, until the principles laid down by the Association were adopted.

With reference to the letter from the Representatives of the Metropolitan Counties Branch of the Association published in the *Times* of December 7th, allow me to quote one sentence: "Is he under the impression that the British Medical Association at any time demanded that all the six principles should be specifically embodied in the bill?" I make bold to say that every ordinary member of the Association was under that impression, and for the very cogent reason that when these principles were formulated there was no mention made by the Chancellor of the Exchequer, or by any one, that the important working details of the bill were to be relegated to "insurance authorities." It is such vacillating policy that will shake the unity of the Association and breed disruption.

I believe, Sir, that Mr. Smith Whitaker, in accepting this appointment, has weakened our defences; but I sincerely trust that we will still fight as one body until our principles have been adopted. My strong regret is that we did not unite in opposing this bill on purely ethical grounds, as I believe—what I have already stated—that this bill will have a disastrous effect on the morals of the people, and I believe also on the prestige and higher evolution of a noble profession.

Dr. WILLIAM MITCHELL (Past Chairman Bradford Division, Member Yorkshire Branch Council) writes: While at once admitting that in Mr. Smith Whitaker we could not have a better man as Insurance Commissioner, and without attempting to pass judgement on him or on the Council of the Association as to their loyalty to the Association, it nevertheless appears to me, after full consideration, that the crux of the whole question is this: Which of two evils do we prefer, the filling of the office of Deputy Chairman of the Insurance Commissioners by a man not so competent, from our point of view, as Mr. Smith Whitaker? or, on the other hand, the creation of a feeling of suspicion and distrust leading to a smashing up of the solidarity of the profession by the appointment of Mr. Smith Whitaker. In my opinion the latter alternative is the one most to be avoided, and hence I am of opinion that the Council of the British Medical Association, in recommending the appointment of Mr. Smith Whitaker without first consulting the Divisions, has committed a grave error of judgement and one of which it will take many years to undo the evil effects.

Dr. MICHAEL B. FOSTER (Puckeridge, Herts) writes: The report of the special meeting of the Council must confirm the large body of practitioners in their entire disagreement with its action. Apart from the question of the morality of the appointment, certain facts strike one. It is apparently a fact that either this matter was suppressed at the Representative Meeting, or we submitted to a pistol being presented at our head and an answer demanded within twenty-four hours. The most serious admission, however, is that with the foreknowledge that division of the profession would result from the action it still persisted.

We general practitioners, who after all will be more affected by the bill than any other branch, must now regard the Council as hopelessly incompetent. We can no longer be put off with wordy accounts of negotiations and concessions, which are merely futile. The Chancellor has acknowledged that he cannot alter the wage limit; that he has not enough money to give us a remuneration we consider adequate. How can one attempt to bargain with a man when you know he has not even your bed-rock price in his pocket?

The Council, which, judging from the account of the Representative Meeting, is a kind of mutual admiration society, has spent six months in negotiations, and in the end has split up the members. The feeling among the rank and file is so strong that I honestly fear, if they do not stand down, the Association will lose a large proportion of its members.

It is of the most vital importance that we should be reunited; so far as I can see this can only be done by the appointment of a committee to deal with our position—strong men with no axe to grind, who will let the Chancellor understand that we will have neither his bill nor his bribes.

Dr. B. W. GOWRING (Dorchester) writes: Had one of the rank and file of the Association been considering an appointment under the Insurance Act we should have expected the reply of the Council to have been, "Yes, you may accept the post provided the Government agree to the six cardinal principles of the Association." Surely that should have been the reply to Mr. Smith Whitaker.

The reasons given for recommending him to accept the post are not convincing, and express the weakness of our tactics. An ultimatum should have been given to the Government at the last meeting of our Representatives; the battle should have been fought whilst we are all united, it should not have been left to the enemy to deal with us in detail as they will now, when we are scattered in fighting local Insurance Committees. Mr. Lloyd George has secured the secretary of the only body of practitioners he had need to fear. While I can admire the slimness of Mr. Lloyd George in offering Mr. Smith Whitaker the post he has accepted under the Insurance Act, I tremble for the future of the Association if the Council so readily fall into the traps laid for it.

Dr. O. E. BULWER-MARSH (ex-President of the South Wales and Monmouthshire Branch of the British Medical Association) writes: In common, I think, with a large majority of general practitioners throughout the country, I cannot help entering my protest against any member of the profession accepting an appointment under the State Insurance Bill as at present constituted. The bill has been hurried through the House of Commons, and for political purposes will probably be passed by the House of Lords without amendment, and may I ask where is it going to leave us?

Our Representative Body on May 31st and June 1st last unanimously, I believe, adopted the six cardinal points now so well known to the public and the profession. They further resolved to invite all members of the profession to sign an undertaking that when the bill was enacted they would not individually enter into arrangements for attendance on the insured, and would act through the local Medical Committees only if the conditions were satisfactory and in accordance with the declared policy of the Association. These invitations were sent out, and I believe were responded to by a vast majority of the profession. Yet what do we find has now taken place? That the principal organizer and exponent of these vital points affecting the profession has himself accepted a highly lucrative and important post for administering this Act, which practically does not embody any of the six cardinal points insisted on by our Representative Body and by the profession at large, and that, moreover, he has accepted the appointment by the advice of our Council.

There is no income limit of £2 per week embodied in the bill; the local Insurance Committees, which are paramount for administering the Act in their districts,

are composed, roughly, of three-fifths of insured persons. One-fifth are elected by the county and borough councils and local Health Boards; the remaining fifth are elected by the Insurance Commissioners or Treasury, and there will be two or three medical representatives thrown in as a "sop." This will inevitably mean that the administration of medical benefits will still be under the control of the friendly societies, only in another name, as the three-fifths of the members of the committee representing the insured persons will be drawn almost entirely from the various friendly societies; the one-fifth from the county and borough councils will also almost assuredly contain a large percentage of friendly society members. These two sections will compose a large majority of the committee. Of what good is a medical representation of two or three on a committee of, possibly, 80 members largely drawn from friendly societies?

The local Medical Committee provided for in the Act, as far as I can see, is not endowed with any statutory powers, but is purely advisory. The wage limit for their district is to be fixed by the local Insurance Committee in consultation with the Medical Committee, but the Medical Committee has no power of enforcing its recommendations, and can be hopelessly outvoted by the local Insurance Committee on all points. We are left in the dark as to what services we shall have to give under the Act, or as to what our conditions of service are to be. The amount of remuneration for our services is also left in an equally nebulous condition; but I presume this will be based on the Government actuarial estimate of 6s. a head per annum, to include drugs and appliances. If this beggarly pittance is regarded by the Government as a "*fair and just* remuneration" for our services, then I am profoundly sorry that our "honourable" profession has sunk to this low ebb in the estimation of the "powers that be."

The bill, as it is, will undoubtedly lower the prestige and independence of the profession, and is certainly debasing to it. Having these facts in view, I agree with Dr. Fred. J. Smith that the acceptance of the medical commissionership by our Medical Secretary, upon the advice of our Council, is most certainly a betrayal of our Association as a whole, and will be the forerunner of a general scramble for those appointments which the Chancellor of the Exchequer will be astute enough to offer to prominent members of the Assoociation, with a view to breaking up its organization.

The acknowledgement of the appointment by our Council will act in a very deleterious way upon the rank and file of the Association and the profession, who will at once say, "If the heads of the profession accept the Act, and accept these appointments for working it, what can I do in self-defence but allow my name to go on a 'panel of doctors,' and so secure for myself, at any rate, some portion of the wreck."

As an ex-President of a large Branch of the Association, I appeal to all members of the profession, both inside and outside of that Association, to uphold the resolutions of our Representative Body as set forth, and to take no individual part or to enter into any arrangements for working the Act until our six cardinal points are embodied therein. It is only by union that we can avert what means practical ruin to a large number of practitioners.

Dr. T. BARRETT HEGGS (Sittingbourne) writes: Throughout East Kent the action of the Council in connexion with this appointment is viewed with grave suspicion and disapproval. To the officials of Divisions who have laboured hard to inculcate in the medical men of our areas confidence in the head quarters of the Association and their policy, this action is a keen disappointment. Throughout the entire negotiations the official policy has been lacking in virility and determination. From time to time it has been necessary to restrain the rank and file from energetic outbursts against the weakness of the policy pursued, and suspicion has been engendered and insinuations rife. This trouble is now increased tenfold. There is a strong feeling that the Association is being run by a few London and provincial consultants who are not in sympathy with the general body of the profession. Strong censure is expressed, and a change is demanded in the central executive. Our Representatives should act, and act quickly and strongly, if complete confidence is to be restored. Even Mr. Lloyd George acknowledged the recommendatien of the Council as an indication of certain approval of the provisions of the bill. Every one does, and yet the bill is far from meeting the reanable demands of the profession. We are in a posin to "demand," and an uncompromising defence of thetrong position we took up is the only possible attitude acctable to the rank and file.

J. ABCARIUS (Burslem) writes: The procedure of the Council to sanction the appointment of Mr. Whitaker and their assertion that it was the best thing to do in the interests of the profession, are, to my mind, quite incompatible. I have carefully gone through the report issued in the SUPPLEMENT of last week, but I fail to see in it any convincing argument that justifies the adverse step taen. The question has been largely dealt with from a personal point of view, namely, the integrity of Mr. Whitaker and his capacity to honourably fill the post allotted to him. Mr. Straton went even a little farther, and urged his colleagues not to stand against Mr. Whitaker's private interests—a selfish and very unwise plea, when the interests of the whole profession are at stake. On Mr. Whitaker's individuality I have nothing to say. He may be—and probably is—the right man in the right place, but that is not the question. The question is, Was it the right move at the right time? Does it not strike even the casual observer that it is rather odd and out of the common that the leader of the campaign against the bill should be the very first to accept office under it, when pledge forms and letter circulars, headed by his name, are still floating up and down the country, urging medical men to abstain from serving under the said bill as now drafted? Is it not evident that such a deed will undoubtedly be made use of as a precedent on which some (black sheep) will model their future conduct; and who could blame them for it, for what is permissible to one cannot, *ipso facto*, be binding to others. To say that Mr. Whitaker's action in taking the post offered is not a breach of the undertaking signed by the profession, as the undertaking refers to "attendance upon insured persons," is only hiding one's face under a very transparent veil; if Mr. Whitaker has not broken the very letter of the undertaking, he certainly has broken the spirit that called for the drafting of the said undertaking. Is it not evident that when the demands of the profession embodied in the six cardinal points and constituting the so-called policy of the Association were conditions *sine qua non* for medical men to serve under the bill, the Council's resolution sanctioning Mr. Whitaker's appointment is nothing short of a breach of trust, considering that practically not one of those demands has been or is likely to be granted? Is it not evident that by such a decision the Council has recognized the bill, assented to its clauses, and assisted the Chancellor to carry out his scheme? Is that what the profession expected from it? It seemed to think that with a Commissioner sympathetic with our views our conditions may improve in the future. But no matter how willing and equal to the task such a Commissioner may be, I fail to see, I must admit, how he could further the interests of the profession. His position, as Dr. Major Greenwood has rightly said, will only be judicial—he would have to act with regard to the public as well as the profession. Now, would he be entitled, under such circumstances, to give preferential treatment to the profession; and granting that he would, could he do so when he is only one against four? Again, why seek in the darkness of the future the possibility of an unlikely improvement, when we are masters of the situation at present? Why do we assume a begging attitude, and run after the few crumbs that may fall off the Chancellor's table, and sit down to weep over our misfortunes, instead of realizing the strength of our position and dictating our terms? It is true we cannot help the bill becoming law; but when the bill does go through does that necessarily imply that the last word has been said? Is there any law that compels one to work when he chooses not to?

Passing the bill is one thing—working it is another.

I cannot help thinking that if in previous negotiations with the Chancellor the matter had been strongly brought home to him, the truth laid out in its bare nakedness—if Mr. Lloyd George had been made to realize that non-compliance with our demands was wrecking his own scheme—the results would certainly have been more gratifying to the

profes1. As it is, the Chancellor has turned a deaf ear to ourlf-hearted pleadings; by so doing his conduct has been tainly actuated by the feeble opposition we were offerinour apparent meekness, weakness, and his hope of our wt of solidarity. It is highly regrettable that the recenecision of the Council, and the speeches of some of the mbers, will not particularly tend to make the Chancelloiter his views on the subject. What the profession was en to understand as being the policy of the Association d recent events do not coincide, I am afraid, and I fran believe that it will be much harder for us to obtain our mands now than it has ever been.

D BERNARD O'CONNOR (London, W.C.) writes: The fards now played out! When the bill was introduced laspring, Sec. 14 (1) provided for the approved societies andhe local Health Committees making "arrangements" wit medical practitioners for affording attendance and trement to insured persons; later, the societies were elinated, but they were replaced by means of the Hansworth amendment; nevertheless, the main thing to reember is that the "arrangements" remained, and they reain still. Then came the Association's circular letter ofune 21st which stated that it was "imperative" that the Aociation should "unitedly insist" (*sic*) on the six points. Those six points were "imperative" *then*, they are surely 'mperative" *now*, especially if the "leaders" regard tem as "principles" (which statement could not possibly pply, etymologically, to the first of them). The bill, hen introduced, laid down, Sec. 43 (2), that in no case ould a local Health Committee consist of less than and more than 18 persons; (*a*) one-third of members of he local sanitary authority, (*b*) one-third to be appointed y the approved societies, but, if those societies could not agree as to this, by the Commissioners, (*c*) one-third to be appointed by "deposit" contributors, or else to be co-opted by the rest of the committee. Then (5) stated that the "remaining members" (!?) of the committee were to be appointed by the Commissioners, "but so that at least two of the members so appointed shall be duly qualified medical practitioners."

The language is somewhat obscure and the arithmetic perplexing, but apparently there was to be, in some roundabout way, the opportunity for a representation of the profession of at least one-ninth, if not, indeed, of two-ninths. Yet lately, although the bill, even as "amended" (?) allows for three out of twenty-four (one-eighth), these so-called "leaders" of the Association begged for a representation of one-tenth (!), and one of their exponents gravely told us quite recently that the medical proportion of the committee was of no importance so long as one or two medical members were present. If this be true, why did they ask for one-fourth some months ago?

The question which now arises is: What have these so-called "leaders" done for the profession? What they now affect to be satisfied with was already in the bill on May 4th, before they commenced their worse than useless and ridiculous "negotiations." They began with their six "imperative" requirements, the very first one of which not only gave place to an entirely different proposition (Report of Council to Representative Meeting, July, 1911, p. 3), which in turn, by its very construction, *negatived another* (No. 3) of the Association's six "imperative" demands, besides opening the door to professional blacklegs, but also was itself subjected to a vigorous, merciless, and raking four-barrelled criticism (above Report, p. 4) by its very framers, and this, too, in face of the fact that in June last the announcement was made (above Circular, p. 2, last paragraph) that "it is abundantly clear that, given union and firmness in the profession, success is within sight" (!). Notwithstanding such "union and firmness," those to whom the Association appears to have given a *carte blanche* to act for it, on their own admission, have failed (above report, p. 2, par. 6). Their efforts to bring the bill into line with the wishes of the profession have been feeble, and the language employed to voice the professional requirements has been indefinite and sloppy. [Memorial to Government and M.P.'s, p. 1: (1) "Gravely," instead of "adversely"; (2)—to say nothing of the several auxiliary—"affect," for good? or for evil? (4) ditto, and their everlasting, indefinite word "adequately"; (5) a crude and roundabout way of asking for fair terms; p. 2 (*d*) why not ask plainly for some definite proportion—for example, one-third? p. 4 (*a*) "reasonable" (?), "competent" (?); (*e*) "adequate" number among the Commissioners, and yet, a few lines lower down, they asked for one-fourth on the local Health Committees, although the other day they climbed down to one-tenth (!); the local Medical Committee to be "consulted"—and nothing more; nothing about *enforcing* the medical view of the subject matter of the consultation!] The only hope that officially was vouchsafed to the profession lay concealed in ever-recurring phrases, such as

> . . . in whatever form the bill may be passed, the overwhelming majority will decline to enter into any arrangements with friendly societies, or other bodies of the kind, for attendance upon the insured, and will also decline to enter into arrangements under the bill for attendance upon persons whose income from all sources exceeds £2 per week (above Report, p. 3, lines 8 to 13); the effective use of that union if and when the bill becomes law (Association's letter of August 16th, p. 3, lines 9 and 10); the only safe reliance of the profession is to be placed . . . upon the resolute determination of a sufficiently large number of medical practitioners . . . not to engage in practice upon terms which they believe to be injurious to the profession (idem, p. 3, 2nd par., lines 9 to 15);

and in other similar inflated yet feeble though cloudy invitations from the Association to boycott the bill.

All this and more are the handiwork of certain parties—who they are I know not—to whom some members of the Association appear to have entrusted the task of substituting order and fairplay to the profession for chaos and injustice, but, if we may judge from the methods pursued, from the machinery resorted to, from the reports in the BRITISH MEDICAL JOURNAL (SUPPLEMENT, June 3rd, p. 352, and June 10th, p. 406), of the Representative Meeting in May, and of the meeting of the profession in June (BRITISH MEDICAL JOURNAL SUPPLEMENT, June 10th, p. 411), and from what has been quoted above, we are surely entitled to entertain the opinion that the best men had not been selected for the performance of a particular and special kind of work which could be effected successfully by only those who are adepts in clear perception, sound judgement, and correct draughtsmanship. When, in reference to contentious points, "Personally, I agree with you," "I am entirely with you," "You are the great healing profession," "No man who is not fairly treated can do his work," and similar phrases and balderdash, followed by action which is opposed to the obviously suggested meaning of these expressions, are regarded by the exponents of the so-called "policy" of the Association as evidence of concessions, and referred to as such, it is time for the members to cry out, "Save us from our friends!" How such a ridiculous reply as that given to a question dealing with the unsatisfactory character of remuneration (BRITISH MEDICAL JOURNAL SUPPLEMENT, June 3rd, p. 356) could have been allowed for one moment by the Chairman, not only to pass unchallenged and unpulverized, but also, apparently, to be accepted meekly in silence, if not, indeed, with satisfaction, I cannot for the life of me conceive. No one had suggested a "rigid scale," and not even "a scale." All that had been asked for was the insertion in the bill of a minimum, in all cases and for all places, which would allow of an increase according to local conditions, in a manner similar to that of naming a minimum number of members on committees. The exponents of the "policy" of the Association have in this manner been led by the nose into the trap in which they are now confined. Not only was the statement in that "reply" not traversed, but it was also even used as an argument by the "leaders" in their suggestions to members of deputations (pp. 2 and 3). Similar observations apply to statements respecting "extras and emergencies" (BRITISH MEDICAL JOURNAL SUPPLEMENT, June 3rd, pp. 357–8). Well may the cartoon on p. 3 of the *Daily Graphic* of June 3rd have been said to photograph the attitude of the "leaders" of the Association! Could anything more puerile and silly have been put forward by grown-up men than those typewritten paragraphs dealing with deputations to members of Parliament—for example, No. 5 on p. 3 and No. 6 on p. 4? Members of Parliament resent such fishing inquiries. It is of no use to ask them for *their* opinions—the thing to do is to rub in those of their constituents. Whoever it was who drew up all that typewritten rubbish with the idea that the average member of Parliament would listen to one-tenth of it, must, indeed, be a natural —— a very simple person.

Space does not permit my dealing with the many points in the bill of direct medical interest which the Association have entirely missed, but I will content myself with saying that it is really grotesque, yet pitiable, to see a body of men who employ language the force and true meaning of which they do not seem to understand; who call a definite statement of fact a "principle"; who consider that an "imperative" demand is satisfied by something which may happen to be merely "consistent" with it; who appear to find no difference between the words "and" and "or"; who regard "specifying a minimum" as being synonymous with "striking a rate"—entrusted by their confiding and hopeful fellows with a piece of work, in the attempt to carry out which any one with knowledge of the matters here dealt with must have known that these trustees were bound to fail.

It is all moonshine to say that everything will be settled between the profession and the local Insurance Committees. This was said, and said forcibly, and was promptly and properly laughed at, on the second reading of the bill. It is ludicrous to try to maintain that there are sense and substance in the statement. The profession have, *ab initio*, pledged themselves frankly that, unless certain matters be stated plainly in the bill, they would have nothing to do with it. Those to whom the furtherance of these matters was entrusted said, later on, for some reason—or, for all I know, for no reason—that the demand for these same matters was absurd, and would be treated as such by the House of Commons. The rank and file of the profession, in reply to this, say: "We did not ask for the bill; we were not consulted before it was framed, but, now that those matters are not in the bill, we have expressed our opinion upon it as formerly we gave our pledge, openly and candidly. If the House of Commons does not approve of our action, so much the worse for the House of Commons, for the bill itself, and for all those who support it in its present form. We at least, who have the making or the marring of the measure in the palms of our hands, and do not mean to be exploited in an undertaking for which sufficient funds were not demanded at the proper time, adhere faithfully not only to the mere letter, but also to the spirit of our considered promise, whatever may be said or done by those who "adequately" shouted, and ostentatiously chalked on the walls their shibboleth, "No surrender" while "consistently" they ran away.

Dr. BRUCE C. KELLY (Burnham, Somerset) writes: I am one of the many busy members of the British Medical Association who dwell far away from the place of meeting of their Branch—in my case the Bath and Bristol Branch—and who find attendance at meeting a time-consuming process not always possible. In these circumstances I cannot at the present juncture record my opinion at a Branch meeting, and as it seems a duty to record it somewhere, the pages of the JOURNAL are the only means open to me.

It was with a shock of painful surprise that I read of the acceptance by Mr. Smith Whitaker of a post under the Government, his acceptance being sanctioned by the Council of our Association. Did the Council consider that it voiced the opinion of the profession, and, if it did so think, what ground had it for doing so? or did it act as it thought for the best under the circumstances, coming to the conclusion off its own bat that to sanction the appointment was the wisest plan? If the latter is the case, what right had it to do so without consulting the profession?

Even if one granted that Mr. Smith Whitaker would be a powerful friend on the Insurance Committee, why should we want friends at court? Our position is an impregnable one if properly handled, and we only ask what is reasonable. On the Insurance Committee he would no longer be in our pay, and if his sympathies clashed with his official instructions and his duties to the Government which paid him, would he allow his private sympathies to override his sense of duty?

I am at one with Dr. F. J. Smith in his remarks in the letter over his name in last week's JOURNAL, and I imagine that not very many of the profession will sympathize with the Council in its attitude of kneeling in the mud with its cap off to the Government.

Personally I now hope that the Bath and Bristol Branch will press forward its scheme for the formation of a medical federation.

Dr. G. CRAWFORD THOMSON (London) writes: I ture to think that the majority of general practitioners wiupport Dr. F. J. Smith in his letter of the 9th inst. Spoints have been insisted upon by the Representative Ming as being the "minimum" that general practition were prepared to accept under the Insurance Bill. Every member of the British Medical Association h been requested to refuse any appointment under the binless the six points were granted. These six points he not been granted. There has been a dread that thenight be "blacklegs" amongst us, so each member hbeen asked to sign a paper promising that he will n take office under these circumstances. The first medicman to accept office is the Medical Secretary of the Assotion, backed by a majority of the Council. A post of hour and £1,500 per annum are no doubt inducements. the Council quite realize the example that is being set?

Mr. SIDNEY F. SMITH, M.R.C.S., L.R.C.P., L.S.A. (Puey, S.W.), writes: As a member of the medical profeion I very much regret that Mr. Smith Whitaker has accted that position without first consulting the members othe Association in the kingdom. I have spoken to others,ho are of the same opinion. What guarantee have weor what length of time Mr. Smith Whitaker will retain is position? The Prime Minister may later on place anoter member of the Board of Commissioners in his stead, ad will our interests be studied then? I think the remedys in our own hands by not accepting any terms which not meet with the approval of the members of t Association.

Dr. G. M. HODGES, M.B., B.S.Lond. (Deddington, Oxor writes: Although Dr. F. J. Smith's letter to the *Time* of December 7th is "only the expression of his persona opinion," yet it can hardly come as a surprise to th Representatives of the Metropolitan Counties Branch tha Dr. Smith's opinion is generally shared by the rank and file of the profession. Else why their circular of excuse received on December 5th? *Qui s'excuse, s'accuse.*

Dr. JOHN MACKEITH (London, S.E.) writes: I will be glad if you will allow me, through the medium of the JOURNAL, to enter my protest against Mr. Smith Whitaker's acceptance of the Deputy Chairmanship of the Commissioners to be constituted under the above bill, as I consider his doing so to be inimical to the best interests of the members of the Association and of the medical profession, and of the public generally. I would point out that the statement in the report which I received on December 4th under the signatures of Messrs. Saundby, Maclean, Macdonald, and Rayner, that the appointment "is an assurance that the profession would receive strong support in its difficult position" is quite unwarranted, as Mr. Smith Whitaker, as a Commissioner under the bill, will merely have to administer the Act, and can in no way actively support the legitimate interests of the medical profession.

THE CRITICS CRITICIZED.

MR. H. A. BALLANCE (Norwich) writes: Although my official connexion with the Association ceased a year and a half ago, I have not been unmindful of the strenuous time through which it has lately been passing.

The action of the Central Council in recommending Mr. J. Smith Whitaker to accept the Deputy Chairmanship of the Insurance Commissioners appears to be a stumbling-block to many. It should be recognized that the entire responsibility in this matter is borne by the Council. This clears the position. I believe the Council are entirely right in the step they have taken, and I shall support their action to the best of my ability. It is evident that if, after a full discussion upon a grave question of policy, the Council, representing all parts of the kingdom, pass a resolution by the overwhelming majority of 38 to 3, there must have been in the minds of the members present some very good reason in its favour. The reason given by the Council, that it was "acting in the interests of the medical profession," is, in my opinion, a perfectly adequate one. In taking this step the Council have not budged an inch from the position approved by the Representative Meetings this year with regard to the six

cardinal points of Association policy, and the cries of "treachery," "going over to the enemy," "betrayal" are, to say the least, completely beside the mark.

There was a consensus of opinion at the Council Meeting, both among those who spoke for and those who spoke against the resolution, that Mr. Whitaker would be the best Medical Commissioner we could possibly have to look after our interests. The Medical Secretary will become a Government official, but I am not one of those who think that for that reason he will be lost to us. On the contrary, the Insurance Board represents various interests, and the Medical Commissioner will represent the interests of the profession. That is the reason the post of Medical Commissioner has been created.

I would go further than this. The Association as a collection of Parliamentary voters is too insignificant in point of numbers to secure the passing or the defeat of a bill in Parliament. The National Insurance Bill will probably pass into law, but if the conditions of service offered to the medical profession are not such as the profession approve, a strike may ensue, and strike we most certainly shall if we deem it advisable. Under these circumstances, it is of vital moment to us to have the ablest and most convincing advocate we can have among the Insurance Commissioners.

One more reason for approving this appointment lies in the fact of the immense powers conferred upon the Insurance Commissioners. Their administrative regulations will have the force of law, and on the text of these regulations the future welfare of the profession very largely depends.

The taunt is often levelled that a mere consultant knows nothing of the difficulties of the general practitioner, and frequently cares less. If, as Chairman of the Contract Practice Subcommittee for some years I have learnt nothing of the difficulties and grievances associated with general practice, I have not profited by my educational opportunities. It is precisely because I recognize the extreme danger which threatens the practices of many medical men throughout the country if this bill becomes law, that I am convinced of the wisdom of this appointment. It is much to be regretted that some Divisions have passed resolutions condemning the Council's action before ever the proceedings of the meeting of the Council on December 2nd were published. It is my belief that when second thoughts and a sober judgement succeed to the wild words and counsels of violence of the last week, the action of the Council will be upheld.

I have had ample opportunity of observing the sanity and good sense which have characterized, as a rule, the proceedings of the Representative Body, and I am convinced that when the Council's action in the matter of this appointment is submitted to the judgement of that assembly that action will be recognized to be right.

Sir T. RUDOLPH HAMPDEN SMITH, Bart. (President of the Stockton-on-Tees Division), writes: Whatever individuals may think of the appointment of Mr. Smith Whitaker as a Commissioner under the Insurance Bill, nothing could be more mischievous in its effect than the letter which appeared in the daily press yesterday over the signature of Dr. T. A. Helme. A fortnight ago a Representative Meeting endorsed the actions and suggestions of the Council almost unanimously. Since then the only notable event is the appointment of our late Secretary as Commissioner under the Insurance Bill. Dr. Helme might reasonably have expressed his opinion on this. But to issue an appeal to the profession to revolt against the general policy of the Council—a policy endorsed by the recent Representative Meeting—and to demand their resignation would, if adopted, be a vote of censure on both bodies, and would mean a total disruption of the Association. Mr. Lloyd George, in securing the muzzling of one of the principal negotiators on our side, undoubtedly hoped to produce dissensions in our ranks. Dr. Helme has walked straight into the trap; and, although he is unlikely to do more than gather round him a certain number of extremists, he will anyhow serve the Chancellor's purpose of driving a wedge into our present solid opposition. Unless we remain one body our resistance is at an end. Our policy is and must be clear and straightforward; but to be successful it must also be reasonable, and cannot entirely represent the extreme views of those who would do too little or too much. The recently expressed decisions of the Representative Body define a position both clear and logical, and would surely best combine all shades of opinion.

Dr. B. HALL (West Mersea, Colchester) writes: We are told in the public press that a union is being formed "which has pledged itself to boycott the bill unless the principle of payment for work done is recognized and embodied in the measure," and I ask your permission to supplement the remarks I made on this subject last week. Payment for work done means, of course, payment of a fee for any visit or consultation, and it is the system that obtains generally in so-called private practice. The doctor's fee varies in amount from 4d. with medicine (or is it down to 3d.?) in some parts of the East End up to any number of guineas at the West End, and in some occult way is supposed to bear some relation to the pecuniary circumstances of the patient. These are the extremes, but it is a very general custom in very many practices to charge a minimum fee of 2s. 6d., and an extra 1s., 1s. 6d., or 2s. 6d. for medicine. A servant girl or a farm labourer will be charged 2s. 6d. a visit, and in this way is mulcted of a day's earnings at every visit. A small tradesman making an annual profit of, say, £200, will probably be charged the same fee, and it is impossible for any living soul to say where is the line of demarcation between this stratum of half-crowners and the next above, the 3s. 6d. ones. (One would suppose there would be a 3s. stratum somewhere, but I never heard of one). However, presently we arrive at "the dollar" a visit, or, peradventure, it is three visits for a guinea, and here we find ourselves amongst people with respectable incomes hovering in the neighbourhood of £1,000 per annum. It is needless, however, to illustrate further, as I am merely showing how the solid basis on which we started the scale—100 per cent. of the servant girls' earnings—seems to slide from under us as we mount the social ladder. The tradesman we find only pays 20 per cent. and the merchant about 8 per cent. of the day's income. These calculations would seem to make it obvious that the relation, if there is one, between income of patient and fee of doctor is at least somewhat curious. It is certainly unfair and unjust to the poor patient and unduly generous to the rich; it crushes the one and tickles the other.

Is there any relationship of fee to service rendered? It is a general custom to charge a fee for attending confinements, Are any two alike? The doctor may in one instance find the child born and the mother "tidied up," and in another he has hours of strenuous and anxious work—but the fee is fixed! The service rendered by the doctor who receives 6d. for his "visit" may be as valuable in a medical sense to his patient as the service rendered to the patient who pays a guinea to his doctor. Or am I wrong? Is it imaginable that the service rendered for the guinea has in any sense forty times the value of that paid for by sixpence? Compare the visit to a case of pneumonia and a "call" down the street; the fee charged is the same, be it sixpence or guinea. In fact, there seems to be no standard of value of the work done on which it is possible to base any just scheme of charges. The "work done" varies within the very widest limits, no matter in what way we try to estimate it—whether as to time occupied, distance travelled, manual skill and labour bestowed, or moral benefits effected. It obviously has no real relation to the fee charged. The system is unjust, farcical in its inequality, and arbitrary in the extreme. There is a complete absence of uniformity in the value, in a medical sense, of the "visit," but the fee charged is practically fixed for all patients living on what we imagine to be the same pecuniary level. The patient is at the absolute mercy of the doctor, who himself decides both the frequency of the visit and the charge made for it. It is useless to say that the nature of the case decides the frequency of the visit, for it is not so—the frequency of the visit depends upon the visitor. The doctor's bill presses unjustly upon the poor, is a burden to the man of small means and a millstone round his neck. It is a system which entails upon the doctor a great deal of uncongenial office work, the piling up of bad debts and other worries attaching to commercial transactions. Under it we are open to the charge of making unnecessary fees ("the doctors are out for fees"), and on account of it the

profession has been the butt for the jibes, jeers, and sneers of the wits of every age. It is, indeed, a marvel that it has survived to the present day, but one can observe signs and omens that augur an impending break-up. A system of payment under which one man thrives on the sufferings of another surely cannot be just or right—it is opposed to the public weal and, indeed to common morality—and yet, forsooth, we are asked to support a union which is being promoted with the sole object of perpetuating it!

But worse things, if possible, can be said of it.

Working on this system of payment for work done one is, one must be in the years to come, living on a declining income. From a given number of clients the income derivable by private practice is a diminishing quantity, and as increase of population is more than met by increase of doctors, one can only maintain a steady figure by attraction of patients from other doctors. (My income from "private" practice has been practically at a standstill for ten years, but my *clientèle* has increased by over 200.) Numerous agencies are in operation, the combined effect of which in diminishing the number of our fees is enormous. Hospitals are taking operative cases off our hands, nursing homes do the same, isolation hospitals receive our infectious cases, midwives attend our confinement cases, school medical officers are going to treat our children, and sanatoriums are about to snap up our tuberculous patients. Other influences all working to our detriment are out-patient departments, chemists, herbalists, bonesetters, medical advice in newspapers, popular medical books, ambulance, nursery, and health lectures, golf, cycling, and games of every kind, diminishing birth-rate, improved education, cheapness of travel, and annual holidays. Through ambulance lectures alone thousands of fees every year are diverted from our pockets, and the total loss to us from the operation of all these agencies is incalculable. Under this system of payment for its work, the medical profession as a means of livelihood is on the down grade. Every effort is being made, both by Government and educated public, to prevent happening the very thing our existence as doctors depends upon. Every soul in the community rejoices if a case can be snatched from the doctor's grasp. The public delights in seeing the death-rate gradually coming down, and it actually succeeds in obtaining doctors who will for a salary aid and abet it! Traitors!—not traitors, however, to humanity, these medical officers of health, merely traitors to those of their medical brethren who will persist in hanging on to a tradition which has not even common sense to back it—the myth "that payment for work done" is the only method that consorts with the dignity of a noble profession! This system entered upon its death agony on the appointment of the first medical officer of health.

If the considerations put forward above are not sufficiently damning to the system, let me in conclusion ask readers for one moment to realize that under it the insured patient would necessarily be called upon to scrutinize, correct, or verify the items charged in his doctor's bill! Could anything be more unspeakably humiliating?

Dr. J. Cromie (Blyth, Northumberland) writes: How history repeats itself! I remember how the miners of Northumberland denounced their leaders in 1887, spoke of "the great betrayal," said "their cause had been sold," talked of "forming another union," and threatened open violence to Mr. Burt (Right Hon. Thomas Burt, M.P., LL.D.) and his colleagues. I also remember that the medical practitioners thought them very foolish.

Now it is the doctors, and the language is more academic though strangely like (with the exception of threatened violence), but the spirit is the same—distrust, want of reasoning power, and some jealousy. I am sure that Dr. Macdonald and his collegues are "big" enough men to overlook the gross ingratitude of a section of their professional brethren, after they (Dr. Macdonald and his colleagues) have spent of their time, money, and brains on behalf of the same ungrateful brethren, but will pursue the even tenor of their way, conscious of their own rectitude, and feeling assured that some of us are truly grateful to them for their past work, and trust them absolutely in the future. They may also be assured that the future will vindicate their action, as it did in Northumberland. Mr. Smith Whitaker will also, I hope, forgive much, and in his new capacity prove himself in the future, as he has in the past, perhaps even more so, the friend of his own profession.

Dr. James Pirie (Leamington Spa) writes: It is ever the experience of all leaders of lost causes that in the hour of defeat their followers cry out, "*Nous sommes trahis*," but I should have thought that the members of an educated profession like ours, most of whom have read history and its lessons, would hesitate long before following the example of "*οἱ πολλοι*." I cannot understand upon what this outcry against the executive of the British Medical Association is based. Do those who are leading the revolt against the Association want the head of Mr. Smith Whitaker on a charger? Personally I think he has well earned his promotion. During the lean years since he took the post of Medical Secretary he has endured all the "storm and stress" of a hard fight against many odds, with, for many years, a very lukewarm support from the members of the profession. Now that he and others have led us to within sight of victory, and only a concerted assault is necessary to carry the position, we have this revolt. Is it not good that we should have a powerful and friendly advocate in the "seats of the mighty"?

What alternative is left us if we throw over the Association now? Only a guerilla war all over the kingdom, with the inevitable result—a disastrous defeat. There are thousands of medical men who, like myself, are usually silent at meetings, but who at this crisis should come forward and make their voices heard with no uncertain sound.

Dr. F. L. Nicholls (Fulbourn, near Cambridge) writes: As an old member of the British Medical Association of thirty years' standing, may I plead through the Journal with my fellow members not to allow the appointment of Mr. Smith Whitaker to have the result of causing differences amongst us? Whatever we may think of the judgement, or lack of judgement, of the Executive of the Association in recommending the acceptance of it, or whatever view we may take of the astuteness of the Government in desiring the appointment, it is all the more necessary that we, *together with the whole profession*, should stand together, and let it clearly be seen that no move of this nature will in any way have the least effect upon us, or our determination to have just treatment.

SUPPORT.

Dr. Henry Langley Browne (West Bromwich) writes: There are many members of my profession who take so little interest in it apart from their own personal work that they do not even know the difference between the General Medical Council and the Council of the British Medical Association, and, although I have not been a member of the Association for some years, I am held responsible for its actions. A letter sent to me, one of many, will illustrate my meaning: "What does it mean, this appointment of Deputy Chairman, etc.? You evidently do not know anything of Lloyd George, and have consequently sold the profession. After the acceptance of such a bribe, I am considering the advisability of resigning my membership." "The Council of the British Medical Association have sold us," or expressions like this, but not so politely put, are to be found in many of my letters. I should like, through your columns, to ask men not to lose their heads and to jump at conclusions which are not warranted. For instance, why abuse the Council of the British Medical Association? The Division is now the unit of the Association, and the Representatives elected by the Divisions and sitting in general meeting decide the policy of the Association and are responsible for it. The six cardinal principles so often mentioned in the letters to the Journal and the papers were settled by the Representative Meeting, and the matter was then referred to a committee instructed to use every affort to get these six cardinal principles embodied in the bill. I believe they are either directly included in the bill, or else that the appointed Commissioners will be compelled to include them in the working regulations they have to draw up before the Act comes into force. But, granting for the sake of argument that these six points

are not included, how can the Council of the Association be blamed for not having regulated the votes of the House of Commons, and decided its action otherwise? Every one concerned did all he possibly could to influence the course of events, and I believe that matters are not nearly so bad as seems to be generally believed. Take, for instance, the question of wage limit. There never was a question of limit, as the Chancellor from the very first refused to make any other than that of £160 for persons eligible to insure. But the doctors themselves can fix the limit of £2 when it comes to settling medical benefits, and they also can carry out the agreement they have signed, and refuse to take office if they find that they have been "done." With regard to the appointment of Medical Commissioner and Deputy Chairman, the Council of the British Medical Association had to be consulted, for I believe the actual appointment of Medical Secretary was made by the Council, although the necessity for the appointment was settled at the Representative Meeting. The Council had only a short time in which to decide whether it would give its sanction or let the matter go by default, when probably some State official would have been promoted to it. I believe that Mr. Smith Whitaker is the very best man who could have been chosen. After years of general practice he became Medical Secretary to the British Medical Association, and since then there is not a detail or variation of contract work with which he has not made himself acquainted. He can do more for the profession as a member of the Commission than any one else could possibly hope to do. The talk about treachery is cruel and absurd, and the movement to start fresh associations lamentable. The medical profession when united have it in their power *under the present bill* to settle the conditions upon which they will serve, and surely now is not the time to split up and to play into the hands of its wreckers.

Dr. W. J. GREER (Newport, Mon.) writes: As a loyal member of our Association, and one who has full confidence in the integrity and business capacity of the Council, I write to deprecate the wild and whirling words that I am sorry to say are in frequent use regarding the Council and the appointment of Mr. Smith Whitaker as an Insurance Commissioner. I venture to think that any sensible member who will apply his mind seriously to reading the report of the Special Meeting of the Council on December 2nd, published in the SUPPLEMENT of December 9th, can come to no other conclusion than that the Council has discharged an onerous and difficult duty to the Association and to the profession in a manner which calls forth the highest admiration for their capacity and the greatest respect for their singleness of purpose.

I would put it to every Division that, had such a proposal been placed before it, it would have come to the same conclusion as did the Council, as being the very best means of safeguarding the interests of the profession and at the same time affording to the Insurance Commissioners first-hand knowledge of medical practitioners and the conditions under which they practise. The extraordinary amount of knowledge which Mr. Whitaker has acquired during his term of brilliant and effectual service can never fail him, while his information of sweating systems and irregular practitioners is bound to be of incalculable value to the profession and to the public. His sympathies towards his professional brethren and his aid in the many great difficulties which will face us in the near future are, I assert, assets of untold value.

I would most earnestly ask those medical men who talk so glibly about new associations to take careful thought as to what they are doing, and I would urge them to remember that in the great movements in which we have been concerned for the betterment of the profession in the past, many have failed through this terrible habit of internecine strife which we are so ready to develop at the crucial moment. We had an ignominious defeat over the Midwives Bill for this reason; our Charter was wrecked through a similar policy; the Notification of Births Bill was forced through by officialdom, and we were ignored. This is sad history, and it appears as though it were about to repeat itself. If we continue on this downward grade, the six cardinal points of our programme, to which we all strenuously hold, will go down the same broad and destructive road as the rest. In this district we are now threatened with the formation of schemes akin to the worse form of the friendly society institute type, and it is imperative for the well-being of the whole profession that there should be no suspicion of disruption or disloyalty. We ought to be as one in our efforts to prevent these schemes being put into force.

As to the bill itself, we must be absolutely united, and carry on the fight for the six cardinal points, leaving nothing undone, holding loyally to our Association, subscribing to our Defence Fund, actively recruiting, and not resting satisfied till we have gained every one of the points demanded. I earnestly beg the members of the profession to rid themselves at once of all suspicions and doubts, which are unworthy of our noble calling, and to cordially agree as medical men and brethren, fully determined to wrest that victory which I am confident is ours if we hold our union steadfast.

Dr. E. B. HASTINGS (London) writes: Pudd'nhead Wilson's advice, "When angry, count four; when very angry, swear," might well be acted on by our malcontent members, instead of practically coming to blows with the Council. I am a whole-hearted supporter of the Council, and believe that Mr. Smith Whitaker's appointment is the best thing that could have happened for the profession; but suppose we grant, for the sake of argument, that the Council has been outwitted, and Mr. Smith Whitaker bribed and corrupted by the cunning arch-enemy, Mr. Lloyd George, could there be any worse strategy than that the Divisions should fall foul of their leaders, accuse them of betrayal, and pass resolutions condemning them? This is to lose all order and discipline in a foolish panic, and to strike at our own people—not at the enemy—a blow that will necessarily recoil upon ourselves. If Mr. Smith Whitaker has been enticed away with the intention of breaking up the union that we have achieved with so much difficulty, how Mr. Lloyd George must be chuckling at the success of his manœuvre, and the hysterical shrieking in our ranks. Disunion has lost battles many times, and empires too, and, unless we can overcome it, will wreck our chances under the Insurance Bill. Already many, both members and non-members, who have signed the undertaking drawn up by the Association are asking whether it is safe to trust to a body that is at war within itself; and we may not only lose their absolutely necessary support, but convert them into "blacklegs," with disaster as the most probable result. However, we still have time to repair the damage before the main crisis of the fight comes, so let us have done with these foolish and suicidal resolutions, which play only into our opponents' hands, and loyally support our Council. Victory will then be assured.

Dr. S. B. F. EMINSON (Scotter, Gainsborough) writes: As an old member of the Association who, through isolated position, has hitherto been unable to take part in its active life, I think it right at this juncture to express my hearty approval of the policy which has been adopted by our Council with regard to the Insurance Bill. Our profession as a whole approves of the principle of the bill, but we rightly object to the way in which it was sprung upon us without previous consultation, with the natural result that its original provisions as regards medical benefit were crude and unworkable. Under these circumstances our Association met a dangerous crisis with true and statesmanlike forethought; neither giving way to weak panic nor refusing to negotiate with the Government, but formulating a broad policy around which we could all rally. I have never seen Mr. Smith Whitaker, but I believe he has been a good servant to the Association. Are we, however, so poor in talent that we cannot spare a good man for a State office where he can serve the general public, including ourselves and our patients?

In taking this step the Council of the Association has displayed courage, unanimity, and foresight; and the line of action of the profession is plain. If we are loyal to our elected and responsible leaders we cannot be broken, and shall obtain all our just demands; but if, on the other hand, we give way to foolish panic we shall indeed find this a broken reed.

Dr. J. F. CARRUTHERS, Representative of the Channel Islands (Guernsey) writes: When I read the announcement of Mr. Smith Whitaker's appointment to the

Insurance Commission, my first feeling was that the interests of the Association had been betrayed. and that Mr. Lloyd George's acute intellect had scored again. My second feeling, which almost immediately followed, was that the Government had secured an exceedingly able representative of the medical profession on the Commission. And now, having thought long over the appointment, I have come to the following conclusions:—First, the bill is going to become law, whatever we or anybody else may say or do. Secondly, we might have had a nonentity or a blackleg as the Medical Insurance Commissioner, instead of which we have a man who knows every move in the game, and is deeply committed by his own honest convictions, as I believe, to our side of the question. Thirdly, we have now in him an advocate in court whose clearness and logic in debate I heard borne testimony to by the redoubtable Mr. Moffrey himself in the conference with the friendly societies held in London nearly two years ago,

Those of us who attended the Special Representative Meeting last month know that we expect a strike, that we are preparing for a strike, and that when the Council gives the signal for the strike, we shall strike. But we have unanimously voted in favour of the principle of the bill; by this vote we have agreed to work for it if its details are made satisfactory to us. This appointment of Mr. Smith Whitaker (on which I congratulate him) will, in my judgement, bring us definitely nearer to a satisfactory arrangement of the details. If not, we still can and will strike.

Dr. G. E. HARTHAN (Evesham) writes: Sir Thomas Browne tells us "it taketh some time and pains to undo ourselves," but are we not making some "haste and bustle unto ruin"?

Whatever wonders it may be designed to produce in the future, the Insurance Bill has achieved one already—the miracle of our profession united. What a pity we cannot appear united! "What a set!" must be the comment of all witnesses of our present recriminations indecently exposed in the daily papers—"*Nous somnes trahis*," "bribery," "shameless and shameful betrayal engineered by politicians (ordinary or medical)," "traitor," and the rest of them. What an impression of mutual distrust, suspicion, and fear it must all give. And we the complete masters of the situation all the time, if we maintain solidarity.

And what is it all about? The appointment of Mr. Smith Whitaker an Insurance Commissioner!

Is it not possible to maintain our interests and our dignity too? We are united in resolve not to work under the bill until certain conditions are secured; and this attitude we have taken up is not prejudiced one whit by Mr. Smith Whitaker becoming Deputy Chairman of the Commissioners. So long as we remain united we have a chance, however remote, that by successful insistence we may confer upon our country a boon of a sound and good medical service; if we fail in this, it is at least certain that we can save it from one that is cheap and ineffective.

We are all profoundly dissatisfied with the medical provisions of the Insurance Bill; we are most of us disappointed that the efforts of the Council have not achieved more, but what evidence have we yet that the members of the Council have not done their best or acted wisely?

Believing that the members of the Council have done the best they could under very difficult circumstances, I for one choose this moment to express my appreciation of the very great amount of trouble and arduous work they must have been called upon to undertake during these last few months on behalf of their medical brethren, and to express my regret that some of these are so boisterously uncivil to them.

Dr. E. F. O'FERRALL (Brixton) writes: Resolutions have been reported calling on Mr. Smith Whitaker to resign the Commissionership, with the alternative of dismissal from the post he holds under the British Medical Association and censuring the Council of the Association for authorizing his acceptance of the Deputy Chairmanship. One Division apparently came to a resolution which, if it means anything, means that they will secede and form an independent organization.

There is yet time to appeal to the gentlemen who support resolutions of this kind to pause. With the best intentions, they are inadvertently pointing the road to disunion, defeat, and disaster. Do they imagine that the path which has been travelled by the Association up to the present commands the unanimous enthusiasm of the profession? If so, they are mistaken. Many of us, who are not directly concerned, support the Association's policy out of a sense of solidarity and loyalty, and it is well known that there is a class which stands to lose by refusing work under the bill, and for which we are raising a Guarantee Fund.

Both these classes should he considered in instituting any innovation. The cardinal points and the written undertaking have been accepted universally, but it will be unwise to put any further strain on the weaker brethren, either by attempting to bind them to have nothing to do with the bill under any circumstances or by giving them ground for thinking that our old dissensions have recommenced and that they cannot depend upon the profession acting as one man. No impartial business man would deny that up to the present our Council, our Representatives, and our Secretary have conducted our affairs—often under difficulties, owing to unwise pressure from below—with tact, ability, and, if I may say so, with perfect honesty, and if, in their judgement, it is correct that Mr. Smith Whitaker should accept the proposed post, pray let it be remembered also that this is the opinion of a large number of the profession.

The undertaking which we signed had absolutely nothing to do with the acceptance of administrative posts in contradistinction to treatment of disease under the bill, and many of us think that we have exceeded our expectations in placing in the position of Deputy Chairman an able official of our own, who has had a potent voice in conducting our agitation during the whole of this critical period. What do the non-contents want? Would they prefer to see an incapable or indifferent man in the position, or will they take the risk of seeing appointed arbitrarily to the post a man who is actively or covertly antagonistic to us? The bill will be law immediately, and it is of the utmost importance that we should place our best men at once in the administrative posts, including the local Insurance Committees, so that when the negotiations with the local Medical Committees commence we may have efficient support.

The question of entering into contracts for giving medical attendance is essentially a different matter, and if the Divisions will confine themselves categorically and particularly to advocating a strict adherence to the specified points of the Association, they will find no weakening even among those who do not consider that their interests will be vitally affected by the bill.

Dr. S. W. CARRUTHERS (Norwood) writes: It is disappointing to find any doubt in the minds of medical men as to the policy of the British Medical Association in concurring in Mr. Smith Whitaker's appointment as Insurance Commissioner. I hope that after a little reflection the whole profession will feel unmixed satisfaction at this appointment. Two things must be remembered: First, there was to be a Medical Commissioner *in any case*. Is it better to have Mr. Smith Whitaker or Dr. X. Y. Z., whose attitude towards the Act might be nondescript or wobbly? Secondly, the sole and only *raison d'être* of the Medical Commissioner is that the views of the profession may be freely and ably represented on the Commission, which will have the control of many important details in the working of the Act. I am not a member of the British Medical Association, but a comparatively slight personal acquaintance with Mr. Whitaker has taught me that when he has made up his mind he is not lightly swayed from a course of action. The Government has seen enough of him in recent months to know this; it cannot imagine that it will silence such an opponent by appointing him to a position which has been created on purpose that the very views he has repeatedly stated may be officially represented. To seriously put forward the "bribery" theory is an insult to the intelligence of both the Government and the medical profession, even more than to the character of the new Commissioner. For these reasons I feel that both Mr. Smith Whitaker and the profession are to be heartily congratulated on an appointment which is also

creditable to the Government's desire to hear the doctors' side.

Dr. PERCY B. SPURGIN (Member of the Council of the Metropolitan Counties Branch) writes: The appointment of the Medical Secretary as an Insurance Commissioner has given rise to much dissension within the Association. There are many medical men who appear to me to be taking a somewhat ill-considered view of the present situation by severing, or threatening to sever, their connexion with the British Medical Association. Although they, like myself, may not consider that the Central Council has acted in a sufficiently strong manner in dealing with this Insurance Bill—by absolutely insisting on securing the principles of the whole six cardinal points—surely this is not a time for reducing the strength of the Association by resignations, but rather one for increasing its strength by additions to its membership.

The larger the number of members who do not agree with the policy of the Council, the greater and more powerful the mandate to that Council to carry out their wishes. One great cohesive Association is surely better able to demand what the profession maintains are its rights (and the rights of the public) than any number of smaller organizations, however enthusiastic and determined they may be. To compare our present position to a battle—the Government *versus* the medical profession—the former would be better able to fight against small units, and possibly annihilate them, whereas a united profession can and will fight to the death for its rights.

We have fixed our terms: let us insist on securing them. Without us the bill cannot work. We have the whip-hand, by combination we can keep it.

Mr. M. S. HARFORD (London) writes: I am a new member of the British Medical Association, having joined only a short time after the introduction of the National Insurance Bill. I have no personal acquaintance with the members of the Council, and I do not even know Mr. Smith Whitaker by sight. But I have been an interested student of the work done, both by the Council and the Medical Secretary, since the bill was printed, and as such I could scarcely fail to notice the conspicuous ability displayed in the various documents issued by them, and also in their negotiations with one of the keenest intellects of the present day.

I therefore look upon the appointment of Mr. Smith Whitaker as a happy augury for our future under the bill. His unrivalled knowledge of the profession and the conditions of practice in all parts of the United Kingdom, his special experience in insurance problems, and his tact, ability, and genius for administration and organization, as shown in the high state of efficiency to which he has brought the British Medical Association, mark him as the man best of all suited for this high and important position. I think few would gainsay the assertion that if the choice had been given to the medical profession to elect its own man Mr. Smith Whitaker would have easily headed the poll.

That being so, I think it is rather unfortunate that unworthy motives should be attributed to the Council in connexion with this appointment and the negotiations with the Government. I fear this is hitting below the belt. The Special Representative Meeting gave the Council the mandate to negotiate with the Chancellor of the Exchequer, and also to use every influence with the members of the House of Commons with a view to amend the bill so that the six cardinal points could be secured to the profession. On what points can critics of the members of the Council indict them? What are the specific charges of failure brought against them on any one of those points?

In considering the matter from this standpoint, I think a careful perusal of the bill as amended in Committee is highly advisable. It is, with valid reason, contended by the Council that the Bill in its amended form will enable the profession to obtain all those points, and I believe, too, that any impartial legal tribunal would quickly come to the same conclusion. For example, if the medical men in any administrative area, through their directly-elected local Medical Committee, decide that they will not accept service under the Act on the *per capita* system of payment, then payment for work done can be equally as well secured them by the present provisions of the bill. If they in the same manner fix a minimum rate of wages above which they will not attend insured persons in that area, the bill enables them to have their way on this point also. Few, indeed, seem to grasp the true significance of those local Medical Committees, with their statutory right of being consulted by the local Insurance Committees *according to regulations issued by the Insurance Commissioners* (the italics are mine). Truly those Committees are a splendid victory for the Association.

Then, with regard to the free choice of doctor, we hopefully look to the Deputy Chairman to see that the Harmsworth amendment will not long remain a grievance to the profession, and a menace to real free choice. For if the regulations cannot assure this, then the Commissioners have the power vested in them to vary or alter the provisions of the Act so that it will work smoothly. Therefore, I think we can feel quite easy on this point. Similarly, in regard to the early actuarial figure of 4s., or so, for medical attendance, it should be made known at once that no such absurd figure can even be discussed by us. And, in this regard, does any one think that this most astute politician, Mr. Lloyd George, who nearly wrecked his health in getting the measure through, would ruin his reputation, destroy his party, and lose his popularity by passing a health insurance scheme that could only be worked by blacklegs? Or, to think that Mr. Smith Whitaker would dishonour us and himself by taking office on such conditions. I certainly prefer to consider his appointment as a friendly act towards us, and as foreshadowing that the regulations, which he will have such a large share in framing, will amply satisfy the just demands of the profession, and thereby give the public a truly efficient and national medical service.

Our one and only danger now is disunion, and it is therefore deplorable that some Branches should seem to be inclined to adopt separatist tactics. That road leads to ruin and certain disaster; and to those whose thoughts turn that way no better recommendation could be given than to advise them to read the "Battle of the Clubs" and the "Report on Contract Practice." This may put them in a frame of mind to reflect on what we have been, and what we might be again if we abandoned our present splendid organization and destroyed that unity which now makes us so powerful.

Dr. MORGAN S. FINUCANE (London) writes: On all sides, at present, one hears wild, whirling words of criticism in reference to the action of the Council of the Association and the appointment of the Medical Secretary to the Insurance Commission. I venture to predict that on more prolonged reflection the great bulk of the profession will see in the Council's action the wise and logical conclusion to a long series of delicate negotiations which the profession entrusted to them, and their decision will result in our obtaining every one of the cardinal points which we have combined for. In my opinion, the appointment of the Medical Secretary to the Commission—sanctioned and recommended by the majority of the Council of the Association—is not only a triumph for the Chancellor of the Exchequer and the Government, but, above all, is a triumph for the medical profession and the Association. The medical profession, as a whole, are not noted either for political sagacity or public administration, and the childlike simplicity of some of us—happily not our negotiators—who imagine, or ever could have imagined, that the six cardinal requirements of the profession should or could have been embodied in the bill as statutory provisions does more credit to our hearts and emotions than to our heads.

The fact remains that our negotiators obtained from the Chancellor, before the third reading, all that could be embodied in such a bill, and the further points it is within our power to obtain by the local option provisions—and which the Chancellor expressly excluded from statutorily including, a service for which he has received but scant courtesy or thanks from many of those who should see the importance and significance of the acceptance of the Commissionership by the late Secretary of the Association—should be a guarantee of our obtaining those other points not already included in the bill, and which can only be dealt with under the regulations when the bill is in operation. That there will be

"irreconcilables," "wild men," "die hards," and "last ditchers" is to be expected; but a closing up of our ranks and a loyal support of those members of the Council and others we have selected as our negotiators, who have so ably done their work and shown true statesmanship, is the advice I venture most respectfully to give to my fellow medical men.

Dr. WILLIAM JOHNSON SMYTH (Bournemouth West) writes: It is ungenerous to blame the Council of the Association for giving permission to Mr. Smith Whitaker to take office as Deputy Chairman of the Insurance Commission. Had the late Special Representative Meeting directed the Council to present an ultimatum to the Chancellor of the Exchequer, as I suggested, the position would have been entirely different. The Division I represent was unanimous for the ultimatum; few other Divisions were in the same mood; their Representatives acted accordingly, and the Council proceeded to bargain as instructed. In these circumstances and the certainty of the bill becoming law the Council surely played the right card in encouraging Mr. Smith Whitaker to take a post for which he is singularly well fitted from every point of interest that now remains to the profession.

STEADY!

DR. W. GORDON (Exeter) writes: "Steady in the ranks!" is surely the cry that rises in every sober mind as we read the correspondence now appearing in the press, both lay and medical. No one sympathizes more than I do with Dr. Helme in his dislike of the National Insurance Bill, or in his anxiety at anything which may appear to us, rightly or wrongly, an error in tactics. But if he or I or any one, in the exercise of private judgement at so critical a moment, shakes the steadiness of our formation, or throws even a single company out of action, no blame which can be assigned will be excessive for such a service rendered to the forces of the enemy.

The crisis is so acute that the only reasonable analogy is with a battle. Let those who are so publicly censuring our Council—doubtless to the amused delight of the Chancellor—blaming the leaders who have hitherto conducted our campaign with so much steadiness and patience against such long odds and under conditions of such vast difficulty, look up their military history. What happened at Hastings when Harold's men disobeyed his orders to stick to their stockades, no doubt for excellent reasons? What was the fate of France at Sedan when two commanders-in-chief simultaneously took charge on the removal of McMahon, both probably excellent men? What befell Napoleon when Ney—a first-rate leader—stopped before Quatre Bras, instead of driving home a wedge between Blucher and Wellington, as he had been told to do? The events teach the same tremendous lesson of the fruits of divided counsels in war.

For us at this moment there is nothing more instructive than the crisis of Waterloo. Outwitted by Napoleon to begin with, having lost the Dutch probably from the position he assigned to them, with many of his guns out of action from the flight of the gunners, after forty-five minutes, during which the armies were actually mingled, the French cavalry riding round and round the British squares, what was the great Duke's sole reply to inquiries for orders coming from all quarters? "There are no orders, except to stand firm to the last man."

The appointment of Mr. Smith Whitaker to a post where he can do us incalculable service may seem to certain minds doubtful policy, but the excitement which has raged over this appointment arises, as a matter of fact, out of a curious confusion of thought. There is all the difference in the world between declining to serve under the bill in an *executive* capacity and refusing to serve in an *administrative* capacity. It is the *executive* posts we are pledged to decline if the bill works badly. But we must allow Mr. Lloyd George at least to set up good machinery. If we do not allow that we cannot blame him if the consequently worse machinery works ill. Are we going to refuse to let trusted members of the Association serve on the Advisory Committee, on the local Health Committees, on the Statutory Medical Committees? These are all *administrative* posts under the bill just as much as Mr. Whitaker's post. Is the whole medical machinery to be composed of blacklegs? How unutterably childish! And for such a misapprehension we would wreck, not the bill, but the Association!

To endanger the solidarity of the profession, to lessen its confidence in its leaders at such a moment, just because somebody has doubts about a point of tactics, is the sort of policy about which there can be no doubt. It is a tactical error of the first magnitude. Is it too much to hope we shall presently recover our nerves, and with them the advantages which we have already gained? We have not yet deserted our stockades at Hastings, or followed Bylandt's brigade in its flight from Waterloo. Before it is too late, let the profession awake to the imminence of the danger, and call to all waverers the necessary warning, "Steady in the ranks!"

Dr. CHARLES P. CHILDE (President of the Southern Branch, British Medical Association, Portsmouth) writes: Probably every member of the Association, and possibly every member of the profession, has studied the proceedings of the Special Meeting of Council called to consider the offer to Mr. Smith Whitaker of the Medical Insurance Commissionership, which it ultimately recommended him to accept by 38 votes to 3. A perusal of that report reveals the fact that no speaker was in any doubt as to what effect this recommendation would have on the rank-and-file of the profession. Thus, the Chairman of Council said "he told the Chancellor that he anticipated that a considerable amount of feeling would be expressed by a considerable number of members." Also: "It (that is, the Council) would have to deal with a decided expression of opinion by gentlemen who had proved their capacity for expressing their feelings." The President of the Association said: "I should have no hesitation in defending this course before the profession anywhere."

Dr. Major Greenwood said "it was very doubtful whether the profession generally would be at all pleased that the Medical Secretary should accept the post"; again, the confidence of the profession in its leadership would be undermined. Dr. Todd said, "it would be difficult for members to convince their constituents that the proposal before the Council was the best course in the interests of the profession"; again, "he trusted that nothing done that day would cause a schism," and so on throughout the discussion. Now, sir, are not these expressions convincing proof that the Council, whatever it thought of the fitness of Mr. Smith Whitaker for the post offered him, knew that its recommendatien would cause dissension in the ranks of the Association which had hitherto been united? The paramount consideration before the Council should have been this—not whether the Medical Secretary was the best man for the post, but what effect the recommendation of his acceptance of it would have on a hitherto united profession? When the Association undertook to champion the cause of the profession the latter rallied to it manfully; hundreds of new members joined it, many others signified their adhesion to its policy and were prepared to support it, and contributed to the Guarantee Fund. In the opinion of all reasonable men, the Council should have done nothing and recommended nothing which they knew (as their own expressions at the meeting prove), or even thought, would sow discord in the ranks of the Association. What a magnificent opportunity they have lost! The announcement that the Government had offered the post to Mr. Smith Whitaker, and the announcement that the Council had refused to recommend his acceptance of it, because the six cardinal points were not safeguarded in the bill, would, I venture to assert, have sent a wave of enthusiasm throughout the profession, and consolidated it as nothing else could have done. They were made a present of their opportunity by the Government, and by some unintelligible lapse they let it slip. What do we see to-day as the result? In place of the splendid unity which has hitherto existed, complaints on all sides, members threatening to leave the Association, proposals in many centres to form separate defensive unions—plans which, if they mature, may easily see the profession, in the course of the next few weeks, pulling in half a dozen different directions, instead of united, as it has hitherto been, under one Association and one fixed policy.

The chief aim of this letter is contained in its last sentence. It is to urge the profession not to lose its head over this unfortunate circumstance, not to form separate organizations and so disunite itself, but to remain in exactly the position it was before, already united under one organization and animated by one fixed policy, which it must not relinquish until that policy has been translated into an accomplished fact.

A PLEA FOR UNITY.

DR. ALFRED H. WILLIAMS (Harrow) writes: In the past our profession has always been considered unbusinesslike, and we are always being twitted with the want of unity in our ranks. In recent months we have been priding ourselves on at last having achieved a certain solidity of union. But I am afraid that the events of the last week have gone far towards shattering the hopes of the unionists. What is the cause of this threatened disaster? It is simply that as a profession we are wanting in businesslike feeling, and that there are numbers in our ranks who will persist in refusing to subject themselves to any constitutional discipline—even a discipline of their own creation. That is a want of trust in their own elected representatives.

Our Constitutional Authority.

In our Association the central government is in the hands of our Representative Meeting, composed of members elected by every Division in the Association. The resolutions of this Representative Meeting are the resolutions of the Association, and should be binding on all members. But we find over and over again a very strong tendency on the part of many members to rebel against the findings of the Representative Meeting; in other words, to refuse to submit loyally to their own constitutional discipline. Of course the minority have a perfect right to their own opinions, and their constitutional remedy is to convert sufficient of the majority to their own views to turn their minority into a majority. But unfortunately this is not the method we often see adopted. What we too often see is flat rebellion. Till we can see a more businesslike and a more constitutional spirit infused into the whole profession I see little chance of strong united action. Till this is achieved we shall continue to be the prey of our opponents as in the past.

Our Council, which has recently been subjected to much unmerited abuse, is merely the executive of our government, which carries out the administrative details of the findings of the Representative Meeting. It is elected largely by the members of the Association direct, only four members being elected by the Representative Meeting as a whole.

Our Present Trouble.

The whole medical profession is rightly indignant and exasperated at the way in which it has been treated by the promoters of the Insurance Bill. The six cardinal principles demanded by the profession have not been provided in the bill. But the bill as it now stands amended is a vastly different thing from the bill as originally introduced. Certain points have been conceded to the medical profession, and the way has been paved for others by allowing the Commissioners power to grant the remaining points of the six principles adopted by the Association. But with the uncertainty as to what line the Commissioners will take in framing their regulations it is natural that the bill in its present form should be viewed with the greatest suspicion and dislike by every medical man. The profession is unanimous in this, and it unanimously stands firm in its determination to have nothing to do with the treatment of the insured under this scheme, unless and until their six cardinal principles have been unequivocally granted. The only question on which there is any difference of opinion is one of tactics. One section says, "We are disgusted with the treatment we have received, and we will refuse here and now to have anything to do with the bill. We will take no further part in trying to have its provisions and regulations further modified." The other section says that the present is not the time to strike; and recognizing the enormous powers conferred on the Commissioners, they hold that we should continue in our efforts to get the regulations so drafted that the whole of the points in the six cardinal principles shall be unequivocally granted; and if they have not been so granted when the regulations are framed, that then the profession should in a united body refuse to act under the bill. With this end in view, that the unity and organization of the profession should be so maintained and strengthened that, when the time comes for striking, its action shall be irresistible.

After the provocation we have received, the temptation to strike here and now is very great. But to many this would not appear to be the wisest course. From the experience of the last few months it is evident that Mr. Lloyd George possesses an absolutely autocratic power to pass his own wishes into law, irrespective of the views of the majority of the members of Parliament or of the wishes of the people of the United Kingdom. In the event of our refusing to take any further part in endeavouring to mould the provisions and regulations of this bill, it is evident that we are likely to be faced with conditions that would be much more disastrous to ourselves and to the country in general than those which at present confront us.

Special Representative Meeting.

These two alternative courses were carefully debated at the Special Representative Meeting, and the proposal to at once discontinue negotiations with those responsible for the bill was negatived. The meeting was of opinion that the best course for the Association to adopt would be to press for certain further amendments in the bill and to insist on the regulations framed by the Commissioners being in accordance with the six cardinal principles laid down by the Association. The Representative Meeting again reaffirmed the six cardinal principles. A motion was then proposed by the Chairman of the Insurance Committee and seconded by the Chairman of Council—

> That, in the event of the Insurance Bill becoming law, the British Medical Association use every possible means to ensure that no medical practitioner undertake the medical attendance and treatment of insured persons under arrangements that are not absolutely in accordance with the six cardinal principles of the policy of the Association.

This was carried unanimously.

A motion was then proposed (and seconded by the Chairman of the Insurance Committee) which would have prohibited any member of the Association from accepting office as Commissioner or any other office under the Act without the consent of the Association. In the discussion on this it was clear that the meeting considered this dangerous, as it would put obstacles in the way of our securing the services of a suitable man as Medical Commissioner, and it was considered essential that we should have a Medical Commissioner who could represent our views and secure that the regulations would meet the requirements of our six cardinal principles. This proposal was, therefore, with the consent of the meeting, withdrawn.

Thus the Representative Meeting discarded the policy of striking here and now, and it was clear to me that the meeting wished the Council to use its best endeavours to obtain the still ungranted points in our six cardinal principles either by further amendments to the bill or by means of the regulations to be framed by the Commissioners. It was also clear to me that the Representative Meeting did not wish to put any obstacle in the way of our getting as the Medical Commissioner that we had been promised—the strongest and most useful man that we could get.

When, therefore, the post of Deputy Chairman of the Commission was offered to Mr. Smith Whitaker, who is, by common consent, admitted to be the best possible exponent of the views and requirements of medical men, the Council carried out what was clearly the intention of the Representative Meeting, and urged him to accept the post. He was in no way bound by the Association's pledge, as that referred only to medical attendance on insured persons. We could not hope to get regulations acceptable to ourselves unless we had a strong man as Medical Commissioner. To have refused the Government's offer of the Deputy Chairmanship of our man would have made us appear to the world as a set of inconsistent, peevish children, who asked for a Commissioner and refused the post of Deputy Chairman to our man.

If ever there was a time when it was essential that our

actions should be guided by cool heads and calm judgement, that time is now. With the nerves of the whole profession on edge from the way in which we have been treated, it is a very easy matter to start an explosion which would immediately and irretrievably wreck all the careful work of the past year. Now, if ever, we must resist any attempt to sow dissension in the ranks of a profession which has only recently become united for concerted action. But we find that men in various places want to go back on the findings of their own elected representatives. They want to go back to the policy of "strike here and now," which had been rejected after careful deliberation and debate. They want to go back on their own demand for a Medical Commissioner—a demand that they have reiterated again and again. They want to repudiate the executive of their own election. Is this the course of action that should be expected of members of a learned profession? I was surprised to see a letter from Dr. F. J. Smith—and that, too, in the lay press—which could only tend to foment discontent, dissension, disunion, and anarchy in our ranks.

Does Dr. Smith realize that by splitting the Association into two hostile camps at the present time he is playing into the hands of our enemies? If his ill-considered and mischievous intervention succeeded in splitting the Association it would be an easy matter for our opponents to crush the various factions in detail; though they would have been powerless against us as a united body. Dr. Smith has missed the point of application when he used the words "shameless and shameful betrayal" in connexion with the action of the Council. The proper application of them would be to irresponsible persons like himself who are ready to thoughtlessly destroy all that has been achieved by the Association in the past few strenuous months.

We are all of us animated by the same distrust of the bill; we are all of us determined to get what we have demanded or to have nothing to do with the working of the insurance scheme. The split, if forced on the Association, will be simply on a question of tactics; but it will be none the less fatal for that.

I am not a member of the Council, and am in no way responsible for its actions, so I am free to speak my mind in defence of our trusted executive. But I am not ignorant of the facts of which I speak, as I am the Representative of my Division and a member of the Insurance Committee.

It is a very poor return for all the ceaseless toil and thought gratuitously given by the members of the Council to the interests of the members of the Association that such charges should be made against them by irresponsible persons, who have taken no part in the burden and heat of the fight, and this because they have done their best to carry out the instructions of the Representative Meeting, the members of which are sent up to voice the ideas of the members of the Association.

Is this the way to achieve our just aims? No. Till our members as a body can apply to themselves sufficient personal discipline to make them submit loyally to the findings of the governing body of their own appointment; till they learn to be content with seeking only constitutional means for redressing what they consider their grievances, I see nothing before us as a profession but anarchy and disaster.

MEDICAL TREATMENT THROUGH EXISTING SYSTEMS OR INSTITUTIONS.

Dr. T. A. COLLINSON (Kingsdown, Bristol) writes: As one who is concerned beyond the average in the issues raised by the Harmsworth amendment, I desire to raise some points of importance to those associated with "institutions existing at the time of the passing of this Act." It would appear that the Executive (Central) devoted their energies to (1) the introduction of words limiting the scope of the amendment to such systems as were in being at the time of the passing of this Act; (2) to reasserting in this amendment the right of choice of the doctor by the patient. The importance of (1) is emphasized by the following remarks made some months ago by Mr. Lister Stead, after the passing of the Harmsworth amendment. "It is possible to extend this form of organization (that is, medical institutes) to other fairly well populated parts of the country," etc. As to (2) I gather, from the recently issued report to the Divisions, that the reaffirmation of freedom of choice by the patient was considered to be of great importance. So much so that the Central Executive advised us to buy off friendly society opposition by the very substantial concession of attendance on their invalid and aged members at the same rate as on picked lives. In passing, I voice a very general feeling when I say that I do not regard the consideration received as in any way adequate to such value as we are to give. Nothing short of the deletion of the Harmsworth amendment should have been demanded and accepted. To continue, however, we who are connected with any such organization (club, lodge, court, institute, or what not) are well aware that one of the most objectionable features (*proxime accessit* to the forcing of a particular doctor on the members) is the denial of the doctor's right to choose between consent and refusal to attend any member, however offensive he may be. If the club doctor does exercise such freedom of choice, he does it by reason of his temperament or personality, but illegally, and at the risk of being called upon to resign what is perhaps his main support. Surely, this principle then demands, with equal force, reaffirmation in the amendment. If freedom of choice by patient already provided for in the bill overrides this amendment, then the same holds good for freedom of choice by the doctor. So neither was worth fighting for: still less was the former worth the heavy price we are advised by the Executive to pay for it. If, on the other hand, as was urged by some at the last meeting of our Division, the freedom of choice by patient was endangered by this amendment and its addition was essential, it follows that the freedom of choice by doctor was equally endangered, and the need of providing for its re-establishment equally urgent. At the last meeting of the Bristol Division a motion for the addition of the words "subject to the consent of the practitioner so selected," directly following ". . . provisions of this section," was carried. It seems to me, therefore, most regrettable that this addition, which in any case must be admitted to be harmless, and might conceivably prove a most valuable safeguard, should be ignored by those in whose hands are laid the onerous, but honourable, task of representing our interests at head quarters.

[Dr. Collinson concludes by expressing his extreme regret that the word "may" is used instead of "shall" in the amendment to Clause 58.]

Dr. F. A. L. BURGES (Birmingham) writes: I am not at all satisfied with our amendment to the Harmsworth amendment, which was passed by the House of Commons last summer before its real meaning was understood by the majority of those members of Parliament voting for it. In my opinion, this amendment ought to be absolutely deleted. Without doubt our amendment does do some good, but very little. It certainly secures by statutory right the free choice of doctor, yet it will permit medical aid societies to appoint their whole-time doctors. It will also permit approved societies to appoint whole-time medical officers, and so in time we may find this Government scheme run by the approved societies with their whole-time medical service. This is a real danger, and my reason for having the Harmsworth amendment absolutely deleted from the bill. I quite see that insured persons need not go to the approved societies' doctors, but the majority of the members of an approved society will be quite willing to accept the nominee of their committee, and the whole-time service will flourish. We have got the backs up of the friendly societies, and they will endeavour to run their whole-time men for all they are worth. My point, therefore, is this: If we cannot get the Harmsworth amendment deleted, we must have it definitely stated in the bill that approved societies and medical aid societies are not to appoint whole-time medical officers. It can be clearly expressed that medical officers to approved societies must have the option of treating patients other than members of the approved society to which they are appointed. The patient is to be allowed free choice of doctor, so also the doctor ought to be allowed free choice of patient, that is, patients other than insured persons.

THE CARDINAL PRINCIPLES.

Dr. J. R. FULLER (Chairman, Hornsey Ward, British Medical Association, Crouch End, N.) writes: Of the six cardinal points—

1. Free choice of doctor—has not been conceded. (See the Harmsworth amendment which has not been amended satisfactorily.)
2. Adequate representation has not been conceded.
3. The income limit has not been conceded.
4. Adequate remuneration has not been conceded, and cannot be, unless the whole actuarial basis is altered.

Remains therefore—

5. Administration of medical and maternity benefit by local insurance committees, which has been granted.
6. Method of remuneration, which has been granted.

To take the meetings reported in one issue of the JOURNAL only—December 2nd. In that issue there are 46; 42 discussed the bill, all but 3 passed resolutions unanimously refusing to work the bill, until it was altered in accordance with those six principles. Taking these reports as a sample, the Divisions have practically bound themselves to refuse to act (the men in this district are solid against it), and if the Divisions instructed their representatives (delegates I maintain) to vote likewise, what are we to think of the timid resolutions of the Representative Meeting? Apparently the practitioners of the country are resolutely opposed to it, and only want a lead, strong and dignified. Are they getting it?

J. H. MEERS, M.R.C.S., L.R.C.P. (Buckingham), writes: I have read with much interest the proceedings of the Representative Meeting, and note that, while professing adherence to the six cardinal points, the Council advises a policy of "wait and see." Surely, to any one knowing Mr. Lloyd George, this policy must seem the worst possible. What will happen will be this: Mr. Lloyd George will come to the Association, and in honeyed words say, "Fall in with my wishes for the present, and in a year or so, when things have straightened out, you shall have all your demands satisfied." As before, the Association will cheer and wave its hat in the air. But also, as before, when the time comes for their demands to be satisfied, the members will find that Mr. Lloyd George has no intention of doing anything at all. It may be said that in such a case practitioners will still be able to strike. Not at all. Following his usual method, Mr. Lloyd George will influence two or three influential men in the profession, and by their aid drive a wedge through the opposition—as he appears to be doing now. The practitioners will again be confused by half a dozen different *pros* and *cons*. The right policy is to strike *now*, and insist on the £2 a week limit and a reasonable capitation grant.

INCOME LIMIT AND REMUNERATION.

Dr. CHAS. H. HAYCROFT (Bow, N. Devon) writes: How is it that the representatives of the Association seem to lend more and more colour to the appearance that they are, by their continued negotiating and attempting conciliation with the Government, in spite of whatever any amount of Divisions may wish, rapidly leading us to the defeat of the vital and fundamental principles of the whole matter, namely, the maximum income limit for attendance and the minimum capitation fee we would take for attendance; both of which points from the beginning Mr. Lloyd George would under no circumstances yield. From his point of view he is right, and we are with our eyes open playing into his hands; result is only too obvious; bill passes; arrangements as to fees and to income limit are to be settled locally.

What will happen? In some parts amicable arrangements satisfactory to the doctors will be arrived at; in other parts nothing satisfactory can be arranged—hence, in these parts, the doctors will all abstain from taking the work. What will happen? In the limited number of dissatisfied places there will be just enough blacklegs to take up the work—hence the victory of Mr. Lloyd George—but now all that the Association can do is that the whole Association, without demur, without any further attempt at bargaining, waste of time or money or dignity (as prevaricating shows weakness and ends in yielding in the end), boldly decline to work under the Act—result, the limited number of blacklegs will not go round, and we shall have the victory. Next year a short bill would be passed fixing income limit and fees to be paid. To definitely carry out the above a referendum of the *whole profession* should be taken at once. Two questions need only be asked: (1) Will you accept the decision of the majority?—Yes or No. (2) Are you prepared to work under the bill as it now stands by making the best bargain we can?—Yes or No.

Dr. EDWARD J. CROSS, D.P.H. (St. Neots, Hunts), writes: One of the demands which we made was an income limit of £2 a week for medical benefit, which I think all will agree is too high in country districts unless the remuneration be higher than the present rate of club payments. I do not think this minimum could be enforced under a per annum system, because although at the time of entry a man was only earning, say, £1 a week, subsequently he might be earning £3 or £4, and it would be very disagreeable and extremely difficult for his doctor to prove it, and no one else would take the trouble to do so.

Again, we demand a free choice of doctor, subject to the consent of the doctor to act. By any "per annum" system of payment surely it would be impossible for the patient to change his doctor or the doctor to decline to attend a patient without at least six months' notice, and this is scarcely my idea of free choice.

The capital value of our practices would be very considerably reduced.

At the present time I am receiving 5s. per annum for attendance on a club patient who is suffering from a fractured femur, whilst the man is being attended gratuitously by a philanthropist on the staff of a hospital. I think that the doctor who does the work should receive the payment.

It has been urged in favour of the per annum system that we should know our incomes. This I deny, because my income is my gross receipts less my expenses. No one could foretell what his expenses for travelling, assistance, or locumtenent might be during an epidemic. Suppose an epidemic of small-pox to occur and many of the insured have an unconscious objection to vaccination and ventilation—in fact, anything hygienic—the contractor would certainly have very hard work and probably financial and physiological bankruptcy as his reward.

I have endeavoured to look at this question from the patient's point of view as well as from the doctor's, and I maintain that only under a system of payment "per attendance" can both be satisfied.

Under the per attendance system the income limit could be maintained, because it would be quite easy to say to a patient, "My fee for attending you is so much. If I attend you as an insured patient, you must pay me the difference, as many National Deposit members now do." Free choice of doctors would be secured, because if the patient is not satisfied with Dr. A. he can go to Dr. B. without waiting three or six months. The capital values of our practices would be maintained, and the best men would have the best practices. If I sent a patient to a hospital, the doctor who attended him would receive the payment.

I would suggest that each insured person be given a book containing, say, twelve tickets. If he or she needs medical advice he sends or takes a ticket to whichever doctor he prefers, and retains the counterfoil. At the end of the month or quarter the doctor sends his tickets and the patient the counterfoils to the Health Committee, who forward the doctor a cheque in due course. If the insured needs more tickets he applies to the Health Committee for them, and they, if it think fit, as check on malingering, or for other reasons, can order a consultation. By this method the need for inspection would be removed, because the patient, if not satisfied, would soon seek further advice. If the insured sent for a doctor late in the day or at night, the Health Committee would complain, and if they thought wise, could make the man refund, as, of course, we should demand extra fees for night work and mileage.

It has been argued that payment per attendance would encourage the doctor to encourage, or, at any rate, not check malingering. This would be prevented by limiting the number of tickets issued at a time. If a doctor were sufficiently dishonest to encourage malingering, possibly he might yield to the temptation to neglect, and possibly so accelerate the departure of a patient who was a daily source of worry and expense to him in time and petrol under the per annum system. I have received a training as a medical man, but not as an insurance officer, and I fail to see why any Government should expect me to take the risk of patients' illnesses without giving me the power

to compel them to be vaccinated, to be abstemious, and to obey my orders.

I have made no allusion to the scale of payments. The National Deposit Society have a scale. King's Regulations, paragraph 1311, provides a scale for attendance on soldiers on furlough, Army Form 01667. The certifying factory surgeons also have a scale.

I also claim that only by payment for attendance can we maintain anything approaching independence.

Dr. G. L. KERR PRINGLE (Harrogate) writes: What have we as a profession to gain by waiting another day? Nothing, because even if all the six cardinal principles were granted, as they cannot now be, we will be no better off, for the simple reason that the sum of money set aside by the Chancellor for medical benefits will never satisfy the demands of the profession. The Council of the Association have known this for months, but still they urge a policy of delay. The Manchester Resolution was all that should have been sent to the Chancellor, and nothing else, and before it is too late he must now be informed that we cannot accept his arrangements. Let me point out the reasons in favour of immediate action:

1. The bill at this stage cannot be amended to satisfy us.
2. The Unionist Lords have determined to leave it alone.
3. If the Association still delays, then the dispute instead of being with the Government will be with the local Health Committees. This is what Mr. Lloyd George has been hoping for all along. The fight with the local committees will be a long series of sordid disputes and wrangles in which the profession will be unable altogether to present an even front, whereas if the Association strike *now*, before the bill actually becomes law, they will have a dispute with the Government itself, which will in no way damage the reputation and prestige of the profession.

Surely the Association is strong enough to stand on its own legs. The weakness, if it does exist, lies in some of the London Divisions, many of the members of which do not understand the difficulties and annoyance which will occur in country districts, where the profession is sparsely represented and where its members have not the same facilities for hanging together and supporting each other, where the disputes with the local Health Committees will be a repetition in a worse form of "the battle of the clubs." It is all very well for the Council to say that these provincial members will have the Association at their backs. The provincial Divisions are at one in demanding that the Association should show a bold front by doing its own fighting and not take shelter behind the Divisions.

Dr. HENRY THOMAS BARTON (Blackpool) writes: In speaking on the Insurance Bill in the House of Lords, Lord Sandhurst made a statement very similar to one made by Dr. Addison in the House of Commons—namely, that of the six points put forward by the medical profession four were already embodied in the bill, while the two others could be obtained under its machinery. This statement is quite misleading, for there is also machinery in the bill by which, under circumstances very likely to occur, the profession can be deprived of its advantages under these two latter points. In the event of a deadlock occurring between the local Medical and local Insurance Committee in a given district, the Insurance Commissioners have power to suspend medical benefits in that district. As we know, the local Insurance Committees, in the event of not having a sufficient number of medical men on the panels to work their particular areas, have power to make "other arrangements." These other arrangements would mean, during the term of suspension, attempting to bring in men to work the scheme on reduced terms. We know that the representatives of insured persons on the local Insurance Committees have a very powerful inducement to economize, as, in the event of running short of funds, and being obliged to apply to the county councils for subsidies, they lose their numerical representation on the committees, and, unfortunately, the economizing will be at our expense. We are indebted to Lord Sandhurst for plainly stating that the capitation grant of 6s. is insufficient payment. There has been far too little said in this matter in the right quarters. As a Representative at the meeting held recently in London, I moved an amendment as regards payment, and was ruled out of order; a similar fate befell others who had amendments to the same effect as my own. We were assured that the Council had this matter in hand, and would make our wishes known with no uncertain voice.

In reading over the memorandum of matters presented by the Council on behalf of the Representative Body I find the provision for remuneration did come in for consideration, but it was touched upon as it were with the fingertips, just as though the Representatives were afraid to ask for decent fees. Now it is just this apparent feebleness of the executive that is causing the profoundest dissatisfaction in many Divisions.

We are willing to do all we can here to carry out the recommendations recently sent out by the Council, and to try and induce outside men to join the Association, but we are very much handicapped in our endeavours by what is considered to be the want of resolution and the credulity of our leaders. We know that our only chance lies in unity. We have so far looked to the Association to further our efforts to that end, and if, after all, we come out beaten, the Association falls with us.

Dr. HENRY EDWARD GOUGH (Northwich) writes: Dr. Alexander Stewart gives some reasons for preferring the payment per capita rather than per attendance, which is clearly the more equitable of the two, as the gambling element is eliminated.

The statement that a "capitation fee of 10s. would provide a stable income and leave his energies free to do his proper work" is not substantiated by any argument and is not correct, because the number on the list of any doctor on the "panel" may fluctuate just as much as a practice, for the insured will of course be able to put their names on any list at certain intervals, say quarterly, provided the doctor is willing. Incidentally, if the income were small its stability ought not to be so delightful a prospect.

If the panel doctor devoted his whole energies to his "proper work" and neglected his list he would soon be lost, for by the per capita system he does not depend upon the sick he attends and who know and can appreciate him, but upon a large number of persons to whom he is quite unknown and who care little whose list they are on until they become ill. Therefore some method of acquiring extraneous popularity would be necessary—and undignified.

The fatal objection that the more sickness the more pay, therefore keep them sick, is one which is applicable now to all private practice; and what is it worth? The general practitioner who gets the reputation of never being off the doorstep is a short-sighted fool, and will soon get pulled up, except in the case of neurotics, etc., and if he overvisits them he deserves all he gets.

The contention that malingerers and neurasthenics would be dealt with faithfully under a per capita system, and could not be dealt with under the per attendance, is just the reverse of what would happen. A man who is paid by attendance knows that he will be judged by results, as he is now, and will be constrained to do his best to get his patient well, if from no higher motive than that honesty is the best policy; whereas, on a per capita system, he will not dare to offend a malingerer or neurasthenic, because they will go off his list, and two or three such would practically spoil his list. So that it amounts to this: In payment per attendance he offends one patient if he deals faithfully with him; but, on the other system, he has made an enemy who can spoil his list, and lose him many prospective capitations.

In the payment per attendance, a careful, reliable general practitioner will be as secure as he is now in the estimation of the public upon his work; but in payment per capita, the length of his list will depend very largely upon the "complacency" of the list-holder rather than upon his merits.

Dr. J. B. PIKE (Loughborough) writes: The Insurance Bill is being hurried through in such a way as to leave to the country and the Commissioners a complete chaos of conflicting elements. In these circumstances, what ought to be our attitude as a profession? In this matter we have no party interests. We ought to act, not as Conservatives or Liberals, but as members of a great and disinterested profession for the promotion of the welfare of the public. That a huge system of contract practice should be adopted is undesirable. It will tend to the degradation of our work, and cannot be good for the people. Contract practice can only be safe when controlled by medical committees

and used to meet the necessity of the poorer members of the community. Our answer to the bill might well be to formulate our own system of contract practice. In the British Medical Association we have a bond of union which would facilitate such an arrangement. I would propose that the country should be divided into areas and districts, and that for each a medical committee should be formed which should regulate the contract practice in that area or district for which it acts; that payment by fees or by capitation should be optional for each committee, and that there should be free choice for doctors and patients. In effect, we should meet the demand for medical insurance of the people by a large constructive measure, the arrangement and details of which should be entirely in our own hands. If in this matter we subject ourselves either to the Government or to lay committees we shall be landed in a quagmire of hopeless wranglings and humiliations. Our only hope of independence is to take the matter in our own hands, and, by instituting reasonable public medical services through the country, to take the wind out of the sails of the Government and the friendly societies. If they choose to make arrangements, compulsory or otherwise, for sick pay or other insurance, it will not affect our position. Our arrangements will refer to medical attendance only, and we need not trouble ourselves with actuarial or other calculations. From my experience of meetings of the Leicester and Rutland Division I believe we are united enough to carry out this programme.

Dr. T. S. WRIGHT writes: As the mover of the resolution passed by the Mid-Essex Branch at Chelmsford on November 22nd, I should like to reply to the remarks of Dr. H. Reynolds Brown (Maldon) published in the correspondence columns of last week's SUPPLEMENT.

To begin with, Dr. Brown misquoted the resolution, which ran as follows:

> That this meeting is of opinion that, as the demands of the medical profession have not been secured under the National Insurance Bill, the British Medical Association should make it clear to the Government and the House of Commons that the profession definitely and finally refuses to work *under the bill*.

Not "under this or any other Insurance Bill."

The resolution was passed with only one dissentient. I venture to assert that the body of "intelligent and educated men" who voted for it were quite aware of its significance. It was a perfectly definite expression of a reasonable and deliberate opinion. The discussion on the motion showed that a large majority of the meeting were acutely dissatisfied with the meagre results achieved by negotiations with the Chancellor of the Exchequer, and that they had no faith in the intention of the Government to deal fairly with the profession. Accordingly they decided that it was at once futile and undignified to make further appeals, and voted for a definite and final refusal to work under the bill.

To my mind the attempt to patch up the bill and secure an efficient medical service is foredoomed to failure.

Some time ago Mr. Lloyd George remarked that the bill could only succeed by the cordial co-operation of the profession as a whole. I quite agree with him, but I have not yet seen any evidence of cordial support on the part of medical men; in many districts there is nothing but uncompromising hostility to the bill; at the best, there is but a grudging acquiescence in its principles. It does not augur well for the smooth working of the Act or for the health of the insured.

CONDITIONS OF WORK UNDER NATIONAL INSURANCE.

Professor BENJAMIN MOORE (Liverpool) writes: Just as all paths lead to Rome, all projects of change in medical service inevitably lead towards the final result of a National Medical Service of preventive type. The period of time required to get there will vary according to the amount of blindness in our profession and in the public mind to the best interests of both. The channels of approach, and difficulties, and perhaps hardships, to members of the profession on the way, do not touch me personally, but in the interests of a profession which I most highly respect and feel it an honour to belong to, I am impelled to write and point out what I regard as a great danger staring us in the face at the present moment, and that is an inopportune withdrawal of labour.

As a socialist and as a worker in the cause of labour, I shall scarcely be accused of rating at too low a value the effects of a combined withdrawal of labour *at the proper moment*. There is no more effective means of standing up for the rights of a community of workers than collective action followed by a withdrawal of labour if those rights are not conceded, but the psychological moment must be chosen, and the contested issue must be clear and sharply cut.

Both these essentials will be lacking, in my opinion, if the professsion elects to withdraw its labour now and refuses to work under the Insurance Act before having tested it.

Before anything in the nature of a strike, or withdrawal of labour, is declared it is essential that the lists of patients attached to each doctor's name should be settled, and that we should have tried the conditions of the scheme and found them, at the end of a definite period, either unprofitable or unpalatable. At the present time we neither know how patients will be grouped, or what figures under the new system will correspond to rates of payment under the present system. In the present condition of chaos a general strike against work under the Act will end in disaster, and in some men losing their practices to others. The first essential is local spade-work and organization, and the making of a position commanding power and respect for medical men in the approved societies. The profession must take steps locally to control the approved societies and local insurance bodies, otherwise they will get left behind in the struggle that is coming.

Let us look calmly at what is going to happen. The Act comes into operation, the workers start paying, the local Insurance Committee is elected, and sends out a circular to the local practitioners stating how much it is prepared to pay, and asking whether the practitioner is prepared to have his name placed on the list for a share of the work. The insured persons do not wait until they are ill, and then write down the name of their present doctor. When they commence to pay they have to choose a doctor, and they must do so from the list of doctors prepared to treat them, and registered at the local insurance office. Now, supposing 20 per cent. of the doctors in a given area send in their names, then the insured persons are forced to choose from that list. They may go to their own doctor first, and ask him why his name is not on the list, and he will tell them, but they have no option save to go to someone else if his name is not there. After a few such visits some members of the profession will begin to break down under the nervous strain, and within a few months resistance will almost vanish, and the men who least deserve to lose will lose most heavily in the process.

If, on the other hand, the more opportune time is chosen for obtaining the right and proper terms when all the lists have been settled down and each doctor has his *clientèle* of patients under the new régime, then not only the members of the profession but their patients can be welded into a solid mass of resistless power to strike for the undoubted rights of both. Every district can circularize its list of patients pointing out that all the doctors are withdrawing their names from the list because of the local insurance body not paying the rate of wages of the doctors' union, and asking them, in case of illness, to demand their right of receiving an allowance and being treated each by his own doctor. At the present time we could not do this because we have no complete list of patients, but after a few months such action can be taken most adequately and effectively.

For the present we ought to work towards organization in favour not only of our profession but of the approved societies, so as to get a strong voice in these. It will pay our profession to study the methods of organized labour, and adopt them as far as possible in the coming struggle. From this point of view I should strongly advise each practitioner to join some society in his district, and to use his influence on his circle of people to join the same unit in the society as himself, and, if possible, to carry a seat on the local Insurance Committee by direct election by that society. All the practitioners in a district should work towards this end, and, as representatives either of approved societies or of Post Office contributors, should make their power felt on the local Insurance Committee.

The machinery is not of our choosing, but for the time being, and until we can substitute for it something better, let us make use of it.

Without some such constructive policy as this our position would become intolerable very soon, even were we given our so-called six cardinal points to-morrow. The clear objective of our profession must be the organized control of the medical service of the country and its ultimate nationalization; if we do not fight for this, there is nothing in the Act, or which we could have introduced into the Act, which will not leave us and our fate the plaything of insurance committees conducted by friendly societies. Given, however, adequate organization and sufficient public interest in our ranks to serve in a broad-minded way on the local committees, coupled with educative power in health matters on such bodies which our profession alone can exercise, we can attain a position and importance in the community which we have never seen before.

The Actuarial Estimate.

Dr. E. A. C. Baylor (Ash, via Canterbury) writes: It is unquestionably true, as most of your correspondence with the profession goes to prove, that the point which particularly concerns us regarding the Insurance Bill is the question of remuneration. As Dr. Godwin correctly states, "we have a right to know how it will affect us financially before the bill becomes law." Mr. Lloyd George asserts that this must be left for local arrangement after the event. Now it is obvious that our demand *ante hoc* and Mr. Lloyd George's solatium *post hoc* are quite incompatible. Moreover, although those of us best qualified to judge assert confidently that the bill will involve us in serious financial loss, yet there is also a lingering belief amongst a goodly proportion that we may be, if not better off, at least no worse off under its operation. May I suggest that the Association should undertake to afford us "more light" on the matter by instructing a competent actuary in each of, say, a dozen selected districts, rural and urban, to take an average practice, and examine and report as to how the bill will affect it financially on a 6s., 4s., and 2s. basis *per caput?* I am sure the profession would gladly subscribe towards the cost, and the result would go far to remove the incertitude and hesitation which exists at present amongst a certain section of our colleagues, and would also help materially to diminish the corps of "blacklegs."

Dr. J. Shaw Lyttle (Cilfynydd, Pontypridd) writes: We are to be offered 4s. 6d. a year (allowing 1s. 6d. for drugs) for doing we know not what, and within the last few days the actuaries have publicly stated that no larger sum can be safely set aside out of the contributions. It is worth bearing in mind that of this 4s. 6d.—say 1d. a week—the insured person pays four-ninths, so that as the bill now stands a workman earning £3 a week would get his medical attendance at a cost to himself of less than ½d. per week. Of course we have been repeatedly assured that there is no limit to what we may be paid, but I believe that those who trust to this assurance will find that they have gone into a snare which has been spread for them even in their own sight. When, a few nights ago, a member moved for a new clause limiting the local rate to ½d. the Chancellor of the Exchequer (who has so frequently given the above-mentioned assurance) stated that "there was no obligation at all on the part of the representatives of the ratepayers to incur any liability at all." Not long ago I forwarded to you a resolution passed by one of this county public bodies protesting against any increase in the heavy burden of local taxation for insurance purposes. And with one-third of the local Insurance Committee to be composed of representatives of friendly societies, whose ideas of payment range from 2s. 6d. to 4s., will some one kindly tell me how we are going to secure an "adequate fee?" I have considered all along that no greater calamity could happen to the profession than that, instead of a central fight, each district should be left to fight its own battle with its local Insurance Committee, and although apparently this is what is going to happen, I am still of the same opinion.

I believe it would give great satisfaction to many of our members, even at this late stage, if a definite figure were stated below which we would decline to discuss medical treatment.

Dr. Percy Gulley (Shanklin) writes: It is ridiculous to pretend that the profession will get more than 6s. per head for doctor and medicine. The actuaries state explicitly that this is the most the scheme allows. It is, therefore, more ludicrous than ever to talk of "collective bargaining." If the British Medical Association are going to allow anything like this amount to be taken it will cease to be the Representative Body. Therefore we must strike, and the Association ought to arrange that all friendly society doctors send in their resignations so that they take effect at least some months before the medical benefits commence. If this is not done all the insured will join the societies and get attended by their societies' doctors until their resignation takes effect.

THE INSURANCE COMMISSIONERSHIP.

We print below by request the further letters of the correspondence in the *Times*. The two earliest were published in the Journal last week, p. 1572:

"The Great Betrayal."

To the Editor of the "Times."

Sir,—Dr. Goodall and his supporters ask me in what does the betrayal consist. May I, in reply, ask him and them three simple questions?

1. Is it or is it not a fact that some few months ago every member of the Association was asked to sign a pledge that he would not accept a post under the bill unless and until our six points were conceded or safeguarded?

2. Is it not a fact that these six points are not conceded, and very imperfectly, if at all, safeguarded?

3. Has not Mr. Smith Whitaker, notwithstanding this absence of concession or safeguard, been recommended by the Council to accept the very first post created under the bill for a medical man?

If they answer these three questions in the manner in which I think they must, I do not think there is any great difficulty in finding the answer to the riddle "in what does the betrayal consist?"

I am, Sir, yours, etc.,

138, Harley Street, W. Fred. J. Smith.

Policy of the Doctors.

To the Editor of the "Times."

Sir,—In your issue of this morning Dr. Fred. J. Smith asks us three questions which with your permission we should be glad of the opportunity of answering in your columns. His first question is:

> 1. Is it or is it not a fact that some few months ago every member of the Association was asked to sign a pledge that he would not accept a post under the bill unless and until our six points were conceded or safeguarded?

The answer to this question is—"It is not a fact." Has Dr. Smith signed the "undertaking" issued by the British Medical Association? Did he read it before he signed it? Or has he forgotten its terms?

For his benefit and that of other members of the profession who may have similar misapprehensions on this matter, and incidentally for the information of the recently appointed Insurance Commissioners and of persons who may hereafter become members of local Insurance Committees, we will quote the terms of the undertaking which has been signed by an enormous majority of the medical profession:

> I, the undersigned, hereby undertake that in the event of the National Insurance Bill becoming law, I will not enter into any agreement for giving medical attendance and treatment to persons insured under the bill, excepting such as shall be satisfactory to the medical profession and in accordance with the declared policy of the British Medical Association; and that I will enter into such agreement only through a local Medical Committee, representative of the medical profession in the district in which I practise, and will not enter into any individual or separate agreement with any approved society or other body for the treatment of such persons.

Lest, however, it might be thought that any intelligent person could regard this undertaking as including such an appointment as that accepted by Mr. Smith Whitaker, we would remind Dr. Smith of an incident which occurred at the last Representative Meeting of the Association held in

November in order to instruct the Council of the Association as to the wishes of the profession with regard to the Insurance Bill. A resolution was submitted by a Representative forbidding the acceptance by members of the Association of any posts under the bill without the sanction of the Association. After discussion this resolution was by leave withdrawn. The Representative Meeting recognized that the best way to secure the aims of the Association was to have friends, and not enemies, of its policy in positions of influence and authority under the bill. It is therefore clear that no member has been asked to sign any such general declaration as Dr. Smith suggests in his first question.

Dr. Smith's second question is:—

2. Is it not a fact that these six points are not conceded, and very imperfectly, if at all, safeguarded?

The answer to this question also is: "It is not a fact." Thanks to the splendid unity which the profession has displayed since the introduction of the bill, this measure has, upon the representation of the British Medical Association, been so modified that if it passes in the form in which it left the House of Commons, every one of our six principles will either be found to be provided for in the Act or left in such a position that they can be secured in the regulations of the Commissioners or in the agreements to be made between the Insurance Committees and the local Medical Committees. Whether or not these regulations and agreements are found finally to allow the perfect fulfilment of the six cardinal principles, without which fulfilment the service of the profession under the Act cannot be obtained, must necessarily depend upon the continuance of the unity of the profession. Personally we believe that such continued unity is assured, and that it will be exerted upon the Commissioners and the Insurance Committees as effectively as it has already been exerted upon the Government, through the machinery of the British Medical Association.

The answer to Dr. Smith's two first questions being thus in the negative, his third question, which is now shown to contain a totally false assumption, needs no answer. We have answered these questions in the only way they could be answered by any one fully conversant with the affairs of the Association during the last few months. That Dr. Smith could have expected a different answer bringing home his recent charges of "shameless betrayal," "traitorous proposals," and "underhand tricks" "engineered by politicians," can only be explained by the fact that some members of the Association, like Dr. Smith, do not take the trouble to acquaint themselves with the work the Association is doing on their behalf, or even to read the printed documents circulated to them for their information.

We believe the public and the profession will agree that such ignorance cannot be regarded as any excuse whatever for Dr. Fred. J. Smith in bringing in the public press an unfounded charge of dishonourable conduct against the Council of the Association.

We are, Sir, yours,
E. W. GOODALL,
VICTOR HORSLEY,
J. H. KEAY,
A. J. RICE-OXLEY,
LAURISTON E. SHAW,
Metropolitan Members of the Council of the British Medical Association.

December 9th.

To the Editor of the "Times."

Sir,—Dr. Goodall and his supporters seem to think that they have answered my questions to their satisfaction. I have no wish to prolong this correspondence, but so many seem to differ from Dr. Goodall's view that I have arranged for a meeting of the profession to be held at 4 o'clock on Tuesday, December 19th, Sir W. Watson Cheyne in the chair, at the Queen's Hall, Langham Place, to which every medical man in the kingdom is invited to see if the profession is as united against the bill and in favour of our six points as I believe it to be.

Yours truly,
FRED. J. SMITH.

To the Editor of the "Times."

Sir,—We quite understand why Dr. Fred. J. Smith has no wish to prolong the correspondence which he entered upon without sufficient thought or knowledge.

We do not, however, understand how he can allow it to cease without offering an expression of regret for the unconsidered charges of dishonourable action which he has made against members of the Council of the British Medical Association.

The justification or otherwise of Dr. Smith's conduct in bringing these charges is the only question we have been discussing in your columns, and it is not relevant to this very serious matter for him to announce that as a private member of the medical profession he is calling a meeting, whatever its object. We feel sure your columns are still open for any explanation Dr. Fred. J. Smith may wish to give in respect to the accusations he has made and is unable to substantiate.

We are, Sir, yours, etc.,
E. W. GOODALL,
VICTOR HORSLEY,
J. H. KEAY,
A. J. RICE-OXLEY,
LAURISTON E. SHAW,
Metropolitan Members of the Council of the British Medical Association.

December 12th.

To the Editor of the "Times."

Sir,—I doubt if Dr. Goodall and his friends do understand why I have no wish to prolong this correspondence. Certainly it is not because I regard their explanation published in your issue of December 11th as in any way satisfactory; to me it is nothing but a quibble. They have ignored the spirit whilst clinging to the letter of the pledge. They then ask me to apologize. To whom? I never attacked them at all; they chose to take upon themselves to defend the Council of the Association, whom I did attack, and I still hold the same opinion of the action of the Council which I held originally. By whose authority have they thus taken up the cudgels on behalf of the Council? That their weapons are clumsy and unreliable is no fault of mine, and I would advise them to read the accounts of the meetings of Divisions and Branches which are being held all over the country condemning the Council's action quite as vigorously as I have done. Perhaps then they will realize that they are defending a forlorn hope; and it was because I realized the "splendid unity" (to use their own phrase) with which the profession had condemned the action of the Council that I wished to cease the correspondence, feeling that my voice was no longer wanted in the general chorus.

I am, Sir, yours truly,
138, Harley Street, W. FRED. J. SMITH.

The following reply has, we are informed, been addressed to the Editor of the *Times*:

Sir,—Dr. Fred. J. Smith has now definitely refused either to explain or withdraw his unfounded charges against the Council of the British Medical Association.

It is evidently useless to appeal to Dr. Smith's sense of honour, which is not sufficiently delicate to enable him to distinguish between criticism of the policy of the Association and the imputation by him against its Council of "traitorous proposals," "shameless betrayal," and "underhand tricks" "engineered by politicians."

We are, Sir, yours,
E. W. GOODALL,
VICTOR HORSLEY,
J. H. KEAY,
A. J. RICE-OXLEY,
LAURISTON E. SHAW.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Meetings of Branches and Divisions.

BATH AND BRISTOL BRANCH.

The second ordinary meeting of the session was held at Bath on November 29th, Dr. G. Parker, President, in the chair, and there were twenty-nine members present.

Communications.—Dr. Wilson Smith read a paper on a case of renal embolism, which was discussed by the President. Dr. F. G. Thomson read a paper on rheumatoid arthritis, and in the discussion which ensued the President, Dr. Wilson Smith, Dr. Michell Clarke, Dr. Howard, and Mr. F. Fraser took part. Mr. Forbes Fraser read notes of a case of endoaneurysmorrhaphy for inguinal aneurysm. Mr. W. M. Beaumont read a paper on modern colour tests in medical and surgical practice, which was discussed by the President, Dr. Wilson Smith, and Mr. A. Ogilvy.

BIRMINGHAM BRANCH.

A report of the second ordinary meeting of the Birmingham Branch, held on November 9th, was published in the Journal of November 25th, p. 538. From that report the following was accidentally omitted:

Cicatrices following Burns.—Mr. Leedham-Green showed a young man on whom he had operated for the relief of severe cicatricial contraction of the fingers and palm of the hand following extensive burns. The fingers had been liberated by division and bold excision of the cicatrix, laying bare the flexor tendons of the involved fingers. Large detached grafts, of the whole thickness of the skin, taken from the patient's arm, were applied to the denuded parts, so as to completely cover them. Healing took place per primam, and the patient now, some months afterwards, has the perfect use of the fingers, with complete restoration of function and absence of deformity.

Coventry Division.

A general meeting was held at the Coventry and Warwickshire Hospital on Tuesday, December 5th. The chair was taken by Dr. J. Orton, and there were twenty members present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

National Insurance Bill.

Canvass of Profession.—Dr. Orton gave an epitome of a lengthy correspondence received from London dealing with the means to be used for canvassing those members of the profession who had not signed the undertaking of last July; also with the provision of funds to enable the British Medical Association to carry on the opposition to the present state of the bill.

Special Representative Meeting.—Dr. Milner Moore, the Representative of the Division, gave an account of the meeting held in London on November 23rd and 24th.

Resolutions.—The following resolution, proposed by Dr. Orton, seconded by Dr. Milner Moore, was carried unanimously:

> That this meeting of the Coventry Division heartily endorses the action of the Council in recommending Mr. Smith Whitaker to accept the office of Deputy Chairman of the Insurance Commission, and whilst deploring the fact that his valuable services will not any longer be devoted, as in the past nine years, to the interests of the British Medical Association, at the same time feels assured that his personal endeavours will be directed to securing the just demands of the medical profession as expressed by the British Medical Association.

Dr. Pickup, seconded by Dr. Rollason, proposed the following resolution, which was unanimously adopted:

> That the Coventry Division urges the Council to take immediate steps to make as widely known as possible, both to the members of the House of Commons and to the public through the press, the extreme dissatisfaction of the medical profession with Mr. Lloyd George's proposals in the Insurance Bill. He has given us no satisfactory reply to our six cardinal points, and he stated in the House on December 4th, in reply to Mr. Ramsay MacDonald's proposal to reduce the workmen's contribution from 4d. to 3d., that this would mean starting the scheme with a deficit of £1,200,000 per annum. Now he has offered the profession 4s. 6d. a year; that is practically 1d. per week out of the 9d. per week. He has also told us that he cannot give more, and as 2d. per week would hardly meet the requirements of the profession, and as this extra 1d. would cost £1,200,000, as stated above, should the bill be rushed through without those facts being widely known, the profession will be left to fight the battle locally with Insurance Committees, who can only reply that they have no money.

BORDER COUNTIES BRANCH:

Scottish Division.

This Division met in Dumfries and Galloway Royal Infirmary on Tuesday, November 21st. All medical practitioners in the Division, whether members of the Association or not, were invited to attend. There was a very large meeting, and representatives from all parts of our large district were present. Dr. Huskie of Moffat, President of the Branch, was called on to take the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and approved.

Apologies for Non-attendance.—Apologies from many members for their unavoidable absence were intimated.

National Insurance Bill.

Dr. Easterbrook, Chairman of the Division, then read a letter from the practitioners in the Stranraer neighbourhood, and the meeting resolved that this letter be incorporated in the minutes. The letter was to the following effect:

> C. C. Easterbrook, Esq.,
> Chairman of Border Counties Branch,
> British Medical Association.
>
> Dear Sir,—We, the undersigned medical practitioners resident in Stranraer, being unable to be present at the Branch meeting in Dumfries to-morrow, desire to send you this letter in case our non-appearance should be taken to indicate a want of interest in the settlement of the details of the Insurance Bill.
>
> We reaffirm our adherence to the cardinal principles laid down by the British Medical Association on June 1st, and we approve of the recommendations embodied in the report of Council (D 11).
>
> In particular we think the amount of 6s. per head per annum as a rate of remuneration for medical attendance quite inadequate, and we think the representation of medical men on the Insurance Committee too small and that of the insured far too large.
>
> We feel that the whole bill has been drafted in no friendly spirit to the medical profession nor out of any desire to benefit medical men.
>
> We think that if carried into law it will profoundly alter the peculiar relation subsisting from time immemorial between doctor and patient, and that the working of the scheme will not be devoid of a certain hampering effect on the insured.
>
> Finally, we wish cordially to associate ourselves with whatever efforts the Branch meeting may adopt in its attitude towards the possible attack on our interests.
>
> We are,
> Yours faithfully,
> Thomas Harper.
> A. Walker Monro.
> John Dale.
> J. A. Anderson.
> A. Cluckie.

The meeting then proceeded to the business on the agenda.

The first item was to consider the Report of the Council on the National Insurance Bill as amended in Committee of the House of Commons and to instruct the Representative thereon. Dr. Huskie said that the present was a critical time for the profession. They could not discuss everything which they would like to, so he proposed that they take up the report. Dr. Easterbrook said they must send their reply to the recommendations. They could either approve of them *en bloc*, or, if any one wished to suggest alterations, the proposals would be considered separately.

Recommendation A.—Dr. Rodger and Dr. Reid spoke to the necessity of securing that the money so provided must not be allowed to add to the wealth of the societies, but must be paid to the doctors.

It was resolved that at the end of Recommendation A the following words be added:

> And also that money thus provided must be spent only on medical attendance on the insured.

Recommendation B.—This was agreed to.

Recommendation C.—It was resolved to recommend that the following words be added to C:

> Provided always that they qualify under the income limit.

Recommendation D.—This was agreed to.

Recommendation E.—It was resolved to recommend that the end of the second last line should read:

Is *totally* inadequate to meet the cost, etc.

At this point several members raised the question of payment for mileage. Dr. LIVINGSTONE said he had drawn attention to the fact that mileage must differ in different districts. They would have to fight the local Health Committees on this point.

Recommendations F, G, H, I, J, K, L, M.—These were all agreed to.

A free discussion then took place on charges for services such as operations, granting of certificates, etc. The latter, it was pointed out, were likely to be very much increased if the Insurance Bill passes.

Dr. LIVINGSTONE then asked the meeting to decide what course Dr. Rodger, their Representative, was to take if the Representative Meeting spoke of refusing to negotiate any further with the Government unless the minimum demands were conceded. The meeting instructed Dr. Rodger to vote against sending any ultimatum.

The following motion by Dr. EASTERBROOK, seconded by Dr. CLARK, was adopted.

This meeting unanimously resolves that unless the minimum demands of the British Medical Association as embodied in their original six cardinal points of June 1st, 1911, and in the recommendations of the Council on the National Insurance Bill as amended in Committee of the House of Commons, be conceded by Parliament, the members of the Scottish Division refuse to act under the Bill.

This concluded the meeting.

EAST ANGLIAN BRANCH:

EAST NORFOLK DIVISION.

A MEETING was held on Thursday, December 7th.

National Insurance Bill.—The following resolutions were adopted:

1. That the East Norfolk Division of the British Medical Association strongly condemns Mr. J. Smith Whitaker's acceptance of office under the National Insurance Bill, which they (the members of the Division) consider a desertion of the trust confided to him, and likely to profoundly injure the cause of the general practitioner, and the members of the Division regret that they can no longer place any confidence in Mr. Whitaker as an official of the Association.
2. That this meeting expresses its strong disapproval of the action of the Council of the British Medical Association in regard to its method of conducting negotiations with the Government, and in sanctioning the appointment of Mr. Smith Whitaker as an Insurance Commissioner, and accordingly demands the resignation of the Council forthwith.
3. This meeting is of opinion that the provisions of the National Insurance Bill, as finally drafted, do not incorporate the six cardinal points to which the profession unanimously pledged itself, and that the British Medical Association should at once call upon all members of the profession to decline to form a panel or to undertake any duties which the bill proposes to assign to them.

NORTH SUFFOLK DIVISION.

A SPECIAL meeting of members of the medical profession residing in the area of the North Suffolk Division was held at the Lowestoft Hospital on Friday, December 8th, at 4 p.m. The meeting was largely attended. Dr. Ross was in the chair, and there were also present: Drs. Aylen, Barraclough, Hosegood, Morris, Wade, Mead, Taylor, Helsham, Bell, Callender, Berry, Leach, Mulloch, Schilling, Baylie, Evans, Ticehurst, Daniells, Chevers, Kirby, Marshall, Worthington, Boswell, Acton, and Tyson.

National Insurance Bill.

The following resolution was carried unanimously:

This meeting is of opinion that the provisions of the National Insurance Bill, as finally drafted, do not incorporate the six cardinal points to which the profession unanimously pledged itself. That they do not secure effectual means whereby the practical working of the bill can be carried out in absolute conformity with the principles of these six points; and therefore that the Council of the British Medical Association should at once call upon all members of the profession to decline to form a panel, or to undertake any duties, including administrative ones, which the bill proposes to assign to them, and that this Division pledges itself to carry out this policy.

The following resolutions were carried with only 3 and 1 dissentient votes respectively:

This meeting regards with grave suspicion and disapproval the appointment of Mr. Smith Whitaker as Deputy Chairman of the Insurance Commissioners.

This meeting expresses its strong disapproval of the action of the Council of the British Medical Association in regard to its method of conducting negotiations with the Government.

SOUTH SUFFOLK DIVISION.

A MEETING of the South Suffolk Division was held at Ipswich on Friday, December 8th. Dr. E. ROWLAND FOTHERGILL attended on behalf of the Central Office and addressed the meeting.

National Insurance Bill.—The following resolutions were passed:

That this meeting of the South Suffolk Division of the British Medical Association considers that the Council, in recommending Mr. Smith Whitaker to accept the appointment of Deputy Chairman of the Insurance Commission, acted in the best interests of the profession, and heartily supports their action.

That the South Suffolk Division urges the British Medical Association to advise their various Divisions to use further efforts to induce every member to sign the various documents showing their disapproval of working under the National Insurance Bill, and suggests that suitable members in each Division be appointed to personally approach each such individual in order that they may now join the union of the British Medical Association.

EAST YORK AND NORTH LINCOLN BRANCH:

NORTH LINCOLNSHIRE DIVISION.

A MEETING of the practitioners of North Lincolnshire was held at the Grimsby and District Hospital on December 9th to discuss the recent action of the Council of the Association in the matter of the National Insurance Bill. About forty practitioners were present. A heated discussion took place, and ultimately the following resolution was adopted unanimously:

This meeting is of opinion that the provisions of the National Insurance Bill, as finally drafted, do not incorporate the six cardinal points to which the profession unanimously pledged itself.

That they do not secure effectual means whereby the practical working of the bill can be carried out in absolute conformity with the principles of these six points.

And, therefore, that the Council of the British Medical Association should call upon all members of the profession to decline to form a panel or to undertake any duties which the regulations under the bill assign to them until they know what these duties are.

A second resolution, of which notice had been given, and which expressed disapproval of the Council's recent action, especially in recommending Mr. Smith Whitaker to accept the Deputy Chairmanship of the Insurance Commissioners, was not proposed.

EDINBURGH BRANCH.

A MEETING of the Branch Council was held on Friday afternoon, December 8th, in association with representatives from Aberdeen, Perth, Fife, Dundee, and Stirling Branches (representatives from Glasgow, Northern Counties, and Southern Counties were unavoidably prevented from being present).

National Insurance Bill.—The following resolutions were unanimously adopted:

1. That the Council be requested to publish the narrative of the proceedings in connexion with Mr. Whitaker's appointment.
2. That, while the meeting recognizes that the present excitement and the disturbance of confidence in the Council have resulted from incomplete information as to Mr. Whitaker's appointment, it is convinced that the British Medical Association is the only body which adequately represents the profession in Great Britain, and it urges all members to remain loyal to the Association during the present crisis.
3. That, in the event of the National Insurance Bill becoming law, this Branch Council, in association with representatives from other Branches in Scotland, unanimously determines that the British Medical Association shall continue to insist on its demands being carried into effect through the local Medical Committees.
4. That the following telegram be sent to the Chancellor:

   The Edinburgh Branch Council, in association with representatives from several Branches in Scotland, unanimously resolved to-day that the Medical Commissioner for Scotland should be a man who has had large experience in Scottish general medical practice.

5. As Scotland has been separated from England under the Act, and is to have a separate Insurance Commission and a separate fund, that it be an instruction to the Representative of this Branch on the Scottish Committee of the Association to bring before that committee at its meeting on Saturday, December 16th, the urgency of obtaining permission from the Central Council to act as the Scottish Executive of the Association under the Act, and to consider the desirability of having the present constitution of the committee modified, and the necessity of having a paid secretary and an office in Scotland.

LANCASHIRE AND CHESHIRE BRANCH:

Blackpool Division.

A general meeting of the Division was held on November 29th, at 7.45 p.m. Dr. Rhodes (Chairman) presided, and there were present Drs. Edith Johnson, Barton, Stewart, McIntosh, Hill, McCandlish, Baird, Anderson, Nuttall, Sprawson, and Rees Jones.

Confirmation of Minutes.—The minutes of the general meeting held on November 21st were approved and signed.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Dora Bunting, Carr, Dunderdall, and J. Johnson.

Correspondence.—Letters of November 25th and 27th from the Medical Secretary were read.

Special Representative Meeting.—A report on the Special Representative Meeting was given at length by Dr. Barton, the Deputy Representative. Questions and general discussion followed.

Vote of Thanks.—The best thanks of the Division were expressed to Dr. Barton for his report and for his services as Deputy Representative.

Canvass of Profession.—Communications from the Medical Secretary were read, and it was resolved that a meeting of the Executive Committee be called at an early date to consider and carry out the canvass.

Resignation of Honorary Secretary.—The Honorary Secretary submitted his resignation. No decision was arrived at further than that the matter be considered by the Executive Committee.

Bolton Division.

A general meeting of the Bolton Division was held on Wednesday, December 6th, at the Bolton Infirmary, at 8.30 p.m. Non-members were invited. There was an attendance of forty-nine. Dr. Flitcroft in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and approved.

Apologies for Non-attendance.—Apologies for absence were read from five members.

Special Representative Meeting.—Dr. Flitcroft gave his report as Representative of the proceedings at the Representative Meeting held in London on November 23rd and 24th. The report was received.

Defence Fund.—The Chairman, referring to the Defence Fund. suggested that an amount equal to 10 per cent. of the guarantee might be ear-marked for local uses.

National Insurance Bill.—Dr. Robinson, of Dunscar, moved the following resolution:

> That this meeting regrets that Mr. Smith Whitaker should accept the office of Commissioner under the Insurance Bill, and disapproves of the action of the Council in supporting his action.

Dr. Thornley seconded. It was carried by a majority of 1 (19 for the resolution, 18 against). Dr. Jefferies moved the following resolution:

> That this, the Bolton Division of the British Medical Association, recommends the Council to make immediately a Referendum of the whole profession on the following question:
>
> "Are you in favour of the Council now breaking off negotiations with the Government and refusing to work the National Insurance Bill?"

Dr. Robinson seconded the resolution, which was carried. Dr. Rolland suggested that this resolution be sent to all the Divisions of the Lancashire and Cheshire Branch and some of the neighbouring Branches. This was agreed to. Dr. Thornley moved that the consideration of the Defence Funds be postponed to a future meeting to be held after a mass meeting of the profession which it is proposed to hold in Manchester in a few days' time.

Vote of Thanks to the Representative.—Dr. Laslett proposed a vote of thanks to the Representative for his services at the last Special Representative Meeting. Dr. Taylor seconded, and it was carried.

Burnley Division.

National Insurance Bill.—At a meeting of this Division (forty-four members present) the following resolution was adopted:

> That this Division is of opinion that the Council of the British Medical Association is guilty of a grievous error of judgement in sanctioning the appointment of Mr. Smith Whitaker as Deputy Chairman of the Insurance Commissioners previous to the Government's acceptance of the six cardinal points, of which they have full knowledge, and which have been accepted as the minimum basis by the profession throughout the country, and that they have in so doing placed the medical profession throughout the country in a false position.

Glossop Division.

An open meeting of medical practitioners of this district was held on December 7th.

National Insurance Bill.—The following resolutions were passed, the first unanimously, the second with only one dissenting vote. Twelve practitioners were present, seven being members of the Glossop Division.

1. That this meeting of medical men of Glossop and district is of opinion that the provisions of the National Insurance Bill as finally drafted do not incorporate the six cardinal points to which the profession unanimously pledged itself. That they do not secure effectual means by which the practical working of the bill can be carried out in absolute conformity with the principles of these six points, and that *therefore the Council of the British Medical Association should at once call on all members of the medical profession to decline to form a panel or to undertake any duties which the bill proposes to assign to them.*
2. That this meeting expresses its strong disapproval of the action of the Council of the British Medical Association
   (*a*) In regard to its method of conducting negotiations with the Government.
   (*b*) In recommending the appointment of the paid Medical Secretary of the British Medical Association to the post of Commissioner under the bill,

   and accordingly demands the resignation of the Council forthwith.

Salford Division.

National Insurance Bill.

A meeting of this Division was held on November 21st, to consider the special report of the Council on the Insurance Bill, the chair being taken by Dr. R. B. Fletcher.

Recommendations of Council.—Recommendation A, that the Association should press for the amendment of the Harmsworth amendment as suggested, was adopted by 16 votes to 4. The other recommendations were adopted unanimously. As a rider to Recommendation L it was resolved by 11 votes to 5 that:

> The six cardinal points of the policy of the Association must in the opinion of this Division be in the bill.

A further meeting of the Division was held on December 8th, Dr. Fletcher in the chair, specially to consider the following motion:

> That the Salford Division is of opinion that the action of the Council in not breaking off all negotiations with the Chancellor, failing the embodiment of the six cardinal points in the Insurance Bill, is hostile to the best interests of the medical profession, and once more insists that the Council adhere strictly to their professed policy which has already received the unanimous approval of the profession.

This was proposed by Dr. Pinder, seconded by Dr. Hodgson, and on a vote carried by 25 for and 11 against.

METROPOLITAN COUNTIES BRANCH:

Chelsea Division.

National Insurance Bill.

Dr. Young presided at a meeting called by the Chelsea Division of the Metropolitan Counties Branch of the British Medical Association held at Fulham Town Hall, on December 12th. The object of the meeting was to "receive an explanation of the action of its representatives on the Council of the British Medical Association in

approving the appointment of Mr. Smith Whitaker as one of the Insurance Commissioners." The tone of the meeting at the outset was somewhat hostile towards the action taken by the Council, but at the close of the proceedings a more harmonious spirit prevailed. The following members of the Council—Sir Victor Horsley, Dr. Major Greenwood, Dr. Keay, Dr. Lauriston Shaw, and Dr. Rice-Oxley—were present.

The CHAIRMAN, in opening the proceedings, said that although the Council had approved the appointment of Mr. Smith Whitaker, and this course had been supported by three out of four of their local representatives, from his personal knowledge of the Division he could say that their action had aroused considerable hostility. The feeling was that the Council had acted contrary to the spirit of the resolutions passed by the Representative Meeting, and, by sanctioning the appointment, had agreed to the principles of the bill, and to carrying it out as it stood at present. Members of the profession understood that they would not work under the bill unless they got the six cardinal points. Now, from the leading article in last week's JOURNAL, and a communication received that day, it would seem that medical men were to work the bill and form local committees. They ought to have nothing to do with the bill even by forming local committees. Recent events had led to great distrust of the Association by members of the profession.

Dr. MAJOR GREENWOOD said he was in the unfortunate position of being practically the only member of the Council who had voted against Mr. Smith Whitaker's appointment. It was actually claimed that the Council would not have been doing its duty if it had not recommended the appointment. He was not going to question the argument that Mr. Smith Whitaker was the best man for the post, but he asserted that under the circumstances he was an impossible man. He had organized the Association for nine years, and now, before the battle took place, he was handed over as a free gift to the Government. He did not want to charge his colleagues with corrupt motives. but he agreed with the Northumberland and Durham Division that the Council had shown "gross want of judgement." He was as grieved as anybody that this division of opinion had arisen, but he was indignant at the suggestion of the Council that those who raised the protest were responsible for the division. The only way to save the Association was to summon a Representative Meeting at the earliest possible moment on the subject of the vote of a fortnight ago.

Sir VICTOR HORSLEY first criticized various statements in the minutes of the Division, which, he said, were quite an inaccurate account of what happened. It had never been intended, for instance, as the minutes stated, that the six cardinal points should be embodied in the bill; neither had the Council been given credit for useful amendments obtained to the measure. Through their efforts Mr. Lloyd George had accepted the formation of local committees of the profession and had made the clause permitting the local committees to consult them a compulsory one. Nothing was said about that in the minutes of the Chelsea Division, and yet it was the basis of the whole fight that was coming. This agitation had started from wrong premisses. It was ridiculous to talk about fighting now; the fight must take place locally. Proceeding to explain his vote in the matter of Mr. Smith Whitaker's appointment, Sir Victor Horsley first reviewed the course of events. The Insurance Bill, he said, was going through over the heads of the profession, and what was their greatest danger? Surely that when they came to the real fight in the Divisions they would have on the central body a Government medical officer supposedly representing the profession but really knowing nothing about its wants. The result would be that at the very centre of this administration they would have a hostile influence to deal with. What was Dr. Major Greenwood's alternative? To do nothing?

Dr. MAJOR GREENWOOD: There was the amendment.

Sir VICTOR HORSLEY said that the amendment was that the Council should put its head in a sack and do nothing. That was not his notion of fighting. They had to make the best of a bad situation. There was no time to consult the Representative Meeting; the House of Commons had asked Mr. Lloyd George for the names of the Commissioners by the following Tuesday. The Council had to act, and its idea was to put the best man they knew in the position, to be on the side of the profession, and not have a man who was hostile. That was the ground on which he voted, and he had great pleasure in giving his reasons.

Dr. RICE-OXLEY first cleared the ground by obtaining the agreement of the meeting with the statement that up to this point the Council had carried out the behests of the Representative Meeting. What alternative had the Council to the action it had taken? He thought Mr. Whitaker was the best man, practically the only man for the position. Was it likely that a man who had been so devoted to the Association would now prove a traitor? The crux of the whole fight would come when the bill was in actual operation, probably a year hence. There was plenty of time in the meanwhile for the profession to make its wants known to the Commissioners, and was it not much better that they should have a friend amongst the Commissioners than a possible enemy or one who did not know what they wanted? He personally was not ashamed of the action he took.

Dr. LAURISTON SHAW said that in the history of this agitation there had been on three occasions a strong attempt in the councils of the medical profession to wreck this bill, but it had always failed. The great common sense of the profession said that that line was not business. They should seek to make the bill a suitable means for their advancement, and to enable them to do their great work of healing the sick. If they failed, then would be the time to use the strike weapon, and say that the profession would not be treated in the manner proposed. He believed that the action of the Representative Meeting in trying to make the best of the bill was in accordance with the wishes of the majority of the profession, and that was the belief of every member of the Council, except Dr. Greenwood. They wanted to make sure that the six cardinal points should be included in every local agreement. How could that possibly be secured better than by putting on this Commission, which had enormous power—most of them thought that no Commission should have such power—one of their own representatives? Replying to an interruption to the effect that the Council should have refused and that Mr. Lloyd George ought to have been unable to find any man ready to act on the Commission, Dr. Shaw retorted that the Council's instructions were not to emasculate the bill, but to make it strong from a medical point of view. If the meeting voted against the Council it would be voting in reality against its own interests, and in a way which would stultify its previous decision to make the best of the bill. Some members talked as though this bill was the end of all things; he regarded it as the beginning of all things. They had just got the beginnings of a new organization of civilization which made it impossible for them to go on as private individuals. The State must play a larger and larger part in the ordinary relations of life. Almost immediately there must be a tremendous organization of institutional treatment, the Poor Law must be modified, and a Ministry of Public Health formed. For all these things the medical profession must keep together; for Heaven's sake let them do so, and not help the enemies of trade unionism in the profession, and the enemies of the Association, who were taking the most prominent part in this agitation.

Dr. FLETCHER thought the Council should have refrained from recommending Mr. Smith Whitaker to the position, and, as it was impossible to call a Representative Meeting, the meeting held on November 23rd and 24th should have been informed of the negotiations in progress. That would have been more ingenuous on the part of the Council.

Dr. LEWIS moved: "That in the opinion of the meeting Mr. Whitaker should be at once relieved of his position as Medical Secretary," but, on Sir VICTOR HORSLEY stating that the Council had already suspended him, this motion dropped.

Dr. LEE expressed the opinion that the defence of the Council's action by their representatives had been a very feeble one. The effect of what had happened was that their principal officer had gone over to the enemy's camp and the Council had been guilty of a distinct breach of faith.

Dr. J. JACKSON, M.O.H. Fulham, said the impression

generally was that all members of the Association who had signed the six cardinal points had bound themselves not to take office or work under the bill.

Sir VICTOR HORSLEY here asked that the agreement might be read, and pointed out that it referred only to actual treatment. It was specifically agreed by the Representative Body not to extend the pledge further so as to include posts such as that of Commissioner.

Dr. BUTLER moved:

> That a Representative Meeting should be called to take into consideration the action of the Council.

There were two men, he said, aware at the Representative Meeting on November 23rd and 24th of the negotiations, and it was the bounden duty of one or other of them to have informed the meeting. He was glad to think that other members of the body did not know of the matter.

A Voice: Not officially.

Sir VICTOR HORSLEY (with some heat): "Or otherwise, sir." Sir Victor went on to explain the circumstances, showing that at that time the negotiations with the Chancellor were closed, and therefore were not communicated to the Council. They had never got further at that time than a private conversation between Mr. Lloyd George and Dr. Maclean, and it was not until a week later that the Prime Minister's letter reopened the matter.

Dr. KEEN then moved:

> That having heard the explanation of our representative, this Division sees no reason to disapprove of a consent which has been given to Mr. Smith Whitaker for appointment.

He thought it obvious that the best course had been followed, and that if some one else had been appointed it might have been much worse for the profession. What was the good of wrecking the Council and the Association and giving Mr. Lloyd George every point in the game? Mr. Lloyd George had all along relied on the disunion of the profession, and he certainly never had better excuse than the proceedings at that meeting.

Dr. M. G. WILLIAMS seconded. He said that at first he was very much concerned at what had been done, but on further consideration he thought the Council was right.

This amendment, however, was ruled out as a direct negative, and Dr. Butler's motion was carried by 20 votes to 10.

Dr. FLETCHER then moved:

> That the Council has forfeited the confidence of the Division, and should be required to resign forthwith.

The motion having been seconded,

Dr. O'SULLIVAN strongly criticized the proposal. Having regard to the conscientiousness of the Council in dealing with the interests of the profession, the motion was preposterous. He was against the bill, but he did not deny himself the right of judgement, and he was prepared to give the Council fair play, which they had not received at the hands of that meeting. The Council was so placed that it could not help its action, and it had secured the appointment of the best man possible.

Dr. A. F. MILLAR declared that it was a case of a dangerous opponent being purchased by the Government. Nevertheless, he did not think the action of the Council was treacherous or that a vote of censure was called for.

Dr. J. HAMILTON moved an amendment:

> That the Division has full confidence in the Council, thanks them for the efforts they have made in interpreting the wishes of the Representative Meeting, and trusts that they will continue their endeavours to secure the unanimity and combination of the profession.

He declared that the only thing that could harm the profession would be a split. He did not agree with some of the instructions of the Representative Meeting, but the Council had simply carried out those instructions. In regard to the appointment, the bill was practically law, and whether they agreed with it or not they were wise in doing all they could to have a friend of the profession on the central body.

Dr. J. F. KEAY (Greenwich) said that as a strong supporter of the Association who had worked hard for many years without thought of reward, it was most galling at this stage to be branded as a traitor and to be told that he had sold his profession. Was it likely that medical men toiled at this gratuitous work in order to "sell the profession"?

The motion of censure was then withdrawn, Dr. BUTLER remarking that the explanation by Sir Victor Horsley had made it clear that the Representative Meeting could not have been informed of the proposed appointment.

The amendment was carried, and on being put to the meeting as the substantive motion was carried.

The proceedings concluded most amicably with a vote of thanks to the members of the Council, who were informed that their explanations had been satisfactory, and had changed the opinions of the meeting.

HAMPSTEAD DIVISION.

A MEETING of this Division was held on Friday, December 8th, at 8.30 p.m., at the Conservatoire, Swiss Cottage. The meeting had been called to consider the draft Ethical Rules and the action of the Council in recommending the appointment of Mr. Smith Whitaker as Medical Insurance Commissioner. Sixty-two members were present.

Confirmation of Minutes.—The minutes of the last meeting, having been published in the JOURNAL, were taken as read.

Guarantee Fund.—A letter was read from Dr. Cox, the Deputy Medical Secretary, in answer to a question as to the time limit of the guarantee.

Organization Committee.—A letter from the Honorary Secretary of the Organization Committee of the Branch was referred to the Organization Committee of the Division.

National Insurance Bill.

The CHAIRMAN (Dr. Oakley) announced an alteration in the order of the agenda, so that the action of the Council might be considered first. A few letters on the subject were read, two expressing approval and four disapproval. Mr. F. R. HUMPHREYS then proposed the following resolution:

> That the Hampstead Division dissociates itself in the strongest possible manner from the action of the Council in recommending to the Medical Secretary his acceptance of the post of Deputy Chairman of the Commissioners to be constituted under the National Insurance Bill, adheres to the resolution passed at its meeting on November 21st, and calls upon the other Divisions in the country to join with it in its repudiation of the action of the Council.

He thought the Council owed an explanation to the whole profession. Constitutionally the Council had the responsibility for action in an emergency, but on this occasion there had obviously been time between November 28th and December 2nd to ascertain the feeling of the profession. The Council, by its whole policy, not merely by its action in regard to the appointment of a medical Insurance Commissioner, had broken up the unity of the profession. He urged the necessity for maintaining that unity.

Dr. RAWES, in seconding, said he did not understand why it was necessary that Insurance Commissioners for England should be appointed before the bill became law. He thought the prematureness of the action showed that it had been meant as a bribe, and aimed at breaking up the Association. He feared that under the bill they would become merely friendly society officers.

Dr. OPPENHEIMER pointed out that the resolution proposed by Mr. Humphreys was in substance a vote of censure on the Council for having recommended Mr. Whitaker to accept the post offered by the Government. The action of the Council was merely incidental to the policy of looking, for the satisfaction of the demands of the profession, to the Regulations under the Bill and to the arrangements to be entered into with the local Insurance Committees, instead of insisting upon the embodiment of the six cardinal points in the bill itself. Although they strongly disapproved of this policy, they must not cast the blame on the Council alone. True, the Council strongly urged its adoption; but two Representative Meetings had supported it—that at Birmingham by an overwhelming majority; that held in London in November with a reduced but still substantial majority. The Representative Body, therefore, must bear the greater responsibility and the greater blame. The Divisions, when considering the question, had only the views of the Council placed before them; for, unfortunately, the BRITISH MEDICAL JOURNAL was not the organ of the Association but of its Council, and it was most difficult to obtain the insertion in its pages of communications opposed to the official view. (Loud applause.) The Council was blamed

for recommending Mr. Whitaker to accept the post before the six demands had been fully conceded. Since the Representative Body had instructed the Council not to insist upon the incorporation in the bill of the six demands, but to promote by all means in their power their extra-legislative realization, the Council might have seen in the appointment of Mr. Whitaker to the post of Deputy Chairman of the Commission one of the most effective measures for furthering the Association's policy. The action of the Council had undoubtedly raised a storm of indignation throughout the profession, but there was no evidence that it had not acted in good faith, and nothing to show that it was guilty of an error of judgement. What courted criticism was the action of the Chairman of Representative Meetings who, at the Representative Meeting of November 24th (see BRITISH MEDICAL JOURNAL, SUPPLEMENT, November 25th, p. 527), indignantly repudiated the insinuation that he would accept a position under the bill, while it appeared from his own speech before the Central Council (see SUPPLEMENT, December 9th, p. 586) that already on November 20th the Chancellor of the Exchequer had intimated to him that he had already put the name of Mr. Smith Whitaker before the Prime Minister. It certainly required an explanation why, on November 24th, he did not take the opportunity to ascertain, quite generally and without betraying the Chancellor's apparently confidential communication, the wishes of the Representative Body in regard to the course of action to be taken if the question of the appointment of one of the officials of the Association should arise. The impression left on his mind "that *in all probability* the matter would not arise again" could hardly be regarded as a sufficient or satisfactory reason for his silence.

Dr. MILES MILEY, referring to the last point in Dr. Oppenheimer's speech, mentioned that he had sent a letter of protest to the JOURNAL, and presumably many such had been sent, since by return of post he received a printed letter asking him to reserve judgement until after reading that week's SUPPLEMENT. Surely, of the many letters received, some must have been worthy of being printed in the JOURNAL.

Dr. MACEVOY strongly opposed the resolution. He pointed out that it was the policy of the Representative Meeting that all the six points could not be included in the bill. He considered the important fact now for the profession was the Regulations under the Bill; that to censure or even to criticize the Council in regard to one special act was impolitic, and they must not fail to appreciate, as indicated in Sir James Barr's letter published in that week's JOURNAL, the efforts of the Council on their behalf. As to the acceptance of office by Mr. Smith Whitaker, it had been approved by 38 against 3 members of the Council. The Council was not asking them not to fight hard for the six cardinal points. He considered that the Harmsworth amendment could not be withdrawn; it protected the club doctors. Unity was more important than ever, as the fight was only beginning.

Dr. STOCKER agreed with Dr. Macevoy that the appointment of the medical Insurance Commissioner was unimportant in comparison with the six cardinal points. Practically it was a red herring drawn across their path. Inclusion of these points in the bill was absolutely impossible for parliamentary reasons.

Dr. MINA L. DOBBIE spoke against the resolution, and described it as a wrecking resolution, although its proposer accompanied it by an appeal for unity. One of the speakers, and one of the letters read, implied that the members of the Council and the Medical Secretary of the Association were open to bribery. Did the Association elect such people to office? The profession seemed far from clear as to its motives in opposing the bill. It had, of course, a right to object to being compelled to treat a large number of patients on contract practice lines. In that case, it ought to have refused to discuss the bill at all, except on an income limit basis. They had been told that they left it to the Council whether the income limit should be made statutory or not. Having made that fundamental mistake, they had only succeeded in getting the principle of the income limit accepted, while the mechanism for carrying it out was left to the Insurance Committees. Surely the difficulty of carrying it out was a reason for maintaining their unity, and not a reason for passing wrecking resolutions.

Dr. JESSOP asked what the Council had gained for them under the bill.

Dr. E. L. PRITCHARD spoke in favour of the resolution. He thought that the only point the Council had gained for them after all the fighting was a point which benefited the general public—namely, the free choice of doctors. It was obvious that the Representative Body did not represent the profession. Mr. Lloyd George had done more than any one to unite the profession; if cement were needed Dr. Addison had supplied it.

Dr. WARE referred to the report of the proceedings of the Council and Mr. Smith Whitaker's speech in that week's JOURNAL, which clearly showed that no dishonourable motive could be imputed either to him or to the Council. Such an imputation was absurd. The Representative Body shared the responsibility of their policy with the Council, but allowed itself to be dictated to. He thought it was necessary either to form a United Kingdom Association or to exclude the colonial vote on such questions. Naturally the colonial vote was given in favour of the Council's policy. He appealed to those present to stick together. Disunion meant defeat.

Dr. GLOVER thought Mr. Smith Whitaker should have said he could not part from the profession at this stage of the fight.

Dr. PERCY EVANS disapproved of the action of the Council, but appealed to the meeting to drop all resolutions which might tend to divide the profession.

Dr. RAYNER thought the action of the Council unwise.

Dr. CUNNINGTON said the Council was in the position of the generals of the army; they were the rank and file. It would be unwise to change generals in the middle of the fight.

Drs. KINGSFORD, CLUTTERBUCK, and TRAYLEN also spoke in favour of keeping a united front.

The resolution was put and lost, 17 voting for, 22 against.

The following resolution was then proposed by Dr. COODE ADAMS, seconded by Dr. MILES MILEY, and carried by a large majority, only 2 voting against it.

> That the appointment of the Medical Commissioner should in no way alter the position taken up by the Association.

The following resolution, proposed by Dr. OPPENHEIMER, and seconded by Mr. WARE, was carried by 24 votes to 9.

> That in the opinion of this Division the silence of the Chairman of Representative Meetings at the Representative Meeting on November 24th, when making a personal statement, requires explanation. This Division holds that in the light of the knowledge he had acquired on November 20th, it was his duty to ascertain the opinion of the Representative Meeting as to the line to be pursued by the Council if approached by the Government in reference to the appointment of a Medical Insurance Commissioner.

SOUTH-WEST ESSEX DIVISION.

A MEETING of this Division was held on Thursday, November 23rd, at the Grove Hall, Wanstead, at 4 p.m. Dr. C. J. HORNER presided, and twenty-six members and friends were present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Letter.—A letter from the Kensington Division was read.

Apologies for Non-attendance.—Apologies for non-attendance were received from Drs. C. F. Harford and Robert Jones.

Lantern Demonstration.—A lantern demonstration entitled "Eczema, its Diagnosis and Treatment," was given by Dr. H. G. ADAMSON, Physician, Skin Department, St. Bartholomew's Hospital. The following is a synopsis:

Definition.—A catarrhal inflammation of the skin of non-microbic origin occurring as the result of local irritation in a predisposed person. Clinically the condition is characterized by more or less circumscribed red oedematous areas studded with weeping points or pinhead sized vesicles or crusts. It is accompanied by itching. It shows a tendency to subside when protected and is made worse by local irritation of even the mildest sort.

Limitation of the field of eczema by the removal of certain microbic eruptions formerly confused with eczema, namely:

1. *Impetigo Contagiosa* of Tilbury Fox—of streptococcal origin.
2. *Impetigo* of Bockhart—of staphylococcic origin.

3. *Seborrhoeic Eczema* of Unna—probably neither an eczema nor a seborrhoea, but a microbic infection related to the impetigos.
4. Many forms of so-called *Chronic Eczema*, which are in reality chronic impetigos.
5. Certain forms of *Ringworm of the hands and feet.*

Other eruptions often confused with eczema:

6. *Dysidrosis* or *Cheiro-pompholyx.*
7. *Lichenification.*
8. *Pityriasis alba.*

But eczema still remained a very common disease.

Pathology and Etiology of Eczema.

Chief Clinical Types of Eczema.—(1) Occupation or trade eczema. (2) Nummular or patchy eczema. (3) Erythematous eczema. (4) Chronic eczema. (5) Eczema of the palms and soles. (6) Infantile eczema.

Diagnosis of Eczema.—From scabies, erysipelas, psoriasis, lichen planus, impetigo (acute and chronic), ringworm of the hands and toes.

Treatment of Eczema.—The keynote of the treatment of eczema is *protection from local irritation.*

1. Continuous wet dressings and baths.
2. Zinc ointments, pastes, and creams.
3. Lenigallol, silver nitrate, and *x* rays

Other forms of treatment.

The lantern slides included:

Symptoms often Confused with Eczema.—Impetigo contagiosa—several examples. Sycosis menti. Impetigo of Bockhart. Seborrhoeic dermatitis—several examples. Flannel rash. Chronic impetigo. Cheiro-pompholyx. Lichenification. Ringworm of the foot.

Eczema.—Histology of eczema. Trade eczema. Patchy eczema—several examples. Eczema of palm. Infantile eczema. Eczema in childhood. Eczema of nails.

Diagnosis and Treatment.—Treatment of eczema in infants. Psoriasis. Lichen planus, etc.

A discussion followed the demonstration, in which the following took part: Drs. SAMUELS, JEKYLL, HORNER, BERRILL, HARDING, TOMKINS, and HICKMAN.

Vote of Thanks to Dr. Adamson.—A vote of thanks to the lecturer was proposed by Dr. HICKMAN and seconded by Dr. DENNING, and given with acclamation. Dr. ADAMSON thanked the meeting, which then ended.

STRATFORD DIVISION.

A SPECIAL meeting of the Stratford Division was held on Thursday, December 7th, at the West Ham Hospital, Dr. SANDERS presiding, eighty members being present. The members of the Council present were: Sir Victor Horsley, Dr. Lauriston E. Shaw, and Dr. Major Greenwood, Dr. A. J. Rice-Oxley being prevented by a previous engagement from attending.

National Insurance Bill.—After the correspondence had been read, the following resolution, proposed by Dr. TOLAND and seconded by Dr. CHALLANS, was moved:

> That this meeting of the Stratford Division views with great concern the appointment of Mr. Smith Whitaker as the Deputy Chairman of the Insurance Commissioners while the acceptance or refusal of the medical profession to work under the National Insurance Bill is still *sub judice*, and desires to express its strong disapproval of the Council's action.

The members of the Council addressed the meeting, and a free discussion ensued. The resolution was then put and carried by 53 votes to 16.

Local Canvass of Profession.—It was decided to leave the local canvass of the profession in the hands of the Executive.

NORTH OF ENGLAND BRANCH:

DARLINGTON DIVISION.

A MEETING of this Division was held at Darlington on November 21st.

National Insurance Bill.—The following resolution was unanimously passed:

> The members of this Division reaffirm that the six cardinal points of the policy of the British Medical Association represent the absolute minimum of the conditions under which the medical profession can possibly accept any work under the National Insurance scheme. And failing an entire compliance with each and all of these conditions, they request the British Medical Association to immediately organize a general refusal of all work under this scheme. And they hereby record their determination to support such refusal by every means in their power.

OXFORD AND READING BRANCH:

READING DIVISION.

A MEETING of this Division was held in the Hospital Library on Thursday, December 7th, at 3.30 p.m. There were forty-two members present. Dr. PRICE took the chair.

Confirmation of Minutes.—The minutes of the last meeting on November 22nd were read and confirmed.

Special Representative Meeting.

Dr. SECRETAN then gave a full report of the Special Representative Meeting held in London on November 23rd and 24th. At the conclusion of the report reference was made by him to the appointment of Mr. Whitaker as Deputy Chairman of the Board of Commissioners.

The SECRETARY then read two letters from the Central Office with reference to this appointment, and the meeting discussed the matter.

A resolution was moved by Dr. P. NAPIER JONES and seconded by Dr. SQUIRE:

> That this Division expresses its approval of the appointment of Mr. J. S. Whitaker as Deputy Chairman of the Board of Commissioners under the Insurance Act.

Several members strongly opposed this motion, which, however, was ultimately put and carried—21 for to 8 against. Several members abstained from voting. The meeting then closed.

SOUTH-EASTERN BRANCH:

DOVER, DEAL, AND WALMER DIVISION.

AT a meeting of this Division held on December 9th, at Dover, there were present: Dr. WOOD (Chairman), Drs. Murphy, Adamson, Best Menzies, Young, A. B. Hughes, E. A. Baylor, E. M. B. Payne, Baird, Mason, J. Wood, E. R. White, A. Powell, J. Graham, I. Howden, C. H. L. Palk, M. K. Robinson, J. B. Hulke, S. B. Hulke, J. R. Long, Brunyate, Day, and Osborn (Honorary Secretary).

Apology for Non-attendance.—A letter of regret for absence was read from Dr. Kersell.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

National Insurance Bill.

Dr. WOOD opened a discussion on the conduct of the Central Council, from the point of view of the medical profession and indirectly of the interests of the State.

1. Dr. HOWDEN then proposed, and Dr. BAIRD seconded, this resolution, which was carried unanimously:

> That this Division strongly condemns the action of the Council in recommending Mr. Smith Whitaker to take an administrative post under the National Insurance Bill and instructs the Secretary to unite with the other Divisional Secretaries in East Kent in arranging a mass meeting at the earliest opportunity of all the Divisions to discuss the matter.

2. Dr. OSBORN proposed the following resolution, which was seconded by Major PALK, I.M.S. (Representative), and carried *nemine contradicente*:

> That this Division censures the member of the South-Eastern Branch (Dr. Ewart, of Eastbourne) for his action at the Council meeting in supporting the acceptance by Mr. Smith Whitaker of the post of Medical Commissioner, and calls on him to immediately resign his post on the Council.

It was further resolved:

> That copies of this resolution be sent to the Secretaries of all the Divisions in the South-Eastern Branch requesting them to bring it before their Divisions as soon as possible.

3. Dr. HULKE proposed, and Dr. DAY seconded:

> That the Council request Mr. Smith Whitaker to terminate *at once* his duties at the head quarters of the British Medical Association.

which was carried unanimously.

MAIDSTONE DIVISION.

A MEETING of this Division was held at the West Kent General Hospital, Maidstone, on December 11th, at 3.30 p.m. Mr. A. T. FALWASSER was in the chair, and there were present Drs. Shaw, Killick, Bernard, Whitestone, Johnstone, Black, Oliver, Parr-Dudley, Wood, Lewis, Ground, Douglas, Potts, Gibb, Howarth, Harvey, Travers, Holmes, Young, Hoar, Forge, and Hallows. Drs. Bradford (Brenchley), Lord,

J. Jefferiss, W. R. S. Jefferiss (Chatham), Peyton (Gravesend), De Martini, Boal, Jones, Tott, and Southey attended as visitors.

Apologies for Non-attendance.—Dr. Joyce regretted his inability to be present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

The late Dr. Mapleton.—The CHAIRMAN alluded to the sad death of Dr. Mapleton, which had taken place so suddenly the day before, and he moved that a letter of sympathy with the widow and family in their bereavement be sent from this Division. Dr. W. DOUGLAS, in a touching speech, seconded the motion, which was carried unanimously.

Proposed National Medical Union.—Mr. R. H. W. JOHNSTON moved that the Maidstone Division of the British Medical Association urgently press upon the central body the necessity of organizing itself on the lines that have been found successful by other organizations that have succeeded in securing the standard of remuneration desired by their members. Mr. GIBB seconded. The resolution was carried by 28 to 5 against. Mr. R. H. W. JOHNSTON moved:

> That this meeting of the Maidstone Division form a committee who shall communicate with Dr. Helme as to the practicability of forming a National Medical Union.

Dr. LORD seconded. Mr. PARR-DUDLEY moved as an amendment that the above motion be postponed to a later meeting. Mr. JEFFERISS seconded. This was carried *nemine contradicente*.

National Insurance Bill.—The CHAIRMAN suggested that as there were several members present from the Chatham Division who were anxious to hear the Representative's report of the Special Representative Meeting of November 24th this be taken next. This was carried. Dr. DOUGLAS then gave his report of the proceedings of the Special Representative Meeting, and questions were asked by the members of the Chatham Division, which were answered by Dr. DOUGLAS. Mr. FORGE moved and Mr. JEFFERISS seconded:

> That this meeting most strongly condemns the action of the Council of the British Medical Association in recommending the Medical Secretary to accept the office of Deputy Chairman of the Commissioners to be constituted under the National Insurance Bill before they were first assured that the six cardinal points would be conceded to the profession.

This was carried by 16 votes to 5.

Proposed Scale of Fees.—Mr. R. H. W. JOHNSTON moved that the Division forthwith formulate the minimum scale of fees in accordance with the Rule "B" of the Bradford Ethical Rules, as adopted at the last meeting of the Division. Mr. TRAVERS seconded. This was carried *nemine contradicente*. Dr. DOUGLAS proposed that a committee be formed to draw up a scale of fees for the Division. Mr. JOHNSTON seconded. This was carried *nemine contradicente*. The committee to consist of Drs. Johnston, Forge, Shaw, and Strouts (if willing to act), the chairman and honorary secretary *ex officio*, the committee to have power to add to their number. Carried *nemine contradicente*.

ROCHESTER AND CHATHAM DIVISION.

A MEETING of this Division was held at St. Bartholomew's Hospital, Rochester, on Friday, December 8th. All the local members of the profession were summoned. Thirty-five were present.

Apologies for Non-attendance.—Letters and telegrams regretting unavoidable absence were received from fifteen other medical men.

National Insurance Bill.—The Association meeting took place first. The following resolutions were passed:

> That the Council of the British Medical Association have acted *ultra vires* in permitting the Medical Secretary of the Association to accept a paid post under Government without consulting the members of the Association, and are therefore deserving of strong censure.
>
> That this Division presses for the immediate removal of Mr. Smith Whitaker from the Medical Secretaryship of the Association.
>
> That a Representative Meeting be summoned at once to summarily break off negotiations with the Government.

General Meeting.—A general meeting of the profession followed, at which very severe comments were made on the present unsatisfactory position, the general opinion being that the rank and file of the profession had been sold, and that the most important of the six cardinal points had not been obtained. A firm determination to refuse to bargain for remuneration with committees of working men was manifest. From all sides came repeated determinations not to form a panel under the bill. Finally a resolution was adopted approving of the policy of the profession in Lancashire and Cheshire as communicated by Dr. Helme.

SOUTHERN BRANCH:

GUERNSEY AND ALDERNEY DIVISION.

A MEETING of this Division was held in the Division's Rooms on December 11th, thirteen members being present.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Leale, Semple, Gibson, and Le Page.

National Insurance Bill.—After dealing with the minutes of the last meeting and the correspondence, the meeting received the report of Dr. J. F. CARRUTHERS, Representative of the Channel Islands at the Special Representative Meeting of November 23rd. Dr. Carruthers gave a full account of the meeting and the decisions arrived at. He described the position of the profession under the bill as it stood after the third reading in the House, and gave his opinion as to the successes and failures which had attended the efforts of the Council to secure the six cardinal principles. He also gave his views as to the appointment of Mr. Smith Whitaker to the Deputy Chairmanship of the Insurance Commission. On the motion of Dr. M. H. BULTEEL, seconded by Dr. CARRUTHERS, the meeting agreed unanimously to reaffirm the three resolutions of the Representative Body contained in Minutes 24, 47, and 53 of the Special Representative Meeting of November 23rd. On the motion of Dr. BULTEEL, seconded by Dr. CARRUTHERS, the following resolution was passed with one dissentient:

> That this Division is of opinion that the Chairman of Representative Meetings should have declined to hold, apart from the Council, any private conversation with the Chancellor of the Exchequer on a matter so vitally affecting the Association as the appointment of the Medical Secretary to a post under the bill; but nevertheless considers that the Council has acted in the best interests of the profession in allowing Mr. Smith Whitaker to accept the Deputy Chairmanship of the Board of Insurance Commissioners.

WINCHESTER DIVISION.

A SPECIAL meeting of this Division was held in Winchester on December 7th.

National Insurance Bill.—The following resolutions were passed unanimously:

1. That this meeting is of opinion:
   (*a*) That the provisions of the National Insurance Bill as finally drafted do not incorporate the six cardinal points to which the profession unanimously pledged itself.
   (*b*) That the Council of the British Medical Association should call upon all members of the profession to decline to form a panel or to undertake any duties which the bill proposes to assign to the profession unless the regulations that may in future be passed absolutely and entirely satisfy the demands already expressed.
2. That this meeting expresses its strong disapproval of the action of the Council of the British Medical Association in regard to its methods of conducting negotiations with the Government, more especially its action in assuming the responsibility of the appointment of Mr. Smith Whitaker on the Commission.
3. That the Council be requested to suspend Mr. Smith Whitaker at once from all further action in the conduct of negotiations between the British Medical Association and the Government.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

MONMOUTHSHIRE DIVISION.

A SPECIAL meeting of this Division was held at the Savoy Hotel, Newport, on November 21st, to elect a Representative of the Division for the Representative Meetings for 1912 and 1913, and to consider the report of the Council of the Association *re* National Insurance Bill. Dr. H. C. BEVAN, the Chairman, presided, and the following members were also present: Drs. Basset, Hurley, Greer, Ryan, Mitchell, A. E. Jones (Crickhowell), MacCormac, James, G. H. Martin, Verity, O'Keefe, J. O'Sullivan (Cwm), J. D. O'Sullivan (Aberbeeg), Frost,

Gregg, Murphy, Connellan, de Gruchy, Nolan, Barnard, Burpitt, O. W. Morgan, D. N. Hughes, E. B. Hughes, Marsh, Crinks, Neville, E. T. H. Davies, Robertson, S. K. Adams, Daniels, E. M. Griffiths, J. L. Thomas (Brynmawr), Cowie, W. D. Steel, Glendinning, Hayles, Lloyd, Townley, and R. J. Coulter and S. Hamilton (Honorary Secretaries).

Apologies for Non-attendance.—Letters of apology for inability to attend were received from Drs. Howard Jones, Mulligan, Elworthy, Gratte, P. McGinn, and Garrod Thomas.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Election of Representative.—Mr. W. J. Greer was unanimously elected Representative for 1912 to 1913, and was heartily thanked for his past services.

National Insurance Bill.—The meeting proceeded to consider the recommendations of the Council, when it was proposed by Dr. MARSH and seconded by Dr. A. E. JONES:

> That as the bill is at present constituted and amended, it shall be opposed by every legitimate means in our power, and that the medical profession refuse to work under it.

After discussion an amendment was proposed by Dr. J. L. THOMAS and seconded by Dr. HURLEY:

> That consideration of Dr. Marsh's resolution be postponed until the recommendations of the Council have been considered.

The amendment was carried by 21 votes to 12. The recommendations of the Council (A to M) were then discussed seriatim and all approved unanimously. Dr. Marsh's resolution was then brought forward again and discussed at length, but owing to the lateness of the hour the meeting separated without any vote being taken.

STAFFORDSHIRE BRANCH:

NORTH STAFFORDSHIRE DIVISION.

A WELL-ATTENDED meeting of this Division was held on Monday, December 11th. The three minutes of the Representative Meeting in reference to future action by the Association were confirmed, and a resolution was carried to the effect that all medical men serving on the different committees set up under the bill should resign if the six cardinal principles were not embodied in the terms offered to the medical profession. The meeting enthusiastically agreed that there was no need for any separate organization of the profession in addition to the British Medical Association, as that body possessed all the necessary machinery.

[A detailed report will be sent later.]

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH:

HEREFORD DIVISION.

A SPECIAL meeting of the Division was held in the Board Room of the Hereford General Hospital on October 27th at 3 p.m.

Federation Scheme.

The meeting was convened to consider the desirability of increasing the powers of the Association in order to enable it:

1. To raise a compulsory levy.
2. To indemnify menaced members against loss arising from acting in accordance with the requirements of the Association.
3. To enforce an indemnity from members who act in opposition to the requirements of the Association.

On the invitation of the CHAIRMAN, Dr. DEVIS, of Bristol, addressed the meeting. He explained the scheme for "federation" suggested by the Bristol Division, and went on to say that he was quite in favour of the proposals on the agenda, as he considered that they would allow the Association to do all which he desired without in any way imperilling the unity of the Association. At the present time no one could go to a club doctor and promise him that he would be indemnified to the full for any loss that he might incur, nor could they, when the bill became law, go to a doctor with a middle-class practice and say to him, "If you will stick out and not work the Act, we can indemnify you should the State force your patients into a club with a blackleg as the doctor." Under either of the schemes now before them they could go with confidence and promise all that was necessary to make the doctor's mind easy on the score of loss of income.

Dr. HOLBECHE spoke in favour of the proposals, and expressed surprise that they were brought forward in the very room in which, only last June, the Branch had decided to have nothing to do with the resolution which Dr. Addenbrooke and he had brought forward for the purpose of turning the Association into a "trades union." It only went to show that they had travelled a long way since then.

Dr. C. S. FLEMMING, in an able speech, urged that the present Articles of the Association were working very well, and that it only needed a little more organization to bring in the remaining members of the profession. He pointed out that the Charter for which the Association had applied contained the proposals before them, but that they could not get them without giving up the licence of the Board of Trade to dispense with the word "limited" in the title.

Dr. NIELD spoke in favour of the "federation scheme," but said that he personally was quite willing to forgo it in favour of the proposals on the agenda, since they would give the profession the powers which it most needed. He thought it might be said that a doctor would be chary of accepting compensation from a voluntary levy, but that when the levy was compulsory he would demand it as a right. Another point was that a compulsory levy could be taken to an insurance company and capitalized, whereas this was impossible with a voluntary guarantee.

Dr. C. S. MORRISON laid great stress on the Association being able to bring in the two or three thousand newly qualified men who were being let loose on the public every year; and that if these proposals were adopted by the Association it should have something real to offer them.

After a discussion lasting nearly three hours, the following resolutions were carried:

> In the opinion of this meeting it is desirable that the powers of the Association should be increased in order to give it money-raising powers,

by 21 votes against 3.

> In the opinion of this meeting it is desirable that the powers of the Association should be increased in order to enable it to indemnify menaced members against loss arising from acting in accordance with the requirements of the Association.

This was passed *nemine contradicente*.

No resolution on the third proposal on the agenda was put to the meeting.

A SPECIAL meeting of this Division was convened (at the request of ten members) on December 9th.

National Insurance Bill.—The purpose of the meeting was to consider the following resolutions:

> This meeting is of the opinion that the provisions of the National Insurance Bill as finally drafted do not incorporate the six cardinal points to which the profession unanimously pledged itself; and that the Council of the British Medical Association should at once call upon all members of the profession to decline to form a panel or to undertake any duties which the bill proposes to assign to them.
>
> This meeting expresses its strong disapproval of the action of the Council of the British Medical Association in regard to its method of conducting negotiations with the Government, and accordingly demands the resignation of the Council forthwith.

The meeting was well attended, over half of the members of the Division being present. Dr. ARTHUR GREEN proposed the first of the above resolutions, and Dr. GUY THOMPSON seconded it. The debate, which lasted nearly two hours, practically covered the whole of the controversy on the National Insurance Bill, including the actions of the Council and the appointment of the Medical Insurance Commissioner. Drs. GREEN, THOMPSON, HARDING, and SHEPHERD spoke for the resolution, and Drs. FLEMMING, HERBERT JONES, MCMICHAEL, and HAMILTON WILLIAMS spoke against it. The resolution on being put to the meeting was lost. Whereupon Dr. MORRISON moved, and Dr. GOLD seconded, the following resolution, which was carried *nemine contradicente*:

> This Division emphatically reaffirms its resolution that, in the event of the regulations formulated by the Insurance Commissioners not conforming with the six cardinal points formulated by the British Medical Association, the Division

declines to form a panel; and, further, that a copy of this resolution be sent to every member of the Division.

The second resolution on the agenda was not moved at the meeting.

YORKSHIRE BRANCH:

HUDDERSFIELD DIVISION.

A LARGELY-ATTENDED meeting of this Division was held on December 8th.

National Insurance Bill.—The following resolutions were passed with three dissentients:

That the members of the Huddersfield Division of the British Medical Association, disapproving most strongly of the disingenuous action of the Council of the Association throughout the futile negotiations with the Government in connexion with the National Insurance Bill, culminating in their advice to the Medical Secretary to accept high office under the bill, demand the resignation of the Council forthwith, and pledge themselves in a body to join the National Medical Union when formed, and individually to use every effort to get non-members of the Association to join the union, feeling that only in this way can the profession be defended from exploitation by the Government of the day to the detriment of the public welfare.

That the Huddersfield Division strongly disapprove of Mr. Smith Whitaker, or any member of the British Medical Association, accepting or retaining any official appointment under the Insurance Bill unless the six cardinal points are incorporated in the bill.

That a copy of the resolution be sent to the British Medical Association, to the local press, and to every medical man in the district.

SHEFFIELD DIVISION.

A MEETING of this Division was held on Tuesday, November 21st; 122 members were present. Dr. ROBERT GORDON was in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apologies for Non-attendance.—Apologies for non-attendance were received from Dr. Cheesewright of Rawmarsh and Dr. Knight of Rotherham.

National Insurance Bill.

The SECRETARY reported that 98 per cent. of the men living in Sheffield had signed the undertaking against the bill, and also the result of the action that had been taken in raising a local defence fund.

The CHAIRMAN (Representative at Representative Meetings) gave an account of the present position of the medical profession towards the bill.

Dr. LONGBOTTOM said that the medical profession, being unimportant politically and somewhat unbusiness-like, were being made the "cat's-paw" of party politicians, that they were being asked to exchange miserable servitude under friendly societies, which some of them had found so trying that they were unable to go on with it, for the servitude of the Insurance Committee, and that in the future they would have to work under a council with powers equal to those of the General Medical Council, who could remove a man from the panel of those who could serve under the bill. The large increase in the membership of the Insurance Committee had greatly increased their power. He proposed the following resolution:

That inasmuch as the six cardinal points demanded by the British Medical Association have not been conceded in the National Insurance Bill, this meeting of the Sheffield Division of the British Medical Association instruct its Representative to bring forward, or support, a resolution that the medical profession refuse to accept service under the bill.

Dr. RECKLESS seconded.

Dr. TELLES pointed out that two of the six cardinal points demanded by the profession had been conceded, and that the profession had agreed that the question of remuneration should not appear in the bill. He thought that what had not already been conceded could be obtained after the bill was passed if the profession were unanimous.

Dr. SORLEY pointed out that the concession desired by the profession could not be obtained unless they were unanimous now and after the bill was passed. He said that so far from escaping from friendly society control the vast majority of the members of the local Insurance Committee would be members of friendly societies.

Dr. FORREST thought that no concessions were of any value unless they were placed on the Statute Book, and that the present time, when the profession were unanimous, was the time to obtain concessions, for after the bill was passed every effort would be made to disunite the profession. He said that the question of fees for medical men called in to assist midwives was not in the Midwives Bill, and therefore the profession got nothing; and the same applied to the medical treatment of school children.

Dr. CUFF felt that the bill as at present drafted did not concede free choice of doctor, and it should be so amended that each local Medical Committee was not left to fight the Insurance Committee. He felt that they should have nothing to do with any amendments unless they were incorporated in the bill.

The resolution was passed unanimously, and it was further resolved that the terms of the resolution be communicated to the local papers.

The meeting then considered the thirteen recommendations on the agenda for the Representative Meeting called for November 23rd.

Dr. FORREST proposed that the Association should press for the deletion of Clause 14, Subsection 4, and that no attempt should be made to amend it. This was unanimously agreed to.

Recommendations B, C, D, E, F, G, H, and I were carried unanimously.

As to recommendations J and K it was resolved:

That the question be left to the Representative after hearing the views of the Irish Representatives.

Recommendations M and N were agreed to unanimously.

Proposed General Meeting of Sheffield and Neighbouring Divisions.—It was then resolved that a general meeting of all the medical men in the Sheffield and neighbouring Divisions be called as soon as possible after the Representative Meeting.

Vote of Thanks to Chairman.—The meeting concluded with a vote of thanks to the Chairman.

MEETING AT OXFORD.

DR. W. COLLIER (Oxford), chairman of the meeting, writes:

A largely attended meeting of medical men practising in Oxford was held at the Radcliffe Infirmary on Friday evening last, when the following resolution was unanimously carried:

That the members present wish to strongly protest against the action of the Council of the British Medical Association in recommending their Secretary to accept the office offered him by the Prime Minister while the six cardinal points demanded by the Association remain ungranted.

All the members who voted were members of the British Medical Association, and wish to have this protest recorded in the JOURNAL.

***** The reports of Divisions above printed are all that have been received by the Editor up to the time (2.30 p.m., Wednesday, December 13th) when the Supplement to the forthcoming issue of the British Medical Journal (December 16th) has to be sent to press.**

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

THE following books were added to the Library between April and June, 1911:

Presented by the Authors.

Bidwell, L.: Intestinal Surgery. 1910.
Boyce, the late Sir Rubert: Yellow Fever. 1911.
Lake, Richard: Handbook of Diseases of the Ear, third edition. 1910.
Lockwood, C. B.: Appendicitis: Pathology and Surgery. 1906.
Miller, R.: Medical Diseases of Children. 1911.
Parkes and Kenwood: Hygiene and Public Health, fourth edition. 1911.
Sequeira, J. H.: Diseases of the Skin. 1911.
Smith, J. Kellett: Lateral Curvature of the Spine and Flat Foot. 1911.

Sherlock, E. B.: The Feeble Minded. 1911.
Tubby, A. H., and Robert Jones: Modern Methods in Surgery of Paralyses. 1903.
Warden, A. A.: English Handbook of the Paris Medical School, second edition. 1910.

Presented by the Chicago Pathological Society.
Contributions to Medical Science. By H. T. Rickets. 1911.

Presented by the Medical Officer to the Local Government Board.
Dr. Bulstrode's Report on Shell Fish other than Oysters in Relation to Disease. 1911.
Dr. Copeman's Report on Enteric Fever at Eccles. 1910.
Further Reports by various authors on Flies as Carriers of Infection. 1911.

Presented by Dr. Poulton, Adelaide, Australia.
Transactions of the Seventh Australasian Medical Congress, Adelaide. 1905.

Presented by Dr. George Simmons, Chicago.
Seventeen Fasciculi towards the Completion of the Archives of Internal Medicine.

Presented by the Superintendent of Government Printing, Calcutta.
Scientific Memoirs:
No. 41. Gilchrist, Captain: Quinine and its Salts, their Solubility and Absorbability. 1911.
No. 42. Rost, Maj: The Cultivation of the Bacillus of Leprosy. 1911.
No. 43. Semple, Lieutenant-Colonel Sir D.: On the Relation of Tetanus to the Hypodermic or Intramuscular Injection of Quinine. 1911.
No. 44. Semple, Lieut.-Col. Sir D.: On the Preparation of a Safe and Efficient Antirabic Vaccine. 1911.
The Annual Report of the Sanitary Commissioner with the Government of India. 1909.

Presented by Johnson Smith, Esq., F.R.C.S., Eastbourne.
Berger: Hernies en général, second edition. No date.
Broca: Chirurgie cérébrale. 1896.
Kocher: Operative Surgery. 1903.
Koenig: Lehrbuch der speciellen Chirurgie. 8 Aufl., 1905.
Marshall, J.: On Neurectomy and Nerve Stretching, being the Bradshaw Lecture for 1883, with Appendix. 1887.
Stoner: Handbook for Ship's Medicine Chest. 1904.
Tuttle: Diseases of the Anus and Rectum, second edition, 1906.
Zuckerkandl: Atlas und Grundriss der chirurgischen Operationslehre. 1905.
And other volumes duplicates.

Presented by the Right Hon. Lord Ilkeston, D.C.L.
Anderson, M'Call: Parasitic Diseases of the Skin. 1861.
Andral: Clinique médicale. 1835.
Balfour, G. W.: Diseases of the Heart. 1876.
Beaumont: Physiology of Digestion. 1838.
Begbie: Medicine. 1862.
Dolan: Summary of New Remedies. 1885.
Donkin: Harveian Oration. 1910.
Flint: Auscultation and Percussion. 1875.
Flint: Diseases of the Heart. 1870.
Fothergill: Aids to Diagnosis. 1880.
Gore: Scientific Basis of National Progress. 1882.
Graves: Clinical Medicine (Neligan). 1864.
Greenhow: On Addison's Disease. 1875.
Guipon: Dyspepsie. 1864.
Hawkins, C.: The Works of Brodie, 3 vols. 1865.
Hayden: Diseases of the Heart and Aorta. 1875.
Jaccoud: Leçons de clinique médicale. 1873.
Latham: Diseases of the Heart. 1846.
Mackenzie, M.: Growths in Larynx. 1871.
Maclagan: Germ Theory of Disease. 1876.
Peter: Leçons de clinique médicale. 1871.
Sansome: Diseases of the Heart. 1876.
Semple: Diseases of the Heart. 1875.
Smith, N.: Paralytic Deformities of the Lower Extremities. 1900.
Shapter: Diseases of the Heart. 1874.
Stokes: Diseases of the Heart and Aorta. 1854.
Thorowgood: Notes on Asthma. 1873.
Tooley, S. A.: History of Nursing in the British Empire. 1906.
Walshe: Diseases of the Lungs. 1871.
And other volumes duplicates.

Added to the Library through the "British Medical Journal."
Atkey, M.: Massage in Practice. 1910.
Bastian, H. C.: The Origin of Life. 1911.
Bischoff-Hoffmann, Schweining: Lehrbuch der Militärhygiene. 1, 2, 3. 1911.
Bishop, E. S.: Lectures on Surgical Nursing. 1909.
Bland-Sutton, J.: Gallensteine und Erkrankungen der Gallengange. 1910.
Caird: Cancer Research Laboratory; Communications. 1909-10.
Crackenthorpe: Population and Progress. 1907.
Crandon, L. R. G.: Surgical After-Treatment. 1910.
Freud, S.: Three Contributions to the Sexual Theory. 1910.
Freund, R.: Zur Lehre von den Blutgefässen der normalen und kranken Gebärmutter. 1904.
Gaskell, W. H.: The Origin of Vertebrates. 1908.
Gottschalk, S.: Gynäkologie. 1909.
Guermonprez: Secours aux blessés. 1903.
Haddon: Pocket Vocabulary. 1906.
Hartmann: Gynécologie opératoire. 1911.
Joseph, M.: A Short Handbook of Cosmetics. 1910.
Kehrer, E.: Physiologischen und pathologischen Beziehungen der weiblichen Sexualorgane zum Tractus Intestinalis. 1905.
Kermauner, F.: Beiträge zur Anatomie der Tubenschwangerschaft. 1904.
Krueger, R.: Die Phocomelie und ihre Uebergänge. 1906.
Longyear, H. W.: Nephrocoloptosis. 1910.
Macfarlane: Reference Handbook of Gynaecology for Nurses. 1908.
Malgat: La cure solaire de la tuberculose. 1911.
Manhattan Eye, Ear, and Throat Hospital: Nursing in Diseases of the Eye, Ear, and Throat. 1910.
Manton, W. P.: Syllabus of Lectures on Embryology. 1906.
Mercadé, S.: La période post-opératoire. 1910.
Mummery, P. L.: Diseases of the Colon. 1910.
Nagel, W.: Gynäkologie für Aerzte und Studierende. 1907.
Pearson—Nettleship—Usher: A Monograph on Albinism in Man. I. Drapers' Co. Research Memoir. 1911.
Petersen, A.: Berträge zur pathologischen Anatomie der graviden Tube. 1902.
Reed, Maj. W.: Yellow Fever. A compilation of various publications. 1911.
Robinson, B.: Landmarks in Gynaecology. 1901.
Scheuer, O.: Hautkrankheiten sexuellen Ursprungs bei Frauen. 1911.
Schridde, H.: Die eitrigen Entzündungen des Eileiters. 1910.
Smart, A.: Reports on Rinderpest. 1865.
Smart, A.: Germs, Dust and Disease. 1883.
Stoeckel, W.: Atlas der gynäkologischen Cystoskopie. 1908.
Toynbee, Gertrude: Reminiscences and Letters of Joseph and Arnold Toynbee. No date.
Wertheim, E.: Die erweiterte abdominale Operation bei Carcinoma Colli Uteri. 1911.
Willis, W. A.: Housing and Town Planning in Great Britain. 1910.
Winckel, F. von: Ueber die Missbildungen von ektopisch entwickelten Fruchten und deren Ursachen. 1902.

Calendars, Reports, and Transactions have been received from the following bodies:

American Association of Genito-Urinary Surgeons. Transactions, vol. v. 1910.
American Dermatological Association. Transactions, vol. 32. 1908.
American Pediatric Society. Transactions, vol. 22. 1910.
American Society of Tropical Medicine. Vol. v. Papers. 1910.
Board of Education Report. 1909-10.
Bengal: Lunatic Asylums Triennial Report. 1906-8.
Bengal: Report of Sanitary Commissioner. 1908.
Bengal: Short Notes on Vaccination. 1908-9.
Bombay: Report on Lunatic Asylums. 1906-8.
Bombay: Report of the Sanitary Commissioner. 1908.
Bombay: Notes on Vaccination. 1908-9.
Burma: Notes and Statistics on Hospitals and Dispensaries. 1905-8.
Burma: Report on Sanitary Administration. 1903.
Burma: Report on Lunatic Asylums. 1906-8.
Burma: Report on Vaccination. 1908-9.
Calcutta: Report on Charitable Dispensaries. 1908.
Central Provinces: Annual Sanitary Report. 1907.
Central Provinces: Report on Hospitals and Dispensaries. 1907.
Central Provinces: Report on Lunatic Asylums. 1907.
Central Provinces: Report on Vaccination. 1905-8.
Chief Inspector of Factories' Annual Report. 1910.
Connecticut. Annual Report of the State Board of Health. 1910.
Cremation Society of England: Transactions, vol. 24. 1911.
Eastern Bengal and Assam: Annual Sanitary Report. 1908.
Eastern Bengal and Assam: Dispensary Returns. 1908.
Eastern Bengal and Assam: Triennial Report on Lunatic Asylums. 1906-8.
Edinburgh, Royal College of Physicians: Laboratory Reports, vols. 10 and 11. 1911.
Eugenics: Laboratory Memoirs, 12, 13, 14. 1910-11.
Glasgow Medico-Chirurgical Society: Transactions, vol. 19. 1919.
Hong Kong: Report on the Health and Sanitary Condition. 1907.
India: Report on Sanitary Measures. 1907-8.
Indian Civil Veterinary Department Memoirs. 1908-9.
Jahresbericht über die Fortschritte der Innere Medizin, 1902-3. Published 1909.
Japan: Annual Report of the Central Sanitary Bureau of Department of Home Affairs. 1907-8.
Johns Hopkins Hospital Report, vol. 16. 1911.
Madras: Report on Civil Hospitals and Dispensaries. 1908.
Madras: Report on Government and Maternity Hospitals. 1908.
Madras: Report of the King Institute. 1908-9.

Madras: Report on Lunatic Asylums. 1908.
Madras: Report of the Sanitary Board. 1908.
Madras University Calendar. 1911.
Medizinische Berichte über die Deutschen Schutsgebiete. 1908-9.
Melbourne University Calendar. 1911.
Metropolitan Water Board. Monthly Reports. 1911.
New South Wales: Report of the Government Bureau of Microbiology. 1909.
North-West Provinces: Annual Report on Dispensaries. 1908.
North-West Provinces: Report on Sanitary Administration. 1908-9.
North-West Provinces: Report on Vaccination. 1908-9.
Ohio State Board of Health Report. 1909.
Philadelphia College of Physicians. Transactions, vol. 32. 1911.
Punjab: Report on Sanitary Administration. 1908.
Punjab: Report on Lunatic Asylums. 1906-8.
Punjab: Report on Vaccination. 1908-9.
Rangoon: Report on the Government Medical School. 1908.
Rockefeller Institute for Medical Research. Reprints, vol. 11, 1910.
St. Bartholomew's Hospital Reports, vol. 46. 1910.
Tasmania: Annual Report on the Department of Public Health. 1909-10.
Transvaal Colony: Final Report of Mining Regulations Commission, vols. 1 and 2. 1910.
United Provinces of Agra and Oudh: Report on Civil Hospitals. 1905-8.
United Provinces of Agra and Oudh: Report on Lunatic Asylums. 1906-8.
United Provinces of Agra and Oudh: Report of the Sanitary Commissioner. 1908.
United Provinces of Agra and Oudh: Report on Vaccination. 1908-9.
United Service Medical Society. Transactions, 1-2, 1910-11.
United States Treasury Department: Annual Report of the Public Health and Marine Hospital Service. 1910.
University College of South Wales and Monmouth. Calendar. 1911.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—A scientific and clinical meeting will be held in Liverpool on Wednesday afternoon, January 10th, 1912. Members willing to give short papers or demonstrations, or to show cases or specimens, are asked to communicate early with the Honorary Secretary of the Science Committee, P. R. COOPER, M.D., B.Sc., 8, St. Peter's Square, Manchester.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—A mass meeting of the profession in the area of the Division will be held in the Venetian Room of the Midland Grand Hotel, N.W., on Wednesday, December 20th, at 9 p.m. Resolutions will be moved to reaffirm the previously stated policy of the profession in this area in regard to the National Insurance Bill. Notices will in due course reach all practitioners.—A. BROWN, M.B., Honorary Secretary.

MIDLAND BRANCH: LEICESTER AND RUTLAND DIVISION.—A special meeting of the Division, summoned in accordance with Rule 12, will be held on Wednesday, December 20th, at the Lecture Room, Temperance Hall, Leicester, at 4 p.m., for the purpose of considering the following business:—Agenda: Confirmation of minutes of the last meeting. Arising therefrom: Report of the Representative on the Special Representative Meeting in London. Consideration of the following resolution, namely: "That in the opinion of this meeting the National Insurance Bill as at present framed does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health; and therefore this meeting of the medical profession of Leicestershire and Rutland expresses its determination, in the event of the Insurance Bill becoming law, to unite with the whole of the profession in declaring its inability to undertake the duties which the bill proposes to assign to it." R. WALLACE HENRY, Honorary Secretary, Leicester.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—*National Insurance Bill.* In view of the fact that representations in accordance with the decisions of the Representative Meeting reported in the BRITISH MEDICAL JOURNAL of December 2nd are being made to the House of Lords with a view to securing further amendments in that House, the ordinary meeting of this Division, to be held at Barmouth this month, will be postponed until an early date in January. In the interval a full report will be issued by the Council, setting forth the action which it has taken since the Special Representative Meeting, and placing before the Divisions an examination of the Insurance Act in the form in which it becomes law, in order that the Divisions may deliberately consider the subject.—HARRY R. GRIFFITH, Chairman; H. GLADSTONE JONES, Honorary Secretary, Criccieth.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON P. B. HANDYSIDE, M.B., has been promoted to be Deputy Surgeon-General, November 25th. His previous commissions are thus dated: Surgeon, August 21st, 1884; Staff Surgeon, August 21st, 1896; Fleet Surgeon, May 30th, 1899. Whilst Staff Surgeon of the *Fox* he served on shore during the Sierra Leone troubles in 1898 with the force sent to attack Maneh Salya, which was captured and destroyed, 80 refugees being rescued. He accompanied the contingent sent with the Colonial yacht, *Countess of Derby*, up the Bumpé river to relieve the military force marching on Kwalla, when fourteen towns and villages were captured and destroyed. For this he received a medal with clasp. He was promoted to be Fleet Surgeon for conspicuous professional merit, and in 1905 received their Lordships' appreciation of his interesting reports on the health of the Japanese navy and army after his visits to Manchuria and Japan.

The following appointments have been made at the Admiralty: Surgeon H. C. DEVAS to the *Racer*, additional, for temporary service at the Royal Naval College, Osborne, vice Burdett, November 27th; Surgeon B. PICK to the *Cornwall*, November 27th; Staff Surgeon A. LA T. DARLEY to the *Hazard*, November 28th; Surgeon G. L. BATEMAN to the *Victory*, additional, for disposal, November 28th; Fleet Surgeon H. B. BEATTY to the *Drake*, for service on the staff of the Commander-in-Chief on its becoming the flagship, undated; Staff Surgeon E. R. L. THOMAS to the *Diana*, December 2nd; Staff Surgeon W. JACKSON, M.B., to the *Venus*, undated; Staff Surgeon W. G. WESTCOTT to the *Forward*, undated.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN J. W. WEST, M.B., is promoted to be Major, November 29th. He was appointed Lieutenant, November 29th, 1900, and Captain three years thereafter. He served in the South African war in 1901-2, and was present in operations in Orange River and Cape Colony, for which he has the Queen's medal with four clasps.

Captain E. S. WORTHINGTON, M.V.O., is seconded for special extra-regimental employment, September 29th.

The following officers are seconded for service under the Foreign Office: Captain R. E. TODD, M.B., November 1st; Lieutenant CAMPBELL ROBB, M.B., November 14th; Lieutenant ROBERT GALE, M.B., November 15th.

Lieutenant P. M. J. BRETT, M.B., is confirmed in his rank. He was appointed on probation, January 27th, 1911.

Lieutenant-Colonel M. L. HEARN has been appointed Senior Medical Officer, Ceylon, vice Lieutenant-Colonel N. Manders.

Lieutenant-Colonel C. J. MACDONALD, M.D., has been appointed Senior Medical Officer to the Forces in China, vice Lieutenant-Colonel J. M. IRWIN, M.B., who has been appointed Principal Medical Officer South China, vice Colonel W. G. A. Bedford, C.M.G., M.B.

Lieutenant-Colonel J. J. C. DONNET has been appointed Senior Medical Officer, Straits Settlements, vice Lieutenant-Colonel H. J. Barratt.

INDIAN MEDICAL SERVICE.

THE retirement from the service of Lieutenant-Colonel E. G. R. WHITCOMBE, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the approval of the King.

Colonel C. F. WILLIS, C.B., M.D., Indian Medical Service, Principal Medical Officer, and Major N. FAICHNIE, M.B., R.A.M.C., Sanitary Officer, were instructed to leave Mhow for Delhi for duty at the Coronation Durbar.

Captain E. T. HARRIS, I.M.S., has been granted four months' extension of leave.

Lieutenant-Colonel CRAWFORD, I.M.S., has retired from the service.

Lieutenant Colonel J. CRIMMIN, V.C., C.I.E., D.P.H., I.M.S., on reversion to be Presidency Surgeon, Third District, with attached duties.

Major E. F. G. TUCKER, I.M.S., on relief to act as Presidency Surgeon, Second District and Marine Surgeon, and Superintendent, Lunatic Asylum, Colaba.

Major J. L. MARJORIBANKS, M.D., D.P.H., I.M.S., on relief to be Deputy Sanitary Commissioner, Western Regulation District.

Captain M. F. REANEY, I.M.S., on special duty at Pachmarhi, is reposted to the Wardha District as Civil Surgeon.

Furlough on medical certificate, combined with such privilege leave as may be due to him for a total period of one year, has been granted to Major A. M. FLEMING, M.B., C.M., I.M.S., Civil Surgeon, Raipur.

Captain R. MCCARRISON, as Agency Surgeon of the Second Class, is granted privilege leave for two months and nine days combined with furlough for one year, one month and twenty days with effect from October 20th, 1911.

Captain G. D. FRANKLIN, I.M.S., an officiating Agency Surgeon of the Second Class, is posted, on return from leave, as Agency Surgeon, Gilgit, I.M.S., with effect from October 20th, 1911.

Major A. A. GIBBS, I.M.S., to be Medical Storekeeper to Government, vice Lieutenant-Colonel P. W. O'GORMAN, I.M.S., vacated.

Major R. P. WILSON, I.M.S., Officiating Civil Surgeon of Cuttack, is allowed privilege leave combined with furlough for fifteen months, with effect from the date on which he may have availed himself of it.

Captain D. MUNRO, I.M.S., has been granted by His Majesty's Secretary of State for India an extension of leave for three months.

Captain W. MACKELVIE, I.M.S., Officiating Civil Surgeon, Darbhanga, is allowed privilege leave combined with furlough for one year, with effect from the date on which he may be relieved of his duties.

Major J. W. F. RAIT, I.M.S., has been granted by His Majesty's Secretary of State for India an extension of furlough for four months.

Major J. W. D. MEGAW, I.M.S., is allowed privilege leave combined with furlough for fifteen months, with effect from December 3rd, 1911.

On relief by Major T. G. N. STOKES, M.B., I.M.S., of the office of Sanitary Commissioner, Central Provinces, Major W. H. KENRICK, I.M.S., is placed on special malaria duty in the Provinces.

Surgeon-Captain W. A. MURRAY, Assam-Bengal Railway Volunteer Rifles, has been granted leave for one year three months and one day, with effect from November 16th, 1911.

Captain N. S. WELLS, I.M.S., on return from leave, is posted as Civil Surgeon to Ghazipur.

Lieutenant-Colonel T. E. DYSON, M.B., I.M.S., is granted leave of absence up to one year.

Captain W. M HOUSTON, I.M.S., on return from leave, to be Assistant to the Civil Surgeon, Poona.

First Battalion Calcutta Volunteer Rifles.—J. D. SANDS, M.B., Captain I.M.S., to be Lieutenant, vice F. H. Stewart, resigned.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

THE undermentioned Cadet Non-commissioned Officers from the Belfast University Contingent, Officers' Training Corps, to be Lieutenants (on probation): Cadet Corporal THOMAS WALTER, October 31st; Cadet Sergeant W. ST. L. DOWSE, Cadet Sergeant W. MCN. WALKER, and Cadet Corporal W. MCK. MCCULLAGH, November 1st; Cadet Corporal S. R. ARMSTRONG, November 8th. HARRY D. ROBINSON, M.B., to be Lieutenant (on probation), November 3rd.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second East Anglian Field Ambulance. Lieutenant JOHN K. HOWLETT resigns his commission, December 2nd.

Second Lowland Field Ambulance. Lieutenant ALEXANDER M. WATSON, M.B., to be Captain, November 7th.

First Northumbrian Field Ambulance.—The undermentioned officers to be Captains: Lieutenant JAMES W. HESLOP, October 25th; Lieutenant JAMES P. MILNES, October 25th; Lieutenant WILLIAM SIMPSON, October 25th; Lieutenant GEORGE H. SPENCER, November 2nd.

Third Highland Field Ambulance.—Lieutenant A. M. DAVIE, to be Captain, November 2nd.

First East Lancashire Field Ambulance.—The announcement which appeared in the *London Gazette* of May 19th, 1911, respecting the transfer from the Third East Lancashire Field Ambulance, Royal Army Medical Corps, of Major William L. Bentley, is cancelled, and the following substituted: Major W. L. BENTLEY, from the Third East Lancashire Field Ambulance, Royal Army Medical Corps, to be Major, with precedence in the unit as from April 1st, 1908, next above Major Herbert G. Parker, dated May 20th, 1911.

Second East Lancashire Field Ambulance.—The announcement which appeared in the *London Gazette* of May 19th, 1911, respecting the transfer from the First East Lancashire Field Ambulance, Royal Army Medical Corps, of Major William B. Pritchard, is cancelled, and the following substituted: Major W. B. PRITCHARD, from the First East Lancashire Field Ambulance, Royal Army Medical Corps, to be Major with precedence in the unit as from April 1st, 1908, next above Major Fred D. Woolley, dated May 20th, 1911.

Third South Midland Field Ambulance.—Lieutenant GEORGE SCOTT WILLIAMSON, from the Yorkshire Mounted Brigade Field Ambulance, Royal Army Medical Corps, to be Lieutenant, October 5th.

Second Wessex Field Ambulance.—Lieutenant ROBERT BURNET, M.B., to be Captain, October 1st, 1911.

Attached to Units other than Medical Units.—Lieutenant JOHN A. PRESTON to be Captain, June 8th, 1910; Lieutenant JOHN J. WEAVER resigns his Commission, December 2nd, 1911.

For Attachment to Units other than Medical Units.—JOHN C. BRIDGE, F.R.C.S.Edin., to be Lieutenant, October 14th.

SUPERNUMERARY FOR SERVICE WITH THE OFFICERS' TRAINING CORPS.

CAPTAIN HENRY B. RODERICK, M.D., from the Unattached List for the Territorial Force, to be Captain, with precedence as on the Unattached List, for service with the medical unit of Cambridge University Contingent, Senior Division, Officers' Training Corps, November 25th. Captain WILLIAM D. STURROCK, M.D., from the Unattached List for the Territorial Force, to be Captain, with precedence as on the Unattached List, for service with the medical unit of the Oxford University Contingent, Senior Division, Officers' Training Corps, November 25th. Lieutenant HAROLD E. A. BOLDERO, from the Unattached List for the Territorial Force, to be Lieutenant (on probation), with precedence as on the Unattached List, for service with the medical unit of the Oxford University Contingent, Senior Division, Officers' Training Corps, November 25th. Lieutenant RUDOLF A. PETERS, from the List of Officers of the Royal Army Medical Corps attached to units other than medical units, to be Lieutenant (on probation), with precedence as in the Territorial Force, for service with the medical unit of the Cambridge University Contingent, Senior Division, Officers' Training Corps, November 25th. ANDREW F. DIXON, M.B., to be Lieutenant, for service with the medical unit of Dublin University Contingent, Senior Division, Officers' Training Corps, September 23rd, 1910. THOMAS THOMSON to be Lieutenant, for service with the Royal College of Surgeons in Ireland Contingent, Senior Division, Officers' Training Corps, April 7th, 1911. HENRY STOKES, M.D., to be Lieutenant, for service with the Royal College of Surgeons in Ireland Contingent, Senior Division, Officers' Training Corps, April 29th, 1911. WILLIAM J. WILSON, M.B., to be Lieutenant, for service with the medical unit of the Belfast University Contingent, Senior Division, Officers' Training Corps, May 25th, 1911.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 7,472 births and 4,869 deaths were registered during the week ending Saturday, December 2nd. The annual rate of mortality in these towns, which had been 13.1, 13.9, and 14.2 per 1,000 in the three preceding weeks, further rose to 15.7 per 1,000 in the week under notice. In London the death-rate was equal to 15.1, against 12.8, 13.0, and 13.2 per 1,000 in the three previous weeks. Among the seventy-six other large towns the death-rates ranged from 7.5 in Walthamstow, 8.7 in Northampton, 10.2 in King's Norton, 10.6 in Tynemouth, and 10.7 in Brighton to 21.2 in Liverpool, 21.4 in Sunderland, 21.6 in Wigan, 22.5 in Burnley, and 23.1 in Bootle. Measles caused a death-rate of 2.0 in Bournemouth, 2.1 in Norwich, and 5.4 in Burnley; whooping-cough of 1.7 in Walsall and in Sunderland; and infantile diarrhoea of 1.5 in Burnley. The mortality from enteric fever, scarlet fever, and diphtheria showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 39, or 0.8 per cent., of the total deaths registered in the seventy-seven towns were not certified either by a registered medical practitioner or by a coroner after inquest, and included 8 in Liverpool, 6 in Sunderland, 5 in Birmingham, 3 in London, and 3 in Coventry. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,203, 2,213, and 2,166 at the end of the three preceding weeks, had further declined to 2,141 on December 2nd; 248 new cases were admitted during the week, against 292, 291, and 203 in the three preceding weeks.

In seventy-seven of the largest English towns 7,506 births and 4,718 deaths were registered during the week ending Saturday last, December 9th. The annual rate of mortality in these towns, which had been 13.9, 14.2, and 15.7 in the three preceding weeks, fell to 15.2 per 1,000 in the week under notice. In London last week the death-rate was equal to 14.3 per 1,000, against 13.0, 13.2, and 15.1 in the three previous weeks. Amongst the seventy-six other large towns the death-rates last week ranged from 6.8 in Hornsey, 7.1 in Willesden and in Walthamstow, 7.8 in East Ham, 8.6 in Bournemouth, and 8.7 in Burton-on-Trent to 21.5 in Walsall, 21.7 in Sunderland, 22.2 in Preston, and 23.0 in Stockton-on-Tees. Measles caused a death-rate of 2.4 in Burnley and 3.4 in Norwich; whooping-cough of 3.4 in Walsall; and infantile diarrhoea of 2.1 in Grimsby. The mortality from the remaining epidemic diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 44, or 0.9 per cent., of deaths in the seventy-seven towns last week were not certified either by a registered medical practitioner or by a coroner after inquest, and included 9 in Birmingham, 7 in Liverpool, 5 in South Shields, and 3 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,213, 2,166, and 2,141 in the three preceding weeks, had further declined to 2,089 on Saturday last; 241 new cases were admitted during the week, against 291, 205, and 248 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the largest Scottish towns 742 births and 589 deaths were registered during the week ending Saturday, December 2nd. The annual rate of mortality in these towns, which had been 18.6 and 16.7 per 1,000 in the two preceding weeks, rose to 18.0 in the week under notice, and was 2.3 per 1,000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates ranged from 14.5 in Perth and 14.9 in Leith to 18.8 in Glasgow and 20.8 in Aberdeen. The mortality from the principal epidemic diseases averaged 2.2 per 1,000, and was highest in Glasgow and Aberdeen. The 285 deaths from all causes registered in Glasgow included 2 which were referred to enteric fever, 11 to measles, 1 to scarlet fever, 3 to whooping-cough, 8 to diphtheria, and 4 to infantile diarrhoea. Eighteen deaths from measles were recorded in Aberdeen, 2 deaths from diphtheria in Edinburgh, in Dundee, and in Aberdeen; and 3 deaths from infantile diarrhoea in Dundee, and 2 in Paisley.

In eight of the principal Scottish towns 796 births and 550 deaths were registered during the week ending Saturday last, December 9th. The annual rate of mortality in these towns, which had been 16.7 and 18.0 per 1,000 in the two preceding weeks, declined to 16.8 last week, but was 1.6 per 1,000 above the mean rate during the same period in the seventy-seven English towns. Among the several Scottish towns the death-rates last week ranged from 14.9 in Edinburgh and 14.5 in Perth to 18.5 in Aberdeen and 24.3 in Greenock. The mortality from the principal epidemic diseases averaged 1.8 per 1,000, and was highest in Paisley and Aberdeen. The 257 deaths from all causes registered in Glasgow last week included 5 from enteric fever, 7 from measles, 1 from scarlet fever, 3 from whooping-cough, 2 from diphtheria, and 3 from infantile diarrhoea. Thirteen deaths from measles and 5 from whooping-cough were recorded in Aberdeen; 2 deaths from measles in Greenock; 2 from diphtheria in Leith; and 2 from infantile diarrhoea in Paisley.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, December 2nd, 570 births and 403 deaths were registered in the twenty-two principal districts of Ireland, as against 534 births and 396 deaths in the preceding period. The annual death-rate in these districts, which had been 17.6, 19.0, and 18.0 per 1,000 in the three preceding weeks, rose to 18.3 per 1,000 in the week under notice, this figure being 2.6 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 21.6 and 13.6 respectively, those in other districts ranging from 3.9 in Galway and 6.9 in Armagh to 34.3 in Lisburn, and 65.4 in Sligo, while Cork stood at

25.9, Londonderry at 12.8, Limerick at 12.2, and Waterford 20.9. The zymotic death-rate in the twenty-two districts averaged 1.8 per 1,000 as against 2.0 in the preceding period.

During the week ending Saturday, December 9th, 502 births and 391 deaths were registered in the twenty-two principal districts of Ireland, as against 570 births and 403 deaths in the preceding period. The annual death-rate in these districts, which had been 19.0, 18.0, and 18.3 per 1,000 in the three preceding weeks, fell to 17.7 per 1,000 in the week under notice, this figure being 2.5 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 18.6 and 16.1 respectively, those in other districts ranging from 4.7 in Sligo and 5.7 in Newtownards to 25.8 in Lurgan and 26.5 in Cork, while Londonderry stood at 19.2, Limerick at 16.3, and Waterford at 20.9. The zymotic death-rate in the twenty-two districts averaged 1.1 per 1,000, as against 1.8 in the preceding period.

Hospitals and Asylums.

BUCKS COUNTY ASYLUM, AYLESBURY.

THE annual report of Dr. H. Kerr, the Medical Superintendent of this asylum, shows that on January 1st, 1910, there were 622 patients on the registers, and on the last day of the year 676. The total cases under care during the year numbered 832, and the average number daily resident 665. During the year 210 were admitted, of whom 165 were direct and 45 indirect admissions. Of the direct admissions in 42 the attacks were first attacks within three and in 28 more within twelve months of admission; in 31 not-first attacks within three months, and in 41, including 19 congenital cases, the attacks were of more than twelve months' duration on admission.

The direct admissions were classified on admission into: Recent mania 45, chronic and recurrent 29; recent melancholia 21, chronic and recurrent 8; senile and secondary dementia 16, delusional insanity 11; insanity with epilepsy 7, general paralysis 5, less common forms 4, and congenital defect 19. As to causation in the direct admissions alcohol was assigned in 16, syphilis in 5, and influenza in 9; diseases of the nervous system in 22, including epilepsy in 13; child-bearing in 9, critical periods in 24, bodily trauma in 3, and mental stress in 20. An insane heredity was ascertained in 47, or 28 per cent; an alcoholic or a neurotic heredity in 6 each, and an epileptic heredity in 2.

During the year 66 were discharged as recovered, giving a recovery-rate on the direct admissions of 39.8, or of recoveries in and on the direct admissions of 37.5 per cent.; also 7 as relieved and 21 as not improved.

During the year 62 died, giving a death-rate on the average number resident of 9.3 per cent. The deaths were due in 22 to nervous diseases, including 10 from general paralysis; in 10 to diseases of the heart and blood-vessels; in 3 to pulmonary diseases; in 5 to diseases of the digestive or genito-urinary system; in 8 to senile decay; in 1 to suicide by drowning, and in 13 to general diseases, with only 4, or 6.4 per cent. of the total deaths, from tuberculous diseases.

The general health was good throughout the year, and with the exception of 12 cases of dysentery, occasioning 3 deaths, the asylum was free from infectious disease.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday mornin .

VACANCIES.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer of the Infirmary and Workhouse. Salary, £100 per annum.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—House-Surgeon (male). Honorarium of £100.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Honorarium at the rate of 52 guineas per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House-Surgeon. Salary to commence at £85 per annum.

BRENTFORD UNION.—First Assistant to the Medical Superintendent of the Infirmary and Medical Officer of the Workhouse and Schools. Salary, £185 per annum, increasing to £200.

BRISTOL ROYAL INFIRMARY.—(1) Dental House-Surgeon. Salary, £100 per annum. (2) Resident Casualty Officer. Salary at the rate of £50 per annum.

BROOKWOOD ASYLUM, Knaphill, near Woking.—Third Assistant Medical Officer. Salary, £150 per annum, rising to £200.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Resident Medical Officer Salary, £90 per annum.

CENTRAL LONDON SICK ASYLUM DISTRICT.—Assistant Medical Officer at the Asylum, Hendon. Salary, £120 per annum, increasing to £150.

CLAPHAM MATERNITY HOSPITAL, S.W.—Assistant Resident (female).

DERBYSHIRE ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) House-Physician. (3) Assistant House-Surgeon. Salary for (1) and (2) £100 per annum, and for (3) £60 per annum.

DUNDEE DISTRICT ASYLUM.—Junior Resident Medical Officer. Salary, £110 per annum.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon (male). Salary, £72 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road, S.E.—(1) House-Surgeon. Salary at the rate of £75 per annum. (2) Clinical Assistants in the Out-patient Departments.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury Avenue, W.C.—Honorary Dental Surgeon.

GLOUCESTER: THE GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

GUISBOROUGH UNION.—District Medical Officer and Public Vaccinator. Salary and fees, £66 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Physician. Salary, £30 for six months and £2 10s. washing allowance. (2) Casualty Medical Officer. Salary, £200 per annum.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

LEEDS GENERAL INFIRMARY.—Assistant Clinical Pathologist. Salary, £150 per annum.

LINCOLN COUNTY HOSPITAL.—Junior House-Surgeon. Salary at the rate of £75 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer. Salary, £120 per annum.

MANCHESTER SCHOOL FOR MOTHERS.—Medical Officer. Salary, £250 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Assistant House-Surgeon (male). Salary, £75 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho Square, W.—Honorary Assistant Physician.

NOTTINGHAM GENERAL HOSPITAL.—Senior House-Physician. Salary, £100 per annum, rising to £120.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—Honorary Physician.

PERTH ROYAL INFIRMARY.—House-Surgeon. Salary, £60 per annum.

REDHILL: THE EARLSWOOD ASYLUM.—Junior Assistant Medical Officer. Salary, £150 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £60 per annum

WEST RIDING ASYLUM, Wadsley.—Fifth Assistant Medical Officer. Salary, £140 per annum, rising to £160.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £100 per annum.

WOOLWICH INFIRMARY, Plumstead.—Assistant Medical Officer (male). Salary, £150 per annum, rising to £160.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Diss (Norfolk) and Stromness (Orkney).

APPOINTMENTS.

CAMPAIN, Joseph Henry, M.R.C.S.Eng., L.R.C.P.Lond., Assistant House-Physician to the Sheffield Royal Hospital.

GARDEN, W. S., M.D.Aberd., Certifying Factory Surgeon for the Horbury District, co. Yorks.

CARR, W. J., B.A.Cantab., M.R.C.S., L.R.C.P., House-Physician at the Evelina Hospital for Sick Children, Southwark Bridge Road.

EATON, O., M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health of the Bingham Rural District.

FARRIES, J. Stothart, L.R.C.P., L.R.C.S.Edin., Medical Superintendent of the Minda Institution for the Feeble-minded and Epileptic, Adelaide, South Australia.

KROGH, A. L., M.B., Ch.B.Edin., Junior Assistant Medical Officer, Ayr District Asylum.

MANN, F. C., M.B., B.Ch.R.U.I., Certifying Factory Surgeon for the Dungannon District, co. Tyrone.

MAYNE, W. J. F., M.B., Ch.B.Edin., Medical Officer to Pomeroy Dispensary and Medical Officer of Health to the Pomeroy (Tyrone) District.

MORGAN, T., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Llandovery District, co. Carmarthen.

MURRAY, W. H., L.R.C.P.and S.Irel., House-Surgeon to the Royal United Hospital, Bath.

OATES, Geoffrey E., M.D., B.S., M.R.C.P.Lond., D.P.H.Camb., Assistant Medical Officer of Health to the Ilford Urban District Council.

PRANCE, Geoffrey H., M.D.Edin., Certifying Factory Surgeon for the Weston-super-Mare District, co. Somerset.

RAE, Richard, M.B., Ch.B., Junior Assistant to the Glasgow Corporation Bacteriologist.

REID, John, M.B., Ch.B.Glas., Physician Superintendent of Motherwell Isolation Hospital of the Lanarkshire County Council.

ROBINSON, Frank, M.D., D.P.H., Lecturer in Public Health to the State Medicine Syndicate of the University of Cambridge.

ROBSON, John Dewar, M.B., M.S Edin., Certifying Factory Surgeon for the Dumfries District, co. Dumfries.

SAMUEL, Harry, M.R.C.S., L.R.C.P., Clinical Assistant to the Skin Department of Prince of Wales's Hospital, Tottenham.

WALFORD, Harold R. S., M.R.C.S., L.R.C.P.Lond., Second Assistant Medical Officer, Worcester County and City Asylum, Powick.

WIGMORE, A. J. O., M.R.C.S., L.R.C.P., M.B.Bristol, Ch.B., Assistant House-Surgeon at the East Sussex Hospital, Hastings.

WILSON, John A., M.B., Ch.B.Glas., Senior Assistant to the Glasgow Corporation Bacteriologist.

WRIGHT, Oswald Kentish, B.A., M.B., B.C., D.P.H.Cantab., M.R.C.S., L.R.C.P., Medical Officer to Gresham's School, Holt, Norfolk.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

BARK.—On December 8th, at 97, Seabank Road, Liscard, Cheshire, the wife of E. Gilbert Bark, M.B., B.S.Lond., of a son.

HOLCROFT.—On December 6th, at Mar Lodge, Aliwal North, Cape Province, South Africa, the wife of W. F. L. Austen Holcroft, M.B., Ch.B., of a daughter. (By cable.)

MACARTHUR.—On Oct. 1st, at Dagshai, India, the wife of Lieutenant D. H. C. MacArthur, R.A.M.C., of a daughter.

MARRIAGES.

BARNES—MORRISON.—On December 6th, at Teighness, Killearn, Stirlingshire, Alfred Edward Barnes, M.B., M.R.C.P., Physician to Out-patients, Royal Infirmary, Sheffield, to Jessie Morrison, daughter of William Morrison, Strathview, Kirriemuir, Forfarshire.

EKLUND—WARREN.—On September 27th, 1911, at the Presbyterian Church, Moree, N.S.W., by the Rev. J. Frew Brown, Hugo Emanuel Andreas Eklund, of the N.S.W. Department of Public Works, to Kathleen Annie, elder daughter of Dr. and Mrs. W. Edward Warren, of Moree (lately of Elizabeth Street, Sydney).

SMYTH—RUBIE.—On December 7th, at Bromley, Kent, Ernest Jackson Smyth, M.D., B.S., B.Sc.Lond., of Maythorne, Epsom Road, Guildford, and of 5, Duchess Street, Portland Place, W., second son of the late John Hugh Smyth, Esq., of Barnet, Herts, to Marion Janet, second daughter of Edward Rubie, Esq., of Sidcup, Kent.

DEATHS.

MAPLETON.—On December 10th, at Goudhurst, George Hubert Mapleton, M.B., C.M.Edin., after a short illness.

SOPER.—On Nov. 27th, at "Essendene," Ventnor, Isle of Wight, William Soper, M.R.C.S., L.S.A., formerly of 307, Clapham Road, S.W., aged 76 years.

RECENT PUBLICATIONS.

How to Become a Pharmacist. Edited by John Humphreys. Second edition. London: The Pharmaceutical Press. 1911. (Crown 8vo, pp. 51. Price 1s. net.)

A second edition of a pamphlet which we described last year as a well-devised and useful book for those in need of information regarding the preliminary education, apprenticeship, and examination of candidates for the diploma conferred by the Pharmaceutical Society of Great Britain and Ireland. It now includes an appendix giving information as to the B.Sc. in pharmacy granted by the Universities of Manchester and Glasgow.

How to Become a Teacher in a Public Elementary School. Published by H.M. Stationery Office, and to be obtained from any bookseller. 4d.

The official information given in this pamphlet is based on the regulations of the Board of Education in force in 1911, and it is pointed out that all such regulations are liable to revision from time to time.

Principles and Practice of Modern Otology. By J. F. Barnhill, M.D., Professor of Otology, Laryngology, and Rhinology, Indiana University, and E. de W. Wales, B.S., M.D., Clinical Professor in the same subjects, Indiana University. Second edition. Thoroughly revised, with 314 original illustrations. 1911. London: W. B. Saunders Company. (Roy. 8vo, pp. 598. Price 24s.)

An admirably illustrated volume, the text of which has been generally overhauled since the publication of the first edition in 1907, and brought practically up to date by inclusion of the uniform tests accepted at the eighth Otological Congress at Budapest, an approved description of Heath's operation, an extension of the statements previously made regarding injury of the facial nerve during operation, and in respect of labyrinthine suppuration. The anatomy section is clearly worded as well as freely illustrated.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures:—Tuesday, 3.40 p.m.: Nose. Friday, 3.45 p.m.: Nose.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4.30 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Tuesday, and noon, Friday; Eye, 11 a.m., Wednesday and Saturday. Radiography, Saturday, 10 a.m. Pathological Demonstration, Saturday, 11 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics: 10 a.m., Surgical Out-patient: 2.30 p.m., Medical Out-patient, Nose, Throat, and Ear; 3 p.m., Demonstration on Clinical and General Pathology. Tuesday, 2.30 p.m., Operations; Clinics: Surgical, Gynaecological; 3.30 p.m., Medical In-patient. Wednesday, 2 p.m., Throat Operations; 2.30 p.m., Medical Out-patient; Skin and Eye Clinics: *X* Rays; 3 p.m., Pathological Demonstration; 5.30 p.m., Eye Operations. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical and Surgical Out-patient; 3 p.m., Medical In-patient. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Surgical, Eye, 3 p.m., Medical In-patient, Pathological Demonstration.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Monday, Gynaecology, 10 a.m.; Demonstration: Pathology, 12 noon; Eye 2 p.m. Tuesday, Gynaecological Operations, 10 a.m.; Demonstration: Minor Operations, 11.30 a.m.; Throat, Nose, and Ear, 2 p.m.: Skin, 2 p.m. Wednesday. Demonstration: Gynaecology, 10 a.m.; Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m; Gynaecology, 2 p.m. Thursday, Eye, 2 p.m.; Orthopaedics, 2 p.m Friday, Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday, Diseases of Children, 10 a.m; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m. Special Lectures at 5 p.m. on Monday, Tuesday, and Wednesday.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
DECEMBER.	
17 Sunday ..	
18 MONDAY ..	
19 TUESDAY ..	
20 WEDNESDAY	LEICESTER AND RUTLAND DIVISION, *Midland Branch*, Special Meeting, Lecture Room, Temperance Hall, Leicester, 4 p.m. RICHMOND DIVISION, *Metropolitan Counties Branch*, Richmond, 8.30 p.m. ST. PANCRAS AND ISLINGTON DIVISION, *Metropolitan Counties Branch*, Mass Meeting, Venetian Room, Midland Grand Hotel, 9 p.m.
21 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4 p.m.
22 FRIDAY ..	
23 SATURDAY ..	
24 Sunday ..	
25 MONDAY ..	
26 TUESDAY ..	
27 WEDNESDAY	
28 THURSDAY ..	
29 FRIDAY ..	
30 SATURDAY ..	
31 Sunday ..	
JANUARY, 1912.	
1 MONDAY ..	Subscriptions to the British Medical Association for 1912 become due.
2 TUESDAY ..	
3 WEDNESDAY	
4 THURSDAY ..	
5 FRIDAY ..	LONDON: Journal Committee, 2 p.m.
6 SATURDAY ..	
7 Sunday ..	
8 MONDAY ..	
9 TUESDAY ..	
10 WEDNESDAY	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 23RD, 1911.

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National Insurance.

MEETINGS OF THE PROFESSION.

MANCHESTER.

A LARGELY attended meeting of the profession was held on Thursday, December 14th, in the Midland Hall, Manchester, to consider the attitude of the profession towards the Insurance Bill, and to establish a National Medical Union. Practitioners attended not only from Lancashire but from many other parts of the country, and in the notice convening the meeting the objects of the new organization were stated to be:

1. The co-ordination of members and non-members of the British Medical Association.
2. The voicing of the attitude of the profession towards the National Insurance Bill as it now stands for enactment.
3. Facilitating an organized refusal of service under the bill. The Union shall remain in existence so long as any question arising under this Act shall remain in dispute. It shall be supplementary to, and shall work with, the members of the British Medical Association.

Dr. PROWSE announced that letters of apology for absence had been received from many parts, and that deputations were present from Dover, Shropshire, Wales, Hereford, Folkestone, Winchester, and the organizers of the Mass Meeting to be held in London. Notices of adherence had also been received from twelve Divisions of the British Medical Association, and from five medical societies.

Mr. G. A. WRIGHT, F.R.C.S., who presided, said:[1]—As the object of our former meeting was to say that unless all the essential conditions were guaranteed, the profession would not be able to undertake the work proposed under the Insurance Bill, so now that the bill had passed the House of Commons and the warning has been disregarded, we are here to say that we will not do the work till the Act is amended, and all the essentials are provided. (Cheers.) This is no change of front on our part. It is the original position taken up by the British Medical Association. It can hardly be necessary to say that this does not mean neglect of sick people, but it does appear necessary to point out that it is not a refusal to work a good Insurance Act, or even this one if it is satisfactorily amended. It is a refusal to work this Act as it stands. (Cheers.) The studied neglect, except for an occasional insult, with which the protests of the profession at large have been received, and the very meagre and grudging concessions to our reasonable demands do not tend to amity with Mr. Lloyd George. He indeed, and many others as well, have apparently failed to realize that no insurance scheme can be worked by the blare of political tin trumpets alone, but that doctors, and good ones, are an essential necessity of the plan. The profession would welcome and cordially assist a good scheme of insurance, but doctors will not sacrifice their vital interests for a half-digested concoction which pleases no one. Some difficulty has arisen from the action of the Council of the British Medical Association, and it is said that some of us do not understand the position. That may be true, but do the Council understand the position? The real difference between us is that the Council is willing to place absolute trust in things that may happen. Things that can be arranged are taken by them to be equivalent with the actual provision of our requirements. Most of us prefer not to give a blank cheque to Mr. Lloyd George. (Cheers.) We have been driven to see that security is necessary. The question of an individual appointment to an office under the Act is no doubt significant, but it is a detail. The importance of the matter is that it implies an acquiescence in, and even an approval of, the bill by the Council—("No, no")—since it involves assistance in working it even though we have not got our essentials. Our confidence in the discretion of our representatives is therefore shaken—(cries of "Hear, hear," "No," and prolonged cheering)—and their last circular of December 11th does not fully reassure us. Probably most ordinary

[1] The text of Mr. Wright's speech is quoted from the report in the *Manchester Guardian*.

members of society would think that the offer of the appointment should never have been made—(Hear, hear),—but the matter is not in itself one of great importance. Let us have our minds clear. We all said: "We must have absolute certainty on our essentials; they are the minimum." We are now asked to accept instead a concession of a part, and that not the most important part, and to take as satisfactory the possibility that a small minority will obtain some of the other essentials by a process of bargaining by-and-by. This bargaining we must remember is with a huge majority who are necessarily more concerned with getting their doctoring cheap than with the welfare of the doctors. It is idle to say, and to go on saying, that our demands have been acceded to or that we have any security. There may be a difference of opinion as to the wisdom of having one or more of the "six cardinal points" in the Act. There should be no difference of opinion as to the necessity of an absolute guarantee of the whole of the demands being secured, not merely made possible, by administrative process. It is untrue to say we have this. I am compelled to reiterate and labour this point, because it is being stated again and again that our demands have been conceded. This is where some of us think the Council has been weak. Nearly all of us would see with deep regret the disorganization of the British Medical Association. It is our principal, practically our only great organization. We propose nothing and we wish nothing hostile to or even in rivalry with that Association; but we think that a very grave and even vital emergency has arisen, and that our first line of defence has wavered seriously, much more seriously than the Chairman of Council is willing to admit. We think, therefore, that it is necessary to bring up our reserves to prevent our position from being rushed. So we propose to ask all those in the profession who are not organized to join in with existing organizations till the crisis is past. We hope that then, with increased strength both in numbers and morale, the British Medical Association may go on with its work. (Cheers.)

"*To Refuse to Form a Panel.*"

Dr. J. Sackville Martin (Leigh, Lancs.) moved:

> This meeting of the medical profession, in pursuance of the resolution passed unanimously on November 18th and generally adopted throughout the country, now recognizes that the only satisfactory method of meeting the situation created by the Government is for the members of the profession to refuse to form a panel under the bill, or to undertake any duties which the bill proposes to assign to them.

The policy of the Council of the British Medical Association did not reflect the opinions expressed at meetings of the members all over the country. The Council proposed, instead of having one broad fight on this matter, to split it up into many small, secondary fights. Each Division would have primarily to fight its own battle, and afterwards it might be assisted by the Association. A strong Division would win its points and a weak Division would lose them; that policy was disastrous. They were practically committed to working the bill. The General Secretary of the Association was now an Insurance Commissioner. ("Hear, hear," and "Shame.") The new organization was not intended to cause a split in the profession. He could not deny that a split existed, but let them put the blame where it ought to rest. On the day when the Council advised Mr. Smith Whitaker to take the post of Insurance Commissioner they split the profession from top to bottom. (Prolonged cheering.) They had not met that afternoon to split it further, but to find out if there was any method of repair. (Cheers.)

Dr. Ferguson (Burnley) seconded the motion and examined seriatim the six cardinal points, comparing them with the concessions gained in the bill. He said the representation of the profession on the Insurance Committees, of whose members two-thirds were members of friendly societies, was quite inadequate. As for the remuneration, the actuarial estimate was based on 6s. a head, which was to include drugs and appliances. Did the profession think that 4s. 6d. was sufficient for medical attendance? (Loud cries of "No, no.") If the points they had demanded were not granted, how could the British Medical Association say that they had got practically all they wanted? Unless they now took a firm stand, the consequences to medical men would be disastrous.

Dr. P. R. Cooper (Manchester) proposed to add to the motion the words:

> Unless and until the cardinal points are fully agreed upon.

This proposal was received with loud cries of dissent, but Dr. Cooper said that unless they could obtain a solid union in the profession nothing could save them from defeat. So far as he knew, no one had given way on the six cardinal points. (Cries of "The Council.") It was admitted that there were differences of opinion as to their position under the bill with regard to these cardinal points, but he would not like the profession to be split on this simple question, and he thought that the rider which he suggested to the motion would provide a way out of the difficulty.

Amid much opposition the rider was seconded, but, without further discussion on it, the Chairman put it to the meeting, and it was rejected by a large majority.

Dr. Helme, who rose to support the resolution, was received with loud and prolonged cheers. It was argued, he said, that there were no legal barriers which would prevent them from getting their "cardinal points." To his mind the whole thing bristled with barriers. First, there was a barrier to the principle of adequate remuneration. Four shillings a head was the sum provided for payment, with an inspector to see how the work was done. On the committees there were to be a three-fifths majority of working men, with five medical representatives in a total of eighty. Then there was the Medical Committee, without a vestige of statutory power to enforce its decisions. Was the policy of friendly society control contained in the Harmsworth amendment no barrier? What about Mr. Lloyd George's "provisos"? Were they not barriers? Last of all, there were the Commissioners, who had absolute power to do what they liked. The doctors would be helpless once they had formed a panel. There were barriers enough to prevent them from getting their points, and not a single guarantee that any point would be gained. What ought to be the base f united action in these circumstances? There were two alternative policies. The policy of the Association was "Negotiate and procrastinate." That was what Mr. Lloyd George wanted. If they formed a panel they accepted the bill and all that was contained in it. They accepted the Harmsworth amendment, Mr. Lloyd George's provisos, the Commissioners' autocracy, inadequate pay, and service under a committee of working men. These things were essential to the framework of the bill. Once they formed a panel they could not alter them. (Cheers.) It was this ill-devised policy of the Council that had disunited the British Medical Association. There was another policy, he was thankful to say, on which they might honourably unite. That was to decline to form a panel or take office under the bill. (Cheers.) They must at once tell the Commissioners that the only way to work the medical benefit was to give that benefit as a contribution to the insured. This policy would not wreck the bill. They would not refuse to work the bill on any terms; they would offer to work it on their own terms. (Cheers.)

At the close of Dr. Helme's speech less than five minutes remained to the time advertised for putting the motion to the vote, but the Chairman called on Dr. J. H. Taylor (Salford). Before he could begin, Dr. Pinder (Salford) raised a point of order. He contended that the meeting had been called for the purpose of protesting against the bill, and not to hear advocates of the British Medical Association. (Cheers and cries of "Shame.")

The Chairman said he did not think that was a point of order, and he had asked Dr. Taylor to speak because he thought the meeting should be fair and just.

On attempting to speak, Dr. Taylor was met with loud cries of protest, "booing," and other interruptions. A wild scene of disturbance then followed. Mutual recriminations between members of the audience took place, and amid continual interruption and cries for the Council to resign, Dr. Taylor said: "I come before you this afternoon as a member of those much maligned and grossly misrepresented bodies the Council and the Representative Meeting. I come with not one word of apology. If ever there was a time in the history of our profession when it was absolutely necessary for us to keep our heads it is now. This is no time

for 'mafficking.' It is no time for indulging in hysterics, or being led away by a panic. It is rather a time for us seriously to recognize that we have now in our hands the future of our profession."

After these few sentences, with pauses between each while the meeting was in disturbance, the CHAIRMAN said the time was up when the vote must be taken.

Dr. TAYLOR: One sentence more the Chairman allows me. We are willing to work as one body, if you will only let us. (Loud cries of dissent.)

The resolution was then put to the meeting, and an almost solid vote given in its favour, only about a dozen hands being held up against it, though a certain number did not vote at all.

Dr. W. COATES (Manchester) then moved:

> That in the opinion of this meeting it is advisable to form at once a National Medical Union to deal immediately with the conditions arising out of the National Insurance Bill, and to strengthen the hands of the members of the British Medical Association and all other societies and committees now engaged in safeguarding the interests of the medical profession.

Dr. Coates said that the Union was required because the will of the medical profession had not been allowed to prevail in the matter of the Insurance Bill. (Cheers.) The independence of the profession and the livelihood and future of its members were at stake. The "cardinal points" which the Council of the British Medical Association had been asked to secure in the bill were as distant as Rome, as extinct as the dodo. More than that, the Council had allowed one of their officials to take office under the bill. The Council had been caught in a net; the subtlety of the spider had been too great for them. (Laughter.)

Dr. T. WATTS (Hyde) seconded the resolution. He said that however richly laden with "refreshing fruit for the parched lips of the multitude" this Insurance Bill might be, it was heavily laden with Dead Sea fruit for the moribund lips of the medical profession, which had been treated with cynical disregard from beginning to end. The profession must go into the fray armed to the teeth to resist the iniquitous measure that had been thrust upon it. Those present had no desire to wreck the Association, but must pay regard to the voice of the enormous majority of the medical practitioners of the country, who said their views had been misrepresented. (Cheers.) They insisted upon having a body of men who would spur the Council of the British Medical Association to proper action and who would help to remove the effect of the evil eye which had been cast on the Council by Mr. Lloyd George. Dr. Watts concluded his speech by saying he did not believe the Council had wilfully "sold" them, but that it had been obsessed by the personal magnetism of Mr. Lloyd George.

Dr. RAIMENT (London) said that "he and London" supported the resolution. In London they might have been somewhat backward, but they were now moving, and he invited anybody who cared to come to the meeting to be held in the Queen's Hall on December 19th.

Dr. O'CONNOR (Oswestry) said they were determined not to have the bill, and no medical man who had the reputation of his profession at heart would allow himself to be trodden down by the Health Committees.

Dr. PINDER (Salford) said the Council of the Association had shown contemptible weakness in entering into negotiations with Mr. Lloyd George. It ought never to have negotiated at all. What right had any man to say that this meeting was opposed to the British Medical Association? They were themselves the British Medical Association. The Council of the Association had simply betrayed the members. Dr. Taylor had himself said that the Council had told the members of the Representative Meeting that they were not bound to vote as their Divisions instructed them. (Dr. TAYLOR: "No, no; I deny that.")

Dr. PATERSON (Newbury) said that the feeling of his district was that they wanted a new Council that would represent the general practitioners of the country.

Dr. STEWART ROSS (Edinburgh) said they must wreck this bill, and there was no division of opinion on that point.

Dr. LORD (Chatham) said the Council did not realize the intensity of the feeling of general practitioners. They were raging, tearing hot in the South.

The resolution was then put to the vote and carried by an overwhelming majority.

Several members of the audience then called for Sir JAMES BARR, who was on the platform, to speak, and he rose amid great disturbance to propose a vote of thanks to the Chairman. Cries came from various parts of the meeting: "Resign"; "What right has he to speak?" "Explain your letter about Whitaker," and the Chairman had to appeal several times for order before Sir James Barr could proceed. He partly propitiated the meeting by declaring himself altogether opposed to the bill as he did not believe in grandmotherly legislation. On attempting, however, to defend the Council for recommending the appointment of Mr. Smith Whitaker, fresh interruption occurred, and it was with the greatest difficulty he could be heard. He hoped the new union would stick together and wreck the bill, and, if they did that, nobody would be better pleased than himself. The vote of thanks to the Chairman was carried with applause.

A list of names was then laid before the meeting to form the Executive Committee of the new union, but strong objection was raised by members of the audience to what was thought to be the preponderating proportion of consultants. Several general practitioners were then added to the committee, with power to add to its numbers, and, after some altercation on the platform, the committee was appointed and the meeting was at an end.

BIRMINGHAM.

A MEETING of the medical profession took place on Friday, December 15th, in the Large Lecture Theatre of the Midland Institute, Birmingham, which was crowded, between 700 and 800 practitioners from all parts of the four Midland counties—Warwickshire, Worcestershire, Staffordshire, and Shropshire—being present. It was called to consider the Insurance Bill.

Mr. FRANK MARSH was voted to the chair, and in his introductory address said that the meeting had been summoned in response to a widespread demand by medical men in the Midlands for an opportunity of expressing their opinion of the National Insurance Bill now it had been passed by the House of Commons. It was thought advisable to call it independently of the British Medical Association, hence the absence from the circular of the names of any of the local officers, and also to include a much wider area than that covered by the Birmingham Branch of the Association. It had not been called in any spirit of antagonism to the Association, but rather with a view to help the Executive of the Association to gauge correctly the attitude of the profession—members and non-members—at the present critical moment. If meetings like that did not clearly indicate the course the profession wished to adopt, he suggested to the Executive that a postal referendum be taken at once on the one question, "Are you willing to work under the bill as it now stands, or not?" and let the verdict of the majority be vigorously carried out. (Applause.) Any division in their ranks at this juncture would be a disaster; it would put an end to all effective opposition to the working of the bill and gladden the heart of the Chancellor of the Exchequer, who had, by a recent appointment, most adroitly thrown a bombshell amongst them. It was for them to see that the explosion did as little harm as possible. One result he had achieved by it—he had created the impression in the minds of the general public, and incidentally of the House of Lords, that the medical part of the bill was acceptable to the profession. That meeting would, he thought, help to remove that impression and show the Chancellor that he had signally failed to disunite them. (Applause.) He proposed:

> (*a*) That in the opinion of this meeting of the medical profession of Birmingham and the Midland Counties, the National Insurance Bill does not satisfactorily meet the just demands of the medical profession, at defined in the six cardinal points formulated by the British Medical Association.
>
> (*b*) That in the opinion of this meeting the bill will create a condition of affairs detrimental to the public interest as well as to that of the medical profession.
>
> (*c*) That in the opinion of this meeting the only satisfactory method of meeting the situation created by the Government is for the profession to decline to undertake any duties which the bill proposes to assign to them.

When the bill was first introduced (he continued) the medical profession pledged itself not to be satisfied with anything less than the inclusion of the six cardinal principles laid down by the British Medical Association. The question which the meeting has to decide is: Does the bill, which is practically in its final form, satisfy these requirements? ("No.") I agree; it does not. The only two principles practically, but not completely, secured are two minor ones—the free choice of doctor by patients, and the settlement locally by the authorities under the bill and the profession of the methods of remuneration by capitation payments or for attendance. The principle of the income limit has only been secured so far that one may be fixed by the local Insurance Committees in consultation with the local Medical Committees. It does not at all follow that it *will* when the composition of the local Insurance Committees is borne in mind, and when complete unity of the profession in each separate district is essential. Is it likely that a committee ruled by contributors will, even if it wished, dare to shut out their fellows earning a little more per week? I think not. (Applause.)

The next principle, and a most important one, was that medical benefits should be administered by local Insurance Committees and *not* by friendly societies. In this matter the profession has been tricked—and tricked in a most disgraceful manner. A deputation of the profession was promised by the Chancellor that in any arrangement made medical officers should be free from the control of friendly societies. Not only was the Harmsworth amendment accepted—largely nullifying the promise—(I believe it has just been considerably modified) but the local Insurance Committees are so constituted that under all conditions a substantial majority of representatives of approved societies is ensured—a majority elected by contributors, receiving assistance from their employers, and aid from the State. Verbally the promise has been kept, but in reality the control of approved societies will, if anything, be more intolerable than that of friendly societies. Was ever a pledge so dishonourably carried out? This act alone, gentlemen, more than justifies you in saying in words that cannot be misunderstood—we will have nothing more to do with the bill. If you accept service under such committees your independence is gone, the present high standard of professional knowledge will rapidly be lowered, no man with any self-respect will enter the profession, and the result will be alike detrimental to the public interest and that of the profession.

Adequate representation on the local Insurance Committees was another of the points. Would any representation short of a majority *upon committees so constituted* be adequate? (Cries of "No.") Of what avail will the last concession of one vote in ten be on such committees? But I augur from the present temper of the profession that after all there may be no need for their constitution.

The last of the six points, and not the least important, is that of adequate remuneration. Even the British Medical Journal admits that the position in regard to this is unsatisfactory. It is most unsatisfactory, because it cannot be obtained; the Government actuarial calculations are based on an allowance of 6s. per head per annum—not 1½d. per week—for medical benefits, including drugs and sundries. How will this work out? 1d. for the doctor and ½d. for the chemist—for you are not allowed to dispense your own medicine—or ½d. for the doctor and 1d. for the chemist, or possibly 1½d. for the chemist, who must be paid for his drugs, and what is left for the doctor? If this is not sufficient for you, gentlemen, you can get more; you can, if you are able, get your local Insurance Committees to ask the county councils (as an act of grace) to give you a grant out of the rates, and, if you succeed in getting this, the Government will make a like grant. How many committees will be disposed to ask, and how many county councils, do you think, will give a grant that they are under no obligation to give; and if they do, do you imagine for one moment it will prove an adequate one? If, under the soothing influence of fair words, you take office, trusting in these vague uncertain sources for remuneration, you will deserve to be told, as you probably will be, that the pittance you get is "better than nothing," and if you remonstrate and ask for more, you will be again accused of "unseemly wrangling in the sick-room." So much for the cardinal points; but there is one other to consider: The value of a security is its market price; a practice in a working class district had a value of from one to two years' purchase. What is it worth now? Practically nothing—it is unsaleable. The bill, even before it is enacted, has had the effect of wiping out this capital of the profession, estimated at some £4,000,000 to £12,000,000, and if you accept it as it is, this goodwill will never be restored. You are asked to bear this loss, of course without a murmur of protest; to give your services for what can only be inadequate remuneration, and—most intolerable of all, for members of an educated profession—to sacrifice your independence. If you become restive and fail to satisfy your masters, you may at any moment be struck off the panel by the Insurance Commissioners and your professional prospect ruined. (Applause.)

The policy of "wait and see," he concluded, would be a fatal one. It spelt defeat in detail. Their experience of negotiations so far could hardly be said to be satisfactory. The more explanatory circulars he got from the members of the British Medical Association the more he was convinced of the unwisdom of any further steps in this direction. Personally, he felt certain that when negotiations were commenced locally, then disunion would arise. Let only one district in the kingdom fail and the situation was lost. Their first line of defence had wavered; their second line was less compact and more vulnerable. Therefore he advised them to make a stand now, and declare by their votes to-day that they would have nothing more to do with this, to us, most unjust, most ruinous measure. (Loud applause.)

Dr. H. Hoyle Whaite (Birmingham) seconded the motion. Speaking from the point of view of a general practitioner, he believed they would be very seriously affected by the bill. They were never further from being able to accept it than at present. Putting aside the free choice of doctor, and the statutory recognition of local committees, he defied any one to prove that they had had any other point conceded that they originally demanded. He maintained that, of all the gratuitous insults which had been levelled at the medical profession, the suggestion that they should bargain and haggle and wrangle for that which ought to be lawfully and legally their own was a gross injustice. He hoped they would all do their best to avoid a direct split amongst the members. They were not antagonistic to the British Medical Association, but he maintained that its policy did not carry them far enough. He advised them not to quarrel with the motive power but to change the driver. Meetings were being held up and down the country and resolutions passed not in favour of negotiation, but of a flat and final refusal to consider the bill in any shape or form. It was for the doctors of the four Midland counties to decide what their policy should be, to stand together, and refuse to work under the bill because they considered that it degraded the honour and dignity of the profession. (Applause.)

The Chairman read the following telegram: "Shropshire united against work under the bill." He also read a letter from Mr. Gilbert Barling in which he begged the members to avoid taking any action which would diminish the authority of the British Medical Association or set up any conflicting body which would divide the profession into two camps. If the members of the profession were divided the action of the Government in appointing Mr. Smith Whitaker would indeed have proved the apple of discord which some thought was thrown with that intent. They must see that that object was not attained. He felt that the Chancellor of the Exchequer had betrayed the profession of medicine in the spirit if not in the letter, for, having promised relief from the pressure of the friendly societies, he had handed them over to the insured members.

Dr. Hennessy approved of the resolution. The words "cheating" and "trickery" and "dishonourable" had been used, but he thought the tricking had been by their own representatives. If they had acted well their part there would have been no trickery or dishonour in the matter. If they had said what they wanted and accepted nothing less they would not have been there. ("Hear, hear" and "No.")

Dr. Johnson (Stoke-on-Trent) asked the Chairman to define what was meant by the word "duties" in the resolution.

The CHAIRMAN: It means all duties.

Dr. MILNER MOORE (Coventry) pleaded for unity of action and purpose. Without that the profession would not arrive at the determination it wanted with regard to the bill. If they took up the attitude of objection to what their representatives had done in the past they would be taking a backward step. They had for years been assisted by the Association, and the Association had done its best for them as far as it could. ("No.") The bill would not come into operation until July, and medical men would not be asked to work under it until January, 1913, so that there was no need to rush the matter. He was very sorry to see the ill-feeling there was as to the appointment of Mr. Smith Whitaker. (Hisses.) He was the very best man who could be an Insurance Commissioner, and had always had the interest of the profession at heart.

Mr. LIONEL STRETTON (Kidderminster), President of the Worcester Division of the British Medical Association, moved the addition to the resolution of the words:

"until our six cardinal principles have been accepted."

The majority, he said, had decided not to have the wage limit in the bill, but to achieve their object by other means—by negotiation. ("No.") It was possible they might. ("Never.") That meeting practically said they would not negotiate. He said let them continue to negotiate and see if they could achieve their object. If they did not get what was wanted they still had the power to refuse to work under the bill. The matter was of the utmost importance, and they should stand together as a united body. (Applause.)

Dr. GARMAN (Wednesbury) did not think sufficient disposition had been shown by those present to join together and act with the only body which gave them a mouthpiece as representing the profession—namely, the British Medical Association. Their attitude must be one of unswerving adhesion to it. They would make the greatest mistake if they allowed it to go out to the public and the Chancellor of the Exchequer that they were cutting themselves adrift from the only body which Mr. Lloyd George had consulted. If they were not careful they were going to make it possible for the so-called "blacklegs" to come in and deal with the mass of untreated people and let the profession down lower than ever.

Dr. PARSONS (Worcester) seconded the adoption of the additional words suggested by Mr. Stretton.

Professor SAUNDBY, President of the British Medical Association, said he looked upon the bill as likely to do an immense amount of injury to the medical profession. He attended a meeting of the Council of the British Medical Association the other day, and seconded the resolution that Mr. Smith Whitaker should be allowed to accept the appointment. It might be said, "Why give us away like that?" If he had thought that he had been giving them away he would not have seconded the resolution, but he regarded the appointment as the only ray of light, the only bit of good luck they had had in all the negotiations. He regretted that the Representative Meeting in June took up what he regarded as a weak attitude. What had been said that day ought to have been said six months ago, and meetings such as that ought to have been held. If they were to have a little chance, it was by putting men on the local committees with the hope that through Mr. Whitaker, when they appealed to the Commissioners, they might get some justice. If they did not, then was the time to strike. (Cries of "No.") They would be just as able to do it then as now. He did not want them to pass a resolution which would prevent the best men getting on the local committees. (A Voice: "Smash the bill," and applause.) You will not smash it; I wish you could.

Dr. STEAD (Walsall) thought that one main object of that meeting was to make it clear to the British Medical Association authori ies and Mr. Lloyd George that until the cardinal points were conceded they would not work the bill. If they could not smash it, they could thrust general paralysis on it.

Dr. ALLEN said he was not a member of the British Medical Association, but he thought that it would be a mistake to break it up. Mr. Lloyd George had thrown a bone amongst the dogs in the hope that they would quarrel over it. One dog had managed to get it. (Laughter and applause.)

Professor MORRISON (President of the Birmingham Branch) was not able to support the original resolution, but commended to acceptance the modification suggested by Mr. Stretton. Their course should be to use their best endeavours to see that the best men were placed on the administrative bodies—men who were imbued with proved loyalty to the best interests of the profession.

After some further discussion, a vote was taken on the additional words suggested by Mr. Stretton, and they were rejected by a large majority, and the original resolution carried with a number of dissentients.

LONDON.

THE meeting of the profession called by Dr. FRED. J. SMITH (London) took place on Tuesday afternoon, December 19th, at the Queen's Hall, Langham Place, London, W. The proceedings were open to members of the profession, whether members of the British Medical Association or not, and very soon after the appointed hour the hall was practically full, including the two galleries. For half an hour, while the rosetted stewards were scrutinizing the tickets of those who sought admission, Dr. NORMAN MEACHEN played stirring music on the organ to such effect, that when he "brought on" the chairman and speakers to the strains of "Rule Britannia," the audience stood up and joined heartily in the chorus.

Sir W. WATSON CHEYNE presided, and those on the platform included: Mrs. Scharleib, Sir Anderson Critchett, Sir John Tweedy, Sir Alfred Pearce Gould, Sir Wm. Osler, Mr. Esmond, M.P., Dr. Fred. J. Smith (the convener of the meeting), Mr. Brudenell Carter, Drs. Herbert Spencer, T. B. Hyslop, H. J. Godwin (Winchester), Crawfurd Thompson, Fagan, Sieveking, G. Lipscombe (St. Albans), Sydney Stephenson, Courtney Law, Sidney Phillips, T. A. Helme and J. B. Brierley (Manchester), etc. A strong contingent of medical men from Manchester attended the meeting. Messages of regret at inability to attend were received from, amongst others, Sir Frederick Treves, Sir William Whitla and Sir William Bennett.

Sir W. WATSON CHEYNE, Bart., C.B., F.R.C.S., in opening the proceedings, said they had met under extraordinary and very serious circumstances. A very able and astute statesman had conceived the idea of national insurance against sickness and unemployment, and had produced a scheme which undoubtedly contained many points of the most admirable nature and which deserved the most careful consideration. This statesman had said to the public, "If you will subscribe a small sum weekly I will arrange that if you are taken ill you shall have a great variety of benefits—among them free medical attendance." (Laughter.) This offer had been accepted, the bill had become law, and before very long the insured persons would be asking about the promised free medical attendance. It was a very extraordinary thing—hardly conceivable, indeed—that up to the present no definite arrangements had been made with the medical profession to provide the attendance that had been promised. It looked as though no preliminary attempt had been made to ascertain under what conditions this attendance would be given by the medical profession, or, if such application had been made, it had been made to the wrong individuals. (Loud applause.) The Chancellor of the Exchequer, however, could not plead ignorance of the terms under which the profession would do his work; they had brought their terms to his notice over and over again. Very little or no notice had been taken of the representations of the medical profession, and their demands had either been ignored or shelved and handed over to bodies outside Parliament to deal with them as best they could. ("Shame.") What were they to do under those circumstances? (Cries of "Fight," and applause.) They had met to say to the Chancellor and any one else it might concern that they would have no more specious promises—(applause)—and that until the necessary and most limited demands of the medical profession were definitely acceded to, and until they were put in such a form as prevented any possible inequitableness or misunderstanding, they would refuse to carry out medical treatment as the Chancellor desired it under the Act. (Loud cheers.) This

was not a strike of the medical profession. They were not refusing to continue to treat the poor as they had always done. (Applause.) They were only saying to the Chancellor of the Exchequer "We do not like your terms; they are not sufficiently good or definite, and we prefer to go on as before in our relations with the sick poor." As a matter of fact, under present circumstances the poor were really better off than they would be if treatment was carried on under the Act. (Applause.) At present the poor had a large number of practitioners practising among them—men of the most kindly disposition, who did an amount of charity towards the poor of which the public had not the slightest conception. The poor had also open to them great charities, provident dispensaries, and great hospitals. Would diminished hospital accommodation and smaller charitable contributions be compensated for by the sort of medical attendance this Act proposed to provide? (Cries of "No.") He would make one appeal to the meeting, and that was if they were to carry their point they must be united. (Applause.) If they were united they were bound to win, for who was there to replace them? (Cries of "No one.") One heard it said that whole-time officers would be appointed. (Cries of "Never.") If the profession was united, there were not many men—at any rate, many desirable men—remaining, and those who took the work, with the exceptions of perhaps a few, would either be young men who had no experience, or men who had failed in their profession. He made bold to say that the poor would not be put off with that sort of attendance, and would feel that the Chancellor had not fulfilled his promise in providing that kind of medical service. The results of the Act would be that hundreds and thousands of their medical brethren would be reduced to a state of penury. They must have some organization to unite them, and the only organization they had that was able to do the work was the British Medical Association. (Applause.) The Association had the money and the organization, and was the only body that could fight their case. Hence they must stick to the Association and work it for all it was worth. If they had any fault to find with it, or with the Council—(hisses and cries of "New Council")—they must do as other employers did—get fresh servants who would serve them better. (Loud applause.) But, in their quarrels with the Council, let them remember this was a private matter—it was not a matter that came before this mass meeting—and let it not divert attention from the real issue, the stand they were making against the Act in its present form. It was not to be supposed he had any brief for the Council or the Association. (Laughter.) As a matter of fact, some two or three years ago he got into controversy with them over certain hospital matters, and the controversy was so unsatisfactory that he left the Association. "Do not on any account follow my example," said Sir Watson Cheyne; "it would be a disastrous example under present circumstances." He hoped that any speeches that were made would avoid anything approaching personalities in any reference to the Council or the Association, or in any way lead to controversy or disunion. The meeting had met to consider what course the profession should follow as regards working under the Act, and not to consider the faults or otherwise of the Council of the British Medical Association.

Dr. FRED. J. SMITH proposed:

> That this mass meeting of the medical profession is of opinion that the six cardinal points originally formulated by the British Medical Association are not guaranteed by the provisions of the Insurance Act in a manner which satisfies the profession.

Dr. Smith said that a fortnight ago when he first raised his voice in the public press in protest he had only general ideas on the matter, but he felt that the bill was most unsatisfactory to the profession in regard to medical benefits. In the interval he had had the opportunity of reading and thinking over some three or four documents. The first was the replies in the daily press to his original letters of protest; the second, the Act itself as it left the House of Commons on December 6th; the third, the full reports of the action of the Association published in the JOURNAL of December 9th, when the question of the appointment of Medical Secretary was before that body, also the appeal of the Council addressed to the House of Lords, and another document signed by the Chairman of Representatives and the Chairman of the Council, published in the JOURNAL of December 16th. He had come to the conclusion that not only had he had no need to argue his resolution, but that its cogency was admitted by almost everybody, and was definitely proved to be true by the Act itself. (Applause.) Dr. Smith went on to criticize various passages in the statement last referred to. On the statement—"the following principles of the Association have been incorporated in the Act: (1) the free choice of doctor," Dr. Smith agreed that this appeared in the Act, but said that its effect on the profession or the interests of the profession was considerably modified, if not nullified, by the section of the Act which enabled the Commissioners to remove any medical gentlemen from the panel. Contrary to the statement of the two Chairmen, he maintained that medical representation on the local Insurance Committees was not adequate, being in no case more than one-eighth, and more likely to be a tenth or less. As to the "statutory recognition of the local Medical Committee," he could not see what there was in the precious phrase "statutory recognition" to give the Council such satisfaction. It sounded very well, but meant nothing. Consider the practical working of this provision. The clause provided that the local Medical Committee should be consulted, but it was silent as to the amount of attention that should be paid to its representations. The advice offered by a small Medical Committee to the local Health Committee—containing a majority of the very men in whose power doctors objected to being placed—would obviously be considered by its recipients to be not entirely disinterested, and he could only see a long vista of very undignified wrangling in prospect. In view of the fact that in Clause 1 £160 was definitely stated as the income limit, to claim, as the Council did, that a step had been achieved towards an income limit of £104, could only be using language meant to mislead. It was common knowledge that the £104 limit had not been conceded. Nevertheless, he had strong evidence that this limit might have been secured at some risk to the Government. Their negotiators preferred to sacrifice the interests of the profession rather than let the Government run any risk. (Laughter and cheers.) The Council also said, "The bill, by the efforts of the Association, had now been so amended that there is no legal barrier against the profession securing the fulfilment of its entire policy." This was poor consolation after months of strenuous effort. What sort of announcement was this to men who gave to the Council, through their representatives, the clearest mandate to get their six points as the minimum or "die in the last ditch." (Applause.) The Council had not died in the last ditch, but had flung the Medical Secretary therein to appease the appetite of the Chancellor. (Loud applause.)

Mr. M. MILTON TOWNSEND, who seconded, said that the meeting had not been called to give voice to a pious expression of opinion. The object of the meeting was that a requisition to the Council should be signed calling for an extraordinary general meeting of the Association. (Applause.) The meeting was the first step in a campaign, as a result of which, if the profession stood together, it would be able to compel the Government either to grant its demands in their entirety or drop the medical provisions of the Act. (Loud applause.) He would take them back to the mass meeting at the Connaught Rooms. The six-point programme was unanimously put forward and handed to the Council. The bill was now law, and where were their six points? They were not in the bill. The wage limit had gone. They were definitely promised free choice of doctor, and then at the last moment the Harmsworth amendment took that away. They asked for freedom from friendly society control, but the medical representation on the local Insurance Committee was fixed at a maximum of three in forty and a minimum of three in eighty. It was farcical to say that that was freedom from friendly society control. As to the method and scale of remuneration, they were told that the Commissioners had power to give the medical profession any sum they wished; but from the only figures published in connexion with the bill—contained in the actuaries' reports—it appeared that after every one else was satisfied there was to be 6s. for the chemist, doctor, and instrument maker. Some one in the hall remarked

that the figure 6s. was not in the bill; but Mr. Townsend said he was dealing only with the actuarial estimates, the only figures obtainable. The statutory local Medical Committee Mr. Townsend described as a perfect farce. What was the use, he asked, of a committee when there was no provision for carrying out its requirements? There were two committees which could override any recommendation it sent up. He asked, Did they consider that the six points were embodied in the bill or not? (Loud cries of "No.") If the points were not embodied in the bill, then they could vote according to their consciences, and as the meeting voted so this campaign would be able to proceed. (Loud applause.)

At this point Sir Victor Horsley was seen to rise in the body of the meeting. He appeared to be desirous of speaking, but anything he uttered was lost in a storm of cheers and groans that arose. The Chairman invited Sir Victor to the platform, and he stood there for some moments waiting for the clamour to subside. The Chairman appealed to the meeting for order. There were cries of "Victor Horsley!" and one member of the audience shouted "We won't hear another speaker unless Sir Victor Horsley speaks!" The Chairman, again intervening, said he must ask for fair play. The only response was cries of "Traitor!" apparently directed against Sir Victor Horsley. The Chairman said, "Gentlemen, you will spoil the meeting if you persist; I must ask you to hear Sir Victor Horsley."

Sir VICTOR HORSLEY, who had taken a seat during these preliminaries, again came forward, and a further outburst of cheers and groans occurred. Some cried, "Play the game!" to which a generous spirit on the orchestra responded with the suggestion, "Give him five minutes." Sir Victor essayed to begin his speech, but there was more uproar, and he sat down again. A stentorian voice from the back shouted, "Are we a meeting of gentlemen, or what?" and some one else said, "We won't hear anybody until we have heard Horsley." After a further intervention from the Chairman, Sir Victor tried again, to be greeted with the remark, "Did Lloyd George send you?" He had got as far as "Sir William, ladies and gentlemen," when an interruption occurred at the side of the hall. Dr. R. M. Beaton appeared to be trying to attract the chairman's attention. Comparative quiet having been restored, Sir Victor proceeded, "The point has been laid before you that this meeting is to pass a certain resolution. With the general terms of that resolution nobody can find fault, except on the point of grammatical accuracy. The inaccuracy lies in this simply, that it and the speeches introducing it assume that the six cardinal points were ordered by the Representative Meeting to be inserted in the bill. They were not. (Applause.) As to the Representative Meetings, Dr. Smith says he has only read up the meetings of the last three weeks. If he had begun with the Representative Meetings of May and June last, he would have found that the Representatives ordered the Council to divide the six points, such of the points as could be incorporated in the bill to be incorporated, leaving others to be settled by the Insurance Commissioners." The completion of this sentence was the signal for another outbreak of disorder, and Sir Victor refused to continue any longer to attempt to speak.

The CHAIRMAN then put the resolution. There appeared to be only about four dissentients, and it was declared carried.

Mr. PERCY C. RAIMENT proposed:

> That this mass meeting reasserts the fundamental importance of the demands of the medical profession, and is of opinion that every medical practitioner should refuse to accept any office for giving medical attendance and treatment to persons insured under the Act until those demands shall have been definitely conceded.

Couching his first sentence in somewhat grandiloquent language, Mr. Raiment was so unfortunate as to get out of touch with the audience immediately. He said that he thought no one could address that great meeting without being imbued with a sense of responsibility, lest he should be tempted by a sense of the injustice that the Act inflicted into the use of inflammatory language, which might widen the breach that had arisen. This was neither the time nor place in which to animadvert on the actions of the Council. (Cries of "Sit down.") Nevertheless, he could not justify this resolution without referring to the action of the Council. (Renewed interruption.) Until last Friday he did not think it would be necessary to justify the terms of the resolution, but on that day he received the SUPPLEMENT of the BRITISH MEDICAL JOURNAL, in which the following sentences in a letter signed by the Chairman of the Representative Meeting and the Chairman of the Council occurred: "It is not legitimate now to ask the Association to refuse to work the bill on the ground that the six points are not specifically granted therein," and "The bill, as now amended, definitely secures certain points and makes others attainable if the profession takes proper steps." The meeting had declared that the six points had not been incorporated, and that was its answer to the second sentence he had quoted. The boycott by the medical profession of the Act would force the Government either to embody the medical demands in a short amending Act or to drop the medical provision altogether. (Applause.) There was the third alternative—that the Chancellor should return to the insured the premiums they had paid and allow them to make their own arrangements for medical attendance, which would be for the medical profession the *status quo ante*. Having decided that their only proper course was absolute refusal to work the Act, unanimity would not be obtained by any number of speeches but by individual decision. He hoped every one would leave the hall imbued with a sense of personal responsibilty, and fired with indignation that a great and honourable profession should be driven hither and thither by a politician—(The rest of the sentence was lost in cries of "Time"). Mr. Raiment went on to discuss the possibility of whole-time doctors. It was said that Mr. Lloyd George would find 5,000 men at £900 a year, or 7,000 men at £600 a year, but Mr. Raiment pointed out that 5,000 men would have to treat an average of 3,000 patients each on the basis of 15,000,000 insured people, or, when sickness incidence was high, 120 per day. (Laughter.) As to the boycott of administrative posts, it was not suggested that the posts should not be accepted. Medical men should be prepared to serve on the various committees, so that they could put their views before the various authorities. (Cries of dissent.) Personally, he would have liked the terms of the resolution to have been stronger, and to have insisted on an absolute boycott of the whole Act. He did not understand the elasticity of conscience which saw the merit of accepting a highly-paid position to work the Act but prohibited the lesser appointments being filled. He denied that the opposition had split the Association. The Council promised that they would not recede one inch from the six cardinal points; but now they said differently. How was the profession to work under a policy that changed with every issue of the JOURNAL?

Dr. T. A. HELME (Manchester), who was received with great applause, delivered a fighting speech. The Association, he said, told the profession to form local committees and bargain with the authorities under the Act. But to bargain one must stand on equal terms, and where did they stand? (A voice, "Nowhere.") On one side was the local Health Committee, three-fifths of whose members would be working men, and there was a body of autocratic Commissioners. On the other side was the Medical Committee without a vestige of statutory power, but with the privilege of going on its knees and asking. There was an alternative policy to acceptance of the Act on which all honourable men could unite—namely, to refuse to take office and attend the insured, or to form a panel. They must tell the Commissioners that to work the Act they must give the medical benefit contributions to the insured. Thus would the profession maintain its independence. (Applause.) They would not "refuse to work the Act on any terms"; they offered to work it on their own. If the insured received the cash value of the medical benefits in time of sickness, doctors would continue to graduate their fees according to the means of the patient, but they would not allow Mr. Lloyd George to give his charity at some one else's cost. (Great cheering.) How could this be done? The British Medical Association had already shown the way. (Sir VICTOR HORSLEY: "Hear, hear.") It might be done in accordance with the three special resolutions of 1909, under which the profession would arrange for an efficient medical service for the poor whose administration would be absolutely under medical control. The wage limit would be fixed according to local

needs, and above that limit the integrity of private practice would be maintained.

Dr. Pinder (Salford) said he had been asked to speak because he supported the resolution with half a century of experience in the profession of medicine.

Dr. J. B. Brierley (Manchester) stated that the profession wanted the six points as the minimum, and wanted them in the Act. They must continue united; they had no wish to break the British Medical Association. It was theirs—(applause)—and the Association, "strengthened by the hands of the flowing tide" that had set in the direction of the new Medical Union, could dictate its own terms to the Government.

Sir Alfred Pearce Gould wished to raise his voice against the horrible practice of clubs. If the Act was accepted by the profession, it would mean forging the heavy chain of contract practice upon the profession, in respect of fifteen millions of the population. With regard to the six points, they heard comparatively little about "adequate medical remuneration." It was impossible to determine what was adequate remuneration until they knew what was to be paid for, the character and amount of medical treatment required. They wanted to see the treatment of the industrial population carried out as well as it could be, and the medical profession remunerated by an economic payment. (Applause.) Club practice had its inception in charity; it was a mixture of charity with some business astuteness. Men took these appointments not because they thought 4s. a year was an economic payment, but as an introduction to the wives, families, and friends of the insured.

Dr. J. H. Keay (Greenwich) said he was a general practitioner and a Representative and member of the British Medical Association. (Applause and hisses.) No Representative or member of the Council could possibly object to such a resolution as this. It was exactly what they had been saying for weeks and months past. But, while agreeing with the resolution, he could not agree with the arguments which had been brought forward by the mover and seconder. Did any one present know a bill dealing with social legislation during the last hundred years in which every point had been embodied and nothing left to be arranged afterwards? [Dr. Keay having thus shown a disposition to be critical, the meeting declined to hear any more. Dr. Keay was unable to make his voice heard, and he sat down.]

Dr. Douglas made the point that the British Medical Association having declared its opinion that no medical man should work under the bill until the six cardinal points had been conceded, the resolution before the meeting was unnecessary.

Dr. Hart (Manchester) mentioned that he was acting as secretary to the movement that arose in Lancashire, and declared that now was the time to refuse to work under the Act.

The second resolution was then put to the meeting and carried, with one dissentient.

Dr. Sidney Phillips moved:

> That the Chairman of this meeting be requested to send copies of the resolutions to the Prime Minister and the Chancellor of the Exchequer.

Dr. Phillips said that during the passage of the bill the Chancellor trifled with their representations if not with their representatives. He taunted them with "wrangling over a sick-bed." The Chancellor might take it that they would not wrangle over a sick-bed with his Health Committees. They would have their rights, and not allow them to be the subject of wrangling.

Sir John Tweedy seconded, and the resolution was carried.

On the proposition of Professor Howard Marsh, a vote of thanks was accorded to the Chairman, and the meeting concluded.

A considerable number of signatures were attached at the close of the meeting to a requisition calling for an extraordinary general meeting of the British Medical Association to discuss the following:

> That the National Insurance Act does not safeguard the six cardinal points of the policy of the British Medical Association in a manner satisfactory to the Members of the Association, and we consider that the Council of the British Medical Association has failed in its duty towards its members.

We are requested to publish the following letter, which appeared in the same issue of the *Times* as that which contained a report of the above meeting:

The Council's Position.—The Association and the Profession.

To the Editor of the "Times."

Sir,—Since the meeting of medical men held to-day in the Queen's Hall refused us a hearing because we are members of the Council of the British Medical Association, perhaps you will allow us to place on record the points we wished to refer to.

The resolutions before the meeting substantially expressed the views of the Association, and therefore we did not rise to speak against them, but merely to place the constitutional position of the Association before the meeting. This was rendered necessary by some of the speeches, which, though made in support of the resolutions, consisted mainly of attacks on the Council. The meeting was gravely misled by the following suggestions and statements, in correction of which we append minutes of the representative body of the Association:

Error No. 1.

That in dealing with the Insurance Bill the Council was responsible for the policy and public administration of the Association.

This is not a fact. The British Medical Association was completely democratized and reconstituted ten years ago on a representative basis. The whole of the policy and public administration of the Association is in the hands of representatives who are elected by divisions all over the Empire, and form the representative body (about 170 men) who determine every important step taken by the Association and instruct the Council, whose functions are therefore merely executive. That the Council has faithfully executed the duties entrusted to it is proved by the following resolution, which was passed unanimously at the last representative meeting held on November 23rd, 1911:

> Min. 20. Resolved: That the Representative Body expresses its grateful appreciation of the great services rendered by the Council of the Association and by the State Sickness Insurance Committee in connexion with the National Insurance Bill, not only to the members of the Association, but also to the rest of the medical profession.

Error No. 2.

That it had been originally determined that the six essential principles of the Association should be stated and included in the bill, and further that although so instructed the Council had yielded in this matter to the Chancellor of the Exchequer.

This is not a fact. The representative body as long ago as June 1st, 1911, fully considered the whole question of the six principles and passed the following resolution:

> Min. 78. Resolved: That the Council be instructed to consider what points in the policy of the Association should be secured if possible by specific provisions in the bill, and what points should be kept open to be determined by the Insurance Commissioners; to take the necessary action; and to report to the Divisions at the earliest opportunity.

This resolution of instruction to the Council is in accord with the invariable principles of drafting such legislation—for example, Poor Law, Public Health, Factory Acts, etc. As a matter of fact the Association obtained the insertion in the bill of four of the six essential principles of the Association, and two have been duly kept open for determination by negotiation with the Insurance Commissioners.

Error No. 3.

That it had been originally determined by the Association that, in particular, the amount of the wage limit with the rate and method of remuneration were to be stated and included in the Bill, and that the Council were responsible for this not being done.

This is not a fact. These points were considered at great length by the representative body in its meetings of May 31st, June 1st, and finally on July 24th, when the following resolution was passed:

> Min. 184. Resolved: That the Council be instructed to use their best endeavours to have the £2 limit fixed in the bill with provision for a lower limit to be fixed locally, but failing that, to obtain as best they can the fixation of £2 as a *maximum* limit with such local option.

In the same way it was decided by the representative body that the rate and method of remuneration should be settled in each district by the local Medical Committee in

negotiation with the local Insurance Committee and Commissioners. The representative body found it impossible to fix either a flat rate or a common method of remuneration. As no unanimity exists in the profession on these points, the representatives felt that no fixed rates or methods of payment could justifiably be imposed on medical practitioners by the bill. In respect of this point, however, it should be mentioned that the representative body has informed the Chancellor of the Exchequer through the Council that a 6s. capitation rate is inadequate.

Error No. 4.

That though "free choice of doctor" had originally been agreed upon and stated in the bill, it had been entirely abrogated by the "Harmsworth amendment," and that the Council had done nothing to restore this one of the six essential principles of the Association.

This is not a fact. Not a single speaker referred to the fact that the "Harmsworth amendment" had, by means of the action of the Council, been again altered and now brought into accordance with the essential principle of the Association—namely, free choice of doctor by every insured person. (Min. 27, November 24th, 1911.)

In conclusion, we have shown that the irresponsible statements made at the Queen's Hall meeting do not represent the position of the British Medical Association towards the Insurance Act. The mover of the first resolution (Dr. F. J. Smith) admitted to the meeting that he had read nothing on the subject until the last three weeks, not even the minutes of the three representative meetings held during the last nine months.

Such ignorance of public affairs is only too common, and to ignorance alone and not to intentional discourtesy do we ascribe the unfortunate intolerance of the Queen's Hall meeting.

Yours faithfully,

VICTOR HORSLEY.
J. H. KEAY.
A. J. RICE-OXLEY.

December 19th.

LEATHERHEAD.

AT a meeting, held on December 14th, in Leatherhead, of the Leatherhead and District Medical Society the following resolution was put to the meeting and carried unanimously:

That this meeting is prepared to loyally abide by the decision of the Council of the British Medical Association in allowing the Medical Secretary of the British Medical Association to accept the post of Deputy Chairman of the Board of Insurance Commissioners for England, and pledge themselves once again to abide by the decisions of the Representative Meeting of the British Medical Association as long as the six cardinal points of the British Medical Association policy are maintained.

SCOTLAND.

A MEETING of the Scottish Committee of the British Medical Association was held in St. Enoch's Station Hotel, Glasgow, on Saturday, December 16th, Dr. DEWAR in the chair.

Immediately before the meeting of the Scottish Committee a meeting summoned by the Chairman of that committee had been held, attended by representatives from all the Divisions and Branches of the Association in Scotland, with the exception of the Orkney and Shetland Divisions. The invitation was addressed to the Presidents and Secretaries of Branches and the Chairmen and Secretaries of Divisions; representatives from the Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow were also invited and were present.

The resolutions adopted at this conference were brought before the meeting of the Scottish Committee by the CHAIRMAN, who pointed out that the resolutions contained certain recommendations, and it was the duty of the Scottish Committee to endeavour to carry out the instructions in the light of what they had heard during the discussions. After some discussion the following statement was drawn up to be forwarded to the press:

"At a meeting of the Scottish Committee of the British Medical Association, held in Glasgow on Saturday, December 16th, following on a meeting of representatives of the profession from all parts of Scotland, it was resolved:

1. To recommend to the medical practitioners of Scotland that an attempt be made to work the National Insurance Bill in accordance with the policy of the British Medical Association.

2. To recommend the Scottish Divisions of the Association to undertake the formation of local Medical Committees, and to advise the members to accept office on the local Insurance Committees.

3. To recommend to the Central Council of the Association the need of strengthening the Scottish Committee, and of giving to it consultative and executive powers for Scotland: and that there be a paid secretary with an office in Scotland.

4. To let the Insurance Commissioners for Scotland know that the profession in Scotland is determined not to accept service under the bill unless the six cardinal points of the British Medical Association are granted.

(Signed) MICHAEL DEWAR,
Chairman.
GEORGE R. LIVINGSTON.
Honorary Secretary.

The Secretary was further instructed to convey to the Secretaries of the Scottish Divisions the recommendations adopted by the Scottish Committee.

"THE INSURANCE COMMISSION FOR NATIONAL HEALTH (ENGLAND)."

APPOINTMENT OF STAFF.

SIR ROBERT MORANT, Chairman-designate of the Insurance Commission for England, has forwarded the following notice dated December 14th:

No announcements can yet be made as to the number or character of the posts that are to be filled in appointing the staff of the Commission. Various questions have to be decided as to the kinds of work first to be undertaken and the particular nature of the experience and qualifications most likely to be useful for carrying out these different departments of the work effectively. The Commission will need time for the careful consideration of these matters, and also for consulting with the Advisory Committee to be set up under Clause 57 of the bill, in regard to the best ways of dealing with the main elements of the problem. As their deliberations proceed, and the Commission find any particular posts to be necessary for which applications from outside the Civil Service are needed, announcements will be made from time to time in the press. The Civil Service Commission has promised their assistance and co-operation to the fullest extent in regard to the selection of staff, and in these and other ways every possible step will be taken to secure that no appointments shall be made, whether from within or without the Civil Service, on any grounds other than fitness for the duties to be undertaken in each case.

Meanwhile the following points should be noted by all persons desirous of seeking employment under the Commissioners:

A. No application will be considered unless it specifies the kind of post sought for and the special qualifications for that post possessed by the applicant, and applications should be addressed solely to the Offices of the Insurance Commission, Whitehall, S.W.—marked on the envelope "Applications."

B. Under no circumstances should applications, or correspondence in connexion with applications, be sent to the private address of any of the Commissioners.

C. No persons should apply for posts under the Insurance Commission unless qualified in a high degree by special knowledge and experience appropriate to the positions for which application is made.

D. The Commission cannot undertake to acknowledge or reply to any applications.

E. No interviews can be accorded to, or in respect of, applicants for posts, unless previously arranged by correspondence.

F. Any attempts made by candidates seeking posts, of whatever nature or grade, under or in connexion with the Insurance Commission, to enlist support for their applications on political grounds or for political purposes, whether through members of Parliament or in any other ways, will be regarded as disqualifying such candidates for consideration or for employment by the Commission in any form.

The above statement has been provisionally adopted at an informal meeting of the Commissioners-designate for England, and will be formally adopted immediately they are actually appointed as Commissioners. It does not refer to unemployment insurance.

PROCEEDINGS IN PARLIAMENT.

The Committee stage of the bill was passed in the House of Lords on Thursday, December 14th. In addition to the amendments made in the bill as forecasted in our issue of last week, a most important improvement was accepted by the Government in response to an amendment in the name of Lord Sandhurst, reviving an amendment moved by Dr. Addison in the House of Commons on the Committee stage of the bill. This amendment sought to provide that in cases in which a midwife under the existing Midwives Act is required to call in the services of a doctor the society responsible for paying for maternity benefit should be empowered out of the money available for that purpose to pay the fee of the doctor called in by the midwife. It may be remembered that Clause 17 of the Amending Midwives Bill, introduced last year by Mr. Burns, would have provided, in cases where the local authority was not prepared to make arrangements for paying the doctor's fee, and the patient was unable to pay it, that the Poor Law guardians should be made responsible for the payment. Very great objection was taken to this procedure by influential members of the Queen Victoria Jubilee Institute for Nurses, the Central Midwives Board, and other bodies, and ultimately the bill was dropped. During the Committee stage of the Insurance Bill in the Commons Mr. McKenna, in response to Dr. Addison, made a promise that the matter should be considered later. The desired amendment, however, was not incorporated in the bill in the report stage in the Commons; but, as the result of representations which we understand were made by Dr. Addison, and supported by Lord Sandhurst and others, the Government agreed to insert an amendment embodying that put down in the Lords by Lord Sandhurst. The addition of the words printed in italics was accordingly moved by Lord Haldane, and the proviso to paragraph 1 of Section 18 now stands as follows:

> Provided always that the mother shall decide whether she shall be attended by a duly qualified medical practitioner or by a duly certified midwife, and shall have free choice in the selection of such practitioner or midwife, but *if in the case of a midwife being selected a duly qualified medical practitioner is subsequently summoned in pursuance of the rules made under the Midwives Act, 1902, the prescribed fee shall, subject to regulations made by the Insurance Commissioners, be recoverable as part of the maternity benefit.*

This will go far to remove a difficulty due to the defective construction of the Midwives Act. Although in some cases local authorities have made themselves responsible for the fee, the absence of any specific provision in the Midwives Act has been in very many parts of the country a source of friction in the administration of the Act. The amendment of the Insurance Bill set out above will doubtless mean that in the great majority of cases the matter will be entirely removed from the operation of the Poor Law when the administration of maternity benefit under the Insurance Act comes into force.

No other amendment of material interest to the medical profession was made in the House of Lords, and the Bill passed through the report stage without further amendment, and was read a third time on Friday, December 15th.

On Friday, December 15th, the Lords' amendments were considered in the Commons, and, with the exception of the amendment relating to Clause 21 dealing with the power of county councils or county borough councils to contribute to expenditure of medical and sanatorium benefit, were agreed to without alteration. In the case of the amendments to Clause 21, those introduced in the House of Lords would have prevented a county council making an agreement with a borough council which had expended money on sanatorium benefit from raising any money afterwards in that area for the purpose of paying anything in respect of medical benefit. The amendments proposed by the Attorney-General to the Lords' amendment removed this difficulty and leave it open to a county council to raise money in the same way for medical benefit, notwithstanding that an agreement has been arrived at between a county council and a borough council to spend money in respect of sanatorium benefit. Had the Lords' amendments remained in their original form they would have presented a serious obstacle to provisions of the bill which may prove of great value, whereby money may be raised to meet extra charges on account of the medical treatment of insured persons. As the sanatorium benefit is perhaps of a more striking and obvious character, the local authorities will probably be anxious to co-operate with the insurance authorities in extending it to all persons affected with tuberculosis at an early date, and it would have been a serious drawback if this had proved an obstacle to the provision of adequate funds for the efficient discharge of the obligations incurred under the maternity benefit.

The bill was subsequently passed through both Houses without further amendment. It received the Royal assent on Saturday, December 16th, and was mentioned in the King's Speech in the following terms:

> It is with great satisfaction that I have assented to a bill to provide for the insurance of the industrial population against loss of health and for the prevention and cure of sickness among them, and for the insurance against unemployment of those engaged in trades specially liable to it.
>
> I anticipate with confidence that the operation of this measure, while fortifying existing inducements to thrift and self-reliance, will do much to alleviate misery and to check disease among those whose social conditions it is designed to ameliorate; and to mitigate the hardships caused to workmen and their families by those depressions in the labour market which are especially felt in certain precarious trades.

QUESTIONS IN PARLIAMENT.

Insurance Commissioners.

Sir Hildred Carlile asked whether any powers existed in the National Insurance Bill enabling the Insurance Commissioners to delegate their powers in matters of detail.

Mr. Lloyd George replied that there were such provisions where necessary, as for instance in Clauses 2 (2), 65 (ii), and 66 (3).

Mr. Harry Lawson asked when it might be expected that the rules and regulations made by the Insurance Commissioners would be laid on the table of the House.

Mr. Lloyd George said that he felt certain the Insurance Commissioners would not frame their rules and regulations until the Advisory Committees had been appointed and until they had had an opportunity of consulting the representatives of all the interests concerned.

Mr. Harry Lawson inquired if there would be an opportunity of examining and discussing them some time before the bill came into operation.

Mr. Lloyd George replied: Oh, yes; ample opportunity, he should say.

Sir Godfrey Baring asked if the Government intended to add to the list of Insurance Commissioners a gentleman of special experience in industrial insurance.

Mr. Lloyd George, in reply, said that he thought it would be desirable to secure at least one Commissioner who had had experience in insurance work, but it was very difficult to secure insurance men, because they were, as a rule, very highly paid. He would do his very best to see if he could secure a gentleman of experience in that kind of work, and, if he was fortunate enough to succeed, he should certainly recommend that his name be added to the list.

Medical Benefit.

Mr. Norman Craig asked whether any, and, if so, what, steps would be taken to ensure that, in the event of the National Insurance Bill becoming law, insured persons would receive the medical benefit purported to be secured to them by the Bill? Mr. McKinnon Wood said that he trusted that no difficulties would arise in this respect, but if they should arise, adequate steps would be taken to deal with them.

General Sick Fund.

Sir Clement Kinloch-Cooke asked what would be the position of a person who contributed to a general sick fund in a house of business; whether that person would be able, if ill, to draw the amount allowed her by the business fund as well as the 7s. 6d. under the National Insurance Bill, provided she paid both contributions?

Mr. Lloyd George said that the answer was in the affirmative.

Sanatoriums.

Mr. Hicks Beach asked whether any of the sums available under the National Insurance Bill or the Finance Bill, 1911, for the purposes of the provisions of sanatoriums could be allocated towards the cost of Poor Law institutions which had been, or were being, or might be, provided for the treatment of tuberculosis? Mr. Lloyd George replied that the answer was in the negative.

CORRESPONDENCE.

THE COUNCIL AND THE INSURANCE COMMISSIONERSHIP.

Dr. F. L. POCHIN (Oldham) writes: The strongest point in the defence of the Council regarding their action in the matter of Mr. Whitaker's appointment appears to be the fact that the Representative Meeting held in November yielded to the special pleading of the Chairman and voted in favour of continuing negotiations under the Insurance Bill. But may I ask what right the Chairman had to indulge in this special pleading? Every proposal before the meeting had been fully discussed by the Branches, and every Branch had sent its representative to the meeting with definite instructions to support one or the other line of policy. In these circumstances I maintain that the votes of the representatives were not their own to modify in accordance with the persuasions of anyone, and I hold that the course taken by the Chairman was the one best calculated to make the meeting absolutely useless as an index to the feelings and opinions of the members of the Association generally, and that the principal of Representative Meetings was thereby reduced to a mere farce.

Of course Mr. Smith Whitaker cannot run with the hare and hunt with the hounds. He is now a Government official, taking Government pay for doing Government work, and that work is to enslave the profession at a pittance less than half that which the wealthy Lancashire operative pays to his "knocker up." (Those who know the facts will not quarrel with the adjective "wealthy.") We who have hitherto known no club practice here, because the shrewd sense of the people has been against it, are to have this practice in a most objectionable form thrust upon us, and our public are to be compelled to subscribe to it, although their repugnance is unchanged.

In spite of the assertion of the Council to the contrary, we certainly were told that it was the intention to get the six points inserted *in the Bill*. At the first meeting, held in Manchester, I myself heard Dr. Taylor, a member of Council, point out that Mr. Lloyd George's smooth assurances and benevolent intentions did not constitute the law of the land, and that the six points *must be in the Bill* and thereby become law. He repeated the words in italics not once nor twice, and the meeting cheered him to the echo. Last week a meeting of the same constituency shouted him down amid loud demands for his resignation, and he deserved it, but I have not yet heard that he has resigned.

Under the circumstances, the only course open to us seems to me to remain faithful to our own pledge, to retain our membership of the Association, and to take very good care that the next Representative Meeting consists of men too strong to be tampered with by the Council, men who will faithfully voice the opinion of the membership generally, which opinion will undoubtedly be in favour of the resignation of the present Council.

Mr. H. G. L. ALLFORD (Hastings) writes: I have read most of the letters in the "B.M.J." I am very surprised at the tone of many. I cannot understand why so many men have simply lost their heads at the time of a severe crisis like the present, and thereby play into the hands of Mr. Lloyd George; they seem to forget they are contending against the slimmest man of the day. I can fancy him rubbing his hands and chuckling, and saying: "Fine idea that giving check to their king." He knew perfectly well that he was putting the profession "between the devil and the deep sea." To refuse was to give him the chance of saying, I have given you the opportunity of having the man who knows all about your side of the question in a high position under the Act, you have refused; you cannot grumble if I put in a man who neither knows nor cares in the least about your interests. If Mr. Whitaker accepted the appointment, as was expected, many members would be very angry, and the unity of the profession was likely to be broken; then he could be defeated with ease. Mr. George knew perfectly well that if time were allowed to take a referendum of the members, Mr. Whitaker would still be appointed, but a split would be very much less likely—*ergo*, no time was given. Now it seems to me that many men are doing exactly as he hoped and expected. I hope they will see that, even if Mr. Whitaker should prove to be untrustworthy and betray us, we can still present a solid front, and that the B.M.A. can be as obstinate as a mule and defeat the Bill in its attempts to ruin the profession. Nothing can hurt us if we, consulting the general public, stick together. We are simply bound to win, and Mr. Lloyd George knows it.

Mr. W. BERNARD SECRETAN, M.B., F.R.C.S. (Reading) writes: I cannot sufficiently deplore the agitation against the appointment of Mr. Smith Whitaker. It is extraordinary that so many of our profession should be so blind to their own interests. We know that doctors are notoriously unbusinesslike, but one did no expect to see this appalling display of hysteria. What could be better for us than the appointment? We pressed for a medical member of the Insurance Commission, and secured our point. We not only gained this, but we got our own man appointed in preference to some unknown outsider—possibly a *protégé* of the Chancellor's. And now, behold half of us behaving like silly children and clamouring for his resignation. Really, the whole thing is pitiful, and worthy of a number of schoolgirls rather than intelligent men. It is unaccountable—unless, as I greatly fear is the case, the agitation is being engineered by the unfaithful as an excuse for breaking the undertaking which we have signed. I notice that one letter in your issue of December 16th openly speaks of this as being now justifiable. Perhaps the astute Chancellor judged us aright, and knew that the so-called union of the Profession was merely superficial, and that many would be found to jump at the first excuse of wriggling out of a pledge that might, for the common good, cause a certain amount of personal hardship. If it affords any joy to these agitators. May I congratulate them on the very effectual manner in which they are setting about to wreck our chances of obtaining our demands under the Bill.

Dr. A. A. HILL (Wolstanton, Stoke-on-Trent) writes: Although I am a Radical in politics, and therefore generally in favour of the Insurance Bill, I willingly signed for the famous six points, as I felt that in the circumstances we must all stand or fall together.

I am greatly amused to find that my astute Welsh leader has out-manœuvred the Association, officered as it is by able Scotsmen who, of all men, might be expected to hold the position. It is impossible to avoid the conclusion that the inner history of the negotiations has not yet been published. We had better cool down first. The facts cannot be gainsaid that the most powerful and eloquent opponent of the measure has joined the camp of the enemy, and that even there he will have but one vote in seven.

Mr. GEORGE B. HILLMAN (Castleford, Yorks.) writes: As a practitioner who has taken a good deal of interest, both at the last two representative meetings and elsewhere, in the progress of the discussions on that monstrosity of legislation known as the Insurance Bill, I desire to offer my support to the Council in its much criticised action with respect to the appointment as a Commissioner of Mr. Smith Whitaker. I happen to reside in a part of the country where the action taken by the Council appears to be almost universally condemned by the practitioners around, and yesterday I had the opportunity of speaking and voting against a resolution expressing regret at the Council's action. At that meeting many hard, and, to my mind unworthy, statements were made with reference to the Council and the Medical Secretary. I deeply regretted that a member of the Council, for whom I shall always have the highest personal regard, led the opposition against his colleagues, though he was not present at the eventful Council meeting when the much criticised resolution was all but unanimously carried.

The position appears to be clear though withal unfortunate. The profession is no doubt by an enormous majority opposed to the Bill as it stands to-day. The Council, following step by step the advice and instructions of the profession as given in representative meetings, has tried its uttermost to make "the best of a bad job."

The profession is nettled because, at the end of a wordy warfare, the astute Chancellor of the Exchequer has not conceded what it believes to be its just demands.

As a result of this discomfiture it looks around for something or somebody upon whom to vent its wrath, and the unfortunate Council and Medical Secretary, being nearest to hand, receive the full force of the blast.

This attitude is strongly suggestive of that commonly adopted by illiterate members of certain trades unions, who, when unsuccessful in all their demands, promptly turn and attempt to rend their leaders. It is surely scarcely a dignified position for members of a learned profession to adopt!

The time for discussion is now past. Let us all unite *under our old leaders* and refuse to have anything to do with the Bill unless our six points are fully and unreservedly granted. Above all, don't let us dream of changing horses whilst crossing the stream.

Dr. H. S. Elworthy (Ebbw Vale, R.S.O. Mon.) writes: Up to the time of the appointment of Mr. Smith Whitaker to the Deputy-Chairmanship of the Insurance Commissioners there was one medical organisation in this country for which the general public and the Government had a wholesome respect. That was the British Medical Association. It was believed that this Association was a body of medical men comprising more than half of the Profession and exerting a very powerful influence over the rest of it. The respect paid to it by the Government was due to the belief that its members were united together (otherwise they would have ignored it), that the will of the members was expressed by its representatives, and that the execution of that will was carried out by its Council.

It could only be expected that the actions of the Council would be endorsed and agreed upon by the members, unless they were in direct opposition to the instructions of the representatives.

Now what do we find?

We find clamour and outcry from medical men in various parts of the country against the actions of the Council, accusations of not having carried out the avowed policy of the Association, and of wrong-doing in the sanction of Mr. Whitaker's appointment.

It is a sorry spectacle. A powerful and apparently united force suddenly disturbed by the disloyalty of its own members, and the disloyalty mainly due to the failure of those members to realise what the Council had to do, and how much they have done.

Now, what were the Council expected to do?

They were expected to secure:—

(1). *That no one should be an insured person whose income exceeded £2 a week (and in some parts of the country 30s.).* The Government absolutely refused to fix a limit below the income tax limit of £160 per annum. The Council did everything in their power to obtain the lower limit, and it is no fault of theirs that their representations to the Government were overridden. They did, however, succeed in obtaining the concession that the income limit should be determined locally by the Insurance Committees. The Medical Profession has it in its power to refuse to work unless this limit is satisfactory; and through the organisation of the B.M.A. this may if desired be made uniform all over the country. I take it that the policy of the Council is that if one or more districts fix a limit above £2 and appoint medical men outside the B.M.A. on the panel the whole B.M.A. will refuse to work until its conditions are complied with. In this way the Council has secured the income limit.

(2). *Free choice of doctor by the patient, subject to his consent.* This has been secured.

(3). *Medical and maternity benefits to be administered by the local Insurance Committees, and not by Friendly Societies.* This has been secured.

(4). *Adequate medical remuneration.*

I agree with the policy of not fixing the price of service in the Bill. Nothing could have been more unbusinesslike, and our hasty critics will no doubt recognise this when they have given a little more thought to the matter. It must not be overlooked that the services to be rendered are not exactly the same as those generally understood in contract practice. Behind the ordinary domiciliary treatment is the inspecting and reporting on houses that are insanitary, and as yet we do not know what other information the Government will require from its Medical Officers. We do not know what special reports and correspondence, etc., will form part of the duties to be performed. Until we do know what the duties are is it not quite a mistake to clamour for having a definite price fixed in the Bill?

The Council have stated definitely that the amount 6s. a head is not sufficient, but the actual amount that will be demanded by the Profession cannot be fixed until the Regulations have been drawn up, showing what work will have to be done.

The Bill does provide that any excess expended on medical and sanitorium benefit over the actuarial amount 6s. must be made up by the Treasury and County and County-Borough Councils. The Profession will certainly refuse to work unless it is satisfied with the remuneration, and this will be enforced by the combined action of the B.M.A. all over the country. So long, then, as the B.M.A. remains united, it can and will enforce payment of proper remuneration.

(5). *Adequate representation on Insurance Commission, Insurance Committees, and statutory recognition of Medical Committees.* This has been secured. The actual number of medical representatives is not as important as their power of preventing abuses through the combined force of the B.M.A.

(6). The method of remuneration—whether by capitation, or for work done. As there are differences of opinion among the Profession, the method has been left to be decidedly locally, according to the preference of the medical men in the district. What could be better?

So far, then, the six particular things our Council were instructed to secure seem to me to have been attained, or will be, if the members will only stick to their own policy.

Nobody can say the Bill is satisfactory, but do let us put the blame for that in the right place. It rests on Mr. Lloyd George, and those members of Parliament who have thought fit to pass such a chaotic and unconsidered measure in spite of all entreaties to give it the time and consideration it should have had. The fault does not lie with our Council.

Now with regard to Mr. Whitaker's appointment. The Prime Minister had to appoint a Medical Commissioner on a body that would have to control this entirely new departure in medical practice. It was eminently desirable that he should get a man capable of organising it and one in whom the Profession could have confidence. I think in Mr. Whitaker he made a most fortunate selection. It will be his duty to guide the other non-medical Commissioners in drawing up the regulations under which the Profession will have to work. Mr. Whitaker knows perfectly well the temper of the Profession, and he knows, perhaps better than anyone else, the sort of regulations that would on no account be accepted by us, and that, if insisted on by the other Commissioners in spite of him, the whole working of the scheme would immediately collapse. Why then should the Council refuse to allow him to accept the position? In placing his services at the disposal of the Government to carry out this important work, which so nearly affects us, the Council have shown true statesmanship. It was the best thing they could have done, both for the Profession and for the country.

The B.M.A. has lost an excellent secretary, but its policy will continue just the same, whoever the Medical Secretary may be.

If the Council had refused should we have been any better off?

The Profession as a whole has agreed to the general principle of insurance against sickness, and when the Government ask for the best man we can supply to make the regulations sensible and practicable, it would have been churlish and unworthy of the Association to have refused. Far better for the Council to have done what it could to make an imperfect scheme something better. I feel sure we shall not regret it in time to come.

Our Profession has always been somewhat given to dissensions—there being so many divergent interests. It is impossible, and always will be impossible, to satisfy everyone. It is to be hoped that those members who feel that some particular wish of theirs has not been attained will consider well what better course the Council could

have taken under the circumstances—having regard to the interests of the Profession as a whole. Let them also consider whether they are doing it a good service in sowing seeds of dissension in the greatest organisation we have ever had, and in showing their loyalty to their chosen representatives—these men who have worked so hard and so earnestly on their behalf, and who have wrung the necessary concessions from the Government, so that all the demands made can, and will be satisfied if only the members of B.M.A. will loyally back up their own Council. Apologising for the length of this letter.

DR. LACHLAN FRASER (Hon. Sec., Tyneside Division) writes: Most of your readers are acquainted with Carroll's classic, "The Hunting of the Snark," and the lines, "If I say it three times it is right," will surely occur to them as describing the position taken up by the Association at the present crisis in its affairs.

A special representative meeting was held in June at which, with a great flourish of trumpets, the six cardinal points were formulated, and we were all asked to refuse service under the Act unless they were conceded. At the meeting at Birmingham we again shouted our determination to stick to the six points, and for the third time we acclaimed our determination in London last month. Having "said it three times," the Council now assure us "it is right," although only one of the six points has been secured, and as proof of their contention they have consented to their chief executive officer accepting service under the Act. To the public and to many of ourselves this action is tantamount to our approval of the Bill in its present form, and I know several members who consider that they are no longer bound by the undertaking, for, they argue, if the Council has given its official sanction to the medical secretary to work the Act as it stands, no one can reasonably object if less exalted members of the profession assist him to work the Act.

By their incredibly stupid action the Council have certainly forfeited the confidence of a large number, if not the majority, of our members, and, to save the Association, I hope they will resign and make way for better men.

DR. RAYMOND HENRY SHAW (Great Yarmouth) writes: I am one of the many members who deplore the action of the Council, but hope the unity of the profession may yet be maintained. But something must be done to restore confidence, and I suggest that a meeting of Representatives be called to oppose or condemn the action of the Council. In my opinion this seems the best course, as most of us who are in opposition to that action think the matter should have been decided, not by the Council, but by the Representatives. If at that special meeting the acceptance of office by Mr. Whitaker was confirmed, dissention would cease, and unity be again restored. In the event of non-confirmation, then Mr. Whitaker should be invited to reconsider his decision. He was placed in a position of trust by the members, and it would not be expecting too much from him to resign if it was plainly indicated that the majority of Representatives thought he should not have left his post. As an alternative I suggest that Dr. Maclean should resign. Whether his action was right or wrong, the fact that he knew of the negotiations when he made his speech at the Representative meeting, and gave no idication of that knowledge, affords great ground for severe criticism. The feeling of dissatisfaction obviously affects a large proportion of members, and Dr. Maclean should seriously think whether he could not remove that feeling by resigning his position as Chairman of Representatives.

DR. HORACE ROSE, M.B., M.A. for 14 years (Aylesbury), writes: I write to heartily congratulate the Council on the decision they arrived at in the difficult matter *re* Mr. Smith Whittaker's appointment. The Bill, as now passed, actually gives us several of the essential principles we asked for, and, what is more important, it allows us to insist on having the whole lot, "provided we are united." The one thing that could help us more than any other is surely to have a sincere friend among the Commissioners, who are vested with such large powers. I deeply deplore the posible schism in our ranks, and have decided not to answer the practitioner referendum, firstly, because I consider "yes" or "no" are impossible answers to such a large question; and, secondly, because I am of opinion that if the British Medical Association cannot help us, no other association can.

Dr. E. G. SALT (Edinburgh) writes: We are trying to safeguard ourselves by written undertakings not to accept the terms offered, and we were told that no one should assist in any form to carry out the provisions of the bill *unless* the six cardinal points demanded by the British Medical Association are gained.

The Association has declared its willingness to co-operate with the Government with regard to the bill on certain conditions—that is, the six cardinal points of the Association.

In the BRITISH MEDICAL JOURNAL SUPPLEMENT, November 4th, p. 428, Mr. Smith Whitaker states:

> Indignation had been aroused by the way in which the bill had been drafted and the spirit in which it had been handled. . . . It must always be remembered that the fight would not end if and when the bill became law—that would only be the beginning of the struggle . . . it had been clearly stated again and again that the Representatives of the British Medical Association were unable to enter into any bargain or agreement, but attended merely to state the position of the profession.

In the November 11th SUPPLEMENT to the BRITISH MEDICAL JOURNAL Mr. Smith Whitaker states:

> The profession would only be at the beginning of the struggle when the bill became law, and then, even more than at present, complete union in the profession would be absolutely necessary.

Cf. SUPPLEMENT November 25th, page 527, Dr. Maclean:

> The resolution says that under the arrangements made, if they be unsatisfactory, the Association's powers shall be used to prevent practitioners accepting service under the bill.

Yet, in the face of all this, the Medical Secretary, Mr. Smith Whitaker, has been allowed to accept the post offered to him, and offered to him by none other than Mr. Lloyd George through the Prime Minister. Having been allowed by the Council to accept this post, Mr. Smith Whitaker is under the protection of Mr. Lloyd George, and cannot in any case be considered in any way as representing the profession. The Insurance Commissioners are to have unlimited power, and can cause grievous harm in many ways.

The Council to have considered the offer of this post to Mr. Smith Whitaker is a grave mistake, and a confession of weakness on the Council's part. All over the country the profession has shown its loyalty. The profession's one and only point was in combination to be loyal to the last man. What a pull Mr. Lloyd George has over the British Medical Association now, and he has at once taken advantage of it by this remark of his in the House of Commons, December 4th, in answer to this question: Is the British Medical Association now satisfied with the provision of the bill? Mr. Lloyd George replies:

> I should not like to express an opinion on that question. At any rate, the offer was made to the Secretary, and the British Medical Association allowed him to accept the position.

Mr. Lloyd George would never have offered this post to Mr. Smith Whitaker unless he knew it would be for his own gain, and very soon the British Medical Association will know this.

What will the public think?

What will the friendly societies say?

Our Medical Secretary has left us in the lurch before the bill has passed and before the real fight will begin!!

Two lines of the poet Dryden aptly fit the bill:

> In it's some truth, but dashed and brewed with lies
> To please the gods and puzzle all the wise.

THE POSITION OF COUNCILLORS AND REPRESENTATIVES.

DR. ADOLPH BRONNER (Bradford) writes: A large number of members of the British Medical Association are extremely dissatisfied with the action of the representatives on the Council and on the representative body. I should like, therefore, to urge, and to urge very strongly, that every member of the Council and of the representative body should place his resignation in the hands of his branch or division, so that these may have the opportunity to re-elect them, or not.

I am sure no member of the medical profession would wish to represent a branch or division if he knew that the members wished him to resign, and therefore I feel sure

that the representatives will welcome this suggestion. This should be done before the next meeting of the representative body.

I am sure we are all anxious to keep up the B.M.A., but if nothing is done, I am afraid there will be a great many resignations.

A Referendum.

Dr. Ernest C. Hadley (Birmingham) writes: There can be no possible doubt in the minds of any that the policy of the members of the B.M.A. has progressively altered since the National Insurance Bill has passed beyond amendment.

There can also be no possible doubt that either the machinery of the Association is so cumbersome that it cannot adopt itself to so sudden, although expected, a progressive change of policy of its members; or else that the Executive Officers of the Council, Representative Body, Branches and Divisions have become so fascinated or hypnotised by the Chancellor of the Exchequer's cunning promises that they have become powerless to resist his temptings. The fact nevertheless remains that it has become impossible for members to insist upon their wishes being carried out without a serious menace to the stability of the Association.

There could be no misunderstanding as to the wishes of the members of the Central Division of the Birmingham Branch of the B.M.A. when we met to instruct our Representative as to the policy which we desired him to press forward at the special Representative Meeting which was held in London on November 23rd. It is necessary to refer to that policy here, because, as far as I know, it has for some obscure reason, been withheld from the columns of our Official Organ, the British Medical Journal and also from the local press. We emphatically instructed him to insist "That unless the six cardinal points were embodied in the Bill we should refuse to undertake any duties under the Bill." This recommendation was only opposed by our Executive Officers, including our representative.

Now for the next step. The Bill passed. Our minimal requirements were not embodied in it, surely it logically follows that our essential policy did not alter but simply progressed. Whilst the Bill was capable of amendment, we were eager and anxious to gain our points in order that the Bill should have our support and become a workable measure. When it became incapable of substantial amendment, we naturally recognised the futility of further negotiations, and, moreover, desired that they should cease, and that the B.M.A. should now confine itself to organising the profession to have nothing more to do with it. This was essentially the policy which was adopted by resolution on Friday, December 15th, at a Mass Meeting of the medical men of the Midland Counties. It would have been practically unanimously adopted had it not been for the adverse votes of the Executive Officers of our various Midland Divisions who were present.

This brings me to the point which I chiefly wish to lay stress upon—*i.e.*, that unless the members of the B.M.A. now act with determination and insist upon their wishes being carried out by their various Executive Officers, the B.M.A. must collapse. Let me now, therefore, appeal sincerely to all members of the B.M.A. to at once take strong and decisive action and insist that their Officers, whether in the Council, on the Representative Body, of the Branches or the Divisions, both in spirit and in speech carry out the policy of the majority of the members (ascertained by a Referendum if necessary).

In your excellently written leader, which appears in the British Medical Journal, December 16th, you give a glowing account of the prospects of further negotiations; you are without doubt trying to convince your readers that the policy of further negotiations is the correct one; but how much nicer it would be if your leaders expressed the true policy of the majority of the members of the Association. The Official programme is one of "Wait and See" that of the majority of the members of the British Medical Association and *non-members, who are only waiting to see members' own decisive policy carried out in order to join their ranks*, is "Organised refusal to undertake any duties under the Bill, now that our minimal requirements have not received statutory recognition."

Dr. W. MacLaren MacIlwraith (Rawtenstall, Lancs.) writes: As I am local secretary in Rawtenstall for the Bury Division of the British Medical Association, I have had forwarded to me forms, cards, etc., to assist me in canvassing the medical men of this area to get all the non-members to join, and to get all to give a guarantee of at least £5, if possible, to the Defence Fund. I have been doing all I could, and and will continue to do all I can, to get new members, and also to get those who have not already done so to guarantee money to the Defence Fund. I myself would double, or even quadruple my guarantee if the B.M.A. would only advance a "no panel" policy now that they know they have not obtained what we asked them to obtain, and what they themselves asked and got us to sign an undertaking to that effect. Now that we cannot obtain our minimum, and they know they never can get it for us now, why cannot they refuse to work the Bill, and be done with it? If they only did this I am sure every general practitioner, here and elsewhere, would be only too pleased to guarantee them far more money than they are asking now.

Why will not the B.M.A. take a referendum of the profession, say on the following two points?—better spending money in this way than in sending out useless leaflets like the last that was sent us by the Chairman of Council and Representative Meetings, dated December 11th, 1911:—

1. Will you accept the decision of the majority? *Yes* or *No?*

2. Are you prepared to work under the Bill as it now stands by making the best bargain we can? *Yes* or *No?*

Better far for the Council to take a referendum than to leave outside bodies to do it for them. In my opinion there is nothing to hinder the Council taking a referendum on those lines, and they must know the General Practitioners have been asking for a lead ever since the Council *failed*—I say failed because, in my opinion, and it is the opinion of thousands all over the country, for instance, of the Mass Meeting in Manchester on December 14th, the Council *failed* to obtain the six points in the Bill—but the Council either will not look at the situation from our side or else they want a policy of their own, and if they persist in sticking to their present policy I'm afraid they will shortly find out that their policy will not be accepted. What else can they expect when they contradict themselves? In fact their policy is like a sieve. For example, look at the supplement of the British Medical Journal of December 16th. In the letter forwarded to every member of the House of Lords, on Monday last, dated December 11th, 1911, and signed "Alfred Cox, Deputy Medical Secretary," on page 610, is the following:—

"*Provision of Attendance and Treatment through Institutions.*—The Medical Profession greatly regret the introduction into the Bill in Committee of the House of Commons of Subsection 4 of Clause 15, enabling medical attendance and treatment to be given through institutions existing at the time of the passing of the Act. This provision was avowedly inserted with the object of enabling certain friendly society institutes and similar organizations to be utilised for the attendance and treatment of insured persons, *thus defeating the principle of free choice of doctor* otherwise agreed to by the House of Commons by a vote of 387 to 15. The last four lines of the subsection as finally amended in the House of Commons do, it is true, secure to a great extent the free choice, but in the opinion of the Medical Profession the whole subsection, even as amended, is undesirable in the public interest not less than that of the Profession and should be deleted."

Then see the following "Memorandum to Members," issued to members on December 11th, 1911 (mark that both dates are the same), and signed by Ewen J. MacLean, Chairman Representative Meeting, and J. A. MacDonald, Chairman of Council:—

"6. The following principles of the Association have been incorporated in the Bill as it has now left the House of Commons—namely, *the free choice of doctor*, the administration of medical and sanatorium benefits by the local Health Committee, the representation of the Profession on all the Administrative Bodies established under the Act; the statutory recognition of a Committee of the Medical Profession in each district."

[The italics in both quotations are the writer's.]

Now what is any sane person to make of this—in one they say the principle of free choice of Doctor is defeated, in the other that we have got free choice? What would any law court say to any witness who made statements like those? I maintain that those two paragraphs do not tally, and I ask the Medical Secretary and the Council to explain. I shall certainly bring both before the notice of my Division of the British Medical Association.

I have only quoted one instance of this contradiction of facts; and the British Medical Association ask us to unite. Can men unite when our leaders are not united, when our leaders tell the House of Lords one thing and we, its members, another, is this their form of diplomacy?

I ask the Council to take a referendum of its members or intimate to the Divisions to do so. It is no use their saying they don't want a referendum, they have only to see the resolutions which are being passed every day by the Divisions against the Bill and they must know it is useless their taking no notice of the doings of the Divisions, for this is what the General Practitioners are beginning to think they are doing—namely, nothing. If the Council could get us all to sign an undertaking, why cannot they give us a referendum and get at the voice of of the majority? They must know the majority are against the Bill, then why cannot they get the voice of the profession and test it? Are they afraid of the majority?

Further, they ask us to do the bargaining with the Local Health Committees; that is what we put them in the Council for, to save us this degradation. We are a profession—at least, the Council tell us so—yet they ask us to become tradesmen by bargaining.

They say we have no legal barrier to obtaining our six points, but nevertheless facts are hard things to face, and when the minority in the House of Commons, or even in the House of Lords, can pass Bills against the voice of the majority, or M.P.s be returned to Parliament by the vote of the minority of the constituency, then, and then only will I believe that no legal barrier exists against us obtaining our six points. It may not be a *legal* barrier, but it is a barrier, and the Council need not try to save themselves by inserting the adjective "legal," for it does not alter the facts, for what can three or five do against forty or eighty—that is the proportion—and the Council ask us to believe there is no legal barrier against three carrying a measure against a vote of thirty-seven. Certainly there is no legal barrier, but there is the barrier, nevertheless. The Council might as well tell us a fly can push an elephan as to tell us this yarn. We have all at some time in our lives voted and we know the majority always carries, not the minority.

I think it is now time for the Medical Secretary and the Council to act. The Bill is law; they cannot get any amendments now (it has the Royal assent), and they know this as well as I do, so let them face facts now, not mirages, for to get the Insurance Commissioners to alter things to suit them they might as well ask for the moon. We must be definite, so I'd advise a referendum being taken and stick to the majority, and by so doing they would not only regain, but retain, the confidence of the members of the Profession.

THE SIXTH CARDINAL POINT.

Mr. H. CAMERON KIDD, M.B., F.R.C.S. (Bromsgrove), writes: The outcry that has followed the appointment of Mr. Smith Whitaker makes one well-nigh despair of the Medical Profession, and apparently the members of the Council took too high a view of us when they assured one another that facts that had convinced them would equally convince their constituents, and that they must assume that others were as reasonable to conviction as themselves. It looks now as if in our intellects and reasoning powers we were on a par with the servant maids led by the *Daily Mail*.

What is the last of the famous six points to which we are pledged? "That there shall be adequate medical representation on the various bodies set up to administer the Act." And yet when the first and most important committee is formed, the committee which has enormous powers under the Act of drawing up regulations for the practical working of the whole scheme, and the Government pays us the compliment of appointing one of our leaders to the influential position of Deputy Chairman, he is stamped as a "traitor" and we are asked to desert the Council of our Association as guilty of a "shameless betrayal," and at this eleventh hour—when victory is in sight if we are are only united—to form I don't know how many new Leagues and Associations!

Surely it is time that moderate men made their voices heard n support of unity.

Personally I have throughout had little misgivings as to the future *if we are only united*. It is left to the medical men of each locality to decide both the method of payment and the minimum amounts acceptable, and also, if desired, the wage limit, and after all each one is guardian of his own honour. I shall not myself undertake work on derogatory terms, and I fully expect my colleagues to do likewise, and this being so we have the matter sufficiently in our own hands, as I have urged from the beginning at our local meetings; but *we must be united*, and if it were only in support of our own 6th point we should welcome the appointment of Mr. Smith Whitaker, which makes it certain that our interests will be "adequately represented" on the most important body "set up to administer the Act."

THE NEED FOR UNITY.

Dr. W. W. NOCK (Penkridge) writes: The principle of National Insurance is approved by all parties in the country and the House of Commons, and an attempt is now being made by Parliament to put that principle into practice. Our united profession, through its association, says, in effect, to the Government:—

"Unless we get reasonable conditions (*i.e.*, the six cardinal points) we will refuse to work the Bill. But since local conditions of necessity vary, and as each local division of doctors must be satisfied, we will negotiate until the last day, holding in reserve till then our power of a 'general strike,' though fully determined to use it if we do not gain our just demands. In the meantime, and without prejudice, we will give all the assistance or advice we can."

That is a fair summary of the official attitude of the profession through its Association.

It follows that absolute unity and confidence in ourselves and our leaders must result in either (*a*) Fair terms under the Act; or (*b*) No Act in actual operation, and the *status quo ante*. Surely a satisfactory position, and which is impregnable if we remain united!

Even if some of us disagree with the tactics of our leaders, it is the worst possible policy to sow dissension and distrust in the ranks. Their very position as leaders of our own choosing proves them to be men of the highest honour and intelligence. We must hold firmly together; our objective is the same; and if differences do arise over "ways and means," let us avoid the halfpenny, or other lay Press, and at least hide any suggestion of want of unity from publicity.

Dr. SIDNEY GILFORD (Reading) writes: I believe that we should find that the majority of medical men condemn the Insurance Bill as a crude and complicated measure for dealing with the great problem of sickness insurance, and that this is chiefly due to the fact that it has been drafted by one man, a partizan politician. I cannot understand why a problem of such gravity and magnitude was not primarily thrashed out by a committee representative of the various interests involved and only put before Parliament after the main difficulties had been overcome and the various conflicting interests brought into line. It is of vital interest to the nation and to every individual of a nation that sickness should be wherever possible prevented, and when it occurs, cured as rapidly as possible. Does this Bill promise this? Certainly not. Why, then, did the Council hesitate to carry out the policy almost unanimously resolved upon at the meetings of Branches and Divisions in the British Isles—the policy of forthwith declining to serve under the Bill? Because our representatives who had gone up as lions were persuaded by the eloquence of some Lloyd George upon the Council, and returned to us as lambs prepared to meet the politics of the Government with politics. Before we had an opportunity of hearing the result of the Representative Meeting, a bombshell exploded amongst us.

We heard that Mr. Smith Whitaker had been appointed deputy chairman of the Commissioners and that the Council had recommended the appointment. The circular letter sent by members of the Council explained nothing, and no word was said as to the resolution passed at the representative meeting, that administrative posts might be accepted under the Bill. The circular letter merely intimated that the Council had gone diametrically opposite to the wishes of the overwhelming majority of the members of the British Medical Association. They merely said in the words of Mr. Lloyd George: "You will all be better off." Is it to be wondered at that a feeling of deep resentment and anger swept throughout the kingdom and that a want of confidence in the Council was experienced everywhere? We must hold together; it is suicidal to desert the British Medical Association; there is all the more reason for every medical practitioner to join the Association; but we can have no real confidence in the Council unless we are persuaded that it is prepared to take us fully into its confidence, and to carry out the wishes of the members of the Association so emphatically expressed at the various meetings. The Bill is bad because it is a one man Bill, a party Bill. We know that our minimum demands have not been agreed to for fear of losing votes. Do not let our association become political. We know what we want and what we intend to have; let us play straight for that.

Dr. W. D. Steel (ex-representative and past-chairman, Monmouthshire Division) writes: It seems to me to be the bounden duty of all practitioners to stand by and strengthen by every means in their power our representatives and the governing body of the B.M.A. Anyone who took the trouble to read the debate at the special meeting of the Council, held in London on the 2nd inst., to consider the proposal of the Chancellor of the Exchequer to appoint Mr. Smith Whittaker as deputy chairman of the National Insurance Commission, could not but admit that they followed the only course open to them.

I feel sure that a great deal of the present unrest in the profession is due to the failure of members to read the weekly supplement of the Journal, and keep themselves properly informed of the proceedings of our elected representatives.

Any division in our ranks at this critical moment would be fraught with the greatest danger to our profession as a body.

Professor J. T. J. Morrison (President of the Birmingham Branch) writes: The Ship of Medicine is in some peril when mutiny breaks out during a stormy stage in her voyage. However distinguished or well-intentioned may be those who disturb the peace by fomenting rebellion, their public acts bring them to the bar of opinion, and they cannot evade the onus of a grave disservice to the profession. Nor can it be denied that their action exposes them to the charge of inserting wedges of cleavage which, if driven home, would deliver the profession piecemeal to the exploitation of powerful public bodies against whom our one means of defence is unity. How do the unconstitutionally-appointed leaders of revolt try to justify their doings? On the plea of non-antagonism to the Association and a desire for concord! And in the same breath they advocate a course at variance with the declared policy of the Association! Their procedure denies to the sense what their voice utters to the ear; but they cannot have it both ways. The mental confusion of Mr. Facing-Both-Ways is a reminder that "whom the gods intend to destroy they first dement." Loyalty to the Association does not blend with an undeniably hostile policy.

If the recent Birmingham meeting—a scene of confusion and disorder rebuked by the lay press—is typical of others, the "mass" of members attending them is composed of absentees from Division meetings—backwoodsmen who never lift a finger to help the Association, and who speak contemptuously of the documents they receive informing them of the toilsome work done on their behalf by colleagues in Committee. The chairman, Mr. F. Marsh, first disclaiming a spirit of antagonism, and professing a wish to help the executive, went on to give a mistaken version of the facts of the controversy. He advised unity, and then moved a resolution conflicting with the constitutionally expressed will of the Association. He was evidently not aware, and many others no less intelligent are in the like case, that throughout its negotiations with the Government, the Council has executed the mandate of the Representative Body, which in its turn has expressed the decisions of the Division meetings, to which every member received a summons containing the agenda. The policy of the Association has, in fact, been determined by the members. It seems that after nine years of the existing constitution it is not yet understood that the Association is governed by the members, and that the drivers of the machine are the voters in Division meetings. When time is given for the point of this fact to puncture an inflated agitation, the way will be cleared for sober discussion of the tactics to be adopted in order to achieve the will of the profession in the interest of the public.

Dr. S. J. Ross (Bedford) writes: Let us all pull together in the present crisis. Let us back up the Association to a man. Let there be no division in our ranks. We may rightly say that it is certainly an anomaly to see a gentleman who has been vigorously stumping the country denouncing the Insurance Bill, pointing out to us how our very liberty is threatened, and exhorting us to band ourselves together and to close our ranks by getting non-members of the Association to join the Association. I say it is an anomaly to see such a gentleman accepting high office in the adminstration of the Bill which he has so vigorously denounced; and to leave us at this critical moment.

But not one of us depends upon any official in such a crisis as the one through which we are passing. We must fight for ourselves, and fight with the determination to win; and victory is assured us if only we are united and firm in our conviction that we are fighting for a just cause. It is no use lamenting over the loss of a leader. Instead of lamentations we must increase our deterination to fight for ourselves. Let us remember that we are fighting no selfish battle; we are fighting for the future members of the profession as well as for ourselves. The word "traitor" has been pretty freely bandied about. Let us prove that we are free from the taint. Let it not be said of us that we have betrayed our trust. We are free men at present, but if we submit to the Insurance Bill as it now stands we shall become slaves, and slaves of the most tyrannous rulers possible. Stick to the Association. Let us stick to each other and victory is ours.

Dr. J. Farrant Fry (St. Leonard's-on-Sea) writes:—How Mr. Lloyd George must be chuckling over the dissension he has caused in our ranks by his astute move in appointing Mr. Smith Whitaker as a Commissioner. It would be well for us all at this critical time to ignore any feeling we have, rightly or wrongly, got in our heads, that a mistake has been made by our Council, for this is a trifling matter compared with the great issue for which we are fighting. Unity is strength, and if we but remain firm in our determination to secure our six cardinal points, no one can let or hinder us. The Bill is passed, but it can only be worked with our aid, and a firm adherence to minute 47 must secure our victory. We medical practitioners appoint our representatives, they decide on our policy, and the Council carry out their instructions, and we must sink our little individual differences for the common good.

White, Black—and Grey.

Dr. Halstead, Ramsgate, writes: The profession is split. There are three divisons, *White* legs, who have signed or are willing to sign undertakings not to accept service under this bill under any conditions; *Grey* legs, like myself, who are resolved not to strike until our conditions as to service have been absolutely refused, a refusal which we do not believe will be made, or, if made, maintained; *Black* legs, who stand outside our meetings, and do not sign postcards, but who may not all be very black.

At Canterbury, on December 15th, a combined meeting

of several East Kent Divisions was held. The subject for discussion was the appointment of Mr. Smith Whitaker—whether it was wise or unwise. This question is merely a detail, and was treated as such. The real question was recognised to be this: Are negotiations still to go on or not? The Grey legs—eight pairs—who said, "Go on," voted in favour of Mr. Whitaker's appointment. The White legs, who say, "Stop negotiations at once," voted against the appointment. There were over 100 pairs of White legs at the meeting, but none of them said they had instructed their Representatives to stop negotiating.

Dr. Tyson, an immaculate White leg, who proposed the resolution condemning the Council, said that further negotiations were useless. A Grey leg stated that negotiations must be continued in order to educate the local Insurance Committees and the country until the country was made willing to pay a fair price for our services. A White leg replied that the profession could not be expected "to haggle with shoemakers." The White legs suffer from two defects. They acknowledge that they are inferior in controversial skill and in power to Mr. Lloyd George, and they admit that they are too proud to negotiate with the democracy. As I looked around at that evidently prosperous crowd of doctors and thought of the wide road outside crammed with their twinkling motor cars, I also felt that further negotiations conducted by such persons of such spirit would indeed be useless. The matter should be left to the decision of doctors whose incomes are under £500 a year. If an individual doctor is not too proud to discuss his own fee with a shoemaker's wife who is expecting a baby, why should he be too proud to act as a representative of his profession and discuss terms with a committee (which may include the shoemaker), when the point to be settled is not whether his own individual fee for a confinement should be one or one and a half guineas but whether the price to be paid to a profession is to be four or eight million pounds? The country and the professional legs of all colours have decided that for a State insurance scheme contract practice of some kind must be arranged. And yet the decision of the White legs to break off negotiations (which is what their disapproval of Mr. Whitaker's appointment means) before their demands have been refused, before even their demands per insured person per annum or per visit have been formulated, before even any details of the work to be done have been made out, states in effect that they do not want contract practice.

One unfortunate Grey leg, who ventured to assert at that meeting that the country would willingly pay 12s. per insured person per annum, if only the people could be persuaded that our services were worth it, was obliged to sit down speechless and utterly confounded by the definite assertion of the White leg chairman (who was the substitute for a Grey leg) that under this bill it was impossible for any such sum to be provided. But how is such a statement to be reconciled with that in the White Paper (House of Commons) published in the BRITISH MEDICAL JOURNAL SUPPLEMENT, December 16th, 1911, page 614, second column, sixth paragraph?

"Power is taken to enable the Treasury and councils of Counties and County Boroughs to make good in equal shares the excess amount expended on medical and sanatorium benefits beyond that payable out of the Insurance fund."

The White legs at the meeting distinctly stated that the bill is unworkable. And yet, as if to publish how little they believe what they say, White legs are trying all over the country to persuade doctors to promise that they will not work this unworkable bill! Having themselves signed this self-denying ordinance, their arguments must now be viewed with as much suspicion as those of the rat who had lost his tail, and tried to persuade his fellows that they had better have their tails docked. Naturally, medical men who now are out of the bill do not want any others to be in it. These White legs who have thus struck before the question of striking has been put before the whole profession, have attempted to cleave it in twain. Soon the Insurance Commissioners, with an increasing stream of Black Legs, would invade our Divisions along the line of cleavage. We have been betrayed, not by the Grey legs on the Council, but by the White legs outside. And soon the average legs will be at least cross-gartered with black like Malvolio's. The shoemaker will not mind, and it will save Mr. Lloyd George the trouble of appointing whole-time officers.

THE POLICY OF IMMEDIATE REFUSAL.

Dr. J. PRICE WILLIAMS (Swinton, Manchester) writes: Is it not high time that the probable consequences of immediately refusing to work the Bill should be calmly and thoroughly discussed at our meetings? The question is of truly and vital importance to a great many of us, and yet has hardly been raised and never discussed. Something has been taken for granted, which, to my mind, is a delusion, and might prove a fatal one if those who want us to "turn stupid" now had their way. I believe that the consequences of this policy would be disastrous to most of us, and ruinous to many within a very few years, but it would be unwise to put my reasons for this belief into print; and I will only say that I am not thinking of "blacklegs." If I am wrong, no possible harm could come from such discussion; whereas, if I am right, the recognition of the common danger would certainly tend to reunite us. If we cannot get reasonable terms (including the six points) from the Commissioners, we shall be obliged to decline to work the Bill in the end, but will then undoubtedly have right on our side, and the satisfaction of having fought for our rights to the bitter end. It is worth while to remember that the Commissioners, the Government, and, above all, the people probably wish us to do the work, and will therefore be inclined to let us do it on our own terms if we can show that those terms are reasonable. The question of remuneration is the first great stumbling block, and we ought at once to decide what would be adequate remuneration for ordinary attendance in a town, and ask the Commissioners to fix this as the minimum in their regulations—mileage, or some equivalent, being allowed in addition in scattered districts. In addition to this, we should insist at the outset that special visits should, under the regulations, be paid for by the patient, except in certain clearly defined cases. This would render a good deal of the dreaded local bargaining unnecessary. Certain members of the profession seem to delight in assuring us that, owing to certain actuarial calculations, we cannot possibly get adequate payment, or anything more than 6s. per capita. If the Commissioners tell us the same, we must reply that we have nothing to do with the calculations, but must insist on proper pay for our work; and that, if a mistake has been made somewhere, it is for them to remedy it—not for us to suffer by it. This should be made plain before the next Budget is introduced. Until a satisfactory minimum fee is fixed by the Commissioners we should refuse to negotiate locally about anything at all. This is quite a different policy from refusing to work the Bill on any terms, even is the end is to be the same.

A PLAIN ISSUE.

Dr. W. DUIGAN, Honorary Secretary of the Oxford Division, writes: The SUPPLEMENT of December 16th provides some fine confused reading, and shows a wonderful unanimity of disagreement. Doubtless this is due to the fact that the case for or against the Council's action is an eminently arguable one, and largely depends on the attitude taken up towards the Bill itself. The recent appointment of our Medical Secretary has had the effect of more clearly defining this attitude, but before the last meeting of the Representative Body there were clear indications of divided opinion as to the best policy for the profession to pursue. Briefly stated the position was this:—The profession was divided into two camps: (1) *The "Die-hards," or "Whole-hoggers"*—those who, dissatisfied with the partial concessions wrung from a reluctant Chancellor and despairing of gaining the essential points of their demands by any further negotiations with the Insurance Committees—when formed—were in favour of refusing service under the Bill as enacted by Parliament: that is, tantamount to an *immediate refusal*.

(2) *The Temporisers, or Moderates*—those who, feeling they had gained something by negotiation with the Government, were willing to accept the Chancellor's advice, to try to gain the rest of their demands (the really essential ones) through the regulations of the Insurance Commissioners, or negotiations in detail with the Insurance Committees. Those who hold this view keep the "strike" weapon in suspense.

I do not know what proportion of the Divisions were in favour of policy 1. I do know that my own was, and that it passed and sent up resolutions to that effect. But the Representative Body is much under the influence of able speakers, some of them more remarkable for their oratorical powers than their judgment; a few of them can speak with all the added weight and prestige of men behind the scenes, and in personal communication with the Government. So the meeting of Representatives voted in favour of the temporising policy.

The question now is, does this decision of the Representative Body really represent the opinion of the majority of the profession? Logically, of course, it should do so; but in view of the present outcry, I very much doubt if it does. The temporising policy is a fatally easy one to advocate, and on this occasion it could be backed by specious arguments about "consistency."

And yet the issue is very clear. We have not got, and now cannot get, our minimum demands granted in statutory form in the Bill; we have not got them for the simple and obvious reason that the Government cannot afford them—*the Bill is financially unsound.* It is not of the slightest use to close our eyes to that fact now, and a little later on to open our mouths to the Insurance Committees in the vain hope that they will have the wherewithal to fill them. Surely it is wiser policy, and infinitely more dignified, to refuse service under the Bill now, on the grounds that it fails to meet our demands, than to wait and enter later upon an unseemly wrangle with Committees, scattered throughout the country, running the risk of defeat in detail, or, at best, incurring the odium of wrecking the scheme by our "professional greed." This is the policy, known by the odious name of "collective bargaining," that Mr. Lloyd George recommends an honourable and learned profession to pursue! By refusing service now, we should incur no odium; we should have the whole country behind us—the people would acclaim us as their saviours.

So plain is the issue that, if ever there was occasion for a Referendum, this is the one. It seems to be the only way out of the present *impasse*, and it is certain that the bulk of the profession would welcome it. There shoud be little difficulty in framing a question to be answered categorically, but it would certainly need to be worded more carefully than that which has been sent out by the *Practitioner*.

One word as to the Council's action in the appointment of Mr. Smith Whitaker. In itself it is an excellent one; but, unfortunately, it is most *ill-timed*. As more than one writer in your columns has pointed out, the Council apprehended a revolt if they sanctioned the appointment. They made two mistakes: (1) In allowing themselves to be bluffed by the Chancellor, instead of demanding sufficient time to refer the matter to the Association. There was no occasion for such immediate hurry; it was merely aimed at forcing the Council's hand. (2) Rather than run the risk of a less suitable man being appointed, in deliberately courting the far greater risk of sowing discord and disunion in the ranks of the Association at the most critical time of its history. The effect of their action, as we see it to-day, is sufficient condemnation. Nevertheless, this is but a surface wound, caused by an error of judgment; the heart of our Association beats strong and sound as ever, and if we present an united front, victory is assuredly within our grasp.

The Importance of Forming Local Medical Committees.

Mr. Edgar Du Cane, B.A., M.B. (Member Greenwich Division, Rosedale, Catford, S.E.) writes: May I be allowed to call on my fellow members to "close the ranks" and put an end to all recrimination and suicidal quarrels. The Insurance Act, 1911, is *un fait accompli*. It now behoves all divisions of the Association to arrange *at once* for the formation of Local Medical Committees in all districts for which Local Insurance Committees are being formed. In the Metropolis the divisions are not co-terminous wit hthe boroughs (Parliamentary), and as each borough is to have a Local Insurance Committee, so it must also have a Local Medical Committee. My division (Greenwich) covers three boroughs—*viz.*, Greenwich, Deptford and Lewisham (part of the last-named borough is in the Norwood division); we therefore require three separate Local Medical Committees, and one of these must be formed with the assistance of the Norwood division. Unless these Local Medical Committees are got into working order promptly and a programme or tariff arranged, we shall not be fit to negotiate with the Local Insurance Committee (now in process of formation), but we shall (like the foolish virgins) be left out in the cold.

What applies in my division probably applies elsewhere, therefore my advice to all and sundry whom it may concern is "Quit quarrelling and get to business," the business being formation of Local Medical Committees.

Mr. Henry Geo. Dixon, M.R.C.S. (London), writes: In the very likely event of a strike taking place—*i.e.*, the refusal of a large number of the profession to work the Insurance Act on the ground of the insufficient remuneration it provides, the position of Mr. Commissioner Smith Whitaker would become one of peculiar difficulty, and his course of action would be watched by the profession with much interest and some anxiety.

I think we are entitled to an authoritative statement of what he intends to do, should that very probable eventuality arise.

Surely he would not assist the other Commissioners to work the scheme with blacklegs against us?

On the other hand, could we expect him to resign?

In the absence of any definite information on this very important matter, many will be led to regard his appointment as proof that when it was made no real stand-up fight was expected.

Can it be possible that Mr. Lloyd George has been out elephant hunting, and that, having secured (as he imagines) his tame animal, he expects the rest of the herd to follow him without a struggle into the toils?

We cannot refuse to work under the Act until we are invited to form a panel; but, for reasons which had better not be made public at present, it is absolutely necessary that the medical committees should be set up at once, and should get to work each in its own locality, drawing up a scale of charges by contract or otherwise, so as to be ready to state our irreducible minimum when asked to join a panel. Of course, our terms will be rejected, because the Chancellor has only provided 4s. or 4s. 6d. for us in his budget, and either of these figures is not worthy of a moment's consideration. Why, a veterinary surgeon gets 20s. a head for horses, and if a working man keeps a dog he has to pay 7s. 6d. a year; but he is to get a doctor for 4s. 6d. The suggestion is too droll even for the pantomime season.

Let us not be afraid of Mr. George or his Act; surely we have as much courage as the East End match girls. They did not flinch before a Chancellor of the Exchequer; they rose up against Bob Lowe and his match-tax and swept him into the obscurity of the House of Lords. That would be too terrible a fate for Lloyd George, because, after all, he has done us a great service in uniting us as we never were before; but, whatever the consequences may be to him, we must fight. Union and courage will win the day.

Mode and Rate of Remuneration.

Dr. Harry Grey (Bristol) writes: Dr. Hall's eulogium of club-practice has not hitherto called forth any dissent, because most of us, I think, considered that the subject had been so thoroughly discussed and universally condemed, that the champion of the detestable capitation system might safely be left in possession of the field; but his last letter is so full of ingenious arguments that I think they call for a word of exposure.

In the first place, payment per item for value received is (outside the business of insurance) the universal method of barter of every trade and profession among civilised nations. The advocates of the capitation system must show cause why medicine should be singled out from all others for distinction in this respect. The argument of percentage of income expended for a doctor's visit is fallacious, for the reason that it applies to all other commodities also—*e.g.*, the factory girl spends 8s. 6d., a whole week's wages on a pair of boots; the millionaire spends £2, or one-hundredth per cent. of his week's income; the poor man spends often a tenth of his income

on beer; the rich man spends often less than a hundredth; the servant girl goes to the theatre for a quarter of her daily wage; the rich man cannot spend more than a sixteenth, and so on. Secondly, Dr. Hall asks "Is there any relationship of fee to service rendered?" There is; for the sixpenny fee, the patient gets probably two minutes of the doctor's time; for the 2s. 6d. fee, the patient gets probably more than five times as much. Space forbids my going into the subject of the origin of the varying fee, but it is based on the "professional" and admirable notion that the medical man must give his services to rich and poor alike, and reimburse himself the cost of his maintenance in the manner least grievous to his patients.

Thirdly, "a system of payment under which one man thrives on the sufferings of others surely cannot be just or right"; if this is so, then abolish that system with the baker and the cobbler and the draper, for the first thrives on the suffering of a hungry stomach, the second on that of a tender foot, and the third on the shivering of a freezing skin. As well blame these humble but useful tradesmen for the pitiless laws of nature, as blame the doctor; the baker accepts payment for a commodity which is necessary to keep his customer alive, and the doctor does the same, only, whereas the baker puts the payment first and the commodity second, the doctor (to his eternal credit) puts the service first and the payment second, and is all too frequently jockeyed out of the latter as a reward for his "professional" attitude.

Dr. Hall's last argument that, as under a system of payment for services rendered, we shall find our incomes diminish with our work, and that, therefore, we should try to impose on the nation a system which will keep up our cost after the need for our services is gone is, I hope, one that will be repudiated by every "professional" man. Instead of being "the worst thing" that can be said in favour of the abolition of contract work, it is the most honourable, and most likely to commend itself to the Insurance Commissioners.

Mr. R. N. WEEKES, M.R.C.S., L.R.C.P. (Modbury, S. Devon), writes: Black and white do not differ more from each other than do the extreme opinions as to what would be a fair rate of payment for the medical men, by means of whom the Insurance Bill would have to be worked. If one could find some guide as to what has been fixed as a fair rate by the Government in the past in some like circumstances, it would be possible to form some basis upon which to build. Luckily there is one such arrangement in being, and there has been for many years. The surgeons appointed to attend the coastguards are paid at the rate of half-a-crown an attendance, and a shilling a mile is allowed for mileage. This is modest enough payment to suit the most fastidious of economists. Surely no one would suggest that the visit of a skilled medical man is to be valued at less than half-a-crown, or that for mileage he should be content with less than a livery stable keeper. It will no doubt at once be argued by the promoters of the Bill that the funds to be forthcoming will not allow of anything like such a rate of payment, and that we must take a capitation fee of so much. In plain English this means that the amount per visit statistically worked out from the amount of the proposed capitation fees would come to much less than the half-a-crown together with the amount of mileage, or, in other words, that a great nation means to force medical attendance on its citizens by exploiting the services of its medical men like any East End employer of sweated labour.

But a Government department has seen fit to institute this very rate of payment for attendance on one of the most healthy classes of men to be found in the country. We should be required, forsooth, to attend the halt, the lame, and the blind; and the whole average of the health would be much lower than that of the coastguards.

If the authorities persist that the money cannot be forthcoming in that amount, what is that to us? We never asked for any interference with our professional relations, nor if we are anything better than idiots born will we take anything less than the Government's own standard that I have laid down. Mayhap the authorities will say that they cannot trust us not to push in unnecessary visits if we are to be paid for work done. Be it so; but neither can we trust the patient not to take advantage of us if a capitation fee be fixed, and as the insulted party we are entitled to the first shot.

If we stand firm for this very modest payment, and if therefrom the Bill becomes a dead letter, the people who will think much harm will come of that must be very few and far between. Medical men as a class are educated men, and necessarily not likely to be blind worshippers of socialism and beaurocratic forms of government; nor possibly have their experiences of the moral influence of insurance in the past been such as to cause them to regret, from the point of view of the national character, any prevention of its further extension.

If medical men tamely submit to be at the beck and call of the populace, day or night, wet or fine, snow, hail or sunshine, without being paid adequately for work done, they will deserve the life of slavery to which they will undoubtedly condemn themselves. Also let them remember that they hold the position they now do, not only for their own interests, but also in trust for the posterity of the profession, possibly for their own sons. One of the "six cardinal points" is that the remuneration shall be according to the will of the profession, and such as is suitable to different areas. Let the fee suitable in each area be at the rate of half-a-crown a visit and a shilling a mile for mileage, and let no single division make agreement for a penny less, and it must inevitably come to pass that, in spite of their promise of the "gift" of medical attendance by the process of the outrageous sweating of the medical profession, the promoters of the Bill will find that they have perforce to give way to the interests of the medical fraternity.

THE NEED TO DEFINE "ADEQUATE REMUNERATION."

Dr. WM. V. FURLONG (Dublin) writes:—Now that the National Insurance Bill has practically become an Act, it is of the utmost importance that the whole medical profession should come to a decision with as little delay as possible *what adequate remuneration for services rendered really means*, as a very large proportion of our income, and the amount of work involved to gain the same, will depend upon the arrangement made by the profession under the Act.

If the payment is to be made per capita (an arrangement most unsatisfactory from every aspect), it is of vital importance for the doctor to know—not being as a rule a speculator or gambler—what would be the average number of visits he would be called upon to give each patient in the year, and then consider what would be the smallest sum per visit he would consent to attend for; I mean, of course, ordinary visits. If, then, the average of ten visits a head a year be taken, and the doctors consent to make their minimum fee as 2s. 6d. an ordinary visit, then, converting the same into a fee per capita, it would work out at £1 5s.

Considering that a carpenter, plumber, painter or slater will not do the most trivial job for less than half-a-crown (not including the charge for his assistant which he invariably brings with him), I do not see why a medical man should go for less.

In estimating a proportional per capita rate, the following considerations should be taken into account:—

(A) At present the per capita club members are selected lives, consequently the average yearly attendance per capita is considerably less.

(B) All club members are in receipt of good wages and lose considerably when on the sick list, so that they will claim sick benefit as seldom as possible, and remain sick for the shortest possible time. On the other hand, this new Act will throw on the medical profession an unknown quantity of possible contingencies that cannot be calculated on ordinary club lines, and no doubt will give more than double the work per capita than the present club system does. For this reason it is well to open our eyes to the fact of what is before us, and arrange (in a body) what is the minimum fee we will accept. Let us answer the following questions:—

(1) What will be our minimum capitation fee for ordinary visits?

(2) What extra should we be allowed for night visits?

(3) What mileage allowance should we get (as our time and expenses must be paid for extra on distances)?

(4) What arrangement will be made where a second

doctor is required to give an anæsthetic in cases of operation or confinements?

(5) Will bacteriological examinations for diagnostic purposes be carried out at the expense of the State, or is the cost to be borne by the medical practitioner who accepts the capitation fee?

(6) Will the cost of supply of serums, antitoxins, "606," oxygen, etc., etc., be defrayed by the State directly, or is it supposed to come out of the capitation fee?

(7) Will certificates of illness, convalescence, death, infection, disinfection, etc., be paid for by the State, or are they all supposed to be covered by the capitation fee?

(8) Will the fee for examination of the person in the first instance to ascertain his eligibility or otherwise to become a member be paid by the Government?

As these questions are of the utmost importance to us all, and require careful consideration, the medical profession should be immediately prepared "with one voice" to name the minimum capitation fee they would accept, exclusive of extraordinary duties hereinbefore mentioned, otherwise some most inadequate proposal on the part of the Government may unwittingly be accepted by a small section of the profession, to the great detriment of all and the ruin of many a hard-working and struggling practitioner.

Dr. L. J. J. BARNES (Erith) writes: I do not think we have gained much by way of concession to our six cardinal points. The right of choice of doctor would have sooner or later have been demanded by the insured themselves. The representation of the profession on Health Committees is so small that their votes will be of little avail, seeing that a large body of such committees will be composed of members who will come in under the Act and be entitled to the insurance benefits themselves, and as such will fight against any restrictions personal to them—as well as against a proper remuneration to the medical profession. It will be the action of the Friendly Societies in the past over again. Who, when they wanted to reduce the payments and were met by objection, advertised for medical men willing to undersell. To give the Health Committee power also to strike a doctor's name off the panel is monstrous, and may blight many a promising career. Surely, if he is guilty of offence, the medical authorities are sufficient to take effective steps.

The other great point is the income limit at £2. I cannot see why there should be any real objection to that amount being adopted as a standard all over the country. Making it different in each locality will form a very bad precedent. A man earning over that and up to £3, with any spirit, ought not to want medical treatment on the cheap. To leave to each locality the question of what should be the limit, will certainly be a failure so far as we are concerned, and opens up a splendid opportunity for Committee members to gain a little cheap popularity by refusing any restriction to the wages limit. It will be Socialism also in an indirect way.

The rate of remuneration to medical men, I consider, ought to be a fixed standard also, all over the country. Otherwise, there will always be a desire and tendency to reduce from the higher to the lower, giving the latter as example by way of excuse. So the cutting will go on.

The statutory recognition of a committee of the medical profession is all very well, but can they force their views on the Health Committee.

CLUB PRACTICE TO-DAY.

Dr. W. H. STEVENS (Bristol), writes: I should like to make the following propositions: (1) That each holder of a club appointment at once terminate his engagement.

(2) That the Council of the B.M.A. shall lay down rules for the acceptance by members of club appointments specifying the rate per head, payment for examinations and for extra certificates, etc., etc.

The result of this action would be that at the end of March next each friendly society would be without a medical officer and would only be able to secure one upon our own terms. We shall by this action put an end once and for all to the sneer that we accept club appointments for 4s. a member and the ridiculous basis upon which Mr. Lloyd George has based his calculations for the remuneration of medical men would be gone.

Now is the time for medical men to assert themselves, and I hope my proposal will meet with acceptance.

DOGS AND MEN.

Dr. J. DEWAR ROBSON (Maxwelltown, Dumfries) writes: Might I encroach upon your space by stating my objection to the remuneration of 4s. 6d. pr capt. per annum to medical men. A medical man has to attend the owner of a dog for 4s. 6d. during sickness, while the Government value the *luxury* of keeping a dog at 7s. 6d. per annum. Surely the Chancellor's estimate of the health asset of the nation ought to be worth more than a dog tax, instead of 3s. less.

THE MANCHESTER MEETING AND AFTER.

Dr. J. A. JAMIESON (Manchester) writes: The Medical Profession has awakened to the fact that the policy of local bargaining 12 months hence is a most dangerous one to pursue. There may be no legal barrier to our getting our six cardinal points, but in the process of local bargaining we will most assuredly become disunited. Above all things we must be and remain a united profession. Any new policy we may adopt must be, as far as we can see at present, a safe one. Here again our safety lies primarily in union.

The fact that a new (temporary) union of medical men has been formed to guard the interests of the profession against the injustices of the National Insurance Bill demonstrates that we all are not in agreement with the policy of the British Medical Association. I admit that the rank and file of the B.M.A. themselves formulated that policy, with which we are now dissatisfied. Most of us own that we have made a mistake in leaving our negotiations to be continued at the twelfth hour. Because of that we are joining the National Medical Union.

In my opinion the greatest step the B.M.A. can now take to weld the profession into one united whole is that, as soon as the National Medical Union has definitely taken shape, the B.M.A. should come forward and ask the Union to help them. If there is the slightest "standoffishness" on the part of either body, the union of the Medical Profession of this country will be at the least most imperfect. I am sure the National Medical Union would respond very warmly to the invitation. The B.M.A. and the National Medical Union having joined hands, the next point is to endeavour to get every man in the kingdom to affiliate himself to one or the other body.

Some medical men will not join the B.M.A. for reasons best known to themselves; whereas, if they join the National Medical Union, they are to all intents and purposes temporary members of the B.M.A.

This having been done, the policy to be pursued must be evolved. Having drawn up this policy, the different districts of the United Kingdom, which should have been divided off into the same divisions as the B.M.A. have at present, each man in each division should be asked for his signature to the policy adopted. If he refuse, he should be promptly black-listed. The policy would then be sent to the Government. In my opinion it should take the form of a definite intimation to the Government that the Medical Profession refuse to enter into any further negotiations *re* the National Insurance Bill until its six cardinal points are definitely granted in the Bill. Then, and only then, will the profession negotiate concerning work to be done, night visits, extras, etc.

The Council of the B.M.A. cannot take upon itself any mode of procedure of which the individual members disapprove; therefore it behoves every medical man to think seriously and deeply, and consider what, in his opinion, is the safest method of procedure at this critical juncture. He may not only suffer, but his family with him; and the future of the profession will also suffer, probably more than he does himself.

Mr. J. D. MCFEELY (Liverpool), in a letter under this heading, writes:—One is inclined to wonder what influences, atmospheric or lunar, social or political, had the

largest determining factor in the action of the members at the meeting in Manchester on December 14th. To an ordinary intelligence their action, to say the least, seems impracticable and likely to lead to a split in the profession which must ultimately end in disaster. One thing is certain—they cannot attain any tangible or beneficial results, either now or hereafter. "Quem Deus vult perdere, prius dementat."

I should like to ask, first of all, for what purpose was this meeting convened? Was it to denounce or impeach (a) the Council; (b) the Representative Body; or (c) the B.M.A.? If so, for what? Have the Council, through the Representative Body, in any way exceeded their instruction or overstepped their duty? Have they not spent (without fee or reward) days—yes, weeks—at interviews, meetings, etc., and the arranging of so many details consequent thereto? Did they not extort from their opponents—of whom the representatives of the friendly societies and trades unionists, etc., and not the Chancellor, were the most determined and bitterest—concessions which the profession have never on any previous occasion obtained any equal to? The B.M.A. from the start laid down six cardinal principles as a minimum. Three—practically four—of these have been embodied in the Bill. The remaining are left for the profession themselves—for that is practically what it amounts to—to arrange. What, then, is all the row about? Were these gentlemen expected to do impossibilities or work miracles in overcoming almost insuperable opposition, a hostile House of Commons, a hostile Chancellor, if you will, a hostile and more than hostile array of representatives of some millions of workers, whose voting power in the constituencies had to be reckoned with, whose claims, and perhaps interests, were diametrically opposed to those of medical men? How could such conflicting elements be brought into harmony except by concession? And yet they have conceded nothing and have practically gained all they asked.

But then, shout these "Weissagers," they could have made the passage of the Bill impossible. They could have done no such thing. The passage of the Bill, or some Bill founded on similar lines, was and is absolutely indispensable and overdue, and if hung up or delayed would have done more injury to the general practitioners, or the portion of them who carried on contract practice, than to any other body in the community. Neither the Opposition nor the Lords would take such a responsibility—why should we?

Another "irresponsible" from the gallery shouts, "We have been sold." It occurs to me that those who shout loudest will be found ready and willing to sell themselves if only they can find a purchaser. Sold, indeed! because, forsooth, a member of their own body, in all probability the most suitable, and certainly the most competent and deserving, member was offered and accepted the "post of honour" under the Bill. What do they want? That no medical appointments be accepted? How beautifully rational; in other words, that a court be constituted and no judge appointed to it. Do they object on personal grounds to the man appointed? I have only met him once, and he left the impression on my mind here is a slave to duty, a man incapable of doing anything mean or dishonourable, the right man in the right place. It seems to me that a very large proportion of those who are denouncing this Bill have never read its provisions, not even the concise epitomes issued from time to time by the B.M.A., especially that of December 11th, and sent, I take it, to every member of the profession.

If they take the trouble to do so, they will see that we have gained more than has ever been gained heretofore, or will ever, perhaps, be gained again if this threatened division is allowed to go much further. We have gained through unity, or supposed unity, what can only be maintained by unity. To whom do we owe these concessions? Certainly to the B.M.A. and the representative body thereof, but more especially to the Council, who are now hooted down and refused a hearing on public platforms. Base ingratitude is a mild term to apply to such conduct.

In all seriousness I would ask, is there any alternative to following the lead of those who have already gained so much? If there is, I do not know or see it. Again let me say, the duty of every member of the profession who has the interests of the profession at heart is, at this all-important phase of a new existence, to do his utmost to strengthen, not to weaken, the hands of our representatives. I for one am prepared, come what will, to trust the B.M.A. and the representatives we have appointed. Our manifest duty is to close up our ranks—put an end to dissension. If there are still some prepared to shout from the housetops, they belong, *me judice*, to one of two classes—either those who have nothing to lose by agitation, or those—a wiser class—who prefer to sit tight and watch how the cat jumps. I fear a large number of the malcontents are allowing themselves to be made the catspaw of the Yellow Press *et hoc genus omne*.

The duty and responsibility of carrying out the Act—imperfect though it is—devolves on the rank and file, and not on specialists. If general practitioners are so short-sighted as to allow this line of action to continue much longer, they will awake one fine morning to find that a brigade of full-time men have been appointed to take the bread out of their mouths—*verb. sat sap.*

Dr. J. CAMERON TURNBULL (Bury) writes: When our friends and "supporters" of the National Medical Union have a sane moment to spare, will they kindly consider the following points?

1. The State has already a great active interest in the public health, and nothing in the world will prevent it taking a still greater interest.

2. Young men, recognising this, are qualifying themselves for the public services, and fight shy of general practice.

If this "Union" carries its point, and persuades the profession not to work under the Act, it will, no doubt, win a great victory, but what will this victory amount to in the end? It will not prevent the administration of the Act, because Insurance Committees can still distribute medical benefits in cash and *wait!*

Now the Chancellor has promised a Grant-in-Aid for the treatment of school children. General practitioners, if they refuse State Insurance, need not expect a penny of this. Assistant M.O.H.'s may be had for the asking, and thus a good part of our income is lopped off.

In a short time Insurance Committees will find they want medical referees to examine candidates, or cases of long continued sickness—more salaried appointments, and still, of course, within the terms of our undertaking. But ask a young man five years hence, when all this excitement has abated, to join the B.M.A. and sign the undertaking, and he will say: "Oh, no, that is a G.P.'s Association. I am going to be a public official." He will start at a good salary as the free doctor. Of course he may not have much work to do at first, because patients will not desert their family attendant in a hurry, but children who have been brought up to the official school doctor will not have much compunction in consulting the official insurance doctor. The result will be that in ten or fifteen years we shall be tumbling over each other in the rush for appointments, with all the sordid canvassing that it entails. What about the goodwill of our practices then? It is all very well for the old-established practitioners who are secure in their *clientèle* to be independent of State Insurance, but the younger men have to depend on the school children of to-day for their practices of twenty years hence. Our leaders have recognised this, and realised that we must be reasonable in our attitude to the State if we are to save general practice and "free choice of doctor." Can anyone say that the action of the National Medical Union is reasonable? It may have the support of certain newspapers, etc., from political and other motives, but it must alienate the sympathy of the general public. It is not a strike. There is nothing to strike against. It is not even a fight, because they refuse to join issue with the enemy. They are running away, and there is only one name for people who run away.

Their excuse is that they don't want "local fights." After all, are the whole terms of service contained in the six cardinal points? Is there not as much probability of local fights over special local conditions as over the cardinal principles? Local fights will always be neces-

sary, and if the divisions maintain their strength, with the help of our central organisation, they are bound to win.

Mr. J. S. Manson, M.B., Ch.B., D.P.H. (Warrington), writes: Writing for myself and several others in this town and district, I find it difficult to express myself with moderation regarding recent medico-political events in Manchester and elsewhere.

However sincere may be the motives and objects of the promoters of last Thursday's Manchester meeting, the result of that meeting is to cause disunion in the ranks of the profession here.

The political flavour which has been added to the agitation by the publication in the *Daily Mail* of a letter from Dr. Helme is deplorable.

In that letter he advocated three points:—(1) To stick to the Association; (2) To capture the machinery; (3) To call for the resignation of the Council. The idea of effecting a *coup* by such means and through such a medium could only have arisen in a mind as ingenious as that of Peter Pan. The proper policy is to stick to the Association, trust our representatives and leaders, and abide by the policy of the Association.

Other organisations with a different policy will only lead to internecine strife, which will be fatal to the profession as a whole.

"What Lancashire says to-day, England will say to-morrow," is an old political wheeze which does not apply when only a portion of Lancashire advises us "to swop horses when crossing the stream."

The *Manchester Guardian*, in its issue of December 15th, which contained a report of the meeting in Manchester on the previous day, also contained a leading article with reference to which Dr. C. Adolphe K. Renshaw, Chairman of the Altrincham Division of the British Medical Association, wrote a letter to the *Manchester Guardian*, in the course of which he said:—

Your article on this subject in this morning's issue of the *Manchester Guardian* strikes the correct note. You say, "The dispassionate observer will find very little statesmanlike moderation." The feeling of disgust which many brought away with them from the meeting is proof of the opinion that those responsible for this latest demonstration have completely lost their sense of proportion in unnecessary panic.

That the simple "rider" suggested by Dr. Cooper had no chance, that Dr. Taylor should be refused a hearing, and that the President-elect of the Association, Sir James Barr, should be greeted with rudeness, heralds the new Union at its birth with inevitable failure. . . .

There is no need of any organisation outside that already provided by the British Medical Association, which, by its divisional arrangement, allows the voice of the humblest practitioner in the most outlying village to be heard, if he is so disposed. The new Union is not required, is mischievous, and calculated to do irreparable harm to the cause it pretends to support.

The London Meeting.

Dr. Carline (Lincoln) sends for publication the following copy of a letter which he has addressed to the Acting Secretary of the Executive Committee of the mass meeting of medical practitioners summoned to meet in London on December 19th:—

[Copy.]

December 17th, 1911.

Dear Sir,—Your notice received, summoning a mass meeting of the profession—a notice which is issued by a body of consultants calling themselves the "Executive Committee," under the heading "National Insurance Bill"!

Elsewhere I find that Dr. Fred. J. Smith is the organiser of this meeting—the Dr. Smith who has recently made himself so notorious by writing abusively about the Council of the British Medical Association in the lay Press; and who, when asked straightly by members of that Council in what way they had been guilty of a "shameless betrayal," ignominiously wriggled out of replying to the question.

In spite of this you write and ask me, a member of the Council, not only to attend your meeting, but to persuade as many others as possible from this district to do so.

Really, sir, I admire your assurance, and remain,

Yours obediently,

(Signed) W. A. Carline.

Scotland.

Dr. John W. Ingles (Burghead, Morayshire) writes: I have read with interest and ire the letters regarding the Insurance Bill, published in last week's supplement, and I am greatly struck that the bulk of the profession never recognisel seemingly until now the methods of our British Medical Association.

Certainly, the Association's action this time applies as a whole to the profession, but individual action of this kind has been going on to my knowledge for fourteen years.

Several years ago I was appointed, at a good salary, to a post as a colliery surgeon. I was told by our Association not to take it. When asked why, I was told that the Association did not allow their members to be controlled by a "Lay Committee." I refused the post worth £400 per annum. Would any member tell me what a "local health committee" is, if not a "lay committee," I could give other instances of cases which to me don't seem reasonable to their present position. But that one will suffice meanwhile.

This Insurance Bill is bad. The words public and profession are not synonymous. What is good for the profession is or will be good for the public, but I'm not so sure that what is good for the public is good for the profession. It may be (I'm open to correction) good for the public to get conscientious medical attendance at 4s. 6d. per annum, but I'm not sure that it would be good for the profession.

A man with a list of 500 insured persons will get as much money if he visits fifteen per day as he would if he visited fifty per day; and there will be no great inducement for him to do the fifty visits, as I don't see that the Chancellor has provided for an increase in the contract rate to the medical man if he works hard and saves a lot of money for the Chancellor to give old-age pensions at 65 years. I think if a man works hard he ought to get increased pay.

I believe in an Insurance Bill, as undoubtedly there are a vast amount of weaklings in the race—ill-clad, ill-fed children, who contract illnesses in childhood that they will never counteract as adults. The present Insurance Bill and School Inspection Bill, as acted upon, will not remedy that state of affairs. Therefore, for the public welfare and the public health, let us as a profession stiffen our backs, in spite of the fact that this Insurance Bill is, I would suggest, "Home Rule for Scotland" in medical matters, under control of the Imperial Parliament—the British Medical Association.

I think the profession in Scotland would willingly subscribe—aye! ten times the present subscription of 25s. per annum—to have an Association that would *do*. I would suggest a pension scheme combined with our Scottish Association.

The Memorandum of December 11th.

Dr. Leigh Day (Colchester) writes: The circular sent out by the Medical Department headed "The National Insurance Bill: How much has been obtained and what still remains to be obtained?" is distinctly misleading.

That circular states that the following principles of the Association have been incorporated in the Bill:—Free choice of doctor, administration of Medical and Sanatorium benefits by the local Health Committee. The representation of the profession on all the administrative bodies established under the Act—the statutory recognition of a Committee of the Medical Profession in each district.

Now, as a matter of fact, free choice of doctor is not incorporated in the Bill. If it were, would it be necessary to send a letter to the House of Lords stating that Clause 15, Sub-section 4, does "secure to a great extent free choice of doctor"?

Further, why does not the circular point out that the administration of materaity benefit is to be, in the case of persons who are members of a Friendly Society, through that Society? Why does it not point out that, though nominally in other hands, administration of medical benefit is really in the hands of Friendly Societies; inasmuch as insured persons constitute nine-fifteenths of the Local Insurance Committees, and in certain cases

this nine-fifteenths may be composed entirely of Friendly Society members? Why does it not point out that the representation of the profession on the administrative bodies is not in accordance with the decision of the Representative Meeting?

Why does it not point out that Local Medical Committees have only power to express a pious opinion?

As to the essential principle of wage limit, the circular states that this is to be fixed by the profession in each district in negotiation with the Local Health Committee.

Where is this stated in the Act?

All the Act says is that Local Insurance Committees shall be *authorised* to require any person whose income exceeds a limit *to be fixed by them* to make their own arrangements.

As regards adequate remuneration, why is it not pointed out that there is only 7s. 3d. available for medical benefit including drugs and sanatorium treatment; and that so far as the clause providing for extra money from the Treasury and County Council is concerned, this source is useless, in that the clause is only permissive and then only if *both* bodies agree? There is a permissive clause in the Public Health Act allowing the local sanitary authority to pay medical fees for midwifery contingencies, but it is quite impossible to get any money from that authority. If there is a difficulty in getting money from one authority, how much more difficulty will there be in getting it from two? The supplement has been filled with remarks on the Council's action in the matter of Mr. Smith Whitaker's appointment. Disastrous as this has proved, it is to my mind a mere bagatelle compared to the view taken by the Council that we have secured certain of our points and can secure all the others.

When one considers this view in conjunction with Mr. Smith Whitaker's appointment, one can only suppose that the Council are satisfied with the Bill. If so, they are no longer representative of the profession.

CIRCULARS TO NON-MEMBERS.

Dr. COMYNS BERKELEY (Honorary Treasurer, Marylebone Division) writes:—In an unfortunate moment I agreed, at the request of the Hon. Secretary of the Marylebone Division, who was going for a holiday, to undertake a postal canvass of the medical practitioners resident in the Division, asking them: (1) to sign an "undertaking"; (2) to give a "guarantee"; and (3) inviting those who were not members of the Association to become so. The Hon. Secretary of the Division had been requested by the late Medical Secretary of the Association to carry out this canvass.

I should not have thought it possible to call forth so much personal abuse in such a little time, and it is quite evident that there is a large number of medical men in the Division at the present time in a peculiarly irritable condition.

The following is a fair specimen of a large number of communications I have received during the last few days by post and telephone:—

DEAR SIR,—I consider it extremely offensive on your part to send me a circular in which you threaten me that the profession to which we both have the honour to belong will "regard those who after repeated applications persist in refusing to commit themselves to a definite statement on behalf of the profession's policy as being, however unintentionally, enemies of their profession."

The statement between the inverted commas is abstracted from the fourth paragraph of Circular 3 issued with the sanction of the Council of the Association, one of the documents I was requested to circulate. I understand that a great many members of the medical profession residing in the Marylebone Division are holding me personally responsible for what they are pleased to term this "offensive paragraph," and so, with your permission, I hasten to deny the soft impeachment of being a "blackmailer," and to disassociate myself from, to say the least of it, that unfortunate phraseology as is to be found at the end of this fourth paragraph. I signed Circular 3 as an officer of the Association, but also as one who has no control over the actions of the Council or of the late Medical Secretary. I wish I had!

[A number of other letters have been received, but it was found impossible to deal with them in the time at our disposal.]

CORRESPONDENCE IN THE "SCOTSMAN."

We have been requested to reprint the following correspondence which has appeared in the *Scotsman*:—

THE MEDICAL PROFESSION AND THE INSURANCE BILL.

Woodside House, Cowdenbeath,
December 9th, 1911.

Sir,—The medical profession owes a great debt to the manly courage of Dr. Frederick Smith, who in a letter to the *Times* as extracted in your issue of the 6th inst. characterises "as a shameful betrayal of the British Medical Association and the profession the sanctioning by the Council of the acceptance by Mr. Smith Whitaker of the deputy-chairmanship of the Insurance Commissioners." As a member of the Association's National Insurance Committee I have long laboured under similar doubts; but beyond at times taking exception to the way the business of the profession was being done I refrained from calling a more public notice lest injury might be done to the unanimity and good working of the Association. Now that the profession is in such grave danger, and now that this grave and suspicious step has been taken, I trust the truth will out and justice be done.

The profession in Scotland will recall the recent national meeting of the profession in the Students' Union, Edinburgh, and which was addressed by Mr. Whitaker. As president of the Fife Branch, I was deputed to arrange for this meeting with the Scottish Committee at Perth. The desire of the officials of our branch was that this meeting be open to the Press and every endeavour made to enlist public sympathy, and this was the understood arrangement. A day or two afterwards a circular was issued by Dr. Dewar, secretary to the Edinburgh Branch, that the meeting was to be closed, and when representations were made to Dr. Dewar against this decision we were informed that the closure of the meeting had been arranged in London by Mr. Whitaker and one or two other leading members of the Association. The reason given being that they wished to tell the meeting something they did not wish the public to know. The truth, I believe, was they had come to an understanding with the Friendly Societies. At least, agitation on both sides ceased together. However, we accepted the reason given in good faith, though in point of fact Mr. Whitaker at the meeting told nothing that everyone need not have heard. All he succeeded in doing was in muzzling the meeting and in cramping the movement. He did a greater injury than that. As the profession knows, the great majority of its members have signed an undertaking that they will not accept office under the Bill unless the terms are satisfactory to their branch. Mr. Smith Whitaker talked largely on this, but in such a way as to give an impression to the meeting that many had failed to sign. I was on the platform at the time, and expressed the opinion then and there to those sitting near me—it was a shame to give that impression, because the figures were most remarkably unanimous and encouraging. They were given to the National Insurance Committee by Mr. Smith Whitaker himself, and so far as my recollection goes they were that there are about 32,000 medical practitioners in Britain, of whom 24,000 are available for service under the Bill. Up to that date 22,232 had signed that they would not accept service, and as all the returns were not yet to hand it was expected when completed they would be remarkably unanimous.

Nor is this all. I was representative member for Fife at the special representative meeting held in London on the 23rd ult. All the representatives were bound to secrecy, though what there was to hide in the way of honourable business I do not know, and it is no honourable person's business to cover up deeds of darkness. I have before me the agenda of this meeting, which contains resolution after resolution, carried unanimously by the branches and instructing the Council that the members declined service under the Bill. Now, at the beginning of the meeting the Chairman was asked by one of the representatives if they were to vote in accordance with their instructions from the branches, and unless the branches are to be disregarded and their resolutions made to mean nothing, in what other way should representatives vote? Yet in effect the Chairman's instruction was they were not bound to vote in accordance with the resolutions of their branch, and that though these resolutions of the branches had been come to at meetings specially called on instructions from the Council to consider their latest and most up-to-date report.

What was the effect of this instruction by allowing off steam and by bringing in on the following day a quasi-strike resolution which may mean something or nothing? Definite decision was postponed, and the profession is now being led on against its wish and inclination into a position from which it will have difficulty in retreating, and maintaining its ranks.

My point is, the Chairman did a grave injustice in instructing representatives they did not require to vote in accordance with the resolutions of their branches. Nor yet is this all. Under the deputy-chairman the representative meeting by a majority carried an amendment against the Council's recommended modification of the Harmsworth amendment that the whole Harmsworth amendment be deleted from the Bill. No sooner was this done than the deputy-chairman allowed a further amendment—that if the Council failed in getting Harmsworth deleted they then seek their own modification, and this, too, was carried. This may be a manner of doing business, but it is not straight fighting.

I am glad that in your leader to-day you have laid the danger bare.—I am, &c.,

Wm. Craig, M.D.

15, Lennox Street, Edinburgh.
December 9th, 1911.

Sir,—No one can have read the letters from medical men, published in *The Scotsman* of Saturday, without being struck by two thoughts.

In the first place, there is evidently abroad among us a feeling of distrust of the Council of our Association—a feeling which has been much accentuated by their error of judgment in endorsing Mr. Smith Whitaker's acceptance of the vice-chairmanship of the Board of Commissioners. No doubt it would have been more satisfactory to the profession if they had stated definitely that they did not approve, but they chose the other course, and we can only suppose that they did so from the best motives, however mistaken their action may seem to us. Unfortunately, in all their published statements there exists the same tendency to cry peace where there is no peace, and to say that all goes well when it obviously goes very badly. If they would tell the profession frankly that they have done their best, and are only sorry that their best amounts to so little, they would receive much more general support, not to say gratitude.

The second impression which one receives from a perusal of these letters is that there exists much confusion among us as to where we stand, and what we are to do next. Are we now to fold our hands, refuse to enter into any negotiations, and wait for the breakdown of that part of the Act which refers to medical benefit, or are we to form a local medical committee to inquire, at any rate, what are the best terms we can get under the Act, as interpreted by the Insurance Committees and Commissioners? There is not the least doubt that a large number of men wish to adopt the first course, while it is equally certain that the second is recommended by the Association. Our choice will have to be guided by the answer to a simple question—What number of weaklings (blacklegs, if you will) have we to fear under each of these two policies? It sounds rather amazing, but that is just what the general profession does not yet know.

Some weeks ago, in the Students' Union in Edinburgh, Mr. Smith Whitaker addressed a large audience of medical men in a speech of some two hours' duration. Stripped of all its oratorical trappings, the burden of his song was as follows:—That the profession might be divided into three classes. Firstly, those whose present lot was so unhappy that even the terms which would be granted without further effort under the Bill would be received with gratitude; secondly, those who would be quite ready to combine with their fellows to get better terms under the Bill than they could secure by their own individual efforts, but would not go so far as to refuse to work under the Act at all; and thirdly, the "whole-hoggers." Mr. Whitaker took great pains to make clear his opinion that if the third group attempted to enforce their policy upon the Association, the result would be a large efflux of men out of the second class into the first, and the provision of a body of men inferior, perhaps, in standing, but numerous enough to work the Act—leaving the "whole-hoggers" stranded high and dry. The speaker told us that ample evidence to support this statement had come to the office of the Association, but he refused to give us any figures. If he be right, it is plain that an extreme course might be attended by grave risk to the profession. But what reliance can we place upon the soundness of his opinion?

Surely the way out of the difficulty, so far as Scotland is concerned at any rate, is to be found in the letter which you published on December 4th from Dr. Gibson. Let a Scottish National Committee be formed, of men universally trusted by the profession, and let its first task be to investigate this alleged evidence of a multiplicity of potential blacklegs. If, indeed, the result of a "whole-hog" policy would be to cause a split in our ranks, then the profession ought to learn the fact from the lips of men who are leaders indeed, and who have no axes to grind. But if this independent examination should show Mr. Whitaker's statements to be inaccurate, then we shall know that we have the means in our hands to blow the Chancellor and his nefarious scheme for sweating the profession into the limbo of things forgotton, and we shall take them.

I am, etc.

J. S. Stuart Ross.

Offices of the British Medical Association,
Medical Department, 429, Strand, London, W.C.,
December 14th, 1911.

Sir,—Our attention has been called to letters from Dr. W. Craig and from Dr. J. S. Stuart Ross appearing in your issue of Monday, December 11th, raising questions as to the action of the Council and representative meeting of the British Medical Association, and also as to certain statements made by Mr. Smith Whitaker when speaking as medical secretary of the Association at a meeting of the profession in Edinburgh. Although many of your readers will probably agree with us in thinking that many of the questions raised, which relate to the internal affairs of the Association rather than to the public policy of the Association and the profession, would be more suitable kept for discussion within the profession itself than in your columns, nevertheless, public statements of the kind having been made, they cannot, we feel, be allowed to go without public challenge.

First, Dr. Craig's and Dr. Stuart Ross's letters make it necessary to say, what we should otherwise have thought might have gone without saying—namely, that Mr. Whitaker, in addressing the Edinburgh meeting, was acting in a purely official capacity and under instructions. The policy of the British Medical Association is not determined by its permanent officials, but by the representative body, and, acting under that body, the Council, Committees, and honorary officers within the limits of their respective authority. One of us (the chairman of Council) was present at the Edinburgh meeting, and is in a position to say that all the statements made by Mr. Whitaker which have been criticised were made strictly in accordance with the instructions he had previously received.

Dr. Craig complains that the figures as to the number of signatories to the undertaking were withheld from the meeting. This was done by explicit instruction of the Committee of which Dr. Craig is himself a member, given at a meeting at which he was present, and for reasons which the Committee will no doubt be prepared to uphold in the representative meeting or other suitable place if Dr. Craig chooses to repeat his criticisms there. Be this as it may, it was deliberately decided that the figures should not be made public, and Dr. Craig is guilty of a breach of confidence in making public facts to which he has only had access as a member of the Committee. As he has thought fit to take this course, it is necessary to correct the mistakes into which he has fallen. He appears to imagine that the 22,500 signatories of whom he speaks are drawn exclusively from those (erroneously estimated by him as numbering 24,000) who might conceivably accept appointments under the Bill. This is not the fact. The signatories of the undertaking include a considerable proportion of members of the profession who are not likely in any circumstances to desire to take appointments under the Bill, but who desired to indicate by their signature their approval of the policy of the Association. The 22,500 must be compared, not with the 24,000 mentioned by Dr. Craig, but with the 32,000 members of the profession in the United Kingdom. In referring to 22,500, we merely take Dr. Craig's figure. It is not now correct, but for obvious reason we do not state the present number.

We are still of opinion that Mr. Whitaker correctly interpreted his instructions in warning the Edinburgh meeting of the danger of over-estimating their strength, and the necessity for the warning is exemplified in the letter of Dr. Stuart Ross. In the process of what he designates "stripping Mr. Whitaker's argument of its oratorical trappings," Dr. Ross has misrepresented the argument itself. That was that, on the one hand, the information in the possession of the Council of the Association gave every ground for confidence in continuing to fight for the complete carrying out of the six cardinal principles laid down by the Association, not solely in the text of the Bill, but in the regulations under the Bill, but in the arrangements subsequently to be made by the local authorities under the Bill for attendance and treatment of insured persons; but that, on the other hand, there was not the same ground for confidence as to the policy of refusal to work the Bill at all if the six principles were not specifically and finally embodied in its terms. The Council of the Association is still of opinion that the profession would make a great mistake if it were led by an over-estimate of its strength into taking up an impossible and impracticable position, such as certain sections of the profession are now trying to drive it into assuming.

We do not propose to follow Dr. Craig in his criticisms of the internal proceedings of the representative meeting, as we do not consider your columns a suitable place for such a discussion. Those of your readers who take a special interest in the matter will be sufficiently enabled to judge of the value of Dr. Craig's criticisms by reading the following letter received from him by the medical secretary a few days after the meeting:—

Woodside House, Cowdenbeath,
Fifeshire,
November 25th, 1911.

DEAR MR. WHITAKER,—I feel I owe you an explanation of why in representing the Fife Branch I was not satisfied with the recommendations of Council. My instructions were most explicit as to the views I was to express and as to how I was to vote. I was also in whole-hearted sympathy with what was desired. We all felt the Recommendations seemed to instruct us to accept the Bill as it stood with their modifications, but not one of us understood that the six points of the Association were still to be enforced with all the powers of the Association when and where necessary.

This to us puts a very different complexion on the whole aspect, and personally I can only say had I realised this I would have had no occasion to speak.

I cannot tell you the relief I have experienced personally in being able to feel entirely at one with all that is being done.

I feel I owe you this explanation, and I trust you will receive it in the sincere spirit in which it is made.

Yours faithfully,
(Signed) WM. CRAIG.

We think that the profession are entitled to ask what has occurred since Mr. Craig wrote that letter to make him revert to the impossible attitude which it apears that reflection on the proceedings of the meeting had caused him for a time to abandon. If he was satisfied with the result of the proceedings on November 25th, how can any subsequent event have altered that deliberate judgment on the proceedings, which he then pronounced as above stated.

We are, yours faithfully,
EWEN J. MACLEAN,
Chairman of Representative Meetings.
J. A. MACDONALD,
Chairman of Council.

THE MEDICAL PROFESSION AND THE INSURANCE ACT.

15, Lennox Street, Edinburgh,
December 17th, 1911.

SIR,—I am much obliged to Drs. Maclean and Macdonald for pointing out a slight ambiguity in my letter. They are, of course, right in saying that the Council of the Association, and not our Medical Secretary in his private capacity, has been responsible for all that has been said and done. That is what I meant, though perhaps I did not express myself as clearly as I might have done.

The whole matter is now, I understand, under consideration by the responsible heads of the Scottish profession, and I shall therefore not trespass further on your space.

I am, &c.,
J. STUART ROSS.

A Correction.—Dr. BERNARD O'CONNOR (London) writes: In my letter in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of December 16th, p. 627, col. 1, line 3 from bottom, the word "several" should be "severed," and the last word of the letter (p. 628, col. 1) should be followed by inverted commas.

THE "PRACTITIONER'S" REFERENDUM.

The *Practitioner* announces that it has received 20,712 answers to the memorandum and question issued to members of the medical profession in Great Britain (29,567). Ireland was excluded. The question was:

Are you satisfied that the arrangements made for the profession with regard to the medical service now embodied in the National Insurance Bill would justify you in giving honest and adequate service to the insured? Yes or No.

The returns up to the morning of December 19th are stated to be as follows:

"No"	20,149
"Yes"	352
Queries	211
Total	20,712

Another circular issued by the *Practitioner* on December 19th asks members of the profession to sign the following pledge. It is stated that, as it would be useless to bind only a moderate proportion of the profession, a clause is inserted in the pledge to the effect that if the members of the profession in Great Britain fail to combine in this pledge in sufficient numbers the pledge will become null and void.

"*Pledge.*—Feeling that the present National Insurance Act is unjust to the Medical Profession, I hereby pledge my word not to accept any service whatsoever under it. I stipulate, however, that unless at least 23,000 members of my Profession in Great Britain combine with me in this Pledge, I am to be freed from it."

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

NOTICE OF CHANGE OF BOUNDARIES OF DIVISIONS.

THE following change has been made in accordance with the regulations of the Association, and takes effect from the date of this notice:

Sheffield and Barnsley Divisions.

That Chapeltown be transferred from the area of the Barnsley Division to the area of the Sheffield Division of the Yorkshire Branch.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—A scientific and clinical meeting will be held in Liverpool on Wednesday afternoon, January 10th, 1912. Members willing to give short papers or demonstrations, or to show cases or specimens, are asked to communicate early with the Honorary Secretary of the Science Committee, P. R. COOPER, M.D., B.Sc., 8, St. Peter's Square, Manchester.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—A general meeting of the Division will be held at the rooms of the Medical Society of London, 11, Chandos Street, W., on Thursday, December 28th, at 5 o'clock p.m. Agenda: (1) Minutes (vide SUPPLEMENT, BRITISH MEDICAL JOURNAL, December 2nd, p. 565). (2) Questions. (3) Letters. (4) Consideration of draft ethical rules. The Honorary Secretary will move that the report of the Executive Committee be received. On this resolution Dr. Hawthorne will move an amendment as a minority report. (5) Insurance Bill. To receive the report of the Special Representative Meeting, November 23rd and 24th. Notice of motion by Dr. F. J. Smith: "That the Marylebone Division strongly protests against the action of the Central Council in advising Mr. Smith Whitaker to accept the post of Medical Commissioner under the National Insurance Bill; that in the opinion of that Division such action is altogether out of harmony with the feeling of the medical profession in that area, and greatly tends to promote disunion in its ranks at a very critical period." Notice of amendment to above motion by Dr. Percy Spurgin: "After the words 'action of' in the first line insert the following words: 'certain members of the Association in the methods they have adopted for expressing their disapproval of the course taken by.'" (6) Any other business.—N. BISHOP HARMAN, Honorary Secretary, 108, Harley Street, W.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—A scientific meeting will be held at the Royal Infirmary on Friday, January 19th, 1912. Programme:—3.15, Mr. W. F. Wilson: Tumours of the Larynx. 3.45, Dr. D. Drummond: Cerebral Tumours. 4.15, Tea. 4.30, Mr. H. J. Gauvain (Resident Medical Officer, Lord Mayor Treloar Cripples' Hospital, Alton, Hants): Conservative Methods in the Treatment of Tuberculous Bone and Joint Disease.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—*National Insurance Bill.* In view of the fact that representations in accordance with the decisions of the Representative Meeting reported in the BRITISH MEDICAL JOURNAL of December 2nd are being made to the House of Lords with a view to securing further amendments in that House, the ordinary meeting of this Division, to be held at Barmouth this month, will be postponed until an early date in January. In the interval a full report will be issued by the Council, setting forth the action which it has taken since the Special Representative Meeting, and placing before the Divisions an examination of the Insurance Act in the form in which it becomes law, in order that the Divisions may deliberately consider the subject.—HARRY R. GRIFFITH, Chairman; H. GLADSTONE JONES, Honorary Secretary, Criccieth.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

DORSET AND WEST HANTS BRANCH:

WEST DORSET DIVISION.

A MEETING of this Division was held at the County Hospital, Dorchester, on December 13th, Mr. G. C. J. FLOWER in the chair, thirty-eight members of this Division being present.

Minutes.—Minutes 24, 47, and 53 were unanimously affirmed.

National Insurance Bill.—There was a good deal of discussion on Mr. Smith Whitaker's appointment, the feeling of the meeting being strongly against the action of the Council in sanctioning it; but at the same time the feeling was that at the present juncture union was absolutely essential, that anything in the nature of a split would be fatal and would be just what the Chancellor of the Exchequer was aiming at when he laid the bait. The following resolutions were passed:—

Proposed by Dr. CURME, seconded by Dr. MACDONALD, and carried unanimously:

> That this meeting of the West Dorset Division of the Dorset and West Hants Branch of the British Medical Association is of opinion that the Council should have consulted the Divisions before sanctioning Mr. Smith Whitaker's acceptance of the office of Insurance Commissioner, but it deprecates any hasty action and considers the formation of another society in addition to the British Medical Association inadvisable at present, but reaffirms its determination not to work under the bill unless the six cardinal principles are substantially conceded.

Proposed by Dr. COSENS, seconded by Dr. GOWRING, and carried by 34 to 4:

> That this meeting records its want of confidence in the Council of the British Medical Association for sanctioning the acceptance by Mr. Smith Whitaker of an appointment under the Insurance Bill, such acceptance being improper until our six cardinal principles had been accepted by the Government.

EAST ANGLIAN BRANCH:

MID-NORFOLK DIVISION.

A MEETING of the Mid-Norfolk Division was held at Norwich on December 13th.

National Insurance.—The following resolutions were unanimously passed:

1. That the Mid-Norfolk Division of the British Medical Association expresses its approval of the action of the Central Council of the Association in regard to the National Insurance Bill, and votes its thanks to the members thereof for the measure of success their arduous and self-sacrificing labours have achieved.
2. The Division endorses the Council's action in recommending Mr. Smith Whitaker's acceptance of the post of Vice-Chairman of the Insurance Commission.

The following rider was passed:

> That the Division again affirms its steadfast adherence to the undertaking signed by every member of the Division—namely, that they will not undertake any medical work under the Insurance Bill unless the six cardinal points are arranged to the satisfaction of the profession.

NORTH-EAST ESSEX DIVISION.

A MEETING of the North-East Essex Division was held on December 16th, at Colchester. Dr. CLOWES was in the chair, and there were present: Drs. Fell, Stanley Worts, Foster, Curl, Majors Freeman and O'Reilly, Captains Walker Browne and Clarke, Drs. Renny, Coxhead-Cook, Corfield, Oversby, Ryan, P. Laver, Campbell, Kevern, Pallett, Bree, Caudwell, Whitby, Atthill, A. Turner, R. Galpin, C. G. Galpin, Nicholson, Chichester, Maybury, F. H. Cooke, Slade, F. D. Turner, and Bassano and Day, Honorary Secretaries.

National Insurance Bill.—The letter from the Chairmen of Representative Meetings and of Council was read. Letters were read from Drs. Hall, Syrett, Gostling, Roberts and Coleman. Communications were read from the Shropshire Branch and Norwich Division. The following resolutions were carried:

1. That this meeting of the North-East Essex Division considers that it is impossible for the profession to obtain its six cardinal points under the bill.
2. That this meeting is of opinion that the Council have not shown sufficient energy in guarding the interests of the profession in the action they have taken with reference to the Insurance Bill.
3. That this meeting strongly condemns the action of the Council in the matter of Mr. Smith Whitaker's appointment.
4. That this Division views with strong disfavour the action of the Council in giving a ruling upon a matter of opinion, namely, whether the six cardinal points can be obtained under the bill, or not.
5. That this meeting demands that a Special Representative Meeting be immediately summoned to consider what action is to be taken by the profession now the bill is an Act.
6. That the Honorary Secretaries take the necessary step to bring about such a Representative Meeting.
7. That the Council be instructed to at once call upon all those who have signed the undertaking to decline service under the bill.
8. That all these views be put before the Council at once, and at the next Representative Meeting.
9. That this Division expresses its satisfaction at the attitude taken by its representative on the Council in connexion with the appointment of Mr. Smith Whitaker as Insurance Commissioner.

NORWICH DIVISION.

National Insurance Bill.—The following resolution was passed at a largely attended meeting of the Norwich Division on December 13th:

> That this meeting of the Norwich Division desires to express its approval of the action of the Central Council in recommending Mr. J. Smith Whitaker to accept the post of Deputy Chairman of the Insurance Commissioners; and, while fully realizing that Mr. Whitaker, when his official connexion with the Association ceases, will become a Government official, is of opinion that the most effectual means have been adopted by the Council to safeguard the interests of the profession should the National Insurance Bill become law. This meeting also wishes to congratulate the Council, as the Executive of the Association, on the ability with which it has conducted the recent negotiations with the Government.

SOUTH-EAST ESSEX DIVISION.

A MEETING of this Division was held on December 18th at Southend.

National Insurance Bill.—The following resolutions were put to the meeting, and carried.

1. That the South-East Essex Division, while cordially sympathizing with the difficulty in which the Council found themselves, is of opinion that in recommending Mr. Smith Whitaker to accept the post of Insurance Commissioner the Council committed an error of judgement.
2. That this meeting is of the opinion that the final drafting of the National Insurance Bill does not incorporate the six cardinal points to which the profession unanimously pledged itself, and that the British Medical Association should at once call upon all members of the profession to decline to form a panel, or to undertake any administrative or executive duties which the bill proposes to assign to them.

EDINBURGH BRANCH:

EDINBURGH AND LEITH DIVISION.

A MEETING of this Division was held on Tuesday, December 12th, at 8.15 p.m., in the Gartshore Hall. Dr. JAMES RITCHIE, Chairman of the Division, presided.

Apologies for Non-attendance.—Apologies for absence were intimated from Sir Thomas S. Clouston, Drs. G. A. Gibson, Simla Paterson, A. Walker, D. G. Davidson, Grace Cadell, and M. Dewar.

Letters from Meetings of the Profession.—Letters were read from meetings of the medical profession of South-East Essex, Lincoln and neighbourhood, Tyneside Division, and the Shropshire and Mid-Wales Branch. An invitation was also read to attend a mass meeting in Manchester on December 14th.

Communications with Members of Parliament.—The SECRETARIES reported their recent communications with the six local members of Parliament.

National Insurance Bill.—The appointment of the Medical Insurance Commissioner was then considered. After much discussion, Dr. W. T. RITCHIE moved and Dr. T. J. THYNE seconded the following motion:

That this Division view with grave disapprobation the action of the Council of the Association regarding the appointment of Mr. Smith Whitaker to the Insurance Commissionership, and accordingly censure the Council for their action in this respect.

The previous question was moved by Mr. CATHCART and seconded by Mr. SCOTT CARMICHAEL. The motion was carried by a large majority. It was then put as a substantive motion to the meeting and agreed to. It was agreed to send a copy of this to the Secretary of every Branch in Great Britain. Dr. R. ROBERTSON moved and Dr. F. K. KERR seconded:

That the Council of the British Medical Association shall at once call upon all members of the profession to decline to form a panel or to undertake any duties which the bill proposes to assign to them.

The following amendment was moved by Dr. W. RUSSELL and seconded by Dr. T. R. RONALDSON:

That this meeting determines that the British Medical Association, through its Branches and Divisions in Scotland, shall continue to insist on its demands being carried into effect through the local Medical Committees.

Thirty votes were recorded for the amendment and sixty-five for the motion.

One hundred and thirty-seven members attended the meeting.

GLOUCESTERSHIRE BRANCH.

A SPECIAL meeting of the Gloucestershire Branch, on the request of a number of members, was held at the Royal Infirmary, Gloucester, on December 11th, at 5 p.m., the PRESIDENT in the chair, and sixty members were present. Dr. Herbert Jones, member of Central Council, was present.

Confirmation of Minutes.—The minutes of two previous meetings were read and confirmed.

Apology for Non-attendance.—Dr. Pugh (Bream) wrote apologizing for absence.

National Insurance Bill.—A general discussion on the policy of the Association, the Central Council's action in regard to the National Insurance Bill, and the appointment of Mr. Smith Whitaker as a Commissioner was introduced by Dr. Goss and continued by Mr. CUTHBERT, Dr. CONDER, Dr. WAYLAND ANCRUM, Dr. DIGHTON, Dr. MELLISH, Dr. MARTIN, Dr. PRUEN, Dr. MACARTNEY, Dr. GRIFFITHS, Mr. BUCKLE, Mr. E. D. BOWER, Dr. COLLINS, Dr. HALLIWELL, and the SECRETARY. Dr. H. JONES replied to many questions and explained the reasons for the Council's action. After an hour and three-quarters discussion, it was proposed by Dr. Cox, seconded by Dr. MACARTNEY, and carried:

That this meeting be adjourned until the Branch had further information as to the regulations drawn up under the bill.

LANCASHIRE AND CHESHIRE BRANCH:

BURY DIVISION.

A SPECIAL meeting of this Division was held on December 13th, in the Derby Hotel, Bury. Dr. JAMES HOLMES occupied the chair, and thirty-three members were present.

National Insurance Bill.

Dr. W. M. MACILRAITH proposed and Dr. COATES seconded the following resolutions:

1. This meeting is of opinion that the provisions of the National Insurance Bill as finally drafted do not incorporate the six cardinal points to which the profession unanimously pledged itself. That they do not secure effectual means whereby the practical working of the bill can be carried out in absolute conformity with the principles of these six points. And, therefore, that the Council of the British Medical Association should at once call upon all members of the profession to decline to form a panel, or to undertake any duties which the bill proposes to assign to them.
2. This meeting expresses its strong disapproval of the action of the Council of the British Medical Association in regard to its method of conducting negotiations with the Government, and accordingly demands the resignation of the Council forthwith.

Dr. FLACK proposed, and Dr. SMITH seconded, the following amendment:

That the consideration of this and similar resolutions be postponed until it is decided by a conference between representatives of each Division of the Lancashire and Cheshire Branch of the British Medical Association on the one hand, and the Council on the other hand, whether or not the provisions of the National Insurance Bill substantially secure the policy of the British Medical Association as laid down in the six cardinal points.

This was withdrawn, however, in favour of an amendment proposed by Dr. JOHNSON and seconded by Dr. VINE, as follows:

That this meeting of the Bury Division expresses its fixed determination not to work under the bill unless the Regulations of the Insurance Commissioners and the terms of the local Insurance Committees are consistent with the six cardinal points.

Dr. Johnson said that the object of his resolution was to prevent any hasty, ill-considered action on the part of the Division. He pointed out that the action of the Council was in fulfilment of the policy of the Association as expressed by the Representative Meeting, and that any attempt to cause a reversal of that policy would open the door to blacklegs, and later on would bring in salaried appointments to work the bill. The amendment was carried unanimously, and subsequently as a substantive motion.

The second resolution, being unsupported, was withdrawn.

The following motion was proposed by Dr. SCARR and seconded by Dr. SMITH:

That, in the opinion of this meeting, it is inadvisable to form any other union or association at the present time.

This was lost by 11 votes to 9, many remaining neutral.

Dr. COOK proposed and Dr. JOHNSON seconded (*pro forma*) the following resolution:

That, since the policy of the Association, as expressed by the Medical Secretary on the occasion of his visit to Bury in November, was that no medical man should accept any position under the bill until the six cardinal points had been obtained, this meeting considers that the Council should not have given its permission to the Medical Secretary to accept the post of Deputy Chairman to the Insurance Commission until the proposal had been referred to the Divisions.

The resolution was carried by 16 votes to 6.

Central Defence Fund.—The SECRETARY asked for guarantees to the Central Defence Fund.

MANCHESTER (CENTRAL) DIVISION.

A MEETING of the members of this Division was held at 14, St. John Street, on December 12th. Dr. WALLS was in the chair, and there were present: Dr. J. S. Bury, Mr. Burgess, Dr. Chisholm, Dr. Clifford, Dr. Donald, Dr. Dyson, Dr. Ferguson, Dr. Fothergill, Dr. Haring, Mr. Hey, Dr. Hawker, Dr. T. A. Helme, Dr. Arnold Jones, Dr. Lapage Dr. Loveday, Mr. Macalpine, Mr. Ray, Mr. Rayner, Dr John Scott, Dr. Shaw, Mr. Telford, Dr. Wharton, Mr Garnett Wright, and Mr. Wrigley.

National Insurance Bill.—The following resolutions were passed:

1. That this meeting, having heard Dr. Helme's report of the Special Representative Meeting in November last, offers him thanks and approves his action.

This was carried unanimously.

2. That the members of this Division desire to express their disapproval of the action of the Council in regard to the appointment of Mr. Smith Whitaker; the members also disagree with the policy of the Council in advising the profession to deal with the National Insurance Bill by a method which will eventually resolve itself into a series of local contests, and are of opinion that as the bill stands there is no chance of the just requirements of the profession being met, and they demand that the Council shall at once take steps to call upon all members to refuse to work under the bill.

This was carried with one dissentient.

3. That the members of this Division strongly disapprove of the action of those Representatives of this Branch who supported the resolution of Council that Mr. Smith Whitaker should undertake duties as Commissioner under the bill, and calls upon them to resign their membership of the Council of the Association.

This was carried by 14 votes to 4.

MANCHESTER (NORTH) DIVISION.

A MEETING of this Division was held on Tuesday, December 19th, at 3.30 p.m., at the Grosvenor Hotel.

Deansgate. Forty medical men were present—thirty-four members and six visitors.

National Insurance Bill.

The following notices of motion had been received:

(*a*) That this meeting of the North Manchester Division of the British Medical Association strongly condemns the provisions of the National Insurance Bill as at present defined; declares it to be inimical to the best interests of the profession and of the public, and calls upon every member of the profession to refuse to undertake any work in connexion with the bill.

(*b*) That this meeting, feeling thoroughly dissatisfied with the manner in which the Council of the British Medical Association has conducted negotiations under the bill, hereby calls upon the Council to resign forthwith.

To (*a*) Dr. Fraser proposed and Dr. Johnstone seconded an amendment:

To add the words "unless with the consent of the British Medical Association."

This was carried by 27 votes to 5, and, as a substantive resolution, was carried *nemine contradicente*. Notice of motion (*b*) was defeated by 22 votes to 10.

METROPOLITAN COUNTIES BRANCH:

City Division.

A special general meeting was held at the Hackney Town Hall on Thursday, December 14th, at 4 p.m. Dr. Gerald Johnston, Chairman of the Division, presided, and over 100 medical men attended, it being the largest meeting held yet by the Division. Sir Victor Horsley, Dr. Lauriston Shaw, Dr. Rice-Oxley, and Dr. Keay were present by invitation.

National Insurance Bill.

Dr. Major Greenwood moved the following resolution, which had been issued with the notice of the meeting.

That this meeting, called by the City Division of the British Medical Association, and representing the medical profession of the City of London, and the Metropolitan Boroughs of Hackney, Stoke Newington, Shoreditch, Bethnal Green, and Finsbury, strongly condemns the action of the Central Council of the British Medical Association in advising any member of the Association to accept the post of Medical Commissioner, offered by the Government. That such action on the part of a body affecting to represent the medical profession in its protests against the medical recommendations of the National Insurance Bill can only be regarded by the public as evidence of the profession's acquiescence in the bill in its present state, and calls for immediate repudiation; and that a copy of this resolution be sent to the Chancellor of the Exchequer, the Medical Secretary of the British Medical Association, and to the press generally.

Dr. Major Greenwood, in moving the resolution, said that he would like to give a short explanation of the steps he had personally taken in this unhappy controversy that had arisen in consequence of a certain vote of the Central Council last Saturday week. He did so because at the meeting of the Chelsea Division a few days before Sir Victor Horsley had said that all the agitation that had arisen was due to the action of the enemies of the Association. Well, he did not wish to be regarded in his own Division as one of the enemies of the Association. He had been a member of that Division, or the Division that preceded it, for more than thirty years; had repeatedly represented it on the Council of the Branch, and had on six separate occasions been elected by the metropolitan members as one of their representatives on the Central Council. Sir Victor Horsley had made the remark in question because he (the speaker) had read to the Chelsea meeting certain passages from a leading article on the appointment of Mr. Smith Whitaker in the *Lancet* of the previous week. He did not consider the *Lancet* was an enemy of the Association. At the starting of the British Medical Journal there might have been some journalistic rivalry, but this was long past, and for many years the *Lancet* had loyally supported the Association. If all those who were agitating at the present time were enemies of the Association, he feared the Association was in a "parlous" condition. Dr. Keay had said at the Chelsea meeting that he had received anonymous abusive postcards for the part he had taken as Representative on the Council. Well, he was sure that all there would condemn such outrages. He could not say he had received any such communications. The letters he had received were not anonymous nor of an abusive character; but he had been submitted to outrage that was not anonymous. After attending a metropolitan meeting, where he had gone on express invitation, on leaving the meeting he had been followed by a member of the Division, not to thank him for attending, but to tell him he was a "d—— nuisance to the profession." It was needless to say he did not blame in any way the Division for this insult, and only mentioned it to show that his lot had not been altogether "a happy one." Then, with regard to his resolution. He did not think it necessary to say very much about it. Since the vote of the Council had been given the reasons for the vote had been very carefully considered. Those who had hitherto not read their Journals as they should had certainly given full attention to the full report in the Journal of the previous week. Various circulars had been issued by the executive to explain their action, and there was also the interesting correspondence in the *Times*, signed by three of their representatives, and two other members appointed by the Representative Body. With regard to the latter he thought he might draw the attention of the meeting to the considered opinion of the *Times* in a leading article published that day, commenting on that correspondence. With regard to the reasons that might be given by Sir Victor Horsley and his colleagues present, no doubt the chief would be the great excellence of their late Medical Secretary and suitability for the post. This was altogether founded on the great work he had done for the Association, the skill with which he had gone into both their strong points and their weak points; in fact, for the many services he had rendered them, which had made his continuance in their service more than ever indispensable at the present time. What had the Council done? They had made him a present to the other side. The same argument with regard to Mr. Whitaker that was used by the other side, he submitted, was his strongest argument against the course taken. Then there was another argument from which he strongly dissented, that might be raised by some of his colleagues—that the Council had a mandate from the Representative Body to recommend Mr. Whitaker to accept this office. It was true a resolution forbidding the taking of any offices in connexion with the bill had been proposed by the Representative of the Cardiff Division and seconded by the Chairman of the Representative Meeting, and that it was subsequently withdrawn. But how this could be considered a mandate to the Council to have anything to do with the selection of a Medical Commissioner at that critical time he could not understand. Then there was another point raised by Dr. Lauriston Shaw at the Chelsea meeting—that this recommendation was approved by 38 members of the Council, as against 3. Well, Dr. Lauriston Shaw was welcome to this argument, and he would not object to his even saying that if he himself (the speaker) had been absent the Council might very likely have been unanimous. But whether this recommendation had been made by a unanimous Council or by a majority of 38 it did not *ipso facto* make the recommendation more sound. The resolution proposed was not couched in any offensive language. He did not accuse the majority of anything more than an error of judgement. The Northumberland and Durham Divisions had called it a "gross error of judgement," but he was not particular as to adjectives. At any rate, he thought it serious enough to merit their condemnation when the outside effects were considered. All there knew how great those effects had been. Witness the great meeting at Manchester that day, and the numerous reports from Divisions all over the country. Why could not the Council admit an error of judgement? Such an admission would, in his opinion, be the best remedy for the situation, and he would commend to the Council the saying of Emerson—that the admission of a mistake was no more than a confession that you were wiser to-day than you were yesterday. He begged to move the resolution standing in his name.

Dr. Porter seconded.

Dr. J. W. Hunt moved the following amendment:

That all the words after the word "that" be omitted, and the following words inserted in their place: "this meeting declines to pass any criticism on the Central Council, but as the Council's action in advising the acceptance of office by Mr. Smith Whitaker has been misunderstood, this meeting urges the Council, first, to make its position clear at the

earliest possible moment by a public announcement asking all members of the profession to decline to accept any office under a local Insurance Committee unless the six points have been granted by that Committee; and, secondly, to give a pledge that such members shall be backed up by all the resources of the Association."

This was seconded by Dr. JAFFÉ.

At the invitation of the CHAIRMAN, Sir VICTOR HORSLEY addressed the meeting. He laid emphasis on the fact that the Representative Body was responsible for the policy of the Association, of which the Central Council was only the executive, and doubted the realization of the fears of the Lancashire members that the disagreement would break up the Association, and that it was impossible to find sufficient blacklegs—6,000 to 7,000—to work the scheme against the opposition of the profession. The speaker was interrupted by several queries by some present, to which he replied during and at the close of his speech.

Dr. LAURISTON SHAW defended the action of the Council, and dwelt strongly upon the excellent position attained already by the British Medical Association for the profession when the dealing with the Commission should begin, and made a strong appeal to maintain the solidarity of the profession.

Dr. BASIL MORISON criticized the action of the Council.

Dr. EVAN JONES spoke against it, and considered that the Council had unthinkingly fallen into a trap laid for them by the Chancellor, with the object of disuniting the force opposed to him.

Dr. KEENAN considered that the prospects of the profession under the bill as it now stood were so bad that it would be better to decline to have anything to do with it.

Dr. KEAY strongly defended the action of the Council, and felt sure that when considered after due reflection it would secure the approval generally which had already been bestowed by some Divisions.

As members were leaving owing to the lateness of the hour, it was resolved that the question be now put.

The voting on Dr. Hunt's amendment was as follows:

For, 17; against, 27—declared lost.

On Dr. Greenwood's resolution being put the voting was:

For, 31; against, 17—majority, 14.

Election of Associate Member.—Dr. Gustave Michael was unanimously elected an associate member of the Division.

Vote of Thanks.—The CHAIRMAN moved a vote of thanks to the members of the Central Council who had accepted the invitations to be present. This was carried *nemine contradicente.*

The meeting closed at 6 p.m.

[We are requested to state that Dr. Major Greenwood sent round a silver pencil case with the attendance roll at the meeting of the City Division at the Town Hall, Hackney, held on December 14th, and desires publicity to be given to his loss. He would be glad if any one present on the occasion would return the pencil case to him.]

EALING DIVISION.

A MEETING of this Division was held on December 13th. Dr. LYLE took the chair, and was supported by some ninety doctors.

National Insurance Bill.

Dr. Cox (Deputy Medical Secretary) had been asked to answer the question raised by the following letter, which had been sent to every practitioner in the Division by the local executive:

Dear Sir,

At a mass meeting of the profession held in Ealing on November 22nd, a defence committee was elected to organize such resistance on the part of their fellow practitioners as may best protect them from loss of income by the National Insurance Bill.

This Defence Committee recognizes—as does the Ealing Executive of the British Medical Association—that the Council of that Association has—in their opinion most unwisely—left all financial arrangements to be made, after the bill has become law, between the local practitioner and the local Insurance Committee. This complete failure on the part of the Council to secure statutory provisions and protection has left the local practitioner to the mercy of his local Insurance Committee.

Your Defence Committee would point out:

1. That there may be only six medical men on a local Insurance Committee of eighty, of whom three only will be our direct representatives, while three will be appointed by authorities over whom we can have no control whatever.

2. That the main medical duties of this Insurance Committee will be:

(*a*) To invite tenders from doctors for the care of the insured, and

(*b*) To invite tenders from chemists for the supply of "drugs and appliances" to them.

To cover both of these contracts the sum of 6s. has been earmarked by the Government actuaries. Out of this sum the chemist expects to get from 2s. 6d. to 3s. The remaining 3s. is at the disposal of the instrument and appliance maker, the doctor, and, possibly, the dentist. Beyond this amount Mr. Lloyd George has definitely stated that it is impossible for any Insurance Committee, or even the Insurance Commissioners, to go, for the exceedingly practical reason that there is no further money upon which to draw.

(*c*) To supervise and inspect the work of the doctors and chemists whose tenders have been accepted, and to receive the complaints of those patients to whom they may fail to give complete satisfaction. Seeing that an overwhelming majority of the members of this Committee will be members of friendly societies, this must amount in practice to a return to that very "friendly society control" against which we are so strongly pledged.

Your Defence Committee and the Ealing Committee of the British Medical Association unite in feeling that this policy of postponement on the part of that Association has been, and is, weak in the extreme, and that it has endangered the position of us all.

They hold that that policy should have been:

(*a*) To insist that the six points should, as far as possible, be provided for in plain words within the four corners of the Act.

(*b*) To proclaim that the profession would absolutely decline to have any dealings with the Insurance Committee unless these points were so provided for.

(*c*) To prevent this threat being regarded by the Government as mere bluff, by then and there organising the profession so that it could be effectively carried out at a moment's notice.

(*d*) To have proclaimed the result of the canvass of the profession.

Either that result was good or it was bad. If good and the percentage of signatures high, why did not the Council parade those figures before the eyes of an astonished Government?

If bad, and the percentage low, why are we handed over this local petty bargaining, which, by the very reason of that low percentage of signatures, is foredoomed to failure?

Such a policy would have implied, as an integral part, the repudiation of:

1. The Harmsworth Amendment, Clause 16, Section (4) (b), which appears to render of none effect those previous clauses of the bill which grant freedom of choice of doctor, wage limit, and a general fee to be hereafter determined between the committee and the practitioners in each locality *as a whole.* The tag appended by the Association to his amendment, to the effect that there should be free choice of doctor, can easily be rendered of no effect by any society which cares to enforce the ruling of the Supreme Court, as laid down in the cause of Osborne *v.* The Amalgamated Society of Railway Servants, wherein it was held that a society may expel any member without cause shown. Such an expulsion would entail the loss of any extra benefits (for example, death payments, etc.), provided by these organizations, outside the scope of the bill, and not covered by its "transfer values."

This amendment affects all of the fifteen millions to be insured who are, at the time of passing of the Act, "members of existing organizations." There are six million members of the friendly societies, while the trade unionists and medical aid associations have a large membership. It is therefore obvious that more than one

out of every three of the insured will come under this clause, and thus escape all of the "concessions to the doctors" of which our morning papers have assured us.

2. Clause 1, Section 3, Subsections *a* and *b*, which appear to provide that any person who has been insured for five years may for ever remain an insured person, whatever his income may be. This appears to allow of a boy who joins his father's business at 10s. a week pocket money, and who must, therefore, be insured compulsorily, or of a man who on starting a business has, during his early years, an income of under £160 remaining an insured person to the end of his life, although the boy may succeed to his father's business and the man become the local Whiteley.

3. Schedule 1, Part 2 (*j*), which specifically excepts from any income limit all those who earn over £160 per annum "by manual labour." This allows of a tailor's cutter earning £12 a week claiming medical attendance at less than one penny one week. The term "manual labour" is legally reported to include all skilled workers, such as draughtsmen, diamond cutters, dental mechanics, scientific and musical instrument makers.

The importance of this question of income limit to the profession is accentuated by the fact that the very first of the extensions in the scope of the Act promised by the Government is the provision of free medical attendance for the dependents of insured persons.

4. The Addison amendment (Clause 16, 3). This amendment gives the Committee and the Commissioners power to fix, but does not compel them to fix, an income limit, above which all insured persons shall—and below which they may—take their medical benefit in the form of a contribution towards their private doctor's bill. It is laid down that "such contribution shall not exceed in the aggregate the amount which the Committee would otherwise have expended in providing medical benefit for them." The Council implies that this contribution allows of payment "for work done" on an agreed scale of fees, which is the method of payment desired by practitioners in the majority of districts.

Theoretically this may be possible, but in practice the effect will be the reverse—to burke payment, *by the Committee*, "for work done," and favour the payment by them of a capitation fee, because the latter makes it much easier for the Committee to budget in advance for the expense of medical benefit.

The Addison amendment, indeed, appears to be based wholly upon the assumption of a capitation fee, from which it provides the *individual* with a means of escape, by permitting him, if he so desire, to contract out.

Payment "for work done" may thus become possible *by an individual*, who, under this clause, has taken the trouble to contract out; but any payment *by the Committee* to the practitioner "for work done" appears to be burked. The amendment was drawn up by the Council for the express purpose of enabling the profession to secure "payment for work done," at a tariff to be fixed between the Insurance Committee and the Statutory Medical Committee, as opposed to a "capitation fee." In the opinion of your committee it not only entirely fails to achieve this, but actually renders it more difficult for any statutory medical committee to achieve.

The *actual policy* of the Council appears to the Local Executive Committee and to your Defence Committee to have been:

(*a*) To have explicitly recognized and accepted the Harmsworth amendment by appending to it words implying free choice of doctors—rendered nugatory by the Osborne judgement.

(*b*) To have overlooked the vital importance of the fact that the so-called "income Limit Clause" has been governed by amendments and schedules expressly inserted to facilitate the driving through it of the proverbial coach and four.

(*c*) To have burked the question of the "six points" by leaving them to be determined by future bargain, between the local Insurance Committee and the local practitioner, or, in other words, to play directly into the hand of an opponent, who well knows that the profession, taken man by man, or man against man, is powerless.

(*d*) To have not noticed the trap contained in the Addison Amendment, which effectually burkes the question of payment for work done.

If the Council itself drew up the Addison Amendment, it has fallen into the pit which it digged for another.

(*e*) To have thus transferred from its own shoulders to those of innumerable local committees the whole responsibility of bargaining with the powers that be, and in so doing to have betrayed the confidence reposed in them by the profession.

The view of the leaders of the Association appears to be that so long as the profession is, to a man, loyal to these small local committees, all will be well. The fact that the local Insurance Committee, with whom alone can the local Medical Committee deal, can have no power whatever to go behind the terms of the bill, even in the remote possibility of their wishing to do so, appears to have escaped the notice of head quarters. Why a committee composed of our foes should wish to befriend us is not stated. The Council appears to have great expectations regarding the power and utility of the statutory Medical Committees. They appear to have overlooked the fact that, while these committees must, by law, be consulted upon matters medical, there is not the most remote reason for supposing that their advice will be accepted. Their only weapon is the futile one of a sectional strike.

In this policy of decentralization and shifting on to many local bodies, the work which the profession had left to its one central body, the Council appears to have altogether lost sight of the lesson of recent trade unionism. Surely that lesson has been that central united action can accomplish what decentralized local action has failed to accomplish. They appear also to have overlooked the fact that the one reason why the business was ever entrusted to their hands by the local branches was that they might use the enormous advantage of the collective central bargain.

The sole tactical advantage of the profession—which caused Mr. Lloyd George to admit that it could either make or mar his bill—lay in the fact of its being a close corporation. This advantage is now lost for ever. Instead of a close phalanx, insisting upon its just terms being met and being put down in black and white in the bill, our Association has reduced us to units, which may be bargained with across the counter of each local committee, until the lowest tender has been accepted, and other bidders are thereby eventually forced to accept the same remuneration.

The effect of decentralization upon our remuneration is twofold:

(*a*) Upon the *manner* of payment. The Council assumes that "there is now" no legal bar against our getting payment for work done as opposed to capitation. No more effective bar than the Addison Amendment could exist, short of direct negation.

(*b*) Upon the *amount* of payment. The Council assures us that there is no legal bar to an Insurance Committee giving adequate remuneration. There may be no legal bar, but there is a monetary bar very plainly stated by Mr. Lloyd George and his actuaries.

Acting *centrally*, our Council could have refused to further discuss the bill unless and until guarantees of adequate remuneration had been inserted in it.

Local action offers no prospect but an endless bargain, which, by the law of commerce, can only mean a steady lowering of prices and stiffening of conditions of service until the minimum at which newcomers, anxious to obtain a foothold in the county, can be tempted to accept service for a few years has been reached.

This simple fact that the bargain has, by the weakness of our own Association, been reduced from a collective, and for that very reason a final one, between profession and State, to an individual one, and for that very reason a temporary and ever-shifting one, between local practitioner and local committee, implies that the terms eventually secured will depend entirely upon the amount of cohesion existing between the local medical men.

To create cohesion between 240 medical men practising in West Middlesex, and thereby to increase our bargaining power—or, rather, to insure our having any bargaining power at all, for we can only possess the power to bargain in exact proportion as we possess the power to unite—is the sole objective of your Defence Committee. To attain this object, to have this power to bargain, we beg of you

your individual co-operation, reminding you that upon that co-operation alone depends the issue of the fight.

Your Defence Committee would accentuate the fact that, while strongly of opinion that the conduct of our affairs by the Council of the British Medical Association has been unwise in the extreme, they are in no way hostile to that body, but are working in harmony with its local executive.

They wish it to be distinctly understood that this letter is not penned with intent to wreck the Association. It is an indictment of the Council and not of the Association. Indeed, it is an indictment of the Council as opposed to the Association.

The Association is faced with a terrible dilemma; it must either lose many members or one Council. If the Council hangs on, the membership must drop off.

Your Committee believe that it is impossible to retain both, and it desires that if one must go it should be the smaller body, a Council which stands to-day completely outwitted by the astuter brains of the three parliamentary agents of the great friendly societies.

While thus passing judgement upon the Council of the Association, your Committee would emphasize the fact that it recognizes the British Medical Association as our one and only central body, and that, as such, we must and shall most loyally support it.

I remain, dear Sir,

Yours on behalf of the two Committees,

(Signed) ERNEST W. LOWRY,

Chairman, Local Defence Committee.

P.S.—References are to bill "as amended on report."

The chief points of Dr. Cox's address were:

1. That the letter was one-sided and misleading.

2. That very little notice had been taken of the prime fact of the appointment and powers of the Statutory Medical Committees.

3. That the six cardinal points were safeguarded in the bill although their actual settlement had been left to the future.

4. That the Harmsworth Amendment as now amended was quite safe, and that the Addison amendment was equally as happy in its wording, giving whatever income limit we should ask, and would do all the Council expected of it.

5. That the Council had worked unceasingly in the interests of the profession, and had done their very best to get the points conceded.

In conclusion, he appealed for unity and patience. Nothing could happen till January 1st, 1913, giving them plenty of time to organize.

At the conclusion of Dr. Cox's speech a motion of confidence in and congratulation of the Council was moved and seconded. On it being put to the vote, only the mover and seconder voted in its favour.

It was then moved by Dr. JAMES, and seconded by Dr. LOWRY, that the Executive Committee, in conjunction with those of other Divisions, should take such steps as might be necessary to secure the resignation of the Council.

Dr. VINING then proceeded to show from the minutes and reports of various official meetings at head quarters that the statement that the Council had never intended to secure the insertion of the six cardinal points in the bill itself was at least questionable.

Dr. CALEY appealed for unity, and asked the meeting not to allow the resolution to be put to a vote. This was supported by Dr. COLEBOURN, who expressed the opinion that the retirement of the present Council might produce a more serious dilemma than the present state of affairs.

After full discussion, and at the request of Dr. Cox, backed by the mover and seconder, the motion was withdrawn. It was felt that the object of the withdrawn motion was sufficiently achieved by the complete defeat of the motion of confidence.

GREENWICH, LAMBETH, AND NORWOOD DIVISIONS.

National Insurance Bill.

A LARGELY attended meeting of these Divisions was held at Camberwell Town Hall on December 15th, Dr. DENNING in the chair. The following Representatives of the Metropolitan Counties Branch on the Central Council were present: Dr. Goodall, Dr. Major Greenwood, and Dr. Lauriston Shaw. Dr. J. H. Keay (Greenwich), a member of the Council elected by the Representative Meeting, and Dr. Greenlees, Representative of the Cape of Good Hope Branch on the Council, also attended; 190 in all were present.

The CHAIRMAN explained that the object of the meeting was to consider the action of the Council in sanctioning the appointment of Mr. Smith Whitaker to a Commissionership under the Insurance Bill, and forthwith called on

Dr. J. H. KEAY, who had been specially asked to address the meeting. Dr. Keay said he had first to take this, the earliest, opportunity of thanking the members of the Divisions for electing him to the Council. With regard to the question the Meeting had been called to consider, he was not in the least ashamed of the fact that he was one of the 38 members in the majority on the Council who voted for the appointment. ("Shame.") He did not know whether those who had made that interjection regarded it as argument, but they had better try to come to something a little more solid. At the last Representative Meeting a motion was brought up by Manchester, asking the Council not to press for any further amendments to the bill, and to cease negotiations. If that motion had been carried the Council would certainly have been decidedly wrong in taking any part in the appointment of an Insuranee Commissioner, but that motion was not carried.—(A voice: "It was.") Had the gentleman who interrupted read the BRITISH MEDICAL JOURNAL? Everyone knew the motion was not carried; that it was lost by a large majority. In the opinion of the Council, acting on the resolution of the Representative Meeting, the time had not yet come when the medical profession should resolve not to work under the bill, and had the Council objected to saying anything regarding the appointment, assuredly it would have been very much to blame. The whole question rested on this: Had the profession so far succeeded with the six cardinal points that they might go on? (Cries of "No.") In his opinion they had succeeded magnificently. (Cheers and counter-cheers.) Dr. Keay dealt with the six cardinal points seriatim. The Council did its best to get the £2 a week limit inserted in the bill, but the opposition was so strong that it was considered wise to withdraw altogether to avoid a very severe defeat. It then appeared that the £2 limit would press very injuriously on medical men in many parts of the country, and accordingly the Addison amendment was framed which provided that each district should fix its own limit. Medical men were faced with a £2 limit in the bil', and he could not conceive of any division fixing a higher limit. Had they secured free choice of doctor? (Cries of "Yes" and "No.") Provision was made in the most definite manner in the bill, and a hard fight they had for it. Medical men in Germany had been fighting for this for the last twenty years, and had not got it yet. The German journals thought that the profession here had done splendidly in the matter, and were surprised that it was not jubilant. The Council succeeded in its demand that medical benefits should be administered by Health Committees and not by friendly societies. The proposal that the method of remuneration should be in accordance with the desire of the majority in the district was not inserted in the bill, and he thought that was wise, seeing that the profession was hopelessly divided on the point. It was a matter that would have to be fought out in the Divisions. Their fifth demand—that medical remuneration should be adequate—was not in the bill; the profession was not ready for it. The returns from the Divisions put the figure at from 5s. to 20s. As to adequate medical representation, they had achieved an important gain in the statutory recognition of Medical Committees, which put them in a position to bargain with the local Insurance Committees. The six points had not been abandoned by the Council, and, that being so, he could see nothing for it but to give a decision as to the appointment of an Insurance Commissioner. There was an impression abroad that every medical man was bound by the agreement he signed not to accept any appointment under the Government. Was that the case? (A voice: "It is implied.") The agreement was that they were not to undertake medical attendance, but there was nothing said as to other offices. Not that there was any oversight; the matter was fully discussed at the Representative Meeting. It was proposed that such a clause should be inserted, but the Representative Meeting thought such a course would not be wise, because it meant the absolute refusal to have anything to do with the bill

under any circumstances whatever—a line which the Council was not empowered to take. He noticed in the *Times* letters from Dr. F. J. Smith—(Loud cheers)—who accused the Council of "underhand conduct, traitorous proposals, and a shameless betrayal." Those charges were based on ignorance—the man who made them had not read his JOURNAL. Dr. Smith had been challenged to point to anything proving the truth of his charges. This he did not attempt, but took refuge in saying that he would call a meeting. There would be other appointments, apart from that of Mr. Whitaker's, and how was the profession going to deal with them? Members of the Council were accused of "working for appointments." Personally, if he were offered an appointment, he would neither accept nor reject it. There were certain advantages in being set free from general practice, but private practice was not absolutely dead with some of them, and it would be a sacrifice, because a minor appointment would mean loss of income. His own objection would be that he would lose his individuality and have to cease taking any part in the affairs of the British Medical Association. He would therefore neither accept nor refuse—he would do exactly what Mr. Whitaker had done—he would take the appointment if the Branch or any other regularly constituted body wished him to, but if they said "No" he would be better pleased. "For God's sake, gentlemen," said Dr. Keay, warmly, "do not suppose that every one of us is actuated by mean and contemptible motives." (Loud applause.) In conclusion, Dr. Keay said he was not surprised at strong opposition to the bill from Lancashire. The measure was not of much advantage to medical men there, as the working classes paid good fees. But that was not the case in the south. In his own neighbourhood there were 10,000 people in one district, and he could not find that ten families paid a half-crown fee. Medical men had been calling for help, and it was now offered them by the Government. They ought not to throw it away. The Council had been vehemently accused, but it would not retaliate. He did fear, however, that action recently taken by some of its members would be a weakening of the Medical Association, a breaking-up of the unity of the profession, and he thoroughly believed that those who were promoting the opposition to the Council were following a line of policy that was entirely mistaken. (Applause.)

Dr. BATTEN moved the following resolution:

> That this meeting approves of the action of the Council in assenting to the appointment of Mr. Whitaker as Insurance Commissioner, and, further, desires to record its approval of the action of the Council in regard to the Insurance Bill.

Dr. Batten wished to make five points in support of the resolution: (1) If the profession had been asked by the Government to choose three or four medical men who had been general practitioners, from whom a member of the Commission could be selected by the Government, Mr. Whitaker's name would have been put forward amongst them. The Government wanted just such a man as Mr. Whitaker, and if the Council had not allowed him to take the appointment probably somebody would have been chosen from the Local Government Board. In Mr. Whitaker the profession had a very valuable advocate. (2) The Council was the most democratic body in the universe. Their Representatives always did what the Divisions told them, and they had never been told to oppose the bill—the profession simply said it could not work the bill unless it secured the six points. Four out of the six points were already in the bill, and they could get the other two if they would only stand together. The £2 limit was practically certain, and in some places it would be less. In regard to remuneration, medical men had still to say what rate they expected. (4) Suppose they had another Council, could it have done any better against the Government's large majority in the House of Commons? (5) Whatever else medical men decided, they must not refuse to form local Medical Committees. They might, if they liked, refuse to form a panel, but if they refused to form local committees they threw away their whole power of collective bargaining. The Government were not "facile fools"; they had something up their sleeves. This bill was introduced with the intention of having whole-time medical men. The Government did not want the general practitioner, but was forced to consider him. If the general practitioner refused to act, the Government expected, by offering up to £600 or £700 a year with a pension, to attract 4,000 or 5,000 men to work under the bill. As things were, if medical men were refused proper remuneration they would organize the best strike the world had ever seen. Moreover, he would point out out that medical benefit did not begin until six months after the people had been paying, and if during that time the Government and the medical men had not come to terms, the trouble would not be between the Government and the doctors, but between the Government and the people who had been paying in to the Insurance Fund. The insured would fight the doctors' battle for them. Let them not split the profession, and they would get the six cardinal points and more also. (Applause.)

Dr. PARKE, Chairman of the Greenwich Division, seconded. He remarked that the bill having passed, an insurance scheme would be in operation sooner or later, and in the circumstances the profession could not have a better man to represent it than Mr. Whitaker.

Dr. MICHAEL declared that the confidence of the whole profession in the Association had been shaken. Their leaders had been caught in the net of subtlety. What would have been thought of any of the rank and file if they had taken office under the scheme after signing the declaration undertaking not to work under the bill?

At this point a member of the Division asked that the declaration might be read before the speaker proceeded, so that he might not mislead the meeting, an intervention that was received with applause. When the declaration was read, it was pointed out that it referred only to actual treatment of patients under the bill, but Dr. Michael dismissed the correction by saying, "That's a quibble."

Proceeding, Dr. MICHAEL said that it was idle to claim that all the demands of the Association had been conceded, and it was the duty of the profession to prevent its position from being rushed. He wished to move the following amendment:

> That this meeting is of opinion that the provisions of the Insurance Bill do not incorporate the six cardinal points, and do not secure effectual means whereby the working of the bill can be carried out in absolute conformity with the six points; and, therefore, that the members of the profession should be called upon not to form a panel, and to refuse all duties, including administrative ones, which the bill asks of them.

The CHAIRMAN said he could not accept the amendment, as the meeting had not been called to consider whether the six points had been conceded. He must ask the meeting to vote Yes or No on the resolution. This led to some argument, and ultimately the Chairman agreed to accept the "amendment," though probably it would have been better to have dealt with it later as a separate resolution.

Dr. MACKEITH claimed that the Council itself had declared that the six points had not been obtained, although Dr. Keay stated that they had been practically conceded.

Dr. KEAY: "I never said any such thing."

Dr. MACKEITH quoted passages from the Association's appeal to the House of Lords in order to show that the leaders of the profession themselves admitted that free choice of doctor had not been conceded in the bill. He agreed as to Mr. Whitaker's fitness for the position of Commissioner if the Association had secured the six points, but, that not having been done, he maintained that Mr. Whitaker should not have been allowed to accept the appointment. By allowing him to do so the Council had practically betrayed the profession. If the ordinary interpretation of the English language was accepted, the declaration signed by medical men implied that they would not have anything whatever to do with the bill until they got the six points (Cries of "No").

Dr. GREENLEES (Cape of Good Hope Branches), as one of the "unfortunate three who voted against the appointment of Mr. Whitaker" (applause), expressed his sympathy with the amendment.

Dr. SWAYNE urged the meeting not to take an impossible line, and absolutely refuse to work the bill. It was quite within the range of possibility that the negotiations which would begin now that the Commissioners were appointed would result in fair terms being offered to the profession.

Dr. MACNAMARA spoke of the "gerrymandering way" in which Mr. Whitaker had been induced to take the Commissionership, and called on the Council to resign.

Dr. LAURISTON SHAW, a Representative on the Central Council, asked to be allowed to speak before "sentence was passed." He was glad to see such a large meeting, as it was an indication of the power of the medical profession as a representative organization. But representation carried with it certain responsibilities. If a Representative Meeting was held to which members from every part of the country came instructed by their districts as to how they should vote, and if that Representative Meeting arrived at a decision and sent on the mandate to the Executive Committee, that committee must do what it was told. On every occasion on which the Representative Meeting of the British Medical Association met there were strong men holding the strong views so well expressed that evening, who thought it was the duty of the Association to smash the bill at all hazards. On every occasion those who held that view were beaten by overwhelming majorities. It was essential if this splendid Representative Body was to go on, that minorities should recognize when they were beaten. He could not help thinking that Mr. Whitaker's appointment was not really the cause of the present disturbance: it arose rather from the desire of those who held that the bill must be ended and not mended to reopen the matter. In many important reforms on the point of being consummated the medical profession would have very shortly to compel the public to accept its views, and if on the first occasion when the profession was in delicate negotiation with the Government it lost its reputation for stability, it would do itself far more injustice than any material hurt that might come from the bill. If the profession stood together it had more to win than to lose from the Insurance Bill. As to the six cardinal points, they would never know whether they had secured some of them until the bill was in actual operation. They would not know, for instance, whether they had secured "adequate remuneration" until they found whether the terms they were asking were the terms they would get. One of the instructions to the Council was to secure adequate representation upon the Insurance Commission. Had they not done so? Was there any man more fit than Mr. Whitaker to represent the profession on the Commission? He did not care whom they elected but when they had sent him to the Representative Meeting with instructions, and the Representative Body decided on a certain course, do let them stick to it. In conclusion, Dr. Shaw said that the jealousy of the rank and file towards the men they had chosen to be their representatives had been the weakness of trade unionism. Let the medical profession, which was the finest, strongest union ever formed, avoid that mistake. They had an impregnable position if only they stood fast. (Applause.)

On being put to the meeting, there voted, for Dr. Michael's proposition 66, and against 78, and it was therefore lost. The first resolution was then put to the meeting and declared carried by 71 votes to 70.

The meeting concluded with a vote of thanks to the Chairman.

NORTH MIDDLESEX DIVISION.

THE second ordinary meeting of this Division was held on December 12th at the Prince of Wales Hospital, Tottenham. Dr. H. B. BRACKENBURY was in the chair. Nearly 100 members were present. Dr. Fothergill attended by invitation.

Confirmation of Minutes.—The minutes of the first ordinary meeting (reported in BRITISH MEDICAL JOURNAL SUPPLEMENT, December 9th), taken as read, were signed as correct.

Letters to Members of Parliament.—It was reported that the resolution of the Representative Meeting of November 23rd, expressing the Association's determination to insist upon arrangements about to be made under the National Insurance Bill being consistent with the six cardinal principles formulated by the Association, had been forwarded to each of the members of Parliament having constituents within the Division, and had been acknowledged.

Membership of the Division.—The present proportion of members of the Association in North Middlesex to the total number of medical men in the same area was then given, in relation to each urban district of the Division, and the determination for a canvass to increase this proportion was expressed.

Change of Northern Boundary of the Division.—The position of those medical men on the northern fringe of the Division in relation to the arrangements about to be made by the Commissioners and Committees under the National Insurance Bill having been urged, it was unanimously resolved:

> That so much of the boundary of this Division as is contained in Hertfordshire be changed, so as to correspond with the boundary between Middlesex and Hertfordshire.

National Insurance Bill.—A discussion on the action of the Council in respect to the National Insurance Bill and the appointment of Mr. Smith Whitaker as Deputy Chairman of the Commission then took place, in the course of which Dr. Fothergill explained the policy of the Council and the results accruing therefrom. Finally the following Resolutions were carried unanimously, and the Honorary Secretary was instructed to invite the opinions of other Divisions upon them through this publication of them and this invitation in the SUPPLEMENT. All expressions of opinion to be forwarded to him at 802, High Road, Tottenham, London, N.

1. That this Division deems it highly advisable and a matter of great urgency that a Representative Meeting of the Association be held in the near future, with the object of altering existing, and framing and passing new rules, by-laws, or regulations, so that in future a far larger proportion of the Council shall be general practitioners in actual general practice in the United Kingdom, and so that the Representative Meeting shall be more representative of general practitioners.
2. That this Division adheres to the six principles of the British Medical Association's programme, and declares that unless these points are fully secured before any arrangement for the treatment of insured persons is finally arrived at, the members thereof will decline to take any part in such treatment.

The proceedings then terminated.

WANDSWORTH DIVISION.

A SPECIAL meeting of this Division was held at the Battersea Town Hall on Wednesday, December 13th, at 4 p.m., Dr. BIGGS in the chair.

National Insurance Bill.—Dr. HOWELL proposed:

> That this Division approves the action of the Council in consenting to the appointment of Mr. Smith Whitaker as Deputy Chairman of the Insurance Commissioners, as a step conducive to the best interests of the medical profession, though regretting it should have been necessary to make this appointment at the present critical time; and, further, this Division places on record its opinion that no medical man should enter into any agreement for giving medical attendance and treatment under the Insurance Bill until the six cardinal points have been obtained.

Dr. MACKINTOSH seconded the resolution. Dr. NOBBS proposed an amendment, which was seconded by Dr. PEARSON, but which was subsequently withdrawn. Dr. NASH proposed that Dr. Lauriston Shaw address the meeting; this was seconded by Dr. KER and agreed to. Dr. LAURISTON SHAW thereupon addressed the meeting. After a considerable discussion the resolution was put to the vote and declared lost, 25 voting in favour, 30 against. Dr. E. SMITH then moved that:

> This Division strongly disapproves the action of the Council in consenting to the appointment of Mr. Smith Whitaker as Deputy Chairman of the Insurance Commissioners, and calls upon the Council to resign.

Dr. ORAM seconded the resolution. After discussion the motion was put to the vote and declared lost, 19 voting in favour and 37 against. The CHAIRMAN then called upon Dr. GROSS to propose two resolutions, of which he had given notice. There was, however, no reply, and the meeting terminated.

WATFORD AND HARROW DIVISION.

A MEETING of this Division was held in the Oddfellows Hall, Watford, on Thursday, December 14th, Dr. C. HERBERT HALL in the chair, and about forty members of the profession attending.

Confirmation of Minutes.—The minutes were read and confirmed.

Visitors.—The CHAIRMAN welcomed the visitors, and said that any expressions of opinion they had to make would be welcomed.

National Insurance Bill.

The appointment of Mr. Smith Whitaker as an Insurance

Commissioner was reported, whereupon Dr. Bontor moved, and Dr. Fothergill seconded, the following resolution:

> That whatever opinion be held as to the desirability of the appointment at the present time of a Medical Insurance Commissioner or as to the appointment of Mr. Smith Whitaker to that position, this Division is of opinion that the action of the Council—which they believe to be directed by the sincerest desire to serve the best interest of the profession—should be loyally supported, in order to maintain the unity throughout the profession which the Council has already secured.

Dr. Bluett prosposed, and Dr. Cox seconded, the following amendment:

> That this meeting expresses its regret at the action of the Council of the British Medical Association in recommending under existing circumstances the acceptance by one of its officials of the post of an Insurance Commissioner,

which was lost.

On the original motion being put to the meeting, Dr. Hildesheim proposed, Dr. Churchill seconded, and it was carried:

> That the words "the action of" be omitted.

The original motion thus amended was carried by a large majority.

Dr. Williams moved, Dr. Pennefather seconded, and it was carried:

> That when the time comes for giving medical attendance to the insured under the bill, no member or official of the British Medical Association should accept or continue to hold any office under the bill, whether paid or unpaid, unless the condition under which such medical attendance is to be given be approved by the Association.

Dr. Williams proposed, Dr. Pennefather seconded, and it was carried:

> That the Council be urged to insist on further medical representation amongst the Commissioners, seeing that at least three of the Commissioners already appointed represent the friendly society interest.

The meeting then adjourned to Friday, December 22nd, at 4 p.m.

SOUTH-EASTERN BRANCH:

Brighton Division.

An ordinary meeting of this Division was held on Wednesday, December 13th, Dr. Ryle in the chair. Fifty-seven members were present.

National Insurance Bill.

Dr. Eves proposed and Dr. Badcock seconded the following resolution:

> That this meeting of the Brighton Division approves of the action of the Council in agreeing to the appointment of Mr. Smith Whitaker as Deputy Chairman of the Insurance Commissioners.

Whereupon the following amendment was proposed by Dr. Whittington and seconded by Mr. Jacomb Hood:

> That this meeting, while regretting Mr. Lloyd George's offer to Mr. Smith Whitaker, nevertheless approves of the action of the Council under the circumstances, and thinks their action should not be allowed to cause a split in our ranks.

This amendment was lost, whereupon a second amendment was proposed by Dr. Bushnell and seconded by Dr. Sanderson:

> The Brighton Division approves of the appointment of Mr. Smith Whitaker as Medical Commissioner, but is of opinion that the Council should have insisted on arrangements by which the Association and the Divisions might be consulted on this appointment.

This amendment was also lost.

A third amendment was proposed by Dr. Turton and seconded by Dr. Walker:

> That while it feels that the Council had no alternative other than the course they took in approving of the acceptance of the appointment offered to Mr. Smith Whitaker, this meeting is of opinion that the acceptance of such appointment by an official of the Association before the reasonable demands of the profession as embodied in the six cardinal points had been conceded, is an unfortunate event and calculated to disturb the unity of the profession.

This amendment was withdrawn.

The Chairman then put Dr. Eves's motion to the meeting, and it was carried by a large majority.

The meeting adjourned till December 22nd.

Chichester and Worthing Division.

A meeting of the Division was held at the Hospital, Worthing, on December 8th. Twenty-two members were present.

National Insurance Bill.—The meeting was called to discuss the action of the Council as to the acceptance by the Medical Secretary of a post amongst the Commissioners under the National Insurance Act. A resolution was passed that:

> The Division approves the action of the Council in the matter of the appointment of Mr. Smith Whitaker.

Eastbourne Division.

A meeting was held in the Saffrons Rooms, Eastbourne, on Thursday, December 14th, at 4.30 p.m. Dr. K. Frazer was in the chair, and thirty members were present.

Apologies for Non-attendance.—Apologies for non-attendance from four members were read.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

National Insurance Bill.—The report of Proceedings of Council published in the Supplement to the Journal of December 9th was discussed. At the outset Mr. J. H. Ewart gave a detailed explanation justifying the action of the Council in recommending the Medical Secretary to accept the offer of the Deputy Chairmanship of the Insurance Commissioners; and having answered questions from several members, a protracted discussion ensued on the expediency of the Council's action; whereafter it was resolved and carried *nemine contradicente* by 24 votes—25 present:

> That having regard to the voting at the Special Representative Meeting held in London on November 23rd and 24th, this Division is of the opinion that the Council acted in the best interests of the Association in recommending Mr. J. Smith Whitaker to accept the position of Deputy Chairman of the Insurance Commissioners.

At the request of the Honorary Secretary of the Dover Division, the following resolution, adopted by that Division on December 9th, was submitted for consideration:

> That this Division censures the member of the South-Eastern Branch (Mr. Ewart of Eastbourne) for his action at the Council Meeting in supporting the acceptance by Mr. Smith Whitaker of the post of Medical Commissioner, and calls on him immediately to resign his post on the Council;

whereupon it was duly proposed from the Chair, and carried unanimously—25 present and voting:

> That this Division cordially expresses its unabated confidence in Mr. J. H. Ewart as the representative of the South-Eastern Branch on the Council of the Association.

It was further unanimously resolved:

> That a copy of the foregoing resolution be sent to the Honorary Secretary of the South-Eastern Branch and Dover Division.

Guildford Division.

A special meeting of this Division was held in the Royal Surrey County Hospital on Friday, December 1st. Dr. Kingsford presided, and there were twenty-nine members and seven visitors present.

Apology for Non-attendance.—Apology for absence was received from Dr. Bryden.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

National Insurance Bill.—The Chairman briefly reviewed the present situation, and spoke of the object of the meeting. The Deputy Representative was then called upon to give his report of the proceedings of the recent Representative Meeting, which he accordingly did. The Chairman then welcomed Dr. Palmer (representing the Reigate Division), Dr. Fowler (representing the Croydon Division), and Dr. E. A. Starling (Secretary of the South-Eastern Branch), and each of these gentlemen addressed the meeting in support of the position taken at the Representative Meeting. After a short discussion the following resolution was proposed by Dr. Sells and seconded by Dr. Lyndon:

> That we accept the decision of the Special Representative Meeting of November 23rd and 24th, and pledge ourselves to loyally support the Association.

This was carried unanimously, and the meeting terminated.

[As this report is sent after some delay, we are asked

to call attention to the fact that the meeting was held before the recent action of the Council regarding the late Medical Secretary.]

SOUTHERN BRANCH:

PORTSMOUTH DIVISION.

A MEETING of the medical men in practice in Portsmouth and the district was held on Thursday, December 19th, at the Town Hall, Portsmouth, Dr. A. SHEAHAN in the chair, at which seventy-three members were present. All were members of the British Medical Association but five.

National Insurance Bill.—A very strong feeling was expressed that the National Insurance Bill in its present form was unworkable as far as the medical benefits were concerned, unless the regulations made by the Commissioners put a more favourable complexion upon that part of the bill. The following resolution, proposed by Mr. C. P. CHILDE, seconded by Dr. LOCKHART STEPHENS, was carried:

> That the Council of the British Medical Association, by its action in recommending Mr. Smith Whitaker to accept the office of Medical Commissioner, has shown an entire lack of appreciation of the attitude of the medical profession towards the Insurance Bill, has imperilled its unity, and has forfeited the confidence of this meeting.

The meeting was enthusiastically in favour of unity in refusing to act under the bill unless the six cardinal points were conceded. It was proposed by Dr. HACKMAN and seconded by Dr. SCOTT RIDOUT:

> That this meeting of medical practitioners residing in Portsmouth and surrounding districts hereby expresses its strong disapproval of the action of the Chairman of Representative Meetings of the British Medical Association in the matter relating to the appointment of a Medical Commissioner under the National Insurance Bill.

This was passed unanimously.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

CARDIFF DIVISION.

A SPECIAL meeting was held on Friday, December 15th, 100 members being present. Dr. MACLEAN was in the chair. The meeting was summoned at the request of six members of the Division.

National Insurance Bill.—The following resolutions were submitted:

1. This meeting is of opinion that the provisions of the National Insurance Bill as finally drafted do not incorporate the six cardinal points to which the profession unanimously pledged itself.

This was carried.

2. That the Council of the British Medical Association should at once call upon all members of the profession to decline to form a panel or to undertake any duties which the bill proposes to assign to them.

This was lost by the casting vote of the Chairman.

3. That this meeting expresses its strong disapproval of the action of the Council of the British Medical Association in regard to its method of conducting negotiations with the Government, and considers the method by which the Medical Commissioner for England was appointed was inconsistent with the policy of the Association. This meeting desires to place on record its high appreciation of the action of the three members of the Council who stood out for support of the principles for which we have been fighting.

This was carried.

SOUTH-WESTERN BRANCH:

TORQUAY DIVISION.

A MEETING of this Division was held at Torquay on December 11th.

National Insurance Bill.—The following resolution was passed:

> That this meeting views with grave apprehension the action of the Council in allowing Mr. Smith Whitaker to accept the position on the Insurance Committee, and trusts that the Council will not in any way abate their efforts in securing the six cardinal points for the profession.

This was proposed by Dr. WINTER (Torquay) and seconded by Dr. PHILLPOTTS (Paignton). It was approved by 15 members and opposed by 13 members. It was therefore carried by a majority of 2 members.

ULSTER BRANCH.

A LARGELY attended meeting of this Branch was held in the Medical Institute, Belfast, on December 13th. Dr. J. G. COOKE (Derry), President of the Branch, was in the chair.

National Insurance Bill.—The object of the meeting was to consider the present position under the Insurance Bill, and to decide on what measures should be taken in view of future possibilities. A report was submitted from the Insurance Committee of the Branch. This report drew attention to the fact that, although medical benefit was specifically excluded in the case of Ireland as a benefit under the bill, this exclusion did not necessarily leave the profession in the same position as it occupied under present conditions. In the first place, medical certificates would be required in the case of a large proportion of the insured. It was essential that the profession should consider its position in regard to these, so as to ensure that the certification should not be used as a lever to divert patients from one practitioner or class of practitioners to another, and that a fair rate of remuneration should be paid for the work done. In the second place, it was pointed out that if medical benefit were excluded, the friendly societies would include among the advantages which they offered to members the provision of medical attendance and treatment on payment of a small extra contribution. There would be every inducement to the insured to join such societies, as it was only by so doing that they could obtain full insurance against prolonged sickness. In the near future, therefore, the Irish profession would have to face an increase in club doctoring, and must be prepared to protect itself against its evils. Lastly, there was still a possibility that medical benefit for Ireland would be reinstated before the Act came into force, and the conditions under which it would be given would probably be the same as those which applied in England. It was therefore important that practitioners should prepare themselves to act unitedly, so as to obtain fair remuneration for their services should medical benefit be given under the Act. In face of the situation the committee made the following recommendations:

1. That measures should be taken to ensure the unanimity of the profession.
2. That unanimity can best be attained by supporting the British Medical Association, and by inducing those who are not members to join the Association, to sign the Association pledge, and to subscribe to the guarantee fund.
3. That an Organizing Committee be formed for Ulster, and that the Irish Conjoint Committee be requested to undertake the organization of the profession in Ireland.

After a prolonged and very general discussion the recommendations of the committee were unanimously adopted as resolutions of the meeting.

YORKSHIRE BRANCH:

LEEDS DIVISION.

NEARLY two hundred medical practitioners from various parts of the West Riding attended a meeting in the Philosophical Hall, Leeds, on December 13th, to discuss the Insurance Bill. Dr. H. J. ROPER, Chairman of the Division, presided.

National Insurance Bill.—The following resolutions were passed:

1. That this meeting of medical practitioners in the West Riding deeply regrets the action of the Council of the British Medical Association in recommending Mr. Smith Whitaker (Medical Secretary to the Association) to accept the post of Deputy Chairman of the Insurance Commissioners.
2. That the medical men present refuse service under the Insurance Bill as at present constituted, the six cardinal points insisted upon by the Association not having been inserted in it.

The resolutions were passed practically unanimously, the first on the motion of the CHAIRMAN, seconded by Dr. J. STEWART, and the second on the motion of Dr. J. EWING, seconded by Dr. J. DOBSON.

YORK DIVISION.

A MEETING of the Division was held in York on December 15th, at which nearly all of its members were present.

National Insurance Bill.—The following resolutions were unanimously passed:

This meeting is of opinion that the provisions of the National Insurance Bill as finally drafted do not incorporate the six cardinal points to which the profession unanimously pledged itself.

That they do not secure effectual means whereby the practical working of the bill can be carried out in absolute conformity with the principles of these six points.

And therefore that the Council of the British Medical Association should at once call upon all members of the profession to decline to form a panel or to undertake any duties which the bill proposes to assign to them.

That the members of the British Medical Association present at this meeting express their strong disapproval of the action of the Council of the British Medical Association in regard to its method of conducting negotiations with the Government and in recommending the Secretary of the Association to the post of Commissioner under the National Insurance Bill, and accordingly demand the resignation of the Council forthwith.

LANCASHIRE AND CHESHIRE BRANCH:

Leigh Division.

Dr. G. H. Shaw, Honorary Secretary of the Leigh Division, writes under date December 14th:

Dear Sir,

I am instructed to forward you the enclosed letter and resolution adopted by the Leigh Division of the British Medical Association, and the request of the Leigh Division that the same be published in the British Medical Journal.

The following is the text of the letter enclosed:

December 12th, 1911.

Dear Sir,

I am instructed by the members of the Leigh Division of the British Medical Association to forward you the following considerations on the line of conduct of the Representative Body and the Council of the Association with respect to the Insurance Bill:

1. We desire clearly to express our indebtedness and appreciation of the time, labour, and value of the work done by these bodies on behalf the medical profession. At the same time we consider they have shown a deplorable lack of judgement in failing to realize the gravity of the situation, and the painful anxiety with which the members were looking to them to safeguard without possibility of failure or evasion their common interests and welfare.

2. It is not controverted that the actuarial basis of the medical side of the bill is based on a capitation fee of 6s. for attendance and medicine. The Chancellor's reply to a request of Irish medical men for a capitation fee of 8s. 6d. is ample confirmation of this if any confirmation were needed.

This fact, to our minds, demonstrates beyond possibility of dispute the futility of continuing negotiations, whether by the organization as a whole or sectionally on the lines of the present bill, because without large encroachments on the finances of other aspects of the bill, which is not possible without destruction of the measure, we cannot hope to receive increased benefits.

3. The Council and Representative Body do not seem to realize that the strength of the Divisions lies in the Divisions themselves, and that official support of Divisional action unless that Division is strong is of very little practical benefit. That is, where Divisions are weak or in large centres with contending interests, that area is just as weak with official support as without it where questions of personal interests or opinion are at variance.

Therefore by throwing back such a national fight as this on to possible weak—not necessarily numerically—units they are derogating their necessary and proper duties, and cannot logically expect or rely upon the support of the general body whose interest they have shirked and neglected.

4. By the present action of the Council and Representative Body it is possible, within the letter of the law, for any of its officials or members to accept office, emoluments, or position under the bill, which is, or should be, a *reductio ad absurdum*, because we are of the opinion it is a distinct breach of faith.

If the members are not to accept office until the bill is acceptable, the implication that no other person should accept of office is just as binding, or the whole structure falls.

It vividly exposes the foolish position which the lack of judgement of the Council has brought us to. We cannot get redress unless a large number of our members are elected as officials. Secondly, we are not by our own bonds allowed to accept office; and, thirdly, no redress is possible under the bill. This is brought out by experience in this area. A member was asked to sign the undertaking, and replied it was not now necessary, as the Association had more or less by its action approved of the measure. We consider such a position quite logical and that no answer can be given to it. What can be the value of undertakings under such conditions? They are so much waste paper.

5. If the resolutions of the Manchester Meeting or similar ones had been adopted by the Representative Meeting, and as far as our knowledge goes they represent the opinion of the largest number of Divisions, and, therefore, ought loyally to have been accepted by the Council as our accredited head, this absurd condition would never have developed. No one questions, either the lay person or the medical man, but that the bill would have had to have been remodelled to meet our requirements. It is presumptive evidence to our minds that the Council have exceeded their proper function in bringing pressure to bear in one way or other to ensure the adoption of their wishes, instead of accepting without demur the desires of the majority of the Divisions through their Representatives.

6. Financially. In the opinion of many, the Association are wasting a very large sum of money in printing, stationery, and postage. Under the present plan we consider that this expenditure will grow to a sum we cannot estimate within the next year. Also we consider such expenditure wasteful, unnecessary, and improper because it could have been largely avoided by a different standpoint being taken up. Is it to be expected that the large body of the profession who disagree entirely with such procedure would support from their point of view such unsanctioned expenditure either by guaranteeing sums or paying calls? We think it is decidedly not to be expected.

7. Membership. The Association has grown enormously in prestige and numbers during the present crisis. But prestige or numbers are nothing unless that body obtains without equivocation the clearly expressed desires of its members. It will be judged, and rightly so, by the results it has achieved. We fear, therefore, that this sudden increase may be followed by a sudden decrease of membership and a feeling of discontent and suspicion which many of us have had to contend with so much in trying to improve and extend for possibilities of good the strength of our Association.

Therefore while clearly expressing our indebtedness to the Council and Representative Body for their labours we just as clearly desire to express our disapproval of the action of the Council and Representative Meeting in November, which made it possible and also necessary that our chief Executive official, or any other official or member, should accept any office until the bill is actuarially sound to meet our requirements and the conditions of service in the bill were acceptable to the majority of members.

The following resolution was also passed:

That this Division strongly condemns the attitude of the Council in advising Mr. Smith Whitaker to accept office under the bill under the present circumstances.

G. H. Shaw,
Honorary Secretary.

The reports of the following Divisions reached us too late to be placed in their proper order:

BATH AND BRISTOL BRANCH:

Bath Division.

A largely attended meeting of the Division was held at Bath on December 15th:

National Insurance Bill.—The following resolution was carried:

That this meeting, realizing the critical position in which the medical profession will be placed by the enactment of the National Insurance Bill, which fails to satisfy the demands put forward by the British Medical Association and supported by an overwhelming majority of the profession, pledges its members to refuse to give medical attendance under the measure unless, before it becomes operative, these demands are acceded to.

BRISTOL DIVISION.

A MEETING of the local profession was held, under the auspices of this Division, on Tuesday, December 19th, in the Bristol University. Dr. DEVIS, Chairman of the Division, was in the chair. Nearly 200 medical men were present.

Bristol Federation Scheme.—The CHAIRMAN, in referring to the agenda, said that he advised that the meeting should not discuss the Representative's report of the Representative Meeting, but reserve the discussion until after the Chairman's report of the action taken by the Bristol Executive Committee on the federation scheme, when the whole matter of the present position of the Association would be under discussion.

National Insurance Bill.

Dr. PARKER reported upon the fate of the various resolutions that he had been instructed by the Division to support at the Representative Meeting. He quoted the main arguments used. Where their views had been rejected they were bound by the majority vote of the meeting.

Dr. DEVIS spoke of the invaluable and devoted work of Dr. Parker not only as Representative, but as a member of the Executive Committee. A vote of thanks to Dr. Parker was enthusiastically carried by acclamation.

The CHAIRMAN reported the result of a deputation from the Bristol Division to the Organization Committee of the Council of the British Medical Association, expressing the view that the conference was highly satisfactory from the Bristol point of view, and that the Committee showed both interest and sympathy in the Bristol federation scheme, and undertook to do all in its power to further the scheme, provided that it proved to be legally sound. He also reported his impression of the great Manchester Meeting of December 14th, saying that the meeting was characterized by great enthusiasm and unanimity, and that the object of the new National Medical Union was to strengthen the British Medical Association, and not to divide it. Turning to the present position of the profession under the bill, he said that it was necessary to take the most pessimistic view in order to safeguard the interests of those districts in which the organization was least perfect. Not a single one of the six cardinal points was incorporated in the Bill which had now emerged from the two Houses of Parliament, with the exception of the representation of the profession on the local Insurance Committee, and this representation could not be said to be adequate. Free choice of doctor, wage limit, and freedom from friendly society contract would be only obtainable under the bill by means of energetic and united effort. There was no adequate provision made in the bill for payment for medical attendance, and therefore the method of payment was not left open. The Insurance Commissioners would be omnipotent, and from them there would be no appeal. In his opinion there could be no question that the position was indeed a grave one, and that while the Bristol Division with its great organization might get fair terms, the smaller and weaker Divisions would be very badly left. The Council had to a great extent failed in its negotiations with the Chancellor, but it would be unfair and unwise to put the blame solely on the shoulders of the Council. He strongly deprecated the violent attacks, the votes of censure, and the innuendoes of bad faith which had been poured on the Council. The members of the Association had put the Council in its position, and the members must bear their fair share of responsibility. Although his view of the position was so pessimistic there was one ray of hope—the Bristol federation scheme was in fair way of being taken up by the Council. If his hopes were realized there would exist, not only in Bristol, but throughout the country, a British Medical Association which could be able to fight successfully the Insurance Commissioners, the local Insurance Committees, and all other public bodies with which the profession would come into contact.

Dr. BARCLAY BARON asked if they might know what number of practitioners throughout the country had guaranteed that they would not work under the bill at all unless the six cardinal points were fully and absolutely granted without any possibility of quibbling. They could do nothing in the way of forcing if only a small percentage did so, but much could be done if they had behind them the almost united profession.

Dr. SCOTT WILLIAMSON answered that the figures were not yet available from the Central Association, nor was the local canvass complete. The Bristol federation scheme had been formulated so as to put the Association in the position to say to practitioners, "You need risk nothing by accepting the policy of the Association, because the Association will make good to you what you lose." That was the unionism they had been trying to get in Bristol and throughout the country.

The following principles had been laid before the solicitor to guide him in drafting such a federation scheme to meet all contingencies:

1. Financial guarantee against loss due to the action of the company.
2. Democratic control.
3. Co-operative powers.
4. The recognition of vested interests.
5. Full money-raising powers.
6. Unrestricted powers of our own funds.

The following obligations would be placed upon each member of the suggested federation: Entrance fee, £2; annual subscription of £1 5s.; after signing the memorandum of federation, as each member would have to do, he would thereby make himself liable for £5 in the event of winding up, and only in that event. In detail, the financial loss was guaranteed in the text of the memorandum. Democratic control was secured by subdividing the profession into general practitioners, consultants, and official practitioners, giving to each its proportion of representatives upon the executive of the new company, and by giving to each member an initiative referendum properly safeguarded, and by placing upon the members the responsibility of formulating all policy. Co-operative power was essential so as to be able to unite the present Association with the new one. The liability of all members was small and limited. With these powers it was possible to bring the weight of a powerful and complete monopoly of a marketable service to bear upon any question affecting the interests of the profession.

BORDER COUNTIES BRANCH:

ENGLISH DIVISION.

A MEETING of the Executive Committee of this Division was held in the County Hotel, Carlisle, on Wednesday, December 13th. Dr. EDINGTON (Penrith) presided, and there were present: Drs. Barnes, Graham, Macdonald, R. Maclaren, N. Maclaren (Carlisle), Livingston (Dumfries). Doughty (Dalston), Crerar (Maryport), Fisher, Muriel (Whitehaven), Bowser (Penrith), and the Honorary Secretary.

National Insurance Bill.—The following resolutions were passed unamously, namely:

1. That this Committee regrets that the Council of the Association recommended Mr. Smith Whitaker to accept office as Deputy Chairman of Commissioners under the Insurance Bill while negotiations were proceeding between the Chancellor of the Exchequer and the Council.
2. That this Committee considers that the Council has failed to carry out the wishes of the profession in regard to the National Insurance Bill.
3. That the Committee reaffirms its adherence to the six cardinal principles adopted by the British Medical Association, and hereby resolves that a mass meeting of the profession be called in January to consider the attitude of the profession in regard to the National Insurance Bill.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL DIVISION.

THE first meeting of the newly-constituted Liverpool Division, which had formerly comprised the Bootle, Central, Northern, Southern and Western Liverpool Divisions, was held at the Liverpool Medical Institution, to adopt the Standing Orders and the rules of the Division; upwards of eighty-five members were present. Dr. TISDALL occupied the chair until the election of Chairman of the Division had taken place, to which office Dr. Percy Marsh, the Chairman of the combined Liverpool and Birkenhead Divisions was unanimously elected, Dr. Harvey being elected Vice-Chairman.

Resignation of Honorary Secretary.—Dr. GROSSMANN, who had occupied from the beginning the position of Secretary, expressed his wish to be relieved of the duties, and after having been thanked for the time he had given

and for the great services he had rendered to the Division, Dr. Francis W. Bailey was unanimously elected to the position of Secretary.

Executive Committee.—The Executive Committee was also elected as follows: *Representatives on Representative Body*, Drs. T. Bushby, H. Harvey, F. W. Prout, R. J. Richardson and H. Waters; *Representatives on Branch Council*, Drs. F. H. Barendt, W. B. Bennett, C. J. Lee; *Representatives of Bootle Ward*, Drs. J. Dunn and J. Walker; *Central Ward*, Drs. T. R. Bradshaw and J. F. Strong Heaney; *Northern Ward*, Drs. Owen Bowen and E. T. Davies; *Southern Ward*, Drs. J. C. M. Given and A. S. Parkinson; *Western Ward*, Drs. K. Grossmann and A. Stookes.

Notice of Motion.—Dr. RENTOUL gave notice of a motion he proposed moving, at a subsequent meeting, in reference to the Local Committees under the Insurance Bill.

National Insurance Bill.—Towards the close of the meeting Dr. O'SULLIVAN proposed the following resolution:

> That this meeting of the Liverpool Division regrets the action of the Council of the Association in sanctioning the acceptance by Mr. Smith Whitaker of the appointment of Insurance Commissioner under the Insurance Bill,

which was seconded by Dr. A. E. DAVIES. After some discussion, in which Sir JAMES BARR, Mr. LARKIN, Dr. RENTOUL, and Professor MOORE took part, the resolution was lost, 11 voting for, 23 against.

METROPOLITAN COUNTIES BRANCH:

NORTH MIDDLESEX DIVISION.

A LARGELY attended meeting of the Hornsey Ward of the North Middlesex Division was held on December 1st.

National Insurance Bill.—The following resolution was unanimously passed:

> That as the Insurance Bill as amended does not include the six cardinal points insisted upon by the Association, this meeting of the Hornsey Ward refuses to take any part in carrying out the provisions of the bill unless it is modified so as to include all the six points.

SOUTH-WEST ESSEX DIVISION.

A MEETING of this Division was held on Thursday, December 14th, at the Walthamstow Hospital, Orford Road, Walthamstow, at 4 p.m. Thirty-one members and friends attended. Dr. C. J. HORNER presided.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Letters.—Letters from Sir John Simon, Sir John Bethell, Colonel Lockwood, Dr. C. F. Harford, the Shropshire and Mid-Wales Branch, the Tyneside Division, and Dr. Geoffrey Wilson were read.

Apologies for Non-attendance.—Apologies for non-attendance were received from Drs. C. F. Harford and C. R. Dykes.

Petit Mal.—A lecture entitled "Petit Mal, its Manifestations, Prognosis, and Treatment," was given by Dr. H. MORLEY FLETCHER, Assistant Physician, St. Bartholomew's Hospital. In the course of the lecture the following points were dealt with: Definition, relative frequency in childhood and in adult life, relation to major epilepsy, great frequency of minor attacks, very varied in character; may escape recognition in the slighter forms, but early diagnosis of the utmost importance. Description of chief varieties, with clinical examples. Etiological factors: family history, syphilis, alcoholism, specific fevers, trauma, etc.; association with post-epileptic manifestations in children and in adults; automatic actions, "hysteroid" states; association with other neuroses, especially in childhood. Prognosis: general considerations, often worse in minor than in major epilepsy; association with mental defect. Treatment: hygienic and dietetic, effect of drugs, with suggestions as to their employment. A discussion followed in which the following took part: Drs. F. COLLINS, P. WARNER, BONNEFIN, A. BERRILL, P. MACGREGOR, and ROBERT JONES.

Vote of Thanks.—A vote of thanks was proposed by Dr. ROBERT JONES and seconded by Dr. F. COLLINS. Carried with acclamation. Dr. MORLEY FLETCHER thanked the meeting.

National Insurance Bill.

The following resolution was proposed by Dr. ROBERT JONES and seconded by Dr. C. H. WISE:

> That this meeting is of opinion that no reasonable opportunity has been lost of obtaining necessary amendments under the bill, and is determined to support the Association in its future efforts to secure the full acceptance of the six cardinal points.

This was carried *nemine contradicente.*

The following resolution was proposed by Dr. ALDRICH and seconded by Dr. HARCOURT:

> That further discussion of the situation be deferred until a special meeting which shall be called at an early date after Christmas.

This was carried unanimously.

The following resolution was proposed by Dr. BONNEFIN and seconded by Dr. HICKMAN:

> That the Secretary have printed copies of the memorandum issued by the Chairman of Representative Meetings and Chairman of Central Council to members of Representative Body, and send a copy to each medical practitioner residing within the area of the Division.

This was carried unanimously. The meeting then ended.

SOUTH-EASTERN BRANCH:

CANTERBURY AND FAVERSHAM DIVISION.

A MASS meeting of the medical men of East Kent, including the areas of the following Divisions—Canterbury and Faversham, Isle of Thanet, Folkestone, Dover, and Ashford—was held on Friday, December 15th, at the Kent and Canterbury Hospital, Canterbury, when Dr. FRANK WACHER (Canterbury) presided. There were approximately 150 medical men present.

National Insurance Bill.

The following resolutions were proposed by Dr. TYSON (Folkestone):

1. That the members of the British Medical Association representing all the Divisions of East Kent here assembled regret the action of the Council in recommending the appointment of Mr. Smith Whitaker as one of the Insurance Commissioners, as they consider the appointment detrimental at the present time to the best interests of the profession.

This was carried with six dissentients.

2. That this mass meeting of the East Kent Divisions calls upon the Association to convene a meeting of the representatives as early as possible to do what is necessary to obtain the demands of the profession as formulated in the six cardinal points.

This was carried unanimously.

3. That this Special Representative Meeting should be preceded by special meetings of the Divisions throughout the counry.

This was carried unanimously.

YORKSHIRE BRANCH:

BRADFORD DIVISION.

A SPECIAL meeting of this Division, which all practitioners resident in the district had been invited to attend, was held in the Great Northern Victoria Hotel, Bradford, on Thursday, December 14th. Dr. G. H. OLIVER, Chairman, presided. The meeting was large and enthusiastic.

Confirmation of Minutes.—The minutes of the previous meeting were read and adopted.

Apologies for Non-attendance.—Letters from Dr. Bronner (Secretary of the Yorkshire Branch) and Dr. Burnie, regretting their inability to be present, were read to the meeting. Both gentlemen in their letters severely criticized the recent action of the Council.

The National Insurance Bill.

The following resolutions were passed unanimously:

1. That the members of the medical profession, having been denied the required safeguards in the Insurance Bill by the Chancellor of the Exchequer, refuse to form a panel or to accept any appointment, administrative or otherwise, under the bill.
2. That this meeting of the Bradford Division of the British Medical Association regards with disapproval the action of the Council in advising Mr. Smith Whitaker to accept the Deputy Chairmanship of the Insurance Commissioners during the present crisis. It further condemns the Council for its conduct of the negotiations generally.
3. That in the opinion of this meeting it is advisable to unite with Lancashire, Cheshire, and Derby in forming at once a National Medical Union to deal immediately with the conditions arising out of the Insurance Bill, and to

strengthen the hands of the British Medical Association and all other societies and committees now engaged in safeguarding the interests of the medical profession.

4. That all members of the profession in Bradford and district be asked to sign an undertaking to abide by the first resolution passed to-night.

Vote of Confidence in Dr. Metcalfe.—This was passed unanimously, after Dr. Metcalfe had explained how untiring had been his efforts to place the Division's views before the Representative Meeting recently held.

Vote of Thanks to the Chairman.—A hearty vote of thanks was accorded to Dr. Oliver for his able and business-like conduct in the chair.

DORSET AND WEST HANTS BRANCH:

West Dorset Division.

LIEUTENANT-COLONEL DECIMUS CURME, the Representative of the West Dorset Division, asks us to state that he read and strongly supported at the Special Representative Meeting (November 23rd and 24th) the resolution passed at the meeting of his Division on November 22nd, and published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of December 2nd, p. 560.

***** The reports of Divisions above printed are all that have been received by the Editor up to the time (3.30 p.m., Wednesday, December 20th) when the Supplement to the forthcoming issue of the British Medical Journal (December 23rd) has to be sent to press.**

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-seven of the largest English towns 7,539 births and 5,083 deaths were registered during the week ending Saturday, December 16th. The annual rate of mortality in these towns, which had been 14.2, 15.7, and 15.2 per 1,000 in the three preceding weeks, rose to 16.4 per 1,000 in the week under notice. In London, the death-rate was equal to 16.0, against 13.2, 15.1, and 14.3 per 1,000 in the three previous weeks. Among the seventy-six other large towns, the death-rates ranged from 6.0 in Hastings, 6.7 in Walthamstow, 7.7 in King's Norton, 8.0 in Tynemouth, and 8.8 in Cardiff to 21.9 in Wolverhampton, 22.5 in Liverpool, 22.8 in West Hartlepool, 23.1 in St. Helens, and 25.2 in Warrington. Measles caused a death-rate of 1.4 in Stockport and in Warrington, 1.5 in Smethwick, 1.9 in York, 2.0 in Bournemouth, 2.6 in Norwich, and 3.9 in Burnley; whooping-cough of 1.4 in Sunderland, 2.2 in St. Helens, and 3.4 in Walsall; and diphtheria of 1.3 in Devonport and in Derby, and 1.4 in Plymouth and in Huddersfield. The mortality from the remaining epidemic diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 39, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Birmingham, 5 in Liverpool, 3 in St. Helens, and 3 in Middlesborough. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,166, 2,141, and 2,089 in the three preceding weeks, had further declined to 2,042 on Saturday last; 224 new cases were admitted during the week, against 203, 248, and 241 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN eight of the principal Scottish towns 789 births and 587 deaths were registered during the week ending Saturday, December 16th. The annual rate of mortality in these towns, which had been 18.0 and 16.8 per 1,000 in the two preceding weeks, rose to 17.9 during the week under notice, and was 1.5 per 1,000 above the mean rate during the same period in the large English towns. Among the several Scottish towns the death-rates ranged from 7.3 in Perth and 15.1 in Edinburgh to 19.9 in Dundee and 21.4 in Aberdeen. The mortality from the principal epidemic diseases averaged 1.8 per 1,000, and was highest in Glasgow and Aberdeen. The 276 deaths from all causes registered in Glasgow included 18 from measles, 4 from diphtheria, 4 from infantile diarrhoea, 2 from whooping-cough, 1 from enteric fever, and 1 from scarlet fever. Thirteen deaths from measles, 2 from scarlet fever, and 4 from whooping-cough were recorded in Aberdeen. The mortality from the epidemic diseases showed no marked excess in any other of the Scottish towns.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, December 16th, 615 births and 461 deaths were registered in the twenty-two principal districts of Ireland, as against 502 births and 391 deaths in the preceding period. The annual death-rate in these districts, which had been 18.0, 18.3, and 17.7 per 1,000 in the three preceding weeks, rose to 20.9 per 1,000 in the week under notice, this figure being 4.5 per 1,000 higher than the mean average death-rate in the seventy-seven English towns for the corresponding period. The figures in Dublin and Belfast were 22.0 and 20.5 respectively, those in other districts ranging from 5.0 in Kilkenny and 5.1 in Clonmel to 35.4 in Cork and 39.3 in Newry, while Londonderry stood at 11.5. Limerick at 21.7, and Waterford at 22.8. The zymotic death-rate in the twenty-two districts averaged 1.6 per 1,000, as against 1.1 in the preceding period.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON HUBERT WILLIAM AUSTIN BURKE was on December 13th placed on the retired list at his own request.

ARMY MEDICAL SERVICE.

SURGEON-GENERAL SIR FRANCIS W. TREVOR, K.C.S.I., C.B., M.B., K.H.S., is retained supernumerary to the establishment under the provisions of Articles 92 and 472, Royal Warrant for Pay and Promotion, 1909. Dated December 11th, 1911.

Colonel THOMAS M. CORKER, M.D., to be Surgeon-General, vice Sir F. W. Trevor. Dated December 11th, 1911.

Colonel (temporary Surgeon-General) WILLIAM BABTIE, V.C., C.M.G., M.B., to be Surgeon-General to complete establishment. Dated December 11th, 1911.

Lieutenant-Colonel JAMES M. IRWIN, M.B., from the Royal Army Medical Corps, to be Colonel, vice T. M. Corker, M.D. Dated December 11th, 1911.

Colonel F. H. TREHERNE, formerly of the Army Medical Service, has been appointed Principal Medical Officer, Bangalore and Southern Brigades, vice J. R. Moberley, vacated.

ROYAL ARMY MEDICAL CORPS.

Lieutenant ARTHUR J. O. WIGGINS resigned his commission, dated December 16th, 1911.

Captain T. SCATHARD, R.A.M.C., to hold Civil Medical Charge of Raniket, in addition to his military duties.

Captain J J. O'KEEFE, R.A.M.C., to hold Civil Medical Charge of Roorkee, in addition to his military duties.

Captain R. G. H. TATE, R.A.M.C., to be Sanitary Officer, Third (Lahore) District.

Lieutenant-Colonel W. C. BEEVOR, C.M.G., R.A.M.C., from Bangalore, has been appointed to Fermoy.

Major F. E. GUNTER, R.A.M.C., has been appointed a Specialist in Advanced Operative Surgery, 8th (Lucknow) Division, with effect from October 26th, 1911.

Lieutenant R. H. NOLAN, R.A.M.C., has been granted eight months' leave on medical certificate.

Major W. T. MOULD, R.A.M.C., has been appointed to India, embarking on the transport *Plassy* for Bombay on December 12th.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second East Lancashire Field Ambulance.—Lieutenant WILLIAM F. MUNRO, M.B., to be Captain. Dated September 23rd, 1911.

First Wessex Field Ambulance.—The undermentioned officers to be Captains, dated November 5th, 1911: Lieutenant THOMAS DUNCAN, M.B., Lieutenant GEORGE P. D. HAWKER, M.B., Lieutenant JOHN MILLER, Lieutenant RICHARD EAGER, M.B.

The following officers from the Unattached List for the Territorial Force are appointed with rank and precedence as on the Unattached List for service with the medical unit of the University of London Contingent, Senior Division, Officers' Training Corps, dated December 16th, 1911:—Captain ARCHIBALD MONTAGUE HENRY GRAY, M.B., Lieutenant (Provisional Captain) ROBERT DAVIES-COLLEY, Lieutenant (Provisional Captain) ALFRED EDWARD JOHNSON, M.B., Lieutenant JOHN CHARLTON BRISCOE, M.D., Lieutenant THOMAS BRAMLEY LAYTON, Lieutenant GORDON CLUNES MCKAY MATHISON, M.B., Lieutenant WILLIAM VICTOR CORBET.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday mornin .

VACANCIES.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House-Surgeon (male). Salary, £80 per annum.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—House-Surgeon (male). Honorarium of £100.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—(1) Assistant House-Surgeon (male). Salary, £80 per annum. (2) Assistant Pathologist (male) to the Pathological, Bacteriological, and Clinical Research Department.

BRISTOL ROYAL INFIRMARY.—(1) Dental House-Surgeon. Salary, £100 per annum. (2) Resident Casualty Officer. Salary at the rate of £50 per annum.

BROOKWOOD ASYLUM, Knaphill, near Woking.—Third Assistant Medical Officer. Salary, £150 per annum, rising to £200.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon. Salary, £70 per annum.

CROYDON MENTAL HOSPITAL, Upper Warlingham.—Pathologist and Third Assistant Medical Officer. Salary, £200 per annum, rising to £250.

DERBYSHIRE ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) House-Physician. (3) Assistant House-Surgeon. Salaries for (1) and (2) £100 per annum, and (3) £60 per annum.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon (male). Salary, £72 per annum.

GENERAL LYING-IN HOSPITAL, York Road, Lambeth.—House-Physician. Salary at the rate of £50 per annum.

GLOUCESTERSHIRE EDUCATION COMMITTEE. — Temporary School Medical Inspector. Salary at the rate of £250 per annum.

GLOUCESTER: THE GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GREAT YARMOUTH HOSPITAL.—House Surgeon (male). Salary, £100 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—(1) Senior House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Physician. Salary, £30 for six months and £2 10s. washing allowance. (2) Casualty Medical Officer. Salary, £200 per annum.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Resident House-Surgeon. Salary, £75 per annum.

HULL ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

LEEDS GENERAL INFIRMARY.—(1) Assistant Clinical Pathologist. Salary, £150 per annum. (2) Honorary Surgeon to the Ear, Throat, and Nose Department. (3) Honorary Assistant Physician.

LEICESTER INFIRMARY.—Assistant House-Physician. Salary at the rate of £80 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL. — Assistant Resident Medical Officer. Salary, £120 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer to the Convalescent Hospital, Cheadle. Salary at the rate of £80 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho Square, W.—Honorary Assistant Physician.

NOTTINGHAM GENERAL HOSPITAL.—Senior House-Physician. Salary, £100 per annum, rising to £120.

REDHILL: THE EARLSWOOD ASYLUM. — Junior Assistant Medical Officer. Salary, £150 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.—Resident House-Surgeon. Salary at the rate of £100 per annum.

SUNDERLAND: ROYAL INFIRMARY. — House-Physician (male). Salary at the rate of £80 per annum.

SUNDERLAND: CHILDREN'S HOSPITAL. — Resident Medical Officer. Salary at the rate of £80 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £75 per annum.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Assistant Lecturer and Demonstrator in Physiology and Lecturer in Physiological Chemistry. Salary, £140 for former post, and £60 for latter.

WEST BROMWICH UNION.—Assistant Workhouse Medical Officer. Salary, £150 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Clinical Assistants. (2) Three non-resident Assistant House-Surgeons. (3) Assistant Anaesthetist.

WESTMORELAND CONSUMPTION SANATORIUM AND HOME, Grange-over-Sands.—Assistant Medical Officer. Salary, £150 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £100 per annum.

APPOINTMENTS.

ALLNUTT, E. B., M.R.C.S., L.R.C.P., House-Physician at the Westminster Hospital.

BURSTAL, Edward, M.B., B.Ch.Oxon., Assistant Surgeon, King Edward VII Hospital, Windsor.

FAIRLEY, James, M.D.Glas., D.P.H.; Assistant Medical Officer to Portsmouth Municipal Tuberculin Dispensary.

GAWN, Reginald D., M.B., C.M.Aberd., Medical Officer and Sanitary Adviser to the Bechuanaland Exploration Company, Broken Hill, North Rhodesia.

HICKS, J. A. Braxton, M.D., B.S.Lond., D.P.H.Camb., Clinical Pathologist to the West End Hospital for Nervous Diseases.

LETCHWORTH, T. W., M.B., B.C., F.R.C.S.Eng., Ophthalmic Surgeon to the Tottenham Education Committee.

MUNRO, Donald J., M.B., B.S.Lond., Second Anaesthetist to the Belgrave Hospital for Children.

PEILE, W. H., M.D.Dub., Certifying Factory Surgeon for the Sidmouth District, co. Devon.

PYBUS, Frederick, M.S., F.R.C.S., Surgeon to the Hospital for Sick Children, Newcastle-on-Tyne.

WILSON, William, M.B., Honorary Assistant Ophthalmic and Aural Surgeon to the Royal Infirmary, Wigan.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

ORMEROD.—On December 18th, at Beauchamp Lodge, Wimborne, the wife of Ernest W. Ormerod, M.D.Camb., of a daughter.

WOOLLATT.—December 17th, at Shiraz, Persia, the wife of Percy Woollatt, M.D., M.R.C.S., a son. By cable.

DEATHS.

BIGGAM.—On December 15th, suddenly, at Upper Gornal, near Dudley, John Biggam, M.D., aged 62, Medical Officer of Health, District Medical Officer, and Public Vaccinator.

COOKE.—On December 16th, at 96, Abington Street, Northampton, George Frederic, the only son of A. W. Cooke, M.R.C.S., L.R.C.P., aged 5½ years.

HOLT.—In loving memory of Mary Ann, the beloved wife of Henry Mainwaring Holt (Surgeon), St. Johns's House, Norton, Malton, Yorks, who died December 17th, 1911, aged 56 years. Interred at Norton Cemetery on Wednesday, December 20th, at 2.15 p.m. Service at St. Peter's Church, 1.45 p.m.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose and Ear Operations, 10 a.m.; Eye, 10 a.m.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
DECEMBER.	
24 Sunday ..	
25 MONDAY ..	
26 TUESDAY ..	
27 WEDNESDAY	
28 THURSDAY ..	MARYLEBONE DIVISION, *Metropolitan Counties Branch*, General Meeting, Rooms of the Medical Society of London, 11, Chandos Street, W., 5 p.m.
29 FRIDAY ..	
30 SATURDAY ..	
31 Sunday ..	
JANUARY, 1912.	
1 MONDAY ..	Subscriptions to the British Medical Association for 1912 become due.
2 TUESDAY ..	
3 WEDNESDAY	
4 THURSDAY ..	
5 FRIDAY ..	LONDON: Journal Committee, 2 p.m.
6 SATURDAY ..	
7 Sunday ..	
8 MONDAY ..	
9 TUESDAY ..	
10 WEDNESDAY	
11 THURSDAY ..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m.
12 FRIDAY ..	
13 SATURDAY ..	
14 Sunday ..	
15 MONDAY ..	
16 TUESDAY ..	
17 WEDNESDAY	
18 THURSDAY ..	LONDON: Metropolitan Counties Branch Council, 4 p.m.
19 FRIDAY ..	NEWCASTLE-ON-TYNE DIVISION, *North of England Branch*, Scientific Meeting, Royal Victoria Infirmary, 3.15 p.m.

Printed and published by the British Medical Association, at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 30TH, 1911.

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National Insurance.

MEETINGS OF THE PROFESSION.

ST. PANCRAS AND ISLINGTON.

A MASS meeting of all practitioners in the district, called by the St. Pancras and Islington Division of the British Medical Association, to consider the recent action of the Council, and the attitude to be adopted towards the Insurance Act, was held on December 20th, at 9 p.m., at the Midland Grand Hotel, N.W. Dr. BASIL G. MORISON presided, and those present included: Sir Victor Horsley, Dr. Goodall, Dr. Lauriston Shaw, Dr. J. H. Keay, Dr. Walter Smith. Dr. Rice-Oxley sent a letter regretting inability to be present. Others present were Drs. R. M. Beaton, MacHattie, Bulger, Wynn Westcott, Maughan, Mason, Brunton, Hazel, Alexander, Glinn, Glaister.

The CHAIRMAN announced that the following resolutions would be moved:

1. That unless the six cardinal points are conceded in spirit and in letter, and until the four points now asked to be incorporated in the Act are so incorporated without qualification, by amendment or otherwise, to the satisfaction of the profession, the medical profession in St. Pancras and Islington declines to form a panel or appoint a local Medical Committee, and will refuse to accept any office for giving medical attendance or treatment to persons insured under the Act.
2. That, in the opinion of the meeting, the Central Council of the Association has committed an error of judgement in recommending the acceptance by the Medical Secretary of the Deputy Chairmanship of the Insurance Commission, and has thereby gravely threatened the professional unity which had established itself so successfully.

The CHAIRMAN first read the six cardinal points, and said it was understood that four of them were to be incorporated in the Act, namely, those dealing with income limit, free choice of doctor, administration apart from friendly societies, and adequate medical representation. These had, indeed, been incorporated, but in such a form that many members were thoroughly dissatisfied. The other two points, by general consent, were postponed for consideration after the bill was in actual working. Now that the bill had become an Act, was the medical profession satisfied to go to further stages, to form committees and to work the measure, or was it not? In that Division they were not. (Applause.) They wanted the four points incorporated in fact and not only in name. It was urged in opposition to this that as the profession had gained its points, even to a qualified extent, it should be content and trust to the Insurance Commission to introduce such regulations as would give them all they asked. This did not seem to the Islington executive to be a wise plan. They questioned the power of the Commission, which contained a majority of representatives of friendly societies, to give the medical profession what it demanded. They did not think the Commission could do what the Government had not been able to do, and that regulations would not command the respect of statutory provisions, thus leading to possibility of evasion, encouraged on the part of local Insurance Committees. They felt that if the British Medical Association began working under this bill by admitting a measure of defeat, it would be more or less discredited. Dr. Morison went on to say that the second resolution was not intended as a vote of censure on the Council; they were quite ready to admit that the Council had done its best in difficult circumstances. Nevertheless, they felt that the Council had erred, and that it would be a mistake for the Association or that Division to associate themselves with what the profession generally regarded as an error of judgement. The Division wished to clear itself by this resolution from any implication in the step that had been taken.

Dr. R. M. BEATON then moved the first resolution. He declared that in spite of the turmoil and division the profession in Islington and St. Pancras stood banded together for the same objects that they had in view when they met during the passage of the bill. In saying that he was supported by the terms of the circular issued by the Chairman of Representative Meetings and the Chairman

of the Council, which said, "The policy of the Association as expressed in the six cardinal principles is absolutely unchanged." Here was a point upon which they were agreed, and they looked now not for discord but unity, and they should seek rather the points on which they were agreed than those on which they differed. They might be told that four of the cardinal points were in the Act; he wanted to discuss whether they had obtained any of the six points. ("No.") The Islington executive had come to the conclusion that the six points had not been secured, hence that meeting. Dr. Beaton proceeded to deal with the cardinal points in turn. As to the income limit of £2, they were told that in Section 15 (3) the principle was conceded. This section said "The regulations made by the Commissioners shall authorize the Insurance Committee to require any person whose income exceeds a limit to be fixed by the Committee . . ." That Insurance Committee would be composed in London of eighty persons, and the medical profession would have six representatives and the assured persons forty-eight. Was the profession likely to get what it wanted? ("No.") In the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of December 16th was published a letter by the Council to the House of Lords. One did not usually ask for what one already had, and this was what the Council said about the income limit:

> The Association urges, therefore, that the necessary amendment of the clause should be made.

The free choice of doctor was conceded in Section 15 (2), but unfortunately there was the Harmsworth amendment, and in that Division they had asked that the amendment should be deleted, as the only way out of the difficulty. However, the clause was amended to this extent that a member of the societies now in existence could break away and have free choice of doctor for himself. But under Schedule IV there were a whole list of benefits that might be provided by a society, and was it likely that a man would break away when the society had the power of giving him a lot of other benefits besides those in the Act? The chances were entirely against such a thing happening. The Act said:

> The regulations shall provide that in the case of persons entitled to receive medical attendance and treatment at the time of the passing of the Act, such medical attendance may be treated as part of the medical benefit and may provide for the committee contributing towards the expenses thereof the whole or any part of the sum which may be contributed in the case of persons who have made known their arrangements as aforesaid.

The Association secured the following addition:

> So, however, that such regulations shall secure that no person shall be deprived of his right if he duly elects for the practitioner by whom he elects to be treated.

The appeal to the House of Lords said that this did

> ecure to a great extent free choice of doctor, but in the opinion of the medical profession the whole subsection, even as amended, is undesirable in the public interest not less than is that of the profession, and should be deleted.

Free choice had not been secured, or this statement would not have been made. Continuing, Dr. Beaton said the Division on a former occasion decided that it would have no capitation nor contract practice at any price; that, whether it was 6s. or 10s. or any number of shillings, they would be free men and not the slaves of any company. They determined to demand that they should be paid according to work done. As to adequate medical representation, it was claimed on behalf of the Council that certain principles had been incorporated in the Act, and among them was the "representation of the profession." But the phrase originally used was "adequate representation." He wondered if they left out "adequate" by mistake: unfortunately there were several of these slips. Surely these men did not want to cheat them or think them such fools that they did not recognize the difference between representation and adequate representation? What had the profession secured? He presumed the London Central Committee would have eighty members, of whom six would be medical men. The Council was to have obtained three out of eighteen; now it was six in eighty, and he supposed the Council was satisfied with that. But indeed that was not so, for in its appeal to the House of Lords it said "the profession are of opinion that the medical members of each committee should not be less than one-tenth of the total membership." The Council claimed that "the bill, by the efforts of the Association, has now been so amended, that there is no legal barrier against the profession securing every point of its entire policy." There was a barrier—an Act of Parliament! (Applause.) The profession had been given concessions with one hand, and they had been taken away with the other. "We asked for bread, and they gave us a stone." Now they must stand together and fight. The rank and file of the profession felt that they had not got what they asked, and also that there was no hope for the profession until the medical service of this country was free from lay control. It was a fight, not for fees, not for this or that point, but for freedom. He was determined above everything to be free. This was to be a fight to the finish, and every man present who voted for the resolution decided, both morally and fraternally, to be loyal, and not give up the fight until they could proclaim to themselves and to the whole world that they no longer did their work under the fetters of slavery that bound their hands and feet. (Loud applause.)

Dr. WALTER SMITH seconded the resolution, remarking that he had been the Representative of the Division ever since the organization had been started, and had been to the annual meetings for the last twenty-five years. The feeling of the profession was that it did not object to working the Act if it was properly treated, but from the beginning it had been entirely ignored by the Chancellor. The only suggestion he could make was that the medical benefits should be postponed. At any rate it was impossible that whole-time officers should cope with the work.

Dr. GOODALL said the meeting had heard a very able speech from Dr. Beaton. Nevertheless, he did not think Dr. Beaton had quite appreciated the course of events that had led to the issue of the document from which he had quoted so freely. Dr. Beaton had said a great deal about the Council, but it was the Representative Meeting that decided the policy, and the Council had issued the document practically on the instruction of the Representative Meeting. The Representative Meeting decided to approve of the principle of national insurance, but the most diverse opinions revealed themselves as to the method of payment. The Representative Meeting decided on the policy of the six cardinal points, and the Council had done its level best to get them incorporated in the bill. To begin with, they were plainly told they would not get an income limit of £2, and he was rather surprised to hear the Chairman say that this was one of the points included in the bill. No member of Parliament would touch the Association's amendment, except one or two connected with the universities, and it never went to a division because of the undesirability of recording an overwhelming defeat. From the Representative Meeting at Birmingham the Council had the instruction to get the £2 limit if it could, but if not to do the best thing possible. Dr. Goodall incidentally pointed out that not every Division wanted the £2 limit. The Association, through its constituted body, the Representative Meeting, had formulated this policy, and if it wished to reverse it it could do so in the regular manner, and the Council would carry out its new instructions. Dr. Goodall cited the method of remuneration as one of the points that could not be inserted in the bill. In this matter the profession was acutely divided; in some places members wanted payment per attendance, in others a capitation system was asked for. The Association was of opinion that the fight now must be with the local Insurance Committees, and in that arena he was of opinion that the profession had the upper hand. He did not care whether they had a quarter or three-quarters of the representation on the local committees. If the profession stuck together, the Insurance Committees would have to give in; they would make their representations to the committees, and if these were not accepted medical men would simply decline to have anything more to do with the matter, and then the Insurance Committees would have to give way.

Dr. MAJOR GREENWOOD, speaking in support of the resolution, said he must endorse what Dr. Goodall had said as to the Council and the Representative Body. However, seeing how things had gone, he was afraid it showed that the Representative Meeting must have been almost as much out of touch with the profession generally as the Council. (Laughter.) The profession wanted union, but how was this to be obtained? The Council said "Go on the panel, join the advisory committees, go into the bill to that

extent and bargain, and then if you do not get what you want draw away." He believed the general feeling in the country was that they should not touch the bill and not go on the panel or advisory committee, and so bring matters absolutely to a dead lock. (Applause.) In the Act there was a section which said that the Commission might withdraw medical benefits in particular areas. Let them be withdrawn from the whole country. They wanted to be certain what was the real opinion of the profession, and the only way to obtain it was to call another Representative Meeting, and take care it was representative. It behoved the Divisions to be very careful, and see that the Representatives were in touch with Divisions.

Dr. FULLER endorsed Dr. Major Greenwood's remarks. He had taken the trouble to analyse the membership and qualifications of the whole of the Representative Meeting at Birmingham, and he found that 40 per cent. consisted of Colonial representatives, service representatives, retired lieutenant-colonels, and so on. He alluded to the inclusion of married women since the first introduction of the bill as a matter that would add tremendously to the burdens of the profession. He felt that in its negotiations the Council had not been strong enough; it should have been able to get infinitely more. The democracy of the profession was not in sympathy with the actions of the Council or the Representative Meeting. It was its own fault for sending the wrong men to the Representative Meetings. It should be urged upon all the Divisions to be very careful in the choice of its Representatives, and then they would find a totally different attitude towards the bill. (Applause.)

Dr. LAURISTON SHAW remarked that the bill had made the profession begin to recognize that it had a most wonderful piece of machinery in the British Medical Association—the most perfect representative organization any profession ever had. So far, it had done its work with a great many men hardly recognizing its existence. He wondered how many of those present were familiar with the constitution of the Association. They were having "union" preached to them. That did not mean the profession should all think alike; it meant that the majority would loyally accept the decisions of the majority. Let them not pass votes of censure on the Council, but study their constitution, and take the constitutional method of dealing with the position. Let the Representatives go thoroughly instructed, and let the majority, not in Islington, but in the United Kingdom, decide. Personally, he believed the profession should go on with the Insurance Act. He had the greatest possible belief in the power and unity of the profession, and felt that what they failed to gain by legislation they might still gain by regulation, if they only stood together. An earlier speaker had suggested that the medical benefits should be withdrawn. In Ireland they stood out so long that the medical benefit was withdrawn. What did the profession do then? They said, "For heaven's sake let's get it back!" Were they to throw five or six million pounds away? (Cries of "Yes.") At the Queen's Hall a suggestion from Manchester was made which seemed to him the maddest thing in the world: that the five millions should be given to the poor people and they be allowed to pay their own doctors. (Applause.) Did they really think that a good plan? Did they really like this interminable chaos of indiscriminate charity, out-patient departments, clubs, and the like? He appealed most strongly for a sense of lawfulness in the profession. There was a tremendous amount of lawlessness about just now—don't let them add to it. Let them have in their meetings freedom of speech, and decide that in governing themselves the majority should rule.

Dr. GRIFFITH was ready to admit that the Council had done its best as regards the six points, and to thank them for the time and labour they had expended. When the bill was first introduced the Islington Division stated its terms, and said that on those terms it would try and work the Act. Were they satisfied that their minimum demand had been accepted by the Government? ("No.") The Executive Committee felt it could not be satisfied with the Act, and was prepared to advise the practitioners of the district to have nothing to do with it in its present form.

Sir VICTOR HORSLEY claimed that the British Medical Association was a trades union of the first rank, and he was glad this was so, because it was on his motion that the new constitution was started. The resolution before the meeting, if carried, would amount to a new instruction to their Representatives. Did they wish the British Medical Association to retire from its former position of approval of the principles of the bill? He thought it would be a mistake if it did so. The Association was a going concern; he did not believe in these tales of withdrawals. A machine which had a turnover of £60,000 could not be easily broken up. He was quite happy, also, about the so-called blacklegs. They did not exist in the numbers Mr. Lloyd George would require to work the Act. Therefore the future was absolutely bright. The Association must consider the question of personal honour. They were not entitled to say to the Government at this juncture, "We will have nothing to do with your bill." Why? Because they went to the Government and said, "We will hear what you want us to do and what you are willing to pay, and, if we think both are reasonable, we will do the work." That was the footing on which the profession stood before the world at the present time, and it could not go back on its word and give a totally different colour to its reading of the situation, unless it acted in a constitutional manner and rescinded the former resolutions of the Representative Meeting. (A Voice: "We have not one of the six points.") That was a matter of opinion; he thought they had. He considered they had secured most of four of the six points. It would be a mistake to carry the resolution then before the meeting, because it would give the public an idea that they were people who did not know their own minds, and that would destroy the prestige of the profession in future negotiations with the Government. "The game is entirely in our own hands," continued Sir Victor Horsley. "It is perfectly ridiculous to say that we are so divided among ourselves that we would go down like chaff before the Insurance Commissioners and the friendly society men on the committees. If we don't approve of the terms they offer us, all we have to do is to decline them and refuse to work the Act—in other words to declare a strike." (Voices: "Not a strike.") That was the whole issue of the reconstitution of the British Medical Association (he concluded), namely, that the profession for the first time had it in its power to declare to the State what price it would demand for its services. Therefore they had the whole thing in their own hands if they would only remain united.

Dr. J. H. KEAY could not understand the feeling which seemed to animate some of those present in favour of refusing the contributions towards medical treatment offered by the bill. In his district they were not very flourishing, and that led him rather to favour something of the sort. He was heartily sick of the out-patient trouble and the 4d. and 6d. fees. He welcomed the principle that the State and the employer should each contribute. Some said they did not want the money: he honestly said he did. It was all very well for Manchester, where the patients paid well; in his district, unfortunately, they did not. As for giving the people their medical benefits in cash, if that was done in London it was precious little he would see of it. (Laughter and applause.) If the profession cast back this money, he was afraid it would have cause bitterly to repent it. The question was whether they were to proceed with the Act or not. He was not greatly concerned as to the number of doctors on the committees; in some districts there would be a difficulty in getting doctors to act at all. (Dr. MAJOR GREENWOOD: "Hear, hear.") So far as bargaining was concerned, it would be simpler to have no representatives on the local Insurance Committee, but to go to that committee direct through their own Medical Committee. In consideration of some of the poorer districts he besought them to consider carefully before they went back on the past and threw the money contributed by the State and employer back in their teeth.

Dr. BEATON, replying to the discussion, said he had no intention of attacking the Council. At the first session of the Representative Meeting he could not help watching the movements of that body. It was like clay in the hands of the man on the platform. They were moved about as he wished, and one could watch them drifting to destruction. (Laughter.) He had not been criticizing the Council, but the paper signed by the two Chairmen. No man accustomed to public work but would be forced to confess that the Representative Meeting was not the best thing for the profession. It was too big; there was no community of action; they were swayed by the last man who spoke, and

the man on the platform really moved it. He would like to know, in passing, where Dr. Shaw had got his five million pounds from. Fifteen millions divided by twenty gave 750,000; multiply that by 6s. and they got £4,500,000 for the doctor, chemist, instruments, and everything. The doctors would not get anything like that amount. Moreover, they got some of the five millions already from patients who paid fees. (Applause.) He was glad they were unanimous in the determination to stick to the British Medical Association. It was their only hope, the one organization through which they could find salvation in this matter. Sir Victor Horsley said they would have to go back on their word if they changed their line now; but if they had made a mistake, the sooner they rectified it the better. The question was, When were they to fight? He said, "Now." (Applause, and a Voice: "Strike.") He objected to the word "strike"—they were not servants of the State, and not being servants they could not strike. Had they not had enough of bargaining? Let them say, "We have done all we could; we have the trump card, and we are going to play it now (applause), and we refuse to go on your panel, to go on your committees, or to serve you in any way until you come to our terms." (Loud applause.)

The resolution was carried, only one voting against it.

Dr. MacHattie then proposed the second resolution with regard to the action of the Council in the matter of the appointment of Mr. Smith Whitaker. His object was to remove the odium that had fallen on the Association by placing it on the Council.

Dr. Bulger seconded, and complained that the Council did not consult the Representative Meeting.

Sir Victor Horsley briefly reviewed the events which preceded the acceptance by Mr. Whitaker of a position on the Insurance Commission. He explained that in the first instance a confidential conversation took place between the Chancellor of the Exchequer and Dr. Maclean. The offer from the Prime Minister was made after the Representative Meeting had broken up. (A Voice: "Very well timed"—laughter.) He did not understand the meaning of that laughter.

Dr. Beaton: They mean the astuteness of Mr. Lloyd George.

Sir Victor Horsley: Does the meeting suppose that Dr. Maclean was at liberty to communicate that conversation to us? (A Voice: "If it had to do with the Association, certainly.") The speaker, continuing, said he had heard it stated that the Council should have referred it to the Divisions. As a matter of fact the House of Commons said to Mr. Lloyd George that he must state the names of his Commissioners by Tuesday, and Mr. Lloyd George had three days in which to do this. He came to the Council and said, "I see Mr. Whitaker is an extremely able man, and I wish to appoint him as Insurance Commissioner. I have proposed this to Mr. Whitaker, and he declines to answer the communication except through and by leave of the Council." In other words Mr. Whitaker put himself absolutely in the hands of the Council. If the Council had not let Mr. Whitaker go, it was very well understood that one of two or three men already in the Government's service who had no sympathy with the demands of the profession as stated in the six points would be appointed. Therefore the Council, taking on itself the whole responsibility, allowed Mr. Whitaker to go, and they did it as a matter of plain ordinary business judgement. He left it to the meeting to say whether they acted wisely or not.

Dr. Malcolm thought that the meeting was agreed that the Council had committed an error of judgement, but it was no use washing dirty linen in public. It would go out that they were quarrelling with their executive. He would suggest that the resolution be withdrawn. If every Division passed a similar resolution the Council would resign, and they should hesitate at a time like this to drive the Council to take that course.

Dr. Walter Smith agreed, and moved the meeting proceed to the next business.

Dr. Turner seconded, and remarked that Sir Victor Horsley having stated that the Council took the responsibility there was no need to throw it in its teeth.

Dr. Morley suggested that Mr. Lloyd George made this offer in order to set the profession quarrelling. They must disappoint him by declining to permit a split.

In reply to Dr. Mason, Sir Victor Horsley said that the Council knew nothing about the offer to Mr. Whitaker before the Representative Meeting.

Dr. Sherry suggested that the House of Commons should have been kept waiting until the profession had been consulted as to the appointment.

Dr. Glaister could not see that the honour of the profession was involved in a refusal to have anything more to do with the Act, seeing that it had not been granted more than a fifth of its demands.

The resolution was withdrawn by consent of the meeting, and the proceedings concluded with a vote of thanks to the Chairman.

LOWESTOFT: NORTH SUFFOLK.

A meeting of local practitioners was held at the Royal Hotel, Lowestoft, on November 30th. The following were present at the meeting: Drs. Bell, Hutchinson, Worthington, Mead, Barraclough, Marshall, Boswell, Taylor, Daniell, Tripp, Schilling, Kirby, Sandeman, Joule, and Tyson. The following resolutions were carried unanimously:

1. In view of the fact that constant paragraphs are appearing in the daily papers, stating that the medical profession have been satisfied with regard to the Insurance Bill, that the Council of the Association be asked to definitely state through the press that such is not the case.
2. That the members of this meeting, while desirous of adhering to their original promise to support the action of the Association, wish to express the feeling that the Association should demand the insertion of the six cardinal points in the bill itself, which should be so amended that they are absolutely safeguarded; or, if this be not done, that they should refuse to accept service under the Act.

MIDLAND MEDICAL UNION.

We are informed that at a largely attended meeting of the Chesterfield and District Branch of the Midland Medical Union, held at Chesterfield on December 22nd, the following resolutions were unanimously passed:

1. That 8s. 6d., irrespective of night visits and mileage, should be the minimum flat rate for medical services under the National Insurance Act, and that, failing the agreement by the Insurance Committee to this rate, the Chesterfield Branch of the Midland Medical Union pledges itself not to accept service under the Act.
2. That the Chesterfield Branch of the Midland Medical Union declares its continued support of the British Medical Association, and expresses its view that any rate demanded by the profession in any locality should be given full publicity as soon as possible.

BRIDLINGTON.

A protest meeting of the doctors of Bridlington and district was held at the Lloyd Hospital on the afternoon of Wednesday, December 20th.

There were present: Dr. Batchelor (Bridlington), Dr. J. L. Bell (Driffield), Dr. J. H. Bell (Driffield), Dr. Brand (Driffield), Dr. Coleman (Bridlington), Dr. Eccles (Nafferton), Dr. Godfrey (Bridlington), Dr. Jarratt (Bridlington), Dr. McNeill (Bridlington), Dr. Prickett (Bridlington), Dr. Sanctuary (Driffield), Dr. West (Kilham), Dr. Wetwan (Bridlington), Dr. Williams (Bridlington).

Letters or promises of support were received from Dr. Burgess (Driffield), Dr. Hutchinson (Bridlington), Dr. Morison (Beeford), and Dr. Whitehead (Bridlington).

Dr. Wetwan was voted to the chair, and a long and animated debate followed, being contributed to by nearly the whole of those present, and the following resolutions were unanimously carried:

1. That this meeting binds itself to oppose the working of the National Insurance Act in this neighbourhood until it meets with the full approval of the whole of the medical profession.
2. That a copy of the above resolution be sent to every medical practitioner in the neighbourhood for signature.
3. That a copy of the above resolution be sent to the British Medical Association, the East Yorkshire and North Lincolnshire Branch of the British Medical Association, the National Medical Union, and the press.

It was also decided to obtain from the National Medical Union particulars of that association, with a view of joining them in their national protest.

CORRESPONDENCE.

[It is particularly requested that communications intended for publication should be written on one side of the paper only, and should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, London, W.C.]

GENERAL POLICY FOR THE FUTURE.

Mr. FRANK COKE, F.R.C.S. (Ashford, Kent) writes: In the face of the strong movement there is in favour of a strike, I must say that my remarks may not perhaps be of any more use to the forwarding of our cause than is the brake to the motor-car; nevertheless, because the fastest car needs the strongest brake, so I have made my remarks somewhat strong and dictatorial, and will place before you some arguments on the other side.

The minimum demands of the profession were crystallised into the "Six cardinal points," early in the summer, and we have never ceased to continue to ask for them. Now there were two bodies, and only two, who could grant us satisfaction—Parliament and the local Insurance Committees.

By the first, clauses and amendments might have been inserted in the Bill before it became law. That meant a proposer and seconder in the House of Commons for each item, and that they should be carried by a majority. Mr. Lloyd George refused to father them, and we could not expect him to. My own member, a Tory, with a huge majority, said that he could not vote for any increase of medical expenditure, because he was already pledged by his promise to the County Council to a policy of stringent economy in local taxation. And though we signed pledges and moved fighting resolutions, no threats could have made Mr. Lloyd George commit political suicide in the face of millions of his voters at the bidding of a few thousand medical men, most of whom are already good, sound Tories. The Bill has passed.

In the second place there remain the local Insurance Committees, the only bodies which can now, by law, grant us our six points. That is our battleground, and without any fear I ask my fellow strikers how they propose to win and get their demands unless our Medical Committees fight for them step by step with the Insurance Committees?

How are we going to get the £2 limit, for instance, by passing a resolution to say that we will have nothing to do with the only body that can fix it with us? How, again, are we to arrange the difficult questions of consultations, operations, mileage, etc., etc., if we refuse to meet the other side? The Bill prescribes Insurance Commissioners, County Insurance Committees and their formation in detail. No one is more certain than I am that Mr. Smith Whitaker's appointment was a gross tactical move. I find great fault with the Council, but for a totally different reason to any I have so far seen mentioned. I think they should have recognised, and made it plain to all, that there were only these two channels through which we could deal. Now, considering that our only weapon was the threat of a passive strike, I consider that we came off fairly well whilst the Bill was in Parliament. I know many think that we have got very little, but by what machinery does anyone suggest we were to have got more? We have not got a single important point, but I cannot see any clause which will directly negative them. However, I do not wish to hold an inquest, the Bill has become law, and for ever that channel of satisfaction is closed.

Immediately the third reading was over our Council should have devoted all its energies to the other body whom we have to fight—namely, the local Insurance (or Health) Committees. They should have said we doctors must get our best men to fill up these posts, and the pick of the lot for the boss commissioner. Having chosen him, we should have demanded his acceptance by Mr. Lloyd George. Or do the strikers suggest that Mr. Lloyd George would not have been able to find anyone to fill the post? Of course, he would. Instead of our selected candidate, we wake up one morning and find that the post has been filled the wrong way round whilst we have been passive resisting. Mail-vans full of protests, hours spent in passing vote of censure. What then? I spent an hour and a-half myself at a meeting, came home and saw in the evening paper that the Medical Officer for Croydon had been appointed Commissioner for Wales. I suppose this will bring more protests, then we shall go home lock the doors and do some more passive resisting, and come out again to find it snowing appointments to the local Health Committees.

We have got to fight, and passive resisting will never win a single item we wish for. The Bill is law, the Commissioners and Committees will be filled up however loudly you snore. We must see that our best men fill all the available posts. We must rearrange our Branches and Divisions to fit the new Insurance Districts; we should form strong Medical Committees, and decide whether we want capitation fees or payment for work done; we must fix exactly our demands for mileage, etc.; the wording of a clause to guard against an overwhelming plague of small-pox; operation arrangements, etc., etc. We must consider ways of an active strike—such, for instance, as stopping all our voluntary work; we must consider our strength in numbers, our powers of consolidation and of acting in unison. Having done all these things, if we then fail to come to terms, let us strike by all means in our power; but if we slumber on with the miserable weapon of a passive strike under our pillows, I fear we may be awakened by a douche of uncommonly cold water.

Dr. R. BOYD ROBSON (Seven Kings, Ilford) writes: I joined a local Medical Union formed here to take advantage of the concessions assigned to us, of making our own terms with local Commissioners. Other such Unions have been formed throughout the country. There I thought the matter would rest in peace till a refusal on the part of the Commissioners to comply with the demands of the doctors, had given occasion for a "strike."

By their actions at the Queen's Hall, and by their hasty response to the ill-considered circular of the *Practitioner*, the doctors have clearly shown that they do not intend to give the Bill a chance. But do they actually think that by such action they can render the Bill inoperative? In my opinion it can only be to their own disadvantage. Has Mr. Lloyd George no alternative course? Most certainly he has. What has the Chancellor of the Exchequer to do but withdraw his proposal to make service under this Bill open to every practitioner in the Kingdom, and restrict it only to a limited number at salaries of £450 per annum? If such were his proposals, would not those who at present are loudest in their denunciation of the measure be the most eager to secure such appointments? What would be the fate of the average practitioner then? I trust all will stick to the British Medical Association, and be guided by the advice of that body.

Dr. R. LARKIN (Southwark, S.E.) writes: Having today attended the mass meeting of the medical profession at Queen's Hall, I came to the conclusion that we do not thoroughly appreciate yet the chances of the Government obtaining help from outside sources. We are practically the only country where foreign medical men with respectable qualifications, such as the degrees of the Berlin, Paris and Vienna Universities, may come and register, on payment of fee, and practise immediately on landing. By the time medical service is required plenty of enterprising foreigners will gladly leave their native land to snatch at the glorious income of a whole-timer if such be created. Colonials and ex-service men and young qualified men who are at present out of harness will swell the ranks, and so very soon a full complement of whole-timers will be formed.

This danger increases every day so long as we are split up on petty details—such as Mr. Smith Whitaker's appointment. Is the opposition party called into play through this unfortunate move, or is it more political than actuated by pure medical interests? If so, the easy remedy is that hundreds of new members have been enlisted throughout the kingdom in the past few months, and they are not so far represented on the Council. This is a perfectly fair and valid excuse for a general election for a reformed British Medical Association Council, and should be proceeded with at once. This would bring over two-thirds of genuine wavers in the opposition

and the remainder, if actuated by political reasons, could be left out; we should be well rid of them. Thus Mr. Lloyd George's latest move would consolidate rather than disunite our union, and then shoulder to shoulder, ignoring past slips, if such have been made, we should march on to victory and obtain what may possibly be in the end an improvement (though not intended) for the whole of the rank and file of the profession.

Dr. J. STUART ROSS (Edinburgh) writes: I do not know why my letters to the *Scotsman* were reprinted in the JOURNAL, nor at whose request, but it is not for me to grumble. Drs. Maclean and Macdonald were good enough to cross the t's and dot the i's of my first letter, and their summing up of Mr. Smith Whitaker's speeches was practically identical with my own. I fancy Dr. Craig will have a word to say to you, but he is well able to look after himself. I felt, and still feel that the emphasis in the speech had all been laid in the wrong part, and that the various centres were being taught to mistrust each other by the raising of a vision in our minds of a host of imported whole-timers. The working man may be trusted to see us right if the Commissioners try that line. If the profession in each area can find the greatest common measure of unity, they can take any line in reason they wish, with no fear of outsiders.

The *numbers* of potential blacklegs is no doubt important, and ought not to be neglected, but not less important is it that the policy of our Association should secure the support of the best *quality* of our profession. What about the hard-working practitioner who is now getting on fairly well with a practice composed largely of better working-class people? It is just this group whom the Act would hurt so much if they go upon a panel. The men with high-class practices can look at the Act with equanimity, and will probably limit his action to giving support to the first-named group. In increasing numbers, these men are beginning to see that the control under which the panel will be is of an objectionable character from their point of view. They might choose to risk that part, having in view the strong probability that, with increasing experience and sense of responsibility, the tone of these committees will steadily improve. But the financial part he dare not risk. There is only 4s. 6d. for him in the Act, any income limit fixed would almost certainly prove illusory (as Mr. Lloyd George himself stated), and the insured persons will contain an unascertained number of "bad" lives, of the sickness rate of which there exist no statistics, and which the State has expressed itself as unable to insure. Is it probable that the doctor will like it if he gets inside a panel?

I liked the letter in last week's issue from Dr. Jamieson, and feel that it merits the earnest attention of the Council. When local feeling is overwhelmingly in favour of "no panels" it would, as you say in your leading article, be consistent even now with the policy of the Association, but a clear declaration to that effect from the Council could do nothing but good.

I am a late but wholehearted convert to "no panels," but even now I cannot see why Local Medical Committees should not be formed to intimate the policy to the Insurance Committee, and to appoint the medical representatives. These gentlemen could, in my humble opinion, be of great help to their own brethren, and acquire useful knowledge on other matters under the Act. When an amending Bill is brought in, these gentlemen's experience would be simply invaluable to us. After all, "no panels" is only an emergency policy. No one supposes that it is the last word on the question of medical attendance upon the really poor; but it is Manchester's glory that she has striven to prevent the profession from falling into a trap, from the depths of which the doctors could have been of no use to themselves or anyone else when the time for revision of the problem comes.

The policy is only "wrecking" the Act in the sense in which the speakers at Manchester (including myself) used the term. An organised attempt to sweat the profession must be "wrecked." By the way, two points about that meeting—one great, the other small. The great one is that Dr. Adolphe Renshaw gives a most unfair picture of the reception accorded to Sir James Barr. The rudeness came from not more than half a score of men, and was resented by the rest of us, who listened with great pleasure to Sir James, and applauded loudly. The small point is that I was not a delegate (as was incorrectly stated in the *Manchester Guardian* leader), and that I said so from the platform.

I do not agree with those who fear that the profession is split from end to end. Your leading article is, however, the first official pronouncement which faces the real facts. Our Council has sat too long upon the safety valve, and cannot complain if steam is now hissing from under their chosen resting place and causing them unpleasant sensations. They must recognise the man whom they have so long repressed. Let them admit to the whole profession what is the plain truth—that those who go into "local negotiations" are unlikely to meet with an offer of a living wage. Let them admit that "no panels" is a policy which, if locally adopted, becomes the "declared policy of the Association," and will have the protection of the Association pledge. That is the least they can do to retrieve past errors of judgment. And in that new spirit the profession can look the Government and the bureaucracy in the face and laugh. But until the happy day dawns on which the Council recovers from the heavy overdose of anæsthetic which the Chancellor has administered to them, the new unions will do well to continue their propaganda. Mr. McKinnon Wood's answer to a question in the House sounded very well there no doubt, but that gentleman and his friends will have plenty to do in the next few months, for which their constituents have little liking, and an attempt to starve the doctors into submission will meet with little support from the workingman. A word in season to the electors, dropped by men who can trust themselves to be judicious, might work wonders. *Verb. sap.*, but it wants doing carefully, and by the right men. At present, the workingman has not the least idea of the financial proposition which the doctors have been asked to entertain. He will resent it when he does.

Dr. BERTRAM J. COLLYER (Paignton) writes: I gather from Dr. Bernard O'Connor's tirade that he is of the opinion that the British Medical Association should have metaphorically taken the House of Commons or the Government by the throat and told them that they insisted upon the "Six cardinal points" being embodied in the Bill.

Now, any one who has been following recent events in Parliament must realise that the House of Commons is completely impotent and that the Government may be compared to an absolute autocrat. If they wish to have an amendment discussed it will be discussed; if they object to its being discussed they simply pass it over by means of their up-to-date closure; if they mean to pass or negative any amendment they can do either without discussion, their followers doing their bidding to a man.

How, under these circumstances, does Mr. O'Connor propose that the British Medical Association should have forced the Government to embody our points in the Bill? The only way in which they can do it is to say that the profession will not act under the Bill unless they *do* get their points. But that is exactly what the Association is saying; not, like the hot headed people who are talking of new unions, refusing point blank *now*, but saying that if our points are not embodied in the offers made to us by the local Insurance Committees, we shall *then* refuse to act.

Is not that clear enough and straightforward enough?

As to the amount put aside for our remuneration, if Mr. Lloyd George prefers that the Bill should be made more unpopular all over the country by being forced to go to the rates from the beginning, is that any concern of ours?

Dr. H. BEALE COLLINS (Medical Officer of Health and School Medical Officer, Kingston-upon-Thames) writes: Dr. Helme, of Manchester, says there is no objection to attending the poor out of charity.

May I ask who pays for the "luxury of charity" in which Dr. Helme has no objection to indulge? Surely he is only enabled to do this work of charity through the excess of fees paid by his rich patients. The wealthy pay more than they need in order that the doctor may also be a "gentleman" and dispense favours to the poor.

Surely this sort of thing is quite out of date in a democratic age when one man is as good, or as bad, as another. The Insurance Act seems to open a vista of better conditions for the workman in this country. If the workman is not encouraged by Acts of Parliament of this nature the alternative is likely to be much worse, and I believe there are some hot-headed ones who openly express their desire to take their chance in a revolution rather than put up with legislative social reforms. I think, on reflection, the majority will take the easier course. After all, I fancy the practising doctors will find themselves doing much better under the Act than their fears permit them to believe.

THE COUNCIL'S POSITION: THE ASSOCIATION AND THE PROFESSION.

Dr. FRED J. SMITH (London) writes: As I am mentioned by name in the vindication of the Council, put forward in the Supplement for December 23, perhaps you will allow me space to reply to it, but otherwise it seems too weak to need any comment.

ERROR NO. 1.

I have never asserted, or even suggested, that the Council is "responsible for the policy and public administration of the Association." I believed, and still believe, that a certain latitude is allowed to the Council in carrying out the policy of the Association; the vindicators state that its function is "merely executive." In two or three cases the vindicators quote resolutions. Might I ask them, therefore, to produce and publish the minute or resolution of any representative or other meeting of any date which authorised the Council to take the very important step of recommending a particular Commissioner to the Government for working the Insurance Act? If, as the vindicators say, the Council is merely executive, it must have had such authority if "the representative body determines every important step of the Association."

The Council itself may allege urgency for their proceeding, but if so, I would, in the first place, refer it to section 56 of the Act, which says that Commissioners shall be appointed *after* the passing of the Act (I trust the quibble of selection *versus* appointment may not here be raised); and, secondly, I would ask whether a due sense of their own dignity, and of the importance of the step, might not have suggested delay sufficient to ascertain the views of the profession.

"Grateful appreciation of great services" is very far from "proving that the Council has faithfully executed the duties entrusted to it" up to about November 23, and even now I would cheerfully thank the Council for its great services in threshing out and bringing forward a clear line of policy as embodied in the famous six points; it is the result of their endeavours to get these six points conceded that is so woefully disappointing and made me say that the Council had not executed the duties entrusted to it.

ERRORS 2, 3 and 4.

I cannot here allow the vindicators to have it both ways. In their preamble they say that the resolutions submitted to the meeting "substantially express the views of the Association." The first resolution, which I had the honour to propose, stated that the six points "are not guaranteed by the provisions of the Insurance Act in a manner which satisfies the profession." Surely then, if they agree to this resolution, they cannot say that four of the six are inserted in the Act, and that two are duly kept open for determination by negotiation.

It would much relieve the minds of many members if the Council would, in plain and simple language, not by prophesying smooth things and possibilities, state exactly in which sections of the Bill the four points are fixed and the other two provided for. So far as I can ascertain it, the points stand as follows:—

1. "The income limit" is quite gone; as to why it is gone there is a great deal to be said. Much was done that will never see the light of day, but broadly it amounts to this: the Government might have sustained a defeat had they supported it. The vindicators quote min. 184; they do not state how this resolution was obtained. It is certain that a majority of representatives present and voting were against it, and in favour of seeing that £104 was "in the Bill."

2. Free choice of doctor seems to be moderately well secured for what it is worth, but not absolutely, for sec. 15 (4) was, as late as December 16, considered by the Council to be a stumbling-block, and the Council begged the House of Lords to delete it. Here, again, it was because the Government feared a fall that the clause was not deleted in the Commons.

3. "Medical benefits to be administered by Local Insurance Committees" is apparently secured, but when this is taken in conjunction with 6, "adequate representation of medical practitioners on these committees," which has distinctly not been secured, I say that even point 3 is gone for all practical purposes.

4. "Method of remuneration" to be left to the "majority of the profession in the district." I cannot find this in the Bill, and if there be "no legal obstacle" to our getting it, there are many obstacles very humiliating to medical practitioners trying to obtain it in each locality.

5. "Adequate remuneration." I find in the Bill two or three times "adequate medical attendance," but nowhere do I find adequate remuneration mentioned.

Surely a minimum might have been fixed of, say, 8s. 6d. per head, or 2s. a visit with mileage and extras.

I cannot understand how the above can be construed into "four are in the Act and two others obtainable."

In conclusion, Sir, may I refer to the statement that the Association was completely democratized ten years ago? In theory I admit that this is true (yet even here, as shown above, the Council oversteps its powers at a very serious crisis), but in practice it is a complete and absolute farce, for all matters are considered and votes taken at meetings, whereas something like 80 to 85 per cent. of the members find it difficult, often enough impossible, to attend meetings, and consequently they are practically disfranchised. So far as I can see, the making of a postcard vote an easier matter should, and must, be one of the main planks in any reform which hopes to make the British Medical an Association, and not a close bureaucracy, and to prevent a repetition of the recent scandal.

Dr. W. T. FREEMAN writes:—As President-Elect of the Oxford and Reading Branch, I must protest against the letter of Mr. Bernard Secretan, in your issue of last week.

The majority of the members of the Oxford and Reading *Branch* do not share Mr. Secretan's views, and, I will answer for it, are neither hysterical nor like unto schoolgirls, nor unintelligent, nor, as he also suggests, wrigglers. He applies this estimate, indeed, to half of all the members of the Association.

There are a few plain facts that naturally make many of us indignant:—

(1) The cardinal points (with one exception) have not been granted.

(2) Mr. Lloyd George has selected the medical commissioner of his choice, and Mr. Smith Whitaker has been allowed to rush into his arms. This selection should justly have been referred to the branches or divisions, and two or three weeks' delay in making the appointment would have made little difference.

(3) Some of us, unintelligent folk, think that both Council and representatives have been outmanœuvred.

Note that the Friendly Societies, once in a rage, are now content. They have regained the control over their doctors, merely working through the local committees, instead of, as hitherto, through their individual societies. A very pretty piece of juggling!

I am afraid the profession is in a somewhat hopeless position, but much may still be gained by united action. No calling each other names, however; this will never help us to remain united!

POSITION OF COUNCILLORS AND REPRESENTATIVES.

Dr. THOMAS LAFFAN (Cashel) sends the following: "Please insert this letter, urging all who view with indignation the result of the recent negotiations to call a special Representative Meeting to demand the resignation of all responsible for same."

STAND STEADY!

DR. WRIGHT (Aldershot) writes: Rally again, gentlemen, close up the ranks and stand steady, for I can see from this week's BRITISH MEDICAL JOURNAL that our Army Corps of 35,000 medical men has been scattered,

Division and Branch. This, in my opinion, has largely been brought about by the divided and ill-conceived opinion held regarding Mr. Smith Whitaker's appointment, even although it was sanctioned by our self-appointed leaders. If we have not every confidence in them, and show them by our actions that they have our confidence and support, then we make their already very difficult task an impossible one to perform, because if they feel they do not have the whole body of this profession behind them, then our demands to be obtained through them are not likely to have a successful issue.

It pained me very much yesterday to receive from my own Division—viz., the Winchester Division, a printed circular as follows:—

The following resolutions were unanimously passed at a special meeting of the Winchester Division of the British Medical Association, held in Winchester, on December 7th, 1911:—

I. That this meeting is of opinion:—(*a*) That the provisions of the National Insurance Bill as finally drafted do not incorporate the six cardinal points to which the profession unanimously pledged itself. (*b*) That the Council of the British Medical Association should call upon all members of the profession to decline to form a panel or to undertake any duties which the Bill proposes to assign to the profession unless the regulations that may in future be passed absolutely and entirely satisfy the demands already expressed.

II. That this meeting expresses its strong disapproval of the action of the Council of the British Medical Association in regard to its methods of conducting negotiations with the Government, more especially its action in assuming the responsibility of the appointment of Mr. Smith Whitaker on the Commission.

III. That the Council be requested to suspend Mr. Smith Whitaker at once from all further action in the conduct of negotiations between the British Medical Association and the Government.

H. C. Williams, Chairman.
H. J. Godwin, Hon. Sec.

Now, to me, nothing more unwise, nay, more childish or more likely to cause a break in the ranks could have been conceived, and I much regret I was not present at the meeting, for, if I had been, I would have pointed out to those present that my belief is that Mr. Smith Whitaker will be of infinitely more use to us in obtaining our six cardinal points, as a Deputy Commissioner, than he ever could have been as our secretary. I feel that we are inclined to be too impulsive and too easily led astray by thinking that everyone outside our profession must be our enemy.

Again, I think we ought to have considered for a little time the explanations given to us by our Councils' representatives, which, upon due consideration, will be found to be wise counsel; and not break away like frightened sheep at something which at first we do not understand. The above circular and similar ones, in my opinion, will do incalculable damage to ourselves and to our cause, and no time should be lost in sounding the bugle from headquarters to every Division and Branch to stand steady, for only in our united action, shoulder to shoulder, can we reap success.

Last week, also, I received a circular from the *Practitioner* asking for an answer "Yes" or "No" to some question they put. I put the circular at once in the fire, feeling that they were presumptuous in daring to interfere, and feeling, also, that their action was likely to cause many medical men to look to another quarter other than our own Association for advice, and thus cause a splitting of our forces.

There must be no interference from outside sources. We must keep together, keep our six cardinal points before us and no surrender, and then we shall win the fight. It is quite easy if we rally again, form up and stand steady, have confidence in our generals, give them our support and await orders from headquarters. Let us remember always that Mr. Lloyd George's Bill can never be a success without our co-operation. We have but to stand together and refuse to work until our requests are granted.

Let us also remember that this is our last stand against the friendly societies' irksome yoke, which we must now and for ever throw off.

Stand steady, gentlemen, and the battle is easily won.

Dr. N. Macfadyen (Letchworth) writes: I wish to throw in my lot with those who are pleading for unity in the profession. It is my belief that our Council has done as well as we could hope for under Parliamentary conditions. We have all the machinery under the Insurance Act which we need to make an effective fight, if we remain united. We cannot ignore the main purpose of the Act and still maintain our dignity as a noble profession. The crux of the whole matter is, surely, the terms upon which we will work. This is obviously a matter for negotiation. No one seems to know exactly how much money is available. If, however, that amount is too low, as many say it is, we can quite well decide that above a certain limit other remuneration must be arranged. Supposing, for instance, that we fixed a limit of 20 to 25 shillings, and said that above that limit increased pay was necessary, that would be a perfectly logical and tenable proposition. Let us in all fairness to the public and ourselves, show that we are ready to render services to those who really do not get them properly without this Act, and if we remain united, we shall get what we want. For Heaven's sake let us keep out of the meshes of politics. There are efforts now being made to drag us in. We are either going to come out of this fight with enhanced status or irretrievably damaged.

Dr. E. F. O'Ferrall (Brixton) writes: For the sake of peace, let as make a pact. In the first place let Mr. Smith Whitaker and the Council be reminiscent of Danton's sublime apophthegm, "Que mon nom soit flétri, mais que la France soit libre." Let them leave their reputation and their honour in the hands of their present supporters and future generations. While defending their action before the Divisions, when considered necessary, let them in the general interest deprecate votes of confidence.

On the other hand, is it unfair to ask our opponents, at this critical period, to defer the attack? Let us confine ourselves to reaffirming the cardinal points and try to get into contact mutually in our Divisions and auxiliary Divisions with the object of nominating primarily to the Insurance Committees and Auxiliary Insurance Committees, and secondarily to the Medical Committees, moderate men of business capability, who are willing to take the trouble of reading over the Act a few times before occupying their senatorial chairs. Academical discussions and personal reminisences will now avail us nothing. Let us sink our minor differences and get down to the bed rock of the tussle with our opponents, putting our most practical men in the front rank. What is done is done. Let us get on with the business.

Mode and Rate of Remuneration.

Dr. Arthur F. Comyn (Lewisham) writes: As a member of the Association I have attended all the meetings of my Division and have carefully read the reports of meetings of other Divisions. So far I have not heard or read of any definite demand being made with regard to the cardinal point of adequate remuneration. Surely now is the time for the profession to decide what shall be regarded as adequate for each separate district in the country.

I suggest that local medical committees should be formed *at once* in every district to formulate the demands of the profession in that district. Both members and non-members of the Association can do far better work by marshalling their forces in their own districts and in bringing into line those who have not signed the undertaking of the Association, than by reviling the Council or Mr. Smith Whitaker.

It is not these gentlemen who will bring the profession to ruin over this Bill but those individuals who are stirring up strife and dissension where there should be nothing but unity and co-operation.

Let us, too, have done with airing our views in the daily press and allowing the yellow journals to run our affairs for their own political ends. Let it be remembered that if every man in every district supports his Local Medical Committee we can get whatever we like to demand, as without our co-operation no Bill of this sort, whoever introduced by, can be worked.

Dr. A. W. WALLER (Stroud, Glos.) writes: To become a Government contractor is the doom of every medical man who accepts service under the National Insurance Bill, because it is the expressed intention of the Government to work the Bill on some form of contract system. We shall shortly be asked to select the method by which we wish to be remunerated for our services, and shall probably be invited to choose the capitation system.

In my opinion the adoption of this system would be a fatal step and would inevitably lead to the degradation and ultimate ruin of the profession. Let me briefly point out some of the intolerable conditions the capitation system imposes on the daily work and home comforts of a medical man. I can best do this by contrasting it with ordinary private practice. In ordinary practice a medical man is a free British subject; no man can compel him to undertake work he has no wish to perform. If summoned to a case he is under no legal obligation to attend; it may be inconvenient to go, in which case he has only to request the messenger to seek medical aid elsewhere, and there the matter ends. He incurs no legal responsibility by refusing to go. He need not tolerate objectionable or rude remarks, at any time he can decline his further services and walk out of the house. He is entirely his own master. Now take the case of a medical man working under the capitation system, with names of, say, a thousand patients on his list, and one of these sends for him. What is the doctor's position? He is a contractor and is legally bound to attend, it may be very inconvenient, he may be feeling ill or overworked, but he must go, he cannot get out of it. He can be held legally responsible for consequences of any delay or refusal. His services are no longer politely requested, they are demanded, and he is at the beck and call of any butcher boy or street wastrel who may happen to have his name on the list. All independence is lost, the doctor ceases to be a free agent, he sinks to the position of an abject slave—a slave to a thousand masters on the one side, and the Insurance Committee, Commissioners, etc., on the other.

There is another aspect, by accepting a capitation fee he engages in a gigantic gamble. He is gambling with his own livelihood, for a fixed sum he undertakes an unfixed amount of work, so, though his gains are limited, his losses may be unlimited—a very foolish bargain. All medical work is of so uncertain a character that it is quite unsuited for any contract system; it must be performed by the doctor himself and cannot be delegated to others, urgent cases require his immediate attendance, and he must be on duty day and night all the year round. It is possible, though not probable, that one hundred patients might require his services at the same time; the risk of this may not be great, but it certainly exists, and I maintain he ought not to expose himself to such a possibility.

The medical contractor deprives himself of his weapons of self-defence; he cannot guard against overwork by raising his fees; he cannot retaliate against incivility by declining his services. The "free choice" of which we hear so much, may help him a little, and once in a year, or whatever the period may be, he can strike off his list the name of an objectionable patient; but what is wanted is the power to do this at any time, and not to be obliged to continue attendance on a discontented and rude patient until a certain period has expired.

At all costs the capitation system must be rejected, no remuneration can possibly compensate us for the loss of our liberty. Possibly some system of payment for services rendered may be devised, but until this is forthcoming I condemn the medical part of the Bill as unworkable and a serious danger to the profession. Fortunately, the danger comes in the form of an invitation; let us firmly decline it, and refuse to allow ourselves to be lured into bondage. We need not ape the methods of the "passive resister," nor need we use the word "strike," we simply remain at our posts, ignore the Bill, and allow it to die the early death inevitable to all monstrosities.

THE LONDON MEETING.

Sir WILLIAM OSLER (Oxford) writes: Neither a sense of corporate wrong, nor the contagion of enthusiasm can excuse the behaviour of the meeting in "shouting down" Sir Victor Horsley. No matter how men felt about the action of the Council, not to grant an opponent, real or imagined, a hearing was unfair and un-British—not to have granted it to Sir Victor Horsley is to have forgotten how much we owe in science and practice to one of the most brilliant investigators that have ever honoured this country.

Dr. HERBERT L. CARRE-SMITH (London) writes: The profession generally owe Sir Victor Horsley and Dr. J. H. Keay a sincere apology for the behaviour of those who howled them down at the Queen's Hall meeting on December 19th. No wonder shouts were heard: "Is this a meeting of gentlemen or rowdies?" Now, I am one of those who judge our action in the matter of this Insurance Act, purely in the interests of our profession, and, therefore, indirectly in the interests of the poorer classes who are to have our services. I have nothing to do with party politics in the matter. As a private individual I am opposed to Sir Victor Horsley's political opinions, but I felt a sense of shame, when it could go forth to the public that we would not hear one of the leaders of our own profession. Shortly before he spoke a gentleman, who admitted that he had only looked carefully into the matter for the last three weeks or so, was awarded a patient hearing. Sir Victor Horsley and Dr. Keay have at least made a most painstaking study of this question for many months past; and, therefore, for this and other reasons, I think it disgraceful in an assembly of ladies and gentlemen that conduct worthy of the commonest political rowdyism should obtain. This is the kind of thing to split us up, thereby opening the door for blacklegs to come in and work under this Act for ruinous fees. Mr. Lloyd George must indeed be laughing in his sleeve at our falling (quite temporarily I trust) into this trap, for that is what he is relying on to get us to work for a miserable pittance. One very useful result of this meeting will be to take Sir Watson Cheyne's advice and remember it well, "If they were to be united, they must have some organisation, and the *only* one they had, and one able to do the work was the British Medical Association." (The italics are mine.) This is what I do earnestly ask every member of the profession to act on. It can only be done by joining the Association, and also becoming guarantors of its special fund. I think those who refuse to do this are the ones who are not acting in the best interests of their profession. If then, on careful examination, they want to change their leaders, they can always do so. They will not do any good by keeping out of the Association and merely criticising its actions; unity has always been my policy in this matter. It is of vital importance now. Anything in the nature of howling down particular speakers at meetings or such conduct unbecoming to gentlemen is fatal to our interests.

DR. F. CLAUDE EVILL (Barnet) writes: I yield to no one in dislike of the Insurance Bill, nor in opining that the actions of the Council of the British Medical Association have been weak-kneed and not in accordance with the instructions transmitted to them through our Representatives. Also, I am enthusiastically in support of the resolutions carried at the Queen's Hall meeting.

But I was present at the meeting, and I wish to enter my emphatic protest against the senseless behaviour of the noisy contingent on that occasion. There was a gentleman behind me, apparently hailing from the North, whose proceedings and remarks might have been considered unduly excited and vociferous had he been assisting at a cup final instead of at a meeting of professional men. Abuse is not argument, however much we may have had encouragement in thinking so from tabernacular and other ensamples during the past two years. I hope we may agree with Sir Victor Horsley and his two colleagues in this one thing, at any rate, that the intolerance of the Queen's Hall meeting was due to ignorance and not to intentional discourtesy. Is it not obvious that refusing to listen to the other side of a question puts a weapon into the hands of the opposition? Are we afraid to hear the explanations and arguments of those members of the Council of the British Medical Association whose proceedings we condemn? At several meetings of Divisions called during the past two or three weeks practically for the purpose of carrying resolutions censuring Dr.

Smith Whitaker and the Council, and at which members of the Council have spoken and received a courteous hearing, the resolutions have either not been carried or not been put, or have had their terms considerably modified.

The Bill is hopeless, if only for this reason: that the finances will not and cannot provide adequate remuneration for the work to be done. Instead of four and a half millions, the State would have to provide from fifteen to twenty millions. Let us therefore by all means refuse to take office under the Bill, but let us do it as reasonable beings, and not act as "brute beasts that have no understanding."

NEED FOR UNION.

Dr. P. S. EVES (Brighton) writes: In two districts of this town we have organised fortnightly meetings of medical men at one anothers' houses, dividing the district up so that about twenty men are in each district. We are not all members of the British Medical Association, although we encourage all men to join. We meet informally; the host, who acts as chairman, is forbidden to incur any expense to himself by entertaining (for obvious reasons); there is no official except an organiser to arrange where the next meeting should be held. *All medical men* are invited indiscriminately, and all are encouraged to state their opinions freely, and men speak who would hesitate to do so at larger meetings dominated by orators, and, again, some men dislike talking of the smaller considerations that interest the humble general practitioner in the presence of a number of consultants.

We have had four or five such meetings, they are very satisfactory, and I feel sure they help that feeling of *unanimity* that is so essential at the present crisis. We are in no sense whatever antagonistic to the British Medical Association, indeed I think they are a help to the larger meetings, for by our numerous friendly discussions our ideas become more crystallised, and this will, I hope, prevent the deplorable waste of time at the meetings of the British Medical Association in this division. We have purposely avoided forming an "association," so as to disarm any suspicion of hostility to the Association. Would not meetings of this kind supply a better provision for the moment than the formation of a National Medical Union? For surely we do not require any fresh organisation, all we may possibly require is a "rearrangement" of officials, etc.

I should be pleased if any medical man in Hove (preferably not an official of the British Medical Association) who would start a meeting of this sort would communicate with me, so that the whole of the Brighton division could be covered in this way.

Dr. S. HAMILTON, B.A., M.D., D.P.H. (Newport, Mon.), writes:—Could anything be more deplorable than the apparent want of union in the medical profession in the present crisis, when united action is of all things most essential? Reports appear in the daily press of medical meetings in various parts of the country, where resolutions are passed condemning the Council of the British Medical Association and refusing service under the Act; of other meetings where the doctors decide to work under the Act and try to get the best terms. Quite recently a report appeared in the lay press of a meeting of the Cardiff Division, where it was stated that 40 voted in favour of working under the Act and 40 against. By a policy such as this we are laying ourselves "bare and naked to our enemies," and we shall be beaten every time when we come to bargain with the local Insurance Committees for remuneration. Moreover, we are providing a target for the sarcastic darts of letter-writers in the daily papers, who hold up to ridicule "the hysterical doctors." What can members hope to gain by passing these recriminatory resolutions? The Insurance Act is now on the Statute-Book, whether we like it or not, and our most sensible policy seems to be to unite and obtain the best terms we can. I have no doubt that we can obtain our terms if we are absolutely unanimous, but when the men who are to compose the local Insurance Committees find that we are disunited, our demands will be treated with contempt.

Much power is placed in the hands of the Insurance Commissioners in drafting regulations and in supervising the work of local Insurance Committees, and I feel that our interests are fully safeguarded there by the presence of Mr. Smith Whitaker, the Deputy Chairman. His experience gained both in general practice and in organising the profession will be invaluable in his new duties.

THE *Practitioner's* REFERENDUM.

Dr. A. S. DOWNTON (Crouch End) writes: I enclose a copy of a letter I have addressed to the Editor of the *Practitioner*, in reply to his request for a "Pledge." The said "Pledge" affords food for laughter, inasmuch as the vigorous end emphatic tone of its first sentence is rendered ludicrous by that which follows. Evidently signatories are not expected to have the courage of their convictions. Empty bombast is cheap!

[COPY.]

5, Weston Park, Crouch End, N.

TO THE EDITOR OF THE *Practitioner*.

SIR,—I beg to acknowledge the receipt from you of a notice giving the result of a Referendum, organised by the *Practitioner*, on the National Insurance Bill, together with a form of "Pledge," to which my signature is requested. As a loyal member of the British Medical Association I have already become a signatory to the form of undertaking circulated by the Association to all its members. I do not recognise by what authority you are justified in attempting to exact a further "Pledge" from members of the British Medical Association. Such action is, in my opinion, totally unnecessary, and calculated to destroy the unity of the profession on this. Further, after the disgraceful exhibition at the Queen's Hall meeting yesterday (Tuesday), as a result of which the sympathy of the lay public is already being alienated, I emphatically refuse to support the agitation of those whom I can only characterise as a hooligan rabble—an agitation, however, which has been initiated and fomented obviously from political motives by the baser organs of the press.

I am, yours, etc.,

(Signed) A. S. DOWNTON,
M.R.C.S., L.R.C.P., D.P.H.

December 20th, 1911.

P.S.—A copy of this letter has been forwarded to the BRITISH MEDICAL JOURNAL.

Dr. JOHN MUIR (Radlett, Herts.) writes: I am bombarded with notices re a so-called "referendum" on the National Insurance Act. To-night I received a pledge to sign, accompanied by the statement that 20,762 replies had been received "to our referendum" of which replies 20,149 declare against accepting any service under the Act.

I have no intention to sign the pledge, having faith in our elected representatives to find the best possible solution for us in our difficult position, but I can throw some light on the numbers of the so-called referendum as I received *three* copies of the circular asking for declaration and signature there being no check whatever on duplicate voting.

I used none of them, but if this was at all common in the distribution of the circular, one can understand how the 20,149 is made up.

What good object is to be served by this splitting up of the profession where unity means everything I cannot understand and I fear the profession is again to be cursed by its individual independence which has always hitherto spelt collective folly.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list.

The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BATH AND BRISTOL BRANCH:

BATH DIVISION.

A MEETING of the Bath Division was held on December 21st.

National Insurance Bill.—The following resolution was passed:

That, in the opinion of this meeting, the acceptance by Mr. Smith Whitaker of the post of Deputy Chairman of the Board of Commissioners under the National Insurance Act at the present critical juncture will seriously endanger the unity of the profession, and that the action of the Council of the Association, in sanctioning his acceptance of this office, was most impolitic, and is much to be regretted.

BIRMINGHAM BRANCH:

CENTRAL DIVISION.

A SPECIAL meeting of this Division was held at the Medical Institute on Tuesday, November 21st, at 4 p.m. Mr. J. F. JORDAN was in the chair, and 129 other members were present. The HONORARY SECRETARY read the notice convening the meeting.

Apologies for Non-attendance.—Apologies for absence were received from Drs. Malins, Branson, and Howkins, and Messrs. Gilbert Barling and Thomas Wilson.

National Insurance Bill.—The CHAIRMAN explained that the meeting had been called to consider the report of the Council on the present position of the National Insurance Bill, and to instruct the Representative of the Division on the business of the Special Representative Meeting. The Chairman suggested that the recommendations of the Council should be taken in order. After some discussion it was decided to consider Recommendation L first.

An amendment moved by Dr. REVELY,

That the profession should refuse further to consider the bill,

gave rise to a lengthy discussion, and ultimately this amendment was withdrawn in favour of the following, proposed by Mr. F. MARSH:

That to Recommendation L, after the words in July, 1911, there be added, "and unless the six cardinal principles are conceded and embodied in the bill to the satisfaction of the British Medical Association to decline to work under the bill."

This amendment was carried, and the Representative was instructed to move that these words be added to the Recommendation L.

The Representative was instructed to support Recommendations A, B, C, D, E, and M. He was also to support Recommendation F, and to move that the following words be added to it:

That no Insurance Committee will be satisfactory to the profession which includes a majority of representatives of insured persons.

Recommendations G, I, J, and K were left to his discretion.

He was instructed to support H. but was to move that the words "and urges them to insist on" be added after the words "pressing for."

This concluded the business of the meeting.

A SPECIAL and ordinary meeting of the Division was held at the Medical Institute on Tuesday, December 19th, at 3.30 p.m. Mr. J. F. JORDAN was in the chair, and 144 other members were present.

Confirmation of Minutes.—The minutes of the last ordinary and special meetings were read, confirmed, and signed.

Special Representative Meeting.—DR. J. NEAL, the Representative of the Division, then presented his report of the Special Representative Meeting. On the motion of the CHAIRMAN, seconded by Dr. KIRBY, the report was received. The report was then discussed by DRS. ALLDRIDGE and WHITTOME, and MESSRS. MARSH and LUCAS, and adopted.

Special Business.—The CHAIRMAN then declared the meeting a special meeting.

Medical Aid Society.—The following resolution submitted by the Executive Committee was then moved by the CHAIRMAN and seconded by Dr. LYDALL:

That in the opinion of this Division the conditions of medical practice under which any medical aid society formed to replace the "Minerva Medical Aid Society," or any medical aid society carried on under the same management, is conducted, are detrimental to the honour and interests of the medical profession, and that no member of the profession should continue to hold office therein.

An amendment by Dr. POGSON to postpone the consideration of this resolution for six months was not seconded. On the resolution being put to the meeting it was carried unanimously. One hundred and twenty-six members were present.

Special Meeting.

Twenty members of the Division having forwarded a requisition for a special meeting of the Division, this special meeting was held at the conclusion of the preceding business.

National Insurance Act.

Mr. F. MARSH moved the following resolution:

That, inasmuch as the six cardinal principles formulated by the Association are not conceded to the satisfaction of this Division in the National Insurance Act, the Division is of opinion that further negotiation is inadvisable, and calls upon the Council of the Association to take the necessary steps to ensure that no medical practitioner shall hold office or take part in administrative or medical work under the Act.

This was seconded by Dr. WHAITE.

Professor SAUNDBY moved as an amendment:

1. That in the opinion of this Division the six cardinal points originally formulated by the British Medical Association have not been guaranteed by the Insurance Act in a manner which satisfies the profession.
2. That this Division reasserts the fundamental importance of the demands of the medical profession, and is of opinion that every medical practitioner should refuse to accept office for giving medical attendance and treatment to persons insured under the Act until these demands shall have been definitely conceded.

This was seconded by Dr. NEAL.

In the subsequent discussion the following took part: Drs. BURGESS, WHITTOME, GARMAN, WILKES, LYDALL, and REVELY, Messrs. BARLING, GAMGEE, and MORRISON.

On a vote being taken the amendment was lost by 78 votes to 44, and the original resolution was carried by a large majority, as was also the following:

That, to satisfy the Council that this resolution expresses the opinion of the majority of the Association, the Council of the Association be requested to take forthwith a Referendum on the following questions:

1. Are you in favour of the Association continuing the negotiations with the Insurance Commissioners and making arrangements for the working of the Act? (Yes or No.)
2. Are you in favour of the Association at once declining to work under the Act?

The Secretaries were instructed to send copies of these resolutions to the Secretaries of all Divisions in Great Britain.

Mr. J. FURNEAUX JORDAN (Chairman of the Central Division) writes under date December 20th: The enclosed letter was sent last week by the Executive of the Central Division of the Birmingham Branch to every practitioner resident in its area:

Dear Sir,

Now that the National Insurance Bill has passed through the House of Commons and will probably shortly become law, the Executive Committee of the above Division wishes to draw your attention to the position of the profession in regard to medical attendance on the insured.

In the first place, it cannot be too strongly emphasized that the Association is as determined now as ever to decline service unless the conditions comply entirely with the "six cardinal points" agreed upon in June last.

Of these, free choice of doctor, administration of medical benefits by local Insurance Committees (and not by friendly societies), and adequate representation among the

Insurance Commissioners and upon Statutory Committees, are actually embodied in the bill.

The remaining points—(1) the income limit of £2, (2) adequate remuneration, and (3) local option in regard to the method of remuneration—can be obtained under the provisions of the bill.

In addition the bill provides for statutory recognition of local Medical Committees, and for the inclusion of *every* registered medical practitioner, so desiring, upon the local panels. It is also possible for arrangements to be made whereby the right of dispensing may be retained.

The demands of the profession can only be realized by insisting that the agreements made with the Insurance Committees are satisfactory.

The policy of the Association is "That no arrangements for attendance on insured persons be completed anywhere until the Association is assured by reports from the local Medical Committees that terms in conformity with the policy of the Association in detail have been agreed upon everywhere."

Consideration of the importance of the regulations to be drawn up by the Commissioners will emphasize the wisdom of the Council of the British Medical Association in allowing Mr. Smith Whitaker to accept the position of Medical Commissioner, his presence in that capacity being the best guarantee we could possibly have that the regulations will be drawn up with fairness to the profession.

The Association is the only body able to defend our interests, and it is imperative that at the present juncture every medical practitioner should loyally support it by—

1. Joining, unless already a member.
2. Signing the "undertaking."
3. Subscribing to the Central Guarantee Fund.

We are, dear Sir,

Yours faithfully,

J. FURNEAUX JORDAN,
Chairman.
W. TRACY LYDALL,
B. C. R. ALDREN,
Hon. Secs.

BORDER COUNTIES BRANCH:

SCOTTISH DIVISION.

AT a meeting of the Scottish Division of the Border Counties Branch, held at Newton Stewart on December 22nd, the following resolution was passed:

> The members of this Division hereby pledge themselves to refuse to take service under the National Insurance Act.

[A further report of the proceedings of this meeting will be published in the next issue of the JOURNAL.]

CAMBRIDGE AND HUNTINGDON BRANCH.

A SPECIAL meeting of the Branch was held at the University Arms, Cambridge, on Wednesday, December 20th, at 3 p.m. In the unavoidable absence of the President (Dr. Cross), Mr. LAUNCELOT NEWTON, Past President of the Branch, took the chair.

Confirmation of Minutes.—The minutes of the last special meeting were read and confirmed.

Mr. NEWTON then invited Dr. Fordyce to preside over the remainder of the meeting.

National Insurance Act.—Dr. FORDYCE, in his introductory speech, welcomed all non-members of the Association present to take part in the discussion. He then outlined the policy recommended by the Branch Council and moved the following resolution:

> That it is the opinion of this Branch that only by an absolutely united and loyal profession acting as a single force through its officially recognized authority, the Council of the Association, can we secure for all the Divisional areas of counties and boroughs the terms of settlement required by each.

Dr. GARWOOD supported the resolution, and urged the necessity of holding together; rather than split the Association he would force the present Council to resign. Mr. YOUNG (Harston) also supported the resolution, but expressed his entire approval of the action of the Council, and would resent any resolution condemning their action. A discussion followed, in which Messrs. CURL, APTHORPE WEBB, HORNE, DEIGHTON, LATHAM, WALKER, GRIFFITHS, and COOKE took part. Finally, Mr. PRICE (Upwall) proposed, and Dr. GARWOOD seconded:

> That, in the above resolution, after the words "recognized authority," the words "*newly elected* Council of the Association" be substituted for "the Council of the Association."

This was carried, and subsequently put as a substantive motion and carried unanimously. Mr. CROMPTON (Newmarket) then proposed the following resolution:

> That this meeting considers that the Council of the British Medical Association in persisting in its endeavour to force the Insurance Bill on its members is both violating its declared policy and acting in defiance of the strongly expressed wishes of the profession. Therefore this Branch requests that an extraordinary general meeting of the British Medical Association be called at the earliest moment, and that the present Council be asked to resign forthwith.

Mr. PRICE (Upwall) seconded. This was carried unanimously. Mr. DEIGHTON proposed that the resolutions passed at the mass meeting in London on December 19th be adopted, namely:

1. That in the opinion of this Branch the six cardinal points originally formulated by the British Medical Association have not been guaranteed by the Insurance Act in a manner which satisfies the profession.
2. That this Branch reasserts the fundamental importance of the demands of the medical profession, and is of opinion that every medical practitioner should refuse to accept any office for giving medical attendance and treatment to persons insured under the Act until these demands shall have been definitely conceded.

Mr. CROMPTON (Newmarket) seconded. This was carried unanimously.

Vote of Thanks to "Practitioner."—Mr. CROMPTON proposed a vote of thanks to the *Practitioner* for the action it had taken in issuing a referendum to the profession. Mr. FELL (Buntingford) seconded. This was carried unanimously.

Mr. PRICE (Upwall) proposed:

> That the proceedings of this meeting be reported to the press.

Mr. CURL (Ely) seconded. Mr. GRIFFITHS's amendment to this proposal,

> That the Chairman and Council of the Branch draw up a reasoned statement for publication in the local press,

was carried and adopted.

Vote of Thanks to Chairman.—A vote of thanks to the Chairman was carried with acclamation.

DUNDEE BRANCH.

A LARGELY attended meeting of the Branch was held in University College, Dundee, on Friday, December 22nd, Dr. YOUNG, President of the Branch, in the chair.

Special Representative Meeting.

Dr. R. C. BUIST (Dundee) reported on the proceedings of the Representative Meeting in London, and Dr. JOHN GORDON (Aberdeen), the Representative in the Council, reported on the proceedings of the Council, and they were thanked for their services.

The following motions were adopted:

1. That this Branch express its continued confidence in the Council of the British Medical Association.
2. That the Branch recommend to medical practitioners that an attempt be made to work the National Insurance Act in accordance with the policy of the British Medical Asociation.
3. That the Branch inform the Insurance Commissioners for Scotland that the profession in Scotland is determined not to accept service under the Act unless the six cardinal principles of the British Medical Association are granted.

Instructions were given to the Branch Council to prepare a report on the National Insurance Act as it affects the Branch area, and especially on: (1) The delimitation of the prospective administrative areas. (2) The provisional organization of corresponding Medical Committees. (3) The collection of properly authenticated information from practitioners in the area with regard to the appropriate income limit or limits, and to the definition of ordinary medical service, the amount of work, and the rates per capita and per scale that would be adequate for ordinary and special services. (4) The conditions which may arise in the event of the medical profession and insurance authorities failing to agree upon suitable arrangements.

EAST ANGLIAN BRANCH:

WEST NORFOLK DIVISION.

A MEETING of this Division was held at King's Lynn on November 20th.

National Insurance Bill.—The following resolution was passed:

That, while we disagree with the position taken at the Representative Meeting by some of the leaders of the British Medical Association, who can have neither the knowledge of nor interest in the difficulties of the general practitioner, we desire to emphasize the resolution sent up by our Division, that one and all we refuse to work unless the "six cardinal points" are adhered to.

LANCASHIRE AND CHESHIRE BRANCH:

MANCHESTER (SOUTH) DIVISION.

A MEETING of this Division was held at Holy Innocents Schools, Fallowfield, on Wednesday, December 13th, at 3.30 p.m. Dr. GRANT DAVIE presided. There were also present Drs. Ashcroft, Boyd, Brockbank, Ballantyne, Brooke, Booth, Brown, Conway, Edlin, Godson, Goodfellow, Gregory, Heathcote, Holmes, Holt, Hood, Hopkinson, Howe, Jones, McLure, McDougall, Mitchell, Morton, Moran, Pearson, Riddall, Salter, Sarjant, Steithal, Stocks, Stowell, Tomkys, Webb, and Williams.

Confirmation of Minutes.—The minutes of the last meeting (November 21st) were read and confirmed.

Apologies for Non-attendance.—Apologies for non-attendance were received from Dr. Russen-Rhodes and Dr. Sawers-Scott.

Correspondence.—Letters were read from the following Divisions and Branches, giving resolutions passed at their meetings, namely, Stalybridge Division, Shropshire and Mid-Wales Branch, Bolton Division, and Dover Division.

Representative's Report.—The Representative of the Division (Mr. P. STOCKS) gave a very clear and concise report of the last Representative Meeting in London. Dr. GRANT DAVIE from the chair proposed that a hearty vote of thanks be given to Mr. Stocks. This was carried with acclamation. Mr. STOCKS also gave a short account of what happened at the last meeting of the Joint Committee of Manchester and Salford.

National Insurance Bill.—DR. GRANT DAVIE gave a short statement of the present position of affairs as affecting the National Insurance Bill, and placed before the meeting a resolution, which was proposed by Dr. GOODFELLOW and seconded by Dr. HOPKINSON—namely:

That in the opinion of the Manchester South Division the British Medical Association is the only representative body capable of dealing efficiently with the present crisis.

Whereupon Dr. BROWN proposed and Dr. SALTER seconded the following amendment:

That the members of the South Manchester Division of the British Medical Association, while still strongly disapproving in principle of the medical parts of the Insurance Bill, and while believing that the Council of the Association committed a grave error of judgement in allowing Mr. Smith Whitaker to accept the appointment of Deputy Chairman of the Insurance Commissioners, consider, nevertheless, that the best course for the medical profession to pursue is to stand firmly together for the six cardinal points, and refuse to form a panel until they are granted; and, further, we are of opinion that the British Medical Association is the only organization that can attain our objects.

The amendment was carried by 11 to 9. The amendment was then put to the meeting as the substantive motion and was carried by 10 to 4.

MANCHESTER (WEST) DIVISION.

A MEETING of this Division was held on December 5th, Dr. PROWSE in the chair, and twenty-seven others were present.

National Insurance Bill.

The following resolution was carried, on the motion of Dr. HART, seconded by Dr. BROWN:

That the committee entrusted with the canvass for the Guarantee Fund having made their report up to date, express their inability to undertake any further duties in this capacity until the actions of the Council of the British Medical Association are brought into conformity with the wishes of the mass of the profession.

On the motion of Dr. H. B. WOODCOCK, seconded by Dr. STENHOUSE, the following resolution was carried unanimously:

That this meeting of the West Manchester Division of the British Medical Association considers that the Central Council has been guilty of a breach of faith with the members of the Association in giving permission to its paid Secretary to accept a seat on the Insurance Commission during negotiations, and strongly advises its members to abstain from paying further calls to the Central Guarantee Fund.

On the motion of Dr. HART, seconded by Dr. EALES, the following resolution was carried unanimously:

That the West Manchester Division of the British Medical Association forward to the Secretary of the Branch a requisition that, in accordance with Rule 15, a special meeting of the Branch may be called to discuss the action of the Council, both as to their methods in conducting negotiations with the Government and also regarding the recommendation contained in their letter of the 2nd inst., and that at this requisitioned meeting the following resolution be placed on the agenda:

"This meeting of the Lancashire and Cheshire Branch of the British Medical Association expresses its strong disapproval of the action of the Council, first in regard to its methods in conducting negotiations with the Government, and, secondly, in recommending the acceptance by the paid Secretary of the Association of the post of Commissioner under the National Insurance Bill, and accordingly demands the resignation of the Council forthwith."

Dr. HART moved and Dr. COATES seconded the following resolution, which was carried unanimously:

As the Council has seen fit to recommend the Medical Secretary to accept the position of Medical Commissioner in spite of the fact that their negotiations are not yet completed, and that the profession is pledged not to accept any office under the bill until their demands are satisfied, and as the appointment of Mr. Smith Whitaker entails the transference of the chief servant of the British Medical Association to the service of the Government, with all his inside knowledge of the private affairs of the profession, this meeting records its entire want of confidence in the members of the Council.

METROPOLITAN COUNTIES BRANCH:

STRATFORD DIVISION.

A MEETING of this Division was held in the Council Chamber, Town Hall, Stratford, E., on Thursday, December 21st, at 9.15 p.m. Dr. SANDERS in the chair. Sixty members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

Correspondence.—The correspondence was then dealt with.

National Insurance Act.

Dr. OXLEY proposed and Dr. BINNS seconded the following resolution:

That this meeting of the Stratford Division of the British Medical Association call upon the Council to convene without delay a Special Representative Meeting, in accordance with By-law XXXIV, to consider the conduct of the negotiations with the Government by the Council of the Association, and to instruct the Council as to its future action.

The resolution was carried *nemine contradicente*.

It was proposed by Dr. STEEN and seconded by Dr. DRAKE:

That a union of the medical practitioners be formed, both members and non-members of the British Medical Association, in each district of the County of Essex, and in each metropolitan borough in the Stratford Division, for the purpose of joint action locally, and through the British Medical Association nationally with the rest of the profession, to safeguard the interests of the profession and the health of the public, and to endeavour to secure fair rates of pay and fair conditions of employment for doctors under the National Insurance Scheme.

The CHAIRMAN expressed the opinion that the resolution was not in order, but permitted a vote to be taken on the advisability of its being submitted to the meeting. On being put to the vote twelve voted for and eighteen against such submission, and further discussion thereon ceased.

Dr. OXLEY proposed and Dr. CHALLANS seconded:

That, in order to secure united action, no medical practitioner in this Division should accept, without sanction of the Executive Committee, any post in connexion with the National Insurance Act until the six cardinal principles of the British Medical Association be universally conceded.

This was carried *nemine contradicente*.

MIDLAND BRANCH:

LEICESTER AND RUTLAND DIVISION.

A SPECIAL meeting of the Division was held at the Temperance Hall, Leicester, on Wednesday, December 20th, at 4 o'clock. Dr. TIBBLES was in the chair, and there were present 138 members and two visitors. The SECRETARY read the notice convening the meeting.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Special Representative Meeting.—The Representative of the Division gave a report of the Special Representative Meeting in London.

National Insurance Act.

As the Chairman and Vice-Chairman desired to take part in the discussion on the resolution to be submitted, the CHAIRMAN proposed and Dr. HENRY seconded, "That Dr. A. V. Clarke occupy the chair for the remainder of the meeting." This was carried unanimously.

Dr. WAITE proposed and Dr. CROSBY seconded the following resolution:

> That in the opinion of this meeting the National Insurance Bill does not satisfactorily embody the demands of the medical profession as defined in the six cardinal points formulated by the British Medical Association; that the scheme of the bill in its present form is unworkable, and will create a condition of affairs not only detrimental to the medical profession, but also dangerous to the public health, and therefore this meeting of the medical profession of Leicestershire and Rutland expresses its determination to unite with the whole of the profession in declaring its inability to undertake the duties which the bill assigns to it.

Dr. EMMS and Dr. WALLACE HENRY took part in the discussion on the general question.

An amendment was then moved by Dr. SEVESTRE, and seconded by Dr. BURKITT, to omit all words after "Association" and substitute the following:

> Considers that the time has now come for the Council to make the necessary arrangements so that the Association as a whole should refuse to undertake the duties assigned to it under the Act immediately that the regulations published by the Insurance Commissioners are found not to comply with the demands of the Association.

Drs. POPE, TIBBLES, PRATT, and O'CONNOR spoke. On a division the amendment was lost—24 for, 78 against, the remainder neutral. The resolution was then adopted—Ayes 132, Noes 6. Whereupon Dr. WALLACE HENRY moved as a rider, and Dr. HOLMES seconded:

> That the Secretary be instructed to communicate the resolution to the Secretaries of all Branches and Divisions, in order to secure their adhesion and support of a requisition to the Council to call a Special Representative Meeting to decide whether this shall or shall not be the declared policy of the Association.

This was carried unanimously.

NOTTINGHAM DIVISION.

A LARGELY attended meeting of this Division, to which all practitioners in the city and county of Nottingham were invited, was held at the local offices of the Association on December 20th.

National Insurance Act.—The following resolution was unanimously passed:

> That, while viewing with regret the action of the Council of the British Medical Association in approving the appointment of Mr. Smith Whitaker as an Insurance Commissioner without reference to the profession as a whole, this Division of the British Medical Association is of opinion that continued loyalty to the Association is essential in order to secure terms of service under the National Insurance Act in accordance with the six cardinal principles, and hereby pledges itself to refuse service under the Act unless these principles are granted.

SOUTHERN BRANCH:

PORTSMOUTH DIVISION.

A CLINICAL meeting was held at Southsea on December 6th. Dr. SHEEHAN was in the chair, and thirty-two members were present.

Paper.—Dr. F. W. PRICE read a paper entitled, "Recent Advances in Heart Disease, illustrated by the Polygraph." Dr. Price demonstrated the working of the instrument. An interesting discussion followed, in which several members took part.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

THE autumn meeting of the South Wales and Monmouthshire Branch was held at the Old University College Buildings, Cardiff, at 3 p.m., on Thursday, December 14th. The PRESIDENT (Dr. Cornelius Biddle) was in the chair, and about 130 members were present.

Tuberculin in General Practice.—Dr. CAMAC WILKINSON gave an address on the value of tuberculin in general practice. The subject was discussed by Drs. PRICE (Carmarthen), ERNEST WARD, FAIRFIELD THOMAS, BEGG, RYCE, POWELL (Newcastle-Emlyn), DUNCAN, and others.

Vote of Thanks to Dr. Camac Wilkinson.—A cordial vote of thanks to Dr. Camac Wilkinson was proposed by Dr. D. R. PATERSON, seconded by Dr. D. I. WILLIAMS, and carried with acclamation.

National Insurance Act.—A motion for the suspension of the Standing Orders to enable the meeting to discuss matters in connexion with the National Insurance Bill was defeated, and the recommendation of the Branch Council that a special meeting of the Branch be convened at an early date to consider the question was carried. As the hour was late the remainder of the agenda was not proceeded with.

Special Meeting.

A SPECIAL meeting of the Branch was held at the Old University College Buildings, Cardiff, on Thursday, December 21st, at 3 p.m., about 300 members being present. Dr. CORNELIUS BIDDLE occupied the chair.

Apology for Non-attendance.—A letter of apology for inability to attend was received from Mr. Lynn Thomas.

Letters.—Letters approving of the action of the Central Council were received from Dr. W. D. Steel (Abergavenny), Dr. Bevan (Nantyglo), Dr. Hogan (Nantyglo), Dr. Bevan (Blaina), His Worship the Mayor of Newport (Dr. John McGinn) and others. A letter was received from Dr. John Davies (Aberayron) expressing disapproval of the action of the Council.

National Insurance Act.

A notice of motion given by Drs. J. J. E. BIGGS and MITCHELL STEVENS was taken first by resolution of the meeting:

> That this meeting expresses its disapproval of the methods adopted by the Central Council of the Association in their negotiations with the Government with regard to the National Insurance Bill.

This was spoken to by Dr. BIGGS and Dr. MITCHELL STEVENS. Dr. ELWORTHY moved an amendment, which was seconded by Dr. MILLS:

> That this meeting expresses its disapproval of the results obtained by the Central Council of the Association in their negotiations with the Government with regard to the National Insurance Bill, and directs the Representatives of the South Wales Branch to instruct the Council to secure by the regulations or otherwise that no medical man can be appointed to serve on a panel without the consent of the Medical Committee of the district.

The amendment having been put to the meeting was declared lost.

A further amendment was proposed by Dr. LLEWELLYN and seconded by Dr ARTHUR JONES:

> That in the opinion of this meeting it is essential that all members of the British Medical Association should steadfastly adhere to the policy of the Association as declared in its six cardinal principles, to enable us to meet the local Insurance Committees as an absolutely united body, and similarly to refuse to accept service under the National Insurance Act until we obtain adequate terms of remuneration and satisfactory conditions of service in accordance with the said principles.

The debate was contributed to by Dr. BROAD, Dr. PEGG, Dr. RUSSELL THOMAS, Dr. MACLEAN, Dr. SMITH, Dr. W. E. THOMAS, Dr. BROOK, Dr. MULLIGAN, Dr. TREASURE, and Dr. WILLIAMS. Before the vote was taken Dr. MITCHELL STEVENS was called upon to reply for the original motion.

The amendment having been put to the meeting, was declared carried by a large majority. It was then put as a substantive motion and was carried *nemine contradicente*.

Dr. T. WALLACE proposed a resolution, seconded by Mr. BROOK:

> That in the opinion of this meeting it is impossible for the medical profession to accept service under the Insurance Act as it now exists.

This was opposed by Mr. GREER, Dr. MACLEAN, and others, and on being put to the meeting was declared lost by a large majority.

Vote of Thanks to Chairman.—An excellent meeting, conducted in a businesslike and cordial spirit, was concluded by votes of thanks to the Chairman (Dr. Biddle) and Dr. Maclean.

NORTH GLAMORGAN AND BRECKNOCK DIVISION.

A SPECIAL meeting of this Division was held at Pontypridd on Wednesday, December 20th.

National Insurance Bill.

The object of the meeting was to consider the present position of the profession in regard to the National Insurance Bill. Dr. R. D. MORGAN presided, and there were fifty-two members present.

After full discussion the following resolutions were put to the meeting:

1. Proposed by Dr. W. E. THOMAS and seconded by Dr. ARTHUR JONES:

> That in the opinion of the North Glamorgan and Brecknock Division it is essential that all members of the British Medical Association should steadfastly adhere to the policy of the Association, as declared in its six cardinal principles, to enable them to meet the local Insurance Committees as an absolutely united body; and similarly to refuse to accept service under the National Insurance Act until they obtain adequate terms of remuneration, and satisfactory conditions of service in accordance with the said principles.

This resolution was carried *nemine contradicente*.

2. Proposed by Dr. T. R. LLEWELLYN, and seconded by Dr. J. M. REES:

> That the North Glamorgan and Brecknock Division heartily approves of the action of the Central Council of the Association in recommending to Mr. Smith Whitaker the acceptance of an Insurance Commissionership.

This resolution was carried by 50 votes to 2.

SOUTH-WESTERN BRANCH:

PLYMOUTH DIVISION.

UPON a requisition by certain members, a special meeting of the Plymouth Division was held in the Medical Society's Rooms, Plymouth, on Tuesday, December 19th, at 4.15 p.m. Mr. R. JAQUES presided over a meeting of fifty members. Mr. E. J. Domville, Branch representative on the Central Council, was present by invitation.

National Insurance Act.—The object of the meeting was "to consider the recent appointment of the Medical Secretary as an Insurance Commissioner and to take such action as may seem desirable." At the commencement of the proceedings the CHAIRMAN announced that he had received certain resolutions to be placed before the meeting, but before considering these seriatim, it was resolved that Mr. DOMVILLE be asked to give an address on the medical aspects of the Insurance Act. This he did, pointing out that doctors had matters pretty much in their own hands in regard to medical benefits, as a Medical Committee would be appointed in each district, and that that Committee would have the power of fixing the income limit of those who received medical benefits, and that their recommendations would be sent to the Insurance Committee, who would have to agree to it. After a few questions on this point had been asked and answered, Dr. R. SIMPSON proposed and Dr. CLAY seconded:

> That this Division views with great disapproval the action of the Council of the British Medical Association as set forth in the circular issued to members on the 11th inst., whereby the question of a wage limit under the National Insurance Bill is left open for settlement by agreement between the profession and the local Insurance Committees in each district, believing that such policy will tend to promote the present undesirable state of affairs existing in connexion with all forms of contract practice, and declares that the members of this Division will not accept service under the bill unless a maximum income limit of £2 per week is fixed by statute.

An amendment to this was made by Dr. NOY SCOTT and seconded by Dr. Fox to leave out the word "disapproval" and substitute "disappointment" in first line, and add "legal" before "maximum" in the last line.

After considerable discussion both motion and amendment were lost.

Dr. WILKINSON, in a humorous speech, next proposed and Dr. T. Y. SIMPSON seconded:

> That this Division demands that the Council of the Association shall immediately issue instructions to all members requesting them not to accept service under the Insurance Bill unless the cardinal point of a £2 income limit is fixed for those receiving medical benefit under the bill.

Dr. FOX proposed and Dr. BRENTON seconded an amendment to the effect:

> That all members be requested to adhere to the cardinal principle of a £2 income limit to recipients of medical benefit under the Insurance Act.

This was carried and the original motion lost.

Dr. NOY SCOTT, in a few brief remarks on the necessity of maintaining unity and loyalty in the profession and Association, proposed:

> That this meeting thanks the Council for its great work in consolidating the profession, and for its efforts to obtain statutory recognition of the six cardinal points, and is convinced that the British Medical Association is the only body which adequately represents the profession in Great Britain, and each one present pledges himself to remain loyal to the Association and to do everything to promote and sustain that unity which alone can ensure success.

This was carried without amendment.

A resolution condemnatory of the appointment of the Medical Secretary to a paid office under the bill was by consent of the meeting most gracefully withdrawn.

Dr. VAN BUREN then proposed and Dr. T. Y. SIMPSON seconded:

> That a general meeting of the profession in the South-Western Branch be called at an early date to decide on a course of united action in the present state of affairs.

This was carried.

The lengthy proceedings terminated by the CHAIRMAN proposing the following resolution, which was seconded by Dr. Fox:

> That a very hearty vote of thanks be given Mr. Domville for his kindness in attending and giving the meeting such an instructive address on the various points arising under the Insurance Act, and that the meeting wishes to express its deep appreciation of his valuable work as representative on the Central Council.

ULSTER BRANCH:

BELFAST DIVISION.

A MEETING of this Division was held in the Medical Institute on November 30th, at 8.15 p.m., Dr. KILLEN in the chair, twenty-six members being present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Chairman's Address.—Dr. KILLEN then read his opening address, entitled "Cases of Eye Diseases met with in General Practice."

Vote of Thanks to Chairman.—Professor SINCLAIR moved, and Dr. CECIL SHAW seconded, a hearty vote of thanks to the Chairman, which was passed by acclamation.

Special Representative Meeting.—Dr. JOHN MCCAW gave the members an account of the proceedings at the Special Representative Meeting. The following resolution was proposed and seconded and passed by a majority:

> That this meeting asks that the Council be requested to make the inclusion of medical benefits for Ireland under the same conditions as in England a cardinal point.

It was resolved to send a copy of this resolution to the Irish Conjoint Committee.

***** Owing to the Christmas holidays it has been found impossible to publish all the reports of Divisions that have been received. The number which it has been found necessary to omit, however, is very small, and they will appear in the next issue.**

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—A scientific and clinical meeting will be held in Liverpool on Wednesday afternoon, January 10th, 1912. Members willing to give short papers or demonstrations, or to show cases or specimens, are asked to communicate early with the Honorary Secretary of the Science Committee, P. R. COOPER, M.D., B.Sc., 8, St. Peter's Square, Manchester.

LANCASHIRE AND CHESHIRE BRANCH: LIVERPOOL DIVISION.—The annual meeting of the Division will be held on Friday, January 12th, 1912. Members desirous of bringing forward any business please communicate with the undersigned before January 3rd, 1912.—FRANCIS W. BAILEY, Honorary Secretary, 51A, Rodney Street, Liverpool.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—A scientific meeting will be held at the Royal Infirmary on Friday, January 19th, 1912. Programme:—3.15, Mr. W. F. Wilson: Tumours of the Larynx. 3.45, Dr. D. Drummond: Cerebral Tumours. 4.15, Tea. 4.30, Mr. H. J. Gauvain (Resident Medical Officer, Lord Mayor Treloar Cripples' Hospital, Alton, Hants): Conservative Methods in the Treatment of Tuberculous Bone and Joint Disease.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—*National Insurance Bill.* In view of the fact that representations in accordance with the decisions of the Representative Meeting reported in the BRITISH MEDICAL JOURNAL of December 2nd are being made to the House of Lords with a view to securing further amendments in that House, the ordinary meeting of this Division, to be held at Barmouth this month, will be postponed until an early date in January. In the interval a full report will be issued by the Council, setting forth the action which it has taken since the Special Representative Meeting, and placing before the Divisions an examination of the Insurance Act in the form in which it becomes law, in order that the Divisions may deliberately consider the subject.—HARRY R. GRIFFITH, Chairman; H. GLADSTONE JONES, Honorary Secretary, Criccieth.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—The following circular has been issued to every registered medical practitioner resident in the area of this Division:

Dear Sir,—An advertisement having appeared in the local press for a consulting and operating surgeon to be appointed at the Brighton Workhouse Infirmary at "*an honorarium of fifty guineas per annum*," you are hereby earnestly urged to sign the following undertaking, and to return it in the stamped addressed envelope without delay. It is hoped that *every registered practitioner, whether an intending candidate or not*, will support the Association in this effort to maintain the principle of fair remuneration for State-paid work.—R. J. RYLE, Chairman; C. H. BENHAM, Honorary Secretary.

Undertaking by Members of the Medical Profession.

I, the undersigned, hereby undertake that I will not apply for nor accept the appointment of consulting and operating surgeon to the Brighton Workhouse Infirmary except upon such terms as are approved by the Brighton Division of the British Medical Association.

Name
Address

Members of the Brighton Division of the British Medical Association are urgently requested to attend a special meeting to be held on January 12th, 1912, at 4.30 p.m. at the Dispensary, Queen's Road, Brighton. Agenda: *Appointment of a consulting and operating surgeon to the Brighton Workhouse Infirmary at an honorarium of fifty guineas per annum.* The following resolutions drafted by the Medico-Political Committee will be proposed by the Chairman, Dr. Ryle:

1. That, whereas the guardians have advertised for a consulting and operating surgeon at an honorarium of fifty guineas per annum, the Brighton Division of the British Medical Association considers that this sum is inadequate for the services required. Seeing that the British Medical Association has decided that State medical service should be completely separated from charity, and that the said appointment contravenes this principle, this Division disapproves of the application for or acceptance of this post by any registered medical practitioner.
2. That, having regard to the duties required, the Brighton Division cannot approve the acceptance of the post by any registered medical practitioner unless the salary attached to the appointment be at least 100 guineas per annum.

C. H. BENHAM, Honorary Secretary.

WEST SOMERSET BRANCH.—A special general meeting will be held at the Taunton and Somerset Hospital on Tuesday, January 2nd, 1912, at 3.15 p.m. The President, Mr. W. B. Winckworth, will take the chair. Agenda: Minutes of last meeting. Dr. J. A. Macdonald, Chairman of the Council, and the Representative of the Branch, will give an address on the National Insurance Bill as passed by Parliament, and the Future Policy of the Central Council, as directed by the recommendations made by the Meeting of Representatives. Other business. Any member having propositions to bring forward is requested to send them to the Honorary Secretary by December 30th. Tea will be provided after the meeting.—CHAS. FARRANT, Honorary Secretary.

Naval and Military Appointments.

INDIAN MEDICAL SERVICE.

THE following promotions have been made subject to His Majesty's approval:

Captains to be Majors.—F. V. O. BEIT, M. CORRY.

Lieutenants to be Captains.—R. B. LLOYD, A. C. MUNRO, R. N. CHOPRA, A. G. TRESIDDER, G. G. JOLLY, H. STOTT, A. A. C. MCNEILL, R. L. GAMLEN, A. SATTAR KHAN, G. F. GRAHAM, M. D. WADIA, T. D. MURISON, S. S. VAZIFDAR, J. J. H. NELSON, E. S. PHIPSON, F. F. S. SMITH, A. J. SYMES, G. L. C. LITTLE, T. C. BOYD.

Surgeon-General W. B. BANNERMAN, M.D., I.M.S., has been nominated an Additional Member of the Legislative Council of the Governor of Fort St. George, Madras.

Major H. J. WALTON, I.M.S., Civil Surgeon, Baharanpur, has been appointed an Ordinary Fellow of the University of Allahabad.

Lieutenant-Colonel J. CRIMMIN, V.C., C.I.E., D.P.H., I.M.S., on reversion, to be Presidency Surgeon, Third District, Bombay, with attached duties.

Major G. E. STEWART, M.B., I.M.S., Superintendent of Mahableshwar, in the district of Satara, is appointed under Section 12 of the Code of Criminal Procedure, 1899, to be a Magistrate of the Second Class in that district, and is vested with additional powers.

Captain B. HIGHAM, M.B., B.S.Lond., I.M.S., on relief to act as Deputy Sanitary Commissioner, Central Registration District, Bombay.

Captain A. W. OVERBECK WRIGHT, I.M.S., Officiating Superintendent of the Central Prison at Agra, to officiate as Superintendent of the Lunatic Asylum at Agra.

Lieutenant M. A. RAHMAN, I.M.S., has been appointed a Specialist in Otology, Laryngology, and Rhinology.

Captain W. C. LONG, I.M.S., is granted combined privilege leave and furlough on medical certificate for one year, with effect from November 1st, 1911.

The services of Major D. N. ANDERRON, M.B., I.M.S., Officiating Civil Surgeon, are placed at the disposal of the Government of India, Army Department, with effect from the date on which his leave expires.

Major J. L. MAJORIBANKS, M.D., D.P.H., I.M.S., on relief to be Deputy Sanitary Commissioner, Western Registration District, Bombay.

Captain A. G. MCKENDRICK, M.B., I.M.S., is placed on special duty under the Sanitary Commissioner with the Government of India, with effect from October 18th, 1911.

Major R. K. MITTER, I.M.S., is granted privilege leave for three months from or after December 3rd, 1911.

Major J. W. CORNWALL, I.M.S., is granted combined privilege leave and furlough to Europe for two years, from September 10th, 1911.

Captain W. E. BRIERLY, I.M.S., has been appointed a Specialist in Advanced Operative Surgery, 7th (Meerut) Division, with effect from October 16th, 1911.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Third London (City of London) Field Ambulance.—CECIL WILLIAM ROWNTREE, M.B., to be Lieutenant. Dated November 18th, 1911.

First Western General Hospital.—KEITH WALDEGRAVE MONSARRAT, M.B., late Surgeon Captain, 5th Battalion the King's (Liverpool) Regiment, to be Captain. Dated December 23rd, 1911.

Attached to Units other than Medical Units.—Lieutenant GEORGE M. A. THOMAS to be Captain. Dated October 28rd, 1911.

Lieutenant-Colonel and Honorary Surgeon-Colonel WILLIAM H. PACKER, M.D., resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform. Dated December 23rd, 1911.

For Attachment to Units other than Medical Units.—GEOFFREY SECCOMBE HETT to be Lieutenant. Dated November 1st, 1911.

Lieutenant-Colonel (local Colonel) HUGH BRODERICK MATHIAS, D.S.O., R.A.M.C., has been granted His Majesty the King's permission to accept and wear the Imperial Ottoman Order of the Mejidieh (second class) conferred upon him by His Highness the Khedive of Egypt, authorized by His Imperial Majesty the Sultan of Turkey in recognition of valuable services rendered in connexion with the Egyptian Army.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRMINGHAM EDUCATION COMMITTEE.—School Medical Officer. Salary, £260 per annum, rising to £310.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Assistant Pathologist (male) to the Pathological, Bacteriological, and Clinical Research Department.

BRISTOL ROYAL INFIRMARY.—Dental House-Surgeon. Salary, £100 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon. Salary, £70 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary, £80 per annum.

CROYDON MENTAL HOSPITAL, Upper Warlingham.—Pathologist and Third Assistant Medical Officer. Salary, £200 per annum, rising to £250.

DUDLEY: GUEST HOSPITAL.—Vacancy on Honorary Surgical Staff.

GERMAN HOSPITAL, Dalston.—Honorary Assistant Physician.

GRIMSBY AND DISTRICT HOSPITAL.—(1) Senior House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £75 per annum.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Resident House-Surgeon. Salary, £75 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Physician. Salary, £30 for six months and £2 10s. washing allowance. (2) Casualty Medical Officer. Salary, £200 per annum.

HULL ROYAL INFIRMARY.—(1) Senior Assistant House-Surgeon. Salary, £100 per annum. (2) Assistant House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 per annum for twelve months.

LEEDS GENERAL INFIRMARY.—Assistant Clinical Pathologist. Salary, £150 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon, unmarried. Salary at the rate of £100 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Northwood.—House-Physician. Salary, £75 per annum.

REDHILL: THE EARLSWOOD ASYLUM.—Junior Assistant Medical Officer. Salary, £150 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.—Resident House-Surgeon. Salary at the rate of £100 per annum.

STIRLING DISTRICT ASYLUM, Larbert.—Second Assistant Medical Officer. Salary, £130 per annum.

SUNDERLAND: CHILDREN'S HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum.

SUNDERLAND: ROYAL INFIRMARY.—House-Physician (male). Salary at the rate of £80 per annum.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Assistant Lecturer and Demonstrator in Physiology and Lecturer in Physiological Chemistry. Salary, £140 for former post, and £60 for latter.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Assistant Anaesthetist.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces a vacancy at Youlgreave, co. Derby.

APPOINTMENTS.

CORE, William, M.A., M.B., Ch.B.Edin., Junior House-Surgeon at the Blackburn and East Lancashire Infirmary.

CUMBERLIDGE, W. I., M.B.Cantab., F.R.C.S., Honorary Assistant Surgeon to the Leicester Infirmary.

HARPER, Frances M., M.B., Ch.B.Edin., D.P.H.Camb., House-Surgeon to the West End Branch of the Glasgow Maternity and Women's Hospital.

MARSHALL, Cole J., M.D.Lond., F.R.C.S.Eng., Ophthalmic Surgeon to the Royal Waterloo Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTH.

SWANN.—At 75, Marlborough Avenue, Broomhill, Glasgow, on the 25th inst., the wife of A. J. T. Swann, M.B., Ch.M., West African Medical Staff, Northern Nigeria, a daughter.

MARRIAGE.

HERMON—BLACK.—On December 23rd, at St. Ebba's Church, Eyemouth, Berwickshire, by the Rev. G. F. Rickard, Irvine Kempt Hermon, M.D., to Sarah, daughter of Robert Black, Eyemouth. At Home, Summerhill, Eyemouth, January 23rd and 24th, 1912.

DEATH.

LEAPINGWELL.—On the 27th inst., at Butlers Hill, Cheadle, Staffordshire, Florence Lillian, beloved wife of Edward Jodrell Leapingwell, M.B., and eldest daughter of the late Robert Orme and Mrs. Orme, of Stockport, aged 47 years.

DIARY FOR THE WEEK.

TUESDAY.

ROENTGEN SOCIETY, Institution of Electrical Engineers, Victoria Embankment, W.C., 8.15 p.m. Papers: (1) Sidney Russ, B.Sc. (Cancer Research Laboratory, Middlesex Hospital): The Clinical Significance of *X*-ray and Radium Measurements. (2) W. Cotton, M.D. (Bristol): The Right and the Wrong Side of the Picture; has a Mistake been made?

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

OBSTETRICAL AND GYNAECOLOGICAL SECTION, 11, Chandos Street, 8 p.m.—Agenda: (1) Exhibition of Specimens. (2) Short communications:—Dr. Colwell and Dr. Glendining: On the Presence of Blood Pigment in the Faeces of the Newborn Child; Dr. Swayne (Clifton): Two Cases of Missed Labour. Dr. Blair Bell: Case of Rhabdomyosarcoma of Uterus. (3) Paper:—Dr. Briggs (Liverpool): On the Relative Size of the Uterus in Cases of Hydatid Mole, with illustrative cases and specimens.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Monday: Gynaecology, 10 a.m.; Eye, 2 p.m. Tuesday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Wednesday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 2 p.m.; Gynaecology, 2 p.m. Thursday: Eye, 2 p.m.; Orthopaedics, 2 p.m. Friday: Gynaecological Operations, 10 a.m.; Throat, Nose, and Ear, 2 p.m.; Skin, 2 p.m. Saturday: Diseases of Children, 10 a.m.; Throat, Nose, and Ear Operations, 10 a.m.; Eye, 10 a.m.

CALENDAR OF THE ASSOCIATION.

Date.	Meetings to be Held.
JANUARY, 1912.	
1 MONDAY ..	Subscriptions to the British Medical Association for 1912 become due.
2 TUESDAY ..	WEST SOMERSET BRANCH, Special General Meeting, Taunton and Somerset Hospital, 3.15 p.m.
3 WEDNESDAY	LONDON: Special Insurance Remuneration Subcommittee, 10.30 a.m. LONDON: State Sickness Insurance Committee, 2.30 p.m.
4 THURSDAY..	
5 FRIDAY ..	LONDON: Journal Committee, 2 p.m.
6 SATURDAY ..	
7 Sunday ..	
8 MONDAY ..	
9 TUESDAY ..	LONDON: Public Health Committee, 3.30 p.m.
10 WEDNESDAY	LONDON: Medico-Political Committee, 2 p.m.
11 THURSDAY..	BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m.

Date.	Meetings to be Held.
JANUARY *(continued).*	
12 FRIDAY ..	LONDON: Central Ethical Committee, 2 p.m. BRIGHTON DIVISION, *South-Eastern Branch*, Special Meeting, Dispensary, Queen's Road, Brighton, 4.30 p.m. LIVERPOOL DIVISION, *Lancashire and Cheshire Branch*, Annual Meeting.
13 SATURDAY ..	
14 Sunday ..	
15 MONDAY ..	
16 TUESDAY ..	LONDON: Organization Committee, 2.30 p.m.
17 WEDNESDAY	BRIGHTON DIVISION, *South-Eastern Branch*, Ordinary Meeting.
18 THURSDAY..	LONDON: Metropolitan Counties Branch Council, 4 p.m.
19 FRIDAY ..	NEWCASTLE-ON-TYNE DIVISION, *North of England Branch*, Scientific Meeting, Royal Victoria Infirmary, 3.15 p.m.

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